KEYLARGO-Discrete

VER : 3A

01

RUN POWER SW PG 44

AC/BATT CONNECTOR PG 45

BATT CHARGER PG 39

Yonah
PG 3,4
(478 Micro-FCPGA)

DC/DC +3V_SRC +5VSUS PG 41,42,43

CPU VR PG 40

CLOCKS PG 17

Thermal Monitor PG 33

RESET CKT PG 38

533/667 MHz FSB

LVDS → Panel Connector PG 19

DDR-SODIMM1 PG 15,16 — 400/533/667 MHZ DDR II

DDR-SODIMM2 PG 15,16 — 400/533/667 MHZ DDR II

Calistoga
PG 5,6,7,8,9,10
1466 uFCBGA

VGA Daughter Connector PG 18 — TVOUT / CRT

TVOUT → S-Video PG 20

CRT → CRT PG 20

PCI-Express Grapfic

SATA - HDD PG 24 — SATA

DMI interface

USB2.0 (P4,P6) → 2 Back side PG 30

USB2.0 (P0,P2) → 2 Right Side PG 30

Fixed Odd PG 24 — IDE

ICH7-M
652 BGA
PG 11,12,13,14

AC97/Azalia

AUDIO PG 34 → Audio Jacks PG 35

MDC PG 27 → Tip Ring PG 27

33MHz PCI

BCM4401 PG 36 → RJ45/Magnetics PG 37

5 in 1 Card/1394 R5C832 PG 21,23 → 1394 Conn. PG 22

USB2.0 (P1,P5) → Mini-Card WLAN EXPRESS-CARD PG 25,26

PCIEx2

USB2.0 (P7) → Bluetooth PG 27

LPC

SIO MEC5004 128KB Flash TMKBC
128 Pins VTQFP
PG 28

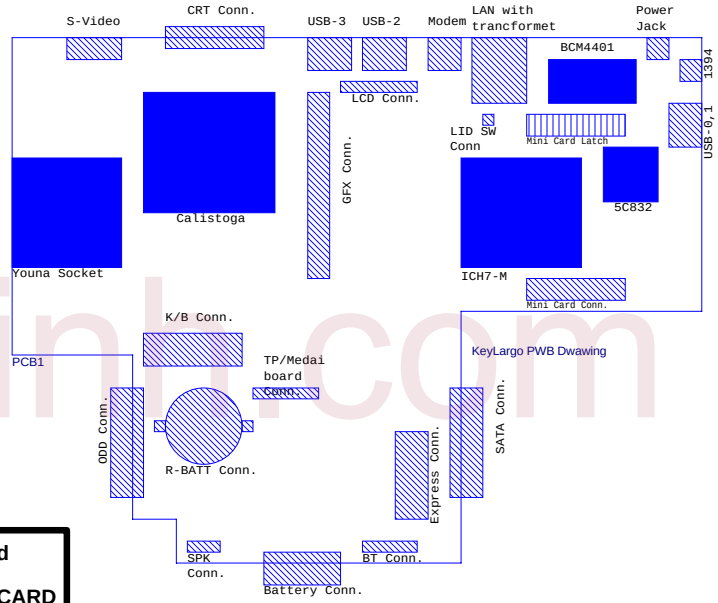
SMB

SIO ECE5011 Expander USB 2.0 Hub(4)
128 Pins VTQFP
PG 29

SPI → Flash PG 30

SPI → Keyboard PG 28

PS/2 → Touch pad PG 32



QUANTA COMPUTER

Title	Schematic Block Diagram1	
Size	Document Number FM1	Rev 3A
Date: Tuesday, January 10, 2006	Sheet 1 of 51	

INDEX

Pg#	Description	DNI LIST
1	Schematic Block Diagram 1	
2	Blank Page	
3	Front Page	
4-5	Dothan	
6-10	Alviso	
11-13	ICH6	
14-15	DDRII SO-DIMM(200P)	
16	Clock Generator	
17	CH7306/7	
18-19	Blank Pages	
20	LCD Conn. & SSP	
21	CRT & TV Conn.	
22	SATA & IDE Conn.	
23	Screw Hole	
24	TI PIC6515	
25	Mini PCI Conn.	
26	MDC Conn.	
27-28	SIO (LPC47N354)	
29	SERIAL PORT & USB	
30	PARALLEL CONN.	
31	Flash ROM	
32	TOUCH PAD & BLUE TOOTH	
33	Switch Board Conn. & LED	
34	FAN & Thermal	
35-36	Audio CODEC (STAC9751) & Phone Jack	
37-38	LOM (BCM5751), Switch	
39	FIR	
40-41	Docking Conn. & Q-Switch	
42	Power Good	
43-44	Battery Selector & Charger	
45	CPU Power	
46	1.8V,0.9V,1.5V,1.05V	
47	3VALW/5V/3V/Power ON	
48	RUN Power Switch	
49	VGA DC/DC	
50	DCIN/Batt Conn.	

Power & Ground

Label	Pg#	Description	Control Signal
DC_IN+		AC ADAPTER (20V)	
PBATT+		MAIN BATTERY + (10~17V)	
PWR_SRC		MAIN POWER (10~20V)	
RTC_PWR3_3V		RTC & PCL POWER (3_3V)	
+12V		+12V	DRUNPWROK
VHCORE		CPU CORE POWER (1.25/1.15V)	RUNPWROK
V1_2RUN		AGTL+ POWER (1.2V)	RUNPWROK
+3VRUN		SLP_S3# CTRLD POWER	RUN_ON
+3VSUS		SLP_S5# CTRLD POWER	SUS_ON
+5VALW		8051 POWER (5V)	
+5VRUN		SLP_S3# CTRLD POWER	RUN_ON
+5VSUS		SLP_S5# CTRLD POWER	SUS_ON
+5VHDD		HDD POWER (5V)	HDDC_EN#
+5VMOD		MODULE POWER (5V)	MODC_EN#
STRB#/5V		EXTERNAL FDD POWER (5V)	FDD/LPT#
+5VFAN1, +5VFAN2		FAN POWER (5V)	FAN_OFF/ON#
VDDA		AUDIO ANALOG POWER (5V)	RUN_ON
1_8VSUS		RESUME WELL IN ICH	
1_8VRUN		SLP_S3# CTRLD POWER	
+3VALW		8051 POWER (3V)	
V1_5RUN		AGP I/O POWER	
GND	ALL PAGES	DIGITAL GROUND	
GNDP		CPU POWER GND	
CGNDP		CHARGER GND	
DGNDP		DC/DC POWER GND	
LANGND		COMBO CONN GND	

02

QUANTA COMPUTER

Title	Index, DNI, Power & Ground	
Size	Document Number FM1	Rev 3A
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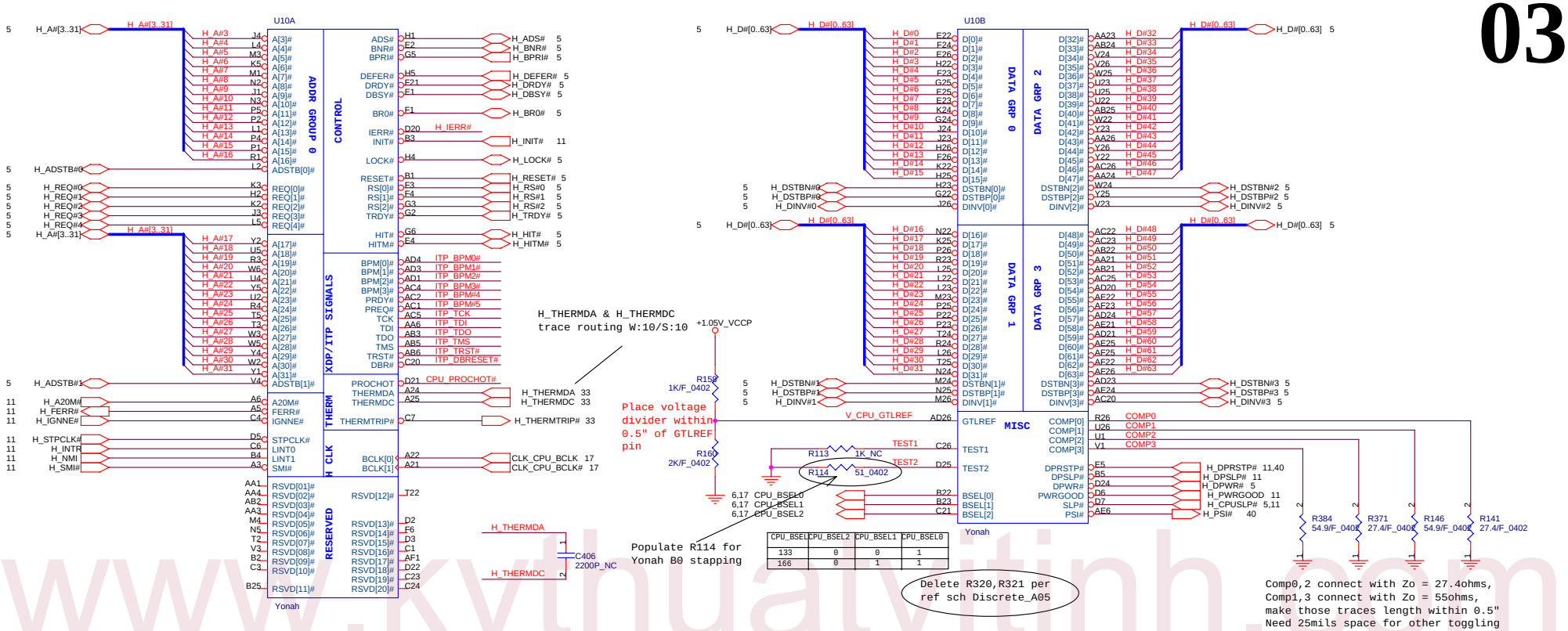
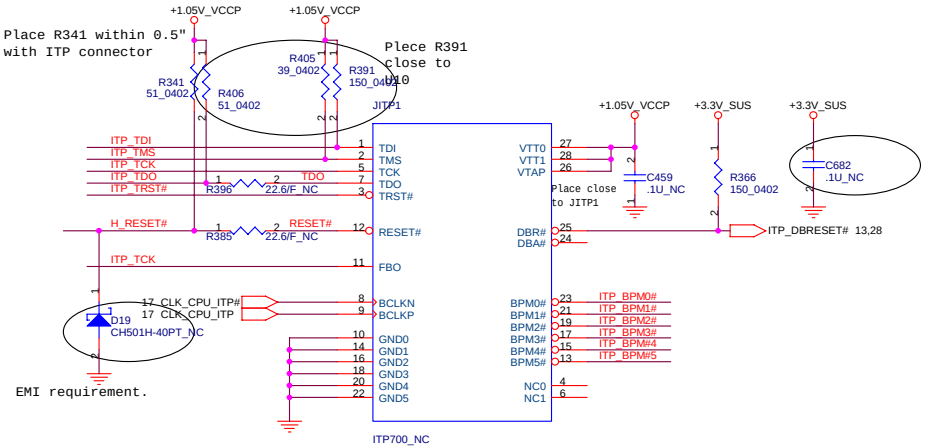
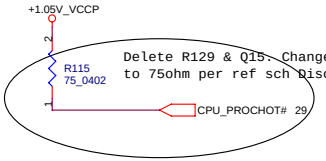
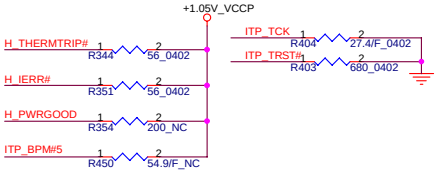




ITP disable guidelines			
Signal	Resistor Value	Connect To	Resistor Placement
ITP_TDI	150 ohm +/- 5%	+1.05V_VCCP	Within 2.0" of the CPU
ITP_TMS	39 ohm +/- 5%	+1.05V_VCCP	Within 2.0" of the CPU
ITP_TRST#	680 ohm +/- 5%	GND	Within 2.0" of the CPU
ITP_TCK	27 ohm +/- 5%	GND	Within 2.0" of the CPU
TDO	Open	N/A	Within 2.0" of the CPU

Note: Populate R396, R385, C459 and R450 when ITP connector is populated.





Title	Yonah Processor (HOST)		
Size	Document Number FM1		Rev 3A
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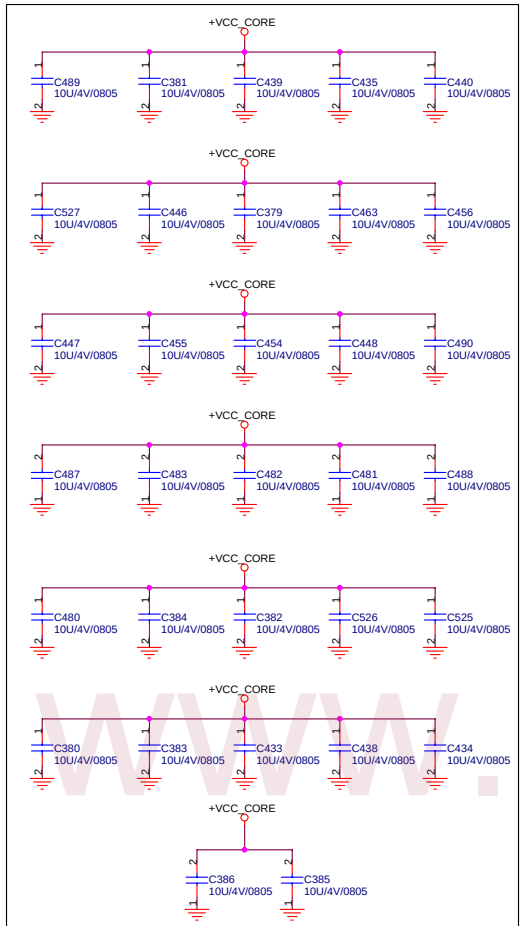
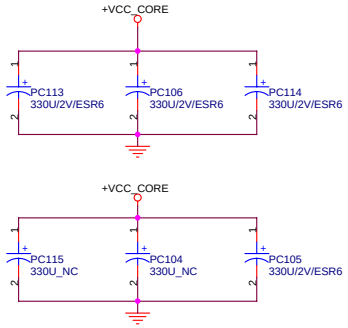
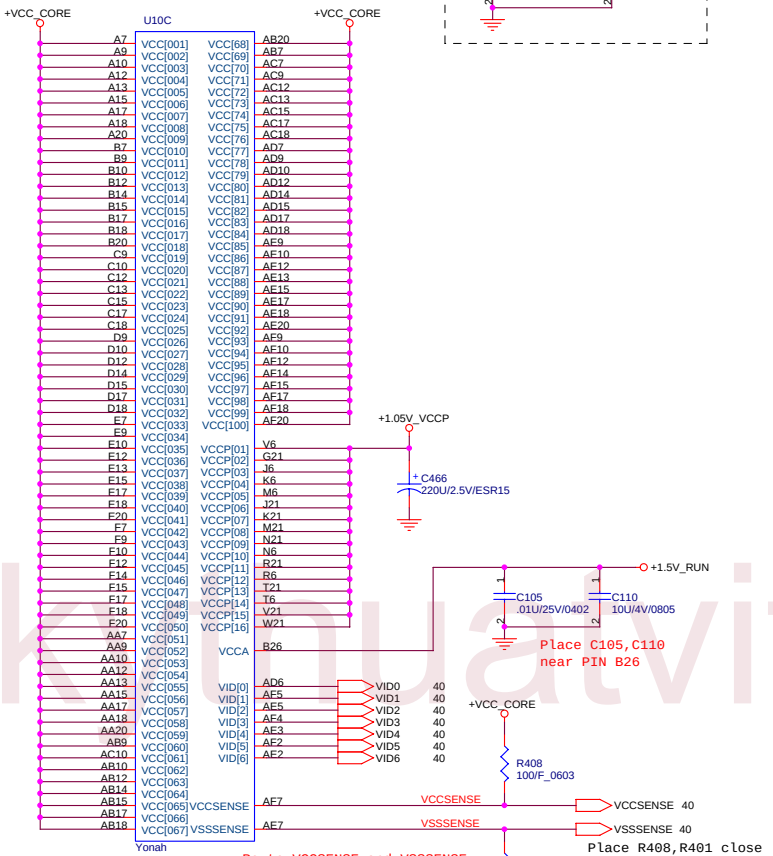
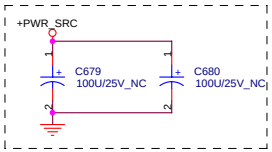
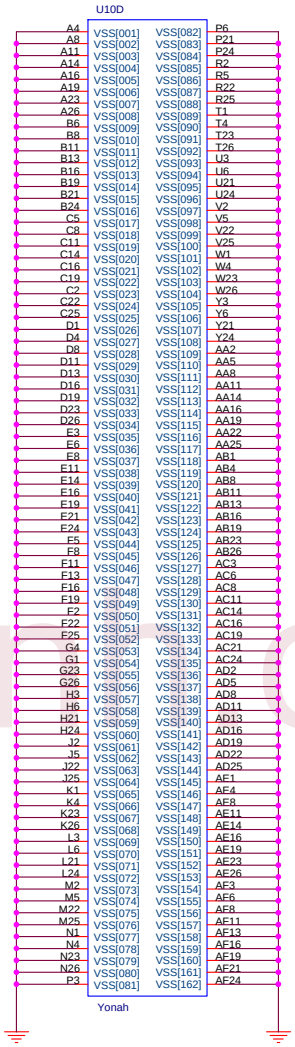


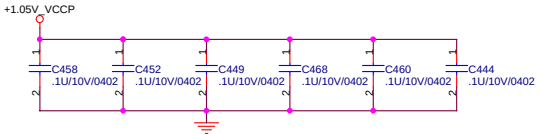


Total caps = 2684 uF
ESR =6m ohm/4 // 3m ohm/32









QUANTA COMPUTER

Title	Yonah Processor (POWER)	
Size	Document Number FM1	Rev 3A
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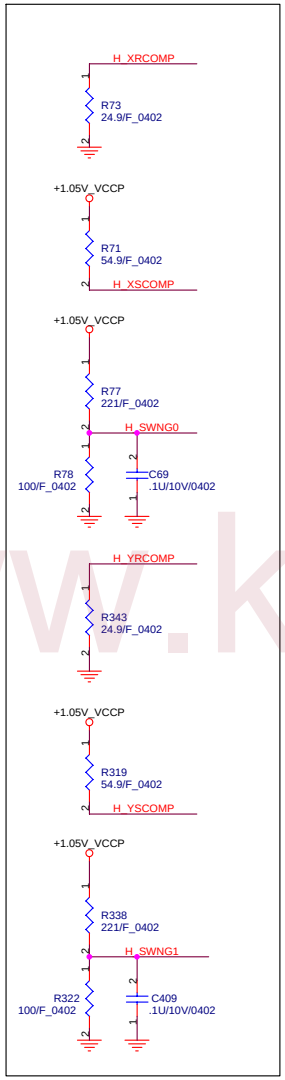
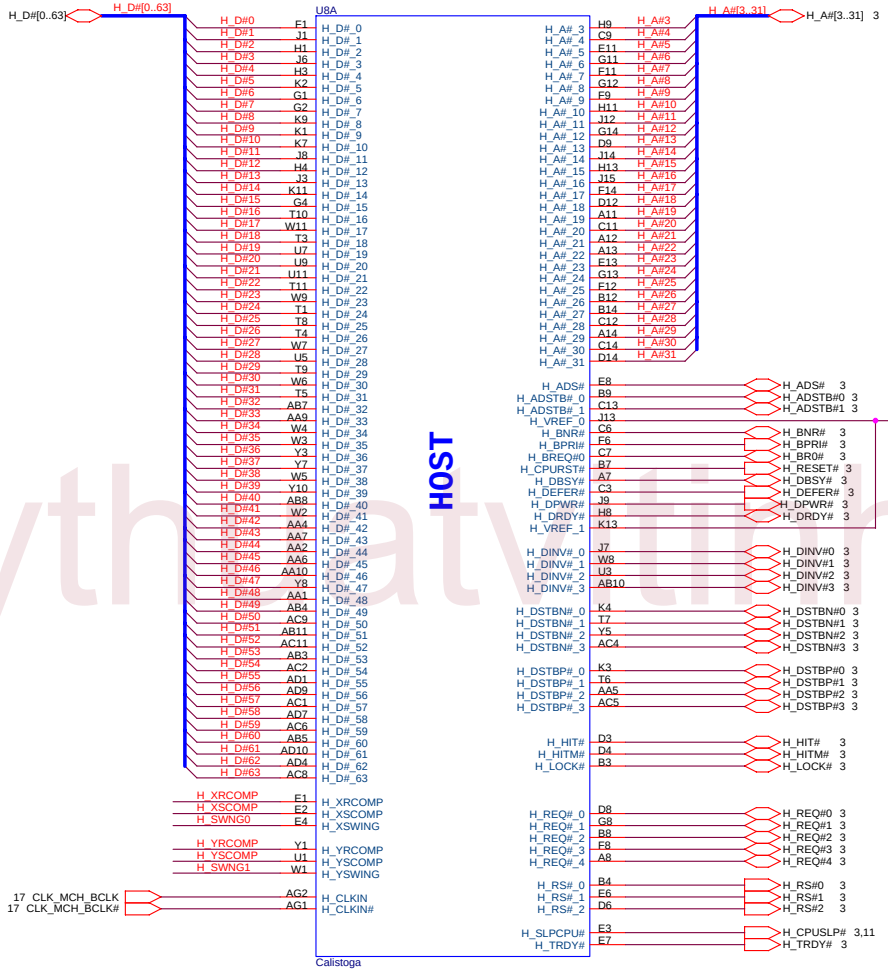


