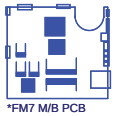

FM7 Hepburn Intel Discrete GFX

VER : D3B

POWER
SYSTEM RESET CIRCUIT PG 44
BATT CHARGER PG 46
AC/BATT CONNECTOR PG 54
RUN POWER SW +3.3V_SUS/+5V_SUS +5V/+3.3V/+1.8V PG 53

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

DMI interface

SATA-ODD PG 36
SATA
SATA-HDD PG 36
SATA
E-SATA Combo with USB CONN PG 35
PI2EQX3211BHE PG 35
SATA

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
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
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18X8
Keyboard PG 37
SPI
PS/2
USER INTERFACE PG 38
FLASH 2Mbyts PG 32
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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	
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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	
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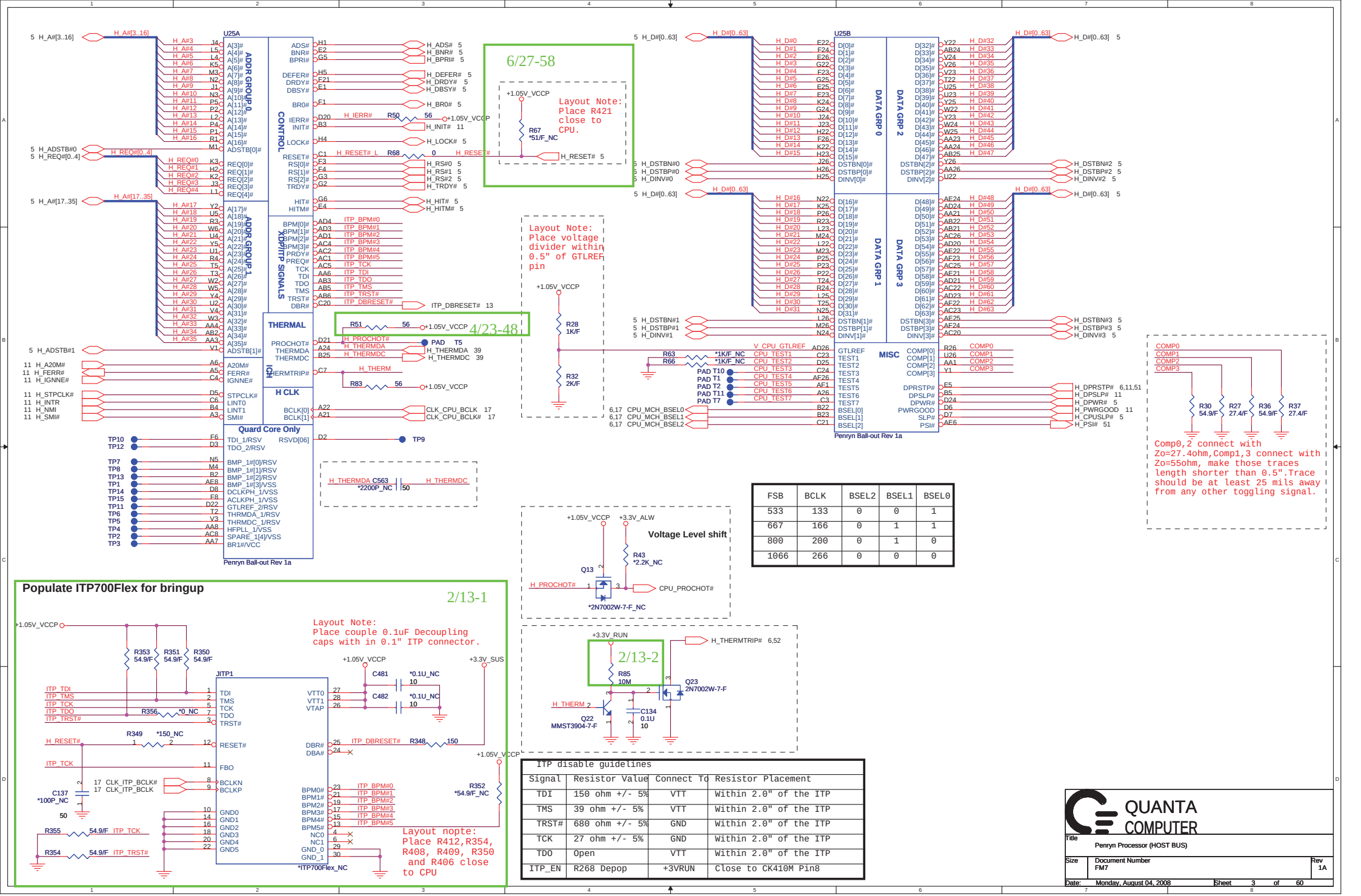

FSB	BCLK	BSEL2	BSEL1	BSEL0
533	133	0	0	1
667	166	0	1	1
800	200	0	1	0
1066	266	0	0	0

ITP disable guidelines

Signal	Resistor Value	Connect To	Resistor Placement
TDI	150 ohm +/- 5%	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)	
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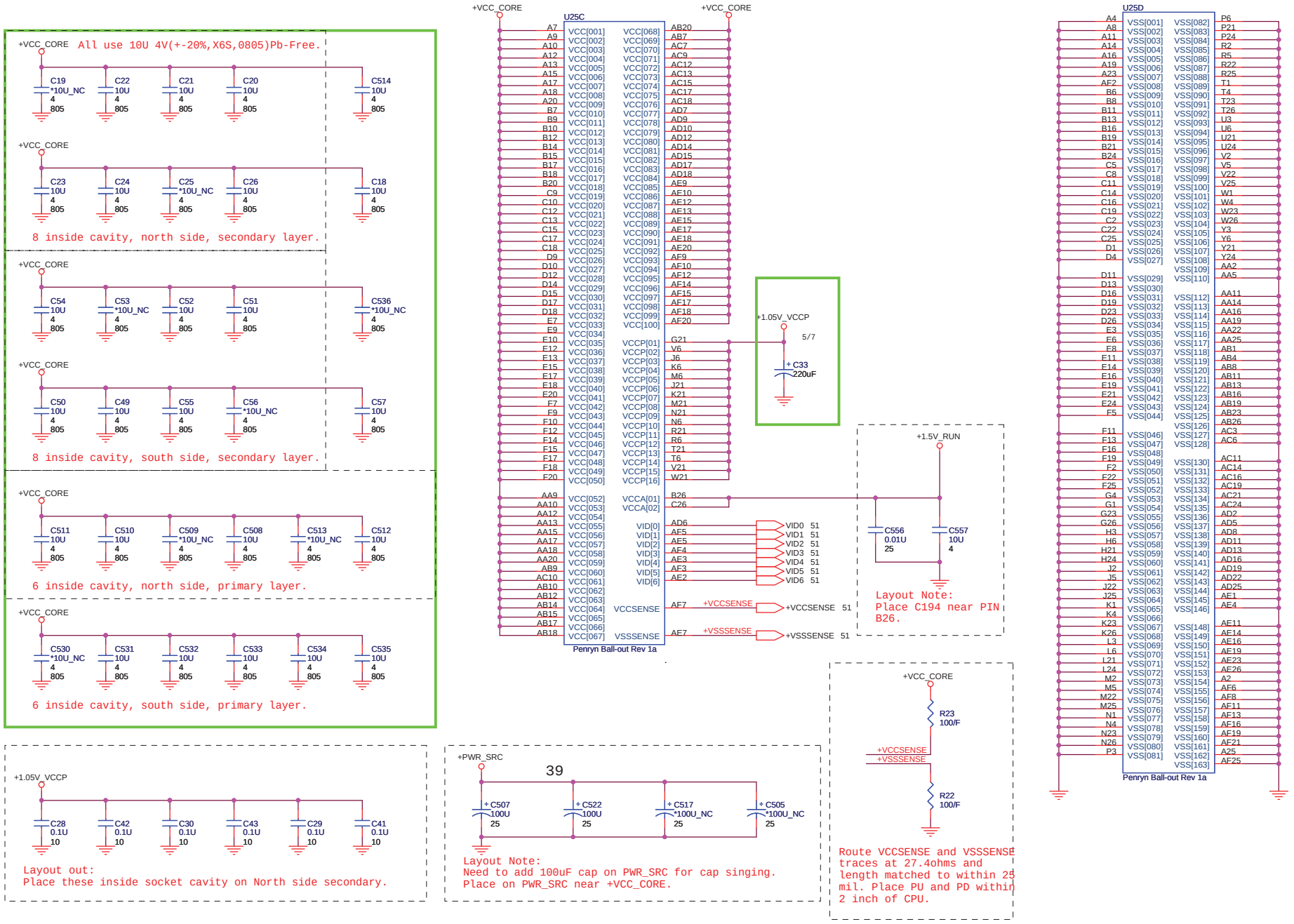
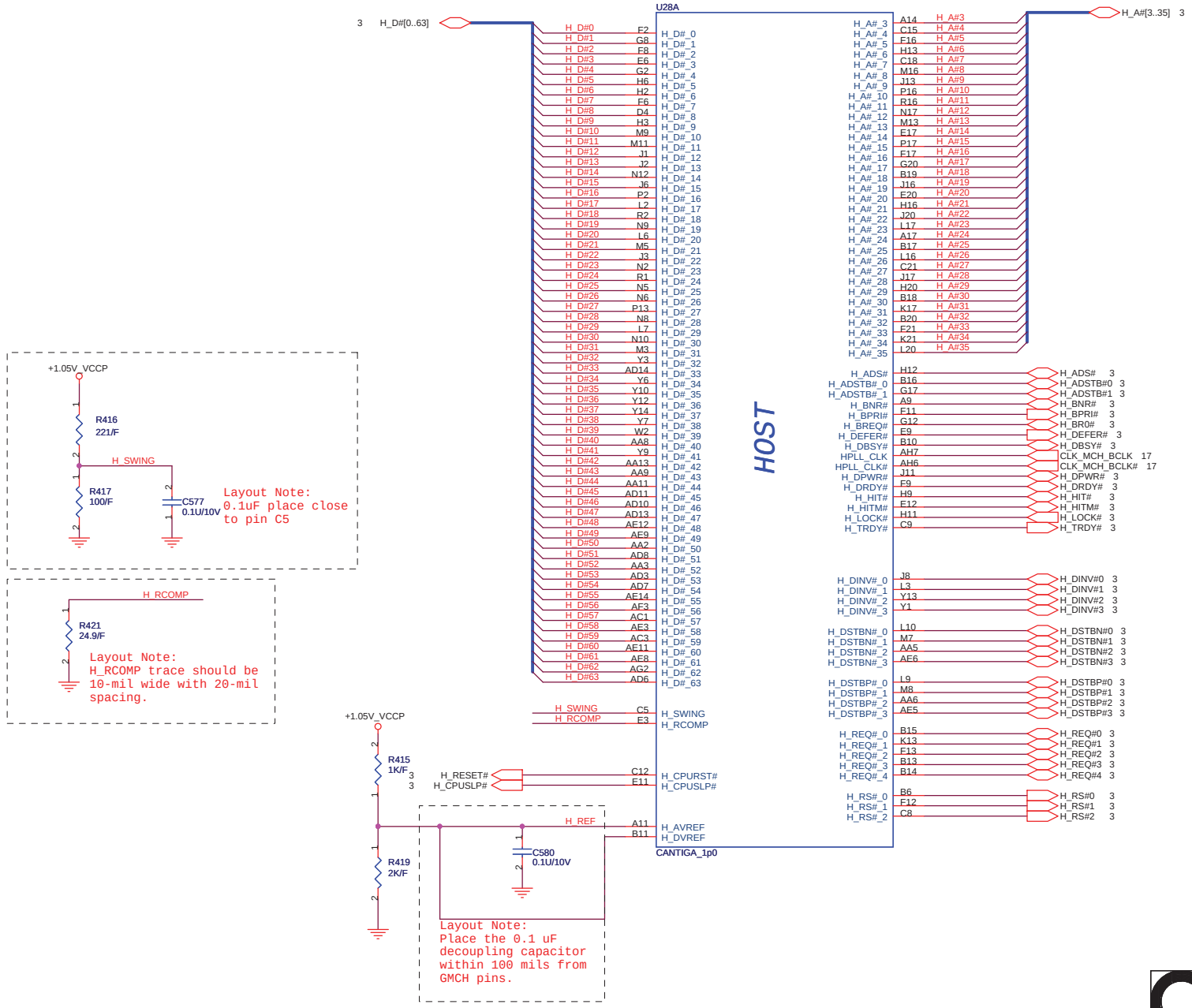

All use 10U 4V(+-20%,X6S,0805)Pb-Free.
8 inside cavity, north side, secondary layer.
8 inside cavity, south side, secondary layer.
6 inside cavity, north side, primary layer.
6 inside cavity, south side, primary layer.
Layout out:
Place these inside socket cavity on North side secondary.
Layout Note:
Need to add 100uF cap on PWR_SRC for cap singing.
Place on PWR_SRC near +VCC_CORE.
Layout Note:
Place C194 near PIN B26.
Route VCCSENSE and VSSSENSE traces at 27.4ohms and length matched to within 25 mil. Place PU and PD within 2 inch of CPU.
U25C
Penryn Ball-out Rev 1a
U25D
Penryn Ball-out Rev 1a
http://hobi-elektronika.net
QUANTA COMPUTER
Penryn Processor (HOST BUS)
FM7
Monday, August 04, 2008



QUANTA COMPUTER

Title	Cantiga (HOST)	
Size	Document Number FM7	Rev 1A
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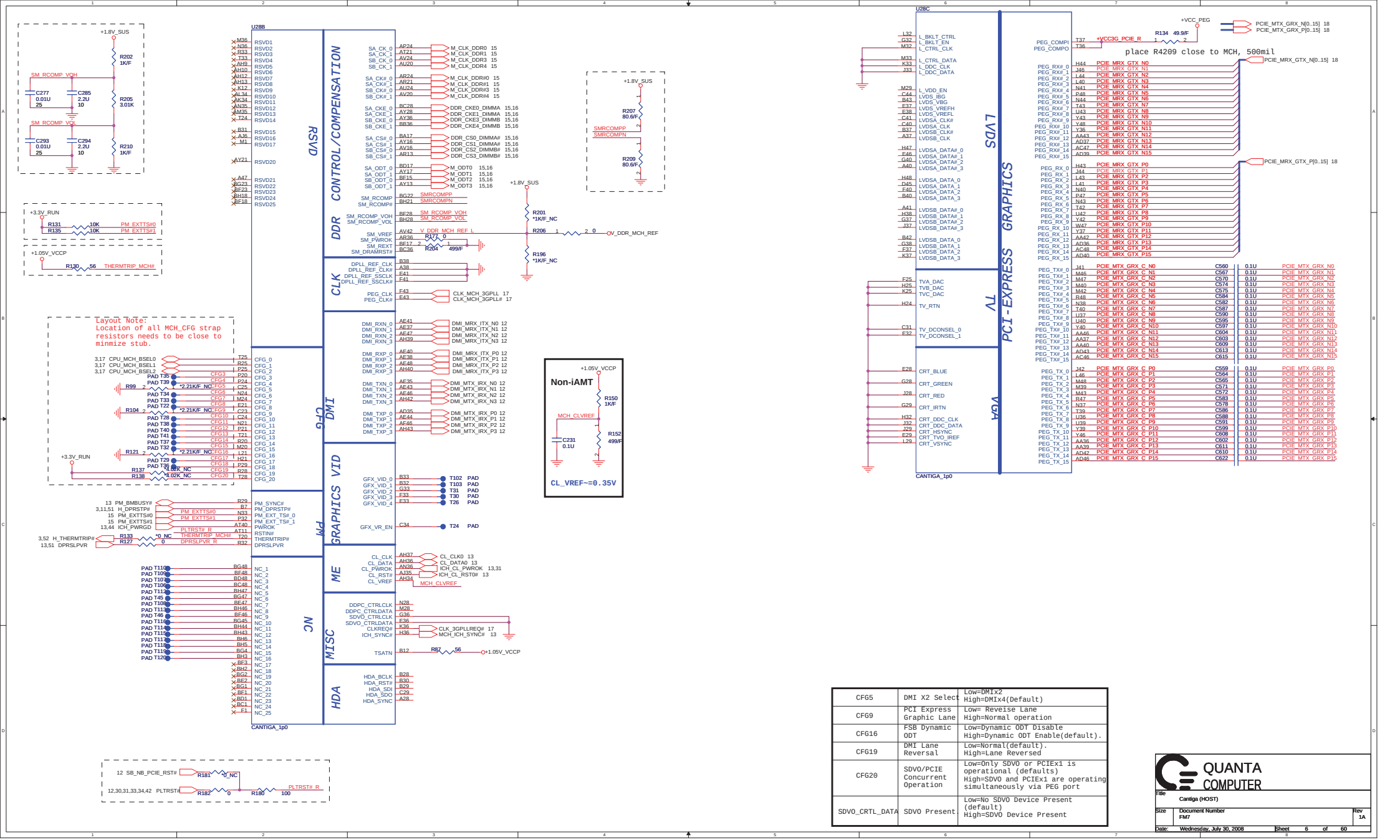

CFG5	DMI X2 Select	Low=DMIx2 High=DMIx4(Default)
CFG9	PCI Express Graphic Lane	Low= Reveise Lane High=Normal operation
CFG16	FSB Dynamic ODT	Low=Dynamic ODT Disable High=Dynamic ODT Enable(default).
CFG19	DMI Lane Reversal	Low=Normal(default). High=Lane Reversed
CFG20	SDVO/PCIE Concurrent Operation	Low=Only 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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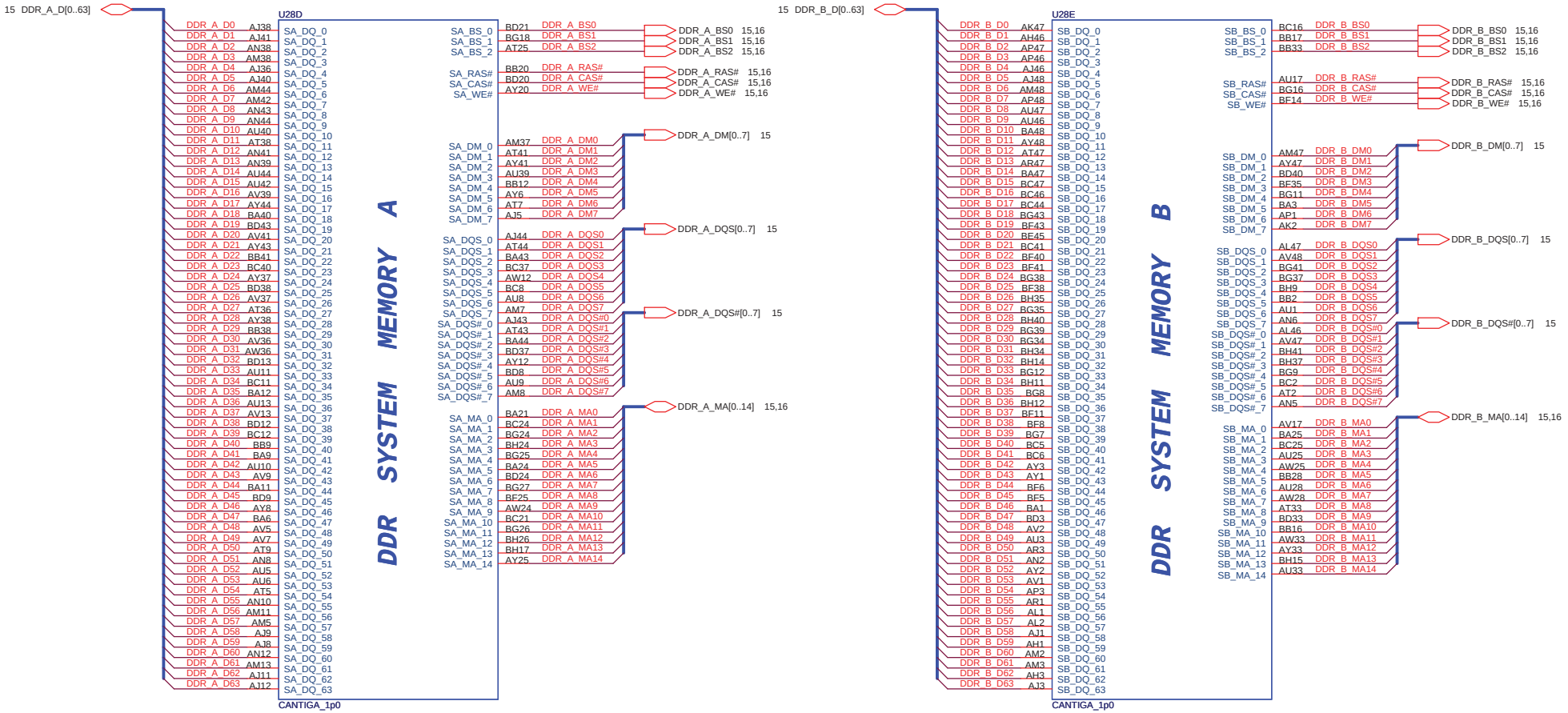

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Title	Cantiga (HOST)	
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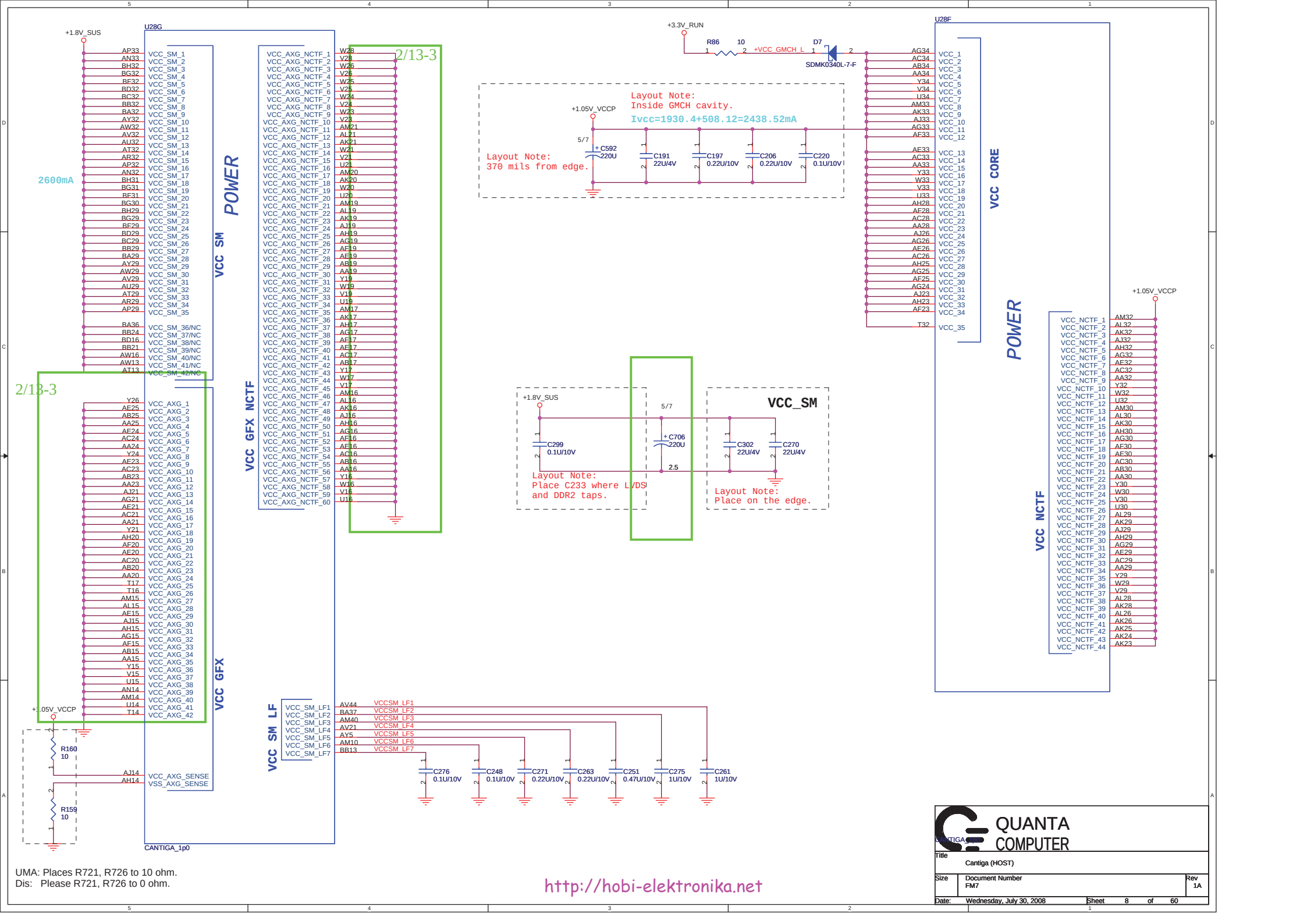
U28G
+1.8V_SUS
2600mA
VCC SM
POWER
VCC GFX NCTF
VCC GFX
VCC SM LF
2/13-3
2/13-3
+1.05V_VCCP
R160
10
R159
10
VCC_AXG_SENSE
VSS_AXG_SENSE
CANTIGA_1p0
+3.3V_RUN
R86
10
+VCC_GMCH_L
D7
SDMK0340L-7-F
U28F
VCC CORE
POWER
VCC NCTF
+1.05V_VCCP
Layout Note:
Inside GMCH cavity.
Ivcc=1930.4+508.12=2438.52mA
Layout Note:
370 mils from edge.
C592
220U
C191
22U/4V
C197
0.22U/10V
C206
0.22U/10V
C220
0.1U/10V
+1.8V_SUS
C299
0.1U/10V
C706
220U
2.5
Layout Note:
Place C233 where LVDS
and DDR2 taps.
VCC_SM
C302
22U/4V
C270
22U/4V
Layout Note:
Place on the edge.
C276
0.1U/10V
C248
0.1U/10V
C271
0.22U/10V
C263
0.22U/10V
C251
0.47U/10V
C275
1U/10V
C261
1U/10V
UMA: Places R721, R726 to 10 ohm.
Dis: Please R721, R726 to 0 ohm.
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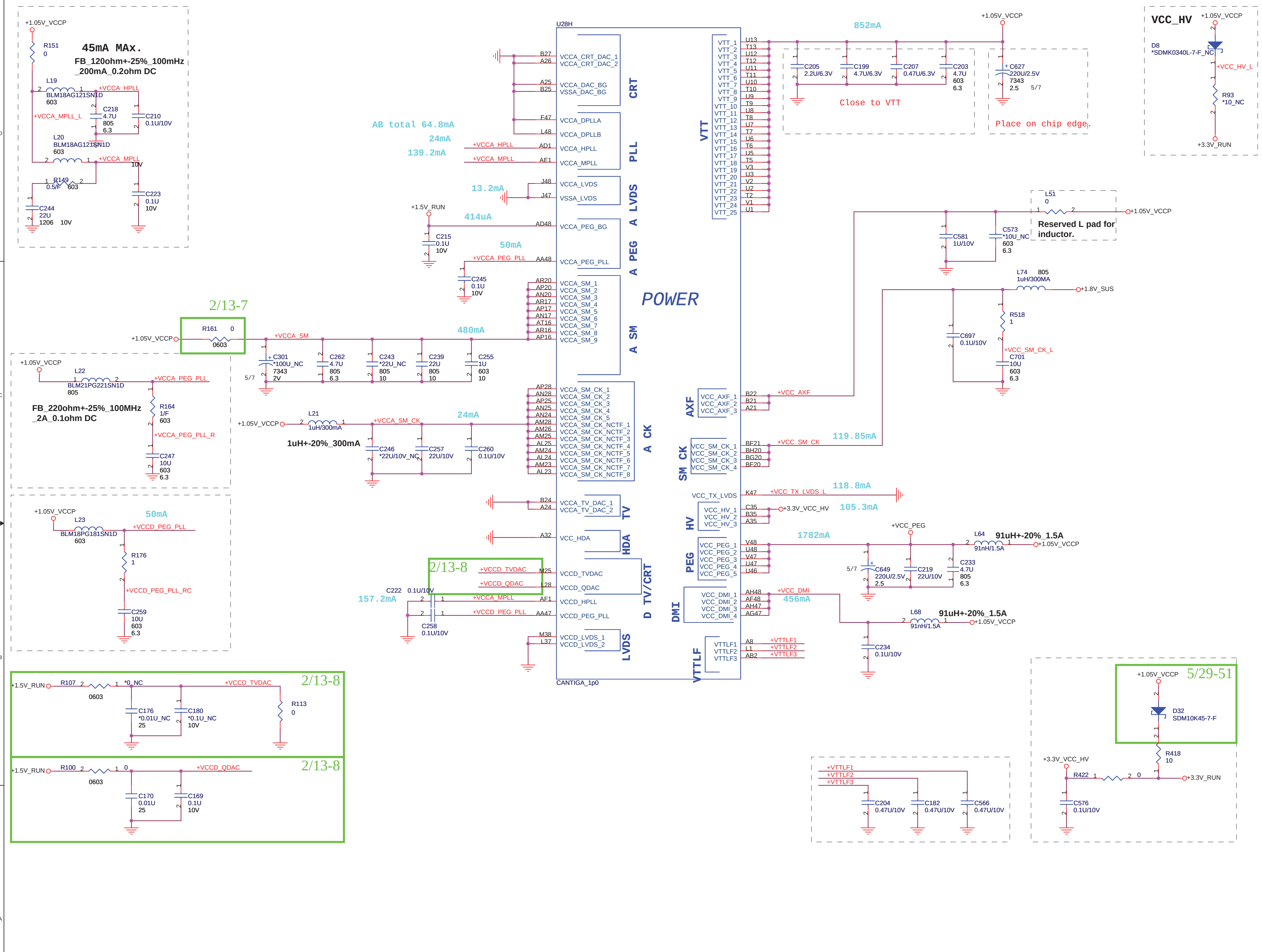
60



