UMA (11.6")

Intel Brasswell-M Platform Block Diagram

+3VS5/+5VS5 PG.29

MOIC PG.31

CPU Core PG.32,33

DDR3L PG.30

Charger PG.28

DDR3L Memory down*4pcs PG.14 — 1600MT/s Channel A

DDR3L Memory down*4pcs PG.15 — 1600MT/s Channel B

Intel Brasswell L

Power : 4.5 (Watt)

Package : BGA1170

Size : 25 X 27 (mm)

PG.2~13

eDP (2 lane) → EDP panel PG.18

DP Port0 → HDMI PG.18

eMMC 4.51 → eMMC 32G/64G

USB 3.0 → USB3.0 Ports X1 PG.23

USB 2.0 → USB2.0 Ports X1 PG.23

PCI-E x2 → Card Reader RTS5239-GR PG.17

PCI-E x2 → WLAN BT COMBO NGFF M2 PG.24

USB 2.0 → WLAN BT COMBO NGFF M2 PG.24

USB 2.0 → Webcam PG.18

USB 2.0 → WWAN NGFF M2 PG.20

LPC → KBC IT8987 PG.25 → KB PG.21, TP PG.21, ROM PG.5

Fast SPI

Azalia → AUDIO CODEC ALC 3227 PG.19

Without amp for eMMC sku

Hp → Headphone amplifier HPA022642RTJR Daughter board → Combo Jack Daughter board

MIC

Speaker PG.19

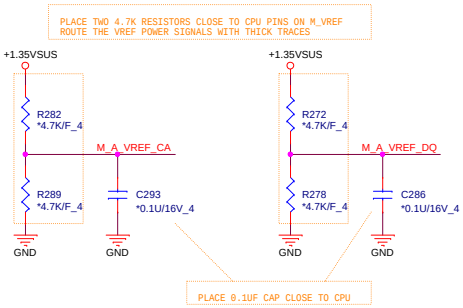
NB5

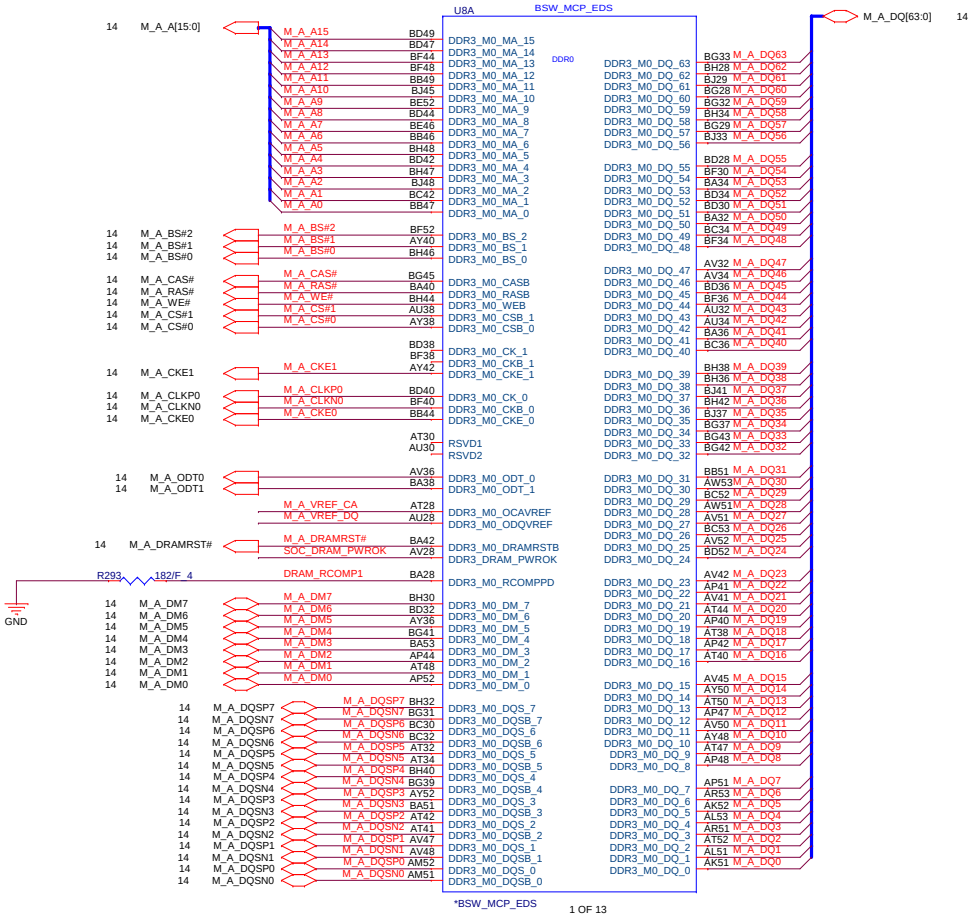
PROJECT : Y0H

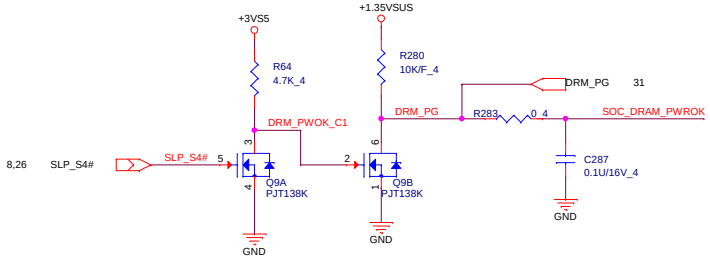
Quanta Computer Inc.

Size	Document Number	Rev
	BLOCK DIAGRAM	1A

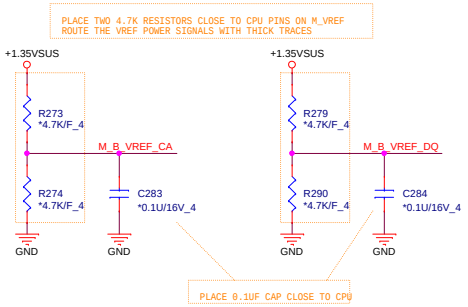
Date: Monday, July 06, 2015 Sheet 1 of 38

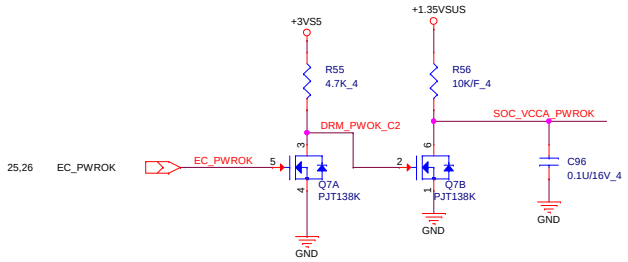


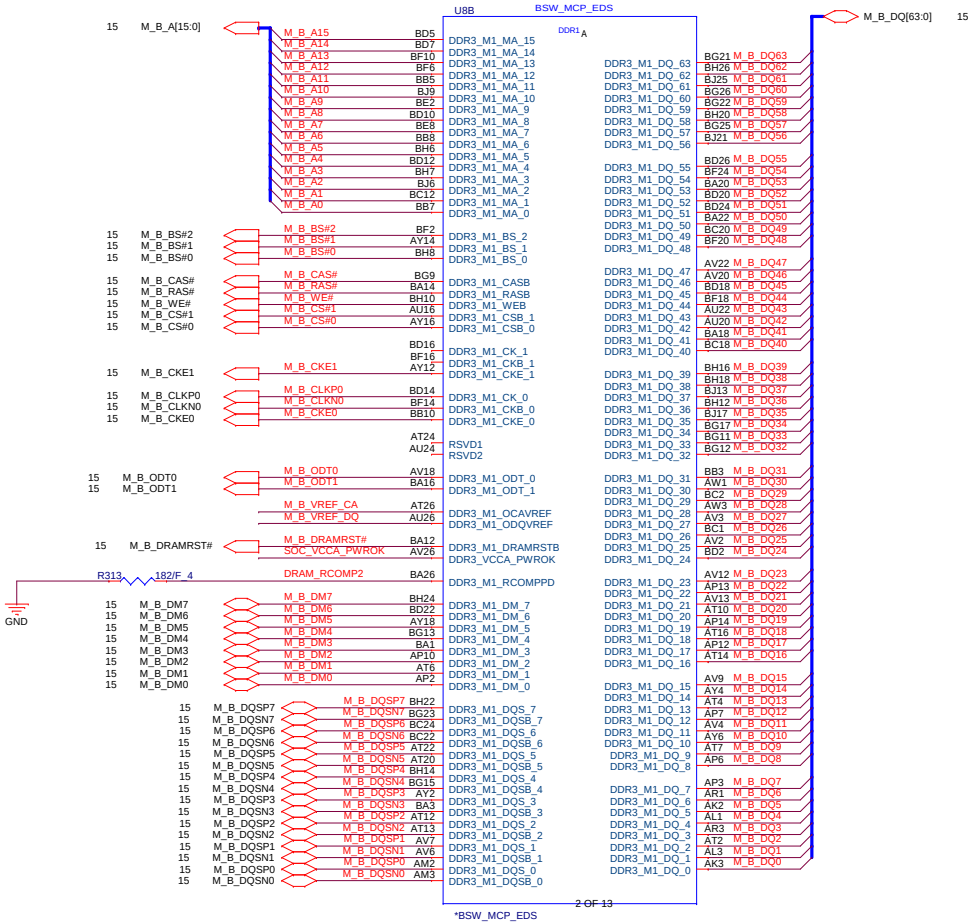




NB5	PROJECT : Y0H Quanta Computer Inc.		
	Size	Document Number Valley 1/9 (DDRA)	Rev 1A
	Date: Monday, July 06, 2015	Sheet 2 of 38	







NB5	PROJECT : Y0H Quanta Computer Inc.		
	Size	Document Number Valley 2/9 (DDRB)	Rev 1A
	Date: Monday, July 06, 2015	Sheet 3 of 38	

+1.8VS5

R93 2.2K_4 SDVO_DATA
R98 2.2K_4 SDVO_CLK
R97 *10K/F_4 HDMI_HPD_DC#
R108_1 2 *100K_4 DDI1_BKLT_EN
R104_1 2 *100K_4 DDI1_BKLT_CTRL_R
R102_1 2 *100K_4 EDP_PANEL_EN

SI: remove R97 as Intel suggestion

U8C BSW_MCP_EDS

DDI0_TXP_0 D50
DDI0_TXN_0 C51
DDI0_TXP_1 H49
DDI0_TXN_1 H50
DDI0_TXP_2 F53
DDI0_TXN_2 F52
DDI0_TXP_3 G53
DDI0_TXN_3 G52
DDI0_AUXP H47
DDI0_AUXN H46
HV_DDI0_HPD W51
HV_DDI0_DDC_SCL Y51
HV_DDI0_DDC_SDA Y52
PANEL0_BKLTEN V52
PANEL0_BKLTCTL V51
PANEL0_VDDEN W53
DDI0_PLLOBS_P F38
DDI0_PLLOBS G38

18 IN_D2
18 IN_D2#
18 IN_D1
18 IN_D1#
18 IN_D0
18 IN_D0#
18 IN_CLK
18 IN_CLK#
18 HDMI_HPD_DC#
18 SDVO_CLK
18 SDVO_DATA

R411 402/F_4 SOC_DDIO_RCOMP SOC_DDIO_RCOMP_P

DDI1_TXP_0 J51
DDI1_TXN_0 H51
DDI1_TXP_1 K51
DDI1_TXN_1 K52
DDI1_TXP_2 L53
DDI1_TXN_2 L51
DDI1_TXP_3 M52
DDI1_TXN_3 M51
DDI1_AUXP M42
DDI1_AUXN K42
HV_DDI1_HPD R51
PANEL1_BKLTEN P51
PANEL1_BKLTCTL P52
PANEL1_VDDEN R53
DDI1_PLLOBS_P F47
DDI1_PLLOBS F49

18 INT_EDP_TXP0
18 INT_EDP_TXN0
18 INT_EDP_TXP1
18 INT_EDP_TXN1
18 INT_EDP_AUXP
18 INT_EDP_AUXN
26 DDI1_BKLT_EN
26 EDP_PANEL_EN

R393 402/F_4 SOC_DDI1_RCOMP SOC_DDI1_RCOMP_P

DDI2_TXP_0 F40
DDI2_TXN_0 G40
DDI2_TXP_1 J40
DDI2_TXN_1 K40
DDI2_TXP_2 F42
DDI2_TXN_2 G42
DDI2_TXP_3 D44
DDI2_TXN_3 F44
DDI2_AUXP D48
DDI2_AUXN C49
HV_DDI2_HPD U51
HV_DDI2_DDC_SCL T51
HV_DDI2_DDC_SDA T52

19 DDI2_TX0_P
19 DDI2_TX0_N
19 DDI2_TX1_P
19 DDI2_TX1_N
19 INT_DDI2_AUXP
19 INT_DDI2_AUXN
23 UART2_TXD
23 UART2_RXD

RSVD6 B53
RSVD3 A52
RSVD9 E52
RSVD8 D52
RSVD5 B50
RSVD4 B49
RSVD10 E53
RSVD7 C53
RSVD2 A51
RSVD1 A49
RSVD11 G44

NC's

MCSI_1_CLKP M44
MCSI_1_CLKN K44
MCSI_1_DP_0 K48
MCSI_1_DN_0 K47
MCSI_1_DP_1 T44
MCSI_1_DN_1 T45
MCSI_1_DP_2 Y47
MCSI_1_DN_2 Y48
MCSI_1_DP_3 V45
MCSI_1_DN_3 V47
MCSI_2_CLKP V50
MCSI_2_CLKN V48
MCSI_2_DP_0 T41
MCSI_2_DN_0 T42
MCSI_2_DP_1 P50
MCSI_2_DN_1 P48
MCSI_COMP P47
RSVD15 P45
RSVD12 M48
RSVD14 M47
RSVD13 T50
RSVD17 T48
RSVD16 P44

GP_CAMERASB00 AB41
GP_CAMERASB01 AB45
GP_CAMERASB02 AB44
GP_CAMERASB03 AC53
GP_CAMERASB04 AB51
GP_CAMERASB05 AB52
GP_CAMERASB06 AA51
GP_CAMERASB07 AB40
GP_CAMERASB08 Y44
GP_CAMERASB09 Y42
GP_CAMERASB10 Y41
GP_CAMERASB11 V40

CAM08 CAM08 12 OBSFN_C0 TP33
CAM09 CAM09 12
CAM11 CAM11 12

SDMMC1_CLK M7
SDMMC1_CMD P6
SDMMC1_D0 M6
SDMMC1_D1 M4
SDMMC1_D2 P9
SDMMC1_D3_CD_B P7
MMC1_D4_SD_WE T6
MMC1_D5 T7
MMC1_D6 T10
MMC1_D7 T12
MMC1_RCLK T13
SDMMC1_RCOMP P13 EMMC_RCOMP

SDMMC4_CLK 16
SDMMC4_CMD 16
SDMMC4_DAT0 16
SDMMC4_DAT1 16
SDMMC4_DAT2 16
SDMMC4_DAT3 16
SDMMC4_DAT4 16
SDMMC4_DAT5 16
SDMMC4_DAT6 16
SDMMC4_DAT7 16
SDMMC4_RCLK 16

SDMMC2_CLK K10
SDMMC2_CMD K9
SDMMC2_D0 M12
SDMMC2_D1 M10
SDMMC2_D2 K7
SDMMC2_D3_CD_B K6
SDMMC3_CLK F2
SDMMC3_CMD D2
SDMMC3_CD_B K3
SDMMC3_D0 J1
SDMMC3_D1 J3
SDMMC3_D2 H3
SDMMC3_D3 G2
SDMMC3_1P8_EN K2 VSDIO_1P8_EN
SDMMC3_PWR_EN_B L3 VSDIO_PWR_EN#
SDMMC3_RCOMP P12

R368 150/F_4
R392 100/F_4
R385 80.6/F_4

7/1 Delete test point

3 OF 13
*BSW_MCP_EDS

2/10 Chqnge P/N
from BAM70020002 to BAM01380016

7/1 Delete R50

+1.8V
R52 4.7K_4 +3V
DDI1_BKLT_CTRL_R
DMN53D0L-7 Q5
R53 *0_4
PCH_DPST_PWM 18
R51 100K_4
GND

Add DP to VGA port 06172

RT2136 output high
SOC active Low

+1.8VS5
R58 10K/F_4
DDI1_EDP_HPD_R
Q6 2N7002K(DMN601K-7)
EDP_HPD_C R59 0_4 ULT_EDP_HPD 18
R61 100K_4
GND

2/24 ADD PU to +1.8VS5

+1.8VS5 R165 10K_4 UART2_TXD
R166 10K_4 UART2_RXD

+1.8VS5
R1095 10K/F_4
DDI2_HPD_CON_R
Q34 2N7002K(DMN601K-7)
VGA_HPD_C R1096 0_4 DDI2_HPD_CON 19
R1072 100K_4
GND

VSDIO_1P8_EN
VSDIO_PWR_EN#
R395 2 *100K_4
R397 *10K_4
R389 2 *100K_4
R398 *10K_4

5,35 +1.8V

PROJECT : Y0H
Quanta Computer Inc.
NB5
Size
Document Number
Valley 3/9 (Display)
Rev 1A
Date: Monday, July 06, 2015
Sheet 4 of 38

HDD

HDD sku only

+1.8V

24 SATA_LED# — Q11 DMN53D0L-7 — SATA_LED_R_N

DMN53D0L-7 Q13

24 ACC_LED# — GND

ACC_LED_R#

C103 *22P/50V_4 No_stuff C119

GND — BIT_CLK_AUDIO

23 SATA_TXP0
23 SATA_TXN0
23 SATA_RXP0
23 SATA_RXN0

26 SOC_KBC_SCI

+1.8V — R71 10K_4 — R67 20/F_4 — SATA_LED_R_N

TP2

+1.8V — R74 10K_4 — SATA_DEVSLP_SOC

R387 402/F_4

+1.8VS5 — R434 100K/F_4 — R364 2.2K_4

22 ACCEL_INTH#

20 ACZ_RST#_AUDIO — R340 75/F_4
20 BIT_CLK_AUDIO — R79 75/F_2
20 ACZ_SDIN0
20 ACZ_SYNC_AUDIO — R331 75/F_4
20 ACZ_SDOUT_AUDIO — R346 75/F_4

20 ACZ_SPKR

7/1 Delete test point

BSW_MCP_EDS U8D

SATA_TXP0	C31	SATA_TXP0	
SATA_TXN0	B30	SATA_TXN0	
SATA_RXP0	N28	SATA_RXP0	
SATA_RXN0	M28	SATA_RXN0	
	C29	SATA_TXP1	
	A29	SATA_TXN1	
	J28	SATA_RXP1	
	K28	SATA_RXN1	
SATA_LED_R_N	AH3	SATA_LEDN	
SATA_GP0	AH2	SATA_GP0	
	AG3	SATA_GP1	SATA
SATA0_DEVSLP_SOC	AG1	SATA_GP2	
SATA_DEVSLP_SOC	AF3	SATA_GP3	
SATA_RCOMP_DP	N30	SATA_OBSP	
SATA_RCOMP_DN	M30	SATA_OBSN	
SOC_SPI_CLK_R	W3	FST_SPI_CLK	
SOC_SPI_CS#_R	V4	FST_SPI_CS0_B	
ACC_LED_R#	V6	FST_SPI_CS1_B	
ACCEL_INTH#	V7	FST_SPI_CS2_B	
SOC_SPI_MOSI_R	V2	FST_SPI_D0	FAST SPI
SOC_SPI_MISO_R	V3	FST_SPI_D1	
SOC_SPI_WP#	U1	FST_SPI_D2	
SOC_SPI_HOLD#	U3	FST_SPI_D3	
ACZ_RST#	AF13	MF_HDA_RSTB	
	AD6	MF_HDA_SDI1	
ACZ_BCLK	AD9	MF_HDA_CLK	
ACZ_SDIN0	AD7	MF_HDA_SDI0	
ACZ_SYNC	AF12	MF_HDA_SYNC	
ACZ_SDOUT	AF14	MF_HDA_SDO	
	AB9	MF_HDA_DOCKENB	
	AB7	MF_HDA_DOCKRSTB	
	H4	SPKR	AUDIO
	AK9	GP_SSP_2_CLK	
	AK10	GP_SSP_2_FS	
	AK12	GP_SSP_2_TXD	
	AK13	GP_SSP_2_RXD	

