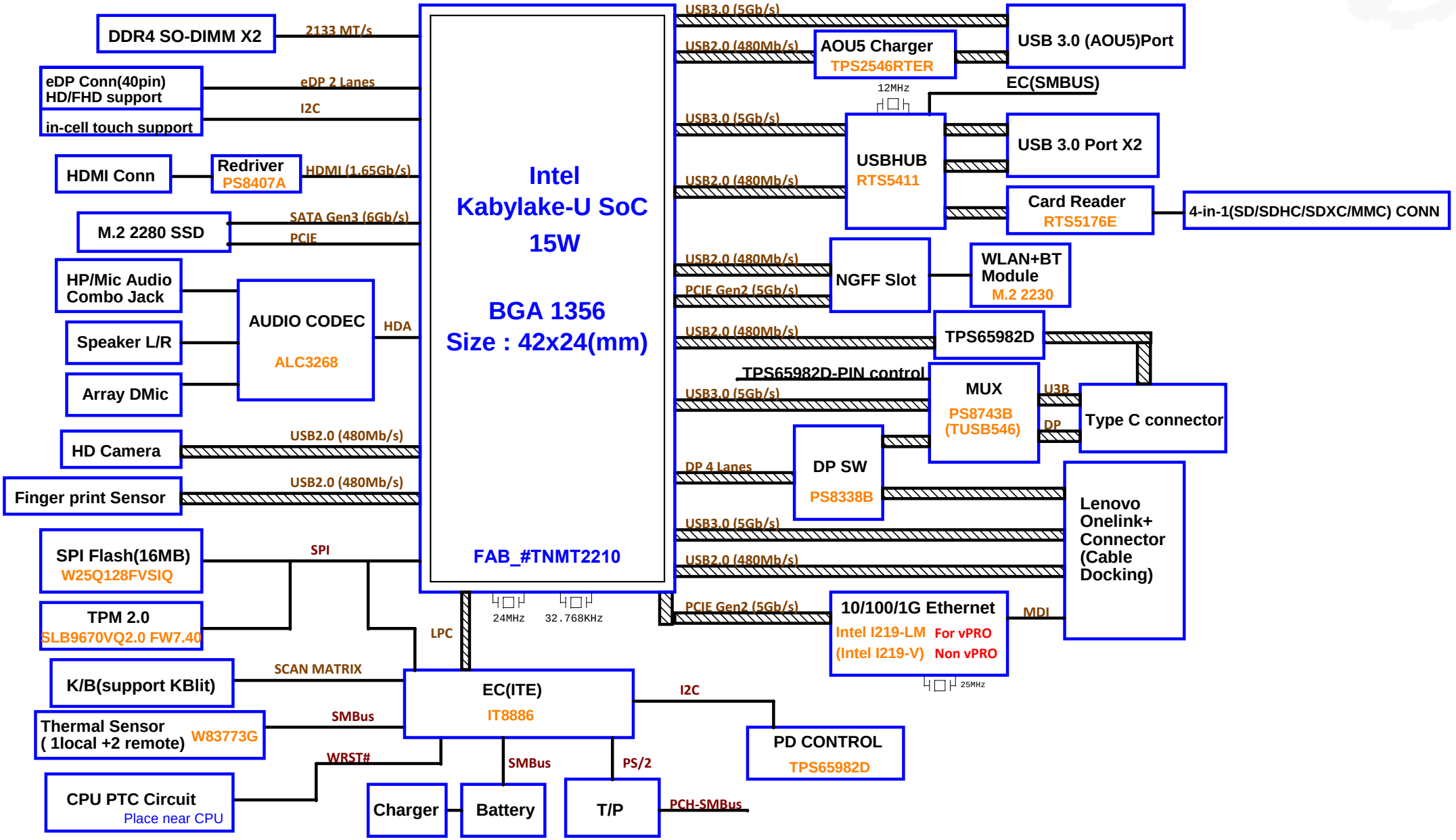
Bell2_Intel Kabylake-U Platform UMA Block Diagram (Windows)



Quanta Computer Inc.
PROJECT: PS9
01 -- Bell Block Diagram
Wednesday, July 27, 2016

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4,10,11,12,13,14,15,16,17,18,19,20,22,24,27,29,30,31,34,37,39,43,49 +3V
4,6,16,49,52 +VCCIO
4,5,6,9,43,49,52 +VCCSTPLL

HDMI

DOCK DP

U28A — SKL_ULT — KBL-ULT — REV = 1 — 1 OF 20

Need apply PN

DDI1_TXN[0] DDI1_TXP[0] DDI1_TXN[1] DDI1_TXP[1] DDI1_TXN[2] DDI1_TXP[2] DDI1_TXN[3] DDI1_TXP[3]
DDI2_TXN[0] DDI2_TXP[0] DDI2_TXN[1] DDI2_TXP[1] DDI2_TXN[2] DDI2_TXP[2] DDI2_TXN[3] DDI2_TXP[3]
DDI
DISPLAY SIDEBANDS
EDP

20 IN_D2# E55
20 IN_D2 F55
20 IN_D1# E58
20 IN_D1 F58
20 IN_D0# F53
20 IN_D0 G53
20 IN_CLK# F56
20 IN_CLK G56

34 DOCK_DDI2_TXN0 C50
34 DOCK_DDI2_TXP0 D50
34 DOCK_DDI2_TXN1 C52
34 DOCK_DDI2_TXP1 D52
34 DOCK_DDI2_TXN2 A50
34 DOCK_DDI2_TXP2 B50
34 DOCK_DDI2_TXN3 D51
34 DOCK_DDI2_TXP3 C51

20 SDVO_CLK L13
20 SDVO_DATA L12

+3V R721 2.2K_4 N7
N8
TP47 N11
N12
+VCCIO R242 24.9/F_4 EDP_RCOMP E52

GPP_E18/DDPB_CTRLCLK
GPP_E19/DDPB_CTRLDATA
GPP_E20/DDPC_CTRLCLK
GPP_E21/DDPC_CTRLDATA
GPP_E22/DDPD_CTRLCLK
GPP_E23/DDPD_CTRLDATA
EDP_RCOMP

EDP_TXN[0] C47 INT_EDP_TXN0 → INT_EDP_TXN0 19
EDP_TXP[0] C46 INT_EDP_TXP0 → INT_EDP_TXP0 19
EDP_TXN[1] D46 INT_EDP_TXN1 → INT_EDP_TXN1 19
EDP_TXP[1] C45 INT_EDP_TXP1 → INT_EDP_TXP1 19
EDP_TXN[2] A45
EDP_TXP[2] B45
EDP_TXN[3] A47
EDP_TXP[3] B47

EDP_AUXN E45 INT_EDP_AUXN → INT_EDP_AUXN 19
EDP_AUXP F45 INT_EDP_AUXP → INT_EDP_AUXP 19

EDP_DISP_UTIL B52

DDI1_AUXN G50
DDI1_AUXP C50
DDI2_AUXN F48 DOCK_DDI2_AUXN → DOCK_DDI2_AUXN 34
DDI2_AUXP F48 DOCK_DDI2_AUXP → DOCK_DDI2_AUXP 34
DDI3_AUXN G46
DDI3_AUXP C46

GPP_E13/DDPB_HPD0 L9 PCH_HDMI_HPD → PCH_HDMI_HPD 20
GPP_E14/DDPC_HPD1 L7 PCH_DOCK_DP_HPD → PCH_DOCK_DP_HPD 34
GPP_E15/DDPD_HPD2 L6
GPP_E16/DDPE_HPD3 N9
GPP_E17/EDP_HPD C10 EDP_HPD → EDP_HPD 19

EDP_BKLTEN R12 PCH_LVDS_BLON → PCH_LVDS_BLON 19
EDP_BKLTCTL R11 PCH_DPST_PWM → PCH_DPST_PWM 19
EDP_VDDEN U13 PCH_LCDVCC_EN → PCH_LCDVCC_EN 19

eDP_COMPIO and ICOMPO signals should be shorted near balls and routed with typical impedance <25 mohms

Reserve EDP_HPD opposites circuit!

+3V
R424
EDP_HPD 10K_4
R418
100K_4

U28D — SKL_ULT — KBL-ULT — REV = 1 — 4 OF 20

Need apply PN

CATERR# A54
PECI C65
PROCHOT# C63
THERMTRIP# A65
SKTOCC#
CPU MISC
BPM#[0] C55
BPM#[1] D55
BPM#[2] B54
BPM#[3] C56
GPP_E3/CPU_GP0 A6
GPP_E7/CPU_GP1 A7
GPP_B3/CPU_GP2 BA5
GPP_B4/CPU_GP3 AY5
PROC_POPIRCOMP AT16
PCH_OPIRCOMP AU16
OPCE_RCOMP H66
OPC_RCOMP H65

JTAG
PROC_TCK B61 XDP_TCK0 → XDP_TCK0 16
PROC_TDI D60 XDP_TDI_CPU → XDP_TDI_CPU 16
PROC_TDO A61 XDP_TDO_CPU → XDP_TDO_CPU 16
PROC_TMS C60 XDP_TMS_CPU → XDP_TMS_CPU 16
PROC_TRST# B59 XDP_TRST#_CPU

PCH_JTAG_TCK B56 JTAG_TCK_PCH → JTAG_TCK_PCH 16
PCH_JTAG_TDI D59 JTAG_TDI_PCH → JTAG_TDI_PCH 16
PCH_JTAG_TDO A56 JTAG_TDO_PCH → JTAG_TDO_PCH 16
PCH_JTAG_TMS C59 JTAG_TMS_PCH → JTAG_TMS_PCH 16
PCH_TRST# C61 XDP_TRST#_CPU → XDP_TRST#_CPU 16
JTAGX A59 JTAGX_PCH → JTAGX_PCH 16

TP37
29 EC_PECI
29,41,43 H_PROCHOT# R511 499/F_4
29 PM_THRMTRIP#
16 XDP_BPM0
16 XDP_BPM1
19 TOUCH_I2C_INT#
TP48
R89 49.9/F_4 PROC_POPIRCOMP
R79 49.9/F_4 PCH_OPI_RCOMP
R241 49.9/F_4 EDRAM_OPIO_RCOMP
R237 49.9/F_4 EOPIO_RCOMP

PM_THRMTRIP# R487 1K_4 +VCCSTPLL

Processor pull-up (CPU)
TO BE REPLACED WITH 1K OHMS FOR SKL .
470 OHM IS FOR I/P

PLACE NEAR CPU

+VCCIO
XDP_TDO_CPU R486 100_4

+VCCSTPLL
H_PROCHOT# R516 1K_4
XDP_TCK0 R485 51_4

+VCCIO R505 0_4
R508 51_4 JTAG_TMS_PCH
R494 51_4 JTAG_TDI_PCH
R507 100_4 JTAG_TDO_PCH
R493 *51_4 JTAG_TCK_PCH

Close to Chipset

Quanta Computer Inc.
PROJECT: PS9

Size	Document Number	Rev
	Custom 02 -- KABYLAKE 1/15(eDP/DDI)	1A
Date: Wednesday, July 27, 2016	Sheet 2 of 55	

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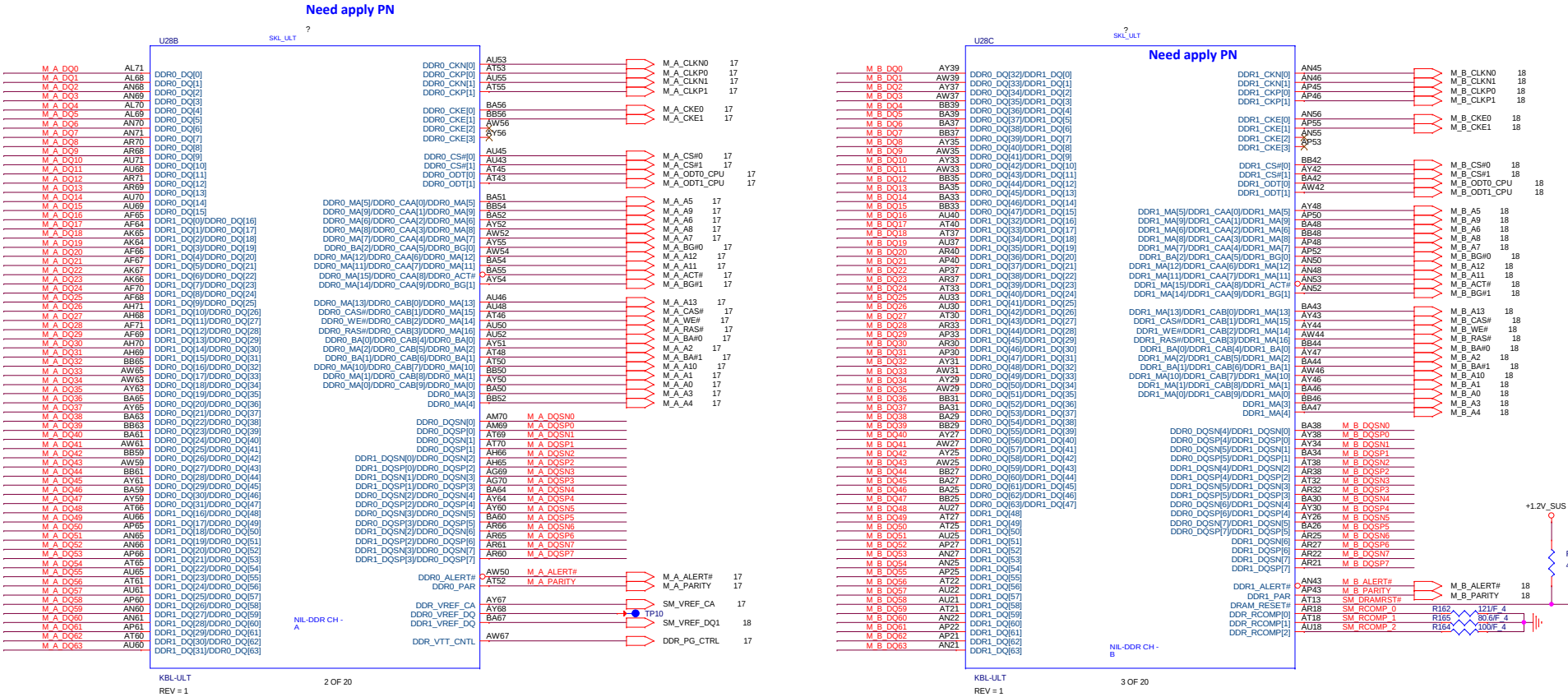
KabyLake ULT Processor (DDR4)



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PROJECT: PS9

Size	Document Number Custom	Rev
	03 -- KABYLAKE 2/15(DDR3-A I/F)	1A
Date: Wednesday, July 27, 2016	Sheet 3 of 55	

10,11,14,15,16 +3V_DEEP_SUS
10,12,15,16,19,21,23,25,27,28,31,32,36,37,42,48,49,50,52 +3VS5
2,10,11,12,13,14,15,16,17,18,19,20,22,24,27,29,30,31,34,37,39,43,49 +3V
19,26,27,28,32,33,37,42,43,46,47,48,49,50,52 +5VS5
2,6,16,49,52 +VCCIO
2,5,6,9,43,49,52 +VCCSTPLL
13,15 +3V_RTC_2

U28K SKL_ULT ?

SYSTEM POWER MANAGEMENT

Need apply PN

GPP_B13/PLTRST#
SYS_RESET#
RSMRST#
PROCPWRGD
VCCST_PWRGD
SYS_PWROK
PCH_PWROK
DSW_PWROK
GPP_A13/SUSWARN#/SUSPWRDNACK
GPP_A15/SUSACK#
WAKE#
GPD2/LAN_WAKE#
GPD11/LANPHYPC
GPD7/RSVD

GPP_B12/SLP_S0#
GPD4/SLP_S3#
GPD5/SLP_S4#
GPD10/SLP_S5#
SLP_SUS#
SLP_LAN#
GPD9/SLP_WLAN#
GPD6/SLP_A#
GPD3/PWRBTN#
GPD1/ACPRESENT
GPD0/BATLOW#
GPP_A11/PME#
INTRUDER#
GPP_B11/EXT_PWR_GATE#
GPP_B2/VRALERT#

KBL-ULT
REV = 1
11 OF 20
?

16 SYS_RESET# PLTRST# AN10 SYS_RESET# B5 RSMRST# AY17
16,29 RSMRST#
R447 *10K_4 PROCPWRGD A68 H_VCCST_PWRGD B65
C469 *0.1U/16V_4 SYS_PWROK B6
22,29,30 EC_PWROK EC_PWROK BA20 DSWROK_EC_R BB20
29 SUSPWRDNACK SUSPWRDNACK AR13
*0_4 R129 SUSACK# AP11
25 PCIE_WAKE# PCIE_WAKE# BB15
23 LANWAKE# LANWAKE# AM15
23 LAN_DIS# LAN_DIS# AW17
19 TOUCH_EN AT15

AT11 PCH_SLP_S0_N → PCH_SLP_S0_N 16
AP15 → SUSB# 16,29
BA16 → SUSC# 16,29
AY16 → SLP_S5# 16
AN15
AW15
BB17 → SLP_LAN# 23
AN16 → SLP_WLAN# 25
→ SLP_A# 16,29
BA15 DNBSWON# → DNBSWON# 16,29
AY15 AC_PRESENT_EC → AC_PRESENT_EC 29
AU13 PM_BATLOW_N_EC → PM_BATLOW_N_EC 29
AU11
AP16 INTRUDER#_R R163 1M_4 +3V_RTC_2
AM10 EXT_PWR_GATE#
AM11

RSMRST#
SYS_RESET#
EC7 *220P/50V_4
EC9 *220P/50V_4

RSMRST# R100 *0_4_S DSWROK_EC_R
PLTRST#
EC18 *220P/50V_4

PCH Pull-high/low(CLG)

+3V_DEEP_SUS
SUSPWRDNACK R114 *10K_4
SUSACK# R128 *10K_4
PM_BATLOW_N_EC R144 10K_4

+3VS5
PCIE_WAKE# R70 1K_4
AC_PRESENT_EC R84 10K_4
LANWAKE# R124 10K_4

+3V
SYS_RESET# R475 10K_4
RSMRST# R80 10K_4
DSWROK_EC_R R91 *100K/F_4
TOUCH_EN R815 100K/F_4
SYS_PWROK R862 *10K_4

EXT_PWR_GATE# R60 *20K/F_4 +3VS5

Close to CPU side
H_VCCST_PWRGD trace 0.3" - 1.5"

+VCCIO +VCCSTPLL
R517 1K_4
R512 *1K_4
16,29,47,50 HWPG D241 2 DB2J40600L H_VCCST_PWRGD_R R491 60.4/F_4 H_VCCST_PWRGD
C495 *10P/50V_4

+VCCIO
R514 15K_4
C497 0.1U/16V/X7R_4
R500 100K_4
+1.0V_PWRGD_G1
Q34 PMBT3904

+5VS5
R520 100K_4
+1.0V_PWRGD_G2 2

+3VS5
R522 *10K_4
HWPG
Q36 DMN601K-7
R525 100K_4

PLTRST#(CLG)

21,23,24,25,29,30 PLTRST#
R224 100K/F_4

System PWR_OK(CLG)

29 SYS_PWROK SYS_PWROK R482 0_4 EC_PWROK
R476 100K/F_4

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Size	Document Number	Rev
Custom	04 -- KABYLAKE 3/15(Power Manger)	1A
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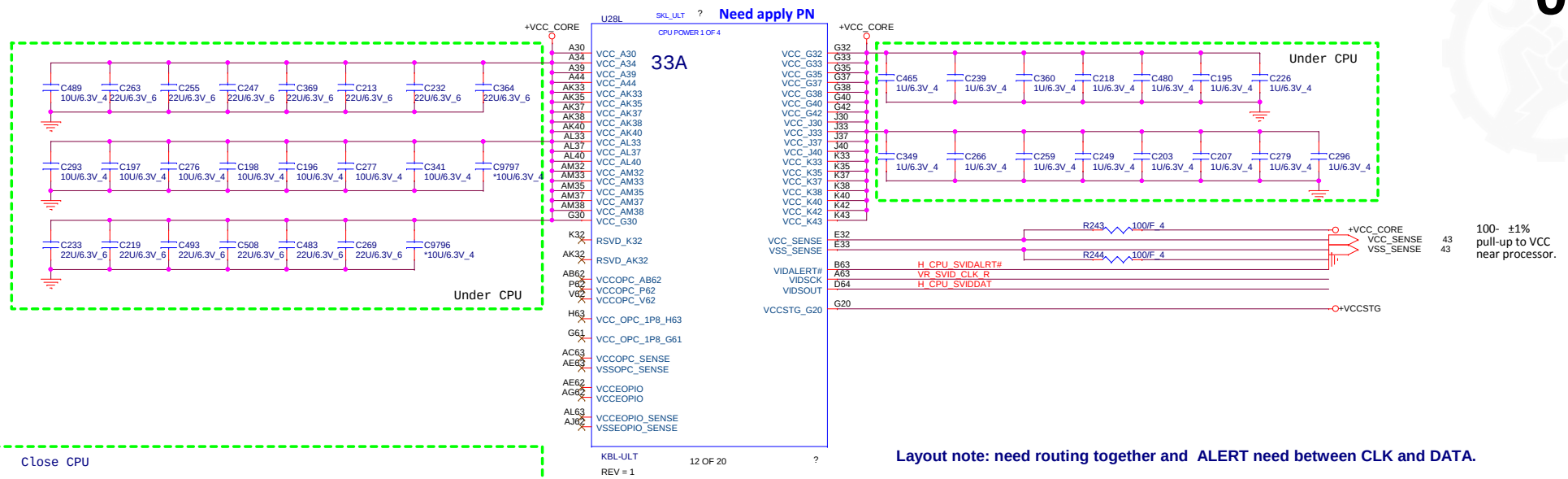
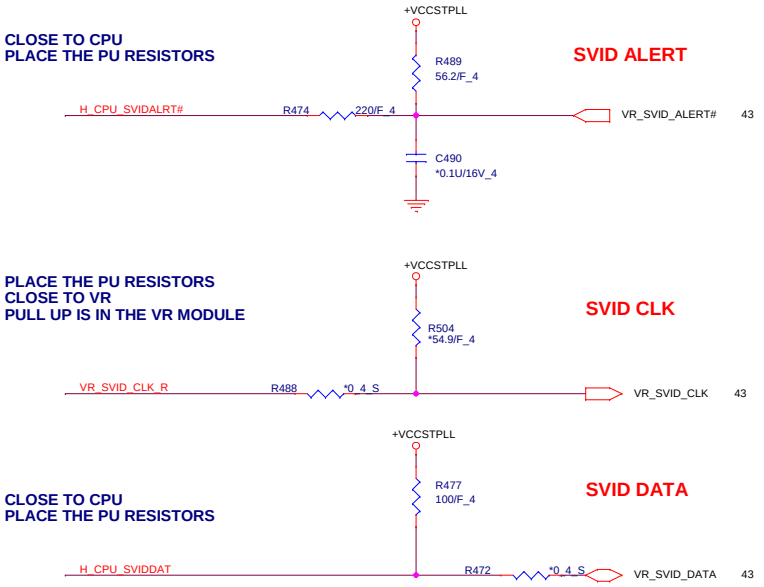


Layout note: need routing together and ALERT need between CLK and DATA.



Power Rail	Description	Control
V_{CC}	Processor IA Cores Power Rail	SVID
Vcc_{GT}	Processor Graphics Power Rails	SVID
Vcc_{GTX}	Processor Graphics Extended Power Rail Available only for GT3/GT4 processor SKUs	SVID
Vcc_{SA}	System Agent Power Rail	SVID/Fixed (SKU dependent)
Vcc_{IO}	IO Power Rail	Fixed
Vcc_{ST}	Sustain Power Rail	Fixed
Vcc_{PLL}	Processor PLLs power rail	Fixed
V_{DDQ}	Integrated Memory Controller Power Rail	Fixed (Memory technology dependent)
Vcc_{OPC}	Processor OPC power rail (available only in SKU's with OPC)	Fixed
Vcc_{OPC_1P8}	Processor OPC power rail (available only in SKU's with OPC)	Fixed
Vcc_{EOPIO}	Processor EOPIO power rail (available only in SKU's with OPC)	Fixed

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PROJECT: PS9
Size: Custom | Document Number: 05 -- KABYLAKE 4/15 (POWER-1) | Rev: 1A
Date: Wednesday, July 27, 2016 | Sheet 5 of 55

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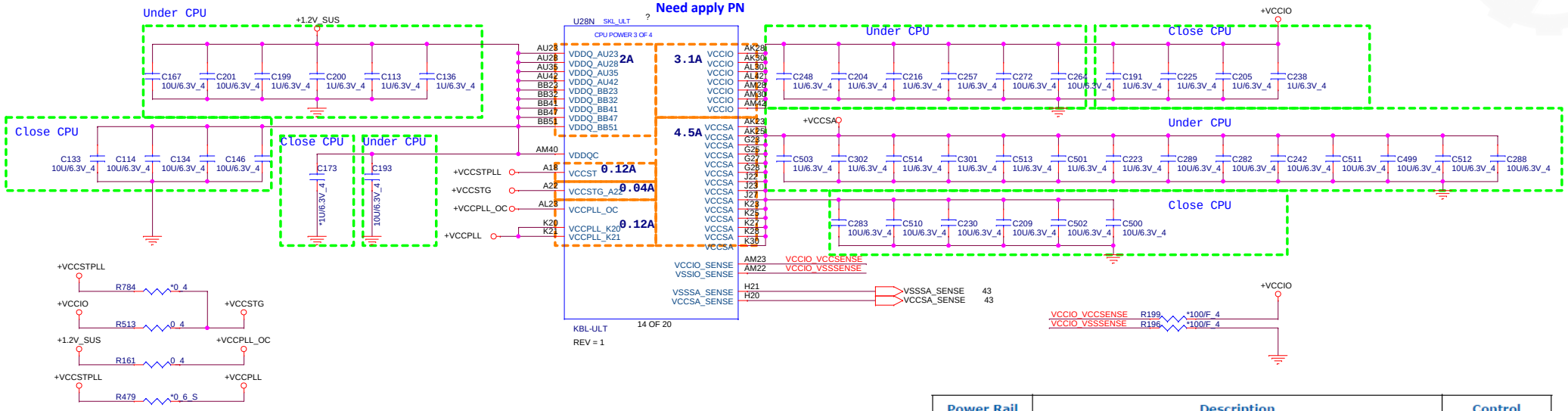
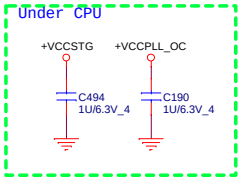
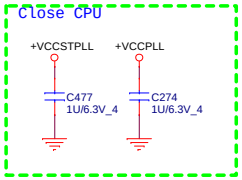
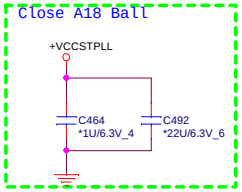
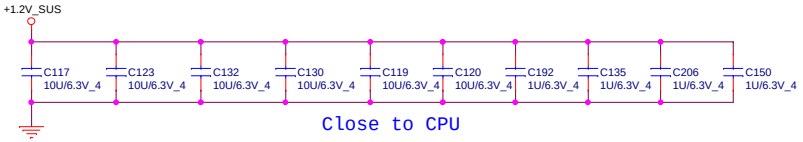
2,4,16,49,52 +VCCIO
43,46 +VCCSA
3,17,18,47,52 +1.2V_SUS
2,4,5,9,43,49,52 +VCCSTPLL
5 +VCCSTG











Power Rail	Description	Control
V_{CC}	Processor IA Cores Power Rail	SVID
Vcc_{GT}	Processor Graphics Power Rails	SVID
Vcc_{GTX}	Processor Graphics Extended Power Rail Available only for GT3/GT4 processor SKUs	SVID
Vcc_{SA}	System Agent Power Rail	SVID/Fixed (SKU dependent)
Vcc_{IO}	IO Power Rail	Fixed
Vcc_{ST}	Sustain Power Rail	Fixed
Vcc_{PLL}	Processor PLLs power rail	Fixed
V_{DDQ}	Integrated Memory Controller Power Rail	Fixed (Memory technology dependent)
Vcc_{OPC}	Processor OPC power rail (available only in SKU's with OPC)	Fixed
Vcc_{OPC_1P8}	Processor OPC power rail (available only in SKU's with OPC)	Fixed
Vcc_{EOPIO}	Processor EOPIO power rail (available only in SKU's with OPC)	Fixed

