

FM7 Hepburn Intel Discrete GFX

VER : D3B

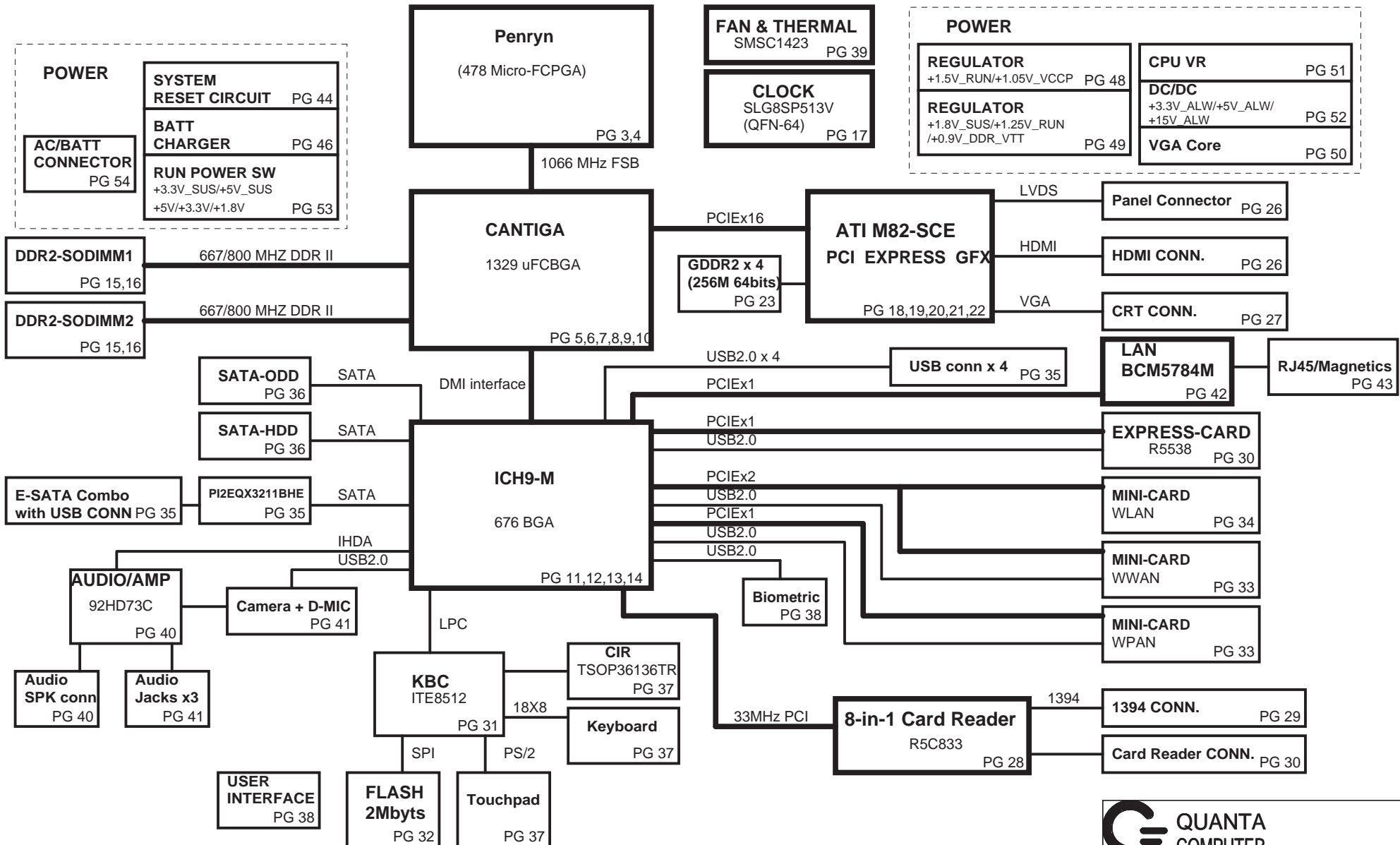










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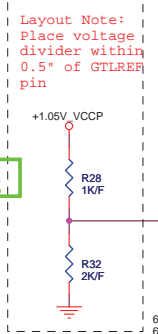
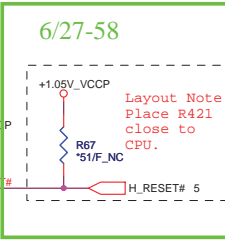
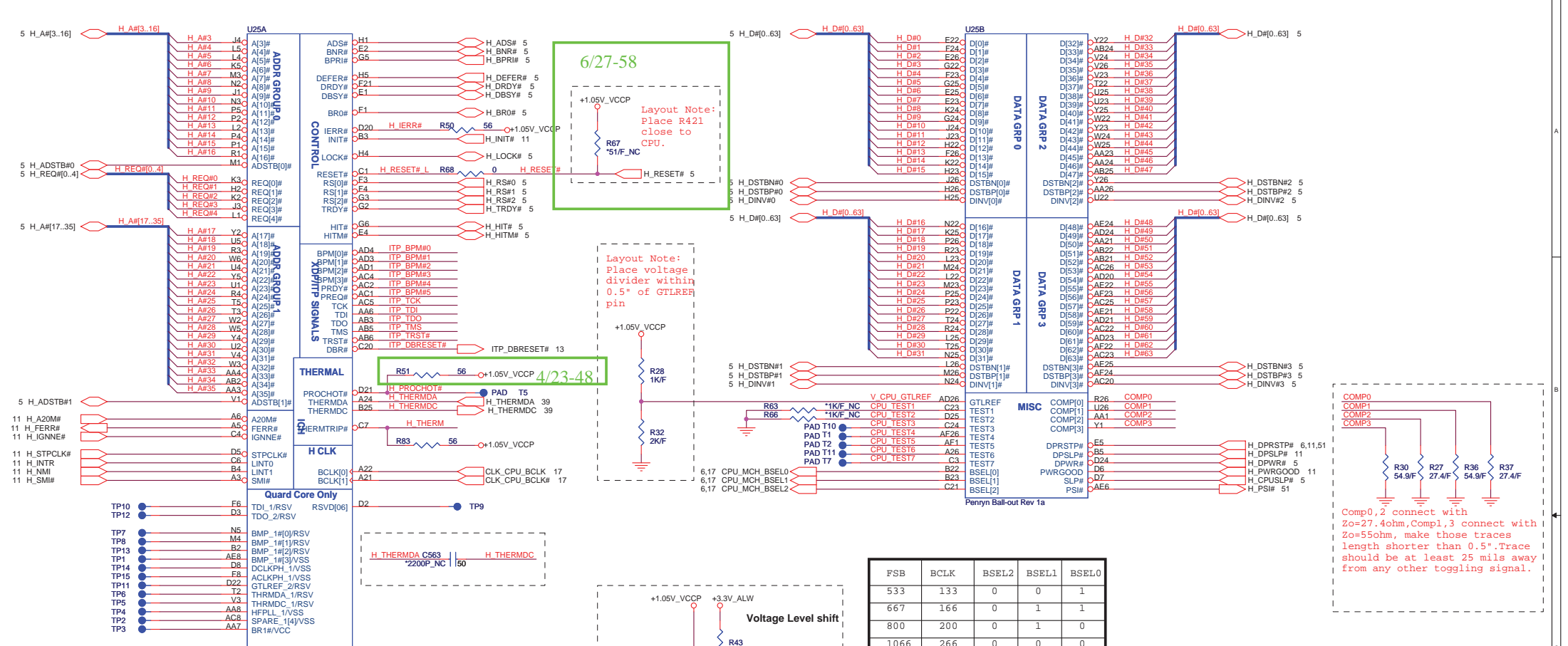
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| 58 | Power Block Diagram |

Power States

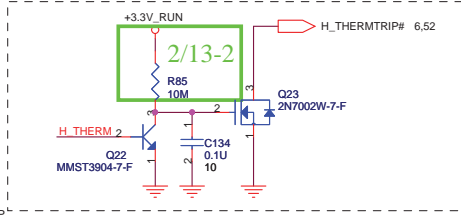
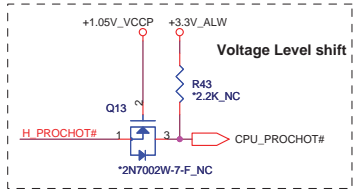
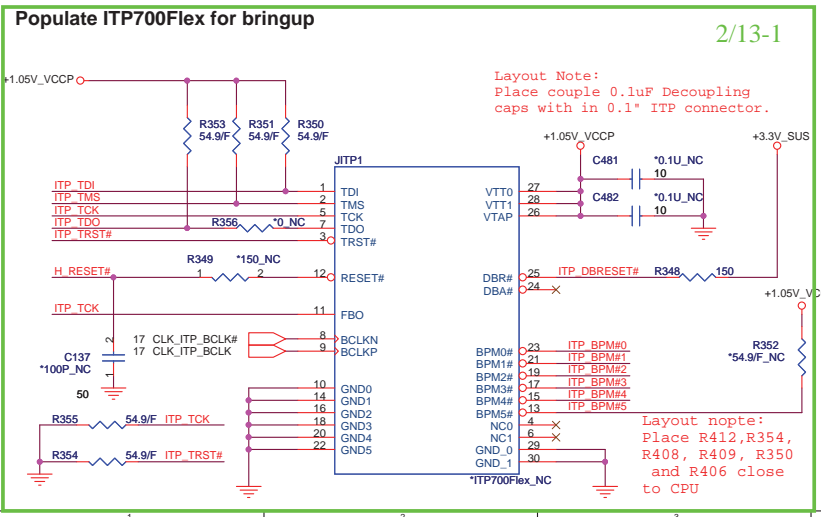
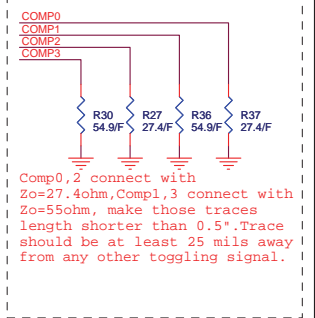
| POWER PLANE | VOLTAGE | PAGE | DESCRIPTION | CONTROL SIGNAL | ACTIVE IN |
|----------------|--------------|---|--------------------------|-----------------------|-----------|
| +PWR_SRC | 10V~+19V | 4,26,32,34,46,48,49,50,51,52,56 | MAIN POWER | | S0-S5 |
| +RTC_CELL | +3.0V~+3.3V | 11,14,31,32 | RTC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

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

| | | |
|---|----------------------|---------|
|  | | |
| Title: Index & Power Status | | |
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| FSB | BCLK | BSEL2 | BSEL1 | BSEL0 |
|------|------|-------|-------|-------|
| 533 | 133 | 0 | 0 | 1 |
| 667 | 166 | 0 | 1 | 1 |
| 800 | 200 | 0 | 1 | 0 |
| 1066 | 266 | 0 | 0 | 0 |



ITP disable guidelines

| Signal | Resistor Value | Connect To | Resistor Placement |
|--------|----------------|------------|------------------------|
| TDI | 150 ohm +/- 5% | VIT | Within 2.0" of the ITP |
| TMS | 39 ohm +/- 5% | VIT | Within 2.0" of the ITP |
| TRST# | 680 ohm +/- 5% | GND | Within 2.0" of the ITP |
| TCK | 27 ohm +/- 5% | GND | Within 2.0" of the ITP |
| TDO | Open | VIT | Within 2.0" of the ITP |
| ITP_EN | R268 Depop | +3VRUN | Close to CK410M Pin8 |

QUANTA COMPUTER

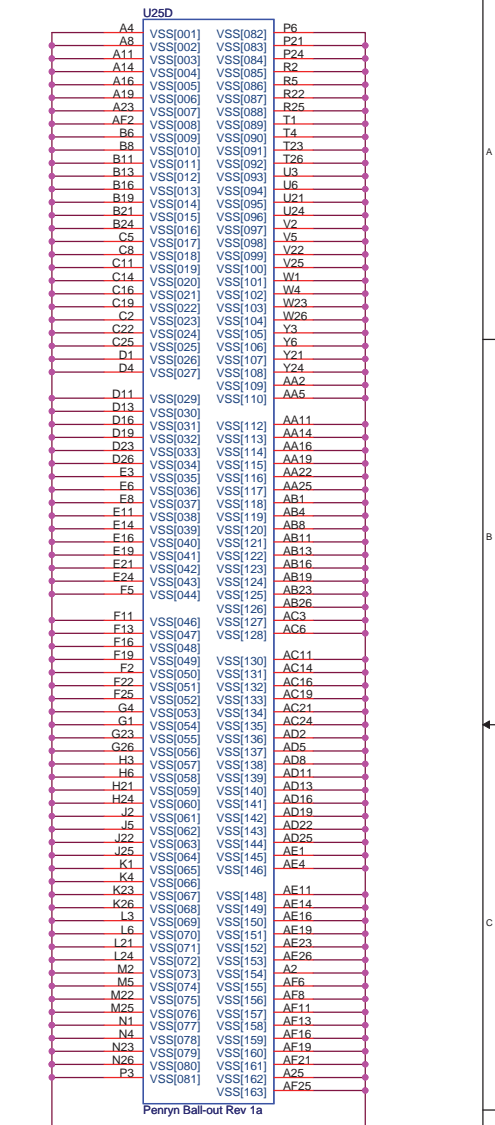
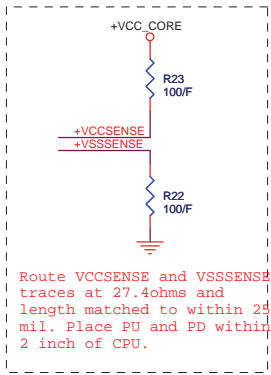
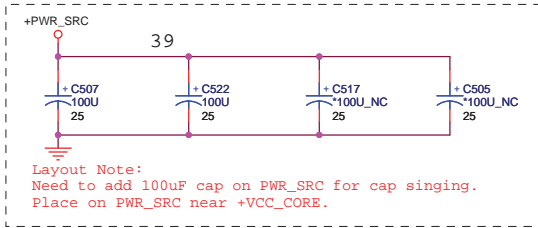
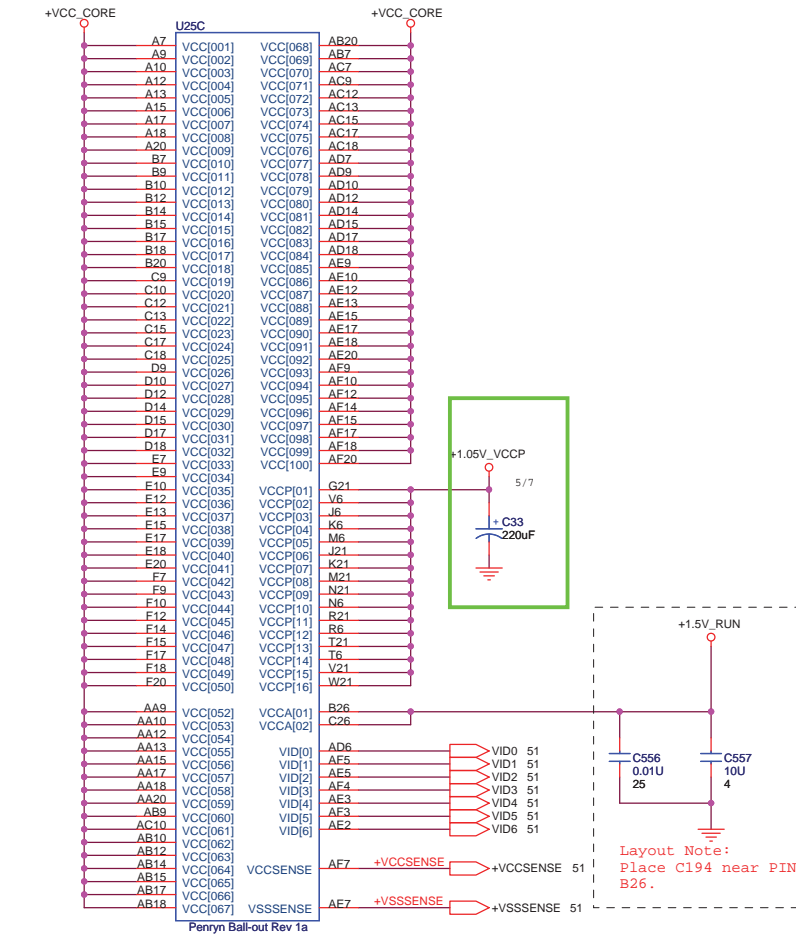
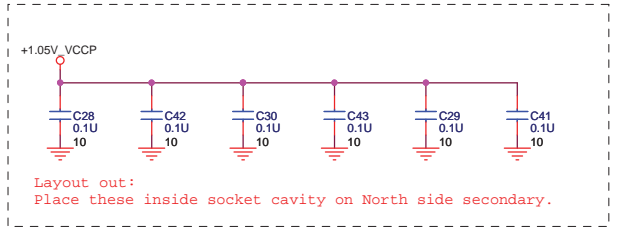
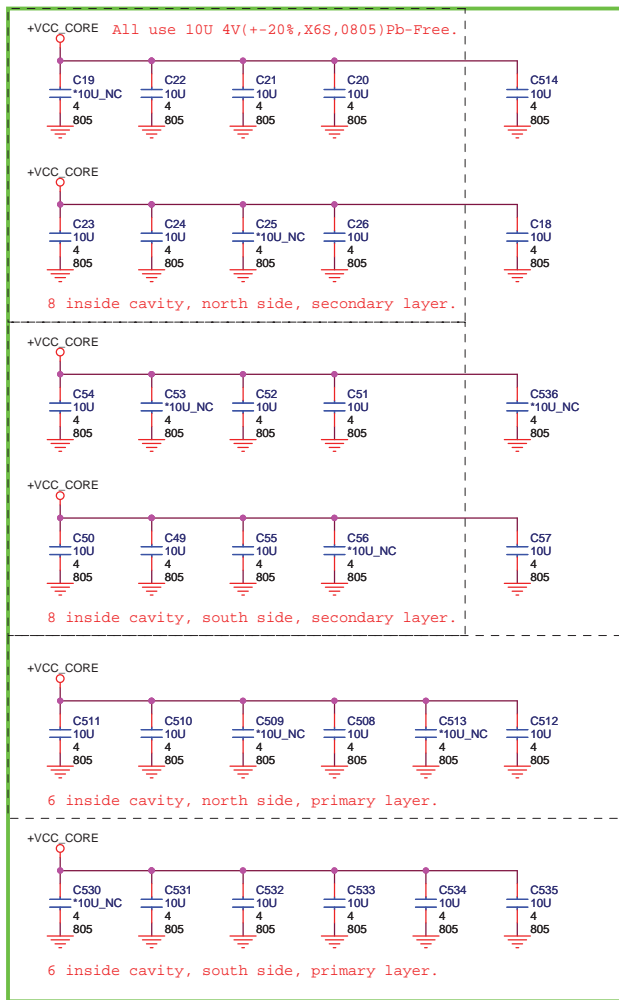
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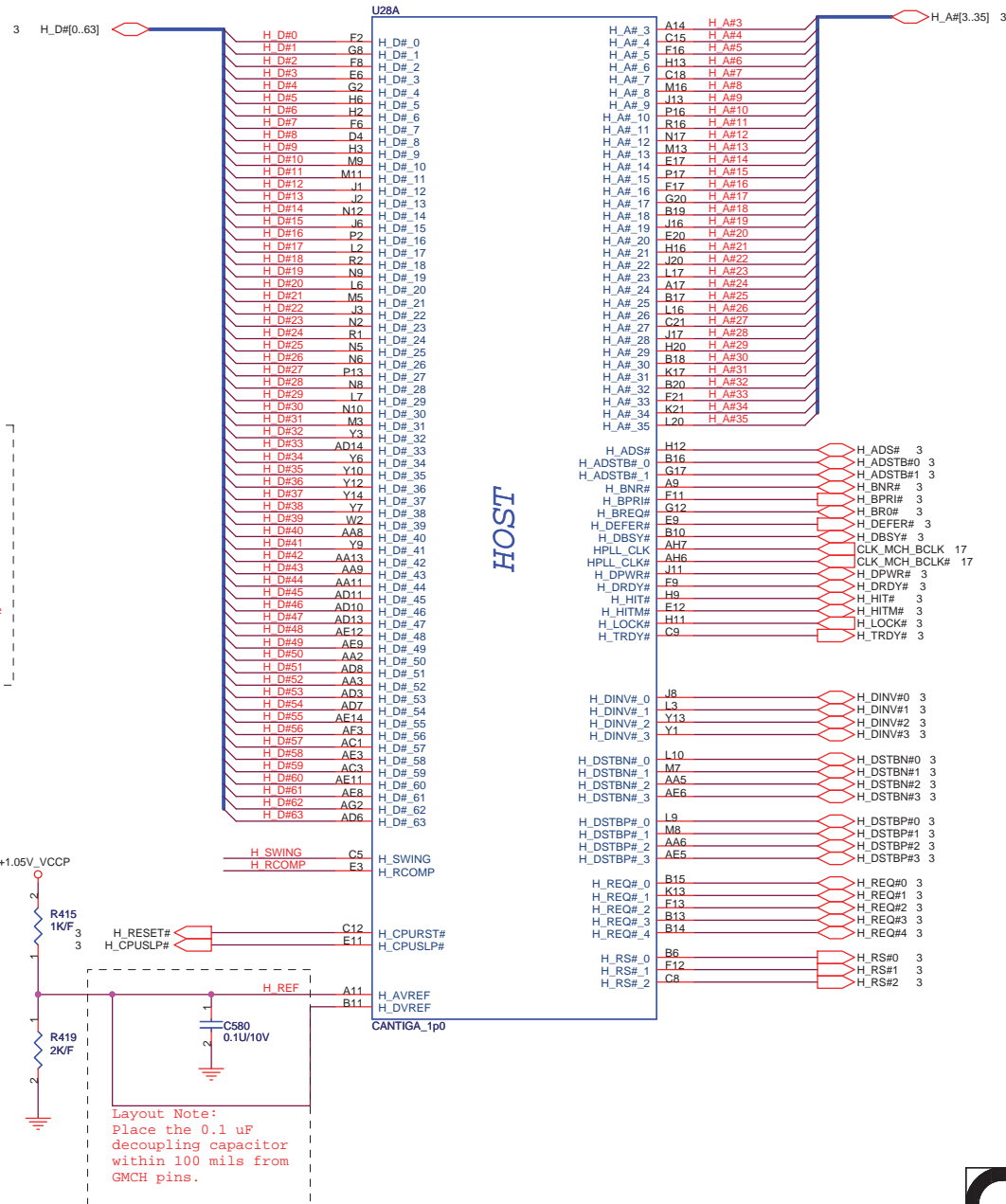
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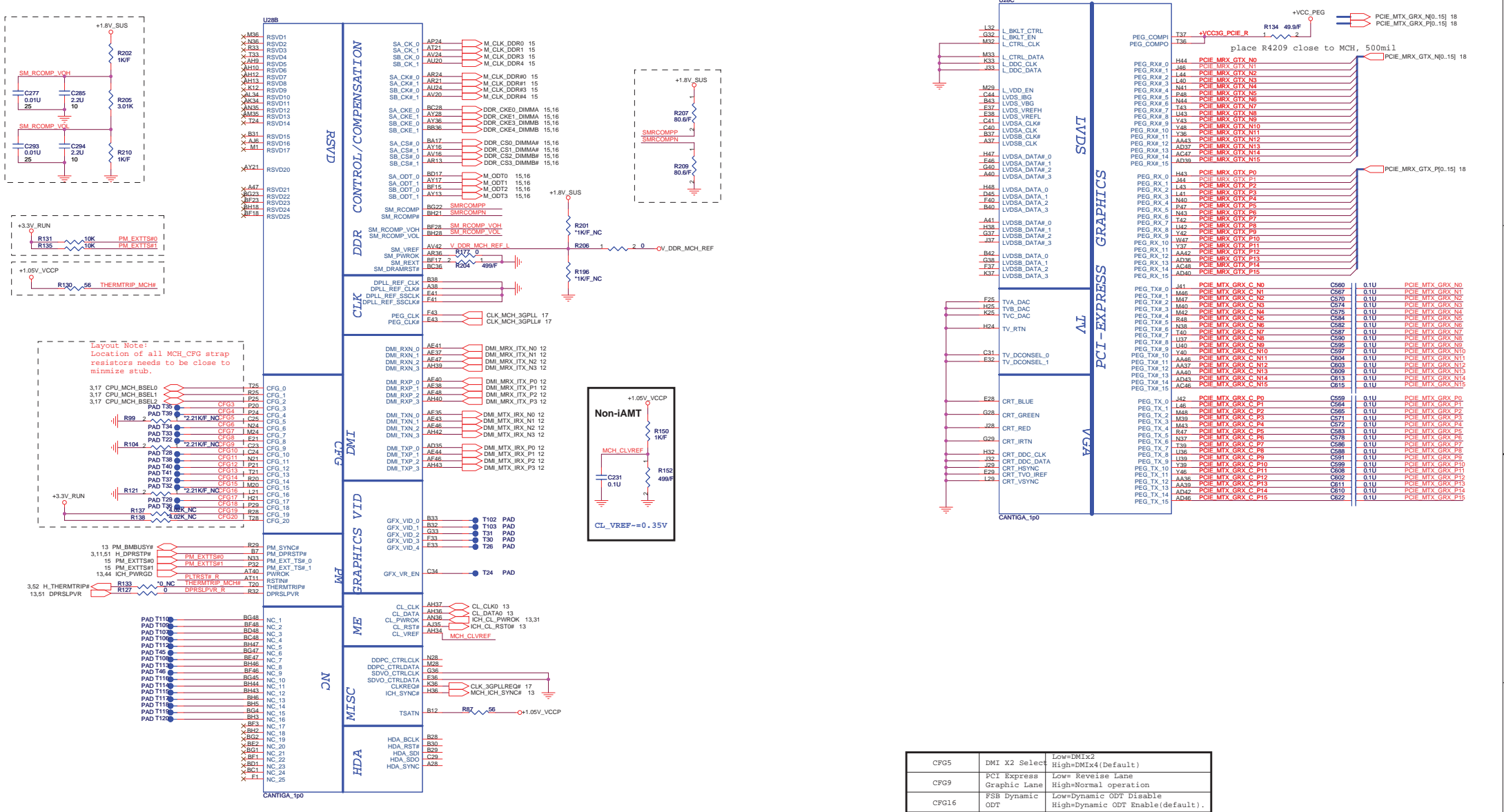




HOST



| | | |
|----------------|--------------------------|---------------|
| Title | | |
| Cantiga (HOST) | | |
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| | | |
|----------------|--------------------------------|--|
| CFG5 | DMI X2 Select | Low=DMIx2 High=DMIx4(Default) |
| CFG9 | PCI Express Graphic Lane | Low=Reverse Lane High=Normal operation |
| CFG16 | FSB Dynamic ODT | Low=Dynamic ODT Disable High=Dynamic ODT Enable(default) |
| CFG19 | DMI Lane Reversal | Low=Normal(default) High=Lane Reversed |
| CFG20 | SDVO/PCIE Concurrent Operation | Low=Only SDVO or PCIeEx1 is operational (default) High=SDVO and PCIeEx1 are operating simultaneously via PEG port |
| SDVO_CRTL_DATA | SDVO Present | Low=No SDVO Device Present (default) High=SDVO Device Present |

QUANTA COMPUTER

File: Cantiga (HOST)

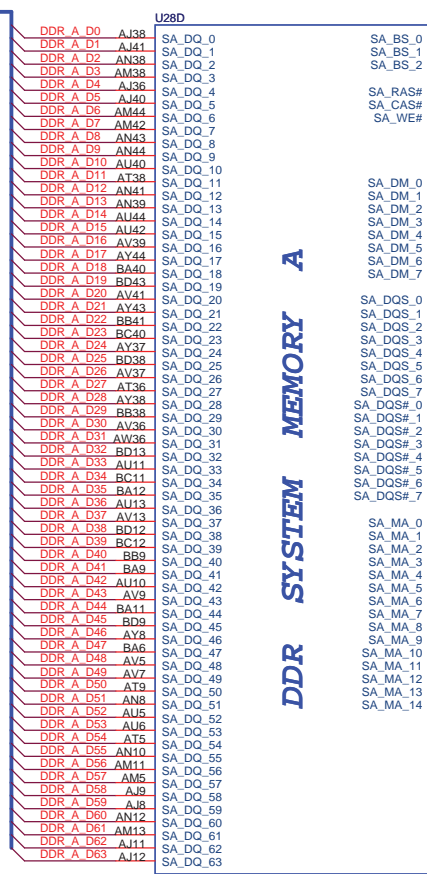
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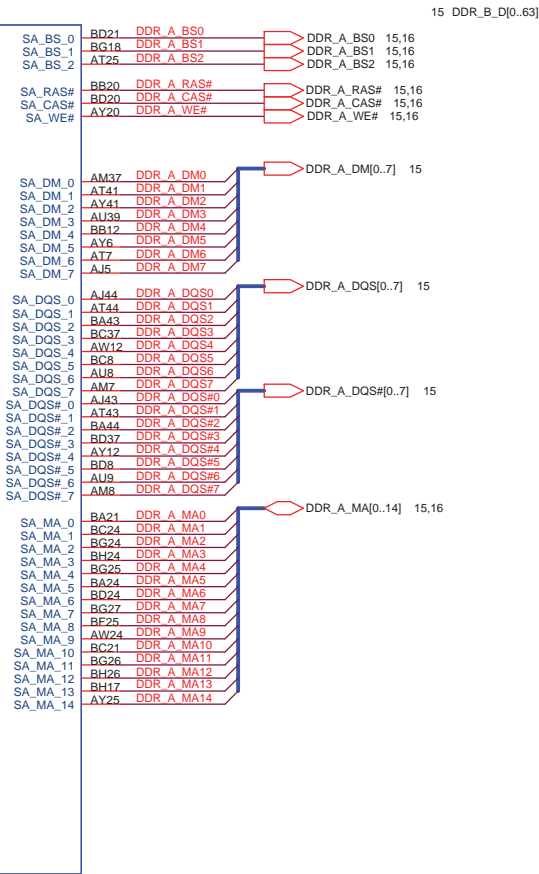
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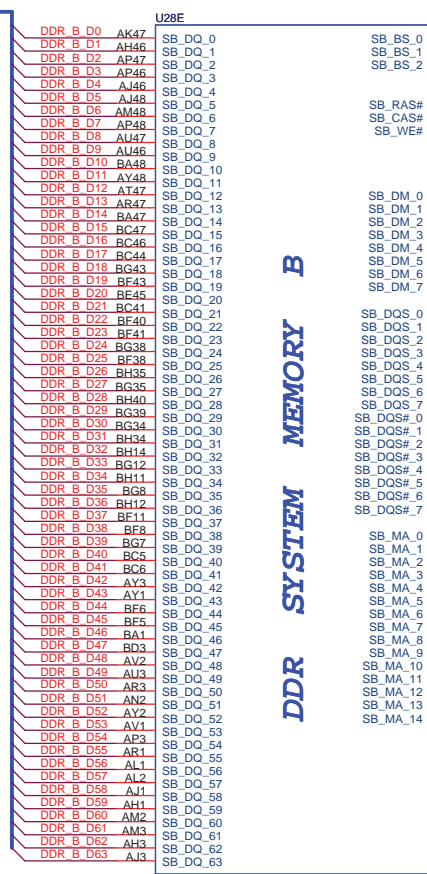
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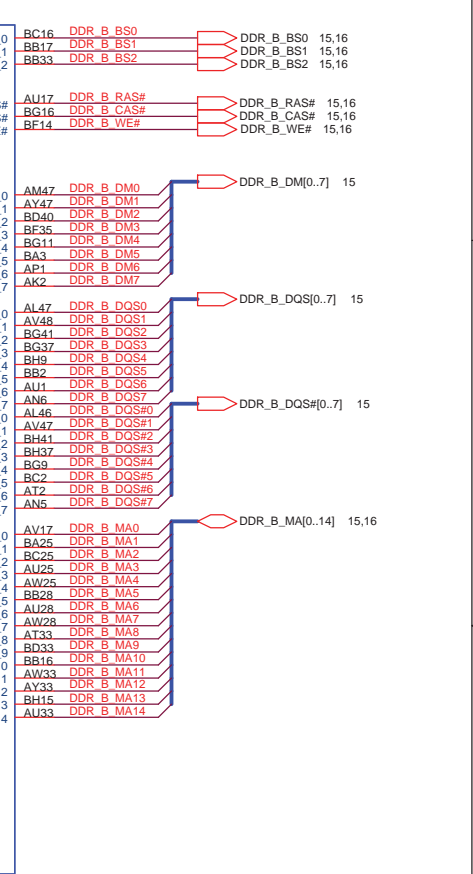
CANTIGA_1p0



