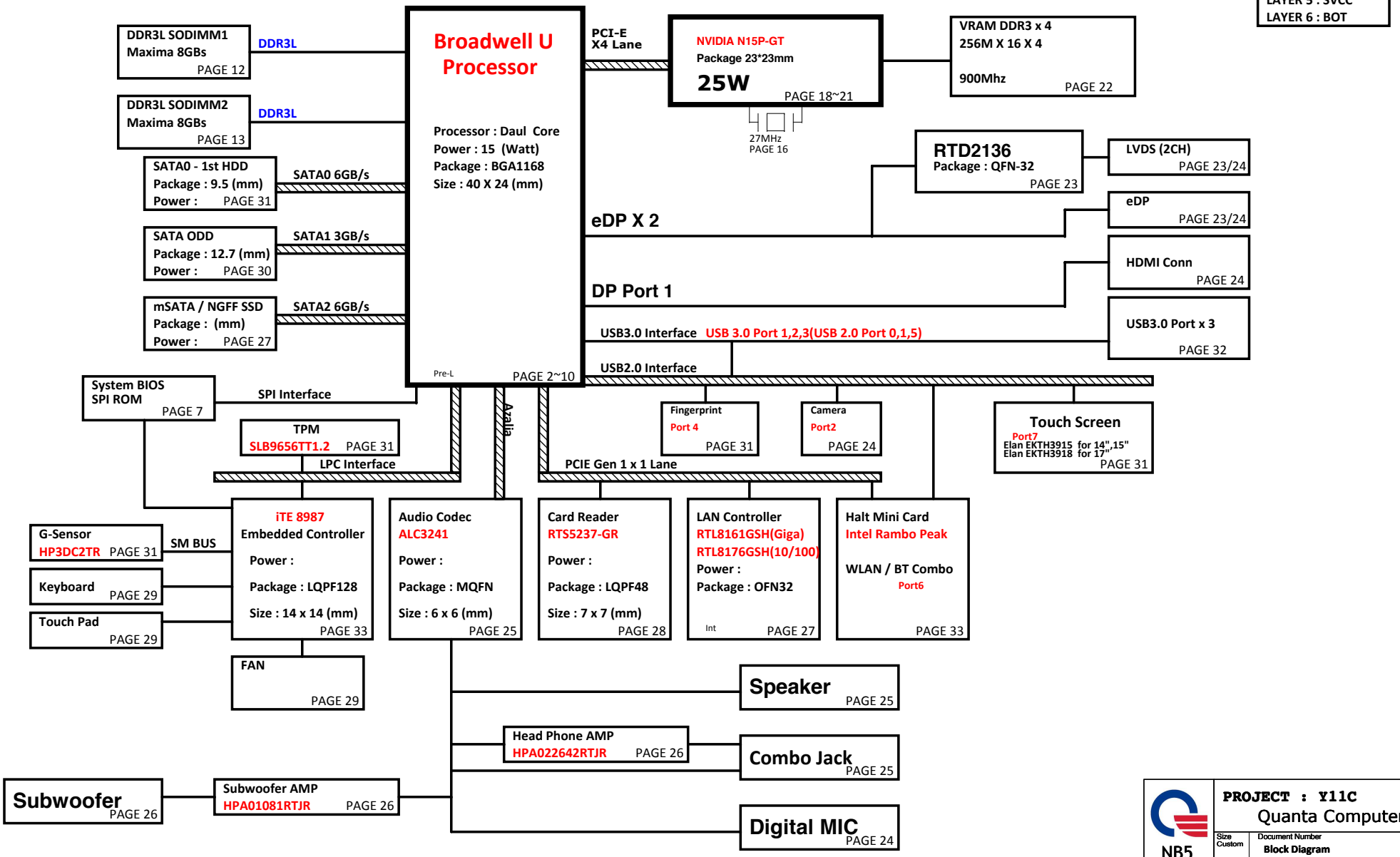
DIS (14" / 15" / 17") S-Vine MT
Intel Cresent Bay ULT Platform Block Diagram

01

PCB 6L STACK UP

LAYER 1 : TOP
LAYER 2 : SGND
LAYER 3 : IN1(High)
LAYER 4 : IN2(Low)
LAYER 5 : SVCC
LAYER 6 : BOT

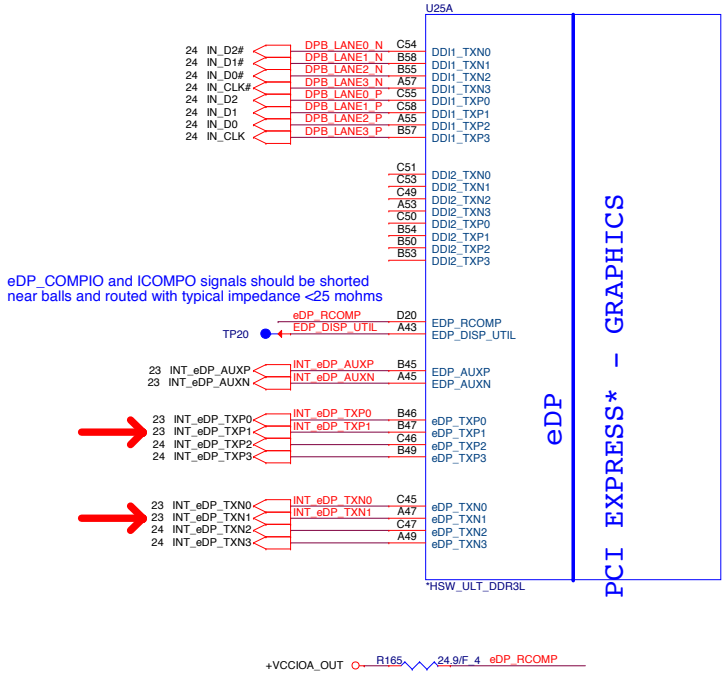


NB5

PROJECT : Y11C
Quanta Computer Inc.

Size	Document Number	Rev
Custom	Block Diagram	1A

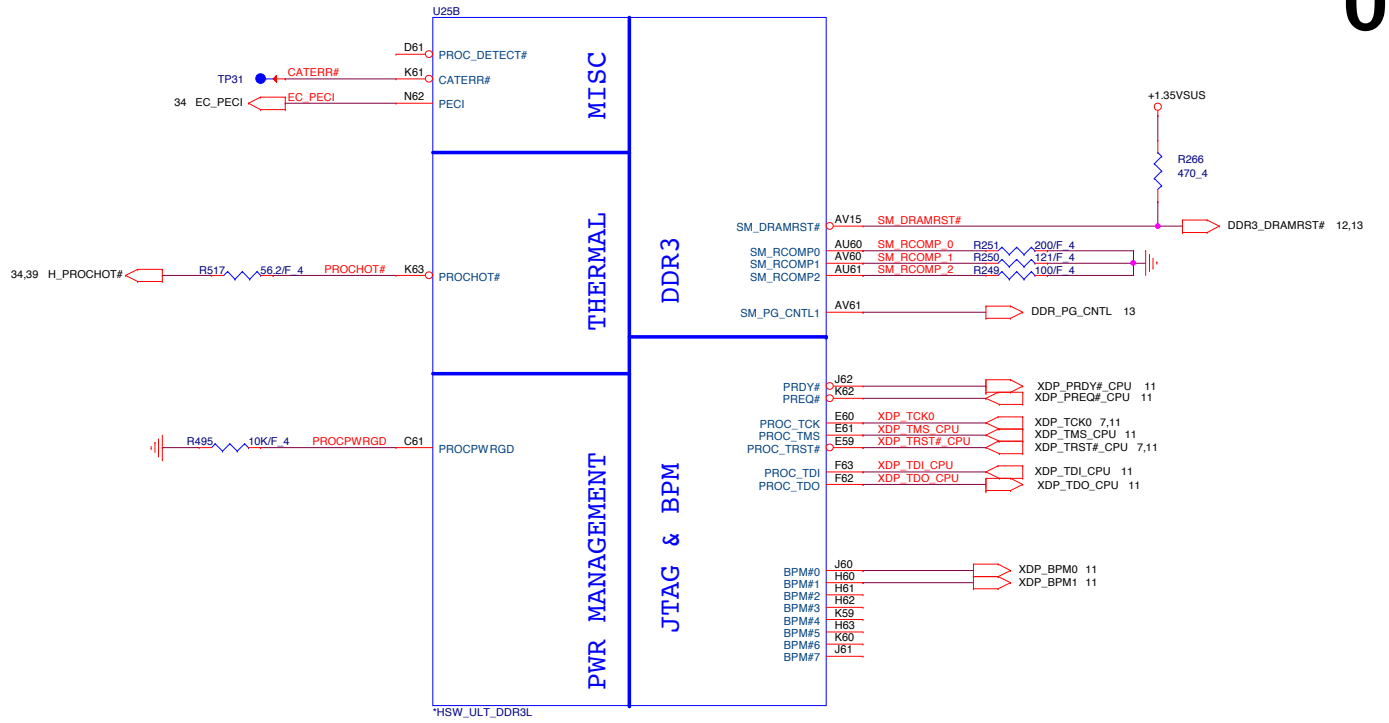
Date: Tuesday, April 08, 2014 Sheet 1 of 44



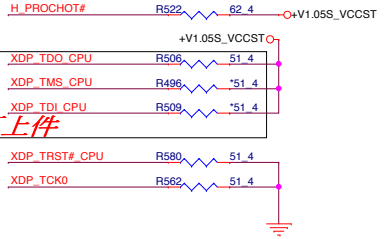
eDP_COMPIO and ICOMPO signals should be shorted
near balls and routed with typical impedance <25 mohms

+VCCIOA_OUT R165 24.9/F_4 eDP_RCOMP

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



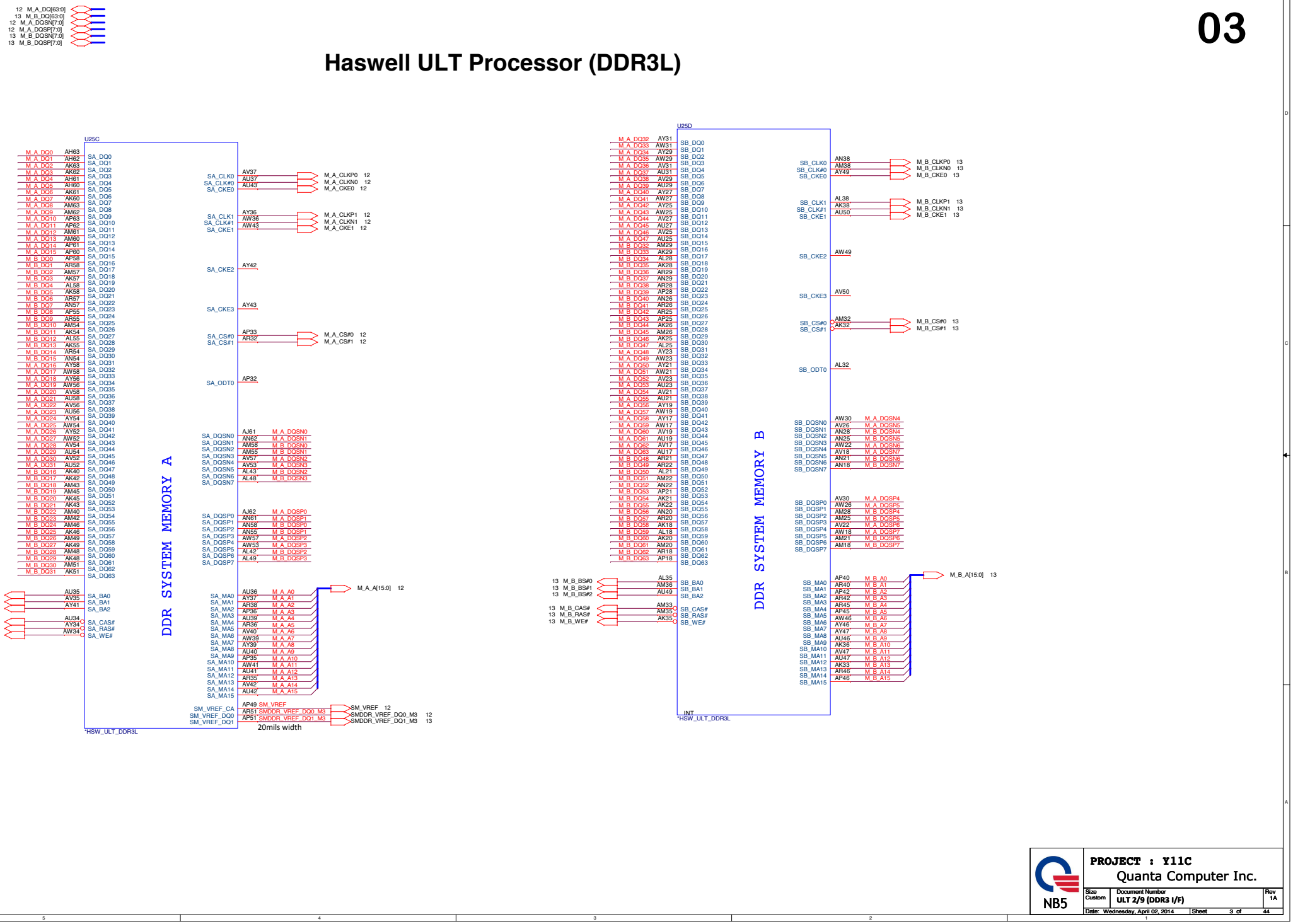
Processor pull-up (CPU)



公板線路有畫但都不上件

NB5	PROJECT : Y11C Quanta Computer Inc.	
Size: Custom	Document Number: ULT 1/9(eDP/DDI)	Rev: 1A
Date: Wednesday, April 02, 2014	Sheet 2 of 44	

Haswell ULT Processor (DDR3L)



NB5	PROJECT : Y11C Quanta Computer Inc.	
	Size: Custom Document Number: ULT 2/9 (DDR3 I/F)	Rev: 1A
	Date: Wednesday, April 02, 2014	Sheet 3 of 44

POWER

HSW ULT POWER

32A
+VCC_CORE

1.4A
+1.35VSUS

Close to CPU

Direct tie to CPU VCC/VSS-Ball

PV install for RF

CFG0-19 need Reserve TP

RESERVED

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

SVID ALERT

SVID CLK

SVID DATA

Place PU resistor close to VR

100- ±1% pull-up to VCC near processor.

IO Thrm Protect

For 65 degree, 1.8v limit, (SW)

For 75 degree, 1.2v limit, (HW)

Processor Strapping

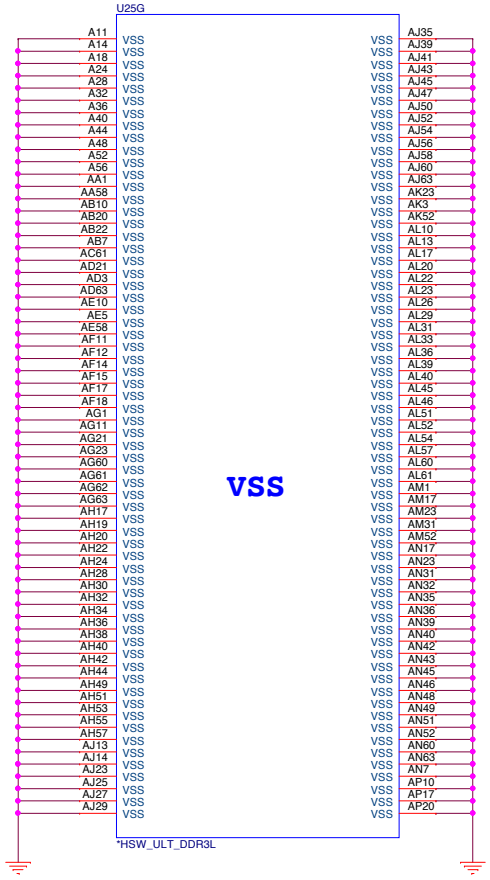
The CFG signals have a default value of '1' if not terminated on the board.

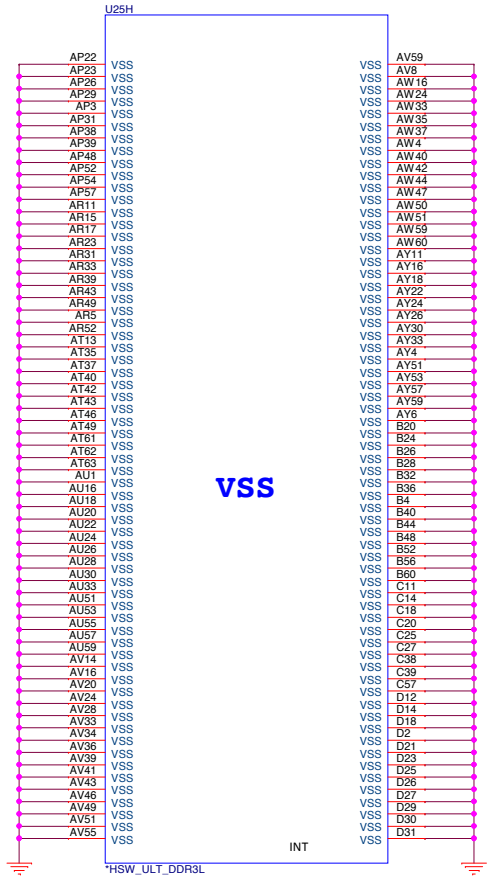
	1	0	Circuit
CFG3 (Physcial Debug Enable) DFX Privacy	Disable:	Enable: Set DFX Enable in DFX interface MSR	CFG3 R543 *1K_4
CFG4 (DP Presence Strap)	Disable; No physical DP attached to eDP	Enable; An ext DP device is connected to eDP	CFG4 R542 1K_4

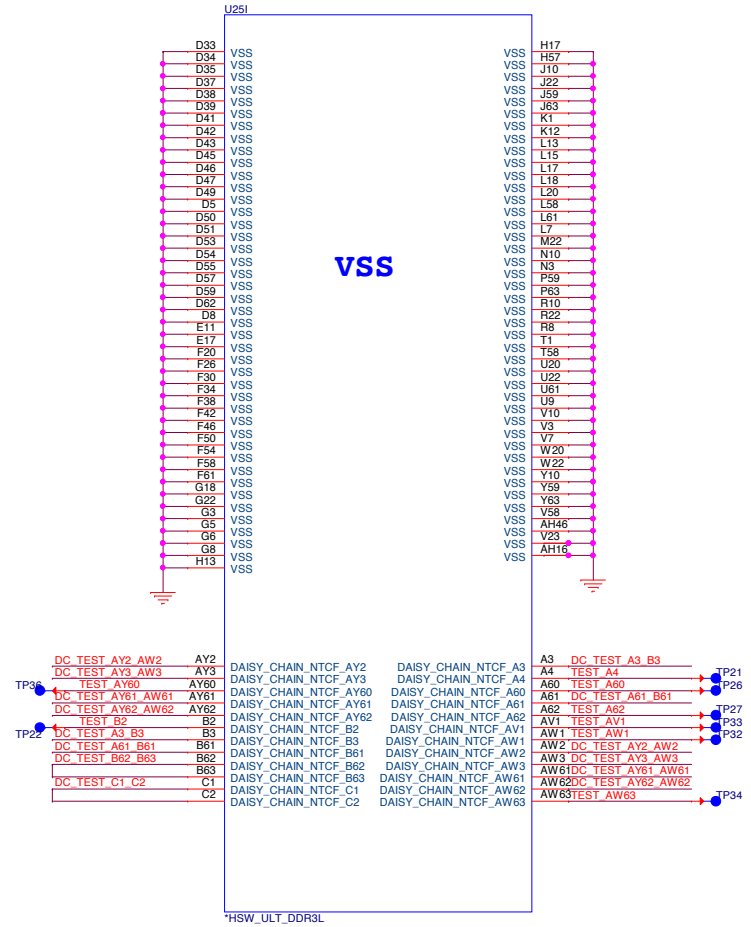
+VCCIOA_OUT 2
+VCCIO_OUT 6

+1.35VSUS 2,12,13,29,37
+1.05V 2,7,9,10,11,31,34,38,39,40,43
+VCC_CORE 39

PROJECT : Y11C
Quanta Computer Inc.
NB5
Size: Custom | Document Number: 04 – ULT 3/9 (POWER-1) | Rev: 1A
Date: Wednesday, April 02, 2014 | Sheet 4 of 44



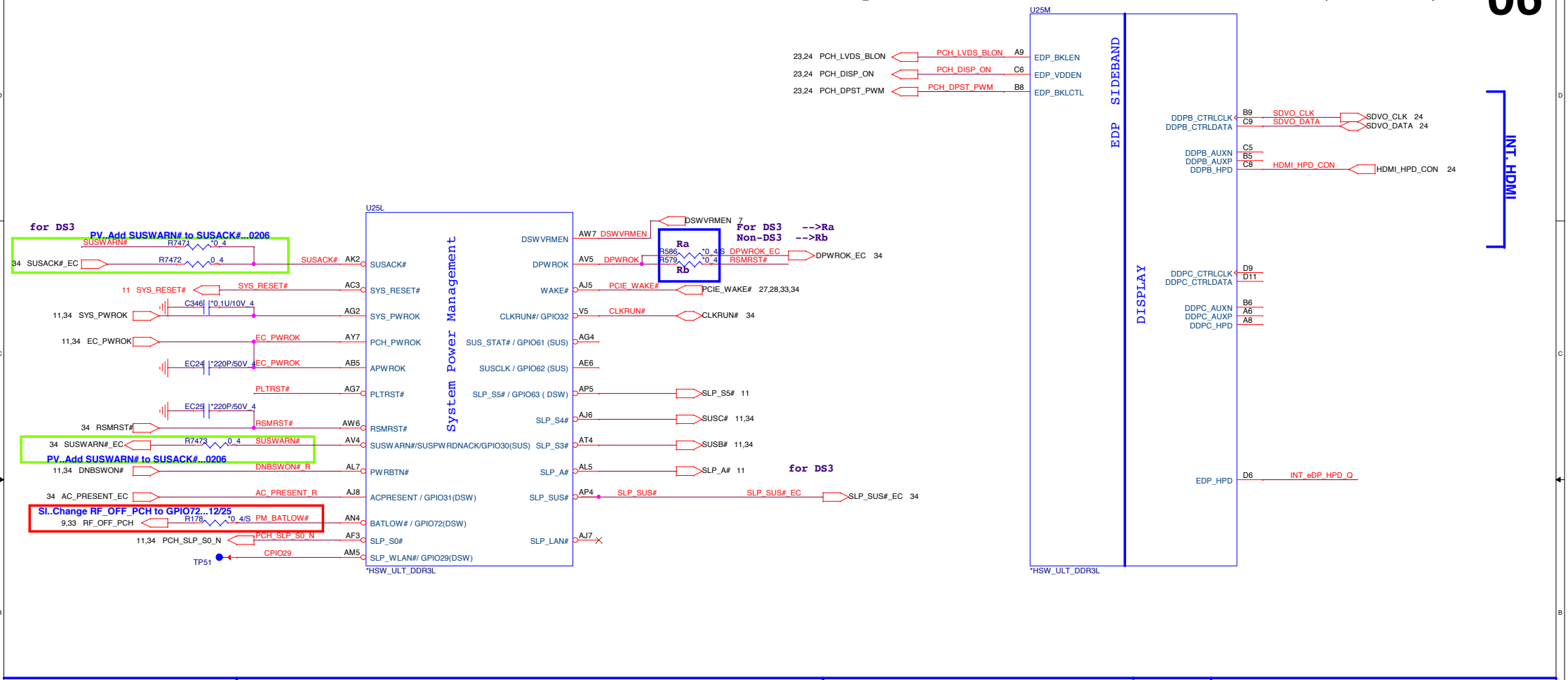




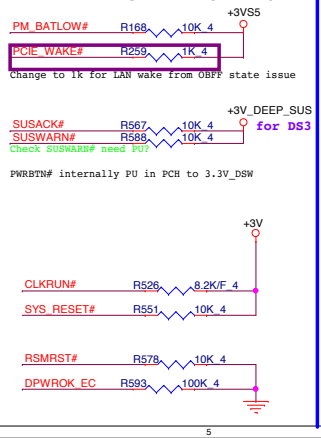
NB5	PROJECT : Y11C Quanta Computer Inc.	
Size: Custom	Document Number: ULT 4/9 (RSV,GND)	Rev: 1A
Date: Wednesday, April 02, 2014	Sheet 5 of 44	

Lynx Point-LP Platform Controller Hub (LVDS,DDI)

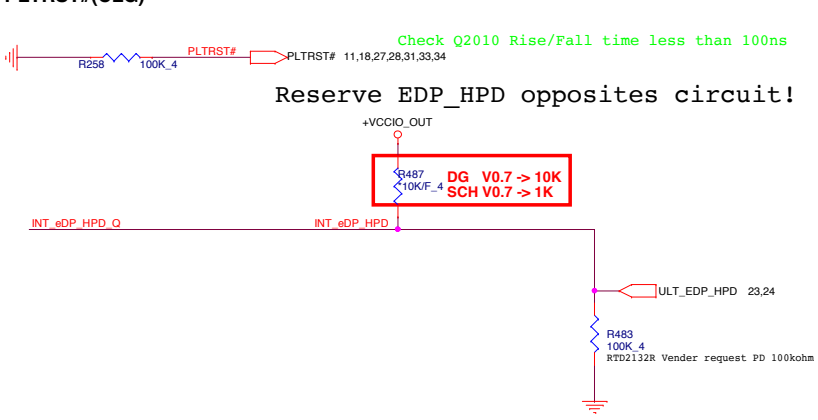
06



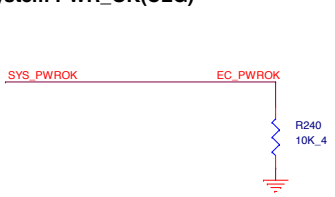
PCH Pull-high/low(CLG)

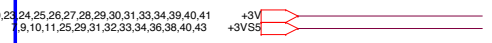


PLTRST#(CLG)



System PWR_OK(CLG)





NB5

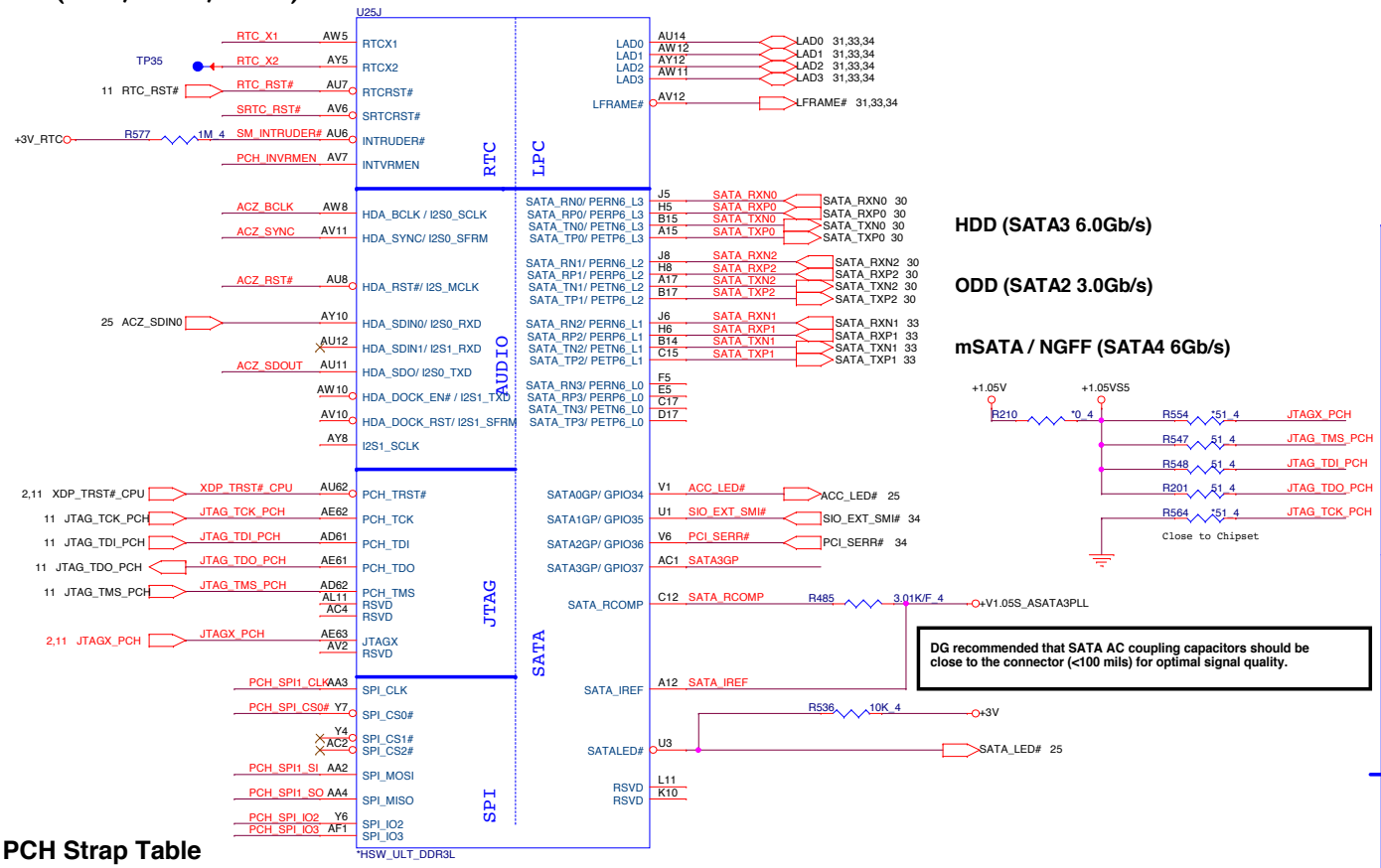
PROJECT : Y11C

Quanta Computer Inc.

