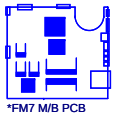


FM7 Hepburn Intel Discrete GFX

VER : D3B

POWER

SYSTEM RESET CIRCUIT PG 44

BATT CHARGER PG 46

RUN POWER SW
+3.3V_SUS/+5V_SUS
+5V/+3.3V/+1.8V PG 53

AC/BATT CONNECTOR PG 54

Penryn
(478 Micro-FCPGA)
PG 3,4

1066 MHz FSB

FAN & THERMAL
SMSC1423 PG 39

CLOCK
SLG8SP513V
(QFN-64) PG 17

POWER

REGULATOR
+1.5V_RUN/+1.05V_VCCP PG 48

REGULATOR
+1.8V_SUS/+1.25V_RUN
/+0.9V_DDR_VTT PG 49

CPU VR PG 51

DC/DC
+3.3V_ALW/+5V_ALW/
+15V_ALW PG 52

VGA Core PG 50

CANTIGA
1329 uFCBGA
PG 5,6,7,8,9,10

DDR2-SODIMM1 PG 15,16
667/800 MHZ DDR II

DDR2-SODIMM2 PG 15,16
667/800 MHZ DDR II

PCIEx16

GDDR2 x 4 (256M 64bits) PG 23

ATI M82-SCE
PCI EXPRESS GFX
PG 18,19,20,21,22

LVDS → **Panel Connector** PG 26

HDMI → **HDMI CONN.** PG 26

VGA → **CRT CONN.** PG 27

SATA-ODD PG 36 — SATA

SATA-HDD PG 36 — SATA

E-SATA Combo with USB CONN PG 35 — **PI2EQX3211BHE** PG 35 — SATA

DMI interface

ICH9-M
676 BGA
PG 11,12,13,14

USB2.0 x 4 → **USB conn x 4** PG 35

PCIEx1 → **LAN BCM5784M** PG 42 → **RJ45/Magnetics** PG 43

PCIEx1
USB2.0 → **EXPRESS-CARD** R5538 PG 30

PCIEx2
USB2.0 → **MINI-CARD** WLAN PG 34

PCIEx1
USB2.0 → **MINI-CARD** WWAN PG 33

USB2.0 → **MINI-CARD** WPAN PG 33

USB2.0 → **Biometric** PG 38

IHDA
USB2.0 → **AUDIO/AMP** 92HD73C PG 40

Camera + D-MIC PG 41

Audio SPK conn PG 40

Audio Jacks x3 PG 41

LPC → **KBC** ITE8512 PG 31

18X8 → **CIR** TSOP36136TR PG 37

Keyboard PG 37

SPI → **FLASH 2Mbyts** PG 32

PS/2 → **Touchpad** PG 37

USER INTERFACE PG 38

33MHz PCI → **8-in-1 Card Reader** R5C833 PG 28

1394 → **1394 CONN.** PG 29

Card Reader CONN. PG 30

QUANTA COMPUTER

Title	Schematic Block Diagram1	
Size	Document Number FM6	Rev 3A
Date: Thursday, July 31, 2008	Sheet 1 of 58	

Table of Contents

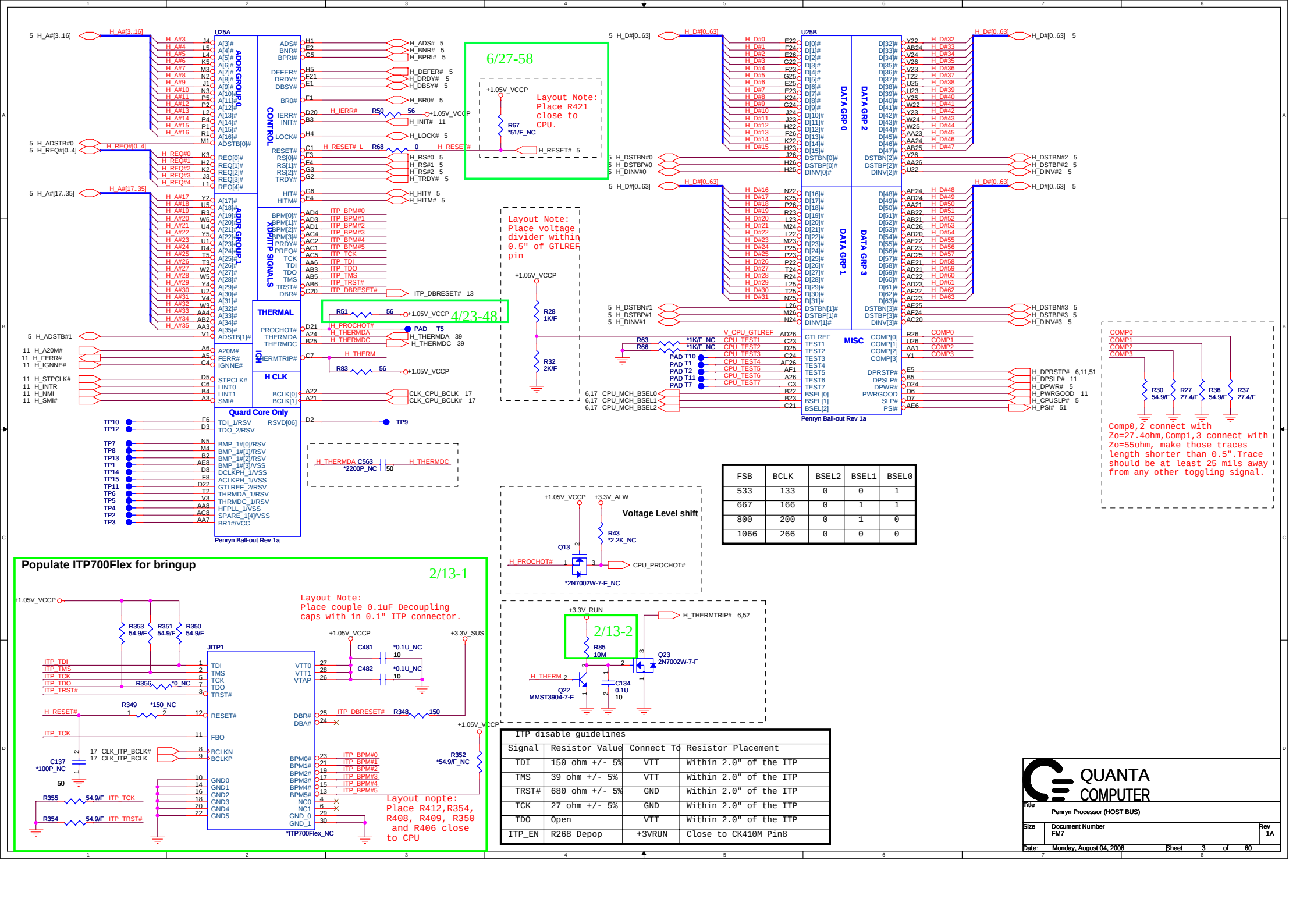
Power States

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	

QUANTA COMPUTER

Title	Index & Power Status	
Size	Document Number FM6	Rev 1A
Date: Monday, June 30, 2008	Sheet 2 of 58	



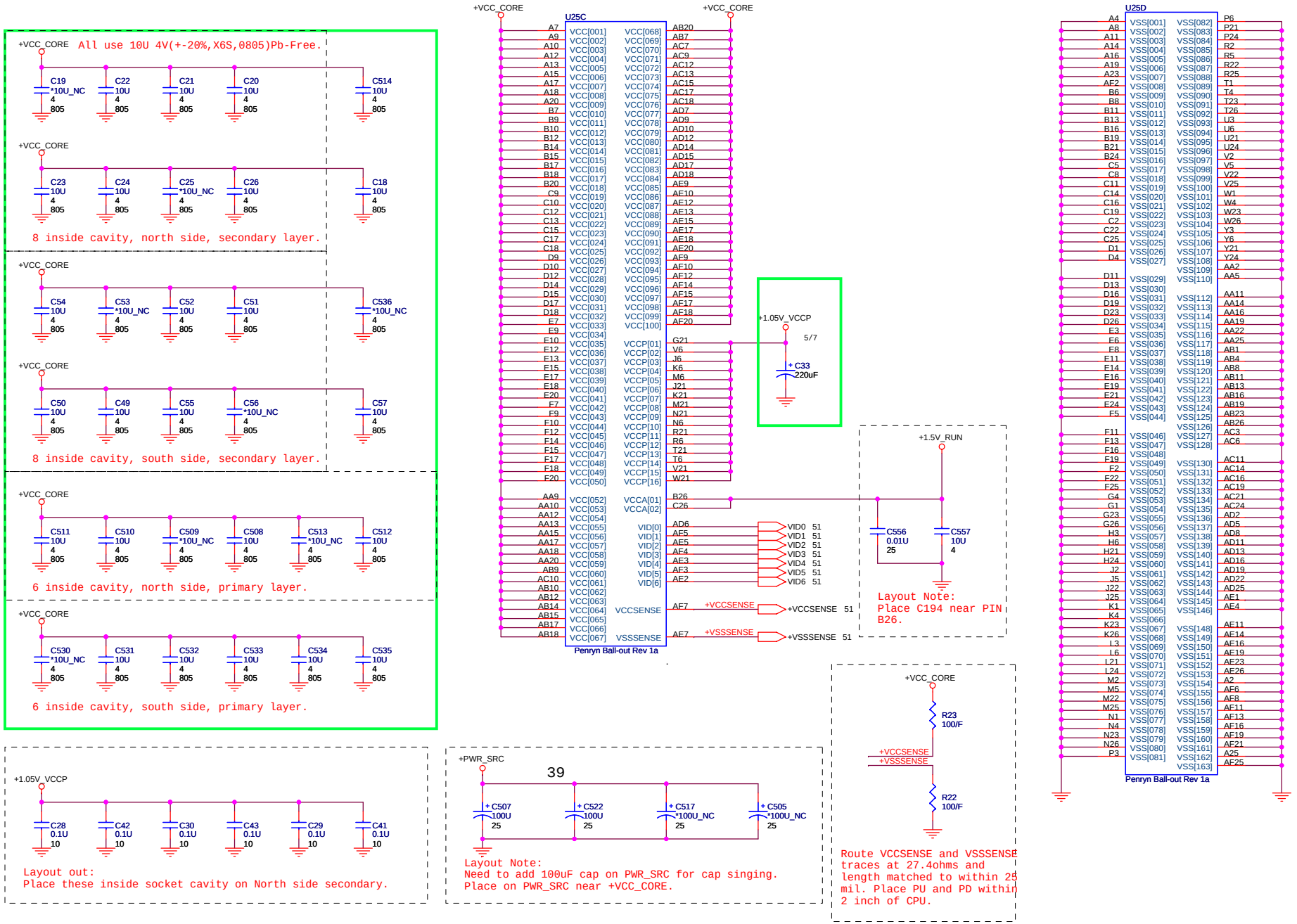
FSB	BCLK	BSEL2	BSEL1	BSEL0
533	133	0	0	1
667	166	0	1	1
800	200	0	1	0
1066	266	0	0	0

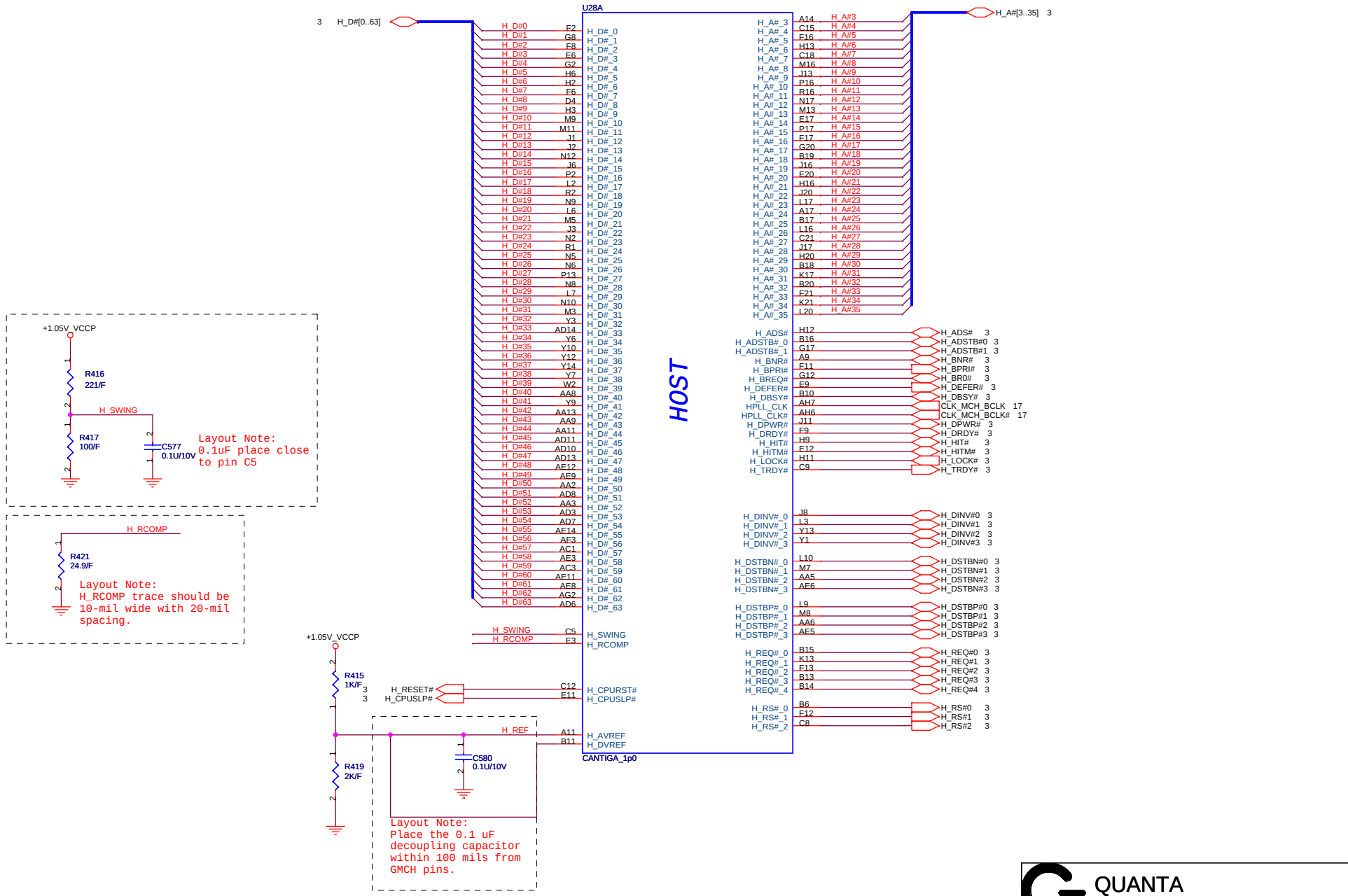
ITP disable guidelines

Signal	Resistor Value	Connect To	Resistor Placement
TDI	150 ohm +/- 5%	VTT	Within 2.0" of the ITP
TMS	39 ohm +/- 5%	VTT	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	VTT	Within 2.0" of the ITP
ITP_EN	R268 Depop	+3VRUN	Close to CK410M Pin8

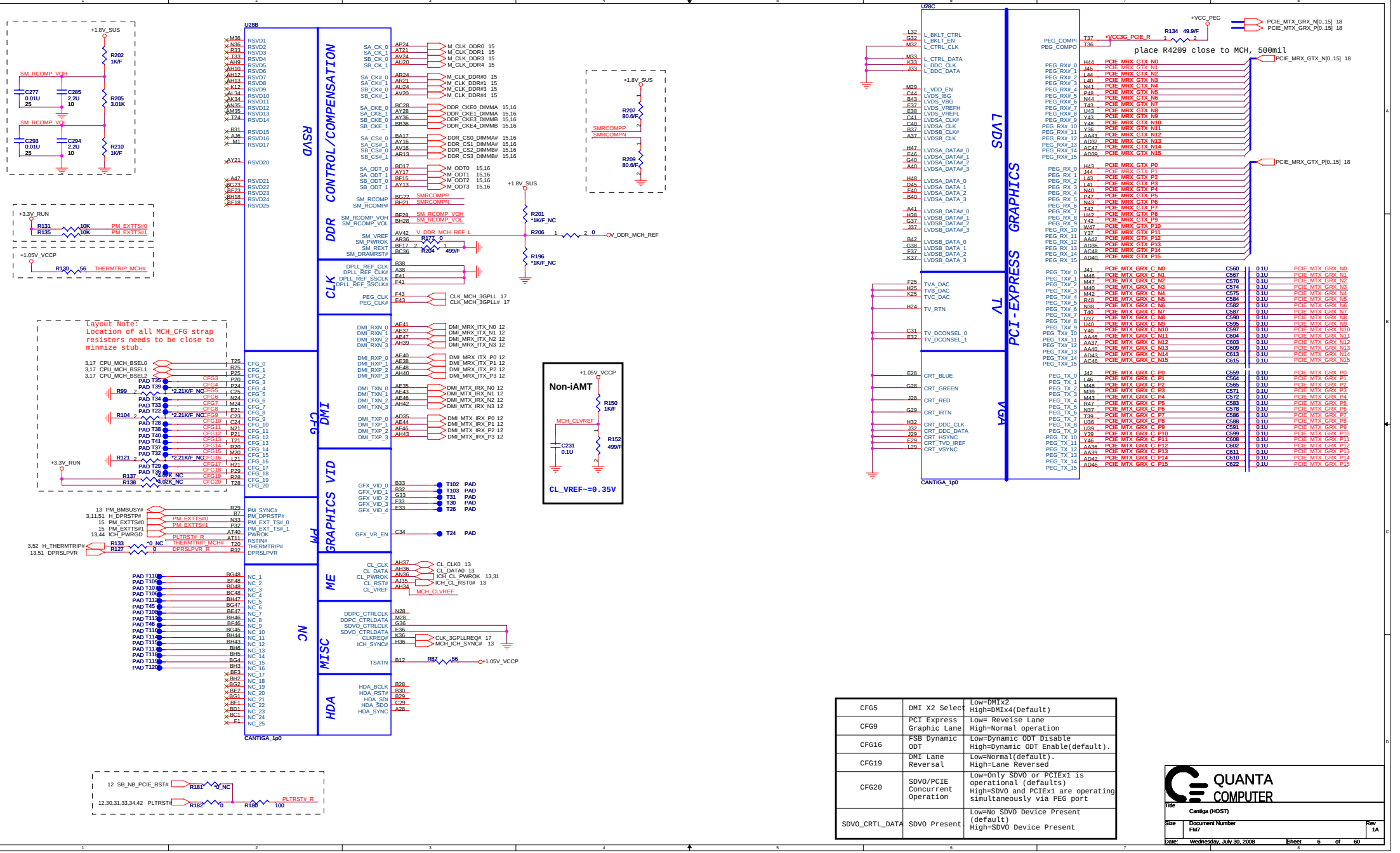
QUANTA COMPUTER

Title	Penryn Processor (HOST BUS)	
Size	Document Number FM7	Rev 1A
Date: Monday, August 04, 2008	Sheet 3 of 60	


All use 10U 4V(+-20%,X6S,0805)Pb-Free.
8 inside cavity, north side, secondary layer.
8 inside cavity, south side, secondary layer.
6 inside cavity, north side, primary layer.
6 inside cavity, south side, primary layer.
Layout out:
Place these inside socket cavity on North side secondary.
Penryn Ball-out Rev 1a
Layout Note:
Place C194 near PIN B26.
Layout Note:
Need to add 100uF cap on PWR_SRC for cap singing.
Place on PWR_SRC near +VCC_CORE.
Route VCCSENSE and VSSSENSE traces at 27.4ohms and length matched to within 25 mil. Place PU and PD within 2 inch of CPU.
QUANTA COMPUTER
Penryn Processor (HOST BUS)
FM7
Monday, August 04, 2008



QUANTA COMPUTER		
Title: Cantiga (HOST)		
Size	Document Number: FM7	Rev: 1A
Date: Wednesday, July 30, 2008	Sheet 5 of 60	



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	Cantiga (HOST)		
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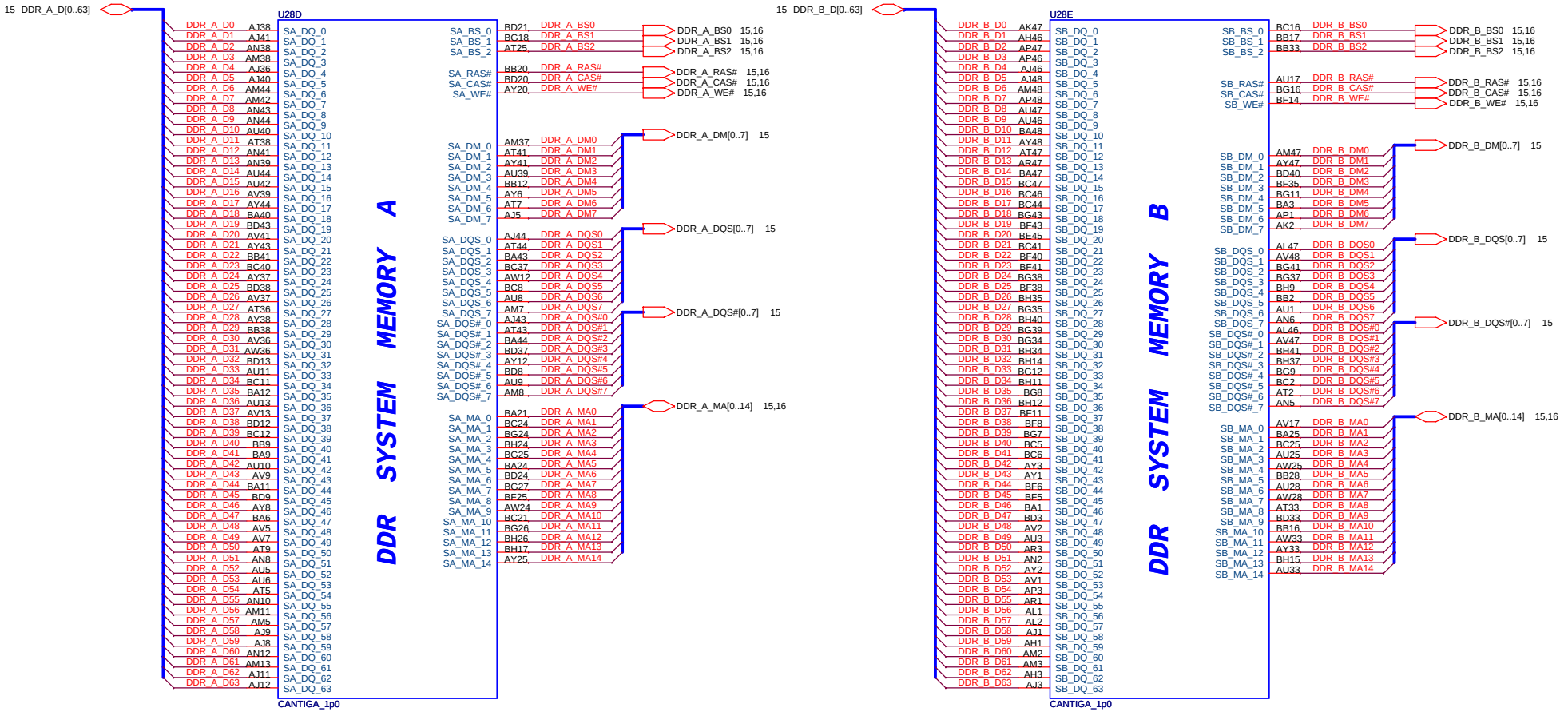
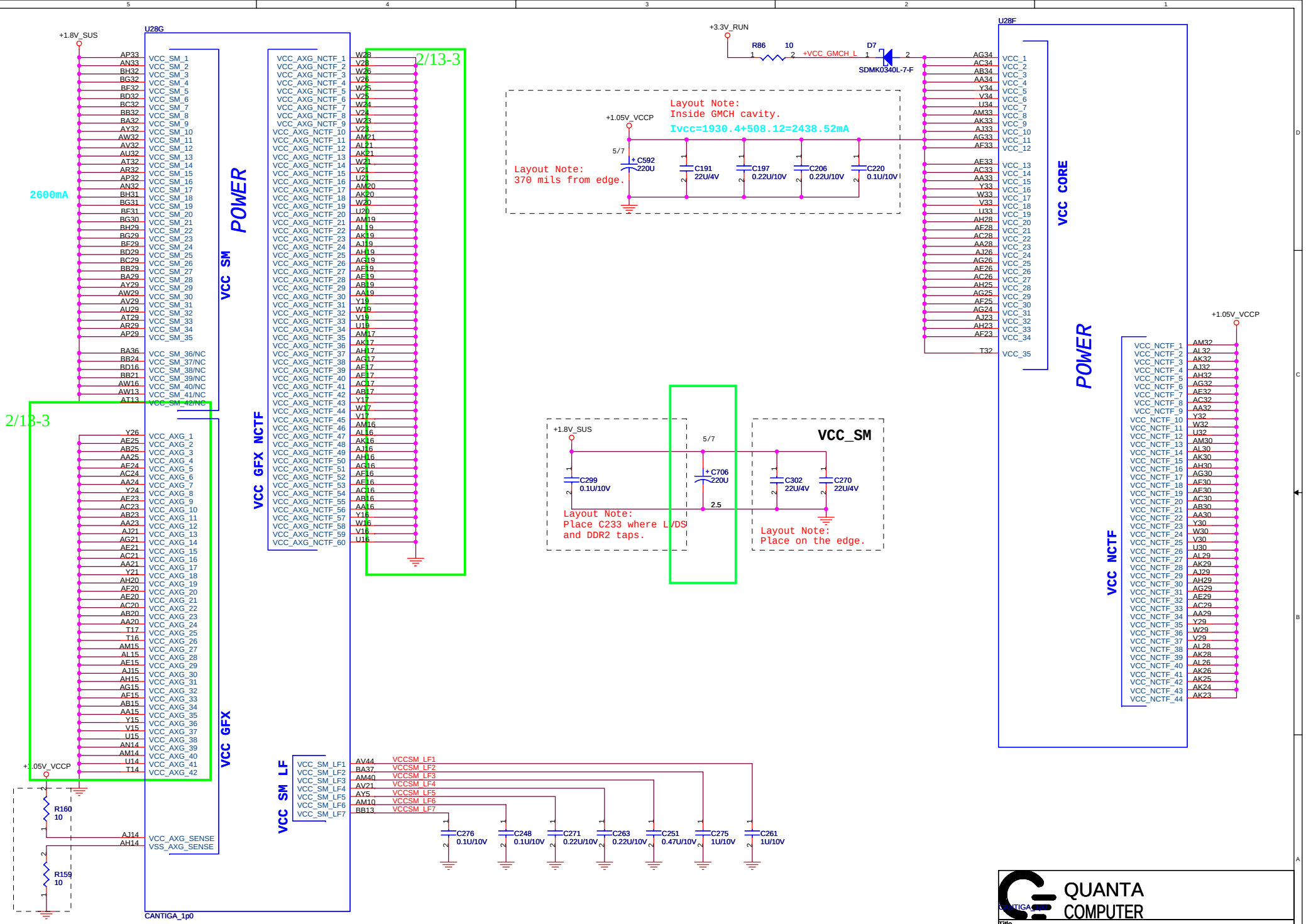


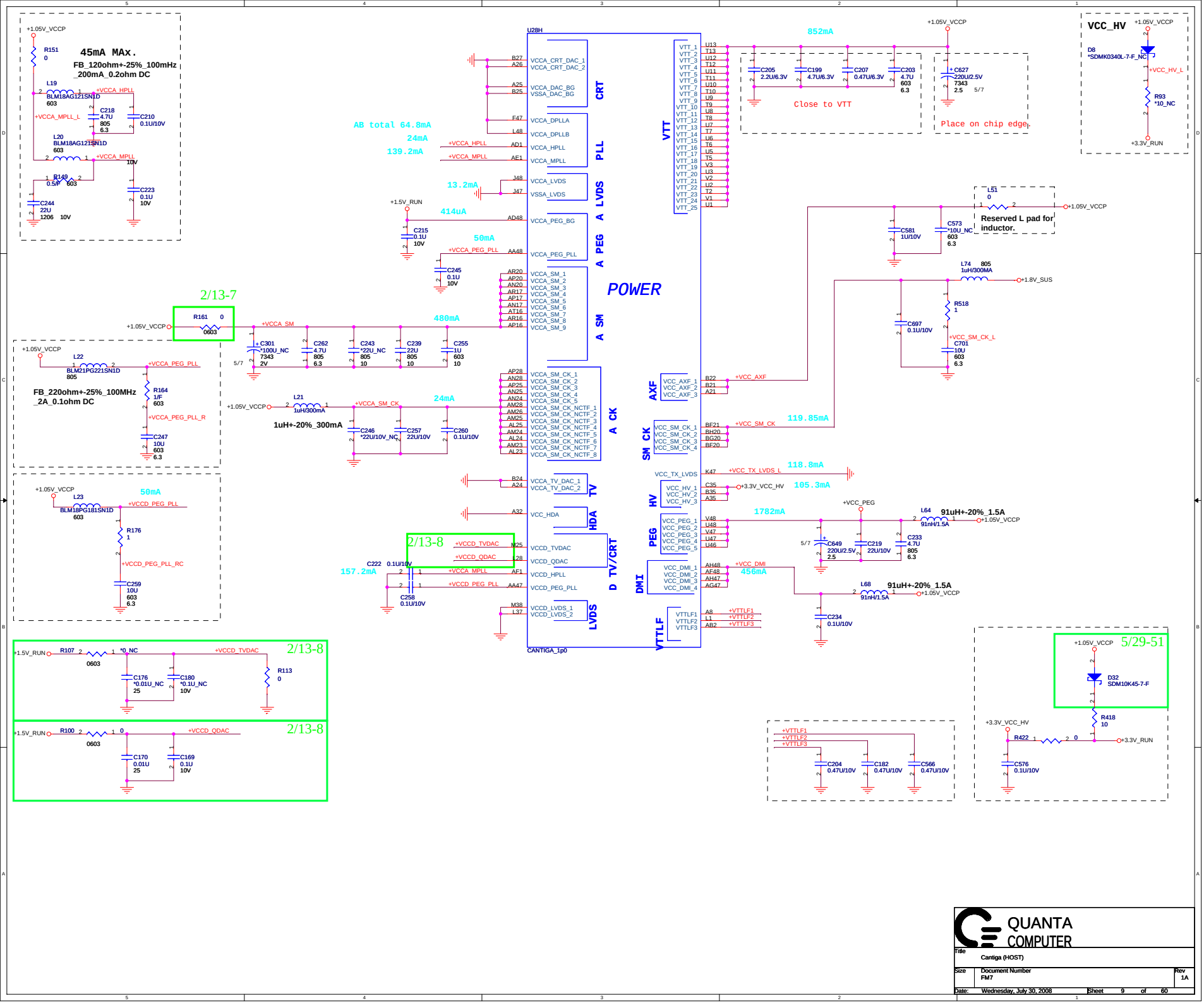
QUANTA COMPUTER			
Title	Cantiga (HOST)		
Size	Document Number FM7		Rev 1A
Date:	Wednesday, July 30, 2008	Sheet 7 of 60	



UMA: Places R721, R726 to 10 ohm.
Dis: Please R721, R726 to 0 ohm.