4 OF 13

*BSW_MCP_EDS

	C24	PCIE_TXP0	PCIE_TXP0_CR_L	C128 0.1U/16V_4	PCIE_TXP0_CARD 17
	B24	PCIE_TXN0	PCIE_TXN0_CR_L	C127 0.1U/16V_4	PCIE_TXN0_CARD 17
	G20	PCIE_RXP0			PCIE_RXP0_CARD 17
	J20	PCIE_RXN0			PCIE_RXN0_CARD 17
	A25	PCIE_TXP1			
	C25	PCIE_TXN1			
	D20	PCIE_RXP1			
	F20	PCIE_RXN1			
	B26	PCIE_TXP2	PCIE_TXP2_NGFF_C	C528 0.1U/16V_4	PCIE_TXP2_NGFF 24
	C26	PCIE_TXN2	PCIE_TXN2_NGFF_C	C529 0.1U/16V_4	PCIE_TXN2_NGFF 24
	D22	PCIE_RXP2			PCIE_RXP2_NGFF 24
	F22	PCIE_RXN2			PCIE_RXN2_NGFF 24
	A27	PCIE_TXP3	PCIE_TXP3_WLAN_C	C130 0.22U/16V_4	PCIE_TXP3_WLAN 24
	C27	PCIE_TXN3	PCIE_TXN3_WLAN_C	C129 0.22U/16V_4	PCIE_TXN3_WLAN 24
	G24	PCIE_RXP3			PCIE_RXP3_WLAN 24
	J24	PCIE_RXN3			PCIE_RXN3_WLAN 24
	AM10	PCIE_CLKREQ0B			CLK_PCIE_REQ2# 17
	AM12	PCIE_CLKREQ1B	PCIE_CLKREQ1#		
	AK14	PCIE_CLKREQ2B	PCIE_CLKREQ_NGFF#		PCIE_CLKREQ_NGFF# 24
	AM14	PCIE_CLKREQ3B	PCIE_CLKREQ_WLAN#		PCIE_CLKREQ_WLAN# 24
	A21	CLK_DIFF_P_0			CLK_PCIE_CRP 17
	C21	CLK_DIFF_N_0			CLK_PCIE_CRN 17
	C19	CLK_DIFF_P_1			
	B20	CLK_DIFF_N_1			
CLK_PCIE_NGFFP	C18	CLK_DIFF_P_2			CLK_PCIE_NGFFP 24
CLK_PCIE_NGFFN	B18	CLK_DIFF_N_2			CLK_PCIE_NGFFN 24
CLK_PCIE_WLANP	C17	CLK_DIFF_P_3			CLK_PCIE_WLANP 24
CLK_PCIE_WLANN	A17	CLK_DIFF_N_3			CLK_PCIE_WLANN 24
	C16	RSVD20			
	B16	RSVD21			
SOC_PCIE_COMP	D26	PCIE_OBSP			
SOC_PCIE_COMN	F26	PCIE_OBSN	R420 402/F_4		
	V14	SPI1_CLK			
	Y13	SPI1_CS0_B			
	Y12	SPI1_CS1_B			
	V13	SPI1_MISO			
	V12	SPI1_MOSI			

Card reader

WIFI

WIFI

+1.8VS5

CLK_PCIE_REQ2# R277 10K_4
PCIE_CLKREQ1# R275 10K_4
PCIE_CLKREQ_NGFF# R296 10K_4
PCIE_CLKREQ_WLAN# R271 10K_4

Vender	Size	P/N
Winbond	8MB	AKE5EZN0N01 (W25Q64FWSSIQ)
GigaDevice	8MB	AKE5EG-0Q00 (GD25LQ64CSIGR)
	8MB	AKE5EFN0Q00 (EN25S64-104HIP)
Socket (208mil)		DFHS08FS023 (Firstly Stuff)

+3VS5 +1.8VS5

R426 *0_4 R422 0_4

SOC_SPI_CLK_R2 — C411 10P/50V_4 — GND

EMI

R464 3.3K/F_4 R448 3.3K/F_4 C404 0.1U/16V_4 GND

SOC_SPI_WP# R470 0_4

SOC_SPI_HOLD# R450 0_4

SPI NOR FLASH

U9

SPI_VCC 8 VCC
SPI_3P 3 WP#
SPI_7P 7 SPI_HOLD
SPI_SI 5
SPI_SO 2
CS# 1
SPI_SCK 6
GND 4

SPI_FLASH
soic8-7_9-1_27
AKE5EZN0N00
IC FLASH (8P) W25Q64FWSSIQ (SOIC)
20150101: SI build change to AKE5EZN0N01

GND

SOC_SPI_MOSI_R2 R478 10_4 SOC_SPI_MOSI_R
SOC_SPI_MISO_R2 R457 10_4 SOC_SPI_MISO_R
SOC_SPI_CS#_R2 R444 33_4 SOC_SPI_CS#_R
SOC_SPI_CLK_R2 R468 10_4 SOC_SPI_CLK_R

3/9 Del net: EC_SPI_WP# / EC_SPI_HOLD# ; location: R107,R116
To EC for share ROM

To EC for share ROM
3/9 Del net: SOC_SPI_CLK / SOC_SPI_CS# / SOC_SPI_MISO / SOC_SPI_MOSI; location: R448,R480,R479,R462

To EC for SHPI

R475 *0_4 SHPI_SPI_CLK 25
R443 *0_4 SHPI_SPI_CS# 25
R456 *0_4 SHPI_SPI_MISO 25
R479 *0_4 SHPI_SPI_MOSI 25
SOC_SPI_WP# R469 *0_4 SHPI_SPI_WP# 25
SOC_SPI_HOLD# R451 *0_4 SHPI_SPI_HOLD# 25

From CPU

SPI_VCC R447 *3.3K/F_4 SOC_SPI_CS#_R2

SOC_SPI_MOSI_R2 TP54
SOC_SPI_MISO_R2 TP53
SOC_SPI_CS#_R2 TP50
SOC_SPI_CLK_R2 TP51
SPI_3P TP55
SPI_7P TP45

For EMI

*10P/50V_4 C416 SOC_SPI_CLK_R2

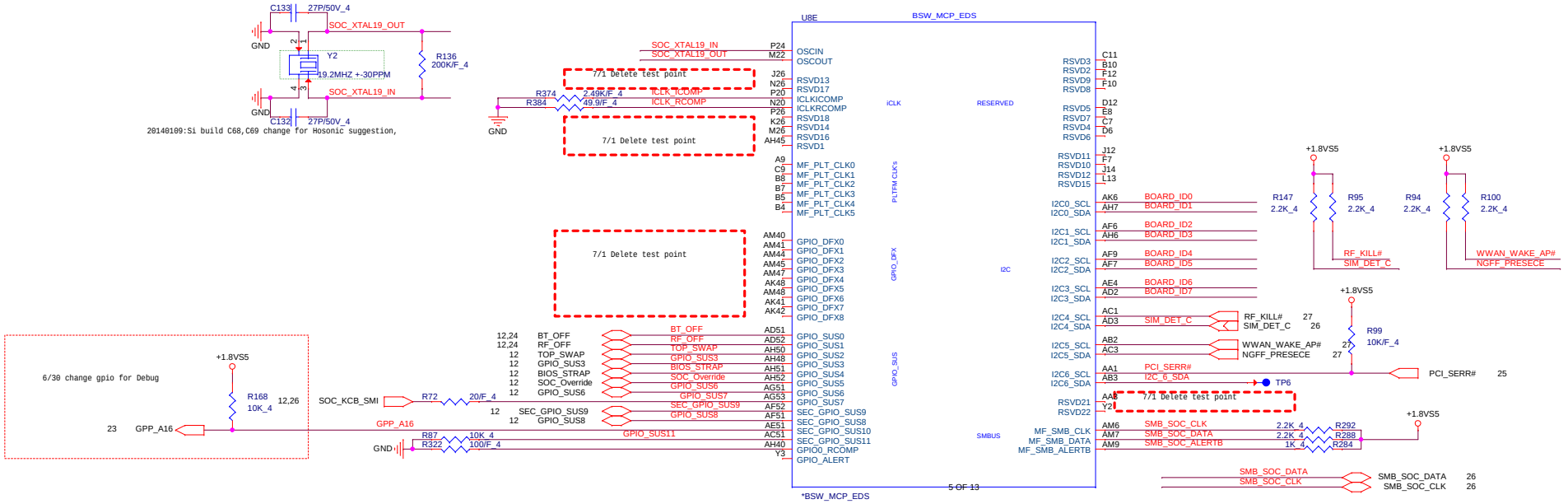
4,35 +1.8V

NB5

PROJECT : Y0H
Quanta Computer Inc.

Size	Document Number	Rev
	Valley 4/9 (SD/PCIE/SATA)	1A

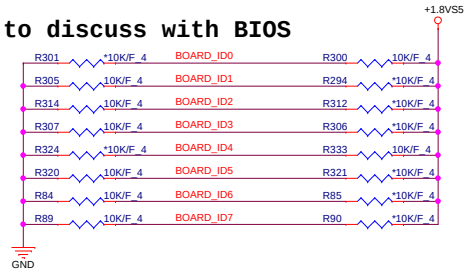
Date: Monday, July 06, 2015 Sheet 5 of 38



BOARD ID SETTING

	Reserve (Default = 000)			Size	Reserved			Storage
Model	BOARD_ID7	BOARD_ID6	BOARD_ID5	BOARD_ID4	BOARD_ID3	BOARD_ID2	BOARD_ID1	BOARD_ID0
Samsung	0	1	0	2G=0	0	0	0	0 : emmc
Mircon	0	0	1	4G=1	0	0	0	1 : HDD
Hynix	0	0	0	0	0	0	0	

Need to discuss with BIOS

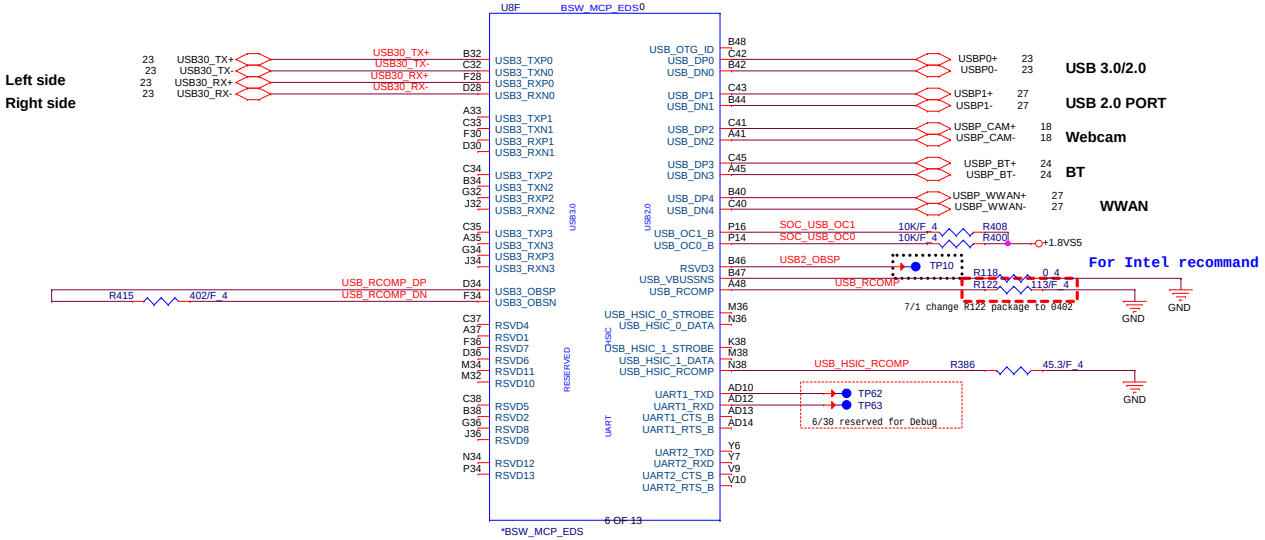


NB5

PROJECT : Y0H

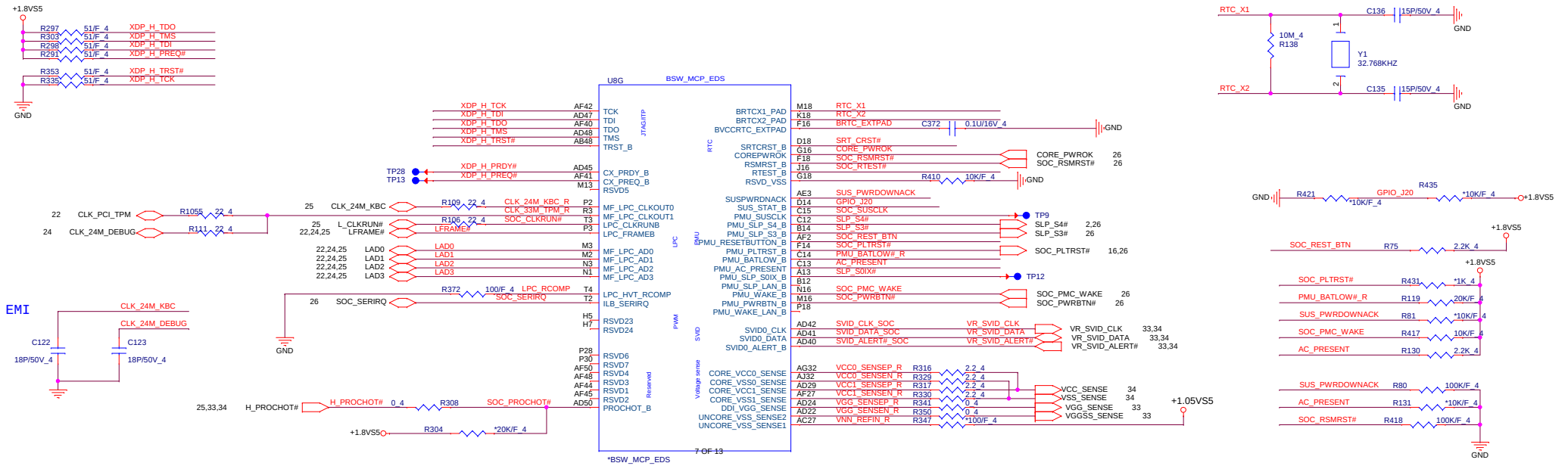
Quanta Computer Inc.

Size	Document Number	Rev
	Valley 5/9 (SPI/GPIO/CLK)	1A
Date: Monday, July 06, 2015	Sheet 6 of 38	



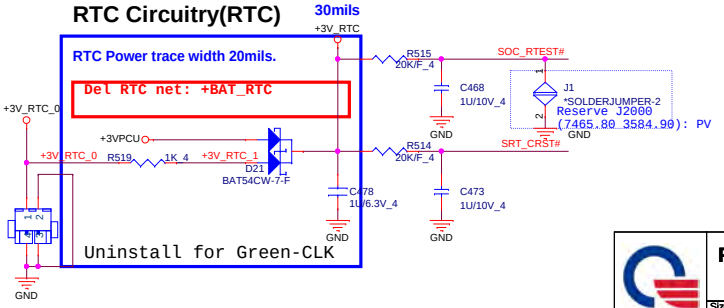
PROJECT : Y0H Quanta Computer Inc.			
NB5	Size	Document Number Valley 6/9 (USB/LPC/I2C)	Rev 1A
	Date: Monday, July 06, 2015	Sheet 7 of 38	

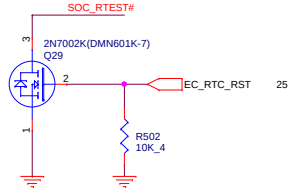
RTC Clock 32.768KHz

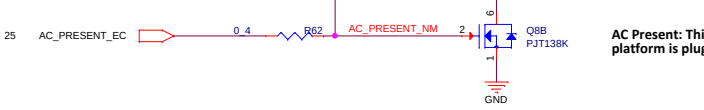


RTC Circuitry(RTC)

30mils



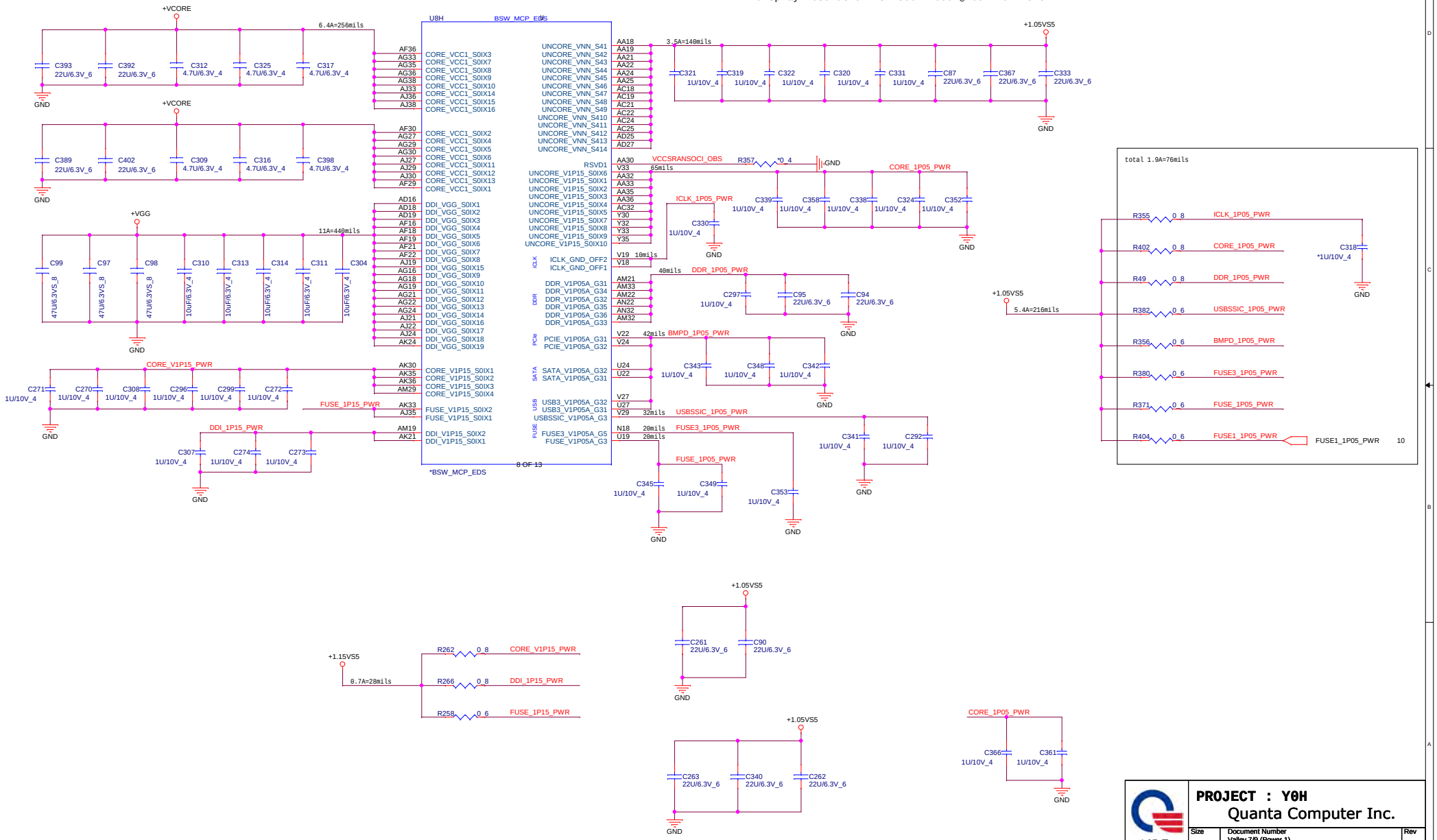




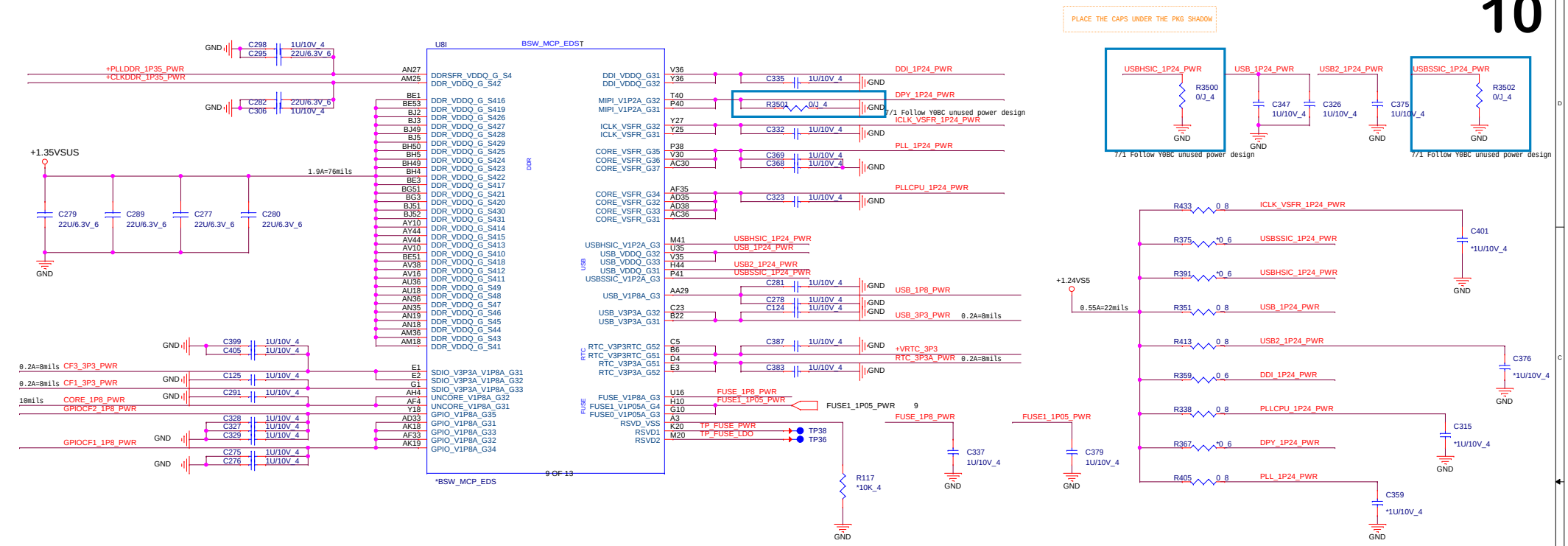
AC Present: This input pin indicates when the platform is plugged into AC power.

