SS8 BLOCK DIAGRAM

PCB STACK UP

10L DIS

- LAYER 1 : TOP
- LAYER 2 : GND
- LAYER 3 : IN1
- LAYER 4 : GND
- LAYER 5 : IN2
- LAYER 6 : IN3
- LAYER 7 : VCC
- LAYER 8 : IN4
- LAYER 9 : GND
- LAYER 10: BOT

FAN/Thermal
EMC2112
PAGE 43

DDRIII-SODIMM0 H=5.2mm PAGE 17
DDRIII 1333 MT/s

DDRIII-SODIMM1 H=6.5mm PAGE 18
DDRIII 1333 MT/s

CPU
Sandy Bridge 35W
31mm X 24mm
BGA 1023 SV
PAGE 4~8

PCIEx16

Nvidia
N12P-GE (128bit)
29mm X 29mm
BGA 973
PAGE 19~23

IFPC

HDMI CONN PAGE 28

DDR3 x 4
128Mx16x8 2G
64Mx16x8 1G
PG 24,25

FDI LINK 2.5GT /s

DMI LINK 5GT /s

E-SATA PAGE 35
SATA4 300MB /S

SATA -HDD PAGE 36
SATA0 600MB /S

ODD PAGE 36
SATA1 600MB /S

3-axis Fall Sensor PAGE 36
SMBUS

DISPLAY PORT C

Mini DP CONN PAGE 29

DUAL CHANNEL LVDS

LCD CONN PAGE 27

Mobile Intel Series 6 Chipset

PCH
HM67
Couger Point 3.9W
FCBGA 989
25 mm X 25 mm
PAGE 9~15

ESATA+USB PAGE 35
Camera+ALS PAGE 27
USB2.0

WLAN & BT PAGE 31
WWAN PAGE 32
PCI-E

LAN
Atheros
AR8151B
PAGE 38
25MHz

RJ45 PAGE 38

USB3.0 Controller PAGE 33
USB3.0 Ports x2 PAGE 34

Card Reader
JMB389C
PAGE 30

Card Reader Conn PAGE 30

IHDA

32.768KHz

Keyboard Conn. PAGE 41
Touch Pad PAGE 41

KBC
ITE 8518
PAGE 39

LPC

SPI ROM
4Mbit
PAGE 40

SPI

SPI ROM
32Mbit
PAGE 40

25MHz

32.768KHz

Codec Board

Audio Codec
ALC 269
PAGE 37

Speaker PAGE 37
Jack X2 PAGE 37
Digital-MIC PAGE 37

Charger PAGE 48
3/5V PAGE 49
1.5V_SUS/0.75V_DDR PAGE 50
1.8V_RUN PAGE 51
1.05V_VTT/PCH PAGE 52
VCCSA PAGE 53
DGFX_CORE PAGE 54
CPU_CORE PAGE 55

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power / State					
S0					
S1					
S3					
S4/S5 AC					
S4/S5 DC Only					
AC/DC No Exist					

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PROJECT : SS8

Size	Document Number	Rev
	Power Rails	3A

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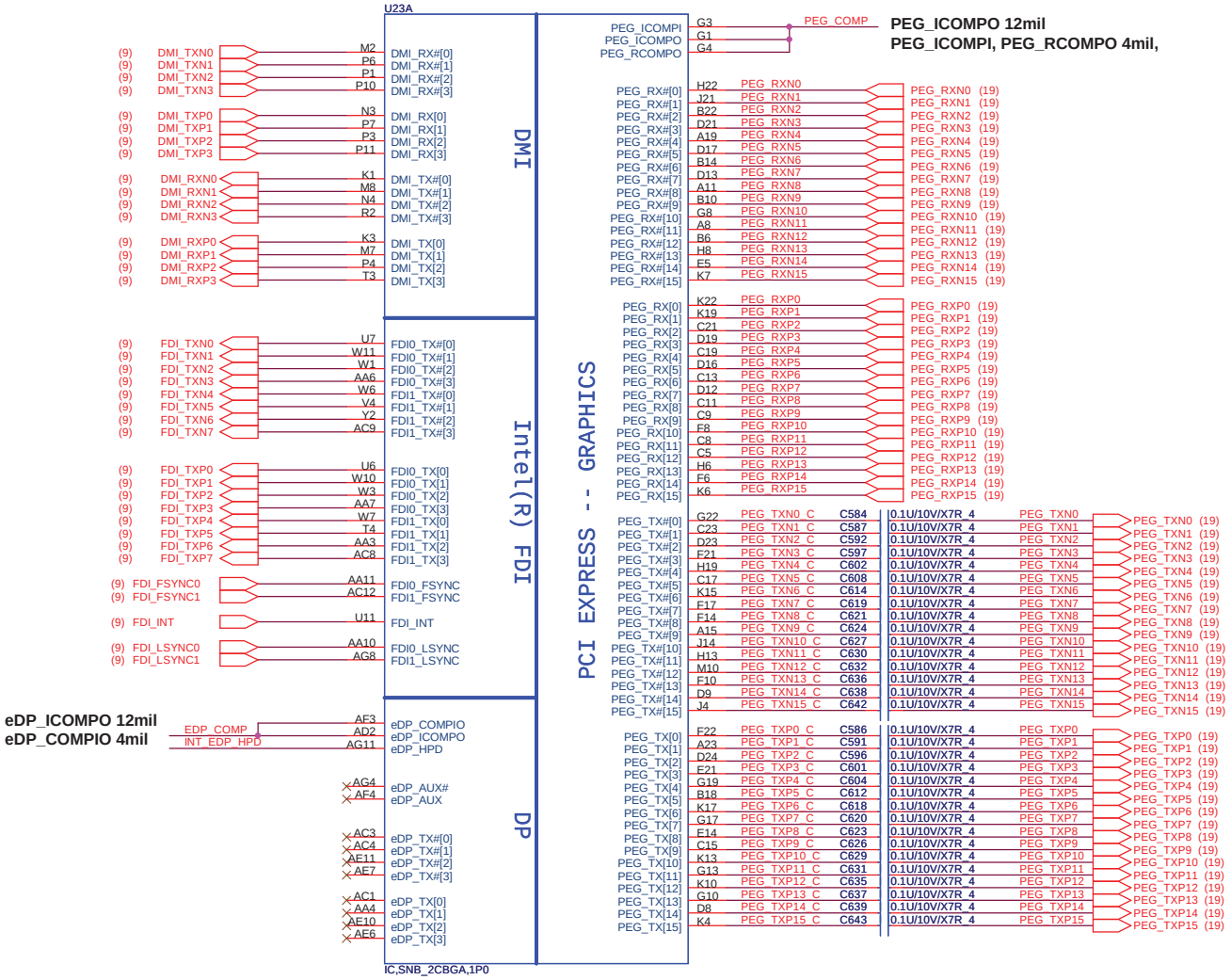
Quanta Computer Inc.

PROJECT : SS8

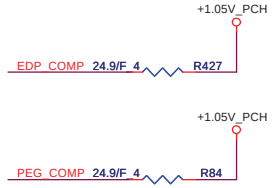
Size	Document Number	Rev
	BLANK	3A

Date: Monday, January 03, 2011 Sheet 3 of 57

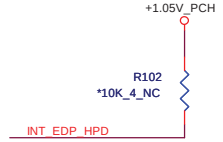
Sandy Bridge Processor (DMI,PEG,FDI)



DP & PEG Compensation

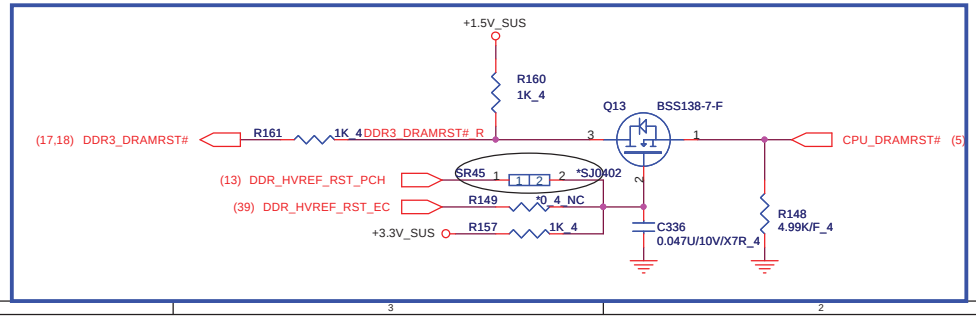


eDP Hot-plug (Disable)



CAD Note: Place PU resistor within 2 inches of CPU

HPD PU/PD resistor values based on CRB and different to DG



Quanta Computer Inc.

PROJECT : SS8

Size	Document Number	Rev
	Sandy Bridge 1/5	3A

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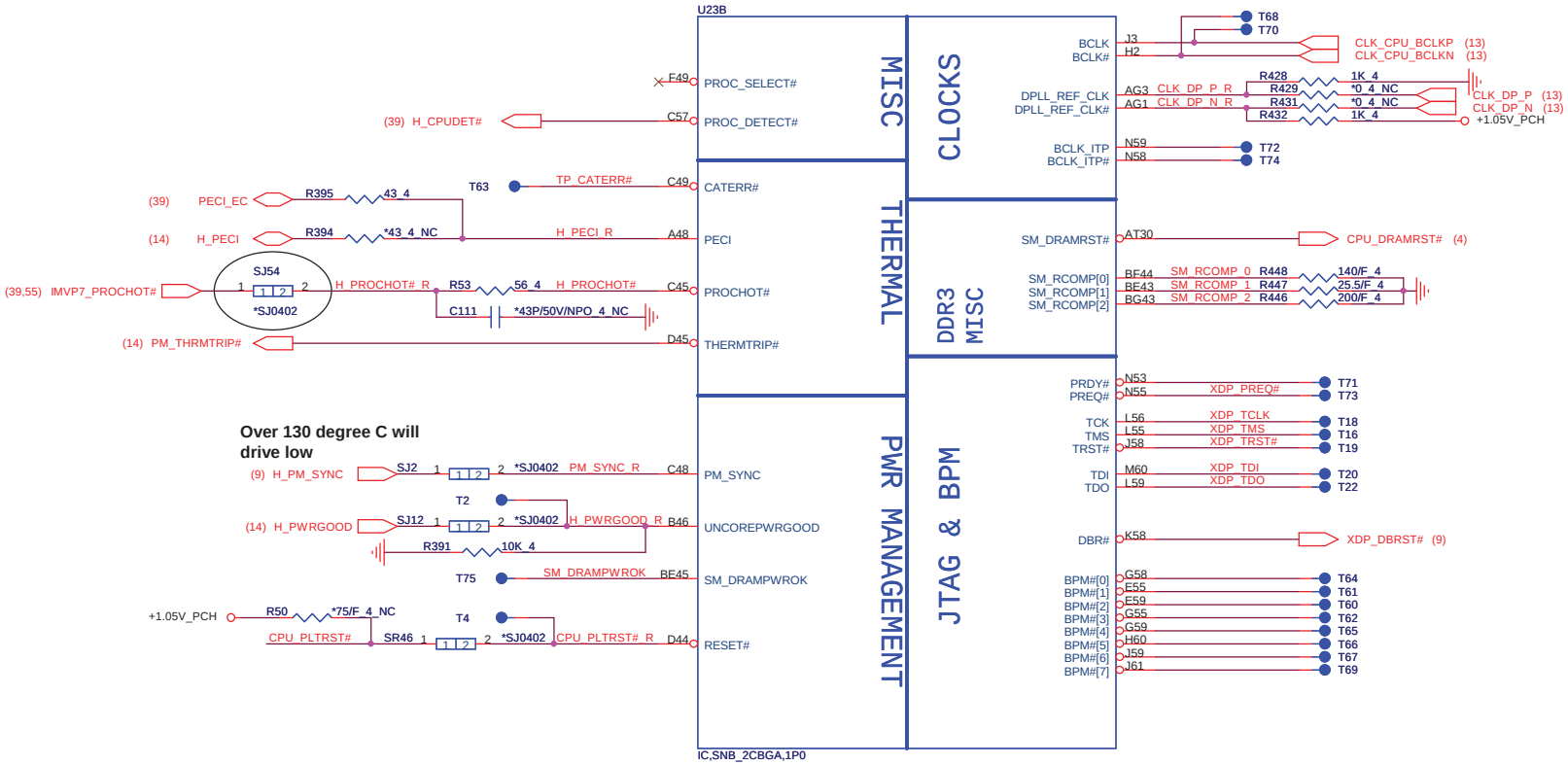
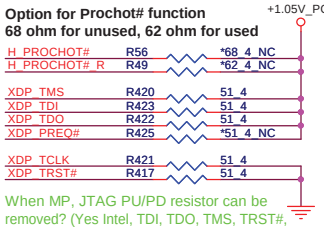
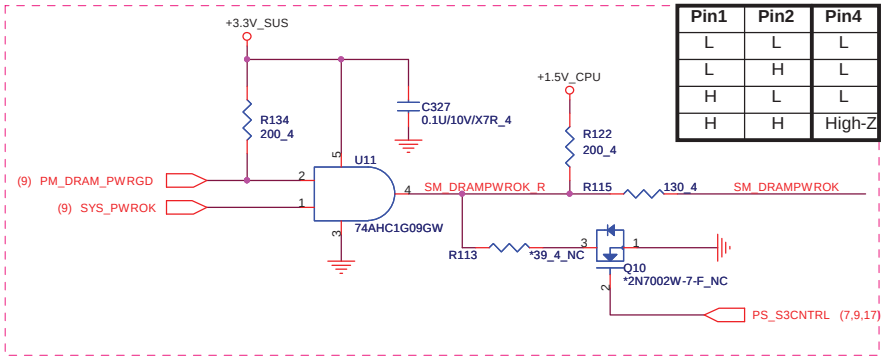
Sandy Bridge Processor (CLK,MISC,JTAG)



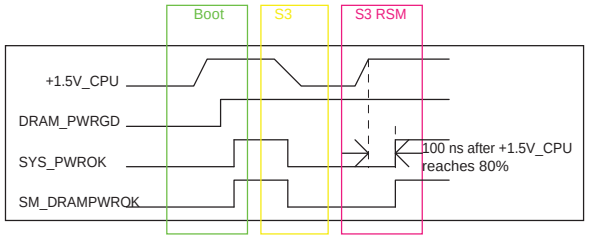
Option for Prochot# function
68 ohm for unused, 62 ohm for used

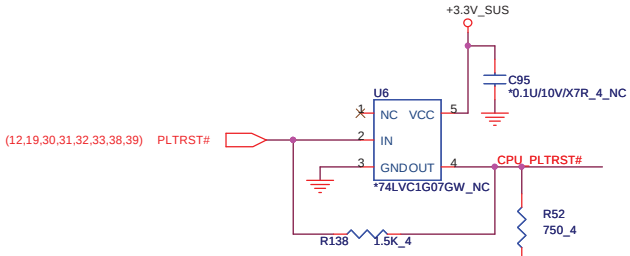


When MP, JTAG PU/PD resistor can be removed? (Yes Intel, TDI, TDO, TMS, TRST#, TCK,PREQ#, PRDY#)



Pin1	Pin2	Pin4
L	L	L
L	H	L
H	L	L
H	H	High-Z





IN	OUT
L	L
H	High-Z

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	Sandy Bridge 2/5	3A
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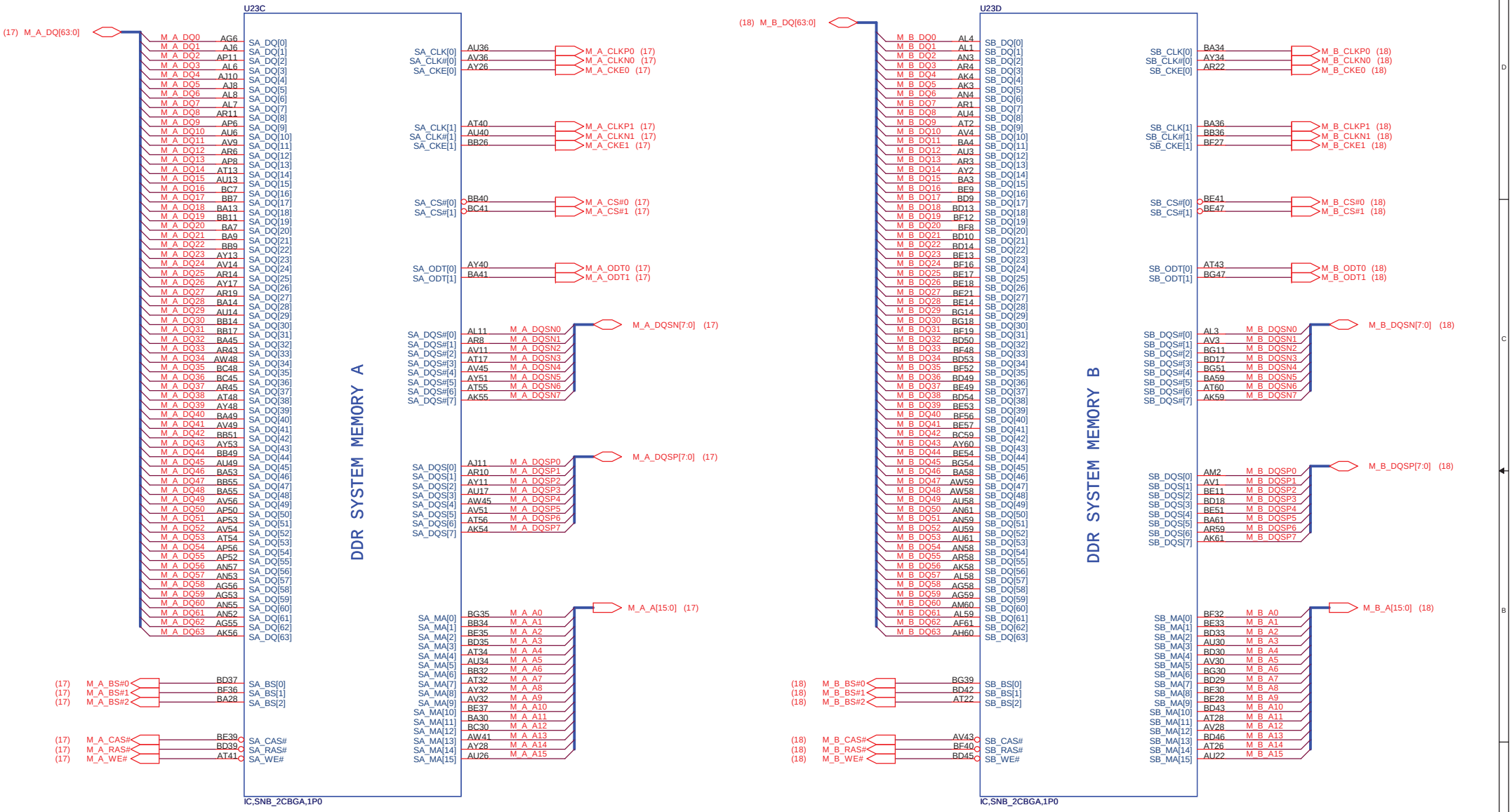
Sandy Bridge Processor (DDR3)



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	Sandy Bridge 3/5	3A

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Sandy Bridge Processor (POWER)

Sandy Bridge Processor (GRAPHIC POWER)

CPU Core Power

SNB:55A

8.5A

22A

3A

SNB:6A

SNB:4A

5A

S3 Power reduce

CAD Note: +VDDR_REF_CPU should have 10 mil trace width

If +1.5V_CPU will be implemented, have to change the two divided resistor as 1K-ohm 5% (DG1.5)

SNB_IVB# N.A at SNB EDS #27637 0.7v1

Layout note: need routing together and ALERT need between CLK and DATA

SVID CLK

Close to VR

Place PU resistor close to CPU

SVID DATA

Close to VR

Place PU resistor close to CPU

SVID ALERT

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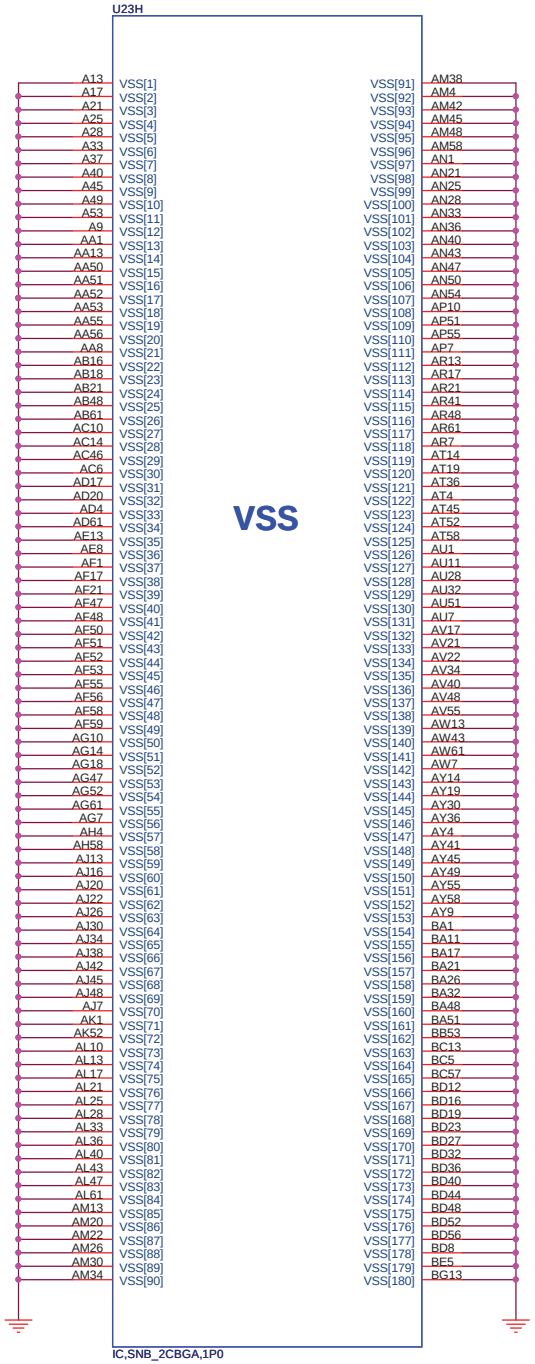
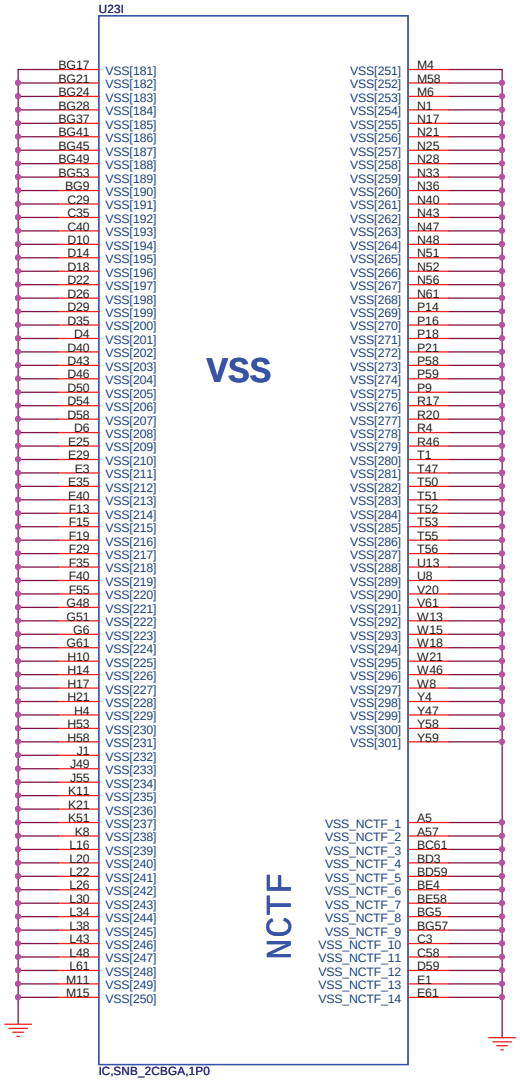
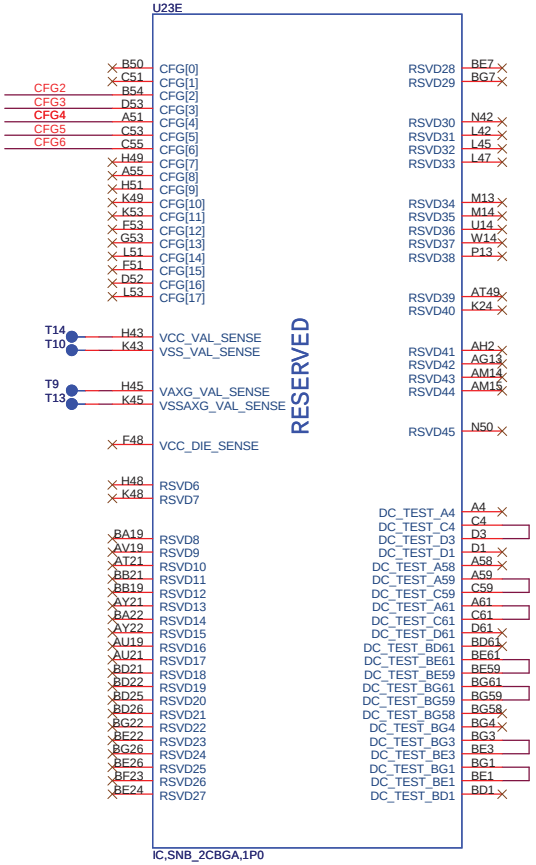
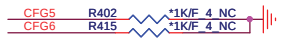
Sandy Bridge Processor (GND)





Sandy Bridge Processor (RESERVED, CFG)





CFG[6:5] (PCIE Port Bifurcation Straps)

11: (Default) x16 - Device 1 functions 1 and 2 disabled
10: x8, x8 - Device 1 function 1 enabled ; function 2 disabled
01: Reserved - (Device 1 function 1 disabled ; function 2 enabled)
00: x8,x4,x4 - Device 1 functions 1 and 2 enabled

Processor Strapping

The CFG signals have a default value of '1' if not terminated on the board.

	1	0
CFG2 (PCI-E Static x16 Lane Reversal)	Normal Operation	Lane Reversed
CFG3 (PCI-E Static x4 Lane Reversal)	Normal Operation	Lane Reversed
CFG4 (DP Presence Strap)	Disable; No physical DP attached to eDP	Enable; An ext DP device is connected to eDP

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PROJECT : SS8

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	Sandy Bridge 5/5	3A

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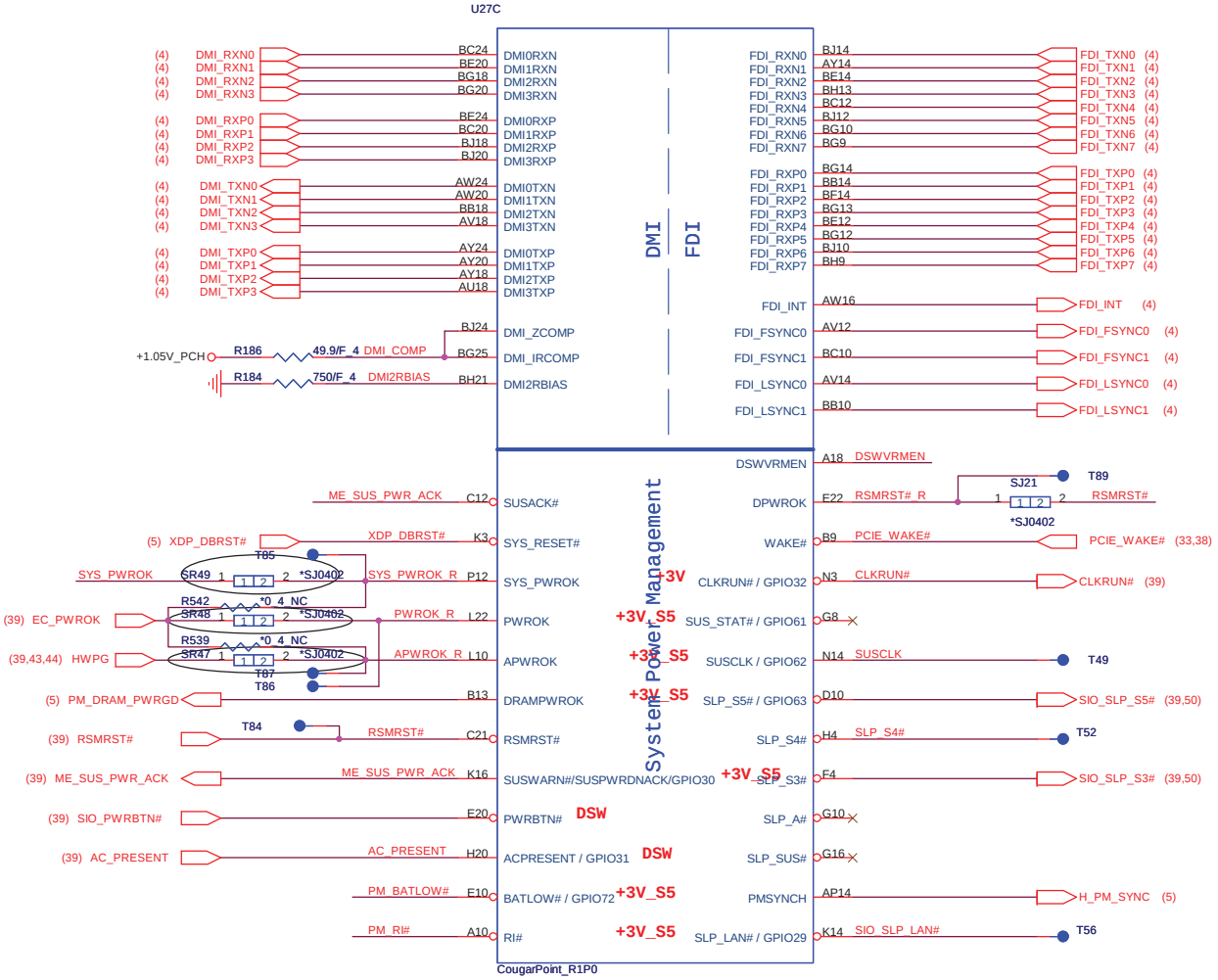
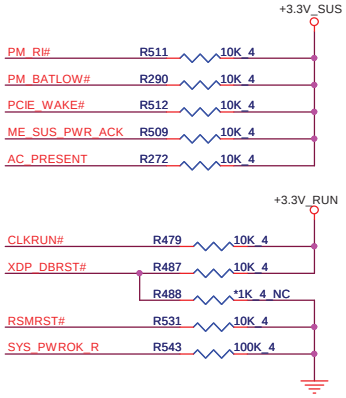
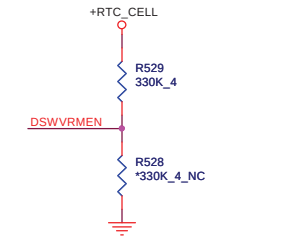
Cougar Point (DMI,FDI,PM)



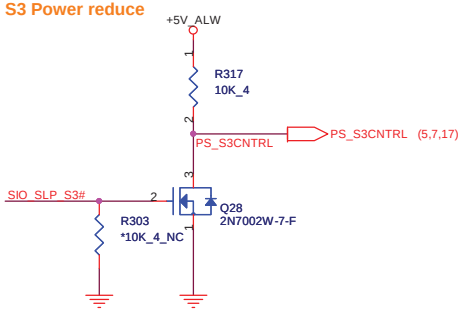
PCH Pull-high/low(CLG)



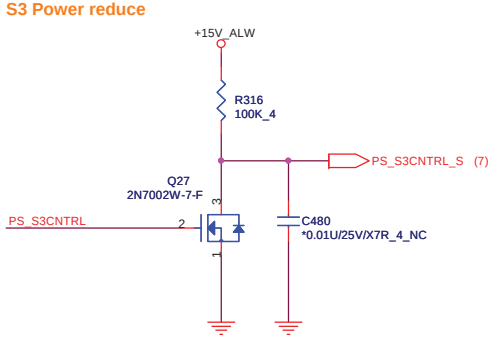


On Die DSW VR Enable
High = Enable (Default)
Low = Disable

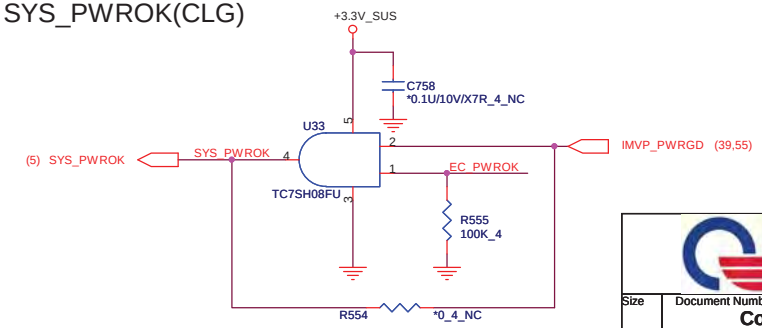
S3 Power reduce



S3 Power reduce



SYS_PWROK(CLG)



Quanta Computer Inc.

