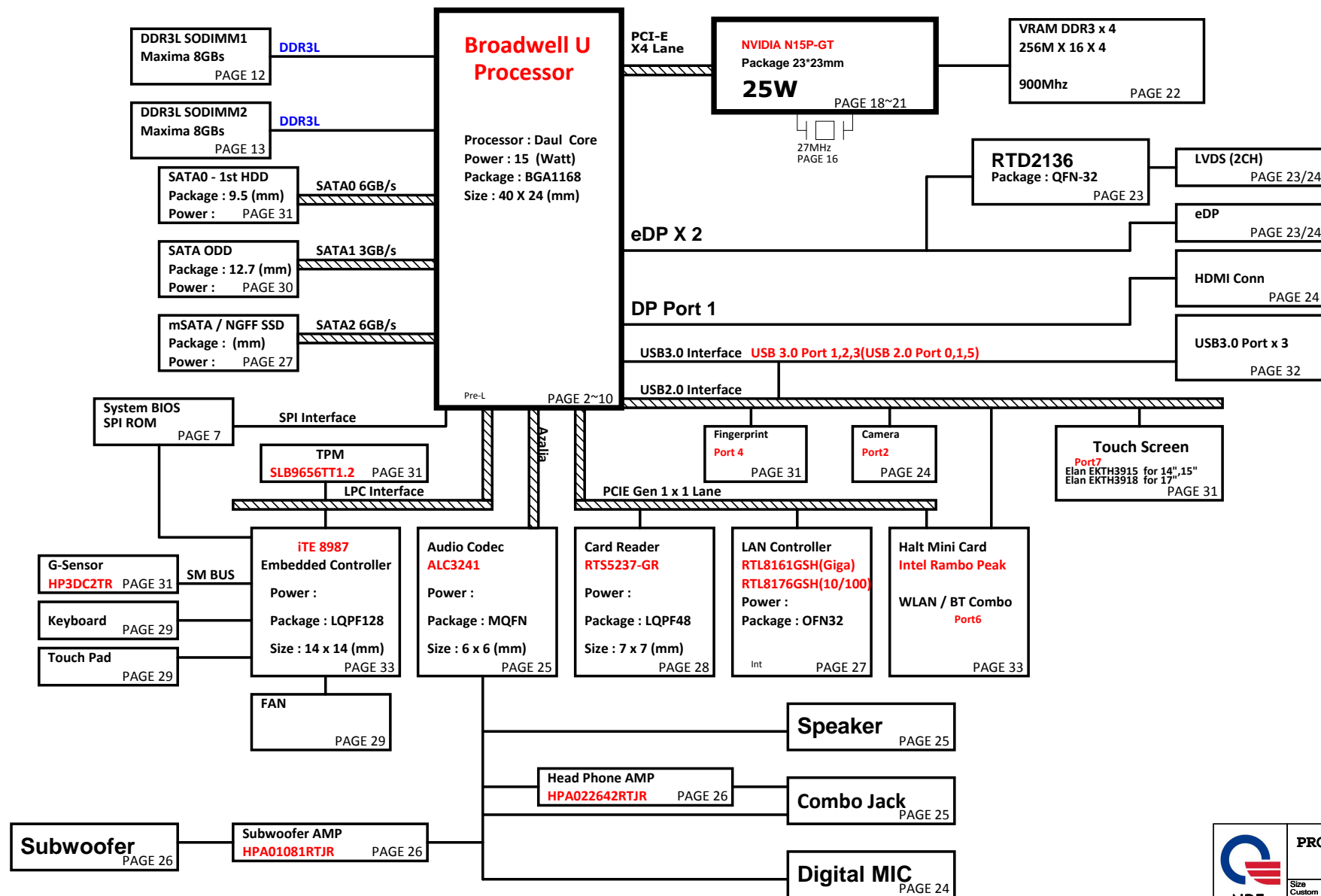
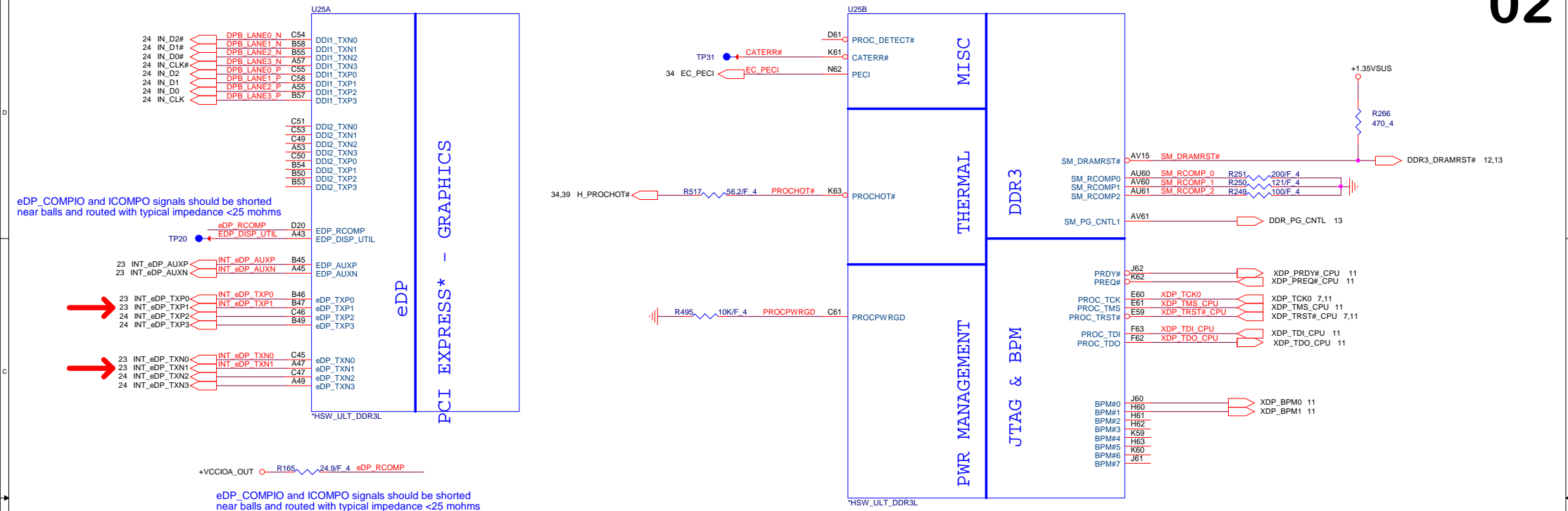


# DIS (14" / 15" / 17") Lay-Vine Intel Crescent Bay ULT Platform Block Diagram

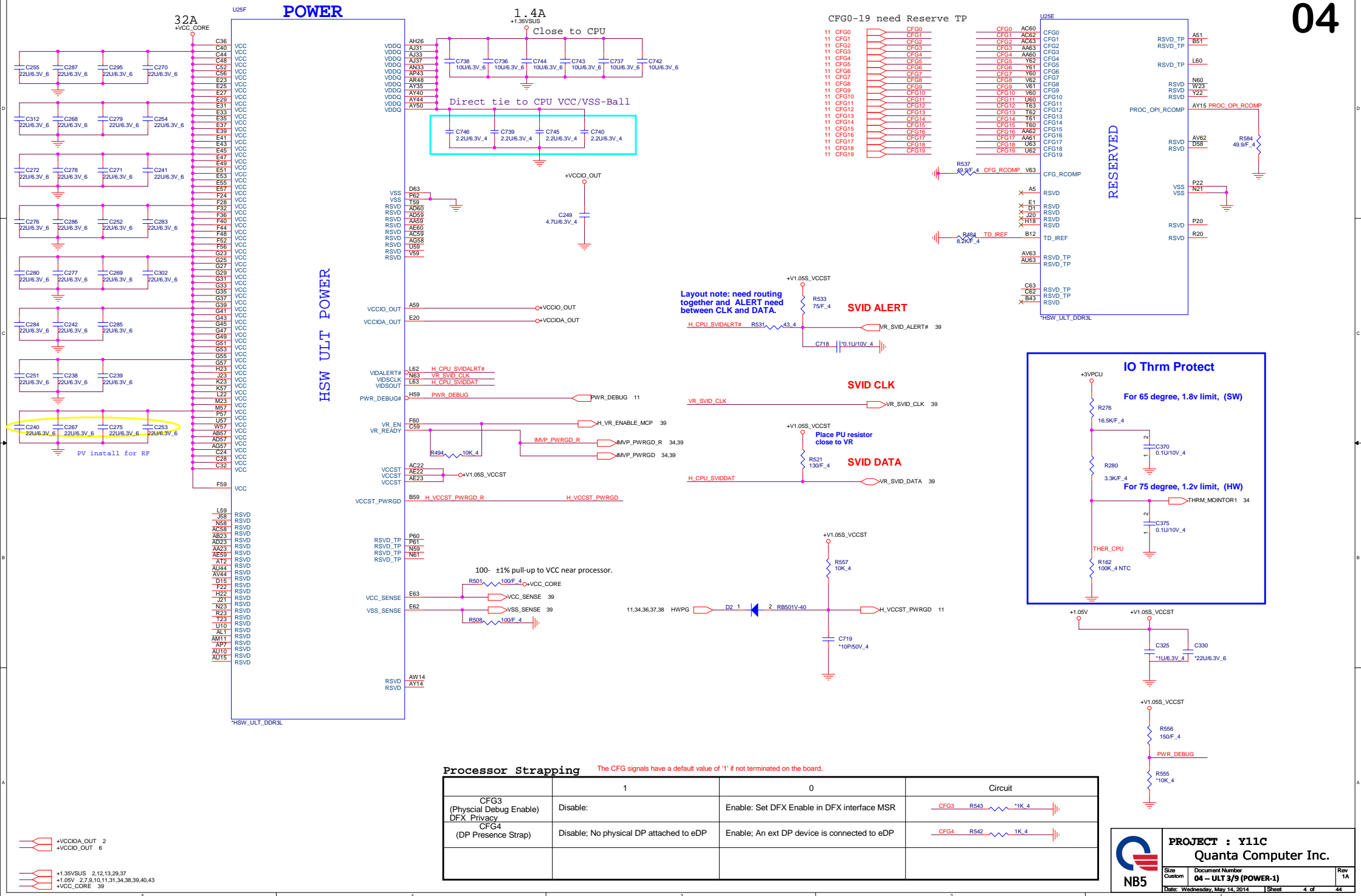
PCB 6L STACK UP

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





**PROJECT : Y11C**  
**Quanta Computer Inc.**  
 Date: Wednesday, May 14, 2014





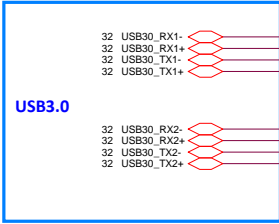
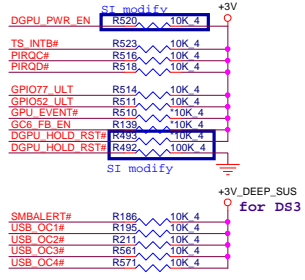




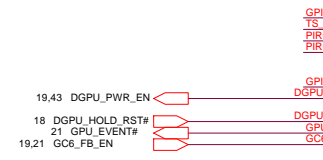


Lynx Point-LP Platform Controller Hub  
(HDA, JTAG, SATA)

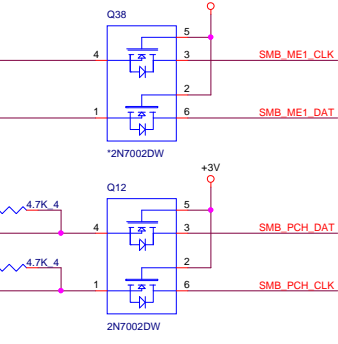
PCI/USBOC# Pull-up(CLG)



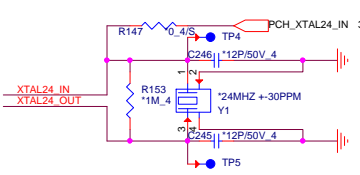
20111130 Modify USB3.0 for HM70



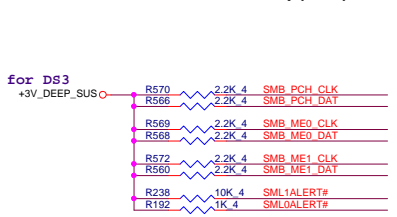
SMBus/Pull-up(CLG)



CLK\_REQ/Strap Pin(CLG)



SMBus/Pull-up(CLG)



PROJECT : Y11C  
Quanta Computer Inc.

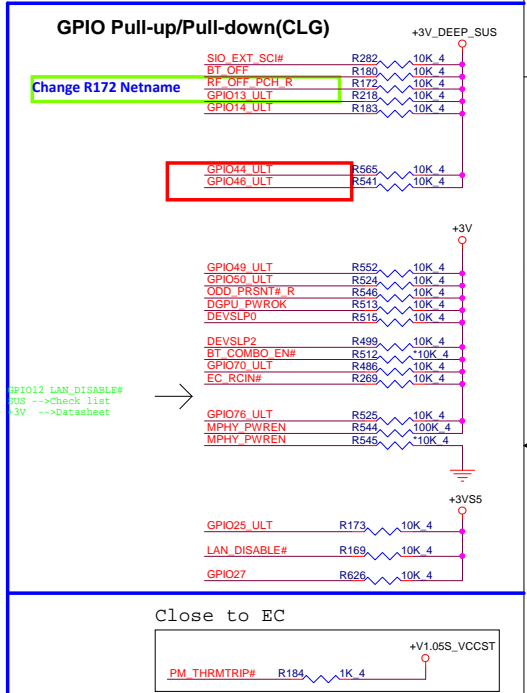
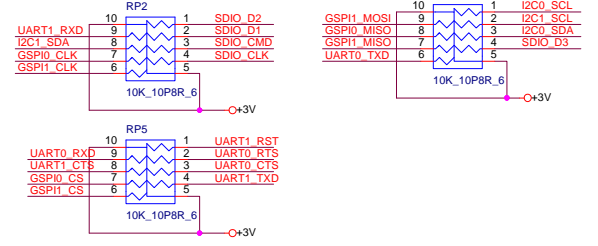
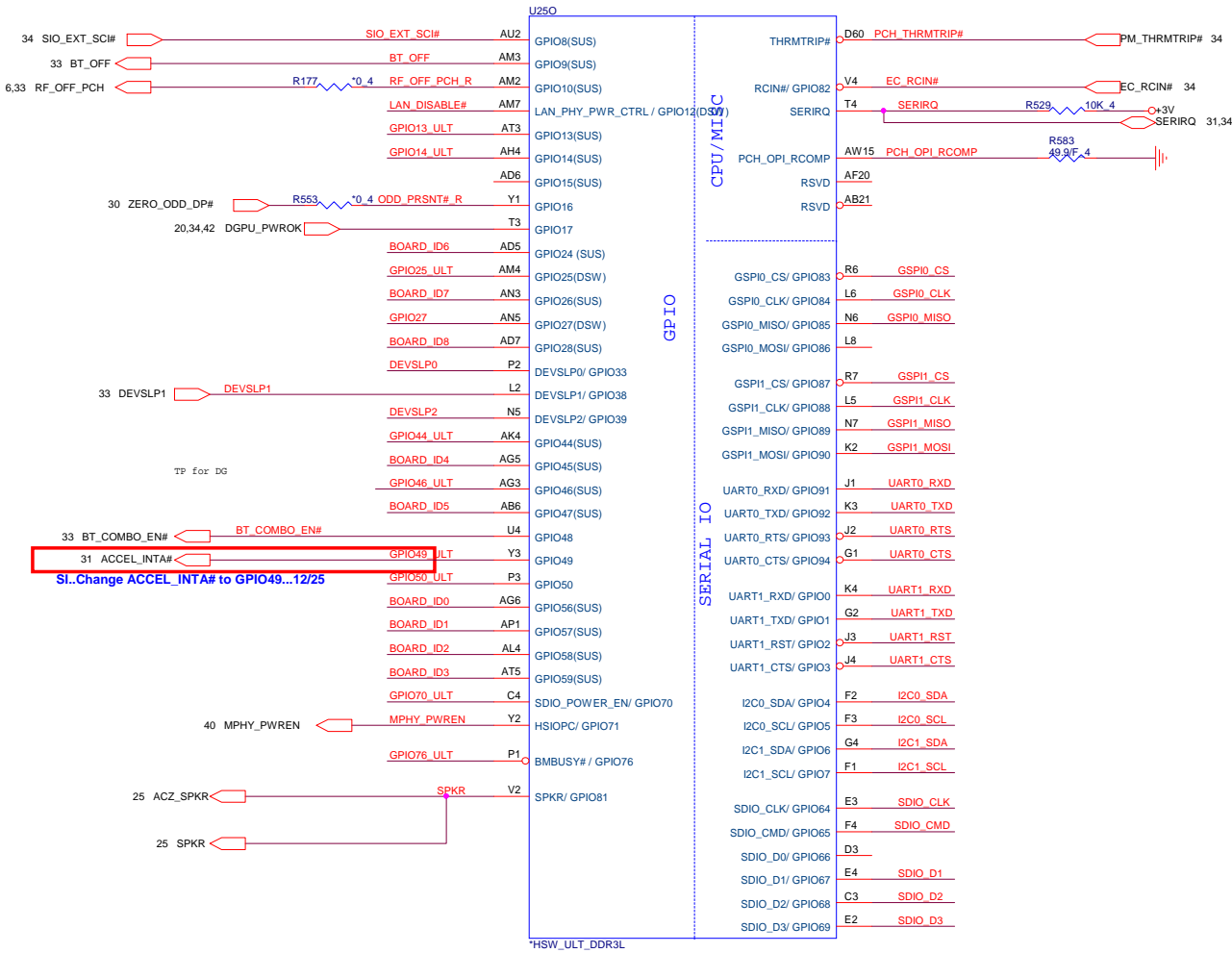
Size Custom	Document Number	Rev 1A
	ULT 7/9 (PCIE/USB/CLK)	
Date: Wednesday, May 14, 2014	Sheet 8 of 44	