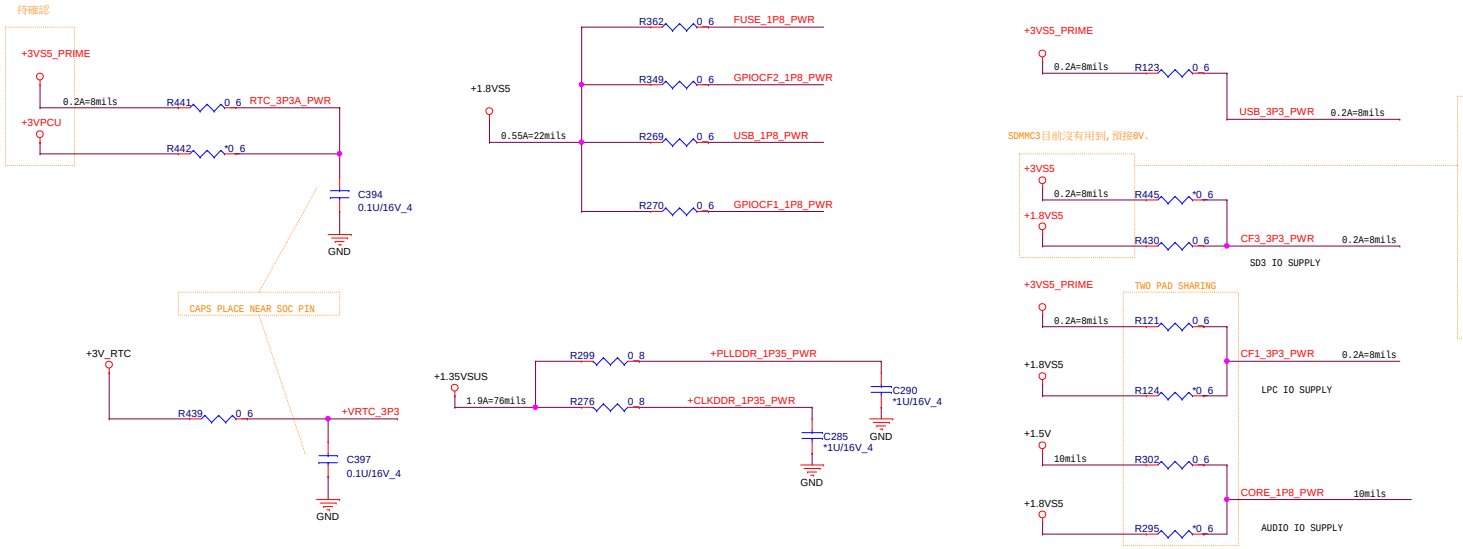
NB5	PROJECT : Y0H Quanta Computer Inc.		
	Size	Document Number Valley 6/9 (USB/LPC/I2C)	Rev 1A
	Date: Monday, July 06, 2015	Sheet 8 of 38	

VNN can optionally be merged with V1P05A
if display resolution is 2560 x1600 @ 60Hz or lower.



PROJECT :	Y0H
Quanta Computer Inc.	
NB5	
Size	Document Number: Valley 7/9 (Power 1)
Rev	1A
Date: Monday, July 06, 2015	Sheet 9 of 38





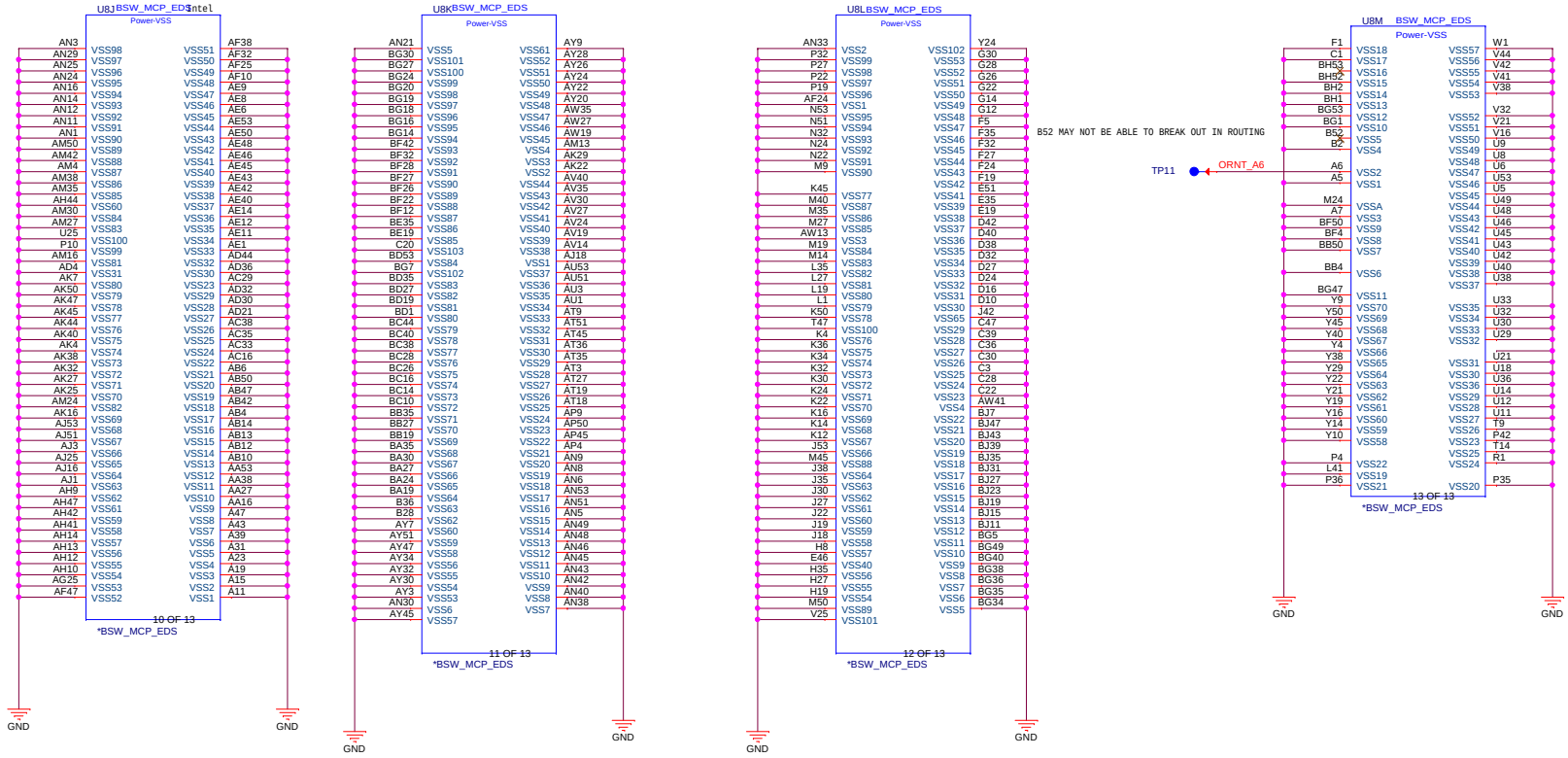
VSDIO VOLTAGE SETTING (CF3_3P3_PWR)		
SDMMC3_PWR_EN_N	SDMMC3_1P8_EN	VSDIO (V)
1	0	0V
1	1	0V
0	0	3.3V
0	1	1.8V

NB5

PROJECT : Y0H

Quanta Computer Inc.

Size	Document Number	Rev
	Valley 8/9 (Power 2)	1A
Date: Monday, July 06, 2015	Sheet 10 of 38	

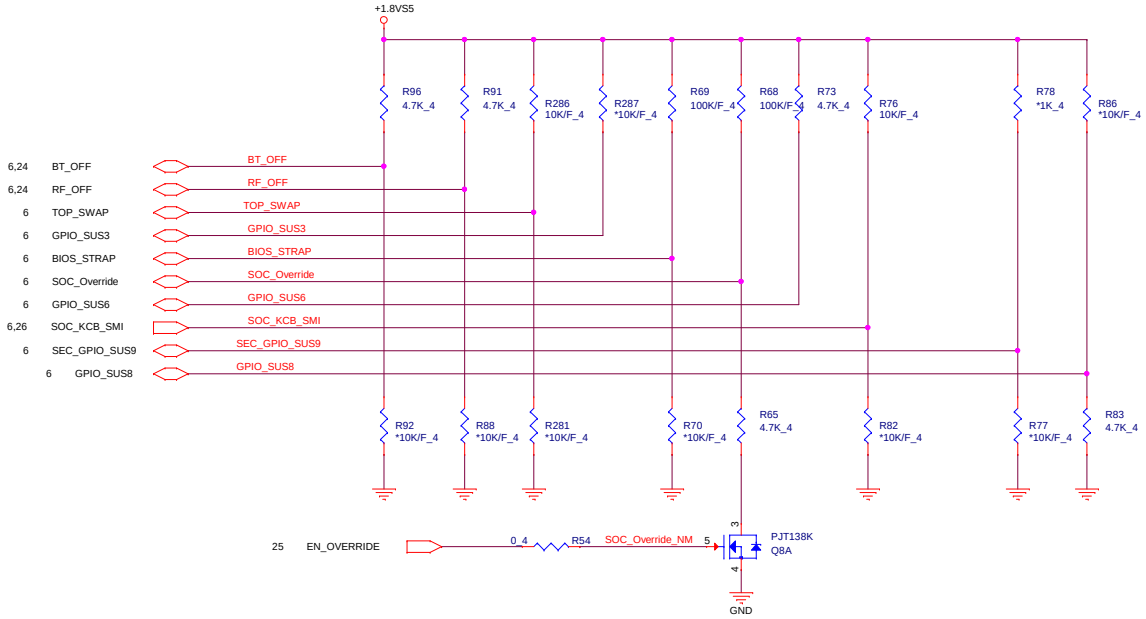


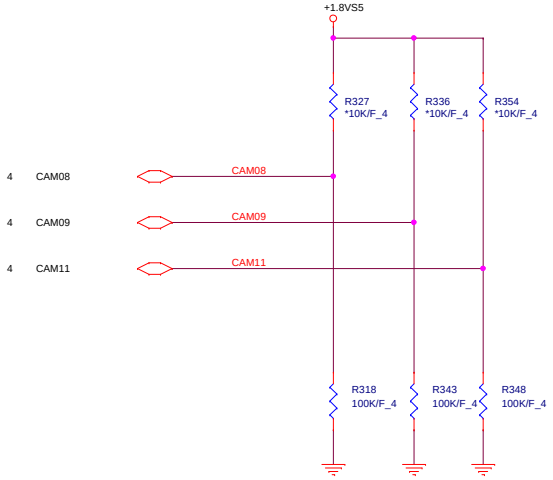
PROJECT : Y0H

Quanta Computer Inc.

NB5

Size	Document Number	Rev
	Valley 9/9 (GND)	1A
Date: Monday, July 06, 2015	Sheet 11 of 38	





	CAM08	CAM09	CAM11
PULL HIGH	ICLK Xtal OSC Bypass	CCU SUS RO Bypass	RTC OSC Bypass
PULL LOW	ICLK Xtal OSC No Bypass DEFAULT	CCU SUS RO No Bypass DEFAULT	RTC OSC No Bypass DEFAULT

REQUIRED STRAPS

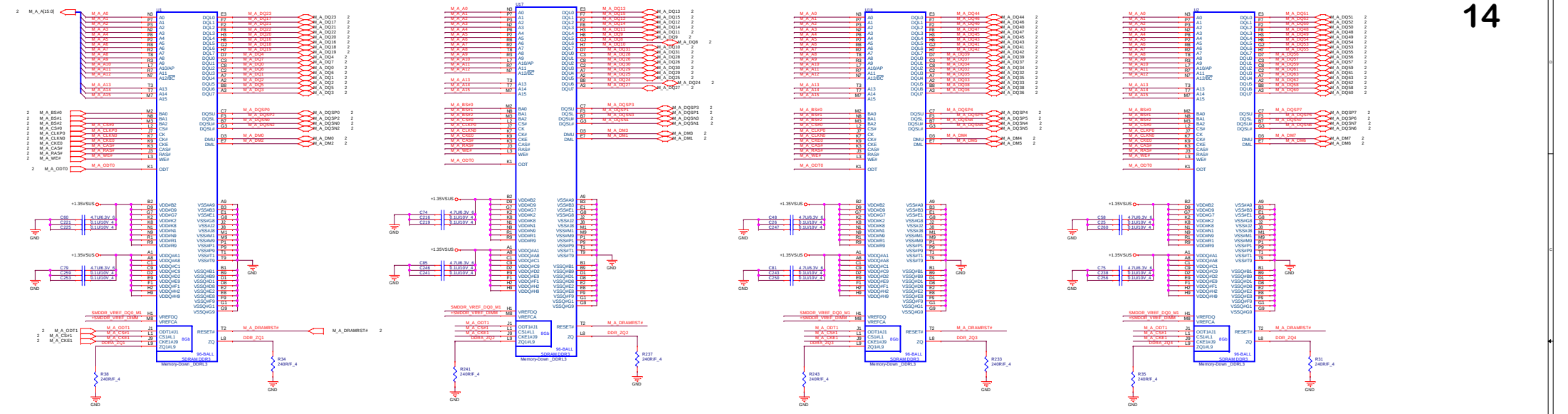
	GPIO_SUS0	GPIO_SUS1	TOP_SWAP	GPIO_SUS3	BIOS_STRAP	SOC_Override	GPIO_SUS6	SOC_KCB_SMI	GPIO_SUS8
PULL HIGH	DDI0 detected DEFAULT	DDI1 detected DEFAULT	Normal Operation DEFAULT	Reserve 10 KΩ PU DEFAULT	SPI DEFAULT	Normal Operation	10 KΩ PU to 1.8V DEFAULT	Reserve 10 KΩ PU DEFAULT	Supply is 1.35V
PULL LOW	DDI0 not detected	DDI1 not detected	Change Boot Loader address		LPC	Override DEFAULT			Supply is 1.25V DEFAULT

NB5

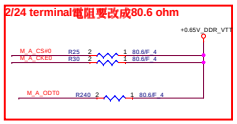
PROJECT : Y0H
Quanta Computer Inc.

Size	Document Number	Rev
	Valley 9/9 (GND)	1A

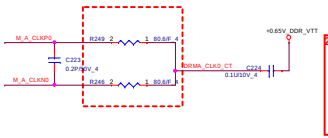
Date: Monday, July 06, 2015 Sheet 12 of 38



2/24 terminal電阻要改成80.6 ohm

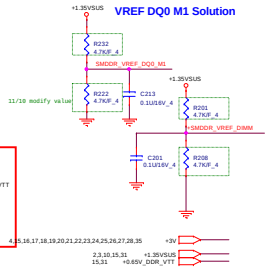


7/1 terminal電阻要改成80.6 ohm

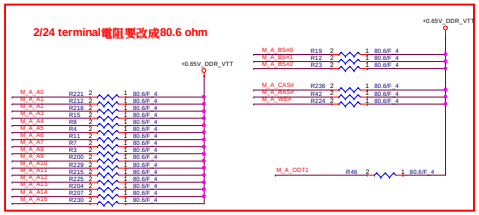


2/24 terminal電阻要改成80.6 ohm

VREF DQ0 M1 Solution

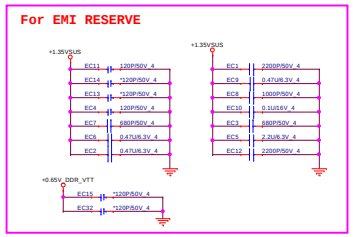


2/24 terminal電阻要改成80.6 ohm



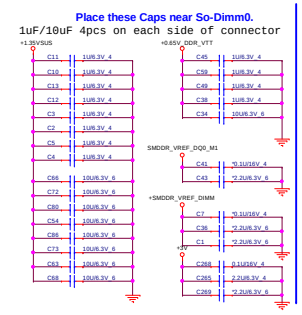
DDR3L				
TOPBS PN	QBCON	Vender PN	Description	
AKD5JGETW07	AKD5JGETW08	H5TC4G63AFR-PBA	IC SDRAM (96P) H5TC4G63AFR-PBA	Hynix (default)
AKD5PGST508	AKD5PGST509	K4B4G1646Q-HYK0	IC SDRAM (96P) K4B4G1646Q-HYK0	Samsung
	AKD5PGSTL19	MT41K256M16LY-107:N	IC SDRAM(96P)MT41K256M16LY-107:N	Micron
AKD5PGSTW14	AKD5PGSTW15	H5TC4G63CFR-PBA	IC SDRAM (96P) H5TC4G63CFR-PBA	Hynix (NEW Die)

For EMI RESERVE



Place these Caps near So-Dimm0.

1uF/10uF 4pcs on each side of connector



PROJECT : Y0H

Quanta Computer Inc.

NB5

Size	Document Number	Rev
	DDR3 DIMM0-STD(4.0H)	1A
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2/24 terminal電阻要改成80.6 ohm
7/1 terminal電阻要改成80.6 ohm
VREF DQ1 M1 Solution
Local Thermal Sensor
Place these Caps near So-Dimm1.
1uF/10uF 4pcs on each side of connector
Local Thermal Sensor
DDR3 Thermal Sensor
Main:AL0014120003 EMC1412-1-ACZL-TR(98h)
2nd:AL0004310014 TMP431ADGKR(98h)
PROJECT : Y0H
Quanta Computer Inc.
NB5
DDR3 DIMM1-STD(4.0H)
Monday, July 06, 2015
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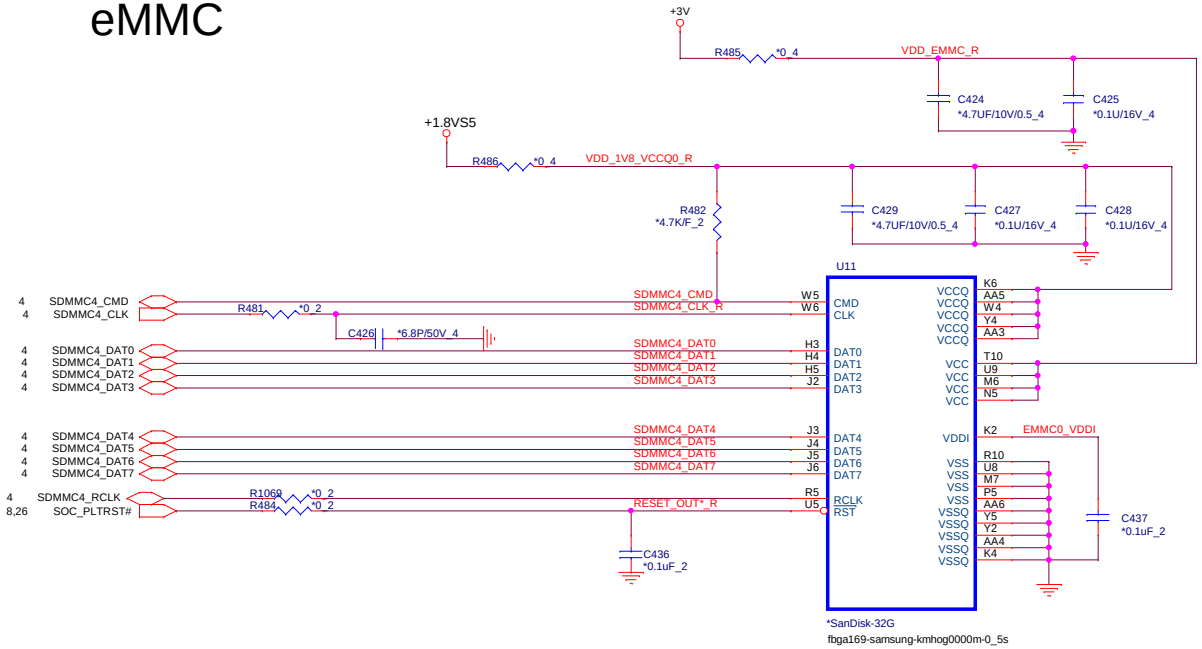
eMMC



footprint：BGA 169、BGA 153 co-lay
BGA 169 PIN：14mmX18mm
BGA 169 PIN：12mmX16mm
BGA 153 PIN：11.5mmX13mm

Default

iNAND (eMMC) V4.51

TOPBSQ	QBCON	Description	SIZE	Vender
AKE3SZ-TW01	AKE3SZ-TW02	IC FLASH(153P)H26M64103EMR(FBGA)	32G	Hynix
	AKE5SZ0T512	IC FLASH(153)KLMBG4GEND-B031(FBGA)	32G	samaung
AKE3SFUT000	AKE3SFUT001	IC FLASH(153P)SDIN9DW4-32G(FBGA)	32G	SanDisk
AKE3TG-TW01	AKE3TG-TW02	IC FLASH(153P)H26M78103CCR(FBGA)	64G	Hynix
	AKE3TZPT520	IC FLASH(153)KLMCG8GEND-B031(FBGA)	64G	samaung
AKE3TFUT101	AKE3TFUT102	IC FLASH(153P)SDIN9DW4-64G(FBGA)	64G	SanDisk

eMMC setting		Location				
Vender	SIZE	R526 *10K_4	R528 *10K_4	R527 *10K_4	R529 *10K_4	R530 *10K_4
Hynix	32G	1	O	O	O	O
samaung	32G	1	1	O	O	O
SanDisk	32G	1	1	1	O	O
Hynix	64G	1	1	1	1	O
samaung	64G	O	1	1	1	1
SanDisk	64G	O	O	1	1	1
Hynix	128G	O	O	O	1	1
samaung	128G	O	O	O	O	1
SanDisk	128G	O	O	O	O	O
		1	1	1	1	1

Memory setting		Location				
Vender	SIZE	R521 *10K_4	R522 *10K_4	R523 *10K_4	R524 *10K_4	R525 *10K_4
Hynix	2G	1	O	O	O	O
samaung	2G	1	1	O	O	O
Micron	2G	1	1	1	O	O
Hynix	4G	1	1	1	1	O
samaung	4G	O	1	1	1	1
Micron	4G	O	O	1	1	1
		O	O	O	1	1
		O	O	O	O	1
		O	O	O	O	O
		1	1	1	1	1

NB5

PROJECT : Y0H
Quanta Computer Inc.

