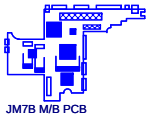

JM7B-DISCRETE

PWA FP382, PWB UW445,
SCHEM PM333. (128MB)
VER : 2B

POWER
- SYSTEM RESET CIRCUIT PG 44
- BATT SELECTOR PG 45
- BATT CHARGER PG 46
- RUN POWER SW PG 53 — +3.3V_SUS/+5V_SUS +5V/+3.3V/+1.8V

AC/BATT CONNECTOR PG 54

Merom (478 Micro-FCPGA) PG 3,4 (Symbol Rev.09)

667/800 MHz FSB

POWER
- VGA DC/DC PG 50
- CPU VR PG 51
- DC/DC PG 52 — +3.3V_ALW/+5V_ALW/+15V_ALW
- REGULATOR PG 47 — +1.8V_SUS/+0.9V_DDR_VTT
- REGULATOR PG 48 — +1.25V_RUN/+1.05V_VCCP/ +1.25V_GFX_PCIe
- REGULATOR PG 49 — +1.5V_RUN

CLOCK CK410M+LP PG 17

DDR2-SODIMM1 PG 15,16 — 533/667 MHZ DDR II

DDR2-SODIMM2 PG 15,16 — 533/667 MHZ DDR II

Crestline 1299 uFCBGA PG 5,6,7,8,9,10 (Symbol Rev.09)

PCIEx16

nVIDIA G86/G72M PCI EXPRESS GFX PG 18,19,20,21,22
- LVDS — **Panel Connector** PG 24
- DVI
- TVOUT — **MINI DIN 7** PG 23
- VGA — **CRT CONN.** PG 25

DOCKING CONNECTOR PG 43

Internal Media Bay CD-ROM PG 26 — IDE

DMI interface

USB2.0 (P0,P1) (EXT SIDE)
USB2.0 (P2,P3) (EXT BACK)
USB2.0 (P8)
POWER USB & USB PG 33

33MHz PCI

Q-SWITCH PG 42

SMART CARD OZ77CR6LN PG 28 — USB1.0

SATA - HDD PG 26 — SATA

USB2.0 (P4)

ICH8-M 676 BGA PG 11,12,13,14 (Symbol Rev.09)

PCIEx1
USB2.0 (P6)
PCIEx2
USB2.0 (P9)
USB2.0 (P7)

CARDBUS/1394 OZ711EZ1TN PG 27

EXPRESS-CARD R5538 PG 28

MINI-CARD WLAN PG 29

MINI-CARD WWAN PG 29

IHDA

AUDIO/AMP PG 38,39

MDC PG 30

USB2.0 (P5) — **Biometric** PG 35

PCIEx1

Bluetooth PG 35

SPI

LPC

S/PDIF for Dock PG 43

Audio Jacks PG 39

RJ11 for Dock PG 43

Tip Ring PG 30

S/PDIF for MINI DIN 7 PG 23 3

SIO MEC5025 128KB Flash TMKBC 128 Pins VTQFP PG 31

BC

SIO ECE5028 128 Pins VTQFP PG 32

BCM5755M /BCM5752 PG 40

E-Switch PI3L500 +3.3V_LAN PG 41

RJ45/Magnetics PG 41

Keyboard Controllor ECE1077 PG 34 — BC

DOCK LPC

SPI — **FLASH** PG 34

PS/2 — **Touchpad/ Stick point** PG 35

Serial Port PG 33

IrDA PG 35

FAN & THERMAL EMC4001 PG 37

USER INTERFACE PG 36

Keyboard PG 36

QUANTA COMPUTER

Title	Schematic Block Diagram	
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INDEX

Pg#	Description
1	Schematic Block Diagram
2	Front Page
3-4	Merom
5-10	Crestline
11-14	ICH8M
15-16	DDRII SO-DIMM(200P)
17	Clock Generator
18-23	VGA
24	LCD Conn. & SSP
25	CRT Conn
26	SATA & IDE Conn
27	PCCARD/Conn & 1394
28	Express Card & Smart Card
29	Mini Card
30	MDC Conn.
31	SIO (MEC5025)
32	SIO (MEC5018)
33	SERIAL PORT & USB
34	Flash ROM, RTC & ECE1077
35	TP,BT & FIR
36	Switch,Keyboard & LED
37	FAN & Thermal
38-39	Audio CODEC(STAC9205)/Phone Jack
40-41	LOM (Nineveh)/Switch
42-43	Docking Conn/Q-Switch
44	System Reset Circuit
45-46	Battery Selector & Charger
47	DDR2_1.8VSUS, 0.9V
48	1.5VSUS,1.05V(VTT)
49	VGA DC/DC,1.25V,1.05V
50	CPU_MAX8786(3phase)
51	D/D Power
52	RUN Power Switch
53	DCIN,Batt
54	PAD& SCREW
55	EMI CAP
56	SMBUS BLOCK

Power States

Power Rail	Control Signal	S0/M0	S3/M1	S3/M1	S4/M1	S3/ M-off	S4/ M-off	S5/ M-off
+3.3V_ALW								
+5V_ALW								
+3.3V_LAN								
+1.25V_SRC_M								
+1.05V_M								
+1.8V_SUS								
+0.9V_DDR_VTT								
+5V_SUS								
+3.3V_SUS								
+5V_RUN								
+3.3V_RUN								
+1.8V_RUN								
+1.25V_RUN								
+1.5V_RUN								
+1.05V_VCCP								
VCC_VCRE								
+LCDVCC								
+5V_MOD								
+VCC_GFX_CORE								
+1.25V_GFX_PCIe								
+2.5V_RUN								

QUANTA COMPUTER

Title	Index & Power Status	
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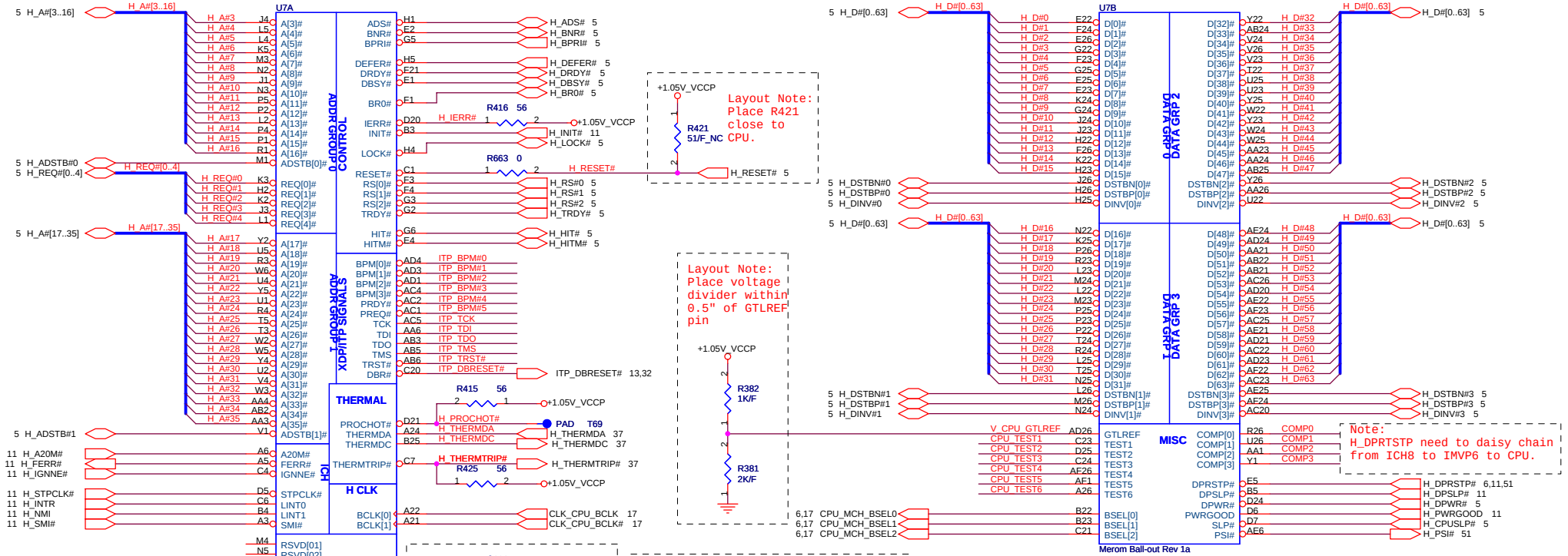
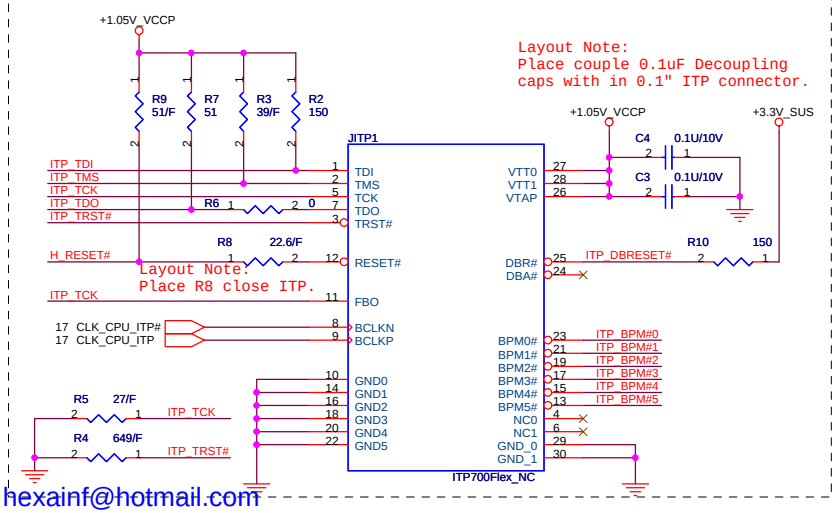
Date: Friday, October 20, 2006	Sheet 2 of 57	



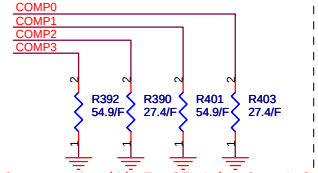
FSB	BCLK	BSEL2	BSEL1	BSEL0
533	133	0	0	1
667	166	0	1	1
800	200	0	1	0

Populate ITP700Flex for bringup



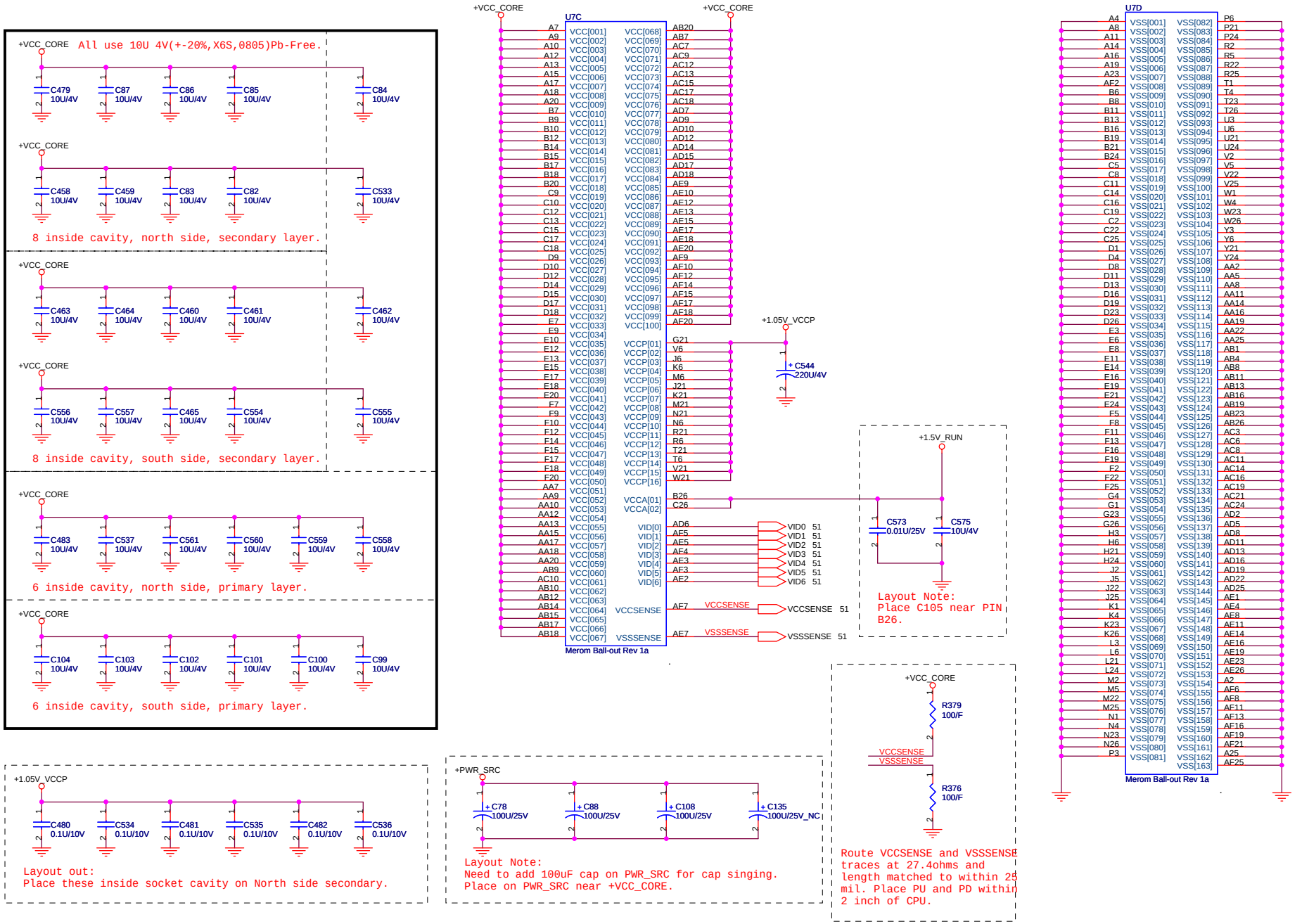
ITP700 layout guidelines

Signal	Resistor Value	Connect To	Resistor Placement
TDI	150 ohm ± 5%	VCCP	Place the pull-up near CPU
TMS	39 ohm ± 1%	VCCP	Within 200ps of ITP connector
TRST#	500 to 680 ohm ± 5%	GND	Place the pull-down near CPU
TCK	27 ohm ± 1%	GND	Connect to TCK pin of CPU and then connect it to FBO pin of ITP connector in daisy chain. Place the pull-down near TCK0 pin of ITP connector
TDO	51 ohm ± 5%	VCCP	Place the pull-up near ITP
RESET#	22.6 ohm ± 1% series resistor and pullup 51 ohm ± 1%.	VCCP	Connect to CPURST# pin of GMCH through the series resistor placed within 200ps of ITP connector. Place the pull-up after the series resistor from ITP connector.



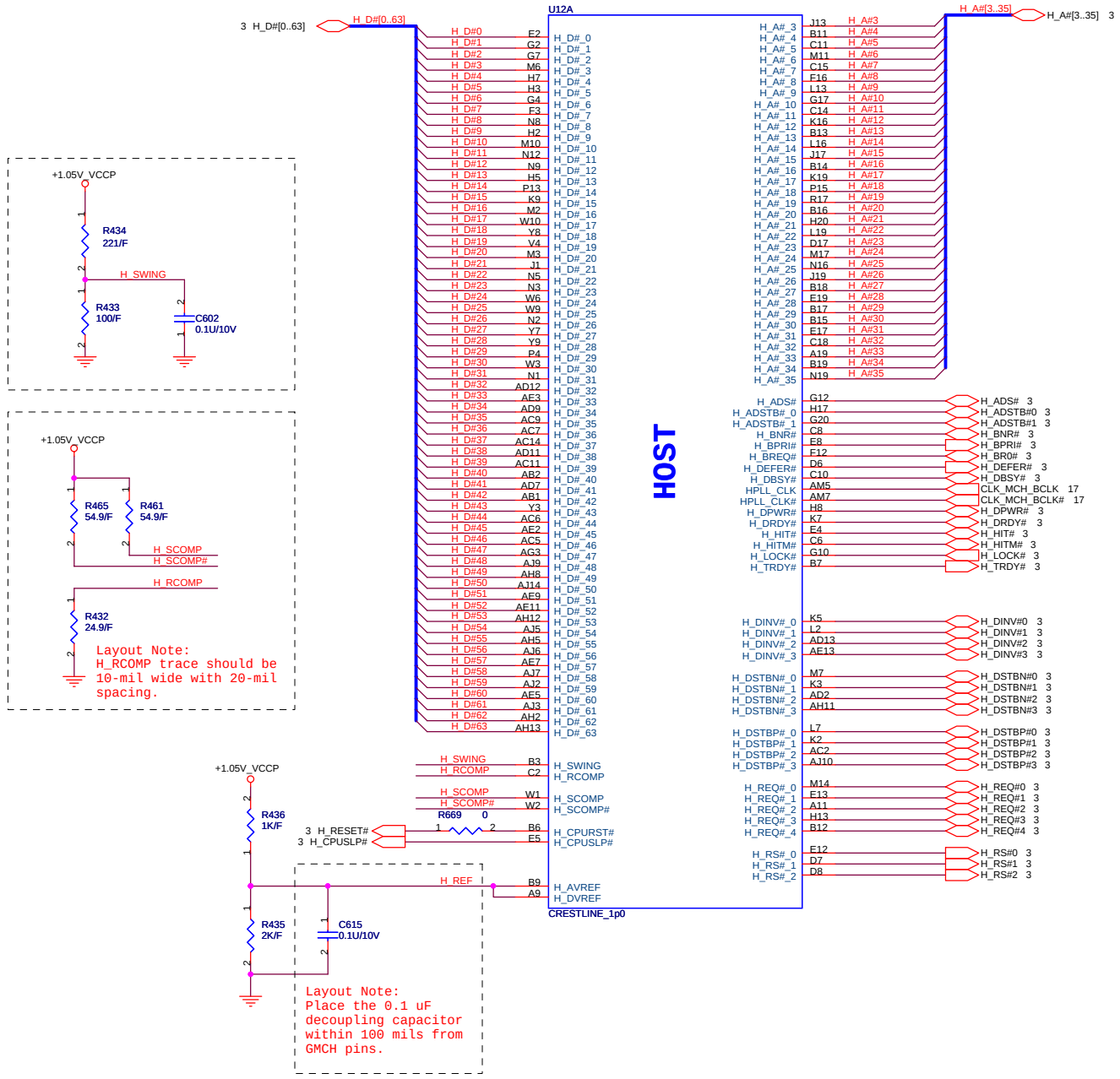
QUANTA COMPUTER

Title	Merom Processor (HOST BUS)	
Size	Document Number JM7B	Rev 2C
Date: Thursday, October 26, 2006	Sheet 3 of 57	



QUANTA COMPUTER

Title	Merom Processor (POWER)	
Size	Document Number JM7B	Rev 2C
Date: Thursday, October 26, 2006	Sheet 4 of 57	



QUANTA COMPUTER

Title	Crestline (HOST)	
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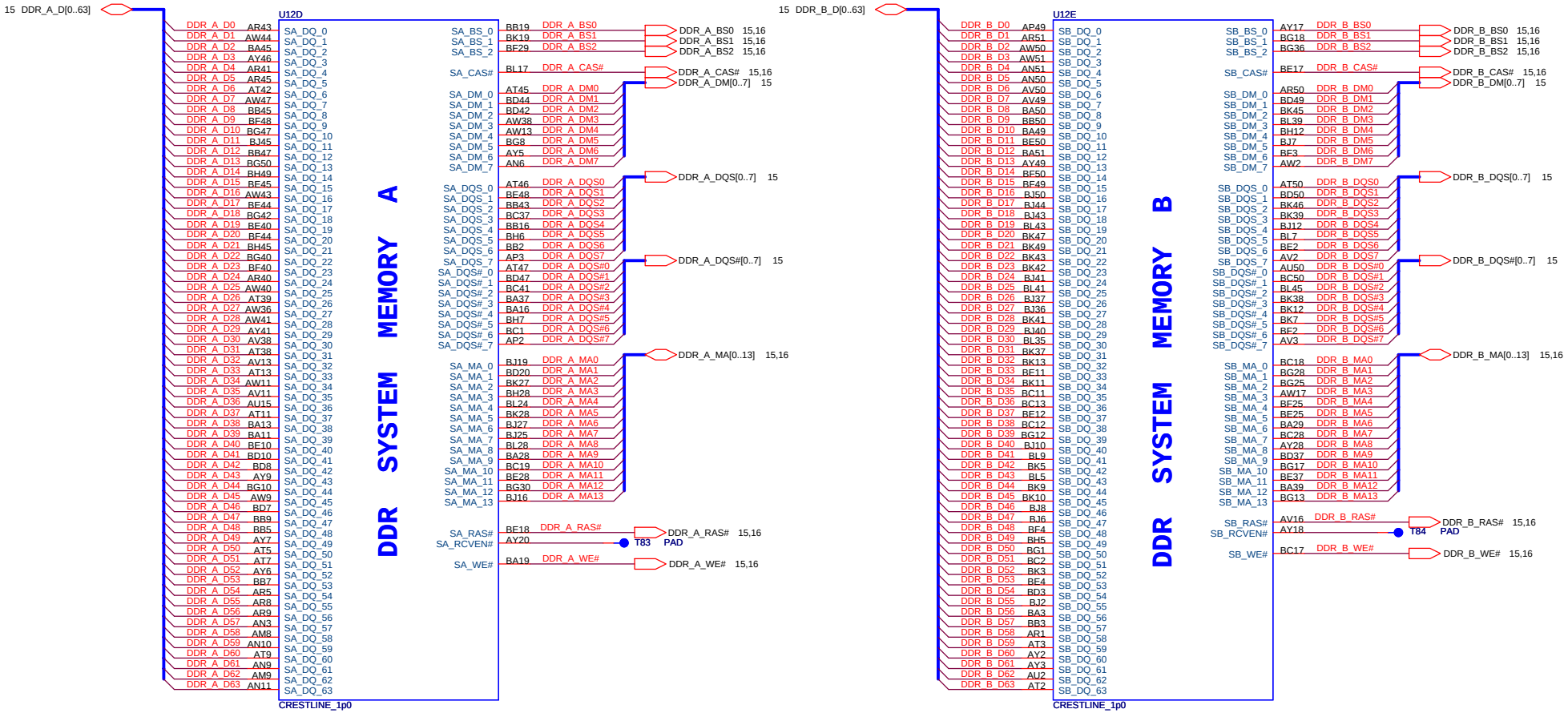
Santa Rosa Platform MOW WW15
For 4Gb DRAM support,
change Pin-BJ29 to DDR_A_MA14,
change Pin-BE24 to DDR_B_MA14.

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

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

QUANTA COMPUTER

Title	Crestline (VGA,DMI)	
Size	Document Number JM7B	Rev 2C
Date: Thursday, October 26, 2006	Sheet 6 of 57	



QUANTA COMPUTER

Title	Crestline (DDR2)	
Size	Document Number JM7B	Rev 2C
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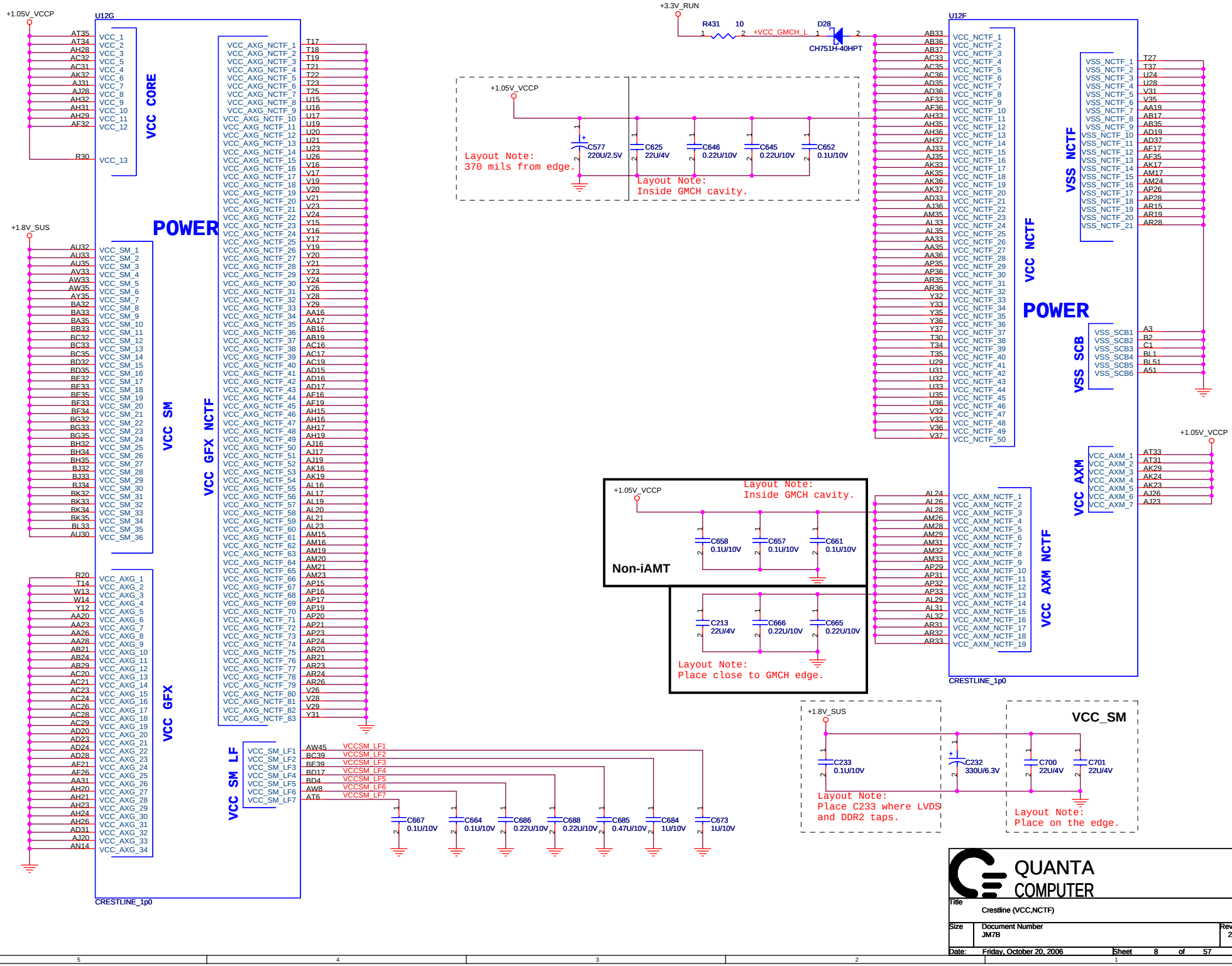
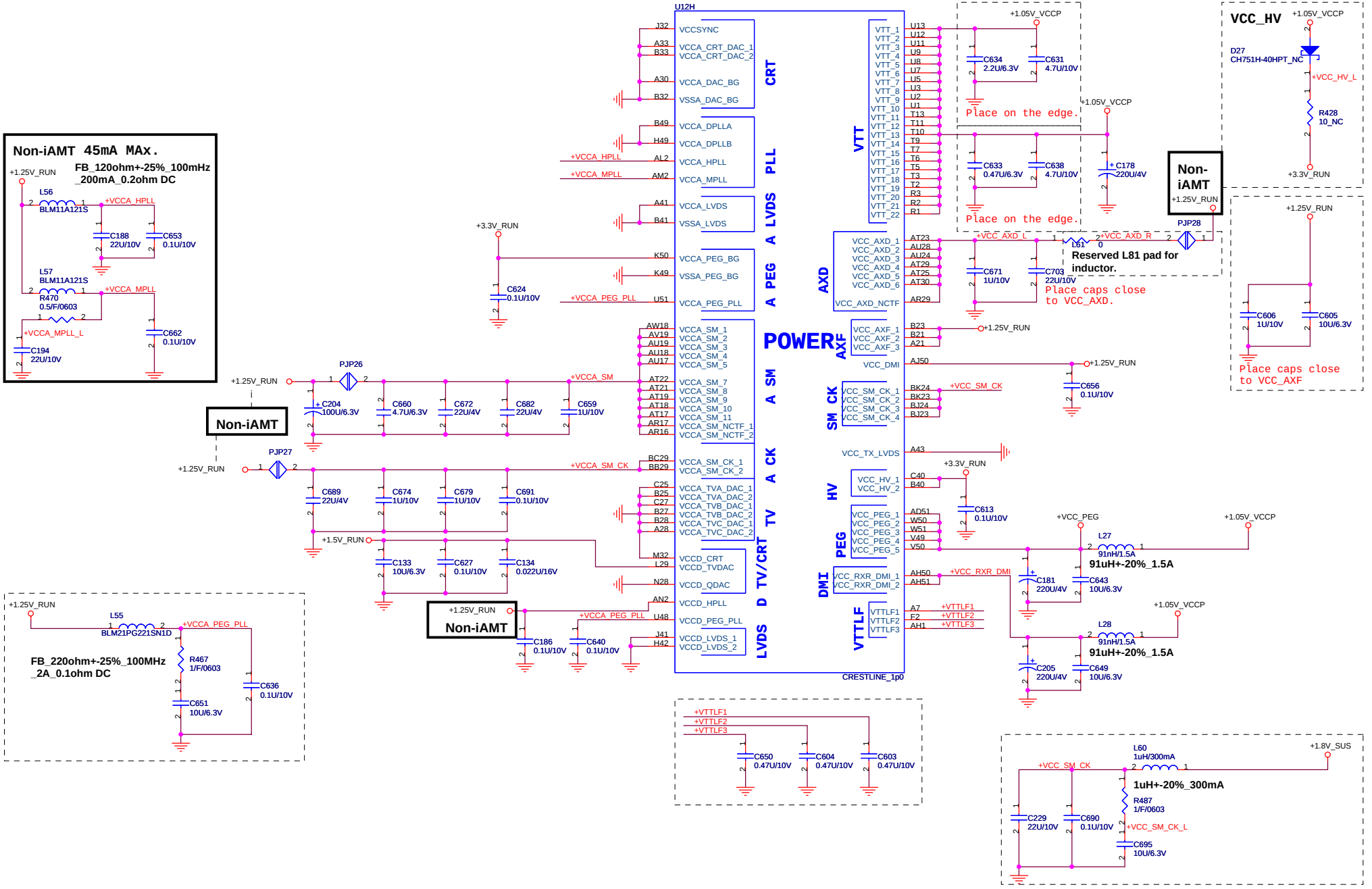


