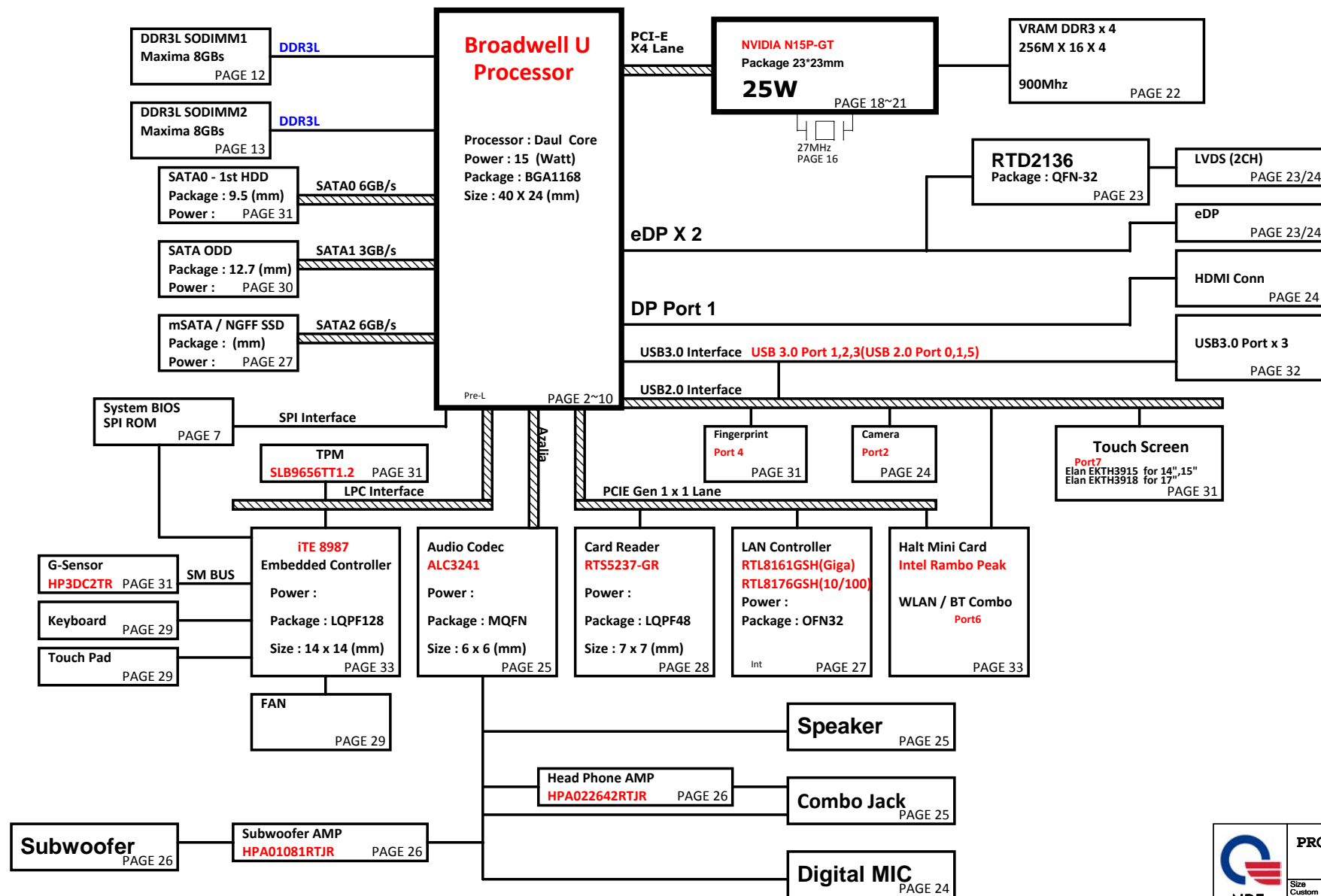


DIS (14" / 15" / 17") S-Vine^{MT} Intel Crescent Bay ULT Platform Block Diagram

PCB 6L STACK UP

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

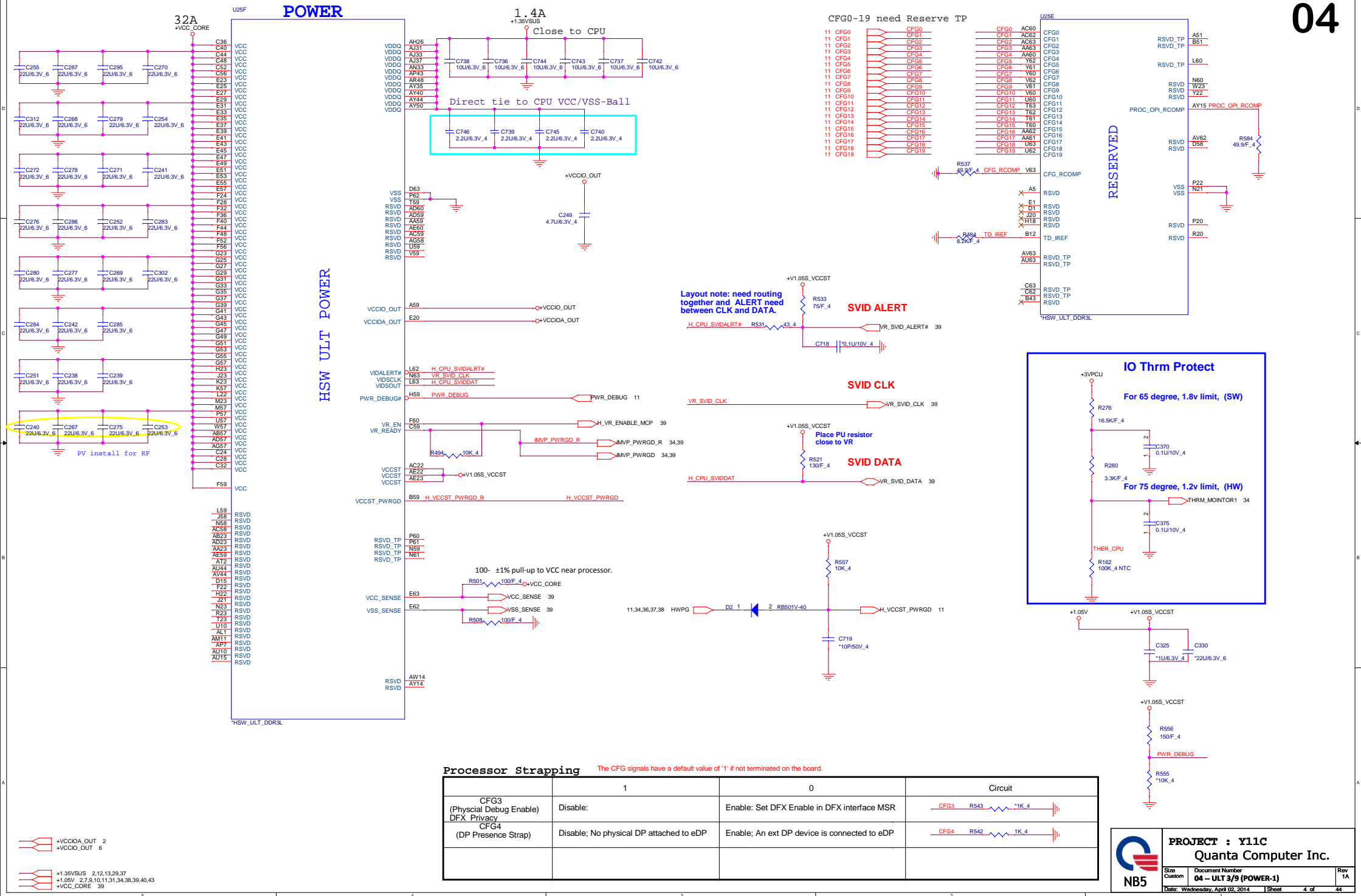




Processor pull-up (CPU)

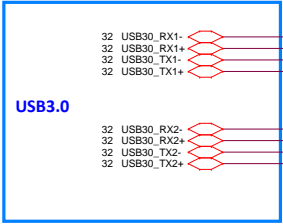
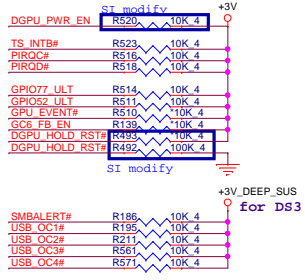


[illegible]

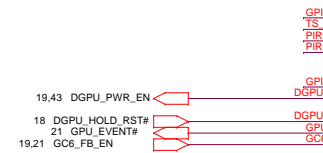


Lynx Point-LP Platform Controller Hub
(HDA, JTAG, SATA)

PCI/USBOC# Pull-up(CLG)



20111130 Modify USB3.0 for HM70



Cardreader

WLAN

LAN

C-Link

USB2.0(MB-1) (USBP0)
USB2.0(MB-2) (USBP5)

USB2.0 Small board (USBP1)
FP Small board (USBP4)

Camera
WLAN
TS

TS

TS

TS

TS

TS

TS

TS

TS

TS

TS

TS

TS

TS

TS

TS

TS

TS

TS

TS

TS

TS

TS

TS

TS

TS

TS

TS

TS

TS

Cardreader

WLAN

LAN

VGA

TIE TRACES TOGETHER
CLOSE TO PINS WITH LENGTH
TO RESISTOR

USBRBIAS#
USBRBIAS#
R193 22.0K 4

AN10
AM10
R193 22.0K 4

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

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

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

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

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

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

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

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

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

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

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

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

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

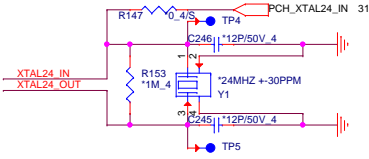
AL3 USB_OC1#
AT1 USB_OC2#
AH2 USB_OC3#
AV3 USB_OC3#

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

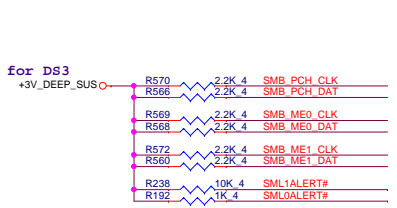
AL3 USB_OC1#
AT1 USB_OC2#
AH2 USB_OC3#
AV3 USB_OC3#

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

CLK_REQ/Strap Pin(CLG)



SMBus/Pull-up(CLG)



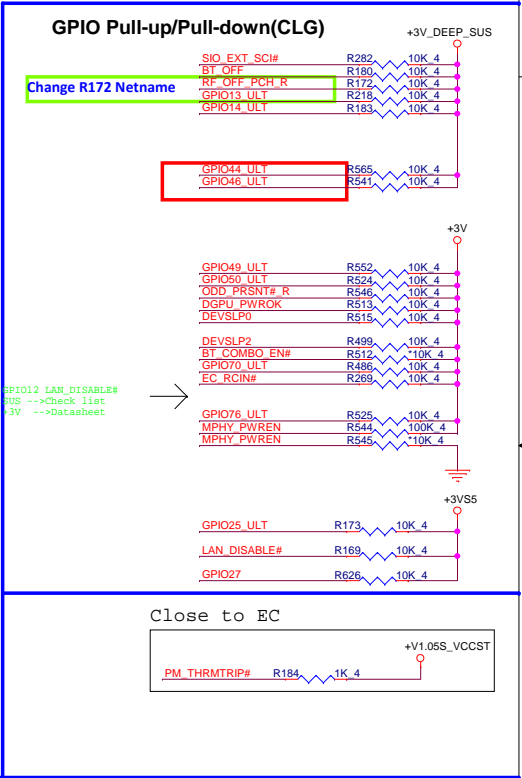
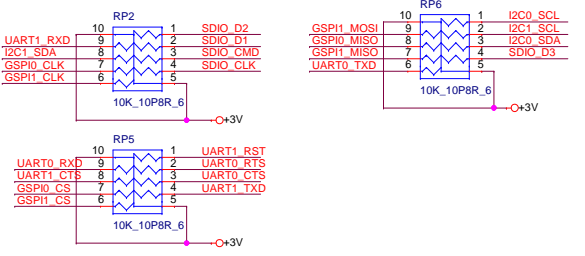
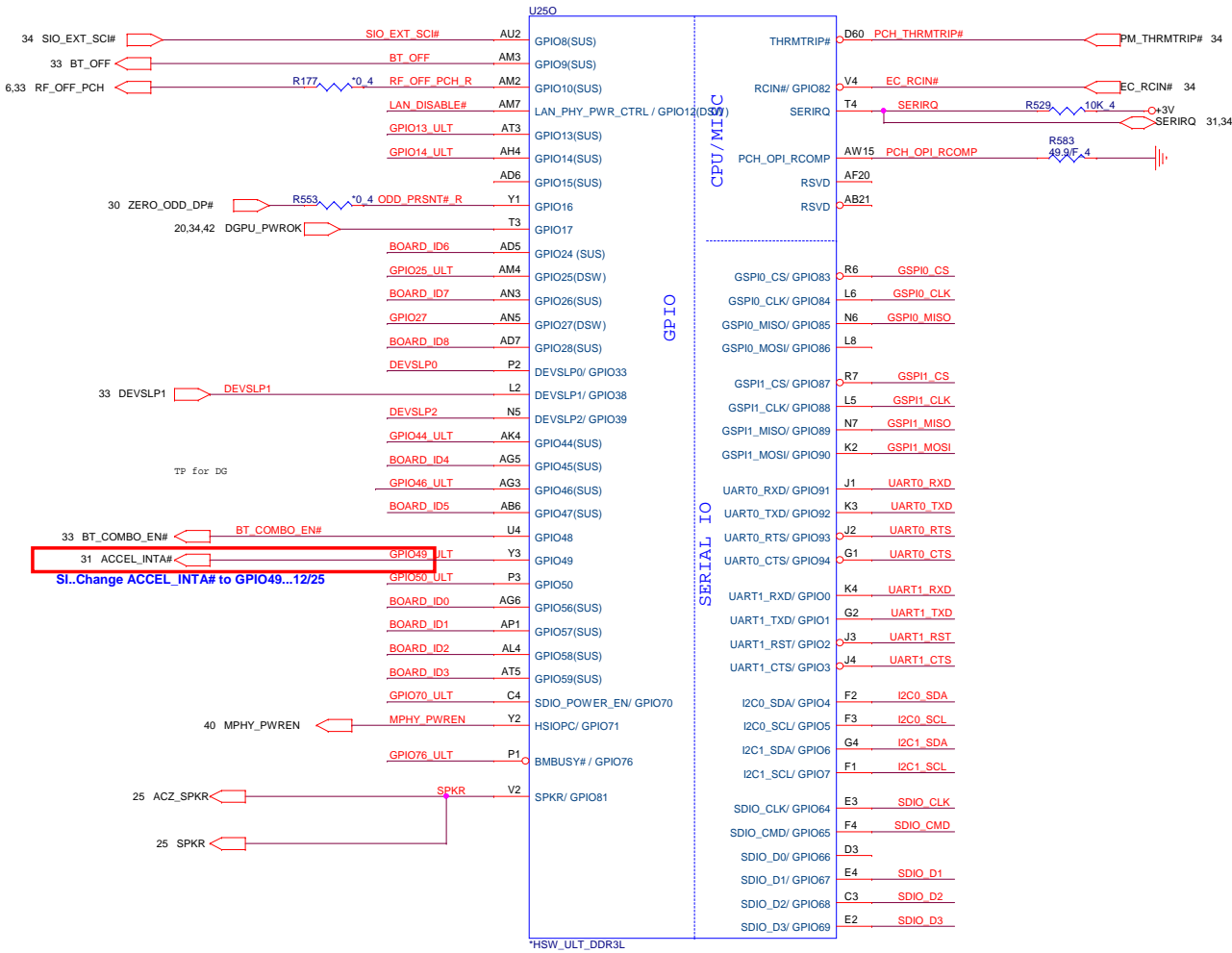
PROJECT : Y11C
Quanta Computer Inc.