Size	Document Number	Rev
Custom	ULT 5/9(Power Manger)	1A

Date: Wednesday, April 02, 2014 | Sheet 6 of 44

Lynx Point-LP Platform Controller Hub (HDA,JTAG,SATA)



HDD (SATA3 6.0Gb/s)

ODD (SATA2 3.0Gb/s)

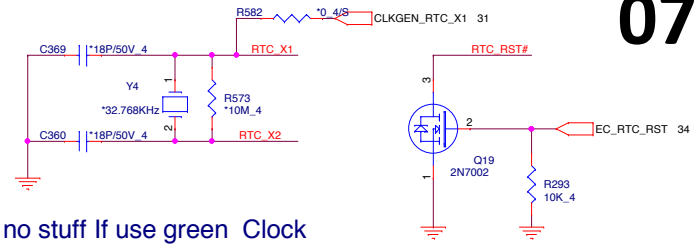
mSATA / NGFF (SATA4 6Gb/s)

DG recommended that SATA AC coupling capacitors should be close to the connector (<100 mils) for optimal signal quality.

PCH Strap Table

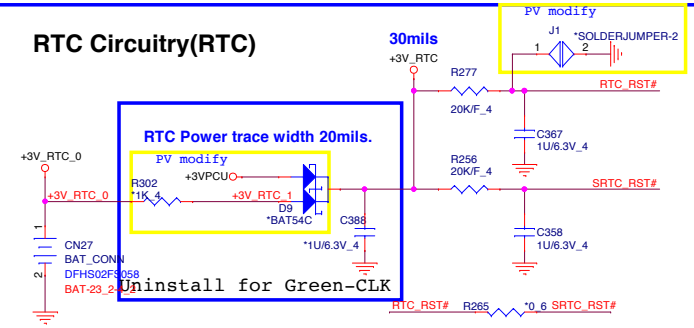
Pin Name	Strap description	Sampled	Configuration	Circuit
SPKR	No reboot mode setting	PWROK	0 = Default (weak pull-down 20K) 1 = Setting to No-Reboot mode	
SDIO_D0 /GPIO66	Top-Block Swap	PWROK	0 = "top-block swap" mode 1 = Default (weak pull-up 20K)	
INTVRMEN	Integrated 1.05V VRM enable	ALWAYS	Should be always pull-up	+3V_RTC R575 330K_4 PCH_INVRMEN
HDA_SDO /I2S0_TXD	Flash Descriptor Security Only for Interposer	PWROK	0 = Default (weak pull-down 20K) 1 = Can be Overridden	34 GPIO33_EC R581 1K_4 ACZ_SDOUT
GSPI0_MOSI /GPIO86	Boot BIOS Selection	PWROK	GNT0# 1 = LPC; 0 = SPI(Default)	
GPIO15	TLS Confidentiality	PWROK	0 = ME Crypto Transport Layer Security cipher suite with no confidentiality(Default) 1 = Intel ME Crypto TLS cipher suite with confidentiality	
DSWVRMEN	Deep Sx Well On-Die Voltage Regulator Enable	ALWAYS	Should be always pull-up	+3V_RTC R576 330K_4 DSWVRMEN 6
				34 PCH_SPI_CS0#_R 34 PCH_SPI1_CLK_R 34 PCH_SPI1_SI_R 34 PCH_SPI1_SO_R

RTC Clock 32.768KHz

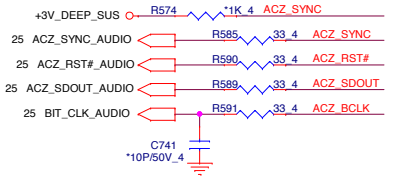


no stuff If use green Clock

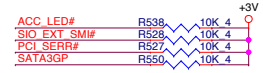
RTC Circuitry(RTC)



HDA Bus(CLG)



GPIO Pull UP

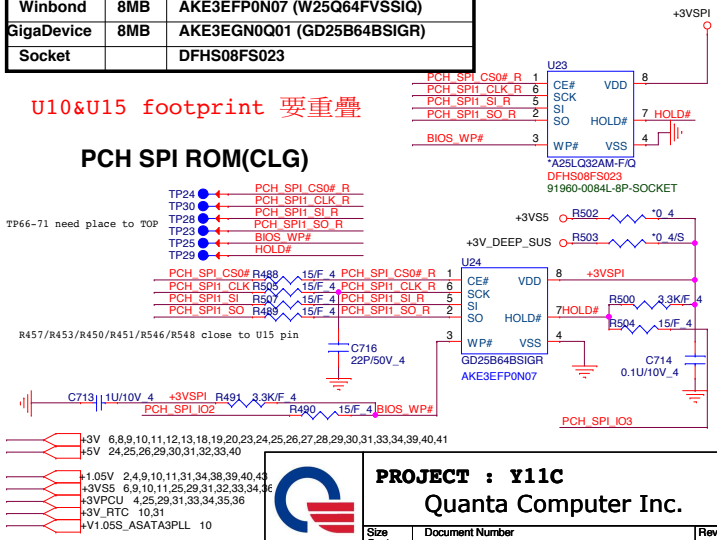


Vender	Size	P/N
MXIC	8MB	AKE3EZN0Z00 (MX25L6473EM2I-10G)
Winbond	8MB	AKE3EFP0N07 (W25Q64FVSSIQ)
GigaDevice	8MB	AKE3EGN0Q01 (GD25B64BSIGR)
Socket		DFHS08FS023

4M SPI ROM Socket

U10&U15 footprint 要重疊

PCH SPI ROM(CLG)



07

Lynx Point-LP Platform Controller Hub (HDA,JTAG,SATA)

08

PCI/USBOC# Pull-up(CLG)

SI modify

DGPU_PWR_EN	R520	10K_4	+3V
TS_INTB#	R523	10K_4	
PIRQC#	R516	10K_4	
PIRQD#	R518	10K_4	
GPIO77_ULT	R514	10K_4	
GPIO52_ULT	R511	10K_4	
GPU_EVENT#	R510	10K_4	
GC6_FB_EN	R139	10K_4	
DGPU_HOLD_RST#	R493	10K_4	
DGPU_HOLD_RST#	R492	100K_4	

SI modify

SMBALERT#	R186	10K_4	+3V_DEEP_SUS for DS3
USB_OC1#	R195	10K_4	
USB_OC2#	R211	10K_4	
USB_OC3#	R561	10K_4	
USB_OC4#	R571	10K_4	

U25N

C- Link: CL_CLK AF2, CL_DATA AD2, CL_RST# AF4

USB2.0(M/B-1) (USBP0)
USB2.0(M/B-2) (USBP5)
USB2.0 Small board (USBP1)
FP Small board (USBP4)
Camera (USBP2)
WLAN (USBP6)
TS (USBP7)

USB3.0

32 USB30_RX1-	G20	USB3RN1
32 USB30_RX1+	H20	USB3RP1
32 USB30_TX1-	C33	USB3TN1
32 USB30_TX1+	B34	USB3TP1
32 USB30_RX2-	E18	USB3RN2
32 USB30_RX2+	F18	USB3RP2
32 USB30_TX2-	B33	USB3TN2
32 USB30_TX2+	A33	USB3TP2

20111130 Modify USB3.0 for HM70

USB2N0	AN8	USBP0- 32
USB2P0	AM8	USBP0+ 32
USB2N1	AR7	USBP1- 25
USB2P1	AT7	USBP1+ 25
USB2N2	AR8	USBP2- 24
USB2P2	AP8	USBP2+ 24
USB2N3	AR10	USBP3- 32
USB2P3	AT10	USBP3+ 32
USB2N4	AM15	USBP4- 31
USB2P4	AL15	USBP4+ 31
USB2N5	AM13	USBP5- 32
USB2P5	AN13	USBP5+ 32
USB2N6	AP11	USBP6- 33
USB2P6	AN11	USBP6+ 33
USB2N7	AR13	USBP7- 31
USB2P7	AP13	USBP7+ 31

PCI

GPIO77_ULT	U6	PIRQA#/ GPIO77
TS_INTB#	P4	PIRQB#/ GPIO78
PIRQC#	N4	PIRQC#/ GPIO79
PIRQD#	N2	PIRQD#/ GPIO80
GPIO52_ULT	L1	GPIO52
19,43 DGPU_PWR_EN	DGPU_PWR_EN_R L3	GPIO54
DGPU_HOLD_RST#	R5	GPIO51
21 GPU_EVENT#	L4	GPIO53
19,21 GC6_FB_EN	U7	GPIO55
AD4		PME#

USB

TIE TRACES TOGETHER CLOSE TO PINS WITH LENGTH TO RESISTOR

AJ10 USB_BIAS R193 22.6/F_4
AJ11 USBRBIAS#
USBRBIAS
AN10 RSVD
AM10 RSVD

AL3	USB_OC1#
AT1	USB_OC2#
AH2	USB_OC3#
AV3	USB_OC4#

OC0# / GPIO40(SUS)
OC1# / GPIO41(SUS)
OC2# / GPIO42(SUS)
OC3# / GPIO43(SUS)

*HSW_ULT_DDR3L

Cardreader

28 PCIE_RXN2_CARD			F15 PERN2/ USB3RN4
28 PCIE_RXP2_CARD			G15 PERP2/ USB3RP4
28 PCIE_TXN2_CARD	C705	0.1U/10V_4 PCIE_TXN2_CARD_C	B31 PETN2/ USB3TN4
28 PCIE_TXP2_CARD	C711	0.1U/10V_4 PCIE_TXP2_CARD_C	A31 PETP2/ USB3TP4

WLAN

33 PCIE_RXN3_WLAN			G11 PERN3
33 PCIE_RXP3_WLAN			F11 PERP3
33 PCIE_TXN3_WLAN	C256	0.1U/10V_4 PCIE_TXN3_WLAN_C	C29 PETN3
33 PCIE_TXP3_WLAN	C244	0.1U/10V_4 PCIE_TXP3_WLAN_C	B30 PETP3

LAN

27 PCIE_RXN4_LAN		PCIE_RXN4_LAN	F13 PERN4
27 PCIE_RXP4_LAN		PCIE_RXP4_LAN	G13 PERP4
27 PCIE_TXN4_LAN	C698	0.1U/10V_4 PCIE_TXN4_LAN_C	B29 PETN4
27 PCIE_TXP4_LAN	C701	0.1U/10V_4 PCIE_TXP4_LAN_C	A29 PETP4

18 PEG_RXN0			F10 PERN5_L0
18 PEG_RXP0			E10 PERP5_L0
18 PEG_TXN0	C691	0.22U/10V_4 PEG_TXN0_C	C23 PETN5_L0
18 PEG_TXP0	C692	0.22U/10V_4 PEG_TXP0_C	C22 PETP5_L0
18 PEG_RXN1			F8 PERN5_L1
18 PEG_RXP1			E8 PERP5_L1
18 PEG_TXN1	C686	0.22U/10V_4 PEG_TXN1_C	B23 PETN5_L1
18 PEG_TXP1	C687	0.22U/10V_4 PEG_TXP1_C	A23 PETP5_L1
18 PEG_RXN2			H10 PERN5_L2
18 PEG_RXP2			G10 PERP5_L2
18 PEG_TXN2	C690	0.22U/10V_4 PEG_TXN2_C	B21 PETN5_L2
18 PEG_TXP2	C688	0.22U/10V_4 PEG_TXP2_C	C21 PETP5_L2
18 PEG_RXN3			E6 PERN5_L3
18 PEG_RXP3			F6 PERP5_L3
18 PEG_TXN3	C693	0.22U/10V_4 PEG_TXN3_C	B22 PETN5_L3
18 PEG_TXP3	C689	0.22U/10V_4 PEG_TXP3_C	A21 PETP5_L3

PCIE_IREF B27
10 +V1.05S_AUSB3PLL R150 3.01K/F_4 PCIE_RCOMP A27
PCIE_RCOMP
RSVD E15
RSVD E13

U25K

PCI-E*

G17	PERN1 / USB3RN3
F17	PERP1 / USB3RP3
C30	PETN1 / USB3TN3
C31	PETP1 / USB3TP3
F15	PERN2/ USB3RN4
G15	PERP2/ USB3RP4
B31	PETN2/ USB3TN4
A31	PETP2/ USB3TP4
G11	PERN3
F11	PERP3
C29	PETN3
B30	PETP3
F13	PERN4
G13	PERP4
B29	PETN4
A29	PETP4
F10	PERN5_L0
E10	PERP5_L0
C23	PETN5_L0
C22	PETP5_L0
F8	PERN5_L1
E8	PERP5_L1
B23	PETN5_L1
A23	PETP5_L1
H10	PERN5_L2
G10	PERP5_L2
B21	PETN5_L2
C21	PETP5_L2
E6	PERN5_L3
F6	PERP5_L3
B22	PETN5_L3
A21	PETP5_L3
B27	PCIE_IREF
A27	PCIE_RCOMP
E15	RSVD
E13	RSVD

SMBUS

SMBALERT# / GPIO11(SUS)	AN2 SMBALERT#
SMBCLK	AP2 SMB_PCH_CLK
SMBDATA	AH1 SMB_PCH_DAT
SML0ALERT# / GPIO60(SUS)	AL2 SML0ALERT#
SML0CLK	AN1 SMB_ME0_CLK
SML0DATA	AK1 SMB_ME0_DAT
SML1ALERT# / PCHHOT# / GPIO73(SUS)	AU4 SML1ALERT# → TP10
SML1CLK / GPIO75(SUS)	AU3 SMB_ME1_CLK
SML1DATA / GPIO74(SUS)	AH3 SMB_ME1_DAT

CLOCK SIGNALS

XTAL24_IN	A25 XTAL24_IN
XTAL24_OUT	B25 XTAL24_OUT
CLKOUT_ITPXDP#	B35 CK_XDP_N_R
CLKOUT_ITPXDP_P	A35 CK_XDP_P_R

*0_4P2R_4 RP1: 4 3 / 2 1 → CK_XDP_N 11, CK_XDP_P 11

RP1 install for XDP

EC26 18P/50V_4

CLKOUT_LPC_0	AN15	CLK_PCI_EC_R
CLKOUT_LPC_1	AP15	CLK_PCI_LPC_R

R242 22_4 → CLK_24M_KBC 34
R234 22_4 → CLK_24M_DEBUG 33

EMI(near PCH)
EC29 18P/50V_4
R243 22_4 → CLK_PCI_TPM 31
EMI(near PCH)
EC27 *18P/50V_4

R149
DIFFCLK_BIASREF C26 XCLK_BIASREF → +V1.05S_AXCK_LCPLL 10
3.01K/F_4

RSVD	K21	
RSVD	M21	
TESTLOW_C35	C35	R148 10K/F_4
TESTLOW_C34	C34	R152 10K/F_4
TESTLOW_AK8	AK8	R239 10K/F_4
TESTLOW_AL8	AL8	R245 10K/F_4

*HSW_ULT_DDR3L

Cardreader

PCIE_CLKREQ0# U2 PCIECLKRQ0# / GPIO18
28 CLK_PCIE_CRN B41 CLKOUT_PCIE_N1
28 CLK_PCIE_CRP A41 CLKOUT_PCIE_P1
28 PCIE_CLKREQ_CR# Y5 PCIECLKRQ1# / GPIO19

WLAN

33 CLK_PCIE_WLANN C41 CLKOUT_PCIE_N2
33 CLK_PCIE_WLANP B42 CLKOUT_PCIE_P2
33 PCIE_CLKREQ_WLAN# AD1 PCIECLKRQ2# / GPIO20

LAN

27 CLK_PCIE_LANN B38 CLKOUT_PCIE_N3
27 CLK_PCIE_LANP C37 CLKOUT_PCI_P3
27 PCIE_CLKREQ_LAN# N1 PCIECLKRQ3# / GPIO21

VGA

18 CLK_VGA_N A39 CLKOUT_PCIE_N4
18 CLK_VGA_P B39 CLKOUT_PCIE_P4
18 PCIE_CLKREQ_VGA# U5 PCIECLKRQ4# / GPIO22

B37 CLKOUT_PCIE_N5
A37 CLKOUT_PCIE_P5
PCIE_CLKREQ5# T2 PCIECLKRQ5# / GPIO23

SMBus/Pull-up(CLG)

Q38

13,23,34 MBCLK2 → 4 → 3 → SMB_ME1_CLK
13,23,34 MBDATA2 → 1 → 6 → SMB_ME1_DAT
*2N7002DW

Q12

+3V R185 4.7K_4 → 11,12,13,23,29 SMB_RUN_DAT → 4 → 3 → SMB_PCH_DAT
+3V R194 4.7K_4 → 11,12,13,23,29 SMB_RUN_CLK → 1 → 6 → SMB_PCH_CLK
2N7002DW

CLK_REQ/Strap Pin(CLG)

+3V

PCIE_CLKREQ0#	R534 10K_4
PCIE_CLKREQ5#	R535 10K_4
PCIE_CLKREQ_WLAN#	R530 10K_4
PCIE_CLKREQ_LAN#	R519 10K_4
PCIE_CLKREQ_CR#	R268 10K_4
PCIE_CLKREQ_VGA#	R158 10K_4

R147 0_4/S
PCH_XTAL24_IN 31
TP4
C246 *12P/50V_4
XTAL24_IN
XTAL24_OUT
R153 *1M_4
*24MHZ +-30PPM
Y1
C245 *12P/50V_4
TP5

6,7,9,10,11,12,13,18,19,20,23,24,25,26,27,28,29,30,31,33,34,39,40,41 +3V
6,7,9,10,11 +3V_DEEP_SUS

SMBus/Pull-up(CLG)

for DS3 +3V_DEEP_SUS

R570	2.2K_4	SMB_PCH_CLK
R566	2.2K_4	SMB_PCH_DAT
R569	2.2K_4	SMB_ME0_CLK
R568	2.2K_4	SMB_ME0_DAT
R572	2.2K_4	SMB_ME1_CLK
R560	2.2K_4	SMB_ME1_DAT
R238	10K_4	SML1ALERT#
R192	1K_4	SML0ALERT#

NB5

PROJECT : Y11C
Quanta Computer Inc.

Size	Document Number	Rev
Custom	ULT 7/9 (PCIE/USB/CLK)	1A
Date: Wednesday, April 02, 2014	Sheet 8 of 44	

Lynx Point-LP Platform Controller Hub (HDA,JTAG,SATA) Haswell (GPIO)

09

U25O

GPIO8(SUS)
GPIO9(SUS)
GPIO10(SUS)
LAN_PHY_PWR_CTRL / GPIO12(DSUS)
GPIO13(SUS)
GPIO14(SUS)
GPIO15(SUS)
GPIO16
GPIO17
GPIO24 (SUS)
GPIO25(DSW)
GPIO26(SUS)
GPIO27(DSW)
GPIO28(SUS)
DEVSLP0/ GPIO33
DEVSLP1/ GPIO38
DEVSLP2/ GPIO39
GPIO44(SUS)
GPIO45(SUS)
GPIO46(SUS)
GPIO47(SUS)
GPIO48
GPIO49
GPIO50
GPIO56(SUS)
GPIO57(SUS)
GPIO58(SUS)
GPIO59(SUS)
SDIO_POWER_EN/ GPIO70
HSIOPC/ GPIO71
BMBUSY# / GPIO76
SPKR/ GPIO81

GPIO

THRMTRIP#
RCIN#/ GPIO82
SERIRQ
PCH_OPI_RCOMP
RSVD
RSVD

CPU/MISC

GSPI0_CS/ GPIO83
GSPI0_CLK/ GPIO84
GSPI0_MISO/ GPIO85
GSPI0_MOSI/ GPIO86
GSPI1_CS/ GPIO87
GSPI1_CLK/ GPIO88
GSPI1_MISO/ GPIO89
GSPI1_MOSI/ GPIO90
UART0_RXD/ GPIO91
UART0_TXD/ GPIO92
UART0_RTS/ GPIO93
UART0_CTS/ GPIO94
UART1_RXD/ GPIO0
UART1_TXD/ GPIO1
UART1_RST/ GPIO2
UART1_CTS/ GPIO3
I2C0_SDA/ GPIO4
I2C0_SCL/ GPIO5
I2C1_SDA/ GPIO6
I2C1_SCL/ GPIO7
SDIO_CLK/ GPIO64
SDIO_CMD/ GPIO65
SDIO_D0/ GPIO66
SDIO_D1/ GPIO67
SDIO_D2/ GPIO68
SDIO_D3/ GPIO69

SERIAL IO

*HSW_ULT_DDR3L

34 SIO_EXT_SCI# — SIO_EXT_SCI# AU2
33 BT_OFF — BT_OFF AM3
6,33 RF_OFF_PCH — R177 *0_4 — RF_OFF_PCH_R AM2
LAN_DISABLE# AM7
GPIO13_ULT AT3
GPIO14_ULT AH4
AD6
30 ZERO_ODD_DP# — R553 *0_4 — ODD_PRSNT#_R Y1
20,34,42 DGPU_PWROK — T3
BOARD_ID6 AD5
GPIO25_ULT AM4
BOARD_ID7 AN3
GPIO27 AN5
BOARD_ID8 AD7
DEVSLP0 P2
33 DEVSLP1 — DEVSLP1 L2
DEVSLP2 N5
GPIO44_ULT AK4
TP for DG
BOARD_ID4 AG5
GPIO46_ULT AG3
BOARD_ID5 AB6
33 BT_COMBO_EN# — BT_COMBO_EN# U4
31 ACCEL_INTA# — GPIO49_ULT Y3
SI..Change ACCEL_INTA# to GPIO49...12/25
GPIO50_ULT P3
BOARD_ID0 AG6
BOARD_ID1 AP1
BOARD_ID2 AL4
BOARD_ID3 AT5
GPIO70_ULT C4
40 MPHY_PWREN — MPHY_PWREN Y2
GPIO76_ULT P1
25 ACZ_SPKR — SPKR V2
25 SPKR

THRMTRIP# — D60 PCH_THRMTRIP# — PM_THRMTRIP# 34
RCIN#/ GPIO82 — V4 EC_RCIN# — EC_RCIN# 34
SERIRQ — T4 SERIRQ — R529 10K_4 — +3V — SERIRQ 31,34
PCH_OPI_RCOMP — AW15 PCH_OPI_RCOMP — R583 49.9/F_4
RSVD — AF20
RSVD — AB21

GSPI0_CS/ GPIO83 — R6 GSPI0_CS
GSPI0_CLK/ GPIO84 — L6 GSPI0_CLK
GSPI0_MISO/ GPIO85 — N6 GSPI0_MISO
GSPI0_MOSI/ GPIO86 — L8
GSPI1_CS/ GPIO87 — R7 GSPI1_CS
GSPI1_CLK/ GPIO88 — L5 GSPI1_CLK
GSPI1_MISO/ GPIO89 — N7 GSPI1_MISO
GSPI1_MOSI/ GPIO90 — K2 GSPI1_MOSI
UART0_RXD/ GPIO91 — J1 UART0_RXD
UART0_TXD/ GPIO92 — K3 UART0_TXD
UART0_RTS/ GPIO93 — J2 UART0_RTS
UART0_CTS/ GPIO94 — G1 UART0_CTS
UART1_RXD/ GPIO0 — K4 UART1_RXD
UART1_TXD/ GPIO1 — G2 UART1_TXD
UART1_RST/ GPIO2 — J3 UART1_RST
UART1_CTS/ GPIO3 — J4 UART1_CTS
I2C0_SDA/ GPIO4 — F2 I2C0_SDA
I2C0_SCL/ GPIO5 — F3 I2C0_SCL
I2C1_SDA/ GPIO6 — G4 I2C1_SDA
I2C1_SCL/ GPIO7 — F1 I2C1_SCL
SDIO_CLK/ GPIO64 — E3 SDIO_CLK
SDIO_CMD/ GPIO65 — F4 SDIO_CMD
SDIO_D0/ GPIO66 — D3
SDIO_D1/ GPIO67 — E4 SDIO_D1
SDIO_D2/ GPIO68 — C3 SDIO_D2
SDIO_D3/ GPIO69 — E2 SDIO_D3

RP2
10 UART1_RXD
9 I2C1_SDA
8 GSPI0_CLK
7 GSPI1_CLK
6
1 SDIO_D2
2 SDIO_D1
3 SDIO_CMD
4 SDIO_CLK
5
10K_10P8R_6
+3V

RP6
10 GSPI1_MOSI
9 GSPI0_MISO
8 GSPI1_MISO
7 UART0_TXD
6
1 I2C0_SCL
2 I2C1_SCL
3 I2C0_SDA
4 SDIO_D3
5
10K_10P8R_6
+3V

RP5
10 UART0_RXD
9 UART1_CTS
8 GSPI0_CS
7 GSPI1_CS
6
1 UART1_RST
2 UART0_RTS
3 UART0_CTS
4 UART1_TXD
5
10K_10P8R_6
+3V

GPIO Pull-up/Pull-down(CLG)

+3V_DEEP_SUS

Change R172 Netname

SIO_EXT_SCI# R282 10K_4
BT_OFF R180 10K_4
RF_OFF_PCH_R R172 10K_4
GPIO13_ULT R218 10K_4
GPIO14_ULT R183 10K_4

GPIO44_ULT R565 10K_4
GPIO46_ULT R541 10K_4

+3V

GPIO49_ULT R552 10K_4
GPIO50_ULT R524 10K_4
ODD_PRSNT#_R R546 10K_4
DGPU_PWROK R513 10K_4
DEVSLP0 R515 10K_4

DEVSLP2 R499 10K_4
BT_COMBO_EN# R512 *10K_4
GPIO70_ULT R486 10K_4
EC_RCIN# R269 10K_4

GPIO12 LAN_DISABLE#
SUS -->Check list
+3V -->Datasheet

GPIO76_ULT R525 10K_4
MPHY_PWREN R544 100K_4
MPHY_PWREN R545 *10K_4

+3VS5

GPIO25_ULT R173 10K_4
LAN_DISABLE# R169 10K_4
GPIO27 R626 10K_4

Close to EC

+V1.05S_VCCST
PM_THRMTRIP# R184 1K_4

Model	BOARD_ID[6:5]	BOARD_ID4	BOARD_ID3	BOARD_ID[2:1]	BOARD_ID0
	Reserve	Reserve	0 Pavillian 1 Envy	00 14" 01 15" 10 17"	0 : UMA 1 : DIS

R174 *10K_4 BOARD_ID0 R539 10K_4 +3V_DEEP_SUS
R205 *10K_4 BOARD_ID1 R199 10K_4
R558 10K_4 BOARD_ID2 R559 *10K_4
R248 *10K_4 BOARD_ID3 R255 10K_4
R175 10K_4 BOARD_ID4 R540 *10K_4
R167 10K_4 BOARD_ID5 R549 *10K_4
R161 10K_4 BOARD_ID6 R164 *10K_4
R204 10K_4 BOARD_ID7 R198 *10K_4
R160 10K_4 BOARD_ID8 R163 *10K_4

	DIS	UMA
Stuff	Ra	Rb
NC	Rb	Ra

6,7,8,10,11,12,13,18,19,20,23,24,25,26,27,28,29,30,31,33,34,39,40,41 +3V
6,7,10,11,25,29,31,32,33,34,36,38,40,43 +3VS5

NB5

PROJECT : Y11C
Quanta Computer Inc.