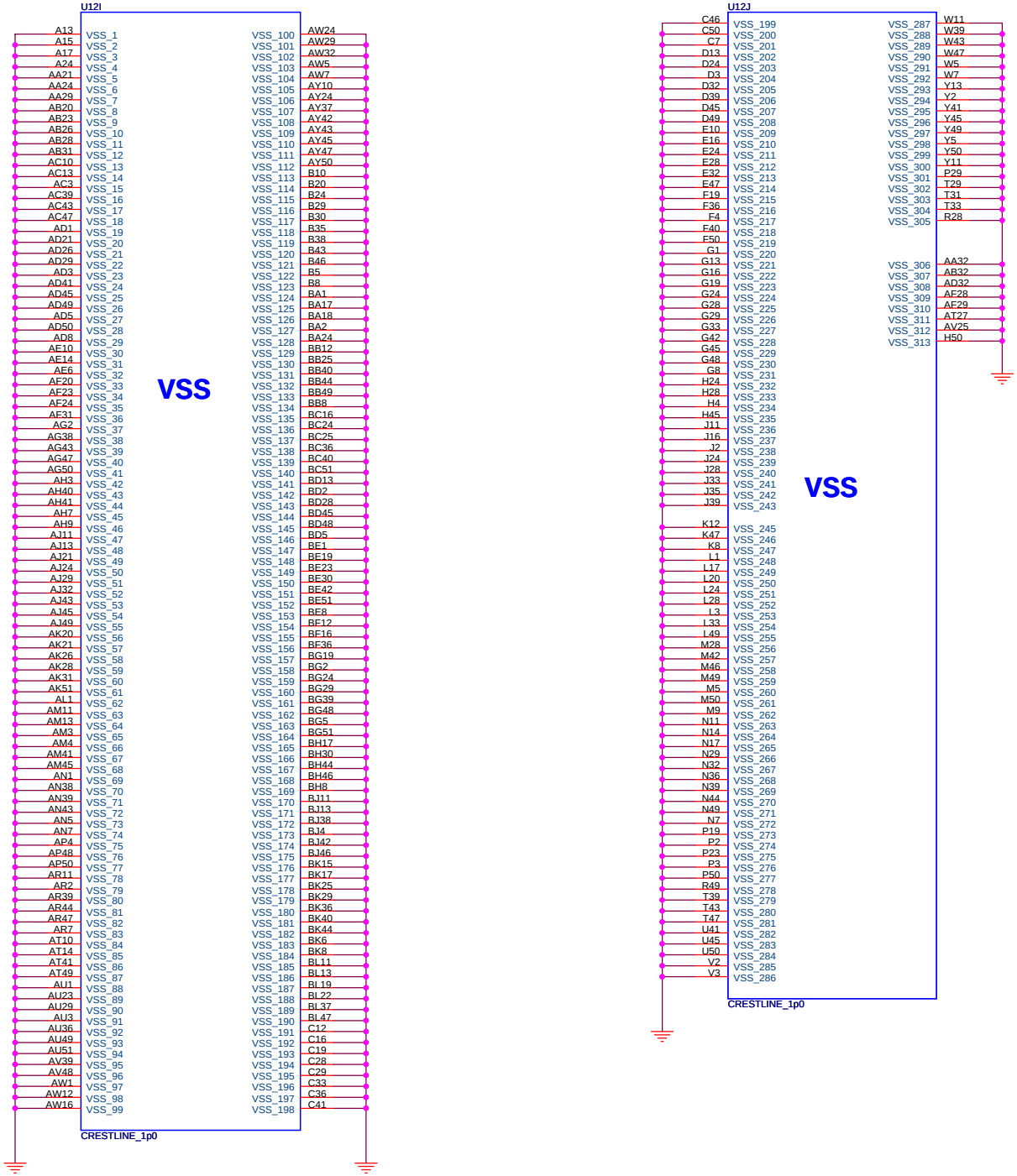
QUANTA COMPUTER

Title	Crestline (VCC,NCTF)	
Size	Document Number JM7B	Rev 2C
Date: Friday, October 20, 2006	Sheet 8 of 57	

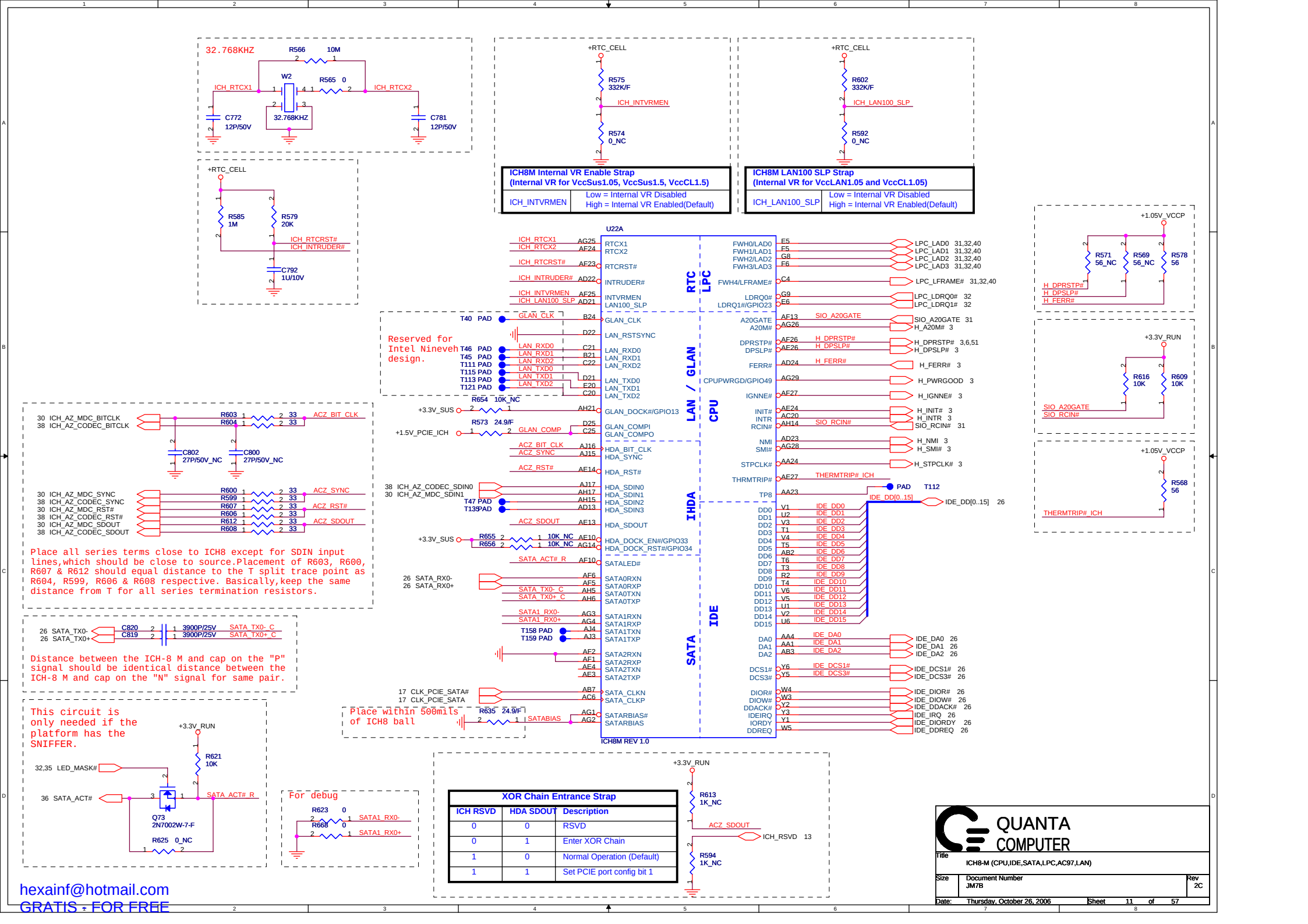


QUANTA COMPUTER

Title	Crestline (POWER)	
Size	Document Number JM7B	Rev 2C
Date: Tuesday, October 24, 2006	Sheet 9 of 57	



QUANTA COMPUTER		
Title	Crestline (VSS)	
Size	Document Number JM7B	Rev 2C
Date: Friday, October 20, 2006	Sheet 10 of 57	


32.768KHZ
R566 10M
W2
R565 0
ICH_RTCX1
ICH_RTCX2
C772 12P/50V
32.768KHZ
C781 12P/50V
+RTC_CELL
R585 1M
R579 20K
ICH_RTCRST#
ICH_INTRUDER#
C792 1U/10V
+RTC_CELL
R575 332K/F
ICH_INTVRMEN
R574 0_NC
ICH8M Internal VR Enable Strap
(Internal VR for VccSus1.05, VccSus1.5, VccCL1.5)
ICH_INTVRMEN
Low = Internal VR Disabled
High = Internal VR Enabled(Default)
+RTC_CELL
R602 332K/F
ICH_LAN100_SLP
R592 0_NC
ICH8M LAN100 SLP Strap
(Internal VR for VccLAN1.05 and VccCL1.05)
ICH_LAN100_SLP
Low = Internal VR Disabled
High = Internal VR Enabled(Default)
U22A
RTC
LPC
GLAN
CPU
IHDA
IDE
SATA
RTCX1
RTCX2
RTCRST#
INTRUDER#
INTVRMEN
LAN100_SLP
GLAN_CLK
LAN_RSTSYNC
LAN_RXD0
LAN_RXD1
LAN_RXD2
LAN_TXD0
LAN_TXD1
LAN_TXD2
GLAN_DOCK#/GPIO13
GLAN_COMPI
GLAN_COMPO
HDA_BIT_CLK
HDA_SYNC
HDA_RST#
HDA_SDIN0
HDA_SDIN1
HDA_SDIN2
HDA_SDIN3
HDA_SDOUT
HDA_DOCK_EN#/GPIO33
HDA_DOCK_RST#/GPIO34
SATALED#
SATA0RXN
SATA0RXP
SATA0TXN
SATA0TXP
SATA1RXN
SATA1RXP
SATA1TXN
SATA1TXP
SATA2RXN
SATA2RXP
SATA2TXN
SATA2TXP
SATA_CLKN
SATA_CLKP
SATARBIAS#
SATARBIAS
ICH8M REV 1.0
FWH0/LAD0
FWH1/LAD1
FWH2/LAD2
FWH3/LAD3
FWH4/LFRAME#
LDRQ0#
LDRQ1#/GPIO23
A20GATE
A20M#
DPRSTP#
DPSLP#
FERR#
CPUPWRGD/GPIO49
IGNNE#
INIT#
INTR
RCIN#
NMI
SMI#
STPCLK#
THRMTRIP#
TP8
DD0
DD1
DD2
DD3
DD4
DD5
DD6
DD7
DD8
DD9
DD10
DD11
DD12
DD13
DD14
DD15
DA0
DA1
DA2
DCS1#
DCS3#
DIOR#
DIOW#
DDACK#
IDEIRQ
IORDY
DDREQ
LPC_LAD0 31,32,40
LPC_LAD1 31,32,40
LPC_LAD2 31,32,40
LPC_LAD3 31,32,40
LPC_LFRAME# 31,32,40
LPC_LDRQ0# 32
LPC_LDRQ1# 32
SIO_A20GATE 31
H_A20M# 3
H_DPRSTP# 3,6,51
H_DPSLP# 3
H_FERR# 3
H_PWRGOOD 3
H_IGNNE# 3
H_INIT# 3
H_INTR 3
SIO_RCIN# 31
H_NMI 3
H_SMI# 3
H_STPCLK# 3
THERMTRIP# ICH
PAD T112
IDE_DD[0..15]
IDE_DD[0..15] 26
IDE_DA0 26
IDE_DA1 26
IDE_DA2 26
IDE_DCS1# 26
IDE_DCS3# 26
IDE_DIOR# 26
IDE_DIOW# 26
IDE_DDACK# 26
IDE_IRQ 26
IDE_DIORDY 26
IDE_DDREQ 26
Reserved for Intel Nineveh design.
T40 PAD
T46 PAD
T45 PAD
T111 PAD
T115 PAD
T113 PAD
T121 PAD
R654 10K_NC
+3.3V_SUS
R573 24.9/F
+1.5V_PCIE_ICH
GLAN_COMP
T47 PAD
T139 PAD
T158 PAD
T159 PAD
R655 10K_NC
R656 10K_NC
SATA_ACT# R
SATA_TX0- C
SATA_TX0+ C
SATA1_RX0-
SATA1_RX0+
R635 24.9/F
SATABIAS
Place within 500mils of ICH8 ball
17 CLK_PCIE_SATA#
17 CLK_PCIE_SATA
26 SATA_RX0-
26 SATA_RX0+
30 ICH_AZ_MDC_BITCLK
38 ICH_AZ_CODEC_BITCLK
R603 33
R604 33
ACZ_BIT_CLK
C802 27P/50V_NC
C800 27P/50V_NC
30 ICH_AZ_MDC_SYNC
38 ICH_AZ_CODEC_SYNC
30 ICH_AZ_MDC_RST#
38 ICH_AZ_CODEC_RST#
30 ICH_AZ_MDC_SDOUT
38 ICH_AZ_CODEC_SDOUT
R600 33
R599 33
R607 33
R606 33
R612 33
R608 33
ACZ_SYNC
ACZ_RST#
ACZ_SDOUT
38 ICH_AZ_CODEC_SDIN0
30 ICH_AZ_MDC_SDIN1
Place all series terms close to ICH8 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 respective. Basically,keep the same distance from T for all series termination resistors.
26 SATA_TX0-
26 SATA_TX0+
C820 3900P/25V
C819 3900P/25V
SATA_TX0- C
SATA_TX0+ C
Distance between the ICH-8 M and cap on the "P" signal should be identical distance between the ICH-8 M and cap on the "N" signal for same pair.
This circuit is only needed if the platform has the SNIFFER.
+3.3V_RUN
R621 10K
32,35 LED_MASK#
36 SATA_ACT#
SATA_ACT# R
Q73 2N7002W-7-F
R625 0_NC
For debug
R623 0
R668 0
SATA1_RX0-
SATA1_RX0+
+3.3V_RUN
R613 1K_NC
ACZ_SDOUT
ICH_RSVD 13
R594 1K_NC
XOR Chain Entrance Strap
ICH RSVD
HDA SDOUT
Description
0 0 RSVD
0 1 Enter XOR Chain
1 0 Normal Operation (Default)
1 1 Set PCIE port config bit 1
+1.05V_VCCP
R571 56_NC
R569 56_NC
R578 56
H_DPRSTP#
H_DPSLP#
H_FERR#
+3.3V_RUN
R616 10K
R609 10K
SIO_A20GATE
SIO_RCIN#
+1.05V_VCCP
R568 56
THERMTRIP# ICH
hexainf@hotmail.com
GRATIS - FOR FREE
QUANTA COMPUTER
Title
ICH8-M (CPU,IDE,SATA,LPC,AC97,LAN)
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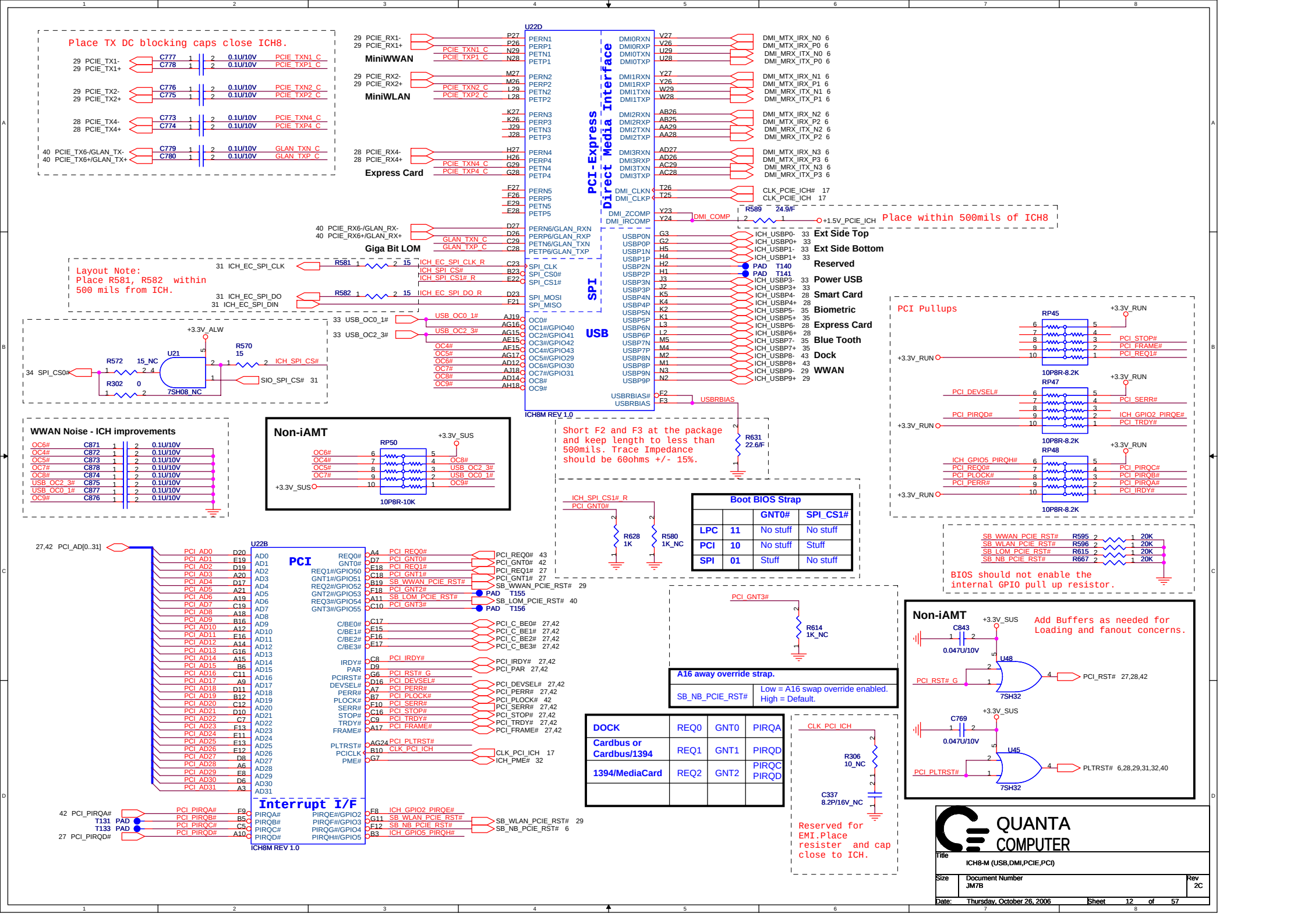
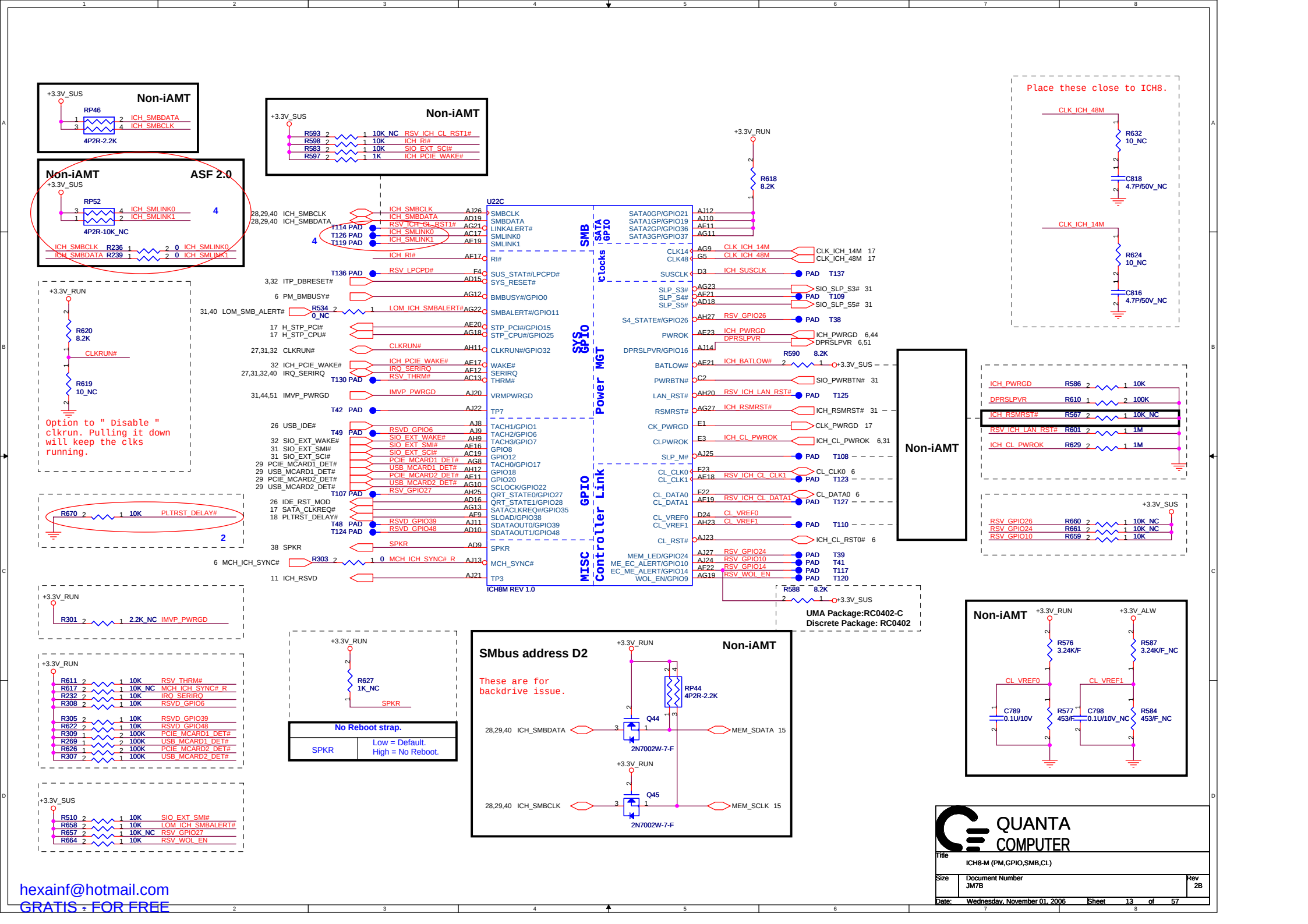
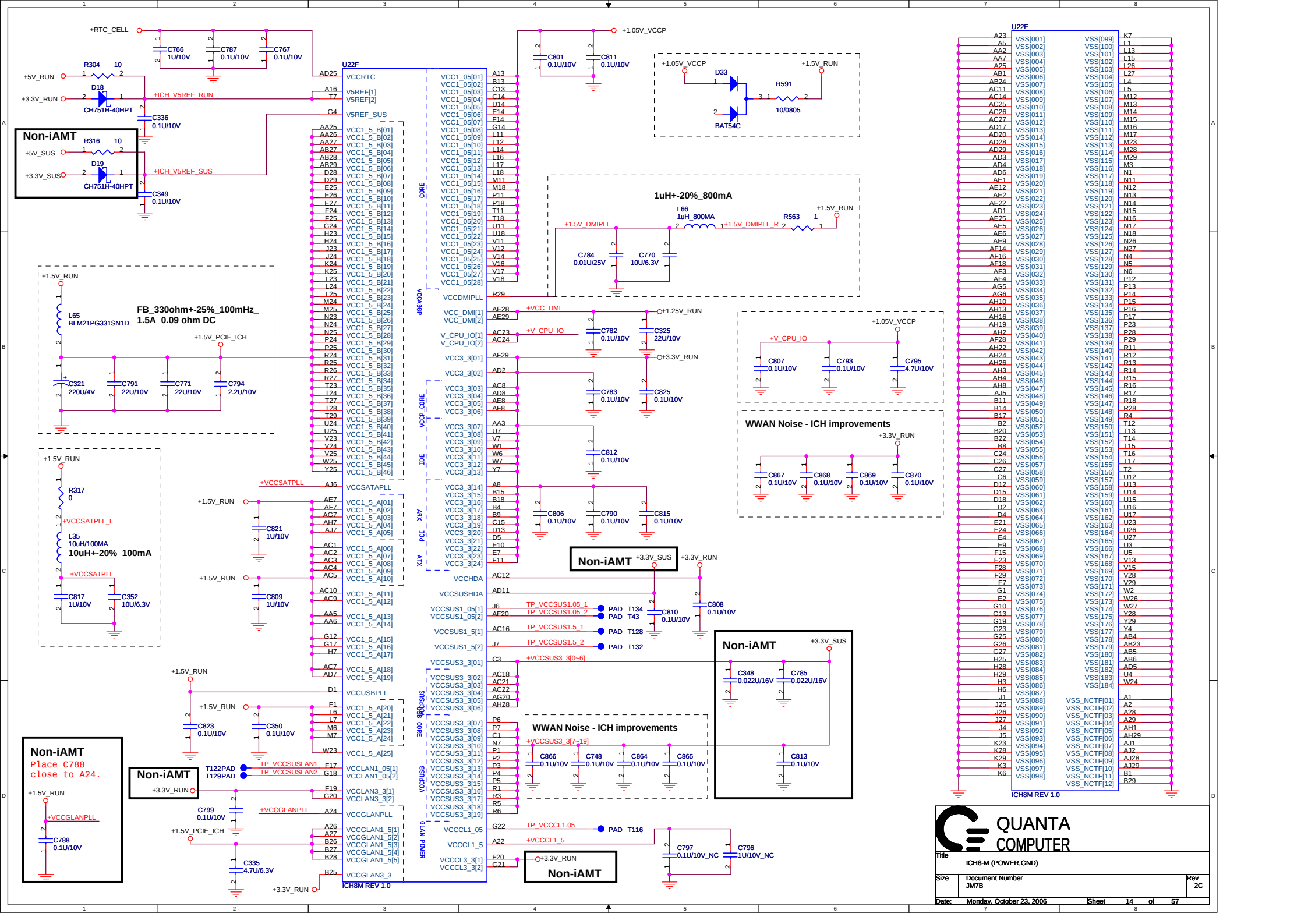

Place TX DC blocking caps close ICH8.
MiniWWAN
MiniWLAN
Express Card
Giga Bit LOM
PCI-Express Direct Media Interface
SPI
USB
Ext Side Top
Ext Side Bottom
Reserved
Power USB
Smart Card
Biometric
Express Card
Blue Tooth
Dock
WWAN
Place within 500mils of ICH8
Layout Note:
Place R581, R582 within
500 mils from ICH.
PCI Pullups
WWAN Noise - ICH improvements
Non-iAMT
Short F2 and F3 at the package and keep length to less than 500mils. Trace Impedance should be 60ohms +/- 15%.
Boot BIOS Strap
BIOS should not enable the internal GPIO pull up resistor.
A16 away override strap.
Add Buffers as needed for Loading and fanout concerns.
PCI
Interrupt I/F
DOCK
Cardbus or Cardbus/1394
1394/MediaCard
Reserved for EMI.Place resister and cap close to ICH.
QUANTA COMPUTER
ICH8-M (USB,DMI,PCIE,PCI)
JM7B
Thursday, October 26, 2006
Sheet 12 of 57


Non-iAMT
RP46
4P2R-2.2K
Non-iAMT
ASF 2.0
RP52
4P2R-10K_NC
Non-iAMT
R593 10K_NC RSV_ICH_CL_RST1#
R598 10K ICH_RI#
R583 10K SIO_EXT_SCI#
R597 1K ICH_PCIE_WAKE#
U22C
SMB
SATA GPIO
Clocks
SYS GPIO
Power MGT
GPIO
Controller Link
MISC
ICH8M REV 1.0
Place these close to ICH8.
R632 10_NC
C818 4.7P/50V_NC
R624 10_NC
C816 4.7P/50V_NC
Option to " Disable " clkrun. Pulling it down will keep the clks running.
R620 8.2K
R619 10_NC
CLKRUN#
R590 8.2K
Non-iAMT
R618 8.2K
R588 8.2K
UMA Package:RC0402-C
Discrete Package: RC0402
R670 10K PLTRST_DELAY#
R301 2.2K_NC IMVP_PWRGD
R303 0 MCH_ICH_SYNC# R
R627 1K_NC SPKR
No Reboot strap.
SPKR
Low = Default.
High = No Reboot.
SMbus address D2
These are for backdrive issue.
RP44 4P2R-2.2K
Q44
2N7002W-7-F
Q45
2N7002W-7-F
Non-iAMT
R576 3.24K/F
R587 3.24K/F_NC
C789 0.1U/10V
R577 453/F
C798 0.1U/10V_NC
R584 453/F_NC
CL_VREF0
CL_VREF1
R510 10K SIO_EXT_SMI#
R658 10K LOM_ICH_SMBALERT#
R657 10K_NC RSV_GPIO27
R664 10K RSV_WOL_EN
R611 10K RSV_THRM#
R617 10K_NC MCH_ICH_SYNC# R
R232 10K IRQ_SERIRQ
R308 10K RSVD_GPIO6
R305 10K RSVD_GPIO39
R622 10K RSVD_GPIO48
R309 100K PCIE_MCARD1_DET#
R269 100K USB_MCARD1_DET#
R626 100K PCIE_MCARD2_DET#
R307 100K USB_MCARD2_DET#
ICH_PWRGD R586 10K
DPRSLPVR R610 100K
ICH_RSMRST# R567 10K_NC
RSV_ICH_LAN_RST# R601 1M
ICH_CL_PWROK R629 1M
RSV_GPIO26 R660 10K_NC
RSV_GPIO24 R661 10K_NC
RSV_GPIO10 R659 10K
QUANTA COMPUTER
Title ICH8-M (PM,GPIO,SMB,CL)
Size Document Number JM7B Rev 2B
Date: Wednesday, November 01, 2006 Sheet 13 of 57
hexainf@hotmail.com
GRATIS - FOR FREE


