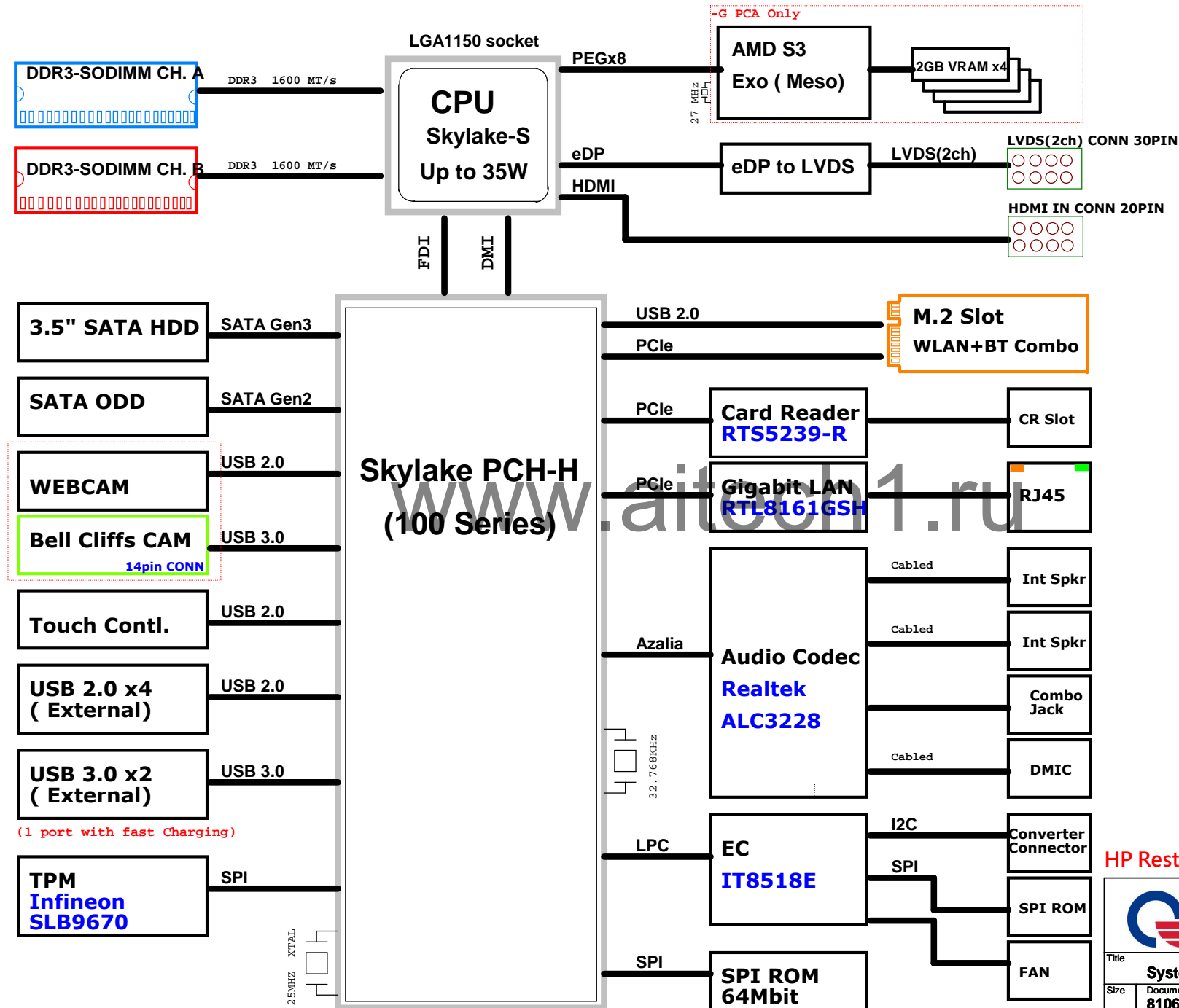



HP Crane System Block Diagram

01



HP Restricted Secret

		Quanta Computer Inc.	
		Project: HP-CRANE	
Title			
System Block Diagram			
Size	Document Number 810606-000		Rev B
Page Modified: Wednesday, July 29, 2015		Sheet 1 of 56	

Voltage Rails

Power Rail	Voltage	S0	S3	S4	S5	PCU	G3	Ctl Signal
+RTC_VCC	3V	ON	ON	ON	ON	ON	ON	
+VIN	19V	ON	ON	ON	ON	ON	OFF	Adaptor in
+5V_AUX	5V	ON	ON	ON	ON	ON	OFF	AUX_ON
+3.3V_AUX	3.3V	ON	ON	ON	ON	ON	OFF	3V/5V PWM IC_LDO
+5V_SUS	5V	ON	ON	ON	ON	OFF	OFF	EC_SUS_ON
+3.3V_SUS	3.3V	ON	ON	ON	ON	OFF	OFF	EC_SUS_ON
+1.8V_SUS	1.8V	ON	ON	ON	ON	OFF	OFF	EC_SUS_ON
+1.0V_SUS	1.0V	ON	ON	ON	ON	OFF	OFF	PG_+1.8V_SUS
+VCCST_VCCPLL	1.0V	ON	ON	OFF	OFF	OFF	OFF	S3_ON
+VDDQ	1.35V	ON	ON	OFF	OFF	OFF	OFF	S3_ON
SMDDR_VTERM	0.75V	ON	ON	OFF	OFF	OFF	OFF	DDR_VTT_CNTL
+5V	5V	ON	OFF	OFF	OFF	OFF	OFF	MAIN_ON1
+3.3V	3.3V	ON	OFF	OFF	OFF	OFF	OFF	MAIN_ON1
+12V	12V	ON	OFF	OFF	OFF	OFF	OFF	MAIN_ON1
+VCCIO	0.95V	ON	OFF	OFF	OFF	OFF	OFF	PG_MAIN
+VCCSA	1.05V	ON	OFF	OFF	OFF	OFF	OFF	PG_+VCCIO
+VCCGT	0.65~1.3V	ON	OFF	OFF	OFF	OFF	OFF	VR_ON
+3.3V_VGA	3.3V	ON	OFF	OFF	OFF	OFF	OFF	EN_+3.3V_VGA
+1.8V_VGA	1.8V	ON	OFF	OFF	OFF	OFF	OFF	EN_+3.3V_VGA
+0.95V_VGA	0.95V	ON	OFF	OFF	OFF	OFF	OFF	EN_+3.3V_VGA
+VGA_CORE	0.8~1.15V	ON	OFF	OFF	OFF	OFF	OFF	PG_+1.8V_VGA
+1.5V_VGA	1.5V	ON	OFF	OFF	OFF	OFF	OFF	GFX_PWR_GOOD
+VCCCORE	0.65~1.3V	ON	OFF	OFF	OFF	OFF	OFF	VR_ON

RTC Batt, PCH , EC

USB Charger

EC, Flash

PCH, USB, 3D WebCAM, Touch Panel

PCH, XDP, SPI flash ROM,NGFF LAN

PCH, XDP, NGFF LAN

PCH

CPU, PCH, XDP

DDR3, CPU DDR3 I/O

DDR3

HDD, ODD,Audio AMP,Panel VCC,FAN

PCH, Audio, Card Reader, TPM, FHD CAM

3.5" HDD

CPU

PCH, CPU

PCH

dGPU

dGPU

dCPU

dGPU

dGPU, VRAM

CPU

02

Schematic "Value" Definition

Intel Platform Crusher-G and Crusher-U			DB/SI/PV Stage			MP		
By Value format	Description	Auto BOM Control	UMA	Discrete Meso GPU	Discrete Exo GPU	UMA	Discrete Meso GPU	Discrete Exo GPU
XX	Install	V	V	V	V	V	V	V
*XX	Non-Install	V						
PROTO@XX	Install in Pre-production only	V	V	V	V			
MP@XX	Install in MP only	V				V	V	V
DIS@xx	Install Discrete (dGPU) only	V		V	V		V	V
UMA@xx	Install UMA	V	V			V		
M_DIS@xx	Install Discrete Meso GPU only	V		V			V	
E_DIS@xx	Install Discrete Exo GPU only	V			V			V

***Board ID and VRAM ID by manual control

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Quanta Computer Inc.

Project: HP-CRANE

Title			Project: HP-CRANE	
Power States & Value Definition				
Size	Document Number 810606-000			Rev B
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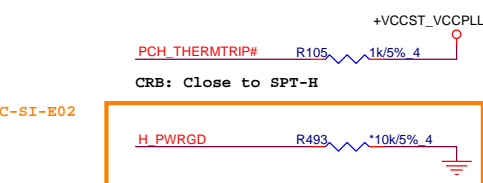
Project: HP-CRANE

Size	Document Number 810606-000
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Rev	
B	

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**Quanta Computer Inc.****Project: HP-CRANE**

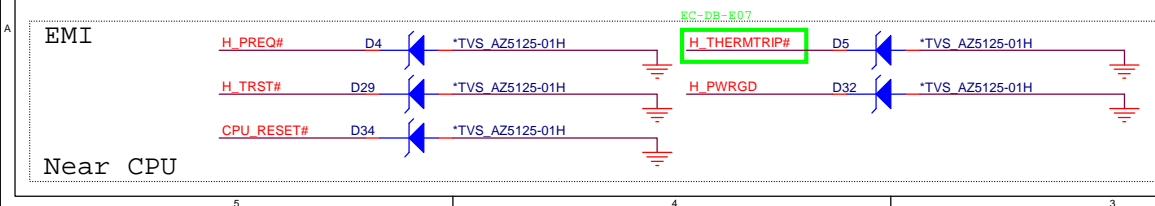
Title **CPU MISC**

Size	Document Number 810606-000
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Rev
B

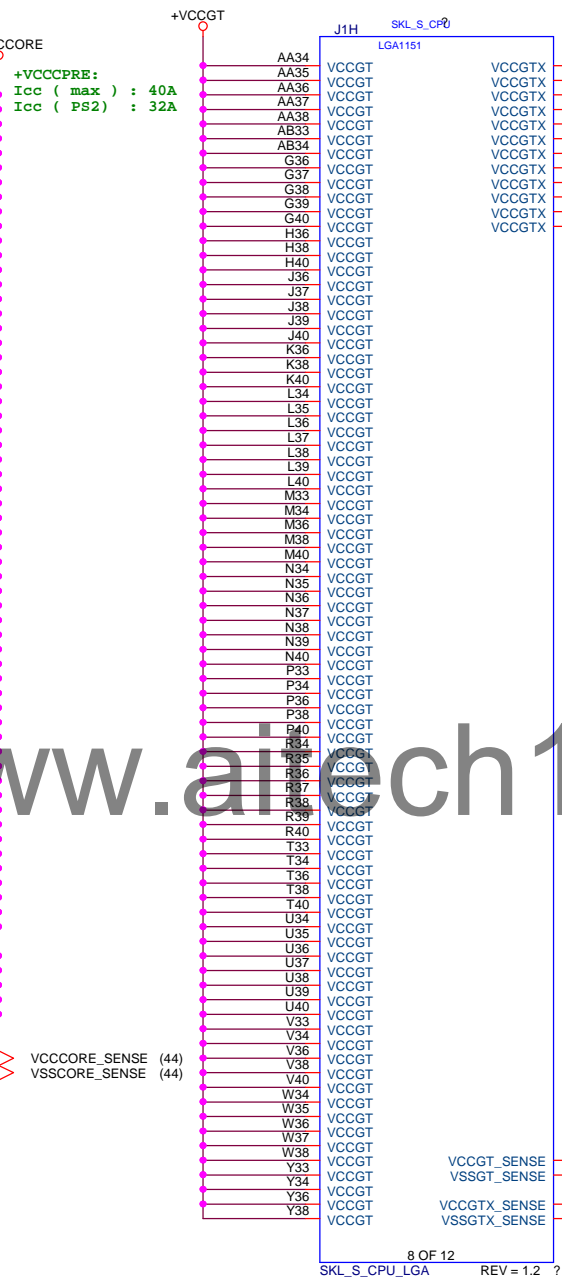
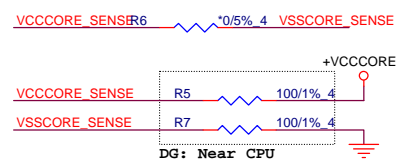
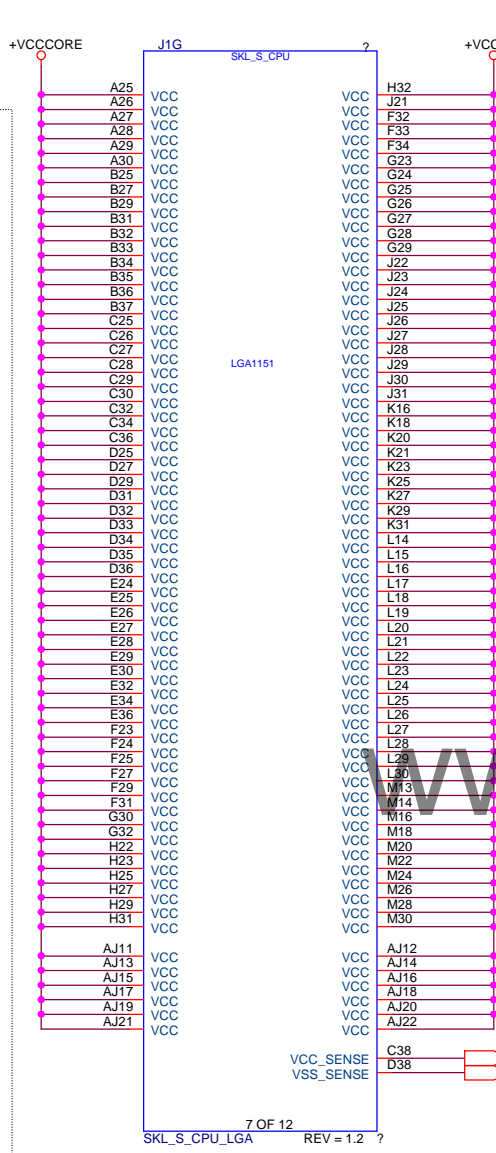
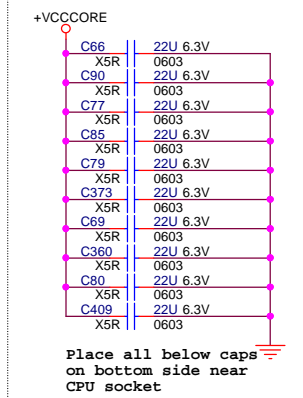
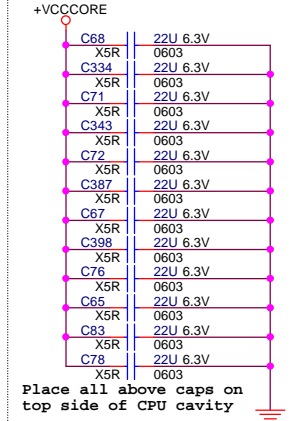
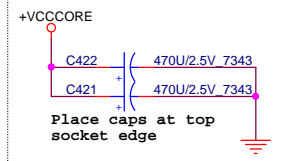
Page Modified: Wednesday, July 29, 2015

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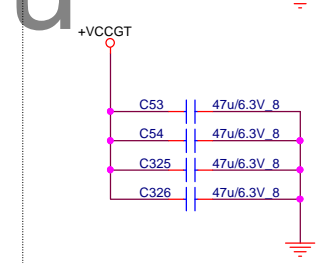
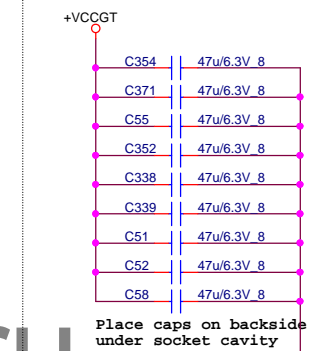
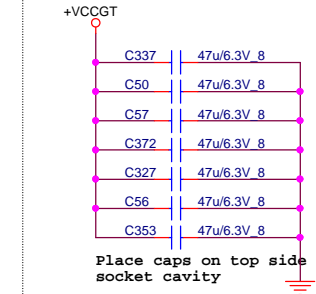


+VCCCPRE:
Icc (max) : 66A
Icc (PS2) : 35A


Decoupling Capacitors



Decoupling Capacitors

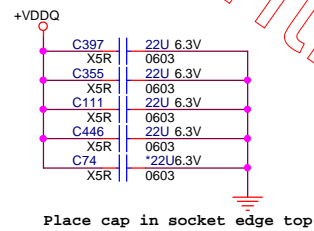
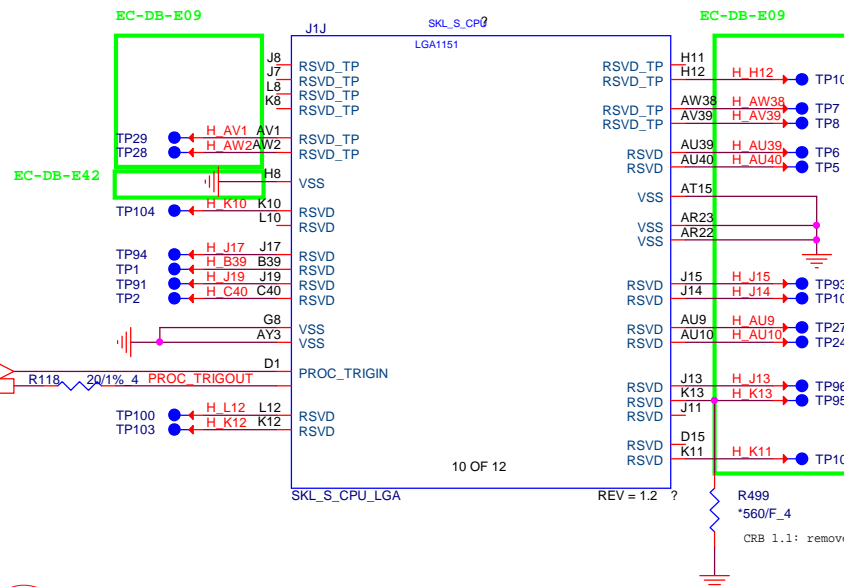


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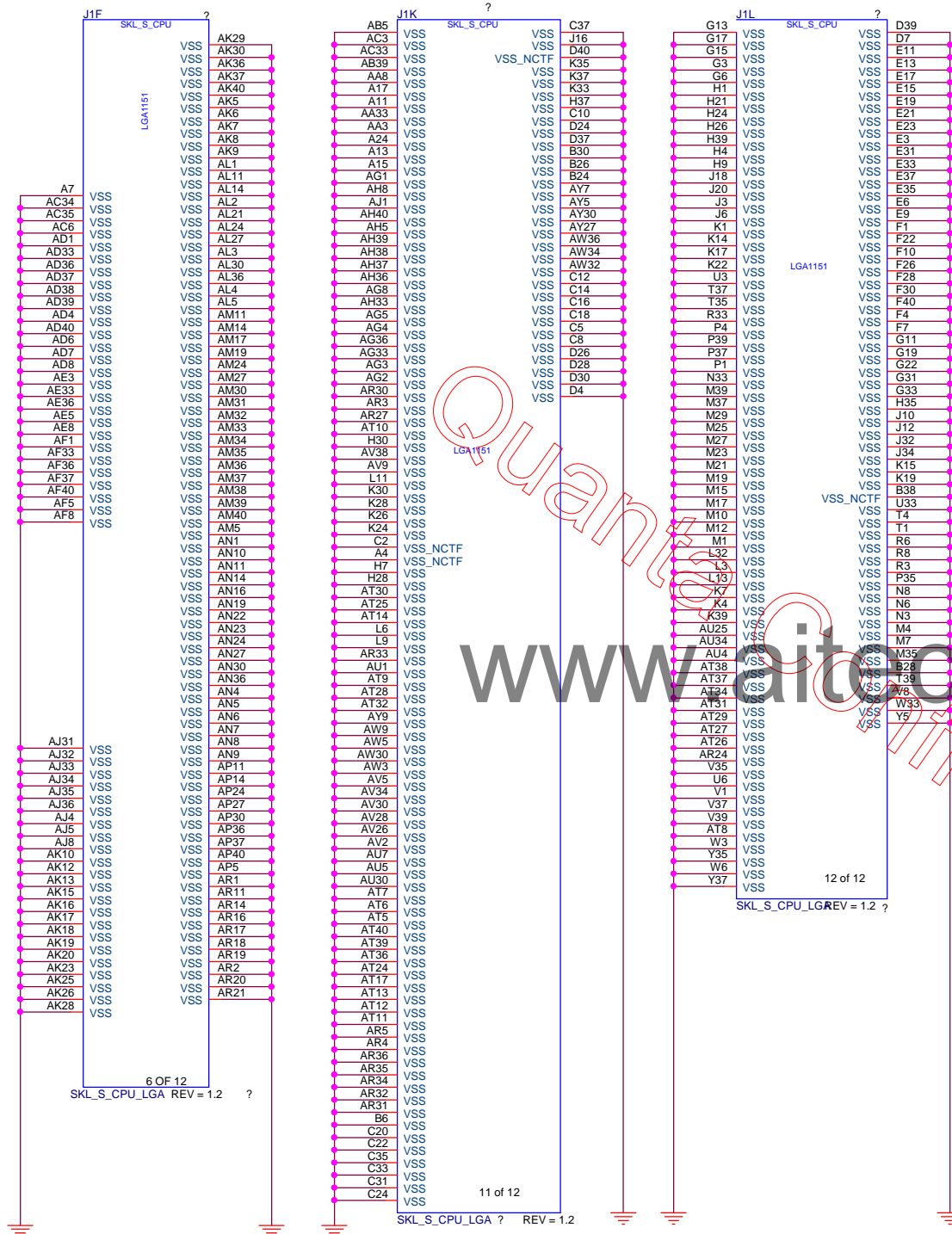


Quanta Computer Inc.
Project: HP-CRANE

Title CPU POWER		
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Title			CPU POWER/RSDV		
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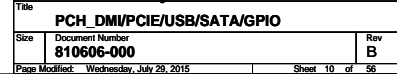
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Quanta Computer Inc.

