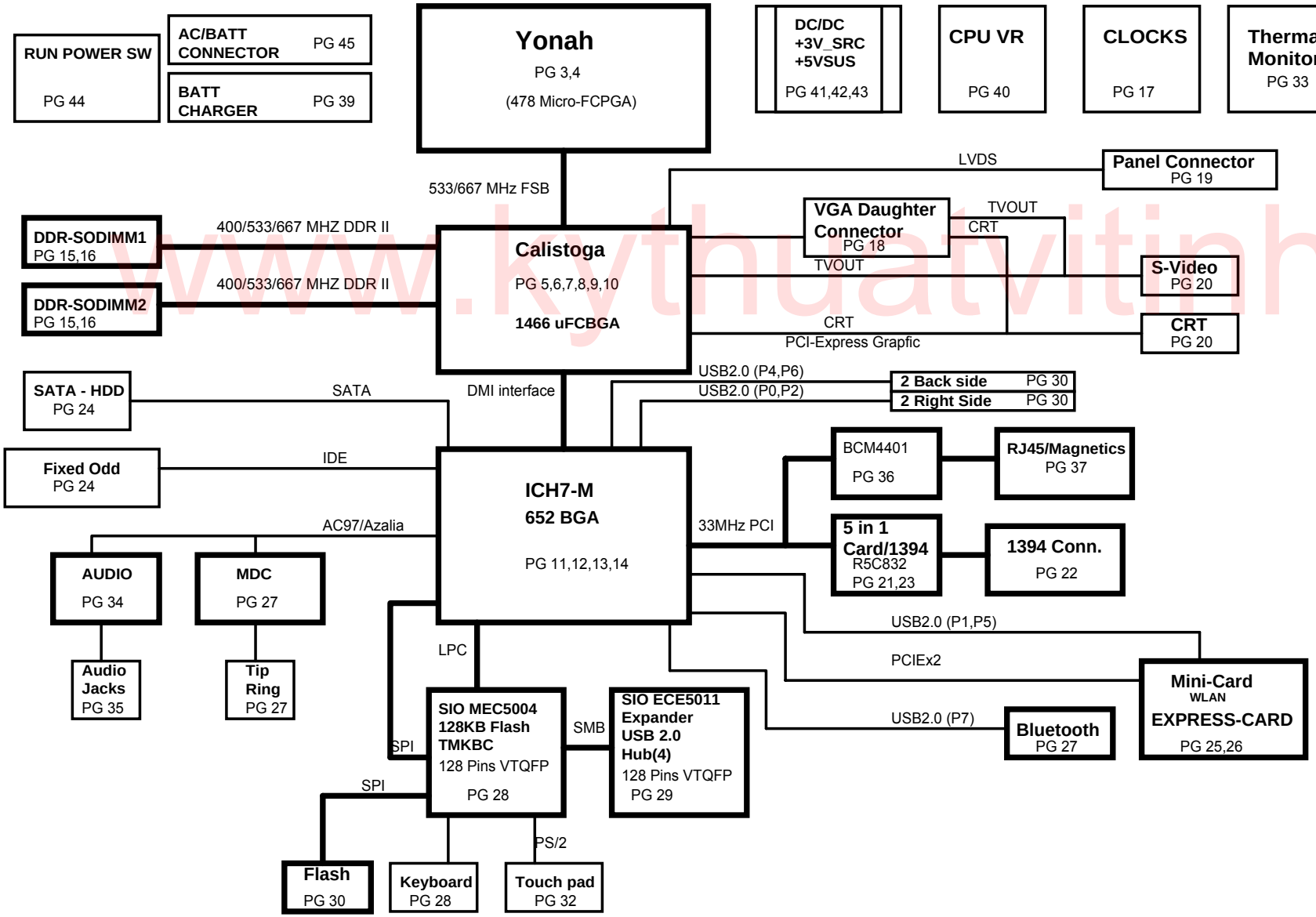
# KEYLARGO-Integrate

VER : 2A





01






QUANTA COMPUTER

| | | |
|---|---|---|
| Title | Schematic Block Diagram1 | |
| Size | Document Number FM1 | Rev 2A |
| Date: Tuesday, September 06, 2005 | Sheet 1 of 51 | |

# INDEX

| Pg# | Description | DNI LIST |
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| 2 | Blank Page | |
| 3 | Front Page | |
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| 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 2A |
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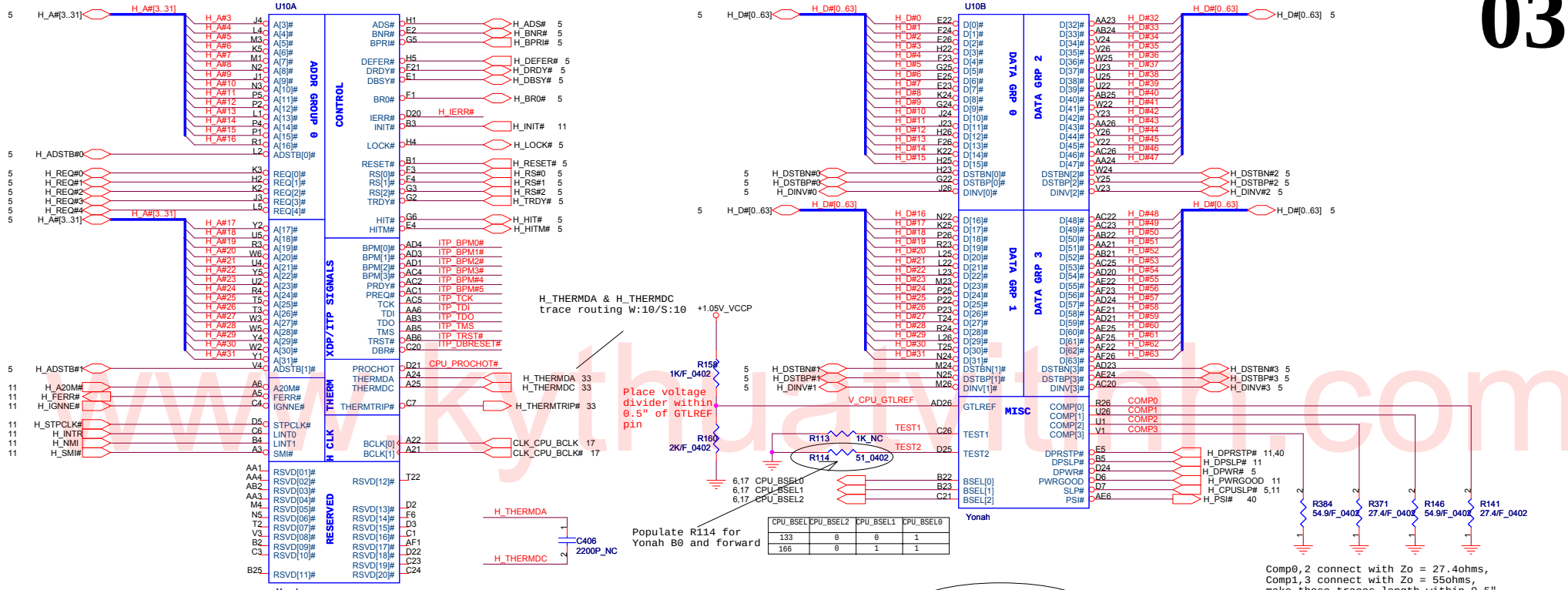
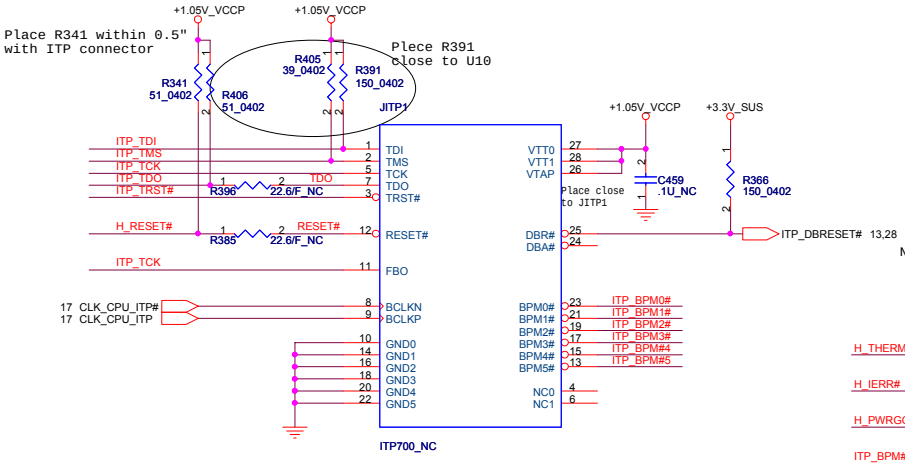


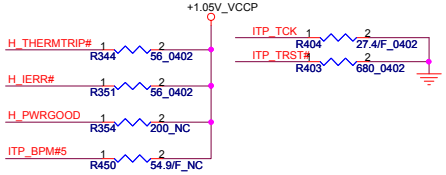

| CPU_BSEL2 | CPU_BSEL2 | CPU_BSEL1 | CPU_BSEL0 |
|---|---|---|---|
| 133 | 0 | 0 | 1 |
| 166 | 0 | 1 | 1 |

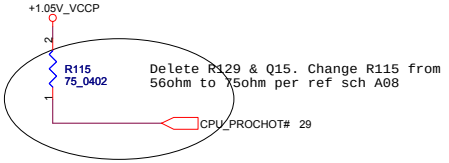



## ITP disable guidelines

| 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.




QUANTA COMPUTER

| | | |
|---|---|---|
| Title | Yonah Processor (HOST) | |
| Size | Document Number FM1 | Rev 2A |
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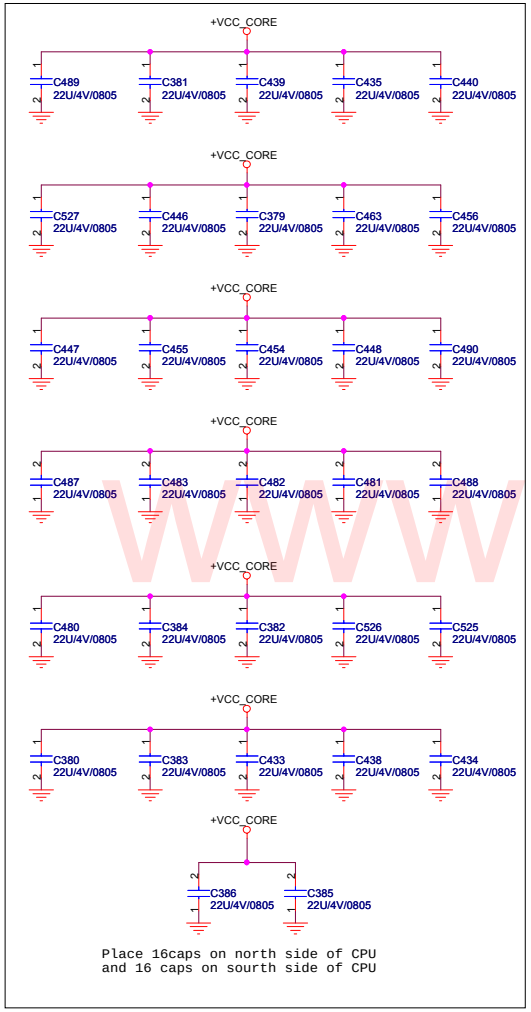
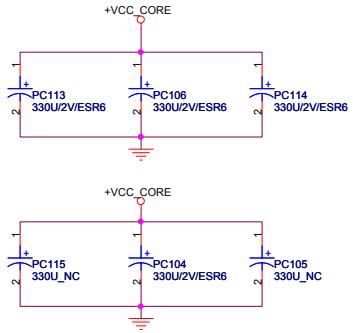
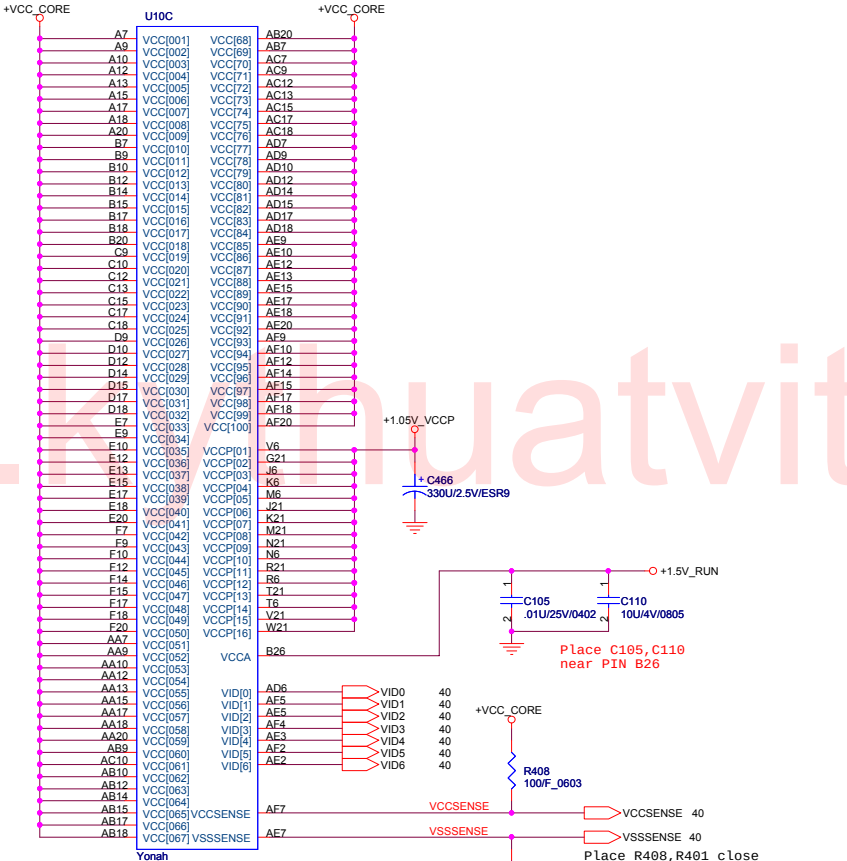
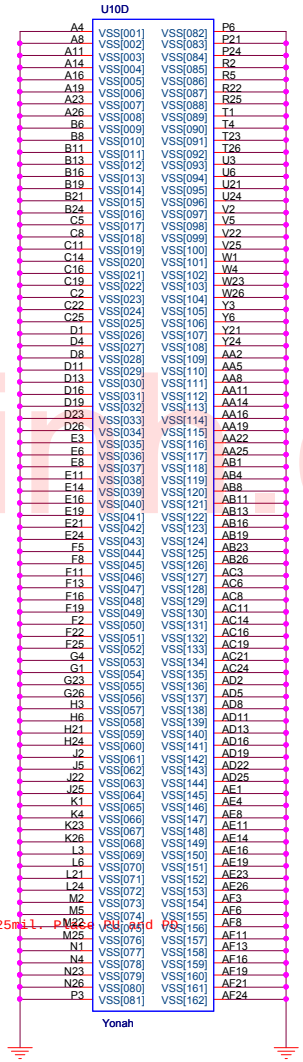
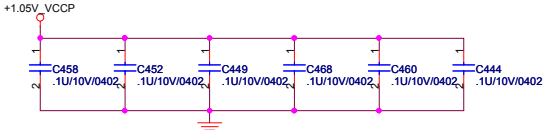



Total caps = 2684 uF
ESR =6m ohm/4 // 3m ohm/32



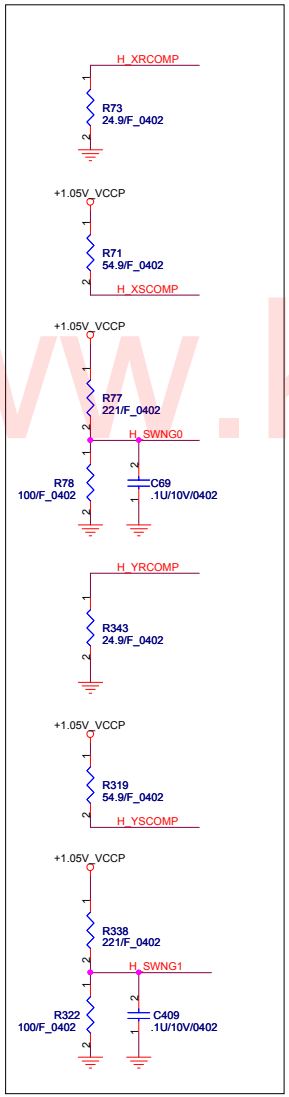




Place these inside socket cavity (North side Secondary)



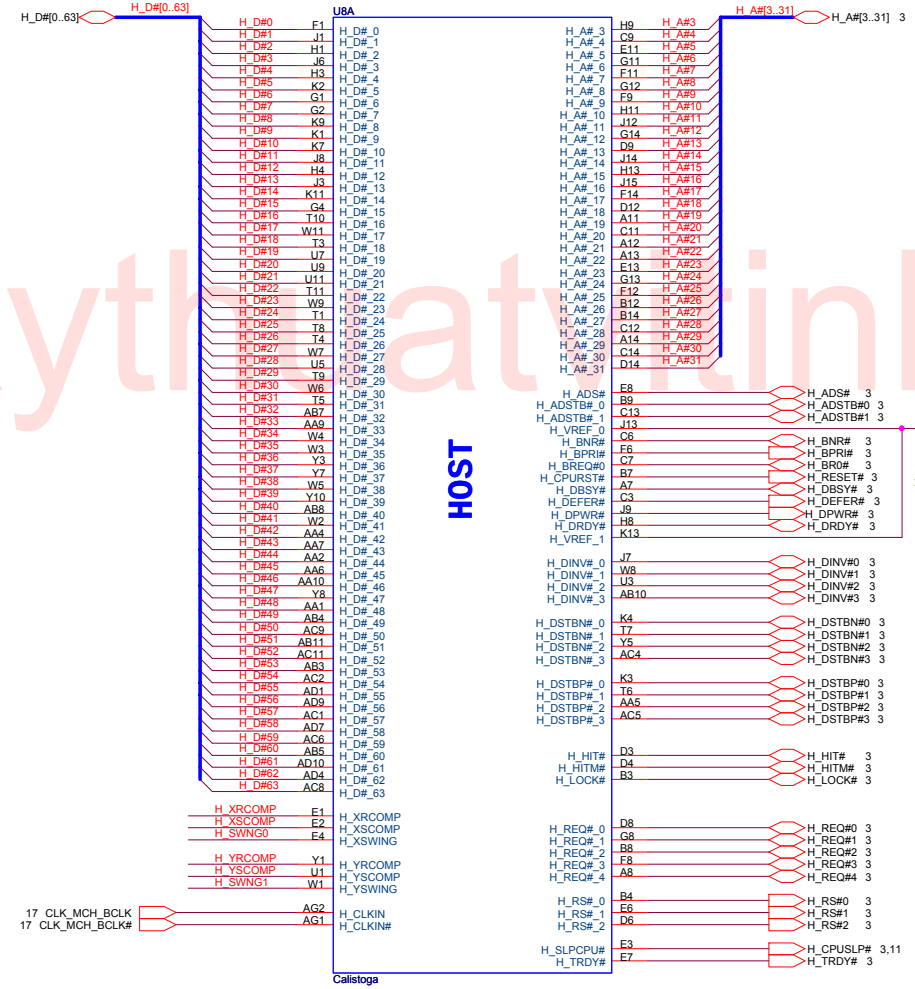
QUANTA COMPUTER

| | | |
|---|---|---|
| Title | Yonah Processor (POWER) | |
| Size | Document Number FM1 | Rev 2A |
| Date: Tuesday, September 06, 2005 | Sheet 4 of 51 | |