+RTC_CELL
C766 1U/10V
C787 0.1U/10V
C767 0.1U/10V
+5V_RUN
+3.3V_RUN
R304 10
D18
CH751H-40HPT
+ICH_V5REF_RUN
C336 0.1U/10V
Non-iAMT
+5V_SUS
+3.3V_SUS
R316 10
D19
CH751H-40HPT
+ICH_V5REF_SUS
C349 0.1U/10V
U22F
VCCRTC
V5REF[1]
V5REF[2]
V5REF_SUS
VCC1_5_B[01]
VCC1_5_B[02]
VCC1_5_B[03]
VCC1_5_B[04]
VCC1_5_B[05]
VCC1_5_B[06]
VCC1_5_B[07]
VCC1_5_B[08]
VCC1_5_B[09]
VCC1_5_B[10]
VCC1_5_B[11]
VCC1_5_B[12]
VCC1_5_B[13]
VCC1_5_B[14]
VCC1_5_B[15]
VCC1_5_B[16]
VCC1_5_B[17]
VCC1_5_B[18]
VCC1_5_B[19]
VCC1_5_B[20]
VCC1_5_B[21]
VCC1_5_B[22]
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VCC1_5_B[25]
VCC1_5_B[26]
VCC1_5_B[27]
VCC1_5_B[28]
VCC1_5_B[29]
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VCC1_5_B[32]
VCC1_5_B[33]
VCC1_5_B[34]
VCC1_5_B[35]
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VCC1_5_B[37]
VCC1_5_B[38]
VCC1_5_B[39]
VCC1_5_B[40]
VCC1_5_B[41]
VCC1_5_B[42]
VCC1_5_B[43]
VCC1_5_B[44]
VCC1_5_B[45]
VCC1_5_B[46]
VCCSATAPLL
VCC1_5_A[01]
VCC1_5_A[02]
VCC1_5_A[03]
VCC1_5_A[04]
VCC1_5_A[05]
VCC1_5_A[06]
VCC1_5_A[07]
VCC1_5_A[08]
VCC1_5_A[09]
VCC1_5_A[10]
VCC1_5_A[11]
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VCC1_5_A[20]
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VCC1_5_A[23]
VCC1_5_A[24]
VCC1_5_A[25]
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VCCLAN1_05[2]
VCCLAN3_3[1]
VCCLAN3_3[2]
VCCGLANPLL
VCCGLAN1_5[1]
VCCGLAN1_5[2]
VCCGLAN1_5[3]
VCCGLAN1_5[4]
VCCGLAN1_5[5]
VCCGLAN3_3
VCC1_05[01]
VCC1_05[02]
VCC1_05[03]
VCC1_05[04]
VCC1_05[05]
VCC1_05[06]
VCC1_05[07]
VCC1_05[08]
VCC1_05[09]
VCC1_05[10]
VCC1_05[11]
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VCC1_05[15]
VCC1_05[16]
VCC1_05[17]
VCC1_05[18]
VCC1_05[19]
VCC1_05[20]
VCC1_05[21]
VCC1_05[22]
VCC1_05[23]
VCC1_05[24]
VCC1_05[25]
VCC1_05[26]
VCC1_05[27]
VCC1_05[28]
VCCDMIPLL
VCC_DMI[1]
VCC_DMI[2]
V_CPU_IO[1]
V_CPU_IO[2]
VCC3_3[01]
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VCC3_3[24]
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VCCSUSHDA
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VCCSUS1_05[2]
VCCSUS1_5[1]
VCCSUS1_5[2]
VCCSUS3_3[01]
VCCSUS3_3[02]
VCCSUS3_3[03]
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VCCSUS3_3[09]
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VCCSUS3_3[11]
VCCSUS3_3[12]
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VCCSUS3_3[16]
VCCSUS3_3[17]
VCCSUS3_3[18]
VCCSUS3_3[19]
VCCCL1_05
VCCCL1_5
VCCCL3_3[1]
VCCCL3_3[2]
CORE
VCCA3GP
VCCP_CORE
IDE
AXA
PCI
ATX
SUS_CORE
CORE
VCCSUS
LAN_POWER
ICH8M REV 1.0
+1.05V_VCCP
C801 0.1U/10V
C811 0.1U/10V
D33
R591
10/0805
BAT54C
+1.5V_RUN
1uH+-20%_800mA
L66
1uH_800MA
+1.5V_DMIPLL
+1.5V_DMIPLL_R
R563
C784 0.01U/25V
C770 10U/6.3V
+1.25V_RUN
+VCC_DMI
+V_CPU_IO
C782 0.1U/10V
C325 22U/10V
C783 0.1U/10V
C825 0.1U/10V
C812 0.1U/10V
C806 0.1U/10V
C790 0.1U/10V
C815 0.1U/10V
C807 0.1U/10V
C793 0.1U/10V
C795 4.7U/10V
WWAN Noise - ICH improvements
C867 0.1U/10V
C868 0.1U/10V
C869 0.1U/10V
C870 0.1U/10V
+1.5V_PCIE_ICH
L65
BLM21PG331SN1D
FB_330ohm+-25%_100mHz_
1.5A_0.09 ohm DC
C321 220U/4V
C791 22U/10V
C771 22U/10V
C794 2.2U/10V
R317
0
+VCCSATAPLL_L
L35
10uH/100MA
10uH+-20%_100mA
C817 1U/10V
C352 10U/6.3V
C821 1U/10V
C809 1U/10V
C823 0.1U/10V
C350 0.1U/10V
Non-iAMT
Place C788
close to A24.
C788 0.1U/10V
T122PAD
T129PAD
TP_VCCSUSLAN1
TP_VCCSUSLAN2
C799 0.1U/10V
C335 4.7U/6.3V
+VCCGLANPLL
TP_VCCSUS1.05_1
TP_VCCSUS1.05_2
TP_VCCSUS1.5_1
TP_VCCSUS1.5_2
PAD T134
PAD T43
PAD T128
PAD T132
C810 0.1U/10V
C808 0.1U/10V
+3.3V_SUS
+VCCSUS3_3[0~6]
C348 0.022U/16V
C785 0.022U/16V
+VCCSUS3_3[7~19]
C866 0.1U/10V
C748 0.1U/10V
C864 0.1U/10V
C865 0.1U/10V
C813 0.1U/10V
TP_VCCCL1.05
+VCCCL1_5
PAD T116
C797 0.1U/10V_NC
C796 1U/10V_NC
U22E
VSS[001]
VSS[002]
VSS[003]
VSS[004]
VSS[005]
VSS[006]
VSS[007]
VSS[008]
VSS[009]
VSS[010]
VSS[011]
VSS[012]
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VSS_NCTF[12]
ICH8M REV 1.0
QUANTA COMPUTER
Title
ICH8-M (POWER,GND)
Size
Document Number
JM7B
Rev
2C
Date:
Monday, October 23, 2006
Sheet
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of
57

A is required to route to Top SoDIMM for AMTto function.
Ch.A SODIMM needs to be populated for Intel AMT support.

TOP

JDIM1

PC4800 DDR2 SDRAM SO-DIMM (200P)

+1.8V_SUS, V_DDR_MCH_REF

DDR_A_DM[0..7] 7
DDR_A_D[0..63] 7
DDR_A_DQS[0..7] 7
DDR_A_DQS#[0..7] 7
DDR_A_MA[0..13] 7,16

V_DDR_MCH_REF: C730 0.1U/10V, C731 2.2U/6.3V

M_CLK_DDR0 6
M_CLK_DDR#0 6

PM_EXTTS#0 6

6,16 DDR_CKE0_DIMMA
DDR_CKE1_DIMMA 6,16

7,16 DDR_A_BS2
DDR_A_MA14 6,16

7,16 DDR_A_BS0
7,16 DDR_A_WE#
DDR_A_BS1 7,16
DDR_A_RAS# 7,16
DDR_CS0_DIMMA# 6,16

7,16 DDR_A_CAS#
6,16 DDR_CS1_DIMMA#
M_ODT0
M_ODT0 6,16

6,16 M_ODT1

DDR_A_MA13

+3.3V_RUN, Non-iAMT: C742 2.2U/6.3V, C741 0.1U/10V

M_CLK_DDR1 6
M_CLK_DDR#1 6

13 MEM_SDATA
13 MEM_SCLK
+3.3V_RUN
MEM_SDATA
MEM_SCLK

Non-iAMT

SMbus address A0

R290 10K
R287 10K

TYC_1775804-2

CLOCK 0,1
CKE 0,1

BOT

JDIM2

PC4800 DDR2 SDRAM SO-DIMM (200P)

+1.8V_SUS, V_DDR_MCH_REF

DDR_B_DM[0..7] 7
DDR_B_D[0..63] 7
DDR_B_DQS[0..7] 7
DDR_B_DQS#[0..7] 7
DDR_B_MA[0..13] 7,16

V_DDR_MCH_REF: C740 0.1U/10V, C738 2.2U/6.3V

M_CLK_DDR3 6
M_CLK_DDR#3 6

PM_EXTTS#1 6

6,16 DDR_CKE3_DIMMB
DDR_CKE4_DIMMB 6,16

7,16 DDR_B_BS2
DDR_B_MA14 6,16

7,16 DDR_B_BS0
7,16 DDR_B_WE#
DDR_B_BS1 7,16
DDR_B_RAS# 7,16
DDR_CS2_DIMMB# 6,16

7,16 DDR_B_CAS#
6,16 DDR_CS3_DIMMB#
M_ODT2
M_ODT2 6,16

6,16 M_ODT3

DDR_B_MA13

Non-iAMT

+3.3V_RUN

SMbus address A4

R520 2 1 10K

R513 10K

FOX_AS0A426-M2SN-7F

CLOCK 2,3
CKE 2,3

Non-iAMT

+3.3V_RUN, Non-iAMT: C251 2.2U/6.3V, C257 0.1U/10V

Place these Caps near So-Dimm1.

+1.8V_SUS: C263 2.2U/6.3V, C262 2.2U/6.3V, C310 2.2U/6.3V, C317 2.2U/6.3V, C314 2.2U/6.3V

Place these Caps near So-Dimm2.

+1.8V_SUS: C743 2.2U/6.3V, C726 2.2U/6.3V, C746 2.2U/6.3V, C723 2.2U/6.3V, C725 2.2U/6.3V

Place these Caps near So-Dimm1.

+1.8V_SUS: C312 0.1U/10V, C313 0.1U/10V, C264 0.1U/10V, C266 0.1U/10V, C863 330U/6.3V_NC

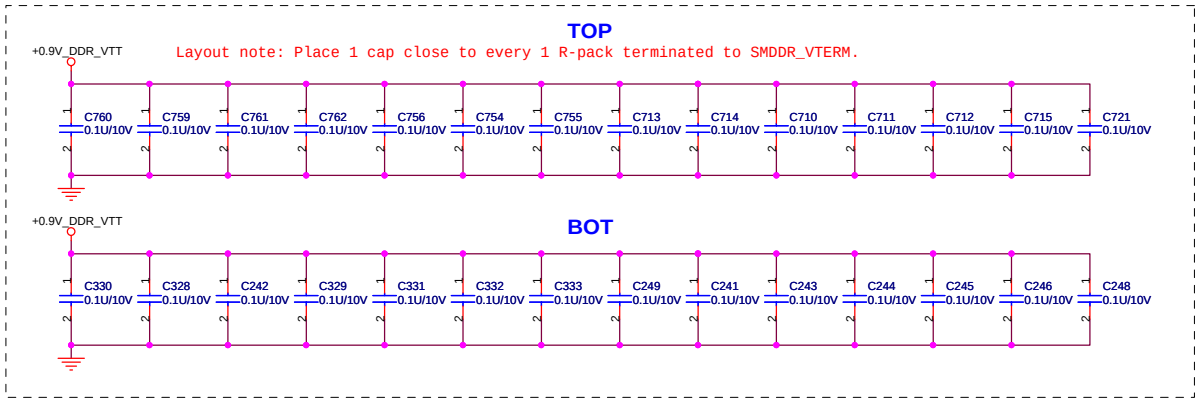
Place these Caps near So-Dimm2.

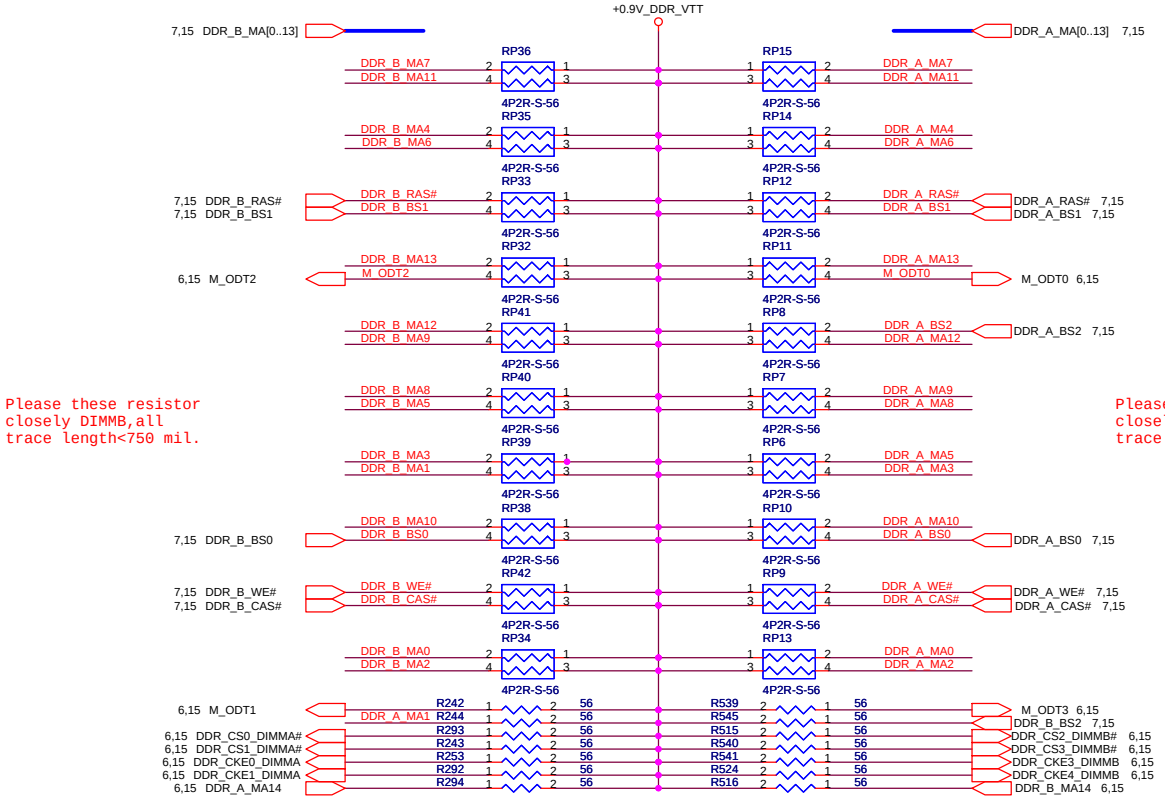
+1.8V_SUS: C318 0.1U/10V, C744 0.1U/10V, C728 0.1U/10V, C727 0.1U/10V

hexainf@hotmail.com
GRATIS - FOR FREE

QUANTA COMPUTER

Title	DDR2 SO-DIMM (200P) X 2	
Size	Document Number JM7B	Rev 2C
Date:	Thursday, October 26, 2006	Sheet 15 of 57



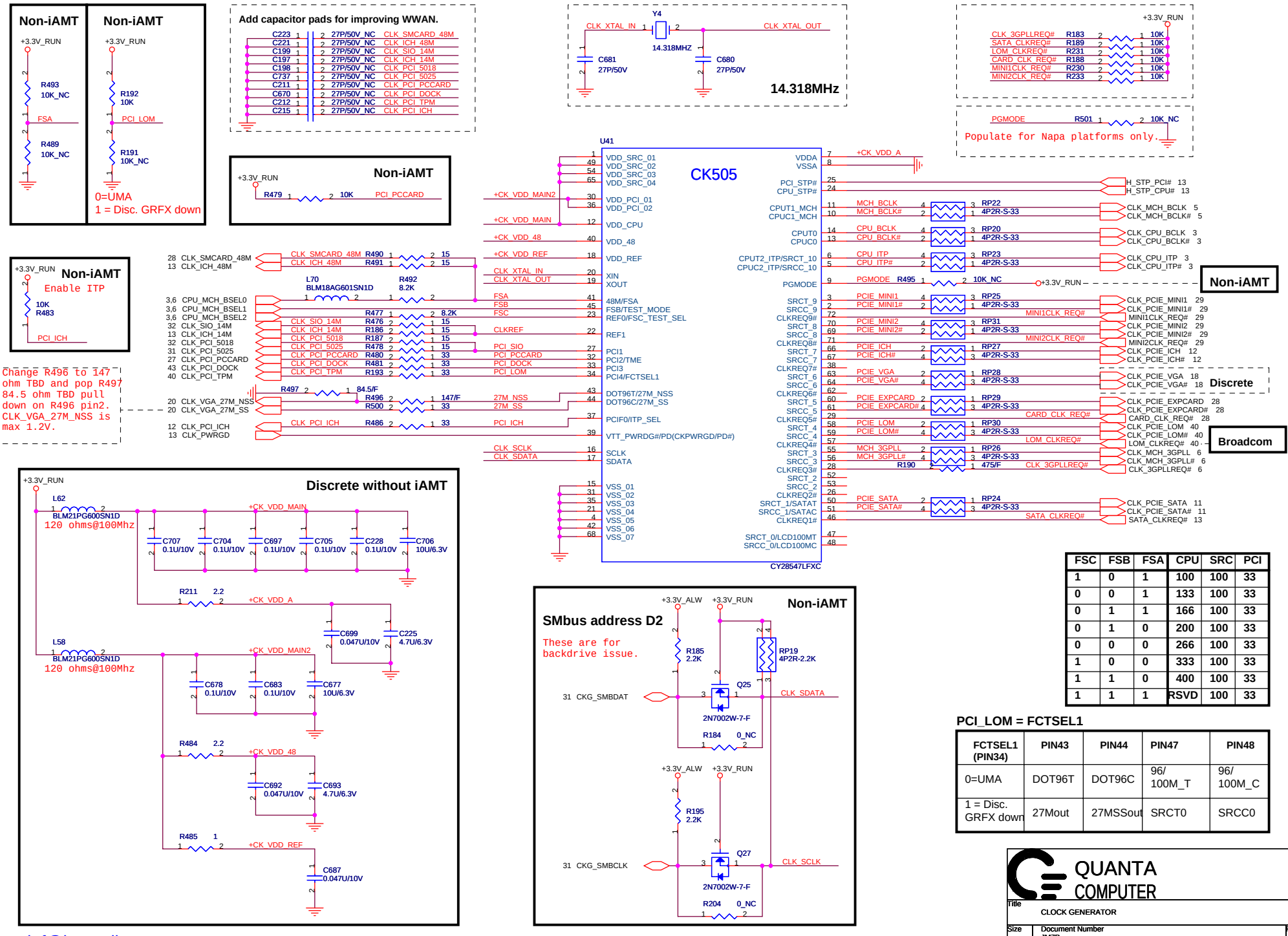


Please these resistor closely DIMMB,all trace length<750 mil.

Please these resistor closely DIMMA,all trace length<750 mil.

QUANTA COMPUTER

Title	DDR2 RES ARRAY	
Size	Document Number JM7B	Rev 2C
Date: Thursday, October 26, 2006	Sheet 16 of 57	



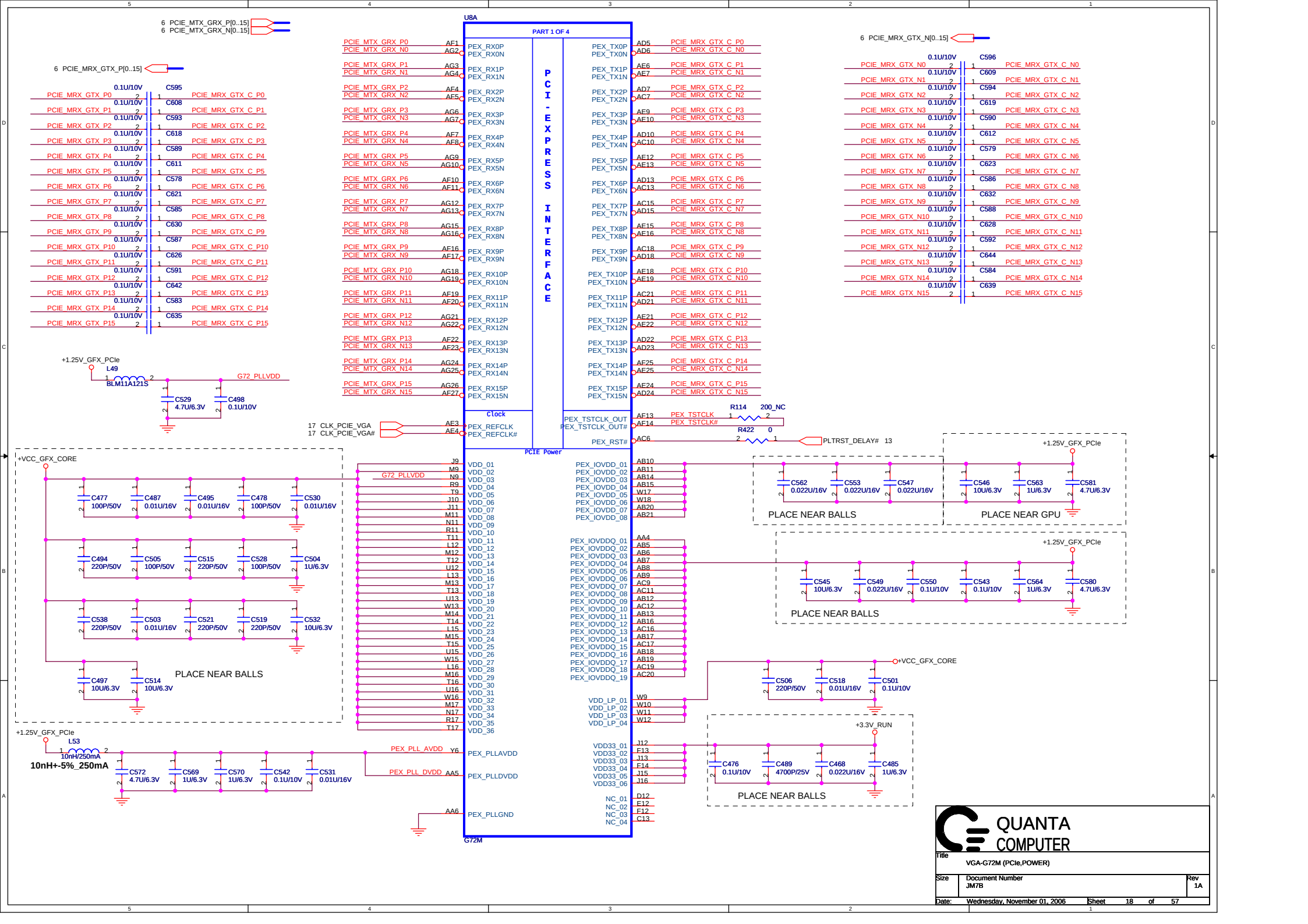
FSC	FSB	FSA	CPU	SRC	PCI
1	0	1	100	100	33
0	0	1	133	100	33
0	1	1	166	100	33
0	1	0	200	100	33
0	0	0	266	100	33
1	0	0	333	100	33
1	1	0	400	100	33
1	1	1	RSVD	100	33

PCI_LOM = FCTSEL1

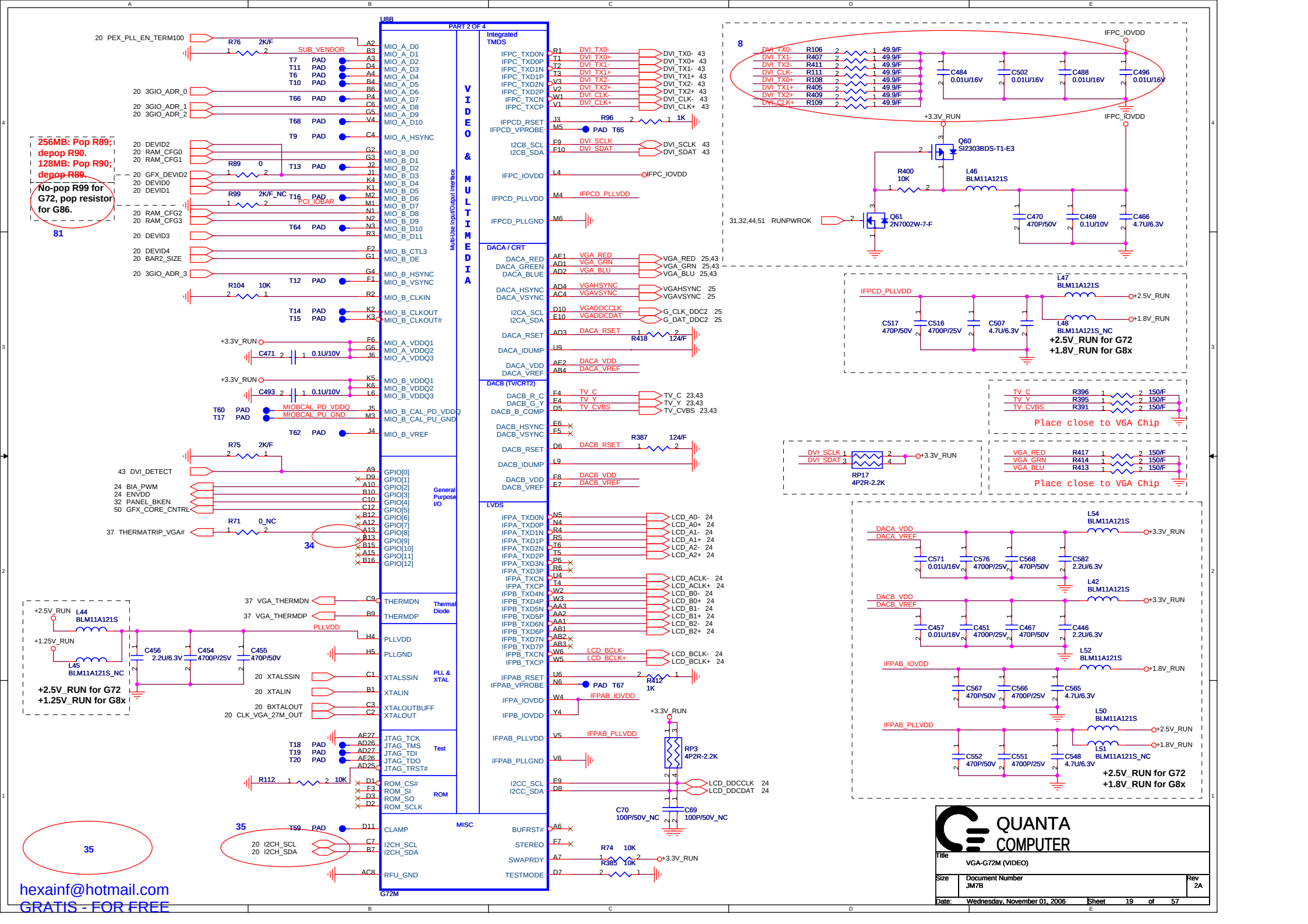
FCTSEL1 (PIN34)	PIN43	PIN44	PIN47	PIN48
0=UMA	DOT96T	DOT96C	96/ 100M_T	96/ 100M_C
1 = Disc. GRFX down	27Mout	27MSSout	SRCT0	SRCC0

QUANTA COMPUTER

Title	CLOCK GENERATOR	
Size	Document Number JM7B	Rev 2C
Date: Wednesday, November 01, 2006	Sheet 17 of 57	



Title	VGA-G72M (PCIe,POWER)
Size	Document Number JM7B
Rev	1A
Date:	Wednesday, November 01, 2006
Sheet	18 of 57


U8B
PART 2 OF 4
VIDEO & MULTIMEDIA
Multi-User Input/Output Interface
Integrated TMDS
DACA / CRT
DACB (TV/CRT2)
LVDS
General Purpose I/O
Thermal Diode
PLL & XTAL
Test
ROM
MISC
G72M
256MB: Pop R89; depop R90.
128MB: Pop R90; depop R89.
No-pop R99 for G72, pop resistor for G86.
+2.5V_RUN for G72
+1.25V_RUN for G8x
+2.5V_RUN for G72
+1.8V_RUN for G8x
Place close to VGA Chip
Place close to VGA Chip
+2.5V_RUN for G72
+1.8V_RUN for G8x
RP17
4P2R-2.2K
RP3
4P2R-2.2K
Q60
SI2303BDS-T1-E3
Q61
2N7002W-7-F
hexainf@hotmail.com
GRATIS - FOR FREE
QUANTA COMPUTER
Title
VGA-G72M (VIDEO)
Size
Document Number
JM7B
Rev
2A
Date:
Wednesday, November 01, 2006
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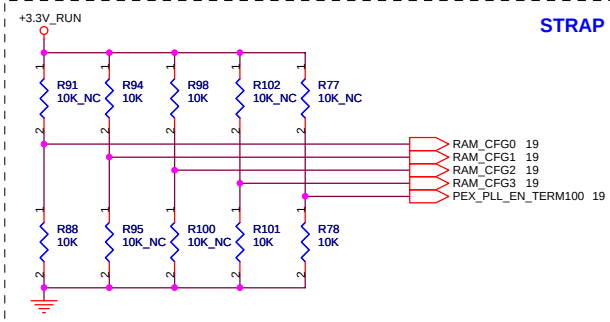
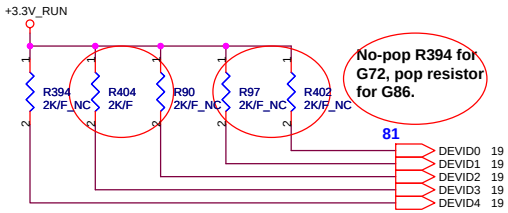
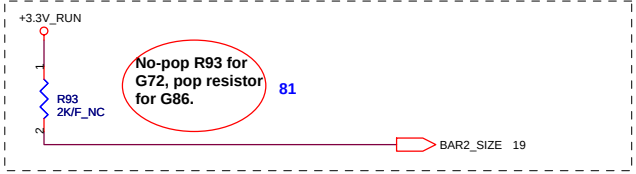
STRAP



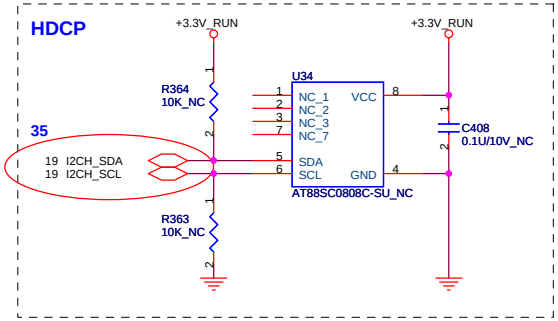


Infineon/Hynix	CFG3	CFG2	CFG1	CFG0
128MB(16M*16)	0	0	1	0
256MB(32M*16)	0	1	1	0
	DEV3	DEV2	DEV1	DEV0
(256MB)G72GLM	1	X	0	0
(128MB)G72MV	0	1	1	1