Size	Document Number	Rev
	TOPAZ S3 PCIE/DP power	1A

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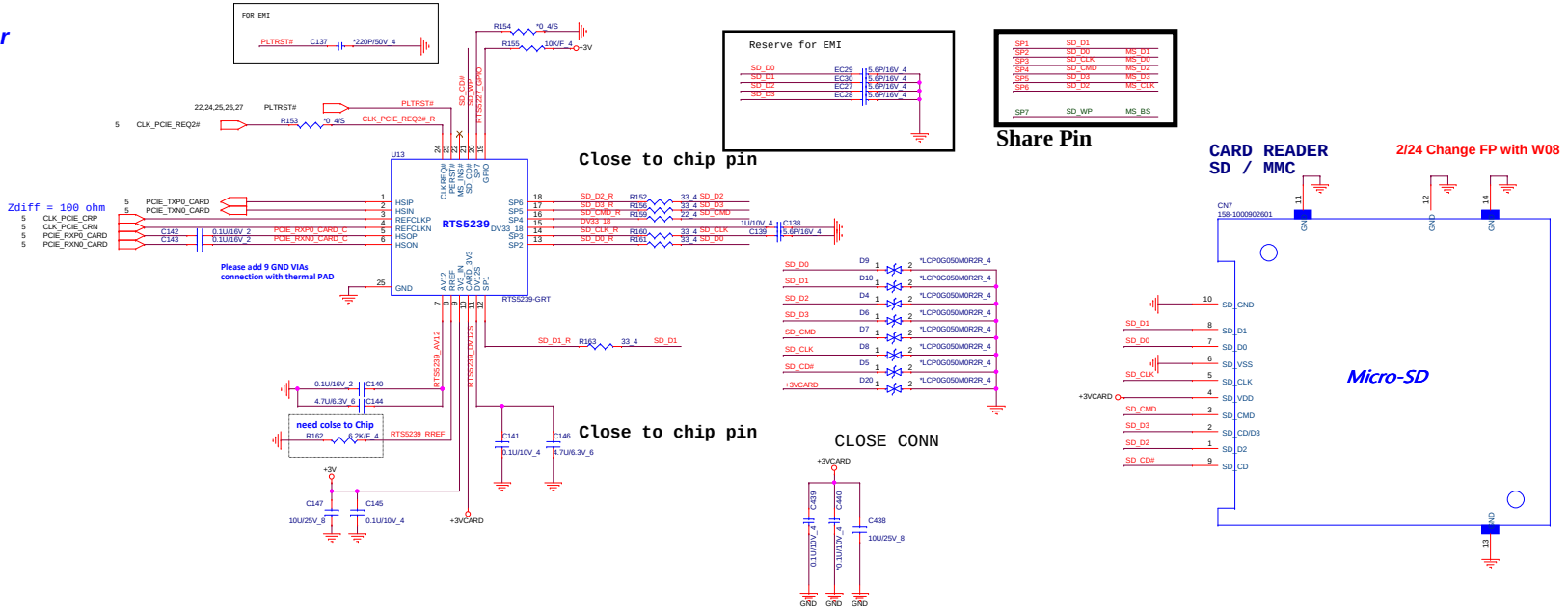
CardReader



NB5	PROJECT : Y0H Quanta Computer Inc.	
Size	Document Number TOPAZ_S3_Main	Rev 1A
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LID Switch

R250 can't change to shortpad

25 EMU_LID — R250 0_4 — PN_BLON — D14 RB500V-40 — BLON_CON — C215 22P/50V_4 — R231 100K/F_4

OUT_LVDS_BLON — R248 1K/F_4

SI...Change LVDS_BLCON1 to PN_BLON ...12/13

OUT_LVDS_BLON — R242 100K/F_4

OUT_DPST_PWM — R211 1K/F_4 — VADJ1

C198 33P/50V_4

100mA

+VIN_BLIGHT — +VIN_BLIGHT

+VIN — C410 0.1U/25V_4 — C432 0.01U/50V_4

+VIN — C204 *4.7U/25V_6 — C384 0.1U/25V_4

+VIN — C208 *4.7U/25V_6 — C200 0.1U/25V_4 — C211 0.1U/25V_4 — C385 0.1U/25V_4 — C423 0.1U/25V_4

+3V — +3V_CAM — C189 *0.01U/50V_4 — C196 *4.7U/6.3V_6

USBP_CAM- — R205 *0_4 — USBP_CAM-_C

USBP_CAM+ — R198 *0_4 — USBP_CAM+_C

For EDP Only: stuff Cap

For LVDS only stuff Resister

For eDP

+3V — C61 1U/6.3V_4 — U5 AP2821KTR-G1-E (IN, IN, ON/OFF, OUT, GND) — L1 0_6 — +3VLCD_CON

C210 0.01U/50V_4 — C191 0.1U/16V_4 — C202 10U/6.3V_6

26 PCH_DISP_ON — R28 100K/F_4

R6110 close to U6100 for eDP,stuff

for eDP,stuff U2 & L8

for LVDS,stuff C29 & R23

LVDS Conn.

18

GS12401-1011-9H

51519-03001-v01-30p-l

DFFC30FR150

CN1

+VIN_BLIGHT

4 ULT_EDP_HPD — R210 0_4 — ULT_EDP_HPD_R — BLON_CON — VADJ1

20 DIGITAL_D1 — L10 FCM1005KF-301T03 — DIGITAL_D1_L

20 DIGITAL_CLK — L11 FCM1005KF-301T03 — DIGITAL_CLK_L

C214 *10P/50V_4 — *10P/50V_4 C217

+3V_CAM

7 USBP_CAM+ — USBP_CAM+_C

7 USBP_CAM- — USBP_CAM-_C

L9 MCM2012B900GBE

TXLOUT1+ — TXLOUT1-

TXLOUT0+ — TXLOUT0-

EDIDDATA_R — EDIDCLK_R

+3VLCD_CON

C209 0.047U/25V_4 — C190 0.047U/25V_4

EMI Solution

C_TX2_HDMI+ — R186 150/F_2 — C_TX2_HDMI-

C_TX1_HDMI+ — R181 150/F_2 — C_TX1_HDMI-

C_TX0_HDMI+ — R189 150/F_2 — C_TX0_HDMI-

C_TXC_HDMI+ — R192 150/F_2 — C_TXC_HDMI-

3/10 Del location: R578,R584

C_IN_CLK — C_TXC_HDMI+

C_IN_CLK# — C_TXC_HDMI-

Close to HDMI connector

DGPU_CL_HDMIP — R185 510/F_4 — C_TX2_HDMI+ — R187 510/F_4 — C_TX2_HDMI-

R180 510/F_4 — C_TX1_HDMI+ — R183 510/F_4 — C_TX1_HDMI-

R188 510/F_4 — C_TX0_HDMI+ — R190 510/F_4 — C_TX0_HDMI-

R191 510/F_4 — C_IN_CLK — R193 510/F_4 — C_IN_CLK#

+3V — Q18 2N7002K(DMN601K-7) — R511 *100K/F_4 — C466 *0.1U/16V_4

Close to Q16

HDMI SMBus Isolation

Close to HDMI connector

Q19 PJT138K

4 SDVO_CLK — HDMI_SCL_R — HDMI_SCLK

4 SDVO_DATA — HDMI_SDA_R — HDMI_SDATA

R182 0_4 — +1.8VS5

4 IN_D2 — IN_D2 — C164 0.1uF_2 — C_TX2_HDMI+

4 IN_D2# — IN_D2# — C166 0.1uF_2 — C_TX2_HDMI-

4 IN_D1 — IN_D1 — C162 0.1uF_2 — C_TX1_HDMI+

4 IN_D1# — IN_D1# — C163 0.1uF_2 — C_TX1_HDMI-

4 IN_D0 — IN_D0 — C167 0.1uF_2 — C_TX0_HDMI+

4 IN_D0# — IN_D0# — C168 0.1uF_2 — C_TX0_HDMI-

4 IN_CLK — IN_CLK — C177 0.1uF_2 — C_IN_CLK — C_IN_CLK — C_TXC_HDMI+

4 IN_CLK# — IN_CLK# — C178 0.1uF_2 — C_IN_CLK# — C_TXC_HDMI-

+5V_HDMIC — D11 RB500V-40 D12 — 5V_HSMBCK — 5V_HSMBDT — R194 2.2K_4 — R196 2.2K_4

C181 *10P/50V_4 — C179 *10P/50V_4

HDMI_SCLK — HDMI_SDATA

+5V_HDMIC

HDMI_HPD — L4 0_6 — HDMI_DET_C

VC6 *TVM0G5R5M220R — C182 220P/50V_4

CN11 HDMI CONN

SHELL1 — D2+ — D2 Shield — D2- — D1+ — D1 Shield — D1- — D0+SHELL2 — D0 Shield — D0- — CK+ — CK Shield — CK- SHELL2 — CE Remote — NC — DDC CLK — DDC DATA — GND — +5V — HP DET — SHELL2

20 — 23 — 22 — 21

4 INT_EDP_TXP1 — C206 0.1U/16V_4 — TXLOUT1+

4 INT_EDP_TXN1 — C203 0.1U/16V_4 — TXLOUT1-

4 INT_EDP_TXN0 — C193 0.1U/16V_4 — TXLOUT0-

4 INT_EDP_TXP0 — C192 0.1U/16V_4 — TXLOUT0+

4 INT_EDP_AUXN — C194 0.1U/16V_4 — EDIDDATA_R

4 INT_EDP_AUXP — C195 0.1U/16V_4 — EDIDCLK_R

For EDP Only,close CN6100

26 PCH_LVDS_BLON — OUT_LVDS_BLON

4 PCH_DPST_PWM — OUT_DPST_PWM

For EDP Only: Reserve

+3V — R216 100K_4 — EDIDDATA_R — R217 100K_4 — EDIDCLK_R

+3V — R203 1K_4 — OUT_DPST_PWM — R245 1K_4 — OUT_LVDS_BLON

23,27,28,30,31,32,33,34,35 — +5VS5

4,14,15,16,17,19,20,21,22,23,24,25,26,27,28,35 — +3V

8,10,21,23,24,25,26,27,29,30 — +3VPCU

20,23,27,28,35 — +5V

28,29,30,31,33,34 — +VIN

FOLLOW W03

HDMI_HPD_DC# — Q14 2N7002K(DMN601K-7) — HDMI_HPD — R169 100K/F_4

4 +5V_HDMIC — C183 *0.01U/50V_4

for EMI request

+5V — 40 mils — F1 FUSE1A6V_POLY — +5V_HDMIC

C184 0.1U/16V_4

VC5 *TVM0G5R5M220R

SSM14 spec is 40V 1A

NB5

PROJECT : Y0H

Quanta Computer Inc.

Size	Document Number	Rev
Custom	LCD CONN/LID/CAM/D-MIC	1A

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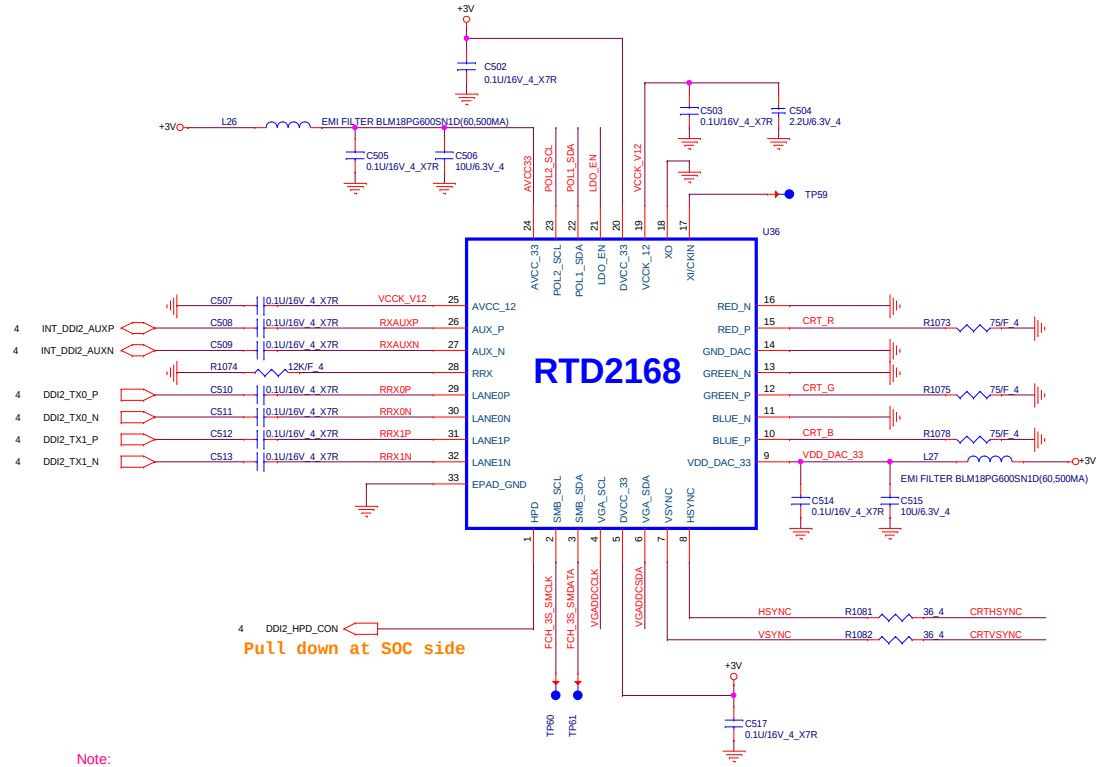
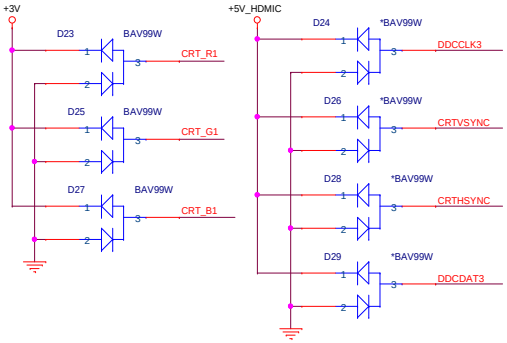
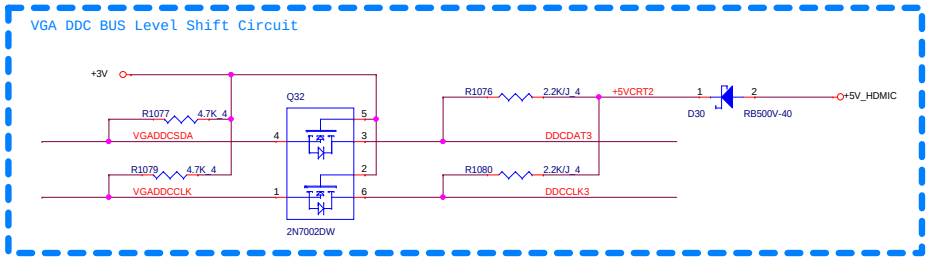
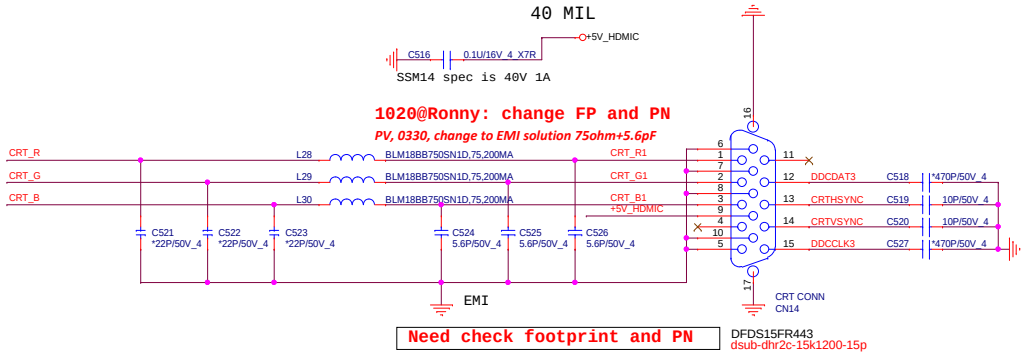




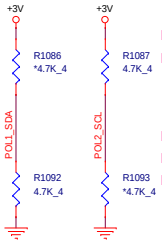




Note:
1- C1,C3,C6,C8,C9,C11,C12,C19,C20
Should be close to chip
2- C12 shold be X5R material
3- R1 should be 12K ohm with +/-1%
4- R8, R9, R10 should be 75 ohm with +/-1%

Mode Configure Table(Power On Latch)

		POL1_SDA(PIN22)	
		0	1
POL2_SCL(PIN23)	0	X	EP MODE
	1	ROM ONLY MODE	EEPROM MODE



RTD2168 Supports three operation mode for system design.
Reserve 4.7K resistor pull high/low for mode selection

ROM ONLY Mode : PIN22 pull low, PIN23 pull high
EP Mode : PIN22 pull high, PIN23 pull low
EEPROM Mode : PIN22 pull high, PIN23 pull high

EEPROM MODE

In EEPROM mode,an additional EEPROM is needed.
EEPROM should configure with following conditions.

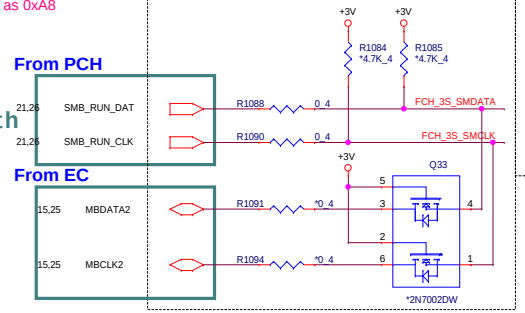
1- EEPROM with a size of 16K-Byte
2- EEPROM device should be 2-byte addressing device
3- Slave address should configure as 0xA8

DB:check with SMBUS

CIIC_SCL, CIIC_SDA Connection

EP mode: Pin2, Pin3 connect to EC SMBUS
ROM or EEPROM mode: connect to PCH SMBUS
IIC Protocol is used

RTD2168 Slave Address: 0x64/0x65 and 0x68/0x69



Embedded LDO

Select VCCK_V12 source from external 1.2V or embedded LDO

LDO_EN(PIN21)	
0	1
VCCK_V12 from External 1.2V	VCCK_V12 from Embedded LDO

NB5

PROJECT : S400 Series
Quanta Computer Inc.

