Quanta Project Name: XM2

Dell Project Name: Reebok

X02(ST) Stage

BOARD REV : D

2009-07-24

Quanta Computer Inc.
Project Name: XM2

Title: CoverPage		
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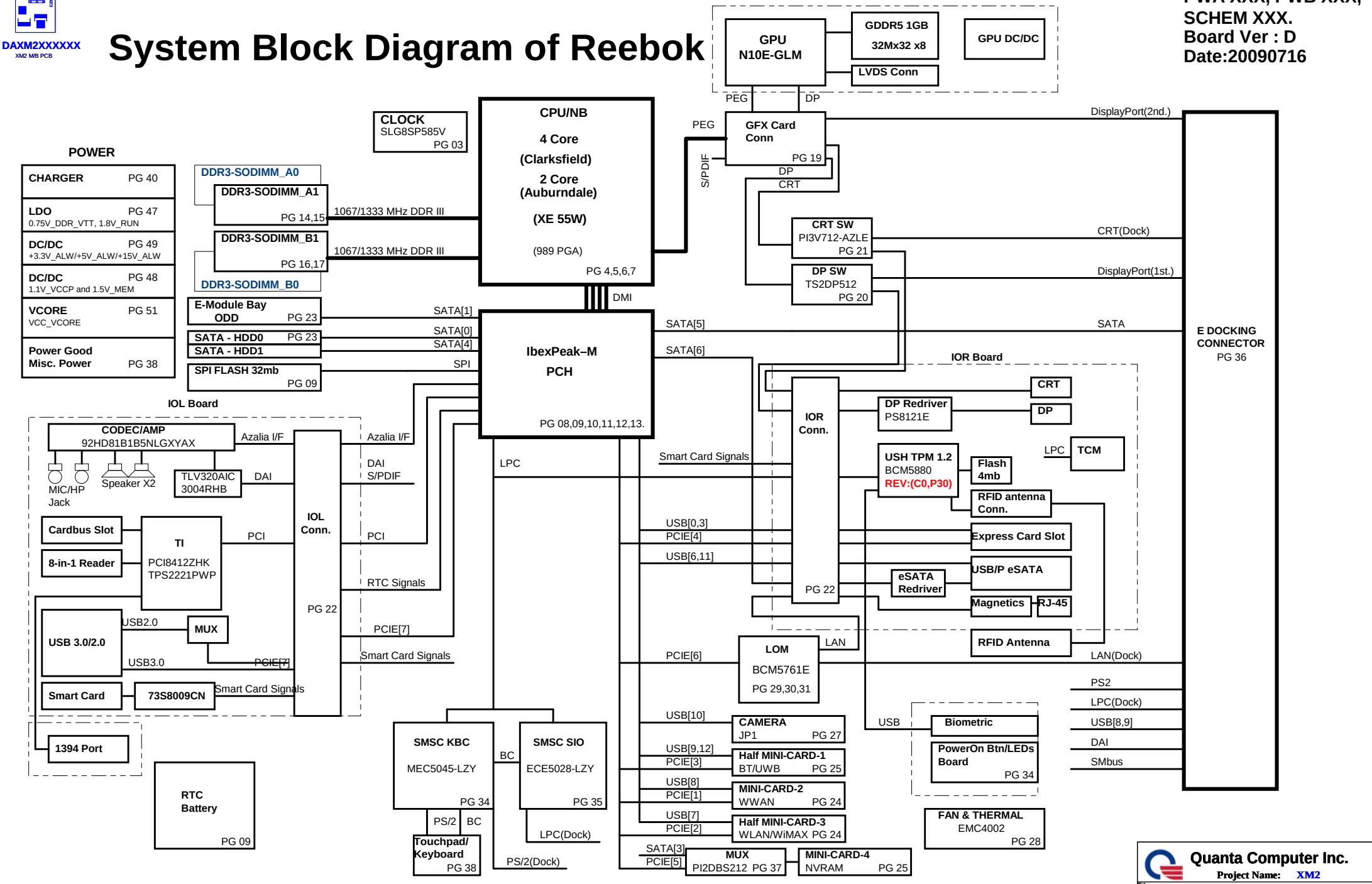
DAXM2XXXXXX
XM2 M/B PCB

System Block Diagram of Reebok

PWA XXX, PWB XXX,
SCHEM XXX.
Board Ver : D
Date:20090716



Quanta Computer Inc.
Project Name: XM2

Title	MB Block Diagram	
Size	Document Number XM2_MB	Rev B
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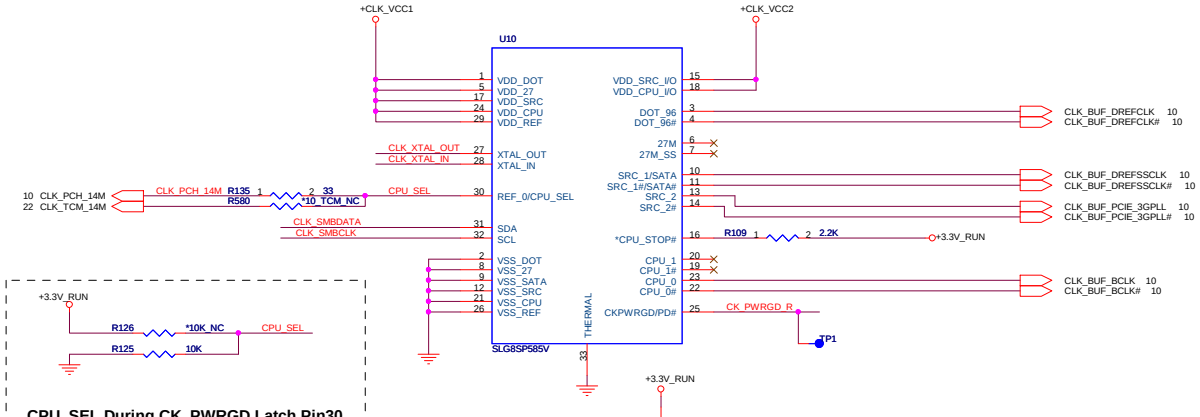
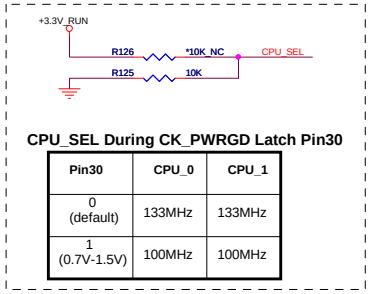
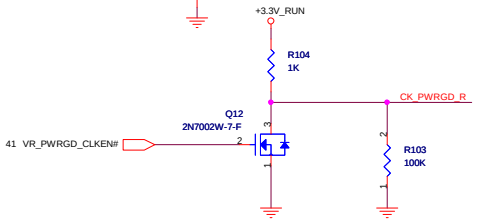
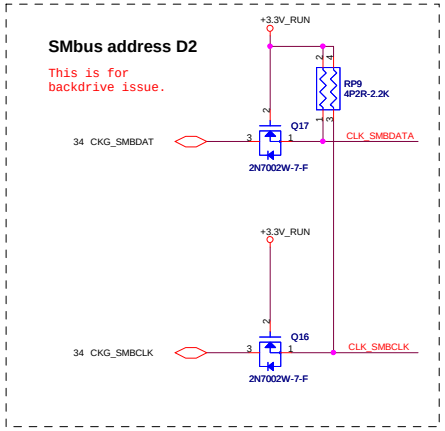


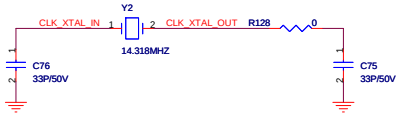


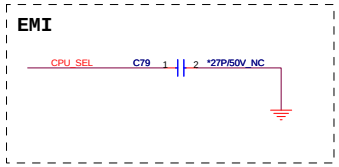
CPU_SEL During CK_PWRGD Latch Pin30

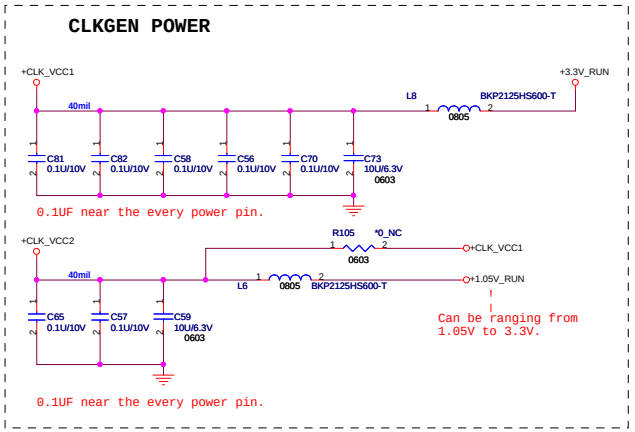
Pin30	CPU_0	CPU_1
0 (default)	133MHz	133MHz
1 (0.7V-1.5V)	100MHz	100MHz











Quanta Computer Inc.
Project Name: XM2

Title	CLOCK GENERATOR	
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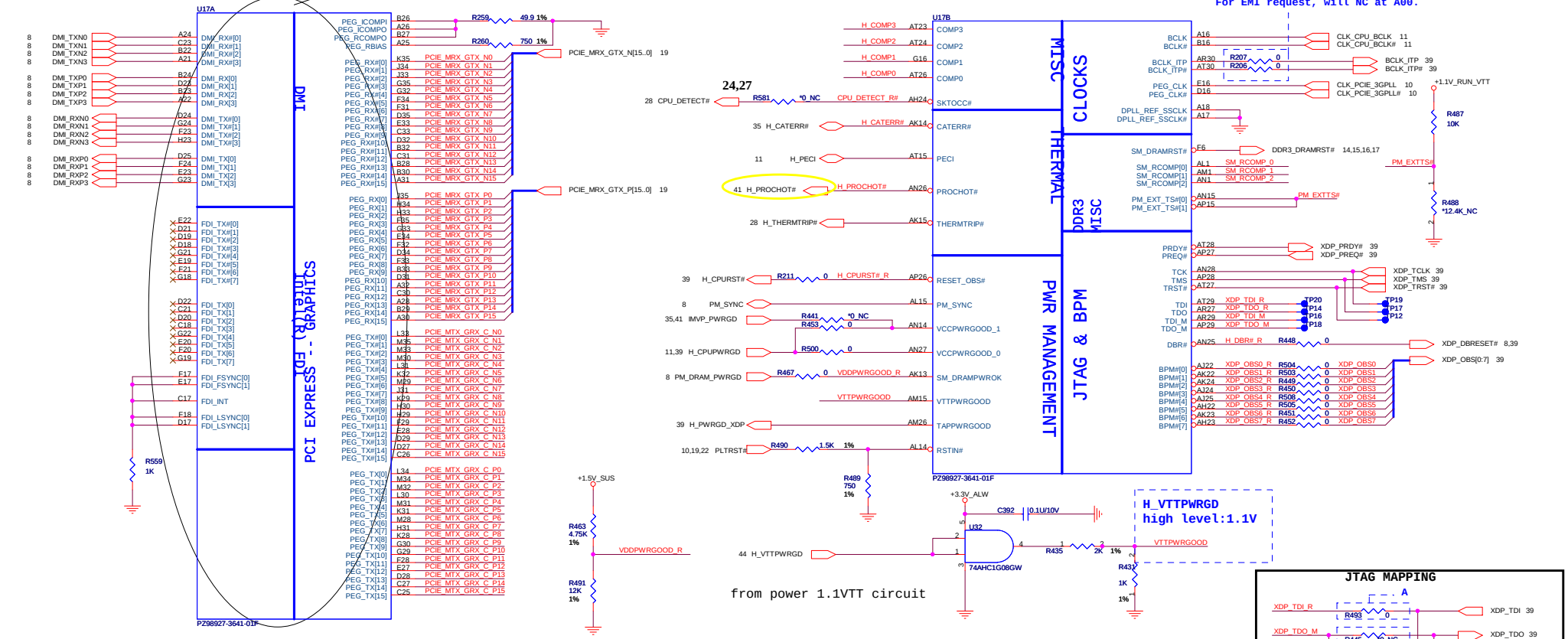
AUBURNDALE/CLARKSFIELD PROCESSOR (DMI,PEG,FDI)

AUBURNDALE/CLARKSFIELD PROCESSOR (CLK,MISC,JTAG)

1030CT: change CPU socket footprint from mpga989_mcp_skt_37-5mm_sq TO rpga989-47989-socket

For EMI request, will NC at A00.



Scan Chain (Default)	STUFF -> A, C, E NO STUFF -> B, D
CPU Only	STUFF -> A, B NO STUFF -> C, D, E
PCH Only	STUFF -> D, E NO STUFF -> A, B, C

Quanta Computer Inc.
Project Name: XM2

Title	CPU 1/4(PEG_DMI)		
Size	Document Number: XM2_MB		Rev: B
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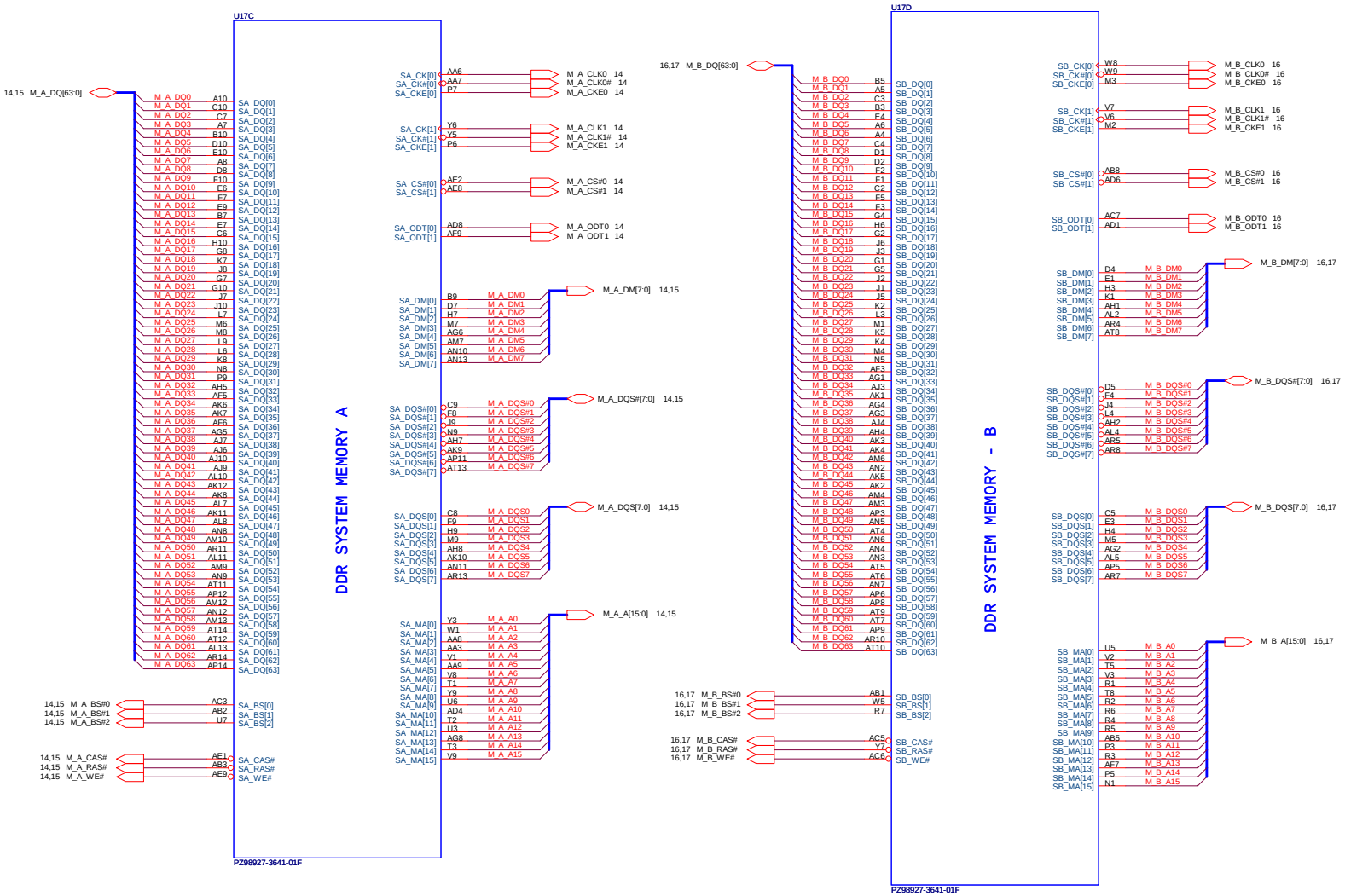
AUBURNDALE/CLARKSFIELD PROCESSOR (DDR3)



Quanta Computer Inc.	
Project Name: XM2	
Title: CPU 2/4(DDR)	
Size	Document Number: XM2_MB — Rev: B
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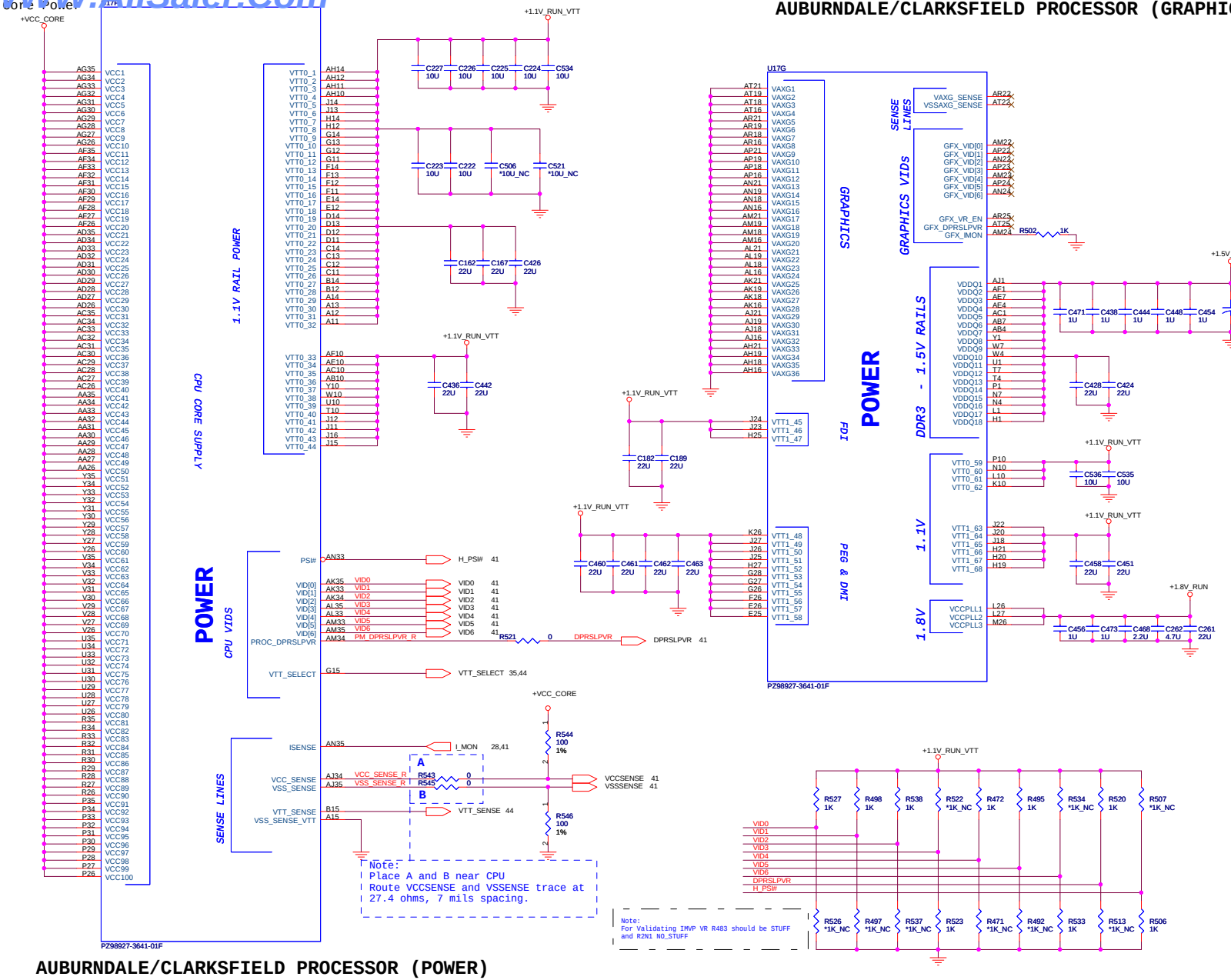
AUBURNDALE/CLARKSFIELD PROCESSOR (GRAPHICS POWER)

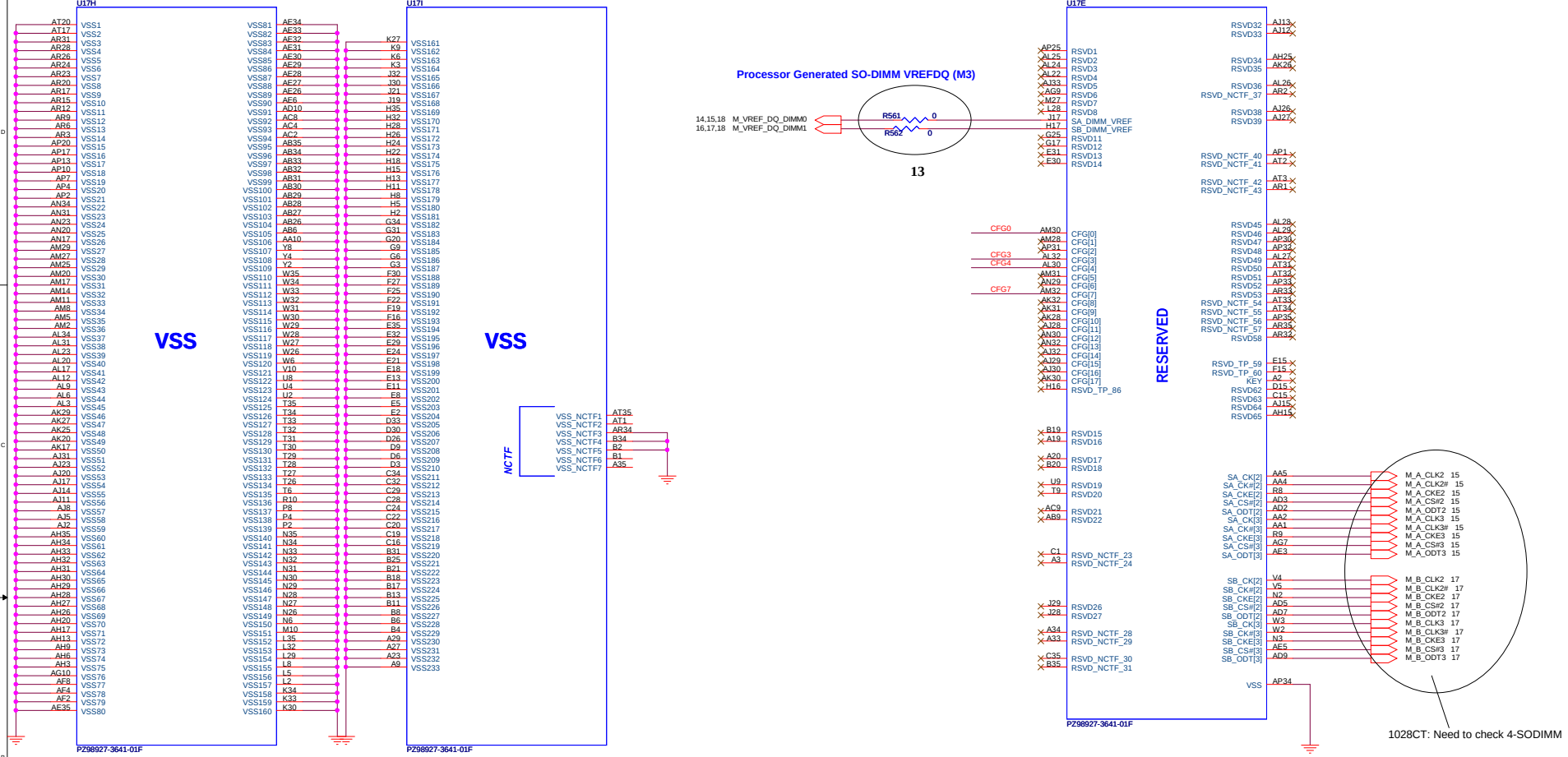


AUBURNDALE/CLARKSFIELD PROCESSOR (POWER)

Quanta Computer Inc.	
Project Name: XM2	
Title: CPU 3/4(POWER)	
Size	Document Number: XM2_MB — Rev: B
Date: Friday, July 24, 2009	Sheet 6 of 55

AUBURNDALE/CLARKSFIELD PROCESSOR (GND)

AUBURNDALE/CLARKSFIELD PROCESSOR(RESERVED, CFG)



The Clarkfield processor's PCI Express interface may not meet PCI Express 2.0 jitter specifications. Intel recommends placing a 3.01K +/- 5% pull down resistor to VSS on CFG[7] pin for both rPGA and BGA components. This pull down resistor should be removed when this issue is fixed.