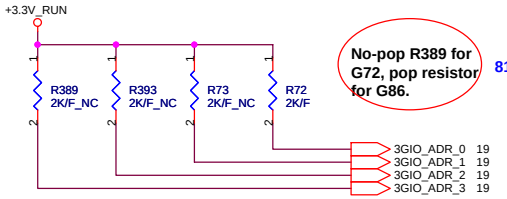
Note: 256MB: Pop R89; depop R90.
128MB: Pop R90; depop R89.
81



HDCP

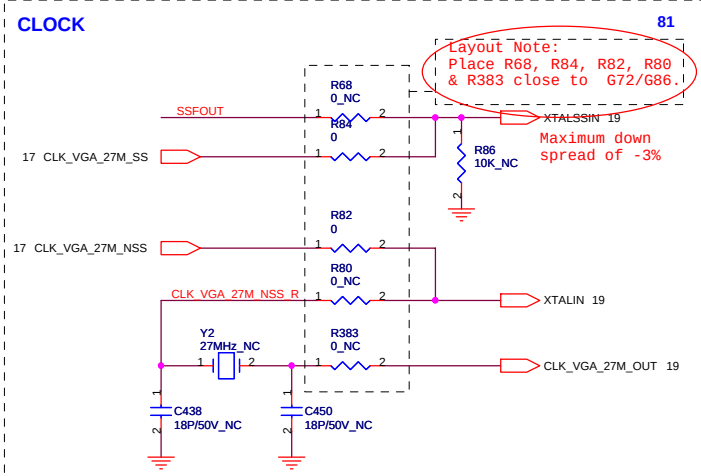


STRAP

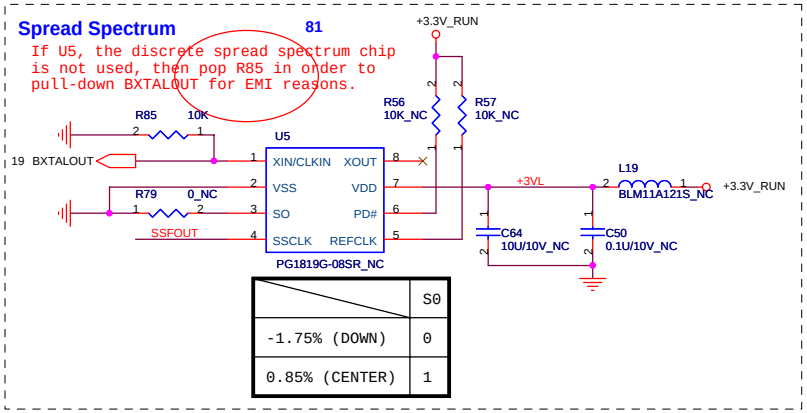


3GIO_ADR_X	ADR3	ADR2	ADR1	ADR0
Desktop	0	0	0	0
Mobile	0	0	0	1

CLOCK



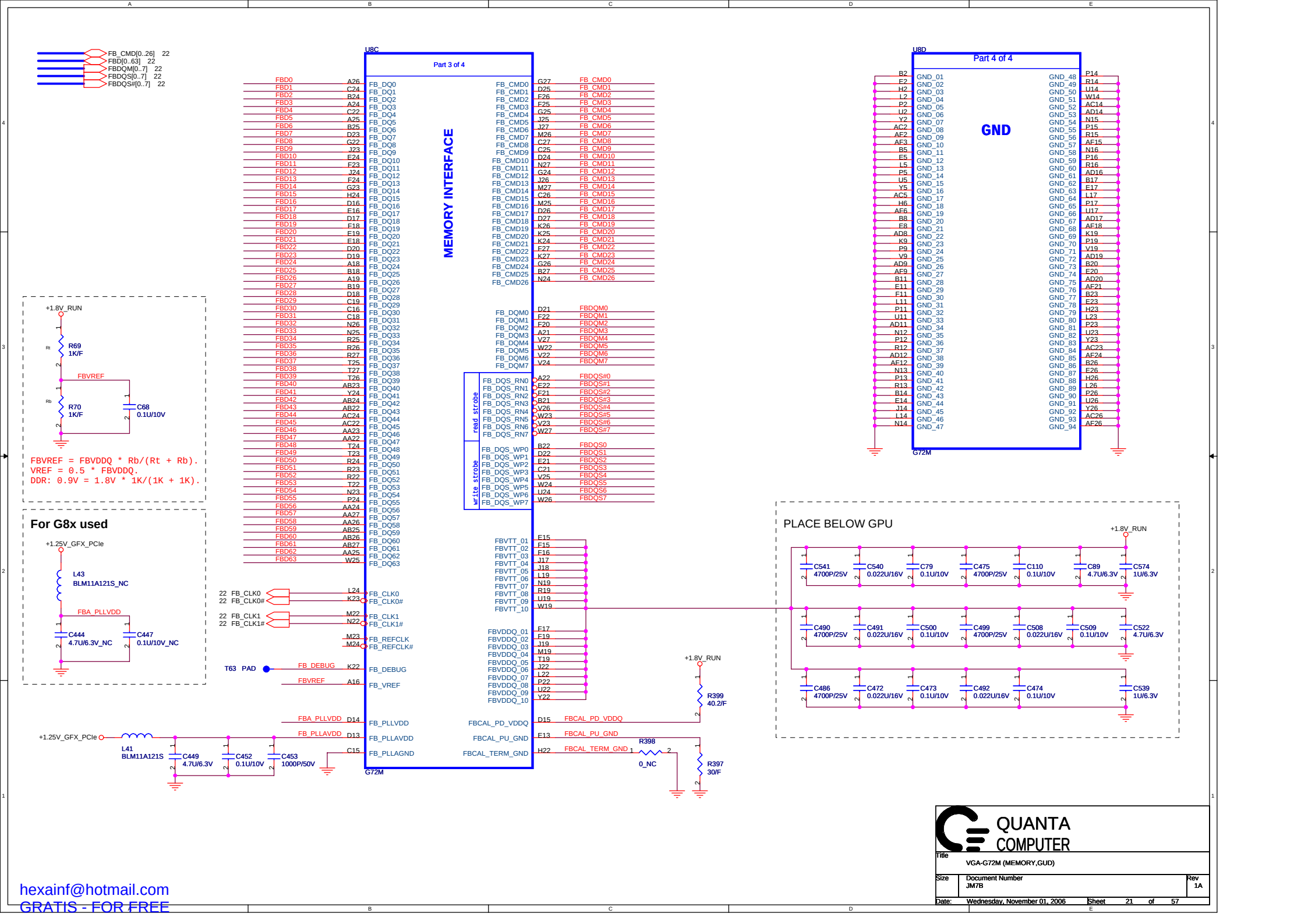
Spread Spectrum



	S0
-1.75% (DOWN)	0
0.85% (CENTER)	1

QUANTA COMPUTER

Title	VGA-G72M (STRAP,CLOCK,HDCP)	
Size	Document Number JM7B	Rev 2A
Date: Thursday, November 02, 2006	Sheet 20 of 57	


FB_CMD[0..26] 22
FBD[0..63] 22
FBDQM[0..7] 22
FBDQS[0..7] 22
FBDQS#[0..7] 22
U8C
Part 3 of 4
MEMORY INTERFACE
FB_DQ0 FB_DQ1 FB_DQ2 FB_DQ3 FB_DQ4 FB_DQ5 FB_DQ6 FB_DQ7 FB_DQ8 FB_DQ9 FB_DQ10 FB_DQ11 FB_DQ12 FB_DQ13 FB_DQ14 FB_DQ15 FB_DQ16 FB_DQ17 FB_DQ18 FB_DQ19 FB_DQ20 FB_DQ21 FB_DQ22 FB_DQ23 FB_DQ24 FB_DQ25 FB_DQ26 FB_DQ27 FB_DQ28 FB_DQ29 FB_DQ30 FB_DQ31 FB_DQ32 FB_DQ33 FB_DQ34 FB_DQ35 FB_DQ36 FB_DQ37 FB_DQ38 FB_DQ39 FB_DQ40 FB_DQ41 FB_DQ42 FB_DQ43 FB_DQ44 FB_DQ45 FB_DQ46 FB_DQ47 FB_DQ48 FB_DQ49 FB_DQ50 FB_DQ51 FB_DQ52 FB_DQ53 FB_DQ54 FB_DQ55 FB_DQ56 FB_DQ57 FB_DQ58 FB_DQ59 FB_DQ60 FB_DQ61 FB_DQ62 FB_DQ63
FB_CMD0 FB_CMD1 FB_CMD2 FB_CMD3 FB_CMD4 FB_CMD5 FB_CMD6 FB_CMD7 FB_CMD8 FB_CMD9 FB_CMD10 FB_CMD11 FB_CMD12 FB_CMD13 FB_CMD14 FB_CMD15 FB_CMD16 FB_CMD17 FB_CMD18 FB_CMD19 FB_CMD20 FB_CMD21 FB_CMD22 FB_CMD23 FB_CMD24 FB_CMD25 FB_CMD26
FB_DQM0 FB_DQM1 FB_DQM2 FB_DQM3 FB_DQM4 FB_DQM5 FB_DQM6 FB_DQM7
FB_DQS_RN0 FB_DQS_RN1 FB_DQS_RN2 FB_DQS_RN3 FB_DQS_RN4 FB_DQS_RN5 FB_DQS_RN6 FB_DQS_RN7
read strobe
FB_DQS_WP0 FB_DQS_WP1 FB_DQS_WP2 FB_DQS_WP3 FB_DQS_WP4 FB_DQS_WP5 FB_DQS_WP6 FB_DQS_WP7
write strobe
FB_CLK0 FB_CLK0#
FB_CLK1 FB_CLK1#
FB_REFCLK FB_REFCLK#
FB_DEBUG
FB_VREF
FB_PLLVDD
FB_PLLAVDD
FB_PLLAGND
FBVTT_01 FBVTT_02 FBVTT_03 FBVTT_04 FBVTT_05 FBVTT_06 FBVTT_07 FBVTT_08 FBVTT_09 FBVTT_10
FBVDDQ_01 FBVDDQ_02 FBVDDQ_03 FBVDDQ_04 FBVDDQ_05 FBVDDQ_06 FBVDDQ_07 FBVDDQ_08 FBVDDQ_09 FBVDDQ_10
FBCAL_PD_VDDQ
FBCAL_PU_GND
FBCAL_TERM_GND
G72M
U8D
Part 4 of 4
GND
GND_01 GND_02 GND_03 GND_04 GND_05 GND_06 GND_07 GND_08 GND_09 GND_10 GND_11 GND_12 GND_13 GND_14 GND_15 GND_16 GND_17 GND_18 GND_19 GND_20 GND_21 GND_22 GND_23 GND_24 GND_25 GND_26 GND_27 GND_28 GND_29 GND_30 GND_31 GND_32 GND_33 GND_34 GND_35 GND_36 GND_37 GND_38 GND_39 GND_40 GND_41 GND_42 GND_43 GND_44 GND_45 GND_46 GND_47
GND_48 GND_49 GND_50 GND_51 GND_52 GND_53 GND_54 GND_55 GND_56 GND_57 GND_58 GND_59 GND_60 GND_61 GND_62 GND_63 GND_64 GND_65 GND_66 GND_67 GND_68 GND_69 GND_70 GND_71 GND_72 GND_73 GND_74 GND_75 GND_76 GND_77 GND_78 GND_79 GND_80 GND_81 GND_82 GND_83 GND_84 GND_85 GND_86 GND_87 GND_88 GND_89 GND_90 GND_91 GND_92 GND_93 GND_94
G72M
+1.8V_RUN
R69 1K/F
FBVREF
R70 1K/F
C68 0.1U/10V
FBVREF = FBVDDQ * Rb/(Rt + Rb).
VREF = 0.5 * FBVDDQ.
DDR: 0.9V = 1.8V * 1K/(1K + 1K).
For G8x used
+1.25V_GFX_PCIe
L43 BLM11A121S_NC
FBA_PLLVDD
C444 4.7U/6.3V_NC
C447 0.1U/10V_NC
T63 PAD
FBVREF
+1.25V_GFX_PCIe
L41 BLM11A121S
C449 4.7U/6.3V
C452 0.1U/10V
C453 1000P/50V
FBA_PLLVDD
FB_PLLAVDD
R399 40.2/F
R398 0_NC
R397 30/F
PLACE BELOW GPU
+1.8V_RUN
C541 4700P/25V
C540 0.022U/16V
C79 0.1U/10V
C475 4700P/25V
C110 0.1U/10V
C89 4.7U/6.3V
C574 1U/6.3V
C490 4700P/25V
C491 0.022U/16V
C500 0.1U/10V
C499 4700P/25V
C508 0.022U/16V
C509 0.1U/10V
C522 4.7U/6.3V
C486 4700P/25V
C472 0.022U/16V
C473 0.1U/10V
C492 0.022U/16V
C474 0.1U/10V
C539 1U/6.3V
QUANTA COMPUTER
Title
VGA-G72M (MEMORY,GUD)
Size
Document Number
JM7B
Rev
1A
Date:
Wednesday, November 01, 2006
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21
of
57
hexainf@hotmail.com
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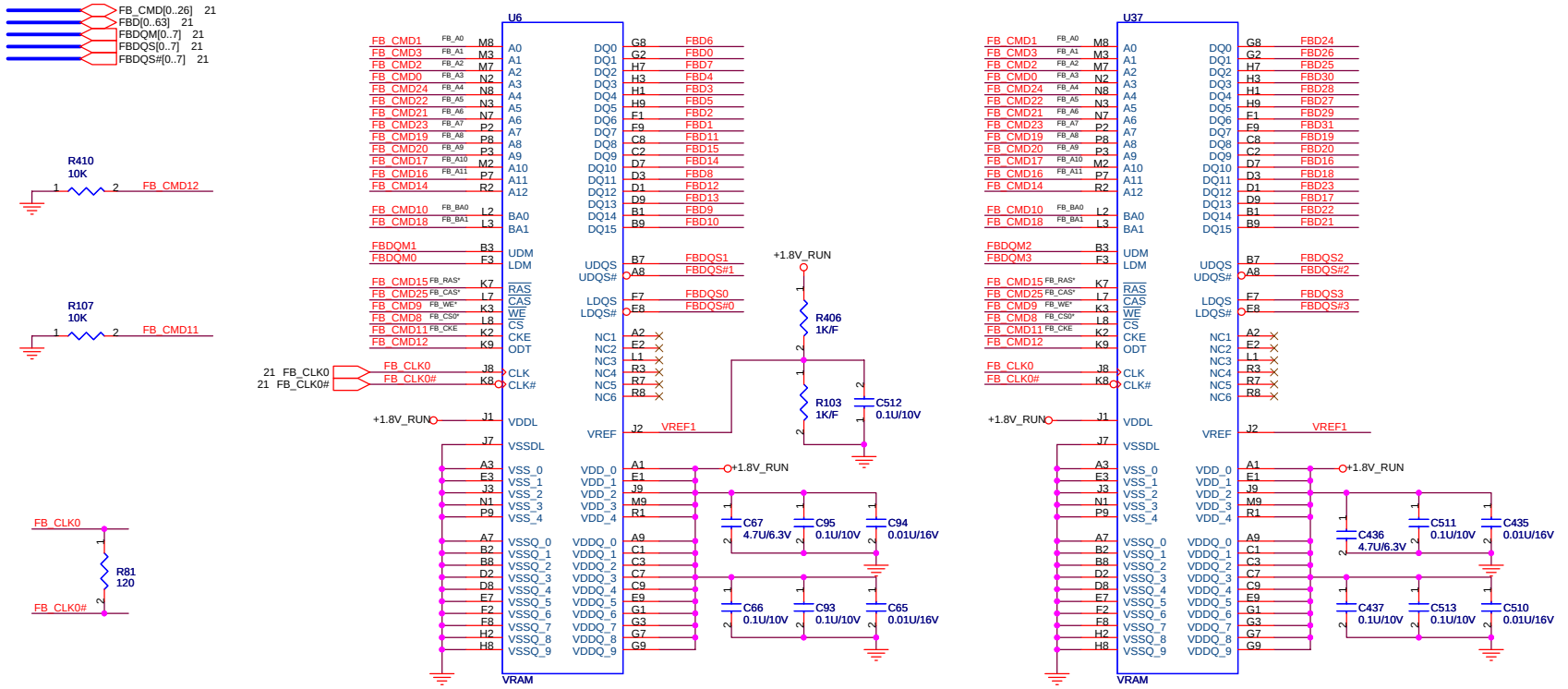

Title	VGA-G72M (VRAM)
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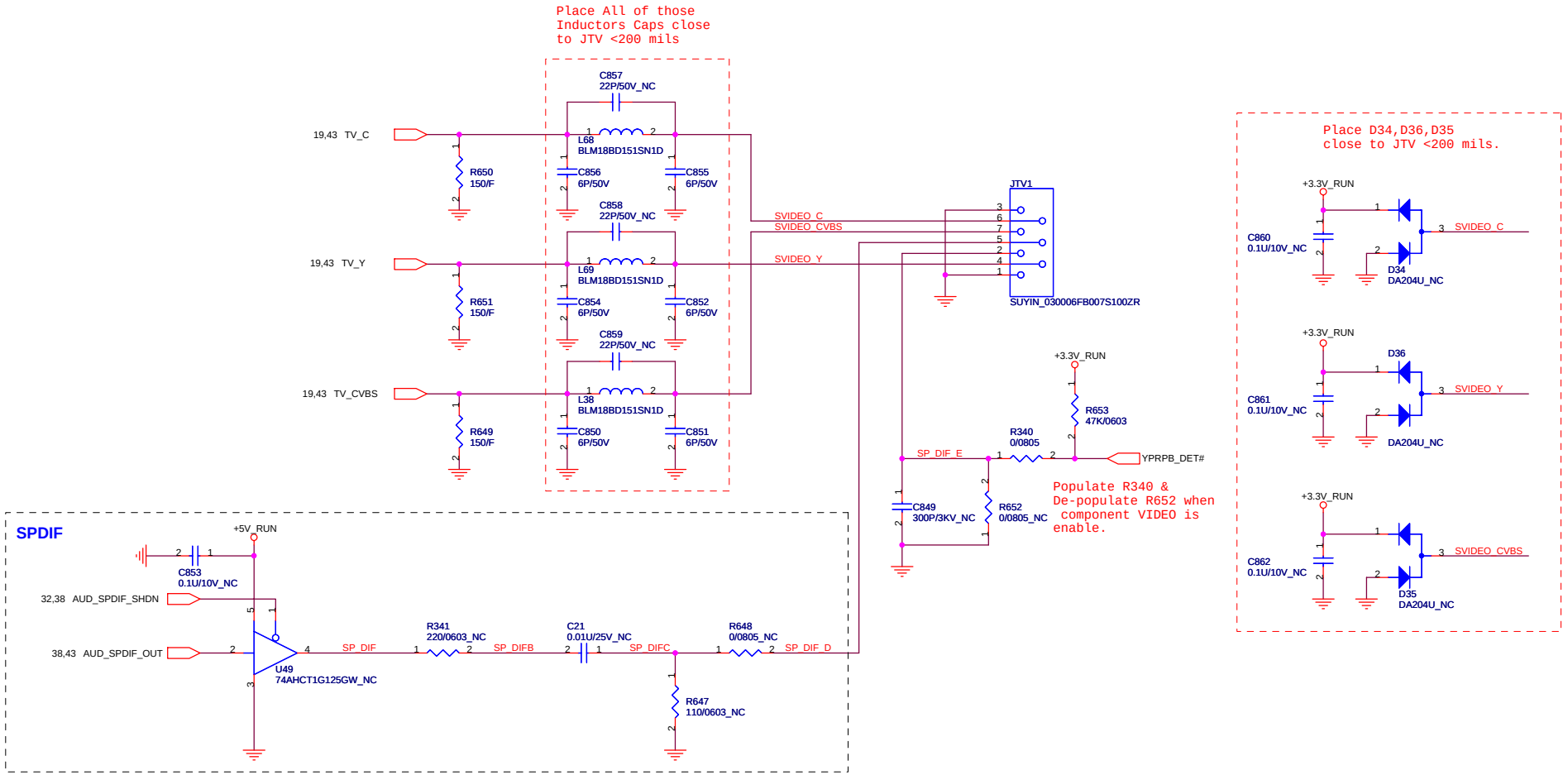
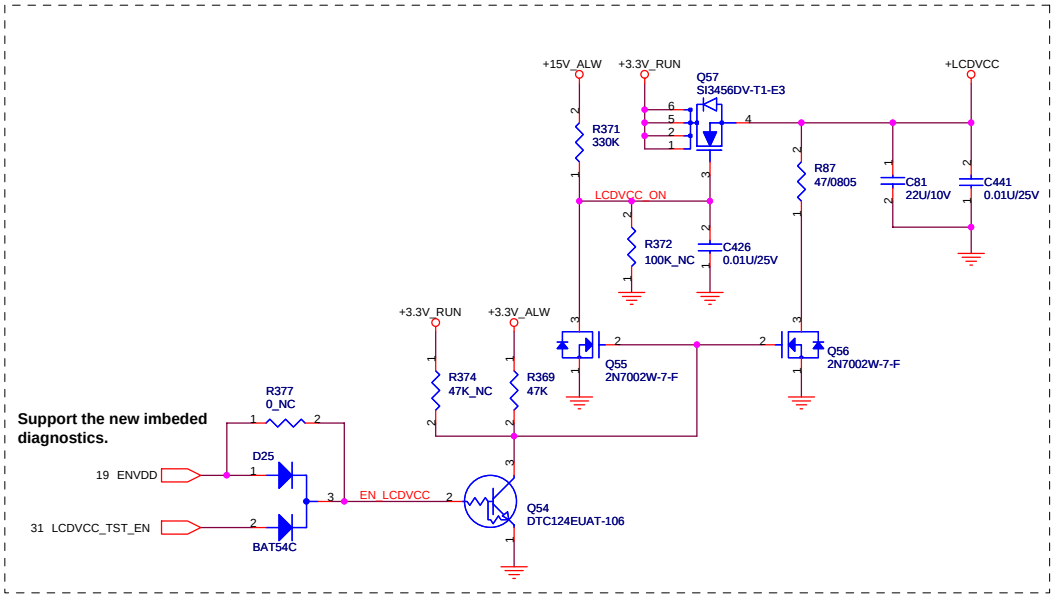
Date:	Wednesday, November 01, 2006
Sheet	22 of 57

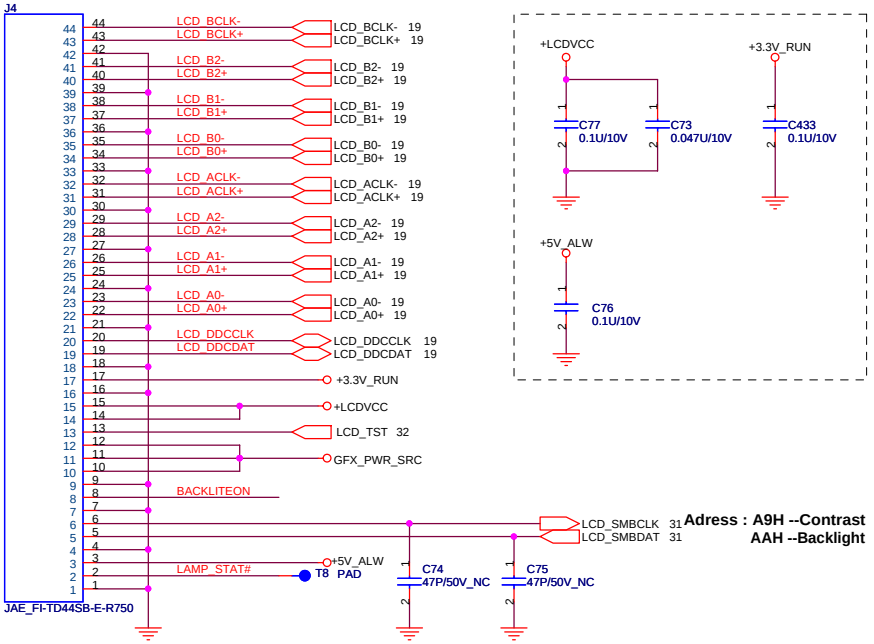
QUANTA COMPUTER

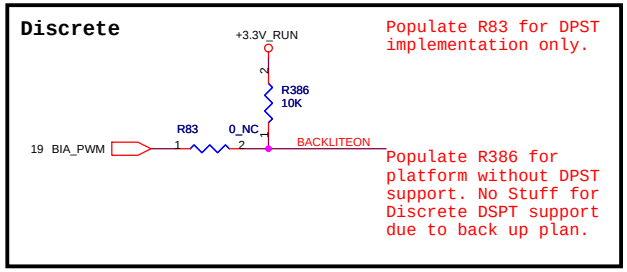


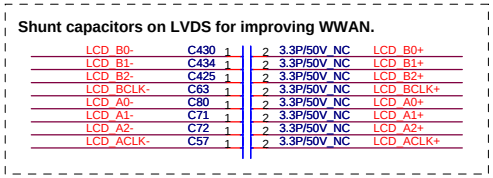
QUANTA COMPUTER

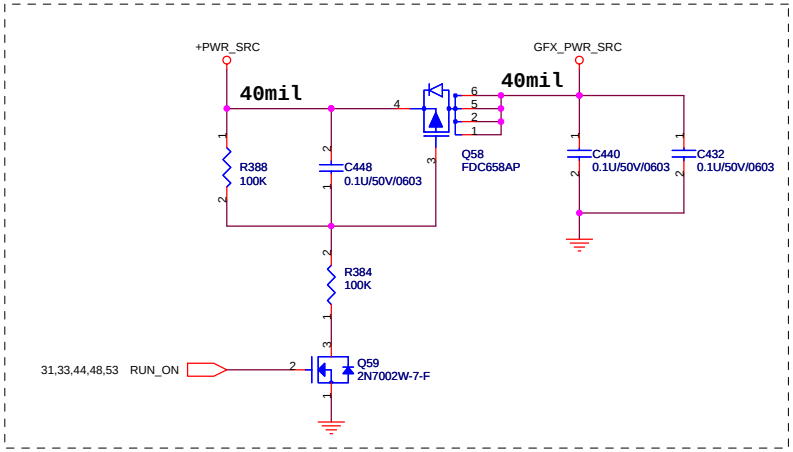
Title	S-Video CONN with SPDIF	
Size	Document Number JM7B	Rev 2C
Date: Thursday, October 26, 2006	Sheet 23 of 57	





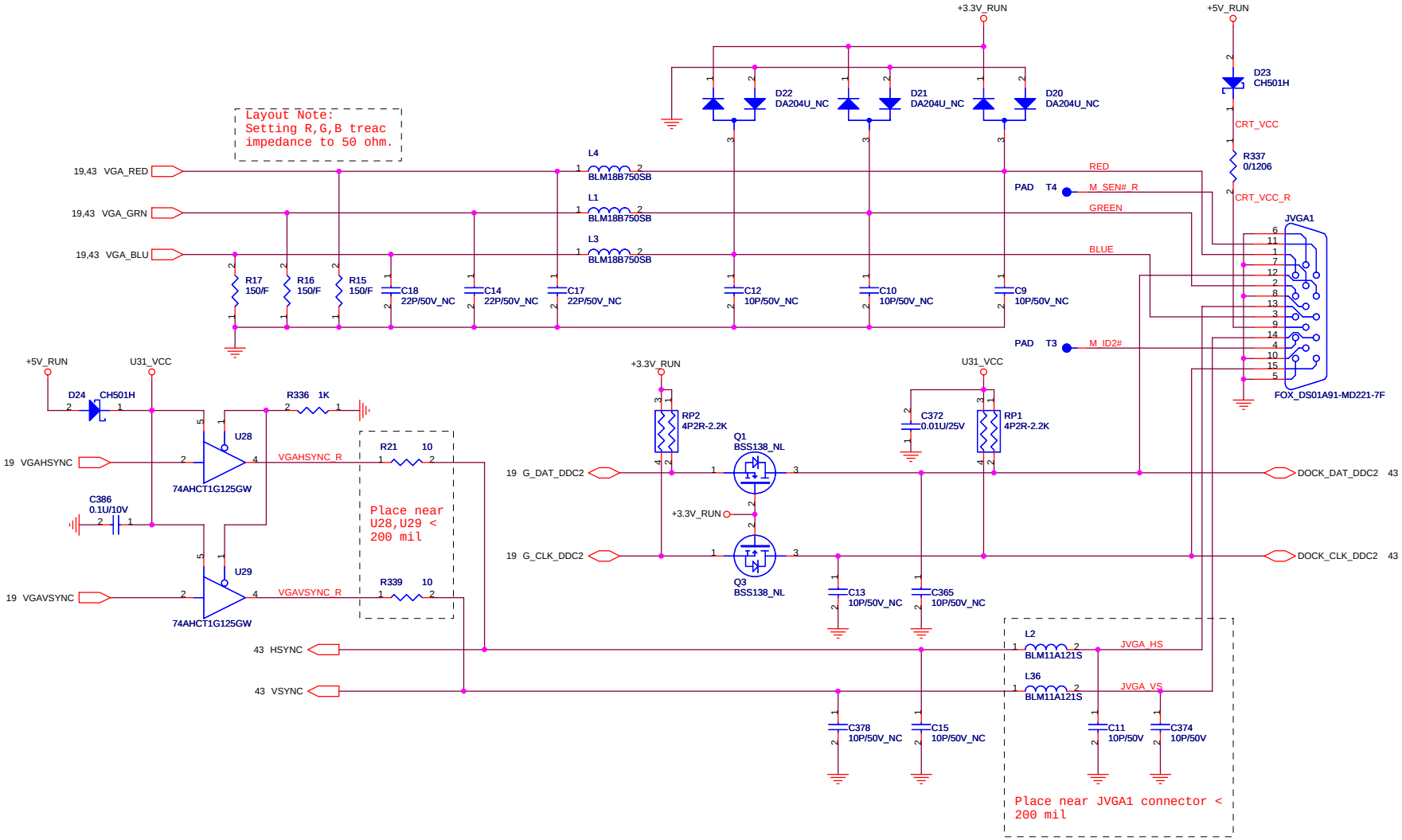






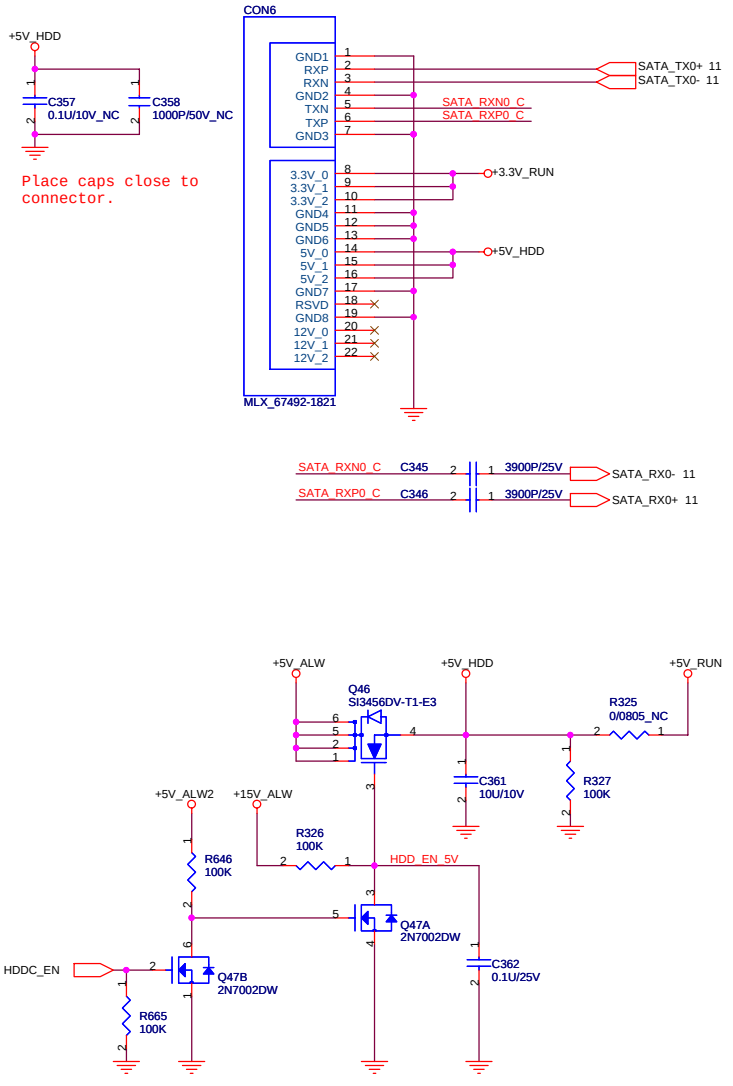
QUANTA COMPUTER

Title	LCD CONN & CK-SSCD	
Size	Document Number JM7B	Rev 2C
Date: Thursday, October 26, 2006	Sheet 24 of 57	