6,7,9,10,11,12,13,16,19,20,23,24,25,26,27,28,29,30,31,33,34,39,40,41 +3V  
6,7,9,10,11 +3V\_DEEP\_SUS

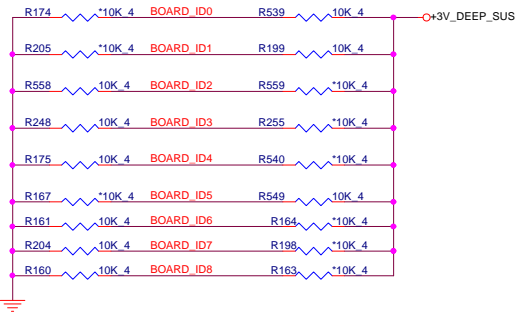


Lynx Point-LP Platform Controller Hub (HDA,JTAG,SATA) Haswell (GPIO)

09



Model	BOARD_ID7	BOARD_ID[6:5]	Board ID [4:3]	BOARD_ID[2:1]	BOARD_ID0
Definition	Reserve (Default = 00)	00 default 01 Dual rank 10 3D camera 11 Y12E	00 Pavilion 01 Envy 10 Pavilion Special Edition 11 Y12E	00 14" 01 15" 10 17"	0 : UMA 1 : DIS



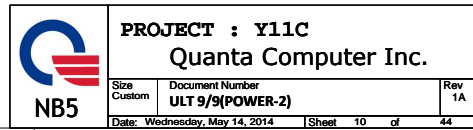
	DIS	UMA
Stuff	Ra	Rb
NC	Rb	Ra

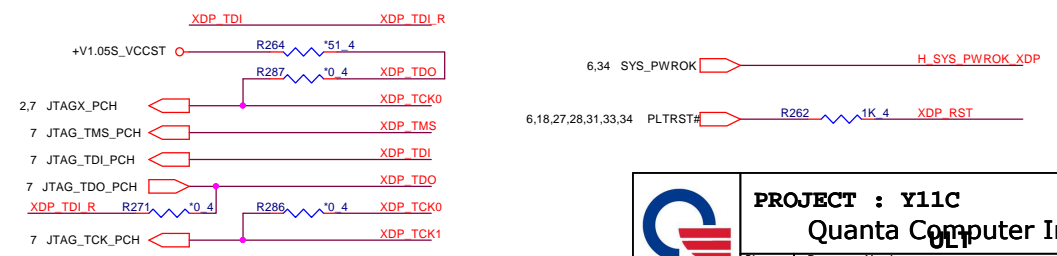
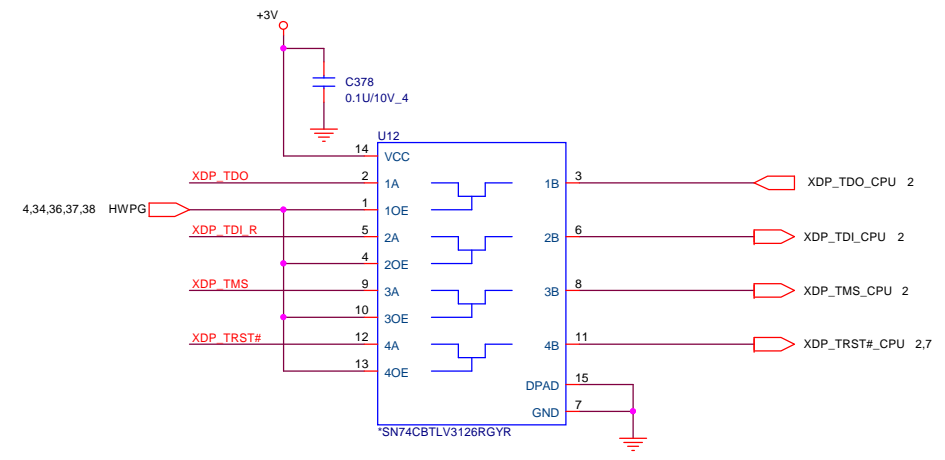
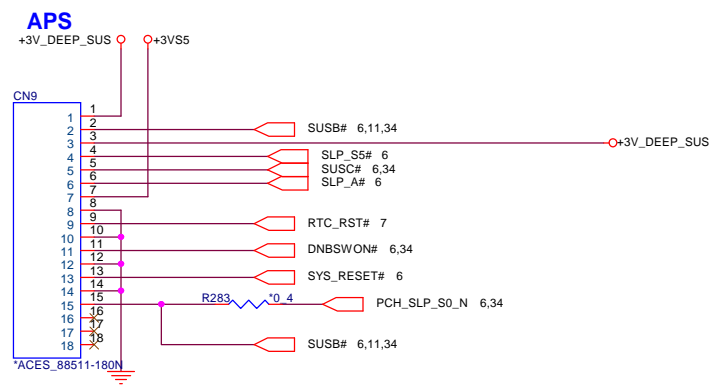
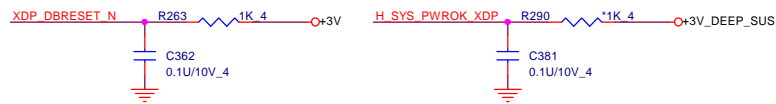
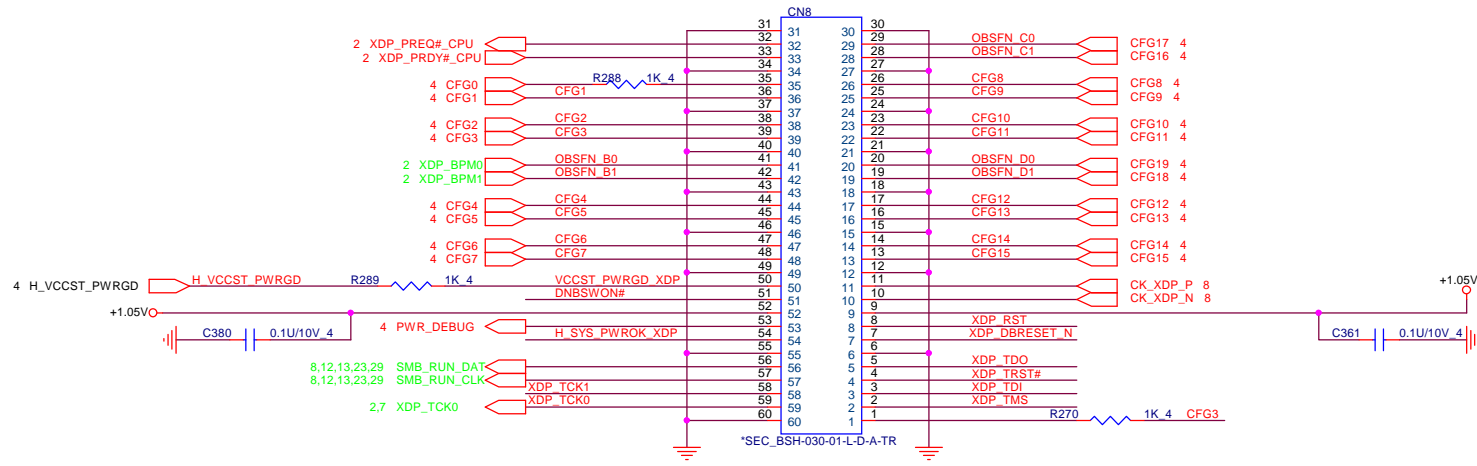
6,7,8,10,11,12,13,18,19,20,23,24,25,26,27,28,29,30,31,33,34,39,40,41  
6,7,10,11,25,29,31,32,33,34,36,38,40,43

PROJECT : Y11C  
Quanta Computer Inc.

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

Date: Tuesday, May 27, 2014 Sheet 9 of 44





The diagram illustrates the pinout for the CPU Bracket, showing connections for DIMM2A, PC2100 DDR3 SDRAM SO-DIMM (204P), and the CPU Bracket pins.

**CPU Bracket Pins (Left):**

- 3 M\_A\_A[15:0]
- 3 M\_A\_BS#0
- 3 M\_A\_BS#1
- 3 M\_A\_BS#2
- 3 M\_A\_CS#0
- 3 M\_A\_CS#1
- 3 M\_A\_CLKP0
- 3 M\_A\_CLKN0
- 3 M\_A\_CLKP1
- 3 M\_A\_CLKN1
- 3 M\_A\_CKE0
- 3 M\_A\_CKE1
- 3 M\_A\_CAS#
- 3 M\_A\_RAS#
- 3 M\_A\_WE#
- 10K/F 4
- 10K/F 4
- 13,23,29 SMB\_RUN\_CLK
- 13,23,29 SMB\_RUN\_DAT
- 13 M\_A\_ODT0
- 13 M\_A\_ODT1
- 3 M\_A\_DQS#7[7:0]
- 3 M\_A\_DQS#7[7:0]

**DIMM2A Pins (Top):**

- M\_A\_A0
- M\_A\_A1
- M\_A\_A2
- M\_A\_A3
- M\_A\_A4
- M\_A\_A5
- M\_A\_A6
- M\_A\_A7
- M\_A\_A8
- M\_A\_A9
- M\_A\_A10
- M\_A\_A11
- M\_A\_A12
- M\_A\_A13
- M\_A\_A14
- M\_A\_A15

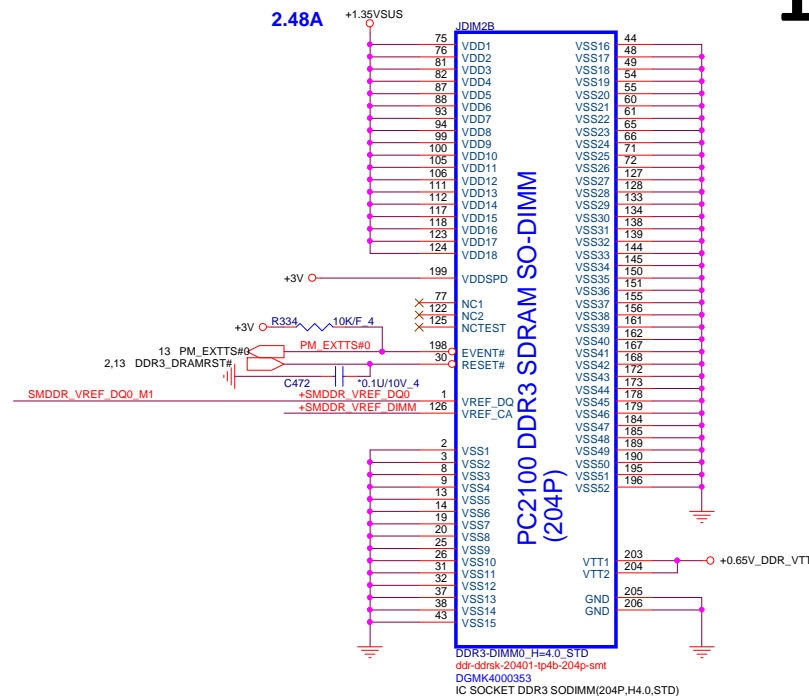
**PC2100 DDR3 SDRAM SO-DIMM (204P) Pins (Right):**

- DQ0
- DQ1
- DQ2
- DQ3
- DQ4
- DQ5
- DQ6
- DQ7
- DQ8
- DQ9
- DQ10
- DQ11
- DQ12
- DQ13
- DQ14
- DQ15
- DQ16
- DQ17
- DQ18
- DQ19
- DQ20
- DQ21
- DQ22
- DQ23
- DQ24
- DQ25
- DQ26
- DQ27
- DQ28
- DQ29
- DQ30
- DQ31
- DQ32
- DQ33
- DQ34
- DQ35
- DQ36
- DQ37
- DQ38
- DQ39
- DQ40
- DQ41
- DQ42
- DQ43
- DQ44
- DQ45
- DQ46
- DQ47
- DQ48
- DQ49
- DQ50
- DQ51
- DQ52
- DQ53
- DQ54
- DQ55
- DQ56
- DQ57
- DQ58
- DQ59
- DQ60
- DQ61
- DQ62
- DQ63

**Other Pins (Bottom):**

- BA0
- BA1
- BA2
- S0#
- S1#
- CK0
- CK0#
- CK1#
- CKE0
- CKE1
- CAS#
- RAS#
- WE#
- SDA
- ODT0
- ODT1
- DM0
- DM1
- DM2
- DM3
- DM4
- DM5
- DM6
- DM7
- DQS0
- DQS1
- DQS2
- DQS3
- DQS4
- DQS5
- DQS6
- DQS7
- DQS8
- DQS#1
- DQS#2
- DQS#3
- DQS#4
- DQS#5
- DQS#6
- DQS#7

DDR3-DIMM0\_H=4.0\_STD  
ddr-ddrsk-20401-tp4b-204p-smt  
DGMK4000353  
IC SOCKET DDR3 SODIMM(204P,H4.0,STD)



6,7,8,9,10,11,13,18,19,20,23,24,25,26,27,28,29,30,31,33,34,39,40,41 +3V

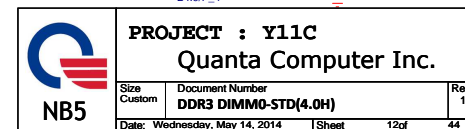
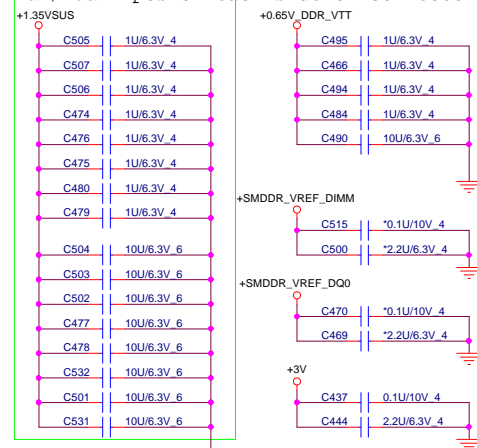
2,4,13,29,37 +1.35VSUS

13,37 +0.65V\_DDR\_VTT

13 +SMDDR VREF DIMM

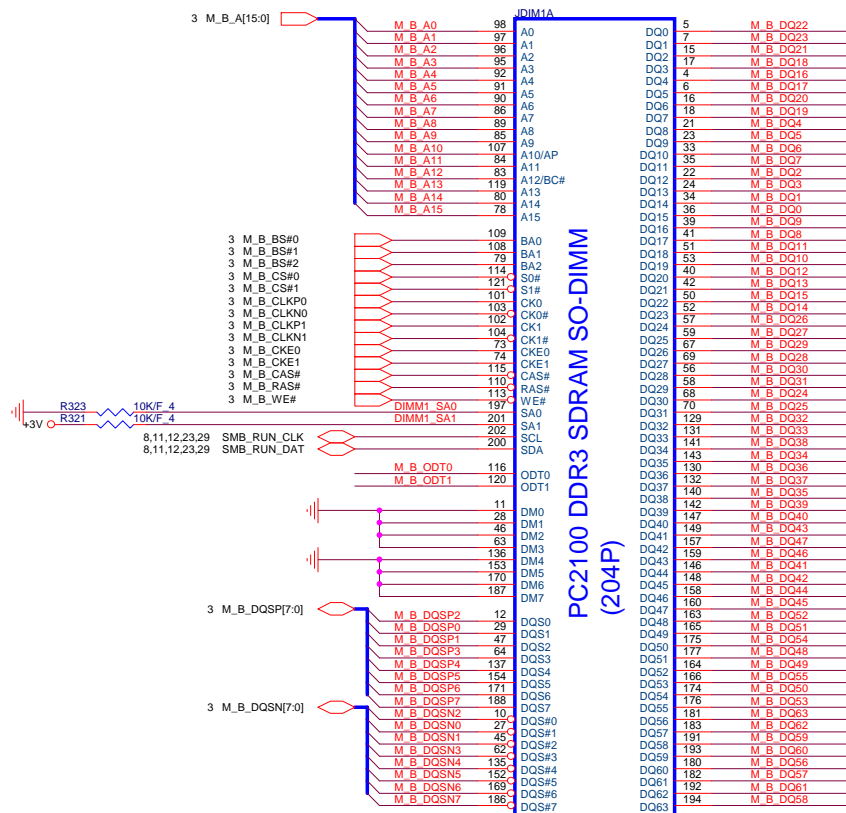
The schematic diagram illustrates the power plane layout for the DDR3 memory bank. It features two primary power planes: a +1.35V/VSS plane and a +0.85V DDR\_VTT plane. The +1.35V/VSS plane is connected to a +1.35V/VSS source and includes components EC43, EC31, EC36, EC51, EC35, EC52, and EC34, all with a value of \*120P/50V\_4. The +0.85V DDR\_VTT plane is connected to a +0.85V DDR\_VTT source and includes components EC38 and EC32, both with a value of \*120P/50V\_4. The diagram also shows connections to ground (GND) and a +1.35V/VSS source.