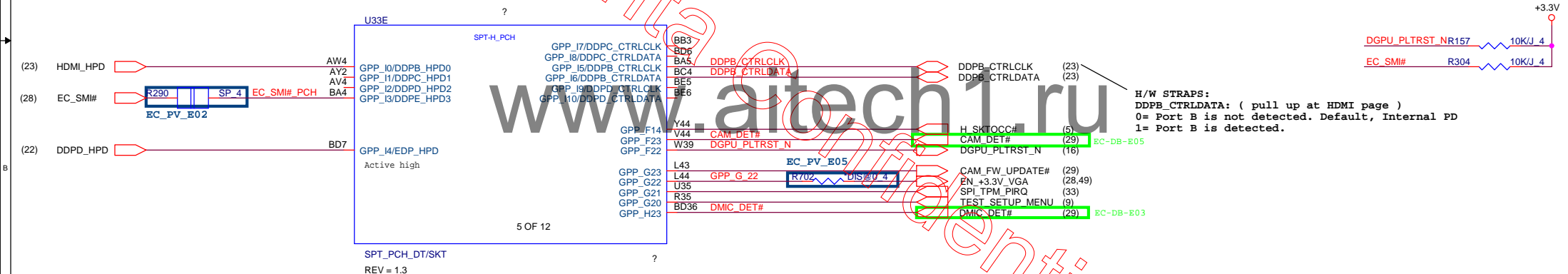
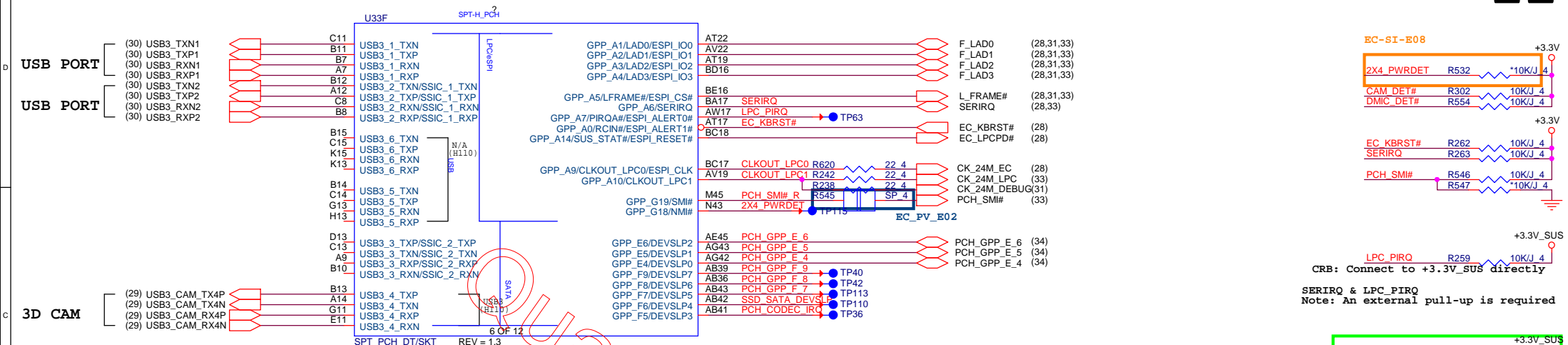
Project: HP-CRANE

Title		
CPU GND		
Size	Document Number	Rev
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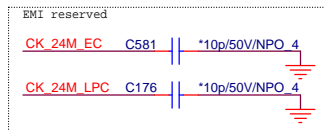


(9,10,12,13,14,15,22,23,25,26,27,28,29,31,32,33,34,38,40,42,43,44,48,49,50)
(5,9,10,12,13,24,26,28,31,33,34,35,37,38,39,41,42,43,49)

+3.3V
+3.3V_SUS



H/W STRAPS:
DDPB_CTRLDATA: (pull up at HDMI page)
0= Port B is not detected. Default, Internal PD
1= Port B is detected.



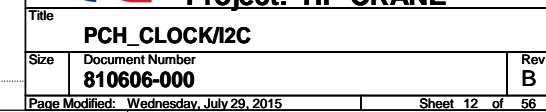
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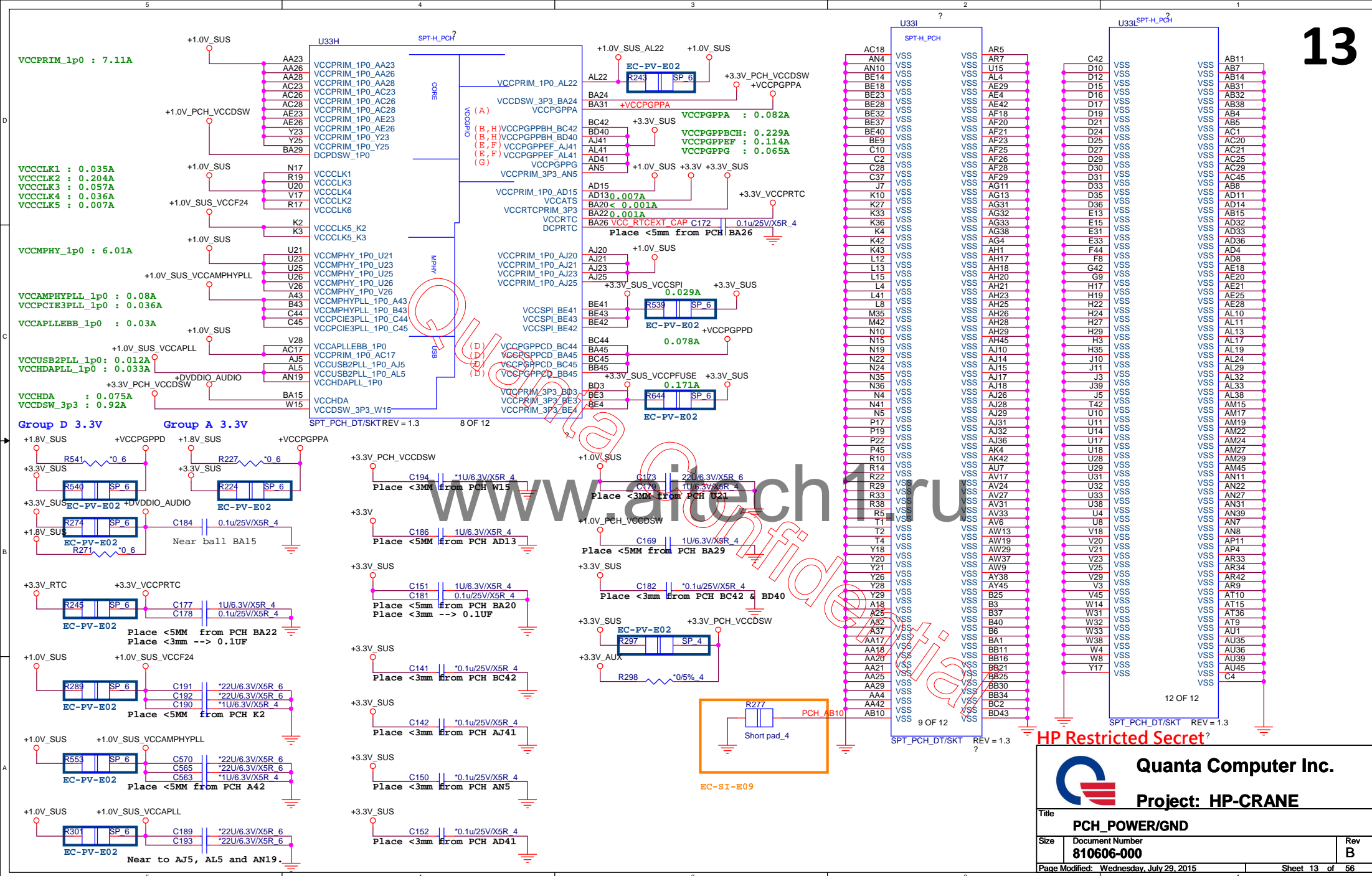


Quanta Computer Inc.

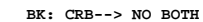
Project: HP-CRANE

Title	PCH_USB3/LPC		
Size	Document Number	Rev	
	810606-000	B	
Page Modified:	Wednesday, July 29, 2015	Sheet 11 of	56



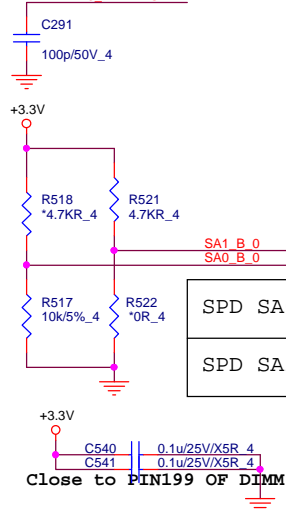






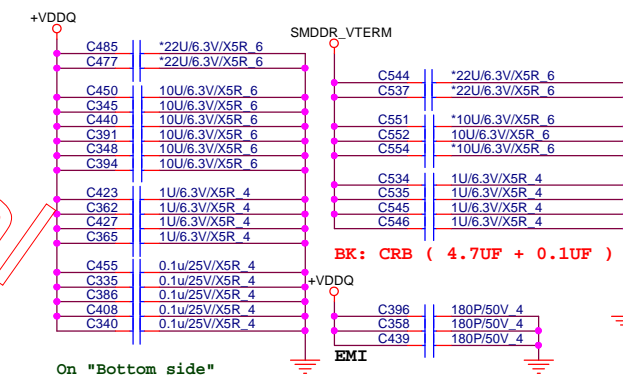
M B CLKP0 R463 *100KR 4 M B CLKN0
M B CLKP1 R464 *100KR 4 M B CLKN1

DDR3 DRAMRST#



SPD SA0	0
SPD SA1	1

Place these Caps near CHB So-Dimm0.



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Quanta Computer Inc.**Project: HP-CRANE**

Title
DDR3 CHB DIMM 0

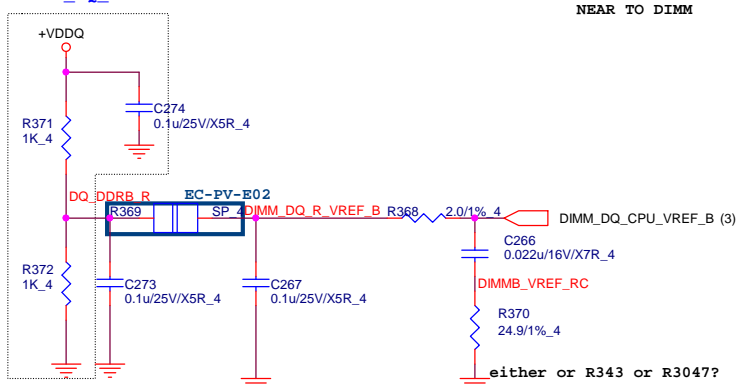
Size	Document Number
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DIMMB DQ VREF

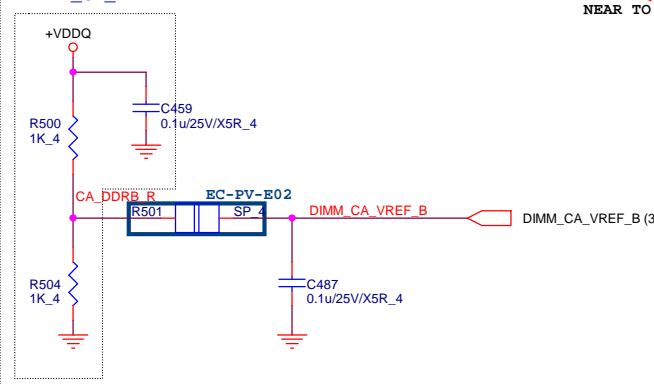
CAD NOTE:
NEAR TO DIMM

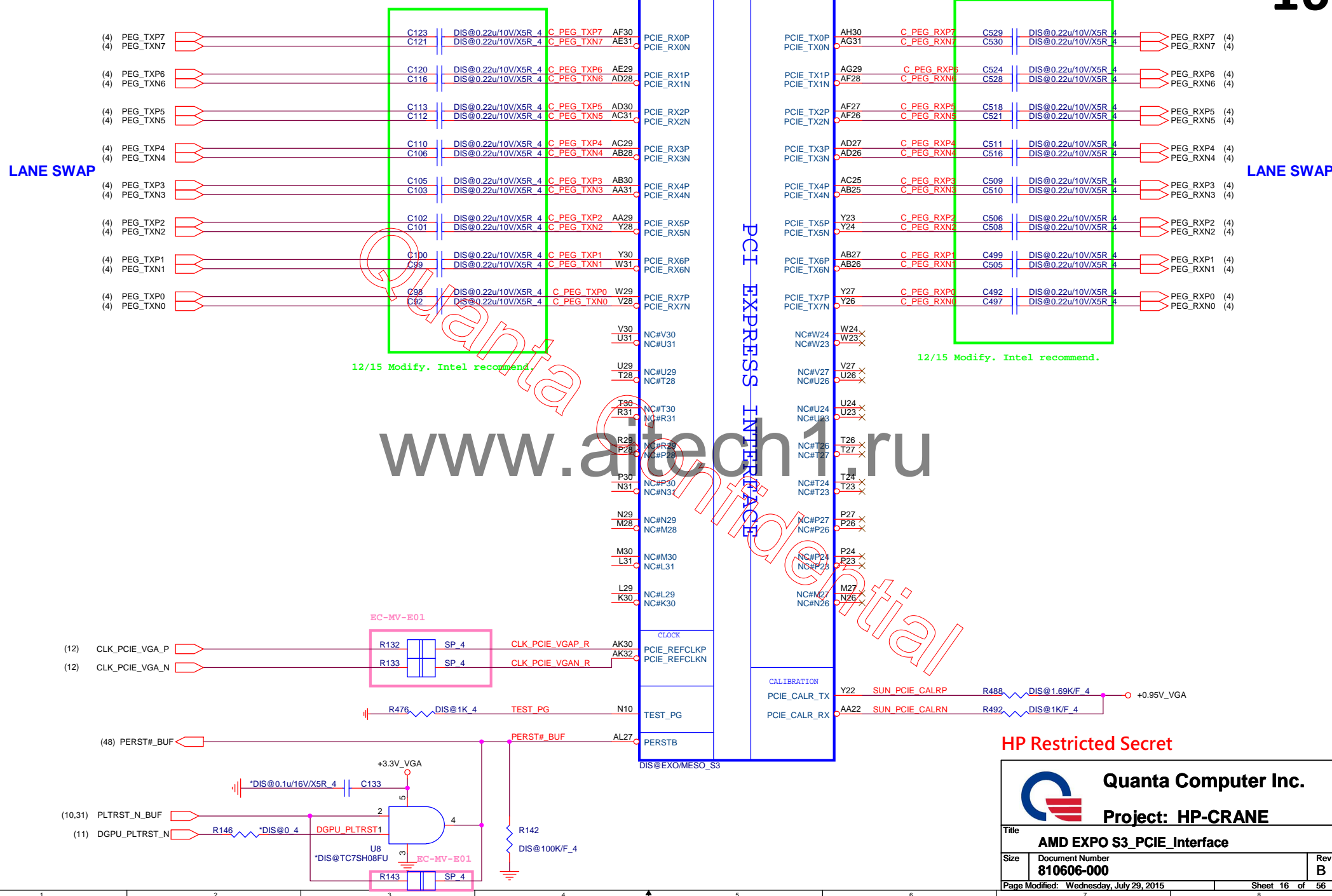


either or R343 or R3047?

DIMMB CA VREF

CAD NOTE:
NEAR TO DIMM





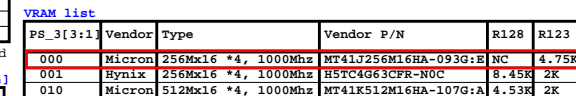
HP Restricted Secret

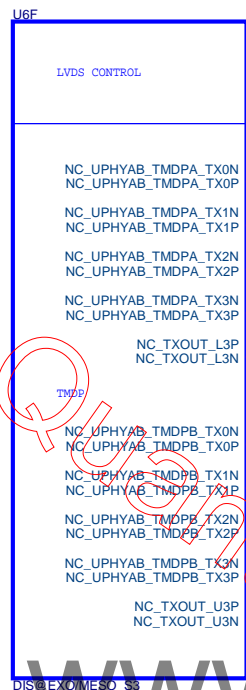
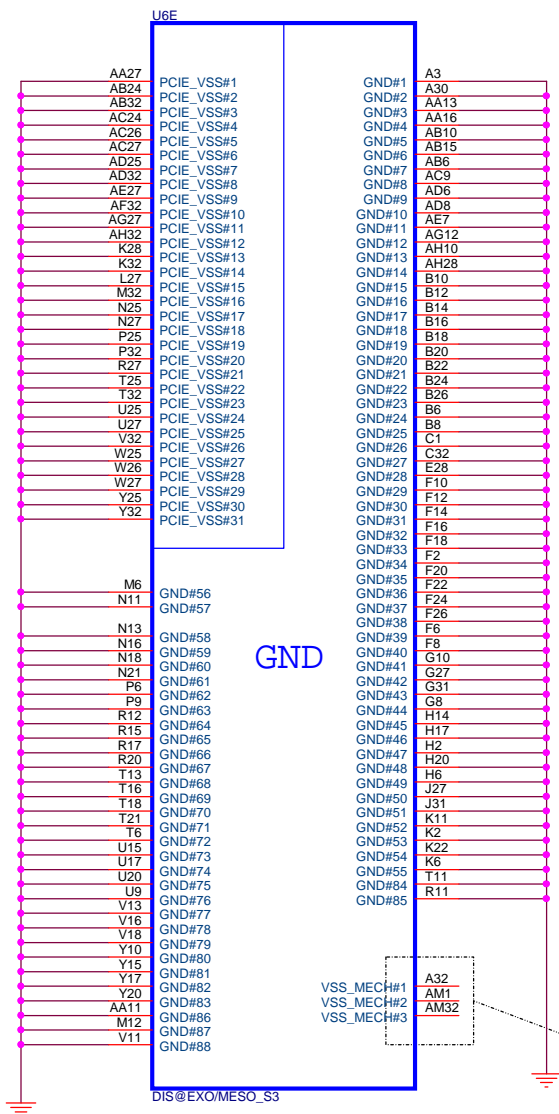


Quanta Computer Inc.

Project: HP-CRANE

Title		AMD EXPO S3_PCIE_Interface		Rev	B
Size	Document Number 810606-000				
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CONFIGURATION STRAPS-- SEE EACH DATABOOK FOR STRAP DETAILS

ALLOW FOR PULLUP PADS FOR THESE STRAPS AND IF THESE GPIOs ARE USED, THEY MUST NOT CONFLICT DURING RESET

STRAPS	PIN	DESCRIPTION OF DEFAULT SETTINGS	RECOMMENDED SETTINGS
TX_PWRS_ENB	GPIO0	PCIE FULL TX OUTPUT SWING	0
TX_DEEMPH_EN	GPIO1	PCIE TRANSMITTER DE-EMPHASIS ENABLED	X
RSVD	GPIO2	RESERVED	0
RSVD	GPIO8	RESERVED	0
BIF_VGA_DIS	GPIO9	VGA ENABLED	0
RSVD	GPIO21	RESERVED	0
BIOS_ROM_EN	GPIO_22_ROMCSB	ENABLE EXTERNAL BIOS ROM	0
ROMIDCFG(2:0)	GPIO[13:11]	SERIAL ROM TYPE OR MEMORY APERTURE SIZE SELECT	0 0 1
VIP_DEVICE_STRAP_ENA	V2SYNC	IGNORE VIP DEVICE STRAPS (Removed on Seymour/Whistler)	0
RSVD	H2SYNC	RESERVED	0
AUD[1]	HSYNC	SEE DATABOOK FOR DETAIL	0
AUD[0]	VSXNC	SEE DATABOOK FOR DETAIL	0
RSVD	GENERICC	RESERVED	0

NOTE1. AMD RESERVED CONFIGURATION STRAPS

ALLOW FOR PULLUP PADS FOR THESE STRAPS BUT DO NOT INSTALL RESISTOR. IF THESE GPIOs ARE USED, THEY MUST KEEP "LOW" AND NOT CONFLICT DURING RESET.

GPIO21 H2SYNC GENERICC GPIO8 GPIO2

VGA HOLE

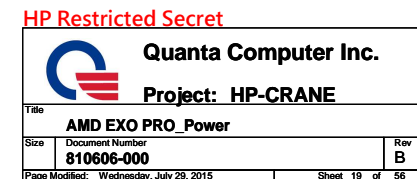
HP Restricted Secret

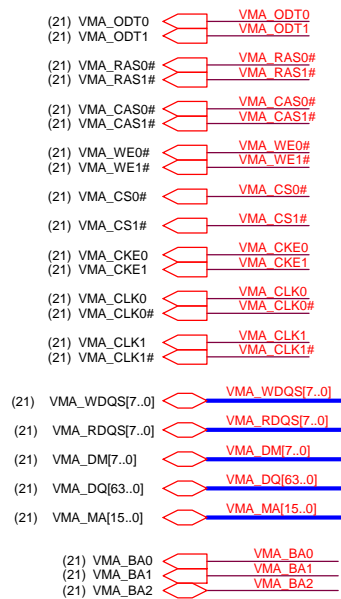


Quanta Computer Inc.