Quanta Computer Inc.
PROJECT: PS9

Size	Document Number	Rev
	Custom 06 -- KABYLAKE 5/15 (POWER-2)	1A
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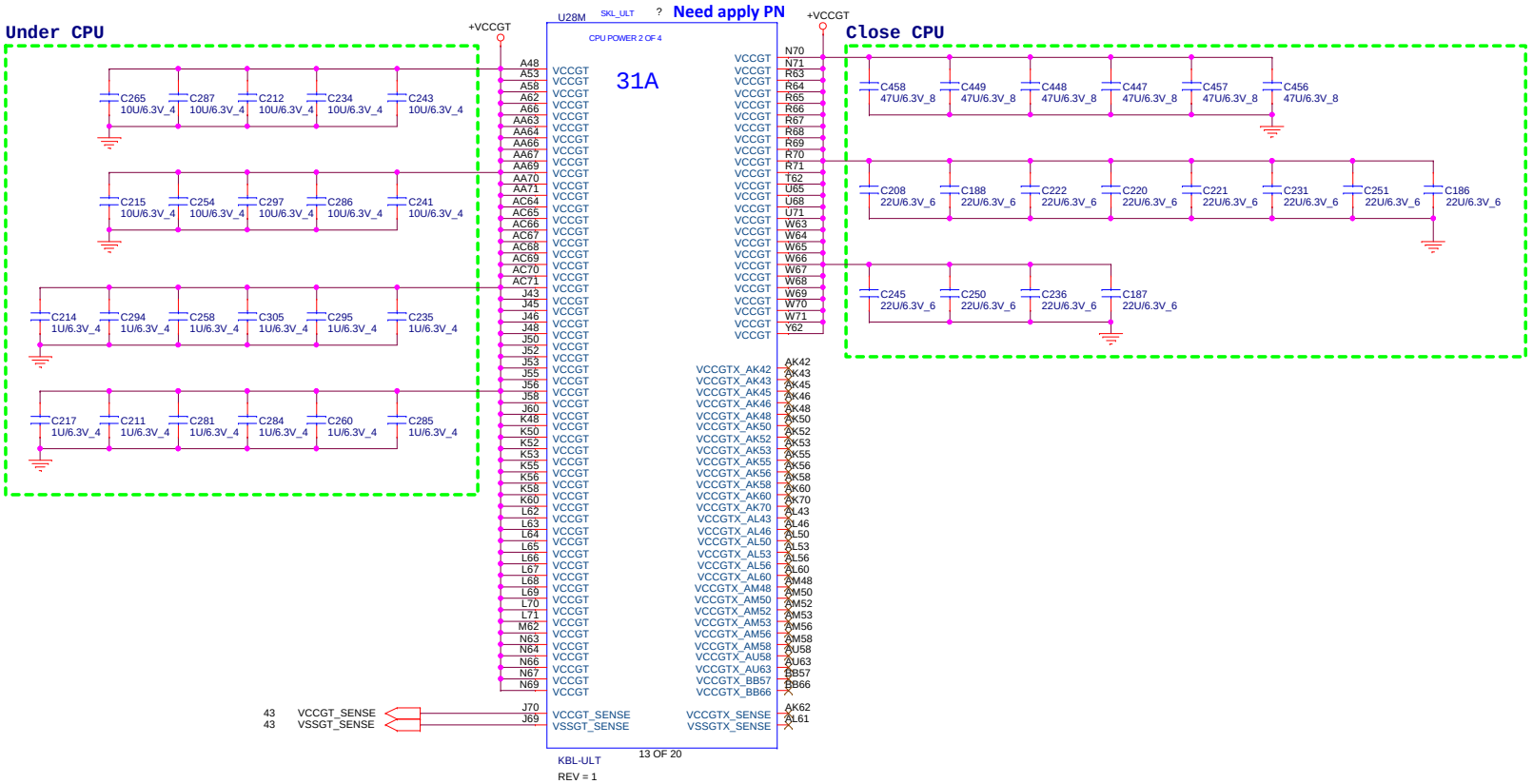

Power Rail	Description	Control
V_{CC}	Processor IA Cores Power Rail	SVID
Vcc_{GT}	Processor Graphics Power Rails	SVID
Vcc_{GTX}	Processor Graphics Extended Power Rail Available only for GT3/GT4 processor SKUs	SVID
Vcc_{SA}	System Agent Power Rail	SVID/Fixed (SKU dependent)
Vcc_{IO}	IO Power Rail	Fixed
Vcc_{ST}	Sustain Power Rail	Fixed
Vcc_{PLL}	Processor PLLs power rail	Fixed
V_{DDQ}	Integrated Memory Controller Power Rail	Fixed (Memory technology dependent)
Vcc_{OPC}	Processor OPC power rail (available only in SKU's with OPC)	Fixed
Vcc_{OPC_1P8}	Processor OPC power rail (available only in SKU's with OPC)	Fixed
Vcc_{EOPIO}	Processor EOPIO power rail (available only in SKU's with OPC)	Fixed

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PROJECT: PS9
Size | Document Number Custom | 07 -- KABYLAKE 6/15 (POWER-3) | Rev 1A
Date: Wednesday, July 27, 2016 | Sheet 7 of 55

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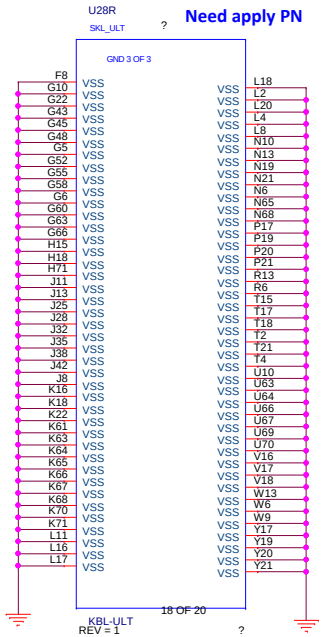

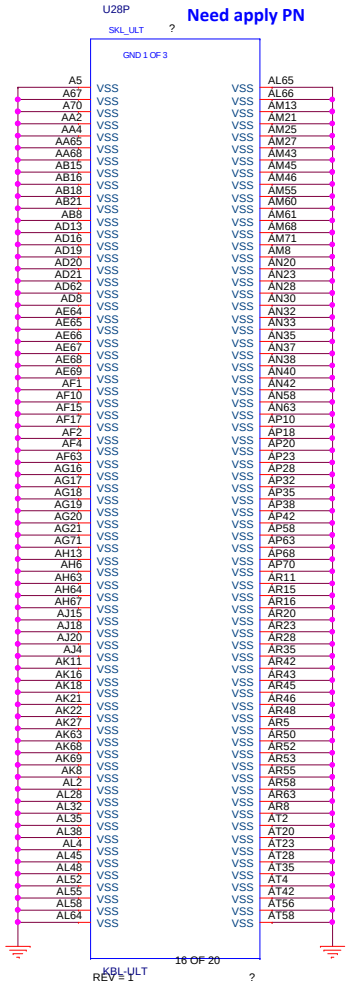

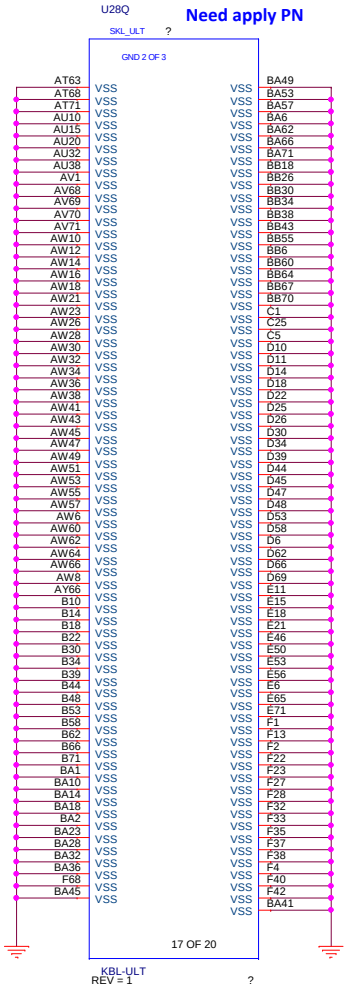

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PROJECT: PS9

Size	Document Number	Rev
	Custom 8 -- KABYLAKE 7/15 (GND)	1A
Date: Wednesday, July 27, 2016	Sheet 8 of 55	

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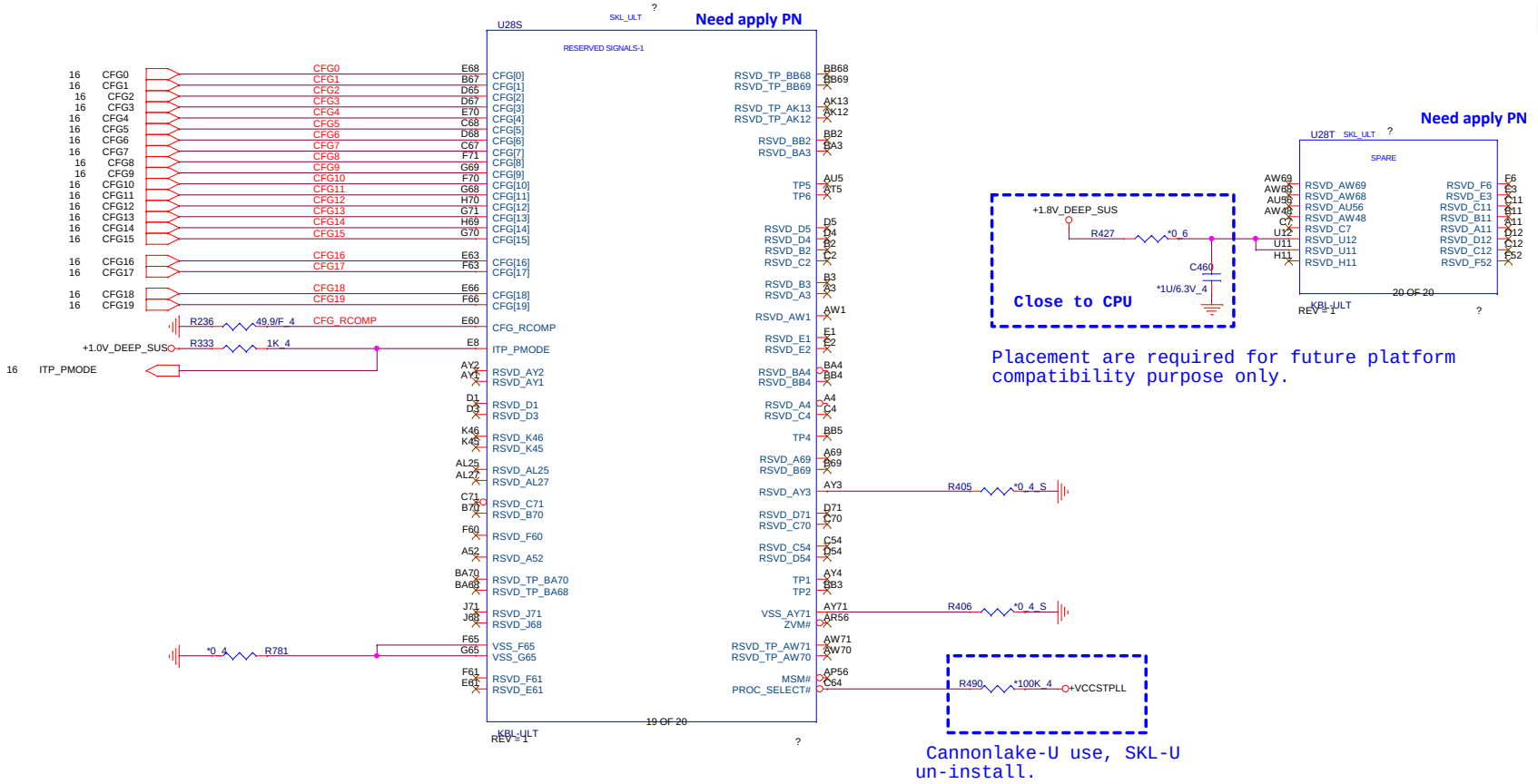
13,15,16,48,49,52 +1.0V_DEEP_SUS
2,4,5,6,43,49,52 +VCCSTPLL
15,50,52 +1.8V_DEEP_SUS



Processor Strapping

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

	1	0	Circuit
CFG3 (Physcial Debug Enable) DFX_Privacy	Disable:	Enable: Set DFX Enable in DFX interface MSR	CFG3 R440 *1K_4
CFG4 (DP Presence Strap)	Disable; No physical DP attached to eDP	Enable; An ext DP device is connected to eDP	CFG4 R439 1K_4

Quanta Computer Inc.
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Size	Document Number	Rev
	Custom 9 -- KABYLAKE 8/15 (RSV)	1A
Date: Wednesday, July 27, 2016	Sheet 9 of 55	

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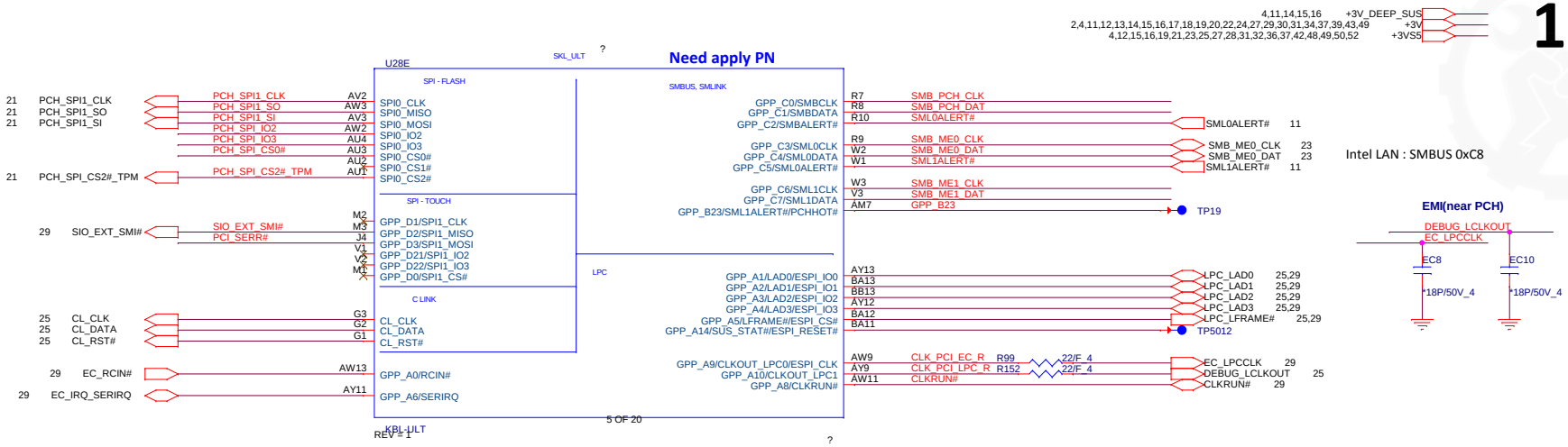
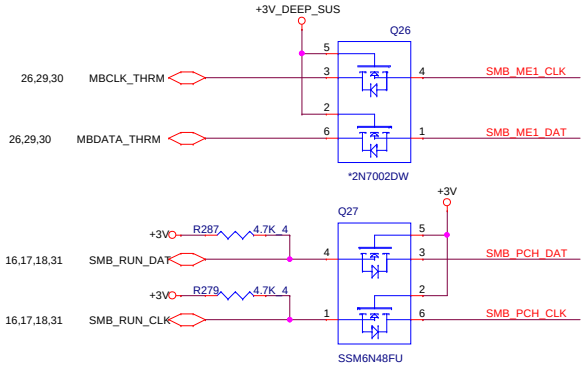


GPIO Pull UP

SMBus/Pull-up(CLG)

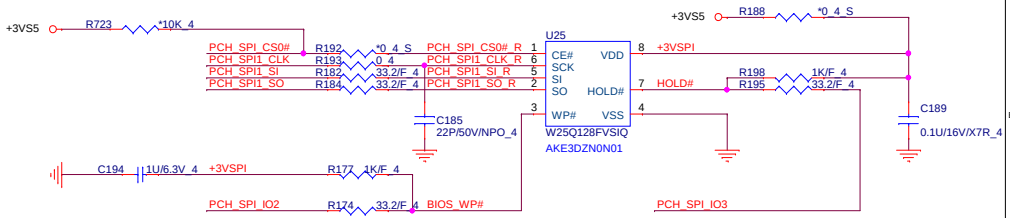


CPU heat pipe local thermal sensor
DDR thermal sensor
EC

Touch Pad
XDP
DDR3-L

PCH SPI ROM(CLG)

Need place to TOP



R1/R2/R3/R4/R5/R7 close to U15 pin

Vender	Size	P/N
MIT	16MB	AKE3DZN0L03(N25Q128A13ESEDFF)
Winbond	16MB	AKE3DZN0N01 (W25Q128FVSIQ)
MX	16MB	AKE3DZN0Z03(MX25L12873FM2I-10G)
Socket		DFHS08FS023

Quanta Computer Inc.
PROJECT: PS9

Size	Document Number	Rev
Custom	10 -- KABYLAKE 9/15(SPI/LPC/SMBUS)	1A
Date: Wednesday, July 27, 2016	Sheet 10 of 55	

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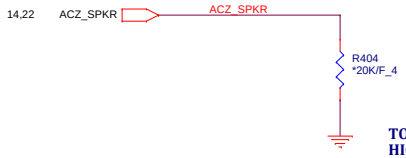
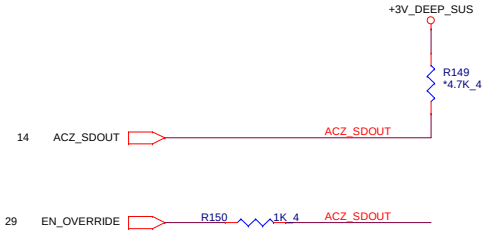
Functional Strap Definitions

4,10,14,15,16 +3V_DEEP_SUS
2,4,10,12,13,14,15,16,17,18,19,20,22,24,27,29,30,31,34,37,39,43,49 +3V

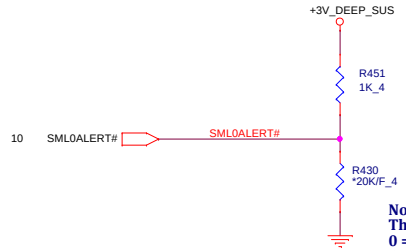
DESIGN NOTE:
WEAK PULL UP RESISTOR PRESENT ON THIS NET



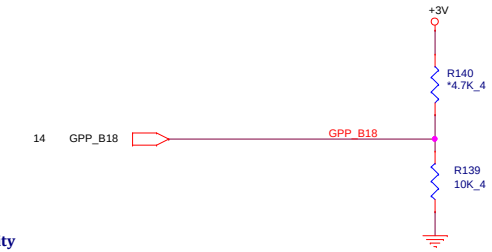
TOP SWAP OVERRIDE
HIGH - TOP SWAP ENABLE
LOW-DISABLED
HIGH: LPC SELECTED FOR SYSTEM FLASH
WEAK INTERNAL PD



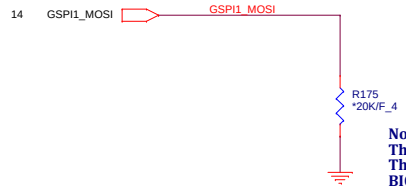
No Boot:
The signal has a weak internal pull-down.
0 = Enable security measures defined in the Flash Descriptor.
1 = Disable Flash Descriptor Security (override). This strap should only be asserted high using external pull-up in manufacturing/debug environments ONLY. This function is useful when running ITP/XDP.



No Boot:
The signal has a weak internal pull-down.
0 = Disable Intel ME Crypto Transport Layer Security (TLS) cipher suite (no confidentiality).
1 = Enable Intel ME Crypto Transport Layer Security (TLS) cipher suite (with confidentiality). Must be pulled up to support Intel AMT with TLS and Intel SBA (Small Business Advantage) with TLS.

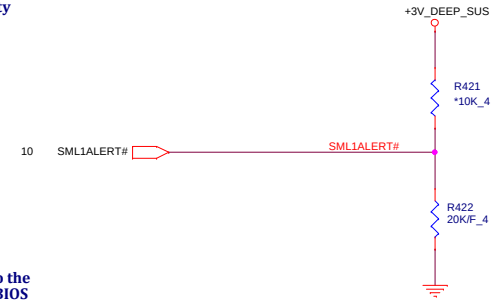


No Boot:
The signal has a weak internal pull-down.
0 = Disable No Reboot mode.
1 = Enable No Reboot mode
(PCH will disable the TCO
Timer system reboot feature).
This function is useful when running ITP/XDP.



No Boot:
The signal has a weak internal pull-down.
This field determines the destination of accesses to the BIOS memory range. Also controllable using Boot BIOS Destination bit (Chipset Configuration Registers: Offset 3410h:Bit 10). This strap is used in conjunction with Boot BIOS Destination Selection 0 strap.

Bit 10	Boot BIOS Destination
0	SPI
1	LPC



No Boot:
The signal has a weak internal pull-down.
0 = LPC Is selected for EC.
1 = eSPI Is selected for EC.

Quanta Computer Inc.
PROJECT: PS9

Size	Document Number	Rev
	Custom 11 -- KABYLAKE 10/15(STRIP)	1A
Date: Wednesday, July 27, 2016	Sheet 11 of 55	

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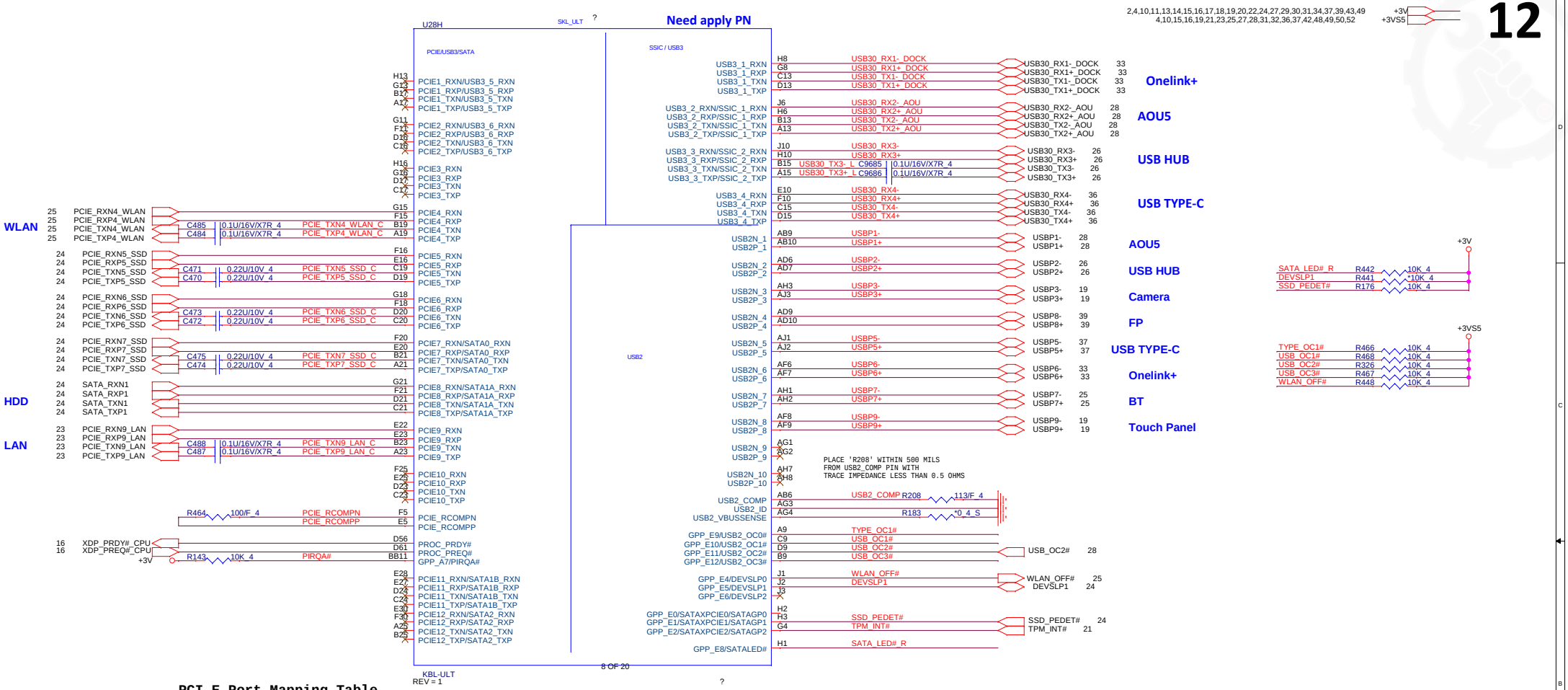

PCI-E Port Mapping Table

PCI-E Port	Function	CLK RQ Port	Function
Port1	Un-used	Port0	Un-used
Port2	Un-used	Port1	Un-used
Port3	Un-used	Port2	WLAN
Port4	WLAN	Port3	LAN
Port5	PCIESSD (Reseve)	Port4	SSD(Reserve)
Port6	PCIESSD (Reseve)	Port5	Un-used
Port7	PCIESSD (Reseve)		
Port8	HDD		
Port9	LAN		
Port10	Un-used		

USB3.0 Port Mapping Table

USB3.0	Function
PORT-1	Onelink+
PORT-2	AOU5
PORT-3	USB HUB
PORT-4	USB TYPE-C

USB2.0 Port Mapping Table

USB2.0	Function
PORT-1	AOU5
PORT-2	USB HUB
PORT-3	Camera
PORT-4	Cardreader
PORT-5	TYPE C
PORT-6	Onelink+
PORT-7	BT
PORT-8	FP
PORT-9	Touch Panel
PORT-10	NC

Quanta Computer Inc.
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4,15 +3V_RTC_2
2,4,10,11,12,14,15,16,17,18,19,20,22,24,27,29,30,31,34,37,39,43,49 +3V
9,15,16,48,49,52 +1.0V_DEEP_SUS
19,22,25,29,32,33,37,41,42,53 +3VPCU

Need apply PN

U28J — SKL_ULT — CLOCK SIGNALS

WLAN
25 CLK_PCIE_WLANN — CLK_PCIE_WLANN — D41 CLKOUT_PCIE_N2
25 CLK_PCIE_WLANP — CLK_PCIE_WLANP — C41 CLKOUT_PCIE_P2
25 PCIE_CLKREQ_WLAN# — PCIE_CLKREQ_WLAN# — AT8 GPP_B7/SRCCLKREQ2#

LAN
23 CLK_PCIE_LANN — CLK_PCIE_LANN — D40 CLKOUT_PCIE_N3
23 CLK_PCIE_LANP — CLK_PCIE_LANP — C40 CLKOUT_PCIE_P3
23 PCIE_CLKREQ_LAN# — PCIE_CLKREQ_LAN# — AT10 GPP_B8/SRCCLKREQ3#

SSD
24 CLK_PCIE_SSDN — CLK_PCIE_SSDN — B40 CLKOUT_PCIE_N4
24 CLK_PCIE_SSDP — CLK_PCIE_SSDP — A40 CLKOUT_PCIE_P4
24 PCIE_CLKREQ_SSD# — PCIE_CLKREQ_SSD# — AU8 GPP_B9/SRCCLKREQ4#

PCIE_CLKREQ0# — AR10 GPP_B5/SRCCLKREQ0#
PCIE_CLKREQ1# — AT7 GPP_B6/SRCCLKREQ1#
PCIE_CLKREQ5# — AU7 GPP_B10/SRCCLKREQ5#

D42 CLKOUT_PCIE_N0
C42 CLKOUT_PCIE_P0
E40 CLKOUT_PCIE_N5
E39 CLKOUT_PCIE_P5

TBT

F43 CLKOUT_ITPXDP_N — CK_XDP_N 16
E43 CLKOUT_ITPXDP_P — CK_XDP_P 16
BA17 GPD8/SUSCLK — PCH_SUSCLK — TP34
E37 XTAL24_IN — XTAL24_IN
E35 XTAL24_OUT — XTAL24_OUT — +1.0V_DEEP_SUS
E42 XCLK_BIASREF — XCLK_BIASREF — R480 2.7K/F_4 — R465 *60.4/F_4
AM18 RTCX1 — RTC_X1
AM20 RTCX2 — RTC_X2
AN18 SRTCRST# — SRTC_RST#
AM16 RTCRST# — RTC_RST# — RTC_RST# 16

Co-lay 60ohm 1% to GND for Cannonlake use

10 OF 20
KBL-ULT REV = 1

CLK_REQ/Strap Pin(CLG)

+3V
10K_4 R105 PCIE_CLKREQ_SSD#
10K_4 R78 PCIE_CLKREQ_WLAN#
10K_4 R103 PCIE_CLKREQ_LAN#
*10K_4 R92 PCIE_CLKREQ1#
*10K_4 R106 PCIE_CLKREQ5#
*10K_4 R109 PCIE_CLKREQ0#

Need apply PN

U28I — SKL_ULT — CSI-2

A36 CSI2_DN0 — C37 CSI2_CLKN0
B36 CSI2_DP0 — D37 CSI2_CLKP0
C36 CSI2_DN1 — C32 CSI2_CLKN1
D36 CSI2_DP1 — D32 CSI2_CLKP1
C30 CSI2_DN2 — C29 CSI2_CLKN2
D30 CSI2_DP2 — D29 CSI2_CLKP2
A30 CSI2_DN3 — C26 CSI2_CLKN3
B30 CSI2_DP3 — D26 CSI2_CLKP3
C31 CSI2_DN4
D31 CSI2_DP4
C33 CSI2_DN5
D33 CSI2_DP5
A33 CSI2_DN6
B33 CSI2_DP6
A32 CSI2_DN7
B32 CSI2_DP7
A29 CSI2_DN8
B29 CSI2_DP8
C29 CSI2_DN9
D29 CSI2_DP9
A27 CSI2_DN10
B27 CSI2_DP10
C27 CSI2_DN11
D27 CSI2_DP11

CSI2_COMP
E13 GPP_D4/FLASHTRIG — R324 100/F_4 — GPP_D4 — B7 — TP36

EMMC

GPP_F13/EMMC_DATA0 AP2
GPP_F14/EMMC_DATA1 AP1
GPP_F15/EMMC_DATA2 AP3
GPP_F16/EMMC_DATA3 AN3
GPP_F17/EMMC_DATA4 AN1
GPP_F18/EMMC_DATA5 AN2
GPP_F19/EMMC_DATA6 AM4
GPP_F20/EMMC_DATA7 AM1
GPP_F21/EMMC_RCLK AM2
GPP_F22/EMMC_CLK AM3
GPP_F12/EMMC_CMD AP4

EMMC_RCOMP — AT1 — EMMC_RCOMP — R410 200/F_4

9 OF 20
KBL-ULT REV = 1

RTC Clock 32.768KHz

C441 12P/50V/COG_4 — RTC_X1
Y1 32.768KHz +20PPM
R399 10M_4
C445 12P/50V/COG_4 — RTC_X2

EC-SIT-02

RTC Circuitry(RTC)

RTC Power trace width 20mils.