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



## DIMM &amp; Footprint 同Joshua提供

M\_B\_DQ[63:0] 3



1.05V\_GFXO

C1018 22U6.3VS 6

C1019 22U6.3VS 6

C1023 10U6.3VS 6

C1021 10U6.3VS 6

C1024 4.7U6.3V 6

A1010 22U6.3VS 6

A1012 22U6.3VS 6

A1013 10U6.3VS 6

A1016 10U6.3VS 6

A1018 10U6.3VS 6

A1019 10U6.3VS 6

A200 22U6.3VS 6

A201 22U6.3VS 6

AB22 22U6.3VS 6

AB23 22U6.3VS 6

AC23 22U6.3VS 6

AC24 22U6.3VS 6

AD24 22U6.3VS 6

AD25 22U6.3VS 6

AE25 22U6.3VS 6

AE26 22U6.3VS 6

AF26 22U6.3VS 6

AF27 22U6.3VS 6

PEK\_I/O\_VDD 22U6.3VS 6

Near GPU

Under GPU

C905 1U16.3V 4

C917 1U16.3V 4

A200 22U6.3VS 6

A201 22U6.3VS 6

AB22 22U6.3VS 6

AB23 22U6.3VS 6

AC23 22U6.3VS 6

AC24 22U6.3VS 6

AD24 22U6.3VS 6

AD25 22U6.3VS 6

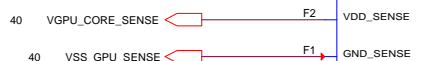
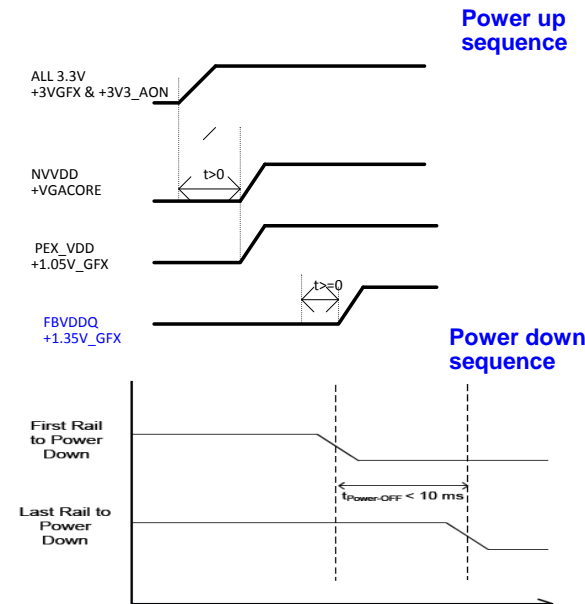
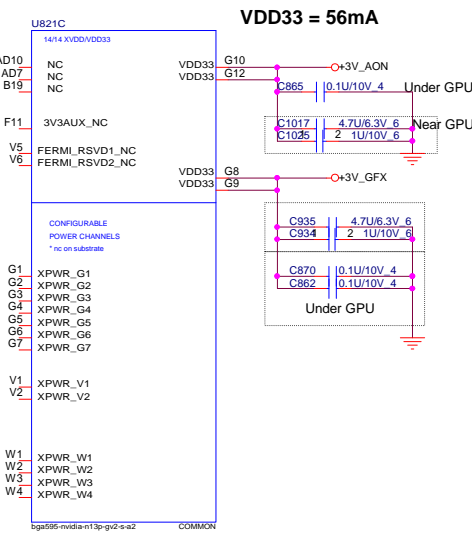
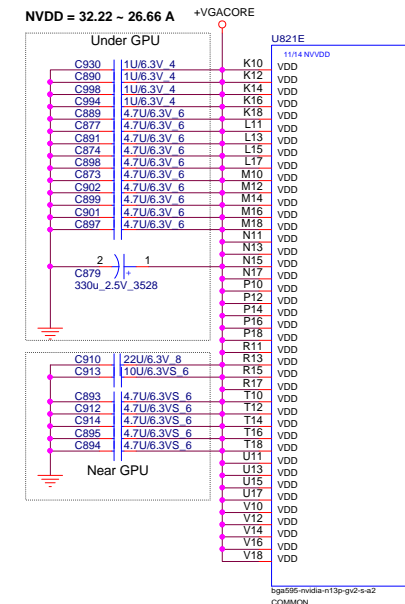
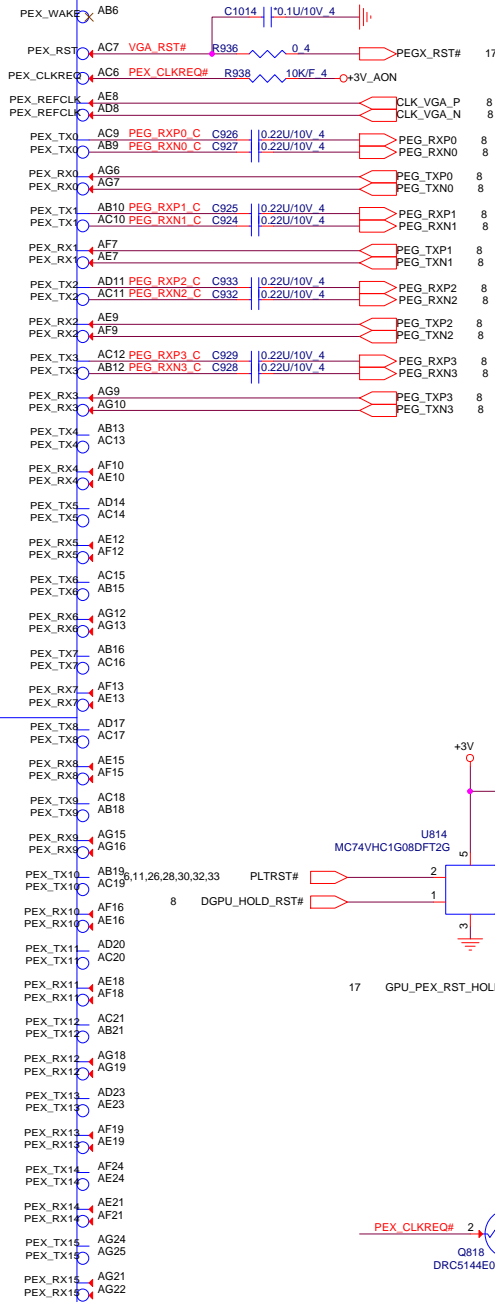
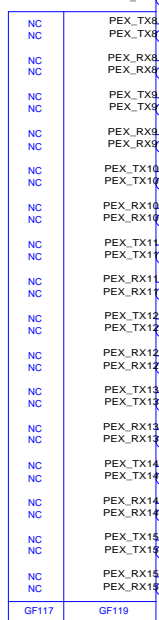
AE25 22U6.3VS 6

AE26 22U6.3VS 6

AF26 22U6.3VS 6

AF27 22U6.3VS 6

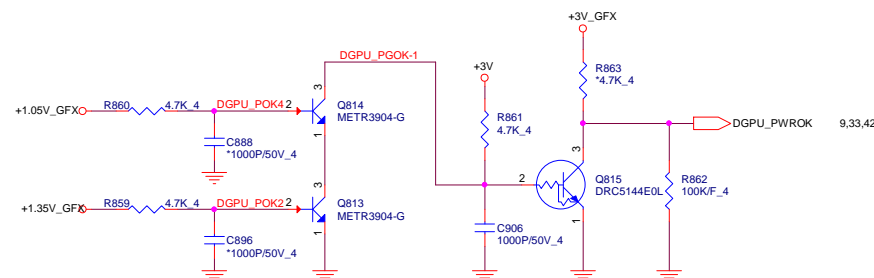
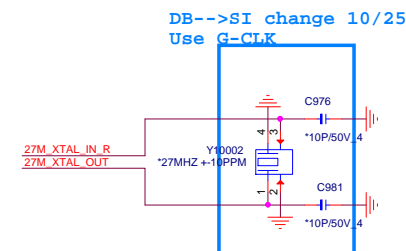
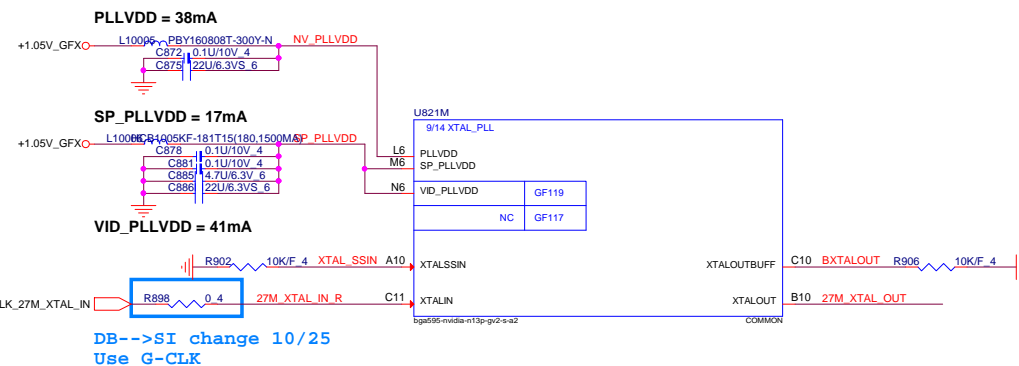
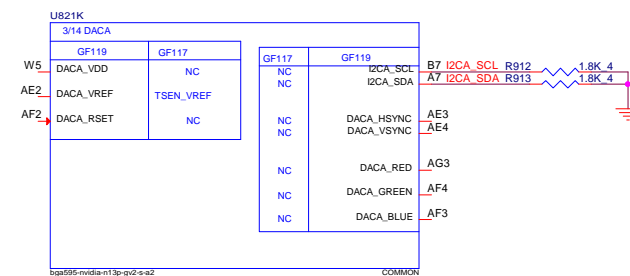
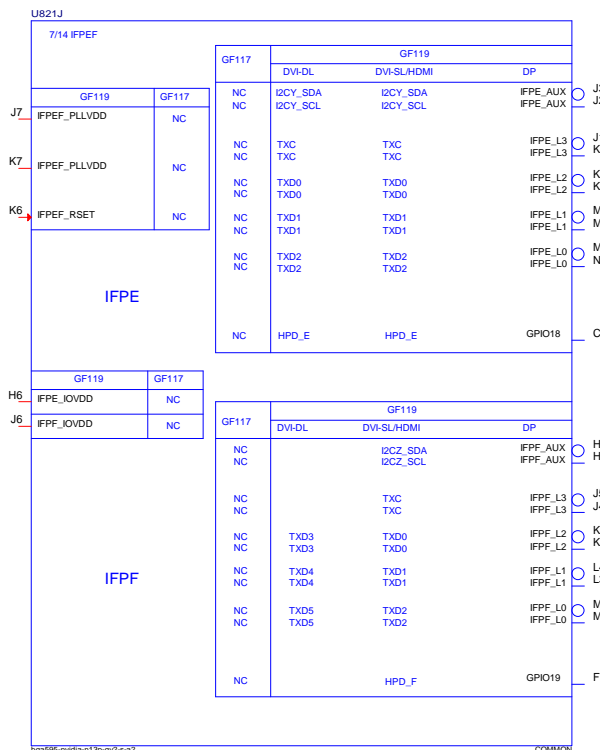
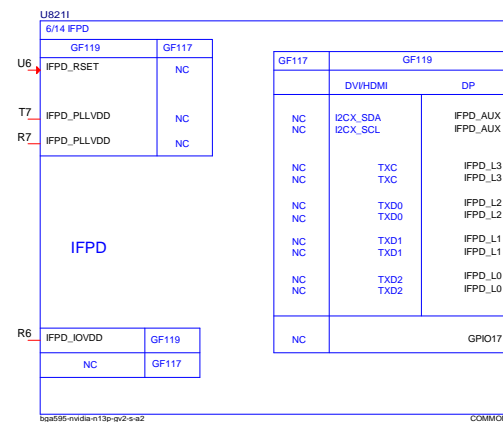
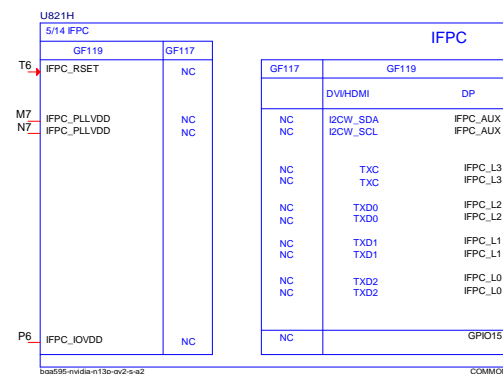
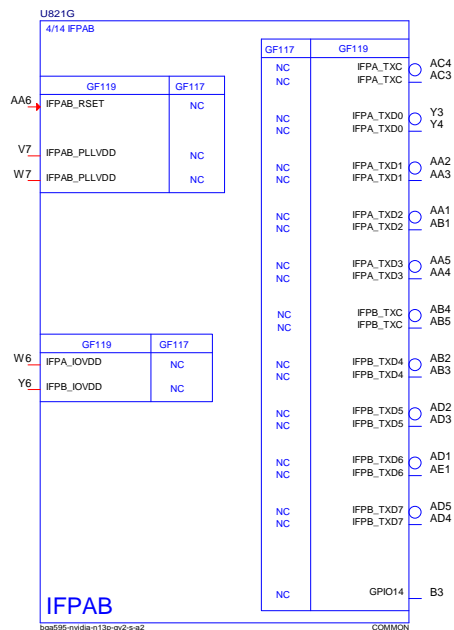
PEK\_I/O\_VDD 22U6.3VS 6

[illegible]









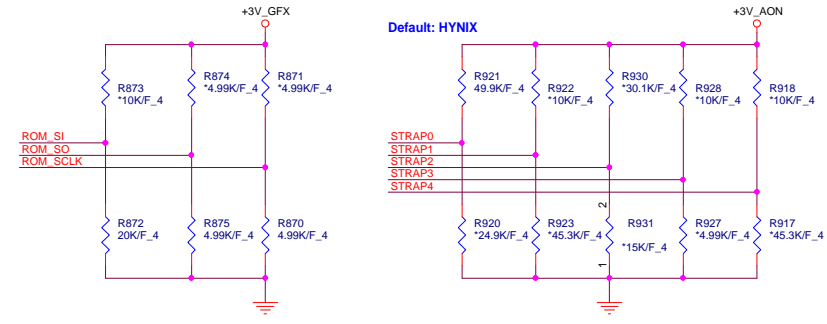
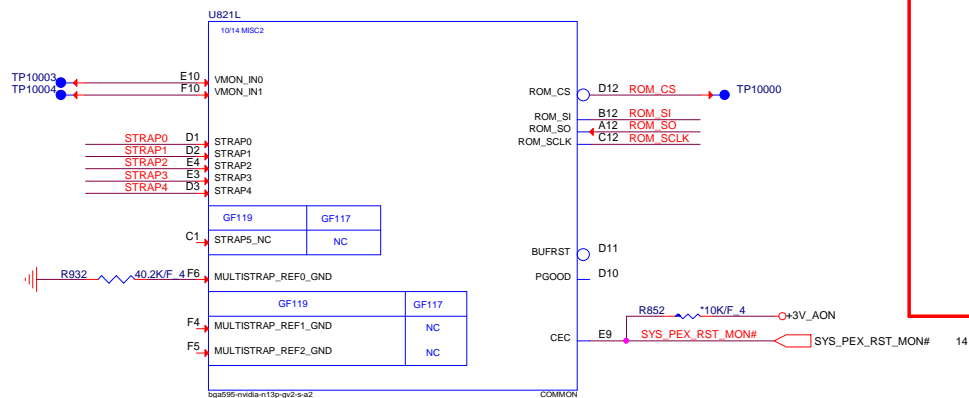
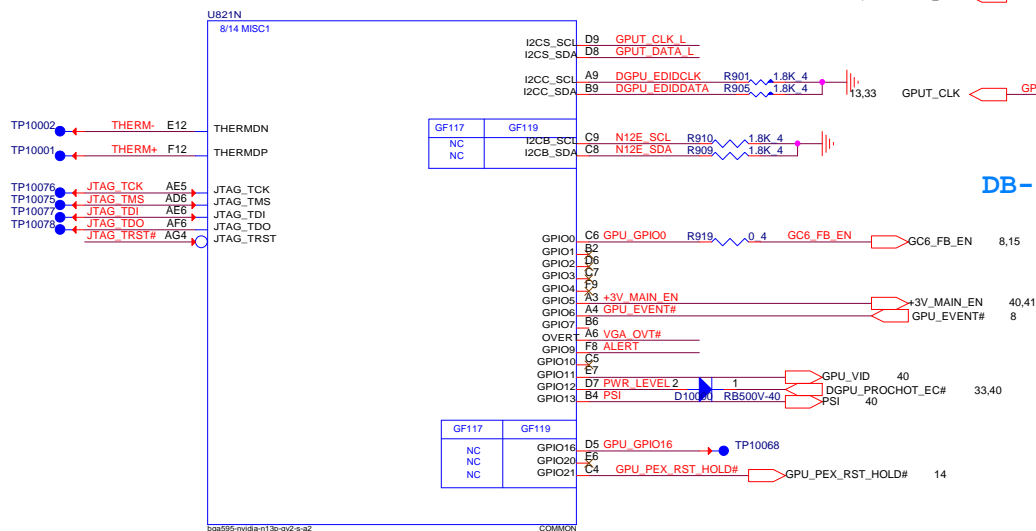
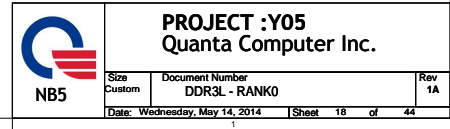


