ZM2 BlOCK DIAGRAM

PCB STACK UP

LAYER 1 : TOP
LAYER 2 : SGND
LAYER 3 : IN1
LAYER 4 : IN2
LAYER 5 : SVCC
LAYER 6 : BOT

DB

QP/N
32ZM2PB0000
33ZM1MA0010
34ZM2TB0000
35ZM2LB0000
3BZM2BB0000

USB&PCIE PORT

USB Port#	Destination
0	Right top
1	Right bottom
2	Left side
3	Bluetooth
4	Camera
5	Touch Screen
6	Mini-WLAN
7	Mini-WWAN

PCI-E Port#	Destination
PCIE-1	Mini-WWAN
PCIE-2	Mini-WLAN
PCIE-3	Card reader
PCIE-4	LAN

Power

- +3.3V_ALW/+5V_ALW(MAX17020) PAGE 36
- +1.8VSUS(RT8207)/ +VTT_MEM PAGE 35
- +VCC_CORE (MAX8796) PAGE 33
- CHARGER (MAX8731A) PAGE 32
- +VCC_GFX_CORE(RT8209A) PAGE 31
- +VCCP(RT8209A)/ +VCC1.5(RT9018B) PAGE 34

CLOCK GEN
SLG8SP513VTR Page 14

Intel
PineView-M N470
559 Micro-BGA
22mm X 22mm
Page 3,4,5,6

DDRII-SODIMM Page 12
CHA
667 MHZ

VGA → CRT Page 16
LVDS → 10.1" LCD Page 15

FAN & THERMAL
EMC1423 Page 26

DMI x2

Note:
Half-size Mini-card for WLAN

Note:
Full size Mini-card for WWAN

Intel
NM10
360 BGA
17mm X 17mm
Page 7,8,9,10,11

PCI-E / USB2.0 → WLAN Page 20
PCI-E / USB2.0 → WWAN Page 21 → SIM Card Page 21

SATA → SATA - HDD Page 22

PCI-E → SD/SDHC/MMC card reader (RTS5208) Page 19

USB 2.0 → USB CNN x3 Page 27
CCD Page 15
Bluetooth Page 20

PCI-E → LAN BCM57760 Page 24,25 → RJ-45 Page 25

HD Audio → Audio Codec ALC269 Page 28
- DMic Page 28
- MIC-In Jack Page 28
- HP Jack Page 28
- INT Speaker 1W x2 Page 28

SPI ROM Page 18

LPC → EC MEC5035 Page 17
17X8 → ECE1077 PG 23 → Keyboard PG 23
PS/2 → Touchpad Connector PG 23

QUANTA COMPUTER

Title	BLOCK DIAGRAM	
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Table of Contents

Power States

POWER PLANE	VOLTAGE	PAGE	DESCRIPTION	CONTROL SIGNAL	ACTIVE IN
+PWR_SRC	10V~+19V	15,18,,32,33,35,36,40	MAIN POWER		S0~S5
+VCCRTC	+3.0V~+3.3V	10,11,17,18	RTC		S0~S5
+3.3V_ALW	+3.3V	17,18,24,25,29,31,32,34,35,36,37,38,40	8051 POWER	ALWON	S0~S5
+5V_ALW	+5V	23,24,29,34,35,36,37,38	LCD/CHARGE POWER	ALWON	S0~S5
+15V_ALW	+15V	15,24,36,37	LARGE POWER	+5V_ALW	S0~S5
+3.3V_LAN	+3.3V	24,25,40	LAN POWER	LAN_PWR_ON	
+5V_SUS	+5V	24,27,29,33,37,40	SLP_S5# CTRLD POWER	SUS_ON	
+3.3V_SUS	+3.3V	15,24,29,30,33,34,37	SLP_S5# CTRLD POWER	SUS_ON	
+1.8VSUS	+1.8V	4,5,12,13,34,35,37	SODIMM POWER	SUS_ON	
+VTT_MEM	+0.9V	12,13,35,37	SODIMM POWER	RUN_ON	
+VCC1.8	+1.8V	5,37		RUN_ON	
+VCC5	+5V	11,15,16,22,23,26,28,29,37,40	SLP_S3# CTRLD POWER	RUN_ON	
+VCC3	+3.3V	3,5,6,8,9,10,11,12,13,14,15,16,17,19,20, 21,22,24,25,26,28,29,33,37,40	SLP_S3# CTRLD POWER	RUN_ON	
+VCC1.5	+1.5V	5,7,11,20,21,34,37,40	CALISTOGA/ICH8 POWER	RUN_ON	
+VCCP	+1.05V	3,5,8,11,34,40	CPU/CALISTOGA/ICH8 POWER	RUN_ON	
+VCC_CORE	+0.7V~+1.77V	5,33,40	CPU CORE POWER	IMVP_VR_ON	
+LCDVCC	+3.3V	15	LCD Power	LCDVCC_TST_EN & ENVDD	
+VCHGR	+10V~+17V	32,38	MAIN BATTERY	CHG_PBATT	

