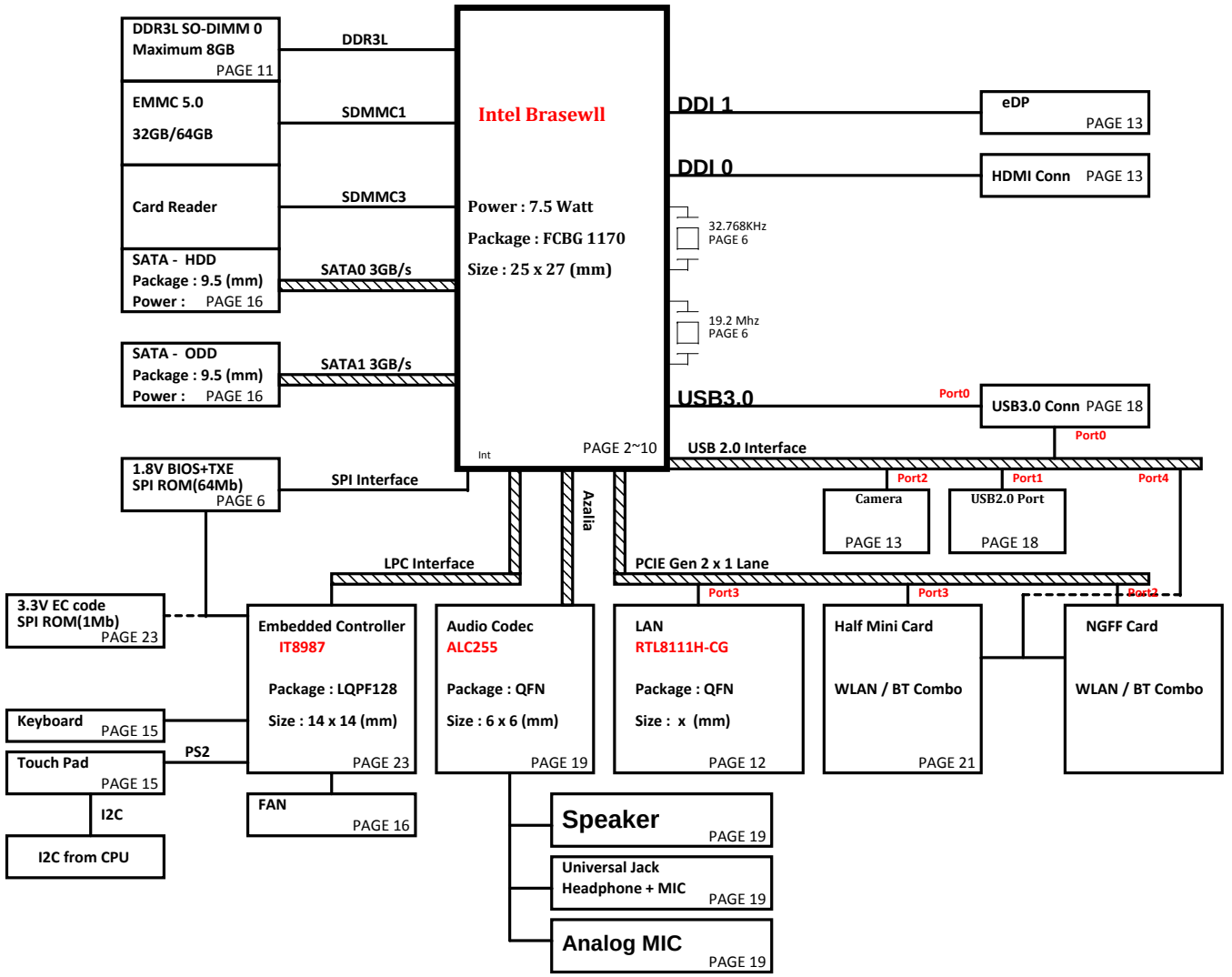
Z8AD UMA(14")
Intel Brasewll Platform Block Diagram

BOM

EM@ : EMMc
HD@ : HDD
GS@ :G-sensor
TPM@ : TPM
TSI@ :TOUCH SCREEN I2C
SP@ :Special



Quanta Computer Inc.
PROJECT : Z8AD

Size	Document Number	Rev
	Intel Block Diagram	1A

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+1.35VSUS [3,9,11,27]
+3V_S5 [3,5,9,12,14,15,16,22,26]

PLACE THE RESISTORS AS CLOSE AS POSSIBLE TO SOC(BSW)
ROUTE THEM AS SINGLE ENDED LINES

R212 *49.9_4 M_A_MON1P
R208 *100_4
R213 *49.9_4 M_A_MON1N
GND

ROUTE ALL VREF POWER SIGNALS AS THICK TRACES

+1.35VSUS
PLACE TWO 4.7K RESISTORS CLOSE TO CPU PINS ON M_VREF
ROUTE THE VREF POWER SIGNALS WITH THICK TRACES

R228 *4.7K_4
M_A_VREF_CA
R220 *4.7K_4
C203 *0.1U/16V_4
GND GND

+1.35VSUS
PLACE 0.1UF CAP CLOSE TO CPU

R227 *4.7K_4
M_A_VREF_DQ
R219 *4.7K_4
C202 *0.1U/16V_4
GND GND

[11] M_A_A[15:0]

U23A

M_A_A0	BB47	DDR3_M0_MA_0	
M_A_A1	BC42	DDR3_M0_MA_1	
M_A_A2	BJ48	DDR3_M0_MA_2	
M_A_A3	BH47	DDR3_M0_MA_3	
M_A_A4	BD42	DDR3_M0_MA_4	
M_A_A5	BH48	DDR3_M0_MA_5	
M_A_A6	BB46	DDR3_M0_MA_6	
M_A_A7	BE46	DDR3_M0_MA_7	
M_A_A8	BD44	DDR3_M0_MA_8	
M_A_A9	BE52	DDR3_M0_MA_9	
M_A_A10	BJ45	DDR3_M0_MA_10	
M_A_A11	BB49	DDR3_M0_MA_11	
M_A_A12	BF48	DDR3_M0_MA_12	
M_A_A13	BF44	DDR3_M0_MA_13	
M_A_A14	BD47	DDR3_M0_MA_14	
M_A_A15	BD49	DDR3_M0_MA_15	
M_A_DM0	AP52	DDR3_M0_DM_0	
M_A_DM1	AT48	DDR3_M0_DM_1	
M_A_DM2	AP44	DDR3_M0_DM_2	
M_A_DM3	BA53	DDR3_M0_DM_3	
M_A_DM4	BG41	DDR3_M0_DM_4	
M_A_DM5	AY36	DDR3_M0_DM_5	
M_A_DM6	BD32	DDR3_M0_DM_6	
M_A_DM7	BH30	DDR3_M0_DM_7	
M_A_RAS#	BA40	DDR3_M0_RASB	
M_A_CAS#	BG45	DDR3_M0_CASB	
M_A_WE#	BH44	DDR3_M0_WEB	
M_A_BS#0	BH46	DDR3_M0_BS_0	
M_A_BS#1	AY40	DDR3_M0_BS_1	
M_A_BS#2	BF52	DDR3_M0_BS_2	
M_A_CS#0	AY38	DDR3_M0_CSB_0	
M_A_CS#1	AU38	DDR3_M0_CSB_1	
M_A_CKE0	BB44	DDR3_M0_CKE_0	
M_A_CKE1	AY42	DDR3_M0_CKE_1	
M_A_ODT0	AV36	DDR3_M0_ODT_0	
M_A_ODT1	BA38	DDR3_M0_ODT_1	
M_A_CLK0	BD40	DDR3_M0_CK_0	
M_A_CLK0#	BF40	DDR3_M0_CKB_0	
M_A_CLK1	BD38	DDR3_M0_CK_1	
M_A_CLK1#	BF38	DDR3_M0_CKB_1	
M_A_DRAMRST#	BA42	DDR3_M0_DRAMRSTB	
M_A_VREF_CA	AT28	DRAM_M0_OCAVREF	
M_A_VREF_DQ	AU28	DRAM_M0_ODQVREF	
M_A_MON1P	AT30	RSVD_AT30	
M_A_MON1N	AU30	RSVD_AU30	
SOC_DRAM_PWROK	AV28	DDR3_DRAM_PWROK	
DRAM_RCOMP0	BA28	DDR3_M0_RCOMPPD	

GND R179 182_4

DDR3_M0_DQ_0	AK51	M_A_DQ0	
DDR3_M0_DQ_1	AL51	M_A_DQ1	
DDR3_M0_DQ_2	AT52	M_A_DQ2	
DDR3_M0_DQ_3	AR51	M_A_DQ3	
DDR3_M0_DQ_4	AL53	M_A_DQ4	
DDR3_M0_DQ_5	AK52	M_A_DQ5	
DDR3_M0_DQ_6	AR53	M_A_DQ6	
DDR3_M0_DQ_7	AP51	M_A_DQ7	
DDR3_M0_DQ_8	AP48	M_A_DQ8	
DDR3_M0_DQ_9	AT47	M_A_DQ9	
DDR3_M0_DQ_10	AY48	M_A_DQ10	
DDR3_M0_DQ_11	AV50	M_A_DQ11	
DDR3_M0_DQ_12	AP47	M_A_DQ12	
DDR3_M0_DQ_13	AT50	M_A_DQ13	
DDR3_M0_DQ_14	AY50	M_A_DQ14	
DDR3_M0_DQ_15	AV45	M_A_DQ15	
DDR3_M0_DQ_16	AT40	M_A_DQ16	
DDR3_M0_DQ_17	AP42	M_A_DQ17	
DDR3_M0_DQ_18	AT38	M_A_DQ18	
DDR3_M0_DQ_19	AP40	M_A_DQ19	
DDR3_M0_DQ_20	AT44	M_A_DQ20	
DDR3_M0_DQ_21	AV41	M_A_DQ21	
DDR3_M0_DQ_22	AP41	M_A_DQ22	
DDR3_M0_DQ_23	AV42	M_A_DQ23	
DDR3_M0_DQ_24	BD52	M_A_DQ24	
DDR3_M0_DQ_25	AV52	M_A_DQ25	
DDR3_M0_DQ_26	BC53	M_A_DQ26	
DDR3_M0_DQ_27	AV51	M_A_DQ27	
DDR3_M0_DQ_28	AW51	M_A_DQ28	
DDR3_M0_DQ_29	BC52	M_A_DQ29	
DDR3_M0_DQ_30	AW53	M_A_DQ30	
DDR3_M0_DQ_31	BB51	M_A_DQ31	
DDR3_M0_DQ_32	BG42	M_A_DQ32	
DDR3_M0_DQ_33	BG43	M_A_DQ33	
DDR3_M0_DQ_34	BG37	M_A_DQ34	
DDR3_M0_DQ_35	BJ37	M_A_DQ35	
DDR3_M0_DQ_36	BH42	M_A_DQ36	
DDR3_M0_DQ_37	BJ41	M_A_DQ37	
DDR3_M0_DQ_38	BH36	M_A_DQ38	
DDR3_M0_DQ_39	BH38	M_A_DQ39	
DDR3_M0_DQ_40	BC36	M_A_DQ40	
DDR3_M0_DQ_41	BA36	M_A_DQ41	
DDR3_M0_DQ_42	AU34	M_A_DQ42	
DDR3_M0_DQ_43	AU32	M_A_DQ43	
DDR3_M0_DQ_44	BF36	M_A_DQ44	
DDR3_M0_DQ_45	BD36	M_A_DQ45	
DDR3_M0_DQ_46	AV34	M_A_DQ46	
DDR3_M0_DQ_47	AV32	M_A_DQ47	
DDR3_M0_DQ_48	BF34	M_A_DQ48	
DDR3_M0_DQ_49	BC34	M_A_DQ49	
DDR3_M0_DQ_50	BA32	M_A_DQ50	
DDR3_M0_DQ_51	BD30	M_A_DQ51	
DDR3_M0_DQ_52	BD34	M_A_DQ52	
DDR3_M0_DQ_53	BA34	M_A_DQ53	
DDR3_M0_DQ_54	BF30	M_A_DQ54	
DDR3_M0_DQ_55	BD28	M_A_DQ55	
DDR3_M0_DQ_56	BJ33	M_A_DQ56	
DDR3_M0_DQ_57	BG29	M_A_DQ57	
DDR3_M0_DQ_58	BH34	M_A_DQ58	
DDR3_M0_DQ_59	BG32	M_A_DQ59	
DDR3_M0_DQ_60	BG28	M_A_DQ60	
DDR3_M0_DQ_61	BJ29	M_A_DQ61	
DDR3_M0_DQ_62	BH28	M_A_DQ62	
DDR3_M0_DQ_63	BG33	M_A_DQ63	

M_A_DQ[63:0] [11]

DDR3_M0_DQSP_0	AM52	M_A_DQS0	
DDR3_M0_DQSN_0	AM51	M_A_DQS#0	
DDR3_M0_DQSP_1	AV47	M_A_DQS1	
DDR3_M0_DQSN_1	AV48	M_A_DQS#1	
DDR3_M0_DQSP_2	AT42	M_A_DQS2	
DDR3_M0_DQSN_2	AT41	M_A_DQS#2	
DDR3_M0_DQSP_3	AY52	M_A_DQS3	
DDR3_M0_DQSN_3	BA51	M_A_DQS#3	
DDR3_M0_DQSP_4	BH40	M_A_DQS4	
DDR3_M0_DQSN_4	BG39	M_A_DQS#4	
DDR3_M0_DQSP_5	AT32	M_A_DQS5	
DDR3_M0_DQSN_5	AT34	M_A_DQS#5	
DDR3_M0_DQSP_6	BC30	M_A_DQS6	
DDR3_M0_DQSN_6	BC32	M_A_DQS#6	
DDR3_M0_DQSP_7	BH32	M_A_DQS7	
DDR3_M0_DQSN_7	BG31	M_A_DQS#7	

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VLV_M_D/BGA
REV = 1.15

M_A_DQS[7:0] M_A_DQS[7:0] [11]
M_A_DQS#[7:0] M_A_DQS#[7:0] [11]

Channel 0	Channel 1	SoC Supported Memory Operation Speed
1333 MHz	X	1066 MHz
1600 MHz	X	1600 MHz
1333 MHz	1333 MHz	1066 MHz
1600 MHz	1600 MHz	1600 MHz

Channel 0 need to
be populated first for the platform to power on

+3V_S5 +1.35VSUS
R240 4.7K_4
R231 10K_4
DRM_PWOK_C1
HWPG_1.35V
HWPG_1.35V [22,27]
R232 *short_4 SOC_DRAM_PWROK
C208 *0.1U/16V_4
[6,14] SLP_S4#
Q27A PJ4N3KDW
Q27B PJ4N3KDW
GND

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Valley 1/9 (DDRA)
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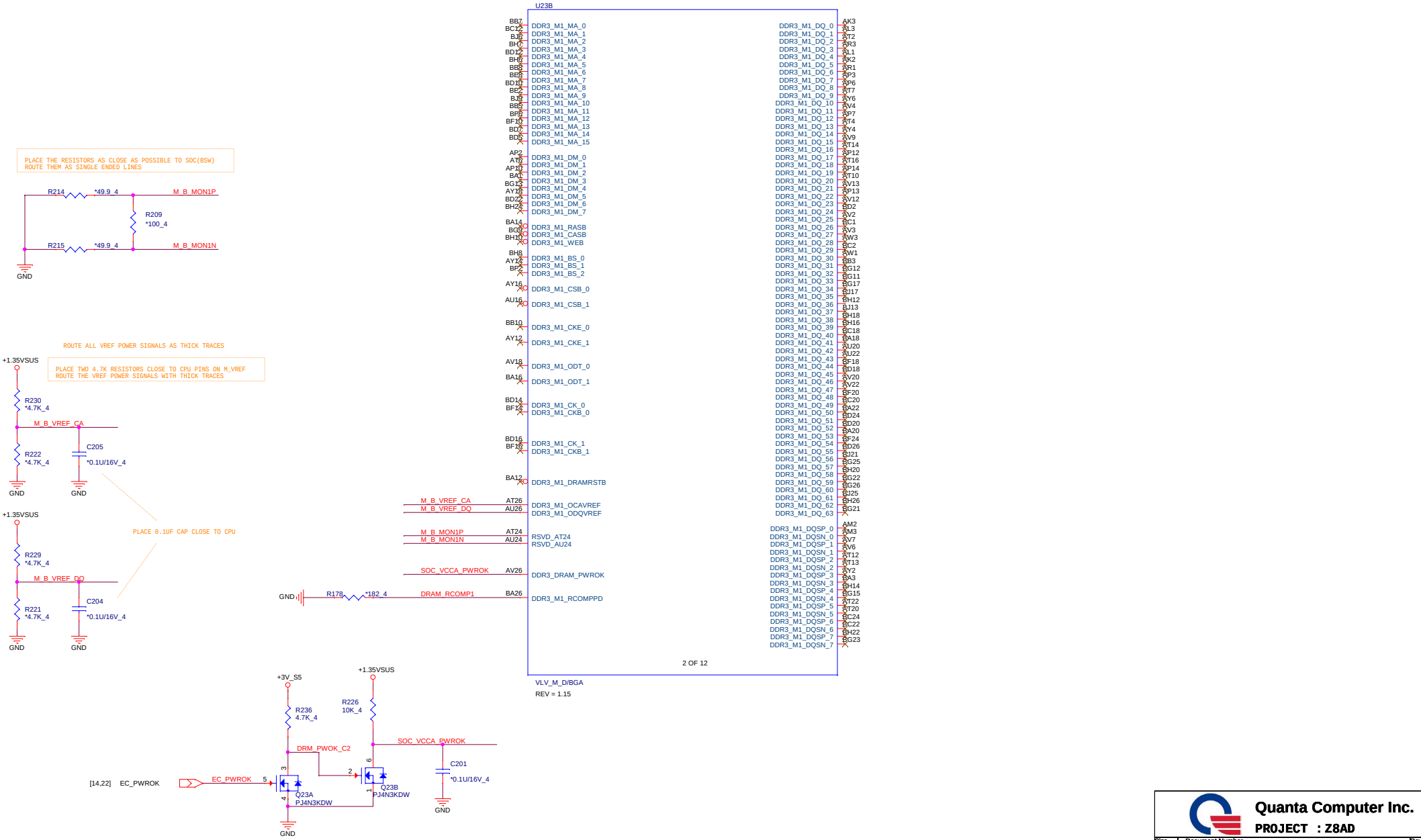

Quanta Computer Inc.			
PROJECT : Z8AD			
Size	Document Number		Rev
	Valley 2/9 (DDRB)		3A
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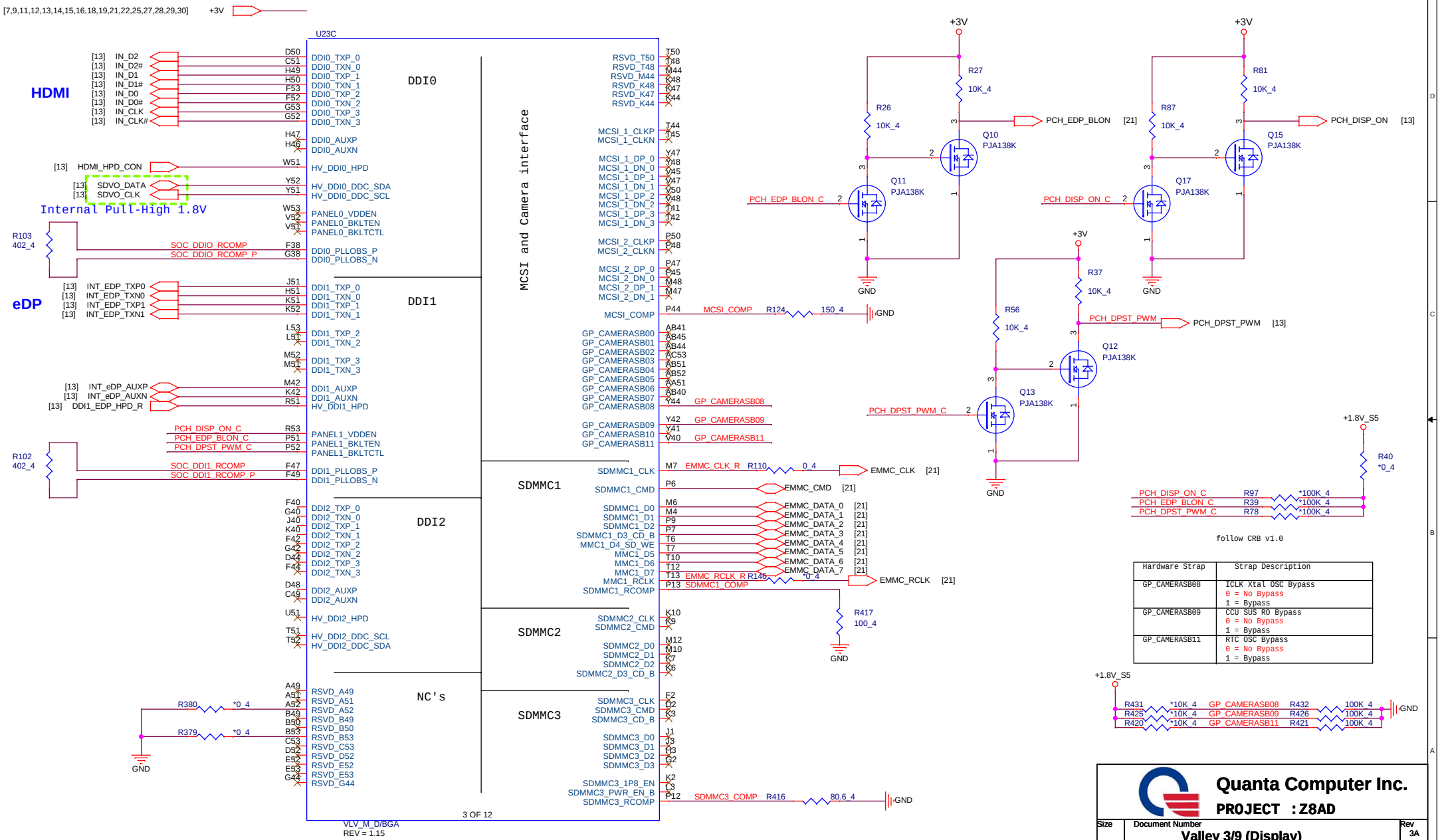