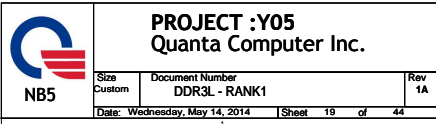
Table 15-2. Resistance Mapping to Hex Values

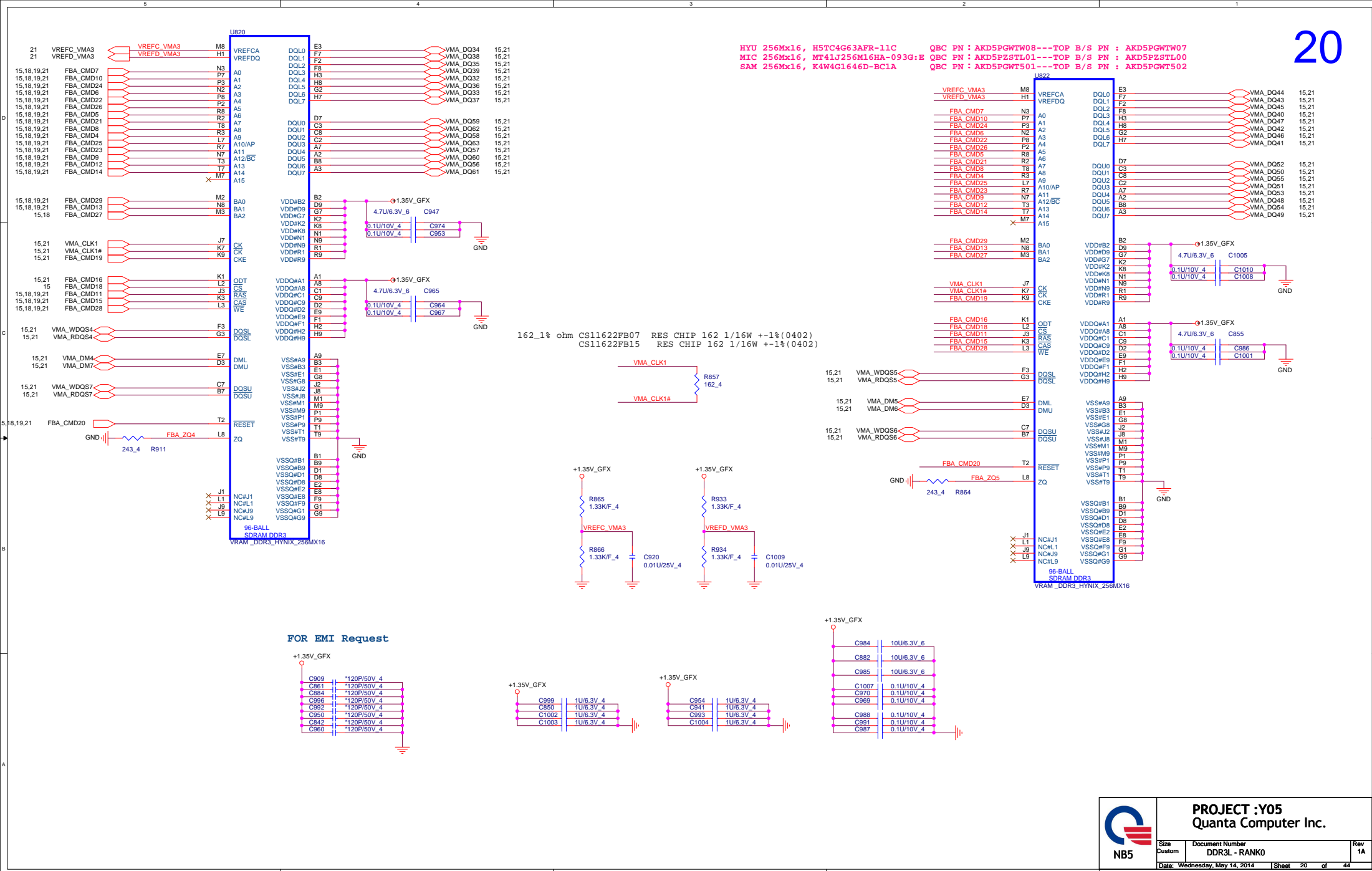
Resistor Values	Pull-Up to 3V3_MAIN	Pull-Down to GND
4.99 kΩ	1000	0000
10.0 kΩ	1001	0001
15.0 kΩ	1010	0010
20.0 kΩ	1011	0011
24.9 kΩ	1100	0100
30.1 kΩ	1101	0101
34.8 kΩ	1110	0110
45.3 kΩ	1111	0111

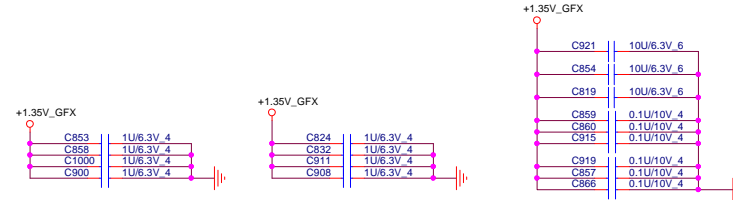
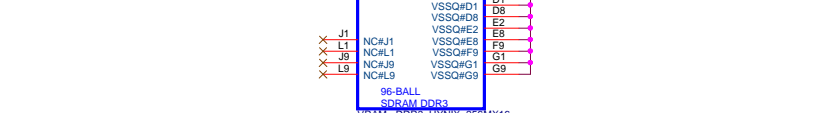
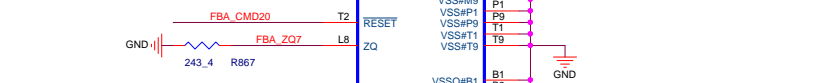
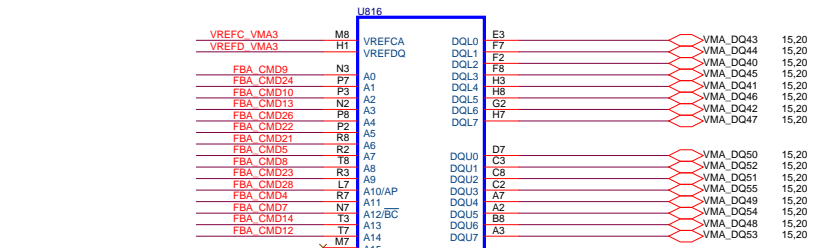
Hynix should be 0x3, R440 20K 1%  
 Micro Should be 0x4, R440 24.9K 1%  
 Samsung Should be 0x5, R440 30.1K 1%










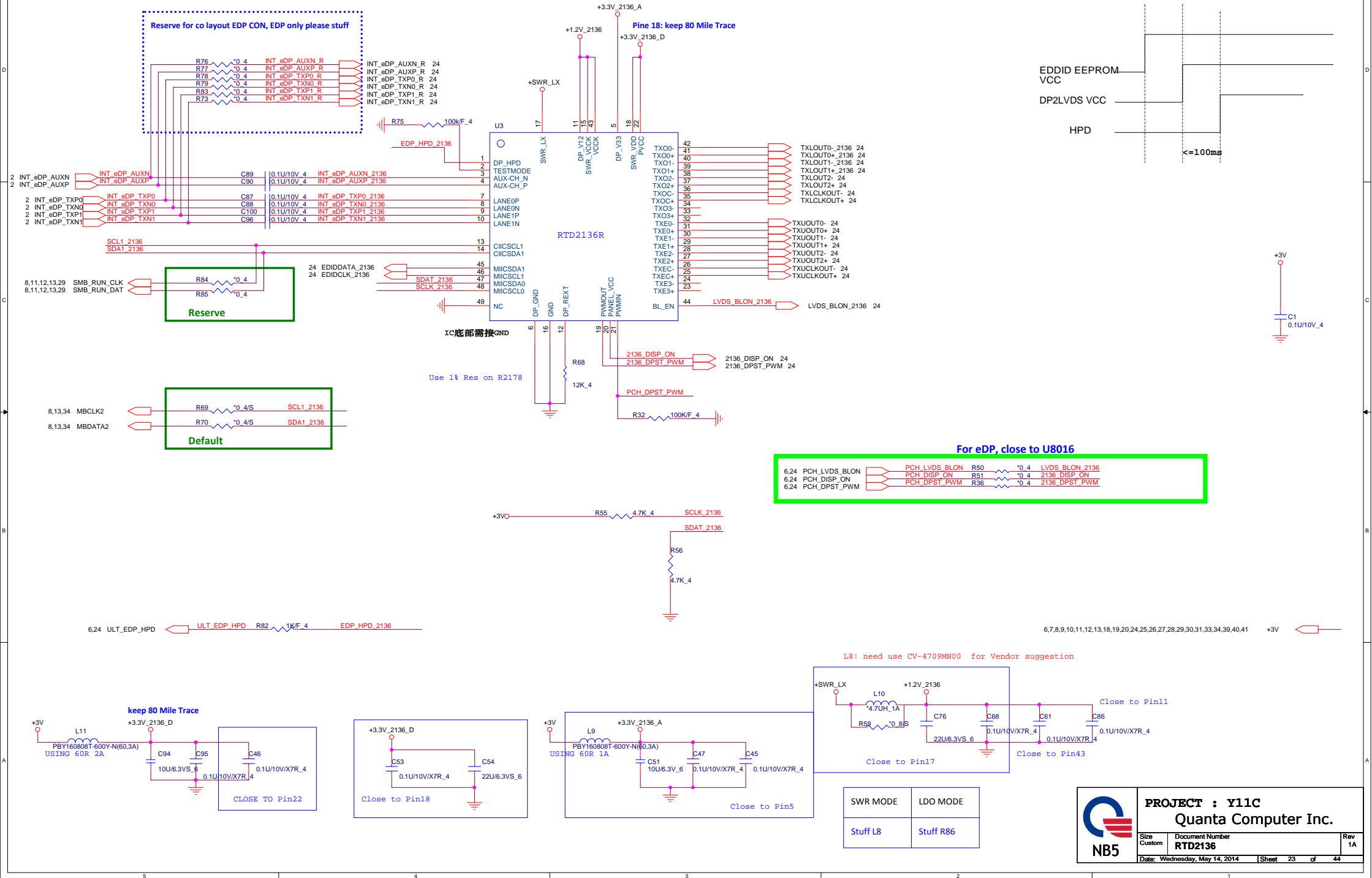




**PROJECT :Y05**  
Quanta Computer Inc.

Size Custom	Document Number <b>N15S-GT (PCIe 1F) /NVDD</b>	Rev 2A
Date: Wednesday, May 14, 2014		Sheet 22 of 44

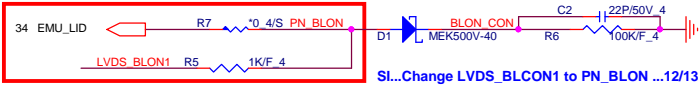




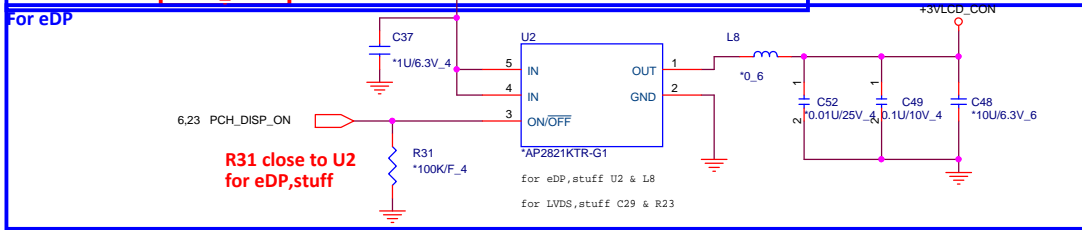
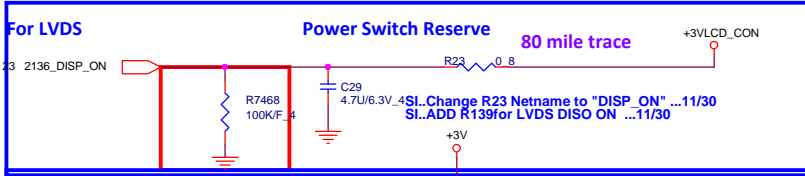
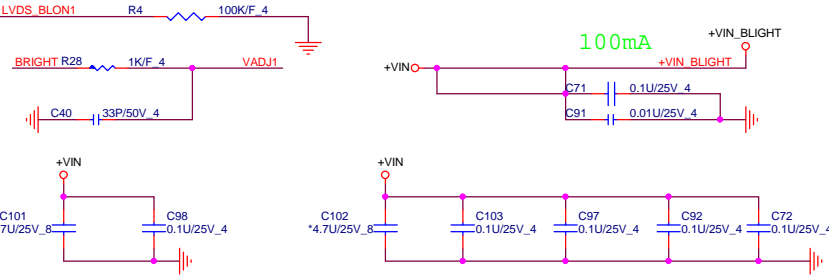
# LID Switch

LVDS Conn.