+3VPCU — R94 1.5K_4
+3V_RTC_2
+3V_RTC_0
R52 20K/F_4 — RTC_RST#
R111 45.3K/F_4 — D7 DB2J40600L
R81 1K_4 — +3V_RTC_1 — D4 DB2J40600L
R48 20K/F_4 — SRTC_RST#
C110 1U/6.3V_4
C109 1U/6.3V_4
C116 1U/6.3V_4
CN6 CONN_RTC
Q1 DMN601K-7
EC_RTC_RST — EC_RTC_RST 29
R55 10K_4
RTC_RST#
EC6 RCLAMP0521PATCT

External Crystal and Green Clock

EC-SIT-31

XTAL24_IN
XTAL24_OUT
C479 10P/50V/COG_4
R462 1M_4
24MHZ +30PPM Y3
C478 10P/50V/COG_4

Quanta Computer Inc.
PROJECT: PS9

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	Custom 13 KABYLAKE 12/15 (CLK/EMMC)	1A
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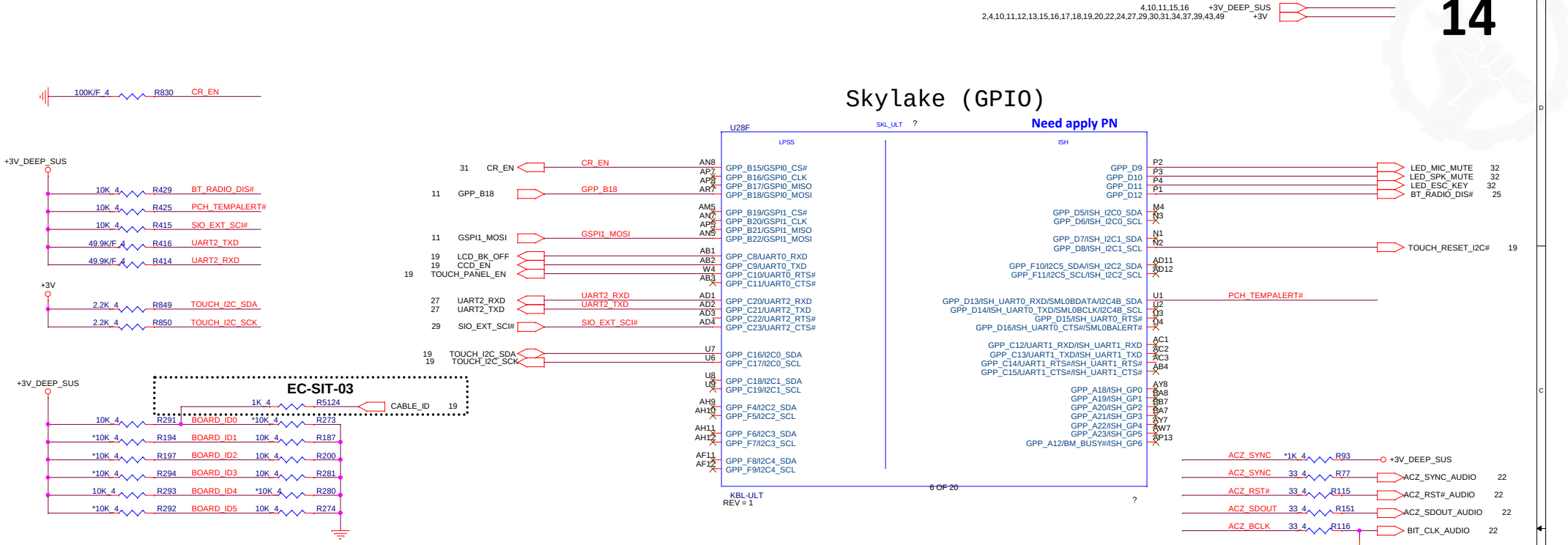
Skylake (GPIO)



ID0: default non touch sku

	Touch SKU	Non-Touch
BOARD_ID0	0	1

touch solution	USB	I2C
BOARD_ID1	1	0

Model	BOARD_ID3	BOARD_ID4	BOARD_ID5
	1	1	1
	1	1	0
	1	0	1
	1	0	0
	0	1	1
SIT	0	1	0
FVT	0	0	1
BU	0	0	0

ID3~5 for stage control

EC-FVT-03

Intel LAN	VPRO	n-VPRO
BOARD_ID2	1	0

Quanta Computer Inc.
PROJECT: PS9

Size	Document Number	Rev
	Custom 14 -- KABYLAKE 13/15 (HDA/GPIO)	1A
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4,10,11,14,16 +3V_DEEP_SUS
9,13,16,48,49,52 +1.0V_DEEP_SUS
9,50,52 +1.8V_DEEP_SUS
4,10,12,16,19,21,23,25,27,28,31,32,36,37,42,48,49,50,52 +3VS5
4,13 +3V_RTC_2
2,4,10,11,12,13,14,16,17,18,19,20,22,24,27,29,30,31,34,37,39,43,49 +3V

U28O SKL_ULT CPU POWER 4 OF 4 — Need apply PN

PCH Internal VRM

C820 and C690 close to cpu less then 100 mils

20mils

2.899A
2.57A
1.714A
0.03A
0.09A

15 OF 20

KBL-ULT
REV = 1

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Quanta Computer Inc.
PROJECT: PS9

Size	Document Number	Rev
Custom	15 -- KABYLAKE 14/15(PCH POWER)	1A
Date: Wednesday, July 27, 2016	Sheet 15 of 55	

2,4,10,11,12,13,14,15,17,18,19,20,22,24,27,29,30,31,34,37,39,43,49 +3V
4,10,11,14,15 +3V_DEEP_SUS
9,13,15,48,49,52 +1.0V_DEEP_SUS
2,4,6,49,52 +VCCIO
4,10,12,15,19,21,23,25,27,28,31,32,36,37,42,48,49,50,52 +3VS5

EC-FVT-04

*Samtec BSH-030-01

CN3

CPU XDP

		30	GND16	GND(XDP_PRESENT#)	31		
9	CFG3	29	XDP_TCK0	XDP_TMS	32		
12	XDP_PREQ#_CPU	28	XDP_TCK1	XDP_TDI	33		
12	XDP_PRDY#_CPU	27	XDP_SCL	XDP_TRSTn	34		
		26	XDP_SDA	XDP_TDO	35		
9	CFG0	25	GND14	GND15	36		
9	CFG1	24	HOOK3	HOOK7/DBR#	37		
		23	HOOK2	HOOK6/RESET#	38		
9	CFG2	22	VCC_OBS_AB	VCC_OBS_CD	39		
TP21		21	HOOK1	ITPCLK#/HOOK5	40		
2	XDP_BPM0	20	HOOK0	ITPCLK/HOOK4	41		
2	XDP_BPM1	19	GND12	GND13	42		
		18	OBSDATA_B3	OBSDATA_D3	43		
9	CFG4	17	OBSDATA_B2	OBSDATA_D2	44		
9	CFG5	16	GND10	GND11	45		
		15	OBSDATA_B1	OBSDATA_D1	46		
9	CFG6	14	OBSDATA_B0	OBSDATA_D0	47		
9	CFG7	13	GND8	GND9	48		
		12	OBSFN_B1	OBSFN_D1	49		
4,29	RSMRST#	11	OBSFN_B0	OBSFN_D0	50		
4,29	DNBSWON#	10	GND6	GND7	51		
	+1.0V_DEEP_SUS	9	OBSDATA_A3	OBSDATA_C3	52		
		8	OBSDATA_A2	OBSDATA_C2	53		
		7	GND4	GND5	54		
10,17,18,31	SMB_RUN_DAT	6	OBSDATA_A1	OBSDATA_C1	55		
10,17,18,31	SMB_RUN_CLK	5	OBSDATA_A0	OBSDATA_C0	56		
		4	GND2	GND3	57		
2	XDP_TCK0	3	OBSFN_A1	OBSFN_C1	58		
		2	PROC_PREQ#	OBSFN_C0	59		
		1	XDP_PRESENT#	GND1	60		

R209 1K_4 — CFG3
R232 1K_4 — CFG3
R203 1K_4
CFG0 R219 *0_4_S PWR_DEBUG — HOCK3
R233 *0_4_S SMB_RUN_DAT_XDP
R235 *0_4_S SMB_RUN_CLK_XDP
XDP_TCK1
XDP_TCK0

CFG17 9, CFG16 9, CFG8 9, CFG9 9, CFG10 9, CFG11 9, CFG19 9, CFG18 9, CFG12 9, CFG13 9, CFG14 9, CFG15 9
CK_XDP_P 13, CK_XDP_N 13
+1.0V_DEEP_SUS
ITP_PMODE 9, SYS_RESET# 4,16
XDP_TDO, XDP_TRST#, XDP_TDI, XDP_TMS
TP23

HOCK3 — R225 1K_4 — +3V_DEEP_SUS

+3V — *1K_4 — R227 — SYS_RESET#
C270 *0.1U/16V_4

+VCCIO
R220 150/F_4
PWR_DEBUG
R221 *10K_4

+1.0V_DEEP_SUS
C229 *0.1U/16V_4
C228 *0.1U/16V_4

APS

CN1 — *50501-0180N-001

+3V_DEEP_SUS +3VS5

1		
2		
3	SUSB#	4,29
4	SLP_S5#	4
5	SUSC#	4,29
6	SLP_A#	4,29
7		
8		
9	RTC_RST#	13
10		
11	DNBSWON#	
12		
13	SYS_RESET#	4,16
14		
15	PCH_SLP_S0_N	4
16		
17		
18		

C463 *0.1U/16V_4

U30 — *SN74CBTLV3126RGYR

+3V — R450 *0_4_S — VCC
4,29,47,50 HWPG

XDP_TDO	2	1A	1B	3	XDP_TDO_CPU 2
	1	1OE			
XDP_TDI	5	2A	2B	6	XDP_TDI_CPU 2
	4	2OE			
XDP_TMS	9	3A	3B	8	XDP_TMS_CPU 2
	10	3OE			
XDP_TRST#	12	4A	4B	11	XDP_TRST#_CPU 2
	13	4OE			
			DPAD	15	
			GND	7	

2	2	JTAGX_PCH	XDP_TCK0
2	2	JTAG_TMS_PCH	XDP_TMS
2	2	JTAG_TDI_PCH	XDP_TDI
2	2	JTAG_TDO_PCH	XDP_TDO
2	2	JTAG_TCK_PCH	XDP_TCK1

Quanta Computer Inc.
PROJECT: PS9

Size	Document Number	Rev
	16 -- KABYLAKE 15/15(XDP/APS)	1A
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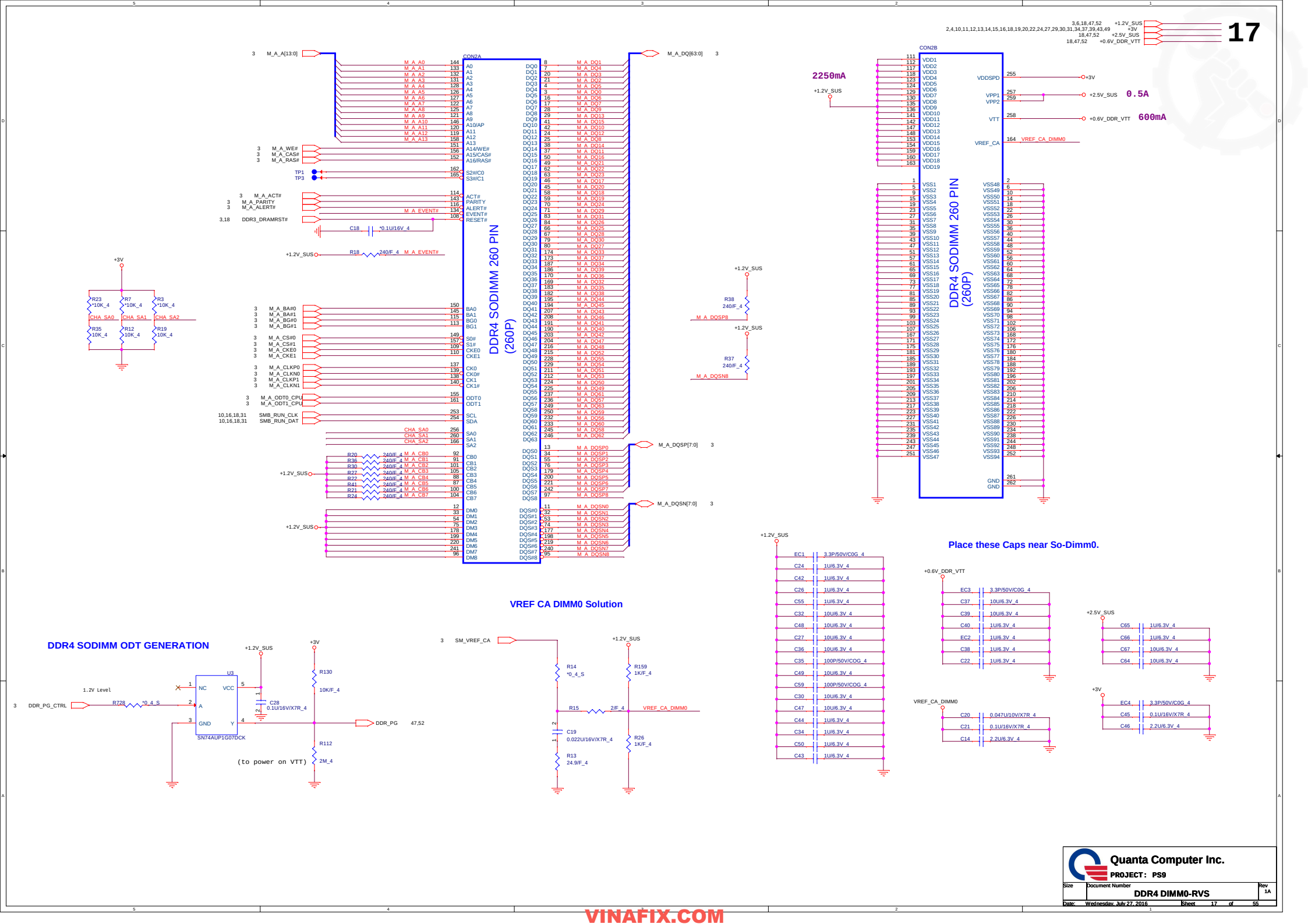

Place these Caps near So-Dimm0.

DDR4 SODIMM ODT GENERATION

VREF CA DIMM0 Solution

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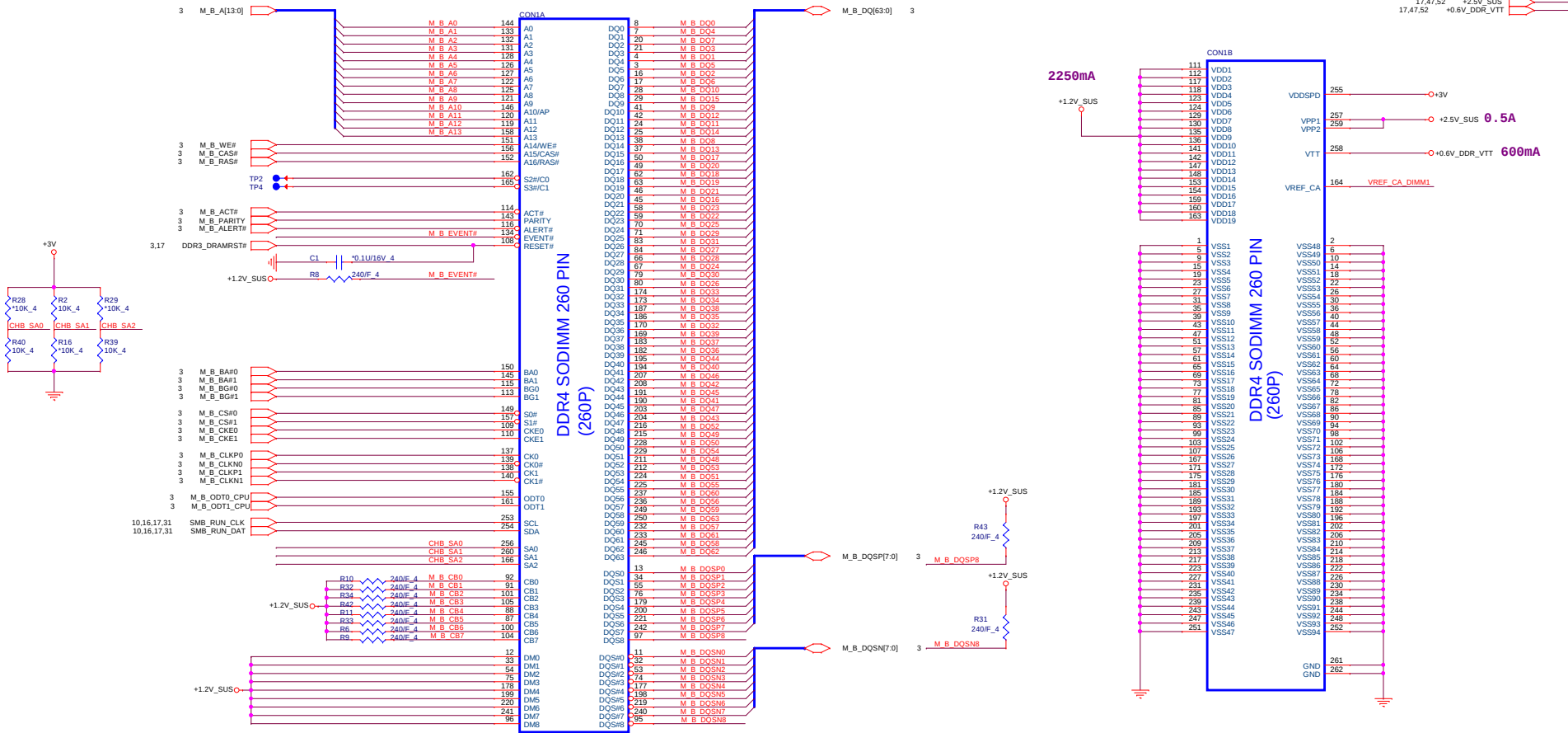
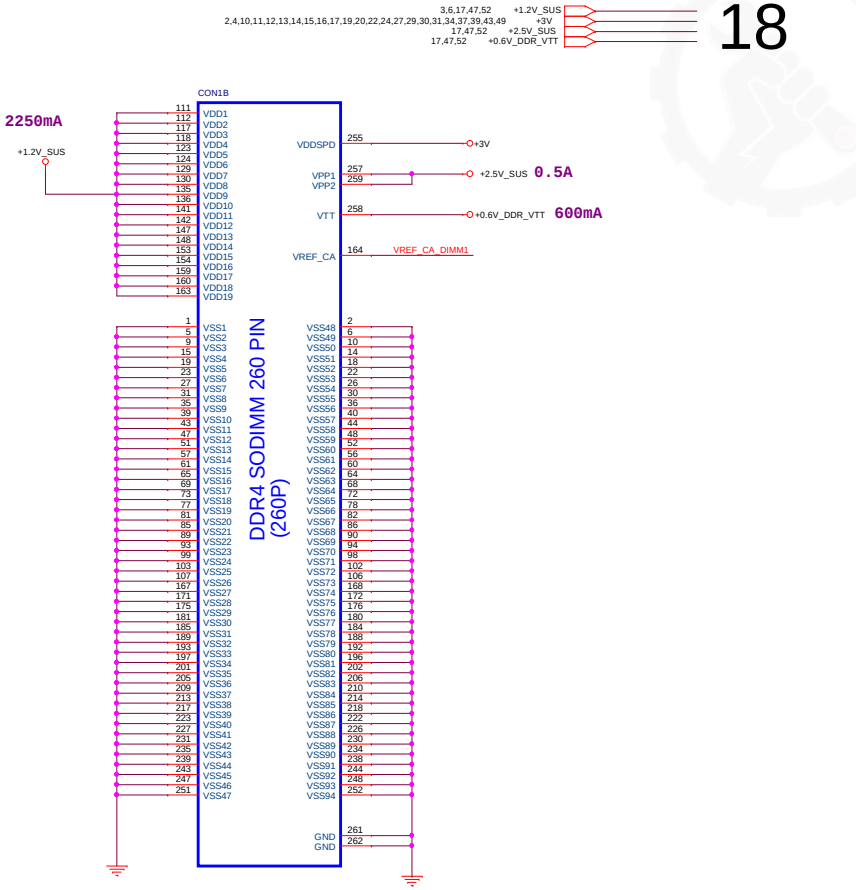
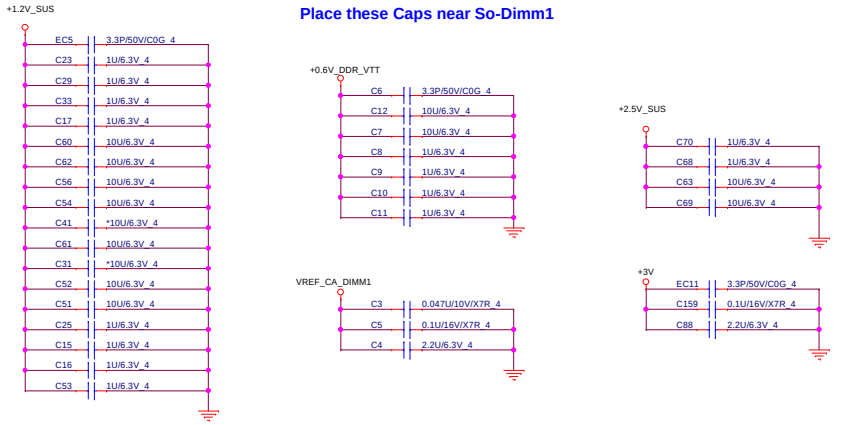
Quanta Computer Inc.		
PROJECT: PS9		
Size	Document Number: DDR4 DIMM0-RVS	Rev: 1A
Date: Wednesday, July 27, 2016	Sheet 17 of 55	

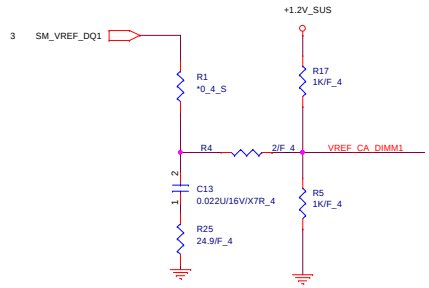




Place these Caps near So-Dimm1



VREF CA DIMM1 Solution



Quanta Computer Inc.			
PROJECT: PS9			
Size	Document Number		Rev
	DDR4 DIMM1-RVS		1A
Date: Wednesday, July 27, 2016	Sheet 18 of 55		

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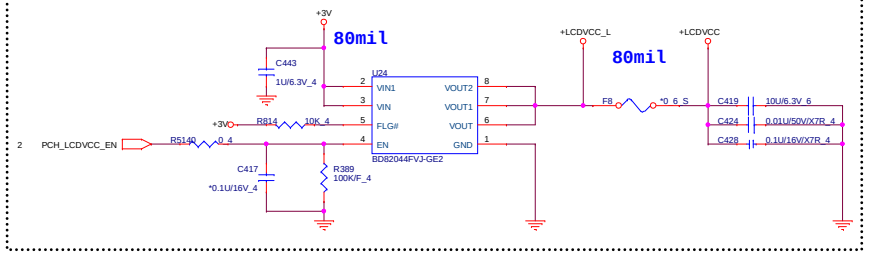
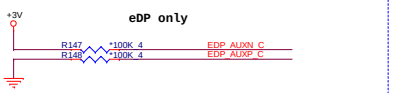
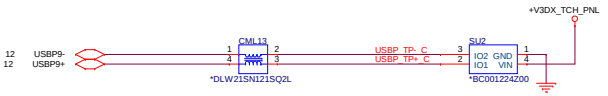
13,22,25,29,32,33,37,41,42,53 +3VPCU
2,4,10,11,12,13,14,15,16,17,18,20,22,24,27,29,30,31,34,37,39,43,49 +3V
41,42,43,44,45,46,47,48,51,52 +VIN
22 +V3.3DX_AUDIO
4,10,12,15,16,21,23,25,27,28,31,32,36,37,42,48,49,50,52 +3VS5
4,26,27,28,32,33,37,42,43,46,47,48,49,50,52 +5VS5

LCDVCC

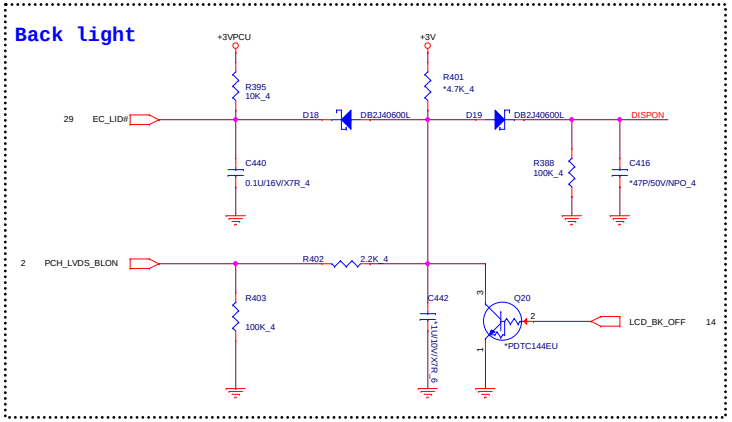


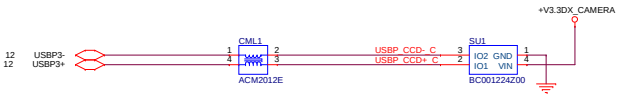
eDP only



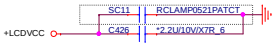


Back light

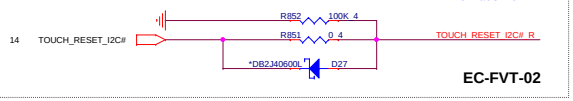




For ESD



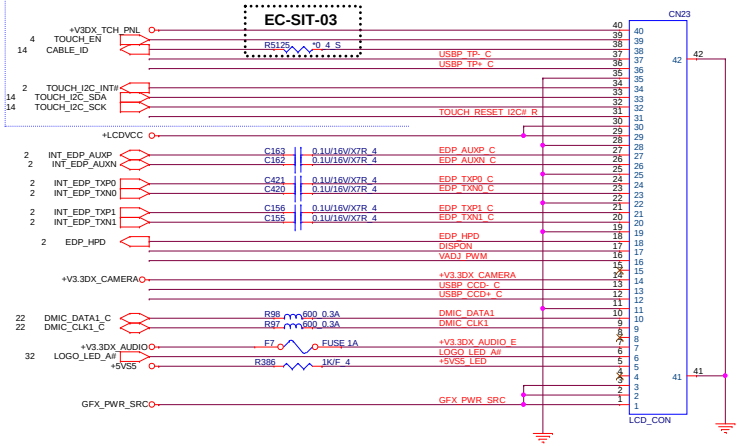
Low active



EC-FVT-02

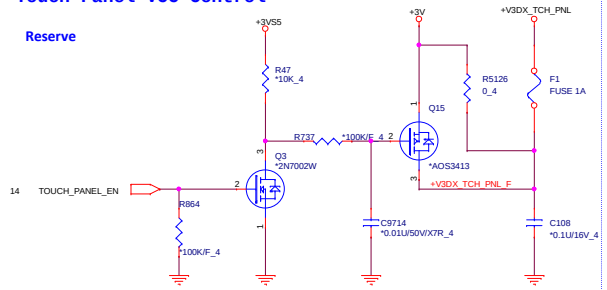
Touch Panel

EC-SIT-03



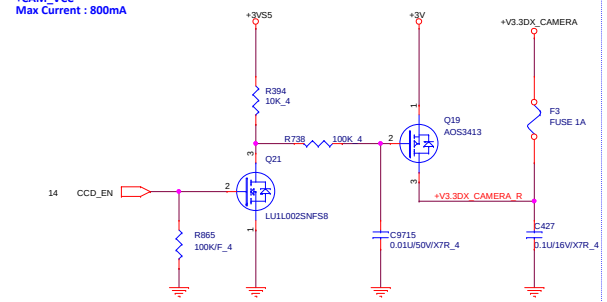
Touch Panel VCC Control

Reserve

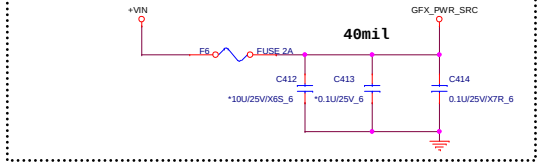


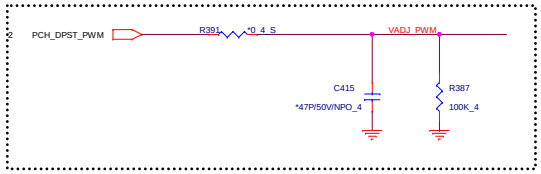
CAMERA VCC Control

+CAM_VCC
Max Current : 800mA



GFX_PWR_SRC





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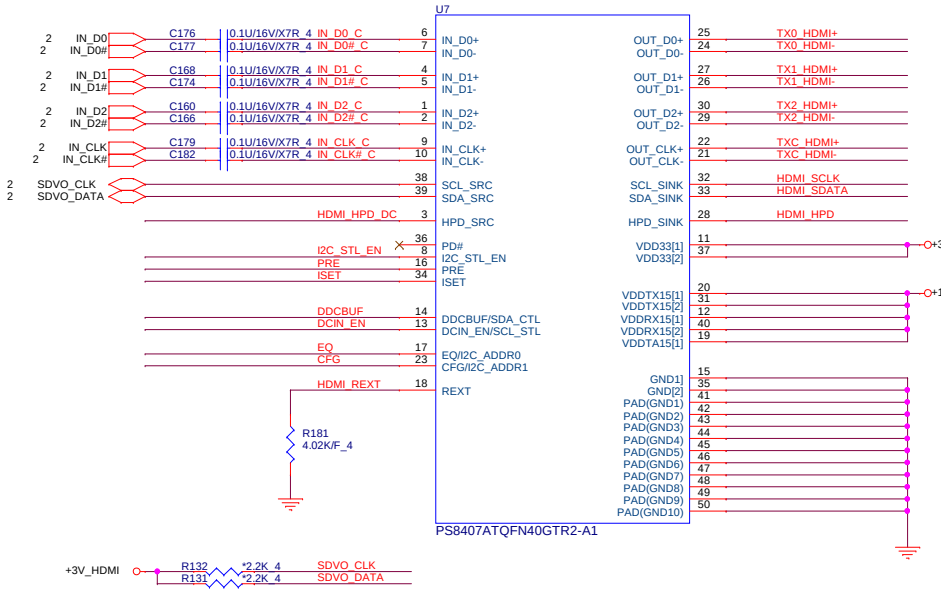
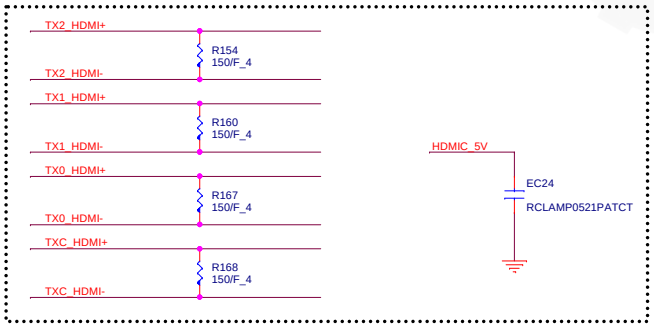
Quanta Computer Inc.	
PROJECT: PS9	
Size	Document Number: LCD/CAMERA/Touch Panel/MIC
	Rev: 1A
Date: Wednesday, July 27, 2016	Sheet 19 of 55