	1	0
CFG4 (Display Port Presence)	Disabled; No Physical Display Port attached to Embedded Diplay Port	Enabled; An external Display port device is connected to the Embedded Display port
CFG0 (PCI-Epress Configuration Select)	Single PEG	Bifurcation enabled
CFG3 (PCI-Epress Static Lane Reversal)	Normal Operation	Lane Numbers Reversed
CFG7 Clarksfield (only for early samples pre-ES1)	Common motherboard design	For early samples pre-ES1 CFD

Quanta Computer Inc.
Project Name: XM2

Title: CPU 4/4(GND_RESV)
Size: Document Number: XM2_MB
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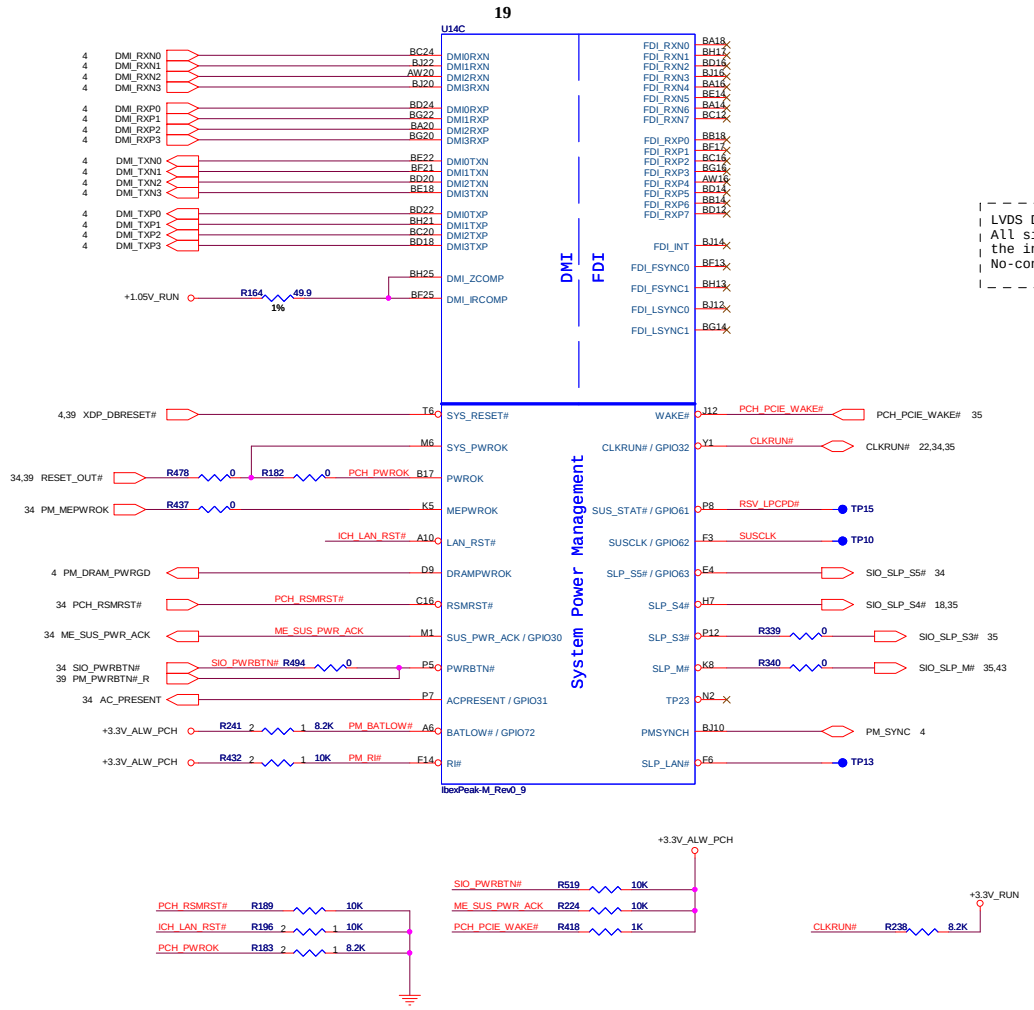
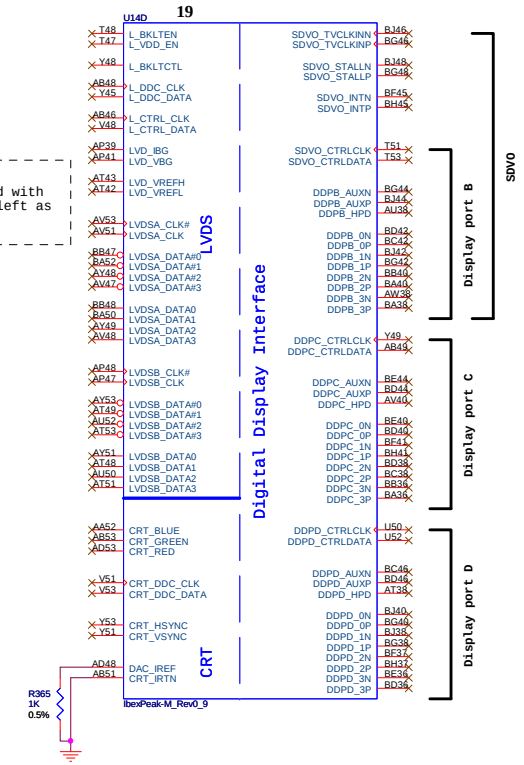
IBEX PEAK-M (DMI,FDI,GPIO)



LVDS Disable:
All signals associated with the interface can be left as No-connects.

IBEX PEAK-M (LVDS,DDI)



CRT Disable:
CRT_RED
CRT_GREEN
CRT_BLUE
CRT_HSYCN
CRT_VSYNC
Leave as NO CONNECT (floating).

Quanta Computer Inc.
Project Name: XM2

Title	PCH 1/6 (DMI_VIDEO)	
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RTC Circuitry

IBEX PEAK-M (HDA,JTAG,SATA)

+3.3V_RTC_LDO 45,46,47

D3 SDMK0340L-7-F +RTC_CELL

C106 1.0uF

D16 SDMK0340L-7-F +3VRTC_2

R460 1K

09

R161 20K

R160 20K

C107 1uF

C100 1uF

R165 1M

J14 53261-0371 RTC-BATTERY

Cap values depend on Xtal

C125 18PF

C130 18PF

W2 32.768KHZ

R191 10M

19

U14A

RTC_X1 B13 RTCX1

RTC_X2 D13 RTCX2

RTC_RST# C14 RTCRST#

SRTC_RST# D17 SRTCRST#

SM_INTRUDER# A16 INTRUDER#

+RTC_CELL R421 330K PCH_INVRMEN A14 INTVRMEN

RTC

LPC

FWH0 / LAD0 D33 LPC_LAD0 22,25,34,35

FWH1 / LAD1 B33 LPC_LAD1 22,25,34,35

FWH2 / LAD2 C32 LPC_LAD2 22,25,34,35

FWH3 / LAD3 A32 LPC_LAD3 22,25,34,35

FWH4 / LFRAME# C34 LPC_LFRAME# 22,25,34,35

LDRQ0# A34 LPC_LDRQ0# 35

LDRQ1# / GPIO23 F34 LPC_LDRQ1# 35

SERIRQ AB9 IRQ_SERIRQ IRQ_SERIRQ 22,34,35

+3.3V_RUN

Place near connector

R227 *8.2K_NC SPKR

R424 10K IRQ_SERIRQ

No Reboot Strap	
SPKR	Low=Default
	High=No Reboot

INTVRMEN - Integrated SUS 1.1V VRM Enable
High - Enable Internal VRs

ACZ_BIT_CLK A30 HDA_BCLK

ACZ_SYNC D29 HDA_SYNC

22 SPKR SPKR P1 SPKR

ACZ_RST# C30 HDA_RST#

22 ICH_AZ_CODEC_SDIN0 G30 HDA_SDIN0

TP9 F30 HDA_SDIN1

TP8 E32 HDA_SDIN2

TP7 F32 HDA_SDIN3

0 ohm resistor within 0.5 inch of pin

ACZ_SDOUT B29 HDA_SDO

35 ME_FWP H32 HDA_DOCK_EN# / GPIO33

25 USB_MCARD3_DET# USB_MCARD3_DET# J30 HDA_DOCK_RST# / GPIO13

IHDA

SATA

SATA0RXN AK7 SATA_RX0- 23

SATA0RXP AK6 SATA_RX0+ 23

SATA0TXN AK11 SATA_TX0- C

SATA0TXP AK9 SATA_TX0+ C

HDD0---Front

SATA1RXN AH6 SATA_RX1- 23

SATA1RXP AH5 SATA_RX1+ 23

SATA1TXN AH9 SATA_TX1- C

SATA1TXP AH8 SATA_TX1+ C

ODD

SATA2RXN AF11 SATA_RX2- 23

SATA2RXP AF9 SATA_RX2+ 23

SATA2TXN AF7 SATA_TX2- C

SATA2TXP AF6 SATA_TX2+ C

HDD1---Right side

SATA3RXN AH3 SATA_RX3- 37

SATA3RXP AH1 SATA_RX3+ 37

SATA3TXN AF3 SATA_TX3- C

SATA3TXP AF1 SATA_TX3+ C

NVRAM

SATA4RXN AD9 ESATA_IRX_DTX_N4_C 22

SATA4RXP AD8 ESATA_IRX_DTX_P4_C 22

SATA4TXN AD6 SATA_TX4- C

SATA4TXP AD5 SATA_TX4+ C

IOR eSATA

SATA5RXN AD3 SATA_SBRX_DTX_N5_C 36

SATA5RXP AD1 SATA_SBRX_DTX_P5_C 36

SATA5TXN AB3 SATA_TX5- C

SATA5TXP AB1 SATA_TX5+ C

E Docking eSATA

SATAICOMPO AF16

SATAICOMPI AF15 SATAICOMPO R407 37.4 1% +1.05V_RUN

This signal is an open-drain output pin driven. An external pull-up resistor to Vcc3_3 is required.

+3.3V_RUN

R514 43K

SATALED# T3 SATA_ACT# 27

SATA0GP / GPIO21 Y9 HDD_DET#_R R481 0 HDD_DET# 23

SATA1GP / GPIO19 V1 GPIO19 R464 10K +3.3V_RUN

HDD_DET#_R 39

GPIO19 39

JTAG

39 PCH_JTAG_TCK_BUF M3 JTAG_TCK

39 PCH_JTAG_TMS K3 JTAG_TMS

39 PCH_JTAG_TDI K1 JTAG_TDI

39 PCH_JTAG_TDO J2 JTAG_TDO

39 PCH_JTAG_RST# J4 JTAG_RST#

PCH_JTAG_TCK_BUF

PCH_JTAG_TMS

PCH_JTAG_TDI

PCH_JTAG_TDO

PCH_JTAG_RST#

TP2 TP6 TP5 TP4 TP3

SPI

SPI_CLK BA2 SPI_CLK

SPI_CS0# AV3 SPI_CS0#

+3.3V_M R235 10K AY3 SPI_CS1#

07

SPI_MOSI AY1 SPI_MOSI

SPI_MISO_R R234 33 SPI_MISO AV1 SPI_MISO

ibexPeak-M_Rev0_9

SATA_TX0- C 0.01U/25V C410 SATA_TX0- 23

SATA_TX0+ C 0.01U/25V C409 SATA_TX0+ 23

SATA_TX1- C 0.01U/25V C407 SATA_TX1- 23

SATA_TX1+ C 0.01U/25V C408 SATA_TX1+ 23

SATA_TX2- C 0.01U/25V C406 SATA_TX2- 23

SATA_TX2+ C 0.01U/25V C405 SATA_TX2+ 23

SATA_TX3- C 0.01U/25V C149 SATA_TX3- 37

SATA_TX3+ C 0.01U/25V C146 SATA_TX3+ 37

SATA_TX4- C 0.01U/25V C404 ESATA_ITX_DRX_N4 22

SATA_TX4+ C 0.01U/25V C403 ESATA_ITX_DRX_P4 22

SATA_TX5- C 0.01U/25V C148 SATA_SBTX_C_DRX_N5 36

SATA_TX5+ C 0.01U/25V C147 SATA_SBTX_C_DRX_P5 36

22 ICH_AZ_CODEC_BITCLK R166 33 ACZ_BIT_CLK

C111 *27P_NC 50

22 ICH_AZ_CODEC_SYNC R172 33 ACZ_SYNC

22 ICH_AZ_CODEC_RST# R158 33 ACZ_RST#

22 ICH_AZ_CODEC_SDOUT R174 33 ACZ_SDOUT

Place all series terms close to PCH except for SDIN input lines,which should be close to source.Placement of R773, R775, R776 & R777 should equal distance to the T split trace point. Basically, keep the same distance from T for all series termination resistors.

PCH
32Mbit (4M Byte)

+3.3V_M

R334 3.3K

R84 3.3K

R86 3.3K

U6 AT26DF321-SU

SPI_CS0# CE#

SPI_CLK SCK

SPI_MOSI SI

SPI_MISO_R SO

WP# HOLD#

VDD VSS

C34 0.1U/10V

R90 *0_NC

R585 *10K_NC

SPI_WP#_SEL 35

+3.3V_RUN

USB_MCARD3_DET# R391 100K

Quanta Computer Inc.

Project Name: XM2

Title: PCH 2/6 (SATA_SPI)

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IBEX PEAK-M (PCI,USB,NVRAM)

19

U14E

PCI

NVRAM

USB

USB PORT#	DESTINATION
0	Right Top
1	Reserved
2	Reserved
3	Right Bot
4	DOCKING
5	DOCKING
6	Express card
7	WLAN/WMAX
8	WWAN
9	BT/UWB
10	Camera
11	USH
12	Storage
13	uMod BT

IbexPeak-M_Rev0_9

Non-iAMT

PLTRST# for MCH,Express card,USH,Gfx. USB3.0
PLTRST1# for 5045,5028,5761E.
PLTRST2# for WWAN/WLAN/WPAN/Robson. PCH XDP.

USB OC Pullup

RP23 10P8R-10K

PCI Pullup

RP22 10P8R-8.2K

RP7 10P8R-8.2K

pop R325 for mini-card debug

EMI

Boot BIOS Strap

PCI_GNT0#	GNT1#1	Boot BIOS Location
0	0	LPC
0	1	Reserved (NAND)
1	0	PCI
1	1	SPI

A16 swap override Strap/Top-Block Swap Override jumper

GNT3# — Low = A16 swap override/Top-Block Swap Override enabled; High = Default

IBEX PEAK-M (PCI-E,SMBUS,CLK)

19

U14B

PCI-E*

SMBus

Controller Link

PEG

From CLK BUFFER

Clock Flex

Mini_WWAN

Mini_WLAN

Mini_UWB

Express Card

NVRAM MUX

Giga Bit LOM

USB3.0

For USB 3.0 gen 2

Non-iAMT

IbexPeak-M_Rev0_9

Per EDS 1.0 support 33MHz and 14.31818MHz.

Per EDS 1.0 support 48MHz 33MHz and 14.31818MHz.

No stuff XTAL25_IN and XTAL25_OUT circuitry until integrated CG becomes PCH POR.

These are for backdrive issue.

Non-iAMT

2N7002W-7-F

Quanta Computer Inc.

Project Name: XM2

Title: PCH 3/6 (PCI_SMBUS_CLK)

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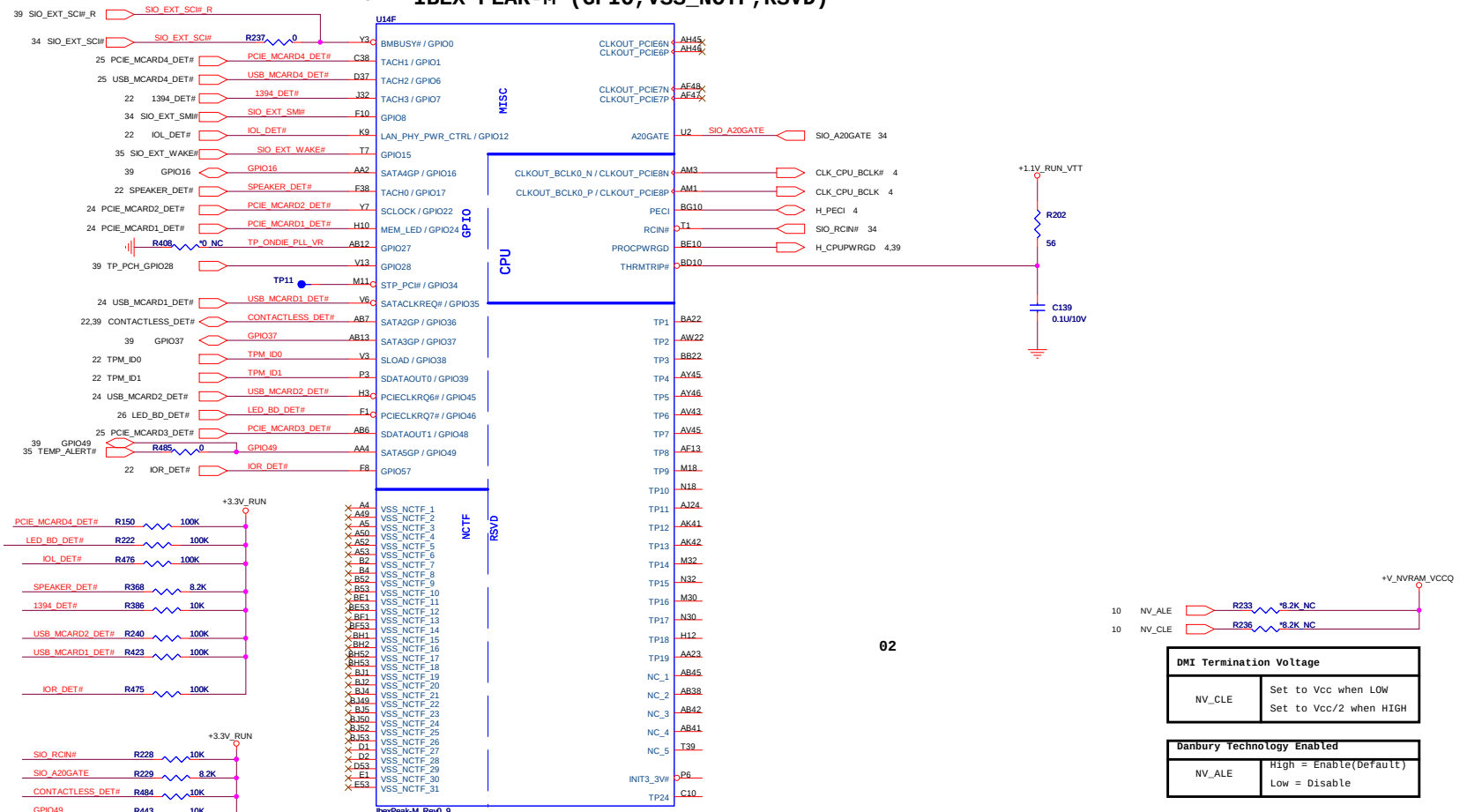
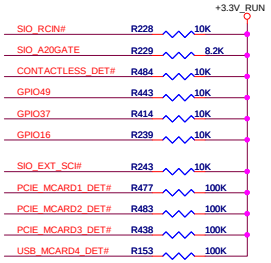
19 IBEX PEAK-M (GPIO,VSS_NCTF,RSVD)





02

DMI Termination Voltage	
NV_CLE	Set to Vcc when LOW Set to Vcc/2 when HIGH

Danbury Technology Enabled	
NV_ALE	High = Enable(Default) Low = Disable

Quanta Computer Inc.
Project Name: XM2

Title: PCH 4/6 (GPIO)
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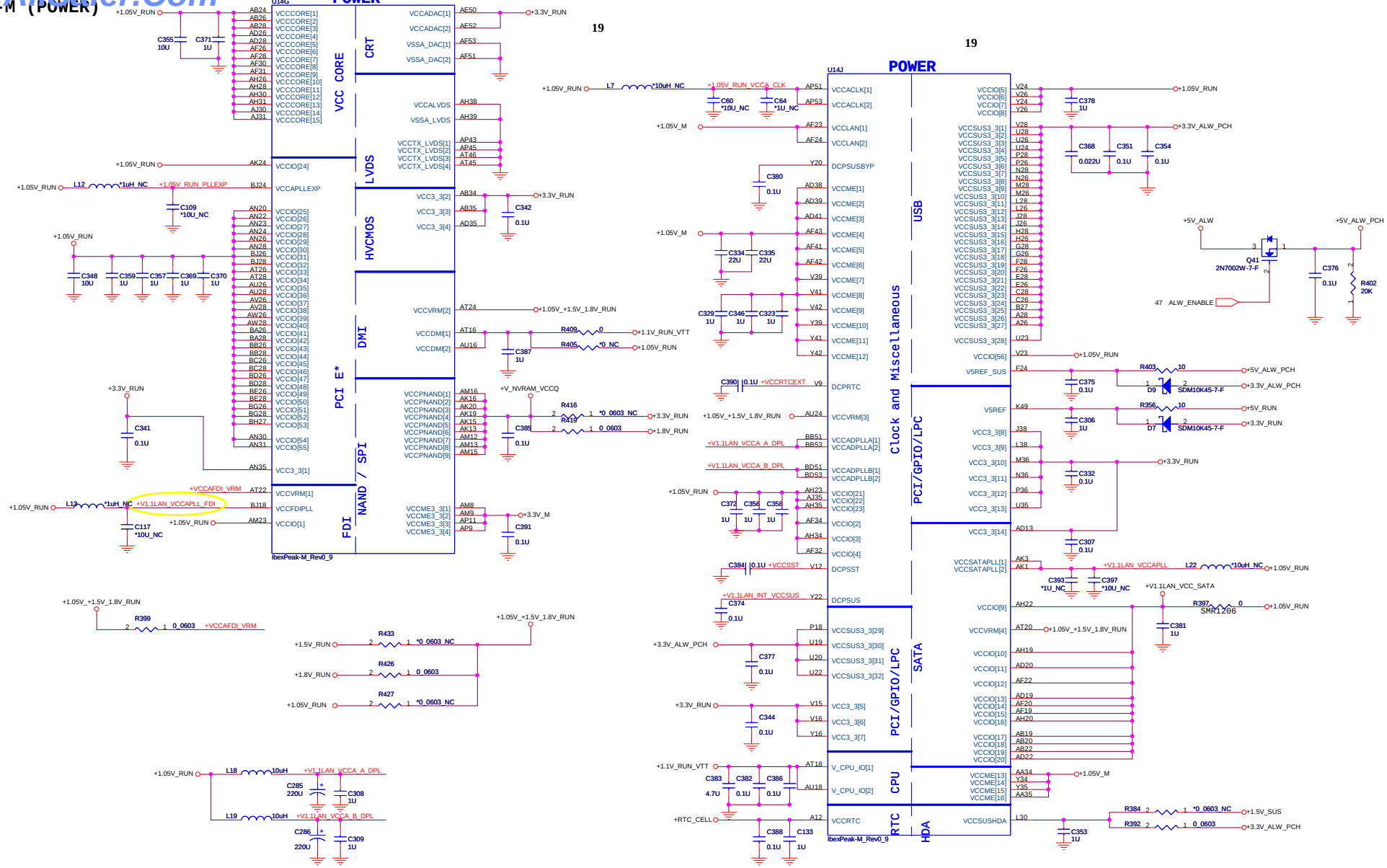

Quanta Computer Inc.			
Project Name: XM2			
Title: PCH 5/6 (POWER)			
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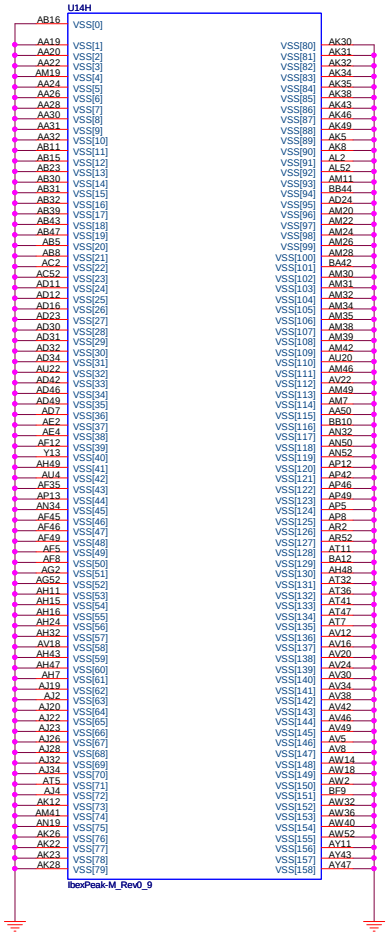
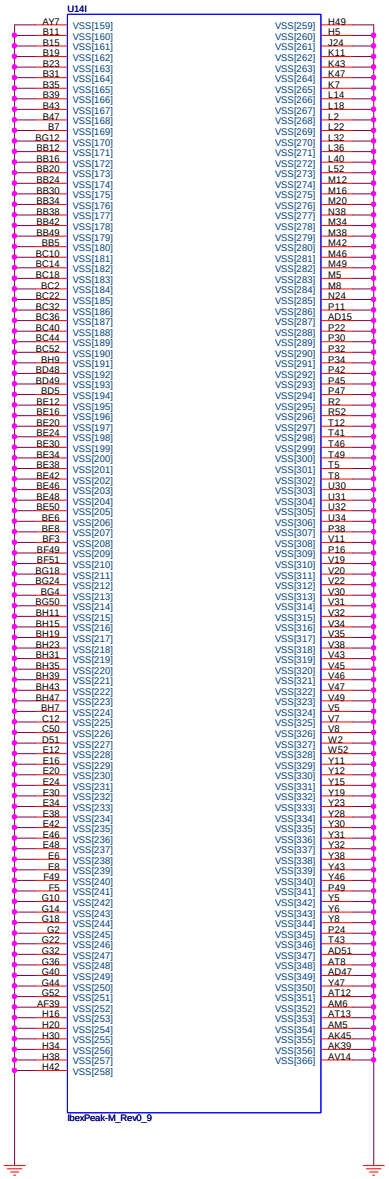
IBEX PEAK-M (GND)