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[6,8,26,28,29] +1.05V_S5
[9,12,13,14,15,16,19,20,21,22,26,30] +1.8V

SATA HDD

SATA ODD

U23D

[16] SATA_TXP0 — C31 SATA_TXP_0
[16] SATA_TXN0 — B30 SATA_TXN_0
[16] SATA_RXP0 — N28 SATA_RXP_0
[16] SATA_RXN0 — M28 SATA_RXN_0
[16] SATA_TXP1 — C29 SATA_TXP1
[16] SATA_TXN1 — A29 SATA_TXN_1
[16] SATA_RXP1 — J28 SATA_RXP_1
[16] SATA_RXN1 — K28 SATA_RXN_1

[14] SOC_KBC_SCI — R484 *short_4 — R400 *short_4 — SATA_GP0 AH2 / SATA_GP1 AG3
[16] DEVSLP0 — DEVSLP0 — AG1 SATA_GP2
SATA_GP3 AF3
[16] ODD_PRSNT# — R477 *0_4 — SATA_LED# AH3 SATA_LED

SATA_RCOMP_DP N30 SATA_OBSP
SATA_RCOMP_DN M30 SATA_OBSN
R116 402_4

SOC_SPI_CLK W3 FST_SPI_CLK
SOC_SPI_CS# V4 FST_SPI_CS0_B
V6 FST_SPI_CS1_B
V7 FST_SPI_CS2_B
FST_SPI_D0 V2 FST_SPI_D0
FST_SPI_D1 V3 FST_SPI_D1
FST_SPI_D2 U1 FST_SPI_D2
FST_SPI_D3 U3 FST_SPI_D3

B16 RSVD_B16
C16 RSVD_C16

BIOS_STRAP — AK9 GP_SSP_2_CLK / AK10 GP_SSP_2_FS / AK12 GP_SSP_2_TXD / AK13 GP_SSP_2_RXD

VLV_M_D/BGA
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REV = 1.15

NGFF X1

WLAN x1

LAN x1

PCIE_TXP_0 C24 / PCIE_TXN_0 B24
PCIE_RXP_0 G20 / PCIE_RXN_0 D20
PCIE_TXP_1 A25 PCIE_TXP1_NGFF_C C343 0.1U/16V_4 — PCIE_TXP1_NGFF [19]
PCIE_TXN_1 C25 PCIE_TXN1_NGFF_C C344 0.1U/16V_4 — PCIE_TXN1_NGFF [19]
PCIE_RXP_1 D20 — PEG_RXP1_NGFF [19]
PCIE_RXN_1 F20 — PEG_RXN1_NGFF [19]
PCIE_TXP_2 B26 PCIE_TXP2_WLAN_C C342 0.1U/16V_4 — PCIE_TXP2_WLAN [20]
PCIE_TXN_2 C26 PCIE_TXN2_WLAN_C C341 0.1U/16V_4 — PCIE_TXN2_WLAN [20]
PCIE_RXP_2 D22 — PCIE_RXP2_WLAN [20]
PCIE_RXN_2 F22 — PCIE_RXN2_WLAN [20]
PCIE_TXP_3 A27 PCIE_TXP3_LAN_C C340 0.1U/16V_4 — PCIE_TXP3_LAN [12]
PCIE_TXN_3 C27 PCIE_TXN3_LAN_C C348 0.1U/16V_4 — PCIE_TXN3_LAN [12]
PCIE_RXP_3 G24 — PCIE_RXP3_LAN [12]
PCIE_RXN_3 J24 — PCIE_RXN3_LAN [12]

PCIE_CLKREQ0B AM10 SP7_R
PCIE_CLKREQ1B AM12 PCIE_CLKREQ1_NGFF# — PCIE_CLKREQ1_NGFF# [19]
PCIE_CLKREQ2B AK14 PCIE_CLKREQ2_WLAN# — PCIE_CLKREQ2_WLAN# [20]
PCIE_CLKREQ3B AM14 PCIE_CLKREQ3_LAN# — PCIE_CLKREQ3_LAN# [12]

PCIE_OBSP D26 SOC_PCIE_COMP
PCIE_OBSN F26 SOC_PCIE_COMN
R107 402_4

MF_HDA_RSTB AF13 ACZ_RST# — R268 75_4 — PCH_AZ_CODEC_RST# [18]
MF_HDA_SYNC AF12 ACZ_SYNC — R264 75_4 — PCH_AZ_CODEC_SYNC [18]
MF_HDA_CLK AD9 ACZ_BCLK — R258 75_4 — PCH_AZ_CODEC_BITCLK [18]
MF_HDA_SDO AF14 ACZ_SDOUT — R265 75_4 — PCH_AZ_CODEC_SDOUT [18]
MF_HDA_SDI0 AD7 ACZ_SDIN0 — R262 *short_4 — PCH_AZ_CODEC_SDIN0 [18]
MF_HDA_SDI1 AD6
MF_HDA_DOCKRSTB AB7
MF_HDA_DOCKENB AB9
CRB is 75 ohm

SPKR H4 — ACZ_SPKR [18]

PROCHOT AD50 SOC_PROCHOT# R433 *short_4 — H_PROCHOT# [22,24,28,29]
R448 20K_4 — +1.8V_S5
C354 0.1U/16V_4 — GND

+1.8V_S5
PCIE_CLKREQ1_NGFF# R525 10K_4
PCIE_CLKREQ2_WLAN# R523 10K_4
PCIE_CLKREQ3_LAN# R522 10K_4
DEVSLP0 R478 10K_4
SP7_R R521 10K_4

+1.8V_S5
Add SSD ID 1/14
High is SSD ,Low is ODD
R810 *100K/F_4
[16] SSD_ID — R811 — SATA_GP3
10K_4

SPI NOR FLASH

+1.8V_S5
C364 0.1U/16V_4 — GND
U22
VCC 8 — SPI_SI 5 SOC_SPI_MOSI_R R495 10_4 FST_SPI_D0
SPI_SO 2 SOC_SPI_MISO_R R438 10_4 FST_SPI_D1
CS# 1 SOC_SPI_CS#_R R440 33_4 SOC_SPI_CS#
WP# 3 SPI_SCK 6 SOC_SPI_CLK_R R496 10_4 SOC_SPI_CLK
FST_SPI_D2 R439 10_4 FST_SPI_D2_R
FST_SPI_D3 R494 10_4 FST_SPI_D3_R
SPI_HOLD 7 GND 4 — GND
SPI_FLASH
soic8-7_9-1_27
AKE5EZN0N00
IC FLASH (8P) W25Q64FWSSIG (SOIC)

2nd source: AKE5EG-0Q01

+1.8V_S5
R140 3.3K_4 SOC_SPI_CS#
R139 3.3K_4 FST_SPI_D2_R
R493 3.3K_4 FST_SPI_D3_R

+1.8V_S5
R513 *10K_4
BIOS_STRAP
0 = LPC
1 = SPI
R514 *10K_4
GND

+3V_S5
R356 10K_4 — AC_PRESENT [6]
Q43 2N7002K
Q42 2N7002K
[24] ACPRESENT — R351 *short_4 — AC_PRESENT_NM 2
GND

AC Present: This input pin indicates when the platform is plugged into AC power.

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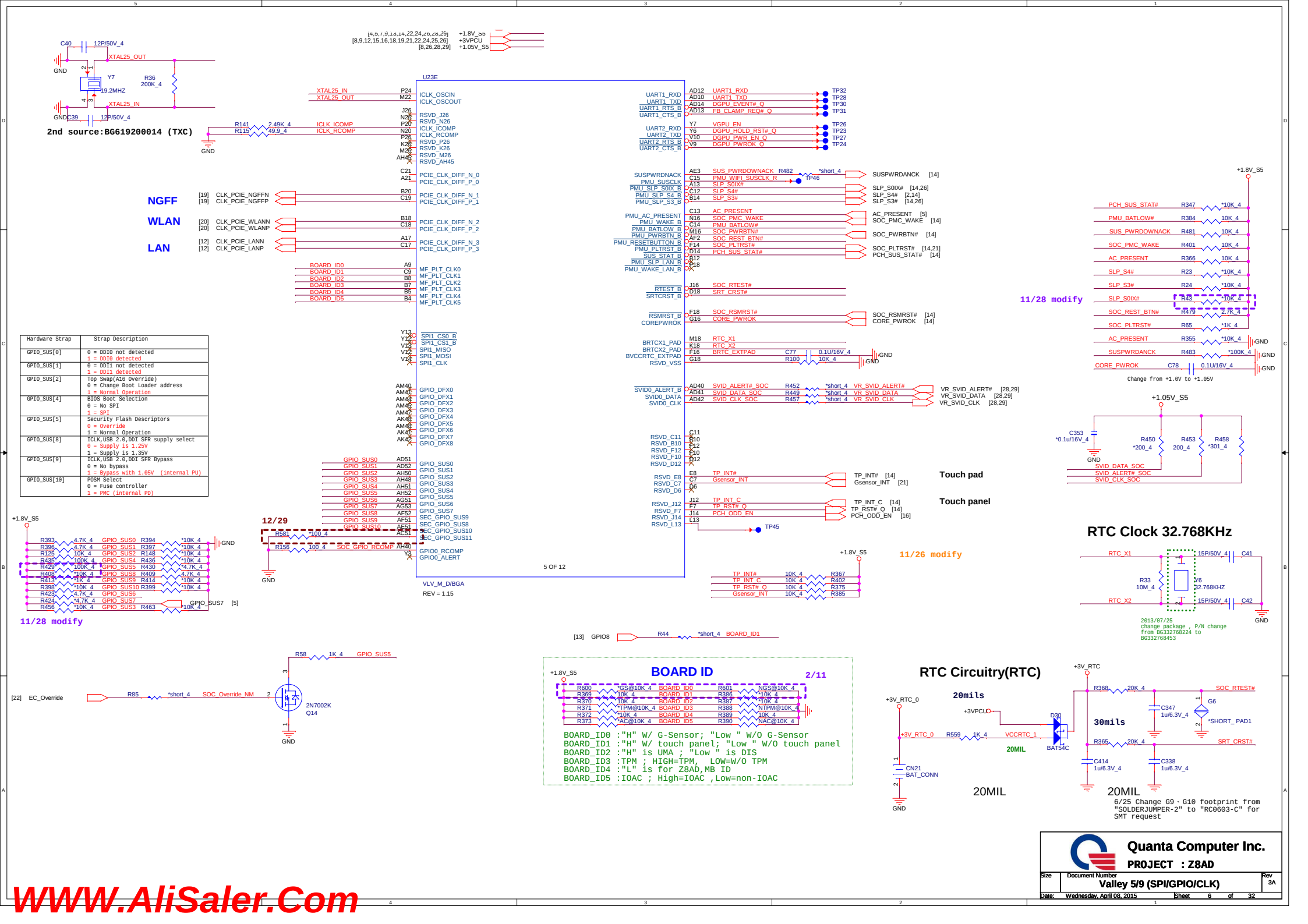

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+1.8V_S5 [4,5,6,9,13,14,22,24,26,28,29]

+3V [4,9,11,12,13,14,15,16,18,19,21,22,25,27,28,29,30]

U23F

[17] USB30_TX0+ B32 USB3_TXP0
[17] USB30_TX0- C32 USB3_TXN0
[17] USB30_RX0+ F28 USB3_RXP0
[17] USB30_RX0- D28 USB3_RXN0

A33 USB3_TXP1
C33 USB3_TXN1
F30 USB3_RXP1
D30 USB3_RXN1

C34 USB3_TXP2
B34 USB3_TXN2
G32 USB3_RXP2
J32 USB3_RXN2

C35 USB3_TX3
A35 USB3_TXN3
G33 USB3_RXP3
J33 USB3_RXN3

R106 402_4 USB3_OBSP D34 USB3_OBSP
USB3_OBSN F34 USB3_OBSN

C37 RSVD_C37
A37 RSVD_A37
F36 RSVD_F36
D36 RSVD_D36
M34 RSVD_M34
M32 RSVD_M32

C38 RSVD_C38
B38 RSVD_B38
G36 RSVD_G36
J36 RSVD_J36

N34 RSVD_N34
P34 RSVD_P34

USB_OTG_ID B48

USB_DP0 C42 USBP0+ [17]
USB_DN0 B42 USBP0- [17]

USB_DP1 C43 USBP1+ [17]
USB_DN1 B44 USBP1- [17]

USB_DP2 C41 USBP2+ [13]
USB_DN2 A41 USBP2- [13]

USB_DP3 C45 USBP3+ [13]
USB_DN3 A45 USBP3- [13]

USB_DP4 B40 USBP4+ [19,20]
USB_DN4 C40 USBP4- [19,20]

USB_OC_00 P14 10K_4 R418 SOC_USB_OC0 [17]
USB_OC_11 P16 10K_4 R419 +1.8V_S5

RSVD_B46 B46 USB2_OBSP R91 *49.9_4 R383 *short_4 GND
USB_VBUSSNS B47 USB_VBUSSNS R382 *0_4 GND
USB_RCOMP A48 USB_RCOMP R381 113_4 GND

+1.8V_S5 R361 *20K_4
C336 *0.1U/16V_4 GND

USB_HSIC_0_STROBE M36
USB_HSIC_0_DATA N36
USB_HSIC_1_STROBE K38
USB_HSIC_1_DATA M38
USB_HSIC_RCOMP N38 USB_HSIC_RCOMP 45.3_4 R111 GND

RSVD_H5 H5
RSVD_H7 H7

RSVD_P28 P28
RSVD_P30 P30
RSVD_AF50 AF50
RSVD_AF48 AF48
RSVD_AF44 AF44
RSVD_AF45 AF45

Port 1 is debug port

USB3.0

USB2

TouchPanel

CAMERA

BT

[19,20] CLK_24M_DEBUG R446 22_4 [22] CLK_24M_KBC R437 22_4 SOC_CLKOUT_0 P2 MF_LPC_CLKOUT0
SOC_CLKOUT_1 R3 MF_LPC_CLKOUT1
[15] CLK_TPM R443 TPM@22_4 For TPM [15,22] CLKRUN# R442 22_4 SOC_CLKRUN# T3 LPC_CLKRUNB

[15,19,20,22] LFRAME# LFRAME# P3 LPC_FRAMEB
[15,19,20,22] LAD0 LAD0 M3 MF_LPC_AD0
[15,19,20,22] LAD1 LAD1 M2 MF_LPC_AD1
[15,19,20,22] LAD2 LAD2 N3 MF_LPC_AD2
[15,19,20,22] LAD3 LAD3 N1 MF_LPC_AD3

[14,15] SOC_SERIRQ SOC_SERIRQ T2 ILB_SERIRQ
GND R114 100_4 LPC_RCOMP T4 LPC_HVT_RCOMP

I2C0_SDA AH7 I2C_0_SDA_R R510 *short_4 I2C_0_SDA [14] **Touch pad**
I2C0_SCL AK6 I2C_0_SCL_R R515 *short_4 I2C_0_SCL [14]

I2C1_SDA AH6 I2C_1_SDA R490 *short_4 I2C1_SDA_GPIO6 [13] **Touch panel**
I2C1_SCL AF6 I2C_1_SCL R501 *short_4 I2C1_SCL_GPIO7 [13]

I2C2_SDA AF7 I2C_2_SDA_R R503 *short_4 I2C_2_SDA [21] **G Sensor**
I2C2_SCL AF9 I2C_2_SCL_R R492 *short_4 I2C_2_SCL [21]

I2C3_SDA AD2 I2C_3_SDA
I2C3_SCL AE4 I2C_3_SCL

I2C4_SDA AD3 I2C_4_SDA
I2C4_SCL AC1 I2C_4_SCL

I2C5_SDA AC3 I2C_5_SDA
I2C5_SCL AB2 I2C_5_SCL

I2C6_SDA AB3 I2C_6_SDA
I2C6_SCL AA1 I2C_6_SCL

RSVD_Y2 Y2 I2C_NFC_SOC_SDA T7
RSVD_AA3 AA3 I2C_NFC_SOC_SCL T6

+1.8V_S5
R127 51_4 XDP_H_TDO
R128 51_4 XDP_H_TMS
R444 51_4 XDP_H_TDI
R126 51_4 XDP_H_PREQ#
R445 51_4 XDP_H_TRST#
R167 51_4 XDP_H_TCK
R415 *10K_4 RSVD_M13
GND

XDP_H_TCK AF42 TCK
XDP_H_TDI AD47 TDI
XDP_H_TDO AF40 TDO
XDP_H_TMS AD48 TMS
XDP_H_TRST# AB48 TRST_B
TP29 XDP_H_PRDY# AD45 CX_PRDY_B
XDP_H_PREQ# AF41 CX_PREQ_B
RSVD_M13 M13 RSVD_M13

+1.8V_S5
R185 1K_4 SMB_SOC_DATA AM7 MF_SMB_DATA
R186 1K_4 SMB_SOC_CLK AM6 MF_SMB_CLK
R508 1K_4 SMB_SOC_ALERTB AM9 MF_SMB_ALERTB
[16] SMB1ALERT# R509 *short_4

6 OF 12

VLV_M_D/BGA

REV = 1.15

+1.8V_S5
I2C_0_SDA R511 1K_4
I2C_0_SCL R516 1K_4
I2C_1_SDA R489 1K_4
I2C_1_SCL R500 1K_4
I2C_2_SDA_R R502 1K_4
I2C_2_SCL_R R491 1K_4
I2C_3_SDA R464 1K_4
I2C_3_SCL R480 1K_4
I2C_4_SDA R465 *1K_4
I2C_4_SCL R466 *1K_4
I2C_5_SDA R467 *1K_4
I2C_5_SCL R468 *1K_4
I2C_6_SDA R469 *1K_4
I2C_6_SCL R470 *1K_4
I2C_NFC_SOC_SDA R472 *1K_4
I2C_NFC_SOC_SCL R471 *1K_4

change to 1K as CRB

+3V
+1.8V_S5
GND
U11
R218 200K_4
C206 0.1U/25V_4 GND
C185 0.1U/25V_4
R216 2.2K_4
R217 2.2K_4
1 GND
2 VREF1
4 SDA1
3 SCL1
8 EN
7 VREF2
5 SDA2
6 SCL2
PCA9306
SMB_SOC_DATA
SMB_SOC_CLK
SMB_RUN_DAT [11,20,21]
SMB_RUN_CLK [11,20,21]

Quanta Computer Inc.