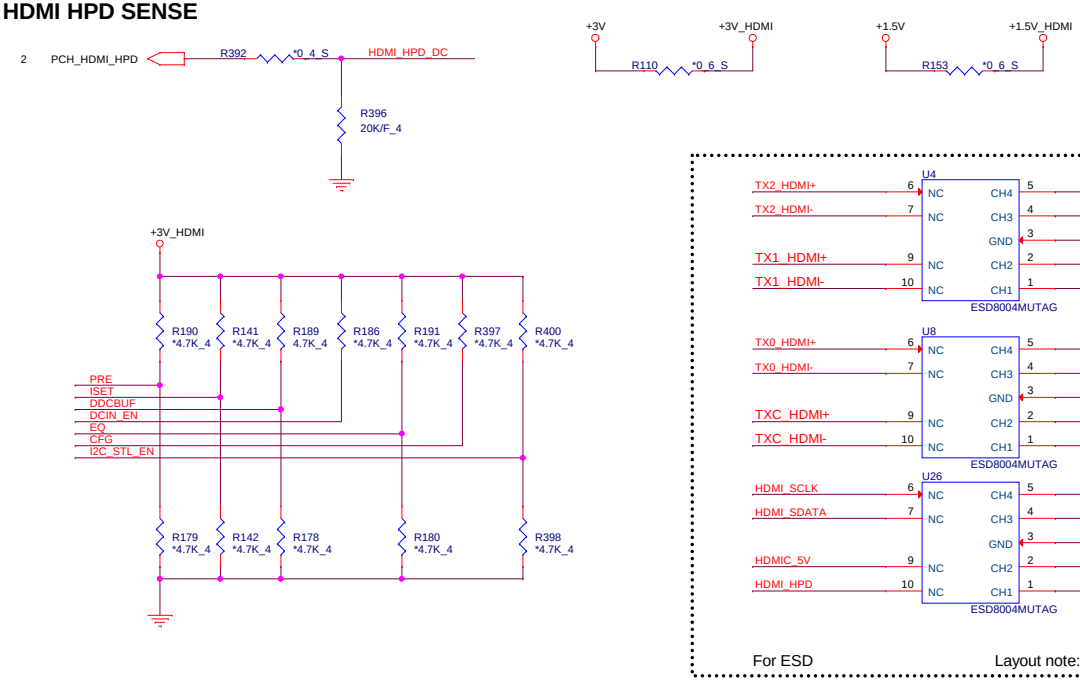
2,4,10,11,12,13,14,15,16,17,18,19,22,24,27,29,30,31,34,37,39,43,49 +3V
22,30,31,33,49 +5V
50,52 +1.5V

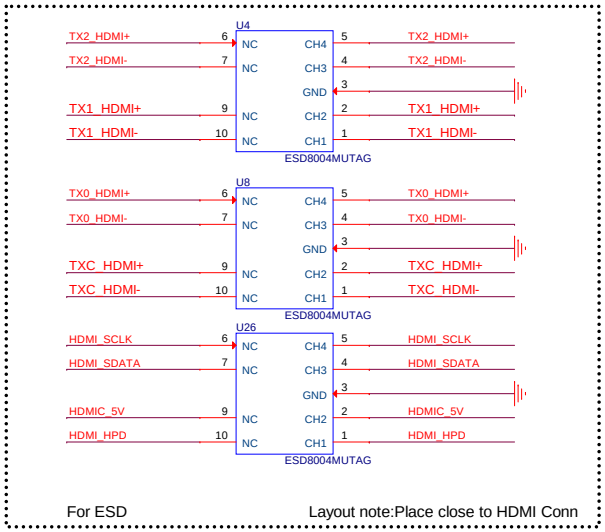


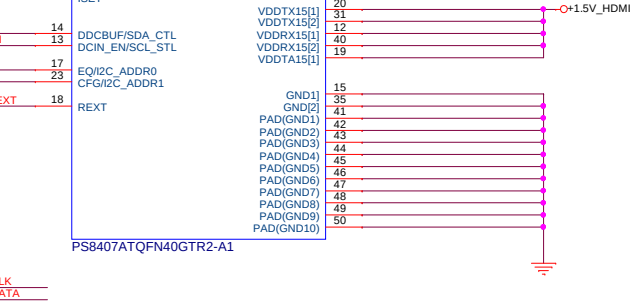
EMI reserve for HDMI

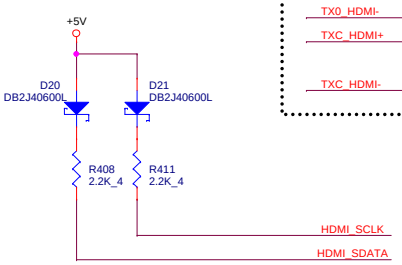


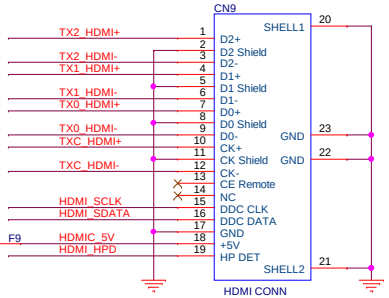
HDMI HPD SENSE

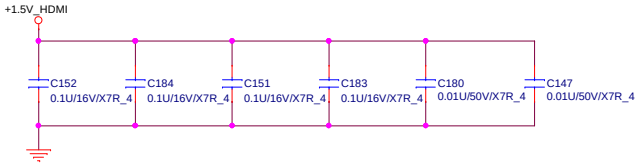


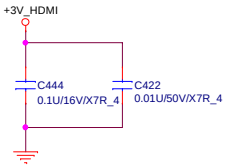












Quanta Computer Inc.		
PROJECT: PS9		
Size	Document Number: HDMI CONN	Rev: 1A
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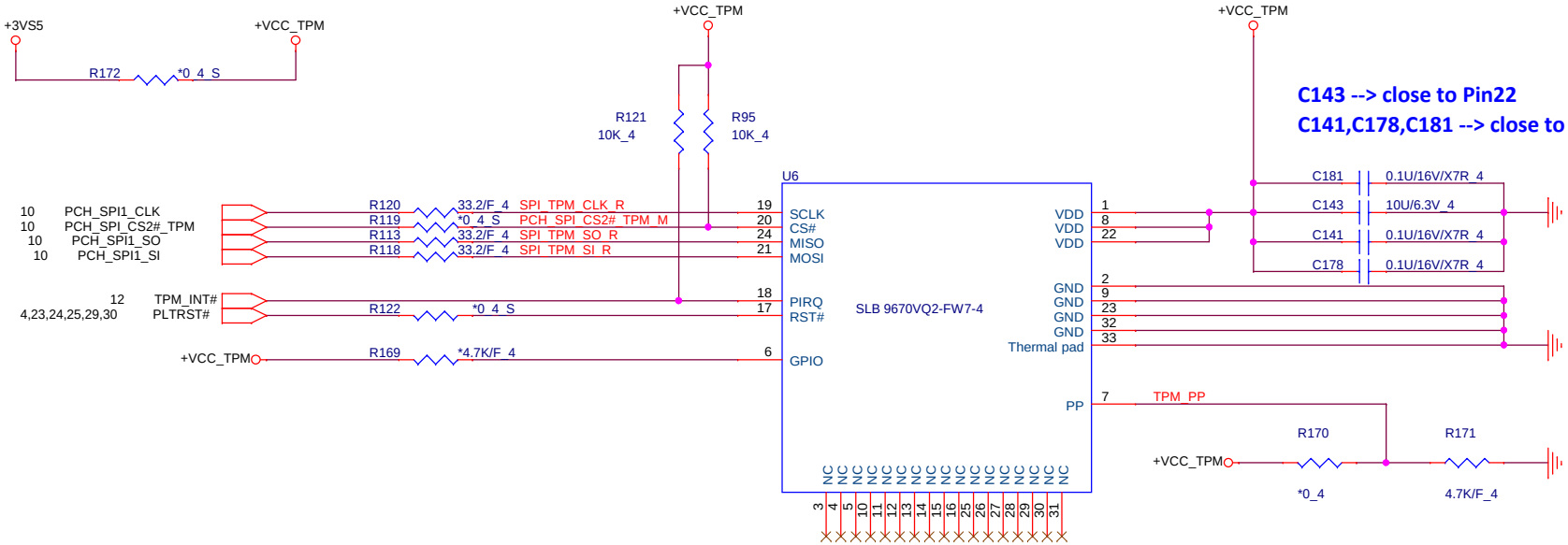
VINAFIX.COM

TPM

AL33HTPH001:ST33HTPH2E32AHA6

2,4,10,11,12,13,14,15,16,17,18,19,20,22,24,27,29,30,31,34,37,39,43,49
4,10,12,15,16,19,23,25,27,28,31,32,36,37,42,48,49,50,52

+3V
+3VS5



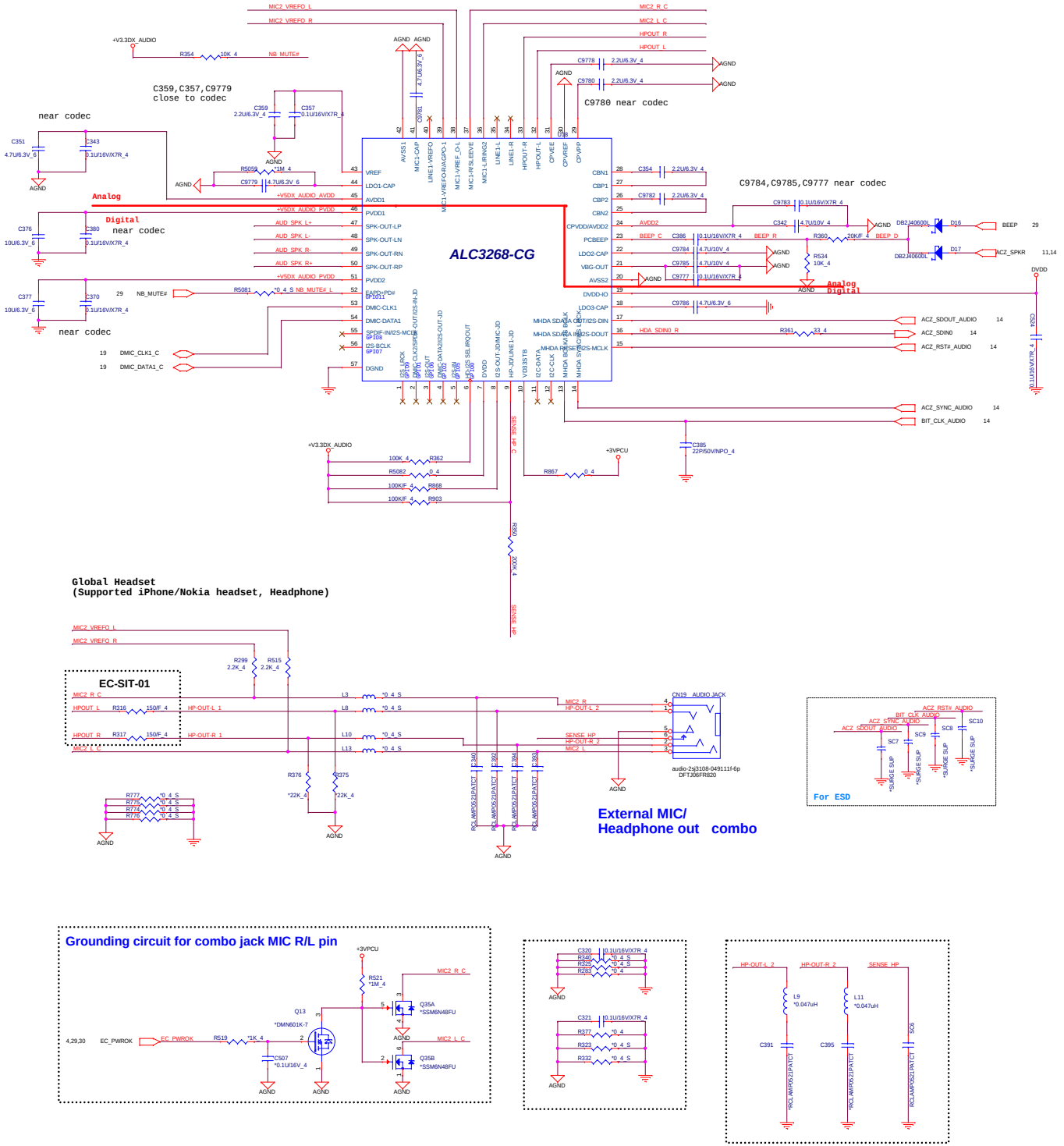
C143 --> close to Pin22
C141,C178,C181 --> close to each power pin

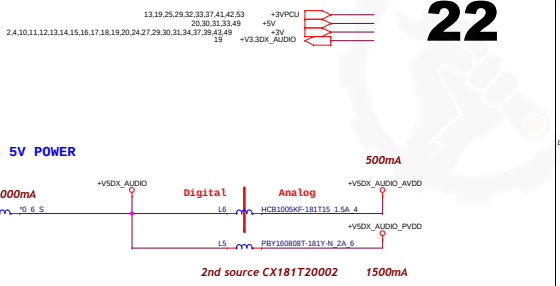
EC-SIT-07

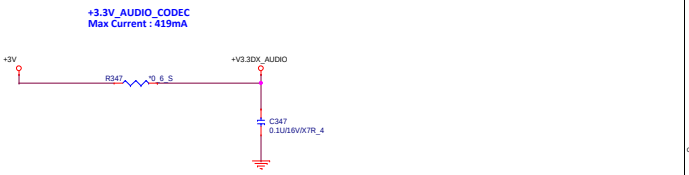
Quanta Computer Inc.		
PROJECT: PS9		
Size	Document Number: TPM/RFID	Rev: 1A
Date: Wednesday, July 27, 2016	Sheet 21 of 55	

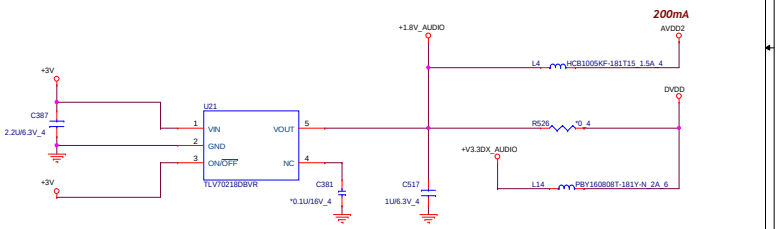
VINAFIX.COM

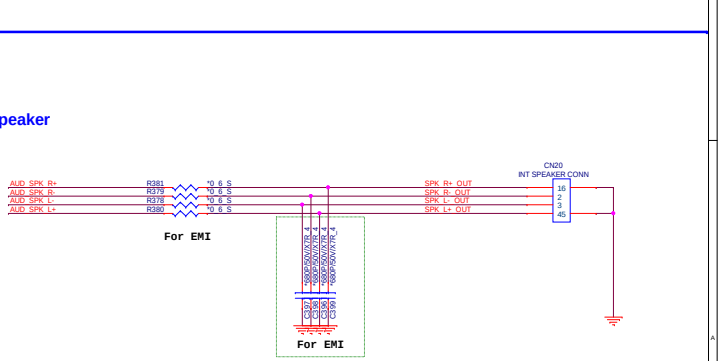
ALC3268











Quanta Computer Inc.
PROJECT: PS9

Size	Document Number	Rev
	Audio(ALC3268)	1A
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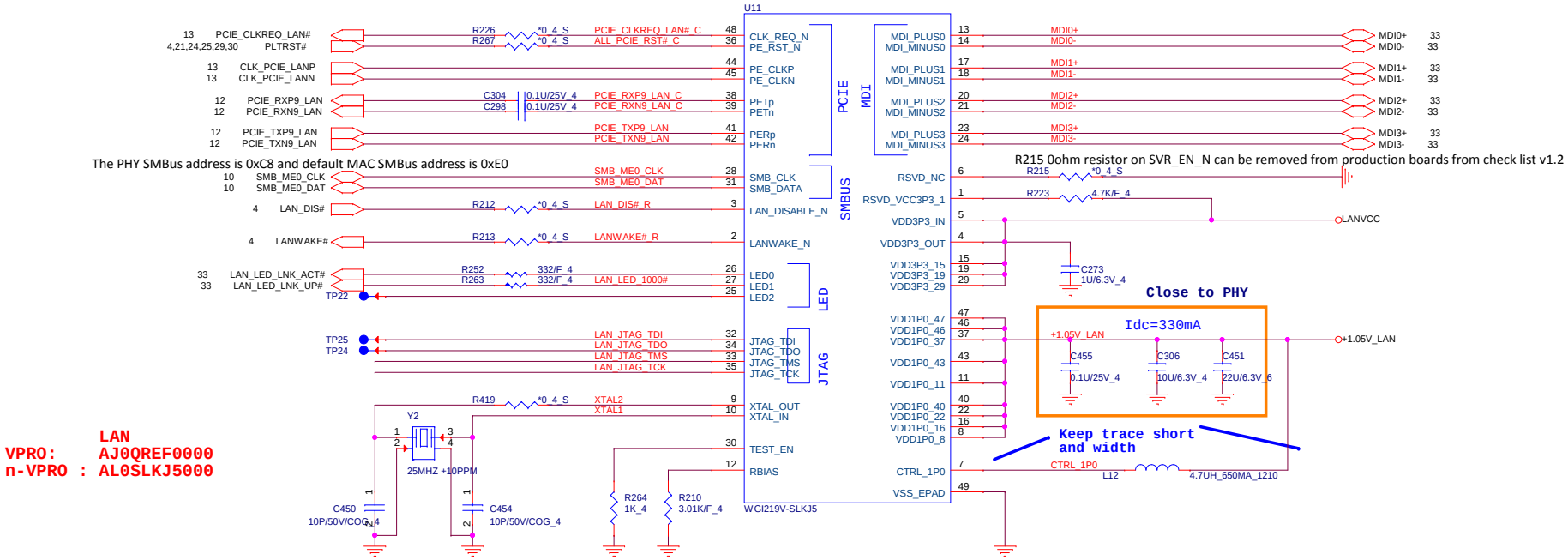
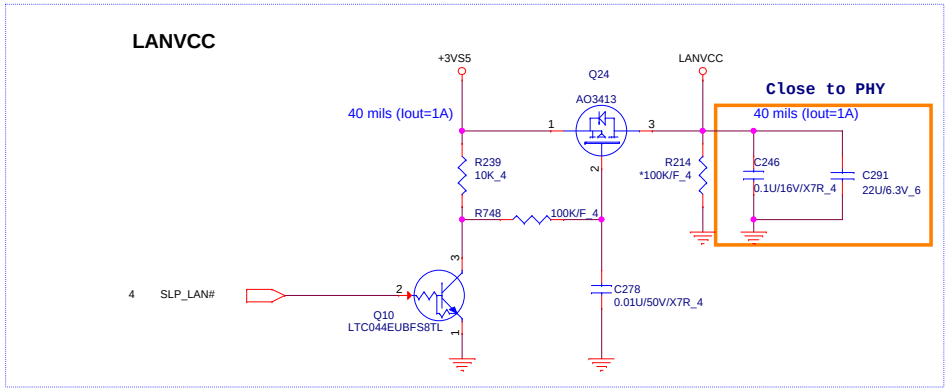
VINAFIX.COM

4,10,12,15,16,19,21,25,27,28,31,32,36,37,42,48,49,50,52 +3VS5

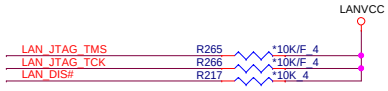


R215 0ohm resistor on SVR_EN_N can be removed from production boards from check list v1.2

LAN
VPRO: AJ0QREF0000
n-VPRO : AL0SLKJ5000



LANVCC
Trace width>60mil,
Trace length<200mil



Quanta Computer Inc.
PROJECT: PS9

Size	Document Number	Rev
	LAN Intel I219LM	1A
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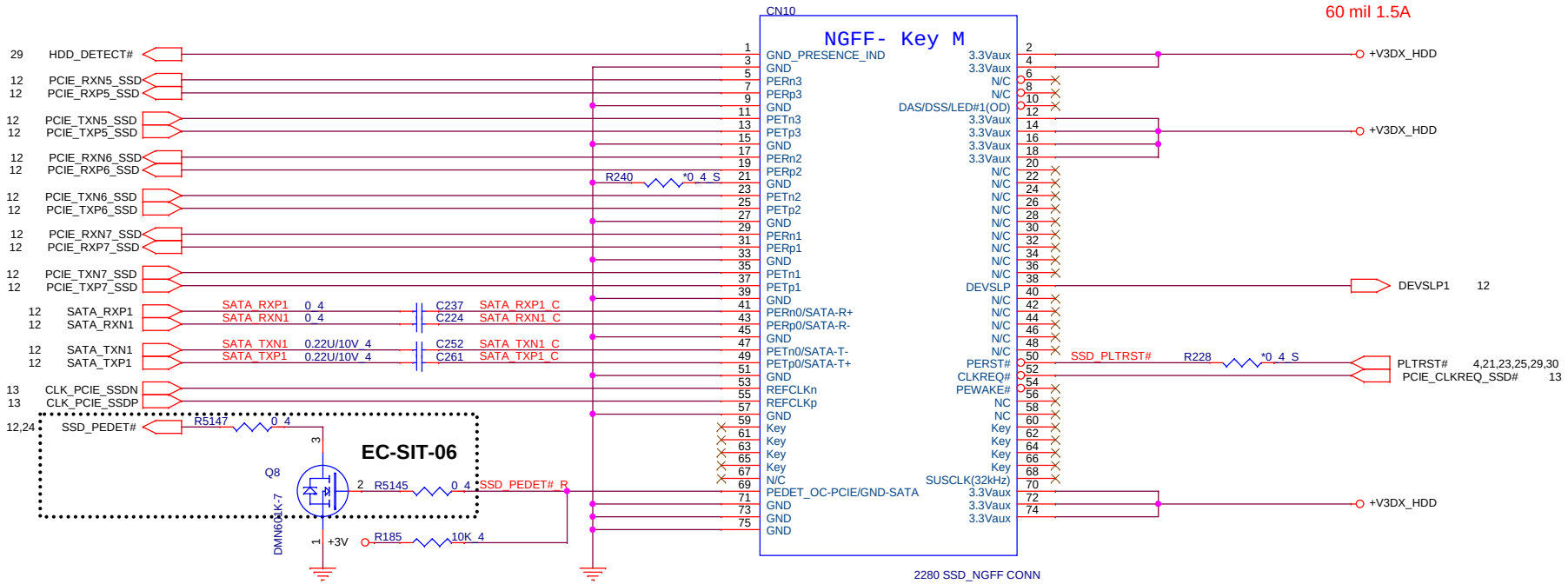
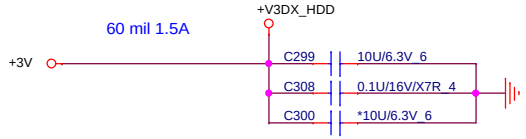
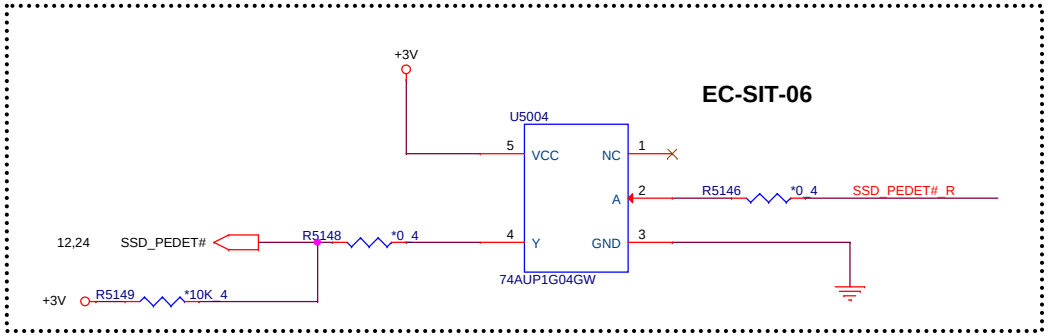
SSD M.2

2,4,10,11,12,13,14,15,16,17,18,19,20,22,27,29,30,31,34,37,39,43,49 +3V



DC Current rating: 3 A (MAX)





Quanta Computer Inc.
PROJECT: PS9

Size	Document Number	Rev
	SATA/PCIE SSD M.2	1A
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VINAFIX.COM

NGFF WiFi/BT connector
M.2 2230

4,10,12,15,16,19,21,23,27,28,31,32,36,37,42,48,49,50,52 +3VS5
13,19,22,29,32,33,37,41,42,53 +3VPCU

+3.3V_NGFF_WLAN

CN8 — NGFF Slot-A SD

		1	GND	3.3Vaux	2	
12	USBP7+	3	USB_D+	3.3Vaux	4	
12	USBP7-	5	USB_D-	LED#1 (OD)	6	
		7	GND	PCM_CLK (0/1.8V)	8	
		9	SDIO CLK(O)(0/1.8V)	PCM_SYNC (0/1.8V)	10	
		11	SDIO CMD(IO)(0/1.8V)	PCM_IN (0/1.8V)	12	
		13	SDIO DAT0(IO)(0/1.8V)	PCM_OUT (0/1.8V)	14	
		15	SDIO DAT1(IO)(0/1.8V)	LED#2 (OD)	16	
		17	SDIO DAT2(IO)(0/1.8V)	GND	18	
		19	SDIO DAT3(IO)(0/1.8V)	UART Wake(0/3.3V)	20	
		21	SDIO Wake(I)(0/1.8V)	UART Rx (0/1.8V)	22	
		23	SDIO Reset(O)(0/1.8V)	Key	24	
		25	Key	Key	26	
		27	Key	Key	28	
		29	Key	Key	30	
		31	Key	Key	32	
		33	Key	UART Tx (0/1.8V)	34	
		35	GND	UART CTS (0/1.8V)	36	
12	PCIE_TXP4_WLAN	37	PETp0	UART RTS (0/1.8V)	38	
12	PCIE_TXN4_WLAN	39	PETn0	RESERVED	40	
		41	GND	RESERVED	42	
12	PCIE_RXP4_WLAN	43	PERp0	RESERVED	44	
12	PCIE_RXN4_WLAN	45	PERn0	COEX3(?)(0/1.8V)	46	
		47	GND	COEX2(?)(0/1.8V)	48	
13	CLK_PCIE_WLANP	49	REFCLKP0	COEX1(?)(0/1.8V)	50	
13	CLK_PCIE_WLANN	51	REFCLKN0	SUSCLK(32kHz)(0/3.3V)	52	
		53	GND	PERST0#(0/3.3V)	54	
13	PCIE_CLKREQ_WLAN#	55	CLKREQ0#(0/3.3V)	W_Disable#2(0/3.3V)	56	
		57	PEWake0#(0/3.3V)	W_Disable#1(0/3.3V)	58	
		59	GND	I2C DATA(0/3.3)	60	
		61	Reserved/PETp1	I2C CLK(0/3.3)	62	
		63	Reserved/PETn1	ALERT(0/3.3)	64	
		65	GND	RESERVED	66	
		67	Reserved/PERp1	RESERVED	68	
		69	Reserved/PERn1	RESERVED	70	
		71	GND	RESERVED	72	
		73	RESERVED	3.3Vaux	74	
		75	RESERVED	3.3Vaux		
			GND			

MINICARD_PME#

10 DEBUG_LCLKOUT — *0_4_S — R156 — DEBUG_LCLKOUT_L
10,29 LPC_LFRAME# — *0_4_S — R62

R133 0_4 — CL_RST# 10
R134 0_4 — CL_DATA 10
R135 0_4 — CL_CLK 10

PLTRST# — BT_OFF_R# — WLAN_OFF_R#
PLTRST# 4,21,23,24,29,30

R66 *0_4_S — LPC_LAD0 10,29
R67 *0_4_S — LPC_LAD1 10,29
R68 *0_4_S — LPC_LAD2 10,29
R69 *0_4_S — LPC_LAD3 10,29

WiFi/BT_NGFF CONN

+3.3V_NGFF_WLAN

+3.3V_NGFF_WLAN — R63 *10K_4 — Q7 *LTC044EUBFS8TL

4 PCIE_WAKE# — R136 *0_4 — MINICARD_PME#
29 SIO_WAKE_SCI# — R137 *0_4

12 WLAN_OFF# — D6 DB2J40600L — R65 10K_4 — +3.3V_NGFF_WLAN
WLAN_OFF_R#
14 BT_RADIO_DIS# — D8 DB2J40600L — R64 10K_4
BT_OFF_R#

+3VPCU — R383 10K_4 — C411 *0.022U/25V_4 — +3VS5

+3.3V_ NGFF_WLAN
Max Current : 1000mA

+3.3V_NGFF_WLAN

R384 100K_4 — Q17 AO3413 — FUSE 2A — F2 — +3.3V_NGFF_WLAN

4 SLP_WLAN# — 0_4 R5080 — D5 *DB2J40600L — Q5 T2N7002BK
C410 0.01U/50V/X7R_4
R61 *100K/F_4
C126 *0.1U/16V/X7R_4

+3.3V_NGFF_WLAN **Place caps close to connector.**

C128 0.1U/16V/X7R_4 — C127 0.047U/10V/X7R_4 — C124 0.1U/16V/X7R_4 — C131 0.047U/10V/X7R_4 — C121 4.7U/6.3V_6

Quanta Computer Inc.
PROJECT: PS9

Size	Document Number	Rev
	Wifi/BT NGFF	1A
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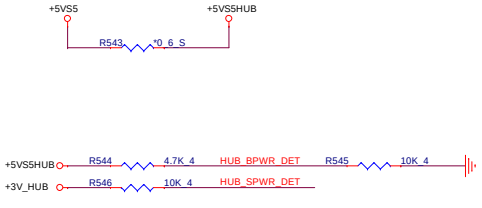
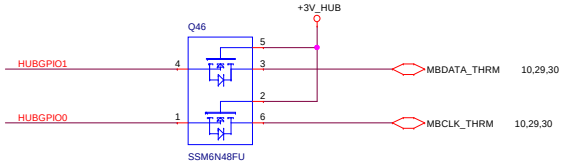
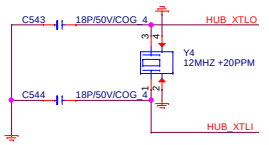
The SMBus slave address of RTS5412 is default set to be 1101010b