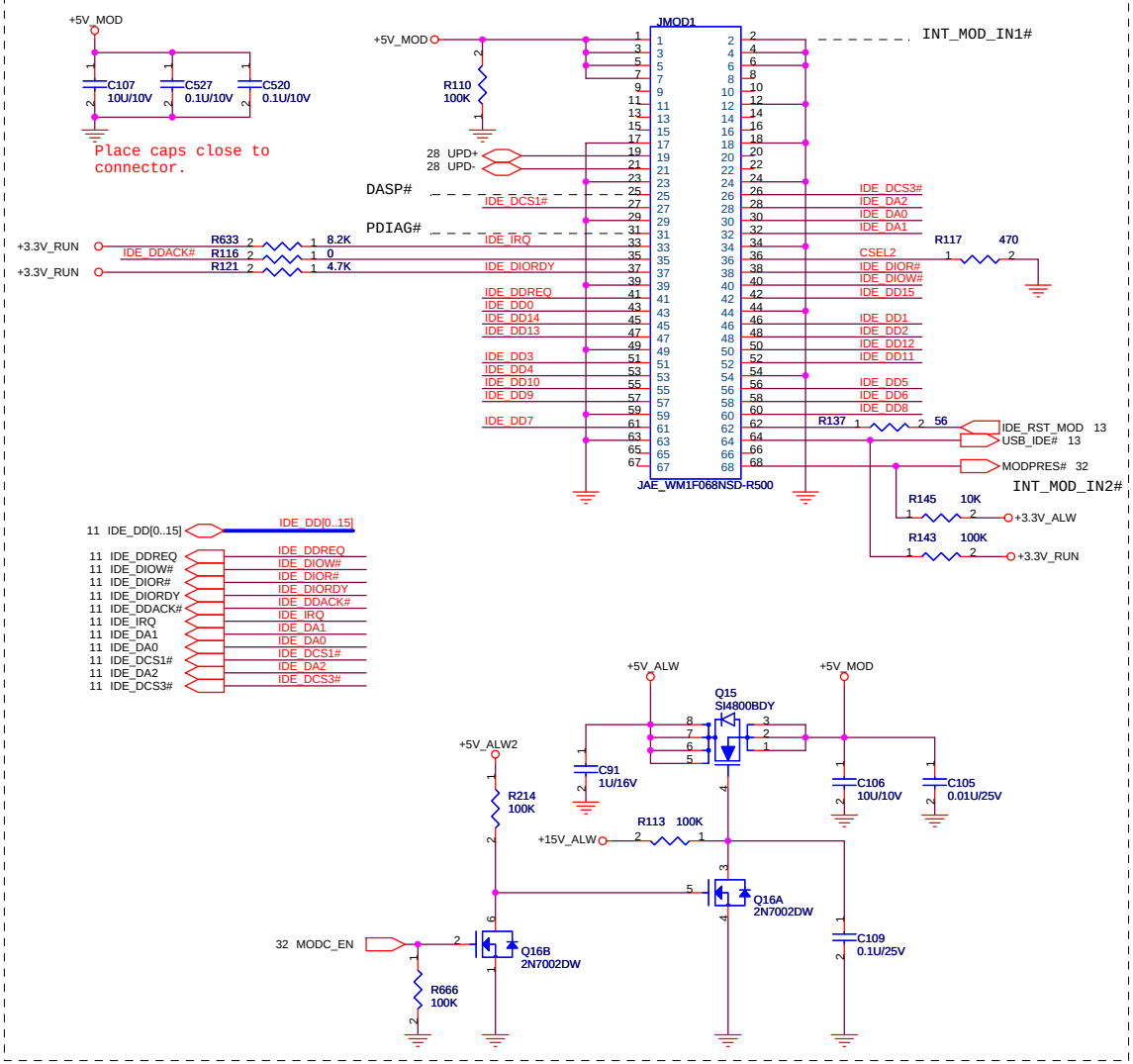


QUANTA COMPUTER		
Title	CRT&TV CONN	
Size	Document Number JM7B	Rev 2C
Date: Thursday, October 26, 2006	Sheet 25 of 57	

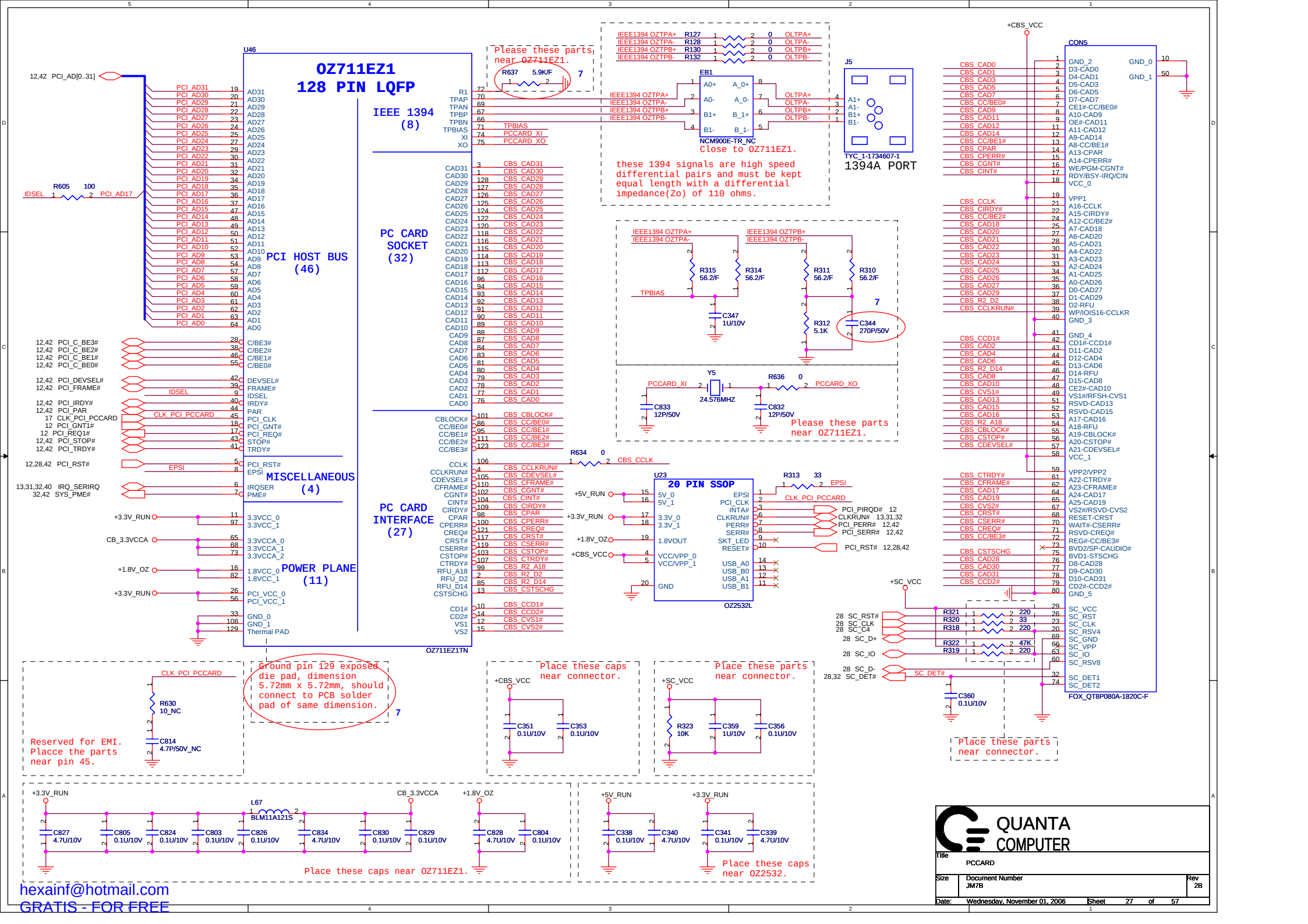
SATA Connector.



ODD Connector.



QUANTA COMPUTER		
Title: SATA (HDD&CD_ROM)		
Size	Document Number: JM7B	Rev: 2C
Date: Thursday, October 26, 2006	Sheet 26 of 57	


OZ711EZ1
128 PIN LQFP
U46
IEEE 1394
(8)
PC CARD
SOCKET
(32)
PCI HOST BUS
(46)
PC CARD
INTERFACE
(27)
MISCELLANEOUS
(4)
POWER PLANE
(11)
OZ711EZ1TN
Please these parts
near OZ711EZ1.
Close to OZ711EZ1.
these 1394 signals are high speed
differential pairs and must be kept
equal length with a differential
impedance(Zo) of 110 ohms.
1394A PORT
Please these parts
near OZ711EZ1.
20 PIN SSOP
OZ2532L
Ground pin 129 exposed
die pad, dimension
5.72mm x 5.72mm, should
connect to PCB solder
pad of same dimension.
Reserved for EMI.
Placce the parts
near pin 45.
Place these caps
near connector.
Place these parts
near connector.
Place these caps near OZ711EZ1.
Place these caps
near OZ2532.
Place these parts
near connector.
FOX_QT8P080A-1820C-F
QUANTA
COMPUTER
PCCARD
JM7B
Wednesday, November 01, 2006
hexainf@hotmail.com
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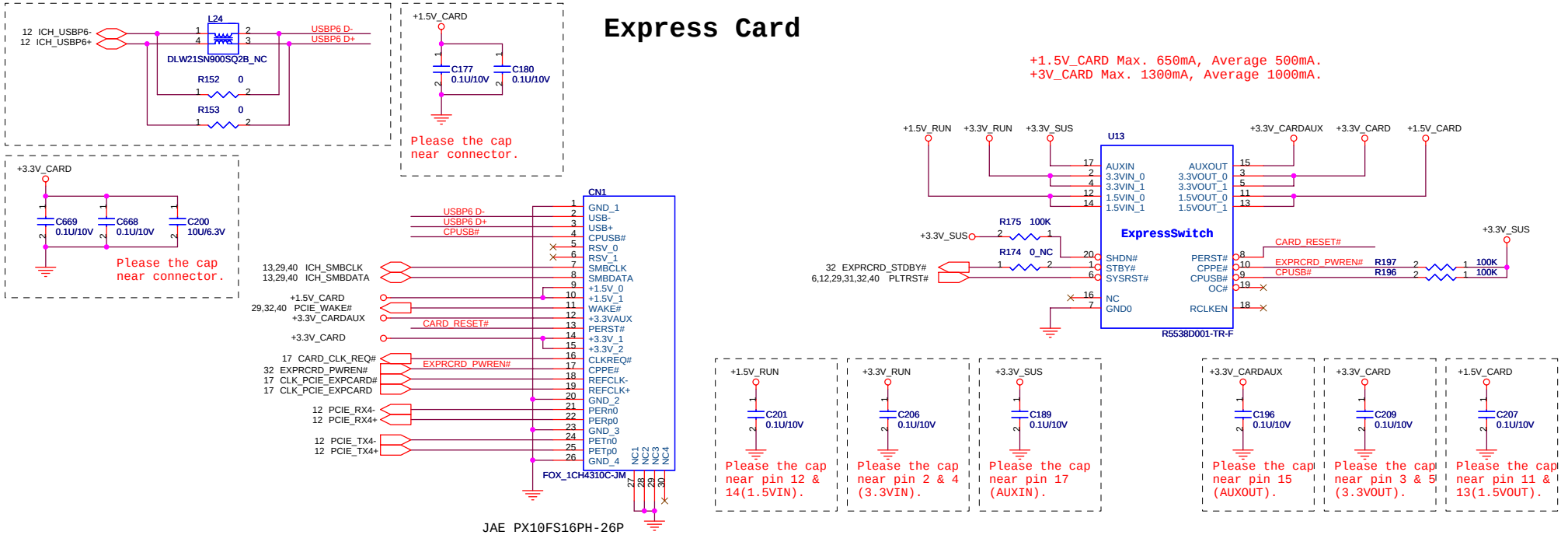
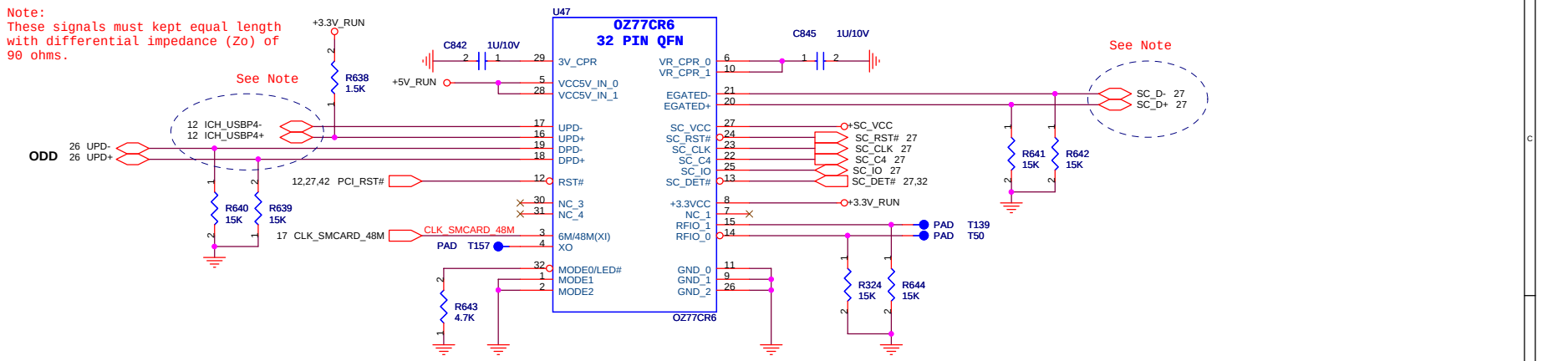
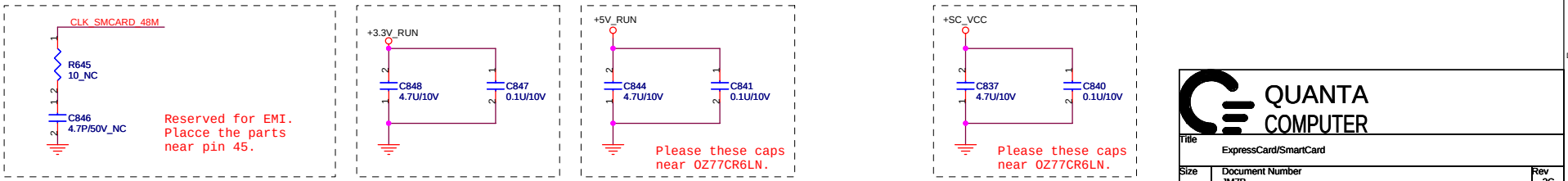
Express Card



Smart Card





QUANTA COMPUTER

Title	ExpressCard/SmartCard	
Size	Document Number JM7B	Rev 2C
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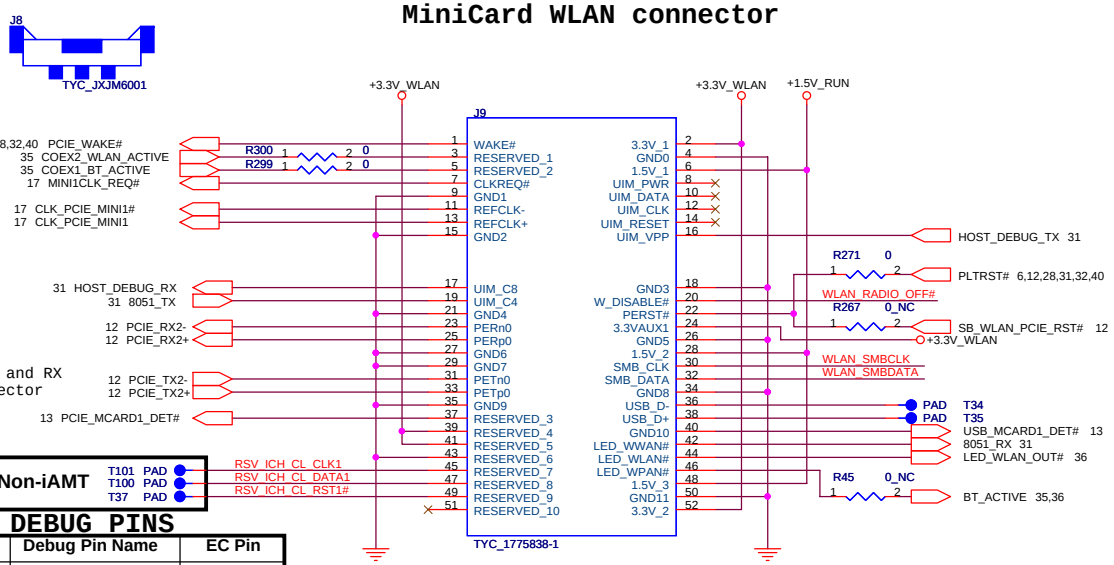
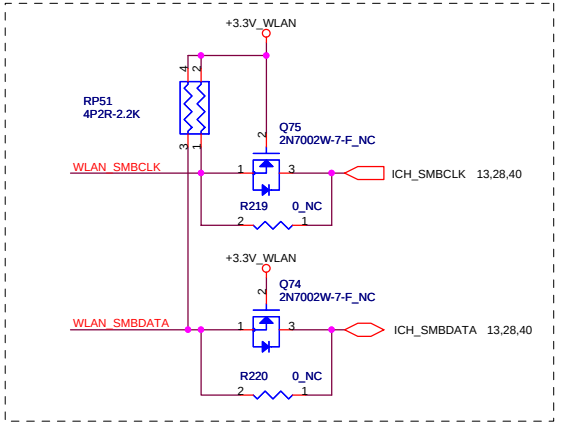
MiniCard WLAN connector

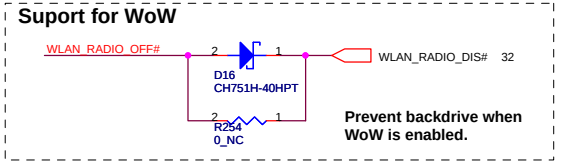


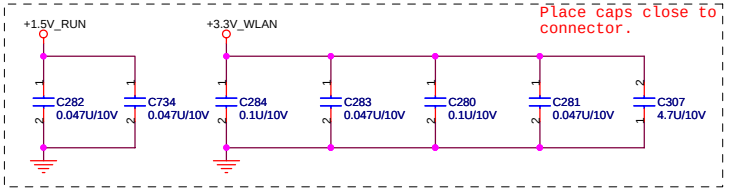
PCI-Express TX and RX direct to connector

DEBUG PINS

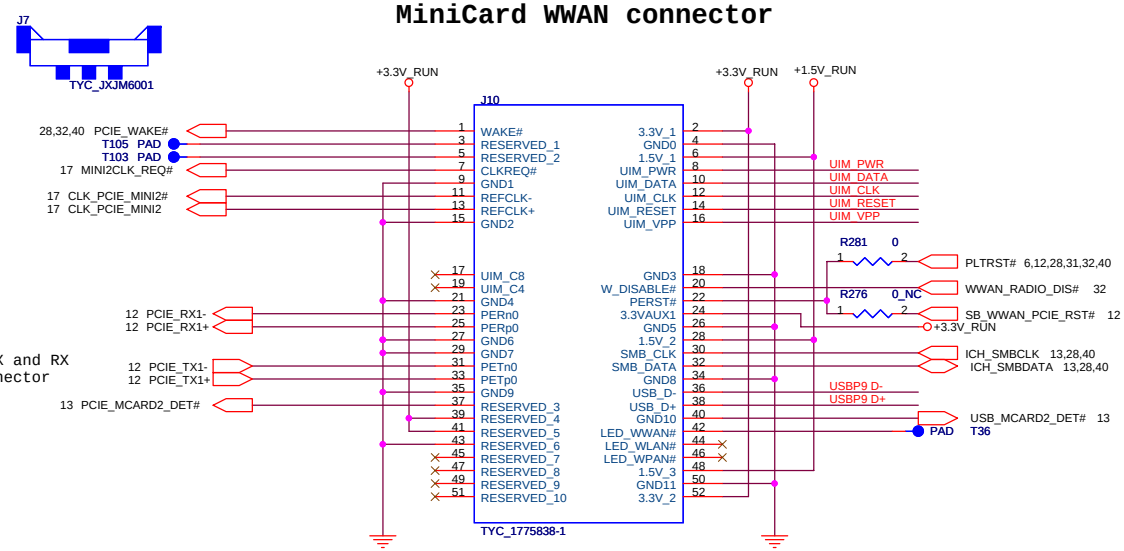
JMINI Pin	Debug Pin Name	EC Pin
16	HOST_DEBUG_TX	70
17	HOST_DEBUG_RX	71
19	8051_TX	82
42	8051_RX	81



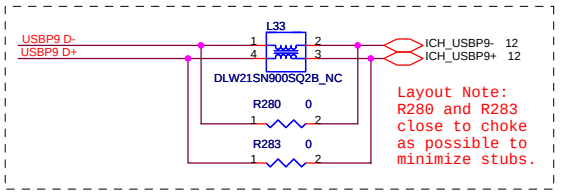


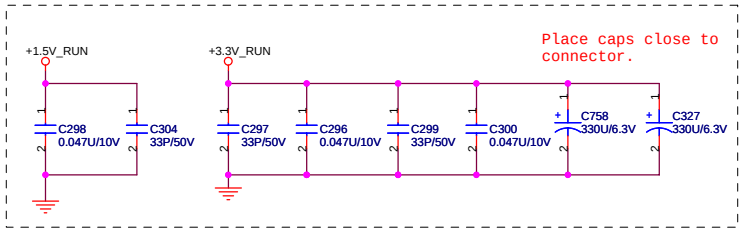


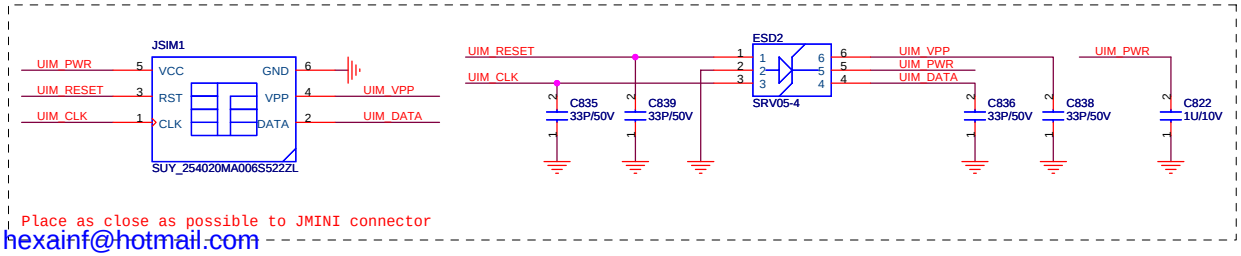
MiniCard WWAN connector



PCI-Express TX and RX direct to connector

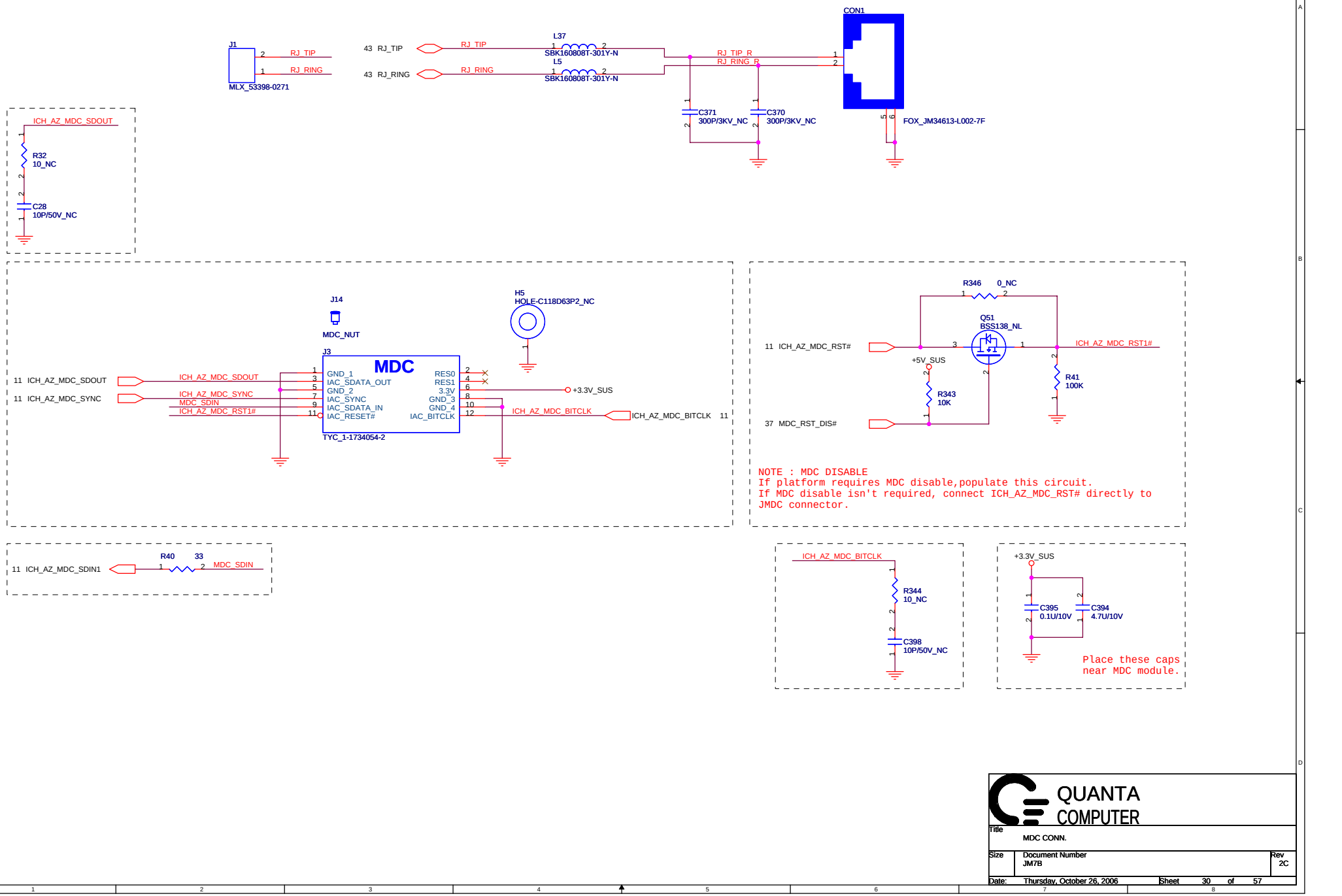






QUANTA COMPUTER

Title	MINI-PCI	
Size	Document Number JM7B	Rev 2C
Date: Thursday, October 26, 2006	Sheet 29 of 57	