Size	Document Number	Rev
Custom	ULT 8/9 (GPIO/MISC)	1A

Date: Wednesday, April 02, 2014 Sheet 9 of 44

Lynx Point-LP Platform Controller Hub (HDA,JTAG,SATA)(POWER)

POWER

U25P

+1.05V
VCC1_05=1.741A
+V1.05S_CORE_PCH
1U/6.3V_4 C306
1U/6.3V_4 C294
10U/6.3VS_6 C274
J11 VCC1_05
H11 VCC1_05
H15 VCC1_05
AE8 VCC1_05
AF22 VCC1_05
CORE
C307 0.47U/6.3V_4
+3VS5
Place close to Pin AG19 and AG20 SI modify
C309 1U/6.3V_4
+PCH_VCCDSW
AG19 DCPSUSBYP
AG20 DCPSUSBYP
+1.05V
+V1.05M_ASW
AE9 VCCASW
AF9 VCCASW
AG8 VCCASW
C288 1U/6.3V_4
C735 22U/6.3V_6
+1.05V
VCCASW=658mA
PV install for RF
+V1.05M_FHV0
+V1.05M_FHV1
AG14 VCCASW
AG13 VCCASW
TP8
DcpSus1=109mA
+V1.05A_SUS_PCH
AD10 DCPSUS1
AD8 DCPSUS1
C243 1U/6.3V_4
C235 1U/6.3V_4
+V1.05DX_MODPHY_PCH
VCCHSIO=1.838A
K9 VCCHSIO
L10 VCCHSIO
M9 VCCHSIO
C257 *1U/6.3V_4
+1.05V
+V1.05S_AIDLE
N8 VCC1_05
P9 VCC1_05
VCCMPHY
C281 *1U/6.3V_4
C708 1U/6.3V_4
+V1.05S_AUSB3PLL
B18 VCCUSB3PLL
C694 22U/6.3VS_6
C695 22U/6.3VS_6
VCCSATA3PLL=42mA
C710 1U/6.3V_4
+V1.05S_ASATA3PLL
B11 VCCSATA3PLL
C700 22U/6.3VS_6
C699 22U/6.3VS_6
SI Change to 22uF for Intel recommend
TP7
DcpSus3=10mA
+V1.05A_VCCUSB3SUS
J13 DCPSUS3
USB3
VCCHDA=11mA
+V3.3DX_1.5DX_ADO
+V3.3DX_1.5DX_PAZSUS_PCH
AH14 VCCHDA
C308 1U/6.3V_4
HDA
TP9
DcpSus2=25mA
+V1.05A_USB2SUS
AH13 DCPSUS2
VRM
GPIO/ LCC
VCCSUS3_3=63mA
+V3.3A_PSUS
AC9 VCCSUS3_3
AA9 VCCSUS3_3
+3V_DEEP_SUS
C301 22U/6.3VS_6
VCCDSW3_3=114mA
+3.3V_A_DSW_P
AH10 VCCDSW3_3
+3VS5
C316 *1U/6.3V_4
C317 0.47U/6.3V_4
+3V
+V3.3S_PCORE
V8 VCC3_3
W9 VCC3_3
C125 22U/6.3VS_6
INT
*HSW_ULT_DDR3L

RTC
VCCSUS3_3 AH11 +V3.3A_DSW_PRTCSUS → +3V_DEEP_SUS
C374 1U/6.3V_4
VCCRTC AG10 VCCRTC < 1mA → +3V_RTC
C364 1U/6.3V_4
C368 0.1U/10V_4
C371 0.1U/10V_4
DCPRTC AE7 +VCCRTCEXT C311 0.1U/10V_4

SPI
VCCSPI Y8 VCCSPI=18mA C373 *0.1U/10V_4
+V3.3M_PSPI → +3V_DEEP_SUS
R278 *0_4 → +3V

ICC
2.2uH/500mA_6
+V1.05S_AXCK_DCB L16 → +1.05V
VCCCLK J18 K19
C289 1U/6.3V_4
C300 47U/6.3VS_6
C299 47U/6.3VS_6
VCCACLKPLL A20
+V1.05S_AXCK_LCPLL L46 2.2uH/500mA_6 → +1.05V VCCACLKPLL=31mA
C707 1U/6.3V_4
C697 47U/6.3VS_6
C696 47U/6.3VS_6
VCCCLK J17
+V1.05S_SSCF100 → +1.05V VCCCLK=200mA
C273 1U/6.3V_4
VCCCLK R21 T21
+V1.05S_SSCFF → +1.05V
C293 1U/6.3V_4
RSVD K18
RSVD M20
RSVD V21
VCCSUS3_3 AE20 AE21 +V3.3A_PSUS → +V3.3A_PSUS

THERMAL SENSOR
VCCTS1_5=3mA
VCCTS1_5 J15 +V1.5S_ATS → +1.5V
+V3.3S_PTS → +3V
VCC3_3 K14 K16 VCC3_3=41mA C175 0.1U/10V_4

OPI
2.2uH PN CV-2205JZ00
RSVD Y20 AA21
VCCAPLL W21 VCCAPLL=57mA → +1.05V
C305 1U/6.3V_4
+V1.05S_APLLOPI C303 *47U/6.3VS_6
C304 *47U/6.3VS_6

SERIAL IO
VCCSDIO U8 T9 VCCSDIO=17mA
+V3.3S_1.8S_SDIO_PCH → +3V
C282 1U/6.3V_4

SUS OSCILLATOR
DcpSus4=1mA
DCPSUS4 AB8 +V1.05A_AOSCSUS C291 1U/6.3V_4

USB2
RSVD AC20
VCC1_05 AG16 AG17 +V1.05S_DUSB → +1.05V
C310 1U/6.3V_4

+V3.3DX_1.5DX_ADO
R171 *0_4 → +1.5V
R179 *0_4/S → +3V

6,7,8,9,11,12,13,18,19,20,23,24,25,26,27,28,29,30,31,33,34,39,40,41 +3V
24,25,26,29,30,31,32,33,40 +5V
2,4,7,9,11,31,34,38,39,40,43 +1.05V
6,7,9,11,25,29,31,32,33,34,36,38,40,43 +3VS5
13,25,29,32,36,37,38,39,40,41,42,43 +5VS5
8 +V1.05S_AUSB3PLL
7 +V1.05S_ASATA3PLL
8 +V1.05S_AXCK_LCPLL
7,31 +3V_RTC
2,4,12,13,29,37 +1.35VSUS

+1.05V_MODPHY
L45 2.2uH/500mA_6 20mil → +V1.05S_ASATA3PLL
L44 2.2uH/500mA_6 20mil → +V1.05S_AUSB3PLL
→ +V1.05DX_MODPHY_PCH

for DS3

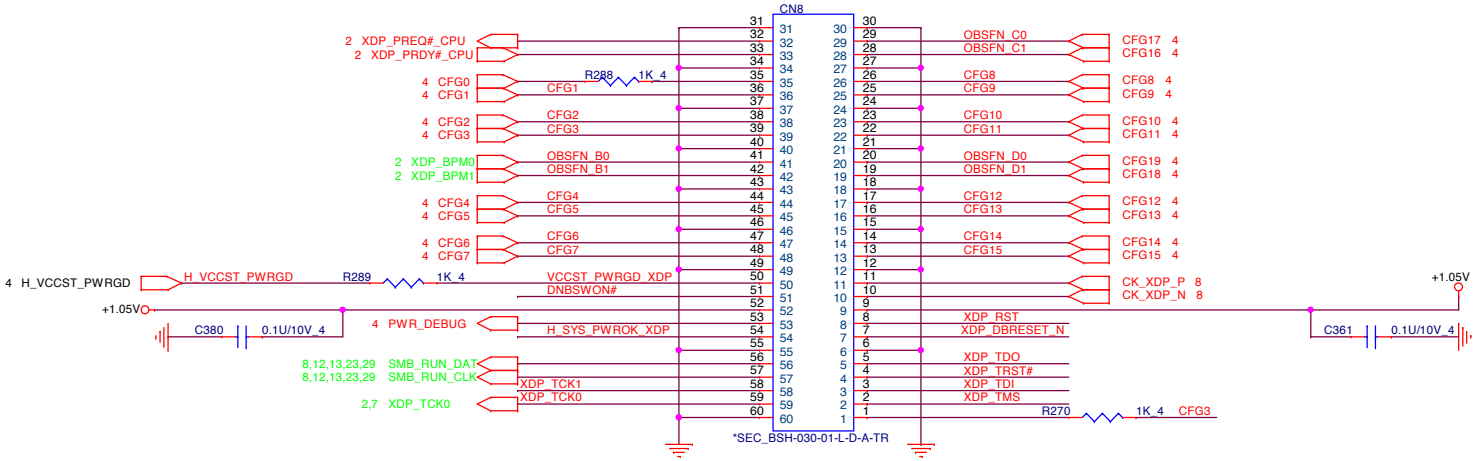
+3VS5
+3V_DEEP_SUS
R563 100K_4
C720 1U/6.3V_4
U26
5 IN
4 IN
3 ON/OFF
OUT 1
GND 2
IC(5P) G5243AT11U-S-M
C726 0.1U/10V_4
C724 *10P/50V_4
34 SLP_SUS_ON

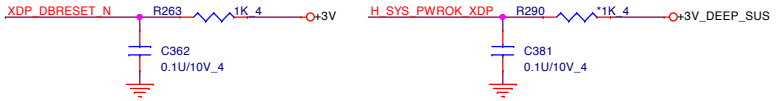
NB5

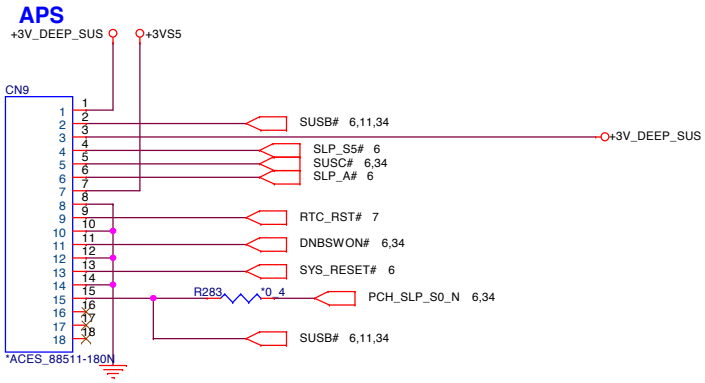
PROJECT : Y11C
Quanta Computer Inc.

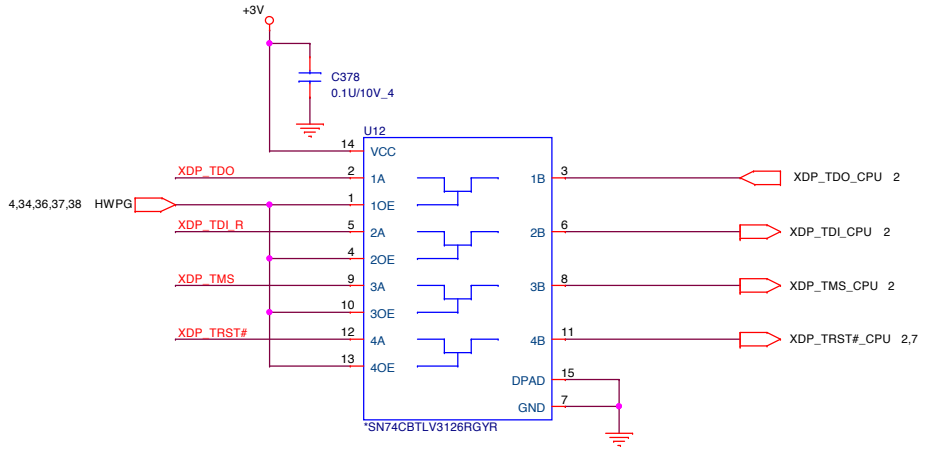
Size	Document Number	Rev
Custom	ULT 9/9(POWER-2)	1A

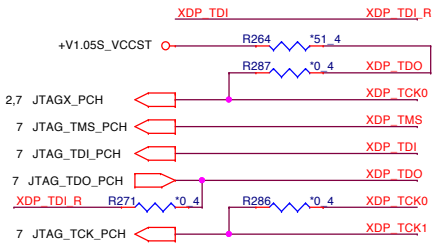
Date: Tuesday, April 08, 2014 Sheet 10 of 44

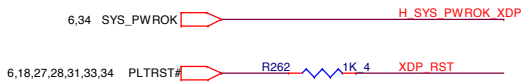












NB5

PROJECT : Y11C

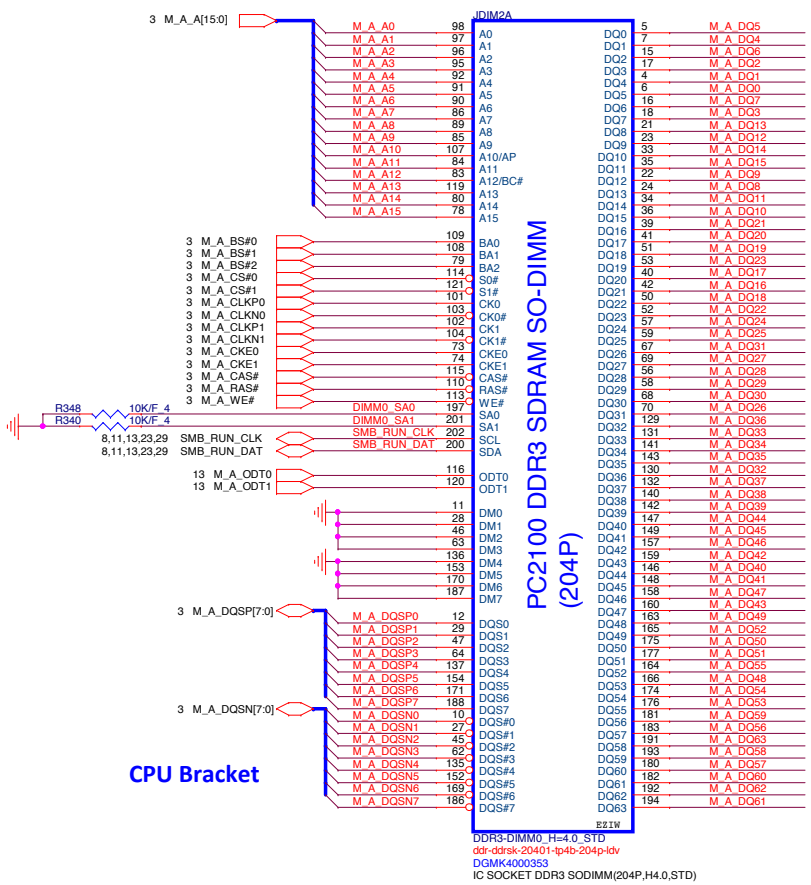
Quanta Computer Inc.

0L1

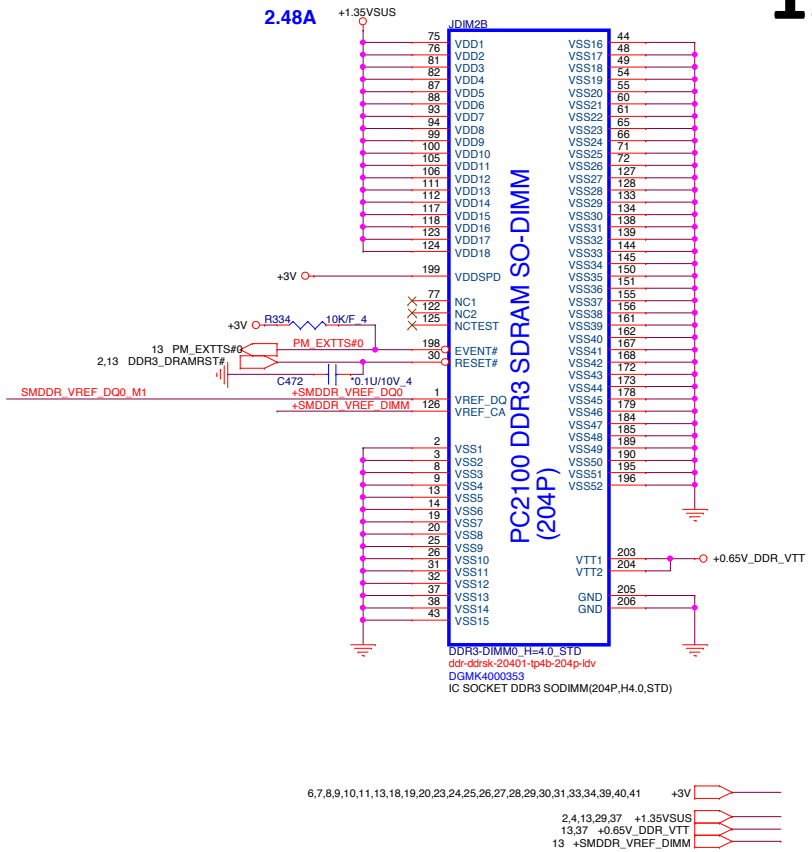
Size	Document Number	Rev
	HSW XDP & APS	1A

Date: Wednesday, April 02, 2014 | Sheet 11 of 44

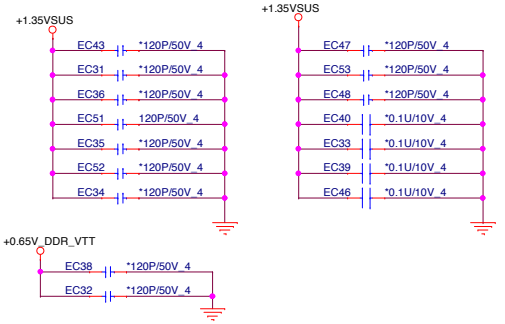
DIMM & Footprint 同Joshua提供



2.48A

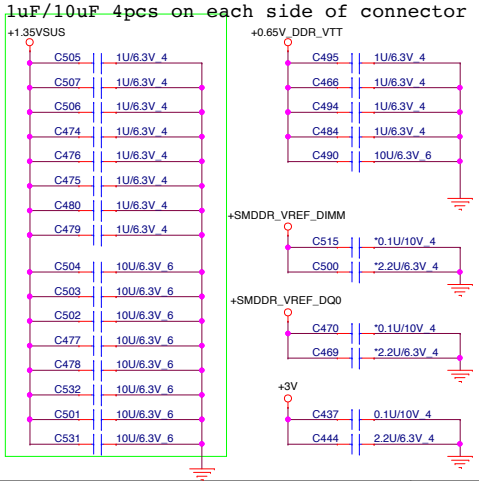


For EMI RESERVE

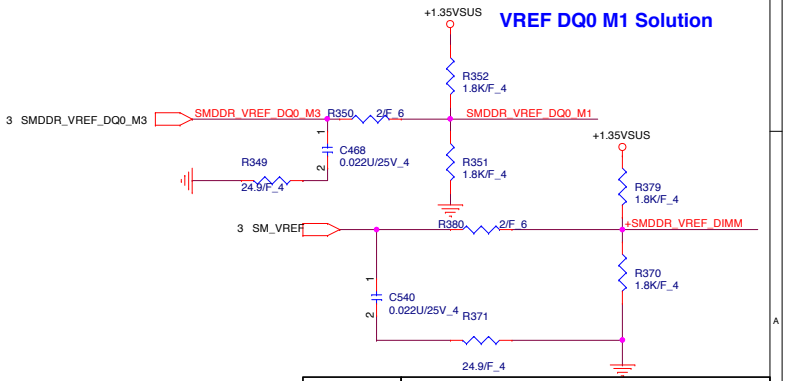


Place these Caps near So-Dimm0.

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



VREF DQ0 M1 Solution



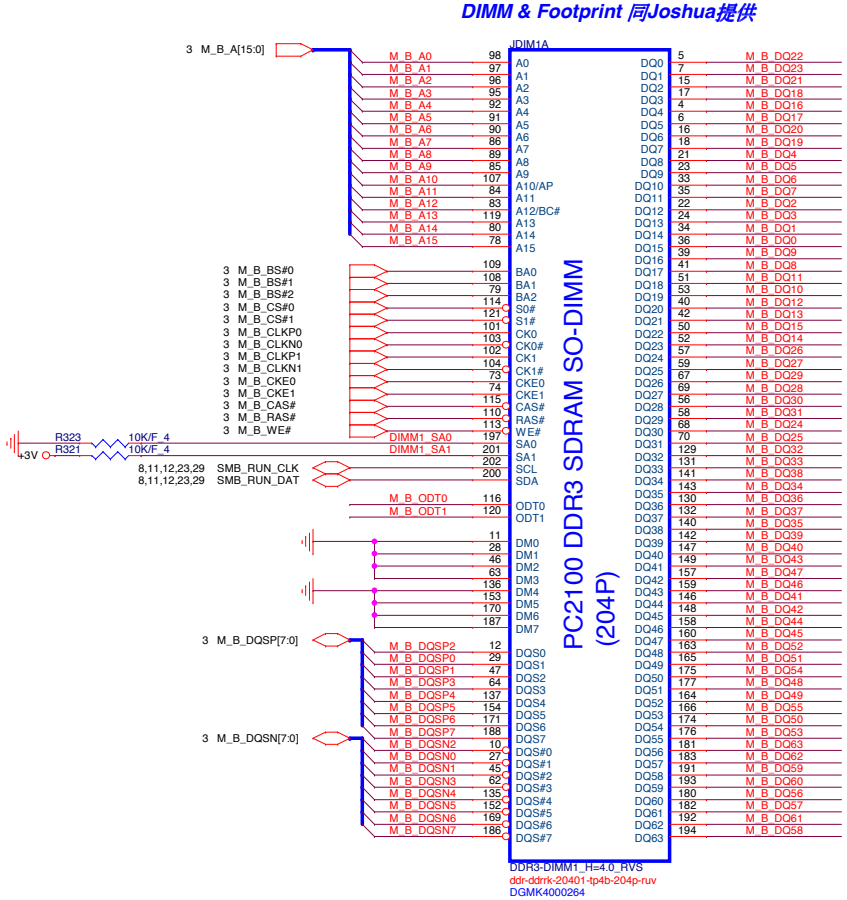
NB5

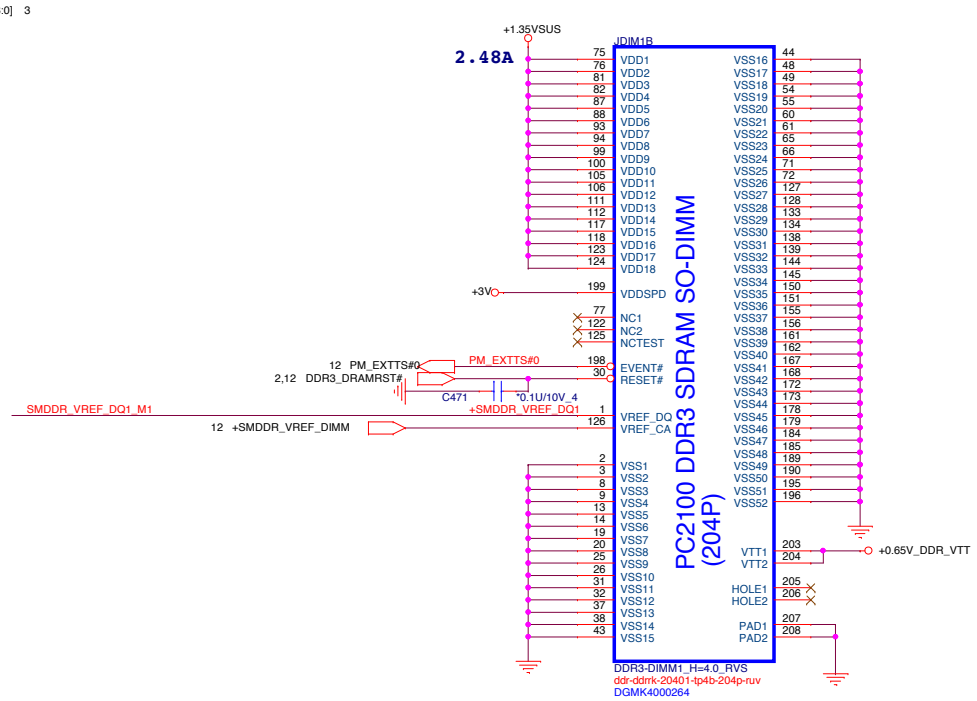
PROJECT : Y11C

Quanta Computer Inc.

Size	Document Number	Rev
Custom	DDR3 DIMM0-STD(4.0H)	1A
Date: Wednesday, April 02, 2014	Sheet 12of 44	

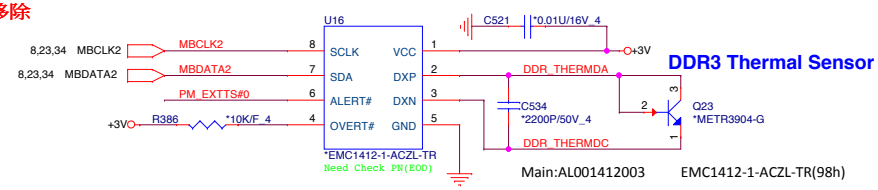
DIMM & Footprint 同Joshua提供





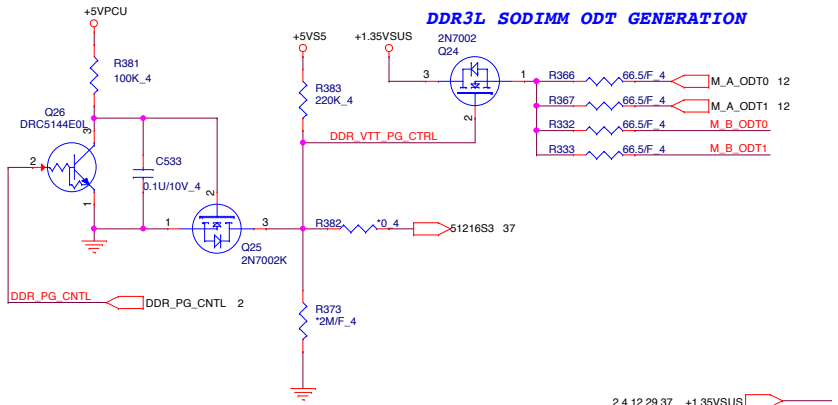
Local Thermal Sensor

MV可移除



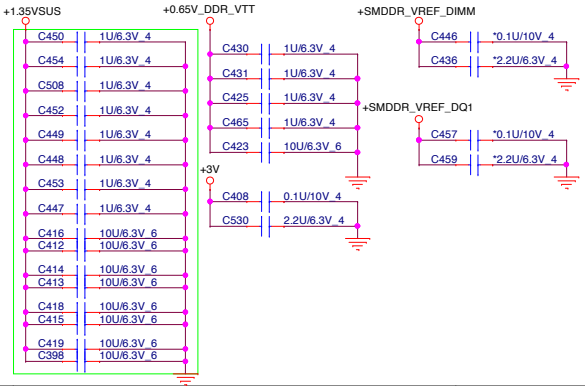
Main:AL001412003 EMC1412-1-ACZL-TR(98h)
2nd:AL000431014 TMP431ADGKR(98h)

DDR3L SODIMM ODT GENERATION

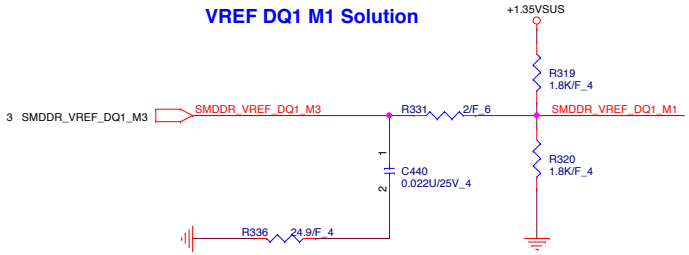


Place these Caps near So-Dimm1.

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



VREF DQ1 M1 Solution



PROJECT :	Y11C
	Quanta Computer Inc.
Size: Custom	Document Number: DDR3 DIMM1-RVS(4.0H)
Rev	1A
Date: Wednesday, April 02, 2014	Sheet 13of 44

NB5

	PROJECT :Y05 Quanta Computer Inc.	
Size Custom	Document Number **N15S-GT (MEMORY/GND)**	Rev 2A
Date: Wednesday, April 02, 2014	Sheet 15 of 44	

	PROJECT :Y05 Quanta Computer Inc.	
Size Custom	Document Number **N15S-GT (DISPLAY)**	Rev 2A
Date: Wednesday, April 02, 2014	Sheet 16 of 44	

PROJECT :Y05
Quanta Computer Inc.