QUANTA COMPUTER

Title	Cantiga (HOST)	
Size	Document Number FM7	Rev 1A
Date: Wednesday, July 30, 2008	Sheet 8 of 60	



Title	Cantiga (HOST)
Size	Document Number FM7
Rev	1A
Date:	Wednesday, July 30, 2008
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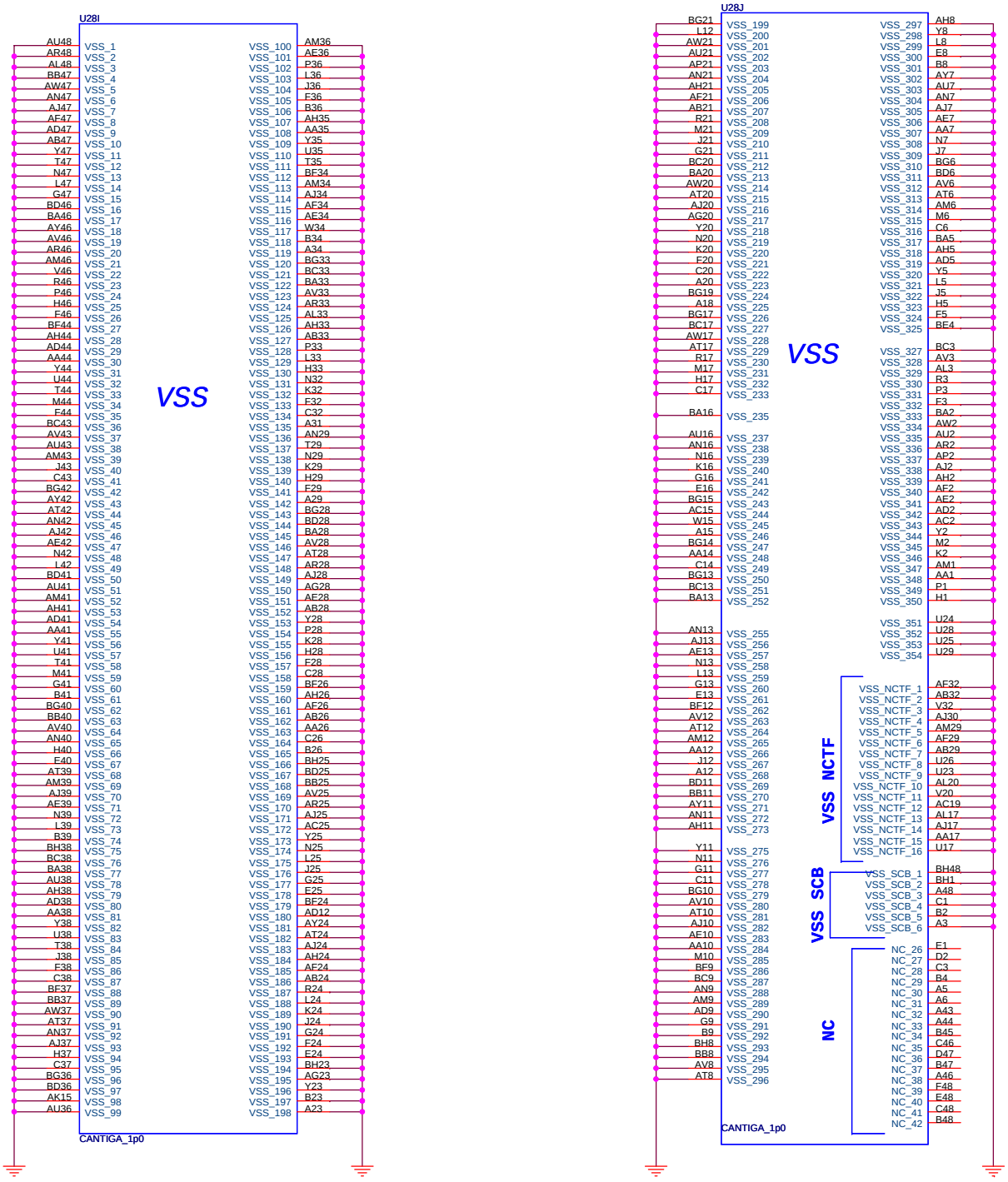
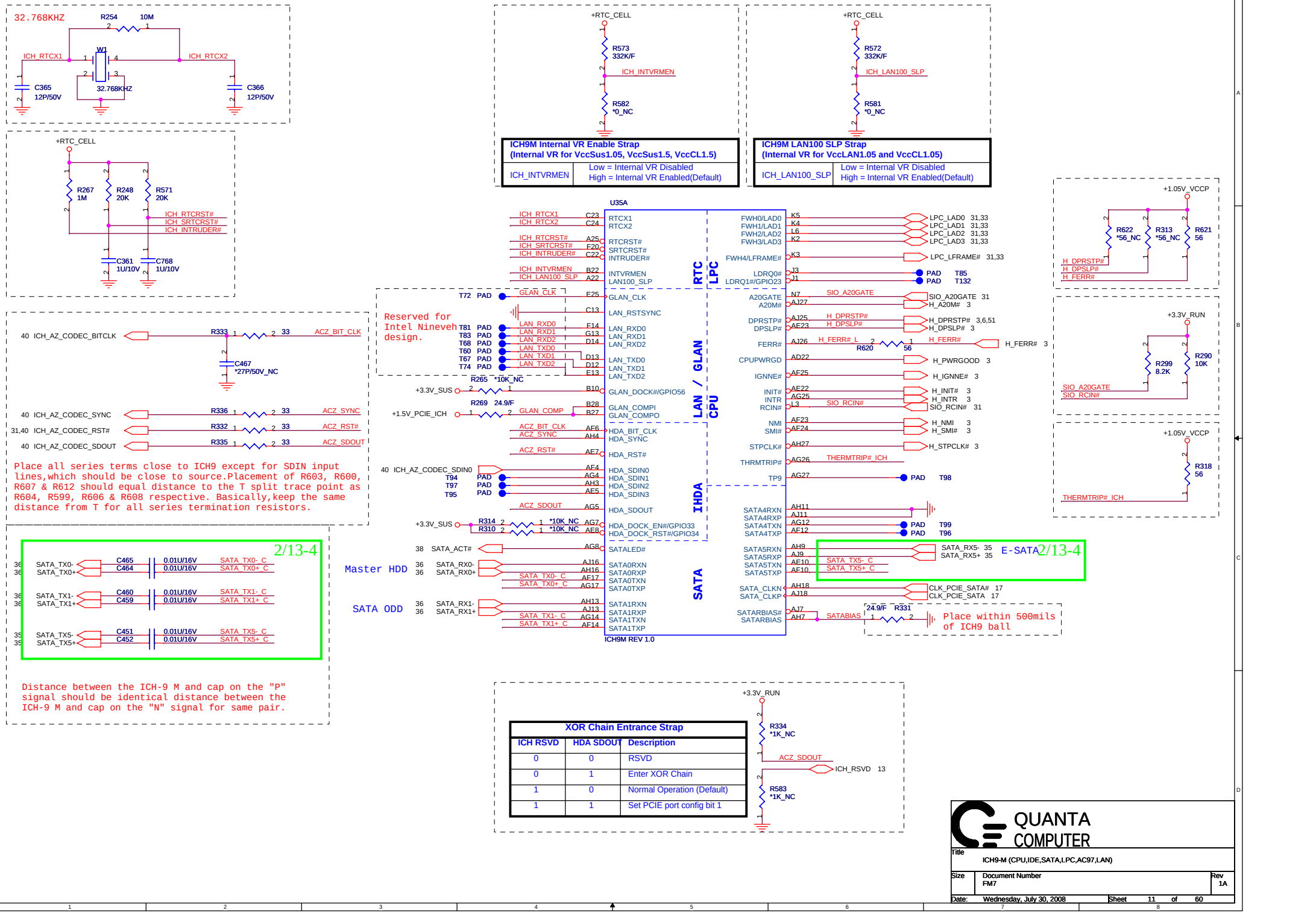


QUANTA COMPUTER		
Title	Cantiga (HOST)	
Size	Document Number FM7	Rev 1A
Date: Wednesday, July 30, 2008	Sheet 10 of 60	


32.768KHZ
R254 10M
W1
ICH_RTCX1
ICH_RTCX2
C365 12P/50V
32.768KHZ
C366 12P/50V
+RTC_CELL
R267 1M
R248 20K
R571 20K
ICH_RTCRST#
ICH_SRTCRST#
ICH_INTRUDER#
C361 1U/10V
C768 1U/10V
+RTC_CELL
R573 332K/F
ICH_INTVRMEN
R582 *0_NC
ICH9M 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
R572 332K/F
ICH_LAN100_SLP
R581 *0_NC
ICH9M LAN100 SLP Strap
(Internal VR for VccLAN1.05 and VccCL1.05)
ICH_LAN100_SLP
Low = Internal VR Disabled
High = Internal VR Enabled(Default)
U35A
RTCX1
RTCX2
RTCRST#
SRTCRST#
INTRUDER#
INTVRMEN
LAN100_SLP
RTC
LPC
GLAN_CLK
LAN_RSTSYNC
LAN_RXD0
LAN_RXD1
LAN_RXD2
LAN_TXD0
LAN_TXD1
LAN_TXD2
LAN / GLAN
GLAN_DOCK#/GPIO56
GLAN_COMPI
GLAN_COMPO
CPU
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
IHDA
SATALED#
SATA0RXN
SATA0RXP
SATA0TXN
SATA0TXP
SATA1RXN
SATA1RXP
SATA1TXN
SATA1TXP
SATA
ICH9M REV 1.0
FWH0/LAD0
FWH1/LAD1
FWH2/LAD2
FWH3/LAD3
FWH4/LFRAME#
LDRQ0#
LDRQ1#/GPIO23
A20GATE
A20M#
DPRSTP#
DPSLP#
FERR#
CPUPWRGD
IGNNE#
INIT#
INTR
RCIN#
NMI
SMI#
STPCLK#
THRMTRIP#
TP9
SATA4RXN
SATA4RXP
SATA4TXN
SATA4TXP
SATA5RXN
SATA5RXP
SATA5TXN
SATA5TXP
SATA_CLKN
SATA_CLKP
SATARBIAS#
SATARBIAS
Reserved for Intel Nineveh design.
T72 PAD
T81 PAD
T83 PAD
T68 PAD
T60 PAD
T67 PAD
T74 PAD
R265 *10K_NC
+3.3V_SUS
R269 24.9/F
+1.5V_PCIE_ICH
GLAN_COMP
40 ICH_AZ_CODEC_BITCLK
R333 33
ACZ_BIT_CLK
C467 *27P/50V_NC
40 ICH_AZ_CODEC_SYNC
R336 33
ACZ_SYNC
31,40 ICH_AZ_CODEC_RST#
R332 33
ACZ_RST#
40 ICH_AZ_CODEC_SDOUT
R335 33
ACZ_SDOUT
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 respective. Basically,keep the same distance from T for all series termination resistors.
40 ICH_AZ_CODEC_SDIN0
T94 PAD
T97 PAD
T95 PAD
+3.3V_SUS
R314 *10K_NC
R310 *10K_NC
38 SATA_ACT#
Master HDD
SATA ODD
36 SATA_RX0-
36 SATA_RX0+
SATA_TX0- C
SATA_TX0+ C
36 SATA_RX1-
36 SATA_RX1+
SATA_TX1- C
SATA_TX1+ C
2/13-4
SATA_TX0-
SATA_TX0+
C465 0.01U/16V
C464 0.01U/16V
SATA_TX0- C
SATA_TX0+ C
SATA_TX1-
SATA_TX1+
C460 0.01U/16V
C459 0.01U/16V
SATA_TX1- C
SATA_TX1+ C
SATA_TX5-
SATA_TX5+
C451 0.01U/16V
C452 0.01U/16V
SATA_TX5- C
SATA_TX5+ C
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.
+1.05V_VCCP
R622 *56_NC
R313 *56_NC
R621 56
H_DPRSTP#
H_DPSLP#
H_FERR#
+3.3V_RUN
R299 8.2K
R290 10K
SIO_A20GATE
SIO_RCIN#
+1.05V_VCCP
R318 56
THERMTRIP#_ICH
LPC_LAD0 31,33
LPC_LAD1 31,33
LPC_LAD2 31,33
LPC_LAD3 31,33
LPC_LFRAME# 31,33
PAD T85
PAD T132
SIO_A20GATE 31
H_A20M# 3
H_DPRSTP# 3,6,51
H_DPSLP# 3
H_FERR# 3
R620 56
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 T98
PAD T99
PAD T96
E-SATA
2/13-4
SATA_RX5- 35
SATA_RX5+ 35
SATA_TX5- C
SATA_TX5+ C
CLK_PCIE_SATA# 17
CLK_PCIE_SATA 17
SATABIAS
24.9/F R331
Place within 500mils of ICH9 ball
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
+3.3V_RUN
R334 *1K_NC
ACZ_SDOUT
ICH_RSVD 13
R583 *1K_NC
QUANTA COMPUTER
Title
ICH9-M (CPU,IDE,SATA,LPC,AC97,LAN)
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Place TX DC blocking caps close ICH8.

33 PCIE_TX1-
33 PCIE_TX1+
C408 C419 0.1U 10
PCIE_TXN1_C
PCIE_TXP1_C

34 PCIE_TX2-
34 PCIE_TX2+
C401 C399 0.1U 10
PCIE_TXN2_C
PCIE_TXP2_C

33 PCIE_TX3-
33 PCIE_TX3+
C392 C385 0.1U 10
PCIE_TXN3_C
PCIE_TXP3_C

30 PCIE_TX4-
30 PCIE_TX4+
C383 C380 0.1U 10
PCIE_TXN4_C
PCIE_TXP4_C

42 PCIE_TX6-/GLAN_TX-
42 PCIE_TX6+/GLAN_TX+
C374 C372 0.1U 10
GLAN_TXN_C
GLAN_TXP_C

U35D

33 PCIE_RX1-
33 PCIE_RX1+
MiniWWAN
PCIE_TXN1_C
PCIE_TXP1_C
N29 PERN1
N28 PERP1
P27 PETN1
P26 PETP1

34 PCIE_RX2-
34 PCIE_RX2+
MiniWLAN
PCIE_TXN2_C
PCIE_TXP2_C
L29 PERN2
L28 PERP2
M27 PETN2
M26 PETP2

33 PCIE_RX3-
33 PCIE_RX3+
MiniWPAN
PCIE_TXN3_C
PCIE_TXP3_C
J29 PERN3
J28 PERP3
K27 PETN3
K26 PETP3

30 PCIE_RX4-
30 PCIE_RX4+
Express Card
PCIE_TXN4_C
PCIE_TXP4_C
G29 PERN4
G28 PERP4
H27 PETN4
H26 PETP4

T131 PAD
T130 PAD
T73 PAD
T75 PAD
E29 PERN5
E28 PERP5
F27 PETN5
F26 PETP5

PCI-Express

Direct Media Interface

V27 DMI0RXN
V26 DMI0RXP
U29 DMI0TXN
U28 DMI0TXP
DMI_MTX_IRX_N0 6
DMI_MTX_IRX_P0 6
DMI_MRX_ITX_N0 6
DMI_MRX_ITX_P0 6

Y27 DMI1RXN
Y26 DMI1RXP
W29 DMI1TXN
W28 DMI1TXP
DMI_MTX_IRX_N1 6
DMI_MTX_IRX_P1 6
DMI_MRX_ITX_N1 6
DMI_MRX_ITX_P1 6

AB27 DMI2RXN
AB26 DMI2RXP
AA29 DMI2TXN
AA28 DMI2TXP
DMI_MTX_IRX_N2 6
DMI_MTX_IRX_P2 6
DMI_MRX_ITX_N2 6
DMI_MRX_ITX_P2 6

AD27 DMI3RXN
AD26 DMI3RXP
AC29 DMI3TXN
AC28 DMI3TXP
DMI_MTX_IRX_N3 6
DMI_MTX_IRX_P3 6
DMI_MRX_ITX_N3 6
DMI_MRX_ITX_P3 6

T26 DMI_CLKN
T25 DMI_CLKP
CLK_PCIE_ICH# 17
CLK_PCIE_ICH 17

AE29 DMI_ZCOMP
AE28 DMI_IRCOMP
DMI_COMP
R600 24.9/F
+1.5V_PCIE_ICH
Place within 500mils of ICH8

42 PCIE_RX6-/GLAN_RX-
42 PCIE_RX6+/GLAN_RX+
Giga Bit LOM
GLAN_TXN_C
GLAN_TXP_C
C29 PERN6/GLAN_RXN
C28 PERP6/GLAN_RXP
D27 PETN6/GLAN_TXN
D26 PETP6/GLAN_TXP

T64 PAD
T63 PAD
D23 SPI_CLK
D24 SPI_CS0#
ICH_SPI_CS1# R
F23 SPI_CS1#/GPIO58/CLGPIO6
T71 PAD
T77 PAD
D25 SPI_MOSI
E23 SPI_MISO

SPI

USB

35 USB_OC0_1#
USB_OC0_1#
N4 OC0#/GPIO59
N5 OC1#/GPIO40
35 USB_OC2_3#
USB_OC2_3#
N6 OC2#/GPIO41
P6 OC3#/GPIO42
OC4# M1 OC4#/GPIO43
OC5# N2 OC5#/GPIO29
OC6# M4 OC6#/GPIO30
OC7# M3 OC7#/GPIO31
USB_OC8# N3 OC8#/GPIO44
OC9# N1 OC9#/GPIO45
OC10# P5 OC10#/GPIO46
OC11# P3 OC11#/GPIO47

AC5 USBP0N
AC4 USBP0P
AD3 USBP1N
AD2 USBP1P
AC1 USBP2N
AC2 USBP2P
AA5 USBP3N
AA4 USBP3P
AB2 USBP4N
AB3 USBP4P
AA1 USBP5N
AA2 USBP5P
W5 USBP6N
W4 USBP6P
Y3 USBP7N
Y2 USBP7P
W1 USBP8N
W2 USBP8P
V2 USBP9N
V3 USBP9P
U5 USBP10N
U4 USBP10P
U1 USBP11N
U2 USBP11P

ICH_USBP0- 35
ICH_USBP0+ 35
ICH_USBP1- 35
ICH_USBP1+ 35
ICH_USBP2- 35
ICH_USBP2+ 35
ICH_USBP3- 35
ICH_USBP3+ 35
ICH_USBP4- 34
ICH_USBP4+ 34
ICH_USBP5- 33
ICH_USBP5+ 33
ICH_USBP6- 33
ICH_USBP6+ 33
ICH_USBP7- 30
ICH_USBP7+ 30
PAD T135
PAD T134
PAD T89
PAD T90
ICH_USBP10- 38
ICH_USBP10+ 38
ICH_USBP11- 41
ICH_USBP11+ 41

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 (WPAN)
Express Card
Biometric
Camera

2/25-27

USBRBIAS AG2
USBRBIAS# AG1
USBRBIAS
USBRBIAS#

ICH9M REV 1.0

Places within 500 mils of the ICH9
R601 22.6/F

Boot BIOS Strap

		GNT0#	SPI_CS1#
LPC	11	No stuff	No stuff
PCI	10	No stuff	Stuff
SPI	01	Stuff	No stuff

ICH_SPI_CS1# R
PCI_GNT0#
R280 *1K_NC
R287 *1K_NC

PCI Pullups

RP25
PCI_FRAME# PCI_PLOCK#
PCI_TRDY# PCI_STOP#
PCI_DEVSEL# PCI_PIRQD#
PCI_REQ1# PCI_IRDY#
+3.3V_RUN

RP31
PCI_PIRQA# PCI_PIRQB#
PCI_SERR# PCI_PIRQC#
PCI_REQ0# PCI_PERR#
ICH_IRQH_GPIO5
+3.3V_RUN

WWAN Noise - ICH improvements

OC6# C402 *0.1U_NC
OC4# C793 *0.1U_NC
OC5# C796 *0.1U_NC
OC7# C789 *0.1U_NC
USB_OC8# C795 *0.1U_NC
USB_OC2_3# C410 *0.1U_NC
USB_OC0_1# C416 *0.1U_NC
OC9# C422 *0.1U_NC

RP37
+3.3V_SUS
OC7# OC9#
OC6# USB_OC2_3#
OC5# USB_OC0_1#
OC4# USB_OC8#
10KX8
OC10# R300 10K
OC11# R304 10K

SB_WPAN_PCIE_RST# R286 20K
SB_WWAN_PCIE_RST# R281 20K
SB_WLAN_PCIE_RST# R292 20K
SB_LOM_PCIE_RST# R266 20K
SB_NB_PCIE_RST# R276 20K

BIOS should not enable the internal GPIO pull up resistor.

28 PCI_AD[0..31]

U35B

PCI

PCI_AD0 D11 AD0
PCI_AD1 C8 AD1
PCI_AD2 D9 AD2
PCI_AD3 E12 AD3
PCI_AD4 E9 AD4
PCI_AD5 C9 AD5
PCI_AD6 E10 AD6
PCI_AD7 B7 AD7
PCI_AD8 C7 AD8
PCI_AD9 C5 AD9
PCI_AD10 G11 AD10
PCI_AD11 F8 AD11
PCI_AD12 F11 AD12
PCI_AD13 E7 AD13
PCI_AD14 A3 AD14
PCI_AD15 D2 AD15
PCI_AD16 F10 AD16
PCI_AD17 D5 AD17
PCI_AD18 D10 AD18
PCI_AD19 B3 AD19
PCI_AD20 F7 AD20
PCI_AD21 C3 AD21
PCI_AD22 F3 AD22
PCI_AD23 F4 AD23
PCI_AD24 C1 AD24
PCI_AD25 G7 AD25
PCI_AD26 H7 AD26
PCI_AD27 D1 AD27
PCI_AD28 G5 AD28
PCI_AD29 H6 AD29
PCI_AD30 G1 AD30
PCI_AD31 H3 AD31

REQ0# E1 PCI_REQ0#
GNT0# G4 PCI_GNT0#
REQ1#/GPIO50 B6 PCI_REQ1#
GNT1#/GPIO51 A7 PCI_GNT1#
REQ2#/GPIO52 E13 SB_WWAN_PCIE_RST#
GNT2#/GPIO53 E12 PCI_GNT2#
REQ3#/GPIO54 E6 SB_LOM_PCIE_RST#
GNT3#/GPIO55 F6 PCI_GNT3#

PCI_REQ0# 28
PCI_GNT0# 28
PAD T51
PAD T128
SB_WWAN_PCIE_RST# 33
PAD T84
SB_LOM_PCIE_RST# 42
PAD T82

C/BE0# D8
C/BE1# B4
C/BE2# D6
C/BE3# A5

PCI_C_BE0# 28
PCI_C_BE1# 28
PCI_C_BE2# 28
PCI_C_BE3# 28

IRDY# D3 PCI_IRDY#
PAR E3
PCIRST# R1 PCI_RST# G
DEVSEL# C6 PCI_DEVSEL#
PERR# E4 PCI_PERR#
PLOCK# C2 PCI_PLOCK#
SERR# J4 PCI_SERR#
STOP# A4 PCI_STOP#
TRDY# E5 PCI_TRDY#
FRAME# D7 PCI_FRAME#

PCI_IRDY# 28
PCI_PAR 28
PCI_DEVSEL# 28
PCI_PERR# 28
PCI_PLOCK#
PCI_SERR# 28
PCI_STOP# 28
PCI_TRDY# 28
PCI_FRAME# 28

PLTRST# C14 PCI_PLTRST#
PCICLK D4 CLK_PCI_ICH
PME# R2

CLK_PCI_ICH 17
ICH_PME# 28,31

Interrupt I/F

T66 PAD
28 PCI_PIRQB#
28 PCI_PIRQC#
T55 PAD
PCI_PIRQA# J5 PIRQA#
PCI_PIRQB# E1 PIRQB#
PCI_PIRQC# J6 PIRQC#
PCI_PIRQD# C4 PIRQD#

PIRQE#/GPIO2 H4 SB_WPAN_PCIE_RST#
PIRQF#/GPIO3 K6 SB_WLAN_PCIE_RST#
PIRQG#/GPIO4 E2 SB_NB_PCIE_RST#
PIRQH#/GPIO5 G2 ICH_IRQH_GPIO5

SB_WPAN_PCIE_RST# 33
SB_WLAN_PCIE_RST# 34
SB_NB_PCIE_RST# 6
PAD T69

ICH9M REV 1.0

CLK_PCI_ICH
R270 *10_NC
C371 *8.2P_NC
Reserved for EMI.Place resister and cap close to ICH.

PCI_GNT3#
R285 *1K_NC

A16 away override strap.

SB_NB_PCIE_RST#	Low = A16 swap override enabled. High = Default.

Non-iAMT

+3.3V_SUS
C432 0.047U
U21
PCI_RST# G
PCI_RST# 28
TC7SZ32FU(T5L,F,T)

+3.3V_SUS
C344 0.047U
U18
PCI_PLTRST#
PLTRST# 6,30,31,33,34,42
TC7SZ32FU(T5L,F,T)

Add Buffers as needed for Loading and fanout concerns.

PCI_IRDY#

QUANTA COMPUTER			
Title	ICH9-M (USB,DMI,PCIE,PCI)		
Size	Document Number FM7		Rev 1A
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2/13-5 2/18-19

Non-iAMT

+3.3V_SUS

RP23

ICH_SMBCLK

ICH_SMBDATA

2.2KX2

2/13-5 2/18-19

Non-iAMT

+3.3V_SUS

ASF 2.0

RP24

ICH_SMLINK0

ICH_SMLINK1

*10KX2_NC

ICH_SMBCLK R250 0 ICH_SMLINK0

ICH_SMBDATA R251 0 ICH_SMLINK1

+3.3V_RUN

R283 8.2K

CLKRUN#

R282 *10_NC

Option to " Disable " clkrun. Pulling it down will keep the clks running.

2/25-29 6/11-53

R319 0

37 KB_LED_DET#

34 PCIE_MCARD1_DET#

PCIE_MCARD1_DET#

R288 4.7K

Non-iAMT

+3.3V_SUS

R252 *10K_NC RSV_ICH_CL_RST1#

R274 10K ICH_RI#

R253 10K SIO_EXT_SCI#

R279 1K PCIE_WAKE#

U35C

SMBCLK G16

SMBDATA A13

LINKALERT#/GPIO60/CLGPIO3 E17

SMLINK0 C17

SMLINK1 B18

RI# F19

SUS_STAT#/LPCPD# R4

SYS_RESET# G19

PMSYNC#/GPIO0 M6

SMBALERT#/GPIO11 A17

STP_PCI#/GPIO15 A14

STP_CPU#/GPIO25 E19

CLKRUN#/GPIO32 L4

WAKE# E20

SERIRQ M5

THRM# AJ23

VRMPWRGD D21

TP8 A20

TACH1/GPIO1

TACH2/GPIO6

TACH3/GPIO7

GPIO8

LANPHYPC/GPIO12

ENGDET/GPIO13

TACH0/GPIO17 AG19

GPIO18 AH21

GPIO20 AG21

SCLOCK/GPIO22 A21

QRT_STATE0/GPIO27 C12

QRT_STATE1/GPIO28 C21

SATACLKREQ#/GPIO35 AE18

SLOAD/GPIO38 K1

SDATAOUT0/GPIO39 AF8

SDATAOUT1/GPIO48 AJ22

GPIO49 A9

GPIO57/CLGPIO5 D19

L1

AE19

AG22

AF21

AH24

A8

SPKR M7

MCH_SYNC# AJ24

TP3 B21

TP9 AH20

TP10 AJ20

TP11 AJ21

SMB

SATA GPIO

Clocks

SYS GPIO

Power MGT

GPIO

Controller Link

MISC

ICH9M REV 1.0

SATA0GP/GPIO21 AH23

SATA1GP/GPIO19 AE19

SATA4GP/GPIO36 AE21

SATA5GP/GPIO37 AD20

CLK14 H1 CLK_ICH_14M CLK_ICH_14M 17

CLK48 AF3 CLK_ICH_48M CLK_ICH_48M 17

SUSCLK P1 ICH_SUSCLK PAD T133

SLP_S3# C16 SIO_SLP_S3# 31

SLP_S4# E16 PAD T78

SLP_S5# G17 SIO_SLP_S5# 31

S4_STATE#/GPIO26 C10

PWROK G20 ICH_PWRGD ICH_PWRGD 6,44

DPRSLPVR DPRSLPVR 6,51

DPRSLPVR/GPIO16 M2

BATLOW# B13 ICH_BATLOW#

PWRBTN# R3 SIO_PWRBTN# 31

LAN_RST# D20 RSV_ICH_LAN_RST# PAD T70

RSMRST# D22 ICH_RSMRST# ICH_RSMRST# 31

CK_PWRGD R5 CLK_PWRGD 17

CLPWROK R6 ICH_CL_PWROK ICH_CL_PWROK 6,31

SLP_M# B16 PAD T57

CL_CLK0 F24

CL_CLK1 B19 RSV_ICH_CL_CLK1 PAD T76

CL_DATA0 F22 CL_DATA0 6

CL_DATA1 C19 RSV_ICH_CL_DATA1 PAD T58

CL_VREF0 C25 CL_VREF0

CL_VREF1 A19 CL_VREF1

CL_RST0# F21 ICH_CL_RST0# 6

CL_RST1# D18 CL_RST1# PAD T79

MEM_LED/GPIO24 A16 RSV_GPIO24 PAD T61

ALERT#/GPIO10 C18 RSV_GPIO10 PAD T65

NETDETECT/GPIO14 C11 RSV_GPIO14 PAD T62

WOL_EN/GPIO9 C20 RSV_WOL_EN PAD T56

+3.3V_RUN

R328 8.2K

R580 8.2K +3.3V_SUS

R264 8.2K +3.3V_SUS

2/13-5

Non-iAMT

Place these close to ICH8.

CLK_ICH_48M

R321 *10_NC

C454 *4.7P_NC

50

CLK_ICH_14M

R590 *10_NC

C780 *4.7P_NC

50

2/13-5

ICH_PWRGD R291 10K

DPRSLPVR R594 100K

ICH_RSMRST# R277 10K

RSV_ICH_LAN_RST# R268 10K

ICH_CL_PWROK R303 1M

+3.3V_SUS

RSV_GPIO10 R249 10K

DIS:ALW

UMA:SUS (19)

Non-iAMT

+3.3V_RUN

+3.3V_ALW +3.3V_SUS

R263 3.24K/F

R575 *3.24K/F_NC

R576 *3.24K/F_NC

CL_VREF0

CL_VREF1

C359 0.1U

R256 453/F

C771 *0.1U_NC

R578 *453/F_NC

10

10

CL_VREF0/1 ~=0.405V

R323 10K PLTRST_DELAY#

7/30-68

+3.3V_RUN

R247 1.91K/F IMVP_PWRGD

R329 100K USB_MCARD2_DET#

R626 100K USB_MCARD3_DET#

R289 100K PCIE_MCARD1_DET#

R324 100K PCIE_MCARD2_DET#

R635 100K PCIE_MCARD3_DET#

+3.3V_RUN

R624 *10K_NC MCH_ICH_SYNC# R

R296 10K IRQ_SERIRQ

R625 10K THERM_ALERT#

+3.3V_SUS

R257 10K RSV_WOL_EN

R574 10K SIO_EXT_SMI#

R579 100K USB_MCARD1_DET#

+3.3V_RUN

R293 *1K_NC

SPKR

No Reboot strap.

SPKR	Low = Default. High = No Reboot.

SMbus address D2

These are for backdrive issue.