15 DDR_B_D[0..63]



CANTIGA_1p0

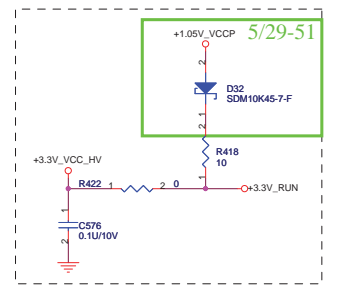
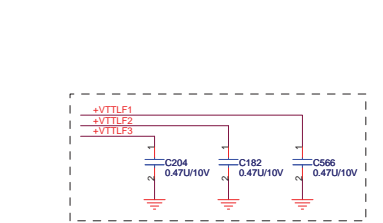
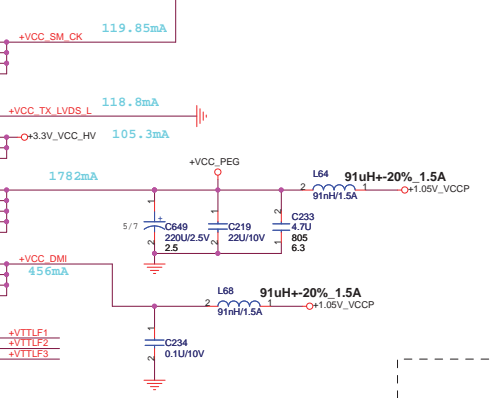
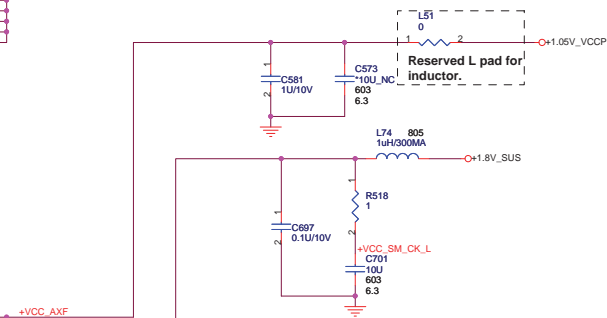
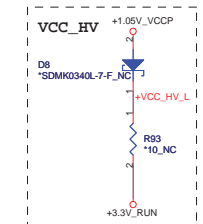
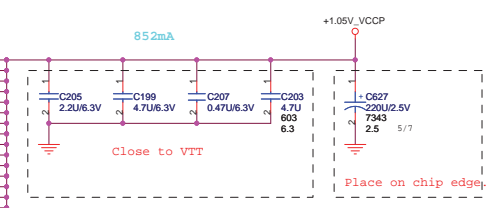
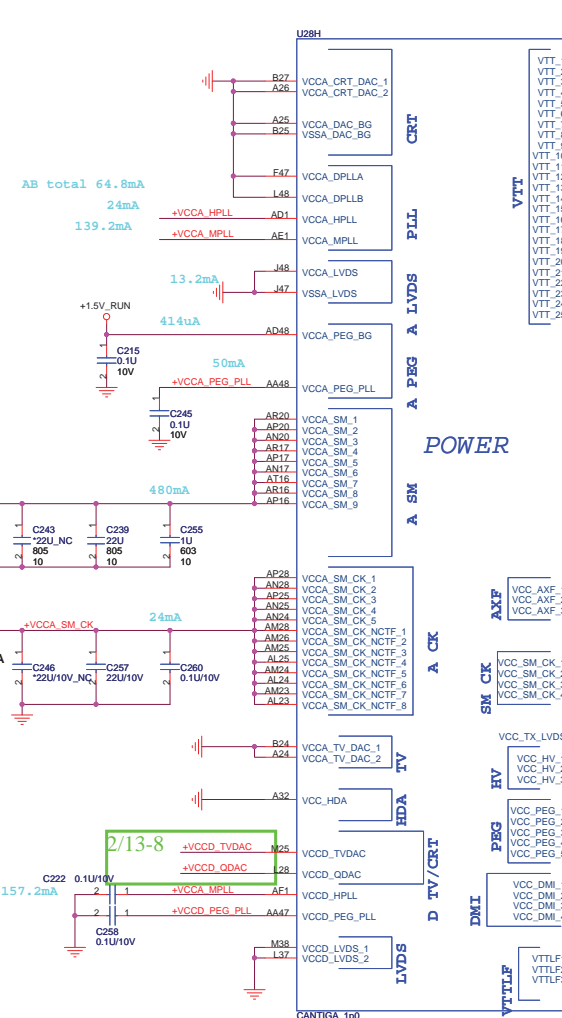
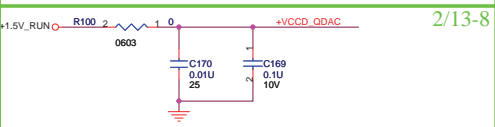
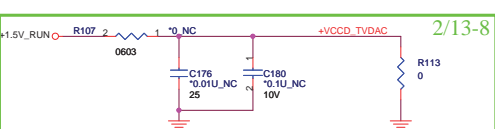
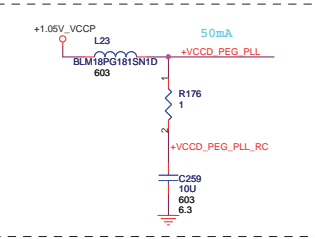
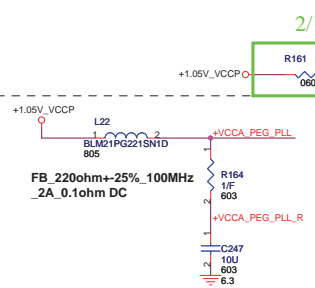
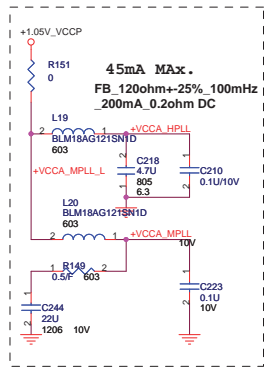


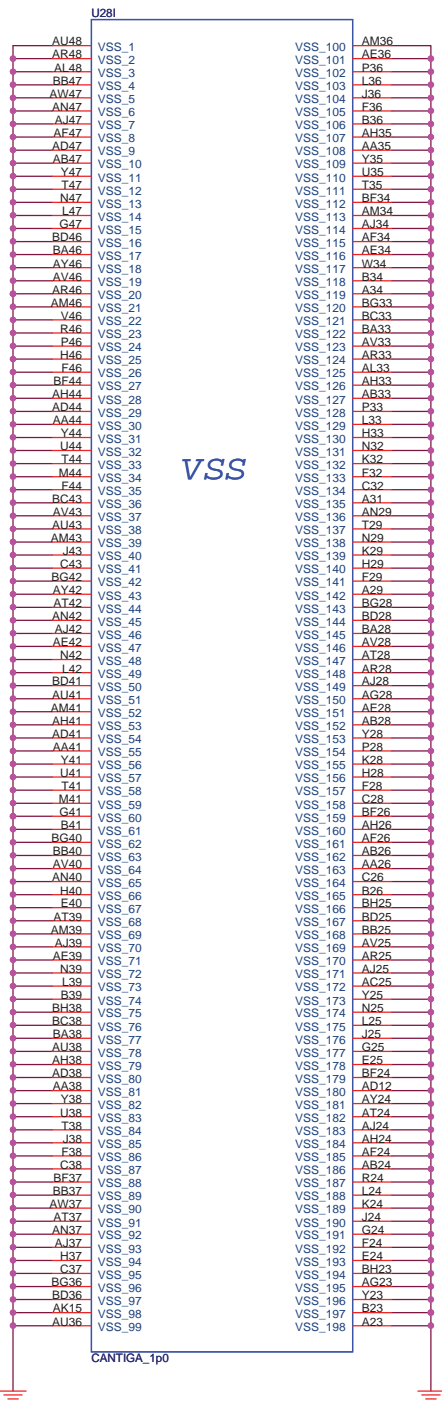
QUANTA COMPUTER

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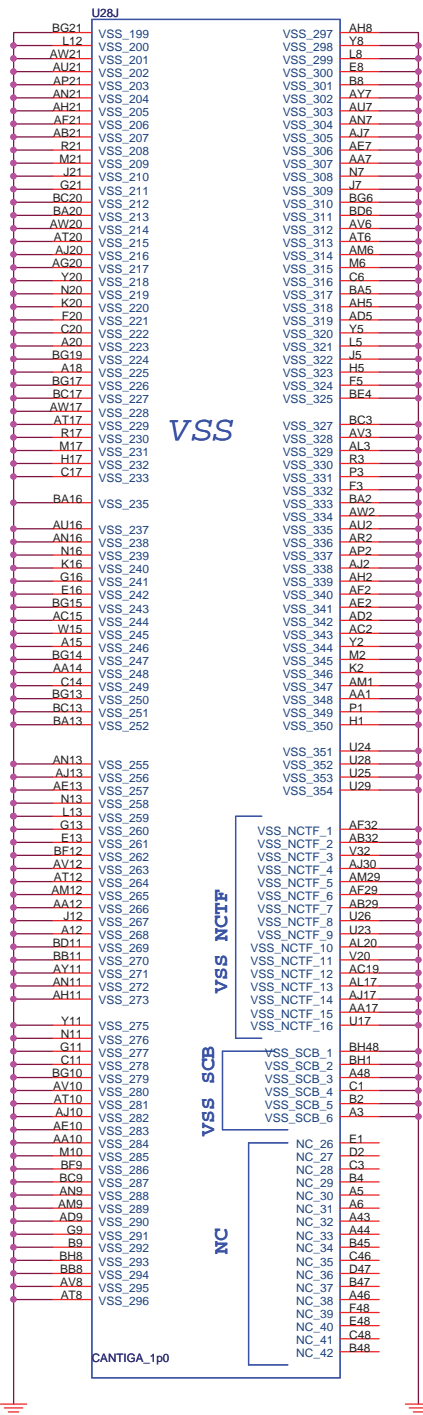
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VSS



VSS

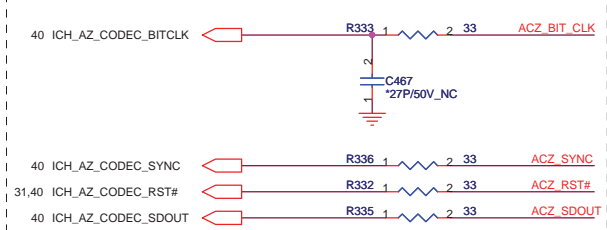
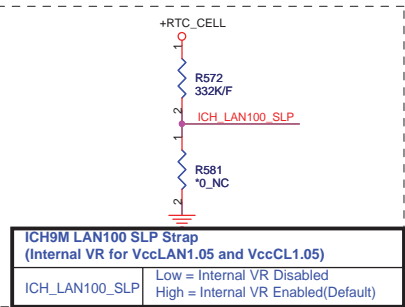
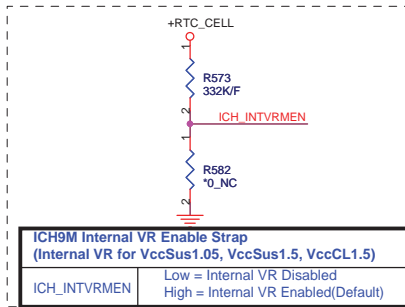
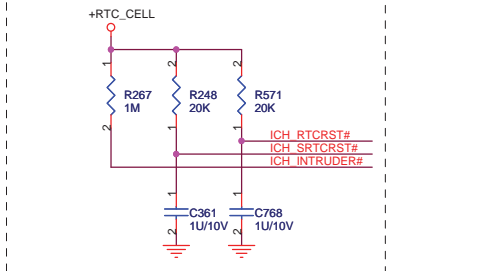
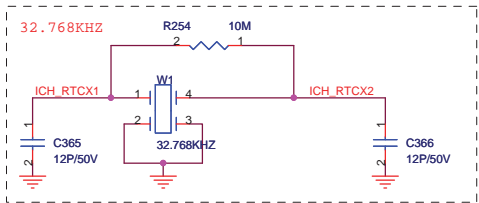
VSS NCTF

VSS SCB

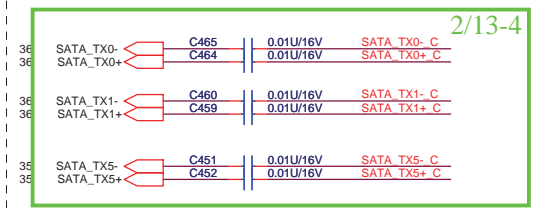
NC



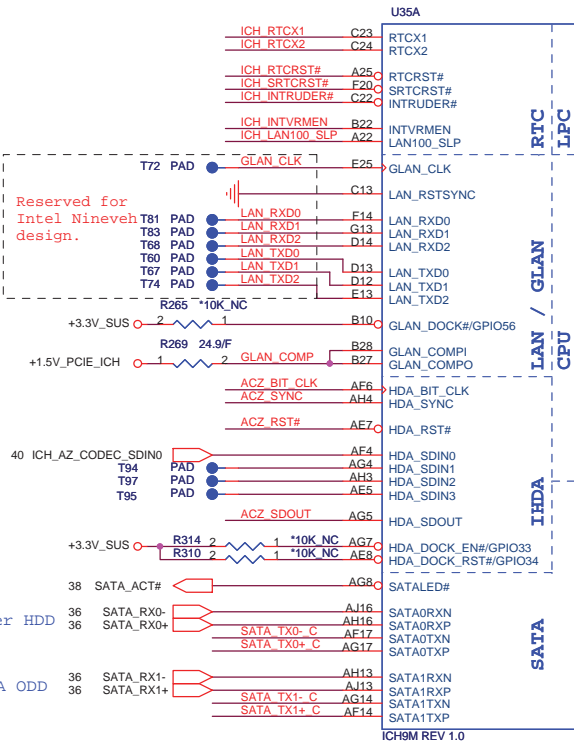
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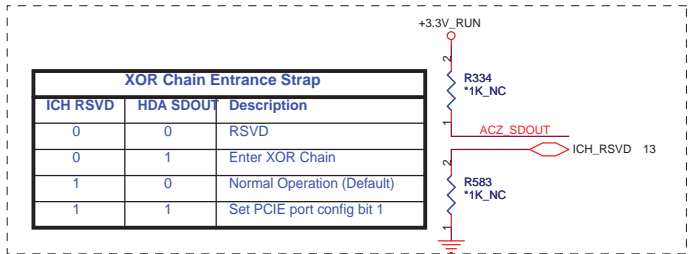
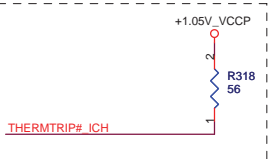
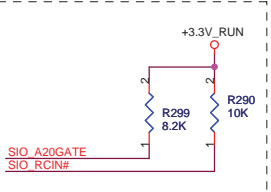
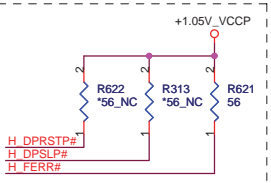
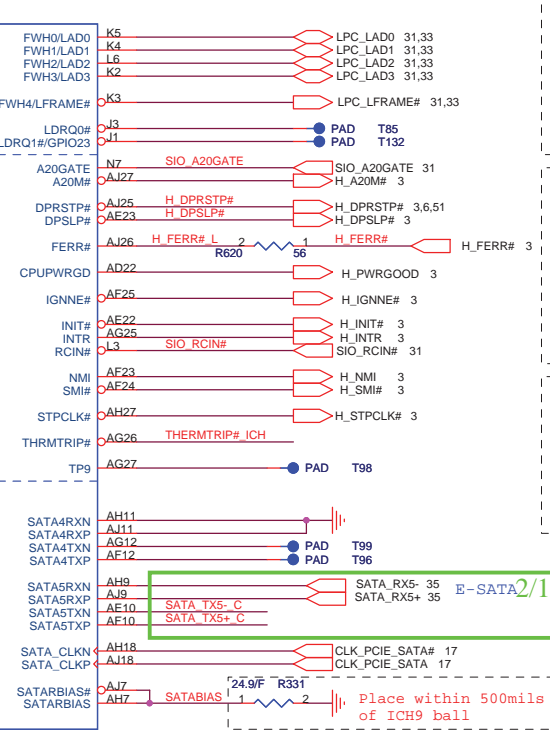
Place all series terms close to ICH9 except for SDIN input lines, which should be close to source. Placement of R603, R600, R607 & R612 should equal distance to the T split trace point as R604, R599, R606 & R608 respectively. Basically, keep the same distance from T for all series termination resistors.



Distance between the ICH-9 M and cap on the "P" signal should be identical distance between the ICH-9 M and cap on the "N" signal for same pair.

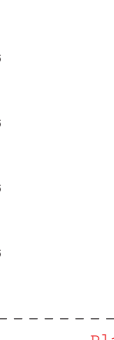
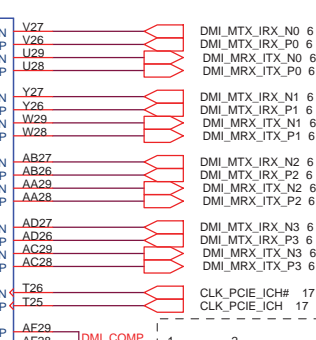
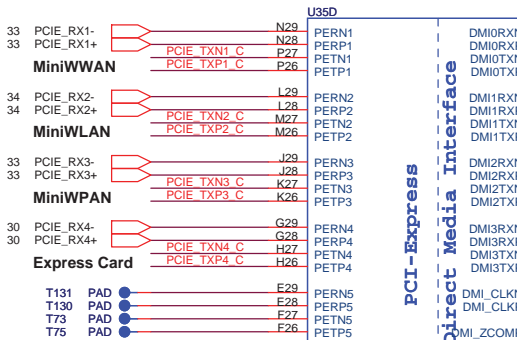
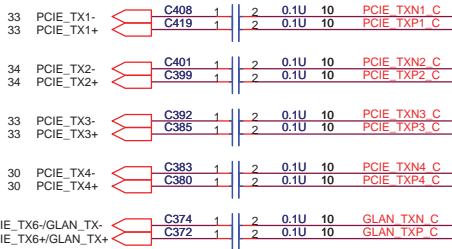


Master HDD
SATA ODD



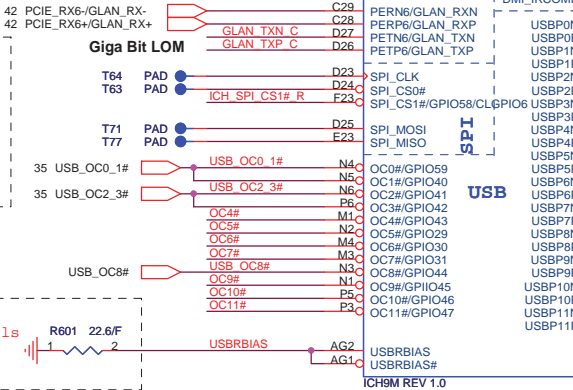
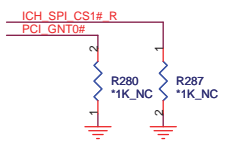
| | | |
|---|-----------------|-----------|
| Title ICH9-M (CPU,IDE,SATA,LPC,AC97,LAN) | | |
| Size FM7 | Document Number | Rev 1A |
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Place TX DC blocking caps close ICH8.

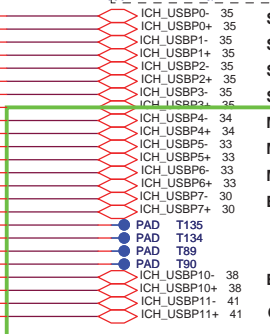


Place within 500mils of ICH8

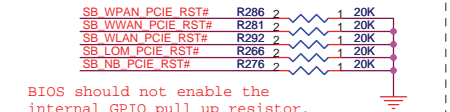
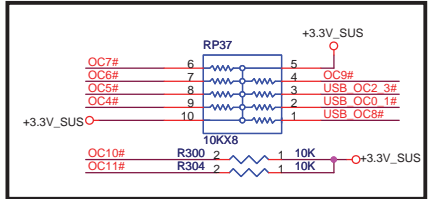
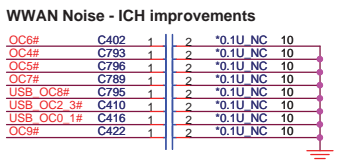
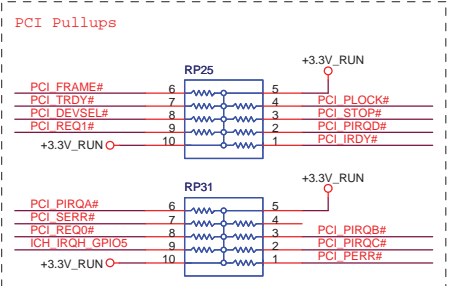
| Boot BIOS Strap | | | |
|-----------------|-----|----------|----------|
| | LPC | GNT0# | SPI_CS1# |
| PCI | 11 | No stuff | No stuff |
| PCI | 10 | No stuff | Stuff |
| SPI | 01 | Stuff | No stuff |



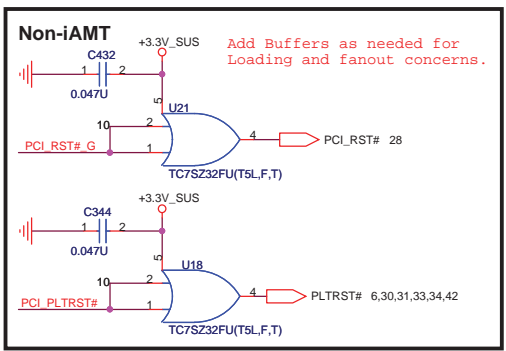
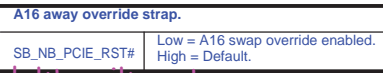
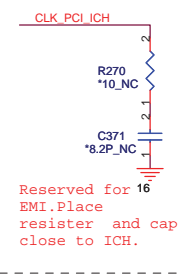
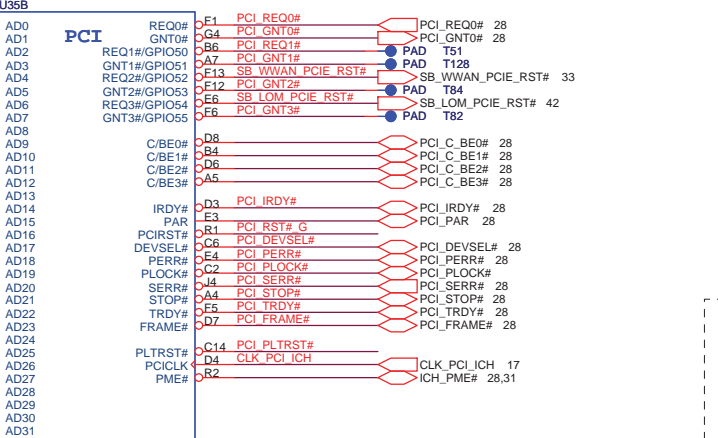
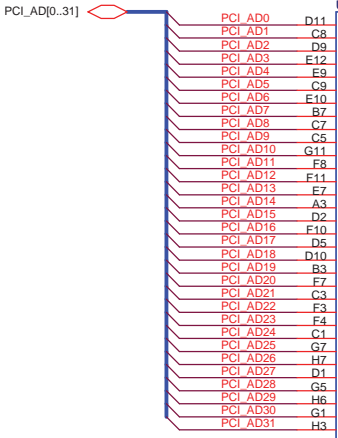
Places within 500 mils of the ICH9



- Side pair Top / left
- Side pair bottom / left
- Side pair top/right(DB)
- Side pair Bot right(DB)
- Mini Card (WLAN)
- Mini Card (WWAN)
- Mini Card (WLAN)
- Express Card
- Biometric
- Camera



BIOS should not enable the internal GPIO pull up resistor.



QUANTA COMPUTER

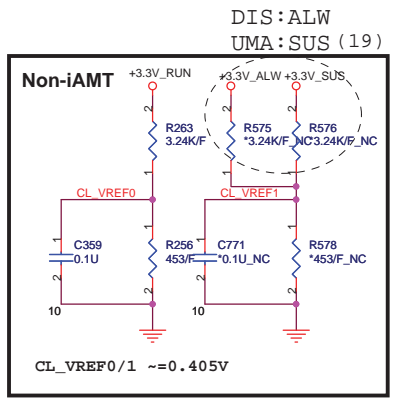
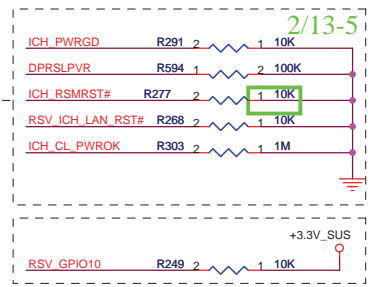
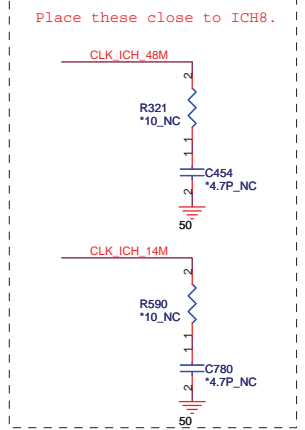
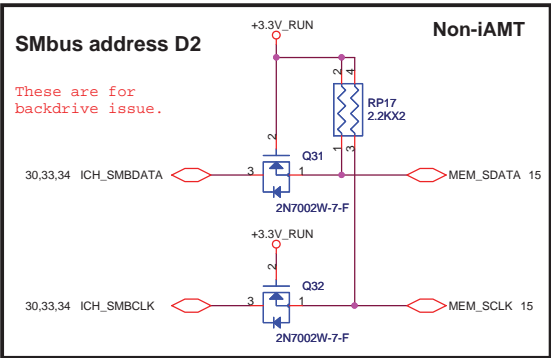
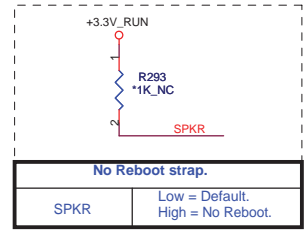
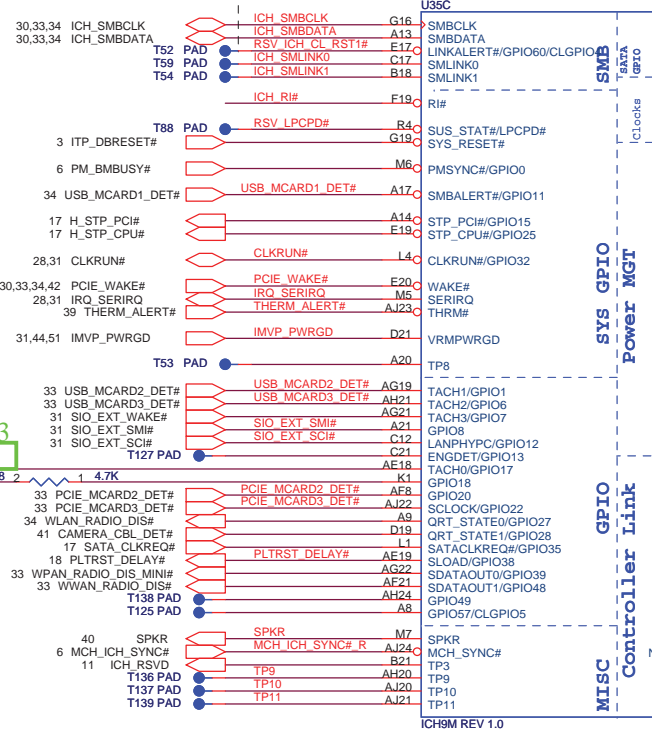
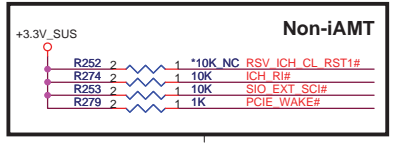
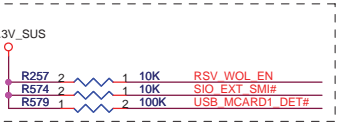
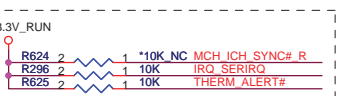
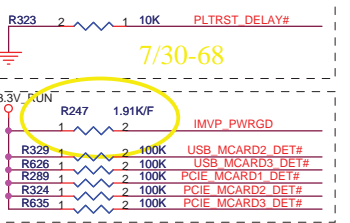
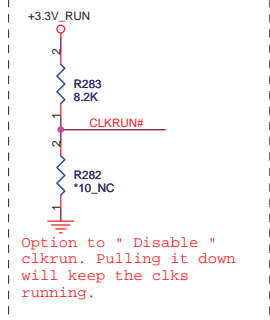
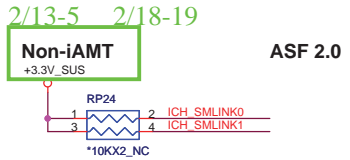
Title: ICH9-M (USB,DMI,PCIE,PCI)

Size: Document Number FM7

Date: Wednesday, July 30, 2008

Sheet: 12 of 60

Rev: 1A



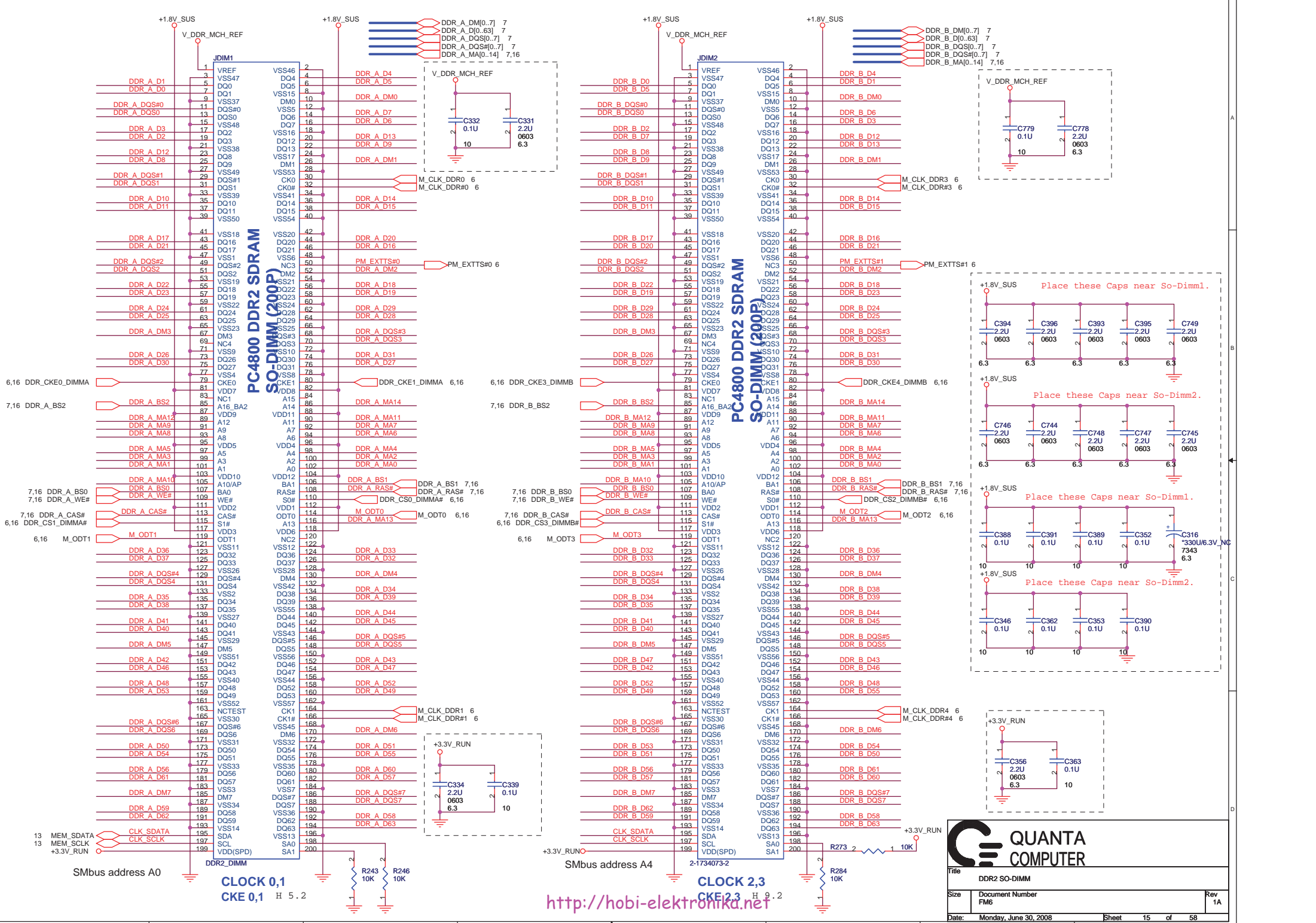
QUANTA COMPUTER

Title: ICH9-M (PM,GPIO,SMB,CL)

Size: Document Number FM7

Date: Wednesday, July 30, 2008 Sheet 13 of 60

Rev 1A



6,16 DDR_CKE0_DIMMA
7,16 DDR_A_BS2

7,16 DDR_A_BS0
7,16 DDR_A_WE#
7,16 DDR_A_CAS#
6,16 DDR_CST_DIMMA#

6,16 M_ODT1

13 MEM_SDATA
13 MEM_SCLK
+3.3V_RUN

SMbus address A0

CLOCK 0,1
CKE 0,1 H 5.2

6,16 DDR_CKE3_DIMMB
7,16 DDR_B_BS2

7,16 DDR_B_BS0
7,16 DDR_B_WE#
7,16 DDR_B_CAS#
6,16 DDR_CS3_DIMMB#

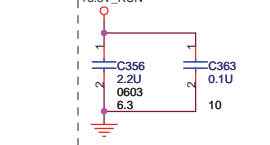
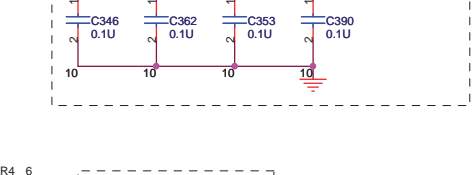
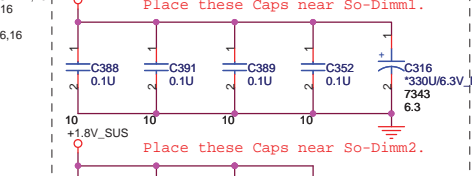
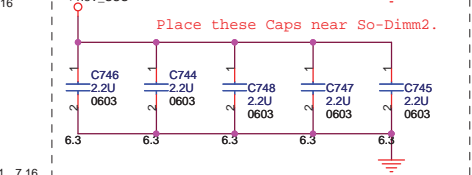
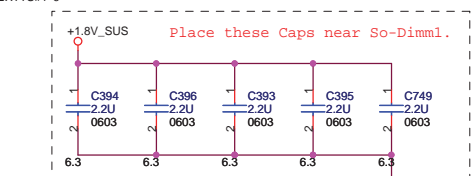
6,16 M_ODT3

+3.3V_RUN

SMbus address A4

CLOCK 2,3
CKE 2,3 H 9.2

<http://hobi-elektronika.net>

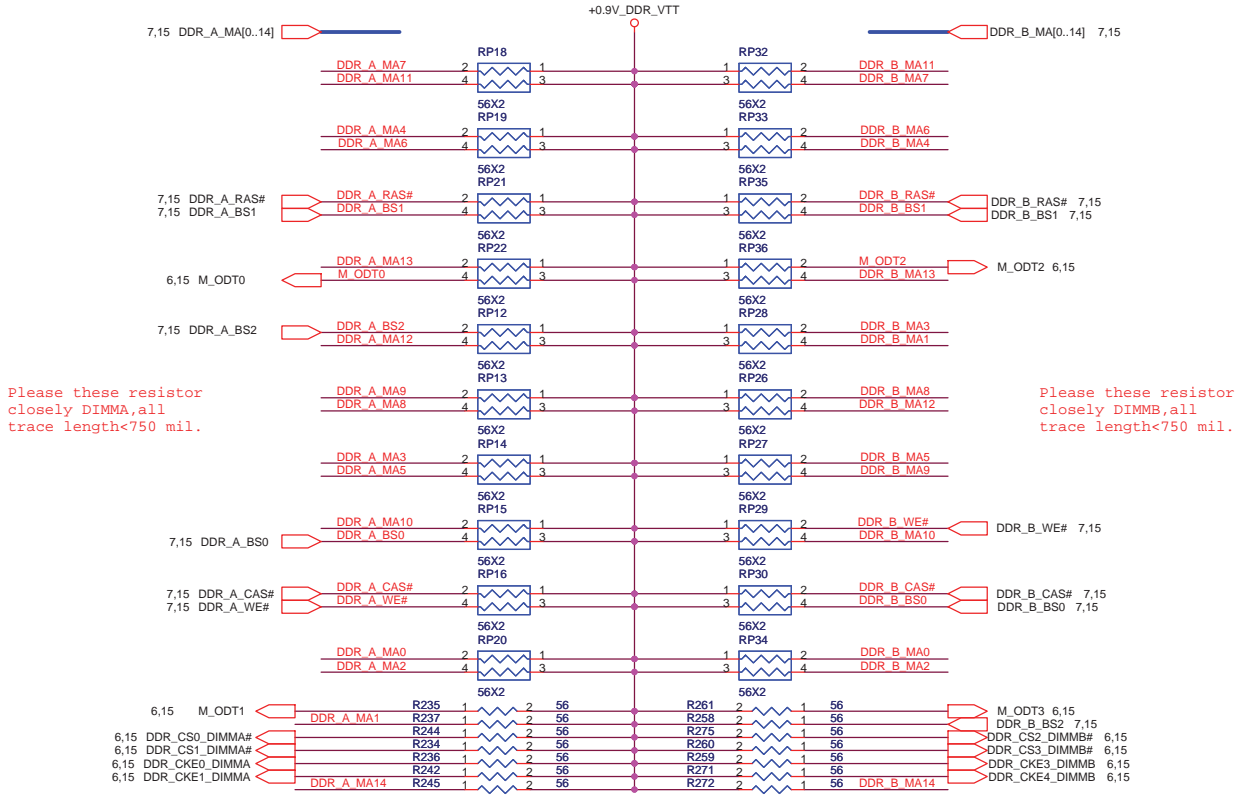
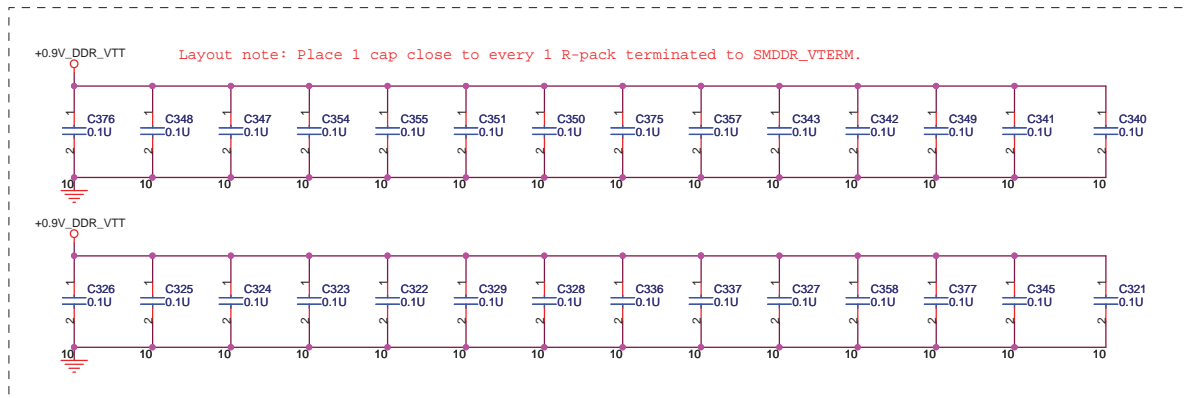


QUANTA COMPUTER

Title: DDR2 SO-DIMM

| | | |
|------|---------------------|--------|
| Size | Document Number FM6 | Rev 1A |
|------|---------------------|--------|

Date: Monday, June 30, 2008 Sheet 15 of 58



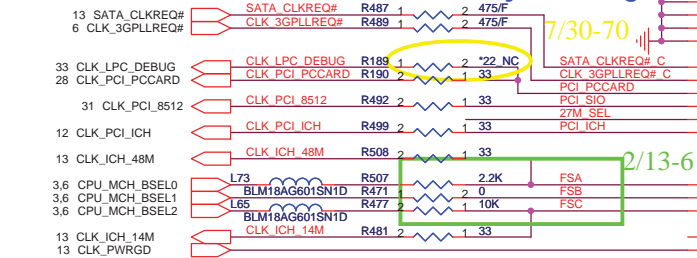
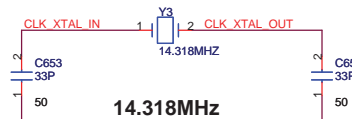
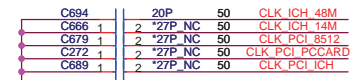
**QUANTA
COMPUTER**

Title: **DDR2 RES. ARRAY**

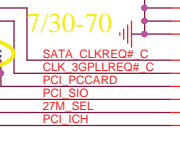
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|------|------------------------|-----------|
| Size | Document Number FM6 | Rev 1A |
|------|------------------------|-----------|

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Add capacitor pads for improving WWAN.