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+VCC_CORE [28]
+VGG [29]
+3V [4,7,9,11,12,13,14,15,16,18,19,21,22,25,27,28,29,30]
+1.05V_S5 [6,26,28,29]
+1.15V [26]

3/16 change 0 ohm by acer

U23G

VCC1_SENSEP R487 VCC0_SENSEP_R AG32
VCC1_SENSEN R498 VCC0_SENSEN_R AJ32
[28] VCC1_SENSEP R486 VCC1_SENSEP_R AD29
[28] VCC1_SENSEN R497 VCC1_SENSEN_R AF27
[29] VGG_SENSEP VGG_SENSEP AD24
[29] VGG_SENSEN VGG_SENSEN AD22
VNN_REFIN_R AC27
T8 Fixed Vnn Sense

CORE_VCC0_SENSE
CORE_VSS0_SENSE
CORE_VCC1_SENSE
CORE_VSS1_SENSE
DDI_VGG_SENSE
UNCORE_VSS_SENSE[2]
UNCORE_VSS_SENSE[1]

3.5A

UNCORE_VNN_S4[1] AA18
UNCORE_VNN_S4[2] AA19
UNCORE_VNN_S4[3] AA21
UNCORE_VNN_S4[4] AA22
UNCORE_VNN_S4[5] AA24
UNCORE_VNN_S4[6] AA25
UNCORE_VNN_S4[7] AC18
UNCORE_VNN_S4[8] AC19
UNCORE_VNN_S4[9] AC21
UNCORE_VNN_S4[10] AC22
UNCORE_VNN_S4[11] AC24
UNCORE_VNN_S4[12] AC25
UNCORE_VNN_S4[13] AD25
UNCORE_VNN_S4[14] AD27

+1.05V_S5
C149 1U/10V_4
C145 1U/10V_4
C129 1U/10V_4
C128 10U/6.3V_6
C96 10U/6.3V_6
C52 10U/6.3V_6
C130 *1U/10V_4
C141 *1U/10V_4
GND

+VCC_CORE
C160 22uF/6.3V_6
C164 22uF/6.3V_6
C161 4.7uF/6.3V_6
C159 4.7uF/6.3V_6
C165 4.7uF/6.3V_6
GND

AF36 AG33 AG35 AG36 AG38 AJ33 AJ36 AJ38
CORE_VCC1_S0IX[3]
CORE_VCC1_S0IX[7]
CORE_VCC1_S0IX[8]
CORE_VCC1_S0IX[9]
CORE_VCC1_S0IX[10]
CORE_VCC1_S0IX[14]
CORE_VCC1_S0IX[15]
CORE_VCC1_S0IX[16]

6.4A

+VCC_CORE
C152 22uF/6.3V_6
C150 22uF/6.3V_6
C162 4.7uF/6.3V_6
C163 4.7uF/6.3V_6
C151 4.7uF/6.3V_6
GND

AF30 AG27 AG29 AG30 AJ27 AJ29 AJ30 AF29
CORE_VCC1_S0IX[2]
CORE_VCC1_S0IX[4]
CORE_VCC1_S0IX[5]
CORE_VCC1_S0IX[6]
CORE_VCC1_S0IX[11]
CORE_VCC1_S0IX[12]
CORE_VCC1_S0IX[13]
CORE_VCC1_S0IX[1]

RSVD_AA30 AA30 VCCSRANSOCI_OBS R153 *0_4 GND
UNCORE_V1P15_S0IX[6] V33
UNCORE_V1P15_S0IX[1] AA32
UNCORE_V1P15_S0IX[2] AA33
UNCORE_V1P15_S0IX[3] AA35
UNCORE_V1P15_S0IX[4] AA36
UNCORE_V1P15_S0IX[5] AC32
UNCORE_V1P15_S0IX[7] Y30
UNCORE_V1P15_S0IX[8] Y32
UNCORE_V1P15_S0IX[9] Y33
UNCORE_V1P15_S0IX[10] Y35

CORE_1P05_PWR
C137 1U/10V_4
C104 1U/10V_4
C136 1U/10V_4
C105 1U/10V_4
C148 1U/10V_4
C126 *1U/10V_4
C118 *1U/10V_4
GND

AD16 AD18 AD19 AF16 AF18 AF19 AF21 AF22 AJ19 AG16 AG18 AG19 AG21 AG22 AG24 AJ21 AJ22 AJ24 AK24
DDI_VGG_S0IX[1]
DDI_VGG_S0IX[2]
DDI_VGG_S0IX[3]
DDI_VGG_S0IX[4]
DDI_VGG_S0IX[5]
DDI_VGG_S0IX[6]
DDI_VGG_S0IX[7]
DDI_VGG_S0IX[8]
DDI_VGG_S0IX[15]
DDI_VGG_S0IX[9]
DDI_VGG_S0IX[10]
DDI_VGG_S0IX[11]
DDI_VGG_S0IX[12]
DDI_VGG_S0IX[13]
DDI_VGG_S0IX[14]
DDI_VGG_S0IX[16]
DDI_VGG_S0IX[17]
DDI_VGG_S0IX[18]
DDI_VGG_S0IX[19]

11A

1.9A

ICLK_GND_OFF[2] V19 ICLK_1P05_PWR C144 1U/10V_4 GND
ICLK_GND_OFF[1] V18 C140 *1U/10V_4

DDR_V1P05A_G3[1] AM21 DDR_1P05_PWR
DDR_V1P05A_G3[4] AM33
DDR_V1P05A_G3[2] AM22
DDR_V1P05A_G3[5] AN22
DDR_V1P05A_G3[6] AN32
DDR_V1P05A_G3[3] AM32
C171 1U/10V_4
C186 10U/6.3V_6
C187 10U/6.3V_6
GND

+VGG
C154 *1U/10V_4
C595 22uF/6.3V_6
C596 *22uF/6.3V_6
C157 10u/6.3V_6
C177 10u/6.3V_6
C156 10u/6.3V_6
C179 22uF/6.3V_6
C178 22uF/6.3V_6
GND

1/7 add

PCIE_V1P05A_G3[1] V22
PCIE_V1P05A_G3[2] V24
SATA_V1P05A_G3[2] U24
SATA_V1P05A_G3[1] U22
USB3_V1P05A_G3[2] V27
USB3_V1P05A_G3[1] U27
BMPD_1P05_PWR
C66 1U/10V_4
C80 1U/10V_4
C61 1U/10V_4
GND

USBSSIC_V1P05A_G3 V29 USBSSIC_1P05_PWR
C86 1U/10V_4
C72 1U/10V_4
GND

FUSE3_V1P05A_G5 N18 FUSE3_1P05_PWR
FUSE_V1P05A_G3 U19
FUSE_1P05_PWR
C81 1U/10V_4
C67 1U/10V_4
C76 1U/10V_4
GND

CORE_V1P15_PWR
C597 10u/6.3V_6
C158 1U/10V_4
C169 1U/10V_4
C167 1U/10V_4
C172 1U/10V_4
C180 1U/10V_4
C168 1U/10V_4
GND

1/13 Add

CORE_V1P15_S0IX[1] AK30
CORE_V1P15_S0IX[2] AK35
CORE_V1P15_S0IX[3] AK36
CORE_V1P15_S0IX[4] AM29

FUSE_1P15_PWR AK33 AJ35
FUSE_V1P15_S0IX[2]
FUSE_V1P15_S0IX[1]

DDI_1P15_PWR AM19 AK21
DDI_V1P15_S0IX[2]
DDI_V1P15_S0IX[1]
C170 1U/10V_4
C183 1U/10V_4
C184 1U/10V_4
GND

7 OF 12

VLV_M_D/BGA
REV = 1.15

+1.15V
R176 *short_8
R183 *short_8 CORE_V1P15_PWR
R192 *short_8
R191 *short_8 DDI_1P15_PWR
R166 FUSE_1P15_PWR *SHORT_6

+1.05V_S5
C101 10U/6.3V_6
C51 10U/6.3V_6
C54 10U/6.3V_6
C55 10U/6.3V_6
C50 10U/6.3V_6
GND

+VGG
C598 *100U/6.3V_1206
GND
1/13 Add

+1.05V_S5
R122 *short_8 CORE_1P05_PWR
R149 *short_8
R150 *short_8 ICLK_1P05_PWR
R189 *short_8 DDR_1P05_PWR
R184 *short_8
R75 *SHORT_6 USBSSIC_1P05_PWR
R73 *SHORT_6 BMPD_1P05_PWR
R80 *SHORT_6 FUSE3_1P05_PWR
R79 *SHORT_6 FUSE_1P05_PWR
R66 *SHORT_6 FUSE1_1P05_PWR FUSE1_1P05_PWR [9]

IO Thrm Protect

+3VPCU
R403 *10K_4
default 25 degree for detect temperature
THRM_MOINTOR [22]
R404 *0_4
C349 *0.1U/16V_4
THER_CPU
R392 *10K_6_NTC

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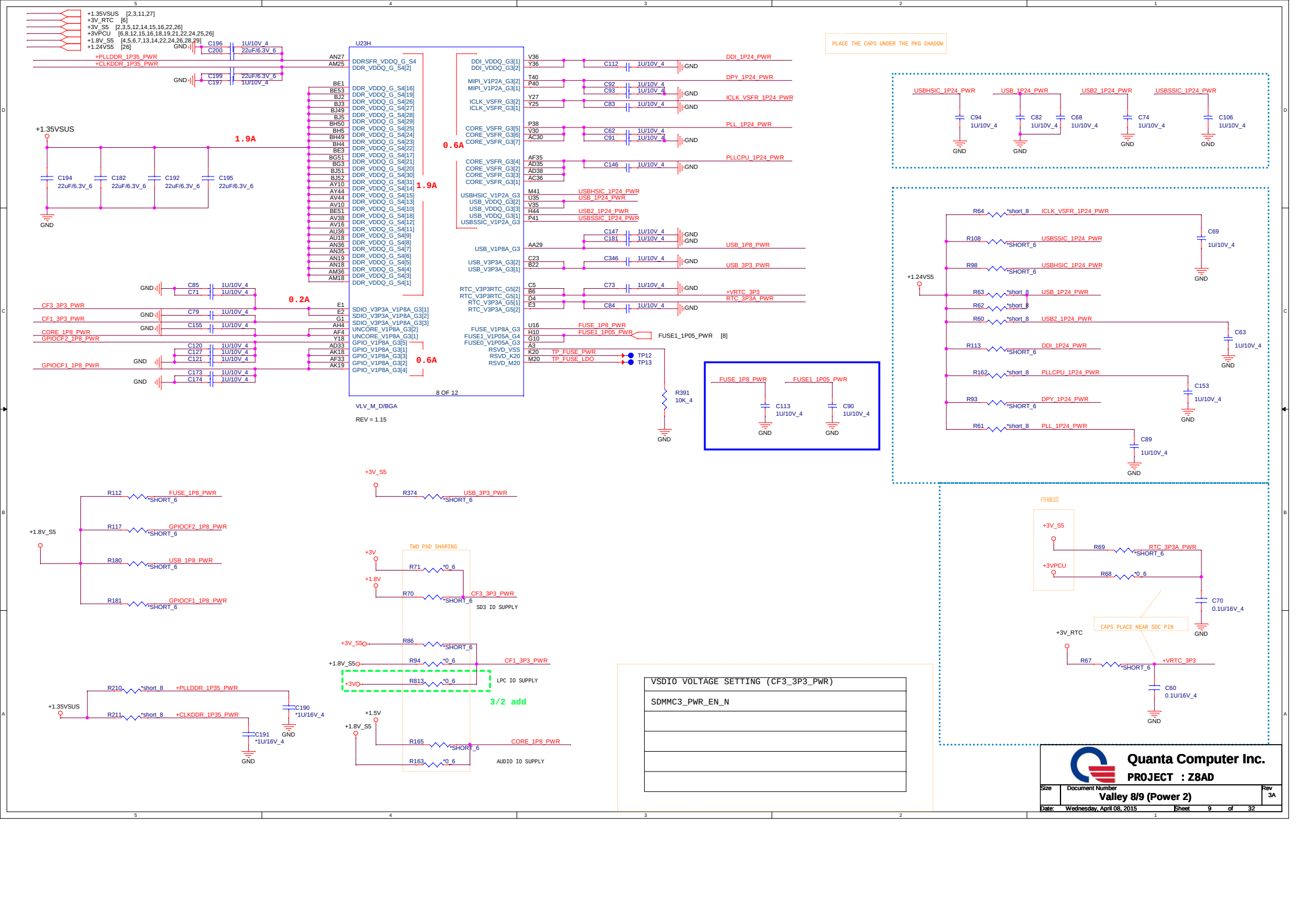
+1.35VSUS [2,3,11,27]
+3V_RTC [6]
+3V_S5 [2,3,5,12,14,15,16,22,26]
+3VPCU [6,8,12,15,16,18,19,21,22,24,25,26]
+1.8V_S5 [4,5,6,7,13,14,22,24,26,28,29]
+1.24VS5 [26]
+PLLDDR_1P35_PWR
+CLKDDR_1P35_PWR
U23H
DDRSFR_VDDQ_G_S4
DDR_VDDQ_G_S4[2]
DDR_VDDQ_G_S4[16]
DDR_VDDQ_G_S4[19]
DDR_VDDQ_G_S4[26]
DDR_VDDQ_G_S4[27]
DDR_VDDQ_G_S4[28]
DDR_VDDQ_G_S4[29]
DDR_VDDQ_G_S4[25]
DDR_VDDQ_G_S4[24]
DDR_VDDQ_G_S4[23]
DDR_VDDQ_G_S4[22]
DDR_VDDQ_G_S4[17]
DDR_VDDQ_G_S4[21]
DDR_VDDQ_G_S4[20]
DDR_VDDQ_G_S4[30]
DDR_VDDQ_G_S4[31]
DDR_VDDQ_G_S4[14]
DDR_VDDQ_G_S4[15]
DDR_VDDQ_G_S4[13]
DDR_VDDQ_G_S4[10]
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DDR_VDDQ_G_S4[9]
DDR_VDDQ_G_S4[8]
DDR_VDDQ_G_S4[7]
DDR_VDDQ_G_S4[6]
DDR_VDDQ_G_S4[5]
DDR_VDDQ_G_S4[4]
DDR_VDDQ_G_S4[3]
DDR_VDDQ_G_S4[1]
SDIO_V3P3A_V1P8A_G3[1]
SDIO_V3P3A_V1P8A_G3[2]
SDIO_V3P3A_V1P8A_G3[3]
UNCORE_V1P8A_G3[2]
UNCORE_V1P8A_G3[1]
GPIO_V1P8A_G3[5]
GPIO_V1P8A_G3[1]
GPIO_V1P8A_G3[3]
GPIO_V1P8A_G3[2]
GPIO_V1P8A_G3[4]
8 OF 12
VLV_M_D/BGA
REV = 1.15
DDI_VDDQ_G3[1]
DDI_VDDQ_G3[2]
MIPI_V1P2A_G3[2]
MIPI_V1P2A_G3[1]
ICLK_VSFR_G3[2]
ICLK_VSFR_G3[1]
CORE_VSFR_G3[5]
CORE_VSFR_G3[6]
CORE_VSFR_G3[7]
CORE_VSFR_G3[4]
CORE_VSFR_G3[2]
CORE_VSFR_G3[3]
CORE_VSFR_G3[1]
USBHSIC_V1P2A_G3
USB_VDDQ_G3[2]
USB_VDDQ_G3[3]
USB_VDDQ_G3[1]
USBSSIC_V1P2A_G3
USB_V1P8A_G3
USB_V3P3A_G3[2]
USB_V3P3A_G3[1]
RTC_V3P3RTC_G5[2]
RTC_V3P3RTC_G5[1]
RTC_V3P3A_G5[1]
RTC_V3P3A_G5[2]
FUSE_V1P8A_G3
FUSE1_V1P05A_G4
FUSE0_V1P05A_G3
RSVD_VSS
RSVD_K20
RSVD_M20
TP_FUSE_PWR
TP_FUSE_LDO
TP12
TP13
FUSE1_1P05_PWR [8]
R391 10K_4
1.9A
0.6A
1.9A
0.2A
0.6A
+1.35VSUS
C194 22uF/6.3V_6
C182 22uF/6.3V_6
C192 22uF/6.3V_6
C195 22uF/6.3V_6
C196 1U/10V_4
C200 22uF/6.3V_6
C199 22uF/6.3V_6
C197 1U/10V_4
C85 1U/10V_4
C71 1U/10V_4
C79 1U/10V_4
C155 1U/10V_4
C120 1U/10V_4
C127 1U/10V_4
C121 1U/10V_4
C173 1U/10V_4
C174 1U/10V_4
CF3_3P3_PWR
CF1_3P3_PWR
CORE_1P8_PWR
GPIOCF2_1P8_PWR
GPIOCF1_1P8_PWR
C112 1U/10V_4
C92 1U/10V_4
C93 1U/10V_4
C83 1U/10V_4
C62 1U/10V_4
C91 1U/10V_4
C146 1U/10V_4
C147 1U/10V_4
C181 1U/10V_4
C346 1U/10V_4
C73 1U/10V_4
C84 1U/10V_4
DDI_1P24_PWR
DPY_1P24_PWR
ICLK_VSFR_1P24_PWR
PLL_1P24_PWR
PLLCPU_1P24_PWR
USBHSIC_1P24_PWR
USB_1P24_PWR
USB2_1P24_PWR
USBSSIC_1P24_PWR
USB_3P3_PWR
+VRTC_3P3
RTC_3P3A_PWR
FUSE_1P8_PWR
FUSE1_1P05_PWR
C113 1U/10V_4
C90 1U/10V_4
PLACE THE CAPS UNDER THE PKG SHADOW
C94 1U/10V_4
C82 1U/10V_4
C68 1U/10V_4
C74 1U/10V_4
C106 1U/10V_4
R64 *short_8 ICLK_VSFR_1P24_PWR
R108 *SHORT_6 USBSSIC_1P24_PWR
R98 *SHORT_6 USBHSIC_1P24_PWR
R63 *short_8 USB_1P24_PWR
R62 *short_8
R60 *short_8 USB2_1P24_PWR
R113 *SHORT_6 DDI_1P24_PWR
R162 *short_8 PLLCPU_1P24_PWR
R93 *SHORT_6 DPY_1P24_PWR
R61 *short_8 PLL_1P24_PWR
C69 1U/10V_4
C63 1U/10V_4
C153 1U/10V_4
C89 1U/10V_4
R112 FUSE_1P8_PWR *SHORT_6
R117 GPIOCF2_1P8_PWR *SHORT_6
R180 USB_1P8_PWR *SHORT_6
R181 GPIOCF1_1P8_PWR *SHORT_6
R374 USB_3P3_PWR *SHORT_6
TWO PAD SHARING
R71 *0_6
R70 *SHORT_6 CF3_3P3_PWR
SD3 IO SUPPLY
R86 *SHORT_6
R94 *0_6 CF1_3P3_PWR
R813 *0_6
LPC IO SUPPLY
3/2 add
R165 *SHORT_6 CORE_1P8_PWR
R163 *0_6
AUDIO IO SUPPLY
R210 *short_8 +PLLDDR_1P35_PWR
R211 *short_8 +CLKDDR_1P35_PWR
C190 *1U/16V_4
C191 *1U/16V_4
待確認
R69 RTC_3P3A_PWR *SHORT_6
R68 *0_6
C70 0.1U/16V_4
CAPS PLACE NEAR SOC PIN
R67 *SHORT_6 +VRTC_3P3
C60 0.1U/16V_4
VSDIO VOLTAGE SETTING (CF3_3P3_PWR)
SDMMC3_PWR_EN_N
Quanta Computer Inc.
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Valley 8/9 (Power 2)
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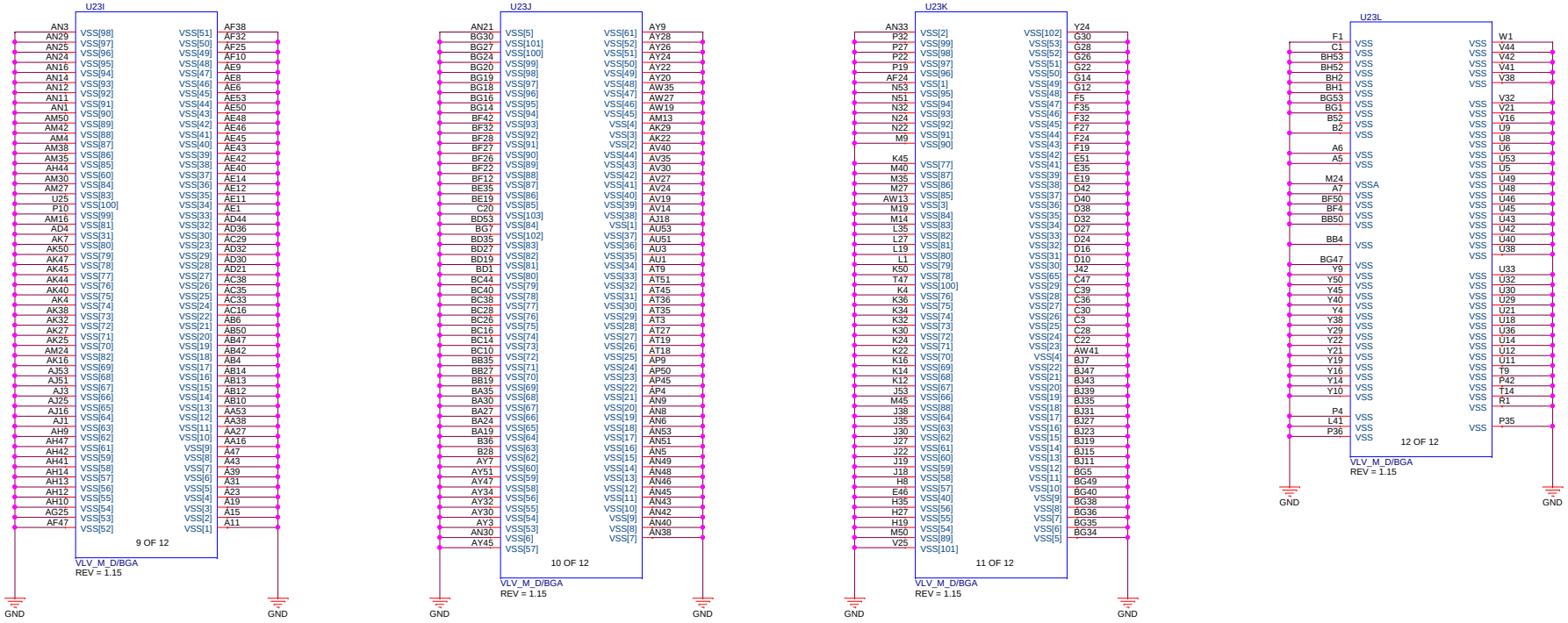