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

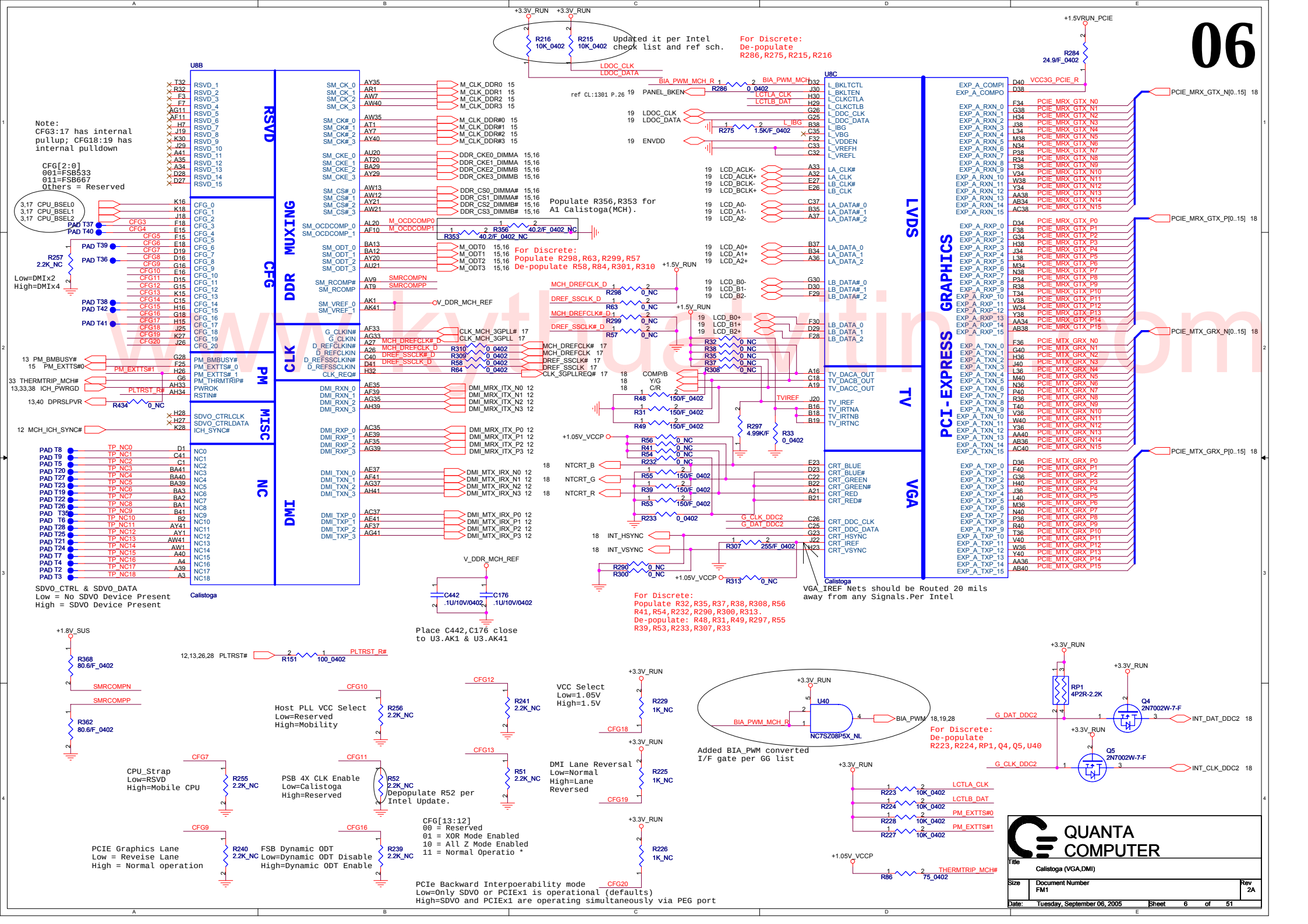
R & C of HXRCOPM, HXSCOMP, HYRCOMP, HYSCOMP, H_SWNG0, H_SWNG1 trace length less 0.5" from U3

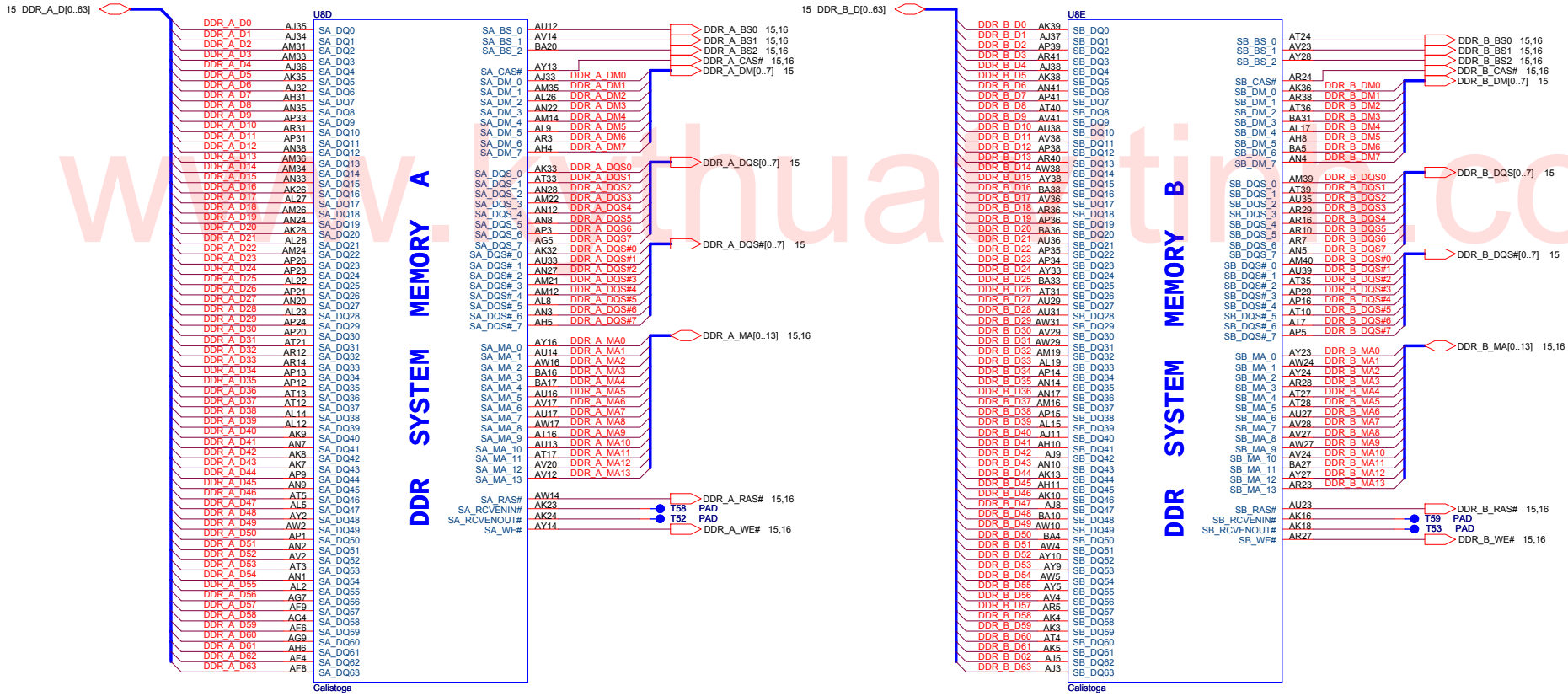





QUANTA COMPUTER

| | | |
|---|---|---|
| Title | Calistoga (Host) | |
| Size | Document Number FM1 | Rev 2A |
| Date: Tuesday, September 06, 2005 | Sheet 5 of 51 | |

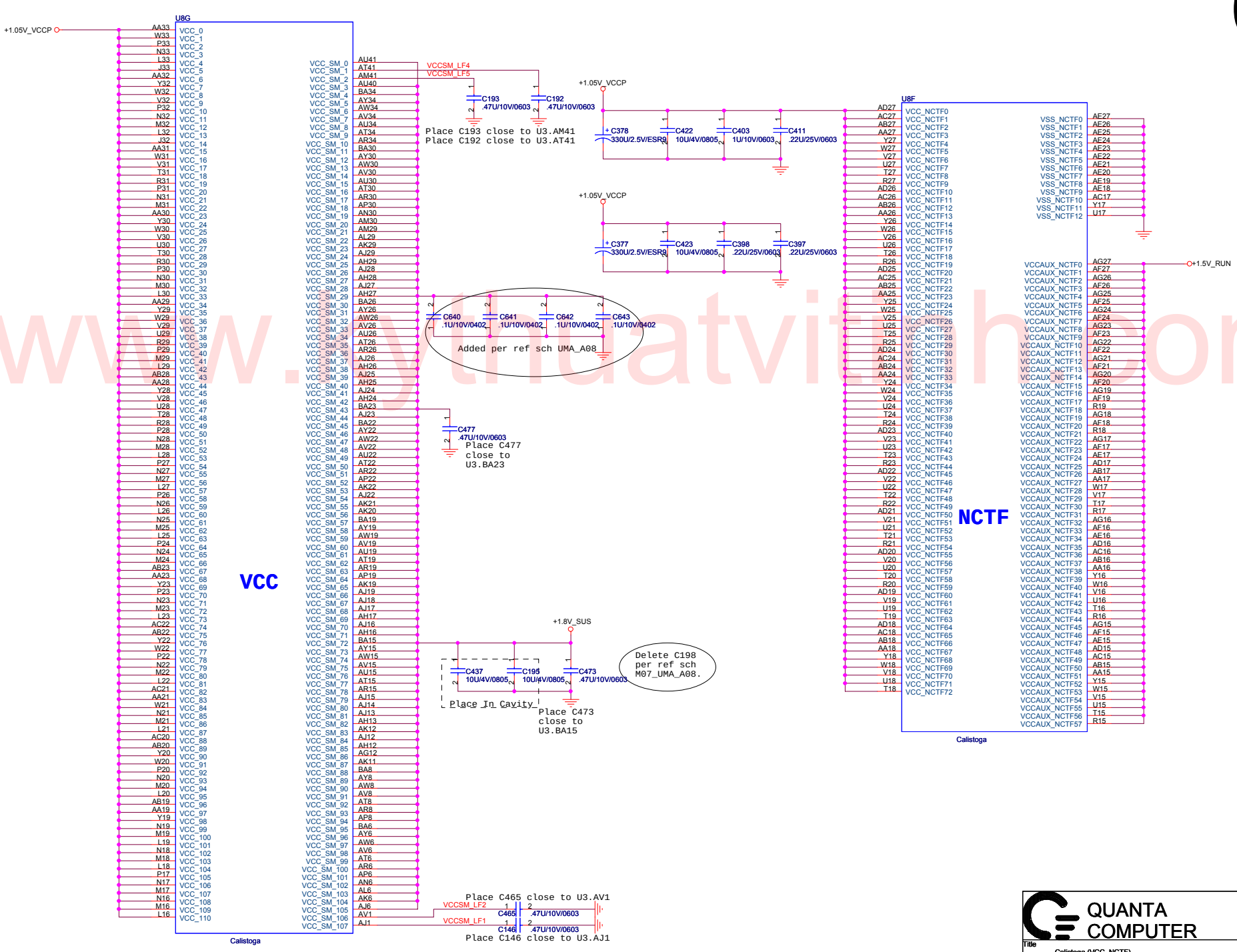







QUANTA COMPUTER

| | | |
|---|---|---|
| Title | Calistoga (DDR2) | |
| Size | Document Number FM1 | Rev 2A |
| Date: Tuesday, September 06, 2005 | Sheet 7 of 51 | |






QUANTA COMPUTER

| | | |
|---|---|---|
| Title | Calistoga (VCC, NCTF) | |
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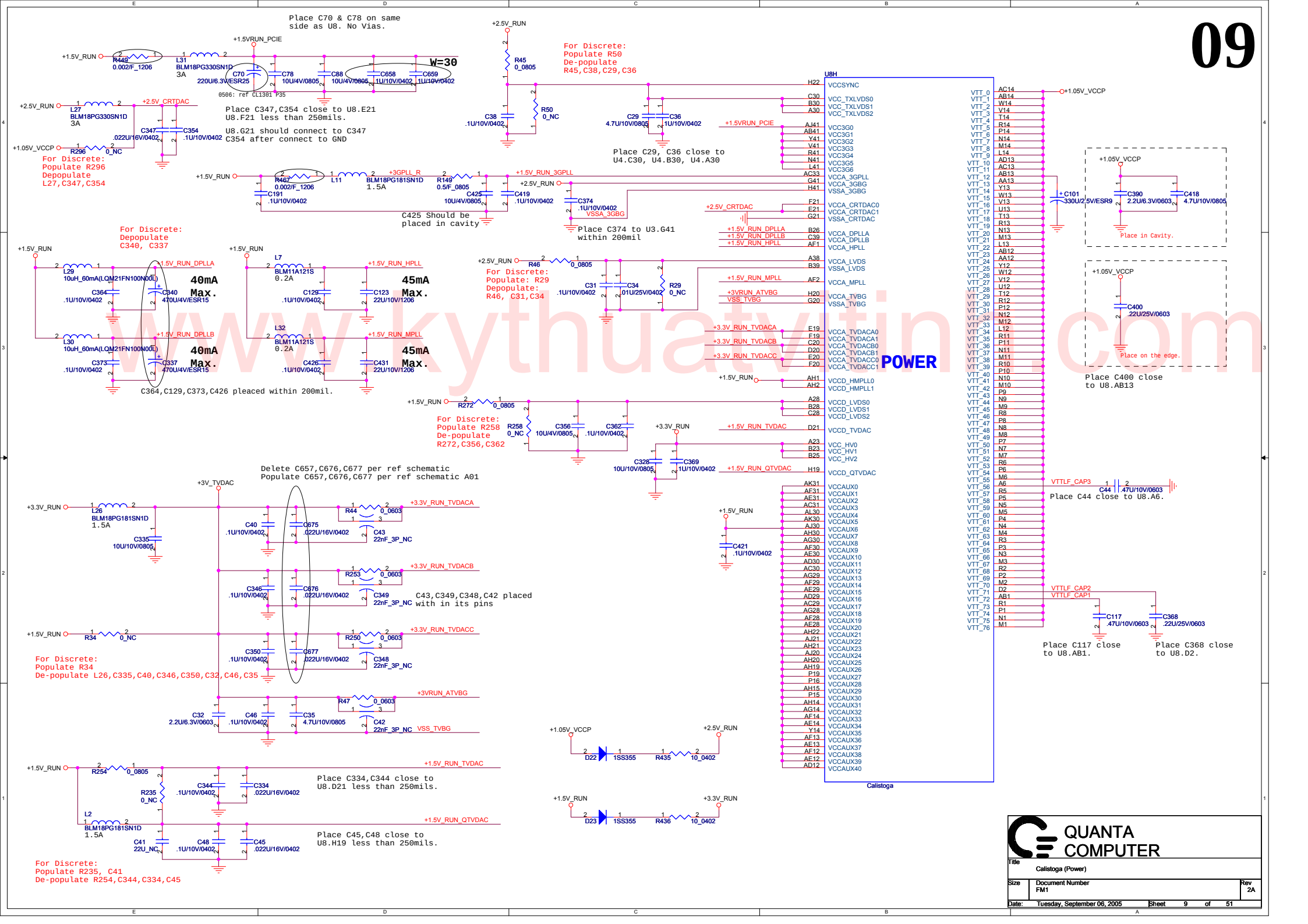




QUANTA COMPUTER

| | | |
|---|---|---|
| Title | Calistoga (Power) | |
| Size | Document Number FM1 | Rev 2A |
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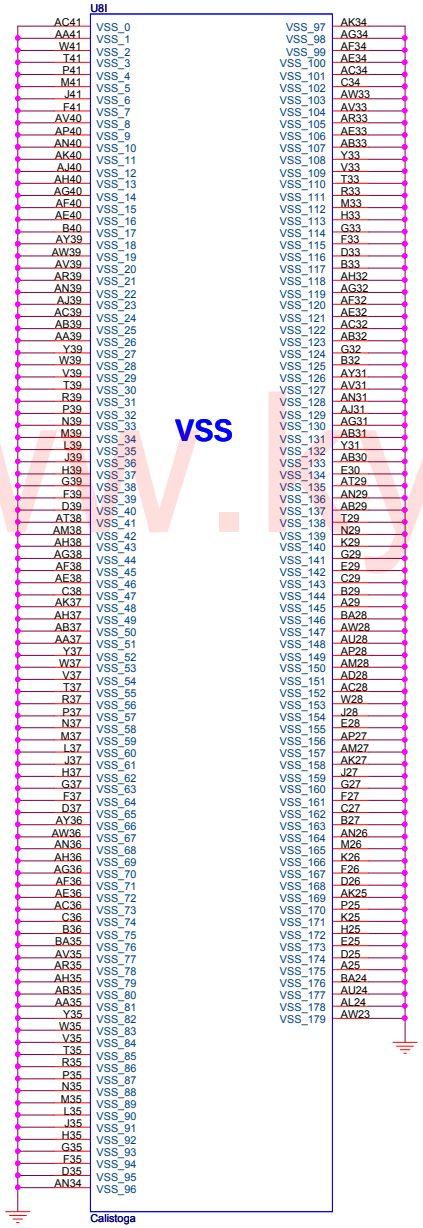