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

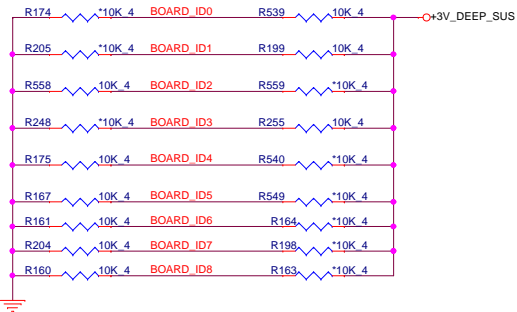
6,7,9,10,11,12,13,18,19,20,23,24,25,26,27,28,29,30,31,33,34,39,40,41 +3V
6,7,9,10,11 +3V_DEEP_SUS

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

09



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

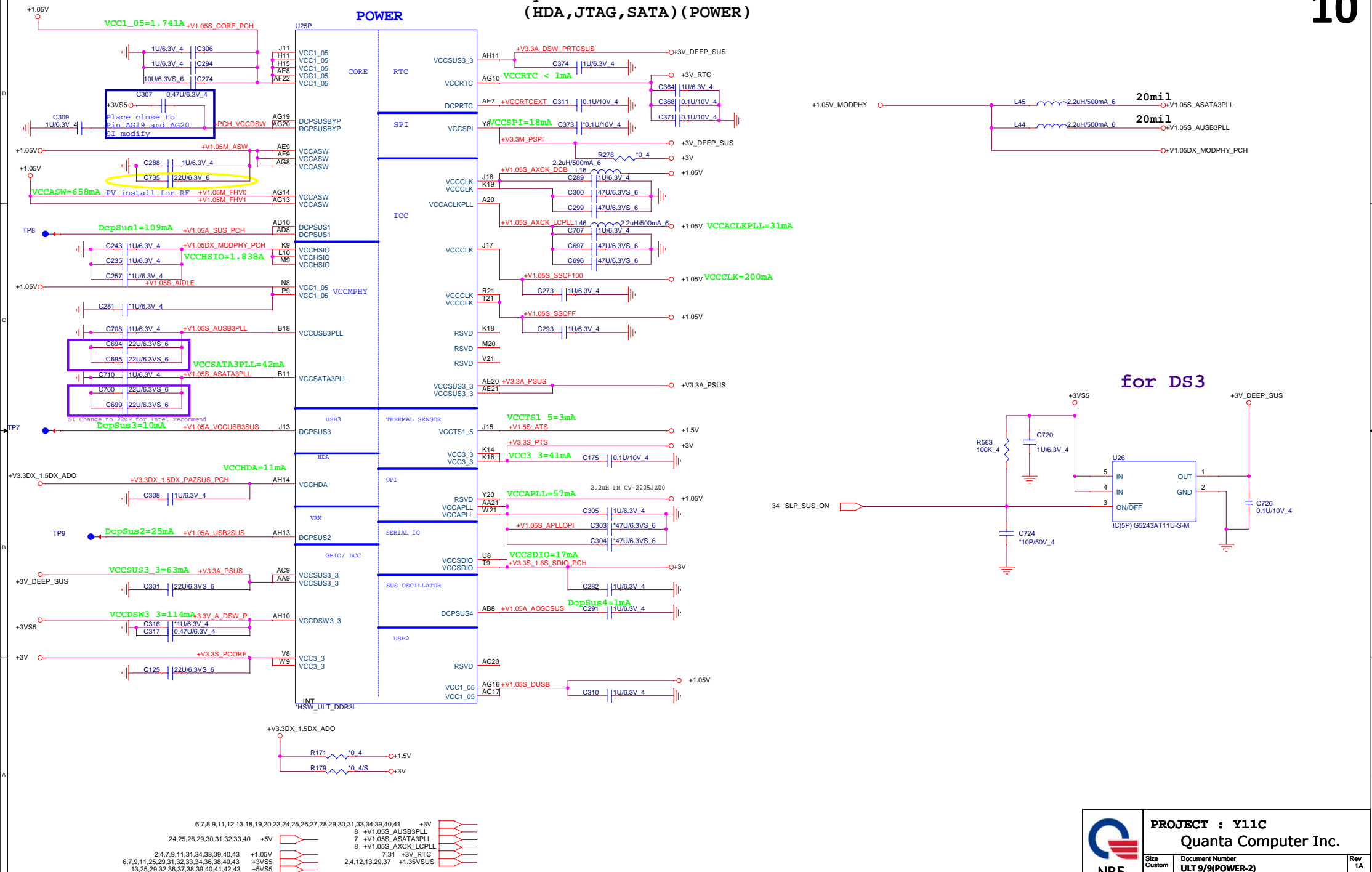


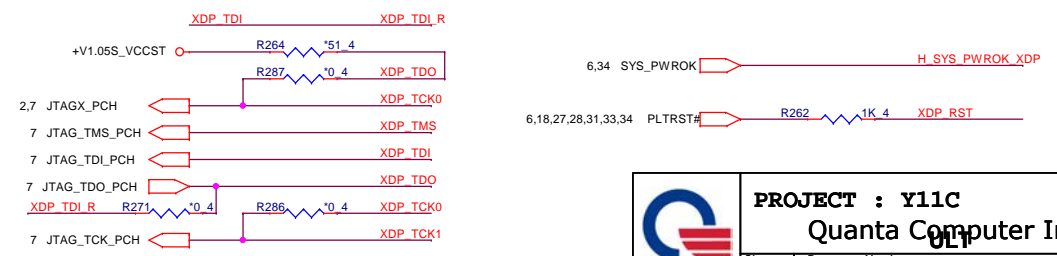
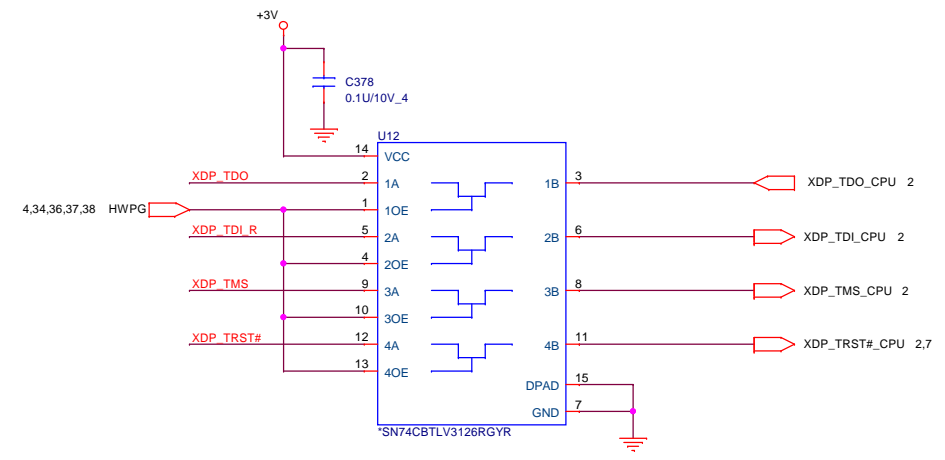
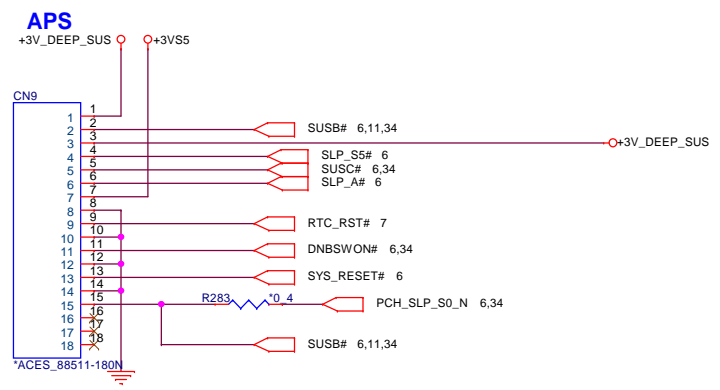
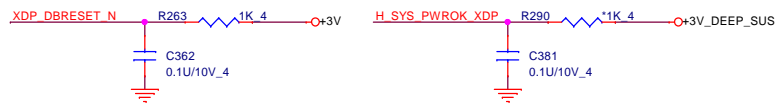
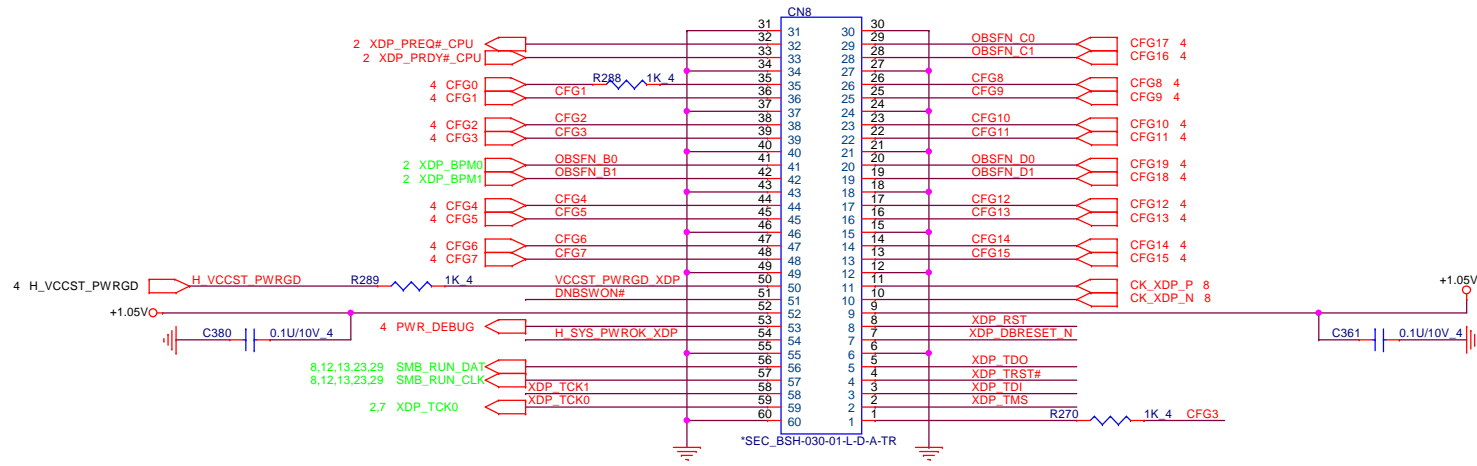
	DIS	UMA
Stuff	Ra	Rb
NC	Rb	Ra

PROJECT : Y11C
Quanta Computer Inc.

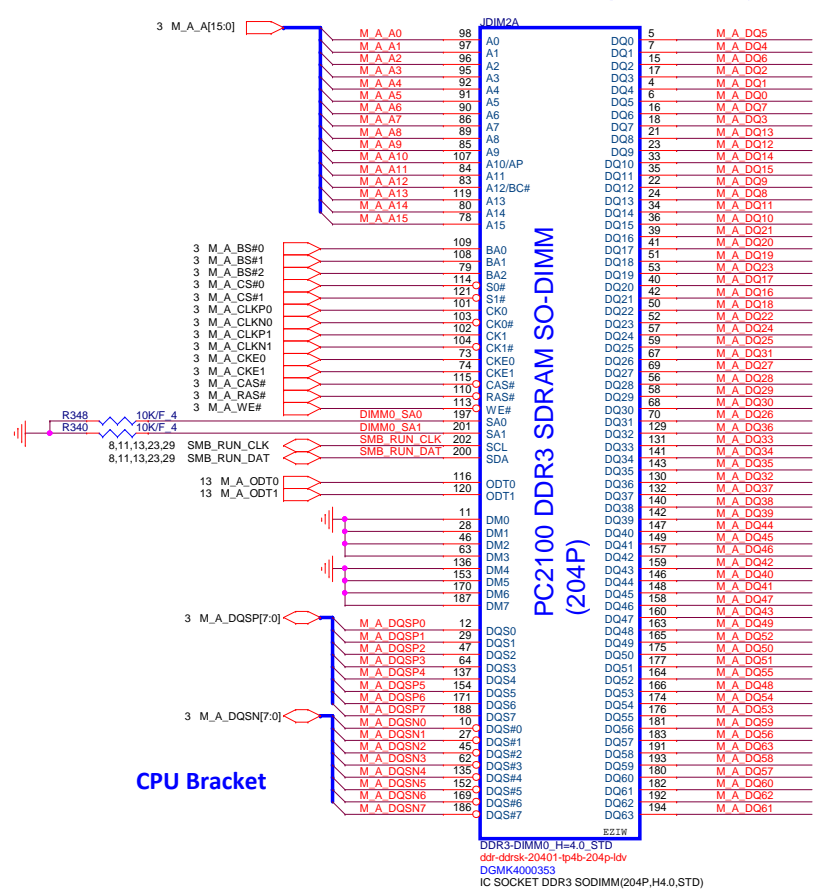
Size Custom	Document Number ULT 8/9 (GPIO/MISC)	Rev 1A
Date: Wednesday, April 02, 2014		Sheet 9 of 44

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

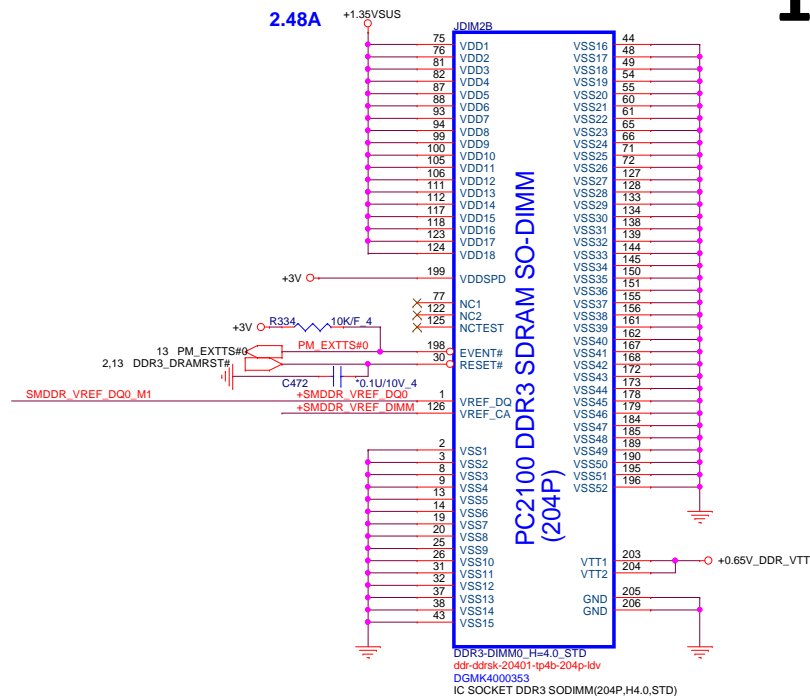




DIMM & Footprint 同Joshua提供

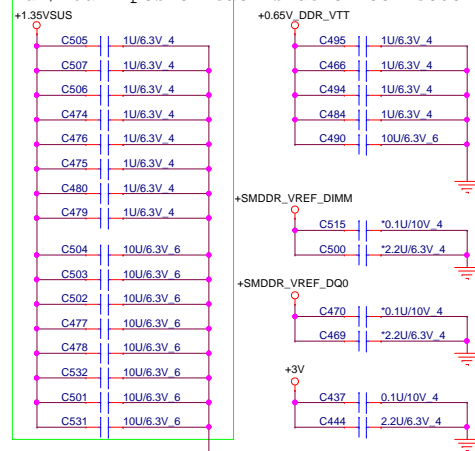


M_A_DQ[63:0] 3

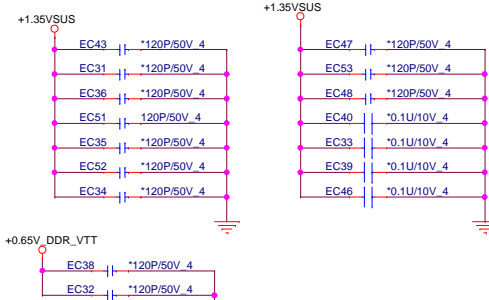


Place these Caps near So-Dimm0.