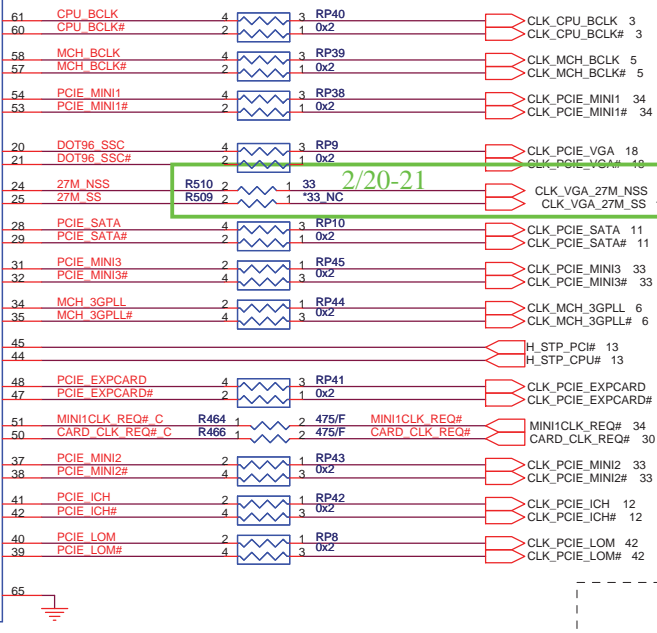
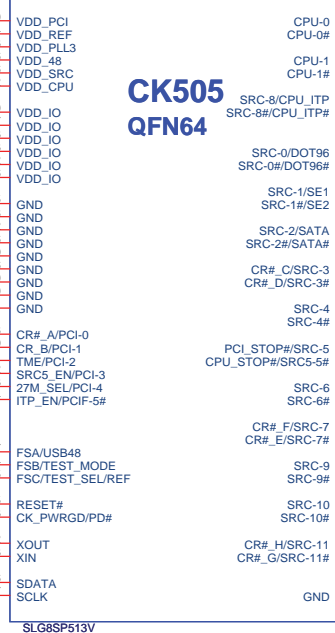


Only for debug



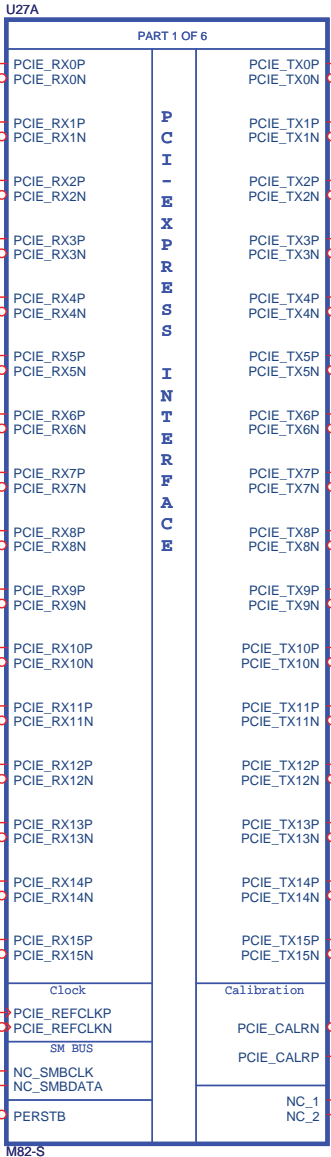
U31

CK505 QFN64



6 PCIE_MTX_GRX_P[0..15]
6 PCIE_MTX_GRX_N[0..15]

6 PCIE_MRX_GTX_P[0..15]
6 PCIE_MRX_GTX_N[0..15]



| | | | | | | |
|------------------|------|---|---|------|----|--------------------|
| PCIE_MRX_GTX_P0 | 0.1U | 2 | 1 | C83 | 10 | PCIE_MRX_GTX_C_P0 |
| PCIE_MRX_GTX_P1 | 0.1U | 2 | 1 | C80 | 10 | PCIE_MRX_GTX_C_P1 |
| PCIE_MRX_GTX_P2 | 0.1U | 2 | 1 | C88 | 10 | PCIE_MRX_GTX_C_P2 |
| PCIE_MRX_GTX_P3 | 0.1U | 2 | 1 | C84 | 10 | PCIE_MRX_GTX_C_P3 |
| PCIE_MRX_GTX_P4 | 0.1U | 2 | 1 | C90 | 10 | PCIE_MRX_GTX_C_P4 |
| PCIE_MRX_GTX_P5 | 0.1U | 2 | 1 | C89 | 10 | PCIE_MRX_GTX_C_P5 |
| PCIE_MRX_GTX_P6 | 0.1U | 2 | 1 | C107 | 10 | PCIE_MRX_GTX_C_P6 |
| PCIE_MRX_GTX_P7 | 0.1U | 2 | 1 | C95 | 10 | PCIE_MRX_GTX_C_P7 |
| PCIE_MRX_GTX_P8 | 0.1U | 2 | 1 | C116 | 10 | PCIE_MRX_GTX_C_P8 |
| PCIE_MRX_GTX_P9 | 0.1U | 2 | 1 | C108 | 10 | PCIE_MRX_GTX_C_P9 |
| PCIE_MRX_GTX_P10 | 0.1U | 2 | 1 | C128 | 10 | PCIE_MRX_GTX_C_P10 |
| PCIE_MRX_GTX_P11 | 0.1U | 2 | 1 | C120 | 10 | PCIE_MRX_GTX_C_P11 |
| PCIE_MRX_GTX_P12 | 0.1U | 2 | 1 | C150 | 10 | PCIE_MRX_GTX_C_P12 |
| PCIE_MRX_GTX_P13 | 0.1U | 2 | 1 | C130 | 10 | PCIE_MRX_GTX_C_P13 |
| PCIE_MRX_GTX_P14 | 0.1U | 2 | 1 | C157 | 10 | PCIE_MRX_GTX_C_P14 |
| PCIE_MRX_GTX_P15 | 0.1U | 2 | 1 | C151 | 10 | PCIE_MRX_GTX_C_P15 |
| PCIE_MRX_GTX_N0 | 0.1U | 2 | 1 | C81 | 10 | PCIE_MRX_GTX_C_N0 |
| PCIE_MRX_GTX_N1 | 0.1U | 2 | 1 | C82 | 10 | PCIE_MRX_GTX_C_N1 |
| PCIE_MRX_GTX_N2 | 0.1U | 2 | 1 | C86 | 10 | PCIE_MRX_GTX_C_N2 |
| PCIE_MRX_GTX_N3 | 0.1U | 2 | 1 | C87 | 10 | PCIE_MRX_GTX_C_N3 |
| PCIE_MRX_GTX_N4 | 0.1U | 2 | 1 | C94 | 10 | PCIE_MRX_GTX_C_N4 |
| PCIE_MRX_GTX_N5 | 0.1U | 2 | 1 | C91 | 10 | PCIE_MRX_GTX_C_N5 |
| PCIE_MRX_GTX_N6 | 0.1U | 2 | 1 | C102 | 10 | PCIE_MRX_GTX_C_N6 |
| PCIE_MRX_GTX_N7 | 0.1U | 2 | 1 | C103 | 10 | PCIE_MRX_GTX_C_N7 |
| PCIE_MRX_GTX_N8 | 0.1U | 2 | 1 | C110 | 10 | PCIE_MRX_GTX_C_N8 |
| PCIE_MRX_GTX_N9 | 0.1U | 2 | 1 | C111 | 10 | PCIE_MRX_GTX_C_N9 |
| PCIE_MRX_GTX_N10 | 0.1U | 2 | 1 | C125 | 10 | PCIE_MRX_GTX_C_N10 |
| PCIE_MRX_GTX_N11 | 0.1U | 2 | 1 | C126 | 10 | PCIE_MRX_GTX_C_N11 |
| PCIE_MRX_GTX_N12 | 0.1U | 2 | 1 | C140 | 10 | PCIE_MRX_GTX_C_N12 |
| PCIE_MRX_GTX_N13 | 0.1U | 2 | 1 | C135 | 10 | PCIE_MRX_GTX_C_N13 |
| PCIE_MRX_GTX_N14 | 0.1U | 2 | 1 | C156 | 10 | PCIE_MRX_GTX_C_N14 |
| PCIE_MRX_GTX_N15 | 0.1U | 2 | 1 | C149 | 10 | PCIE_MRX_GTX_C_N15 |

17 CLK_PCIE_VGA
17 CLK_PCIE_VGA#

13 PLTRST_DELAY#

QUANTA COMPUTER

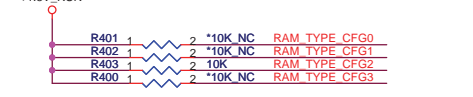
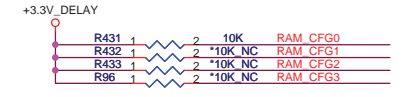
Title: VGA-M82-S (PCIe)

| | | |
|------|------------------------|-----------|
| Size | Document Number FM7 | Rev 1A |
|------|------------------------|-----------|

Date: Wednesday, July 30, 2008 Sheet 18 of 58

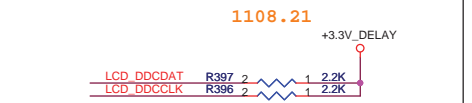
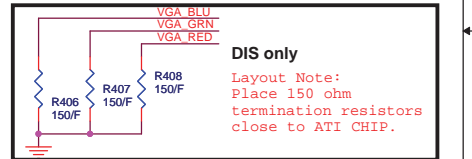
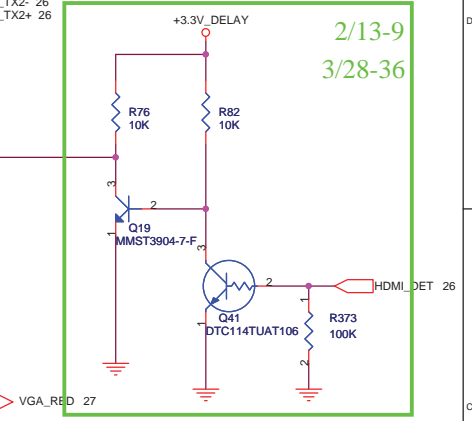
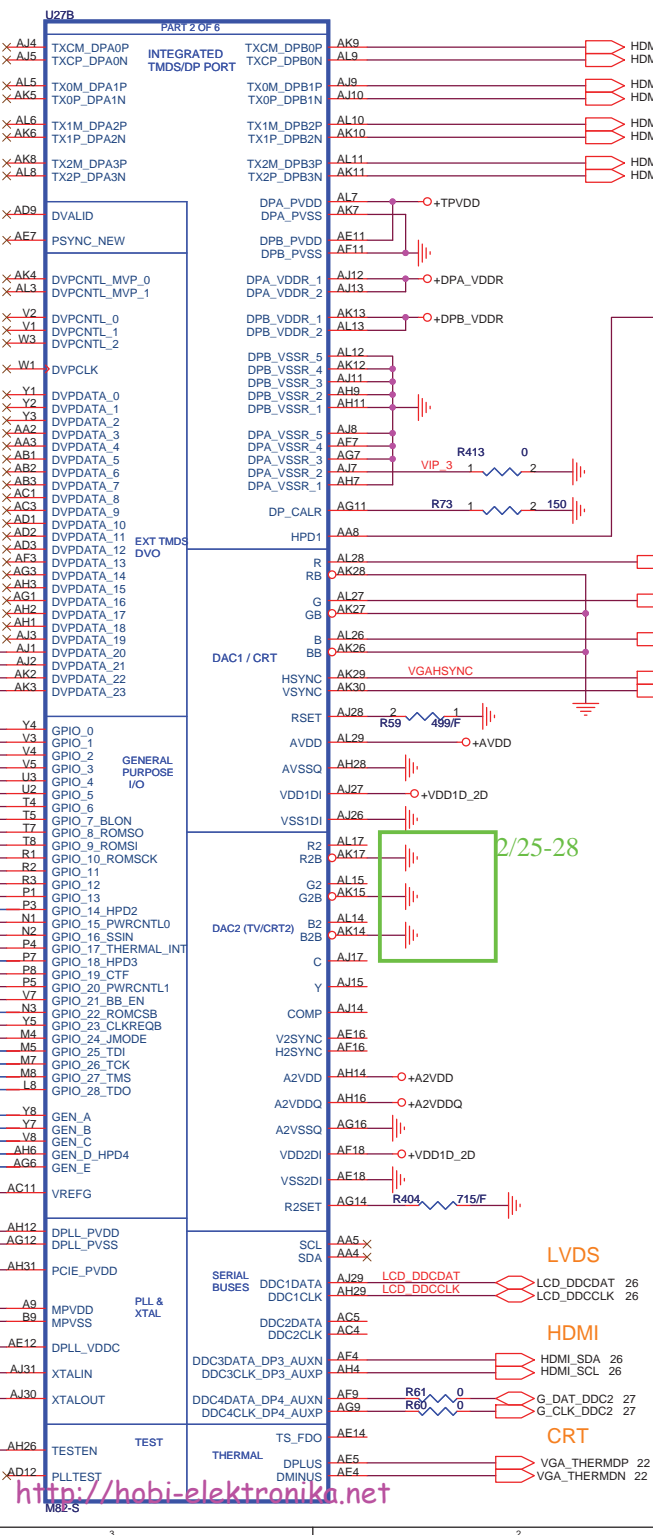
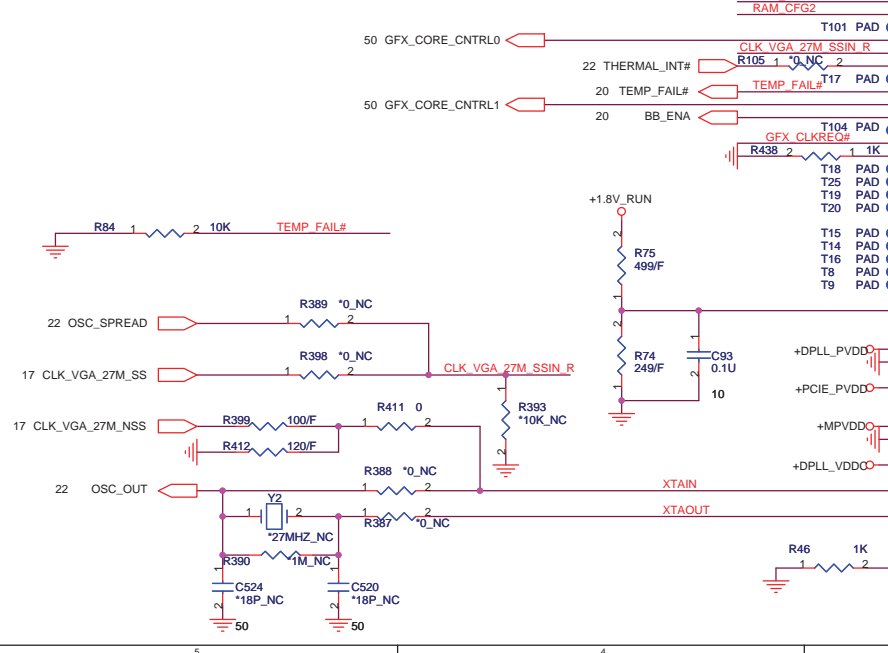
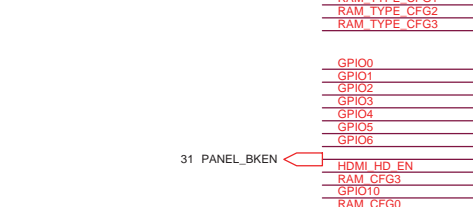
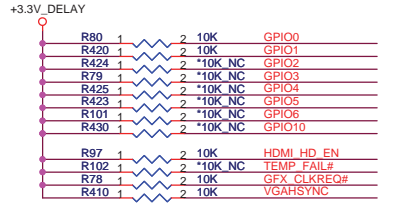
| MEMORY APERTURE SIZE SELECT | | | | |
|-----------------------------|------------|-------------|-------------|-------------|
| MEMORY SIZE | CFG3 GPIO9 | CFG2 GPIO13 | CFG1 GPIO12 | CFG0 GPIO11 |
| 128MB | X | 0 | 0 | 0 |
| 256MB | X | 0 | 0 | 1 |
| 64MB | X | 0 | 1 | 0 |
| 512MB | X | 1 | 0 | 0 |

| Memory Straps | RAM_TYPE CFG3 | RAM_TYPE CFG2 | RAM_TYPE CFG1 | RAM_TYPE CFG0 |
|---------------------------------|---------------|---------------|---------------|---------------|
| 400MHz 256MB(32M*16) Samsung | 0 | 0 | 1 | 0 |
| 400MHz 256MB(32M*16) Hynix | 0 | 0 | 1 | 1 |
| 500MHz 256MB(32M*16) Samsung | 0 | 1 | 1 | 0 |
| 500MHz 256MB(32M*16) Qimonda | 0 | 1 | 0 | 0 |



| GPIO Straps table | DESCRIPTION OF DEFAULT SETTINGS | ATI Usage | FM6 Usage |
|-------------------|---|-----------|-----------|
| GPIO0 | PCIe FULL TX OUTPUT SWING | X | 1 |
| GPIO1 | PCIe TRANSMITTER DE-EMPHASIS ENABLED | X | 1 |
| GPIO2 | ATI reserved configuration straps. | RSVD | 0 |
| GPIO3 | ATI reserved configuration straps. | RSVD | 0 |
| GPIO4 | DEBUG SIGNALS MUXED OUT | 0 | 0 |
| GPIO5 | Allows either PCIe 2.5GT/s or 5.0GT/s operation | X | 0 |
| GPIO6 | ATI Internal use only | 0 | 0 |
| GPIO10 | Serial ROM clock to ROM. | 0 | 0 |

ATI Usage recommended settings: 0= DO NOT INSTALL RESISTOR, X = DESIGN DEPENDANT, RSVD = ATI RESERVED (DO NOT INSTALL)



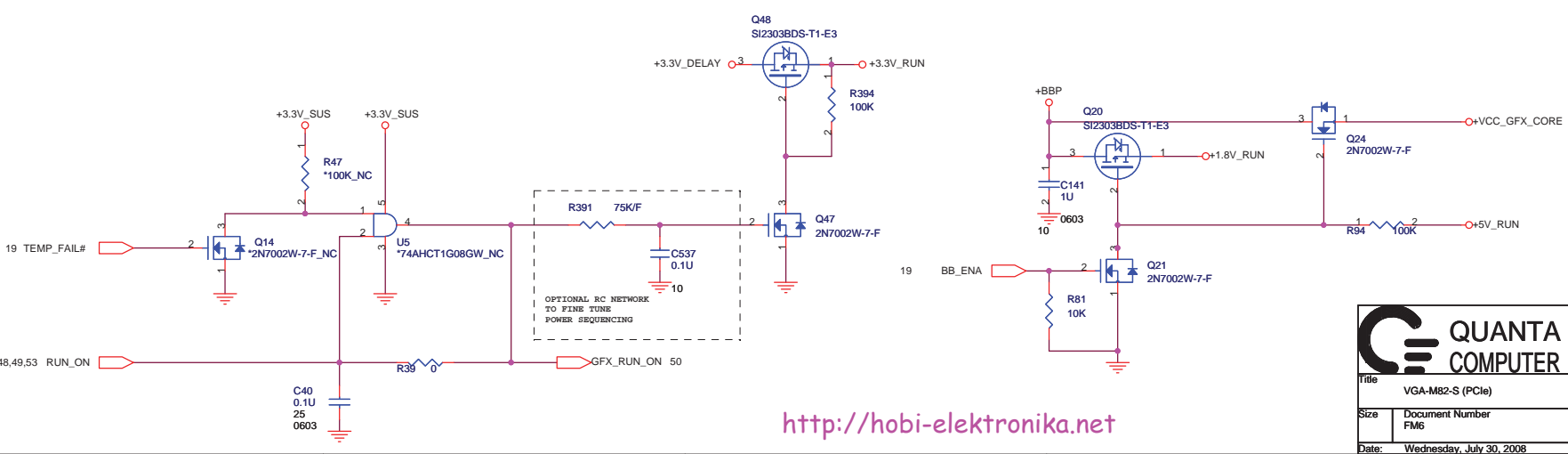
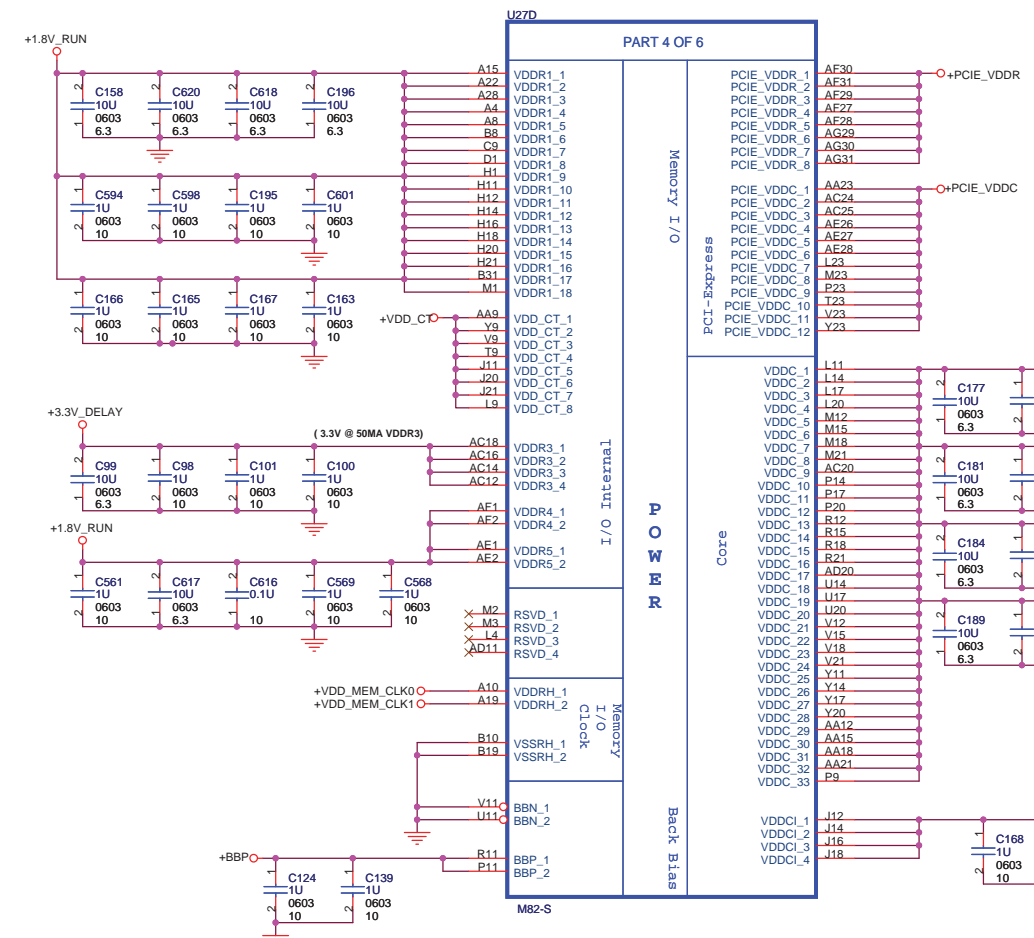
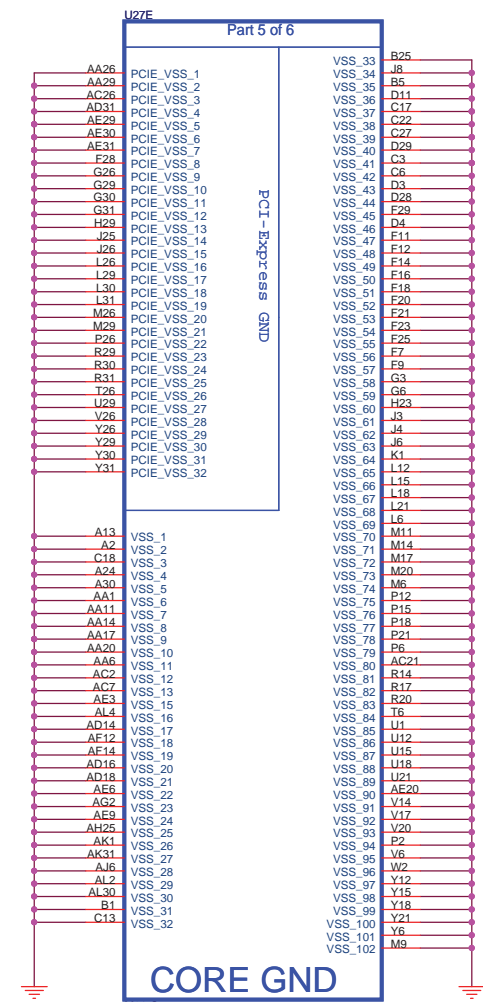
QUANTA COMPUTER

Title: VGA-G86GLM (VIDEO)

Size: Document Number FM6 Rev 2A

Date: Monday, June 30, 2008 Sheet 19 of 58

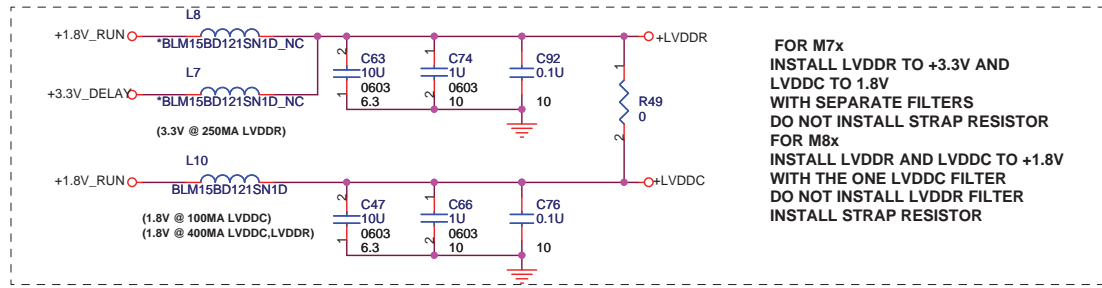
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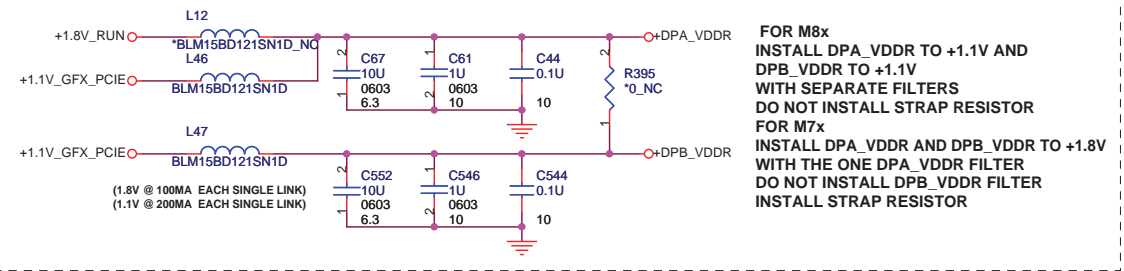
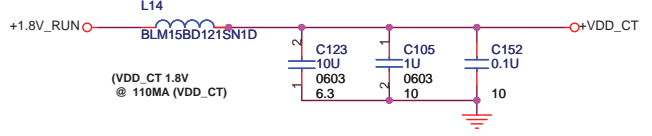
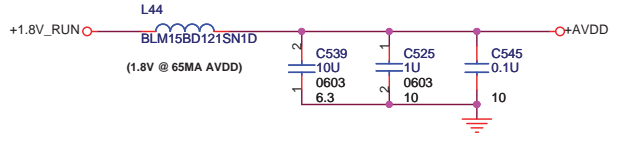
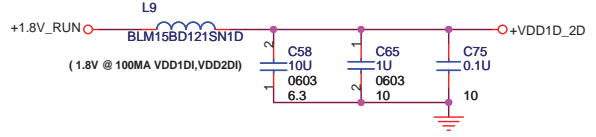
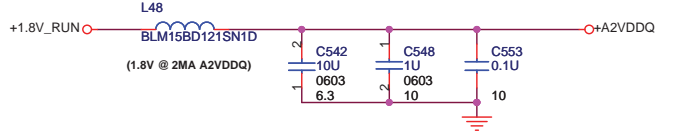
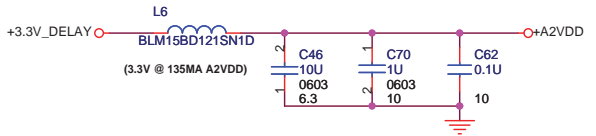
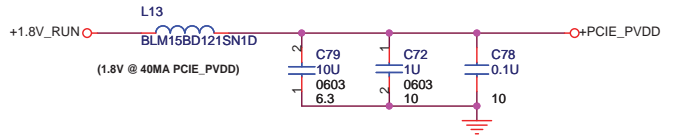
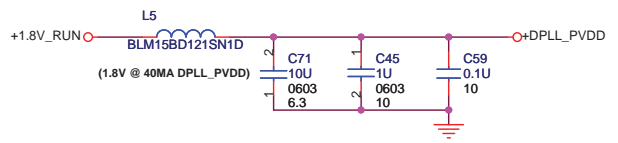
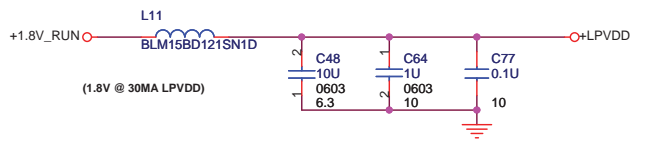
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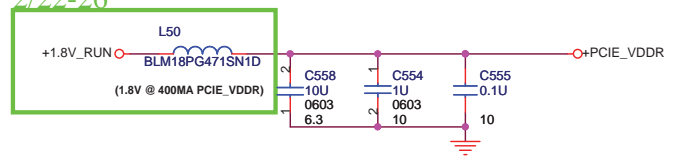
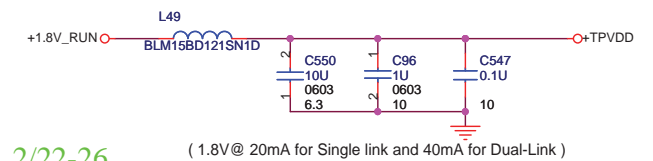
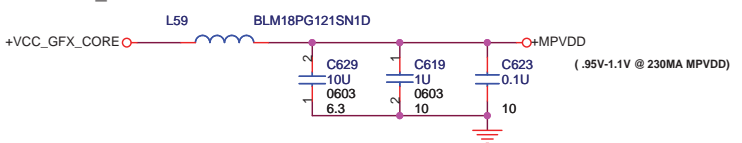
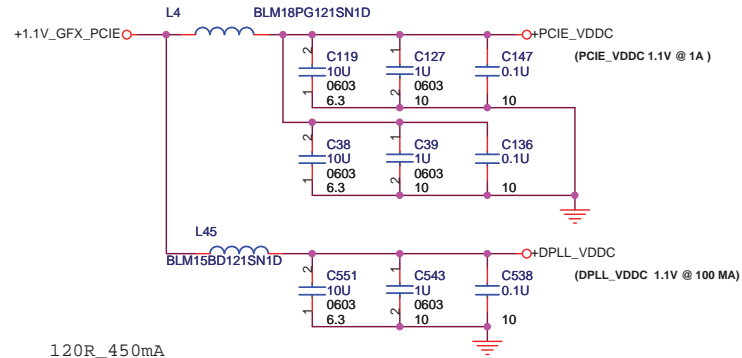
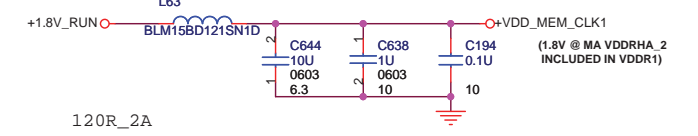
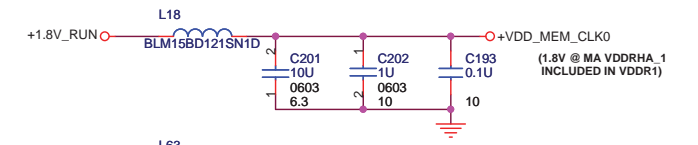
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| File: VGA-M82-S (PCIe) | | |
| Size: FMS | Document Number: FMS | Rev: 1A |
| Date: Wednesday, July 30, 2008 | Sheet: 20 | of 58 |