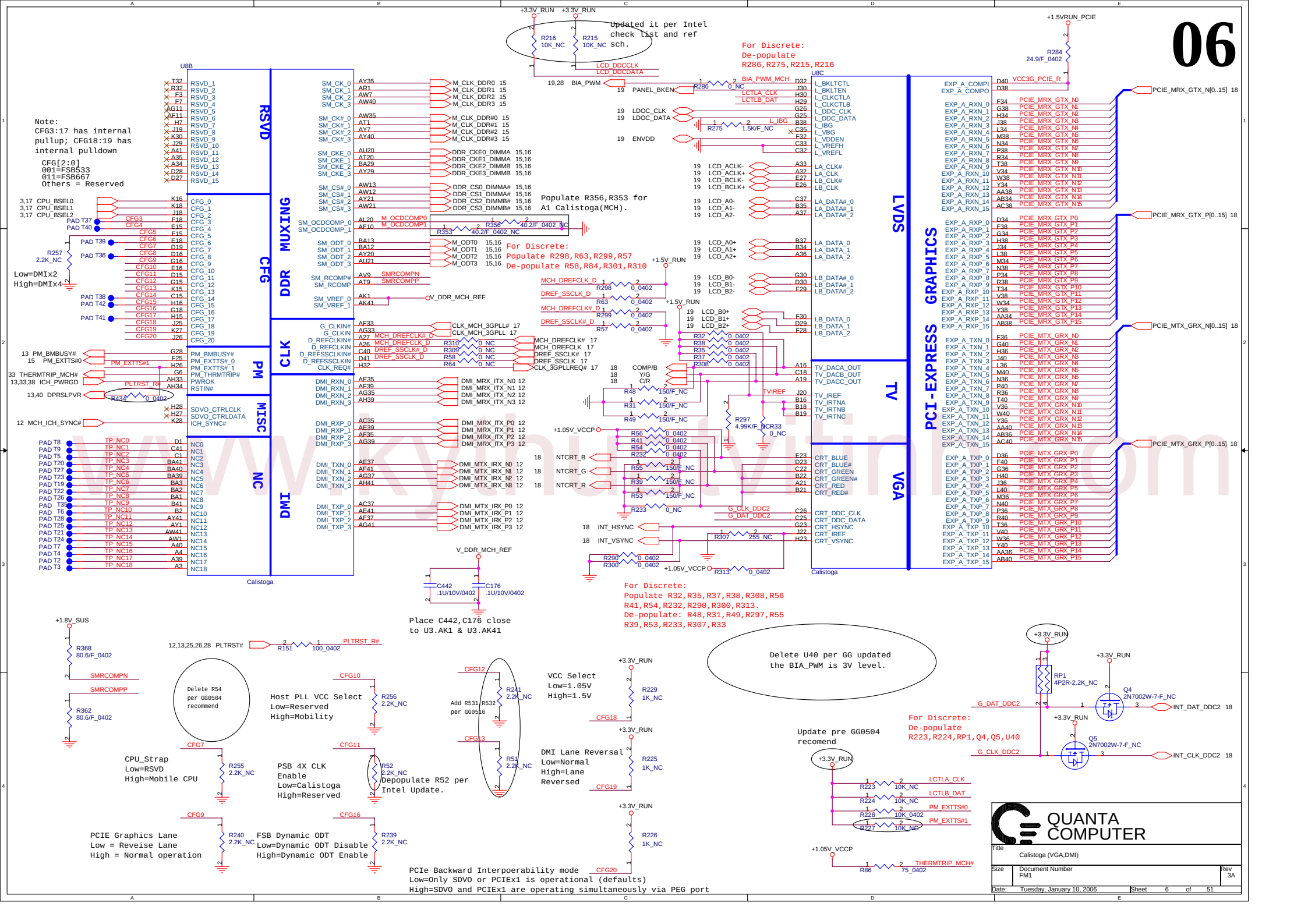
H_XRCOPM, H_XSCOMP, H_YRCOMP, H_YSCOMP, H_SWNG0, H_SWNG1 used W:10/S:20 mil.

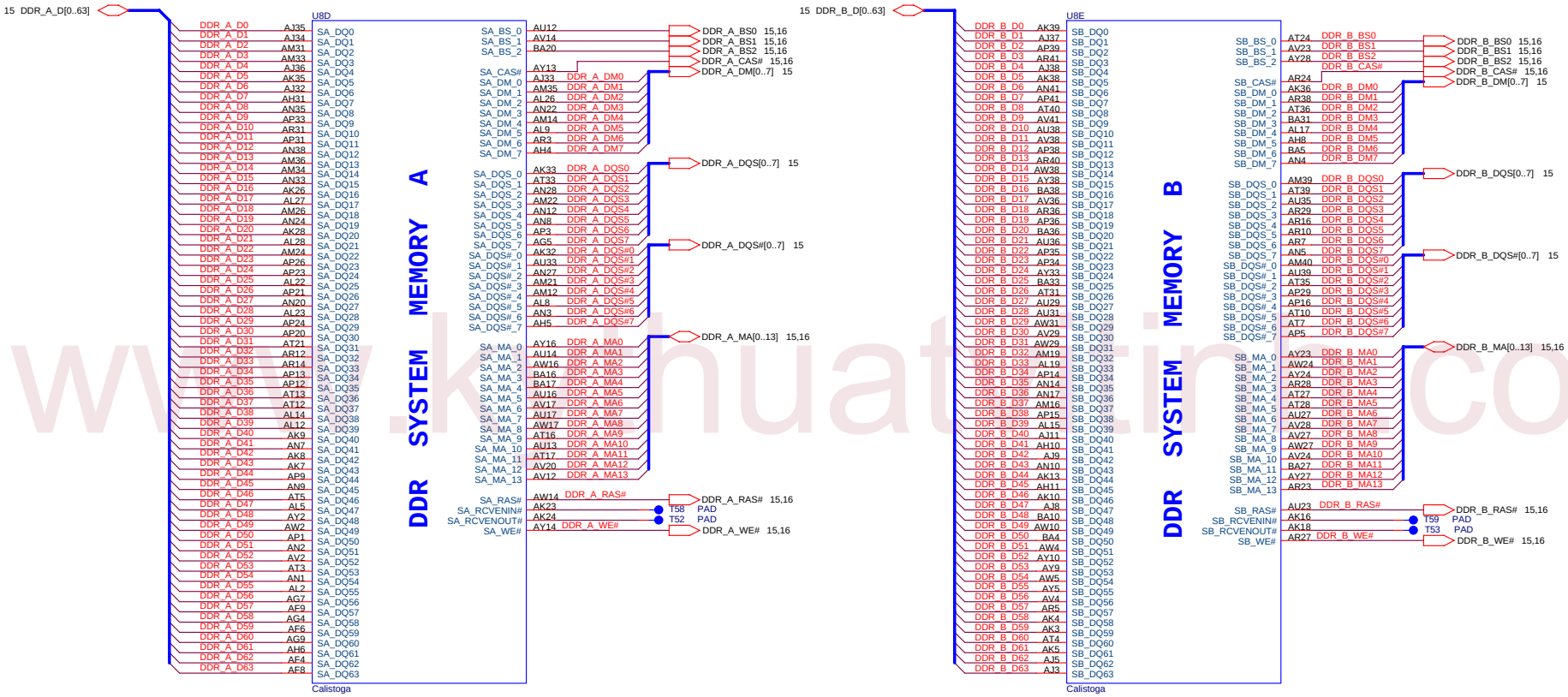
R & C of HXRCOPM, HXSCOMP, HYRCOMP, HYSCOMP, H_SWNG0, H_SWNG1 trace length less 0.5" from U3



QUANTA COMPUTER

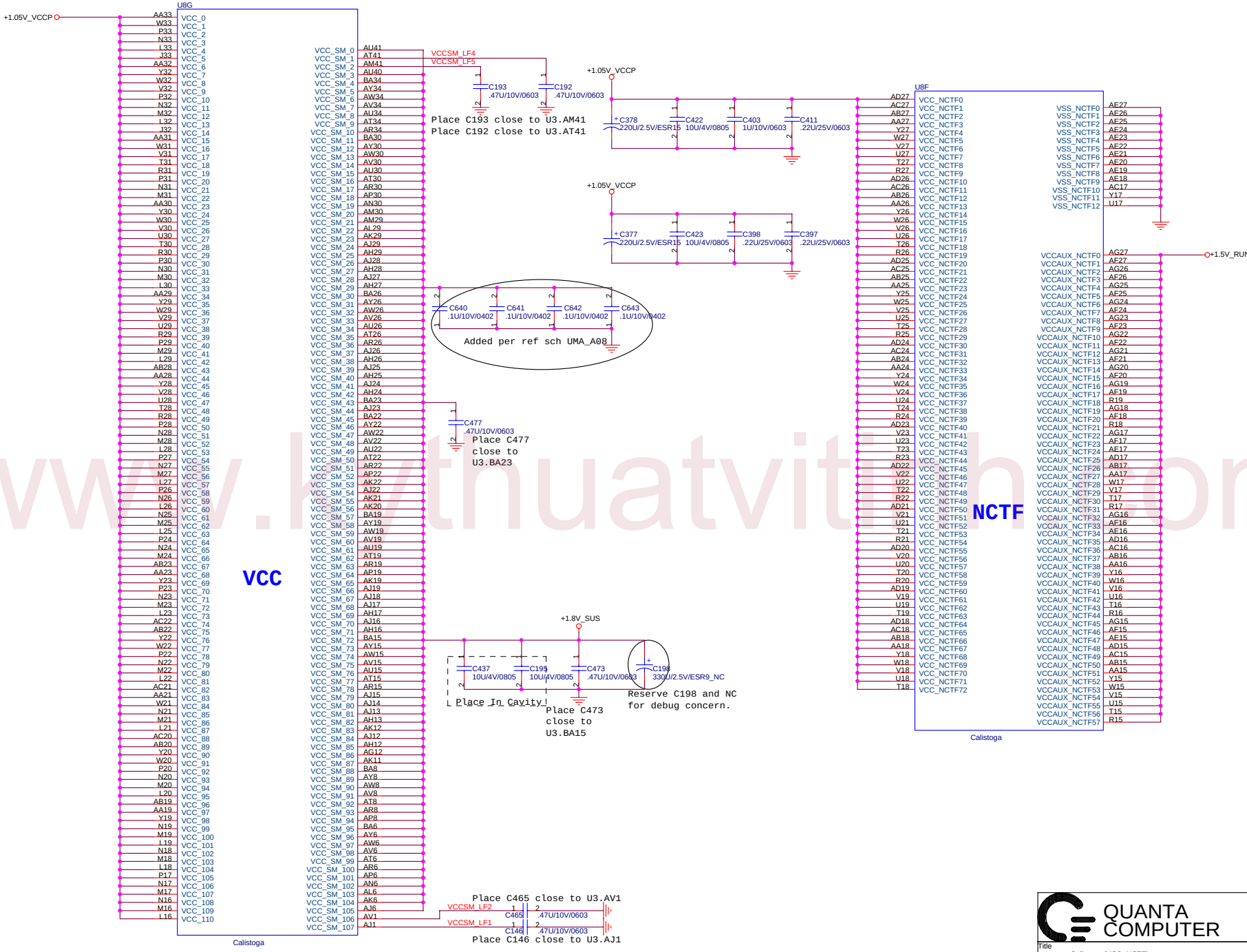
Title	Calistoga (Host)	
Size	Document Number FM1	Rev 3A
Date: Tuesday, January 10, 2006	Sheet 5 of 51	





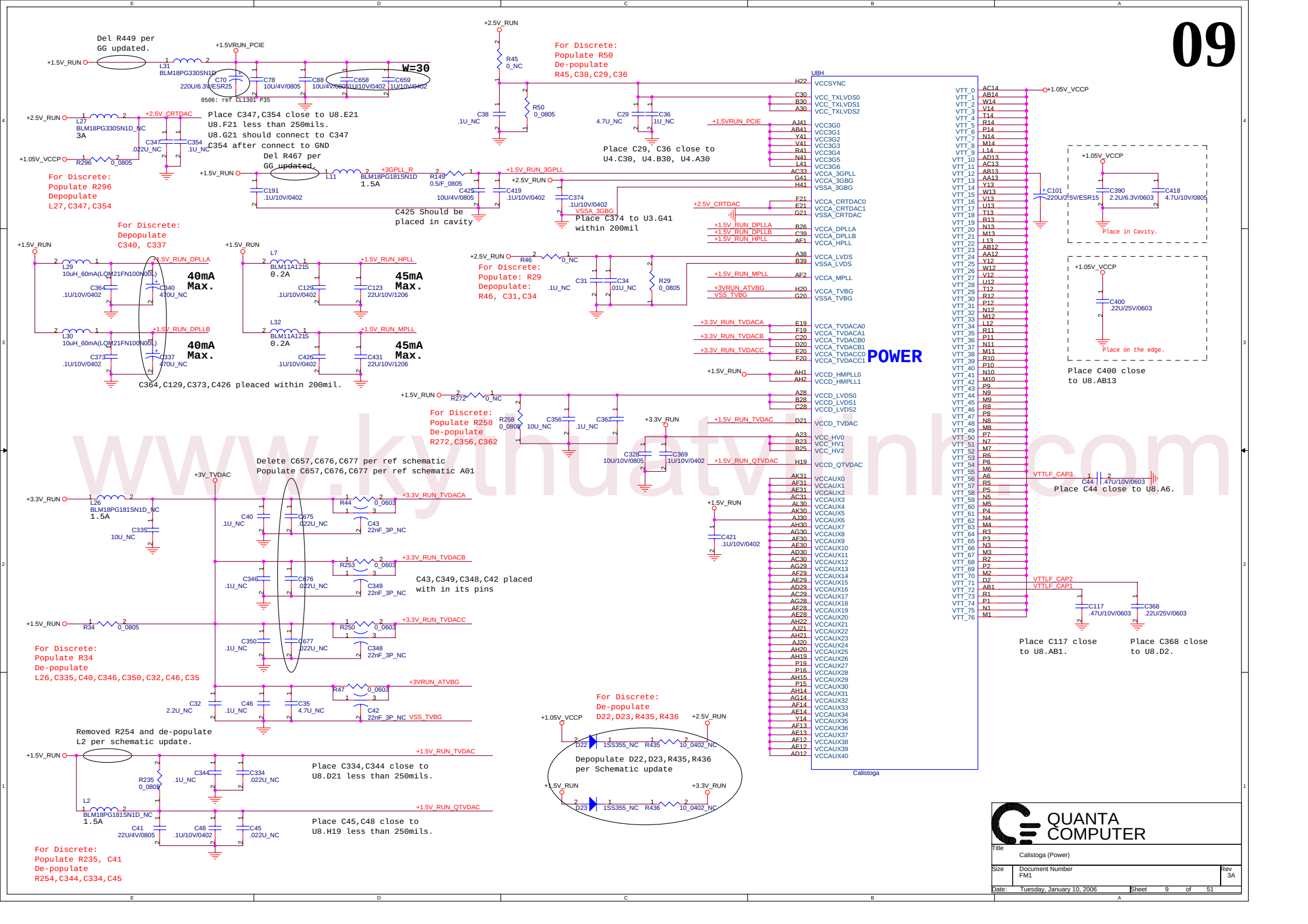
QUANTA COMPUTER

Title	Calistoga (DDR2)	
Size	Document Number FM1	Rev 3A
Date: Tuesday, January 10, 2006	Sheet 7 of 51	



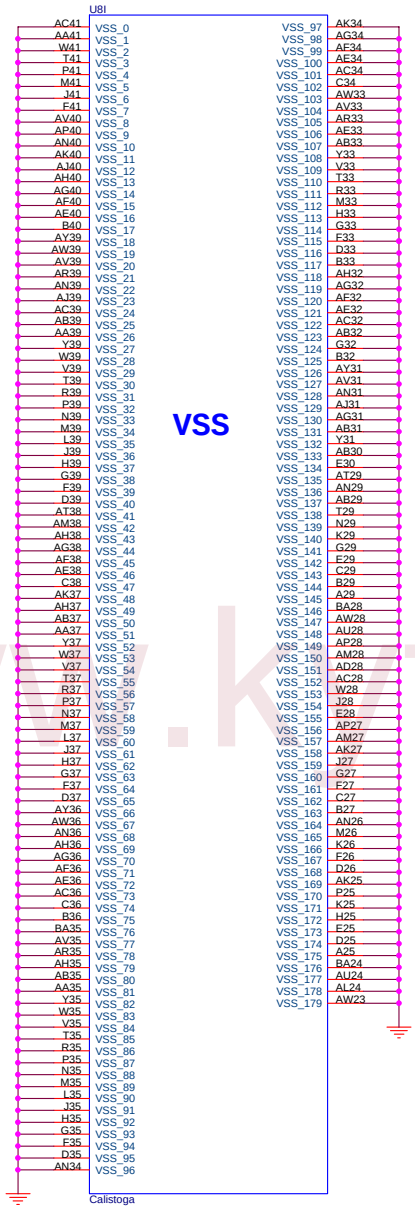
QUANTA COMPUTER

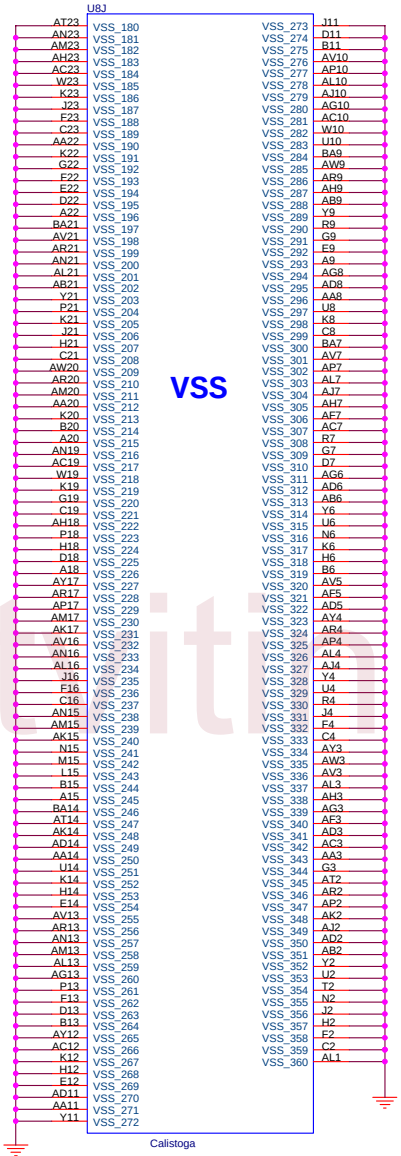
Title	Calistoga (VCC, NCTF)		
Size	Document Number FM1		Rev 3A
Date:	Tuesday, January 10, 2006	Sheet 8 of 51	



QUANTA COMPUTER

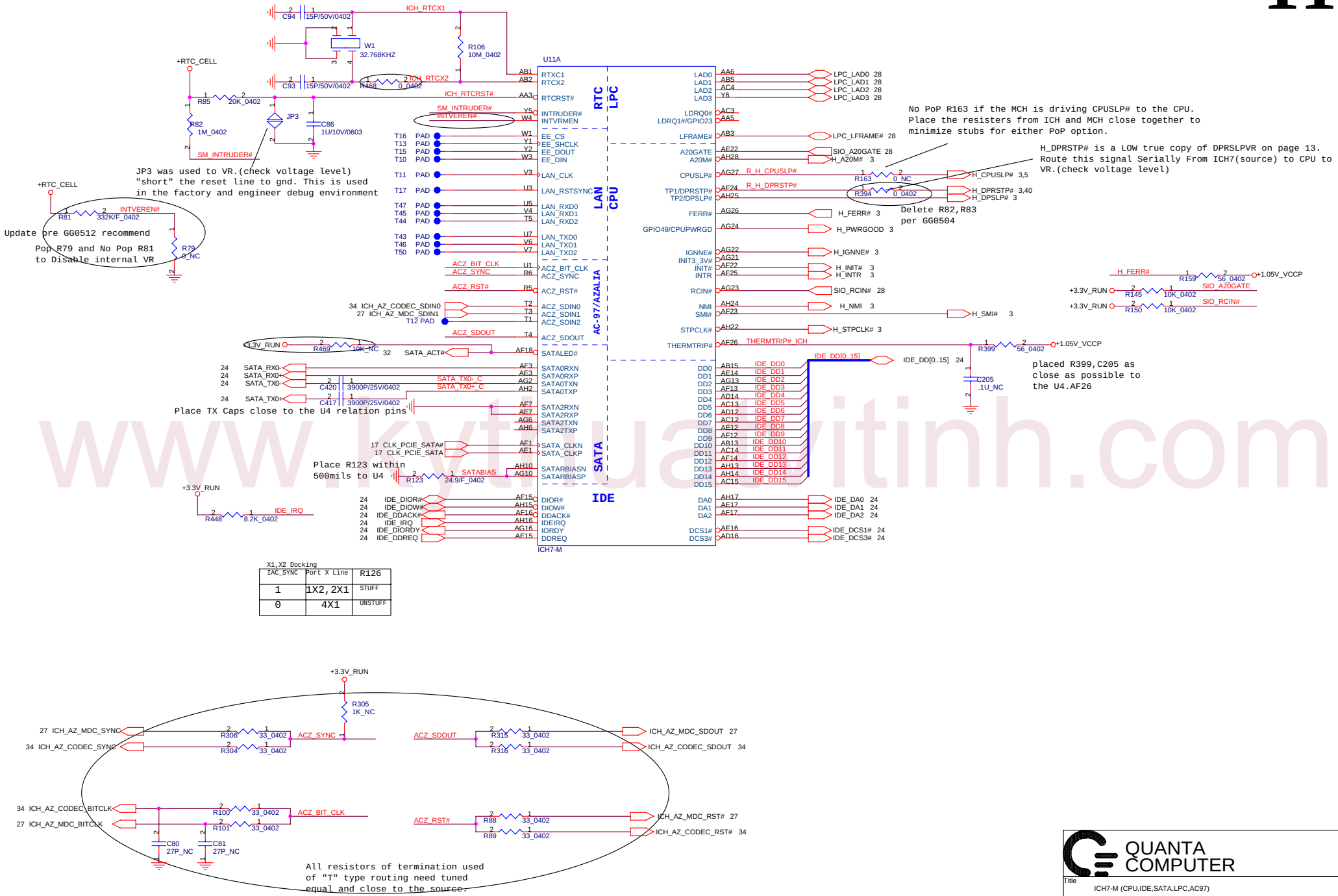
Title	Calistoga (Power)	
Size	Document Number FM1	Rev 3A
Date: Tuesday, January 10, 2006	Sheet 9 of 51	





QUANTA COMPUTER

Title	Calistoga (VSS,NCTF)		
Size	Document Number FM1		Rev 3A
Date: Tuesday, January 10, 2006	Sheet 10 of 51		