Non-iAMT

+3.3V_RUN

RP17 2.2KX2

30,33,34 ICH_SMBDATA

Q31

2N7002W-7-F

MEM_SDATA 15

+3.3V_RUN

30,33,34 ICH_SMBCLK

Q32

2N7002W-7-F

MEM_SCLK 15

QUANTA COMPUTER

Title	ICH9-M (PM,GPIO,SMB,CL)	
Size	Document Number FM7	Rev 1A
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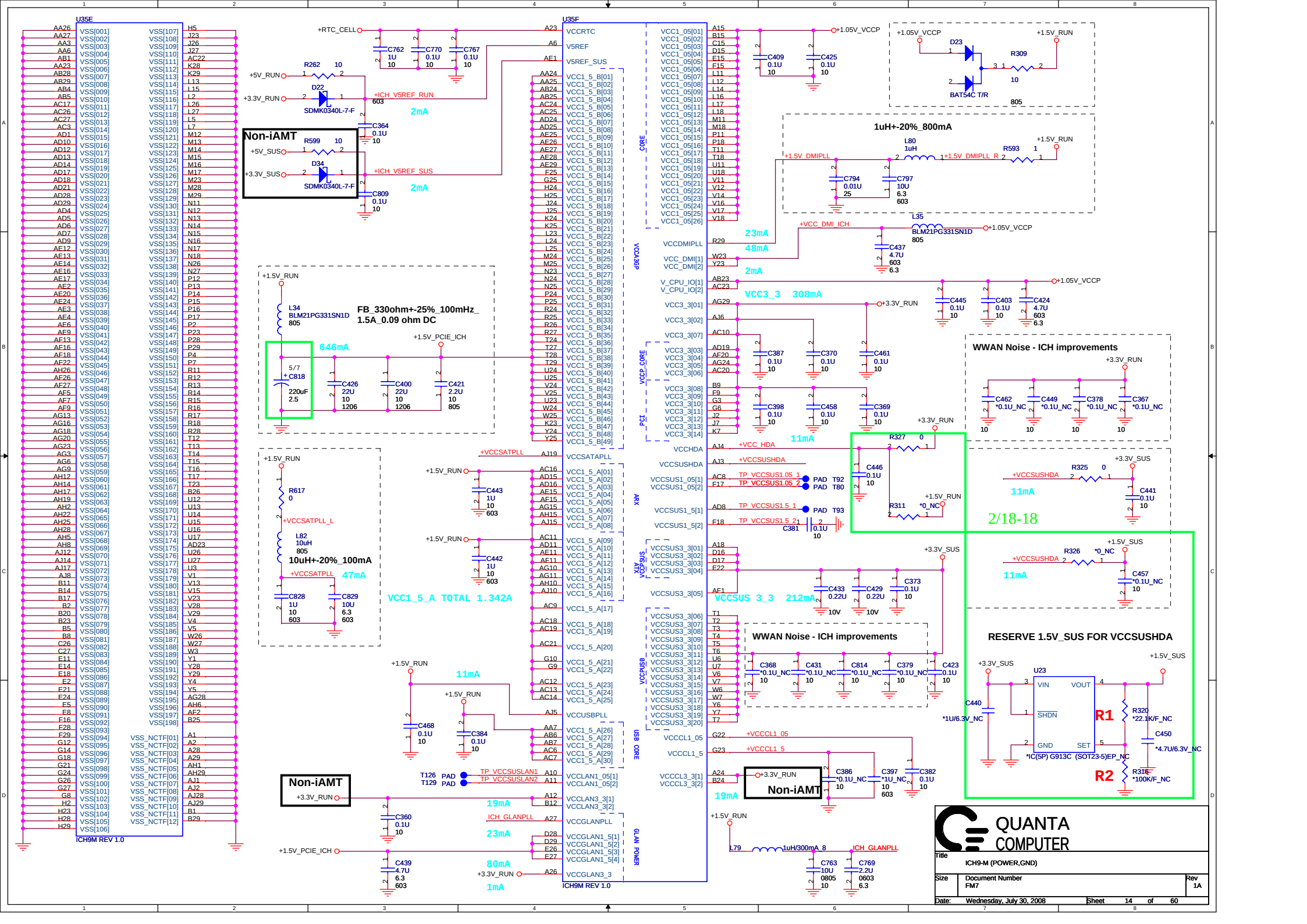
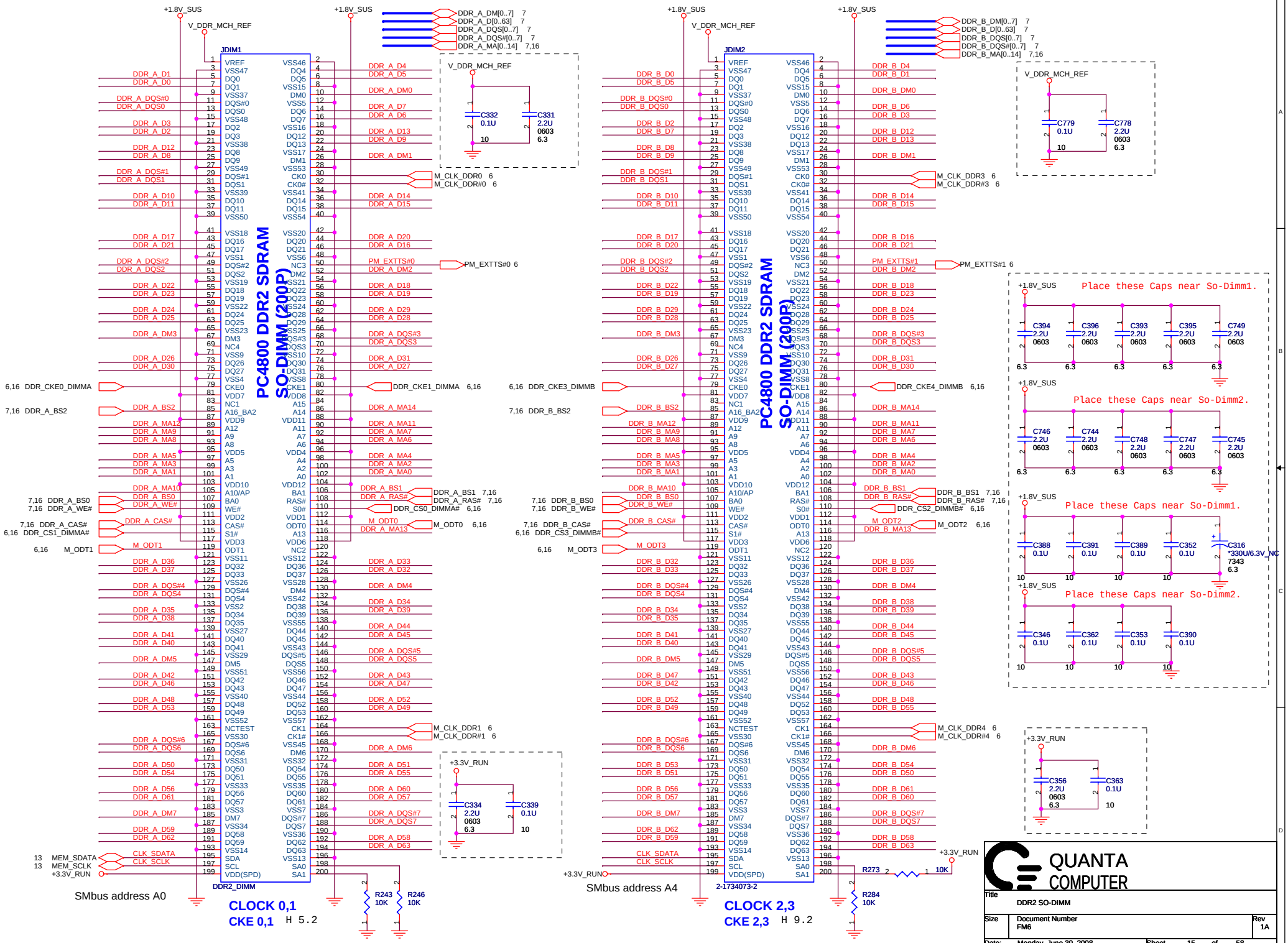

U35E
ICH9M REV 1.0
U35F
ICH9M REV 1.0
Non-iAMT
Non-iAMT
Non-iAMT
FB_330ohm+-25%_100mHz_
1.5A_0.09 ohm DC
10uH+-20%_100mA
1uH+-20%_800mA
WWAN Noise - ICH improvements
WWAN Noise - ICH improvements
RESERVE 1.5V_SUS FOR VCCSUSHDA
VCC1_5_A TOTAL 1.342A
VCC3_3 308mA
VCCSUS 3_3 212mA
2/18-18
QUANTA COMPUTER
ICH9-M (POWER,GND)
Wednesday, July 30, 2008


JDIM1
PC4800 DDR2 SDRAM
SO-DIMM (200P)
DDR2_DIMM
SMbus address A0
CLOCK 0,1
CKE 0,1 H 5.2
JDIM2
PC4800 DDR2 SDRAM
SO-DIMM (200P)
2-1734073-2
SMbus address A4
CLOCK 2,3
CKE 2,3 H 9.2
+1.8V_SUS
V_DDR_MCH_REF
+3.3V_RUN
Place these Caps near So-Dimm1.
Place these Caps near So-Dimm2.
QUANTA COMPUTER
Title
DDR2 SO-DIMM
Size
Document Number
FM6
Rev
1A
Date:
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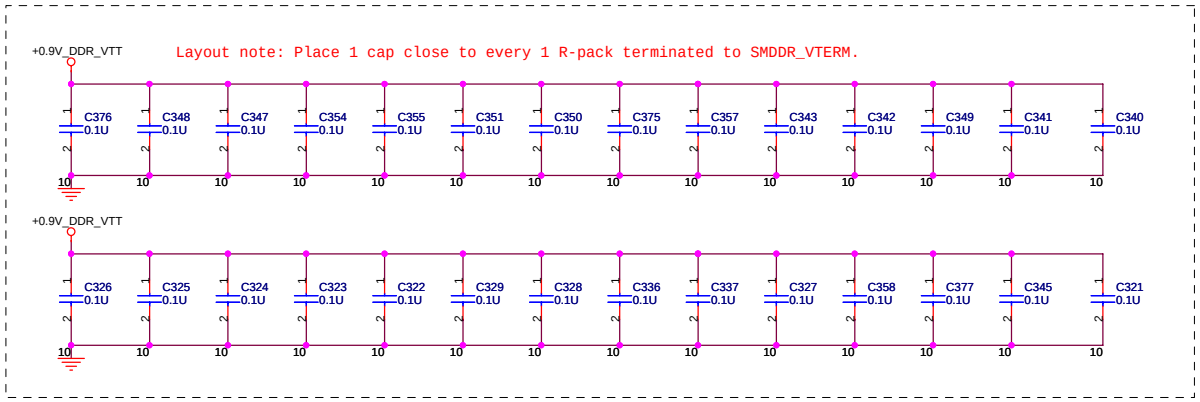

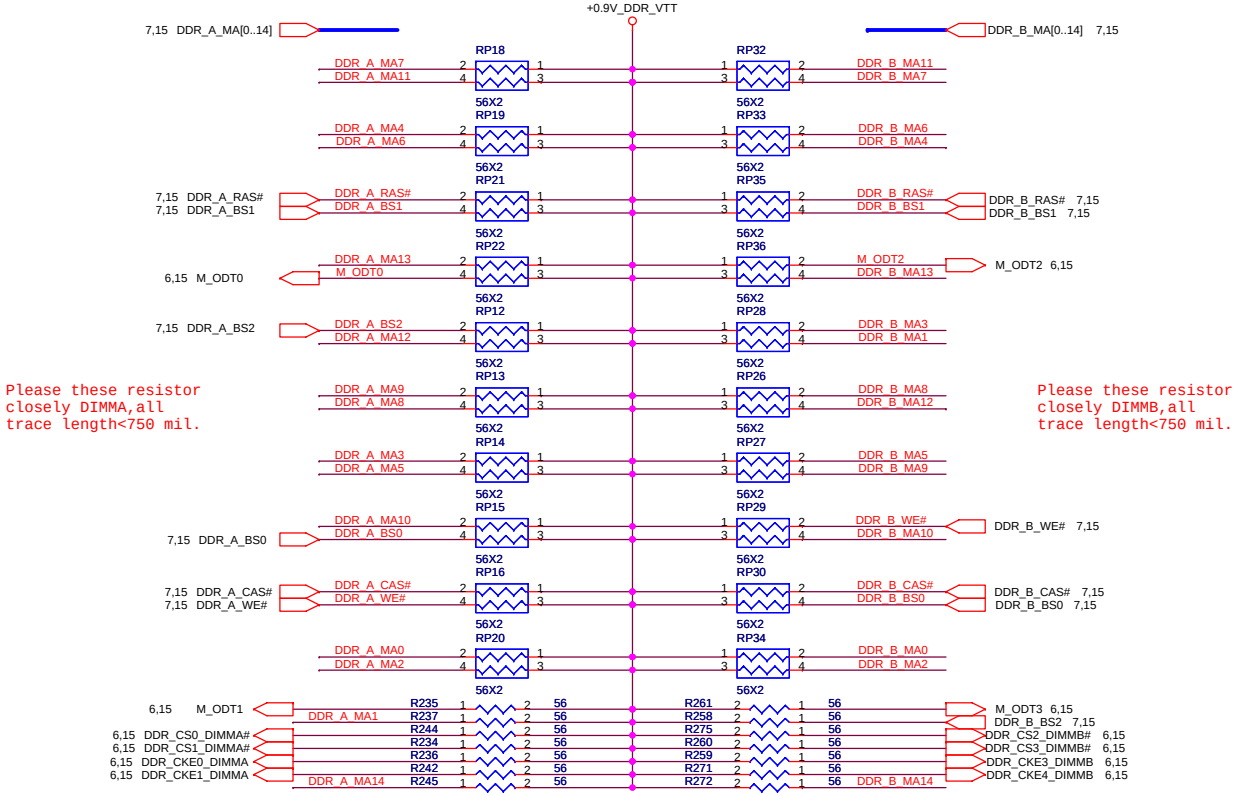

QUANTA COMPUTER

Title	DDR2 RES. ARRAY	
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Add capacitor pads for improving WWAN.

C694 20P 50 CLK_ICH_48M
C666 *27P_NC 50 CLK_ICH_14M
C679 *27P_NC 50 CLK_PCI_8512
C272 *27P_NC 50 CLK_PCI_PCCARD
C689 *27P_NC 50 CLK_PCI_ICH

Y3
CLK_XTAL_IN — 14.318MHZ — CLK_XTAL_OUT
C653 33P 50
C652 33P 50
14.318MHz

U31
CK505
QFN64
SLG8SP513V

+CK_VDD_PCI 9 VDD_PCI
4 VDD_REF
+CK_VDD_PLL3 23 VDD_PLL3
+CK_VDD_48 16 VDD_48
+CK_VDD_SRC 46 VDD_SRC
62 VDD_CPU
+CK_VDD_MAIN 19 VDD_IO
27 VDD_IO
33 VDD_IO
43 VDD_IO
52 VDD_IO
56 VDD_IO
15 GND
18 GND
22 GND
26 GND
30 GND
36 GND
49 GND
59 GND
1 GND
8 CR#_A/PCI-0
10 CR_B/PCI-1
11 TME/PCI-2
12 SRC5_EN/PCI-3
13 27M_SEL/PCI-4
14 ITP_EN/PCIF-5#
17 FSA/USB48
64 FSB/TEST_MODE
5 FSC/TEST_SEL/REF
55 RESET#
63 CK_PWRGD/PD#
2 CLK_XTAL_OUT XOUT
3 CLK_XTAL_IN XIN
6 CLK_SDATA SDATA
7 CLK_SCLK SCLK
65 GND

CPU-0 61 CPU_BCLK — RP40 0x2 — CLK_CPU_BCLK 3
CPU-0# 60 CPU_BCLK# — CLK_CPU_BCLK# 3
CPU-1 58 MCH_BCLK — RP39 0x2 — CLK_MCH_BCLK 5
CPU-1# 57 MCH_BCLK# — CLK_MCH_BCLK# 5
SRC-8/CPU_ITP 54 PCIE_MINI1 — RP38 0x2 — CLK_PCIE_MINI1 34
SRC-8#/CPU_ITP# 53 PCIE_MINI1# — CLK_PCIE_MINI1# 34
SRC-0/DOT96 20 DOT96_SSC — RP9 0x2 — CLK_PCIE_VGA 18
SRC-0#/DOT96# 21 DOT96_SSC# — CLK_PCIE_VGA# 18
SRC-1/SE1 24 27M_NSS — R510 33 — CLK_VGA_27M_NSS 19
SRC-1#/SE2 25 27M_SS — R509 *33_NC — CLK_VGA_27M_SS 19
SRC-2/SATA 28 PCIE_SATA — RP10 0x2 — CLK_PCIE_SATA 11
SRC-2#/SATA# 29 PCIE_SATA# — CLK_PCIE_SATA# 11
CR#_C/SRC-3 31 PCIE_MINI3 — RP45 0x2 — CLK_PCIE_MINI3 33
CR#_D/SRC-3# 32 PCIE_MINI3# — CLK_PCIE_MINI3# 33
SRC-4 34 MCH_3GPLL — RP44 0x2 — CLK_MCH_3GPLL 6
SRC-4# 35 MCH_3GPLL# — CLK_MCH_3GPLL# 6
PCI_STOP#/SRC-5 45 — H_STP_PCI# 13
CPU_STOP#/SRC5-5# 44 — H_STP_CPU# 13
SRC-6 48 PCIE_EXPCARD — RP41 0x2 — CLK_PCIE_EXPCARD 30
SRC-6# 47 PCIE_EXPCARD# — CLK_PCIE_EXPCARD# 30
CR#_F/SRC-7 51 MINI1CLK_REQ# C — R464 475/F — MINI1CLK_REQ# — MINI1CLK_REQ# 34
CR#_E/SRC-7# 50 CARD_CLK_REQ# C — R466 475/F — CARD_CLK_REQ# — CARD_CLK_REQ# 30
SRC-9 37 PCIE_MINI2 — RP43 0x2 — CLK_PCIE_MINI2 33
SRC-9# 38 PCIE_MINI2# — CLK_PCIE_MINI2# 33
SRC-10 41 PCIE_ICH — RP42 0x2 — CLK_PCIE_ICH 12
SRC-10# 42 PCIE_ICH# — CLK_PCIE_ICH# 12
CR#_H/SRC-11 40 PCIE_LOM — RP8 0x2 — CLK_PCIE_LOM 42
CR#_G/SRC-11# 39 PCIE_LOM# — CLK_PCIE_LOM# 42

2/20-21
2/21-24

Only for debug
7/30-70

13 SATA_CLKREQ# — SATA_CLKREQ# — R487 475/F — SATA_CLKREQ# C 8
6 CLK_3GPLLREQ# — CLK_3GPLLREQ# — R489 475/F — CLK_3GPLLREQ# C 10
33 CLK_LPC_DEBUG — CLK_LPC_DEBUG — R189 *22_NC — PCI_PCCARD 11
28 CLK_PCI_PCCARD — CLK_PCI_PCCARD — R190 33 — PCI_SIO 12
31 CLK_PCI_8512 — CLK_PCI_8512 — R492 33 — 27M_SEL 13
12 CLK_PCI_ICH — CLK_PCI_ICH — R499 33 — PCI_ICH 14
13 CLK_ICH_48M — CLK_ICH_48M — R508 33
3,6 CPU_MCH_BSEL0 — L73 BLM18AG601SN1D — R507 2.2K — FSA 17
3,6 CPU_MCH_BSEL1 — R471 0 — FSB 64
3,6 CPU_MCH_BSEL2 — L65 BLM18AG601SN1D — R477 10K — FSC 5
13 CLK_ICH_14M — CLK_ICH_14M — R481 33 — 55
13 CLK_PWRGD — 63

2/13-6

+3.3V_RUN
H_STP_PCI# R167 10K
H_STP_CPU# R174 10K
2/20-21

CLK_3GPLLREQ# R490 10K
SATA_CLKREQ# R488 10K
CARD_CLK_REQ# R469 10K
MINI1CLK_REQ# R463 10K
PCI_PCCARD R188 *10K_NC

PCI_SIO R493 *10K_NC
PCI_ICH R501 *10K_NC

3 CLK_ITP_BCLK — RP6 *0x2_NC — PCIE_MINI1
3 CLK_ITP_BCLK# — PCIE_MINI1#

+3.3V_RUN
PCI_ICH
R198 *10K_NC
R200 *10K_NC

R188 POP: For Internal pull-low.
R191 POP: For internal pull-high.

+3.3V_RUN
27M_SEL
R495 10K
R497 *10K_NC

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

27M_SEL

27M_SEL (PIN13)	PIN20	PIN21	PIN24	PIN25
0=UMA	DOT96T	DOT96C	96/ 100M_T	96/ 100M_C
1 = Disc. GRFX down	SRCT0	SRCC0	27Mout	27MSSout

UMA without iAMT

+3.3V_RUN
L71 BLM21PG600SN1D 0805 120 ohms@100Mhz
+CK_VDD_MAIN
C693 0.1U 10
C692 0.1U 10
C691 0.1U 10
C661 0.1U 10
C642 0.1U 10
C641 0.1U 10
C690 *10U_NC 0603 6.3

L72 BLM21PG600SN1D 0805 120 ohms@100Mhz
R474 2.2
+CK_VDD_PCI
C662 0.1U 10
C269 0.1U 10
2/19-20

R506 2.2
+CK_VDD_PLL3
C695 0.1U 10

R504 2.2
+CK_VDD_48
C687 0.1U 10
C688 4.7U 0603 6.3

R162 2.2
+CK_VDD_SRC
C659 0.1U 10
C254 0.1U 10
2/19-20

Non-iAMT

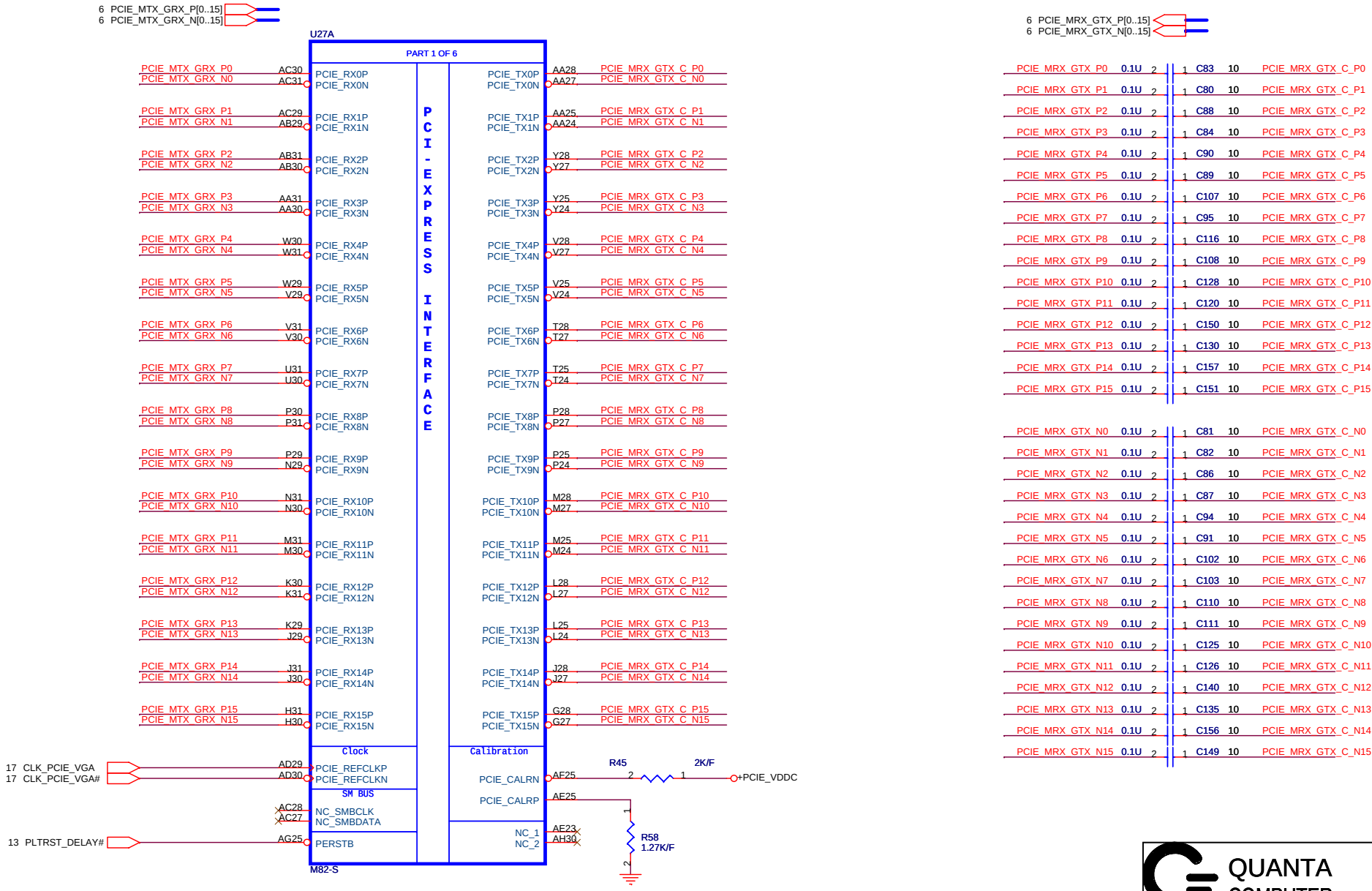
SMbus address D2

These are for backdrive issue.

+3.3V_RUN
RP7 2.2KX2
26,31,39 SMBDAT1 — Q26 2N7002W-7-F — CLK_SDATA
+3.3V_RUN
26,31,39 SMBCLK1 — Q28 2N7002W-7-F — CLK_SCLK

QUANTA COMPUTER

Title	CLOCK GENERATOR	
Size	Document Number FM6	Rev 2A
Date: Wednesday, July 30, 2008	Sheet 17 of 58	


6 PCIE_MTX_GRX_P[0..15]
6 PCIE_MTX_GRX_N[0..15]
U27A
PART 1 OF 6
PCI-EXPRESS INTERFACE
PCIE_MTX_GRX_P0 AC30 PCIE_RX0P
PCIE_MTX_GRX_N0 AC31 PCIE_RX0N
PCIE_MTX_GRX_P1 AC29 PCIE_RX1P
PCIE_MTX_GRX_N1 AB29 PCIE_RX1N
PCIE_MTX_GRX_P2 AB31 PCIE_RX2P
PCIE_MTX_GRX_N2 AB30 PCIE_RX2N
PCIE_MTX_GRX_P3 AA31 PCIE_RX3P
PCIE_MTX_GRX_N3 AA30 PCIE_RX3N
PCIE_MTX_GRX_P4 W30 PCIE_RX4P
PCIE_MTX_GRX_N4 W31 PCIE_RX4N
PCIE_MTX_GRX_P5 W29 PCIE_RX5P
PCIE_MTX_GRX_N5 V29 PCIE_RX5N
PCIE_MTX_GRX_P6 V31 PCIE_RX6P
PCIE_MTX_GRX_N6 V30 PCIE_RX6N
PCIE_MTX_GRX_P7 U31 PCIE_RX7P
PCIE_MTX_GRX_N7 U30 PCIE_RX7N
PCIE_MTX_GRX_P8 P30 PCIE_RX8P
PCIE_MTX_GRX_N8 P31 PCIE_RX8N
PCIE_MTX_GRX_P9 P29 PCIE_RX9P
PCIE_MTX_GRX_N9 N29 PCIE_RX9N
PCIE_MTX_GRX_P10 N31 PCIE_RX10P
PCIE_MTX_GRX_N10 N30 PCIE_RX10N
PCIE_MTX_GRX_P11 M31 PCIE_RX11P
PCIE_MTX_GRX_N11 M30 PCIE_RX11N
PCIE_MTX_GRX_P12 K30 PCIE_RX12P
PCIE_MTX_GRX_N12 K31 PCIE_RX12N
PCIE_MTX_GRX_P13 K29 PCIE_RX13P
PCIE_MTX_GRX_N13 J29 PCIE_RX13N
PCIE_MTX_GRX_P14 J31 PCIE_RX14P
PCIE_MTX_GRX_N14 J30 PCIE_RX14N
PCIE_MTX_GRX_P15 H31 PCIE_RX15P
PCIE_MTX_GRX_N15 H30 PCIE_RX15N
PCIE_TX0P AA28 PCIE_MRX_GTX_C_P0
PCIE_TX0N AA27 PCIE_MRX_GTX_C_N0
PCIE_TX1P AA25 PCIE_MRX_GTX_C_P1
PCIE_TX1N AA24 PCIE_MRX_GTX_C_N1
PCIE_TX2P Y28 PCIE_MRX_GTX_C_P2
PCIE_TX2N Y27 PCIE_MRX_GTX_C_N2
PCIE_TX3P Y25 PCIE_MRX_GTX_C_P3
PCIE_TX3N Y24 PCIE_MRX_GTX_C_N3
PCIE_TX4P V28 PCIE_MRX_GTX_C_P4
PCIE_TX4N V27 PCIE_MRX_GTX_C_N4
PCIE_TX5P V25 PCIE_MRX_GTX_C_P5
PCIE_TX5N V24 PCIE_MRX_GTX_C_N5
PCIE_TX6P T28 PCIE_MRX_GTX_C_P6
PCIE_TX6N T27 PCIE_MRX_GTX_C_N6
PCIE_TX7P T25 PCIE_MRX_GTX_C_P7
PCIE_TX7N T24 PCIE_MRX_GTX_C_N7
PCIE_TX8P P28 PCIE_MRX_GTX_C_P8
PCIE_TX8N P27 PCIE_MRX_GTX_C_N8
PCIE_TX9P P25 PCIE_MRX_GTX_C_P9
PCIE_TX9N P24 PCIE_MRX_GTX_C_N9
PCIE_TX10P M28 PCIE_MRX_GTX_C_P10
PCIE_TX10N M27 PCIE_MRX_GTX_C_N10
PCIE_TX11P M25 PCIE_MRX_GTX_C_P11
PCIE_TX11N M24 PCIE_MRX_GTX_C_N11
PCIE_TX12P L28 PCIE_MRX_GTX_C_P12
PCIE_TX12N L27 PCIE_MRX_GTX_C_N12
PCIE_TX13P L25 PCIE_MRX_GTX_C_P13
PCIE_TX13N L24 PCIE_MRX_GTX_C_N13
PCIE_TX14P J28 PCIE_MRX_GTX_C_P14
PCIE_TX14N J27 PCIE_MRX_GTX_C_N14
PCIE_TX15P G28 PCIE_MRX_GTX_C_P15
PCIE_TX15N G27 PCIE_MRX_GTX_C_N15
Clock
17 CLK_PCIE_VGA AD29 PCIE_REFCLKP
17 CLK_PCIE_VGA# AD30 PCIE_REFCLKN
SM BUS
AC28 NC_SMBCLK
AC27 NC_SMBDATA
13 PLTRST_DELAY# AG25 PERSTB
Calibration
PCIE_CALRN AF25
PCIE_CALRP AE25
NC_1 AE23
NC_2 AH30
R45 2K/F
+PCIE_VDDC
R58 1.27K/F
M82-S
6 PCIE_MRX_GTX_P[0..15]
6 PCIE_MRX_GTX_N[0..15]
PCIE_MRX_GTX_P0 0.1U C83 10 PCIE_MRX_GTX_C_P0
PCIE_MRX_GTX_P1 0.1U C80 10 PCIE_MRX_GTX_C_P1
PCIE_MRX_GTX_P2 0.1U C88 10 PCIE_MRX_GTX_C_P2
PCIE_MRX_GTX_P3 0.1U C84 10 PCIE_MRX_GTX_C_P3
PCIE_MRX_GTX_P4 0.1U C90 10 PCIE_MRX_GTX_C_P4
PCIE_MRX_GTX_P5 0.1U C89 10 PCIE_MRX_GTX_C_P5
PCIE_MRX_GTX_P6 0.1U C107 10 PCIE_MRX_GTX_C_P6
PCIE_MRX_GTX_P7 0.1U C95 10 PCIE_MRX_GTX_C_P7
PCIE_MRX_GTX_P8 0.1U C116 10 PCIE_MRX_GTX_C_P8
PCIE_MRX_GTX_P9 0.1U C108 10 PCIE_MRX_GTX_C_P9
PCIE_MRX_GTX_P10 0.1U C128 10 PCIE_MRX_GTX_C_P10
PCIE_MRX_GTX_P11 0.1U C120 10 PCIE_MRX_GTX_C_P11
PCIE_MRX_GTX_P12 0.1U C150 10 PCIE_MRX_GTX_C_P12
PCIE_MRX_GTX_P13 0.1U C130 10 PCIE_MRX_GTX_C_P13
PCIE_MRX_GTX_P14 0.1U C157 10 PCIE_MRX_GTX_C_P14
PCIE_MRX_GTX_P15 0.1U C151 10 PCIE_MRX_GTX_C_P15
PCIE_MRX_GTX_N0 0.1U C81 10 PCIE_MRX_GTX_C_N0
PCIE_MRX_GTX_N1 0.1U C82 10 PCIE_MRX_GTX_C_N1
PCIE_MRX_GTX_N2 0.1U C86 10 PCIE_MRX_GTX_C_N2
PCIE_MRX_GTX_N3 0.1U C87 10 PCIE_MRX_GTX_C_N3
PCIE_MRX_GTX_N4 0.1U C94 10 PCIE_MRX_GTX_C_N4
PCIE_MRX_GTX_N5 0.1U C91 10 PCIE_MRX_GTX_C_N5
PCIE_MRX_GTX_N6 0.1U C102 10 PCIE_MRX_GTX_C_N6
PCIE_MRX_GTX_N7 0.1U C103 10 PCIE_MRX_GTX_C_N7
PCIE_MRX_GTX_N8 0.1U C110 10 PCIE_MRX_GTX_C_N8
PCIE_MRX_GTX_N9 0.1U C111 10 PCIE_MRX_GTX_C_N9
PCIE_MRX_GTX_N10 0.1U C125 10 PCIE_MRX_GTX_C_N10
PCIE_MRX_GTX_N11 0.1U C126 10 PCIE_MRX_GTX_C_N11
PCIE_MRX_GTX_N12 0.1U C140 10 PCIE_MRX_GTX_C_N12
PCIE_MRX_GTX_N13 0.1U C135 10 PCIE_MRX_GTX_C_N13
PCIE_MRX_GTX_N14 0.1U C156 10 PCIE_MRX_GTX_C_N14
PCIE_MRX_GTX_N15 0.1U C149 10 PCIE_MRX_GTX_C_N15
QUANTA COMPUTER
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VGA-M82-S (PCIe)
Size
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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

+3.3V_DELAY
R431 10K RAM_CFG0
R432 *10K_NC RAM_CFG1
R433 *10K_NC RAM_CFG2
R96 *10K_NC RAM_CFG3

+1.8V_RUN
R401 *10K_NC RAM_TYPE_CFG0
R402 *10K_NC RAM_TYPE_CFG1
R403 10K RAM_TYPE_CFG2
R400 *10K_NC RAM_TYPE_CFG3

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)		

+3.3V_DELAY
R80 10K GPIO0
R420 10K GPIO1
R424 *10K_NC GPIO2
R79 *10K_NC GPIO3
R425 *10K_NC GPIO4
R423 *10K_NC GPIO5
R101 *10K_NC GPIO6
R430 *10K_NC GPIO10
R97 10K HDMI_HD_EN
R102 *10K_NC TEMP_FAIL#
R78 10K GFX_CLKREQ#
R410 10K VGAHSYNC

U27B
PART 2 OF 6
M82-S

INTEGRATED TMDS/DP PORT
TXCM_DPA0P / TXCP_DPA0N
TX0M_DPA1P / TX0P_DPA1N
TX1M_DPA2P / TX1P_DPA2N
TX2M_DPA3P / TX2P_DPA3N
TXCM_DPB0P / TXCP_DPB0N
TX0M_DPB1P / TX0P_DPB1N
TX1M_DPB2P / TX1P_DPB2N
TX2M_DPB3P / TX2P_DPB3N
DVALID
PSYNC_NEW
DVPCNTL_MVP_0
DVPCNTL_MVP_1
DVPCNTL_0
DVPCNTL_1
DVPCNTL_2
DVPCLK
DVPDATA_0 ... DVPDATA_23
EXT TMDS DVO
GENERAL PURPOSE I/O
GPIO_0 ... GPIO_28_TDO
GEN_A
GEN_B
GEN_C
GEN_D_HPD4
GEN_E
VREFG
DPLL_PVDD
DPLL_PVSS
PCIE_PVDD
MPVDD
MPVSS
DPLL_VDDC
XTALIN
XTALOUT
PLL & XTAL
TESTEN
PLLTEST
TEST
DPA_PVDD / DPA_PVSS
DPB_PVDD / DPB_PVSS
DPA_VDDR_1 / DPA_VDDR_2
DPB_VDDR_1 / DPB_VDDR_2
DPB_VSSR_5 ... DPB_VSSR_1
DPA_VSSR_5 ... DPA_VSSR_1
DP_CALR
HPD1
DAC1 / CRT
R / RB
G / GB
B / BB
HSYNC / VSYNC
RSET
AVDD
AVSSQ
VDD1DI
VSS1DI
DAC2 (TV/CRT2)
R2 / R2B
G2 / G2B
B2 / B2B
C
Y
COMP
V2SYNC / H2SYNC
A2VDD
A2VDDQ
A2SSQ
VDD2DI
VSS2DI
R2SET
SERIAL BUSES
SCL / SDA
DDC1DATA / DDC1CLK
DDC2DATA / DDC2CLK
DDC3DATA_DP3_AUXN / DDC3CLK_DP3_AUXP
DDC4DATA_DP4_AUXN / DDC4CLK_DP4_AUXP
THERMAL
TS_FDO
DPLUS / DMINUS

+TPVDD
+DPA_VDDR
+DPB_VDDR
VIP_3
R413 0
R73 150
+AVDD
+VDD1D_2D
+A2VDD
+A2VDDQ
R404 715/F
R59 499/F
VGAHSYNC

HDMI_CLK- 26
HDMI_CLK+ 26
HDMI_TX0- 26
HDMI_TX0+ 26
HDMI_TX1- 26
HDMI_TX1+ 26
HDMI_TX2- 26
HDMI_TX2+ 26
VGA_RED 27
VGA_GRN 27
VGA_BLU 27
VGAHSYNC 27
VGAVSYNC 27

LVDS
LCD_DDCDAT 26
LCD_DDCCLK 26
HDMI
HDMI_SDA 26
HDMI_SCL 26
R61 0
R60 0
G_DAT_DDC2 27
G_CLK_DDC2 27
CRT
VGA_THERMDP 22
VGA_THERMDN 22

2/25-28

+3.3V_DELAY
R76 10K
R82 10K
Q19 MMST3904-7-F
Q41 DTC114TUAT106
R373 100K
HDMI_DET 26
2/13-9
3/28-36

VGA_BLU
VGA_GRN
VGA_RED
R406 150/F
R407 150/F
R408 150/F
DIS only
Layout Note:
Place 150 ohm termination resistors close to ATI CHIP.