Size	Document Number	Rev
Custom	27 – DP2VGA_converter	1A
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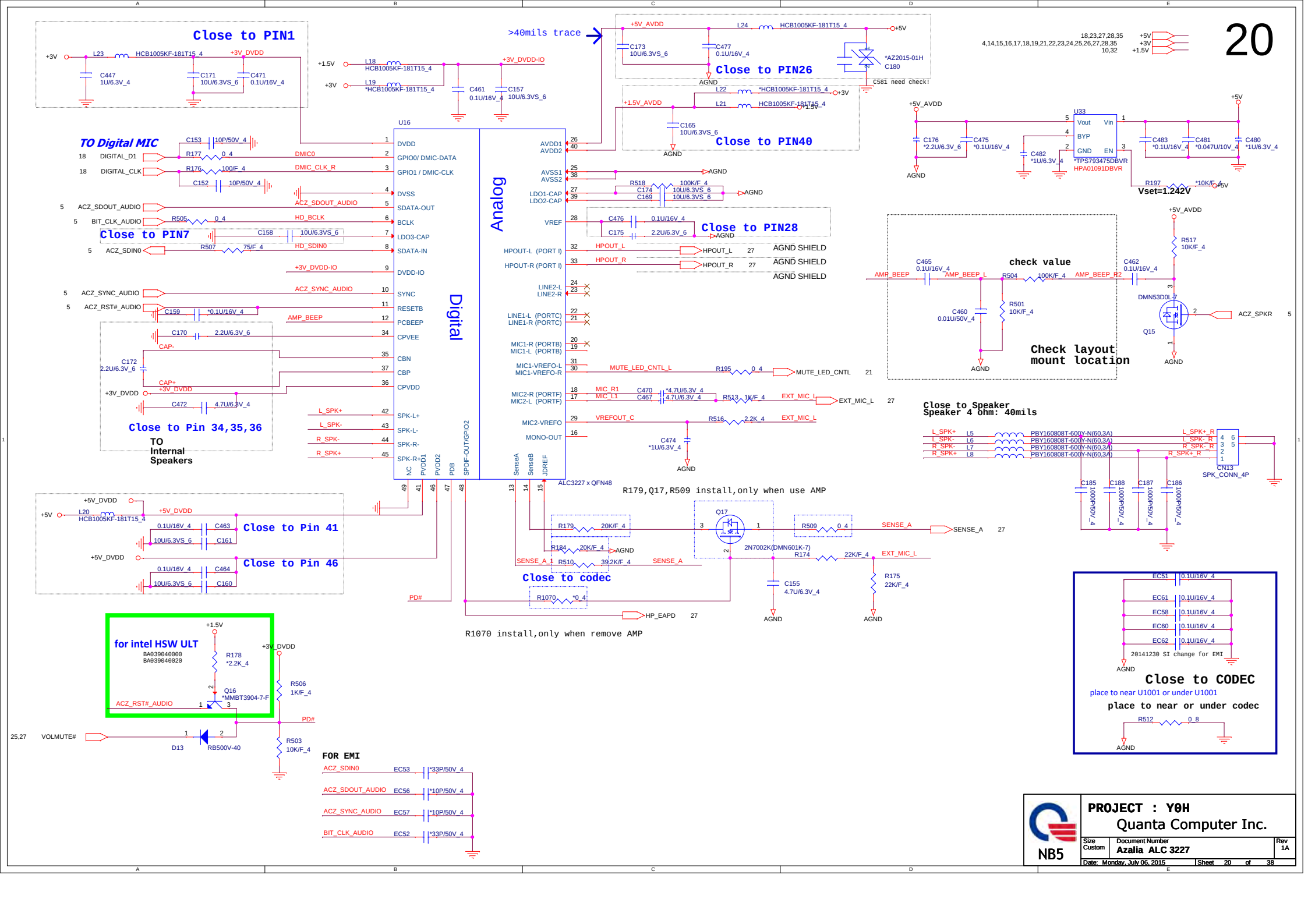
20
Close to PIN1
>40mils trace
Close to PIN26
Close to PIN40
Close to PIN28
Close to PIN7
TO Digital MIC
Close to Pin 34,35,36
TO
Internal
Speakers
Close to Pin 41
Close to Pin 46
Close to codec
for intel HSW ULT
FOR EMI
Analog
Digital
U16
ALC3227 x QFN48
AGND SHIELD
check value
Check layout
mount location
Close to Speaker
Speaker 4 ohm: 40mils
R179,Q17,R509 install,only when use AMP
R1070 install,only when remove AMP
Close to CODEC
place to near U1001 or under U1001
place to near or under codec
Vset=1.242V
C581 need check!
20141230 SI change for EMI
PROJECT : Y0H
Quanta Computer Inc.
NB5
Azalia ALC 3227
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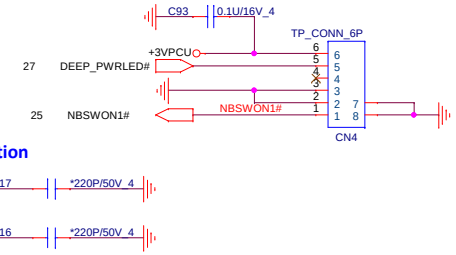
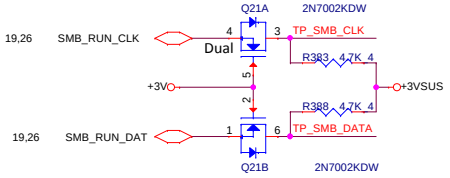
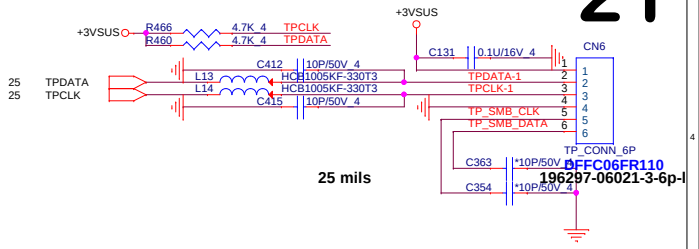
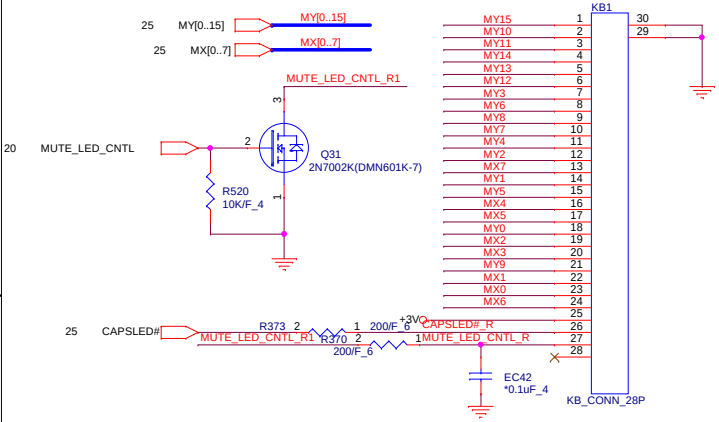
Touch Pad Connector

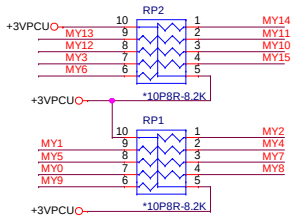




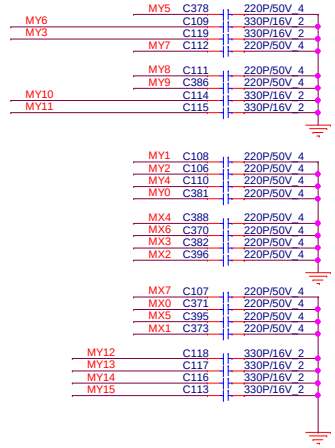


KEYBOARD Con.





KEYBOARD PULL-UP



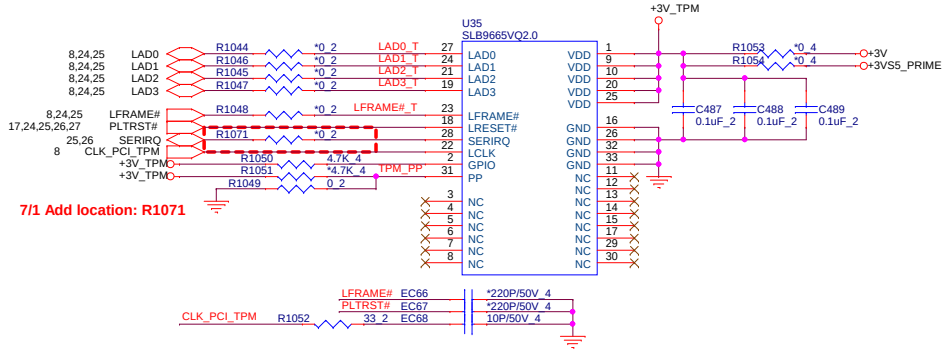
4,14,15,16,17,18,19,20,22,23,24,25,26,27,28,35 +3V
18,20,23,27,28,35 +5V
8,10,23,24,25,26,27,29,30 +3VPCU

NB5

PROJECT : Y0H
Quanta Computer Inc.

Size	Document Number	Rev
	TPM/TP/FAN/LED	1A
Date: Monday, July 06, 2015	Sheet 21 of 38	

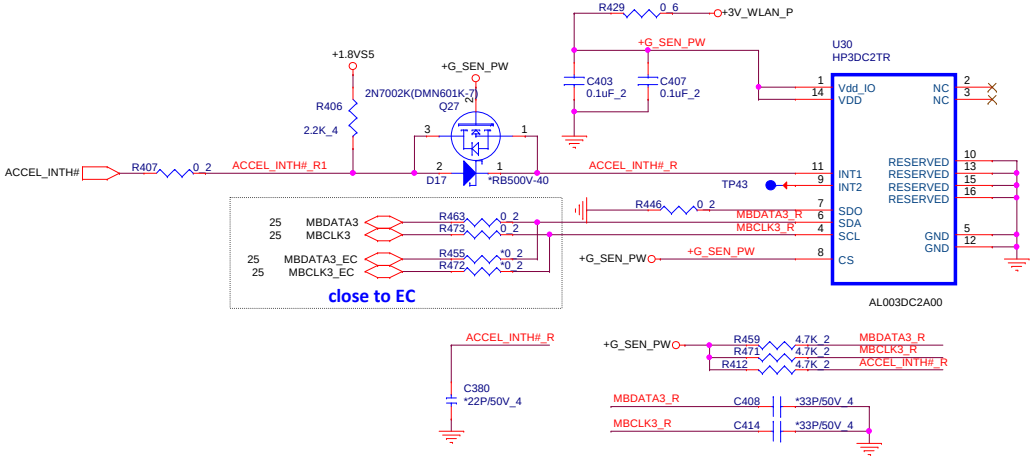
TPM (2.0)



7/1 Add location: R1071

Accelerometer Sensor

G-Sensor Power need check



Touch screen

Green CLK Circuitry

23,27,28,30,31,32,33,34,35 +5VS5
8,10,21,23,24,25,26,27,29,30 +3VPCU

4,14,15,16,17,18,19,20,21,23,24,25,26,27,28,35 +3V
18,20,23,27,28,35 +5V

NB5

PROJECT : Y0H
Quanta Computer Inc.

Size	Document Number	Rev
	USB3.0/GCLK/TS/FR	1A
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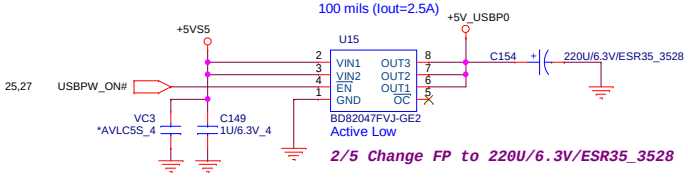
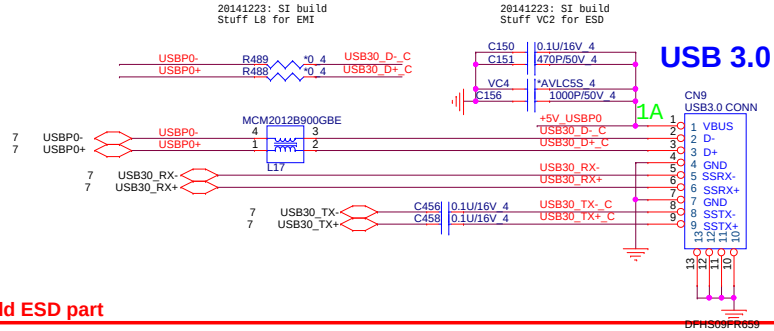
USB 2.0/3.0 Combo

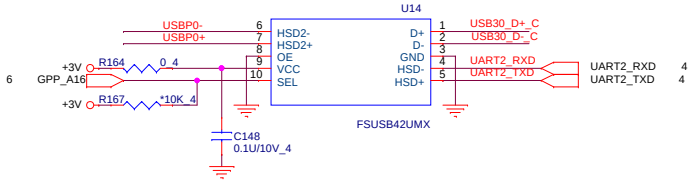


2/5 Change FP to 220U/6.3V/ESR35_3528

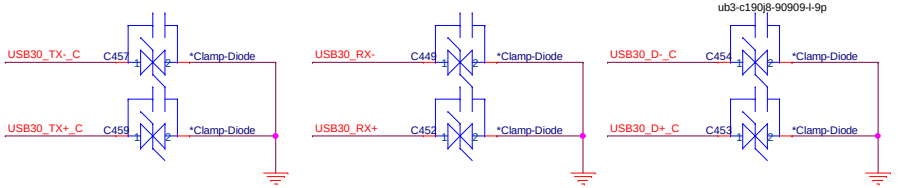
USB 3.0



UART for DEBUG

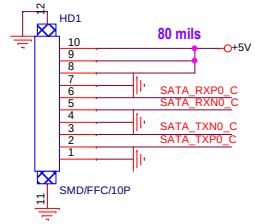


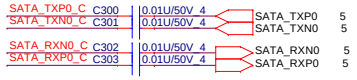
2/25 Add ESD part

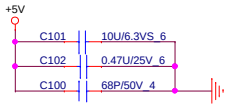


HDD

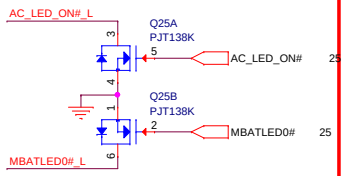
3/24 Change pin define as Napa





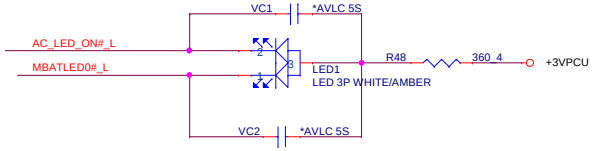


2/26 add LED MOS



PWR LED

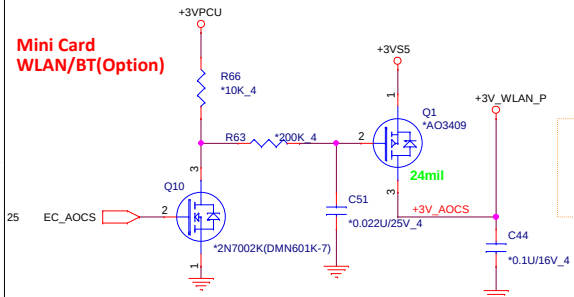
2/10 need check with EC

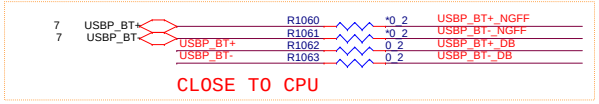


14,15,16,17,18,19,20,21,22,24,25,26,27,28,35 +3V
18,20,27,28,35 +5V
8,10,21,24,25,26,27,29,30 +3VPCU

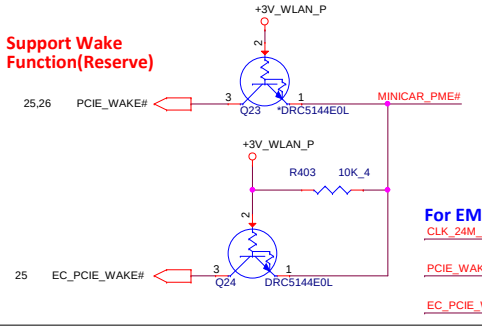
NB5	PROJECT : Y0H Quanta Computer Inc.	
Size	Document Number RTS5141 CARD READER	Rev 1A
Date: Monday, July 06, 2015	Sheet 23 of 38	

Mini Card WLAN/BT(Option)

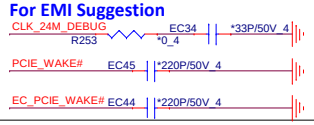


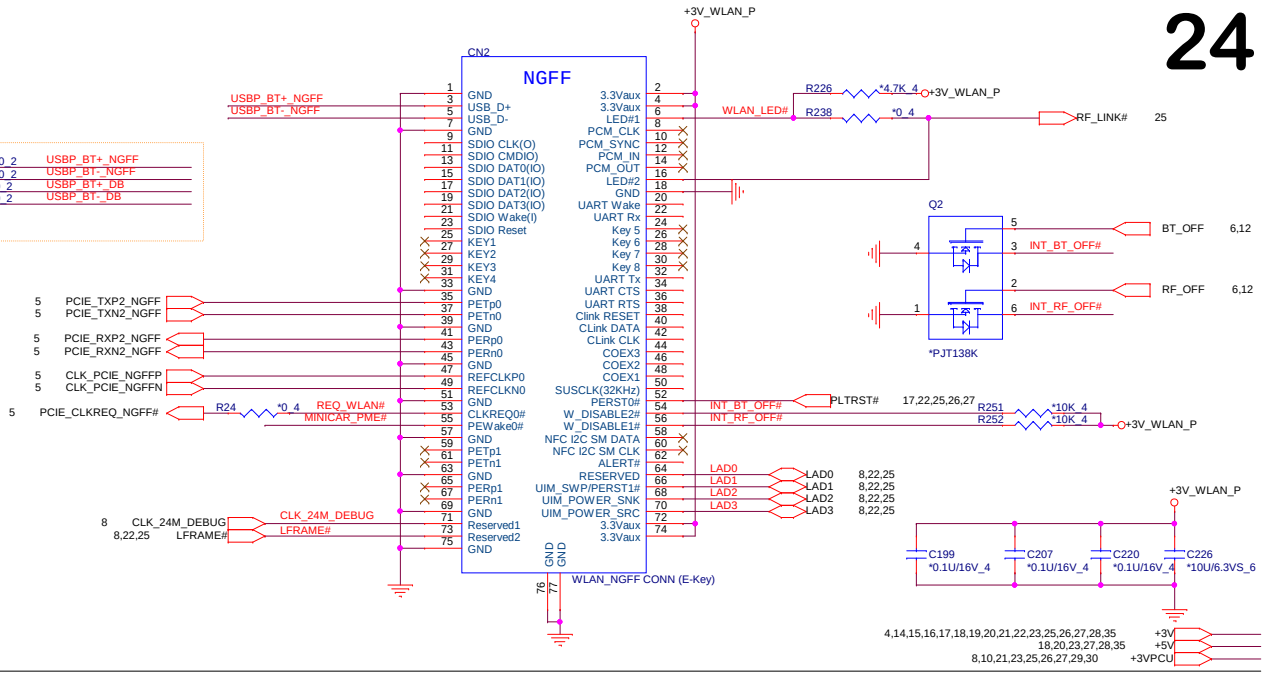


Support Wake Function(Reserve)



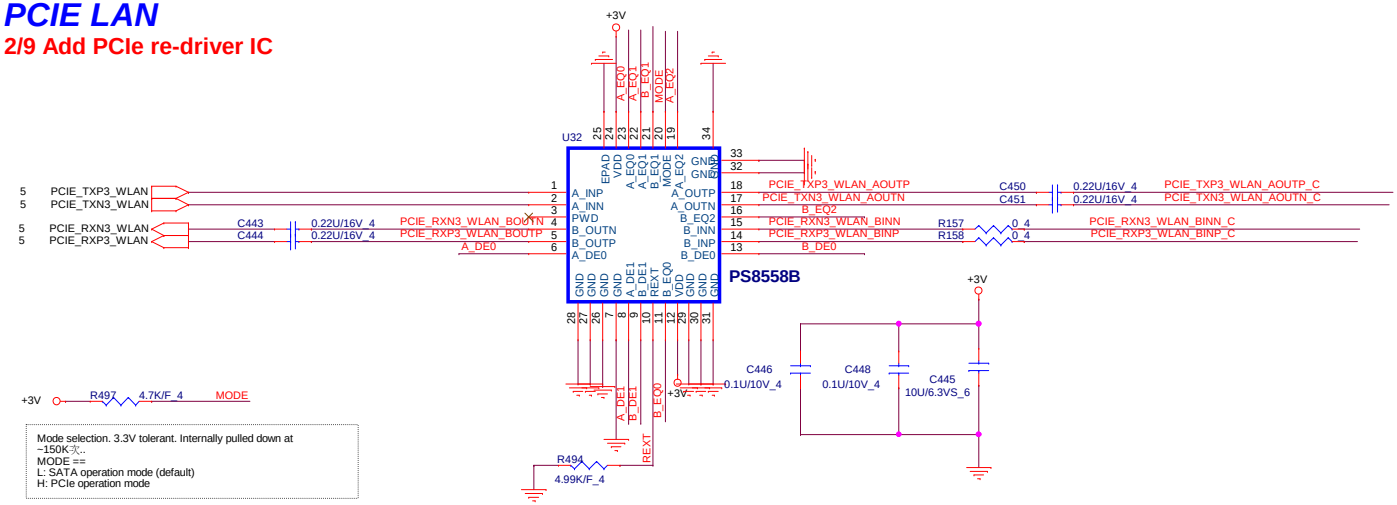
For EMI Suggestion





PCIE LAN

2/9 Add PCIe re-driver IC



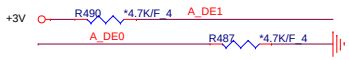
Mode selection. 3.3V tolerant. Internally pulled down at ~150K次..
MODE ==
L: SATA operation mode (default)
H: PCIe operation mode

