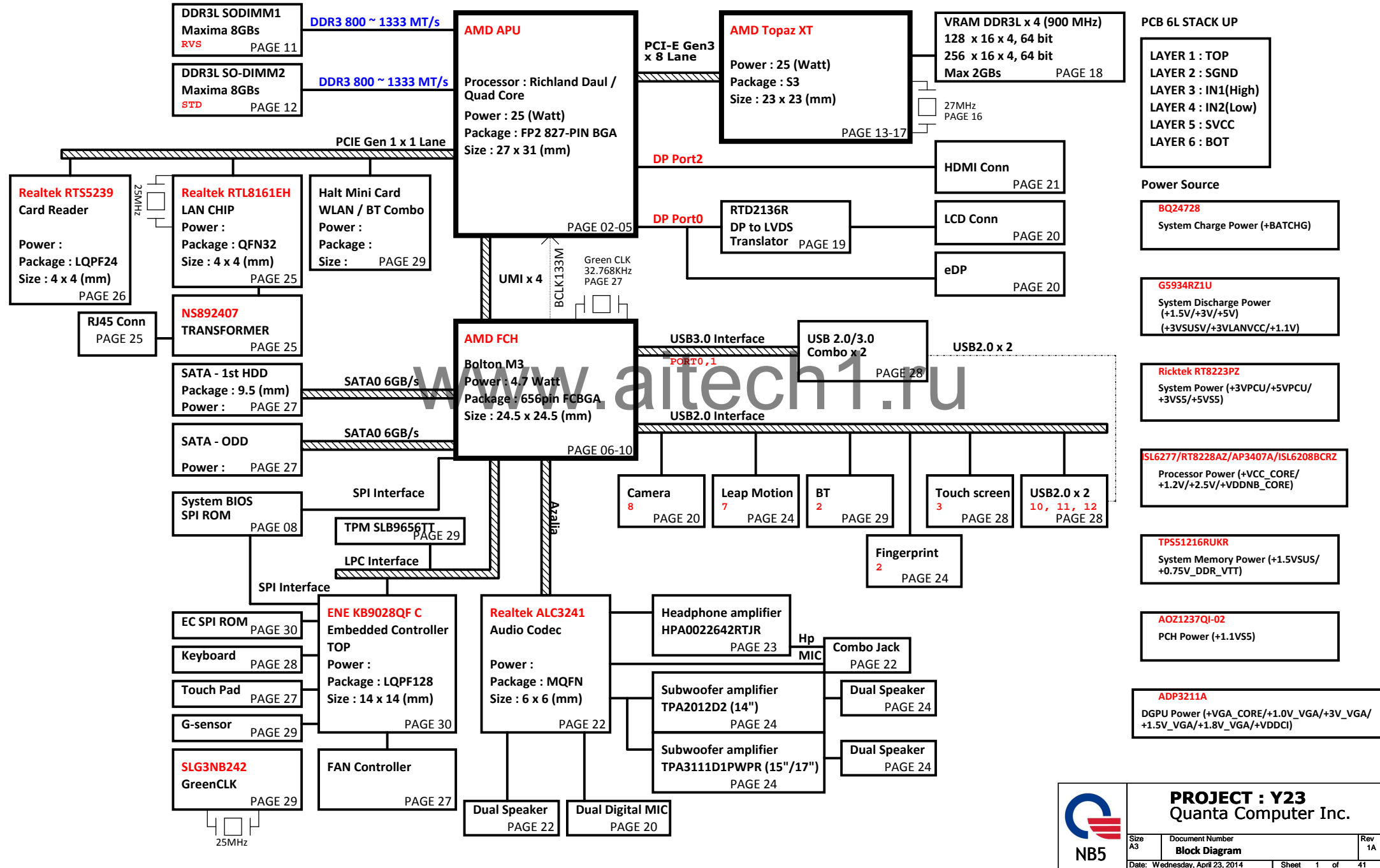
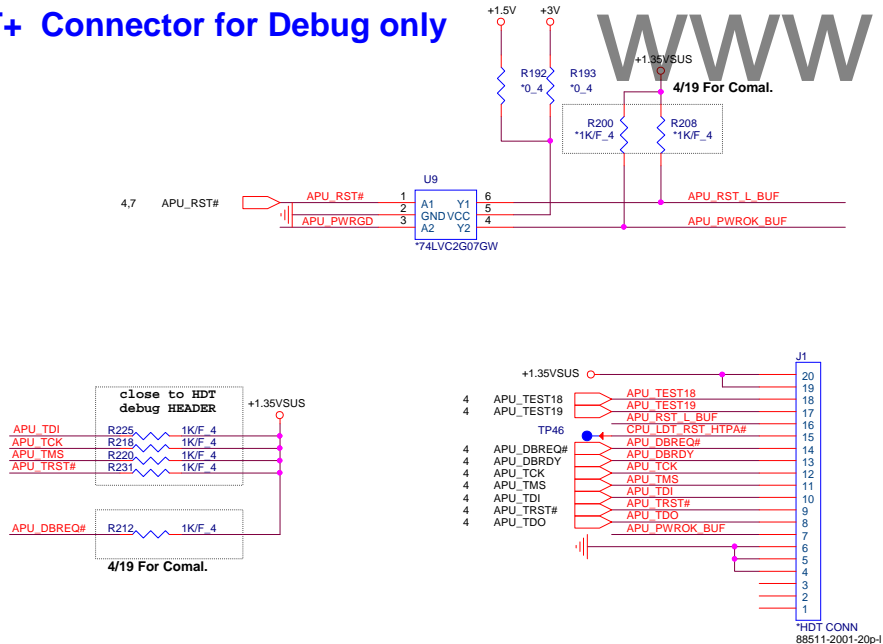


VINE_AMD Richland DIS/UMA (14"/15.6"/17.3")