1108.21
+3.3V_DELAY
LCD_DDCDAT R397 2.2K
LCD_DDCCLK R396 2.2K

RAM_TYPE_CFG0
RAM_TYPE_CFG1
RAM_TYPE_CFG2
RAM_TYPE_CFG3
GPIO0
GPIO1
GPIO2
GPIO3
GPIO4
GPIO5
GPIO6
31 PANEL_BKEN
HDMI_HD_EN
RAM_CFG3
GPIO10
RAM_CFG0
RAM_CFG1
RAM_CFG2
50 GFX_CORE_CNTRL0
CLK_VGA_27M_SSIN_R
R105 *0_NC
22 THERMAL_INT#
T17 PAD
TEMP_FAIL#
20 TEMP_FAIL#
50 GFX_CORE_CNTRL1
20 BB_ENA
T104 PAD
GFX_CLKREQ#
R438 1K
T101 PAD
T18 PAD
T25 PAD
T19 PAD
T20 PAD
T15 PAD
T14 PAD
T16 PAD
T8 PAD
T9 PAD

+1.8V_RUN
R75 499/F
R74 249/F
C93 0.1U
10

R84 10K TEMP_FAIL#
R389 *0_NC
22 OSC_SPREAD
R398 *0_NC
17 CLK_VGA_27M_SS
CLK_VGA_27M_SSIN_R
R411 0
17 CLK_VGA_27M_NSS
R399 100/F
R412 120/F
R393 *10K_NC
R388 *0_NC
22 OSC_OUT
Y2 *27MHZ_NC
R387 *0_NC
XTAIN
XTAOUT
R390 1M_NC
C524 *18P_NC
C520 *18P_NC
50
50

+DPLL_PVDD
+PCIE_PVDD
+MPVDD
+DPLL_VDDC
R46 1K

QUANTA COMPUTER

Title	VGA-G86GLM (VIDEO)		
Size	Document Number FM6		Rev 2A
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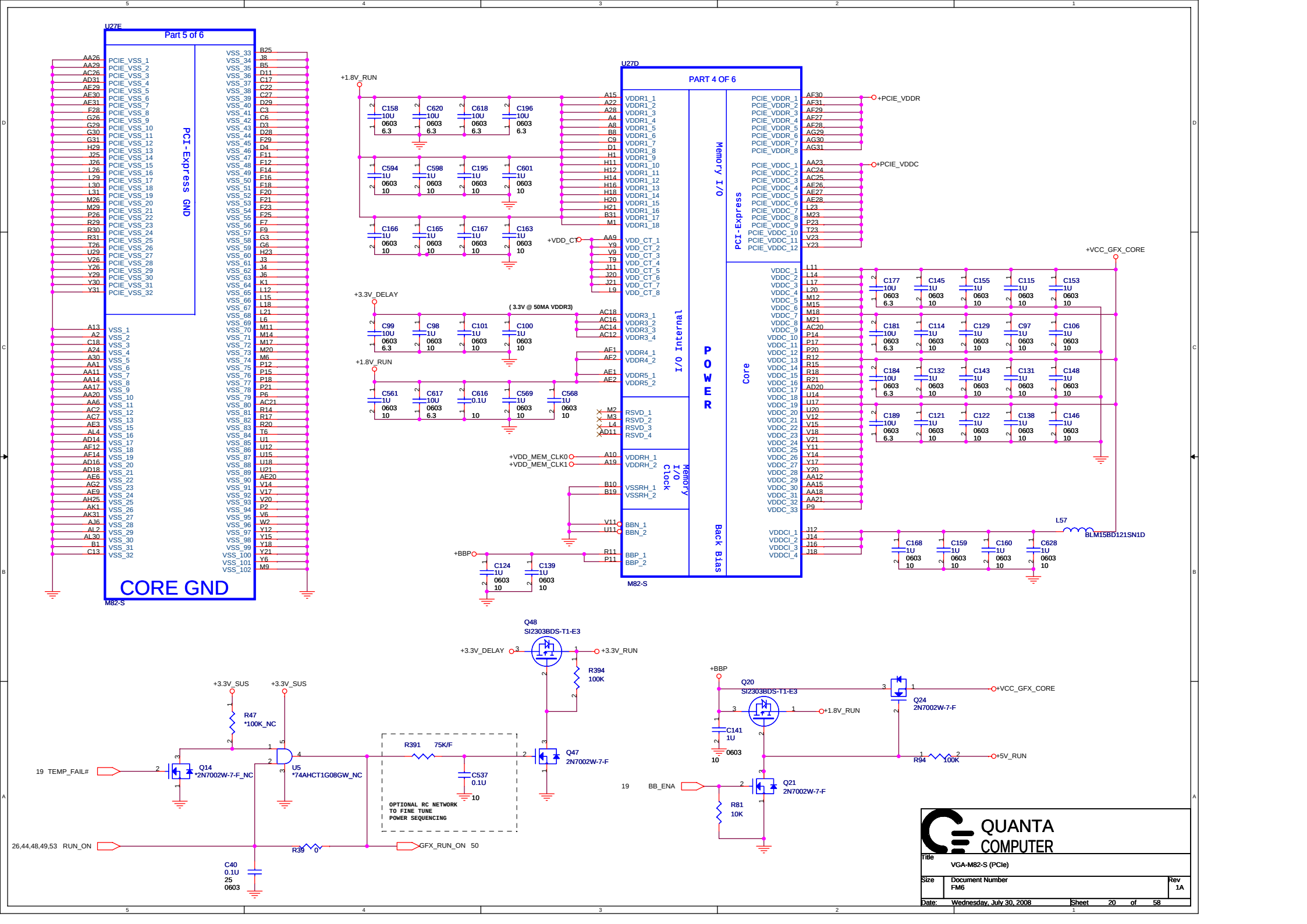
U27E
Part 5 of 6
PCI Express GND
PCIE_VSS_1
PCIE_VSS_2
PCIE_VSS_3
PCIE_VSS_4
PCIE_VSS_5
PCIE_VSS_6
PCIE_VSS_7
PCIE_VSS_8
PCIE_VSS_9
PCIE_VSS_10
PCIE_VSS_11
PCIE_VSS_12
PCIE_VSS_13
PCIE_VSS_14
PCIE_VSS_15
PCIE_VSS_16
PCIE_VSS_17
PCIE_VSS_18
PCIE_VSS_19
PCIE_VSS_20
PCIE_VSS_21
PCIE_VSS_22
PCIE_VSS_23
PCIE_VSS_24
PCIE_VSS_25
PCIE_VSS_26
PCIE_VSS_27
PCIE_VSS_28
PCIE_VSS_29
PCIE_VSS_30
PCIE_VSS_31
PCIE_VSS_32
VSS_1
VSS_2
VSS_3
VSS_4
VSS_5
VSS_6
VSS_7
VSS_8
VSS_9
VSS_10
VSS_11
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VSS_94
VSS_95
VSS_96
VSS_97
VSS_98
VSS_99
VSS_100
VSS_101
VSS_102
CORE GND
M82-S
U27D
PART 4 OF 6
Memory I/O
PCI-Express
Core
I/O Internal
POWER
Memory I/O Clock
Back Bias
VDDR1_1
VDDR1_2
VDDR1_3
VDDR1_4
VDDR1_5
VDDR1_6
VDDR1_7
VDDR1_8
VDDR1_9
VDDR1_10
VDDR1_11
VDDR1_12
VDDR1_13
VDDR1_14
VDDR1_15
VDDR1_16
VDDR1_17
VDDR1_18
VDD_CT_1
VDD_CT_2
VDD_CT_3
VDD_CT_4
VDD_CT_5
VDD_CT_6
VDD_CT_7
VDD_CT_8
VDDR3_1
VDDR3_2
VDDR3_3
VDDR3_4
VDDR4_1
VDDR4_2
VDDR5_1
VDDR5_2
RSVD_1
RSVD_2
RSVD_3
RSVD_4
VDDRH_1
VDDRH_2
VSSRH_1
VSSRH_2
BBN_1
BBN_2
BBP_1
BBP_2
PCIE_VDDR_1
PCIE_VDDR_2
PCIE_VDDR_3
PCIE_VDDR_4
PCIE_VDDR_5
PCIE_VDDR_6
PCIE_VDDR_7
PCIE_VDDR_8
PCIE_VDDC_1
PCIE_VDDC_2
PCIE_VDDC_3
PCIE_VDDC_4
PCIE_VDDC_5
PCIE_VDDC_6
PCIE_VDDC_7
PCIE_VDDC_8
PCIE_VDDC_9
PCIE_VDDC_10
PCIE_VDDC_11
PCIE_VDDC_12
VDDC_1
VDDC_2
VDDC_3
VDDC_4
VDDC_5
VDDC_6
VDDC_7
VDDC_8
VDDC_9
VDDC_10
VDDC_11
VDDC_12
VDDC_13
VDDC_14
VDDC_15
VDDC_16
VDDC_17
VDDC_18
VDDC_19
VDDC_20
VDDC_21
VDDC_22
VDDC_23
VDDC_24
VDDC_25
VDDC_26
VDDC_27
VDDC_28
VDDC_29
VDDC_30
VDDC_31
VDDC_32
VDDC_33
VDDCI_1
VDDCI_2
VDDCI_3
VDDCI_4
M82-S
+1.8V_RUN
+3.3V_DELAY
+VDD_CT
+VDD_MEM_CLK0
+VDD_MEM_CLK1
+BBP
(3.3V @ 50MA VDDR3)
+PCIE_VDDR
+PCIE_VDDC
+VCC_GFX_CORE
L57
BLM15BD121SN1D
C158 10U 0603 6.3
C620 10U 0603 6.3
C618 10U 0603 6.3
C196 10U 0603 6.3
C594 1U 0603 10
C598 1U 0603 10
C195 1U 0603 10
C601 1U 0603 10
C166 1U 0603 10
C165 1U 0603 10
C167 1U 0603 10
C163 1U 0603 10
C99 10U 0603 6.3
C98 1U 0603 10
C101 1U 0603 10
C100 1U 0603 10
C561 1U 0603 10
C617 10U 0603 6.3
C616 0.1U 0603 10
C569 1U 0603 10
C568 1U 0603 10
C124 1U 0603 10
C139 1U 0603 10
C177 10U 0603 6.3
C145 1U 0603 10
C155 1U 0603 10
C115 1U 0603 10
C153 1U 0603 10
C181 10U 0603 6.3
C114 1U 0603 10
C129 1U 0603 10
C97 1U 0603 10
C106 1U 0603 10
C184 10U 0603 6.3
C132 1U 0603 10
C143 1U 0603 10
C131 1U 0603 10
C148 1U 0603 10
C189 10U 0603 6.3
C121 1U 0603 10
C122 1U 0603 10
C138 1U 0603 10
C146 1U 0603 10
C168 1U 0603 10
C159 1U 0603 10
C160 1U 0603 10
C628 1U 0603 10
Q48
SI2303BDS-T1-E3
+3.3V_DELAY
+3.3V_RUN
R394 100K
+3.3V_SUS
R47 *100K_NC
19 TEMP_FAIL#
Q14 *2N7002W-7-F_NC
U5 *74AHCT1G08GW_NC
R391 75K/F
C537 0.1U
Q47 2N7002W-7-F
OPTIONAL RC NETWORK
TO FINE TUNE
POWER SEQUENCING
26,44,48,49,53 RUN_ON
R39 0
GFX_RUN_ON 50
C40 0.1U 25 0603
+BBP
Q20 SI2303BDS-T1-E3
+1.8V_RUN
C141 1U 0603 10
Q24 2N7002W-7-F
+VCC_GFX_CORE
R94 100K
+5V_RUN
19 BB_ENA
Q21 2N7002W-7-F
R81 10K
QUANTA COMPUTER
Title
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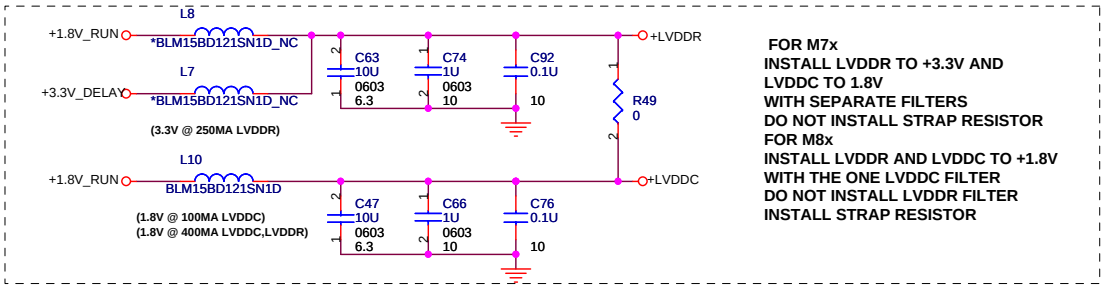
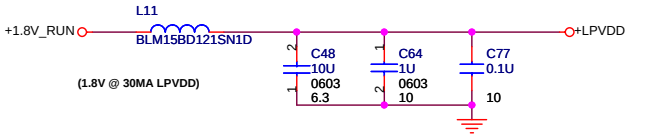
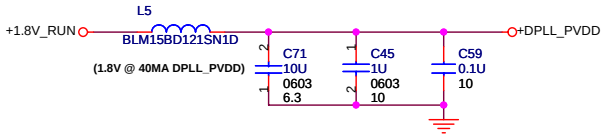
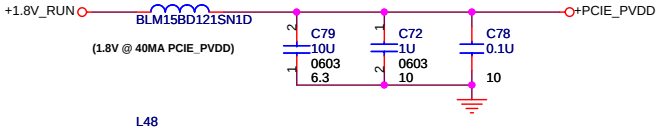
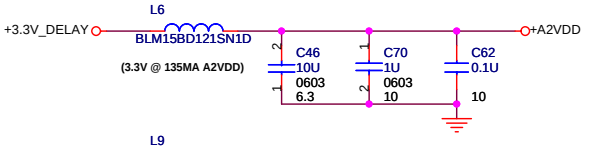


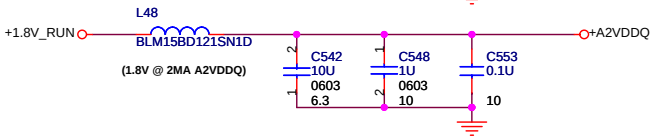
FOR M7x
INSTALL LVDDR TO +3.3V AND
LVDDC TO 1.8V
WITH SEPARATE FILTERS
DO NOT INSTALL STRAP RESISTOR
FOR M8x
INSTALL LVDDR AND LVDDC TO +1.8V
WITH THE ONE LVDDC FILTER
DO NOT INSTALL LVDDR FILTER
INSTALL STRAP RESISTOR

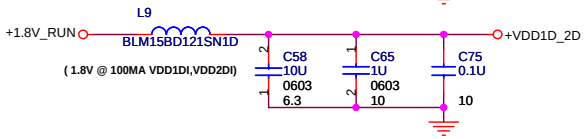


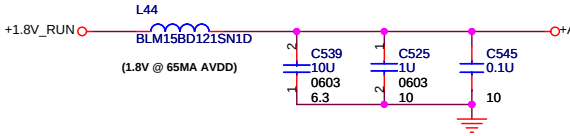


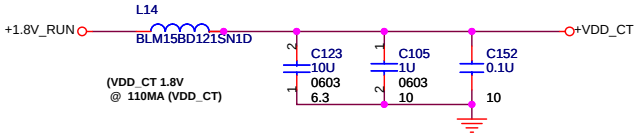


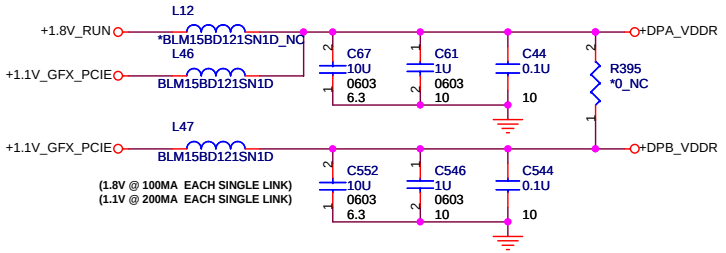






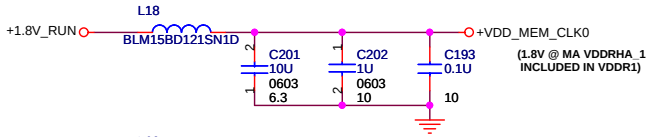


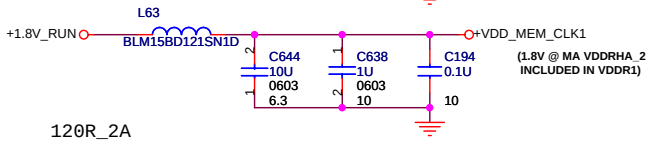




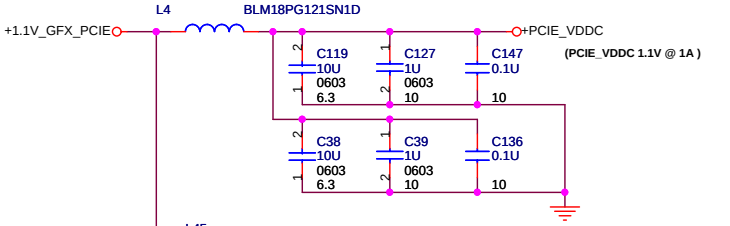
FOR M8x
INSTALL DPA_VDDR TO +1.1V AND
DPB_VDDR TO +1.1V
WITH SEPARATE FILTERS
DO NOT INSTALL STRAP RESISTOR
FOR M7x
INSTALL DPA_VDDR AND DPB_VDDR TO +1.8V
WITH THE ONE DPA_VDDR FILTER
DO NOT INSTALL DPB_VDDR FILTER
INSTALL STRAP RESISTOR

PLACE ALL DECOUPLING AS CLOSE TO ASIC AS POSSIBLE

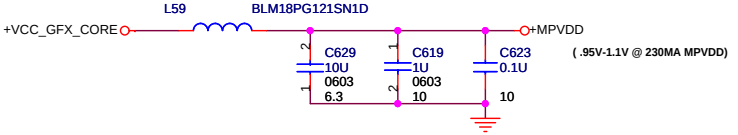


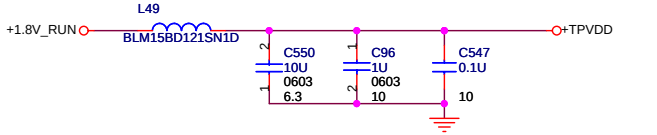


120R_2A



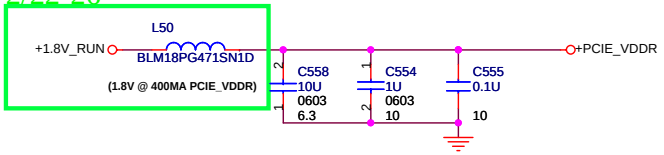
120R_450mA





(1.8V@ 20mA for Single link and 40mA for Dual-Link)

2/22-26



QUANTA COMPUTER

Title	VGA-M82-S (PCIe)	
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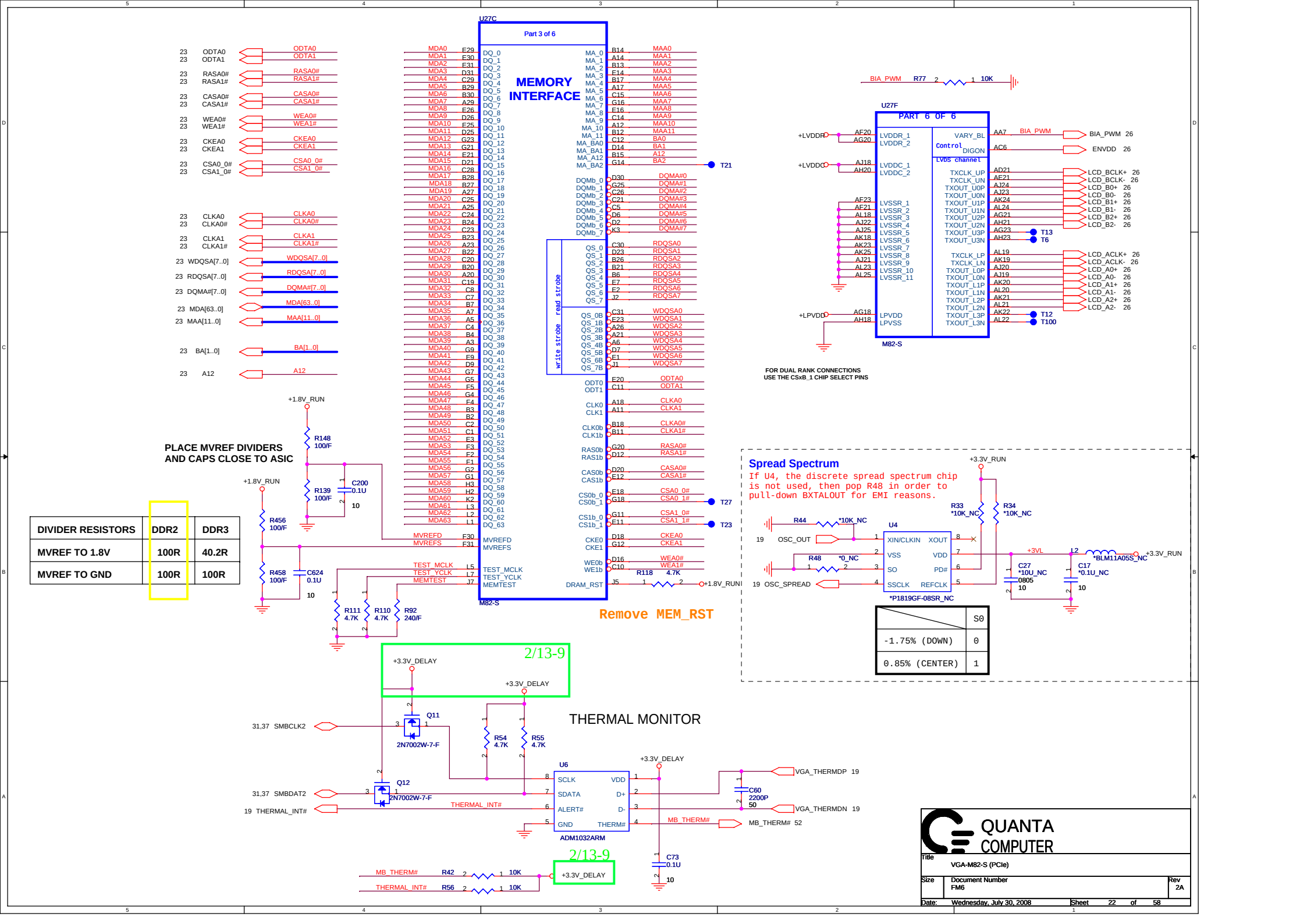
MEMORY INTERFACE
Part 3 of 6
U27C
M82-S
U27F
PART 6 OF 6
M82-S
FOR DUAL RANK CONNECTIONS
USE THE CSxB_1 CHIP SELECT PINS
PLACE MVREF DIVIDERS
AND CAPS CLOSE TO ASIC
DIVIDER RESISTORS | DDR2 | DDR3
MVREF TO 1.8V | 100R | 40.2R
MVREF TO GND | 100R | 100R
Remove MEM_RST
Spread Spectrum
If U4, the discrete spread spectrum chip is not used, then pop R48 in order to pull-down BXTALOUT for EMI reasons.
*P1819GF-08SR_NC
S0
-1.75% (DOWN) 0
0.85% (CENTER) 1
THERMAL MONITOR
2/13-9
2/13-9
ADM1032ARM
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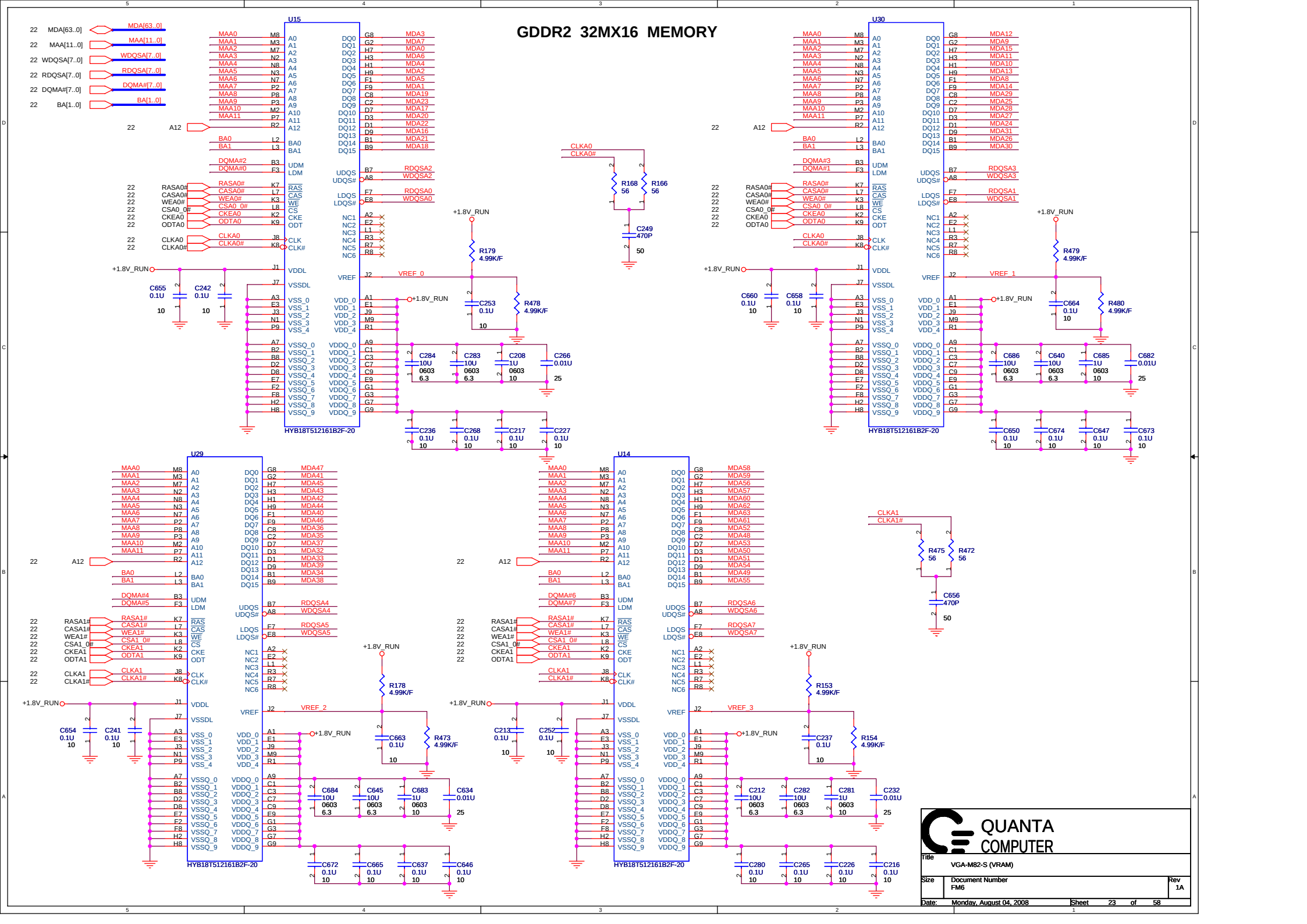
GDDR2 32MX16 MEMORY



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)		