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	Valley 9/9 (GND)	3A

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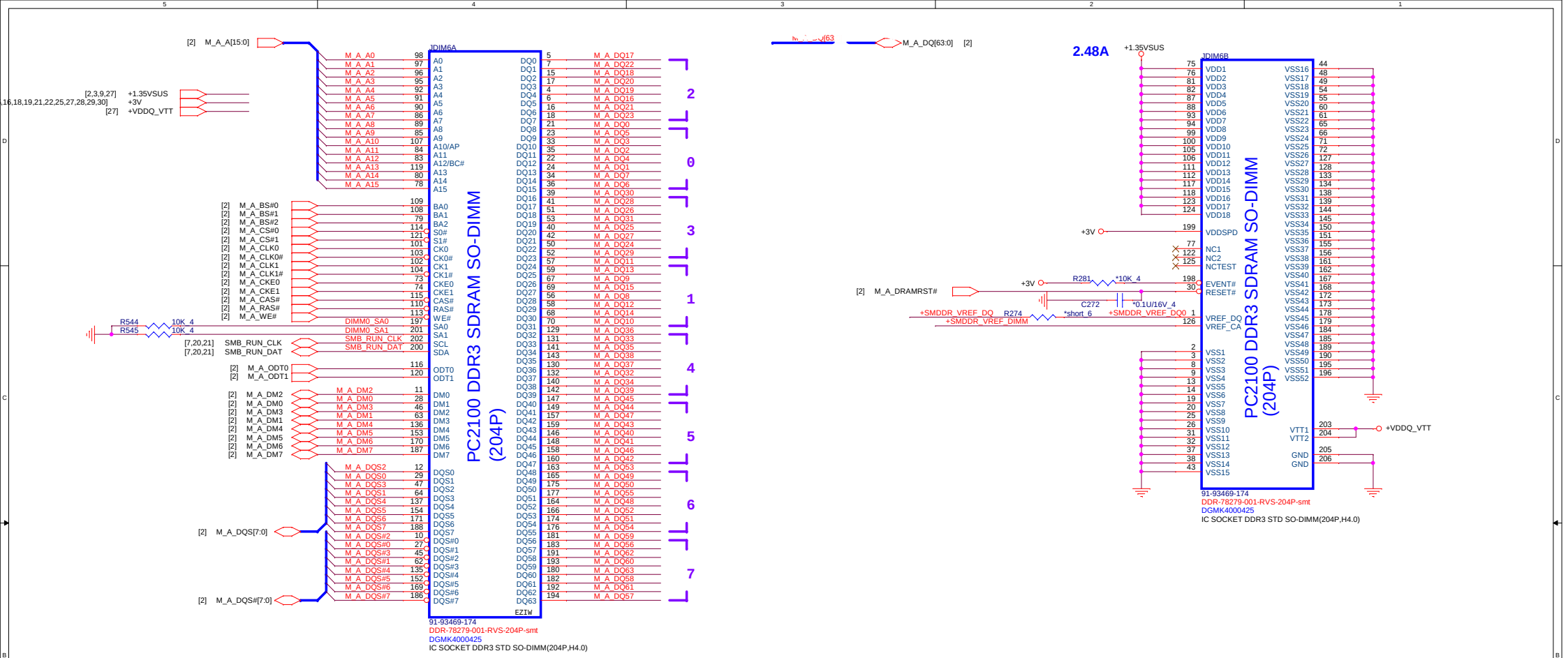

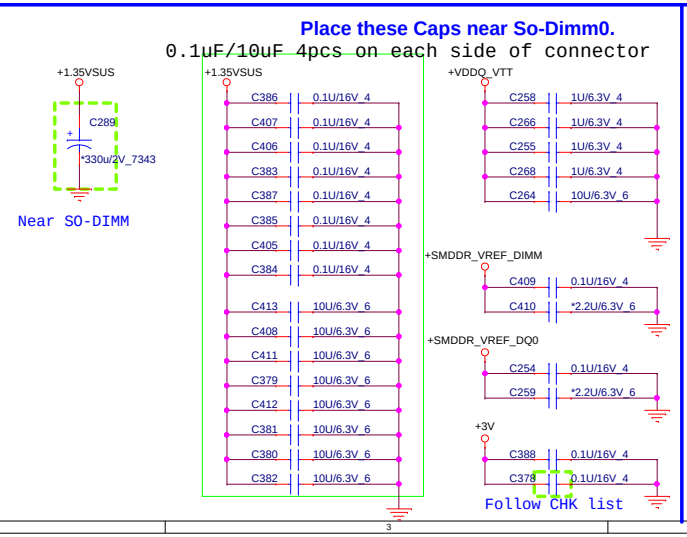

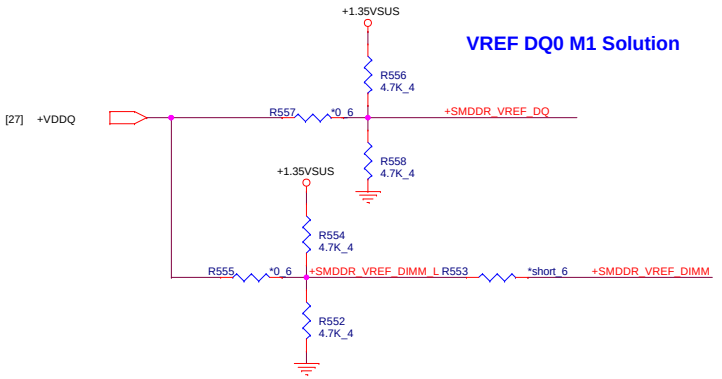

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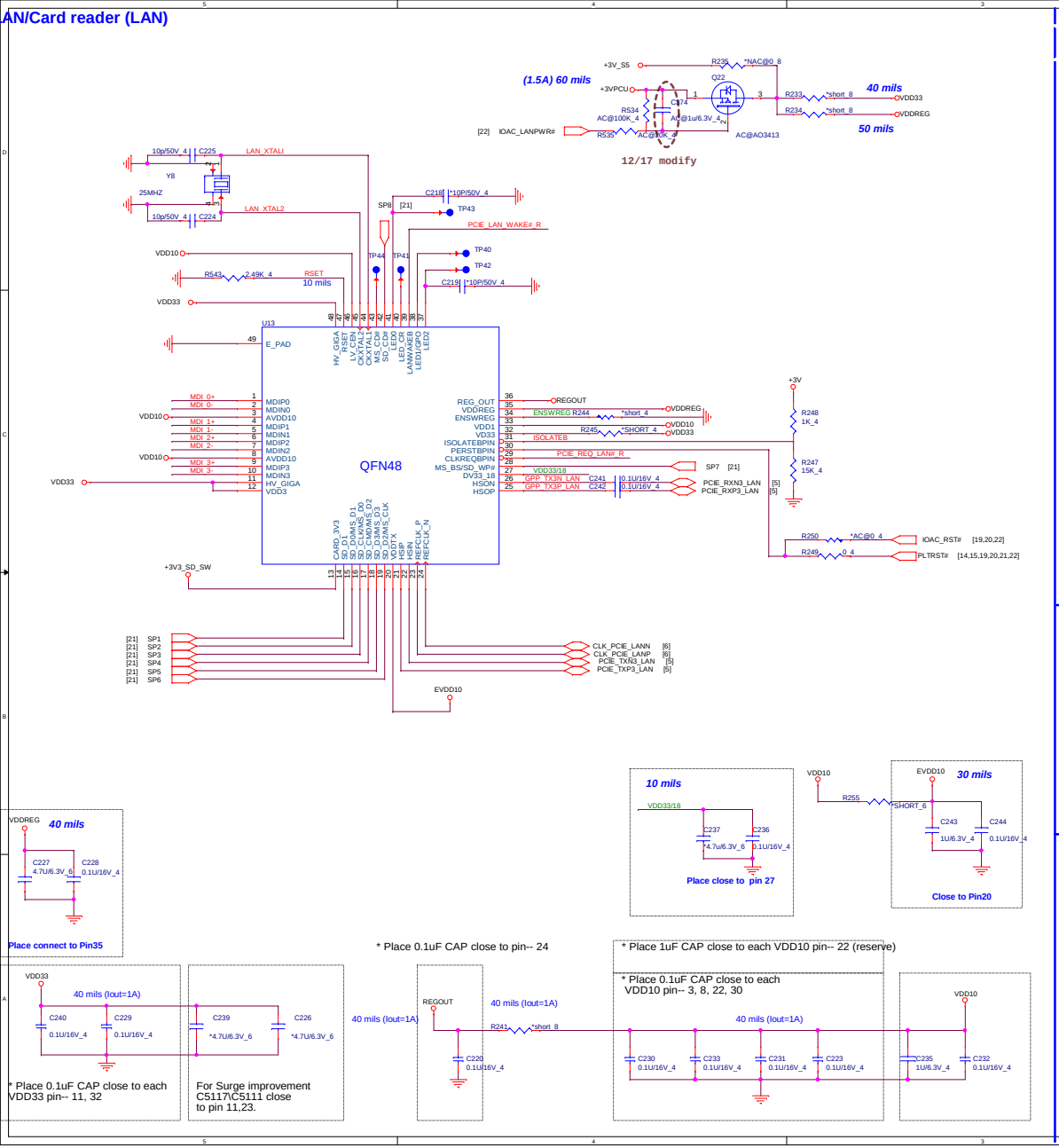
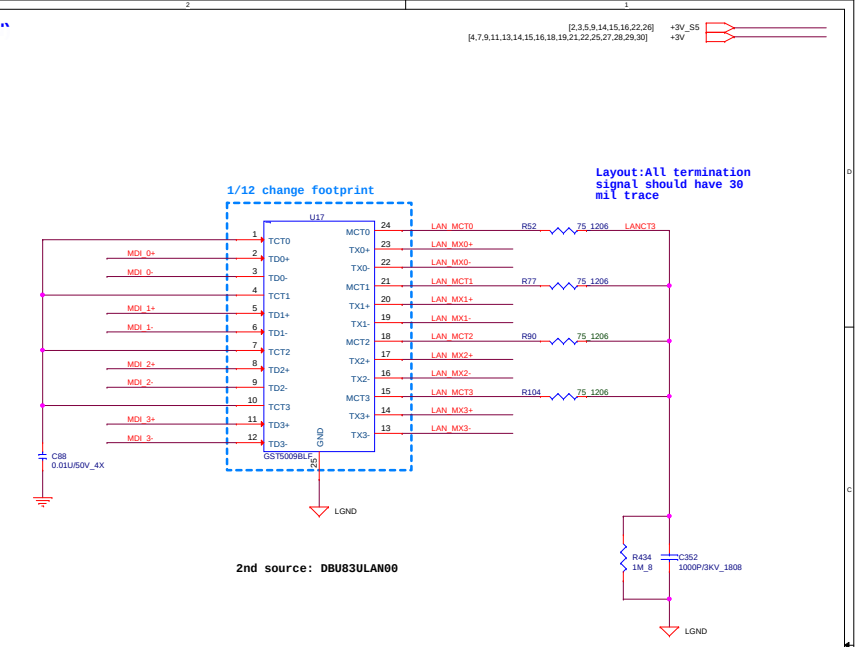
AN/Card reader (LAN)

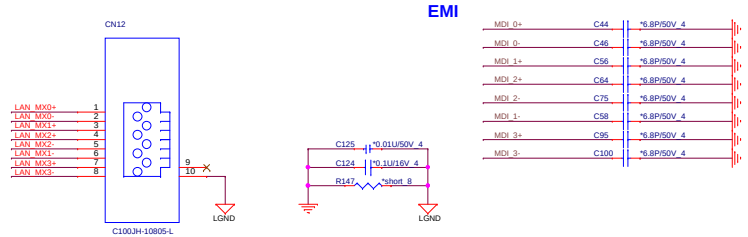


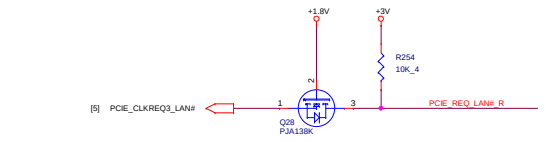
Trans ver AN

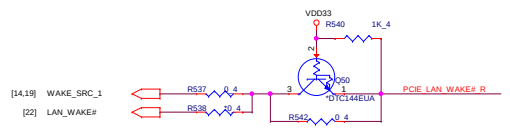


RJ45 Connector

EMI







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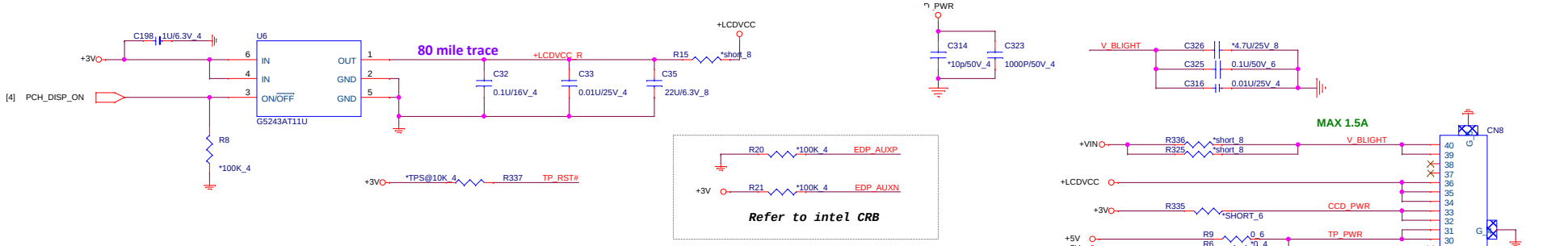
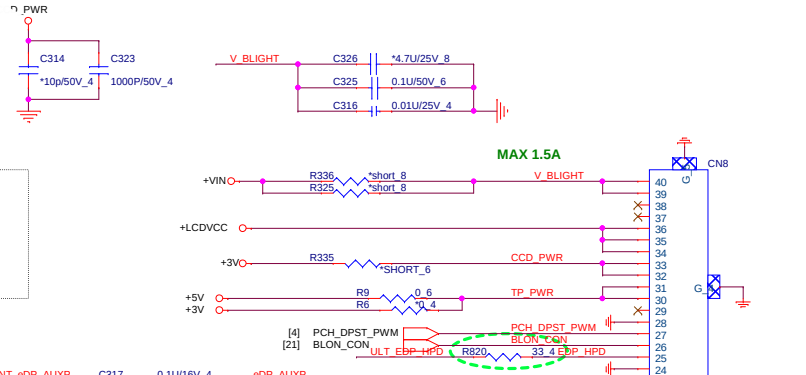
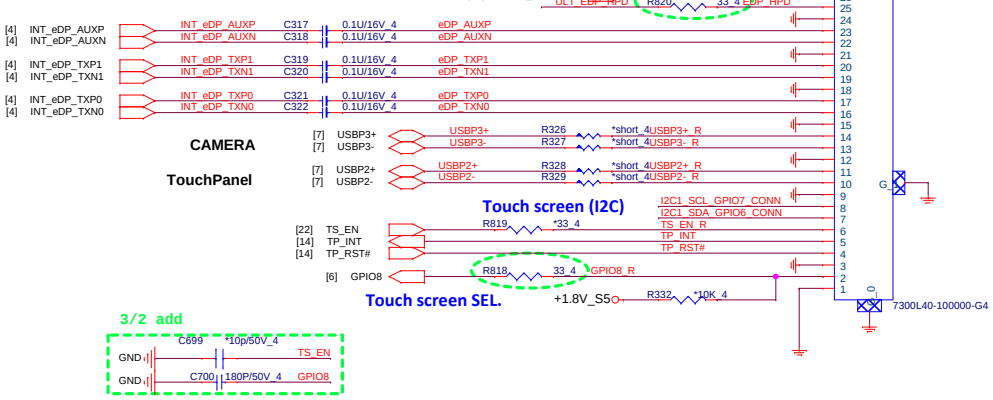
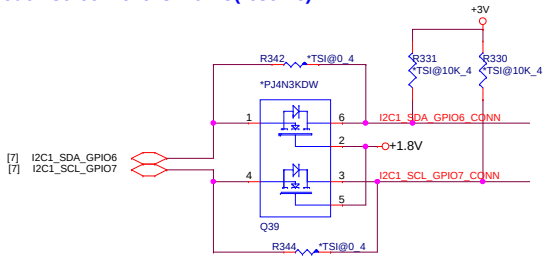
LCD POWER SWITCH

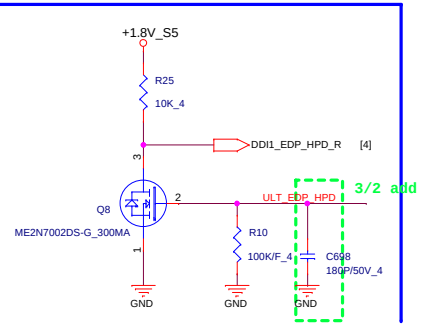






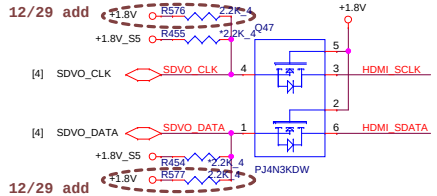
Touch screen level shift I2C(reserve)



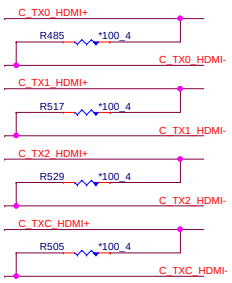


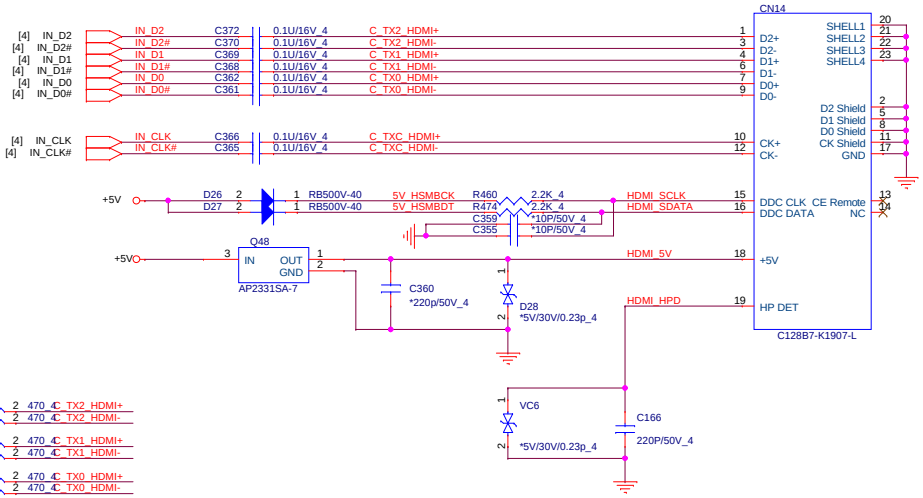
HDMI Conn.