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

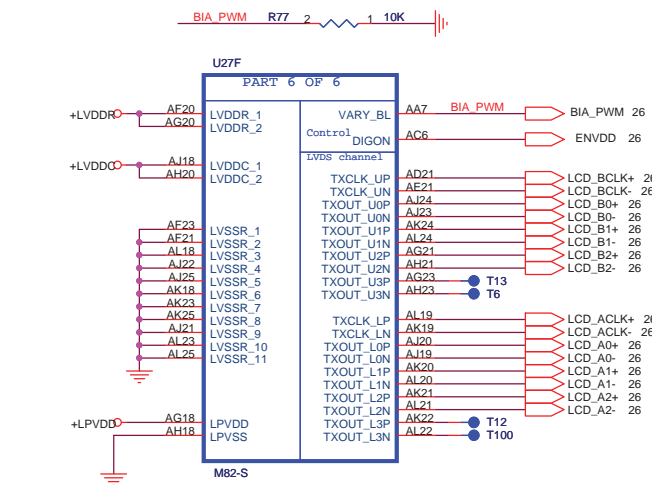
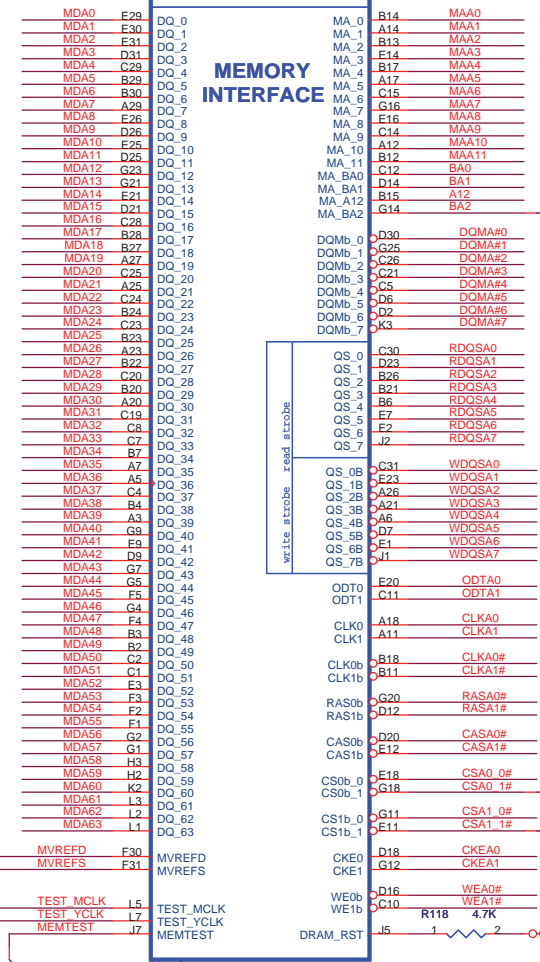
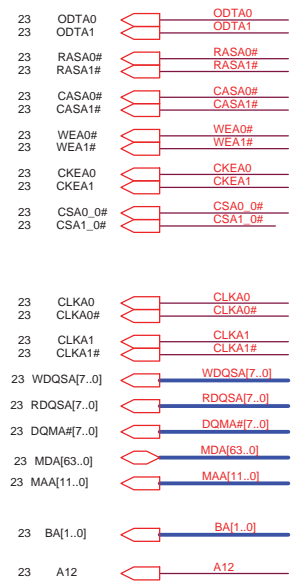


FOR M8x
INSTALL DPA_VDDR TO +1.1V AND
DPB_VDDR TO +1.1V
WITH SEPARATE FILTERS
DO NOT INSTALL STRAP RESISTOR
FOR M7x
INSTALL DPA_VDDR AND DPB_VDDR TO +1.8V
WITH THE ONE DPA_VDDR FILTER
DO NOT INSTALL DPB_VDDR FILTER
INSTALL STRAP RESISTOR



PLACE ALL DECOUPLING AS CLOSE TO ASIC AS POSSIBLE

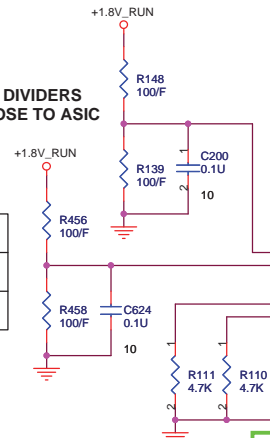
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| | | |
| Title | | |
| VGA-M82-S (PCIe) | | |
| Size | Document Number | Rev |
| | FM6 | 1A |
| Date: | Monday, June 30, 2008 | Sheet 21 of 58 |



FOR DUAL RANK CONNECTIONS USE THE CSx#_1 CHIP SELECT PINS

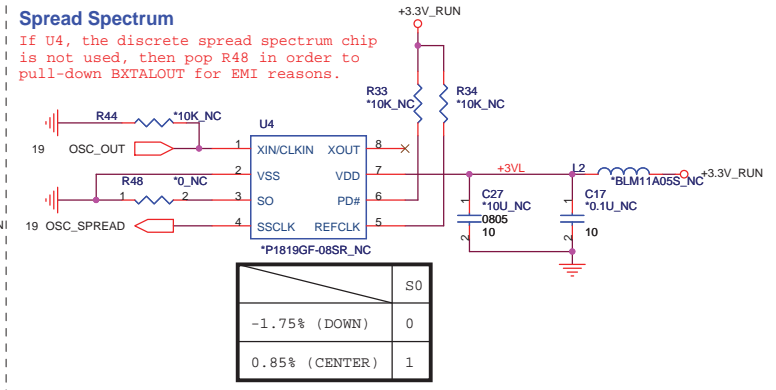
PLACE MVREF DIVIDERS AND CAPS CLOSE TO ASIC

| DIVIDER RESISTORS | DDR2 | DDR3 |
|-------------------|------|-------|
| MVREF TO 1.8V | 100R | 40.2R |
| MVREF TO GND | 100R | 100R |



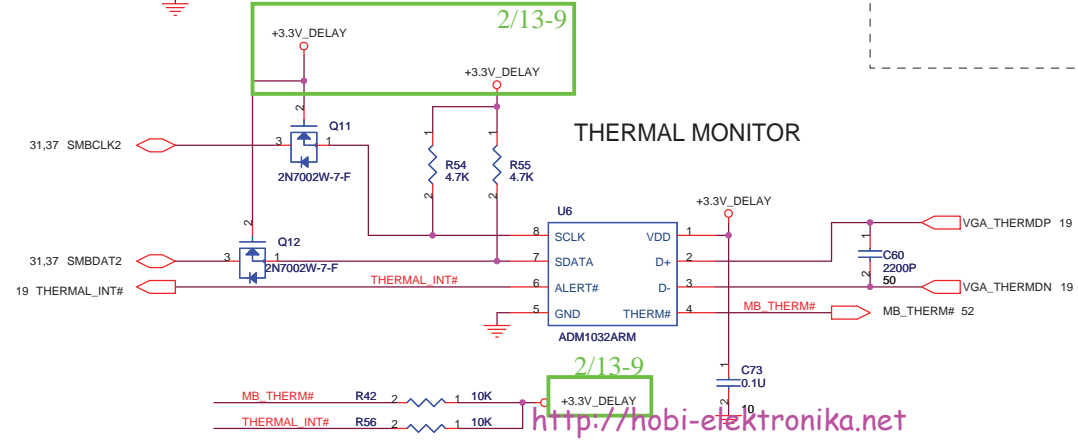
Spread Spectrum

If U4, the discrete spread spectrum chip is not used, then pop R48 in order to pull-down BXTALOUT for EMI reasons.



Remove MEM_RST

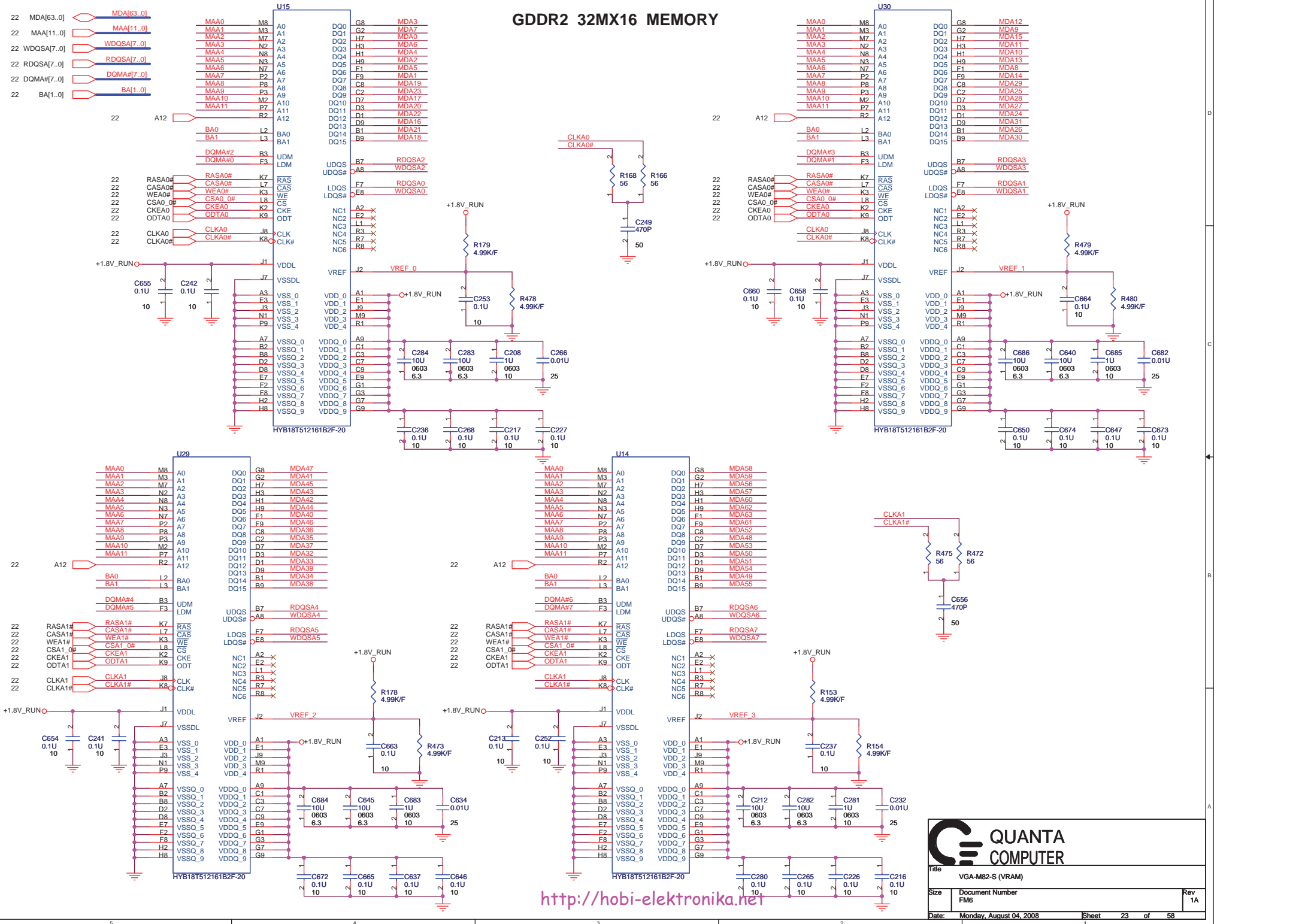
THERMAL MONITOR




<http://hobi-elektronika.net>



GDDR2 32MX16 MEMORY



<http://hobi-elektronika.net>




File: VGA-M82-S (VRAM)

| | | |
|------|-----------------|-----|
| Size | Document Number | Rev |
| | FM6 | 1A |

Date: Monday, August 04, 2008 Sheet 23 of 58

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

<http://hobi-elektronika.net>

| | | |
|--|----------------------|---------|
|  QUANTA COMPUTER | | |
| File: VGA-M82-S (PCIe) | | |
| Size: FM6 | Document Number: FM6 | Rev: 1A |
| Date: Monday, June 30, 2008 | Sheet: 24 | of 58 |

5

4

3

2

1

D

D

C

C


B

B

A

A

<http://hobi-elektronika.net>

| | | | |
|---|-----------------|----------------------------|----------|
|  | | QUANTA COMPUTER | |
| Title | | VGA-M82-S (PCIe) | |
| Size | Document Number | Rev | |
| | FM6 | 1A | |
| Date: Monday, June 30, 2008 | | Sheet | 25 of 58 |

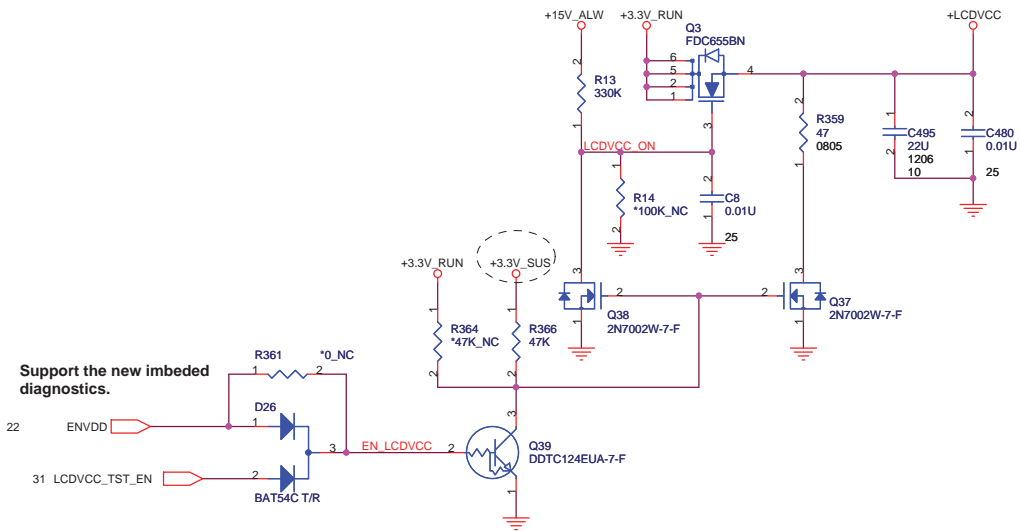
5

4

3

2

1

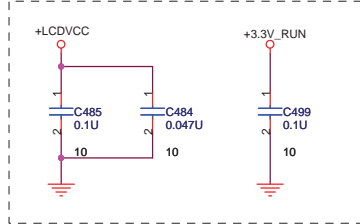
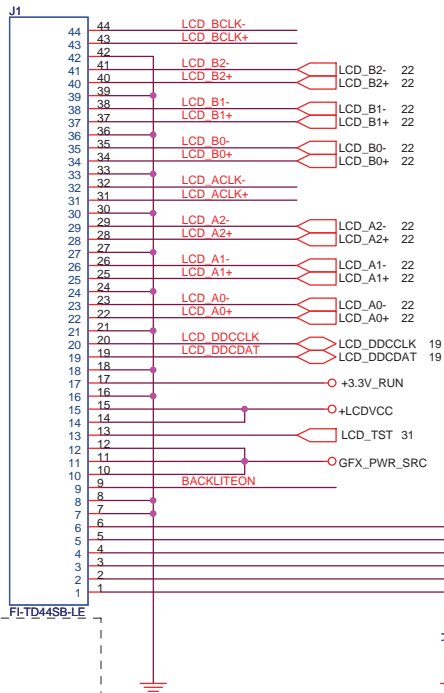


Support the new imbedded diagnostics.

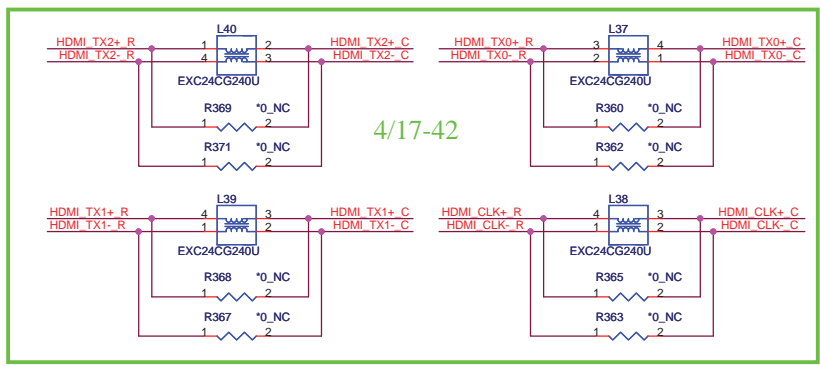
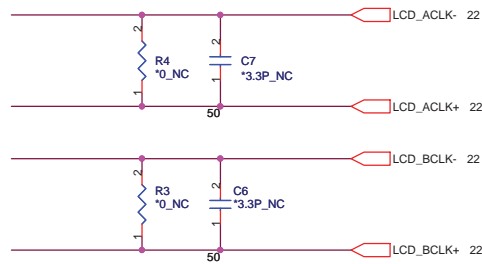
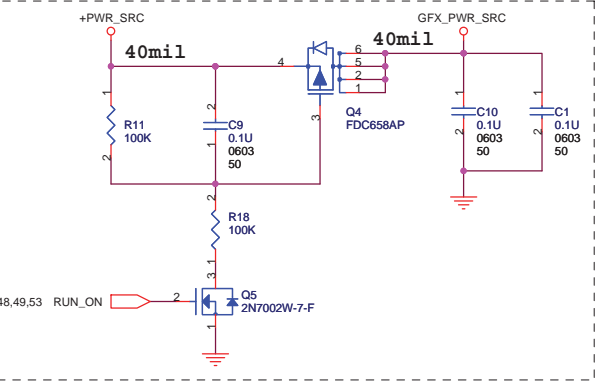
UMA
 Populate R355 for DPST implementation only.
 Populate R353 for platform without DPST support. No Stuff for Discrete DPST support due to back up plan.

Shunt capacitors on LVDS for improving WWAN.

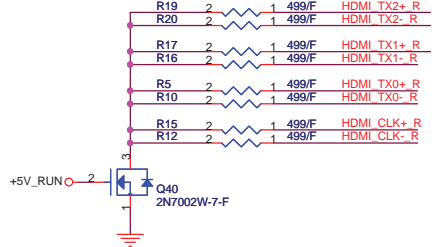
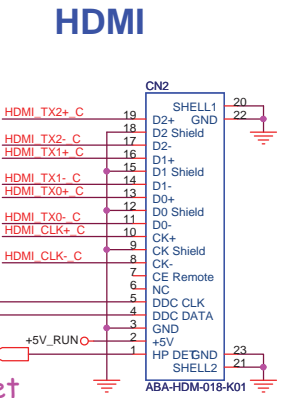
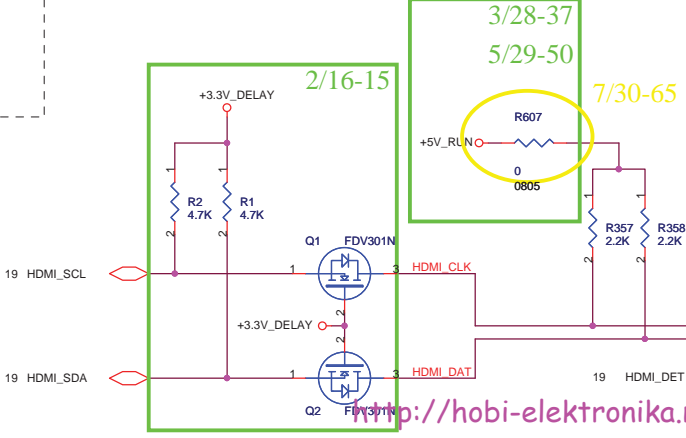
| | | | | | | | |
|---------|------|---|---|-------|----|----|---------|
| LCD B0- | C490 | 1 | 2 | *3.3P | NC | 50 | LCD B0+ |
| LCD B1- | C493 | 1 | 2 | *3.3P | NC | 50 | LCD B1+ |
| LCD B2- | C489 | 1 | 2 | *3.3P | NC | 50 | LCD B2+ |
| LCD A0- | C3 | 1 | 2 | *3.3P | NC | 50 | LCD A0+ |
| LCD A1- | C483 | 1 | 2 | *3.3P | NC | 50 | LCD A1+ |
| LCD A2- | C2 | 1 | 2 | *3.3P | NC | 50 | LCD A2+ |



Address : A9H --Contrast
AAH --Backlight



| | | | | |
|----|-----------|------|--------------|-------------|
| 19 | HDMI_TX2+ | C502 | 0.1U/10V/X7R | HDMI TX2+ R |
| 19 | HDMI_TX2- | C503 | 0.1U/10V/X7R | HDMI TX2- R |
| 19 | HDMI_TX1+ | C501 | 0.1U/10V/X7R | HDMI TX1+ R |
| 19 | HDMI_TX1- | C500 | 0.1U/10V/X7R | HDMI TX1- R |
| 19 | HDMI_TX0+ | C491 | 0.1U/10V/X7R | HDMI TX0+ R |
| 19 | HDMI_TX0- | C494 | 0.1U/10V/X7R | HDMI TX0- R |
| 19 | HDMI_CLK+ | C498 | 0.1U/10V/X7R | HDMI CLK+ R |
| 19 | HDMI_CLK- | C497 | 0.1U/10V/X7R | HDMI CLK- R |

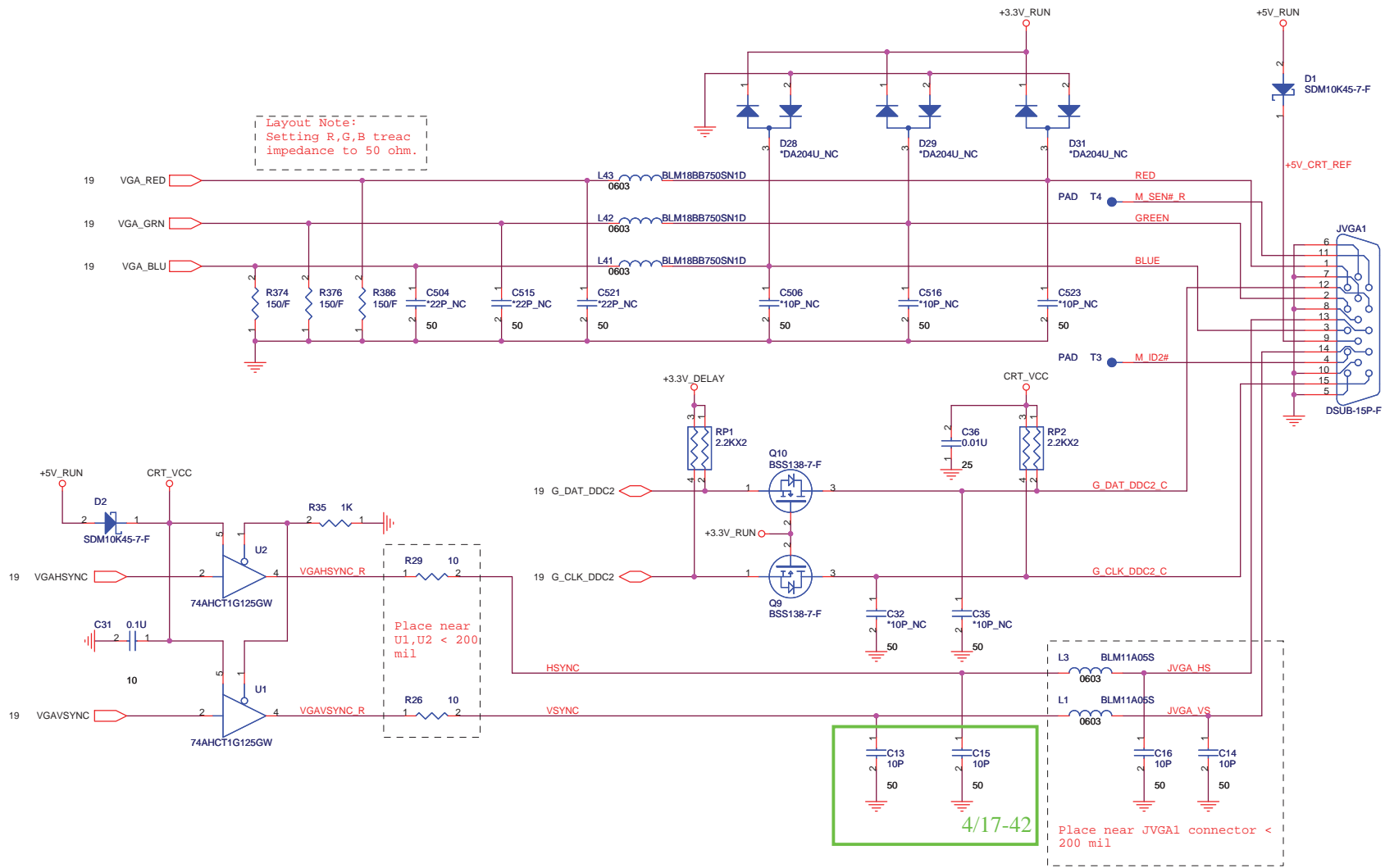


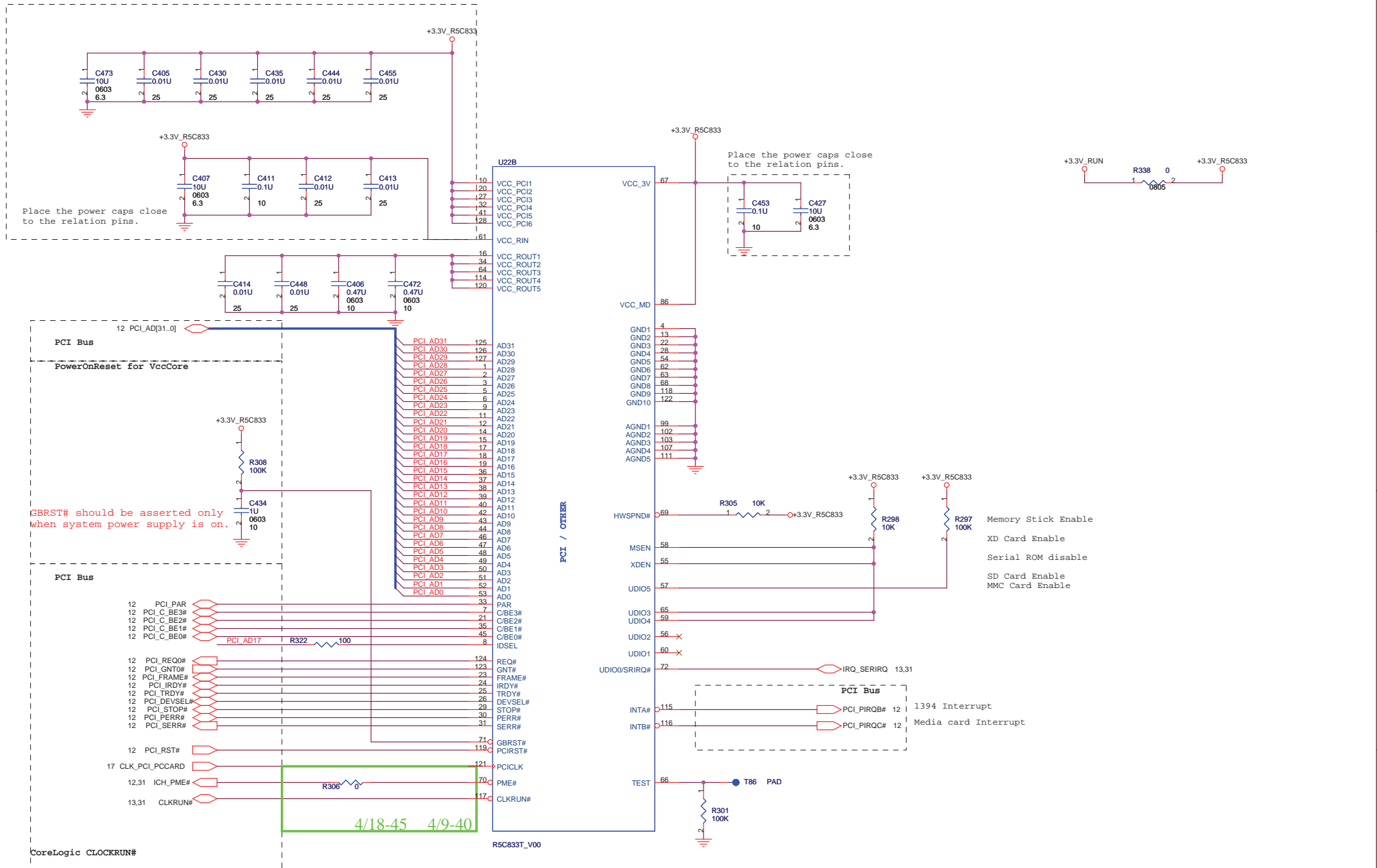
QUANTA COMPUTER

Title: LCD CONN & CK-SSCD

Size: Document Number FM6 Rev 2A

Date: Wednesday, July 30, 2008 Sheet 26 of 58





Place the power caps close to the relation pins.

Place the power caps close to the relation pins.

PCI Bus

PowerOnReset for VccCore

GBRST# should be asserted only when system power supply is on.

PCI Bus

CoreLogic CLOCKRUN#

The ICH schematics need to include a pull-up resistor to implement CLKRUN#, and the ICH schematics must have a pull-down, -or- constantly drive the signal low, in order to disable CLKRUN#.

Refer to DELL M07 schematic X06

PCI / OTHER

- HWSPND#
- MSEN
- XDEN
- UDIO5
- UDIO3
- UDIO4
- UDIO2
- UDIO1
- UDIO0/SRIOQ#
- INTA#
- INTB#
- TEST

- Memory Stick Enable
- XD Card Enable
- Serial ROM disable
- SD Card Enable
- MMC Card Enable

- 1394 Interrupt
- Media card Interrupt

4/18-45 4/9-40

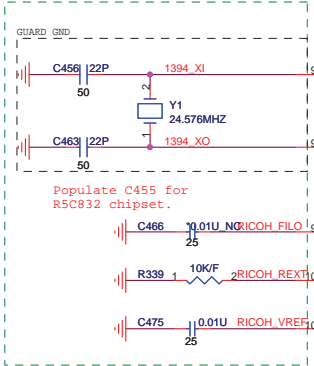
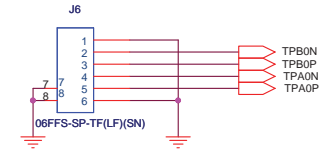
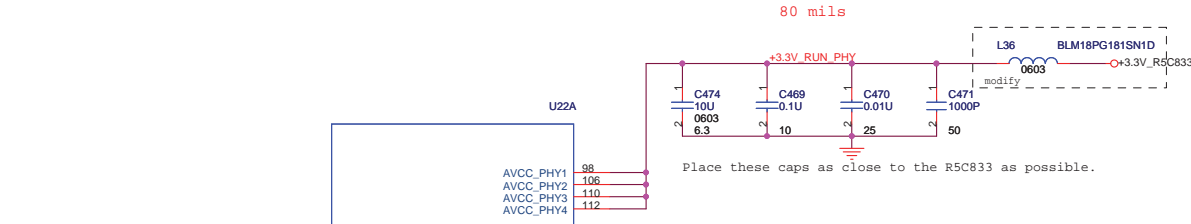
R5C833T_V00

QUANTA COMPUTER

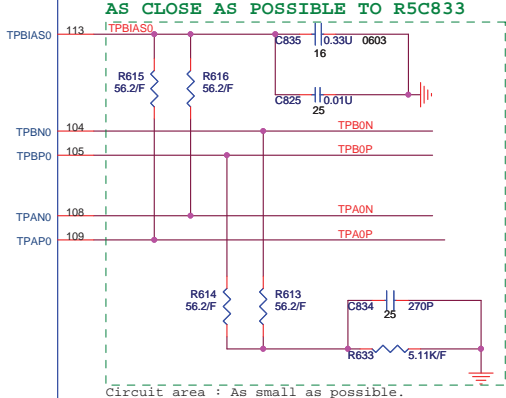
Title: 5 IN 1 CONTROLLER

Size: Document Number FM6 Rev 1A

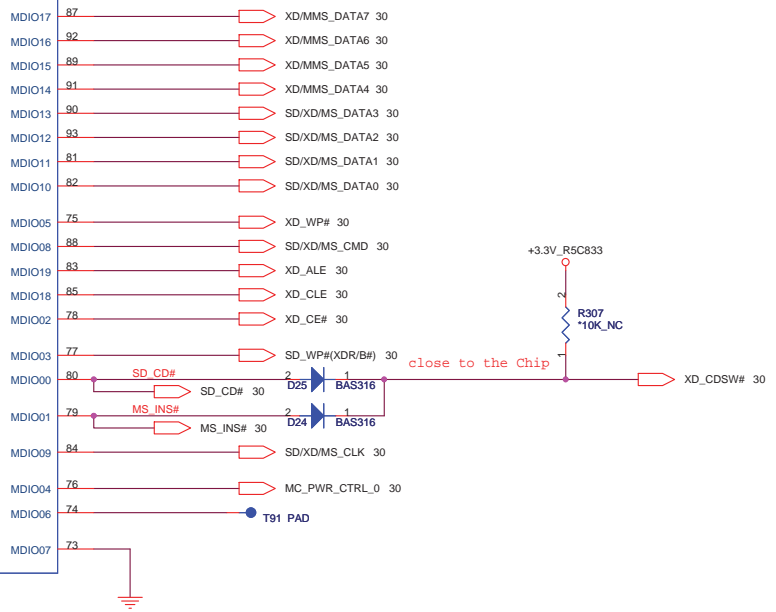
Date: Monday, June 30, 2008 Sheet 28 of 58



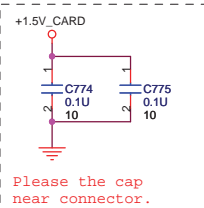
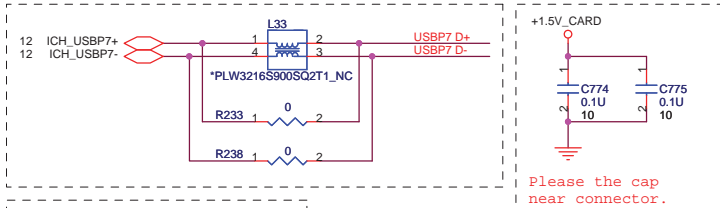
Place these caps as close to the U26 as possible.



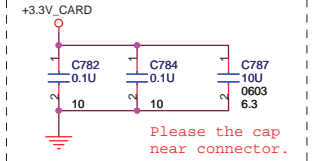
*TPA0P/TPA0N,TPB0P/TPB0N pair trace : As close as possible.
*TPA0P/TPA0N,TPB0P/TPB0N pair trace : Same length electrically.
*Termination resistor for TPA+/- TPB+/- : As close as possible to its cable driver (device pin out).