Title	ICH7-M (CPU,IDE,SATA,LPC,AC97)
Size	Document Number FM1
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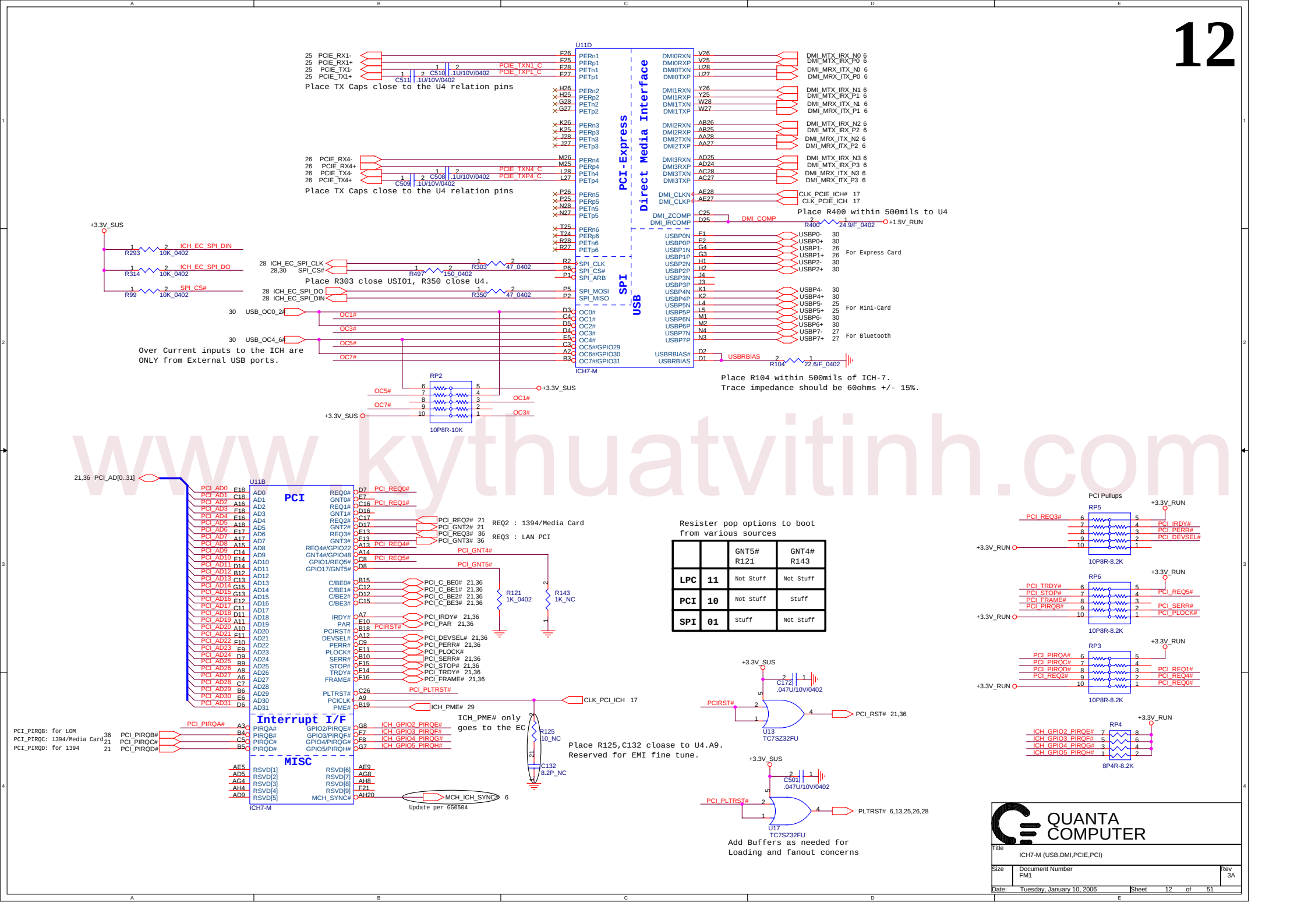

		GNT5# R121	GNT4# R143
LPC	11	Not Stuff	Not Stuff
PCI	10	Not Stuff	Stuff
SPI	01	Stuff	Not Stuff

QUANTA COMPUTER

Title	ICH7-M (USB,DMI,PCIE,PCI)		
Size	Document Number FM1		Rev 3A
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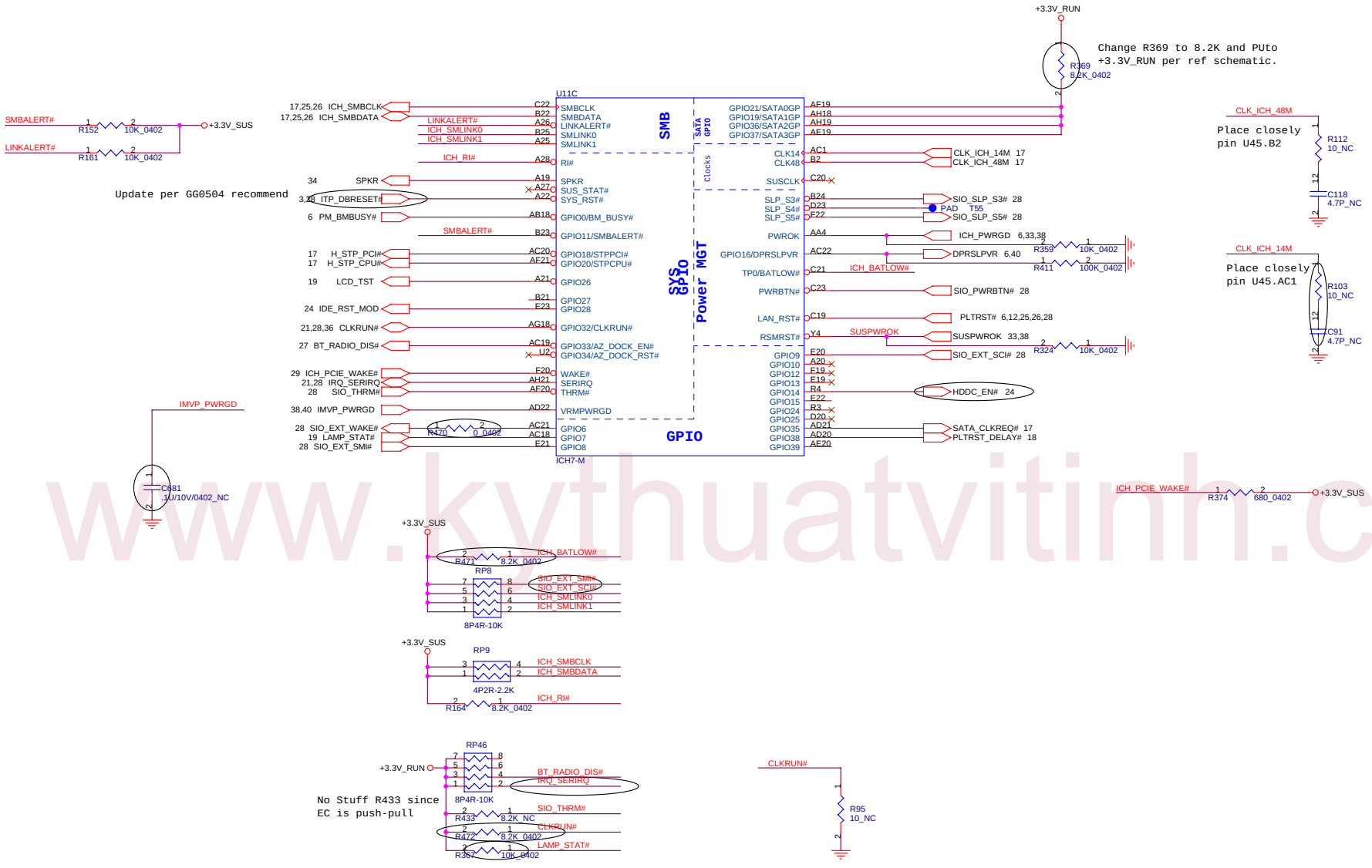
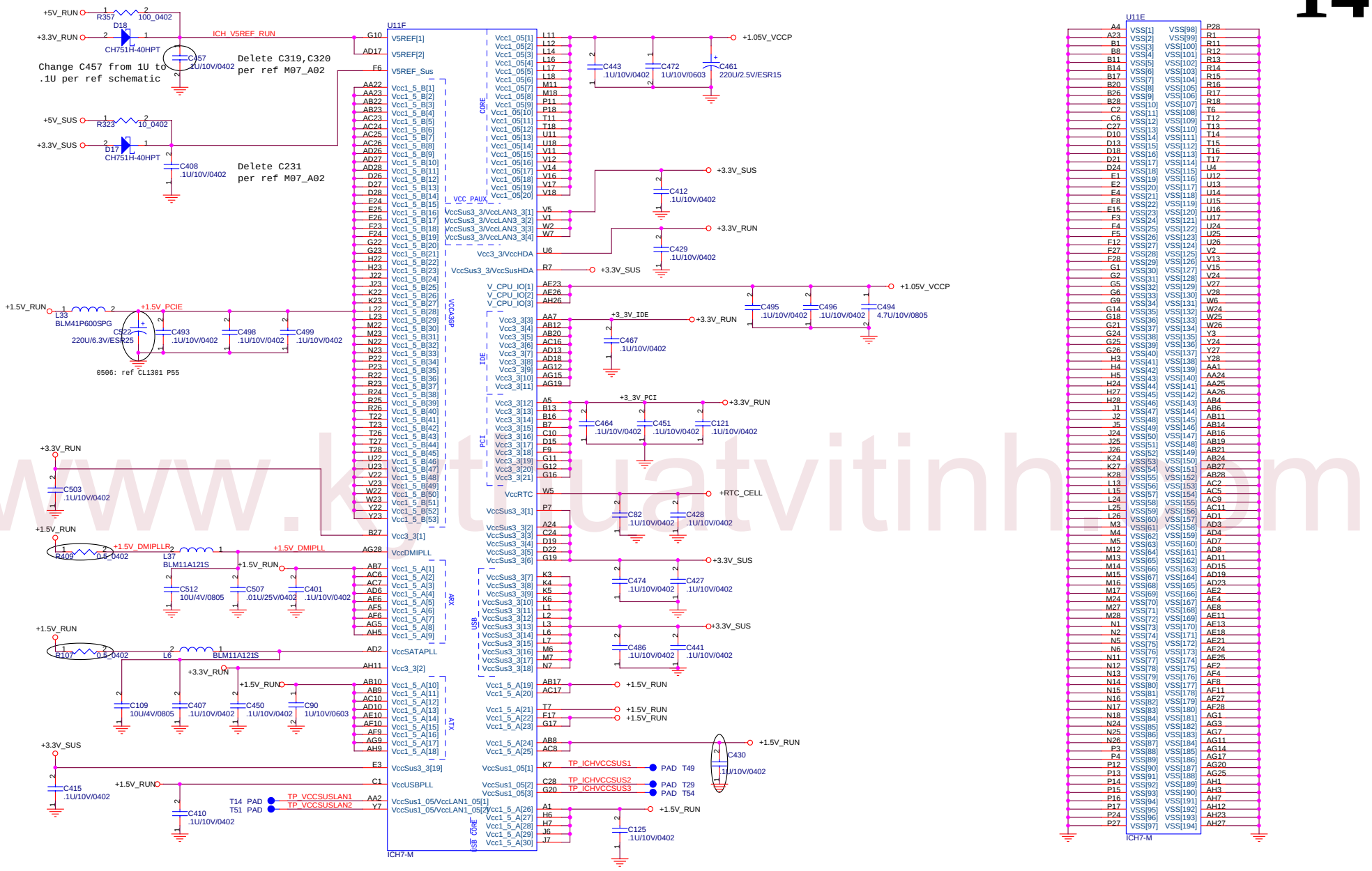


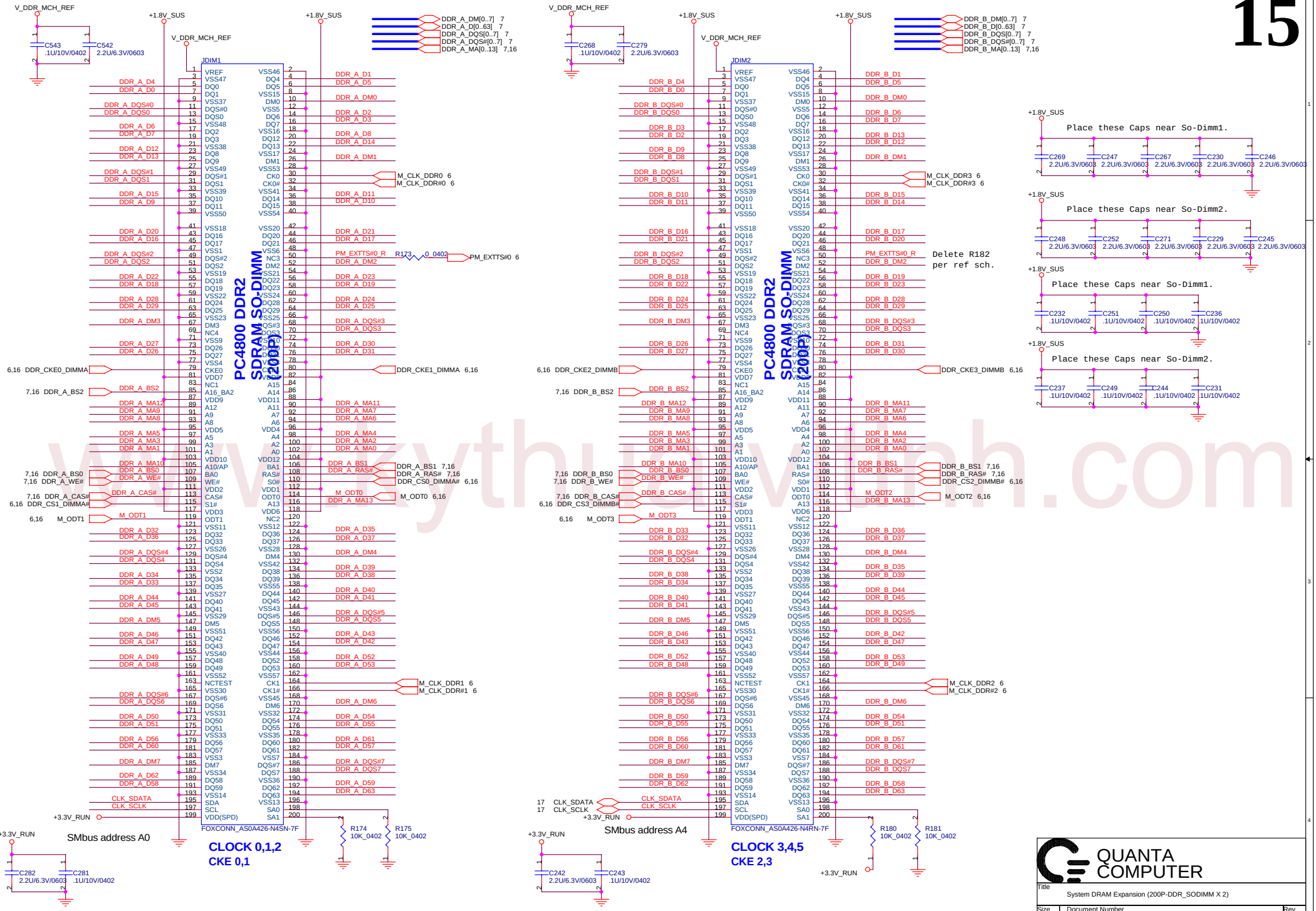
QUANTA COMPUTER

Title	ICH7-M(PM,GPIO,SMB)	
Size	Document Number FM1	Rev 3A
Date: Tuesday, January 10, 2006	Sheet 13 of 51	



QUANTA COMPUTER

Title	ICH7-M (POWER&GND)	
Size	Document Number FM1	Rev 3A
Date: Tuesday, January 10, 2006	Sheet 14 of 51	



QUANTA COMPUTER

Title	System DRAM Expansion (200P-DDR_SODIMM X 2)
Size	Document Number FM1 — Rev 3A
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DDR_A_MA[0..13] 7,15

DDR_B_MA[0..13] 7,15

+0.9V_DDR_VTT

C235 .1U/10V/0402 C256 .1U/10V/0402 C255 .1U/10V/0402 C266 .1U/10V/0402 C262 .1U/10V/0402 C226 .1U/10V/0402 C225 .1U/10V/0402 C263 .1U/10V/0402 C259 .1U/10V/0402 C264 .1U/10V/0402 C240 .1U/10V/0402 C238 .1U/10V/0402 C234 .1U/10V/0402

Layout note: Place 1 cap close to every 1 R-pack terminated to +0.9V_DDR_VTT

+0.9V_DDR_VTT

C233 .1U/10V/0402 C224 .1U/10V/0402 C223 .1U/10V/0402 C221 .1U/10V/0402 C222 .1U/10V/0402 C254 .1U/10V/0402 C257 .1U/10V/0402 C239 .1U/10V/0402 C258 .1U/10V/0402 C241 .1U/10V/0402 C265 .1U/10V/0402 C260 .1U/10V/0402 C253 .1U/10V/0402

Layout note: Place 1 cap close to every 1 R-pack terminated to +0.9V_DDR_VTT

Layout Note:
Place one cap close to every 2 pullup resistors terminated to +0.9V_DDR_VTT

RP14 4P2R-56: DDR_A_MA11, DDR_A_MA7
RP13 4P2R-56: DDR_A_MA6, DDR_A_MA4
RP11 4P2R-56: 7,15 DDR_A_BS1, 7,15 DDR_A_RAS#
+0.9V_DDR_VTT

RP21 4P2R-56: 7,15 DDR_B_RAS#, 7,15 DDR_B_BS1
RP29 4P2R-56: DDR_B_MA12, DDR_B_MA8
RP28 4P2R-56: DDR_B_MA9, DDR_B_MA5
+0.9V_DDR_VTT

RP10 4P2R-56: 6,15 M_ODT0, DDR_A_MA13
RP19 4P2R-56: 7,15 DDR_A_BS2, DDR_A_MA12
RP18 4P2R-56: DDR_A_MA9, DDR_A_MA8
RP17 4P2R-56: DDR_A_MA5, DDR_A_MA3
+0.9V_DDR_VTT

RP27 4P2R-56: DDR_B_MA3, DDR_B_MA1
RP26 4P2R-56: DDR_B_MA10
RP25 4P2R-56: 7,15 DDR_B_BS0, 7,15 DDR_B_WE#, 7,15 DDR_B_CAS#
RP24 4P2R-56: DDR_B_MA7, DDR_B_MA11
+0.9V_DDR_VTT

RP16 4P2R-56: DDR_A_MA10
RP15 4P2R-56: 7,15 DDR_A_BS0, 7,15 DDR_A_WE#, 7,15 DDR_A_CAS#
RP12 4P2R-56: DDR_A_MA0, DDR_A_MA2
+0.9V_DDR_VTT

RP23 4P2R-56: DDR_B_MA0, DDR_B_MA6
RP22 4P2R-56: DDR_B_MA2, DDR_B_MA4
RP20 4P2R-56: DDR_B_MA13, 6,15 M_ODT2
+0.9V_DDR_VTT

6,15 DDR_CKE0_DIMMA — R179 56_0402
6,15 DDR_CKE1_DIMMA — R170 56_0402
6,15 DDR_CKE2_DIMMB — R188 56_0402
6,15 DDR_CKE3_DIMMB — R184 56_0402
+0.9V_DDR_VTT

6,15 DDR_CS0_DIMMA# — R169 56_0402
6,15 DDR_CS1_DIMMA# — R176 56_0402
6,15 DDR_CS2_DIMMB# — R183 56_0402
6,15 DDR_CS3_DIMMB# — R186 56_0402
+0.9V_DDR_VTT

6,15 M_ODT1 — R177 56_0402
6,15 M_ODT3 — R185 56_0402
DDR_A_MA1 — R178 56_0402
7,15 DDR_B_BS2 — R187 56_0402
+0.9V_DDR_VTT

QUANTA COMPUTER

Title	DDR RES.ARRAY		
Size	Document Number FM1		Rev 3A
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Frequency	BSEL0/FSA	BSEL2/FSC	BSEL1/FSB
100	1	0	1
133	0	0	1
166	0	1	1
200	0	1	0

Place Decoupling as close as possilble to the VDD pins

Add C644 per ref schematic.

Place R74,R62,R61 as close as possilble to the VDD pins

Place these termination to close CK410M.

Place C74,C75 close to pin7,8.

Trace length between R277, R278 to UJ42 = <50mils

SMbus address D2

ICS954305E

Pin 43, 44 used for 96Mhz UMA or 27Mhz Disc. Grfx Down on MB

Place C673 close to R264.1 per EMI requirement.

Unused Clock outputs can optionally be connected to Test points

For Discrete:
Populate R274
De-populate R269

PCI_LOM = FCTSEL1

FCTSEL1 (PIN34)	PIN43	PIN44	PIN47	PIN48
0 = UMA	DOT96T	DOT96C	96/100M_T	96/100M_C
1 = Disc. GRFX down	27Mout	27MSSout	SRCT0	SRCC0

Place pulldown termination close to series R per Design Guide

For Discrete:
De-populate
R285, R288

Place these termination to close CK410M.