HDMI SMBus Isolation

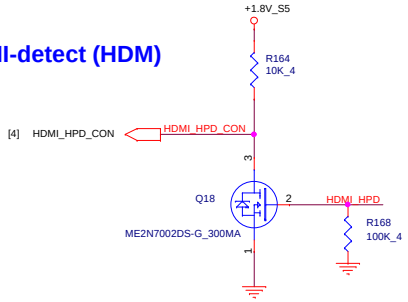


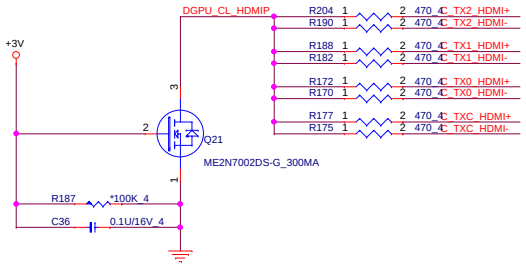
EMI (EMC)





HDMI-detect (HDM)





Quanta Computer Inc.		
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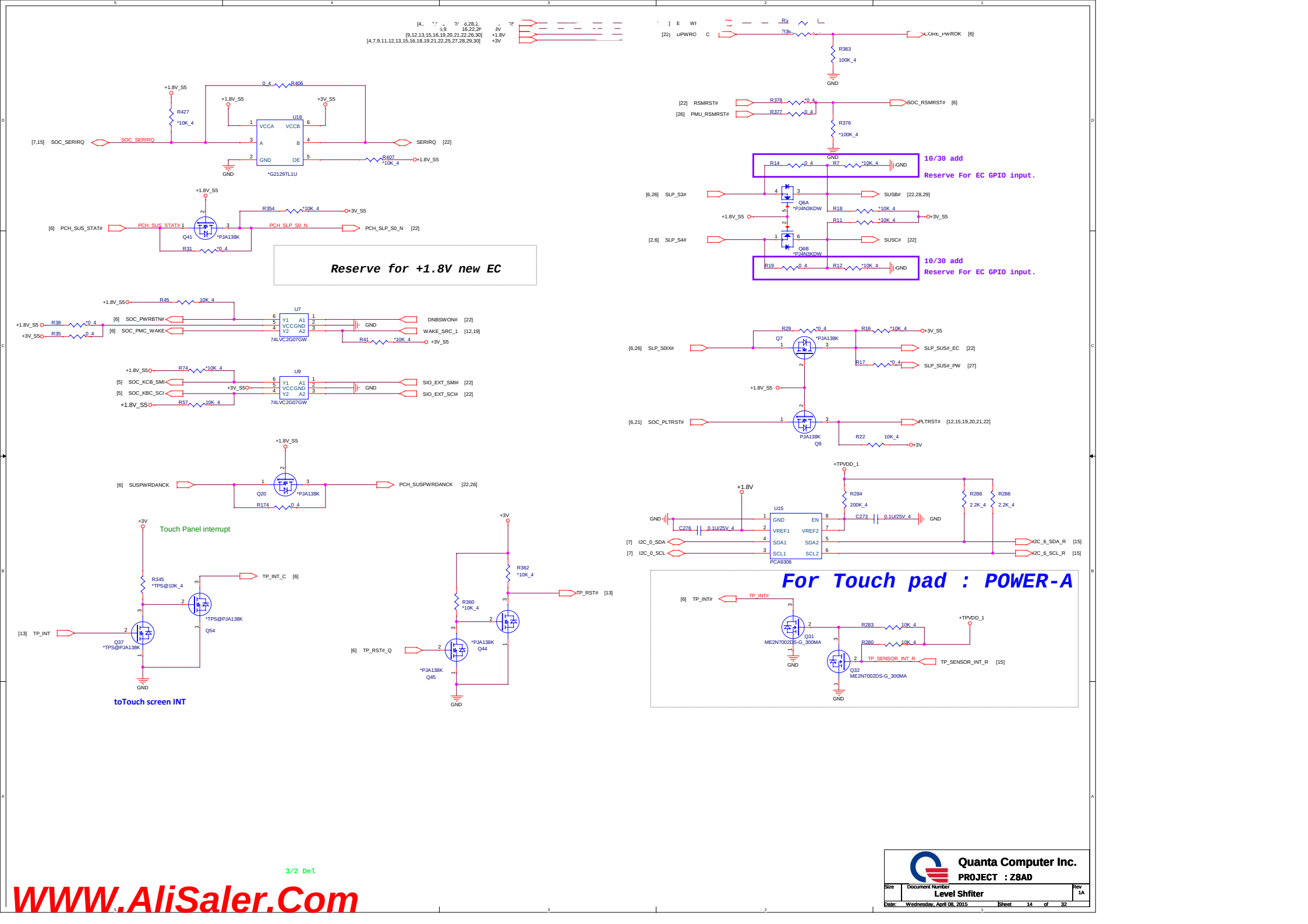
[9,12,13,15,16,19,20,21,22,26,30] +1.8V
[4,7,9,11,12,13,15,16,18,19,21,22,25,27,28,29,30] +3V
[22] PWROK
SOC_PWROK [6]
R363
100K_4
GND
[22] RSMRST#
[26] PMU_RSMRST#
R378
R377
SOC_RSMRST# [6]
R376
*100K_4
R14
R7
*10K_4
10/30 add
Reserve For EC GPIO input.
[6,26] SLP_S3#
SUSB# [22,28,29]
Q6A
*PJ4N3KDW
R18
R11
[2,6] SLP_S4#
SUSC# [22]
Q6B
*PJ4N3KDW
R19
R12
10/30 add
Reserve For EC GPIO input.
[7,15] SOC_SERIRQ
SERIRQ [22]
U18
*G2129TL1U
R406
R427
*10K_4
R407
[6] PCH_SUS_STAT#
PCH_SUS_STAT#
Q41
*PJA138K
R354
PCH_SLP_S0_N
PCH_SLP_S0_N [22]
R31
Reserve for +1.8V new EC
R45
10K_4
[6] SOC_PWRBTN#
[6] SOC_PMC_WAKE
U7
74LVC2G07GW
DNBSWON# [22]
WAKE_SRC_1 [12,19]
R38
R35
R41
[5] SOC_KCB_SMI
[5] SOC_KBC_SCI
U9
74LVC2G07GW
SIO_EXT_SMI# [22]
SIO_EXT_SCI# [22]
R74
R57
[6] SUSPWRDANCK
PCH_SUSPWRDANCK [22,26]
Q20
*PJA138K
R174
Touch Panel interrupt
TP_INT_C [6]
R345
*TPS@10K_4
*TPS@PJA138K
Q54
[13] TP_INT
Q37
*TPS@PJA138K
toTouch screen INT
R362
*10K_4
TP_RST# [13]
R360
*10K_4
[6] TP_RST#_Q
*PJA138K
Q44
*PJA138K
Q45
[6,26] SLP_S0IX#
R29
R16
Q7
*PJA138K
SLP_SUS#_EC [22]
R17
SLP_SUS#_PW [27]
[6,21] SOC_PLTRST#
PLTRST# [12,15,19,20,21,22]
PJA138K
Q9
R22
+TPVDD_1
+1.8V
U15
PCA9306
R284
200K_4
R288
2.2K_4
R286
2.2K_4
C276
0.1U/25V_4
C273
[7] I2C_0_SDA
[7] I2C_0_SCL
I2C_6_SDA_R [15]
I2C_6_SCL_R [15]
For Touch pad : POWER-A
[6] TP_INT#
TP_INT#
Q31
ME2N7002DS-G_300MA
R283
R280
TP_SENSOR_INT_R
TP_SENSOR_INT_R [15]
Q32
ME2N7002DS-G_300MA
3/2 Del
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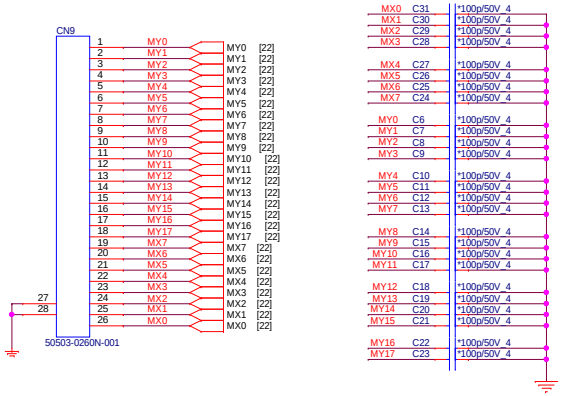
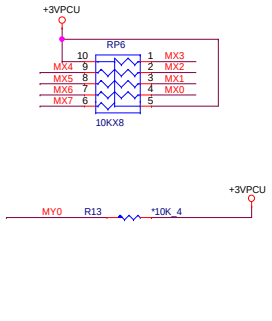
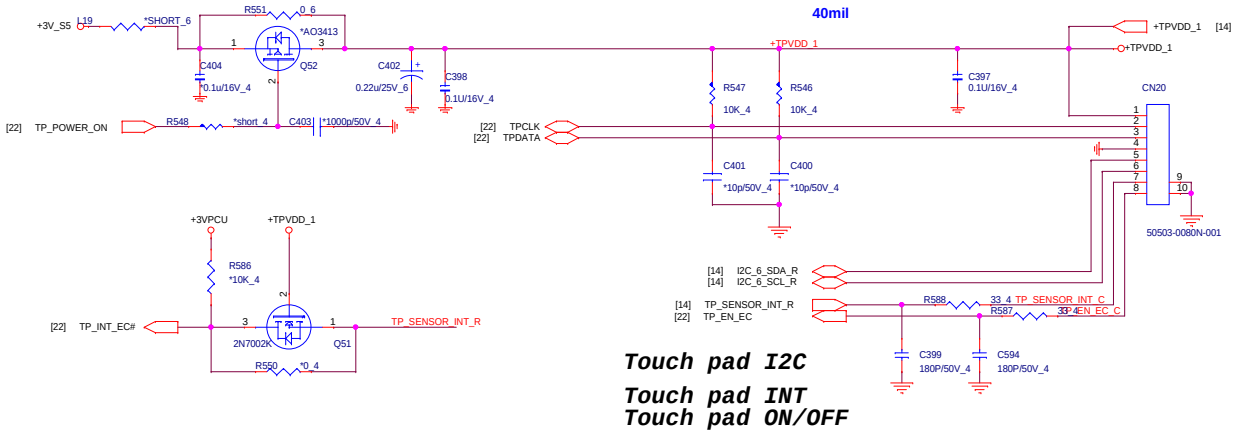
KEYBOARD (KBC)



INTERNAL KEYBOARD STRIP SET (KBC)



POWER-A

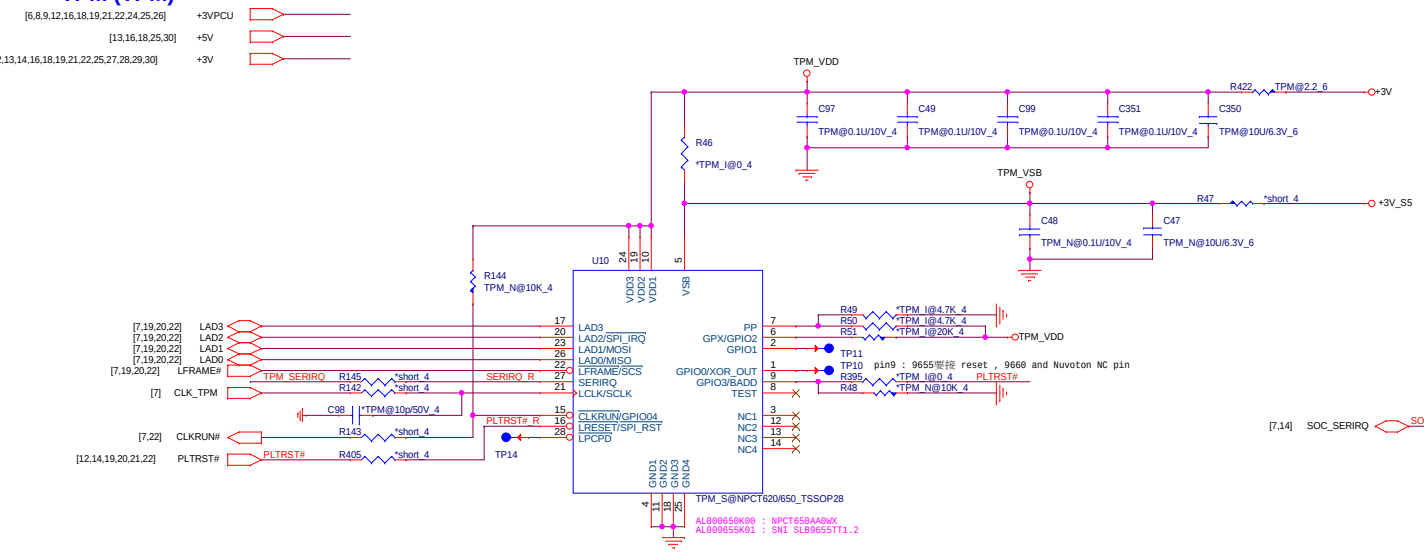


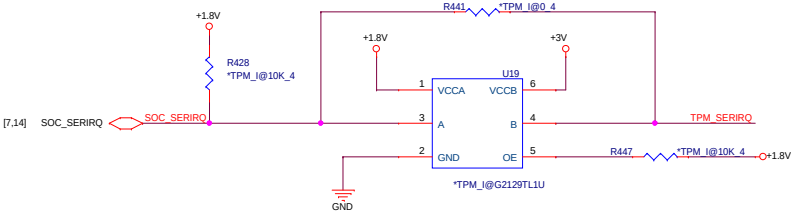
Touch pad I2C

Touch pad INT

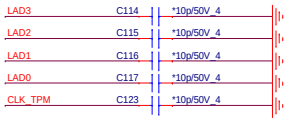
Touch pad ON/OFF

TPM (TPM)





20140303:NPCT650 TPM doesn't need SERIRQ.



TPM_N for 新唐

TPM_I for 英飛凌---- default

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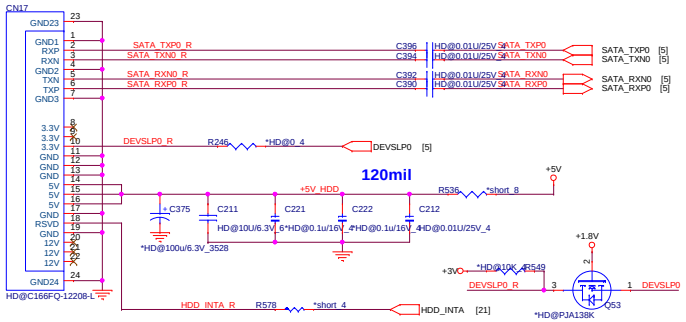
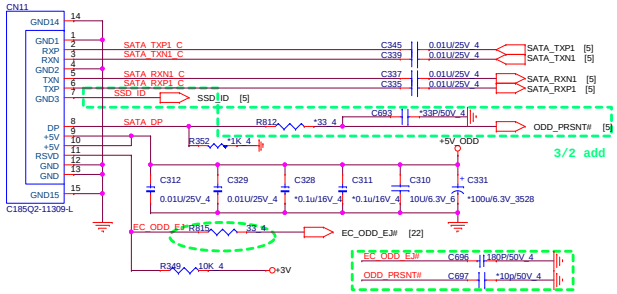
2.5" SATA HDD (HDD)

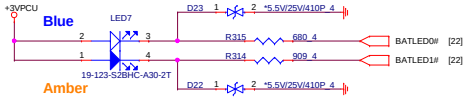


SATA ODD Connecto

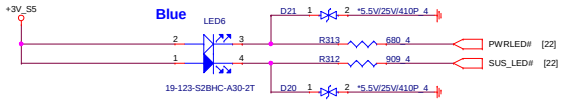


LED (UIF)

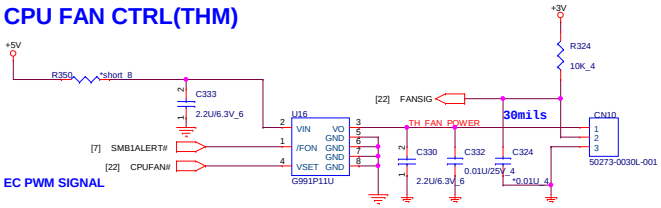
Battery indicator



PWR indicator



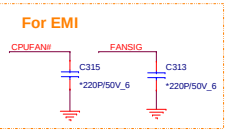
CPU FAN CTRL(THM)



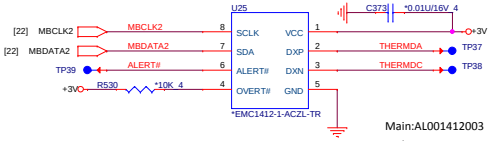
EC PWM SIGNAL

FANPWR = 1.6*VSET

For EMI



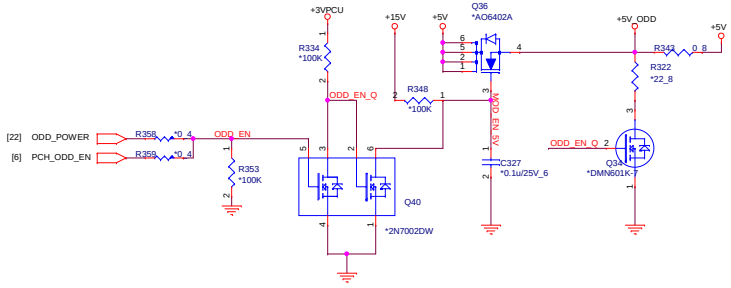
CPU Thermal sensor(THS) / MB Local TEMP



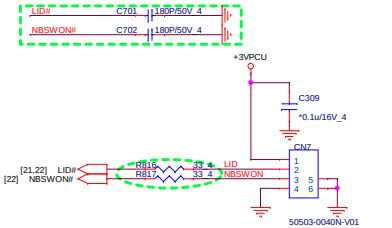
Main:AL001412003 EMC1412-1-ACZL-TR(98h)

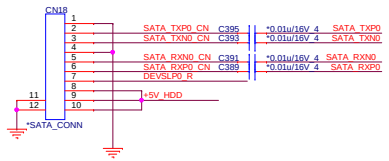
2nd:AL000431014 TMP431ADGKR(98h)

ODD Power (SATA)



PWR button DB CON





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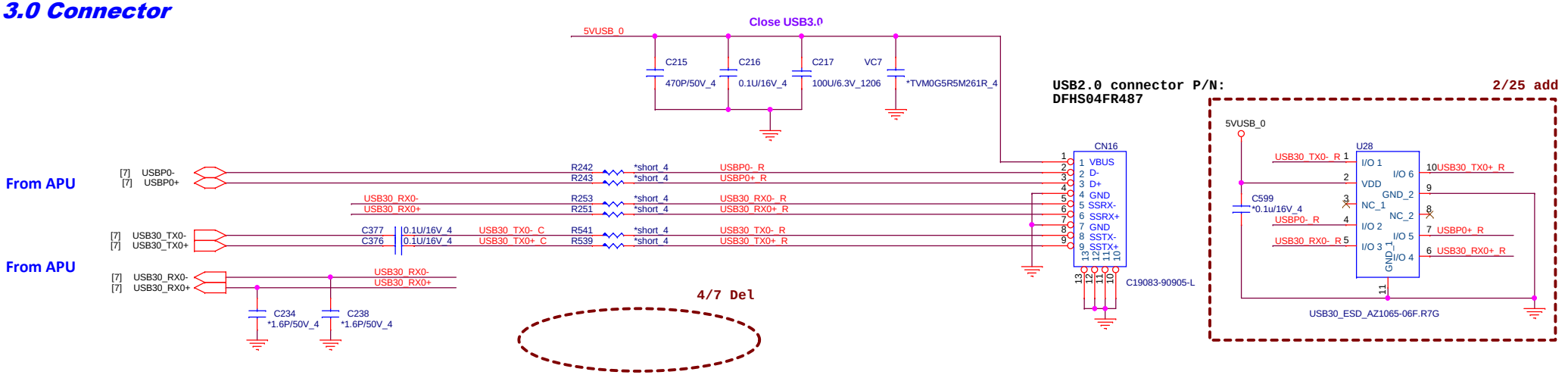
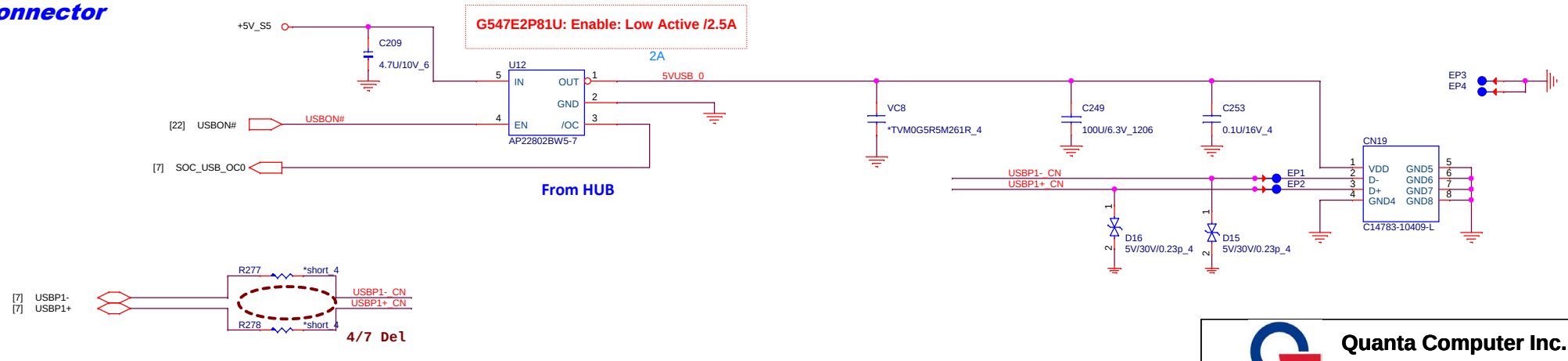
USB 3.0 Connector