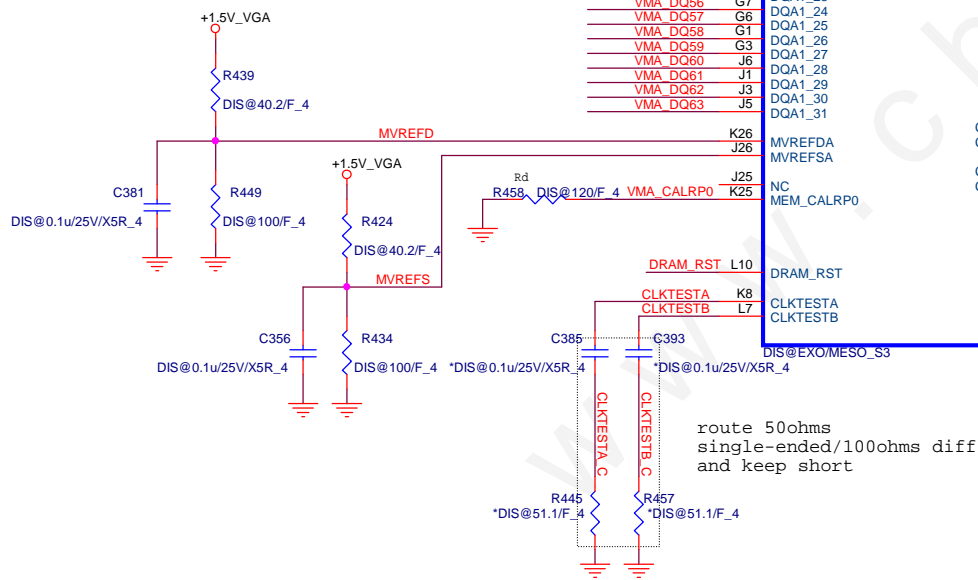
Project: HP-CRANE

Title	AMD EXO PRO S3_GND/LVDS/Strap		
Size	Document Number	Rev	
	810606-000	B	
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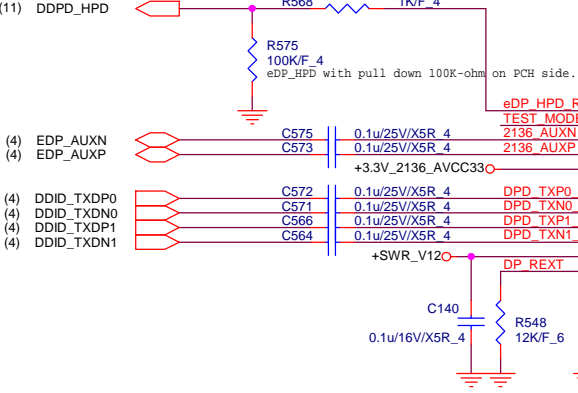




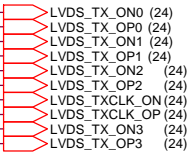
support 1Gbit
 VRAM (64M X 16)



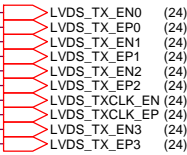
DP input signals



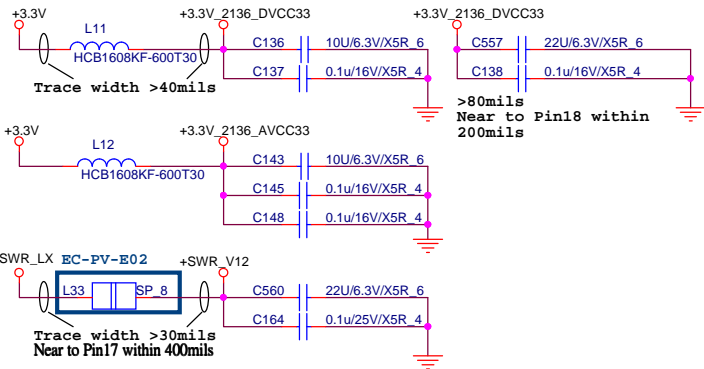
ODD_CH



EVEN_CH



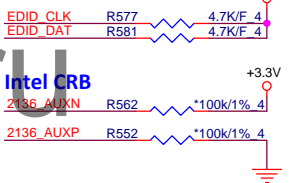
RTD2136N Power



SWR MODE /LDO MODE

L9	2.2-uH	0 Ohm
SWR	Connect	NC
LDO	NC	Connect

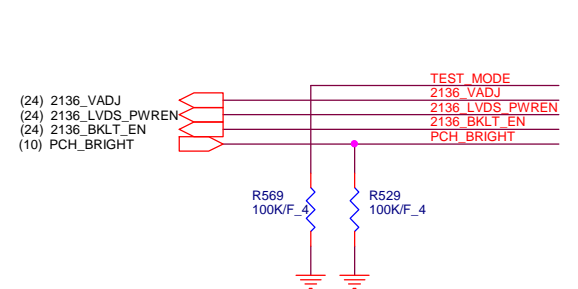
EDID



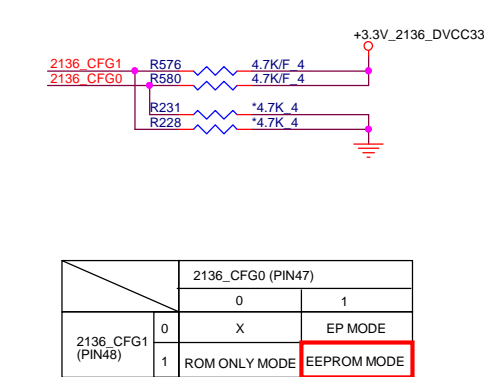
Intel CRB



GPIO & TESTING signals

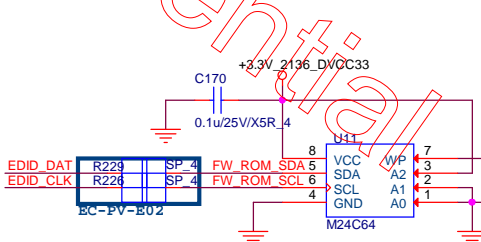


Mode select



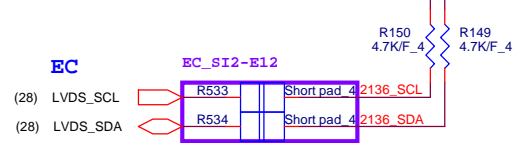
		2136_CFG0 (PIN47)	
		0	1
2136_CFG1 (PIN48)	0	X	EP MODE
	1	ROM ONLY MODE	EEPROM MODE

EEPROM



- 1- EEPROM with a size 8K-Byte
- 2- EEPROM device should be 2-byte addressing device
- 3- Slave address should configure as 0xA8

In System Programing slave address=0xA8



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Project: HP-CRANE

Title: eDP-LVDS_RTD2136N

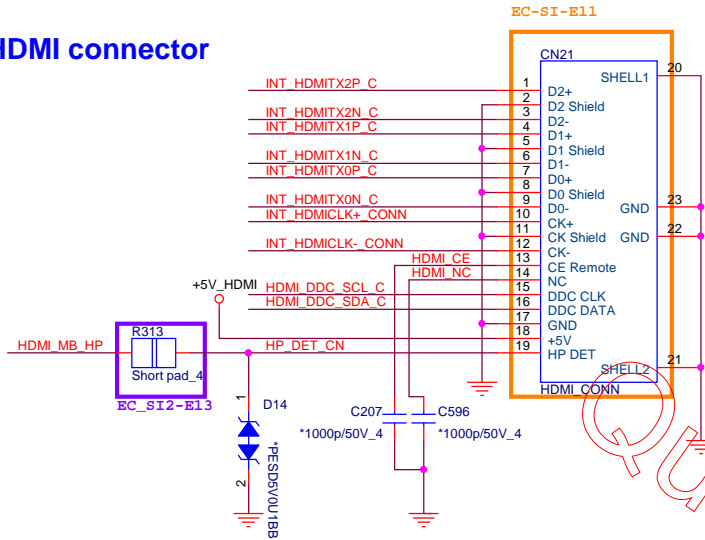
Size: Document Number 810606-000

Page Modified: Wednesday, July 29, 2015

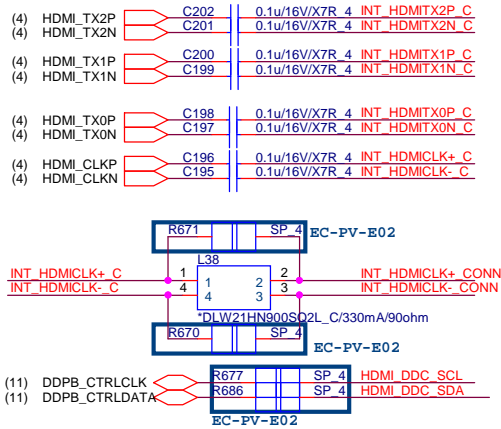
Rev B

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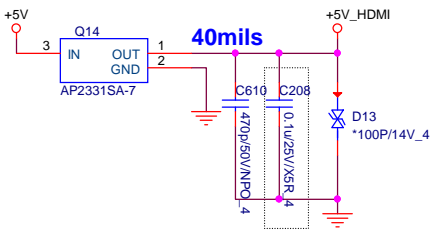
HDMI connector



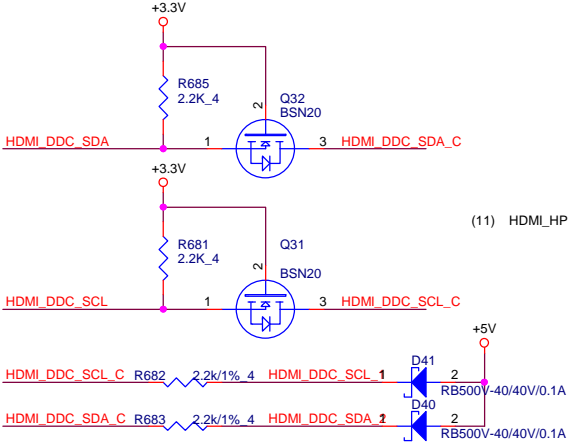
HDMI INTERFACE



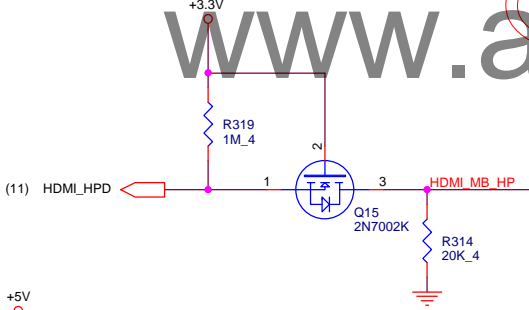
HDMI POWER SUPPLY



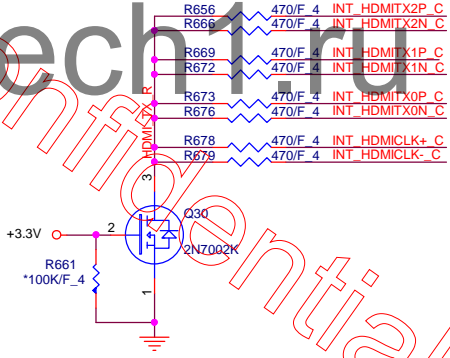
HDMI DDC



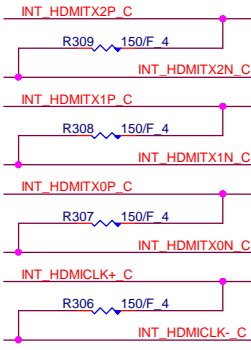
HDMI-detect



HDMI LEVEL SHIFT

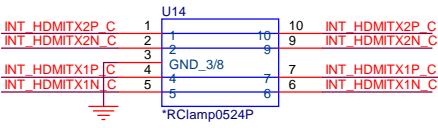
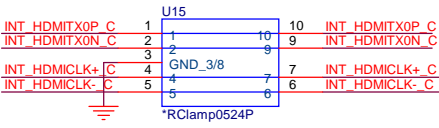
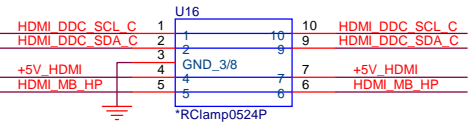


HDMI EMI (EMC)



ESD reserve for HDMI

Layout Notes:
Place decoupling CAPs close to Connector



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Quanta Computer Inc.

Project: HP-CRANE

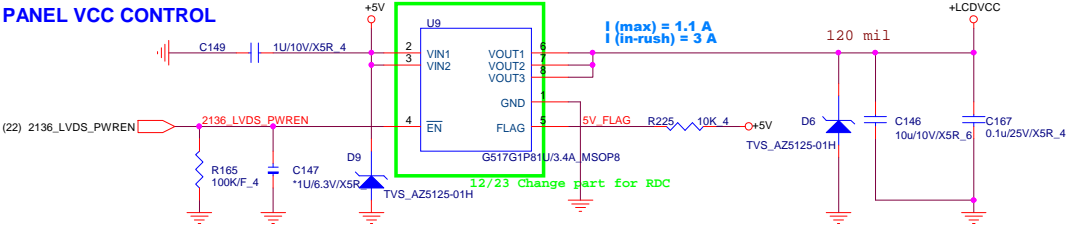
Title	HDMI		
Size	Document Number	Rev	
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LED PANEL

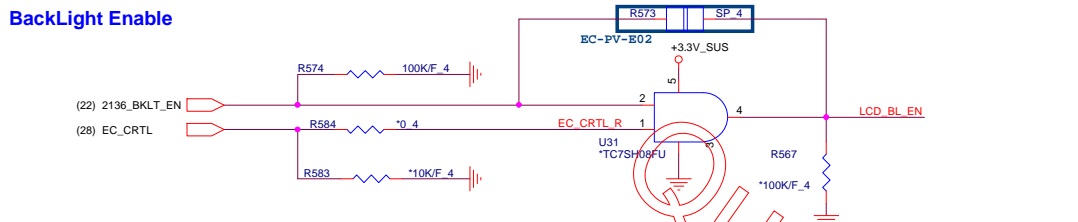
24

(35,36,37,38,39,40,42,43,45,46,47,48,49,50) +VIN
(5,9,10,11,12,13,26,28,31,33,34,35,37,38,39,41,42,43,49) +3.3V_SUS
(23,25,29,32,35,42,43,44,45,46,48,49,50) +5V

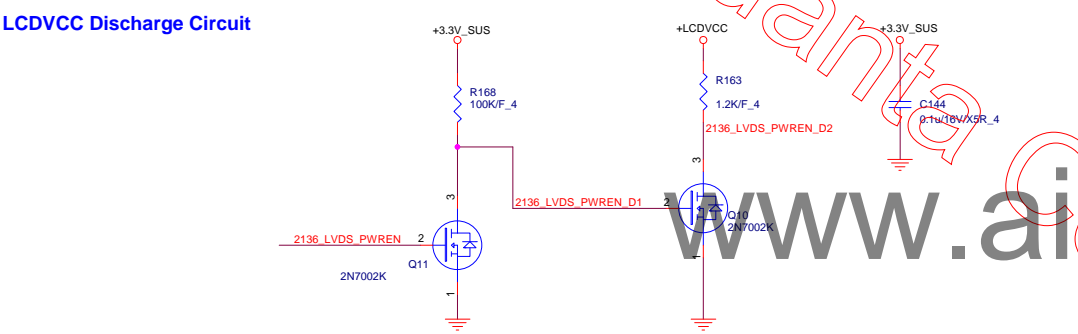
PANEL VCC CONTROL



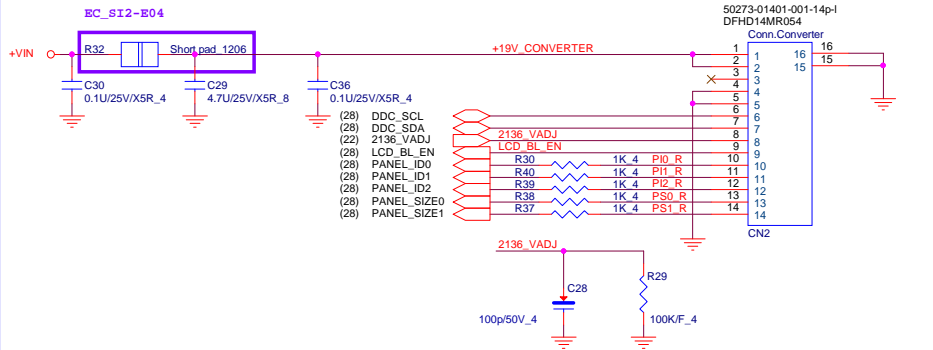
BackLight Enable



LCDVCC Discharge Circuit



CONVERTER CONN



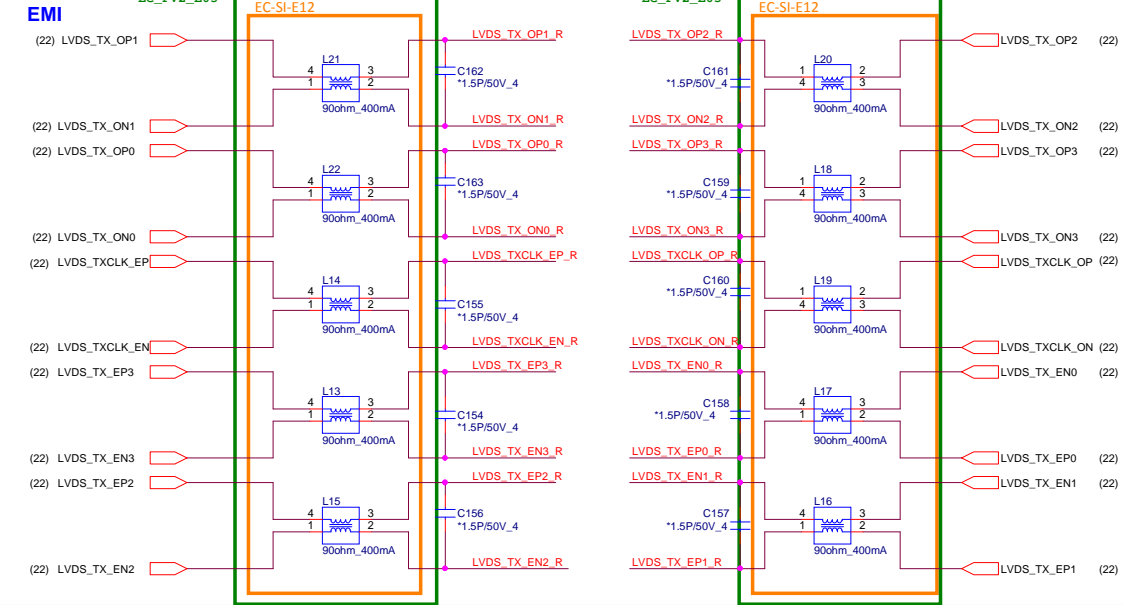
PANEL_Size Table

PANEL_Size[1:0]	Size
10	23"
11	21.5"
01	27"

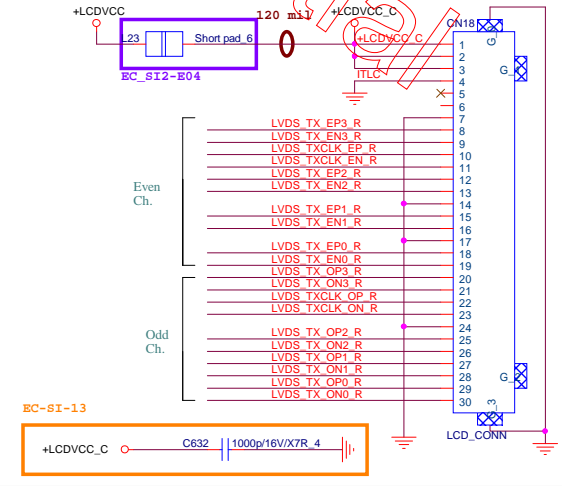
PANEL_ID Table

PANEL_ID[2:0]	Panel model
000	Reserve
001	SDC LTM215HL01_H02
010	SDC LTM230HL08 LTM215HL01_H01
011	Reserve
100	LGD LM230WF3 LM215WF3
101	Reserve
110	Reserve
111	No Connect