Size	Document Number	Rev
Custom	N15S-GT (GPIO/STRAPS)	2A

Date: Wednesday, April 02, 2014 Sheet 17 of 44

PEX_IOVDD + PEX_IOVDDQ = 1.042A

PEX_PLL_HVDD + PEX_SVDD_3V3 = 143mA

PEX_PLLVDD = 130mA

NVDD = 32.22 ~ 26.66 A

VDD33 = 56mA

Power up sequence

VDD33
+3.3V_GFX

NVVDD
+VCC_DGFX_CORE

FBVDDQ
+1.5V_GFX

PEX_VDD
+1.05V_GFX

IFP(CDEF)_IOVDD
+1.05V_GFX

Power down sequence

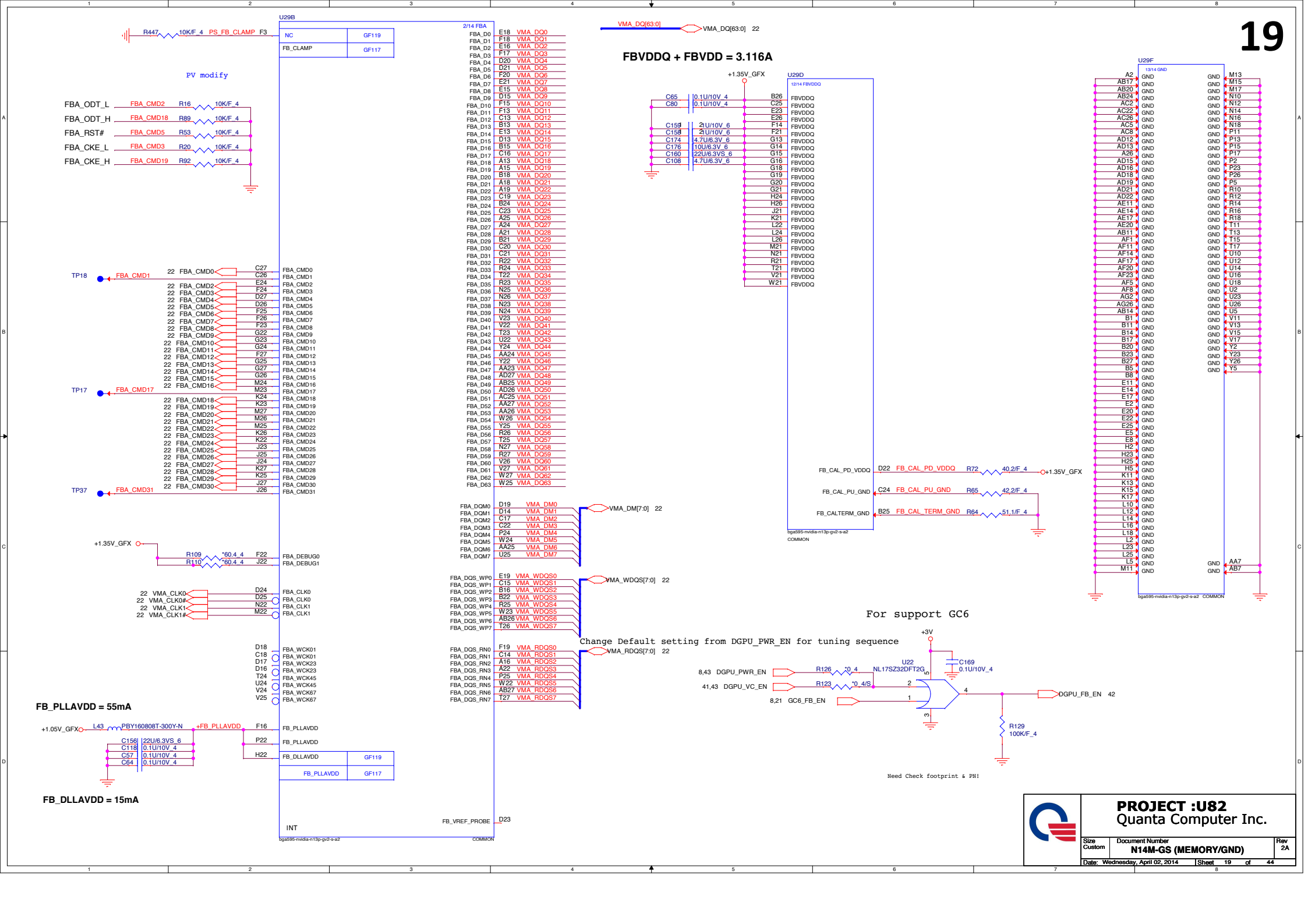
First Rail to Power Down

Last Rail to Power Down

t_{POWER_OFF} < 10 ms

PROJECT :U82
Quanta Computer Inc.

Size	Document Number	Rev
Custom	N14M-GS (PCIE I/F) /NVDD	2A
Date: Wednesday, April 02, 2014	Sheet 18 of 44	


U29B
2/14 FBA
R447 10K/F_4 PS_FB_CLAMP F3
NC GF119
FB_CLAMP GF117
PV modify
FBA_ODT_L FBA_CMD2 R16 10K/F_4
FBA_ODT_H FBA_CMD18 R89 10K/F_4
FBA_RST# FBA_CMD5 R53 10K/F_4
FBA_CKE_L FBA_CMD3 R20 10K/F_4
FBA_CKE_H FBA_CMD19 R92 10K/F_4
TP18 FBA_CMD1
TP17 FBA_CMD17
TP37 FBA_CMD31
+1.35V_GFX
R109 *60.4_4 F22 FBA_DEBUG0
R110 *60.4_4 J22 FBA_DEBUG1
22 VMA_CLK0 D24 FBA_CLK0
22 VMA_CLK0# D25 FBA_CLK0
22 VMA_CLK1 N22 FBA_CLK1
22 VMA_CLK1# M22 FBA_CLK1
D18 FBA_WCK01
C18 FBA_WCK01
D17 FBA_WCK23
D16 FBA_WCK23
T24 FBA_WCK45
U24 FBA_WCK45
V24 FBA_WCK67
V25 FBA_WCK67
FB_PLLAVDD = 55mA
+1.05V_GFX L43 PBY160808T-300Y-N +FB_PLLAVDD F16 FB_PLLAVDD
P22 FB_PLLAVDD
H22
C156 22U/6.3VS_6
C118 0.1U/10V_4
C57 0.1U/10V_4
C64 0.1U/10V_4
FB_DLLAVDD GF119
FB_PLLAVDD GF117
FB_DLLAVDD = 15mA
INT
bga595-nvidia-n13p-gv2-s-a2
COMMON
FBA_D0 E18 VMA_DQ0
FBA_D1 F18 VMA_DQ1
FBA_D2 E16 VMA_DQ2
FBA_D3 F17 VMA_DQ3
FBA_D4 D20 VMA_DQ4
FBA_D5 D21 VMA_DQ5
FBA_D6 F20 VMA_DQ6
FBA_D7 E21 VMA_DQ7
FBA_D8 E15 VMA_DQ8
FBA_D9 D15 VMA_DQ9
FBA_D10 F15 VMA_DQ10
FBA_D11 F13 VMA_DQ11
FBA_D12 C13 VMA_DQ12
FBA_D13 B13 VMA_DQ13
FBA_D14 E13 VMA_DQ14
FBA_D15 D13 VMA_DQ15
FBA_D16 B15 VMA_DQ16
FBA_D17 C16 VMA_DQ17
FBA_D18 A13 VMA_DQ18
FBA_D19 A15 VMA_DQ19
FBA_D20 B18 VMA_DQ20
FBA_D21 A18 VMA_DQ21
FBA_D22 A19 VMA_DQ22
FBA_D23 C19 VMA_DQ23
FBA_D24 B24 VMA_DQ24
FBA_D25 C23 VMA_DQ25
FBA_D26 A25 VMA_DQ26
FBA_D27 A24 VMA_DQ27
FBA_D28 A21 VMA_DQ28
FBA_D29 B21 VMA_DQ29
FBA_D30 C20 VMA_DQ30
FBA_D31 C21 VMA_DQ31
FBA_D32 R22 VMA_DQ32
FBA_D33 R24 VMA_DQ33
FBA_D34 T22 VMA_DQ34
FBA_D35 R23 VMA_DQ35
FBA_D36 N25 VMA_DQ36
FBA_D37 N26 VMA_DQ37
FBA_D38 N23 VMA_DQ38
FBA_D39 N24 VMA_DQ39
FBA_D40 V23 VMA_DQ40
FBA_D41 V22 VMA_DQ41
FBA_D42 T23 VMA_DQ42
FBA_D43 U22 VMA_DQ43
FBA_D44 Y24 VMA_DQ44
FBA_D45 AA24 VMA_DQ45
FBA_D46 Y22 VMA_DQ46
FBA_D47 AA23 VMA_DQ47
FBA_D48 AD27 VMA_DQ48
FBA_D49 AB25 VMA_DQ49
FBA_D50 AD26 VMA_DQ50
FBA_D51 AC25 VMA_DQ51
FBA_D52 AA27 VMA_DQ52
FBA_D53 AA26 VMA_DQ53
FBA_D54 W26 VMA_DQ54
FBA_D55 Y25 VMA_DQ55
FBA_D56 R26 VMA_DQ56
FBA_D57 T25 VMA_DQ57
FBA_D58 N27 VMA_DQ58
FBA_D59 R27 VMA_DQ59
FBA_D60 V26 VMA_DQ60
FBA_D61 V27 VMA_DQ61
FBA_D62 W27 VMA_DQ62
FBA_D63 W25 VMA_DQ63
FBA_DQM0 D19 VMA_DM0
FBA_DQM1 D14 VMA_DM1
FBA_DQM2 C17 VMA_DM2
FBA_DQM3 C22 VMA_DM3
FBA_DQM4 P24 VMA_DM4
FBA_DQM5 W24 VMA_DM5
FBA_DQM6 AA25 VMA_DM6
FBA_DQM7 U25 VMA_DM7
VMA_DM[7:0] 22
FBA_DQS_WP0 E19 VMA_WDQS0
FBA_DQS_WP1 C15 VMA_WDQS1
FBA_DQS_WP2 B16 VMA_WDQS2
FBA_DQS_WP3 B22 VMA_WDQS3
FBA_DQS_WP4 R25 VMA_WDQS4
FBA_DQS_WP5 W23 VMA_WDQS5
FBA_DQS_WP6 AB26 VMA_WDQS6
FBA_DQS_WP7 T26 VMA_WDQS7
VMA_WDQS[7:0] 22
FBA_DQS_RN0 F19 VMA_RDQS0
FBA_DQS_RN1 C14 VMA_RDQS1
FBA_DQS_RN2 A16 VMA_RDQS2
FBA_DQS_RN3 A22 VMA_RDQS3
FBA_DQS_RN4 P25 VMA_RDQS4
FBA_DQS_RN5 W22 VMA_RDQS5
FBA_DQS_RN6 AB27 VMA_RDQS6
FBA_DQS_RN7 T27 VMA_RDQS7
VMA_RDQS[7:0] 22
FB_VREF_PROBE D23
VMA_DQ[63:0]
VMA_DQ[63:0] 22
FBVDDQ + FBVDD = 3.116A
+1.35V_GFX
U29D
12/14 FBVDDQ
C65 0.1U/10V_4
C80 0.1U/10V_4
C159 2.2U/10V_6
C158 2.2U/10V_6
C174 4.7U/6.3V_6
C176 10U/6.3V_6
C160 22U/6.3VS_6
C108 4.7U/6.3V_6
B26 C25 E23 E26 F14 F21 G13 G14 G15 G16 G18 G19 G20 G21 H24 H26 J21 K21 L22 L24 L26 M21 N21 R21 T21 V21 W21 FBVDDQ
FB_CAL_PD_VDDQ D22 FB_CAL_PD_VDDQ R72 40.2/F_4 +1.35V_GFX
FB_CAL_PU_GND C24 FB_CAL_PU_GND R65 42.2/F_4
FB_CALTERM_GND B25 FB_CALTERM_GND R64 51.1/F_4
bga595-nvidia-n13p-gv2-s-a2
COMMON
U29F
13/14 GND
A2 AB17 AB20 AB24 AC2 AC22 AC26 AC5 AC8 AD12 AD13 AD26 AD15 AD16 AD18 AD19 AD21 AD22 AE11 AE14 AE17 AE20 AB11 AF1 AF11 AF14 AF17 AF20 AF23 AF5 AF8 AG2 AG26 AB14 B1 B11 B14 B17 B20 B23 B27 B5 B8 E11 E14 E17 E2 E20 E22 E25 E5 E8 H2 H23 H25 H5 K11 K13 K15 K17 L10 L12 L14 L16 L18 L2 L23 L25 L5 M11 GND
M13 M15 M17 N10 N12 N14 N16 N18 P11 P13 P15 P17 P2 P23 P26 P5 R10 R12 R14 R16 R18 T11 T13 T15 T17 U10 U12 U14 U16 U18 U2 U23 U26 U5 V11 V13 V15 V17 Y2 Y23 Y26 Y5 GND
AA7 AB7 GND
bga595-nvidia-n13p-gv2-s-a2 COMMON
For support GC6
Change Default setting from DGPU_PWR_EN for tuning sequence
+3V
8,43 DGPU_PWR_EN R126 *0_4
41,43 DGPU_VC_EN R123 *0_4/S
8,21 GC6_FB_EN
U22 NL17SZ32DFT2G
C169 0.1U/10V_4
R129 100K/F_4
DGPU_FB_EN 42
Need Check footprint & PN!
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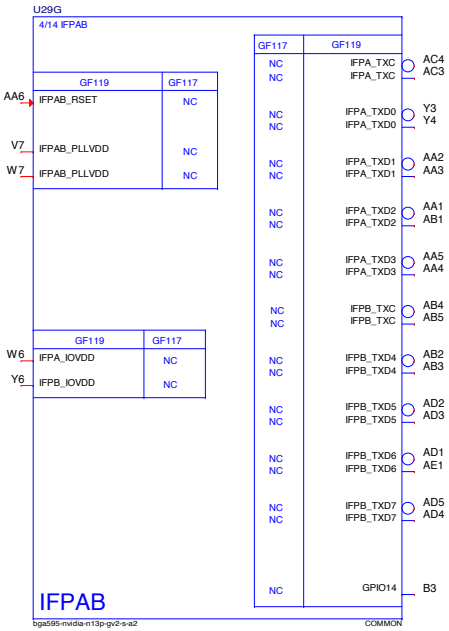

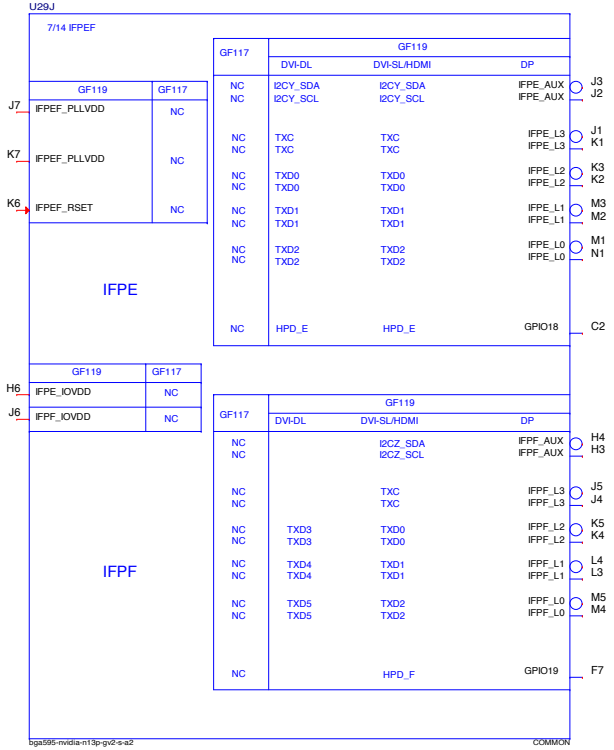

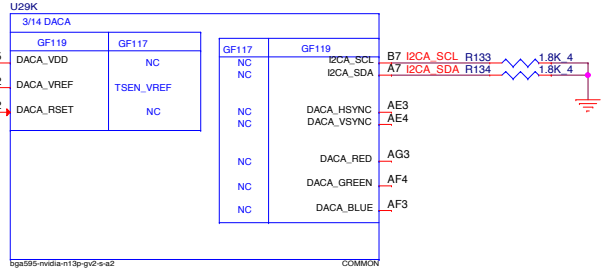

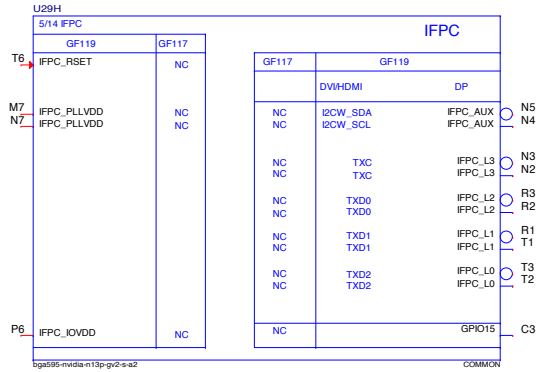

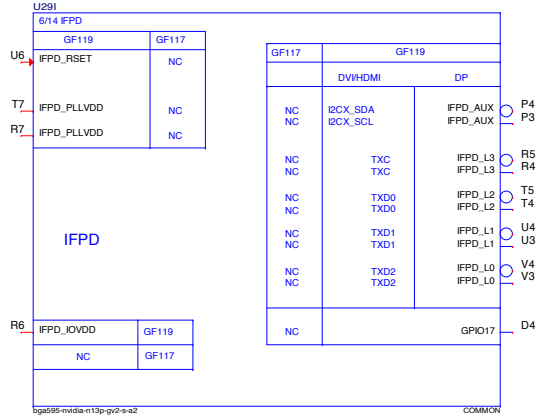

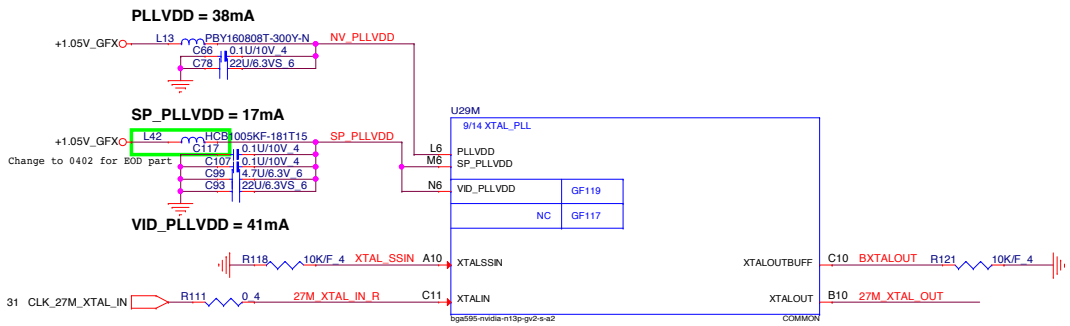

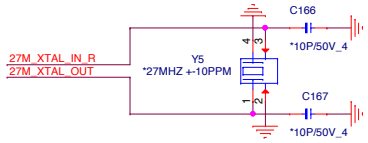

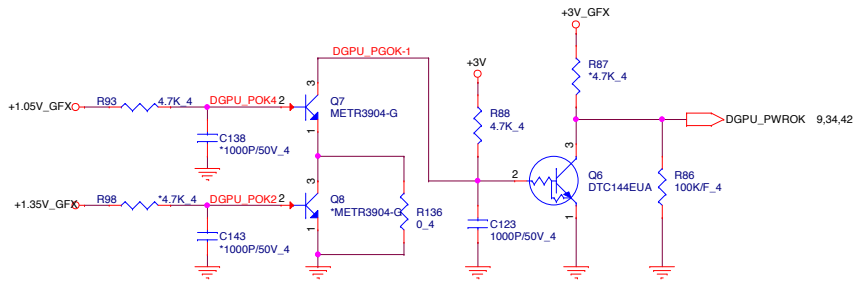

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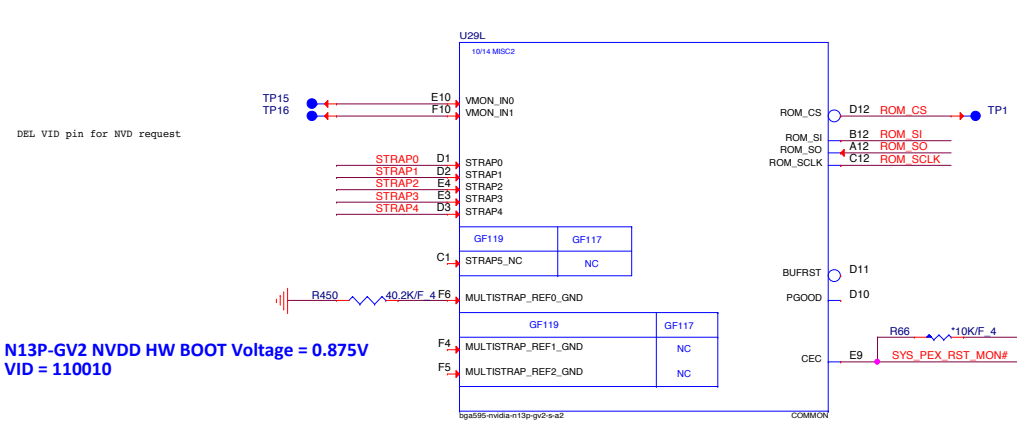
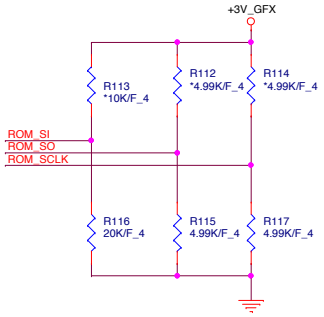
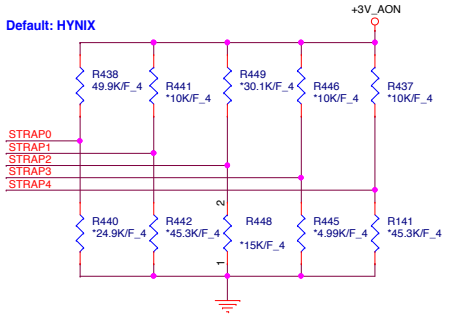


N13P-GV2 NVDD HW BOOT Voltage = 0.875V
VID = 110010



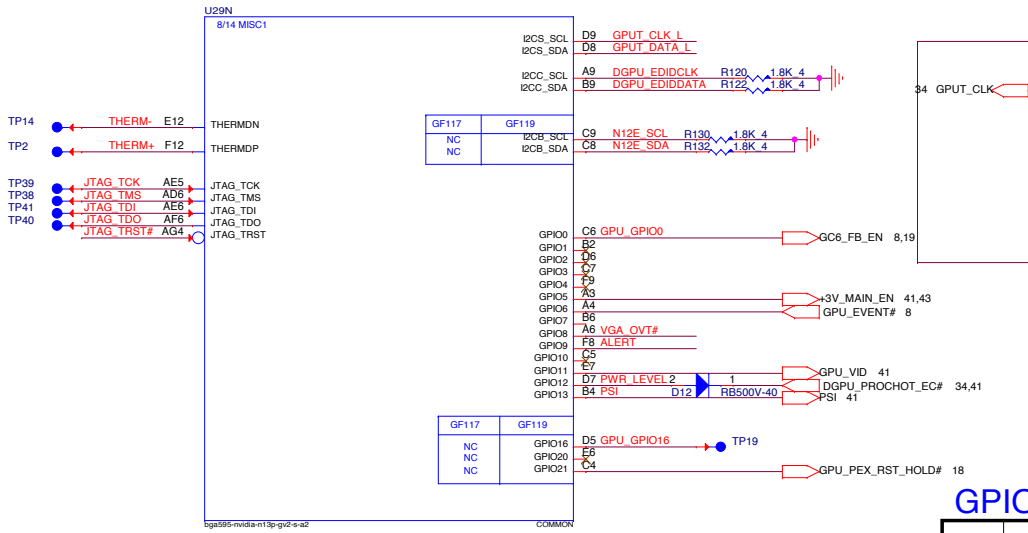


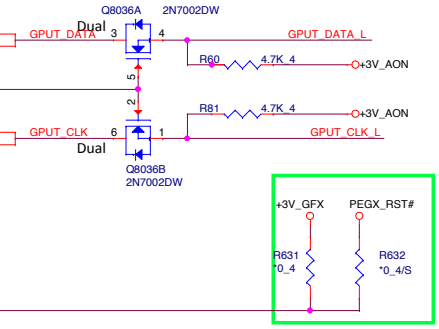
4.99k	CS24992FB26	
10k	CS31002FB26	
15k	CS31502FB24	
20k	CS32002FB29	
24.9k	CS32492FB16	
30.1k	CS33012FB18	
34.8k	CS33482FB22	
45.3k	CS34532FB18	

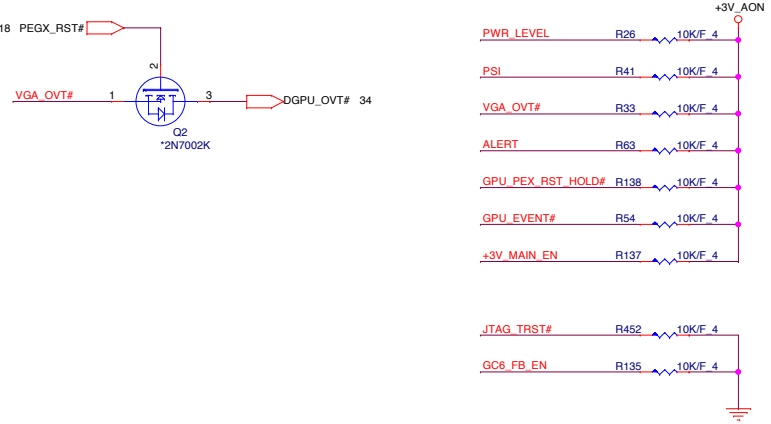
Table 15-2. Resistance Mapping to Hex Values

Resistor Values	Pull-Up to 3V3_MAIN	Pull-Down to GND
4.99 kΩ	1000	0000
10.0 kΩ	1001	0001
15.0 kΩ	1010	0010
20.0 kΩ	1011	0011
24.9 kΩ	1100	0100
30.1 kΩ	1101	0101
34.8 kΩ	1110	0110
45.3 kΩ	1111	0111

Hynix should be 0x3, R440 20K 1%
Micro Should be 0x4, R440 24.9K 1%
Samsung Should be 0x5, R440 30.1K 1%







VRAM Configuration Table *ROM_SI*

RAMCFG [3:0]	DESCRIPTION	Vendor	Vendor P/N	QCI P/N	QBC	TOP B/S
0000	...	...	...	...	...	...
0100	DDR3 256Mx16, 64bit, 4Gb,900MHz	Micron	MT41J256M16HA-093G:E	S-M	AKD5PZSTL01	AKD5PZSTL00
0011	DDR3 256Mx16, 64bit, 4Gb,900MHz	HYNIX	H5TC4G63AFR-11C	AKD5PGWT500	AKD5PGWTW08	AKD5PGWTW07
0101	DD3L 256Mx16, 64bit, 4Gb,900MHz	SAMSUNG	4W4G1646D-BC1A			

GPIO ASSIGNMENTS

GPIO	I/O	PIN	USAGE
0	IN	FB_CLAMP_MON	FB Clamp monitor
1	OUT	MEM_VDD_CTL	Memory VDD VID
2	OUT	LCD_BL_PWM	Panel Backlight PWM
3	OUT	LCD_VCC	PANEL POWER ENABLE
4	OUT	LCD_BLEN	PANEL BACKLIGHT ENABLE
5	OUT	Reserved	--
6	OUT	FB_CLAMP_TGL_REQ	Active low FB Clamp toggle request
7	OUT	3D VISION	3D VISION LEFT/RIGHT signal
8	I/O	OVERT	ACTIVE LOW THERMAL OVER TEMP
9	I/O	ALERT	ACTIVE LOW THERMAL ALERT
10	OUT	MEM VREF_CTL	MEMMORY VREF CONTROL
11	OUT	PWR_VID	GPU CORE_VDD PWM Control signal
12	IN	PWR_LEVEL	AC Power detect or power supply overdraw input
13	OUT	PSI	Phase Shedding