QUANTA COMPUTER

Title	Cantiga (HOST)	
Size	Document Number FM7	Rev 1A
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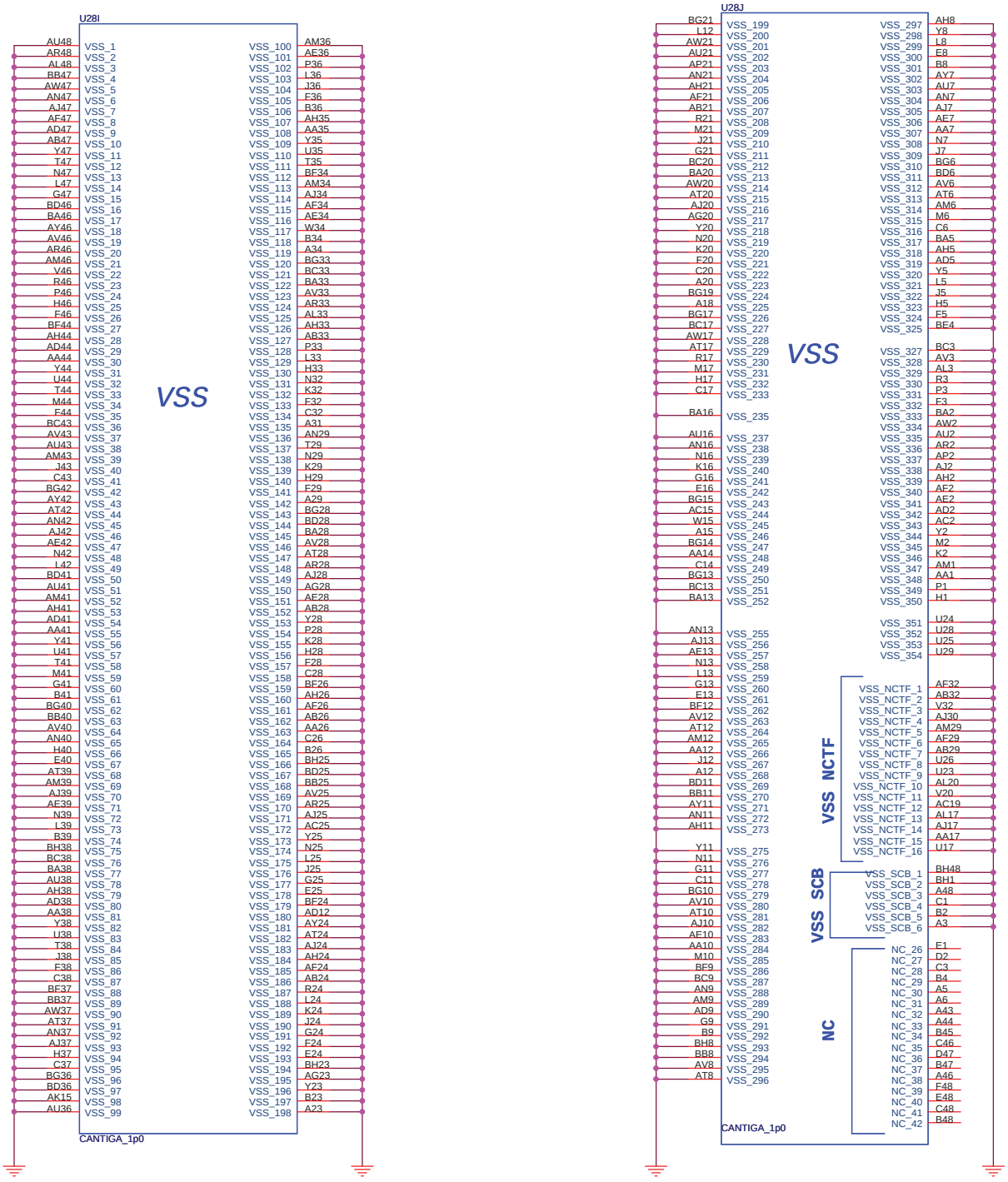

QUANTA COMPUTER

Title	Cantiga (HOST)	
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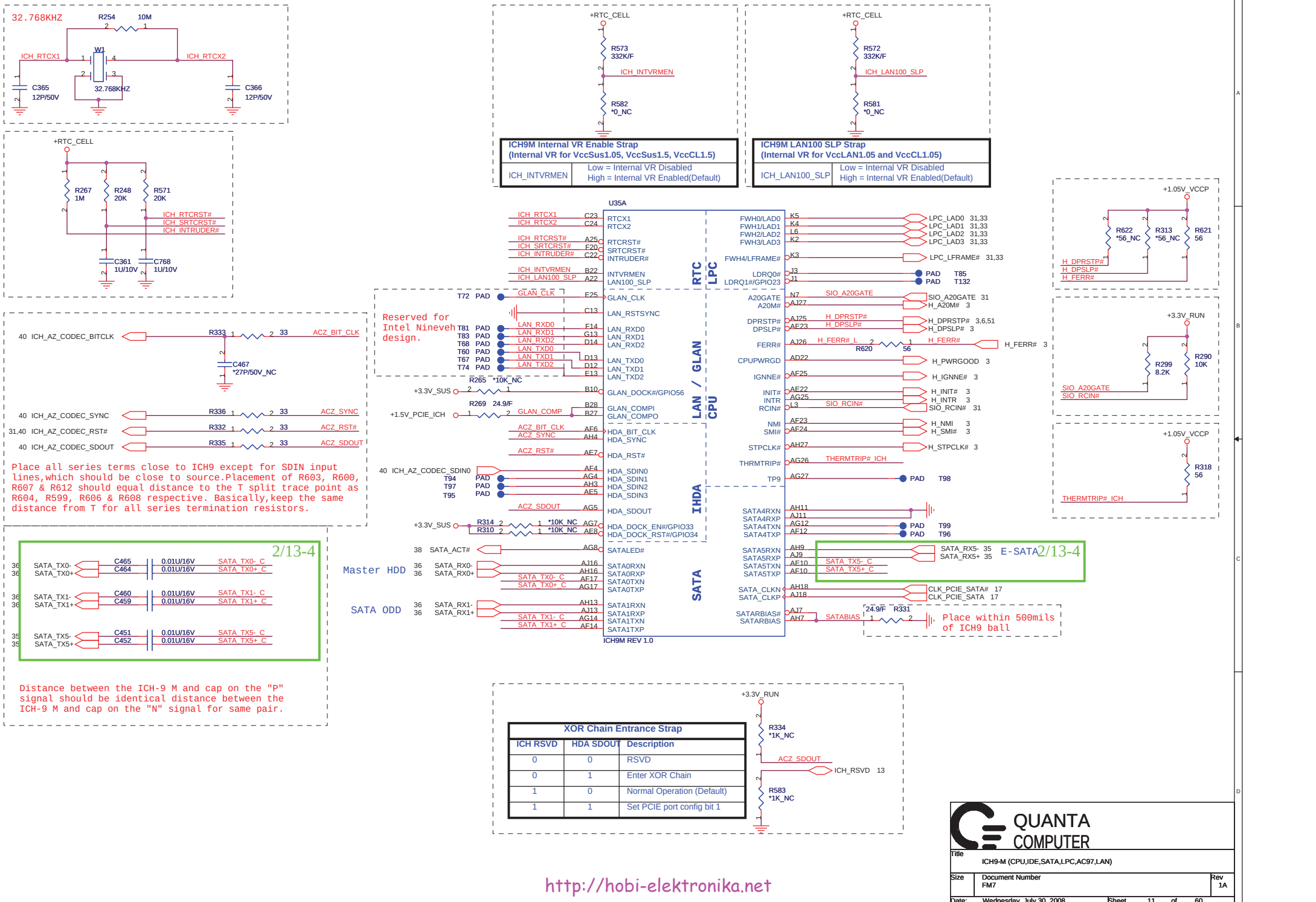
32.768KHZ
R254 10M
W1
ICH_RTCX1
ICH_RTCX2
C365 12P/50V
32.768KHZ
C366 12P/50V
+RTC_CELL
R267 1M
R248 20K
R571 20K
ICH_RTCRST#
ICH_SRTCRST#
ICH_INTRUDER#
C361 1U/10V
C768 1U/10V
+RTC_CELL
R573 332K/F
ICH_INTVRMEN
R582 *0_NC
ICH9M Internal VR Enable Strap
(Internal VR for VccSus1.05, VccSus1.5, VccCL1.5)
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
ICH_RTCX1 C23
ICH_RTCX2 C24
RTCX1
RTCX2
ICH_RTCRST# A25
ICH_SRTCRST# F20
ICH_INTRUDER# C22
RTCRST#
SRTCRST#
INTRUDER#
ICH_INTVRMEN B22
ICH_LAN100_SLP A22
INTVRMEN
LAN100_SLP
RTC
FWH0/LAD0 K5
FWH1/LAD1 K4
FWH2/LAD2 L6
FWH3/LAD3 K2
FWH4/LFRAME# K3
LDRQ0# J3
LDRQ1#/GPIO23 J1
LPC
LPC_LAD0 31,33
LPC_LAD1 31,33
LPC_LAD2 31,33
LPC_LAD3 31,33
LPC_LFRAME# 31,33
PAD T85
PAD T132
T72 PAD
GLAN_CLK E25
GLAN_CLK
C13
LAN_RSTSYNC
Reserved for Intel Nineveh design.
T81 PAD
T83 PAD
T68 PAD
T60 PAD
T67 PAD
T74 PAD
LAN_RXD0 F14
LAN_RXD1 G13
LAN_RXD2 D14
LAN_TXD0 D13
LAN_TXD1 D12
LAN_TXD2 E13
LAN_RXD0
LAN_RXD1
LAN_RXD2
LAN_TXD0
LAN_TXD1
LAN_TXD2
GLAN
R265 *10K_NC
+3.3V_SUS
GLAN_DOCK#/GPIO56 B10
GLAN_DOCK#/GPIO56
R269 24.9/F
+1.5V_PCIE_ICH
GLAN_COMP B28
GLAN_COMP B27
GLAN_COMPI
GLAN_COMPO
LAN / GLAN
CPU
A20GATE N7
A20M# AJ27
SIO_A20GATE
SIO_A20GATE 31
H_A20M# 3
DPRSTP# AJ25
DPSLP# AE23
H_DPRSTP#
H_DPSLP#
H_DPRSTP# 3,6,51
H_DPSLP# 3
FERR# AJ26
H_FERR# L
R620 56
H_FERR#
H_FERR# 3
CPUPWRGD AD22
H_PWRGOOD 3
IGNNE# AF25
H_IGNNE# 3
INIT# AE22
INTR AG25
RCIN# L3
H_INIT# 3
H_INTR 3
SIO_RCIN#
SIO_RCIN# 31
NMI AF23
SMI# AF24
H_NMI 3
H_SMI# 3
STPCLK# AH27
H_STPCLK# 3
THRMTRIP# AG26
THERMTRIP#_ICH
TP9 AG27
PAD T98
40 ICH_AZ_CODEC_SDIN0
T94 PAD
T97 PAD
T95 PAD
HDA_BIT_CLK AE6
HDA_SYNC AH4
HDA_RST# AE7
HDA_SDIN0 AF4
HDA_SDIN1 AG4
HDA_SDIN2 AH3
HDA_SDIN3 AE5
HDA_SDOUT AG5
HDA_DOCK_EN#/GPIO33 AG7
HDA_DOCK_RST#/GPIO34 AE8
HDA
ACZ_BIT_CLK
ACZ_SYNC
ACZ_RST#
ACZ_SDOUT
R314 *10K_NC
R310 *10K_NC
+3.3V_SUS
38 SATA_ACT# AG8
SATALED#
SATA4RXN AH11
SATA4RXP AJ11
SATA4TXN AG12
SATA4TXP AF12
PAD T99
PAD T96
SATA5RXN AH9
SATA5RXP AJ9
SATA5TXN AE10
SATA5TXP AE10
SATA_TX5- C
SATA_TX5+ C
SATA_RX5- 35
SATA_RX5+ 35
E-SATA 2/13-4
SATA_CLKN AH18
SATA_CLKP AJ18
CLK_PCIE_SATA# 17
CLK_PCIE_SATA 17
SATARBIAS# AJ7
SATARBIAS AH7
SATABIAS
24.9/F R331
Place within 500mils of ICH9 ball
Master HDD
36 SATA_RX0-
36 SATA_RX0+
SATA_TX0- C
SATA_TX0+ C
SATA0RXN AJ16
SATA0RXP AH16
SATA0TXN AF17
SATA0TXP AG17
SATA ODD
36 SATA_RX1-
36 SATA_RX1+
SATA_TX1- C
SATA_TX1+ C
SATA1RXN AH13
SATA1RXP AJ13
SATA1TXN AG14
SATA1TXP AF14
SATA
ICH9M REV 1.0
+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
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.
2/13-4
SATA_TX0- C465 0.01U/16V SATA_TX0- C
SATA_TX0+ C464 0.01U/16V SATA_TX0+ C
SATA_TX1- C460 0.01U/16V SATA_TX1- C
SATA_TX1+ C459 0.01U/16V SATA_TX1+ C
SATA_TX5- C451 0.01U/16V SATA_TX5- C
SATA_TX5+ C452 0.01U/16V 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.
+3.3V_RUN
R334 *1K_NC
ACZ_SDOUT
ICH_RSVD 13
R583 *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
QUANTA COMPUTER
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ICH9-M (CPU,IDE,SATA,LPC,AC97,LAN)
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Place TX DC blocking caps close ICH8.

33 PCIE_TX1- C408 1 2 0.1U 10 PCIE_TXN1_C
33 PCIE_TX1+ C419 1 2 0.1U 10 PCIE_TXP1_C

34 PCIE_TX2- C401 1 2 0.1U 10 PCIE_TXN2_C
34 PCIE_TX2+ C399 1 2 0.1U 10 PCIE_TXP2_C

33 PCIE_TX3- C392 1 2 0.1U 10 PCIE_TXN3_C
33 PCIE_TX3+ C385 1 2 0.1U 10 PCIE_TXP3_C

30 PCIE_TX4- C383 1 2 0.1U 10 PCIE_TXN4_C
30 PCIE_TX4+ C380 1 2 0.1U 10 PCIE_TXP4_C

42 PCIE_TX6-/GLAN_TX- C374 1 2 0.1U 10 GLAN_TXN_C
42 PCIE_TX6+/GLAN_TX+ C372 1 2 0.1U 10 GLAN_TXP_C

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

Boot BIOS Strap

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

U35D

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

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

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

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

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

PCI-Express

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

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

SPI

35 USB_OC0_1# USB_OC0_1# N4 OC0#/GPIO59
OC1#/GPIO40 N5
35 USB_OC2_3# USB_OC2_3# N6 OC2#/GPIO41
OC3#/GPIO42 P6
OC4# M1 OC4#/GPIO43
OC5# N2 OC5#/GPIO29
OC6# M4 OC6#/GPIO30
OC7# M3 OC7#/GPIO31
USB_OC8# USB_OC8# N3 OC8#/GPIO44
OC9# N1 OC9#/GPIIO45
OC10# P5 OC10#/GPIO46
OC11# P3 OC11#/GPIO47

USB

USBRBIAS AG2 USBRBIAS
USBRBIAS# AG1 USBRBIAS#

ICH9M REV 1.0

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

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

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

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

Direct Media Interface

DMI_CLKN T26 CLK_PCIE_ICH# 17
DMI_CLKP T25 CLK_PCIE_ICH 17

DMI_ZCOMP AE29
DMI_IRCOMP AE28 DMI_COMP
R600 24.9/F
+1.5V_PCIE_ICH

Place within 500mils of ICH8

USBP0N AC5 ICH_USBP0- 35
USBP0P AC4 ICH_USBP0+ 35
USBP1N AD3 ICH_USBP1- 35
USBP1P AD2 ICH_USBP1+ 35
USBP2N AC1 ICH_USBP2- 35
USBP2P AC2 ICH_USBP2+ 35
USBP3N AA5 ICH_USBP3- 35
USBP3P AA4 ICH_USBP3+ 35
USBP4N AB2 ICH_USBP4- 34
USBP4P AB3 ICH_USBP4+ 34
USBP5N AA1 ICH_USBP5- 33
USBP5P AA2 ICH_USBP5+ 33
USBP6N W5 ICH_USBP6- 33
USBP6P W4 ICH_USBP6+ 33
USBP7N Y3 ICH_USBP7- 30
USBP7P Y2 ICH_USBP7+ 30
USBP8N W1 PAD T135
USBP8P W2 PAD T134
USBP9N V2 PAD T89
USBP9P V3 PAD T90
USBP10N U5 ICH_USBP10- 38
USBP10P U4 ICH_USBP10+ 38
USBP11N U1 ICH_USBP11- 41
USBP11P U2 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

Places within 500 mils of the ICH9
R601 22.6/F

PCI Pullups

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

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

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.

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#
+3.3V_SUS
10KX8
OC10# R300 10K
OC11# R304 10K
+3.3V_SUS

28 PCI_AD[0..31]

U35B

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

PCI

REQ0# E1 PCI_REQ0# PCI_REQ0# 28
GNT0# G4 PCI_GNT0# PCI_GNT0# 28
REQ1#/GPIO50 B6 PCI_REQ1# PAD T51
GNT1#/GPIO51 A7 PCI_GNT1# PAD T128
REQ2#/GPIO52 E13 SB_WWAN_PCIE_RST# SB_WWAN_PCIE_RST# 33
GNT2#/GPIO53 E12 PCI_GNT2# PAD T84
REQ3#/GPIO54 E6 SB_LOM_PCIE_RST# SB_LOM_PCIE_RST# 42
GNT3#/GPIO55 F6 PCI_GNT3# PAD T82

C/BE0# D8 PCI_C_BE0# PCI_C_BE0# 28
C/BE1# B4 PCI_C_BE1# PCI_C_BE1# 28
C/BE2# D6 PCI_C_BE2# PCI_C_BE2# 28
C/BE3# A5 PCI_C_BE3# PCI_C_BE3# 28

IRDY# D3 PCI_IRDY# PCI_IRDY# 28
PAR E3 PCI_PAR PCI_PAR 28
PCIRST# R1 PCI_RST# G
DEVSEL# C6 PCI_DEVSEL# PCI_DEVSEL# 28
PERR# E4 PCI_PERR# PCI_PERR# 28
PLOCK# C2 PCI_PLOCK# PCI_PLOCK#
SERR# J4 PCI_SERR# PCI_SERR# 28
STOP# A4 PCI_STOP# PCI_STOP# 28
TRDY# F5 PCI_TRDY# PCI_TRDY# 28
FRAME# D7 PCI_FRAME# PCI_FRAME# 28

PLTRST# C14 PCI_PLTRST#
PCICLK D4 CLK_PCI_ICH CLK_PCI_ICH 17
PME# R2 ICH_PME# 28,31

Interrupt I/F

T66 PAD PCI_PIRQA# J5 PIRQA# PIRQE#/GPIO2 H4 SB_WPAN_PCIE_RST# SB_WPAN_PCIE_RST# 33
28 PCI_PIRQB# E1 PIRQB# PIRQF#/GPIO3 K6 SB_WLAN_PCIE_RST# SB_WLAN_PCIE_RST# 34
28 PCI_PIRQC# J6 PIRQC# PIRQG#/GPIO4 F2 SB_NB_PCIE_RST# SB_NB_PCIE_RST# 6
T55 PAD PCI_PIRQD# C4 PIRQD# PIRQH#/GPIO5 G2 ICH_IRQH_GPIO5 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.
16

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

+3.3V_SUS

Non-iAMT

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

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#

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

U35C

SMBCLK G16

SMBDATA A13

LINKALERT#/GPIO60/CLGPIO3 F17

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

CLK48 AF3 CLK_ICH_48M

SUSCLK P1 ICH_SUSCLK

SLP_S3# C16

SLP_S4# E16

SLP_S5# G17

S4_STATE#/GPIO26 C10

PWROK G20 ICH_PWRGD

DPRSLPVR/GPIO16 M2 DPRSLPVR

BATLOW# B13 ICH_BATLOW#

PWRBTN# R3

LAN_RST# D20 RSV_ICH_LAN_RST#

RSMRST# D22 ICH_RSMRST#

CK_PWRGD R5 CLK_PWRGD

CLPWROK R6 ICH_CL_PWROK

SLP_M# B16

CL_CLK0 F24

CL_CLK1 B19 RSV_ICH_CL_CLK1

CL_DATA0 F22

CL_DATA1 C19 RSV_ICH_CL_DATA1

CL_VREF0 C25 CL_VREF0

CL_VREF1 A19 CL_VREF1

CL_RST0# F21

CL_RST1# D18 CL_RST1#

MEM_LED/GPIO24 A16 RSV_GPIO24

ALERT#/GPIO10 C18 RSV_GPIO10

NETDETECT/GPIO14 C11 RSV_GPIO14

WOL_EN/GPIO9 C20 RSV_WOL_EN

+3.3V_RUN

R328 8.2K

CLK_ICH_14M 17

CLK_ICH_48M 17

ICH_SUSCLK PAD T133

SIO_SLP_S3# 31

PAD T78

SIO_SLP_S5# 31

ICH_PWRGD 6,44

DPRSLPVR 6,51

2/13-5

R580 8.2K +3.3V_SUS

SIO_PWRBTN# 31

PAD T70

ICH_RSMRST# 31

CLK_PWRGD 17

ICH_CL_PWROK 6,31

PAD T57

CL_CLK0 6

PAD T76

CL_DATA0 6

PAD T58

ICH_CL_RST0# 6

PAD T79

PAD T61

PAD T65

PAD T62

PAD T56

R264 8.2K +3.3V_SUS

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

http://hobi-elektronika.net

QUANTA COMPUTER

Title	ICH9-M (PM,GPIO,SMB,CL)	
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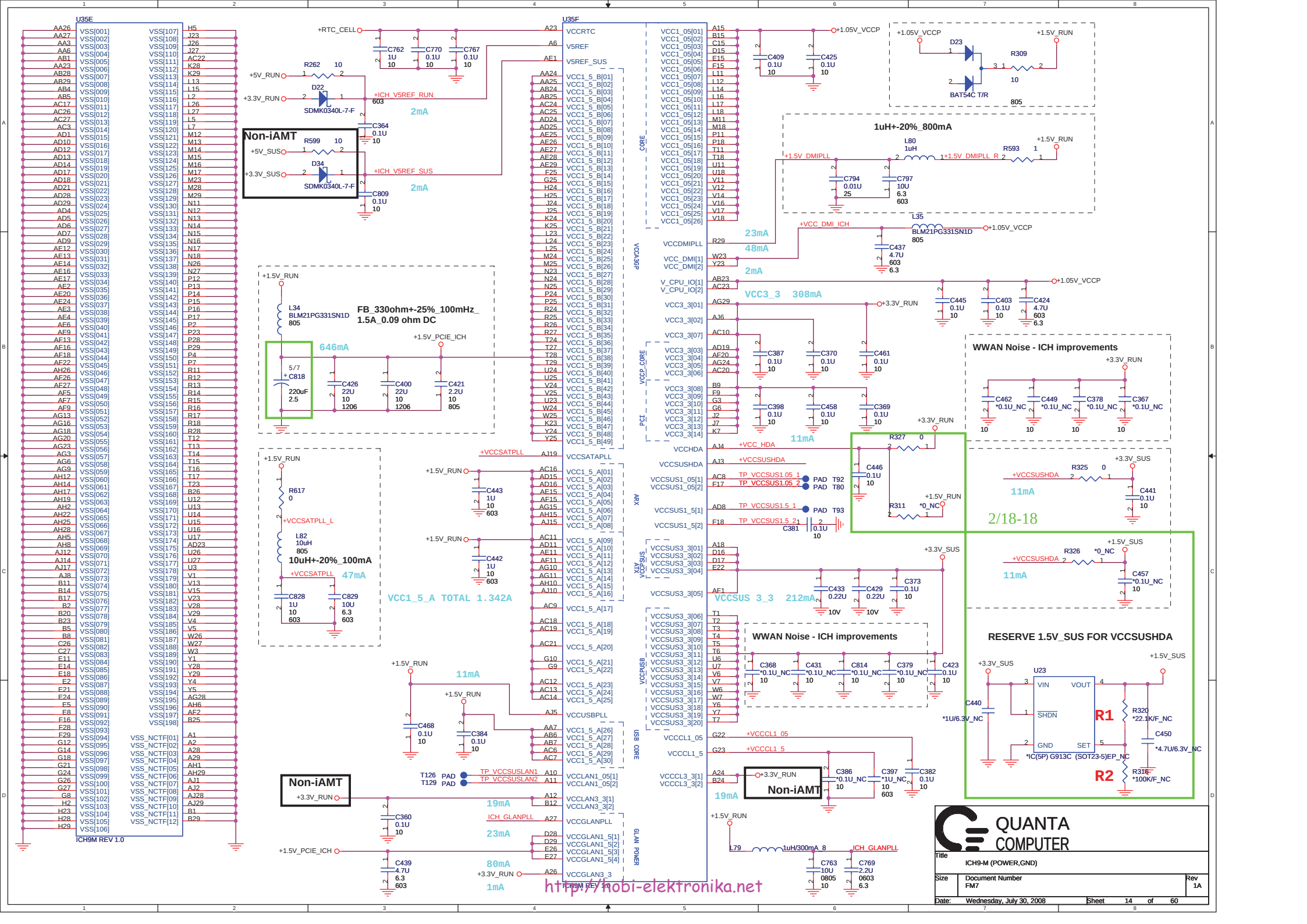
U35E
U35F
ICH9M REV 1.0
Non-iAMT
+RTC_CELL
+5V_RUN
+3.3V_RUN
+ICH_V5REF_RUN
+ICH_V5REF_SUS
+5V_SUS
+3.3V_SUS
SDMK0340L-7-F
FB_330ohm+-25%_100mHz_
1.5A_0.09 ohm DC
646mA
10uH+-20%_100mA
47mA
VCC1_5_A TOTAL 1.342A
1uH+-20%_800mA
23mA
48mA
2mA
VCC3_3 308mA
11mA
WWAN Noise - ICH improvements
RESERVE 1.5V_SUS FOR VCCSUSHDA
VCCSUS 3_3 212mA
19mA
80mA
1mA
+1.05V_VCCP
+1.5V_RUN
+1.5V_SUS
+3.3V_SUS
+1.5V_PCIE_ICH
+VCC_HDA
+VCCSUSHDA
+VCCSATPLL
+VCCSATPLL_L
+VCC_DMI_ICH
+VCCCL1_05
+VCCCL1_5
+1.5V_DMIPLL
+1.5V_DMIPLL_R
ICH_GLANPLL
TP_VCCSUS1.05_1
TP_VCCSUS1.05_2
TP_VCCSUS1.5_1
TP_VCCSUS1.5_2
PAD T92
PAD T80
PAD T93
PAD T126
PAD T129
TP_VCCSUSLAN1
TP_VCCSUSLAN2
2/18-18
QUANTA COMPUTER
ICH9M-M (POWER,GND)
FM7
Rev 1A
Wednesday, July 30, 2008
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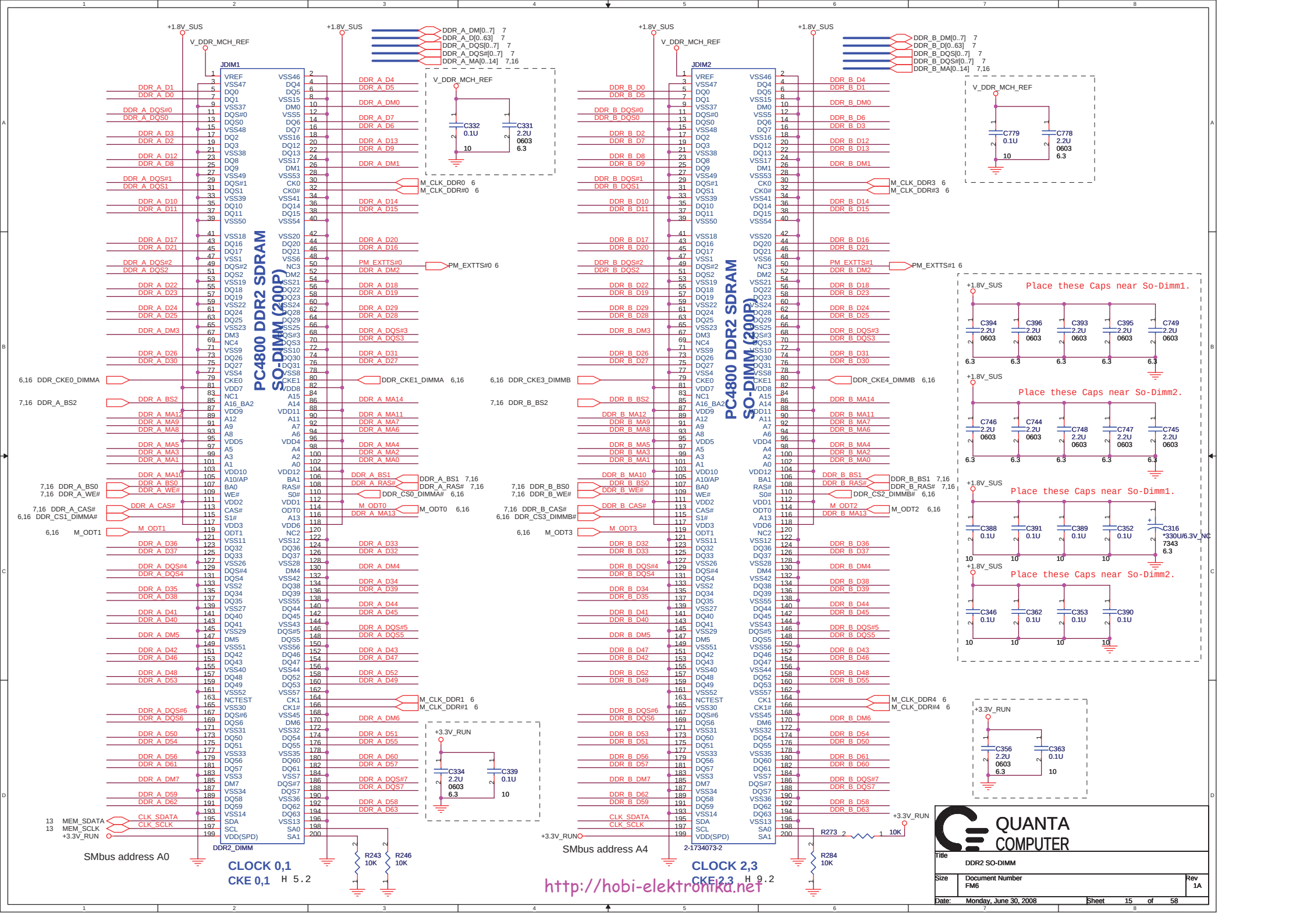
JDIM1
PC4800 DDR2 SDRAM SO-DIMM (200P)
DDR2_DIMM
SMbus address A0
CLOCK 0,1
CKE 0,1 H 5.2
JDIM2
PC4800 DDR2 SDRAM SO-DIMM (200P)
2-1734073-2
SMbus address A4
CLOCK 2,3
CKE 2,3 H 9.2
http://hobi-elektronika.net
Place these Caps near So-Dimm1.
Place these Caps near So-Dimm2.
Place these Caps near So-Dimm1.
Place these Caps near So-Dimm2.
QUANTA COMPUTER
Title
DDR2 SO-DIMM
Size
Document Number
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1A
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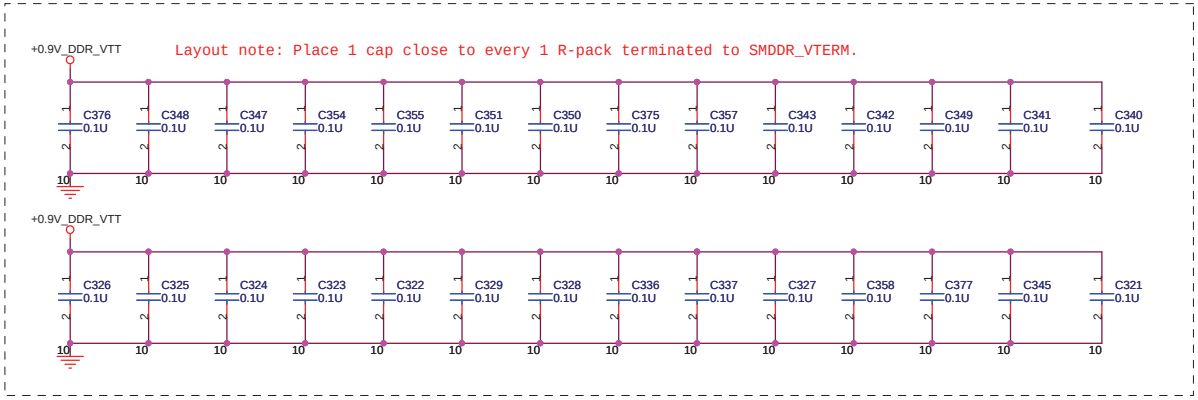
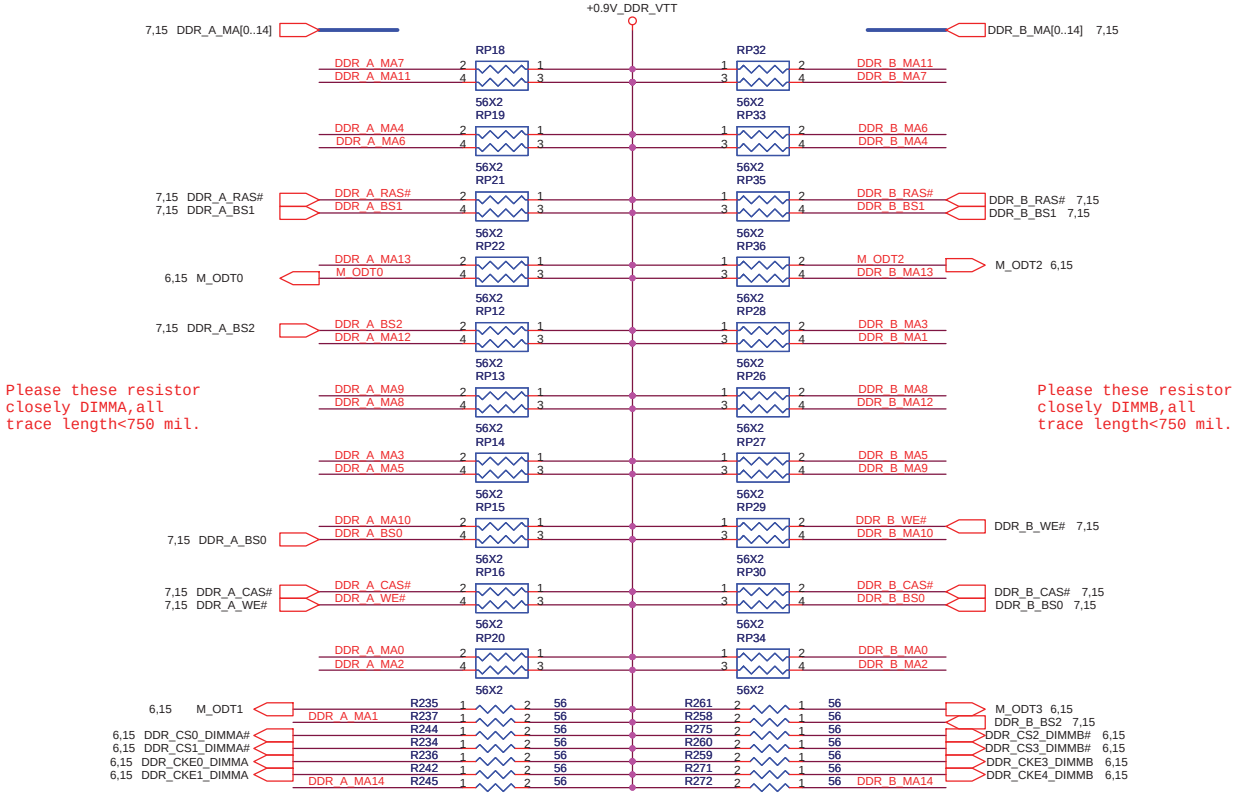
of
58