EMI



LVDS Conn

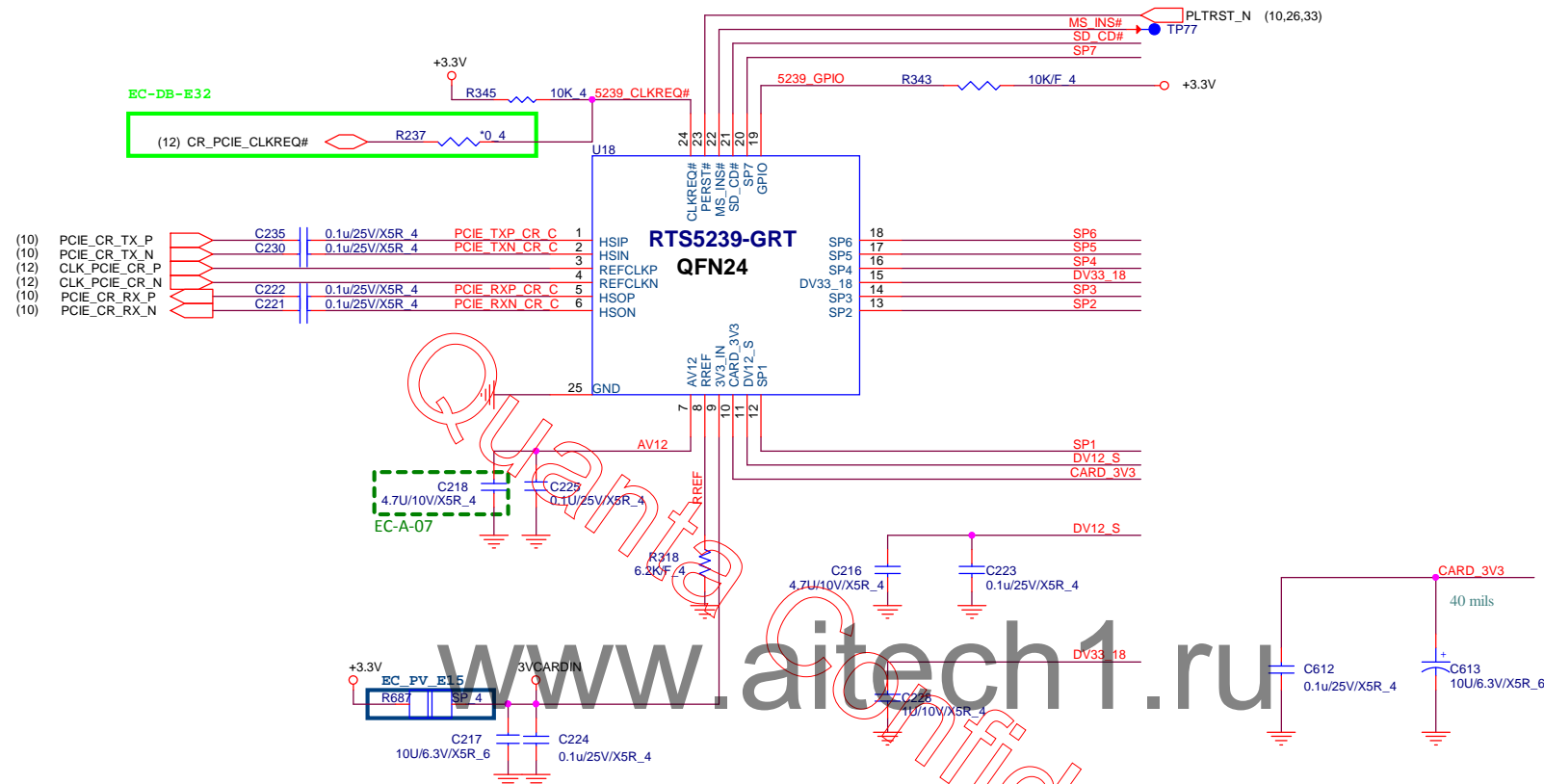


HP Restricted Secret



Quanta Computer Inc.
Project: HP-CRANE

Title	Panel (Control).LVDS-Conn.	
Size	Document Number	Rev
	810606-000	B
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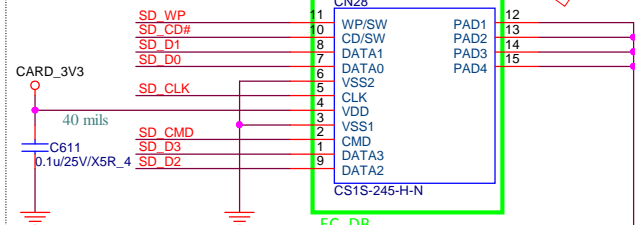
EMI

SD_D1	C213	5.6P/16V_4
SD_D0	C226	5.6P/16V_4
SD_CLK	C227	5.6P/16V_4
SD_D3	C229	5.6P/16V_4
SD_D2	C236	5.6P/16V_4

SD damping resistor

SP1	R317	33_4	SD_D1
SP2	R322	33_4	SD_D0
SP3	R326	33_4	SD_CLK
SP4	R331	33_4	SD_CMD
SP5	R336	33_4	SD_D3
SP6	R339	33_4	SD_D2
SP7	R346	33_4	SD_WP

SD connector



HP Restricted Secret



Quanta Computer Inc.

Project: HP-CRANE

Title
Card Reader (RTS5239)Size
Document Number
810606-000Rev
B

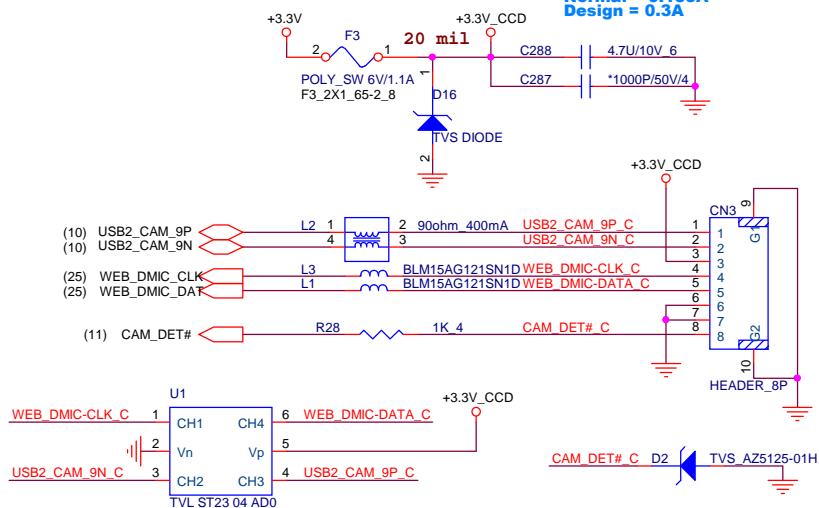
Page Modified: Wednesday, July 29, 2015

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3D CAM

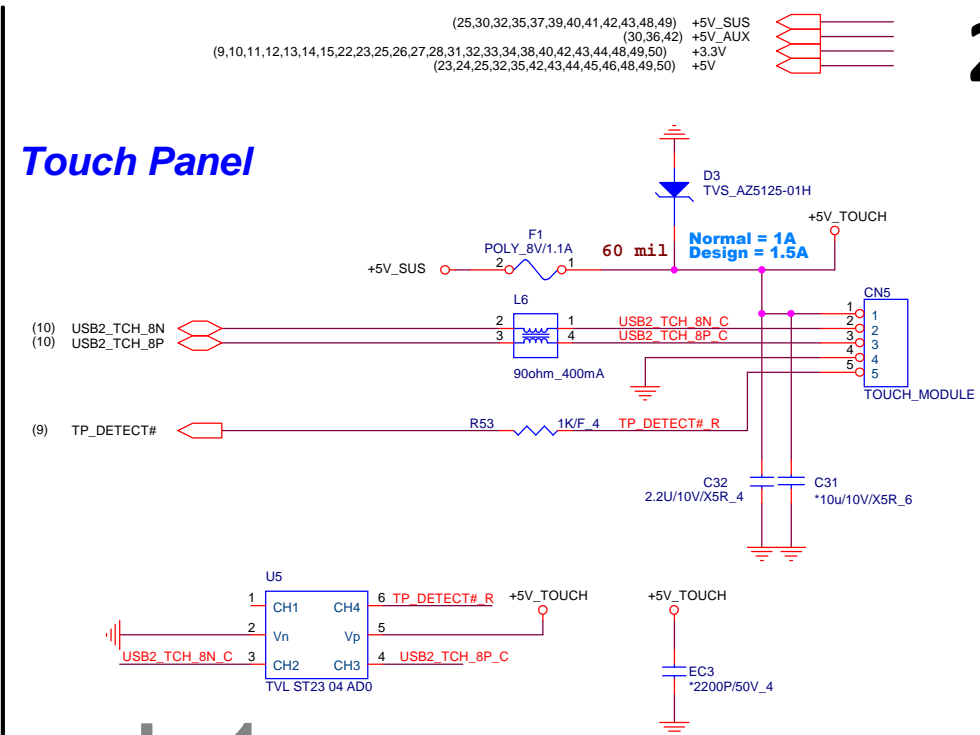


Normal = 0.135A
Design = 0.3A

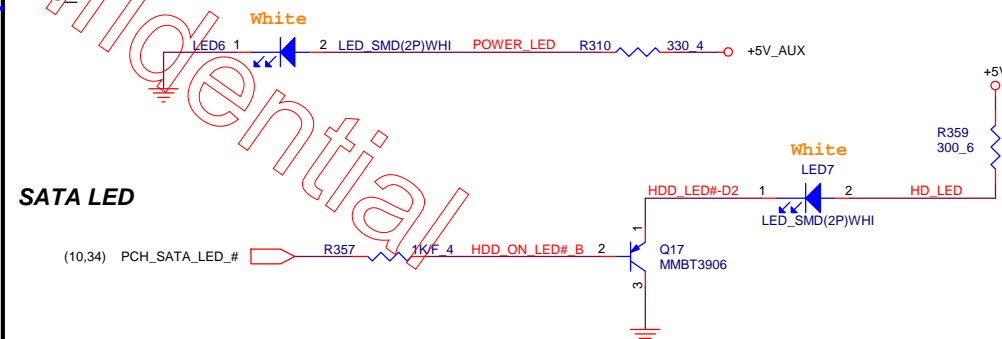


3D CAM Module	
#	Description
1	GND
2	USB3_TX-
3	USB3_TX+
4	GND
5	USB3_RX-
6	USB3_RX+
7	GND
8	FW_UPDATE
9	5V +/- 5%
10	5V +/- 5%

Touch Panel



LEDs
DC IN LED

**SATA LED**

HP Restricted Secret

**Quanta Computer Inc.****Project: HP-CRANE**

Title **eDP-LVDS_RTD2136N**

Size	Document Number 810606-000
------	--------------------------------------

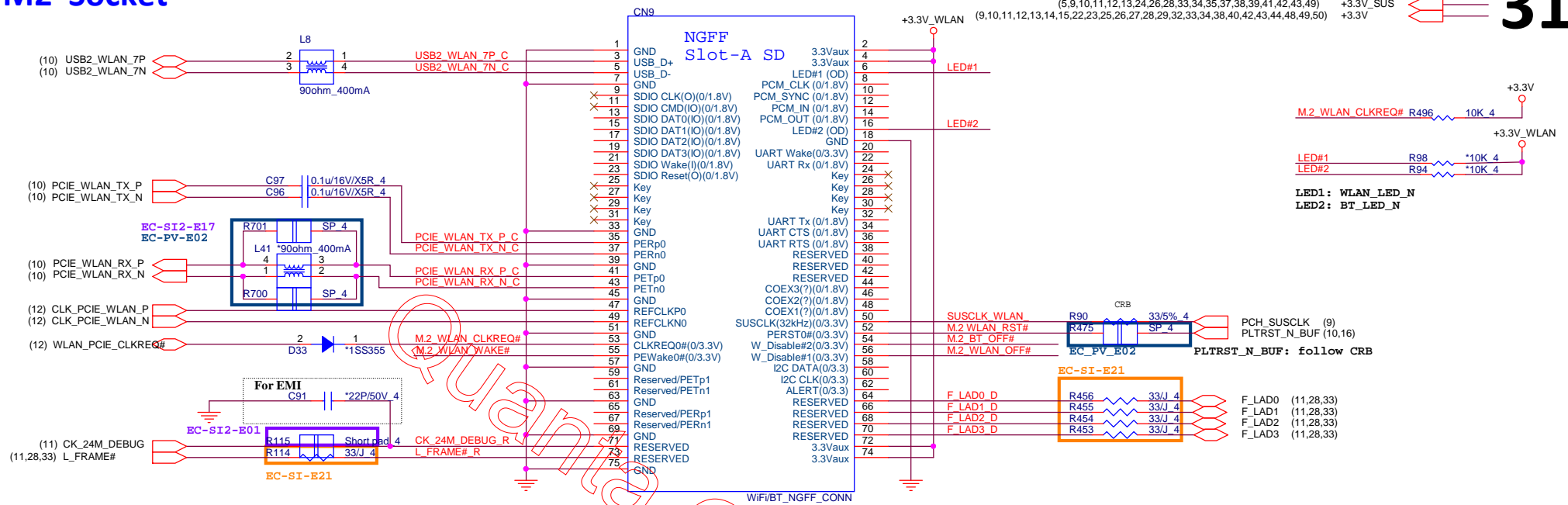
29

USD protection diodes for ESD.
as close as possible to USB connector pins.

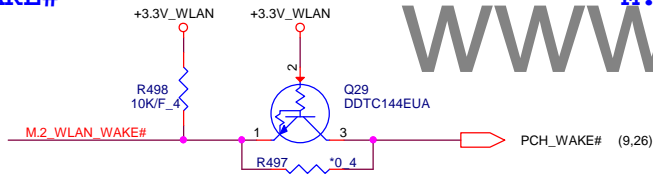
NGFF M2 Socket

H=9.0

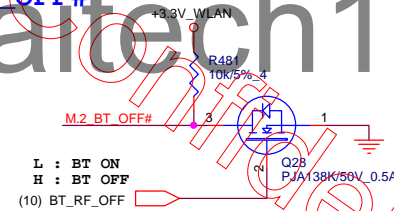
31



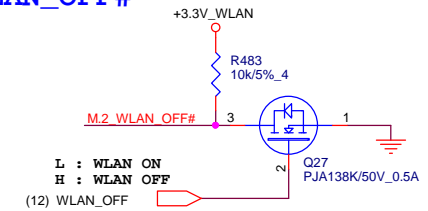
M.2 WLAN WAKE#



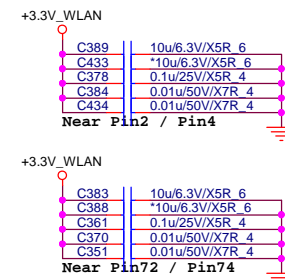
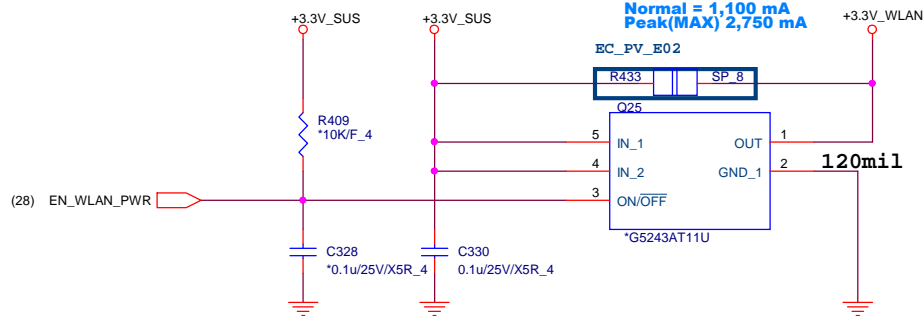
M.2_BT (OFF)#



M.2_WLAN_OFF#



NGFF M2_power(S5)



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Quanta Computer Inc.

Project: HP-CRANE

Title

NGFF M.2 WLAN

Size

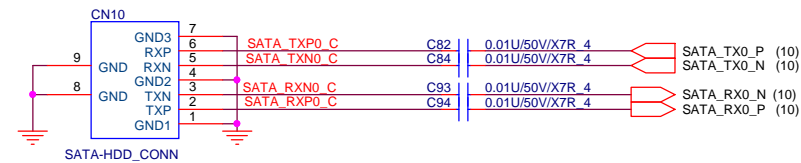
Document Number

810606-000

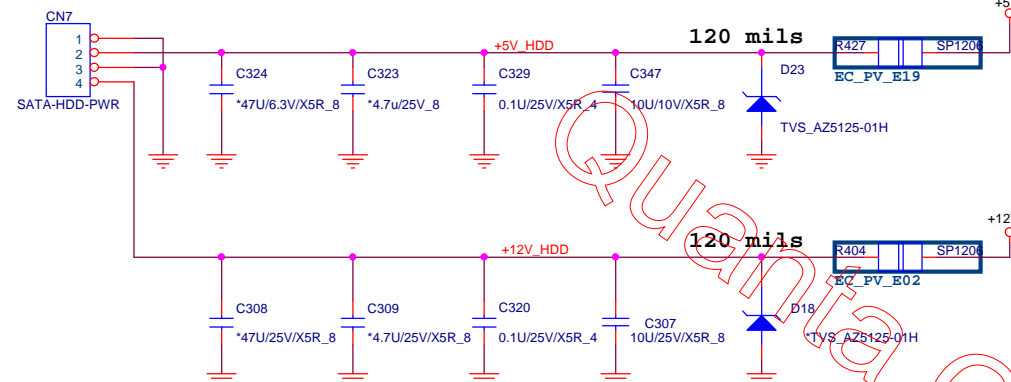
B

SATA HDD

HDD SATA Conn.

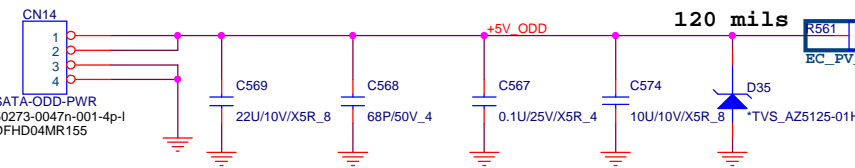
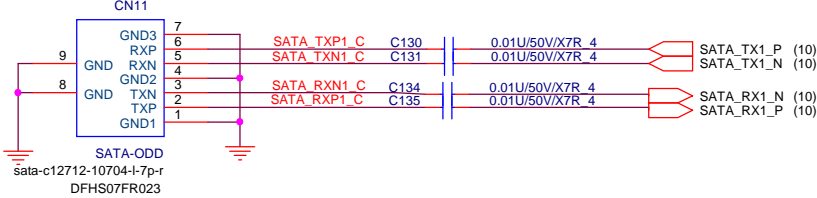


DIP_H type

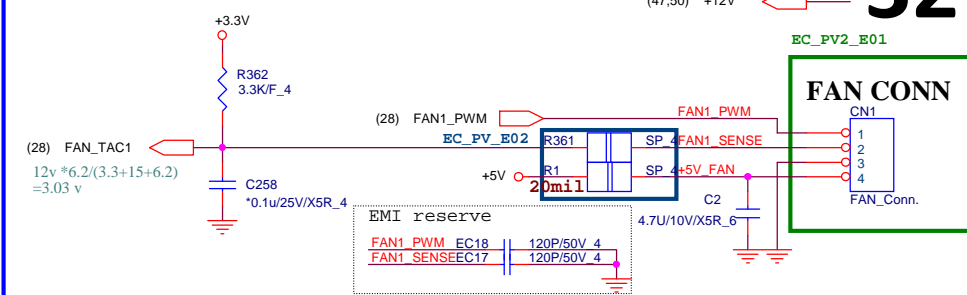


SATA ODD

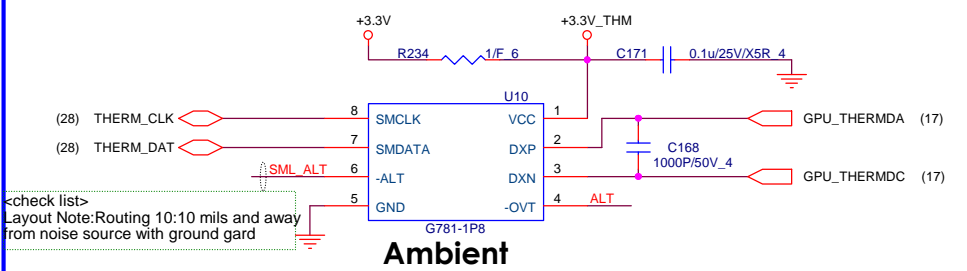
ODD SATA Conn.



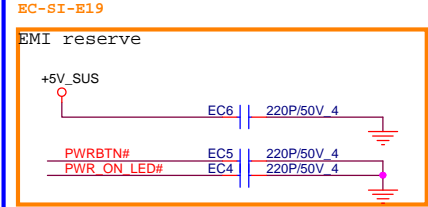
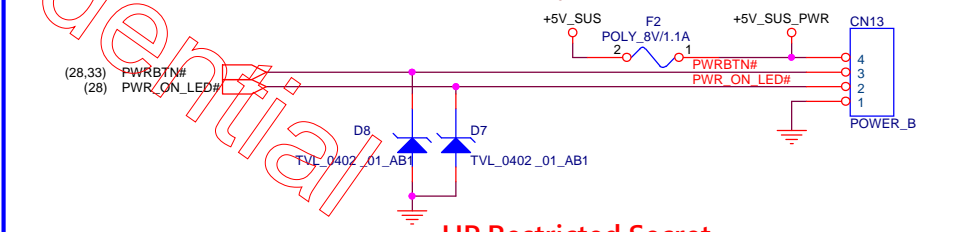
SYSTEM FAN




THERMAL SENSOR



Power Button.