GND PLANE	PAGE	DESCRIPTION
GNDA_CHG	35	
GND_1.05V	36	
AGND_DC/DC	38	
GND POWER	33	
AGND_DDR		
PM6686TR		
GND	ALL	

QUANTA COMPUTER

Title	FRONTPAGE	
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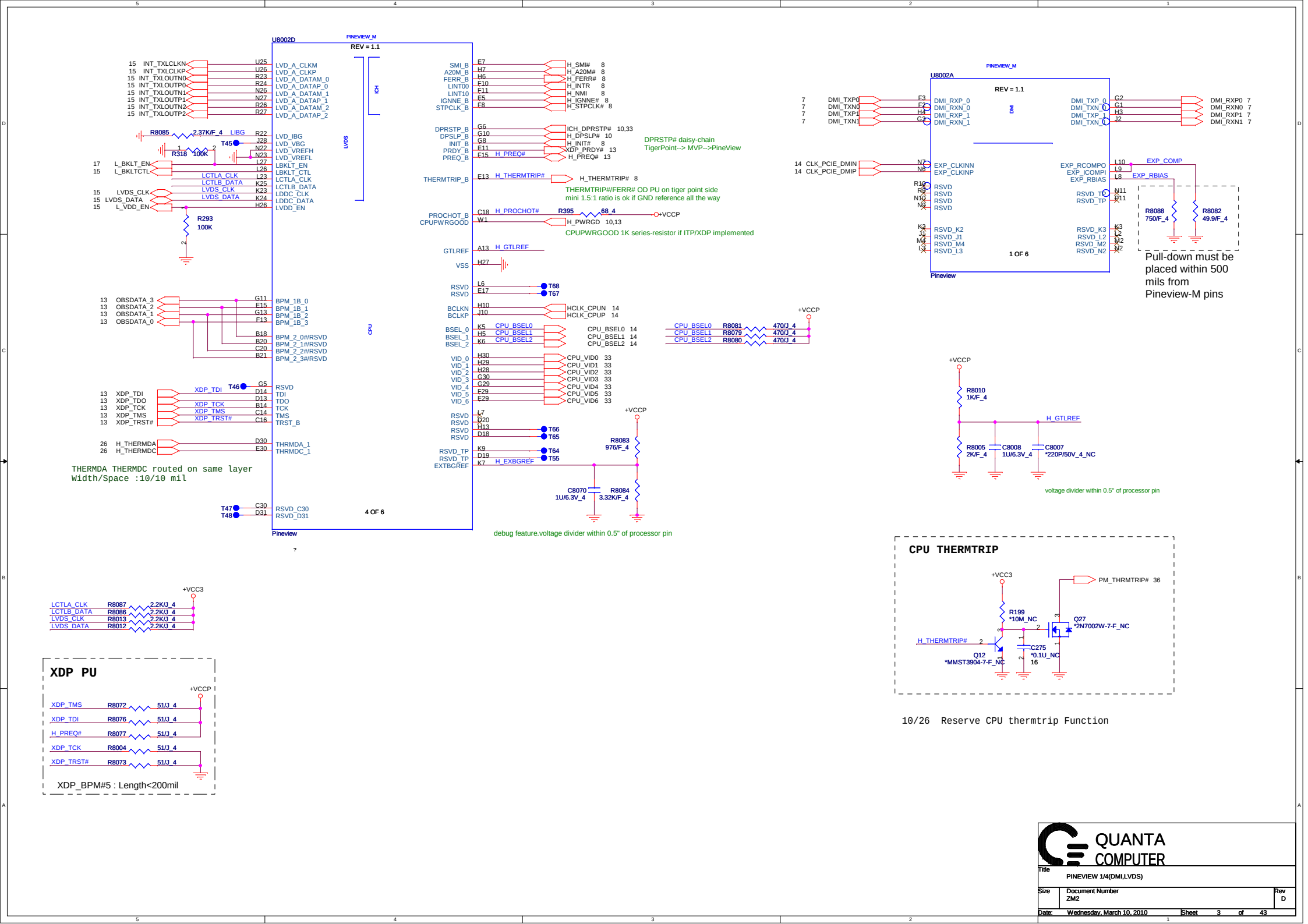
U8002D
PINEVIEW_M
REV = 1.1
LVDS
ICH
CPU
4 OF 6
Pineview
LVD_A_CLKM
LVD_A_CLKP
LVD_A_DATAM_0
LVD_A_DATAP_0
LVD_A_DATAM_1
LVD_A_DATAP_1
LVD_A_DATAM_2
LVD_A_DATAP_2
LVD_IBG
LVD_VBG
LVD_VREFH
LVD_VREFL
LBKLT_EN
LBKLT_CTL
LCTLA_CLK
LCTLB_DATA
LDDC_CLK
LDDC_DATA
LVDD_EN
BPM_1B_0
BPM_1B_1
BPM_1B_2
BPM_1B_3
BPM_2_0#/RSVD
BPM_2_1#/RSVD
BPM_2_2#/RSVD
BPM_2_3#/RSVD
RSVD
TDI
TDO
TCK
TMS
TRST_B
THRMDA_1
THRMDC_1
RSVD_C30
RSVD_D31
SMI_B
A20M_B
FERR_B
LINT00
LINT10
IGNNE_B
STPCLK_B
DPRSTP_B
DPSLP_B
INIT_B
PRDY_B
PREQ_B
THERMTRIP_B
PROCHOT_B
CPUPWRGOOD
GTLREF
VSS
RSVD
BCLKN
BCLKP
BSEL_0
BSEL_1
BSEL_2
VID_0
VID_1
VID_2
VID_3
VID_4
VID_5
VID_6
RSVD_TP
EXTBGREF
H_SMI# 8
H_A20M# 8
H_FERR# 8
H_INTR 8
H_NMI 8
H_IGNNE# 8
H_STPCLK# 8
ICH_DPRSTP# 10,33
H_DPSLP# 10
H_INIT# 8
XDP_PRDY# 13
H_PREQ# 13
H_THERMTRIP# 8
H_PROCHOT#
H_PWRGD 10,13
H_GTLREF
HCLK_CPUN 14
HCLK_CPUP 14
CPU_BSEL0 14
CPU_BSEL1 14
CPU_BSEL2 14
CPU_VID0 33
CPU_VID1 33
CPU_VID2 33
CPU_VID3 33
CPU_VID4 33
CPU_VID5 33
CPU_VID6 33
H_EXBGREF
R395 68_4
+VCCP
DPRSTP# daisy-chain
TigerPoint--> MVP-->PineView
THERMTRIP#/FERR# OD PU on tiger point side
mini 1.5:1 ratio is ok if GND reference all the way
CPUPWRGOOD 1K series-resistor if ITP/XDP implemented
THERMDA THERMDC routed on same layer
Width/Space :10/10 mil
debug feature.voltage divider within 0.5" of processor pin
R8085 2.37K/F_4 LIBG
R318 100K
T45
R293 100K
R8081 470/J_4
R8079 470/J_4
R8080 470/J_4
R8083 976/F_4
R8084 3.32K/F_4
C8070 1U/6.3V_4
T46 XDP_TDI
T47
T48
T64
T65
T66
T67
T68
T55
U8002A
1 OF 6
Pineview
DMI_RXP_0
DMI_RXN_0
DMI_RXP_1
DMI_RXN_1
DMI_TXP_0
DMI_TXN_0
DMI_TXP_1
DMI_TXN_1
EXP_CLKINN
EXP_CLKINP
EXP_RCOMPO
EXP_ICOMPI
EXP_RBIAS
EXP_COMP
EXP_RBIAS
RSVD_TP
RSVD_K2
RSVD_J1
RSVD_M4
RSVD_L3
RSVD_K3
RSVD_L2
RSVD_M2
RSVD_N2
R8088 750/F_4
R8082 49.9/F_4
Pull-down must be placed within 500 mils from Pineview-M pins
R8010 1K/F_4
R8005 2K/F_4
C8008 1U/6.3V_4
C8007 *220P/50V_4_NC
H_GTLREF
voltage divider within 0.5" of processor pin
CPU THERMTRIP
+VCC3
PM_THRMTRIP# 36
R199 *10M_NC
Q27 *2N7002W-7-F_NC
C275 *0.1U_NC
Q12 *MMST3904-7-F_NC
H_THERMTRIP#
10/26 Reserve CPU thermtrip Function
LCTLA_CLK R8087 2.2K/J_4
LCTLB_DATA R8086 2.2K/J_4
LVDS_CLK R8013 2.2K/J_4
LVDS_DATA R8012 2.2K/J_4
XDP PU
XDP_TMS R8072 51/J_4
XDP_TDI R8076 51/J_4
H_PREQ# R8077 51/J_4
XDP_TCK R8004 51/J_4
XDP_TRST# R8073 51/J_4
XDP_BPM#5 : Length<200mil
QUANTA COMPUTER
Title PINEVIEW 1/4(DMI,LVDS)
Size Document Number ZM2 Rev D
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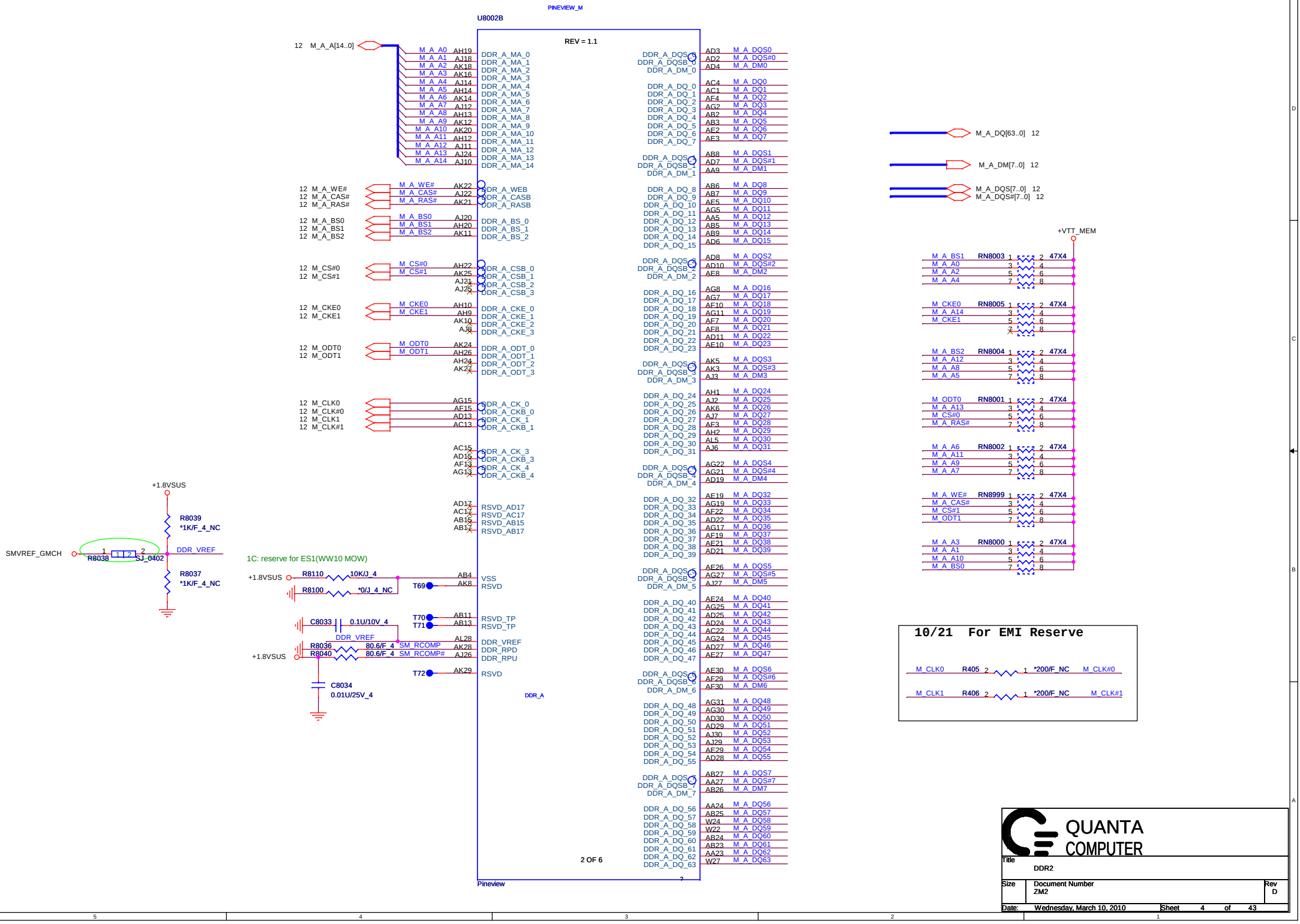
PINEVIEW_M
U8002B
REV = 1.1
12 M_A_A[14..0]
M_A_A0 AH19 DDR_A_MA_0
M_A_A1 AJ18 DDR_A_MA_1
M_A_A2 AK18 DDR_A_MA_2
M_A_A3 AK16 DDR_A_MA_3
M_A_A4 AJ14 DDR_A_MA_4
M_A_A5 AH14 DDR_A_MA_5
M_A_A6 AK14 DDR_A_MA_6
M_A_A7 AJ12 DDR_A_MA_7
M_A_A8 AH13 DDR_A_MA_8
M_A_A9 AK12 DDR_A_MA_9
M_A_A10 AK20 DDR_A_MA_10
M_A_A11 AH12 DDR_A_MA_11
M_A_A12 AJ11 DDR_A_MA_12
M_A_A13 AJ24 DDR_A_MA_13
M_A_A14 AJ10 DDR_A_MA_14
12 M_A_WE#
12 M_A_CAS#
12 M_A_RAS#
M_A_WE# AK22 DDR_A_WEB
M_A_CAS# AJ22 DDR_A_CASB
M_A_RAS# AK21 DDR_A_RASB
12 M_A_BS0
12 M_A_BS1
12 M_A_BS2
M_A_BS0 AJ20 DDR_A_BS_0
M_A_BS1 AH20 DDR_A_BS_1
M_A_BS2 AK11 DDR_A_BS_2
12 M_CS#0
12 M_CS#1
M_CS#0 AH22 DDR_A_CSB_0
M_CS#1 AK25 DDR_A_CSB_1
AJ21 DDR_A_CSB_2
AJ25 DDR_A_CSB_3
12 M_CKE0
12 M_CKE1
M_CKE0 AH10 DDR_A_CKE_0
M_CKE1 AH9 DDR_A_CKE_1
AK10 DDR_A_CKE_2
AJ8 DDR_A_CKE_3
12 M_ODT0
12 M_ODT1
M_ODT0 AK24 DDR_A_ODT_0
M_ODT1 AH26 DDR_A_ODT_1
AH24 DDR_A_ODT_2
AK27 DDR_A_ODT_3
12 M_CLK0
12 M_CLK#0
12 M_CLK1
12 M_CLK#1
AG15 DDR_A_CK_0
AF15 DDR_A_CKB_0
AD13 DDR_A_CK_1
AC13 DDR_A_CKB_1
AC15 DDR_A_CK_3
AD15 DDR_A_CKB_3
AF13 DDR_A_CK_4
AG13 DDR_A_CKB_4
AD17 RSVD_AD17
AC17 RSVD_AC17
AB15 RSVD_AB15
AB17 RSVD_AB17
DDR_A_DQS_0 AD3 M_A_DQS0
DDR_A_DQSB_0 AD2 M_A_DQS#0
DDR_A_DM_0 AD4 M_A_DM0
DDR_A_DQ_0 AC4 M_A_DQ0
DDR_A_DQ_1 AC1 M_A_DQ1
DDR_A_DQ_2 AF4 M_A_DQ2
DDR_A_DQ_3 AG2 M_A_DQ3
DDR_A_DQ_4 AB2 M_A_DQ4
DDR_A_DQ_5 AB3 M_A_DQ5
DDR_A_DQ_6 AE2 M_A_DQ6
DDR_A_DQ_7 AE3 M_A_DQ7
DDR_A_DQS_1 AB8 M_A_DQS1
DDR_A_DQSB_1 AD7 M_A_DQS#1
DDR_A_DM_1 AA9 M_A_DM1
DDR_A_DQ_8 AB6 M_A_DQ8
DDR_A_DQ_9 AB7 M_A_DQ9
DDR_A_DQ_10 AF5 M_A_DQ10
DDR_A_DQ_11 AG5 M_A_DQ11
DDR_A_DQ_12 AA5 M_A_DQ12
DDR_A_DQ_13 AB5 M_A_DQ13
DDR_A_DQ_14 AB9 M_A_DQ14
DDR_A_DQ_15 AD6 M_A_DQ15
DDR_A_DQS_2 AD8 M_A_DQS2
DDR_A_DQSB_2 AD10 M_A_DQS#2
DDR_A_DM_2 AE8 M_A_DM2
DDR_A_DQ_16 AG8 M_A_DQ16
DDR_A_DQ_17 AG7 M_A_DQ17
DDR_A_DQ_18 AF10 M_A_DQ18
DDR_A_DQ_19 AG11 M_A_DQ19
DDR_A_DQ_20 AF7 M_A_DQ20
DDR_A_DQ_21 AF8 M_A_DQ21
DDR_A_DQ_22 AD11 M_A_DQ22
DDR_A_DQ_23 AE10 M_A_DQ23
DDR_A_DQS_3 AK5 M_A_DQS3
DDR_A_DQSB_3 AK3 M_A_DQS#3
DDR_A_DM_3 AJ3 M_A_DM3
DDR_A_DQ_24 AH1 M_A_DQ24
DDR_A_DQ_25 AJ2 M_A_DQ25
DDR_A_DQ_26 AK6 M_A_DQ26
DDR_A_DQ_27 AJ7 M_A_DQ27
DDR_A_DQ_28 AF3 M_A_DQ28
DDR_A_DQ_29 AH2 M_A_DQ29
DDR_A_DQ_30 AL5 M_A_DQ30
DDR_A_DQ_31 AJ6 M_A_DQ31
DDR_A_DQS_4 AG22 M_A_DQS4
DDR_A_DQSB_4 AG21 M_A_DQS#4
DDR_A_DM_4 AD19 M_A_DM4
DDR_A_DQ_32 AF19 M_A_DQ32
DDR_A_DQ_33 AG19 M_A_DQ33
DDR_A_DQ_34 AF22 M_A_DQ34
DDR_A_DQ_35 AD22 M_A_DQ35
DDR_A_DQ_36 AG17 M_A_DQ36
DDR_A_DQ_37 AF19 M_A_DQ37
DDR_A_DQ_38 AE21 M_A_DQ38
DDR_A_DQ_39 AD21 M_A_DQ39
DDR_A_DQS_5 AE26 M_A_DQS5
DDR_A_DQSB_5 AG27 M_A_DQS#5
DDR_A_DM_5 AJ27 M_A_DM5
DDR_A_DQ_40 AE24 M_A_DQ40
DDR_A_DQ_41 AG25 M_A_DQ41
DDR_A_DQ_42 AD25 M_A_DQ42
DDR_A_DQ_43 AD24 M_A_DQ43
DDR_A_DQ_44 AC22 M_A_DQ44
DDR_A_DQ_45 AG24 M_A_DQ45
DDR_A_DQ_46 AD27 M_A_DQ46
DDR_A_DQ_47 AE27 M_A_DQ47
DDR_A_DQS_6 AE30 M_A_DQS6
DDR_A_DQSB_6 AE29 M_A_DQS#6
DDR_A_DM_6 AE30 M_A_DM6
DDR_A_DQ_48 AG31 M_A_DQ48
DDR_A_DQ_49 AG30 M_A_DQ49
DDR_A_DQ_50 AD30 M_A_DQ50
DDR_A_DQ_51 AD29 M_A_DQ51
DDR_A_DQ_52 AJ30 M_A_DQ52
DDR_A_DQ_53 AJ29 M_A_DQ53
DDR_A_DQ_54 AE29 M_A_DQ54
DDR_A_DQ_55 AD28 M_A_DQ55
DDR_A_DQS_7 AB27 M_A_DQS7
DDR_A_DQSB_7 AA27 M_A_DQS#7
DDR_A_DM_7 AB26 M_A_DM7
DDR_A_DQ_56 AA24 M_A_DQ56
DDR_A_DQ_57 AB25 M_A_DQ57
DDR_A_DQ_58 W24 M_A_DQ58
DDR_A_DQ_59 W22 M_A_DQ59
DDR_A_DQ_60 AB24 M_A_DQ60
DDR_A_DQ_61 AB23 M_A_DQ61
DDR_A_DQ_62 AA23 M_A_DQ62
DDR_A_DQ_63 W27 M_A_DQ63
DDR_A
2 OF 6
Pineview
M_A_DQ[63..0] 12
M_A_DM[7..0] 12
M_A_DQS[7..0] 12
M_A_DQS#[7..0] 12
+VTT_MEM
RN8003 47X4
M_A_BS1 M_A_A0 M_A_A2 M_A_A4
RN8005 47X4
M_CKE0 M_A_A14 M_CKE1
RN8004 47X4
M_A_BS2 M_A_A12 M_A_A8 M_A_A5
RN8001 47X4
M_ODT0 M_A_A13 M_CS#0 M_A_RAS#
RN8002 47X4
M_A_A6 M_A_A11 M_A_A9 M_A_A7
RN8999 47X4
M_A_WE# M_A_CAS# M_CS#1 M_ODT1
RN8000 47X4
M_A_A3 M_A_A1 M_A_A10 M_A_BS0
+1.8VSUS
R8039 *1K/F_4_NC
DDR_VREF
SMVREF_GMCH
R8038 SJ_0402
R8037 *1K/F_4_NC
1C: reserve for ES1(WW10 MOW)
+1.8VSUS
R8110 10K/J_4
R8100 *0/J_4_NC
T69 AB4 VSS
AK8 RSVD
T70 AB11 RSVD_TP
T71 AB13 RSVD_TP
C8033 0.1U/10V_4
DDR_VREF
R8036 80.6/F_4 SM_RCOMP
R8040 80.6/F_4 SM_RCOMP#
+1.8VSUS
AL28 DDR_VREF
AK28 DDR_RPD
AJ26 DDR_RPU
T72 AK29 RSVD
C8034 0.01U/25V_4
10/21 For EMI Reserve
M_CLK0 R405 *200/F_NC M_CLK#0
M_CLK1 R406 *200/F_NC M_CLK#1
QUANTA COMPUTER
Title DDR2
Size Document Number ZM2 Rev D
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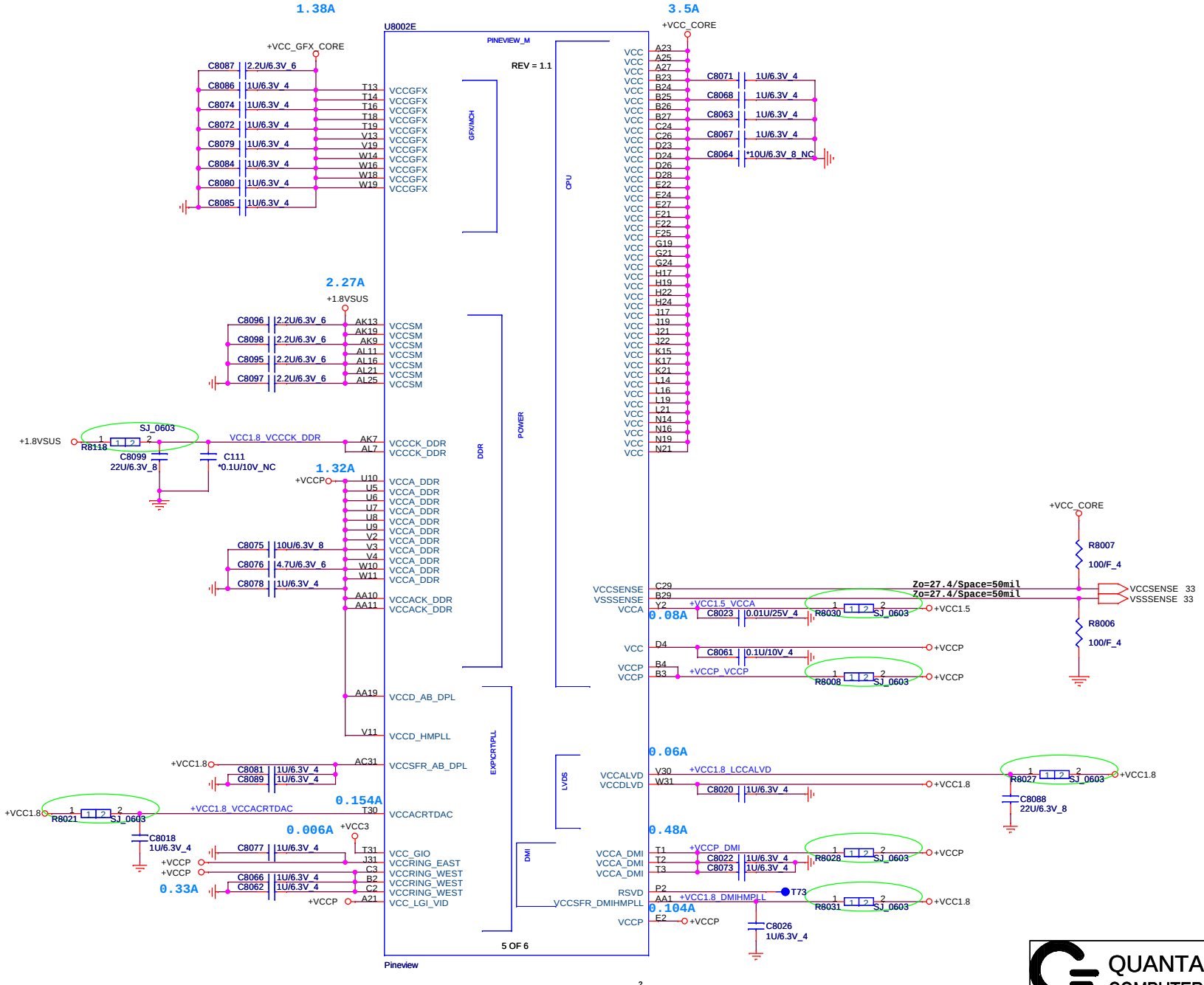
1.38A
U8002E
PINEVIEW_M
REV = 1.1
3.5A
+VCC_CORE
+VCC_GFX_CORE
C8087 2.2U/6.3V_6
C8086 1U/6.3V_4
C8074 1U/6.3V_4
C8072 1U/6.3V_4
C8079 1U/6.3V_4
C8084 1U/6.3V_4
C8080 1U/6.3V_4
C8085 1U/6.3V_4
T13 T14 T16 T18 T19 V13 V19 W14 W16 W18 W19
VCCGFX
GFX/MCH
CPU
C8071 1U/6.3V_4
C8068 1U/6.3V_4
C8063 1U/6.3V_4
C8067 1U/6.3V_4
C8064 *10U/6.3V_8_NC
2.27A
+1.8VSUS
C8096 2.2U/6.3V_6
C8098 2.2U/6.3V_6
C8095 2.2U/6.3V_6
C8097 2.2U/6.3V_6
AK13 AK19 AK9 AL11 AL16 AL21 AL25
VCCSM
SJ_0603
R8118
VCC1.8_VCCCK_DDR
C8099 22U/6.3V_8
C111 *0.1U/10V_NC
AK7 AL7
VCCCK_DDR
DDR
POWER
1.32A
+VCCP
U10 U5 U6 U7 U8 U9 V2 V3 V4 W10 W11
VCCA_DDR
C8075 10U/6.3V_8
C8076 4.7U/6.3V_6
C8078 1U/6.3V_4
AA10 AA11
VCCACK_DDR
AA19
VCCD_AB_DPL
V11
VCCD_HMPLL
EXPCRTPLL
+VCC1.8
C8081 1U/6.3V_4
C8089 1U/6.3V_4
AC31
VCCSFR_AB_DPL
LVDS
0.154A
+VCC1.8_VCCACRTDAC
T30
VCCACRTDAC
0.006A
+VCC3
C8077 1U/6.3V_4
T31
VCC_GIO
J31
VCCRING_EAST
C3
VCCRING_WEST
B2 C2
VCCRING_WEST
A21
VCC_LGI_VID
DMI
0.33A
C8066 1U/6.3V_4
C8062 1U/6.3V_4
5 OF 6
Pineview
VCCSENSE C29
VSSSENSE B29
VCCA Y2
+VCC1.5_VCCA
C8023 0.01U/25V_4
0.08A
R8030 SJ_0603
+VCC1.5
Zo=27.4/Space=50mil
Zo=27.4/Space=50mil
VCCSENSE 33
VSSSENSE 33
R8007 100/F_4
R8006 100/F_4
VCC D4
C8061 0.1U/10V_4
VCCP B4
VCCP B3
+VCCP_VCCP
R8008 SJ_0603
0.06A
VCCALVD V30
VCCDLVD W31
+VCC1.8_LCCALVD
C8020 1U/6.3V_4
R8027 SJ_0603
C8088 22U/6.3V_8
0.48A
VCCA_DMI T1
VCCA_DMI T2
VCCA_DMI T3
+VCCP_DMI
C8022 1U/6.3V_4
C8073 1U/6.3V_4
R8028 SJ_0603
RSVD P2
VCCSFR_DMIHMPLL AA1
+VCC1.8_DMIHMPLL
T73
0.104A
R8031 SJ_0603
VCCP E2
C8026 1U/6.3V_4
QUANTA COMPUTER
Title
PINEVIEW 3/4(POWER)
Size
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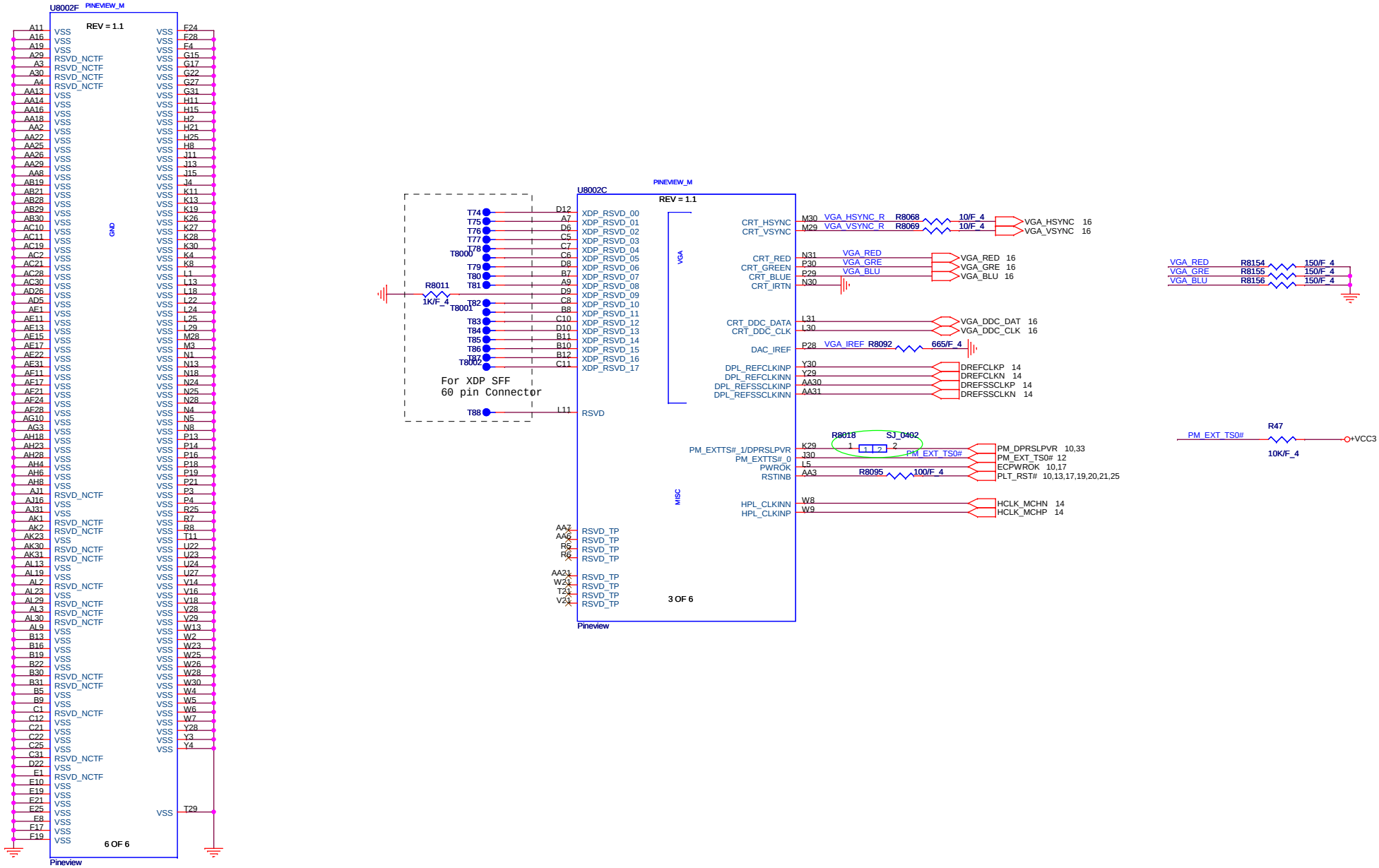
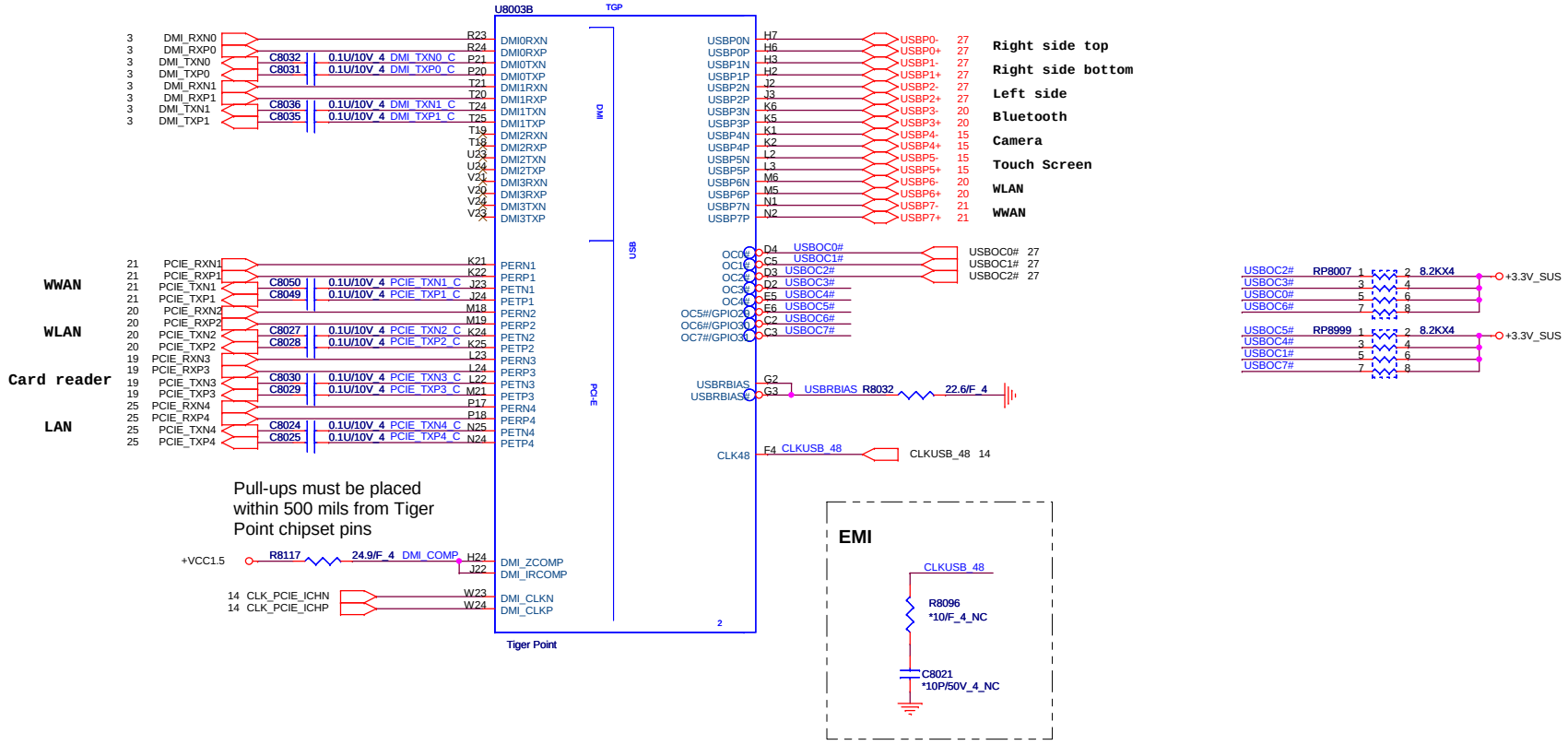
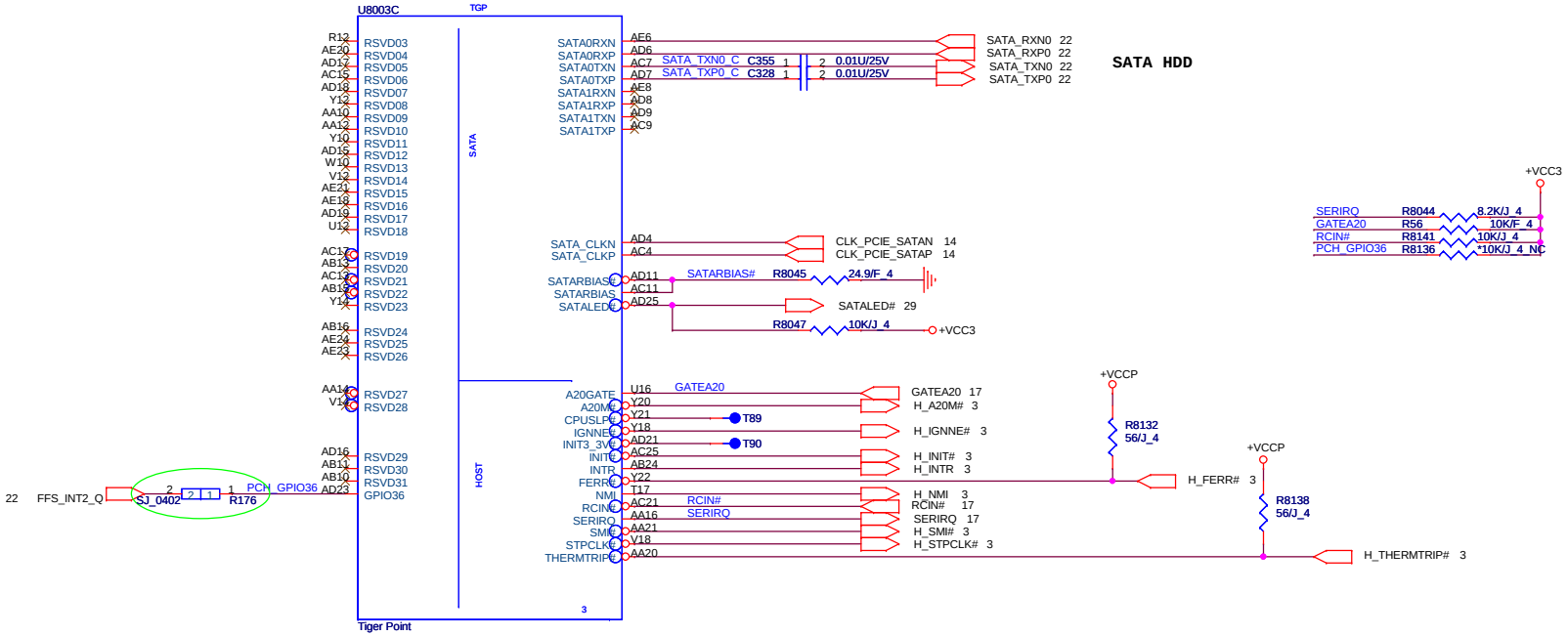


Title	VGA,GND		
Size	Document Number ZM2		Rev D
Date: Wednesday, March 10, 2010	Sheet 6	of 43	



QUANTA COMPUTER		
Title: TGP 1/5(DMI,PCIE,USB)		
Size	Document Number: ZM2	Rev: D
Date: Wednesday, March 10, 2010	Sheet 7 of 43	



QUANTA COMPUTER			
Title: TGP 2/5(SATA,HOST)			
Size	Document Number: ZM2		Rev: D
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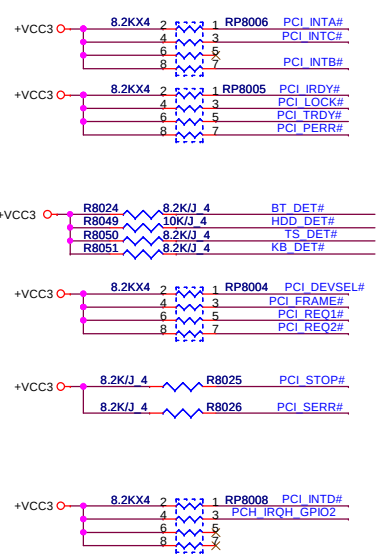
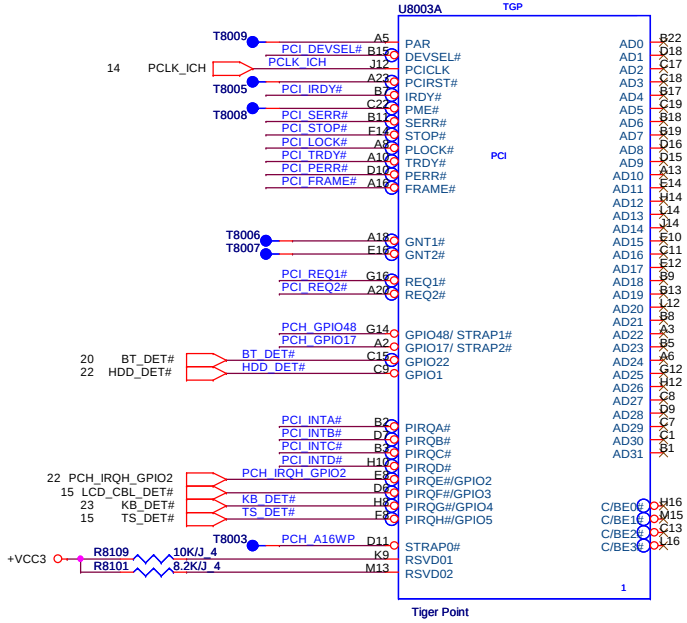
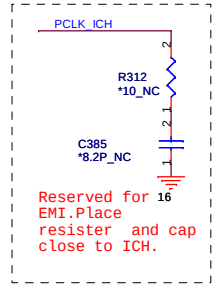






check

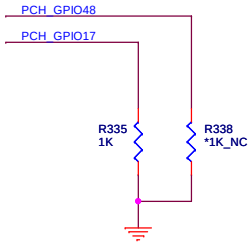
ICH Boot BIOS select

PCH_GPIO17 (INT PU)	PCH_GPIO48 (INT PU)	Boot BIOS Location
0	1	SPI
1	0	PCI
1	1	LPC (Default)