USB 2.0 Connector



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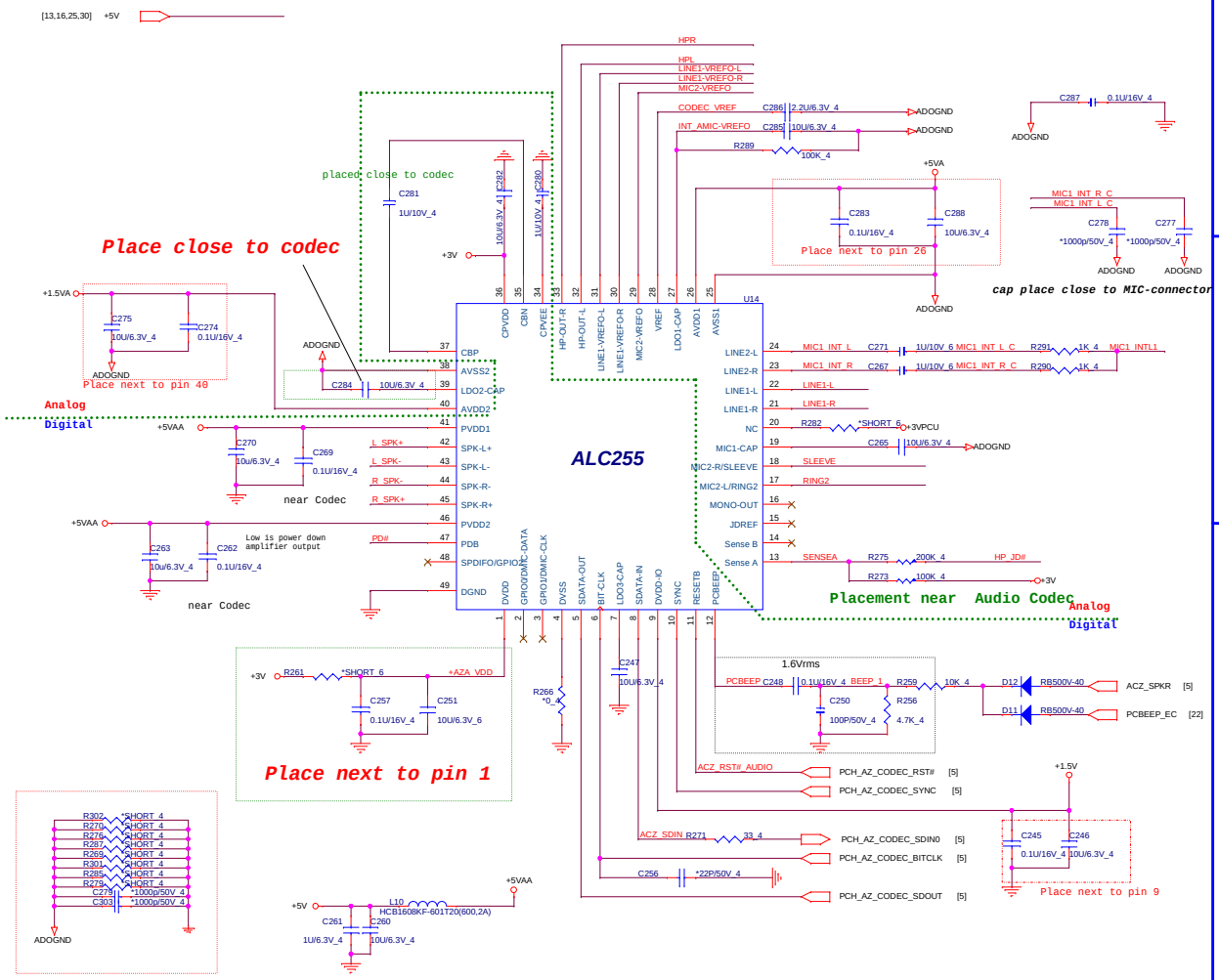
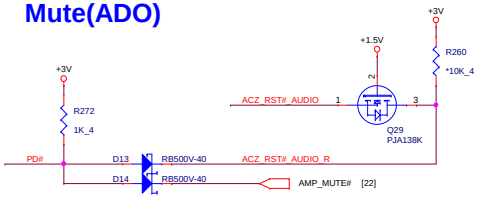
Codec(ADO)

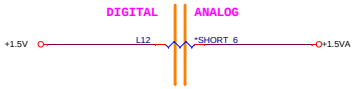


Codec PWR 5V(ADO)

Mute(ADO)



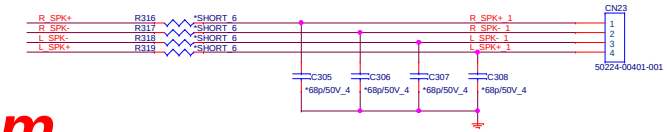
Codec PWR 1.5V(ADO)



Internal Speaker

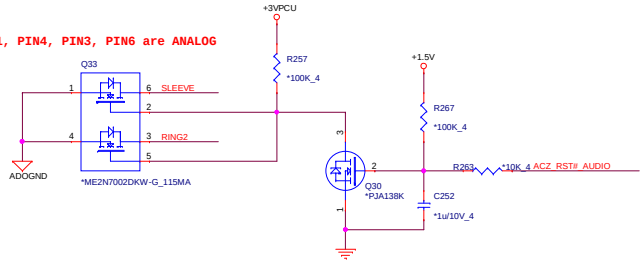
40mil for each signal

footprint 88266-040xx-xxx-4p-l

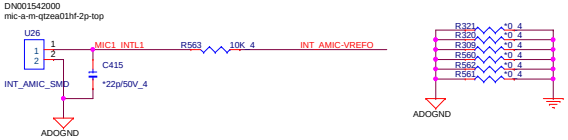


Pc beep circuit (ADO)

PIN1, PIN4, PIN3, PIN6 are ANALOG

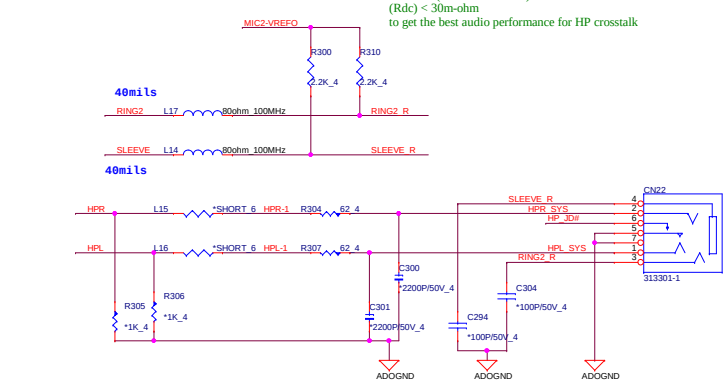


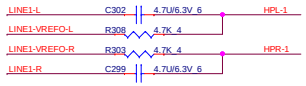
INT MIC array

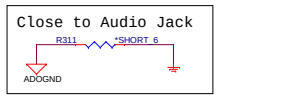


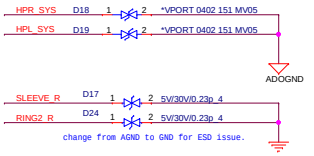
HEADPHONE/MIC/LINE combo

FB1/FB2(SLEEVE/RING2) should choose DC resistance (Rdc) < 30m-ohm to get the best audio performance for HP crosstalk









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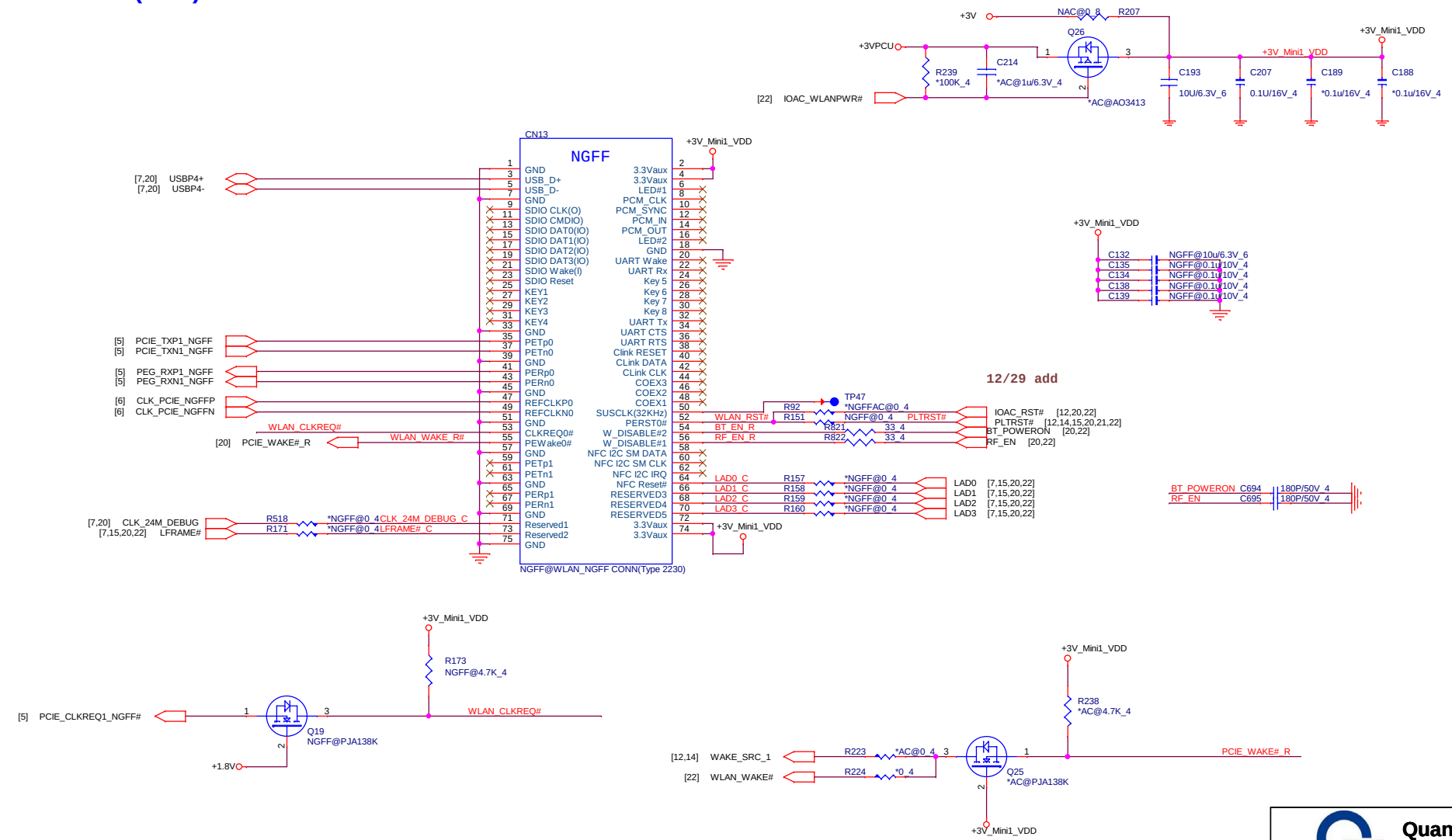
NGFF WiFi & BT (NGF)



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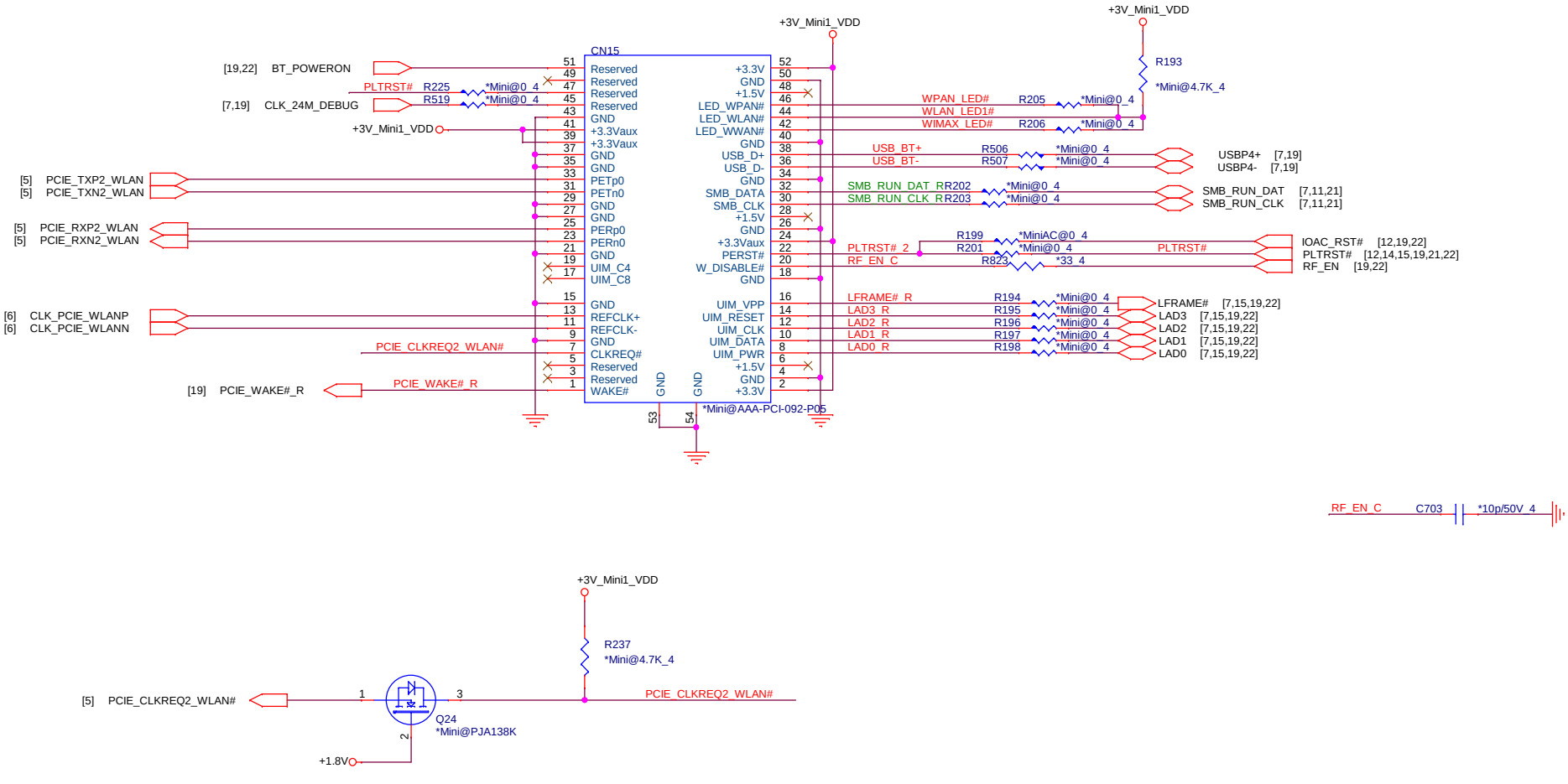
WLAN



[9,12,13,14,15,16,19,21,22,26,30] +1.8V

[4,7,9,11,12,13,14,15,16,18,19,21,22,25,27,28,29,30] +3V

Quanta Computer Inc.