19



19



Quanta Computer Inc.		
Project Name: XM2		
Title: PCH 6/6 (GND)		
Size	Document Number: XM2_MB	Rev: B
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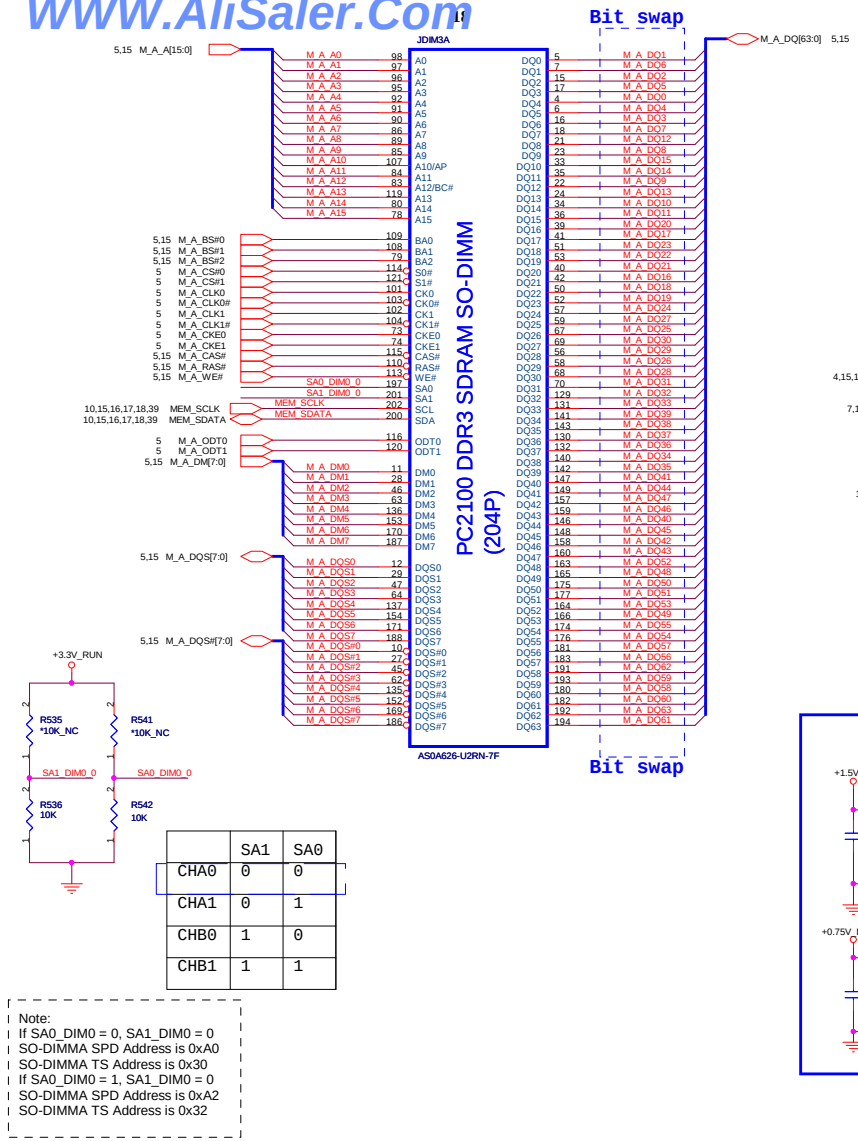
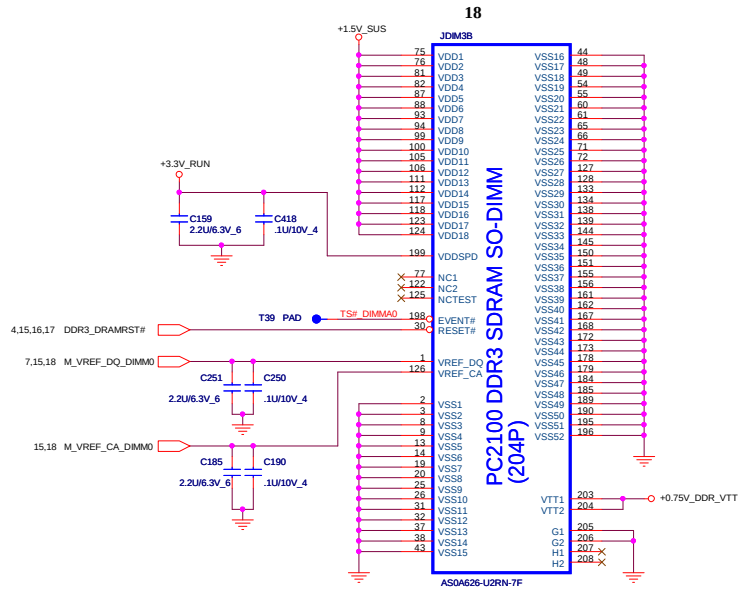
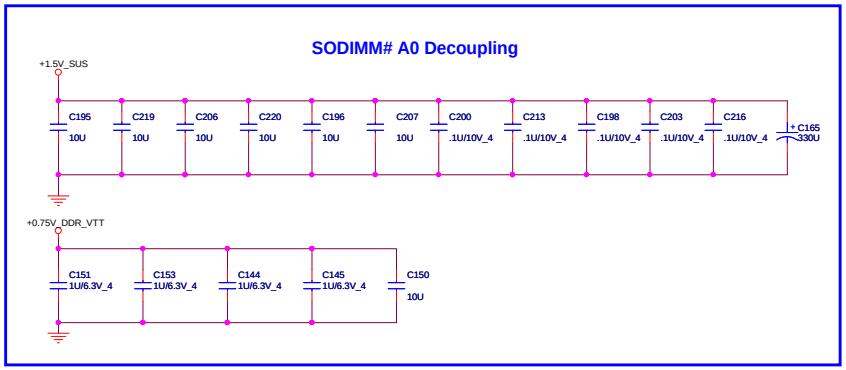


	SA1	SA0
CHA0	0	0
CHA1	0	1
CHB0	1	0
CHB1	1	1

Note:
If SA0_DIM0 = 0, SA1_DIM0 = 0
SO-DIMMA SPD Address is 0xA0
SO-DIMMA TS Address is 0x30
If SA0_DIM0 = 1, SA1_DIM0 = 0
SO-DIMMA SPD Address is 0xA2
SO-DIMMA TS Address is 0x32

CHA_DIMM0_BOT_SIDE





Quanta Computer Inc.
Project Name: XM2

Title	DDR3 DIMM-A0	
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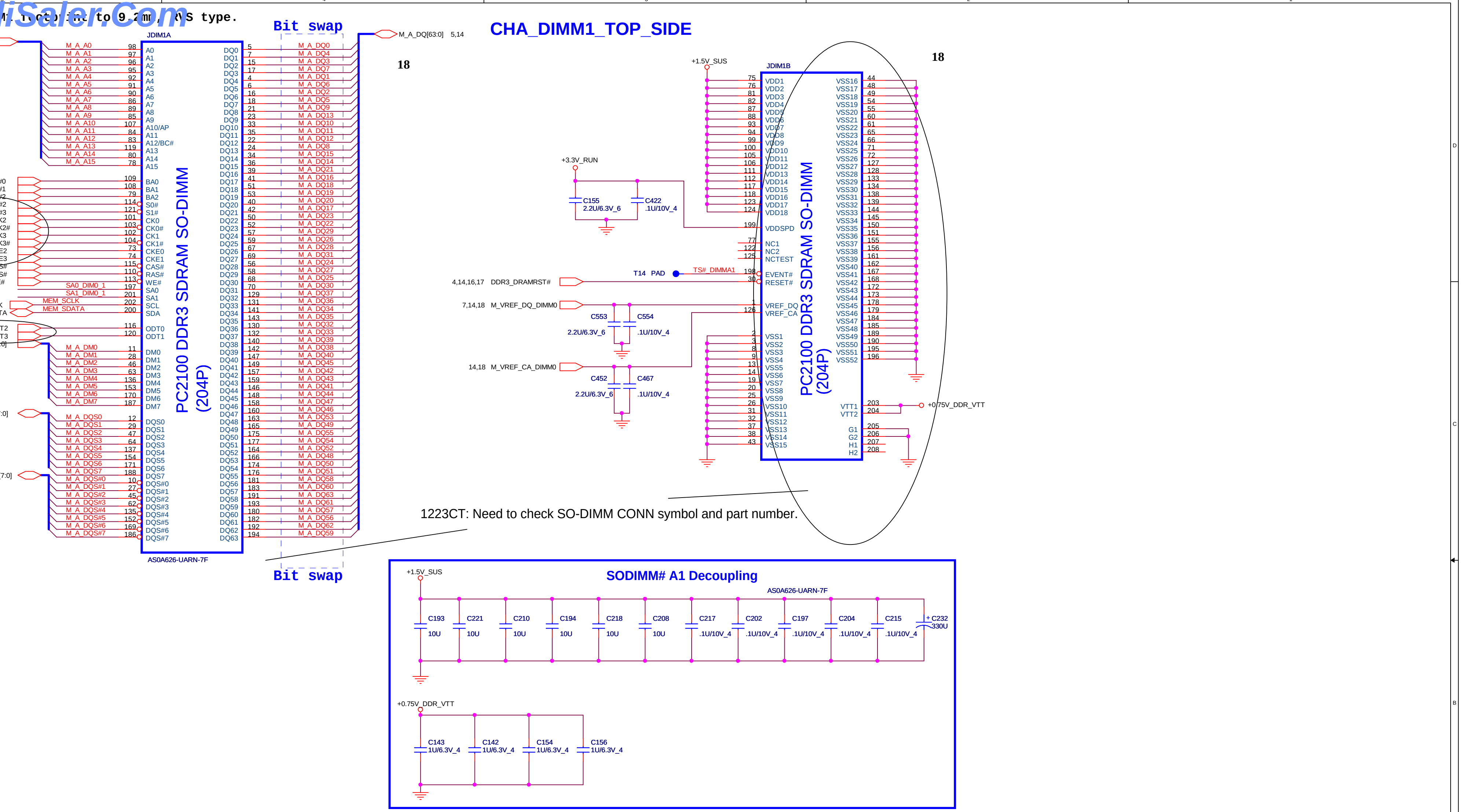

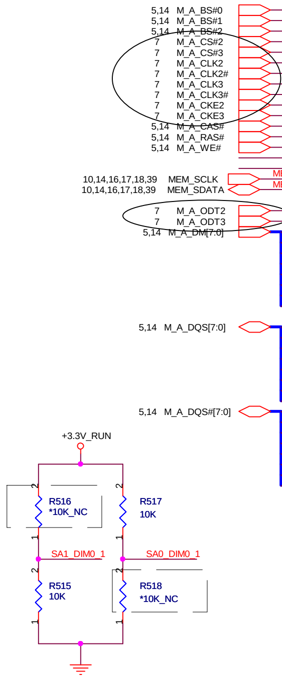

	SA1	SA0
CHA0	0	0
CHA1	0	1
CHB0	1	0
CHB1	1	1

Note:
SO-DIMMA SPD Address is 0xA2
SO-DIMMA TS Address is 0x32

Quanta Computer Inc.

Project Name: XM2

Title: DDR3 DIMM-A1

Size | Document Number: XM2_MB | Rev: B

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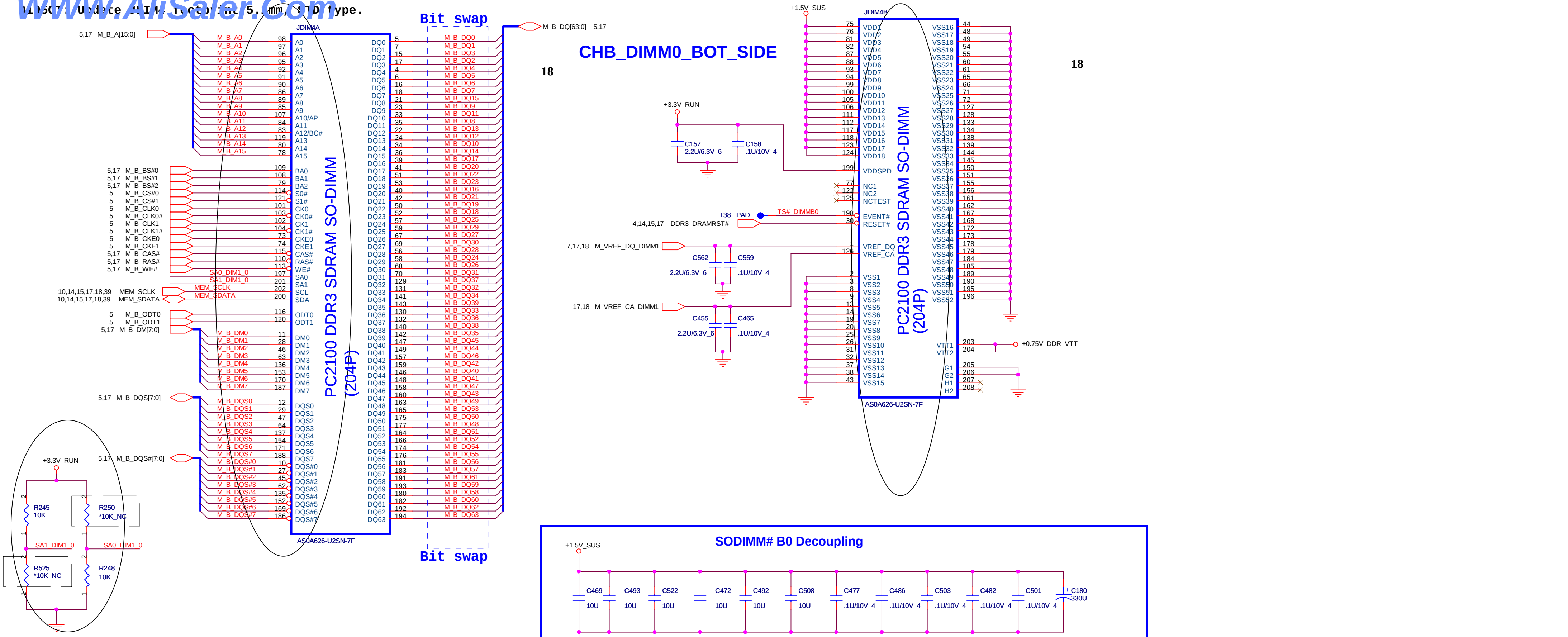

	SA1	SA0
CHA0	0	0
CHA1	0	1
CHB0	1	0
CHB1	1	1

Note:
SO-DIMMA SPD Address is 0xA4
SO-DIMMA TS Address is 0x34

Quanta Computer Inc.
Project Name: XM2

Title	DDR3 DIMM-B0	
Size	Document Number XM2_MB	Rev B
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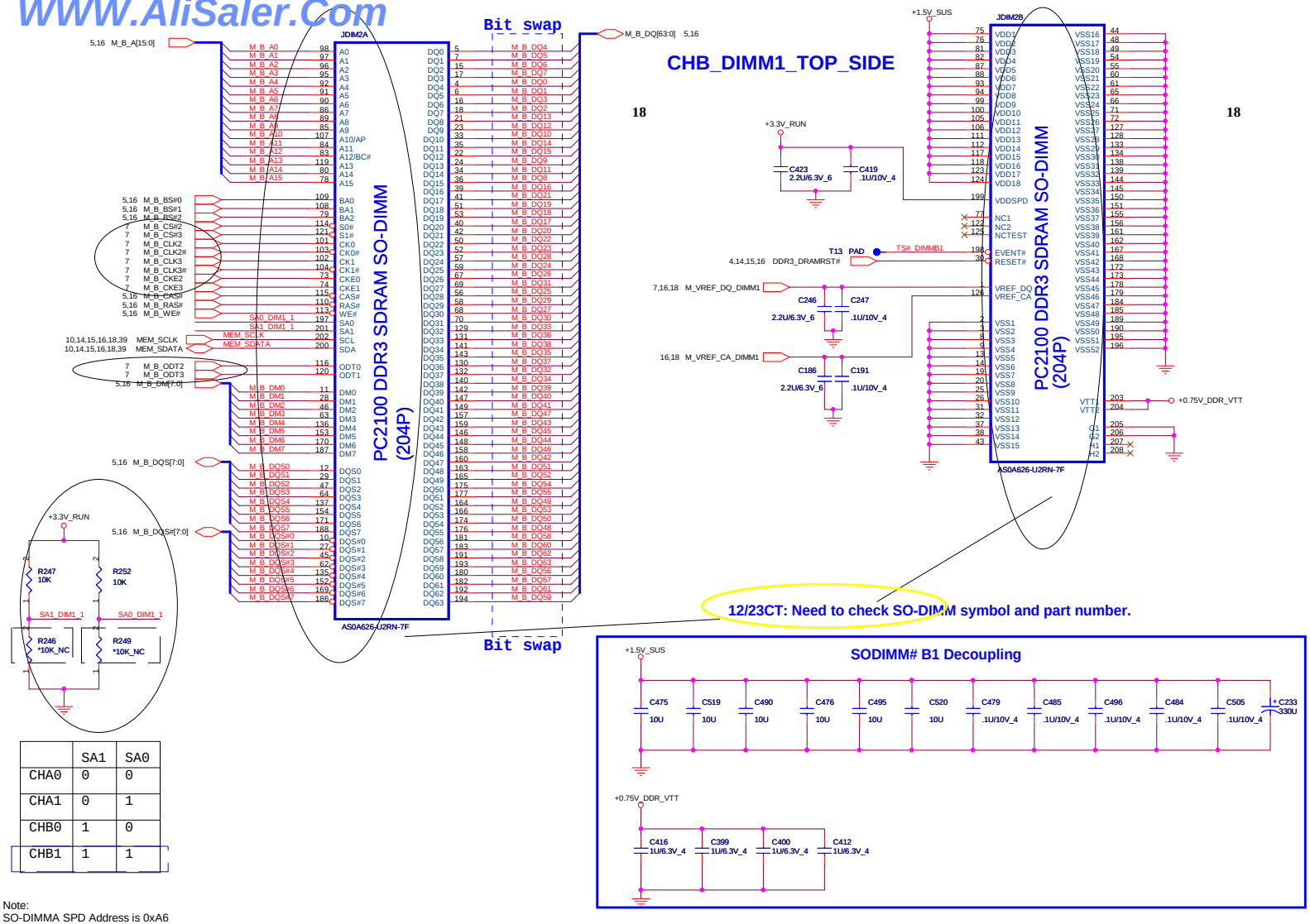


	SA1	SA0
CHA0	0	0
CHA1	0	1
CHB0	1	0
CHB1	1	1

Note:
SO-DIMMA SPD Address is 0xA6
SO-DIMMA TS Address is 0x36

CHB_DIMM1_TOP_SIDE

18 18

12/23CT: Need to check SO-DIMM symbol and part number.

SODIMM# B1 Decoupling

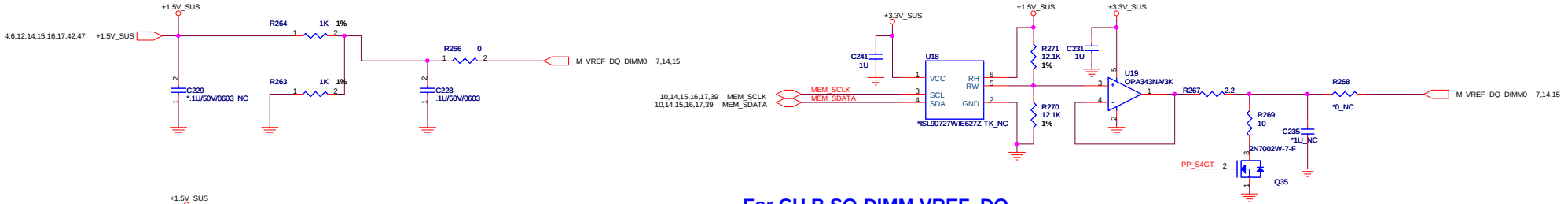
Quanta Computer Inc.
Project Name: XM2

Title	DDR3 DIMM-B1	
Size	Document Number XM2_MB	Rev B
Date: Wednesday, July 22, 2009	Sheet 17 of 55	

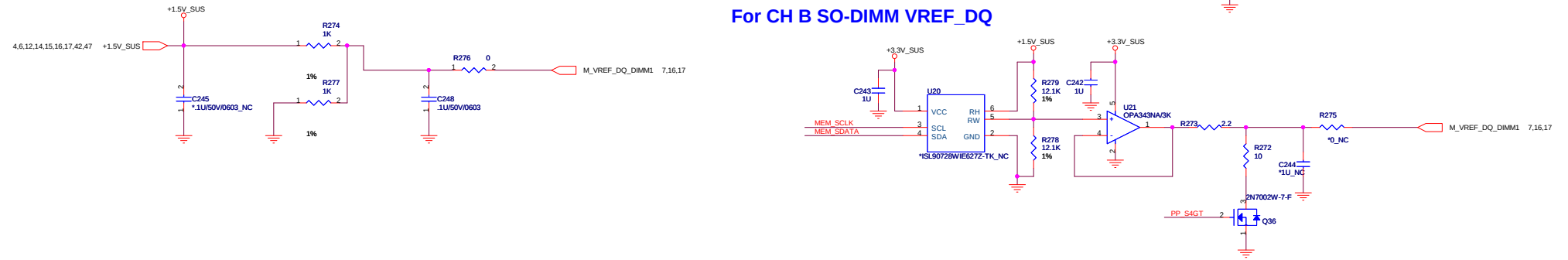
Fixed SO-DIMM VREF_DQ (M1): Default

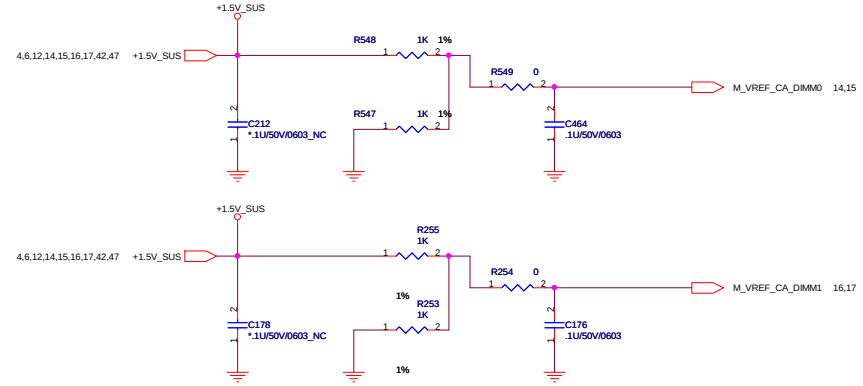
Programmable SO-DIMM VREFDQ (M2).

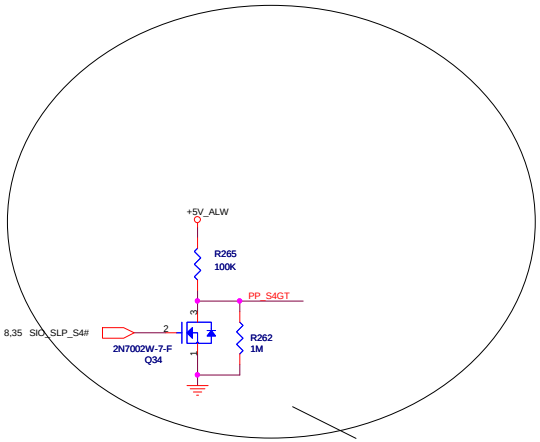
For CH A SO-DIMM VREF_DQ



For CH B SO-DIMM VREF_DQ







1203CT: Refer to FM6C

Quanta Computer Inc.		
Project Name: XM2		
Title: DDR3 VREF		
Size	Document Number: XM2_MB	Rev: B
Date: Wednesday, July 22, 2009	Sheet 18 of 55	

SMBUS Address 58 for Inverter.
SMBUS Address 98 for Temp.sensor.