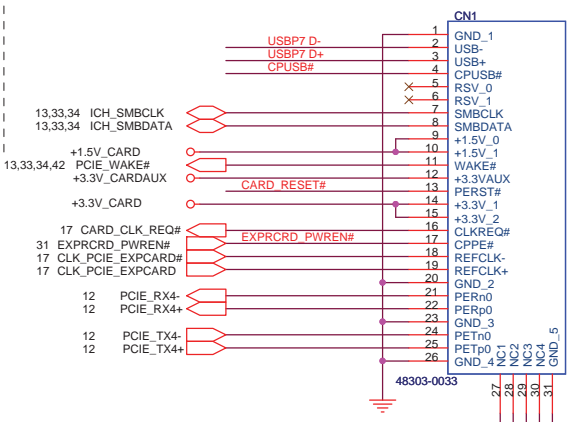
Express Card



Please the cap near connector.



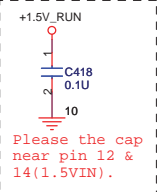
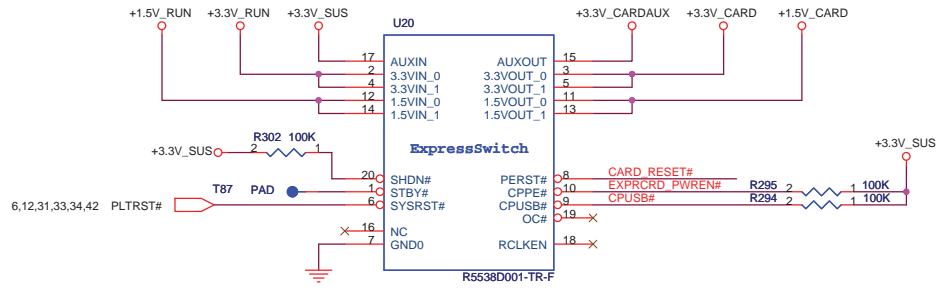
Please the cap near connector.



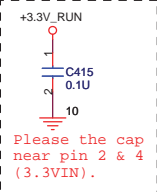
JAE PX10FS16PH-26P

PCI-Express TX and RX direct to connector.

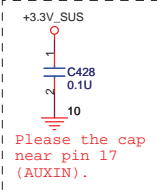
+1.5V_CARD Max. 650mA, Average 500mA.
+3V_CARD Max. 1300mA, Average 1000mA.



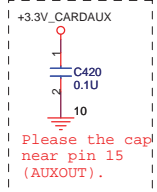
Please the cap near pin 12 & 14 (1.5VIN).



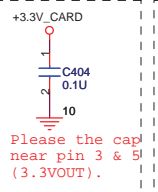
Please the cap near pin 2 & 4 (3.3VIN).



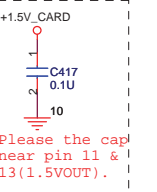
Please the cap near pin 17 (AUXIN).



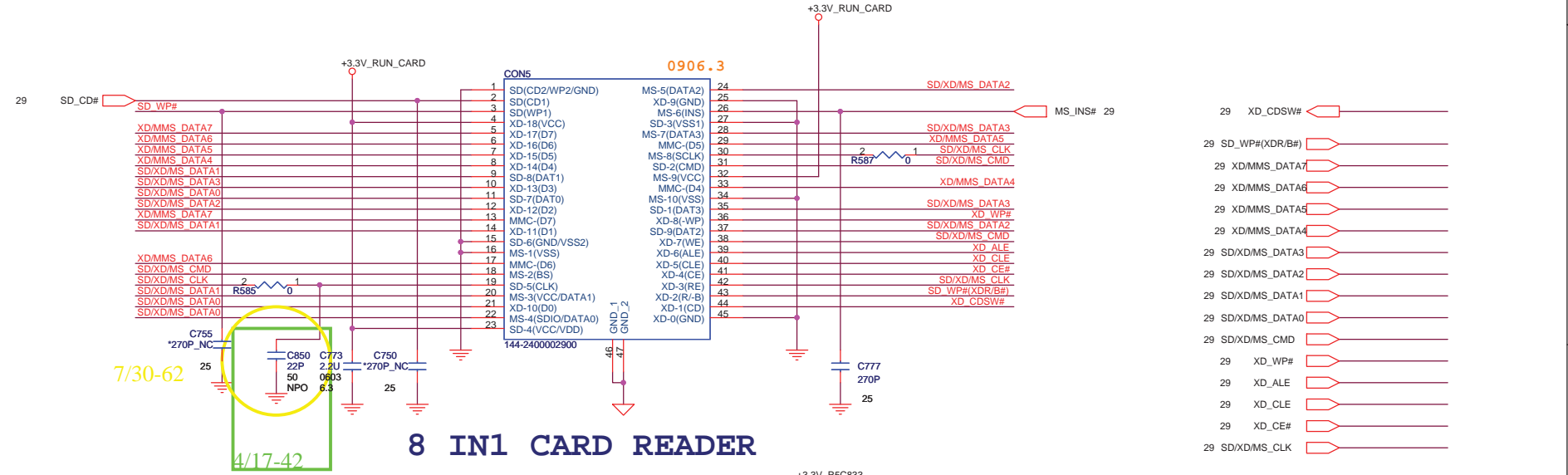
Please the cap near pin 15 (AUXOUT).



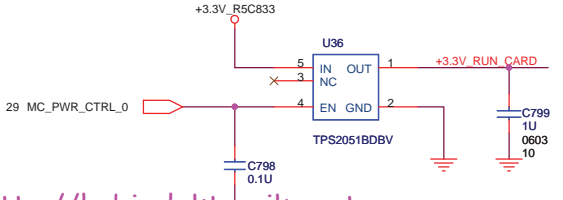
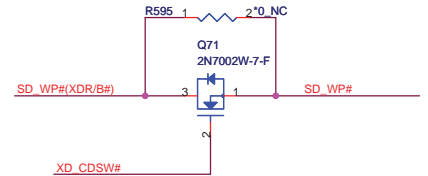
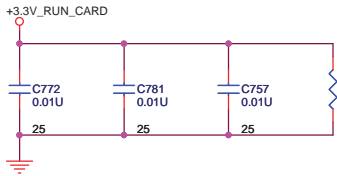
Please the cap near pin 3 & 5 (3.3VOUT).



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

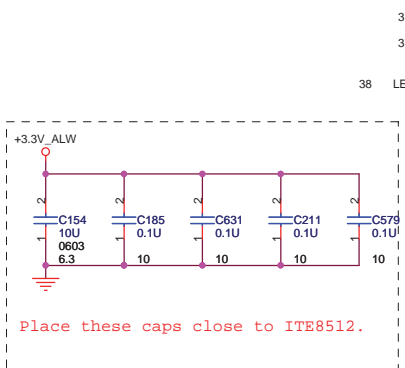


8 IN1 CARD READER

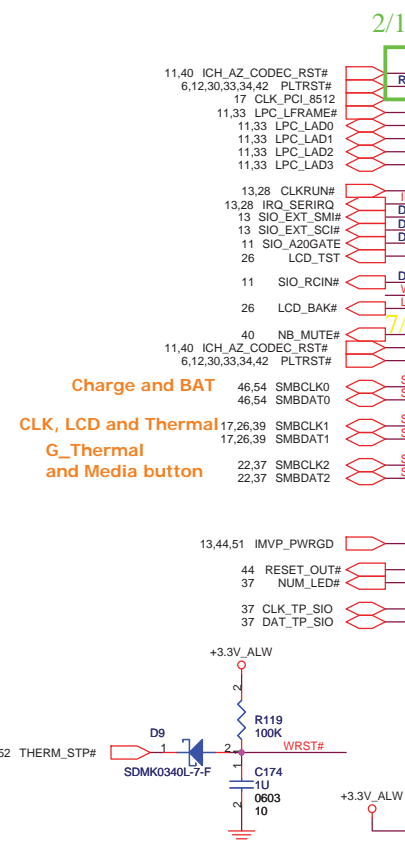


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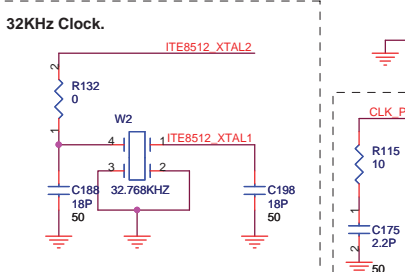




Place these caps close to ITE8512.



Charge and BAT
CLK, LCD and Thermal
G_Thermal
and Media button



32KHz Clock.

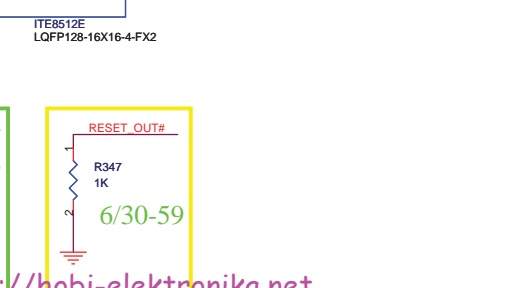
- 37 KSO[0..16]
- 37 KSI[0..7]
- 38 LED_MASK#
- KSO17/GPC5
- KSO16/GPC3
- KSO15
- KSO14
- KSO13
- KSO12
- KSO11
- KSO10
- KSO9
- KSO8
- KSO7
- KSO6
- KSO5
- KSO4
- KSO3
- KSO2
- KSO1
- KSO0
- KS17
- KS16
- KS15
- KS14
- KS13
- KS12
- KS11
- KS10

- KEYBOARD
- ADC/DAC
- PWM
- LPC
- IR/UART
- SMBUS
- PS/2
- GPIO

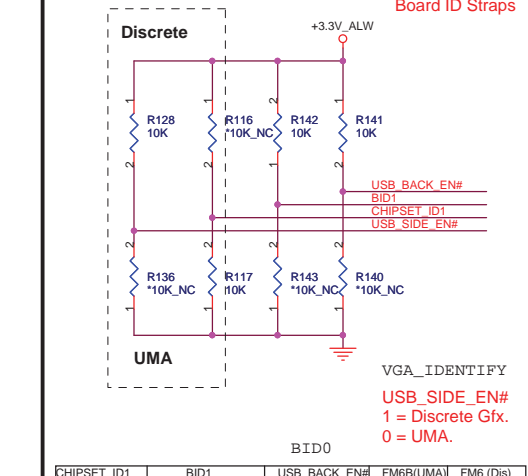
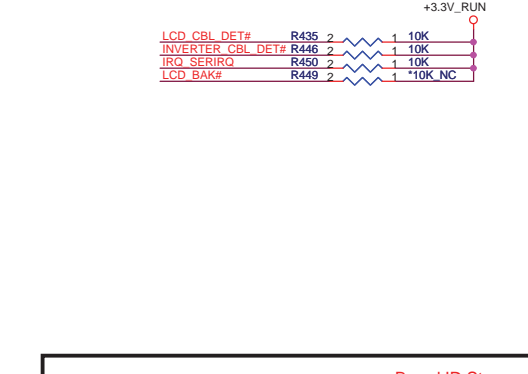
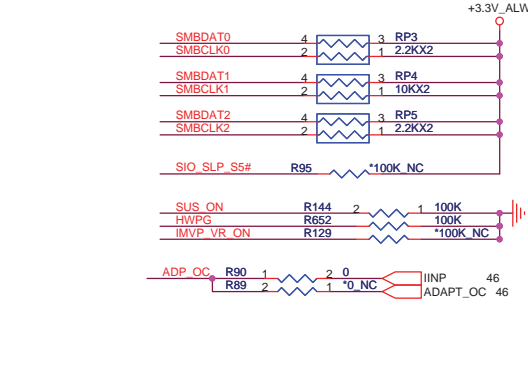
- VBAT1 VCC
- VSTBY1
- VSTBY2
- VSTBY3
- VSTBY4
- VSTBY5
- VSTBY6
- ADC0/GPI0
- ADC1/GPI1
- ADC2/GPI2
- ADC3/GPI3
- ADC4/GPI4
- ADC5/GPI5
- ADC6/GPI6
- ADC7/GPI7
- DAC0/GPJ0
- DAC1/GPJ1
- DAC2/GPJ2
- DAC3/GPJ3
- DAC4/GPJ4
- DAC5/GPJ5
- PWM0/GPA0
- PWM1/GPA1
- PWM2/GPA2
- PWM3/GPA3
- PWM4/GPA4
- PWM5/GPA5
- PWM6/GPA6
- PWM7/GPA7
- TACH0/GPD6
- TACH1/GPD7
- TMRI0/WUI2/GPC4
- TMRI1/WUI3/GPC6
- RXD0/GPB0
- TXD0/GPB1
- CRX0/GPC0
- CTX0/GPB2
- CRX1/GPH1/D1
- CTX1/GPH2/D2
- FLFRAME/GPG2/LF
- FLRST/GPG0/TM
- FLAD3/GPG6
- FLAD2/SO
- FLAD1/SI
- FLAD0/SCE
- FLCLK
- EGAD/GPE1
- EGCS/GPE2
- EGCLK/GPE3
- GPH3/ID3
- GPH4/ID4
- GPH5/ID5
- GPH6/ID6
- GPG1/ID7
- R1/WUI0/GPD0
- R2/WUI1/GPD1
- WUI5/GPE5
- RING/PWRFAIL/LPCRST/GPB7
- PWRWSR/GPE4
- GINT/GPD5

- BREATH_LED#
- BAT2_LED#
- FAN1_PWM
- PWM_VADJ
- BAT1_LED#
- KB_BACKLITE_EN
- CAP_LED#
- BEEP
- FAN1_TACH
- PANEL_BKEN
- LID_SW#
- MEDIA_INT#
- WIRELESS_ON/OFF#
- AUX_EN_WOWL
- CIRR#
- RUN_ON_1
- HDDC_EN
- IMVP_VR_ON
- SUS_ON
- KB_DET#
- ICH_CL_PWROK
- EC_FLASH_SPI_DO
- EC_FLASH_SPI_DIN
- EC_FLASH_SPI_CS#
- EC_FLASH_SPI_CLK
- PS_ID
- SV_ALW_ON
- SNIFFER_GREEN#
- USB_SIDE_EN#
- USB_BACK_EN#
- BID1
- CHIPSET_ID1
- MODC_EN
- SIO_SLP_S3#
- ACAV_IN
- SNIFFER_PWR_SW#
- MAIN_PWR_SW#
- LCDVCC_TST_EN

- ADAPT_TRIP_SEL
- SIO_EXT_WAKE#
- LAN_DISABLE#
- EXPRCRD_PWREN#
- ICH_RSMRST#
- SIO_PWRBTTN#
- BAT2_LED#
- FAN1_PWM
- PWM_VADJ
- BAT1_LED#
- KB_BACKLITE_EN
- CAP_LED#
- BEEP
- FAN1_TACH
- PANEL_BKEN
- LID_SW#
- MEDIA_INT#
- WIRELESS_ON/OFF#
- AUX_EN_WOWL
- CIRR#
- RUN_ON_1
- HDDC_EN
- IMVP_VR_ON
- SUS_ON
- KB_DET#
- ICH_CL_PWROK
- EC_FLASH_SPI_DO
- EC_FLASH_SPI_DIN
- EC_FLASH_SPI_CS#
- EC_FLASH_SPI_CLK
- PS_ID
- SV_ALW_ON
- SNIFFER_GREEN#
- USB_SIDE_EN#
- USB_BACK_EN#
- BID1
- CHIPSET_ID1
- MODC_EN
- SIO_SLP_S3#
- ACAV_IN
- SNIFFER_PWR_SW#
- MAIN_PWR_SW#
- LCDVCC_TST_EN



ITE8512E LQFP128-16X16-4-FX2

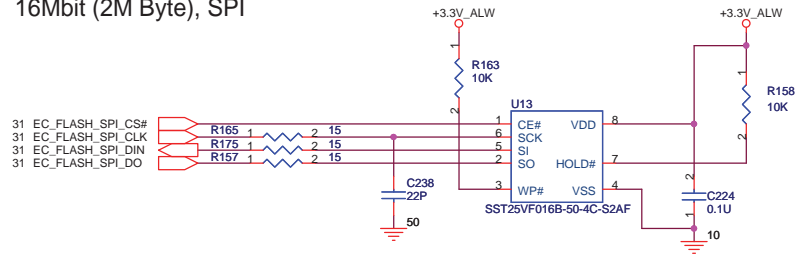


| CHIPSET ID1 | BID1 | USB_BACK_EN# | FM6B(UMA) | FM6(Dis) |
|-------------|------|--------------|-----------|-----------|
| 0 | 0 | 0 | SSI (X00) | SSI (X00) |
| 0 | 0 | 1 | PT (X01) | PT (X01) |
| 0 | 1 | 0 | ST (X02) | ST (X02) |
| 0 | 1 | 1 | QT (A00) | QT (A00) |
| 0 | 0 | 0 | (A01) | (A01) |
| 0 | 0 | 1 | | |

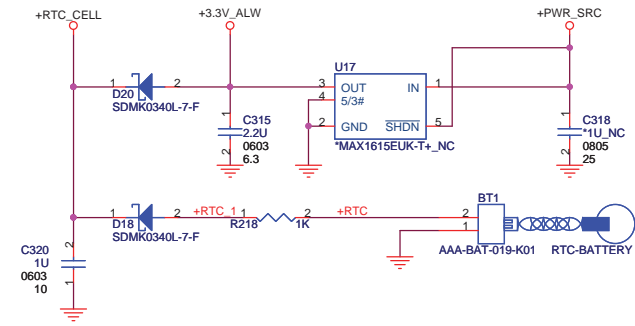
UMA
 VGA_IDENTIFY
 USB_SIDE_EN#
 1 = Discrete Gfx.
 0 = UMA.

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16Mbit (2M Byte), SPI

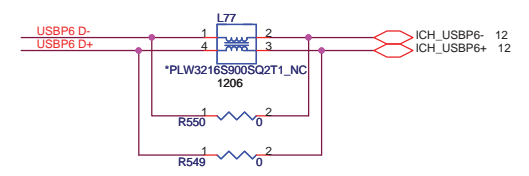
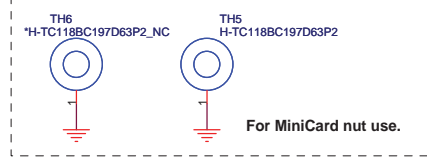


RTC BATTERY

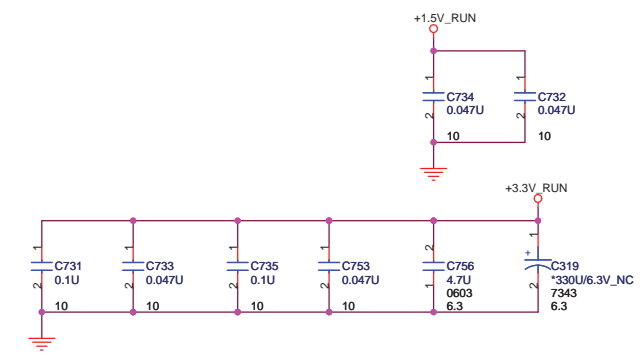
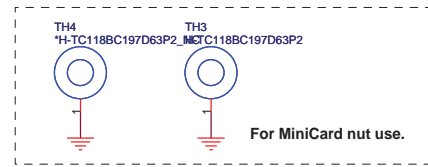
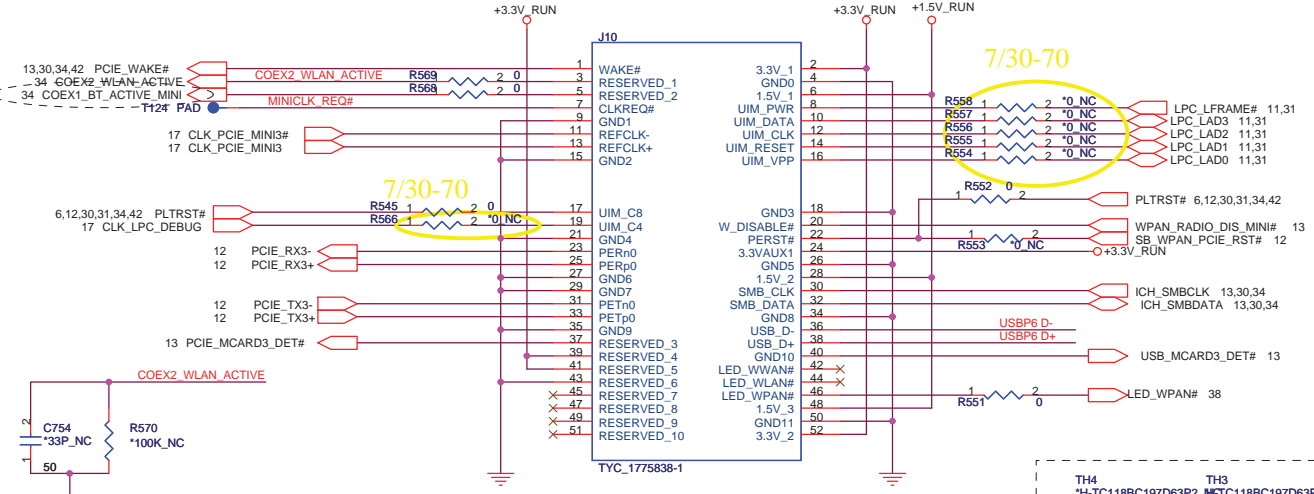


<http://hobi-elektronika.net>

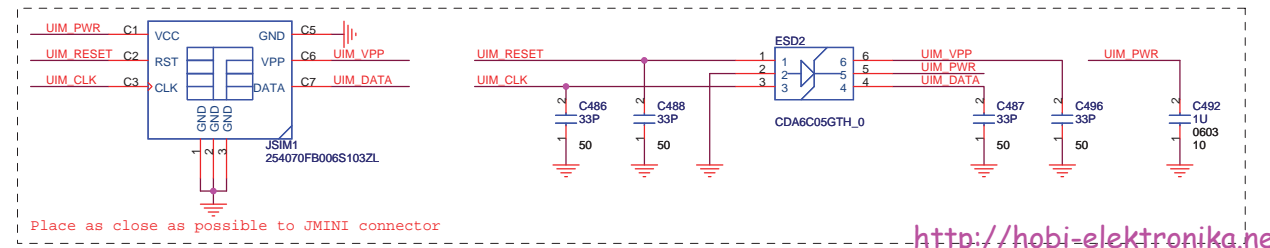
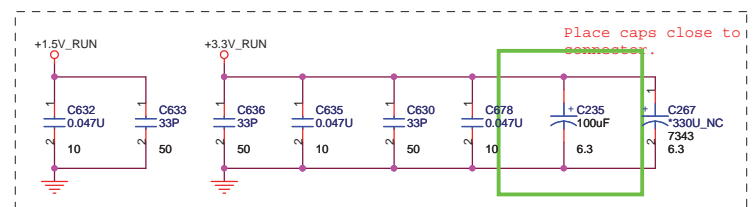
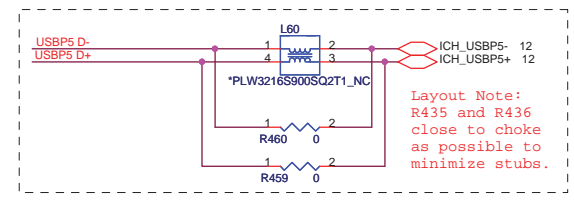
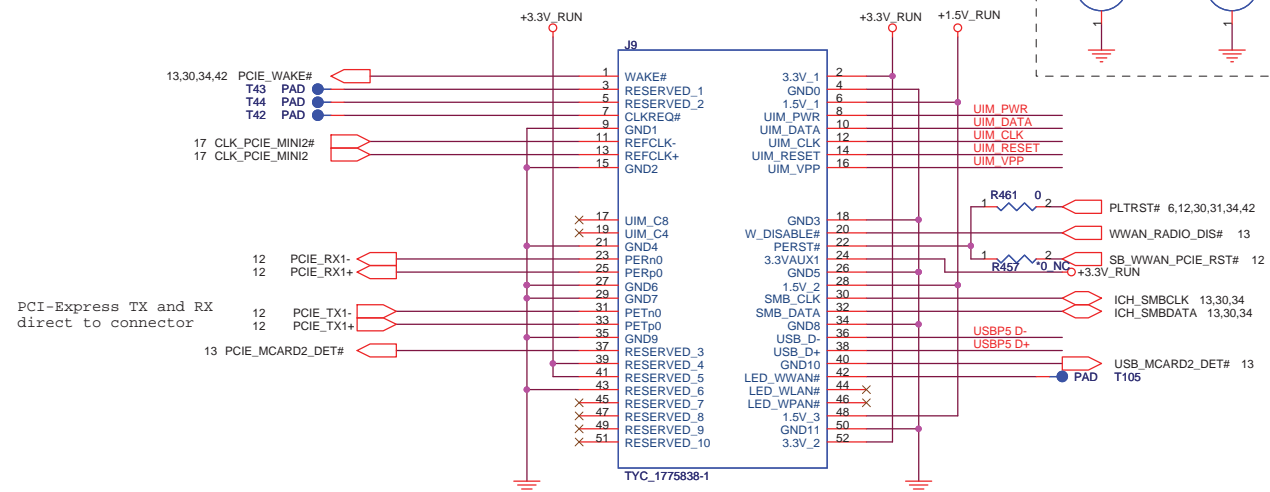
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|  QUANTA COMPUTER | | |
| Title: Ultra I/O Controller ECE5028 | | |
| Size: FM6 | Document Number: FM6 | Rev: 3A |
| Date: Monday, June 30, 2008 | Sheet: 32 | of 58 |



MiniCard Robson, BT. UWB connector



MiniCard WWAN connector



QUANTA COMPUTER

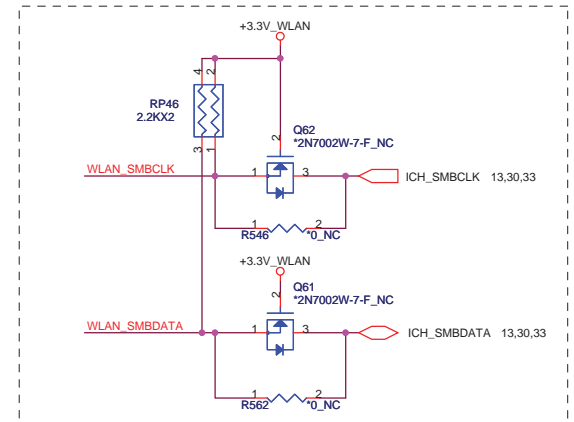
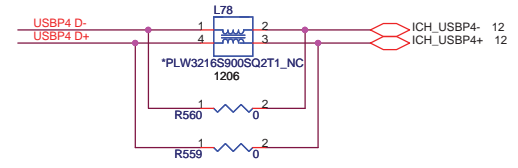
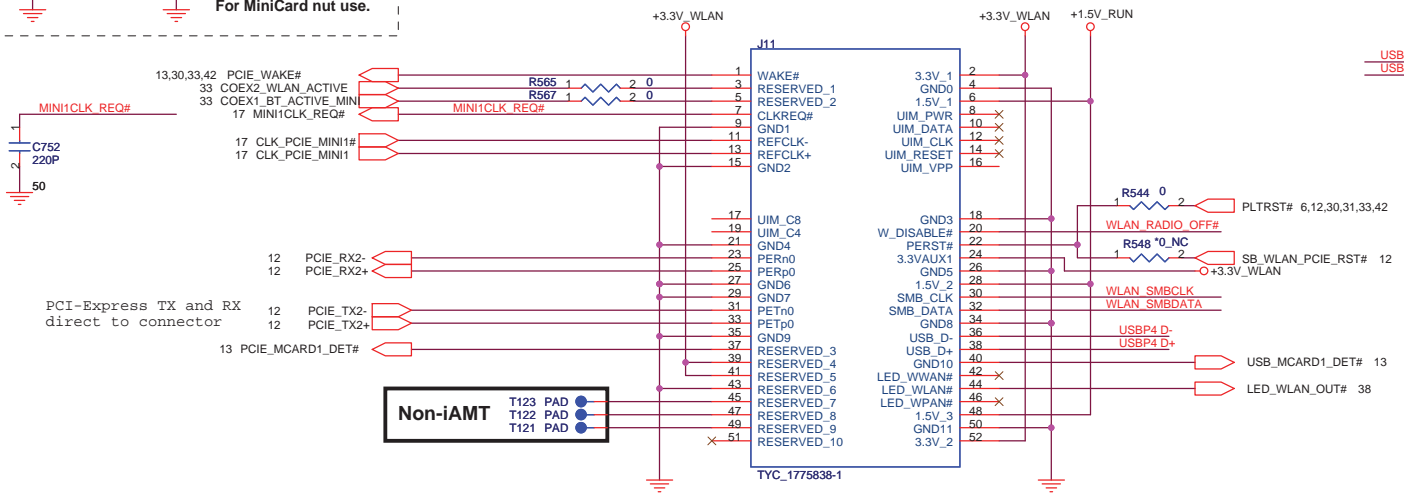
Title: MINI-PCI
Size: Document Number FM6
Date: Friday, August 01, 2008
Sheet: 33 of 58
Rev: 2A

TH2 TH1
H-TC177BC197D83P2 NCH-TC177BC197D83P2

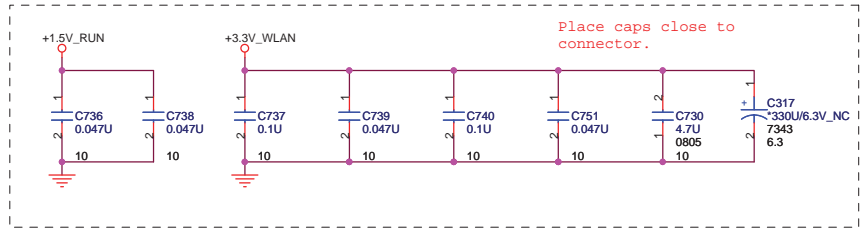
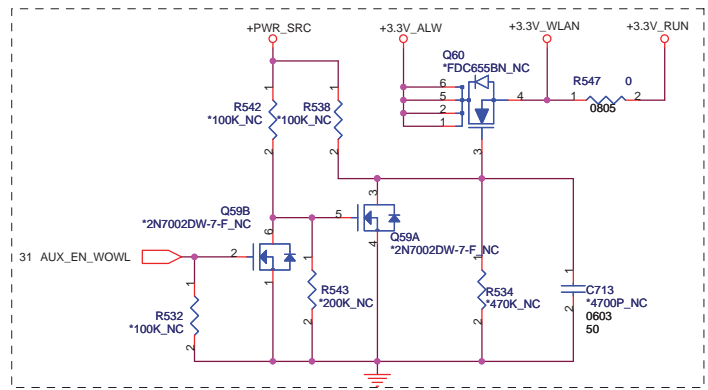
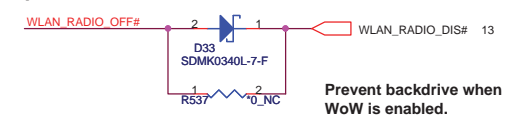


For MiniCard nut use.

MiniCard WLAN connector

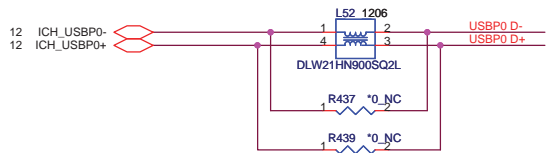


Support for WoW

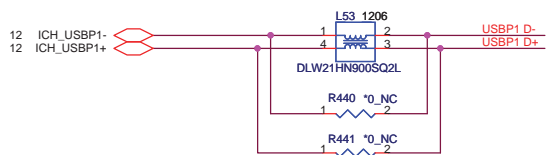


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| Title | | | MDC CONN. |
| Size | Document Number | Rev | |
| FM6 | | 1A | |
| Date: | Friday, August 01, 2008 | Sheet | 34 of 58 |

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



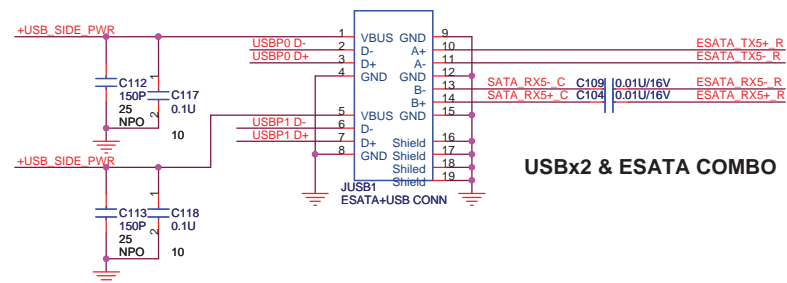
2/22-25
4/17-42



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

Side External USBX2

2/13-4

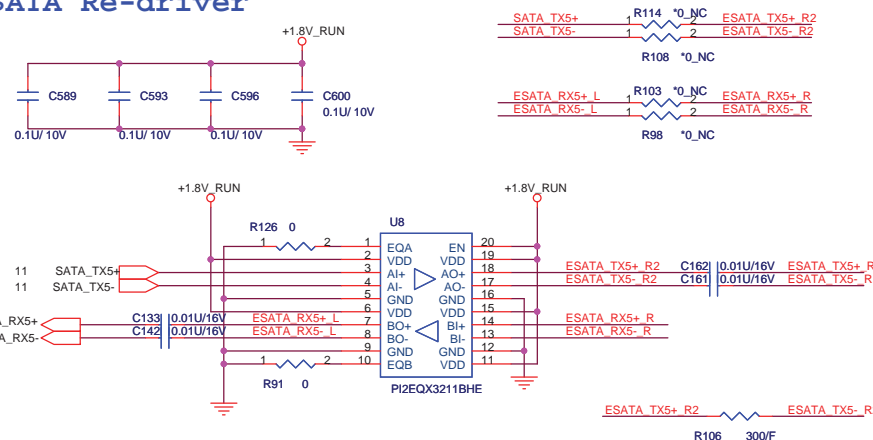


USBx2 & ESATA COMBO

5/29-52

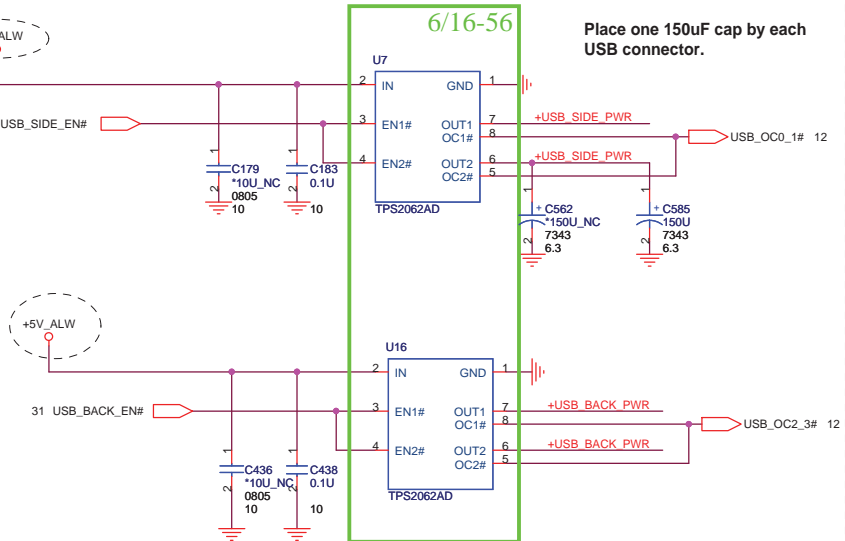
2/20-22

E-SATA Re-driver



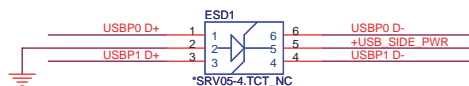
6/16-56

Place one 150uF cap by each USB connector.