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	Cougar Point 1/7	3A

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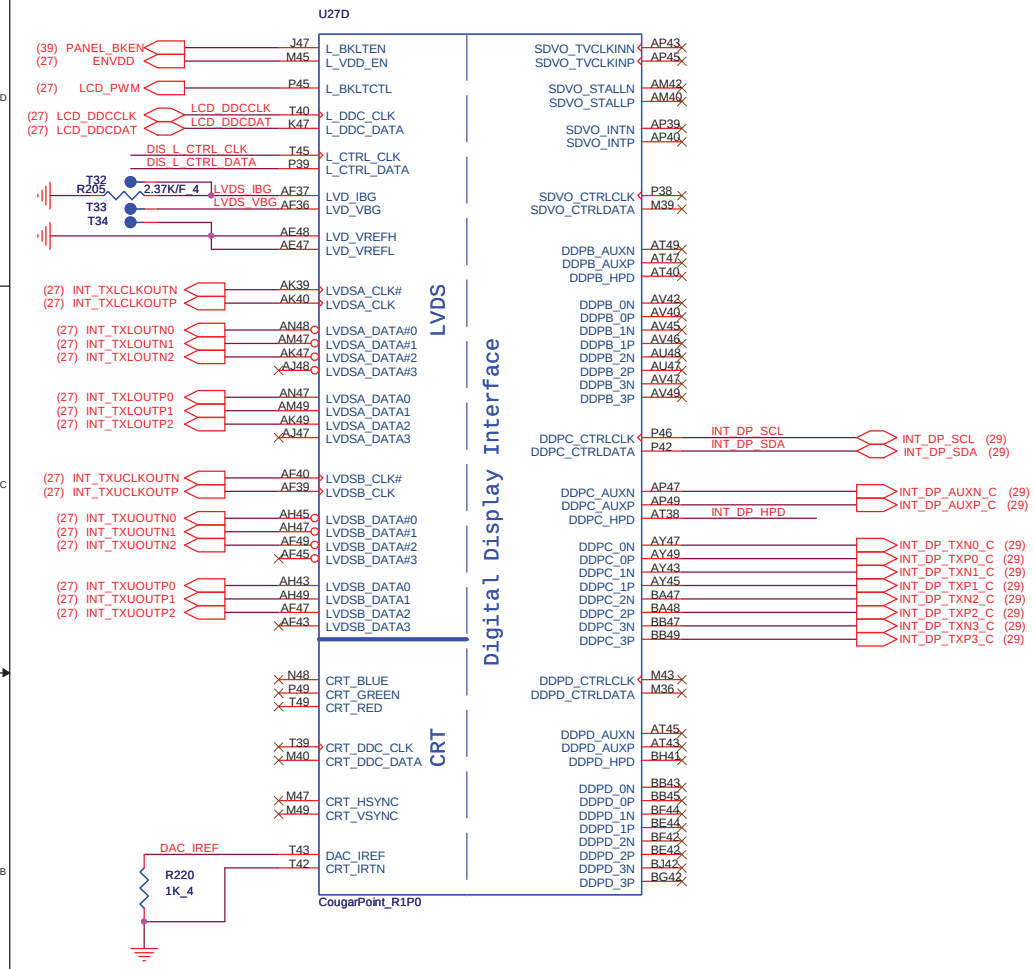
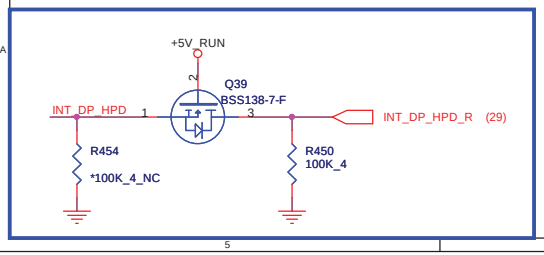
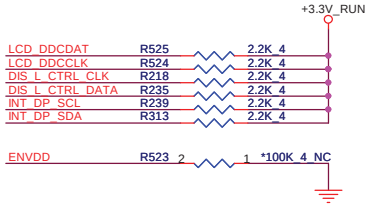
Cougar Point (LVDS,DDI)



Mini DP

Cougar Point (GND)





Quanta Computer Inc.			
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	Cougar Point 2/7		3A
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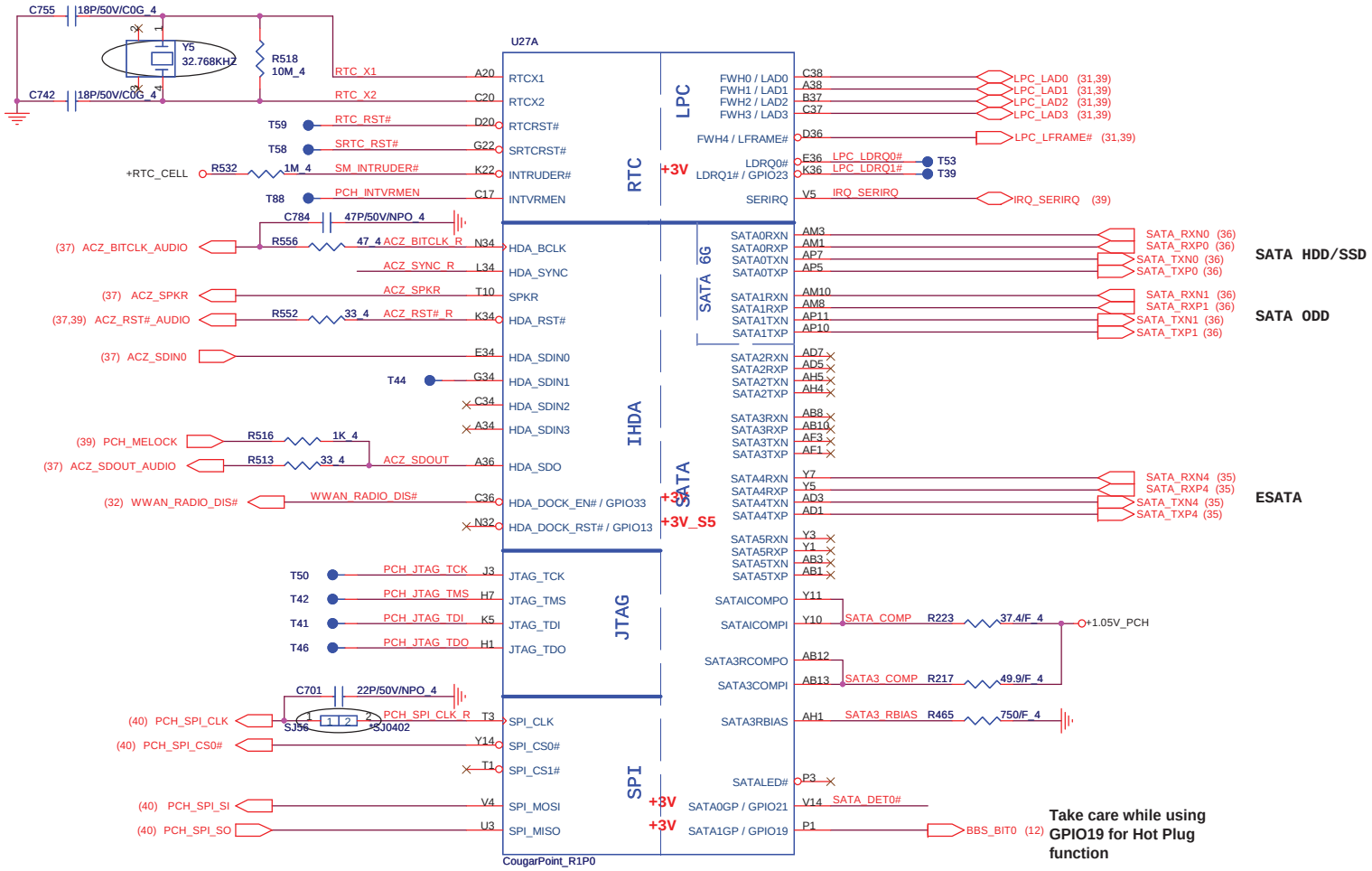
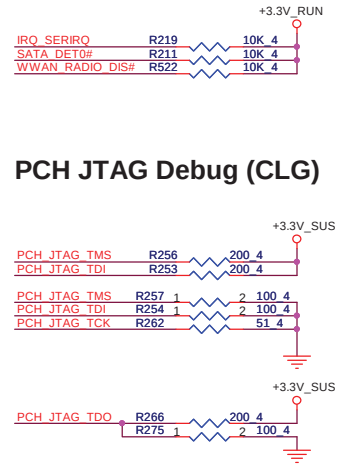
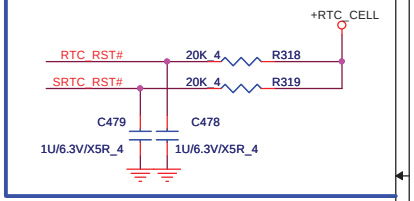
Cougar Point (HDA,JTAG,SATA)



PCH JTAG Debug (CLG)





PCH Strap Table

Pin Name	Strap description	Sampled	Configuration	note
SPKR	No reboot mode setting	PWROK	0 = Default (weak pull-down 20K) 1 = Setting to No-Reboot mode	+3.3V_RUN R478 *1K_4_NC ACZ_SPKR
HDA_SDO	Flash Descriptor Security	PWROK	0 = Default (weak pull-down 20K) 1 = Override	+3.3V_SUS R504 *1K_4_NC ACZ_SDOUT
INTVRMEN	Integrated 1.05V VRM enable	ALWAYS	Should be always pull-up	+RTC_CELL R548 330K_4 PCH_INTVRMEN
HDA_SYNC	On-Die PLL VR Volatge Select	RSMRST	0 = Support by 1.8V (weak PD) 1 = Support by 1.5V	(37) ACZ_SYNC_AUDIO R537 33_4 ACZ_SYNC_R; 1K_4 R535 +3.3V_SUS

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	Cougar Point 3/7	3A

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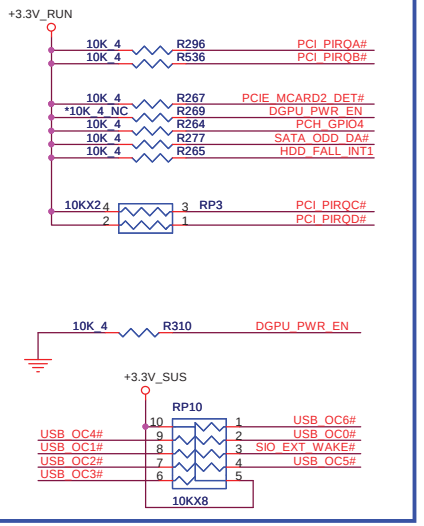
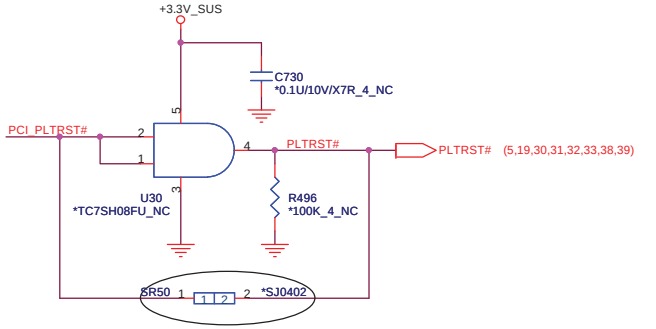
Cougar Point-M (PCI,USB,NVRAM)

PCI/USBOC# Pull-up(CLG)



PLTRST#(CLG)



Pin Name	Strap description	Sampled	Configuration
GNT2# / GPIO53	ESI strap (Server only)	PWROK	Should not be pull-down (weak pull-up 20K)
GNT3# / GPIO55	Top-Block Swap Override	PWROK	0 = "top-block swap" mode 1 = Default (weak pull-up 20K)
	R533 *1K_4_NC PCI_GNT3#		
GNT1# / GPIO51	Boot BIOS Selection 1 [bit-1]	PWROK	
GPIO19	Boot BIOS Selection 0 [bit-0]	PWROK	

Bit 0	Bit 1	Boot Location
1	1	SPI *
0	0	LPC

BBS_BIT1 R519 *1K_4_NC
(11) BBS_BIT0 R476 *1K_4_NC

Default weak pull-up on GNT0/1# [Need external pull-down for LPC BIOS]

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	Cougar Point 4/7	3A
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Cougar Point-M (PCI-E,SMBUS,CLK)

U27B

WWAN
(32) PCIE_RXN1
(32) PCIE_RXP1
(32) PCIE_TXN1
(32) PCIE_TXP1
C375 0.1U/10V/X7R_4 PCIE_TXN1_C
C374 0.1U/10V/X7R_4 PCIE_TXP1_C
BG34 PERN1
BJ34 PERP1
AV32 PETN1
AU32 PETP1

WLAN
(31) PCIE_RXN2
(31) PCIE_RXP2
(31) PCIE_TXN2
(31) PCIE_TXP2
C421 0.1U/10V/X7R_4 PCIE_TXN2_C
C423 0.1U/10V/X7R_4 PCIE_TXP2_C
BE34 PERN2
BE34 PERP2
BB32 PETN2
AY32 PETP2

BG36 PERN3
BJ36 PERP3
AV34 PETN3
AU34 PETP3

USB3.0
(33) PCIE_RXN4
(33) PCIE_RXP4
(33) PCIE_TXN4
(33) PCIE_TXP4
C381 0.1U/10V/X7R_4 PCIE_TXN4_C
C379 0.1U/10V/X7R_4 PCIE_TXP4_C
BE36 PERN4
BE36 PERP4
AY34 PETN4
BB34 PETP4

Card Reader
(30) PCIE_RXN5
(30) PCIE_RXP5
(30) PCIE_TXN5
(30) PCIE_TXP5
C418 0.1U/10V/X7R_4 PCIE_TXN5_C
C420 0.1U/10V/X7R_4 PCIE_TXP5_C
BG37 PERN5
BH37 PERP5
AY36 PETN5
BB36 PETP5

LAN
(38) PCIE_RXN6
(38) PCIE_RXP6
(38) PCIE_TXN6
(38) PCIE_TXP6
C410 0.1U/10V/X7R_4 PCIE_TXN6_LAN_C
C416 0.1U/10V/X7R_4 PCIE_TXP6_LAN_C
BJ38 PERN6
BG38 PERP6
AU36 PETN6
AV36 PETP6

BG40 PERN7
BJ40 PERP7
AY40 PETN7
BB40 PETP7

BE38 PERN8
BC38 PERP8
AW38 PETN8
AY38 PETP8

PCI-E*

+3V_S5 SMBALERT# / GPIO11 E12 PCH_SMB_ALERT#
SMBCLK H14 SMBCLK
SMBDATA C9 SMBDATA

SMBUS

+3V_S5 SML0ALERT# / GPIO60 A12 DDR_HVREF_RST_PCH (4)
SML0CLK C8 SML0CLK
SML0DATA G12 SML0DATA

+3V_S5 SML1ALERT# / PCHHOT# / GPIO74 C13 PCH_GPIO74
+3V_S5 SML1CLK / GPIO58 E14 SMB_CLK_ME1
+3V_S5 SML1DATA / GPIO75 M16 SMB_DATA_ME1

Controller Link

CL_CLK1 M7
CL_DATA1 T11
CL_RST1# P10

+3V_S5 PEG_A_CLKRQ# / GPIO47 M10 PEG_A_CLKRQ# PEG_A_CLKRQ# (19)

CLOCKS

Y40 CLKOUT_PCIE0N
Y39 CLKOUT_PCIE0P
PCIE_CLK_REQ0# J2 PCIECLKRQ0# / GPIO73 +3V_S5

CLKOUT_PEG_A_N AB37 CLK_PCIE_VGAN (19)
CLKOUT_PEG_A_P AB38 CLK_PCIE_VGAP (19)

WLAN
(31) CLK_PCIE_WLANN
(31) CLK_PCIE_WLANP
AB49 CLKOUT_PCIE1N
AB47 CLKOUT_PCIE1P
(31) PCIE_CLK_REQ1# PCIE_CLK_REQ1# M1 PCIECLKRQ1# / GPIO18 +3V

CLKOUT_DMI_N AV22 CLK_CPU_BCLKN (5)
CLKOUT_DMI_P AU22 CLK_CPU_BCLKP (5)

Card Reader
(30) CLK_PCIE_CARDN
(30) CLK_PCIE_CARDP
AA48 CLKOUT_PCIE2N
AA47 CLKOUT_PCIE2P
PCIE_CLK_REQ2# V10 PCIECLKRQ2# / GPIO20 +3V

CLKOUT_DP_N AM12 CLK_DP_N (5)
CLKOUT_DP_P AM13 CLK_DP_P (5)

CLKIN_DMI_N BE18 CLK_DMI
CLKIN_DMI_P BE18 R185 10K_4

WWAN
(32) CLK_PCIE_WWANN
(32) CLK_PCIE_WWANP
Y37 CLKOUT_PCIE3N
Y36 CLKOUT_PCIE3P
(32) PCIE_CLK_REQ3# PCIE_CLK_REQ3# A8 PCIECLKRQ3# / GPIO25 +3V_S5

CLKIN_GND1_N BJ30 CLK_GND1
CLKIN_GND1_P BG30 R178 10K_4

CLKIN_DOT_96N G24 CLK_BUF_DREFCLK
CLKIN_DOT_96P E24 R259 10K_4

USB3.0
(33) CLK_PCIE_USB30N
(33) CLK_PCIE_USB30P
Y43 CLKOUT_PCIE4N
Y45 CLKOUT_PCIE4P
(33) PCIE_CLK_REQ4# PCIE_CLK_REQ4# L12 PCIECLKRQ4# / GPIO26 +3V_S5

CLKIN_SATA_N AK7 CLK_BUF_DREFSSCLK
CLKIN_SATA_P AK5 R206 10K_4

REFCLK14IN K45 CLK_PCH_14M R237 10K_4

LAN
(38) CLK_PCIE_LANN
(38) CLK_PCIE_LANP
V45 CLKOUT_PCIE5N
V46 CLKOUT_PCIE5P
(38) PCIE_CLK_REQ5# PCIE_CLK_REQ5# L14 PCIECLKRQ5# / GPIO44 +3V_S5

CLKIN_PCILOOPBACK H45 CLK_PCI_FB CLK_PCI_FB (12)
T43

XTAL25_IN V47 XTAL25_IN
XTAL25_OUT V49 XTAL25_OUT

C729 27P/50V/NPO_4
R494 1M_4
Y4 25MHz
C723 27P/50V/NPO_4

AB42 CLKOUT_PEG_B_N
AB40 CLKOUT_PEG_B_P
PEG_B_CLKRQ# E6 PEG_B_CLKRQ# / GPIO56 +3V_S5

XCLK_RCOMP Y47 XCLK_RCOMP R474 90.9/F_4 +1.05V_PCH

V40 CLKOUT_PCIE6N
V42 CLKOUT_PCIE6P
PCIE_CLK_REQ6# T13 PCIECLKRQ6# / GPIO45 +3V_S5

FLEX CLOCKS

+3V CLKOUTFLEX0 / GPIO64 K43 CLK_FLEX0 T38
+3V CLKOUTFLEX1 / GPIO65 F47 CLK_FLEX1 T47
+3V CLKOUTFLEX2 / GPIO66 H47 CLK_FLEX2 T45
+3V CLKOUTFLEX3 / GPIO67 K49 CLK_FLEX3 T81

V38 CLKOUT_PCIE7N
V37 CLKOUT_PCIE7P
PCIE_CLK_REQ7# K12 PCIECLKRQ7# / GPIO46 +3V_S5

AK14 CLKOUT_ITPXDP_N
AK13 CLKOUT_ITPXDP_P

CougarPoint_R1P0

SMBus/Pull-up(CLG)

Q46A DMN66D0LDW-7
SMBCLK
+3.3V_RUN
SMBDATA
RP5 2.2KX2
WLAN_SCLK (17,18,31,36)
WLAN_SDATA (17,18,31,36)
Q46B DMN66D0LDW-7

Q47A DMN66D0LDW-7
SMB_CLK_ME1
SMB_DATA_ME1
RP6 2.2KX2
+3.3V_SUS
SMBCLK1 (39)
SMBDAT1 (39)
Q47B DMN66D0LDW-7

CLK_REQ/Strap Pin(CLG)

+3.3V_SUS
PCIE_CLK_REQ0# R489 10K_4
PCIE_CLK_REQ4# R288 10K_4
PCIE_CLK_REQ5# R276 10K_4
PEG_B_CLKRQ# R284 10K_4
PCIE_CLK_REQ6# R230 10K_4
PCIE_CLK_REQ7# R286 10K_4
PCIE_CLK_REQ3# R497 10K_4

+3.3V_RUN
PCIE_CLK_REQ1# R483 10K_4
PCIE_CLK_REQ2# R222 10K_4

+3.3V_SUS
PEG_A_CLKRQ# R241 10K_4
R249 *10K_4_NC

+3.3V_SUS
PCH_GPIO74 R297 10K_4
PCH_SMB_ALERT# R287 10K_4
SMBCLK R309 2.2K_4
SMBDATA R308 2.2K_4
SML0CLK R278 2.2K_4
SML0DATA R289 2.2K_4

Quanta Computer Inc.
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	Cougar Point 5/7	3A
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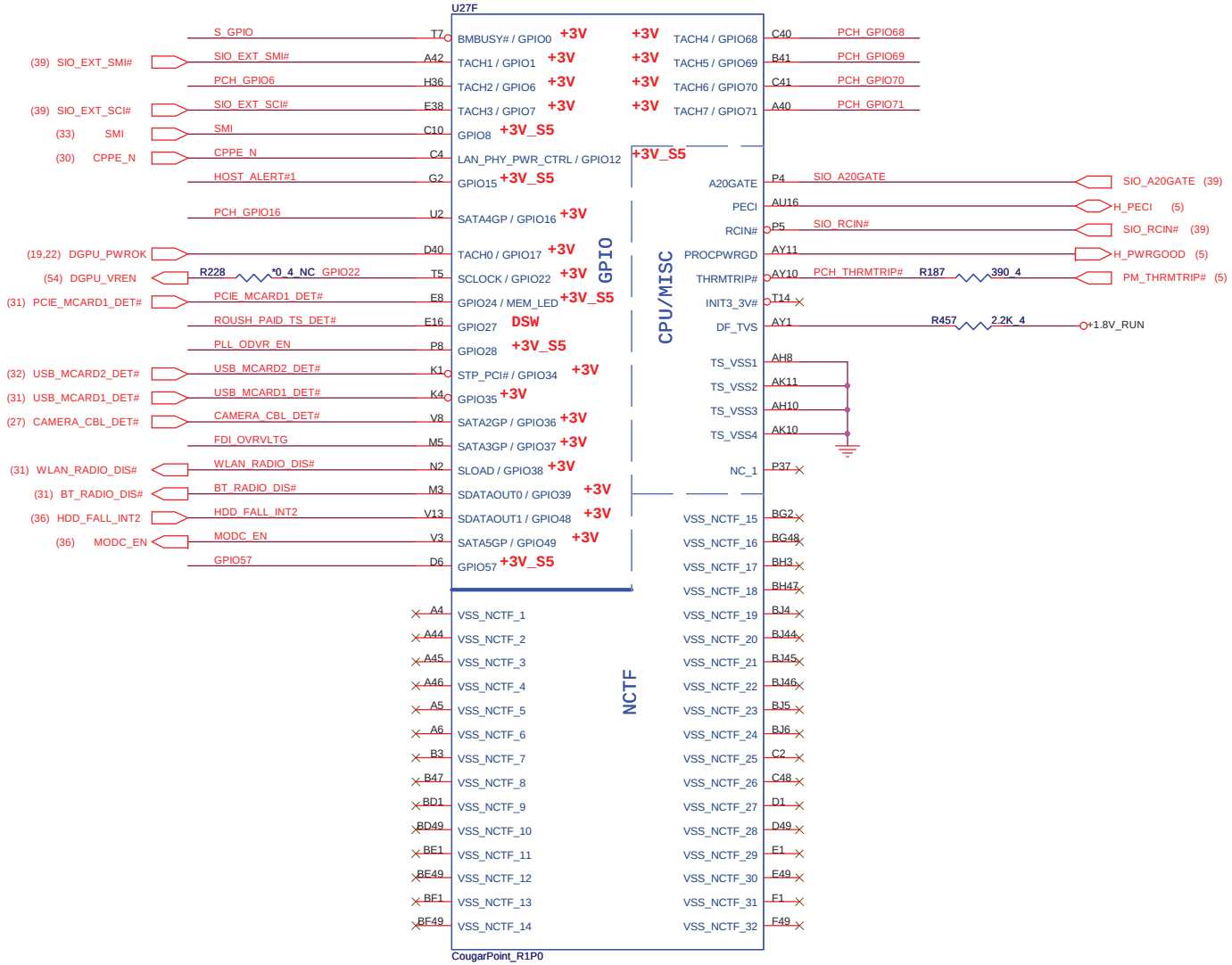
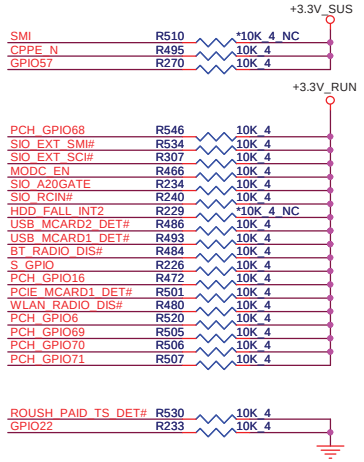
Cougar Point (GPIO,VSS_NCTF,RSVD)



GPIO Pull-up/Pull-down(CLG)



+3.3V_RUN R250 *1K/F_4_NC FDI_OVRVLTG R247 100K_4

FDI TERMINATION VOLTAGE OVERRIDE	LOW - Tx, Rx terminated to same voltage

+3.3V_RUN R227 2 1 200K_4 CAMERA_CBL_DET#

DMI TERMINATION VOLTAGE OVERRIDE	Low = Tx, Rx terminated to same voltage (DC Coupling Mode) (DEFAULT)

Pin Name	Strap description	Sampled	Configuration
GPIO28	On-die PLL Voltage Regulator	RSMRST#	0 = Disable 1 = Enable (Default)
	R238 *1K_4_NC PLL_ODVR_EN		
GPIO15	Intel ME Crypto Transport Layer Security (TLS) cipher suite	RSMRST#	0 = Disable (Default) 1 = Enable
	+3.3V_SUS HOST_ALERT#1 R491 1K_4		

Quanta Computer Inc.
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	Cougar Point 6/7	3A
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COUGAR POINT (POWER)

Cougar Point (POWER)

VccCORE =1.14A(50mils)

VccADAC =1mA(8mils)

VccDSW3_3= 3mA(8mil)

VccCLKDMI = 20mA (8mils)

VccDMI = 80mA (10mils)

VccASW =1.01A (50mils)

VccIO =2.925 A(120mils)

VccVRM(1.5V) =0.16 A(10mils)

VccDMI =0.042 A(10mils)

VccALVDS=1mA (8mils)

VccTX_LVDS=60mA (10mils)

Vcc3_3 = 0.266A (15mils)

VCCPNAND = 190 mA(15mils)

VCCSPI = 20mA(8mils)

VCCDIFFCLKN= 55mA(18mils,PDDG)

VCCSSC= 95mA(10mils)

VCCRTC<1mA(8mils)

VCCSUS3_3 = 119mA (15mils)

VCC5REFSUS=1mA(8mil)

V5REF= 1mA(8mil)

VCCSUS3_3 = 119mA (15mils)

VCCPCORE = 28mA(10mils)

VCCVRM= 114mA(15mils)

VCCSUSHDA= 10mA(8mils)

need 1206?

Near to AN16, AP21, AN33

*Short Jump_150

CougarPoint_R1P0

CougarPoint_R1P0

Quanta Computer Inc.	
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Quanta Computer Inc.