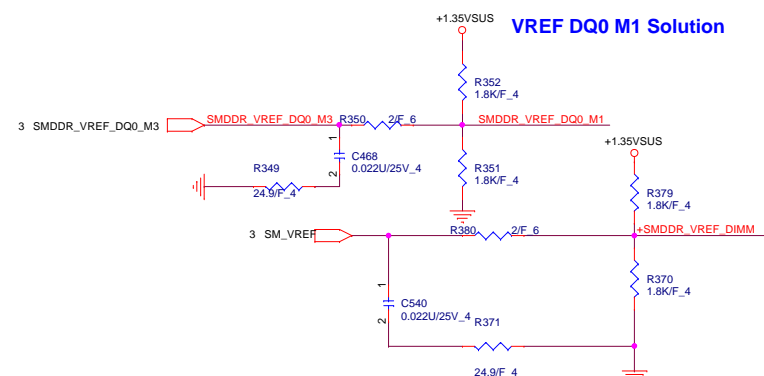
1uF/10uF 4pcs on each side of connector



For EMI RESERVE

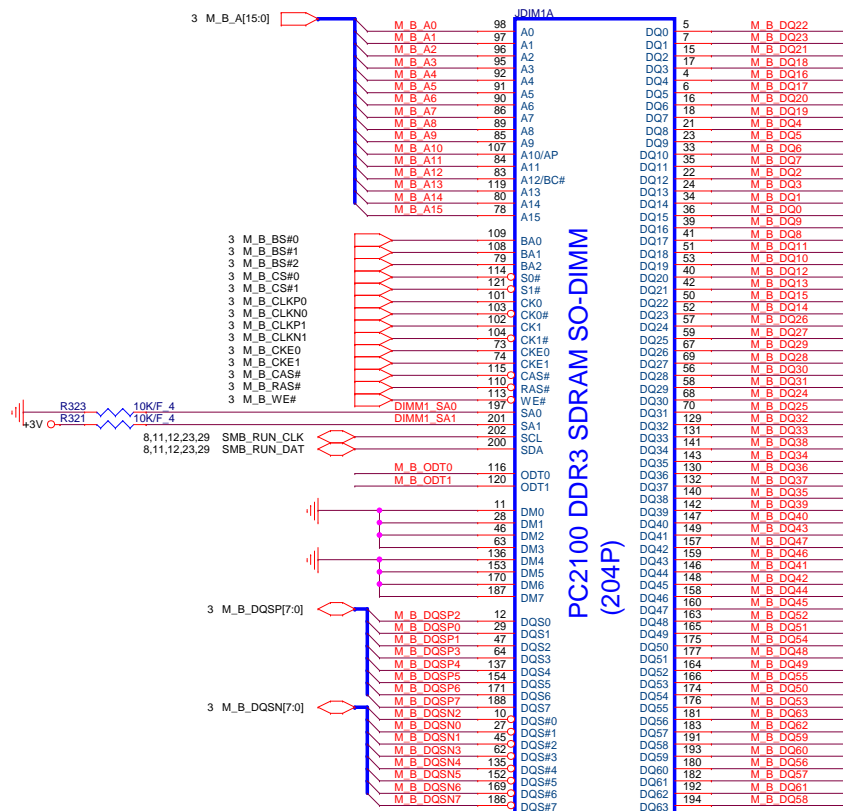


VREF DQ0 M1 Solution

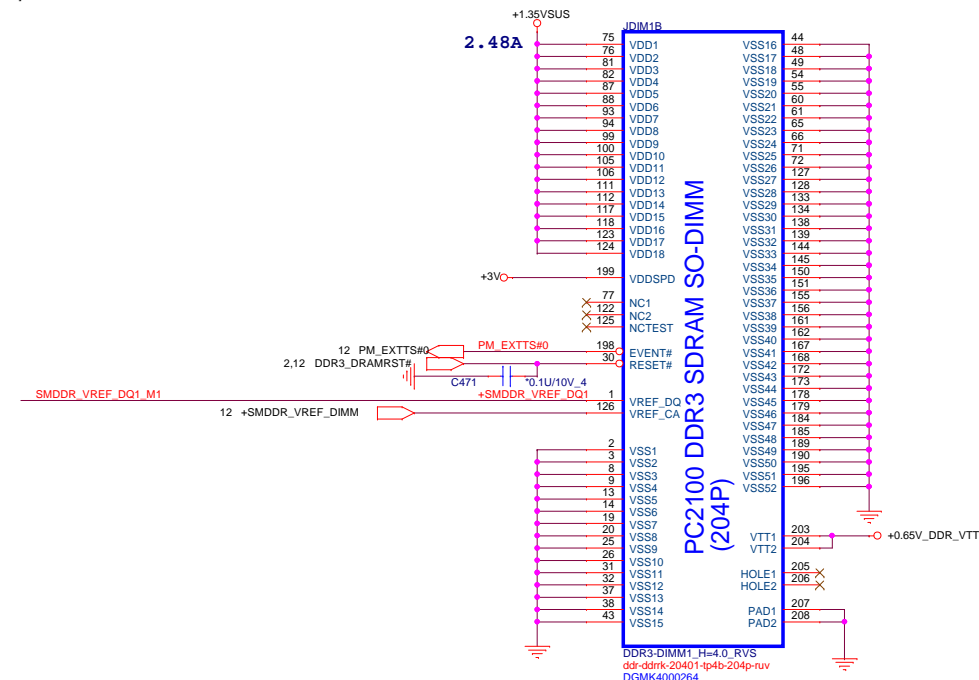


DIMM & Footprint 同Joshua提供

M_B_DQ[63:0] 3

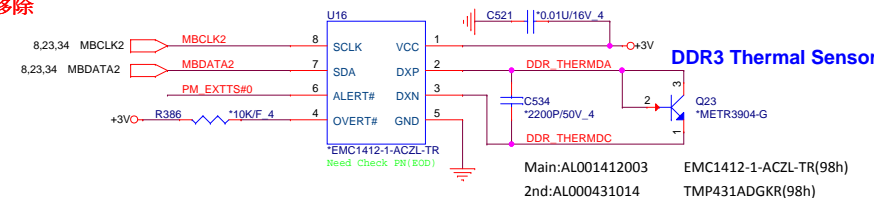


DDR3-DIMM1_H=4.0_RVS
ddr-ddr3k-20401-tp4b-204p-ruv
DGMK4000264



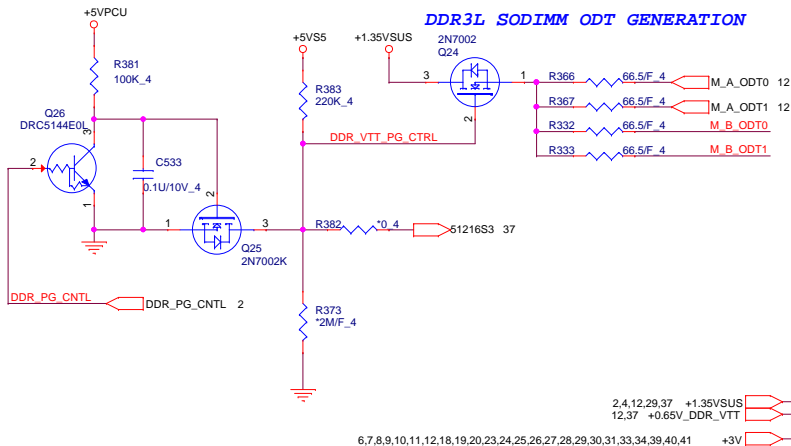
Local Thermal Sensor

mv可移除



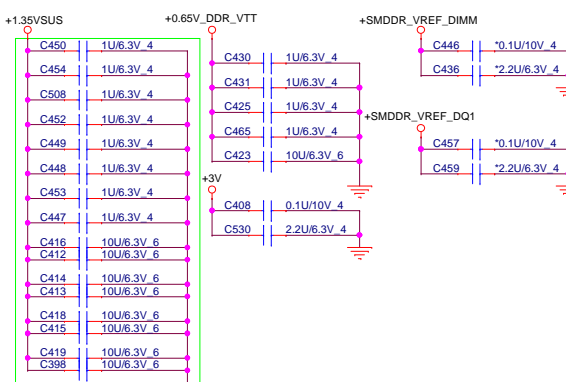
Main:AL001412003 EMC1412-1-ACZL-TR(98h)
2nd:AL000431014 TMP431ADGKR(98h)

DDR3L SODIMM ODT GENERATION

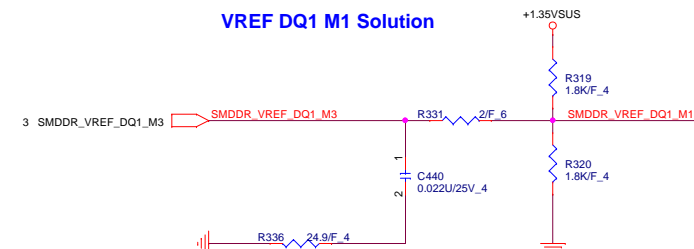



Place these Caps near So-Dimm1.


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




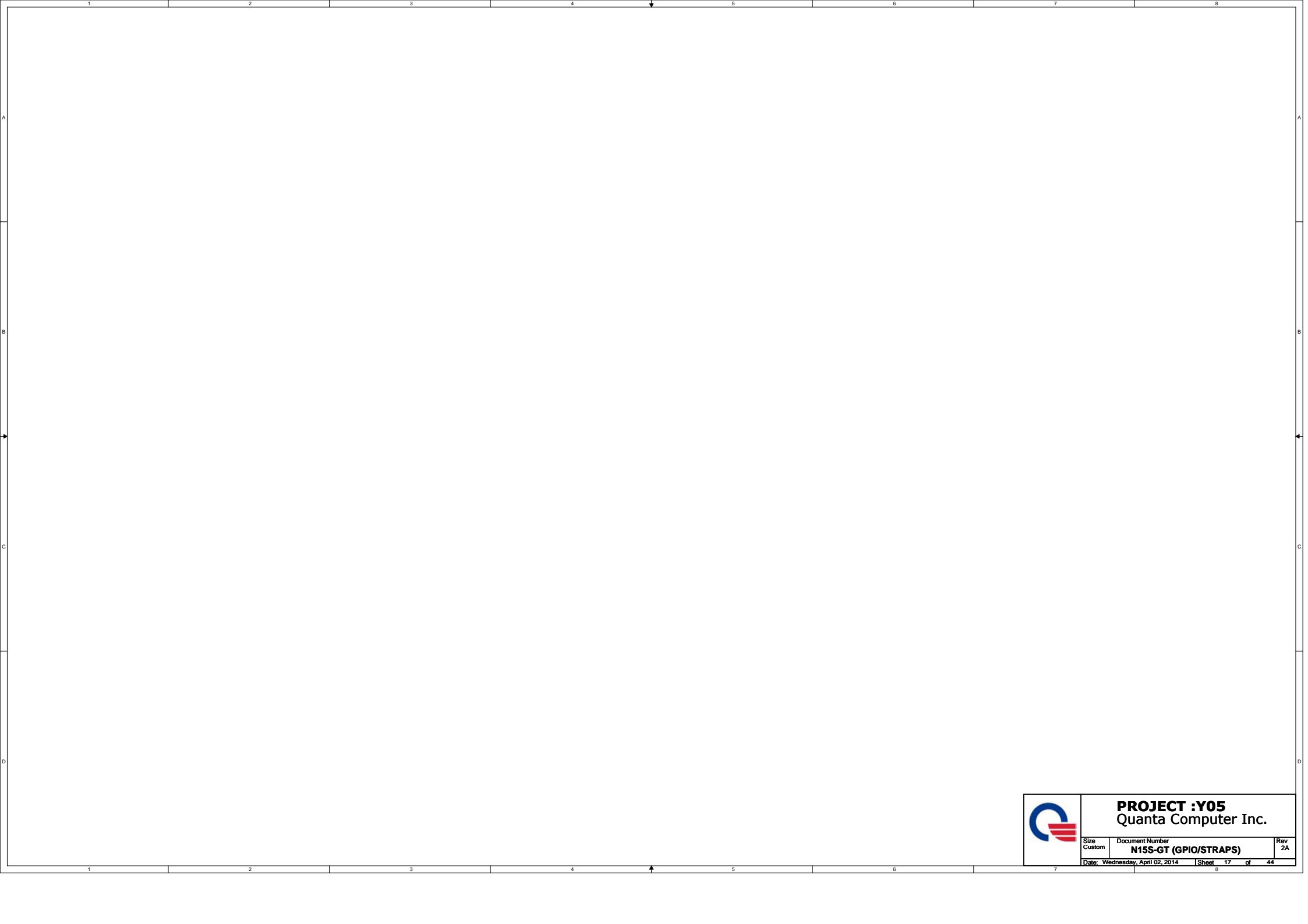
VREF DQ1 M1 Solution



	PROJECT :Y05 Quanta Computer Inc.		
	Size Custom	Document Number N15S-GT (PCIE VF) /NVDD	Rev 2A
	Date: Wednesday, April 02, 2014 Sheet 14 of 44		

	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

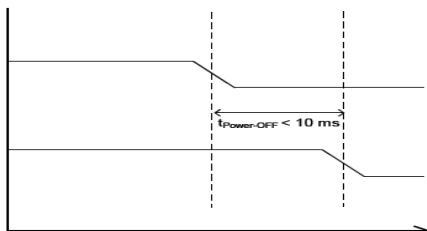
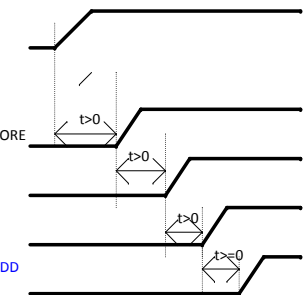
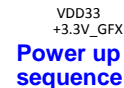
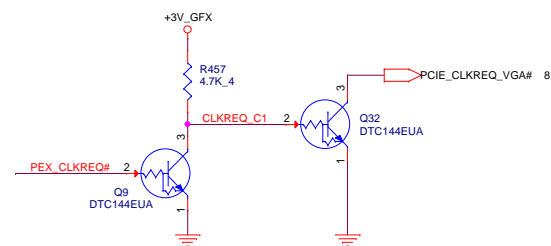
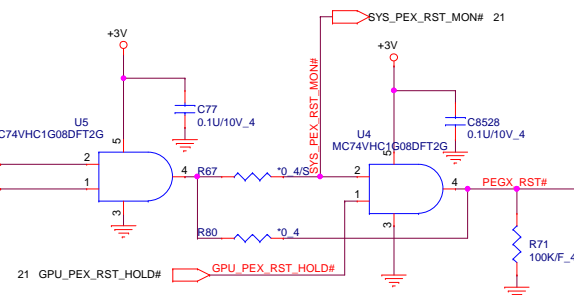
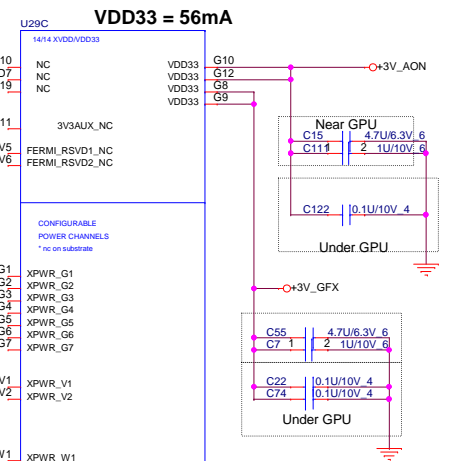
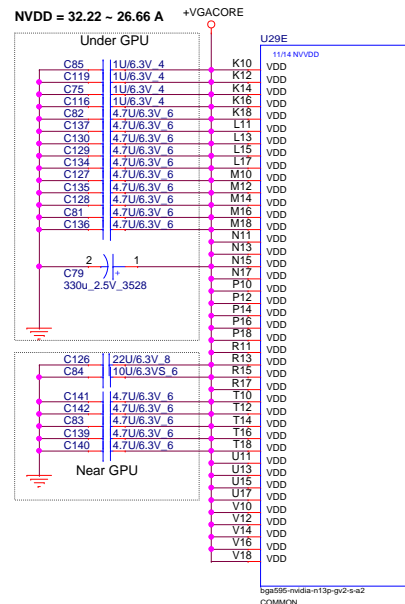
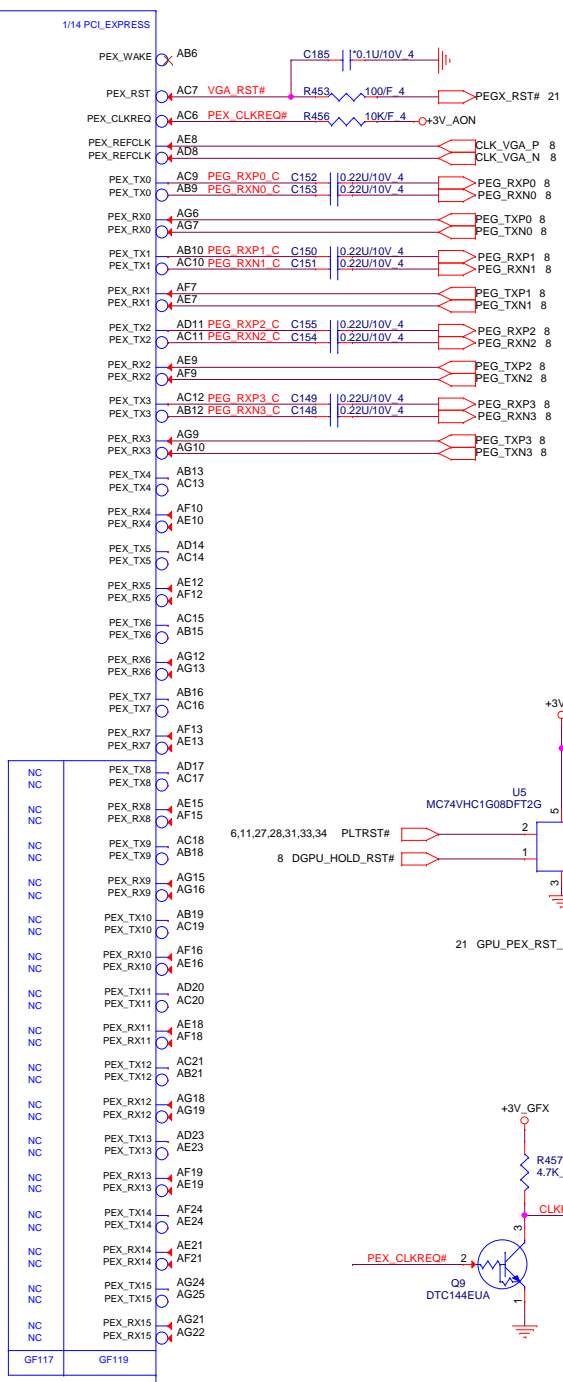
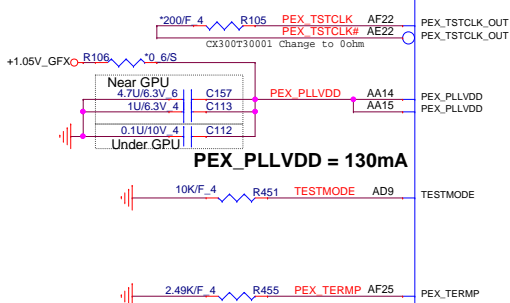


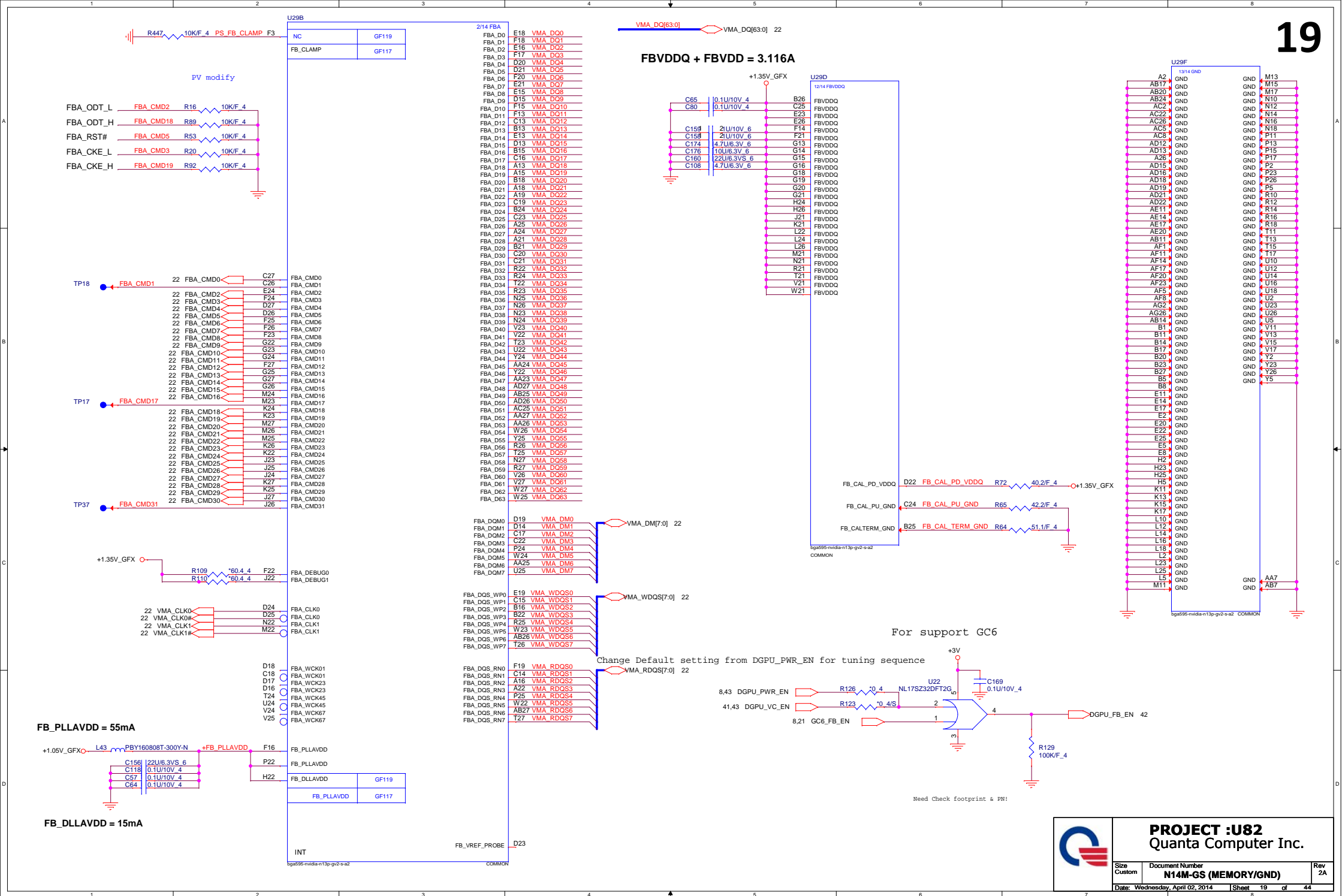
PROJECT :Y05
Quanta Computer Inc.