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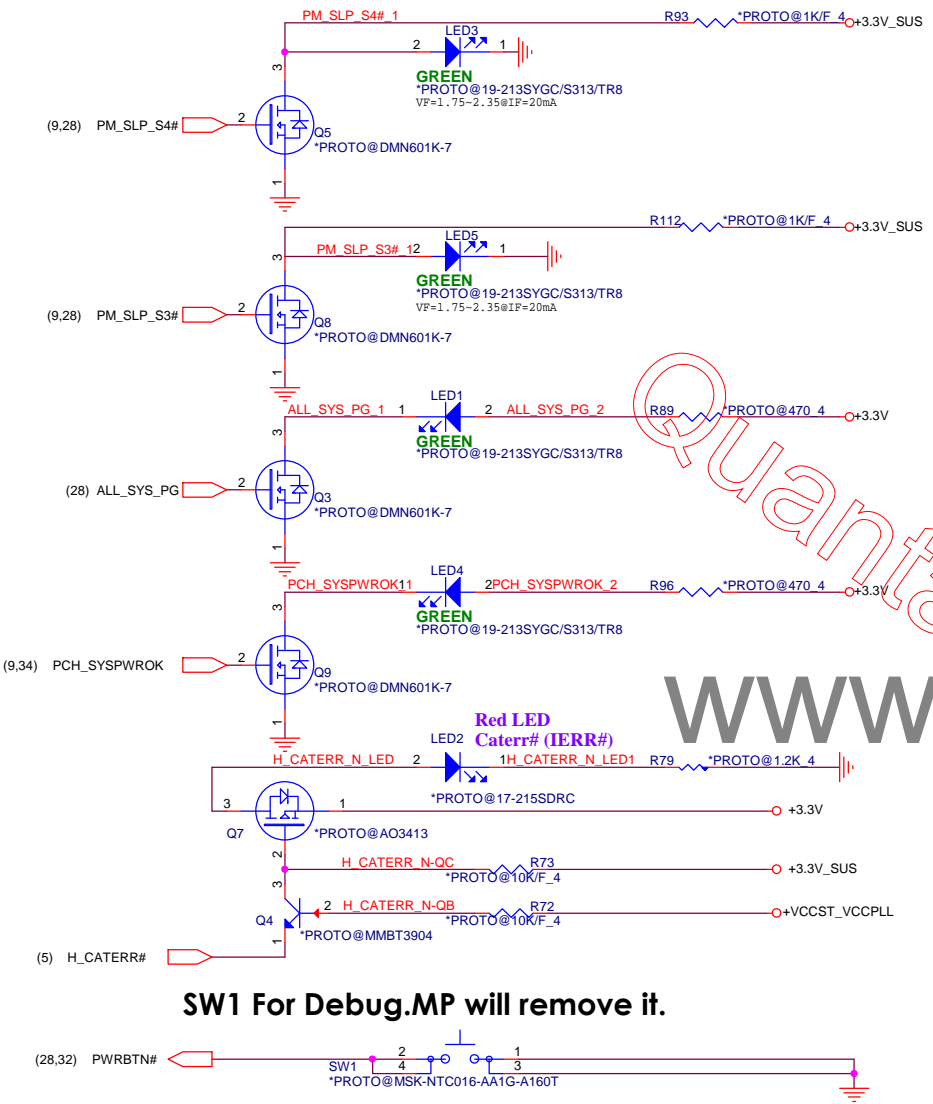


Quanta Computer Inc.
Project: HP-CRANE

Title
FAN/HDD/ODD/HDD CONN.

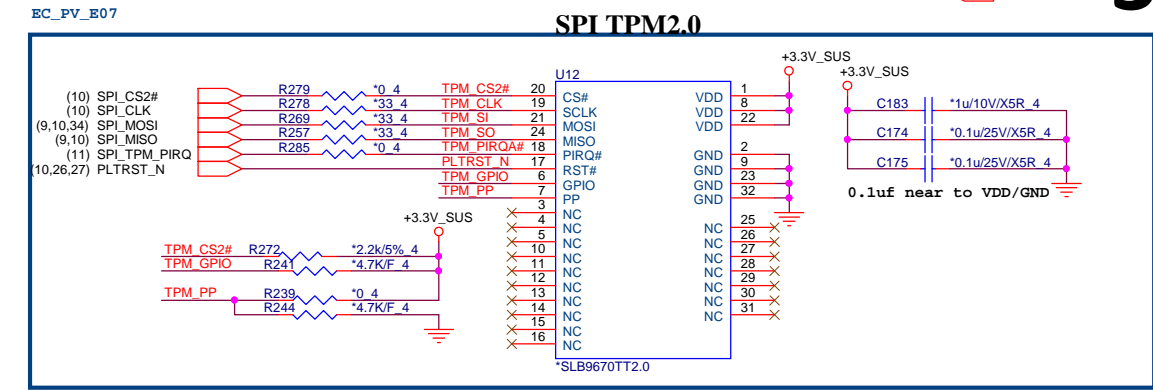
Size	Document Number 810606-000	Rev B
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PCA debug LED requirement:

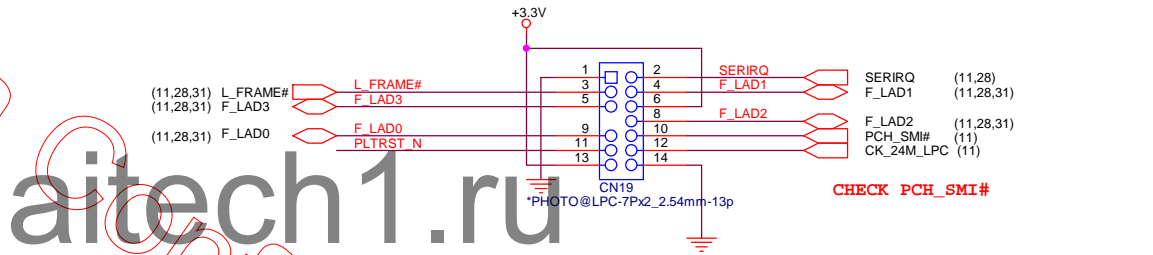


SW1 For Debug.MP will remove it.


TPM2.0



LPC HEADER



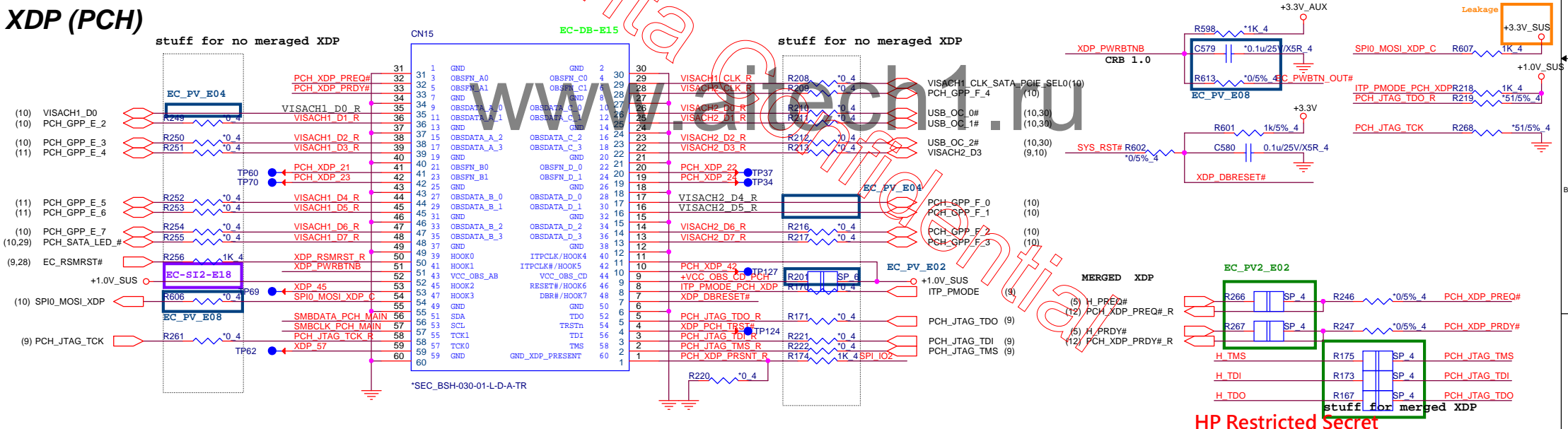
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Quanta Computer Inc.
Project: HP-CRANE

Title Debug /LPC Header/TPM		
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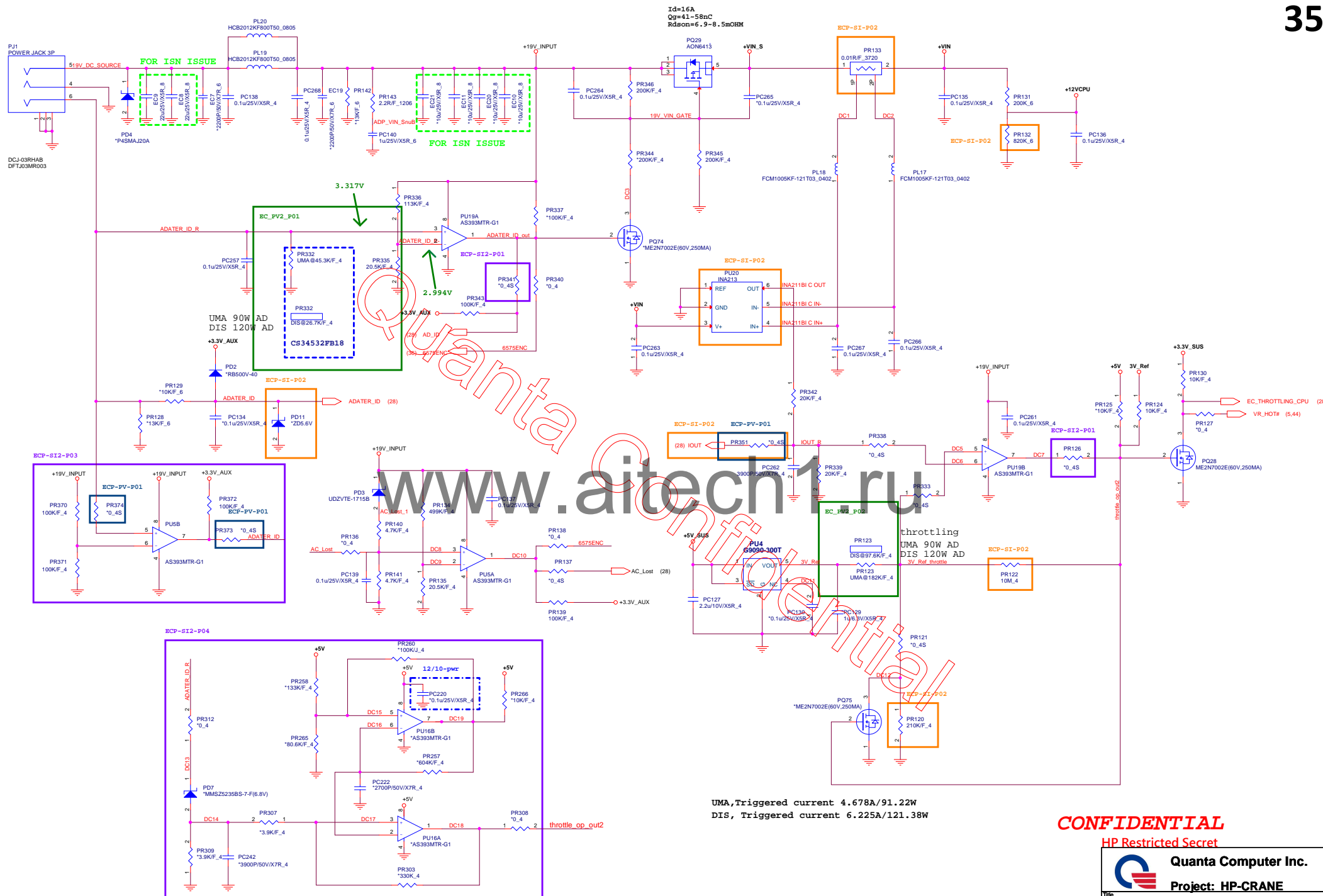
34



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**Project: HP-CRANE**

Title			Project: HX CRANE		
XDP DEBUG					
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UMA, Triggered current 4.678A/91.22W
DIS, Triggered current 6.225A/121.38W

CONFIDENTIAL

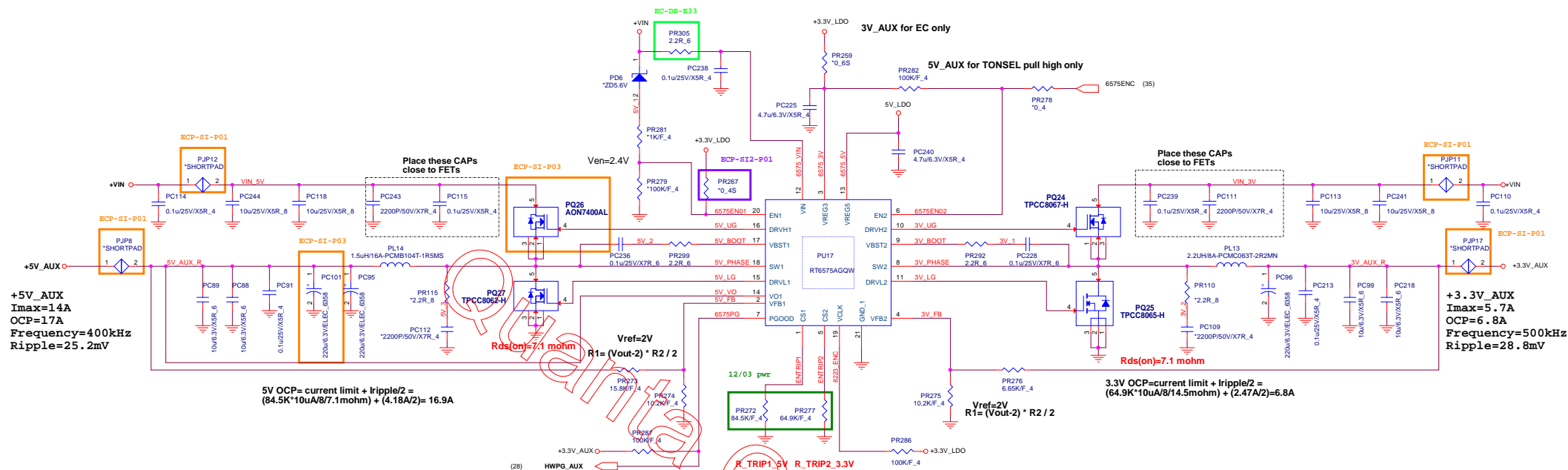
~~HP Restricted Secret~~



Quanta Computer Inc.

Project: HP-CRANE

Title		PROJECT: HP-CRANE	
DC-IN			
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L/S Mosfet parameter

MOSFET	Package	ID (Ta=25C)	Rds_on_max
TPCC8067-H	DFN3x3	9A	26m
TPCC8062-H	DFN3x3	27A	7.1m

Power On sequencing

EN0	ENC	REF	VREG3	VREG5	SMPS1	SMPS2
LOW	LOW	OFF	OFF	OFF	OFF	OFF
> 2.4V	LOW	ON	ON	ON	OFF	OFF
> 2.4V	> 2.4V	ON	ON	ON	ON	ON

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Project: HP-CRANE

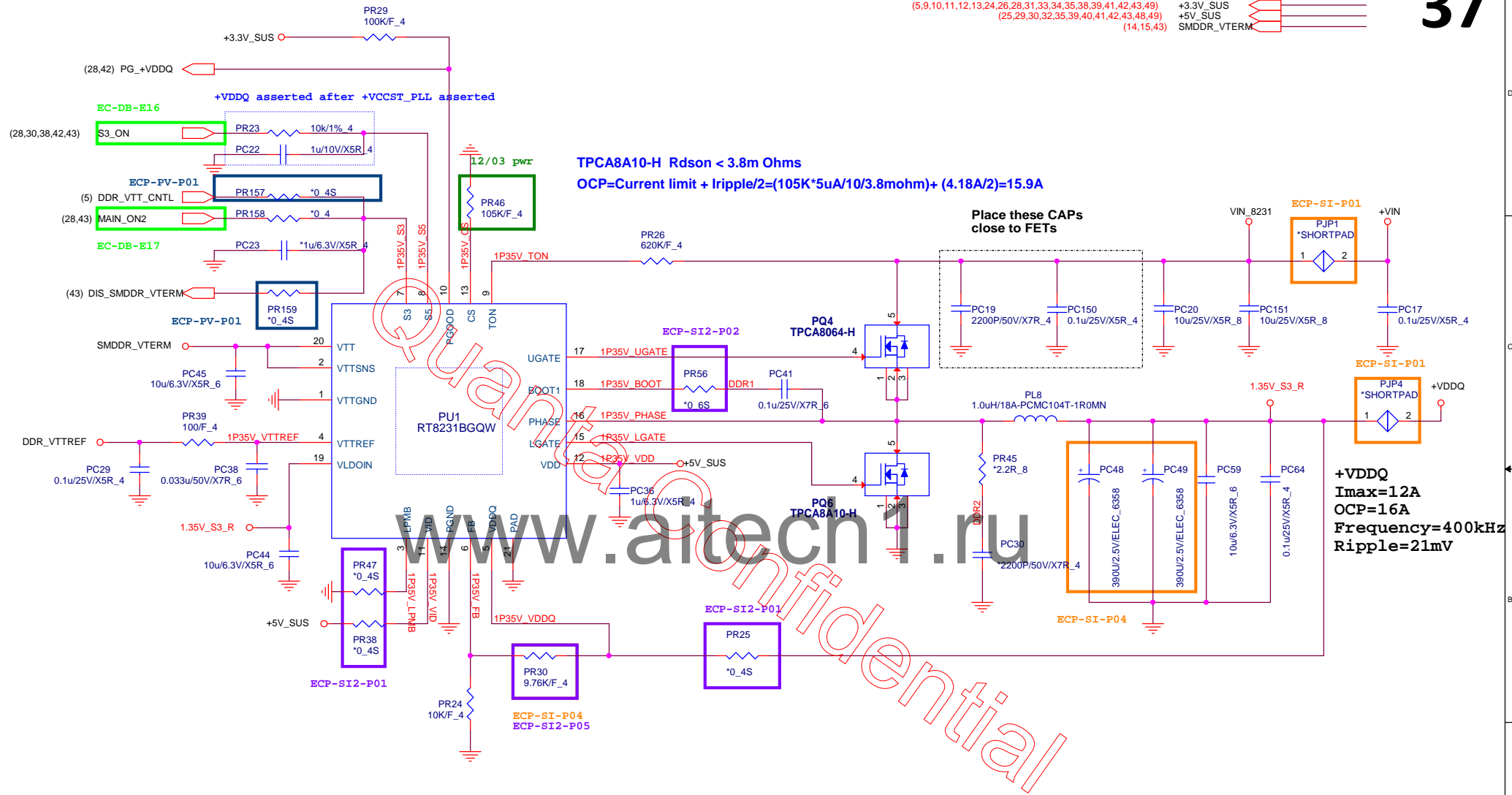
Title			Rev A
3V_AUX/5V_AUX(RT6575AGQW)			
Size	Document Number 810606-000		
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(24,35,36,38,39,40,42,43,45,46,47,48,49,50)
 (7,9,14,15,42,43,49,50)
 (5,9,10,11,12,13,24,26,28,31,33,34,35,38,39,41,42,43,49)
 (25,29,30,32,35,39,40,41,42,43,48,49)
 (14,15,43)

+VIN
 +VDDQ
 +3.3V_SUS
 +5V_SUS
 SMDDR_VTERM



Quanta Computer Inc.

Project: HP-CRANE

Title
+VDDQ / SMDDR_VTERM (RT8231BGQW)

Size
 Document Number
810606-000


Rev
A

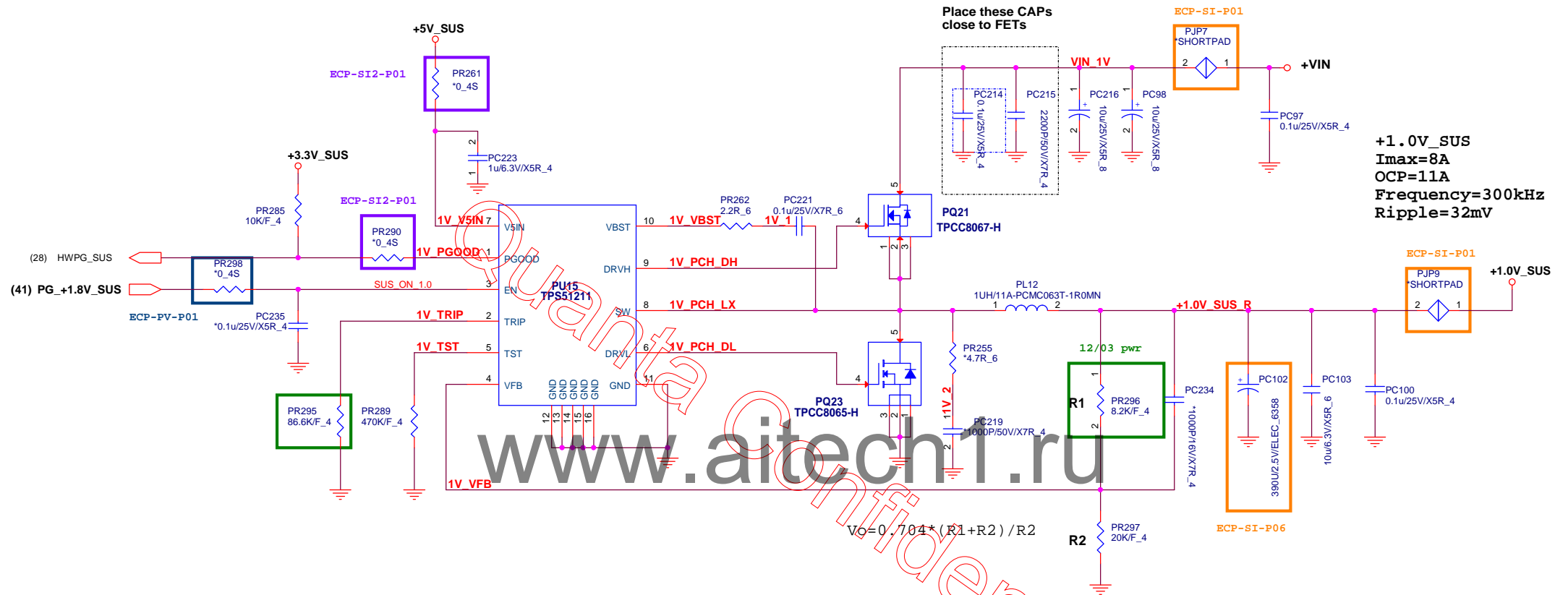
Page Modified: Wednesday, July 29, 2015

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HP Restricted Secret

		Quanta Computer Inc.	
		Project: HP-CRANE	
Title +VCCIO(NB681)			
Size	Document Number 810606-000		Rev A
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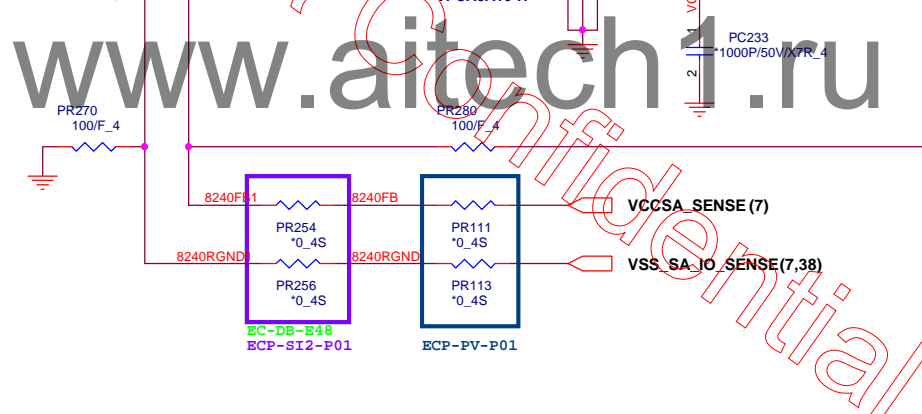
HP Restricted Secret