QUANTA COMPUTER

Title	MDC CONN.	
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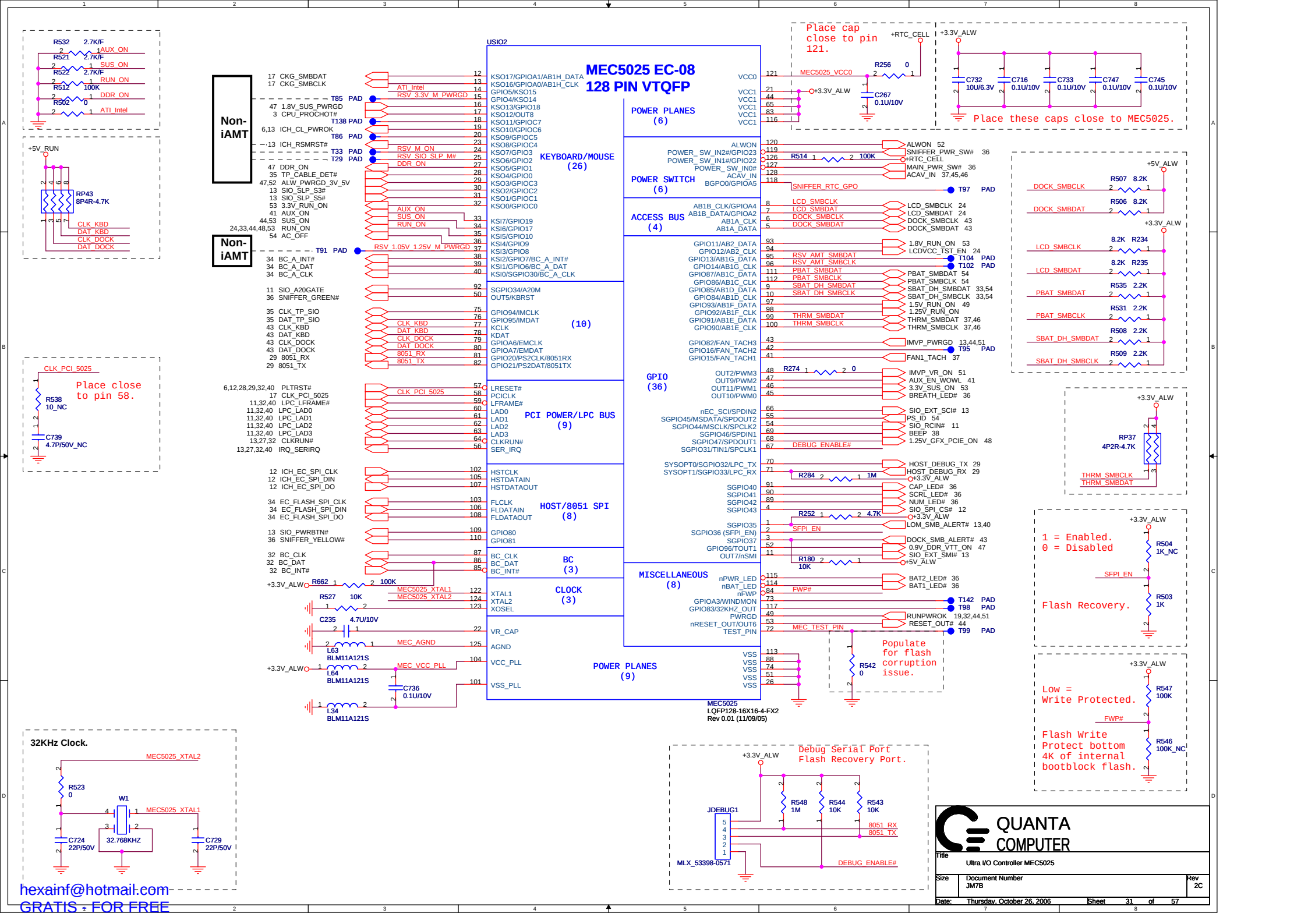
MEC5025 EC-08
128 PIN VTQFP
USIO2
Non-iAMT
Non-iAMT
POWER PLANES (6)
KEYBOARD/MOUSE (26)
POWER SWITCH (6)
ACCESS BUS (4)
GPIO (36)
(10)
PCI POWER/LPC BUS (9)
HOST/8051 SPI (8)
BC (3)
CLOCK (3)
MISCELLANEOUS (8)
POWER PLANES (9)
Place cap close to pin 121.
Place these caps close to MEC5025.
Place close to pin 58.
Place these caps close to MEC5025.
1 = Enabled.
0 = Disabled
Flash Recovery.
Low = Write Protected.
Flash Write Protect bottom 4K of internal bootblock flash.
Populate for flash corruption issue.
Debug Serial Port
Flash Recovery Port.
32KHz Clock.
MEC5025
LQFP128-16X16-4-FX2
Rev 0.01 (11/09/05)
QUANTA COMPUTER
Title
Ultra I/O Controller MEC5025
Size
Document Number
JM7B
Rev
2C
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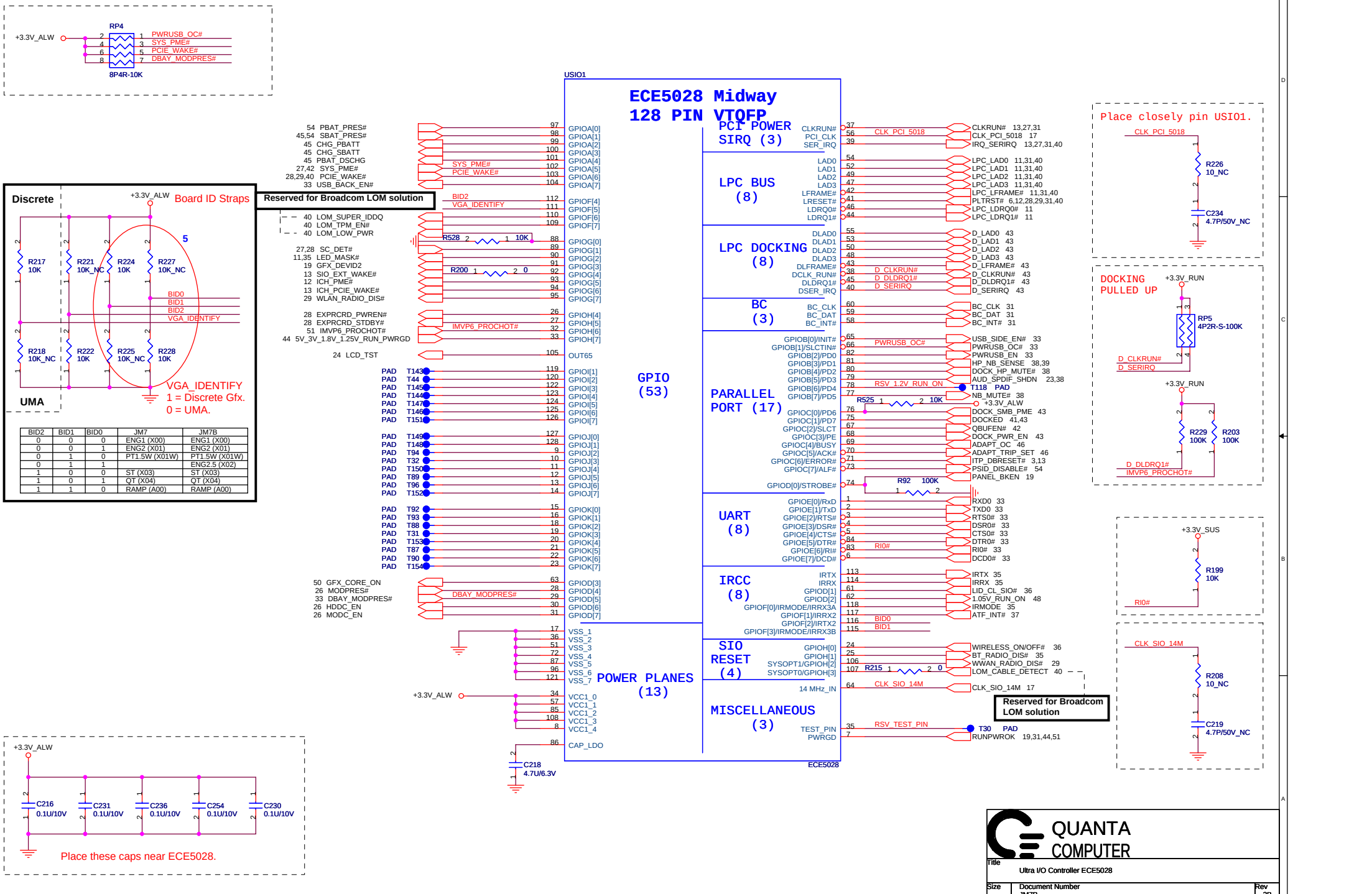
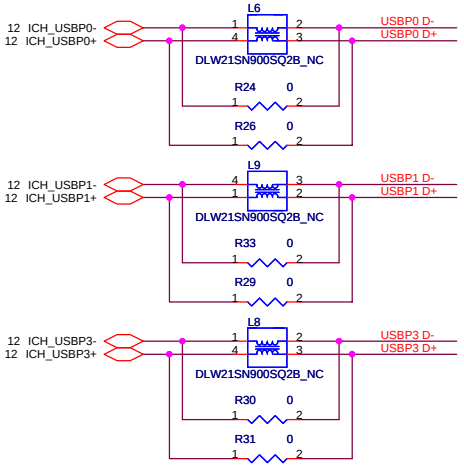
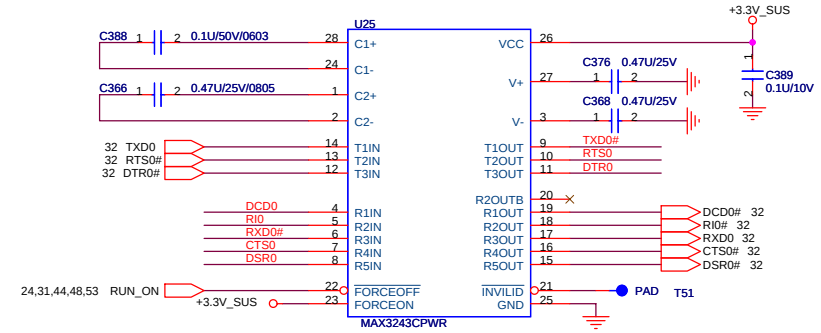


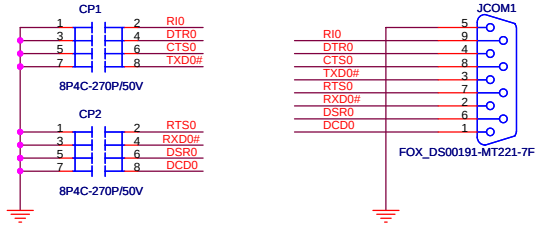
BID2	BID1	BID0	JM7	JM7B
0	0	0	ENG1 (X00)	ENG1 (X00)
0	0	1	ENG2 (X01)	ENG2 (X01)
0	1	0	PT1.5W (X01W)	PT1.5W (X01W)
0	1	1		ENG2.5 (X02)
1	0	0	ST (X03)	ST (X03)
1	0	1	QT (X04)	QT (X04)
1	1	0	RAMP (A00)	RAMP (A00)

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



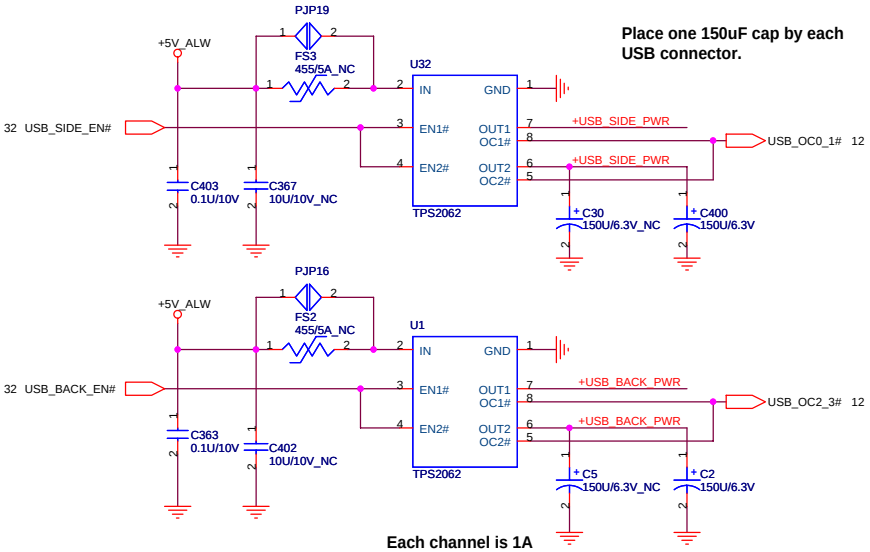
Platforms should put in PADS for the USB chokes if they have the room. Chokes should be NOPOP.





Place these beads close to JCOM1 as soon as possible

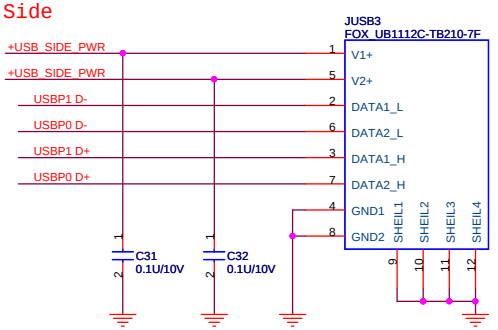
If MAX3243 pin 22 tied to RUN_ON,then it can not support Ring Out

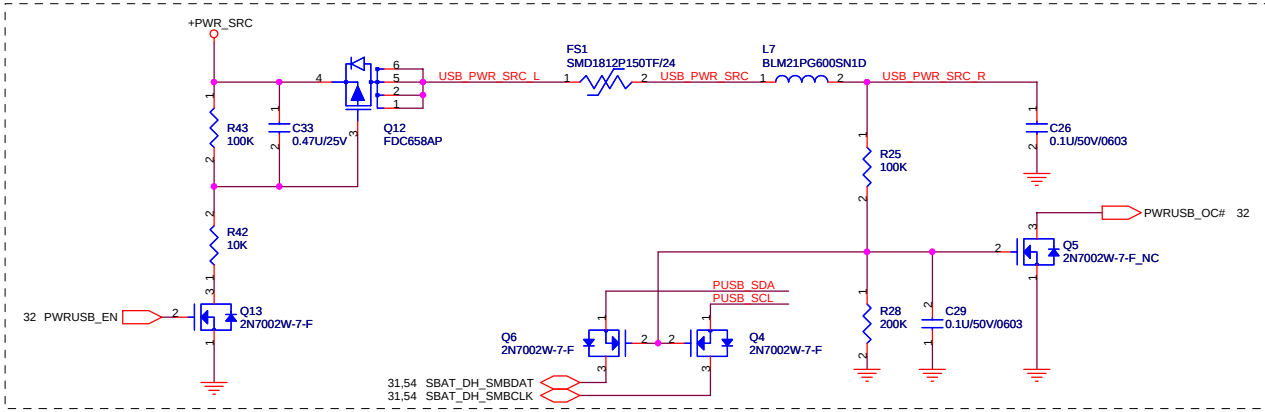


Place one 150uF cap by each USB connector.

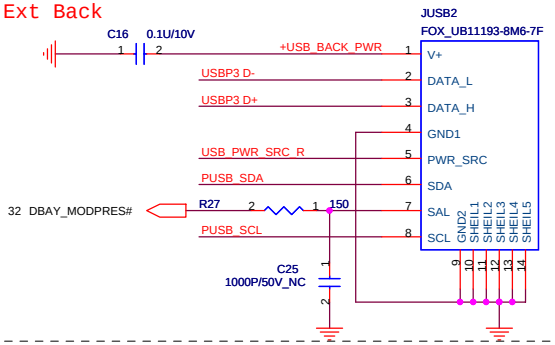
Each channel is 1A

Ext Side





Ext Back



hexainf@hotmail.com

QUANTA COMPUTER

Title	SERIAL PORT & USB	
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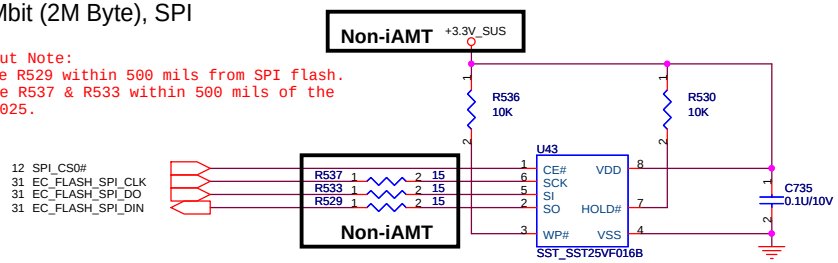
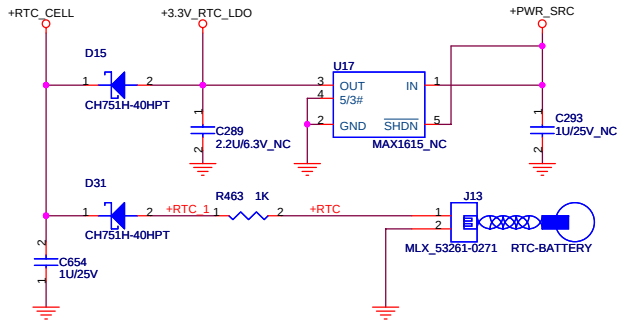
16Mbit (2M Byte), SPI

Non-iAMT

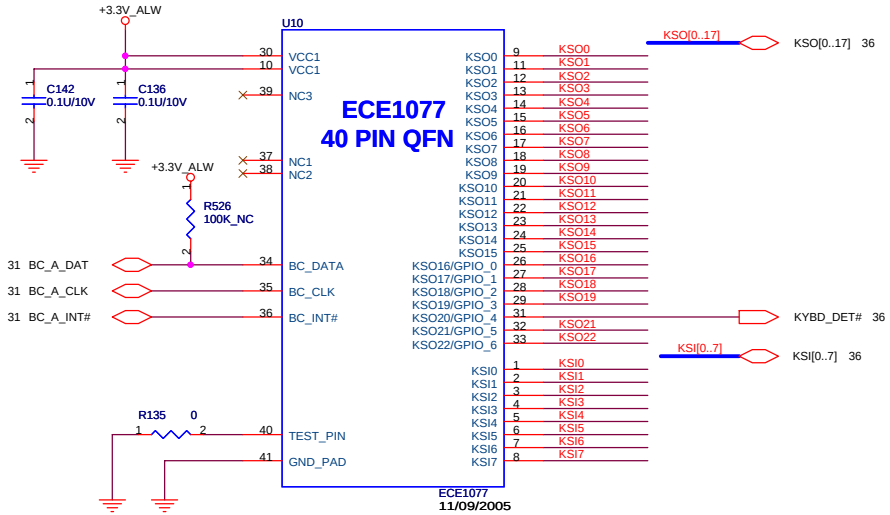
Layout Note:
Place R529 within 500 mils from SPI flash.
Place R537 & R533 within 500 mils of the MEC5025.



RTC BATTERY



Keyboard Scan Extension



QUANTA COMPUTER

Title	FLASH, RTC & KC	
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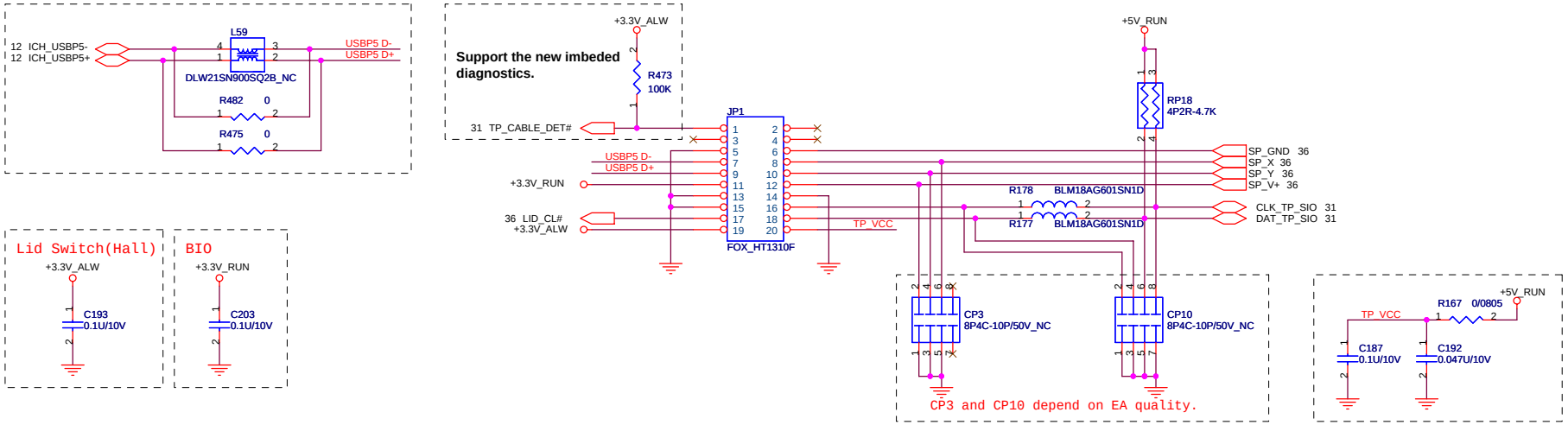
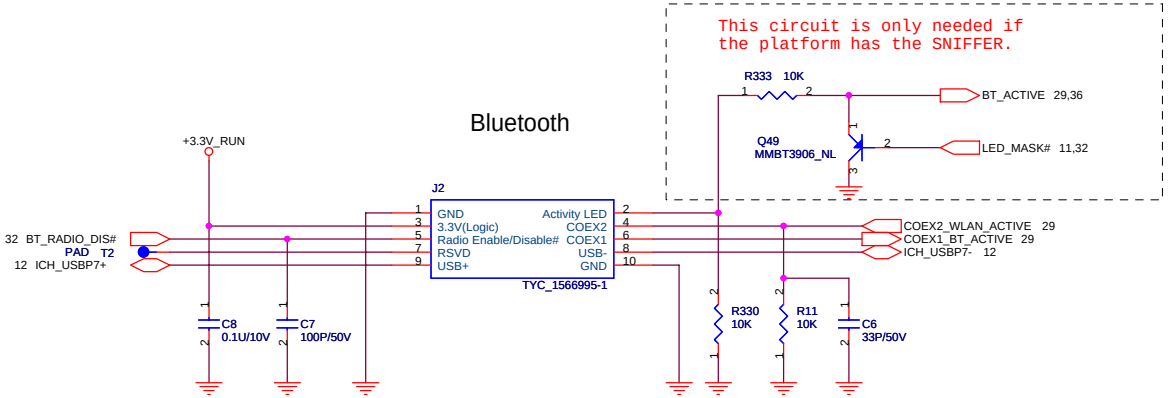
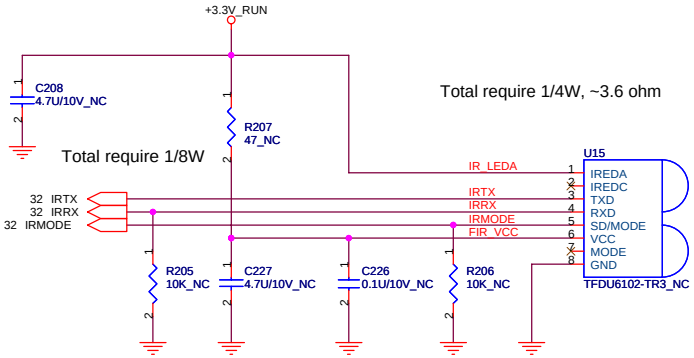
Touch Pad



Bluetooth



FIR



QUANTA COMPUTER

Title	TOUCH PAD, BULE TOOTH & FIR	
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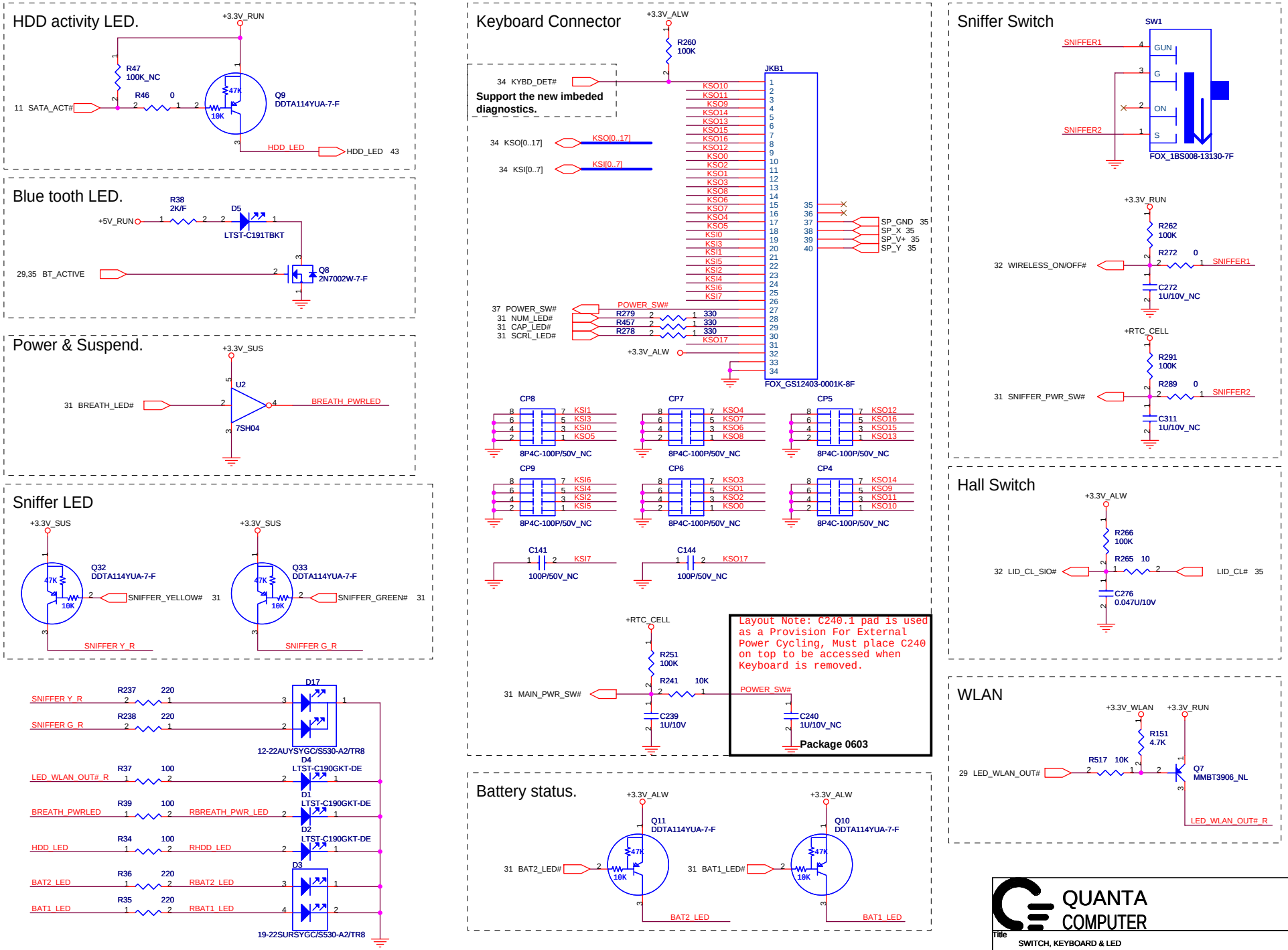
HDD activity LED.
+3.3V_RUN
R47
100K_NC
R46
0
11 SATA_ACT#
Q9
DDTA114YUA-7-F
HDD_LED
HDD_LED 43
Blue tooth LED.
R38
2K/F
D5
+5V_RUN
LTST-C191TBKT
29,35 BT_ACTIVE
Q8
2N7002W-7-F
Power & Suspend.
+3.3V_SUS
U2
31 BREATH_LED#
BREATH_PWRLED
7SH04
Sniffer LED
+3.3V_SUS
Q32
DDTA114YUA-7-F
SNIFFER_YELLOW# 31
SNIFFER Y_R
Q33
DDTA114YUA-7-F
SNIFFER_GREEN# 31
SNIFFER G_R
SNIFFER Y_R
SNIFFER G_R
R237
R238
220
D17
12-22AUYSYGC/S530-A2/TR8
LED_WLAN_OUT# R
R37
100
D4
LTST-C190GKT-DE
BREATH_PWRLED
R39
RBREATH_PWR_LED
D1
HDD_LED
R34
RHDD_LED
D2
BAT2_LED
R36
RBAT2_LED
D3
BAT1_LED
R35
RBAT1_LED
19-22SURSYGC/S530-A2/TR8
Keyboard Connector
+3.3V_ALW
R260
100K
34 KYBD_DET#
Support the new imbeded diagnostics.
JKB1
34 KSO[0..17]
KSO[0..17]
34 KSI[0..7]
KSI[0..7]
37 POWER_SW#
31 NUM_LED#
31 CAP_LED#
31 SCRL_LED#
POWER_SW#
R279
R457
R278
330
KSO17
FOX_GS12403-0001K-8F
SP_GND 35
SP_X 35
SP_V+ 35
SP_Y 35
CP8
CP7
CP5
CP9
CP6
CP4
8P4C-100P/50V_NC
C141
100P/50V_NC
C144
+RTC_CELL
R251
100K
R241
10K
31 MAIN_PWR_SW#
C239
1U/10V
C240
1U/10V_NC
Package 0603
Layout Note: C240.1 pad is used as a Provision For External Power Cycling, Must place C240 on top to be accessed when Keyboard is removed.
Battery status.
+3.3V_ALW
Q11
DDTA114YUA-7-F
31 BAT2_LED#
BAT2_LED
Q10
DDTA114YUA-7-F
31 BAT1_LED#
BAT1_LED
Sniffer Switch
SW1
SNIFFER1
SNIFFER2
GUN
G
ON
S
FOX_1BS008-13130-7F
+3.3V_RUN
R262
100K
R272
0
32 WIRELESS_ON/OFF#
SNIFFER1
C272
1U/10V_NC
+RTC_CELL
R291
100K
R289
0
31 SNIFFER_PWR_SW#
SNIFFER2
C311
1U/10V_NC
Hall Switch
+3.3V_ALW
R266
100K
R265
10
32 LID_CL_SIO#
LID_CL# 35
C276
0.047U/10V
WLAN
+3.3V_WLAN
+3.3V_RUN
R151
4.7K
R517
10K
29 LED_WLAN_OUT#
Q7
MMBT3906_NL
LED_WLAN_OUT# R
QUANTA COMPUTER
Title
SWITCH, KEYBOARD & LED
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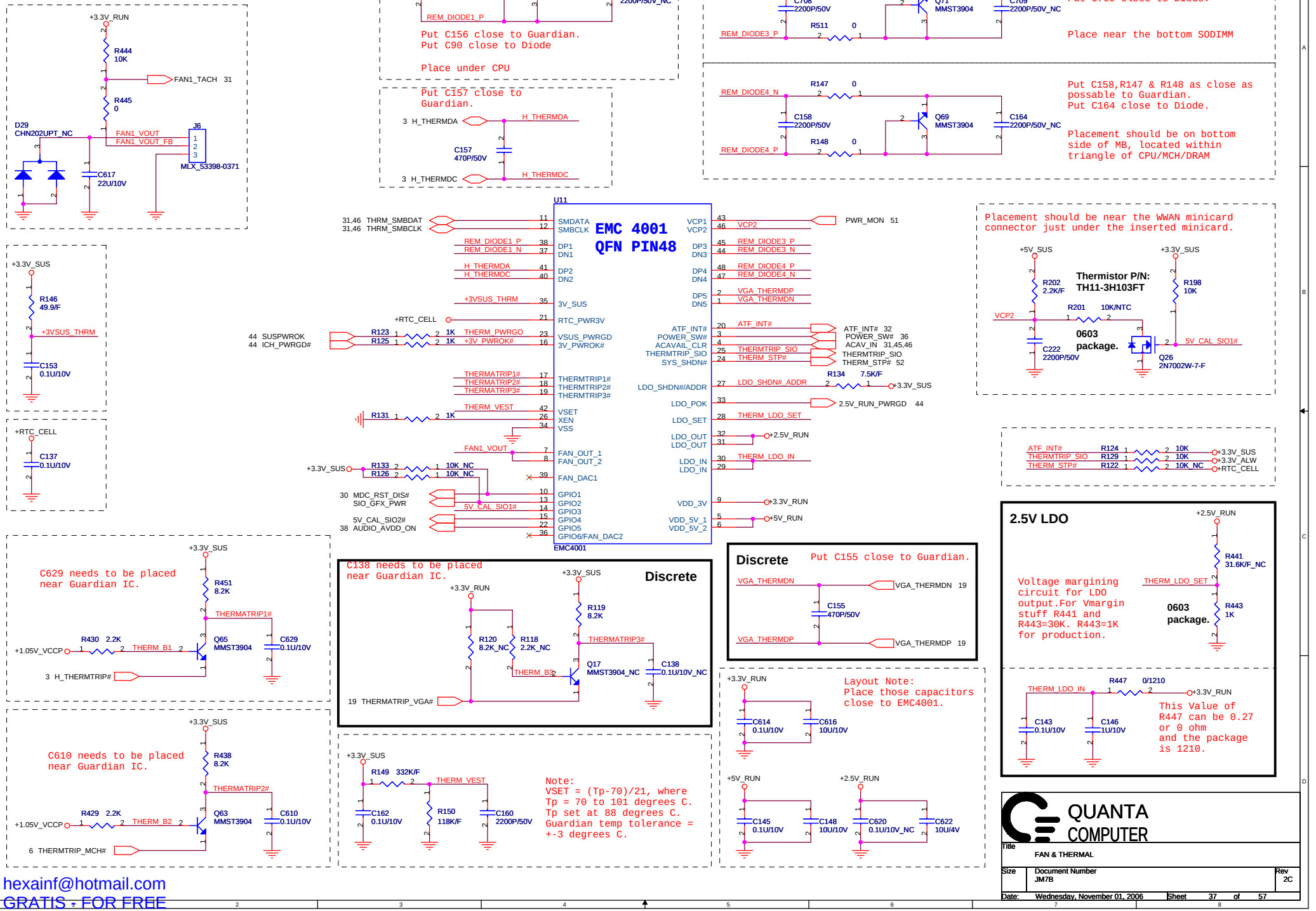

INTERNAL SPEAKER AMP

Package 1206 for THD+N performance and Vista Logo requirements.