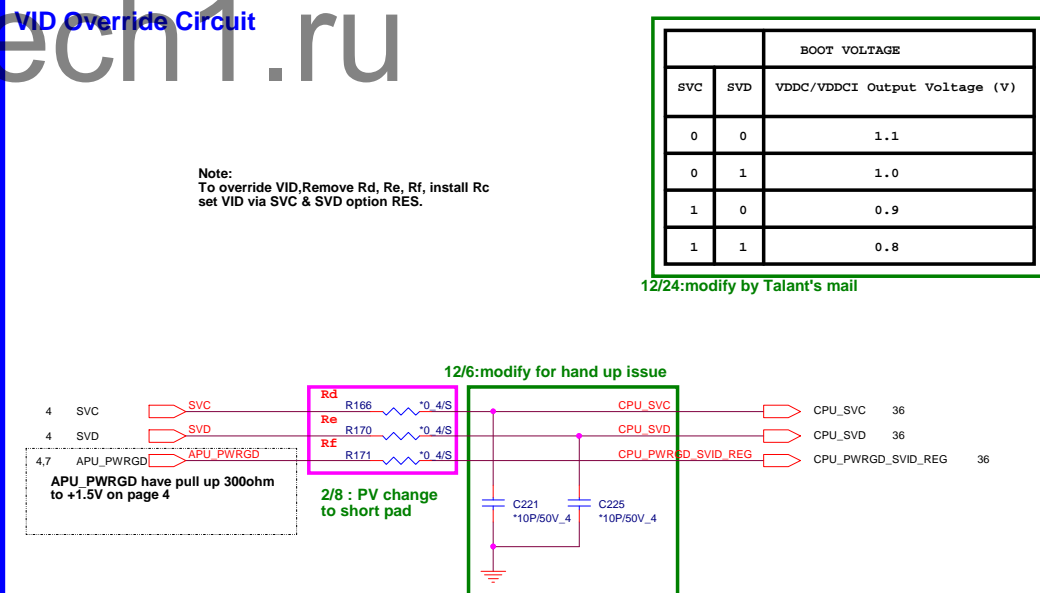




HDT+ Connector for Debug only

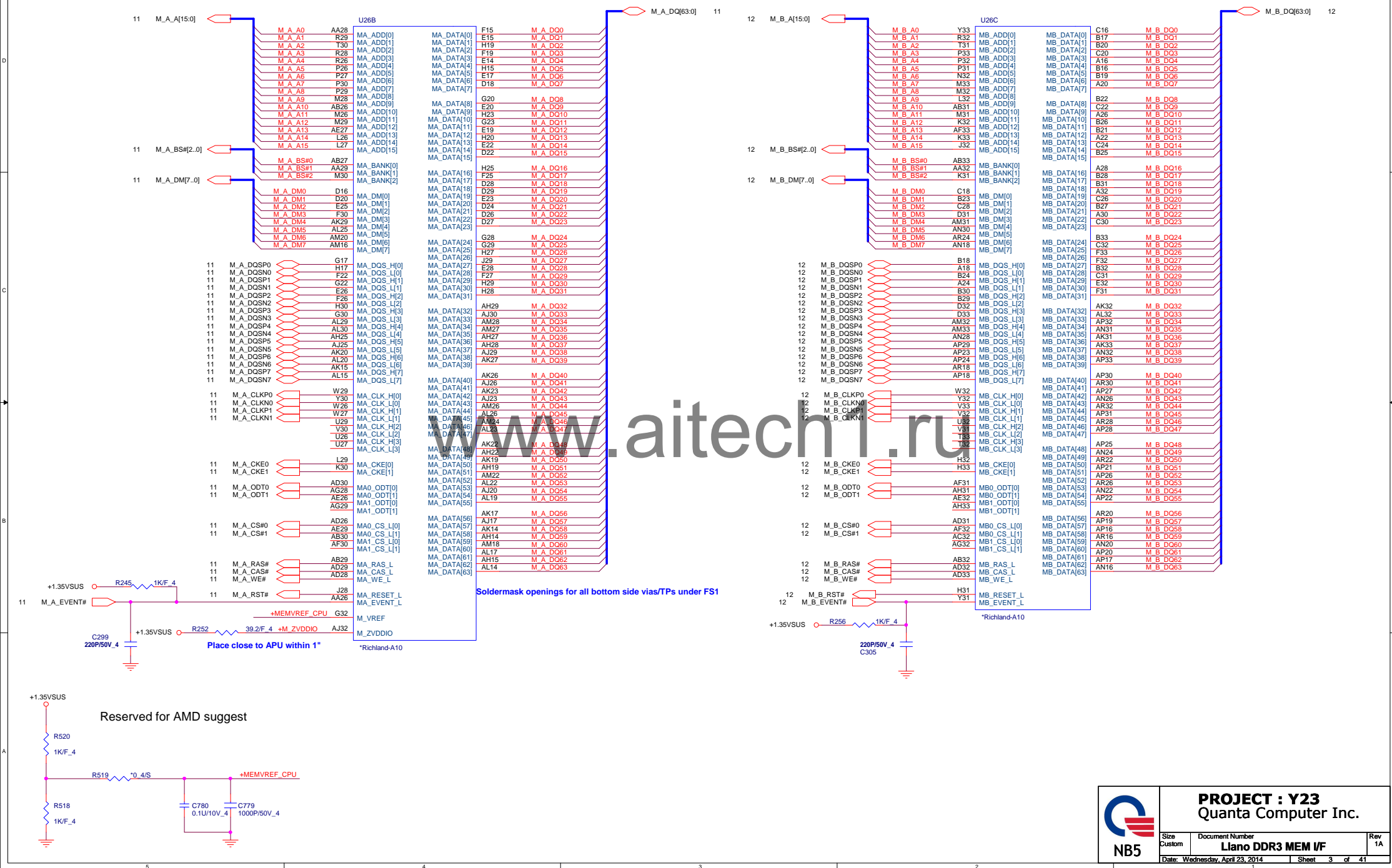


VID Override Circuit



PROJECT : Y23
Quanta Computer Inc.

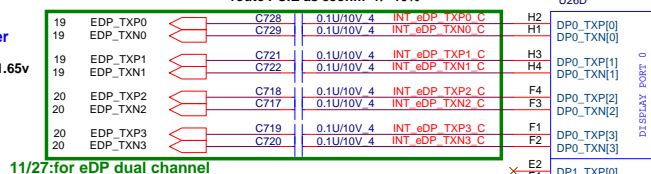
Size Custom Document Number **Liano PCIe/UMI/GPP** Rev 1A
Date: Wednesday, April 23, 2014 Sheet 2 of 41



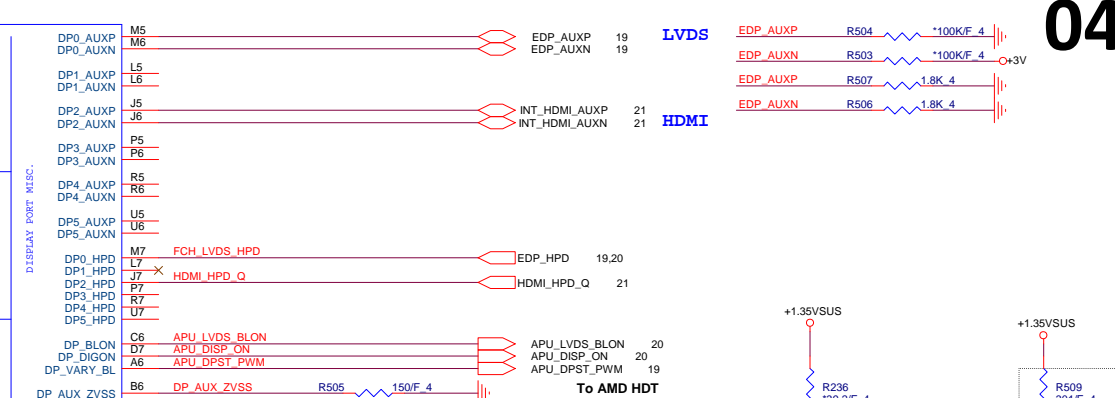
Place caps with APU < 1 inch
route PCIe as 85ohm +/- 10%