A16 SWAP Override strap

PCH_A16WP (INT PU)	Low = A16 swap override enabled High = Default

SB Boot BIOS select



IRQ	Description
PIRQA	USB UHCI Controller #1, #4
PIRQB	AC'97 Codec; option for SMBUS
PIRQC	USB UH Controller #3; SATA/IDE Native Mode
PIRQD	USB UHCI Controller #2
PIRQE	Internal LAN; Option for SCI, TCO, HPET#0,1,2
PIRQF	Option for SCI, TCO, HPET#0,1,2
PIRQG	Option for SCI, TCO, HPET#0,1,2
PIRQH	USB EHCI Controller; Option for SCI, TCO, HPET#0,1,2

PCI_GNT#2	Internal PU Should not be PD

QUANTA COMPUTER

Title	TGP 3/5(PCI)	
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EMI

14M_ICH
R8041 *33/J_4_NC
C8037 *10P/50V_4_NC
ACZ_BITCLK
C471 *27P_NC 50 NPO

RTC

C8118 10P/50V_4
C8113 10P/50V_4
Y8999 32.768K/10PPM
R8129 10M_4
RTC_X1
RTC_X2

+3.3V_SUS
R96 10K EC_FLASH_SPI_DIN
R97 10K EC_FLASH_SPI_DO
R98 10K EC_FLASH_SPI_CS#

U8003D TGP

LPC: LDRQ1#/GPIO23, LAD0/FWH0, LAD1/FWH1, LAD2/FWH2, LAD3/FWH3, LDRQ0#, LFRAME#
AUDIO: HDA_BIT_CLK, HDA_RST#, HDA_SDI0, HDA_SDIN1, HDA_SDIN2, HDA_SDOUT, HDA_SYNC, CLK14
EPROM: EE_CS, EE_DIN, EE_DOUT, EE_SHCLK
LAN: LAN_CLK, LANR_STSYNC, LAN_RST#, LAN_RXD0, LAN_RXD1, LAN_RXD2, LAN_TXD0, LAN_TXD1, LAN_TXD2
RTC: RTCX1, RTCX2, RTCRST#
SMB: SMBALERT#/GPIO11, SMBCLK, SMBDATA, SMLALERT#, SMLINK0, SMLINK1
SPI: SPI_MISO, SPI_MOSI, SPI_CS#, SPI_CLK, SPI_ARB
MISC: BM_BUSY#/GPIO0, GPIO6, GPIO7, GPIO8, GPIO9, GPIO10, GPIO12, GPIO13, GPIO14, GPIO15, DPRSLPVR, STP_PCI#, STP_CPU#, GPIO24, GPIO25, GPIO26, GPIO27, GPIO28, CLKRUN#, GPIO33, GPIO34, GPIO38, GPIO39, CPUPWRGD/GPIO49, THRM#, VRMPWRGD, MCH_SYNC#, PWRBTN#, RI#, SUS_STAT#/LPCPD#, SUSCLK, SYS_RESET#, PLTRST#, WAKE#, INTRUDER#, PWROK, RSMRST#, INTVRMEN, SPKR, SLP_S3#, SLP_S4#, SLP_S5#, BATLOW#, DPRSTP#, DPSLP#, RSVD31

T8999 17,20 LPC_AD0 17,20 LPC_AD1 17,20 LPC_AD2 17,20 LPC_AD3 T8017 17,20 LPC_FRAME#
28 ACZ_BITCLK R8125 33/J_4 ACZ_BITCLK_R
17,28 ACZ_RST# R8033 33/J_4 ACZ_RST#_R
28 ACZ_SDIN0
T91 T92
28 ACZ_SDOUT R8035 33/J_4 ACZ_SDOUT_R
28 ACZ_SYNC R8034 33/J_4 ACZ_SYNC_R
14 14M_ICH 14M_ICH
RTC_X1 RTC_X2
+VCCRTC C8130 1U/6.3V_4
R8151 20K/F_4 RTC_RST#
R8150 1M_4
C8129 1U/6.3V_4
SM_INTRUDER#
20,21,22,25 SMB0_CLK 20,21,22,25 SMB0_DATA SMB_LINK_ALERT# SMLINK0 SMLINK1
18 EC_FLASH_SPI_DO 18 EC_FLASH_SPI_DIN 18 EC_FLASH_SPI_CS# 18 EC_FLASH_SPI_CLK

BM_BUSY#/GPIO0 R76 8.2K_4 +VCC3
GPIO6 USB_MCARD1_DET# 20
GPIO7 FAN1_DET# 26
GPIO8 KBSMI#
GPIO9 SIO_EXT_SCI# 17
GPIO10 SIO_EXT_WAKE# 17
GPIO12 SIO_EXT_SMI# 17
GPIO13 CCD_DET# 15
GPIO14 SATA_CLKREQ# SATA_CLKREQ# 14
GPIO15 PCH_GPIO15
DPRSLPVR PM_DPRSLPVR 6,33
STP_PCI# PM_STPPCI# 14
STP_CPU# R13 SJ_0402 PM_STPCPU# 14
GPIO24 PCIE_MCARD1_DET# PCIE_MCARD1_DET# 20
GPIO25 DMI_AC_ENABLE
GPIO26 SWI#
GPIO27 WWAN_RADIO_DIS# WWAN_RADIO_DIS# 21
GPIO28 USB_MCARD2_DET# USB_MCARD2_DET# 21
CLKRUN# PCIE_MCARD2_DET#
GPIO33 SPEAKER_DET# PCIE_MCARD2_DET# 21 SPEAKER_DET# 28
GPIO34 WLAN_RADIO_DIS# WLAN_RADIO_DIS# 20
GPIO38 BT_RADIO_DIS# BT_RADIO_DIS# 20
GPIO39
CPUPWRGD/GPIO49 H_PWRGD H_PWRGD 3,13
THRM# THRM# 26
VRMPWRGD CLKEN CLKEN 14
MCH_SYNC# MCH_SYNC#
PWRBTN# DNBSWON# DNBSWON# 17
RI# ICH_RI# R8120 10K/F_4 +3.3V_SUS
SUS_STAT#/LPCPD# T8011
SUSCLK T37
SYS_RESET# XDP_DBRESET# XDP_DBRESET# 13
PLTRST# PLT_RST#_Q
WAKE# WAKE#
INTRUDER# SM_INTRUDER#
PWROK ECPWROK ECPWROK 6,17
RSMRST# RSMRST# RSMRST# 17
INTVRMEN ICH_INTVRMEN R8042 332K/F_4 +VCCRTC
SPKR PCSPK PCSPK 28
SLP_S3# SIO_SLP_S3# SIO_SLP_S3# 17
SLP_S4# T38
SLP_S5# SIO_SLP_S5# SIO_SLP_S5# 17
BATLOW# PM_BATLOW#
DPRSTP# ICH_DPRSTP# ICH_DPRSTP# 3,33
DPSLP# H_DPSLP# H_DPSLP# 3
RSVD31

GPIO25 internal PU
Sample high DMI DC couple mode
Sample low DMI AC couple mode

CLKRUN# need PU 8.2K to VCC3
R8043 8.2K_4 +VCC3
PCI_CLKRUN# 17

Power satble 99ms and PCICLK stable 1ms
high --enable internal vccSUS_1.5 VR

Tiger Point

+3.3V_SUS
Q8005
R8106 2.2K/F_4 SMB0_CLK
R8105 2.2K/F_4 SMB0_DATA
+VCC3
R89 2.2K/F_4 +VCC3 PCLK_SMB_M 12
R91 2.2K/F_4 +VCC3 PDAT_SMB_M 12
2N7002DW-7-F

Follow ZM1 Support WOL PCIE from S5

17 EC_PCIE_WAKE# R301 SJ_0402 WAKE#
20,25 PCIE_WAKE# R311 *0_NC

+3.3V_SUS
SWI# R93 10K/F_4
DNBSWON# R8111 *10K_NC
XDP_DBRESET# R8119 10K/F_4
SMB_LINK_ALERT# R8122 10K/F_4
SIO_EXT_SCI# R101 8.2K_4
KBSMI# R8123 8.2K_4
SIO_EXT_WAKE# R105 8.2K_4
SMBALERT# R8112 10K/F_4
SATA_CLKREQ# R157 *10K/F_4_NC

+3.3V_SUS
PM_BATLOW# R108 8.2K_4
SMLINK1 R109 10K/F_4
SMLINK0 R110 10K/F_4
WAKE# R111 10K/F_4

+3.3V_SUS
RP5
PCH_GPIO15
SIO_EXT_SMI#
8.2KX4

PWRBTN# internal 18k-42k PU

+VCC3
FAN1_DET# R418 10K_4
USB_MCARD1_DET# R399 10K_4
MCH_SYNC# R8046 1K/F_4
WLAN_RADIO_DIS# R100 10K_4
BT_RADIO_DIS# R102 *10K_4_NC
SPEAKER_DET# R397 10K/F_4
PCIE_MCARD2_DET# R393 10K/F_4
USB_MCARD2_DET# R331 10K_4
WWAN_RADIO_DIS# R324 10K_4
PCIE_MCARD1_DET# R326 10K/F_4

DMI_AC_ENABLE R114 1K/F_4
ECPWROK R115 10K/F_4
RSMRST# R116 10K/F_4

+VCC3
U3
C58 *.1U/10V_NC
PLT_RST#_Q
R8029 *100K/F_NC
TC7SH08FU
R8116 100K/F
PLT_RST# 6,13,17,19,20,21,25

	INTVRMEN
Enable (default)	1
Disable	0

ACZ_SDOUT (INT PD)	ACZ_SYNC (INT PD)	Description
0	0	* 4 x 1s
1	0	Reserved
0	1	Reserved
1	1	1 x 4s(1 port/4 lanes)

QUANTA COMPUTER

Title	TGP 4/5(LPC,HDA,RTC,MISC)	
Size	Document Number ZM2	Rev D
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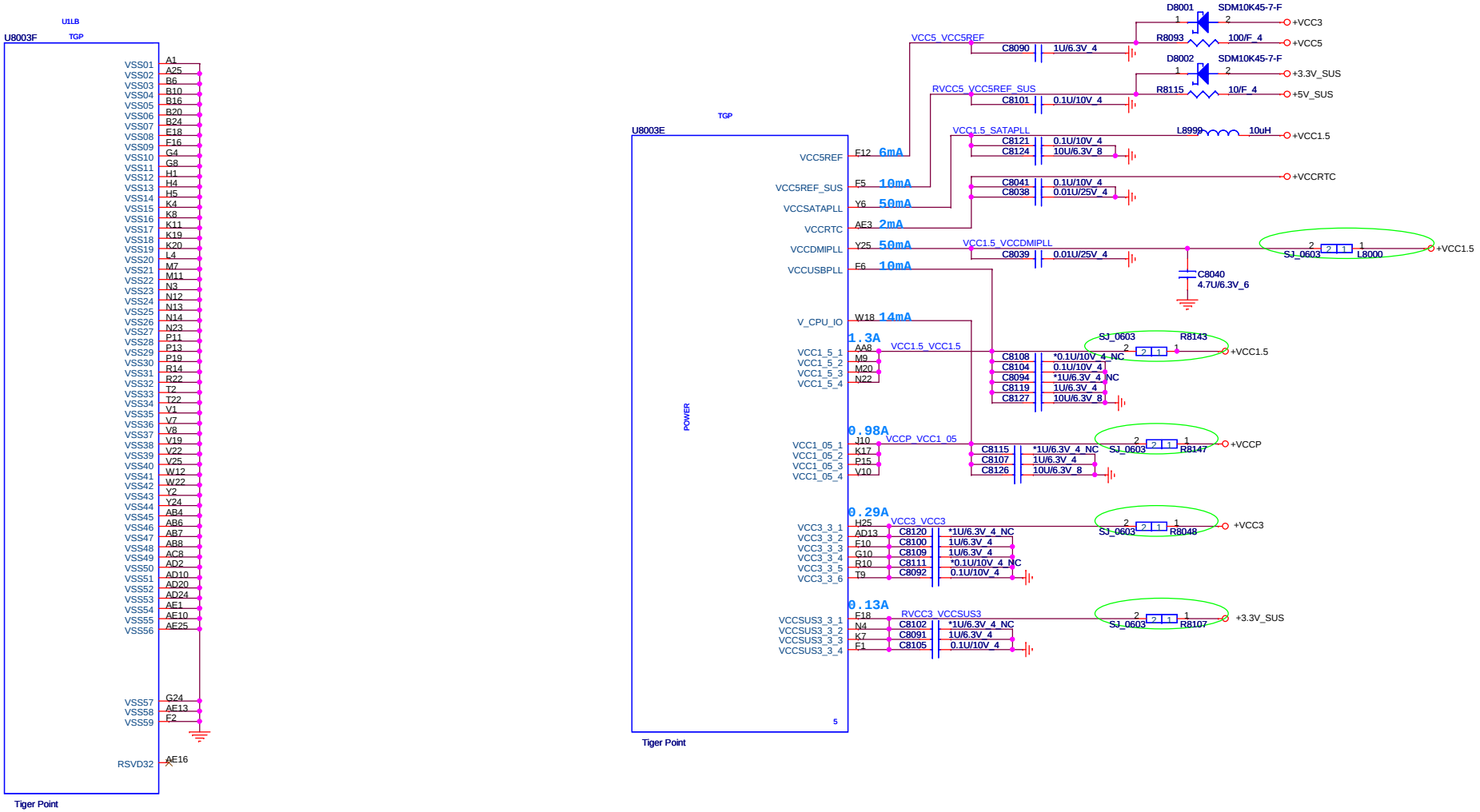
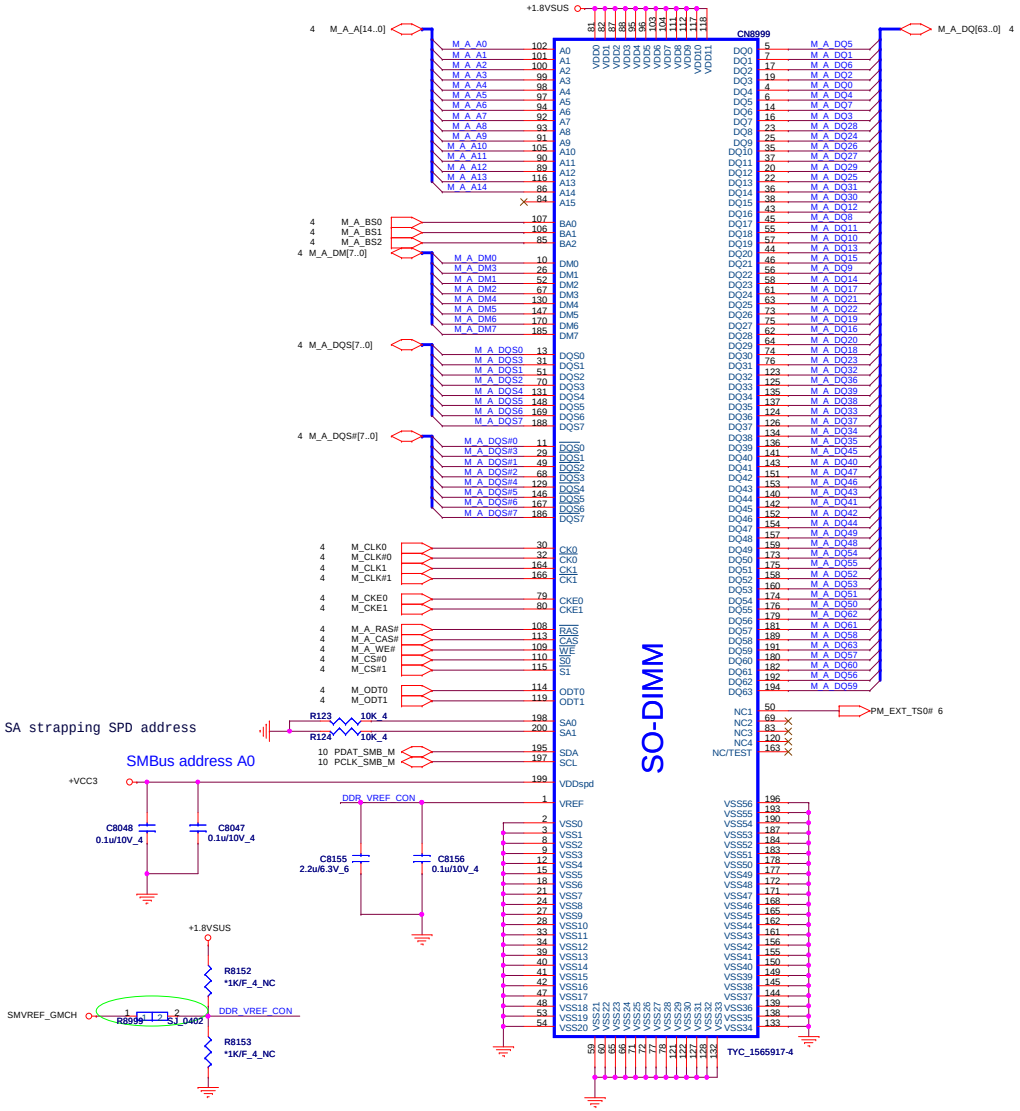
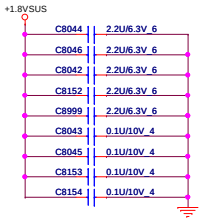
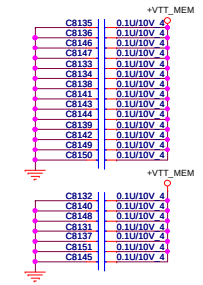


QUANTA COMPUTER

Title	TGP 5/5(POWER,GND)	
Size	Document Number ZM2	Rev D
Date: Wednesday, March 10, 2010	Sheet 11 of 43	







1D: add 7 0.1u for VTT_MEM(Intel)

Place close to soket

CLOCKA 0,1 CKEA 0,1 H 4.0

SO-DIMM0 SPD Address is 0xA0
SO-DIMM0 TS Address is 0x30

QUANTA COMPUTER

Title	DDR2	
Size	Document Number ZM2	Rev D
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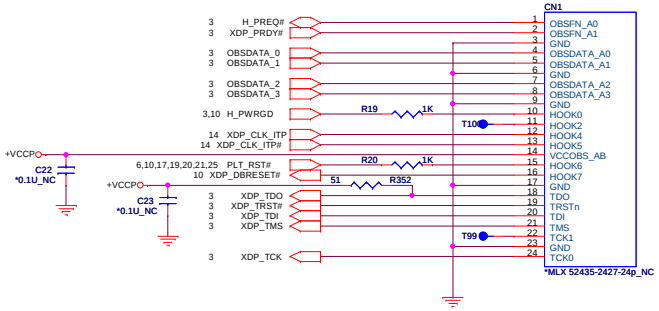
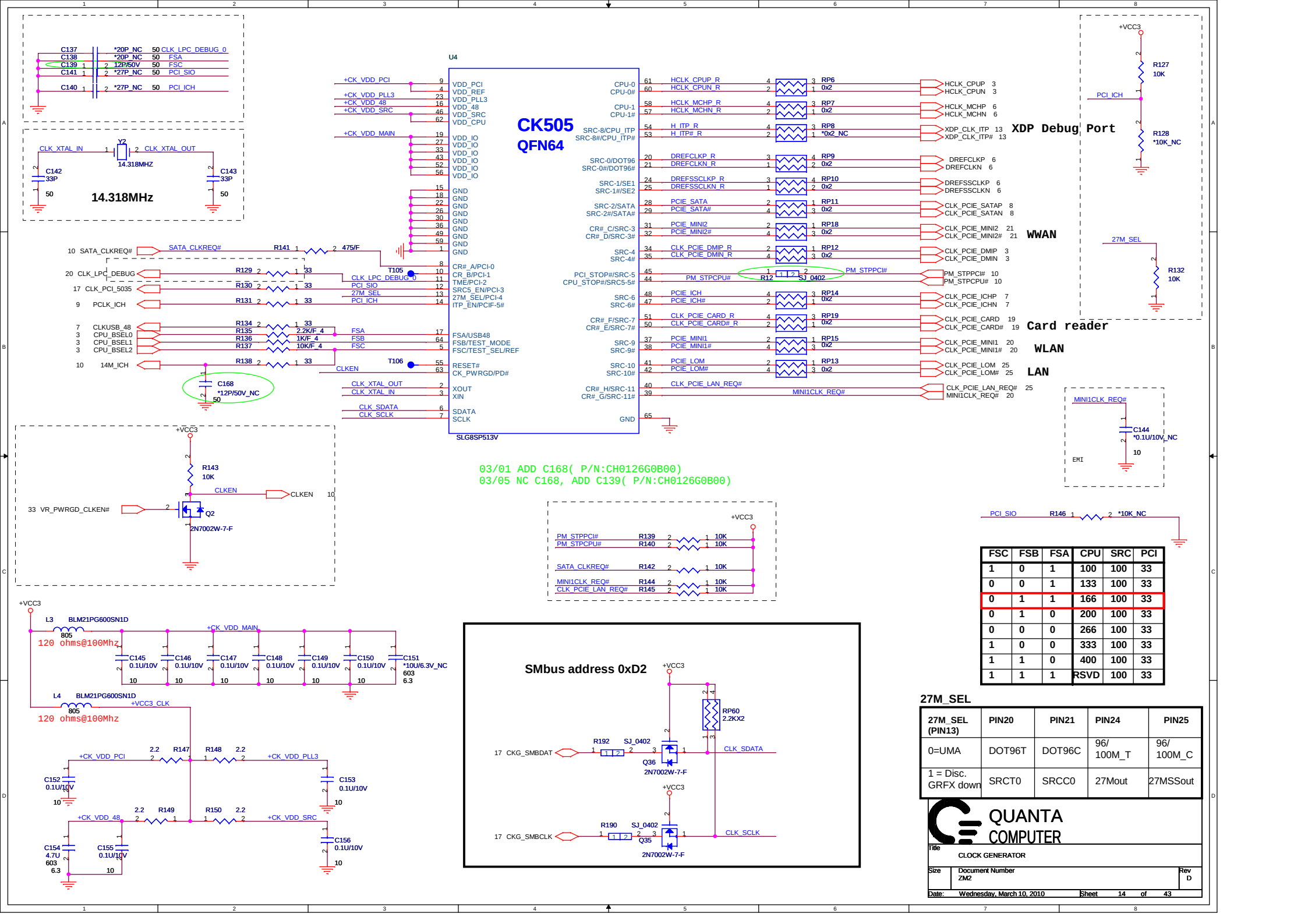