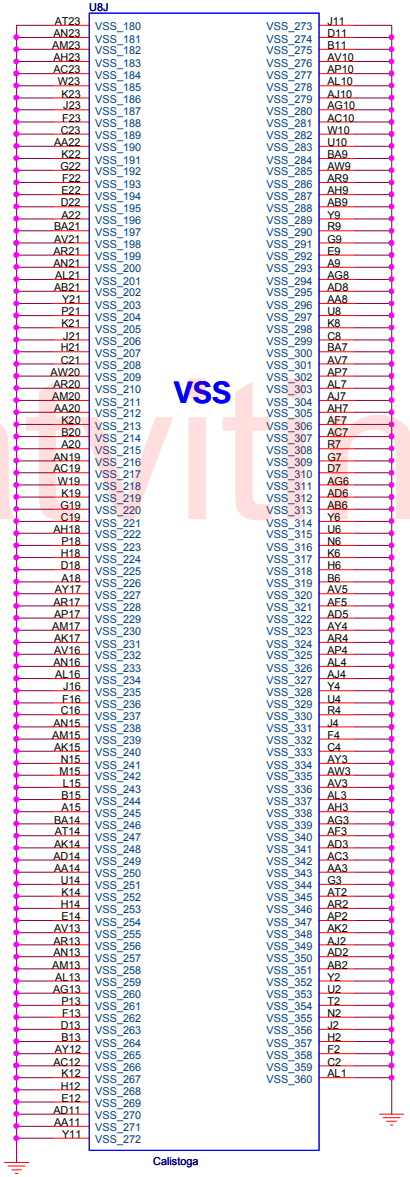




QUANTA COMPUTER

| | | |
|---|---|---|
| Title | Calistoga (VSS,NCTF) | |
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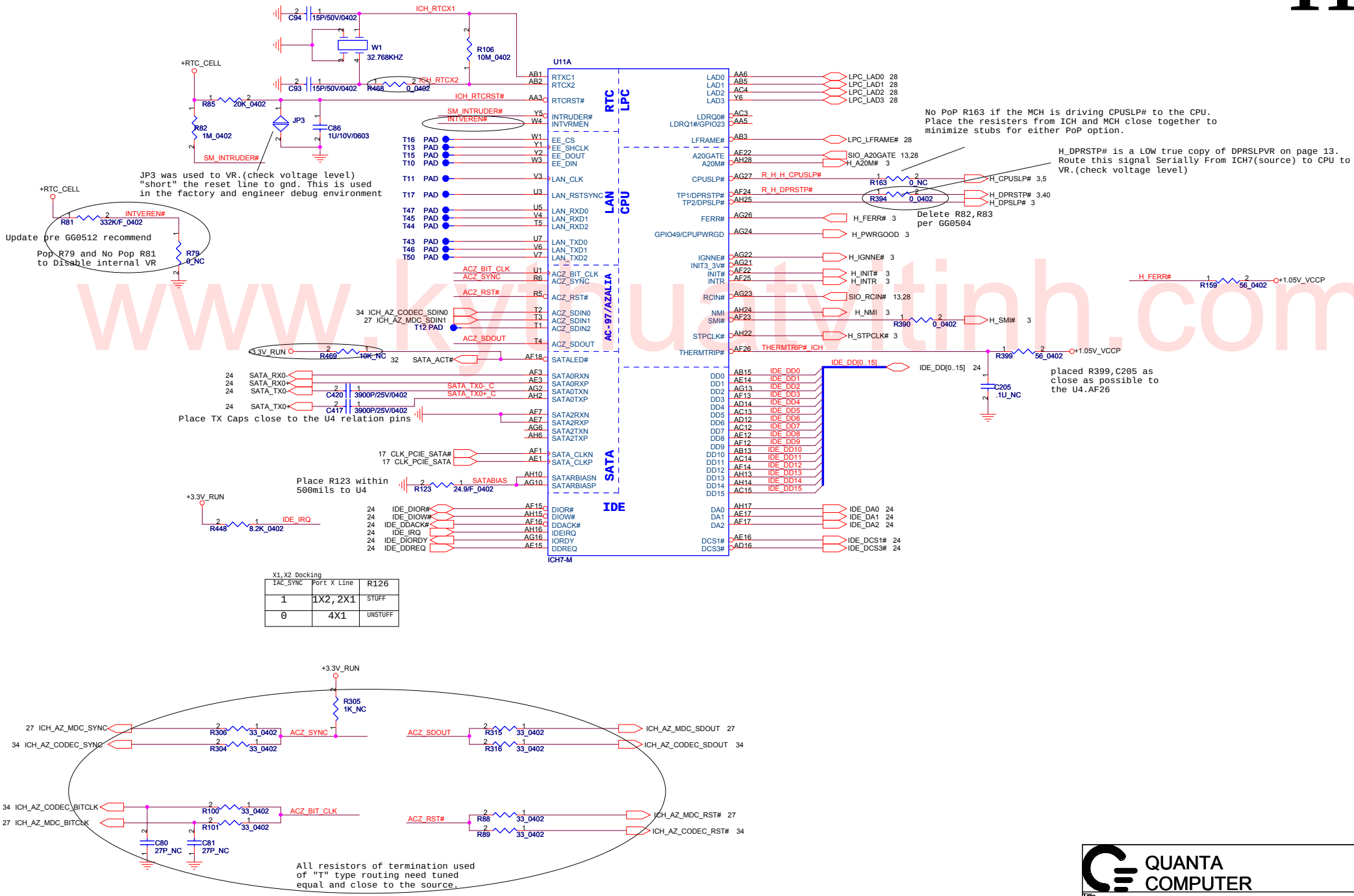
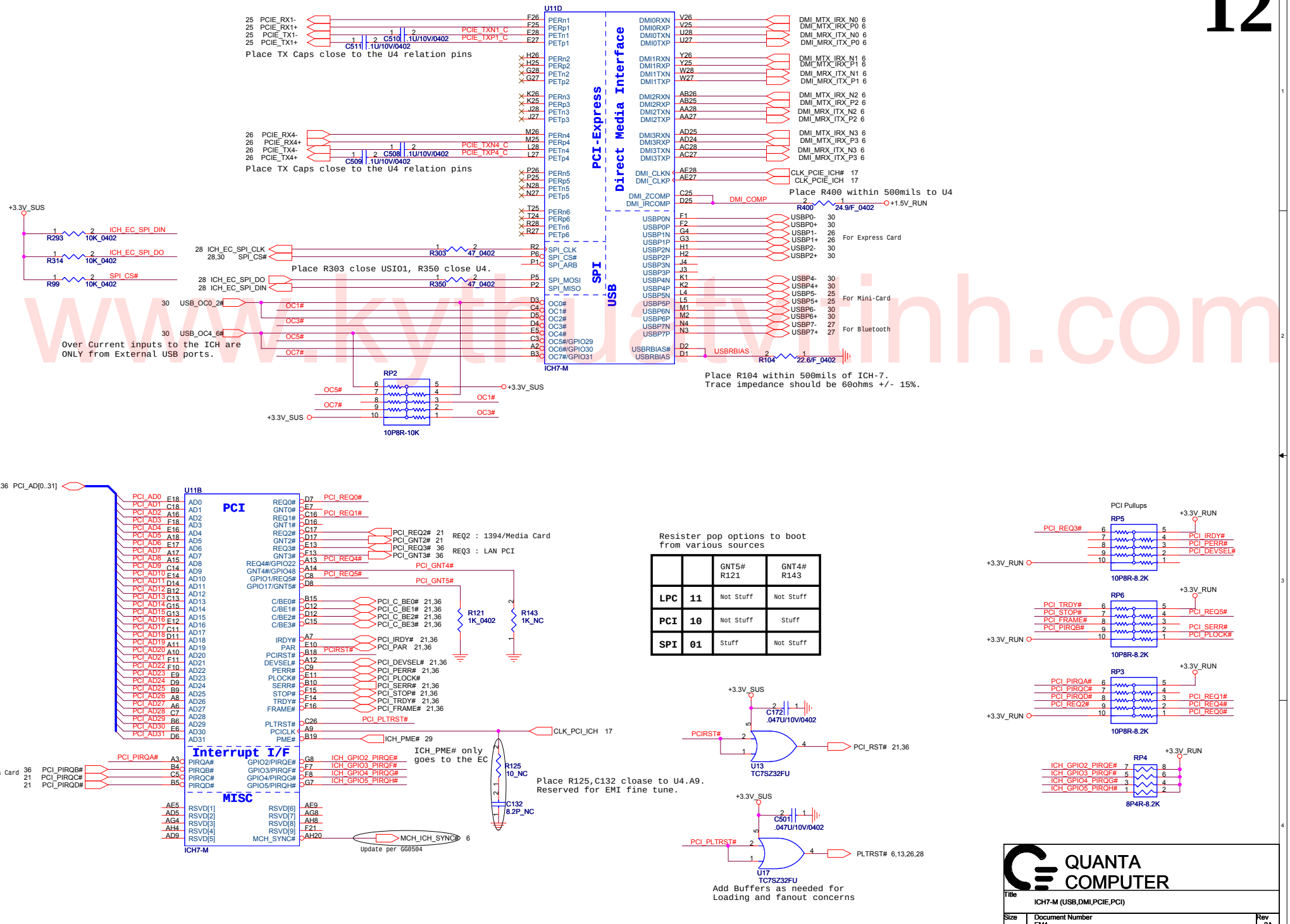





QUANTA COMPUTER

| | | |
|---|---|---|
| Title | ICH7-M (CPU,IDE,SATA,LPC,AC97) | |
| Size | Document Number FM1 | Rev 2A |
| Date: Tuesday, September 06, 2005 | Sheet 11 of 51 | |







Resister pop options to boot from various sources

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



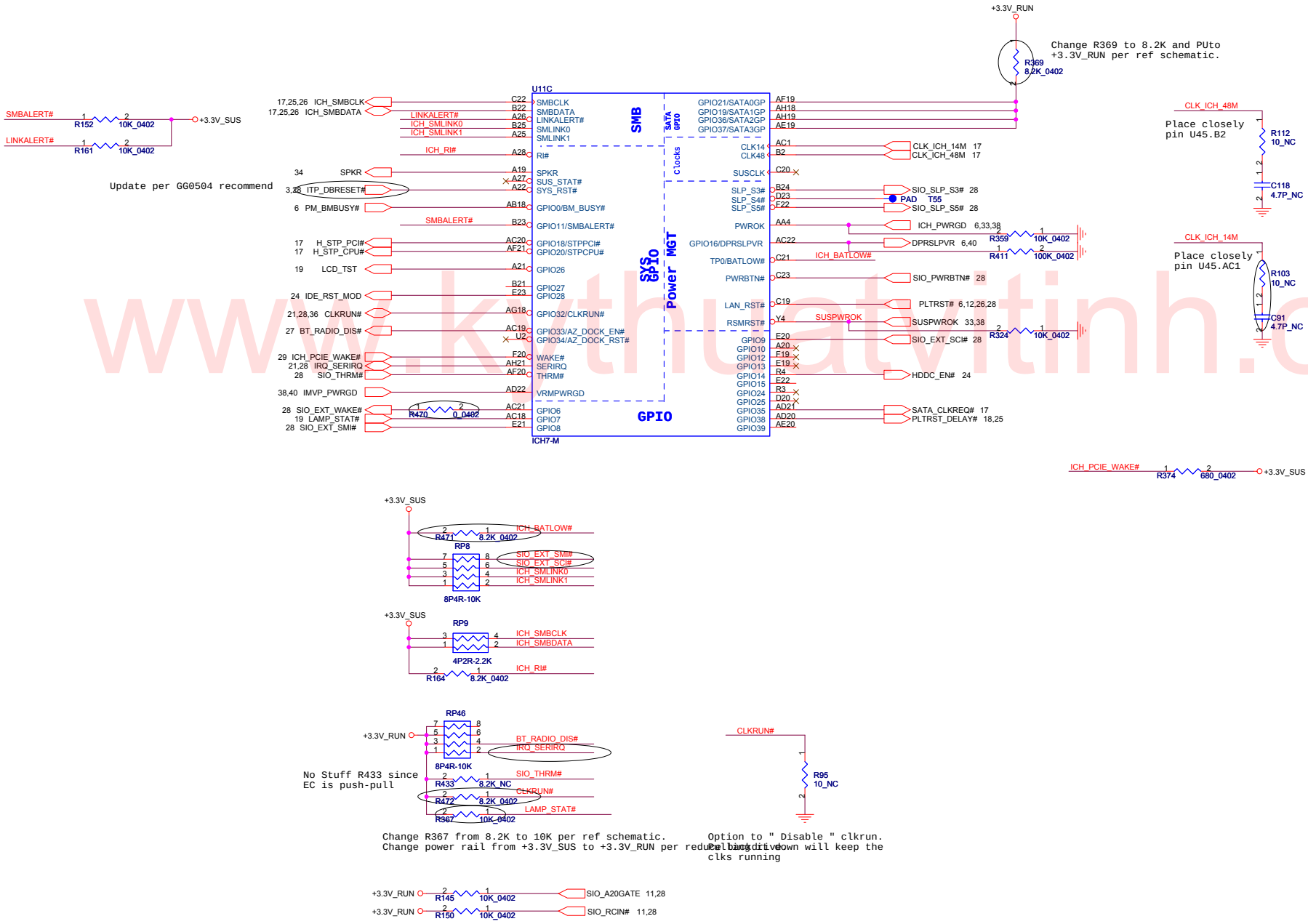






QUANTA COMPUTER

| | | |
|---|---|---|
| Title | ICH7-M (USB,DMI,PCIE,PCI) | |
| Size | Document Number FM1 | Rev 2A |
| Date: Tuesday, September 06, 2005 | Sheet 12 of 51 | |






QUANTA COMPUTER

| | | |
|---|---|---|
| Title | ICH7-M( PM,GPIO,SMB ) | |
| Size | Document Number FM1 | Rev 2A |
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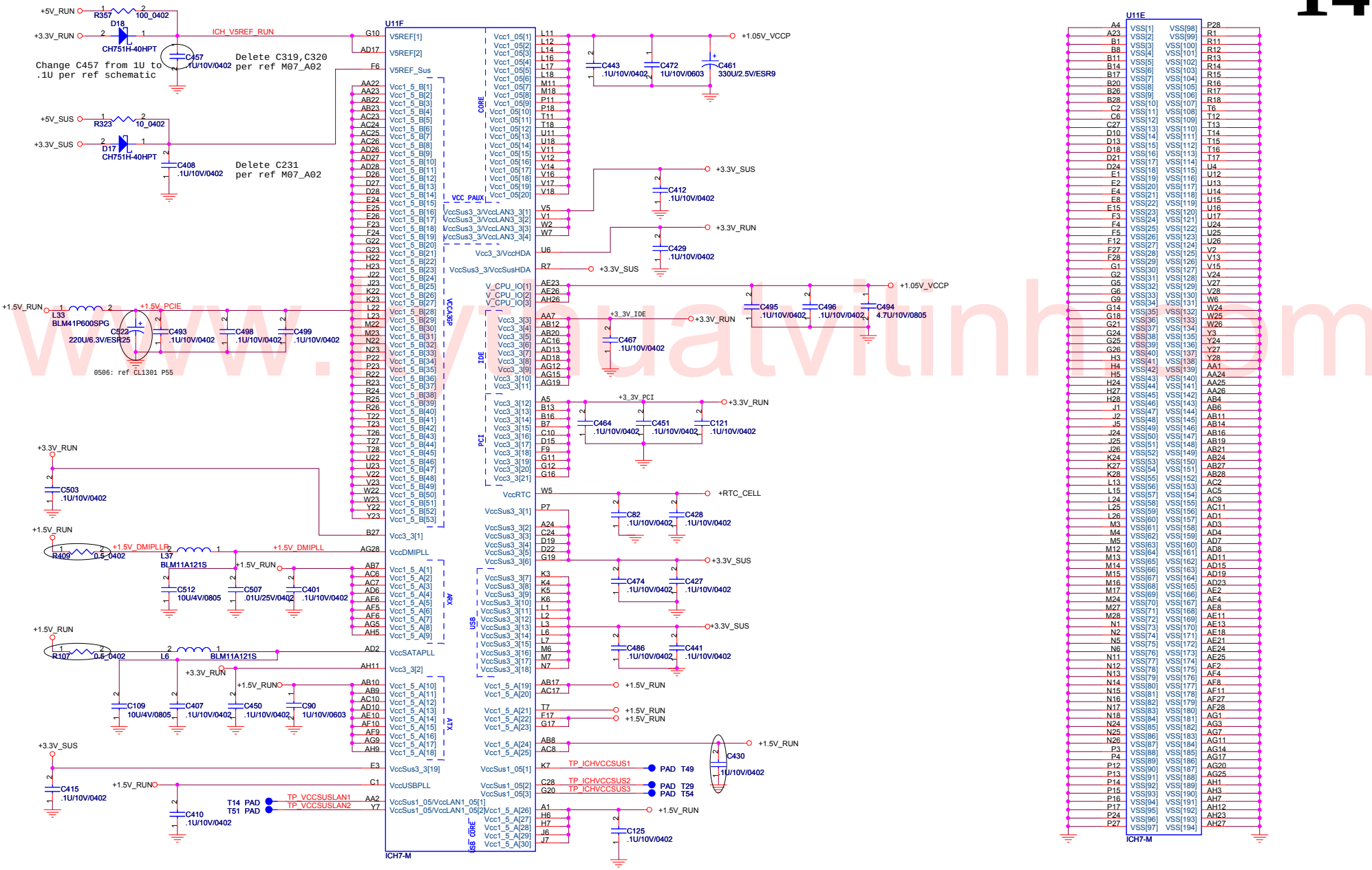




| | |
|---|---|
| Title | ICH7-M (POWER&GND) |
| Size | Document Number FM1 |
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| Date: | Tuesday, September 06, 2005 |
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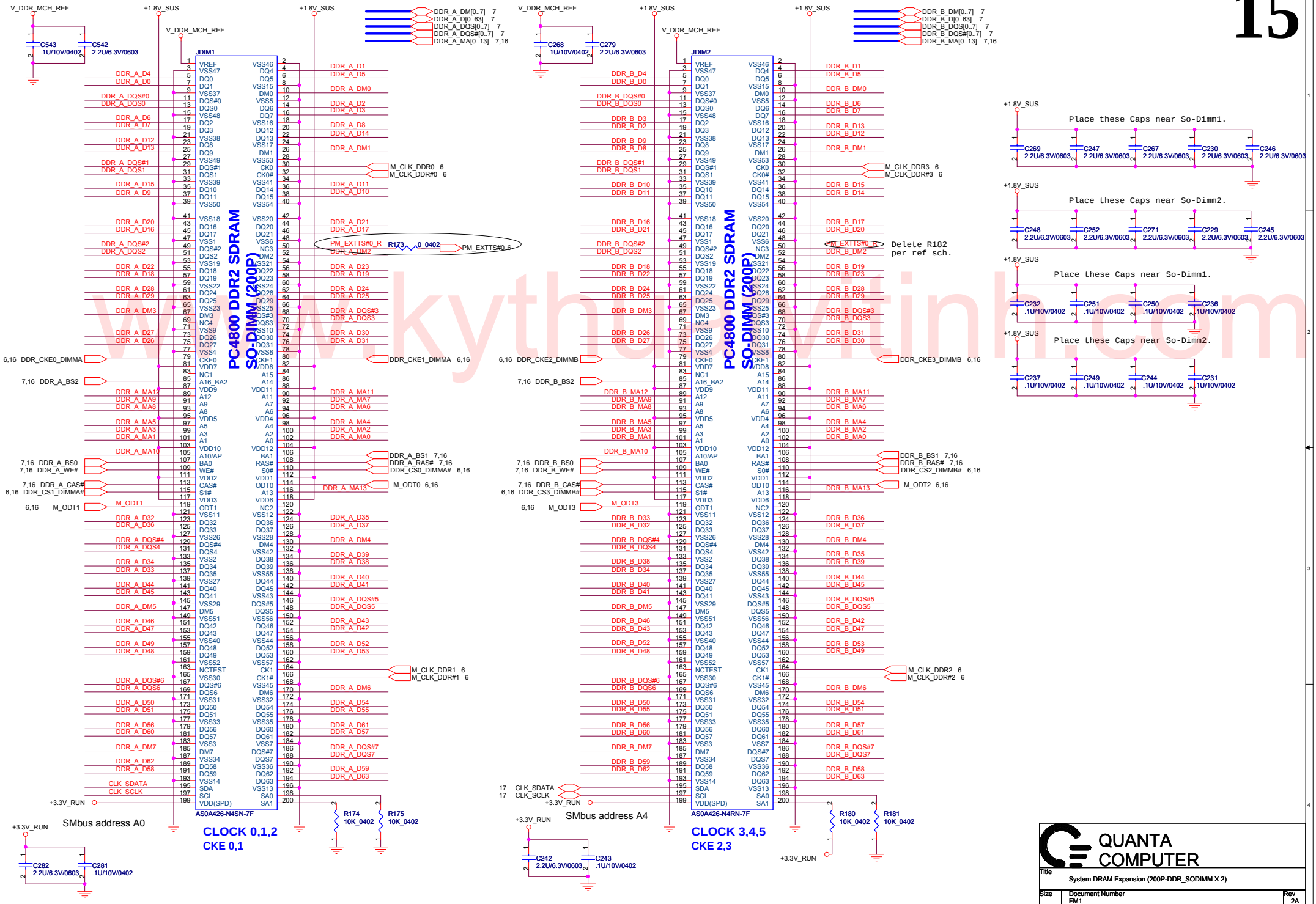




QUANTA COMPUTER

| | | |
|---|---|---|
| Title | System DRAM Expansion (200P-DDR_SODIMM X 2) | |
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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, DDR_A_MA6, DDR_A_MA4
RP13 4P2R-56
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 | |
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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 possible to the VDD pins

Add C644 per ref schematic.

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

Place C74,C75 close to pin7,8.

Place these termination to close CK410M.

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

SMbus address D2

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

ICS954305E

Unused Clock outputs can optionally be connected to Test points

Place C673 close to R264.1 per EMI requirement.

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 2A

Date: Tuesday, September 06, 2005 Sheet 17 of 51

Populate JVDO1 for discrete.

YPRPB_DET: SIGNAL FROM SVIDEO CONNECTOR, TO SWICH TO COMPONENT OUT.

Delete R236,R247 pre ref schematic.

SMBUS Address 58

For Discrete:
Populate C60,C68,C65

For Discrete:
Populate C89,C98,C100,C103,C102,C106,C108,C112,
C111,C115,C120,C124,C126,C128,C130,C133,
C138,C140,C142,C144,C145,C148,C151,C152,
C157,C161,C162,C165,C167,C168,C170,C175

For Discrete:
De-populate
R70,R72,R76,R75,R80,R84,R87,R90,R97,R02

Populate R377 and De-populate R386, R279. for Proto1 build(old VGA card)

Delete R377,R386,R279 pre ref schematic.