JVDO1

34 LCD_SMBCLK
34 LCD_SMBDAT

+G_PWR_SRC

C55 .1U/50V/0603
C72 .1U/50V/0603
C77 .1U/50V/0603
C85 .1U/50V/0603
C97 10U/25V/1206

+3.3V_RUN

C66 .047U/10V/0402
C67 .047U/10V/0402
C68 .047U/10V/0402
C71 4.7U/6.3V/0603

GND is for Gfx card detection

LCD_TST 35
LCD_VCC_TEST_EN 35
THERMTRIP_VGA# 28
PANEL_BKEN_GPU 35

20 DP_TX0+ / DP_TX0+
20 DP_TX0- / DP_TX0-
20 DP_TX1+ / DP_TX1+
20 DP_TX1- / DP_TX1-
20 DP_TX2+ / DP_TX2+
20 DP_TX2- / DP_TX2-
20 DP_TX3+ / DP_TX3+
20 DP_TX3- / DP_TX3-
20 DP_AUX+ / DP_AUX+
20 DP_AUX- / DP_AUX-

36 DP2_TX0+ / DP2_TX0+
36 DP2_TX0- / DP2_TX0-
36 DP2_TX1+ / DP2_TX1+
36 DP2_TX1- / DP2_TX1-
36 DP2_TX2+ / DP2_TX2+
36 DP2_TX2- / DP2_TX2-
36 DP2_TX3+ / DP2_TX3+
36 DP2_TX3- / DP2_TX3-
36 DP2_AUX+ / DP2_AUX+
36 DP2_AUX- / DP2_AUX-

PCIE_MTX_GRX_P0 / PCIE_MTX_GRX_N0
PCIE_MTX_GRX_P1 / PCIE_MTX_GRX_N1
PCIE_MTX_GRX_P2 / PCIE_MTX_GRX_N2
PCIE_MTX_GRX_P3 / PCIE_MTX_GRX_N3
PCIE_MTX_GRX_P4 / PCIE_MTX_GRX_N4
PCIE_MTX_GRX_P5 / PCIE_MTX_GRX_N5
PCIE_MTX_GRX_P6 / PCIE_MTX_GRX_N6
PCIE_MTX_GRX_P7 / PCIE_MTX_GRX_N7
PCIE_MTX_GRX_P8 / PCIE_MTX_GRX_N8
PCIE_MTX_GRX_P9 / PCIE_MTX_GRX_N9
PCIE_MTX_GRX_P10 / PCIE_MTX_GRX_N10
PCIE_MTX_GRX_P11 / PCIE_MTX_GRX_N11
PCIE_MTX_GRX_P12 / PCIE_MTX_GRX_N12
PCIE_MTX_GRX_P13 / PCIE_MTX_GRX_N13
PCIE_MTX_GRX_P14 / PCIE_MTX_GRX_N14
PCIE_MTX_GRX_P15 / PCIE_MTX_GRX_N15

1113CT: Moving series Cap to CPU page.

PCIE_MTX_GRX_N[0..15] 4
PCIE_MTX_GRX_P[0..15] 4

4 PCIE_MRX_GTX_N[0..15]
PCIE_MRX_GTX_N0 … PCIE_MRX_GTX_N15

4 PCIE_MRX_GTX_P[0..15]
PCIE_MRX_GTX_P0 … PCIE_MRX_GTX_P15

Add De-coupling CAP on VGA card side.

CLK_PCIE_VGA 10
CLK_PCIE_VGA# 10
PLTRST# 4,10,22
+3.3V_SUS

DP_HP_DET
DP_CA_DET
DP2_HP_DET
DP2_CA_DET

DP_HP_DET 20
DP_CA_DET 20
DP2_HP_DET 36
DP2_CA_DET 36
G_CLK_DDC2 21
G_DAT_DDC2 21

C29 .1U/50V/0603

A
C30 0.1U/10V/0402
A as close as possible to the pin on JDVO1.

VGA_BLU 21
VGA_GRN 21
VGA_RED 21
VGAVSYNC 21
VGAHSYNC 21
ACAV_IN 28,30,34,40
AC_DETECT on Gfx.

PNL_BKLT_CBL_DET# 10
LVDS_CBL_DET# 10
GFX_CRD_DET# 35
GFX_CRD_DET#

35,43,47 RUN_ON
35 GFX_CORE_ON
R35 *0_NC
R41 0

+15V_ALW
+5V_ALW
SPDIF_OUT 22

C17 .1U/50V/0603
C20 .1U/50V/0603

Need to check gfx card side.

WB3M200VD2TR1000

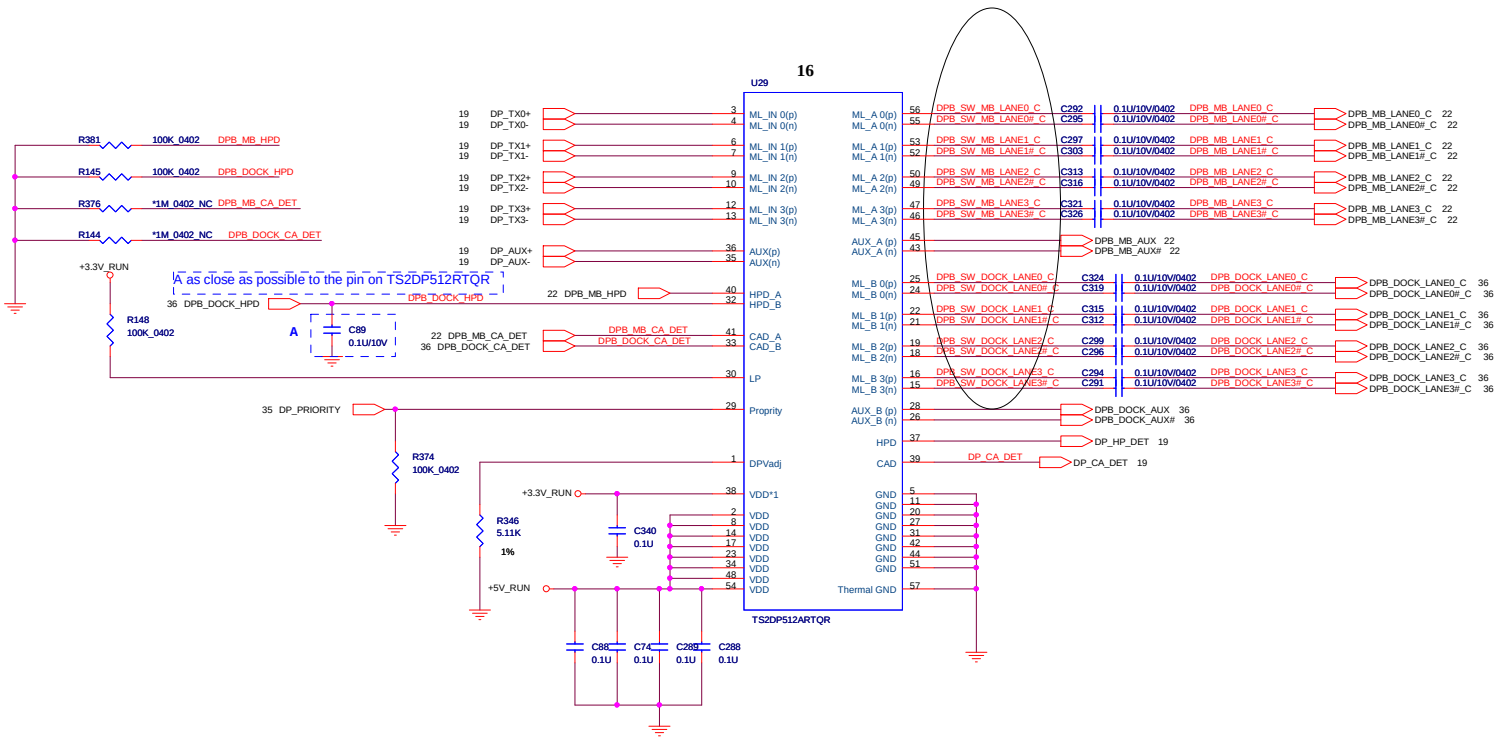
SMBUS Address 58 for Inverter.
SMBUS Address 98 for Temp.sensor.

+PWR_SRC
+G_PWR_SRC
80 mil
80 mil
Q11 FDS6679AZ
R102 100K_0402
C45 .1U/50V/0603
R108 20K
INV_PWR_SRC_ON
R98 100K_0402
INV_PWR_SRC_ON_R
EN_INVPWR 34
Q8 2N7002W-7-F

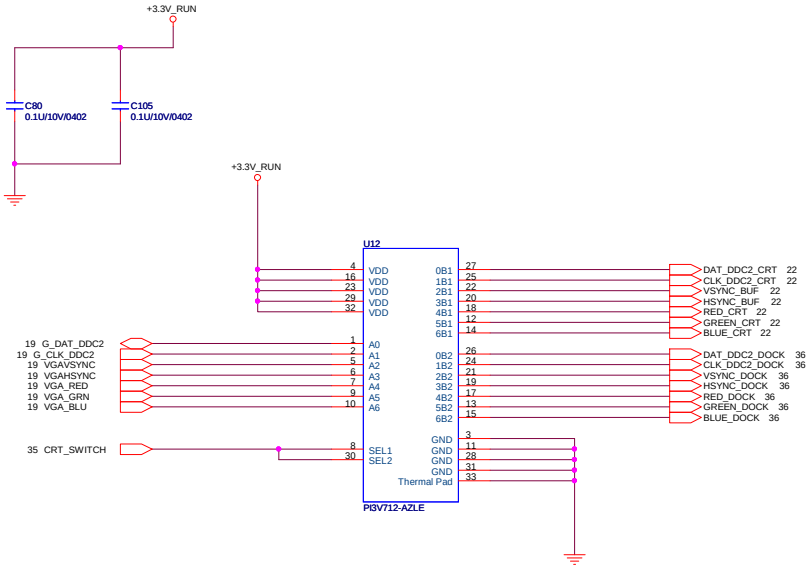
Inverter power control by EC

Quanta Computer Inc.
Project Name: XM2

Title	GFX CARD CONN	
Size	Document Number XM2_MB	Rev B
Date: Wednesday, July 22, 2009	Sheet 19 of 55	



Quanta Computer Inc.			
Project Name: XM2			
Title: DislpayPort SWITCH			
Size	Document Number: XM2_MB		Rev: B
Date: Wednesday, July 22, 2009	Sheet 20 of 55		



Input SELx	Input/Output An	Function	
L	nB1	An=nB1	nB2 hing impedance mode
H	nB2	An=nB2	nB1 hing impedance mode

Quanta Computer Inc.
Project Name: XM2

Title: CRT_SWITCH
Size: Document Number: XM2_MB
Rev: B
Date: Wednesday, July 22, 2009
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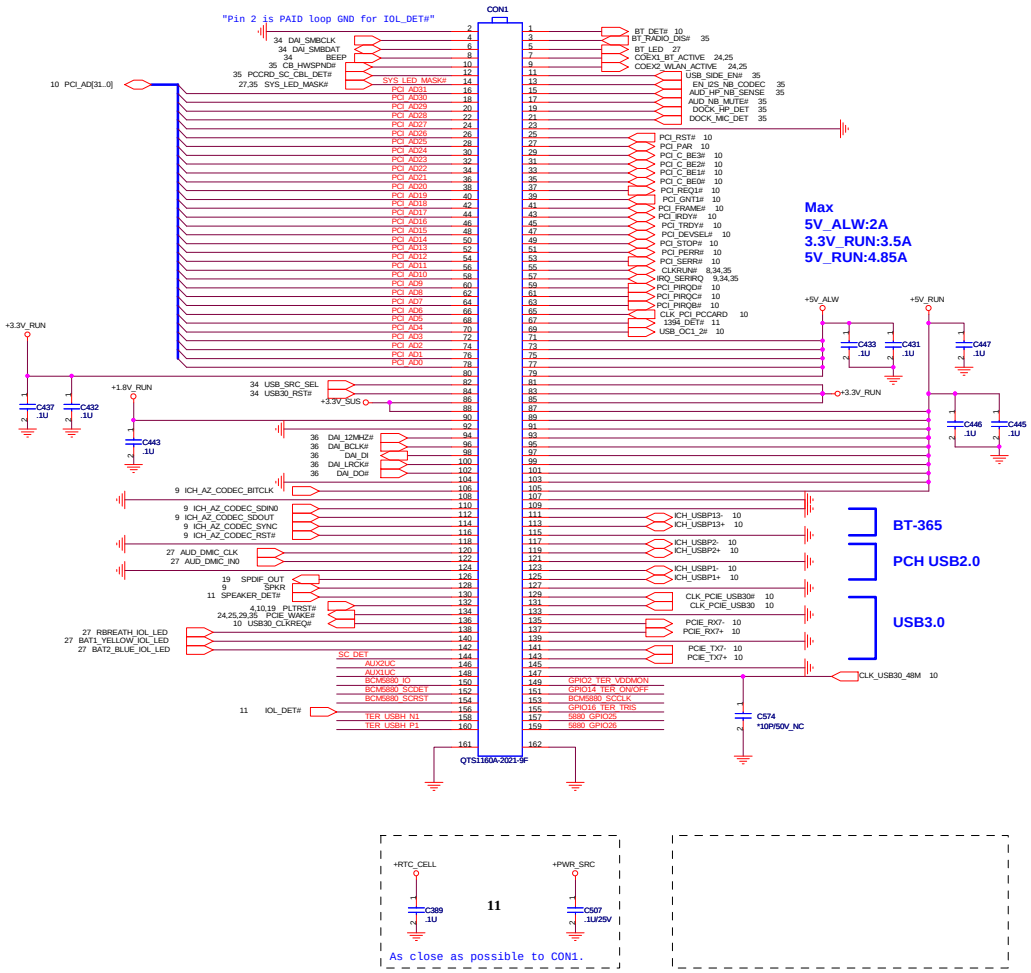
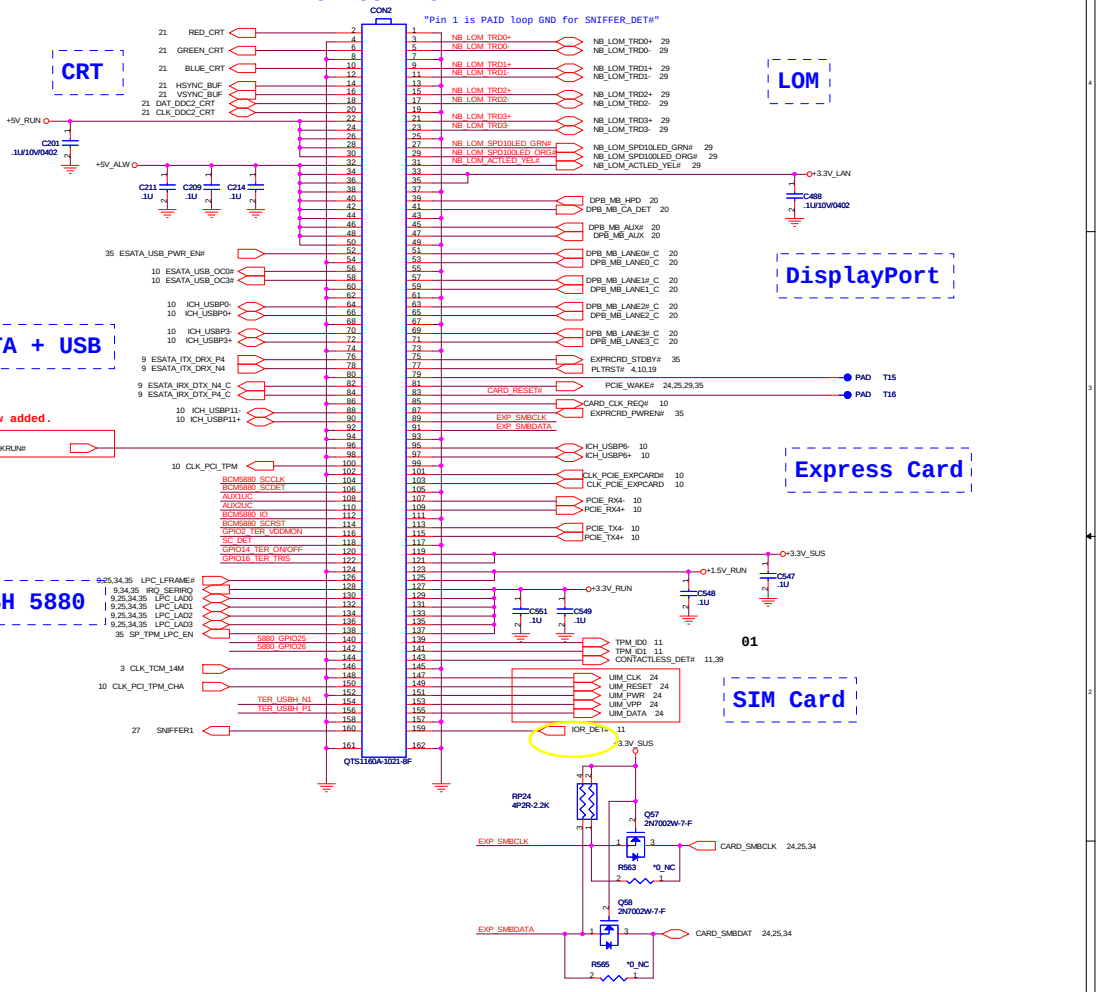
IOL CONNECTER



IOR CONNECTER



Quanta Computer Inc.

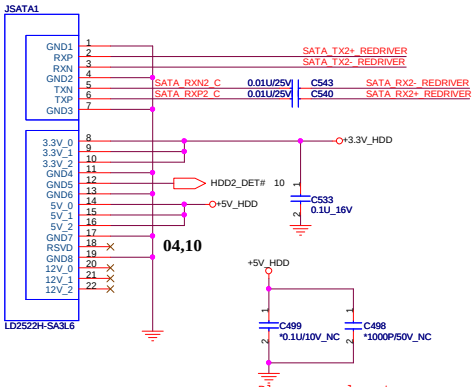
Project Name: XM2

Title: IOR_IOL Connector

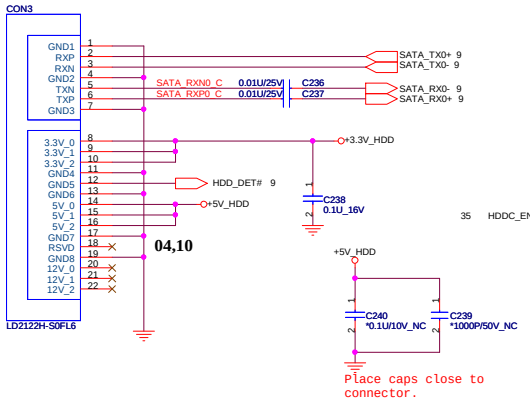
Size: | Document Number: XM2_MB | Rev: B

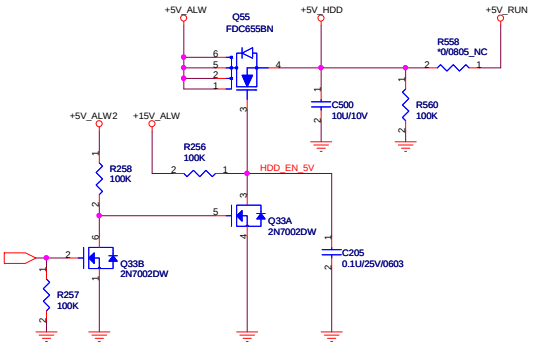
Date: Wednesday, July 22, 2009 | Sheet 22 of 55

SATA (HDD1) Connector - side

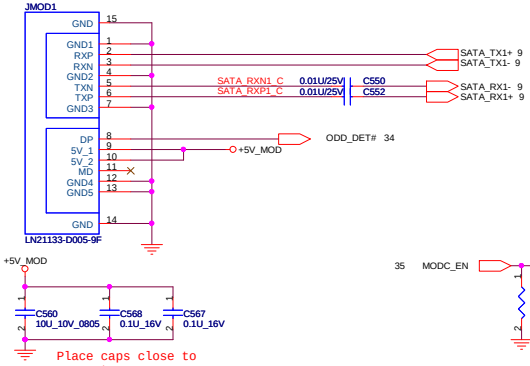


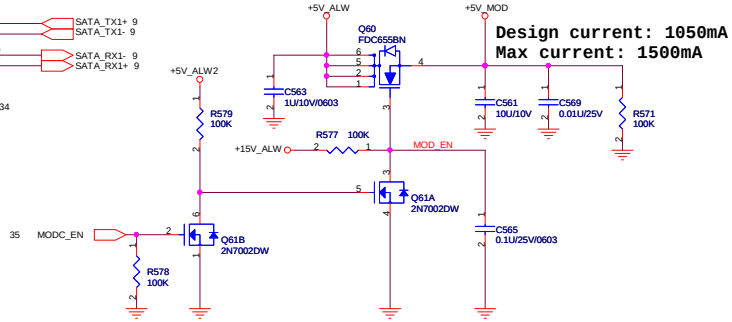
SATA (HDD0) Connector - front

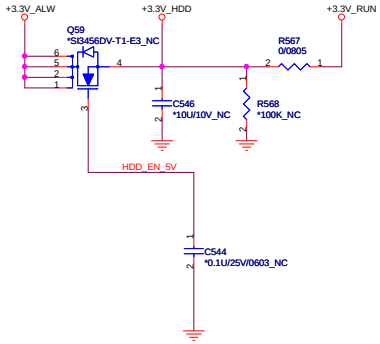




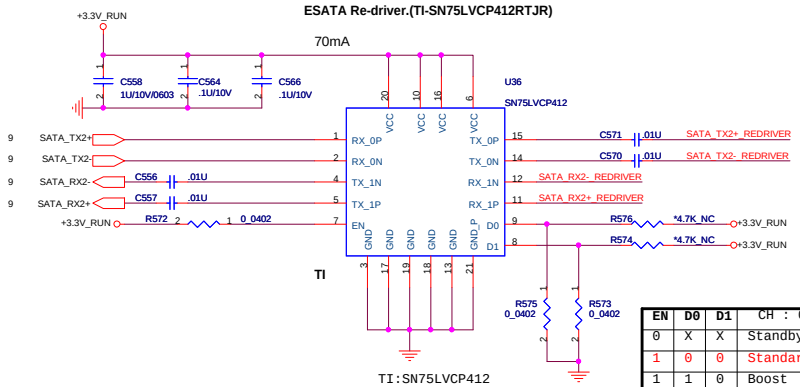
ODD Connector





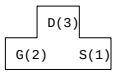


ESATA Re-driver.(TI-SN75LVCP412RTJR)



EN	D0	D1	CH : 0	CH : 1
0	X	X	Standby	Standby
1	0	0	Standard SATA	Standard SATA
1	1	0	Boost	Standard SATA
1	0	1	Standard SATA	Boost
1	1	1	Boost	Boost