QUANTA COMPUTER

Title	XDP Debug Port	
Size	Document Number ZM2	Rev D
Date: Wednesday, March 10, 2010	Sheet 13 of 43	



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

QUANTA COMPUTER

Title	CLOCK GENERATOR	
Size	Document Number ZM2	Rev D
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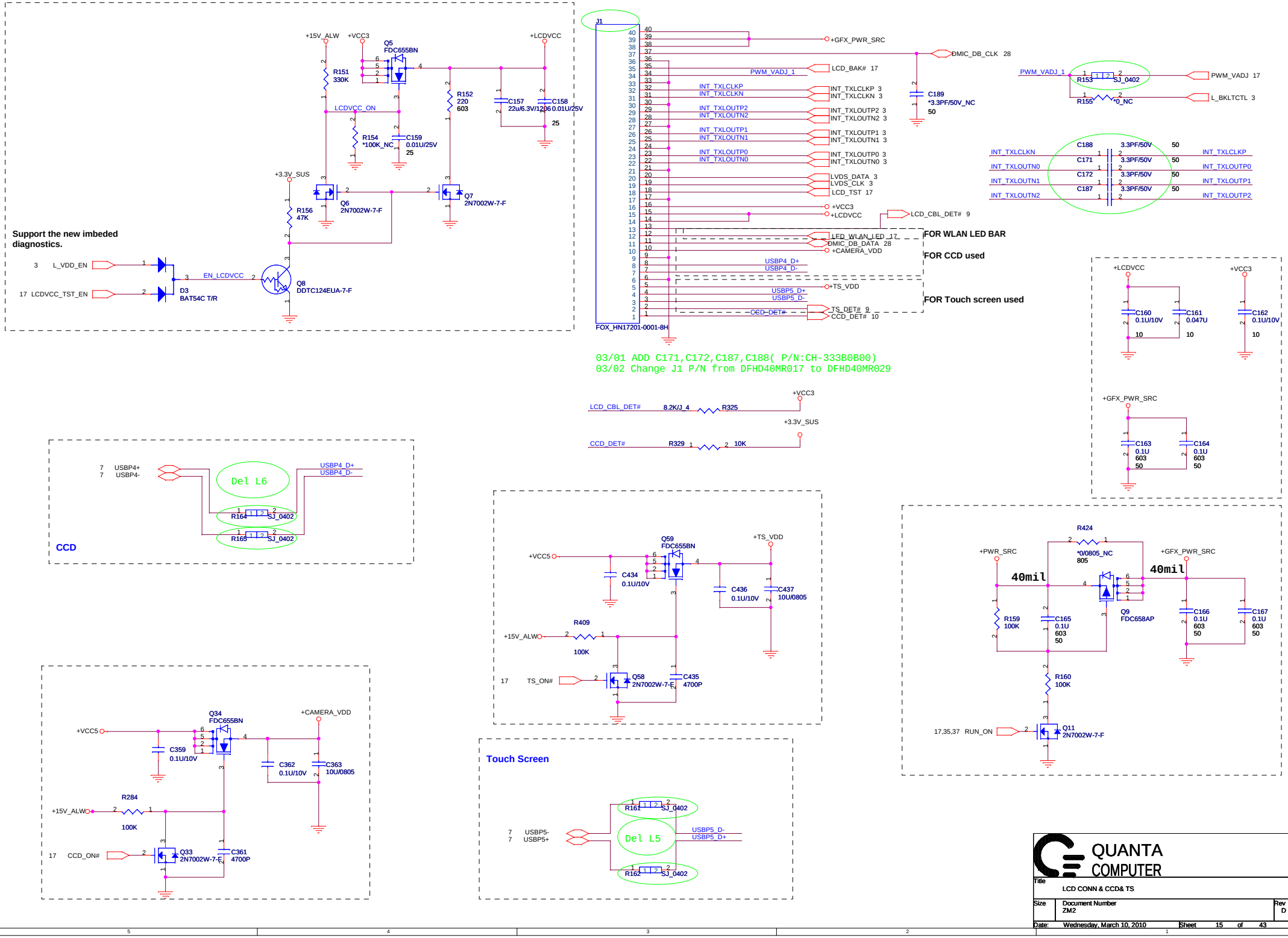
Support the new imbeded diagnostics.
L_VDD_EN
LCDVCC_TST_EN
D3 BAT54C T/R
EN_LCDVCC
Q8 DDTC124EUA-7-F
+15V_ALW
+VCC3
Q5 FDC655BN
+LCDVCC
R151 330K
LCDVCC_ON
R154 *100K_NC
C159 0.01U/25V 25
R152 220 603
C157 22u/6.3V/1206
C158 0.01U/25V 25
+3.3V_SUS
R156 47K
Q6 2N7002W-7-F
Q7 2N7002W-7-F
J1
FOX_HN17201-0001-8H
+GFX_PWR_SRC
DMIC_DB_CLK 28
LCD_BAK# 17
PWM_VADJ_1
INT_TXLCLKP
INT_TXLCLKN
INT_TXLOUTP2
INT_TXLOUTN2
INT_TXLOUTP1
INT_TXLOUTN1
INT_TXLOUTP0
INT_TXLOUTN0
LVDS_DATA 3
LVDS_CLK 3
LCD_TST 17
+VCC3
+LCDVCC
LCD_CBL_DET# 9
C189 *3.3PF/50V_NC 50
R153 SJ_0402
R155 *0_NC
PWM_VADJ 17
L_BKLTCTL 3
C188 3.3PF/50V 50
C171 3.3PF/50V 50
C172 3.3PF/50V 50
C187 3.3PF/50V 50
FOR WLAN LED BAR
LED_WLAN_LED 17
DMIC_DB_DATA 28
+CAMERA_VDD
FOR CCD used
USBP4_D+
USBP4_D-
FOR Touch screen used
+TS_VDD
USBP5_D+
USBP5_D-
TS_DET# 9
CCD_DET# 10
03/01 ADD C171,C172,C187,C188(P/N:CH-333B0B00)
03/02 Change J1 P/N from DFHD40MR017 to DFHD40MR029
LCD_CBL_DET#
8.2K/J_4
R325
CCD_DET#
R329 10K
C160 0.1U/10V 10
C161 0.047U 10
C162 0.1U/10V 10
C163 0.1U 603 50
C164 0.1U 603 50
CCD
USBP4+
USBP4-
Del L6
R164 SJ_0402
R165 SJ_0402
Q59 FDC655BN
+VCC5
C434 0.1U/10V
C436 0.1U/10V
C437 10U/0805
R409 100K
+15V_ALW
17 TS_ON#
Q58 2N7002W-7-F
C435 4700P
R424 *0/0805_NC 805
+PWR_SRC
+GFX_PWR_SRC
40mil
40mil
Q9 FDC658AP
R159 100K
C165 0.1U 603 50
C166 0.1U 603 50
C167 0.1U 603 50
R160 100K
17,35,37 RUN_ON
Q11 2N7002W-7-F
Q34 FDC655BN
+CAMERA_VDD
C359 0.1U/10V
C362 0.1U/10V
C363 10U/0805
R284 100K
17 CCD_ON#
Q33 2N7002W-7-F
C361 4700P
Touch Screen
USBP5-
USBP5+
Del L5
R161 SJ_0402
R162 SJ_0402
QUANTA COMPUTER
Title
LCD CONN & CCD& TS
Size
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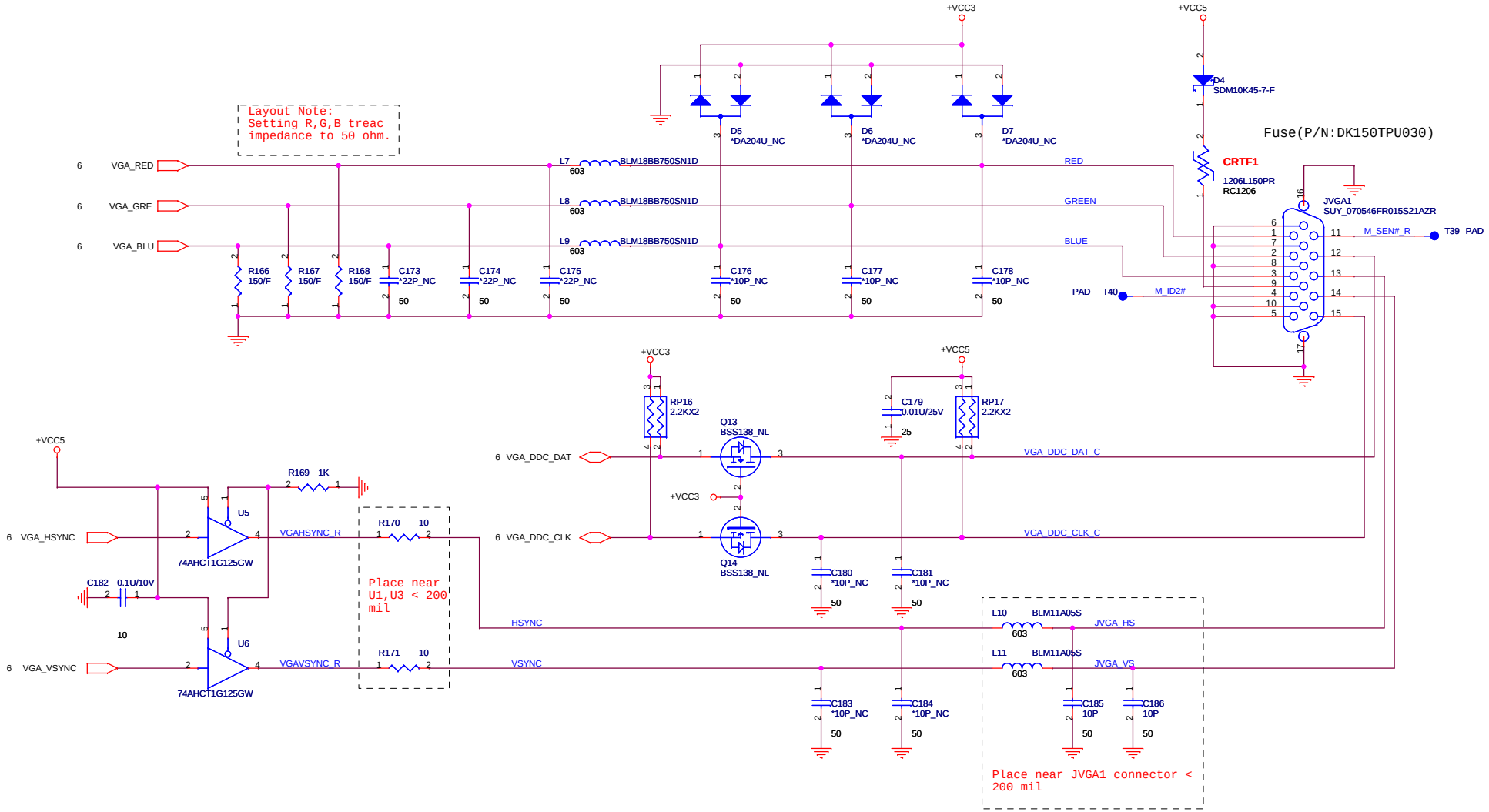
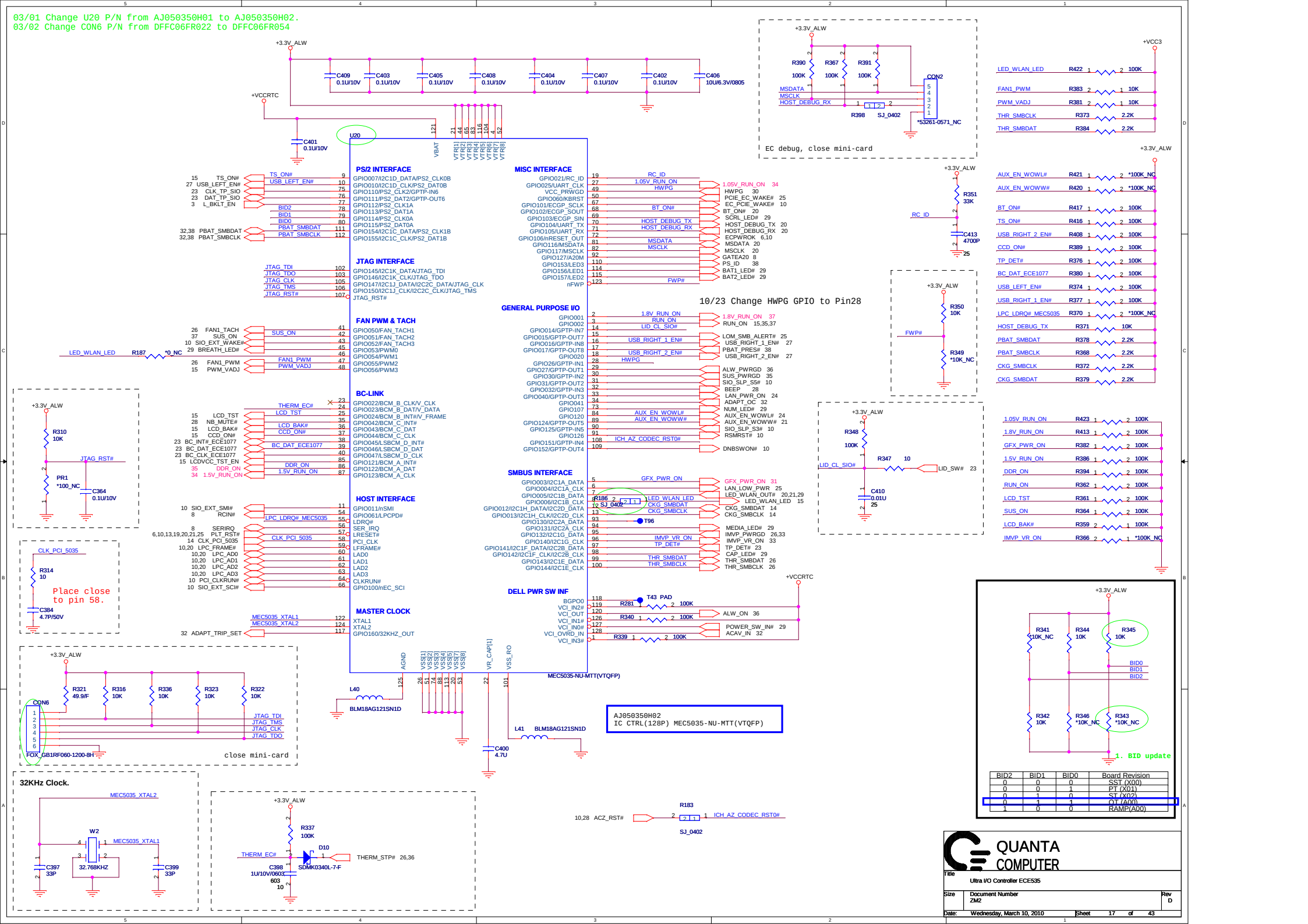
43



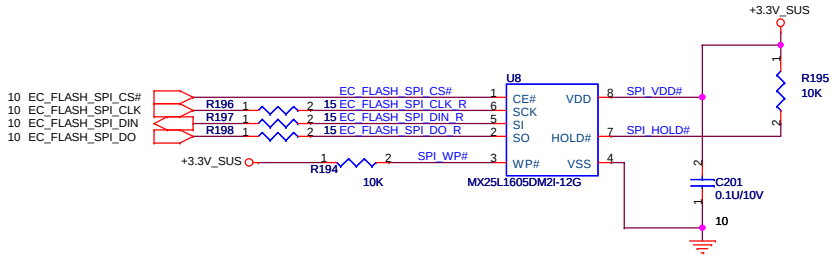
QUANTA COMPUTER

Title	CRT&TV CONN	
Size	Document Number ZM2	Rev D
Date: Wednesday, March 10, 2010	Sheet 16 of 43	

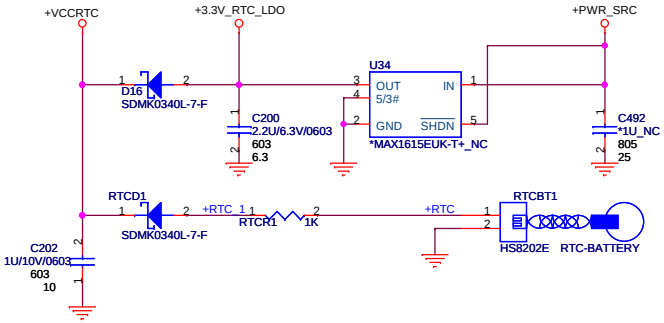
03/01 Change U20 P/N from AJ050350H01 to AJ050350H02.
03/02 Change CON6 P/N from DFFC06FR022 to DFFC06FR054



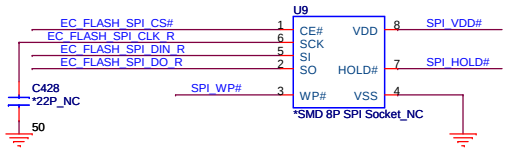
SPI ROM Socket



RTC BATTERY



16Mbit (2M Byte), SPI



QUANTA COMPUTER

Title	Flash / RTC	
Size	Document Number ZM2	Rev D
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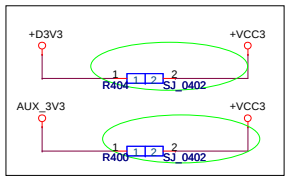
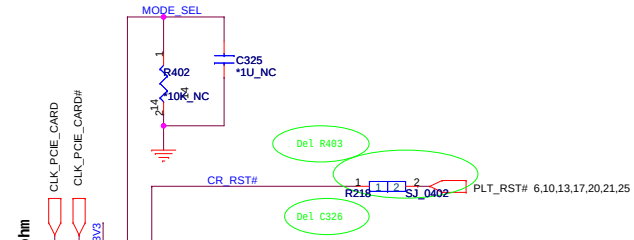
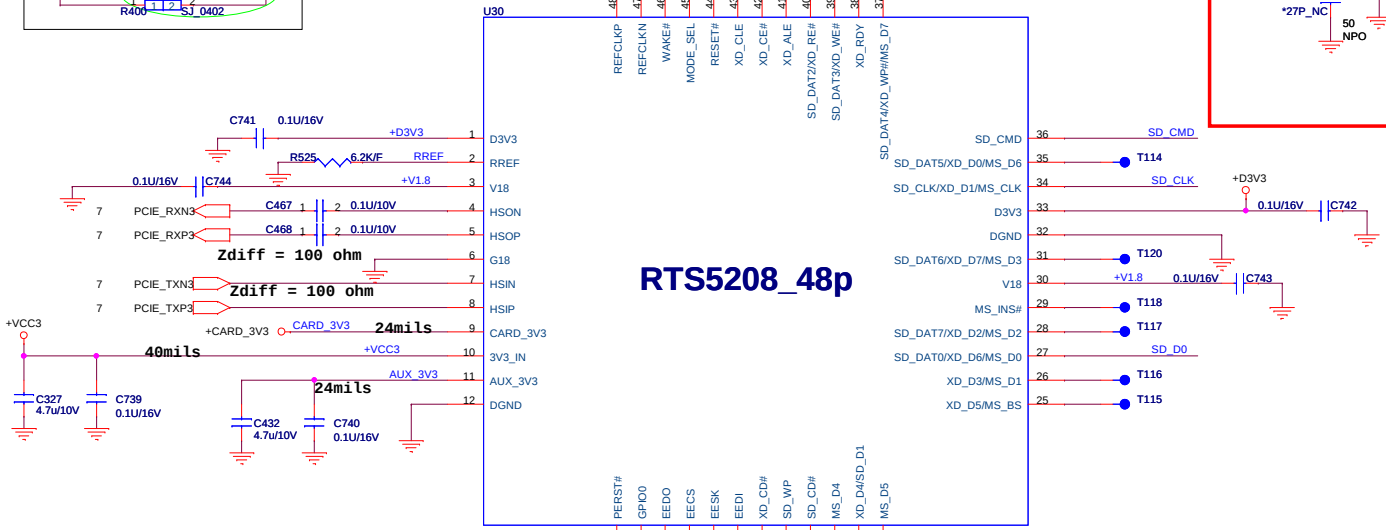
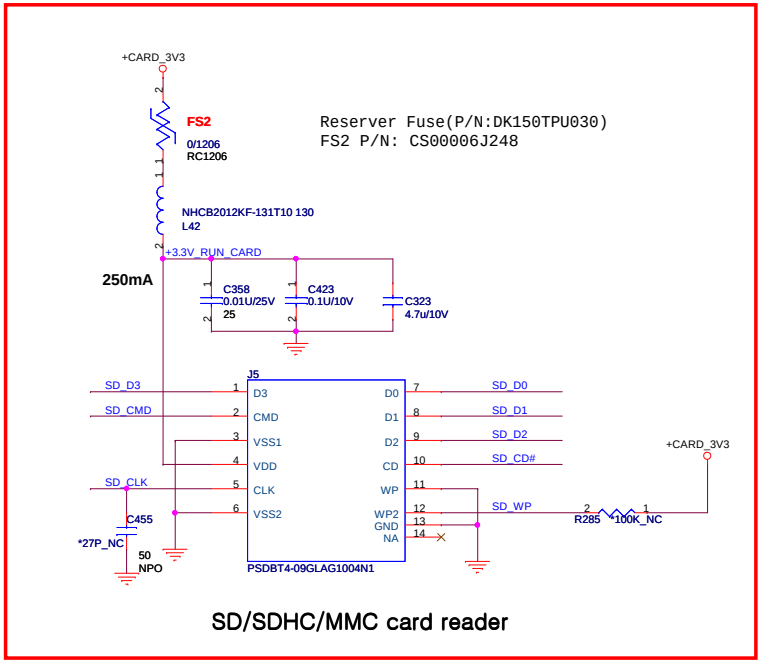
03/01 Del C326 for ASF issue
03/10 Del C326,R403 Location