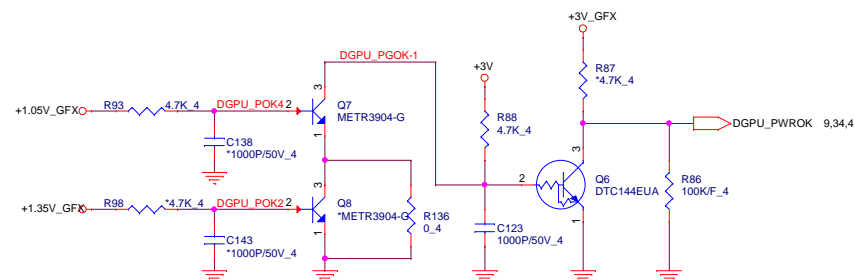
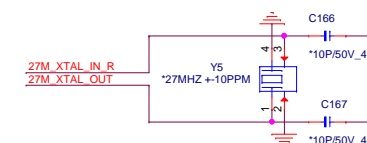
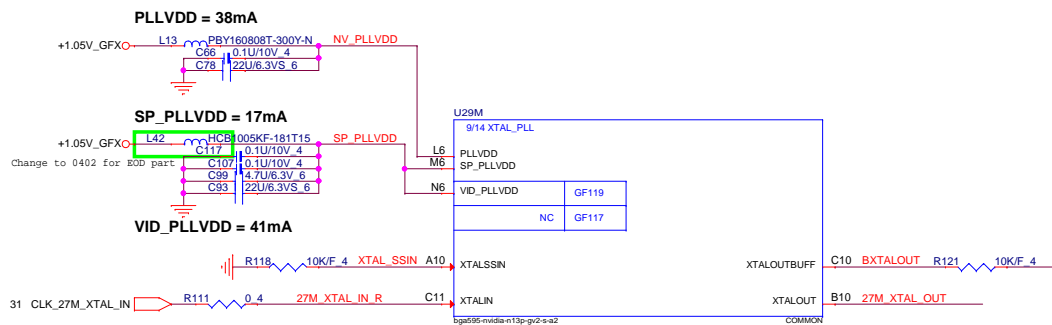
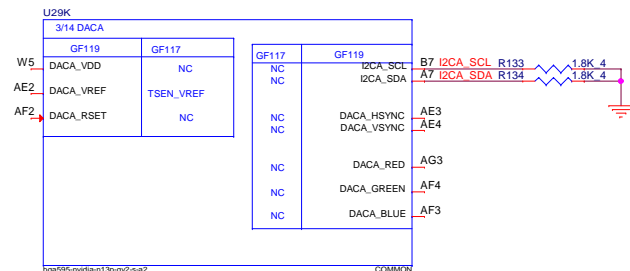
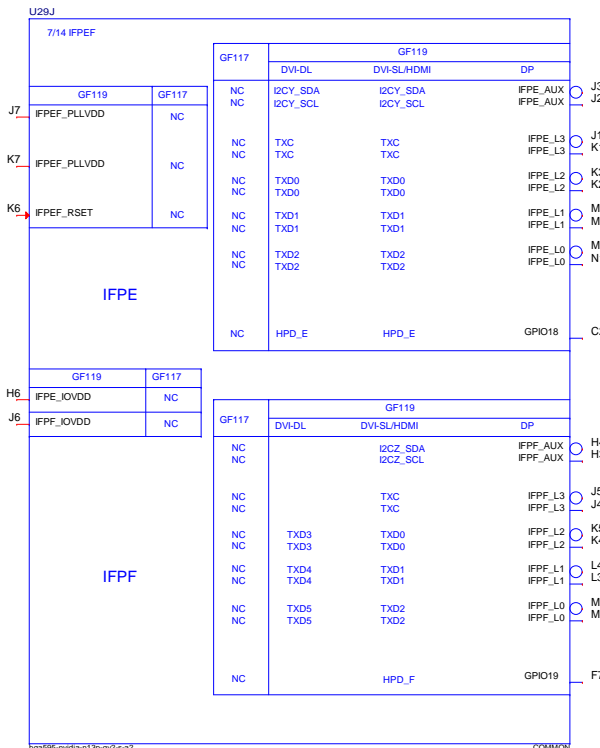
Size Custom	Document Number N15S-GT (GPIO/STRAPS)	Rev 2A
Date: Wednesday, April 02, 2014 Sheet 17 of 44		

1.05V, GFX0				
C191	*22U/6.3V 6	AA10	PEX_10VDD0	
C196	*22U/6.3V 6	AA12	PEX_10VDD0	
C195	*10U/6.3V 6	AA13	PEX_10VDD0	
C187	*10U/6.3V 6	AA18	PEX_10VDD0	
C183	4.7U/6.3V 6	AA19	PEX_10VDD0	
Near GPU		AA20	PEX_10VDD0	
		AA21	PEX_10VDD0	
		AB22	PEX_10VDD0	
		AC23	PEX_10VDD0	
Under GPU		AD24	PEX_10VDD0	
C147	*1U/6.3V 4	AE25	PEX_10VDD0	
C144	*0.1U/10V 4	AF26	PEX_10VDD0	
		AF27	PEX_10VDD0	

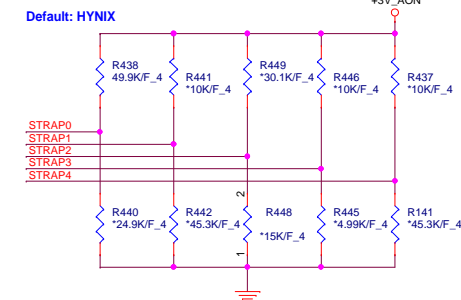
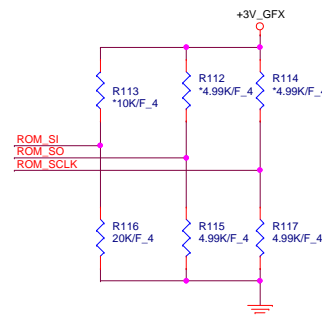
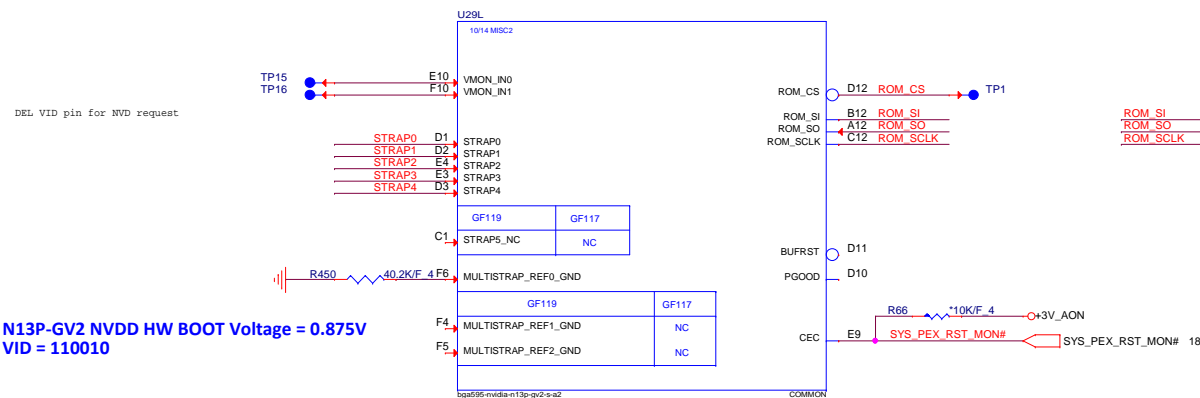
The diagram illustrates the PLL power supply network. A +3V_{AON} input is connected to a network of capacitors (C56, C16, C14) and a 'Near GPU' block. The network is connected to output nodes AA8, AA9, and AB8, which are labeled as PEX_PLL_HV, PEX_PLL_HV, and PEX_SVDD_3 respectively.







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

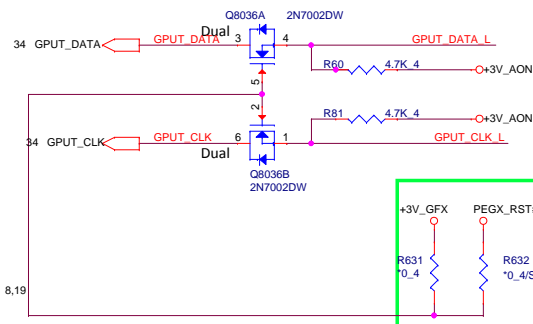
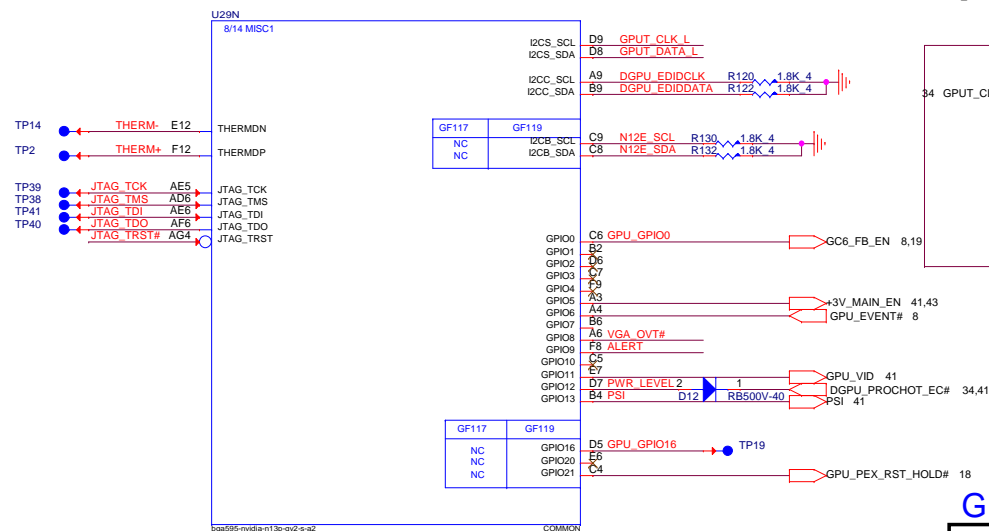


4.99k	CS24992PB26
10k	CS31002PB26
15k	CS31502PB24
20k	CS32002PB29
24.9k	CS32492PB16
30.1k	CS33012PB18
34.8k	CS33482PB22
45.3k	CS34532PB18

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%

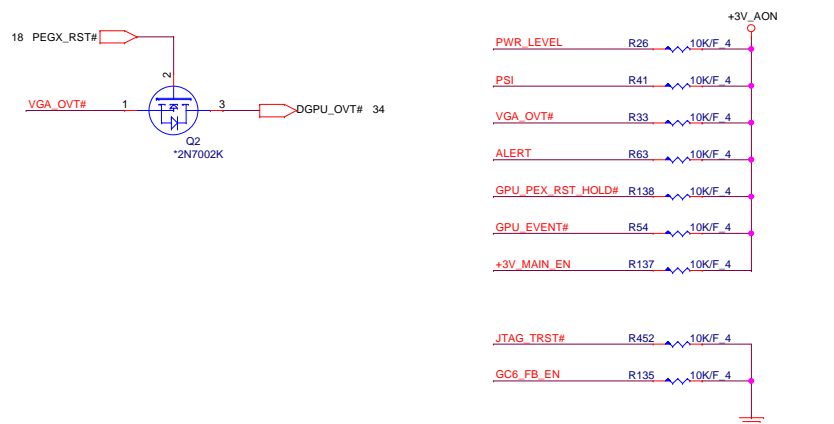


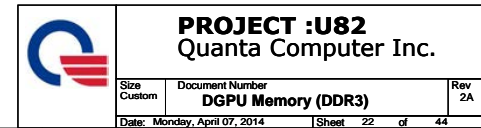
VRAM Configuration Table ROM_SI

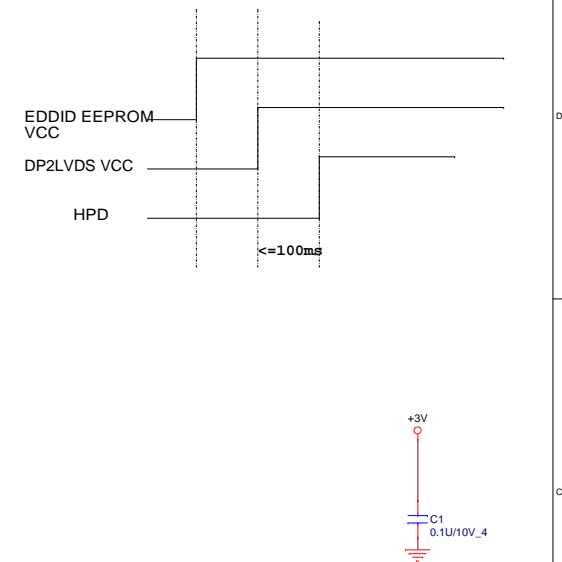
RAMCFG [3:0]	DESCRIPTION	Vendor	Vendor P/N	QCI P/N	QBC	TOP B/S
0000	DDR3 256Mx16, 64bit, 4Gb,900MHz	...	MT41J256M16HA-093G:E	S-M	AKD5PZSTL01	AKD5PZSTL00
0100	DDR3 256Mx16, 64bit, 4Gb,900MHz	Micron	H5TC4G63AFR-11C	AKD5PGWT500	AKD5PGWTW08	AKD5PGWTW07
0011	DDR3 256Mx16, 64bit, 4Gb,900MHz	HYNIX	4W4G1646D-BC1A			
0101	DDR3L 256Mx16, 64bit, 4Gb,900MHz	SAMSUNG				

GPIO ASSIGNMENTS

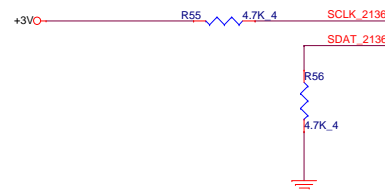
GPIO	I/O	PIN	USAGE
0	IN	FB_CLAMP_MON	FB Clamp monitor
1	OUT	MEM_VDD_CTL	Memory VDD VID
2	OUT	LCD_BL_PWM	Panel Backlight PWM
3	OUT	LCD_VCC	PANEL POWER ENABLE
4	OUT	LCD_BLEN	PANEL BACKLIGHT ENABLE
5	OUT	Reserved	--
6	OUT	FB_CLAMP_TGL_REQ	Active low FB Clamp toggle request
7	OUT	3D VISION	3D VISION LEFT/RIGHT 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







6.24	PCH_LVDS_BLON	PCH LVDS_BLON	R50	0 4	LVDS_BLON_2136
6.24	PCH_DISP_ON	PCH DISP_ON	R51	0 4	2136_DISP_ON
6.24	PCH_DPST_PWM	PCH DPST_PWM	R36	0 4	2136_DPST_PWM



6,7,8,9,10,11,12,13,18,19,20,24,25,26,27,28,29,30,31,33,34,39,40,41 +3V 

keep 80 Mile Trace

3V

L11
PBY160808T-600Y-N(60,3A)
USING 60R 2A

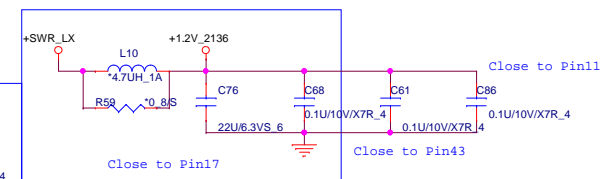
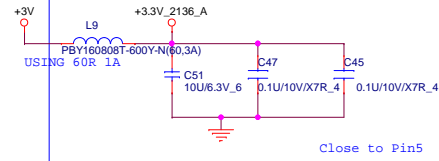
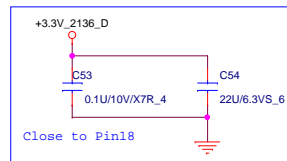
+3.3V 2136_D

C94
10U/6.3V 6

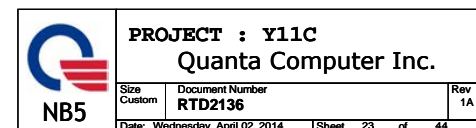
C95
0.1U/10V/X7R_5

C46
0.1U/10V/X7R_4

CLOSE TO Pin22



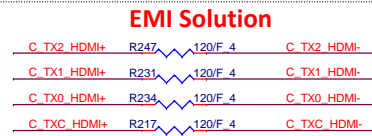
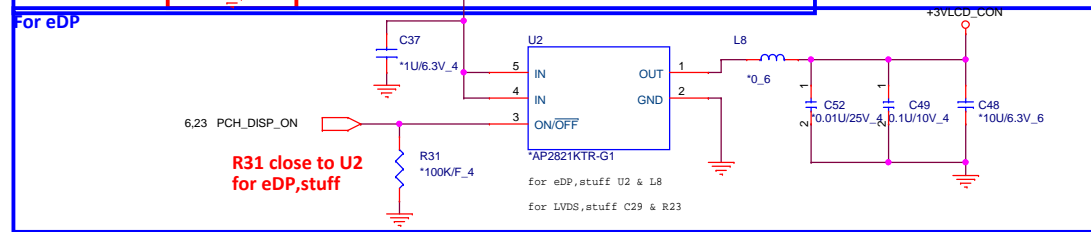
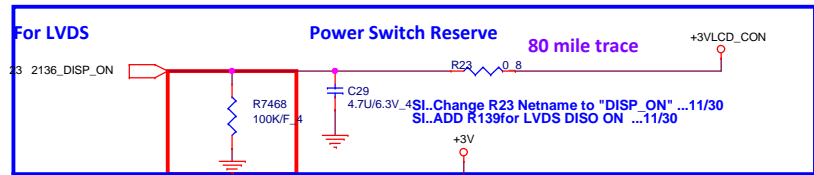
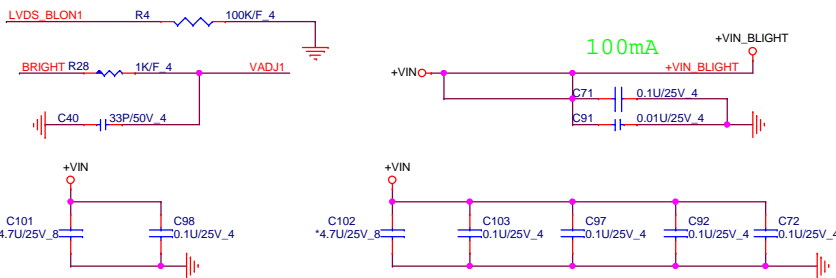
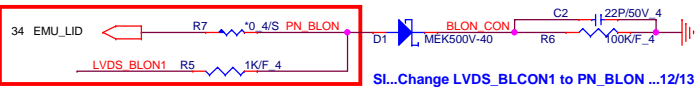
SWR MODE	LDO MODE
Stuff L8	Stuff R86



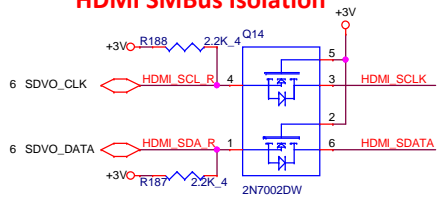
LID Switch

LVDS Conn.