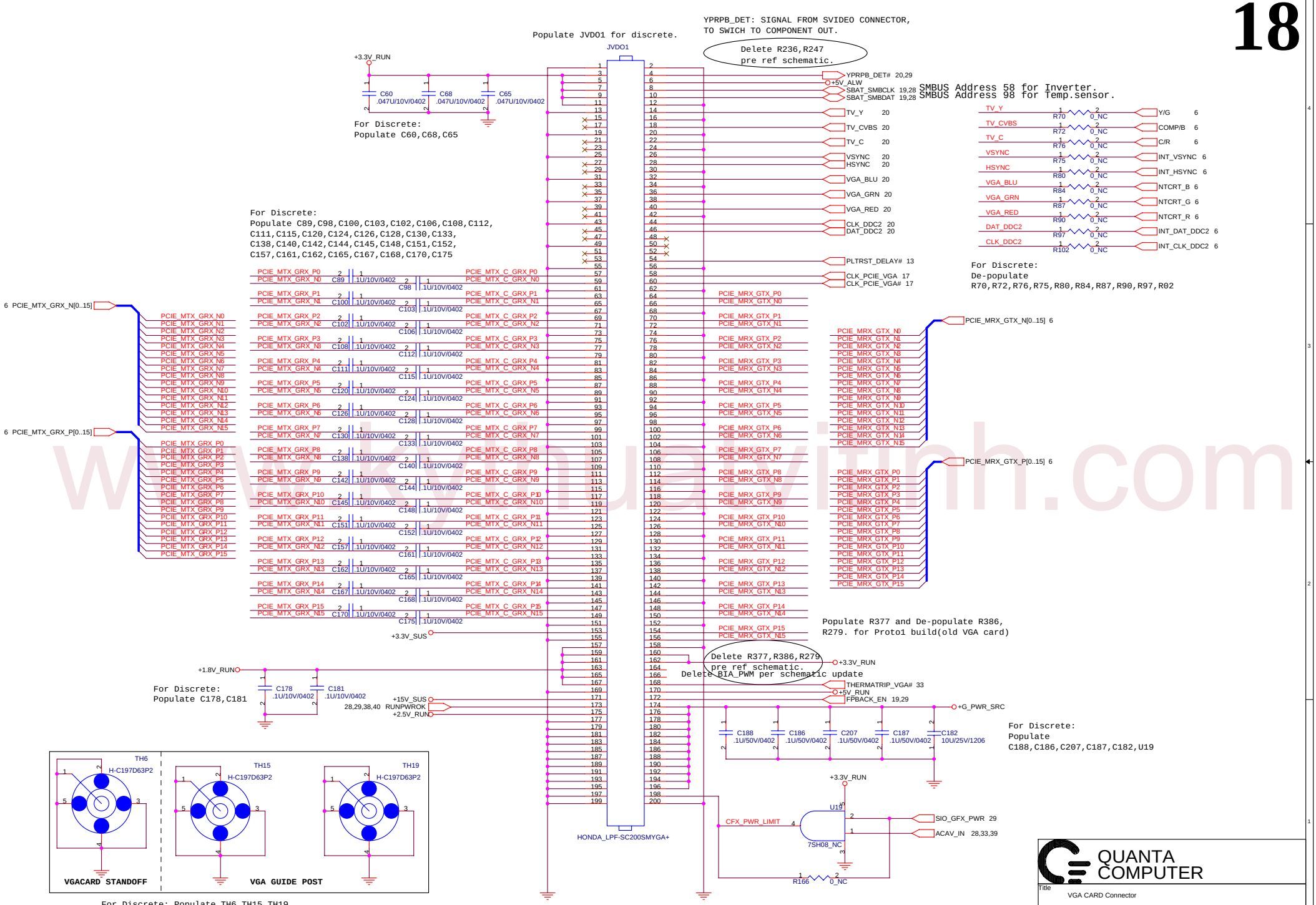
These are for backdrive issue

QUANTA COMPUTER

Title: CLOCK GENERATOR

Size: Document Number FM1 Rev 3A

Date: Tuesday, January 10, 2006 Sheet 17 of 51



QUANTA COMPUTER

Title	VGA CARD Connector		
Size	Document Number FM1		Rev 3A
Date:	Tuesday, January 10, 2006	Sheet 18 of 51	

For Discrete:
De-populate Q29,Q27,Q23,Q14,
R249,R259,R266,R248,C339,C363

+15V_SUS
+3.3V_RUN
+LCDVCC
R259 100K_NC
C339 .1U_NC
Q23 FDC653_NL_NC
R248 470_NC
+3.3V_RUN
+15V_SUS
R242 47K_NC
R249 100K_NC
LCDVCC_ON
Q27 2N7002W-7-F_NC
R266 100K_NC
C363 .1U_NC
Q14 2N7002W-7-F_NC
6 ENVDD
Q29 DTC124EUA_NC

+3.3V_RUN
C345 .047U_NC
6 PANEL_BKEN
U25
R211 0_NC
18,29 FPBACK_EN
BACKLITEON
7SH08_NC
R210 100K_NC

For Discrete:
De-populate R211,R210

Support M07-Inverter: Populate R230,R211 and Depopulate U8,C345.
Support D05-Inverter: Depopulate R230,R211 and Populate U8,C345.

+3.3V_ALW
R483 100K_0402
SW1
29 LID_CL_PRES#
28,32 LID_CL#
GPIO
SIG
GND
53398-0371

Change LID SW to 3 Pins connector.

J1
LCD_BCLK- 6
LCD_BCLK+ 6
LCD_B2- 6
LCD_B2+ 6
LCD_B1- 6
LCD_B1+ 6
LCD_B0- 6
LCD_B0+ 6
LCD_ACLK- 6
LCD_ACLK+ 6
LCD_A2- 6
LCD_A2+ 6
LCD_A1- 6
LCD_A1+ 6
LCD_A0- 6
LCD_A0+ 6
LDOC_CLK 6
LDOC_DATA 6
+3.3V_RUN
+LCDVCC
LCD_TST 13
+G_PWR_SRC
BACKLITEON
+5V_ALW
JAE_FI-TD44SB-VF93-R750_NC
C311 .1U_NC
C331 47P_NC
C332 47P_NC
R230 0_NC
BIA_PWM 6,28
SBAT_SMBCLK 18,28
SBAT_SMBDAT 18,28
SMBUS Address 58
D16 CH751H-40HPT_NC
LAMP_STAT# 13

For Discrete:
De-populate J1,R230,C311,C331,C332,
D16,C341,C324,C326

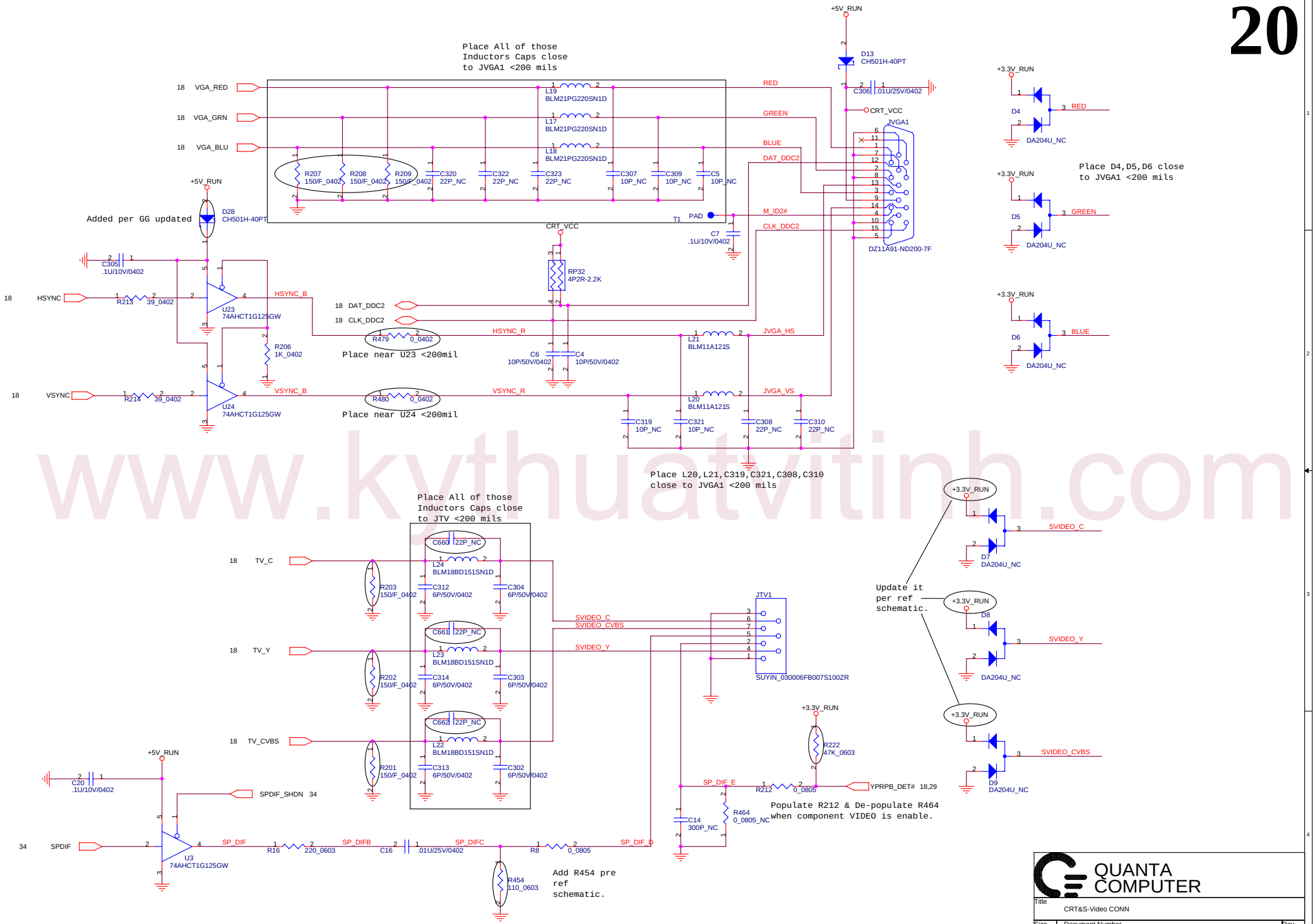
+5V_ALW
D14
SBAT_SMBCLK
DA204U_NC
D15
SBAT_SMBDAT
DA204U_NC
+LCDVCC
C324 .1U_NC
C326 .1U_NC
+3.3V_RUN
C341 .1U_NC
+G_PWR_SRC
Adress : A9H --Contrast
AAH --Backlight
C333 .1U/50V/0603
C329 .1U/50V/0603

M'07 inverter support - De-populate D16.
D'05 inverter support - Populate D16

+PWR_SRC
80 mil
80 mil
R260 100K_0402
C351 .1U/50V/0603
Q24 SI3457DV-T1-E3
INV_PWR_SRC_ON
R261 100K_0402
INV_PWR_SRC_ON_R
RUN_ON 28,38,41,42,43,44
Q25 2N7002W-7-F

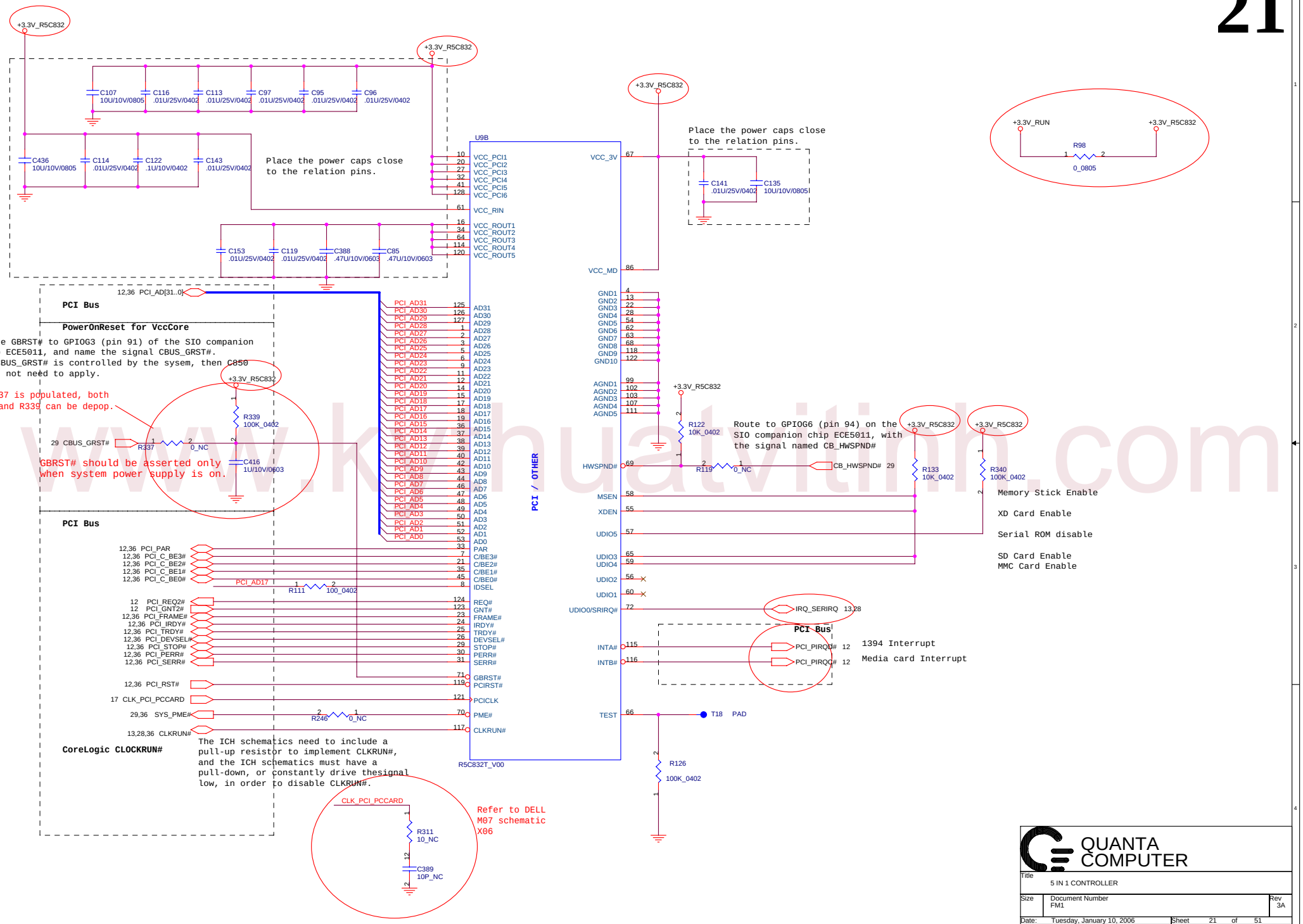
QUANTA COMPUTER

Title	LCD CONN&CK-SSCD	
Size	Document Number FM1	Rev 3A
Date: Tuesday, January 10, 2006	Sheet 19 of 51	



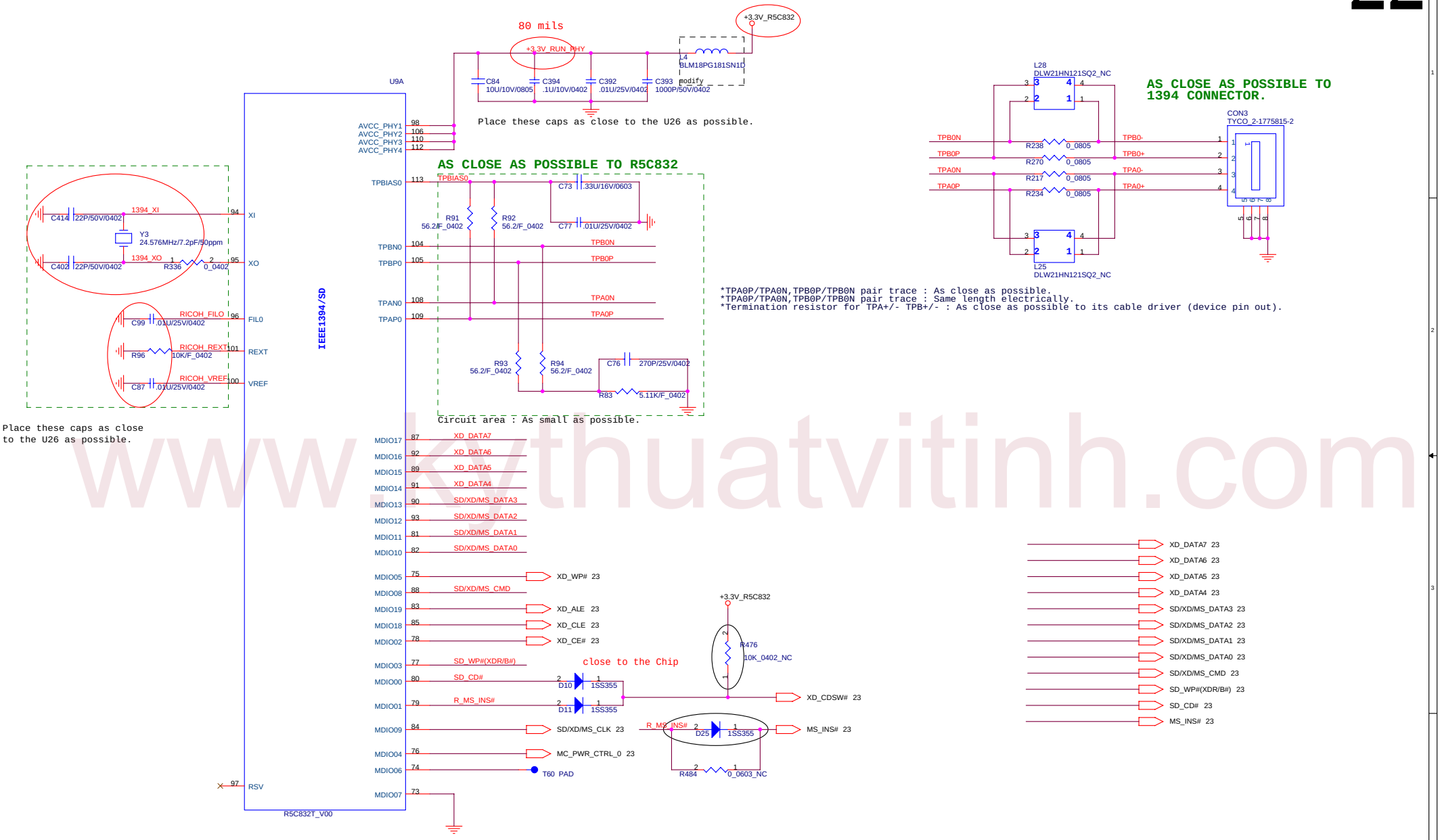
QUANTA COMPUTER

Title	CRT&S-Video CONN		
Size	Document Number FM1		Rev 3A
Date:	Tuesday, January 10, 2006	Sheet 20 of 51	



QUANTA COMPUTER

Title	5 IN 1 CONTROLLER	
Size	Document Number FM1	Rev 3A
Date: Tuesday, January 10, 2006	Sheet 21 of 51	

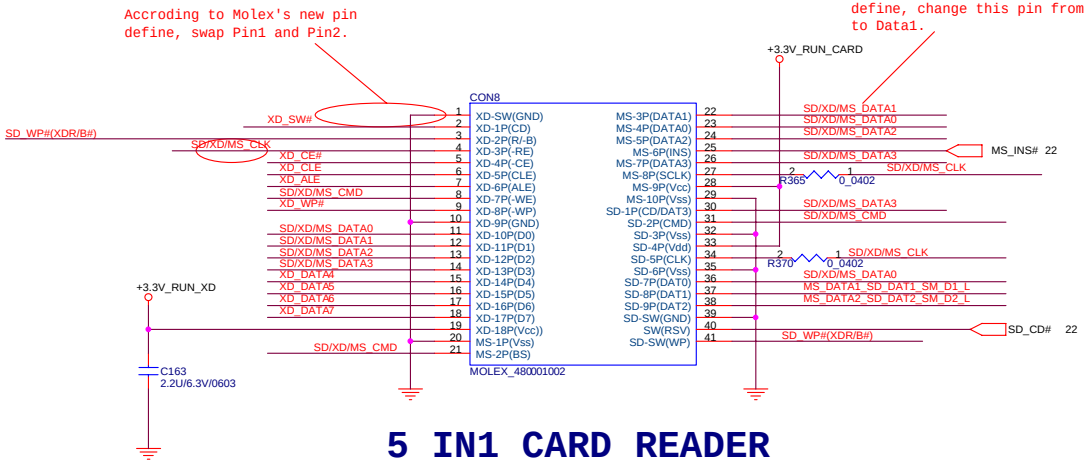


QUANTA COMPUTER

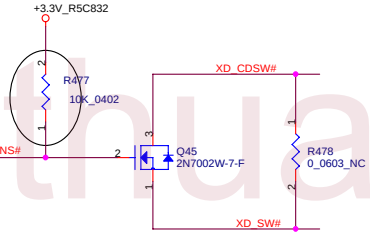
Title	IEEE 1394	
Size	Document Number FM1	Rev 3A
Date: Tuesday, January 10, 2006	Sheet 22 of 51	

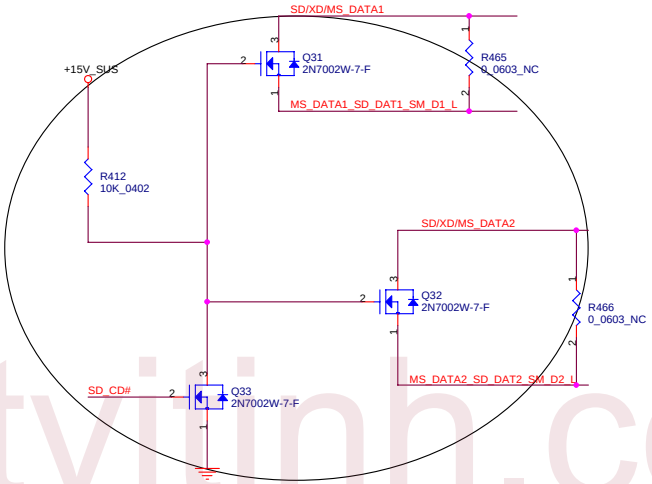
DO NOT INSERT SD/MMC, MEMORYSTICK AND XD SIMULTANEOUSLY.

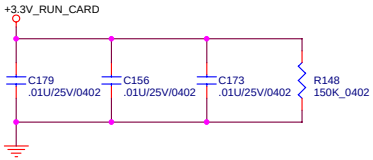
5 IN1 CARD READER



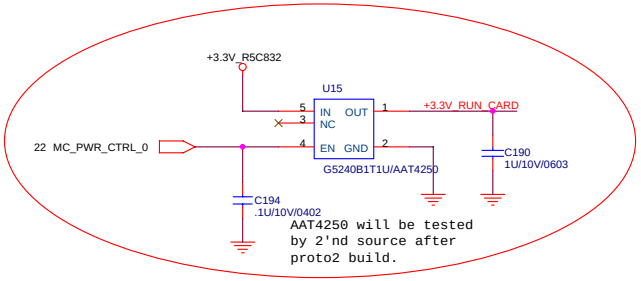
Refer to M07, connect C163 to +3VRUN_XD.