Equalizer control and program for channel A.
A_EQ0, A_EQ1 and A_EQ2: internally pulled down at ~150K
[A_EQ2,A_EQ1,A_EQ0] ==

LLL:	13.3dB(default)
LHL:	10.1dB
HLL:	14.7dB
HHL:	16.5dB
LLH:	14dB
LHH:	8dB
HLH:	11.9dB
HHH:	15.6dB

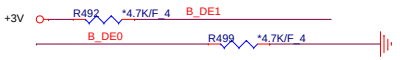
Equalizer control and program for channel B.
B_EQ0, B_EQ1 and B_EQ2: internally pulled down at ~150K
[B_EQ2,B_EQ1,B_EQ0] ==

LLL:	13.3dB(default)
LHL:	10.1dB
HLL:	14.7dB
HHL:	16.5dB
LLH:	14dB
LHH:	8dB
HLH:	11.9dB
HHH:	15.6dB



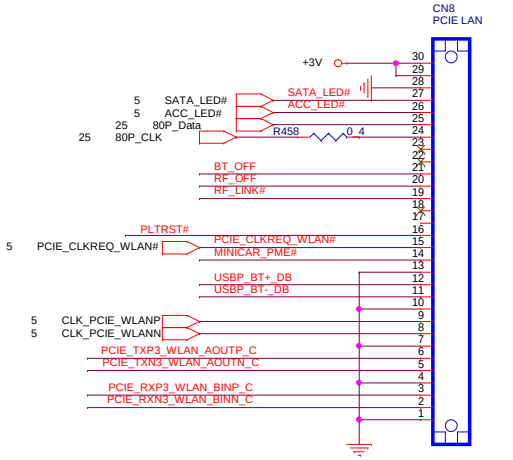
Programmable output de-emphasis level setting for channel A .
A_DE0: internally pulled up at ~150K; A_DE1 internally pulled down at ~150K
[A_DE1,A_DE0] ==

LL:	-2dB
HL:	-7.5dB
LH:	-3.5dB (default)
HH:	-6dB



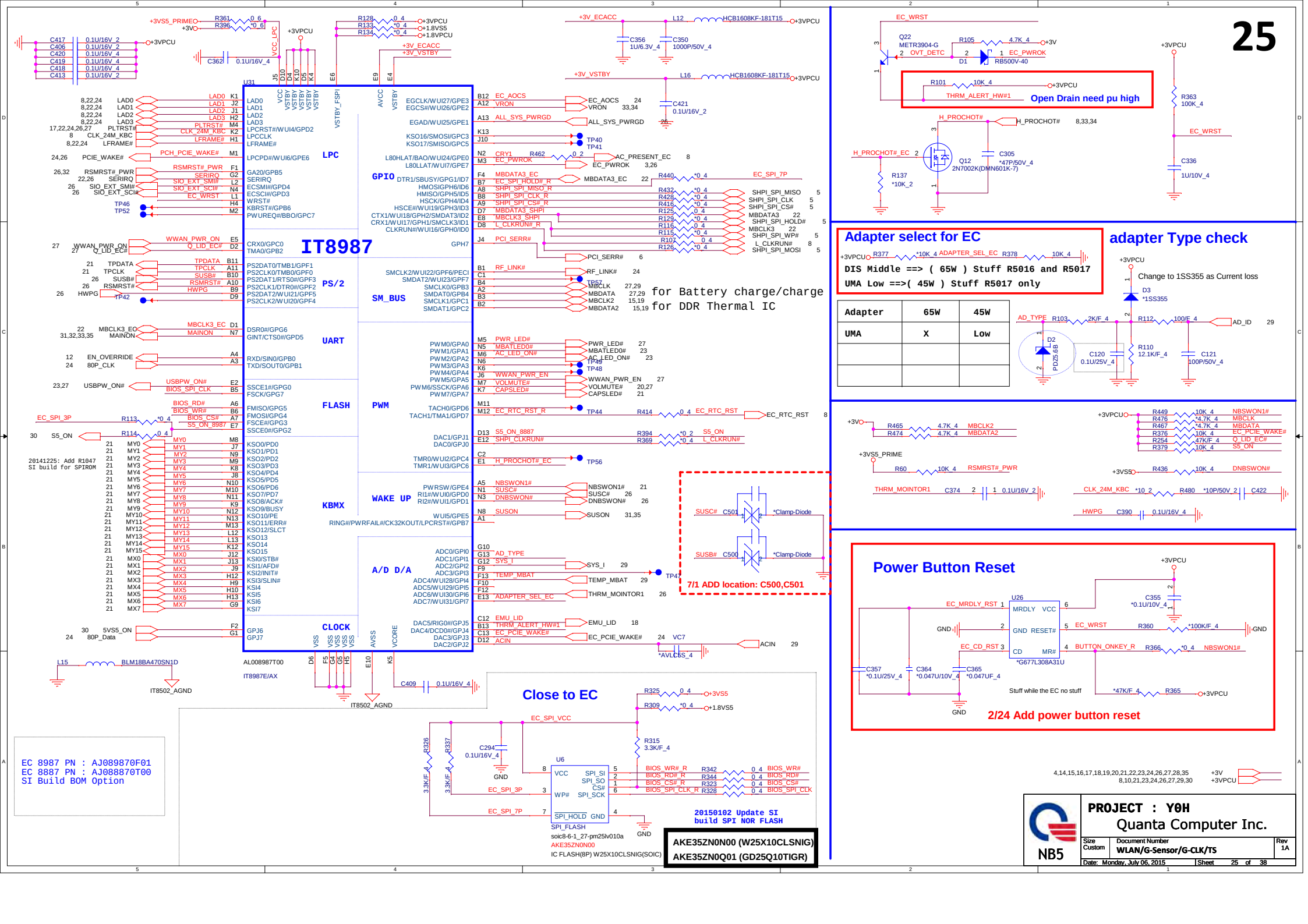
Programmable output de-emphasis level setting for channel B.
B_DE0: internally pulled up at ~150K; B_DE1 internally pulled down at ~150K
[B_DE1,B_DE0] ==

LL:	-2dB
HL:	-7.5dB
LH:	-3.5dB (default)
HH:	-6dB



Chip power down. 3.3V tolerant. Internally pulled down at ~150K.
PWD ==
L: Normal operation (default)
H: Chip power down

NB5	PROJECT : Y0H Quanta Computer Inc.		
	Size:	Document Number: WLAN	Rev: 1A
	Date: Wednesday, July 08, 2015	Sheet 24 of 38	


IT8987
LPC
GPIO
PS/2
SM_BUS
UART
FLASH
PWM
KBMX
WAKE UP
A/D D/A
CLOCK
for Battery charge/charge
for DDR Thermal IC
Close to EC
Open Drain need pu high
Adapter select for EC
DIS Middle ==> (65W) Stuff R5016 and R5017
UMA Low ==>(45W) Stuff R5017 only
Adapter | 65W | 45W
UMA | X | Low
adapter Type check
Change to 1SS355 as Current loss
Power Button Reset
2/24 Add power button reset
7/1 ADD location: C500,C501
20141225: Add R1047 SI build for SPIROM
EC 8987 PN : AJ089870F01
EC 8887 PN : AJ088870T00
SI Build BOM Option
20150102 Update SI build SPI NOR FLASH
AKE35ZN0N00 (W25X10CLSNIG)
AKE35ZN0Q01 (GD25Q10TIGR)
PROJECT : Y0H
Quanta Computer Inc.
NB5
WLAN/G-Sensor/G-CLK/TS
Date: Monday, July 06, 2015
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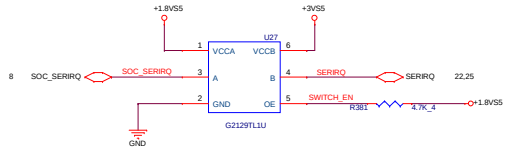
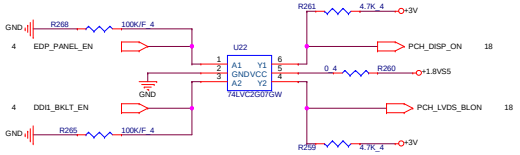
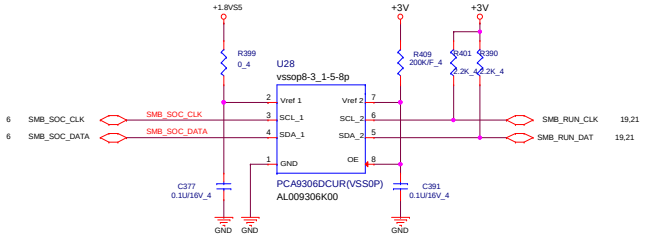
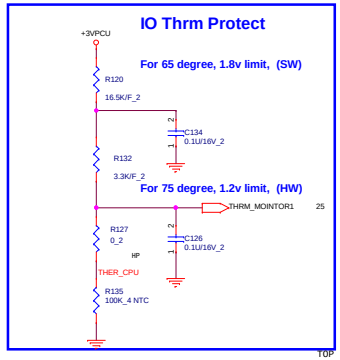
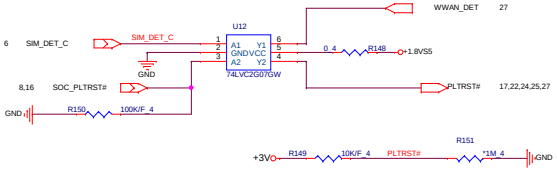
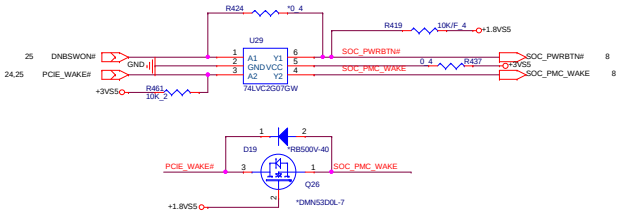

+1.8VS5
+3VS5
U27
VCCA
VCCB
A
B
GND
OE
G2129TL1U
8 SOC_SERIRQ
SOC_SERIRQ
SERIRQ
SERIRQ 22,25
SWITCH_EN
R381 4.7K_4
+1.8VS5
GND

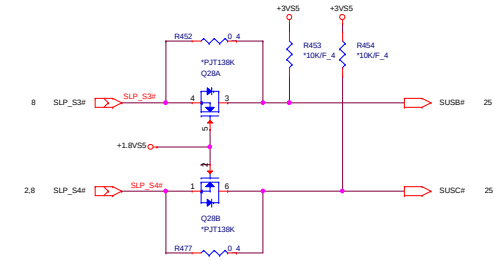

GND
R268 100K/F_4
4 EDP_PANEL_EN
U22
A1 Y1
GNDVCC
A2 Y2
74LVC2G07GW
R261 4.7K_4
+3V
PCH_DISP_ON 18
0_4 R260
+1.8VS5
4 DDIL_BKLT_EN
PCH_LVDS_BLON 18
R265 100K/F_4
R259 4.7K_4
+3V

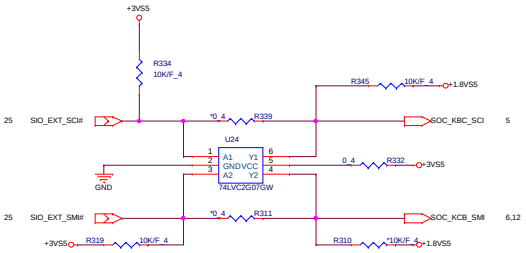

+1.8VS5
+3V
+3V
R399
0_4
U28
vssop8-3_1-5-8p
Vref 1
Vref 2
SCL_1
SCL_2
SDA_1
SDA_2
GND
OE
PCA9306DCUR(VSS0P)
AL009306K00
R409
200K/F_4
R401 2.2K_4
R390 2.2K_4
6 SMB_SOC_CLK
SMB_SOC_CLK
SMB_RUN_CLK 19,21
6 SMB_SOC_DATA
SMB_SOC_DATA
SMB_RUN_DAT 19,21
C377
0.1U/16V_4
C381
0.1U/16V_4
GND
GND
GND


IO Thrm Protect
+3VPCU
For 65 degree, 1.8v limit, (SW)
R120
16.5K/F_2
C134
0.1U/16V_2
R132
3.3K/F_2
For 75 degree, 1.2v limit, (HW)
THRM_MOINTOR1 25
R127
0_2
HP
C126
0.1U/16V_2
THER_CPU
R135
100K_4 NTC
TOP

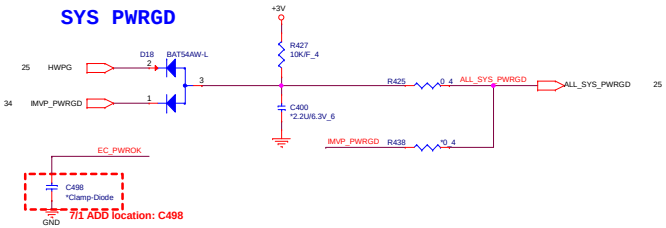

6 SIM_DET_C
SIM_DET_C
U12
A1 Y1
GNDVCC
A2 Y2
74LVC2G07GW
WWAN_DET 27
0_4 R148
+1.8VS5
8,16 SOC_PLTRST#
PLTRST# 17,22,24,25,27
GND
R150 100K/F_4
R151
+3V
R149 10K/F_4 PLTRST#
*1M_4
GND

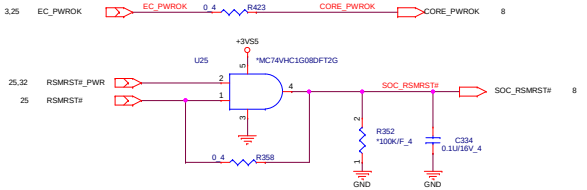

R424 *0_4
R419 10K/F_4
+1.8VS5
25 DNBSWON#
U29
SOC_PWRBTN#
SOC_PWRBTN# 8
24,25 PCIE_WAKE#
SOC_PMC_WAKE
0_4 R437
+3VS5
SOC_PMC_WAKE 8
+3VS5
R461 10K_2
D19
*RB500V-40
PCIE_WAKE#
SOC_PMC_WAKE
Q26
+1.8VS5
*DMN53D0L-7


+3VS5
+3VS5
R452 0_4
R453 *10K/F_4
R454 *10K/F_4
*PJT138K
Q28A
8 SLP_S3#
SLP_S3#
SUSB# 25
+1.8VS5
2,8 SLP_S4#
SLP_S4#
SUSC# 25
Q28B
*PJT138K
R477 0_4


+3VS5
R334
10K/F_4
R345 10K/F_4
+1.8VS5
25 SIO_EXT_SCI#
*0_4 R339
SOC_KBC_SCI 5
U24
A1 Y1
GNDVCC
A2 Y2
74LVC2G07GW
0_4 R332
+3VS5
GND
25 SIO_EXT_SMI#
*0_4 R311
SOC_KCB_SMI 6,12
+3VS5
R319 10K/F_4
R310 10K/F_4
+1.8VS5

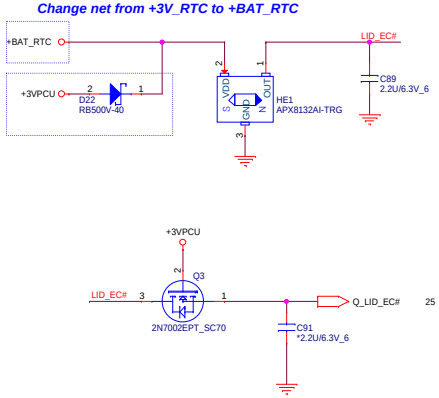
SYS PWRGD


+3V
25 HWPG
D18
BAT54AW-L
R427
10K/F_4
34 IMVP_PWRGD
R425 0_4
ALL_SYS_PWRGD
ALL_SYS_PWRGD 25
C400
*2.2U/6.3V_6
IMVP_PWRGD R438 *0_4
EC_PWROK
C498
*Clamp-Diode
GND
7/1 ADD location: C498

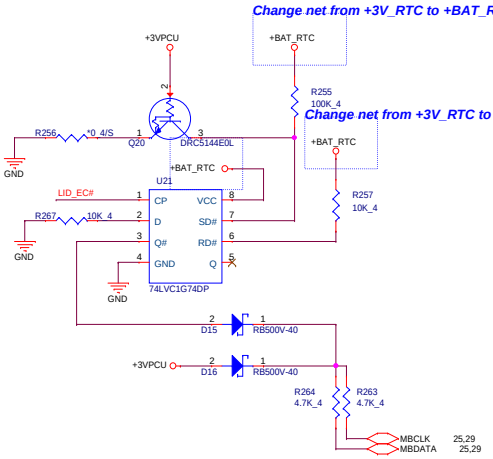

3,25 EC_PWROK
EC_PWROK 0_4 R423
CORE_PWROK
CORE_PWROK 8
+3VS5
U25
*MC74VHC1G08DFT2G
25,32 RSMRST#_PWR
25 RSMRST#
SOC_RSMRST#
SOC_RSMRST# 8
R352
*100K/F_4
C334
0.1U/16V_4
0_4 R358
GND
GND

LID

Change net from +3V_RTC to +BAT_RTC



Change net from +3V_RTC to +BAT_RTC



Change net from +3V_RTC to +BAT_RTC

Input				Output	
$\overline{SD}$	$\overline{RD}$	CP	D	Q	$\overline{Q}$
L	H	X	X	H	L
H	L	X	X	L	H
L	L	X	X	H	H

[1] H = HIGH voltage level;
L = LOW voltage level;
X = don't care.

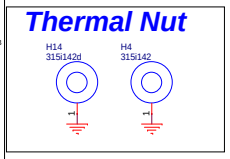
Input				Output	
$\overline{SD}$	$\overline{RD}$	CP	D	Q_{n+1}	$\overline{Q}_{n+1}$
H	H	↑	L	L	H
H	H	↑	H	H	L

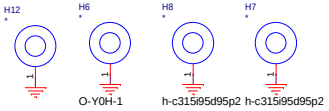
[1] H = HIGH voltage level;
L = LOW voltage level;
↑ = LOW-to-HIGH CP transition;
Q_{n+1} = state after the next LOW-to-HIGH CP transition.

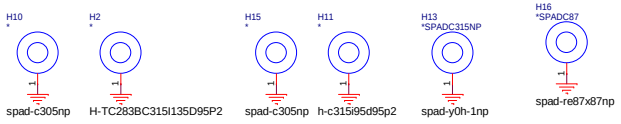
Daughter Board

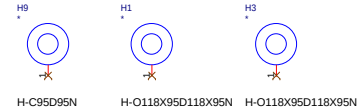
HOLE

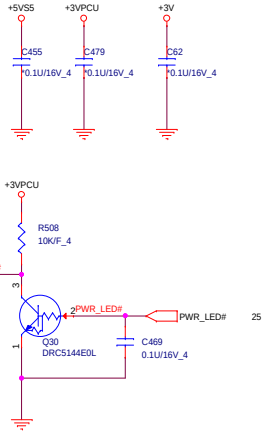
Thermal Nut

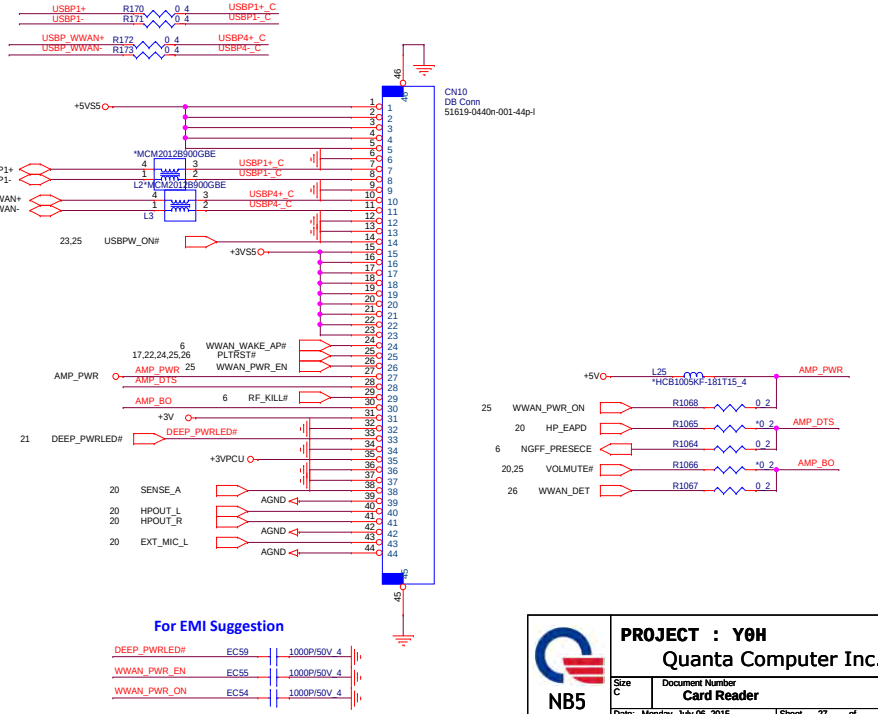












For EMI Suggestion

PROJECT : Y0H
Quanta Computer Inc.