DP0 output to
eDP to LVDS converter

Display port power 1.5V min 1.2v max : 1.65v



11/27:for eDP dual channel



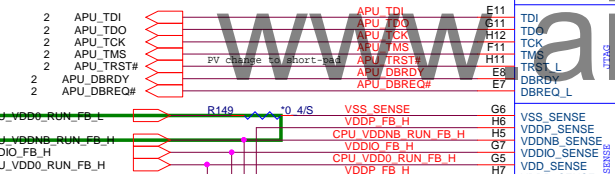
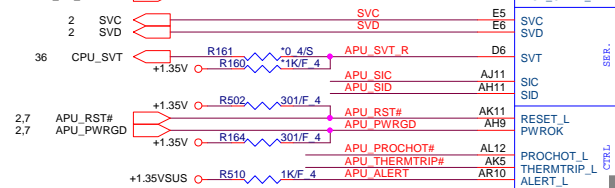
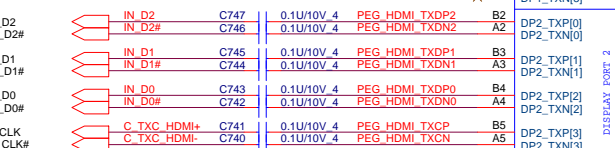
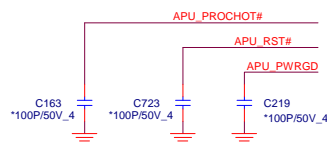
4/19 HDMI change to DP2 for Comal.

DP2 output to HDMI connector

note -HDMI P&N can not swap

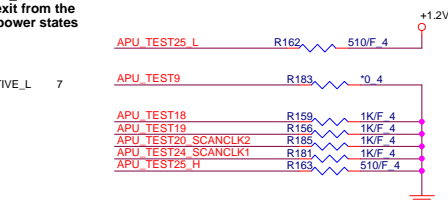
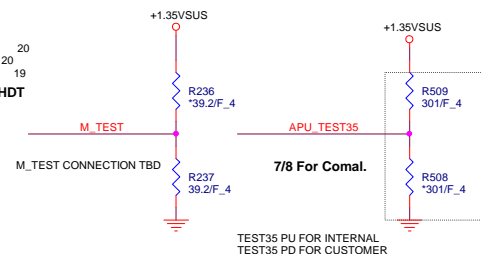
Note: CLK_APU_HCLKP/N is 100MHZ SSC

Note: CLK_DP_NSSCP/N is 100MHZ non-S

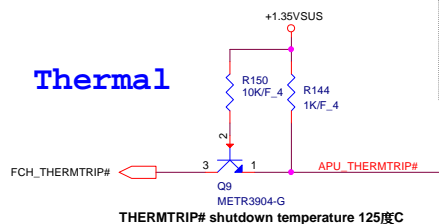


*Richland-A10

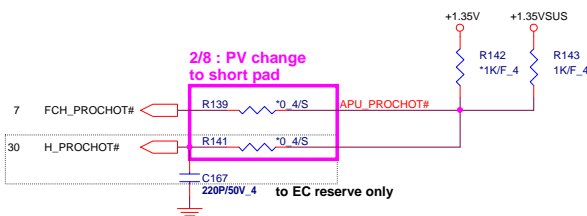
DMAACTIVE_L controls entry and exit from the sleep and power states



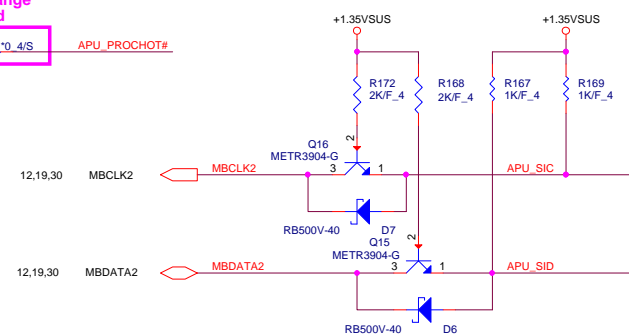
Thermal



**4/19 For Comal,
close to APU.**



2/8 : PV change
to short pad

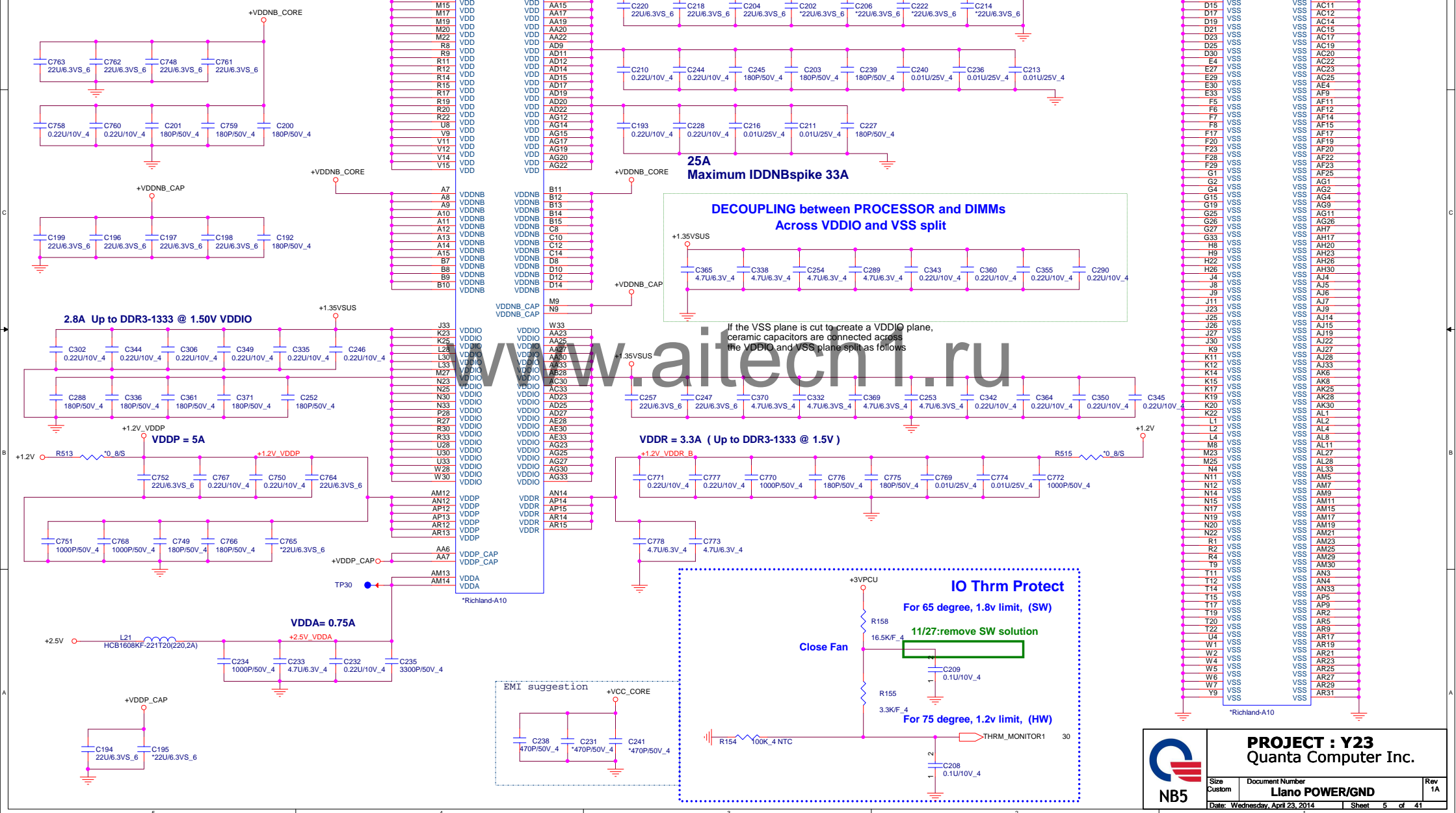


PROJECT : Y23
Quanta Computer Inc.