Symbol:
2N7002W-7-F

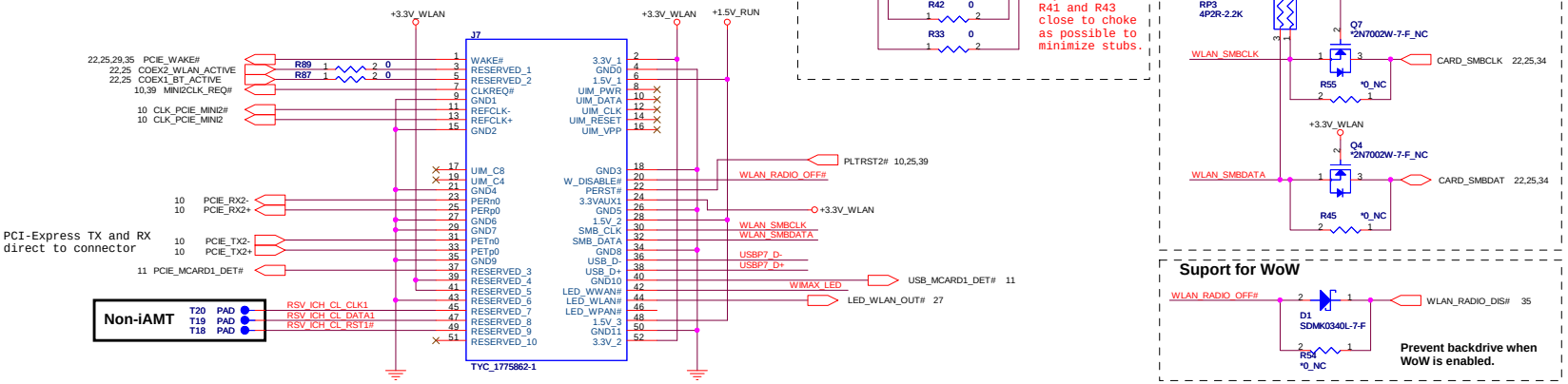


04,10

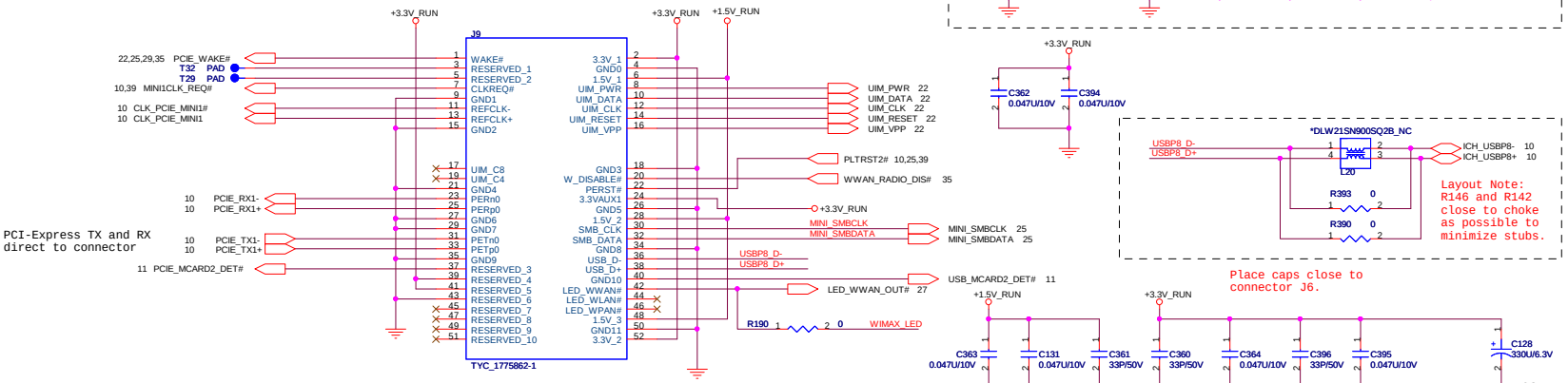
Quanta Computer Inc.
Project Name: XM2

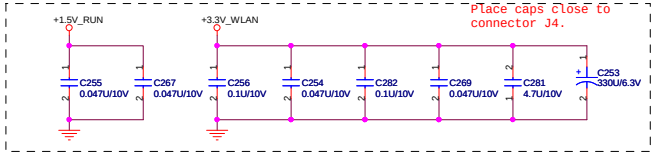
Title	SATA (HDD_ODD)	
Size	Document Number XM2_MB	Rev B
Date: Wednesday, July 22, 2009	Sheet 23 of 55	

MiniCard WLAN connector



MiniCard WWAN connector



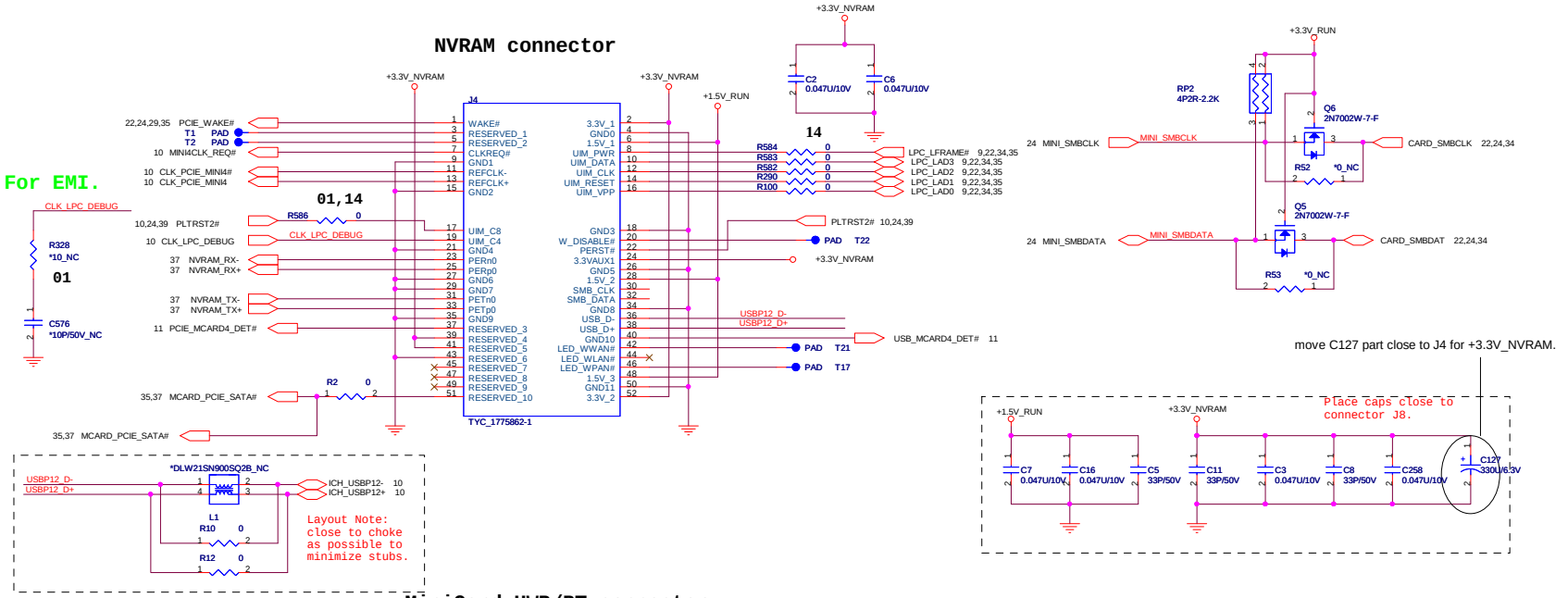


Sim card circuit moves to IOR.

08

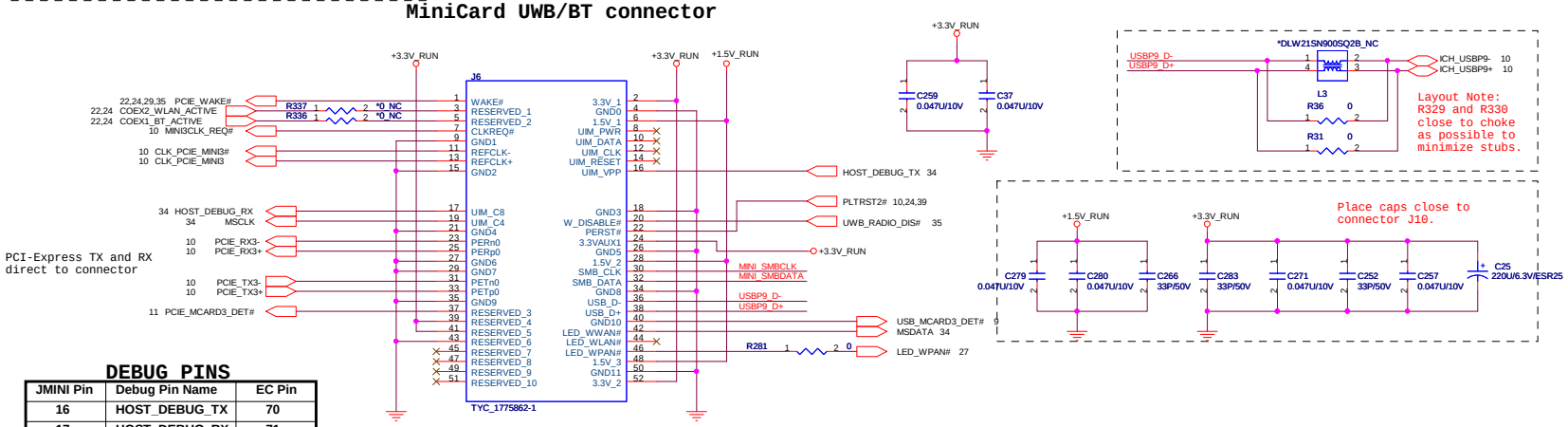
Quanta Computer Inc.	Project Name: XM2	
Title: MINI-Card		
Size	Document Number: XM2_MB	Rev: B
Date: Wednesday, July 22, 2009	Sheet 24 of 55	

NVRAM connector



move C127 part close to J4 for +3.3V_NVRAM.

MiniCard UWB/BT connector



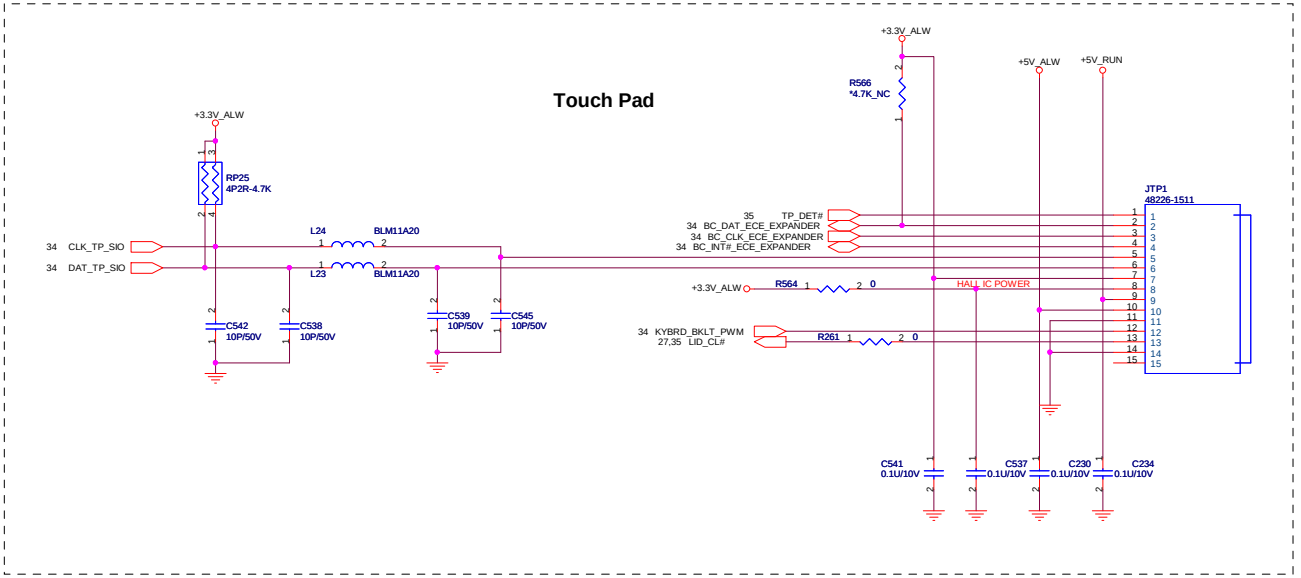
DEBUG PINS

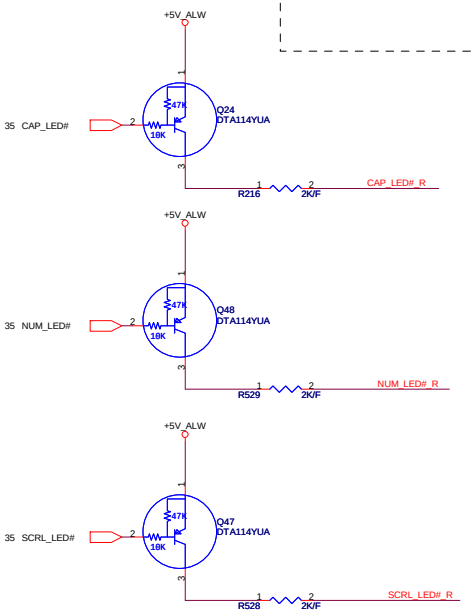
JMINI Pin	Debug Pin Name	EC Pin
16	HOST_DEBUG_TX	70
17	HOST_DEBUG_RX	71
19	8051_TX	82
42	8051_RX	81

Quanta Computer Inc.
Project Name: XM2

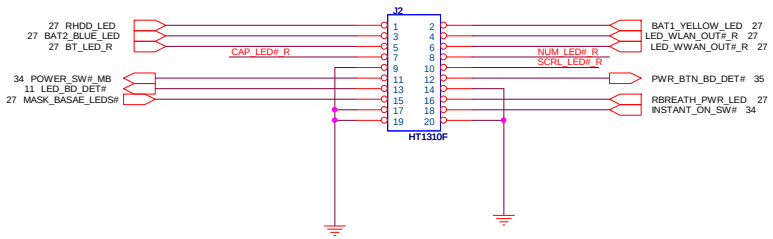
Title	MINI_Card	
Size	Document Number XM2_MB	Rev B
Date: Friday, July 24, 2009	Sheet 25 of 55	

Touch Pad



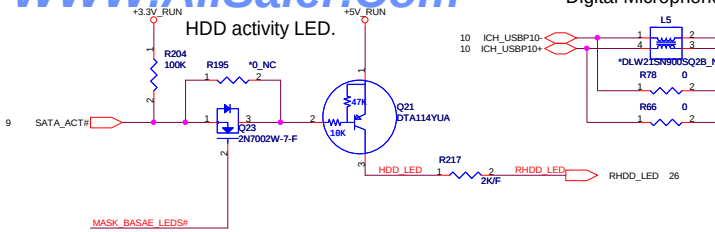


PWR_BTN board connector



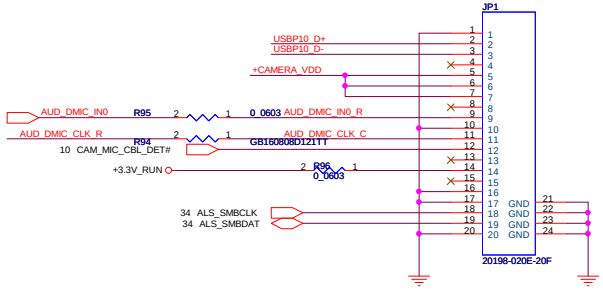
Quanta Computer Inc.	Project Name: XM2	
Title: TP_PWR_BUTTON		
Size	Document Number: XM2_MB	Rev: B
Date: Wednesday, July 22, 2009	Sheet 26 of 55	

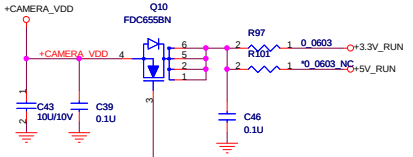
HDD activity LED.



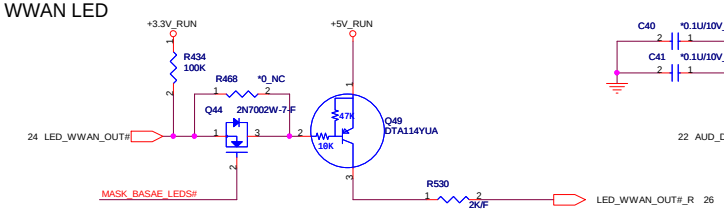
Digital Microphone & Camera

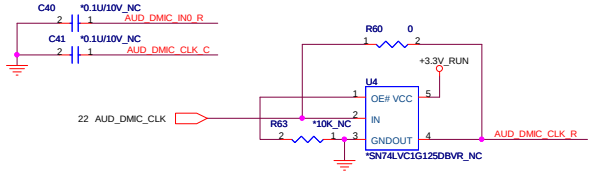
0219GC: Change to 15 pin connecter per ME request,
Need to make new CCD cable for Reebok.

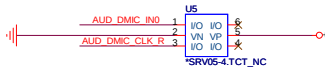


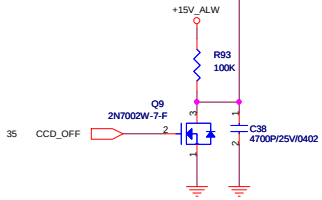


WWAN LED

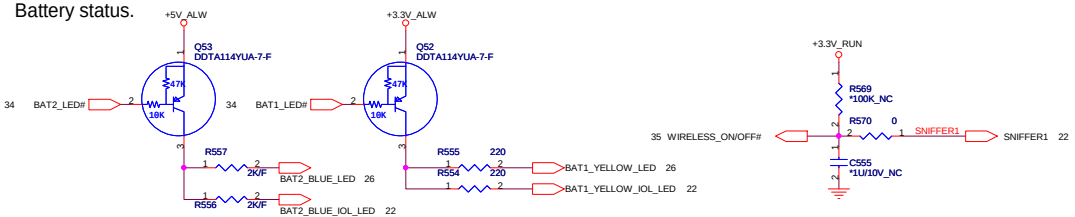




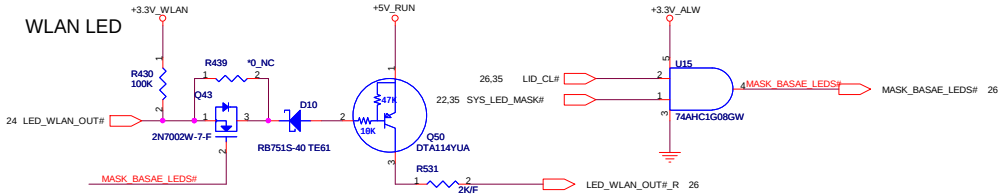




Battery status.

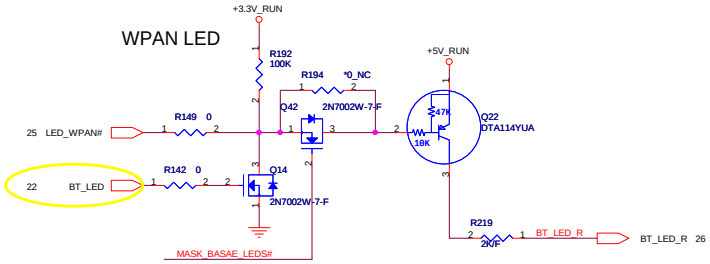


WLAN LED

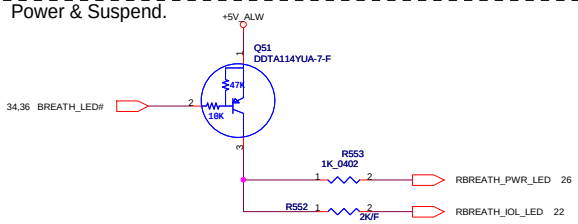


	SYS_LED_MASK#	LID_CL#
Mask All LEDs (Sniffer Function)	0	X
Mask Base LEDs (Lid Closed)	1	0
Do Not Mask LEDs (Lid Open)	1	1

WPAN LED



Power & Suspend.



Quanta Computer Inc.	Project Name: XM2
Title: CCD_SNIFFER_LED	
Size:	Document Number: XM2_MB — Rev: B
Date: Wednesday, July 22, 2009	Sheet 27 of 55

Put A close to Guardian.
Put B close to Diode Q

Place Q under CPU for OTP sensor.

Put A close to Guardian.
Put B close to Diode Q

Put Q42 for Bottom SODIMM CH_A.

Put A close to Guardian.
Put B close to Diode Q

Place Q58 to the BOT side of PCH (PCH_BOT_Skin)

R465 is a thermistor

Thermsitor for Prmiary HDD

Put A close to Q

Put Didoe Q44 close to PCH on TOP side (PCH_TOP)

Put A close to Guardian.
Put B close to Diode Q

Place Q under Stack_SODIMM on TOP side.

Put R384 and C482 close to Guardian.

OTP temperature 88C

Put B close to Diode Q

Put Q85 for Bottom SODIMM Channel B.

Put A close to Q

Put Q46 close to Docking CONN for WWAN/UWB

Put A close to Guardian.
Put B close to Diode Q

Put Q47 to close CPU VR on BOT side (CPU BOT SKIN)

Put A close to Guardian.

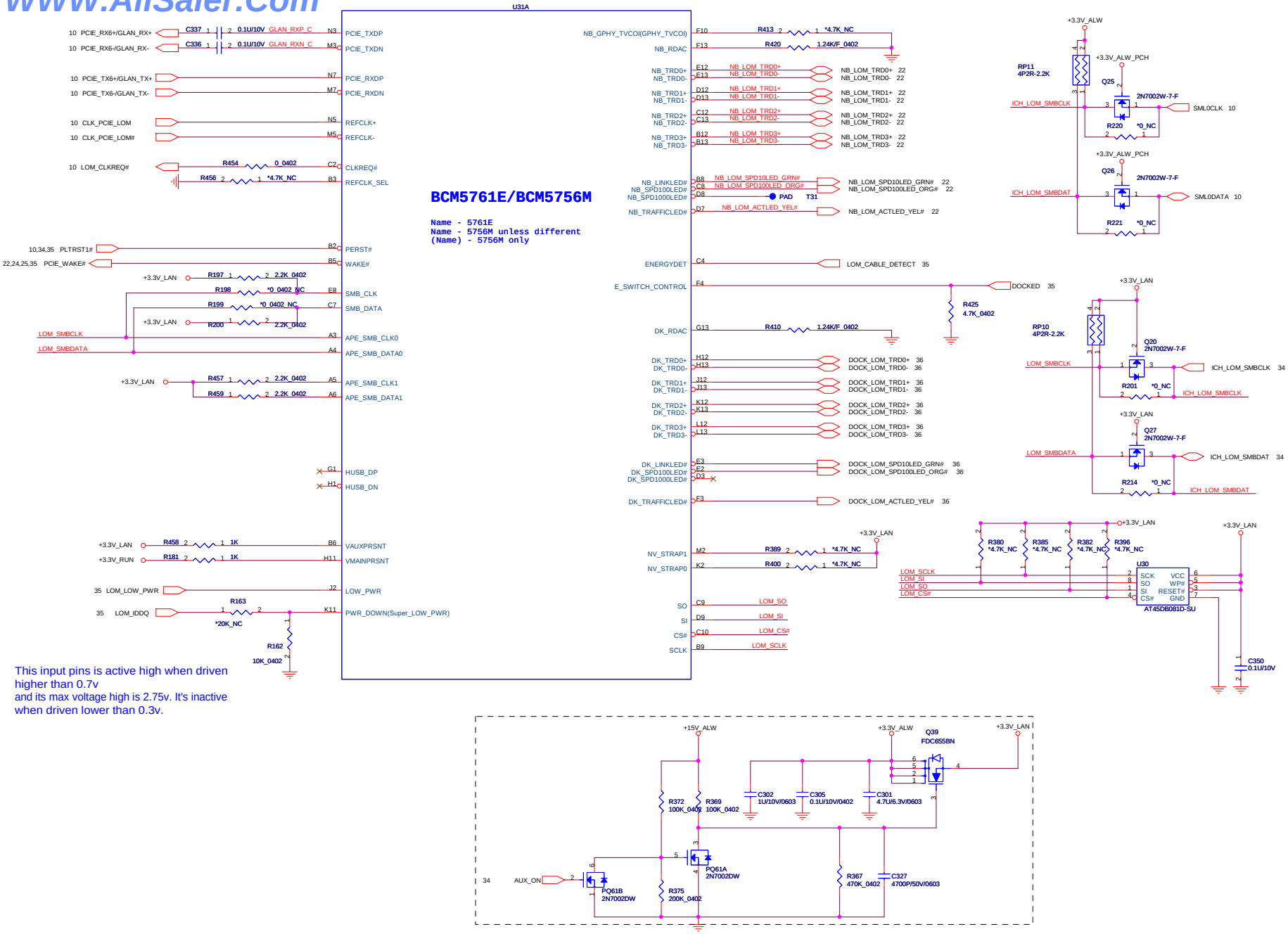
Put A close to Guardian.

Pull-up Resistor on ADDR_MODE/XEN	For Remotel mode	SMBUS Address
<=4.7K	2N3904	2F(r/w)
10K	2N3904	2E(r/w)
18K	Thermistor	2F(r/w)
>=33K	Thermistor	2E(r/w)

Graphics Fan.