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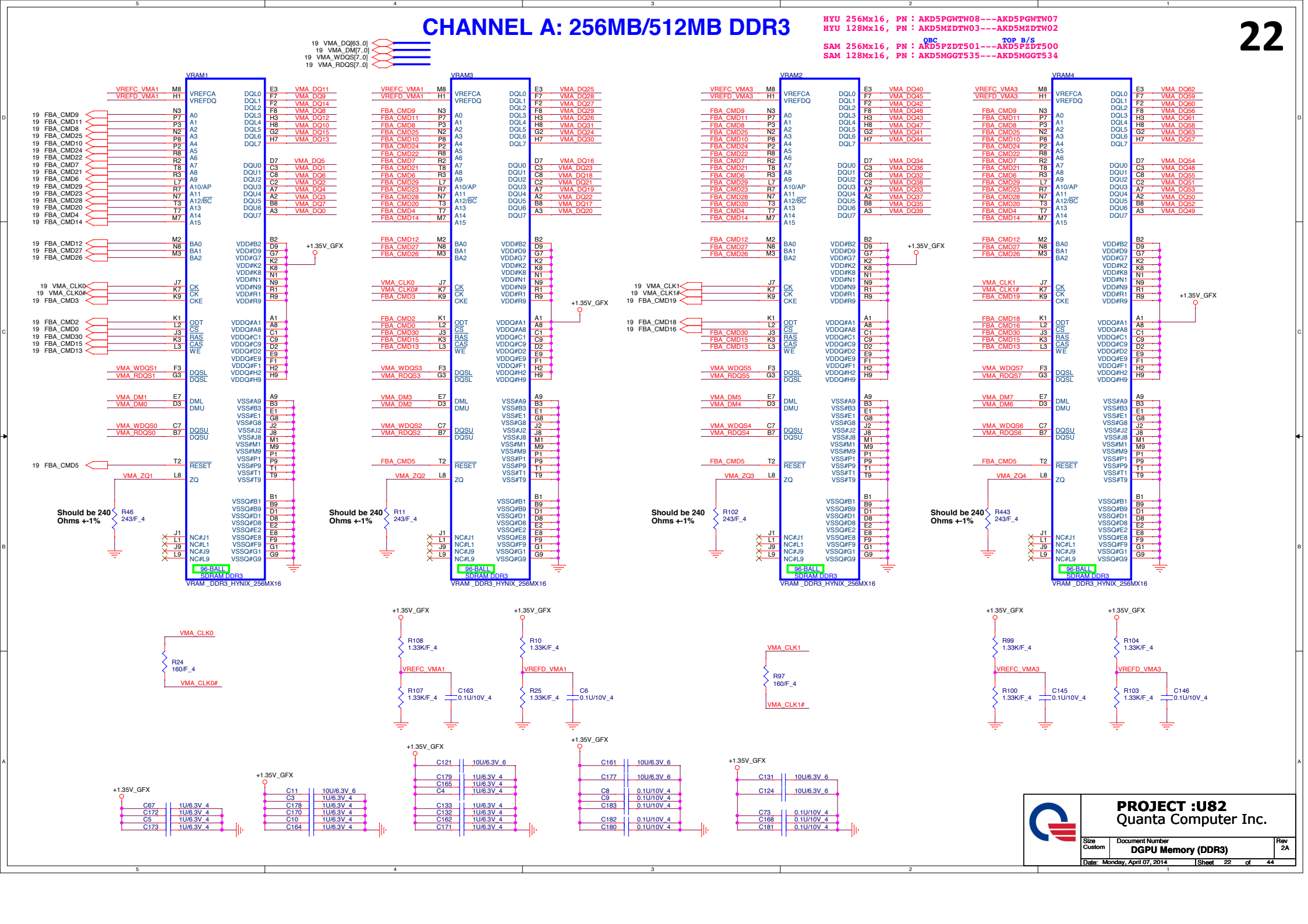
CHANNEL A: 256MB/512MB DDR3

HYU 256Mx16, PN : AKD5PGWTW08---AKD5PGWTW07
HYU 128Mx16, PN : AKD5MZDTW03---AKD5MZDTW02
QBC TOP B/S
SAM 256Mx16, PN : AKD5PZDT501---AKD5PZDT500
SAM 128Mx16, PN : AKD5MGGT535---AKD5MGGT534



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Custom	DGPU Memory (DDR3)	2A
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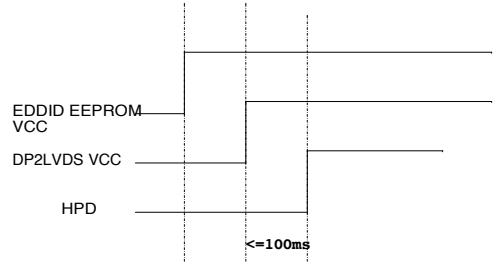
RTD2136 Dual Channel only

RTD2136S Power Up Sequence 23



Reserve for co layout EDP CON, EDP only please stuff

Pine 18: keep 80 Mile Trace

RTD2136R

IC底部需接GND

Use 1% Res on R2178

Reserve

Default

For eDP, close to U8016

keep 80 Mile Trace

L8: need use CV-4709MN00 for Vendor suggestion

SWR MODE	LDO MODE
Stuff L8	Stuff R86

PROJECT : Y11C

Quanta Computer Inc.

NB5

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Custom	RTD2136	1A

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LID Switch

34 EMU_LID — R7 *0_4/S PN_BLON — D1 MEK500V-40 — BLON_CON — C2 22P/50V_4 — R6 100K/F_4

LVDS_BLON1 — R5 1K/F_4

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

LVDS_BLON1 — R4 100K/F_4

BRIGHT R28 1K/F_4 — VADJ1

C40 33P/50V_4

100mA

+VIN_BLIGHT

+VIN — C71 0.1U/25V_4 — C91 0.01U/25V_4

+VIN — C101 *4.7U/25V_8 — C98 0.1U/25V_4

+VIN — C102 *4.7U/25V_8 — C103 0.1U/25V_4 — C97 0.1U/25V_4 — C92 0.1U/25V_4 — C72 0.1U/25V_4

23 TXUCLKOUT- / 23 TXUCLKOUT+ / 23 TXUOUT0+ / 23 TXUOUT0- / 23 TXUOUT1+ / 23 TXUOUT1- / 23 TXUOUT2+ / 23 TXUOUT2-

+3V — R61 4.7K_4 EDIDCLK — R62 4.7K_4 EDIDDATA

For LVDS Only:

RF — C62 *10P/50V_4 — C63 *10P/50V_4

LVDS Conn.

24

GS12401-1011-9H
lvds-50671-04041-001-40p-l

23 EDIDDATA_2136 / 23 EDIDCLK_2136

+3V — C26 *0.01U/25V_4 — C34 *4.7U/6.3V_6

+3V_CAM

+3VLCD_CON — C19 *0.047U/10V_4 — C18 *0.047U/10V_4

+3V — R14 *0_6/S — C17 1000P/50V_4

DFFC40FR065 — CN2

EDIDCLK_R
EDIDDATA_R
TXLOUT0-
TXLOUT0+
TXLOUT1-
TXLOUT1+
TXLOUT2- R
TXLOUT2+ R
TXLCLKOUT- R
TXLCLKOUT+ R
TXUOUT0-
TXUOUT0+
TXUOUT1-
TXUOUT1+
TXUOUT2-
TXUOUT2+
TXUCLKOUT-
TXUCLKOUT+

For LVDS Only: Stuff Rc
For EDP Only: Stuff Rd

6,23 ULT_EDP_HPD — R8 — R9 0_4 — Rc / Rd — 0_4 ULT_EDP_HPD_R

MCM2012B900GBE — +3V_CAM — L2 — USBP2- C — USBP2+ C — DIGITAL_CLK_L — VADJ1 — BLON_CON

8 USBP2- / 8 USBP2+

Change FOOTPRINT to 0402

25 DIGITAL_CLK / 25 DIGITAL_D1 — L1 SBY100505T-121Y-N(120,300MA) — C13 *10P/50V_4 — C12 *10P/50V_4 — +VIN_BLIGHT

SI...for Swap CN2 to pin6/pin8 ...12/11

Mirror Pin-Define on 10/20

For LVDS

Power Switch Reserve

80 mile trace

23 2136_DISP_ON — R7468 100K/F_4 — C29 4.7U/6.3V_4 — R23 0_8 — +3VLCD_CON

SI..Change R23 Netname to "DISP_ON" ...11/30
SI..ADD R139for LVDS DISO ON ...11/30

For eDP

+3V — C37 *1U/6.3V_4 — U2 AP2821KTR-G1 (IN, IN, ON/OFF, OUT, GND) — L8 *0_6 — +3VLCD_CON — C52 *0.01U/25V_4 — C49 0.1U/10V_4 — C48 *10U/6.3V_6

6,23 PCH_DISP_ON — R31 *100K/F_4

R31 close to U2 for eDP,stuff

for eDP,stuff U2 & L8

for LVDS,stuff C29 & R23

EMI Solution

C_TX2_HDMI+ — R247 120/F_4 — C_TX2_HDMI-
C_TX1_HDMI+ — R231 120/F_4 — C_TX1_HDMI-
C_TX0_HDMI+ — R234 120/F_4 — C_TX0_HDMI-
C_TXC_HDMI+ — R217 120/F_4 — C_TXC_HDMI-

C_IN_CLK — R219 *0_4/S — C_TXC_HDMI+
C_IN_CLK# — R215 *0_4/S — C_TXC_HDMI-

HDMI SMBus Isolation

+3V — R188 2.2K_4 — HDMI_SCL_R — HDMI_SCLK
6 SDVO_CLK

+3V — R187 2.2K_4 — HDMI_SDA_R — HDMI_SDATA
6 SDVO_DATA

Q14 2N7002DW

For EDP Only: stuff Cap
For LVDS only stuff Resistor

2 INT_eDP_TXP3 / 23 TXLCLKOUT+ / 23 TXLCLKOUT- / 2 INT_eDP_TXN3 — R30 0_4 — R29 0_4 — C33 *0.1U/10V_4 — C32 *0.1U/10V_4 — TXLCLKOUT+_R / TXLCLKOUT-_R

2 INT_eDP_TXP2 / 23 TXLOUT2+ / 23 TXLOUT2- / 2 INT_eDP_TXN2 — R35 0_4 — R34 0_4 — C36 *0.1U/10V_4 — C35 *0.1U/10V_4 — TXLOUT2+_R / TXLOUT2-_R

23 INT_eDP_TXP1_R / 23 TXLOUT0+_2136 / 23 TXLOUT0-_2136 / 23 INT_eDP_TXN1_R — R43 0_4 — R42 0_4 — C42 *0.1U/10V_4 — C41 *0.1U/10V_4 — TXLOUT0+ / TXLOUT0-

23 INT_eDP_TXP0_R / 23 TXLOUT1+_2136 / 23 TXLOUT1-_2136 / 23 INT_eDP_TXN0_R — R45 0_4 — R44 0_4 — C44 *0.1U/10V_4 — C43 *0.1U/10V_4 — TXLOUT1+ / TXLOUT1-

23 INT_eDP_AUXN_R / 23 EDIDDATA / 23 EDIDCLK / 23 INT_eDP_AUXP_R — R49 0_4 — R48 0_4 — C39 *0.1U/10V_4 — C38 *0.1U/10V_4 — EDIDDATA_R / EDIDCLK_R

For LVDS Only: stuff Ra,Rb,Rc

23 2136_DPST_PWM — R37 100K/F_4 — Ra — R38 0_4 — BRIGHT

23 LVDS_BLON_2136 — Rb — R3 0_4 — LVDS_BLON1

For EDP Only: stuff Rd,Re,Rf

6,23 PCH_DPST_PWM — R27 Rd *10_4 — BRIGHT

6,23 PCH_LVDS_BLON — R2 Re *0_4 — LVDS_BLON1

For EDP Only: stuff

+3V — R40 *100K_4 — EDIDDATA_R — R39 *100K_4 — EDIDCLK_R

+3V — R58 *1K_4 — BRIGHT — R1 *1K_4 — LVDS_BLON1

Close to HDMI connector

+3V — Q40 2N7002K — DGPU_CL_HDMIP — R273 100K/F_4 — C372 0.1U/10V_4

Close to Q31

R253 470/F_4 C_TX2_HDMI+ / R246 470/F_4 C_TX2_HDMI-
R232 470/F_4 C_TX1_HDMI+ / R230 470/F_4 C_TX1_HDMI-
R241 470/F_4 C_TX0_HDMI+ / R233 470/F_4 C_TX0_HDMI-
R222 470/F_4 C_IN_CLK / R214 470/F_4 C_IN_CLK#

+3V — R170 1M_4 — Q10 2N7002 — 6 HDMI_HPD_CON — 3 HDMI_HPD R176 20K/F_4

2 IN_D2 — IN_D2 — C354 0.1U/10V_4 — C_TX2_HDMI+
2 IN_D2# — IN_D2# — C349 0.1U/10V_4 — C_TX2_HDMI-
2 IN_D1 — IN_D1 — C336 0.1U/10V_4 — C_TX1_HDMI+
2 IN_D1# — IN_D1# — C331 0.1U/10V_4 — C_TX1_HDMI-
2 IN_D0 — IN_D0 — C343 0.1U/10V_4 — C_TX0_HDMI+
2 IN_D0# — IN_D0# — C339 0.1U/10V_4 — C_TX0_HDMI-
2 IN_CLK — IN_CLK — C327 0.1U/10V_4 — C_IN_CLK — C_TXC_HDMI+
2 IN_CLK# — IN_CLK# — C324 0.1U/10V_4 — C_IN_CLK# — C_TXC_HDMI-

RB500V-40 — D3 — D5 — +5V_HDMIC — 5V_HSMBCK R196 2.2K_4 — 5V_HSMBDT R202 2.2K_4 — HDMI_SCLK — HDMI_SDATA

C321 *10P/50V_4 — C318 *10P/50V_4

+5V_HDMIC — C313 *0.01U/16V_4

HDMI_HPD — HDMI_DET_C — VC1 *TVM0G5R5M220R — C298 220P/50V_4

for EMI request

CN24 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

+5V — 40 mils — F1 FUSE1A6V_POLY — +5V_HDMIC — C314 0.1U/10V_4 — VC2 *TVM0G5R5M220R — SSM14 spec is 40V 1A

13,25,29,32,36,37,38,39,40,41,42,43 +5VS5
6,7,8,9,10,11,12,13,18,19,20,23,25,26,27,28,29,30,31,33,34,39,40,41 +3V
4,7,25,29,31,33,34,35,36 +3VPCU
25,26,29,30,31,32,33,40 +5V
26,29,30,35,36,37,38,39,40,41,42,43 +VIN

NB5

PROJECT : Y11C
Quanta Computer Inc.

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

Date: Monday, April 07, 2014 Sheet 24 of 44

Audio Codec

Close to PIN9

+3V L37 HCB1005KF-181T15 +3V_DVDD
C576 1U/6.3V_4
C581 10U/6.3VS_6
C578 0.1U/10V_4

+1.5V L32 *HCB1005KF-181T15
+3V L33 HCB1005KF-181T15
+3V_DVDD-IO
C560 10U/6.3VS_6
C564 0.1U/10V_4

>40mils trace

+5V_AVDD
C596 10U/6.3VS_6
L31 HCB1005KF-181T15 +5V
C589 0.1U/10V_4
C517 *AZ2015-01H
Close to PIN27
AGND

+5V_AVDD
C559 0.1U/10V_4
C553 10U/6.3VS_6
AGND AGND
Close to PIN38

U20

TO Digital MIC
24 DIGITAL_D1
24 DIGITAL_CLK
C569 10P/50V_4
R405 600/300mA DMIC0
R395 600/300mA DMIC_CLK_R
C555 10P/50V_4
R411 *0_4/S

7 ACZ_SDOUT_AUDIO
7 BIT_CLK_AUDIO
7 ACZ_SDIN0
R410 33_4 HD_SDIN0
7 ACZ_SYNC_AUDIO
7 ACZ_RST#_AUDIO
C582 *0.1U/10V_4
26 PD#
26 HP_EAPD

Digital

9	DVDD		
4	GPIO1/ DMIC-DATA		
2	GPIO0/ DMIC-CLK		
7	DVSS		
5	SDATA-OUT	ACZ_SDOUT_AUDIO	
6	BIT-CLK		
8	SDATA-IN		
3	DVDD-IO	+3V_DVDD-IO	
10	SYNC		
11	RESET#	ACZ_RST#_AUDIO	
12	PCBEEP	AMP_BEEP	
40	SPK-L+	L_SPK+	
41	SPK-L-	L_SPK-	
42	PVSS		
43	SPK-R-	R_SPK-	
44	SPK-R+	R_SPK+	
46	DMIC1/GPIO2	COMBO-DET	
47	EAPD/PD	PD#	26 PD#
48	Globe Input Mute	HP_EAPD	26 HP_EAPD
24	I2S_DIN		
18	I2S_LRCK		
17	I2S-DOUT		
16	I2S-SCLK		
15	I2S-MCLK		

Analog

27 38	AVDD1 AVDD2	+5V_AVDD	
26 33	AVSS1 AVSS2	AGND	
21	LDO-CAP	C588 10U/6.3VS_6 AGND	Close to PIN21
25	VREF	C586 0.1U/10V_4, C587 2.2U/6.3V_4 AGND	Close to PIN25
31	HPOUT-L	HPOUT_L 26	AGND SHIELD
32	HPOUT-R	HPOUT_R 26	AGND SHIELD
			AGND SHIELD
23	LINE1-VREFO	VREFOUT_C	
28 29	LINE1-L LINE1-R	MIC_L1 C574 4.7U/6.3V_4, MIC_R1 C571 *4.7U/6.3V_4, R436 1K/F_4 EXT_MIC_L	TO Audio Jack MIC
20 19	MIC1-R MIC1-L		
30	MIC1-VREFO	R431 *0_4/S MUTE_LED_CNTL 29	
37	MONO-OUT	SUB_OUT R609 *0_4 SUB_OUT14 26, R608 0_4 SUB_OUT15 26	
34	CPVEE	C563 2.2U/6.3V_4 AGND	
35	CBN	CAP- C562	Close to Pin 35
36	CBP	CAP+ 2.2U/6.3V_4	

ALC3241 x QFN48

PVDD1 39, PVDD2 45, DREG-OUT 1, GND 49
SenseA 13, SenseB 14, JDREF 22

+5V_DVDD
+5V L30 HCB1005KF-181T15 +5V_DVDD
C535 0.1U/10V_4
C543 10U/6.3VS_6
Close to Pin 39
+5V_DVDD
C556 0.1U/10V_4
C550 10U/6.3VS_6
Close to Pin 45

C544 10U/6.3VS_6

Close to Pin 22
R429 20K/F_4 AGND
SENSE_A R428 39.2K/F_4 SENSE_A
Close to codec

+5V_AVDD
C558 *2.2U/6.3V_4
AGND
U17 TPS793475DBVR HPA01091DBVR
Vout Vin BYP GND EN
C548 *1U/6.3V_4
C512 0.1U/10V_4
C519 0.047U/10V_4
C513 1U/6.3V_4
+5V
R374 10K_4 +5V
Vset=1.242V

Close to Speaker
Speaker 4 ohm: 40mils

L_SPK+ L6 TI160808U600 L_SPK+_R
L_SPK- L5 TI160808U600 L_SPK-_R
R_SPK- L4 TI160808U600 R_SPK-_R
R_SPK+ L3 TI160808U600 R_SPK+_R
CN3 INT SPEAKER CONN
Change FOOTPRINT to 0603
C27 1000P/50V_4
C31 1000P/50V_4
C30 1000P/50V_4
C25 1000P/50V_4

+5V_AVDD
R432 10K_4
AMP_BEEP C584 0.1U/10V_4 AMP_BEEP_L
check value
R427 100K/F_4 AMP_BEEP_R2
C583 0.1U/10V_4
C594 0.01U/25V_4
R433 10K_4
Check layout mount location
2N7002 Q31
ACZ_SPKR 9
AGND

+1.5V
R408 *2.2K_4
+3V_DVDD
R421 10K_4
R420 *10K_4
Q29 *MMBT3904
ACZ_RST#_AUDIO PD#
26,34 VOLMUTE#
D11 MEK500V-40
VREFOUT_C R430 2.2K_4 EXT_MIC_L
C585 *1U/6.3V_4
AGND
COMBO-DET R610 *0_4/S COMBO-DET_R
R435 2.2K_4
R434 10K_4
C595 10U/6.3VS_6
AGND

ACZ_SDIN0 EC60 *33P/50V_4
ACZ_SDOUT_AUDIO EC61 *10P/50V_4
ACZ_SYNC_AUDIO EC65 *10P/50V_4
BIT_CLK_AUDIO EC62 *33P/50V_4

update Pin-define On 10/20
SMD FPC 30P
32 USB30_TX3+_DC
32 USB30_TX3-_DC
32 USB30_RX3+_DC
32 USB30_RX3-_DC
8 USBP1+
8 USBP1-
MCM2012B900GBE
USBP1+_C
USBP1-_C
7 ACC_LED#
7 SATA_LED#
29 DEEP_PWRLED#
+3V
+3VPCU
SI..Add pin15 +5VS5 for USB port
+5VS5
32,34 USBPW_ON#
SENSE_A
EXT_MIC_L
AGND
26 LINEOUT_L_C
26 LINEOUT_R_C
LINEOUT_L_C
LINEOUT_R_C
CN14

+3VS5
C786 0.1U/10V_4
USBPW_ON# EC55 *220P/50V_4
ACC_LED# EC79 *680P/50V_4
SATA_LED# EC78 *680P/50V_4
DEEP_PWRLED# EC4 *680P/50V_4
+3VPCU EC5 0.1U/10V_4
+5VS5 EC30 0.1U/10V_4

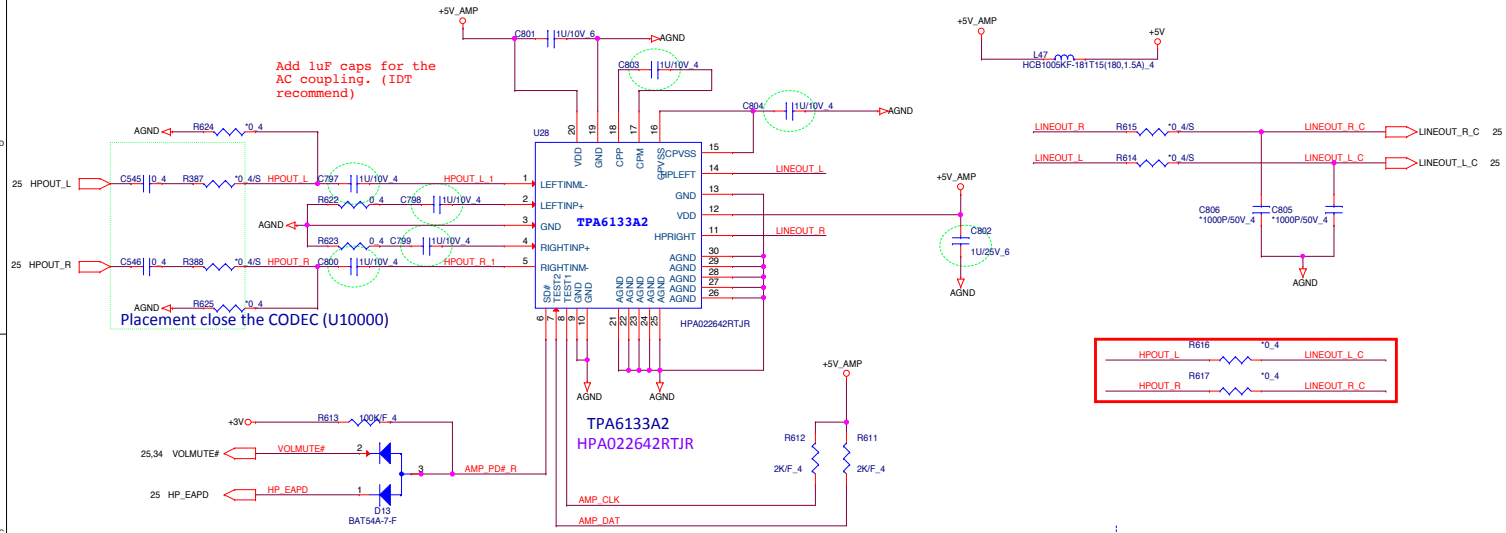
EC89 1000P/50V_4
EC82 1000P/50V_4
EC81 1000P/50V_4
EC80 1000P/50V_4
EC54 1000P/50V_4
AGND
Close to CODEC
place to near U24 or under U24
R618 *0_8/S
AGND

10,33,38 +1.5V
+3V
+5V
6,7,8,9,10,11,12,13,18,19,20,23,24,26,27,28,29,30,31,33,34,39,40,41
24,26,29,30,31,32,33,40

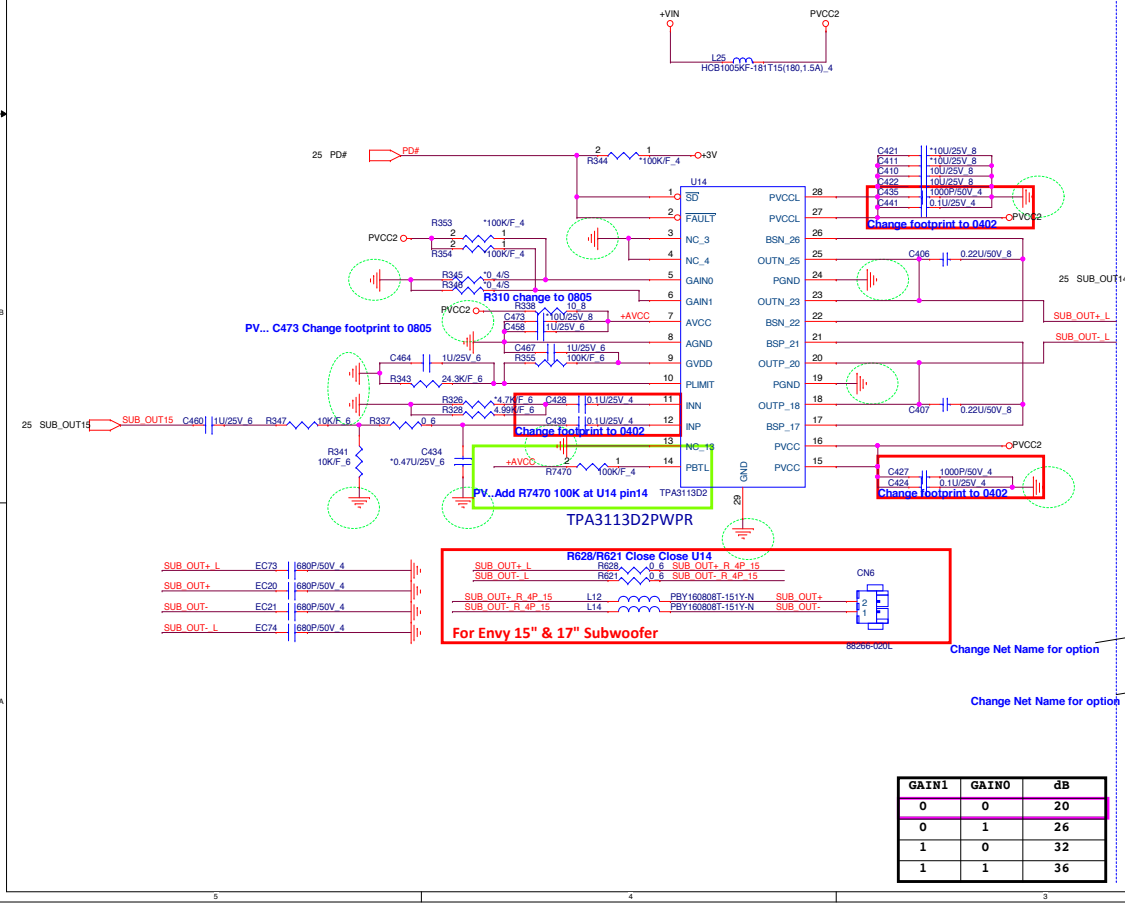
NB5

PROJECT : Y11C
Quanta Computer Inc.
Size Custom | Document Number Audio Codec | Rev 1A
Date: Wednesday, April 02, 2014 | Sheet 25 of 44