Size	Document Number Llano Display/Misc	Rev 1A
Date:	Wednesday, April 23, 2014	Sheet 4 of 41

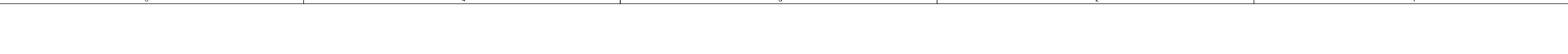
APU POWER TABLE

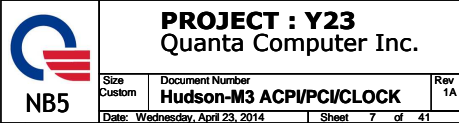
PIN NAME	NET NAME	VOLTAGE
VDD	+VCC_CORE	+1.1V
VDDNB	+VDDNB_CORE	??
VDDIO	+1.5VSUS	+1.5V
VDDP	+1.2V_VDDP	+1.2V
VDDR	+1.2V_VDDR	+1.2V
VDDA	+2.5V_VDDA	+2.5V

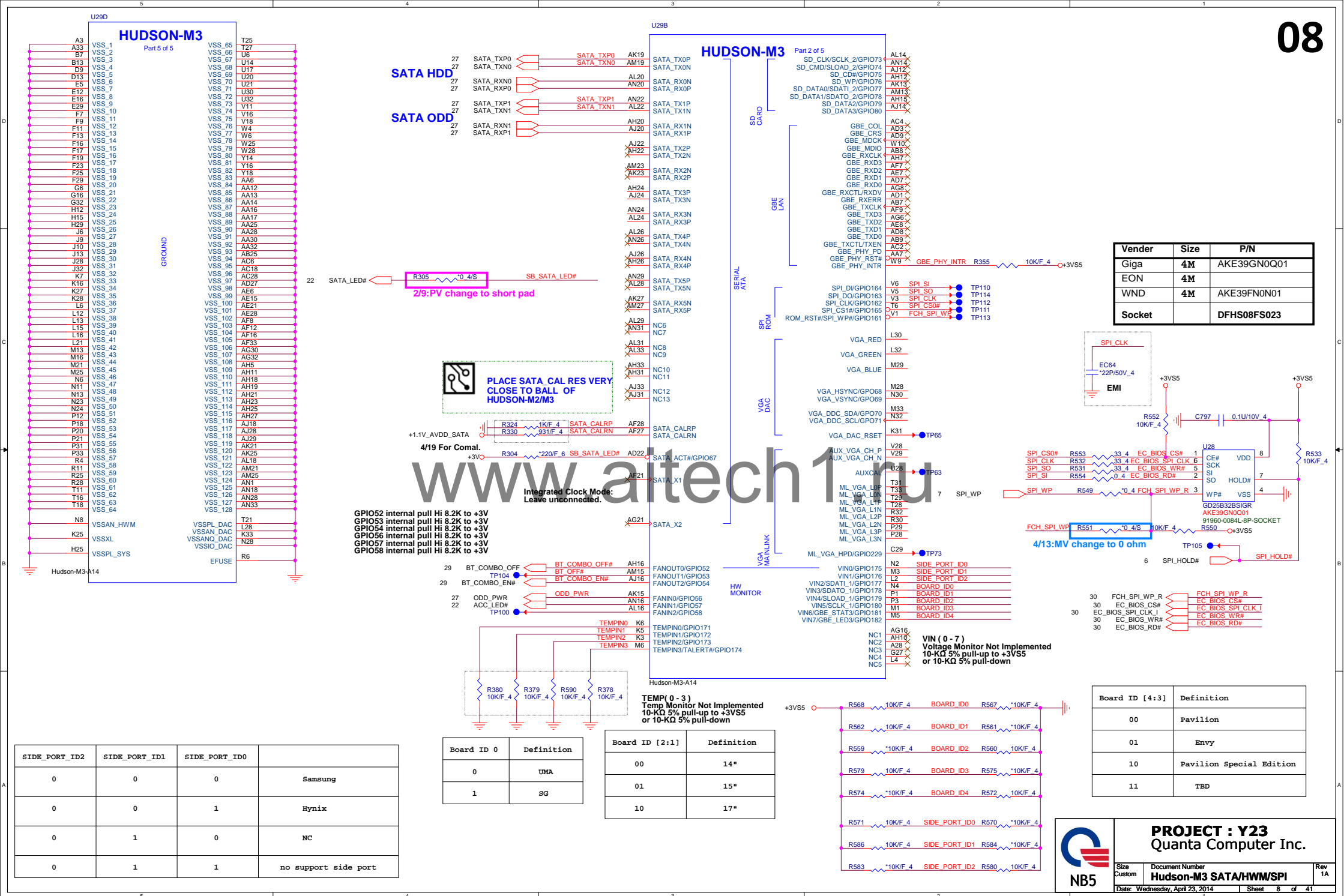


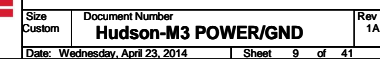
PROJECT : Y23
Quanta Computer Inc.

Size	Document Number	Rev
Custom	Llano POWER/GND	1A
Date: Wednesday, April 23, 2014	Sheet 5 of 41	



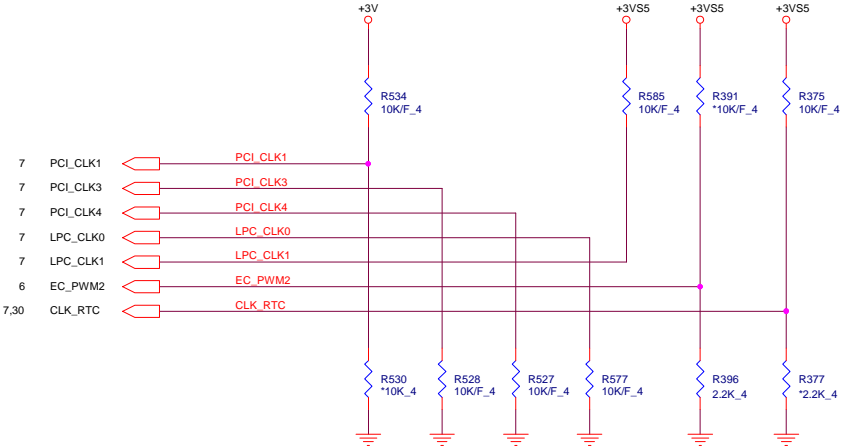






STRAPS PINS

OVERLAP COMMON PADS WHERE POSSIBLE FOR DUAL-OP RESISTORS.