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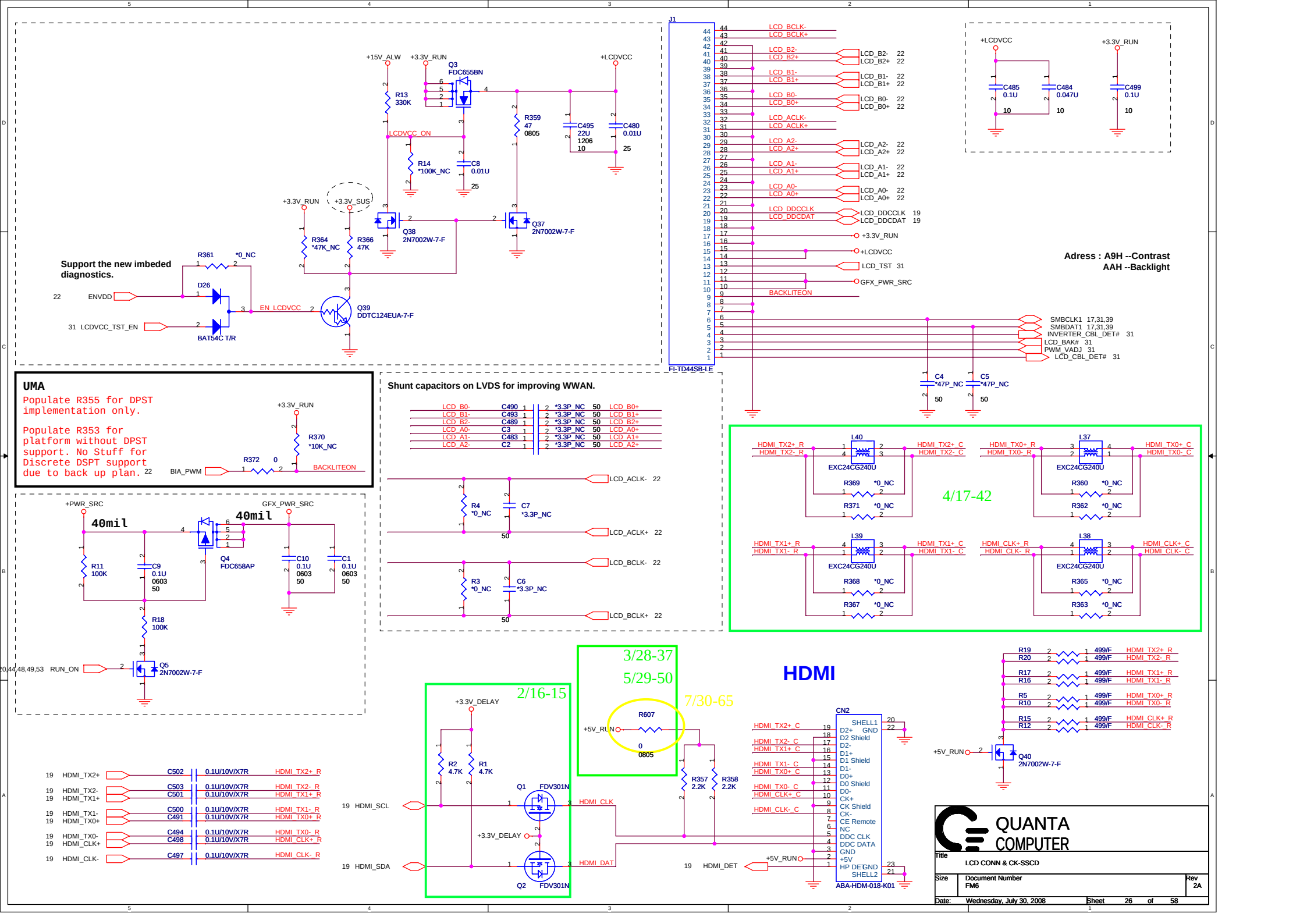
Support the new imbeded diagnostics.
R361 *0_NC
D26
22 ENVDD
31 LCDVCC_TST_EN
BAT54C T/R
EN_LCDVCC
Q39 DDTC124EUA-7-F
+15V_ALW
+3.3V_RUN
+3.3V_SUS
+LCDVCC
Q3 FDC655BN
R13 330K
LCDVCC_ON
R14 *100K_NC
C8 0.01U
25
R359 47 0805
C495 22U 1206 10
C480 0.01U 25
R364 *47K_NC
R366 47K
Q38 2N7002W-7-F
Q37 2N7002W-7-F
J1
FI-TD44SB-LE
LCD_BCLK-
LCD_BCLK+
LCD_B2-
LCD_B2+
LCD_B1-
LCD_B1+
LCD_B0-
LCD_B0+
LCD_ACLK-
LCD_ACLK+
LCD_A2-
LCD_A2+
LCD_A1-
LCD_A1+
LCD_A0-
LCD_A0+
LCD_DDCCLK
LCD_DDCDAT
+3.3V_RUN
+LCDVCC
LCD_TST 31
GFX_PWR_SRC
BACKLITEON
SMBCLK1 17,31,39
SMBDAT1 17,31,39
INVERTER_CBL_DET# 31
LCD_BAK# 31
PWM_VADJ 31
LCD_CBL_DET# 31
C485 0.1U 10
C484 0.047U 10
C499 0.1U 10
C4 *47P_NC 50
C5 *47P_NC 50
Adress : A9H --Contrast
AAH --Backlight
UMA
Populate R355 for DPST implementation only.
Populate R353 for platform without DPST support. No Stuff for Discrete DSPT support due to back up plan.
+3.3V_RUN
R370 *10K_NC
R372 0
BIA_PWM 22
BACKLITEON
Shunt capacitors on LVDS for improving WWAN.
LCD_B0- C490 *3.3P_NC 50 LCD_B0+
LCD_B1- C493 *3.3P_NC 50 LCD_B1+
LCD_B2- C489 *3.3P_NC 50 LCD_B2+
LCD_A0- C3 *3.3P_NC 50 LCD_A0+
LCD_A1- C483 *3.3P_NC 50 LCD_A1+
LCD_A2- C2 *3.3P_NC 50 LCD_A2+
R4 *0_NC
C7 *3.3P_NC
LCD_ACLK- 22
LCD_ACLK+ 22
R3 *0_NC
C6 *3.3P_NC
LCD_BCLK- 22
LCD_BCLK+ 22
50
+PWR_SRC
40mil
GFX_PWR_SRC
40mil
R11 100K
C9 0.1U 0603 50
Q4 FDC658AP
C10 0.1U 0603 50
C1 0.1U 0603 50
R18 100K
20,44,48,49,53 RUN_ON
Q5 2N7002W-7-F
HDMI_TX2+_R
HDMI_TX2-_R
L40
EXC24CG240U
HDMI_TX2+_C
HDMI_TX2-_C
HDMI_TX0+_R
HDMI_TX0-_R
L37
EXC24CG240U
HDMI_TX0+_C
HDMI_TX0-_C
R369 *0_NC
R371 *0_NC
R360 *0_NC
R362 *0_NC
4/17-42
HDMI_TX1+_R
HDMI_TX1-_R
L39
EXC24CG240U
HDMI_TX1+_C
HDMI_TX1-_C
HDMI_CLK+_R
HDMI_CLK-_R
L38
EXC24CG240U
HDMI_CLK+_C
HDMI_CLK-_C
R368 *0_NC
R367 *0_NC
R365 *0_NC
R363 *0_NC
HDMI
3/28-37
5/29-50
7/30-65
2/16-15
+3.3V_DELAY
R607
+5V_RUN
0 0805
R2 4.7K
R1 4.7K
Q1 FDV301N
Q2 FDV301N
19 HDMI_SCL
19 HDMI_SDA
HDMI_CLK
HDMI_DAT
R357 2.2K
R358 2.2K
19 HDMI_DET
CN2
ABA-HDM-018-K01
HDMI_TX2+_C
HDMI_TX2-_C
HDMI_TX1+_C
HDMI_TX1-_C
HDMI_TX0+_C
HDMI_TX0-_C
HDMI_CLK+_C
HDMI_CLK-_C
R19 499/F HDMI_TX2+_R
R20 499/F HDMI_TX2-_R
R17 499/F HDMI_TX1+_R
R16 499/F HDMI_TX1-_R
R5 499/F HDMI_TX0+_R
R10 499/F HDMI_TX0-_R
R15 499/F HDMI_CLK+_R
R12 499/F HDMI_CLK-_R
Q40 2N7002W-7-F
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
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LCD CONN & CK-SSCD
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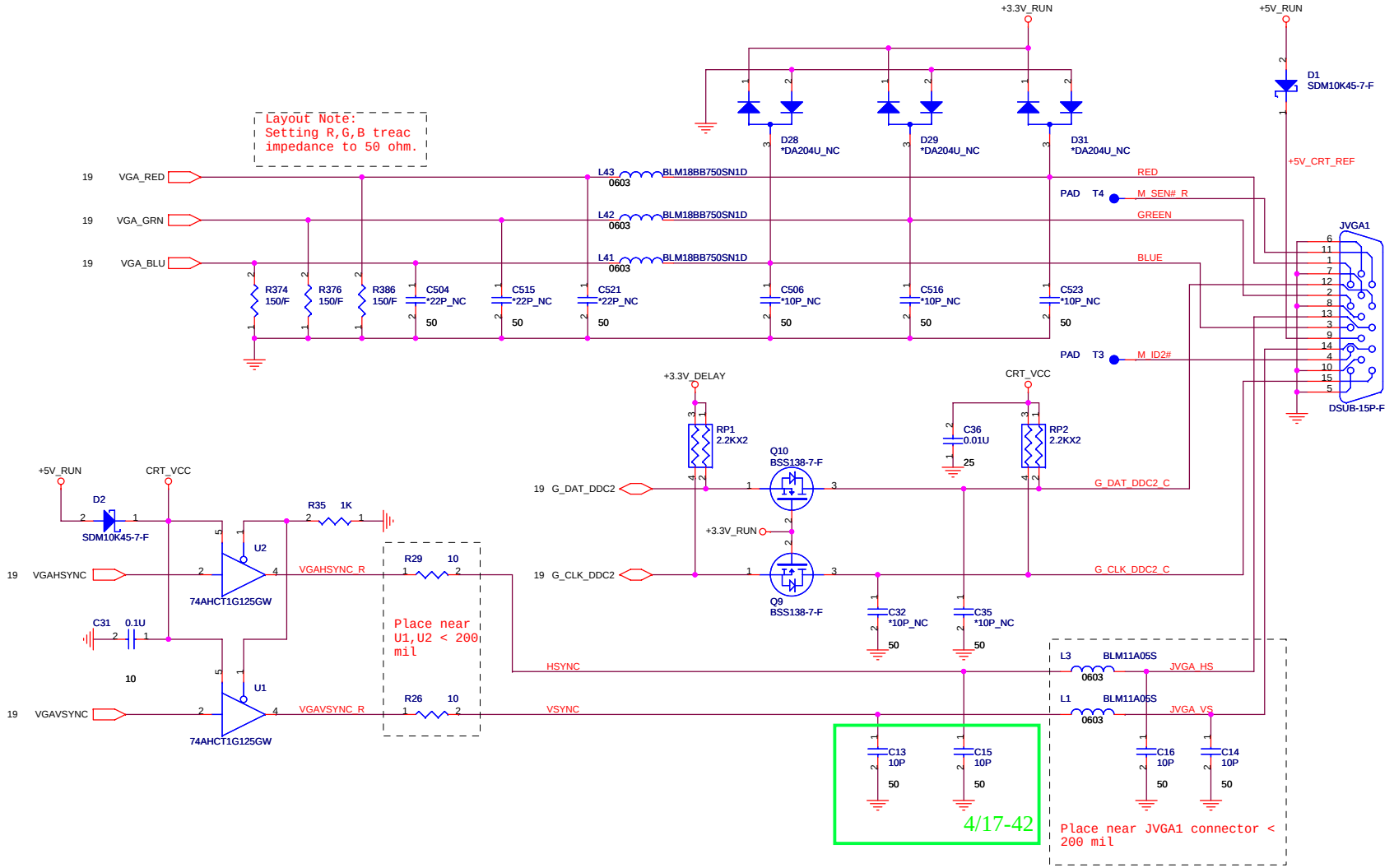

QUANTA COMPUTER

Title	CRT&TV CONN	
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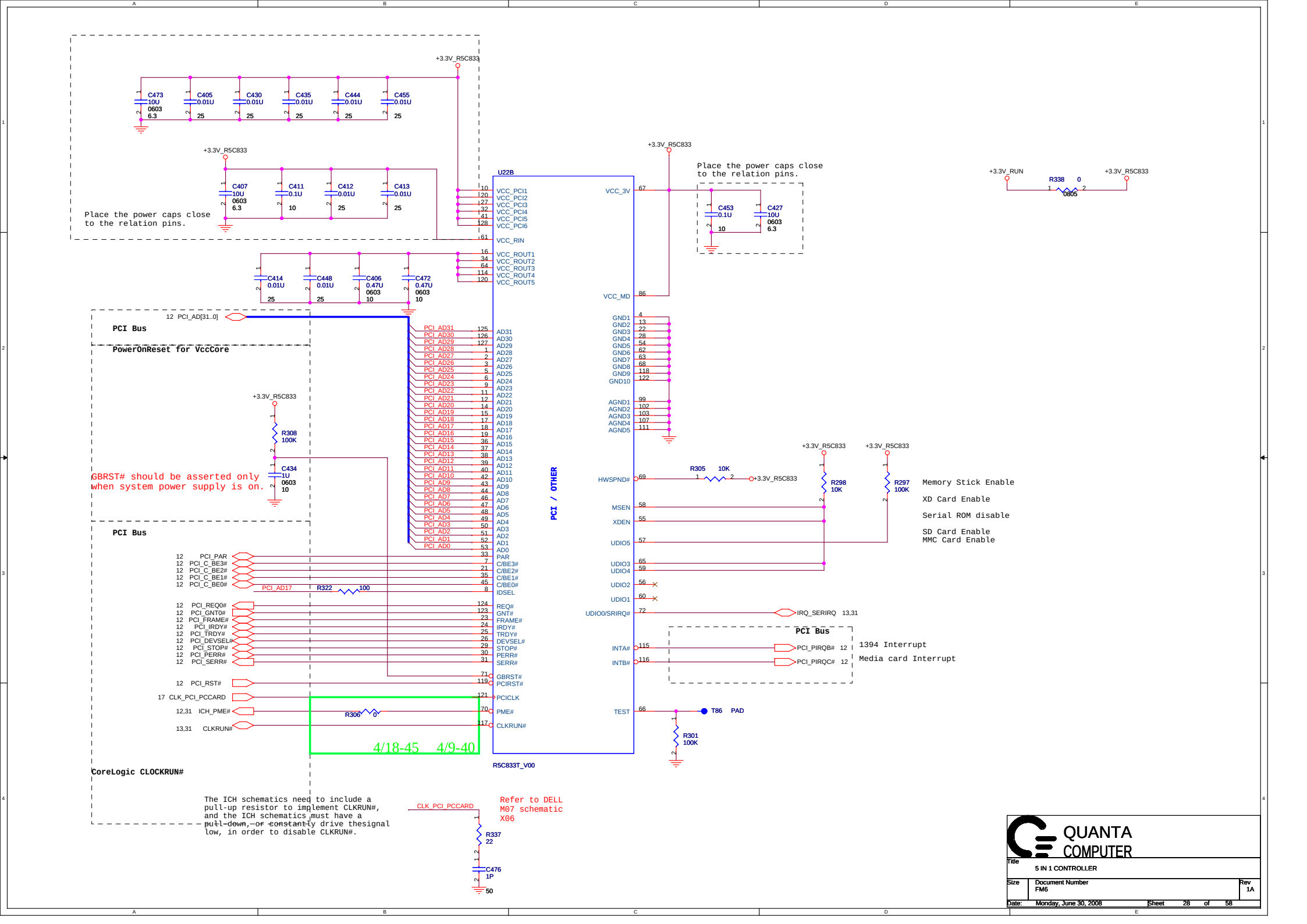

Title	5 IN 1 CONTROLLER
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80 mils

+3.3V_RUN_PHY

C474 10U 0603 6.3
C469 0.1U 10
C470 0.01U 25
C471 1000P 50

L36 BLM18PG181SN1D 0603 modify

+3.3V_R5C833

Place these caps as close to the R5C833 as possible.

U22A

AVCC_PHY1 98
AVCC_PHY2 106
AVCC_PHY3 110
AVCC_PHY4 112

AS CLOSE AS POSSIBLE TO R5C833

TPBIAS0 113

C835 0.33U 0603 16
C825 0.01U 25
R615 56.2/F
R616 56.2/F

TPBN0 104 TPB0N
TPBP0 105 TPB0P
TPAN0 108 TPA0N
TPAP0 109 TPA0P

R614 56.2/F
R613 56.2/F
C834 270P 25
R633 5.11K/F

Circuit area : As small 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).

J6
1 2 3 4 5 6 7 8
TPB0N
TPB0P
TPA0N
TPA0P
06FFS-SP-TF(LF)(SN)

GUARD GND

C456 22P 50
C463 22P 50
Y1 24.576MHZ
1394_XI 94 XI
1394_XO 95 XO

Populate C455 for R5C832 chipset.

C466 *0.01U_NC 25 RICOH_FIL0 96 FIL0
R339 10K/F RICOH_REXT 101 REXT
C475 0.01U 25 RICOH_VREF 100 VREF

Place these caps as close to the U26 as possible.

IEEE1394/SD

MDIO17 87 XD/MMS_DATA7 30
MDIO16 92 XD/MMS_DATA6 30
MDIO15 89 XD/MMS_DATA5 30
MDIO14 91 XD/MMS_DATA4 30
MDIO13 90 SD/XD/MS_DATA3 30
MDIO12 93 SD/XD/MS_DATA2 30
MDIO11 81 SD/XD/MS_DATA1 30
MDIO10 82 SD/XD/MS_DATA0 30

MDIO05 75 XD_WP# 30
MDIO08 88 SD/XD/MS_CMD 30
MDIO19 83 XD_ALE 30
MDIO18 85 XD_CLE 30
MDIO02 78 XD_CE# 30

MDIO03 77 SD_WP#(XDR/B#) 30
MDIO00 80 SD_CD# SD_CD# 30 D25 BAS316
MDIO01 79 MS_INS# MS_INS# 30 D24 BAS316
MDIO09 84 SD/XD/MS_CLK 30
MDIO04 76 MC_PWR_CTRL_0 30
MDIO06 74 T91 PAD
MDIO07 73

+3.3V_R5C833
R307 *10K_NC
close to the Chip
XD_CDSW# 30

97 RSV

R5C833T_V00

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Title	IEEE 1394		
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Express Card

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

JAE PX10FS16PH-26P

PCI-Express TX and RX direct to connector.

8 IN1 CARD READER

7/30-62

4/17-42

Title	ExpressCard/SmartCard
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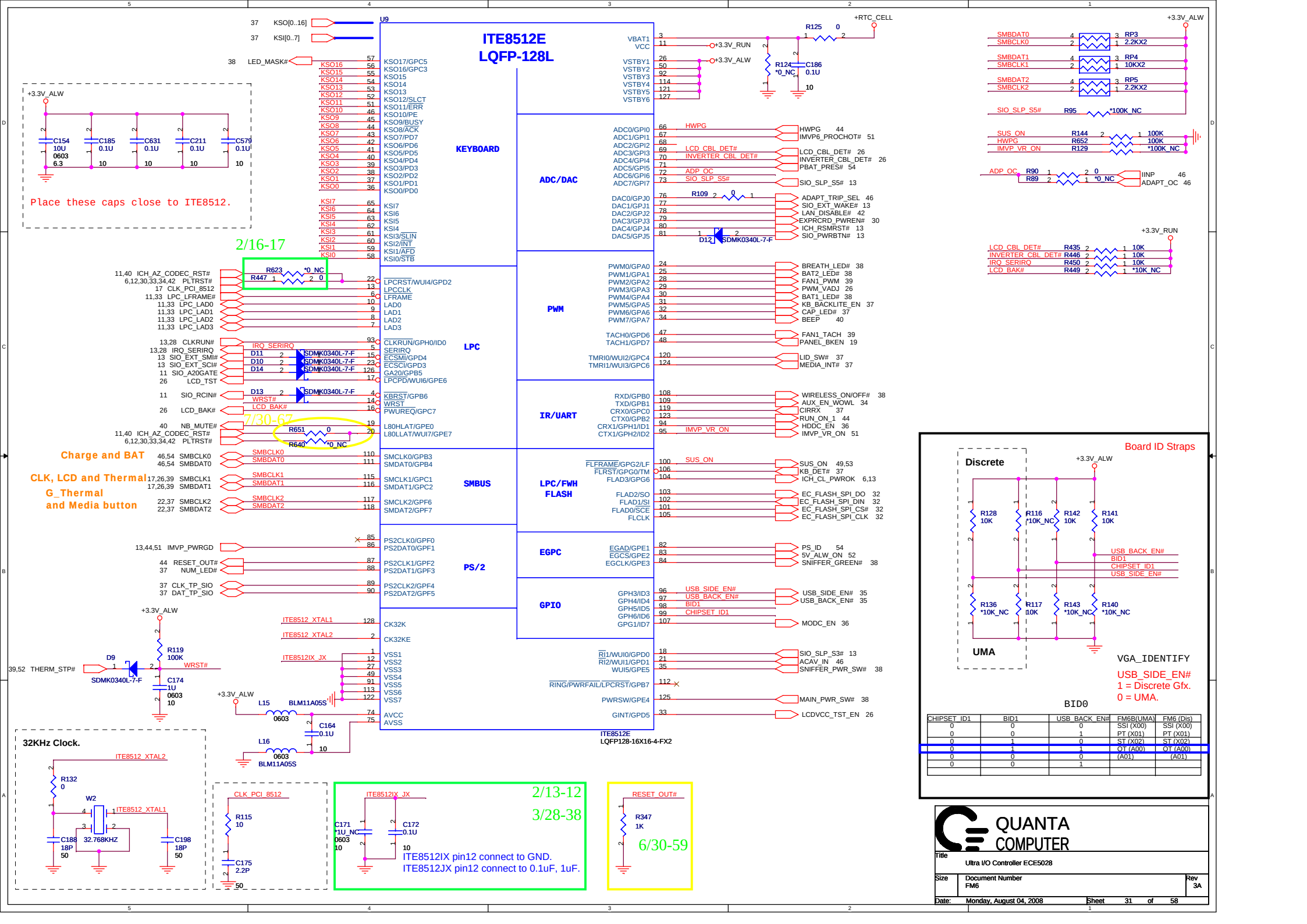
ITE8512E
LQFP-128L
U9
KEYBOARD
ADC/DAC
PWM
LPC
IR/UART
SMBUS
LPC/FWH
FLASH
EGPC
PS/2
GPIO
Place these caps close to ITE8512.
2/16-17
7/30-67
Charge and BAT
CLK, LCD and Thermal
G_Thermal
and Media button
32KHz Clock.
2/13-12
3/28-38
ITE8512IX pin12 connect to GND.
ITE8512JX pin12 connect to 0.1uF, 1uF.
6/30-59
Board ID Straps
Discrete
UMA
VGA_IDENTIFY
USB_SIDE_EN#
1 = Discrete Gfx.
0 = UMA.
BID0
QUANTA
COMPUTER
Ultra I/O Controller ECE5028
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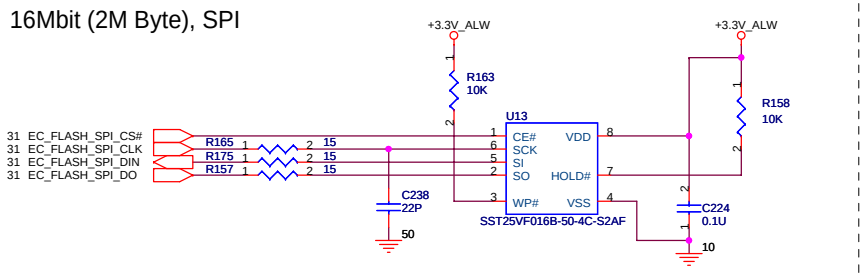
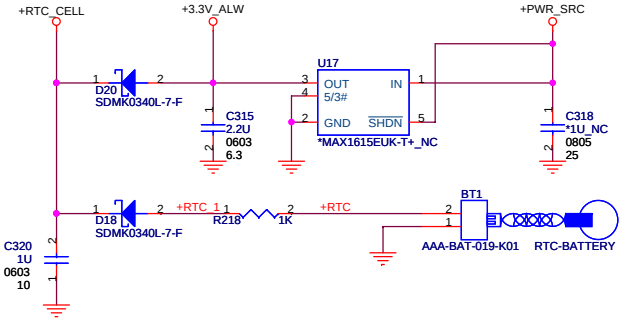
16Mbit (2M Byte), SPI



RTC BATTERY



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Title	Ultra I/O Controller ECE5028	
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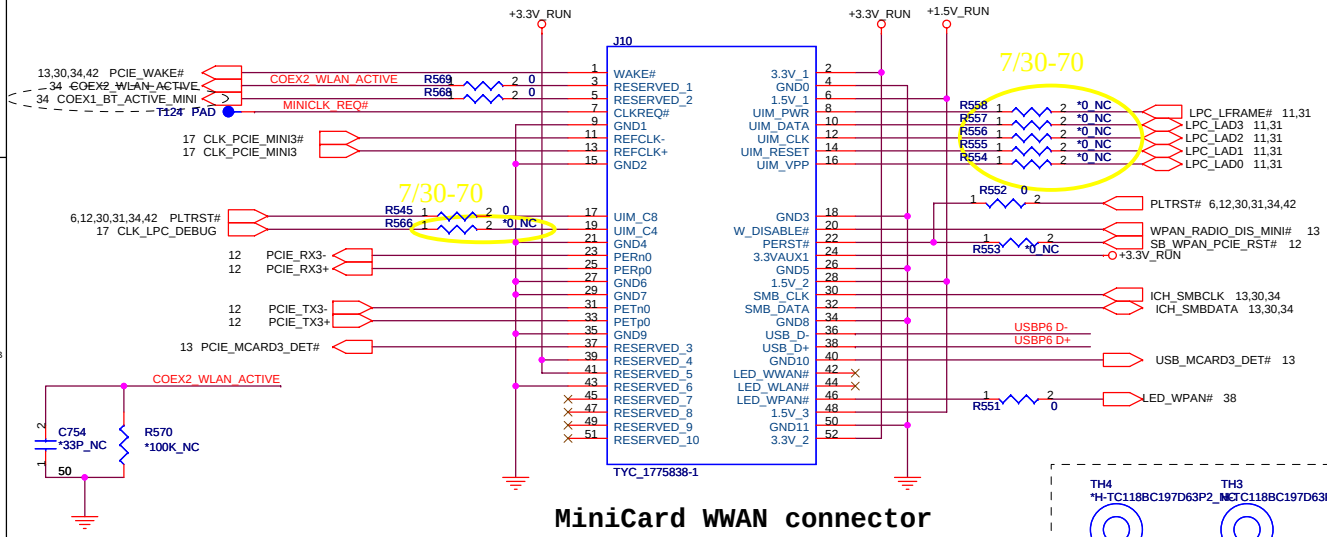
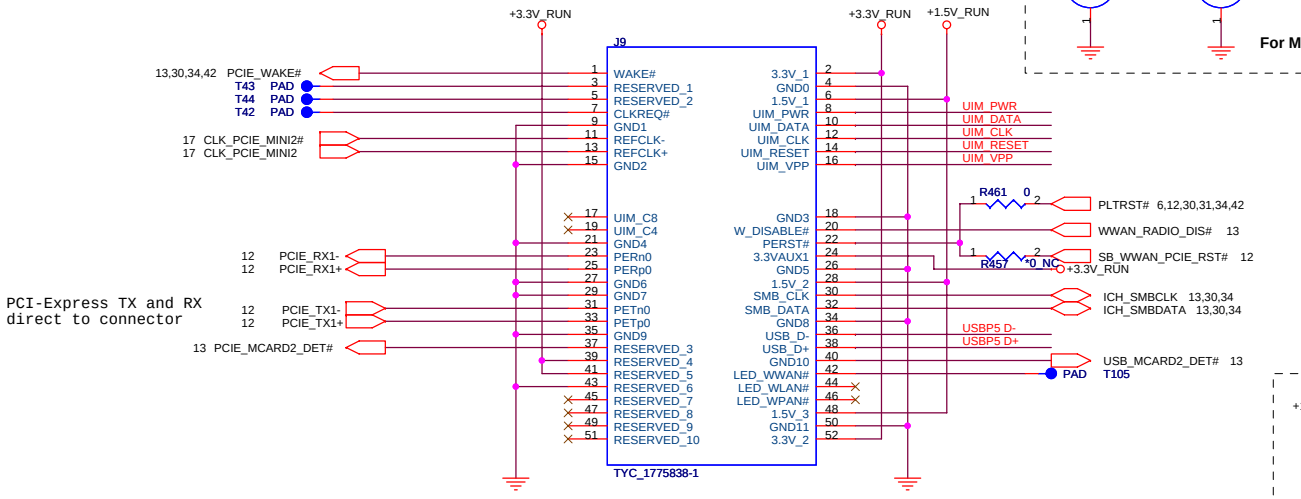
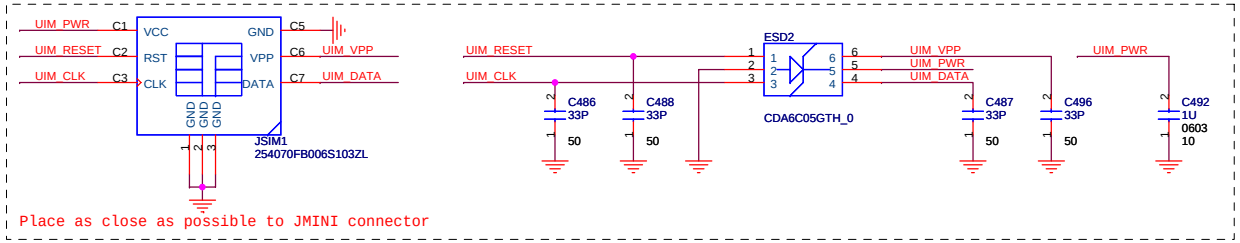
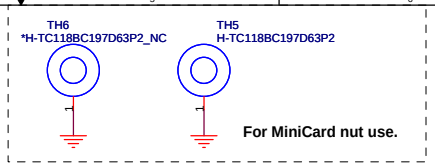
MiniCard Robson, BT. UWB connector

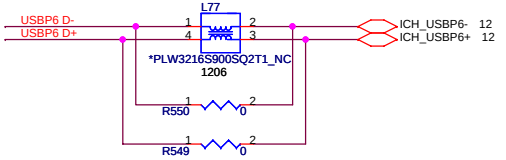


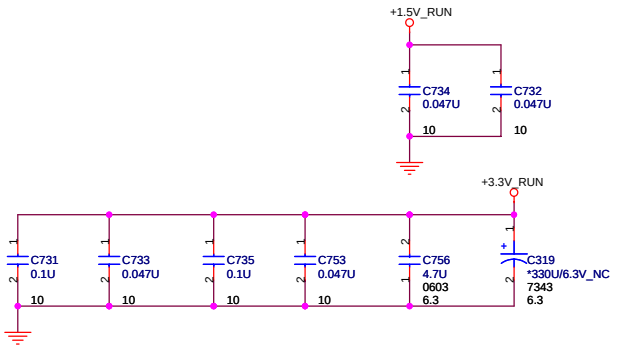
MiniCard WWAN connector

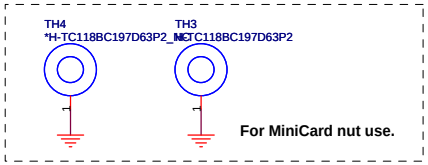


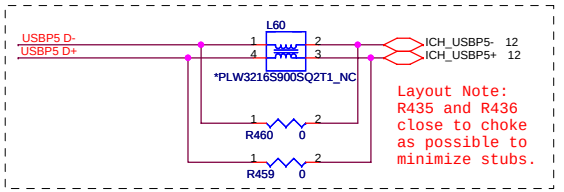


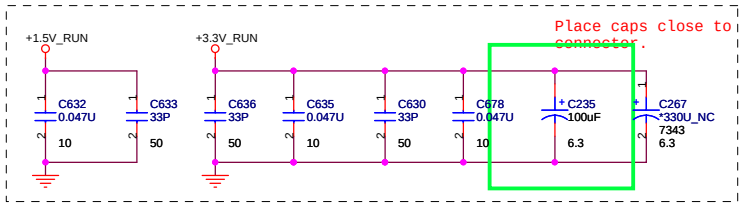












QUANTA COMPUTER		
Title: MINI-PCI		
Size	Document Number: FM6	Rev: 2A
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MiniCard WLAN connector

TH2 *H-TC177BC197D83P2_NC
TH1 -TC177BC197D83P2

For MiniCard nut use.

+3.3V_WLAN
+1.5V_RUN

J11

13,30,33,42 PCIE_WAKE#		1	WAKE#	3.3V_1	2	
33 COEX2_WLAN_ACTIVE		3	RESERVED_1	GND0	4	
33 COEX1_BT_ACTIVE_MIN		5	RESERVED_2	1.5V_1	6	
17 MINI1CLK_REQ#	MINI1CLK_REQ#	7	CLKREQ#	UIM_PWR	8	
		9	GND1	UIM_DATA	10	
17 CLK_PCIE_MINI1#		11	REFCLK-	UIM_CLK	12	
17 CLK_PCIE_MINI1		13	REFCLK+	UIM_RESET	14	
		15	GND2	UIM_VPP	16	
		17	UIM_C8	GND3	18	
		19	UIM_C4	W_DISABLE#	20	WLAN_RADIO_OFF#
		21	GND4	PERST#	22	
12 PCIE_RX2-		23	PERn0	3.3VAUX1	24	
12 PCIE_RX2+		25	PERp0	GND5	26	
		27	GND6	1.5V_2	28	
		29	GND7	SMB_CLK	30	WLAN_SMBCLK
12 PCIE_TX2-		31	PETn0	SMB_DATA	32	WLAN_SMBDATA
12 PCIE_TX2+		33	PETp0	GND8	34	
		35	GND9	USB_D-	36	USBP4 D-
13 PCIE_MCARD1_DET#		37	RESERVED_3	USB_D+	38	USBP4 D+
		39	RESERVED_4	GND10	40	USB_MCARD1_DET# 13
		41	RESERVED_5	LED_WWAN#	42	
		43	RESERVED_6	LED_WLAN#	44	LED_WLAN_OUT# 38
		45	RESERVED_7	LED_WPAN#	46	
		47	RESERVED_8	1.5V_3	48	
		49	RESERVED_9	GND11	50	
		51	RESERVED_10	3.3V_2	52	

TYC_1775838-1

R565 1 2 0
R567 1 2 0

MINI1CLK_REQ#
C752 220P 50

R544 0 1 2 PLTRST# 6,12,30,31,33,42
R548 *0_NC 1 2 SB_WLAN_PCIE_RST# 12
+3.3V_WLAN

PCI-Express TX and RX direct to connector

Non-iAMT
T123 PAD
T122 PAD
T121 PAD

L78 *PLW3216S900SQ2T1_NC 1206
USBP4 D- 1 2 ICH_USBP4- 12
USBP4 D+ 4 3 ICH_USBP4+ 12
R560 1 2 0
R559 1 2 0

+3.3V_WLAN
RP46 2.2KX2
WLAN_SMBCLK
Q62 *2N7002W-7-F_NC
ICH_SMBCLK 13,30,33
R546 1 2 *0_NC
WLAN_SMBDATA
Q61 *2N7002W-7-F_NC
ICH_SMBDATA 13,30,33
R562 1 2 *0_NC

+PWR_SRC
+3.3V_ALW
+3.3V_WLAN
+3.3V_RUN
Q60 *FDC655BN_NC
R547 0 0805
R542 *100K_NC
R538 *100K_NC
Q59B *2N7002DW-7-F_NC
Q59A *2N7002DW-7-F_NC
31 AUX_EN_WOWL
R543 *200K_NC
R534 *470K_NC
C713 *4700P_NC 0603 50
R532 *100K_NC

Suport for WoW
WLAN_RADIO_OFF#
D33 SDMK0340L-7-F
WLAN_RADIO_DIS# 13
R537 1 2 *0_NC
Prevent backdrive when WoW is enabled.