Head Phone out

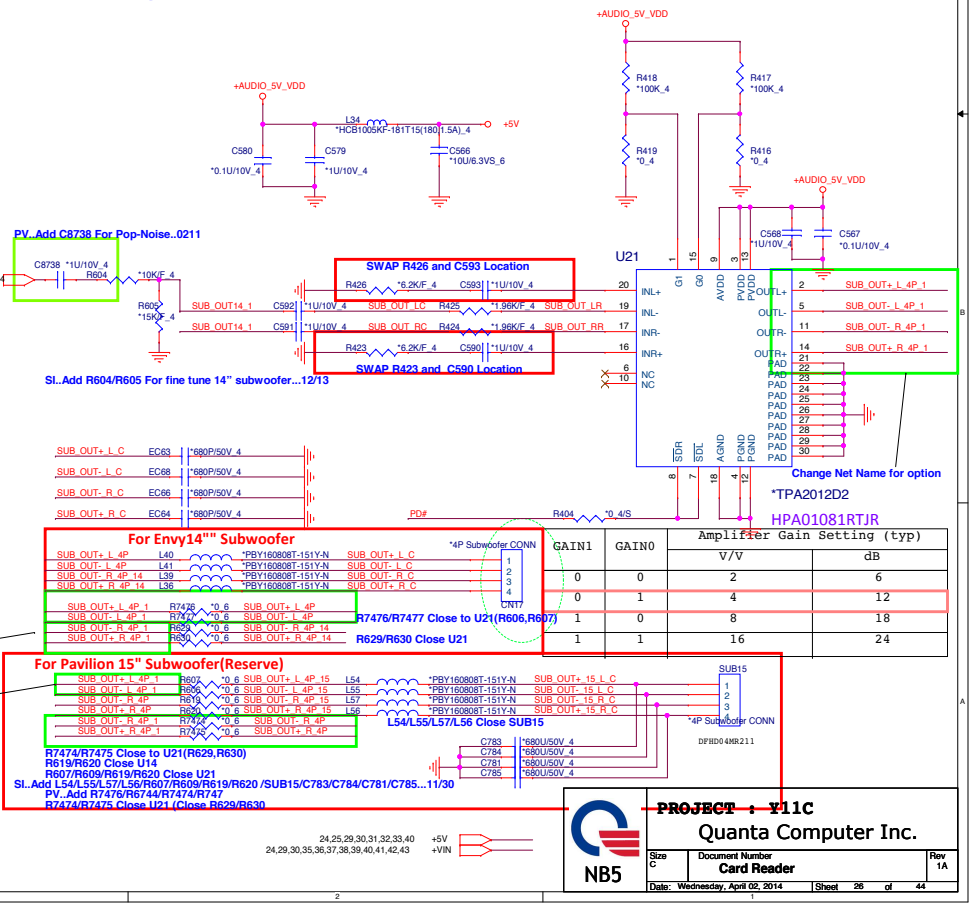


For Envy 15" & 17" Subwoofer



GAIN1	GAIN0	dB
0	0	20
0	1	26
1	0	32
1	1	36

For Pavilion 15" Subwoofer(Reserve)
For Envy14"" Subwoofer

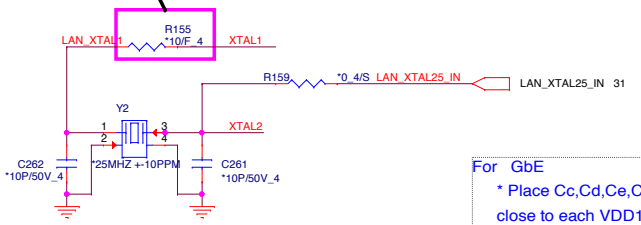


GAIN1	GAIN0	Amplifier Gain Setting (typ) V/V	dB
0	0	2	6
0	1	4	12
1	0	8	18
1	1	16	24

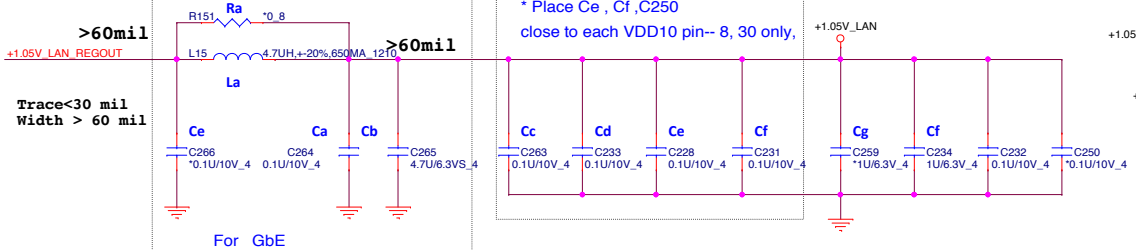
PROJECT : Y11C
Quanta Computer Inc.
NB5
Size C | Document Number Card Reader | Rev 1A
Date: Wednesday, April 02, 2014 | Sheet 26 of 44

Green Clk

For EMI 0 ~ 22 ohm



Power trace Layout 寬度> 60mil



For GbE
Stuff La, Ca ,Cb

For 10/100
NA: La, Ca ,Cb
STUFF : Ra, Ce

For GbE
* Place Cc,Cd,Ce,Cf,C232
close to each VDD10 pin-- 3, 22, 8 , 30

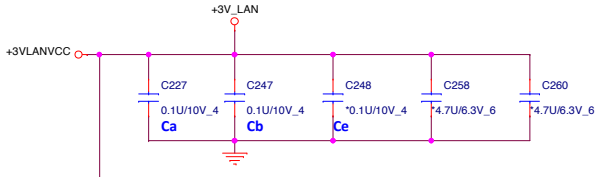
For 10/100 NA Ce,Cf
* Place Ce , Cf ,C250
close to each VDD10 pin-- 8, 30 only,

For GbE
* Place Cf close to each VDD10 pin-- 22 (reserve)

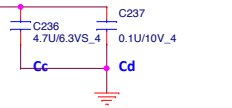
For 10/100
* Place Cg close to each VDD10 pin-- 30 (reserve)

For 10/100
* Stuff Cb and Ce only, close to each VDD33 pin-- 23, 32

For GIGA
* Stuff Ca and Cb only, close to each VDD33 pin-- 11, 32



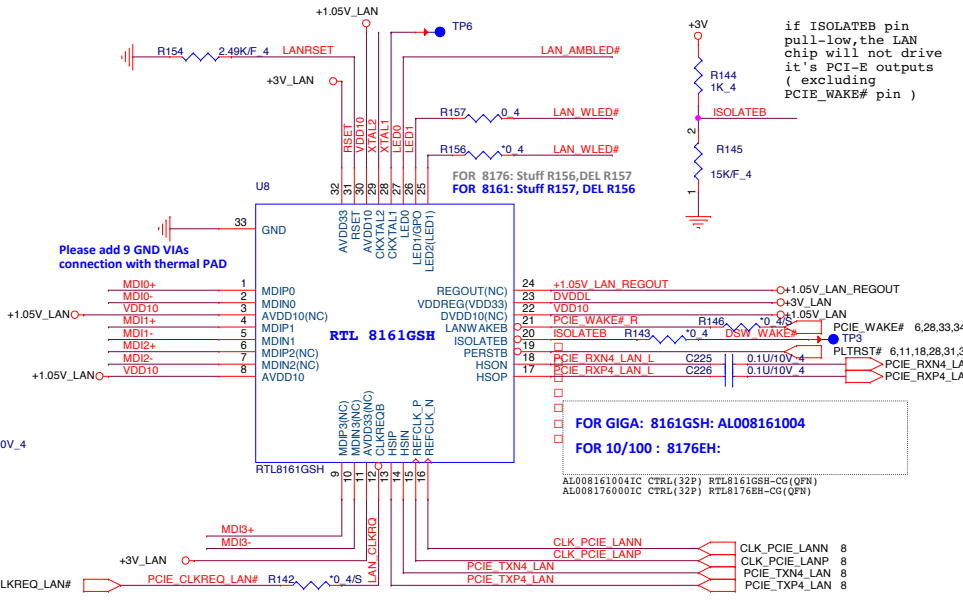
* Place Cc and Cd close to each VDD33 pin-- 23

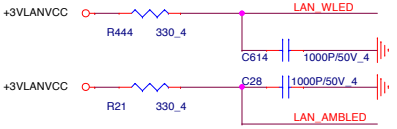


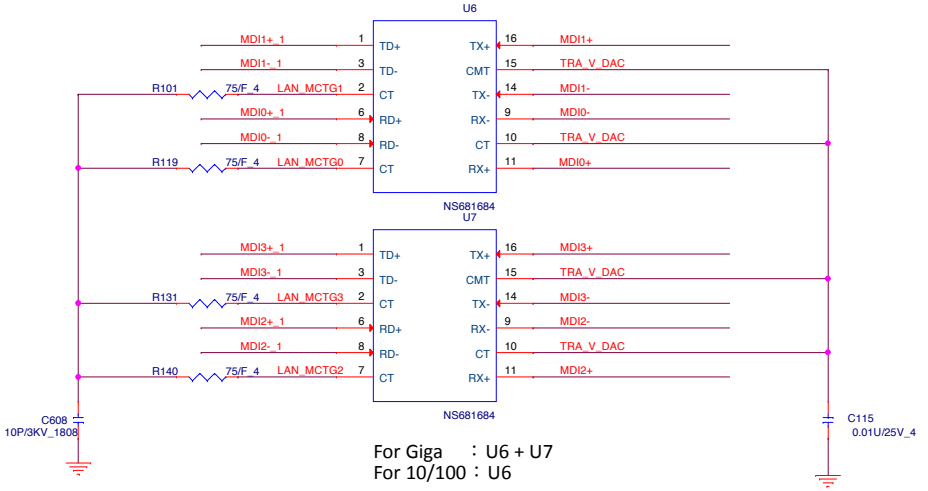
For GIGA
Stuff Cc ,Cd

For 10/100
NA: Cc, Cd

Remove For Not Using SWR mode

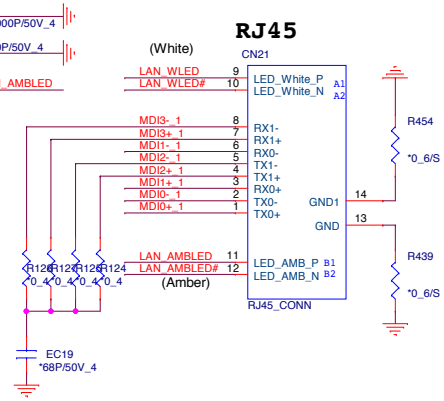






For Giga : U6 + U7
For 10/100 : U6

RJ45



FCE :NS892408 ,DB0EF7LAN01

6,7,8,9,10,11,12,13,18,19,20,23,24,25,26,28,29,30,31,33,34,39,40,41 +3V
31,40 +3VLANVCC

NB5	PROJECT : Y11C Quanta Computer Inc.	
Size: Custom	Document Number: LAN RTL8161GSH /RJ45 conn	Rev: 1A
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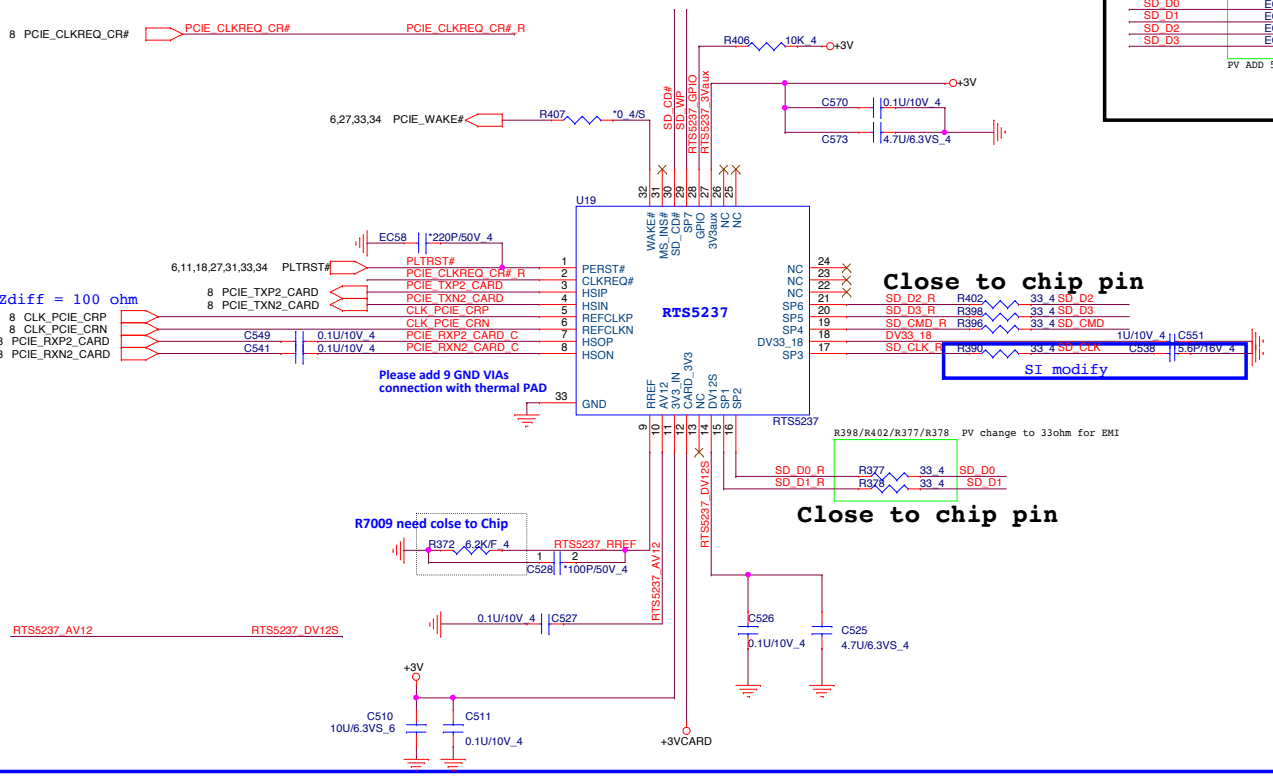
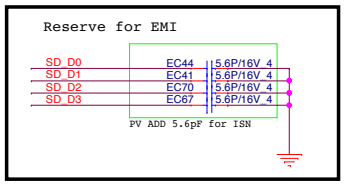
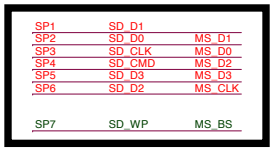
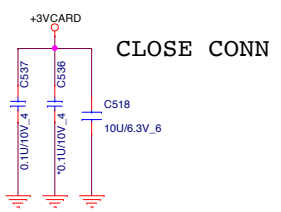




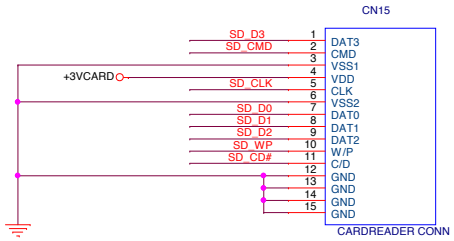


Share Pin

SD / MMC

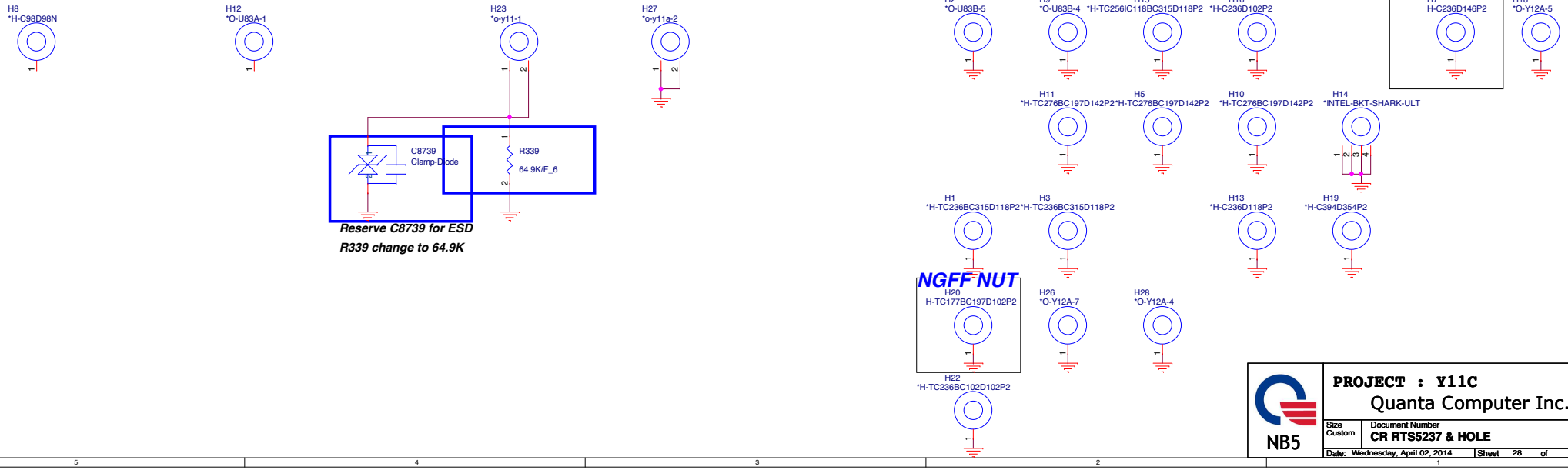


CARD READER



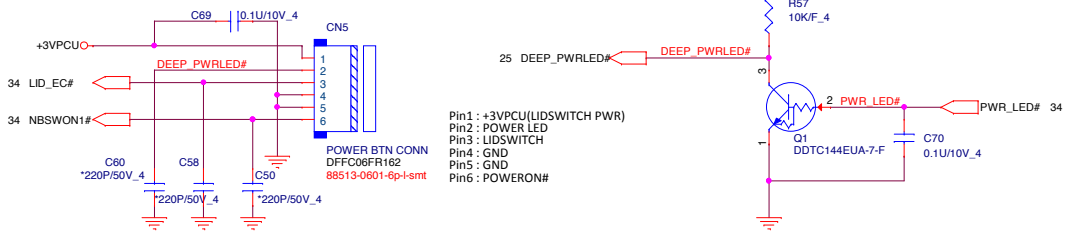
R6x Type

Thermal Nut

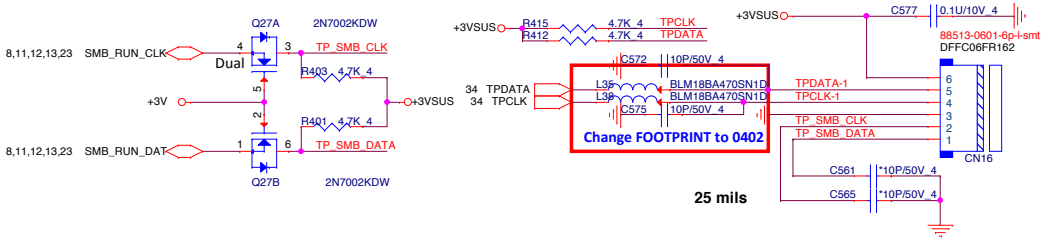


NB5	PROJECT : Y11C Quanta Computer Inc.	
Size Custom	Document Number CR RTS5237 & HOLE	Rev 1A
Date: Wednesday, April 02, 2014	Sheet 28 of 44	

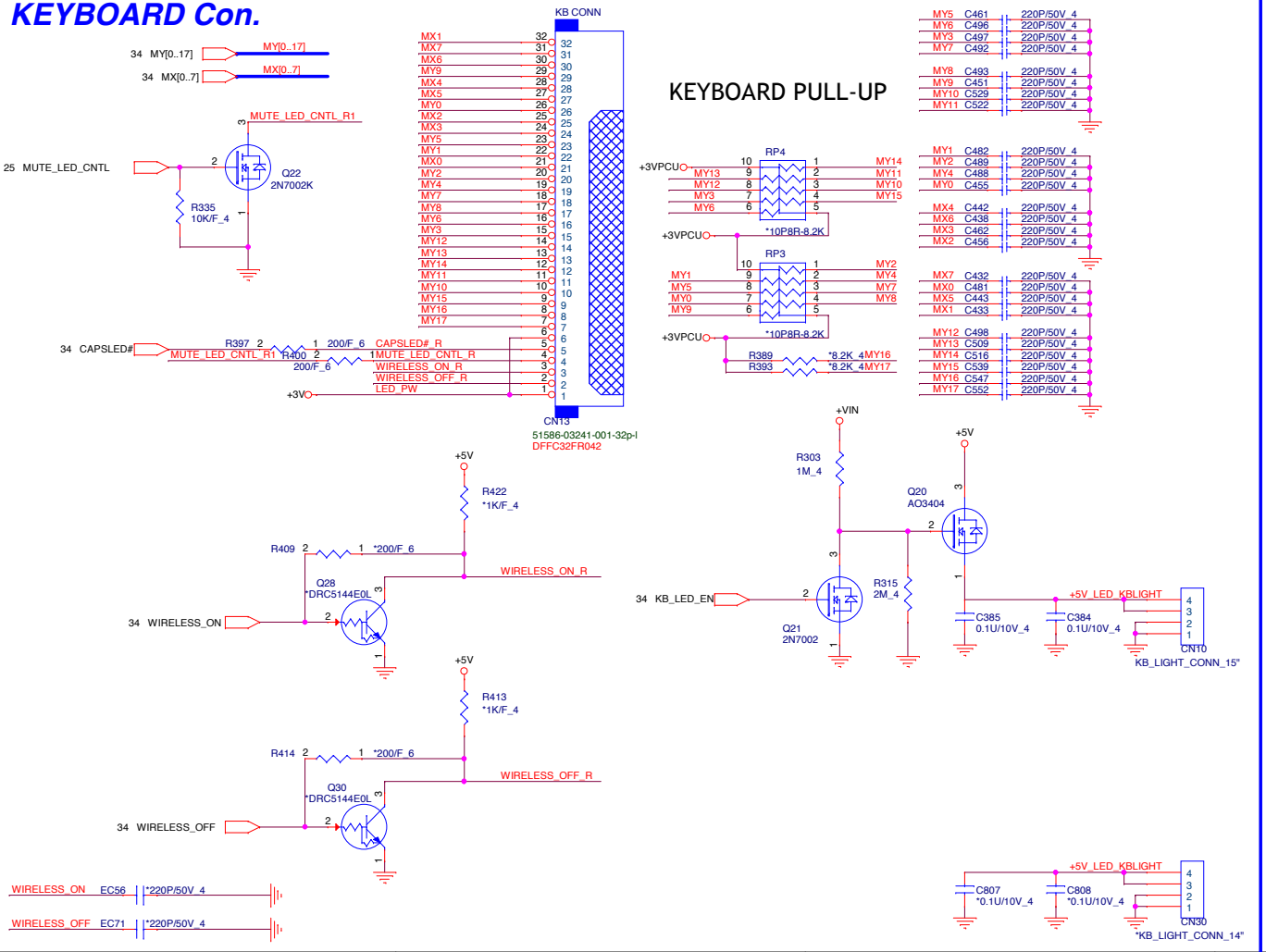
Power Botton Connector



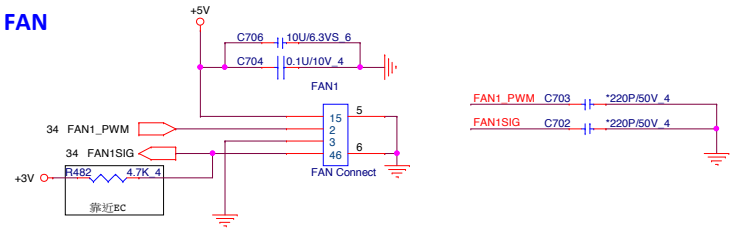
Touch Pad Connector

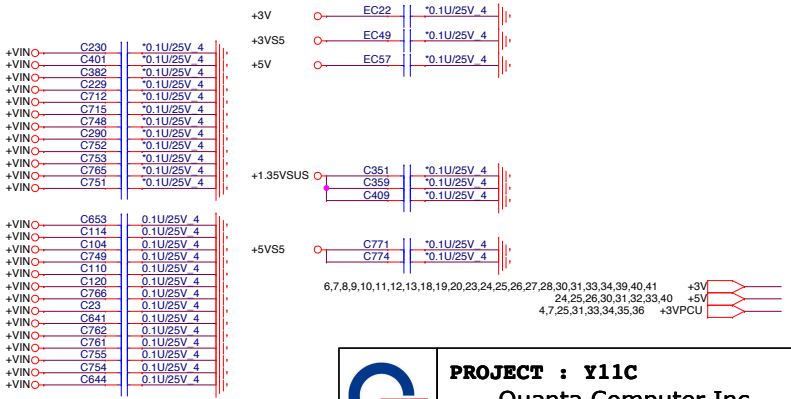


KEYBOARD Con.



FAN





NB5

PROJECT : Y11C

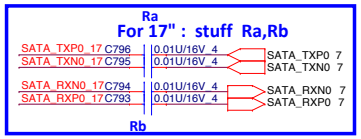
Quanta Computer Inc.

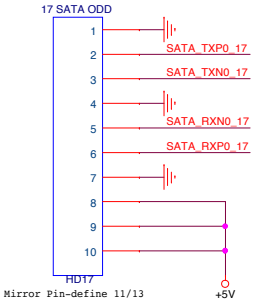
Size	Document Number	Rev
Custom	PB/TP/KB/FAN/EMI Cap	1A

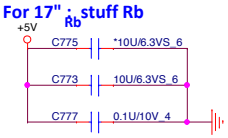
Date: Wednesday, April 02, 2014 Sheet 29 of 44

HDD

SATA HDD Connector(Cable type) 15.6"

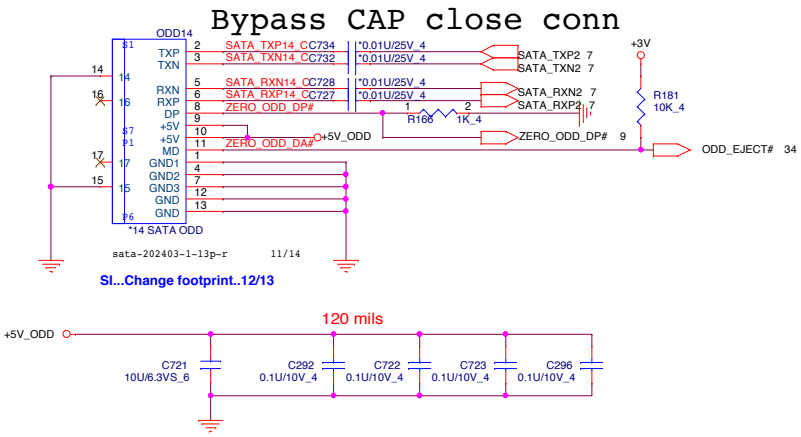






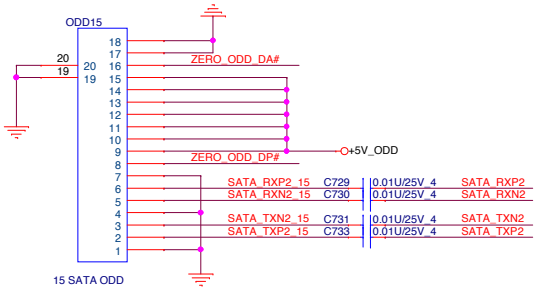
SATA ODD CONNECTOR

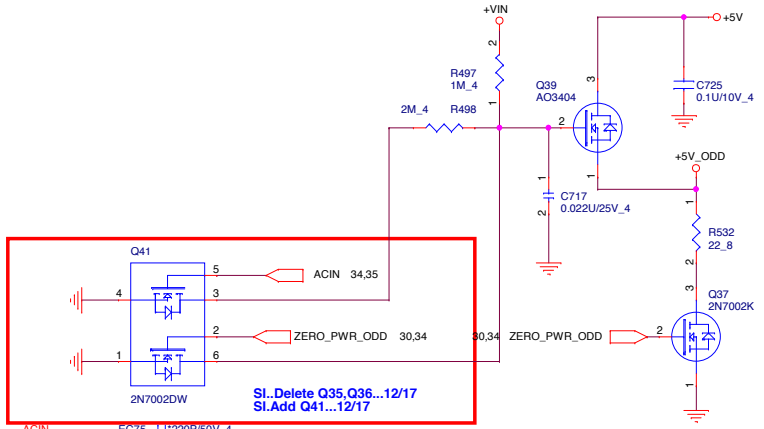
14" SATA ODD



SI...Change footprint..12/13

15" SATA ODD





High : ODD power down
Low : ODD power on

NB5

PROJECT : Y11C
Quanta Computer Inc.