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	BLANK	3A

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H=5.2mm

SO-DIMMA SPD Address is 0XA0
SO-DIMMA TS Address is 0X30

JDIM1A

PC2100 DDR3 SDRAM SO-DIMM (204P)

SUY_600015FB204G101ZL

DGMK4000098
ddr-78279-001-rvs-204p

RP4 10KX2

S3 Power reduce

Q15 2N7002W-7-F

R165 22_4

JDIM1B

PC2100 DDR3 SDRAM SO-DIMM (204P)

SUY_600015FB204G101ZL

DGMK4000098
ddr-78279-001-rvs-204p

Place these Caps near So-Dimm0.

For RF noise

For RF noise

M1 VREF

Quanta Computer Inc.
PROJECT : SS8

Size	Document Number	Rev
	DDR3 DIMM-0	3A

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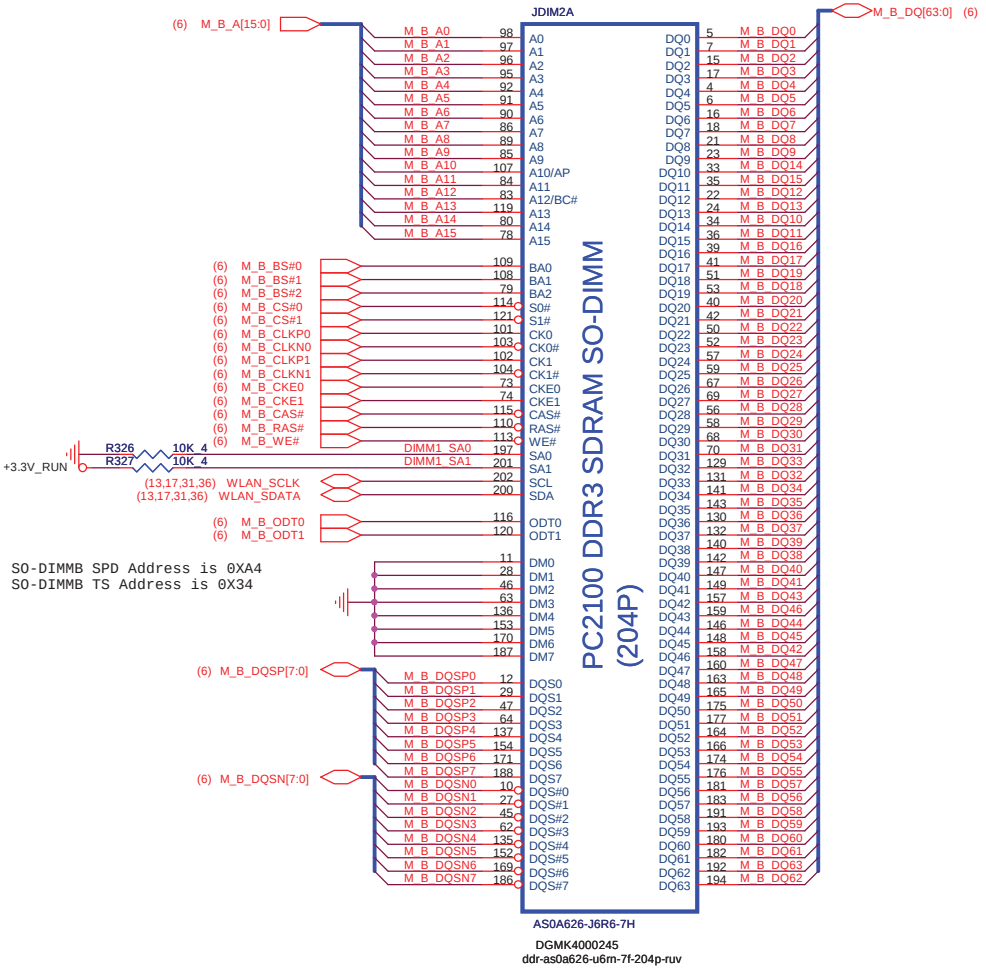
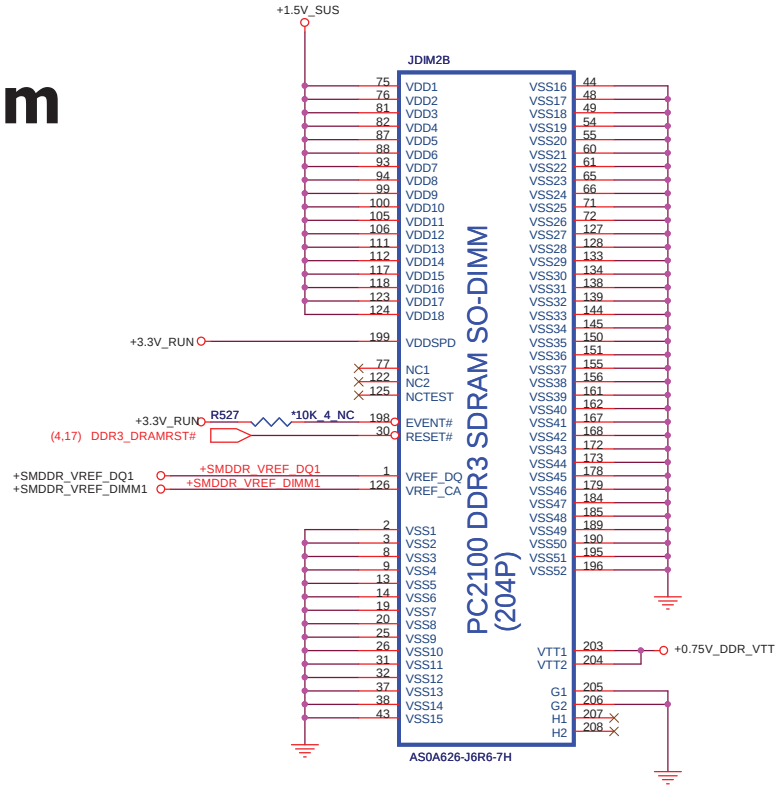
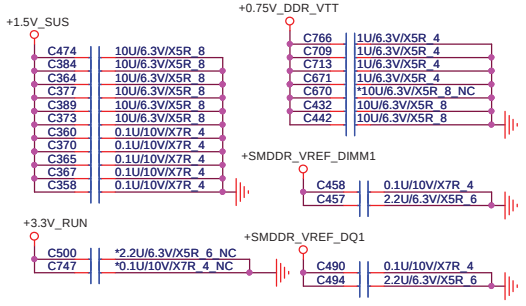
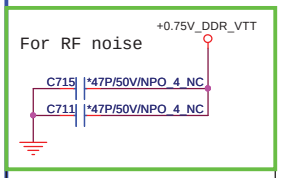


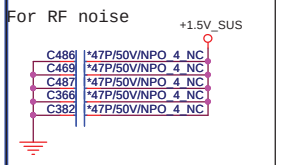
H=6.5mm



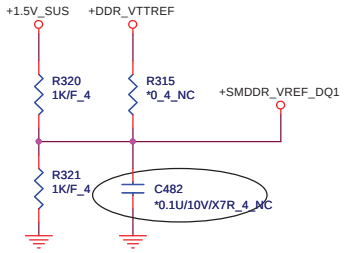
Place these Caps near So-Dimm1.

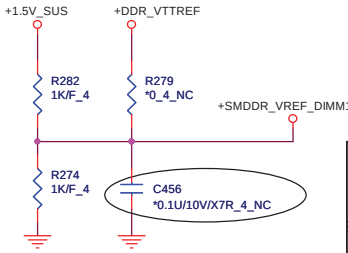






M1 VREF





Quanta Computer Inc.

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Size	Document Number	Rev
	DDR3 DIMM-1	3A

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PEX_IOVDD+PEX_IOVDDQ >2.2A

~ 500mA

1600mA

0.1u *4 under GPU
Others Near GPU

0.1u under GPU
Others Near GPU

12~16 mils width
120mA
0.1u under GPU
Others Near GPU

120mA 12~16 mils width
0.1u under GPU
Others Near GPU

U22A
N12P-GE

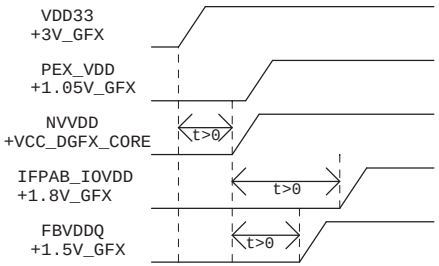
PCI EXPRESS

GPU all PWROK

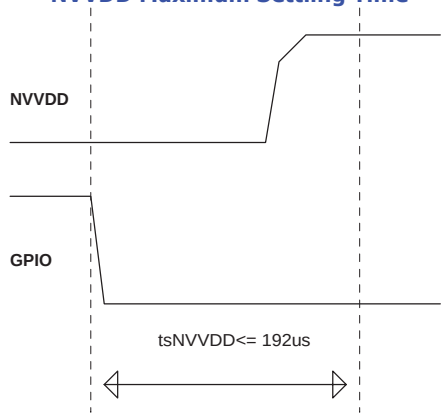
Q84: H(sat), L(cut-off)

NB9M: VGACORE +0.90V (Normal) , +1.09V

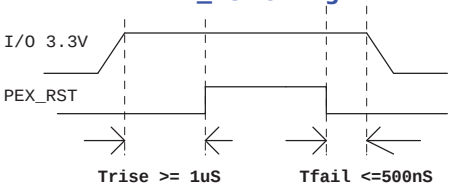
Power up sequence



NVVDD Maximum Settling Time



PEX_RST timing



1211 for Nvidia request
add transition cap

PU in PCH

Quanta Computer Inc.		
PROJECT : SS8		
Size	Document Number: N12P-GE (PCIE I/F) 1/5	Rev 3A
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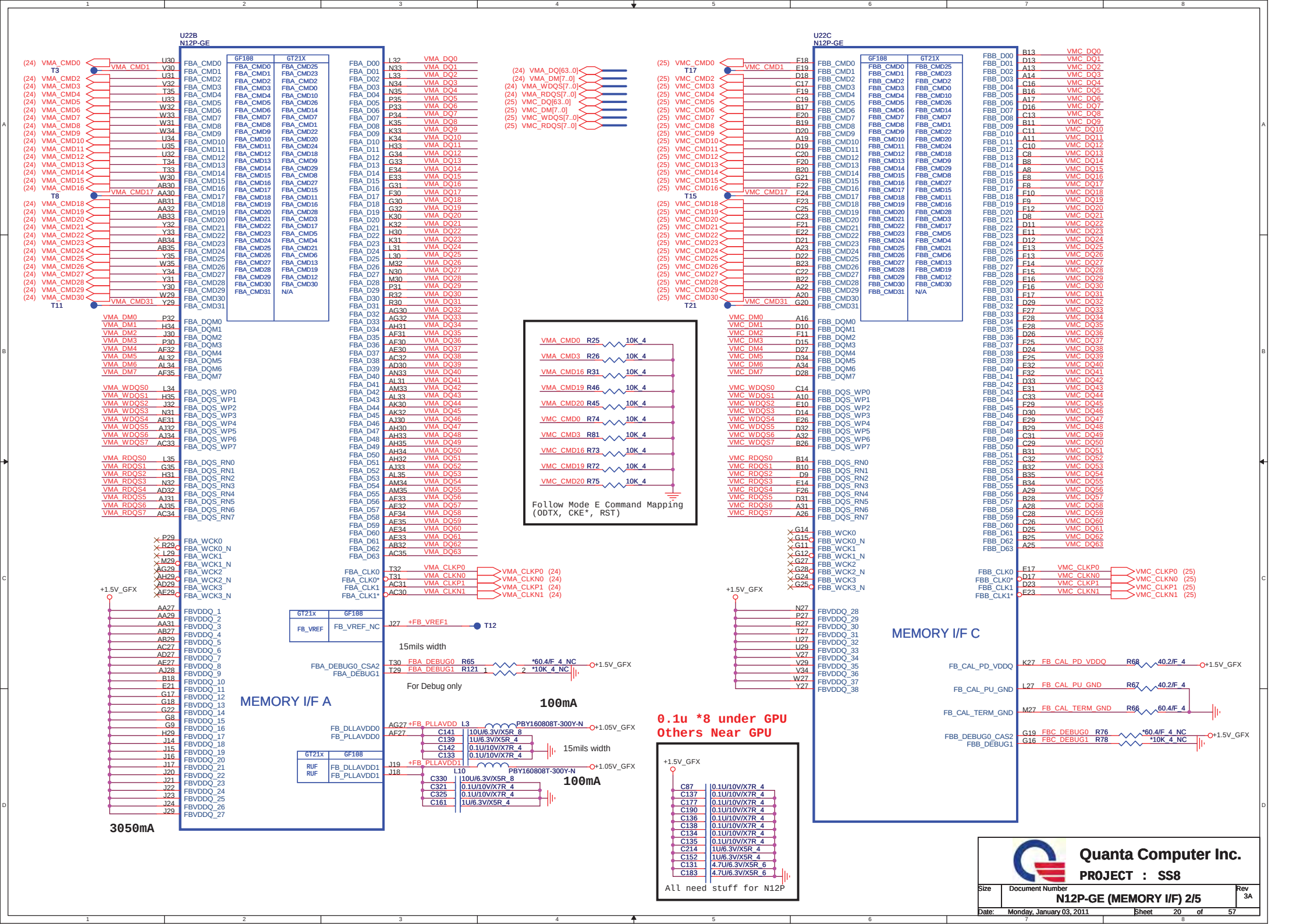
U22B
N12P-GE
U22C
N12P-GE
MEMORY I/F A
MEMORY I/F C
3050mA
100mA
100mA
15mils width
For Debug only
Follow Mode E Command Mapping
(ODTX, CKE*, RST)
0.1u *8 under GPU
Others Near GPU
All need stuff for N12P
Quanta Computer Inc.
PROJECT : SS8
N12P-GE (MEMORY I/F) 2/5
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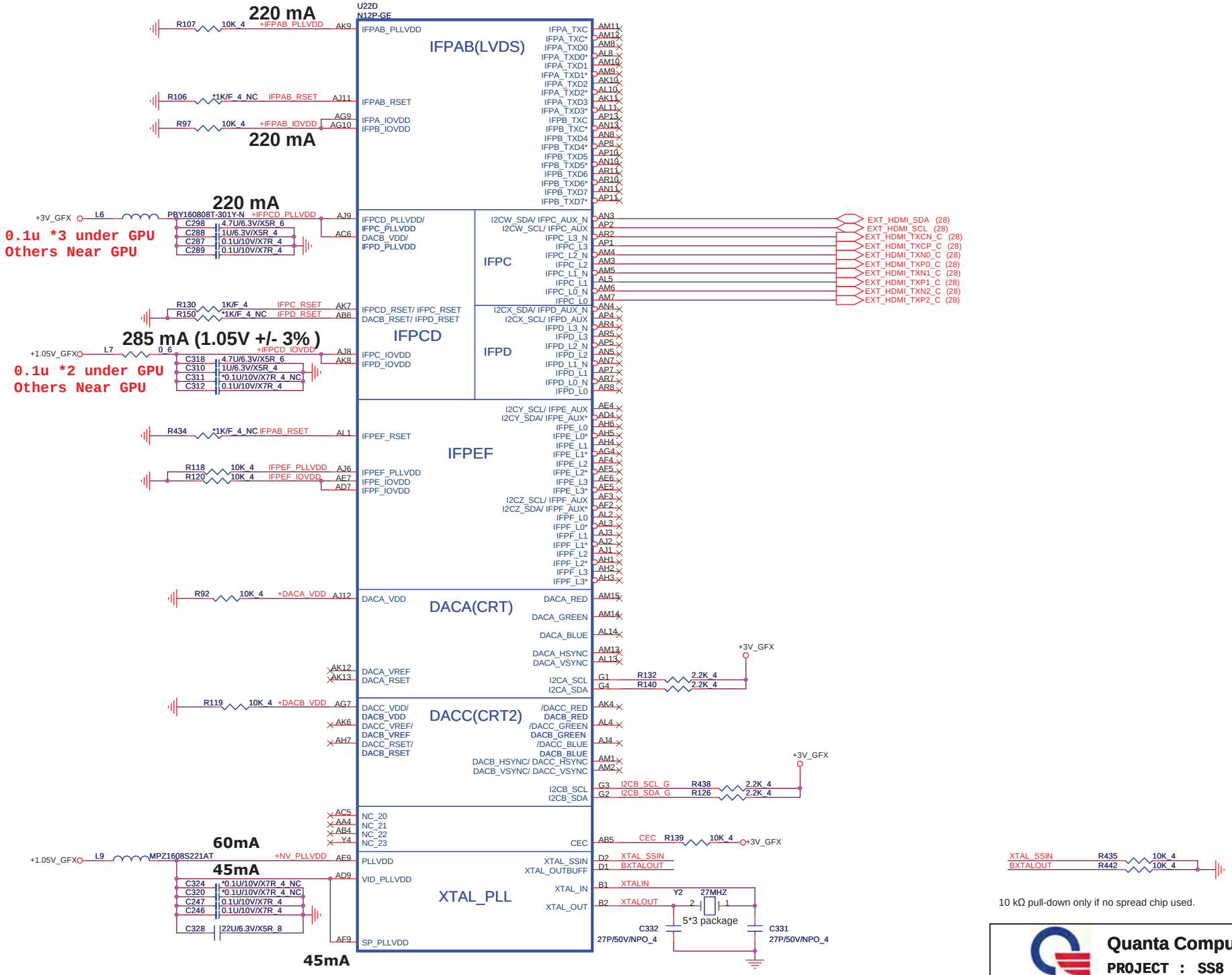
U22D
N12P-GE
IFPAB(LVDS)
IFPCD
IFPD
IFPEF
DACA(CRT)
DACC(CRT2)
XTAL_PLL
220 mA
220 mA
220 mA
285 mA (1.05V +/- 3%)
60mA
45mA
45mA
0.1u *3 under GPU
Others Near GPU
0.1u *2 under GPU
Others Near GPU
R107 10K_4 +IFPAB_PLLVDD
R106 *1K/F_4_NC IFPAB_RSET
R97 10K_4 +IFPAB_IOVDD
L6 PBY160808T-301Y-N +IFPCD_PLLVDD
C298 4.7U/6.3V/X5R_6
C288 1U/6.3V/X5R_4
C287 0.1U/10V/X7R_4
C289 0.1U/10V/X7R_4
R130 1K/F_4 IFPC_RSET
R150 *1K/F_4_NC IFPD_RSET
L7 0_6 +IFPCD_IOVDD
C318 4.7U/6.3V/X5R_6
C310 1U/6.3V/X5R_4
C311 *0.1U/10V/X7R_4_NC
C312 0.1U/10V/X7R_4
R434 *1K/F_4_NC IFPAB_RSET
R118 10K_4 IFPEF_PLLVDD
R120 10K_4 IFPEF_IOVDD
R92 10K_4 +DACA_VDD
R119 10K_4 +DACB_VDD
L9 MPZ1608S221AT +NV_PLLVDD
C324 *0.1U/10V/X7R_4_NC
C320 *0.1U/10V/X7R_4_NC
C247 0.1U/10V/X7R_4
C246 0.1U/10V/X7R_4
C328 22U/6.3V/X5R_8
R132 2.2K_4
R140 2.2K_4
R438 2.2K_4
R126 2.2K_4
R139 10K_4
R435 10K_4
R442 10K_4
Y2 27MHZ
C332 27P/50V/NPO_4
C331 27P/50V/NPO_4
5*3 package
10 kΩ pull-down only if no spread chip used.
Quanta Computer Inc.
PROJECT : SS8
Size
Document Number
N12P-GE (DISPLAY) 3/5
Rev 3A
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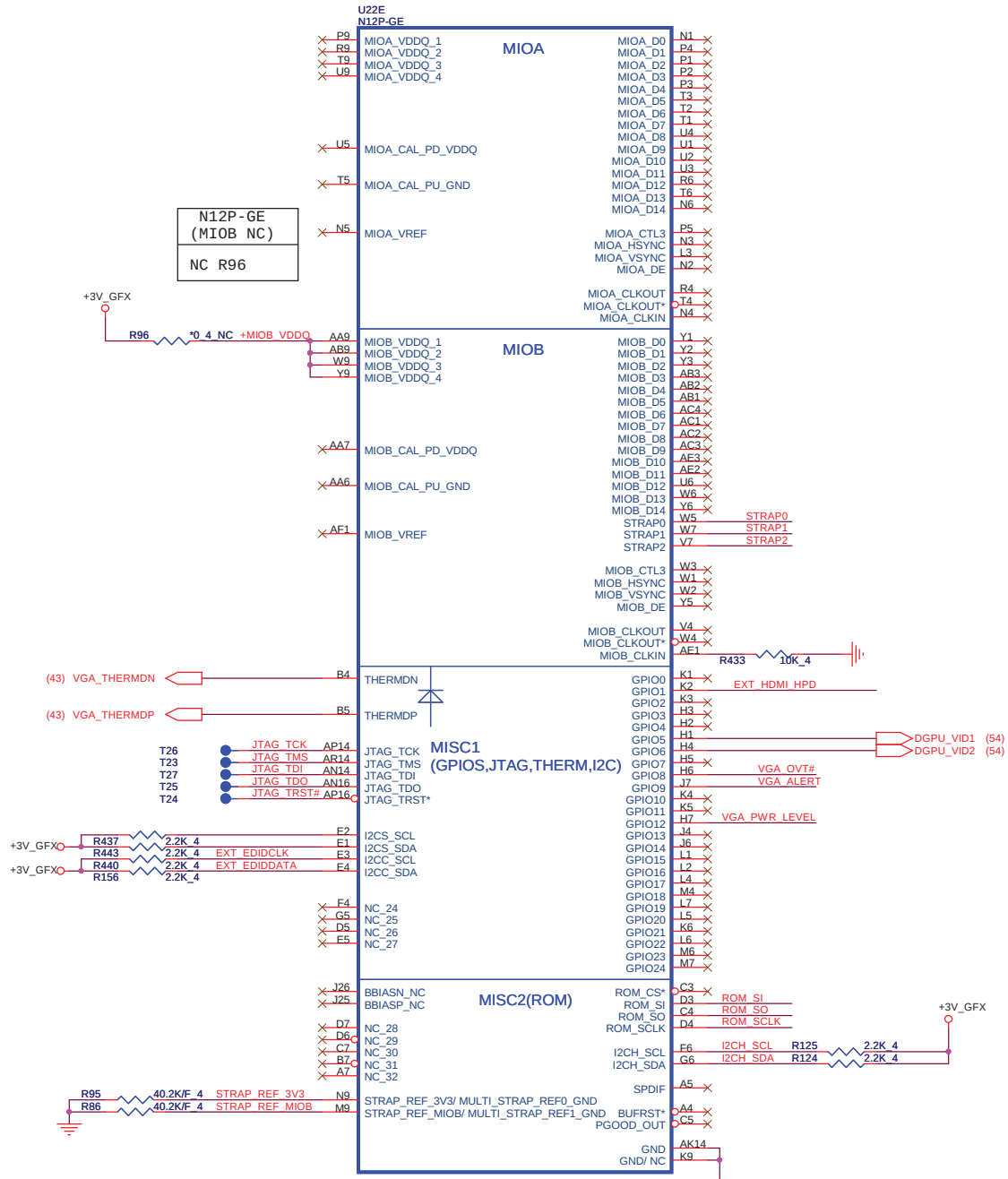
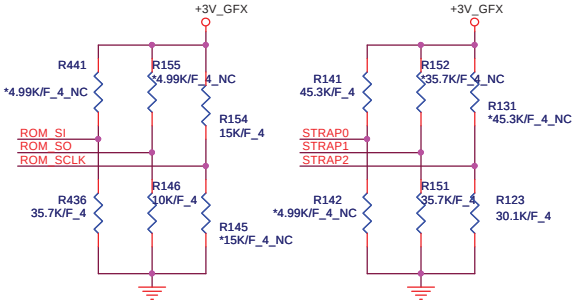


CHIP	PCI_DEVID:	STRAP2	ROM_SCLK
N12P-GE	0xDF5	0101 PD 30K	1010 PU 15K

Default: N12P-GE

Logical Strap Bit Mapping

	PU-VDD	PD
5K	1000	0000
10K	1001	0001
15K	1010	0010
20K	1011	0011
25K	1100	0100
30K	1101	0101
35K	1110	0110
45K	1111	0111



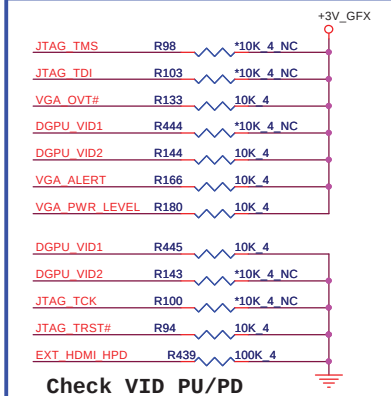
10K/F_4: CS31002FB26 [RES CHIP 10K 1/16W +1% (0402)]
4.99K/F_4: CS24992FB26 [RES CHIP 4.99K 1/16W +1%(0402)]
15K/F_4: CS31502FB24 [RES CHIP 15K 1/16W +1% (0402)]
20K/F_4: CS32002FB29 RES CHIP 20K 1/16W +-1%(0402)
30.1K/F_4: CS33012FB18 [RES CHIP 30.1K 1/16W +-1%(0402)]
35.7K/F_4: CS33572FB13 [RES CHIP 35.7K 1/16W +-1%(0402)]
45.3K/F_4: CS34532FB18 [RES CHIP 45.3K 1/16W +-1% (0402)]

	Logical Strapping Bit3	Logical Strapping Bit2	Logical Strapping Bit1	Logical Strapping Bit0	
ROM_SO	XCLK_417	FB_0_BAR_SIZE	SMB_ALT_ADDR	VGA_DEVICE	0001
ROM_SCLK	PCI_DEVIDE[4]	SUB_VENDOR	SLOT_CLK_CFG	PEX_PLL_EN_TERM	1010
ROM_SI	RAMCFG[3]	RAMCFG[2]	RAMCFG[1]	RAMCFG[0]	0110
STRAP2	PCI_DEVID[3]	PCI_DEVID[2]	PCI_DEVID[1]	PCI_DEVID[0]	0101
STRAP1	3GIO_PADCFG[3]	3GIO_PADCFG[2]	3GIO_PADCFG[1]	3GIO_PADCFG[0]	0110
STRAP0	USER[3]	USER[2]	USER[1]	USER[0]	1111

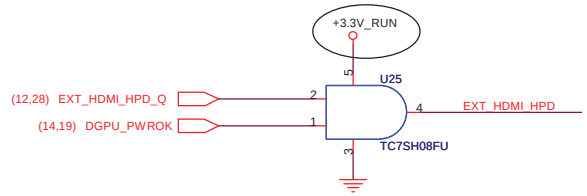
Default: Hynix VRAM 2G (0110)

VRAM Configuration Table

RAMCFG [3:0]	DESCRIPTION	Vendor	Quanta P/N	Vendor P/N	ROM_SI
0000		Reserved			PD 5K
0001		Reserved			PD 10K
0010	DDR3 64Mx16, 900MHz	Hynix	AKD5LZWTW02	H5TQ1G63DFR-11C	PD 15K
0011	DDR3 64Mx16, 900MHz	Samsung	AKD5LGHT500	K4W1G1646E-HC11	PD 20K
0110	DDR3 128Mx16, 900MHz	Hynix	AKD5MGWTW00	H5TQ2G63BFR-11C	PD 35K
0111	DDR3 128Mx16, 900MHz	Samsung	AKD5MGWT500	K4W2G1646C-HC11	PD 45K



Check VID PU/PD



GPIO ASSIGNMENTS

GPIO	I/O	ACTIVE	USAGE
0	N/A	N/A	
1	IN	N/A	Hot plug detect for IFP link C
2	OUT	HIGH	PANEL BACKLIGHT PWM
3	OUT	HIGH	PANEL POWER ENABLE
4	OUT	HIGH	PANEL BACKLIGHT ENABLE
5	OUT	N/A	NVVDD VID0
6	OUT	N/A	NVVDD VID1
7	OUT	N/A	NVVDD VID2 11/13
8	I/O	LOW	OVERT
9	I/O	LOW	ALERT
10	OUT	N/A	FBVREF SELECT
11	OUT	N/A	SLI SYNC0
12	IN	N/A	PWR_LEVEL 11/13
13	OUT	N/A	MEM_VID or power supply control
14	OUT	N/A	PS CONTROL

Quanta Computer Inc.
PROJECT : SS8

Size	Document Number	Rev
	N12P-GE (GPIO&STRAPS) 4/5	3A

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+VCC_DGFX_CORE

+VCC_DGFX_CORE

U22F
N12P-GE

NVVDD

AB11	VDD_001	VDD_057	P21
AB13	VDD_002	VDD_058	P23
AB15	VDD_003	VDD_059	P25
AB17	VDD_004	VDD_060	R11
AB19	VDD_005	VDD_061	R12
AB21	VDD_006	VDD_062	R13
AB23	VDD_007	VDD_063	R14
AB25	VDD_008	VDD_064	R15
AC11	VDD_009	VDD_065	R16
AC12	VDD_010	VDD_066	R17
AC13	VDD_011	VDD_067	R18
AC14	VDD_012	VDD_068	R19
AC15	VDD_013	VDD_069	R20
AC16	VDD_014	VDD_070	R21
AC17	VDD_015	VDD_071	R22
AC18	VDD_016	VDD_072	R23
AC19	VDD_017	VDD_073	R24
AC20	VDD_018	VDD_074	R25
AC21	VDD_019	VDD_075	T12
AC22	VDD_020	VDD_076	T14
AC23	VDD_021	VDD_077	T16
AC24	VDD_022	VDD_078	T18
AC25	VDD_023	VDD_079	T20
AD12	VDD_024	VDD_080	T22
AD14	VDD_025	VDD_081	T24
AD16	VDD_026	VDD_082	V11
AD18	VDD_027	VDD_083	V13
AD22	VDD_028	VDD_084	V15
AD24	VDD_029	VDD_085	V17
L11	VDD_030	VDD_086	V19
L12	VDD_031	VDD_087	V21
L13	VDD_032	VDD_088	V23
L14	VDD_033	VDD_089	V25
L15	VDD_034	VDD_090	W11
L16	VDD_035	VDD_091	W12
L17	VDD_036	VDD_092	W13
L18	VDD_037	VDD_093	W14
L19	VDD_038	VDD_094	W15
L20	VDD_039	VDD_095	W16
L21	VDD_040	VDD_096	W17
L22	VDD_041	VDD_097	W18
L23	VDD_042	VDD_098	W19
L24	VDD_043	VDD_099	W20
L25	VDD_044	VDD_100	W21
M12	VDD_045	VDD_101	W22
M14	VDD_046	VDD_102	W23
M16	VDD_047	VDD_103	W24
M18	VDD_048	VDD_104	W25
M20	VDD_049	VDD_105	Y12
M22	VDD_050	VDD_106	Y14
M24	VDD_051	VDD_107	Y16
P11	VDD_052	VDD_108	Y18
P13	VDD_053	VDD_109	Y20
P15	VDD_054	VDD_110	Y22
P17	VDD_055	VDD_111	Y24
P19	VDD_056		