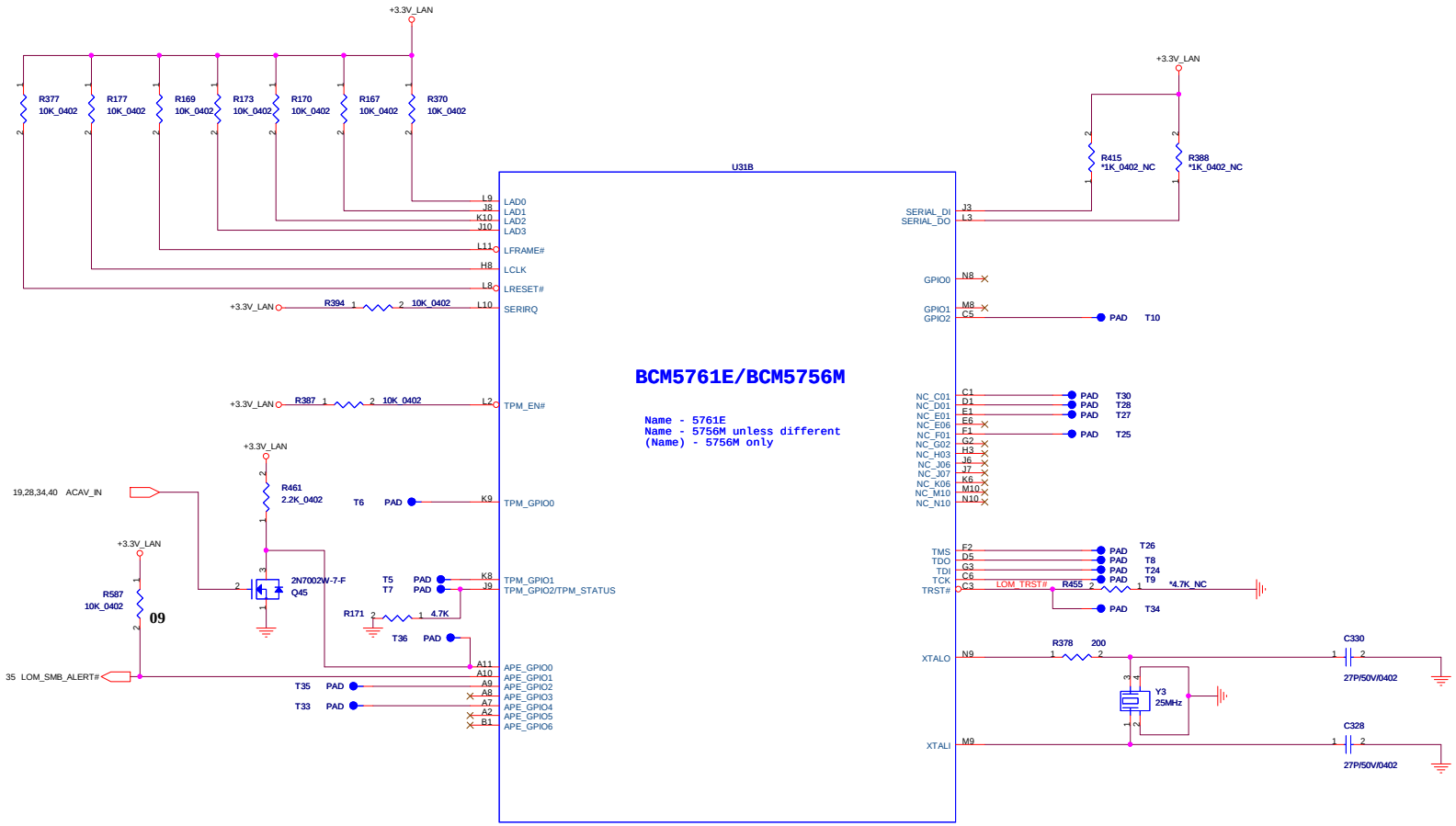
CPU Fan.

Quanta Computer Inc.	Project Name: XM2
Title: THERMAL_EMC4002	
Size:	Document Number: XM2_MB
Rev: B	
Date: Wednesday, July 22, 2009	Sheet 28 of 55

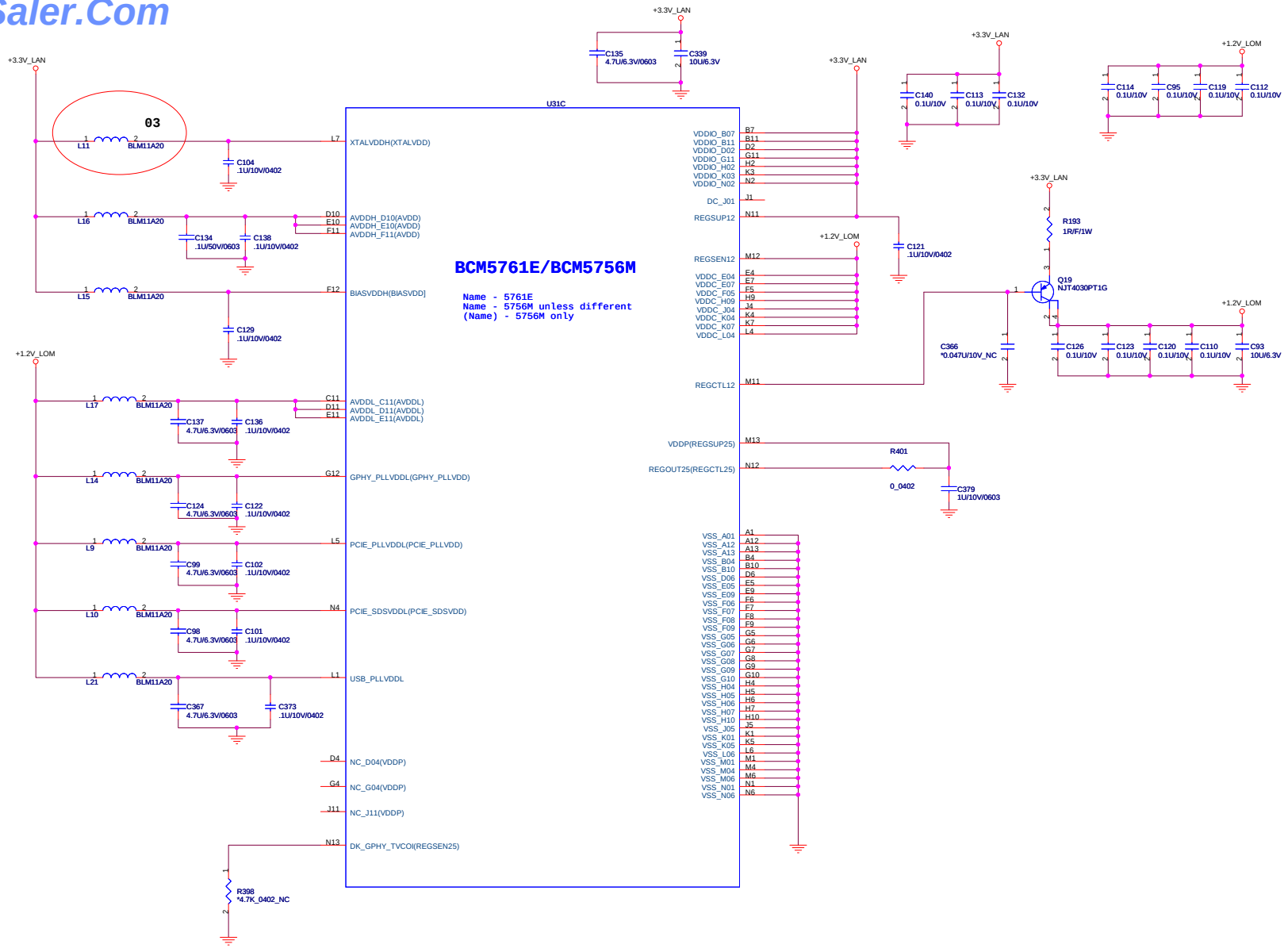


This input pins is active high when driven higher than 0.7v
and its max voltage high is 2.75v. It's inactive when driven lower than 0.3v.

Quanta Computer Inc.	Project Name: XM2
Title: BCM5761E_LOM (1 of 3)	
Size	Document Number: XM2_MB — Rev B
Date: Wednesday, July 22, 2009	Sheet 29 of 55



Quanta Computer Inc.		
Project Name: XM2		
Title: BCM5761E_LOM (2 of 3)		
Size	Document Number: XM2_MB	Rev: B
Date: Wednesday, July 22, 2009	Sheet 30 of 55	



Quanta Computer Inc.		
Project Name: XM2		
Title: BCM5761E_LOM(3 of 3)		
Size	Document Number: XM2_MB	Rev: B
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Quanta Computer Inc.

Project Name: XM2

Title: TPM For China

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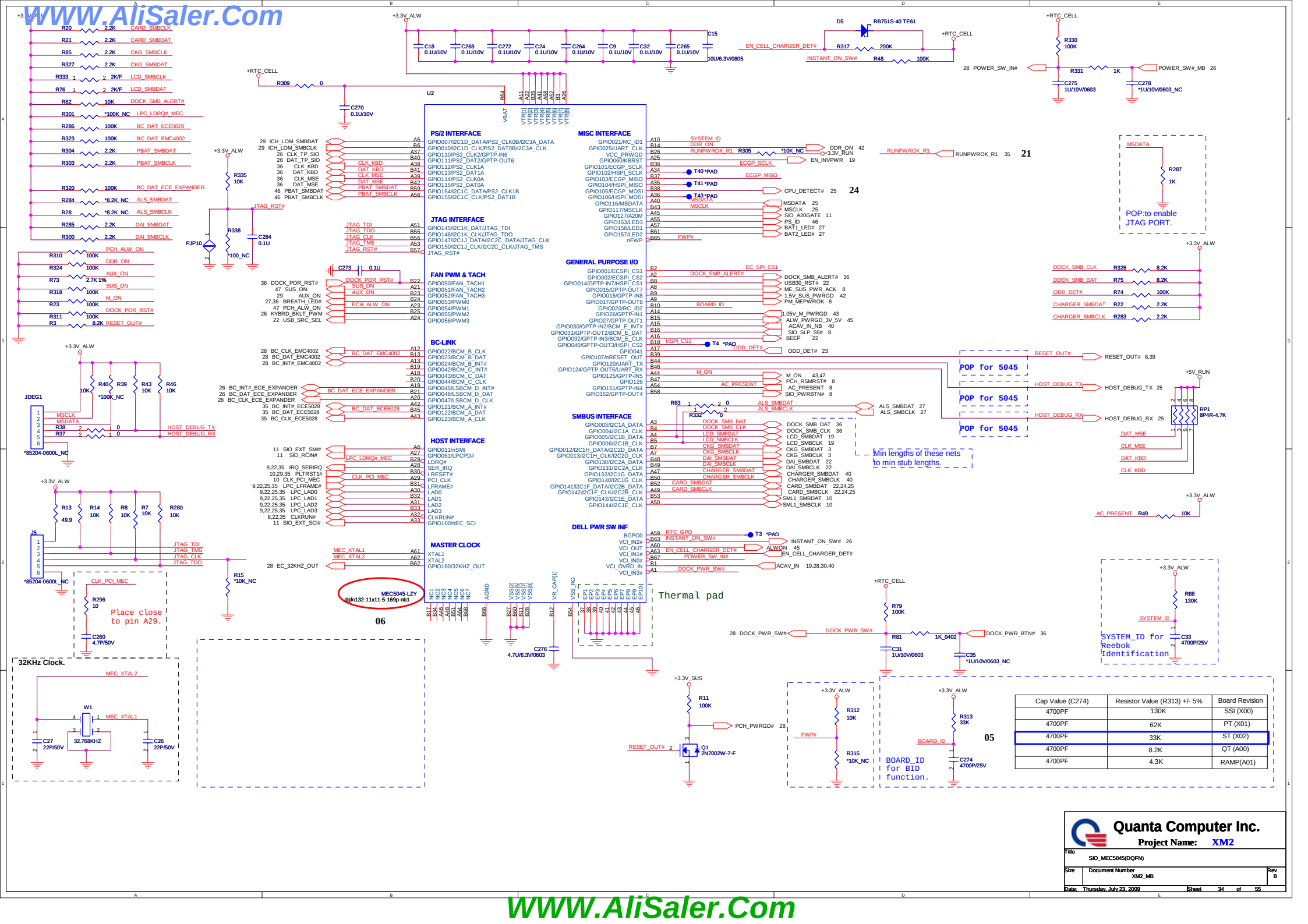
ECE 1099 was deleted

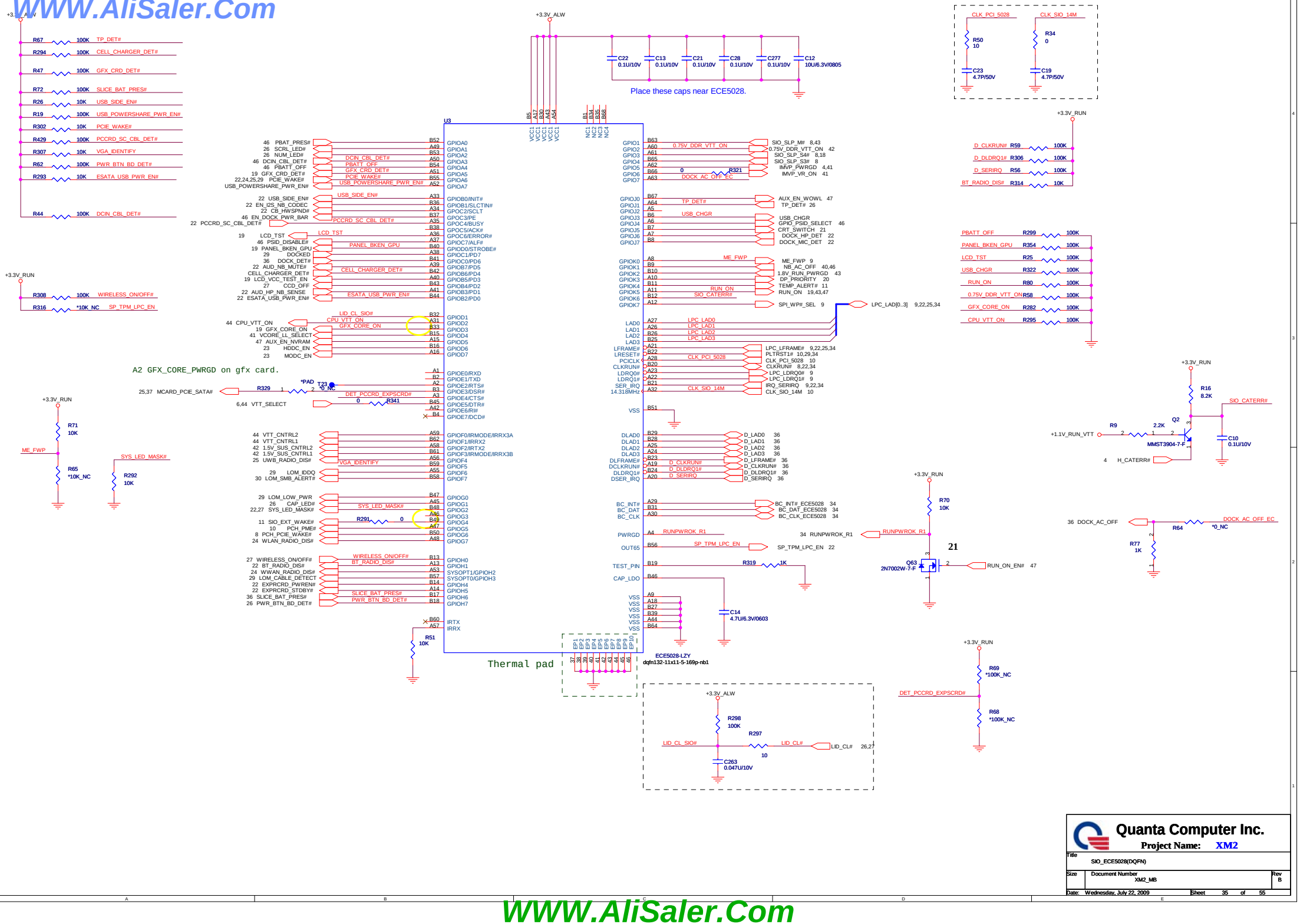
Bluetooth

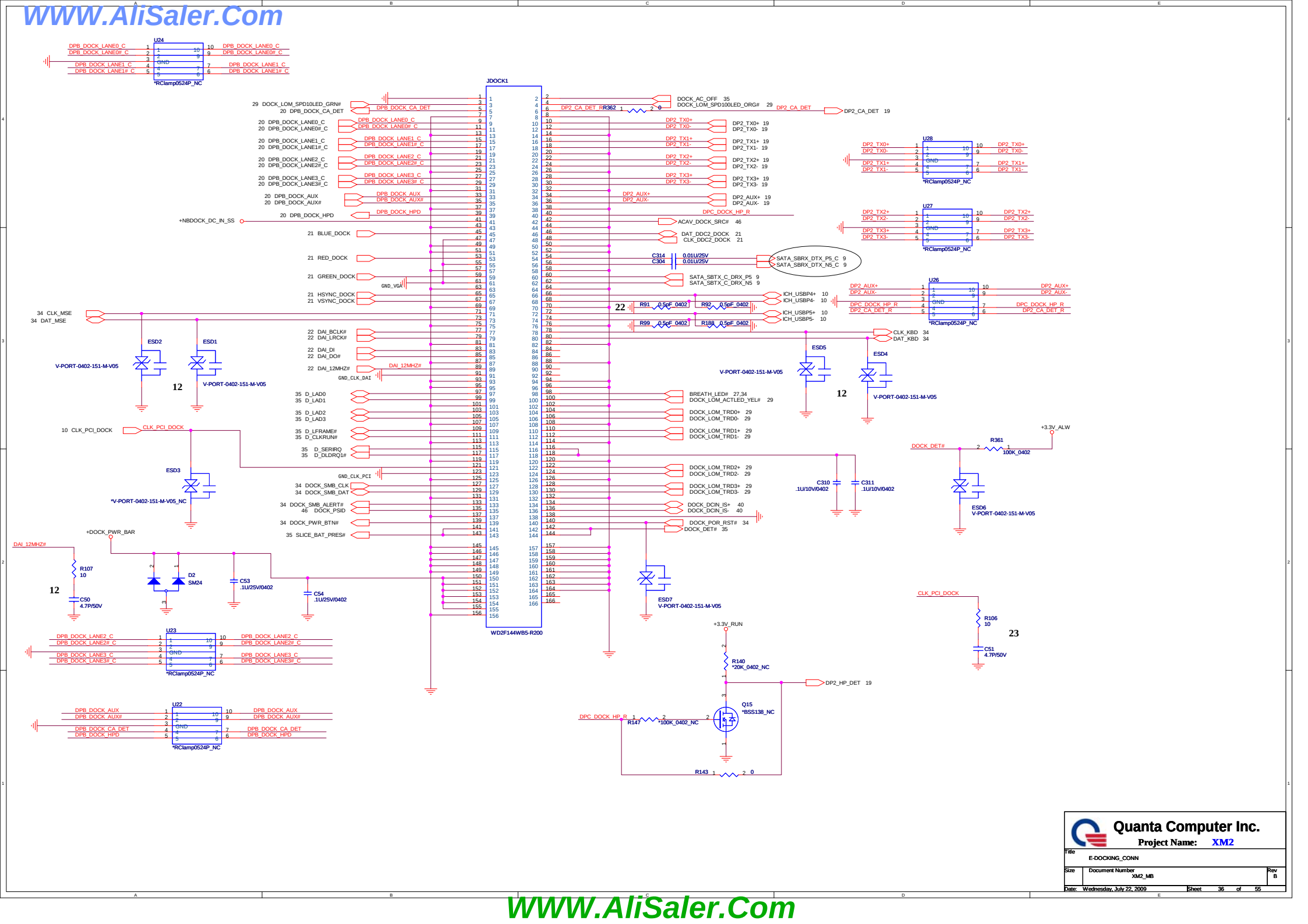
Little Stone moves to IOL.

Quanta Computer Inc.
Project Name: XM2

Title: ECE1099 AND Bluetooth
Size: | Document Number: XM2_MB | Rev: B
Date: Wednesday, July 22, 2009 | Sheet 33 of 55







Quanta Computer Inc.
Project Name: XM2

Title	E-DOCKING_CONN	
Size	Document Number XM2_MB	Rev B
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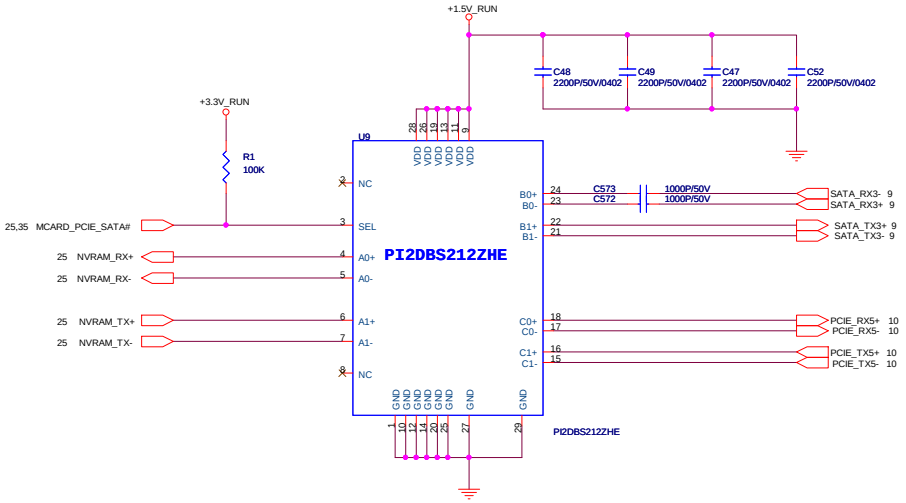
NVRAM MUX IC



Function	SEL
Port A to Port B	L
Port A to Port C	H

Quanta Computer Inc.

Project Name: XM2

Title: NVRAM Mux

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Quanta Computer Inc.

Project Name: XM2

Title: System Power Good(Blank)

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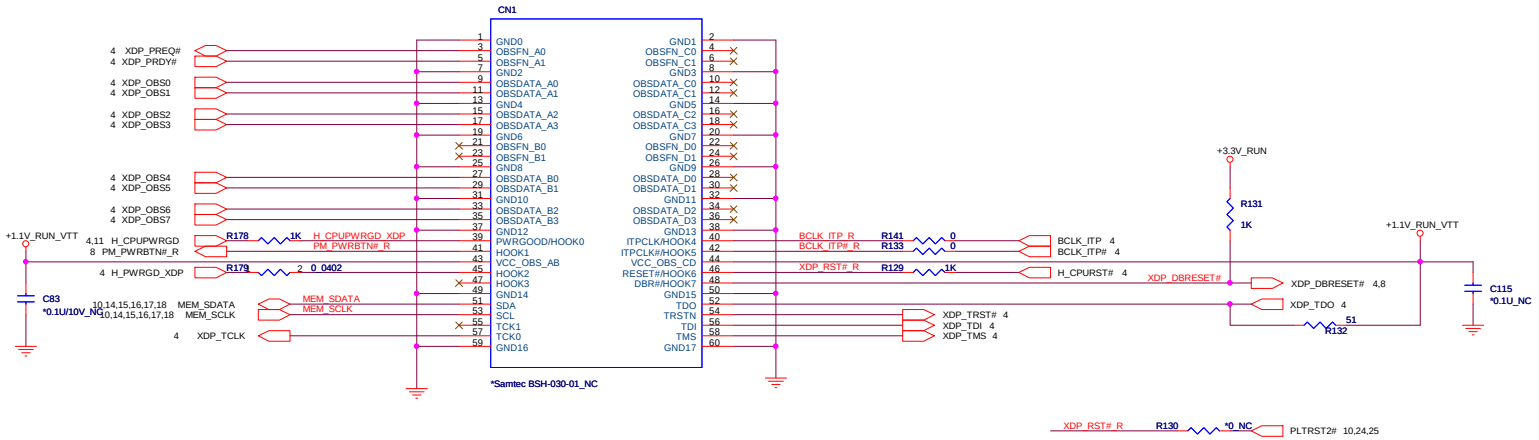
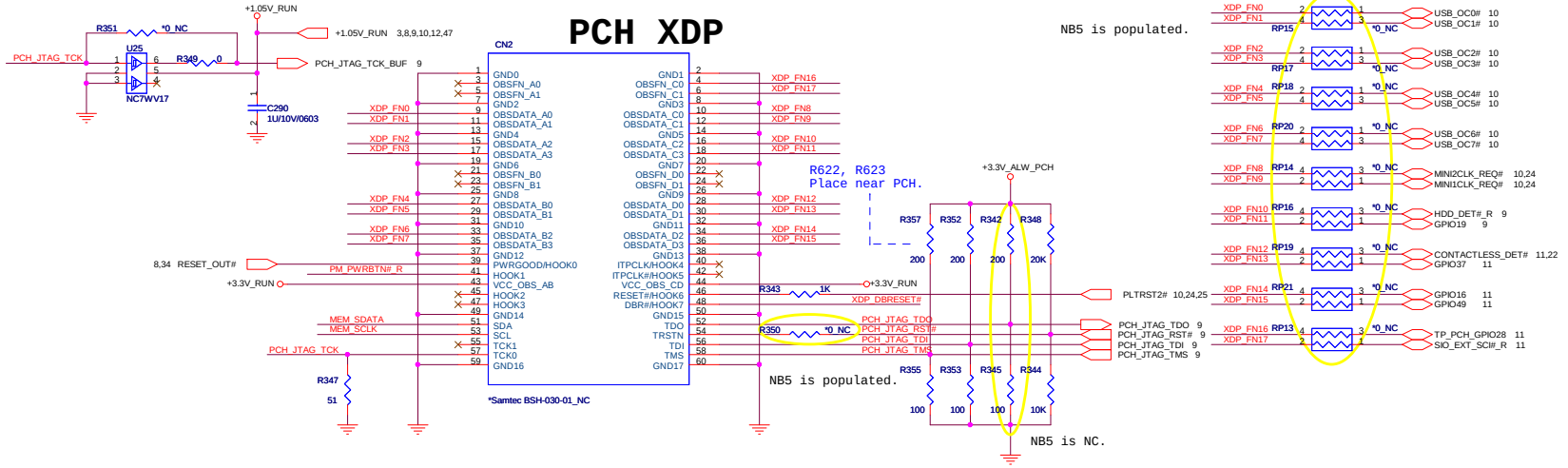
CPU XDP