+1.5V_RUN
+3.3V_WLAN
Place caps close to connector.
C736 0.047U 10
C738 0.047U 10
C737 0.1U 10
C739 0.047U 10
C740 0.1U 10
C751 0.047U 10
C730 4.7U 0805 10
C317 *330U/6.3V_NC 7343 6.3

QUANTA COMPUTER

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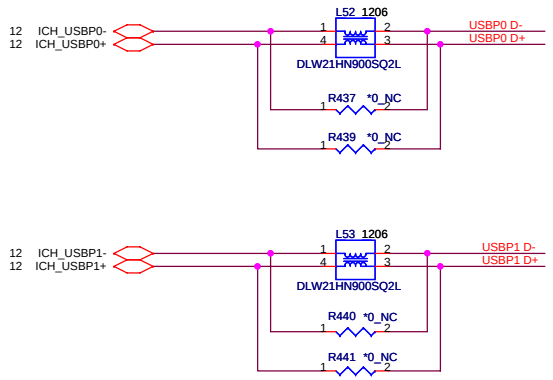
External USB PORT hookup reference. Your design may need more or less external ports and may be mapped differently

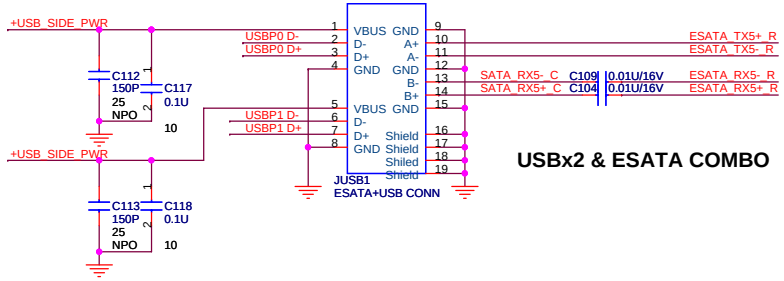
2/22-25
4/17-42



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

Side External USBX2

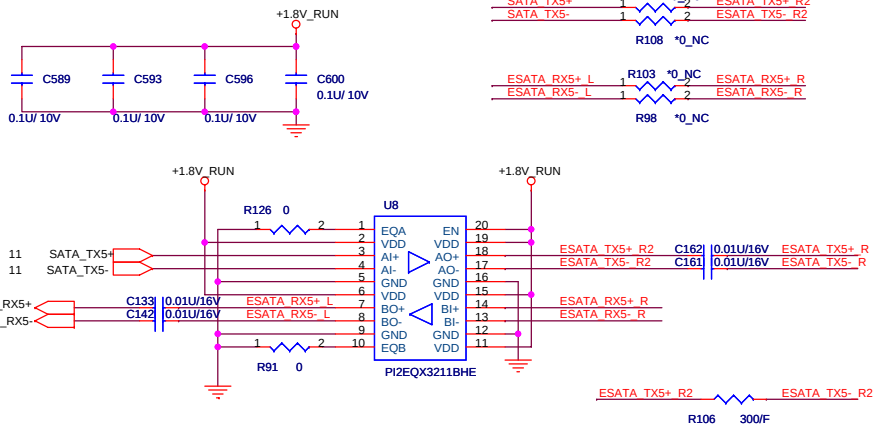
2/13-4



USBx2 & ESATA COMBO

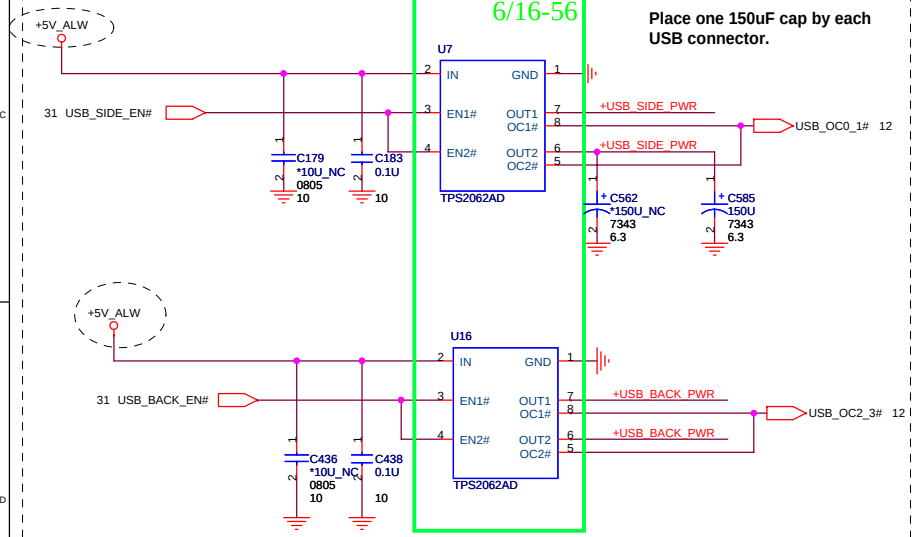
5/29-52
2/20-22

E-SATA Re-driver



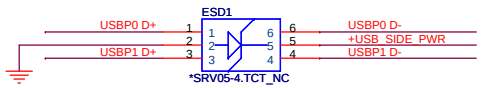
6/16-56

Place one 150uF cap by each USB connector.

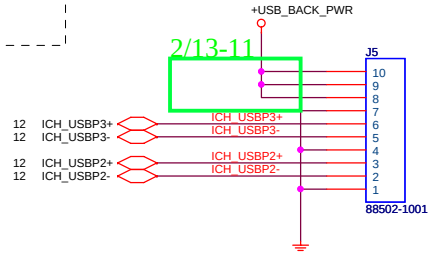


Each channel is 1A

Place ESD diodes as close as USB connector.



MB side



QUANTA COMPUTER

Title	SERIAL PORT & USB	
Size	Document Number FM6	Rev 3A
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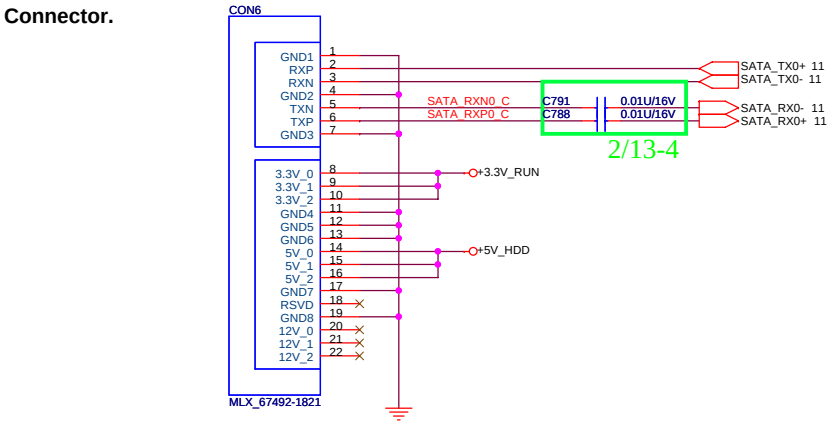
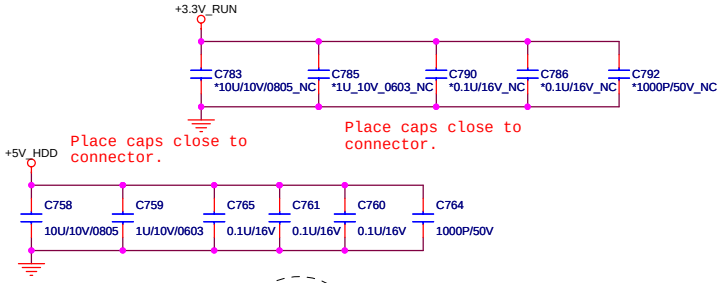
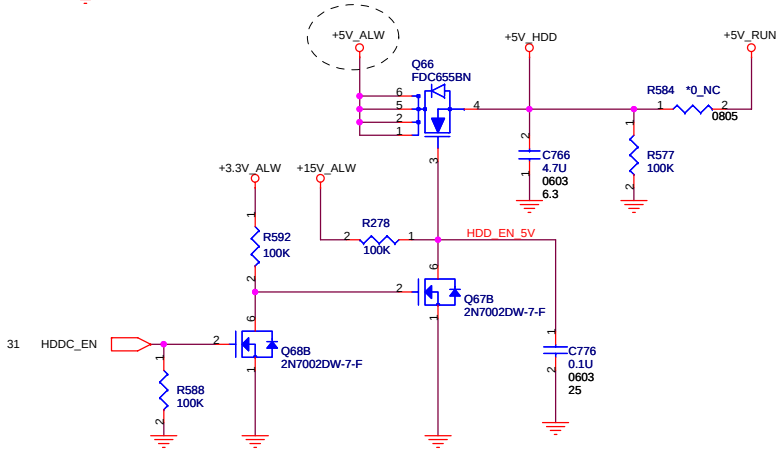
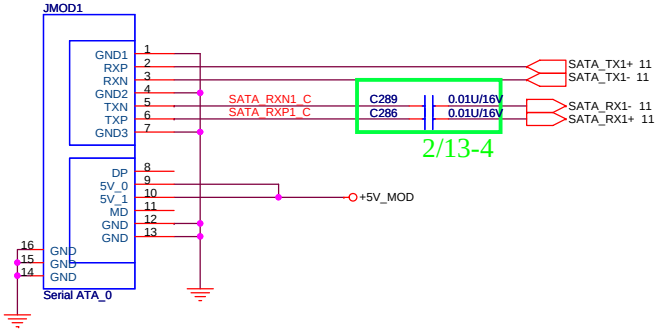
SATA Connector.

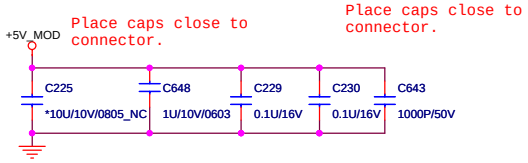


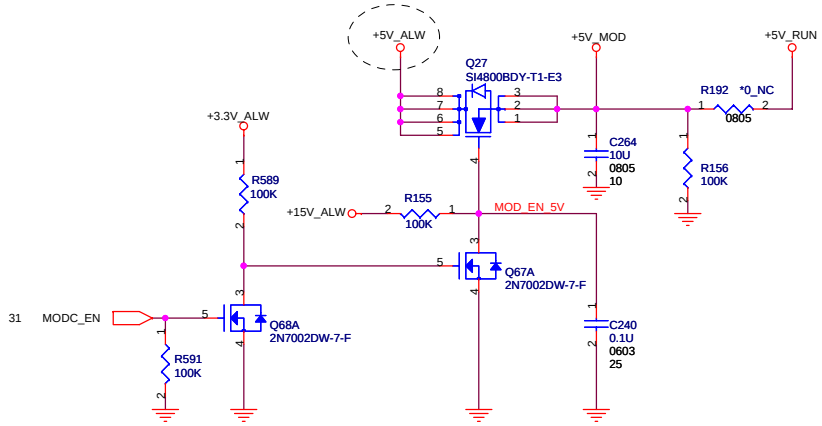




ODD Connector







QUANTA COMPUTER

Title	SATA (HDD&CD_ROM)	
Size	Document Number FM6	Rev 2A
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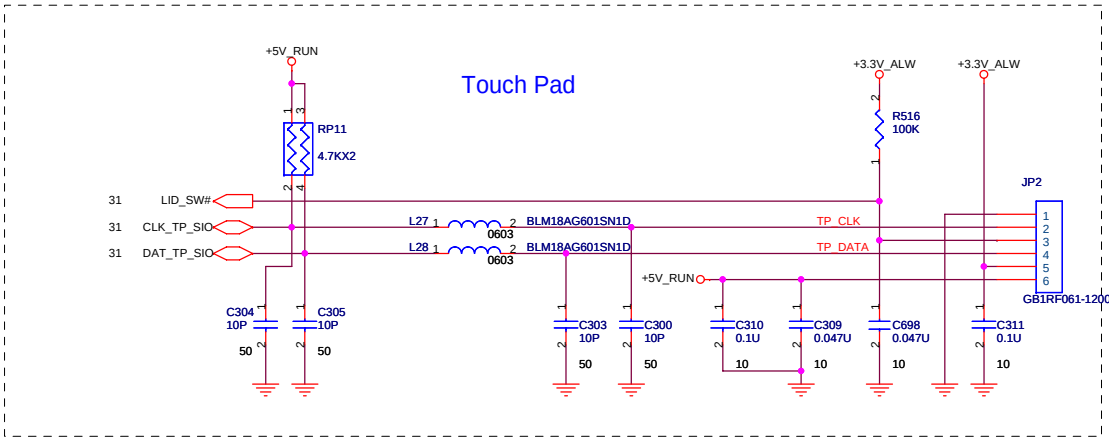
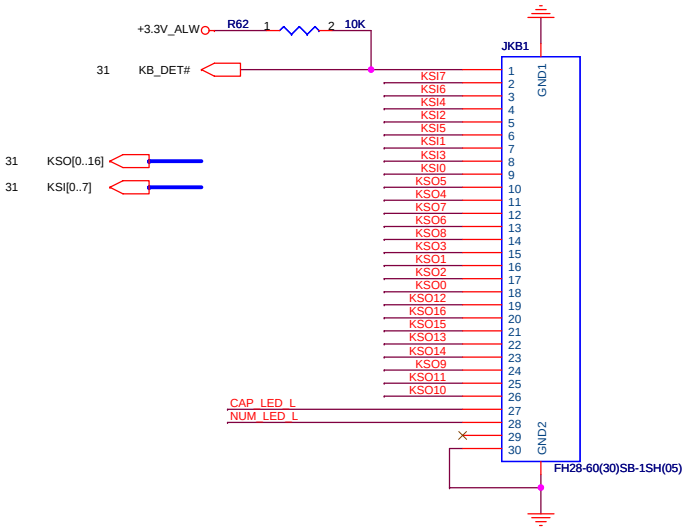
Touch Pad



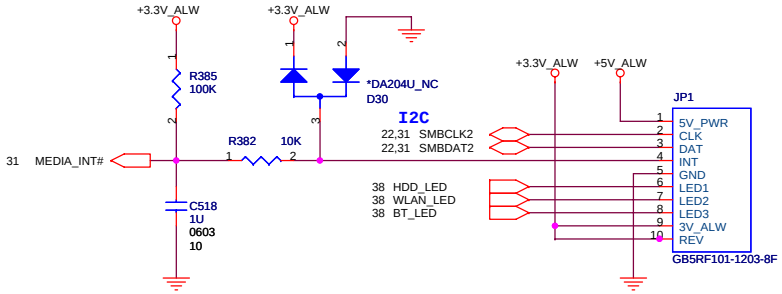
KEYBOARD CONNECTOR



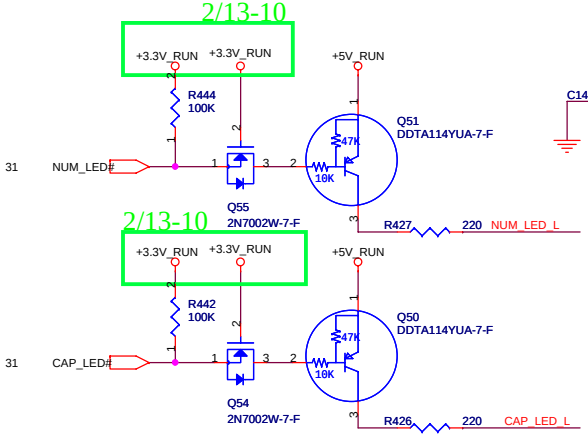
Media Button

2/13-10

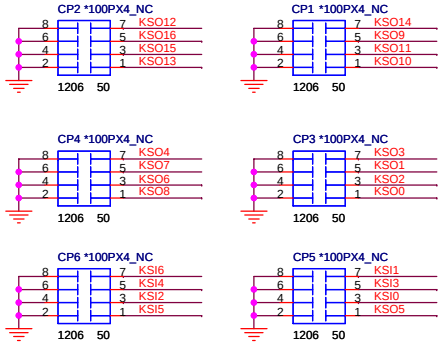
Change to P/N:DFFC10FR138
F/T:88501-1001-10P-L(0816)



2/13-10

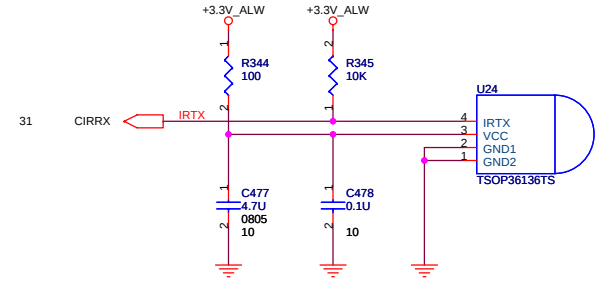


C144 *100P_NCKSI7 50

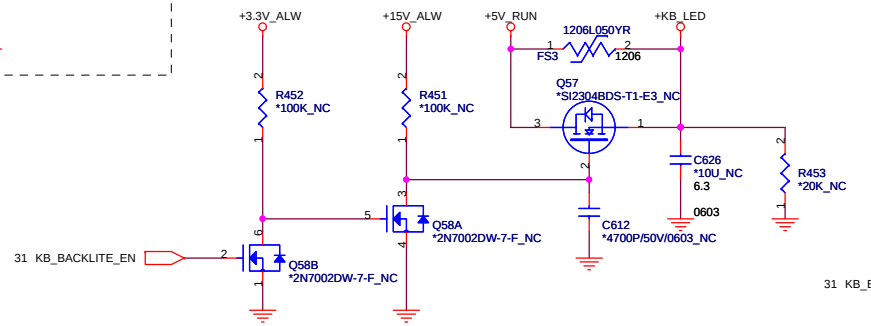


100P CAPS CLOSE TO JKB1

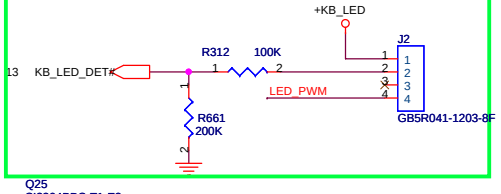
Consumer IR

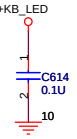


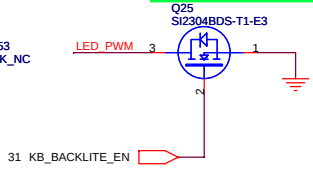
Key board Illumination



2/25-29
4/22-47







QUANTA COMPUTER

Title	TOUCH PAD, BULE TOOTH & FIR	
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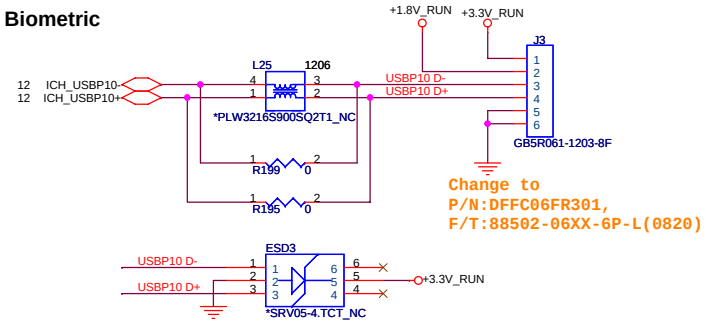
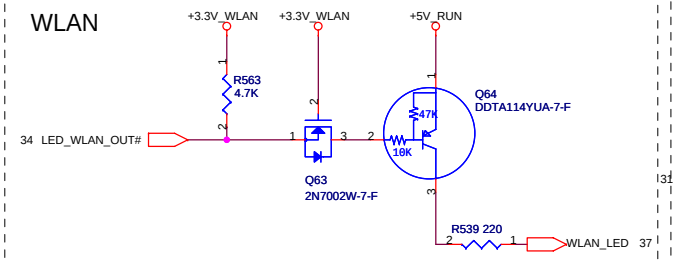
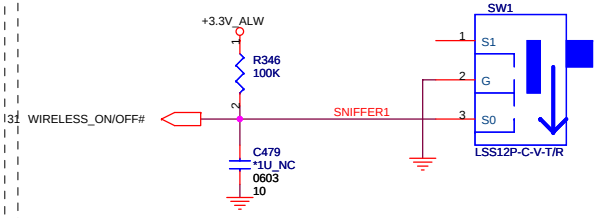
Biometric



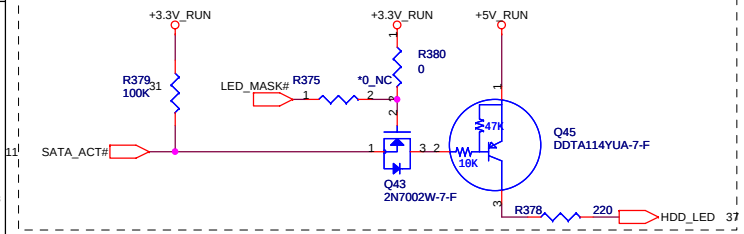
WLAN



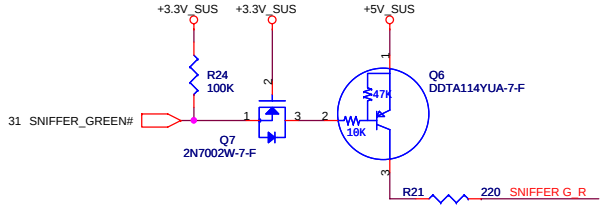
Sniffer Switch ON/OFF Sniffer Switch



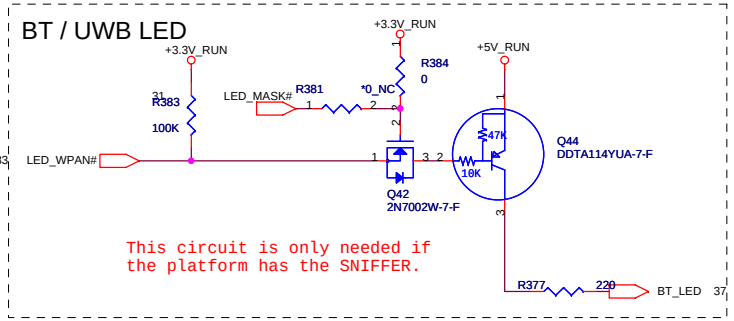
HDD activity LED.

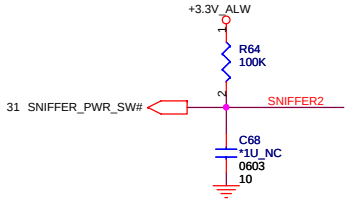


Sniffer Buttom

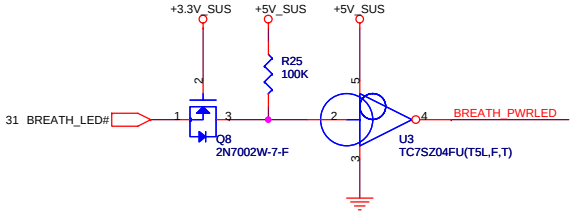


BT / UWB LED

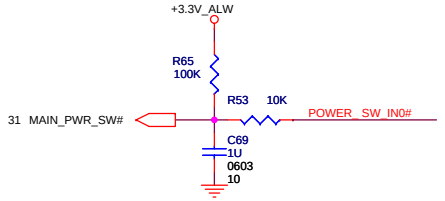




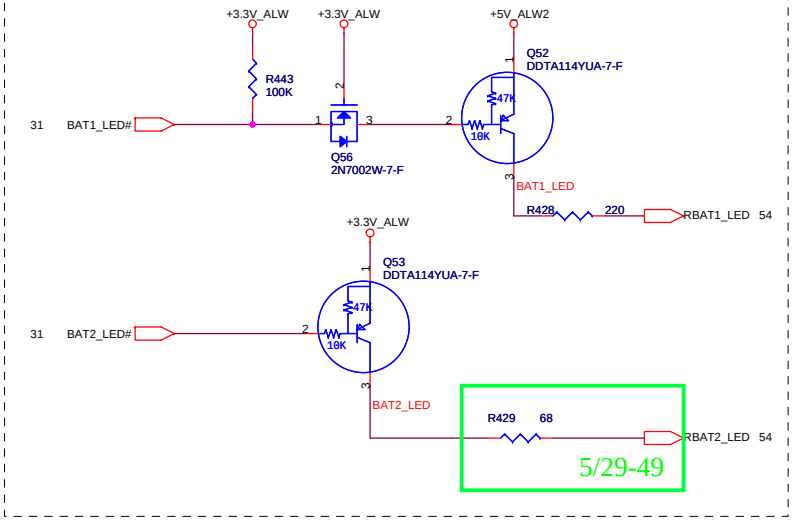
Power & Suspend.

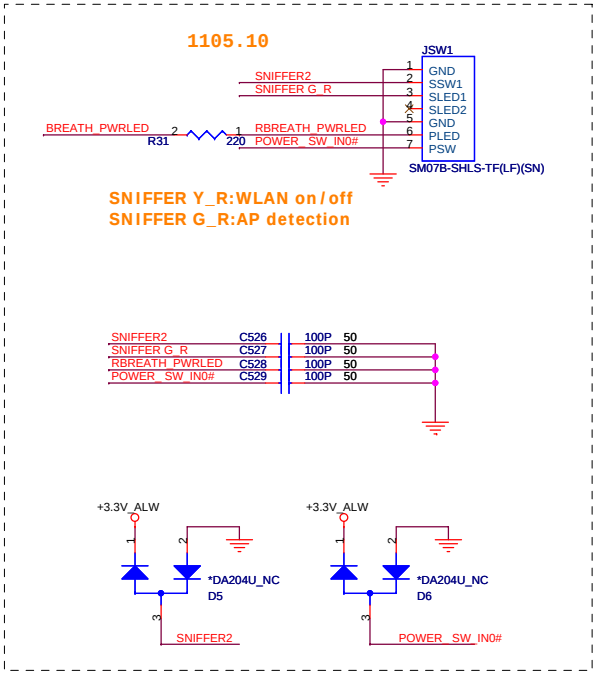


Power Switch



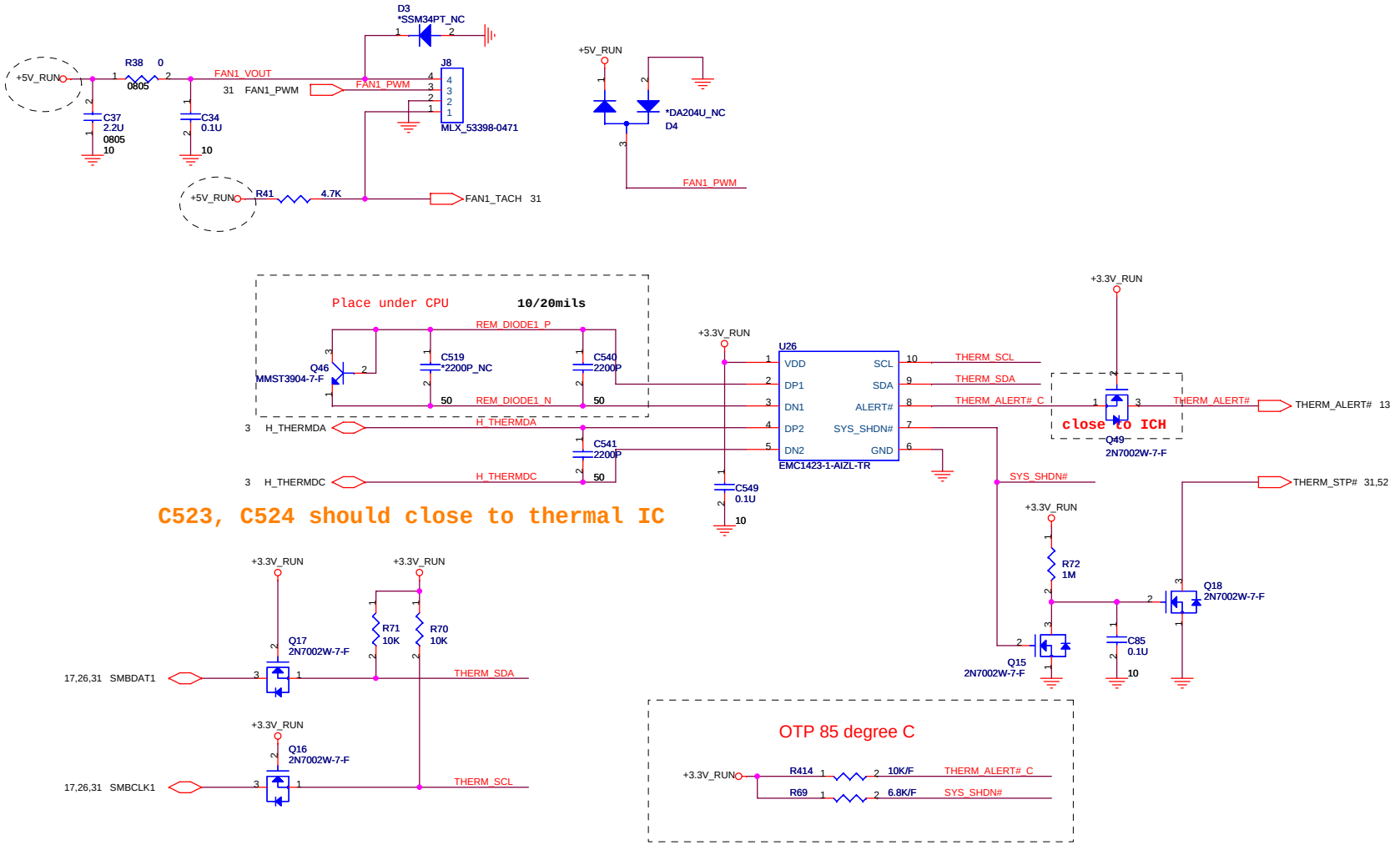
Battery status.





QUANTA COMPUTER

Title	SWITCH, KEYBOARD & LED	
Size	Document Number FM6	Rev 3A
Date: Wednesday, July 30, 2008	Sheet 38 of 58	



QUANTA COMPUTER

Title	FAN & THERMAL	
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INTERNAL SPEAKER AMP

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

2/16-16

TPA6040A4
QFN 32PIN

Layout Note:
Place close
U34 pin 23.

Layout Note:
Close to U35 Pin 34

Layout Note:
Place close to
pin 18.

Layout Note:
Place close U34.