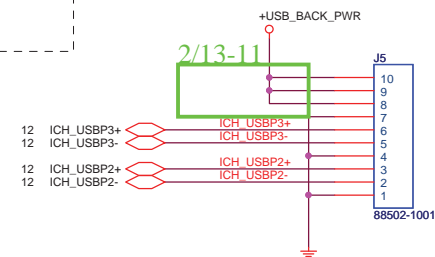


Each channel is 1A

Place ESD diodes as close as USB connector.

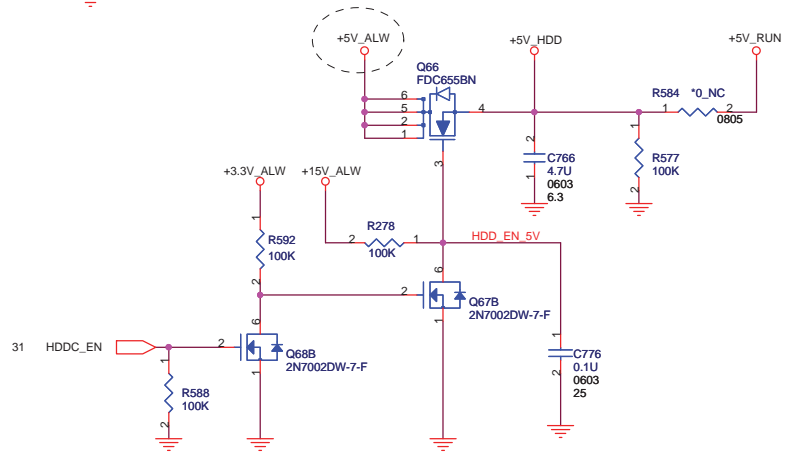
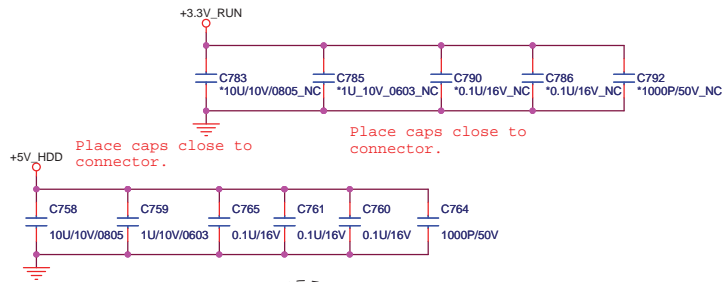
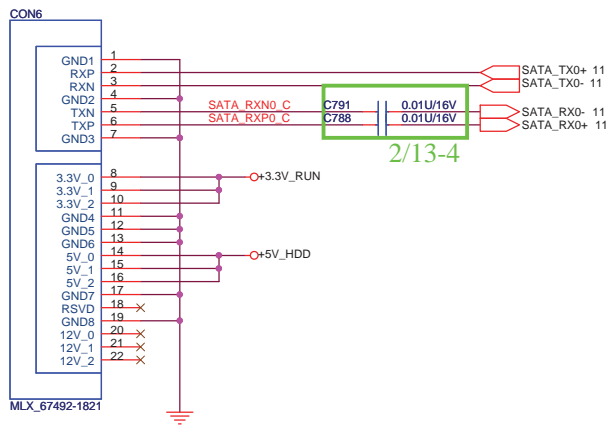


MB side

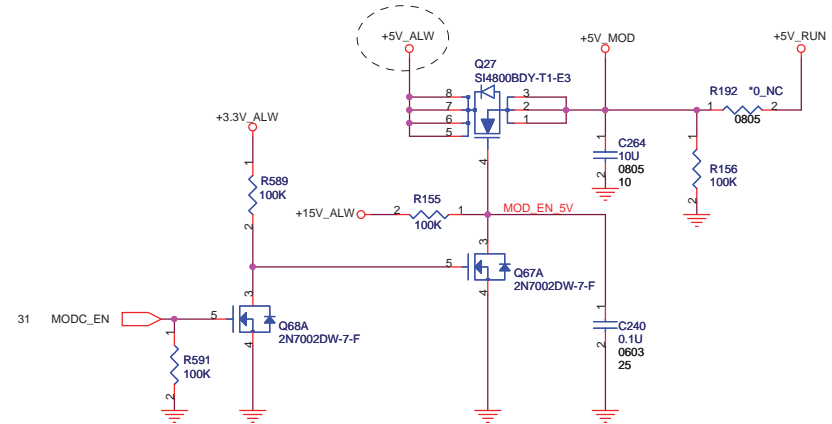
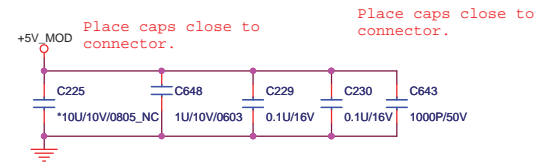
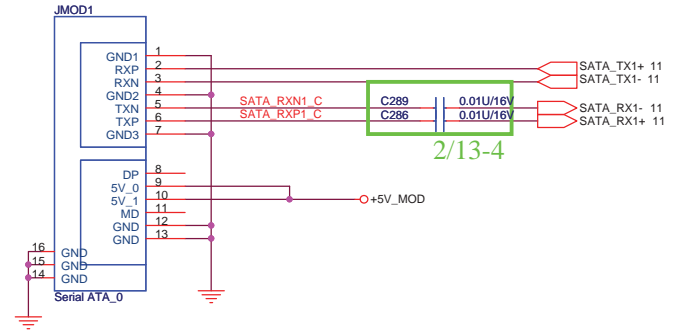


| | | |
|-----------------------------------|-----------------|-----------|
| Title SERIAL PORT & USB | | |
| Size FM6 | Document Number | Rev 3A |
| Date: Wednesday, July 30, 2008 | Sheet 35 | of 58 |

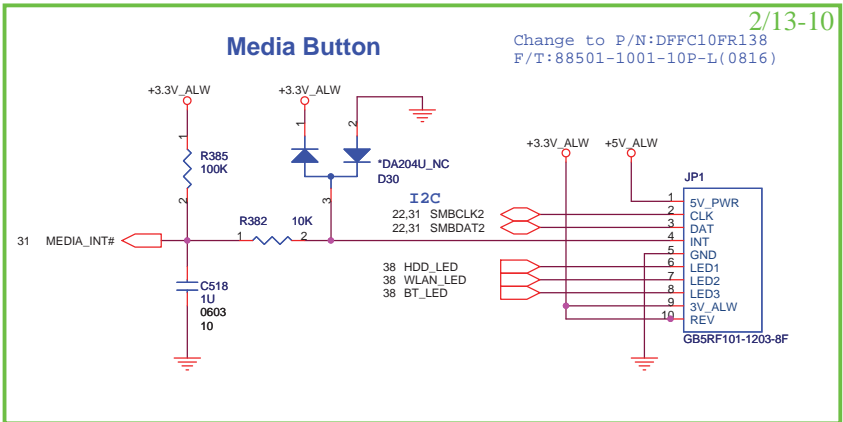
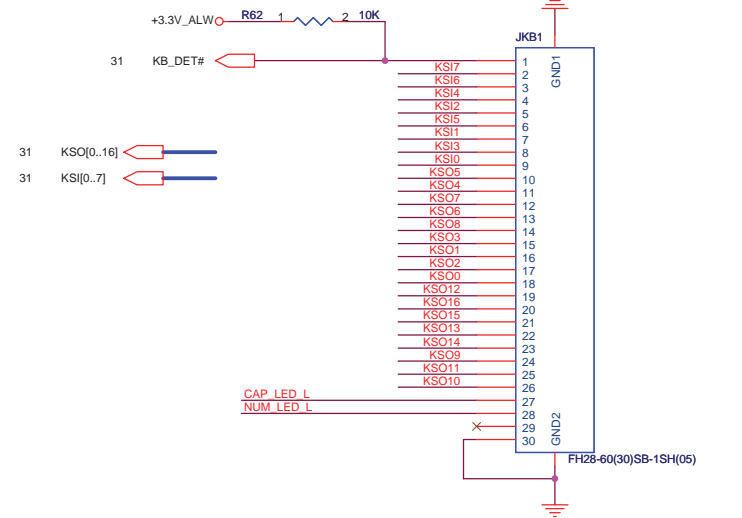
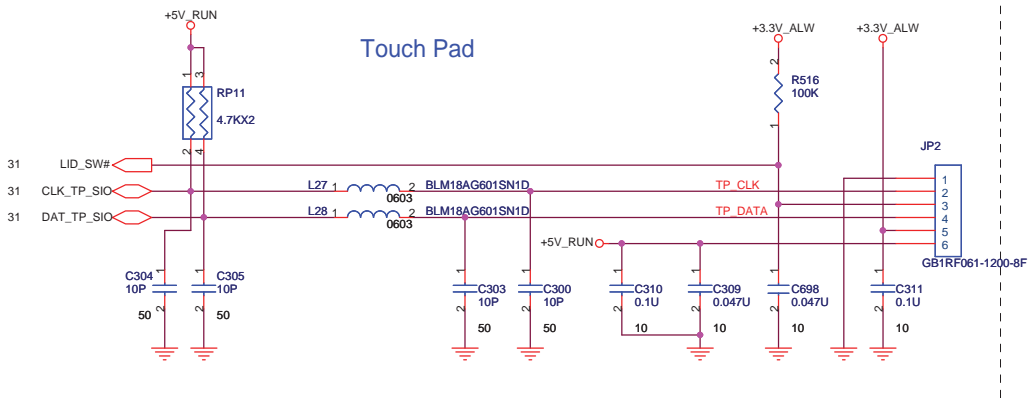
SATA Connector.



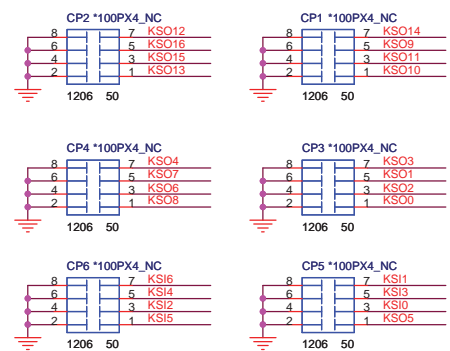
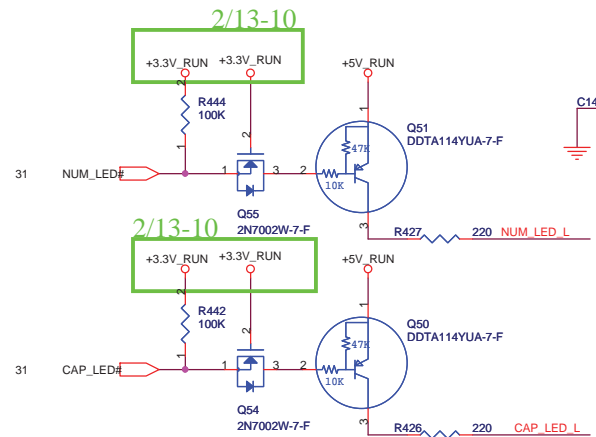
ODD Connector



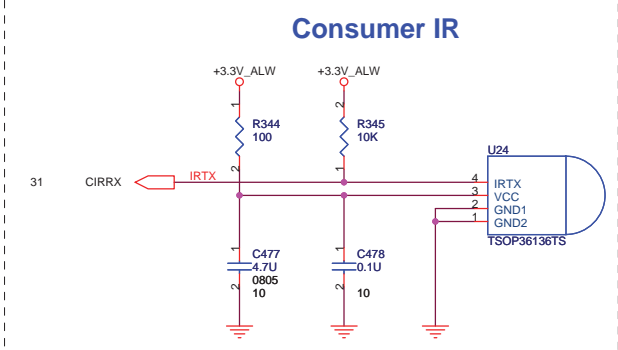
KEYBOARD CONNECTOR



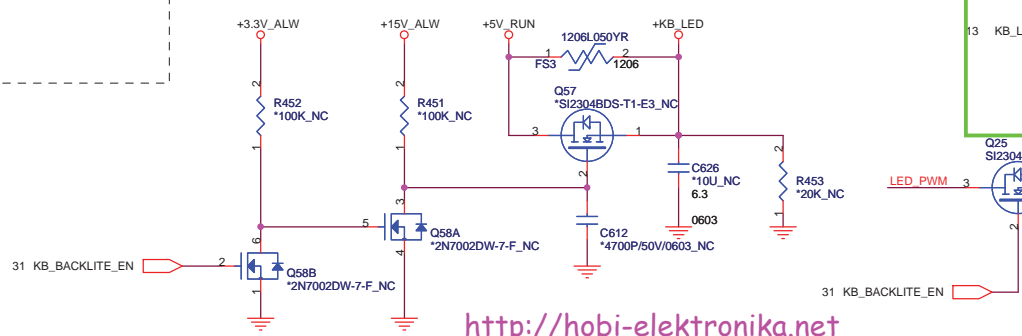
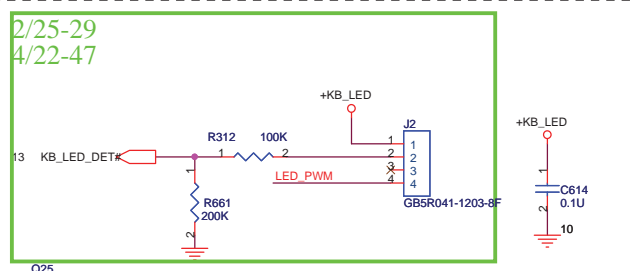
2/13-10
Change to P/N:DFFC10FR138
F/T:88501-1001-10P-L(0816)



100P CAPS CLOSE TO JKB1



Key board Illumination



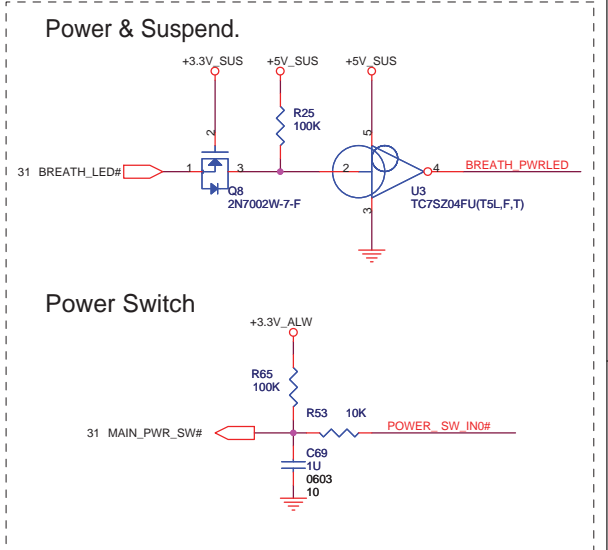
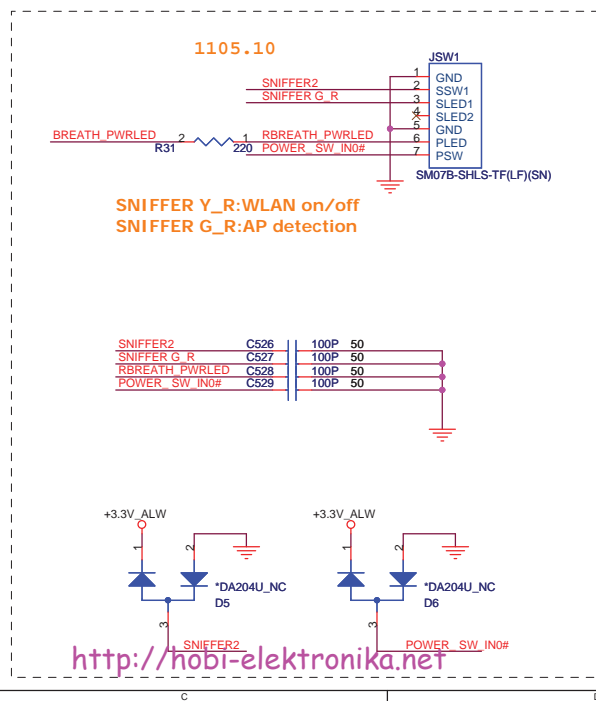
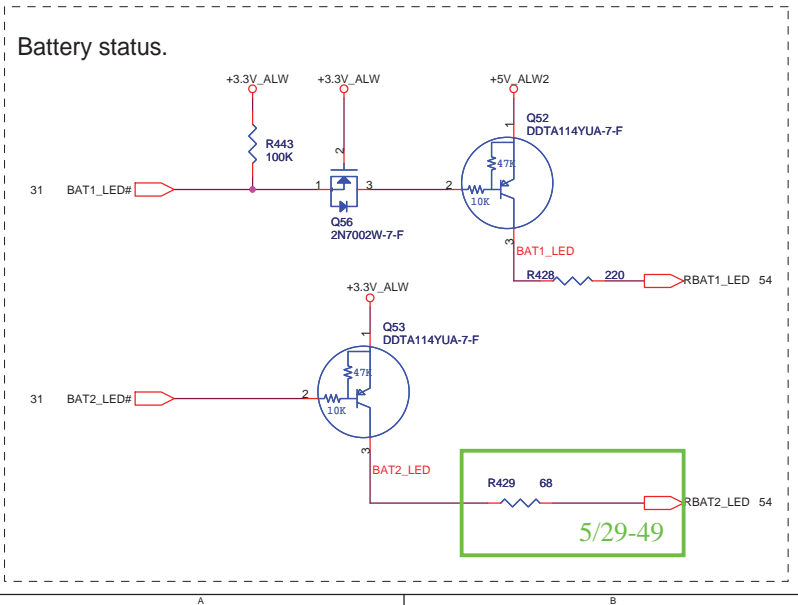
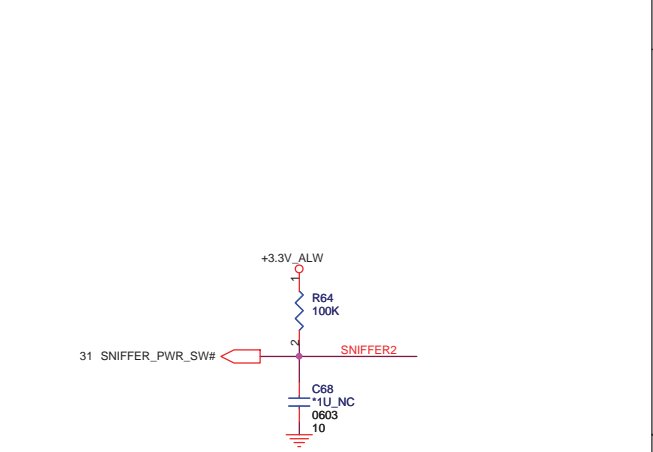
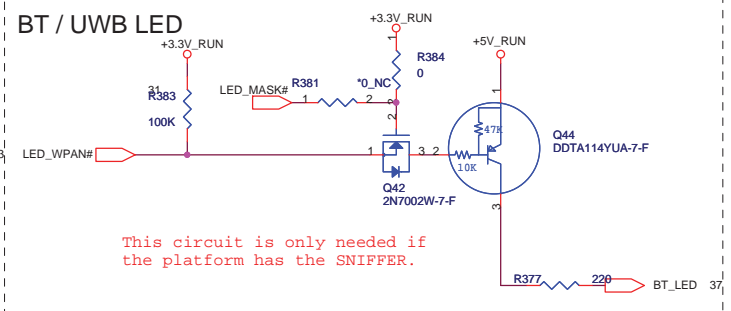
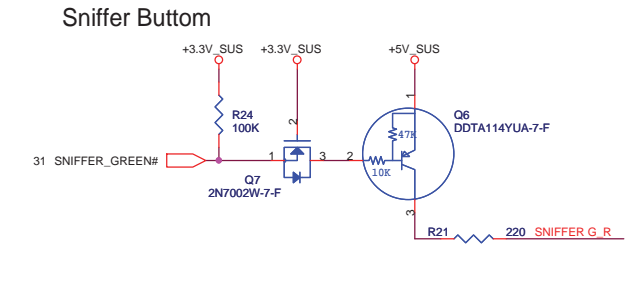
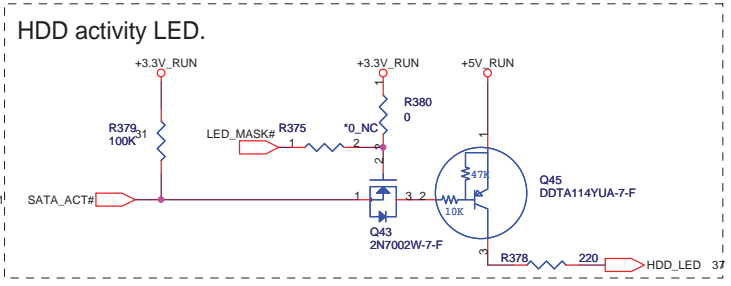
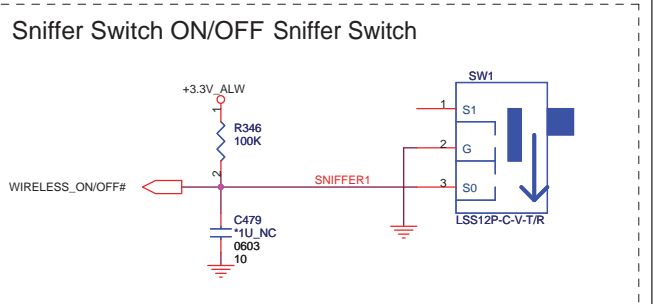
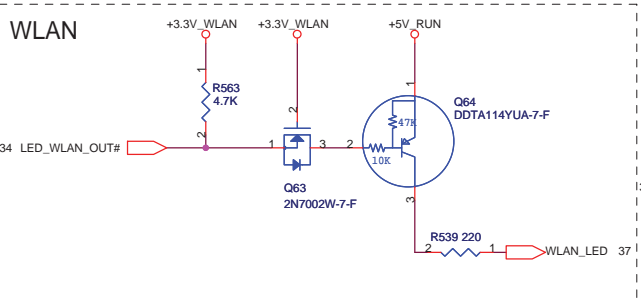
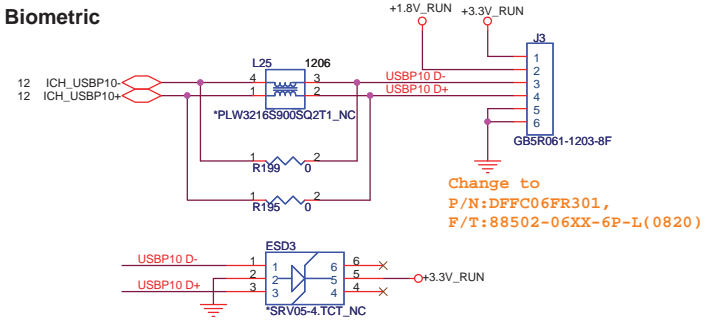
<http://hobi-elektronika.net>

QUANTA COMPUTER

Title: TOUCH PAD, BULE TOOTH & FIR

Size: Document Number FM6 Rev 3A

Date: Wednesday, July 30, 2008 Sheet 37 of 58

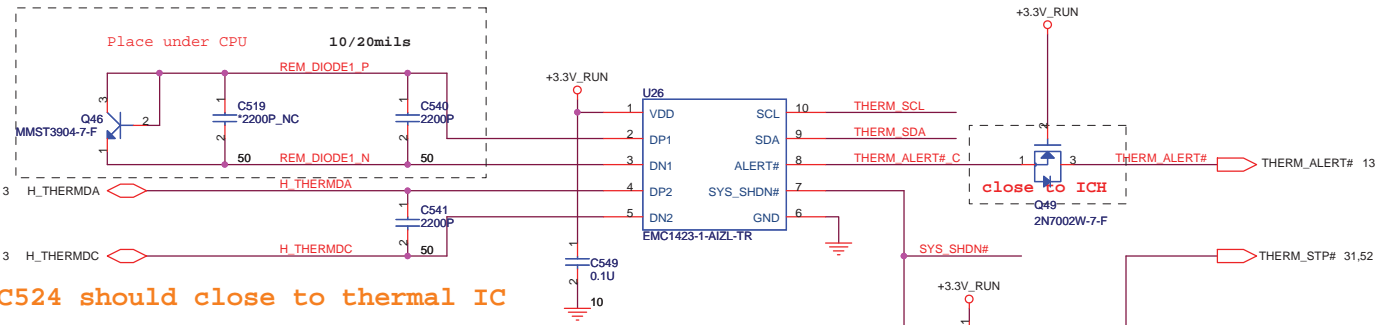
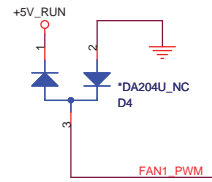
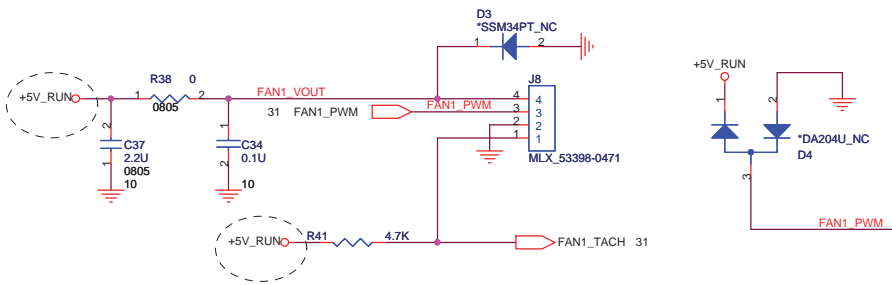


QUANTA COMPUTER

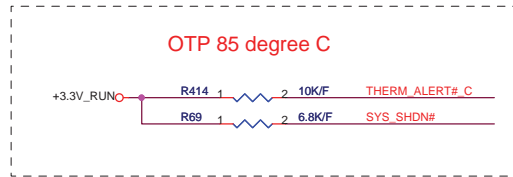
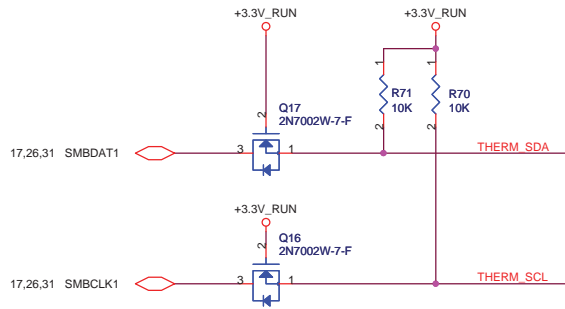
Title: SWITCH, KEYBOARD & LED

Size: Document Number FM6 Rev 3A

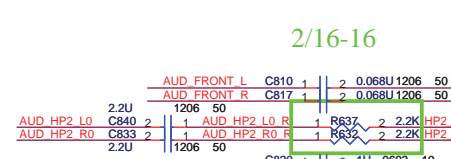
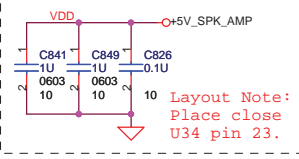
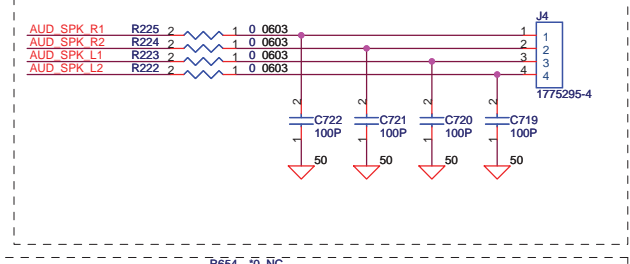
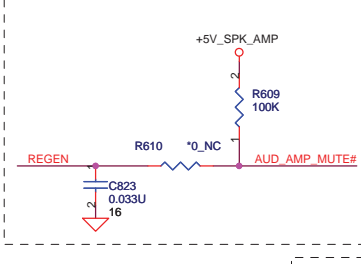
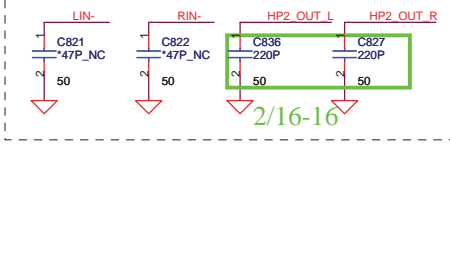
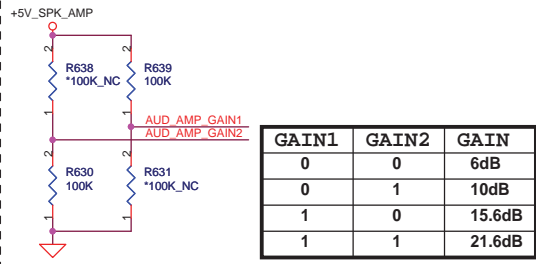
Date: Wednesday, July 30, 2008 Sheet 38 of 58



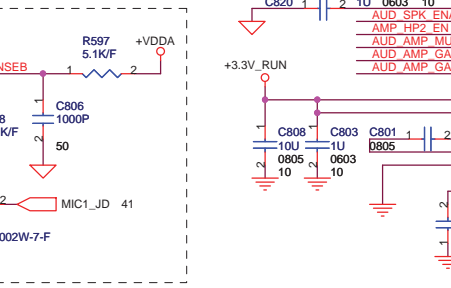
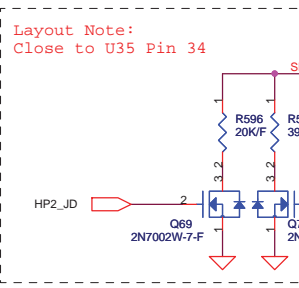
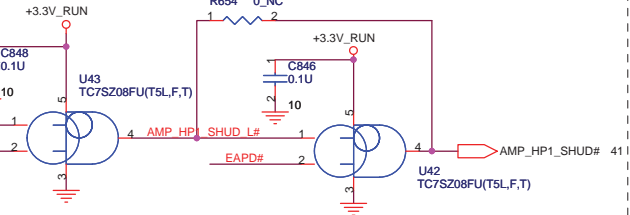
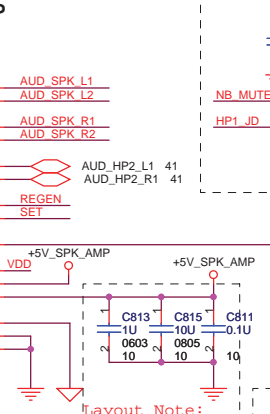
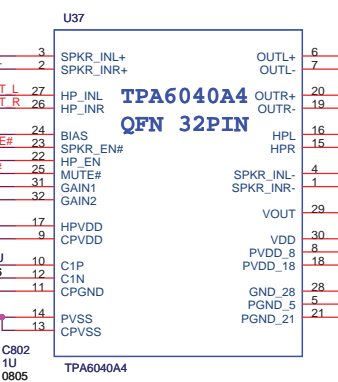
C523, C524 should close to thermal IC



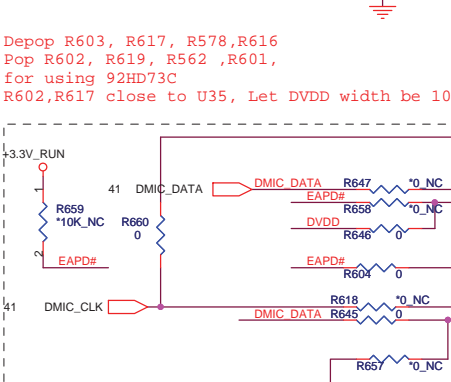
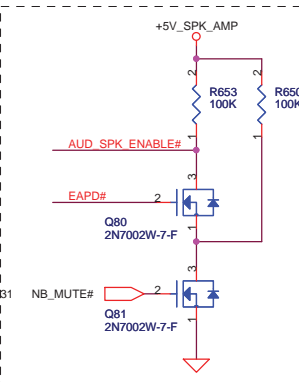
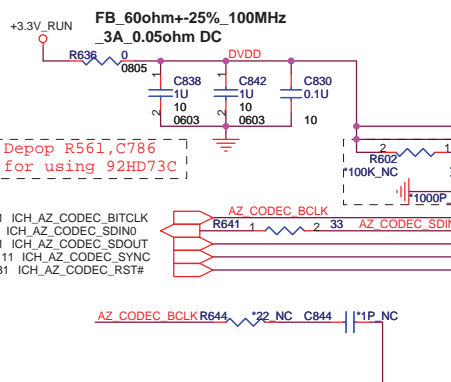
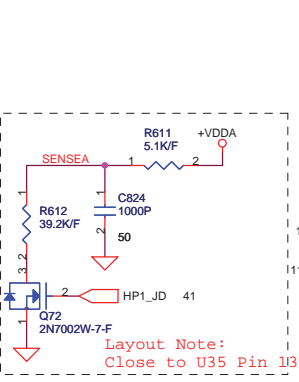
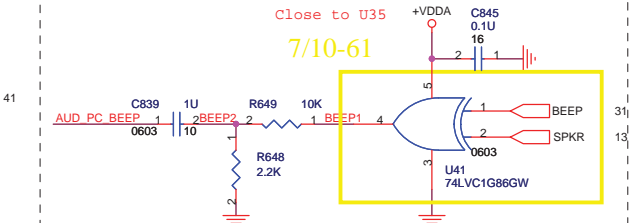
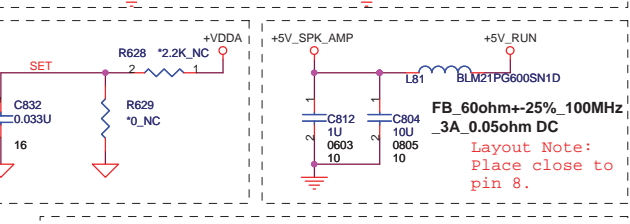
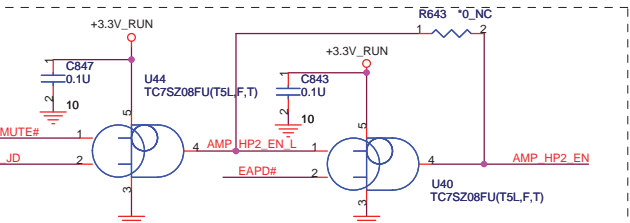
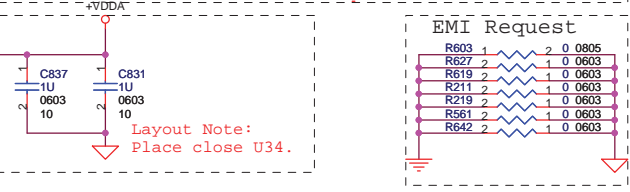
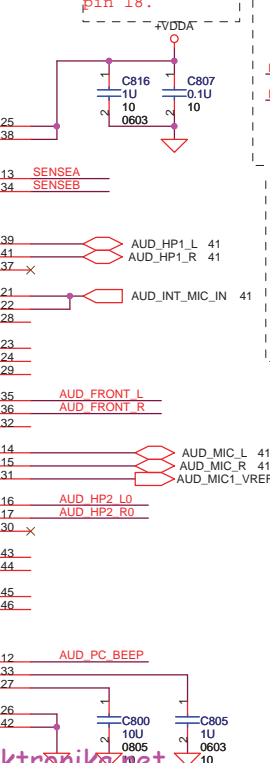
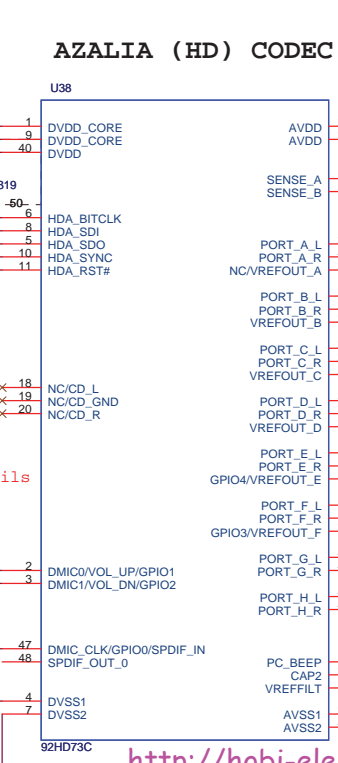
<http://hobi-elektronika.net>