24

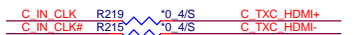
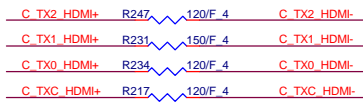


SI...Change LVDS\_BLCN1 to PN\_BLCN ...12/13

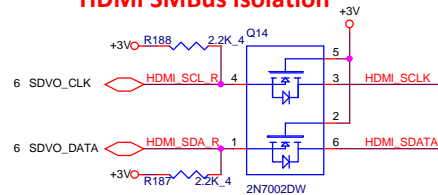


R31 close to U2 for eDP,stuff

## EMI Solution

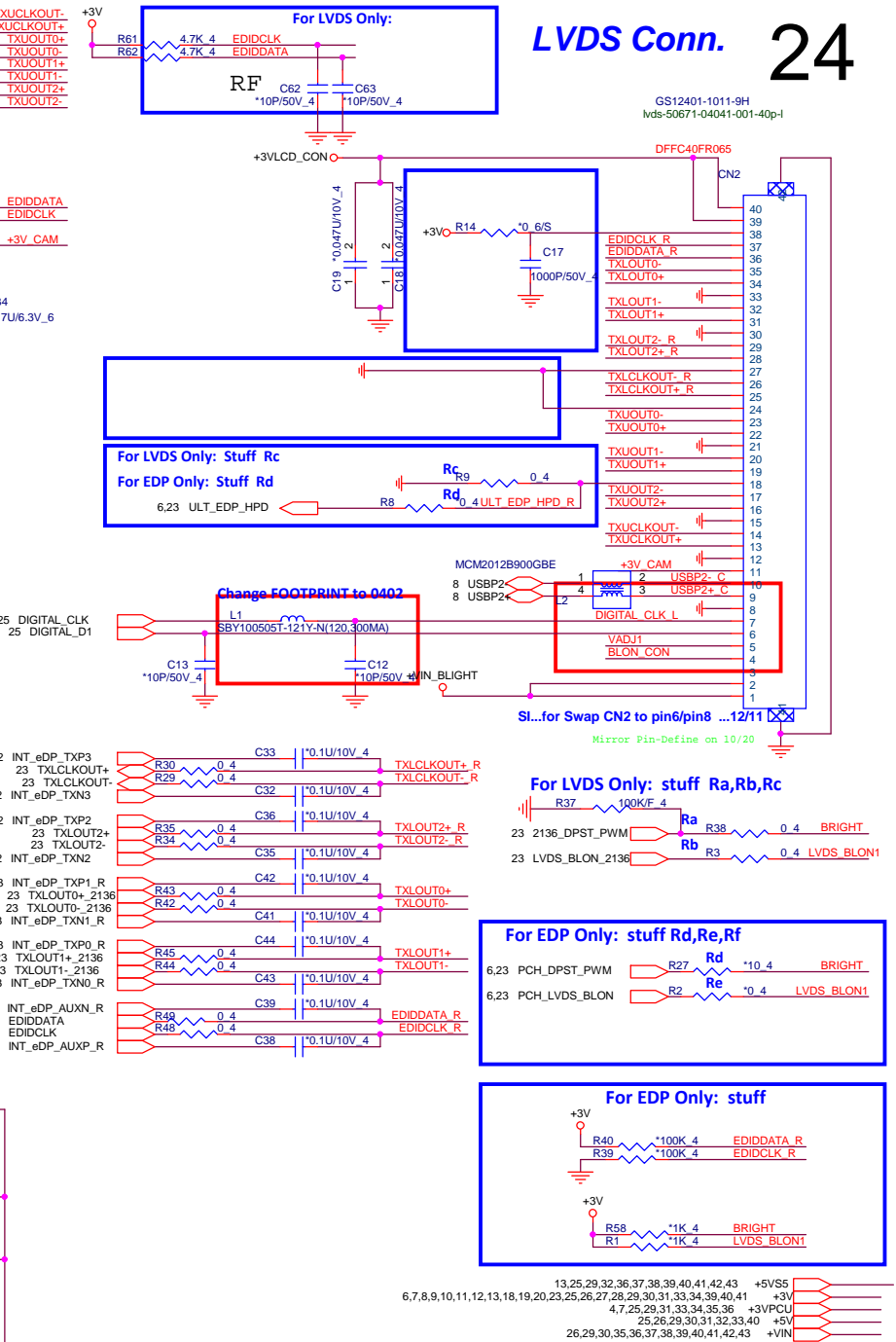
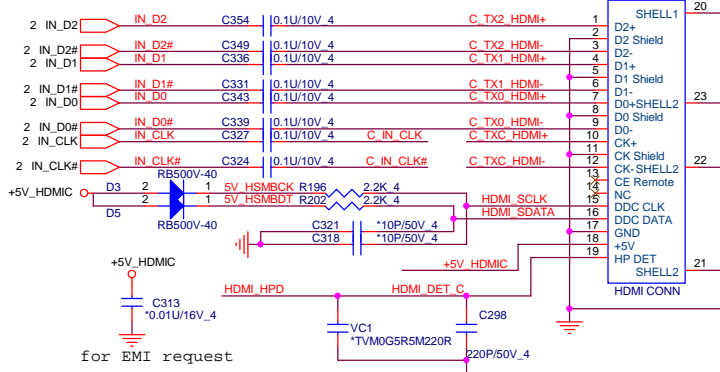
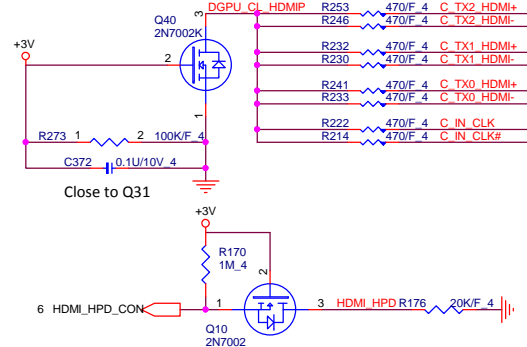


## HDMI SMBus Isolation



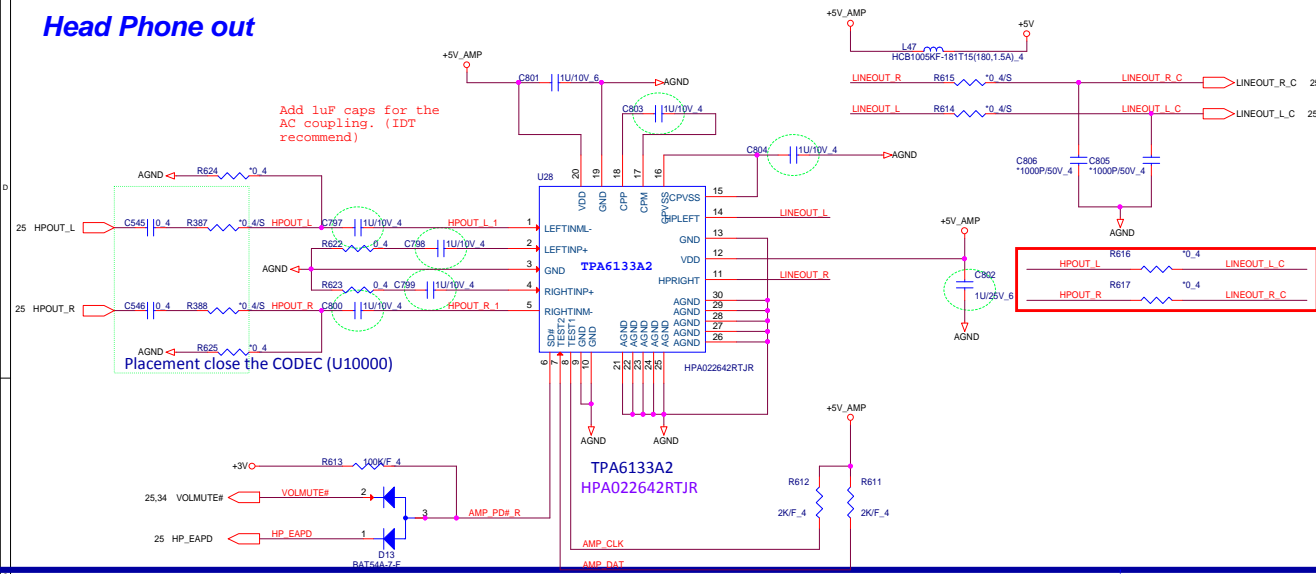
For EDP Only: stuff Cap  
For LVDS only stuff Resistor

## Close to HDMI connector

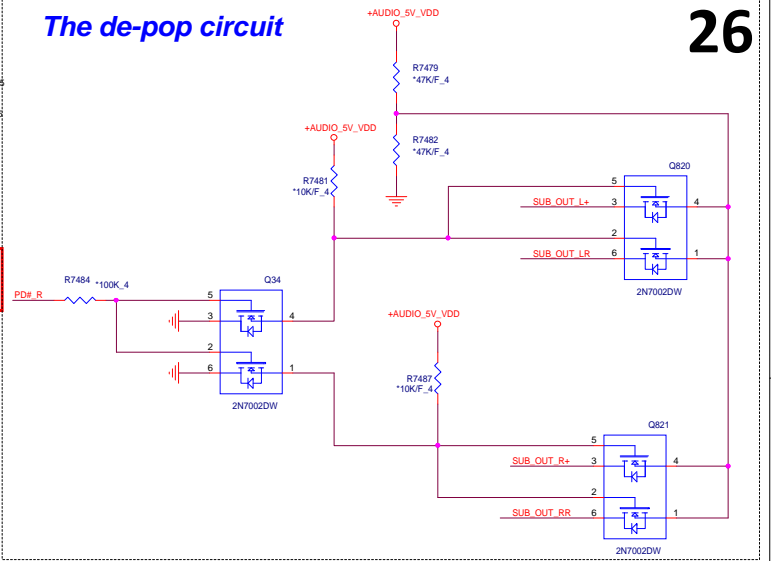




## Head Phone out

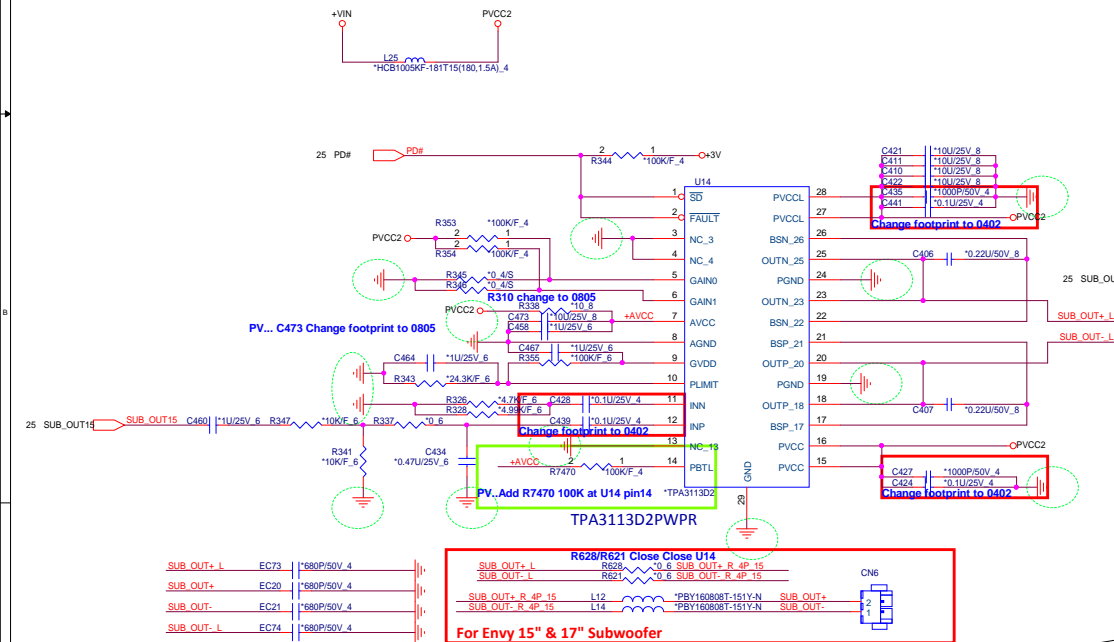


## The de-pop circuit

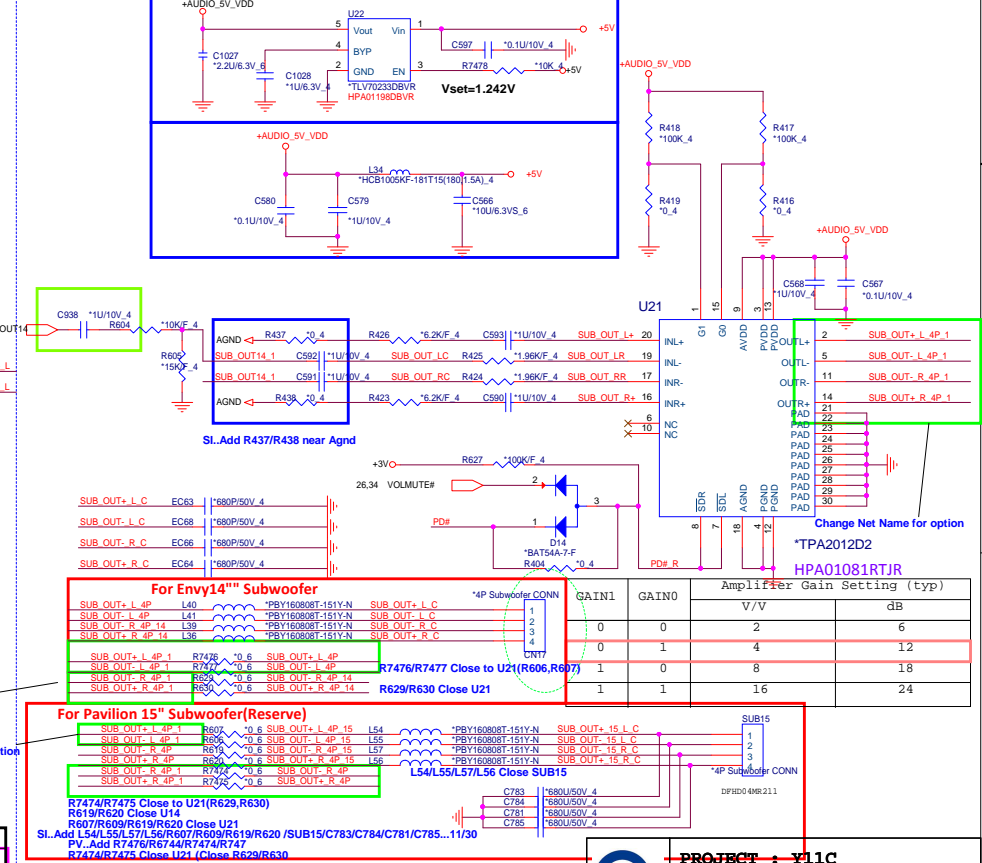


26

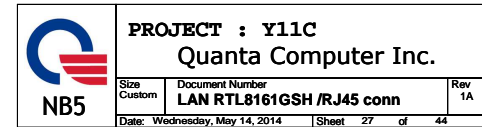
## For Envy 15" & 17" Subwoofer



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



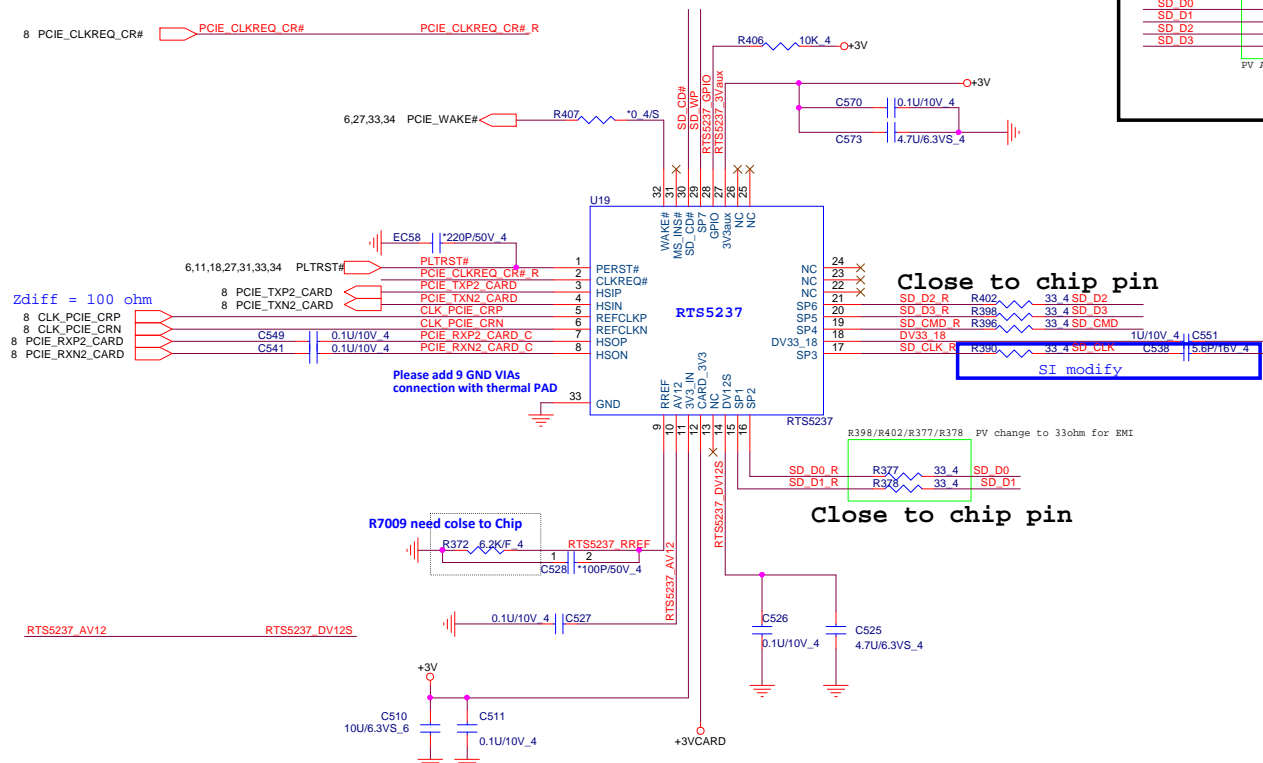
GAIN1	GAIN0	dB
0	0	20
0	1	26
1	0	32
1	1	36