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

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

QUANTA COMPUTER

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

C694 20P 50 CLK_ICH_48M
C666 1 2 *27P_NC 50 CLK_ICH_14M
C679 1 2 *27P_NC 50 CLK_PCI_8512
C272 1 2 *27P_NC 50 CLK_PCI_PCCARD
C689 1 2 *27P_NC 50 CLK_PCI_ICH

Y3
CLK_XTAL_IN 1 2 CLK_XTAL_OUT
14.318MHZ
C653 33P 2 1 50
C652 33P 2 1 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# CK_PWRGD/PD#
63
2 XOUT
3 XIN
6 SDATA
7 SCLK
65 GND

CPU-0 61 CPU_BCLK
CPU-0# 60 CPU_BCLK#
RP40 0x2
CLK_CPU_BCLK 3
CLK_CPU_BCLK# 3

CPU-1 58 MCH_BCLK
CPU-1# 57 MCH_BCLK#
RP39 0x2
CLK_MCH_BCLK 5
CLK_MCH_BCLK# 5

SRC-8/CPU_ITP 54 PCIE_MINI1
SRC-8#/CPU_ITP# 53 PCIE_MINI1#
RP38 0x2
CLK_PCIE_MINI1 34
CLK_PCIE_MINI1# 34

SRC-0/DOT96 20 DOT96_SSC
SRC-0#/DOT96# 21 DOT96_SSC#
RP9 0x2
CLK_PCIE_VGA 18
CLK_PCIE_VGA# 18

SRC-1/SE1 24 27M_NSS
SRC-1#/SE2 25 27M_SS
R510 33
R509 *33_NC
CLK_VGA_27M_NSS 19
CLK_VGA_27M_SS 19

SRC-2/SATA 28 PCIE_SATA
SRC-2#/SATA# 29 PCIE_SATA#
RP10 0x2
CLK_PCIE_SATA 11
CLK_PCIE_SATA# 11

CR#_C/SRC-3 31 PCIE_MINI3
CR#_D/SRC-3# 32 PCIE_MINI3#
RP45 0x2
CLK_PCIE_MINI3 33
CLK_PCIE_MINI3# 33

SRC-4 34 MCH_3GPLL
SRC-4# 35 MCH_3GPLL#
RP44 0x2
CLK_MCH_3GPLL 6
CLK_MCH_3GPLL# 6

PCI_STOP#/SRC-5 45
CPU_STOP#/SRC5-5# 44
H_STP_PCI# 13
H_STP_CPU# 13

SRC-6 48 PCIE_EXPCARD
SRC-6# 47 PCIE_EXPCARD#
RP41 0x2
CLK_PCIE_EXPCARD 30
CLK_PCIE_EXPCARD# 30

CR#_F/SRC-7 51 MINI1CLK_REQ# C
CR#_E/SRC-7# 50 CARD_CLK_REQ# C
R464 475/F MINI1CLK_REQ#
R466 475/F CARD_CLK_REQ#
MINI1CLK_REQ# 34
CARD_CLK_REQ# 30

SRC-9 37 PCIE_MINI2
SRC-9# 38 PCIE_MINI2#
RP43 0x2
CLK_PCIE_MINI2 33
CLK_PCIE_MINI2# 33

SRC-10 41 PCIE_ICH
SRC-10# 42 PCIE_ICH#
RP42 0x2
CLK_PCIE_ICH 12
CLK_PCIE_ICH# 12

CR#_H/SRC-11 40 PCIE_LOM
CR#_G/SRC-11# 39 PCIE_LOM#
RP8 0x2
CLK_PCIE_LOM 42
CLK_PCIE_LOM# 42

2/20-21
2/21-24
2/20-21
Only for debug
7/30-70
2/13-6

13 SATA_CLKREQ# SATA_CLKREQ# R487 475/F SATA_CLKREQ# C 8
6 CLK_3GPLLREQ# CLK_3GPLLREQ# R489 475/F CLK_3GPLLREQ# C 10
PCI_PCCARD 11
33 CLK_LPC_DEBUG CLK_LPC_DEBUG R189 *22_NC PCI_SIO 12
28 CLK_PCI_PCCARD CLK_PCI_PCCARD R190 33 27M_SEL 13
31 CLK_PCI_8512 CLK_PCI_8512 R492 33 PCI_ICH 14
12 CLK_PCI_ICH CLK_PCI_ICH R499 33
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
CLK_XTAL_OUT 2
CLK_XTAL_IN 3
CLK_SDATA 6
CLK_SCLK 7

H_STP_PCI# R167 10K
H_STP_CPU# R174 10K

+3.3V_RUN
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
3 CLK_ITP_BCLK#
RP6 *0x2_NC
PCIE_MINI1
PCIE_MINI1#

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

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

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

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

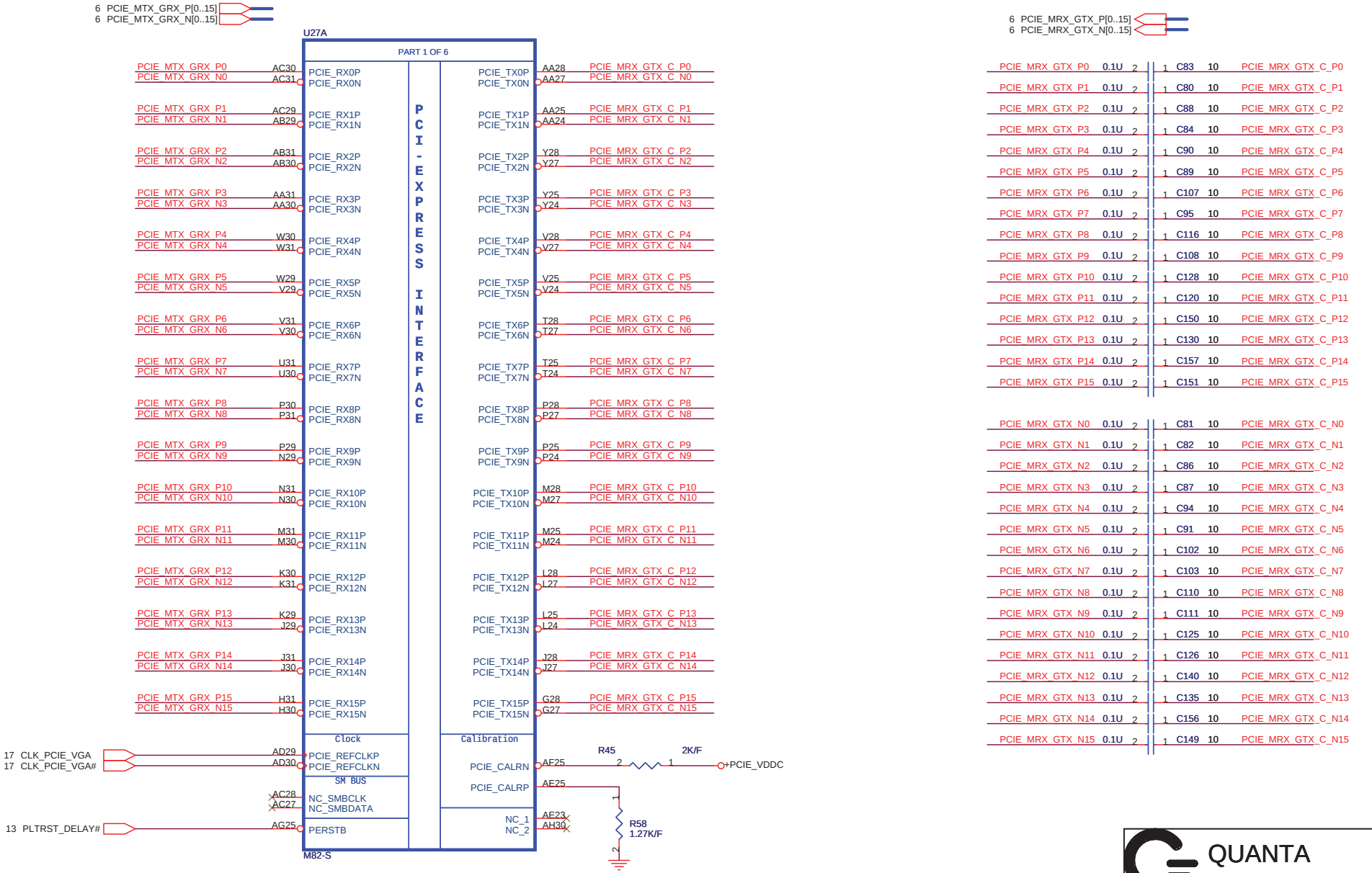
27M_SEL

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

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

QUANTA COMPUTER

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



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

Memory Straps	RAM_TYPE_CFG3	RAM_TYPE_CFG2	RAM_TYPE_CFG1	RAM_TYPE_CFG0
400MHz 256MB(32M*16) Samsung	0	0	1	0
400MHz 256MB(32M*16) Hynix	0	0	1	1
500MHz 256MB(32M*16) Samsung	0	1	1	0
500MHz 256MB(32M*16) Qimonda	0	1	0	0

+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
HDMI_CLK- 26
HDMI_CLK+ 26
HDMI_TX0- 26
HDMI_TX0+ 26
HDMI_TX1- 26
HDMI_TX1+ 26
HDMI_TX2- 26
HDMI_TX2+ 26

DVALID
PSYNC_NEW
DPA_PVDD / DPA_PVSS
DPB_PVDD / DPB_PVSS
+TPVDD

DVPCNTL_MVP_0
DVPCNTL_MVP_1
DVPCNTL_0
DVPCNTL_1
DVPCNTL_2
DVPCLK
DPA_VDDR_1 / DPA_VDDR_2
+DPA_VDDR
DPB_VDDR_1 / DPB_VDDR_2
+DPB_VDDR
DPA_VSSR_5 / DPA_VSSR_4 / DPA_VSSR_3 / DPA_VSSR_2 / DPA_VSSR_1
DPB_VSSR_5 / DPB_VSSR_4 / DPB_VSSR_3 / DPB_VSSR_2 / DPB_VSSR_1

DVPDATA_0 … DVPDATA_23
EXT TMDS DVO
DP_CALR
HPD1

R / RB
G / GB
B / BB
DAC1 / CRT
HSYNC / VSYNC
RSET
AVDD
AVSSQ
VDD1DI
VSS1DI
R2 / R2B
G2 / G2B
B2 / B2B
DAC2 (TV/CRT2)
C
Y
COMP
V2SYNC / H2SYNC
A2VDD
A2VDDQ
A2SSQ
VDD2DI
VSS2DI
R2SET
VGA_RED 27
VGA_GRN 27
VGA_BLU 27
VGAHSYNC 27
VGAVSYNC 27
R59 499/F
+AVDD
+VDD1D_2D
+A2VDD
+A2VDDQ
R404 715/F

GPIO_0 … GPIO_28_TDO
GENERAL PURPOSE I/O
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
TS_FDO
THERMAL
DPLUS / DMINUS
VGA_THERMDP 22
VGA_THERMDN 22

SERIAL BUSES
SCL / SDA
DDC1DATA / DDC1CLK
DDC2DATA / DDC2CLK
DDC3DATA_DP3_AUXN / DDC3CLK_DP3_AUXP
DDC4DATA_DP4_AUXN / DDC4CLK_DP4_AUXP
LCD_DDCDAT 26
LCD_DDCCLK 26
HDMI_SDA 26
HDMI_SCL 26
G_DAT_DDC2 27
G_CLK_DDC2 27

LVDS
HDMI
CRT

RAM_TYPE_CFG0
RAM_TYPE_CFG1
RAM_TYPE_CFG2
RAM_TYPE_CFG3
31 PANEL_BKEN
HDMI_HD_EN
RAM_CFG3
GPIO10
RAM_CFG0
RAM_CFG1
RAM_CFG2
50 GFX_CORE_CNTRL0
CLK_VGA_27M_SSIN_R
22 THERMAL_INT#
R105 *0_NC
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#
22 OSC_SPREAD
R389 *0_NC
17 CLK_VGA_27M_SS
R398 *0_NC
CLK_VGA_27M_SSIN_R
17 CLK_VGA_27M_NSS
R399 100/F
R412 120/F
R411 0
R393 *10K_NC
22 OSC_OUT
R388 *0_NC
Y2 *27MHZ_NC
R387 *0_NC
XTAIN
XTAOUT
R390 1M_NC
C524 *18P_NC
C520 *18P_NC
50
R46 1K

+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.

2/25-28

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

R61 0
R60 0
R413 0
VIP_3
R73 150

QUANTA COMPUTER
Title: VGA-G86GLM (VIDEO)
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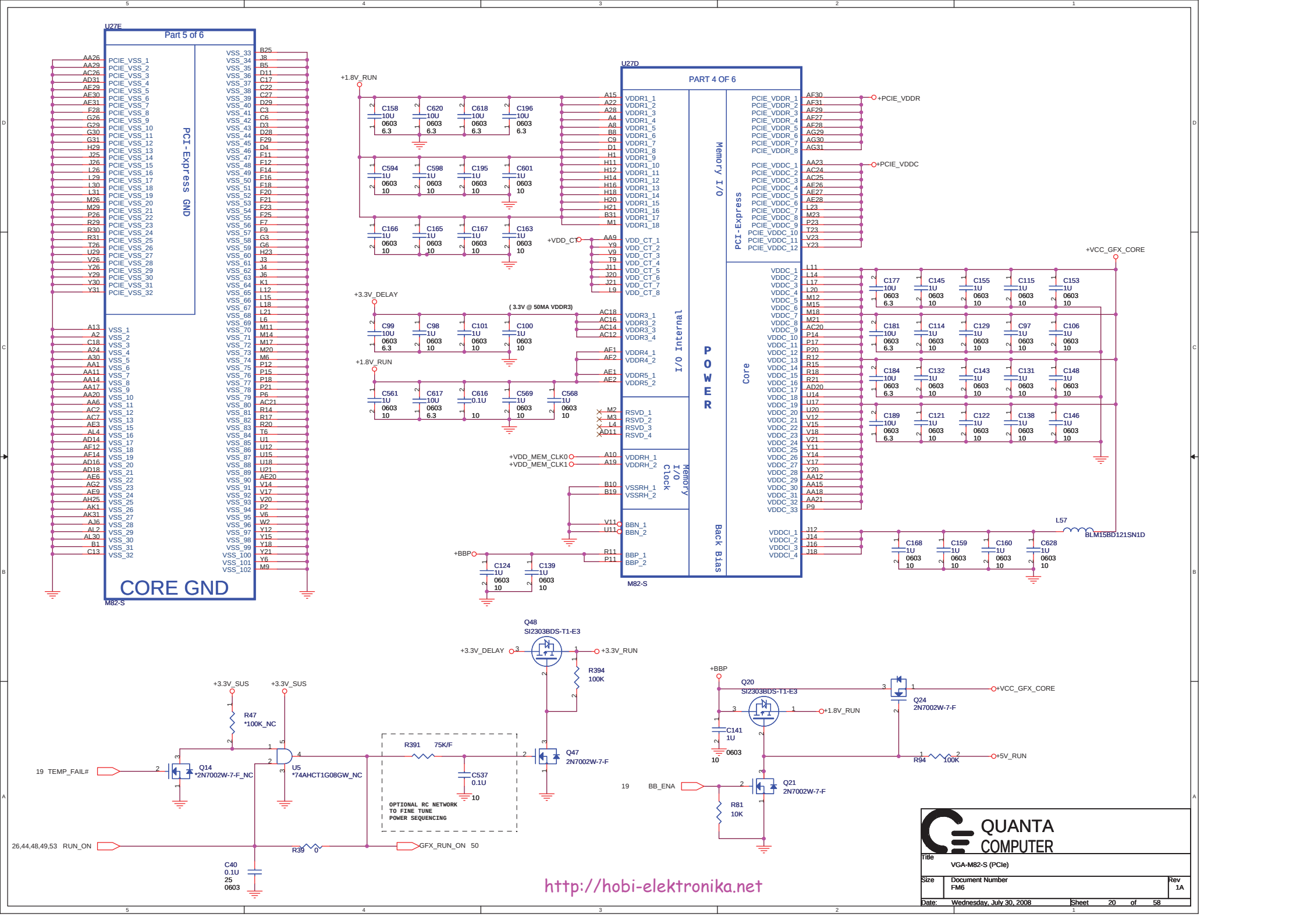
U27E
Part 5 of 6
PCI Express GND
CORE GND
M82-S
U27D
PART 4 OF 6
POWER
Memory I/O
PCI-Express
Core
I/O Internal
Memory I/O Clock
Back Bias
M82-S
+1.8V_RUN
+3.3V_DELAY
+VDD_CT
+VDD_MEM_CLK0
+VDD_MEM_CLK1
+BBP
+PCIE_VDDR
+PCIE_VDDC
+VCC_GFX_CORE
(3.3V @ 50MA VDDR3)
L57
BLM15BD121SN1D
Q48
SI2303BDS-T1-E3
Q20
SI2303BDS-T1-E3
Q24
2N7002W-7-F
Q14
*2N7002W-7-F_NC
Q47
2N7002W-7-F
Q21
2N7002W-7-F
U5
*74AHCT1G08GW_NC
+3.3V_SUS
19 TEMP_FAIL#
19 BB_ENA
26,44,48,49,53 RUN_ON
GFX_RUN_ON 50
OPTIONAL RC NETWORK
TO FINE TUNE
POWER SEQUENCING
http://hobi-elektronika.net
QUANTA COMPUTER
Title
VGA-M82-S (PCIe)
Size
Document Number
FM6
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1A
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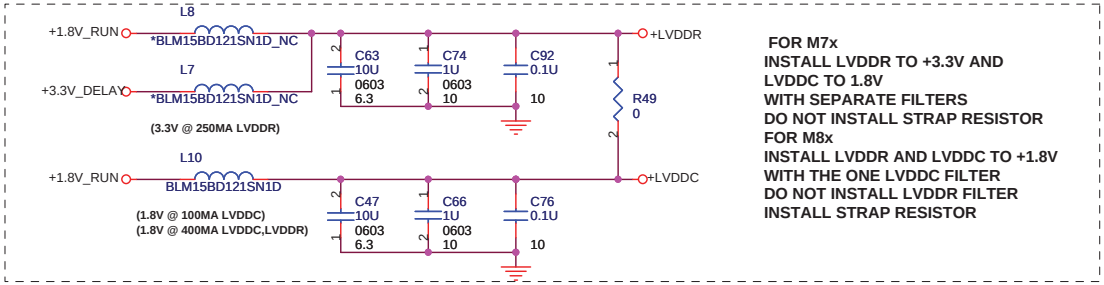
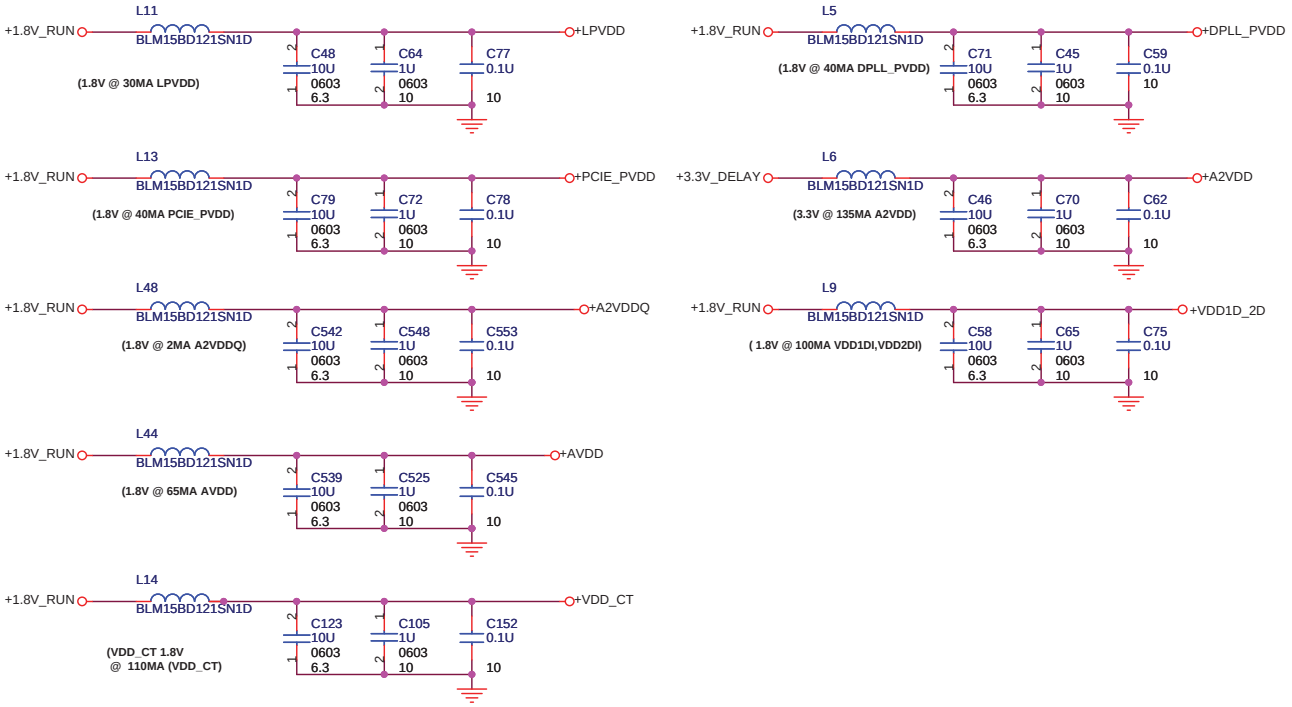
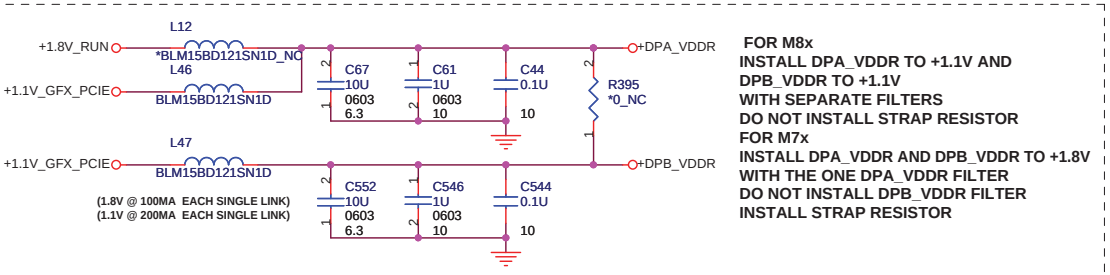
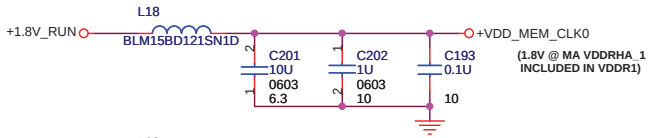


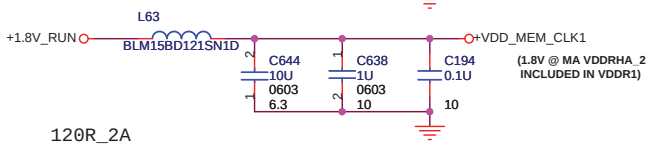
FOR M7x
INSTALL LVDDR TO +3.3V AND
LVDDC TO 1.8V
WITH SEPARATE FILTERS
DO NOT INSTALL STRAP RESISTOR
FOR M8x
INSTALL LVDDR AND LVDDC TO +1.8V
WITH THE ONE LVDDC FILTER
DO NOT INSTALL LVDDR FILTER
INSTALL STRAP RESISTOR