For Discrete:
Populate
C178,C181

For Discrete:
Populate
C188,C186,C207,C187,C182,U19

For Discrete: Populate TH6,TH15,TH19

TOP Side

VGACARD STANDOFF

VGA GUIDE POST

HONDA LPF-SC200SMYGA+_NC



QUANTA COMPUTER

| | | |
|---|---|---|
| Title | DDR RES.ARRAY | |
| Size | Document Number FM1 | Rev 2A |
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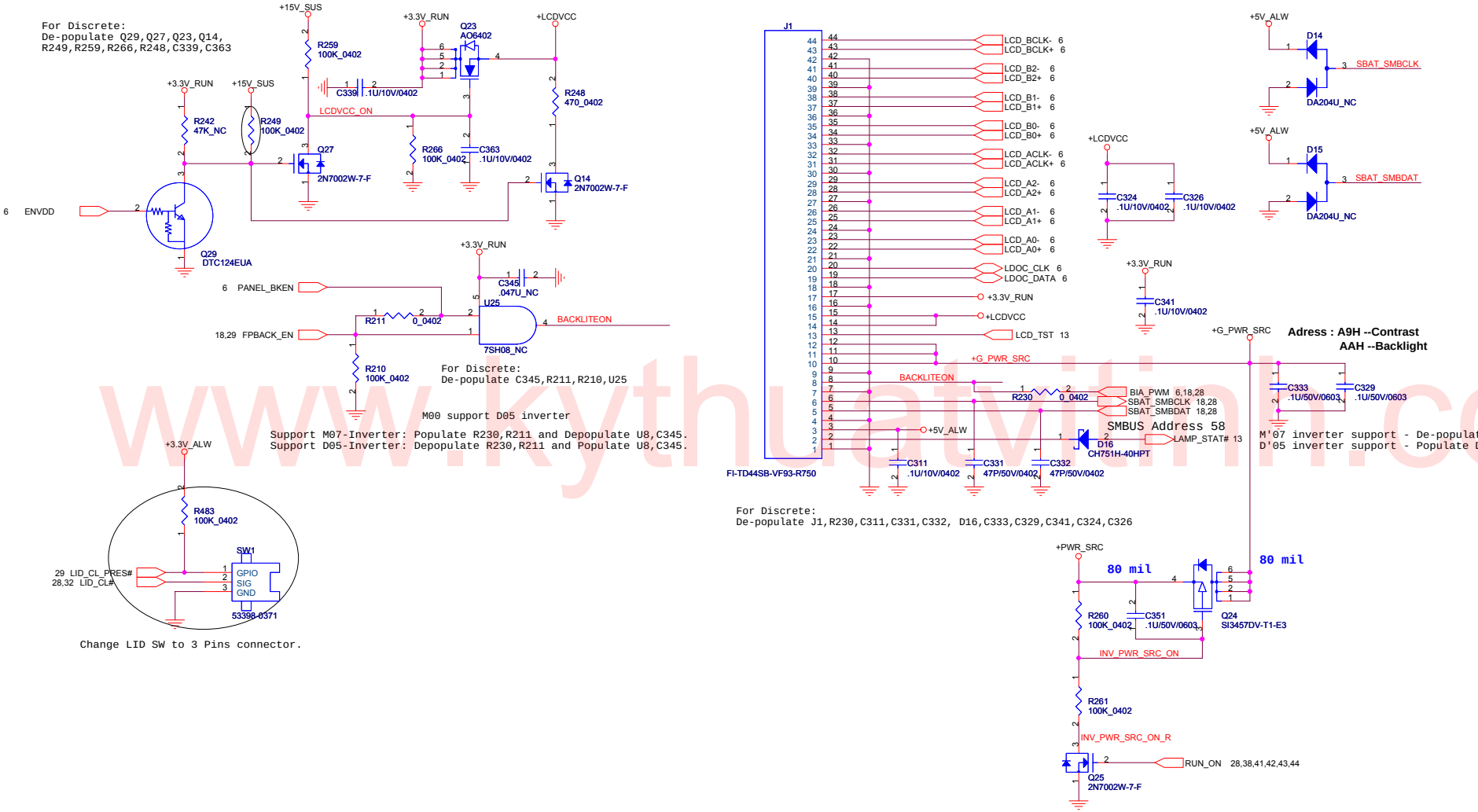
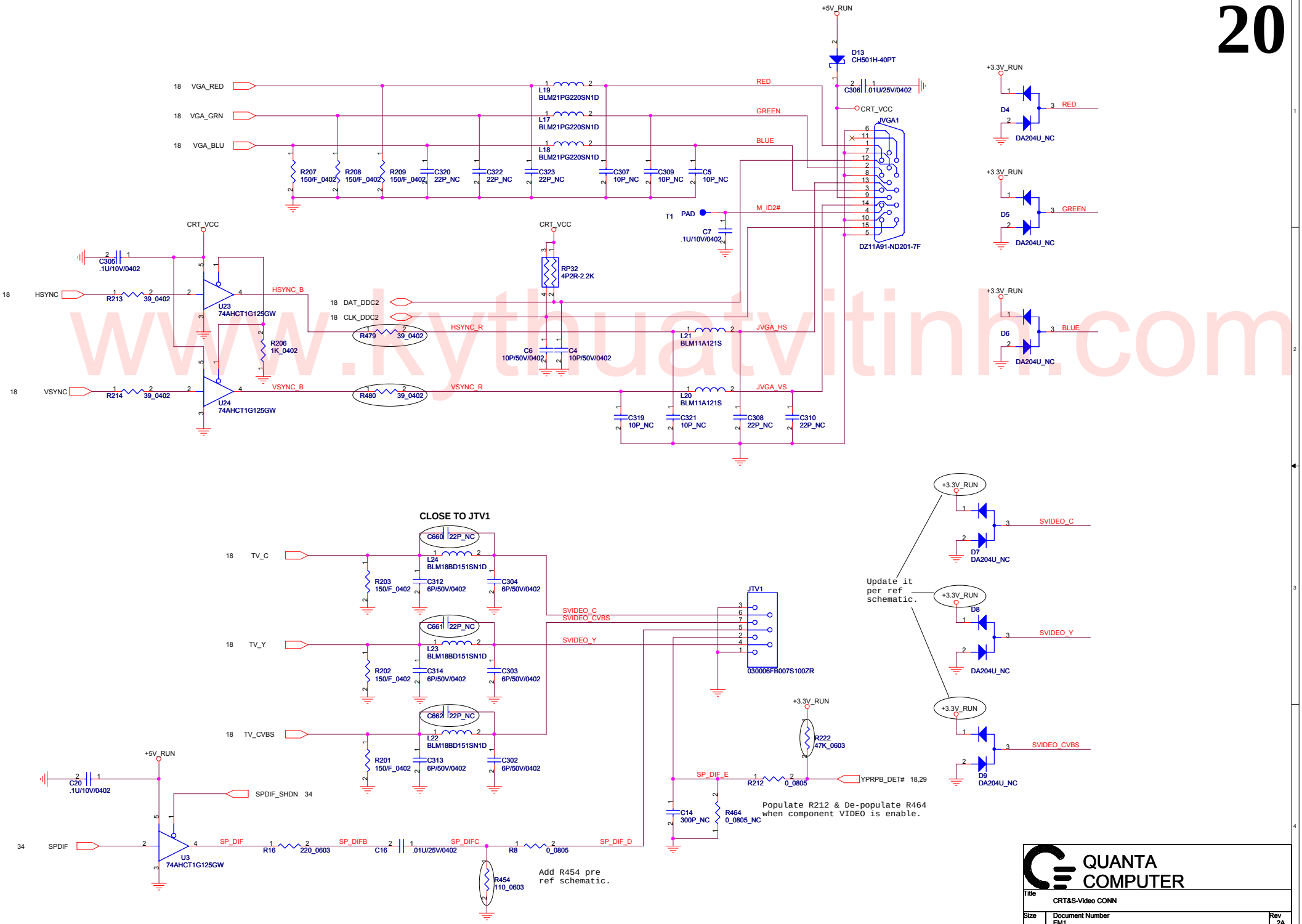





QUANTA COMPUTER

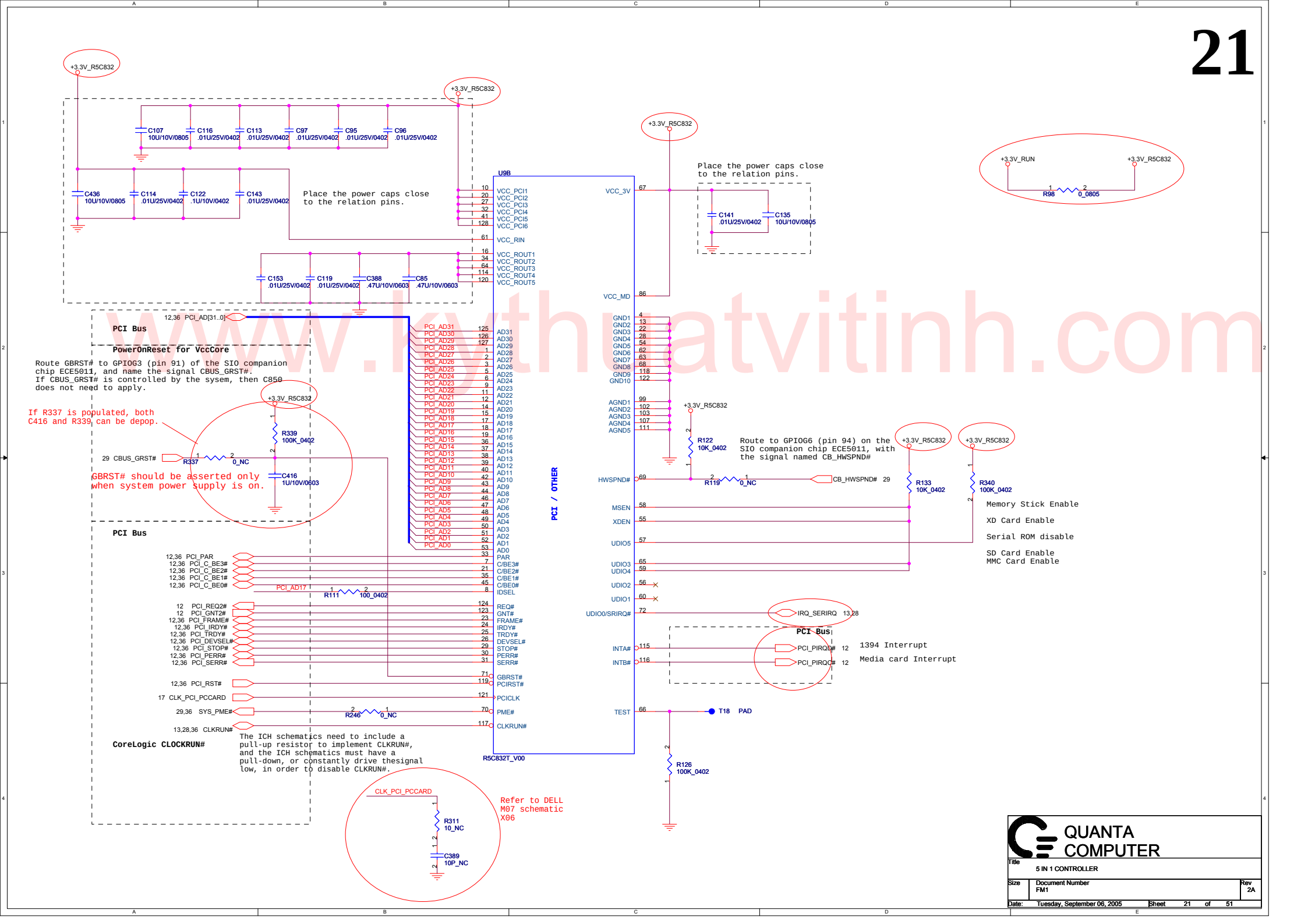
| | | |
|---|---|---|
| Title | LCD CONN&CK-SSCD | |
| Size | Document Number FM1 | Rev 2A |
| Date: Tuesday, September 06, 2005 | Sheet 19 of 51 | |






QUANTA COMPUTER

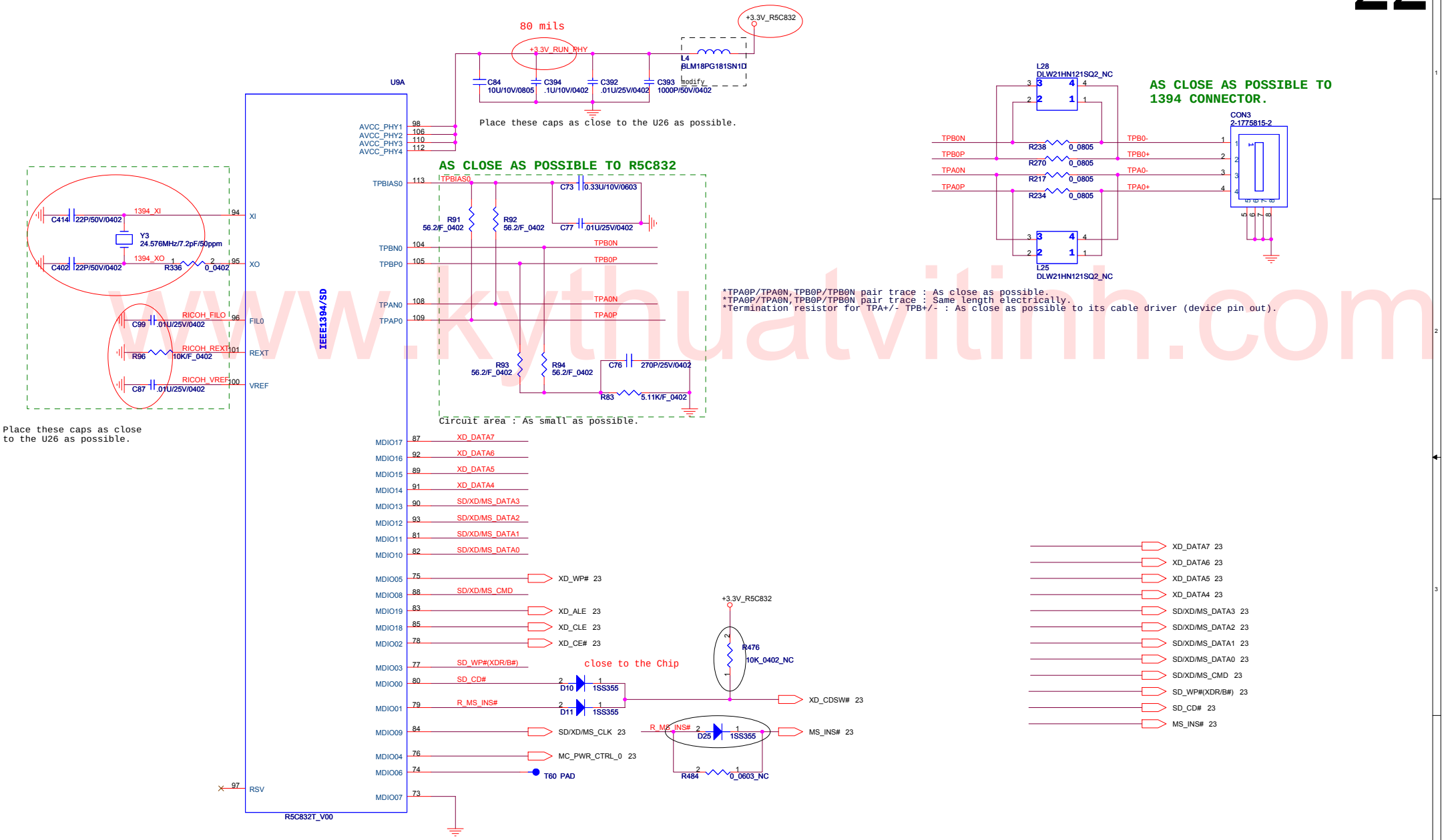
| | | |
|---|---|---|
| Title | CRT&S-Video CONN | |
| Size | Document Number FM1 | Rev 2A |
| Date: Tuesday, September 06, 2005 | Sheet 20 of 51 | |






QUANTA COMPUTER

| | | |
|---|---|---|
| Title | 5 IN 1 CONTROLLER | |
| Size | Document Number FM1 | Rev 2A |
| Date: Tuesday, September 06, 2005 | Sheet 21 of 51 | |





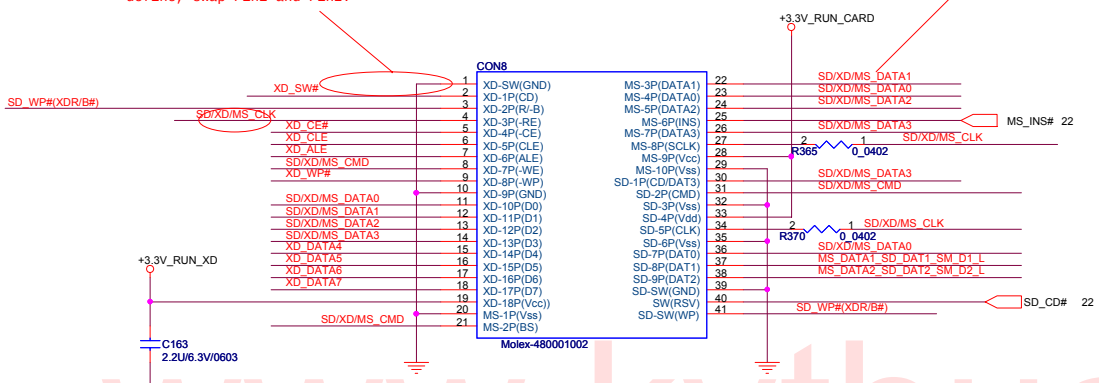

QUANTA COMPUTER

| | | |
|---|---|---|
| Title | IEEE 1394 | |
| Size | Document Number FM1 | Rev 2A |
| Date: Tuesday, September 06, 2005 | Sheet 22 of 51 | |

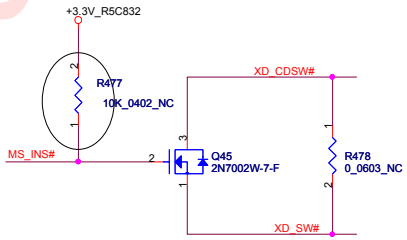
DO NOT INSERT SD/MMC, MEMORYSTICK AND XD SIMULTANEOUSLY.

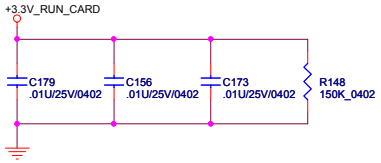
# 5 IN1 CARD READER

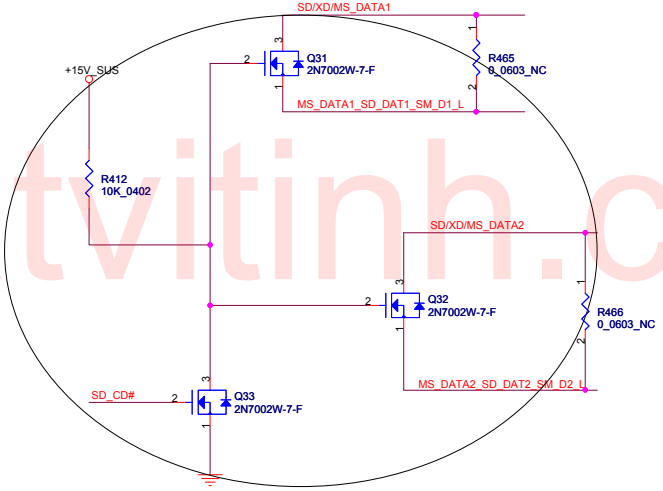




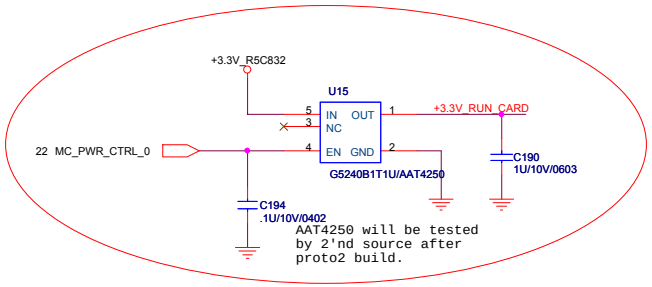

Refer to M07, connect C163 to +3VRUN_XD.