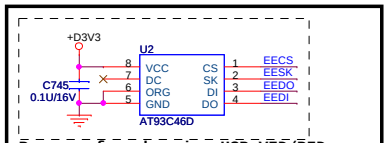








Need update EEPROM Footprint



EEPROM

QUANTA COMPUTER

Title	Card Reader	
Size	Document Number ZM2	Rev D
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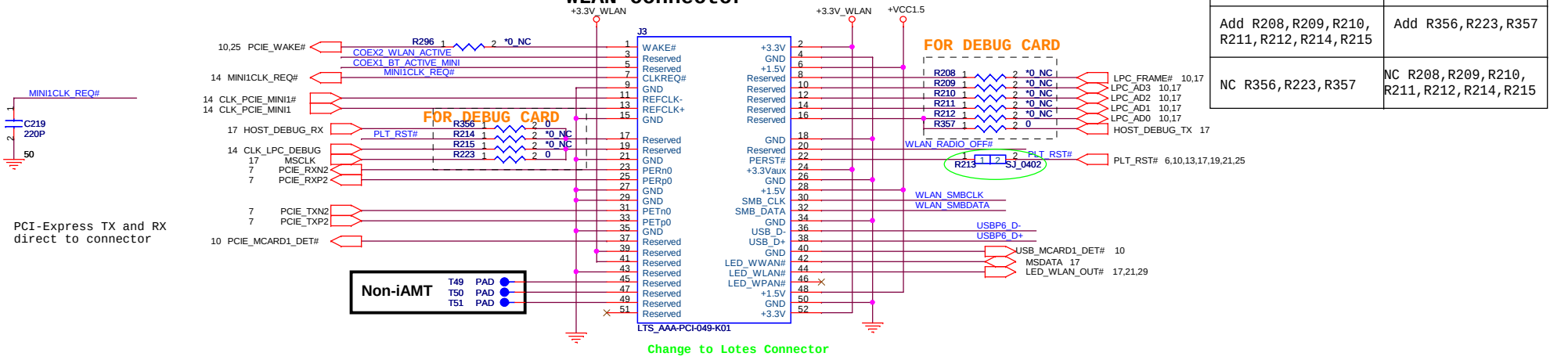
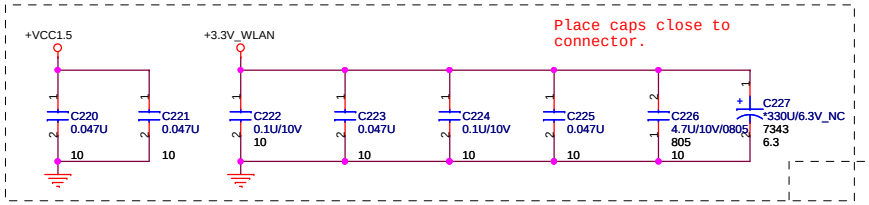
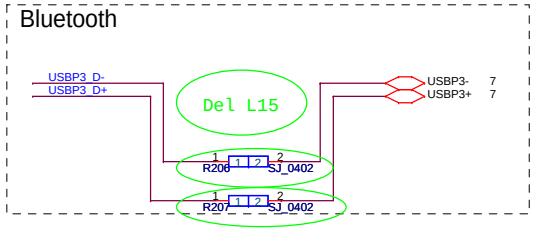
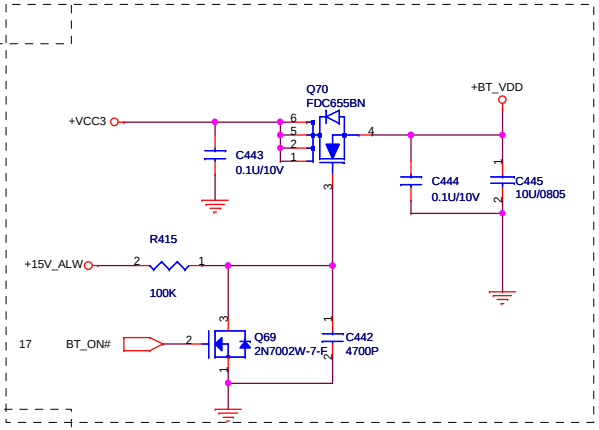
Half MiniCard
WLAN connector

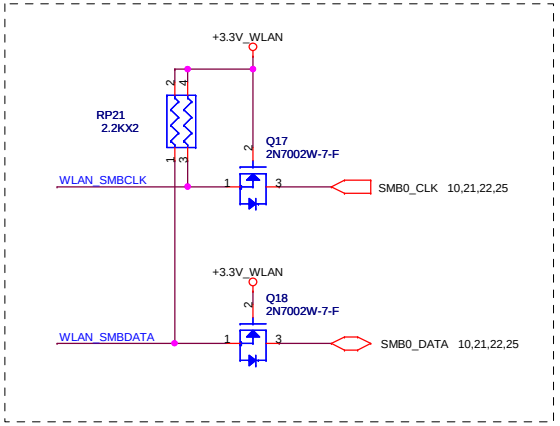
80 port	EC Debug
Add R208,R209,R210, R211,R212,R214,R215	Add R356,R223,R357
NC R356,R223,R357	NC R208,R209,R210, R211,R212,R214,R215

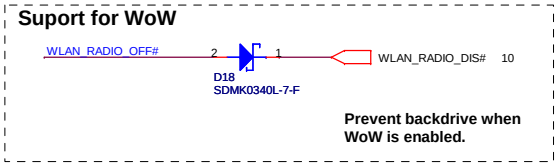


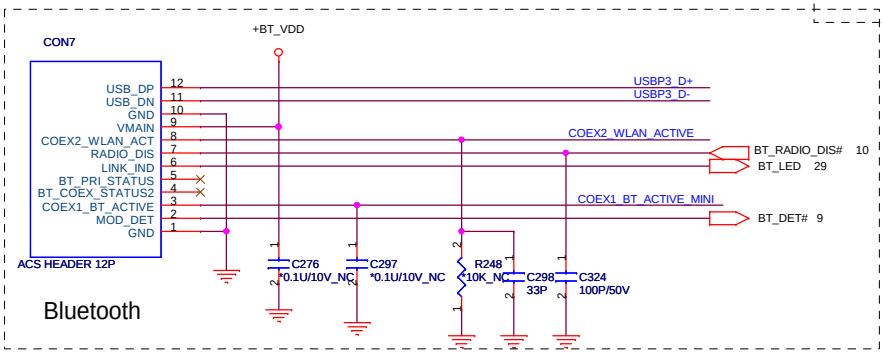


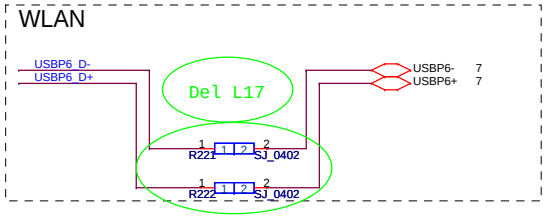












QUANTA COMPUTER

Title	MDC CONN.	
Size	Document Number ZM2	Rev D
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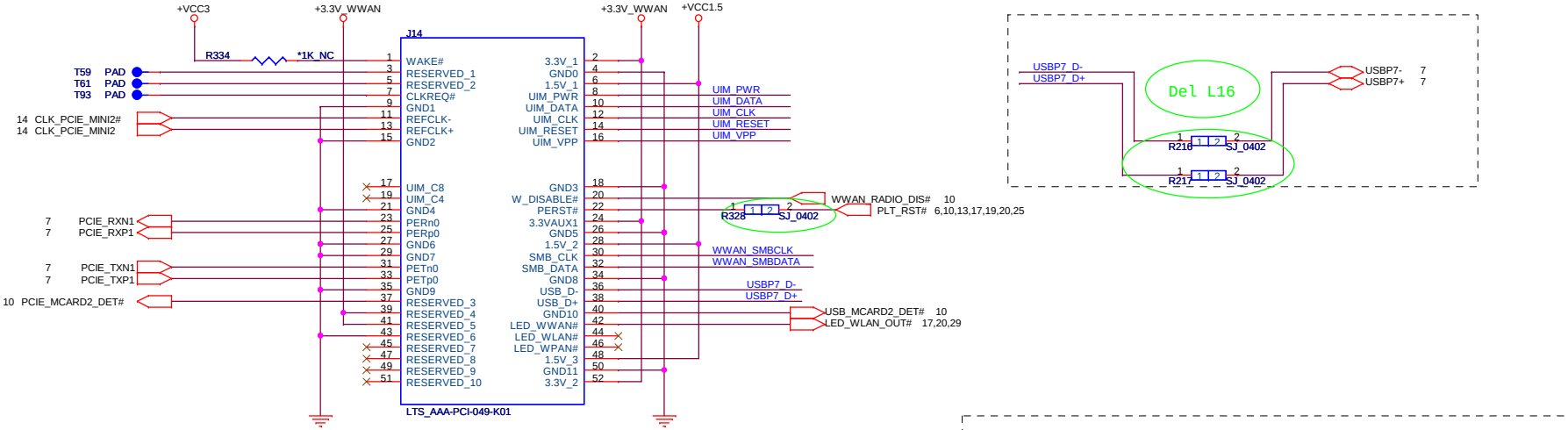
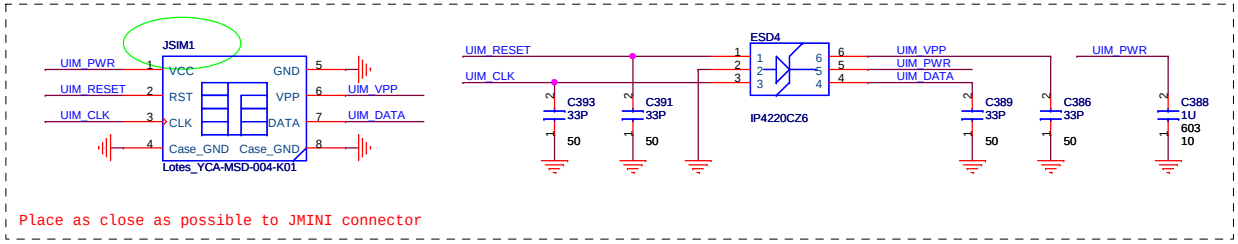
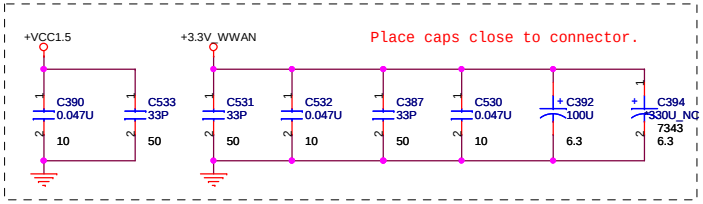
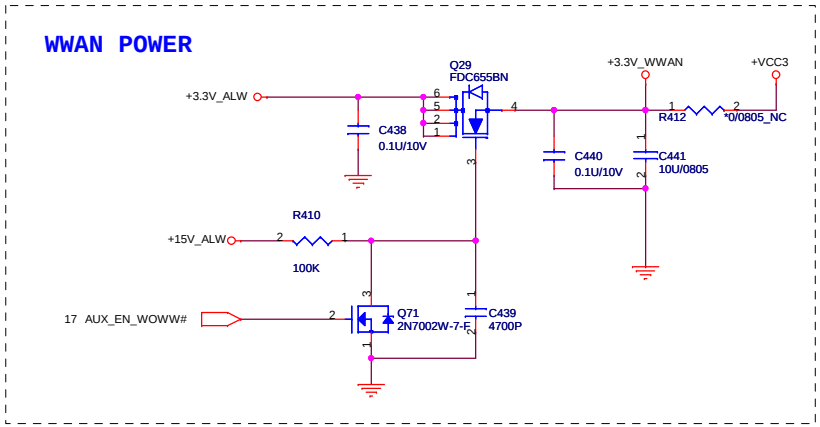
MiniCard WWAN connector

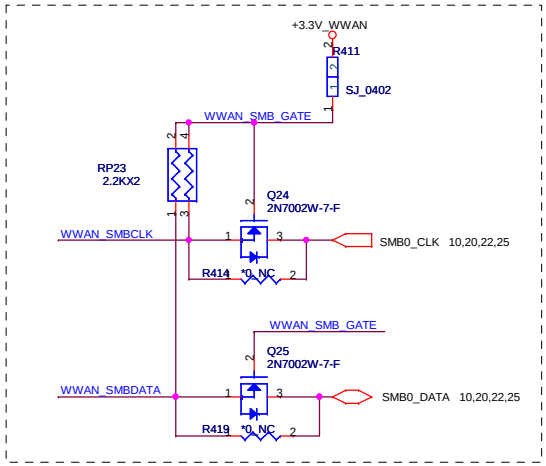






03/02 Change JSIM1 P/N from DG006000020 to DG006000031





QUANTA COMPUTER

Title	MINI-WWAN	
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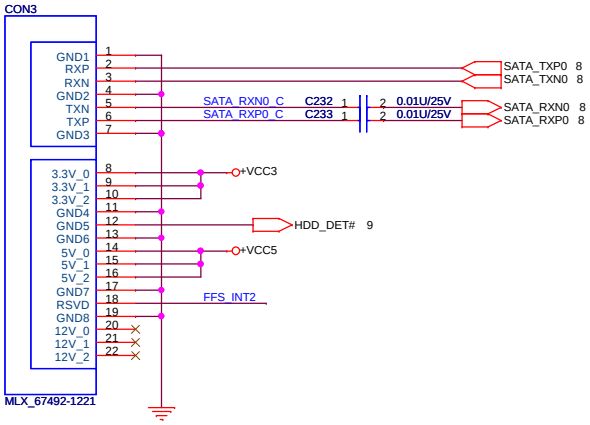
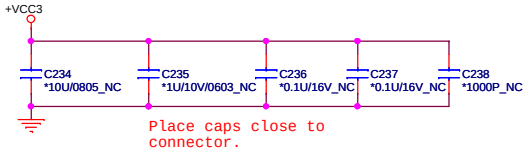
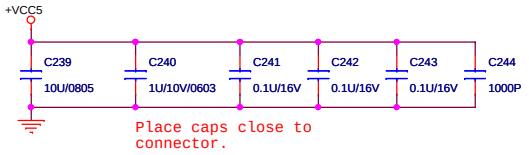
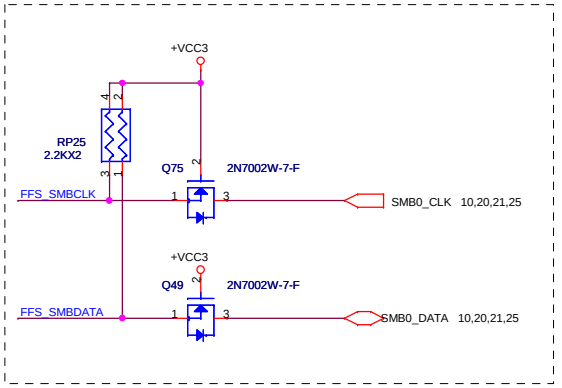
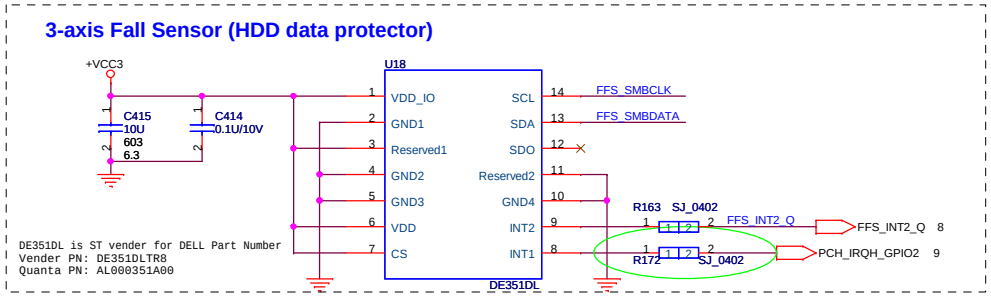
SATA HDD Connector.

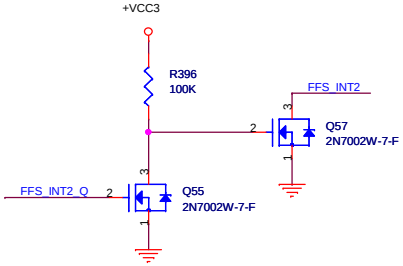












QUANTA COMPUTER

Title	SATA HDD	
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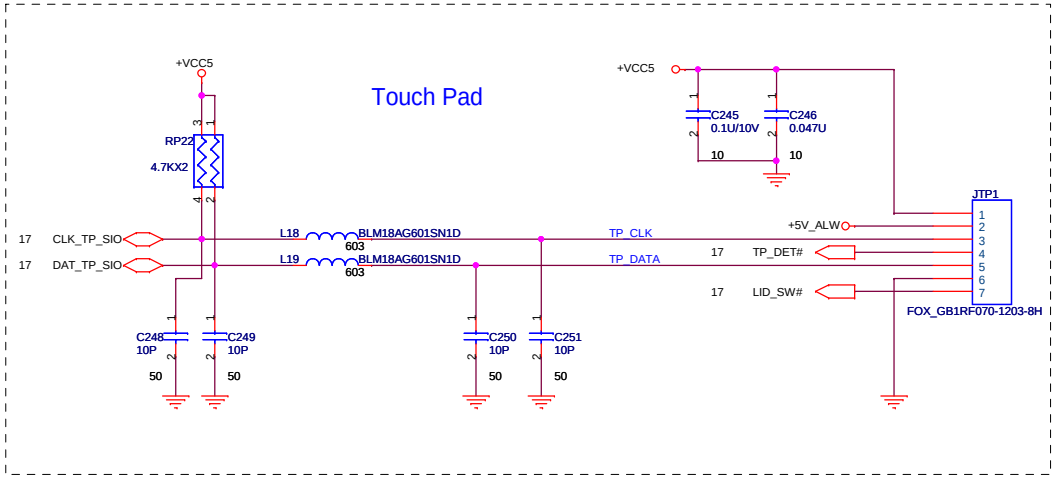
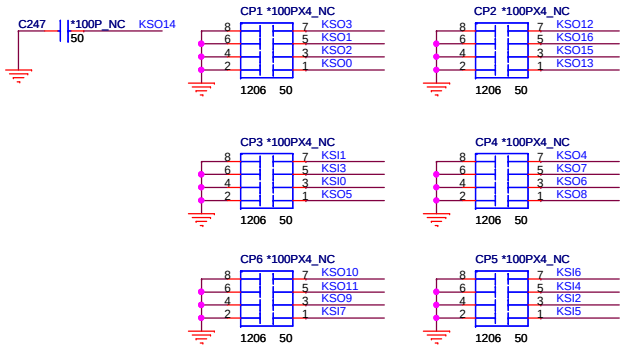
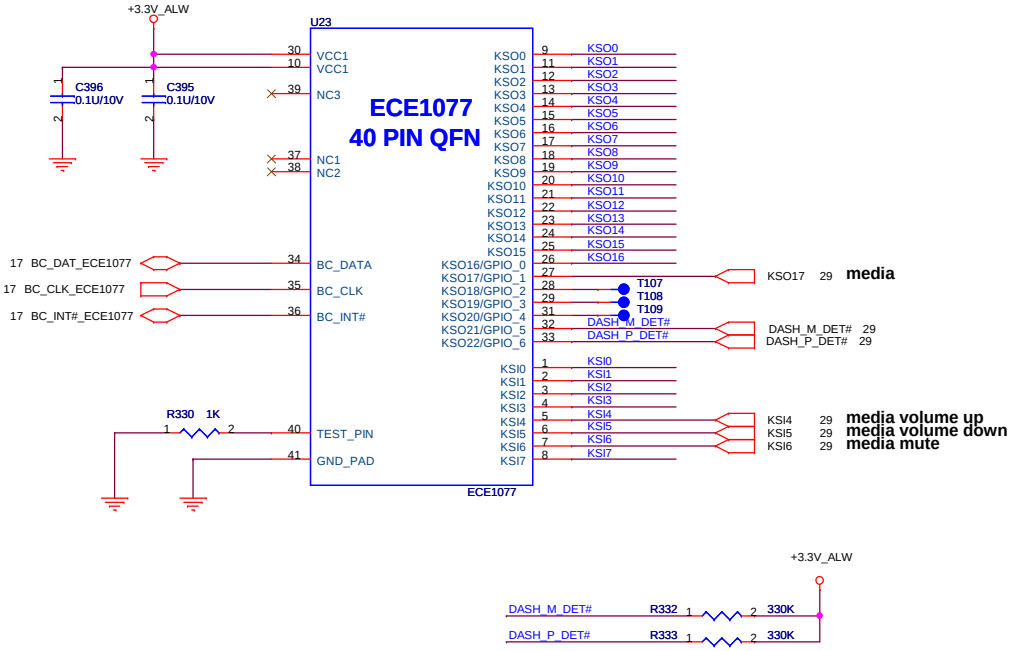


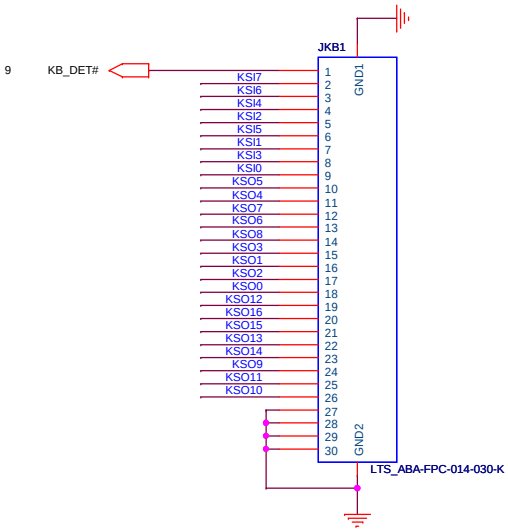


100P CAPS CLOSE TO JKB1

KEYBOARD CONNECTOR

Keyboard Scan Extension





QUANTA COMPUTER

Title	TOUCH PAD, K/B	
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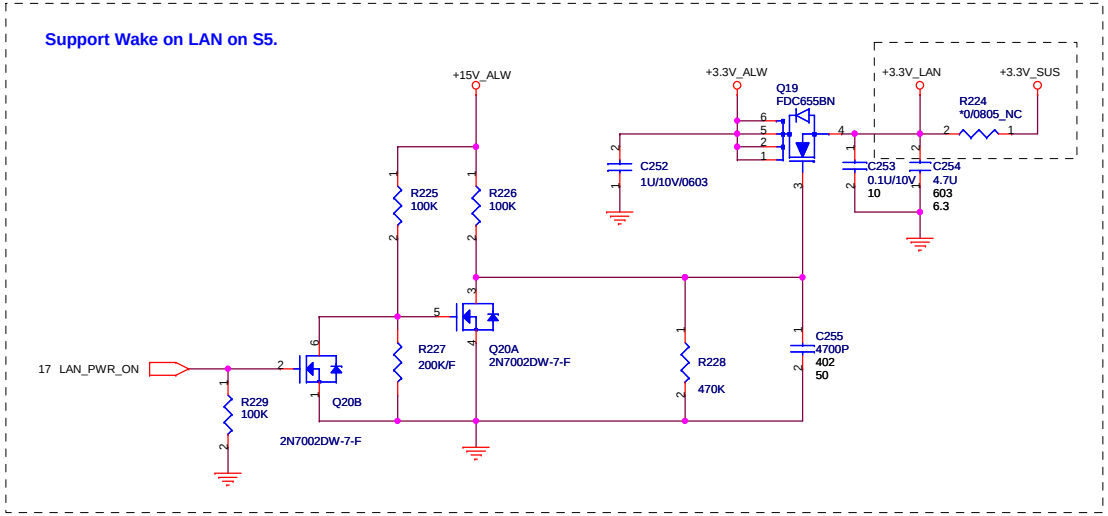
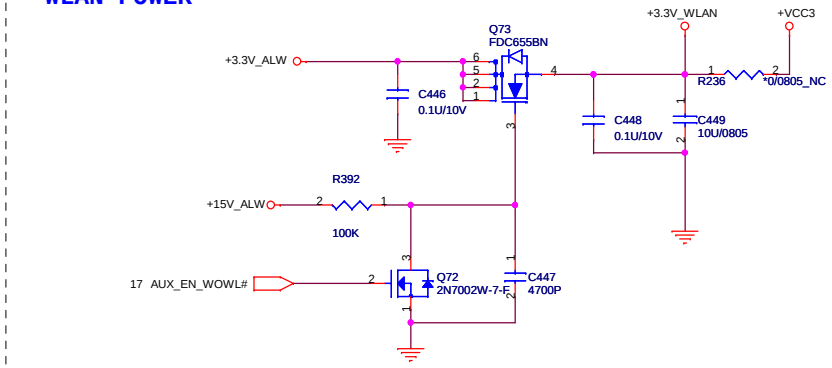
Support Wake on LAN on S5.