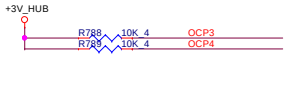


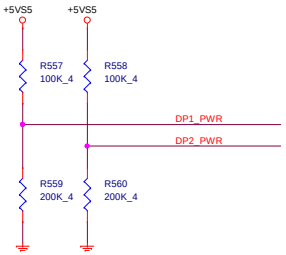


4,19,27,28,32,33,37,42,43,46,47,48,49,50,52 +5VS5

Close to U37

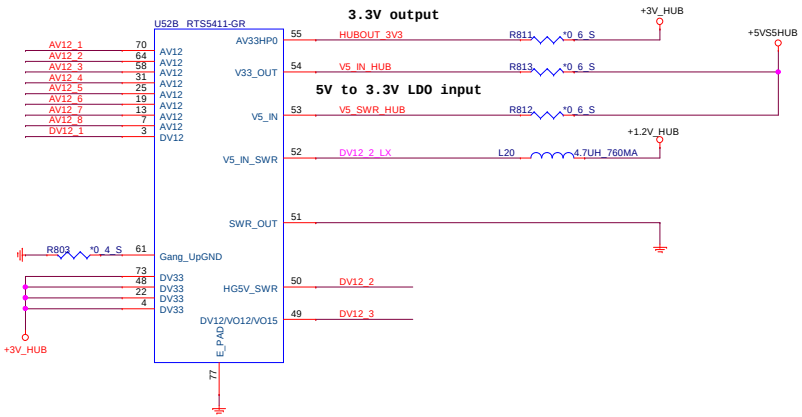


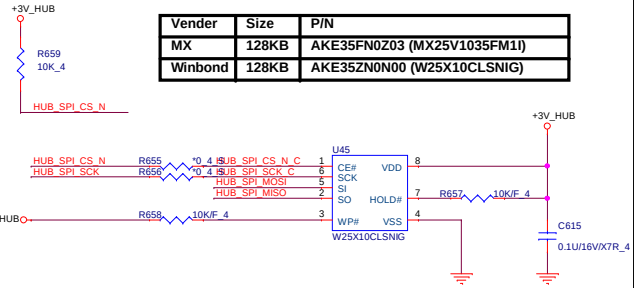




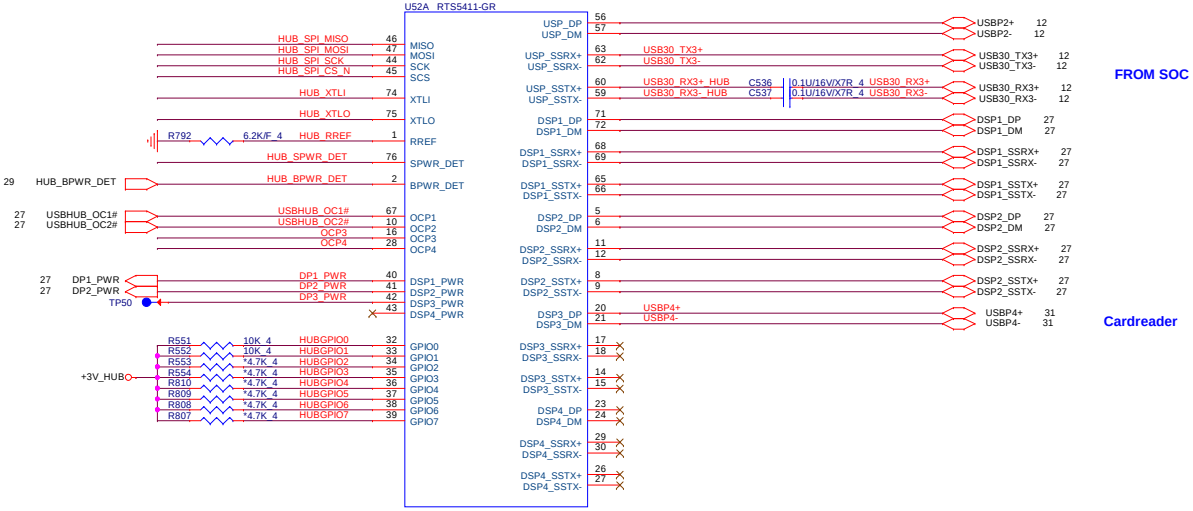
3.3V output

5V to 3.3V LDO input





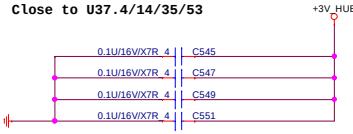
Vender	Size	P/N
MX	128KB	AKE35FN0Z03 (MX25V1035FM1I)
Winbond	128KB	AKE35ZN0N00 (W25X10CLSNIG)



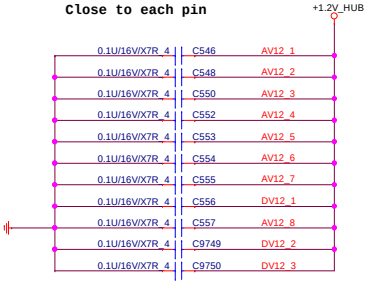
FROM SOC

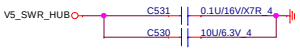
Cardreader

Close to U37.4/14/35/53

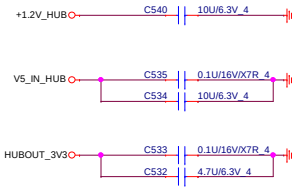


Close to each pin





Close to pin 52



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Quanta Computer Inc.

PROJECT: PS9

Size	Document Number	Rev
Custom	USB HUB-RTS5411	1A

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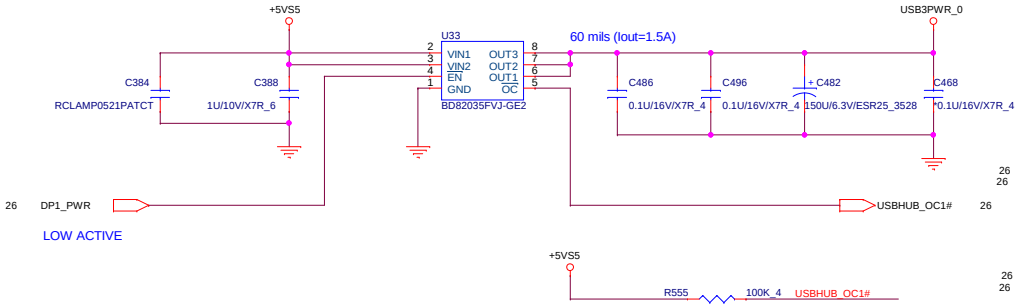
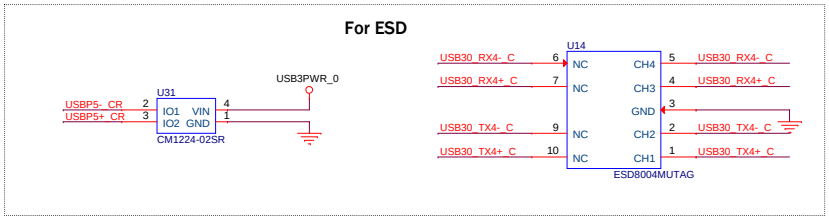
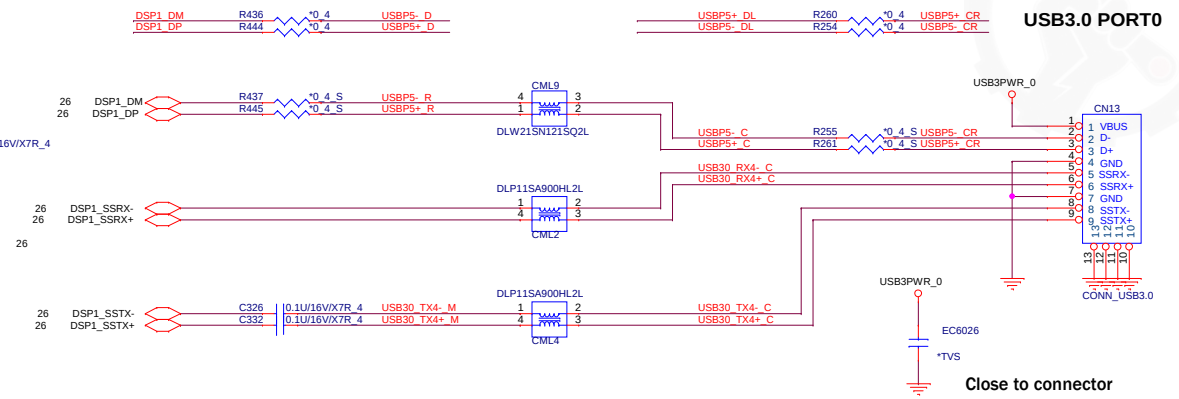
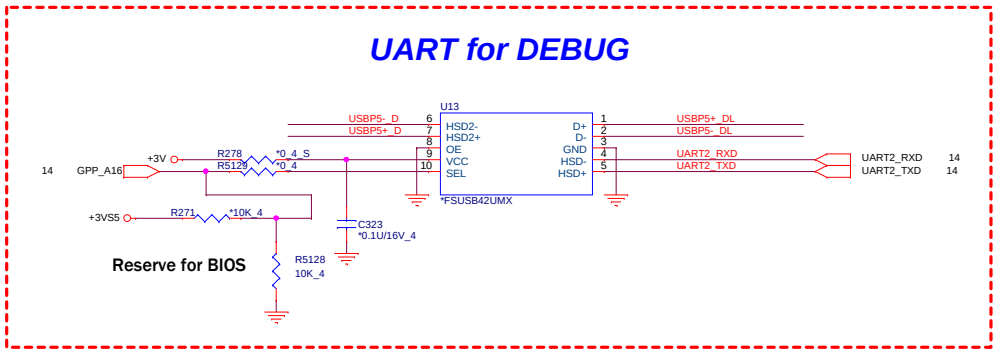
USB 3.0 Port L-side

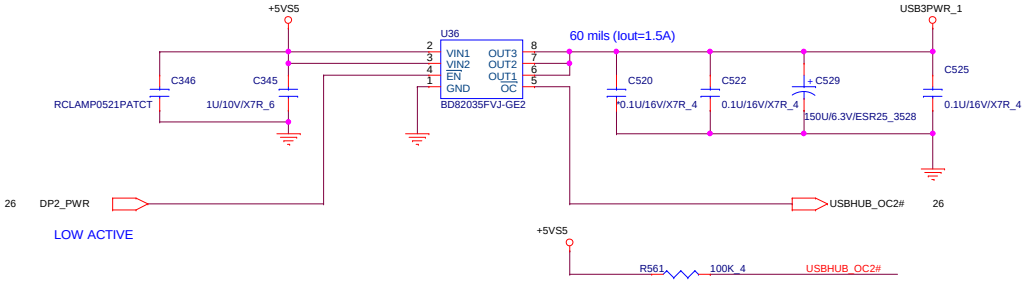


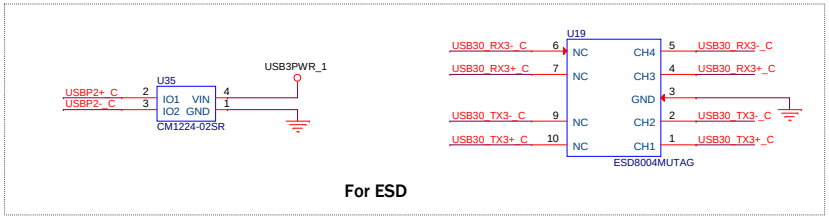


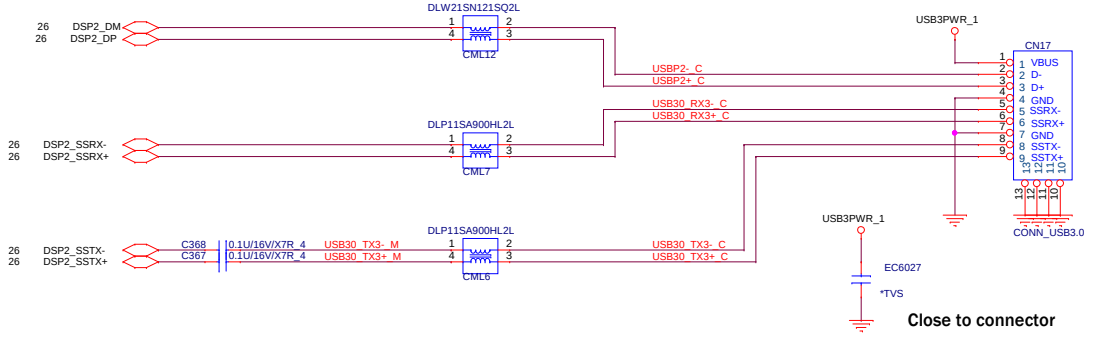




USB 3.0 Port R-side







4,19,26,28,32,33,37,42,43,46,47,48,49,50,52
2,4,10,11,12,13,14,15,16,17,18,19,20,22,24,29,30,31,34,37,39,43,49
+5VS5
+3V

27

USB3.0 PORT0

Quanta Computer Inc.		
PROJECT: PS9		
Size	Document Number	Rev
	USB3.0 X2	1A
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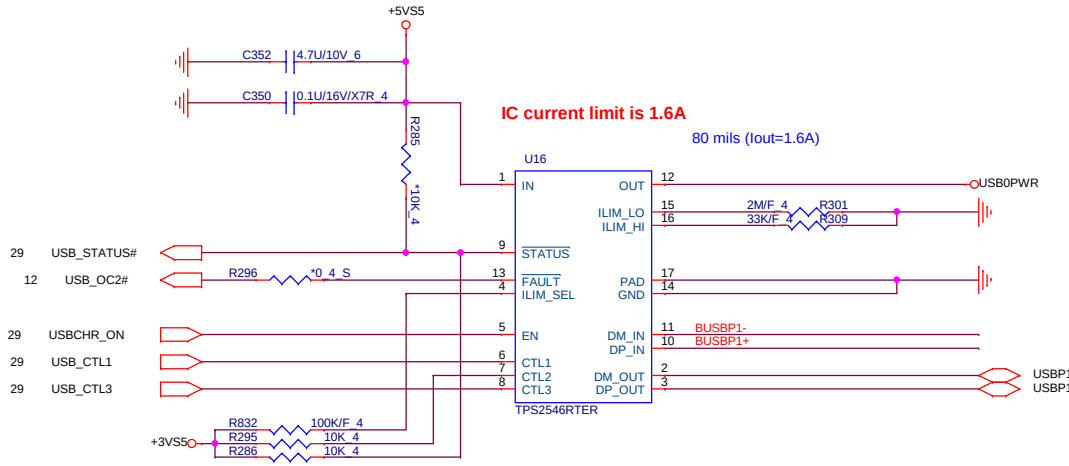
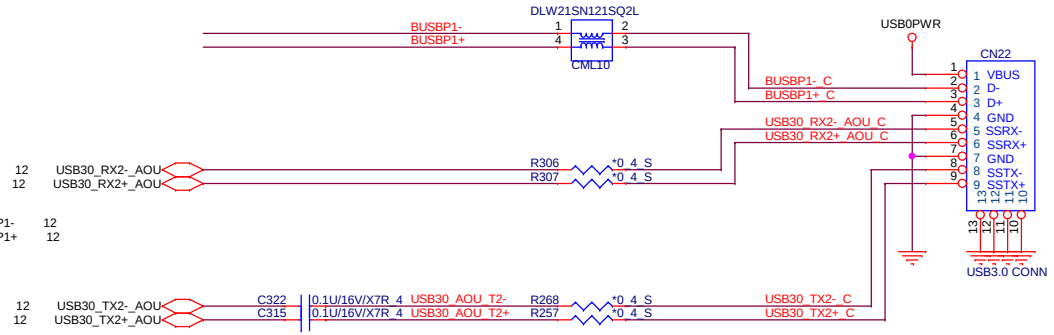
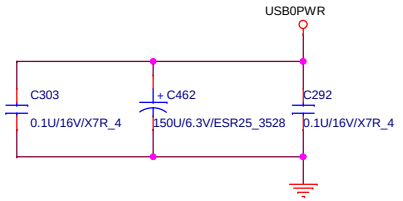
USB 3.0 Port (AOU5)

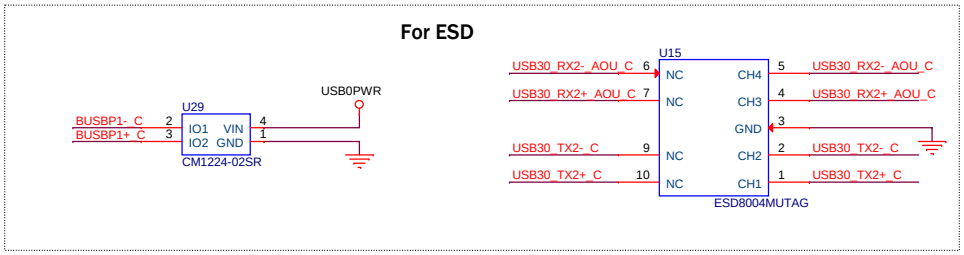
4,19,26,27,32,33,37,42,43,46,47,48,49,50,52
4,10,12,15,16,19,21,23,25,27,31,32,36,37,42,48,49,50,52
+5VS5
+3VS5

28









Quanta Computer Inc.		
PROJECT: PS9		
Size	Document Number	Rev
	UB3(AOU5)	1A
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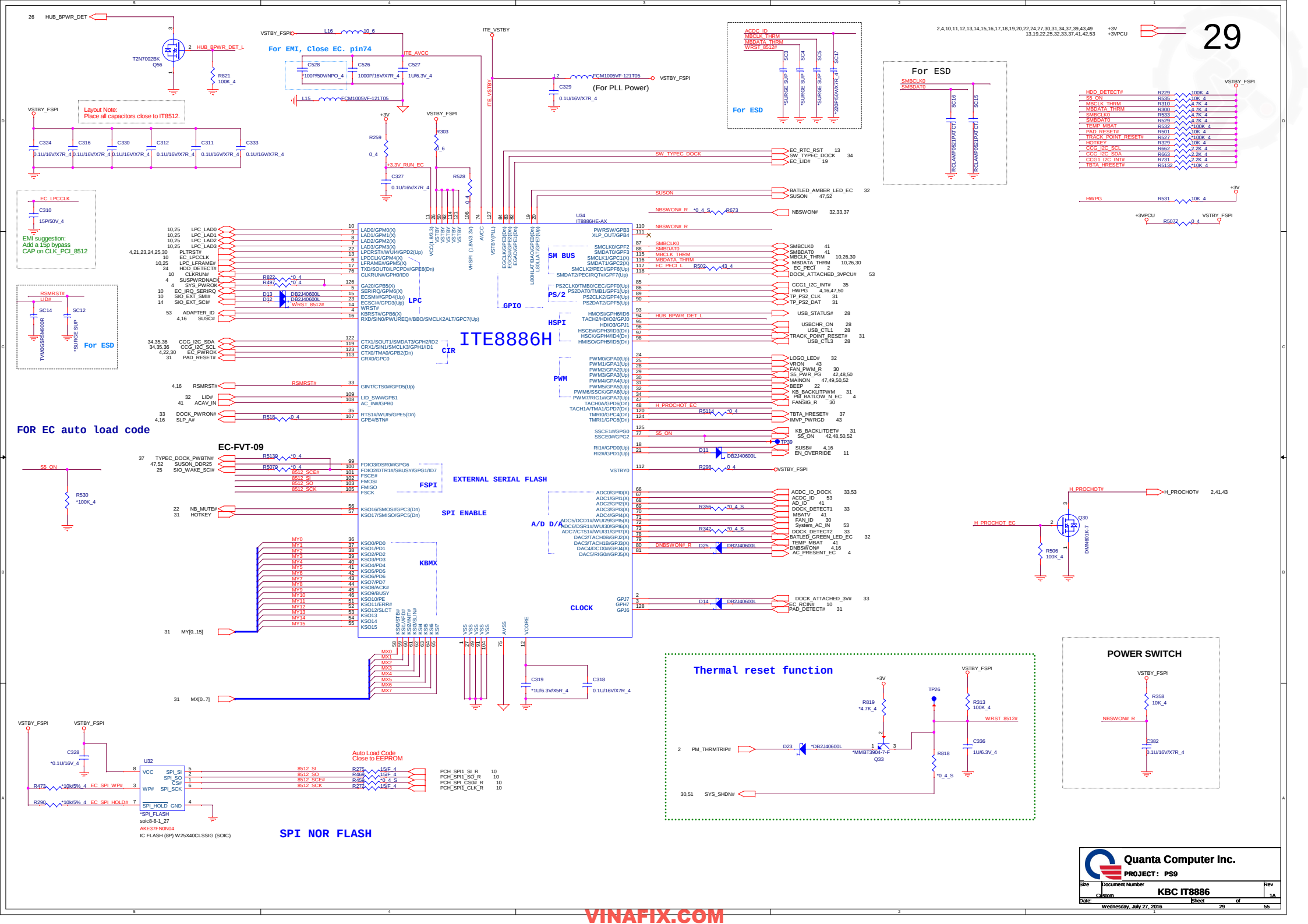
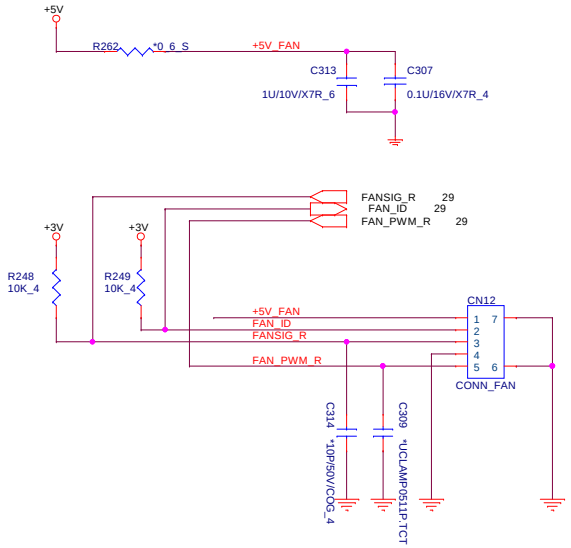
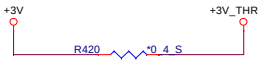
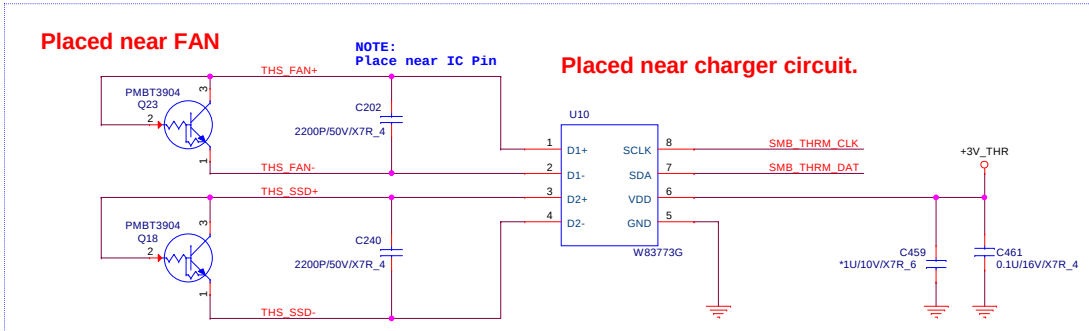

ITE8886H
LPC
GPIO
PS/2
SM BUS
HSPI
CIR
PWM
FSPI
EXTERNAL SERIAL FLASH
SPI ENABLE
A/D D/A
KBMX
CLOCK
FOR EC auto load code
EC-FVT-09
For EMI, Close EC. pin74
(For PLL Power)
For ESD
Layout Note:
Place all capacitors close to IT8512.
EMI suggestion:
Add a 15p bypass
CAP on CLK_PCI_8512
Auto Load Code
Close to EEPROM
SPI NOR FLASH
Thermal reset function
POWER SWITCH
Quanta Computer Inc.
PROJECT: PS9
KBC IT8886
Wednesday, July 27, 2016
29
55
VINAFIX.COM

FAN CONN



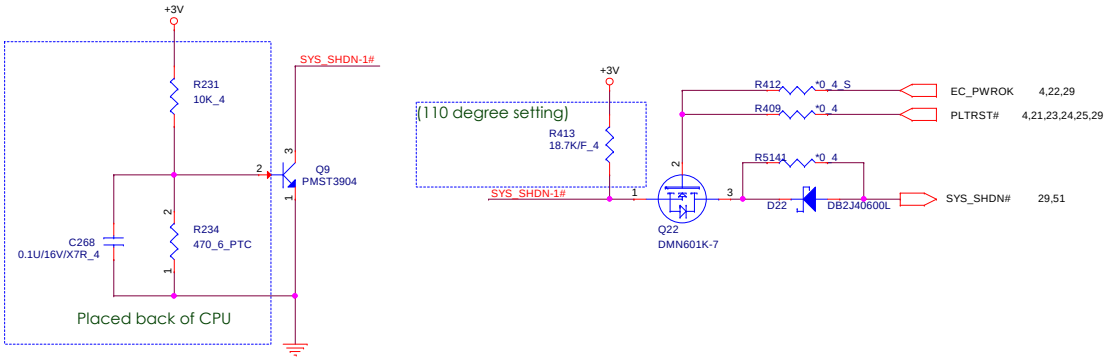
Thermal Sensor

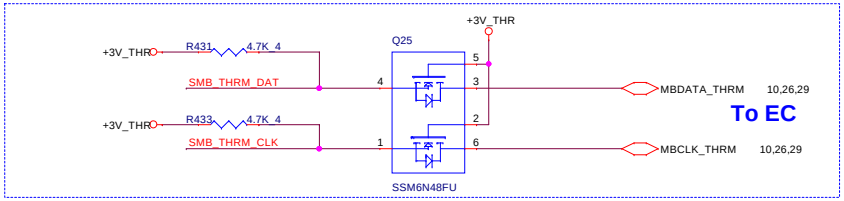




2,4,10,11,12,13,14,15,16,17,18,19,20,22,24,27,29,31,34,37,39,43,49 +3V
20,22,31,33,49 +5V

CPU PTC circuit





Quanta Computer Inc.		
PROJECT: PS9		
Size	Document Number: FAN/Thermal	Rev: 1A
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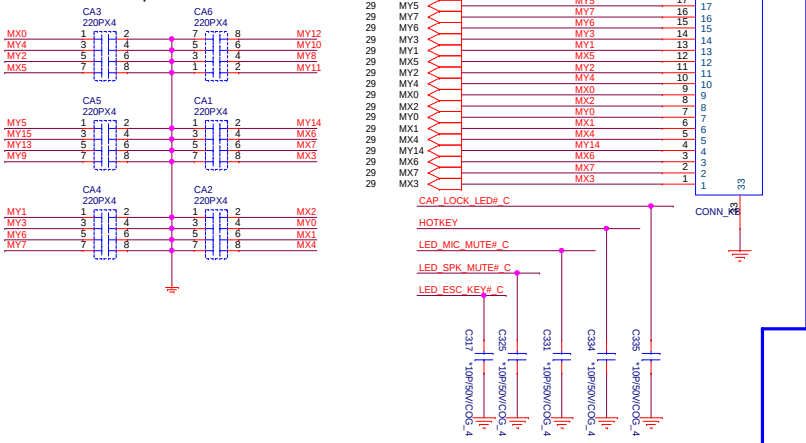
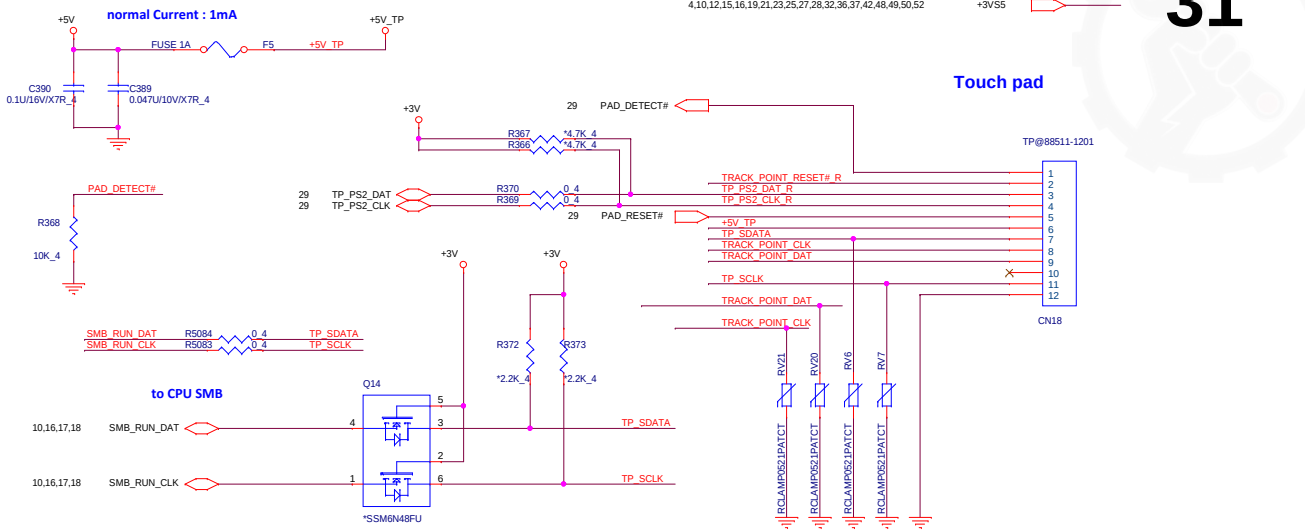
KEYBOARD