Size	Document Number	Rev
Custom	HDMI	1A

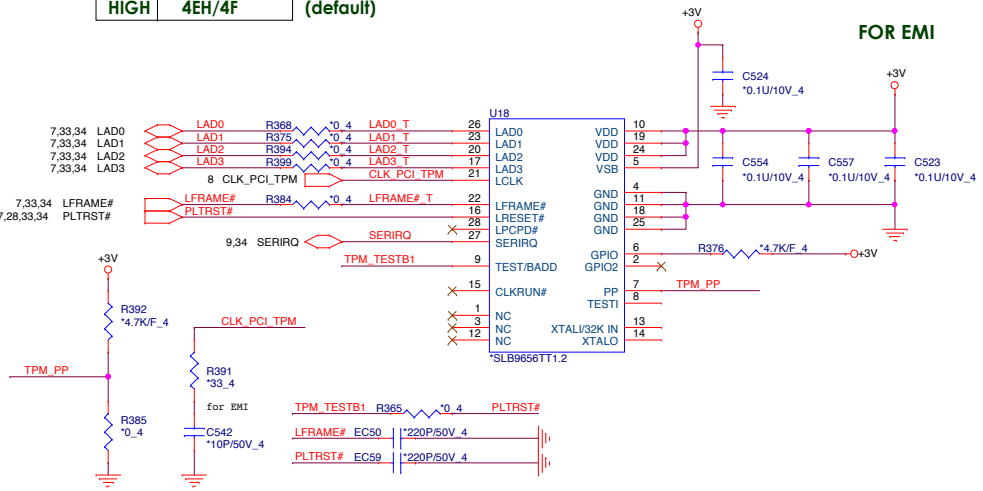
Date: Wednesday, April 02, 2014 Sheet 30 of 44

TPM (1.2)

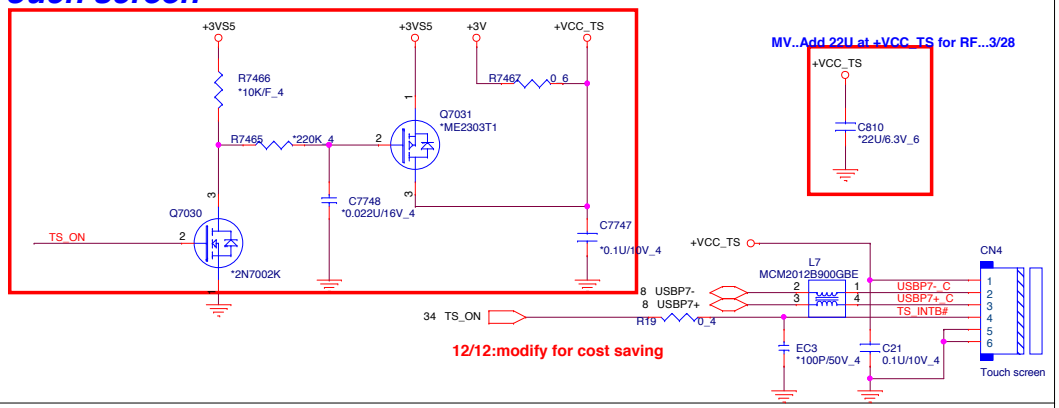
Address

	BADD
HIGH	4EH/4F (default)

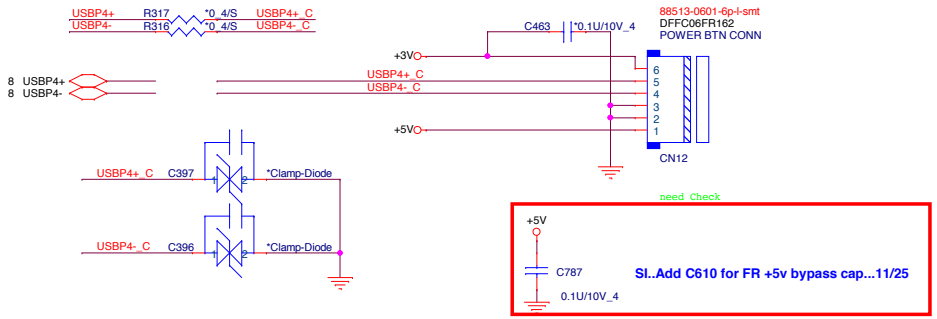
FOR EMI



Touch screen

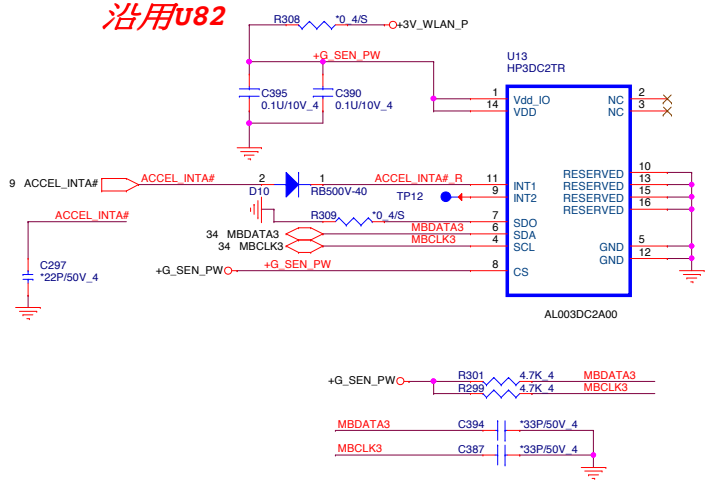


Fingerprint Conn



Accelerometer Sensor

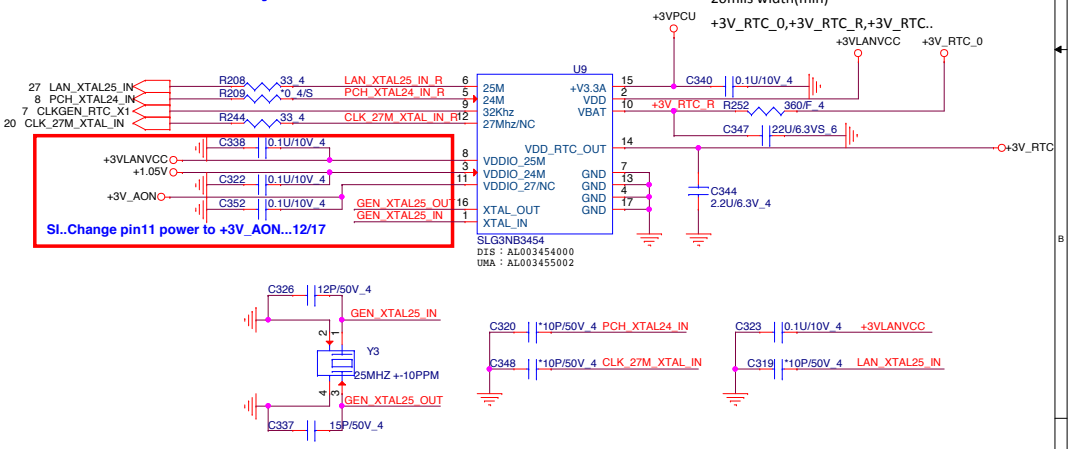
沿用U82



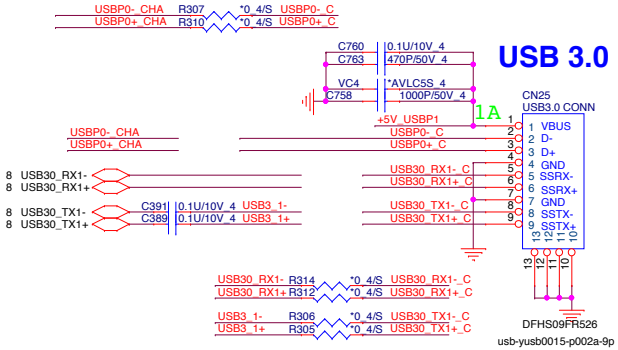
Green CLK Circuitry

20mils width(min)

+3V_RTC_0,+3V_RTC_R,+3V_RTC..

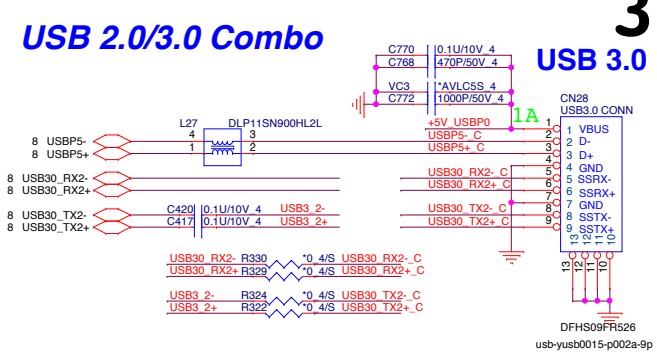


USB 3.0



USB 2.0/3.0 Combo

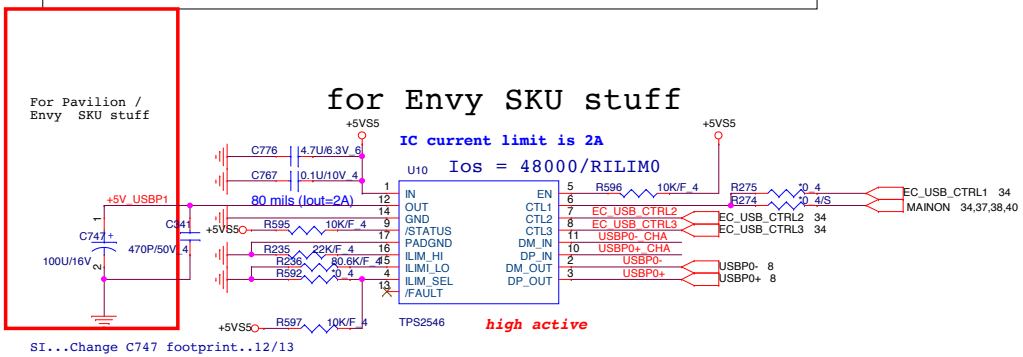
USB 3.0



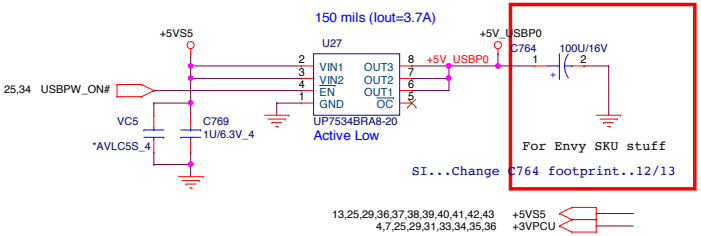
if Envy SKU,non-staff

for Envy SKU stuff

For Pavilion / Envy SKU stuff



SI...Change C747 footprint..12/13



Right-Side USB3.0 Re-Driver

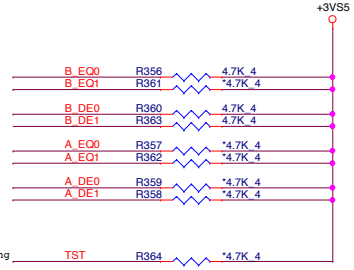
DFFC08FR016

AEQ 9.5db / ADE 3.5db

BEQ 13db / BDE 5db / REXT 5.36K

A_EQ1 / B_EQ1	A_EQ0 / B_EQ0		A_DE1 / B_DE1	A_DE0 / B_DE0	
0	0	9.5dB	0	0	3.5dB
0	1	13dB	0	1	no de-emphasis
1	0	4.5dB	1	0	2.7dB
1	1	7.5dB	1	1	5dB

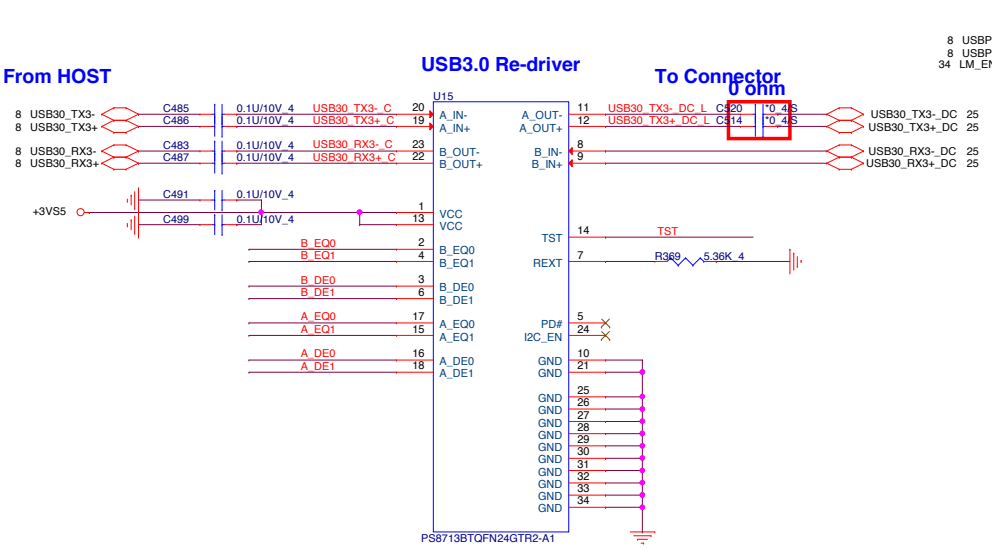
TST : Low = Normal LFPS swing / Hight =Turn down LFPS swing

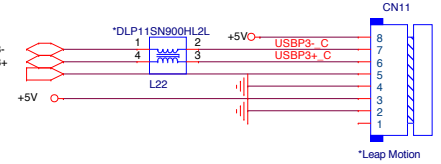


From HOST

USB3.0 Re-driver

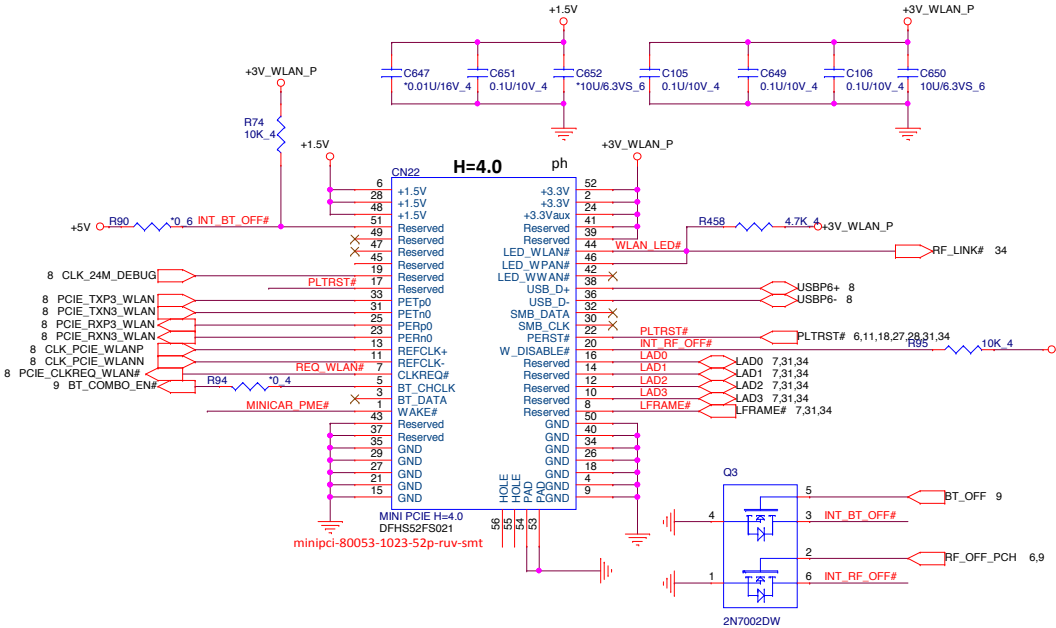
To Connector

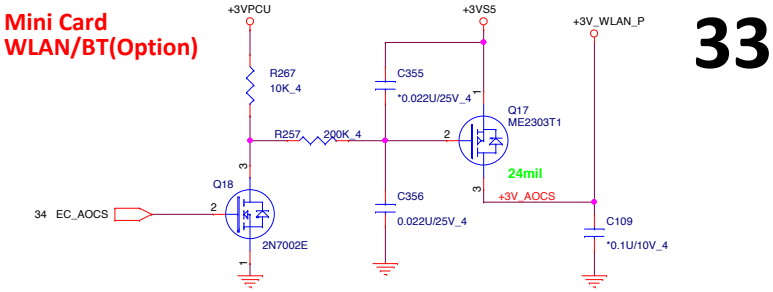




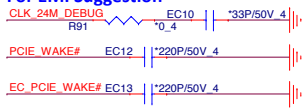
NB5	PROJECT : Y11C Quanta Computer Inc.		
Size: Custom	Document Number: USB 3.0		Rev: 1A
Date: Wednesday, April 02, 2014	Sheet 32 of 44		

Mini Card WLAN/BT(Option)

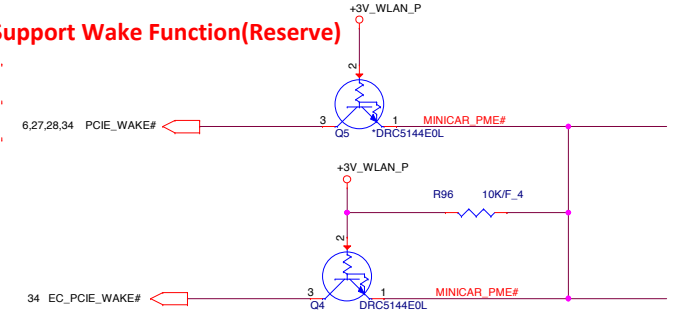




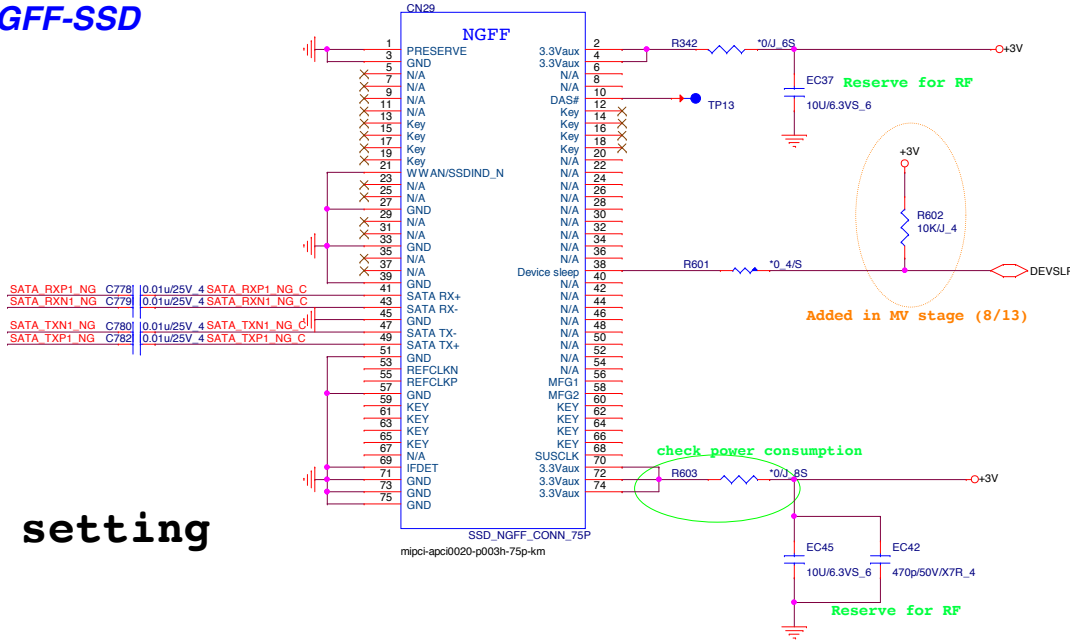
For EMI Suggestion

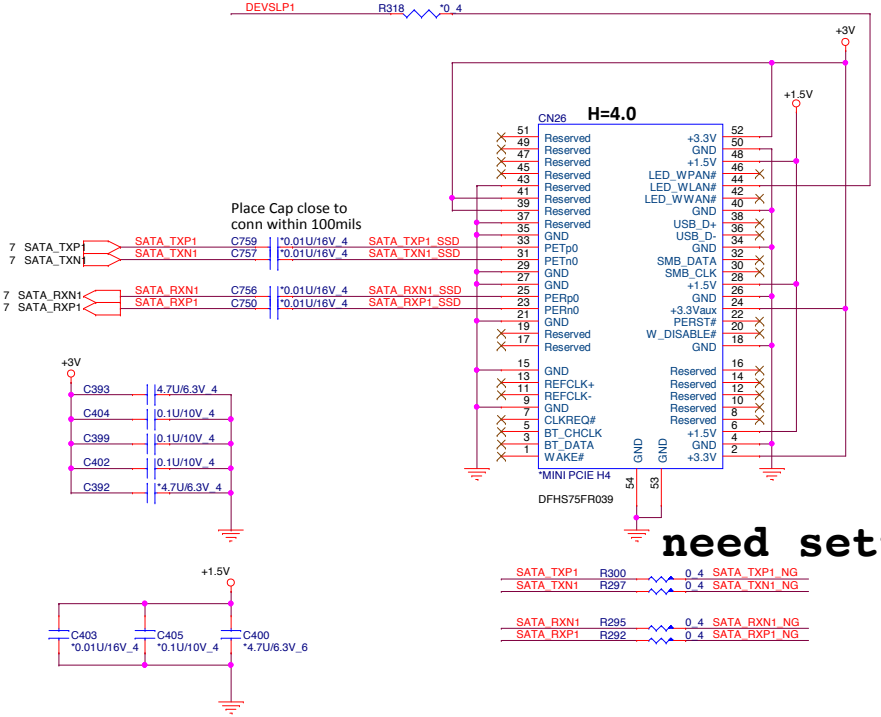


Support Wake Function(Reserve)



NGFF-SSD





need setting

need setting

6,7,8,9,10,11,12,13,18,19,20,23,24,25,26,27,28,29,30,31,34,39,40,41 +3V
24,25,26,29,30,31,32,40 +5V
4,7,25,29,31,34,35,36 +3VPCU

NB5

PROJECT : Y11C

Quanta Computer Inc.

Size	Document Number	Rev
Custom	WLAN/NGFF/MSATA	1A

Date: Wednesday, April 02, 2014 Sheet 33of 44

申請料號中

IT8987

LPC
GPIO
PS/2
SM_BUS
UART
FLASH
PWM
KBMX
WAKE UP
A/D D/A
CLOCK

AJ089870F01
IT8987E/AX

H_PECI (50ohm)
Route on microstrip only
Spacing >18 mils
Trace Length: 0.4~6.125 iches

ACin reserve one of Varister loaction ...MV 3/24

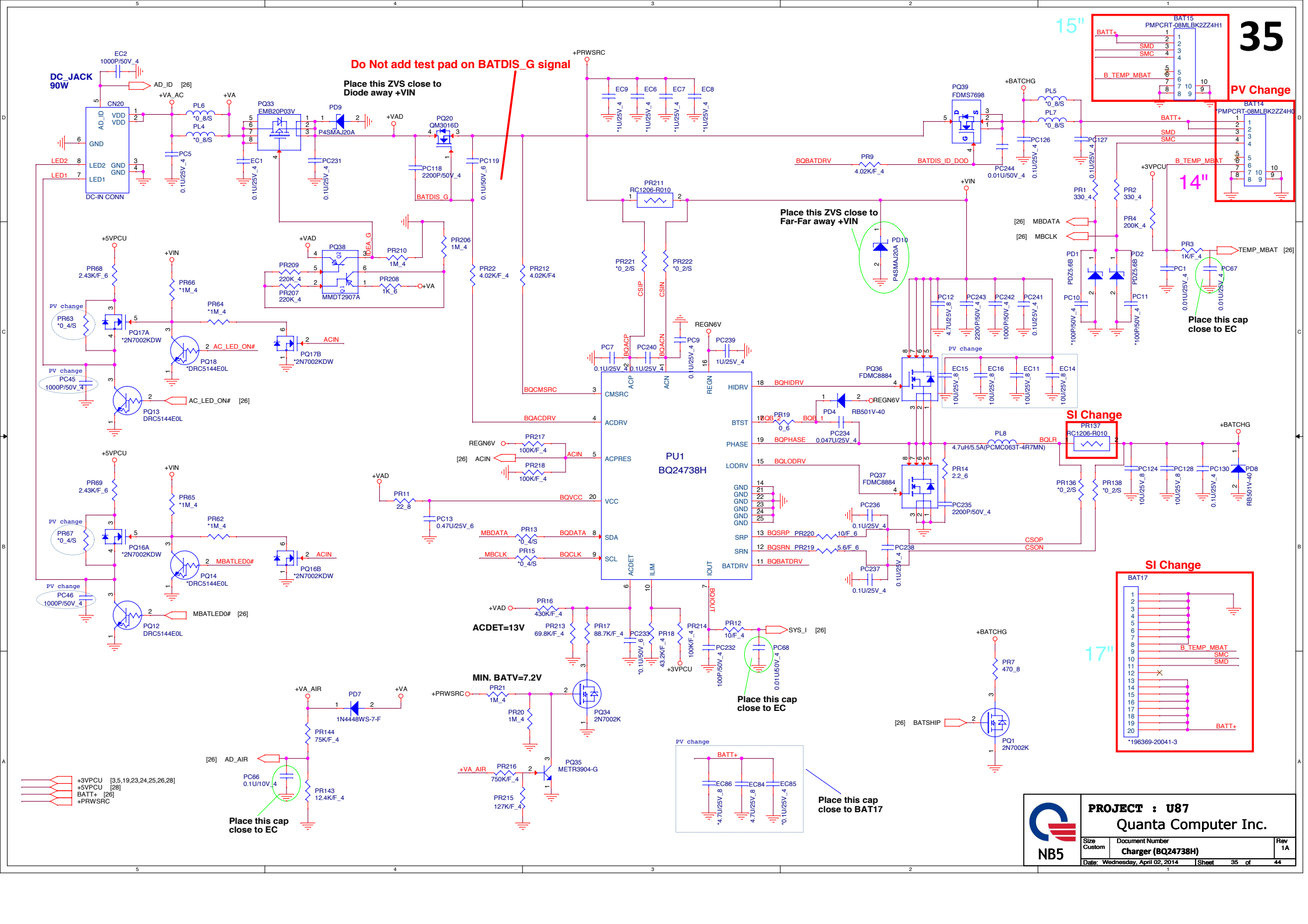
For Gsensor
For GPU thermal
for Battery charge/charge
for DDR Thermal IC
For Touch-Pad

Open Drain need pu high

Adapter select for EC
DIS Hi ==> (90W)
UMA Low ==>(65W)

adapter Type check
Change to 1SS355 as Current loss

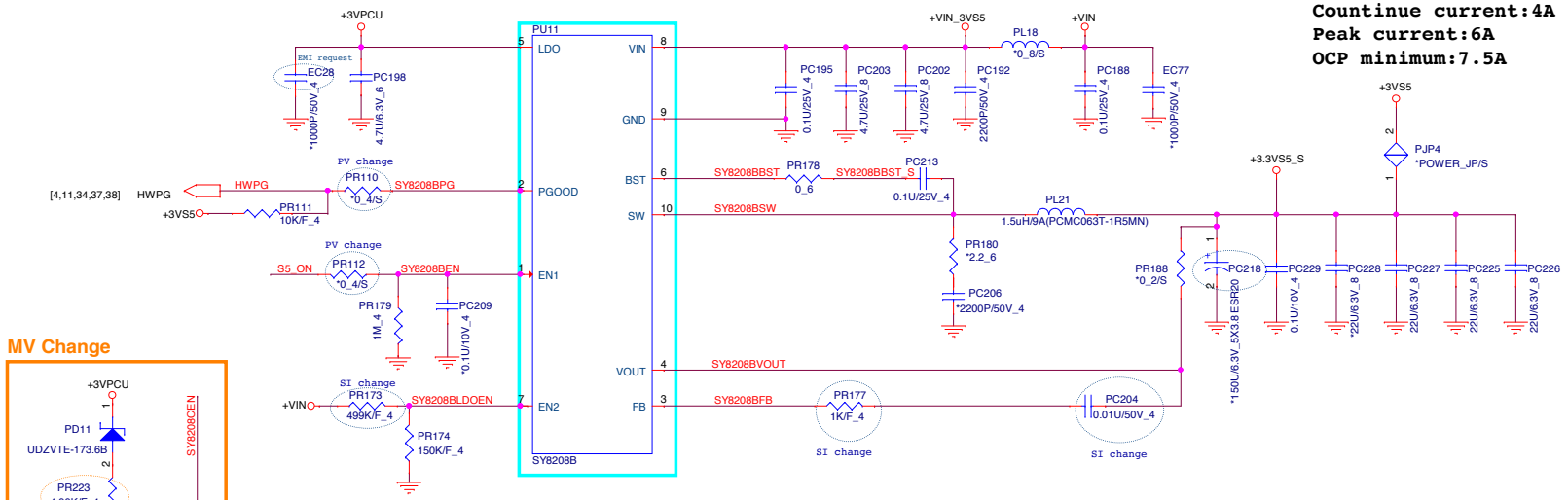
PROJECT : Y11C
Quanta Computer Inc.
NB5
Size: Custom
Document Number: WLAN/G-Sensor/G-CLK/TS
Rev: 1A
Date: Wednesday, April 02, 2014
Sheet: 34of 44