NVVDD Decoupling

+VCC_DGFX_CORE

2/16

PLACE UNDER BALLS

C147	0.01U/25V/X7R_4
C166	0.01U/25V/X7R_4
C197	0.01U/25V/X7R_4
C213	0.01U/25V/X7R_4
C187	0.01U/25V/X7R_4
C216	0.01U/25V/X7R_4
C151	0.01U/25V/X7R_4
C169	0.01U/25V/X7R_4
C153	0.022U/16V/X7R_4
C148	0.022U/16V/X7R_4
C224	0.022U/16V/X7R_4
C239 1 2	0.047U/10V/X7R_4
C170 1 2	0.047U/10V/X7R_4
C156 1 2	0.047U/10V/X7R_4
C160	0.1U/10V/X7R_4
C146	0.1U/10V/X7R_4
C211	0.22U/16V/X7R_6
C185	0.22U/16V/X7R_6
C248	0.22U/16V/X7R_6
C210	1U/6.3V/X5R_4

PLACE NEAR BALLS

C165	4.7U/6.3V/X5R_6
C70	10U/6.3V/X5R_8
C158	10U/6.3V/X5R_8
C565	22U/6.3V/X5R_8
C564	22U/6.3V/X5R_8

330uF*2 at power page

U22G
N12P-GE

GROUND

AA11	GND_1	GND_096	E15
AA12	GND_2	GND_097	E18
AA13	GND_3	GND_098	E24
AA14	GND_4	GND_099	E27
AA15	GND_5	GND_100	E30
AA16	GND_6	GND_101	E6
AA17	GND_7	GND_102	E9
AA18	GND_8	GND_103	F2
AA19	GND_9	GND_104	F31
AA2	GND_10	GND_105	F34
AA20	GND_11	GND_106	F5
AA21	GND_12	GND_107	J2
AA22	GND_13	GND_108	J31
AA23	GND_14	GND_109	J34
AA24	GND_15	GND_110	J5
AA25	GND_16	GND_111	L9
AA34	GND_17	GND_112	M11
AA5	GND_18	GND_113	M13
AB12	GND_19	GND_114	M15
AB14	GND_20	GND_115	M17
AB16	GND_21	GND_116	M19
AB18	GND_22	GND_117	M2
AB20	GND_23	GND_118	M21
AB22	GND_24	GND_119	M23
AB24	GND_25	GND_120	M25
AC9	GND_26	GND_121	M31
AD11	GND_27	GND_122	M34
AD13	GND_28	GND_123	M5
AD15	GND_29	GND_124	N11
AD17	GND_30	GND_125	N12
AD2	GND_31	GND_126	N13
AD21	GND_32	GND_127	N14
AD23	GND_33	GND_128	N15
AD25	GND_34	GND_129	N16
AD31	GND_35	GND_130	N17
AD34	GND_36	GND_131	N18
AD5	GND_37	GND_132	N19
AE11	GND_38	GND_133	N20
AE12	GND_39	GND_134	N21
AE13	GND_40	GND_135	N22
AE14	GND_41	GND_136	N23
AE15	GND_42	GND_137	N24
AE16	GND_43	GND_138	N25
AE17	GND_44	GND_139	P12
AE18	GND_45	GND_140	P14
AE19	GND_46	GND_141	P16
AE20	GND_47	GND_142	P18
AE21	GND_48	GND_143	P20
AE22	GND_49	GND_144	P22
AE23	GND_50	GND_145	P24
AE24	GND_51	GND_146	R2
AE25	GND_52	GND_147	R31
AG2	GND_53	GND_148	R34
AG31	GND_54	GND_149	R5
AG34	GND_55	GND_150	T11
AG5	GND_56	GND_151	T13
AK2	GND_57	GND_152	T15
AK31	GND_58	GND_153	T17
AK34	GND_59	GND_154	T19
AK5	GND_60	GND_155	T21
AL12	GND_61	GND_156	T23
AL15	GND_62	GND_157	T25
AL18	GND_63	GND_158	U11
AL21	GND_64	GND_159	U12
AL24	GND_65	GND_160	U13
AL27	GND_66	GND_161	U14
AL30	GND_67	GND_162	U15
AL6	GND_68	GND_163	U16
AL9	GND_69	GND_164	U17
AN2	GND_70	GND_165	U18
AN34	GND_71	GND_166	U19
AP12	GND_72	GND_167	U20
AP15	GND_73	GND_168	U21
AP18	GND_74	GND_169	U22
AP21	GND_75	GND_170	U23
AP24	GND_76	GND_171	U24
AP27	GND_77	GND_172	U25
AP3	GND_78	GND_173	V12
AP30	GND_79	GND_174	V14
AP33	GND_80	GND_175	V16
AP6	GND_081	GND_176	V18
AP9	GND_082	GND_177	V2
B12	GND_083	GND_178	V20
B15	GND_084	GND_179	V22
B21	GND_085	GND_180	V24
B24	GND_086	GND_181	V31
B27	GND_087	GND_182	V5
B3	GND_088	GND_183	V9
B30	GND_089	GND_184	Y11
B33	GND_090	GND_185	Y13
B6	GND_091	GND_186	Y15
B9	GND_092	GND_187	Y17
C2	GND_093	GND_188	Y19
C34	GND_094	GND_189	Y21
E12	GND_095	GND_190	Y23
		GND_191	Y25

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CHANNEL A: 512MB/1024MB DDR3

(20) VMA_DQ[63..0]
(20) VMA_DM[7..0]
(20) VMA_WDQS[7..0]
(20) VMA_RDQS[7..0]

U3 — SWAP — 96-BALL SDRAM DDR3 — K4W2G1646C-HC11

U19 — SWAP — 96-BALL SDRAM DDR3 — K4W2G1646C-HC11

U2 — SWAP — 96-BALL SDRAM DDR3 — K4W2G1646C-HC11

U20 — SWAP — 96-BALL SDRAM DDR3 — K4W2G1646C-HC11

11/17 Swap

R24 243/F
R28 243/F
R27 243/F
R44 243/F

R34 162/F_4
R33 162/F_4

R372 1.33K/F_4
R373 1.33K/F_4
C550 0.01U/25V/X7R_4
R30 1.33K/F_4
R29 1.33K/F_4
C58 0.01U/25V/X7R_4
R374 1.33K/F_4
R375 1.33K/F_4
C554 0.01U/25V/X7R_4
R377 1.33K/F_4
R376 1.33K/F_4
C557 0.01U/25V/X7R_4

C573+ *330U/2.5V_3528_NC
C825 *22U/6.3V/X5R_8_NC
C826 *22U/6.3V/X5R_8_NC
C827 *22U/6.3V/X5R_8_NC

C54 C53 C552 C556 C553 C51 C548 C546 C551 C555 — 1U/6.3V/X5R_4 or 0.1U/10V/X7R_4
C59 C547 C52 C560 C559 C50 C60 C545 C71 C575 — 1U/6.3V/X5R_4 or 0.1U/10V/X7R_4
C549 C57 C56 C55 C558 C49 C542 C68 C582 C82 — 1U/6.3V/X5R_4 or 0.1U/10V/X7R_4
C47 C578 C46 C562 C568 C65 C567 C67 C563 C48 — 1U/6.3V/X5R_4 or 0.1U/10V/X7R_4

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	N11M-GE2 VRAM-1(DDR3 BGA96)	3A

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CHANNEL B: 512MB/1024MB DDR3

(20) VMC_DQ[63..0]
(20) VMC_DM[7..0]
(20) VMC_WDQS[7..0]
(20) VMC_RDQS[7..0]

U24 — SWAP — K4W2G1646C-HC11 (96-BALL SDRAM DDR3)

U9 — SWAP — K4W2G1646C-HC11 (96-BALL SDRAM DDR3)

U7 — SWAP — K4W2G1646C-HC11 (96-BALL SDRAM DDR3)

U21 — SWAP — K4W2G1646C-HC11 (96-BALL SDRAM DDR3)

+1.5V_GFX

R430 243/F
R93 243/F
R69 243/F
R418 243/F

VMC_CLKP0 — R104 162/F_4 — VMC_CLKN0
VMC_CLKP1 — R59 162/F_4 — VMC_CLKN1

R424 1.33K/F_4 — VREFC_VMC1 — R426 1.33K/F_4 — C648 0.01U/25V/X7R_4
R112 1.33K/F_4 — VREFD_VMC1 — R108 1.33K/F_4 — C295 0.01U/25V/X7R_4
R64 1.33K/F_4 — VREFC_VMC3 — R63 1.33K/F_4 — C132 0.01U/25V/X7R_4
R399 1.33K/F_4 — VREFD_VMC3 — R404 1.33K/F_4 — C613 0.01U/25V/X7R_4

C317	1U/6.3V/X5R_4	
C86	1U/6.3V/X5R_4	
C583	1U/6.3V/X5R_4	
C663	1U/6.3V/X5R_4	
C654	0.1U/10V/X7R_4	
C659	0.1U/10V/X7R_4	
C662	0.1U/10V/X7R_4	
C98	0.1U/10V/X7R_4	
C103	0.1U/10V/X7R_4	
C110	0.1U/10V/X7R_4	

C622	1U/6.3V/X5R_4	
C625	1U/6.3V/X5R_4	
C581	1U/6.3V/X5R_4	
C580	1U/6.3V/X5R_4	
C323	0.1U/10V/X7R_4	
C118	0.1U/10V/X7R_4	
C655	0.1U/10V/X7R_4	
C656	0.1U/10V/X7R_4	
C665	0.1U/10V/X7R_4	
C666	0.1U/10V/X7R_4	

C85	1U/6.3V/X5R_4	
C122	1U/6.3V/X5R_4	
C652	1U/6.3V/X5R_4	
C653	1U/6.3V/X5R_4	
C340	0.1U/10V/X7R_4	
C339	0.1U/10V/X7R_4	
C90	0.1U/10V/X7R_4	
C94	0.1U/10V/X7R_4	
C585	0.1U/10V/X7R_4	
C664	0.1U/10V/X7R_4	

C255	1U/6.3V/X5R_4	
C238	1U/6.3V/X5R_4	
C329	1U/6.3V/X5R_4	
C326	1U/6.3V/X5R_4	
C338	0.1U/10V/X7R_4	
C337	0.1U/10V/X7R_4	
C588	0.1U/10V/X7R_4	
C628	0.1U/10V/X7R_4	
C595	0.1U/10V/X7R_4	
C600	0.1U/10V/X7R_4	

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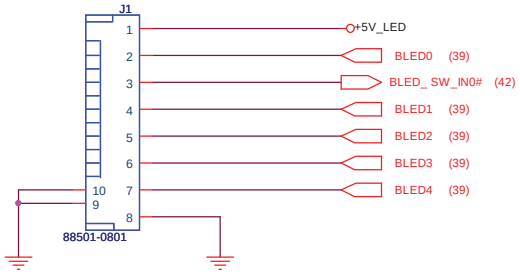
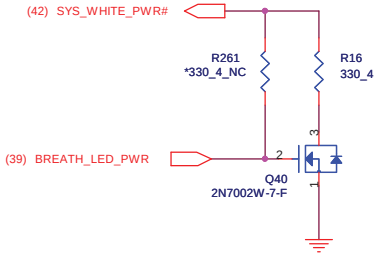
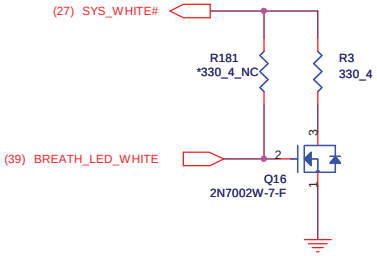
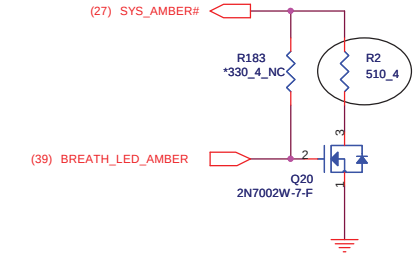
Conn to BLED Board









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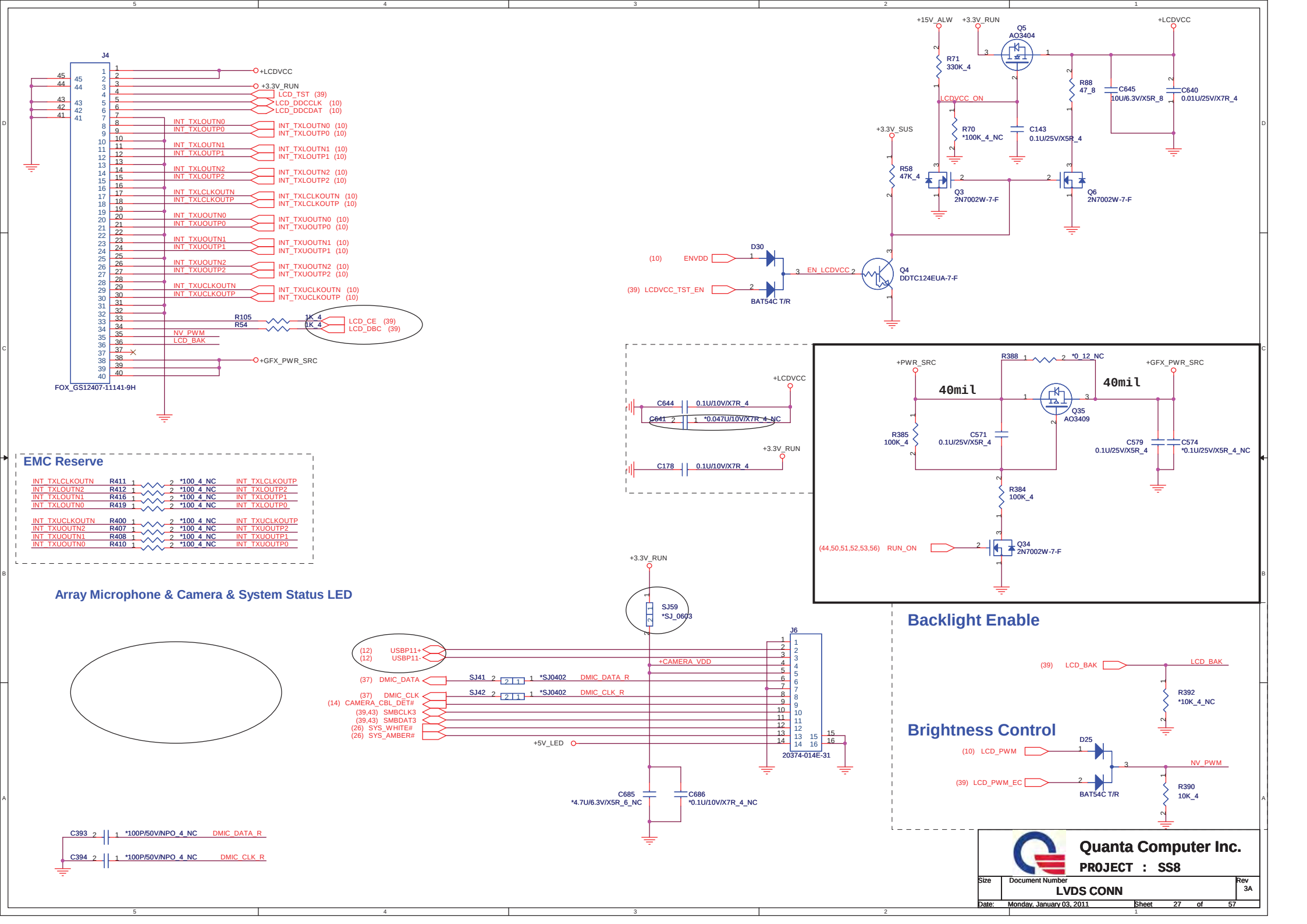
J4
FOX_GS12407-11141-9H
+LCDVCC
+3.3V_RUN
LCD_TST (39)
LCD_DDCCLK (10)
LCD_DDCDAT (10)
INT_TXLOUTN0
INT_TXLOUTP0
INT_TXLOUTN0 (10)
INT_TXLOUTP0 (10)
INT_TXLOUTN1
INT_TXLOUTP1
INT_TXLOUTN1 (10)
INT_TXLOUTP1 (10)
INT_TXLOUTN2
INT_TXLOUTP2
INT_TXLOUTN2 (10)
INT_TXLOUTP2 (10)
INT_TXLCLKOUTN
INT_TXLCLKOUTP
INT_TXLCLKOUTN (10)
INT_TXLCLKOUTP (10)
INT_TXUOUTN0
INT_TXUOUTP0
INT_TXUOUTN0 (10)
INT_TXUOUTP0 (10)
INT_TXUOUTN1
INT_TXUOUTP1
INT_TXUOUTN1 (10)
INT_TXUOUTP1 (10)
INT_TXUOUTN2
INT_TXUOUTP2
INT_TXUOUTN2 (10)
INT_TXUOUTP2 (10)
INT_TXUCLKOUTN
INT_TXUCLKOUTP
INT_TXUCLKOUTN (10)
INT_TXUCLKOUTP (10)
R105
R54
1K_4
1K_4
LCD_CE (39)
LCD_DBC (39)
NV_PWM
LCD_BAK
+GFX_PWR_SRC
+15V_ALW
+3.3V_RUN
Q5
AO3404
R71
330K_4
LCDVCC_ON
R70
*100K_4_NC
C143
0.1U/25V/X5R_4
R88
47_8
C645
10U/6.3V/X5R_8
C640
0.01U/25V/X7R_4
+LCDVCC
+3.3V_SUS
R58
47K_4
Q3
2N7002W-7-F
Q6
2N7002W-7-F
(10) ENVDD
(39) LCDVCC_TST_EN
D30
BAT54C T/R
EN_LCDVCC
Q4
DDTC124EUA-7-F
+LCDVCC
C644
0.1U/10V/X7R_4
C641
*0.047U/10V/X7R_4_NC
+3.3V_RUN
C178
0.1U/10V/X7R_4
+PWR_SRC
R388
*0_12_NC
+GFX_PWR_SRC
40mil
40mil
Q35
AO3409
R385
100K_4
C571
0.1U/25V/X5R_4
C579
0.1U/25V/X5R_4
C574
*0.1U/25V/X5R_4_NC
R384
100K_4
(44,50,51,52,53,56) RUN_ON
Q34
2N7002W-7-F
EMC Reserve
INT_TXLCLKOUTN R411 *100_4_NC INT_TXLCLKOUTP
INT_TXLOUTN2 R412 *100_4_NC INT_TXLOUTP2
INT_TXLOUTN1 R416 *100_4_NC INT_TXLOUTP1
INT_TXLOUTN0 R419 *100_4_NC INT_TXLOUTP0
INT_TXUCLKOUTN R400 *100_4_NC INT_TXUCLKOUTP
INT_TXUOUTN2 R407 *100_4_NC INT_TXUOUTP2
INT_TXUOUTN1 R408 *100_4_NC INT_TXUOUTP1
INT_TXUOUTN0 R410 *100_4_NC INT_TXUOUTP0
Array Microphone & Camera & System Status LED
+3.3V_RUN
SJ59
*SJ_0603
J6
(12) USBP11+
(12) USBP11-
+CAMERA_VDD
(37) DMIC_DATA
SJ41 *SJ0402 DMIC_DATA_R
(37) DMIC_CLK
SJ42 *SJ0402 DMIC_CLK_R
(14) CAMERA_CBL_DET#
(39,43) SMBCLK3
(39,43) SMBDAT3
(26) SYS_WHITE#
(26) SYS_AMBER#
+5V_LED
20374-014E-31
C685
*4.7U/6.3V/X5R_6_NC
C686
*0.1U/10V/X7R_4_NC
C393 *100P/50V/NPO_4_NC DMIC_DATA_R
C394 *100P/50V/NPO_4_NC DMIC_CLK_R
Backlight Enable
(39) LCD_BAK
LCD_BAK
R392
*10K_4_NC
Brightness Control
(10) LCD_PWM
(39) LCD_PWM_EC
D25
BAT54C T/R
NV_PWM
R390
10K_4
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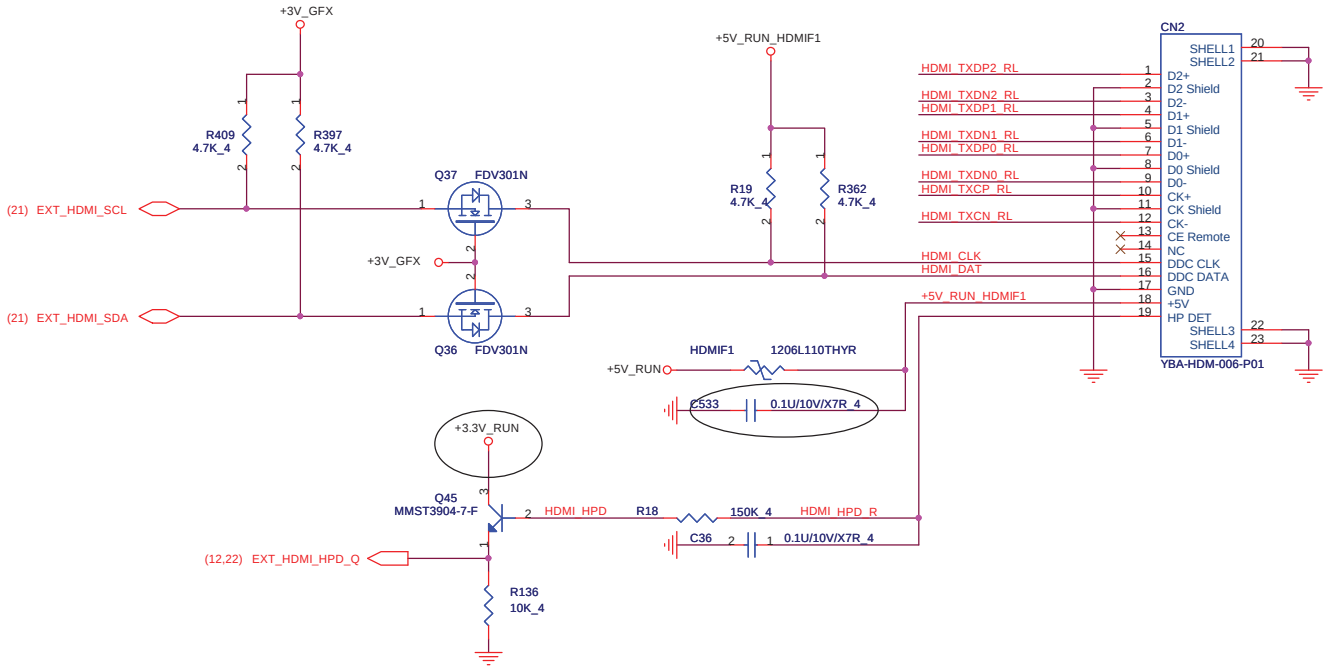
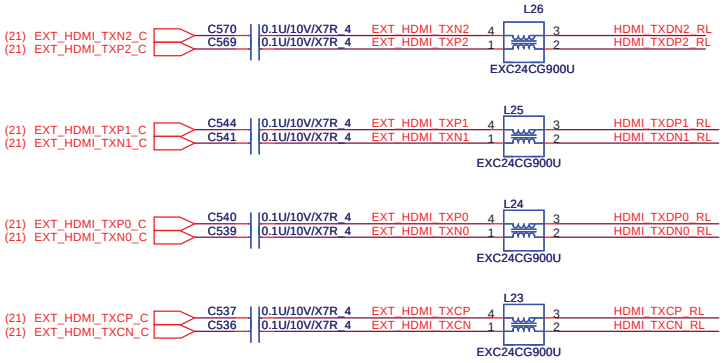
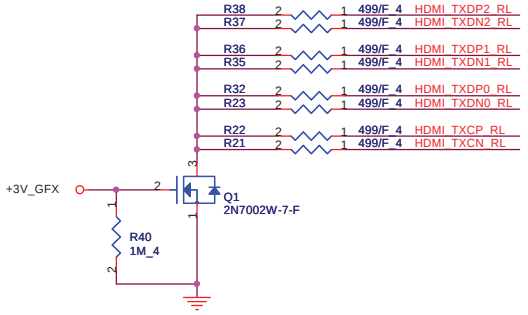
HDMI







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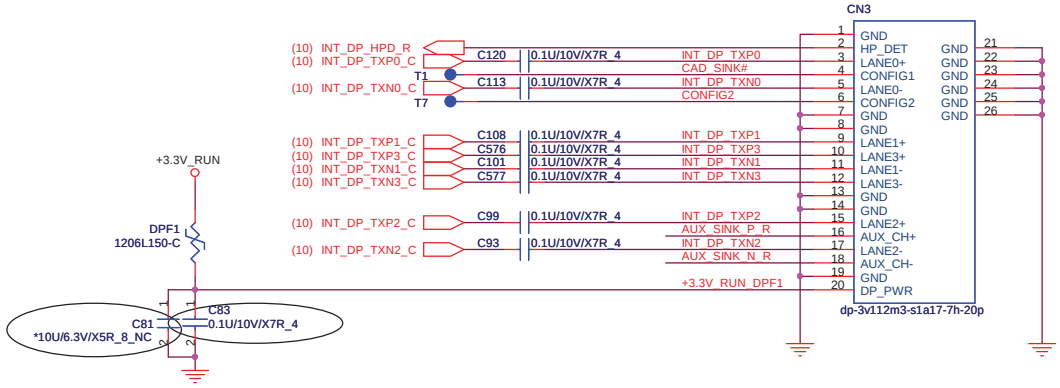
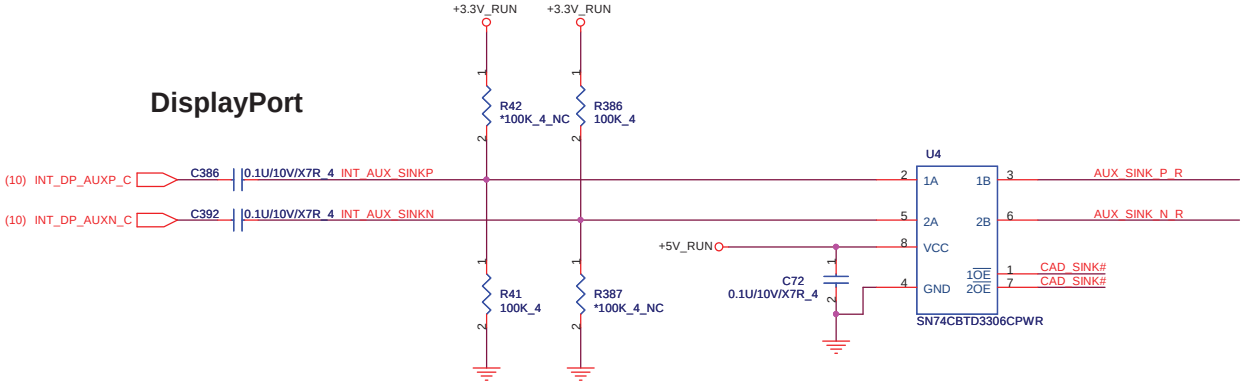
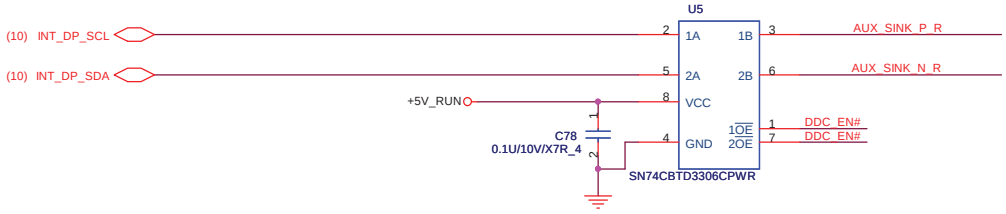
MINI DISPLAY PORT CONNECTOR

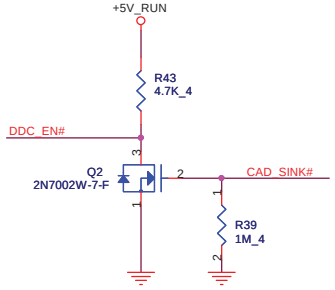


DisplayPort



HDMI





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Card Reader interface signal mapping

PIN	Default	SD / MMC	MS	XD
MDIO00	SD/MMC/MS/xD	SD_D0	MS_D0	XD_D0
MDIO01		SD_D1	MS_D1	XD_D1
MDIO02		SD_D2	MS_D2	XD_D2
MDIO03		SD_D3	MS_D3	XD_D3
MDIO04		SD_CMD	MS_BS	XD_WE#
MDIO05		SD_CLK	MS_CLK	XD_CE#
MDIO06		SD_WP		XD_WP#
MDIO07				XD_CLE
MDIO08		MMC_D4	MS_D4	XD_D4
MDIO09		MMC_D5	MS_D5	XD_D5
MDIO10		MMC_D6	MS_D6	XD_D6
MDIO11		MMC_D7	MS_D7	XD_D7
MDIO12				XD_RE#
MDIO13				XD_R/B#
MDIO14				XD_ALE
CR1_LEDN		SD_LED#	MS_LED#	XD_LED#
CR1_PCTLN		SD_PWR#	MS_PWR#	XD_PWR#
CR1_CD0		SD_CD#		
CR1_CD1			MS_CD#	
CR1_CD2				XD_CD#

2.2uF cap is no more than 250mils away from the power pin and a have a min trace width of 40mils.