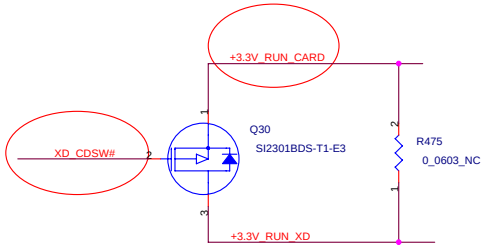




For SD/MS power

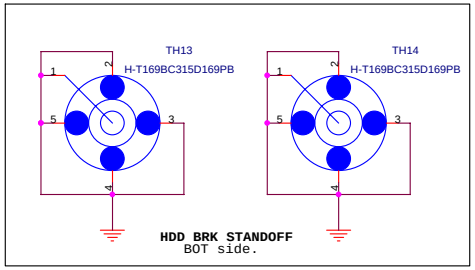


For XD power

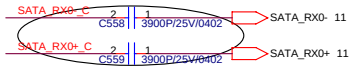


QUANTA COMPUTER

Title	CARD READER CONN	
Size	Document Number CM1	Rev 3A
Date: Tuesday, January 10, 2006	Sheet 23 of 51	



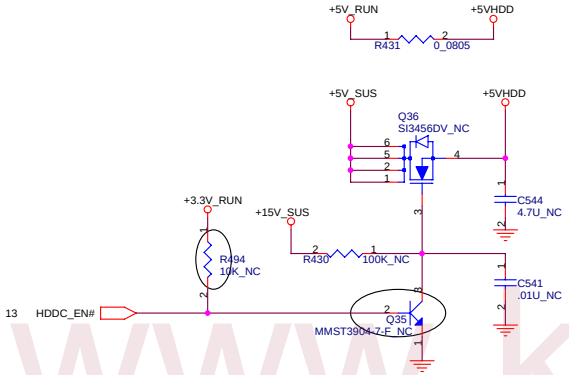
Place close to
connector side

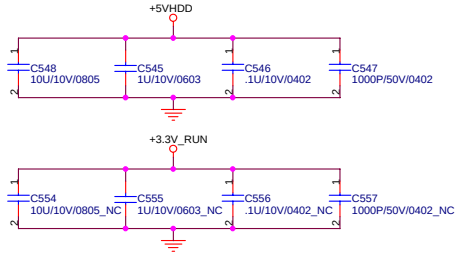


Locate caps C558, C559 near HDD Conn.
Length match SATA_C_RX0- & SATA_C_RX0+ within 20mils.

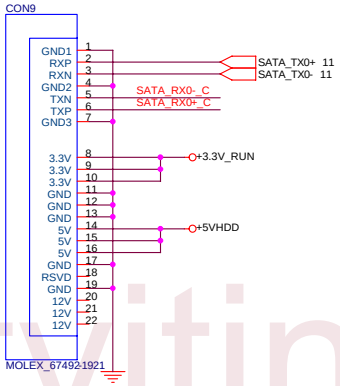
SATA drive vendors will use only 5V supply from the system and will derive 3.3V on the drive. If drive power goals are not achieved, drive vendors will use both 5V and 3.3V supplies from the system. Initial power saving using 3.3V from system is less than 5%.

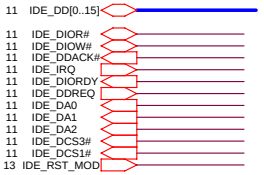
Power Estimate:
SATA drive power consumption estimate at MobileMark is 1.1W. An additional 150mW can be saved using Intel's IMST driver.

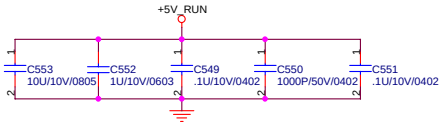




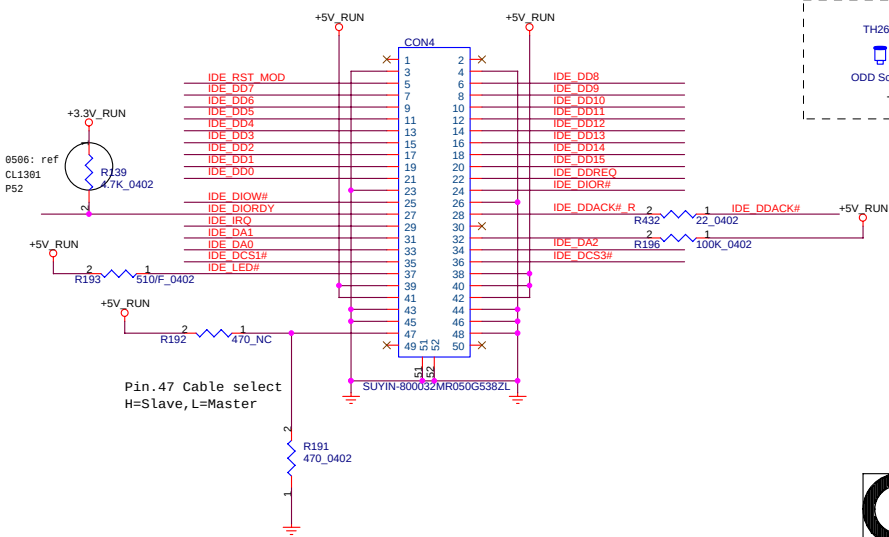
Place closed to
HDD connector



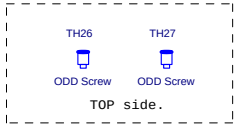




Place closed to
MOD connector

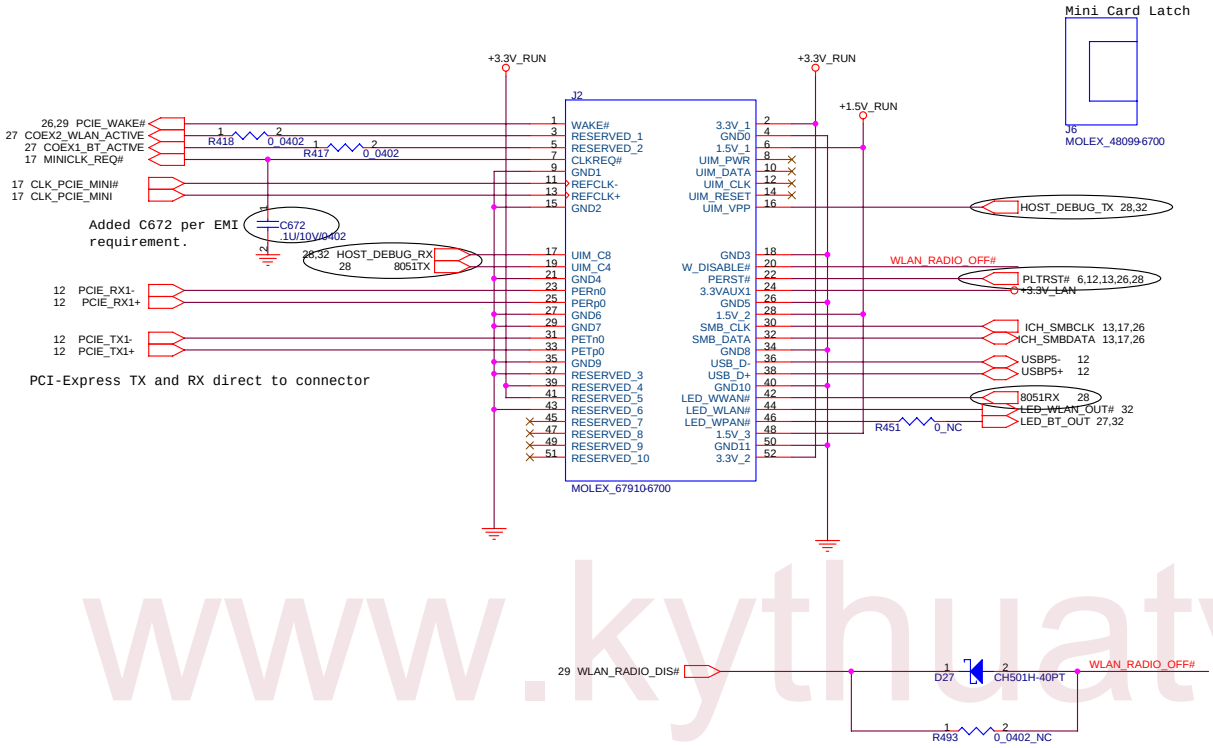


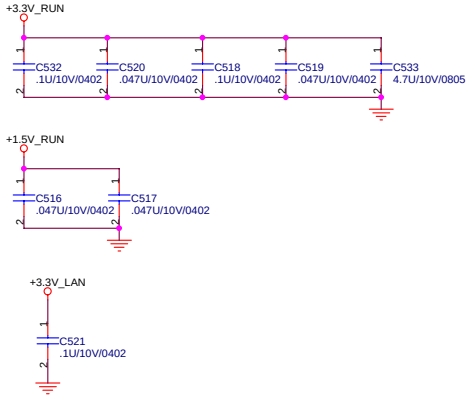
Pin.47 Cable select
H=Slave,L=Master



QUANTA COMPUTER

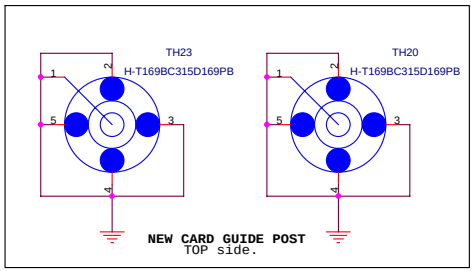
Title	STAT HDD & PATA ODD	
Size	Document Number FM1	Rev 3A
Date: Tuesday, January 10, 2006	Sheet 24 of 51	

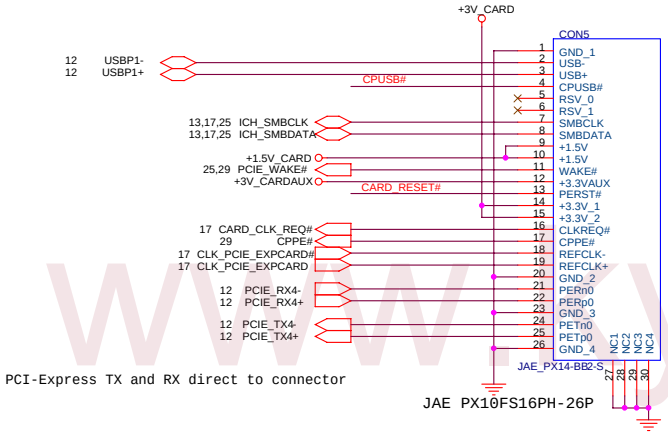




QUANTA COMPUTER

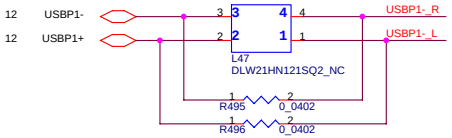
Title	Minicard	
Size	Document Number FM1	Rev 3A
Date: Tuesday, January 10, 2006	Sheet 25 of 51	

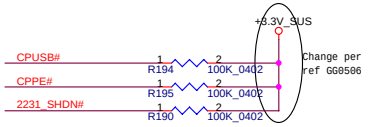




PCI-Express TX and RX direct to connector

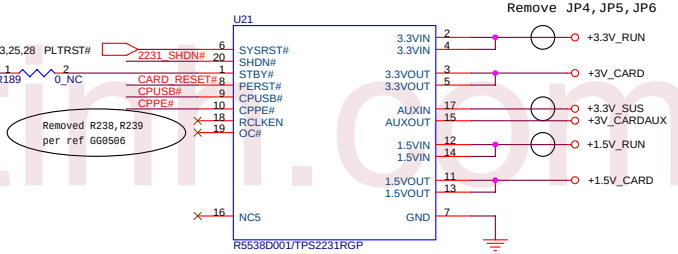
JAE PX10FS16PH-26P



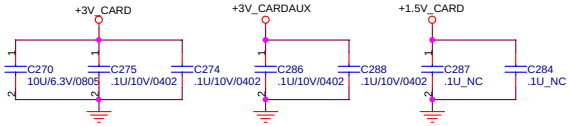


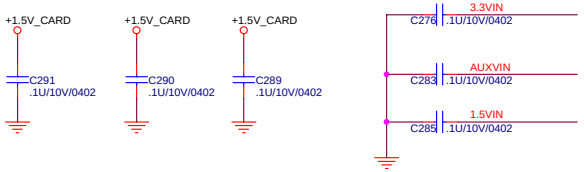
+1.5V_CARD Max. 650mA, Average 500mA
+3V_CARD Max. 1300mA, Average 1000mA

Remove JP4, JP5, JP6



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



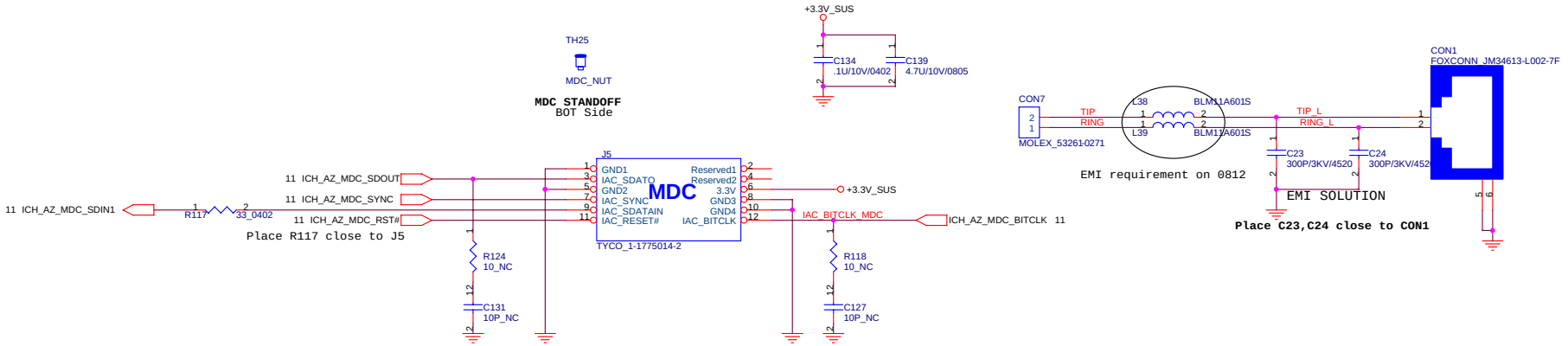


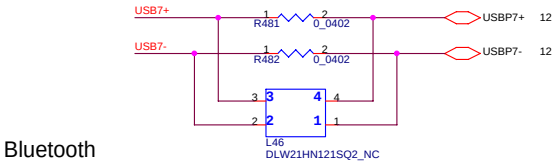
QUANTA COMPUTER

Title	Express Card	
Size	Document Number FM1	Rev 3A
Date: Tuesday, January 10, 2006	Sheet 26 of 51	

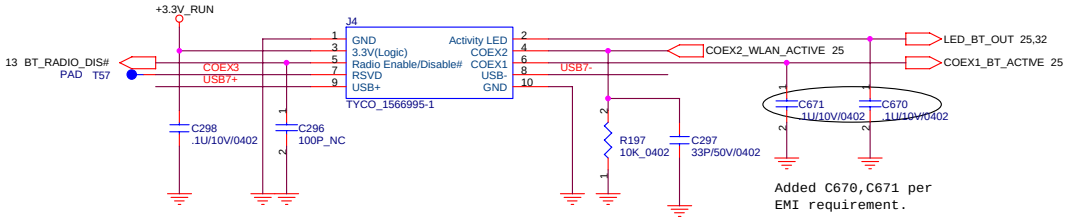
MDC Layout Notes

1. Tip and Ring trace width = 25 mils
2. Spacing between Tip and Ring = 25 mils
3. Tip and Ring connector pitch = 25 mils
4. Keep out area from Tip and Ring to other signals = 100 mils
5. Power and Ground minimum trace width to connector = 20 mils
6. Route Tip and Ring on one layer only (top or bottom)
7. Modem internal cable wire size = 26 AWG
(stranded or twisted pair wire)



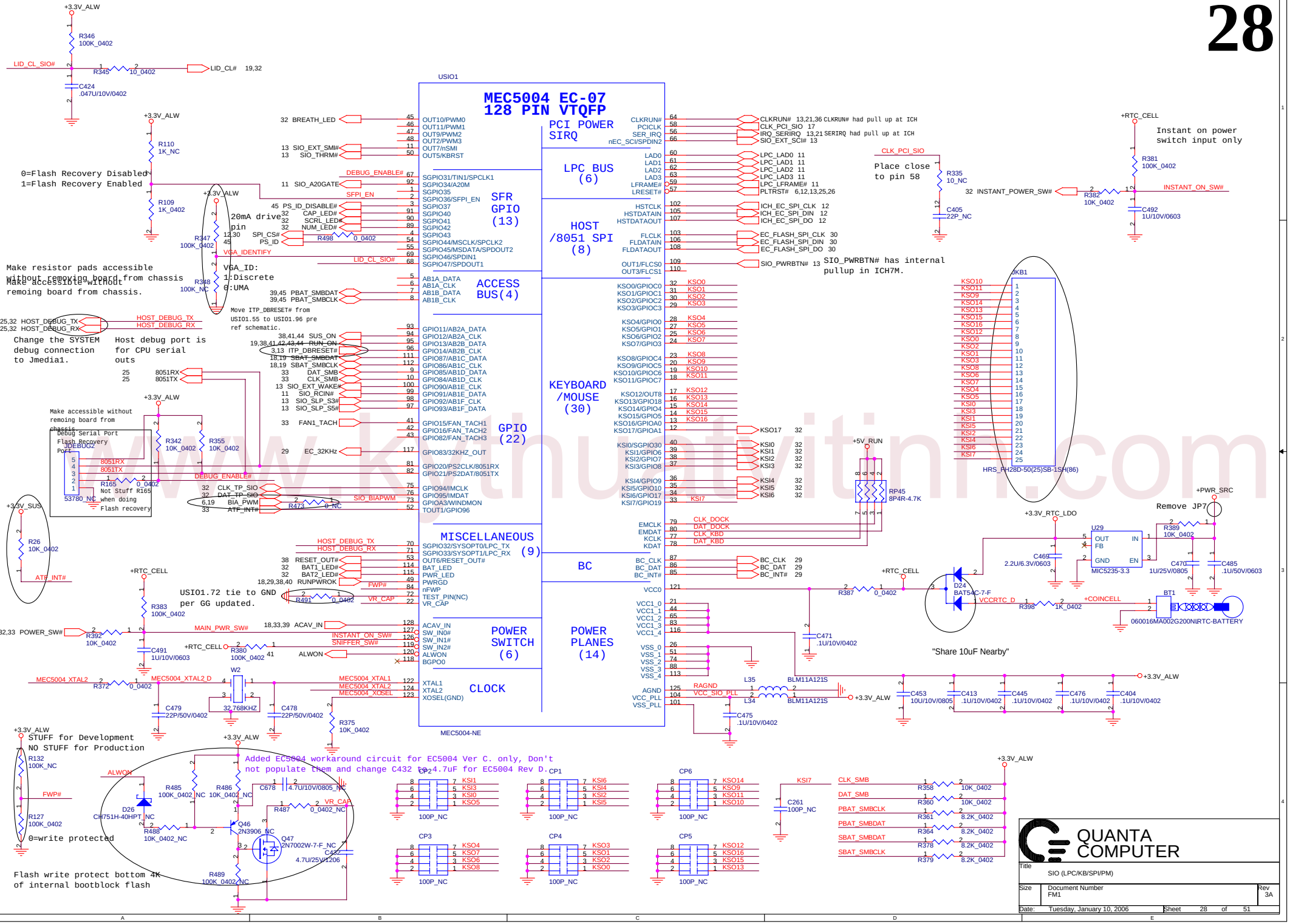


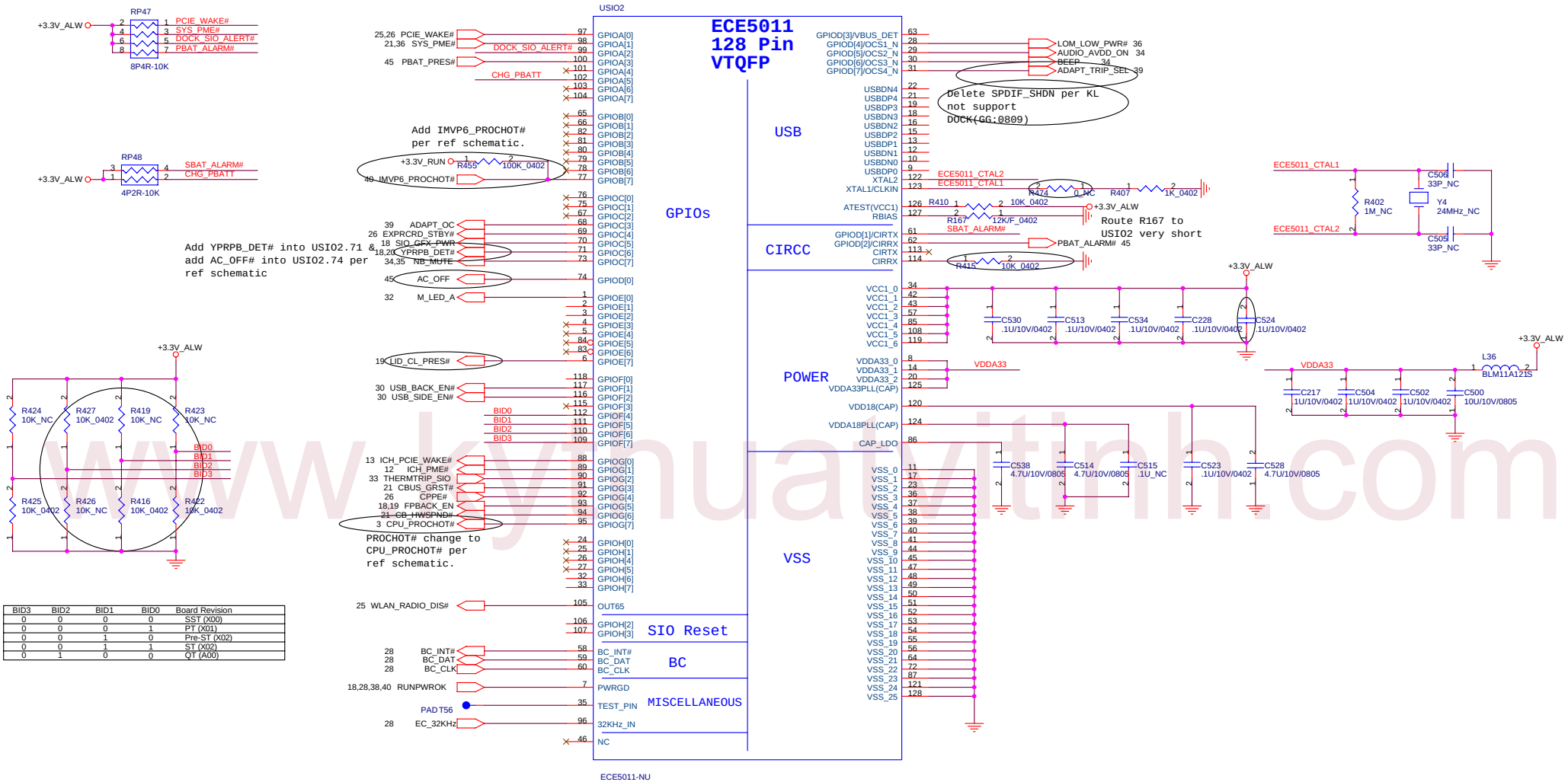
Bluetooth



QUANTA COMPUTER

Title	MDC CONN & BlueTooth.	
Size	Document Number FM1	Rev 3A
Date: Tuesday, January 10, 2006	Sheet 27 of 51	