EMI Request

AZALIA (HD) CODEC

FB_60ohm+-25%_100MHz
_3A_0.05ohm DC

Depop R561,C786
for using 92HD73C

Layout Note:
Close to U35 Pin 13

Depop R603, R617, R578,R616
Pop R602, R619, R562 ,R601,
for using 92HD73C
R602,R617 close to U35, Let DVDD width be 10-mils

Close to U35
7/10-61

92HD73C

QUANTA COMPUTER

Title	Azelia CODEC	
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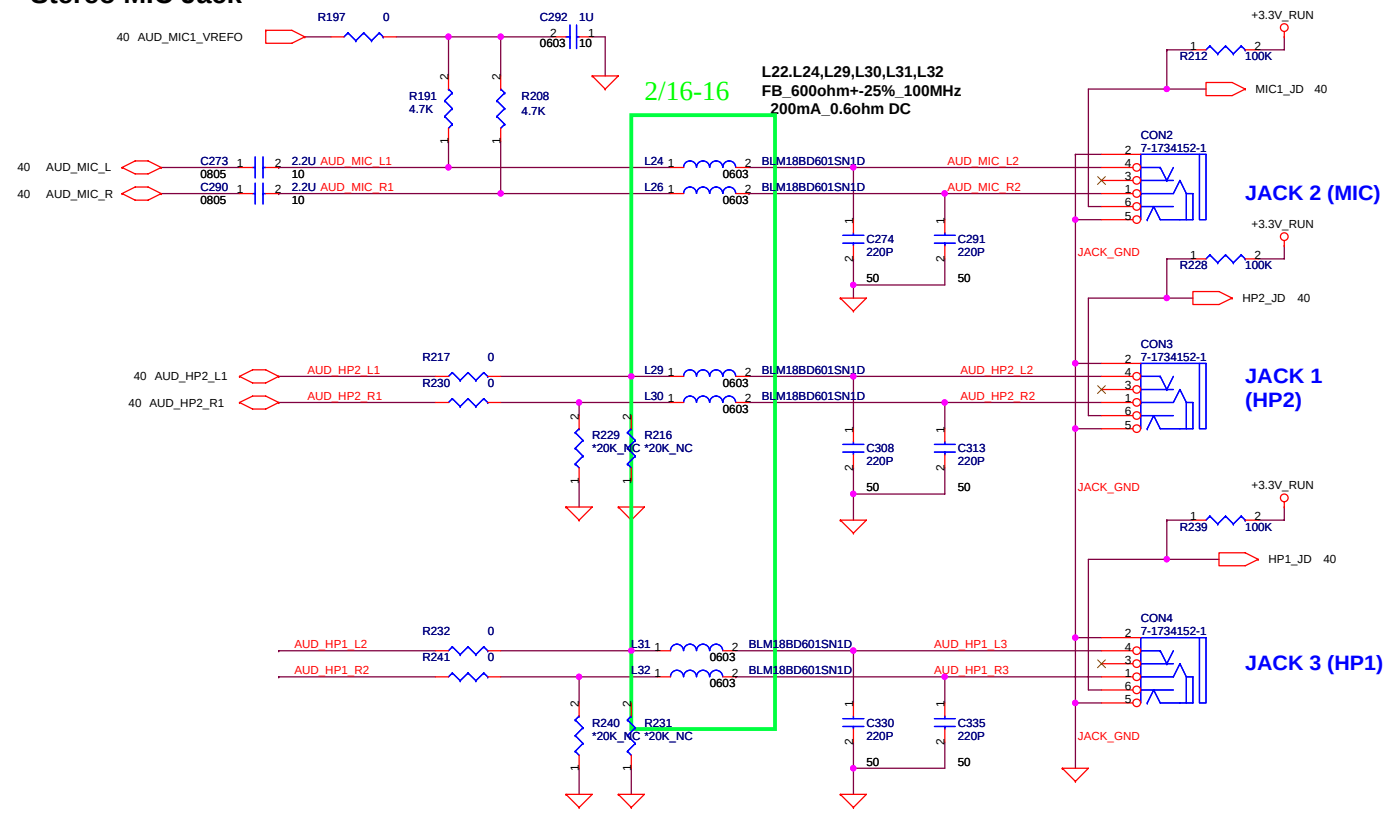
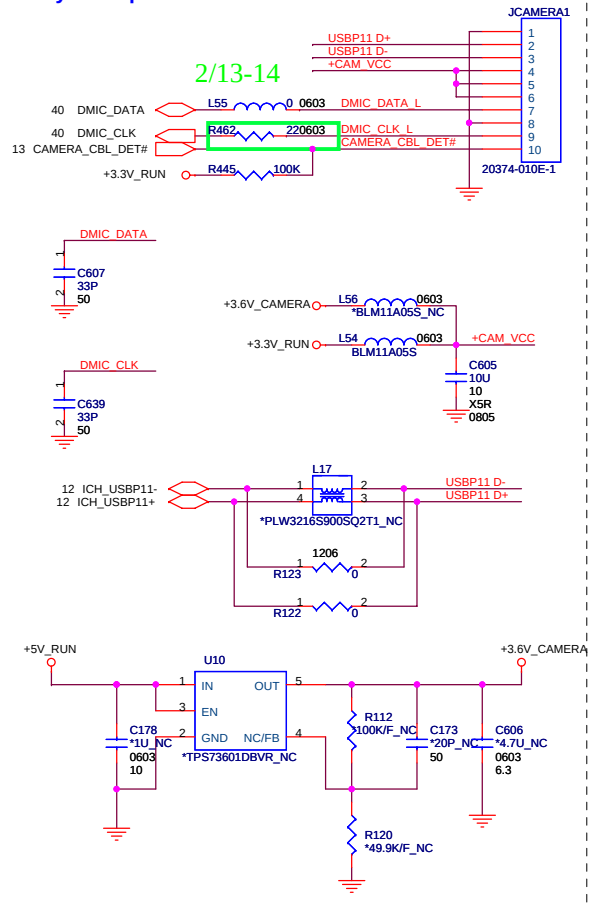
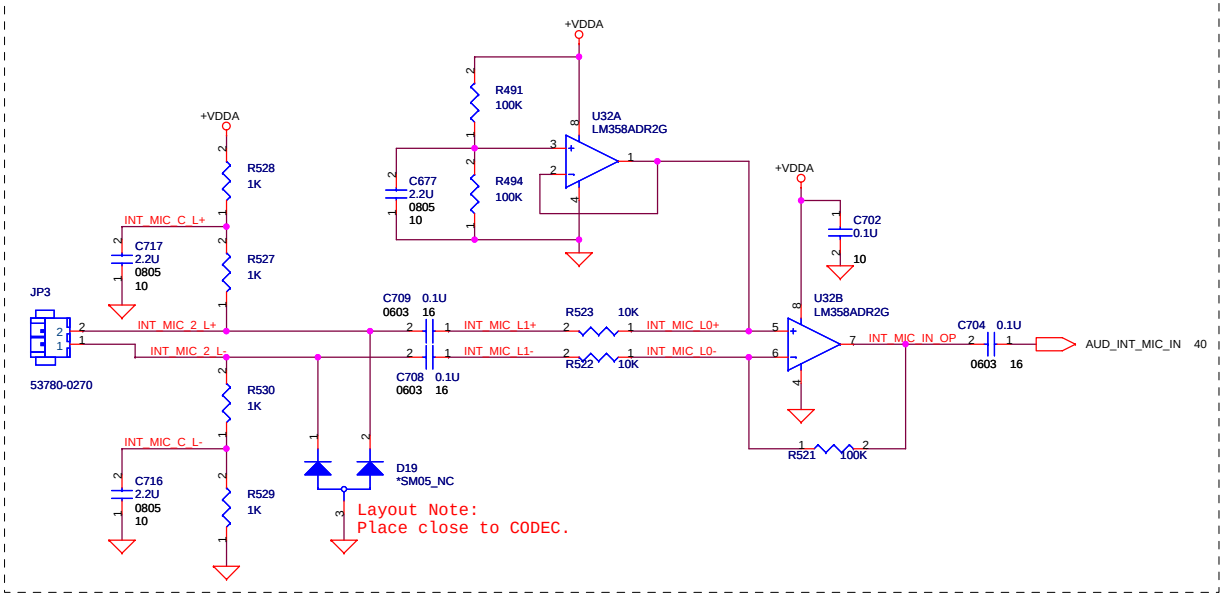
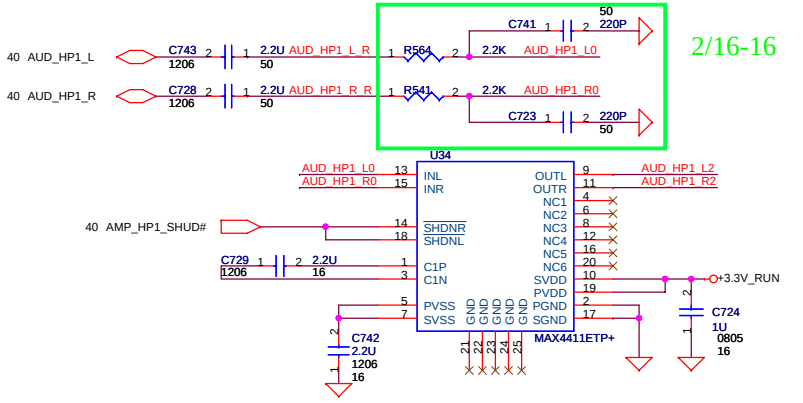
Headphone Jack
Stereo MIC Jack



Array Microphone & Camera







QUANTA COMPUTER

Title	AUDIO CONN	
Size	Document Number FM6	Rev 2A
Date: Monday, August 04, 2008	Sheet 41 of 58	

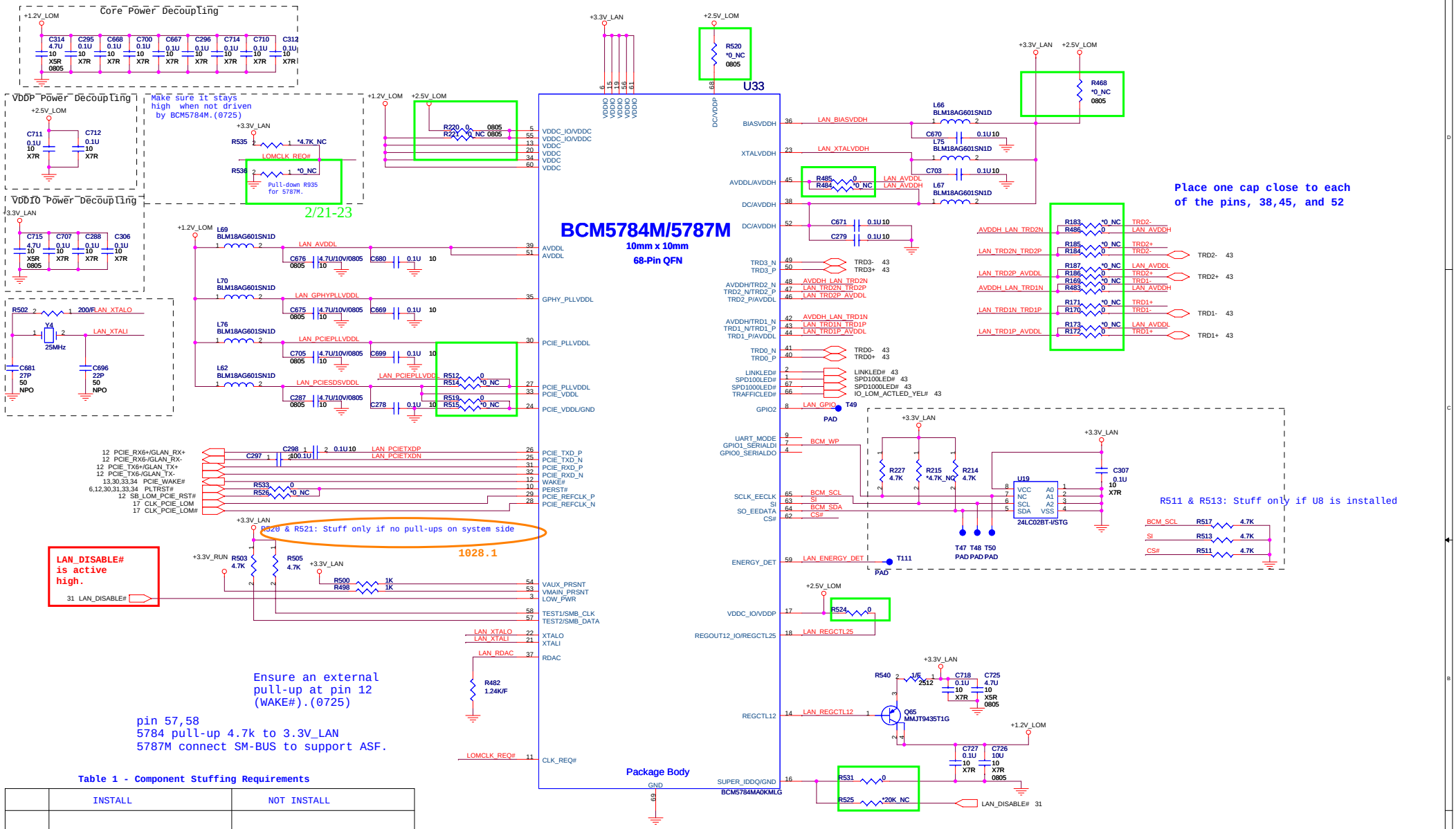


Table 1 - Component Stuffing Requirements

	INSTALL	NOT INSTALL
5787M	R221,R487,R488,Q55,C671,C672, C686,C687,R174,R176,R178,R169, R171,R173,R459,R443,R492	R209,R485,R491,R496,R461,R175, R177,R458,R170,R172,R460,R451
5784	R209,R485,R491,R496,R461,R175, R177,R458,R170,R172,R460,R451	R221,R487,R488,Q55,C671,C672, C686,C687,R174,R176,R178,R169, R171,R173,R459,R443,R492

	5784M	5787M
R503	39k	0
R497	20k	*20k_NC

QUANTA COMPUTER

Title	LAN	
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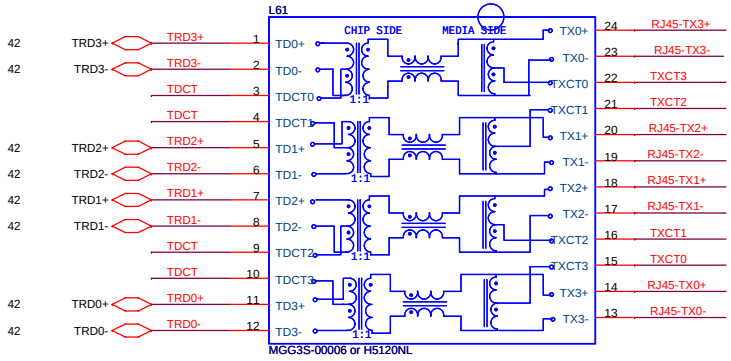
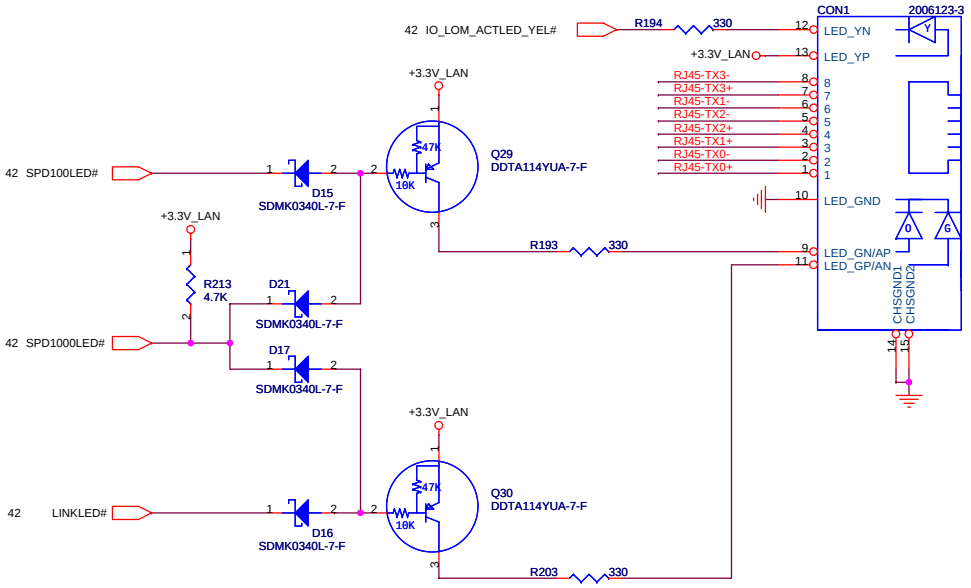
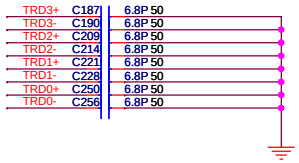
RJ-45 Connector

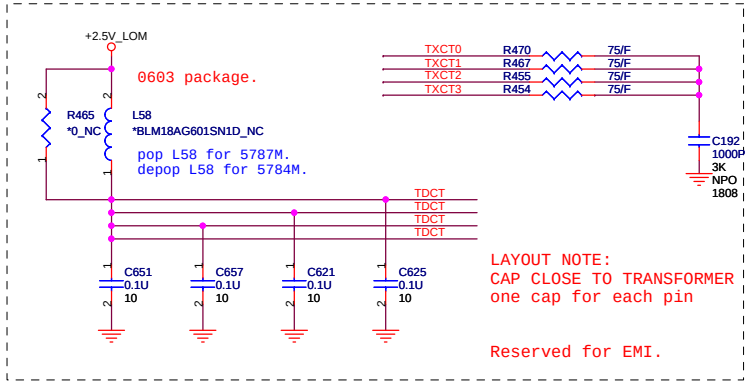
TRANSFORM

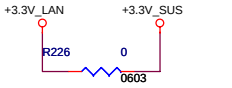
TRANSFORM





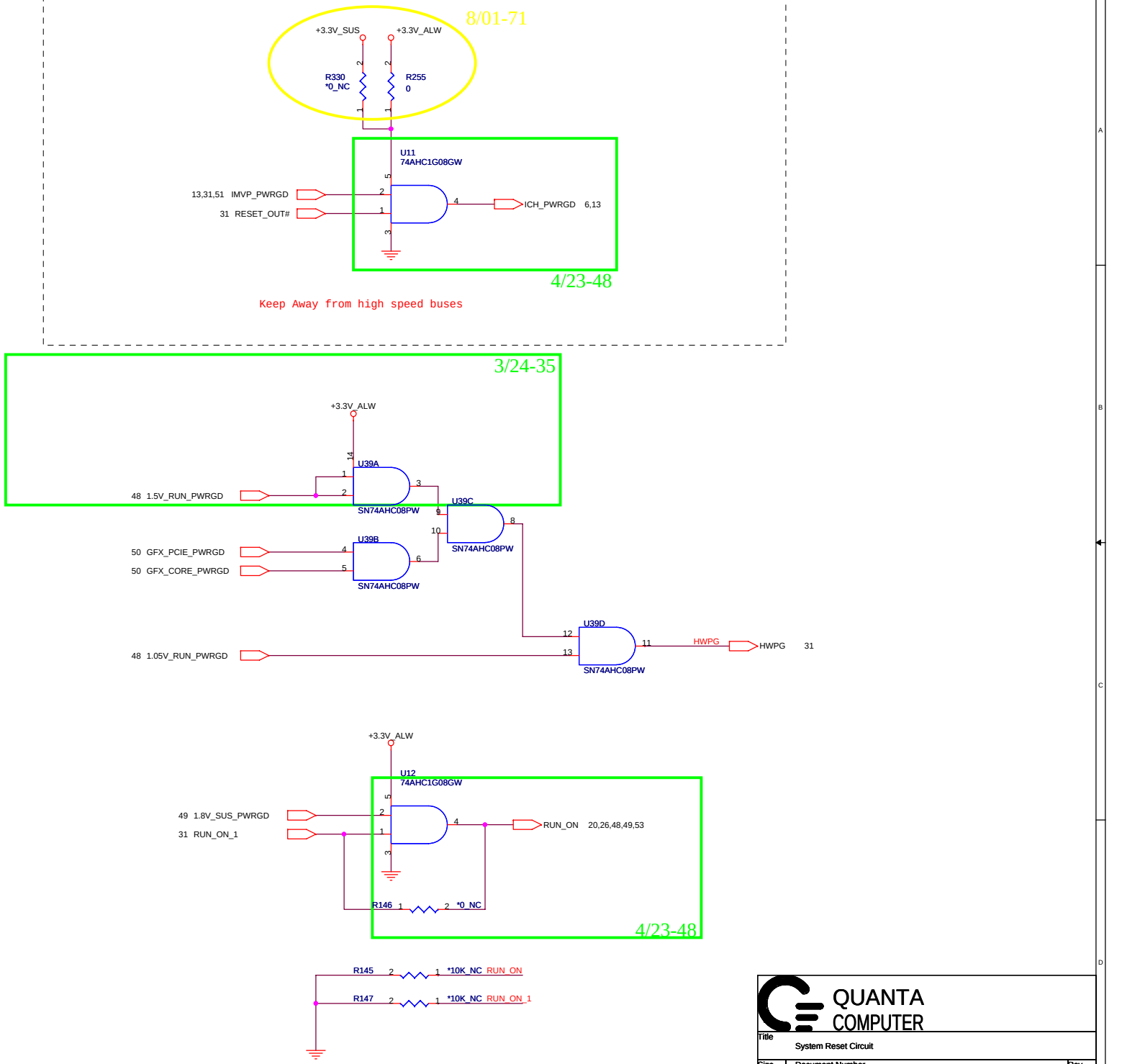






QUANTA COMPUTER

Title	LAN SWITCH	
Size	Document Number FM6	Rev 3A
Date: Monday, June 30, 2008	Sheet 43 of 58	



QUANTA COMPUTER

Title	System Reset Circuit	
Size	Document Number FM6	Rev 2A
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QUANTA COMPUTER

Title	Battery Selector	
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Date: Monday, June 30, 2008	Sheet 45 of 58	

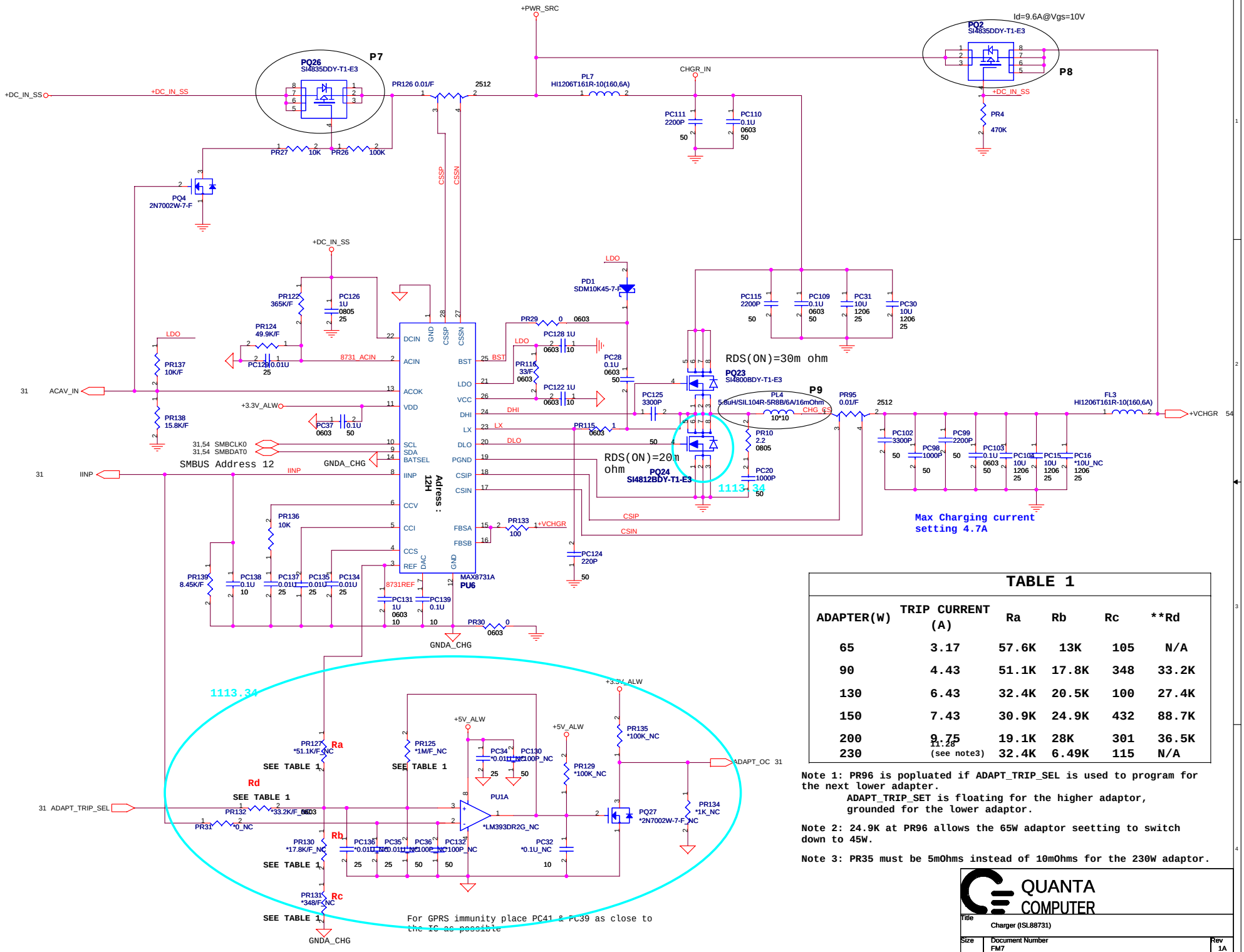

TABLE 1

ADAPTER(W)	TRIP CURRENT (A)	Ra	Rb	Rc	**Rd
65	3.17	57.6K	13K	105	N/A
90	4.43	51.1K	17.8K	348	33.2K
130	6.43	32.4K	20.5K	100	27.4K
150	7.43	30.9K	24.9K	432	88.7K
200	9.75	19.1K	28K	301	36.5K
230	11.28 (see note3)	32.4K	6.49K	115	N/A

Note 1: PR96 is popluated if ADAPT_TRIP_SEL is used to program for the next lower adapter.
ADAPT_TRIP_SET is floating for the higher adaptor, grounded for the lower adaptor.

Note 2: 24.9K at PR96 allows the 65W adaptor seetting to switch down to 45W.

Note 3: PR35 must be 5mOhms instead of 10mOhms for the 230W adaptor.

QUANTA COMPUTER

Title	Charger (ISL88731)	
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QUANTA COMPUTER

Title		
Size	Document Number FM7	Rev 1A
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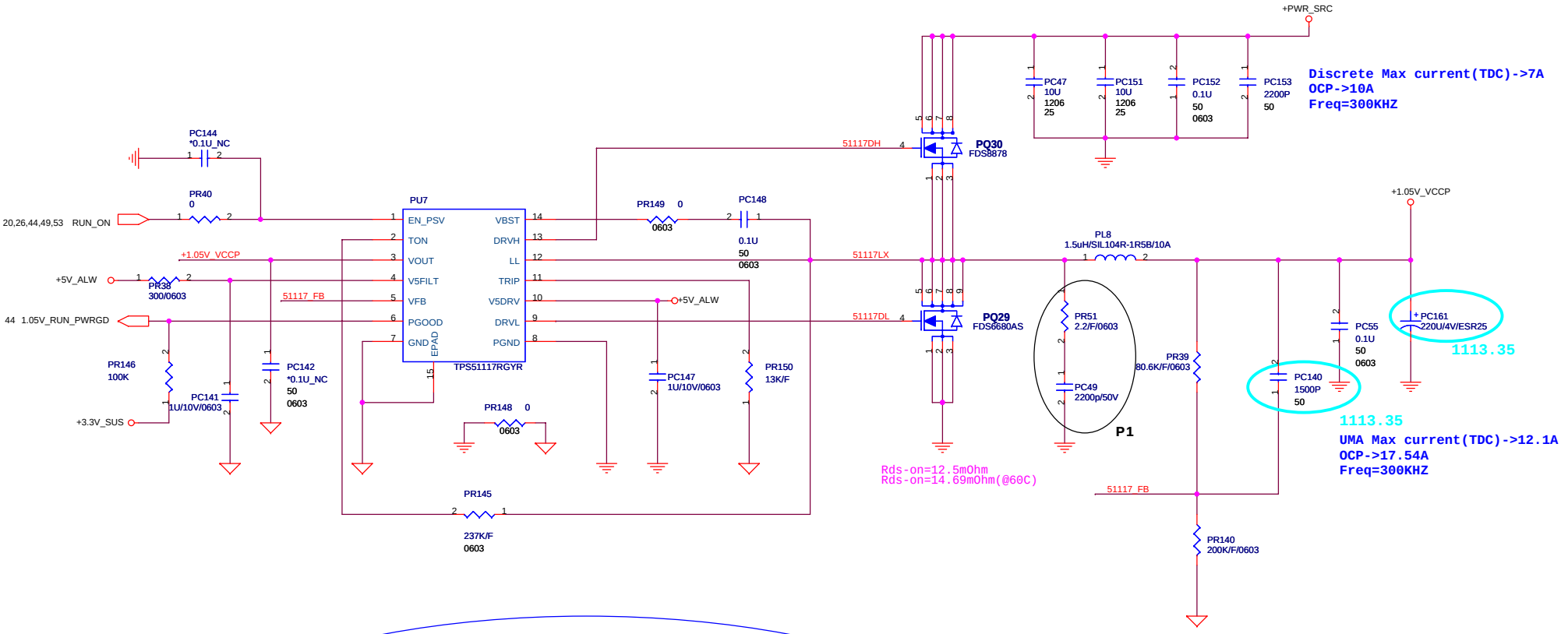

	UMA(12.1A)	Discrete(7A)
PQ22	FDS8880_NL (BAM88800012)	FDS8878 (BAM88780020)
PQ25	FDS6676AS_NL (BAM66760026)	FDS6680AS (BAM66800061)
PL25	SIL105RA-1R5-R (CV-15F0MZ08)	SIL104R-1R5PF (DC-15A00010)
PR452	9.09K/F (CS29092FB27)	10K/F (CS31002FB26)

QUANTA COMPUTER

Title	1.05_VCCP & 1.5V_RUN	
Size	Document Number FM7	Rev 1A
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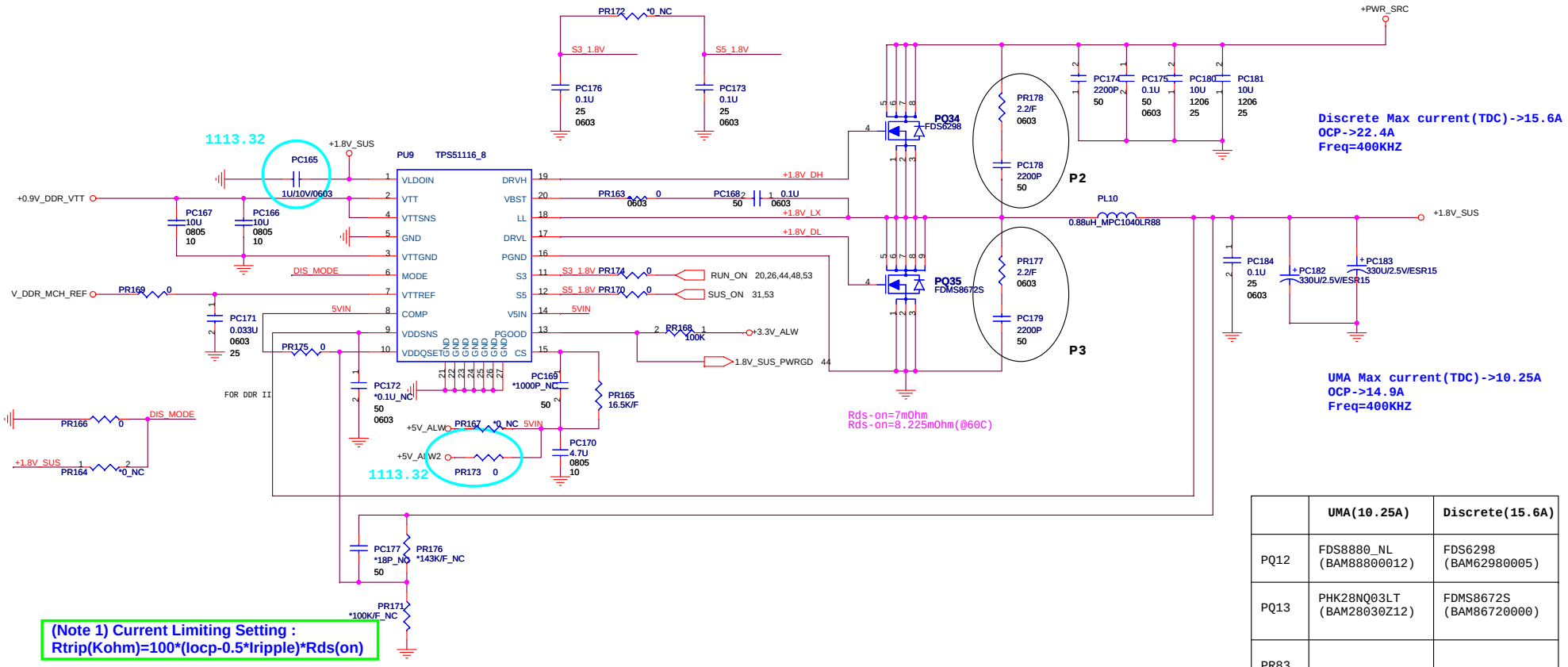
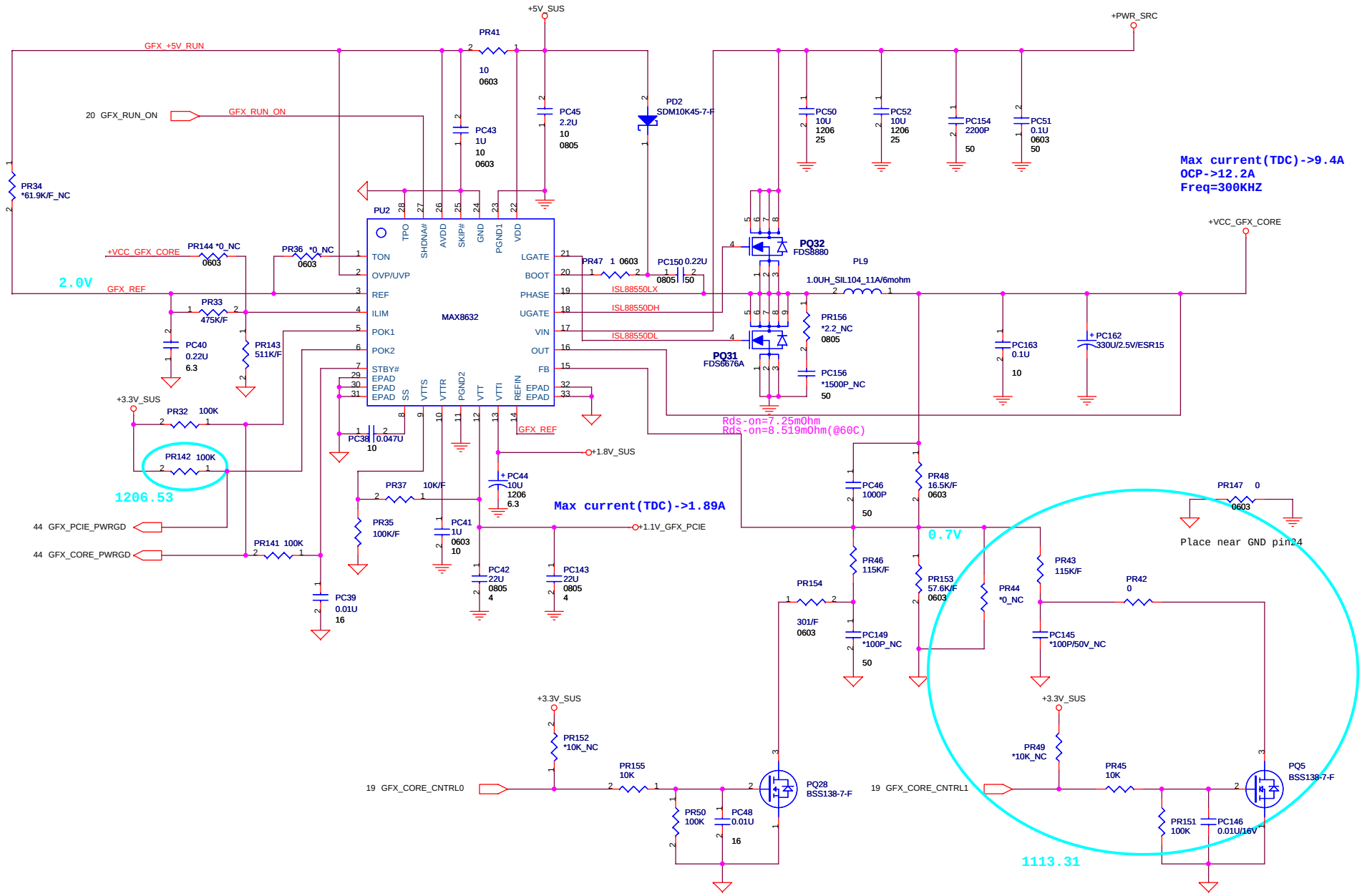


	UMA(10.25A)	Discrete(15.6A)
PQ12	FDS8880_NL (BAM88800012)	FDS6298 (BAM62980005)
PQ13	PHK28NQ03LT (BAM28030Z12)	FDMS8672S (BAM86720000)
PR83		