For EMI request



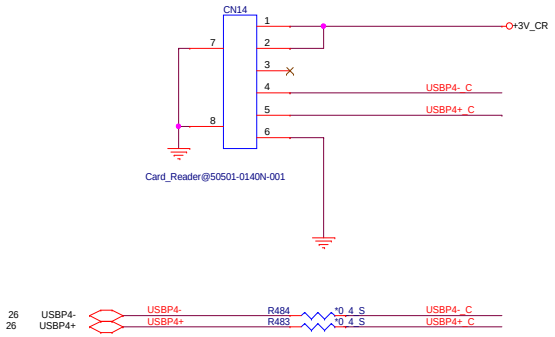
TP Control



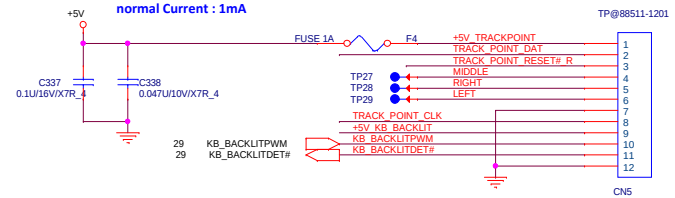
Touch pad

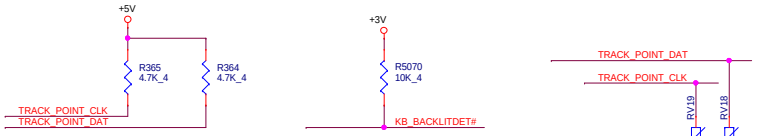
2,4,10,11,12,13,14,15,16,17,18,19,20,22,24,27,29,30,34,37,39,43,49
20,22,30,33,49
4,10,12,15,16,19,21,23,25,27,28,32,36,37,42,48,49,50,52
+3V
+5V
+3VS5

To Card Reader Board

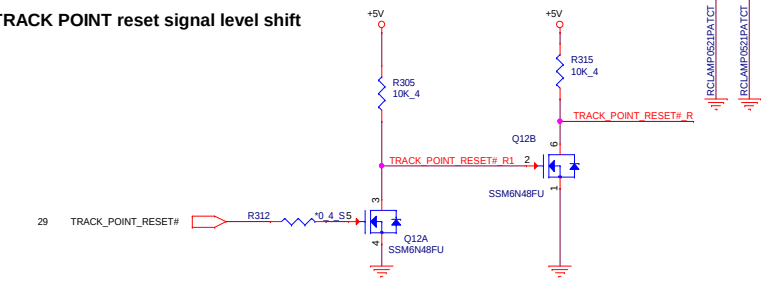


Track point

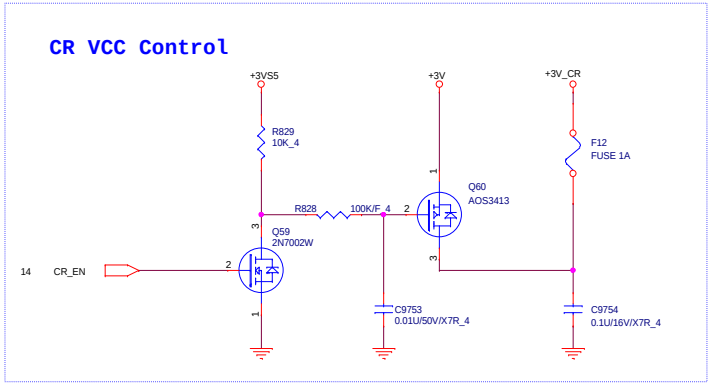




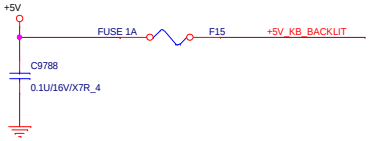
TRACK POINT reset signal level shift



CR VCC Control



KB backlit



Quanta Computer Inc.
PROJECT: PS9
Size | Document Number: KB/TP/DB | Rev: 1A
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4,19,26,27,28,33,37,42,43,46,47,48,49,50,52 +5VS5
13,19,22,25,29,33,37,41,42,53 +3VPCU
4,10,12,15,16,19,21,23,25,27,28,31,36,37,42,48,49,50,52 +3VS5

Power Switch

29,33,37 NBSWON# NBSWON# SW1 TME-533B-Q-T/R RV11 RCLAMP0521PATCT

LID Switch

+3VPCU APX8132HAI-TRG S VDD GND N OUT LID# LID# 29 U1 C2 1U/6.3V_4

LED Driver

+3VS5 R452 100K_4 R461 *100K/J_4 29 LOGO_LED# Q29 SSM6N48FU
+5VS5 R460 10K_4 R492 *0_4_S Q32 LU1L002SNFS8 LOGO_LED_C# SC13 RCLAMP0521PATCT LED_CON CN15 R503 1K/F_4 +5VS5
LOGO_LED_A# 19

to C cover logo LED

Physical Reset BTN

+3VPCU R304 1K/F_4 SW2 TME-533B-Q-T/R R297 10K_4 BAT_EN_SW PD2034 DA2J10100L BAT_EN 41 C9751 1U/6.3V_4 R704 1K/F_4 Q11 SSM6N48FU R302 *0_4 EC_PWR_OFF_1# 41,42 EC_PWR_OFF_2# 42

14 LED_MIC_MUTE
14 LED_SPK_MUTE
Q28 R457 100K_4 R456 100K_4 R282 560_4 R269 560_4 SSM6N48FU
LED_MIC_MUTE#_C 31
LED_SPK_MUTE#_C 31

14 LED_ESC_KEY
14 CAP_LOCK_LED
Q31 R455 100K_4 R481 100K_4 R256 100_4 R288 100_4 SSM6N48FU
LED_ESC_KEY#_C 31
CAP_LOCK_LED#_C 31

29 BATLED_GREEN_LED_EC
29 BATLED_AMBER_LED_EC
Q2 R57 100K_4 R51 100K_4 SSM6N48FU
BATLED_GREEN_LED#
BATLED_AMBER_LED#

BATLED_GREEN_LED# R46 82.5/F_6 BATLED_GREEN_LED#_R
BATLED_AMBER_LED# R50 210/F_4 BATLED_AMBER_LED#_R
LED1 GREEN ORANGE GREEN/ORANG-LED +3VS5
C103 RCLAMP0521PATCT C401 RCLAMP0521PATCT

Battery

Quanta Computer Inc.			
PROJECT: PS9			
Size: Custom	Document Number: LED/SW		Rev: 1A
Date: Wednesday, July 27, 2016	Sheet: 32	of: 55	

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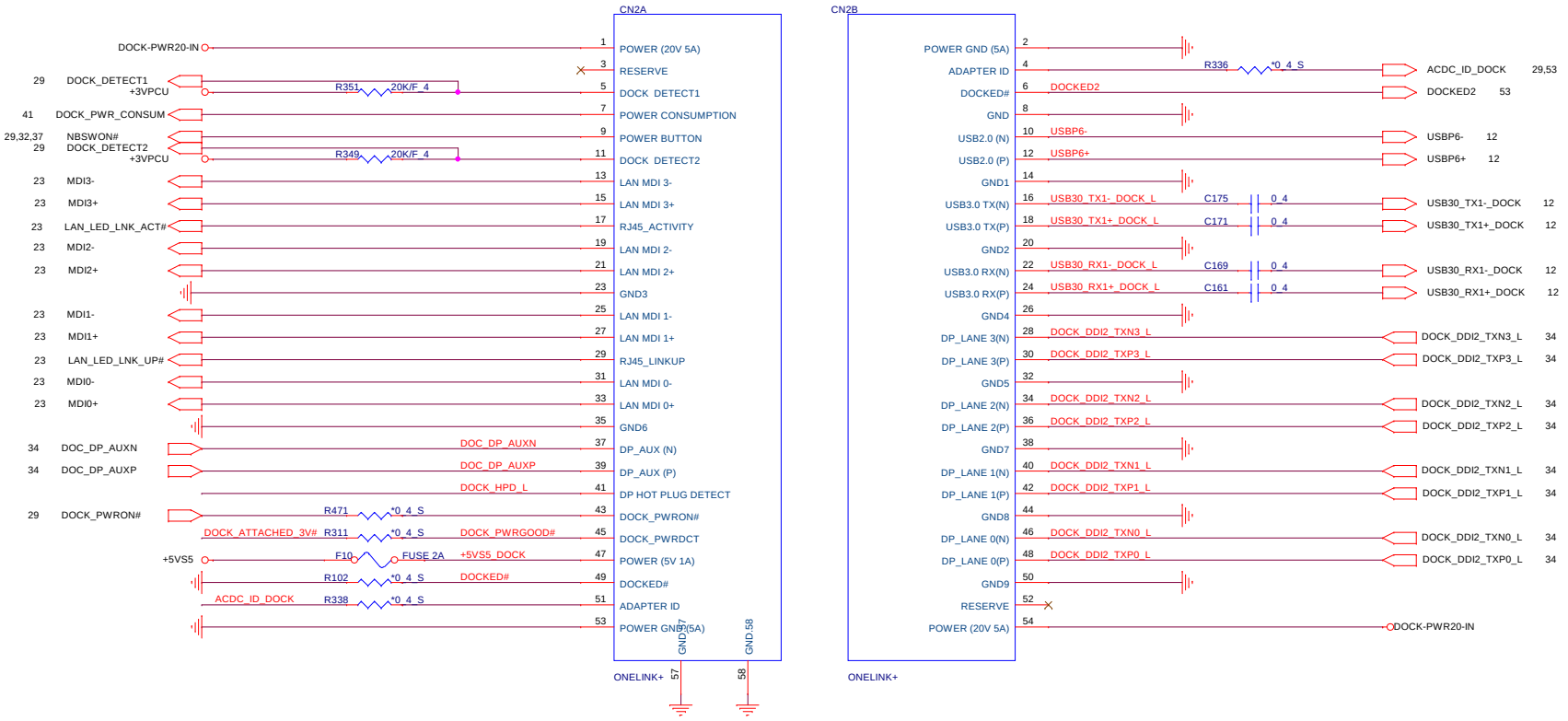
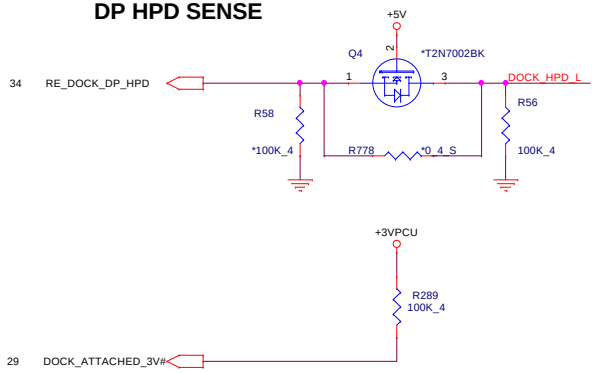
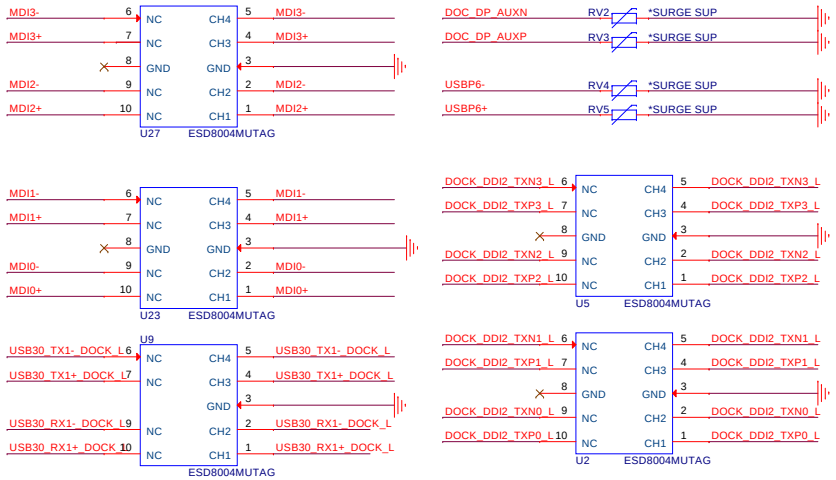
13,19,22,25,29,32,37,41,42,53 +3VPCU
20,22,30,31,49 +5V
4,19,26,27,28,32,37,42,43,46,47,48,49,50,52 +5VS5
53 DOCK-PWR20-IN

33



DP HPD SENSE





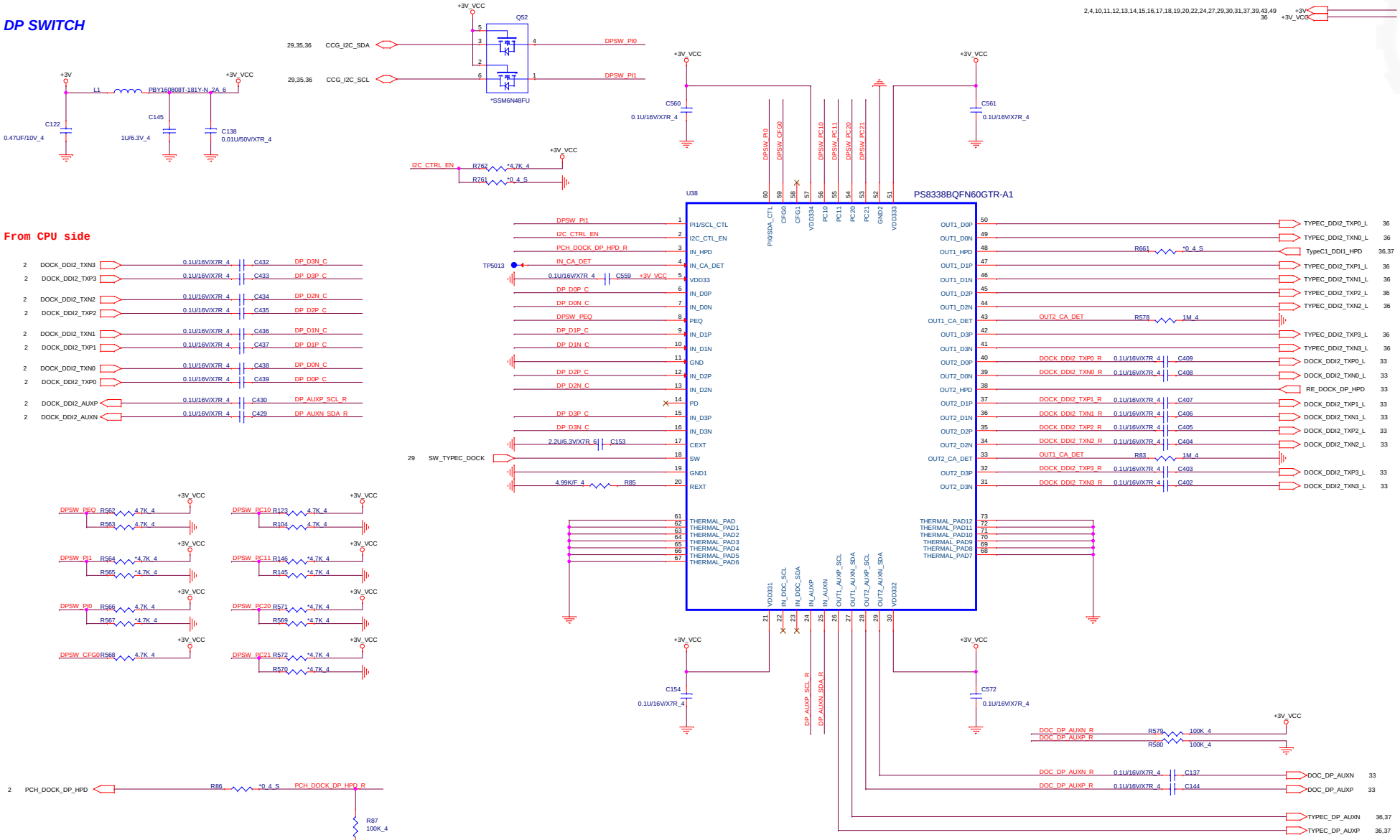
Quanta Computer Inc.

PROJECT: PS9

Size	Document Number	Rev
Custom	PROLINK	1A
Date: Wednesday, July 27, 2016	Sheet 33 of 55	

VINAFIX.COM

DP SWITCH



SW_TYPEC_DOCK	Display Priority
Low	USB Type-C
High	Docking Station

Quanta Computer Inc.
PROJECT: PS9

Size	Document Number	Rev
Custom		1A

Date: Wednesday, July 27, 2016 Sheet 34 of 55

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38 TYPEC1_USB0
37,53 VCCPD_VBUS_TI
37,38 VCC3V3_FLASH

Q5001
*SSM6N48FU
29,34,35,36 CCG_I2C_SCL
29,34,35,36 CCG_I2C_SDA
CCG_I2C_SCL_D
CCG_I2C_SDA_D
CCG_I2C_SCL_D 37
CCG_I2C_SDA_D 37
VCC3V3_FLASH
R5010 0_4
29,35 CCG1_I2C_INT#
CCG1_I2C_INT_D
CCG1_I2C_INT_D 37
Q5004
*T2N7002BK
R5015 0_4
R5016 0_4
R5018 0_4

Reserve for 40V protect

TYPEC1_USB0
LDO_5V_P
R700
*0_6
U50 *RT9058-50GX
Vcc Vout GND
D26
*SMAJ22A
C9696
*1u/50V_8
C9695
*1U/25V_6

For 40V Protection

TYPEC1_USB0
VDS: 100V
PR11623
RC1206-R010
PF3
0466005.NRHF
VCCPD_VBUS_P
PQ1
*SI4425BDY-T1-E3
VCCPD_VBUS_TI
PC3159
*0.1u/50V_6
PR296
*100K_2
PR3582
*2.2_6
PC3154
*2200P/50V_4
PR11605
*464K/F_4
PC3168
*0.1u/50V_4
PR11617
*100K_2
PR297
*100K_2
VCCPD_VBUS_P
LDO_5V_P
DC10
PU120B
*BA10393F-GE2
PU120A
*BA10393F-GE2
EC6025
*1000P/50V_2
PR135
*137K/F_4
Low: <22V , High: >22V

Quanta Computer Inc.
PROJECT: PS9
Size: Custom
Document Number: VBUS 40V PROTECT
Rev: 1A
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VINAFIX.COM

PS8743B PIN Control Mode

PS8743 Mode Selection			
CE_DP	CE_USB	FLIP	
L	L	L	Chip Power Down
L	L	H	Chip Power Down
L	H	L	USB only on SS1 channels
L	H	H	USB only on SS2 channels
H	L	L	DP only; ML0 on SSRX2
H	L	H	DP only; ML0 on SSRX1
H	H	L	USB+2lanes DP;DP ML0 on SSRX2
H	H	H	USB+2lanes DP;DP ML0 on SSRX1

DisplayPort Source

USB3.0 HOST

DisplayPort Source

TUSB546-DCI : AL000546009

PS8743BQFN40GTR-B0

C9718: POP for TI

R5119: POP for TI

R5117: POP for TI

3 PAD DESIGN(R5096/R5012 & R5093/R5017)

R5118: RESERVE for TI

R5039: RESERVE for TI

R632: TBD for TI

3 PAD DESIGN

	PS8743B	TUSB546
PIN29	4.7K	4.7K
PIN2	4.99K	DEPOP
PIN23	R5091:POP	R5091:POP
PIN35	R5092:POP	R5106:POP
PIN38	R5093:POP	R5107:POP
PIN21	R5098:POP	R5100:POP
PIN22	R5099:POP	R5101:POP
R5119	Depop	POP
R5116	POP	Depop
C9791	POP	Depop
R5117	Depop	POP
R5060	POP	Depop

DCI mode configuration pin; Internally tied to VDD33/2, 3.3V I/O.
DCICFG =
L: DCI mode disabled
H: DCI mode enabled
M: Automatic DCI mode entering enabled (

USB Type-C connector facing RX channel receiver equalization setting; Internally tied to VDD33/2, 3.3V I/O.
CEQ =
L: Compensation for channel loss up to 7dB
H: Compensation for channel loss up to 18.5dB
M: Compensation for channel loss up to 11.5dB(default)

DP Receiver equalization setting; Internal tied to VDD33/2, 3.3V I/O.
DPEQ =
L: Compensation for channel loss up to 7dB
H: Compensation for channel loss up to 14.5dB
M: Compensation for channel loss up to 10.5dB(default)

USB HOST facing TX channel De-emphasis setting. Internally pull down at 150kΩ. Tolerant to VDD_DCI only.
SSDE =
L: -3.5dB Output De-emphasis(default)
H: -6dB Output De-emphasis

USB Type-C connector facing TX channel De-emphasis setting. Internally pull down at 150kΩ. Tolerant to VDD_DCI only.
CDE =
L: -3.5dB Output De-emphasis(default)
H: -6dB Output De-emphasis

*SSM6N48FU

Quanta Computer Inc.	
PROJECT: PS9	
Size: Custom	Document Number: PS8743B PIN CONTROL
Rev: 1A	
Date: Wednesday, July 27, 2016	Sheet 36 of 55

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TPS65982(D)

PP_HV-->Tie to GND if unused

45W ADAPTER ONLY

W = 120 mils

W = 120 mils

W = 200 mils

I2C_ADDR
'0' - Sets ACE as Primary
ADDR:0X00

EC-FVT-09

Primary

Config:7 (0.7~1)

I2C_2 To EC

RESERVE CONNECT TO EC

Tie RPD_Gn to C_CCn pins to support no-power or dead-battery modes

USB2.0 ESD

8Mbit Flash (Mutual for AR and ACE)

Vender	Size	P/N
EON	1MB	AKE3GZN0Q03 (EN25Q80B-104GIP)
Winbond	1MB	AKE3GGN0N02 (W25Q80DVSNIG)
MXIC	1MB	AKE3GFP0Z01 (MX25L8006EM1I-12G)

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Type C1_HSIO_ ESD

35,37 VCC3V3_FLASH
35 TYPEC1_USB0

36 TYPEC1_TX1P_C
36 TYPEC1_TX1N_C
TYPEC1_TX1P_C — R640 0_4 — TYPEC1_TX1P_R
TYPEC1_TX1N_C — R641 0_4 — TYPEC1_TX1N_R

36 TYPEC1_RX2N
36 TYPEC1_RX2P
TYPEC1_RX2N — R644 0_4 — TYPEC1_RX2N_R
TYPEC1_RX2P — R645 0_4 — TYPEC1_RX2P_R

36 TYPEC1_TX2P_C
36 TYPEC1_TX2N_C
TYPEC1_TX2P_C — R646 0_4 — TYPEC1_TX2P_R
TYPEC1_TX2N_C — R648 0_4 — TYPEC1_TX2N_R

36 TYPEC1_RX1N
36 TYPEC1_RX1P
TYPEC1_RX1N — R651 0_4 — TYPEC1_RX1N_R
TYPEC1_RX1P — R652 0_4 — TYPEC1_RX1P_R

TYPEC1_USB0

CN21
A4 A9 VBUS VBUS1 — VBUS2 VBUS3 B4 B9
TYPEC1_TX1P_R A2 — TX1P — RX1P B11 — TYPEC1_RX1P_R
TYPEC1_TX1N_R A3 — TX1N — RX1N B10 — TYPEC1_RX1N_R
37 TYPEC_USB1D+ — TYPEC_USB1D+ A6 — DP1 — DN2 B7 — TYPEC_USB2D- — TYPEC_USB2D- 37
37 TYPEC_USB1D- — TYPEC_USB1D- A7 — DN1 — DP2 B6 — TYPEC_USB2D+ — TYPEC_USB2D+ 37
TYPEC1_RX2N_R A10 — RX2N — TX2N B3 — TYPEC1_TX2N_R
TYPEC1_RX2P_R A11 — RX2P — TX2P B2 — TYPEC1_TX2P_R
TYPEC1_SBU1 A8 — RFU1 — RFU2 B8 — TYPEC1_SBU2
TypeC1_CCG1_CC1 A5 — CC1 — CC2 B5 — TypeC1_CCG1_CC2
A1 A12 B1 B12 GND GND1 GND2 GND3 — GND4 GND5 GND6 GND7 GND8 GND9 GND10 GND11 GND12 GND13 GND14 GND15 13 14 15 16 17 18 19 20 21 22 23 24
TYPE_C_CONN

C612 0.1U/25V_4
C613 0.1U/25V_4

TYPEC1_SBU2 — R643 2M_2
TYPEC1_SBU1 — R642 2M_2

Close to connector CN21
TYPEC1_USB0 — C1019 1000P/50V/X7R_4

TYPEC1_USB0
EC6028 AZ4520-01F

U53
TYPEC1_RX1N_R — LINE-2 — LINE-1 — TYPEC1_RX1P_R
TYPEC1_TX1N_R — LINE-4 — LINE-3 — TYPEC1_TX1P_R
GND
TYPEC1_TX2N_R — LINE-5 — LINE-6 — TYPEC1_TX2P_R
TYPEC1_RX2N_R — LINE-7 — LINE-8 — TYPEC1_RX2P_R
AZ1043-08F

U54
TYPEC_USB2D+ — LINE-2 — LINE-1 — TYPEC_USB2D-
GND
TYPEC_USB1D+ — LINE-5 — LINE-6 — TYPEC_USB1D-
TYPEC1_SBU2 — LINE-7 — LINE-8 — TYPEC1_SBU1
AZ1045-08F

EC-SIT-05
EC-FVT-01

U5002
TYPEC_USB1D+ — D4 20
TYPEC_USB1D- — D3 19
GND2 18
TYPEC_USB2D- — D2 17
TYPEC_USB2D+ — D1 16
PD_TYPEC1_SBU1 1 — SBU1 — C_SBU1 15 — TYPEC1_SBU1
PD_TYPEC1_SBU2 2 — SBU2 — C_SBU2 14 — TYPEC1_SBU2
3 GND — VBIAS 13 — C9789 *1U/6.3V_2
PD_TYPEC1_CCG1_CC1 4 — CC1 — C_CC1 12 — TypeC1_CCG1_CC1
PD_TYPEC1_CCG1_CC2 5 — CC2 — C_CC2 11 — TypeC1_CCG1_CC2
VPWR 6 — FLT 7 — GND1 8 — RPD_G1 9 — RPD_G2 10 — EGND 21
*TPD8S300RUKR
VCC3V3_FLASH — R5057 *0_2
C9790 *1U/6.3V_2
R5058 *100K_4
TypeC1_CCG1_CC1
TypeC1_CCG1_CC2
VCC3V3_FLASH

EC-SIT-04

EC-FVT-01 EC-SIT-04

36,37 PD_TYPEC1_SBU1 — PD_TYPEC1_SBU1 — R5053 0_2 — TYPEC1_SBU1
36,37 PD_TYPEC1_SBU2 — PD_TYPEC1_SBU2 — R5054 0_2 — TYPEC1_SBU2
37 PD_TYPEC1_CCG1_CC1 — PD_TYPEC1_CCG1_CC1 — R5055 0_2 — TypeC1_CCG1_CC1
37 PD_TYPEC1_CCG1_CC2 — PD_TYPEC1_CCG1_CC2 — R5056 0_2 — TypeC1_CCG1_CC2

TypeC1_CCG1_CC1
TypeC1_CCG1_CC2
EC6030 AZ4520-01F
EC6029 AZ4520-01F
EC-SIT-05

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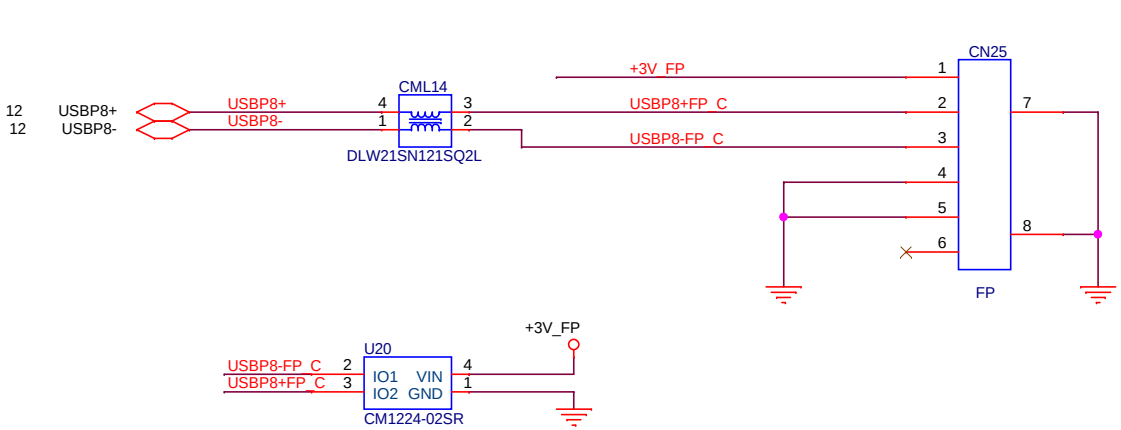
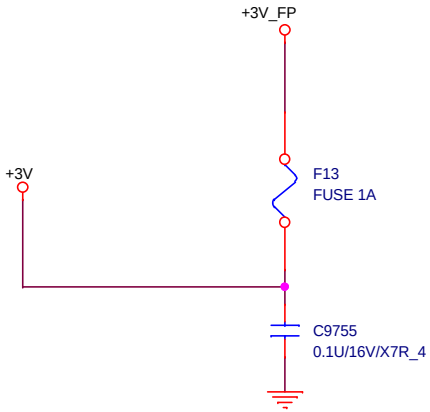
USB INTERFACE

2,4,10,11,12,13,14,15,16,17,18,19,20,22,24,27,29,30,31,34,37,43,49 +3V





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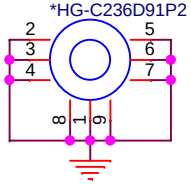

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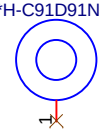

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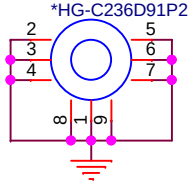

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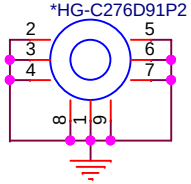

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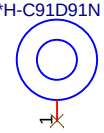

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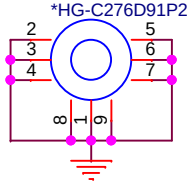

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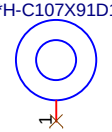