WLAN POWER



QUANTA COMPUTER

Title	LAN POWER	
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Core Power Decoupling

VDDIO Power Decoupling

03/01 change U1 P/N from AJ577600T00 to AJ577600000

support WOL from S5.

U1

BCM57760

10mm x 10mm

68-Pin QFN

Package Body

Note:thermal pad

Place one cap close pin 42, 48 respectively.

SMBUS alert from LOM(BCM5764)

LAN_DISABLE is hign active

EMI

LAYOUT NOTE:
CAP CLOSE TO TRANSFORMER
one cap for each pin

Reserved for EMI.

RJ-45 Connector

DTA_LFE9276C-R

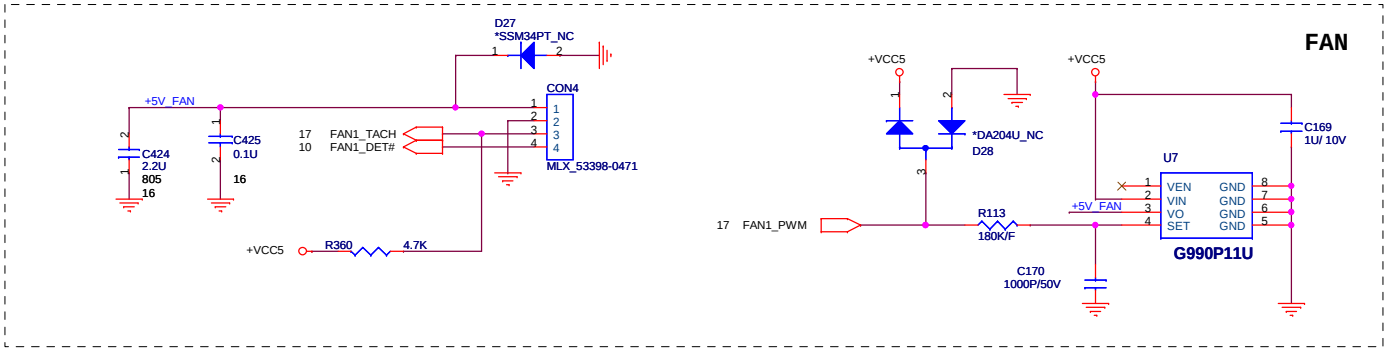
FOX_JM3611A-R3B55-7H

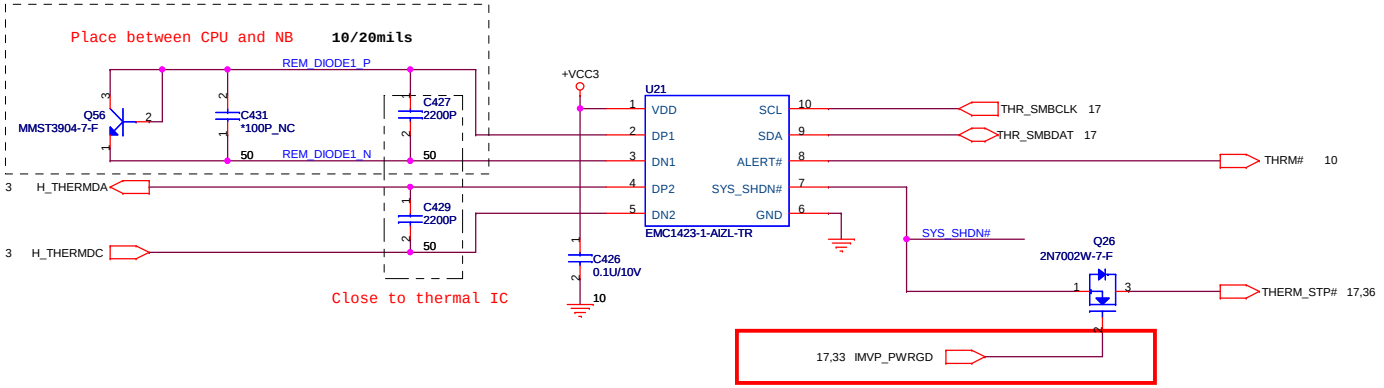
AT45DB011D-SH-T

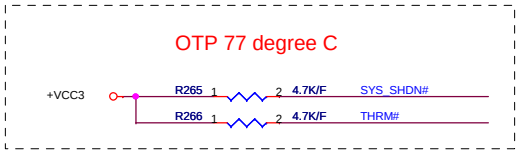
Title: LAN BCM5764M

Size: | Document Number: ZM2 | Rev: D

Date: Wednesday, March 10, 2010 | Sheet 25 of 43







QUANTA COMPUTER

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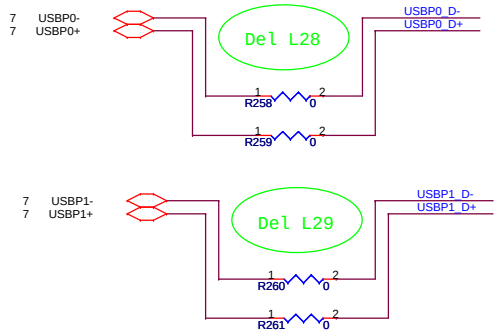
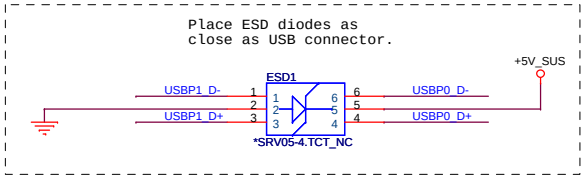
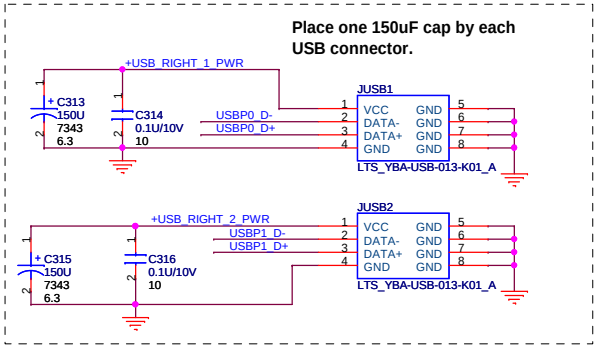
External USB PORT hookup reference. Your design may need more or less external ports and may be mapped differently

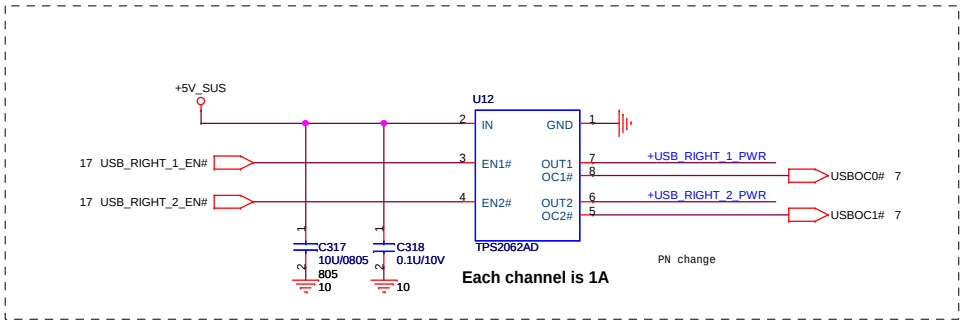
USB Right Side x2



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

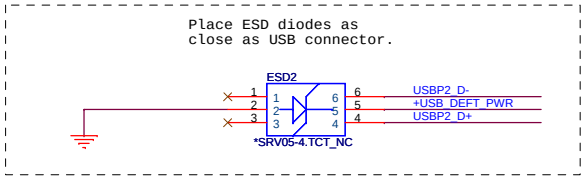


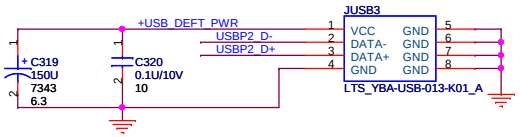


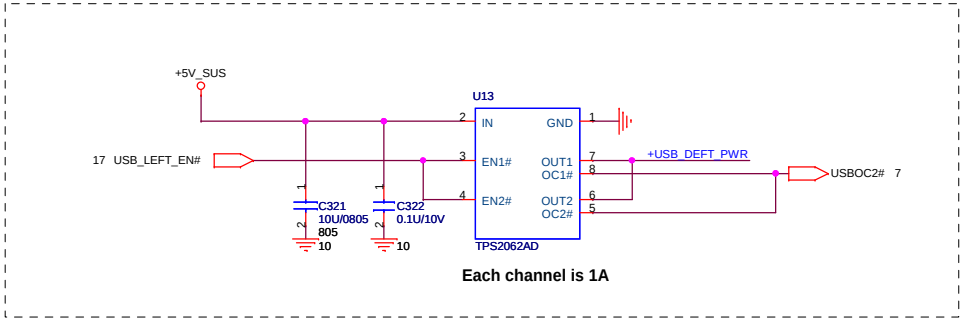


USB Left Side

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







QUANTA COMPUTER

Title	SERIAL PORT & USB	
Size	Document Number ZM2	Rev D
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03/01 Change CN3,CN4 Footprint from audio-jas33l-101wy0x-7f-5p-h
to audio-jas33l-101wy0x-7f-5p-v
03/01 Add C433,C354(P/N:CH0126G0B00),
AddR407,R282(P/N:CS00002JB38)

*NOTE: ALC269_VB type add the LDO circuit in IC

PIN NAME	R425	R375	R369	C417	CODEC IC
28 MIC1_VREF0-L			POP	NC	ALC269 VA
31 CPVREF	POP	NC			

PIN NAME	R425	R375	R369	C417	CODEC IC
28 MIC1_VREF0-L			NC	POP	ALC269 VB
31 CPVREF	NC	POP			

VA type: PIN28 as Bias Voltage for MIC1 Jack
PIN31 connect to analog ground

VB type: PIN31 as Bias Voltage for MIC1 Jack
PIN28 connect capacitor to analog ground

AVDD1, AVDD2 TYP=48mA

DVDD & DVDD-IO TYP=50mA

Place next to pin 38

Place next to pin 39,and Tantalum capacitor is required for C2480

Place next to pin 46,and Tantalum capacitor is required for C2503

Place next to pin 27

Place next to pin 25

U15 ALC269Q-VB5-GR

Analog Plane

Digital Plane

PD#=0V : Power down Class D SPK amplifer
PD#=3.3V : Power up Class D SPK amplifer
PD# has internal pull up 50k ohm

<<Attention>>
For power_on/off de-pop circuit and system booting warning signal: Please System BIOS Engineer Note :
1. If you want the system make warning signal after power on , please let EC_MUTE# High first.
2.When you want to exit your Bios Programming Code, please let the EC_MUTE# Low.(The programming is different from before .)

Digital GND Analog GND

Tied at one point only under the ALC269 or near the ALC269

Reserve RC for EMI

For EMI Reserve

Internal Digital MIC move to LED Board

Internal Digital MIC

JACK 1 (HP)

JACK 2 (MIC)

JACK SENSE

QUANTA COMPUTER

Title	CODEC	
Size	Document Number ZM2	Rev D
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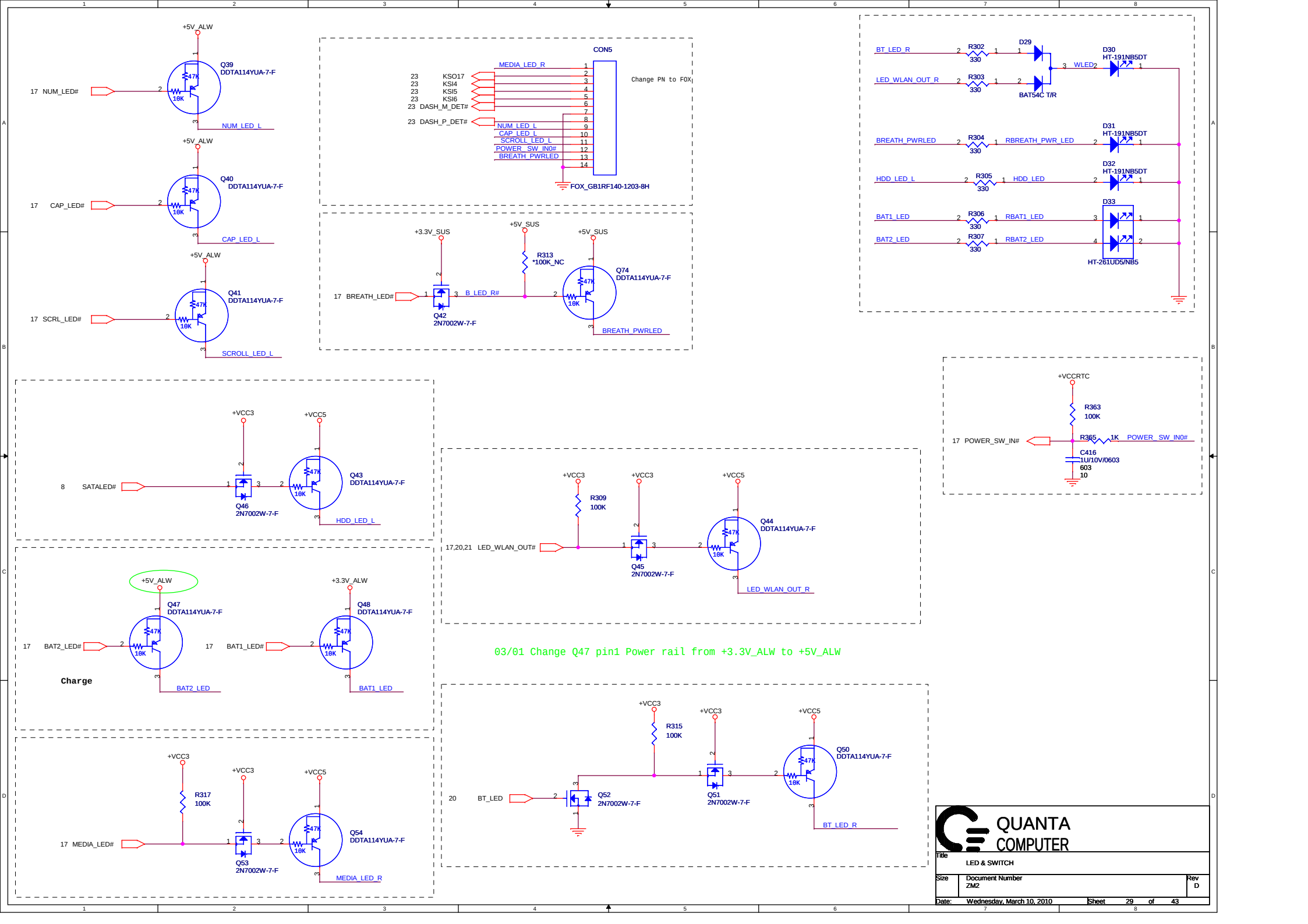
+5V_ALW
Q39
DDTA114YUA-7-F
17 NUM_LED#
NUM_LED_L
Q40
DDTA114YUA-7-F
17 CAP_LED#
CAP_LED_L
Q41
DDTA114YUA-7-F
17 SCRL_LED#
SCROLL_LED_L
CON5
Change PN to FOX
23 KSO17
23 KSI4
23 KSI5
23 KSI6
23 DASH_M_DET#
23 DASH_P_DET#
MEDIA_LED_R
NUM_LED_L
CAP_LED_L
SCROLL_LED_L
POWER_SW_IN0#
BREATH_PWRLED
FOX_GB1RF140-1203-8H
+3.3V_SUS
+5V_SUS
R313
*100K_NC
Q74
DDTA114YUA-7-F
17 BREATH_LED#
B_LED_R#
Q42
2N7002W-7-F
BREATH_PWRLED
BT_LED_R
LED_WLAN_OUT_R
R302
R303
330
D29
BAT54C T/R
D30
HT-191NB5DT
WLED
BREATH_PWRLED
R304
RBREATH_PWR_LED
D31
HDD_LED_L
R305
HDD_LED
D32
BAT1_LED
R306
RBAT1_LED
BAT2_LED
R307
RBAT2_LED
D33
HT-261UD5/NB5
+VCC3
+VCC5
8 SATALED#
Q46
2N7002W-7-F
Q43
DDTA114YUA-7-F
HDD_LED_L
+VCCRTC
R363
100K
17 POWER_SW_IN#
R365
1K
POWER_SW_IN0#
C416
1U/10V/0603
603
10
17,20,21 LED_WLAN_OUT#
R309
100K
Q45
2N7002W-7-F
Q44
DDTA114YUA-7-F
LED_WLAN_OUT_R
+3.3V_ALW
Q47
DDTA114YUA-7-F
17 BAT2_LED#
Charge
BAT2_LED
Q48
DDTA114YUA-7-F
17 BAT1_LED#
BAT1_LED
03/01 Change Q47 pin1 Power rail from +3.3V_ALW to +5V_ALW
R317
100K
17 MEDIA_LED#
Q53
2N7002W-7-F
Q54
DDTA114YUA-7-F
MEDIA_LED_R
R315
100K
20 BT_LED
Q52
2N7002W-7-F
Q51
2N7002W-7-F
Q50
DDTA114YUA-7-F
BT_LED_R
QUANTA
COMPUTER
Title
LED & SWITCH
Size
Document Number
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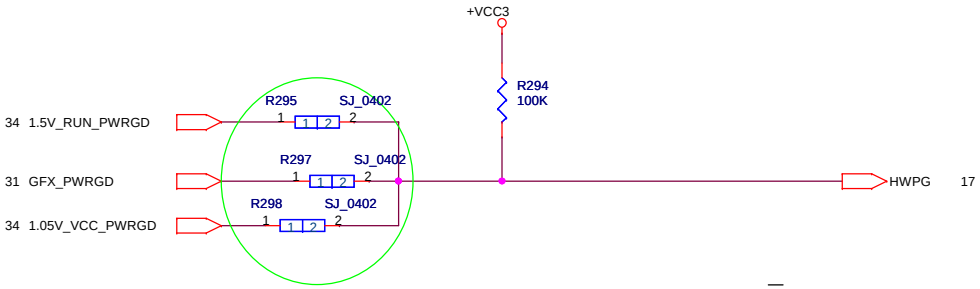

QUANTA COMPUTER

Title	System Reset Circuit	
Size	Document Number ZM2	Rev D
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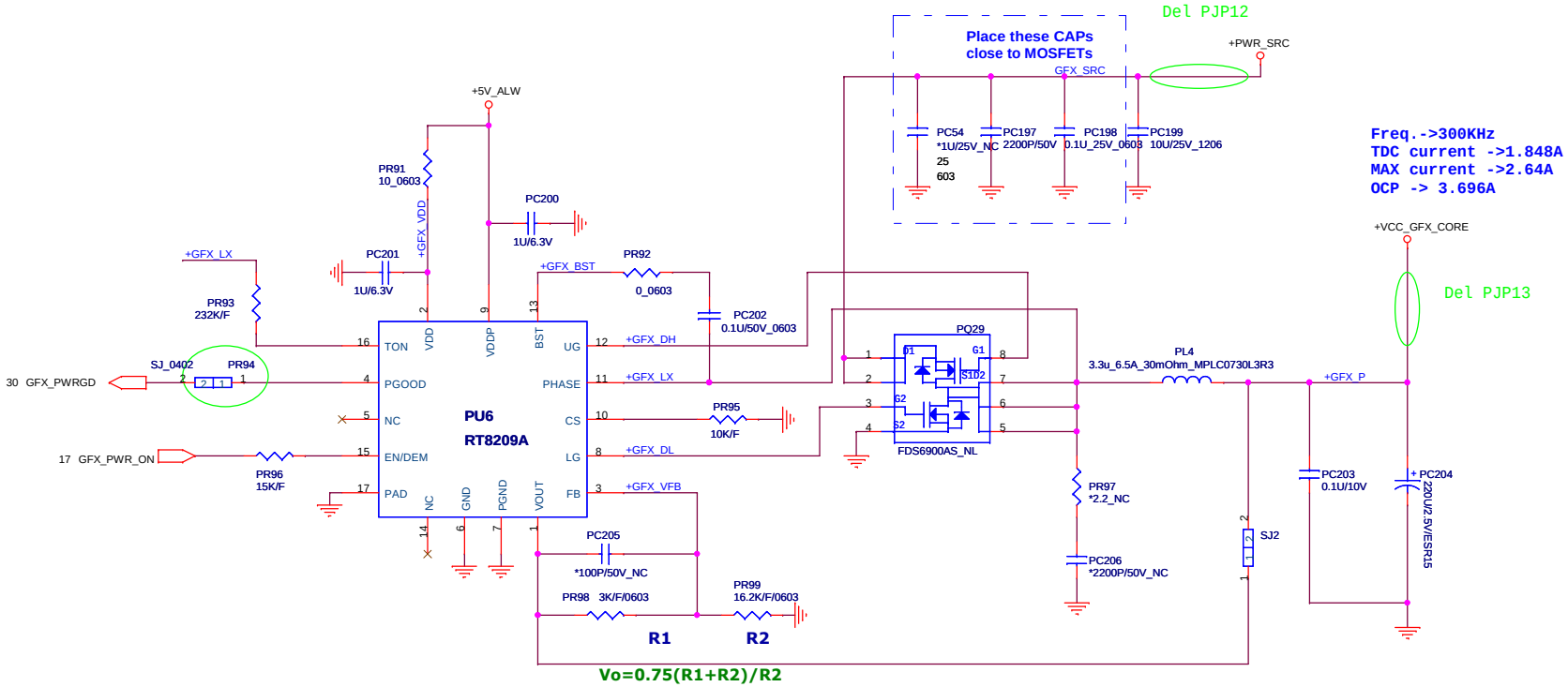