QUANTA COMPUTER

Title	1.8VSUS & 0.9VTT (TPS51116)	
Size	Document Number FM7	Rev 1A
Date: Thursday, July 31, 2008	Sheet 49 of 60	



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

QUANTA COMPUTER

Title	VGA DC/DC	
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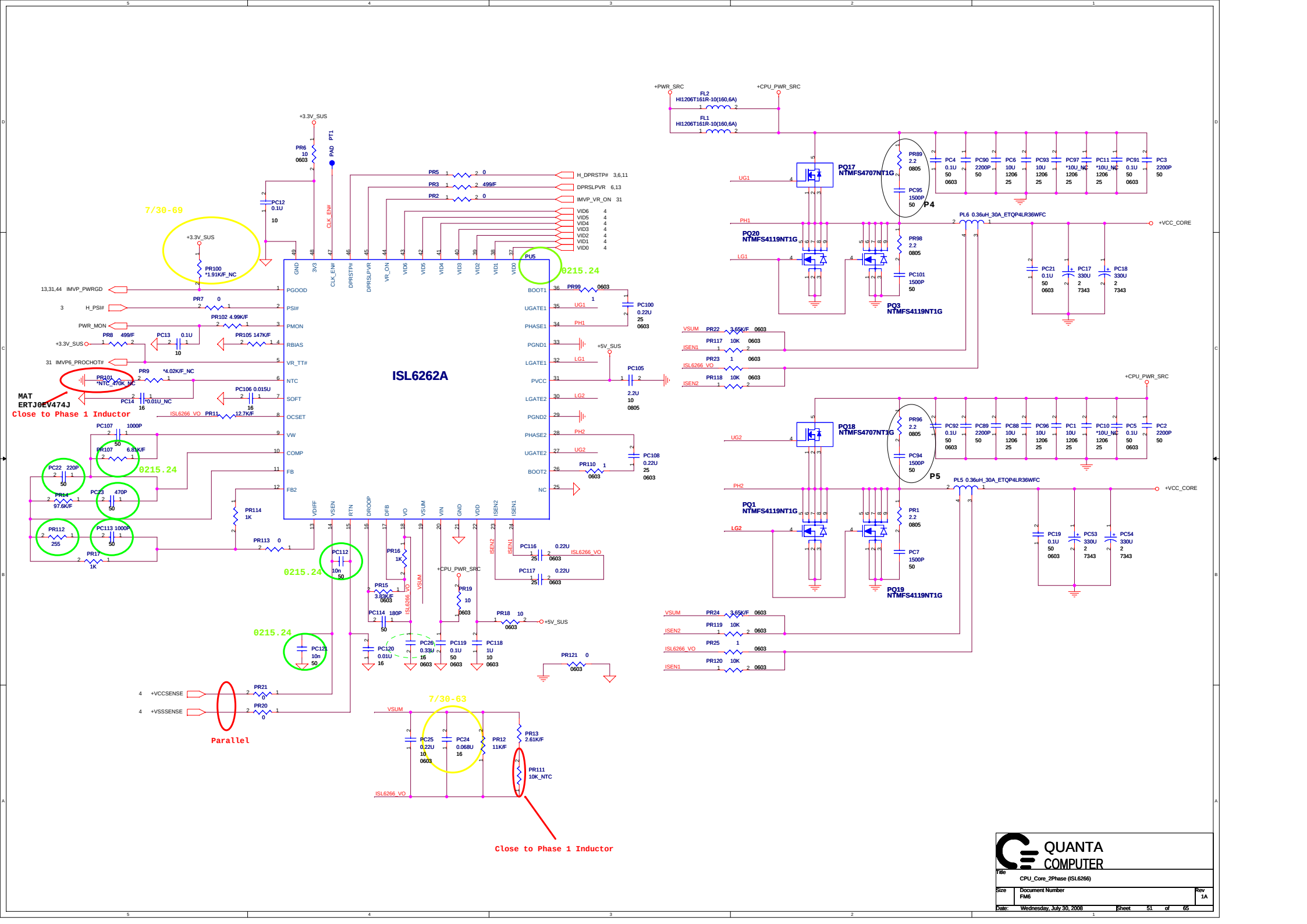
ISL6262A
+3.3V_SUS
+PWR_SRC
+CPU_PWR_SRC
+5V_SUS
+VCC_CORE
PQ17 NTMFS4707NT1G
PQ20 NTMFS4119NT1G
PQ3 NTMFS4119NT1G
PQ18 NTMFS4707NT1G
PQ1 NTMFS4119NT1G
PQ19 NTMFS4119NT1G
P4
P5
PL6 0.36uH_30A_ETQP4LR36WFC
PL5 0.36uH_30A_ETQP4LR36WFC
7/30-69
7/30-63
0215.24
MAT ERTJ0EV474J
Close to Phase 1 Inductor
Parallel
Close to Phase 1 Inductor
QUANTA COMPUTER
Title CPU_Core_2Phase (ISL6266)
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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)

6/17-57
4/18-44

Title	3VALW,5V,3V, Power On	
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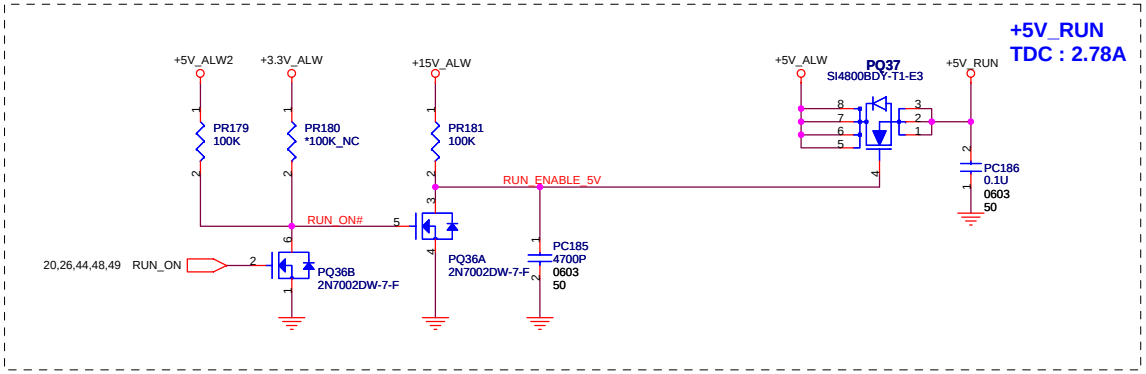
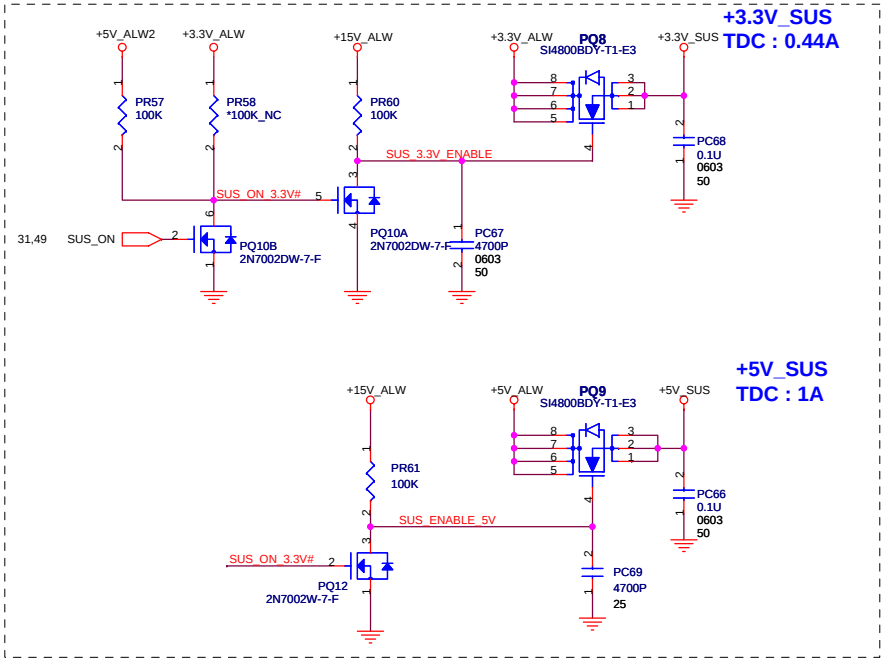
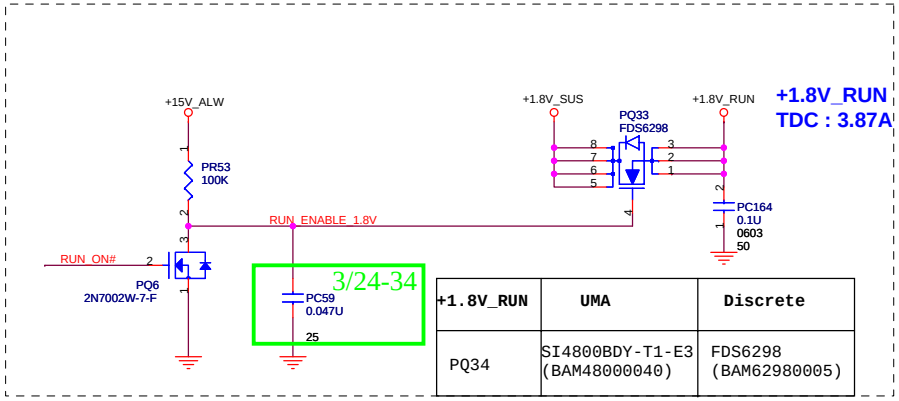
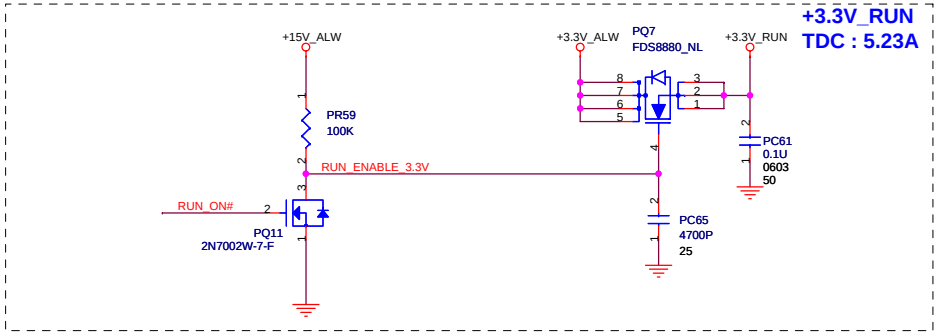
QUANTA COMPUTER

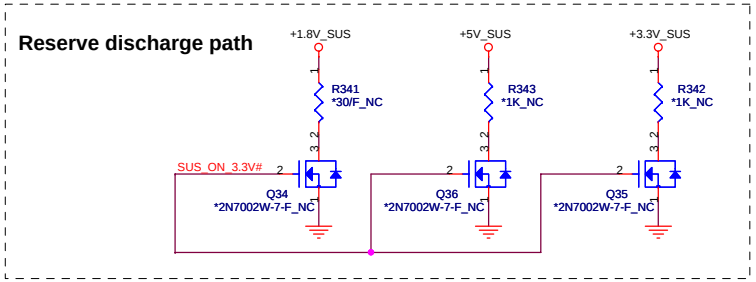


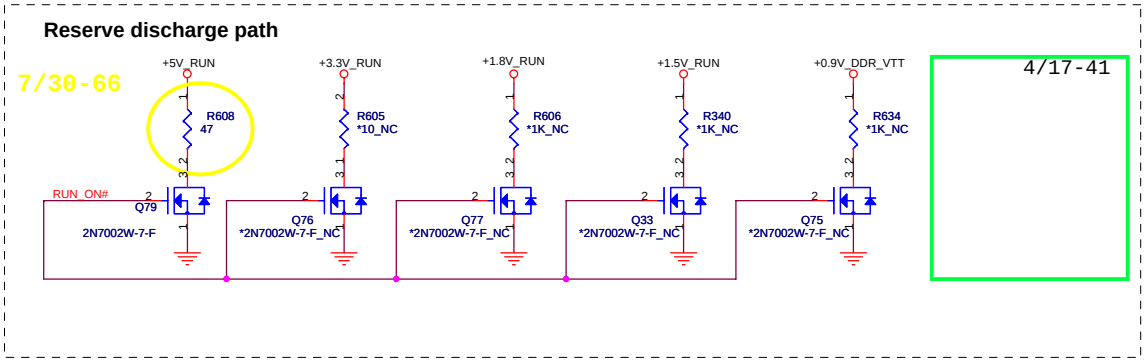




+1.8V_RUN	UMA	Discrete
PQ34	SI4800BDY-T1-E3 (BAM48000040)	FDS6298 (BAM62980005)

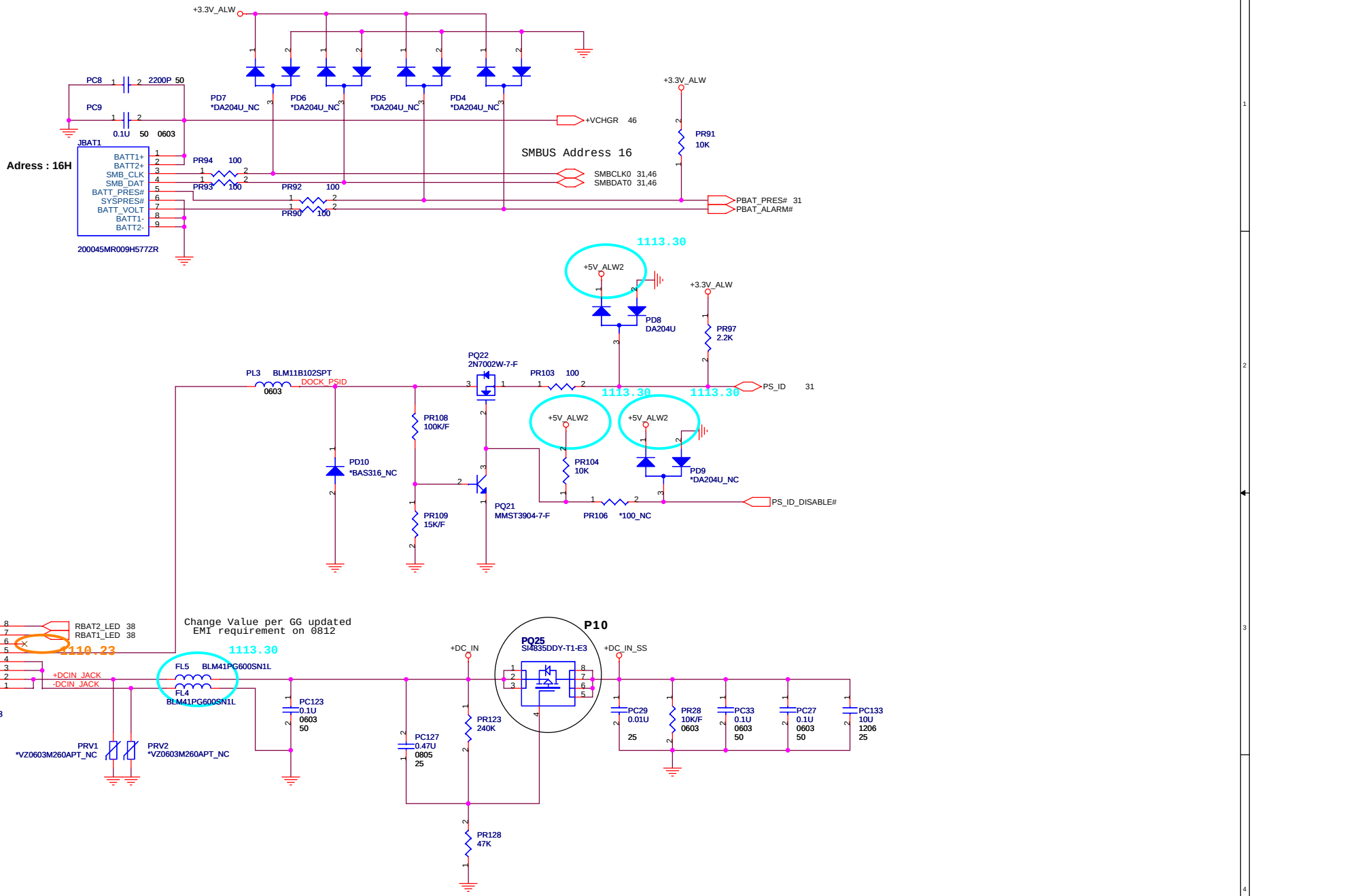






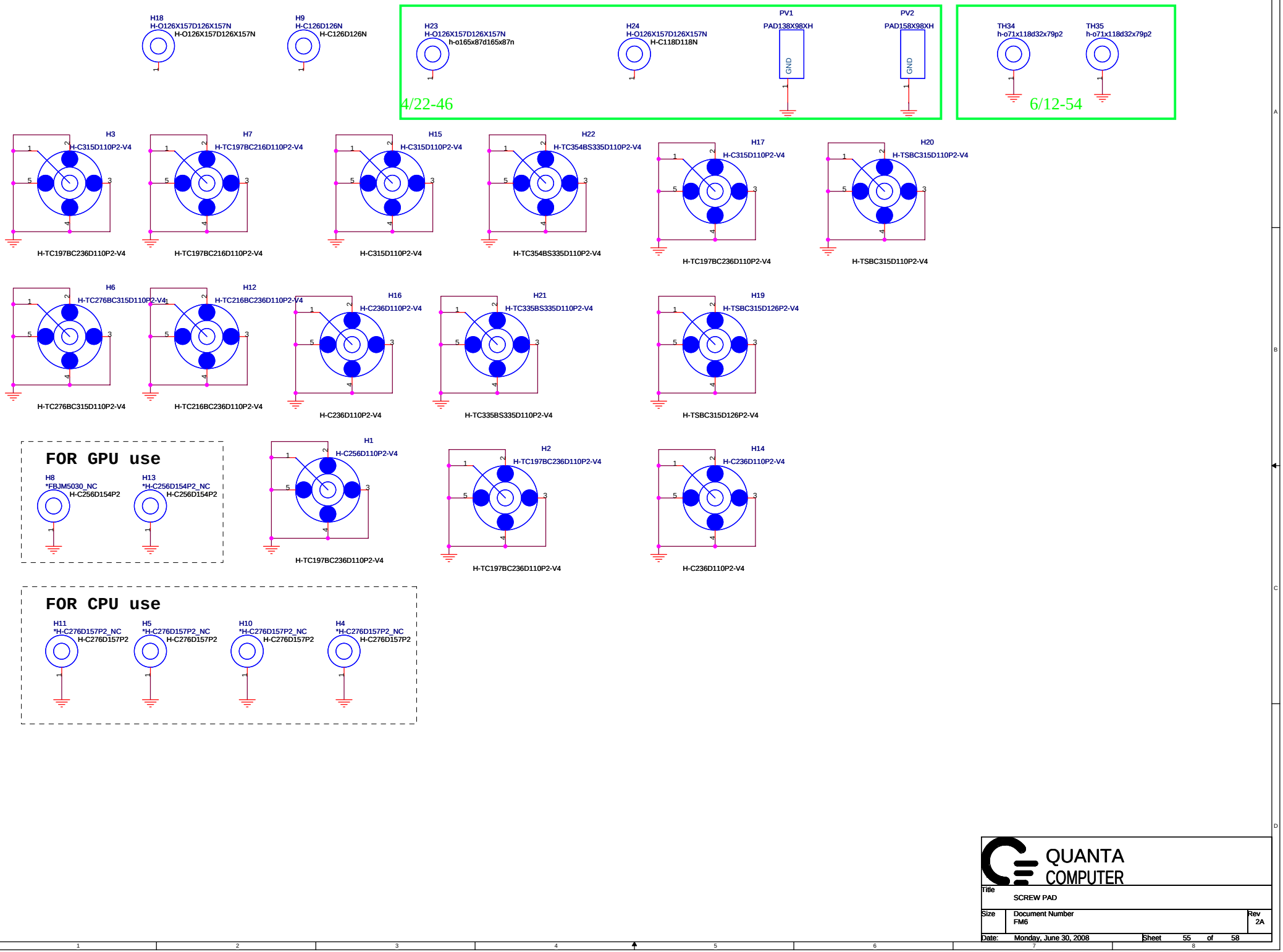
QUANTA COMPUTER

Title	RUN POWER SW	
Size	Document Number FM7	Rev 1A
Date: Wednesday, July 30, 2008	Sheet 53 of 60	



QUANTA COMPUTER

Title	DCIN,BATT CONNECTOR	
Size	Document Number FM7	Rev 1A
Date: Wednesday, July 30, 2008	Sheet 54 of 60	



QUANTA COMPUTER

Title	SCREW PAD	
Size	Document Number FM6	Rev 2A
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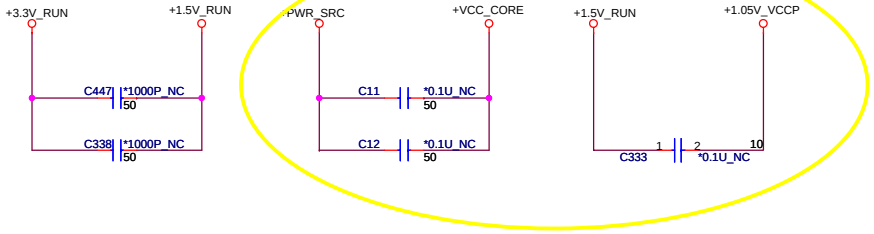
Reserved for EMI.

0906.1



QUANTA COMPUTER

Title	EMI CAP	
Size	Document Number FM6	Rev 1A
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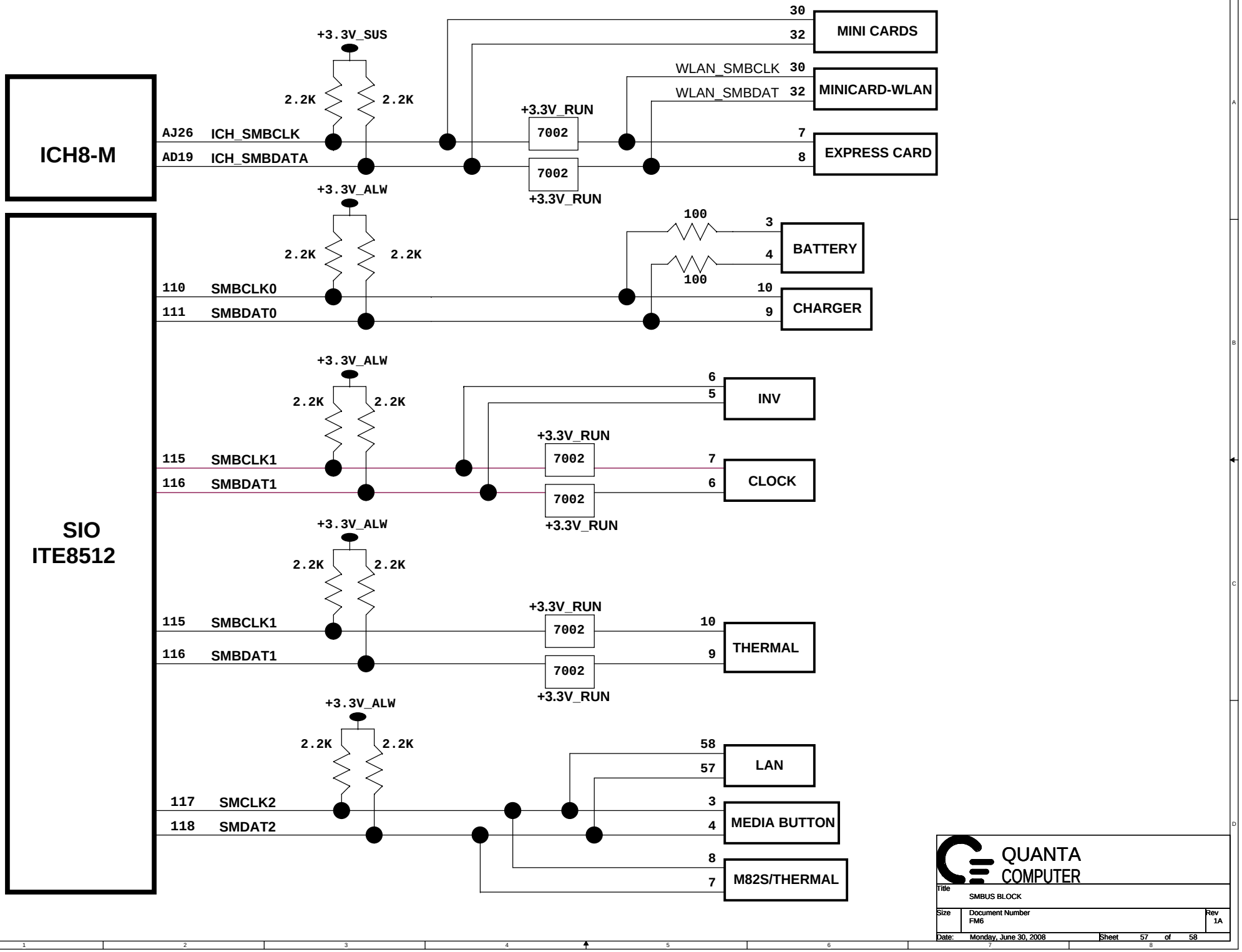

QUANTA COMPUTER

Title	SMBUS BLOCK	
Size	Document Number FM6	Rev 1A
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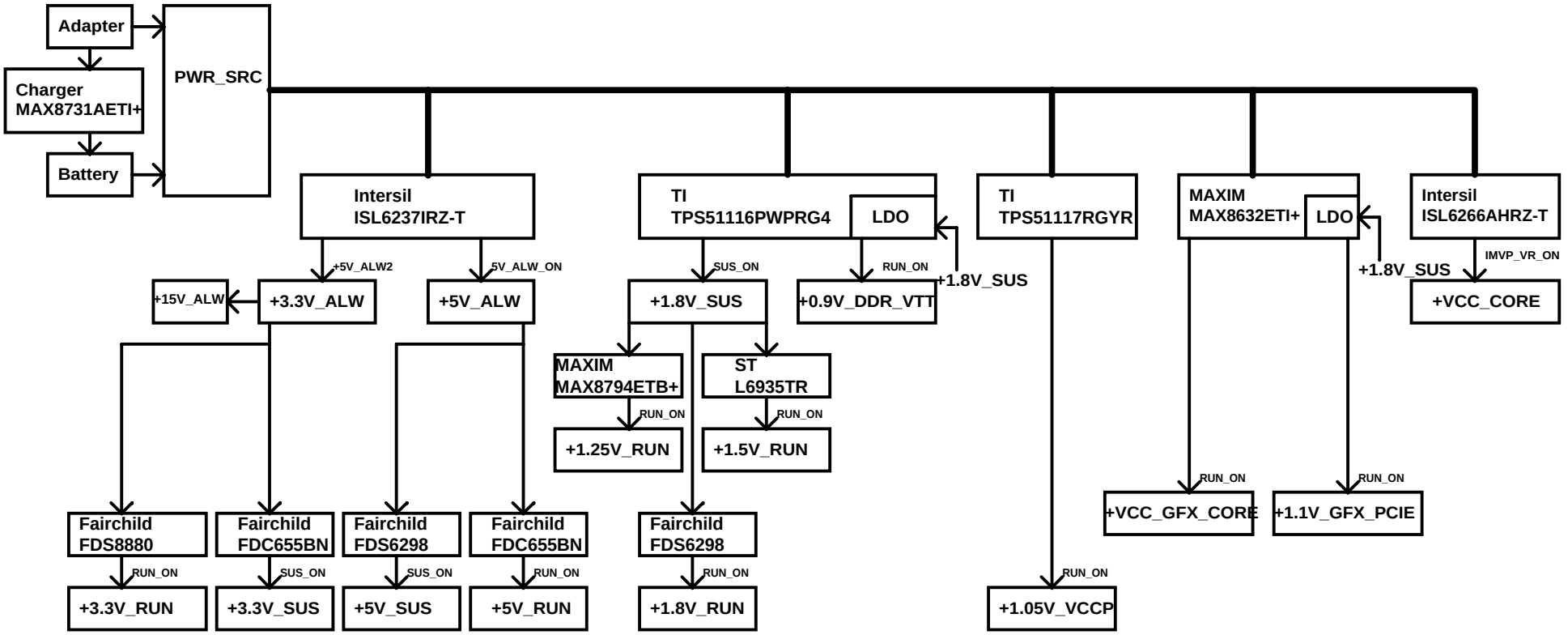
VER : 1A



QUANTA COMPUTER

Title	Schematic Block Diagram1	
Size	Document Number FM6	Rev 1A
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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 hign 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 resisters 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 resister
	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 inventer 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

QUANTA COMPUTER

Title	Change List	
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Model	Item	Page	Date	ECN Number	Item Id	Rev.	Issue Description	Solution Description
FM7	35	44	3-24-08				Change system reset circuit	Refer to page 44
	36	19	3-28-08				Change HDMI detect circuit	Refer to page 19
	37	26	3-28-08				In order to pass HDMI 7-13 item	Change diode, which has only 2pF internal capacitance
	38	31	3-28-08				ITE EC hardware issue	Del a cap
	39	1,31	4-03-08				Get schematic ready for PT build	Change block diagram and Board ID strap pin
	40	28	4-09-08				Leakage voltage issue	Change 0-ohm to diode
	41	53	4-17-08				1.25V_RUN discharge voltage is no need	Remove it
	42	30,35 26 27	4-17-08				EMI Issue	Refer to pages
	P1	48	4-17-08				For EMI suggested	populate 2.2ohm in PR56 and 1500pf in PC49
	P2	49	4-17-08				For EMI suggested	populate 2.2ohm in PR178 and 1500pf in PC178
	P3	49	4-17-08				For EMI suggested	populate 2.2ohm in PR177 and 1500pf in PC179
	P4	51	4-17-08				For EMI suggested	populate 2.2ohm in PR89 and 1500pf in PC95
	P5	51	4-17-08				For EMI suggested	populate 2.2ohm in PR96 and 1500pf in PC94
	P6	48	4-17-08				LDO cost issue	Change one LDO to another vender
	43		4-18-08				Change connectors PN due to connector list changes J2,JP1,JP2,J3,JSIM1,J5,J6,BT1., AND JDIM2	Refer to locations
	44	52	4-18-08				ATI OTP circuit redesigned	Refer to page 52
	45	28	4-18-08				the leakage voltage can be solved by EC	Change diode back to resister
	46	55	4-22-08				Layout team request two hole footprints and EMI spring	Refer to page 55
	47	37	4-22-08				K/B B/L circuit change to high active	Refer to page 37
	48	3 44	4-23-08				BOM change for CPU and system reset circuit	Change Resister value to 56 ohm for prochot pin and AND gate PN

Title			
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Model	Item	Page	Date	ECN Number	Item Id	Rev.	Issue Description	Solution Description
FM7	49	38	5-29-08				The brightness is not light enough	Change R432 from 220 ohm to 68 ohm
	50	26	5-29-08				Secound sources team ask to change the diode PN.	Change D27 to another PN, which use on the other pages
	51	9	5-29-08				The diode PN is not on DELL PSL	Change PN
	52	35	5-29-08				Remove E-sata redriver	Refer to page 35
	53	13	6-11-08				Dell asks us to support KB_DET function	Add 0-ohm, which make the schematic work
	54	55	6-12-08				EMI request to change EMI spring PN and location Factory asks us to have a housing for CIR	Rerer to page 55
	55	40	6-16-08				Audio codec has new version	Change PN
	56	35	6-16-08				USB power IC is going to pass UL, so we will need to change it to new one	Change PN
	57	52	6-17-08				DELL's request on thermal detect pin	Refer to page 52
	58	3	6-27-08				Follow INTEL CRB and schematic checl list 2.0	De-pop H_RESET# PU resistor

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Size: Custom	Document Number <Doc>	Rev <RevCode>
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Model	Item	Page	Date	ECN Number	Item Id	Rev.	Issue Description	Solution Description
FM7	59	31	6-30-08				1.System not stable2.RTC time reset3.BIOS crash issue4.RTC discharge then system can boot.	Add 1K pull-down on KBC 8512 pin 87 RESET_OUT#
	60	35,48,49, 50,52	7-10-08				FM7 forward to QT status	Remove all debug power jumps
	61	40	7-10-08				Pin 1 V_high is lower than +VDDA*0.7	Change U41 P/N to ALCT1G86000,cause its Vih=2V
	62	30	7-30-08				MS card test fail, and EMI request	Change 27P to 22P
	63	51	7-30-08				Power Team ask to change the value from 0.022u to 0.068u	Refer to the Page 51
	64	31	7-30-08				Board ID Straps	Change Board ID Straps
	65	26	7-30-08				Fix 7-13 HDMI issue	Add 0805 0 ohm at D27 location
	66	53	7-30-08				Fix 7-13 HDMI issue	Pop Q79, R608 and R608=47
	67	31	7-30-08				Cold boot issue	Refer tp Page 31
	68	13	7-30-08				Change the power from +3.3V_SUS to +3.3_RUN	Change the value of R247(1.91K)
	69	51	7-30-08				Change the power from +3.3V_SUS to +3.3_RUN	Del PR100
	70	17,33	7-30-08				Remove debug function	Refer tp P17,P33
	71	44	8-01-08				Reserve 3.3V_SUS and 3.3V_ALW power	Refer tp P44

Title	<Title>		
Size	Document Number		Rev
Custom	<Doc>		<RevCode>
Date:	Friday, August 01, 2008	Sheet 1 of 1	