SP1	SD D1	
SP2	SD D0	MS D1
SP3	SD CLK	MS D0
SP4	SD CMD	MS D2
SP5	SD D3	MS D3
SP6	SD D2	MS CLK
SP7	SD_WP	MS_BS

## Share Pin

SD / MMC

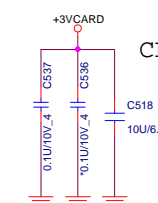


NC 24 ✗  
NC 23 ✗  
NC 22 ✗

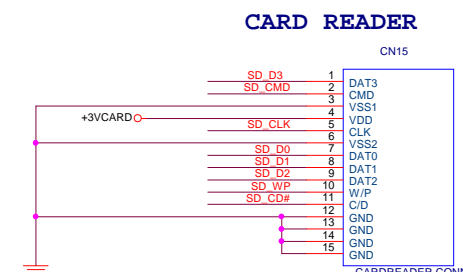
Close to chip pin

SI modify

Close to chip pin



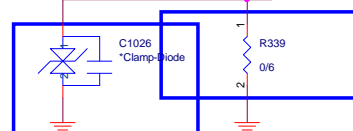
CLOSE CONN



CARD READER

R6x Type

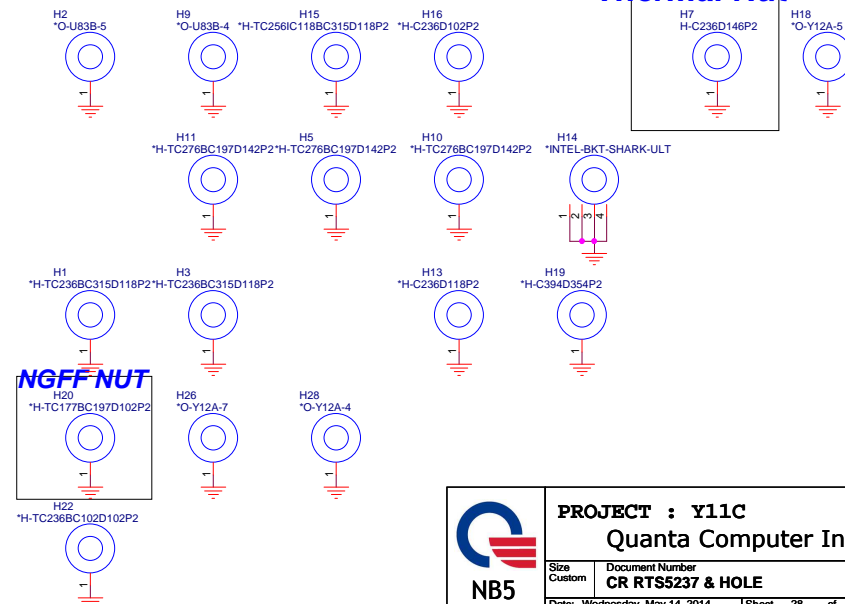
## Thermal Nut



**Reserve C8739 for ESD**

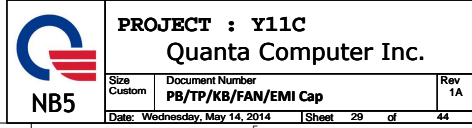
**R339 change to 0 ohm for Pavilion**

**R339 change to 65k ohm for Envy**



**PROJECT : Y11C**  
**Quanta Computer Inc.**

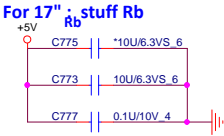
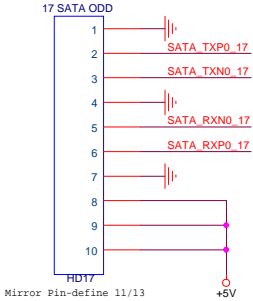
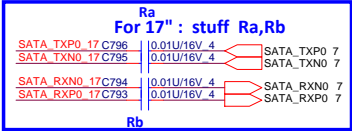
Size Custom	Document Number <b>CR RTS5237 &amp; HOLE</b>	Rev 1A
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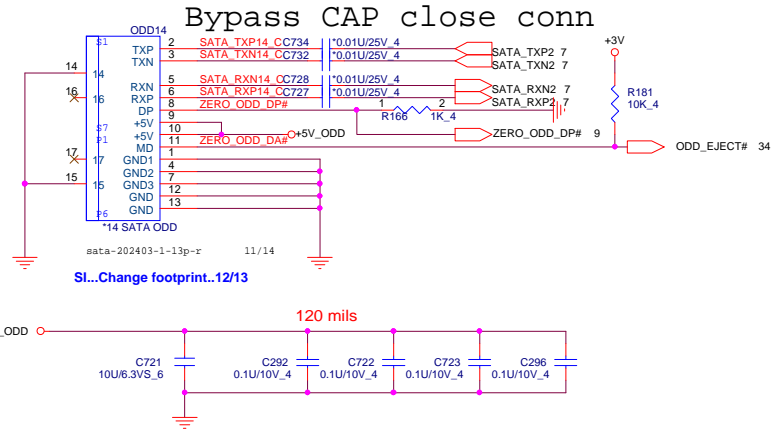
HDD

SATA HDD Connector(Cable type) 15.6"

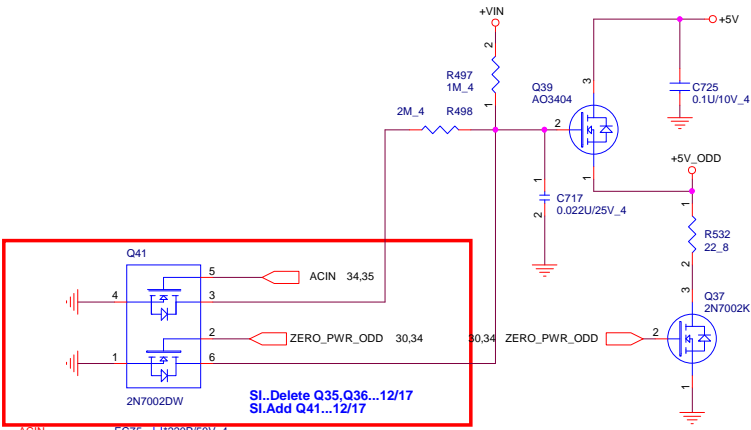
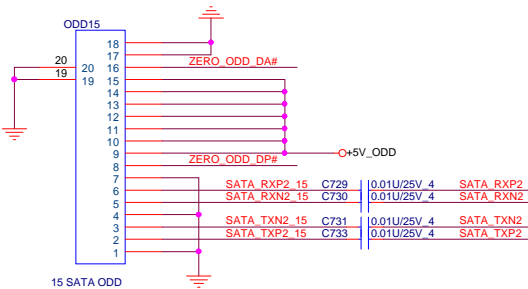


SATA ODD CONNECTOR

14" SATA ODD



15" SATA ODD



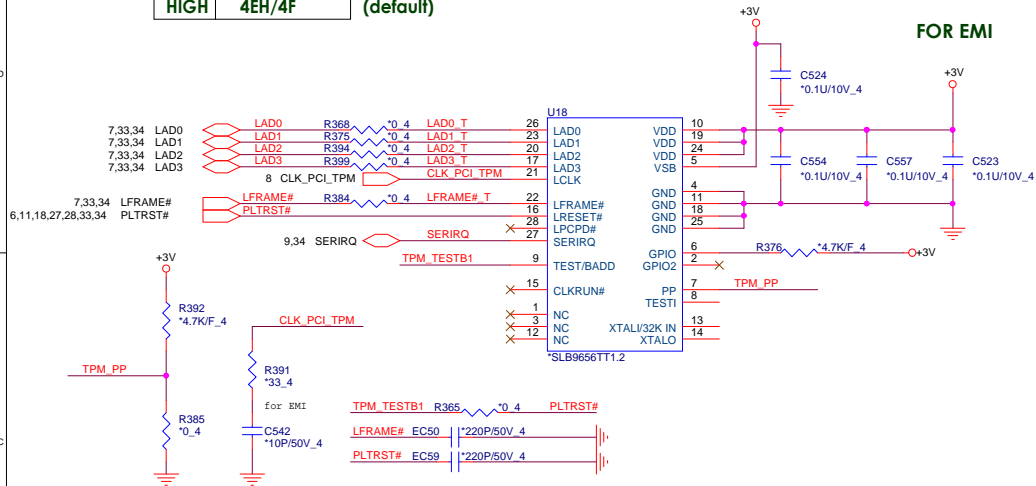
High : ODD power down  
Low : ODD power on

## TPM (1.2)

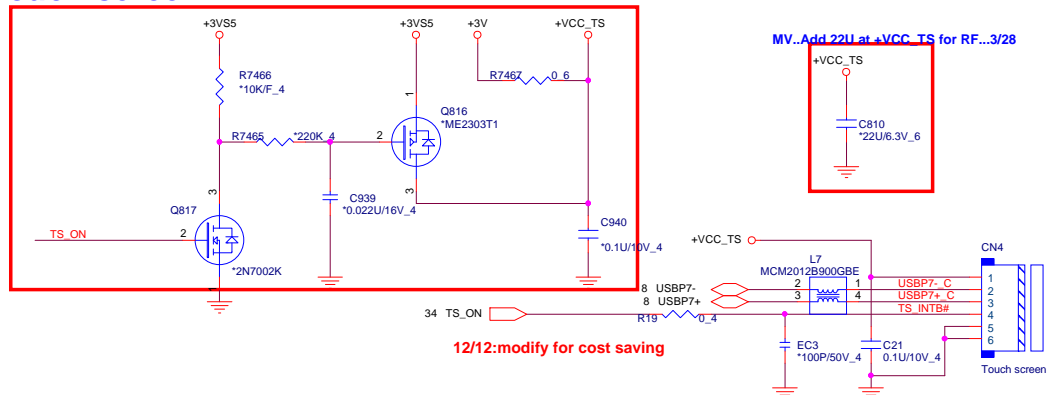
## Address

	BADD
HIGH	4EH/4F

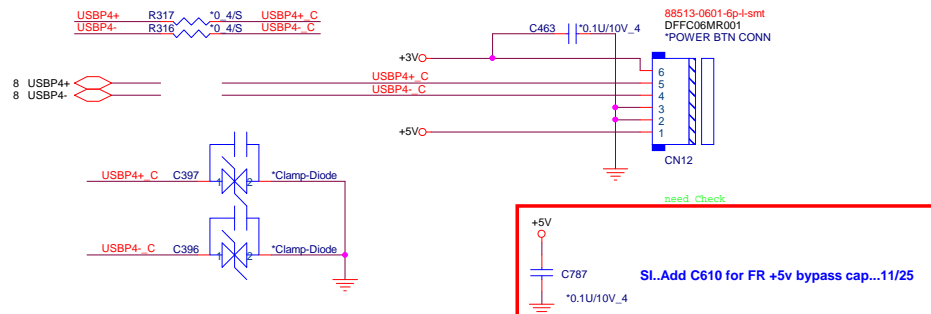
(default)



## Touch screen

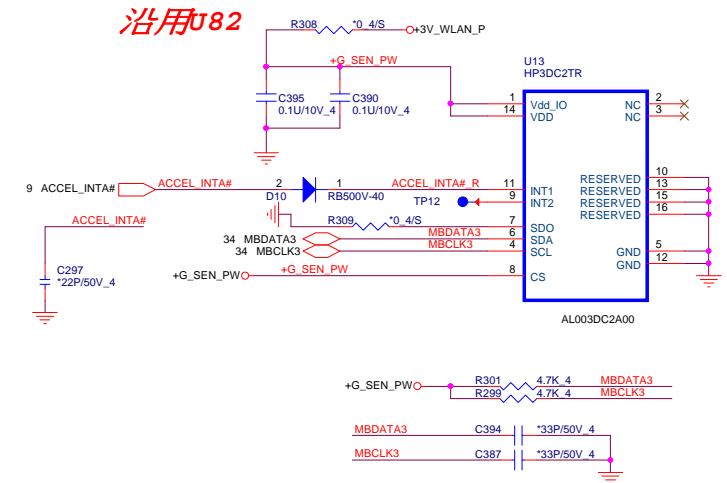


## Fingerprint Conn

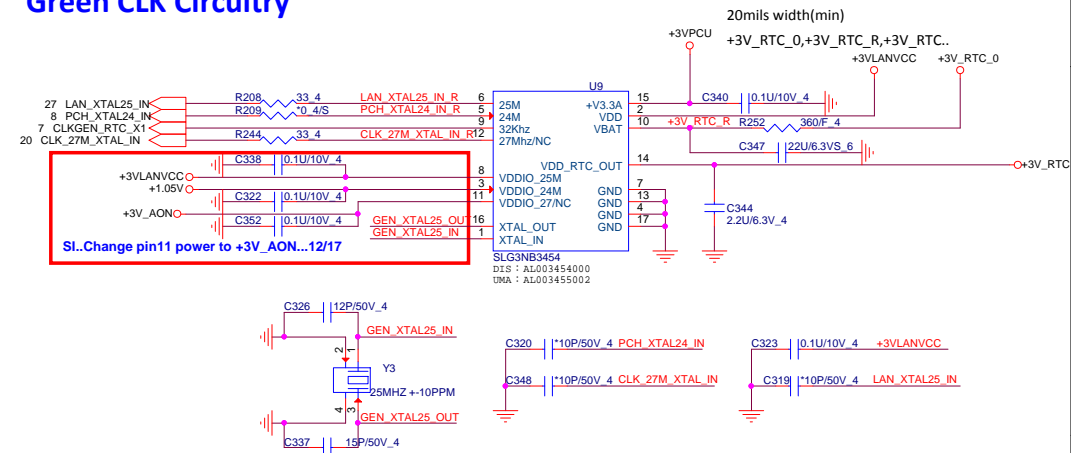


## Accelerometer Sensor

31



## Green CLK Circuitry

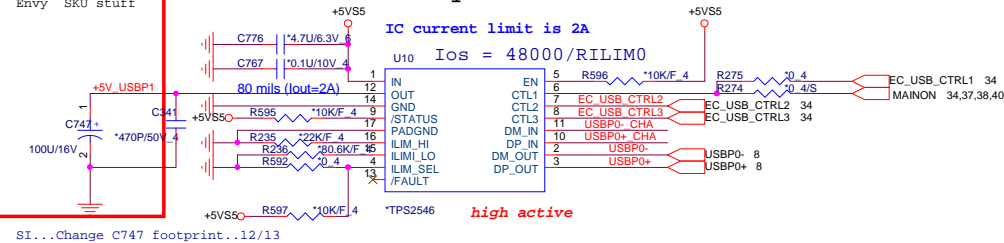


if Envy SKU,non-staff



For Pavilion / Envy SKU stuff

for Envy SKU stuff



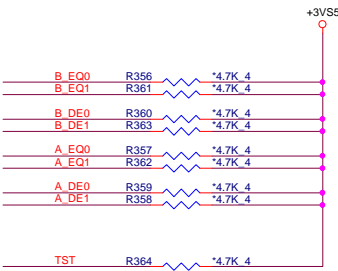
SI...Change C747 footprint..12/13

Right-Side USB3.0 Re-Driver

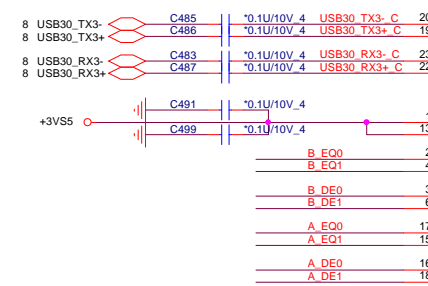
AEQ 9.5db / ADE 3.5db  
BEQ 13db / BDE 5db / REXT 5.36K

A_EQ1	A_EQ0		A_DE1	A_DE0	
B_EQ1	B_EQ0		B_DE1	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

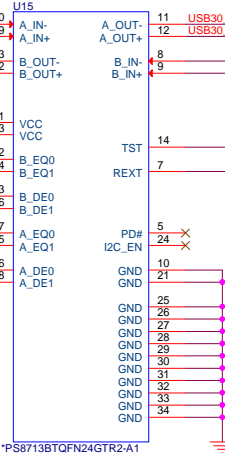
TST : Low = Normal LFPS swing / High =Turn down LFPS swing



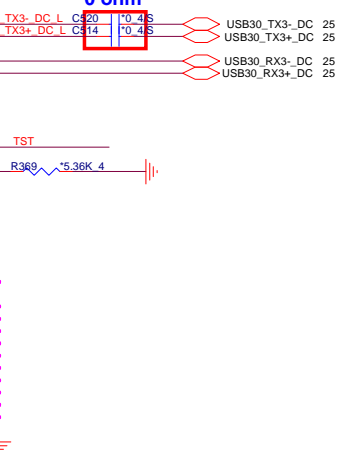
From HOST



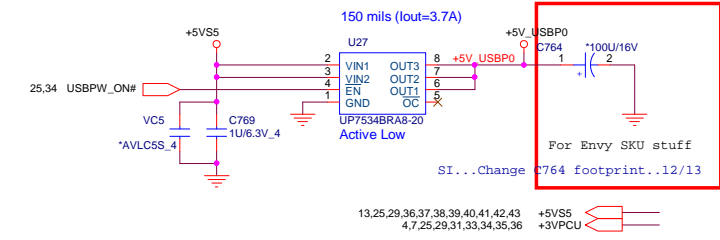
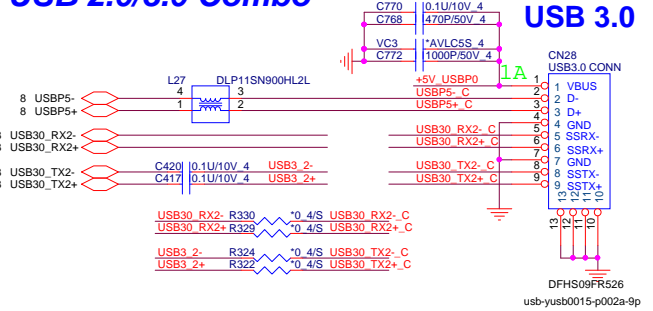
USB3.0 Re-driver