+CR_PWR — SJ43 *SJ_0603 — (>20mil) — +3.3V_CARD
C772 10U/10V/Y5V_8
C769 0.1U/10V/X7R_4

+DVDD18 — SJ44 *SJ_0603 — (>40mil) — +APVDD

+3.3V_RUN — SJ45 *SJ_0603 — (>40mil) — +VDD33

+VDD33
C757 0.1U/10V/X7R_4
C771 0.1U/10V/X7R_4

+3.3V_CARD
C511 2.2U/6.3V/X5R_6

CN7 — ALPS 5 in 1

1	SD-9(D2)	SD(SW.COM)	24
2	SD-1(D3)	SD(SW.CD)	25
3	MMC-10(D4)	XD-1(CDSW)	26
4	SD-2(SD_CMD)	XD-0(GND)	27
5	MMC-11(D5)	XD-2(R/-B)	28
6	SD-3(VSS)	XD-3(RE)	29
7	SD-4(VDD)	XD-4(CE)	30
8	MS-10(VSS)	XD-5(CLE)	31
9	MS-9(VCC)	XD-6(ALE)	32
10	MS-8(SCLK)	XD-7(WE)	33
11	MS-7(D3)	XD-8(-WP)	34
12	MS-6(INS)	XD-9(GND)	35
13	MS-5(D2)	XD-10(D0)	36
14	MS-4(D0)	XD-11(D1)	37
15	MS-3(D1)	XD-12(D2)	38
16	MS-2(BS)	XD-13(D3)	39
17	MS-1(VSS)	XD-14(D4)	40
18	SD-5(CLK)	XD-15(D5)	41
19	MMC-12(D6)	XD-16(D6)	42
20	SD-6(GND)	XD-17(D7)	43
21	MMC-13(D7)	XD-18(VCC)	44
22	SD-7(D0)	SD(SW.WP)	45
23	SD-8(D1)		

SD_MS_XD-D2, SD_MS_XD-D3, SD_MS_XD-D4, SD-CMD_MS-BS_XD-WE#, SD_MS_XD-D5
SD-CLK_MS-CLK_XD-CE#, SD_MS_XD-D3, MS_CD#, SD_MS_XD-D2, SD_MS_XD-D0, SD_MS_XD-D1, SD-CMD_MS-BS_XD-WE#, SD-CLK_MS-CLK_XD-CE#, SD_MS_XD-D6, SD_MS_XD-D7, SD_MS_XD-D0, SD_MS_XD-D1
SD_CD#, XD_CD#, SD-WP_XD-WP#
XD-R/B#, XD-RE#, SD-CLK_MS-CLK_XD-CE#, XD-CLE, XD-ALE, SD-CMD_MS-BS_XD-WE#, SD-WP_XD-WP#, SD_MS_XD-D0 … SD_MS_XD-D7

C492 270P/25V/NPO_4
C470 *10P/50V/C0G_4_NC
C507 *10P/50V/C0G_4_NC
C727 *270P/25V/NPO_4_NC
C455 *0.1U/10V/X7R_4_NC
C734 *0.1U/10V/X7R_4_NC

+VDD33
+DVDD18
+3.3V_CARD
+APVDD
+CR_PWR

U31 — JMB389

36	TAV33	MDIO6	24
35	SPI_SI	MDIO13	23
34	SPI_SO	MDIO14	22
33	SPI_CSN	CR1_LEDN	21
32	GND	DV33	20
31	GND	DV33	19
30	SPI_SCK	DV18	18
29	MDIO9	CR1_PCTLN	17
28	MDIO10	CR1_CD0N	16
27	MDIO11	CR1_CD1N	15
26	MDIO12	CR1_CD2N	14
25		CPPE_N	13
37	DV18	XRSTN	1
38	GND	XTEST	2
39	TXIN	APCLKN	3
40	MDIO7	APCLKP	4
41	MDIO4	APVDD	5
42	MDIO5	APGND	6
43	SDDV33_18	APREXT	7
44	DV33	APRXN	8
45	MDIO3	APRXP	9
46	MDIO2	APV18	10
47	MDIO1	APTXN	11
48	MDIO0	APTXP	12

SD_MS_XD-D4, SD_MS_XD-D5, SD_MS_XD-D6, SD_MS_XD-D7, XD-RE#
SD-WP_XD-WP#, XD-R/B#, XD-ALE
SD_CD#, MS_CD#, XD_CD#

MIDO Single End = 50 ohm

C768 0.1U/10V/X7R_4
C765 *22P/50V/NPO_4_NC
R563 1K_4 SD-WP_XD-WP#
R562 1K_4 XD-R/B#
SR51 *SJ0402
SD-CMD_MS-BS_XD-WE#, SD-CLK_MS-CLK_XD-CE#_R, SDDV33_18
C760 2.2U/6.3V/X5R_6
SD_MS_XD-D3, SD_MS_XD-D2, SD_MS_XD-D1, SD_MS_XD-D0

C770 10U/6.3V/X5R_8
C770 Near to Pin18: W/L=12mil/<250mil
Layout Note: Place this cap close to pin 18

Q41 *2N7002W-7-F_NC
CPPE_N (14)
CPPE_N#

MIDO[0..5] Single Skew Should be smaller +/- 100 mil for SDA3.Application

(5,12,19,31,32,33,38,39) PLTRST#
R517 100/F_4
C743 0.1U/10V/X7R_4
(13) CLK_PCIE_CARDN
(13) CLK_PCIE_CARDP
12K/F_4 APREXT
R502

W/L=20mil/<200mil
C731,C738 Near to Pin5
C731 10U/6.3V/X5R_8
C738 0.1U/10V/X7R_4
C737 0.1U/10V/X7R_4
C737 Near to Pin10

(13) PCIE_TXP5
(13) PCIE_TXN5
(13) PCIE_RXN5
(13) PCIE_RXP5
C736 0.1U/10V/X7R_4 PCIE_RXN5_C
C735 0.1U/10V/X7R_4 PCIE_RXP5_C

Quanta Computer Inc.
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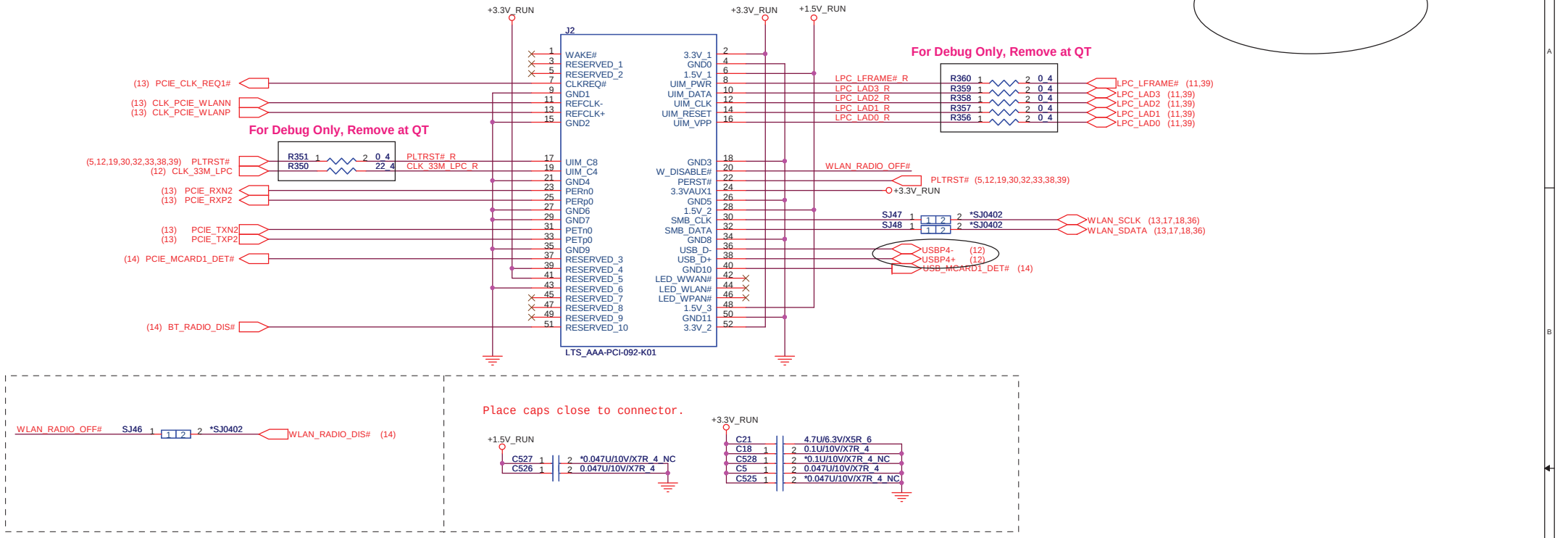
MiniCard WLAN connector



Quanta Computer Inc.		
PROJECT : SS8		
Size	Document Number: MINI-PCI (WLAN/WPAN)	Rev 3A
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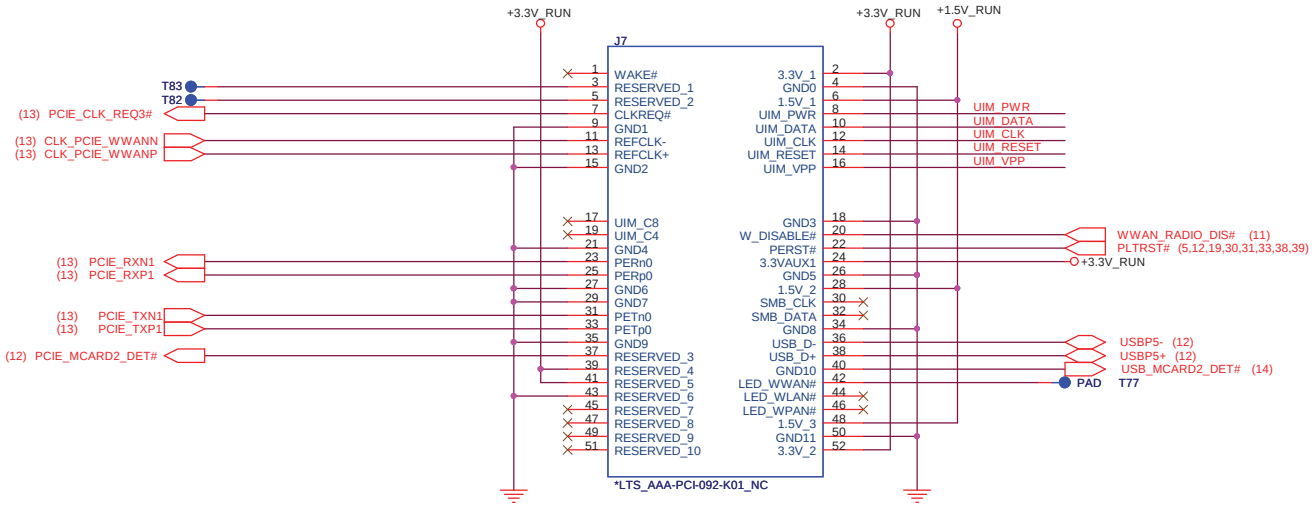
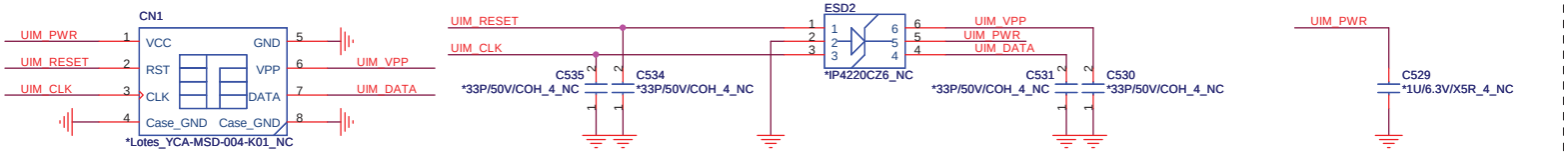
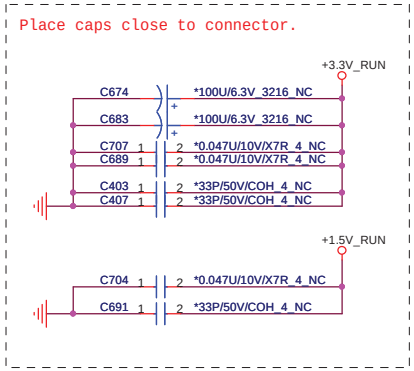
MiniCard WWAN connector







Quanta Computer Inc.		
PROJECT : SS8		
Size	Document Number: MINI-PCI (WWAN)	Rev 3A
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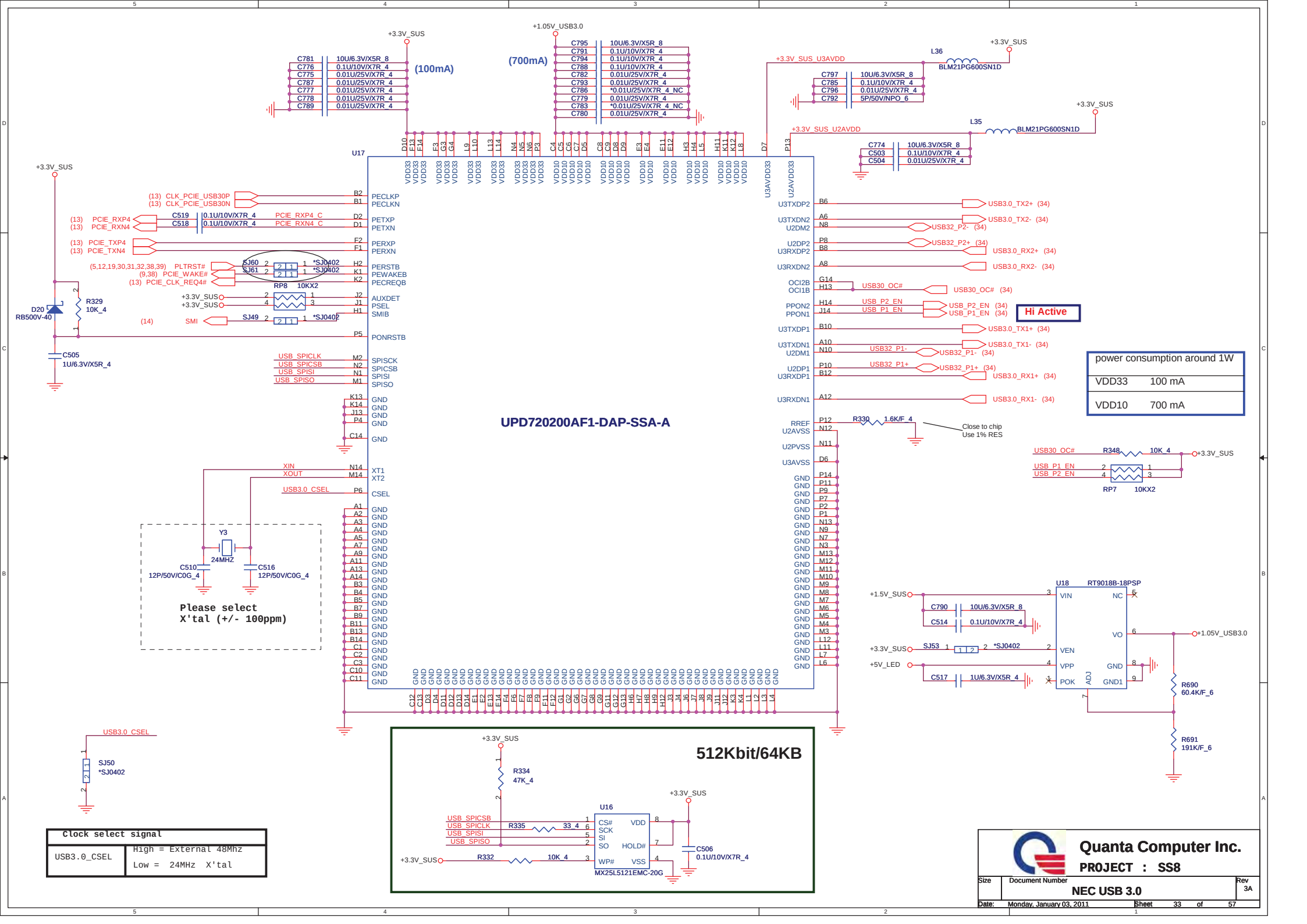
UPD720200AF1-DAP-SSA-A
+3.3V_SUS
+1.05V_USB3.0
(100mA)
(700mA)
C781 10U/6.3V/X5R_8
C776 0.1U/10V/X7R_4
C775 0.01U/25V/X7R_4
C787 0.01U/25V/X7R_4
C777 0.01U/25V/X7R_4
C778 0.01U/25V/X7R_4
C789 0.01U/25V/X7R_4
C795 10U/6.3V/X5R_8
C791 0.1U/10V/X7R_4
C794 0.1U/10V/X7R_4
C788 0.1U/10V/X7R_4
C782 0.01U/25V/X7R_4
C793 0.01U/25V/X7R_4
C786 *0.01U/25V/X7R_4_NC
C779 0.01U/25V/X7R_4
C783 *0.01U/25V/X7R_4_NC
C780 0.01U/25V/X7R_4
+3.3V_SUS_U3AVDD
L36
BLM21PG600SN1D
C797 10U/6.3V/X5R_8
C785 0.1U/10V/X7R_4
C796 0.01U/25V/X7R_4
C792 5P/50V/NPO_6
+3.3V_SUS_U2AVDD
L35
BLM21PG600SN1D
C774 10U/6.3V/X5R_8
C503 0.1U/10V/X7R_4
C504 0.01U/25V/X7R_4
U17
(13) CLK_PCIE_USB30P
(13) CLK_PCIE_USB30N
(13) PCIE_RXP4
(13) PCIE_RXN4
C519 0.1U/10V/X7R_4
C518 0.1U/10V/X7R_4
PCIE_RXP4_C
PCIE_RXN4_C
(13) PCIE_TXP4
(13) PCIE_TXN4
(5,12,19,30,31,32,38,39) PLTRST#
(9,38) PCIE_WAKE#
(13) PCIE_CLK_REQ4#
SJ60 *SJ0402
SJ61 *SJ0402
RP8 10KX2
D20 RB500V-40
R329 10K_4
C505 1U/6.3V/X5R_4
(14) SMI
SJ49 *SJ0402
USB_SPICLK
USB_SPICSB
USB_SPISI
USB_SPISO
XIN
XOUT
Y3 24MHZ
C510 12P/50V/C0G_4
C516 12P/50V/C0G_4
Please select X'tal (+/- 100ppm)
USB3.0_CSEL
SJ50 *SJ0402
PECLKP
PECLKN
PETXP
PETXN
PERXP
PERXN
PERSTB
PEWAKEB
PECREQB
AUXDET
PSEL
SMIB
PONRSTB
SPISCK
SPICSB
SPISI
SPISO
XT1
XT2
CSEL
GND
U3TXDP2
U3TXDN2
U2DM2
U2DP2
U3RXDP2
U3RXDN2
OCI2B
OCI1B
PPON2
PPON1
U3TXDP1
U3TXDN1
U2DM1
U2DP1
U3RXDP1
U3RXDN1
RREF
U2AVSS
U2PVSS
U3AVSS
R330 1.6K/F_4
Close to chip Use 1% RES
USB3.0_TX2+ (34)
USB3.0_TX2- (34)
USB32_P2- (34)
USB32_P2+ (34)
USB3.0_RX2+ (34)
USB3.0_RX2- (34)
USB30_OC# (34)
USB_P2_EN (34)
USB_P1_EN (34)
USB3.0_TX1+ (34)
USB3.0_TX1- (34)
USB32_P1- (34)
USB32_P1+ (34)
USB3.0_RX1+ (34)
USB3.0_RX1- (34)
Hi Active
power consumption around 1W
VDD33 100 mA
VDD10 700 mA
USB30_OC# R348 10K_4 +3.3V_SUS
USB_P1_EN
USB_P2_EN
RP7 10KX2
U18 RT9018B-18PSP
+1.5V_SUS
C790 10U/6.3V/X5R_8
C514 0.1U/10V/X7R_4
+3.3V_SUS
SJ53 *SJ0402
+5V_LED
C517 1U/6.3V/X5R_4
VIN
VEN
VPP
POK
ADJ
NC
VO
GND
GND1
+1.05V_USB3.0
R690 60.4K/F_6
R691 191K/F_6
512Kbit/64KB
R334 47K_4
U16
USB_SPICSB
USB_SPICLK
USB_SPISI
USB_SPISO
R335 33_4
R332 10K_4
CS#
SCK
SI
SO
WP#
VDD
HOLD#
VSS
MX25L5121EMC-20G
C506 0.1U/10V/X7R_4
Clock select signal
USB3.0_CSEL
High = External 48Mhz
Low = 24MHz X'tal
Quanta Computer Inc.
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NEC USB 3.0
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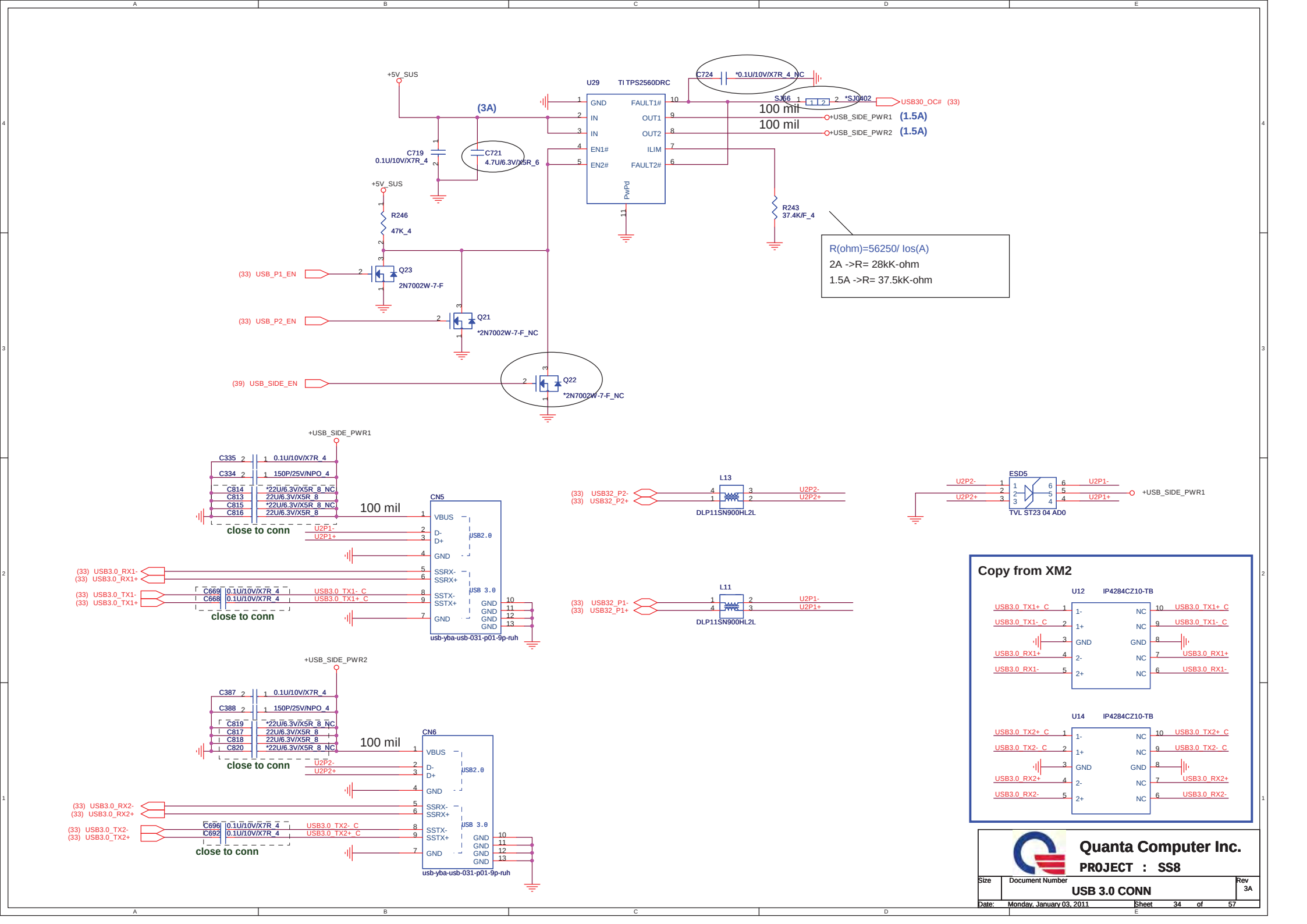
+5V_SUS
(3A)
U29
TI TPS2560DRC
GND
IN
IN
EN1#
EN2#
FAULT1#
OUT1
OUT2
ILIM
FAULT2#
PwPd
C719
0.1U/10V/X7R_4
C721
4.7U/6.3V/X5R_6
C724
*0.1U/10V/X7R_4_NC
SJ66
*SJ0402
USB30_OC# (33)
100 mil
100 mil
+USB_SIDE_PWR1 (1.5A)
+USB_SIDE_PWR2 (1.5A)
R246
47K_4
R243
37.4K/F_4
R(ohm)=56250/ Ios(A)
2A ->R= 28kK-ohm
1.5A ->R= 37.5kK-ohm
(33) USB_P1_EN
Q23
2N7002W-7-F
(33) USB_P2_EN
Q21
*2N7002W-7-F_NC
(39) USB_SIDE_EN
Q22
*2N7002W-7-F_NC
+USB_SIDE_PWR1
C335 0.1U/10V/X7R_4
C334 150P/25V/NPO_4
C814 *22U/6.3V/X5R_8_NC
C813 22U/6.3V/X5R_8
C815 *22U/6.3V/X5R_8_NC
C816 22U/6.3V/X5R_8
close to conn
100 mil
CN5
VBUS
D-
D+
GND
SSRX-
SSRX+
SSTX-
SSTX+
USB2.0
USB 3.0
U2P1-
U2P1+
(33) USB3.0_RX1-
(33) USB3.0_RX1+
(33) USB3.0_TX1-
(33) USB3.0_TX1+
C669 0.1U/10V/X7R_4
C668 0.1U/10V/X7R_4
USB3.0_TX1-_C
USB3.0_TX1+_C
usb-yba-usb-031-p01-9p-ruh
(33) USB32_P2-
(33) USB32_P2+
L13
DLP11SN900HL2L
U2P2-
U2P2+
(33) USB32_P1-
(33) USB32_P1+
L11
DLP11SN900HL2L
ESD5
TVL ST23 04 AD0
+USB_SIDE_PWR2
C387 0.1U/10V/X7R_4
C388 150P/25V/NPO_4
C819 *22U/6.3V/X5R_8_NC
C817 22U/6.3V/X5R_8
C818 22U/6.3V/X5R_8
C820 *22U/6.3V/X5R_8_NC
close to conn
100 mil
CN6
U2P2-
U2P2+
(33) USB3.0_RX2-
(33) USB3.0_RX2+
(33) USB3.0_TX2-
(33) USB3.0_TX2+
C696 0.1U/10V/X7R_4
C692 0.1U/10V/X7R_4
USB3.0_TX2-_C
USB3.0_TX2+_C
close to conn
usb-yba-usb-031-p01-9p-ruh
Copy from XM2
U12
IP4284CZ10-TB
U14
IP4284CZ10-TB
1-
1+
GND
2-
2+
NC
USB3.0_TX1+_C
USB3.0_TX1-_C
USB3.0_RX1+
USB3.0_RX1-
USB3.0_TX2+_C
USB3.0_TX2-_C
USB3.0_RX2+
USB3.0_RX2-
Quanta Computer Inc.
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USB 3.0 CONN
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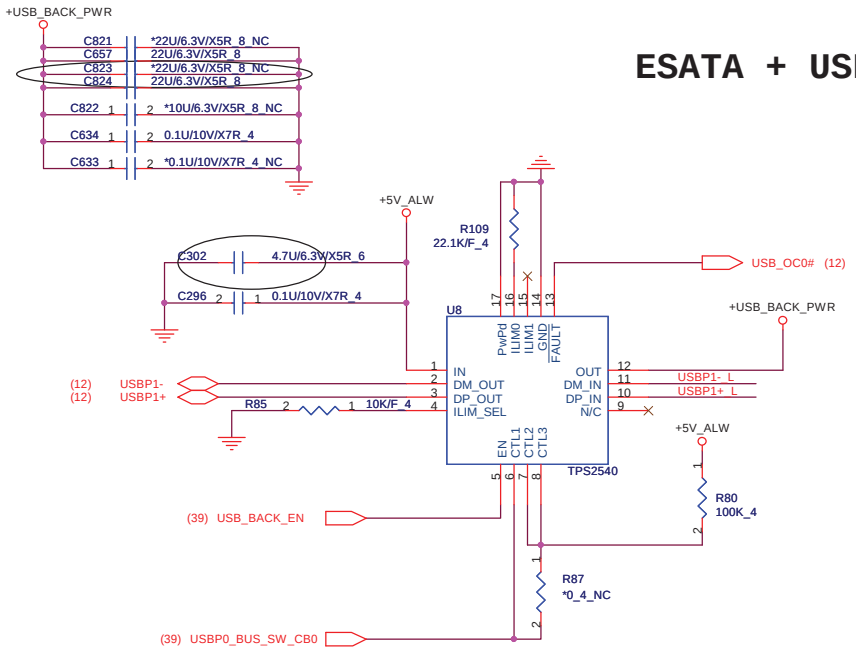
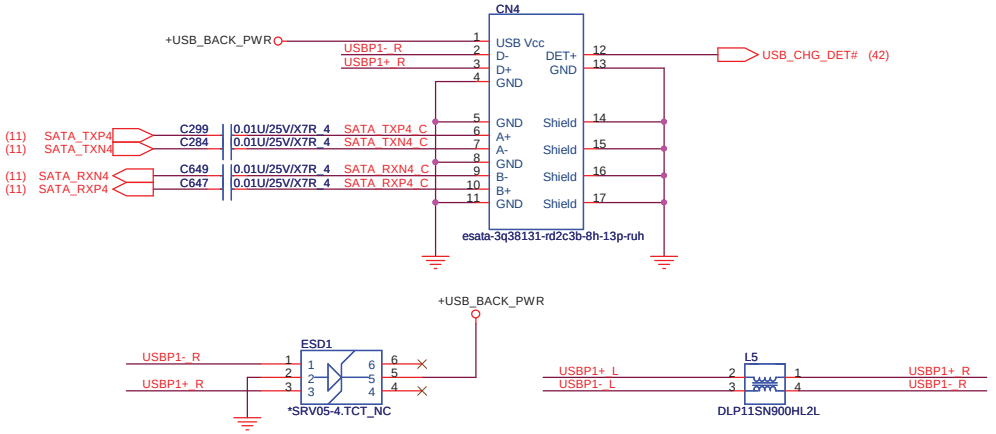
ESATA + USB Conn + Power share



E-SATA Conn



ES(PG1.0): Stuff R87, Un-Stuff R80
MP(PG1.1): Un-Stuff R87, Stuff R80

USBP0_BUS_SW_CB0	Mode
Low	DCP, Auto-detect
High	CDP, BC Spec 1.1

	R109	mA	
OC limitation	100k ohm	480	
	22.1k ohm	2171	Applied Now

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	PUSB / ESATA	3A

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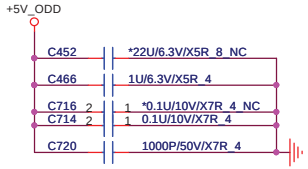
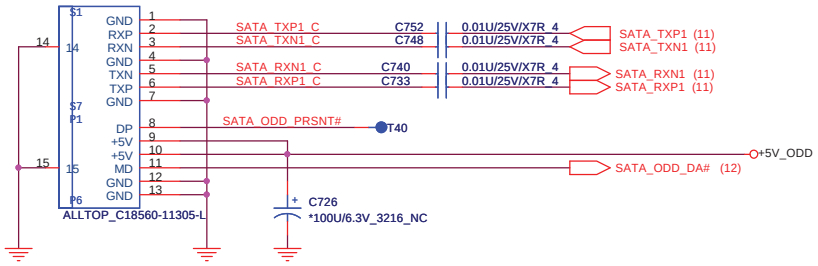
Place caps close to CN11.