Size	Document Number	Rev
C	Card Reader	1A

NB5

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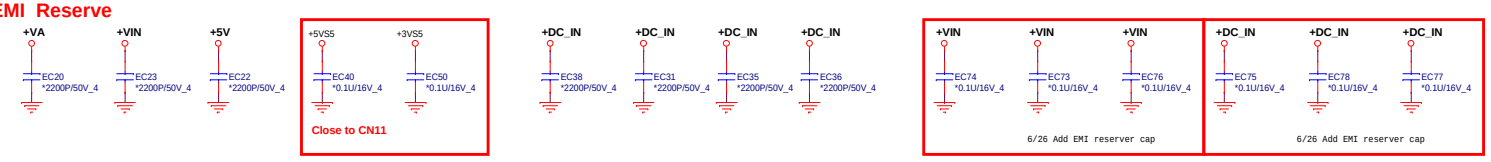
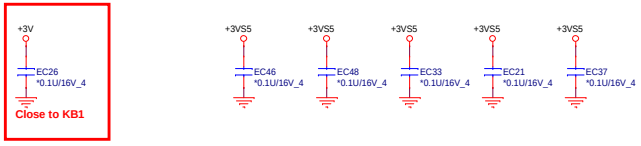
I/O port definition

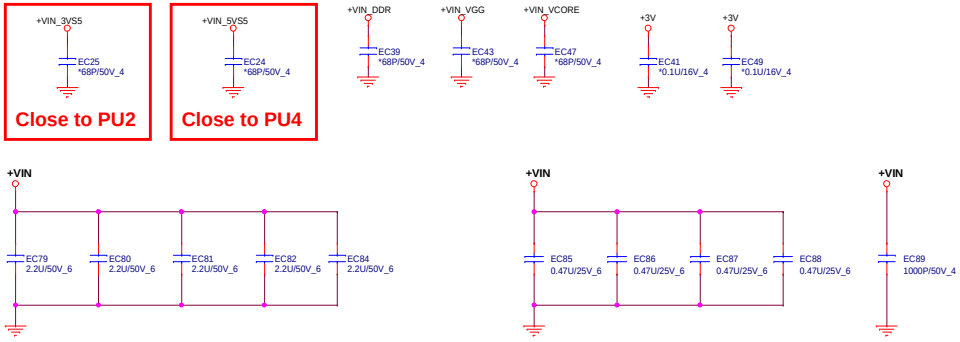
	Brasswell-M	Note
SATA Port0	HDD	
SATA Port1	ODD	
PCIE Port0	Card reader	
PCIE Port1		
PCIE Port2		
PCIE Port3	WIFI	
USB3.0 Port0	USB 2.0/3.0 Combo	
USB3.0 Port1		
USB3.0 Port2		
USB3.0 Port3		
USB2.0 Port0	USB 2.0/3.0 Combo	
USB2.0 Port1	USB 2.0	
USB2.0 Port2	Webcam	
USB2.0 Port3	BT	
USB2.0 Port4	WWAN	

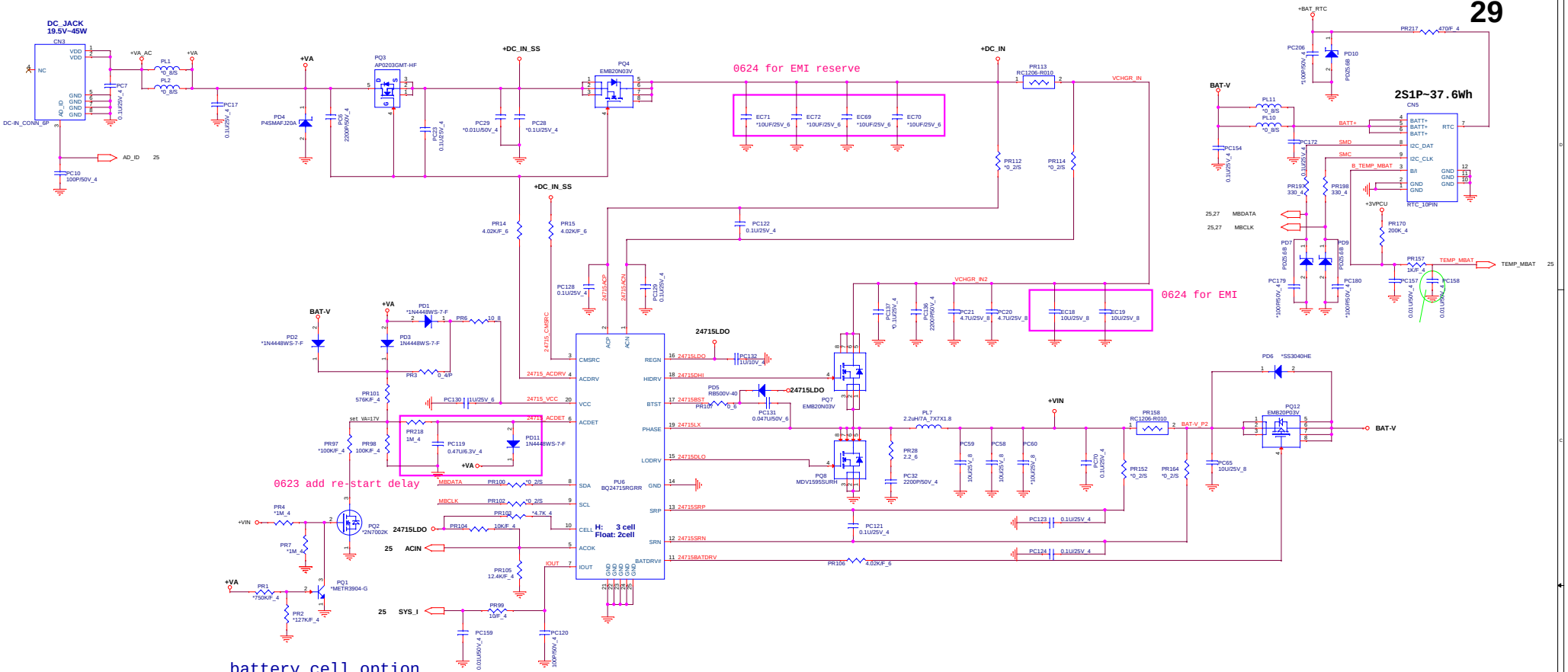
EMI Reserve





RF Reserve





battery cell option

	2-cell	3-cell
PR26	un-stuff	stuff

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Quanta Computer Inc.
NB5
Size: Custom
Document Number: Charger(BQ24715)
Rev: 1A
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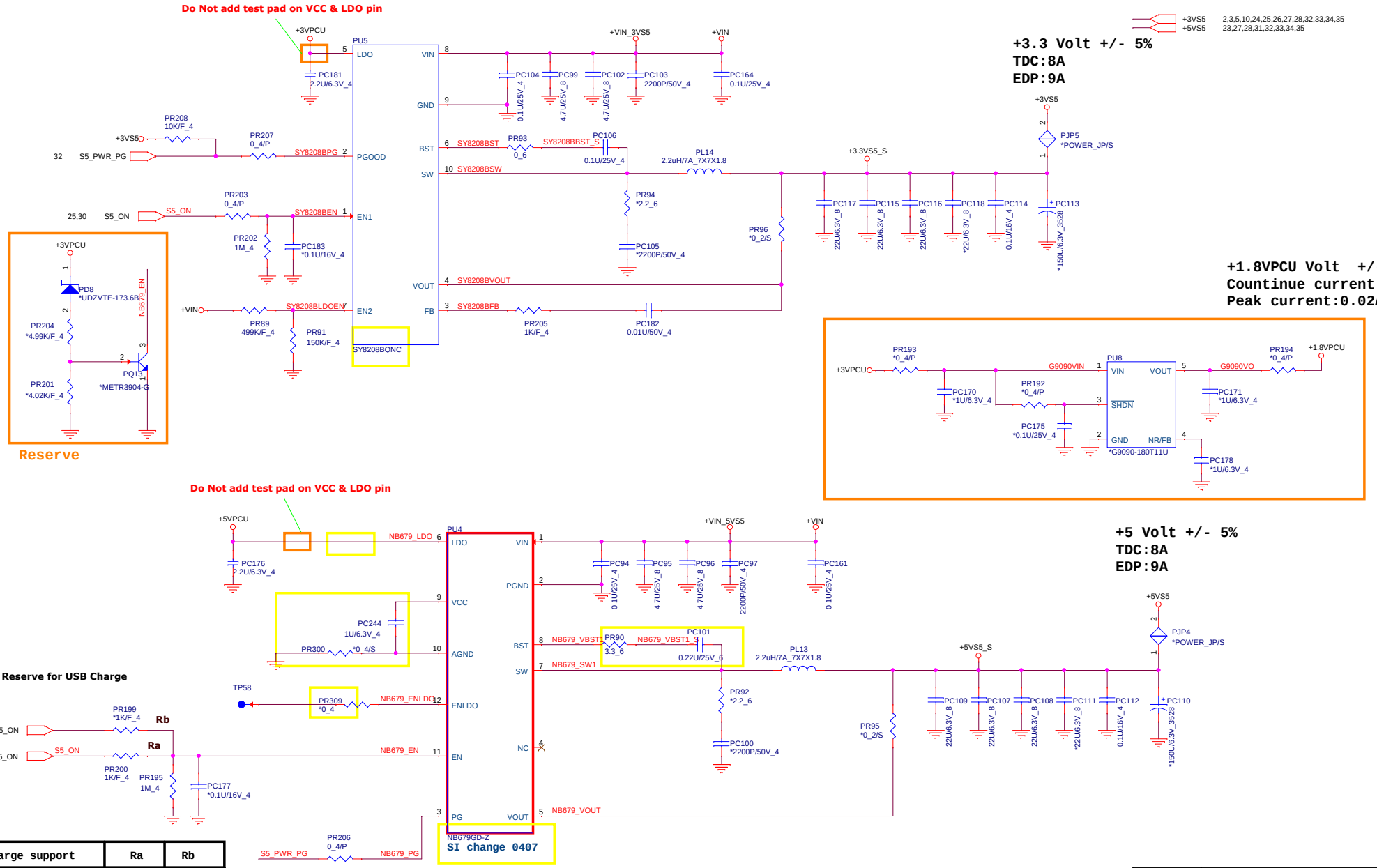
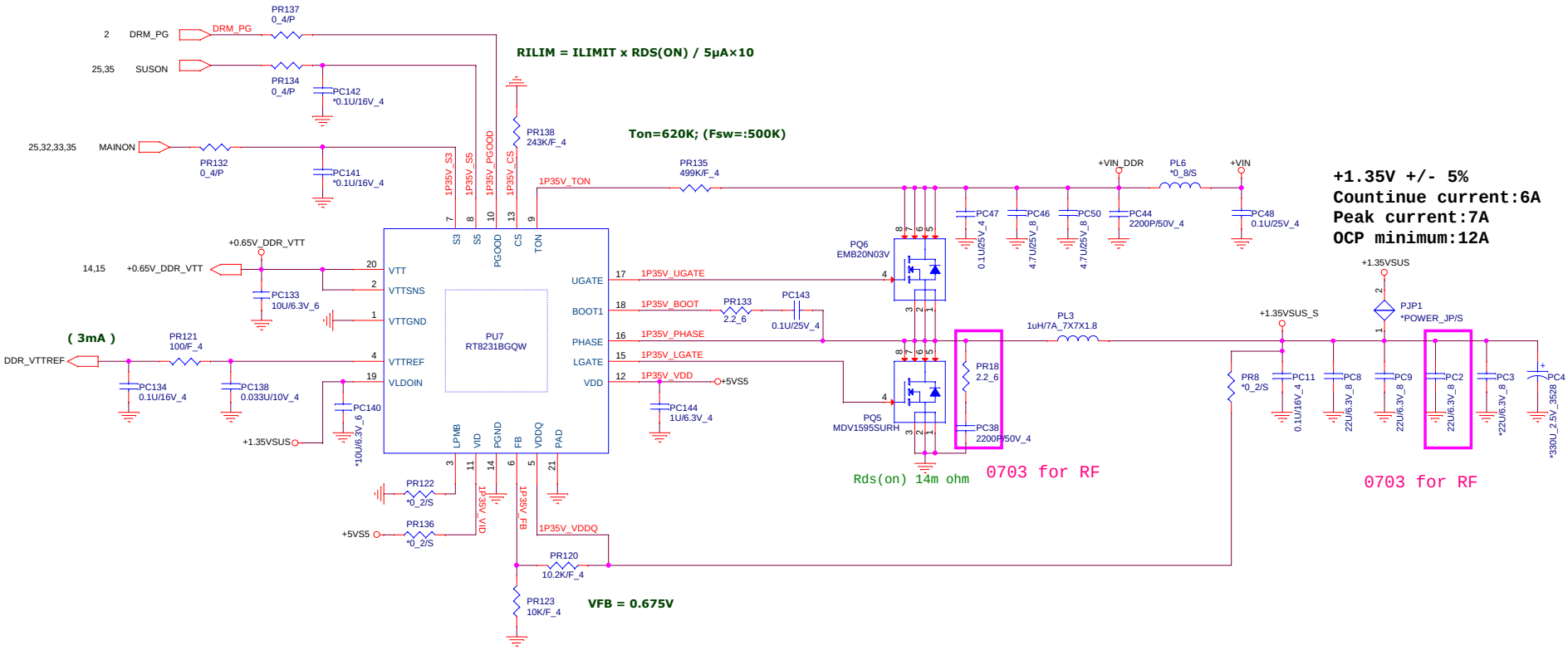
DC/DC +3VS5/+5VS5

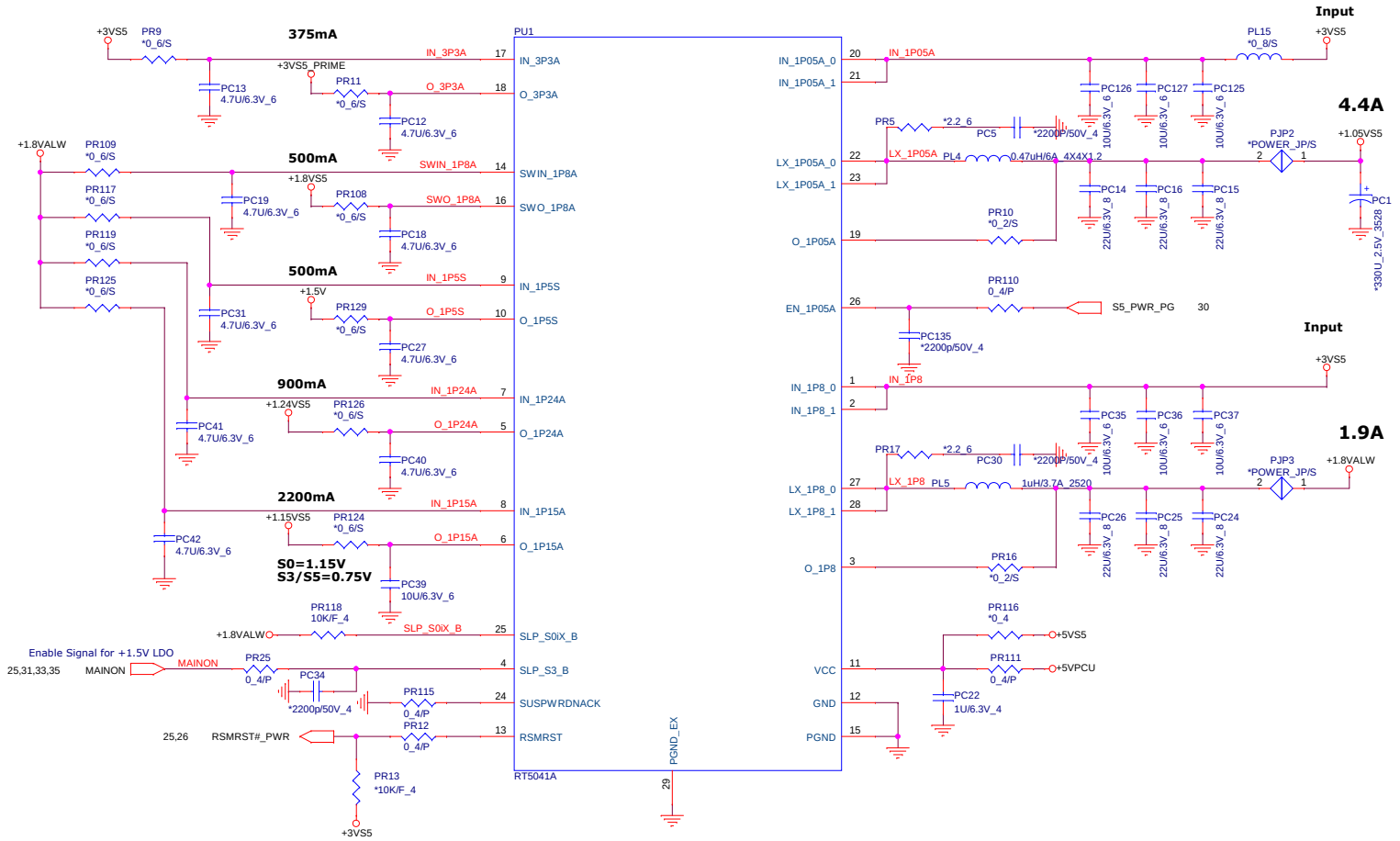


USB Charge support	Ra	Rb
Vine (No support)	Stuff	NA
Envy (Support)	NA	Stuff

NB5	PROJECT : Y0H Quanta Computer Inc.	
Size Custom	Document Number 3/5VPCU(SY8208B/SY8208C)	Rev 1A
Date: Monday, July 06, 2015	Sheet 30 of 38	



PROJECT :	Y0H
	Quanta Computer Inc.
Size	Document Number: DDR3 (RT8231B)/1.8VS5
Rev	1A
Date:	Monday, July 06, 2015
Sheet	31 of 38
NB5	



+3VS5 2,3,5,10,24,25,26,27,28,30,33,34,35
+1.8VALW 35
+1.8VS5 4,5,6,7,8,10,12,16,18,22,25,26,33
+3VS5_PRIME 10,22,25
+1.5V 10,20
+1.24VS5 10
+1.15VS5 9,32
+5VPCU 30,32
+1.05VS5 8,9,33,34
+1.15VS5 9,32
+5VPCU 30,32
+1.8V 4,5,35

NB5	**PROJECT : Y0H** Quanta Computer Inc.	
Size	Document Number 1.05VS5/1.8VS5/1.24VS5	Rev 1A
Date: Monday, July 06, 2015	Sheet 32 of 38	

+3VS5 2,3,5,10,24,25,26,27,28,30,32,34,35
+1.05VS5 8,9,32,34
+5VS5 23,27,28,30,31,32,34,35
+VGG 9
+1.8VS5 4,5,6,7,8,10,12,16,18,22,25,26,32
+VIN 18,28,29,30,31,34