24

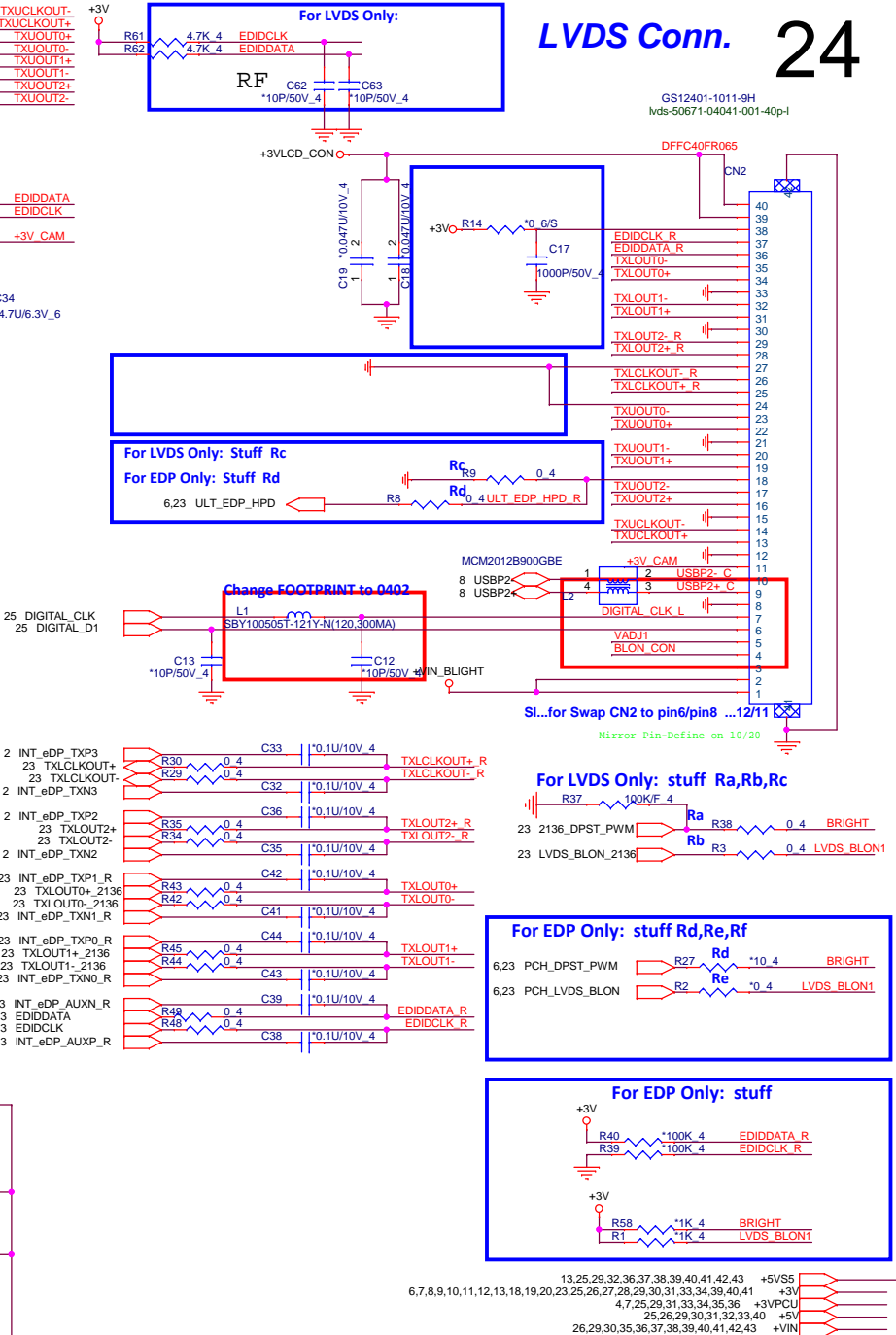
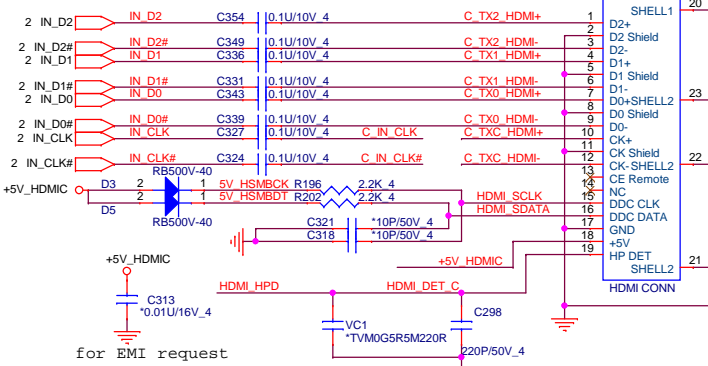
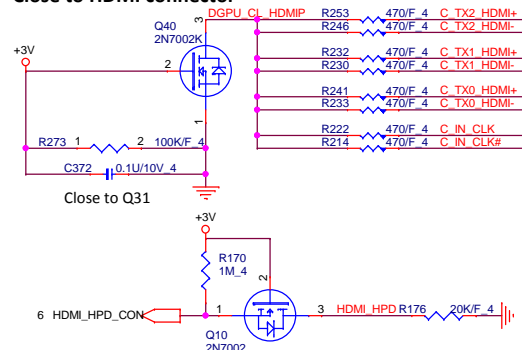


HDMI SMBus Isolation

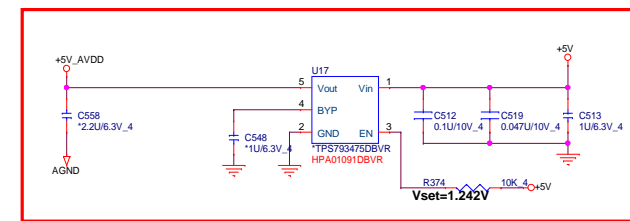


For EDP Only: stuff Cap
For LVDS only stuff Resistor

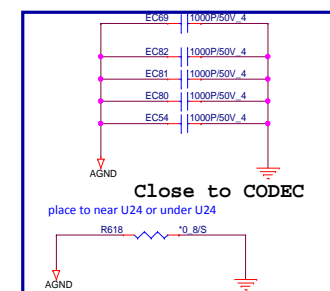
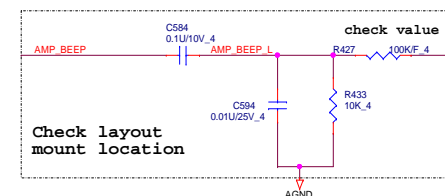
Close to HDMI connector



25



Change FOOTPRINT to 0603

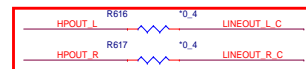


Close to CODEC
place to near U24 or under U24

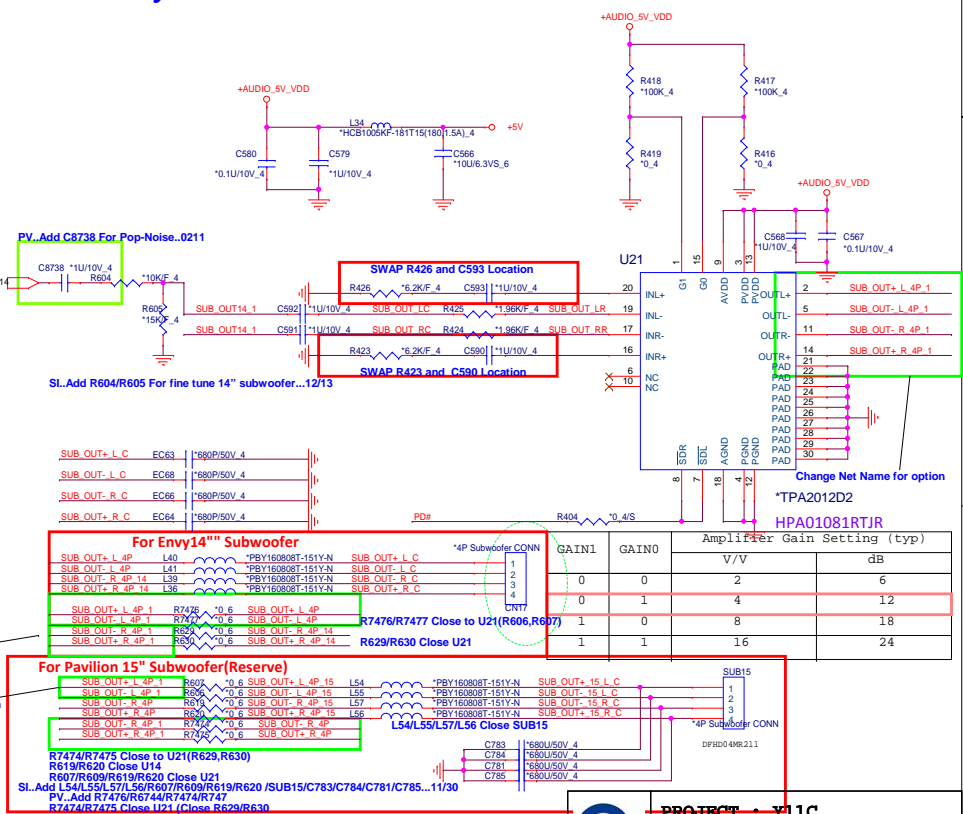


PROJECT : Y11C
Quanta Computer Inc.

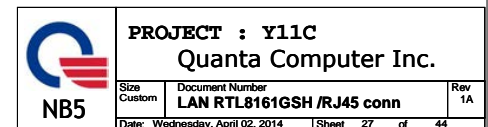
Size Custom	Document Number Audio Codec	
Date: Wednesday, April 02, 2014	Sheet 25 of 44	



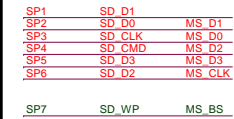
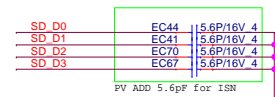
For Pavilion 15" Subwoofer(Reserve)
For Envy14"" Subwoofer



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

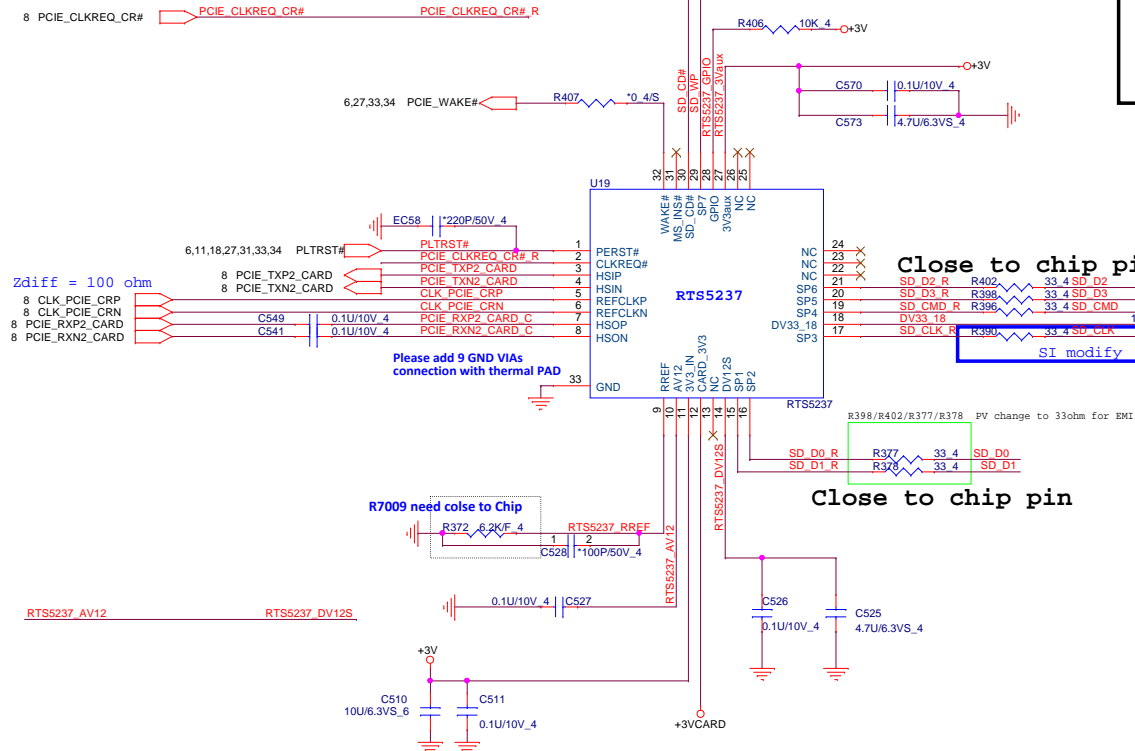


Reserve for EMI



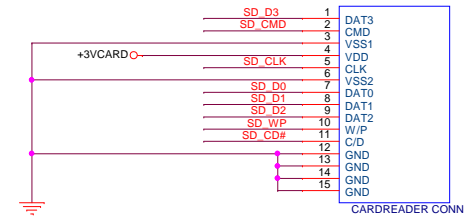
Share Pin

SD / MMC

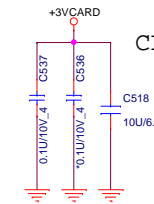


CARD READER

CN15

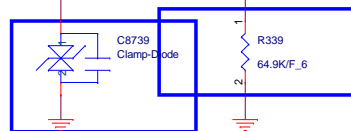
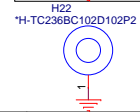
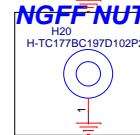
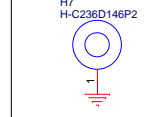
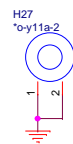


CLOSE CONN



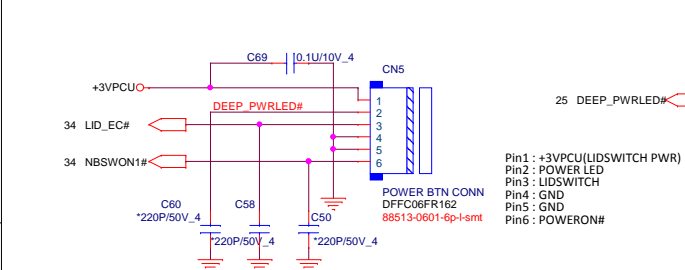
R6x Type

Thermal Nut

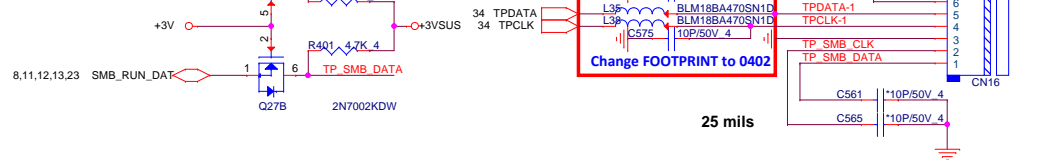


Reserve C8739 for ESD
R339 change to 64.9K

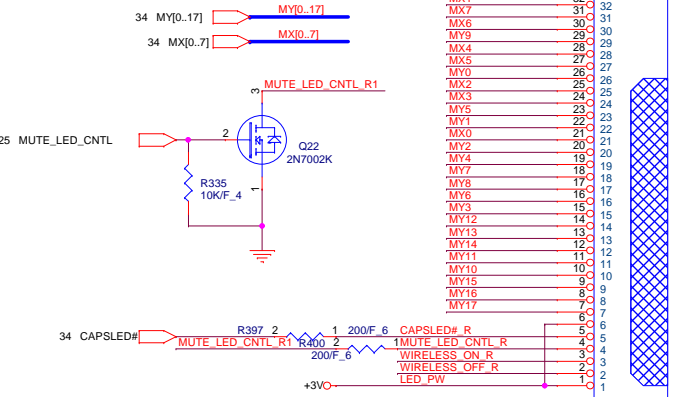
Power Button Connector



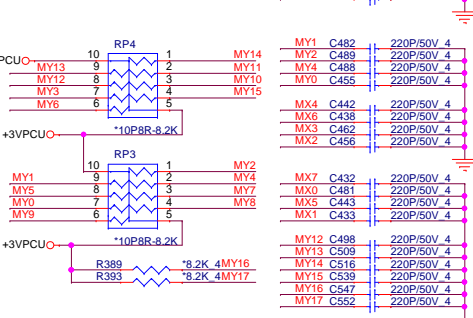
Touch Pad Connector



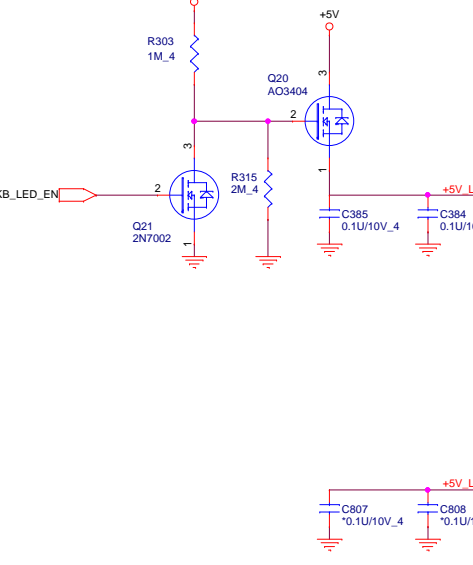
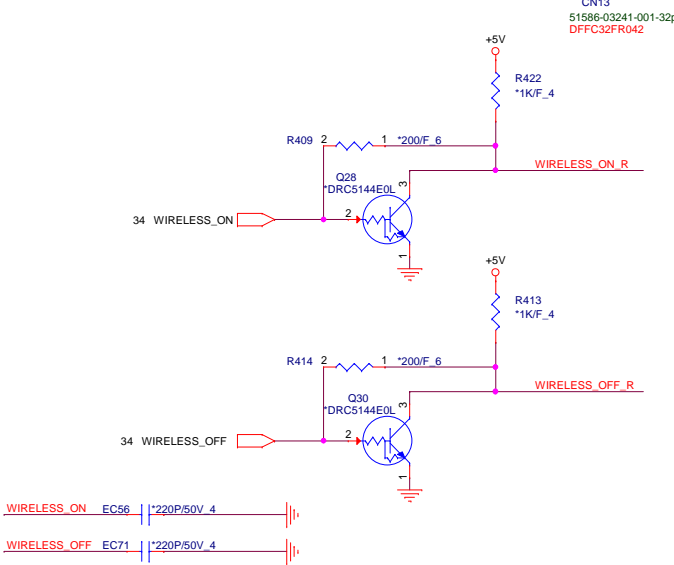
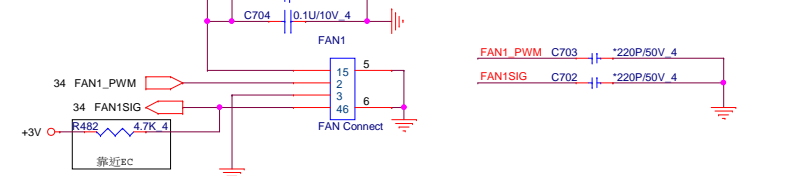
KEYBOARD Con.