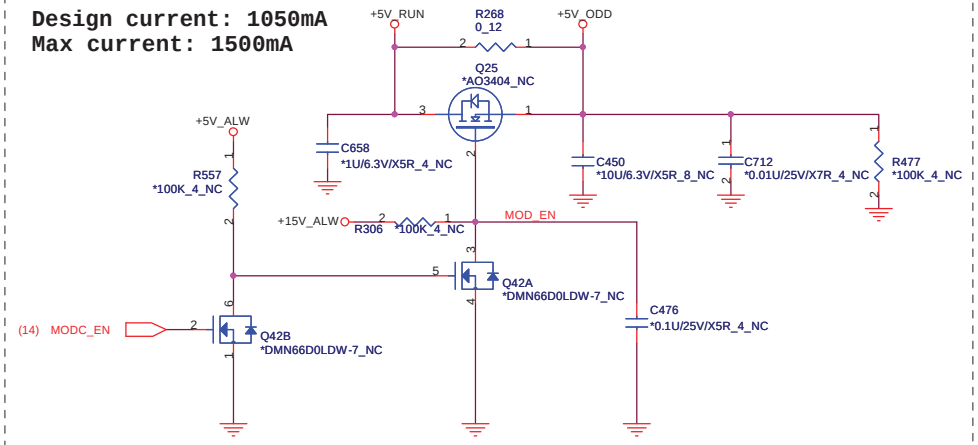


ODD Connector

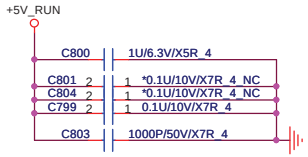
DG: Place TX cap close to connector



Design current: 1050mA
Max current: 1500mA

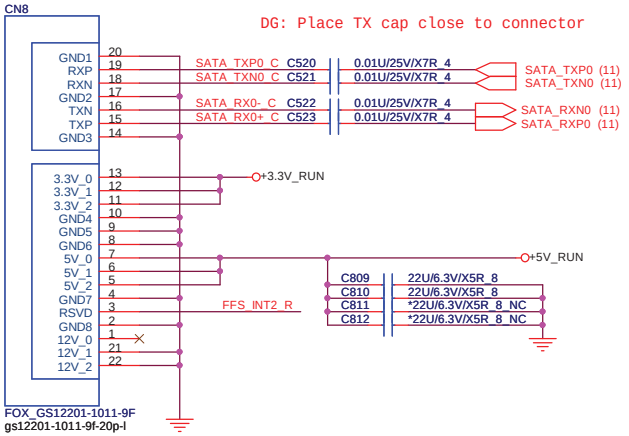


Place caps close to CN8.

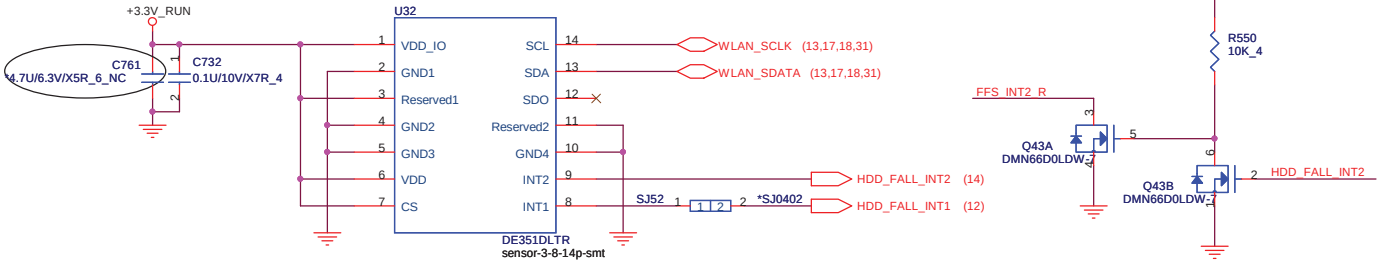


SATA Connector.

DG: Place TX cap close to connector



3-axis Fall Sensor (HDD data protector)



Quanta Computer Inc.		
PROJECT : SS8		
Size	Document Number: SATA HDD/ODD	Rev 3A
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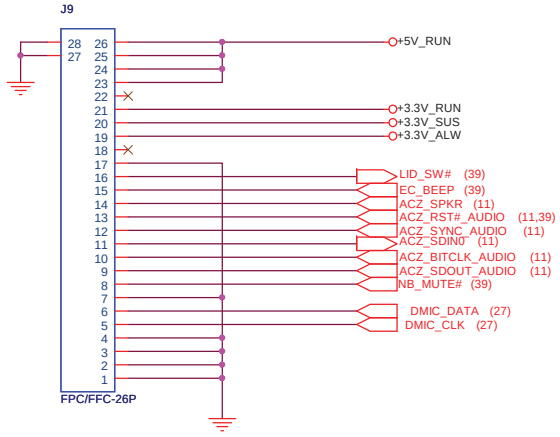
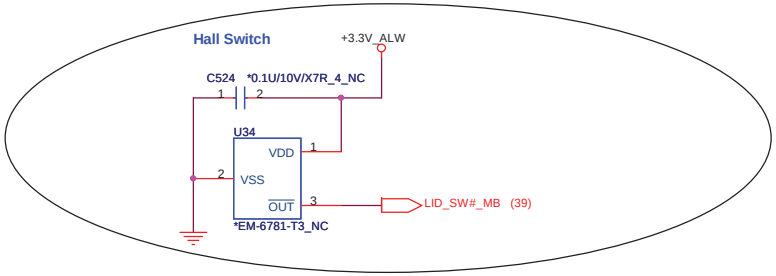
CONNECT TO AUDIO BOARD





Quanta Computer Inc.

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	Azelia CODEC	3A

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These Caps close LAN Chip VDD33 pins

+3.3V_SUS — SJ68 — *SJ_0603 — +3.3V_LAN wider>30mil — +3.3V_LAN

C11 10U/6.3V/X5R_8
C13 1U/6.3V/X5R_4
C7 0.1U/10V/X7R_4
C4 1000P/50V/X7R_4

Close to Pin6
+1.1V_AVDD
C6 1U/6.3V/X5R_4
C12 0.1U/10V/X7R_4

Close to Pin9
+2.7V_AVDD
C23 1U/6.3V/X5R_4
C22 0.1U/10V/X7R_4

Close to Pin37
+1.1V_DVDD
C15 1U/6.3V/X5R_4
C19 0.1U/10V/X7R_4

U1

(13) PCIE_RXN6 — C10 0.1U/10V/X7R_4 — PCIE_RXN6_C — 29 TX_N
(13) PCIE_RXP6 — C8 0.1U/10V/X7R_4 — PCIE_RXP6_C — 30 TX_P
(13) PCIE_TXN6 — 36 RX_N
(13) PCIE_TXP6 — 35 RX_P

(13) CLK_PCIE_LANN — 32 REFCLKN
(13) CLK_PCIE_LANP — 33 REFCLKP

Atheros
AR8151
AR8152

TP1 LAN_SMBDAT — 26 SMDATA
TP2 LAN_SMBCLK — 25 SMCLK

(5,12,19,30,31,32,33,39) PLTRST# — 2 PERSTn
(9,33) PCIE_WAKE# — 3 WAKEn

10 RBIAS
R6 2.37K/F_4

27 TESTMODE
28 TEST_RST

LAN_XTAL1 — 8 XTLI
LAN_XTAL2 — 7 XTLO

41 GND_PAD

AR8151B

DVDDL, DVDDL_REG — 24 — +1.1V_DVDD — C1 0.1U/10V/X7R_4 — +1.1V_DVDD wider>20mil
LX — 40 — +1.7V_LX — +1.7V_LX wider>20mil
VDD33 — 1 — +3.3V_LAN
AVDDH_REG, AVDDH, AVDDH — 9 — +2.7V_AVDD — C26 0.1U/10V/X7R_4, C20 0.1U/10V/X7R_4 — +2.7V_AVDD wider>20mil
AVDDL_REG, AVDDL, AVDDL, AVDDL, AVDDL — 6 — +1.1V_AVDD — C25 0.1U/10V/X7R_4, C27 0.1U/10V/X7R_4, C3 0.1U/10V/X7R_4, C2 0.1U/10V/X7R_4 — +1.1V_AVDD wider>20mil
VDDCT_REG/CLKREQn — 4
VDDCT — 5 — +VDDCT — C9 0.1U/10V/X7R_4 — PCIE_CLK_REQ5# (13)

Netlist delete
Pin13 &19

TRXN[3] TRD3- — R15 49.9/F_4 — C33 1000P/50V/X7R_4
TRXP[3] TRD3+ — R14 49.9/F_4 — C32 0.1U/10V/X7R_4
TRXN[2] TRD2- — R13 49.9/F_4 — C30 1000P/50V/X7R_4
TRXP[2] TRD2+ — R12 49.9/F_4 — C31 0.1U/10V/X7R_4
TRXN[1] TRD1- — R11 49.9/F_4 — C28 1000P/50V/X7R_4
TRXP[1] TRD1+ — R10 49.9/F_4 — C29 0.1U/10V/X7R_4
TRXN[0] TRD0- — R9 49.9/F_4 — C35 1000P/50V/X7R_4
TRXP[0] TRD0+ — R8 49.9/F_4 — C34 0.1U/10V/X7R_4

Close to LAN chip

LED0 — 38 LED_ACT
LED1 — 39
CLKREQn/LED2 — 23

LAN_XTAL1 — Y1 — LAN_XTAL2
C24 33P/50V/NPO_4 — 25MHz — C16 33P/50V/NPO_4

Close to pin40

+1.7V_LX — L21 4.7uH/700mA_8 — +VDDCT — L1 HCB1608KF-181T15_6 — AVDD_CEN
C17 0.1U/10V/X7R_4
C14 10U/6.3V/X5R_6
C69 *1U/6.3V/X5R_4_NC

+VDDCT wider>30mil

L8206 close to U31

R1 4.7K_4 LED_ACT

	Over-clocking enable	Over-clocking disable
LED_ACT	1	0

RJ-45 Connector

CN9
JM36111-R4N03-7H

RJ45-TX0+ 1
RJ45-TX0- 2
RJ45-TX1+ 3
RJ45-TX2+ 4
RJ45-TX2- 5
RJ45-TX1- 6
RJ45-TX3+ 7
RJ45-TX3- 8
9 10 11 12

C38 *6.8P/50V/NPO_4_NC TRD0+
C37 *6.8P/50V/NPO_4_NC TRD0-
C42 *6.8P/50V/NPO_4_NC TRD1+
C39 *6.8P/50V/NPO_4_NC TRD1-
C45 *6.8P/50V/NPO_4_NC TRD2+
C44 *6.8P/50V/NPO_4_NC TRD2-
C66 *6.8P/50V/NPO_4_NC TRD3+
C63 *6.8P/50V/NPO_4_NC TRD3-

R365 75/F_4 TXCT1
R568 75/F_4 TXCT2
R569 75/F_4 TXCT3
R570 75/F_4 TXCT4
C532 1000P/3KV/X7R_18

Wait for Connector list to update

Change to CM1293A-04SO

ESD3
TRD0+ 1 — 6 TRD1+
TRD0- 2 — 5 TRD1-
3 — 4
R20 *0_4_NC — +3.3V_LAN
*SRV05-4.TCT_NC
C40 *0.1U/10V/X7R_4_NC

ESD4
TRD2+ 1 — 6 TRD3+
TRD2- 2 — 5 TRD3-
3 — 4
R379 *0_4_NC — +3.3V_LAN
*SRV05-4.TCT_NC
C561 *0.1U/10V/X7R_4_NC

AVDD_CEN
C475 0.1U/10V/X7R_4
C513 0.1U/10V/X7R_4
C807 0.1U/10V/X7R_4
C808 0.1U/10V/X7R_4

L2

	24 MCT0	TCT0	1 TXCT1
TRD3+	23 TX0+	TD0+	2 RJ45-TX3+
TRD3-	22 TX0-	TD0-	3 RJ45-TX3-
	21 MCT1	TCT1	4 TXCT2
TRD2+	20 TX1+	TD1+	5 RJ45-TX2+
TRD2-	19 TX1-	TD1-	6 RJ45-TX2-
	18 MCT2	TCT2	7 TXCT3
TRD1+	17 TX2+	TD2+	8 RJ45-TX1+
TRD1-	16 TX2-	TD2-	9 RJ45-TX1-
	15 MCT3	TCT3	10 TXCT4
TRD0+	14 TX3+	TD3+	11 RJ45-TX0+
TRD0-	13 TX3-	TD3-	12 RJ45-TX0-

LFE9276A-R

Quanta Computer Inc.
PROJECT : SS8

Size	Document Number	Rev
	LAN (AR8151B)	3A
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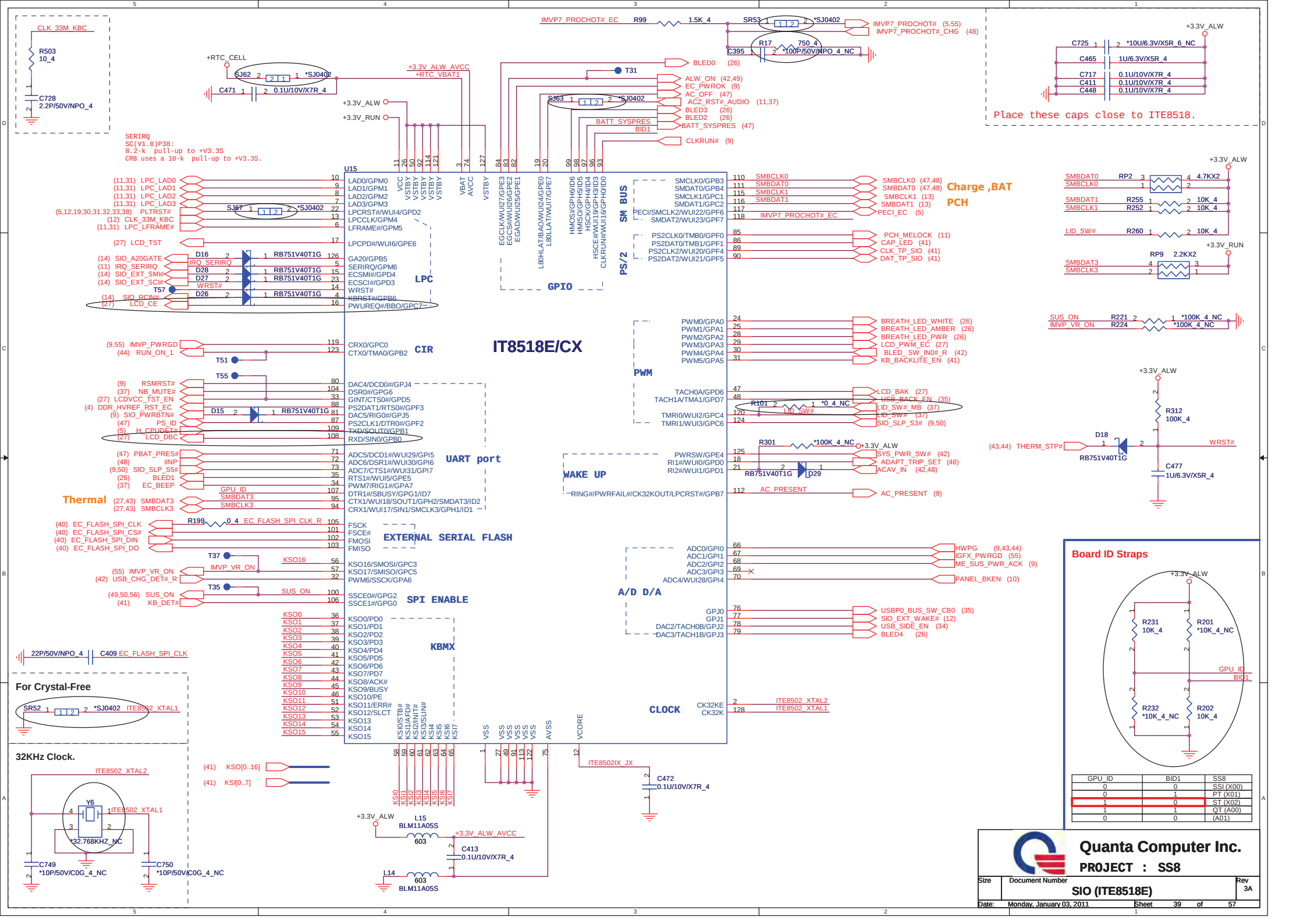
IT8518E/CX
U15
LPC
SM BUS
PS/2
GPIO
CIR
UART port
PWM
WAKE UP
EXTERNAL SERIAL FLASH
SPI ENABLE
KBMX
A/D D/A
CLOCK
Charge ,BAT
PCH
Thermal
Board ID Straps
Place these caps close to ITE8518.
SERIRQ
SC(V1.0)P38:
8.2-k pull-up to +V3.3S
CRB uses a 10-k pull-up to +V3.3S.
For Crystal-Free
32KHz Clock.
*32.768KHZ_NC
Quanta Computer Inc.
PROJECT : SS8
SIO (ITE8518E)
Size
Document Number
Rev
3A
Date: Monday, January 03, 2011
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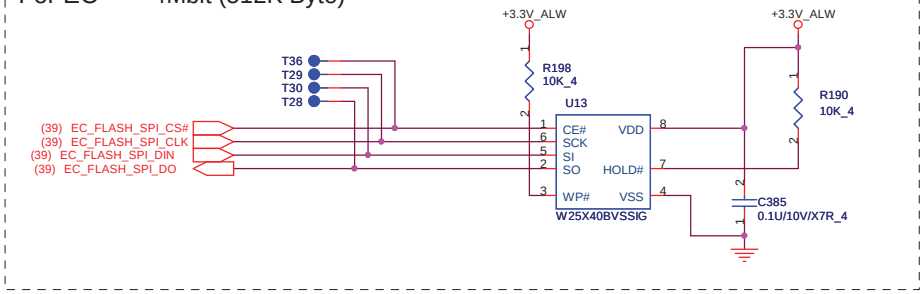
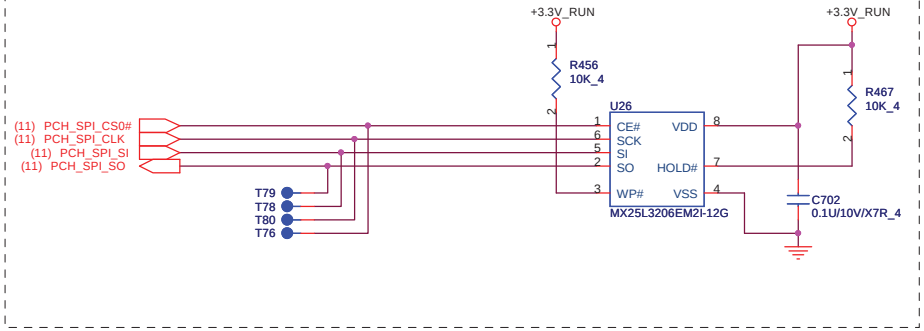
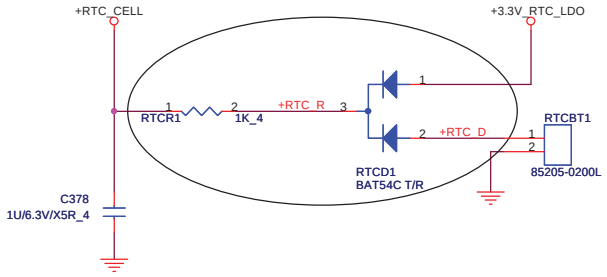
For EC 4Mbit (512K Byte)



For PCH 32Mbit (4M Byte)



RTC BATTERY



Quanta Computer Inc.		
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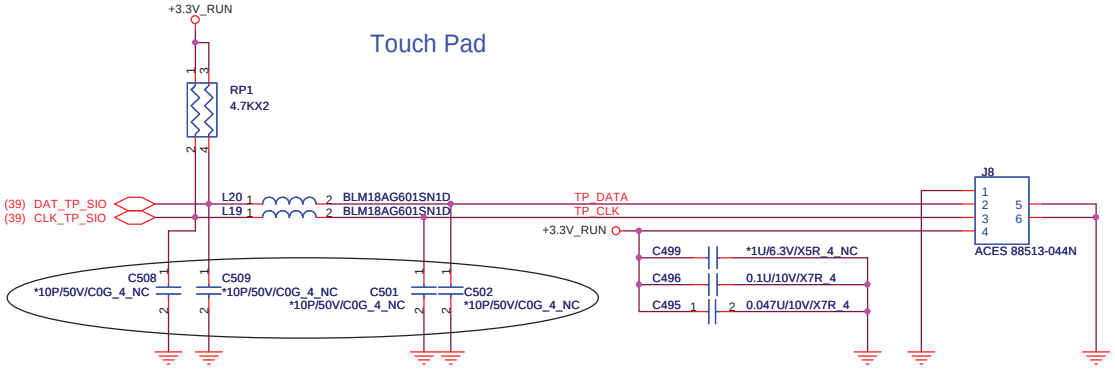
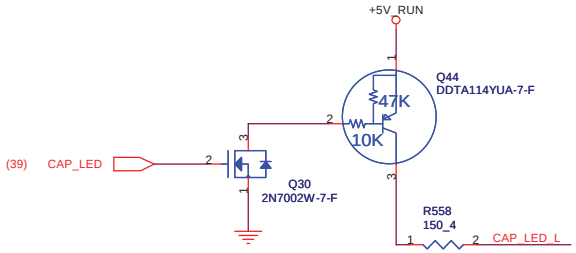
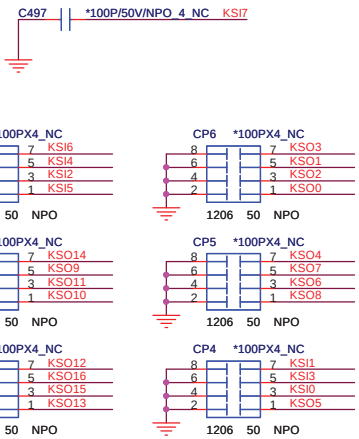
Touch Pad



Vi(on_max)= -1.4V
Vi(off_min)=-0.3

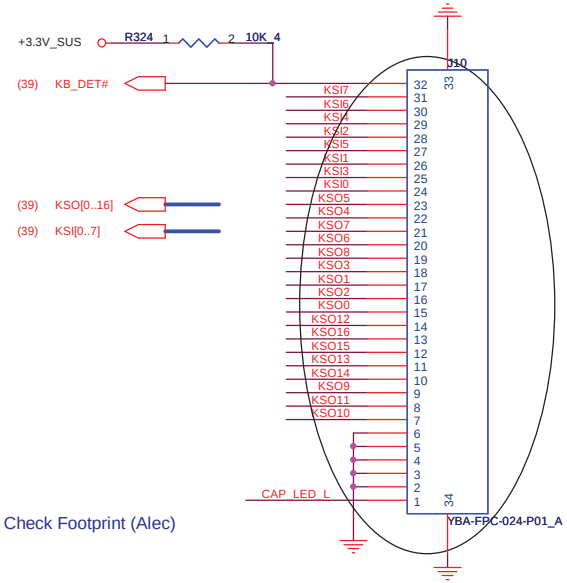


8.67mA



100P CAPS CLOSE TO JKB1

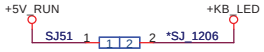
KEYBOARD CONNECTOR



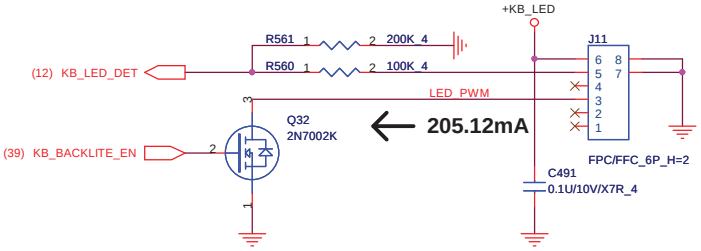
Check Footprint (Alec)

Conn Copy From SS7

+KB_LED power trace width >10 mil



Key board illumination



Quanta Computer Inc.
PROJECT : SS8

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	TP / KB	3A

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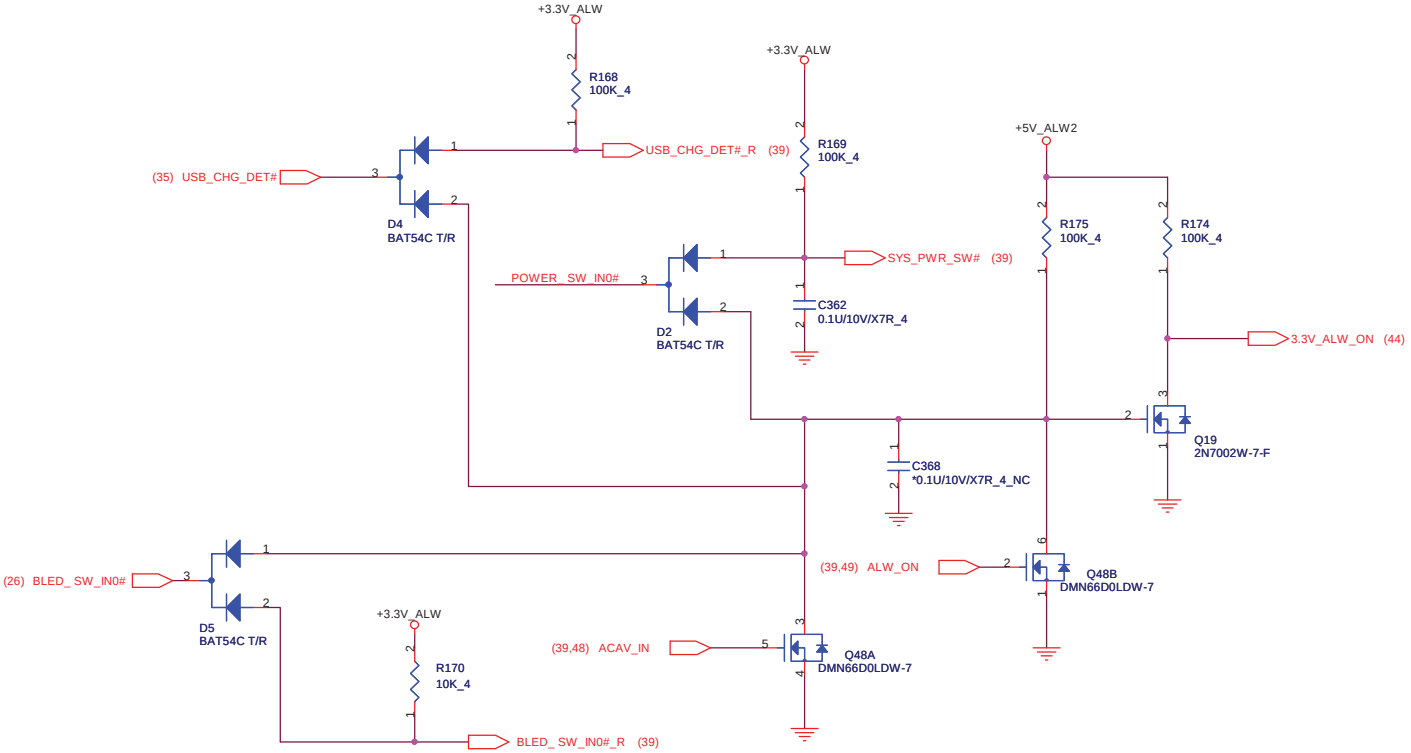
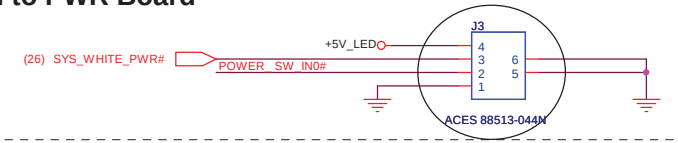
3VALW ON POWER LOGIC



Conn to PWR Board



Status White LED
Solid White= System On, Normal Activity
Solid White= Charging (system on);
Solid White= Charging (system off or hibernate and battery charge <98%);
OFF= Charging (system off or hibernate and battery charge > 98%) ;
"Breathing White " = System in Standby (S3);
Off = System Off (or in Hibernate);

Quanta Computer Inc.		
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Size	Document Number: PWR SW/LED	Rev: 3A
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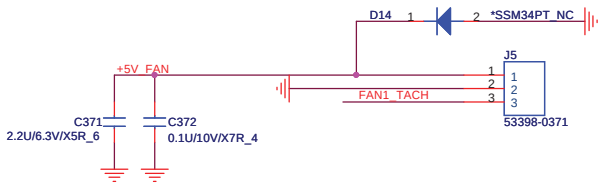
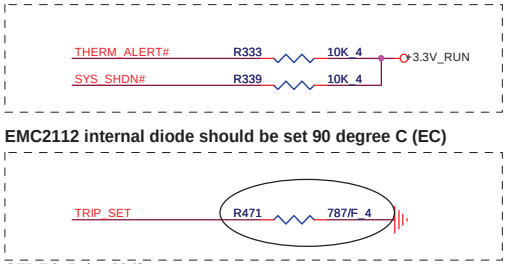
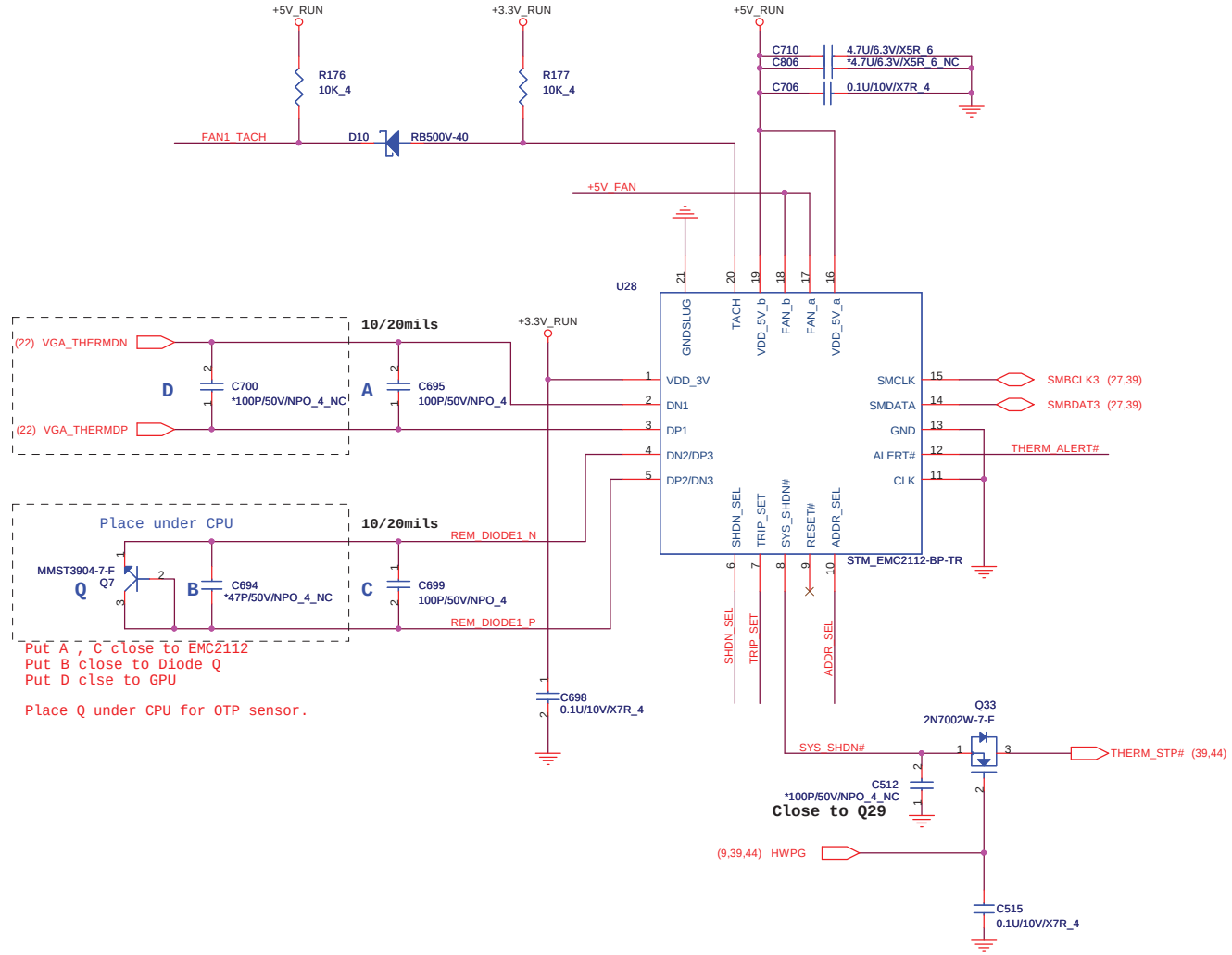
FAN CONTROL





EMC2112 internal diode should be set 90 degree C (EC)

OTP Trip Point: 90 ℃
OTP Hysteresis: 85 ℃ (Vincent)



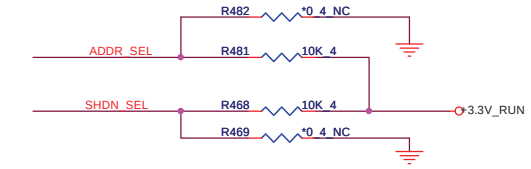
Put A , C close to EMC2112
Put B close to Diode Q
Put D clse to GPU

Place Q under CPU for OTP sensor.