INTERNAL SPEAKER AMP



AZALIA (HD) CODEC



QUANTA COMPUTER

Title: Azelia CODEC

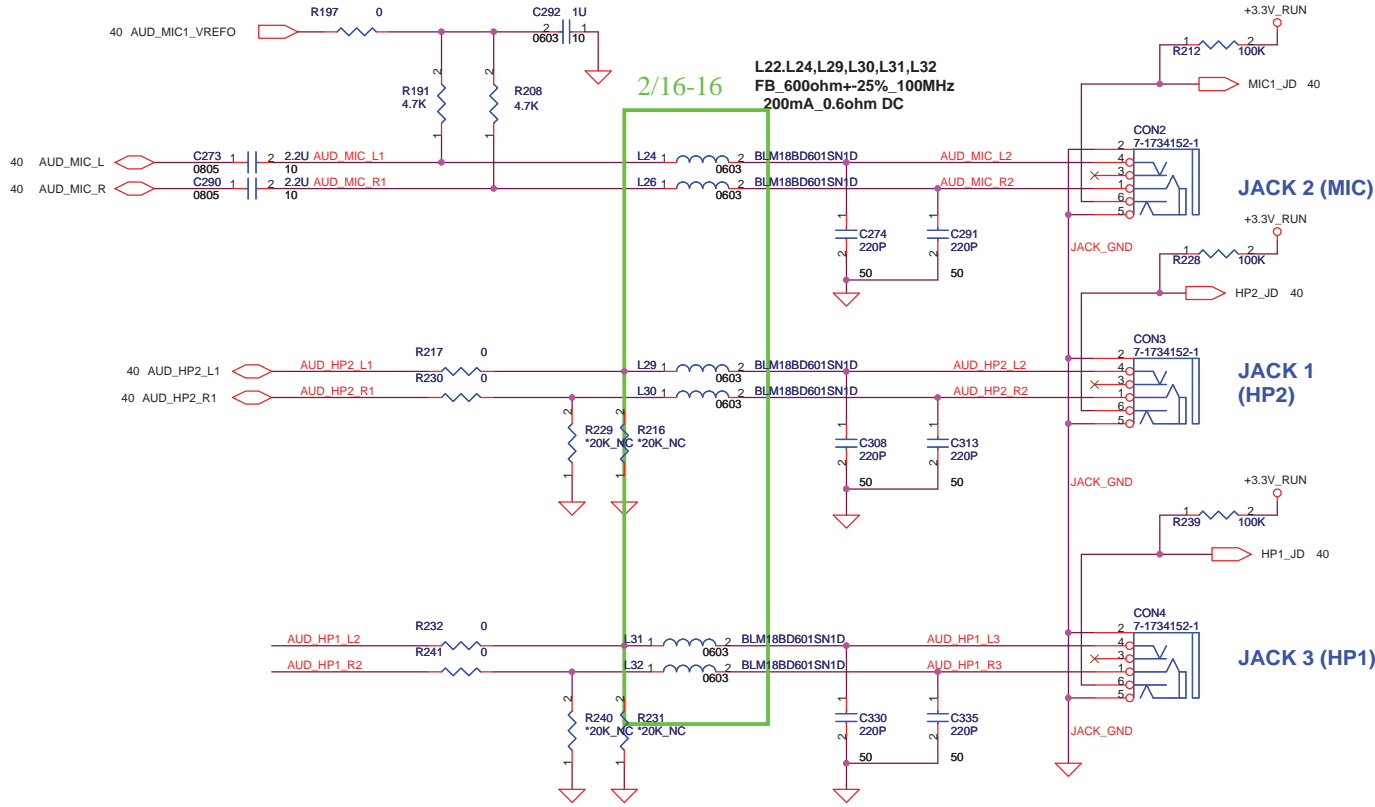
Size: Document Number FM6

Date: Wednesday, July 30, 2008

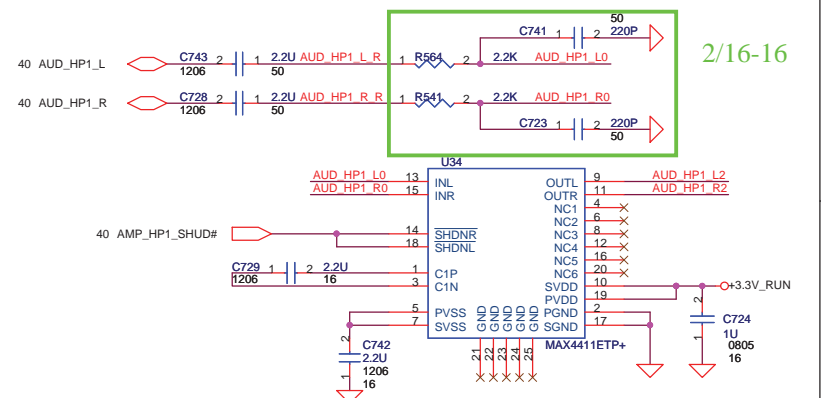
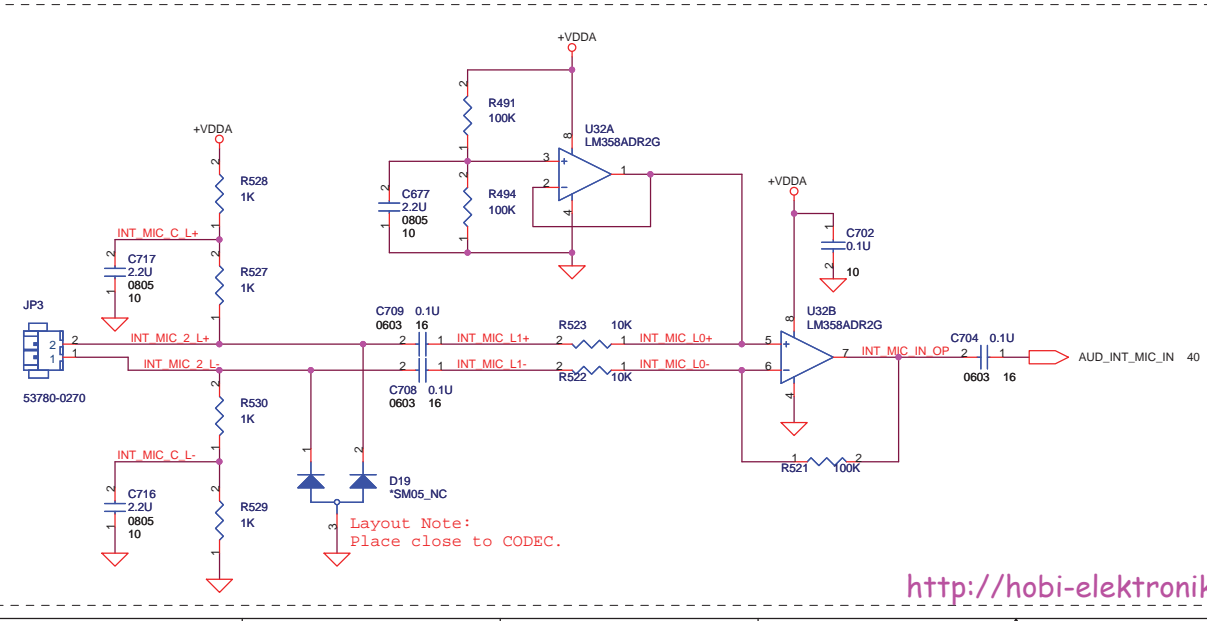
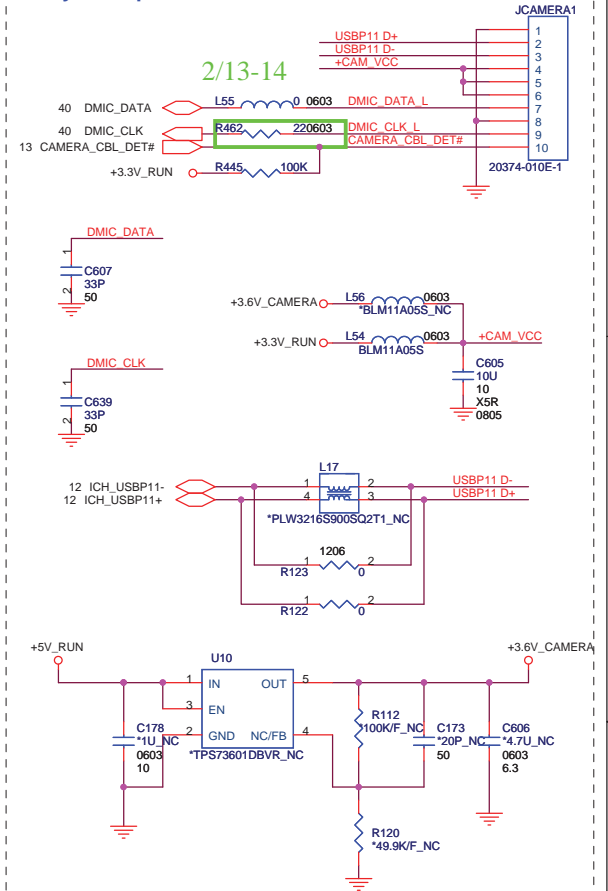
Sheet: 40 of 58

Rev: 2A

Headphone Jack Stereo MIC Jack



Array Microphone & Camera



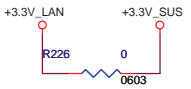
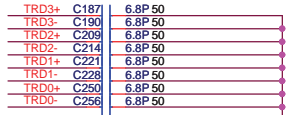
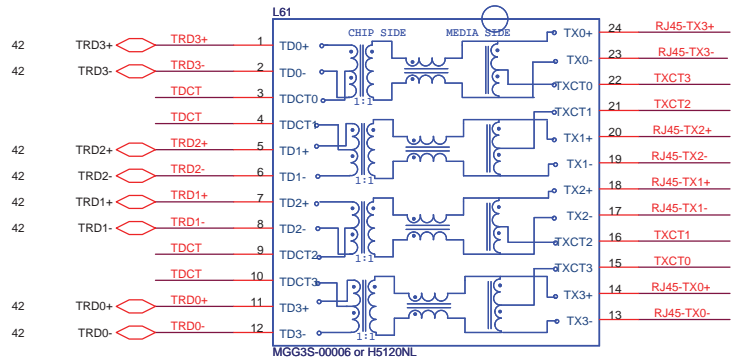
**QUANTA
COMPUTER**

Title: **AUDIO CONN**

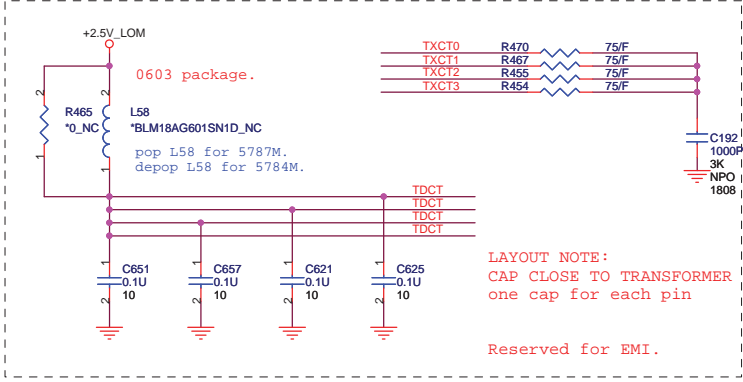
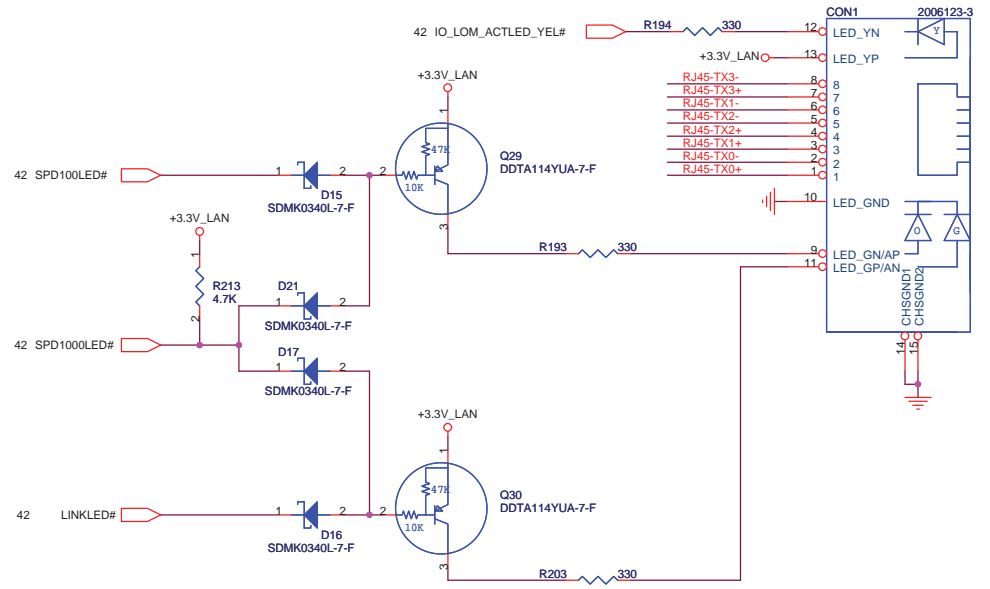
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|-----------------------|---------|
| Size: Document Number | Rev: 2A |
| FM6 | |

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TRANSFORM TRANSFORM



RJ-45 Connector

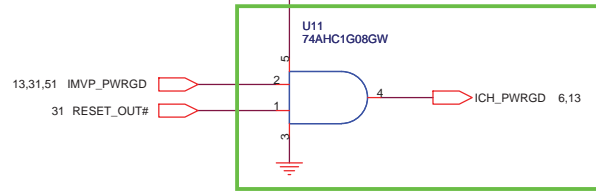
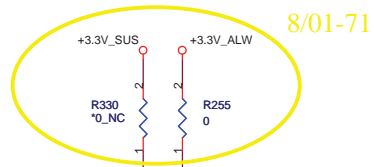


QUANTA COMPUTER

Title: LAN SWITCH

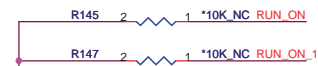
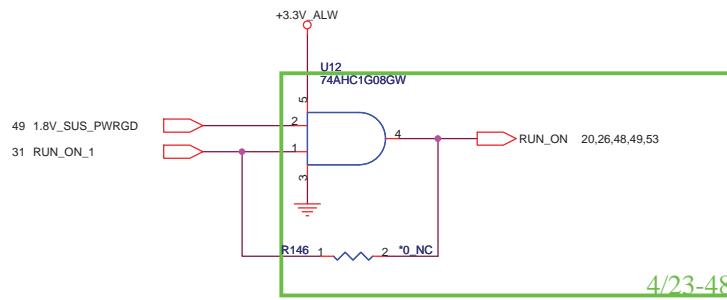
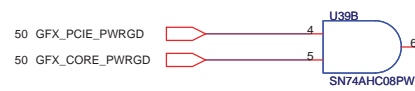
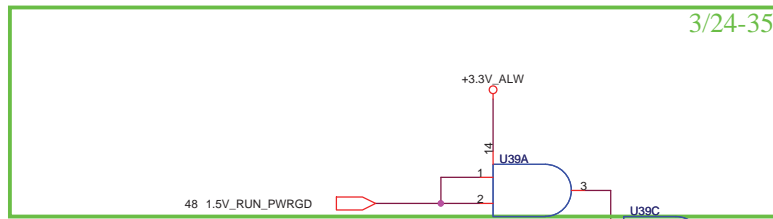
Size: Document Number FM6 Rev 3A

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4/23-48

Keep Away from high speed buses



<http://hobi-elektronika.net>



| | | |
|----------------------------------|------------------------|-----------|
| Title System Reset Circuit | | |
| Size FM6 | Document Number FM6 | Rev 2A |
| Date: Friday, August 01, 2008 | Sheet 44 | of 58 |

1

2

3

4

5

A

A

B

B


C

C

D


D

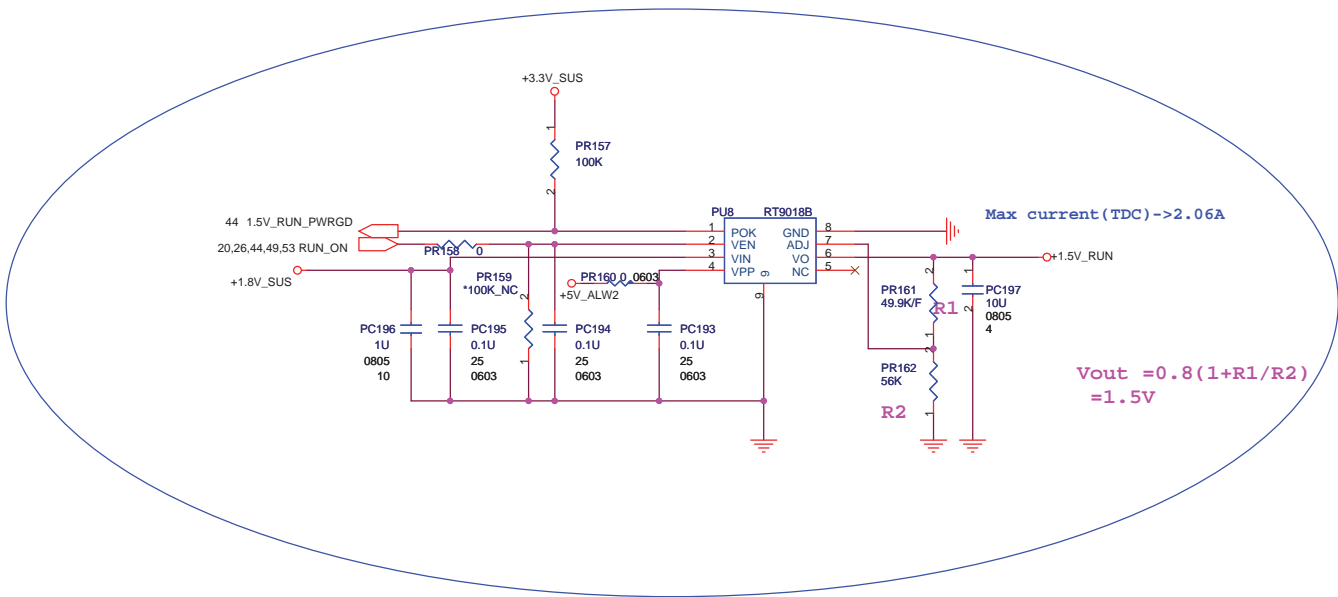
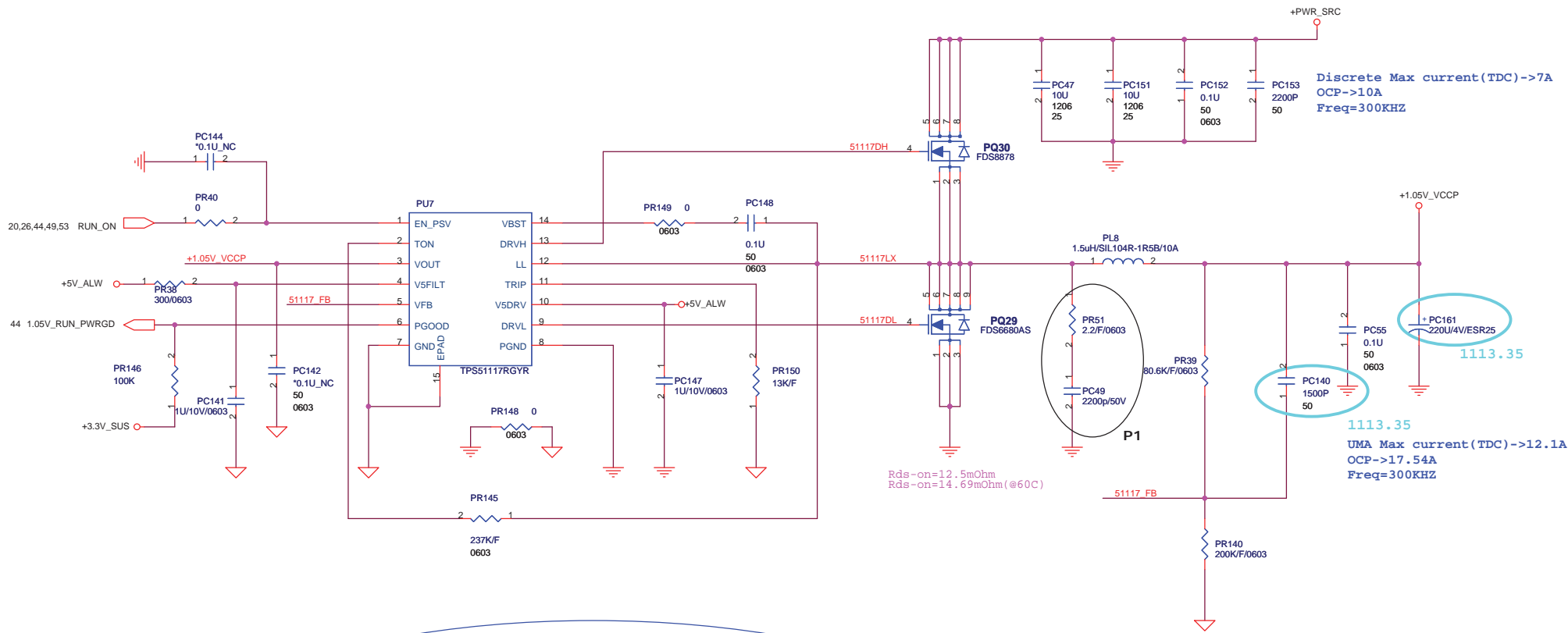
<http://hobi-elektronika.net>

| | |
|--|----------------|
|  QUANTA COMPUTER | |
| Title: Battery Selector | |
| Size: FM6 | Rev: 1A |
| Date: Monday, June 30, 2008 | Sheet 45 of 58 |

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NUMBER SAME AS DISCRETE**

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| | | |
|--|------------------------|----------------|
|  QUANTA COMPUTER | | |
| Title | | |
| Size | Document Number FM7 | Rev 1A |
| Date: | Monday, June 30, 2008 | Sheet 47 of 60 |



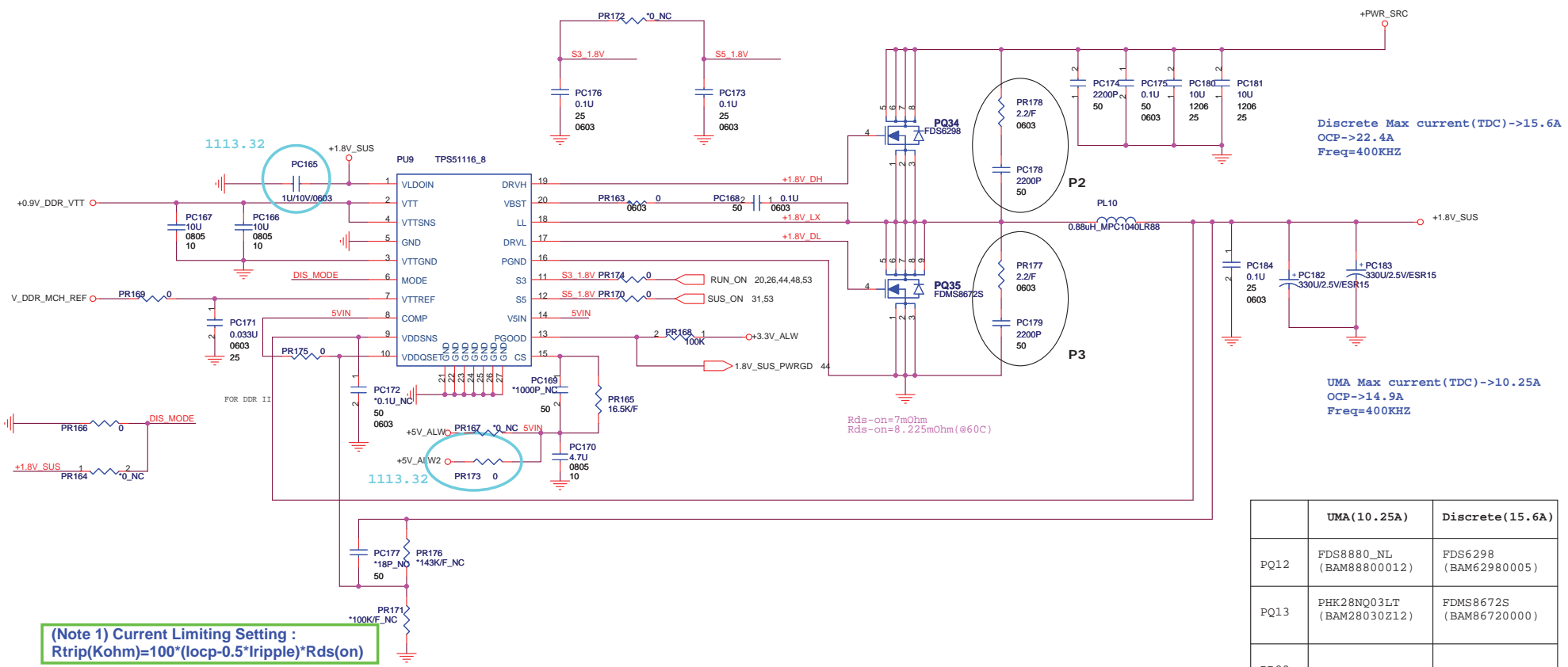
| | UMA (12.1A) | Discrete (7A) |
|-------|---------------------------------|--------------------------------|
| PQ22 | FDS8880_NL (BAM88800012) | FDS8878 (BAM88780020) |
| PQ25 | FDS6676AS_NL (BAM66760026) | FDS6680AS (BAM66800061) |
| PL25 | SIL105RA-1R5-R (CV-15F0M208) | SIL104R-1R5PF (DC-15A00010) |
| PR452 | 9.09K/F (CS29092FB27) | 10K/F (CS31002FB26) |

QUANTA COMPUTER

File: 1.05_VCCP & 1.5V_RUN

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Discrete Max current (TDC) -> 15.6A
 OCP -> 22.4A
 Freq = 400KHZ

UMA Max current (TDC) -> 10.25A
 OCP -> 14.9A
 Freq = 400KHZ

(Note 1) Current Limiting Setting :
 $R_{trip}(Kohm) = 100 * (I_{ocp} - 0.5 * I_{ripple}) * R_{ds(on)}$

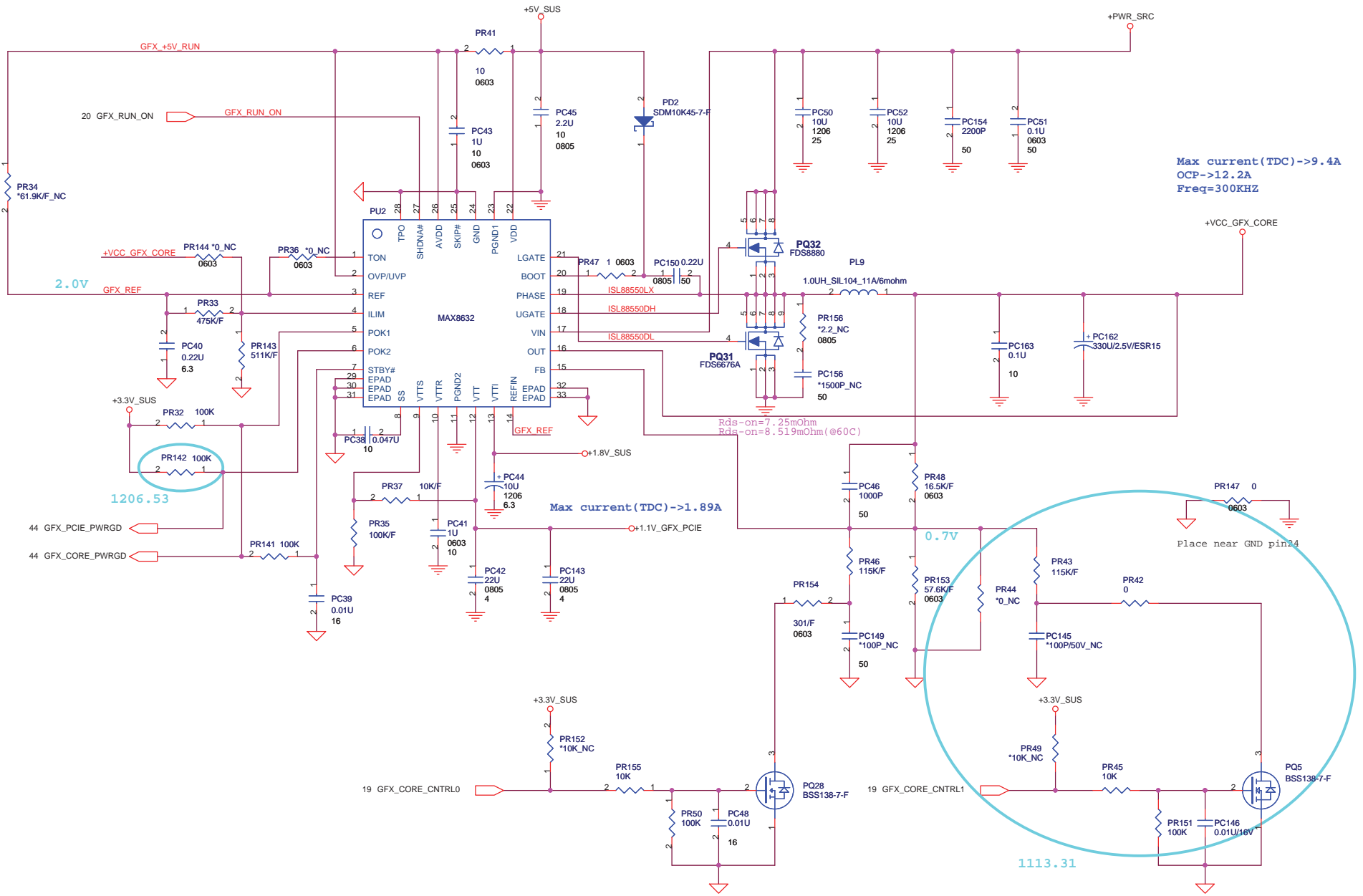
| | UMA (10.25A) | Discrete (15.6A) |
|------|------------------------------|----------------------------|
| PQ12 | FDS8880_NL (BAM88800012) | FDS6298 (BAM62980005) |
| PQ13 | PHK28NQ03LT (BAM28030212) | FDMS8672S (BAM86720000) |
| PR83 | | |
| | | |

QUANTA COMPUTER

Title: 1.8VSUS & 0.9VTT (TPS51116)

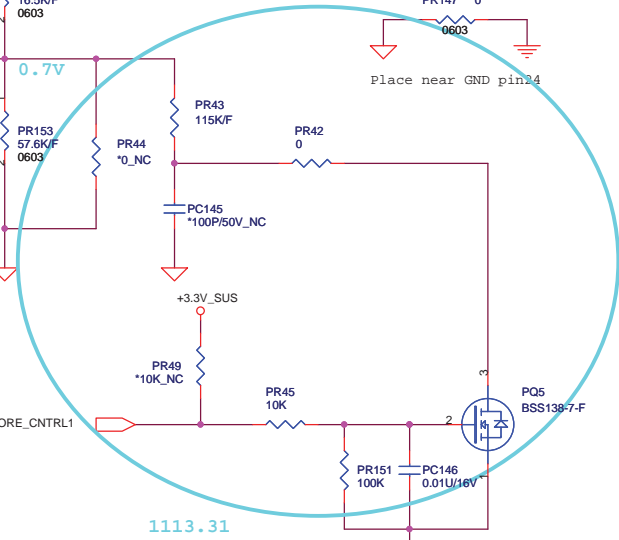
| | | |
|------|-----------------|-----|
| Size | Document Number | Rev |
| | FM7 | 1A |

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Max current (TDC) -> 9.4A
 OCP -> 12.2A
 Freq = 300KHz