REQUIRED STRAPS

	-----	PCI_CLK1	-----	PCI_CLK3	PCI_CLK4	LPC_CLK0	LPC_CLK1	EC_PWM2	CLK_RTC
PULL HIGH	-----	ALLOW PCIE Gen2 DEFAULT	-----	USE DEBUG STRAP	non Fusion CLOCK MODE	AMD internal EC ENABLED	CLKGEN ENABLED DEFAULT	LPC ROM	S5 PLUS MODE ENABLED DEFAULT
PULL LOW	-----	FORCE PCIE Gen1	-----	IGNORE DEBUG STRAP DEFAULT	FUSION CLOCK MODE DEFAULT	EC DISABLED DEFAULT	CLKGEN DISABLED DEFAULT	SPI ROM	S5 PLUS MODE DISABLED DEFAULT

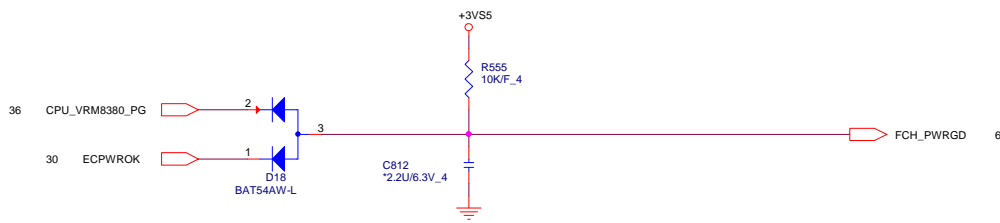
DEBUG STRAPS

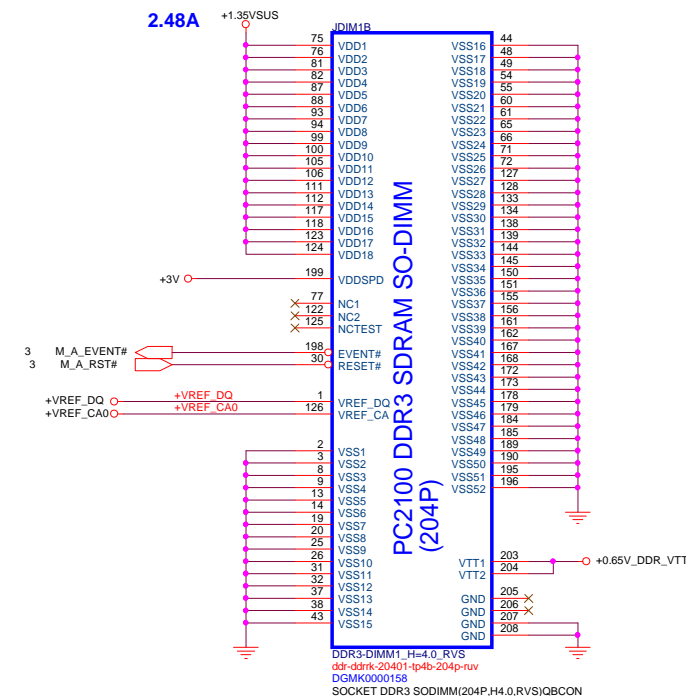
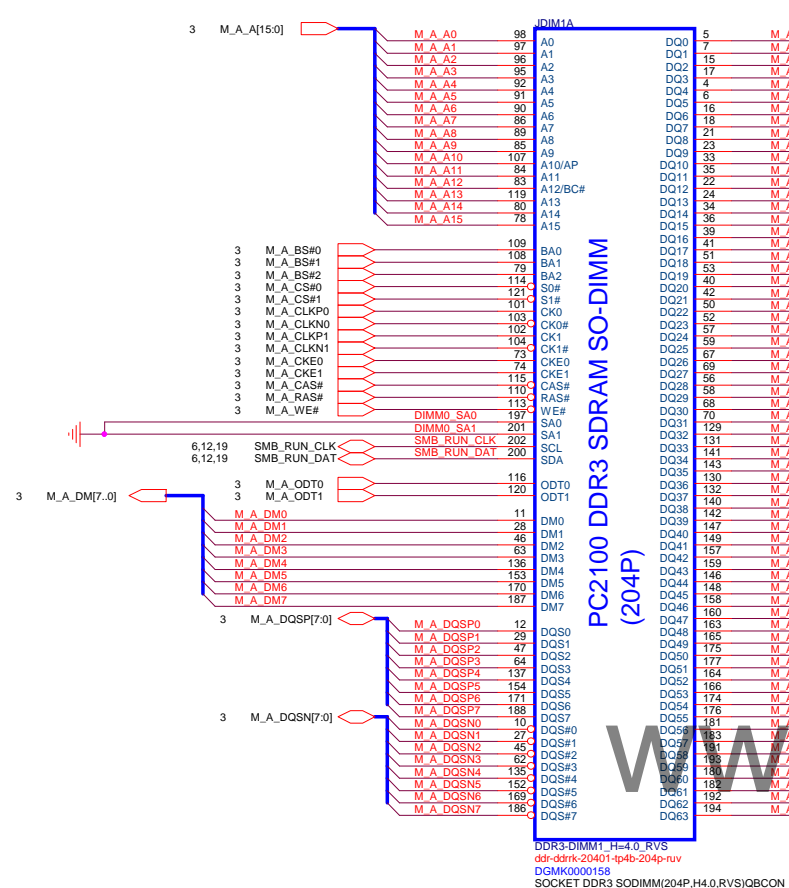
FCH has 15K Internal Pull Up for PCI_AD[27:23]



	PCI_AD27	PCI_AD26	PCI_AD25	PCI_AD24	PCI_AD23
PULL HIGH	USE PCI PLL DEFAULT	DISABLE ILA AUTORUN DEFAULT	USE FC PLL DEFAULT	USE DEFAULT PCIE STRAPS DEFAULT	DISABLE PCI MEM BOOT DEFAULT
PULL LOW	BYPASS PCI PLL	ENABLE ILA AUTORUN	BYPASS FC PLL	USE EEPROM PCIE STRAPS	ENABLE PCI MEM BOOT