Close to CPU

+VGG Volt +/- 5%
Imax:13A
OCP:16.64A
LL=0
VBOOT=1V

0625 For IC performace

Fsw=:600KHz

Rds(on) 4.2m ohm

0625 move back to power side

For Acoustic

Place close with VCORE Inductor B=4250

14A for ICCMAX=1V

Vref=0.6V

0625 For IC performace

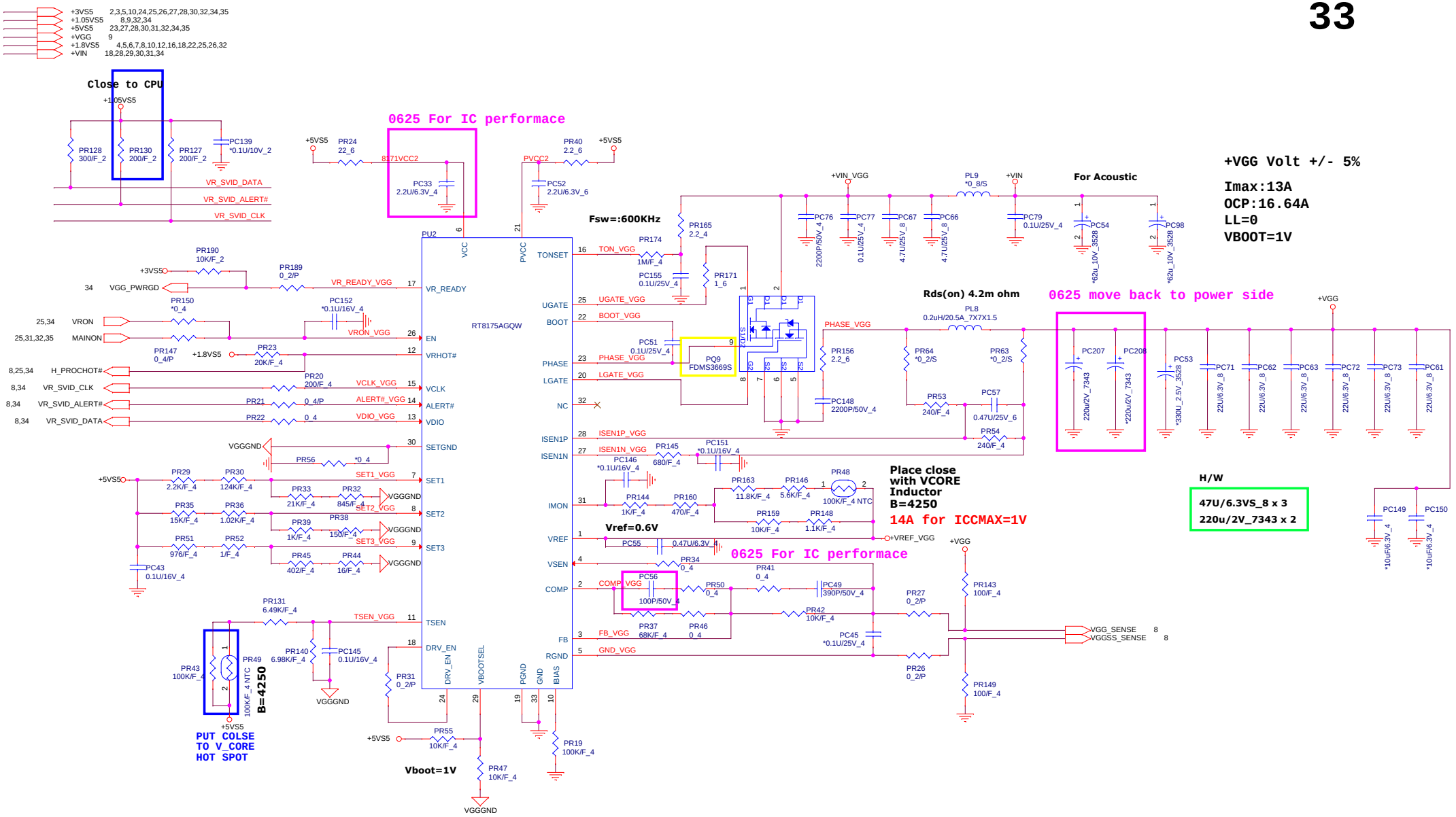
H/W
47U/6.3VS_8 x 3
220u/2V_7343 x 2

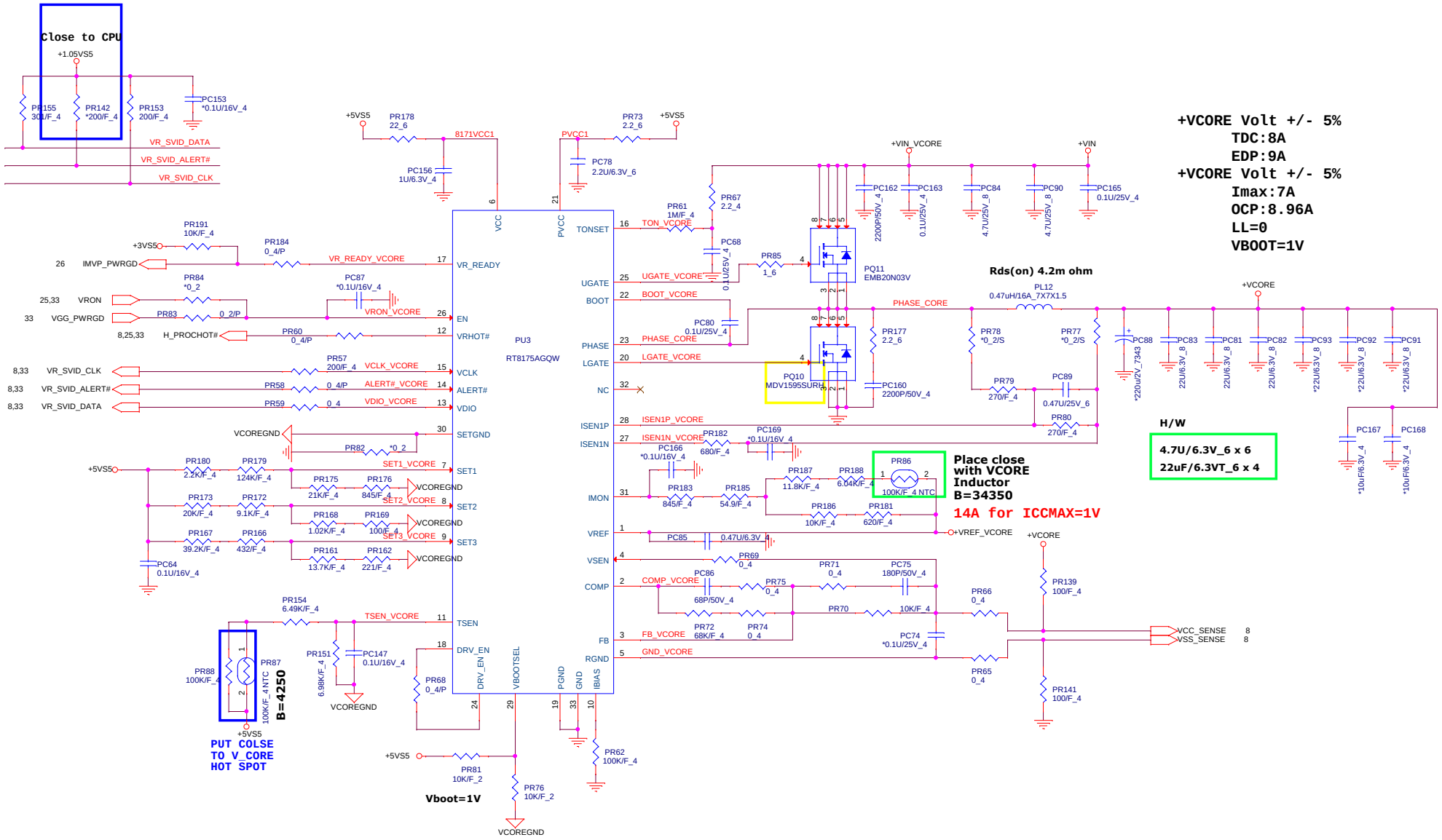
PUT COLSE TO V_CORE HOT SPOT

B=4250

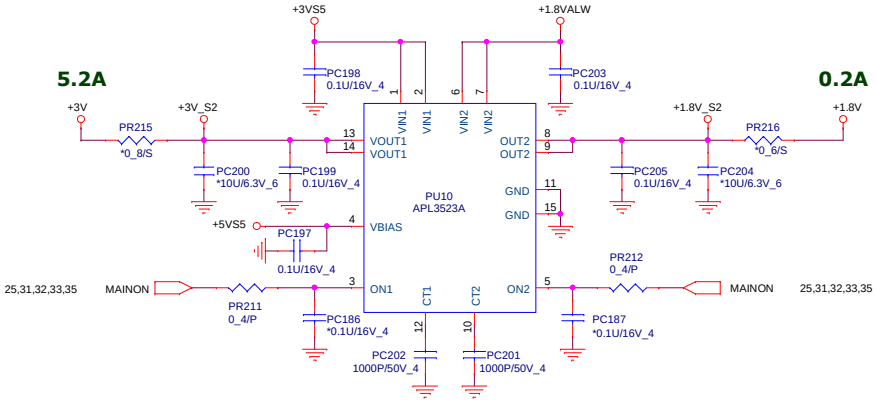
Vboot=1V

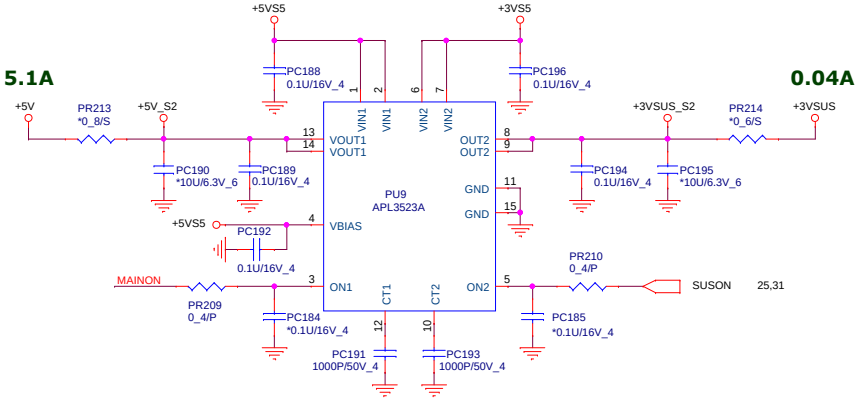
RT8175AGQW





NB5	PROJECT : Y0H Quanta Computer Inc.	
	Size: Document Number: +VCC CORE (RT8171A)	Rev: 1A
	Date: Monday, July 06, 2015	Sheet 34 of 38





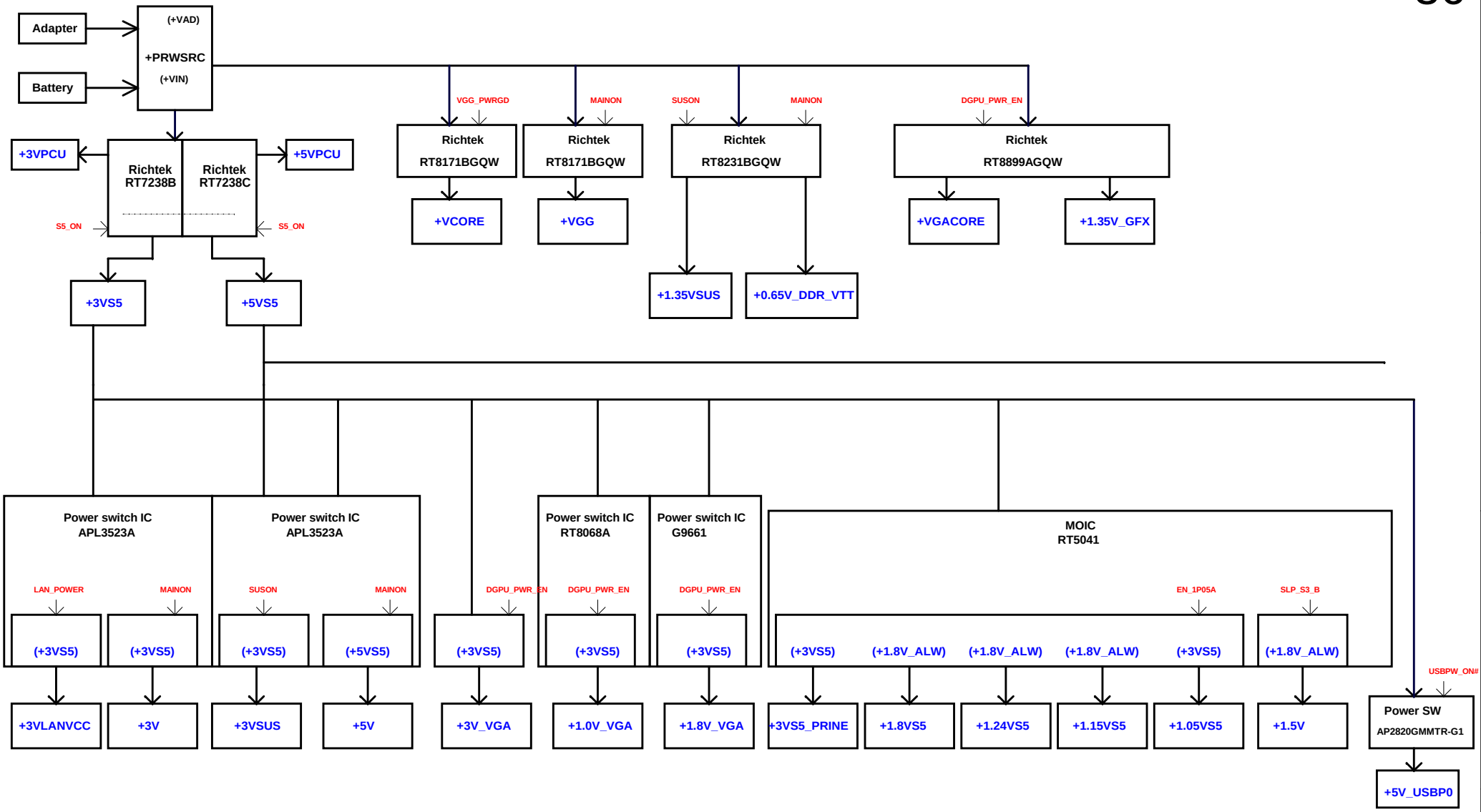
4,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28 +3V
18,20,23,27,28 +5V
2,3,5,10,24,25,26,27,28,30,32,33,34 +3VS5
23,27,28,30,31,32,33,34 +5VS5
21 +3VSUS

NB5

PROJECT : Y0H

Quanta Computer Inc.

Size	Document Number	Rev
	Dis-charge IC (G5934RZ1U)	1A
Date: Monday, July 06, 2015	Sheet 35 of 38	



NB5

PROJECT : Y0H
Quanta Computer Inc.

Size	Document Number	Rev
	Power Block Diagram	1A

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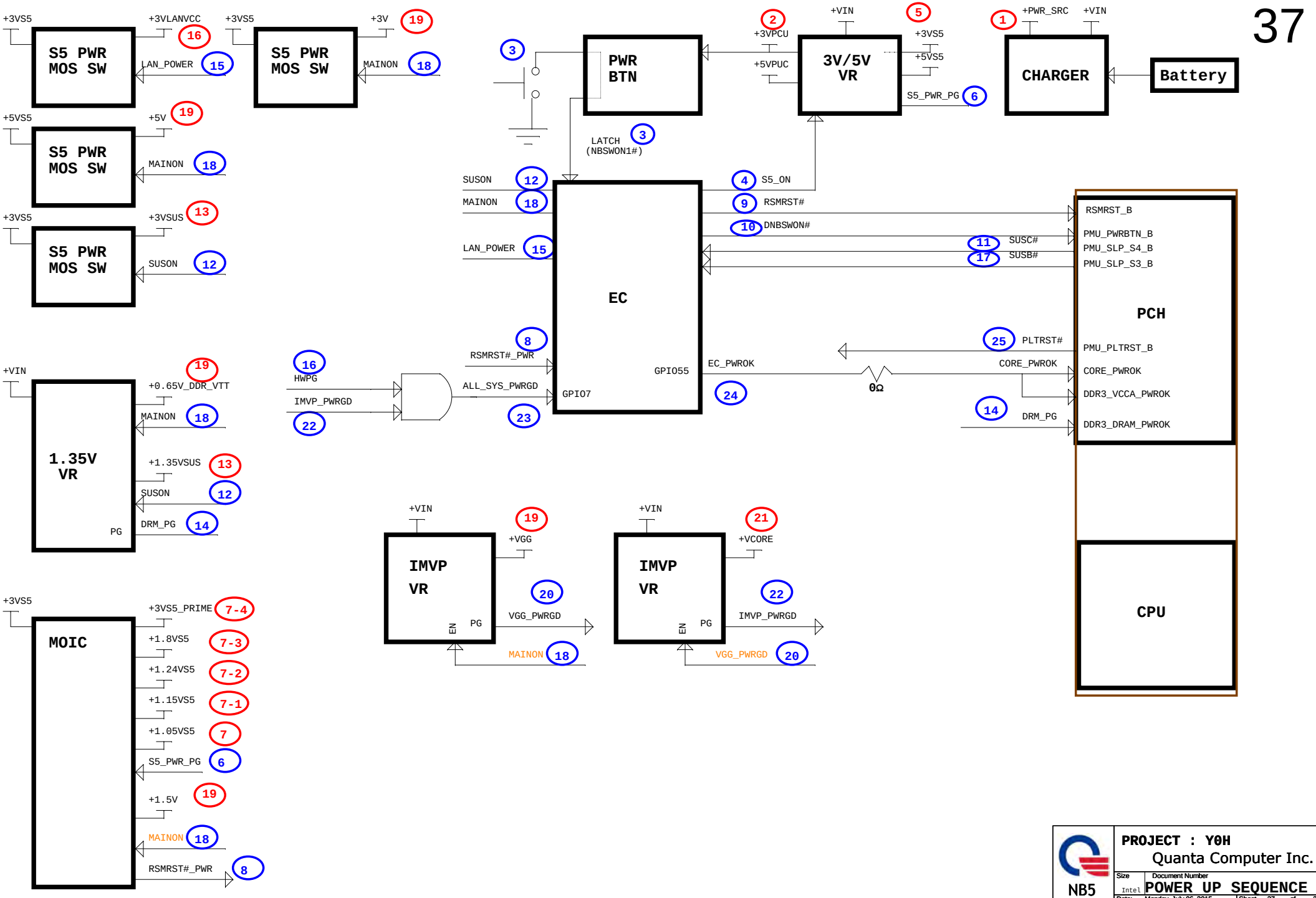
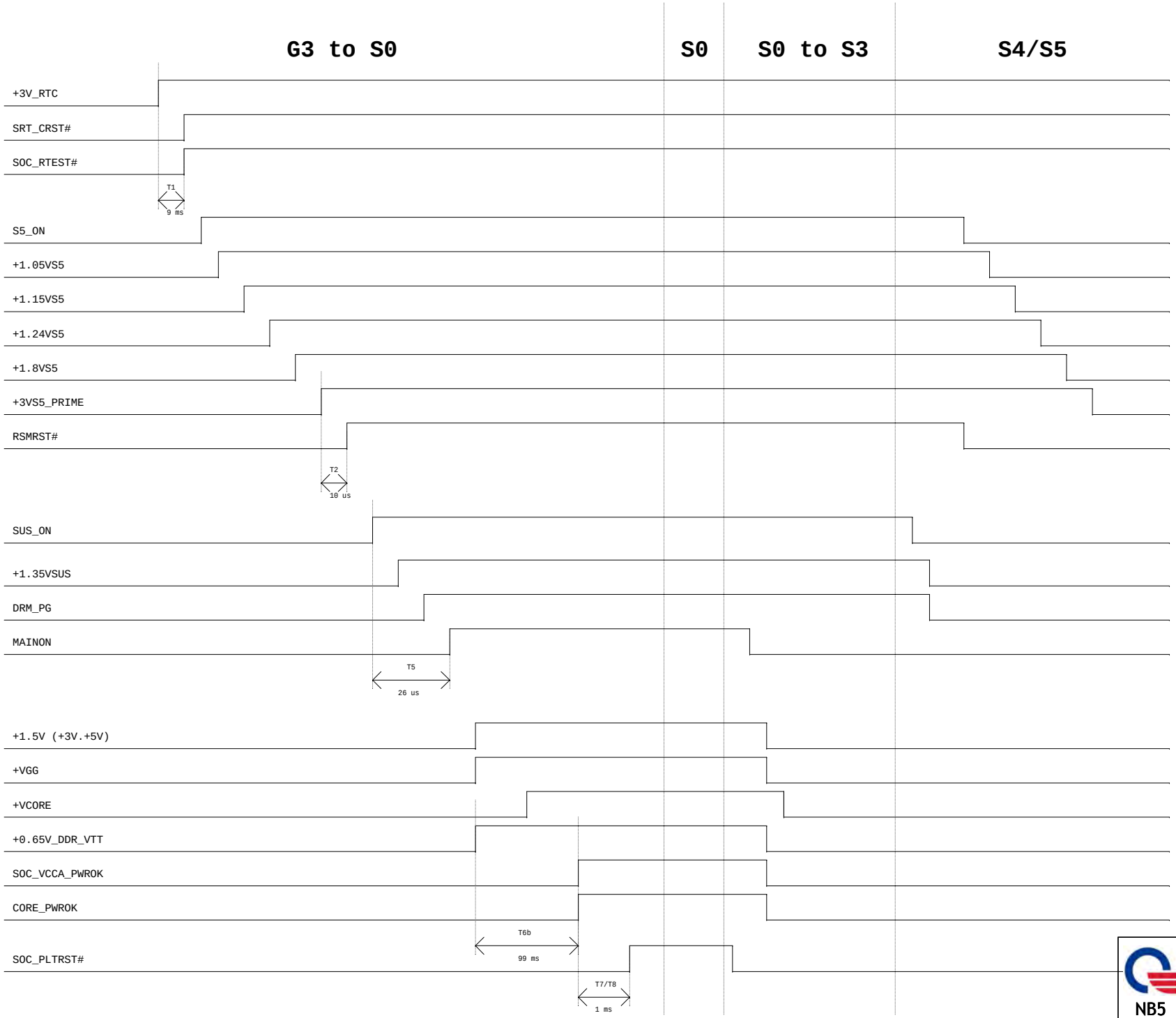


NB5	PROJECT : Y0H Quanta Computer Inc.		
	Size: Intel	Document Number: POWER UP SEQUENCE	Rev: 1A
	Date: Monday, July 06, 2015	Sheet 37 of 38	



NB5	PROJECT : Y0H Quanta Computer Inc.	
Size: Intel	Document Number: POWER UP SEQUENCE	Rev: 1A
Date: Monday, July 06, 2015	Sheet 38 of 38	