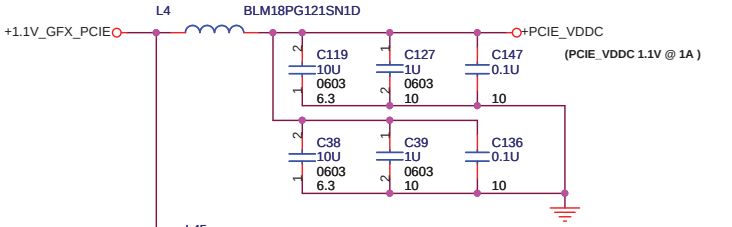


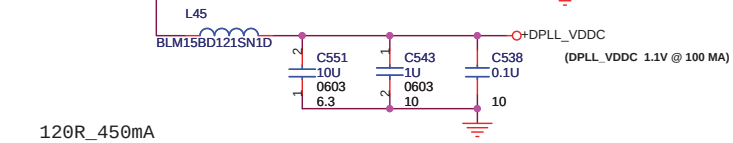
FOR M8x
INSTALL DPA_VDDR TO +1.1V AND
DPB_VDDR TO +1.1V
WITH SEPARATE FILTERS
DO NOT INSTALL STRAP RESISTOR
FOR M7x
INSTALL DPA_VDDR AND DPB_VDDR TO +1.8V
WITH THE ONE DPA_VDDR FILTER
DO NOT INSTALL DPB_VDDR FILTER
INSTALL STRAP RESISTOR



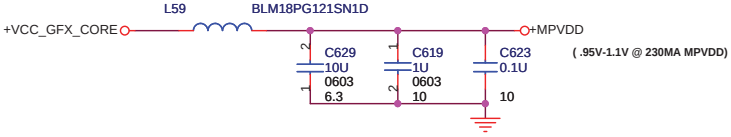


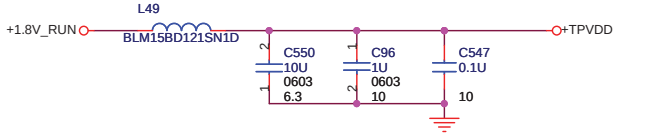
120R_2A





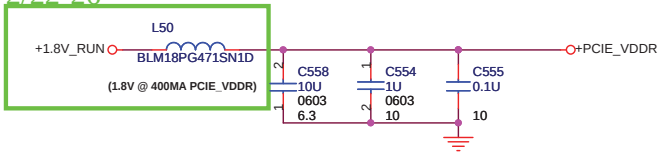
120R_450mA





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

2/22-26



PLACE ALL DECOUPLING AS CLOSE TO ASIC AS POSSIBLE

QUANTA COMPUTER

Title	VGA-M82-S (PCIe)	
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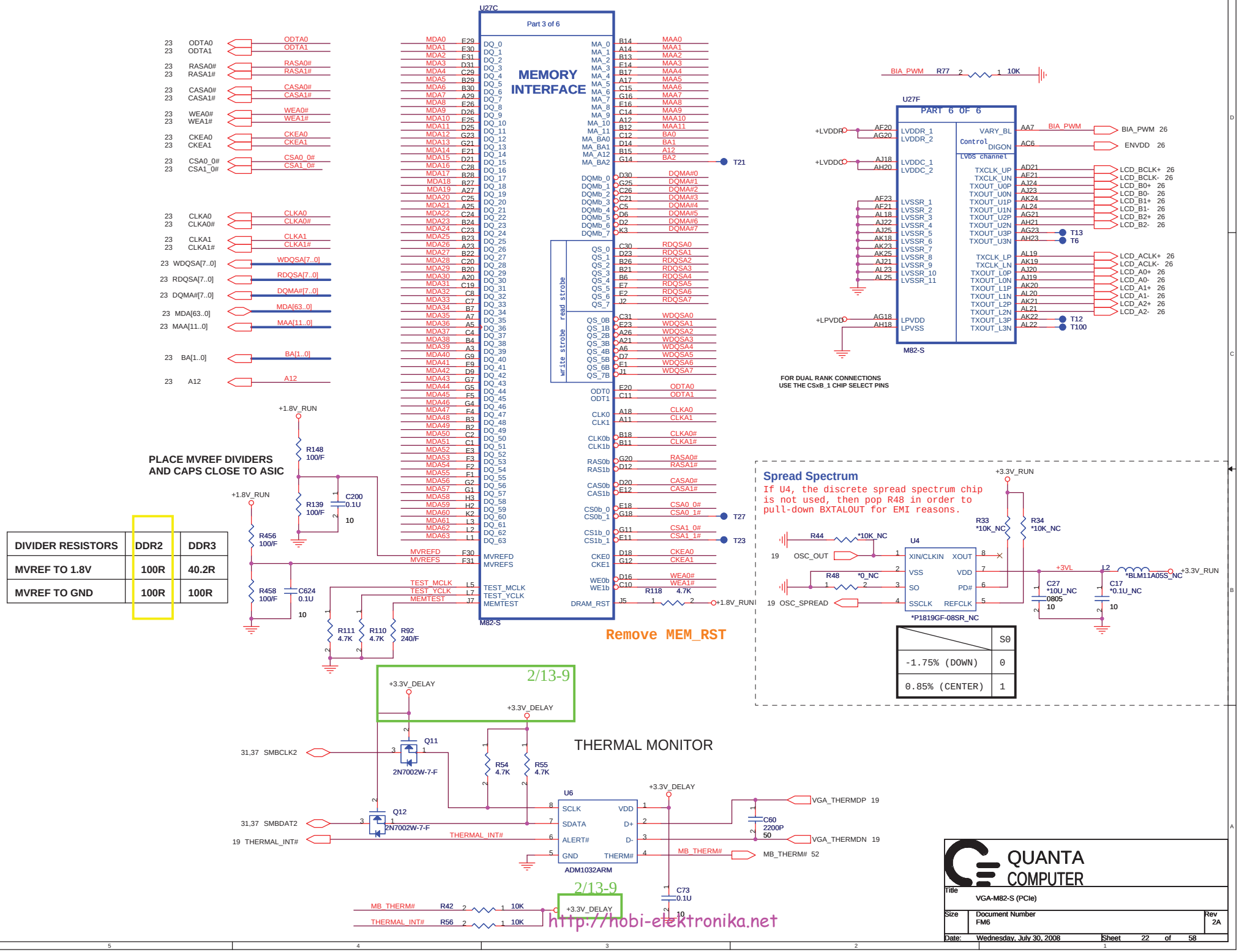
Date: Monday, June 30, 2008	Sheet 21 of 58	


U27C
Part 3 of 6
MEMORY INTERFACE
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
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
Remove MEM_RST
THERMAL MONITOR
2/13-9
2/13-9
ADM1032ARM
QUANTA COMPUTER
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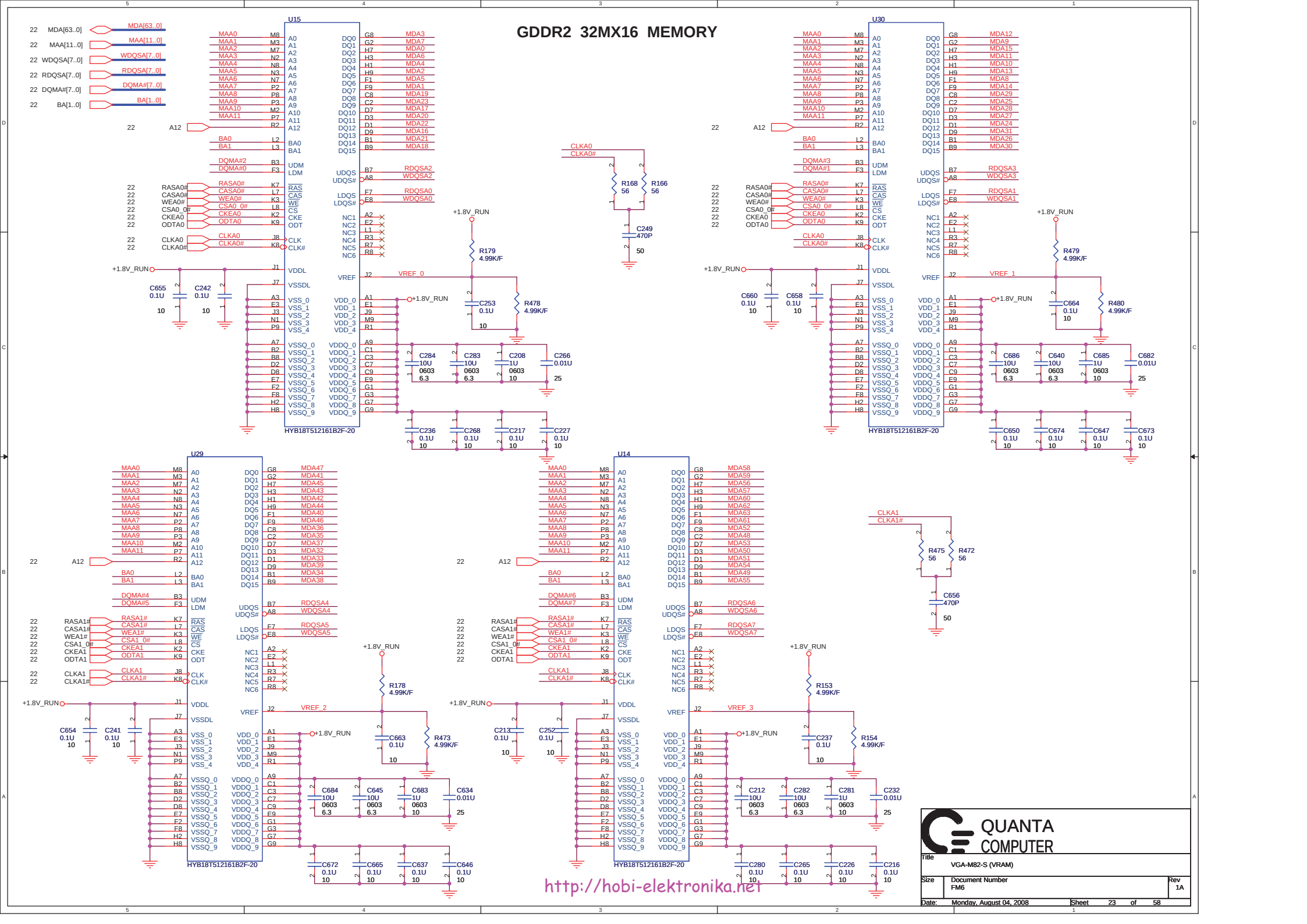
GDDR2 32MX16 MEMORY



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QUANTA COMPUTER

Title	VGA-M82-S (VRAM)	
Size	Document Number FM6	Rev 1A
Date: Monday, August 04, 2008	Sheet 23 of 58	

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

QUANTA COMPUTER

Title	VGA-M82-S (PCIe)	
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QUANTA COMPUTER

Title	VGA-M82-S (PCIe)	
Size	Document Number FM6	Rev 1A
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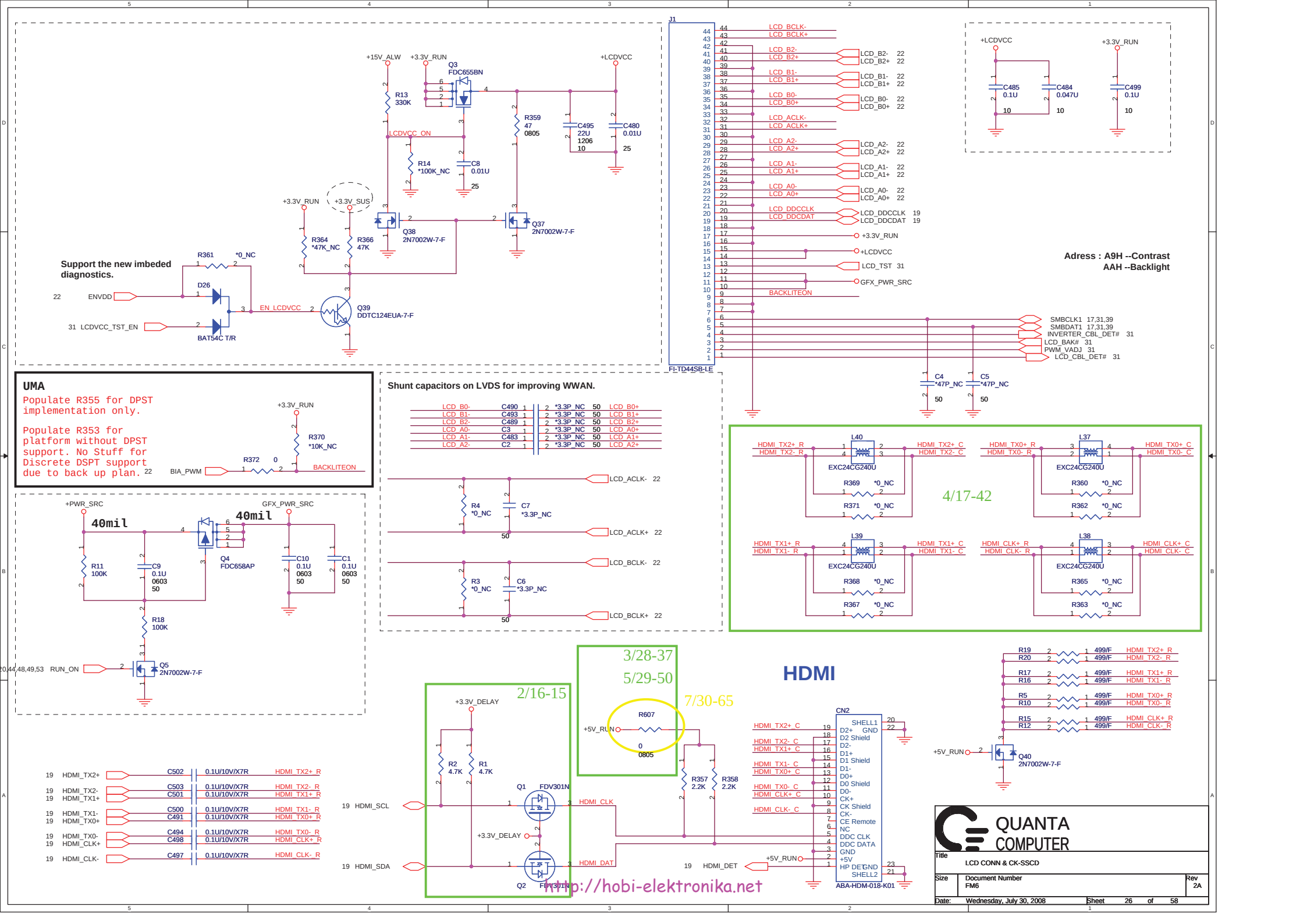
Support the new imbeded diagnostics.
Adress : A9H --Contrast
AAH --Backlight
UMA
Populate R355 for DPST implementation only.
Populate R353 for platform without DPST support. No Stuff for Discrete DSPT support due to back up plan.
Shunt capacitors on LVDS for improving WWAN.
HDMI
3/28-37
5/29-50
7/30-65
2/16-15
4/17-42
Title
LCD CONN & CK-SSCD
Size
Document Number
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2A
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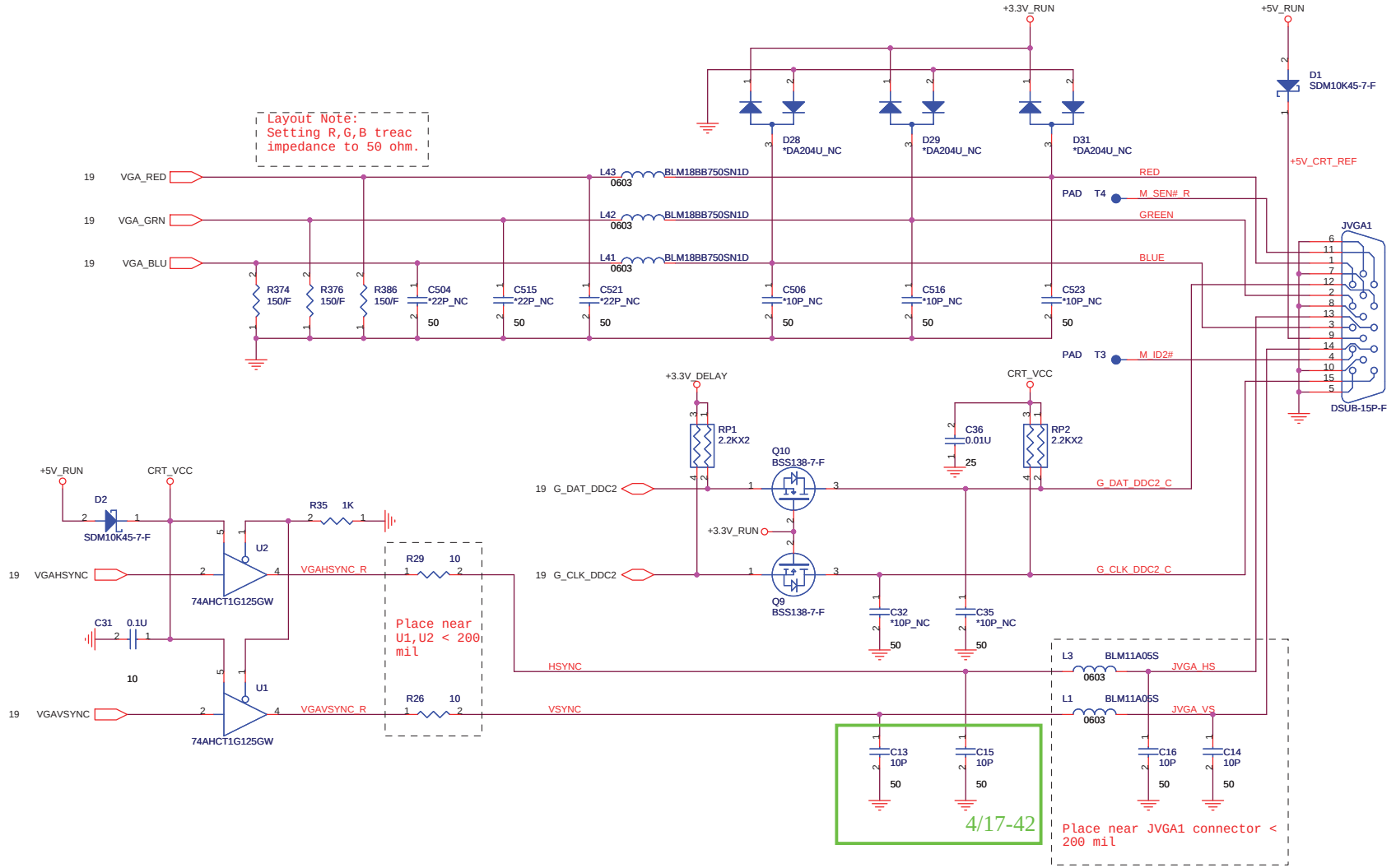

QUANTA COMPUTER

Title	CRT&TV CONN	
Size	Document Number FM6	Rev 2A
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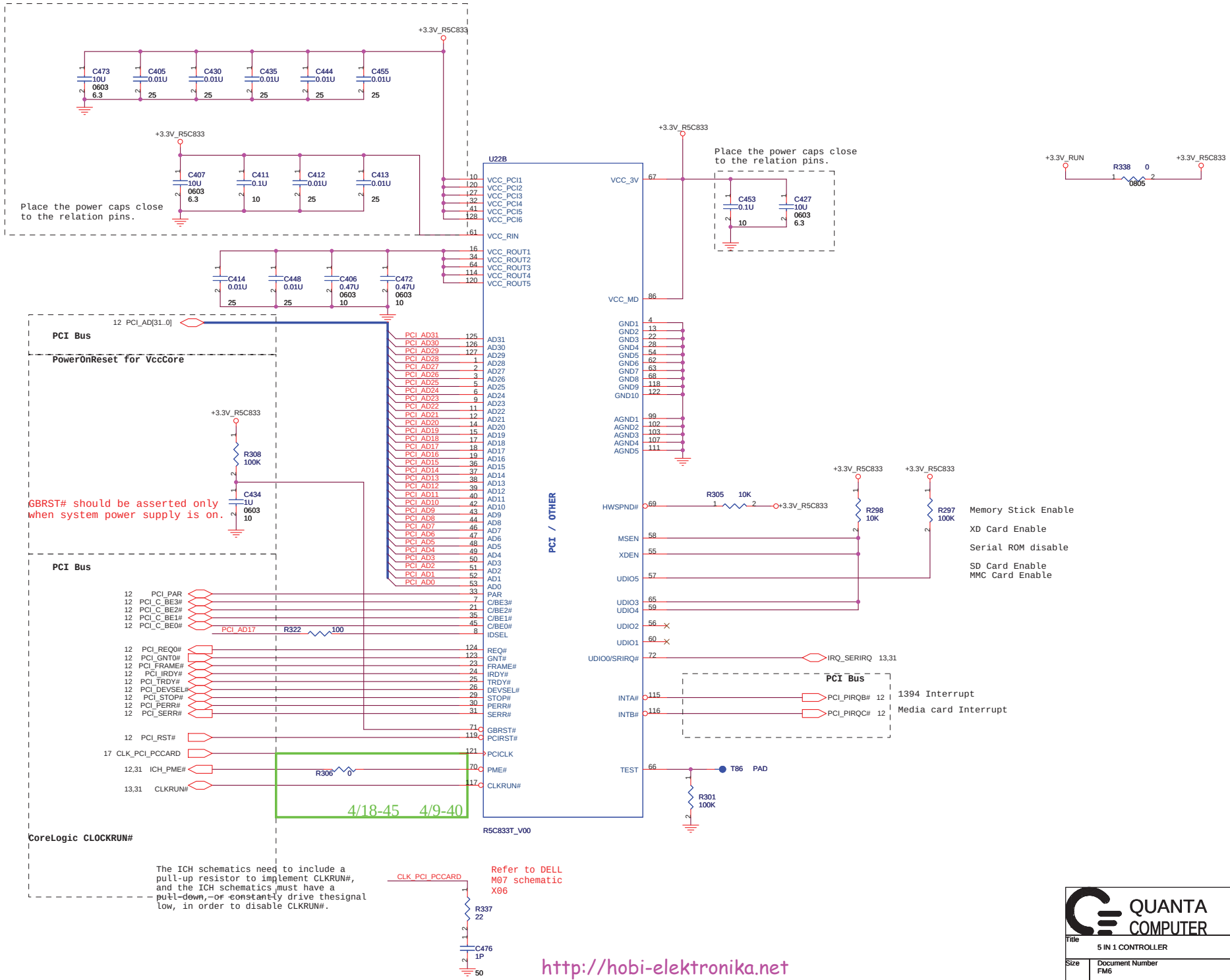
+3.3V_R5C833
C473 10U 0603 6.3
C405 0.01U 25
C430 0.01U 25
C435 0.01U 25
C444 0.01U 25
C455 0.01U 25
C407 10U 0603 6.3
C411 0.1U 10
C412 0.01U 25
C413 0.01U 25
Place the power caps close to the relation pins.
U22B
VCC_PCI1
VCC_PCI2
VCC_PCI3
VCC_PCI4
VCC_PCI5
VCC_PCI6
VCC_RIN
VCC_ROUT1
VCC_ROUT2
VCC_ROUT3
VCC_ROUT4
VCC_ROUT5
VCC_3V
VCC_MD
C453 0.1U 10
C427 10U 0603 6.3
Place the power caps close to the relation pins.
+3.3V_RUN
R338 0 0805
C414 0.01U 25
C448 0.01U 25
C406 0.47U 0603 10
C472 0.47U 0603 10
12 PCI_AD[31..0]
PCI Bus
PowerOnReset for VccCore
GBRST# should be asserted only when system power supply is on.
R308 100K
C434 1U 0603 10
PCI_AD31
PCI_AD30
PCI_AD29
PCI_AD28
PCI_AD27
PCI_AD26
PCI_AD25
PCI_AD24
PCI_AD23
PCI_AD22
PCI_AD21
PCI_AD20
PCI_AD19
PCI_AD18
PCI_AD17
PCI_AD16
PCI_AD15
PCI_AD14
PCI_AD13
PCI_AD12
PCI_AD11
PCI_AD10
PCI_AD9
PCI_AD8
PCI_AD7
PCI_AD6
PCI_AD5
PCI_AD4
PCI_AD3
PCI_AD2
PCI_AD1
PCI_AD0
AD31
AD30
AD29
AD28
AD27
AD26
AD25
AD24
AD23
AD22
AD21
AD20
AD19
AD18
AD17
AD16
AD15
AD14
AD13
AD12
AD11
AD10
AD9
AD8
AD7
AD6
AD5
AD4
AD3
AD2
AD1
AD0
PCI / OTHER
GND1
GND2
GND3
GND4
GND5
GND6
GND7
GND8
GND9
GND10
AGND1
AGND2
AGND3
AGND4
AGND5
HWSPND#
R305 10K
R298 10K
R297 100K
Memory Stick Enable
XD Card Enable
Serial ROM disable
SD Card Enable
MMC Card Enable
MSEN
XDEN
UDIO5
UDIO3
UDIO4
UDIO2
UDIO1
UDIO0/SRIRQ#
IRQ_SERIRQ 13,31
PCI Bus
INTA#
INTB#
PCI_PIRQB# 12
PCI_PIRQC# 12
1394 Interrupt
Media card Interrupt
12 PCI_PAR
12 PCI_C_BE3#
12 PCI_C_BE2#
12 PCI_C_BE1#
12 PCI_C_BE0#
PCI_AD17 R322 100
C/BE3#
C/BE2#
C/BE1#
C/BE0#
IDSEL
12 PCI_REQ0#
12 PCI_GNT0#
12 PCI_FRAME#
12 PCI_IRDY#
12 PCI_TRDY#
12 PCI_DEVSEL#
12 PCI_STOP#
12 PCI_PERR#
12 PCI_SERR#
REQ#
GNT#
FRAME#
IRDY#
TRDY#
DEVSEL#
STOP#
PERR#
SERR#
12 PCI_RST#
GBRST#
PCIRST#
17 CLK_PCI_PCCARD
PCICLK
12,31 ICH_PME#
R306 0
PME#
13,31 CLKRUN#
CLKRUN#
TEST
T86 PAD
R301 100K
4/18-45 4/9-40
R5C833T_V00
CoreLogic CLOCKRUN#
The ICH schematics need to include a pull-up resistor to implement CLKRUN#, and the ICH schematics must have a pull-down, or constantly drive thesignal low, in order to disable CLKRUN#.
CLK_PCI_PCCARD
Refer to DELL M07 schematic X06
R337 22
C476 1P
http://hobi-elektronika.net
QUANTA COMPUTER
Title
5 IN 1 CONTROLLER
Size
Document Number FM6
Rev 1A
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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.

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

*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).

GUARD GND

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

Populate C455 for R5C832 chipset.

C466 *0.01U_NC 25 RICOH_FILO 96 FIL0
R339 10K/F 1 2 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

97 RSV

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

R5C833T_V00

33

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Title	IEEE 1394	
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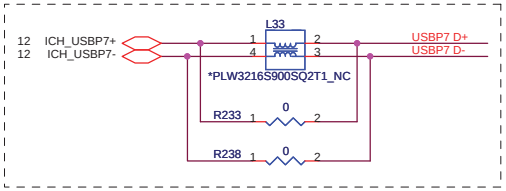
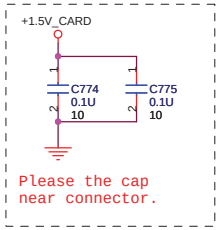
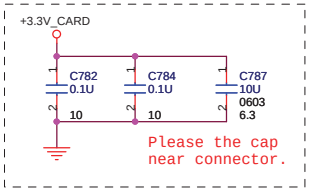
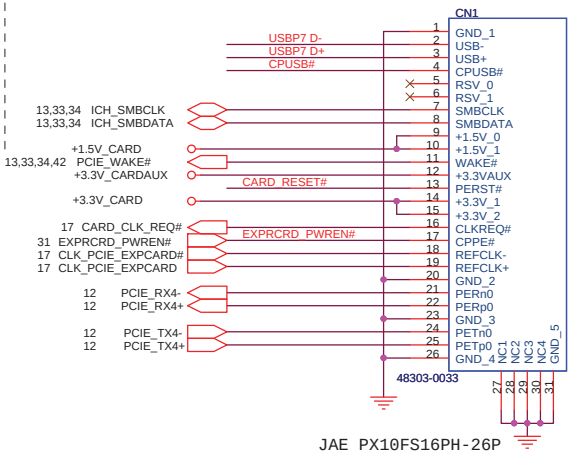
Express Card

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



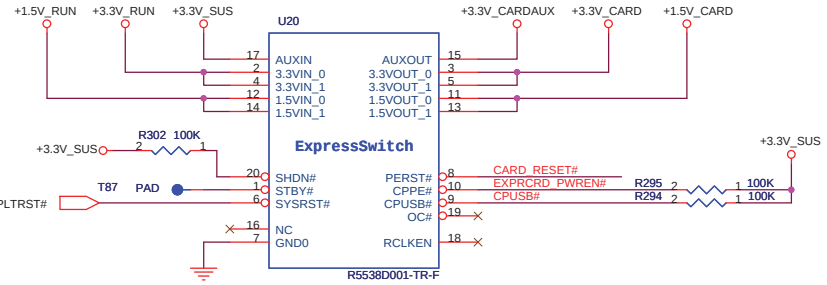


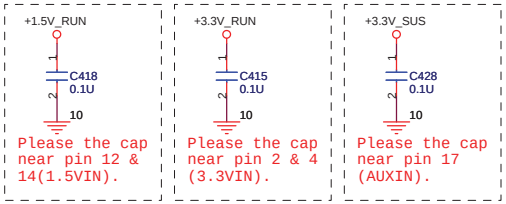


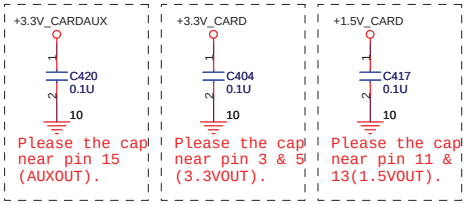


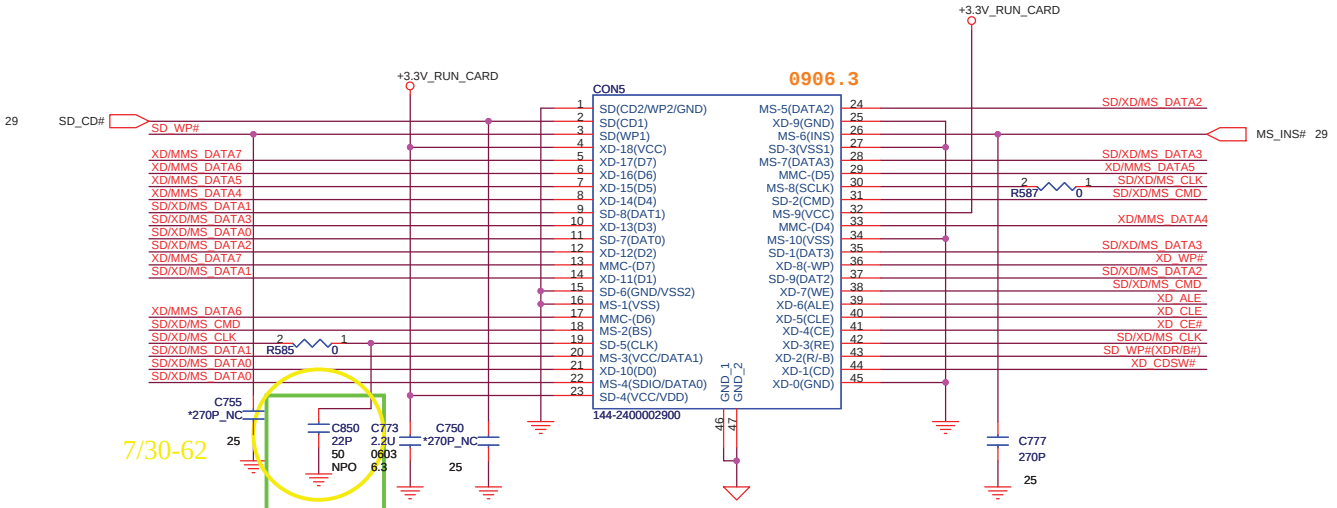
JAE PX10FS16PH-26P

PCI-Express TX and RX direct to connector.