35
15"
14"
17"
PV Change
SI Change
SI Change
Do Not add test pad on BATDIS_G signal
Place this ZVS close to Diode away +VIN
Place this ZVS close to Far-Far away +VIN
Place this cap close to EC
Place this cap close to EC
Place this cap close to EC
Place this cap close to BAT17
DC_JACK 90W
DC-IN CONN
PU1 BQ24738H
ACDET=13V
MIN. BATV=7.2V
+3VPCU [3,5,19,23,24,25,26,28]
+5VPCU [28]
BATT+ [26]
+PRWSRC
NB5
PROJECT : U87
Quanta Computer Inc.
Charger (BQ24738H)
Size Custom
Rev 1A
Date: Wednesday, April 02, 2014
Sheet 35 of 44

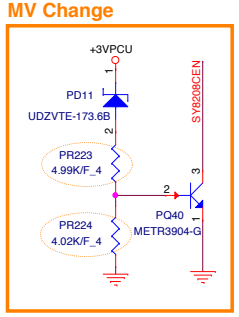
DC/DC +3VS5/+5VS5

+3.3 Volt +/- 5%
Countinue current:4A
Peak current:6A
OCP minimum:7.5A

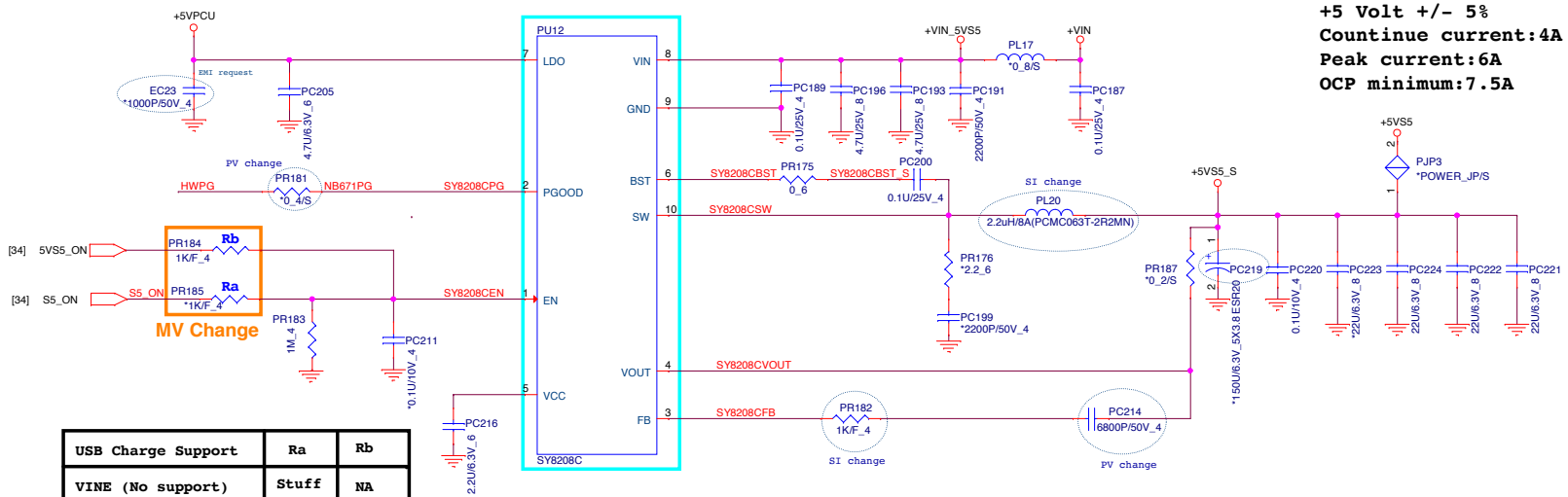
+3VS5 [6,7,9,10,11,25,29,32,33,38,40,43]
+5VS5 [13,25,29,32,37,38,39,40,41,42,43]



MV Change



+5 Volt +/- 5%
Countinue current:4A
Peak current:6A
OCP minimum:7.5A

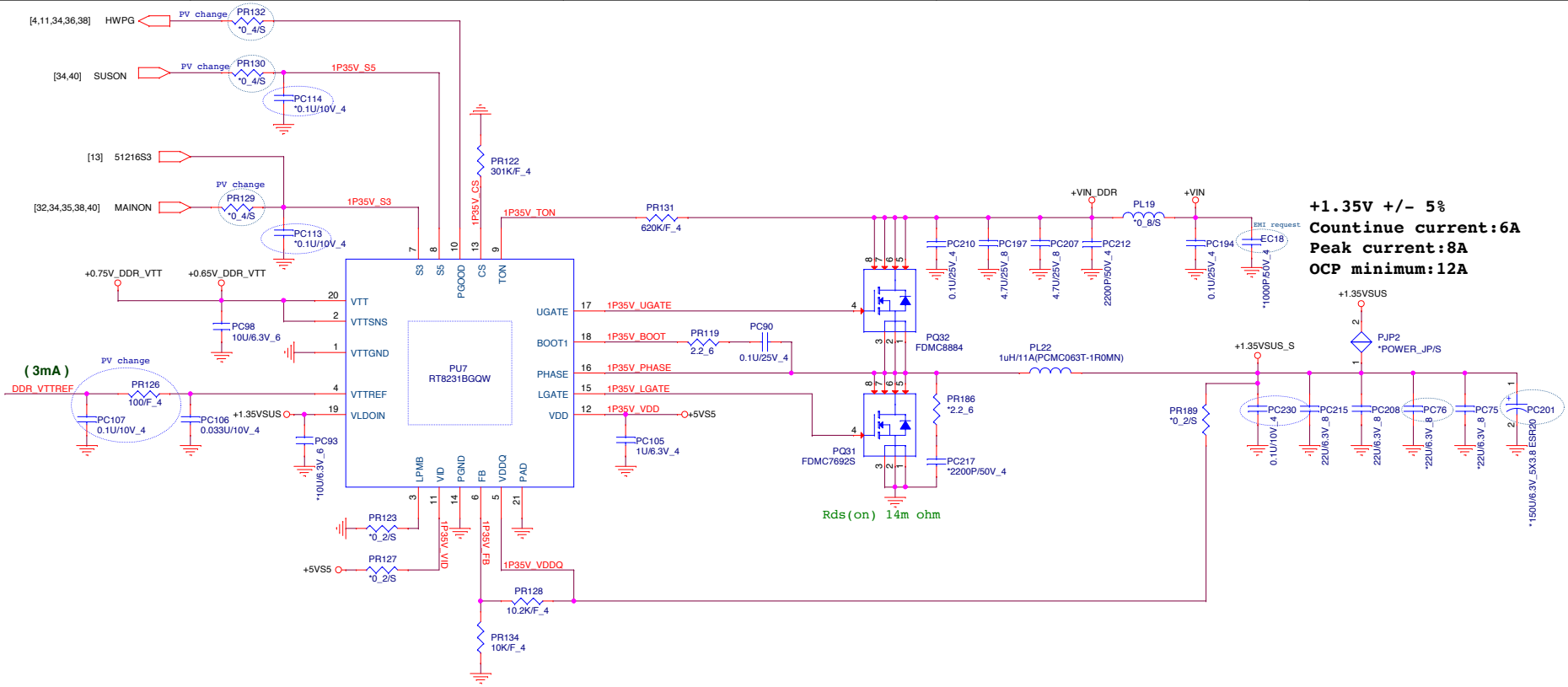


USB Charge Support	Ra	Rb
VINE (No support)	Stuff	NA
ENVY (Support)	NA	Stuff

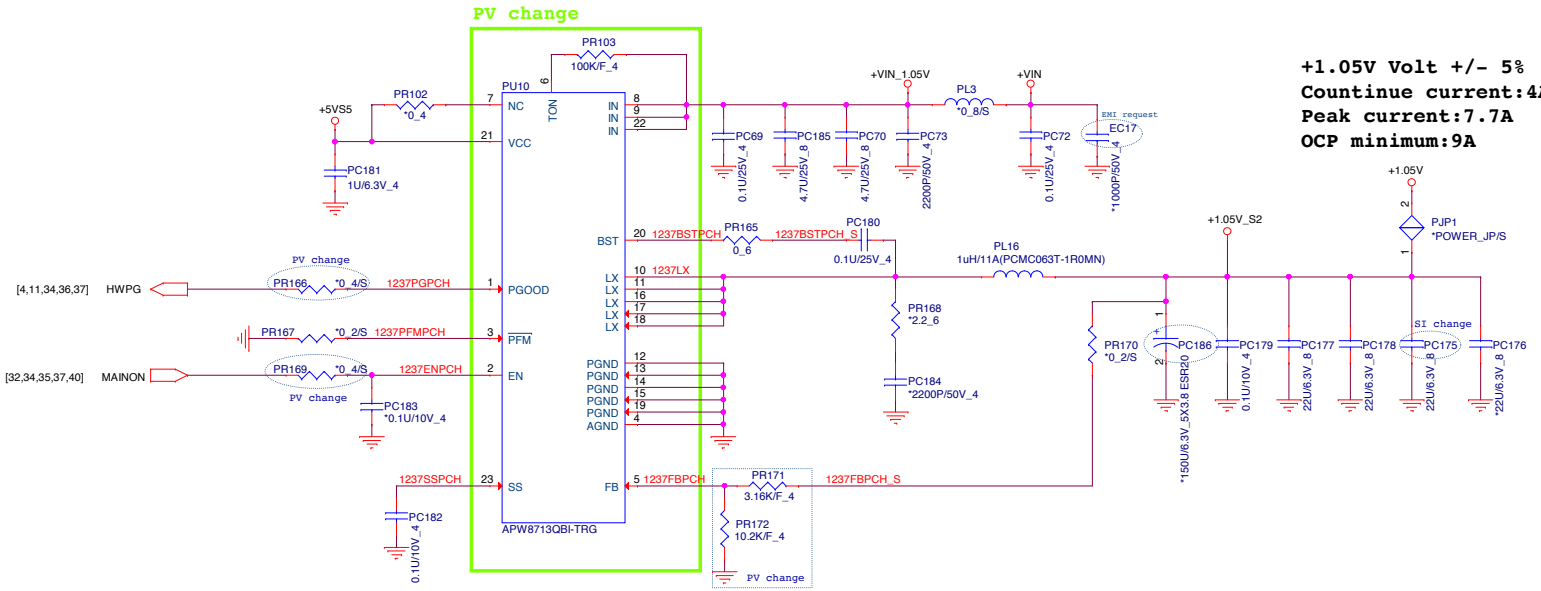
NB5

PROJECT : R63
Quanta Computer Inc.

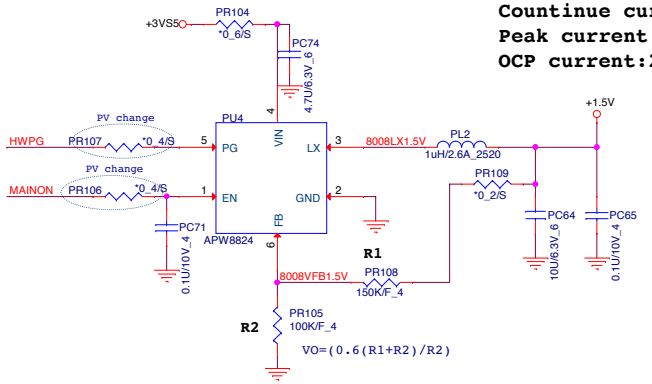
Size	Document Number	Rev
Custom	3/5VPCU(RT8243A)	1A
Date: Wednesday, April 02, 2014	Sheet 36 of 44	



NB5	PROJECT : Y02 Quanta Computer Inc.	
Size: Custom	Document Number: DDR3 (RT8231A)/1.8VS5	Rev: 1A
Date: Wednesday, April 02, 2014	Sheet 37 of 44	



+1.05V Volt +/- 5%
Countinue current:4A
Peak current:7.7A
OCP minimum:9A



+1.5V +/- 5%
Countinue current:1.3A
Peak current:1.5A
OCP current:2A

+VIN [24,26,29,30,35,36,37,39,40,41,42,43]
+3VS5 [6,7,9,10,11,25,29,32,33,36,40,43]
+5VS5 [13,25,29,32,36,37,39,40,41,42,43]

PROJECT : U63
Quanta Computer Inc.

Size	Document Number	Rev
Custom	+1.1VS5 (RT8228)/2.5V	1A
N85/RD3	Date: Wednesday, April 02, 2014	Sheet 38 of 44

Place close to inductor

POP Rb and no POP Ra for nex version.

Boot Voltage Table	
R_boot	V_boot
30.1K	0V
49.9K	1.65V
69.8K	1.7V
90.9K	1.75V

Place close to MOSFET

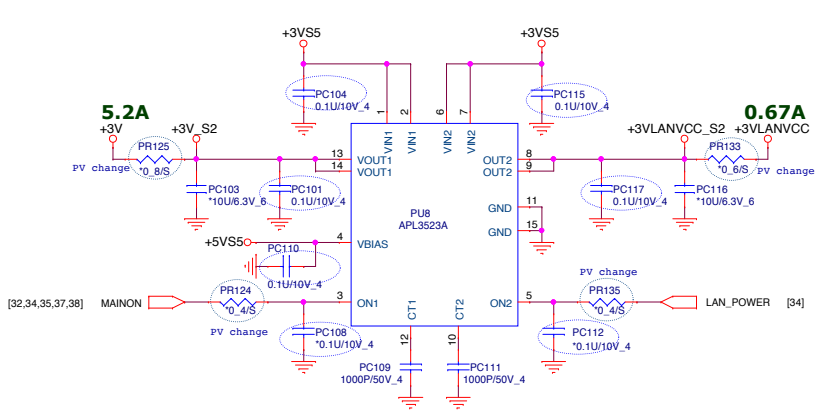
POP for 28W CPU

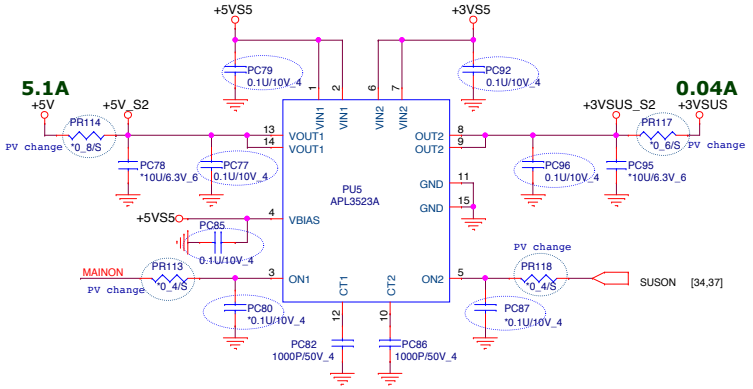
15W
Icc_Max=32A
I_TDC=14A
I_Dynamic=27A
V_Operate=1.6V~1.8V
DC_LL=2m
AC_LL=7m
AC_LL_VOS=9.4m
VBOOT=1.7V

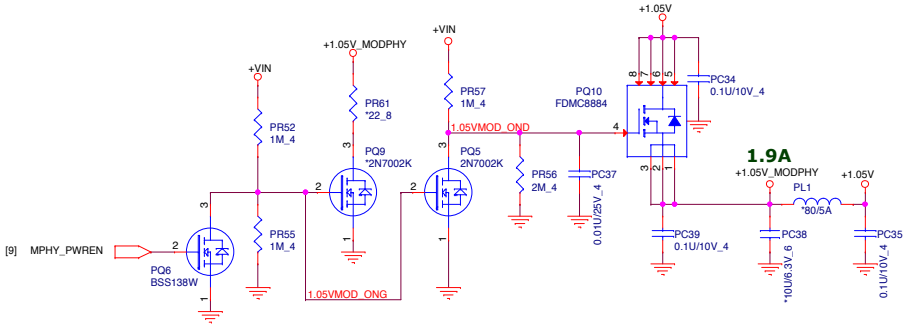
28W
Icc_Max=40A
I_TDC=19A
I_Dynamic=27A
V_Operate=1.6V~1.8V
DC_LL=2m
AC_LL=7m
AC_LL_VOS=9.4m
VBOOT=1.7V

PROJECT :U83
Quanta Computer Inc.

Size	Document Number	Rev
Custom	CPU Core (NCP81101)ULT	1A
Date: Wednesday, April 02, 2014	Sheet 39 of 44	







[6,7,8,9,10,11,12,13,14,17,18,23,24,25,26,27,28,29,30,31,33,34,39,41] +3V
[24,25,26,29,30,31,32,33] +5V
[24,26,29,30,35,36,37,38,39,41,42,43] +VIN
[6,7,9,10,11,25,29,32,33,36,38,43] +3VS5
[13,25,29,32,36,37,38,39,41,42,43] +5VS5
[27,31] +3VLANVCC

PROJECT :U83
Quanta Computer Inc.

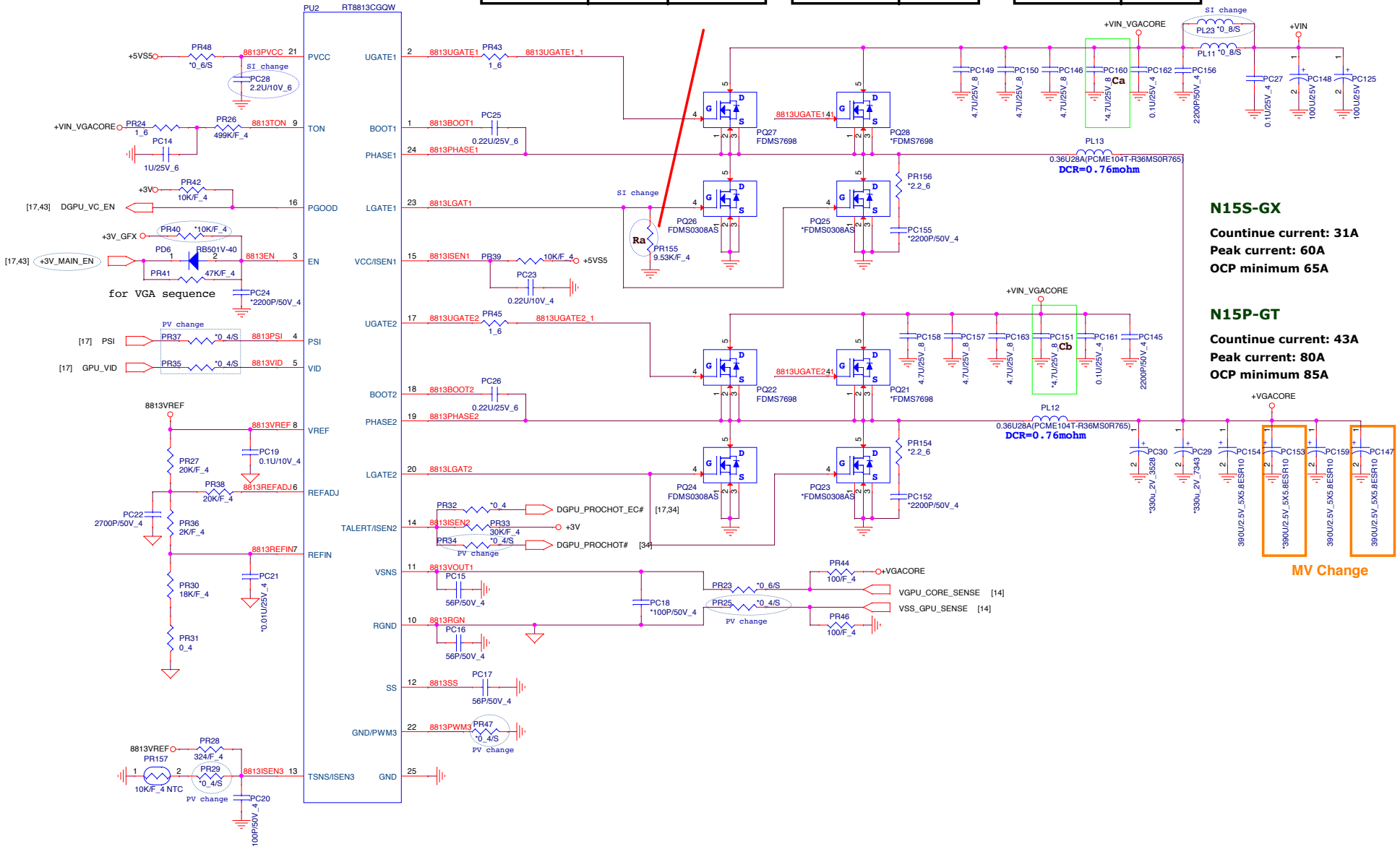
Size	Document Number	Rev
Custom	Dis-charge IC (SLG55448)	1A
Date: Wednesday, April 02, 2014	Sheet 40 of 44	

VGA Core

VGA TYPE	Ra Value	P/N
N15S-GX (25W)	9.53K	CS29532FB10
N15P-GT (35W)	12.4K	CS31242FB13

VGA TYPE	MOSFET
N15S-GX (25W)	1H1L
N15P-GT (35W)	2H2L

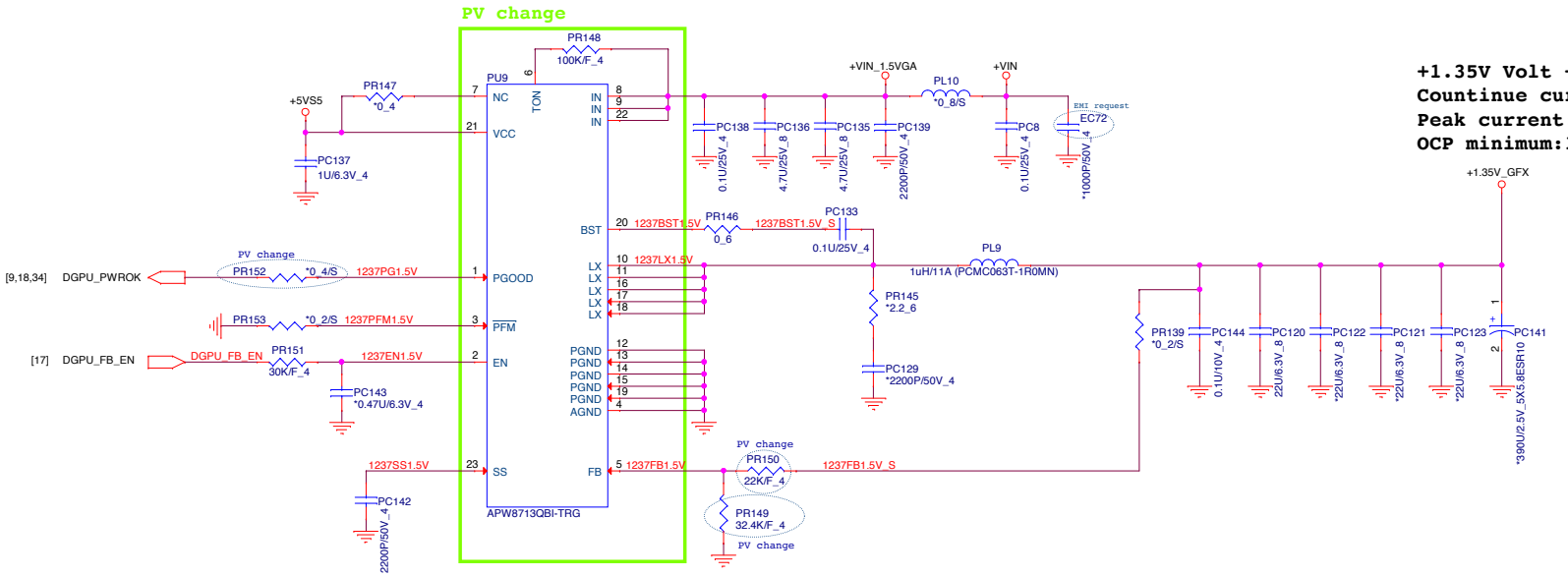
VGA TYPE	Ca, Cb
N15S-GX (25W)	No stuff
N15P-GT (35W)	Stuff



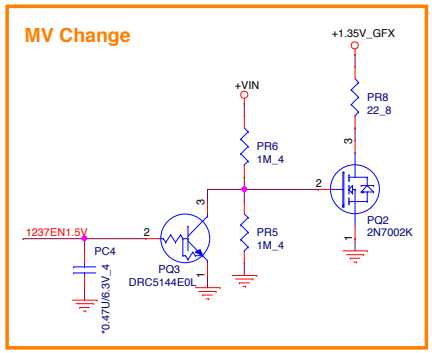
PROJECT :U83
Quanta Computer Inc.

Size	Document Number	Rev
Custom	+VGACORE (RT8813A)	1A

Date: Wednesday, April 02, 2014 Sheet 41 of 44



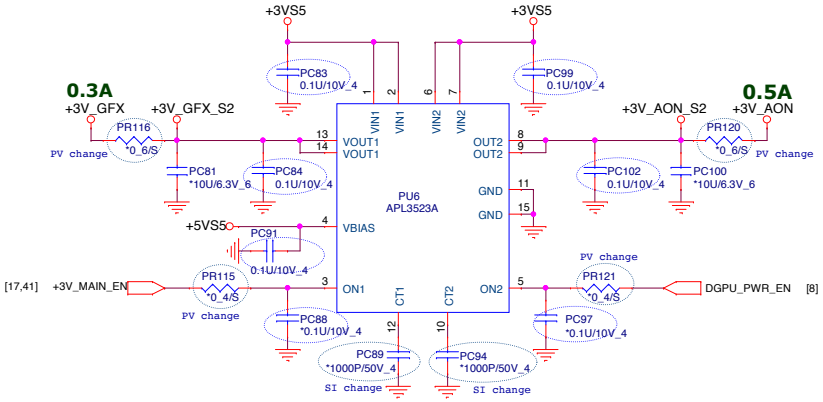
+1.35V Volt +/- 5%
Countinue current:6A
Peak current:8A
OCP minimum:12A

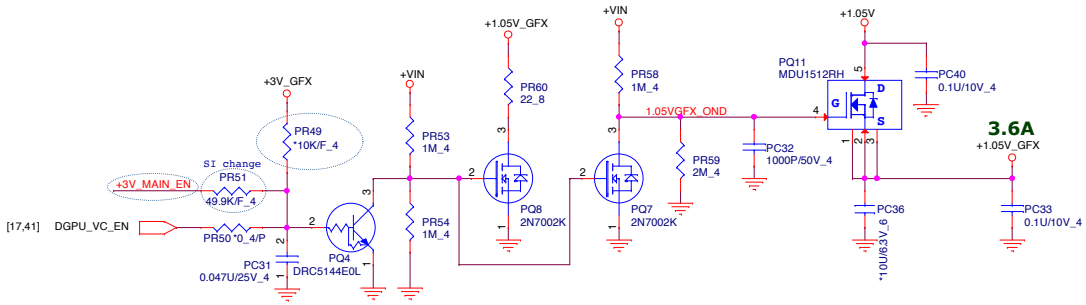


PROJECT :U83
Quanta Computer Inc.

Size	Document Number	Rev
Custom	+1.35V_VGA(AOZ1237)	1A

Date: Wednesday, April 02, 2014 Sheet 42 of 44





PROJECT :U83
Quanta Computer Inc.

Size	Document Number	Rev
Custom	1.05V_VGA/3V_VGA	1A
Date: Wednesday, April 02, 2014	Sheet 43 of 44	

Battery Connector	Pavillion	ENVY
14"	DFAD08MR063	DFAD08MR064
15"	DFAD08MR065	DFAD08MR066
17"	DFFC20FR081	DFFC20FR081

USB Charge Support	PR185	PR184
Pavillion	Stuff	NA
ENVY (USB charge)	NA	Stuff

UMA	Disable Page 41、42、43 ,but keep below location
Page 41	PC161、PC162
Page 42	PC138、PC144、PC4、PC148
Page 43	PC84、PC102、PC88、PC97、PC40、PC33

Discrete	Location	Part Number
N15S (25W)	PR155	CS29532FB10
	PC151、PC160	NA
	PQ21、PQ23、PQ25、PQ28	NA
N15P (35W)	PR155	CS31242FB13
	PC151、PC160	Stuff
	PQ21、PQ23、PQ25、PQ28	Stuff

Title: <Title>		
Size: A	Document Number: <Doc>	Rev: <RevCode>
Date: Wednesday, April 02, 2014	Sheet 44 of 44	