KEYBOARD PULL-UP

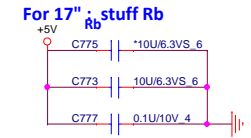
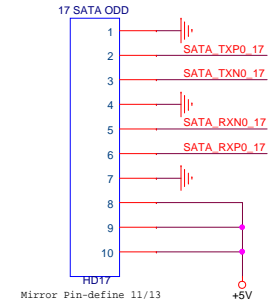
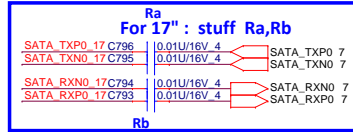


FAN



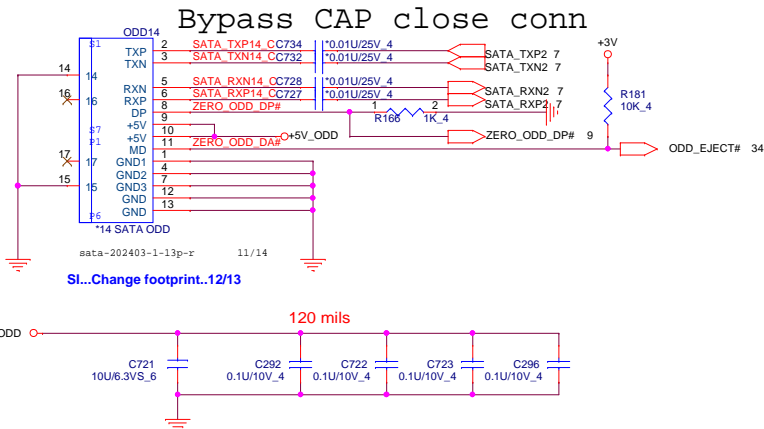
HDD

SATA HDD Connector(Cable type) 15.6"

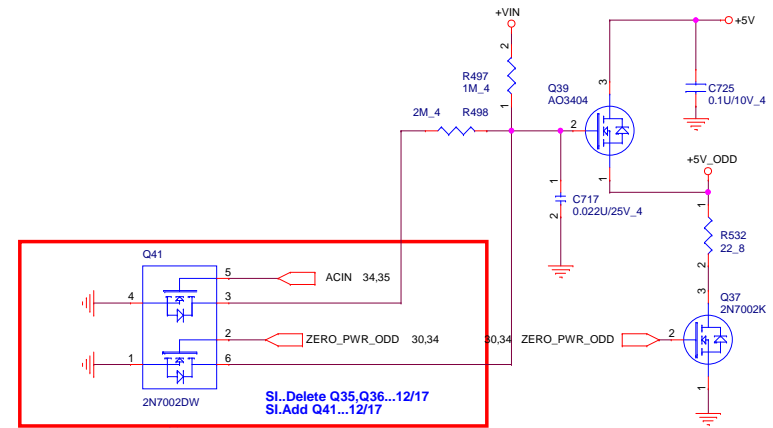
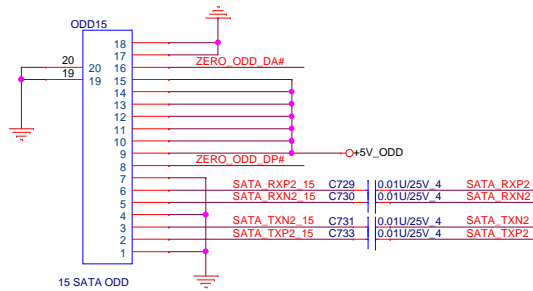


SATA ODD CONNECTOR

14" SATA ODD



15" SATA ODD

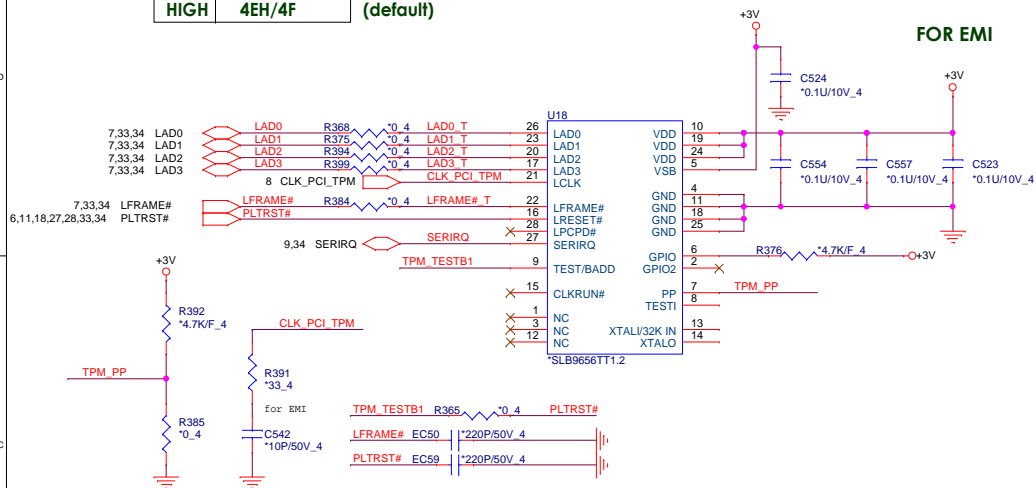


High : ODD power down
Low : ODD power on

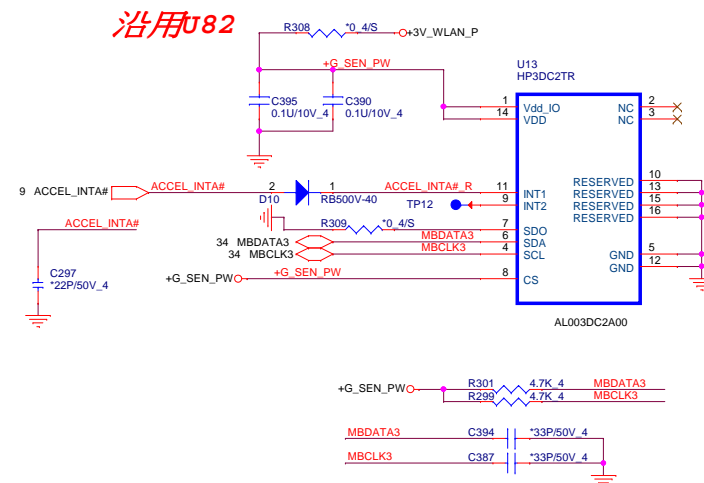
TPM (1.2)

Address

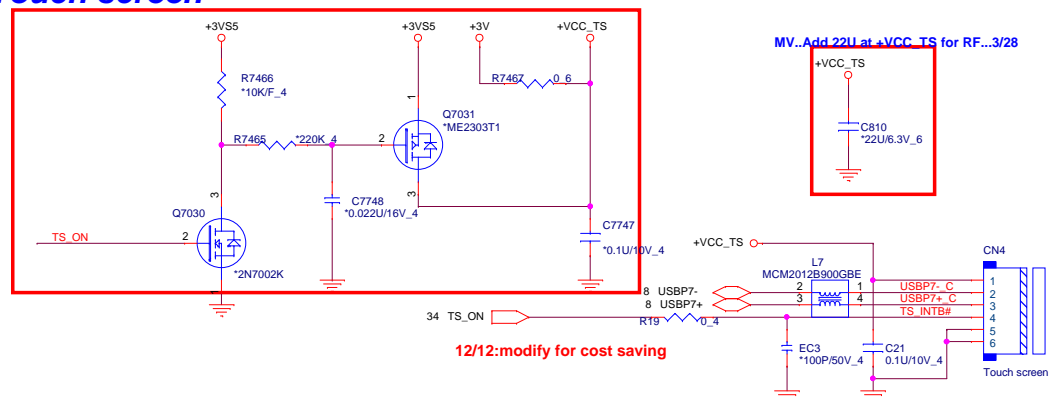
	BADD
HIGH	4EH/4F (default)



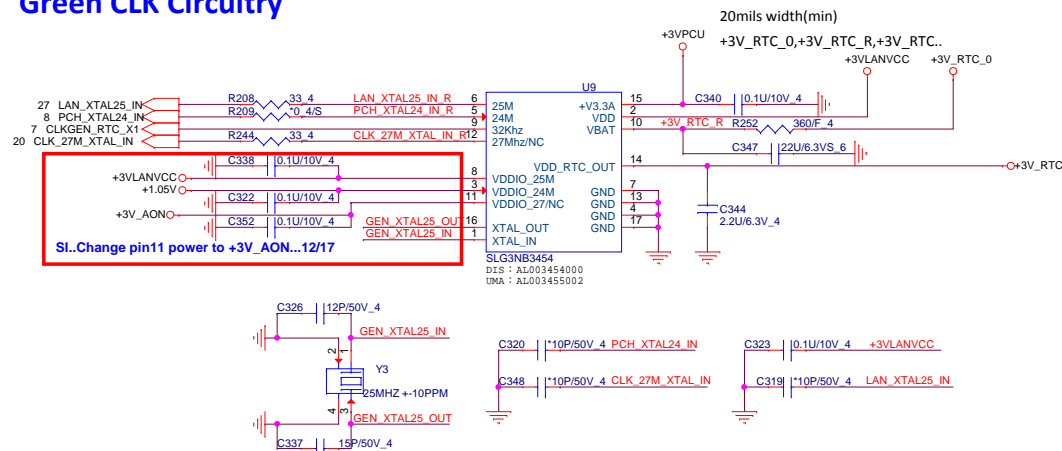
Accelerometer Sensor



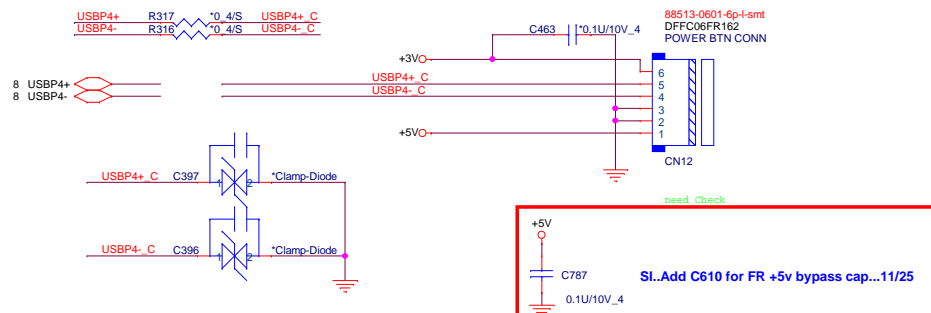
Touch screen



Green CLK Circuitry



Fingerprint Conn

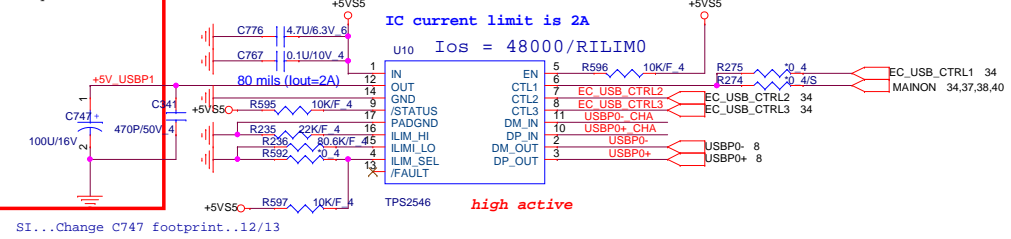


if Envy SKU,non-staff



For Pavilion / Envy SKU stuff

for Envy SKU stuff



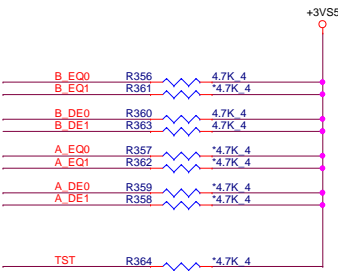
SI...Change C747 footprint..12/13

Right-Side USB3.0 Re-Driver

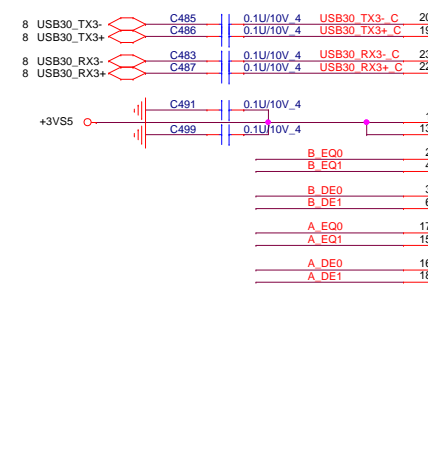
AEQ 9.5db / ADE 3.5db
BEQ 13db / BDE 5db / REXT 5.36K

A_EQ1	A_EQ0	A_DE1	A_DE0	
0	0	9.5dB	0	3.5dB
0	1	13dB	0	no de-emphasis
1	0	4.5dB	1	2.7dB
1	1	7.5dB	1	5dB

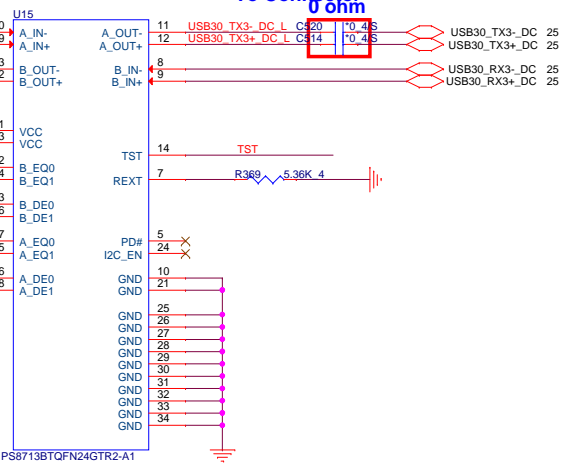
TST : Low = Normal LFPS swing / High =Turn down LFPS swing



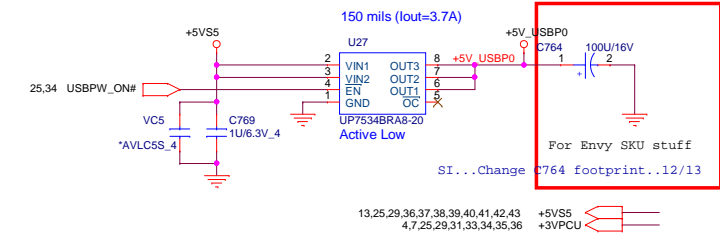
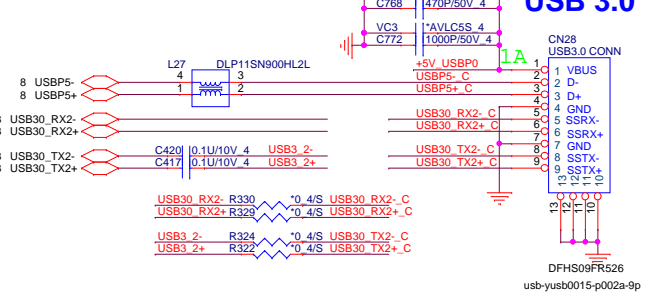
From HOST