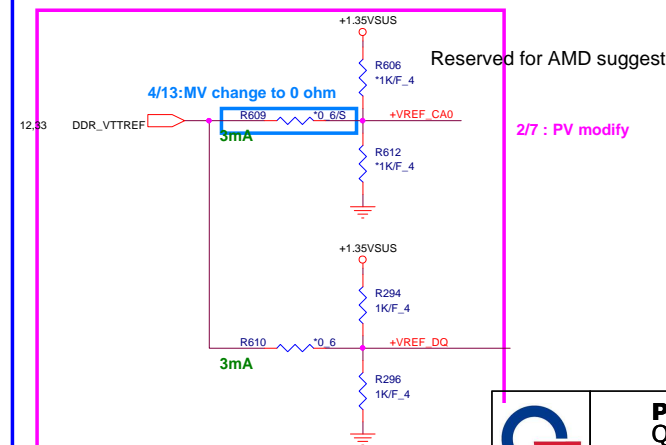
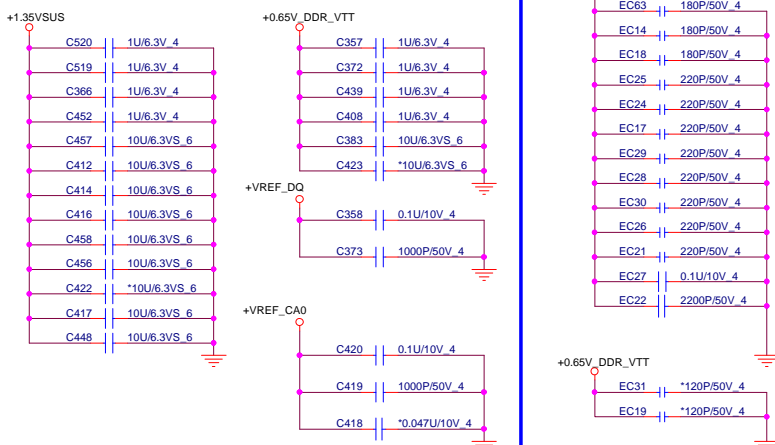
FCH_PWRGD





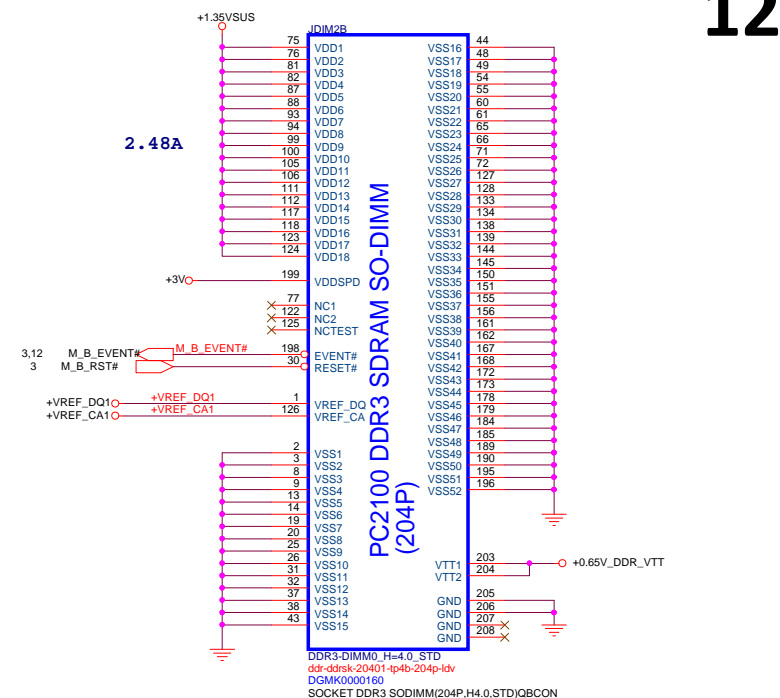
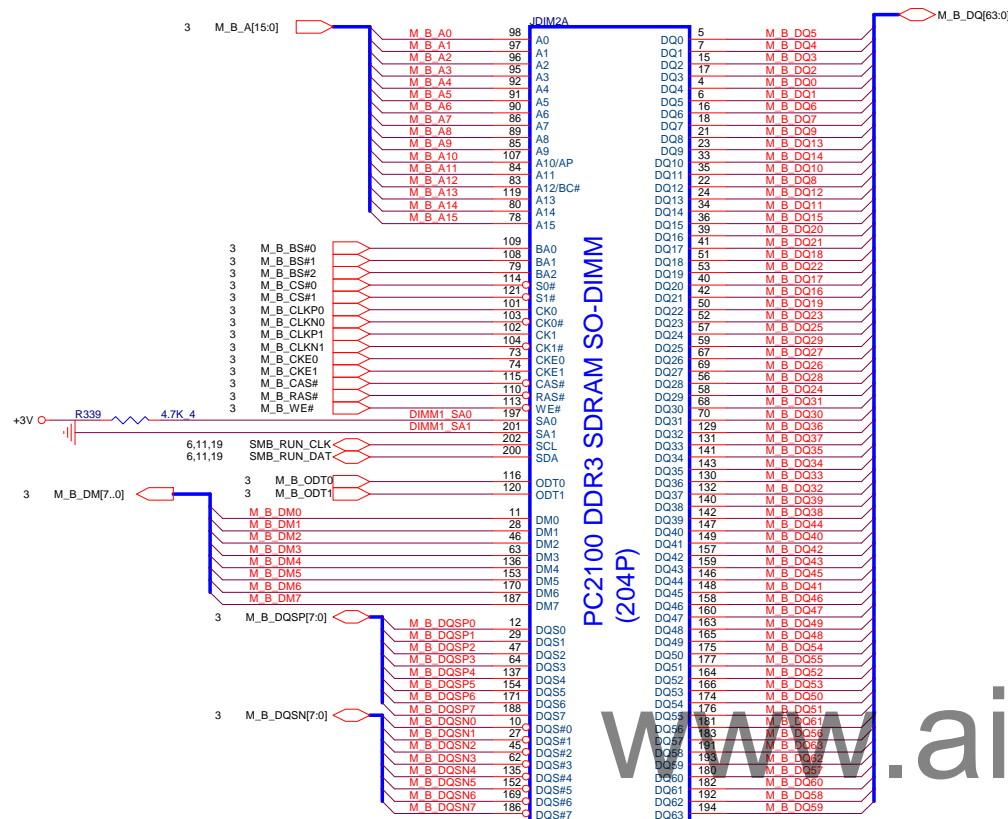
2,4,6,8,9,10,12,19,20,21,22,23,24,25,26,27,28,29,30,38
+3V
+1.35VSUS
+0.65V_DDR_VTT

Place these Caps near So-Dimm0.

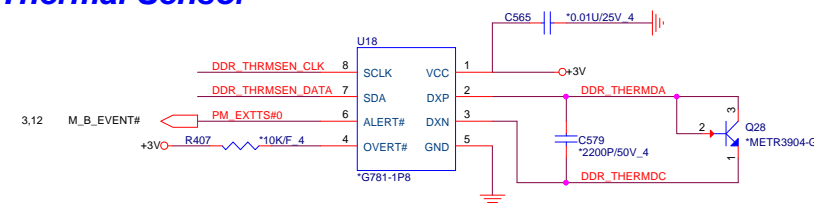


PROJECT : Y23
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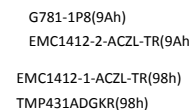
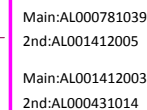
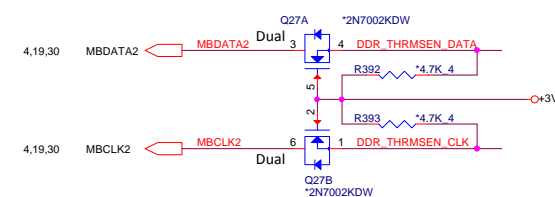
Size	Document Number	Rev
Custom	System Memory 1/2 (4H)	1A
Date: Wednesday, April 23, 2014	Sheet 11 of 41	