PROJECT : Z8AD

Size	Document Number	Rev
	WiFi & BT	1A

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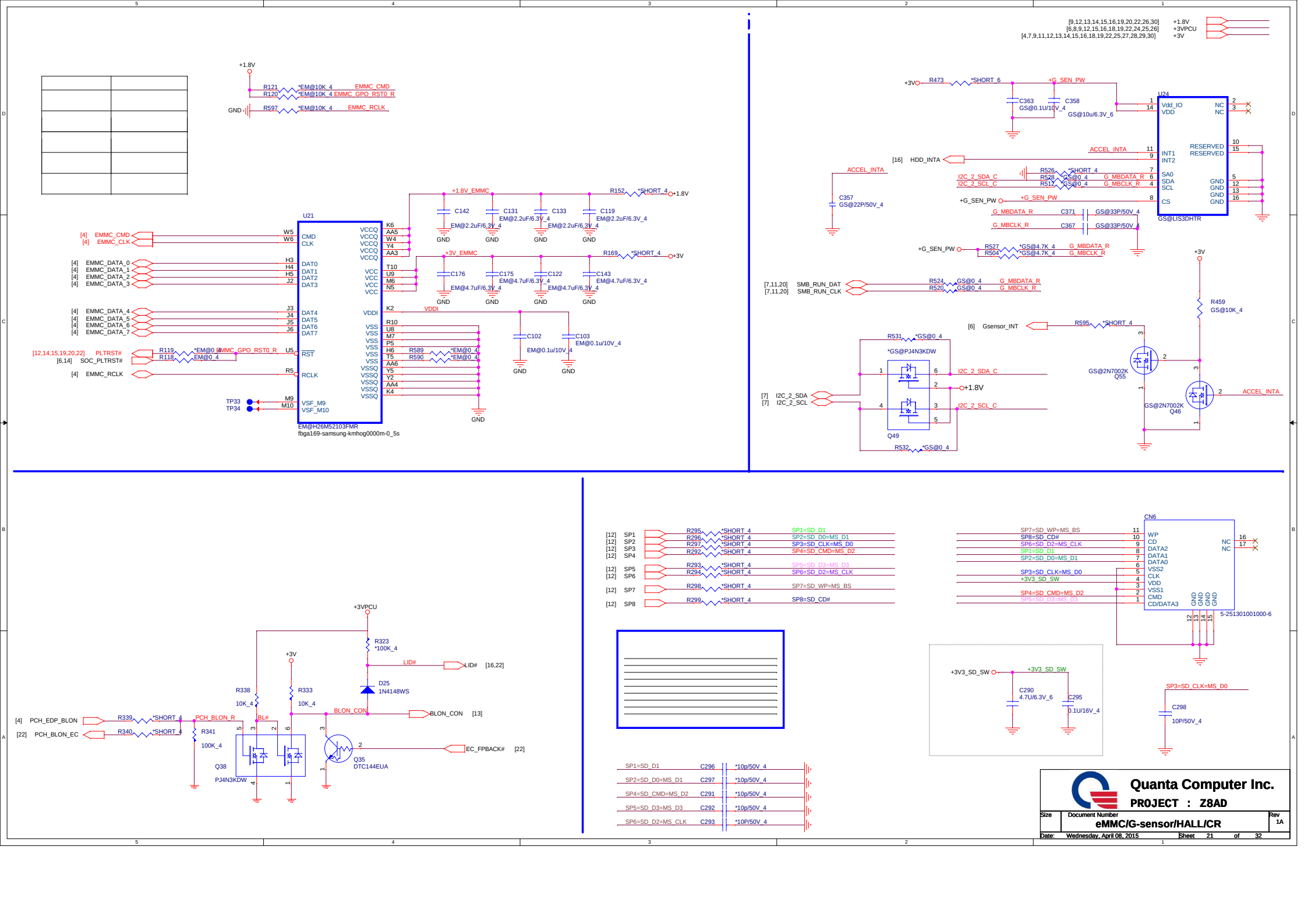
+1.8V
R121 *EM@10K_4 EMMC_CMD
R120 *EM@10K_4 EMMC_GPO_RST0_R
GND R597 *EM@10K_4 EMMC_RCLK
U21
[4] EMMC_CMD
[4] EMMC_CLK
[4] EMMC_DATA_0
[4] EMMC_DATA_1
[4] EMMC_DATA_2
[4] EMMC_DATA_3
[4] EMMC_DATA_4
[4] EMMC_DATA_5
[4] EMMC_DATA_6
[4] EMMC_DATA_7
[12,14,15,19,20,22] PLTRST#
[6,14] SOC_PLTRST#
[4] EMMC_RCLK
TP33
TP34
EM@H26M52103FMR
fbga169-samsung-kmhog0000m-0_5s
+1.8V_EMMC
+3V_EMMC
VDDI
R152 *SHORT_4 +1.8V
R169 *SHORT_4 +3V
C142 C131 C133 C119 EM@2.2uF/6.3V_4
C176 C175 C122 C143 EM@4.7uF/6.3V_4
C102 C103 EM@0.1u/10V_4
GND
[9,12,13,14,15,16,19,20,22,26,30] +1.8V
[6,8,9,12,15,16,18,19,22,24,25,26] +3VPCU
[4,7,9,11,12,13,14,15,16,18,19,22,25,27,28,29,30] +3V
+3V R473 *SHORT_6 +G_SEN_PW
C363 GS@0.1U/10V_4
C358 GS@10u/6.3V_6
U24
Vdd_IO
VDD
NC
INT1
INT2
RESERVED
SA0
SDA
SCL
CS
GND
GS@LIS3DHTR
[16] HDD_INTA
ACCEL_INTA
C357 GS@22P/50V_4
R526 R528 R512 *SHORT_4 *GS@0_4
I2C_2_SDA_C
I2C_2_SCL_C
G_MBDATA_R
G_MBCLK_R
+G_SEN_PW
C371 C367 GS@33P/50V_4
R527 R504 *GS@4.7K_4
[7,11,20] SMB_RUN_DAT
[7,11,20] SMB_RUN_CLK
R524 R520 GS@0_4
R459 GS@10K_4
[6] Gsensor_INT
R595 *SHORT_4
R531 R532 *GS@0_4
*GS@PJ4N3KDW
Q49
[7] I2C_2_SDA
[7] I2C_2_SCL
+1.8V
GS@2N7002K
Q55
Q46
ACCEL_INTA
R323 *100K_4
LID#
LID# [16,22]
D25
1N4148WS
R338 10K_4
R333 10K_4
[4] PCH_EDP_BLON
[22] PCH_BLON_EC
R339 R340 *SHORT_4
PCH_BLON_R
BL#
BLON_CON
BLON_CON [13]
R341 100K_4
Q38
PJ4N3KDW
Q35
DTC144EUA
EC_FPBACK# [22]
[12] SP1
[12] SP2
[12] SP3
[12] SP4
[12] SP5
[12] SP6
[12] SP7
[12] SP8
R295 R296 R297 R292 R293 R294 R298 R299 *SHORT_4
SP1=SD_D1
SP2=SD_D0=MS_D1
SP3=SD_CLK=MS_D0
SP4=SD_CMD=MS_D2
SP5=SD_D3=MS_D3
SP6=SD_D2=MS_CLK
SP7=SD_WP=MS_BS
SP8=SD_CD#
CN6
WP
CD
DATA2
DATA1
DATA0
VSS2
CLK
VDD
VSS1
CMD
CD/DATA3
5-251301001000-6
+3V3_SD_SW
C290 4.7U/6.3V_6
C295 0.1U/16V_4
C298 10P/50V_4
C296 C297 C291 C292 C293 *10p/50V_4
*10P/50V_4
Quanta Computer Inc.
PROJECT : Z8AD
Size
Document Number
eMMC/G-sensor/HALL/CR
Rev 1A
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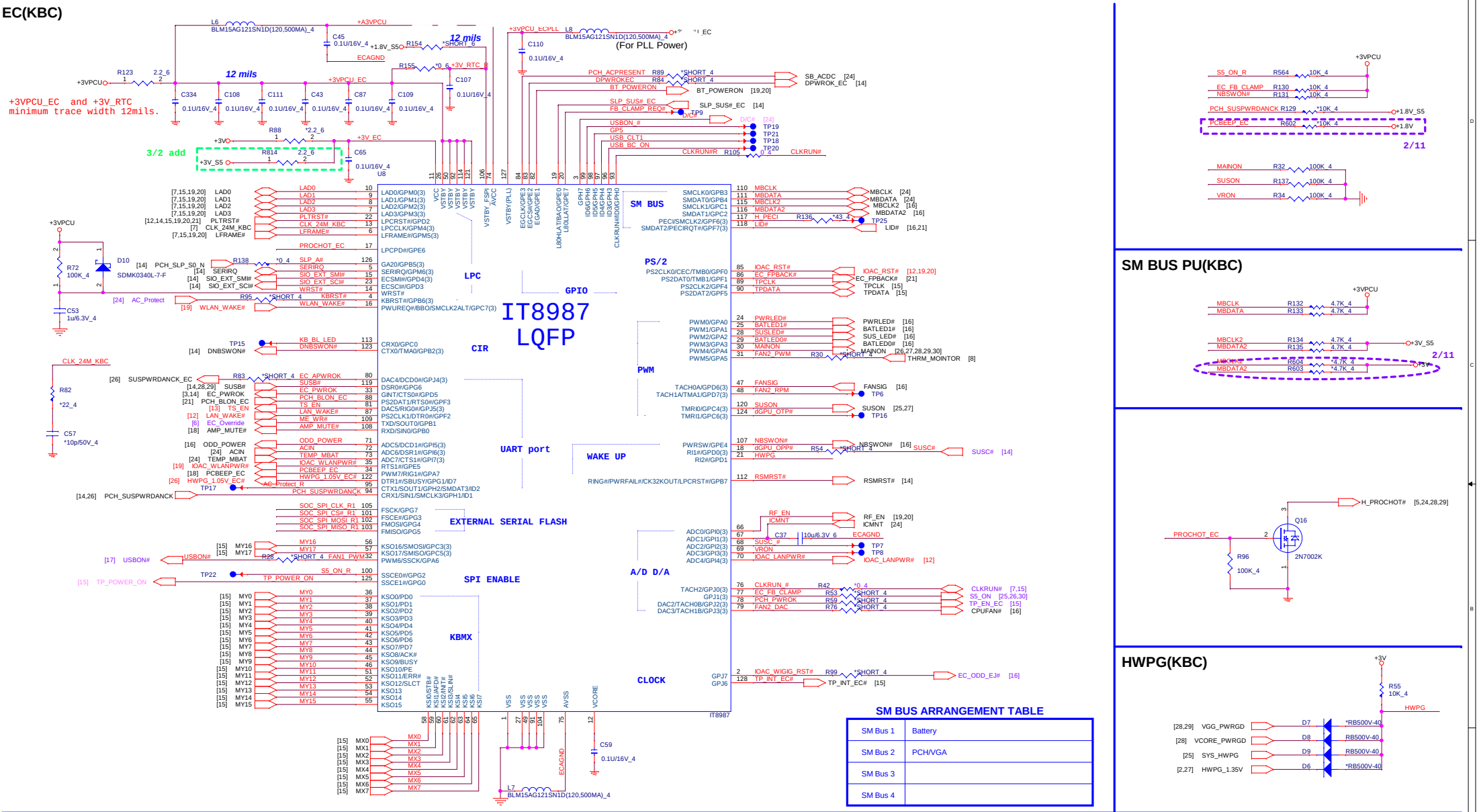
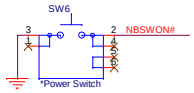
EC(KBC)



SM BUS PU(KBC)

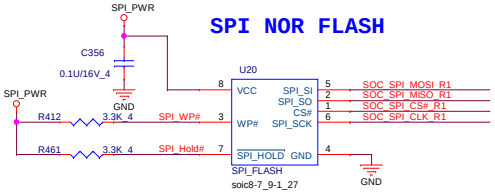
HWPG(KBC)

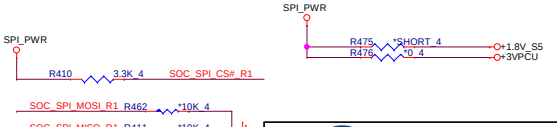
For test only



Reset SW (FSW)

SPI NOR FLASH





Quanta Computer Inc.	
PROJECT : Z8AD	
Size	Document Number: KBC IT8987 — Rev: 3A
Date: Wednesday, April 08, 2015	Sheet 22 of 32

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HOLE6
*H-C315D118P2

HOLE8
*H-C315D118P2

HOLE9
*H-C315D118P2

HOLE17
*H-C315D118P2

HOLE11
*H-C315D118P2

HOLE10
*h-o138x91d138x91n

HOLE14
*h-o138x91d138x91n

HOLE19
MBZRT001010

HOLE21
*H-TC197BC65D65P2

HOLE22
MBZ8A001010

HOLE20
MBZ8A001010

HOLE12
*h-c91d91n

HOLE18
*H-E315X276D118P2

HOLE16
*H-C315D118P2

R593
*0_6

*H-C276D118P2
HOLE7

*0_6
R596

+VIN
C34
*0.1U/25V_4

+VIN
C38
*0.1U/25V_4

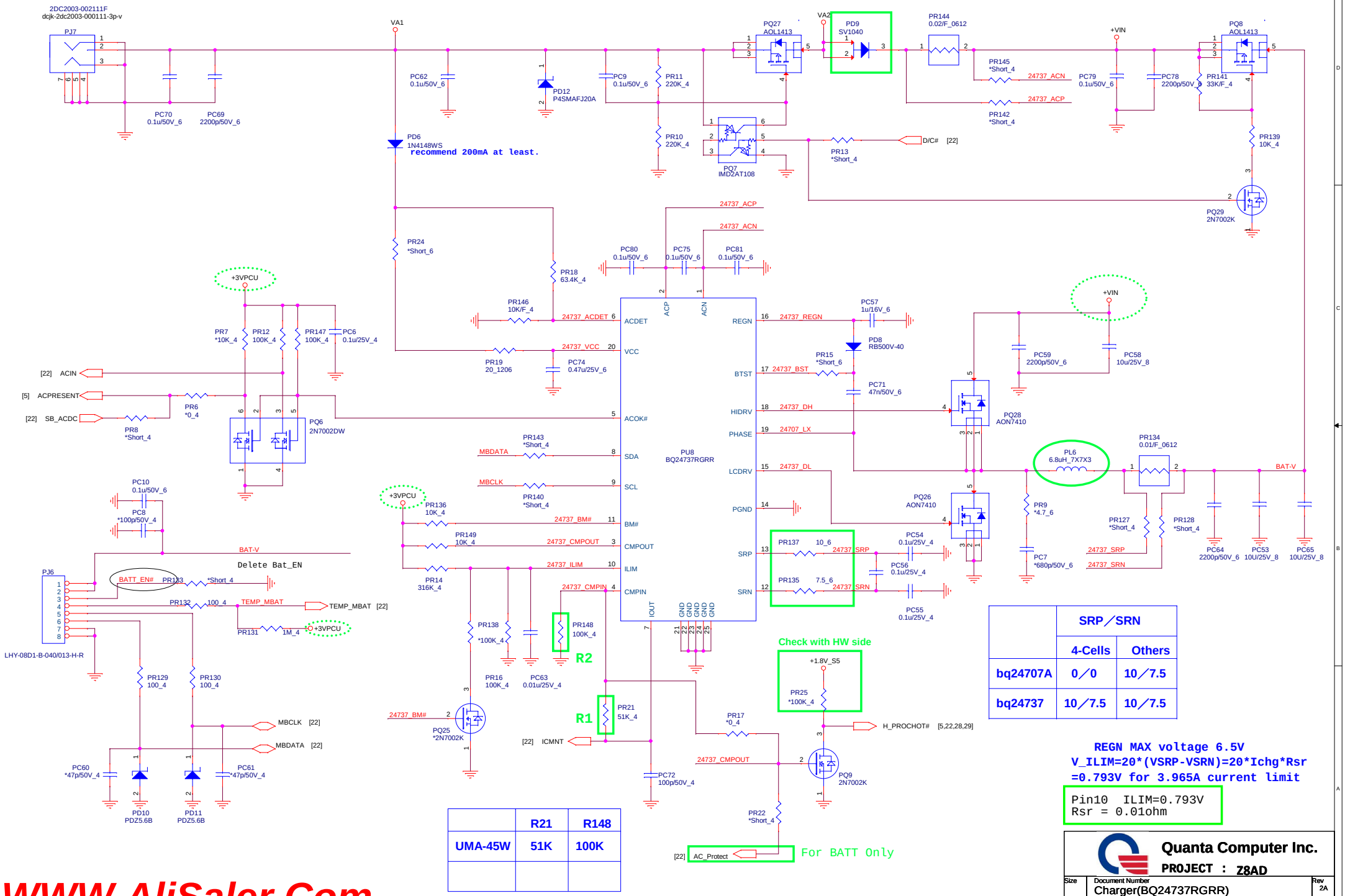
+VIN
C210
*0.1U/25V_4

+VIN
C213
*0.1U/25V_4

Quanta Computer Inc.

PROJECT : Z8AD

Size	Document Number	Rev
	Thermal / Hole	1A
Date: Wednesday, April 08, 2015	Sheet 23 of 32	



	SRP／SRN	
	4-Cells	Others
bq24707A	0／0	10／7.5
bq24737	10／7.5	10／7.5

	R21	R148
UMA-45W	51K	100K

REGN MAX voltage 6.5V
V_ILIM=20*(VSRP-VSRN)=20*Ichg*Rsr
=0.793V for 3.965A current limit

Pin10 ILIM=0.793V
Rsr = 0.01ohm

Quanta Computer Inc.
PROJECT : Z8AD

Size	Document Number	Rev
	Charger(BQ24737RGRR)	2A

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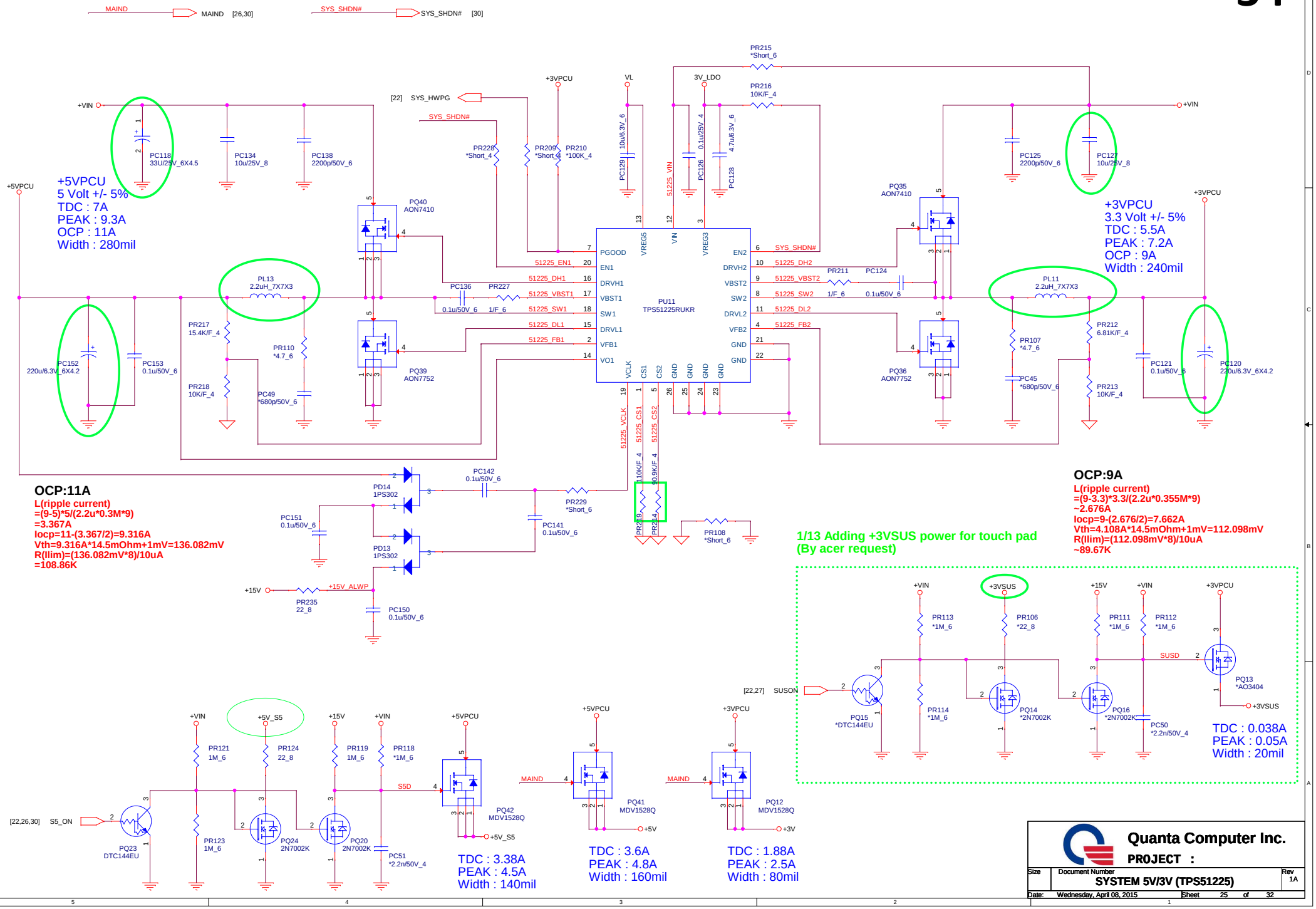
MAIND
MAIND [26,30]
SYS_SHDN#
SYS_SHDN# [30]
+5VPCU
5 Volt +/- 5%
TDC : 7A
PEAK : 9.3A
OCP : 11A
Width : 280mil
+3VPCU
3.3 Volt +/- 5%
TDC : 5.5A
PEAK : 7.2A
OCP : 9A
Width : 240mil
PU11
TPS51225RUKR
OCP:11A
L(ripple current)
=(9-5)*5/(2.2u*0.3M*9)
=3.367A
Iocp=11-(3.367/2)=9.316A
Vth=9.316A*14.5mOhm+1mV=136.082mV
R(Ilim)=(136.082mV*8)/10uA
=108.86K
OCP:9A
L(ripple current)
=(9-3.3)*3.3/(2.2u*0.355M*9)
~2.676A
Iocp=9-(2.676/2)=7.662A
Vth=4.108A*14.5mOhm+1mV=112.098mV
R(Ilim)=(112.098mV*8)/10uA
~89.67K
1/13 Adding +3VSUS power for touch pad
(By acer request)
TDC : 0.038A
PEAK : 0.05A
Width : 20mil
TDC : 3.38A
PEAK : 4.5A
Width : 140mil
TDC : 3.6A
PEAK : 4.8A
Width : 160mil
TDC : 1.88A
PEAK : 2.5A
Width : 80mil
Quanta Computer Inc.
PROJECT :
SYSTEM 5V/3V (TPS51225)
Size
Document Number
Rev
1A
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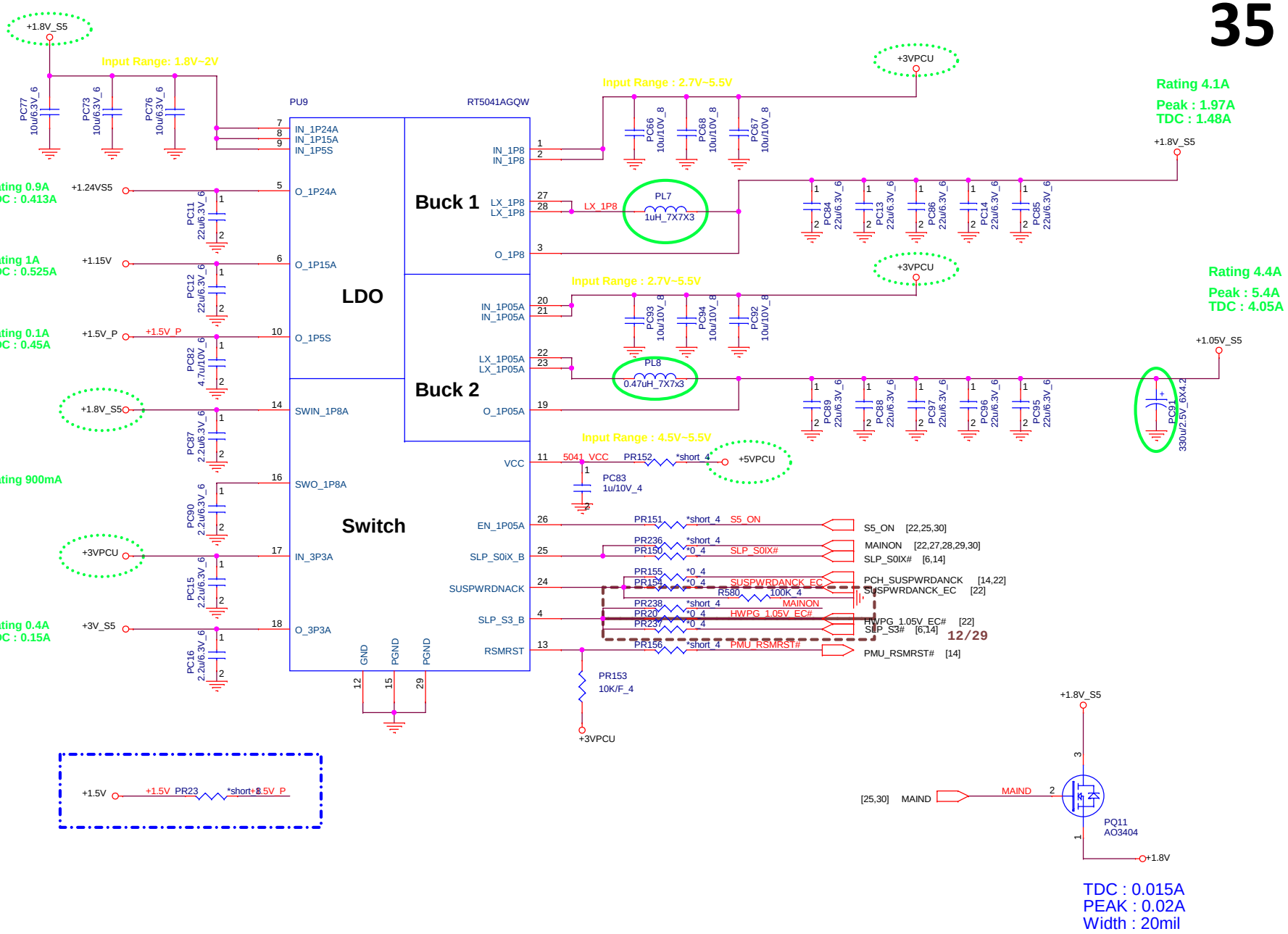