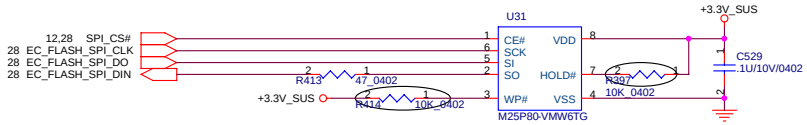


BID3	BID2	BID1	BID0	Board Revision
0	0	0	0	SST (X00)
0	0	0	1	PT (X01)
0	0	1	0	Pre-ST (X02)
0	0	1	1	ST (X02)
0	1	0	0	QT (A00)

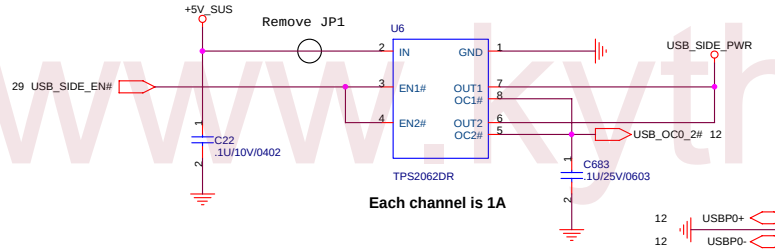
QUANTA COMPUTER

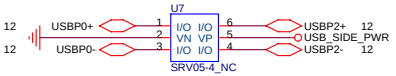
Title	SIO (GPIO/BC/USB/CIRR)	
Size	Document Number FM1	Rev 3A
Date: Tuesday, January 10, 2006	Sheet 29 of 51	

8Mbit (1M Byte), SPI

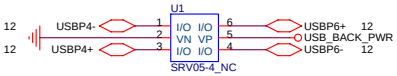


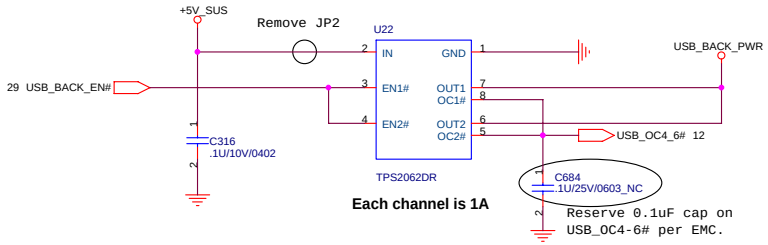
Delete UPW1, C434-436, RP53 per GG0524 item 135.

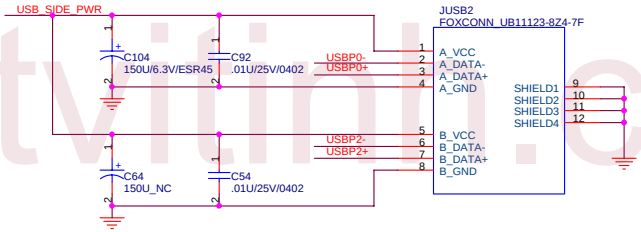


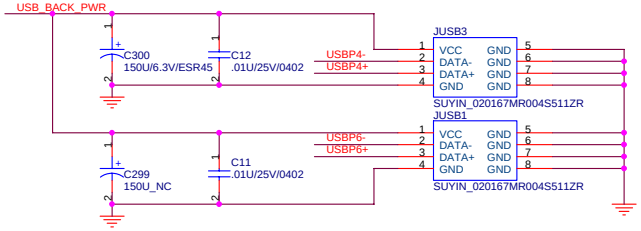


Place ESD diodes as close as USB connector.



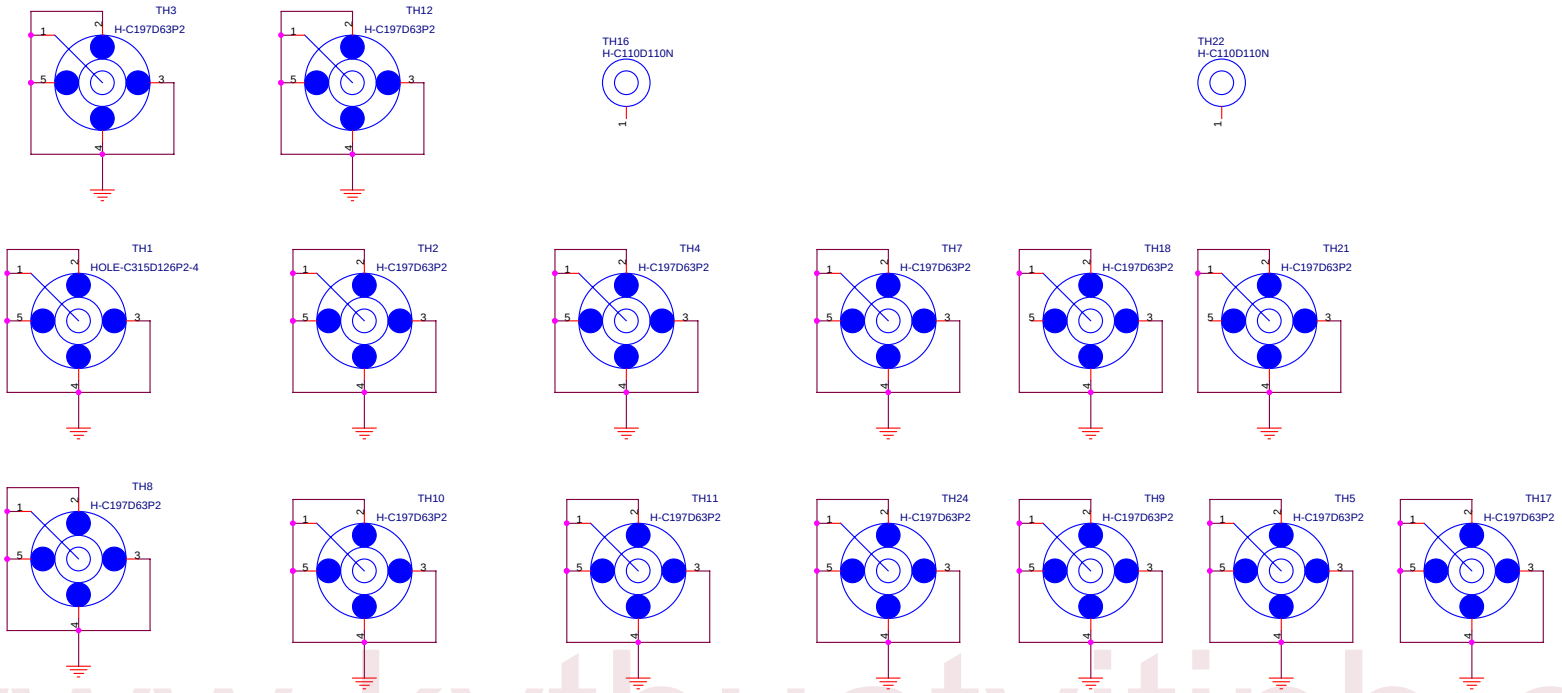


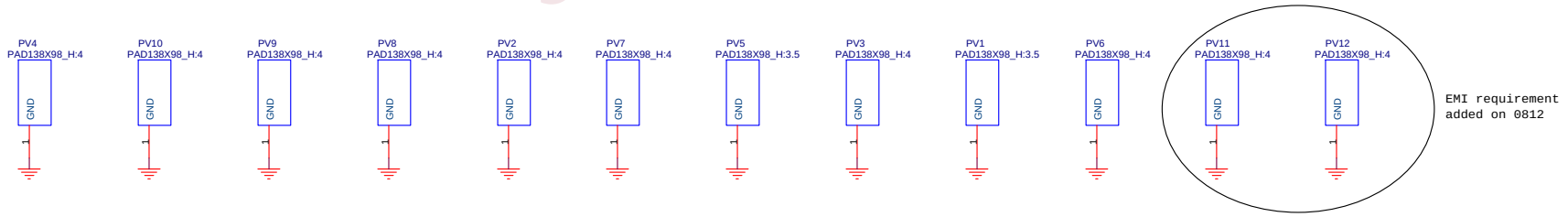


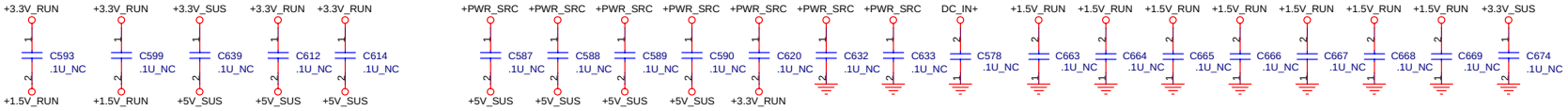


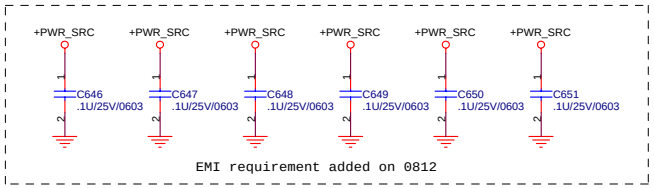
QUANTA COMPUTER

Title	USB & Flash	
Size	Document Number FM1	Rev 3A
Date: Tuesday, January 10, 2006	Sheet 30 of 51	



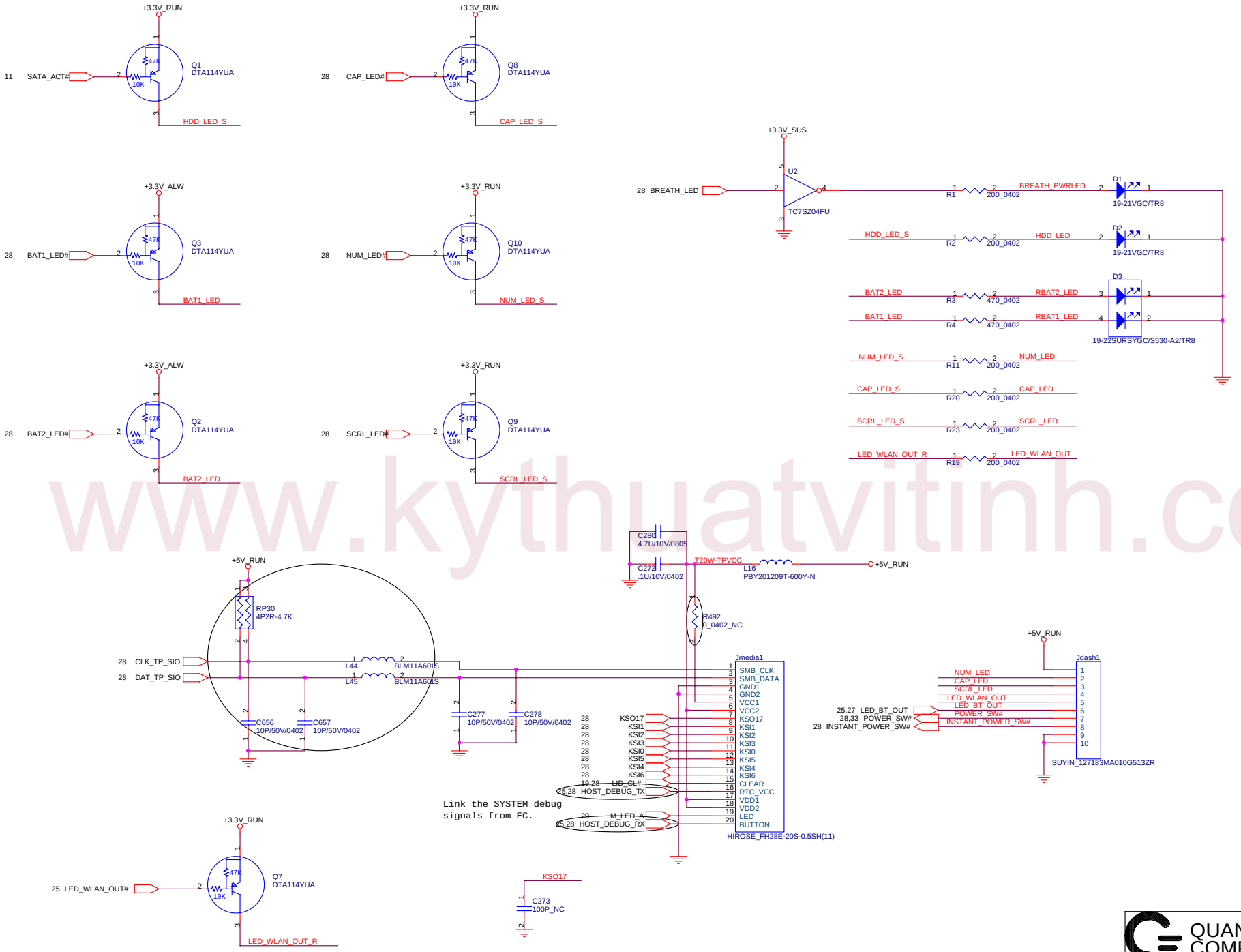






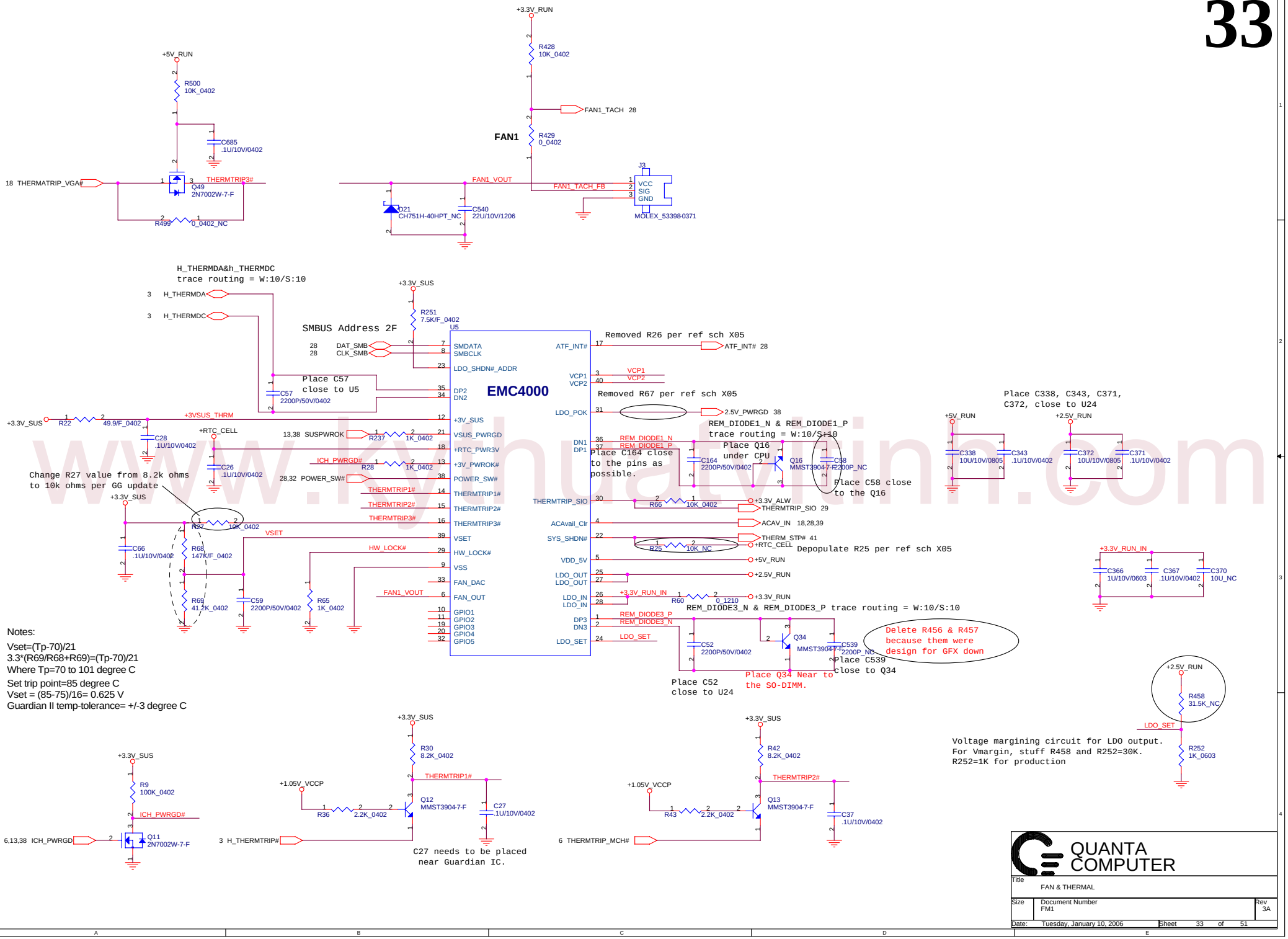
QUANTA COMPUTER

Title	EMI & Screw hole	
Size	Document Number FM1	Rev 3A
Date: Tuesday, January 10, 2006	Sheet 31 of 51	



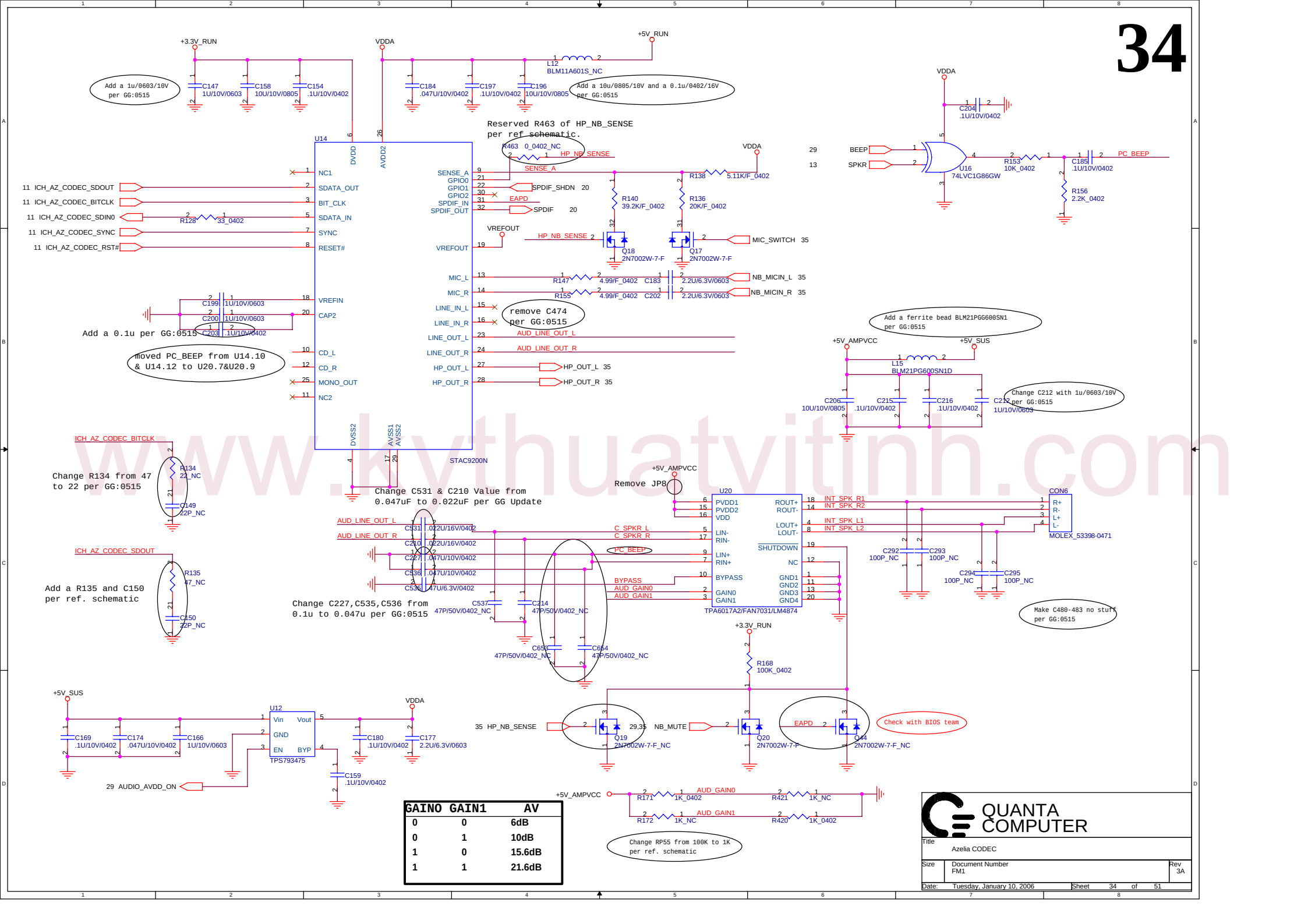
QUANTA COMPUTER

Title	SWITCH & LED		
Size	Document Number FM1		Rev 3A
Date: Tuesday, January 10, 2006	Sheet 32 of 51		