DQ52	166	M B DQ53
DQ53	174	M B DQ50
DQ54	176	M B DQ51
DQ55	181	M B DQ61
DQ56	183	M B DQ56
DQ57	191	M B DQ65
DQ58	193	M B DQ52
DQ59	180	M B DQ57
DQ60		

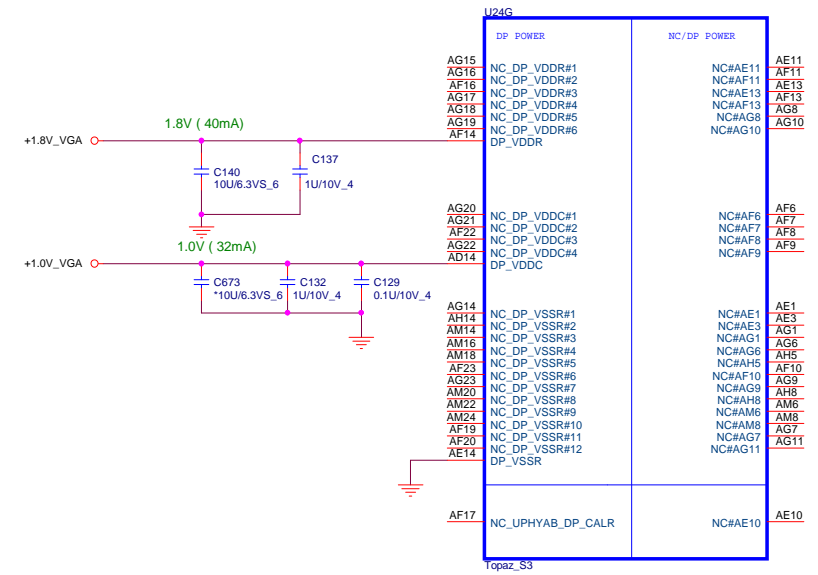
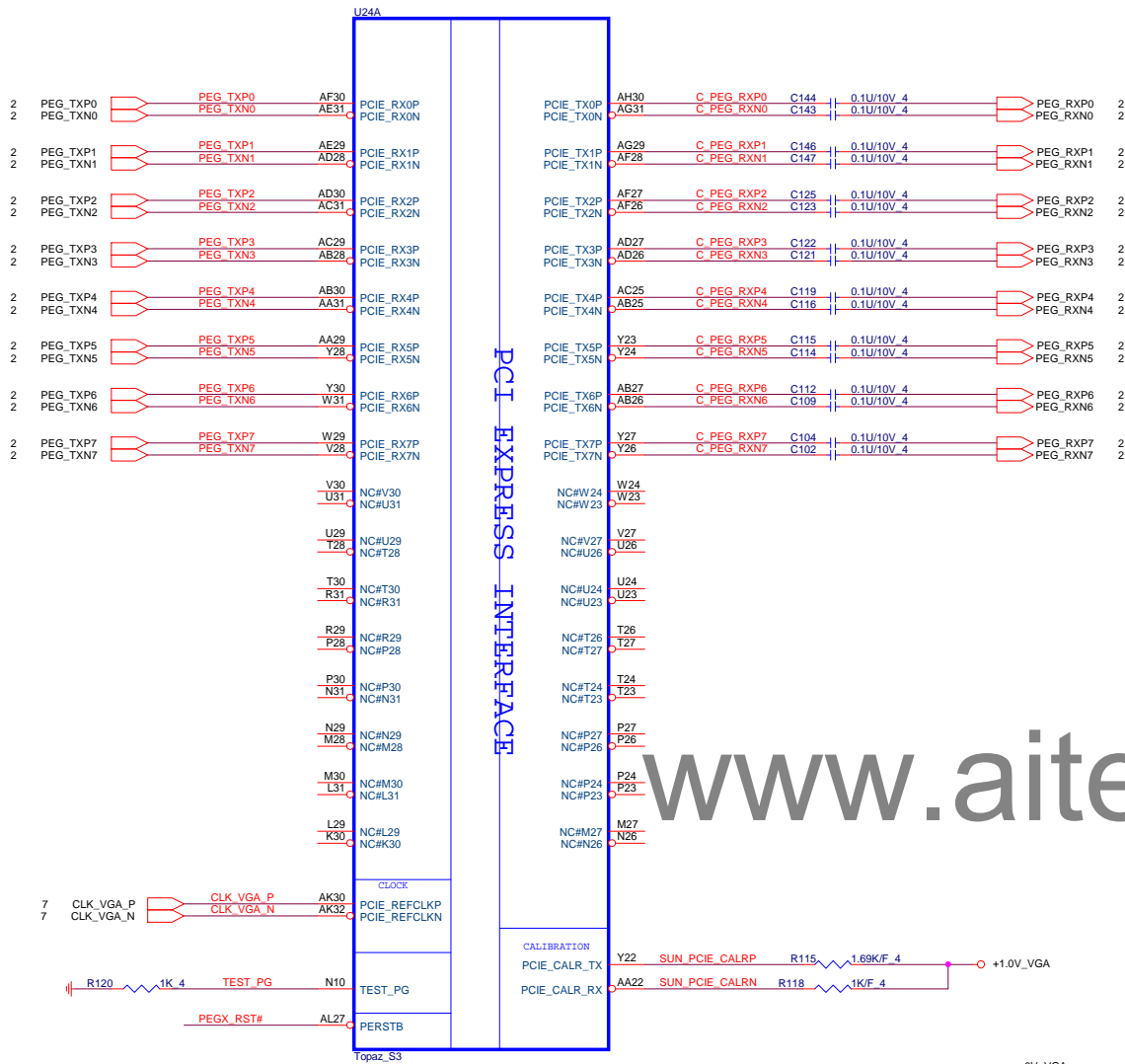


If use internal thermal IC, C9007 use 0ohm.

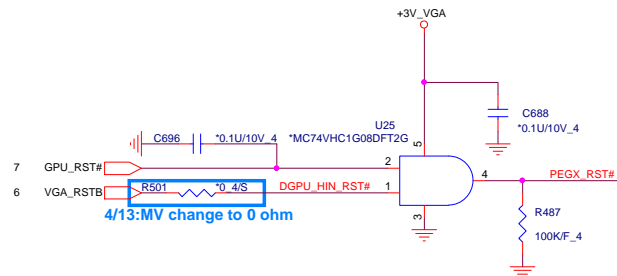
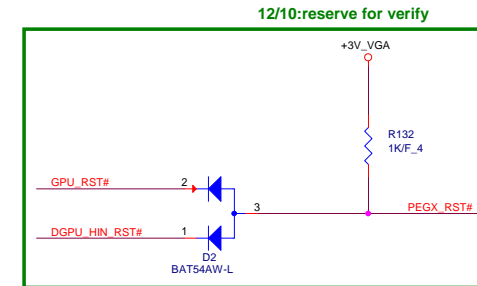


PROJECT : Y23
Quanta Computer Inc.