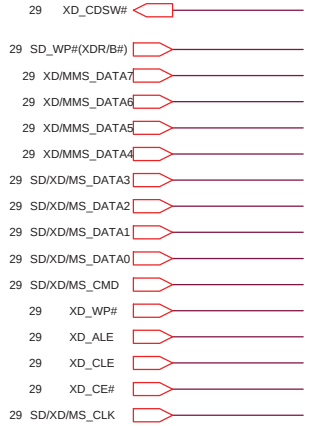


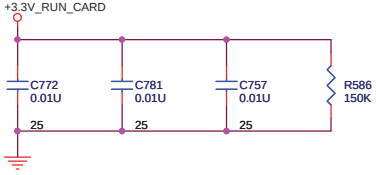


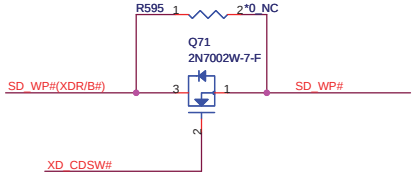
7/30-62

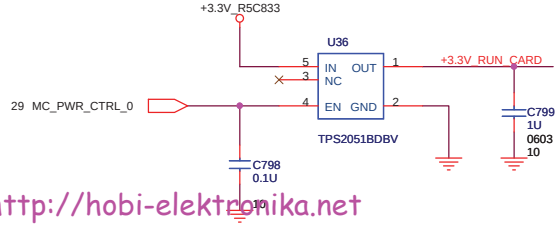
4/17-42

8 IN1 CARD READER









QUANTA COMPUTER

Title	ExpressCard/SmartCard	
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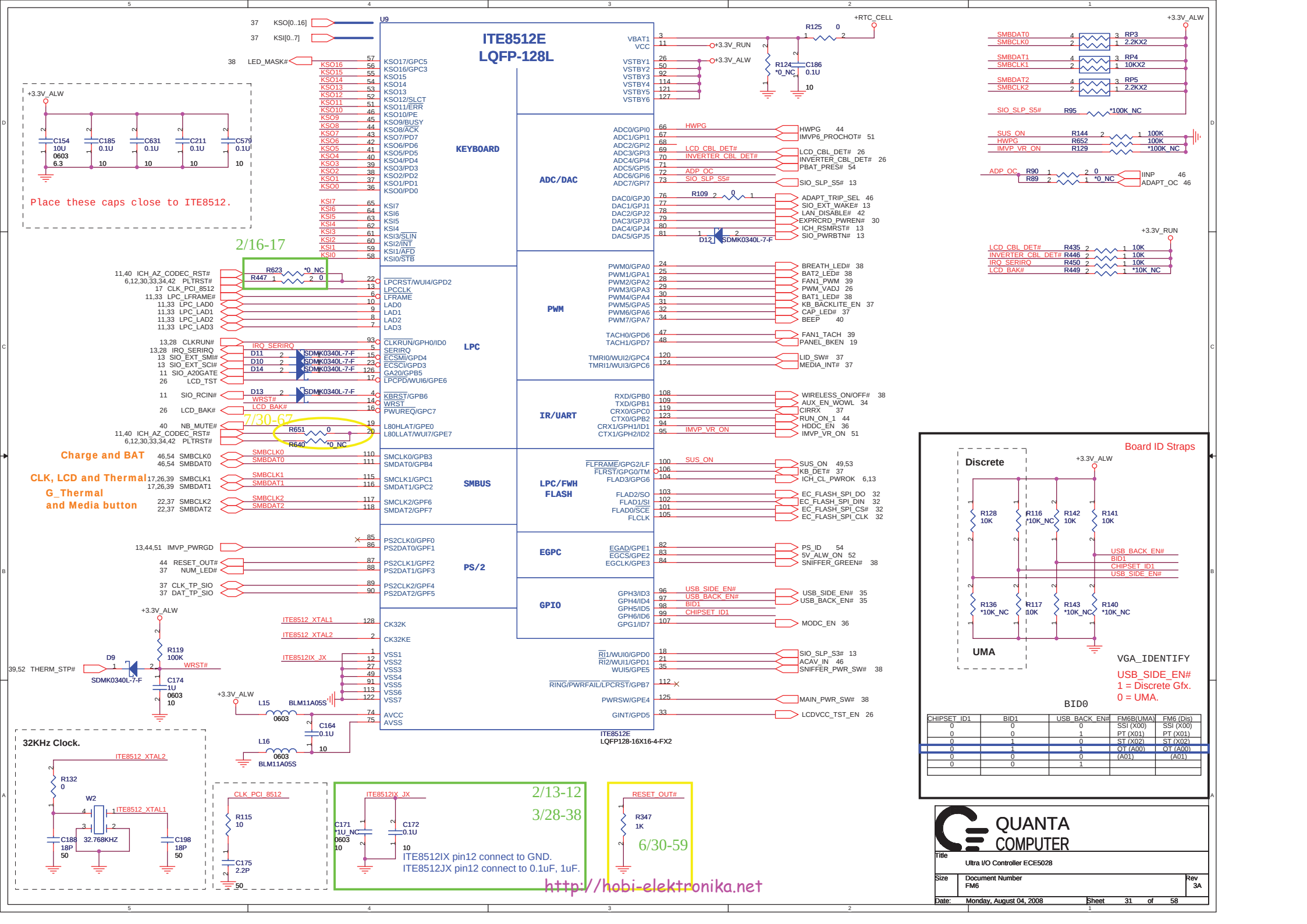
ITE8512E
LQFP-128L
U9
KEYBOARD
ADC/DAC
PWM
LPC
IR/UART
SMBUS
LPC/FWH
FLASH
EGPC
PS/2
GPIO
Place these caps close to ITE8512.
Charge and BAT
CLK, LCD and Thermal
G_Thermal
and Media button
2/16-17
7/30-67
Board ID Straps
Discrete
UMA
VGA_IDENTIFY
USB_SIDE_EN#
1 = Discrete Gfx.
0 = UMA.
BID0
32KHz Clock.
2/13-12
3/28-38
ITE8512IX pin12 connect to GND.
ITE8512JX pin12 connect to 0.1uF, 1uF.
6/30-59
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QUANTA COMPUTER
Ultra I/O Controller ECE5028
FM6
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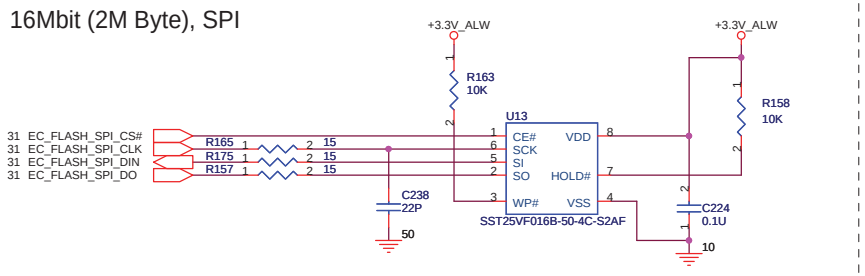
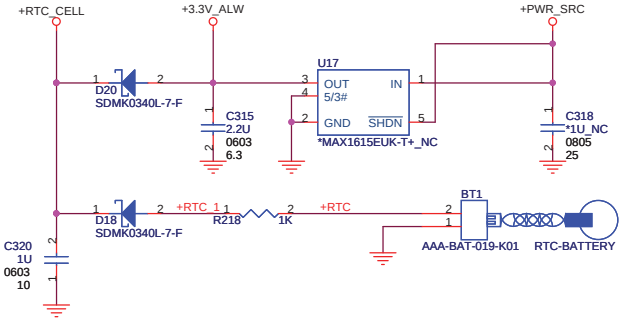
16Mbit (2M Byte), SPI



RTC BATTERY



QUANTA COMPUTER

Title	Ultra I/O Controller ECE5028	
Size	Document Number FM6	Rev 3A
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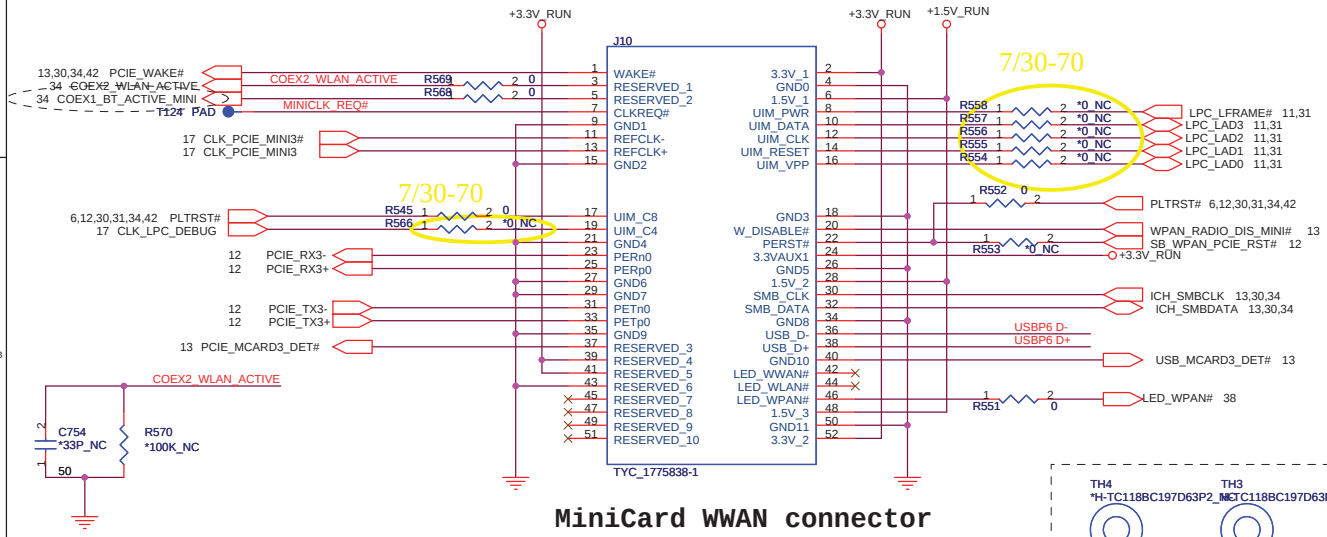
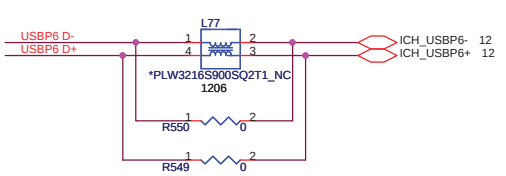
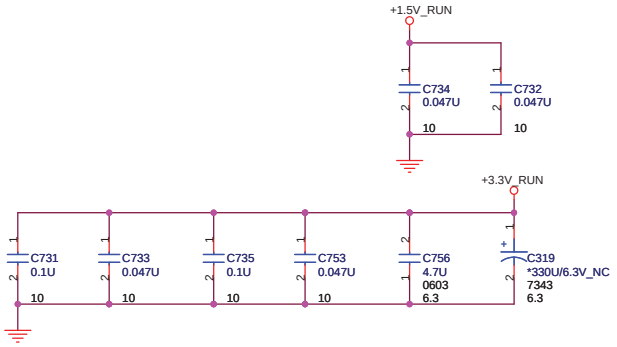
MiniCard Robson, BT. UWB connector

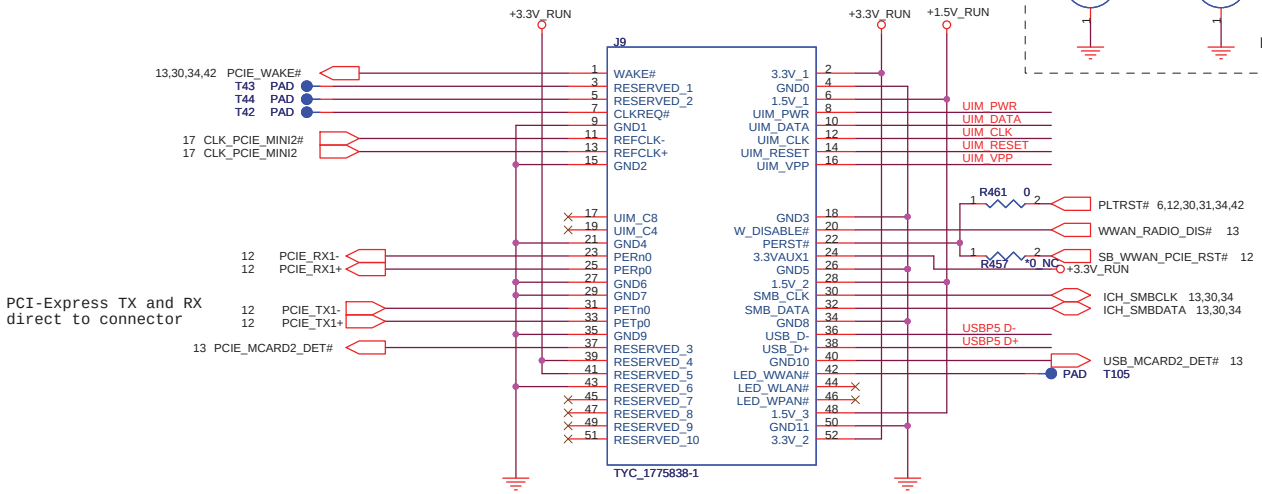


TH6 *H-TC118BC197D63P2_NC
TH5 H-TC118BC197D63P2
For MiniCard nut use.



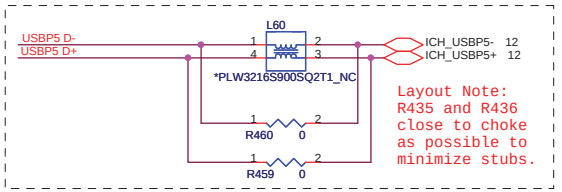


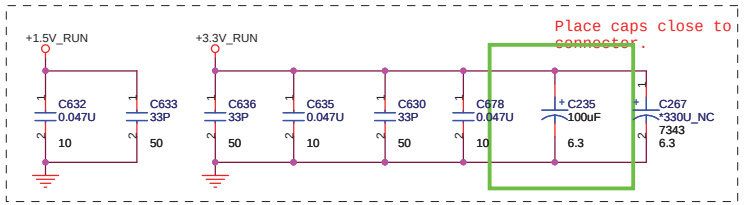
MiniCard WWAN connector

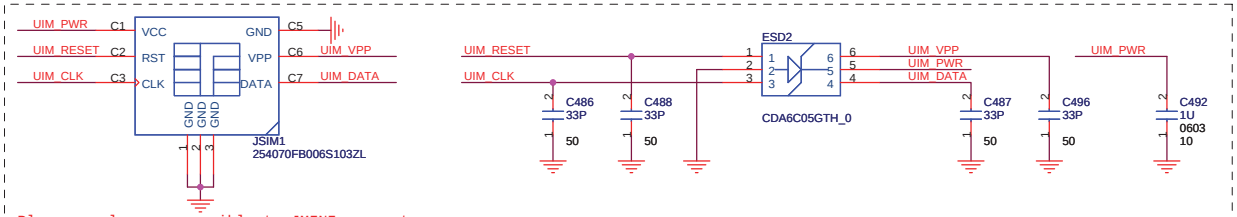


PCI-Express TX and RX direct to connector

TH4 *H-TC118BC197D63P2_NC
TH3 H-TC118BC197D63P2
For MiniCard nut use.







QUANTA COMPUTER

Title	MINI-PCI	
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MiniCard WLAN connector

TH2 *H-TC177BC197D83P2_NC
TH1 -TC177BC197D83P2

For MiniCard nut use.

J11 TYC_1775838-1

13,30,33,42 PCIE_WAKE#
33 COEX2_WLAN_ACTIVE
33 COEX1_BT_ACTIVE_MIN
17 MINI1CLK_REQ#
17 CLK_PCIE_MINI1#
17 CLK_PCIE_MINI1

MINI1CLK_REQ#
C752 220P 50

R565 1 2 0
R567 1 2 0
MINI1CLK_REQ#

1	WAKE#	3.3V_1	2
3	RESERVED_1	GND0	4
5	RESERVED_2	1.5V_1	6
7	CLKREQ#	UIM_PWR	8
9	GND1	UIM_DATA	10
11	REFCLK-	UIM_CLK	12
13	REFCLK+	UIM_RESET	14
15	GND2	UIM_VPP	16
17	UIM_C8	GND3	18
19	UIM_C4	W_DISABLE#	20
21	GND4	PERST#	22
23	PERn0	3.3VAUX1	24
25	PERp0	GND5	26
27	GND6	1.5V_2	28
29	GND7	SMB_CLK	30
31	PETn0	SMB_DATA	32
33	PETp0	GND8	34
35	GND9	USB_D-	36
37	RESERVED_3	USB_D+	38
39	RESERVED_4	GND10	40
41	RESERVED_5	LED_WWAN#	42
43	RESERVED_6	LED_WLAN#	44
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

+3.3V_WLAN
+3.3V_WLAN
+1.5V_RUN

R544 0 — PLTRST# 6,12,30,31,33,42
WLAN_RADIO_OFF#
R548 *0_NC — SB_WLAN_PCIE_RST# 12
+3.3V_WLAN
WLAN_SMBCLK
WLAN_SMBDATA
USBP4 D-
USBP4 D+
USB_MCARD1_DET# 13
LED_WLAN_OUT# 38

12 PCIE_RX2-
12 PCIE_RX2+
PCI-Express TX and RX direct to connector
12 PCIE_TX2-
12 PCIE_TX2+
13 PCIE_MCARD1_DET#

Non-iAMT
T123 PAD
T122 PAD
T121 PAD

USBP4 D-
USBP4 D+
L78 *PLW3216S900SQ2T1_NC 1206
ICH_USBP4- 12
ICH_USBP4+ 12
R560 0
R559 0

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

Suport for WoW

WLAN_RADIO_OFF#
D33 SDMK0340L-7-F
WLAN_RADIO_DIS# 13
R537 *0_NC

Prevent backdrive when WoW is enabled.

+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

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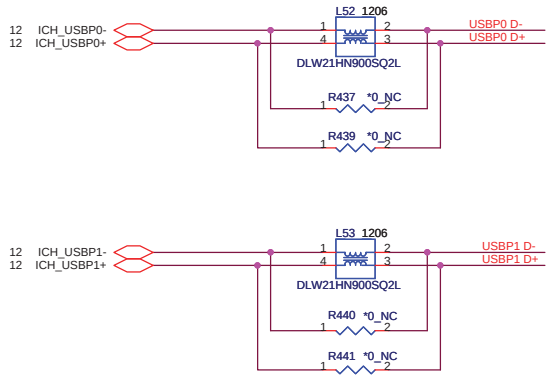
External USB PORT hookup reference. Your design may need more or less external ports and may be mapped differently

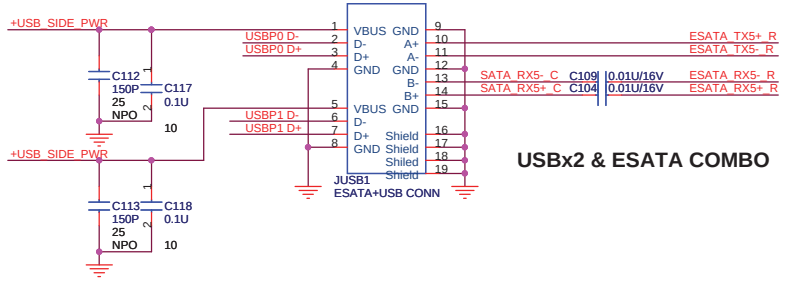
2/22-25
4/17-42



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

Side External USBX2

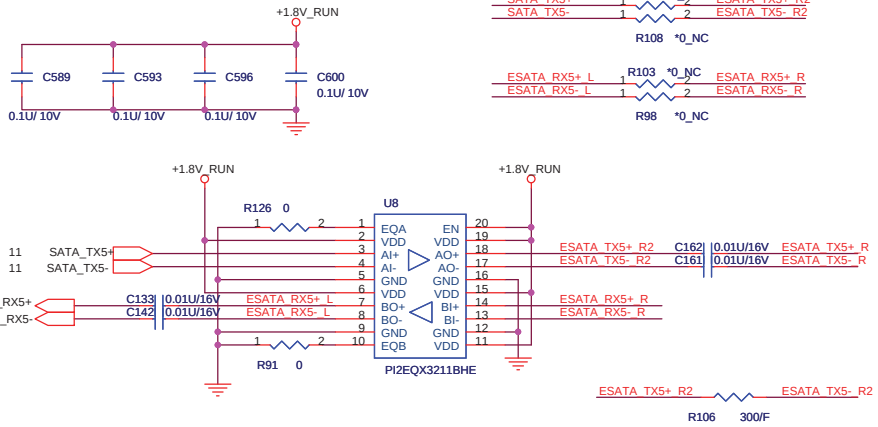
2/13-4



USBx2 & ESATA COMBO

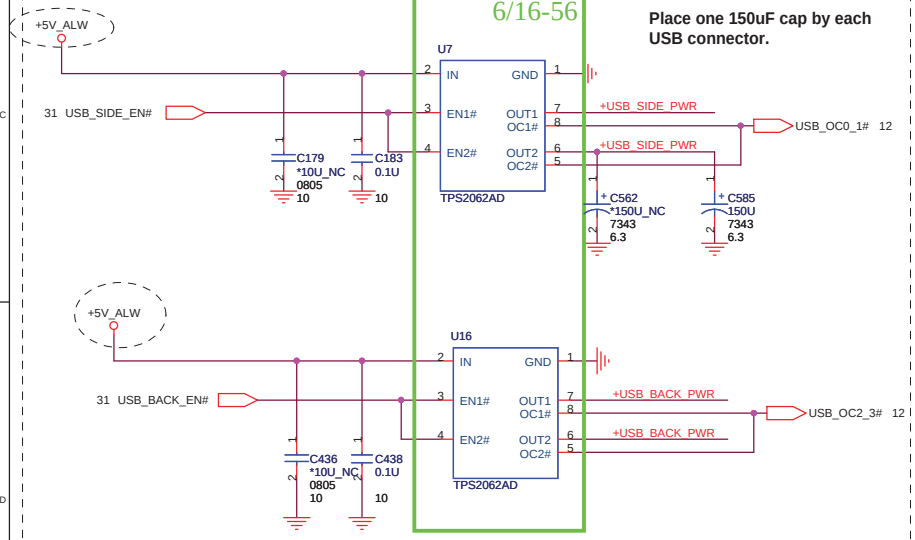
5/29-52
2/20-22

E-SATA Re-driver



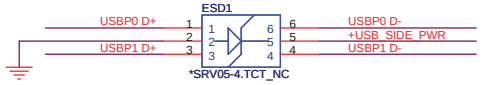
6/16-56

Place one 150uF cap by each USB connector.

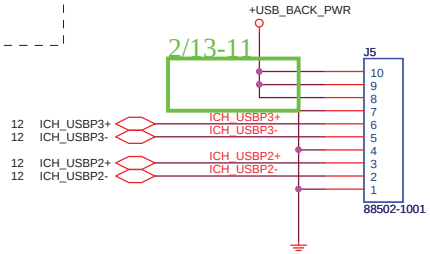


Each channel is 1A

Place ESD diodes as close as USB connector.



MB side



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QUANTA COMPUTER

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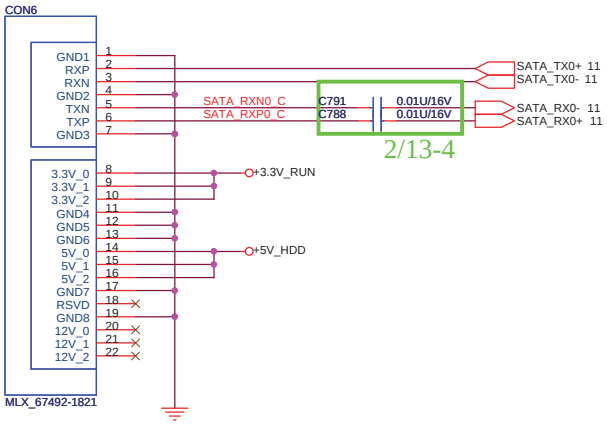
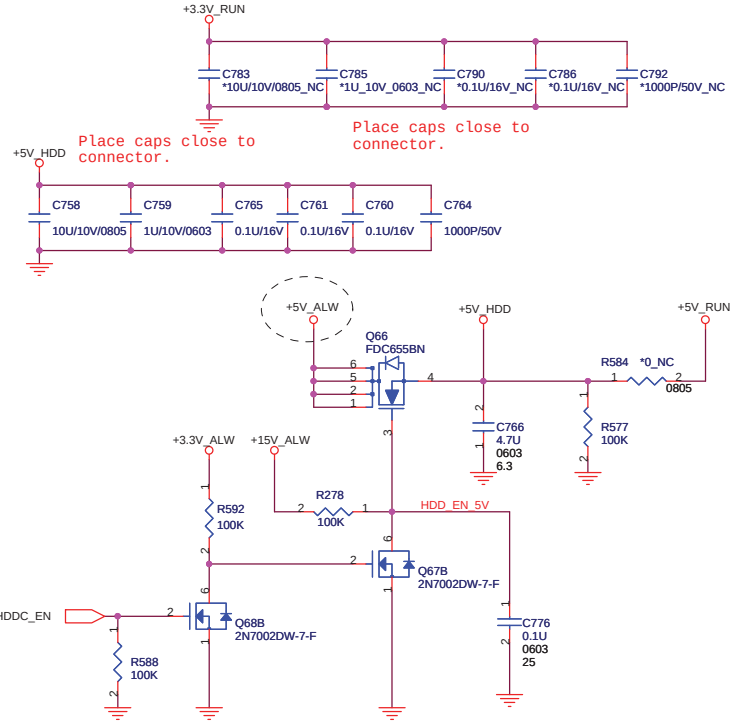
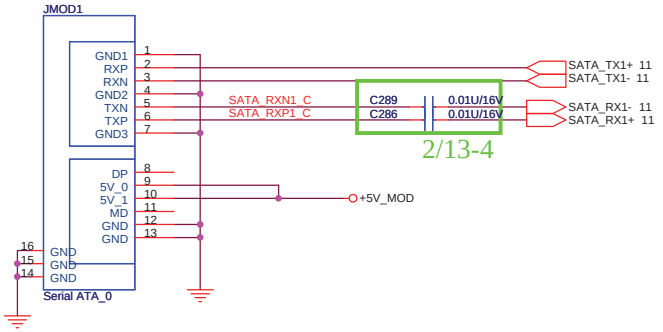
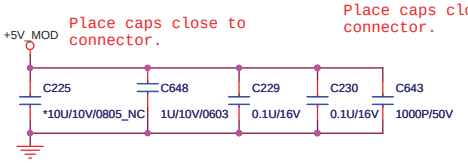
SATA Connector.