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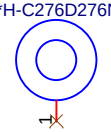

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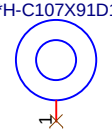

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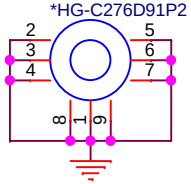

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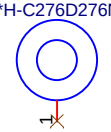

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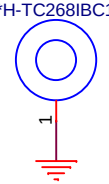

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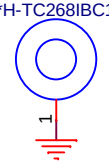

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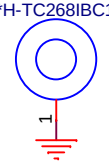

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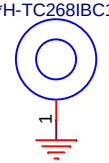

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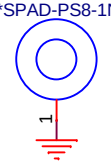

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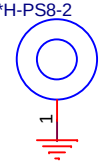

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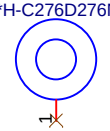

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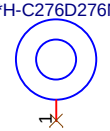

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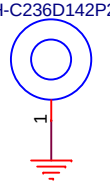

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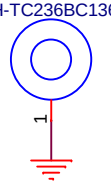

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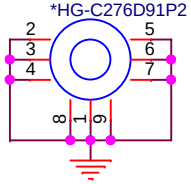

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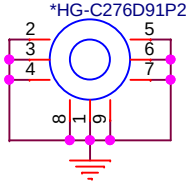

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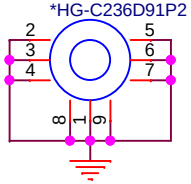

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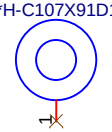

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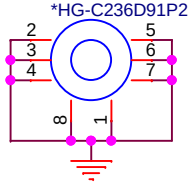

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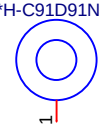

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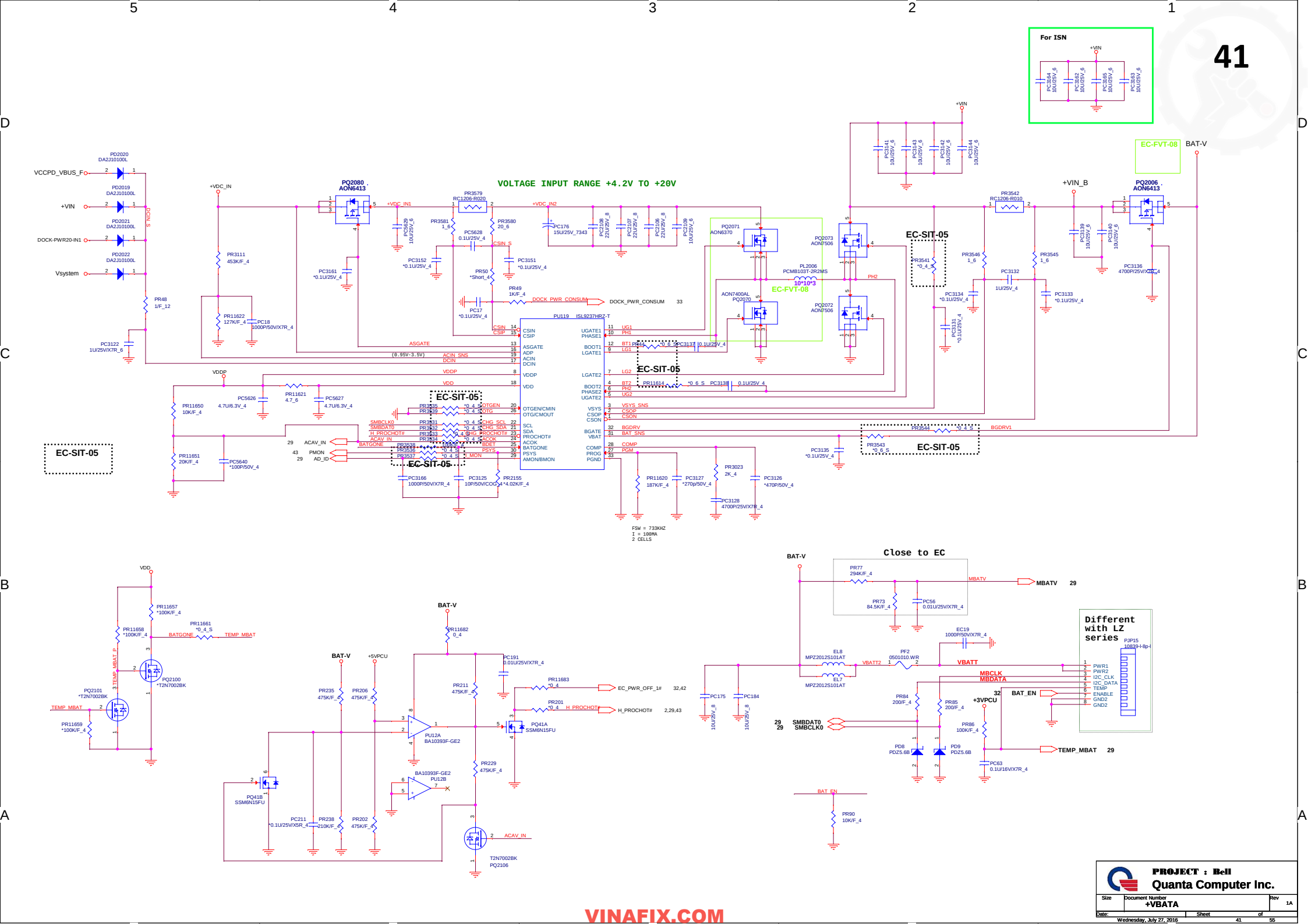
For ISN
+VIN
PC3164 10U/25V_6
PC3162 10U/25V_6
PC3165 10U/25V_6
PC3163 10U/25V_6
VOLTAGE INPUT RANGE +4.2V TO +20V
VCCPD_VBUS_F
+VIN
DOCK-PWR20-IN1
Vsystem
PD2020 DA2J10100L
PD2019 DA2J10100L
PD2021 DA2J10100L
PD2022 DA2J10100L
PR48 1/F_12
PC3122 1U/25V/X7R_6
+VDC_IN
PR3111 453K/F_4
PR11622 127K/F_4
PC18 1000P/50V/X7R_4
PQ2080 AON6413
PC3161 *0.1U/25V_4
+VDC_IN1
PC3529 10U/25V_6
PR3579 RC1206-R020
+VDC_IN2
PR3581 1_6
PC5628 0.1U/25V_4
PR3580 20_6
CSIN_S
PC3152 *0.1U/25V_4
PC3151 *0.1U/25V_4
PR50 *Short_4
PR49 1K/F_4
DOCK_PWR_CONSUM
PC17 *0.1U/25V_4
PC176 15U/25V_7343
PC2108 22U/25V_8
PC2107 22U/25V_8
PC2106 22U/25V_8
PC2105 10U/25V_6
PQ2071 AON6370
PQ2073 AON7506
PQ2072 AON7506
AON7400AL PQ2070
PL2006 PCMB103T-2R2MS
EC-FVT-08
PH2
PC3141 10U/25V_6
PC3143 10U/25V_6
PC3142 10U/25V_6
PC3144 10U/25V_6
+VIN_B
PR3542 RC1206-R010
PR3546 1_6
PR3545 1_6
PC3139 10U/25V_6
PC3140 10U/25V_6
PQ2006 AON6413
PC3132 1U/25V_4
PC3134 *0.1U/25V_4
PC3133 *0.1U/25V_4
PC3136 4700P/25V/X7R_4
PC3121 *0.1U/25V_4
PR3541 *0_4_S
EC-SIT-05
PU119 ISL9237HRZ-T
CSIN
CSIP
ASGATE
ADP
ACIN
DCIN
VDDP
VDD
OTGEN/CMIN
OTG/CMOUT
SCL
SDA
PROCHOT#
ACOK
BATGONE
PSYS
AMON/BMON
UGATE1
PHASE1
BOOT1
LGATE1
LGATE2
BOOT2
PHASE2
UGATE2
VSYS
CSOP
CSON
BGATE
VBAT
COMP
PROG
PGND
UG1
PH1
BT1
LG1
LG2
BT2
PH2
UG2
VSYS_SNS
BGDRV
BAT_SNS
PGM
ASGATE
ACIN_SNS
DCIN
(0.95V-3.5V)
VDDP
VDD
PR11650 10K/F_4
PR11651 20K/F_4
PC5626 4.7U/6.3V_4
PR11621 4.7_6
PC5627 4.7U/6.3V_4
PC5640 *100P/50V_4
PR3535 *0_4_S
PR3539 *0_4_S
PR3531 *0_4_S
PR3532 *0_4_S
PR3533 *0_4_S
PR3534 *0_4_S
PR3538 *0_4_S
PR3536 *0_4_S
PR3537 *0_4_S
OTGEN
OTG
CHG_SCL
CHG_SDA
CHG_PROCHOT#
ACOK
BDET
PSYS
MON
SMBCLK0
SMBDAT0
H_PROCHOT#
ACAV_IN
BATGONE
ACAV_IN
PMON
AD_ID
PC3166 1000P/50V/X7R_4
PC3125 10P/50V/COG_4
PR2155 *4.02K/F_4
PR11620 187K/F_4
PC3127 *270P/50V_4
PR3023 2K_4
PC3126 *470P/50V_4
PC3128 4700P/25V/X7R_4
PC3135 *0.1U/25V_4
PR3544 *0_4_S
PR3543 *0_6_S
BGDRV1
FSW = 733KHZ
I = 100MA
2 CELLS
VDD
PR11657 *100K/F_4
PR11658 *100K/F_4
PR11661 *0_4_S
BATGONE
TEMP_MBAT
TEMP_MBAT_P
PQ2100 *T2N7002BK
PQ2101 *T2N7002BK
PR11659 *100K/F_4
BAT-V
PR11682 0_4
PC191 0.01U/25V/X7R_4
PR11683 *0_4
EC_PWR_OFF_1#
PR201 *0_4
H_PROCHOT#
PR211 475K/F_4
PR235 475K/F_4
PR206 475K/F_4
PU12A BA10393F-GE2
PQ41A SSM6N15FU
PR229 475K/F_4
PU12B BA10393F-GE2
PQ41B SSM6N15FU
PC211 *0.1U/25V/X5R_4
PR238 210K/F_4
PR202 475K/F_4
ACAV_IN
T2N7002BK PQ2106
+5VPCU
Close to EC
PR77 294K/F_4
PR73 84.5K/F_4
PC56 0.01U/25V/X7R_4
MBATV
EC19 1000P/50V/X7R_4
EL8 MPZ2012S101AT
EL7 MPZ2012S101AT
PF2 0501010.WR
VBATT2
VBATT
PC175
PC184
SMBDAT0
SMBCLK0
MBCLK
MBDATA
PR84 200/F_4
PR85 200/F_4
PR86 100K/F_4
PD8 PDZ5.6B
PD9 PDZ5.6B
PC63 0.1U/16V/X7R_4
BAT_EN
TEMP_MBAT
PR90 10K/F_4
Different with LZ series
PJP15 10839-I-8p
PWR1
PWR2
I2C_CLK
I2C_DATA
TEMP
ENABLE
GND2
GND2
PROJECT : Bell
Quanta Computer Inc.
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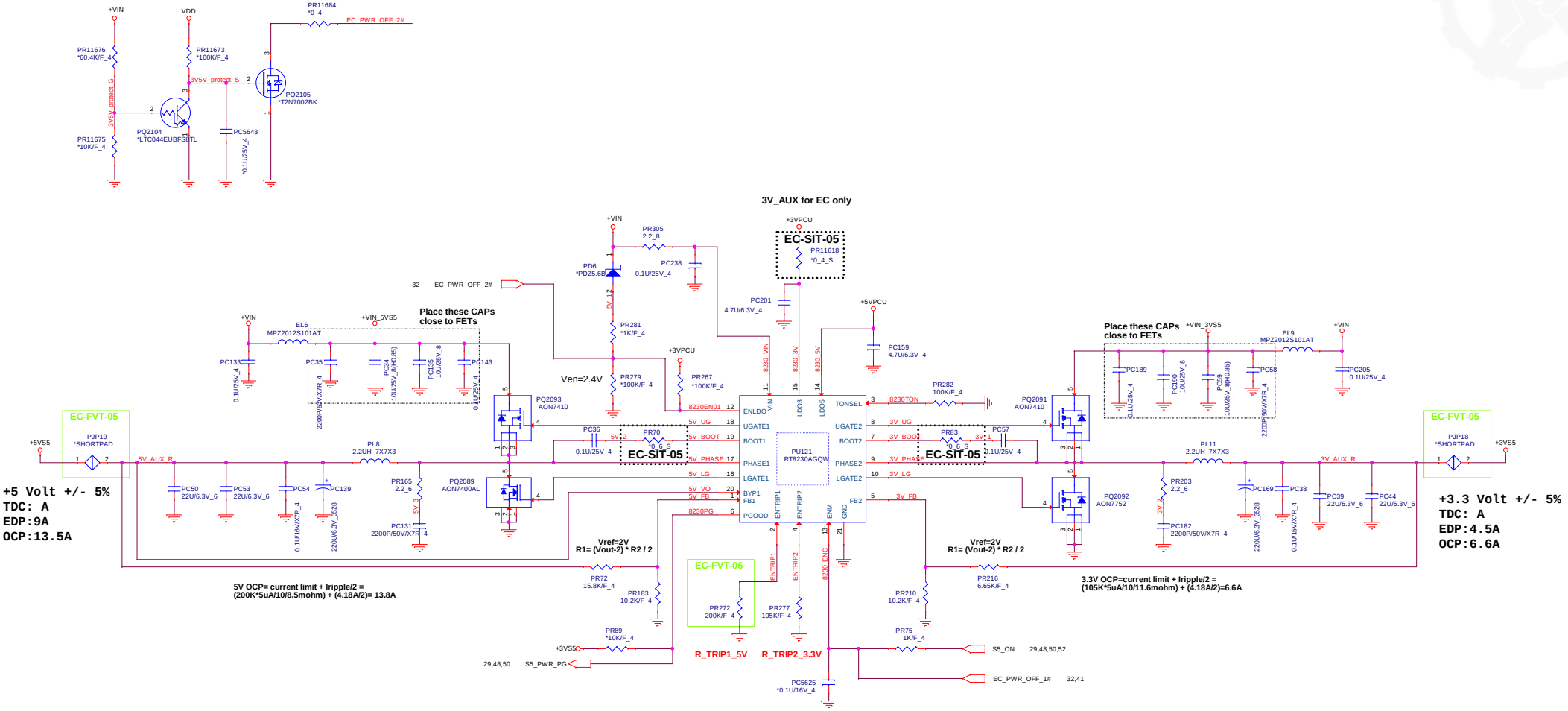
19,41,43,44,45,46,47,48,51,52 +VIN
13,19,22,25,29,32,33,37,41,53 +3VPCU
4,10,12,15,16,19,21,23,25,27,28,31,32,36,37,48,49,50,52 +3VS5
4,19,26,27,28,32,33,37,43,46,47,48,49,50,52 +5VS5



Power On sequencing

ENLD0	ENM	REF	VREG3	VREG5	SMPS1	SMPS2
LOW	LOW	OFF	OFF	OFF	OFF	OFF
> 1V	LOW	ON	ON	ON	OFF	OFF
> 1V	> 2.3V	ON	ON	ON	ON	ON

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Quanta Computer Inc.

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	V5A_V3P3A	1A

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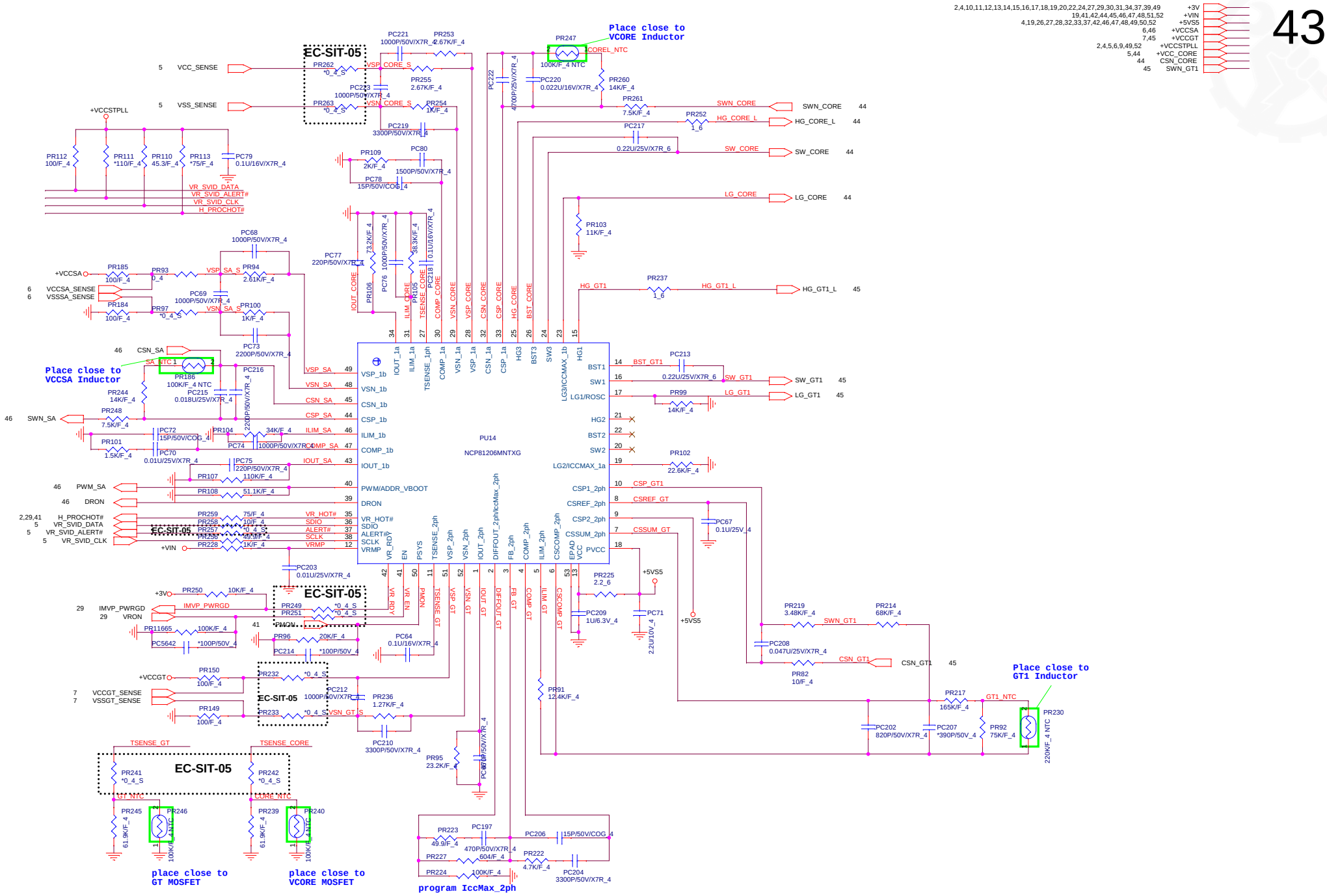

2,4,10,11,12,13,14,15,16,17,18,19,20,22,24,27,29,30,31,34,37,39,49 +3V
19,41,42,44,45,46,47,48,51,52 +VIN
4,19,26,27,28,32,33,37,42,46,47,48,49,50,52 +5VS5
6,46 +VCCSA
7,45 +VCCGT
2,4,5,6,9,49,52 +VCCSTPLL
5,44 +VCC_CORE
44 CSN_CORE
45 SWN_GT1

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	VCC - RT8175A	1A

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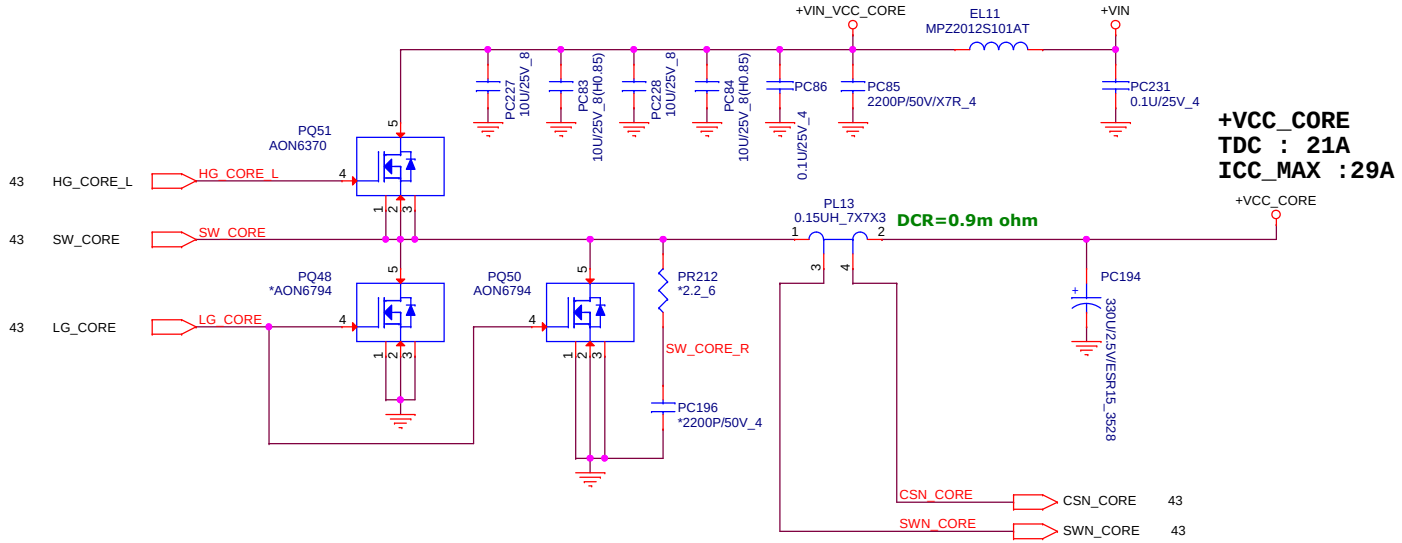
19,41,42,43,45,46,47,48,51,52 +VIN
5 +VCC_CORE

44



+VCC_CORE
TDC : 21A
ICC_MAX :29A

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Quanta Computer Inc.

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	VGG - RT8175A	1A
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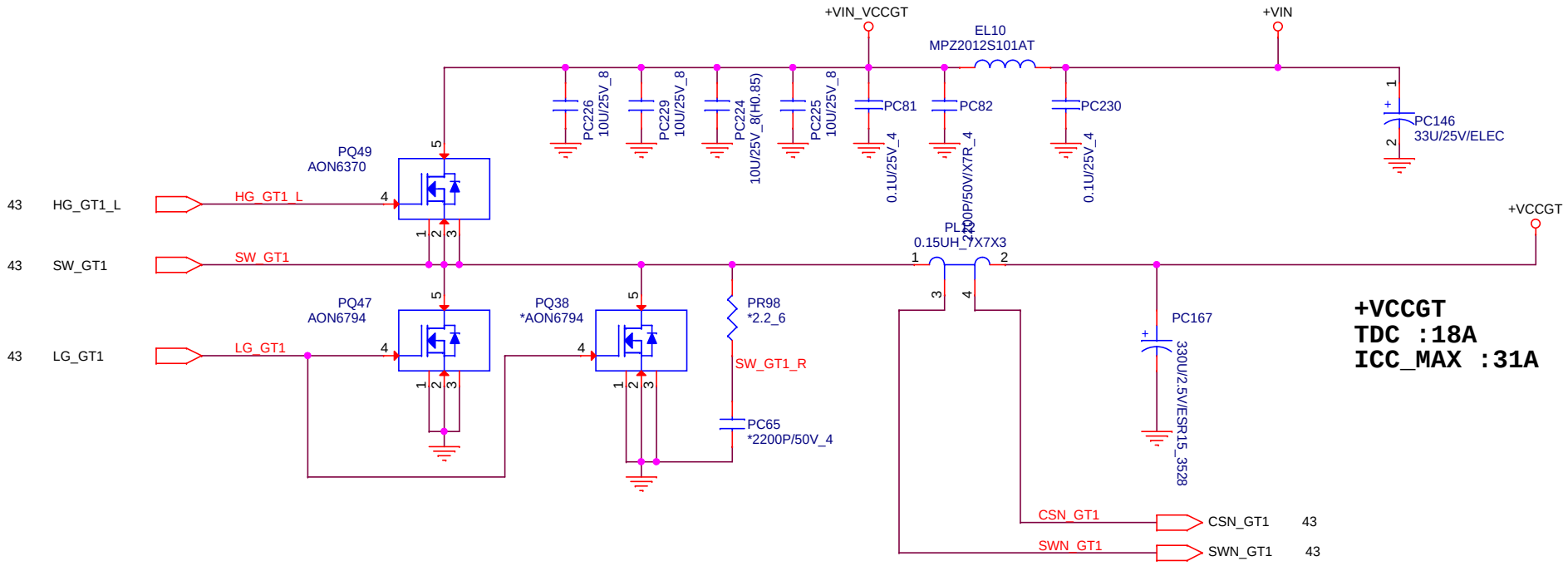
VINAFIX.COM

19,41,42,43,44,46,47,48,51,52 +VIN
7,43 +VCCGT



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Quanta Computer Inc.

<Title>

Size: CustomDocument Number: Rev: 1A

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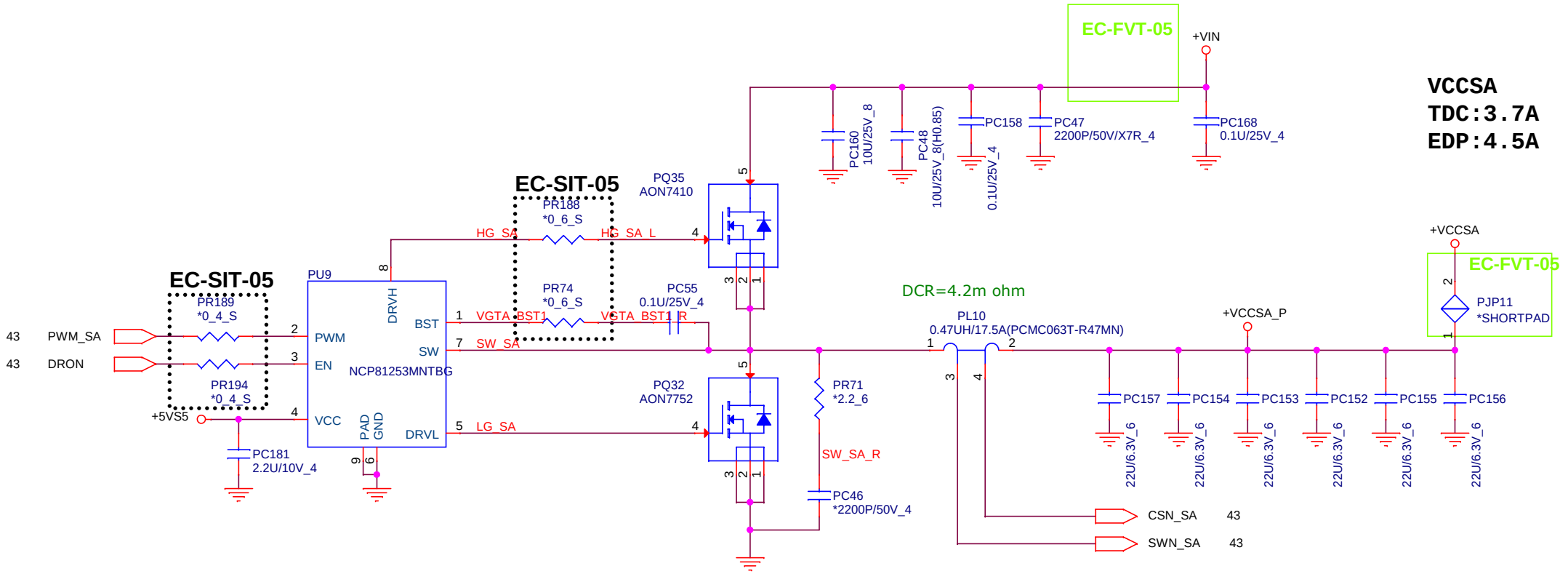
VINAFIX.COM

VCCSA

19,41,42,43,44,45,47,48,51,52 +VIN
6,43 +VCCSA
4,19,26,27,28,32,33,37,42,43,47,48,49,50,52 +5VS5



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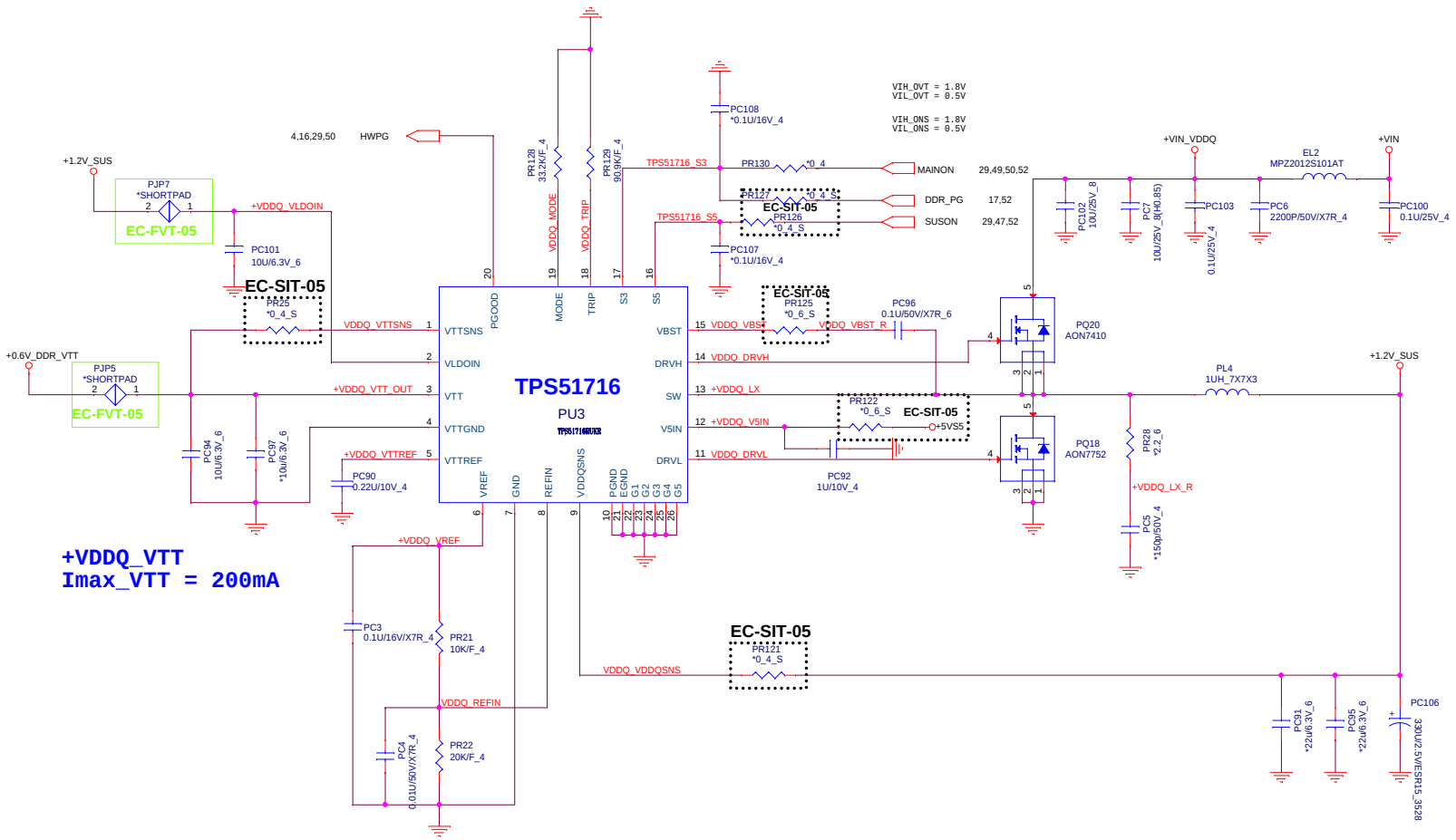
VINAFIX.COM

Fsw=500kHz

VR PAGE: +VDDQ

19,41,42,43,44,45,46,48,51,52 +VIN
4,19,26,27,28,32,33,37,42,43,46,48,49,50,52 +5VS5
2,4,10,11,12,13,14,15,16,17,18,19,20,22,24,27,29,30,31,34,37,39,43,49 +3V
3,6,17,18,52 +1.2V_SUS
17,18,52 +0.6V_DDR_VTT



+1.2V_SUS
TDC: A
EDP:5.5A

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Quanta Computer Inc.