USB3.0 Re-driver



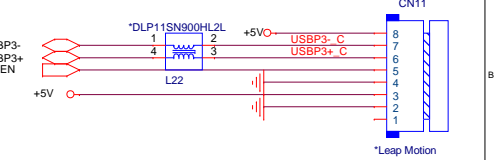
USB 2.0/3.0 Combo

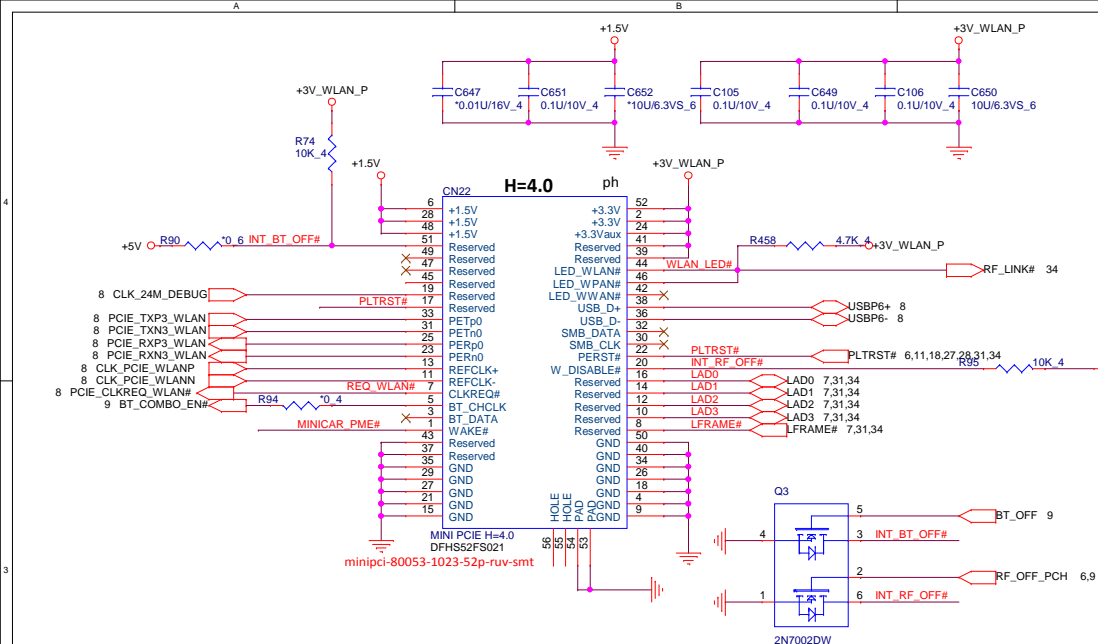


For Envy SKU stuff

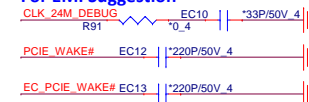
SI...Change C764 footprint..12/13

DFFC08FR016

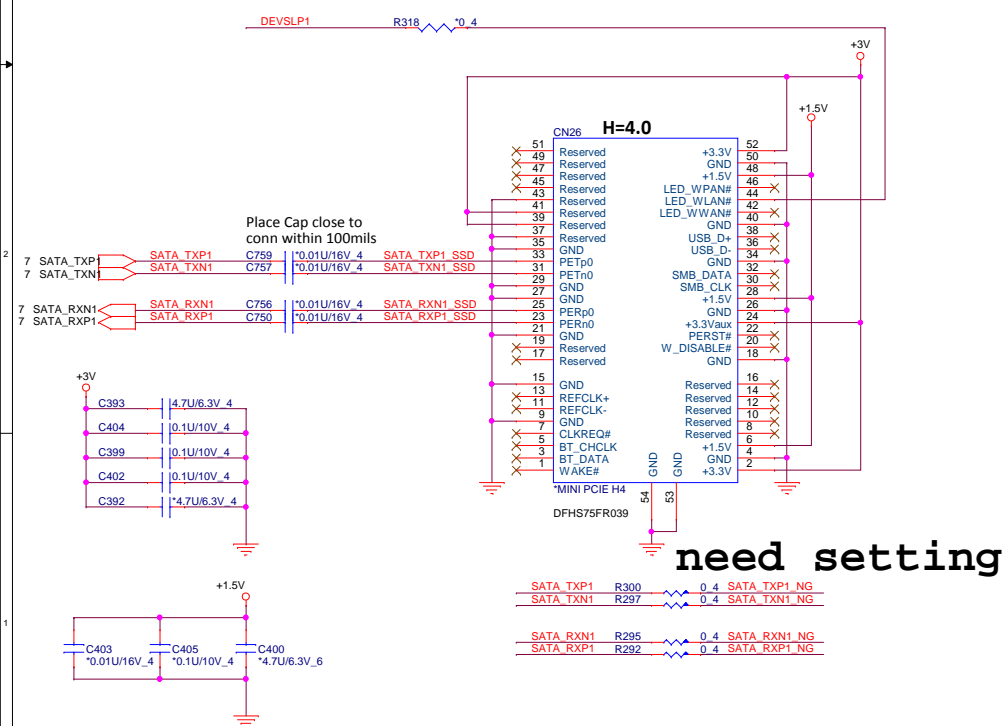
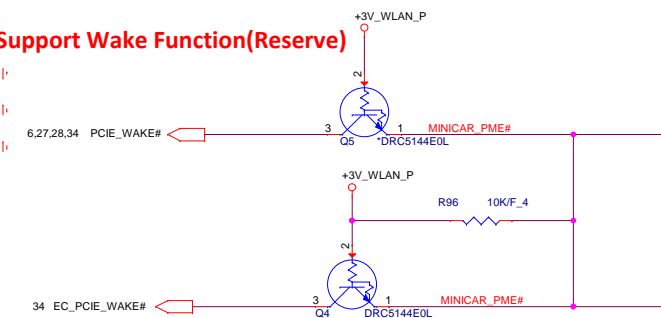




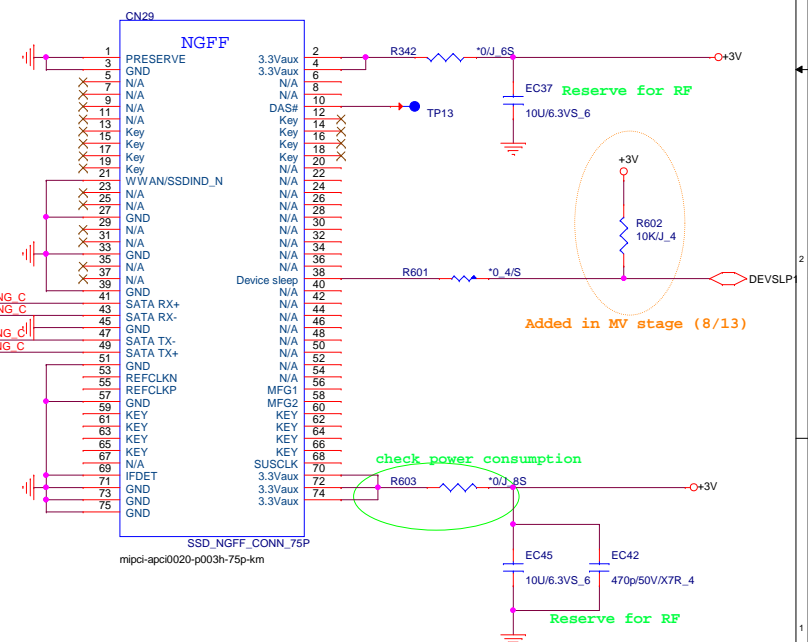
For EMI Suggestion



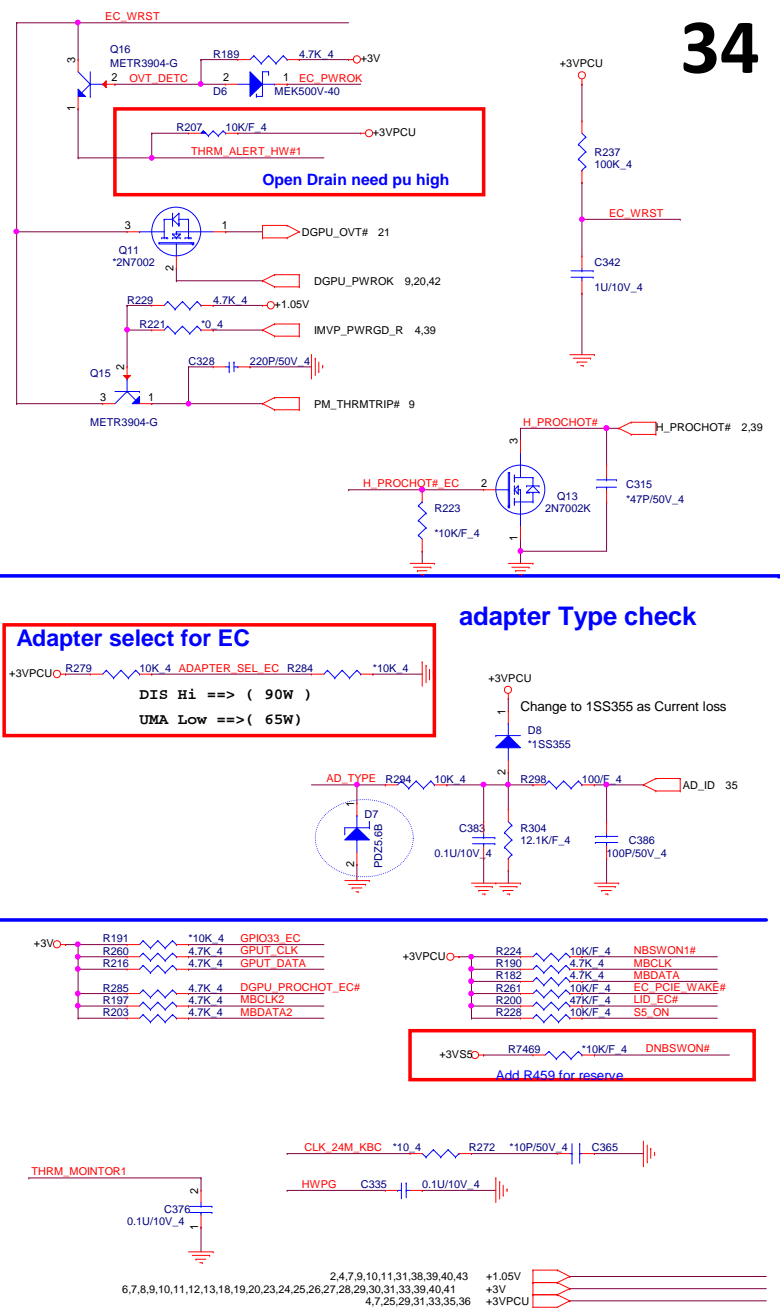
Support Wake Function(Reserve)



need setting

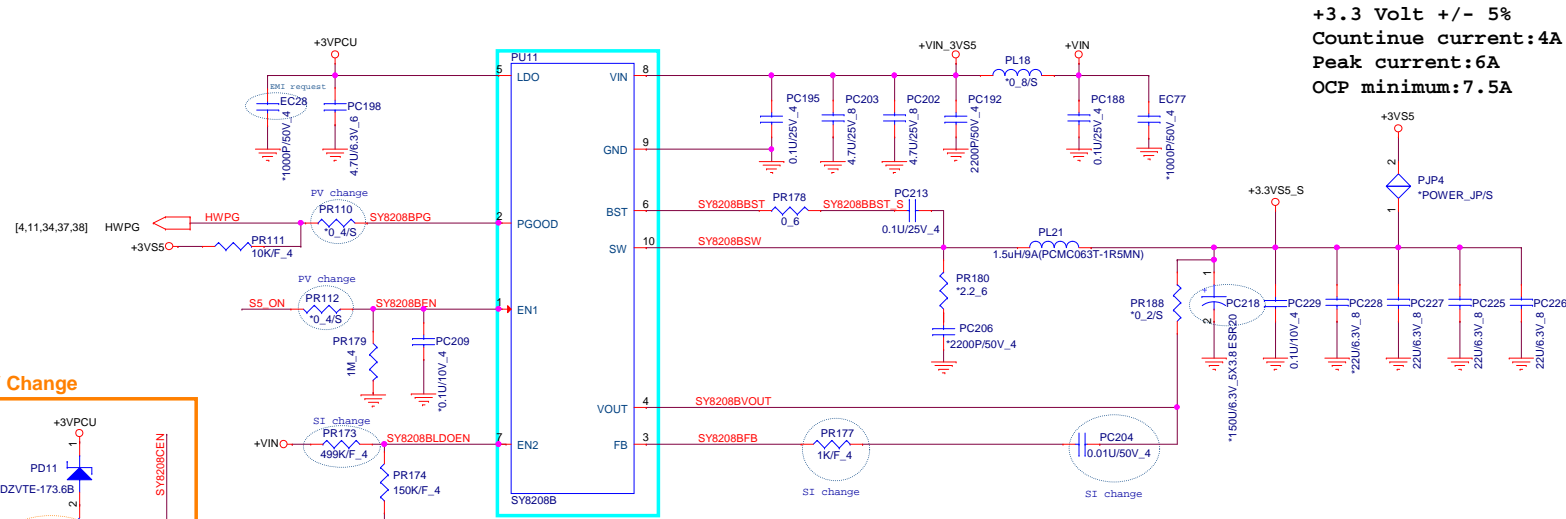


6,7,8,9,10,11,12,13,18,19,20,23,24,25,26,27,28,29,30,31,34,39,40,41 +3V
24,25,26,29,30,31,32,40 +5V
4,7,25,29,31,34,35,36 +3VPCU

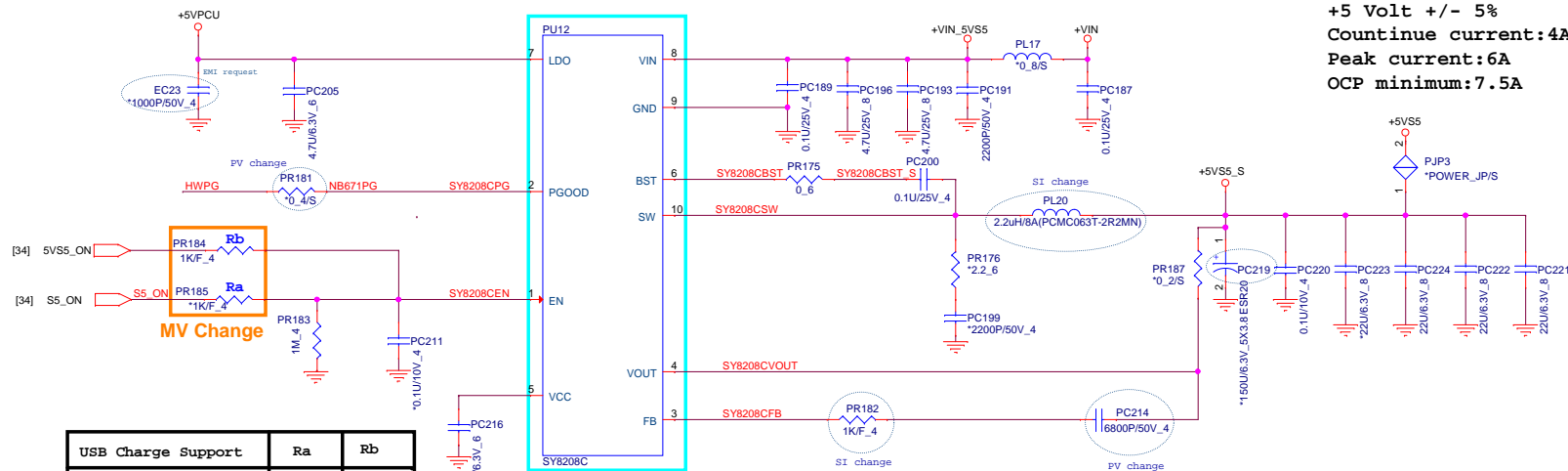
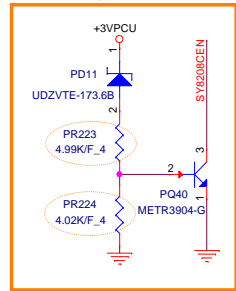




DC/DC +3VS5/+5VS5



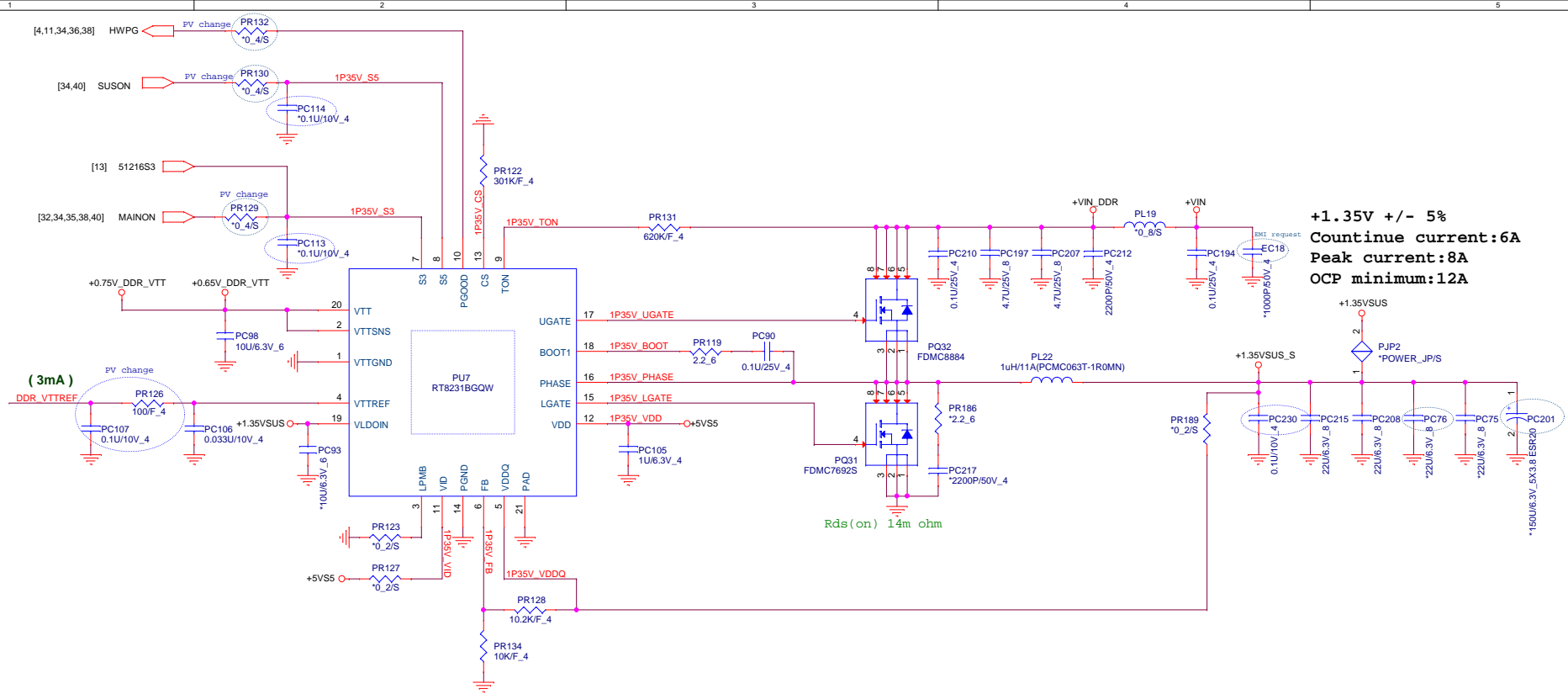
MV Change



MV Change

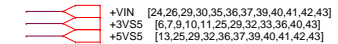
USB Charge Support	Ra	Rb
VINE (No support)	Stuff	NA
ENVY (Support)	NA	Stuff