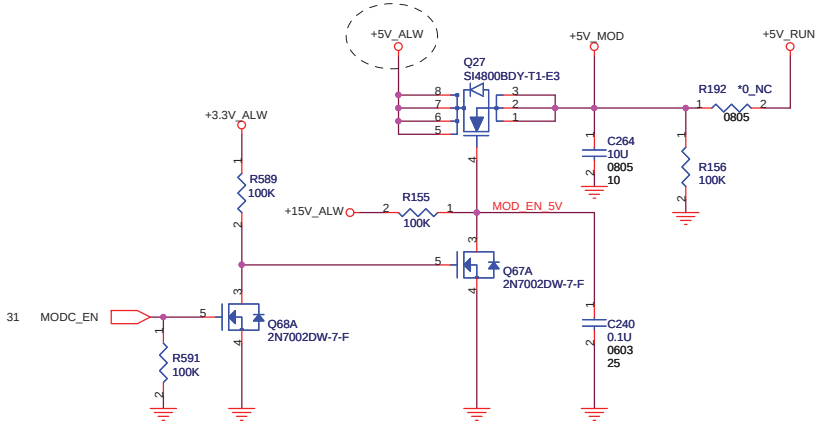




ODD Connector

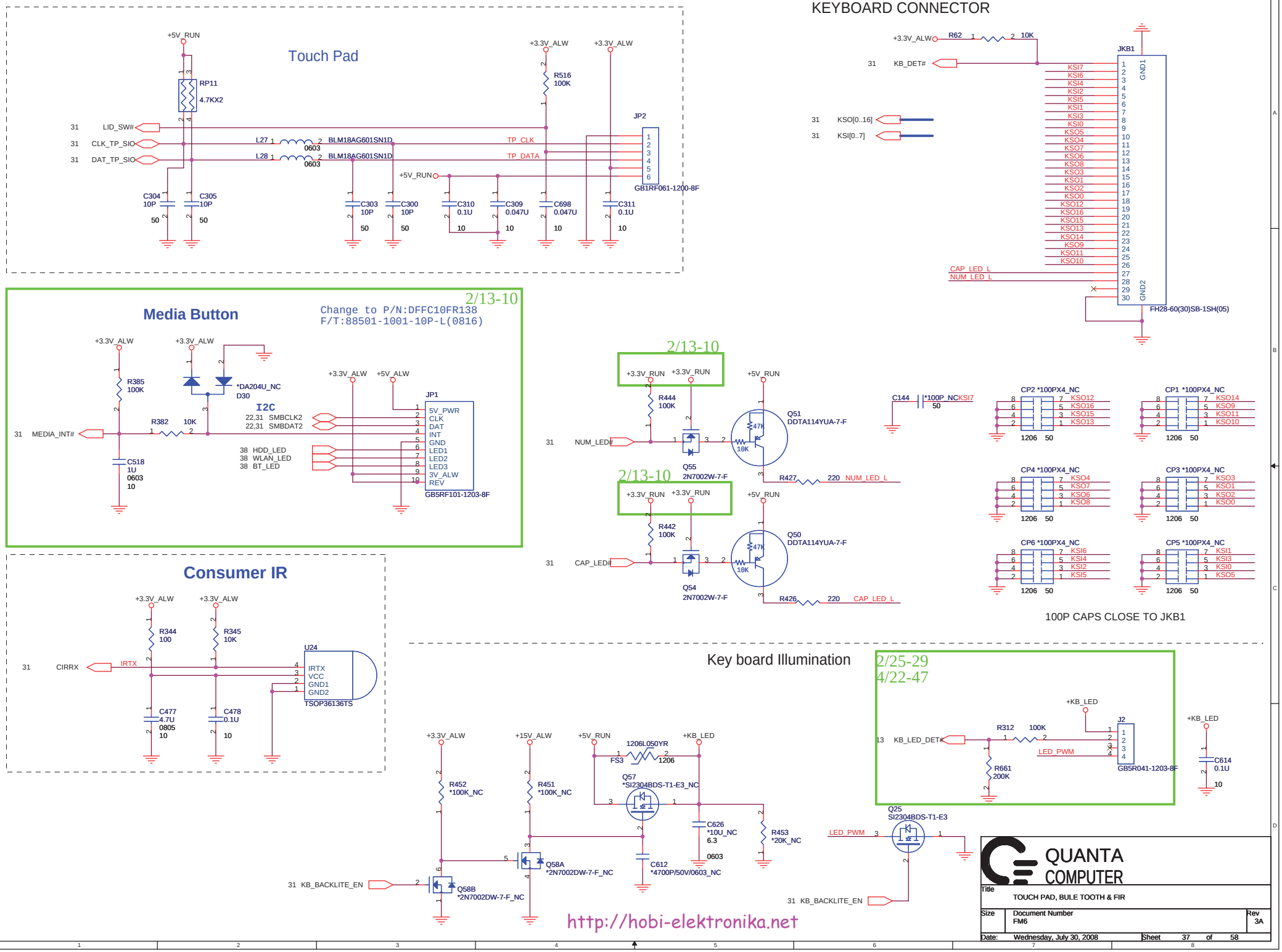






QUANTA COMPUTER

Title	SATA (HDD&CD_ROM)	
Size	Document Number FM6	Rev 2A
Date: Wednesday, July 30, 2008	Sheet 36 of 58	


Touch Pad
+5V_RUN
RP11
4.7KX2
31 LID_SW#
31 CLK_TP_SIO
31 DAT_TP_SIO
L27 BLM18AG601SN1D 0603
L28 BLM18AG601SN1D 0603
+3.3V_ALW
R516 100K
TP_CLK
TP_DATA
JP2
GB1RF061-1200-8F
C304 10P 50
C305 10P 50
C303 10P 50
C300 10P 50
C310 0.1U 10
C309 0.047U 10
C698 0.047U 10
C311 0.1U 10
KEYBOARD CONNECTOR
+3.3V_ALW
R62 10K
31 KB_DET#
31 KSO[0..16]
31 KSI[0..7]
JKB1
GND1
GND2
CAP_LED_L
NUM_LED_L
FH28-60(30)SB-1SH(05)
2/13-10
Media Button
Change to P/N:DFFC10FR138
F/T:88501-1001-10P-L(0816)
+3.3V_ALW
+5V_ALW
R385 100K
*DA204U_NC
D30
I2C
22,31 SMBCLK2
22,31 SMBDAT2
R382 10K
31 MEDIA_INT#
C518 1U 0603 10
38 HDD_LED
38 WLAN_LED
38 BT_LED
JP1
5V_PWR
CLK
DAT
INT
GND
LED1
LED2
LED3
3V_ALW
REV
GB5RF101-1203-8F
2/13-10
+3.3V_RUN
+5V_RUN
R444 100K
Q55 2N7002W-7-F
Q51 DDTA114YUA-7-F
47K
10K
31 NUM_LED#
R427 220 NUM_LED_L
2/13-10
R442 100K
Q54 2N7002W-7-F
Q50 DDTA114YUA-7-F
31 CAP_LED#
R426 220 CAP_LED_L
C144 *100P_NCKSI7 50
CP2 *100PX4_NC
KSO12 KSO16 KSO15 KSO13
CP1 *100PX4_NC
KSO14 KSO9 KSO11 KSO10
CP4 *100PX4_NC
KSO4 KSO7 KSO6 KSO8
CP3 *100PX4_NC
KSO3 KSO1 KSO2 KSO0
CP6 *100PX4_NC
KSI6 KSI4 KSI2 KSI5
CP5 *100PX4_NC
KSI1 KSI3 KSI0 KSO5
1206 50
100P CAPS CLOSE TO JKB1
Consumer IR
+3.3V_ALW
R344 100
R345 10K
31 CIRRX
IRTX
U24
IRTX
VCC
GND1
GND2
TSOP36136TS
C477 4.7U 0805 10
C478 0.1U 10
Key board Illumination
2/25-29
4/22-47
+KB_LED
13 KB_LED_DET#
R312 100K
LED_PWM
R661 200K
J2
GB5R041-1203-8F
C614 0.1U 10
+15V_ALW
1206L050YR FS3 1206
R452 *100K_NC
R451 *100K_NC
Q57 *SI2304BDS-T1-E3_NC
C626 *10U_NC 6.3 0603
R453 *20K_NC
Q58A *2N7002DW-7-F_NC
Q58B *2N7002DW-7-F_NC
C612 *4700P/50V/0603_NC
31 KB_BACKLITE_EN
Q25 SI2304BDS-T1-E3
http://hobi-elektronika.net
QUANTA COMPUTER
Title
TOUCH PAD, BULE TOOTH & FIR
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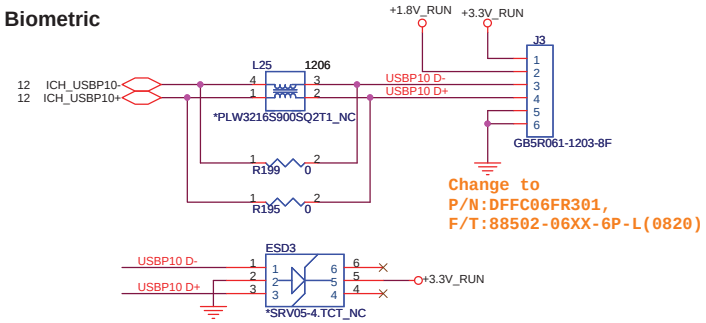
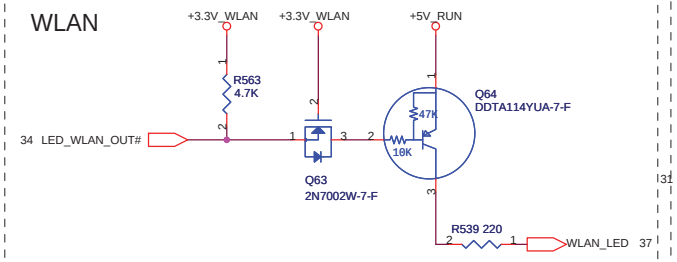
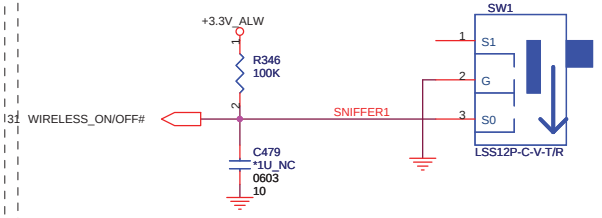
Biometric



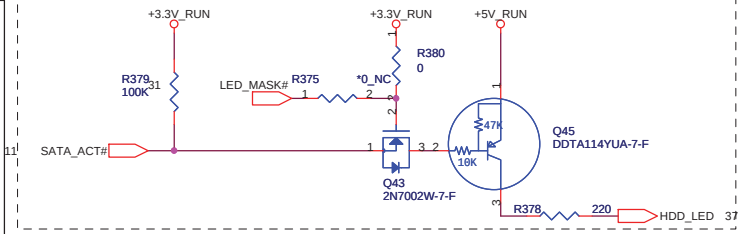
WLAN



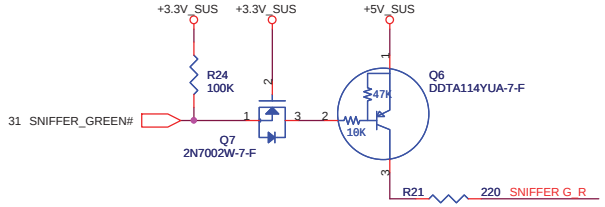
Sniffer Switch ON/OFF Sniffer Switch



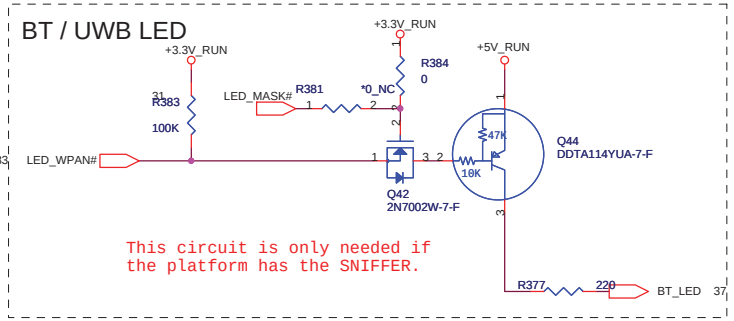
HDD activity LED.

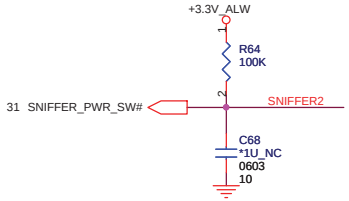


Sniffer Buttom

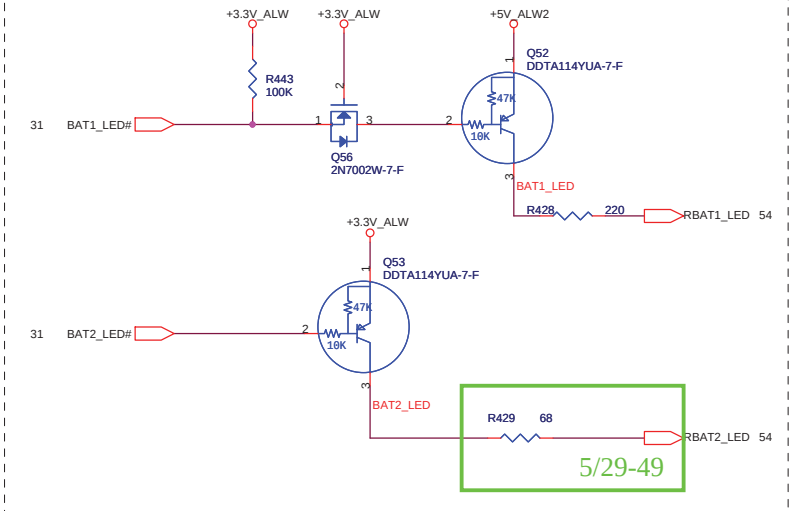


BT / UWB LED

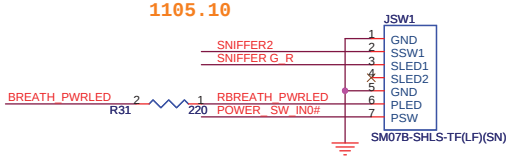




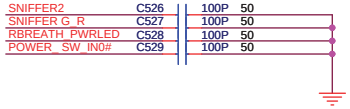
Battery status.

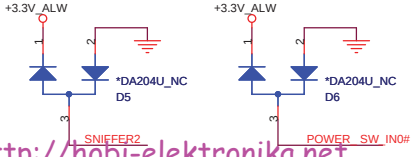


1105.10

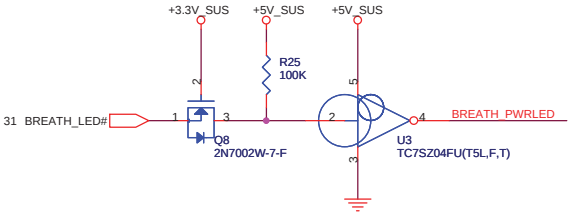


SNIFFER Y_R:WLAN on/off
SNIFFER G_R:AP detection

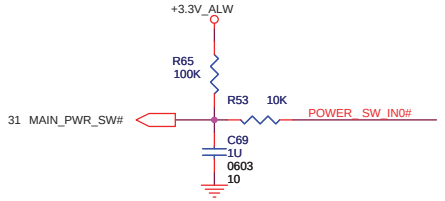




Power & Suspend.



Power Switch



QUANTA COMPUTER

Title	SWITCH, KEYBOARD & LED	
Size	Document Number FM6	Rev 3A
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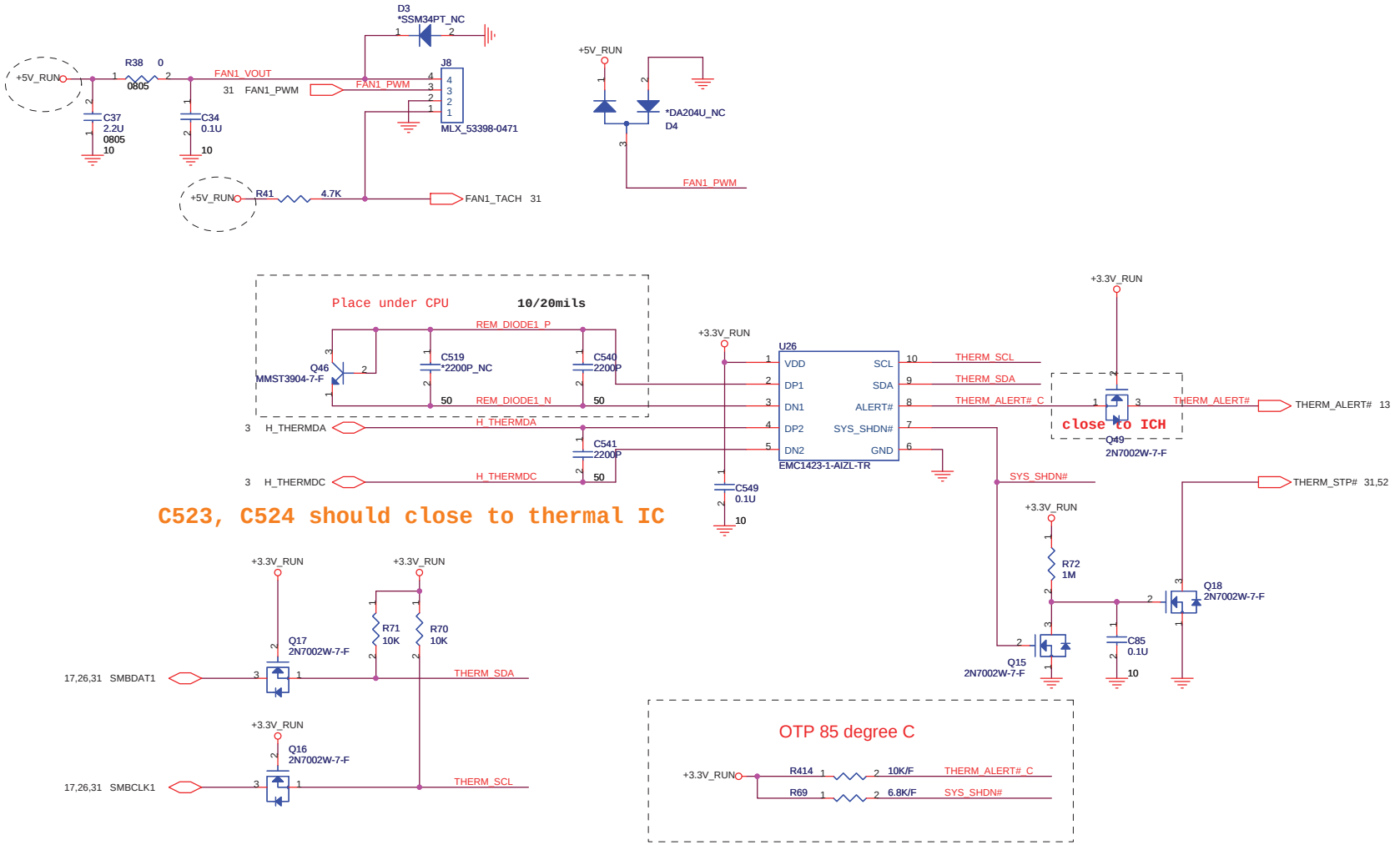

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Title	FAN & THERMAL	
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INTERNAL SPEAKER AMP

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	
Size	Document Number FM6	Rev 2A
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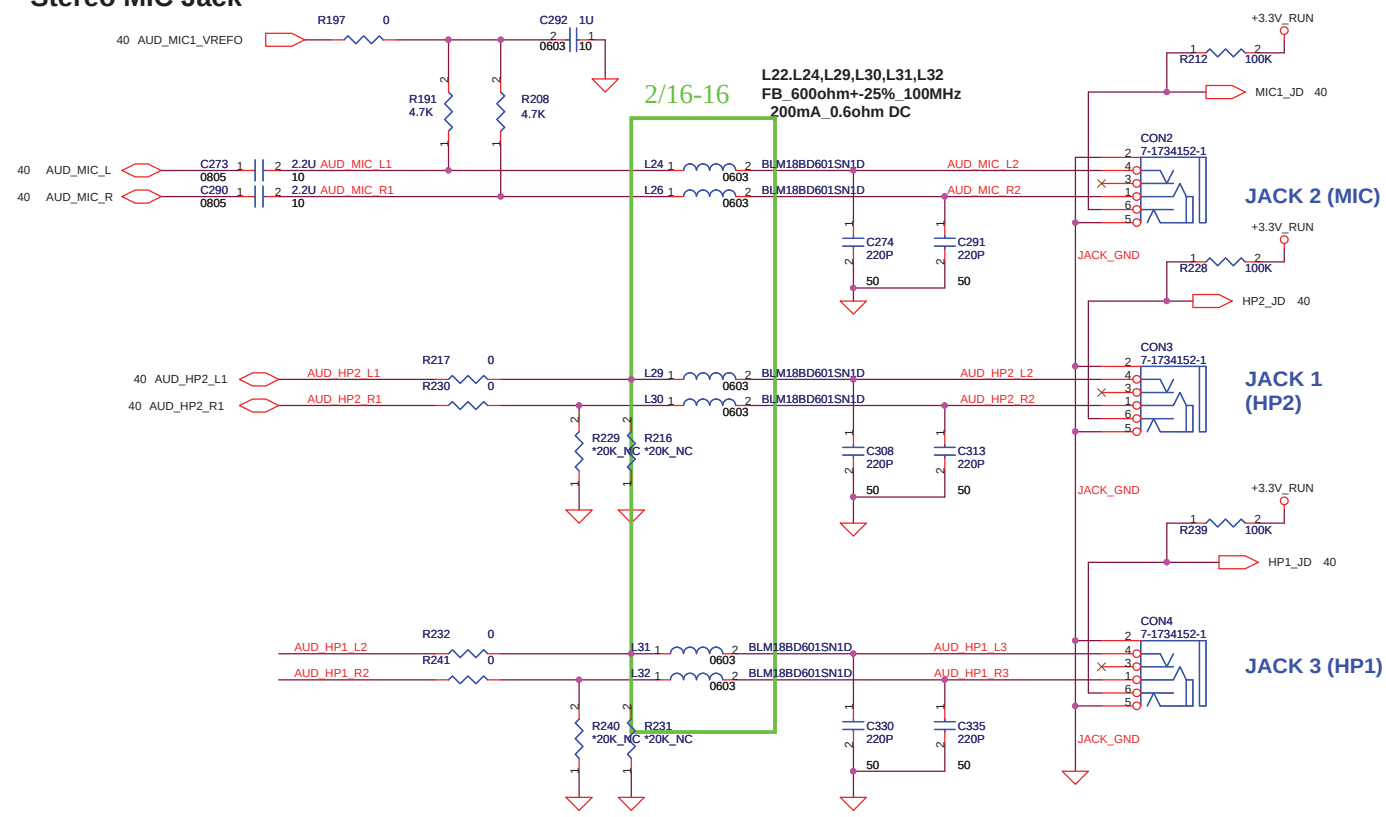
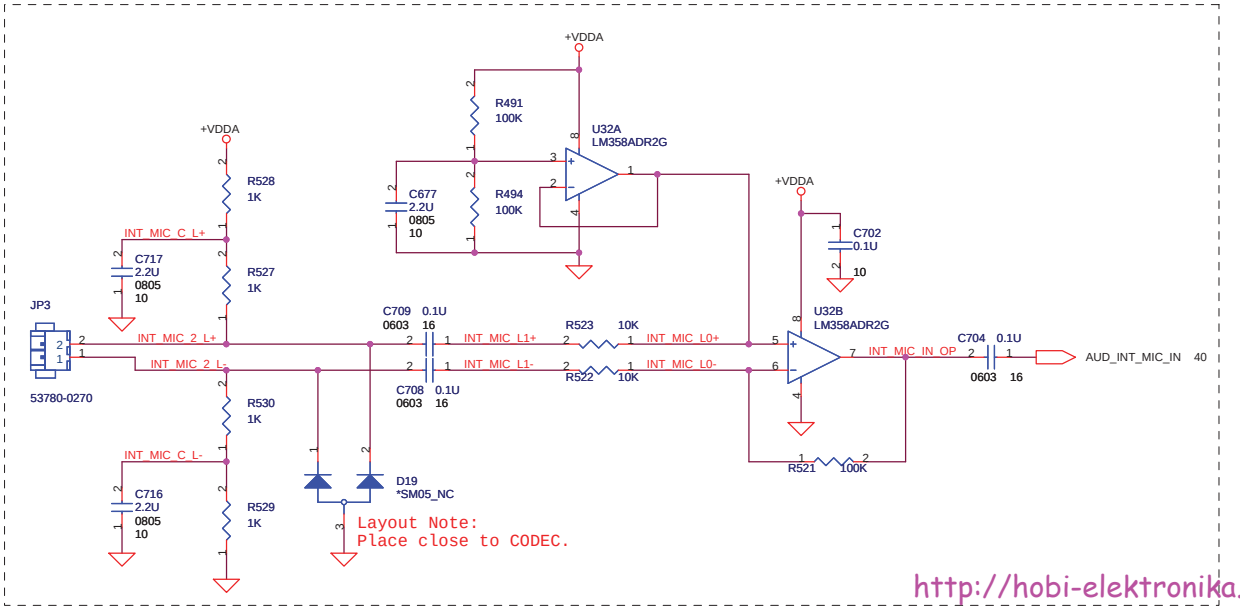
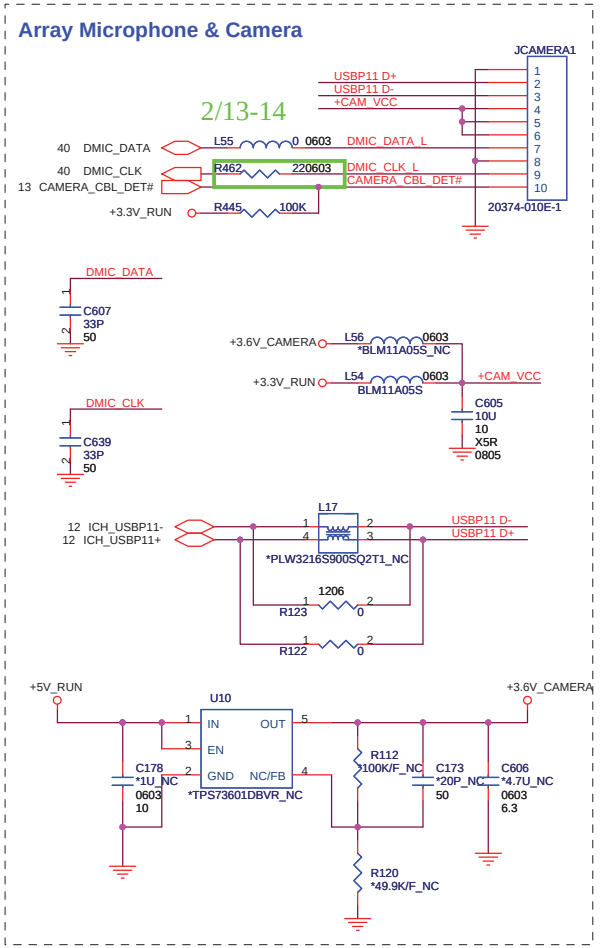
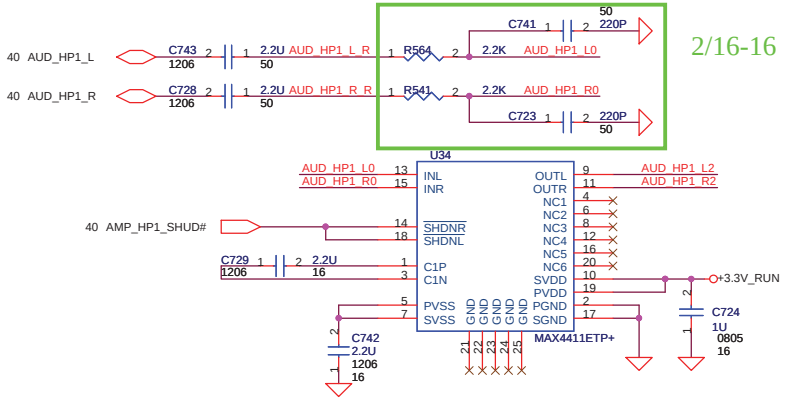
Headphone Jack
Stereo MIC Jack









QUANTA COMPUTER		
Title: AUDIO CONN		
Size	Document Number: FM6	Rev: 2A
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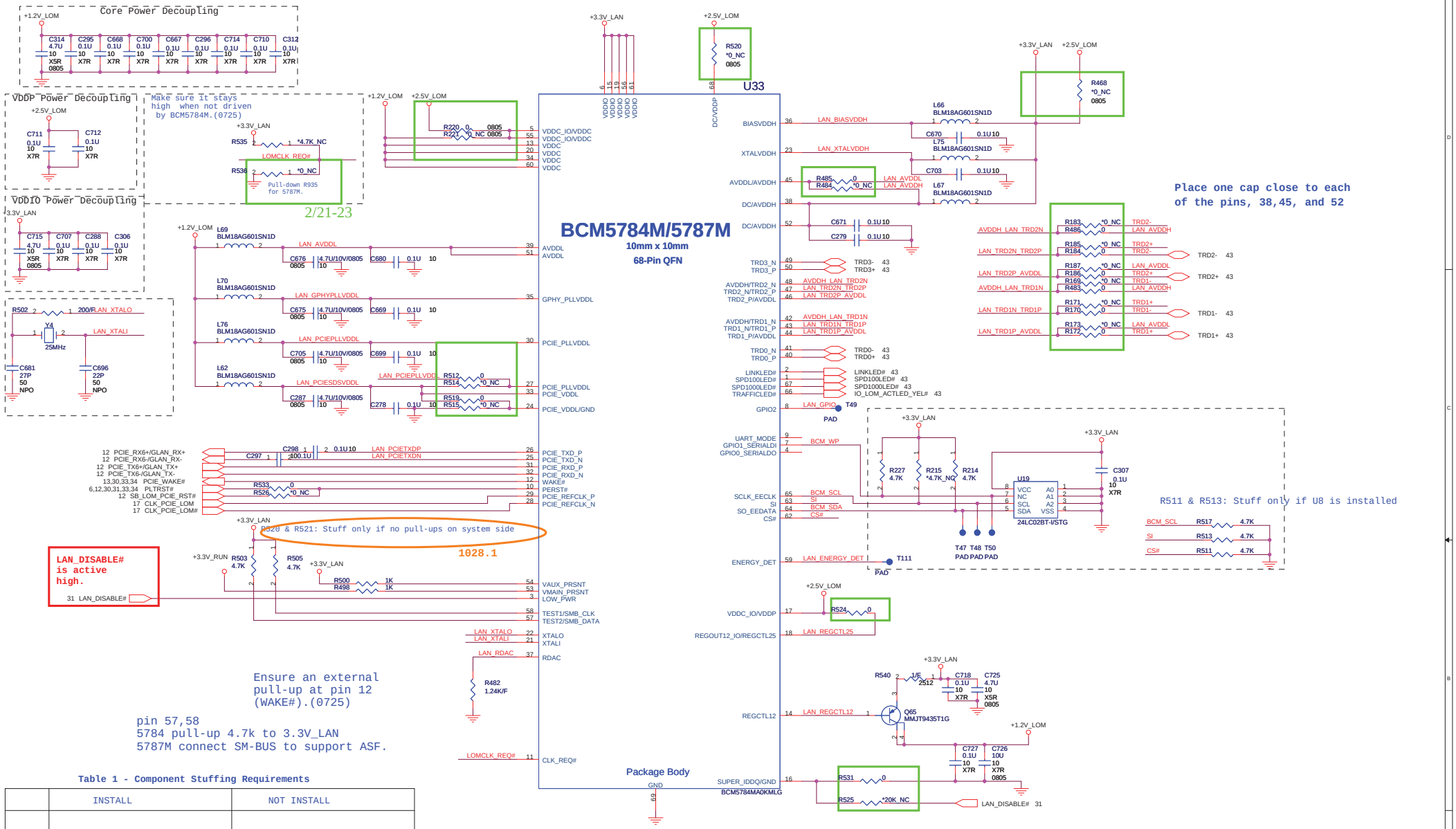