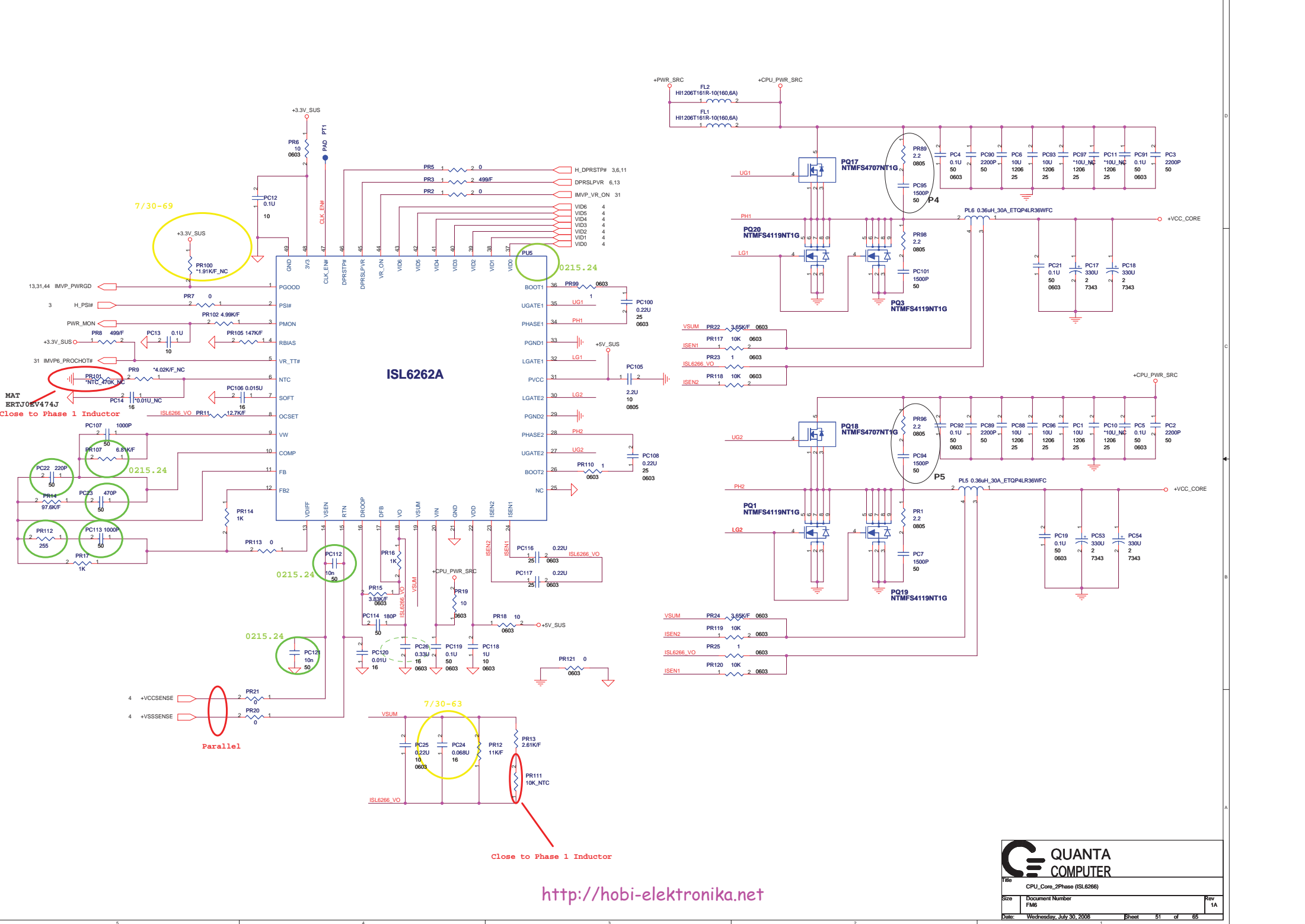
Max current (TDC) -> 1.89A



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

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7/30-69

+3.3V_SUS

PR100 1.91K/N_C

PR7 0

PR102 4.99K/F

PR8 499F

PC13 0.1U

PR105 147K/F

PR9 4.02K/N_C

PC106 0.015U

PC14 0.01U_N_C

ISL6266_VO PR11 12.7K/F

PC107 1000P

PR107 6.8K/F

0215.24

PC22 220P

PR4 97.6K/F

PC23 470P

PR112 255

PC113 1000P

PR17 1K

PC112 10n

0215.24

PC12 10n

0215.24

PC120 0.01U

PC119 0.1U

PC118 1U

PC121 0

PC25 0.22U

PC24 0.068U

PR12 11K/F

PR13 2.61K/F

PR111 10K_NTC

ISL6266_VO

7/30-63

PC26 0.33U

PC119 0.1U

PC118 1U

PR12 11K/F

PR13 2.61K/F

PR111 10K_NTC

ISL6266_VO

Parallel

ISL6262A

0215.24

Close to Phase 1 Inductor

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QUANTA COMPUTER

File: CPU_Core_2Phase (ISL6266)

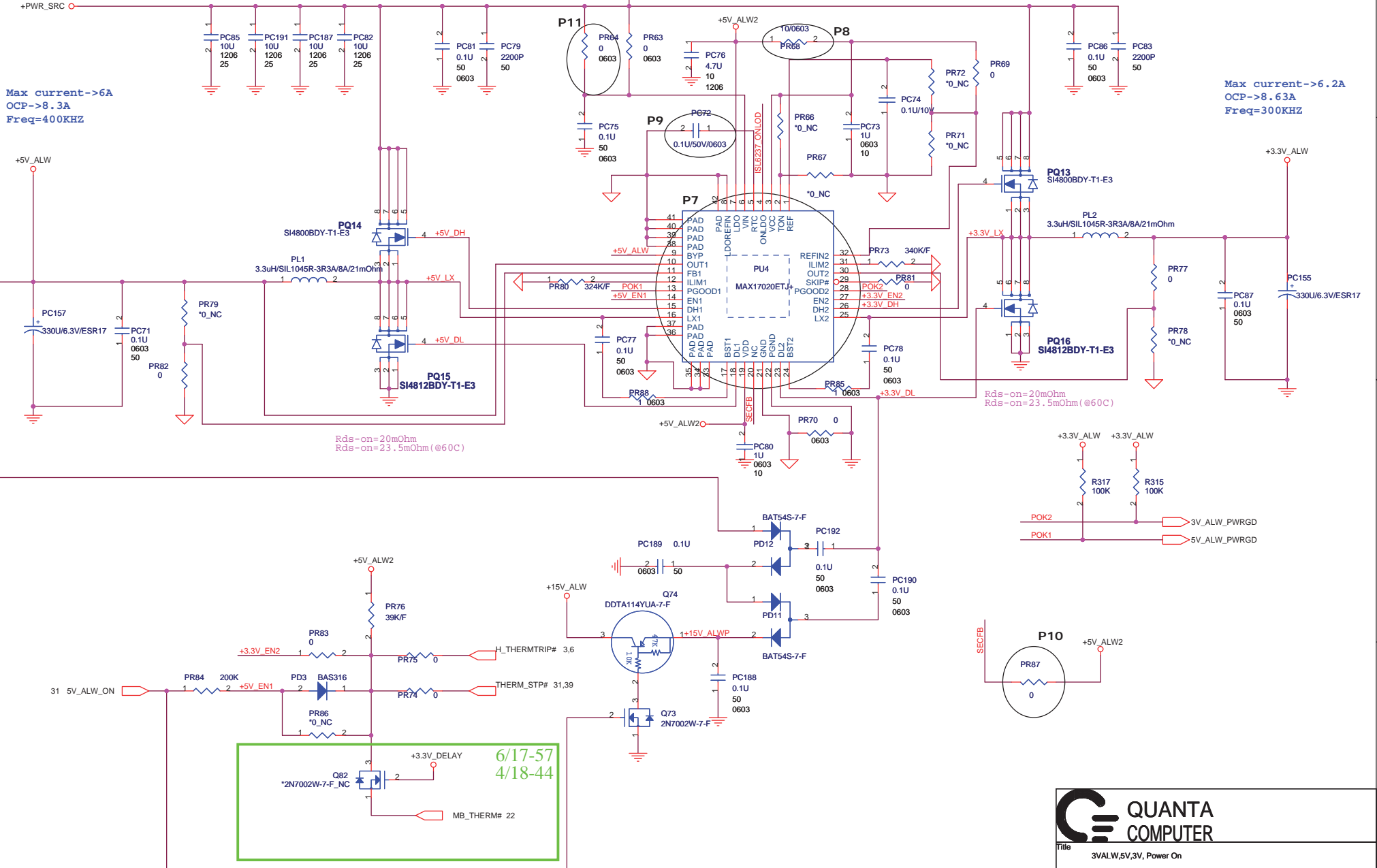
| | | |
|------|-----------------|-----|
| Size | Document Number | Rev |
| | FME | 1A |

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DC/DC +3V_ALW/+5V_SUS/+5V_ALW /+15V_ALW

Place these CAPs close to FETs

Place these CAPs close to FETs



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

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

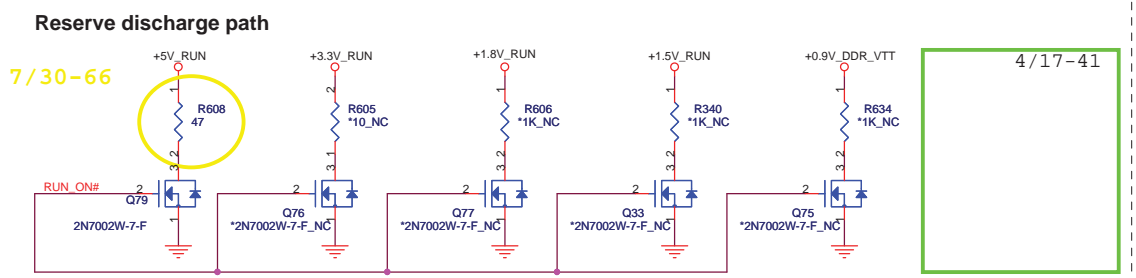
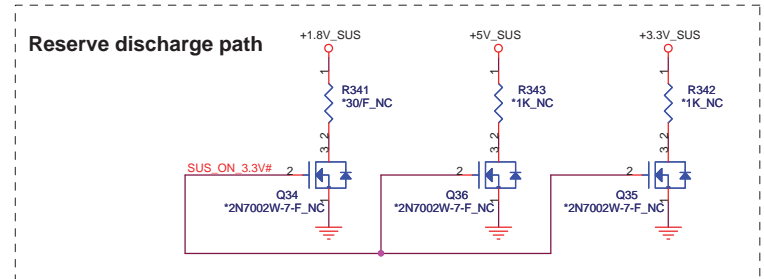
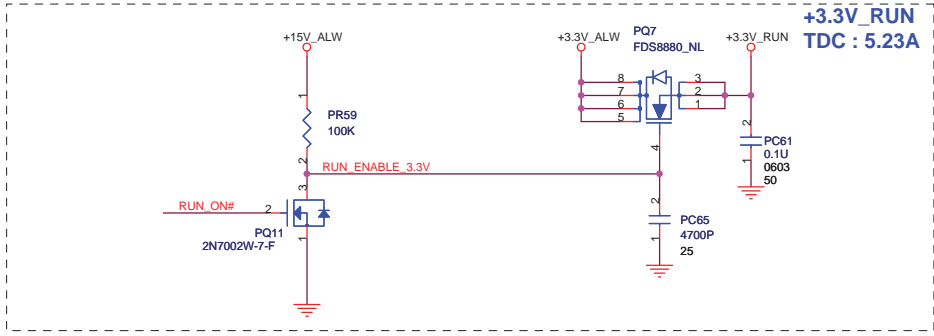
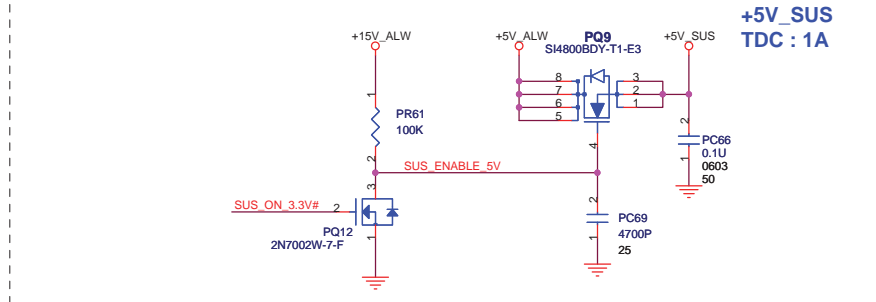
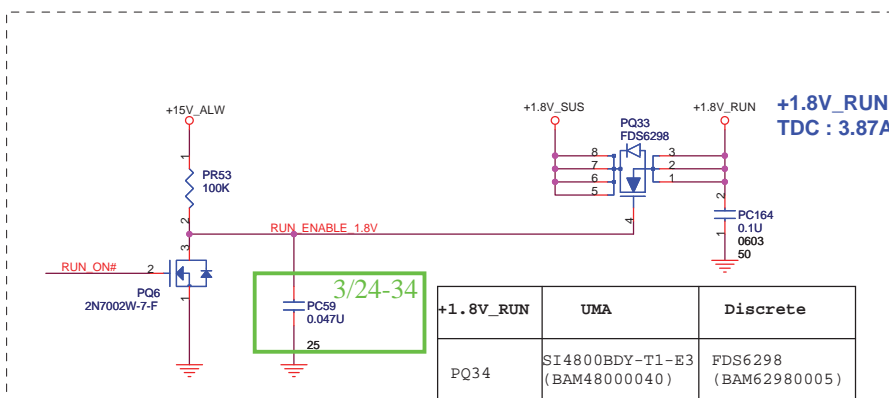
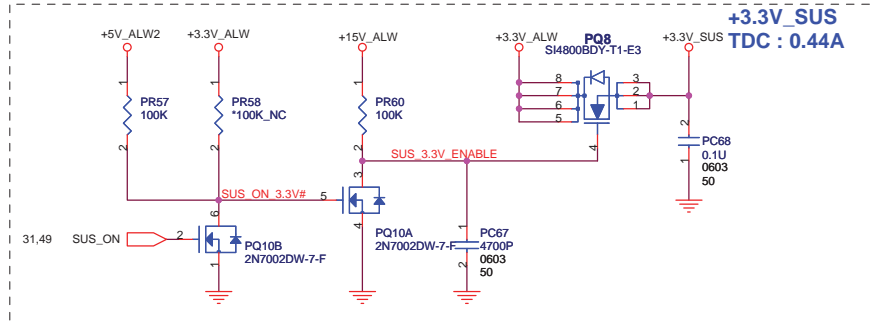
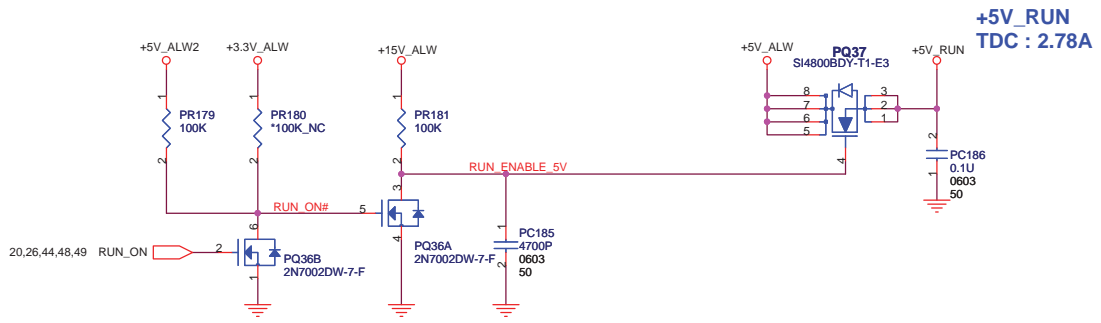
Rds-on=20mOhm
Rds-on=23.5mOhm (@60C)

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

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| | | | |
|-------|-------------------------|-----------------------|----------|
| Title | | 3VALW.5V.3V, Power On | |
| Size | Document Number | Rev | |
| FM7 | | 1A | |
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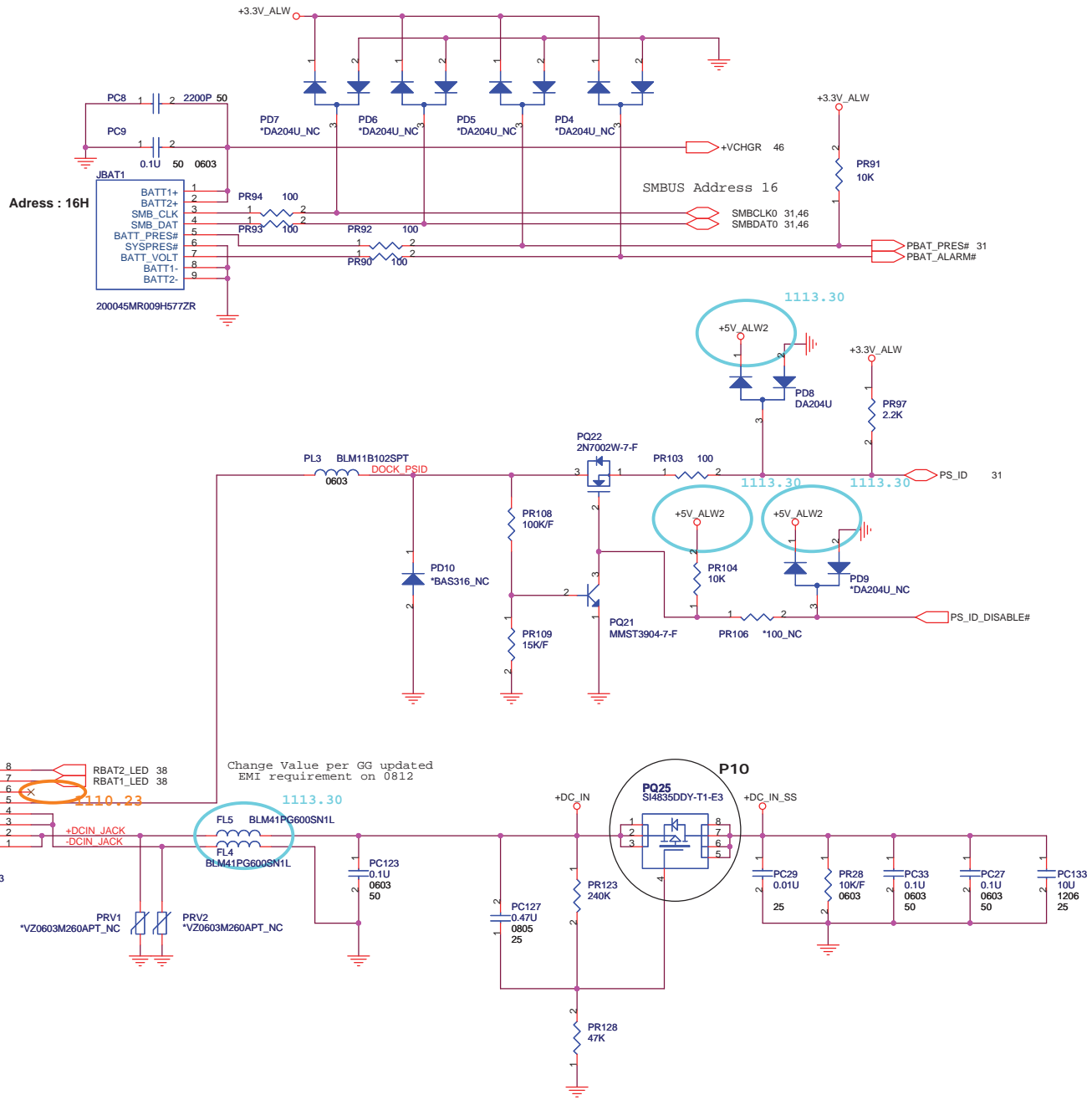
<http://hobi-elektronika.net>

QUANTA COMPUTER

Title: RUN POWER SW

| | | |
|-----------|----------------------|---------|
| Size: FM7 | Document Number: FM7 | Rev: 1A |
|-----------|----------------------|---------|

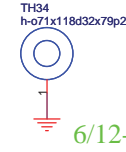
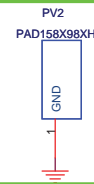
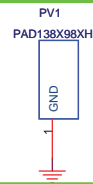
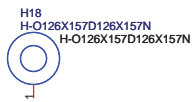
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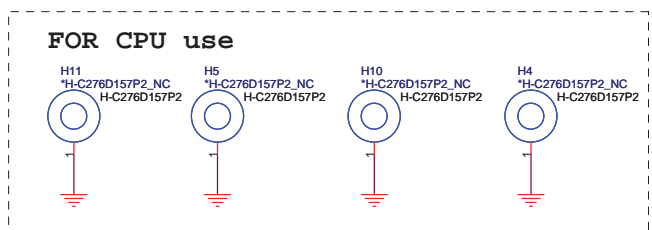
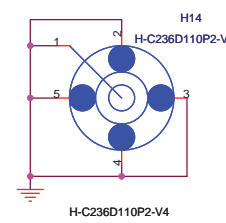
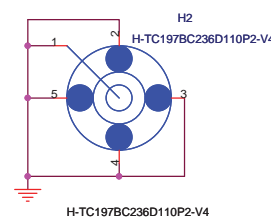
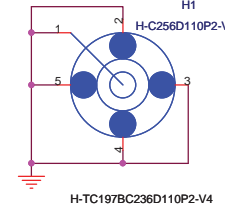
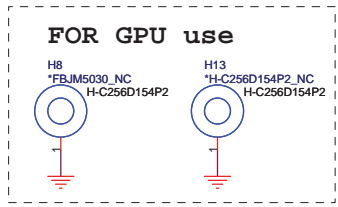
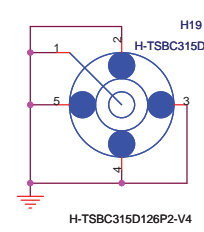
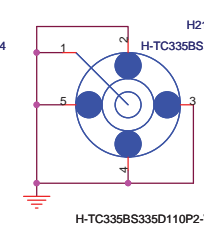
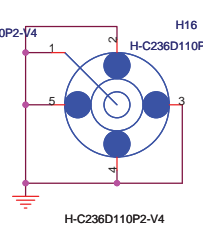
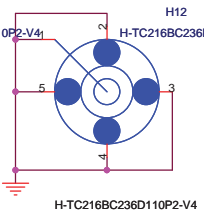
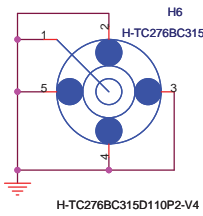
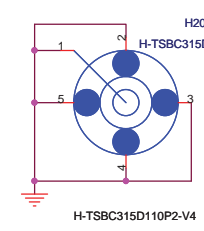
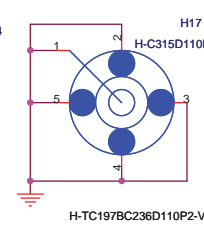
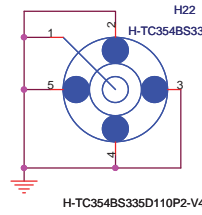
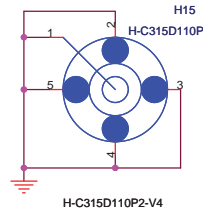
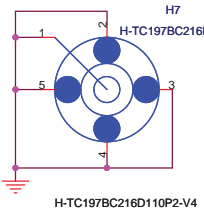
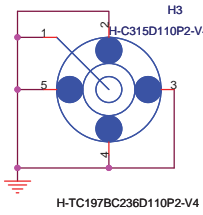
QUANTA COMPUTER

| | | |
|-----------------------------------|------------------------|-----------|
| Title DCIN, BATT CONNECTOR | | |
| Size Fm7 | Document Number Fm7 | Rev 1A |
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4/22-46

6/12-54



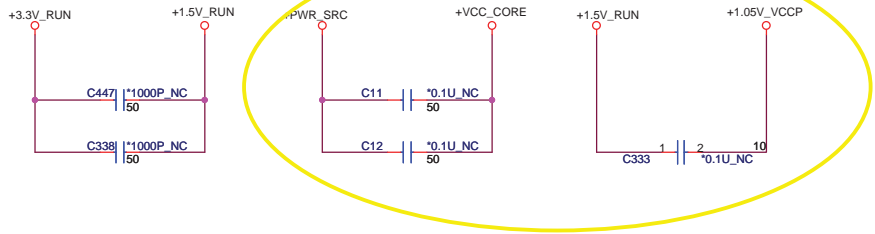
**QUANTA
COMPUTER**

Title: SCREW PAD


| | |
|-----------------------------|-----------------|
| Size: Document Number FM6 | Rev: 2A |
| Date: Monday, June 30, 2008 | Sheet: 55 of 58 |

Reserved for EMI.

0906.1

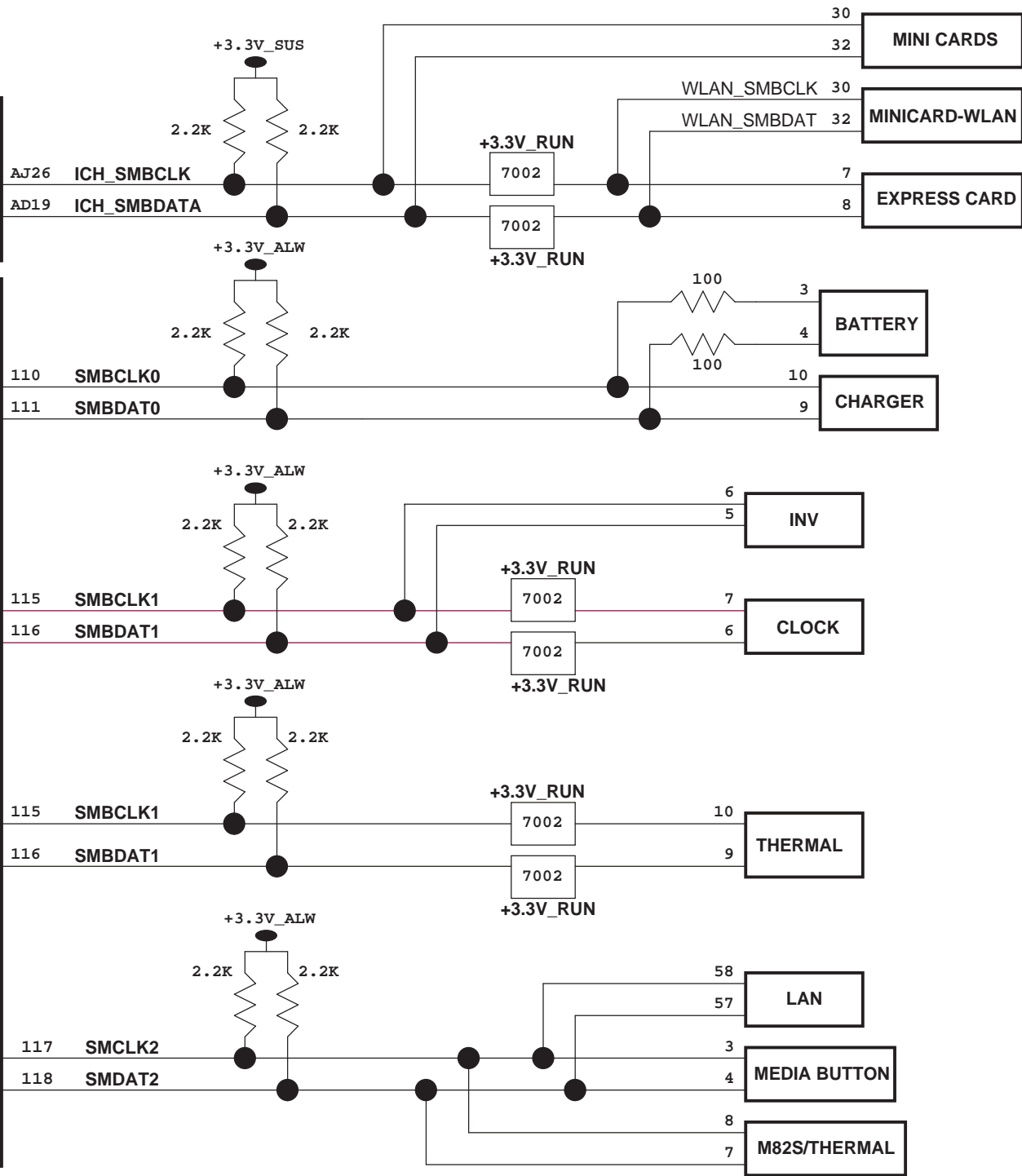


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| | | |
|--|----------------------|---------|
|  QUANTA COMPUTER | | |
| Title: EMI CAP | | |
| Size: FM6 | Document Number: FM6 | Rev: 1A |
| Date: Monday, June 30, 2008 | Sheet: 56 | of 58 |

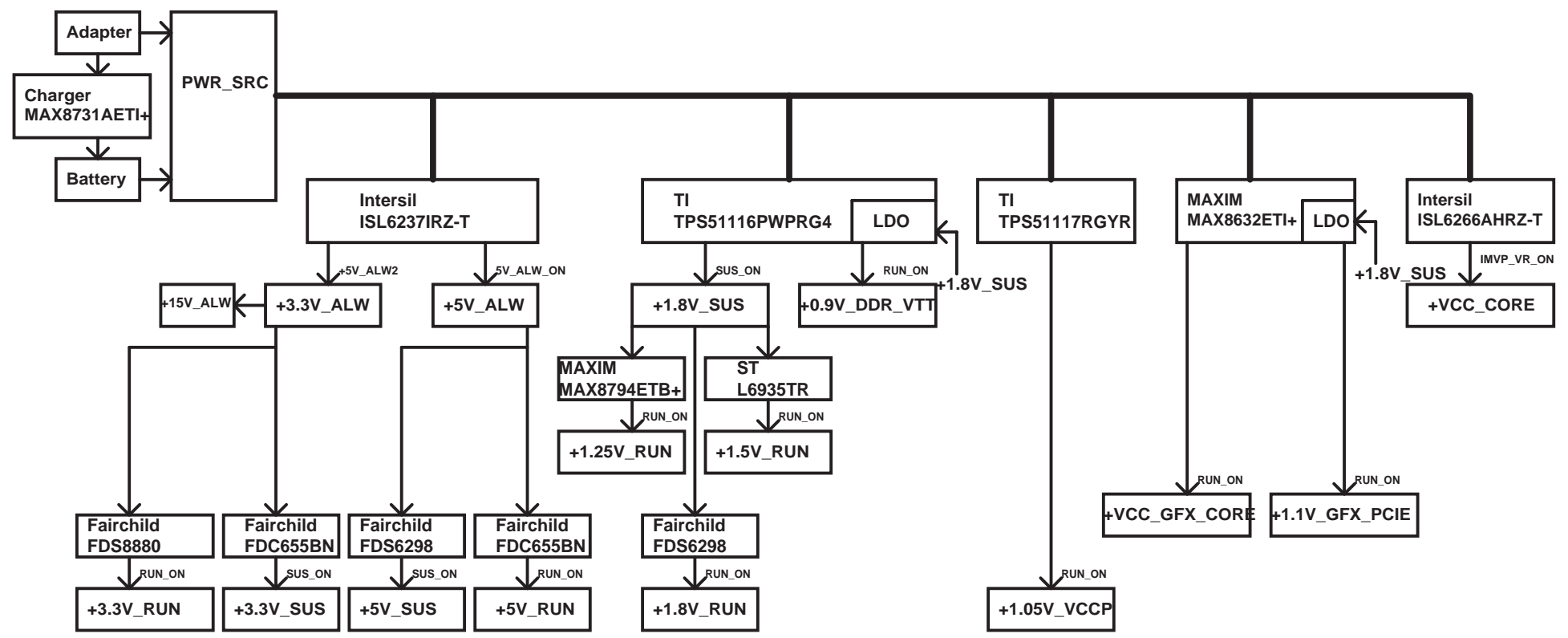
ICH8-M

**SIO
ITE8512**



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| | | |
|-----------------------------|----------------------|---------|
| | | |
| Title: SMBUS BLOCK | | |
| Size: | Document Number: FM6 | Rev: 1A |
| Date: Monday, June 30, 2008 | Sheet: 57 | of 58 |



| Model | Item | Page | Date | ECN Number | Item Id | Rev. | Issue Description | Solution Description |
|-------|------|--------|---------|------------|---------|------|--|---|
| FM7 | 1 | 3 | 2-13-08 | | | | Debug port needs to be updated for MV | Change the BOM, and add a pull high circuit on ITP_BPM#5 |
| | 2 | 3 | 2-13-08 | | | | H_THERM circuit has risk | Change the BOM in order to make it same with FM6 |
| | 3 | 8 | 2-13-08 | | | | VCC_AXG and VCC_AXG_NCTF are different with MV DG | Change VCC_AXG, and VCC_AXG_NCTF to ground |
| | 4 | 11, 35 | 2-13-08 | | | | Add E-SATA function | Refer to page 11 and 35 |
| | 5 | 13 | 2-13-08 | | | | Some power rails don't mach with DG | Refer to page 13 |
| | 6 | 17 | 2-13-08 | | | | BSEL0, BSEL1, and BSEL2's seris resistors don't mach with DG | Refer to page 17 |
| | 7 | 9 | 2-13-08 | | | | VCCA_SM doesn't mach with DG | Add 0-ohm in order to make it same with other project |
| | 8 | 9 | 2-13-08 | | | | VCCD_TVDAC and VCCD_QDAC are different with DG | Grond VCCD_TVDAC and update another circuit for VCCD_QDAC |
| | 9 | 19,22 | 2-13-08 | | | | Change the power rail for avoiding leakage during power up | Change +3.3V_RUN to +3.3V_DELAY |
| | 10 | 37 | 2-13-08 | | | | MMB vender changed it's F/W to fix the LED flash issue. Change Num/Cap LED circuit for avoiding leakage voltage | Change the circuit, refer to page 37 |
| | 11 | 35 | 2-13-08 | | | | Fulfill reliability's request | Add one more power pin on connector |
| | 12 | 31 | 2-13-08 | | | | New chip version for ITE | Change the circuit |
| | 13 | 40,42 | 2-13-08 | | | | Change chip version for Codec and LOM | Done |
| | 14 | 41 | 2-13-08 | | | | Approve DMIC'S performance according to IDT's recommendation | Change o-ohm to 22-ohm |
| | 15 | 26 | 2-16-08 | | | | DDC BUS for HDMI Certificate | Add Level Shift on DDC BUS of HDMI |
| | 16 | 40,41 | 2-16-08 | | | | Need to meet WLP4.0 | Refer to page 40 and 41 |
| | 17 | 31 | 2-16-08 | | | | Add audio solution for PO noise issue when loading driver | Connect ICH_AZ_CODEC_RST# to SIO.22 |
| | 18 | 14 | 2-18-08 | | | | Reserve +1.5V_SUS for VCCSUSHDA | Add a LDO and reserve 0-ohm for +1.5V_SUS |
| | 19 | 13 | 2-18-08 | | | | Avoid leakage voltage | Follow the SR FM6 design |
| | 20 | 17 | 2-19-08 | | | | After FAE review, modify circuit in order to let wave form smooth | Add two 0.1u cap |
| | 21 | 17 | 2-20-08 | | | | After FAE review, modify circuit for single end nets | change 0-ohm to 33-ohm, add pull high resistor |
| | 22 | 35 | 2-20-08 | | | | Add E-SATA redriver function | Refer to page 35 |
| | 23 | 42 | 2-21-08 | | | | According to FAE, stub a resister | Refer to page 42 |
| | 24 | 17 | 2-21-08 | | | | In order to meet spec, we need to swap two signals | Refer to page 17 |
| | 25 | 35 | 2-22-08 | | | | Co-work with GM3 team and decide to take USB charger function off | Refer to page 35 |
| | 26 | 21 | 2-22-08 | | | | According to realiability team request, change BOM | Change L51 |
| | 27 | 12 | 2-25-08 | | | | Need to meet Dell USB port requirement | Refer to page 12 |
| | 28 | 19 | 2-25-08 | | | | FAE's suggestion is add ground | Refer to page 19 |
| | 29 | 13,37 | 2-25-08 | | | | Add one pin for LCD inverter det | Refer to pages |
| | 30 | 30 | 3-03-08 | | | | Footprint is wrong for express card | Refer to FM6 footprint |
| | 31 | 32 35 | 3-24-08 | | | | Change locations for USB and Coin Battery for safty requirement | Refer to those pages |
| | 32 | 26 35 | 3-24-08 | | | | Change BOM for HDMI and E-sata | Refer to those pages |
| | 33 | 49 | 3-24-08 | | | | Del 1.25V power rail | Refer to page 49 |
| | 34 | 53 | 3-24-08 | | | | Change BOM for correcting power sequence | Refer to page 53 |

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| | | | |
|----------------------|--------------------------|-----------|--------|
| Title Change List | | | |
| Size | Document Number FM7 | Rev 1A | |
| Date: | Wednesday, June 18, 2008 | Sheet | 1 of 6 |