PCH XDP



Quanta Computer Inc.	
Project Name: XM2	
Title: XDP Connector	
Size	Document Number: XM2_MB
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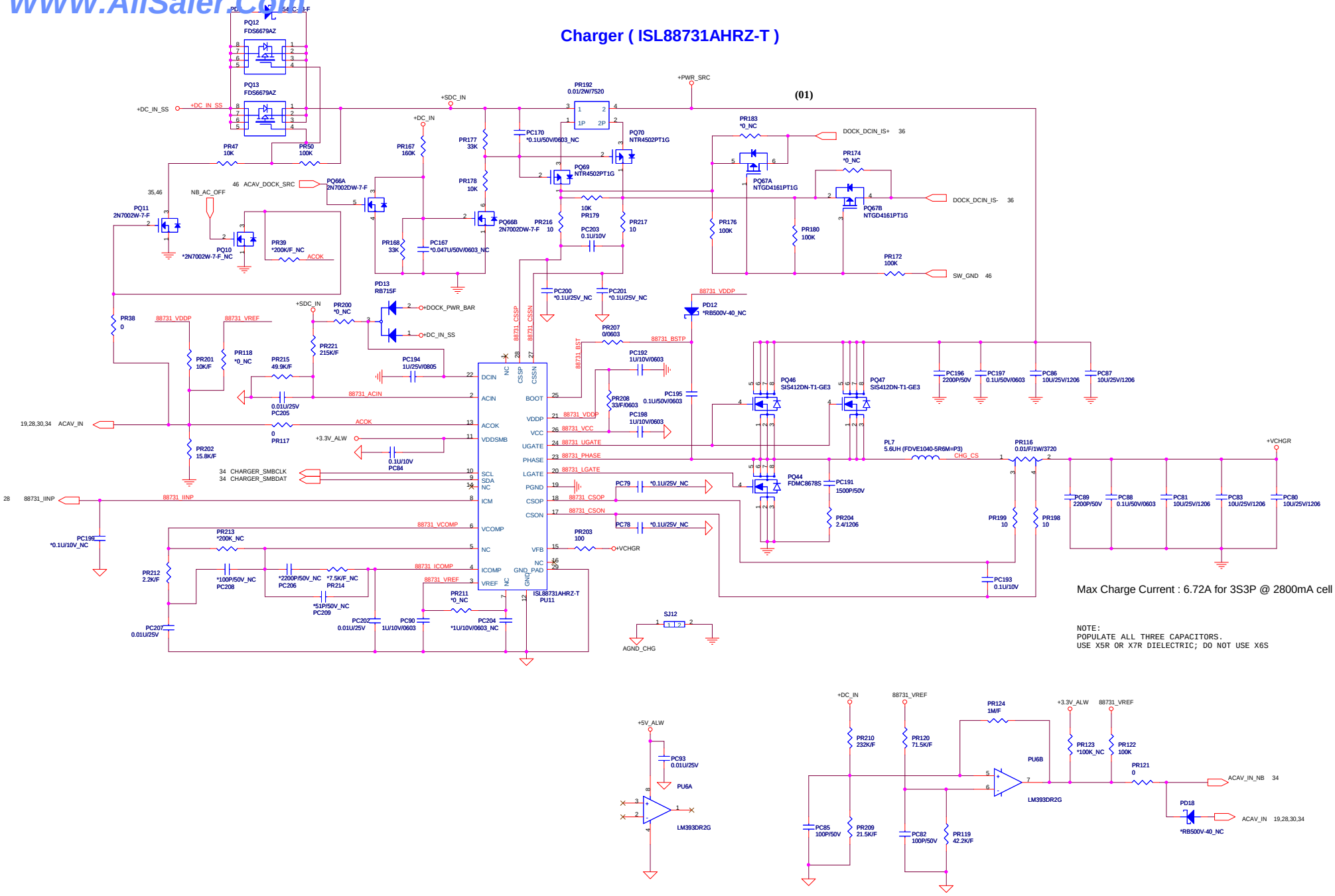
Charger (ISL88731AHRZ-T)



Quanta Computer Inc.
Project Name: Reebok
NB1

Title	Battery Charger	
Size	Document Number	Rev E
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+VCC_CORE (MAX17030GTL+)

+VCC_CORE
Thermal Design Current : 52A
Peak Current : 65A
OCP :80A

(02) (13) (14)

VCORE_LL_SELECT	Load Line
High	-1.9mOhm
Low	-1.6mOhm

Quanta Computer Inc.
Project Name: Reebok
NB1

Title	VCC_CORE	
Size	Document Number	Rev E
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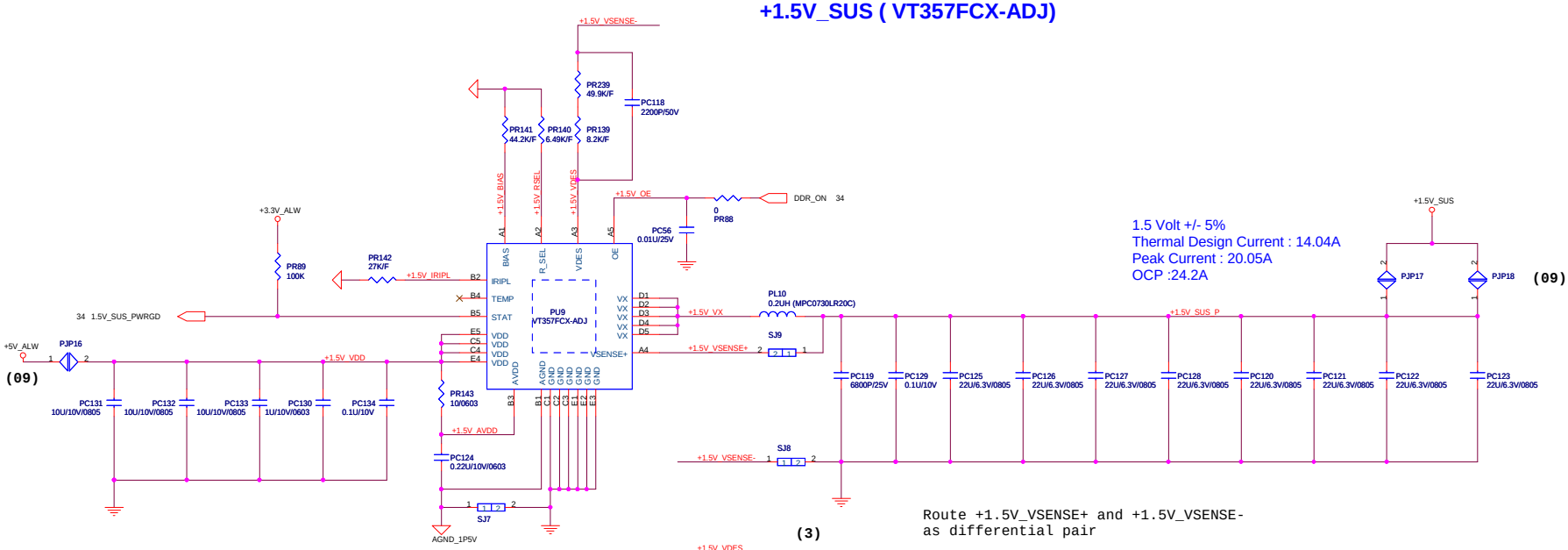
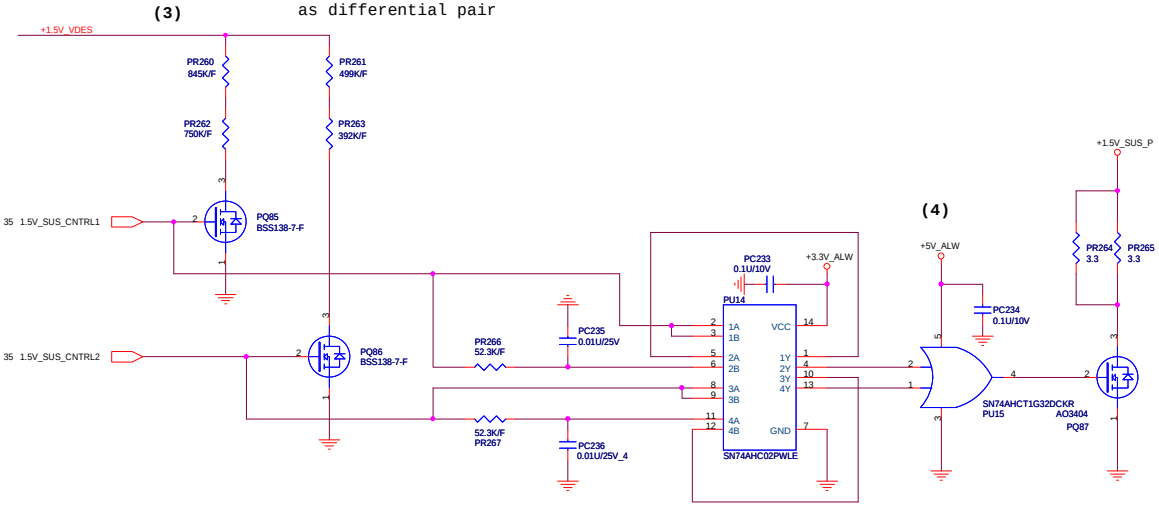
+1.5V_SUS (VT357FCX-ADJ)



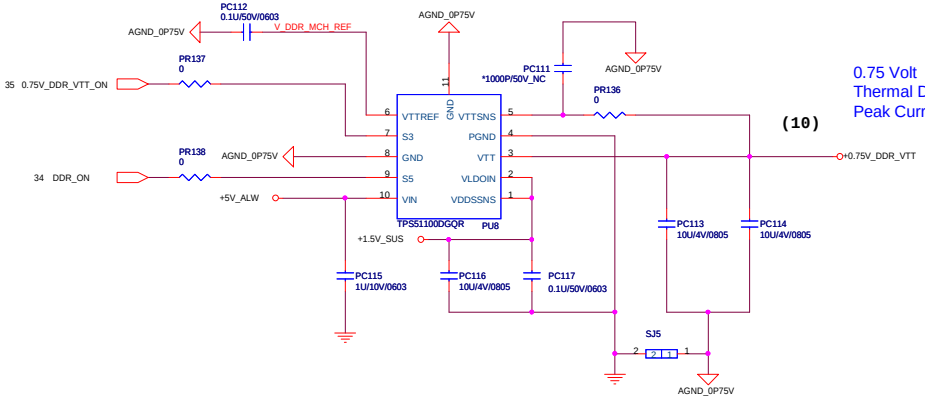
1.5 Volt +/- 5%
Thermal Design Current : 14.04A
Peak Current : 20.05A
OCP :24.2A

1.5V_SUS_CNTRL1	1.5V_SUS_CNTRL2	+1.5V_SUS
Low	Low	1.65V
High	Low	1.6V
Low	High	1.55V
High	High	1.5V

Route +1.5V_VSENSE+ and +1.5V_VSENSE- as differential pair



+0.75V_DDR_VTT (TPS51100DGQR)



0.75 Volt (+/-15mVDC,+/-65mV AC+DC)
Thermal Design Current : 1.4A
Peak Current : 2A

Quanta Computer Inc.
Project Name: Reebok
NB1

Title: +1.5V_SUS & +0.75V_DDR_VTT
Size: | Document Number: | Rev: E
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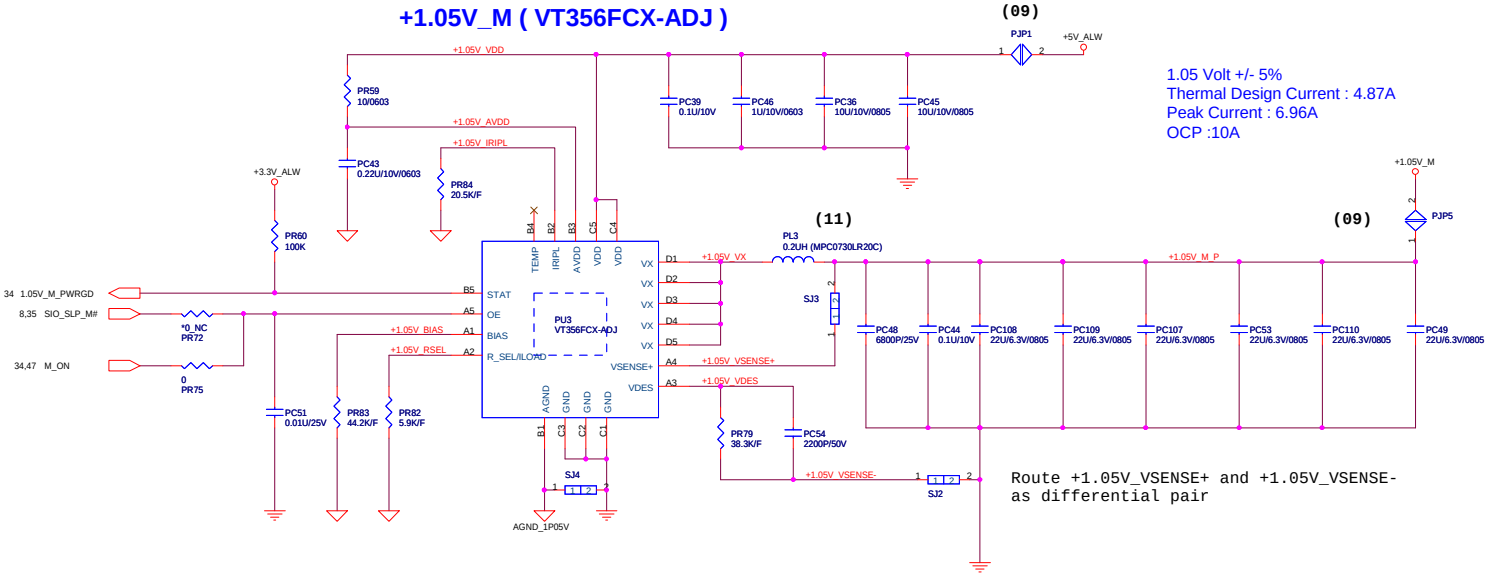
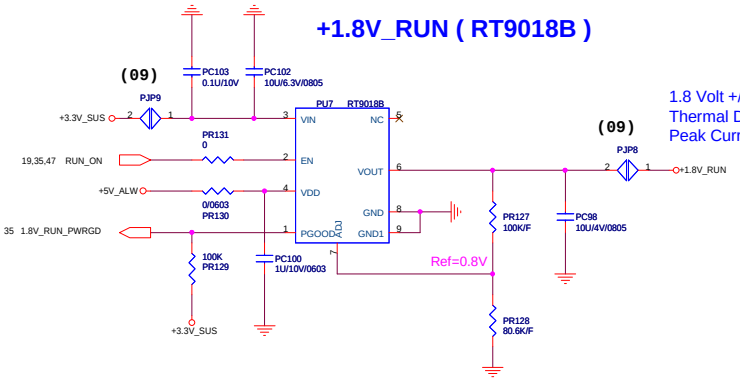
+1.05V_M (VT356FCX-ADJ)



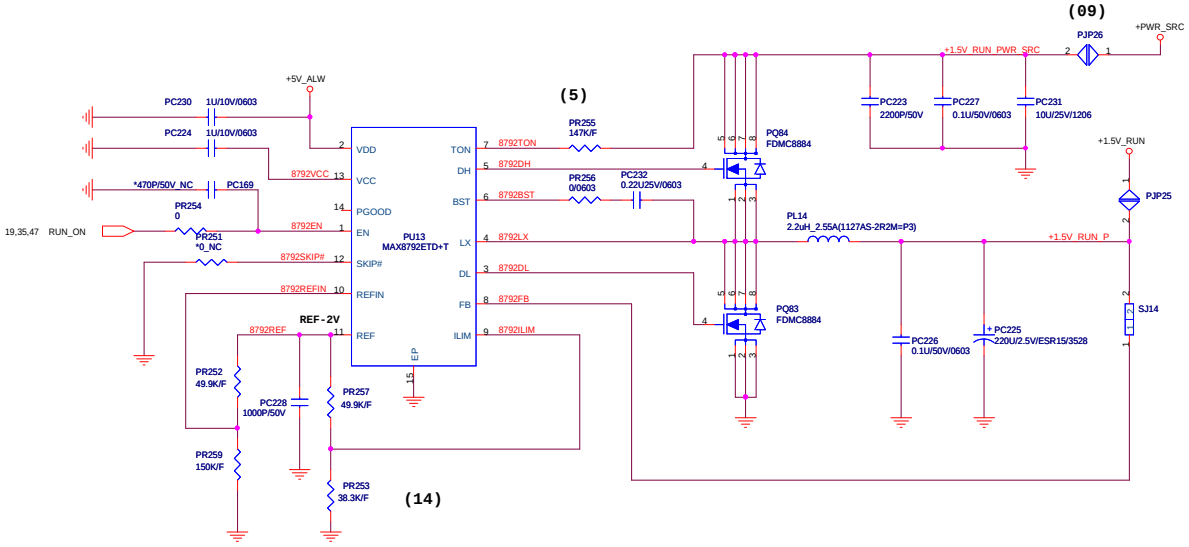
1.05 Volt +/- 5%
Thermal Design Current : 4.87A
Peak Current : 6.96A
OCP :10A

Route +1.05V_VSENSE+ and +1.05V_VSENSE- as differential pair

+1.8V_RUN (RT9018B)



1.8 Volt +/- 5%
Thermal Design Current : 0.71A
Peak Current : 1.02A



1.5 Volt +/- 5%
Thermal Design Current : 1.52A
Peak Current : 2.18A
OCP :3.1A

Quanta Computer Inc.
Project Name: Reebok
NB1

Title	+1.05V_M & +1.8V_RUN	
Size	Document Number	Rev E
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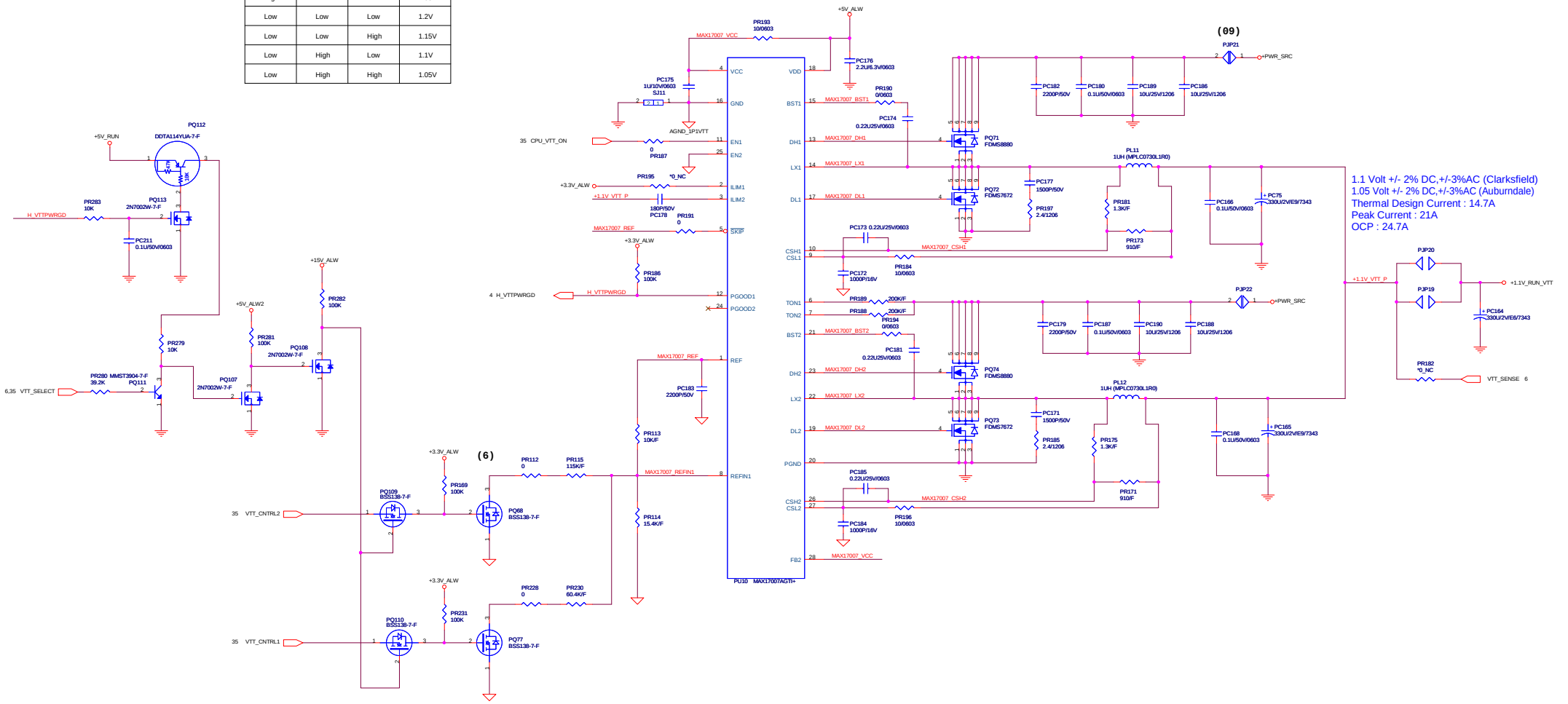
+1.1V_VTT/+1.05V_VTT (MAX17007AGTI+)

VTT_SELECT	VTT_CNTRL1	VTT_CNTRL2	VTT_RUN
High	X	X	1.05V
Low	Low	Low	1.2V
Low	Low	High	1.15V
Low	High	Low	1.1V
Low	High	High	1.05V



1.1 Volt +/- 2% DC,+/-3%AC (Clarksfield)
1.05 Volt +/- 2% DC,+/-3%AC (Auburndale)
Thermal Design Current : 14.7A
Peak Current : 21A
OCP : 24.7A