Table 1 - Component Stuffing Requirements

	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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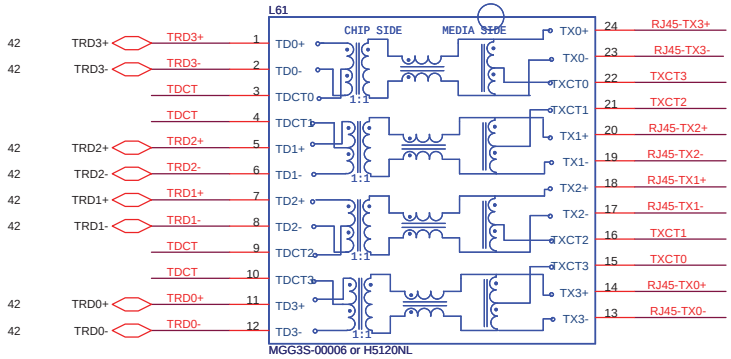
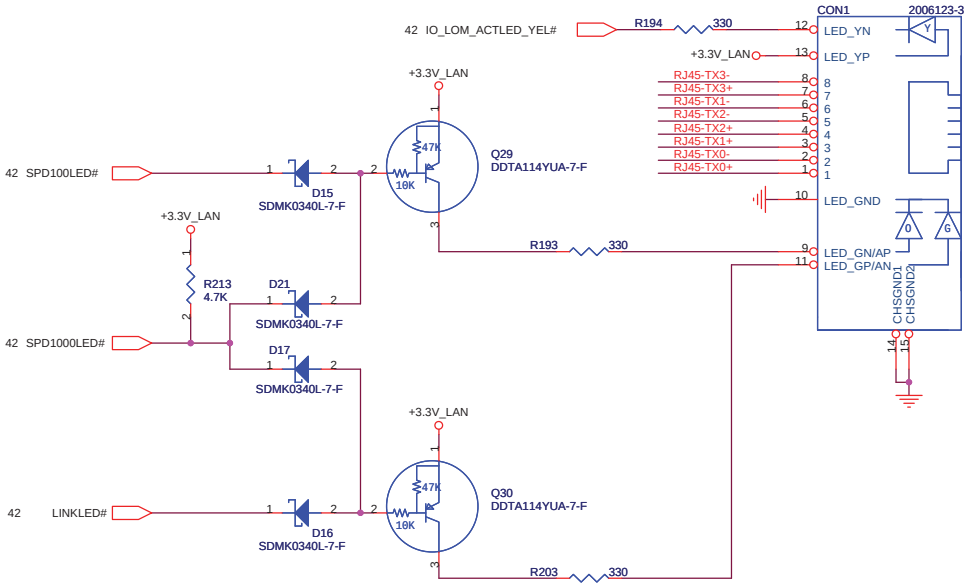
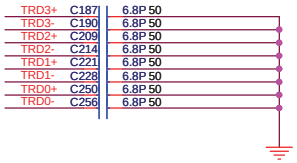
TRANSFORM

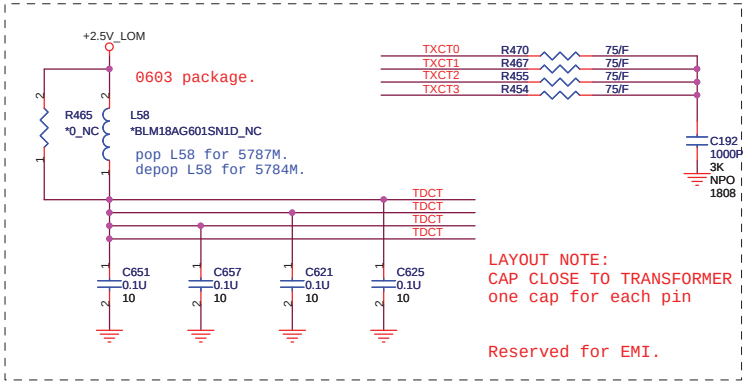
TRANSFORM



RJ-45 Connector







QUANTA COMPUTER

Title	LAN SWITCH	
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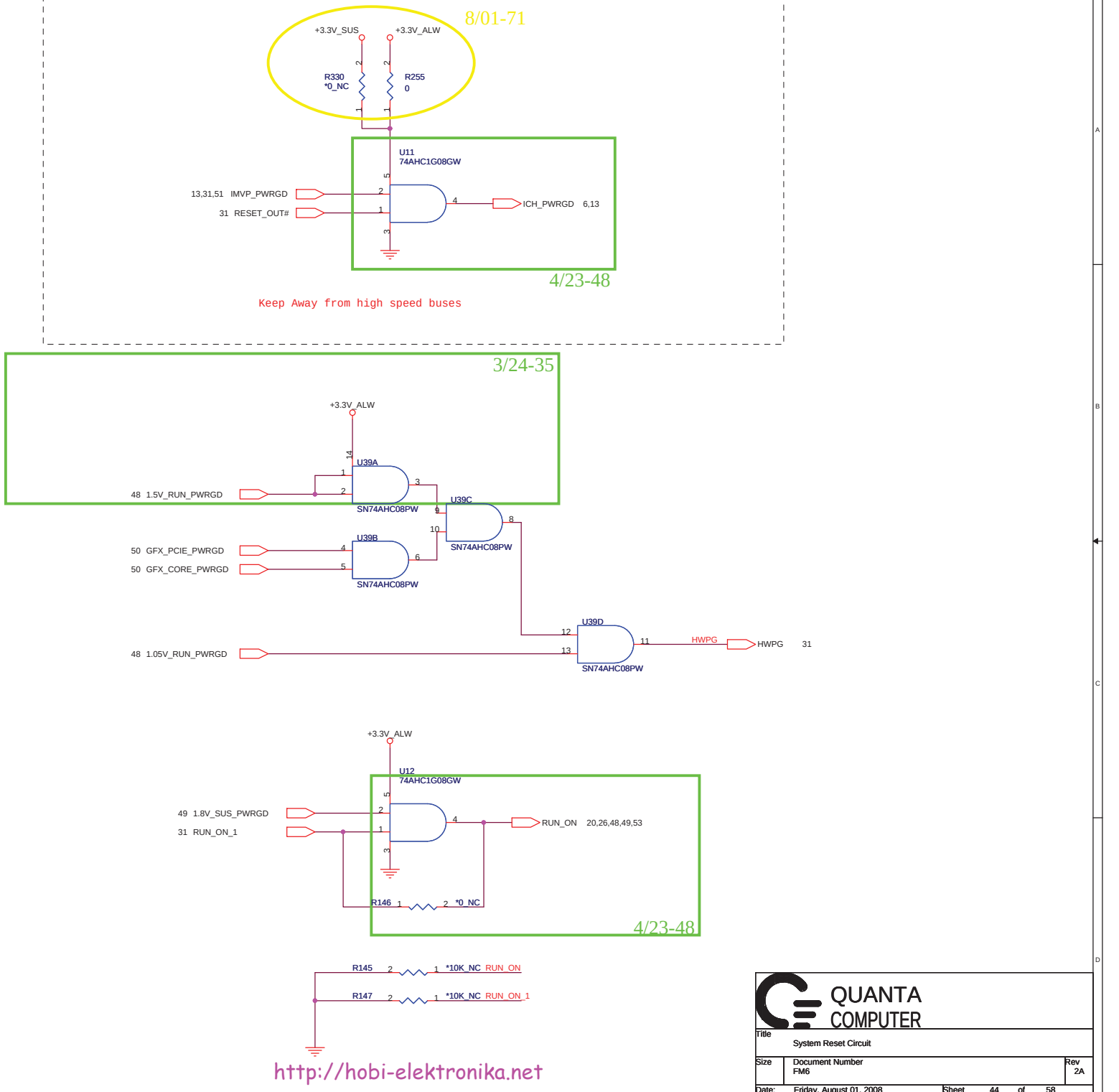
8/01-71
+3.3V_SUS
+3.3V_ALW
R330
*0_NC
R255
0
U11
74AHC1G08GW
13,31,51 IMVP_PWRGD
31 RESET_OUT#
ICH_PWRGD 6,13
4/23-48
Keep Away from high speed buses
3/24-35
+3.3V_ALW
U39A
SN74AHC08PW
48 1.5V_RUN_PWRGD
U39C
SN74AHC08PW
U39B
SN74AHC08PW
50 GFX_PCIE_PWRGD
50 GFX_CORE_PWRGD
U39D
SN74AHC08PW
48 1.05V_RUN_PWRGD
HWPG
HWPG 31
+3.3V_ALW
U12
74AHC1G08GW
49 1.8V_SUS_PWRGD
31 RUN_ON_1
RUN_ON 20,26,48,49,53
R146 *0_NC
4/23-48
R145 *10K_NC RUN_ON
R147 *10K_NC RUN_ON_1
http://hobi-elektronika.net
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Title
System Reset Circuit
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2A
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QUANTA COMPUTER

Title	Battery Selector	
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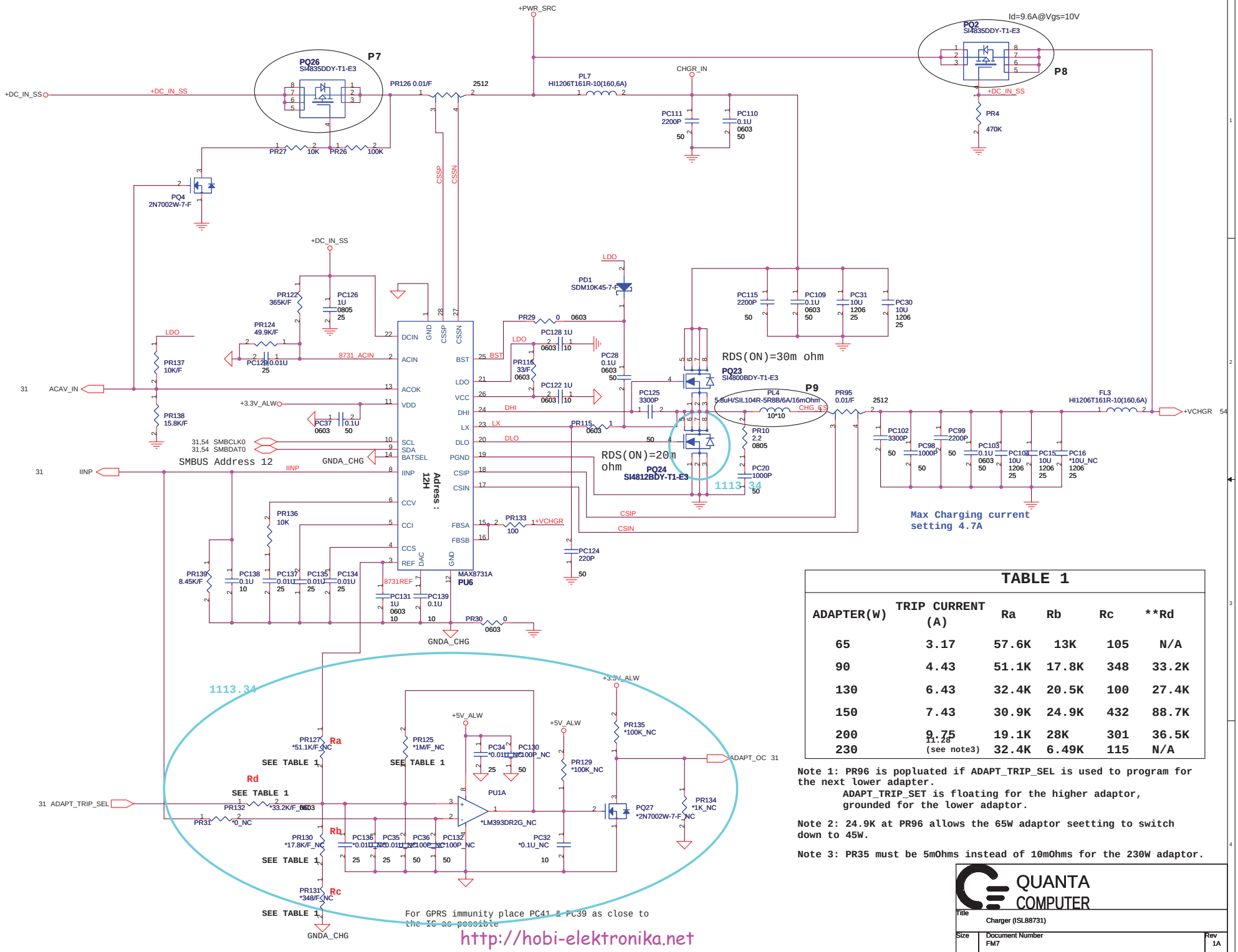

TABLE 1

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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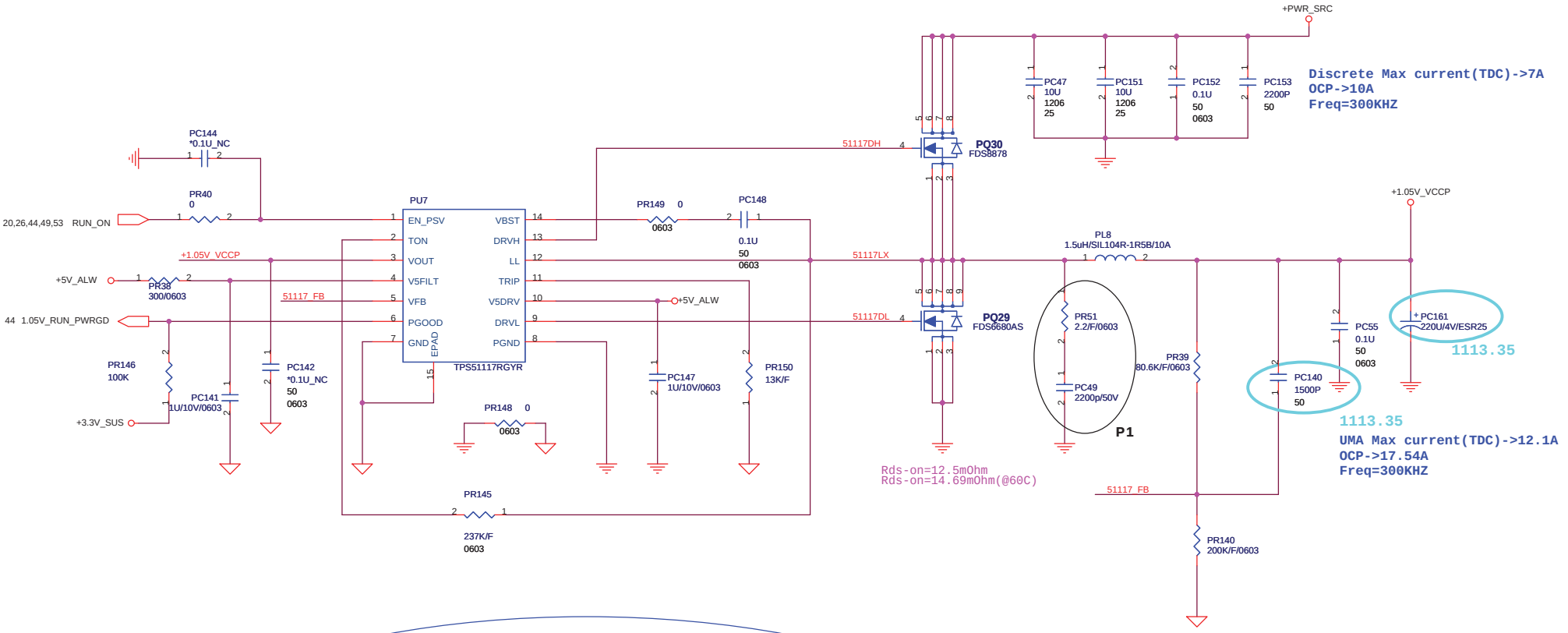

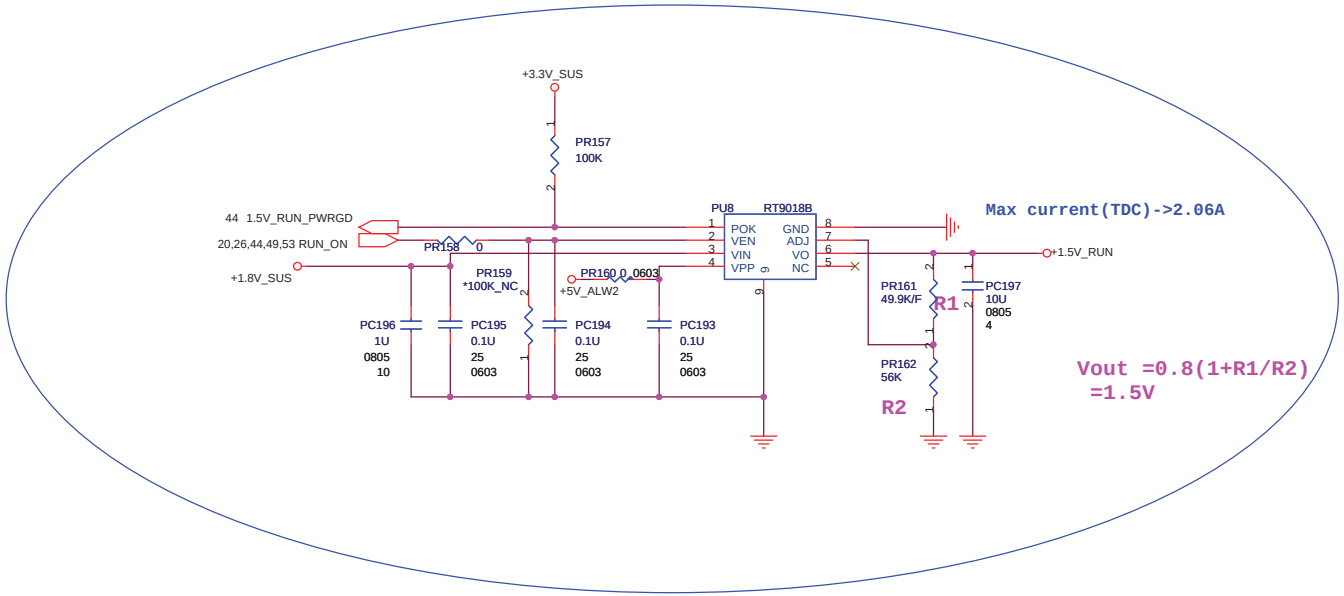

	UMA(12.1A)	Discrete(7A)
PQ22	FDS8880_NL (BAM88800012)	FDS8878 (BAM88780020)
PQ25	FDS6676AS_NL (BAM66760026)	FDS6680AS (BAM66800061)
PL25	SIL105RA-1R5-R (CV-15F0MZ08)	SIL104R-1R5PF (DC-15A00010)
PR452	9.09K/F (CS29092FB27)	10K/F (CS31002FB26)

QUANTA COMPUTER

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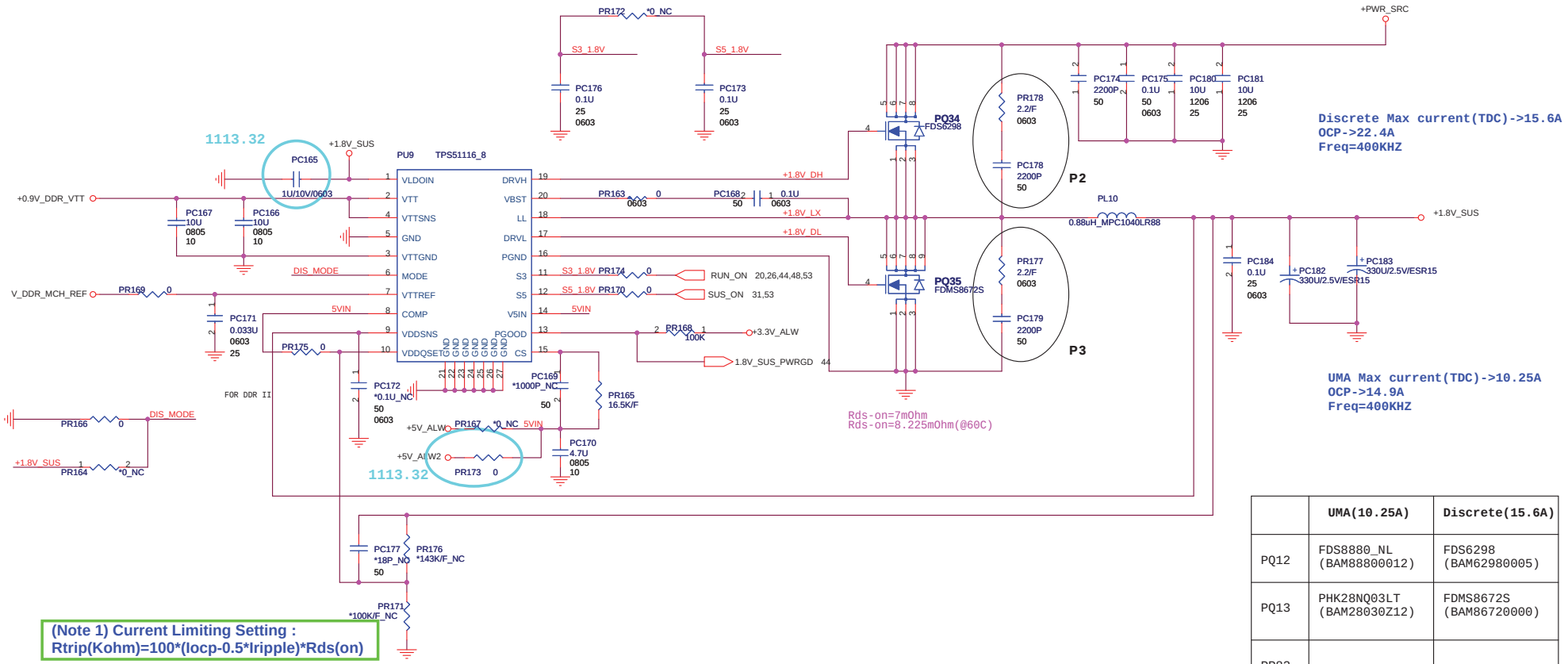
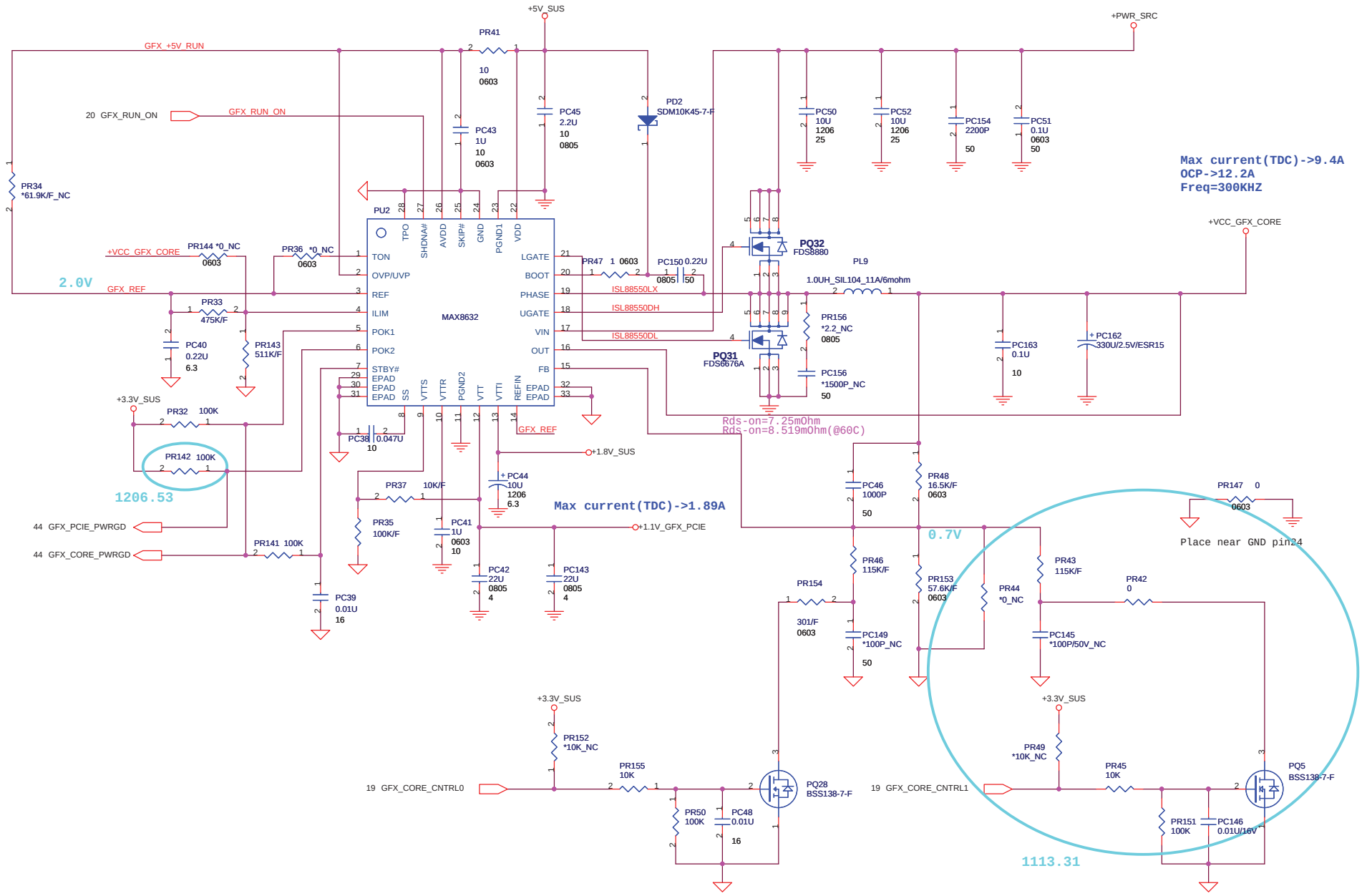


	UMA(10.25A)	Discrete(15.6A)
PQ12	FDS8880_NL (BAM88800012)	FDS6298 (BAM62980005)
PQ13	PHK28NQ03LT (BAM28030Z12)	FDMS8672S (BAM86720000)
PR83		