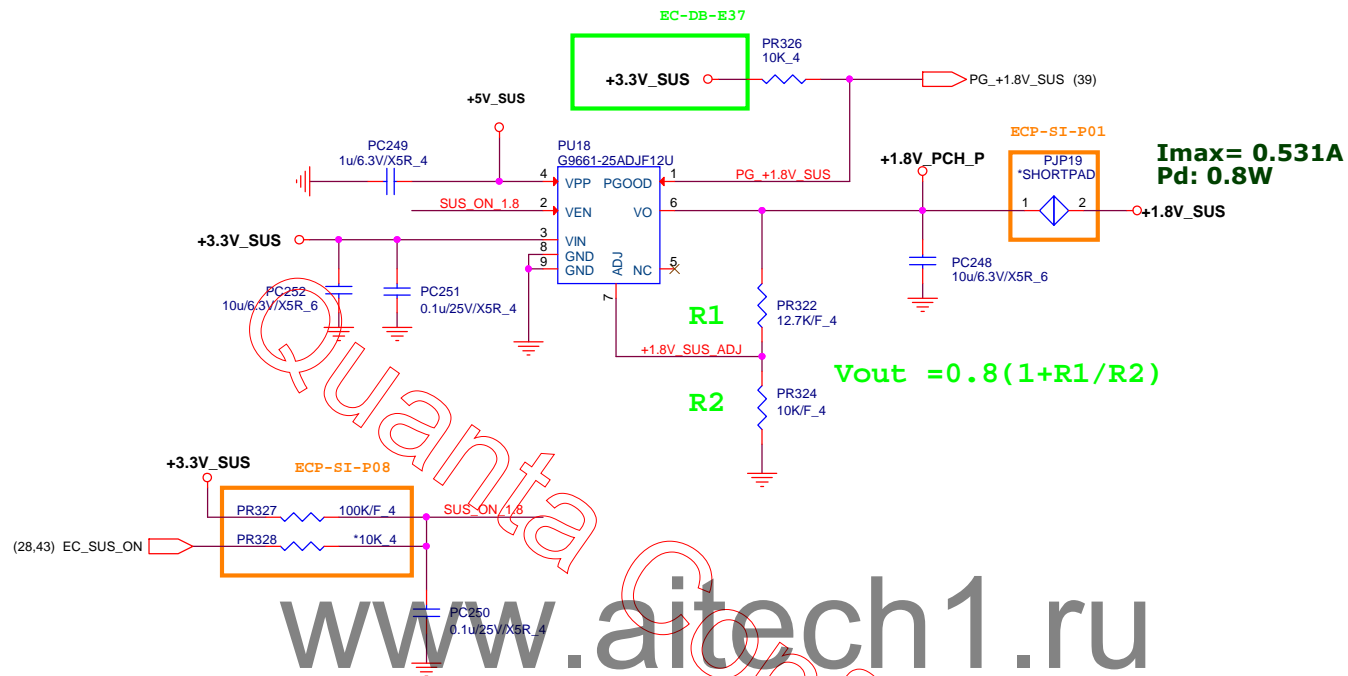
Quanta Computer Inc.

Project: HP-CRANE

Title	+1.0V_SUS(TPS51211)	
Size	Document Number	Rev
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HP Restricted Secret

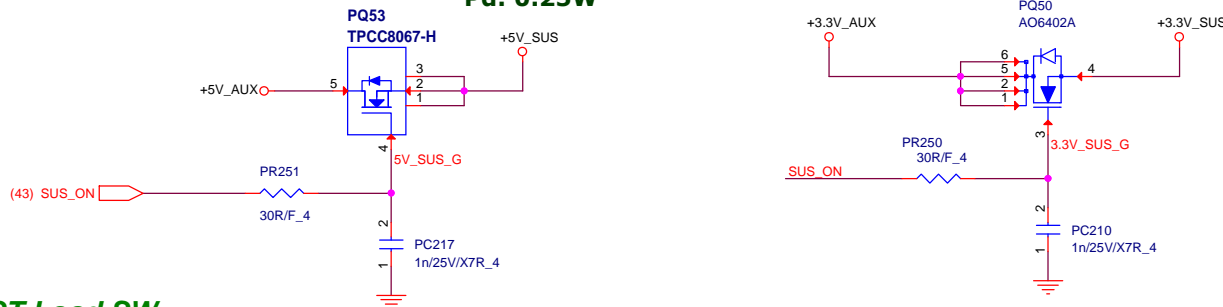


Quanta Computer Inc.

Project: HP-CRANE

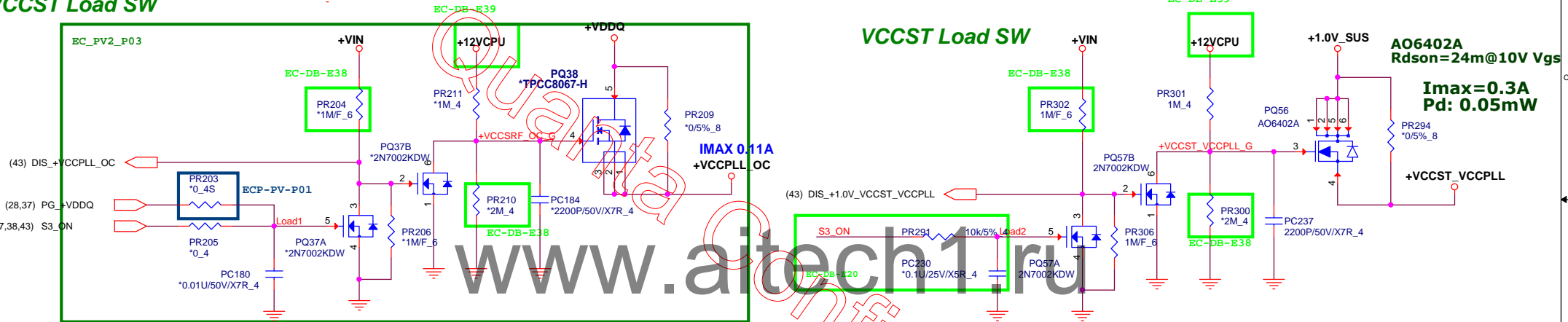
Title		
+1.8V_SUS (G9661)		
Size	Document Number	Rev
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SUS ON Load SW

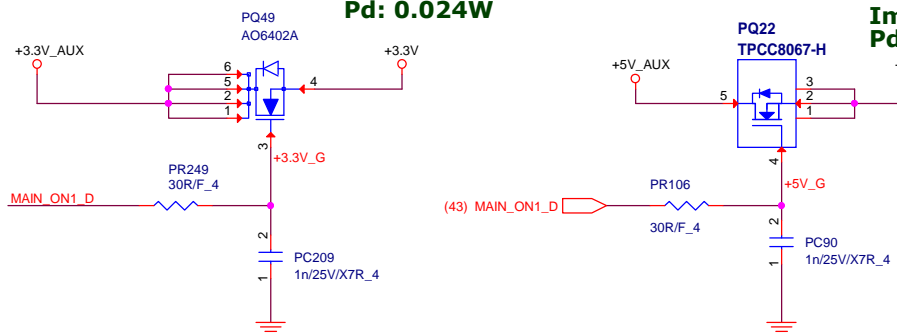
TPCC8067-H
Rdson=20m@10V VgsImax=3.8A
Pd: 0.25WAO6402A
Rdson=24m@10V VgsImax=3.26A
Pd: 0.255W

VCCST Load SW

VCCST Load SW



MAIN ON_1 Load SW

AO6402A
Rdson=24m@10V VgsImax=1A
Pd: 0.024WTPCC8067-H
Rdson=20m@10V VgsImax=8A
Pd: 1.28W

Mosfet parameter

Mosfet	Package	ID(Ta=25C)	Rds_on_max	Vgs_max
ME3424D-G	TSOP-6	5.0A/6.7A	42m	+/- 20V
TPCC8067-H	3x3	9A	26m	+/- 20V
TPCA8064-H	SO-8	20A	7.9m	+/- 20V

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Quanta Computer Inc.

Project: HP-CRANE

Title

Load Switch

Size

Document Number

810606-000

Rev

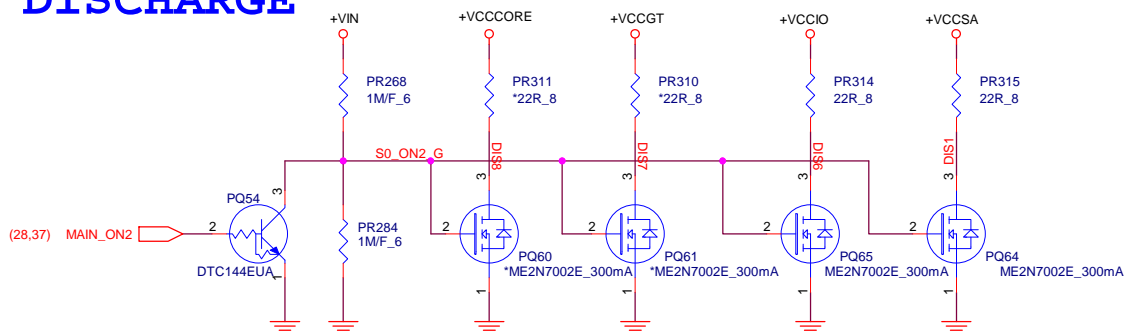
A

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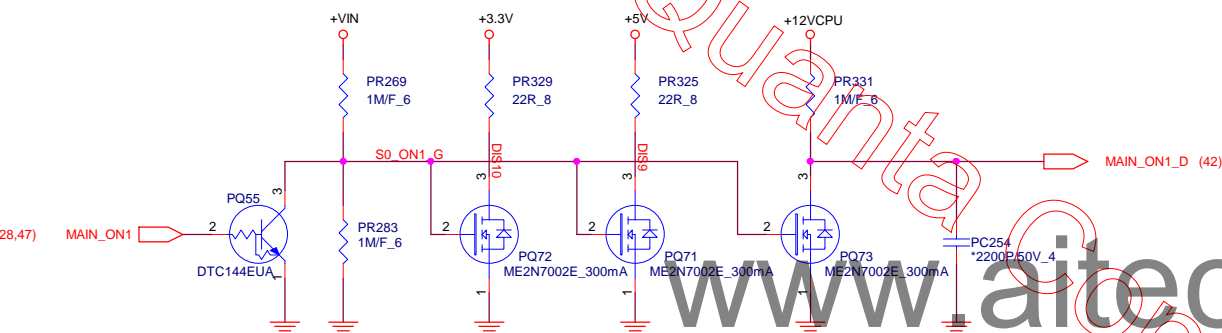
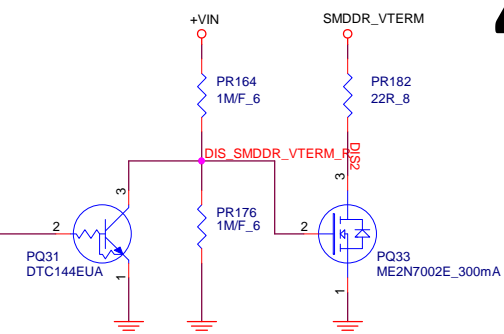
DISCHARGE

43



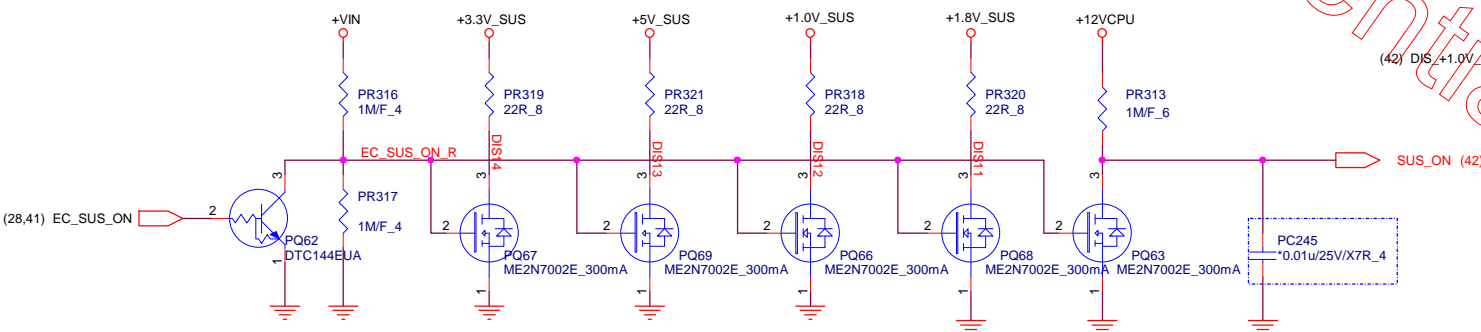
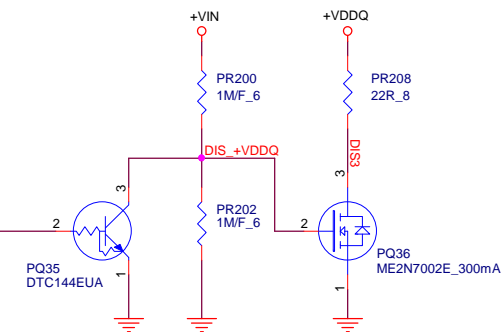
EC-DB-E21

(37) DIS_SMDDR_VTERM

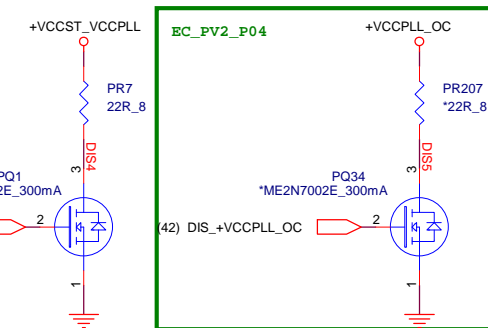


EC-DB-E21

(28,30,37,38,42) S3_ON



(42) DIS_+1.0V_VCCST_VCCPLL



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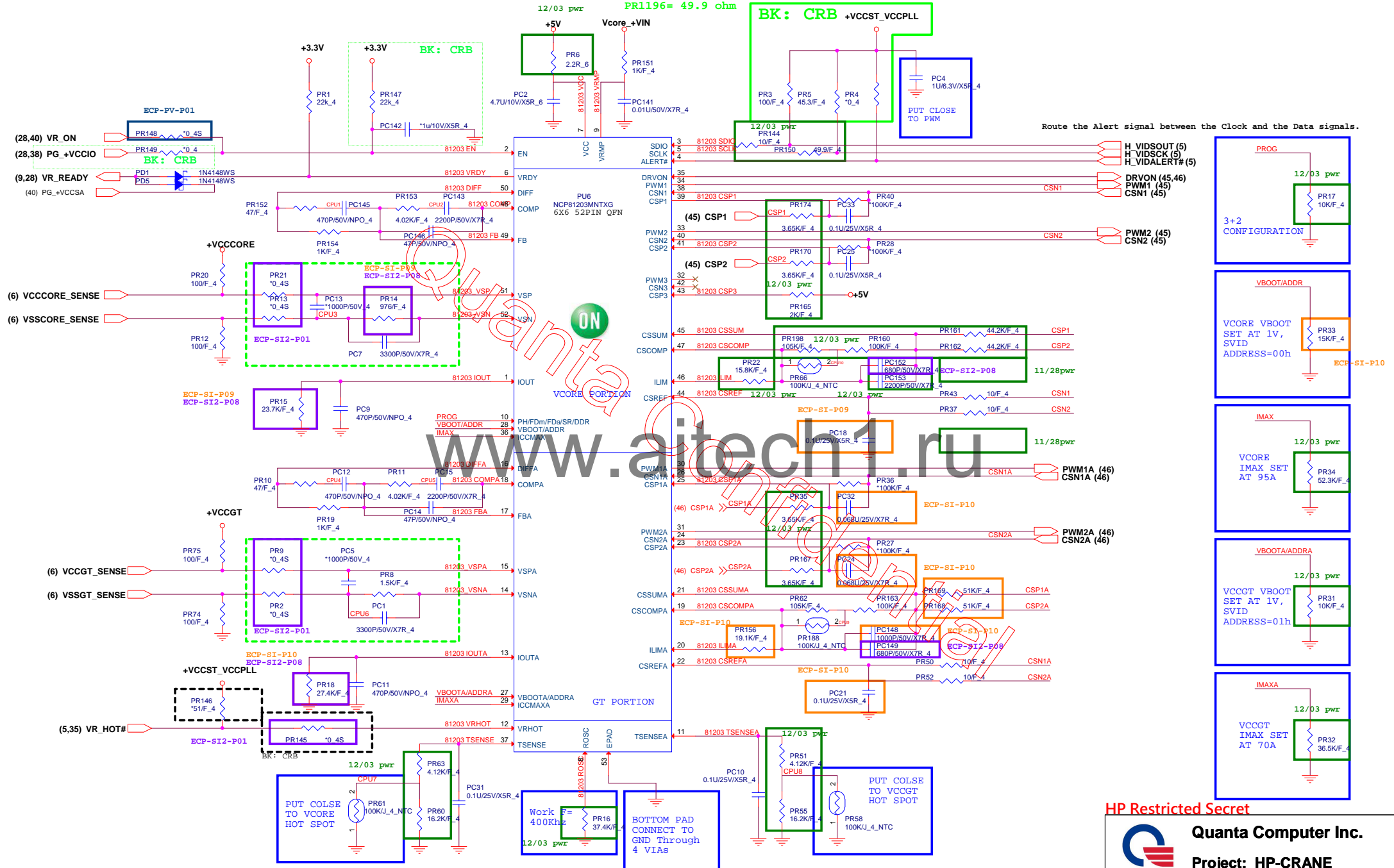
Project: HP-CRANE

Title	Discharge		
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Intel SKYLAKE IMVP8 POWER CKT - 3+2 PHASE

44

PR1166= 10 ohm
PR1196= 49.9 ohm



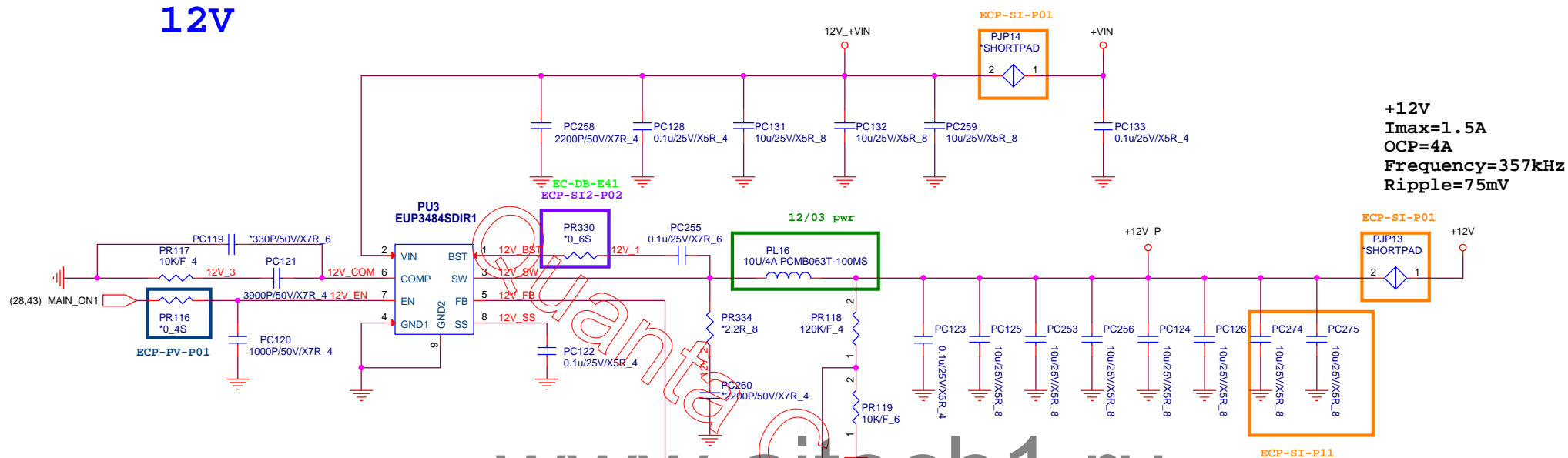
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Quanta Computer Inc.