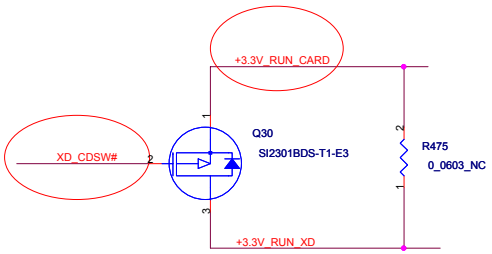




## For SD/MS power

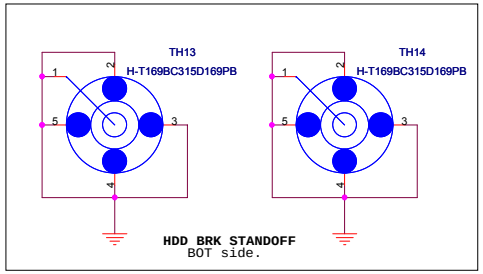



## For XD power

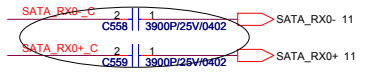



QUANTA COMPUTER

| | | |
|---|---|---|
| Title | CARD READER CONN | |
| Size | Document Number CM1 | Rev 2A |
| Date: Tuesday, September 06, 2005 | Sheet 23 of 51 | |



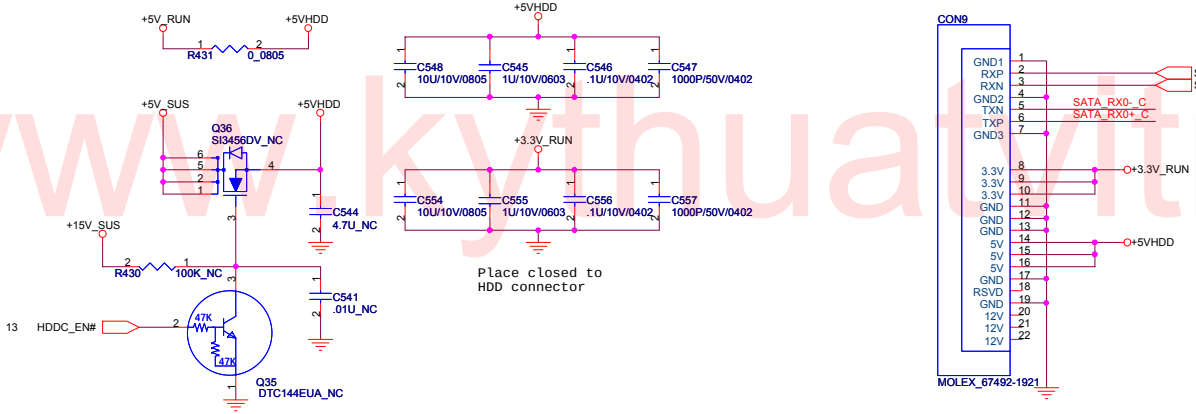

Place close to
connector side

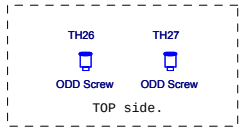


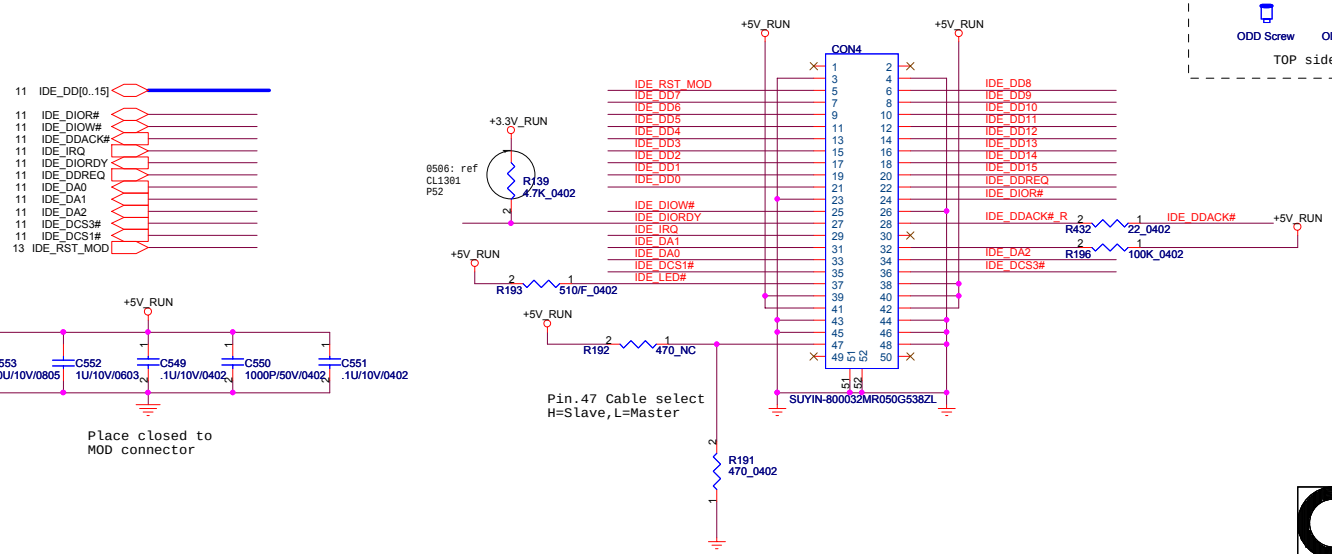

Locate caps C558, C559 near HDD Conn.
Length match SATA_C_RX0- & SATA_C_RX0+ within 20mils.

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.



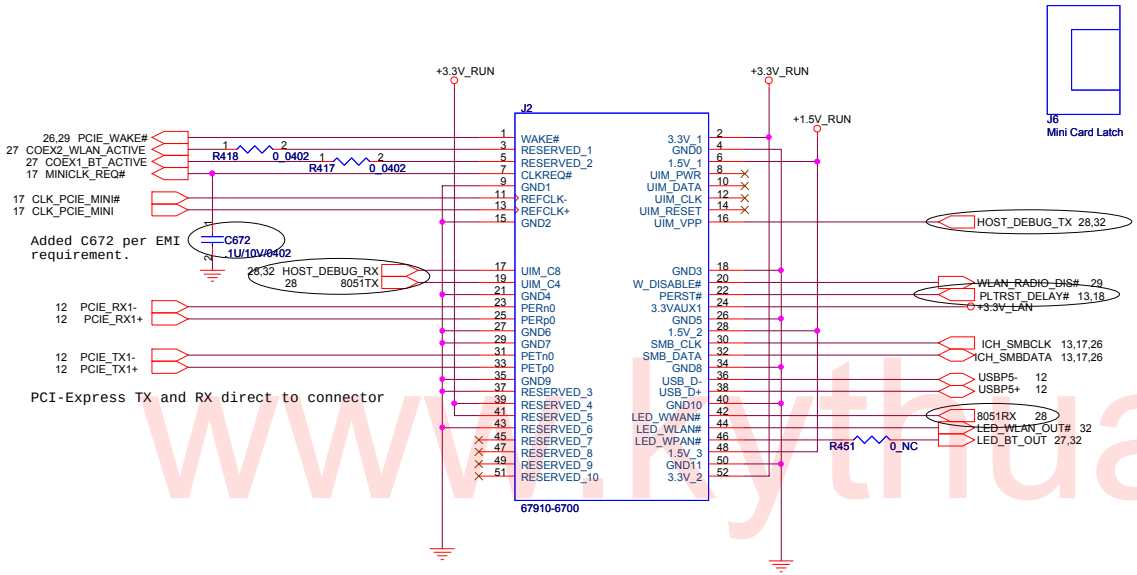



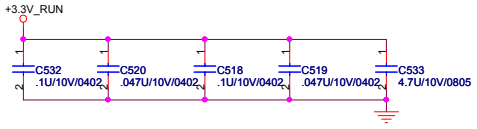



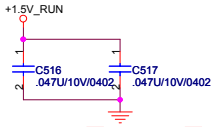



QUANTA COMPUTER

| | | |
|---|---|---|
| Title | STAT HDD & PATA ODD | |
| Size | Document Number FM1 | Rev 2A |
| Date: Tuesday, September 06, 2005 | Sheet 24 of 51 | |



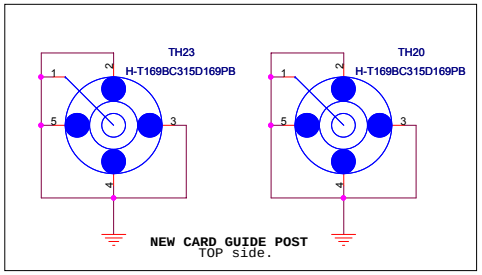



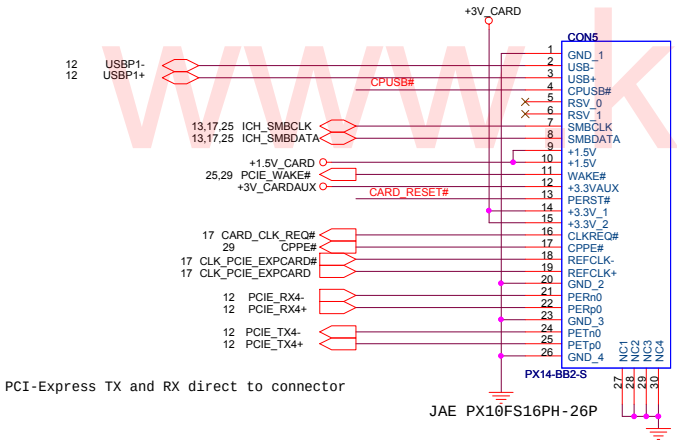




QUANTA COMPUTER

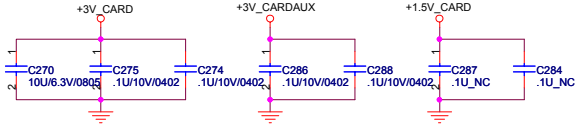
| | | |
|---|---|---|
| Title | Minicard | |
| Size | Document Number FM1 | Rev 2A |
| Date: Tuesday, September 06, 2005 | Sheet 25 of 51 | |

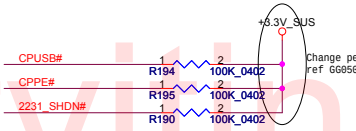


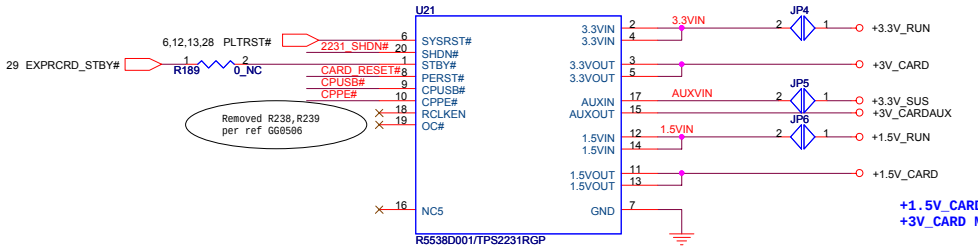

PCI-Express TX and RX direct to connector

JAE PX10FS16PH-26P

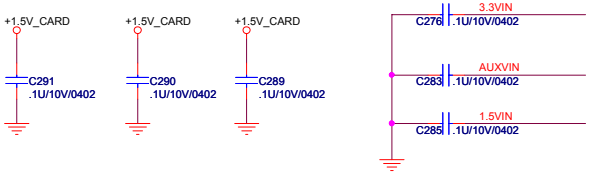



+1.5V_CARD Max. 650mA, Average 500mA
+3V_CARD Max. 1300mA, Average 1000mA




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

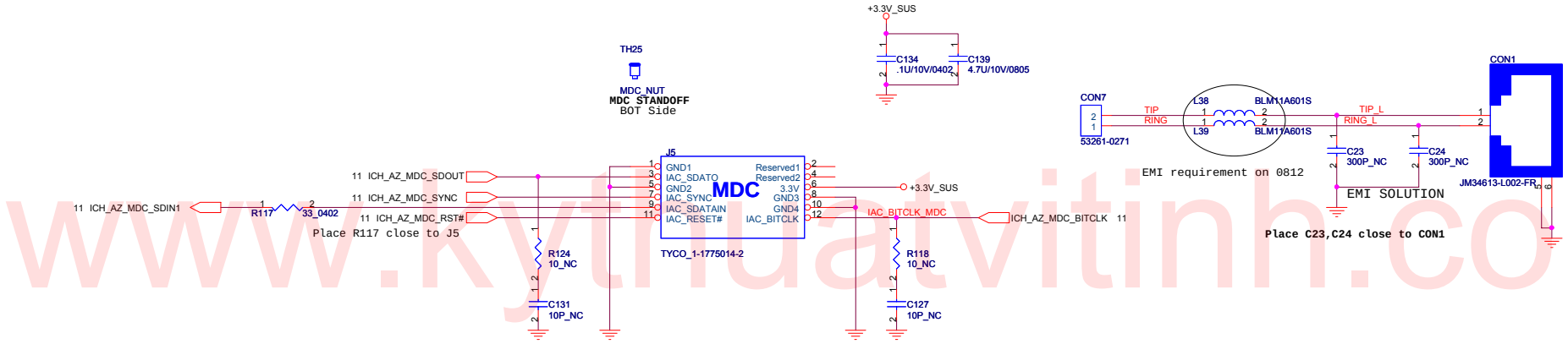


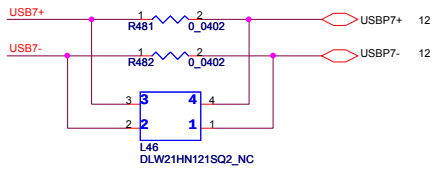

QUANTA COMPUTER

| | | |
|---|---|---|
| Title | Express Card | |
| Size | Document Number FM1 | Rev 2A |
| Date: Tuesday, September 06, 2005 | Sheet 26 of 51 | |

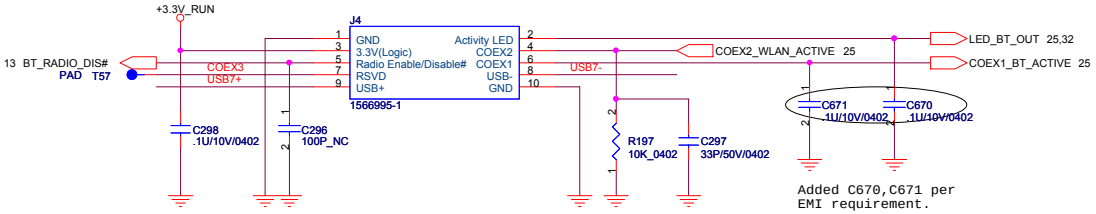
## MDC Layout Notes

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)



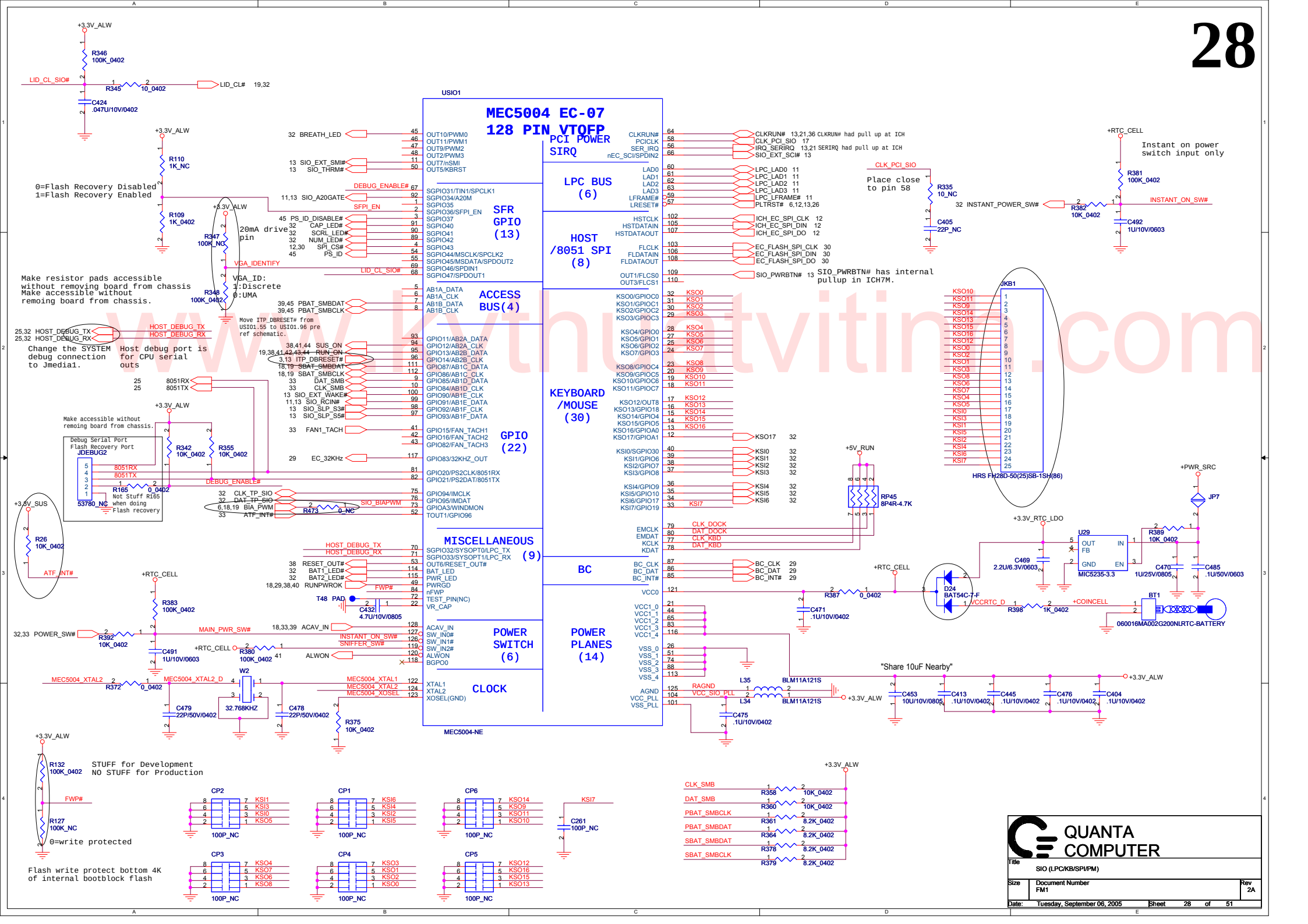

Bluetooth

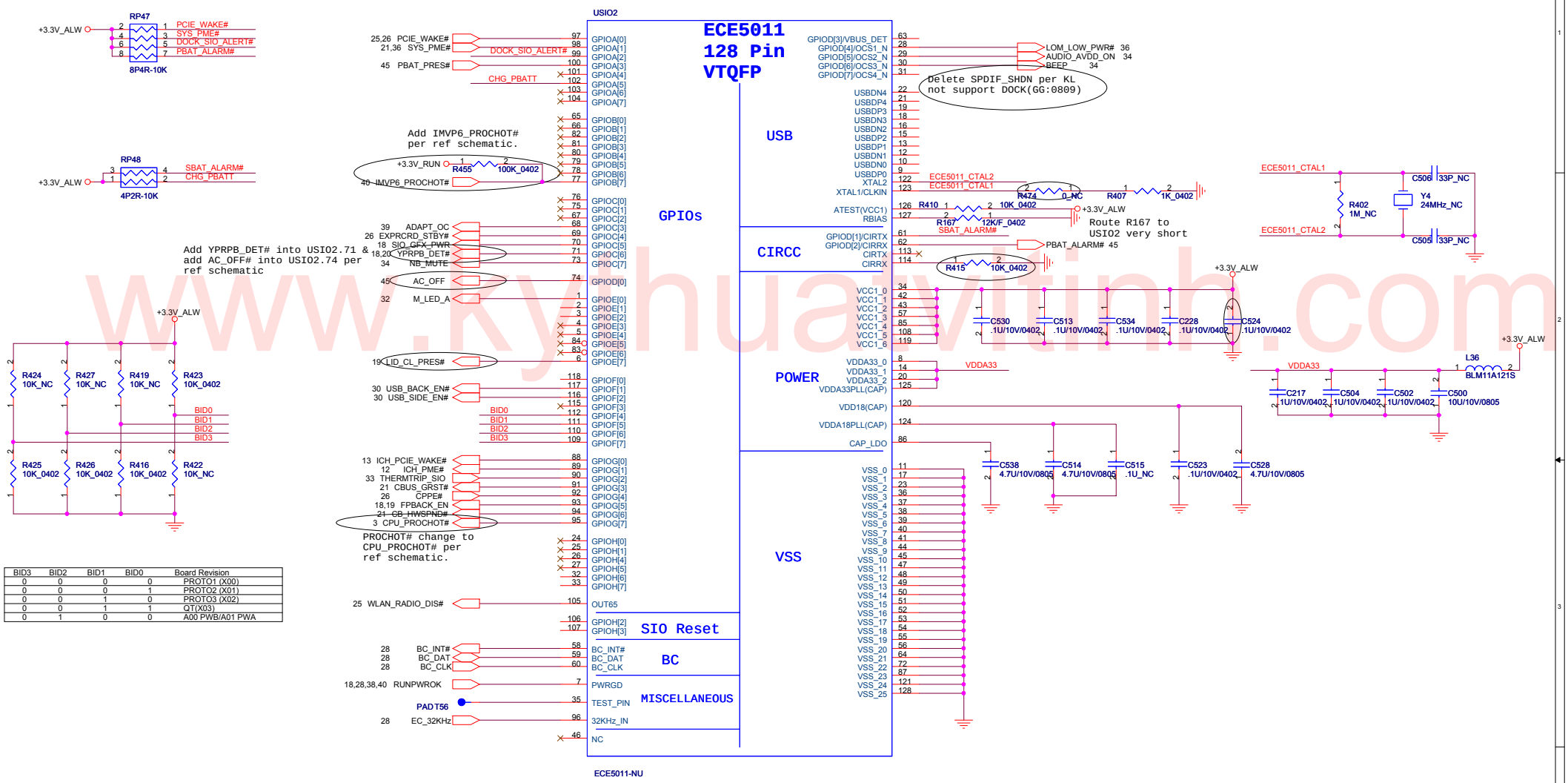





QUANTA COMPUTER

| | | |
|---|---|---|
| Title | MDC CONN & BlueTooth. | |
| Size | Document Number FM1 | Rev 2A |
| Date: Tuesday, September 06, 2005 | Sheet 27 of 51 | |



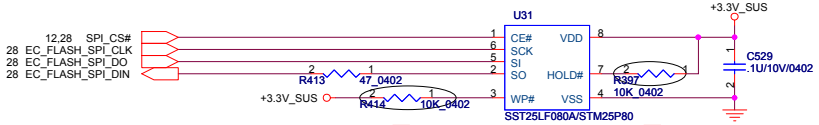



| BID3 | BID2 | BID1 | BID0 | Board Revision |
|---|---|---|---|---|
| 0 | 0 | 0 | 0 | PROTO1 (X00) |
| 0 | 0 | 0 | 1 | PROTO2 (X01) |
| 0 | 0 | 1 | 0 | PROTO3 (X02) |
| 0 | 0 | 1 | 1 | QT(X03) |
| 0 | 1 | 0 | 0 | A00 PWB/A01 PWA |

QUANTA COMPUTER

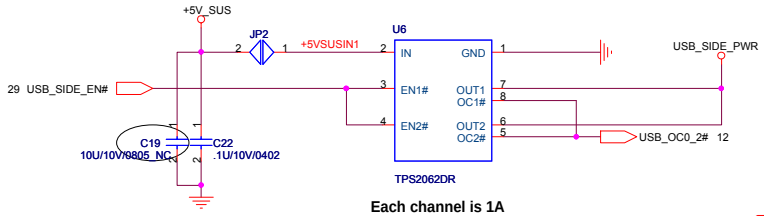
| | | |
|---|---|---|
| Title | SIO (GPIO/BC/USB/CIRR) | |
| Size | Document Number FM1 | Rev 2A |
| Date: Tuesday, September 06, 2005 | Sheet 29 of 51 | |

8Mbit (1M Byte), SPI

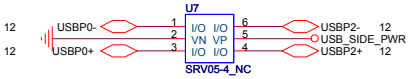



Delete UPW1, C434-436, RP53 per GG0524 item 135.