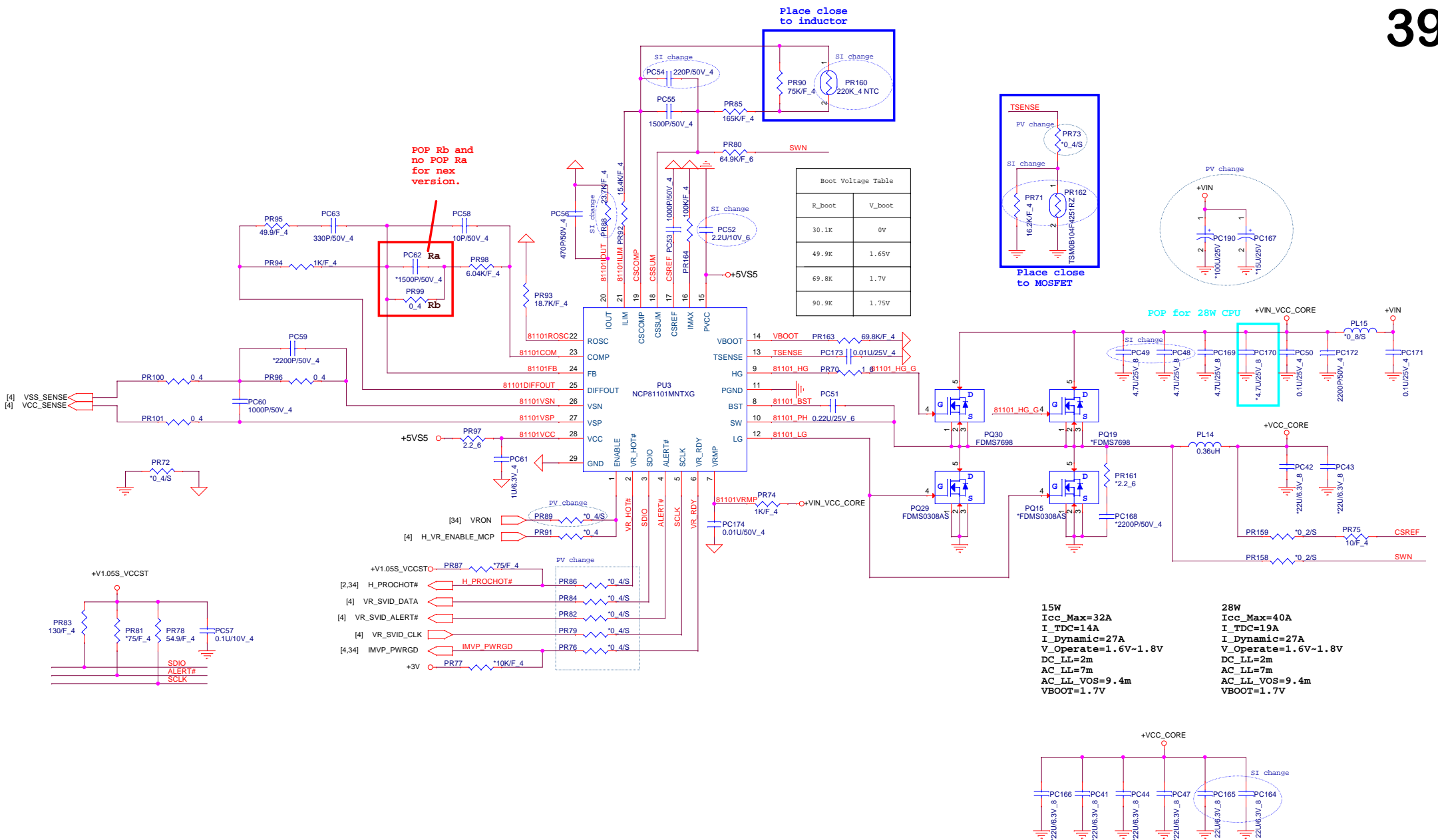
+1.35V +/- 5%
Countinue current:6A
Peak current:8A
OCP minimum:12A

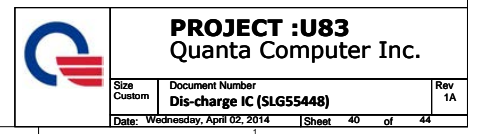
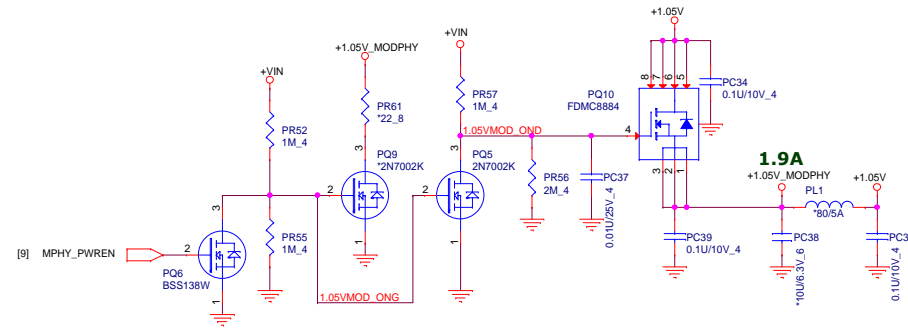
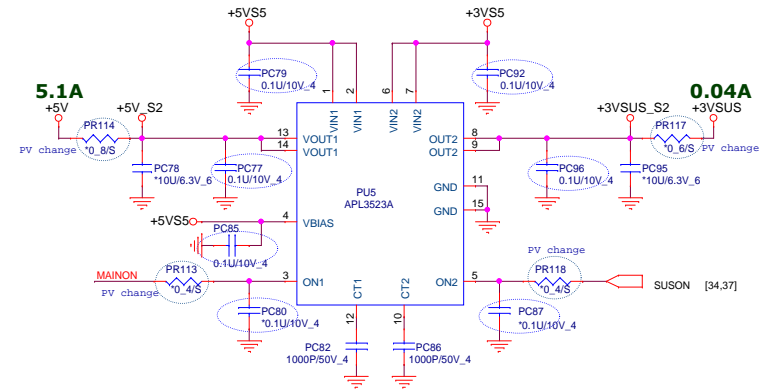
 +1.35VSUS [2,4,12,13,29]

PROJECT : Y02
Quanta Computer Inc.

Size Custom	Document Number DDR3 (RT8231A)/1.8VS5	Rev 1A
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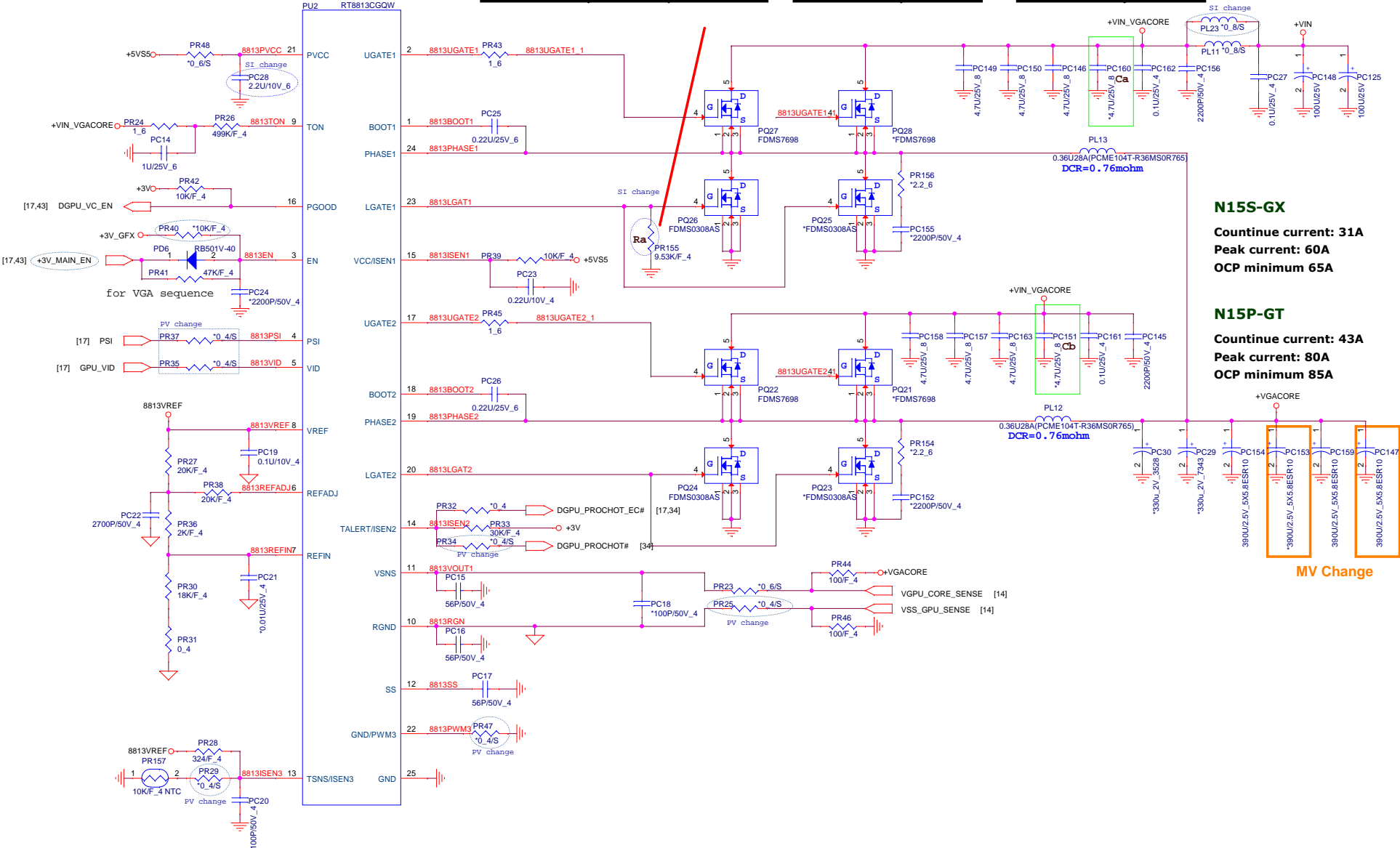




VGA TYPE	Ra Value	P/N
N15S-GX (25W)	9.53K	CS29532FB10
N15P-GT (35W)	12.4K	CS31242FB13

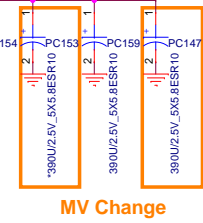
VGA TYPE	MOSFET
N15S-GX (25W)	1H1L
N15P-GT (35W)	2H2L

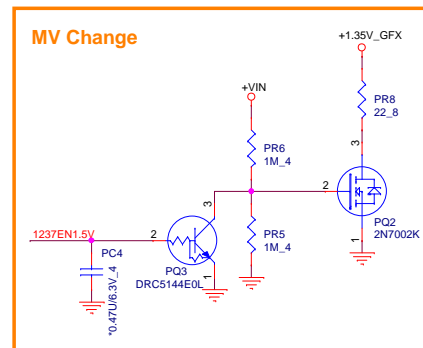
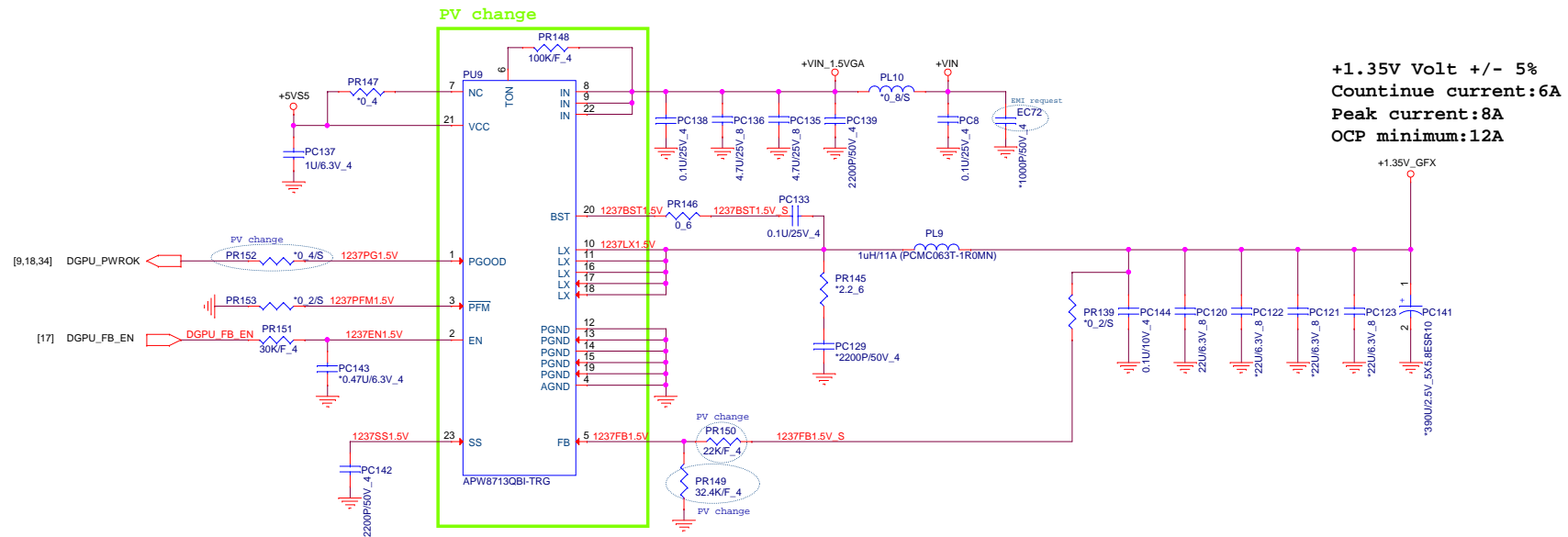
VGA TYPE	Ca, Cb
N15S-GX (25W)	No stuff
N15P-GT (35W)	Stuff

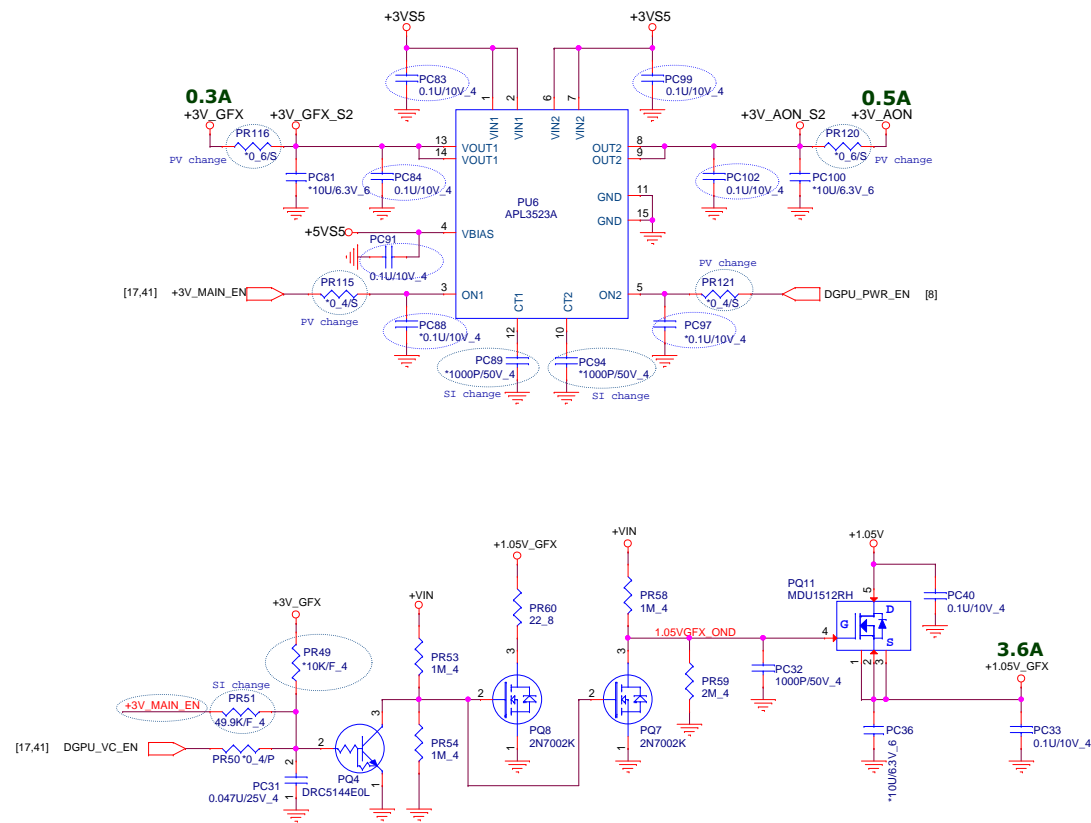


N15S-GX
Continue current: 31A
Peak current: 60A
OCP minimum 65A

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







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>
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