Need to check with BIOS

ADDR_SEL
HIGH: 0101 110xb
OPN: 0111 101xb
GND: 0101 111xb

SHDN_SEL
HIGH: External Diode 2 Mode
OPN: AMD CPU/Diode Mode
GND:Intel Transistor Mode



Quanta Computer Inc.		
PROJECT : SS8		
Size	Document Number: FAN & THERMAL	Rev: 3A
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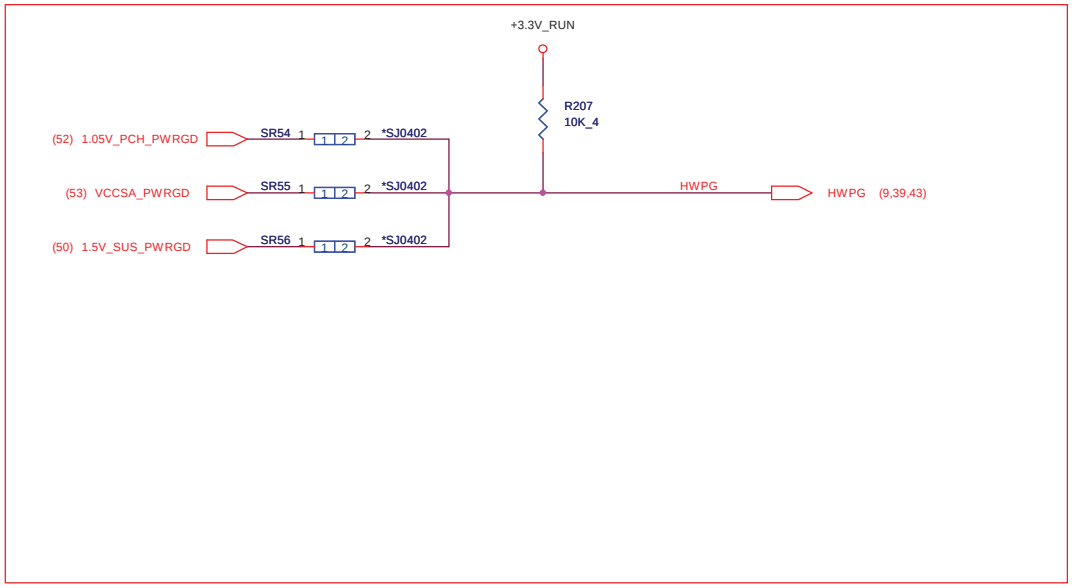
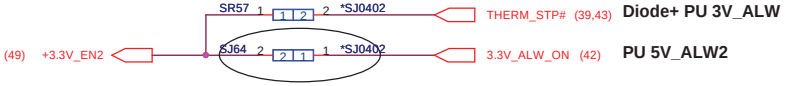
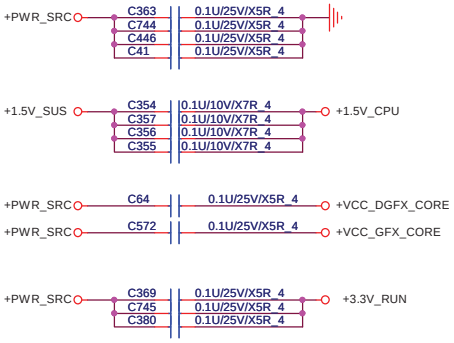
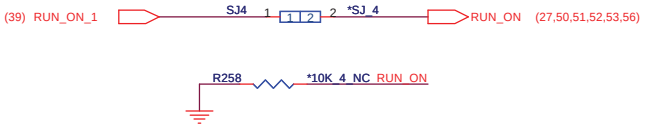




Stitch Cap





Quanta Computer Inc.

PROJECT : SS8

Size	Document Number	Rev
	System Reset Circuit	3A
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CPU XDP

PCH XDP

Del 0420

Quanta Computer Inc.

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Size	Document Number	Rev
	BLANK	3A

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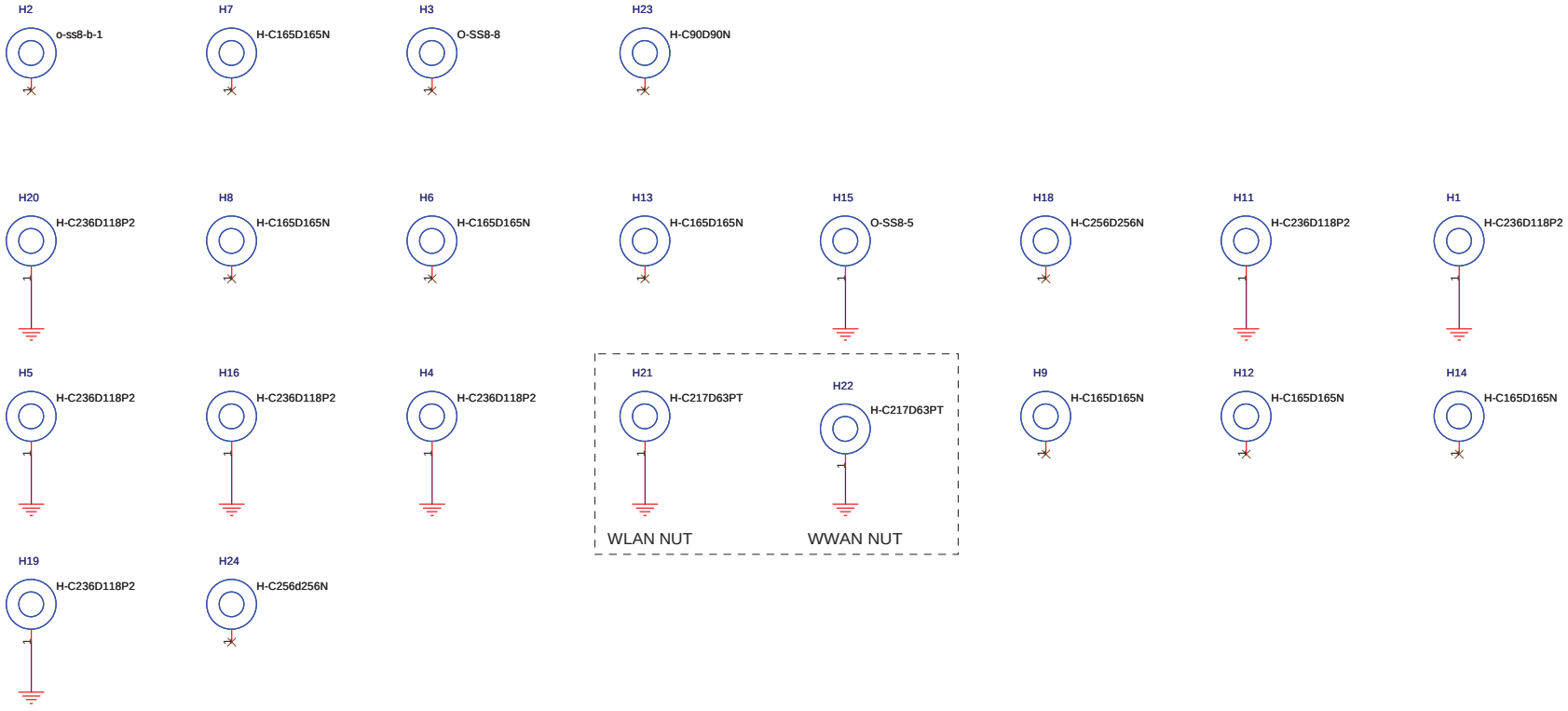

Quanta Computer Inc.		
PROJECT : SS8		
Size	Document Number: SCREW PAD	Rev: 3A
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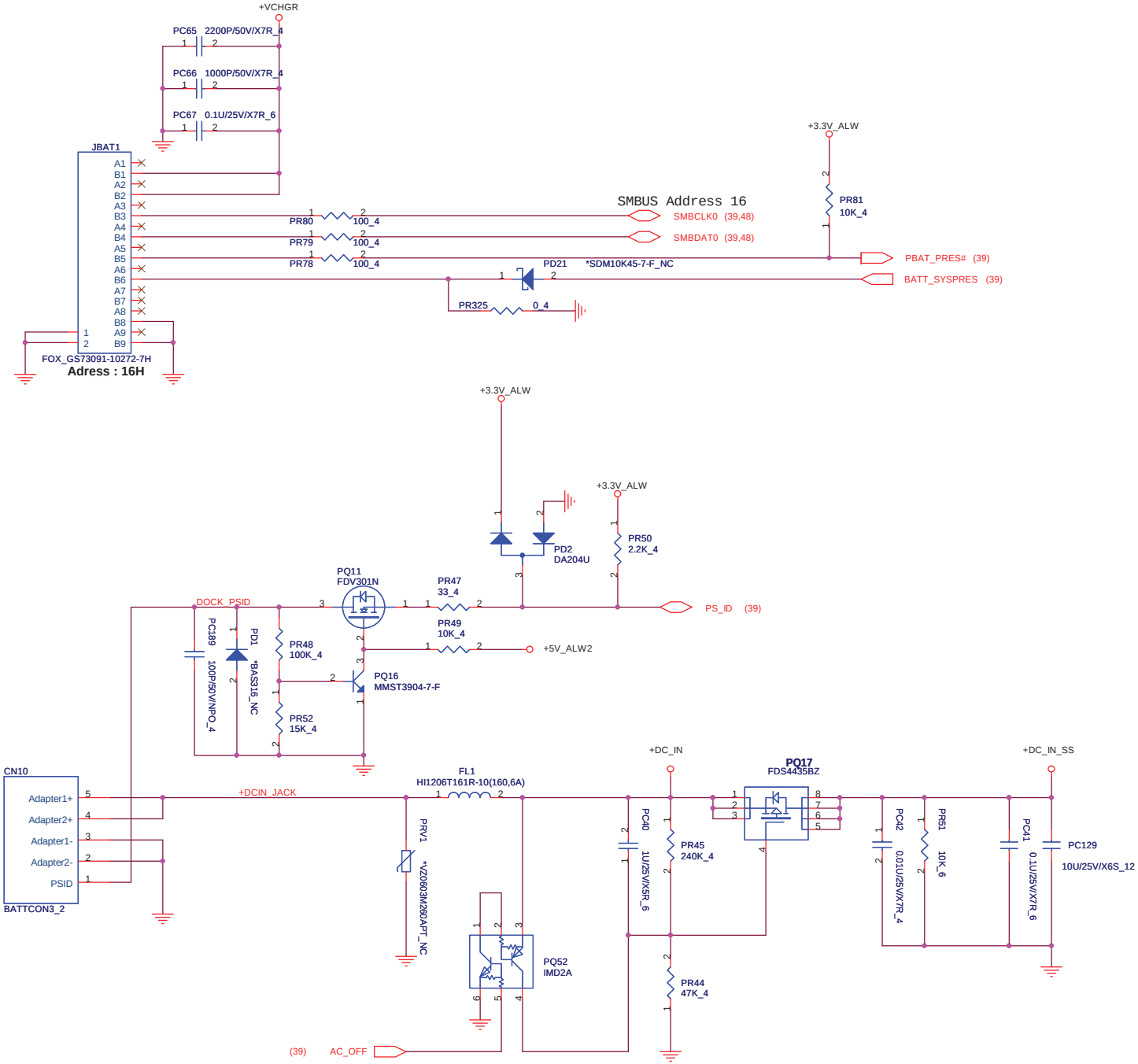

Quanta Computer Inc.

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Size	Document Number	Rev
	DC IN / BATT	3A
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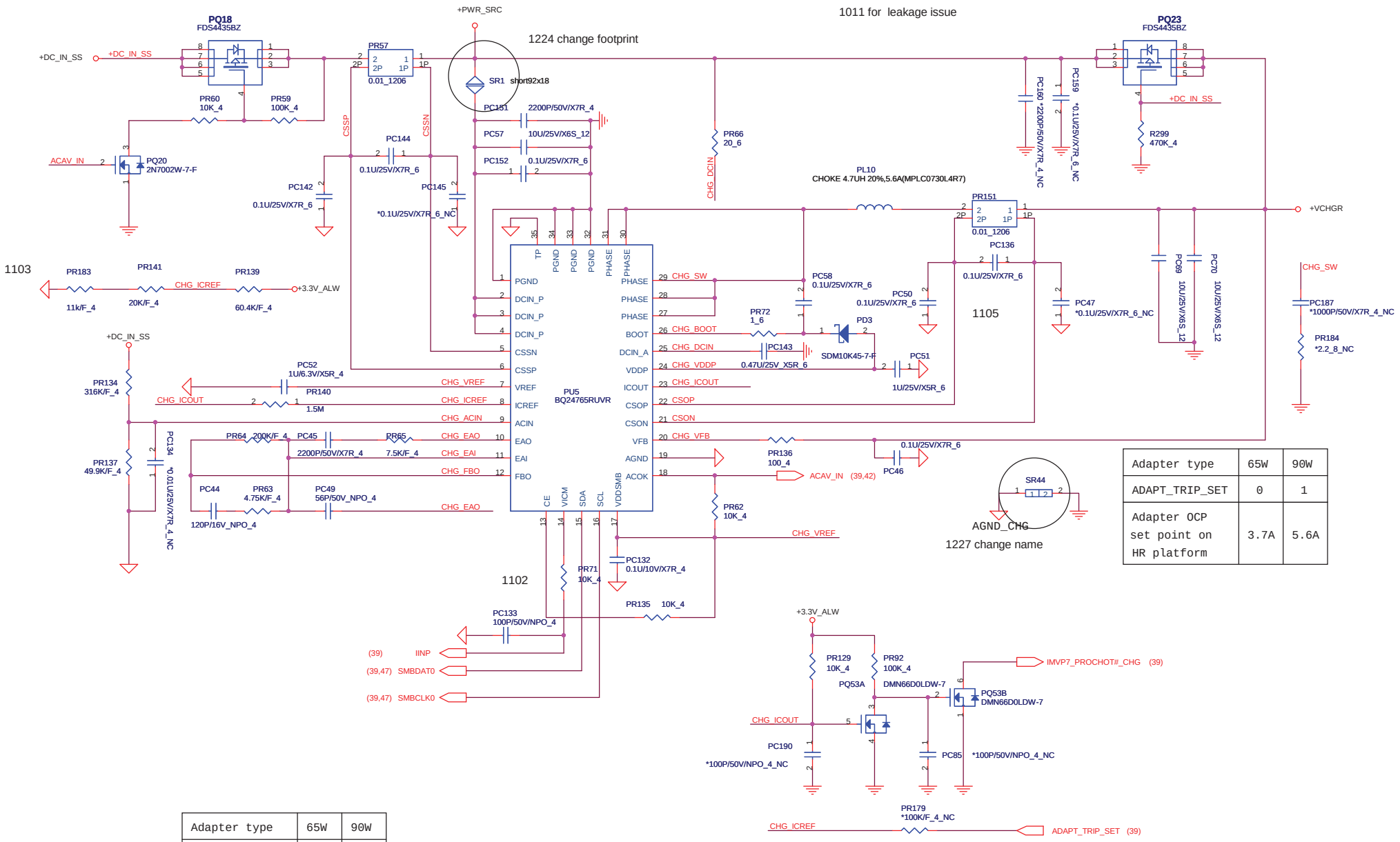
Charger (BQ24765RUVR)



Adapter type	65W	90W
ADAPT_TRIP_SET	0	1
Adapter OCP set point on HR platform	3.7A	5.6A

Adapter type	65W	90W
ADAPT_TRIP_SET	0	1
Adapter OCP set point on HR platform	3.7A	5.6A

	Only 90 W	65W-90 W
PR179	NA	100K
PR141	20k	10k
PR183	11k	10k

Need GPIO pin with SW team confirm

Quanta Computer Inc.
PROJECT : SS8

Size	Document Number	Rev
	Charger (BQ24765RUVR)	3A

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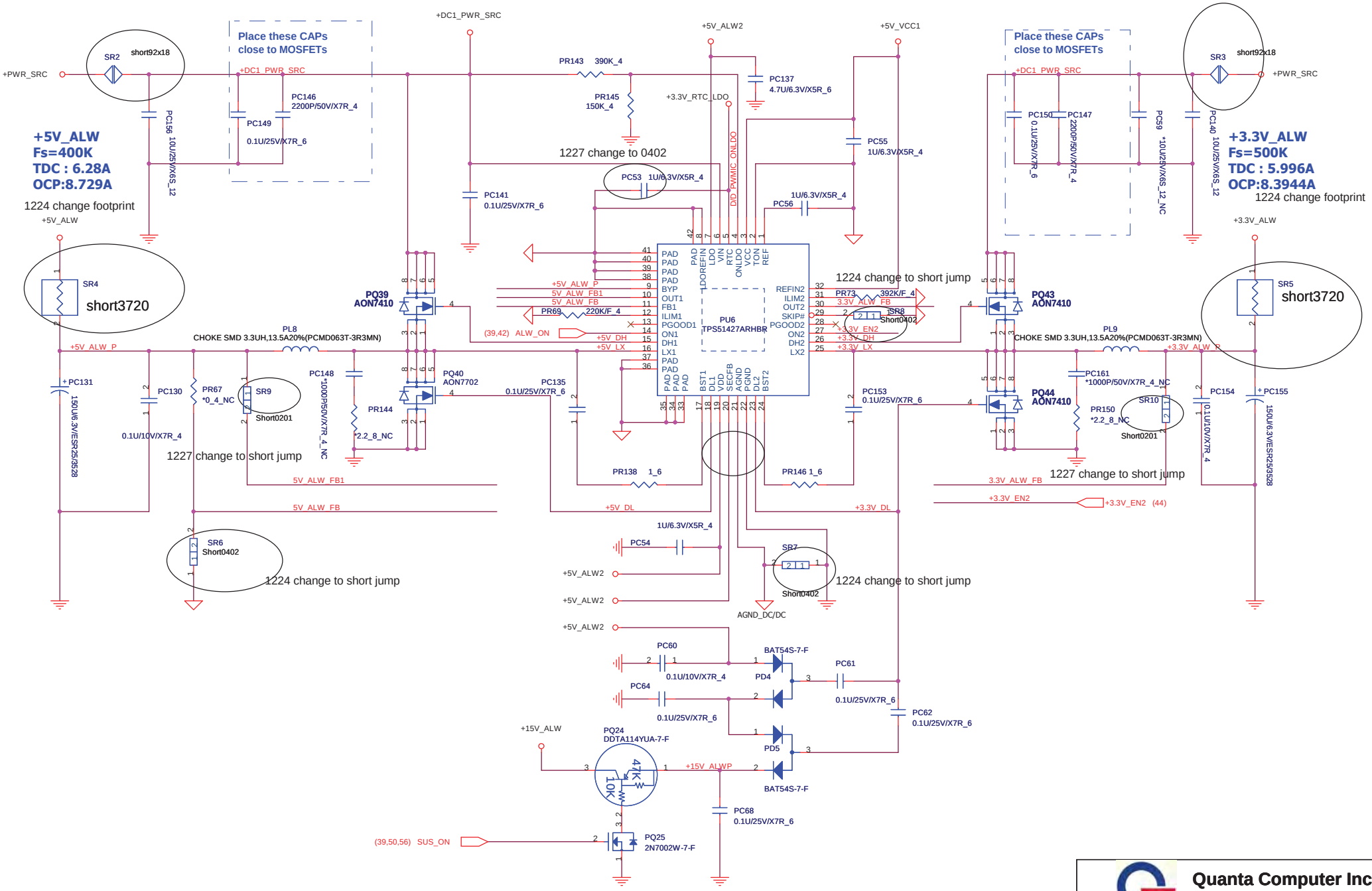
+3.3V_ALW / +5V_SUS / +15V_ALW (TPS51427ARHBR)



Quanta Computer Inc.			
PROJECT : SS8			
Size	Document Number		Rev
	3.3V_ALW / 5V_ALW (TPS51427ARHBR)		3A
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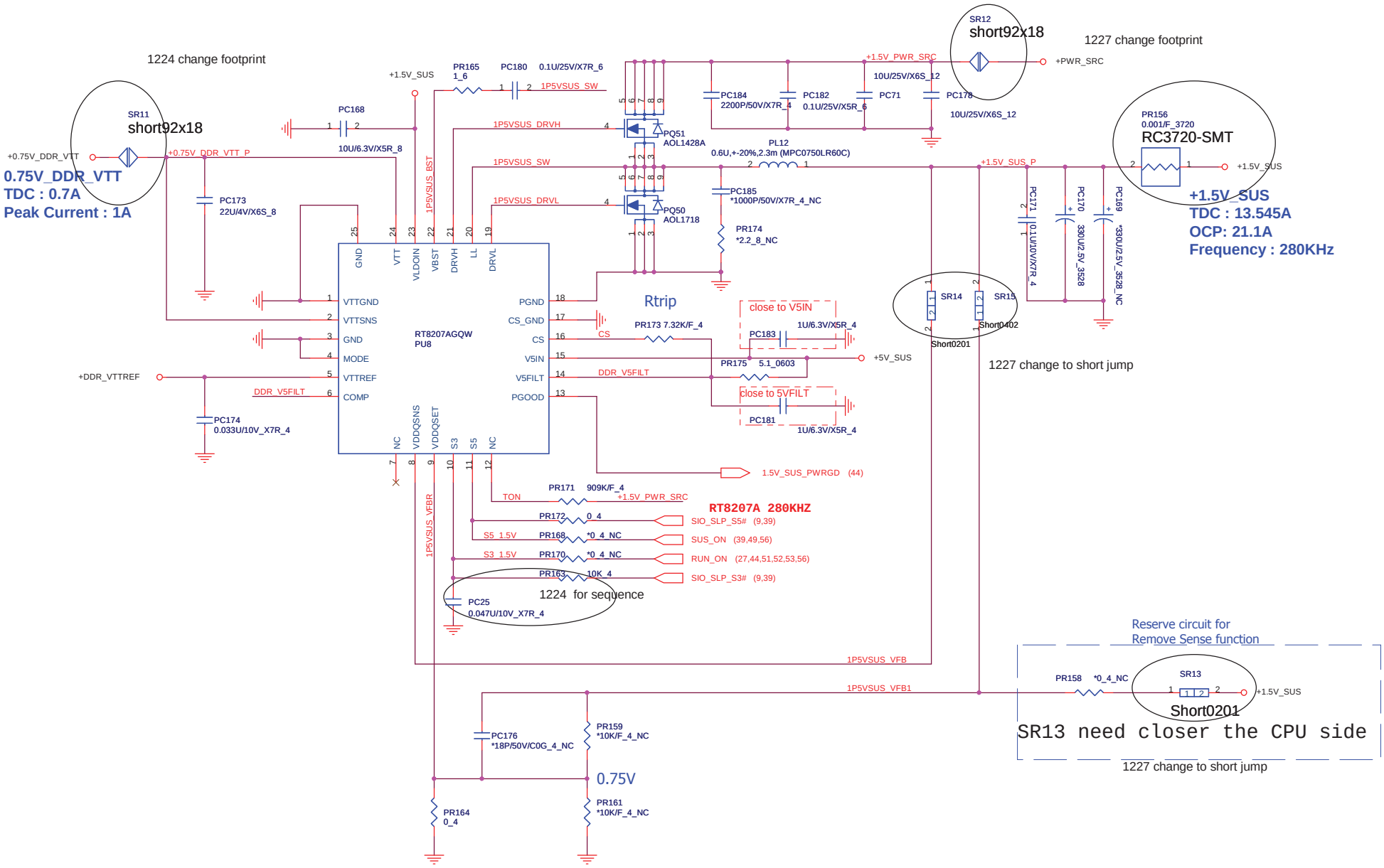
+1.5V_SUS (RT8207AGQW)



Quanta Computer Inc.		
PROJECT : SS8		
Size	Document Number: 1.5_SUS/0.75_DDR_VTT (RT8207AGQW)	Rev: 3A
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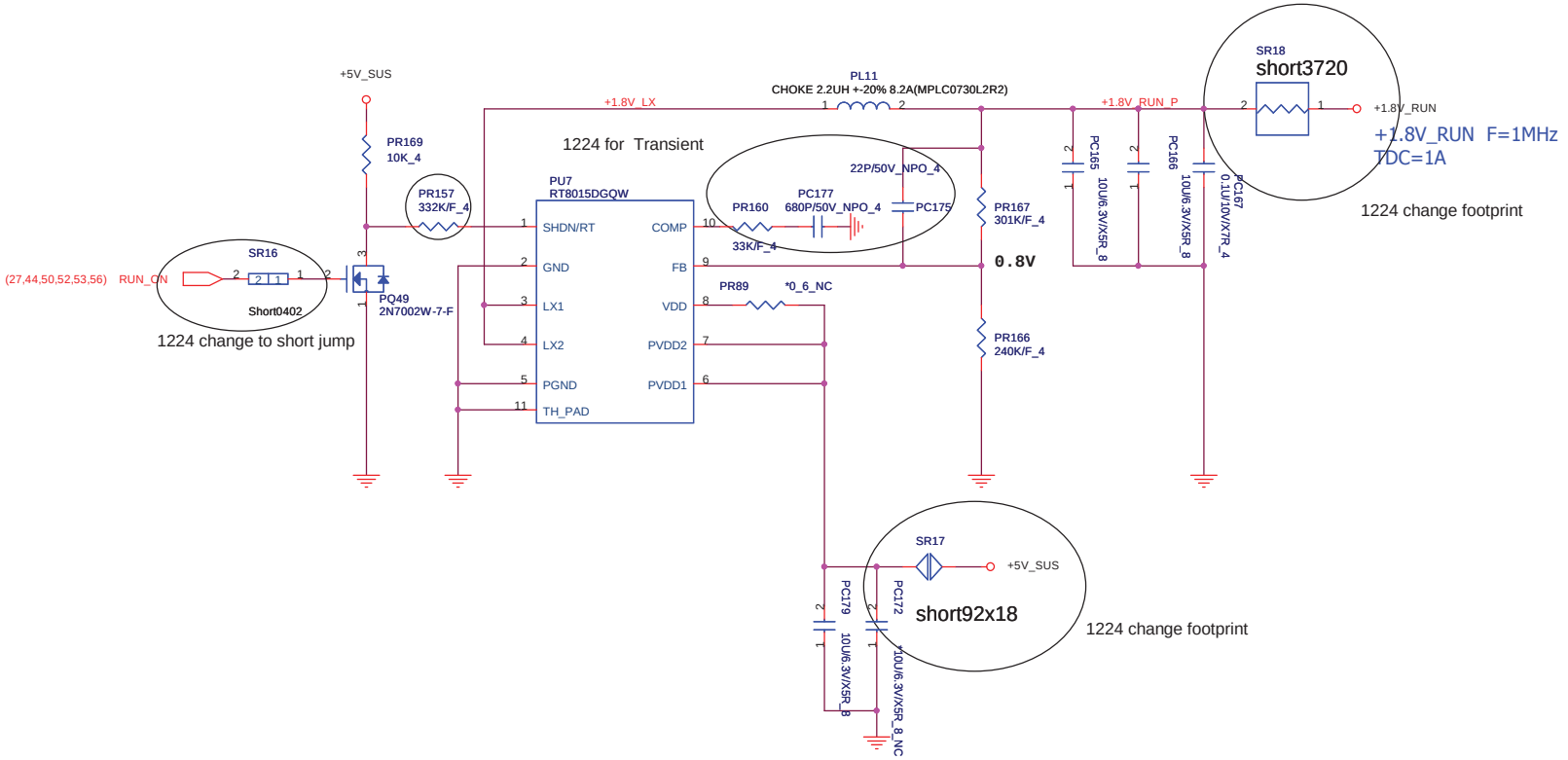