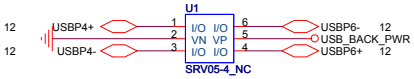


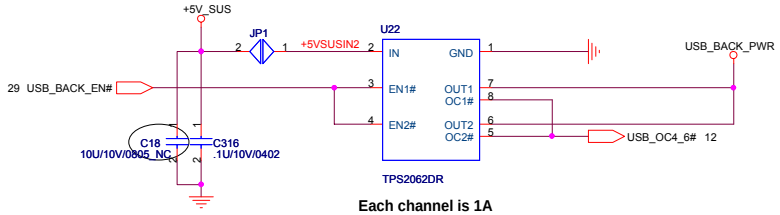



Each channel is 1A

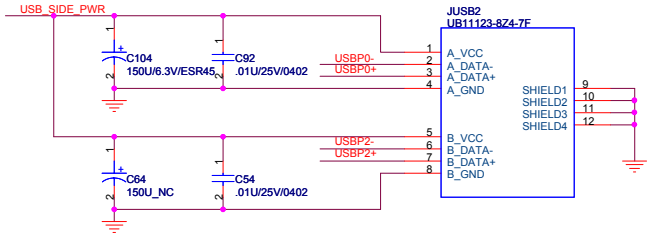


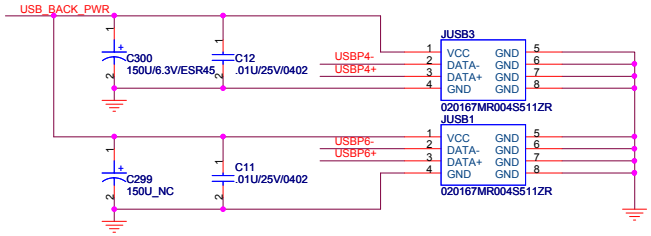

Place ESD diodes as close as USB connector.



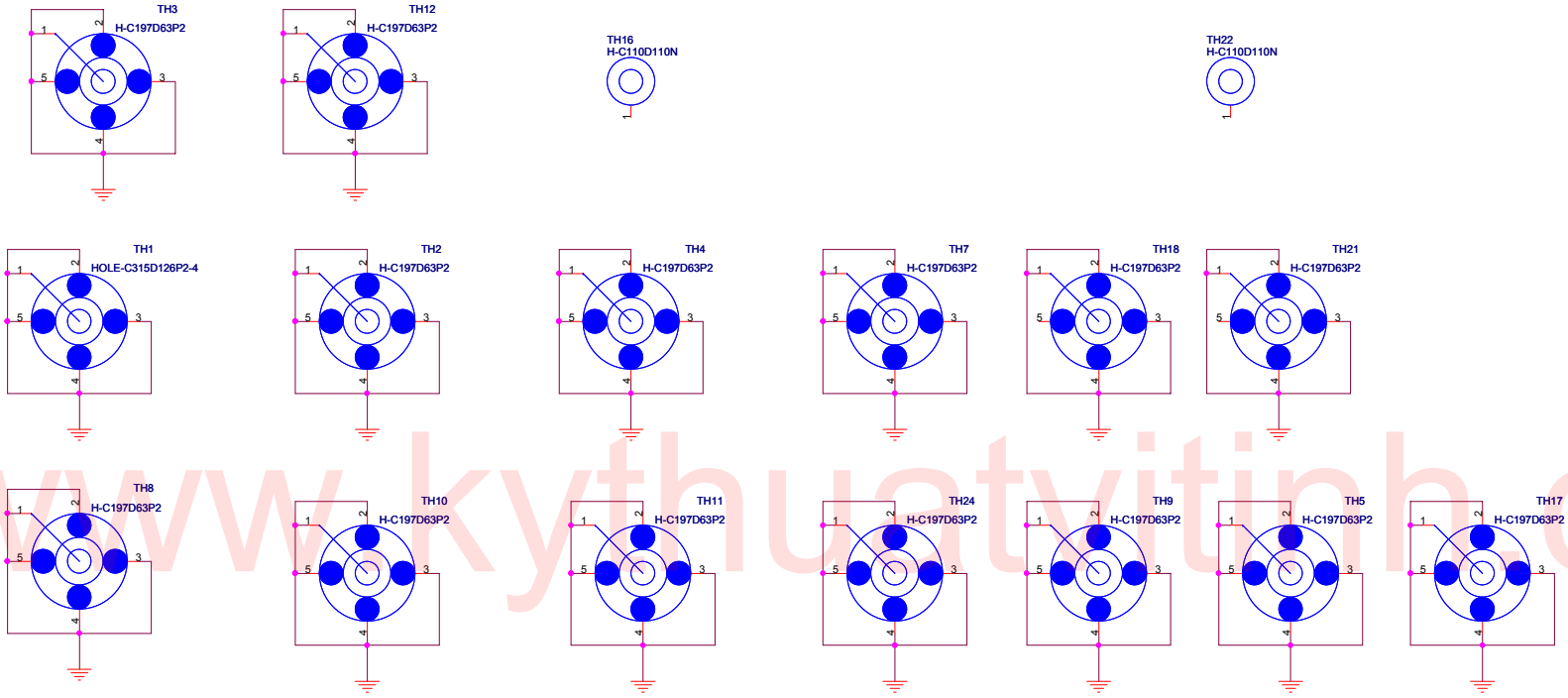

Each channel is 1A



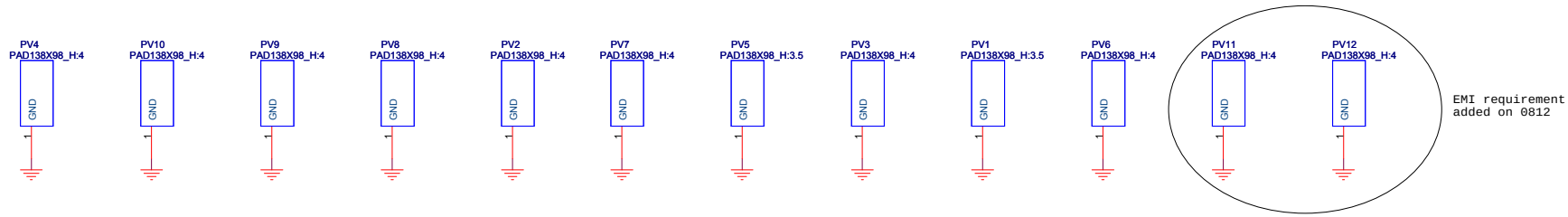



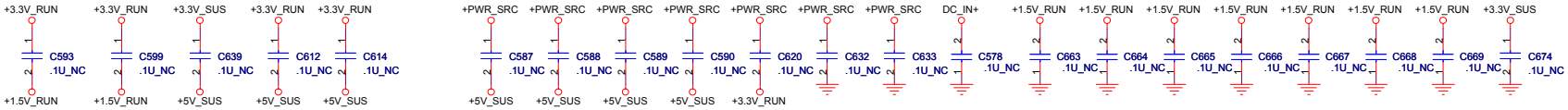

QUANTA COMPUTER

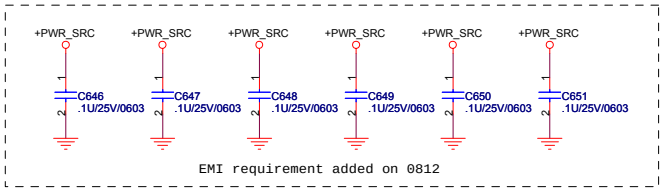
| | | |
|---|---|---|
| Title | USB & Flash | |
| Size | Document Number FM1 | Rev 2A |
| Date: Tuesday, September 06, 2005 | Sheet 30 of 51 | |





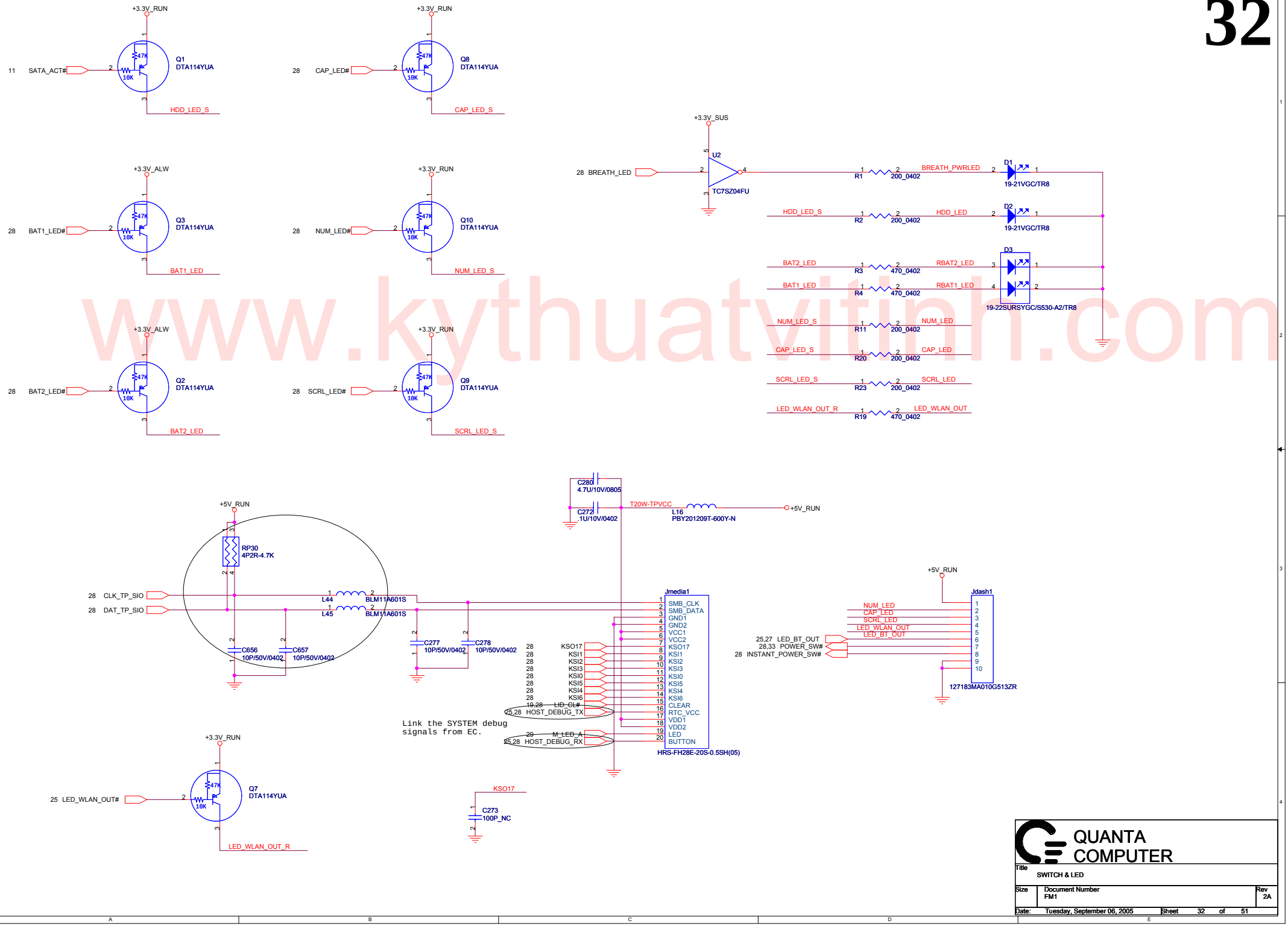




QUANTA COMPUTER

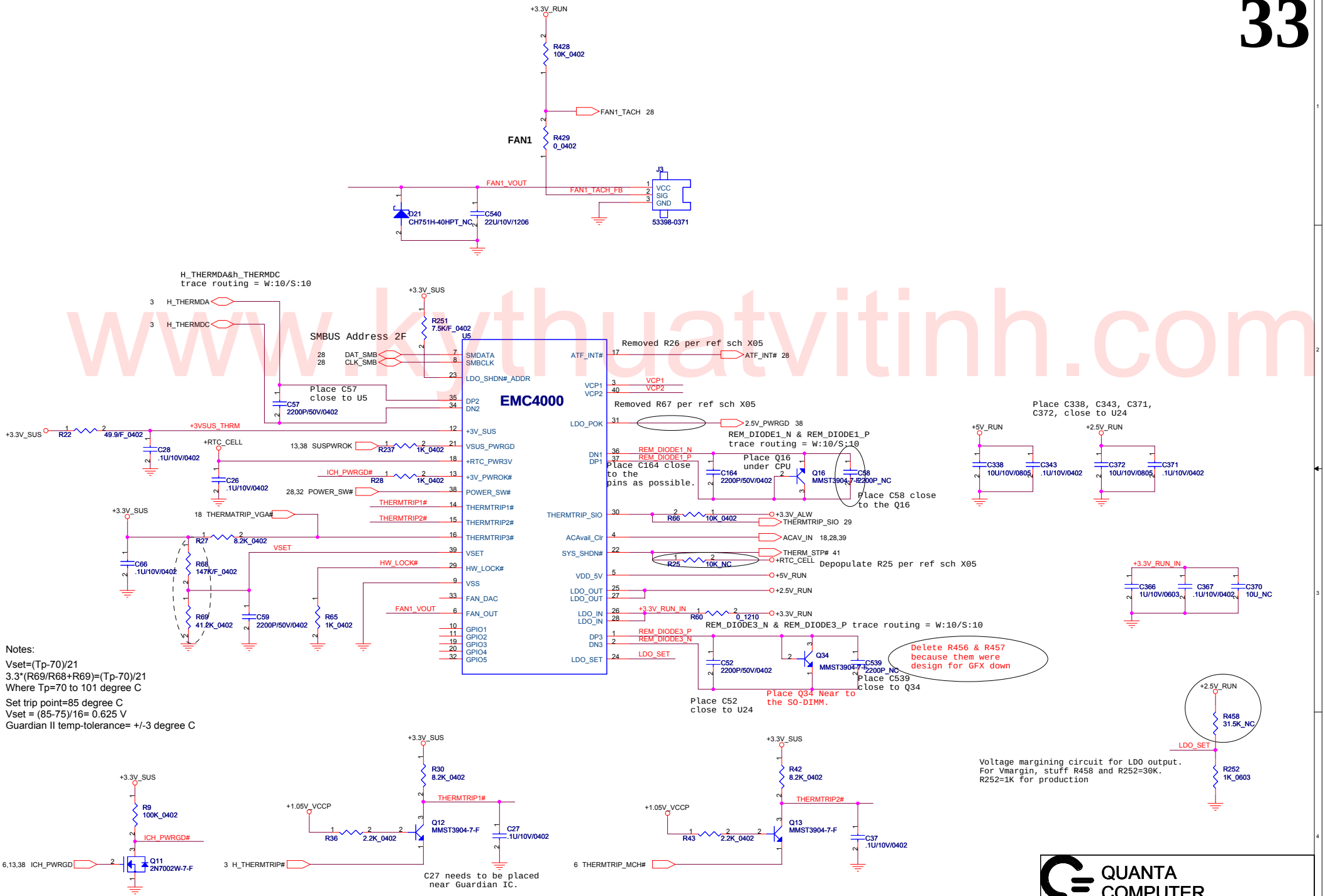
| | | |
|---|---|---|
| Title | EMI & Screw hole | |
| Size | Document Number FM1 | Rev 2A |
| Date: Tuesday, September 06, 2005 | Sheet 31 of 51 | |






QUANTA COMPUTER

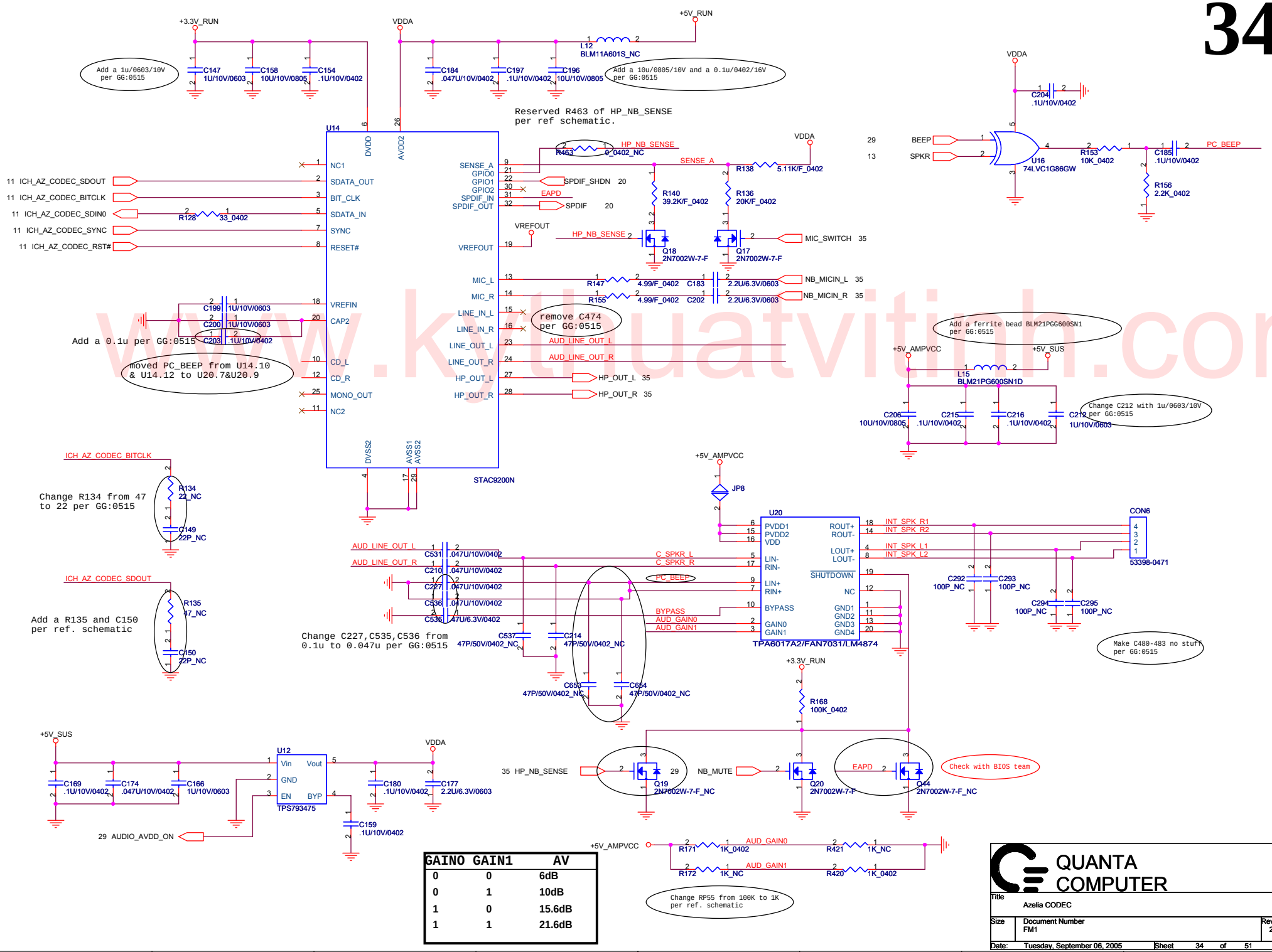
| | | |
|---|---|---|
| Title | SWITCH & LED | |
| Size | Document Number FM1 | Rev 2A |
| Date: Tuesday, September 06, 2005 | Sheet 32 of 51 | |