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

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QUANTA COMPUTER

Title	VGA DC/DC	
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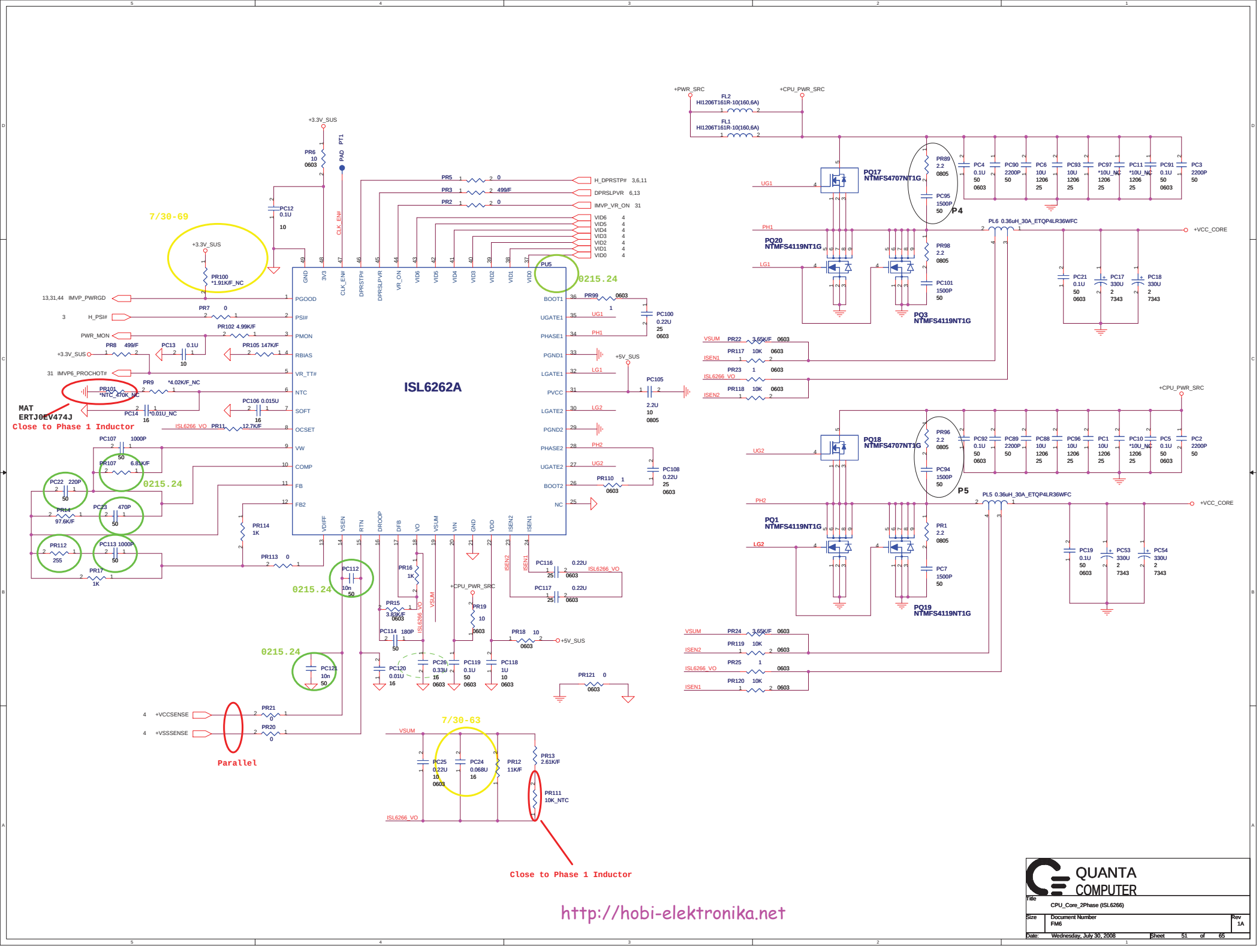
ISL6262A
MAT
ERTJ0EV474J
Close to Phase 1 Inductor
Parallel
Close to Phase 1 Inductor
7/30-69
7/30-63
0215.24
0215.24
0215.24
0215.24
+3.3V_SUS
+PWR_SRC
+CPU_PWR_SRC
+VCC_CORE
+5V_SUS
PQ17 NTMFS4707NT1G
PQ20 NTMFS4119NT1G
PQ3 NTMFS4119NT1G
PQ18 NTMFS4707NT1G
PQ1 NTMFS4119NT1G
PQ19 NTMFS4119NT1G
P4
P5
PL6 0.36uH_30A_ETQP4LR36WFC
PL5 0.36uH_30A_ETQP4LR36WFC
FL2 HI1206T161R-10(160,6A)
FL1 HI1206T161R-10(160,6A)
PU5
PGOOD
PSI#
PMON
RBIAS
VR_TT#
NTC
SOFT
OCSET
VW
COMP
FB
FB2
VDIFF
VSEN
RTN
DROOP
DFB
VO
VSUM
VIN
GND
VDD
ISEN2
ISEN1
BOOT1
UGATE1
PHASE1
PGND1
LGATE1
PVCC
LGATE2
PGND2
PHASE2
UGATE2
BOOT2
NC
H_DPRSTP# 3,6,11
DPRSLPVR 6,13
IMVP_VR_ON 31
VID6 4
VID5 4
VID4 4
VID3 4
VID2 4
VID1 4
VID0 4
13,31,44 IMVP_PWRGD
3 H_PSI#
PWR_MON
31 IMVP6_PROCHOT#
+VCCSENSE
+VSSSENSE
ISL6266_VO
VSUM
ISEN1
ISEN2
UG1
LG1
PH1
UG2
LG2
PR6 10 0603
PR100 *1.91K/F_NC
PR7 0
PR102 4.99K/F
PR8 499/F
PR105 147K/F
PR101 *NTC_470K_NC
PR9 *4.02K/F_NC
PR11 12.7K/F
PR114 1K
PR113 0
PR17 1K
PR16 1K
PR15 3.83K/F
PR19 10
PR18 10
PR121 0
PR21 0
PR20 0
PR22 3.65K/F
PR117 10K
PR23 1
PR118 10K
PR24 3.65K/F
PR119 10K
PR25 1
PR120 10K
PR89 2.2 0805
PR98 2.2 0805
PR96 2.2 0805
PR1 2.2 0805
PR99 0603
PR110 1 0603
PR12 11K/F
PR13 2.61K/F
PR111 10K_NTC
PC95 1500P 50
PC101 1500P 50
PC94 1500P 50
PC7 1500P 50
PC4 0.1U 50 0603
PC90 2200P 50
PC6 10U 1206 25
PC93 10U 1206 25
PC97 *10U_NC 1206 25
PC11 *10U_NC 1206 25
PC91 0.1U 50 0603
PC3 2200P 50
PC21 0.1U 50 0603
PC17 330U 2 7343
PC18 330U 2 7343
PC92 0.1U 50 0603
PC89 2200P 50
PC88 10U 1206 25
PC96 10U 1206 25
PC1 10U 1206 25
PC10 *10U_NC 1206 25
PC5 0.1U 50 0603
PC2 2200P 50
PC19 0.1U 50 0603
PC53 330U 2 7343
PC54 330U 2 7343
PC100 0.22U 25 0603
PC108 0.22U 25 0603
PC105 2.2U 10 0805
PC116 0.22U 25 0603
PC117 0.22U 25 0603
PC12 0.1U 10
PC13 0.1U 10
PC106 0.015U 16
PC14 *0.01U_NC 16
PC107 1000P 50
PC107 6.81K/F
PC22 220P 50
PC23 470P 50
PC112 255
PC113 1000P 50
PC112 10n 50
PC114 180P 50
PC120 0.01U 16
PC26 0.33U 16 0603
PC119 0.1U 50 0603
PC118 1U 10 0603
PC121 10n 50
PC25 0.22U 10 0603
PC24 0.068U 16
http://hobi-elektronika.net
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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)

P11 P8 P9 P7 P10

PU4 MAX17020ETJ+

PQ13 SI4800BDY-T1-E3

PQ14 SI4800BDY-T1-E3

PQ15 SI4812BDY-T1-E3

PQ16 SI4812BDY-T1-E3

PL1 3.3uH/SIL1045R-3R3A/8A/21mOhm

PL2 3.3uH/SIL1045R-3R3A/8A/21mOhm

Q74 DDTA114YUA-7-F

Q73 2N7002W-7-F

Q82 *2N7002W-7-F_NC

PD3 BAS316

PD11 BAT54S-7-F

PD12 BAT54S-7-F

6/17-57
4/18-44

QUANTA COMPUTER

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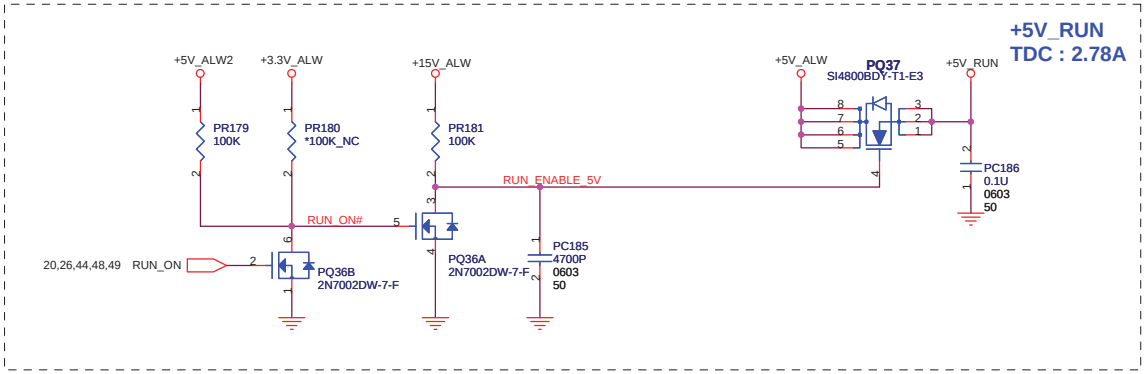
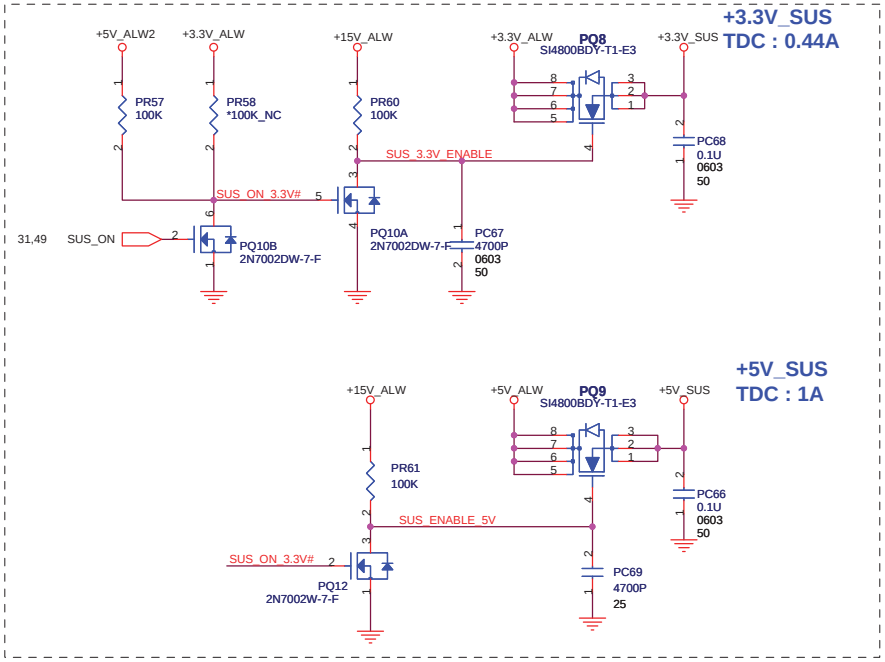
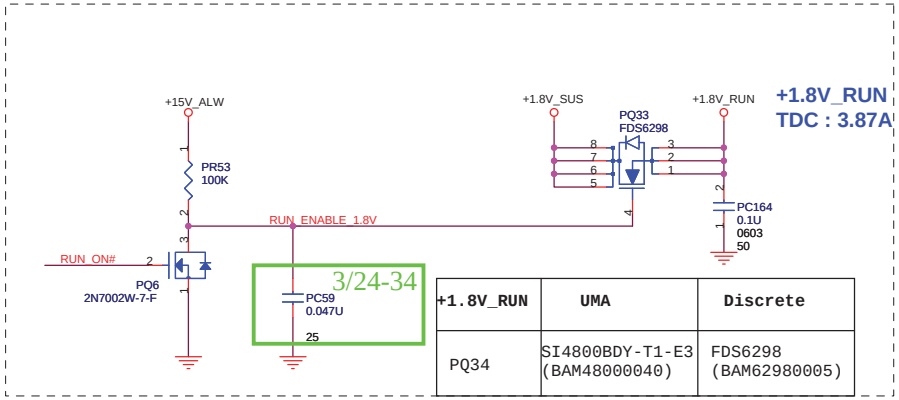
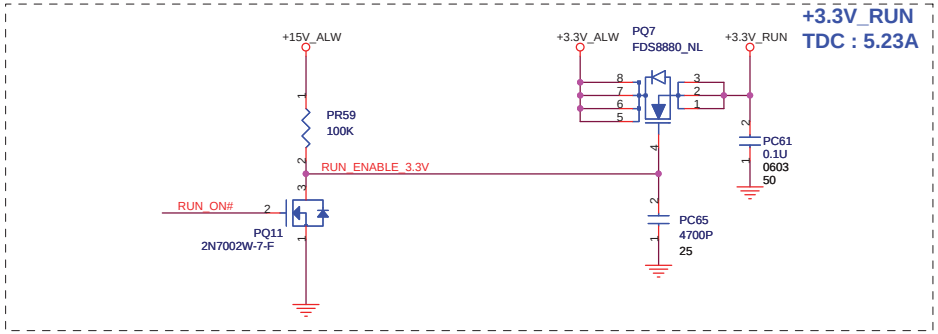
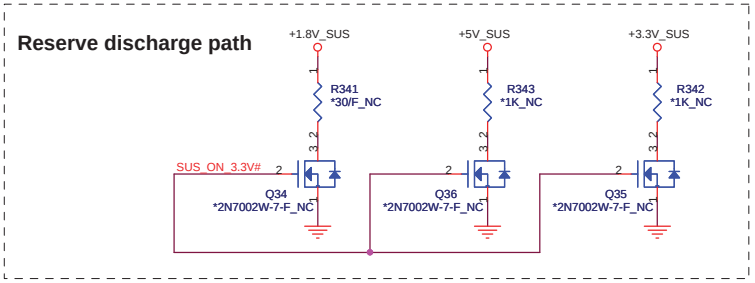


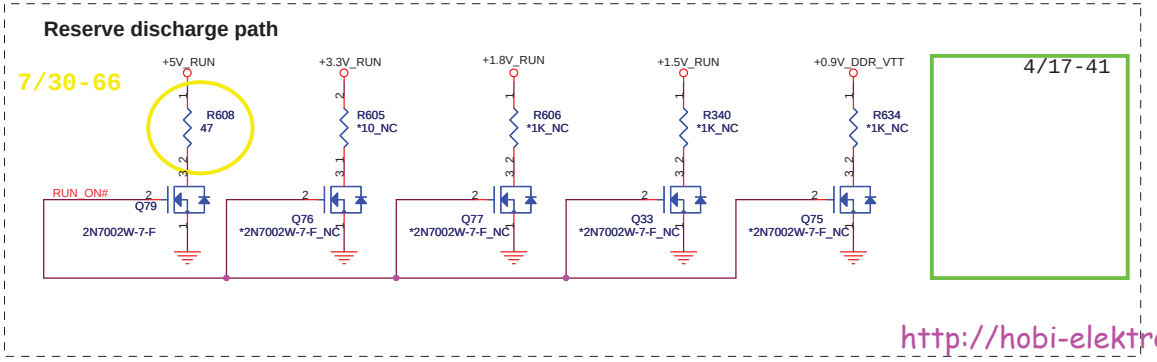




+1.8V_RUN	UMA	Discrete
PQ34	SI4800BDY-T1-E3 (BAM48000040)	FDS6298 (BAM62980005)







QUANTA COMPUTER

Title	RUN POWER SW	
Size	Document Number FM7	Rev 1A
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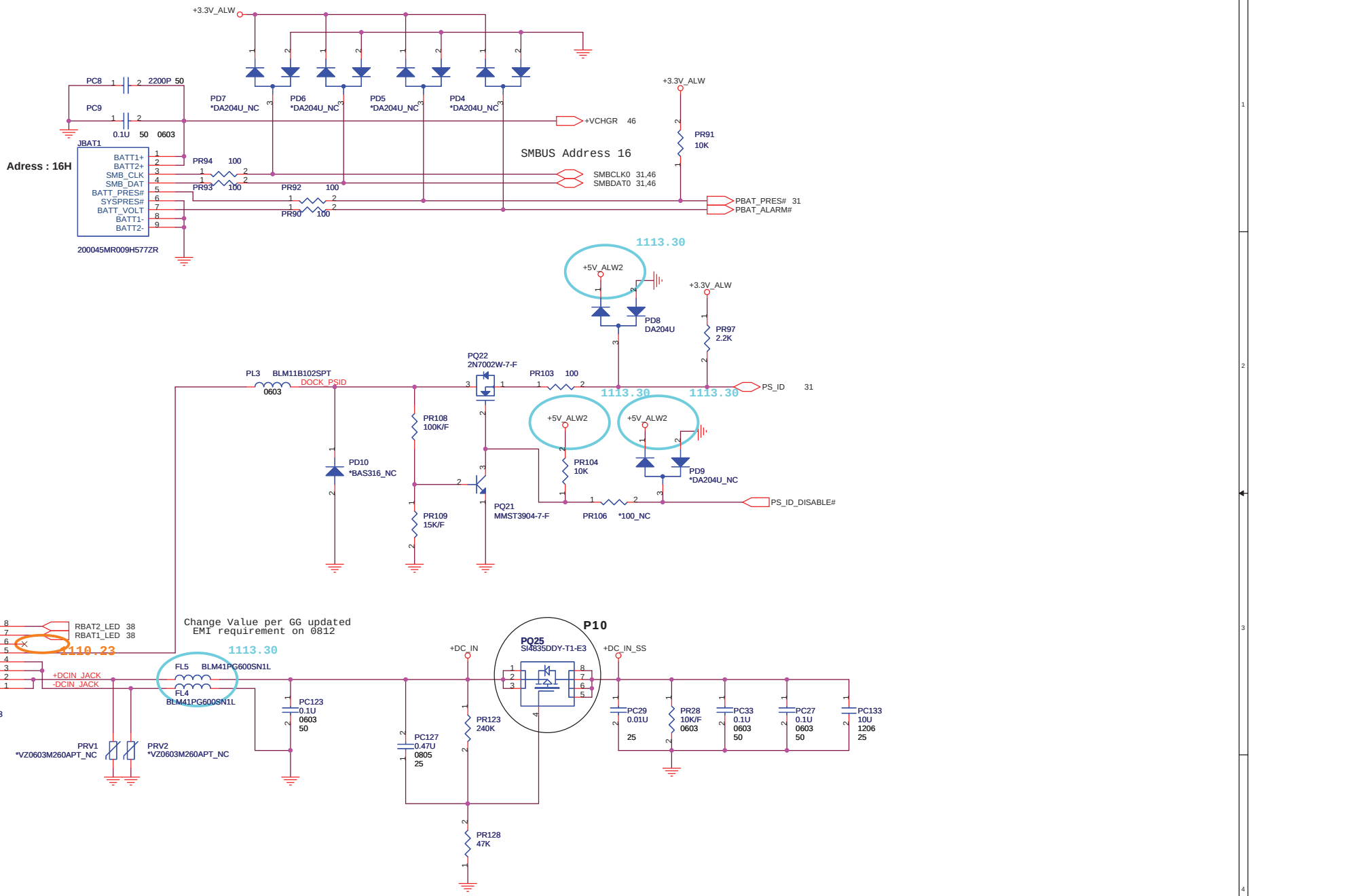
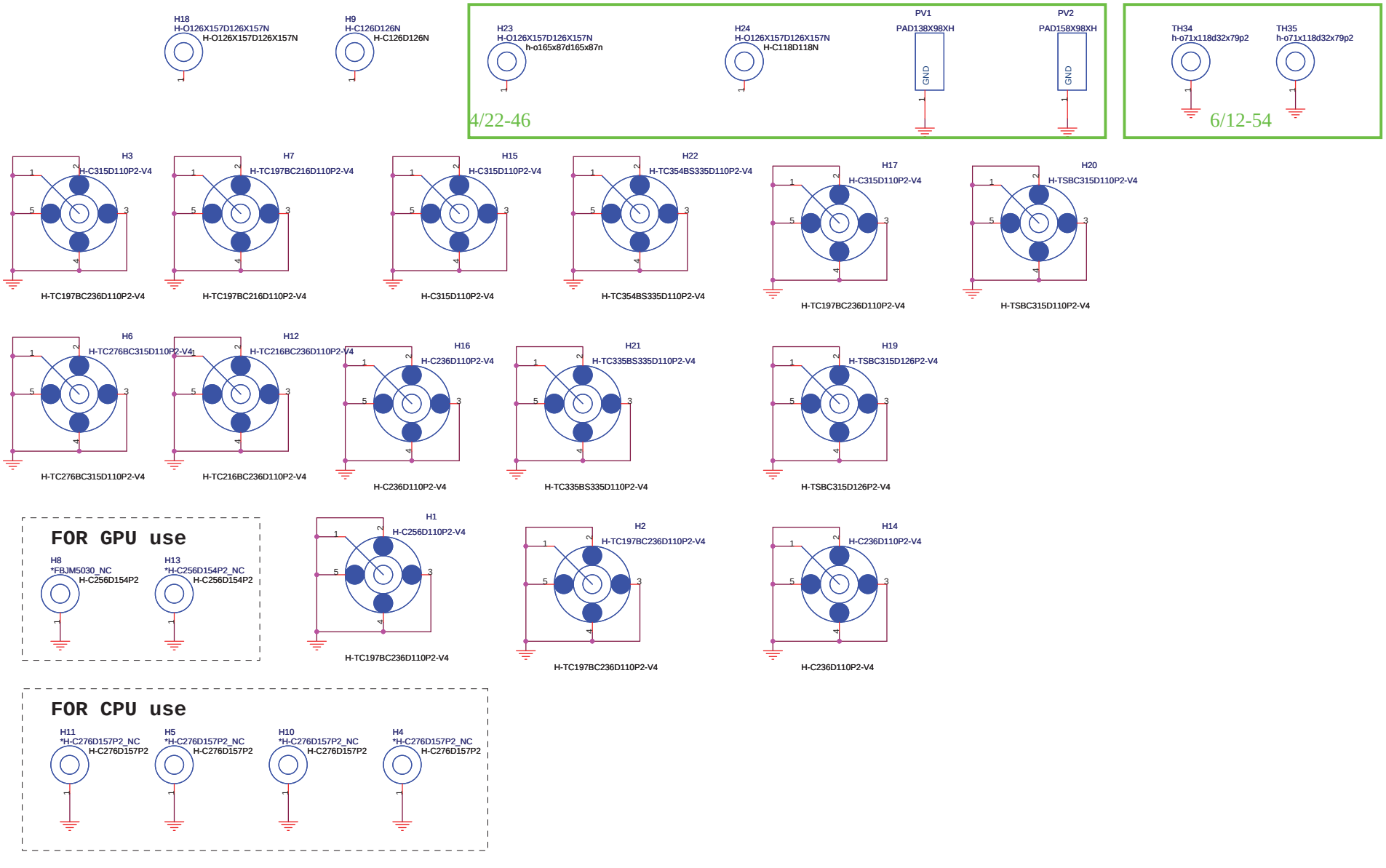


QUANTA COMPUTER

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



QUANTA COMPUTER

Title	SCREW PAD	
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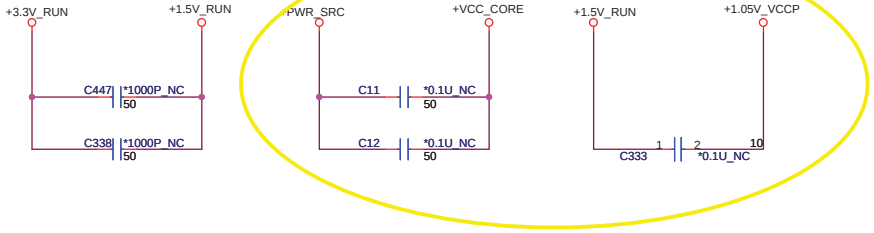
Reserved for EMI.

0906.1



QUANTA COMPUTER

Title	EMI CAP	
Size	Document Number FM6	Rev 1A
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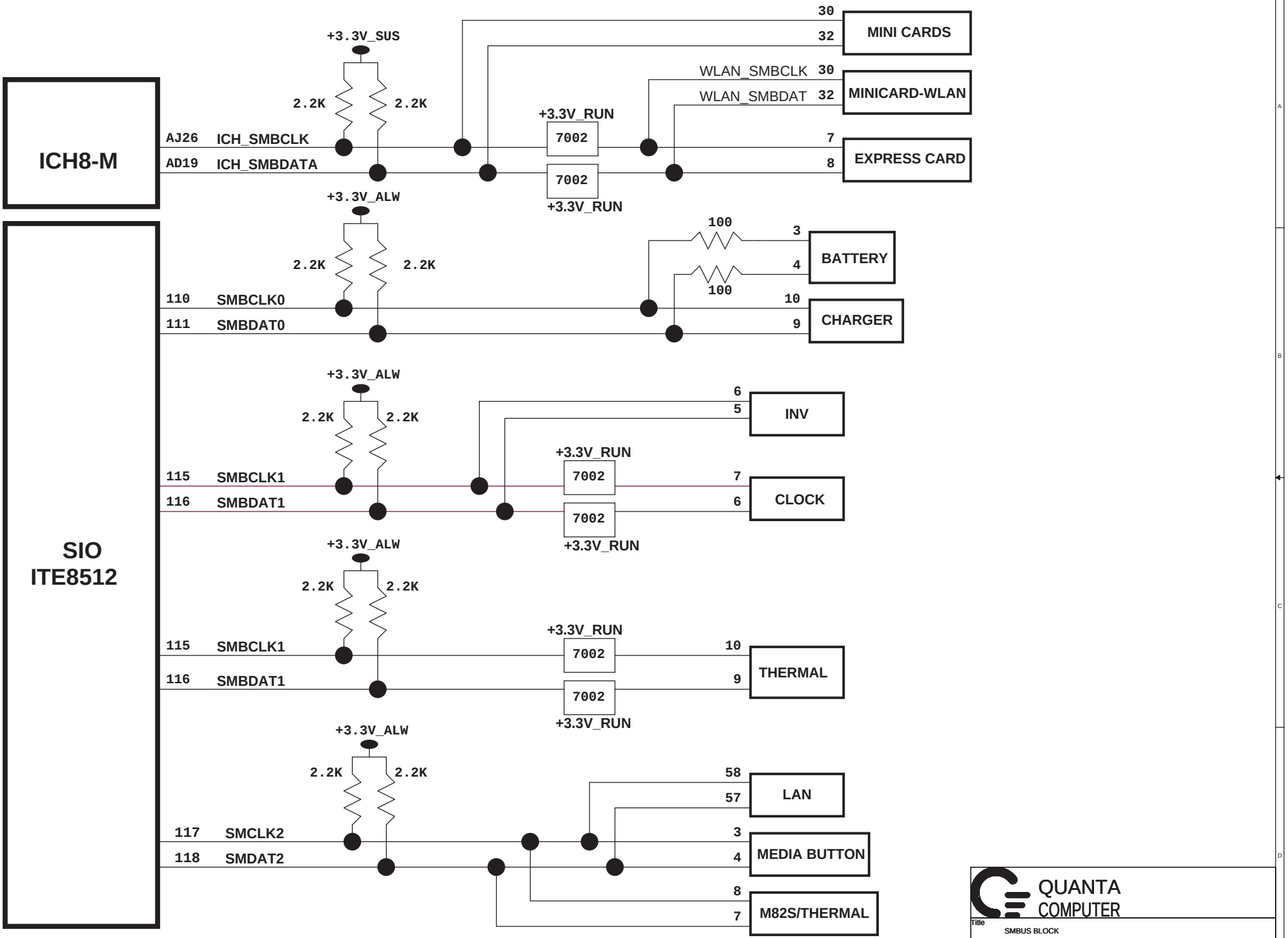

QUANTA COMPUTER

Title	SMBUS BLOCK	
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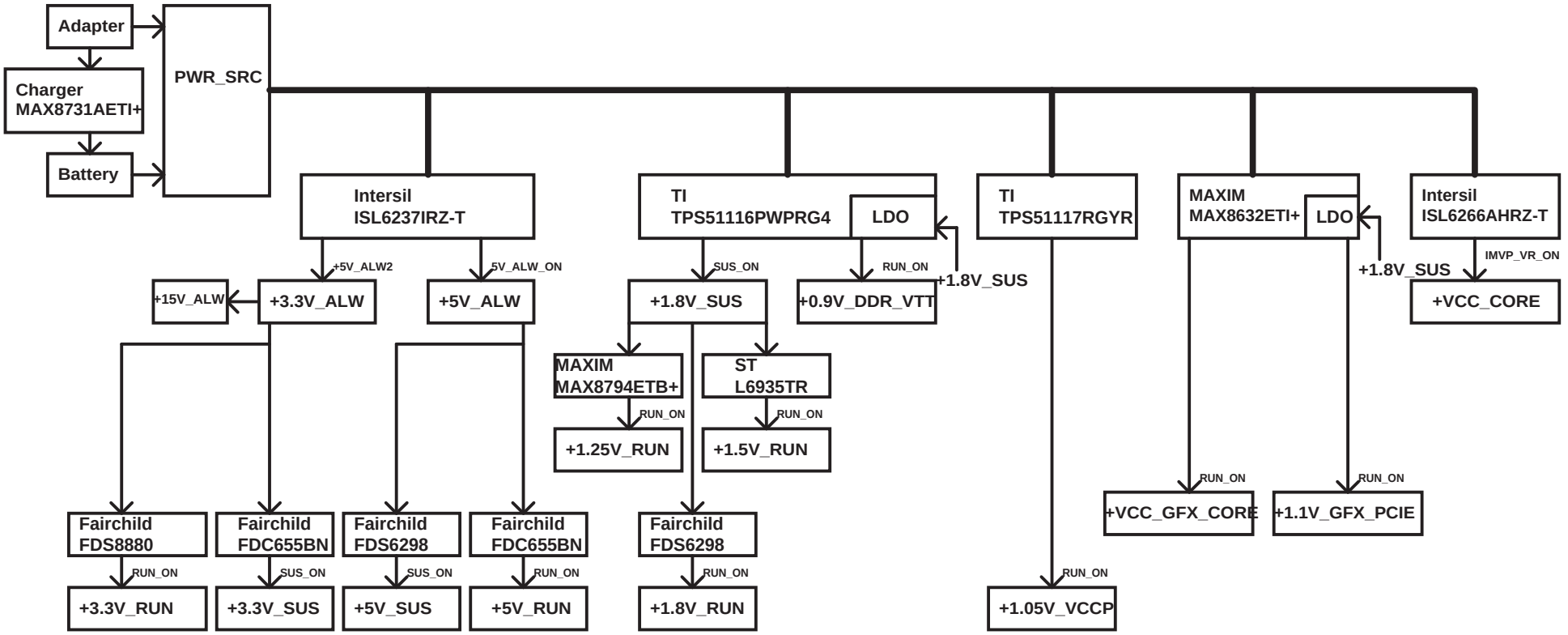

QUANTA COMPUTER

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

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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

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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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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

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