Quanta Computer Inc.		
PROJECT : SS8		
Size	Document Number: 1.8V_RUN (RT8015AGQW)	Rev: 3A
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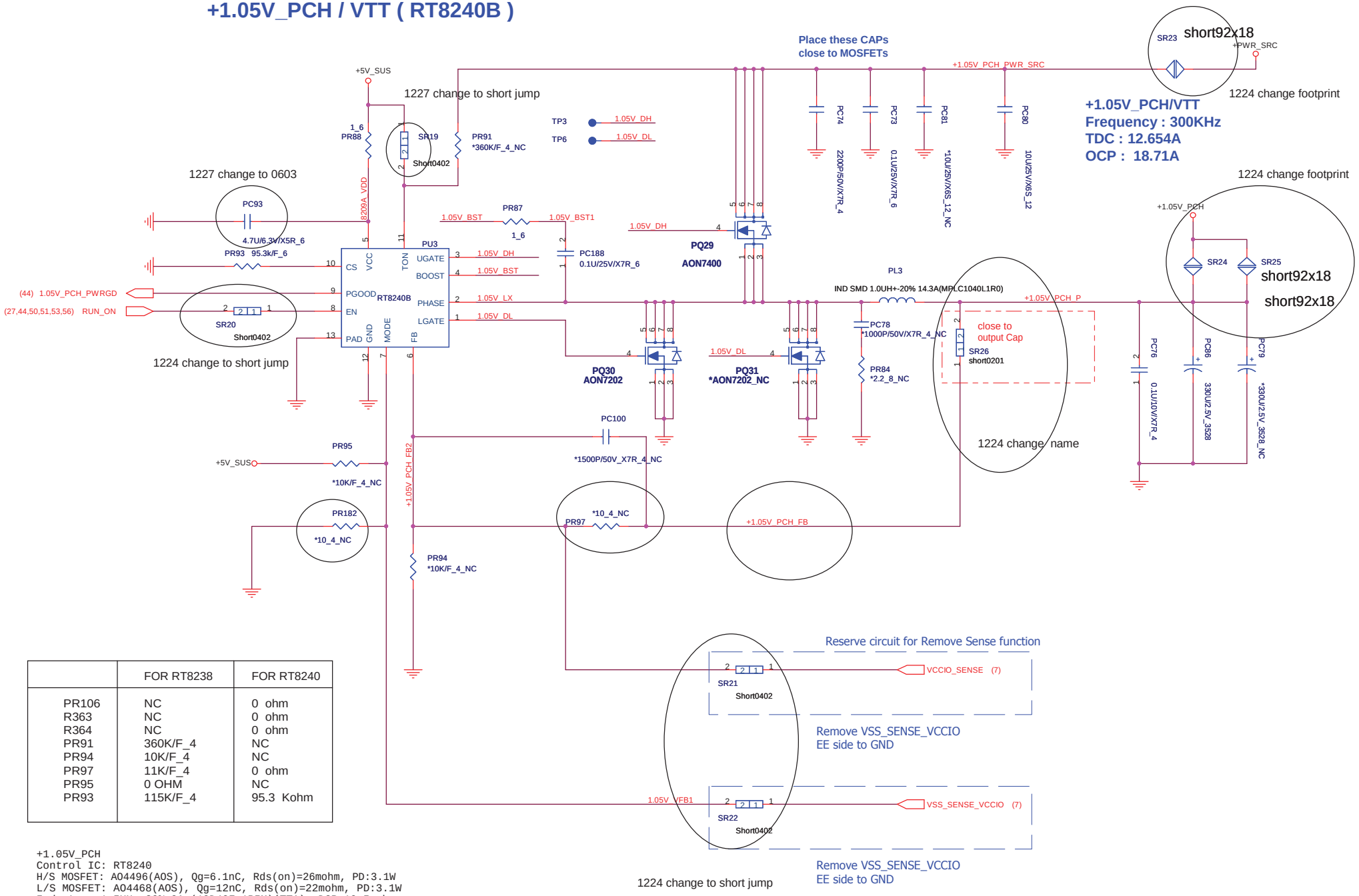
+1.05V_PCH / VTT (RT8240B)



	FOR RT8238	FOR RT8240
PR106	NC	0 ohm
R363	NC	0 ohm
R364	NC	0 ohm
PR91	360K/F_4	NC
PR94	10K/F_4	NC
PR97	11K/F_4	0 ohm
PR95	0 OHM	NC
PR93	115K/F_4	95.3 Kohm

+1.05V_PCH
Control IC: RT8240
H/S MOSFET: AO4496(AOS), Qg=6.1nC, Rds(on)=26mohm, PD:3.1W
L/S MOSFET: AO4468(AOS), Qg=12nC, Rds(on)=22mohm, PD:3.1W
Inductor: 1.5UH+-20% 9A (10D40F-1R5M)(TTA), DCR=10.5mohm
Output Cap: 1*390U,2.5V(20%,105C,6.3*5.8),ESR=10mohm

Quanta Computer Inc.
PROJECT : SS8

Size	Document Number	Rev
	+1.05V_PCH / VTT (RT8240B)	3A

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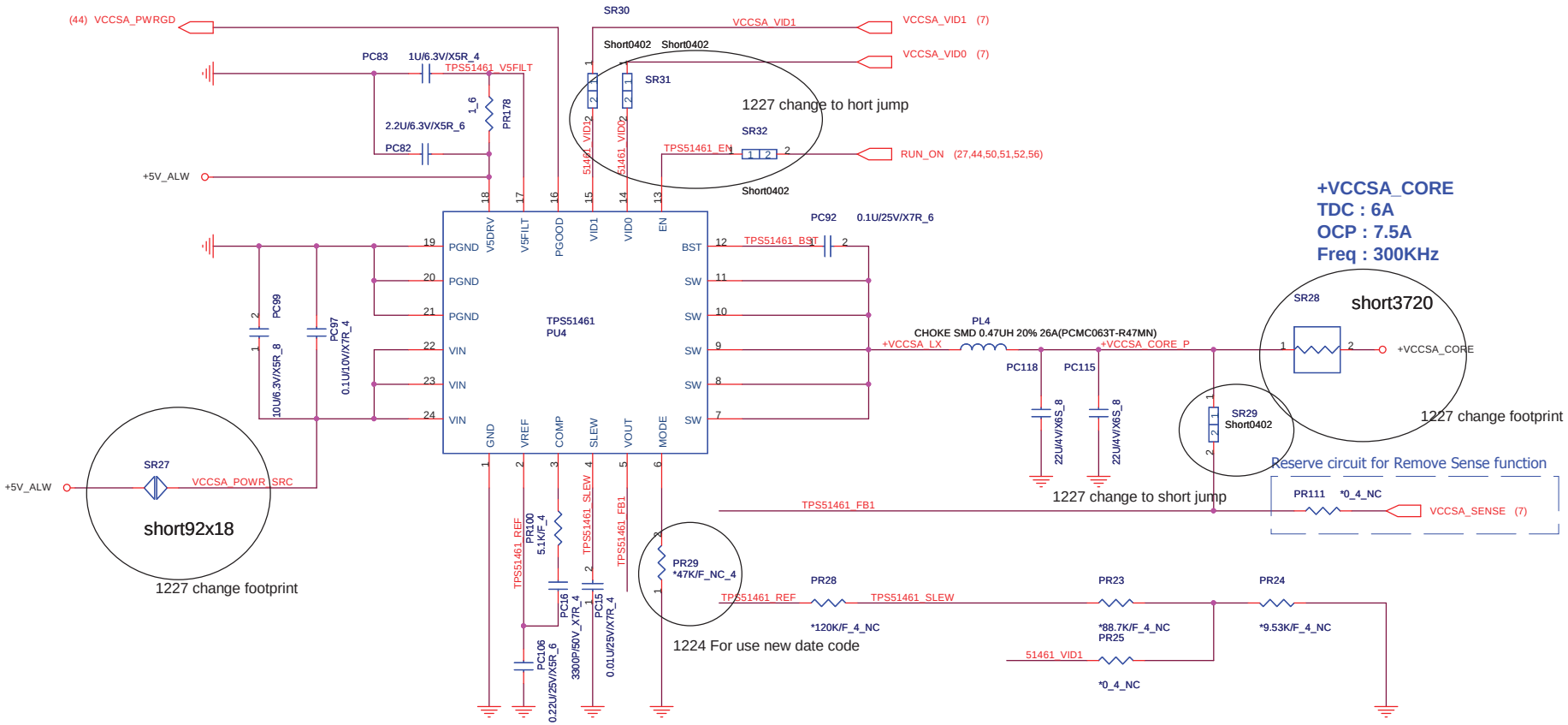

+VCCSA	VCCSA_VID1
0.8V	High
0.9V	Low

Apply now

Quanta Computer Inc.
PROJECT : SS8

Size	Document Number	Rev
	VCCSA (TPS51461)	3A
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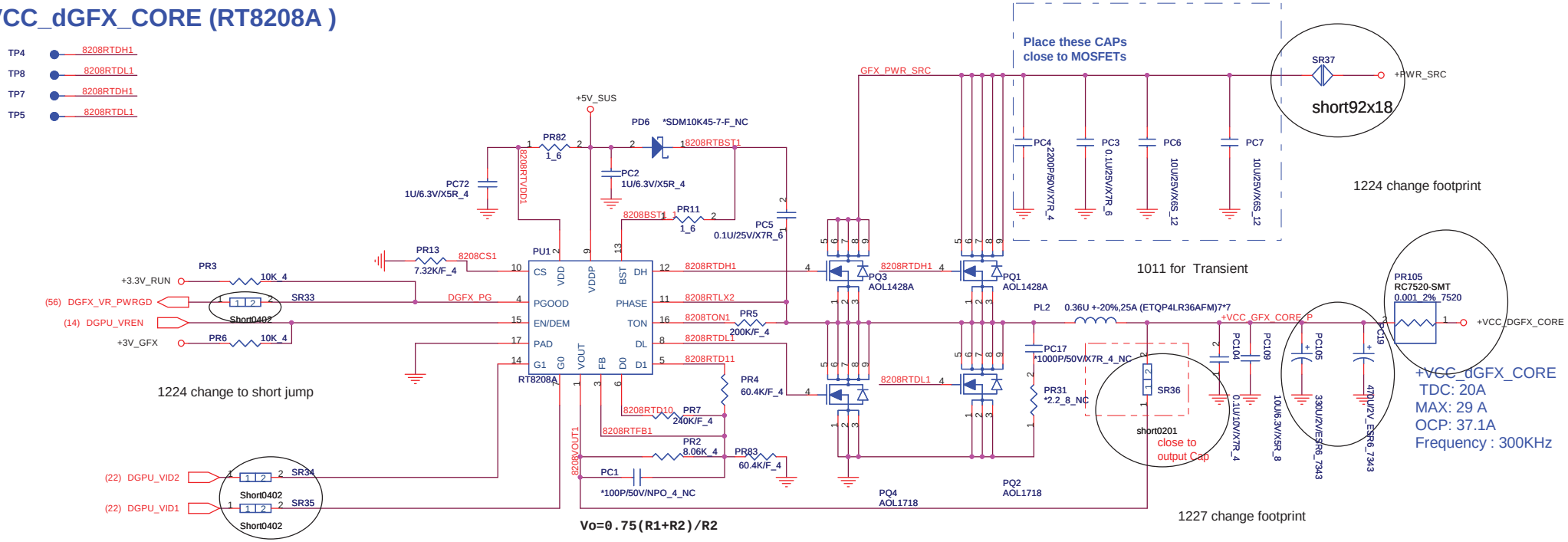
+VCC_dGFX_CORE (RT8208A)



+VCC_GFX_CORE
Control IC: RT8208A
H/S MOSFET: FDMS8692(Fairchild), Qg=11nC, Rds(on)=14mohm, PD:2.5W
L/S MOSFET: FDMS7670(Fairchild), Qg=24nC, Rds(on)=5mohm, PD:2.5W
Inductor: 0.36UH +-20% 45A(MPO104F-R36H1)(Delta), DCR=0.89mohm
Output Cap: 2*390U,2.5V(20%,105C,6.3*5.8),ESR=10mohm

DGPU_VID1	DGPU_VID2	+VCC_GFX_CORE
LOW	LOW	0.85V
HIGH	LOW	NA (0.875V)
LOW	HIGH	0.95V
HIGH	HIGH	0.975V

TON1	PR211 = 200K
FREQ	297K

Quanta Computer Inc.
PROJECT : SS8

Size	Document Number	Rev
	+VCC_dGFX_CORE (RT8208A)	3A
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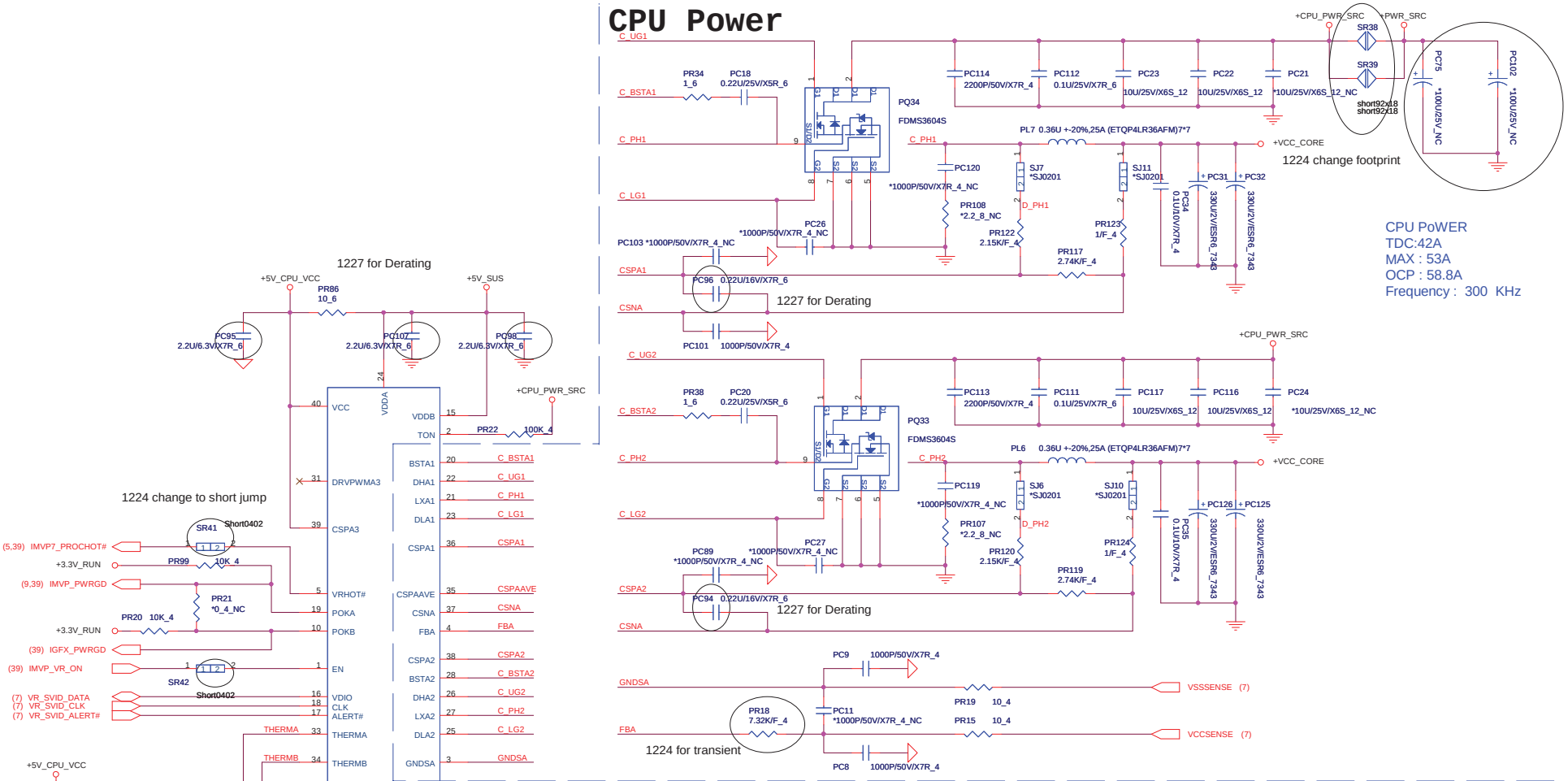
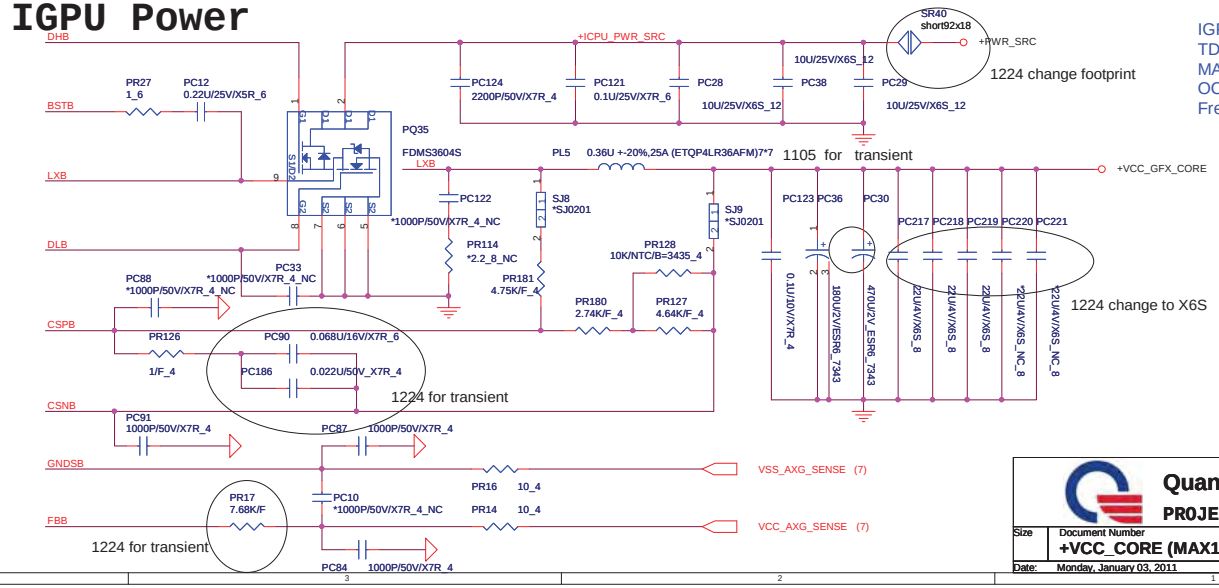
CPU Power



IGPU Power



Quanta Computer Inc.
PROJECT : SS8

Size	Document Number	Rev
	+VCC_CORE (MAX17511)	3A
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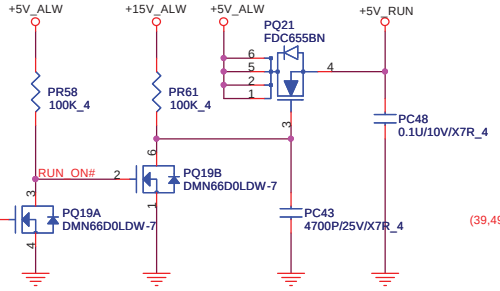
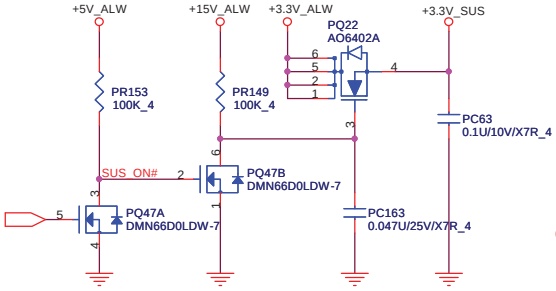
+5V_RUN
current: 3.468A

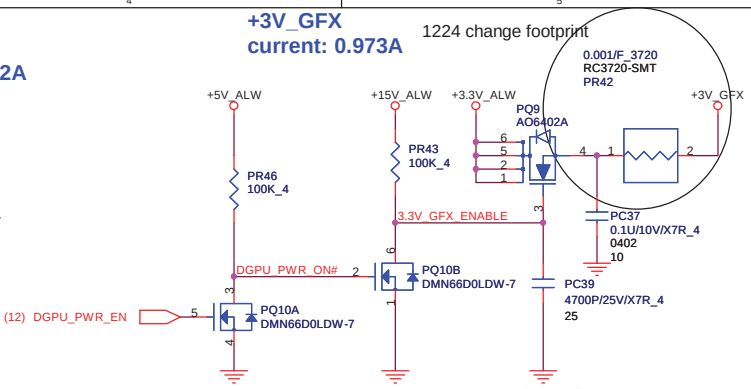


+3.3V_SUS
current: 0.452A

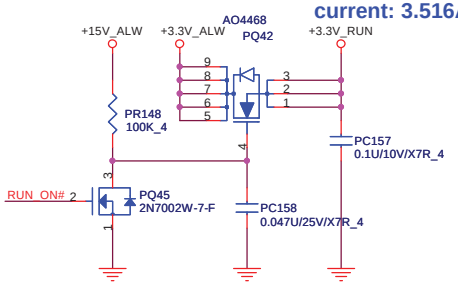


+3V_GFX
current: 0.973A

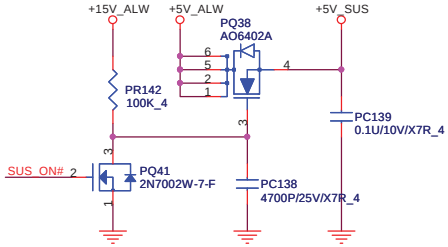
1224 change footprint



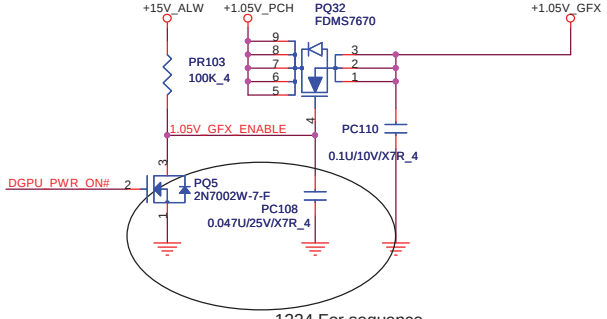
+3.3V_RUN
current: 3.516A



+5V_SUS
current: 1.411A

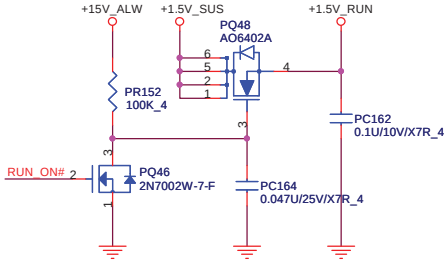


+1.05V_GFX
current : 2.681A



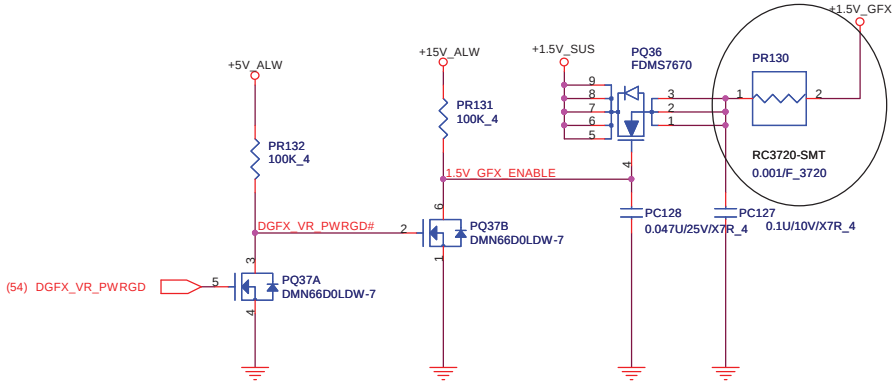
1224 For sequence

+1.5V_RUN
current: 0.812A

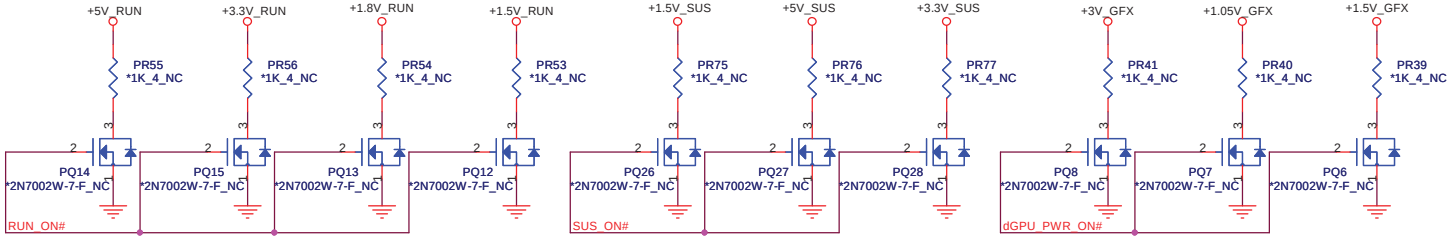


+1.5V_GFX
current : 5.397A

1224 change footprint



Reserve discharge path



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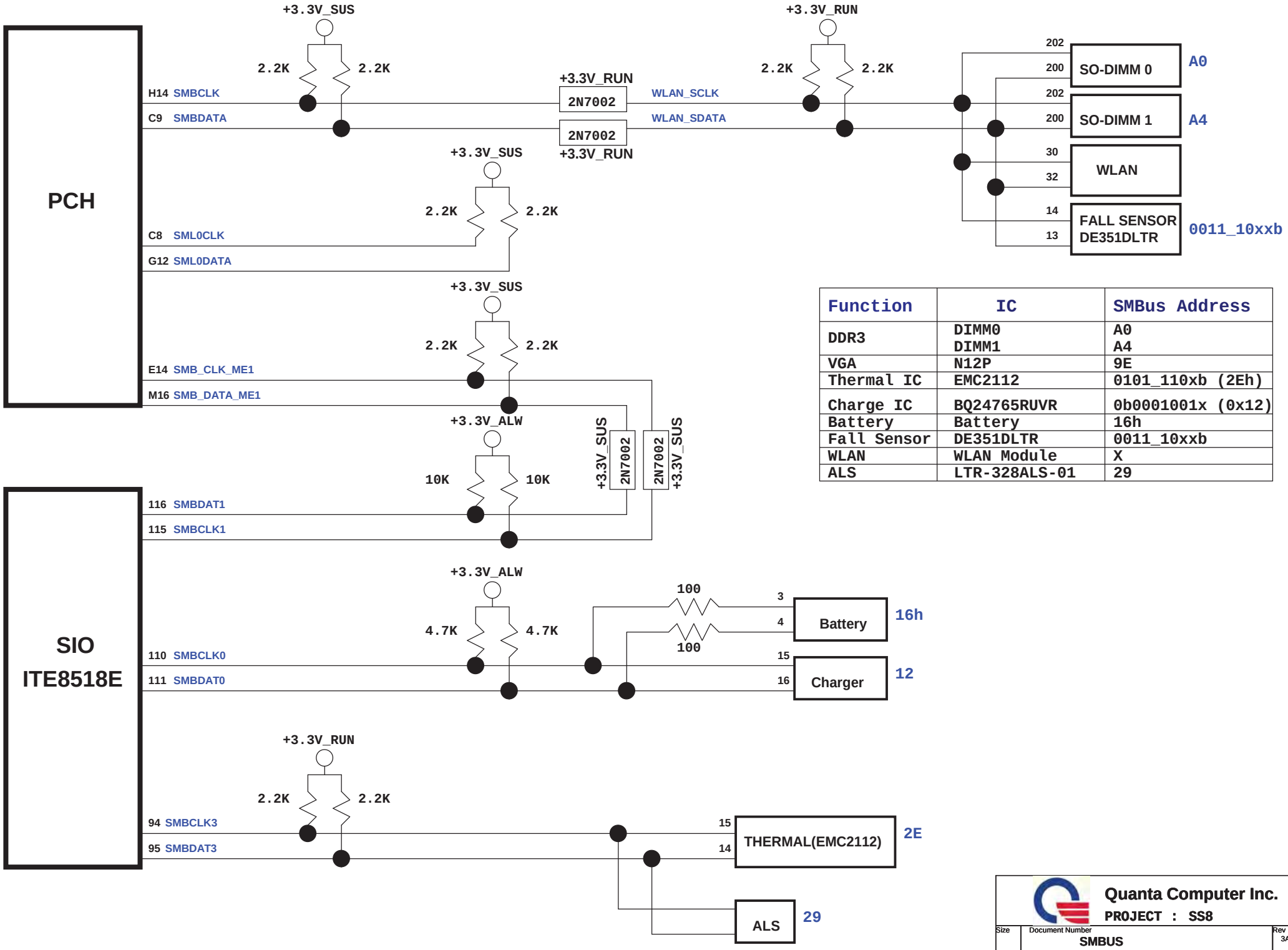

Function	IC	SMBus Address
DDR3	DIMM0 DIMM1	A0 A4
VGA	N12P	9E
Thermal IC	EMC2112	0101_110xb (2Eh)
Charge IC	BQ24765RUVR	0b0001001x (0x12)
Battery	Battery	16h
Fall Sensor	DE351DLTR	0011_10xxb
WLAN	WLAN Module	X
ALS	LTR-328ALS-01	29

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