QUANTA COMPUTER

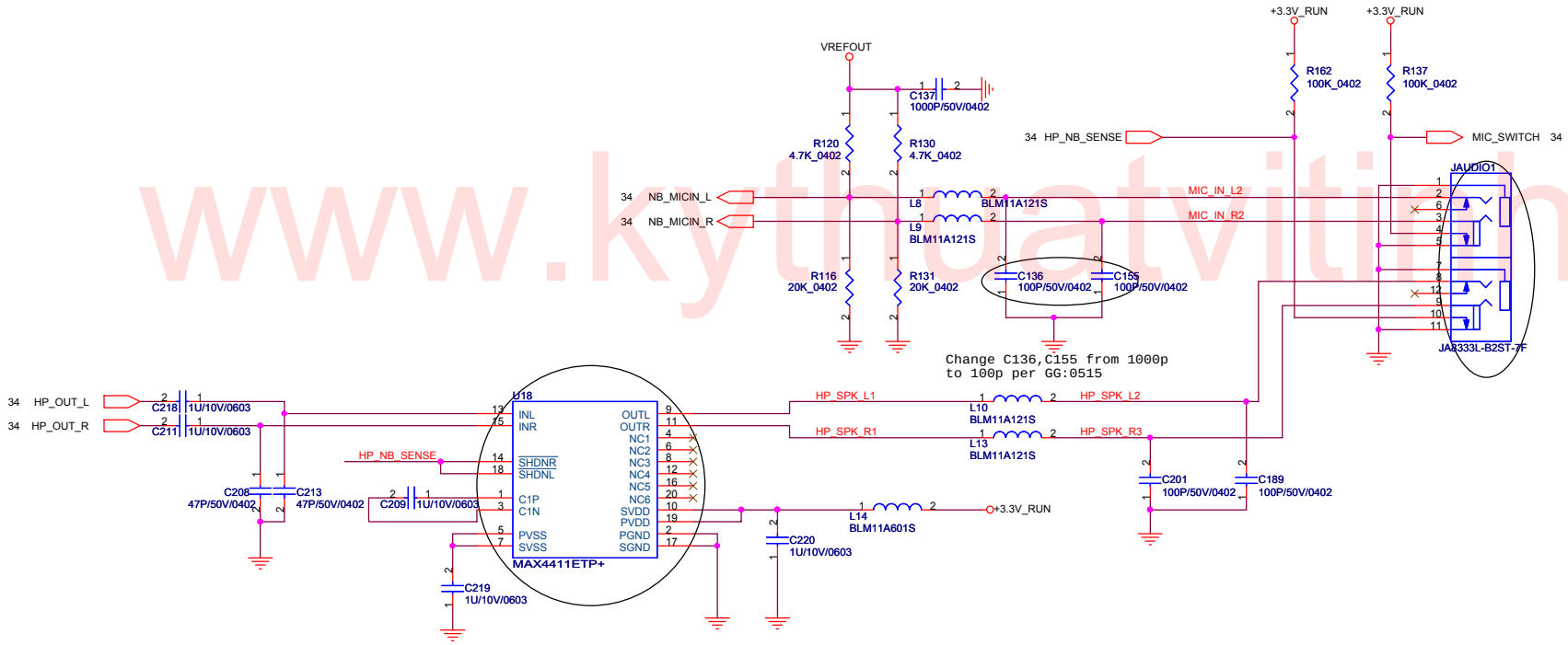
| | | |
|---|---|---|
| Title | FAN & THERMAL | |
| Size | Document Number FM1 | Rev 2A |
| Date: Tuesday, September 06, 2005 | Sheet 33 of 51 | |




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

QUANTA COMPUTER

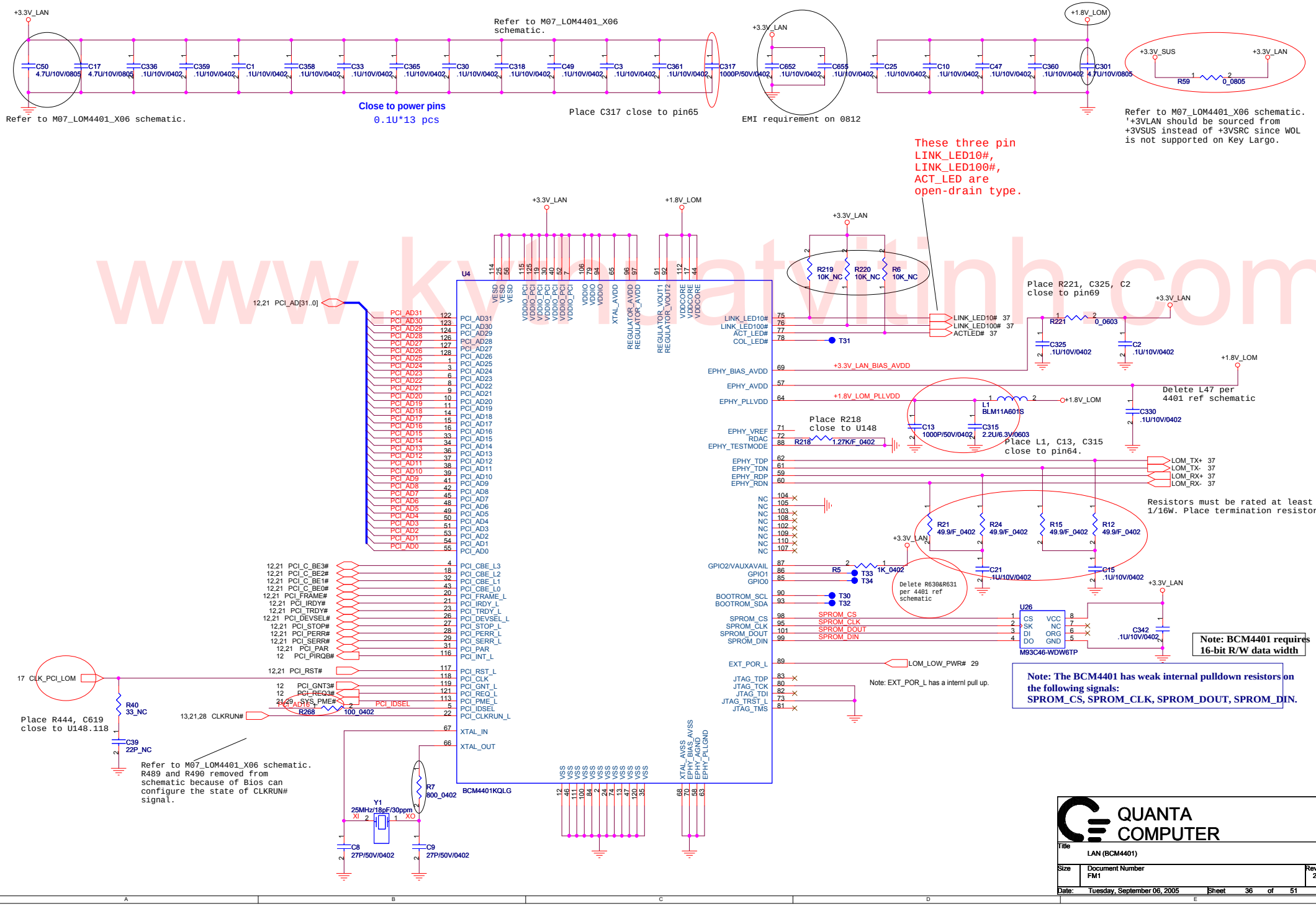
| | | |
|---|---|---|
| Title | Azelia CODEC | |
| Size | Document Number FM1 | Rev 2A |
| Date: Tuesday, September 06, 2005 | Sheet 34 of 51 | |






QUANTA COMPUTER

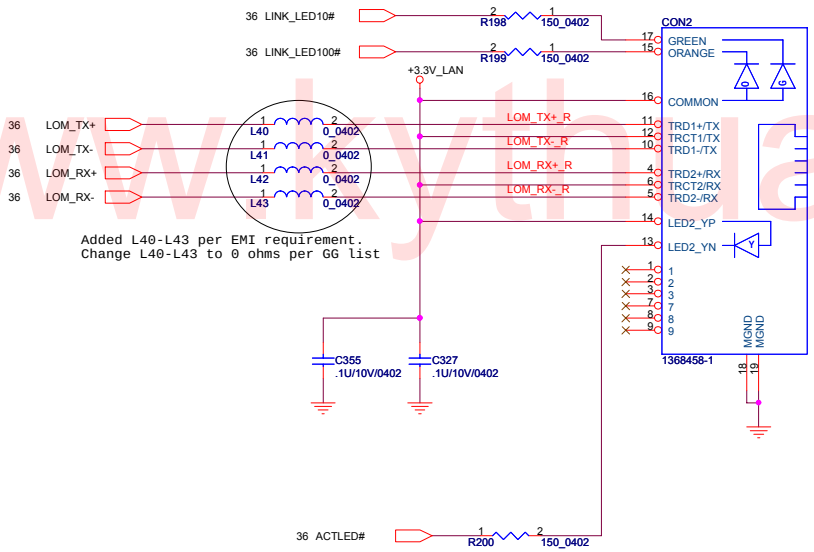
| | | |
|---|---|---|
| Title | AUDIO CONN | |
| Size | Document Number FM1 | Rev 2A |
| Date: Tuesday, September 06, 2005 | Sheet 35 of 51 | |






| | |
|---|---|
| Title | LAN (BCM4401) |
| Size | Document Number FM1 — Rev 2A |
| Date: | Tuesday, September 06, 2005 — Sheet 36 of 51 |

QUANTA COMPUTER

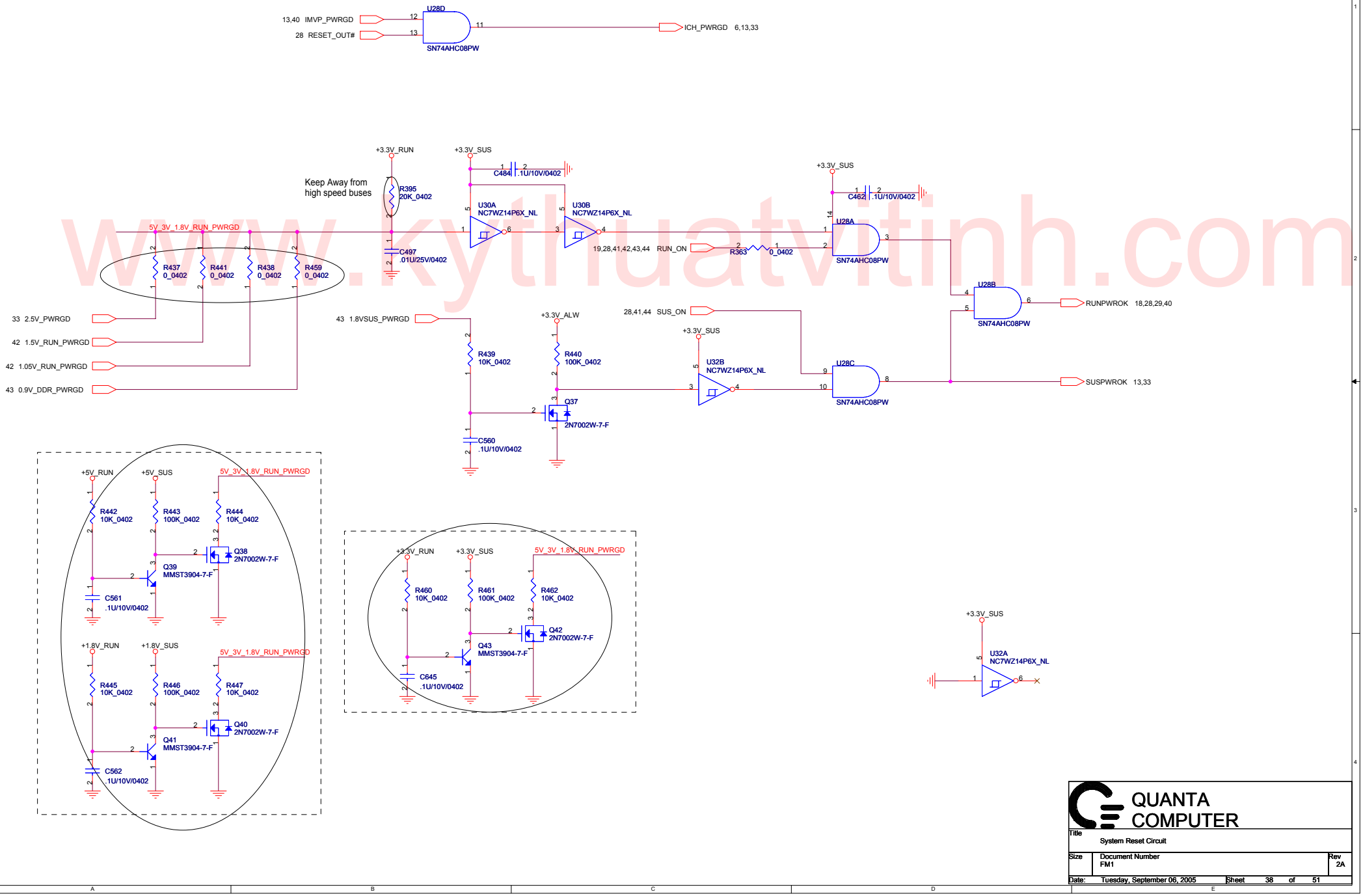



Added L40-L43 per EMI requirement.
Change L40-L43 to 0 ohms per GG list



QUANTA COMPUTER

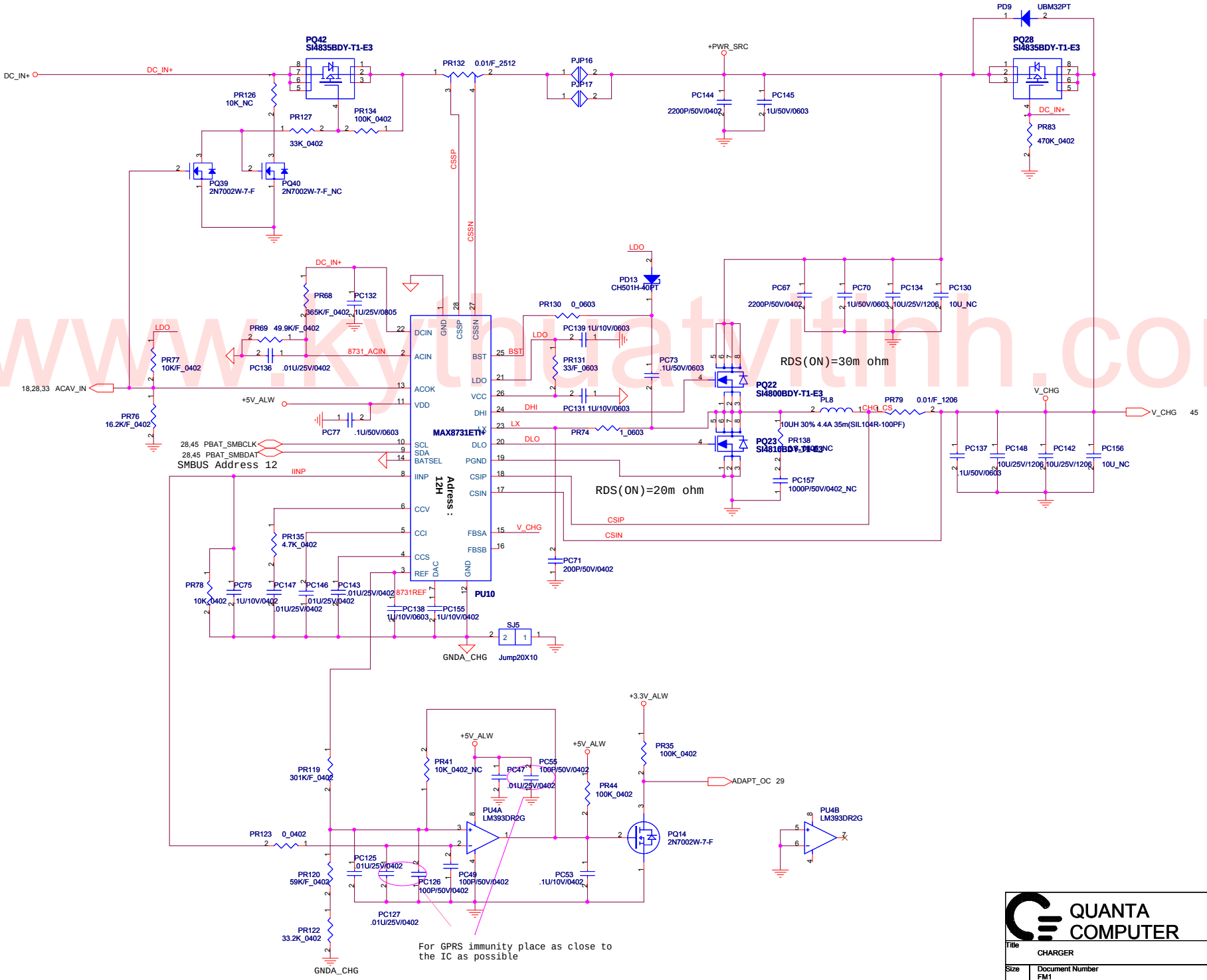
| | | |
|---|---|---|
| Title | LAN Jack | |
| Size | Document Number FM1 | Rev 2A |
| Date: Tuesday, September 06, 2005 | Sheet 37 of 51 | |






QUANTA COMPUTER

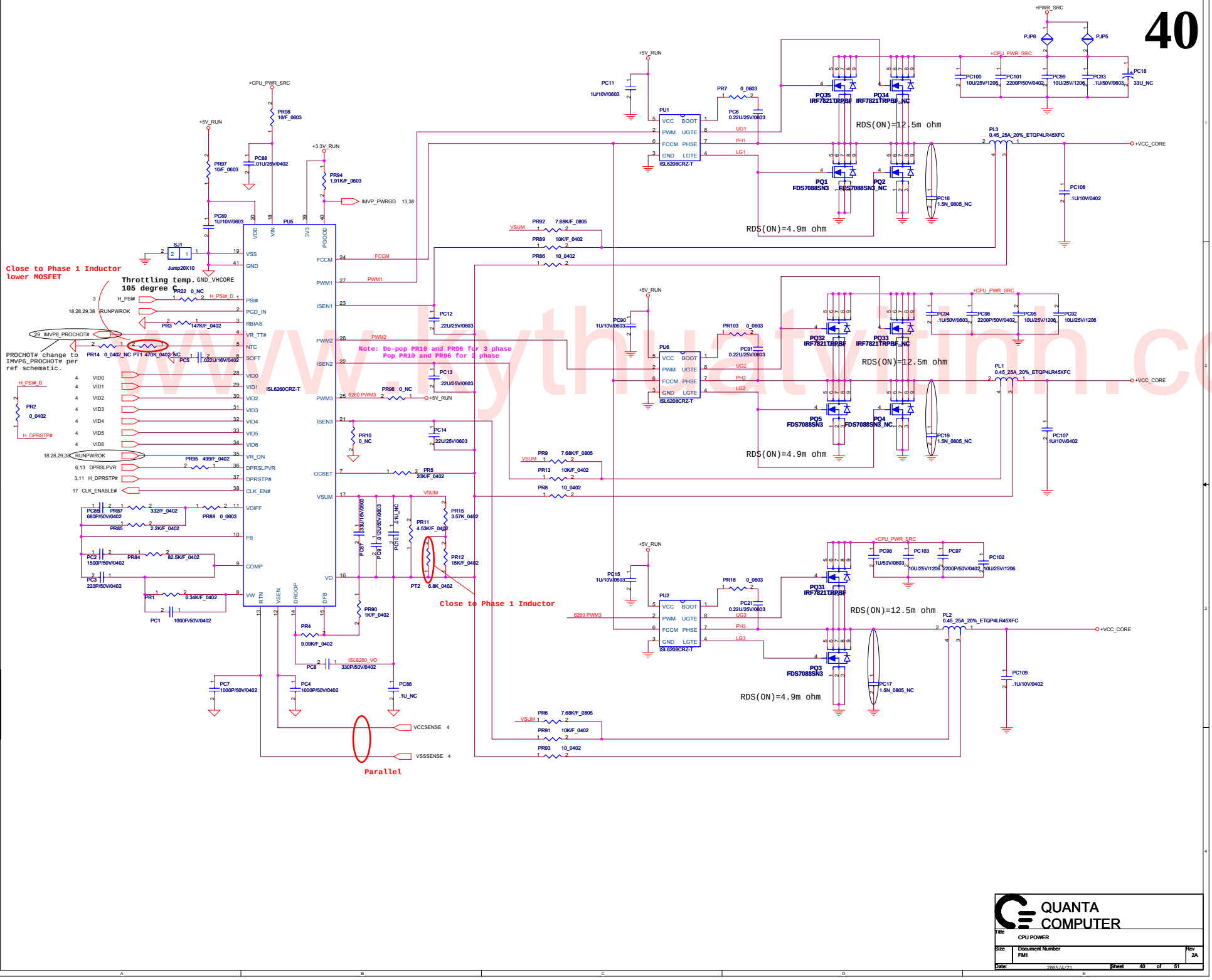
| | | |
|---|---|---|
| Title | System Reset Circuit | |
| Size | Document Number FM1 | Rev 2A |
| Date: Tuesday, September 06, 2005 | Sheet 38 of 51 | |