QUANTA COMPUTER		
Title: VGA power		
Size	Document Number: ZM2	Rev: D
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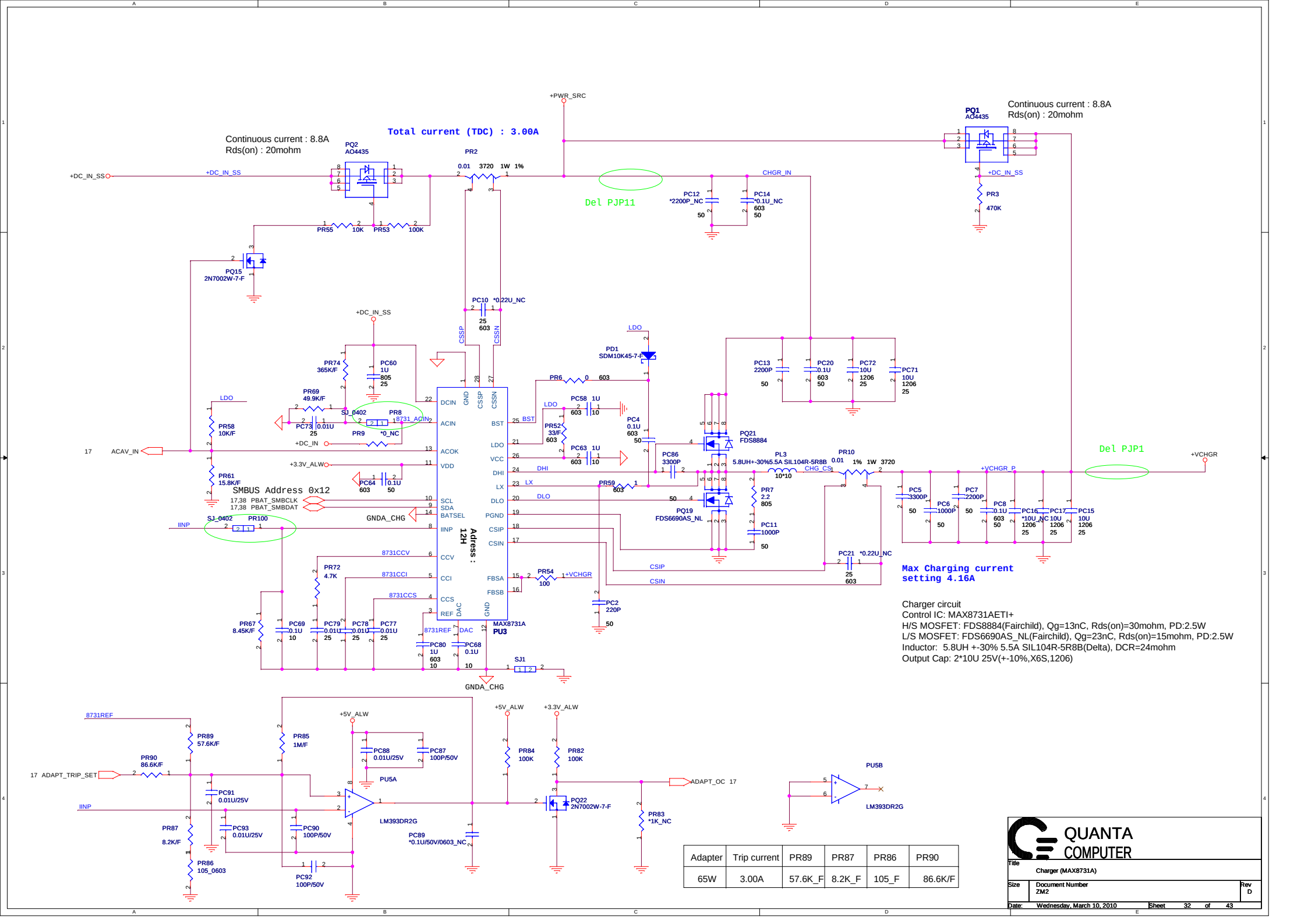

Adapter	Trip current	PR89	PR87	PR86	PR90
65W	3.00A	57.6K_F	8.2K_F	105_F	86.6K/F

QUANTA COMPUTER

Title	Charger (MAX8731A)	
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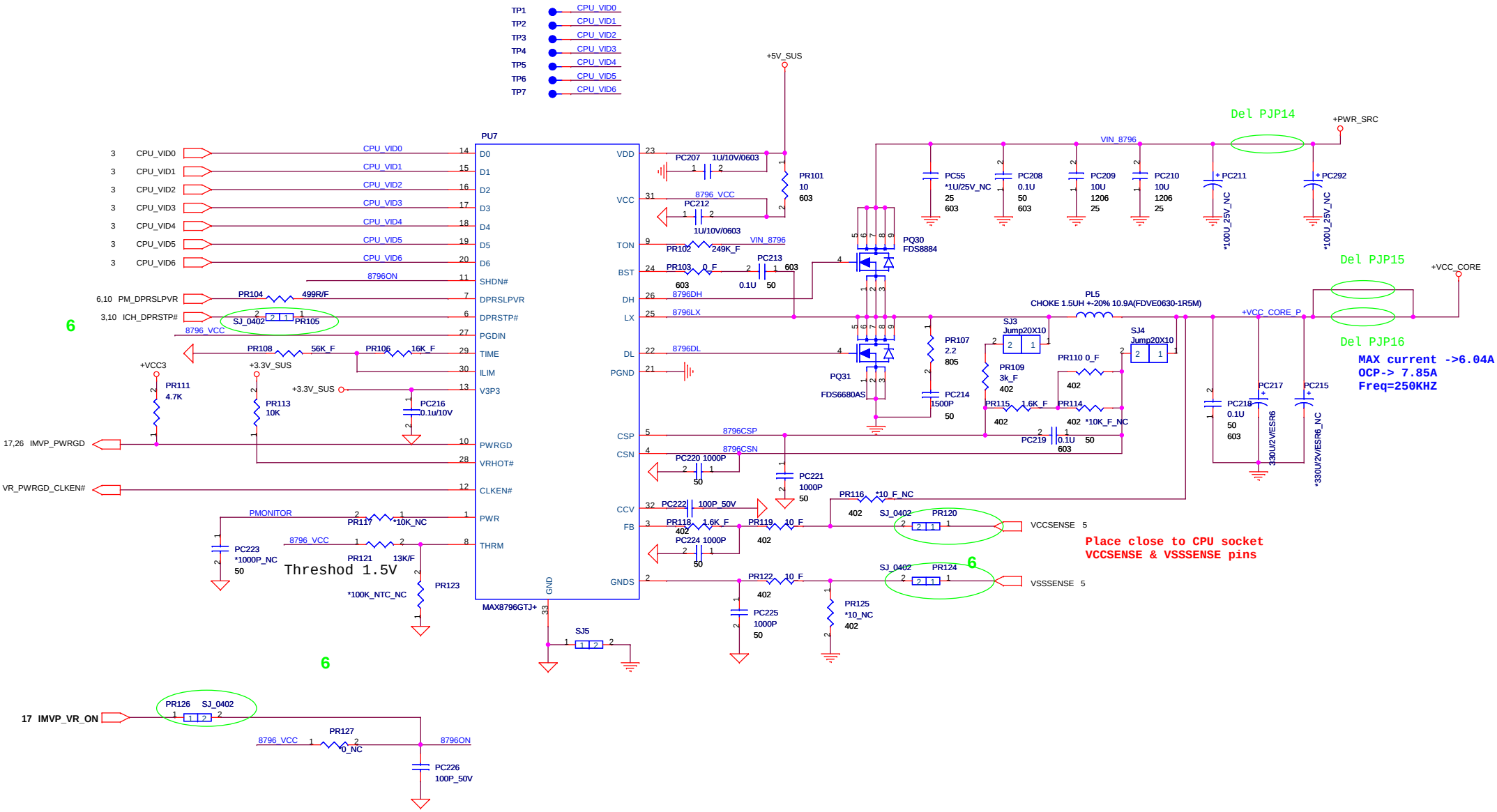
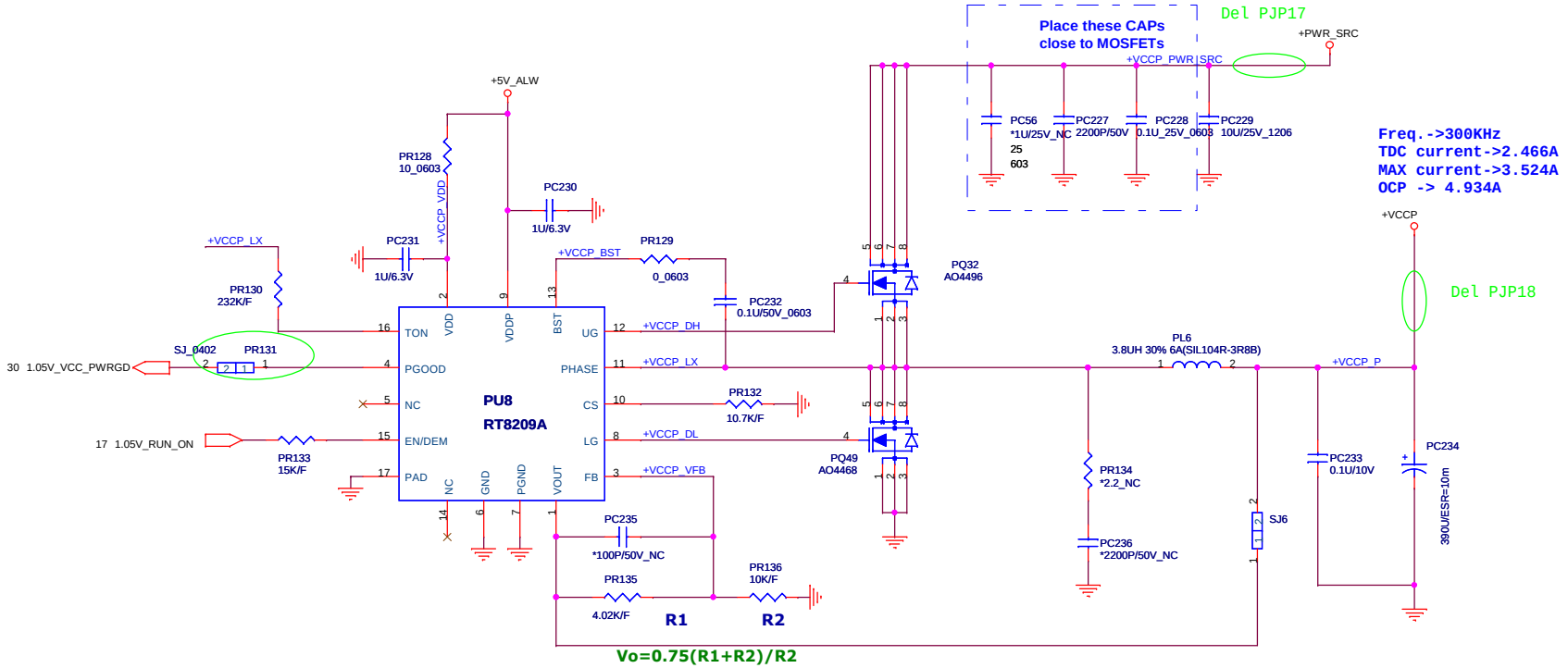
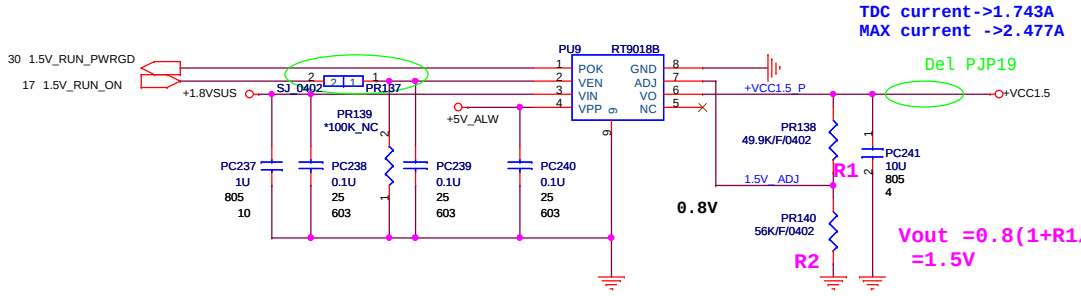
CPU Vcore power rail:
Control IC: MAX8796GTJ+
H/S MOSFET: AO4496, Qg=6.1nC, Rds(on)=26mohm, PD:3.1W
L/S MOSFET: AO4712, Qg=12nC, Rds(on)=18mohm, PD:3.1W
Inductor: 3.3UH +-20% 13.5A(MPLC0730L3R3)DCR=30mohm
Output Cap: 1*330U 2V(+10/-35%,7343,ESR=6)



QUANTA COMPUTER			
Title	CPU_MAX8796		
Size	Document Number ZM2		Rev D
Date:	Wednesday, March 10, 2010	Sheet 33 of 43	





QUANTA COMPUTER		
Title	1.05_VCCP & 1.5V_RUN	
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Date: Wednesday, March 10, 2010	Sheet 34 of 43	

1.8V_SUS power rail:
Control IC: RT8207AGQW
H/S MOSFET:AO4476, Qg=8.5nC, Rds(on)=17mohm, PD:3.7W
L/S MOSFET: AO4710, Qg=15nC, Rds(on)=14.2mohm, PD:3.1W
Inductor: 1.5UH +-30%12.5A(SIL1055RC-1R5-R)(Delta), DCR=7.6mohm
Output Cap: 1* 330U2.5V(20%,ESR9,7343,H1.9)

VDDQ and VTT discharge control

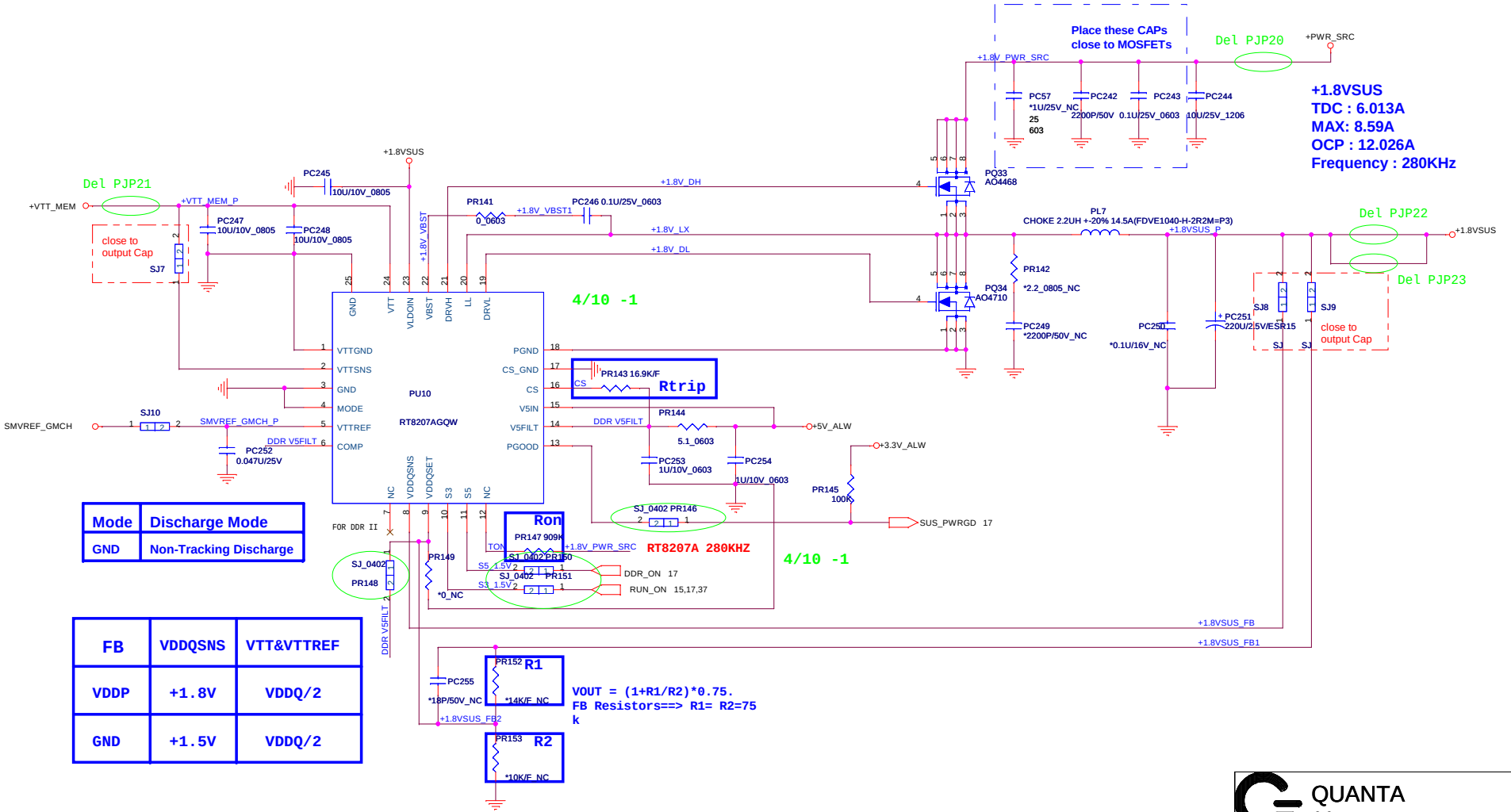
MODE pin	Discharge mode
V5IN	No discharge
VDDQ	Tracking discharge
S4/GND	Non-tracking discharge

VDDQ output voltage selection

VDDQSET	VDDQ(V)	VTTREF and VTT	NOTE
GND	1.5V	VDDQSNS/2	DDR
V5IN	1.8V	VDDQSNS/2	DDR2
FB Resistors	Adjusting	VDDQSNS/2	1.5V < VVDDQ < 3V

Outputs Management by S3, S5 control

State	S3	S5	VDDQ	VTTREF	VTT
S0	HI	HI	On	On	On
S3	LO	HI	On	On	Off (Hi-Z)
S4/S5	LO	LO	On (discharge)	Off (discharge)	Off (discharge)



Mode	Discharge Mode
GND	Non-Tracking Discharge

FB	VDDQSNS	VTT&VTTREF
VDDP	+1.8V	VDDQ/2
GND	+1.5V	VDDQ/2

QUANTA COMPUTER

Title	1.8VSUS & 0.9VTT	
Size	Document Number ZM2	Rev D
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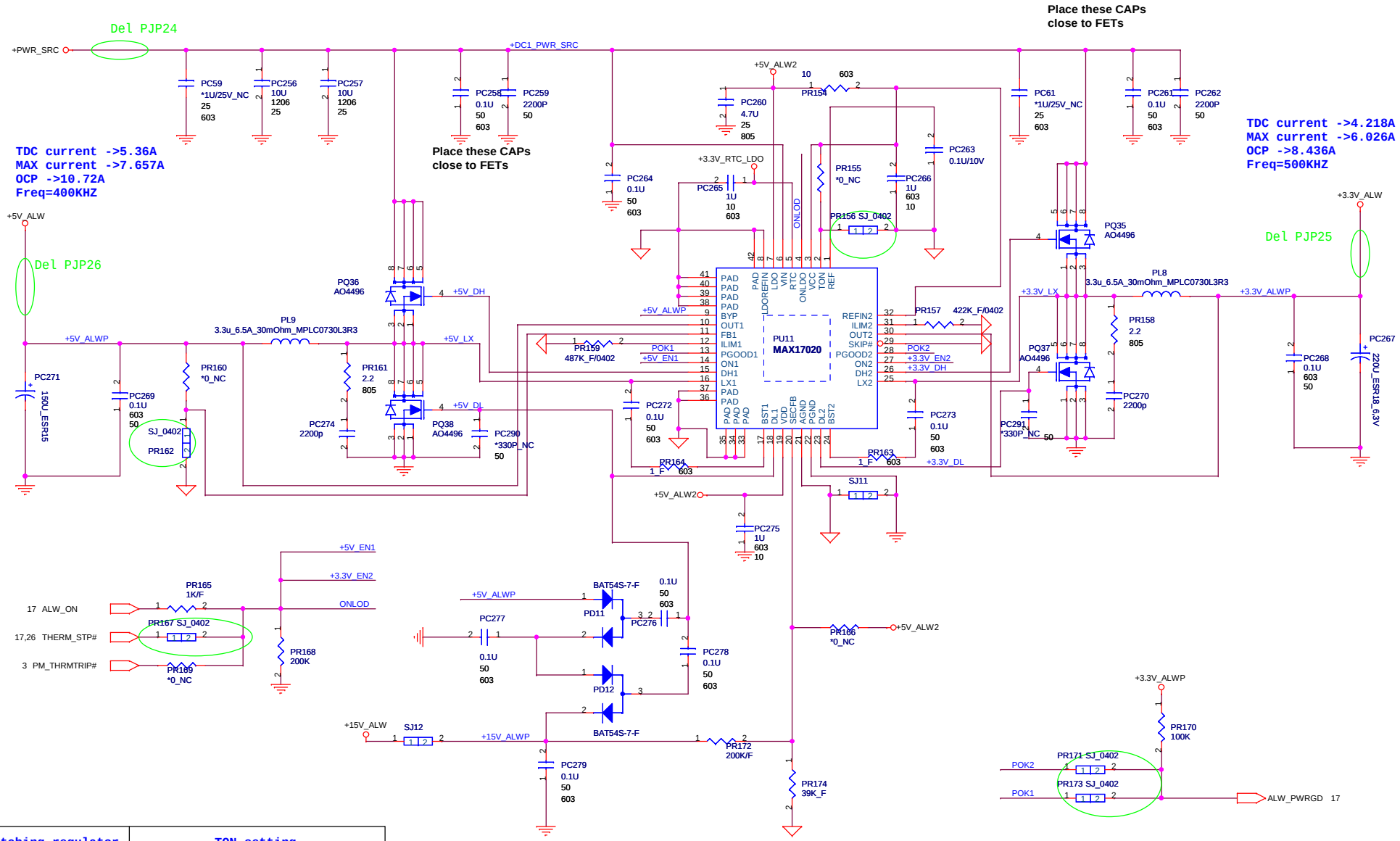
DC/DC +3V_ALW/+5V_ALW /+15V_ALW

5V_ALW power rail:
Control IC: RT8206B
H/S MOSFET: AO4496, Qg=6.1nC, Rds(on)=26mohm, PD:3.1W
L/S MOSFET: AO4496, Qg=6.1nC, Rds(on)=26mohm, PD:3.1W
Inductor: 3.8UH 30% 6A(SIL104R-3R8B)(Delta), DCR=13mohm
Output Cap: 1* 330U,6.3V(20%ESR17,6.3*5.8)

3.3V_ALW power rail:
Control IC: RT8206B
H/S MOSFET: AO4496, Qg=6.1nC, Rds(on)=26mohm, PD:3.1W
L/S MOSFET: AO4496, Qg=6.1nC, Rds(on)=26mohm, PD:3.1W
Inductor: 3.8UH 30% 6A(SIL104R-3R8B)(Delta), DCR=13mohm
Output Cap: 1* 330U,6.3V(20%ESR17,6.3*5.8)



Switching regulator	TON setting
SMPS1	200KHZ (TON=VCC)
	400KHZ (TON=REF or GND)
SMPS2	300KHZ (TON=REF or VCC)
	500KHZ (TON=GND)

QUANTA COMPUTER

Title	5V_ALW, 3V_ALW, 15V_ALW	
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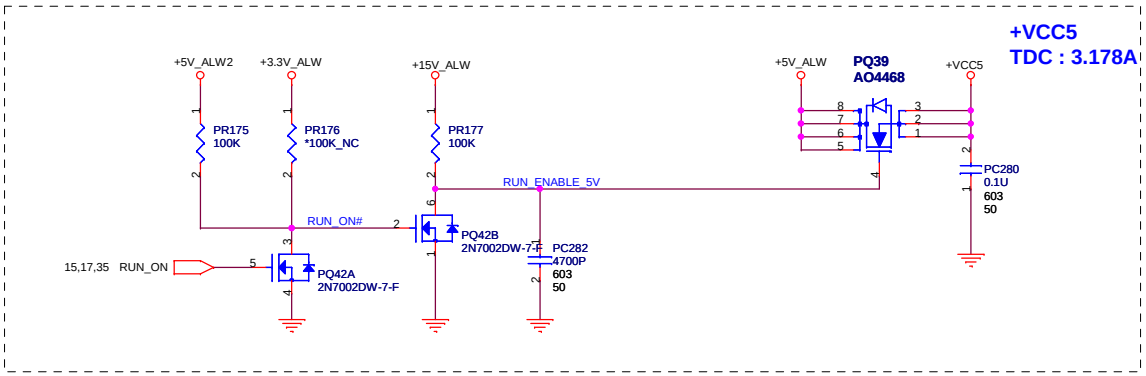