QUANTA COMPUTER

Title	FAN & THERMAL	
Size	Document Number FM1	Rev 3A
Date: Tuesday, January 10, 2006	Sheet 33 of 51	



GAINO	GAIN1	AV
0	0	6dB
0	1	10dB
1	0	15.6dB
1	1	21.6dB

QUANTA COMPUTER

Title	Azelia CODEC	
Size	Document Number FM1	Rev 3A
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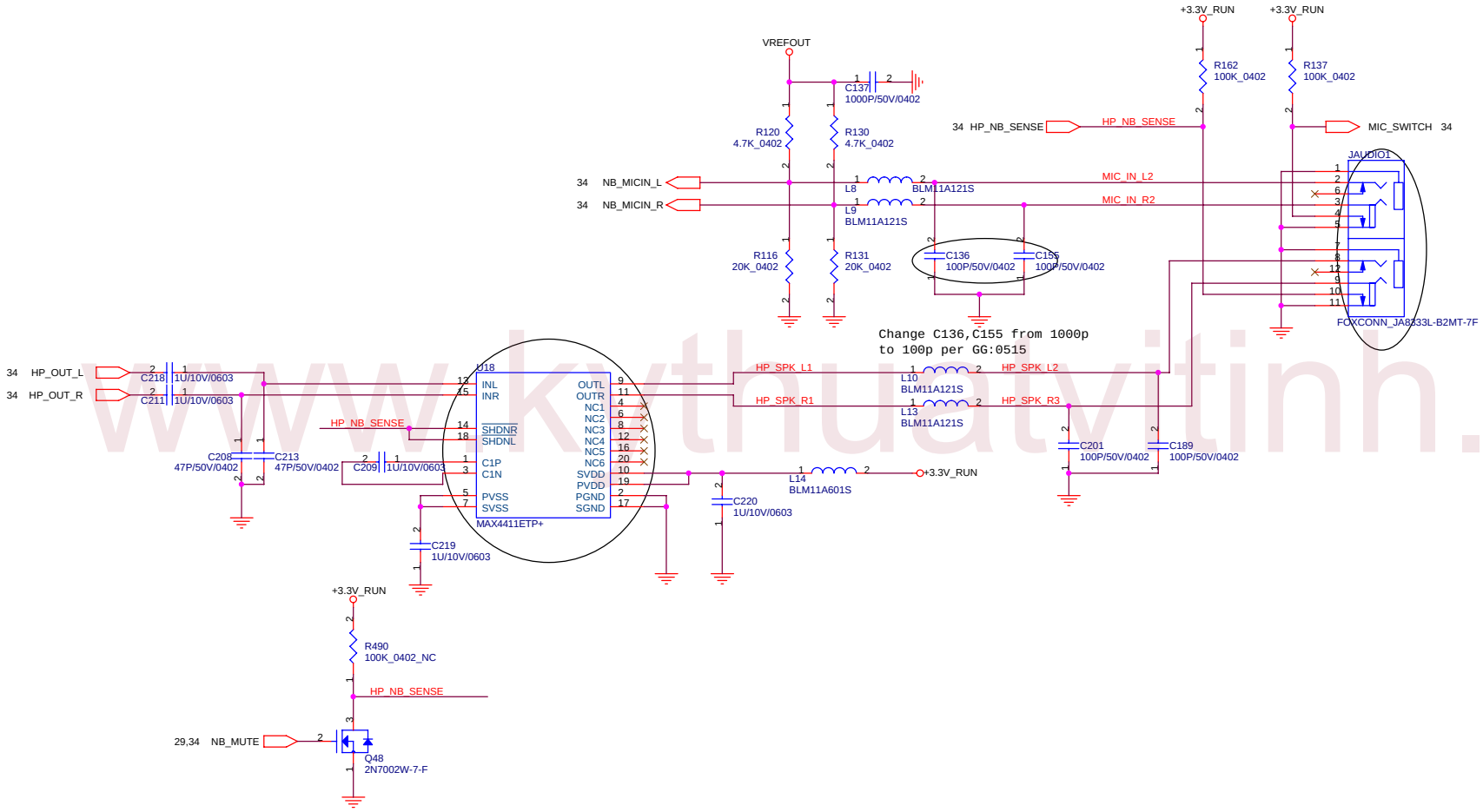

QUANTA COMPUTER

Title	AUDIO CONN	
Size	Document Number FM1	Rev 3A
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+3.3V_LAN

C50 4.7U/10V/0805 C17 4.7U/10V/0805 C336 .1U/10V/0402 C359 .1U/10V/0402 C1 .1U/10V/0402 C358 .1U/10V/0402 C33 .1U/10V/0402 C365 .1U/10V/0402 C30 .1U/10V/0402 C318 .1U/10V/0402 C49 .1U/10V/0402 C3 .1U/10V/0402 C361 .1U/10V/0402 C317 1000P/50V/0402

Refer to M07_LOM4401_X06 schematic.

Close to power pins
0.1U*13 pcs

Refer to M07_LOM4401_X06 schematic.

Place C317 close to pin65

+3.3V_LAN

C652 .1U/10V/0402 C655 .1U/10V/0402

EMI requirement on 0812

+1.8V_LOM

C25 .1U/10V/0402 C10 .1U/10V/0402 C47 .1U/10V/0402 C360 .1U/10V/0402 C301 4.7U/10V/0805

+3.3V_SUS +3.3V_LAN

R59 0_0805

Refer to M07_LOM4401_X06 schematic.
'+3VLAN should be sourced from +3VSUS instead of +3VSRC since WOL is not supported on Key Largo.

These three pin LINK_LED10#, LINK_LED100#, ACT_LED are open-drain type.

+3.3V_LAN +1.8V_LOM

U4

VESD VESD VESD VDDIO_PCI VDDIO_PCI VDDIO_PCI VDDIO_PCI VDDIO_PCI VDDIO_PCI VDDIO VDDIO VDDIO XTAL_AVDD REGULATOR_AVDD REGULATOR_AVDD REGULATOR_VOUT1 REGULATOR_VOUT2 VDDCORE VDDCORE VDDCORE

12,21 PCI_AD[31..0]

PCI_AD31 PCI_AD30 PCI_AD29 PCI_AD28 PCI_AD27 PCI_AD26 PCI_AD25 PCI_AD24 PCI_AD23 PCI_AD22 PCI_AD21 PCI_AD20 PCI_AD19 PCI_AD18 PCI_AD17 PCI_AD16 PCI_AD15 PCI_AD14 PCI_AD13 PCI_AD12 PCI_AD11 PCI_AD10 PCI_AD9 PCI_AD8 PCI_AD7 PCI_AD6 PCI_AD5 PCI_AD4 PCI_AD3 PCI_AD2 PCI_AD1 PCI_AD0

12,21 PCI_C_BE3# 12,21 PCI_C_BE2# 12,21 PCI_C_BE1# 12,21 PCI_C_BE0# 12,21 PCI_FRAME# 12,21 PCI_IRDY# 12,21 PCI_TRDY# 12,21 PCI_DEVSEL# 12,21 PCI_STOP# 12,21 PCI_PERR# 12,21 PCI_SERR# 12,21 PCI_PAR 12 PCI_PIRQB#

12,21 PCI_RST#

12 PCI_GNT3# 12 PCI_REQ3# 21,29 SYS_PME#

PCI_AD16 R268 100_0402 PCI_IDSEL

13,21,28 CLKRUN#

17 CLK_PCI_LOM

R40 33_NC

Place R444, C619 close to U148.118

C39 22P_NC

Refer to M07_LOM4401_X06 schematic. R489 and R490 removed from schematic because of Bios can configure the state of CLKRUN# signal.

PCI_CBE_L3 PCI_CBE_L2 PCI_CBE_L1 PCI_CBE_L0 PCI_FRAME_L PCI_IRDY_L PCI_TRDY_L PCI_DEVSEL_L PCI_STOP_L PCI_PERR_L PCI_SERR_L PCI_PAR PCI_INT_L

PCI_RST_L PCI_CLK PCI_GNT_L PCI_REQ_L PCI_PME_L PCI_IDSEL PCI_CLKRUN_L

XTAL_IN XTAL_OUT

Y1 25MHz/18pF/50ppm XI XO

C8 27P/50V/0402 C9 27P/50V/0402

R7 800_0402

BCM4401KQLG

VSS VSS VSS VSS VSS VSS VSS VSS VSS VSS VSS VSS

XTAL_AVSS EPHY_BIAS_AVSS EPHY_AVSS EPHY_PLLGND

LINK_LED10# LINK_LED100# ACT_LED# COL_LED#

+3.3V_LAN

R219 10K_NC R220 10K_NC R6 10K_NC

LINK_LED10# 37 LINK_LED100# 37 ACTLED# 37

T31

EPHY_BIAS_AVDD +3.3V_LAN_BIAS_AVDD

EPHY_AVDD

EPHY_PLLVDD +1.8V_LOM_PLLVDD

EPHY_VREF EPHY_RDAC EPHY_TESTMODE

R218 1.27K/F_0402

Place R218 close to U148

Place R221, C325, C2 close to pin69

R221 0_0603

C325 .1U/10V/0402 C2 .1U/10V/0402

+3.3V_LAN

+1.8V_LOM

Delete L47 per 4401 ref schematic

L1 BLM11A601S

C13 1000P/50V/0402 C315 2.2U/6.3V/0603

C330 .1U/10V/0402

Place L1, C13, C315 close to pin64.

+1.8V_LOM

EPHY_TDP EPHY_TDN EPHY_RDP EPHY_RDN

LOM_TX+ 37 LOM_TX- 37 LOM_RX+ 37 LOM_RX- 37

NC NC NC NC NC NC NC NC NC NC

R21 49.9/F_0402 R24 49.9/F_0402 R15 49.9/F_0402 R12 49.9/F_0402

Resistors must be rated at least 1/16W.Place termination resistors close to the ASIC.

GPIO2/VAUXAVAIL GPIO1 GPIO0

R5 1K_0402

T33 T34

+3.3V_LAN

Delete R630&R631 per 4401 ref schematic

C21 .1U/10V/0402 C15 .1U/10V/0402

+3.3V_LAN

BOOTROM_SCL BOOTROM_SDA

T30 T32

SPROM_CS SPROM_CLK SPROM_DOUT SPROM_DIN

SPROM_CS SPROM_CLK SPROM_DOUT SPROM_DIN

U26

CS SK DI DO VCC NC ORG GND

M93C46-WDW6TP

C342 .1U/10V/0402

Note: BCM4401 requires 16-bit R/W data width

EXT_POR_L

LOM_LOW_PWR# 29

Note: EXT_POR_L has a interal pull up.

JTAG_TDP JTAG_TCK JTAG_TDI JTAG_TRST_L JTAG_TMS

Note: The BCM4401 has weak internal pulldown resistors on the following signals: SPROM_CS, SPROM_CLK, SPROM_DOUT, SPROM_DIN.

QUANTA COMPUTER

Title	LAN (BCM4401)		
Size	Document Number FM1		Rev 3A
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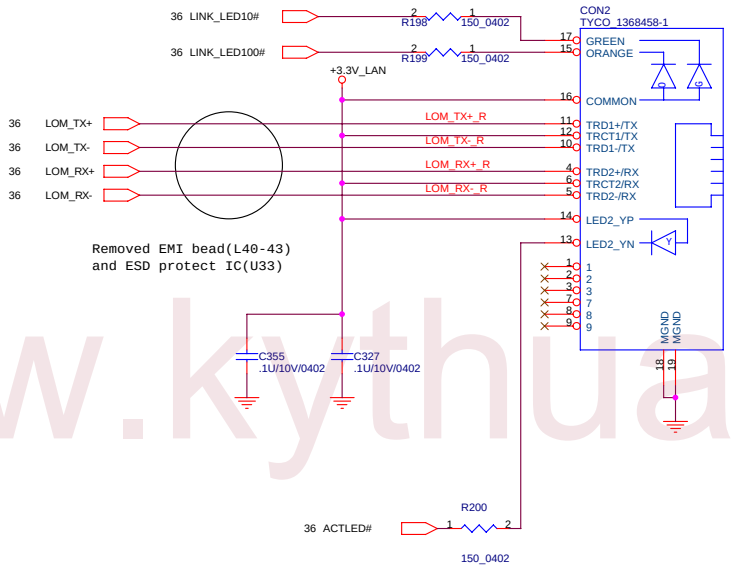

QUANTA COMPUTER

Title	LAN Jack	
Size	Document Number FM1	Rev 3A
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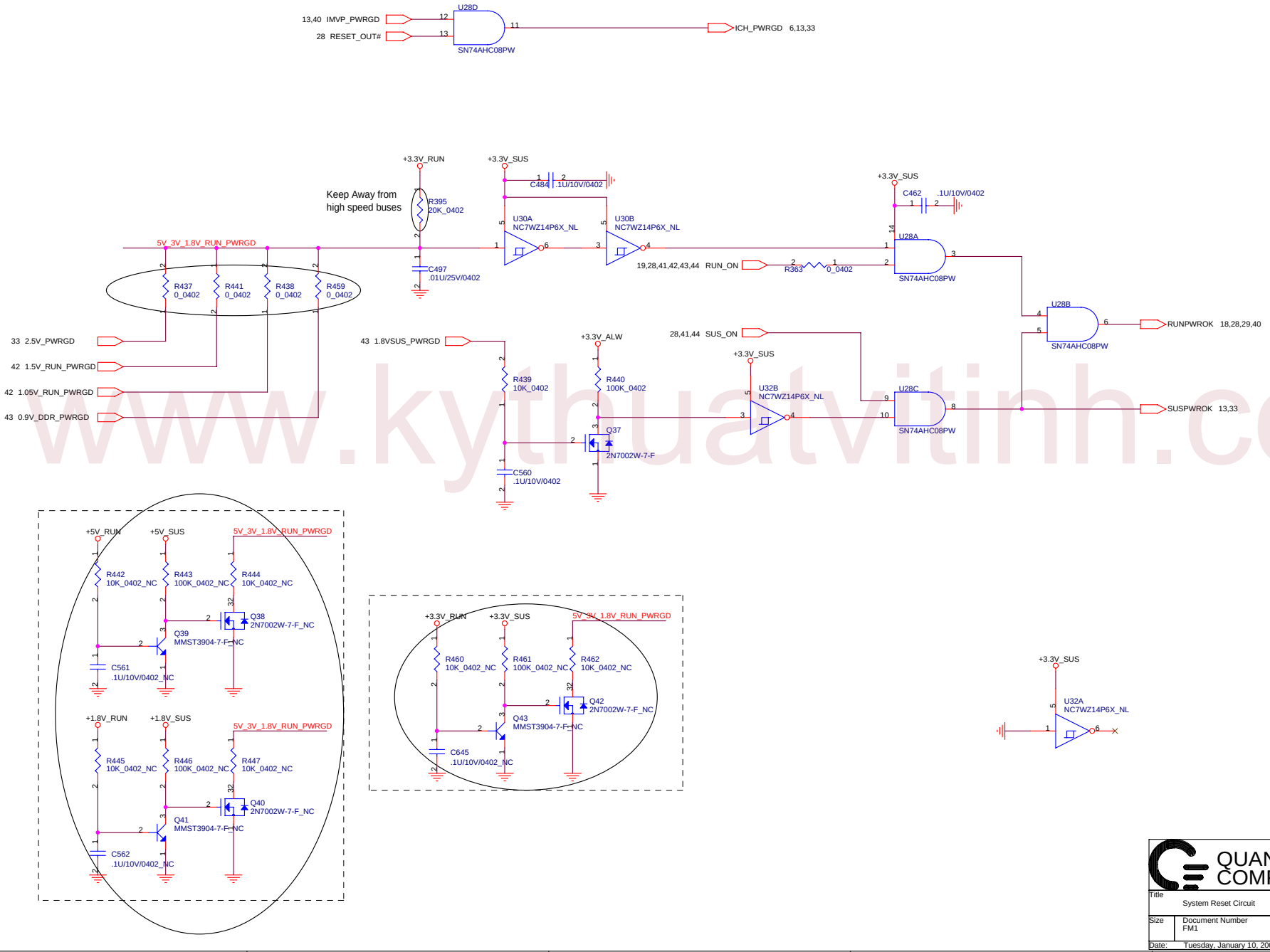

QUANTA COMPUTER

Title	System Reset Circuit	
Size	Document Number FM1	Rev 3A
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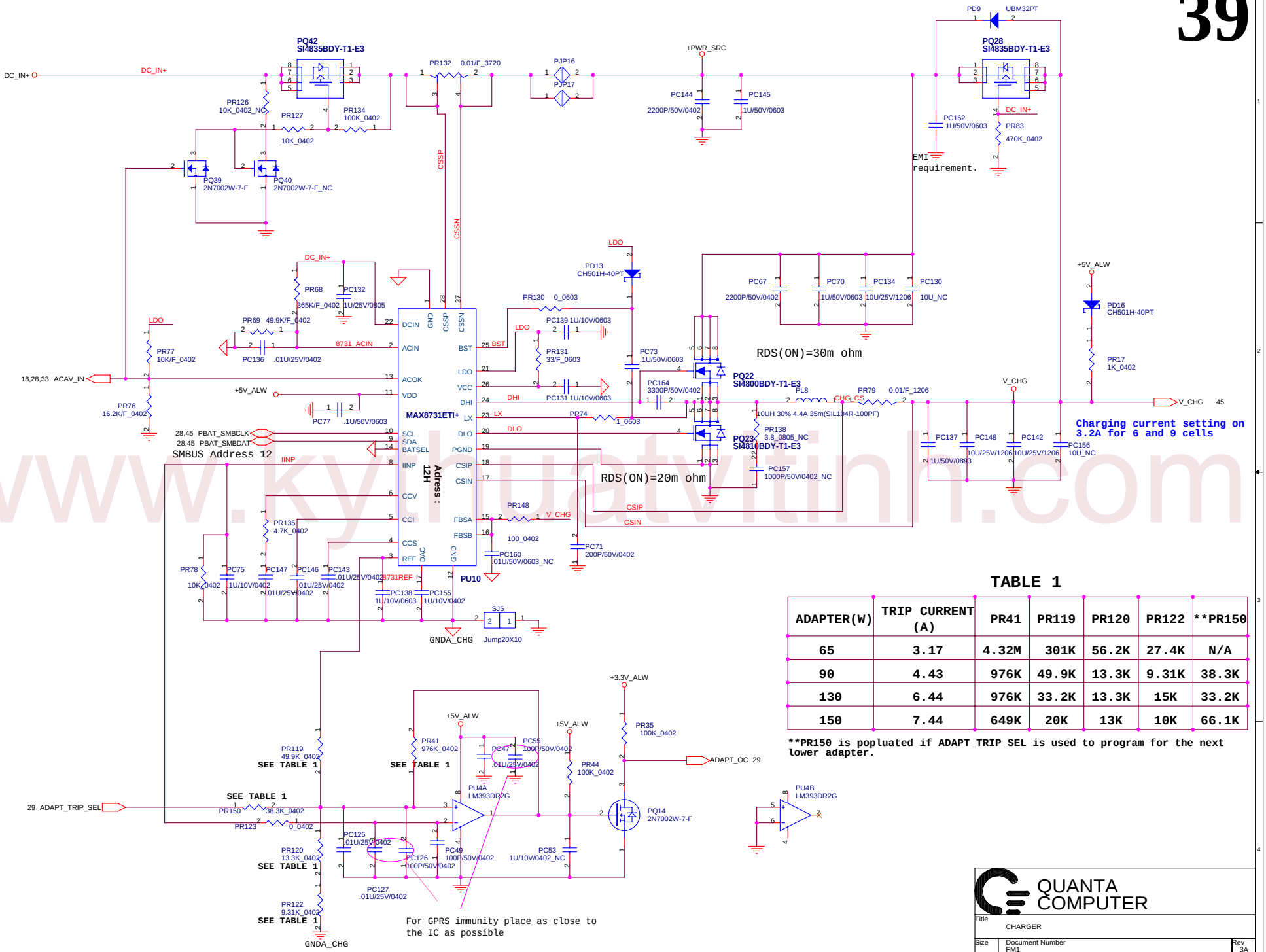

TABLE 1

ADAPTER(W)	TRIP CURRENT (A)	PR41	PR119	PR120	PR122	**PR150
65	3.17	4.32M	301K	56.2K	27.4K	N/A
90	4.43	976K	49.9K	13.3K	9.31K	38.3K
130	6.44	976K	33.2K	13.3K	15K	33.2K
150	7.44	649K	20K	13K	10K	66.1K