QUANTA COMPUTER

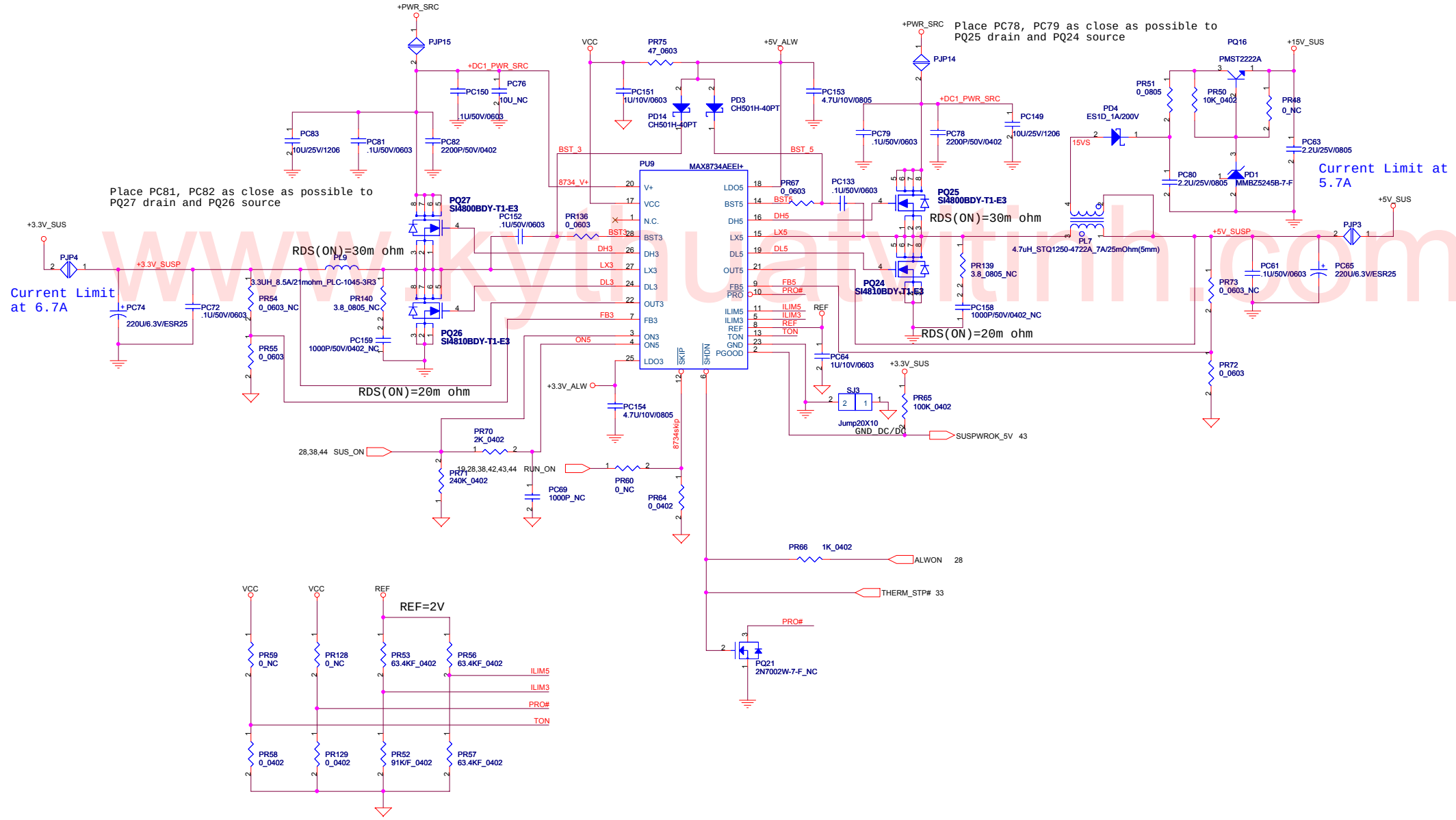
| | | |
|---|---|---|
| Title | CHARGER | |
| Size | Document Number FM1 | Rev 2A |
| Date: 2005/4/21 | Sheet 39 of 51 | |






QUANTA COMPUTER

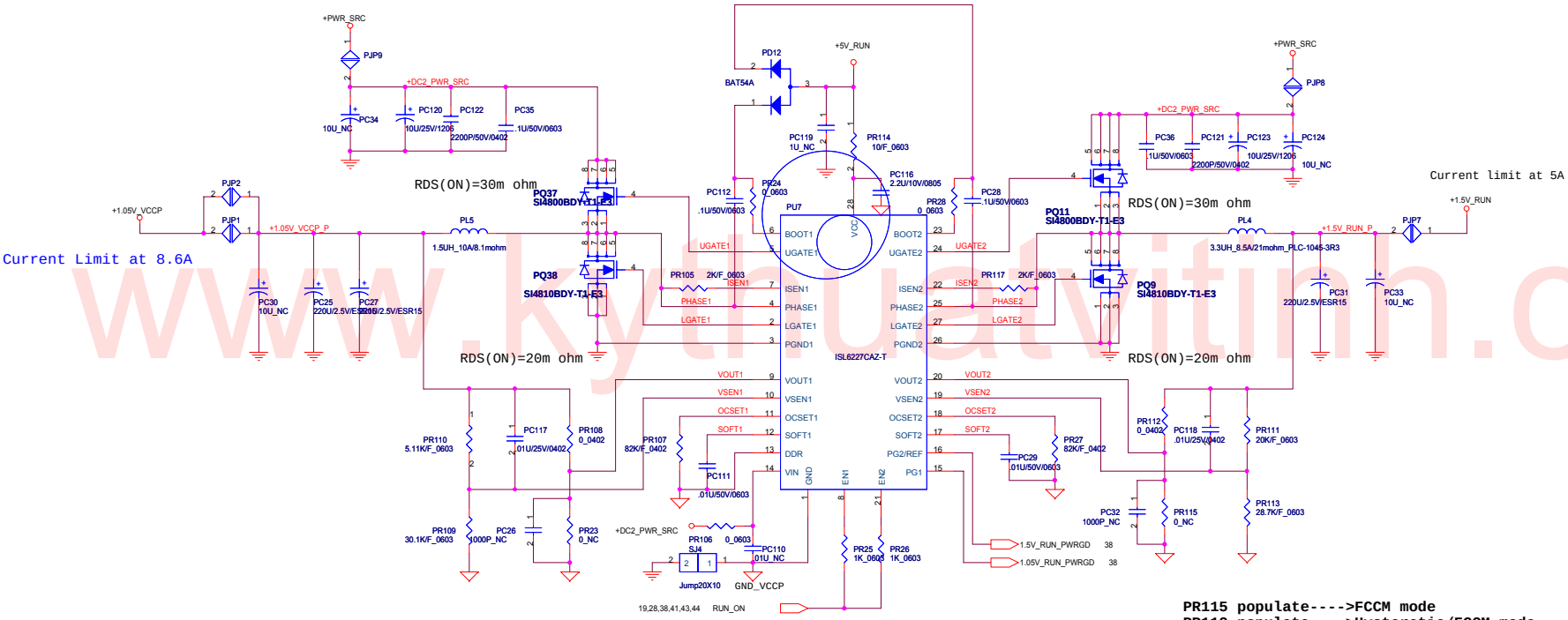
| | | |
|---|---|---|
| Title | CPU POWER | |
| Size | Document Number FM1 | Rev 2A |
| Date: 2005/4/21 | Sheet 40 of 51 | |






QUANTA COMPUTER

| | | |
|---|---|---|
| Title | 3VALW,5VALW,5V,3V | |
| Size | Document Number FM1 | Rev 2A |
| Date: 2005/4/21 | Sheet 41 of 51 | |



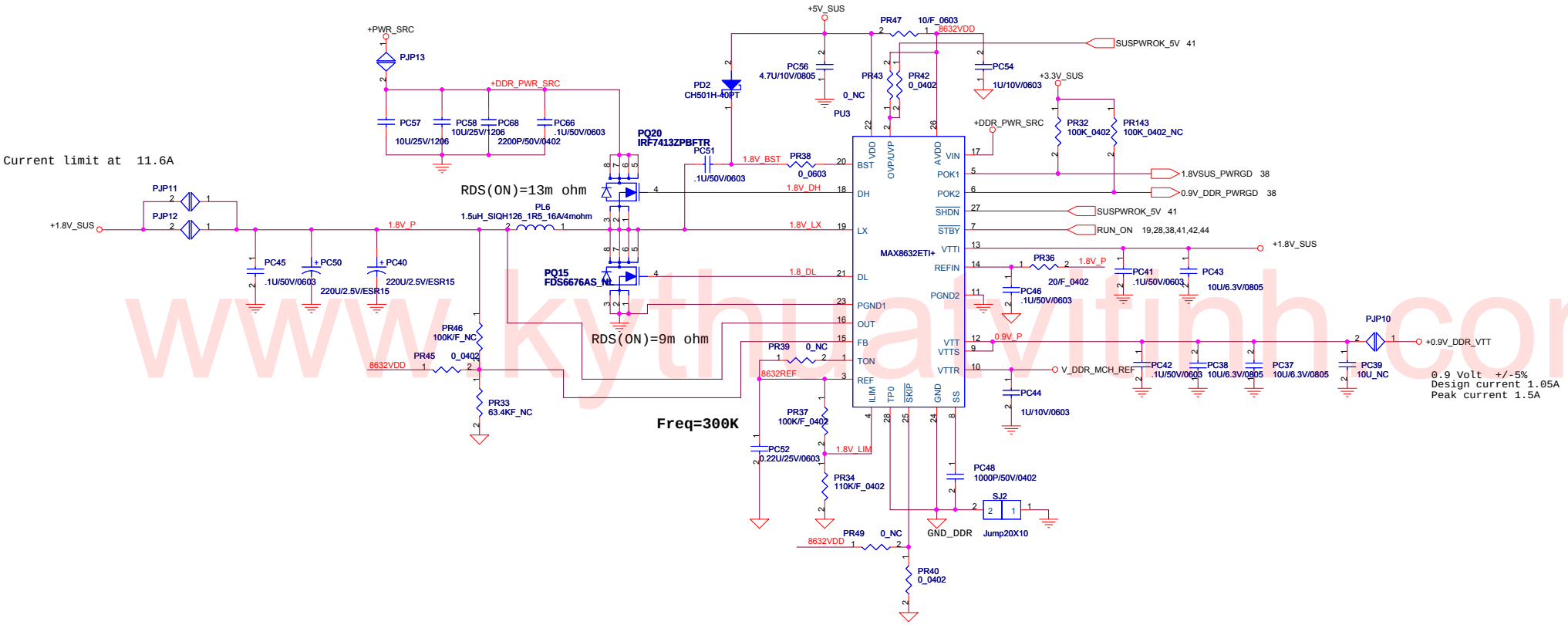

**PR23 populate---->FCCM mode**
**PR108 populate---->Hysteretic/FCCM mode.**

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



QUANTA COMPUTER

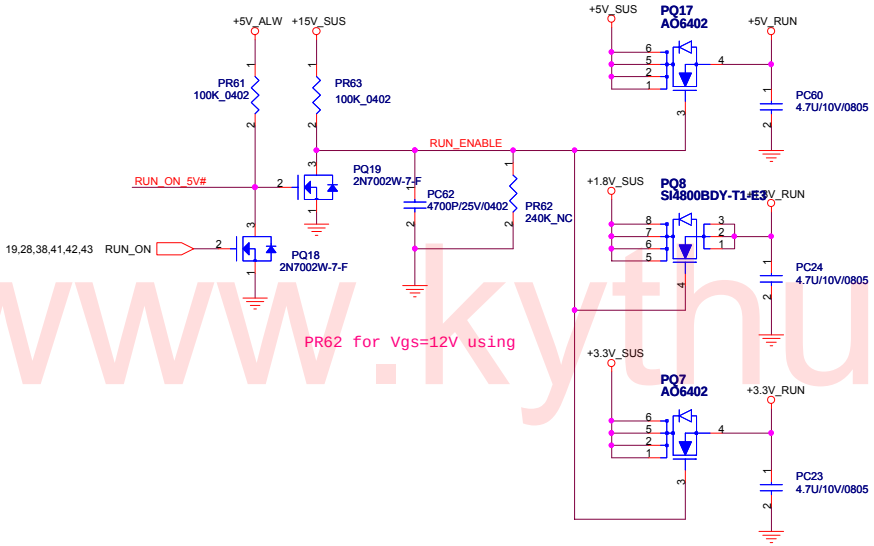
| | | |
|---|---|---|
| Title | VCCP | |
| Size | Document Number FM1 | Rev 2A |
| Date: 2005/4/21 | Sheet 42 of 51 | |

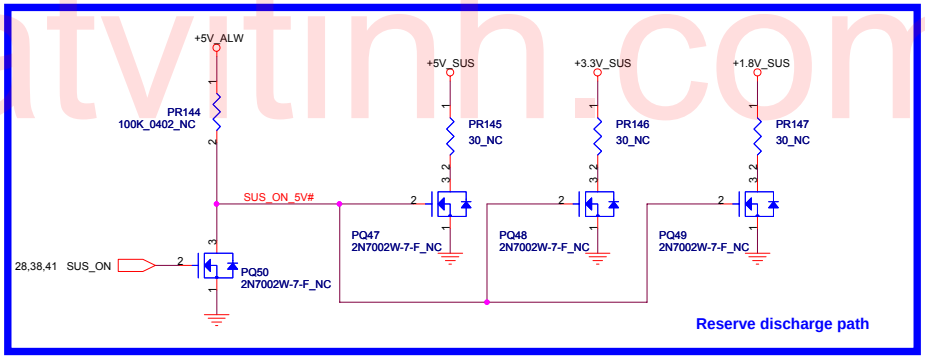


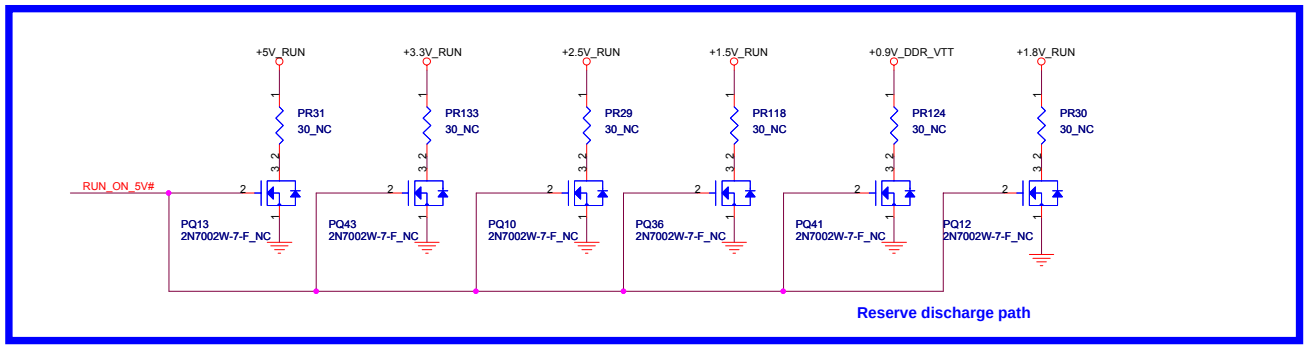



QUANTA COMPUTER

| | | |
|---|---|---|
| Title | DDR II | |
| Size | Document Number FM1 | Rev 2A |
| Date: 2005/4/21 | Sheet 43 of 51 | |



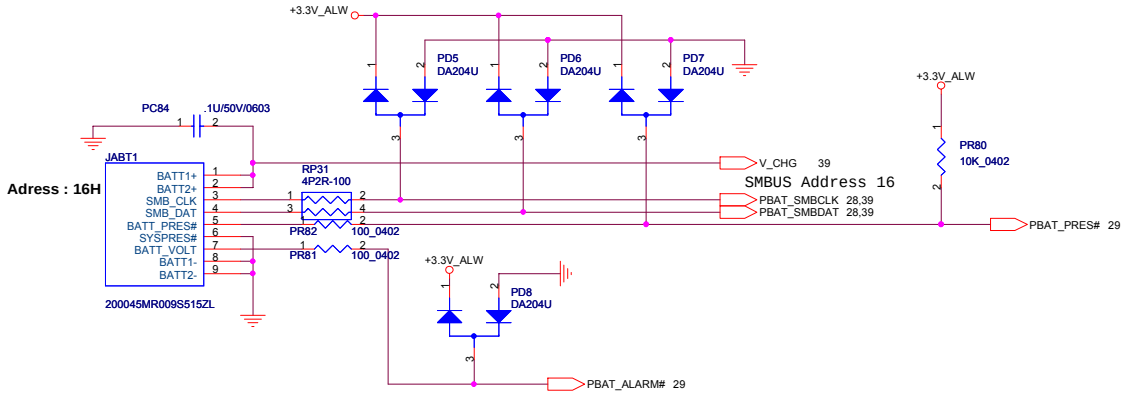



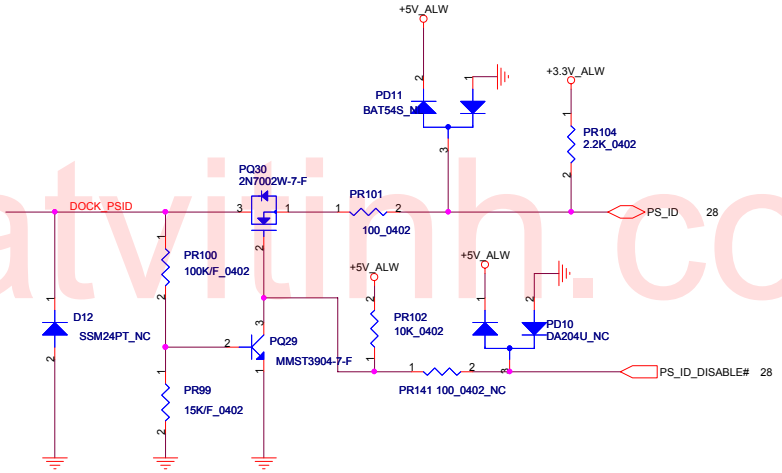



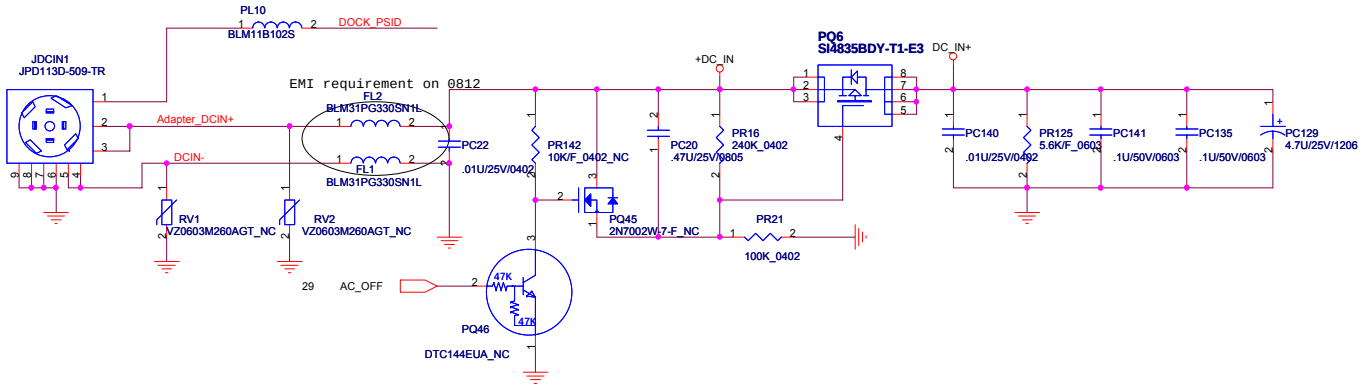



QUANTA COMPUTER

| | | |
|---|---|---|
| Title | RUN POWER SW | |
| Size | Document Number FM1 | Rev 2A |
| Date: 2005/4/21 | Sheet 44 of 51 | |






QUANTA COMPUTER

| | | |
|---|---|---|
| Title | DCIN,BATT CONNECTOR | |
| Size | Document Number FM1 | Rev 2A |
| Date: 2005/4/21 | Sheet 45 of 51 | |