To Connector



USB 2.0/3.0 Combo



For Envy SKU stuff

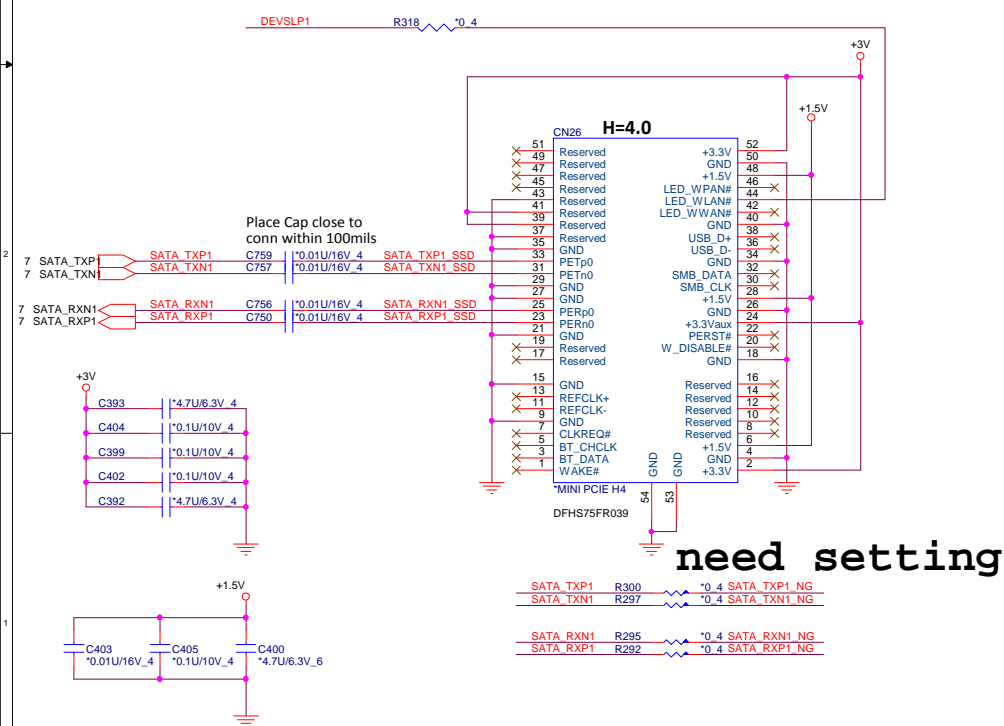
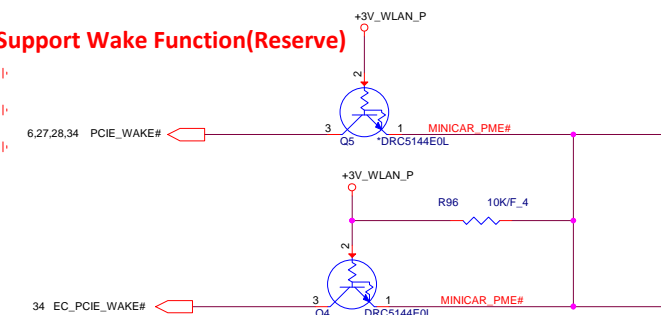
SI...Change C764 footprint..12/13

DFFC08FR016

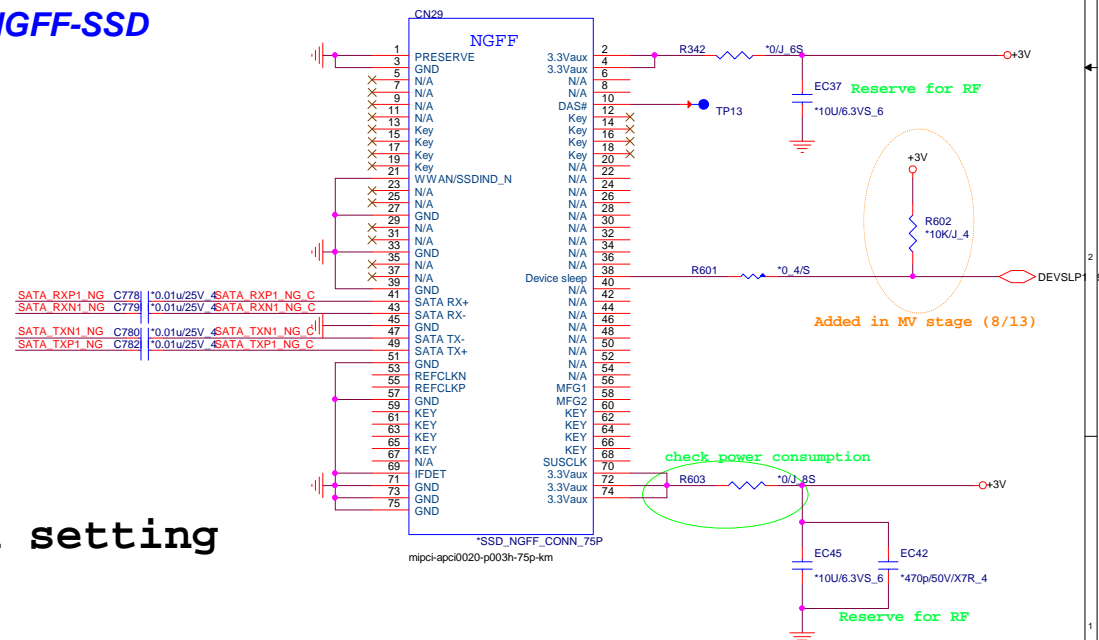


CLK\_24M\_DEBUG R91 EC10 \*33P/50V\_4  
PCIE\_WAKE# EC12 \*220P/50V\_4  
EC\_PCIE\_WAKE# EC13 \*220P/50V\_4

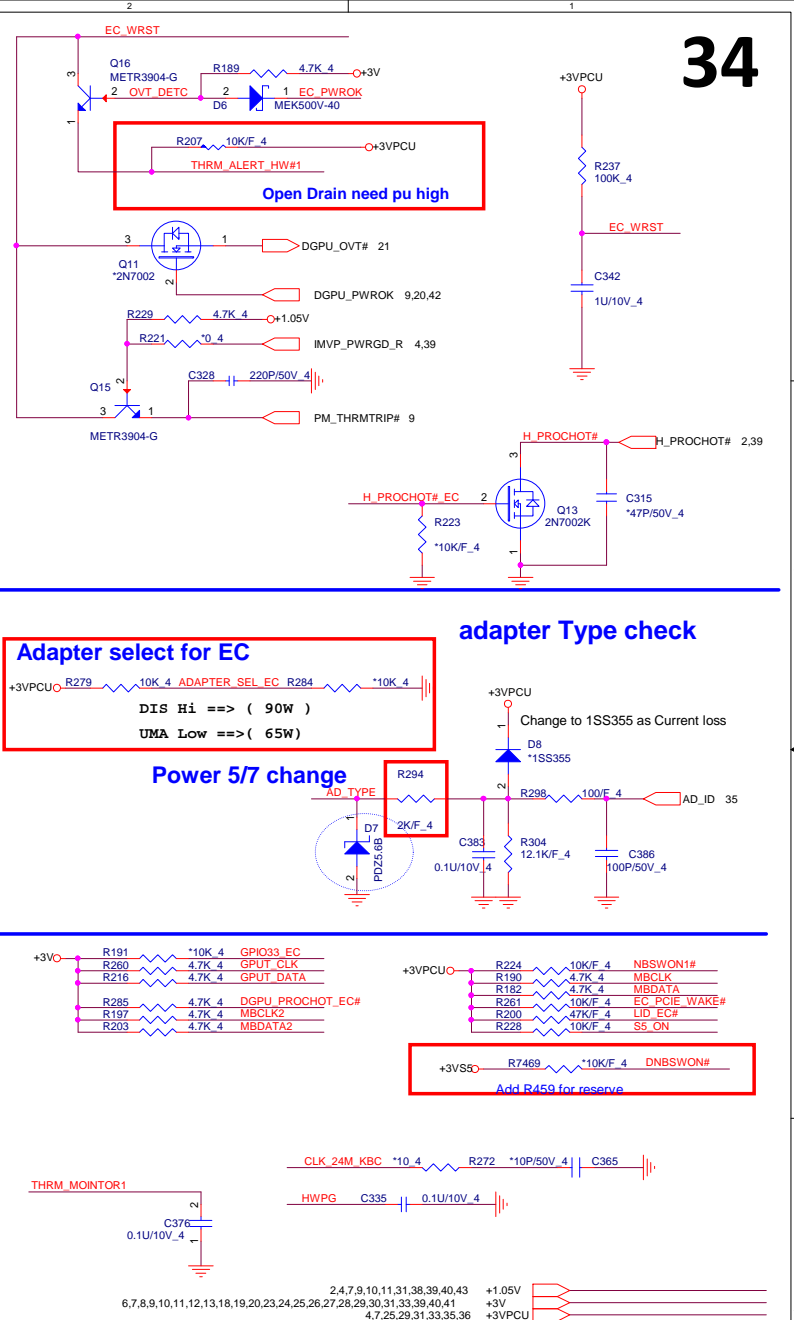
### Support Wake Function(Reserve)

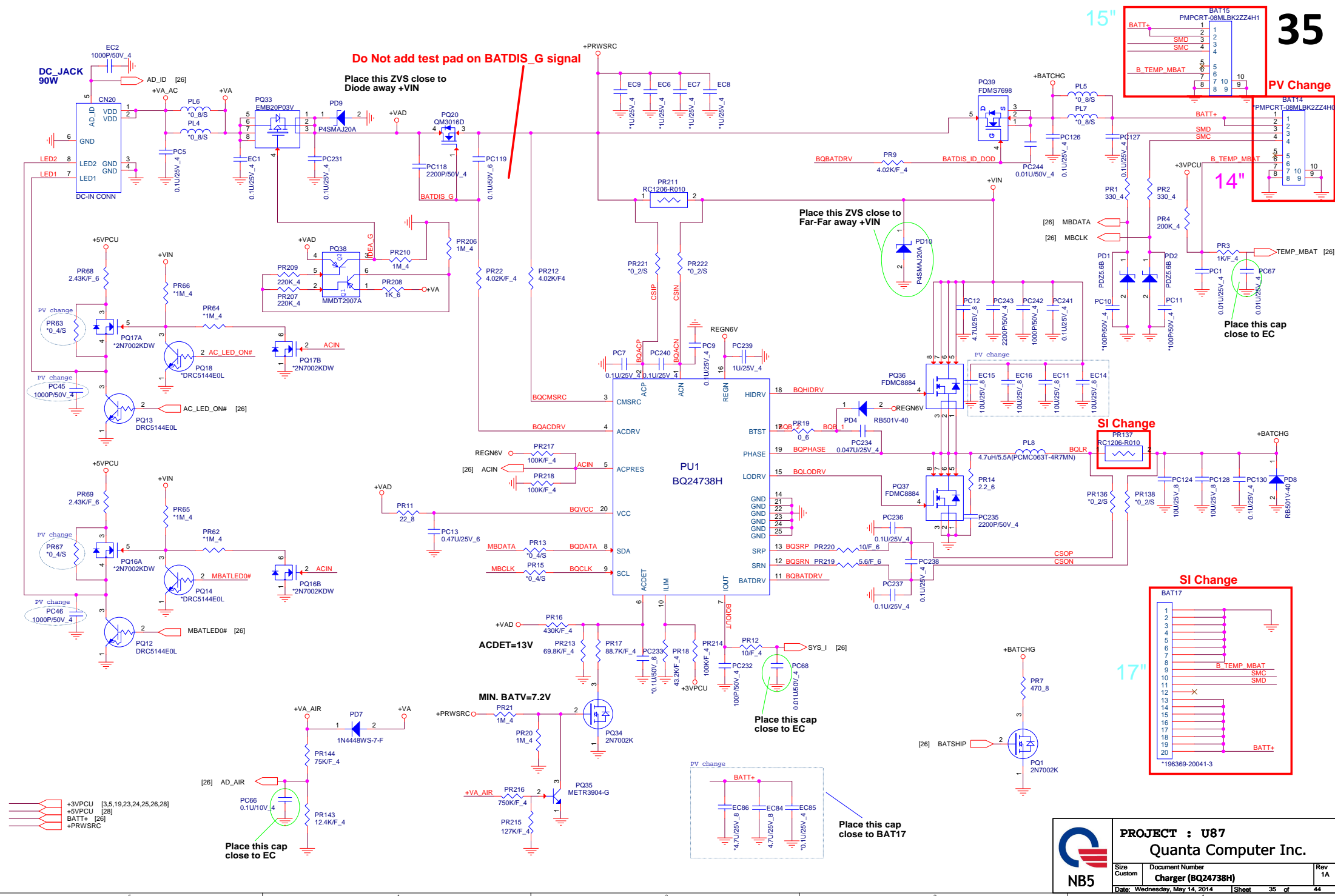


## NGFF-SSD

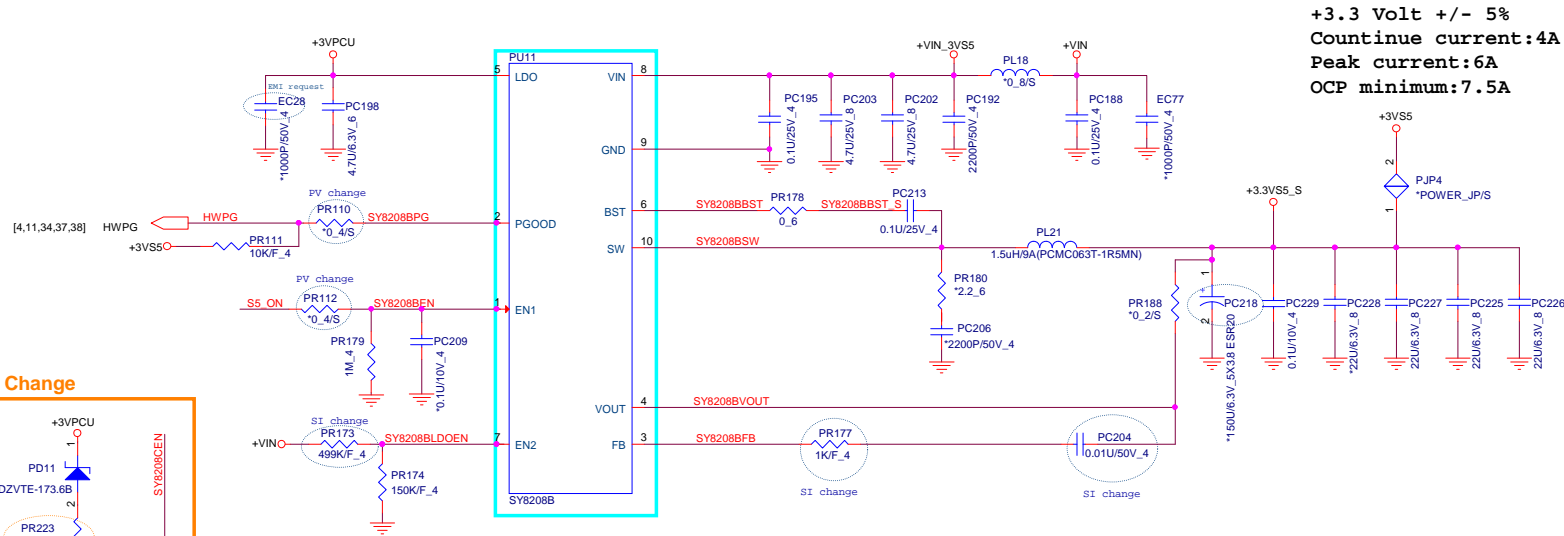


need setting

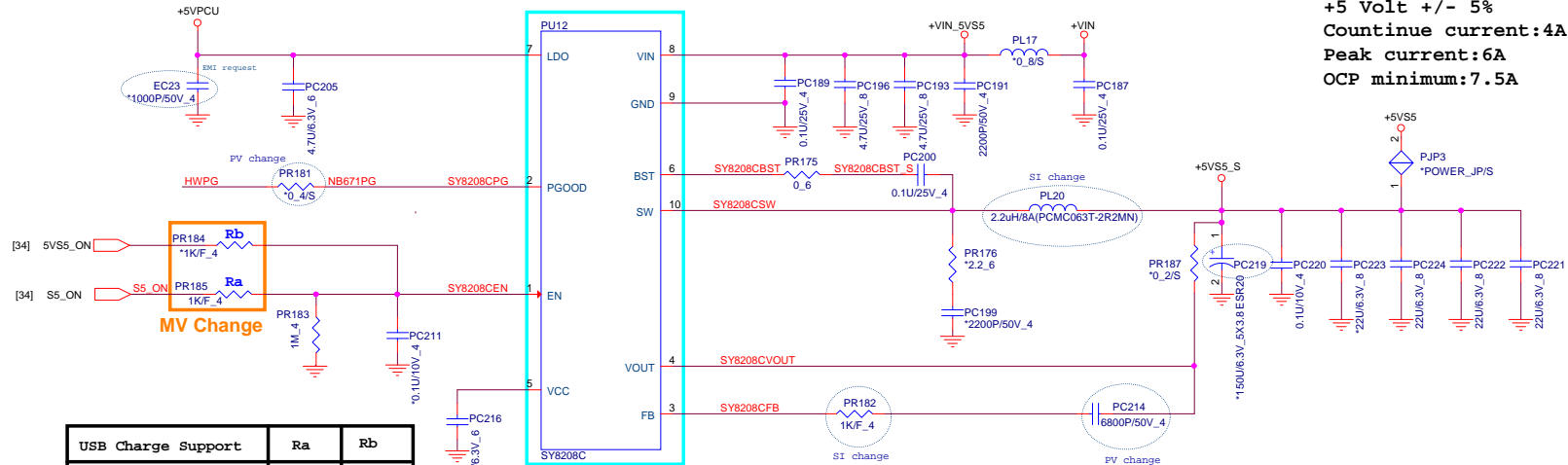
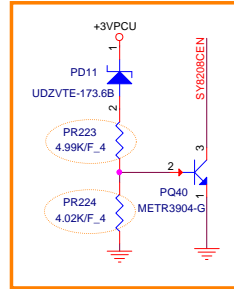