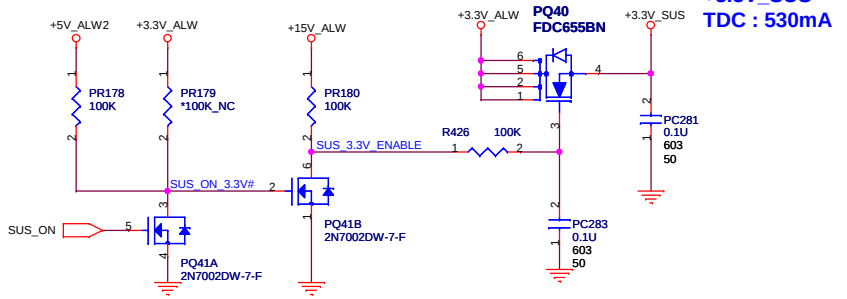

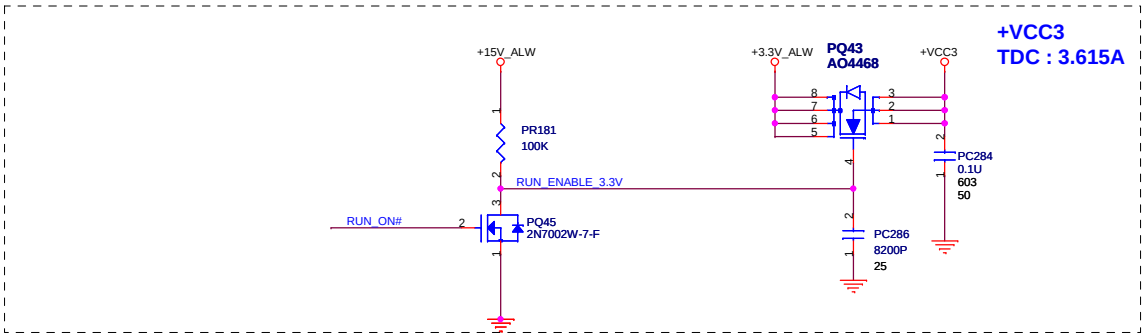

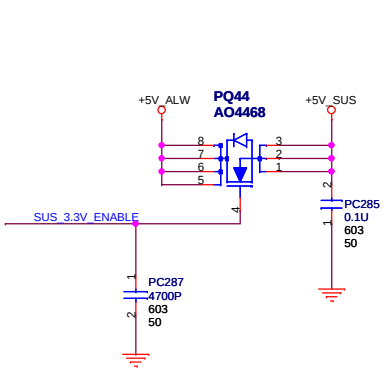

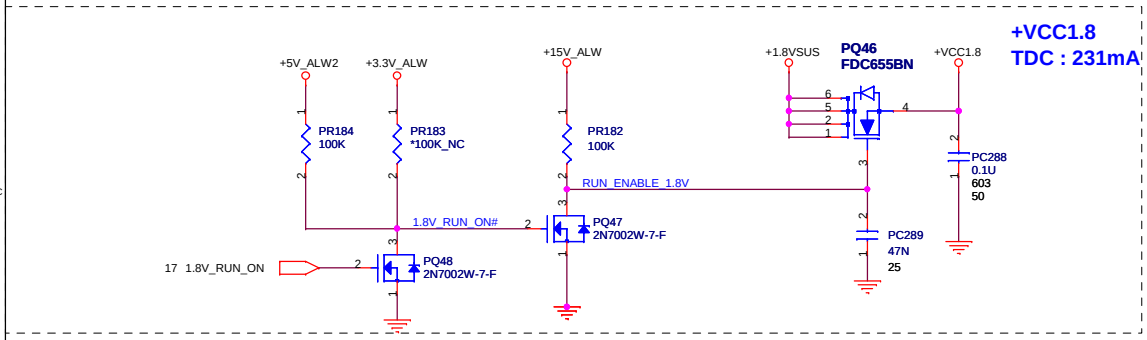

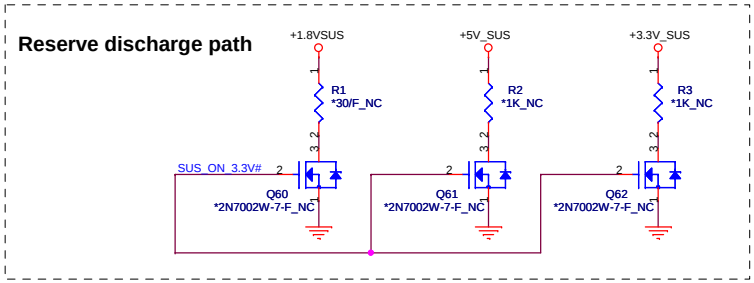

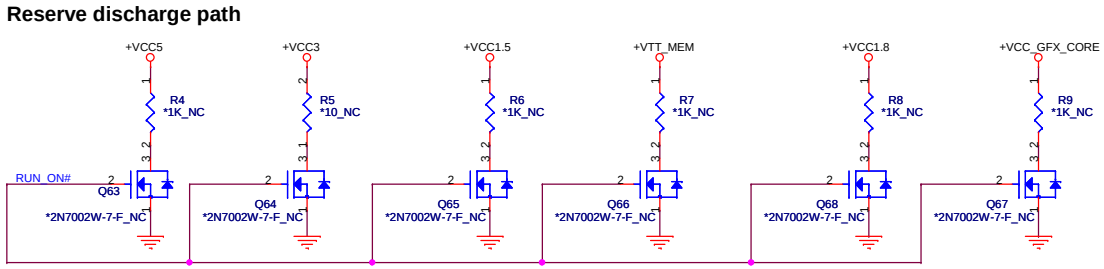

QUANTA COMPUTER

Title	RUN POWER SW	
Size	Document Number ZM2	Rev D
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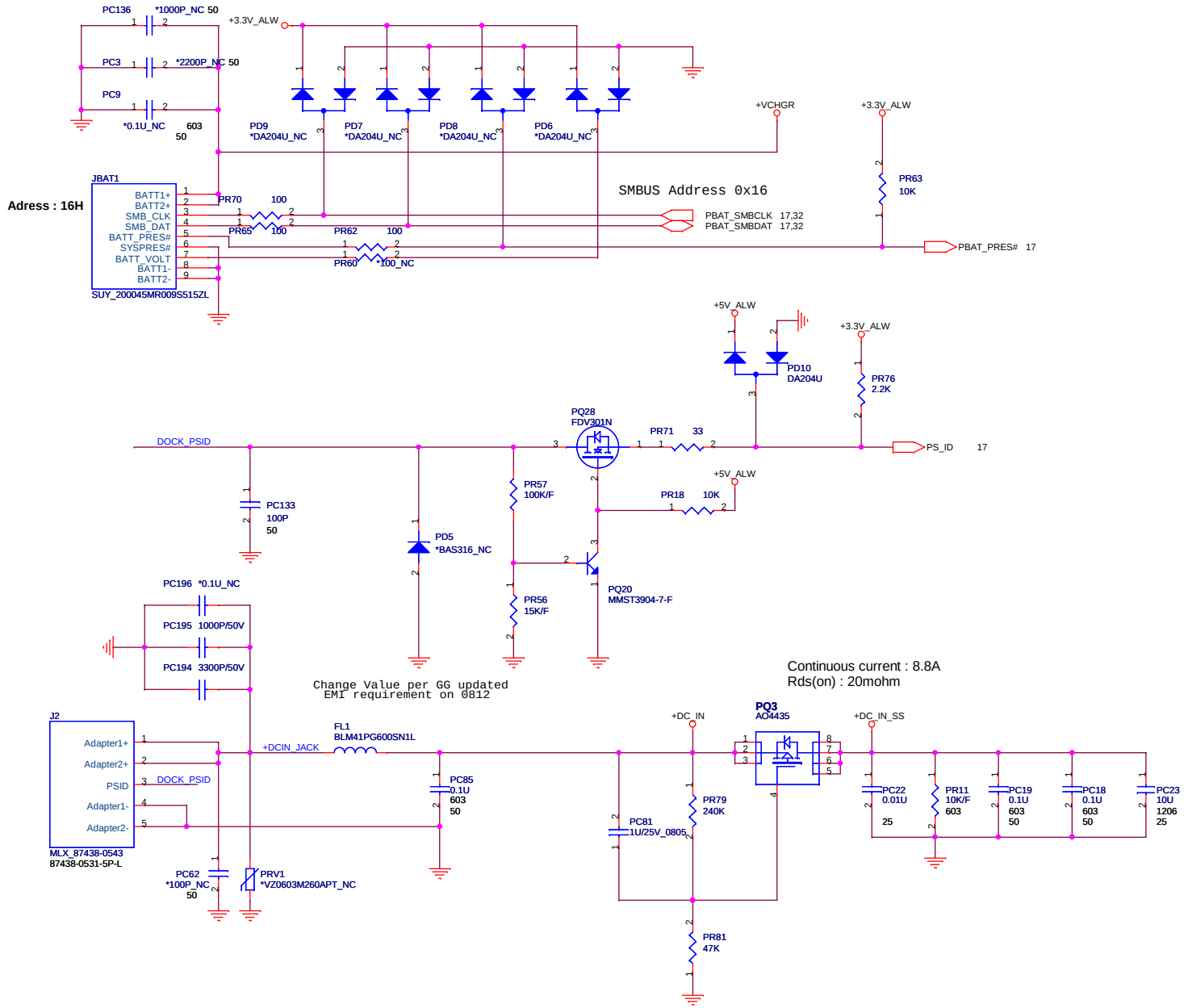

QUANTA COMPUTER

Title	DCIN,BATT CONNECTOR	
Size	Document Number ZM2	Rev D
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H-TC276BC197D157P2

H1
H-TC276BC197D157P2

H2
H-TC276BC197D157P2

H7
H-TC276BC197D169P2

H8
H-TC276BC197D157P2

H-TC315BC236D126P2

H3
H-C217D98P2

H9
H-TC315BC236D39P2

H10
H-TC315BC236D98P2

H-TC315BC256D126P2 h-tc236bc217d98p2

H4
H-C217D98P2

H5
H-TC315BC236D98P2

H-C315D126P2

H11
H-C315D126P2

H12
H-C315D126P2

H-TC217BC177D106P2

H6
H-TC217BC177D106P2

WLAN USE
MBIM3001010
MINI CARD NUT H16 IM3(MBIM3001,REV3A)CU

H-TC217BC177D106P2

H20
H-TC217BC177D106P2

WWAN USE
MBIM3001010
MINI CARD NUT H16 IM3(MBIM3001,REV3A)CU

H-C157D157N

H13
H-C154D154N

H14
H-O217X138D217X138N

h-tc217bc197d126p2 h-c118d118n

H15
H-TC217BC295D126P2

H16
H-O142X102D142X102N

H17
H-TSBC217D98P2

h-zm1-1

H18
h-zm1-1

H-C236D98P2

H19
H-C236D98P2

H21
H-TC236BC197D146P2

QUANTA COMPUTER

Title	SCREW PAD	
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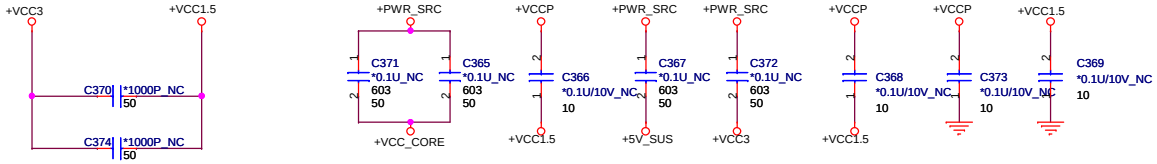
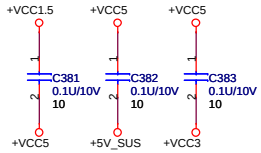
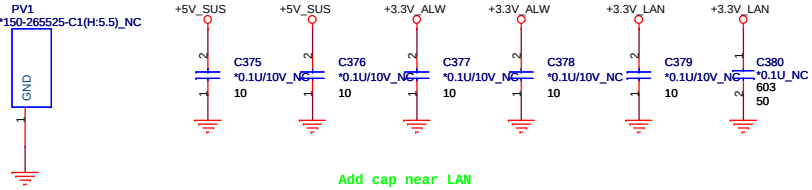
Reserved for EMI.

Stitching caps.



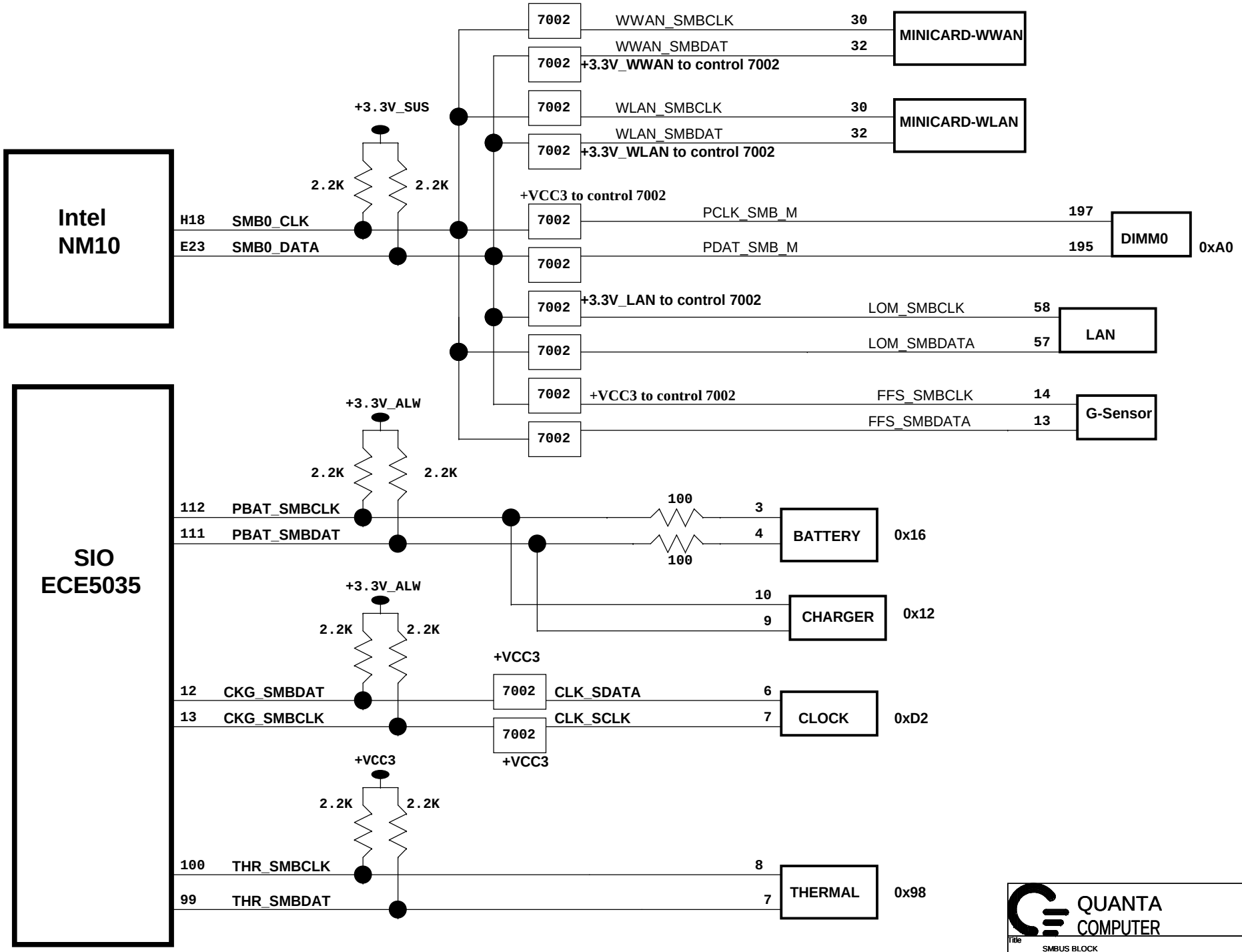
Stitching caps for PCI bus.





Add cap near LAN

QUANTA COMPUTER		
Title: EMI CAP		
Size	Document Number: ZM2	Rev: D
Date: Monday, March 01, 2010	Sheet 40 of 43	



QUANTA COMPUTER

Title	SMBUS BLOCK	
Size	Document Number ZM2	Rev D
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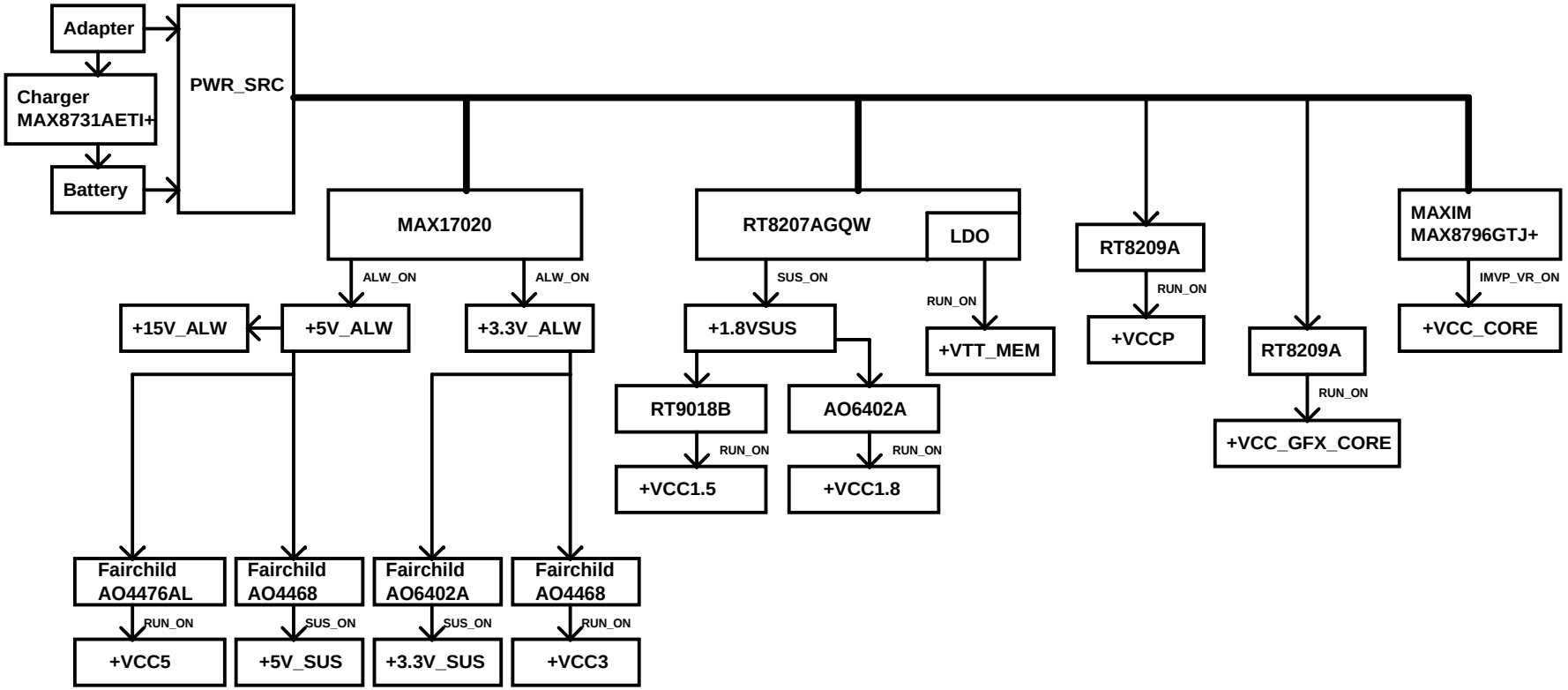
VER : 1A



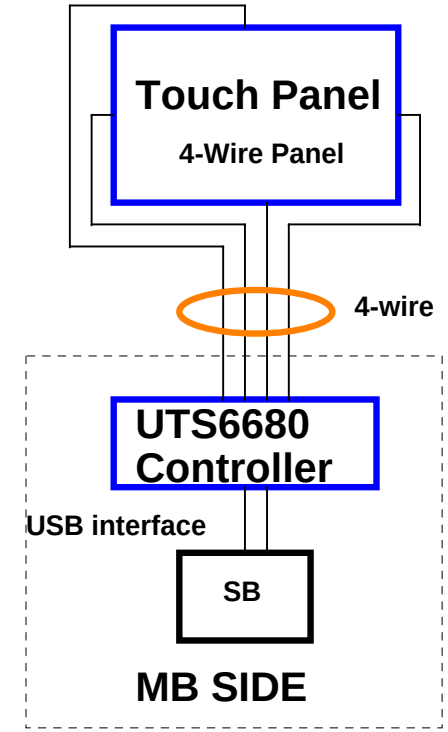
QUANTA COMPUTER

Title	POWER DIAGRAM	
Size	Document Number ZM2	Rev D
Date: Monday, March 01, 2010	Sheet 42 of 43	

USB Port#	Destination
USBP0	Right side top
USBP1	Right side bottom
USBP2	Left side
USBP3	Bluetooth
USBP4	Camera
USBP5	Touch Screen
USBP6	Mini WLAN
USBP7	Mini WWAN

PCI-E	Destination
PCIE-1	Mini WWAN
PCIE-2	Mini WLAN
PCIE-3	Card reader
PCIE-4	LAN

SATA	Device
SATA0	SATA/SSD HDD
SATA1	NC



AL006680B00IC OTHER(32P) UTS6680EF(LQFP)

QUANTA COMPUTER

Title	Port Mapping	
Size	Document Number ZM2	Rev D
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Model	Item	Page	Date	ECN Number	Item Id	Rev.	Solution Description	Issue Description
ZM2	**1**	3,4,5,6	100301				Change U8002 P/N from AJ0Q3D2UT05 to AJSLBMFUT07	
	2	7,8,9, 10,11	100301				Change U8003 P/N from AJ0QMJN0T05 to AJSLGXX0T12	
	3	25	100301				change U1 P/N from AJ577600T00 to AJ577600000	
	4	19	100301				Del C326	For abnormal timing on PLT_RST# and abnormal ASF function issue
	5	28	100301				Change CN3,CN4 Footprint from audio-jas33l-101wy0x-7f-5p-h to audio-jas33l-101wy0x-7f-5p-v	For footprint standardization
	6	17	100301				Change U20 P/N from AJ050350H01 to AJ050350H02	
	7	28	100301				Add C433,C354(P/N:CH0126G0B00), Add R407,R282(P/N:CS00002JB38)	For EMI concern
	8	14	100301				ADD C168(P/N:CH0126G0B00)	For EMI concern
	9	15	100301				ADD C171,C172,C187,C188(P/N:CH-333B0B00)	For EMI concern
	10	29	100301				Change Q47 pin1 Power rail from +3.3V_ALW to +5V_ALW	For Battery charge indicate LED weak light issue
	11	15,20, 21,27	100301				Delete L5,L6,L15,L16,L17,L28.L29.L30 location	For SMT request, reserve RC0402 PAD
	12	15,17 ,21	100301				Change J1 P/N from DFHD40MR017 to DFHD40MR029 Change CON6 P/N from DFFC06FR022 to DFFC06FR054 Change JSIM1 P/N from DG006000020 to DG006000031	For Dell PSL request
	13	14	100305				NC C168, ADD C139(P/N:CH0126G0B00)	For lower the 14.318MHz harmonic
	14	19	100310				Del C326,R403 Location	

QUANTA COMPUTER

Title	Change List	
Size	Document Number ZM2	Rev D
Date: Wednesday, March 10, 2010	Sheet 1 of 2	

Model	Item	Page	Date	ECN Number	Item Id	Rev.	Issue Description	Solution Description
ZM2	1	35	100125					Change PL7 P/N from DC-2282M000 to CV-22E5MZ00 Change PL7 footprint from CHOKE-MPLC0730L3R3 to CHOKE-MPO104-1R5

QUANTA COMPUTER

Title	Change List	
Size	Document Number ZM2	Rev D
Date: Monday, March 01, 2010	Sheet 2 of 2	