Quanta Computer Inc.
Project Name: Reebok NB1

Title: +1.1V_VTT/+1.05V_VTT
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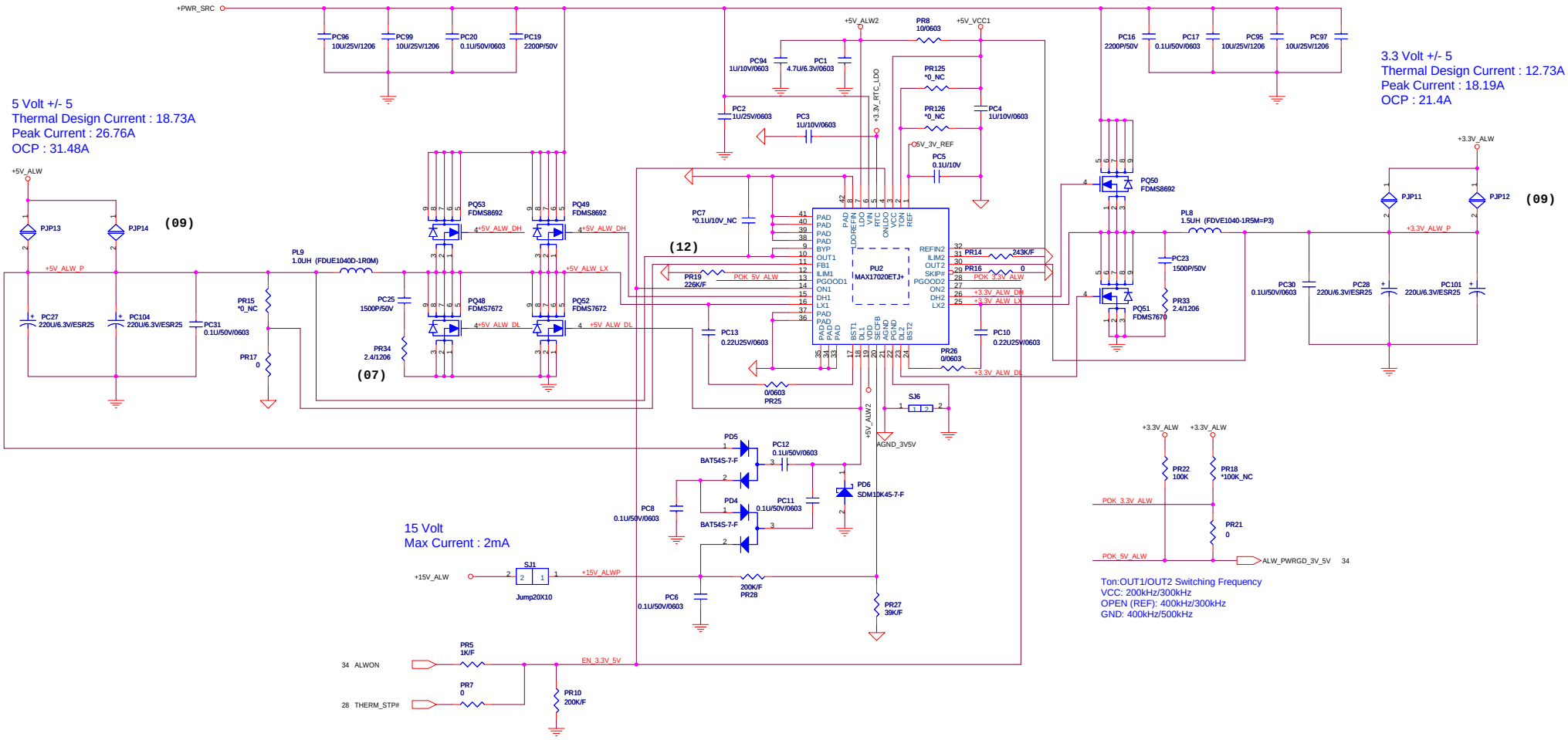
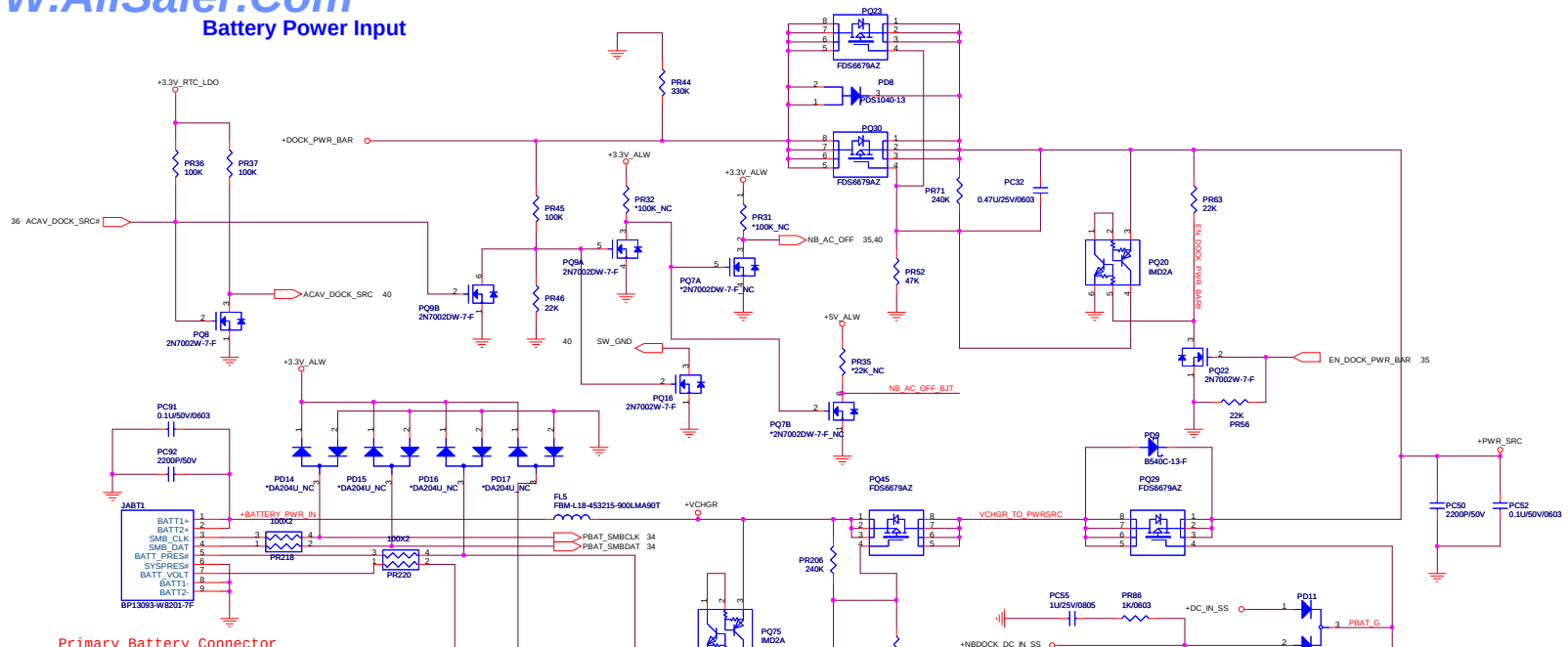
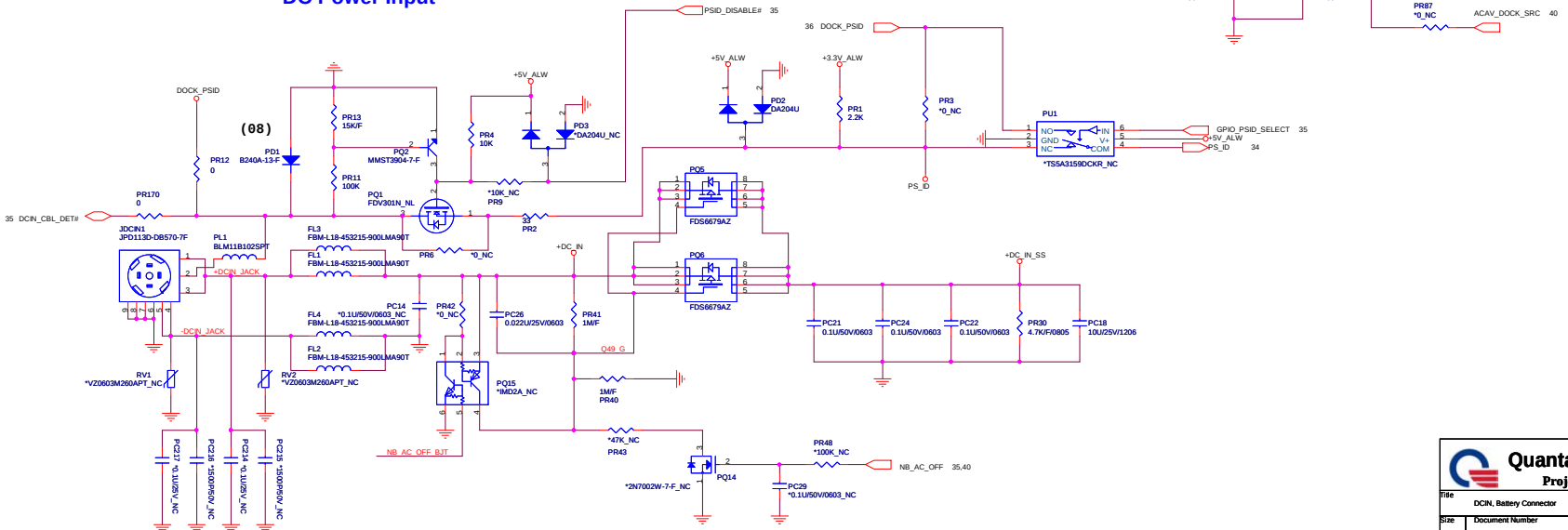
+3.3V_ALW & +5V_ALW & +15V_ALW (MAX17020ETJ+)



Battery Power Input



DC Power Input



Quanta Computer Inc.	
Project Name: Reebok	NB3
Title: DCIN, Battery Connector	
Size	Document Number: Rev E
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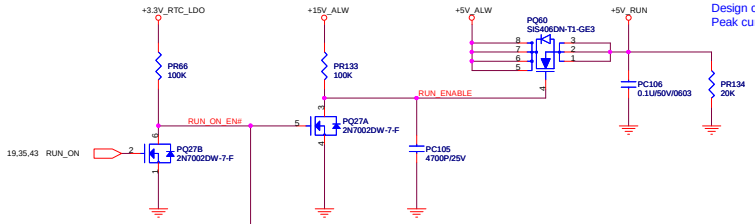
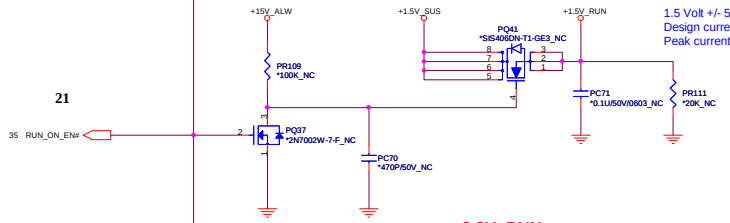
+5V_RUN

5 Volt +/- 5%
Design current = 5.49A
Peak current= 7.84A



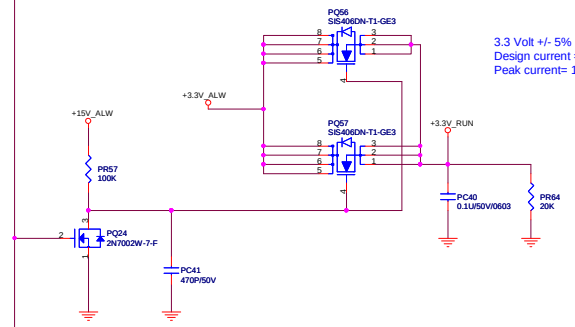
+1.5V_RUN

1.5 Volt +/- 5%
Design current = 1.52A
Peak current= 2.18A



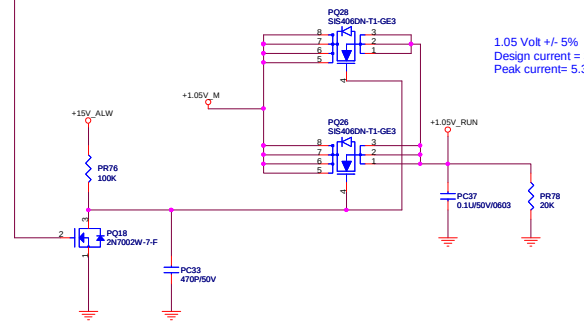
+3.3V_RUN

3.3 Volt +/- 5%
Design current = 8.45A
Peak current= 12.07A

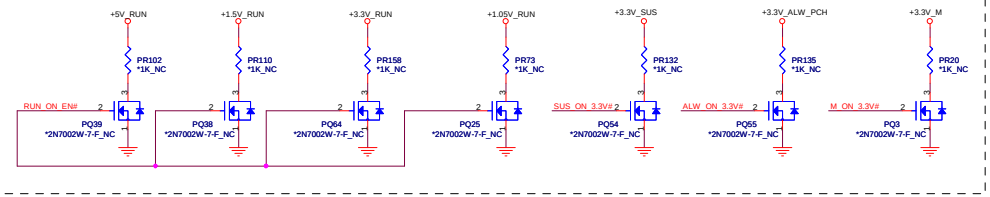


+1.05V_RUN

1.05 Volt +/- 5%
Design current = 3.58A
Peak current= 5.37A

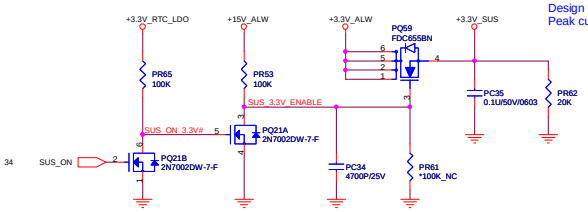


Reserve discharge path



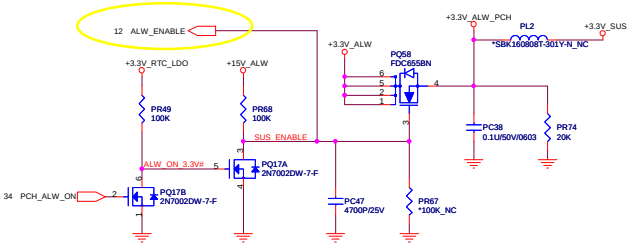
+3.3V_SUS

3.3 Volt +/- 5%
Design current = 0.75A
Peak current= 1.07A



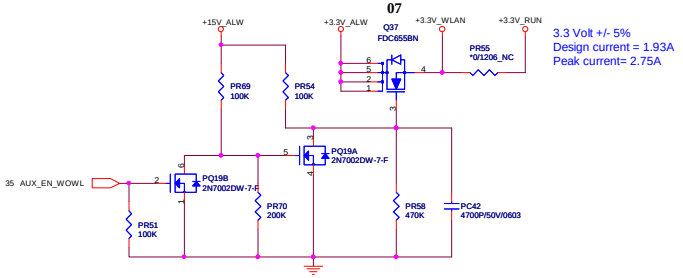
+3.3V_ALW_PCH

3.3 Volt +/- 5%
Design current = 167mA
Peak current= 239mA



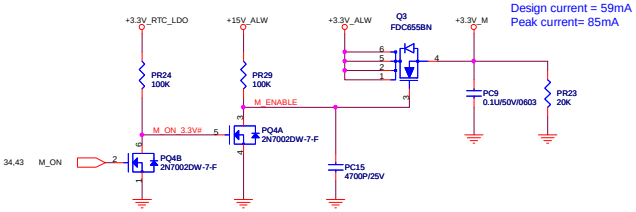
+3.3V_WLAN

3.3 Volt +/- 5%
Design current = 1.93A
Peak current= 2.75A



+3.3V_M

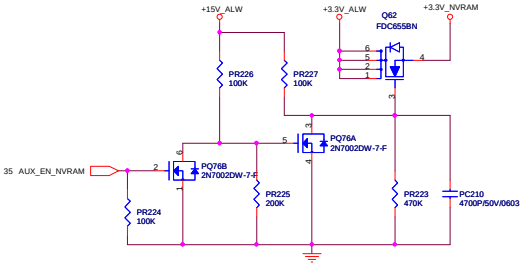
3.3 Volt +/- 5%
Design current = 59mA
Peak current= 85mA



+3.3V_NVRAM

Waiting for ECR approval by PM.

3.3 Volt +/- 5%
Design current = 1.93A
Peak current= 2.75A



Quanta Computer Inc.	
Project Name: XM2	
Title: Power Misc	
Size:	Document Number: Rev: E
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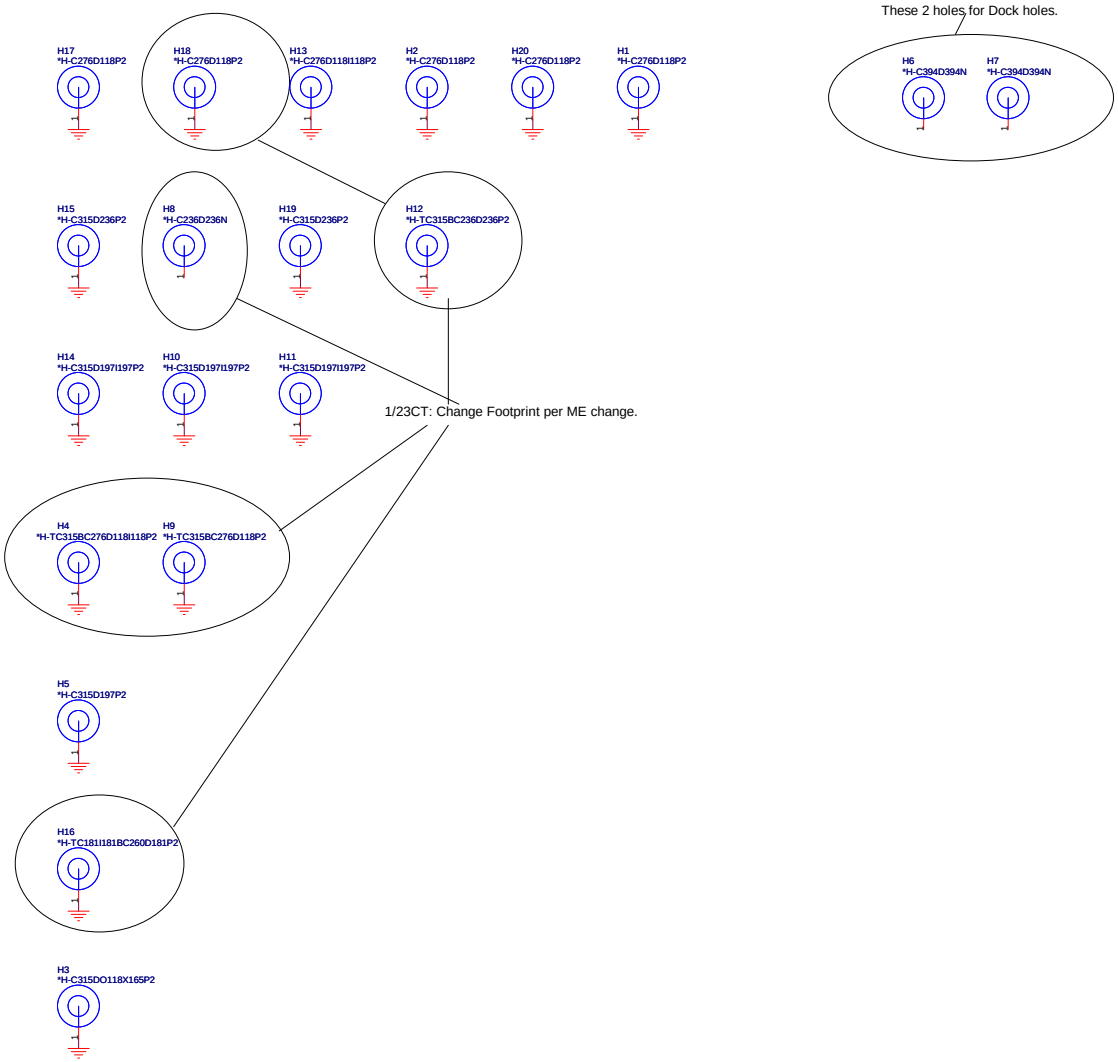
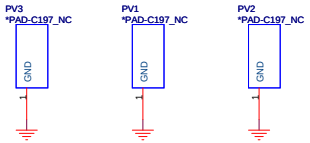


Need update PCB footprint



Quanta Computer Inc.		
Project Name: XM2		
Title: Screw hole & EMI Caps		
Size: Custom	Document Number: XM2_MB	Rev: B
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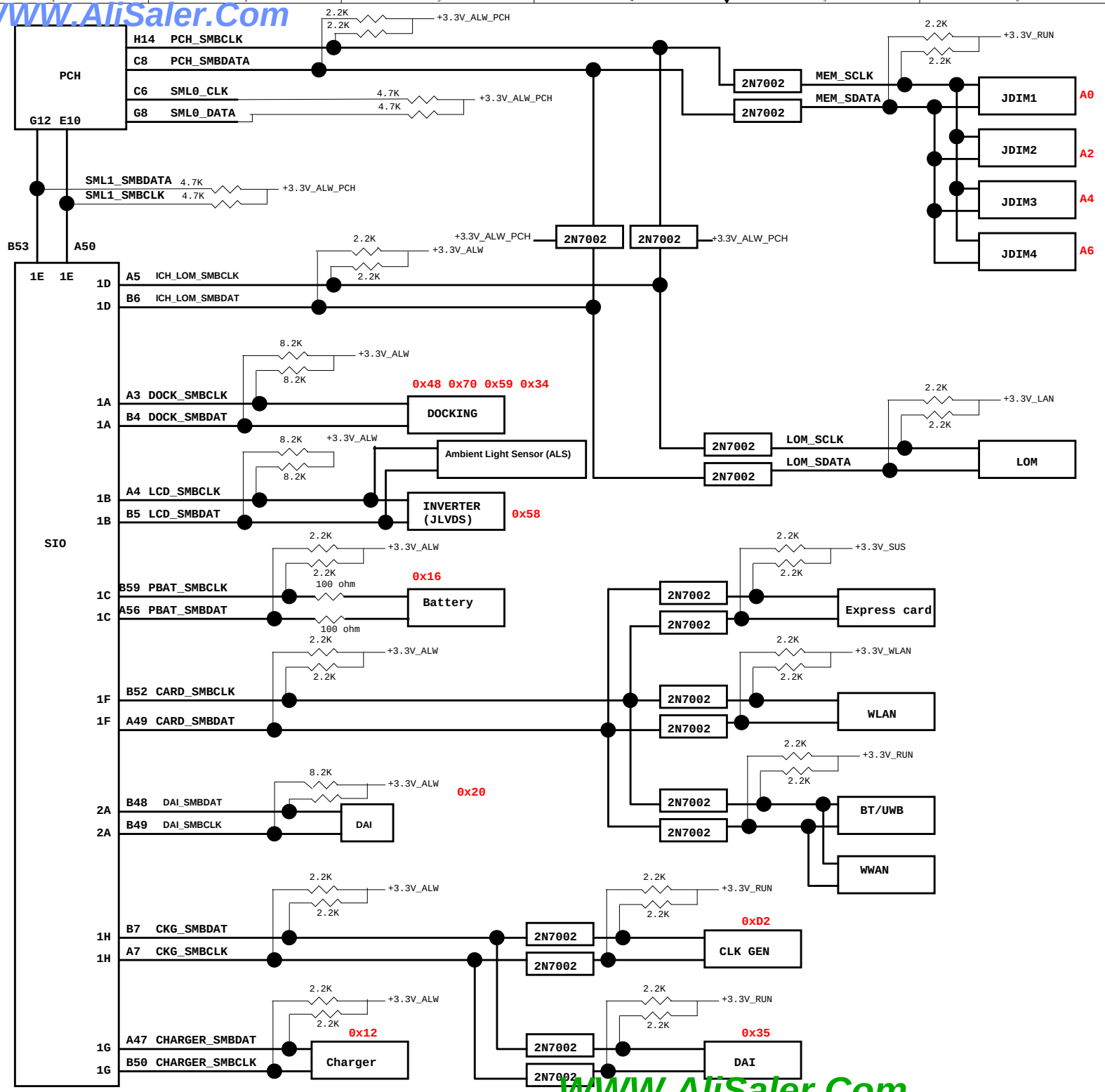
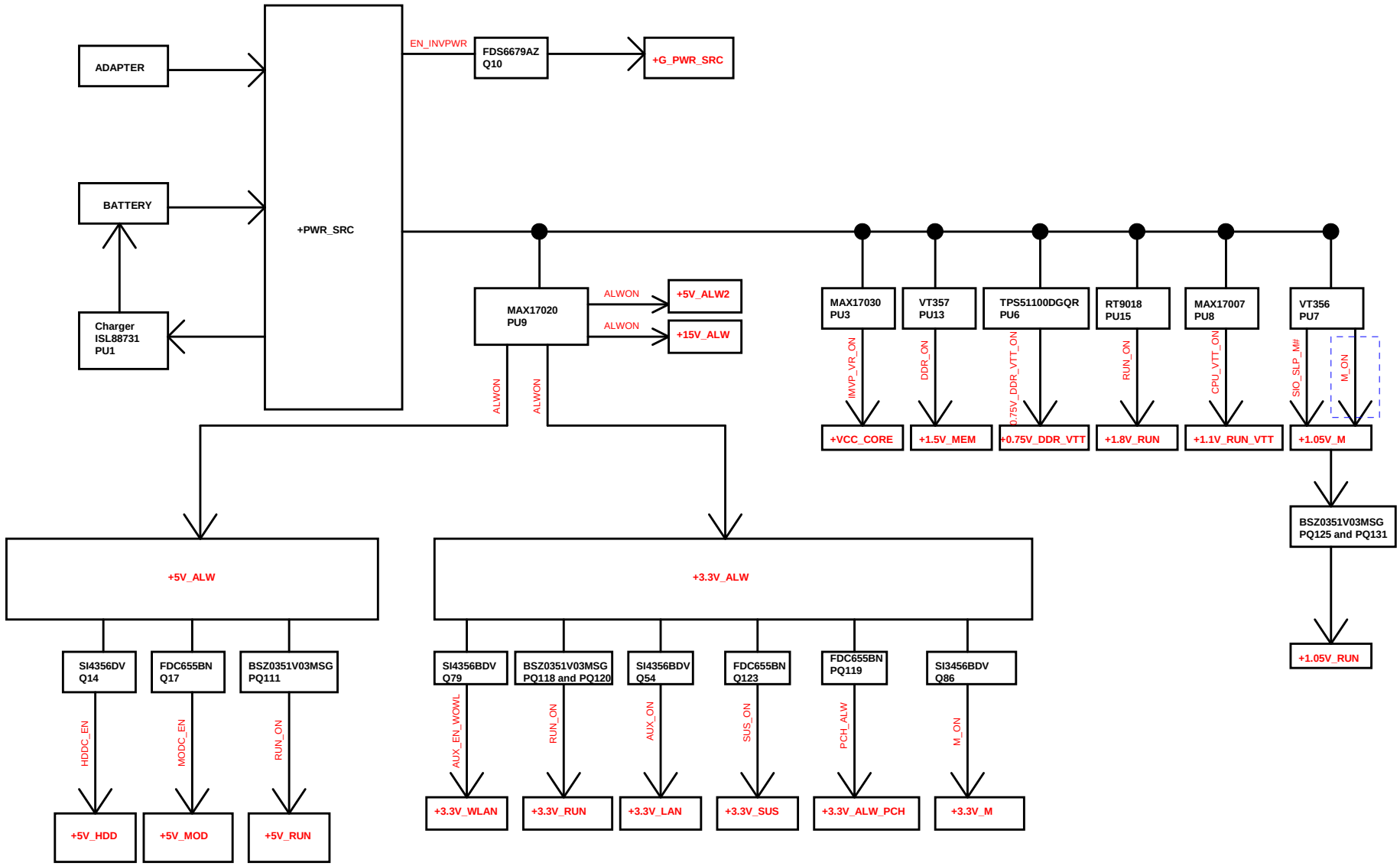


Quanta Computer Inc.
Project Name: XM2

Title	SMBus Topology	
Size	Document Number XM2_MB	Rev B
Date: Wednesday, July 22, 2009	Sheet 49 of 55	



Quanta Computer Inc.

Project Name: XM2

Title	Power Rail	
Size	Document Number XM2_MB	Rev B
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