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	VDDQ - TPS51716	1A
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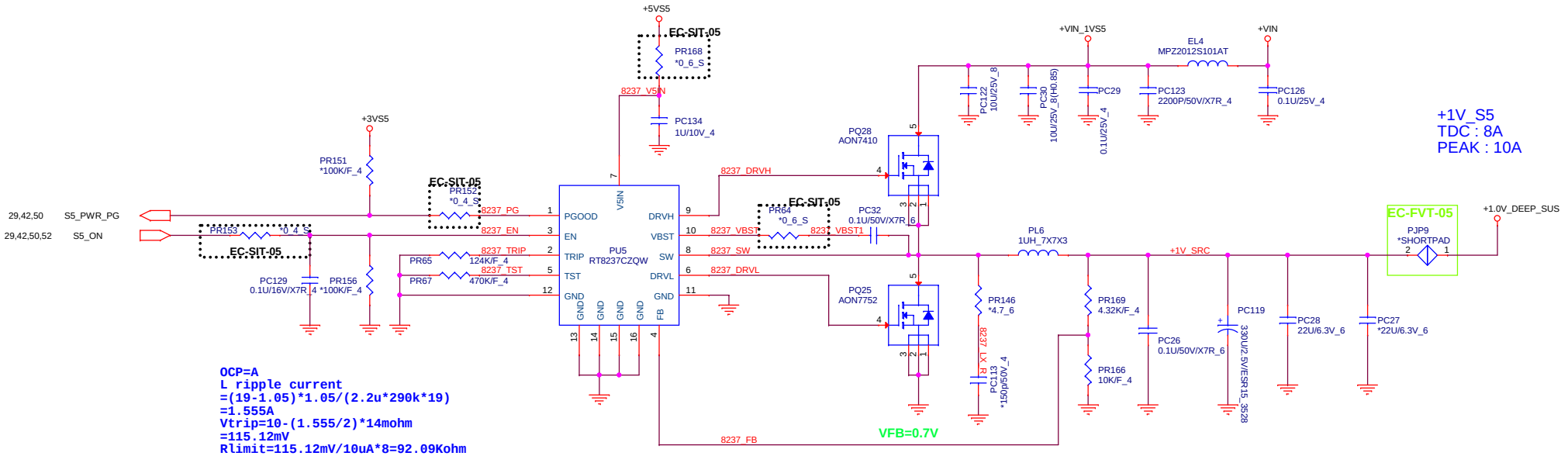
V1P0A (RT8237CZQW)

9,13,15,16,49,52 +1.0V_DEEP_SUS
19,41,42,43,44,45,46,47,51,52 +VIN
4,19,26,27,28,32,33,37,42,43,46,47,49,50,52 +5VS5
4,10,12,15,16,19,21,23,25,27,28,31,32,36,37,42,49,50,52 +3VS5



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Quanta Computer Inc.

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	+1.0V_DEEP_SUS	1A
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2,4,10,11,12,13,14,15,16,17,18,19,20,22,24,27,29,30,31,34,37,39,43 +3V
20,22,30,31,33 +5V
4,19,26,27,28,32,33,37,42,43,46,47,48,50,52 +5VS5
4,10,12,15,16,19,21,23,25,27,28,31,32,36,37,42,48,50,52 +3VS5
9,13,15,16,48,52 +1.0V_DEEP_SUS
2,4,5,6,9,43,52 +VCCSTPLL
2,4,6,16,52 +VCCIO

Imax=5.26A
Pd: ?W

+3VS5 PC174 0.1U/16V/X7R_4 PC128 0.1U/16V/X7R_4 +5VS5

+3V PR221 *0_8_S EC-SIT-05 +3V_S2

PU11 RT9740AGQW
VIN1 VIN1 VIN2 VIN2
VOUT1 VOUT1 OUT2 OUT2
GND GND
VBIAS
ON1 ON2 CT1 CT2

PC195 *10U/6.3V_6 PC188 0.1U/16V/X7R_4
PC192 0.1U/16V/X7R_4 PC200 *10U/6.3V_6
+5V_S2 PR218 *0_6_S EC-SIT-05 +5V

+5VS5 PC179 0.1U/16V/X7R_4

29,47,50,52 MAINON PR198 *0_4_S EC-SIT-05
PR190 *0_4_S EC-SIT-05 MAINON

PC178 *0.1U/16V_4 PC180 *0.1U/16V_4
PC198 1000P/50V/X7R_4 PC199 1000P/50V/X7R_4

Imax=1.58A
Pd: ?W

+1.0V_DEEP_SUS PC132 0.1U/16V/X7R_4

PQ30 AON7410

52 SUSON_G1 PR177 *0_4_S EC-SIT-05 +VCCSTG_ON PR167 *0_4_S EC-SIT-05 +VCCSTG_ON_G

PC151 *1000P/50V_4

<= 65usec full load ready
TDC : 0.16A

+VCCSTPLL_P PR170 *0_6_S EC-SIT-05 +VCCSTPLL

PC149 0.1U/16V/X7R_4 PC150 *10U/6.3V_6

+1.0V_DEEP_SUS PC171 1U/6.3V_4

PQ42 AON7410

+VCCIO_P PC185 0.1U/16V/X7R_4 PC186 *10U/6.3V_6

EC-FVT-05 PJP14 *SHORTPAD +VCCIO

+VCCIO
TDC : ?A
PEAK : 3.8A

<= 65usec full load ready

52 MAINON_G PR88 *0_4_S PR78 *0_4_S EC-SIT-05 PC62 *0.1U/16V_4

PU10 *AOZ1335DI
VIN VIN VIN VOUT
VBIAS
GND
ON

+3VS5 PC172 *0.1U/16V_4

MAINON EC-SIT-05 PR196 *0_4 MAINON_VCCIO PC173 *0.1U/16V_4

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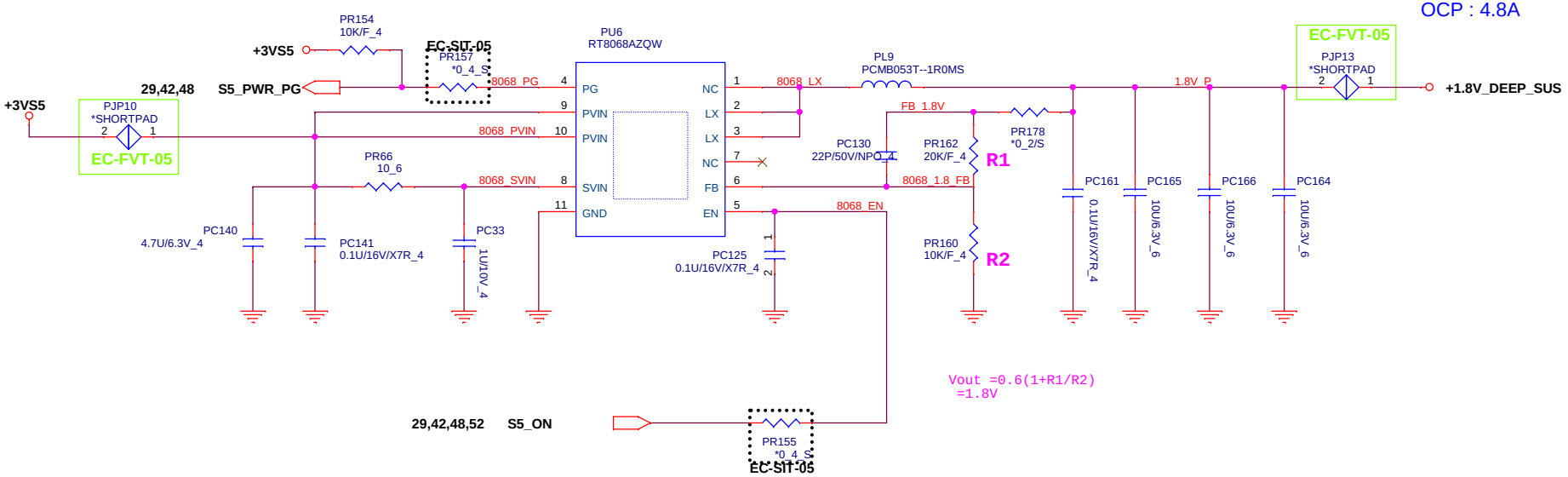
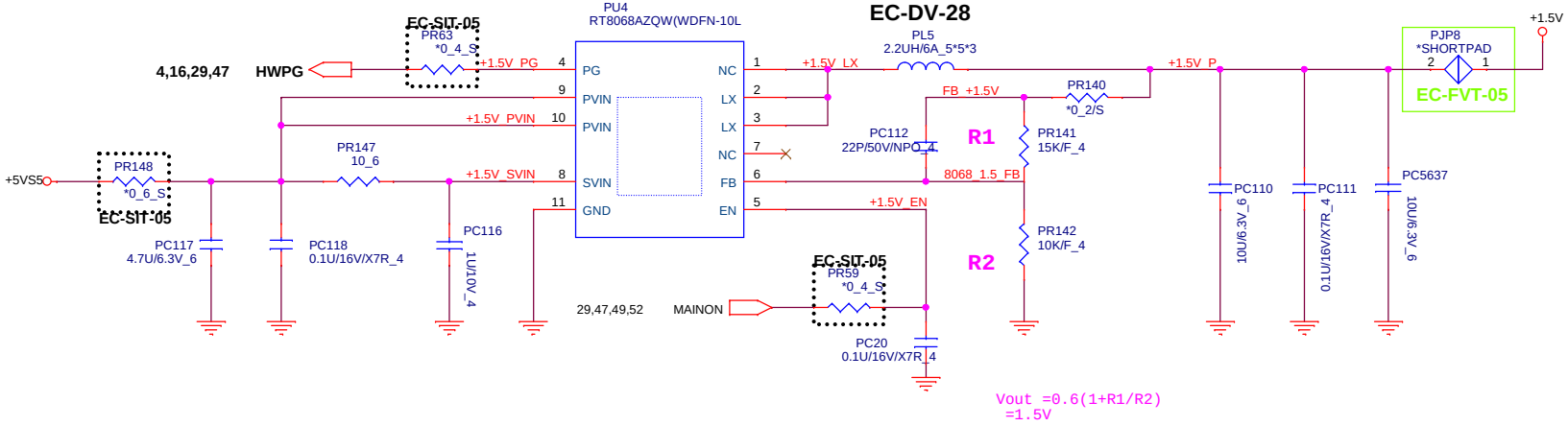
V1P8A (RT8068A)

1.8V_S5
Fsw : 900KHz
PEAK : 0.27A
OCP : 4.8A



+1.5V +/- 5%
TDC:1A
EDP:2A



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Quanta Computer Inc.

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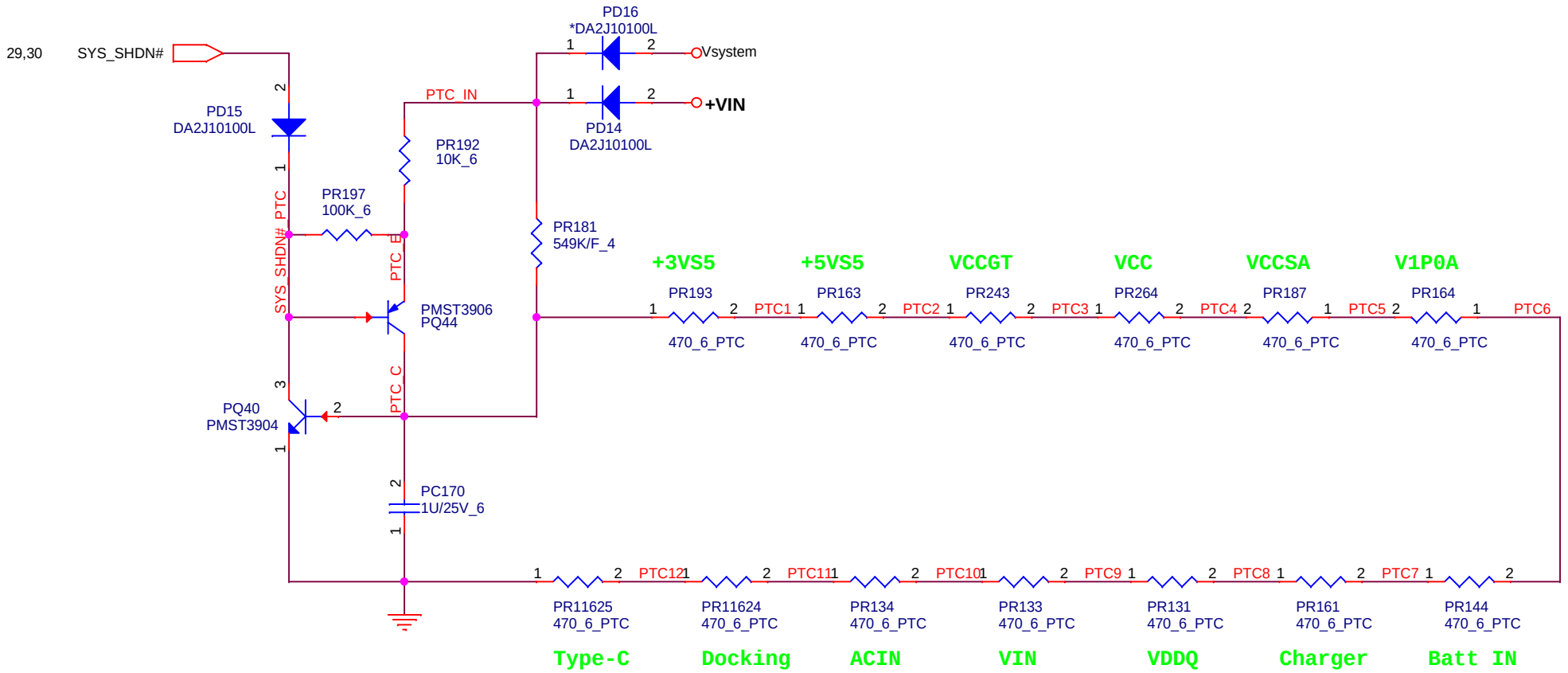

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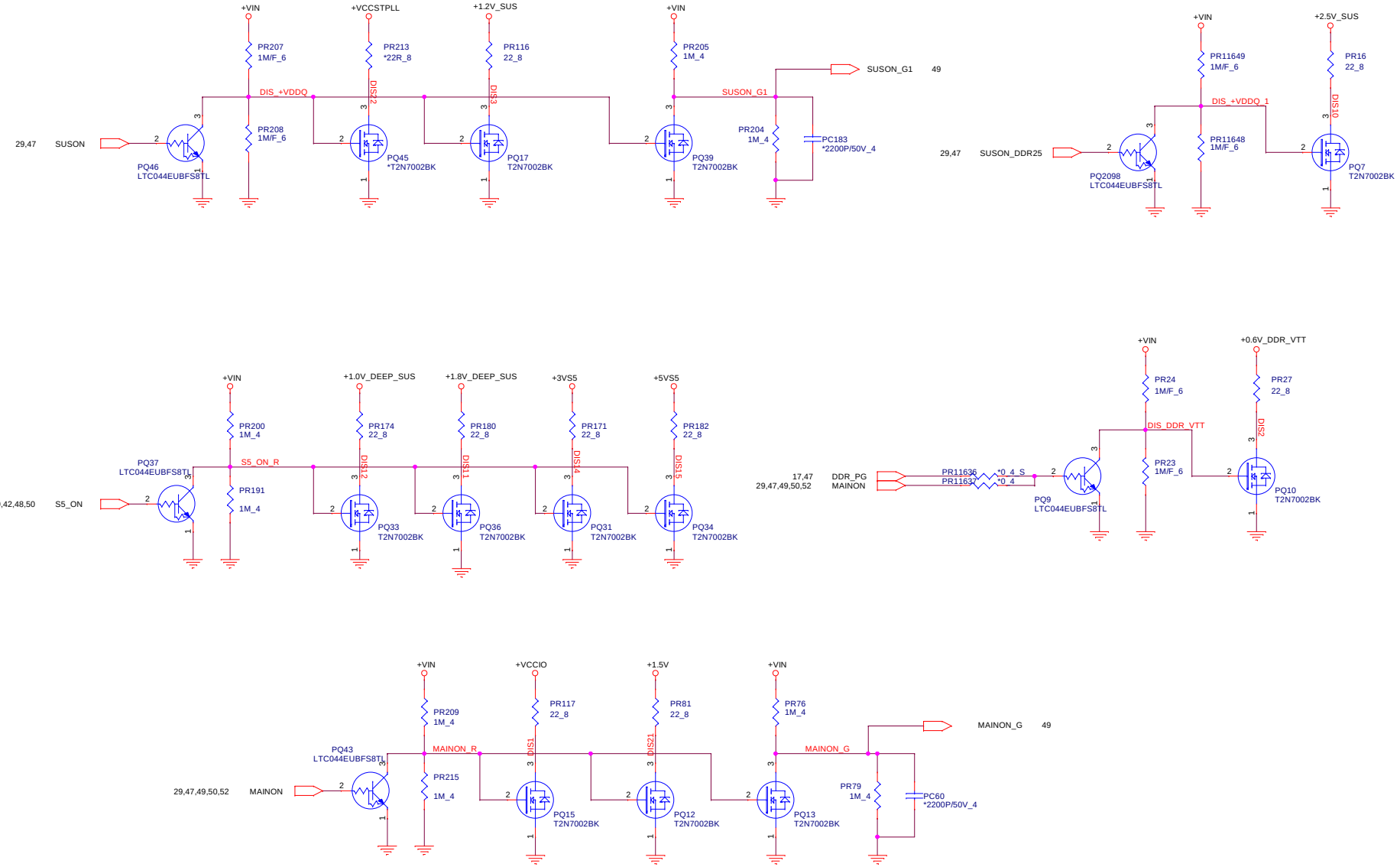
DISCHARGE



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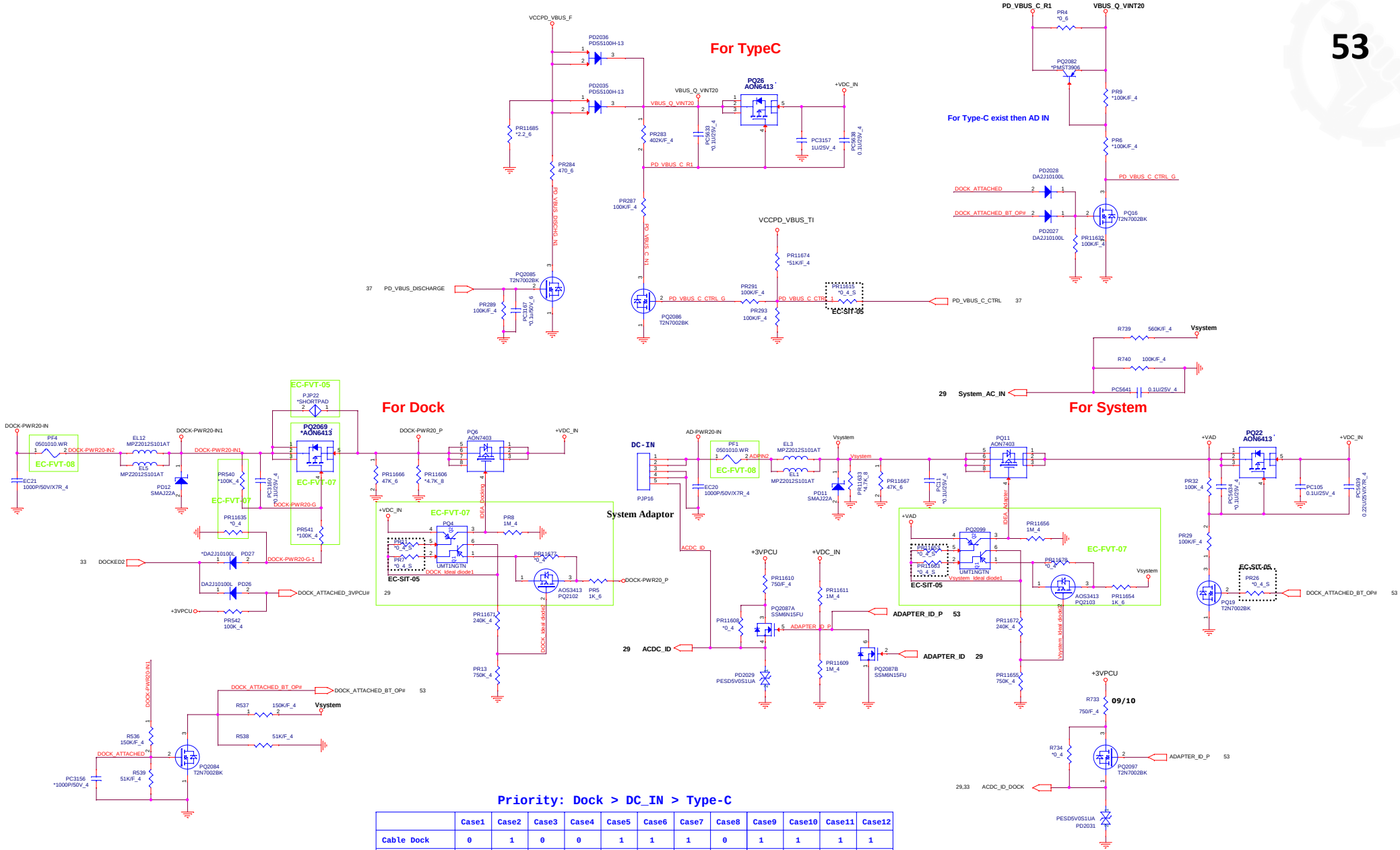

Priority: Dock > DC_IN > Type-C

	Case1	Case2	Case3	Case4	Case5	Case6	Case7	Case8	Case9	Case10	Case11	Case12
Cable Dock	0	1	0	0	1	1	1	0	1	1	1	1
AD on Dock	0	0	0	0	1	0	0	0	1	1	0	1
AD on Sys	0	0	1	0	0	1	0	1	1	0	1	1
AD on Type-C	0	0	0	1	0	0	1	1	0	1	1	1
Power Source	Batt	Batt	AD on Sys	AD on Type-C	AD on Dock	AD on Sys	AD on Type-C	AD on Sys	AD on Dock	AD on Dock	AD on Sys	AD on Dock

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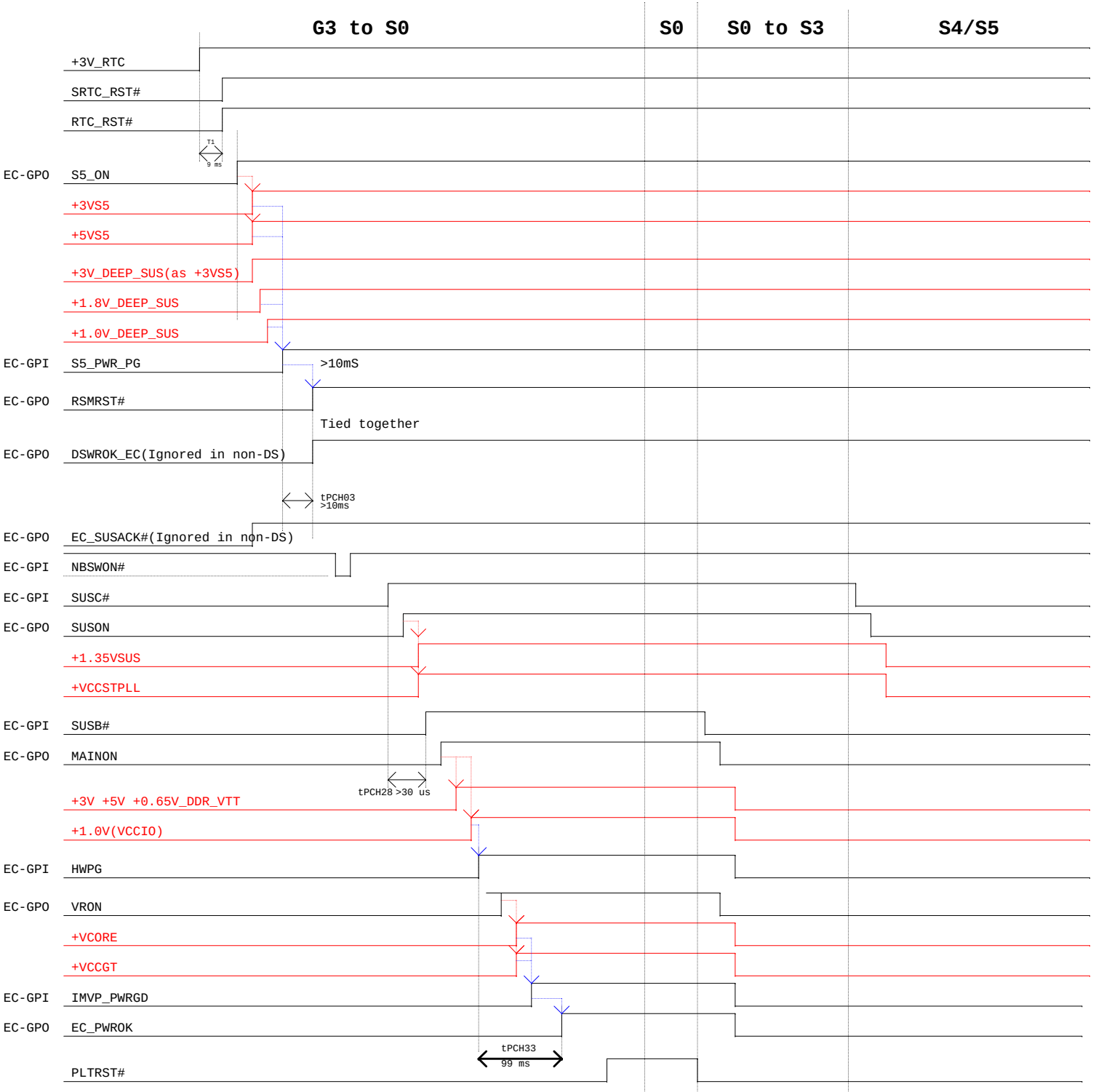

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	Intel POWER UP SEQUENCE	1A
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	EC NO.	PG.	DATE	PART REFERENCE	DESCRIPTION
2016 FVT-STAGE	EC-FVT-01	38	05/25	R5053~R5056	Depop for colay parts
	EC-FVT-02	19	05/25	R851,R852,D27	POP R851,R852 for touch screen panel RST and reserve D27.
	EC-FVT-03	14	05/26	R197,R200	add for VPRO/Non-Vpro ID
	EC-FVT-04	16	05/26	CN3	XDP signal routing changed.
	EC-FVT-05		05/27	PJP	All PJP Change to short pad
	EC-FVT-06	42	05/27	PR272	modify 5V OCP
	EC-FVT-07	53	05/27	PQ2103,PQ2102,PR7,PR11,PR11653, PR1166,PR11678,PR11677,PQ2069, PR540, PR541, PR11635	Optimize Ideal Diode schematic
	EC-FVT-08	41	05/27	PQ2071,PL2006,PF1,PF4, Delete PD2030	For smart charge function
	EC-FVT-09	29,37	05/27	R5135~R5139,D28	Reserve to support type c dock power buttom
SIT-STAGE	EC-SIT-01	22	06/26	R316,R317	Change to 150 ohm for FSOV issue
	EC-SIT-02	13	07/01	C441,C445	Change to 12P (Vendor suggestion)
	EC-SIT-03	14,19	07/13	R5124,R5125	Add Cable ID for touch/non-touch
	EC-SIT-04	38	07/17	R5053~R5058, U5002,C9789,C9790	Default : depop VBUS protect from TPD8S300
	EC-SIT-05	38	07/17	EC6029,EC6030,U54	Change CC1/CC2 line up to 20V protect
	EC-SIT-06	24	07/25	U5004/R5145~R5149	Reserve PEDETschematic
	EC-SIT-07	21	07/25	RFID Relate Part	Remove

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