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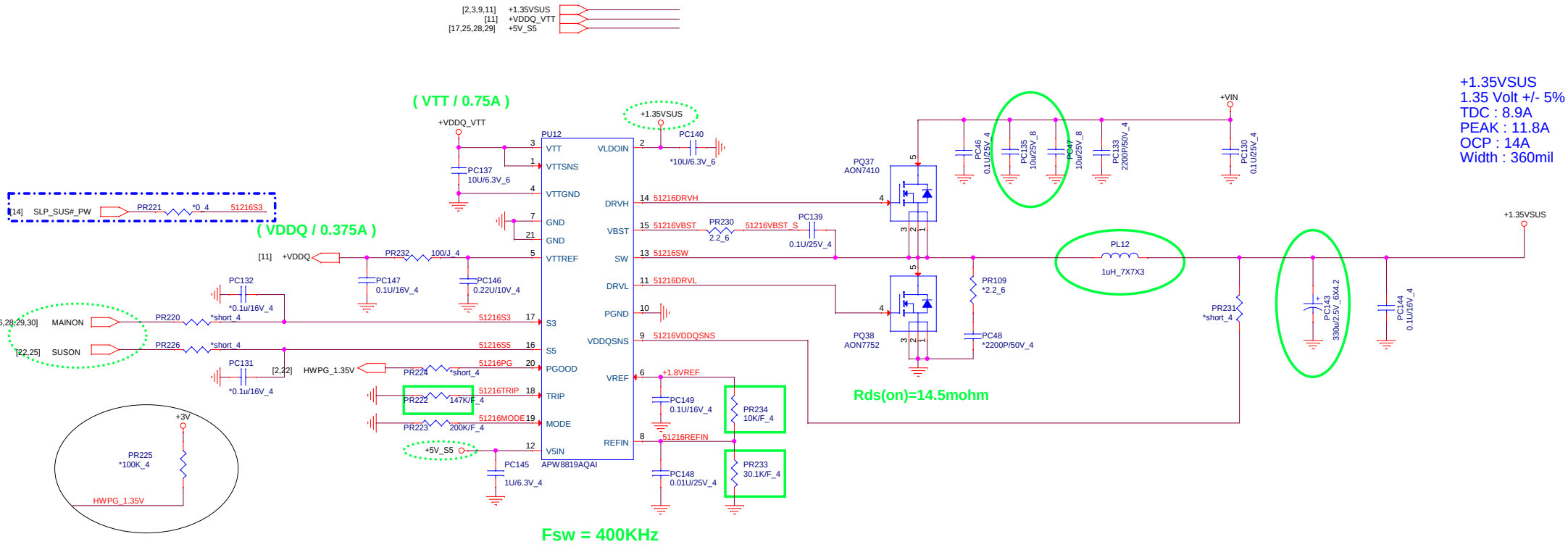
Quanta Computer Inc.		
PROJECT :		
Size: Custom	Document Number: PMIC (RT5041AGQW)	Rev: A
Date: Wednesday, April 08, 2015	Sheet 26 of 32	



OCP=14A
L ripple current
=(19-1.35)*1.35/(1u*400k*19)
=3.135A
Vtrip=14-(3.135/2)*14.5mohm
=180.269mV
Rlimit=180.269mV/10uA*8=144.21Kohm

DDR=1.35V
PR104=10K/F_4
PR106=30.1K/F_4

Mode	Frequency	Discharge mode
200K	400K	Tracking Discharge
100K	300K	Tracking Discharge

	S3	S5	+1.35VSUS	REF	VTT
S0	1	1	ON	ON	ON
S3 (mainon off)	0	1	ON	ON	OFF
S4/S5	0	0	OFF	OFF	OFF

Quanta Computer Inc.
PROJECT :

Size	Document Number	Rev
	DDR3L (APW8819)	1A

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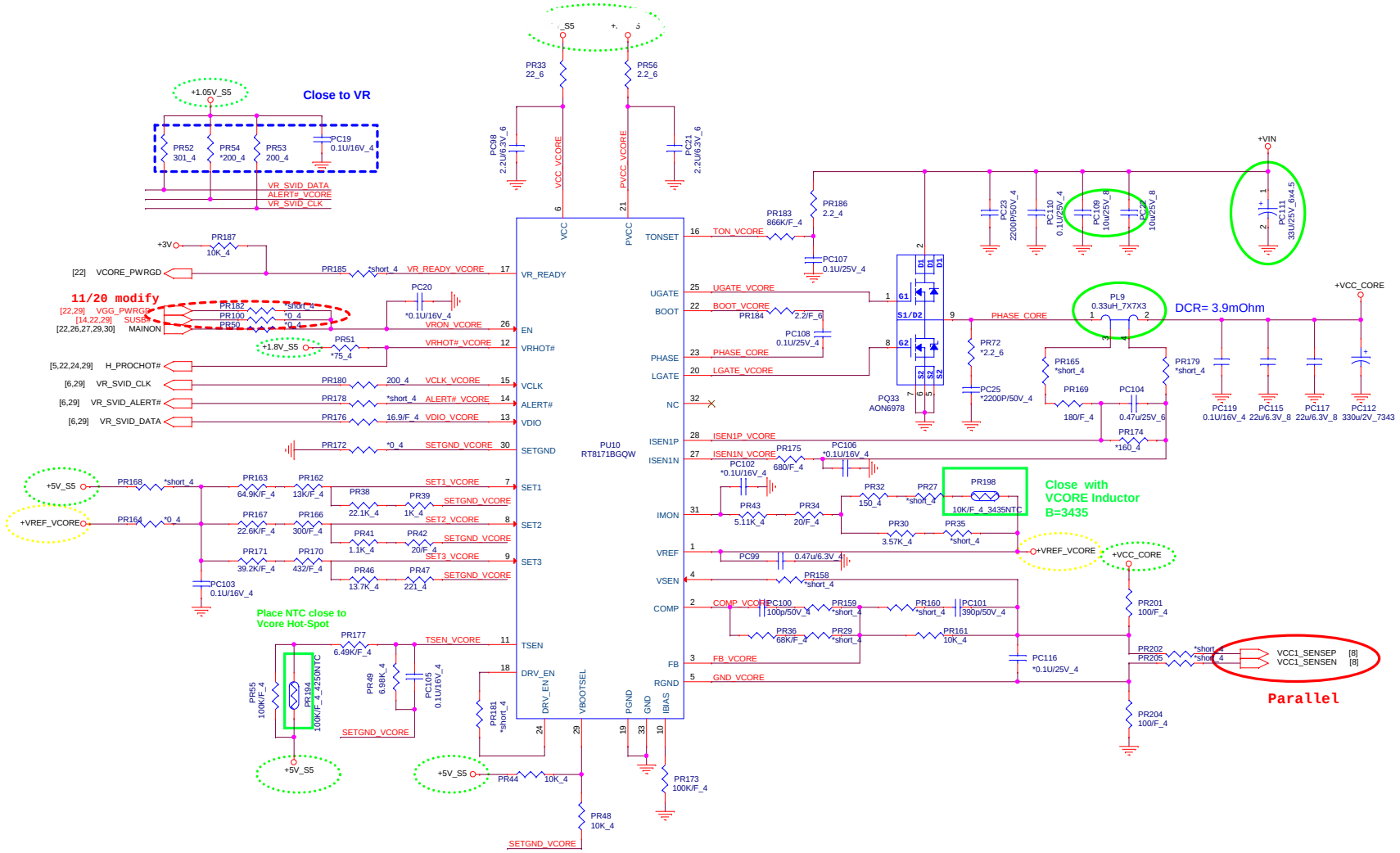

VR 12.1

Braswell - VCC0+1 (1 Phase)

Icc TDC PL2：TBD
Icc Max：7A
OCP：12.4A
Fsw：800KHz
Vboot：1V
VR address：0

VCC0+1 L/L：
R_DC_LL：0 mV/A
R_AC_LL：0 mV/A

Quanta Computer Inc.			
PROJECT：			
Size	Document Number		Rev
	VCC0+1 (RT8171BGQW)		2A
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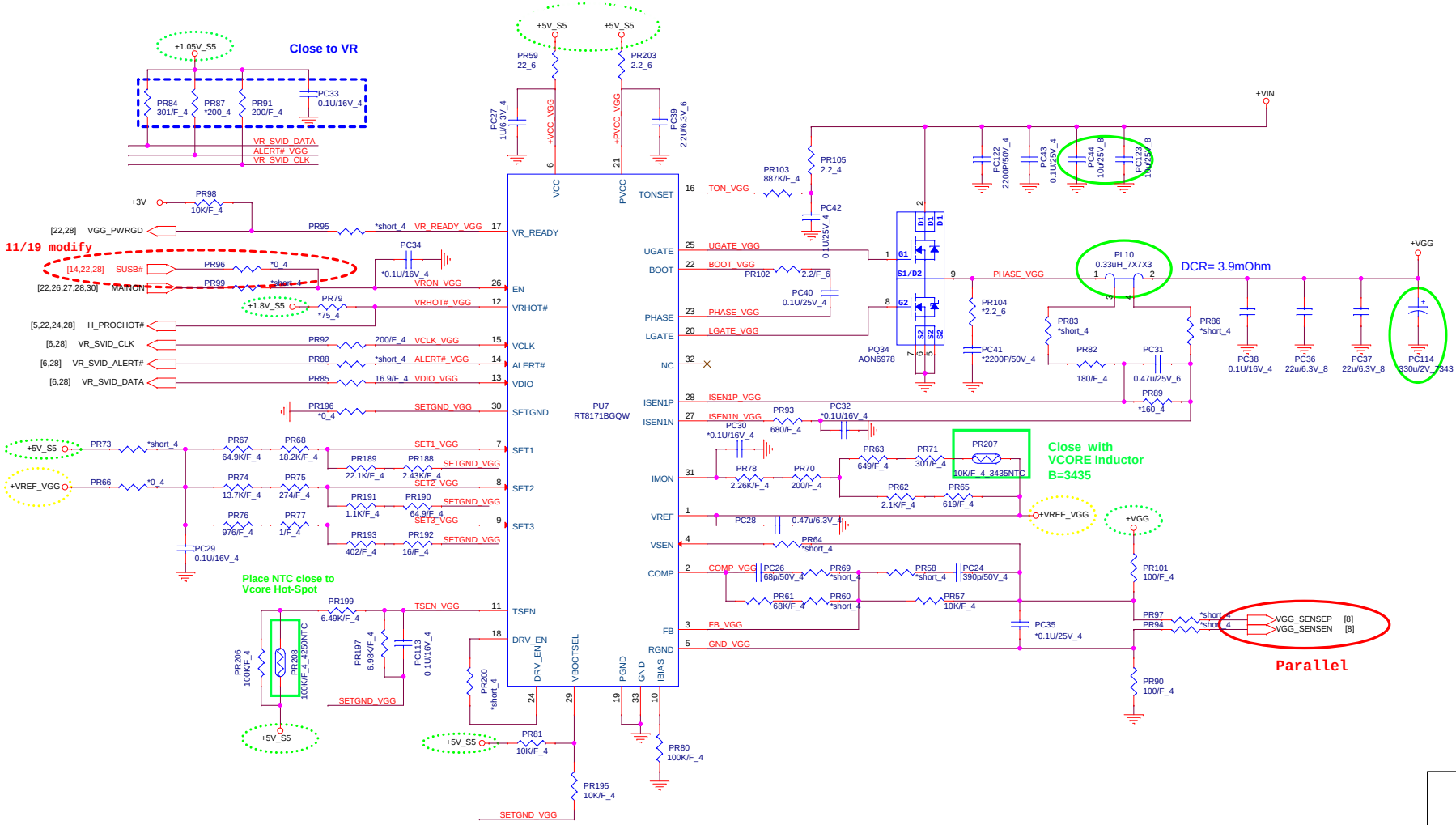

VR 12.1

Braswell - VGG (1 Phase)

Icc TDC PL2：TBD

Icc Max：15A

OCP：20.7A

Fsw：800KHz

VR Address：5

VCORE L/L：

R_DC_LL：0 mV/A

R_AC_LL：0 mV/A

Quanta Computer Inc.		
PROJECT：		
Size	Document Number: +VGG (RT8171BGQW)	Rev: 2A
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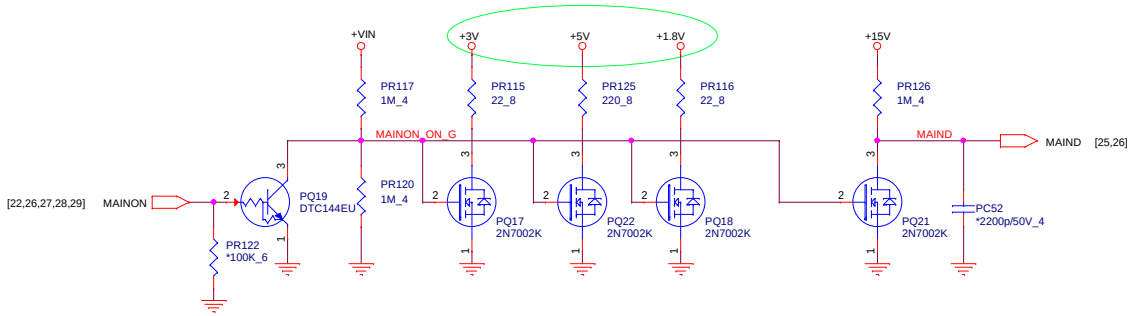
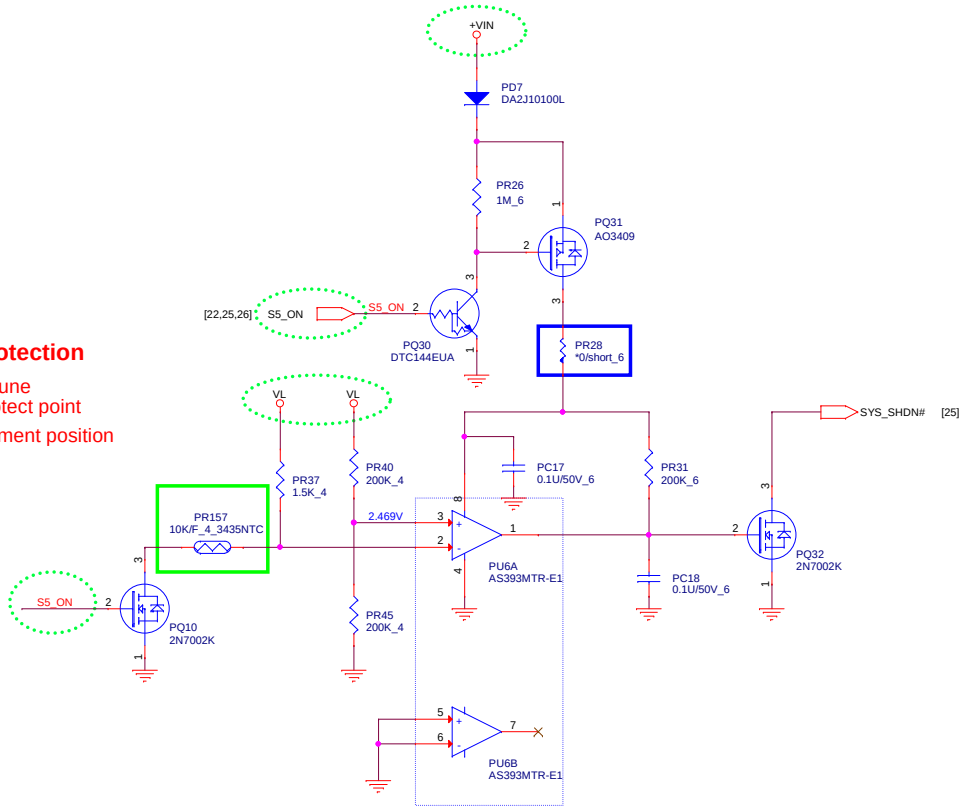
Thermal Protection

(1) Need fine tune
for thermal protect point

(2) Note placement position





For EC control thermal protection (output 3.3V)

Quanta Computer Inc.

PROJECT :

Size	Document Number	Rev
	Thermal / Discharge	1A

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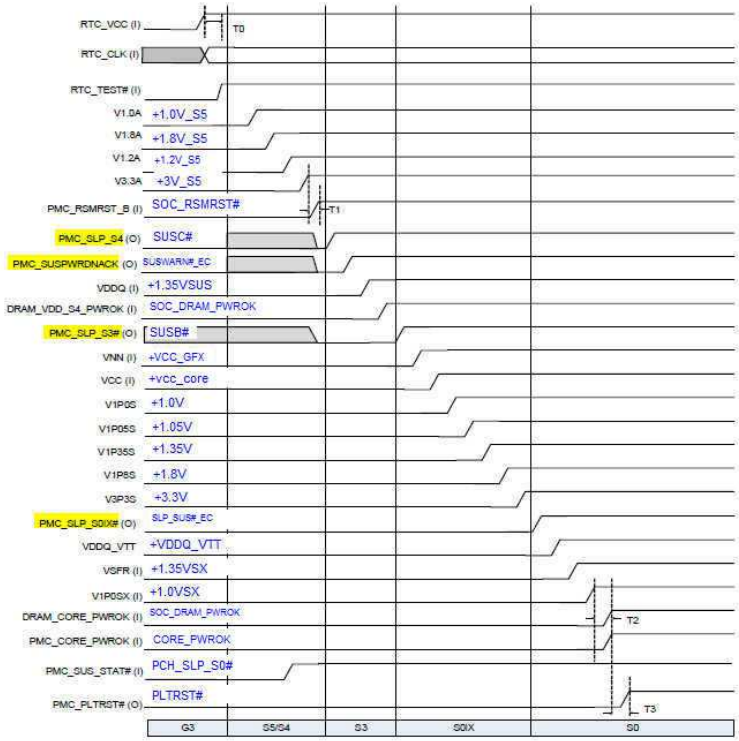
Bay Trail-M S4/S5 to S0 (Power up) Sequence



Quanta Computer Inc.		
PROJECT : Z8AD		
Size	Document Number: Power sequence	Rev: 1A
Date: Wednesday, April 08, 2015	Sheet 31 of 32	

CHANGE LIST

Model	Version	
Z8AD	B	
		12/25 page 6: change GPIO_SUS7 net connect to SOC_KCB_SMI net & add R429 page 12: change U13 pin34 connect to GND & Del PCIERST# net page 14: add Q54 & R22 page 19: Del PCIERST# net & change C214 connect +3VPCU & EOAC_WLANPWR# & Q25 pin2 connect +3V_Mini_VDD page 20: Del PCIERST# net page 31: add MAINON net & PR236
		12/29 page 6: add R581 connect to GND & R585, PMU_WIFI_SUSCLK_R net page 14: add Q54 for Touch screen & U13 circuit for Intel WIFI card page 19: add WIFI_SUSCLK net & R584 page 26: add SLP_S3# net & PR237 & PR238 &MAINON net
		1/06 page 6: Move SOC_KCB_SMI to SATA_GPI(pin AG3) page 14: add R591 page 15:add R580,R587,C594,RR586 page 16: Del Q55,R579 page 21: DelD29 & add Q55,R592,R589,R590
		1/06 page 3: Del R533 page 14: Del R591 page 8: Del R499,R488 & addC595,C596 page 21: Del R592
	C	
		12/25 page 6: add board ID 0 & R600,R601 page 22: add R602 ,R598 & R599 &Del R109
		3/2 page 5: add ODD circuit ODD_PRSNT# connect to SATA_LED# (U34D AH3) & Add SSD ID at pin AF3 (SATA_GP3) ,Add R810,R811 page 22: add R813 page 16: add R812,C693 &ODD_PRSNT# net ,SSD ID net page 22: add R814 page 6: Del R595 & Add TP 24 page 14: Del U27,R583,R582,C593 page 19: Del R584 & Add TP 47 page 13: Add R818,R819,R820,C698,C699,C700 page 16: Add R815,R816,R817,C696,C697,C701,C702 page 19: Add R821,R822,C694,C695

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CODE:	APPROVED:		DATE:	
PART NUMBER:		DRAWING BY:	REVISON:	

Quanta Computer Inc.
PROJECT : Z8AD
Change list