X7R

AUD_LINE_OUT_L C334 0.033U/200V
AUD_LINE_OUT_R C291 0.033U/200V
AUD_HP_OUT_L C768 2.2U/25V
AUD_HP_OUT_R C751 2.2U/25V

C753 47P/50V_NC
C764 47P/50V_NC
C288 47P/50V_NC
C323 47P/50V_NC

C308 1U/10V
T106 PAD

U20
MAX9789A
TQFN 32PIN
MAX9789A

LIN-
RIN-
HP_OUT_L
HP_OUT_R
AUD_SPK_ENABLE#
AUD_HP_NB_SENSE
AUD_AMP_MUTE#
AUD_AMP_GAIN1
AUD_AMP_GAIN2

SPKR_INL
SPKR_INR
HP_INL
HP_INR
BIAS
SPKR_EN#
HP_EN
MUTE#
GAIN1
GAIN2
HPVDD
CPVDD
C1P
C1N
CPGND
PVSS
CPVSS

OUTL+
OUTL-
OUTR+
OUTR-
HPL
HPR
REGEN
SET
VOUT
VDD
PVDD_8
PVDD_18
GND_28
PGND_5
PGND_21

AUD_SPK_L1
AUD_SPK_L2
AUD_SPK_R1
AUD_SPK_R2
AUD_HP_JACK_L 39
AUD_HP_JACK_R 39
REGEN
SET
+VDDA
VDD
+5V_SPK_AMP
+5V_SPK_AMP

+5V_SPK_AMP
C309 10U/10V_NC
C303 1U/10V
C255 1U/16V
C256 1U/16V

JSPK1
MLX_53398-0471
AUD_SPK_R1
AUD_SPK_R2
AUD_SPK_L1
AUD_SPK_L2
C717 100P/50V
C718 100P/50V
C719 100P/50V
C720 100P/50V

L35
FB_600ohm+-25%_100MHz
_200mA_0.6ohm DC
+5V_SPK_AMP
VDD
C319 1U/10V
C292 1U/10V
C294 0.1U/10V
Layout Note: Place close U20.

+VDDA
C277 1U/10V
C274 1U/10V
Layout Note: Place close U20.

For TPA6040A, pop R551,depop R552.

+5V_SPK_AMP
R552 100K
R551 0_NC
AUDIO_AVDD_ON
AUD_AMP_MUTE#

AUDIO_AVDD_ON
AUDIO_AVDD_ON 37
R557 0
REGEN
C763 0.033U/16V_NC
For TPA6040A,pop C763,depop R557.

+5V_SPK_AMP
+5V_RUN
+5V_SPK_AMP
L31
BLM21PG600SN1D
C320 1U/10V_NC
C326 10U/10V_NC
Layout Note: Place close to pin 8.
FB_60ohm+-25%_100MHz
_3A_0.05ohm DC
C265 1U/10V
C253 10U/10V
Layout Note: Place close to pin 18.

+5V_SPK_AMP
R282 100K
R295 100K
AUD_SPK_ENABLE#
AUD_EAPD
Q41 2N7002W-7-F
NB_MUTE#
Q34 2N7002W-7-F

+5V_SPK_AMP
R550 100K_NC
R296 100K
AUD_AMP_GAIN1
AUD_AMP_GAIN2
R549 100K
R297 100K_NC

GAIN1	GAIN2	GAIN
0	0	6dB
0	1	10dB
1	0	15.6dB
1	1	21.6dB

C268 0.1U/10V
+3.3V_RUN
U16
TSH08
AUD_HP_NB_SENSE
HP_NB_SENSE
NB_MUTE#
NB_MUTE# 32

For TPA6040A,pop C332,depop R298.
SET
C322 0.033U/16V_NC
R298 0

AZALIA (HD) CODEC

U19
STAC9205
QFN 48PIN
STAC9205X5NBEB1XR

11 ICH_AZ_CODEC_BITCLK
11 ICH_AZ_CODEC_SDIN0
11 ICH_AZ_CODEC_SDOUT
11 ICH_AZ_CODEC_SYNC
11 ICH_AZ_CODEC_RST#
ICH_AZ_CODEC_BITCLK
R277 33 SDIN
ICH_AZ_CODEC_SDOUT

HDA_BITCLK
HDA_SDI_CODEC
HDA_SDO
HDA_SYNC
HDA_RST#
DMIC_CLK
DMIC0/VOL_UP/GPIO1
DMIC1/VOL_DN/GPIO2
SPDIF_IN/EAPD/GPIO0
SPDIF_OUT
NC_43
NC_44
NC_45
DVDD_CORE_1
DVDD_CORE_9
DVDD_CORE_40
DVDD_IO
AVDD_25
AVDD_38
DVSS
AVSS_26
AVSS_42

SENSE_A
SENSE_B
PORT_A_L
PORT_A_R
VREFOUT_A
PORT_B_L
PORT_B_R
VREFOUT_B
PORT_C_L
PORT_C_R
VREFOUT_C
PORT_D_L
PORT_D_R
PORT_E_L
PORT_E_R
GPIO4/VREFOUT_E
PORT_F_L
PORT_F_R
GPIO3/VREFOUT_F
CD_L
CD_GND
CD_R
PC_BEEP
MONO_OUT
VREFFILT
CAP2

+VDDA
R255 100K
AUD_SENSE_A
AUD_SENSE_B
AUD_HP_OUT_L
AUD_HP_OUT_R
AUD_EXT_MIC_L 39
AUD_EXT_MIC_R 39
AUD_VREFOUT_B 39
AUD_INT_MIC_IN 39
AUD_LINE_OUT_L
AUD_LINE_OUT_R
R268 10K
+VDDA
DOCK_HP_MUTE# 32
R263 10K
+VDDA
AUD_SPDIF_SHDN 23,32
AUD_PC_BEEP
AC97VREFI
CAP2
C273 10U/6.3V
C287 10U/6.3V

Layout Note: Close to Pin 13.
R285 5.1K/F
+VDDA
AUD_SENSE_A
R286 39.2K/F
R288 20K/F
C315 1000P/50V
32,39 HP_NB_SENSE
HP_NB_SENSE
Q42 2N7002W-7-F
Q43 2N7002W-7-F
AUD_MIC_SWITCH 39

For tuning.
23,43 AUD_SPDIF_OUT
R257 0
AUD_EAPD
SPDIF_OUT

ICH_AZ_CODEC_BITCLK
R275 47_NC
Close to pin 6.
C290 0.1U/10V_NC

ICH_AZ_CODEC_SDOUT
R273 47_NC
Close to pin 5.
C286 0.1U/10V_NC

+3.3V_RUN
C305 10U/10V_NC
C301 0.1U/10V
C302 1U/10V
+3.3V_RUN
C260 0.1U/10V
+VDDA
C258 0.1U/16V
C295 1U/10V
C261 10U/10V_NC

Close to U19.
+VDDA
C278 0.1U/16V
C279 0.1U/10V
R261 20K
AUD_PC_BEEP
BEEP2
BEEP1
R264 10K_NC
BEEP 31
SPKR 13
U18
74LVC1G86GW

QUANTA COMPUTER

Title	Azelia CODEC	
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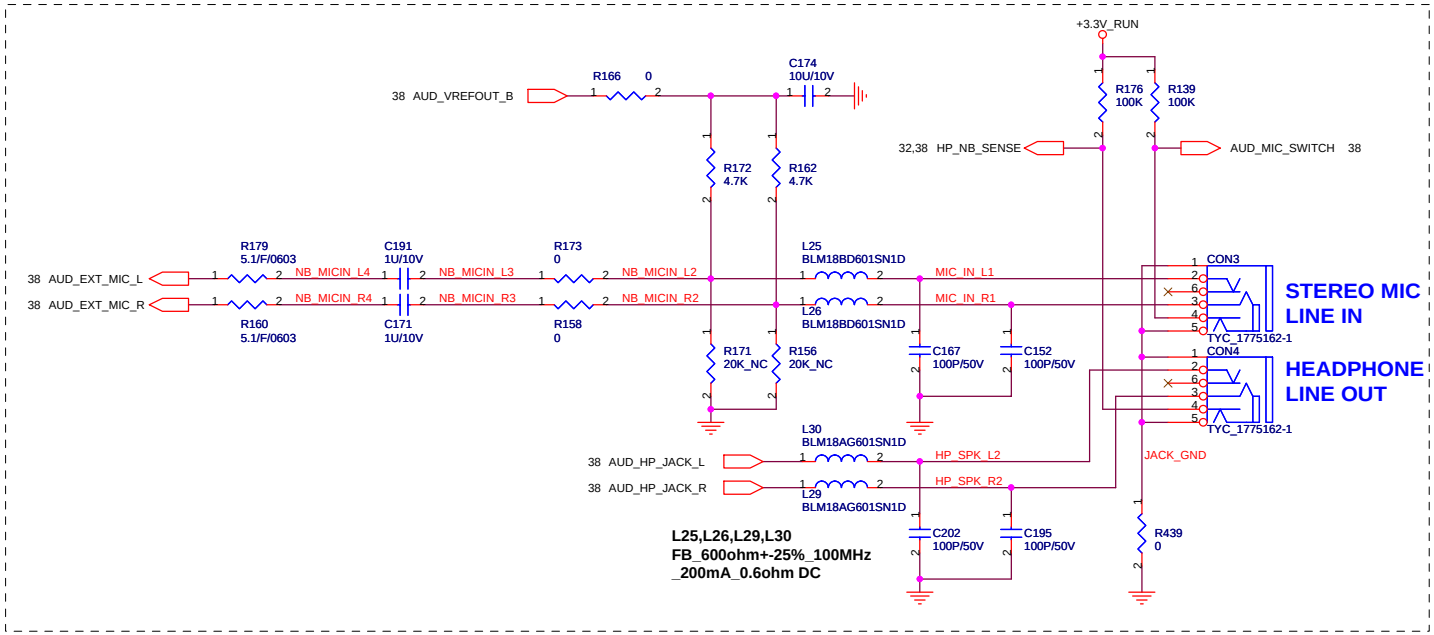

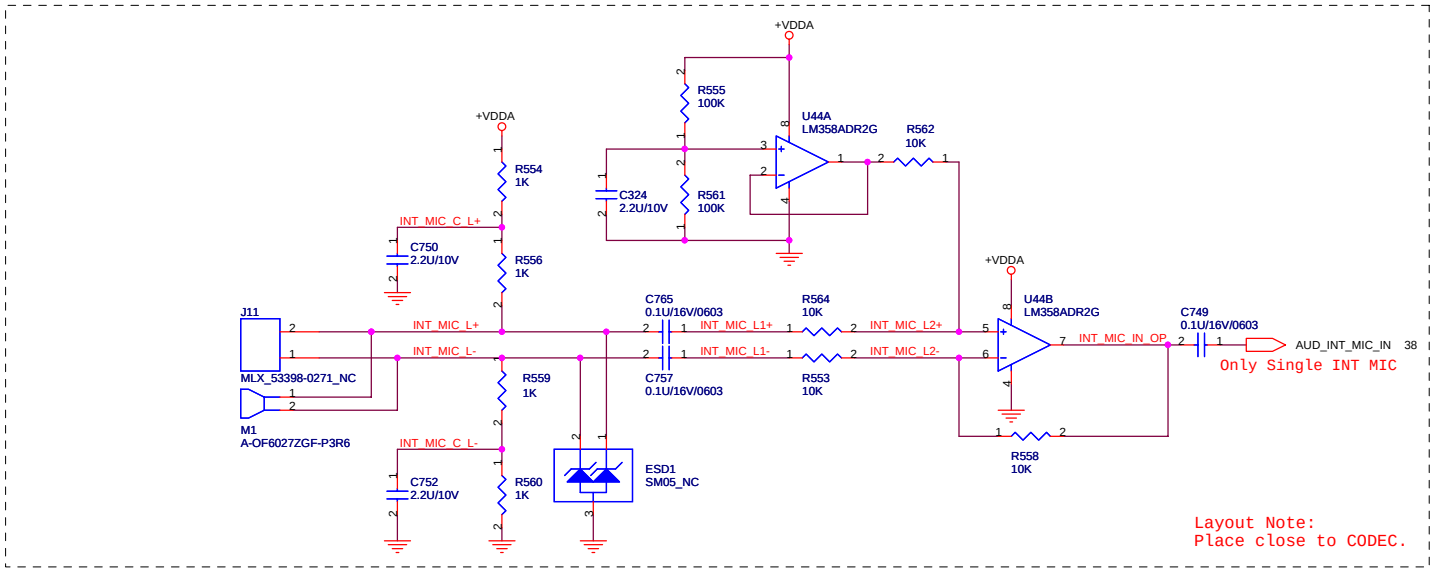

QUANTA COMPUTER		
Title: AUDIO CONN		
Size	Document Number: JM7B	Rev: 2C
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BCM5755M

10mm x 10mm

BGA144

Place filters close to the power pins - 0.1uF should be closest to the power pin. Minimize the loop path from pin to cap to power feed via. The length of the path from the ground side of the cap to the ground via should also be minimized.

Layout Note:
Place termination resistors close to LAN controller(less than 0.25").

Reserved for BCM5752 as back-up solution.
Reserved as optional EMI filtering for BCM5755M.

Place R53 as close as possible to the ASIC. Pad is needed to measure 125Mhz clock for debugging.

Layout Note:
Place filters close to the power pins - 0.1uF should be closest to the power pin. Minimize the loop path from pin to cap to power feed via. The length of the path from the ground side of the cap to the ground via should also be minimized.

Monitor GPHY PLL Clk

Rserved for BCM5752 as back-up solution

M4 pin:
NC for BCM5755M.
SERIAL_DO/TPM_STATUS for BCM5752.

Rserved for BCM5752 as back-up solution.

LOM_CABLE_DETECT goes to an input on a system microcontroller that can poll this signal periodically and can de-assert the LOM_LOW_PWR when LOM_CABLE_DETECT signal is high. Connect to an EC GPIOC defined by the GPIO mapping.

A2 pin:
NC for BCM5755M.
ATTN_BTTN for BCM5752.

Rserved for BCM5752 as back-up solution.

RDAC resistor R674 - 1%
- 1.15K for Docking solutions with analog s/w
- 1.24K for Non-Docking solutions
Place as close to the ASIC as possible

25MHz +-5 ppm 300uW Crystal.

Reserved for EMI.

Place high-frequency decoupling caps close to the power pins. Minimize the loop path from pin to cap to power feed via. The length of the path from the ground side of the cap to the ground via should also be minimized.

LOM_REGSEN12 and LOM_REGSEN25 should be routed using a trace from the load (PNP) back to the controller. Do not use a direct connection to the power plane.Use 8 mils trace width for these signals.

Logic High Voltage must be 0.7V to 2.75V

QUANTA COMPUTER

Title	LAN Broadcom 5755	
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TRANSFORM+RJ45

36nH is a suggested value.
Actual value will be systgem dependent.
Must use 0603 package for lower DC resistance.

40 LOM_TRD0-
40 LOM_TRD0+
40 LOM_TRD1-
40 LOM_TRD1+
40 LOM_TRD2-
40 LOM_TRD2+
40 LOM_TRD3-
40 LOM_TRD3+
L22 L21 L20 L17 L16 L15 L12 L10 0603CS-360EJTS
TRD0N_L TRD0P_L TRD1N_L TRD1P_L TRD2N_L TRD2P_L TRD3N_L TRD3P_L

U3
PI3L500-A
PI3L500-A

40 LOM_ACTLED_YEL#
40 LOM_SPD10LED_GRN#
40 LOM_SPD100LED_ORG#
LOM_ACTLED_YEL#
LOM_SPD10LED_GRN#
LOM_SPD100LED_ORG#

32,43 DOCKED
DOCKED
SEL 0: RJ45.
SEL 1: Dock.

+3.3V_LAN
VDD_1 VDD_2 VDD_3 VDD_4 VDD_5 VDD_6 VDD_7
GND_1 GND_2 GND_3 GND_4 GND_5 GND_6 GND_7 GND_8 GND_9 GND_10 GND_11 GND_12 GND_13 GND_14

NB_LOM_TRD0- NB_LOM_TRD0+ NB_LOM_TRD1- NB_LOM_TRD1+ NB_LOM_TRD2- NB_LOM_TRD2+ NB_LOM_TRD3- NB_LOM_TRD3+
NB_LOM_ACTLED_YEL#
NB_LOM_SPD10LED_GRN#
NB_LOM_SPD100LED_ORG#

DOCK_LOM_TRD0- 43
DOCK_LOM_TRD0+ 43
DOCK_LOM_TRD1- 43
DOCK_LOM_TRD1+ 43
DOCK_LOM_TRD2- 43
DOCK_LOM_TRD2+ 43
DOCK_LOM_TRD3- 43
DOCK_LOM_TRD3+ 43
DOCK_LOM_ACTLED_YEL# 43
DOCK_LOM_SPD10LED_GRN# 43
DOCK_LOM_SPD100LED_ORG# 43

Reserve pull up.
+3.3V_LAN
R347 10K_NC
R348 10K_NC
R349 10K_NC
LOM_ACTLED_YEL#
LOM_SPD10LED_GRN#
LOM_SPD100LED_ORG#

+2.5V_LOM
For Broadcom (5755)
R345 0/0603
L39 BLM18AG601SN1D_NC
0603 package.
NB_LOM_TRCT1 NB_LOM_TRCT2 NB_LOM_TRCT3 NB_LOM_TRCT4

Use 2.5V_LOM for center tap on magnetics when using Broadcom; 1.8V_LOM for Intel only

NB_LOM_TRCT1 NB_LOM_TRCT2 NB_LOM_TRCT3 NB_LOM_TRCT4
C396 0.1U/10V
C397 0.1U/10V
C390 0.1U/10V_NC
C391 0.1U/10V_NC
Reserved for EMI.

+3.3V_LAN
CON2
RJ45 Connector
NB_LOM_ACTLED_YEL# R1 150 LED_Y_C
LED_Y_C LED_Y_A
NB_LOM_TRD0+ NB_LOM_TRCT1 NB_LOM_TRD0- TRD1+ TRCT1 TRD1-
NB_LOM_TRD1+ NB_LOM_TRCT2 NB_LOM_TRD1- TRD2+ TRCT2 TRD2-
NB_LOM_TRD2+ NB_LOM_TRCT3 NB_LOM_TRD2- TRD3+ TRCT3 TRD3-
NB_LOM_TRD3+ NB_LOM_TRCT4 NB_LOM_TRD3- TRD4+ TRCT4 TRD4-
NB_LOM_SPD100LED_ORG# R331 150 LED_O_C
NB_LOM_SPD10LED_GRN# R329 150 LED_G_C
LED_O_C LED_G_C
LED_O/G_A
SHIELD1 SHIELD2
BLS_L830-1J1C-43

+PWR_SRC +3.3V_ALW +3.3V_LAN
PQ47 SI3456DV-T1-E3
PJP20 POWER_JP
PR187 100K
PR181 100K
PC219 1U/10V
PC218 0.1U/10V
PC220 4.7U/6.3V
31 AUX_ON
PQ48B 2N7002DW
PQ48A 2N7002DW
PR186 200K
PR178 470K
PC167 4700P/50V/0603_NC

+PWR_SRC +3.3V_ALW +3.3V_WLAN +3.3V_RUN
PQ31 FDC655BN
R270 0/1206_NC
PR78 100K
PR77 100K
PQ28B 2N7002DW
PQ28A 2N7002DW
31 AUX_EN_WOWL
PR82 100K
PR79 200K
PR81 470K
PC80 4700P/50V/0603_NC

	NV_STRAP1	NV_STRAP0	S0	SI	CS#	SCLK
Auto-Sense Mode	0	0	0	0	0	0
ST M45PE20	0	1	1	0	0	1
Atmel AT45BCM021B	0	0	1	0	1	1

+3.3V_LAN
R13 4.7K_NC
R14 4.7K_NC
R12 4.7K_NC
40 LOM_SCLK
40 LOM_SI
40 LOM_SO
40 LOM_CS#
U24
SCK SO SI CS# VCC WP# RESET# GND
AT45BCM021B
U51
C Q D S# VCC W# RESET# VSS
STM45PE20_NC
C1 0.1U/10V

QUANTA COMPUTER

Title	LAN SWITCH	
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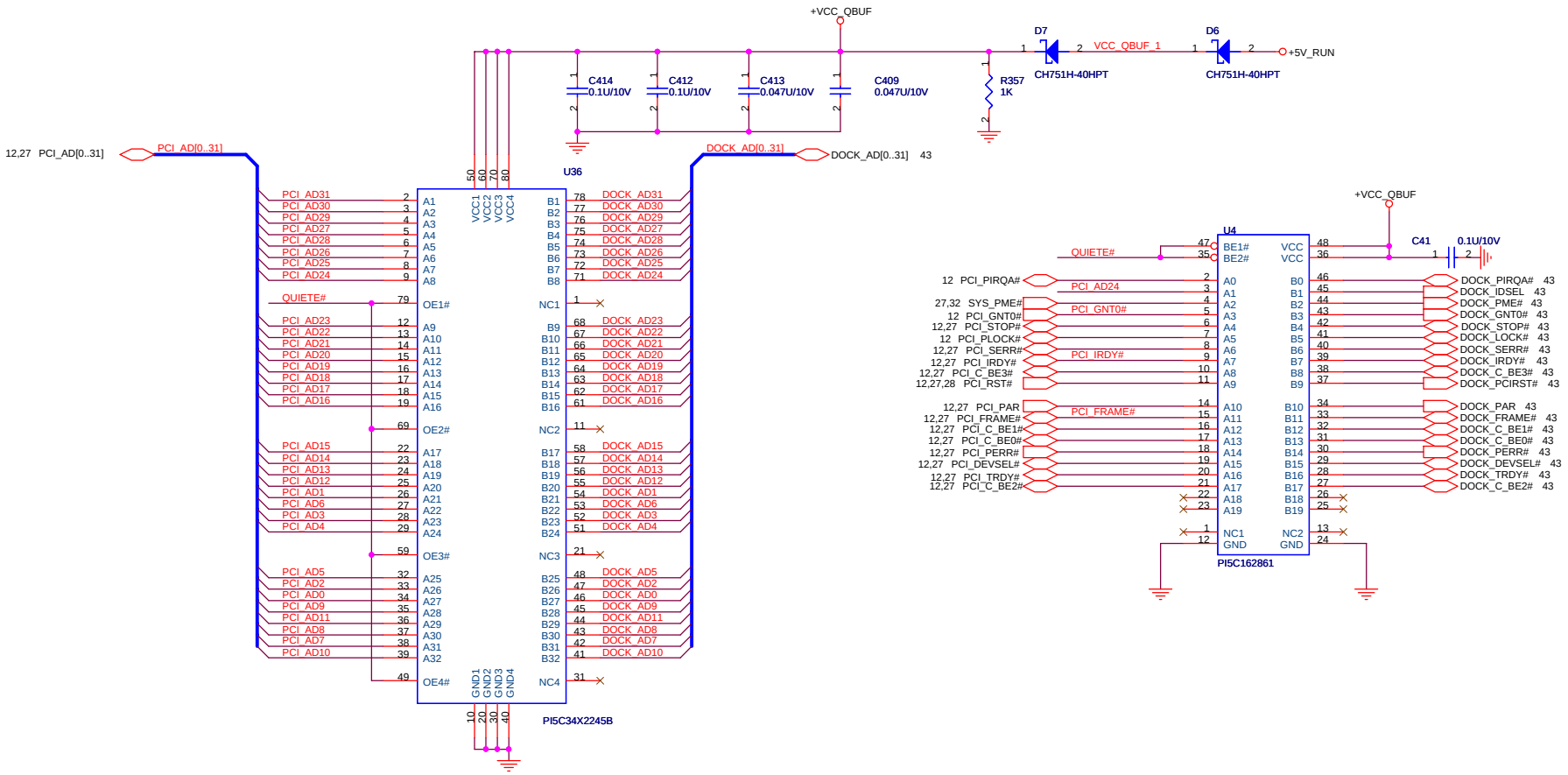