Project: HP-CRANE

Title	VCC_CORE & VCC_GT		
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$V_{out} = 0.923 * ((R1 + R2) / R2)$

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**Quanta Computer Inc.**

Project: HP-CRANE

Title

+12V

Size

Document Number

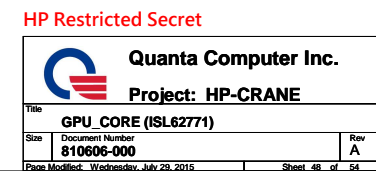
810606-000

Rev

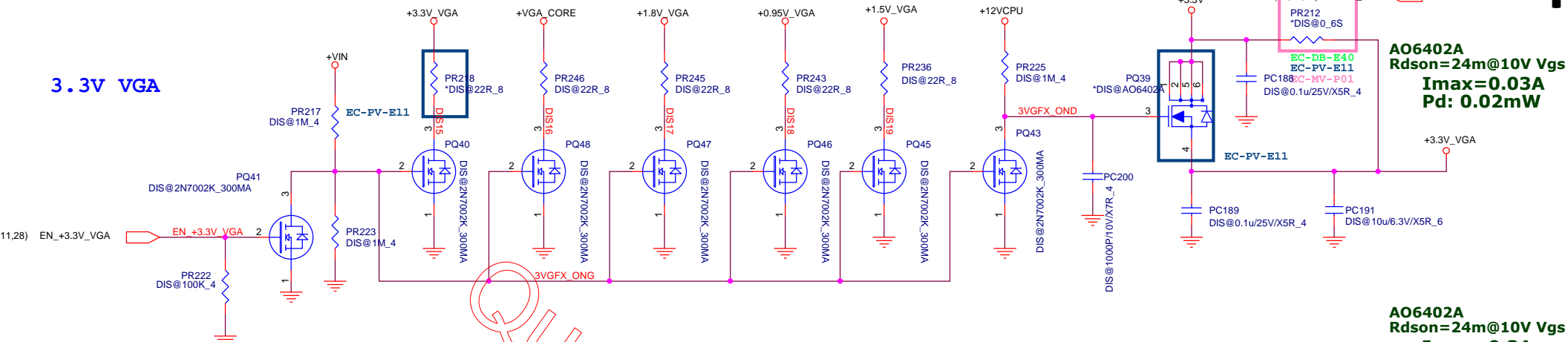
A

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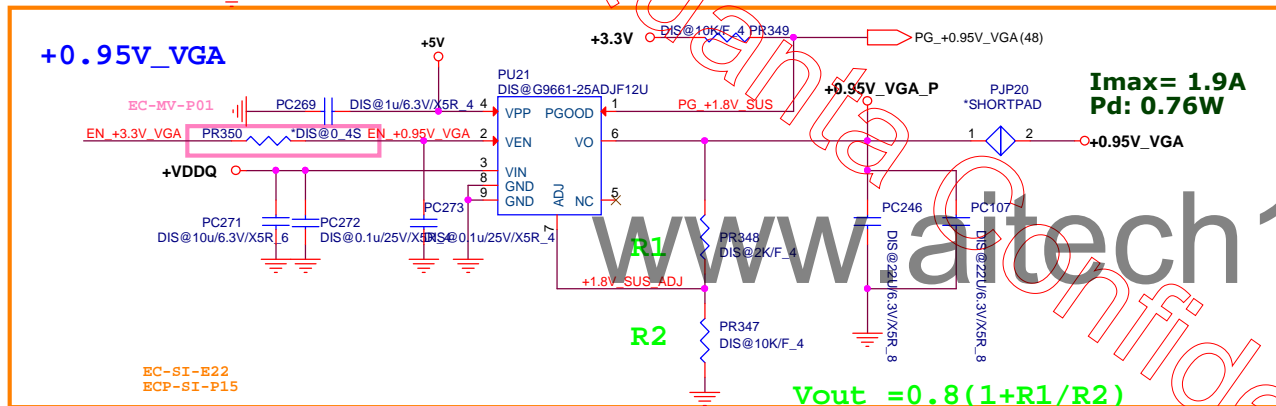


3.3V VGA



A06402A
Rdson=24m@10V Vgs
Imax=0.03A
Pd: 0.02mW

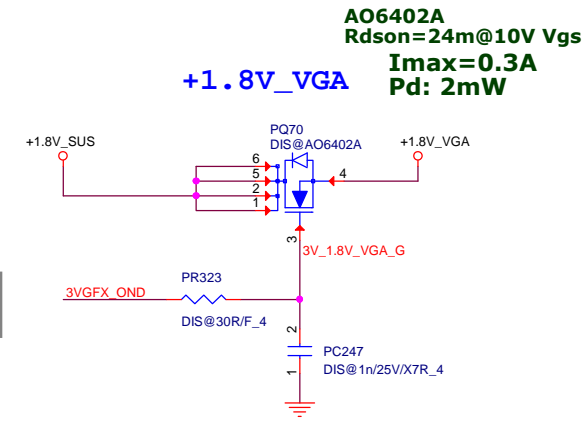
+0.95V_VGA



Imax= 1.9A
Pd: 0.76W

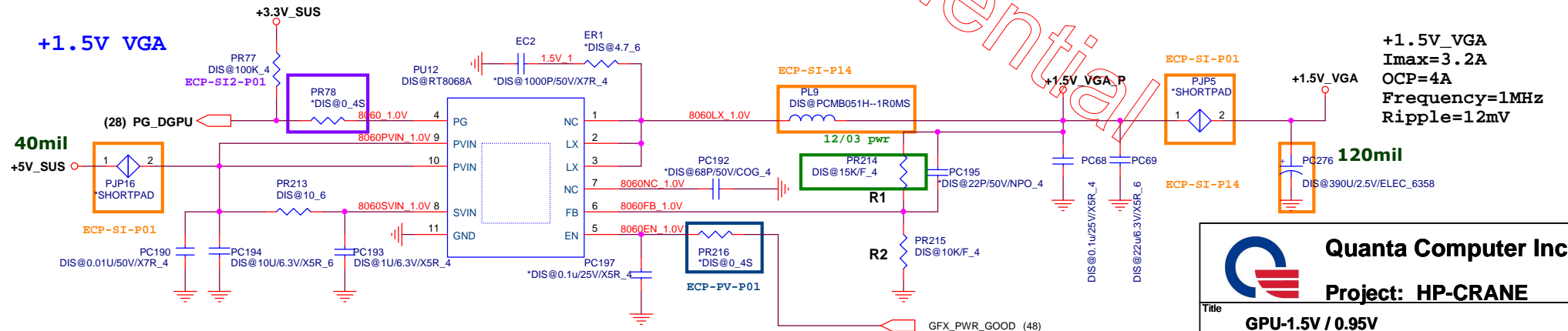
$$V_{out} = 0.8(1 + R1/R2)$$

+1.8V_VGA



A06402A
Rdson=24m@10V Vgs
Imax=0.3A
Pd: 2mW

+1.5V_VGA



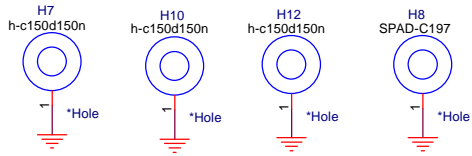
+1.5V_VGA
Imax=3.2A
OCP=4A
Frequency=1MHz
Ripple=12mV

Quanta Computer Inc.
Project: HP-CRANE

Title GPU-1.5V / 0.95V		
Size	Document Number 810606-000	Rev A
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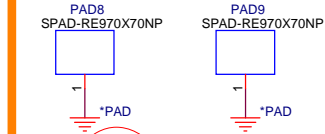
$$V0 = 0.6 * (R1 + R2) / R2$$

CPU HOLE



EC-DB-E23

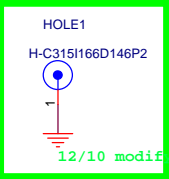
SD CARD SHAPE



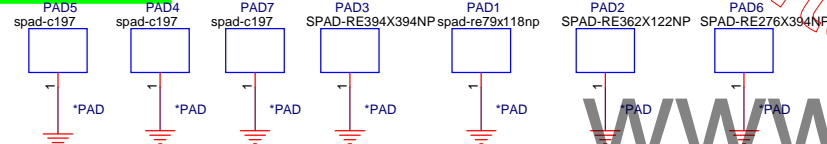
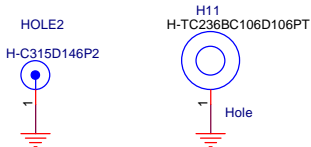
EC-SI-25

EC-SI-23

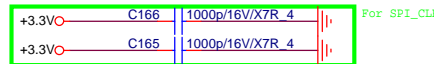
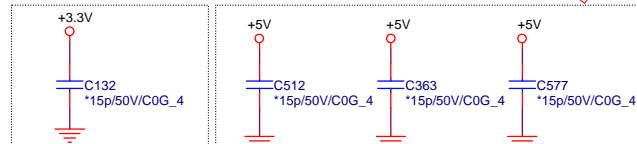
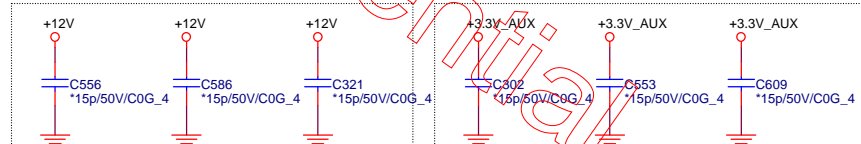
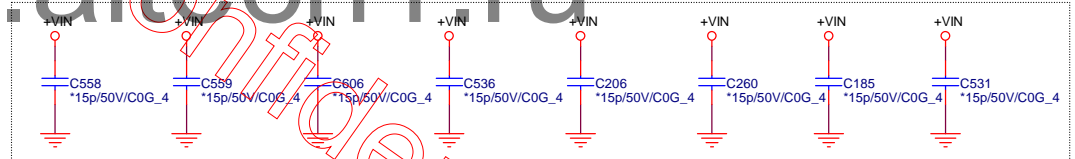
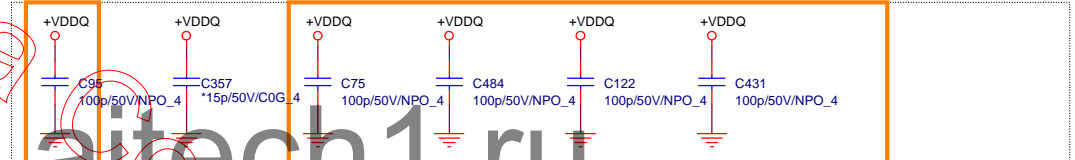
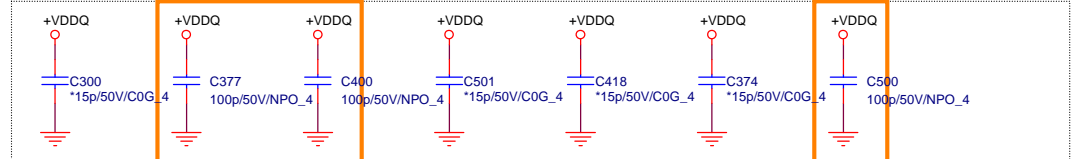
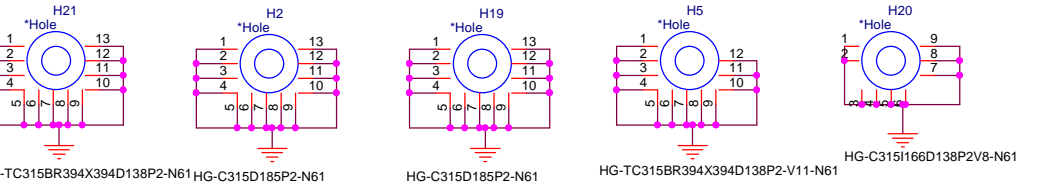
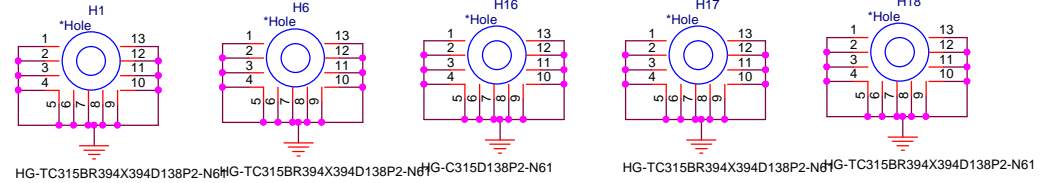
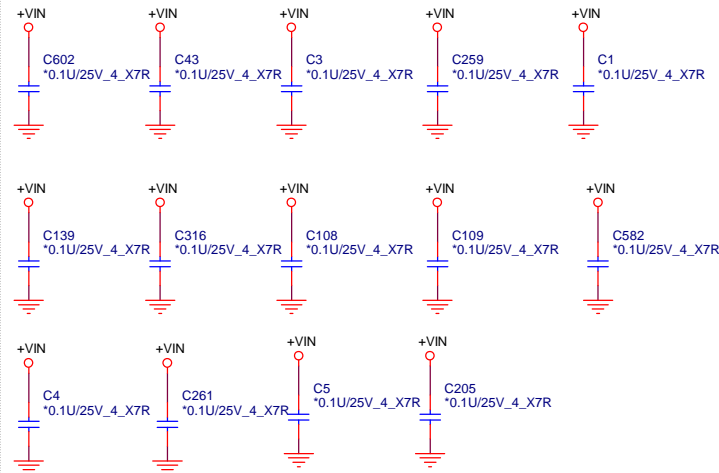
VGA HOLE



WLAN HOLE



Place around +VIN trace



For SPI_CLK

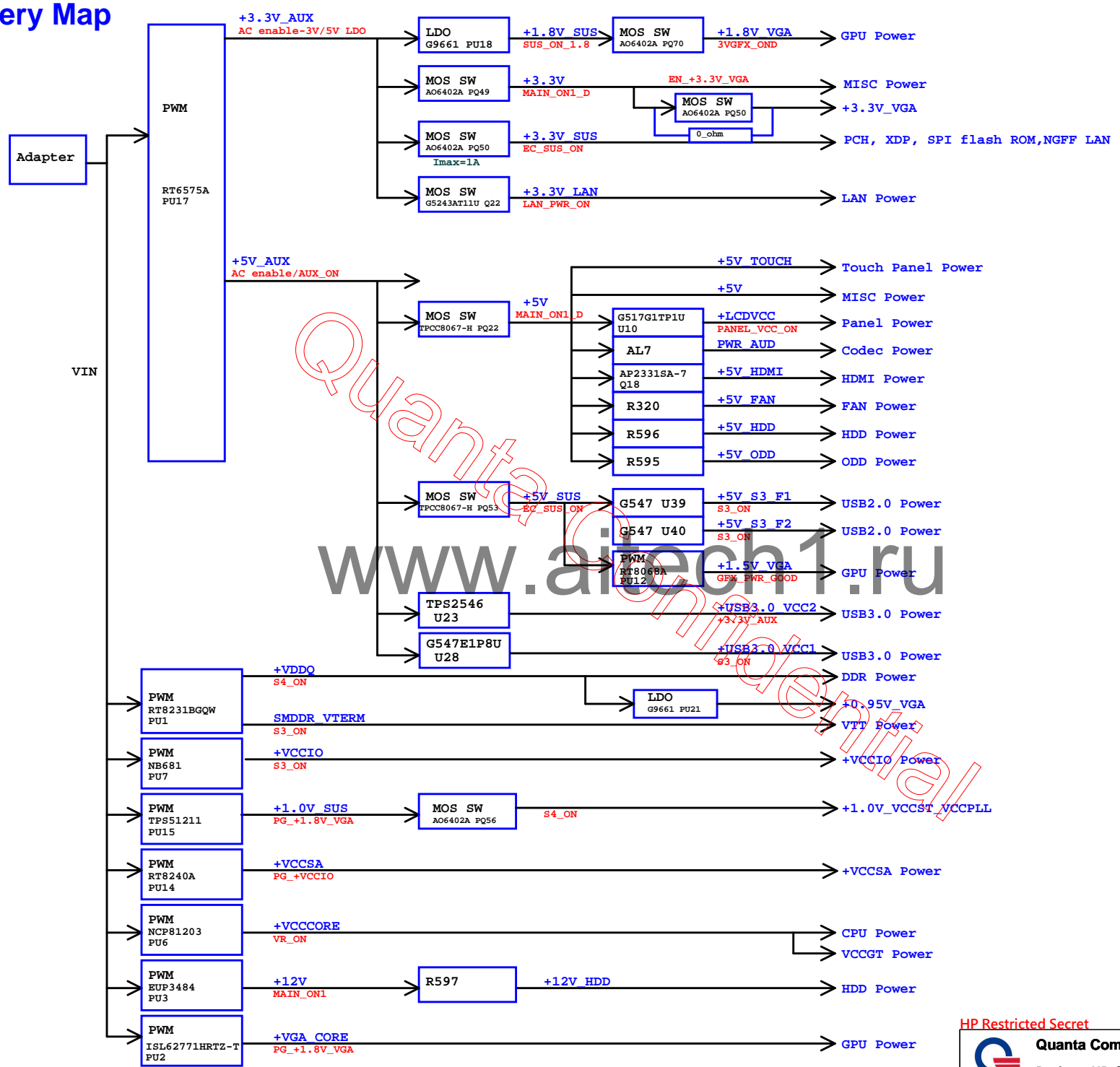
HP Restricted Secret

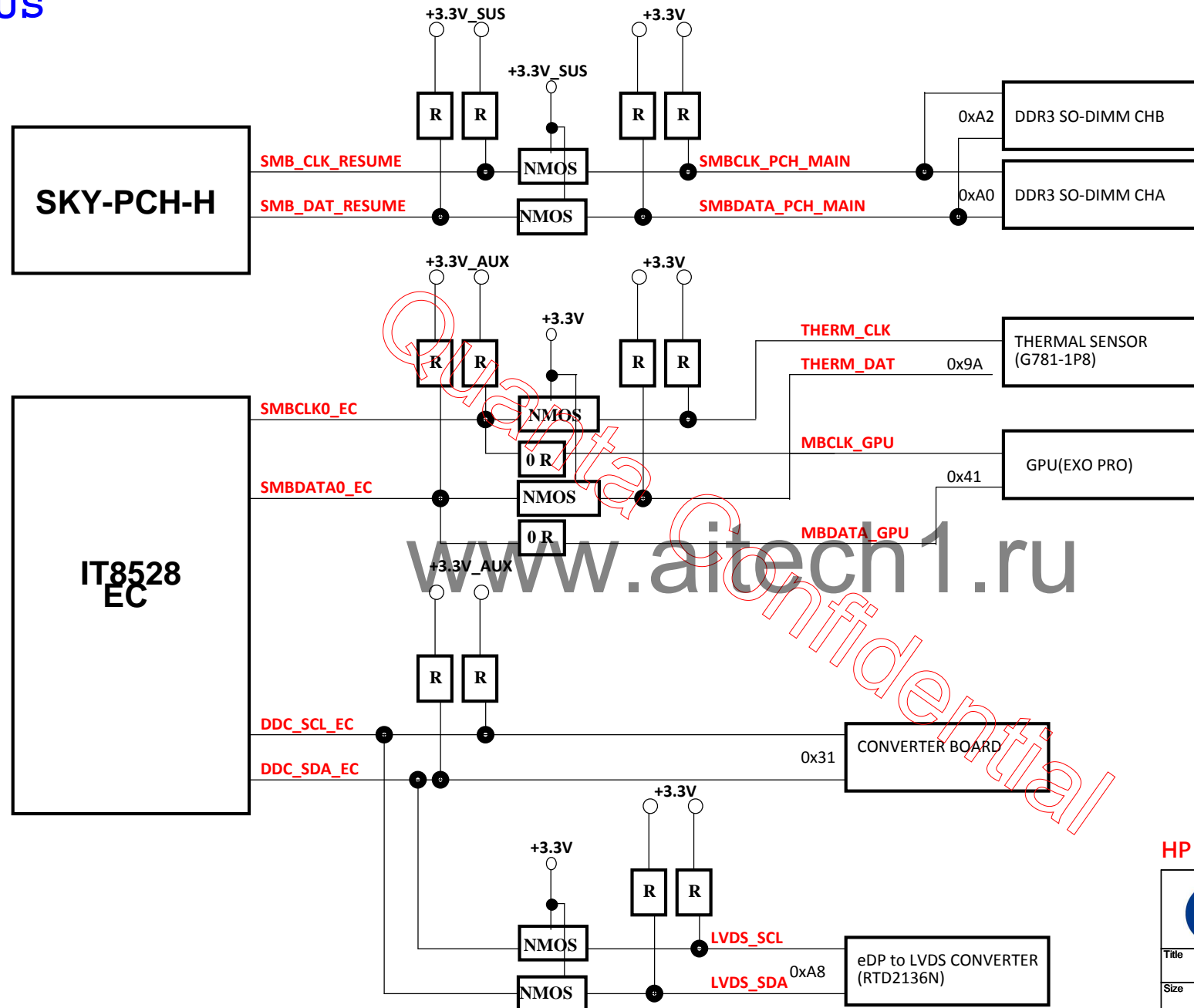


Quanta Computer Inc.