**PR150 is popluated if ADAPT_TRIP_SEL is used to program for the next lower adapter.

QUANTA COMPUTER

Title	CHARGER	
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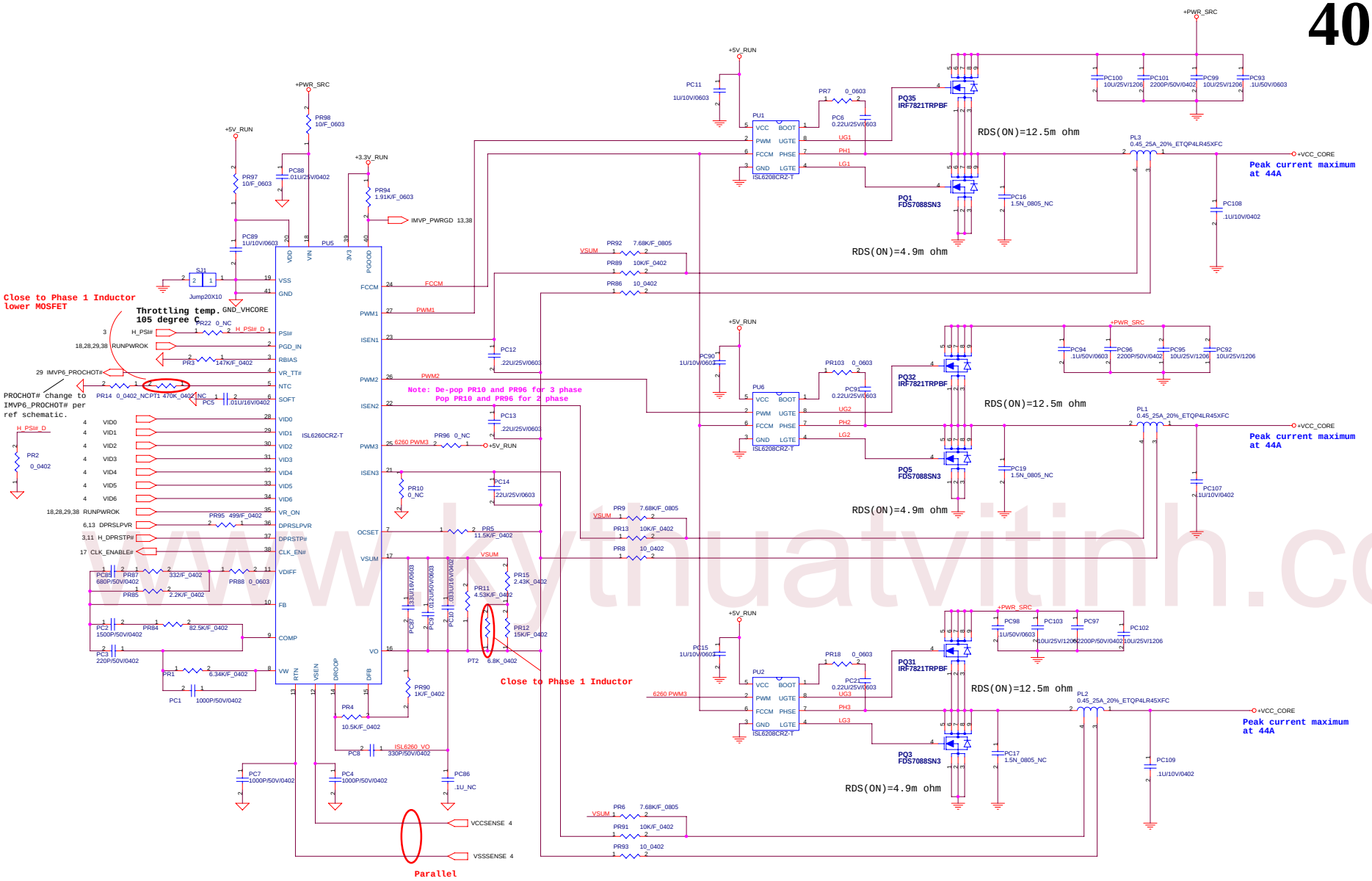

QUANTA COMPUTER

Title	CPU POWER	
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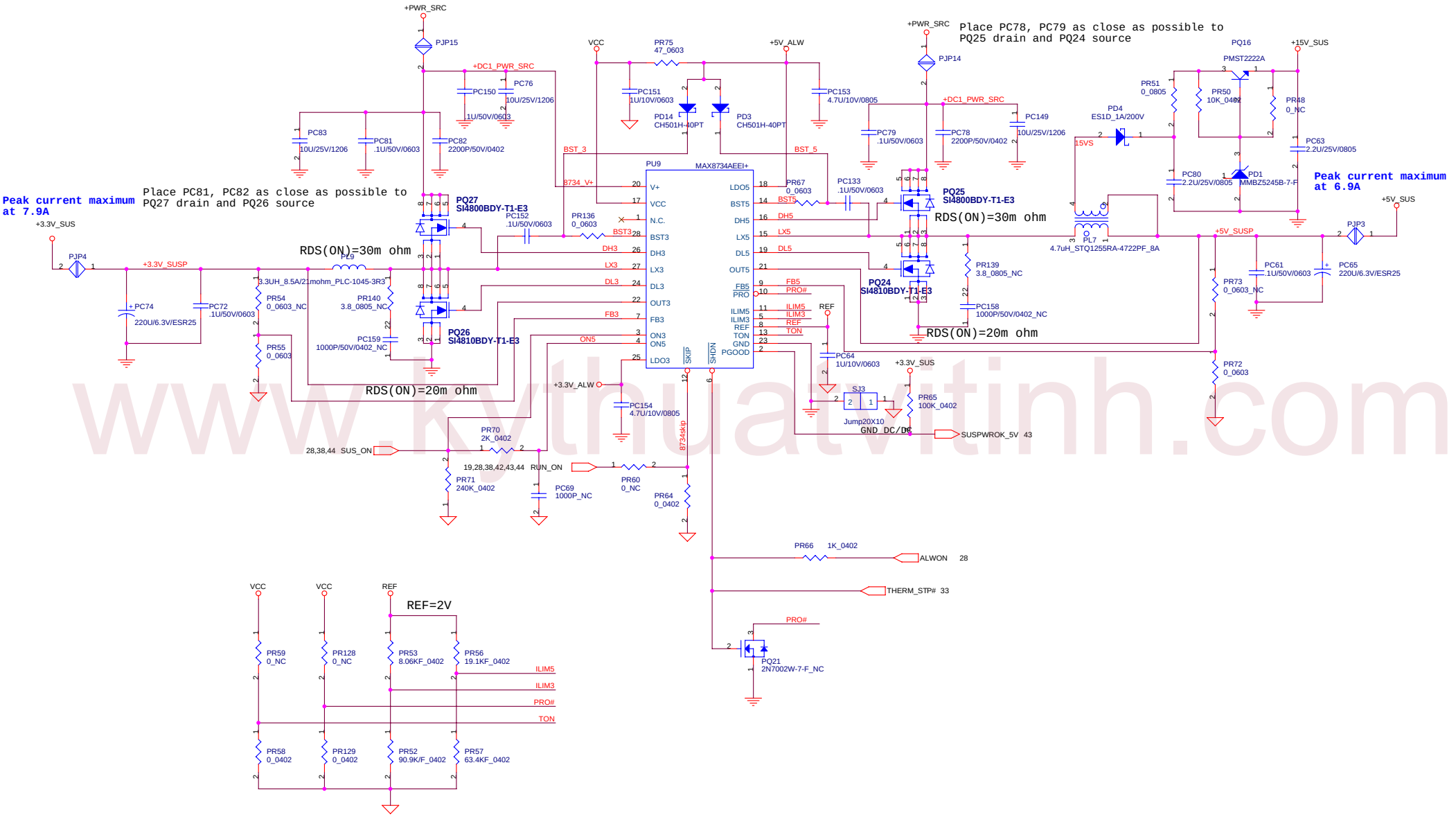

QUANTA COMPUTER

Title	3VALW,5VALW,5V,3V	
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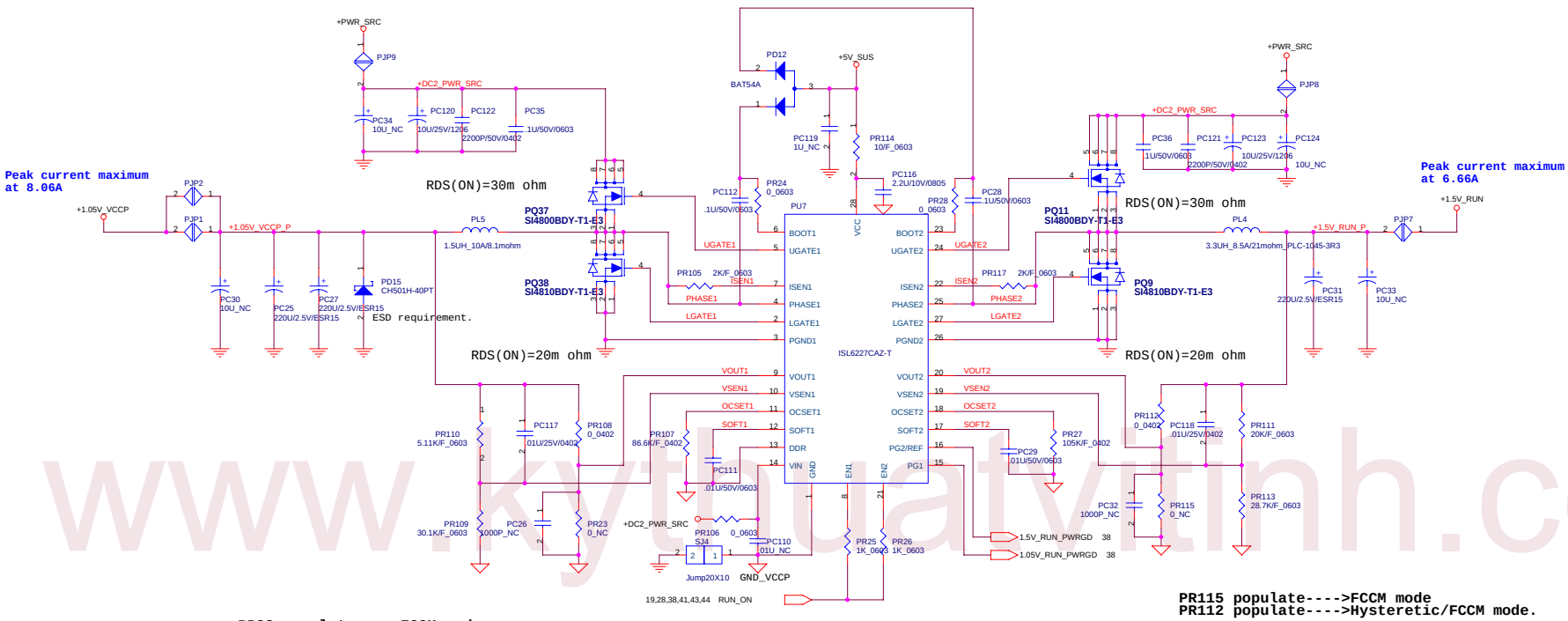

PR23 populate---->FCCM mode
PR108 populate---->Hysteretic/FCCM mode.

PR115 populate---->FCCM mode
PR112 populate---->Hysteretic/FCCM mode.

QUANTA COMPUTER

Title	VCCP	
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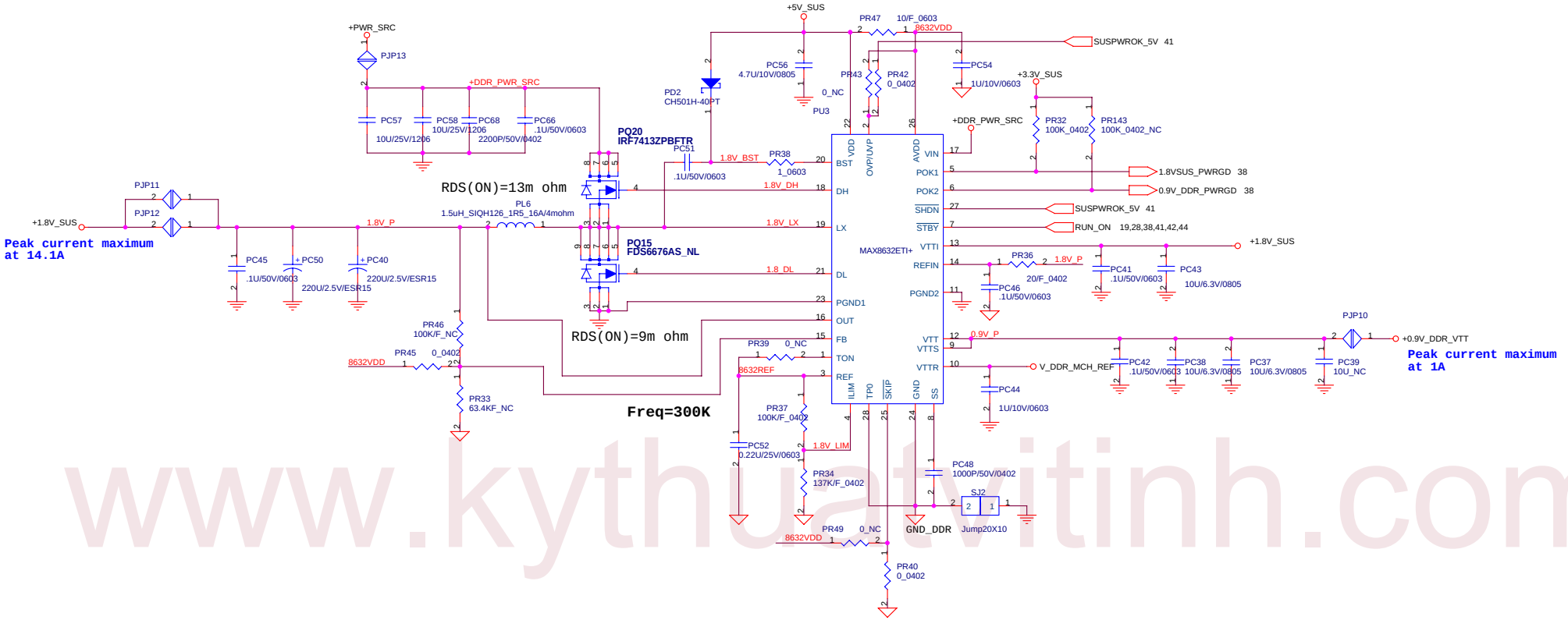

QUANTA COMPUTER

Title	DDR II	
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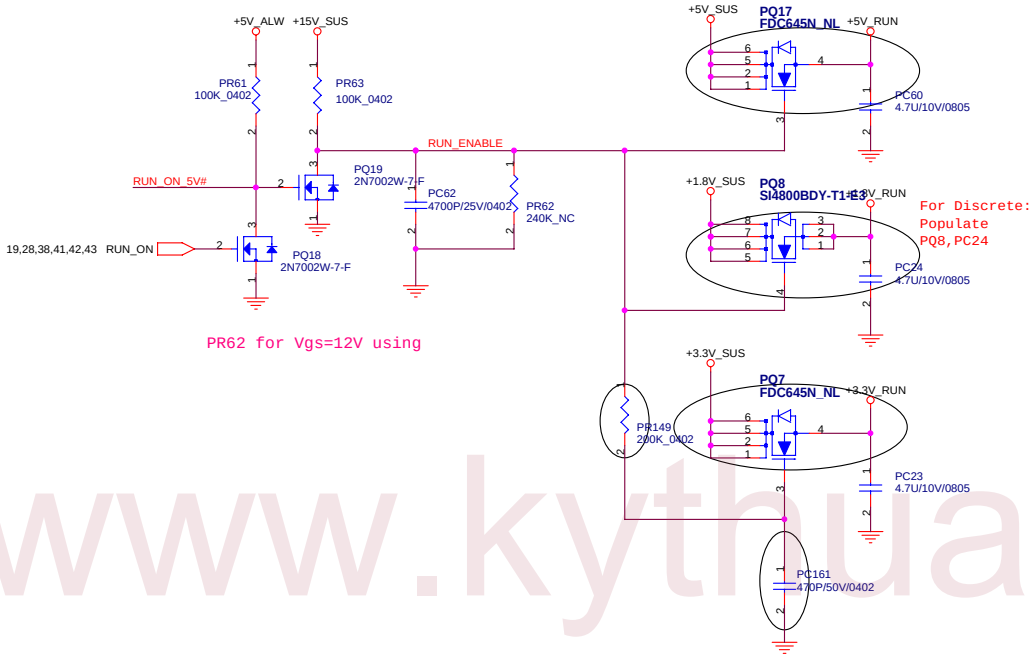

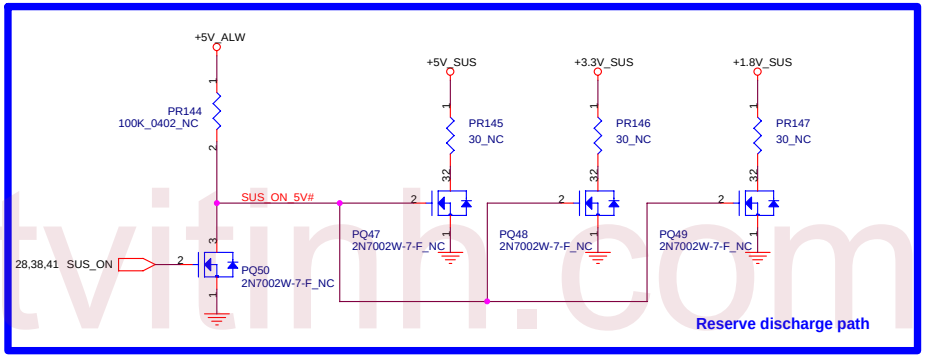

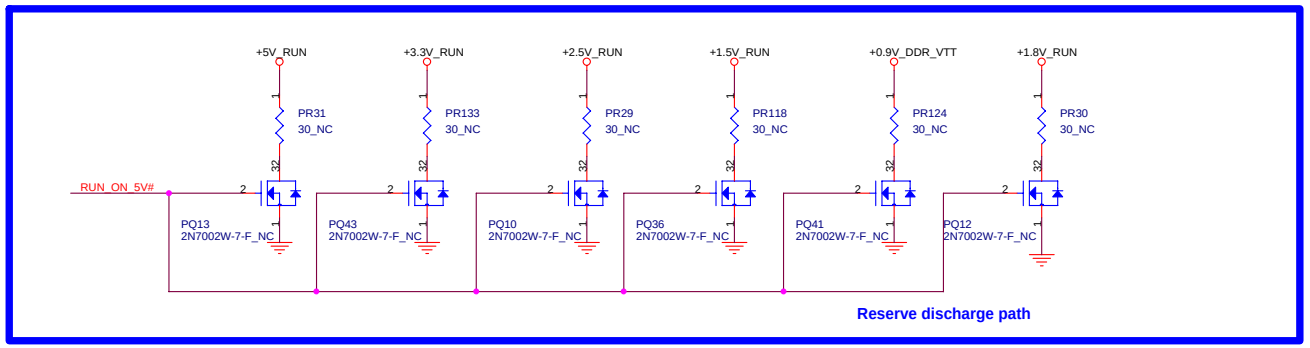

QUANTA COMPUTER

Title	RUN POWER SW	
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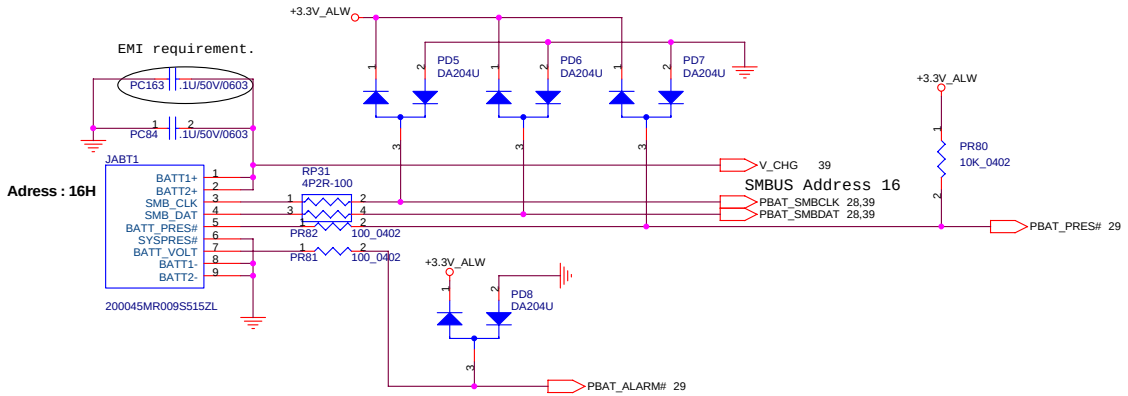

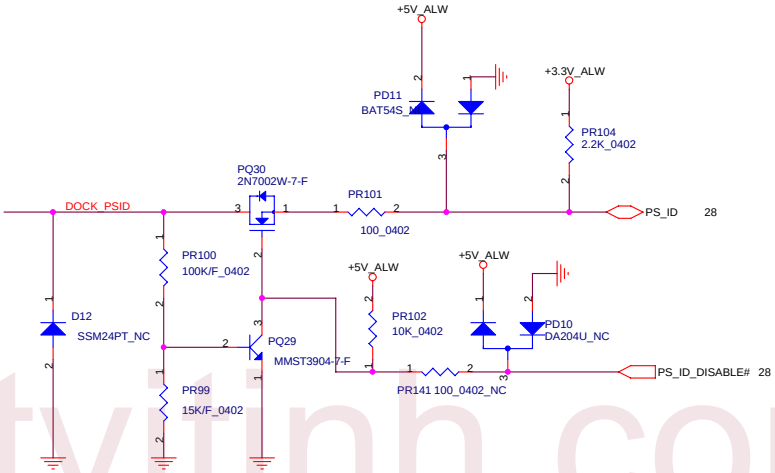

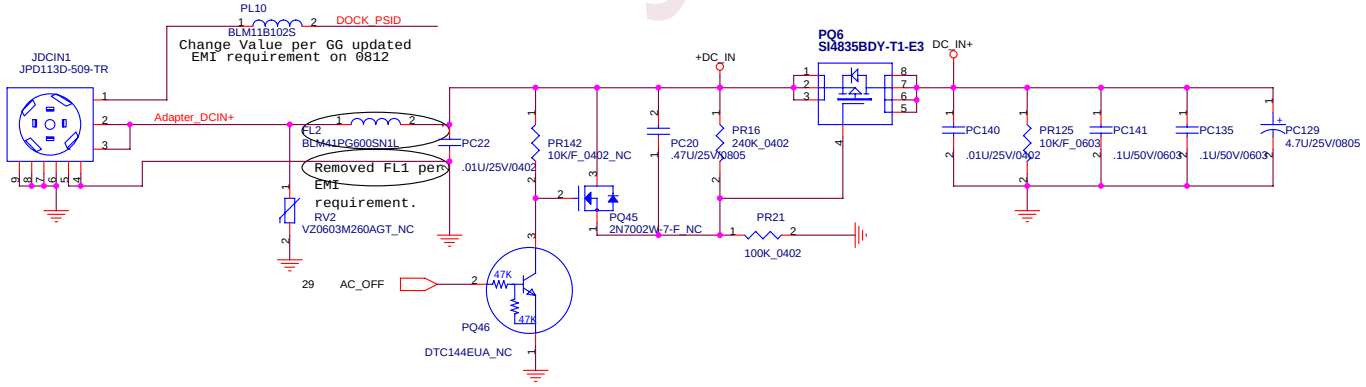

QUANTA COMPUTER

Title	DCIN,BATT CONNECTOR	
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