## DC/DC +3VS5/+5VS5



## MV Change

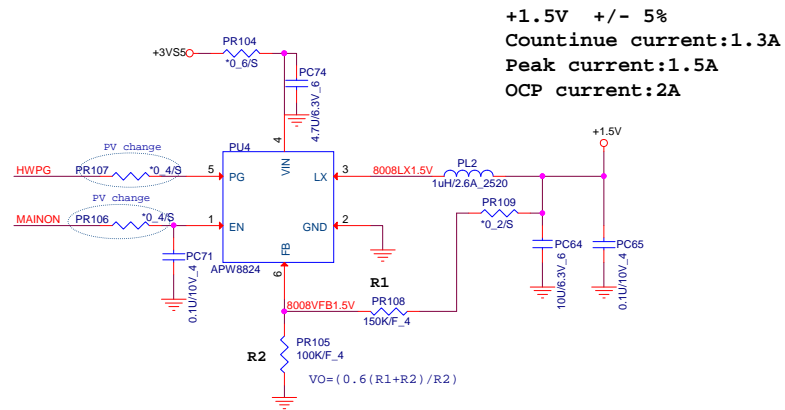
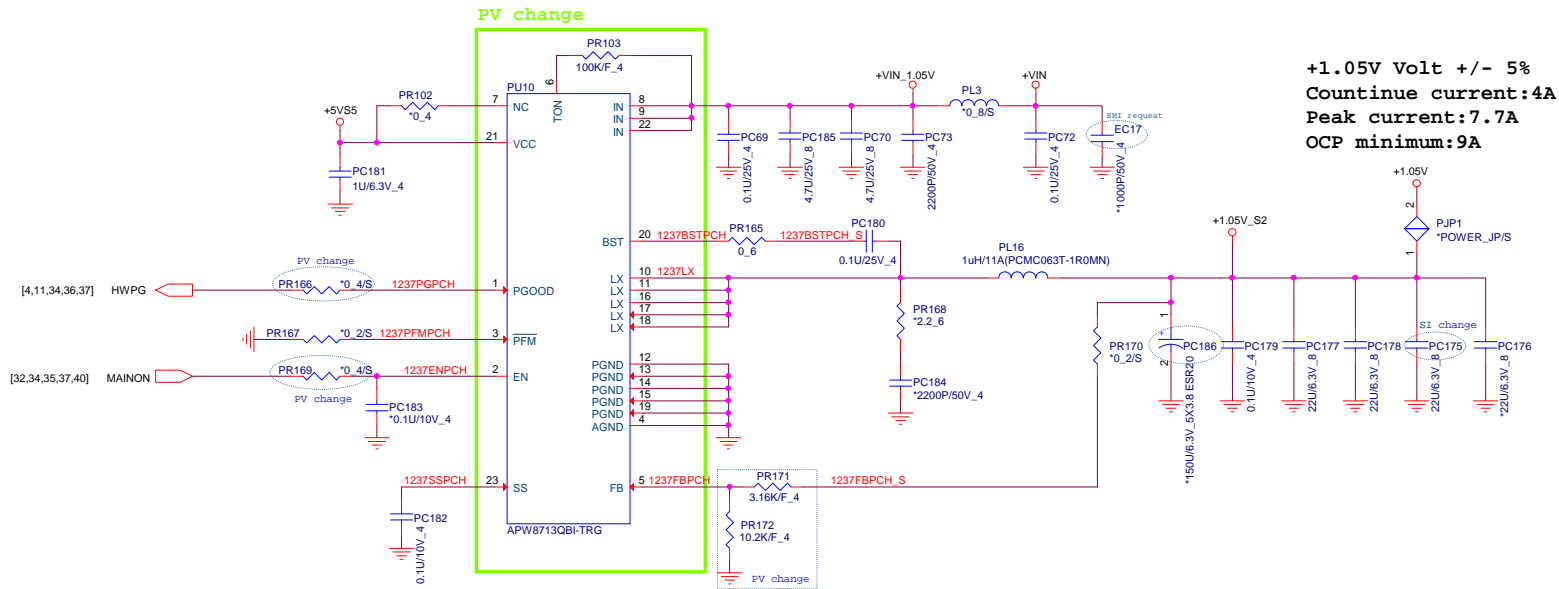


## MV Change

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







+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	<b>+1.1VS5 (RT8228)/2.5V</b>	1A
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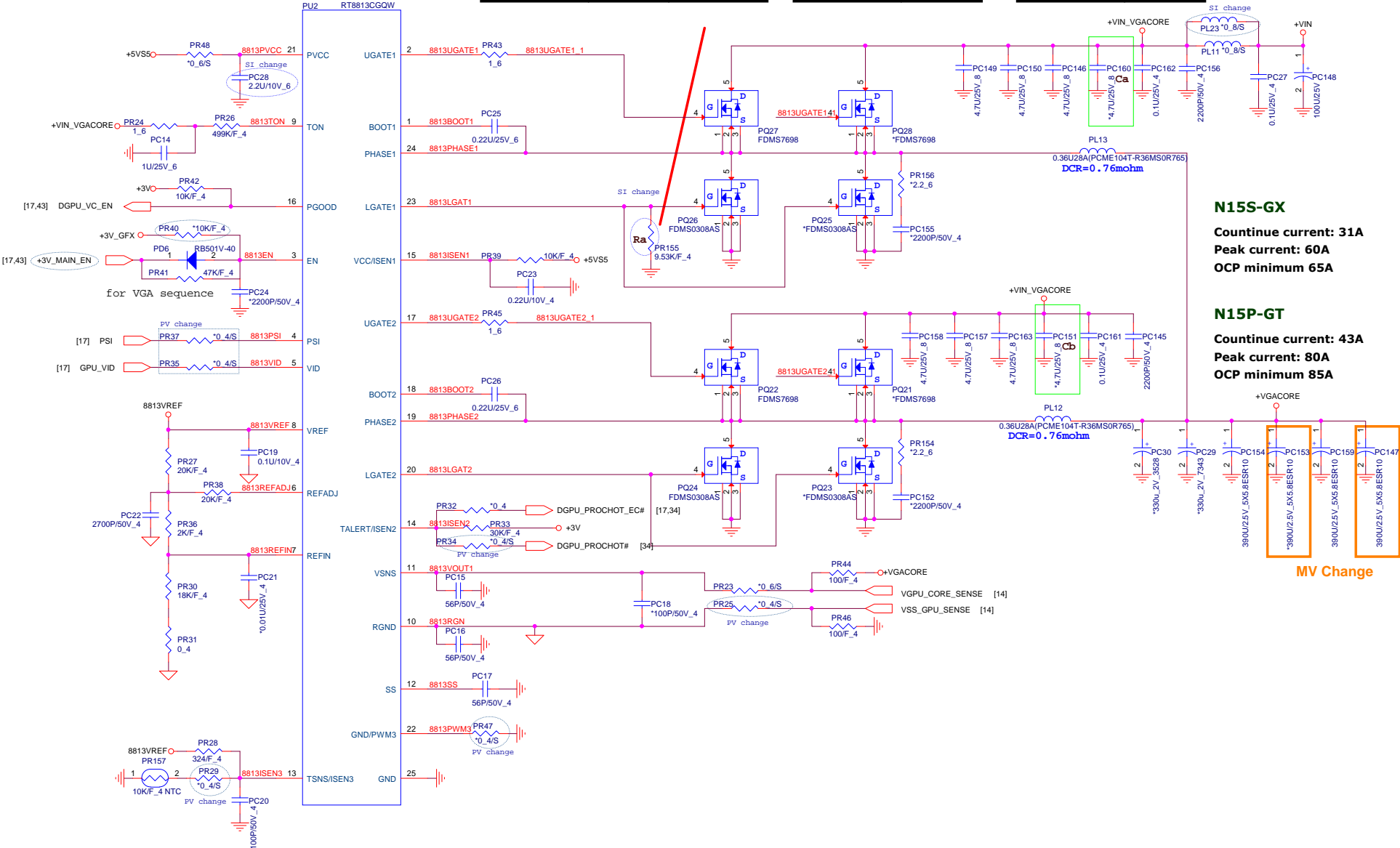




VGA TYPE	Ra Value	P/N
N15S-GX (25W)	9.53K	CS29532FB10
N15P-GT (35W)	12.4K	CS31242FB13

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

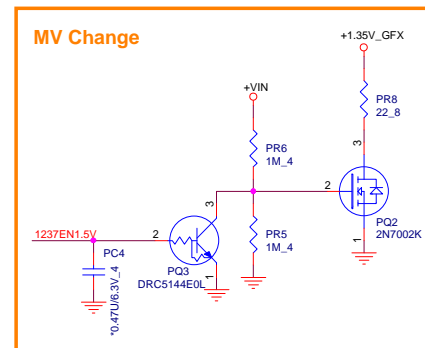
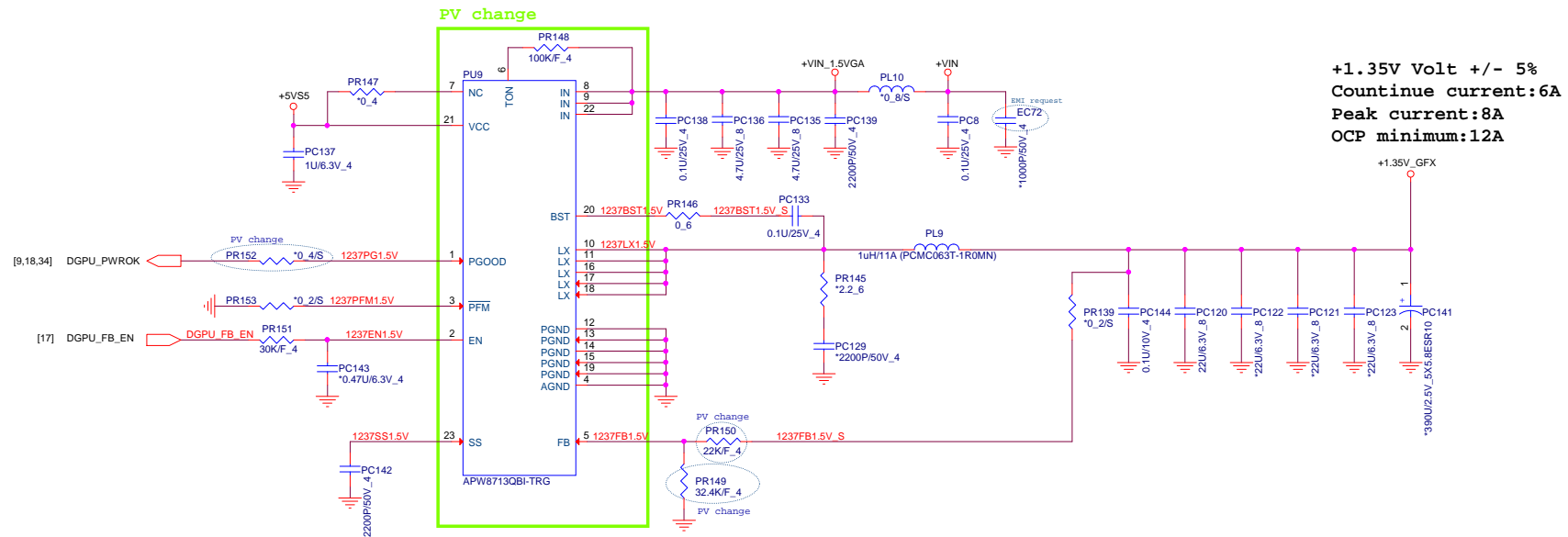
VGA TYPE	Ca, Cb
N15S-GX (25W)	No stuff
N15P-GT (35W)	Stuff

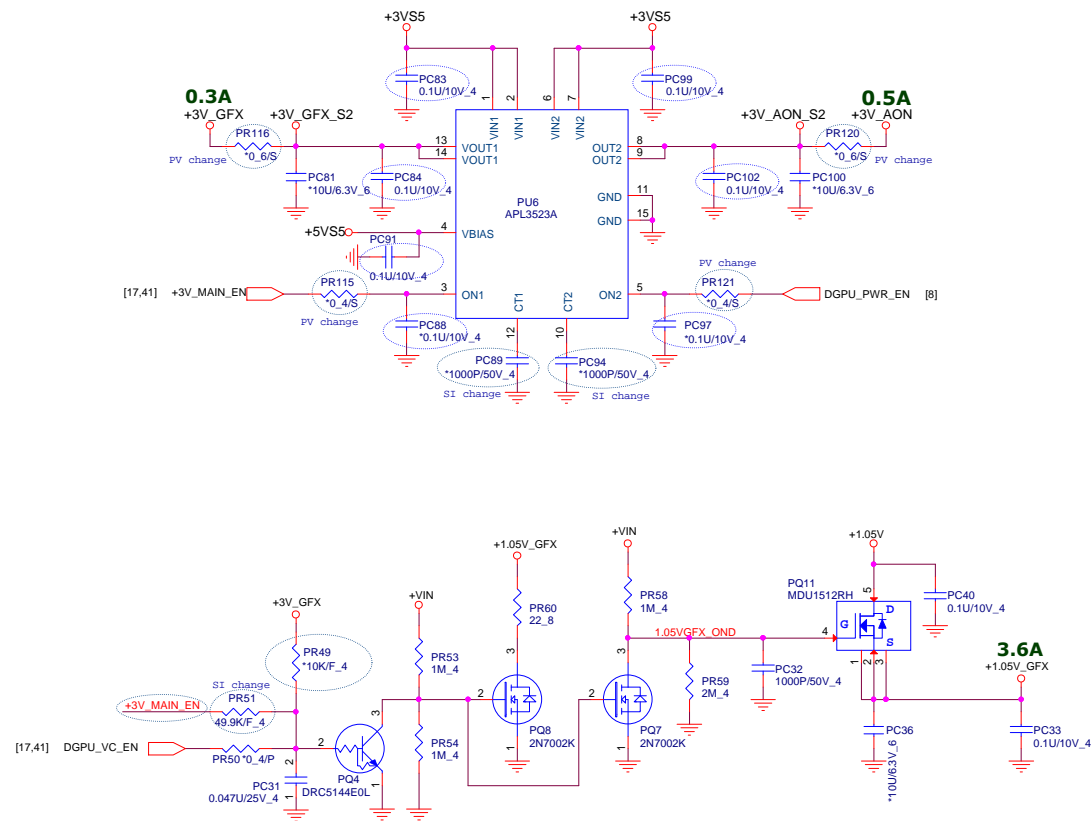


**N15S-GX**  
Countinue current: 31A  
Peak current: 60A  
OCP minimum 65A

**N15P-GT**  
Countinue current: 43A  
Peak current: 80A  
OCP minimum 85A

MV Change







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>			
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