QUANTA COMPUTER		
Title	Docking Q-SWITCH	
Size	Document Number JM7B	Rev 2C
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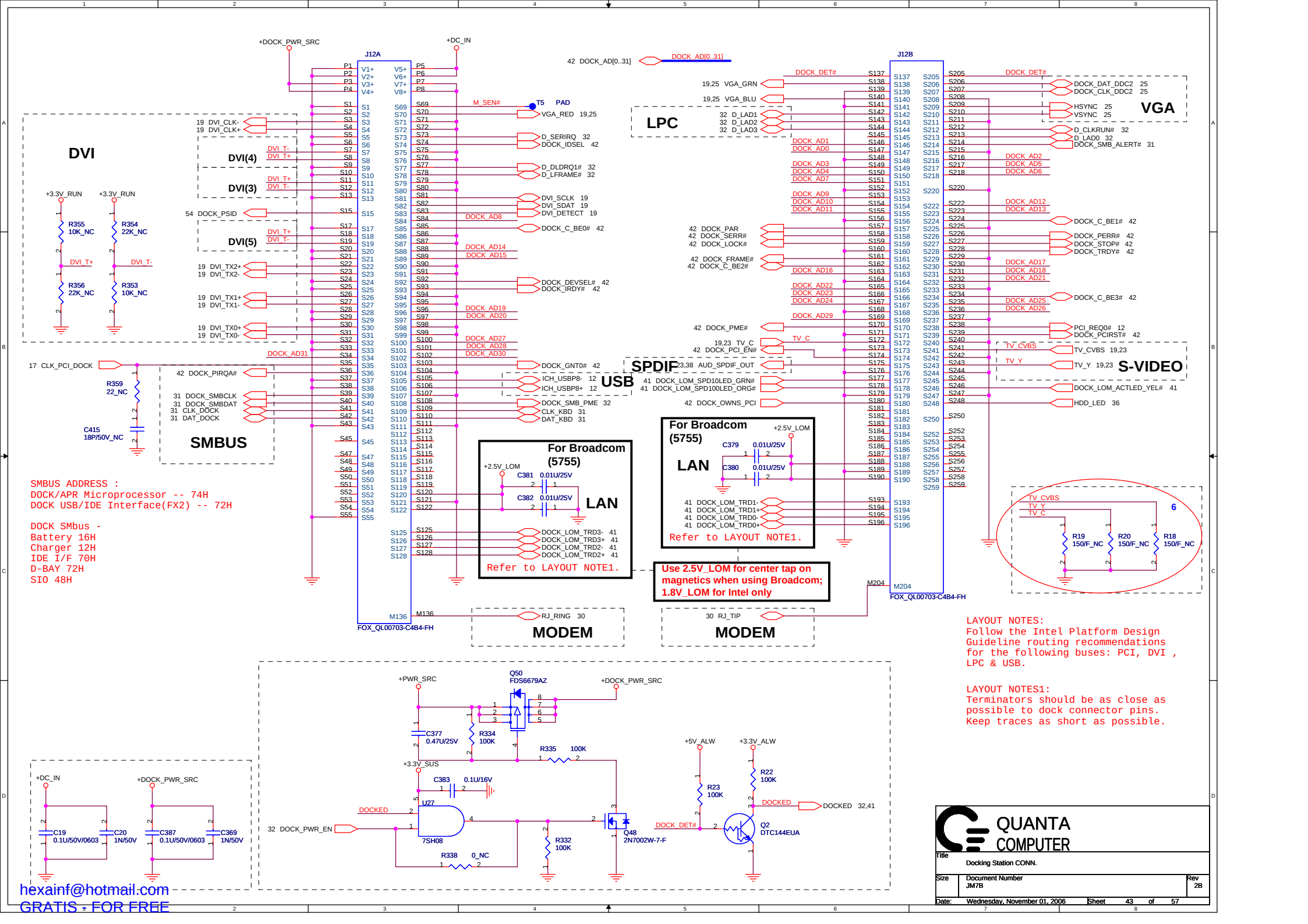
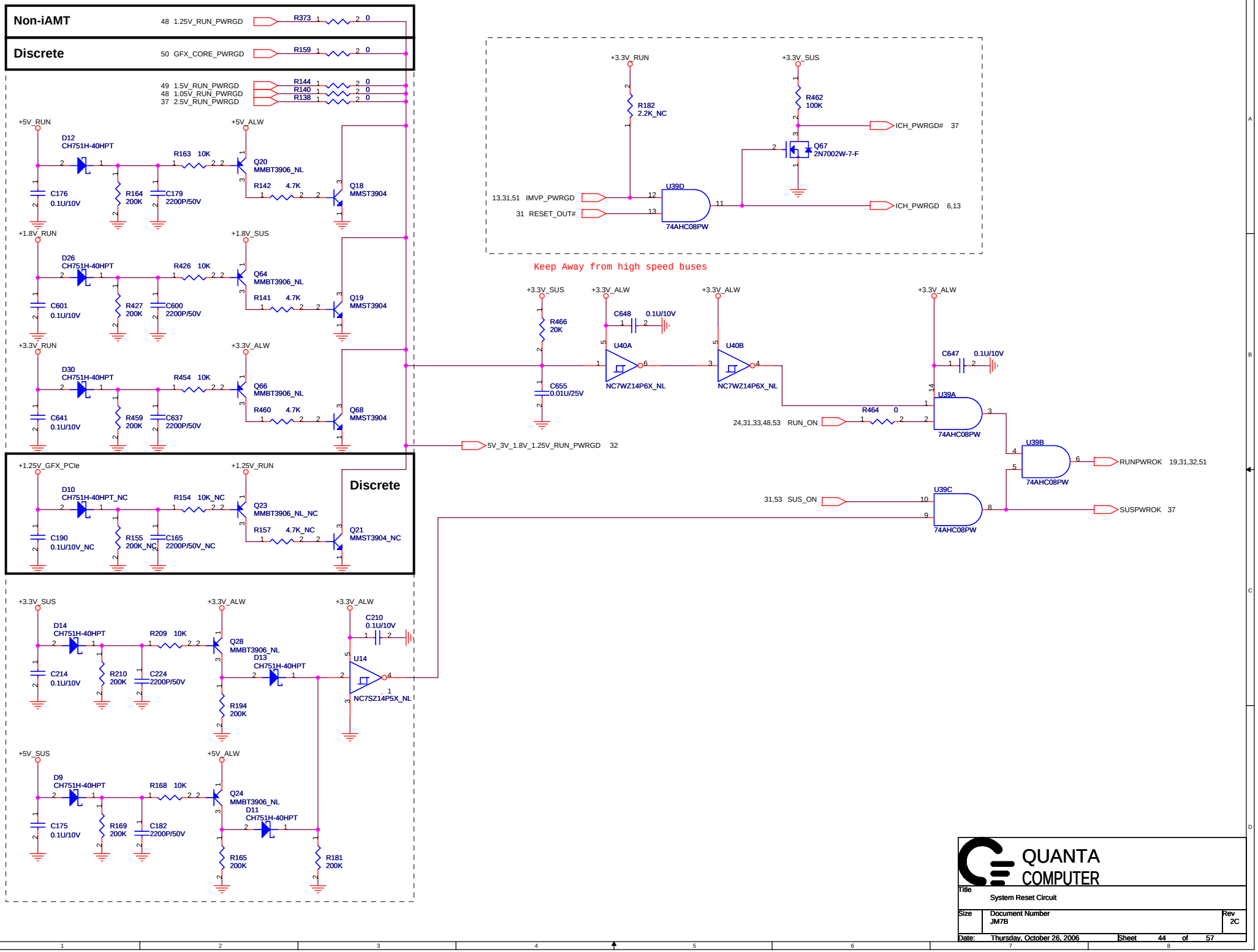
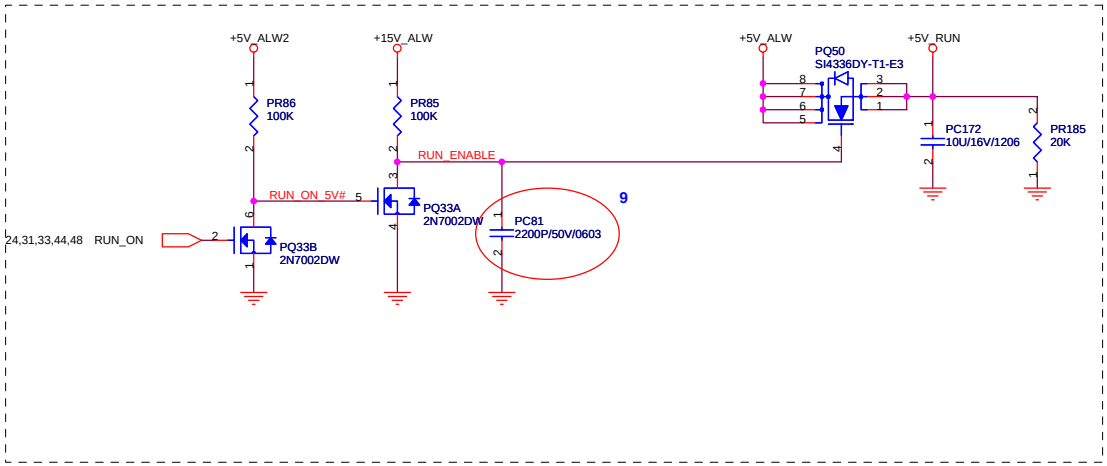
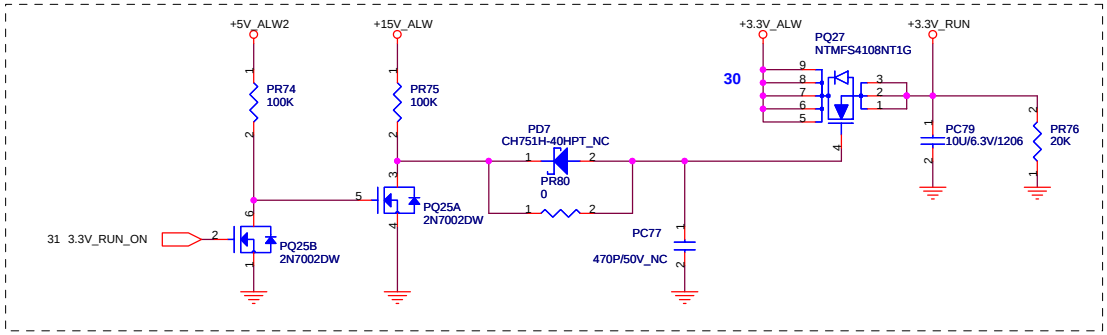

DVI
DVI(4)
DVI(3)
DVI(5)
SMBUS
USB
LPC
SPDIF
LAN
VGA
S-VIDEO
MODEM
MODEM
For Broadcom (5755)
For Broadcom (5755)
SMBUS ADDRESS :
DOCK/APR Microprocessor -- 74H
DOCK USB/IDE Interface(FX2) -- 72H
DOCK SMbus -
Battery 16H
Charger 12H
IDE I/F 70H
D-BAY 72H
SIO 48H
Refer to LAYOUT NOTE1.
Refer to LAYOUT NOTE1.
Use 2.5V_LOM for center tap on magnetics when using Broadcom; 1.8V_LOM for Intel only
LAYOUT NOTES:
Follow the Intel Platform Design Guideline routing recommendations for the following buses: PCI, DVI , LPC & USB.
LAYOUT NOTES1:
Terminators should be as close as possible to dock connector pins. Keep traces as short as possible.
J12A
J12B
FOX_QL00703-C4B4-FH
FOX_QL00703-C4B4-FH
+DOCK_PWR_SRC
+DC_IN
DOCK_AD[0..31]
Q50 FDS6679AZ
Q48 2N7002W-7-F
Q2 DTC144EUA
U27 7SH08
QUANTA COMPUTER
Title: Docking Station CONN.
Size: Document Number JM7B
Rev: 2B
Date: Wednesday, November 01, 2006
Sheet 43 of 57
hexainf@hotmail.com
GRATIS - FOR FREE

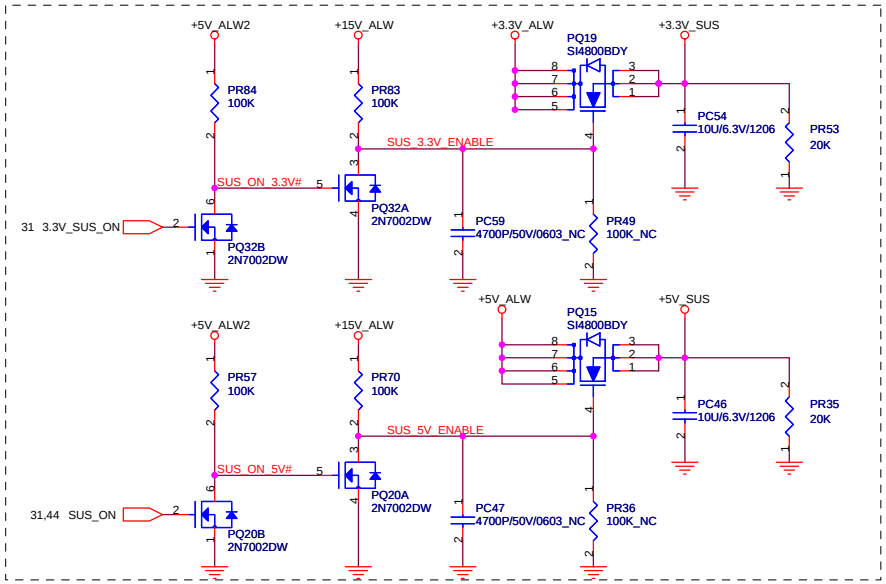


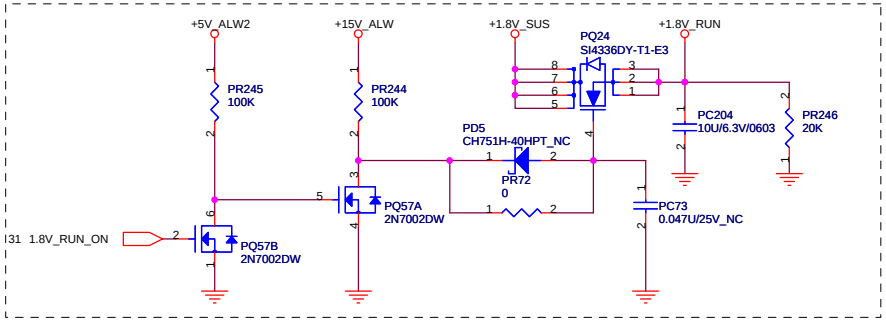
QUANTA COMPUTER

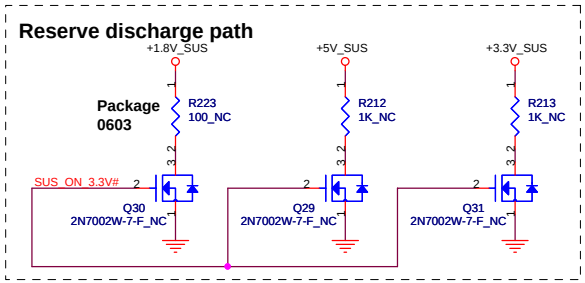
Title	System Reset Circuit	
Size	Document Number JM7B	Rev 2C
Date: Thursday, October 26, 2006	Sheet 44 of 57	

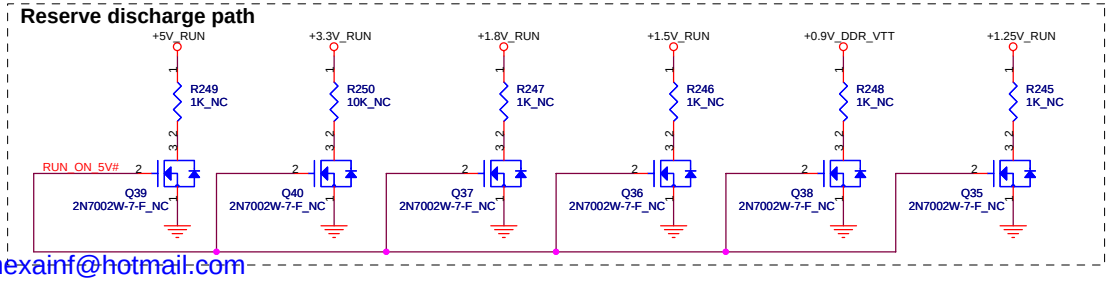












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Title	RUN POWER SW	
Size	Document Number JM7B	Rev 2C
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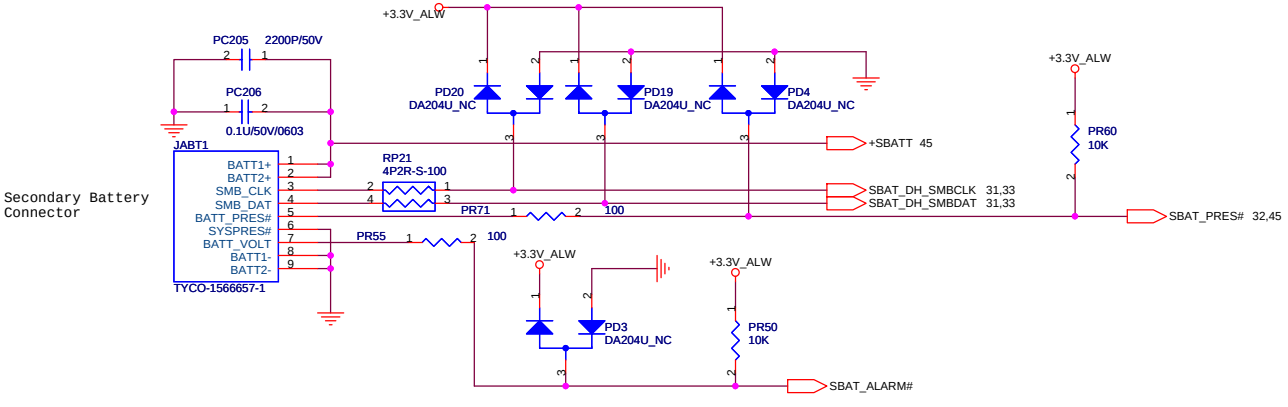
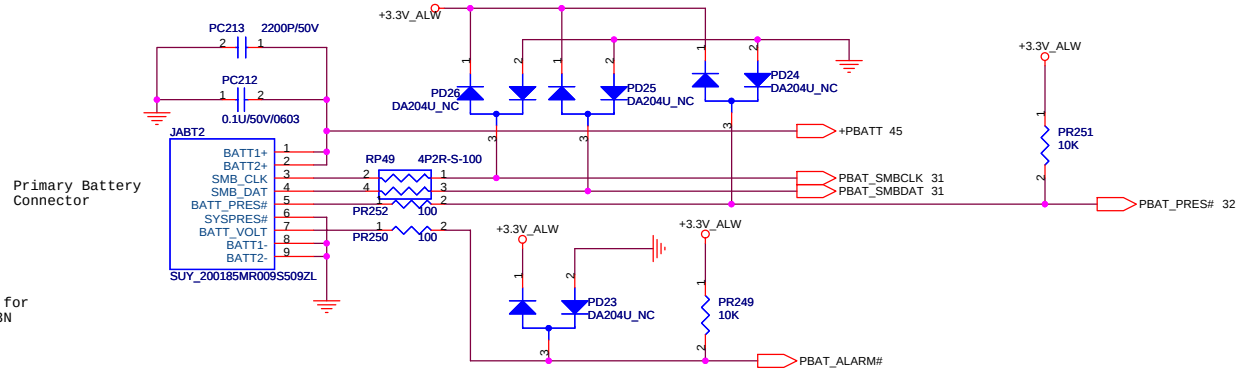


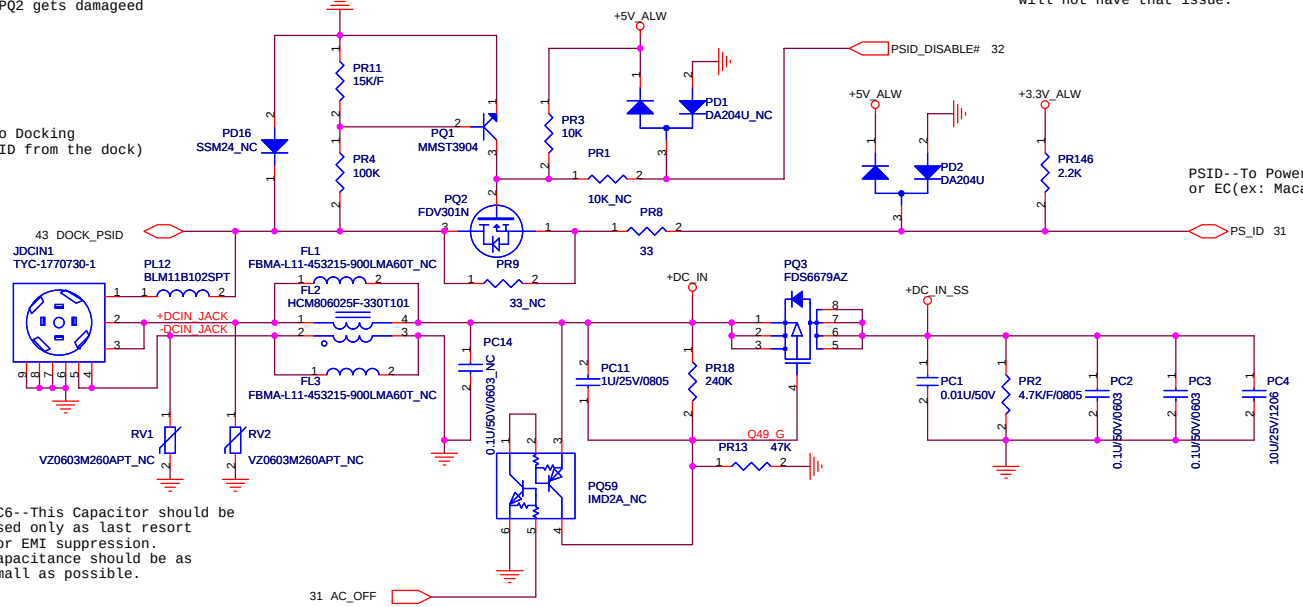


PQ2--Three transistor can be used for PQ2(pin compatible):FDV301N/FDV303N has low Vgs_on w/buit-in ESD protection.MMBT100 BJT works in reverse conduction mode.

D12--This diode is no-stuff populate if PQ2 gets damageed by ESD.

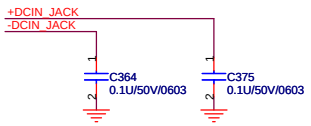
PR1--This resistor must be depopulated if FDV301N/FDV303 are used to avoid a 1.36mA constant current drain from +3VALW. Thus, BIOS will not be to switch Q1 off. MMBT100 will not have that issue.

DOCK_PSID--To Docking connector(PSID from the dock)



PC6--This Capacitor should be used only as last resort for EMI suppression. Capacitance should be as small as possible.

Reserved for EMI.



QUANTA COMPUTER

Title	DCIN,BATT CONN.	
Size	Document Number JM7B	Rev 2C
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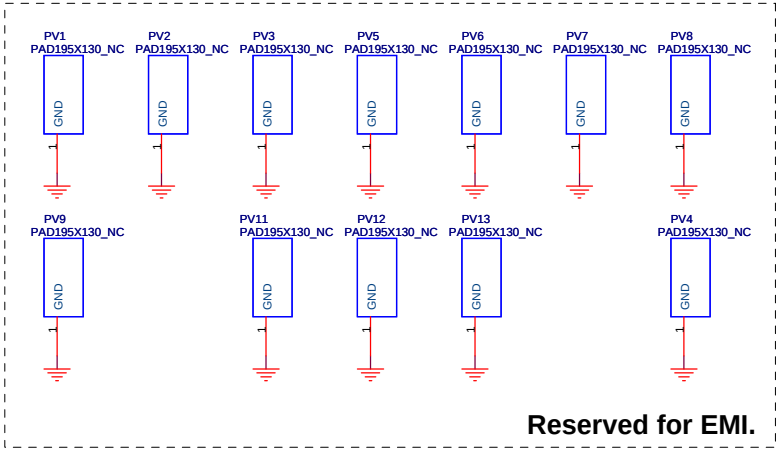

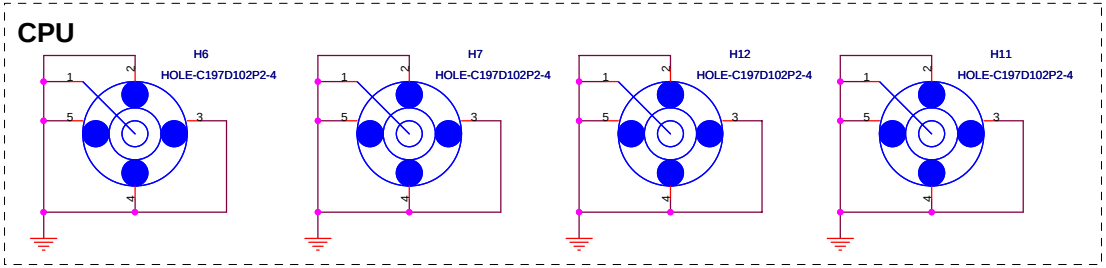

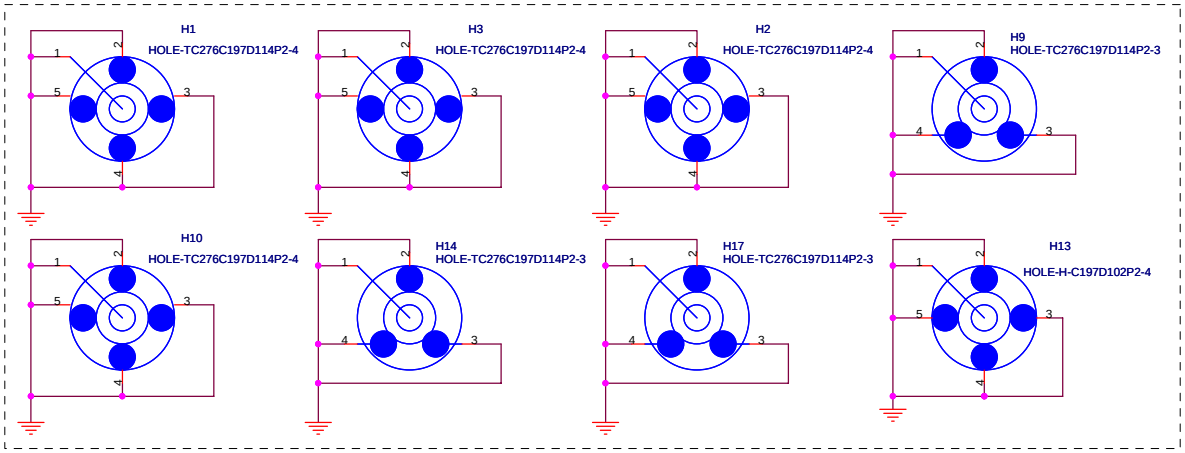

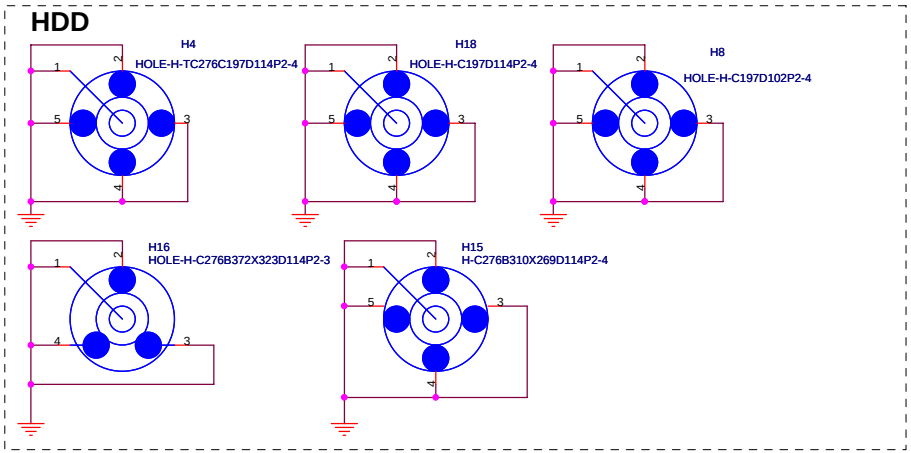

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Title	SCREW PAD	
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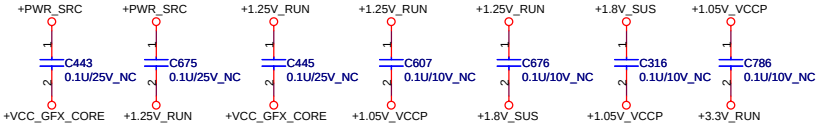
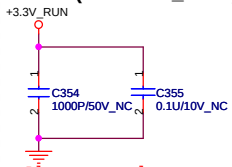
Reserved for EMI.

Stitching caps

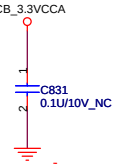


Page 26
SATA (HDD&CD_ROM)



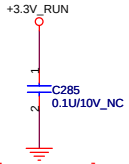
Place caps close
to CON6.

Page 27
PCCARD /CONN



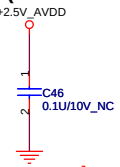
Place cap close
to U47

Page 38
Azelia CODEC



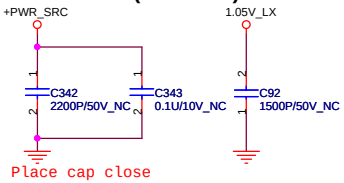
Place cap close
to U21.

Page 40
LAN(BCM5755M)



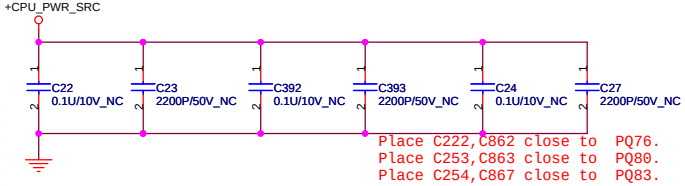
Place cap close
to U58.

Page 48
1.25V & 1.05V(MAX8778)



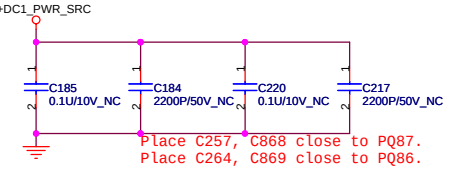
Place cap close
to PQ108.

Page 51
CPU_MAX8786(3phase)



Place C222,C862 close to PQ76.
Place C253,C863 close to PQ80.
Place C254,C867 close to PQ83.

Page 52
D/D Power



Place C257, C868 close to PQ87.
Place C264, C869 close to PQ86.

QUANTA COMPUTER

Title	EMI CAP	
Size	Document Number JM7B	Rev 2C
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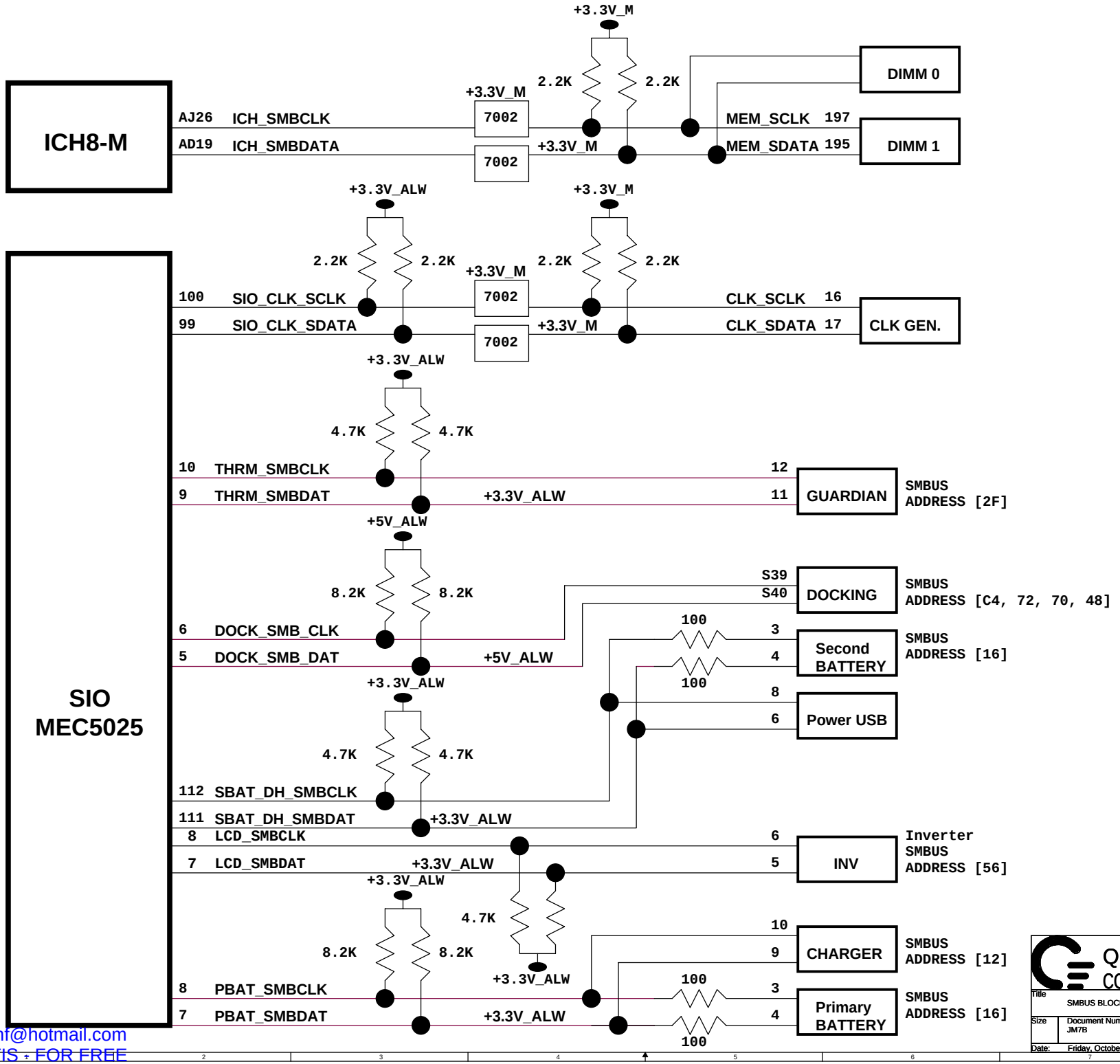

QUANTA COMPUTER

Title	SMBUS BLOCK	
Size	Document Number JM7B	Rev 2C
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