Project: HP-CRANE

Title	HOLE/VIN CAP/RF CAP		
Size	Document Number	Rev	
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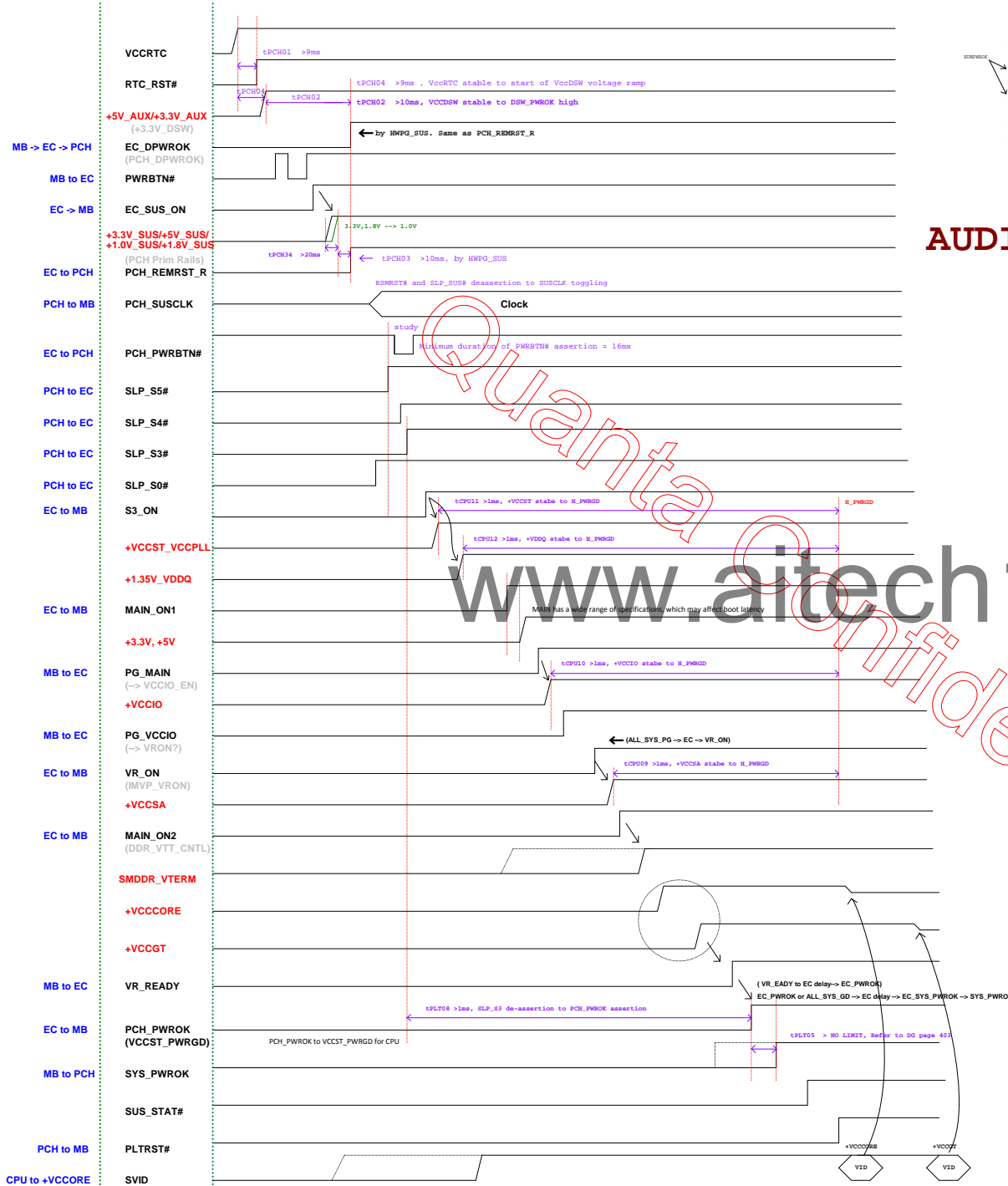
HP Restricted Secret



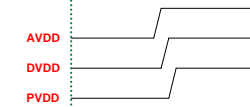
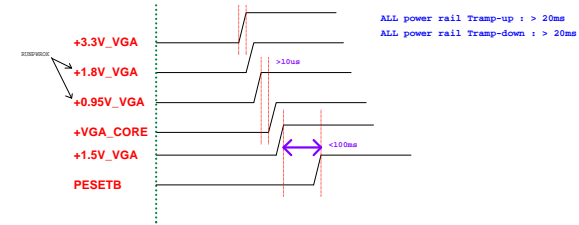
Quanta Computer Inc.

Project: HP-CRANE

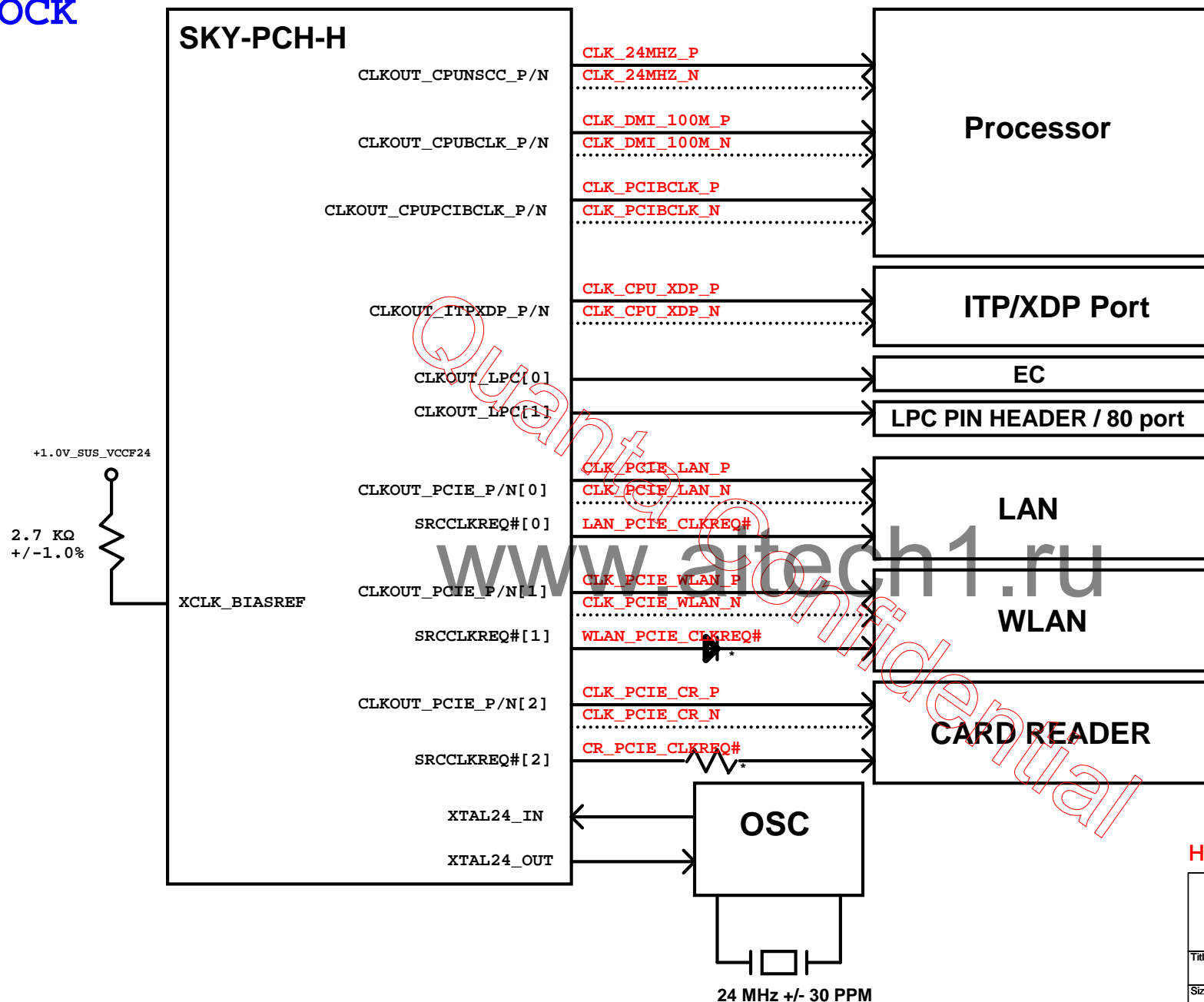
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AUDIO POWER SEQUENCE



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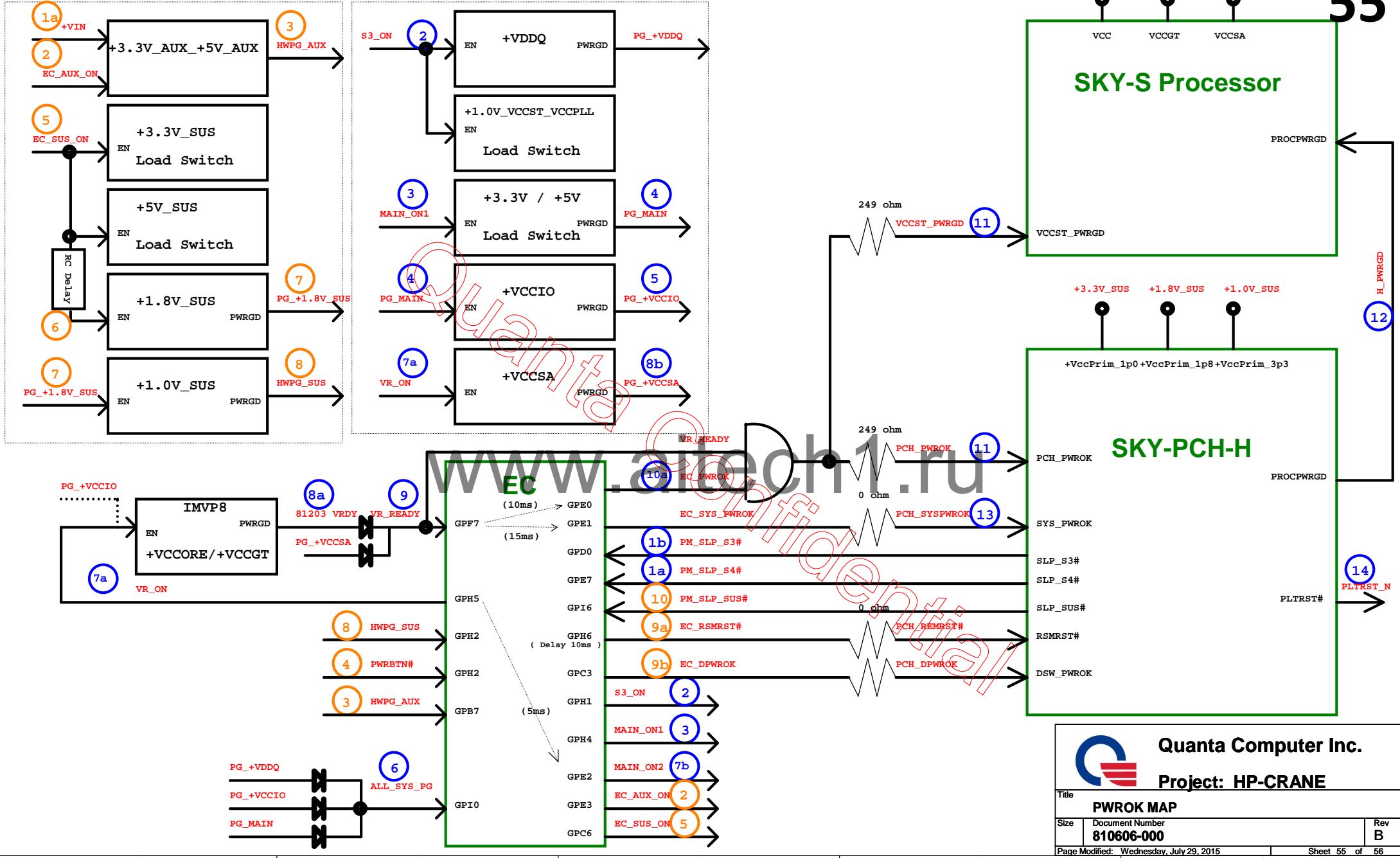


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PWROK MAP / RSMRST_PWRGD#



DB to SI Change List

EC-SI-E01 Un-stuff CPU HW straps, R444,R61,R462 -- Page 5
EC-SI-E02 Un-stuff H_PWRGD pull down, R493 -- Page 9
EC-SI-E03 Un-stuff SPI_I02 pull down, R589 -- Page 9
EC-SI-E04 Change Q13 gate power rail, -- Page 9
EC-SI-E05 Remove Q12 and add R698/R697 -- Page 9
EC-SI-E06 Remove C583 to fix DRAMRST rise time -- Page 9
EC-SI-E07 For XDP only, R596,R587 -- Page 10
EC-SI-E08 Don't populate R532 for +3.3V Leakage -- Page 11
EC-SI-E14 Don't populate AR3 for +3.3V Leakage -- Page 25
EC-SI-E15 Change AR1 to 4.7 ohm for EA -- Page 25
EC-SI-E16 Change from +3.3V to +3.3V_AUX for EC_SMI#_R for +3.3V_SUS Leakage -- Page 25
EC-SI-E17 Don't stuff R402/R403 for +3.3V_SUS leakage -- Page 28
EC-SI-E18 Change U29.72 to IOUT -- Page 28
EC-SI-E19 Add EC6 220pf on +5V_SUS, EC5 220pf on PWRBTN#, EC4 220pf on PWR_ON_LED# -- Page 32
EC-SI-E20 Add serial resistor R699 on L_FRAME# -- Page 28
EC-SI-E21 xChange serial resistor from 33ohm to 100ohm on F_LAD0_R,F_LAD1_R,F_LAD2_R,F_LAD3_RmL_FRAME#_R,L_FRAME#_R,F_LAD0_D,F_LAD1_D,F_LAD2_D,F_LAD3_D,R405,R406,R408,R456,R455,R454,R453 -- Page 28
EC-SI-E22 Add 0.95V_VGA power LDO circuit -- Page 49
EC-SI-E23 Stuff some capacitors EMI reserved before. -- Page 50
EC-SI-E24 Change AD4,AD5,AD6,AD7 part and their pin2 connect to GND -- Page 25
EC-SI-E25 Change DDR3L socket, JDIM1,JDIM2-- Page 14,15
EC-SI-E26 Add ESD protector for 3D CAMERA, U41-- Page 29
EC-SI-E27 Add ESD capacitor for Audio codec return path AC38,AC30,AC45 -- Page 25
EC-SI-E28 C203, C204, C592 and C593 change with 1000pf cap for ESD -- Page 26
EC-SI-E29 AL1-AL4 change to 220 ohm bead same as previous mode for EMI, AL1-AL4 -- Page 25
EC-SI-E30 Add ESD protector for DMIC (close to CN6) -- Page 25

ECP-SI-P01 change footprint to short pad, PJP1-PJP19 -- Page35-49
ECP-SI-P02 change current sense IC multiple and EC detect system power consumption,PU20,PR133,PR351,PR132 -- Page 35
ECP-SI-P03 add power rating,PQ26,PC101 -- Page 36
ECP-SI-P04 adjust output voltage and common design. PR30/PC48/PC49 -- Page 36
ECP-SI-P05 adjust sequence and remote sense resistor.PC156/PR192/PR193 -- Page 38
ECP-SI-P06 common design. PC102 -- Page 39
ECP-SI-P07 common design. PC104/PC106-- Page 40
ECP-SI-P08 adjust sequence. PR327/PR328-- Page
ECP-SI-P09 Iout and load line setting. PR14/PR15/PC18/PC67/PC172-- Page 44
ECP-SI-P10 OCP, Iout, load line setting and common design. PR33/PR18/PR156/PR168/PR169/PC24/PC32/PC148/PC21/PL6/PL7/PC52/PC55-- Page 44
ECP-SI-P11 improve ripple. PC274/PC275-- Page 47
ECP-SI-P12 OCP, load line setting and common design. PR96/PR237/PC82/PL10/PL11-- Page 48
ECP-SI-P13 Remove PG.+1.8V_VGA circuit. PQ42/PQ44/PR224/PR226 -- Page48
ECP-SI-P14 add power rating. PL9/PC276 -- Page 49
ECP-SI-P15 change power solution from load switch to LDO. PQ16/PR76/PC66/PC107/PC246/PU21/PR147/PR349/PR348/PR350/PR269/PC271/PC272/PC273 -- Page49

SI-1 to SI-2 Change List

EC-SI2-E01 Chagne 0 ohm to shortpad., R115 -- Page 31
EC-SI2-E02 Chagne 0 ohm to shortpad., AR35,AR39,AR9 -- Page 25
EC-SI2-E03 Change and stuff Audio power., AU2,AR20,AR46,AR45 -- Page 25
EC-SI2-E04 Chagne 0 ohm to shortpad. L23,R32, -- Page 24
EC-SI2-E05 Un-stuff Intel ME Crypto TLS pull up resistor, R198 -- Page 9
EC-SI2-E06 Chagne 0 ohm to shortpad., R649 -- Page 9
EC-SI2-E07 Stuff VREALRTB_PU pull up resistor, R604 -Page 9
EC-SI2-E08 Un-stuff BMUSV pull up, R619 --Page 9
EC-SI2-E09 Chagne 0 ohm to shortpad.-- Page 10
EC-SI2-E10 Un-stuff GPP_F_11, GPP_G_5 pull up ,R156/R536 -- Page 10
EC-SI2-E11 Chagne 0 ohm to shortpad. R595 -- Page 12
EC-SI2-E12 Chagne 0 ohm to shortpad, R533/R534. -- Page 22
EC-SI2-E13 Chagne 0 ohm to shortpad. R313 -- Page 23
EC-SI2-E14 Chagne 0 ohm to shortpad. R426 -- Page 28
EC-SI2-E15 Un-stuff SPI_MOST to XDP_HOOK3, R76-- Page 34
EC-SI2-E16 Un-stuff PCH_SUSCLK pull down, R265 -- Page 9
EC-SI2-E17 Reserve command choke / 0 ohm on PCIE_WLAN_RX signal close to PCH side. R701/R700.L41 -- Page 28
EC-SI2-E18 Delete 0 ohm., R558,R551,R258,R622 -- Page 9,10,34

ECP-SI2-P01 change 0R_0402 to shortpad, -- Page35-40, 44-46,48-49
ECP-SI2-P02 change 0R_0603 to shortpad. PR56,PR187,PR199,PR186,PR191,PR330,PR84 -- Page 37, 45-48
ECP-SI2-P03 add adapter protect detect schematic ,PR370,PR371,PR372,PR373,PR374 -- Page 35
ECP-SI2-P04 delete adapter protect detect schematic . PU16,PD7,PC220,PC222,PC242,PR257,PR258,PR260,PR265,PR266,PR303,PR307,PR309 -- Page 35
ECP-SI2-P05 adjust VDDQ power rail output voltage.PR30 -- Page 37
ECP-SI2-P06add VCCIO power rail efficiency PL3 -- Page 38
ECP-SI2-P07 detel PJP18 and add PL21.-- Page 40
ECP-SI2-P08 change PR14,PR15,PR18,PC149,PC152 value- Page44

SI-2 to PV Change List

EC-PV-E01 Change serial resistor value from 0 ohm to 100ohm on EC_PRHOT_S - page5
EC-PV-E02 Chagne 0 ohm to shortpad., R107,R487,R294,R295,R265,R599,R281,R273,R264,R545,R290,R288,R243,R539,R644,R540,R224,R274,R245, R289,R553,R301,R297,R366,R495,R369,R501,L33,R299,R226,R671,R670,R677,R686,R573,AR20,AR14,AR7,R356,R312,R667,R360,R687,R400,R391,R398,R379,R378, R334,R701,R700,R433,R475,R427,R404,R561,R203,R361,R1,R86,R201 -- Page 5,9,10,11,12,13,14,15,16,22,23,24,25,26,27,28,30,31,32,34
EC-PV-E03 Remove 0 ohm and short net on CPU XDP traces., R472,R482,R486,R468,R470,R110,R109 -- Page 5
EC-PV-E04 Remove 0 ohm., R647,R432,R428,R69,R62 -- Page 10,28,34
EC-PV-E05 Reserve 0 ohm for AMD dgfix power off mode. R702, -- Page 9
EC-PV-E06 Don't stuff R559/R571 and stuff R572/R557 -- Page 12
EC-PV-E07 Don't stuff some components for TPM., R279,R278,R269,R257,R285,R241,R244,C183,C174,C175 -- Page 33
EC-PV-E08 Don't stuff components, R606,C59,R70,R460,R448,C579,R613 -Page 34


ECP-PV-P01 change 0R_0402 to shortpad, -- PR373,PR374,PR351,PR157,PR159,PR298,PR263,PR111
PR113,?PR203,PR148,PR116,PR230,PR216 Page35,37,39,40,42,44,47,48,49

PV to PV2 Change List

EC-PV2-E01 Change CN1 footprint SMT suggestion -- Page 32
EC-PV2-E02 Change 0 ohm to shortpad. R233,R578,AR10,R91,R166,R266,R267,R175,R173,R167,R48,R49
EC-PV2-E03 Remove co-lay 0ohm:R194,R195,R196,R197,R180,R181,R178,R179,R182,R183,R192,R193,R188,R189,R191,R187,R186,R185,R184 -- Page 24
R351,R352,R349,R349,R657,R658,R659,R660,R662,R663,R664,R665 -- Page 30
EC-PV2-E04 Board ID to PV2 -- Page 12
EC_PV2_P01 Throttling point setting change: UMA(182K), DIS(97.6K) -- Page 35
EC_PV2_P02 Adapter ID setting change: UMA(45.3K), DIS(26.7K). -- Page 35
EC_PV2_P03 Remove power control of +VCCPLL_OC related circuit. -- Page 42
EC_PV2_P04 Remove Discharge related circuit of +VCCPLL_OC. -- Page 43

PV2 to MV Change List

EC-MV-E01 Change 0 ohm to shortpad. R132,R133,R143,R100,R103,R474,R122,R126,R127,R510,R511,R394,R395,R206
EC-MV-E02 Board ID to MV -- Page 12
EC_MV_P01 Change 0 ohm to shortpad. PR212,PR350

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