Size Custom	Document Number System Memory 2/2 (4H)	Re 1
Date: Wednesday, April 23, 2014		Sheet 12 of 41



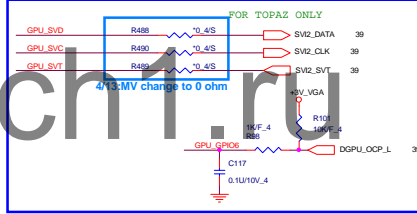
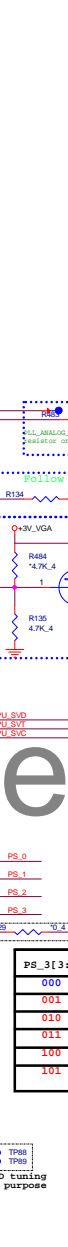
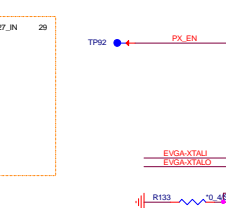
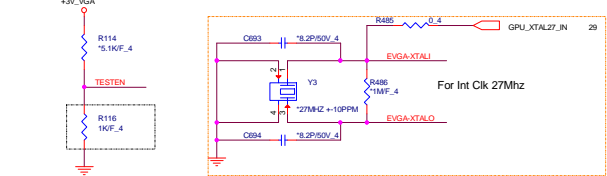
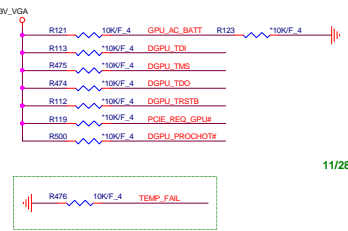
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14,16,30,41 +3V_VGA

14,16,29,39,41 +1.8V_VGA

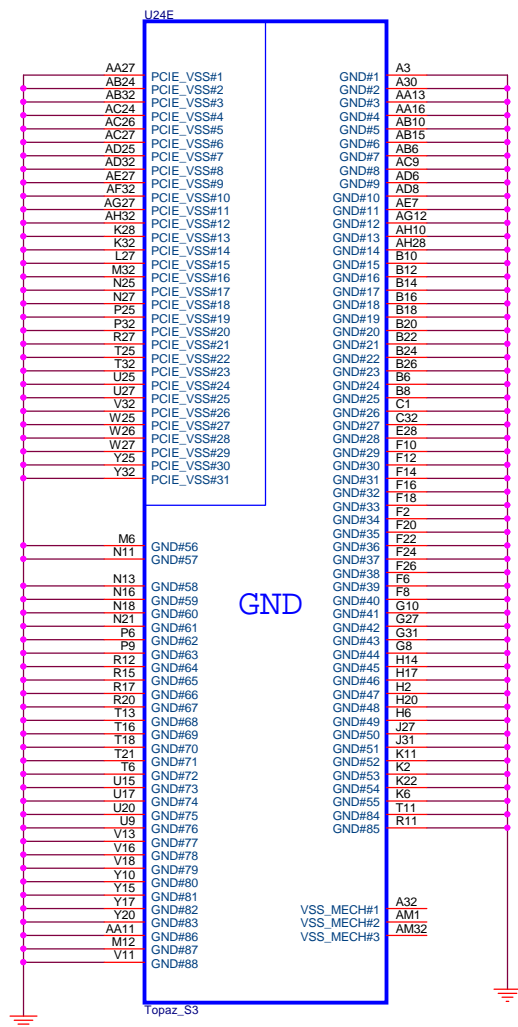
16,41 +1.0V_VGA



BIT5 => BIT0	
PS0	=> 11001
PS1	=> 11000
PS2	=> 11000
PS3	=> 11000



PROJECT : Y23
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CONFIGURATION STRAPS-- SEE EACH DATABOOK FOR STRAP DETAILS

ALLOW FOR PULLUP PADS FOR THESE STRAPS AND IF THESE GPIOs ARE USED, THEY MUST NOT CONFLICT DURING RESET

RECOMMENDED SETTINGS
0= DO NOT INSTALL RESISTOR
1= INSTALL 3K RESISTOR
X = DESIGN DEPENDANT
NA = NOT APPLICABLE

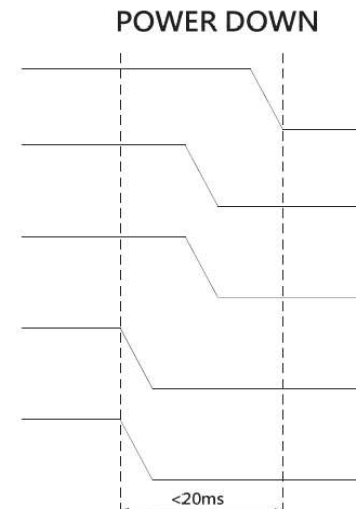
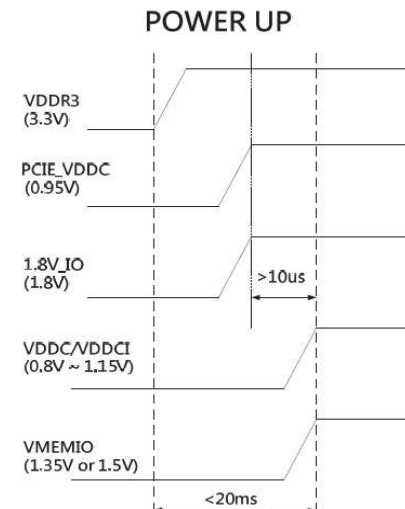
STRAPS	PIN	DESCRIPTION OF DEFAULT SETTINGS	
TX_PWRS_ENB	GPIO0	PCIE FULL TX OUTPUT SWING	0
TX_DEEMPH_EN	GPIO1	PCIE TRANSMITTER DE-EMPHASIS ENABLED	X
RSVD	GPIO2	RESERVED	0
RSVD	GPIO8	RESERVED	0
BIF_VGA_DIS	GPIO9	VGA ENABLED	0
RSVD	GPIO21	RESERVED	0
BIOS_ROM_EN	GPIO_22_ROMCSB	ENABLE EXTERNAL BIOS ROM	0
ROMIDCFG(2:0)	GPIO[13:11]	SERIAL ROM TYPE OR MEMORY APERTURE SIZE SELECT	0 0 1
VIP_DEVICE_STRAP_ENA	V2SYNC	IGNORE VIP DEVICE STRAPS (Removed on Seymour/W/histler)	0
RSVD	H2SYNC	RESERVED	0
AUD[1] AUD[0]	HSYNC VSYNC	SEE DATABOOK FOR DETAIL SEE DATABOOK FOR DETAIL	0 0
RSVD	GENERICC	RESERVED	0

NOTE1: AMD RESERVED CONFIGURATION STRAPS

ALLOW FOR PULLUP PADS FOR THESE STRAPS BUT DO NOT INSTALL RESISTOR. IF THESE GPIOs ARE USED, THEY MUST KEEP "LOW" AND NOT CONFLICT DURING RESET.

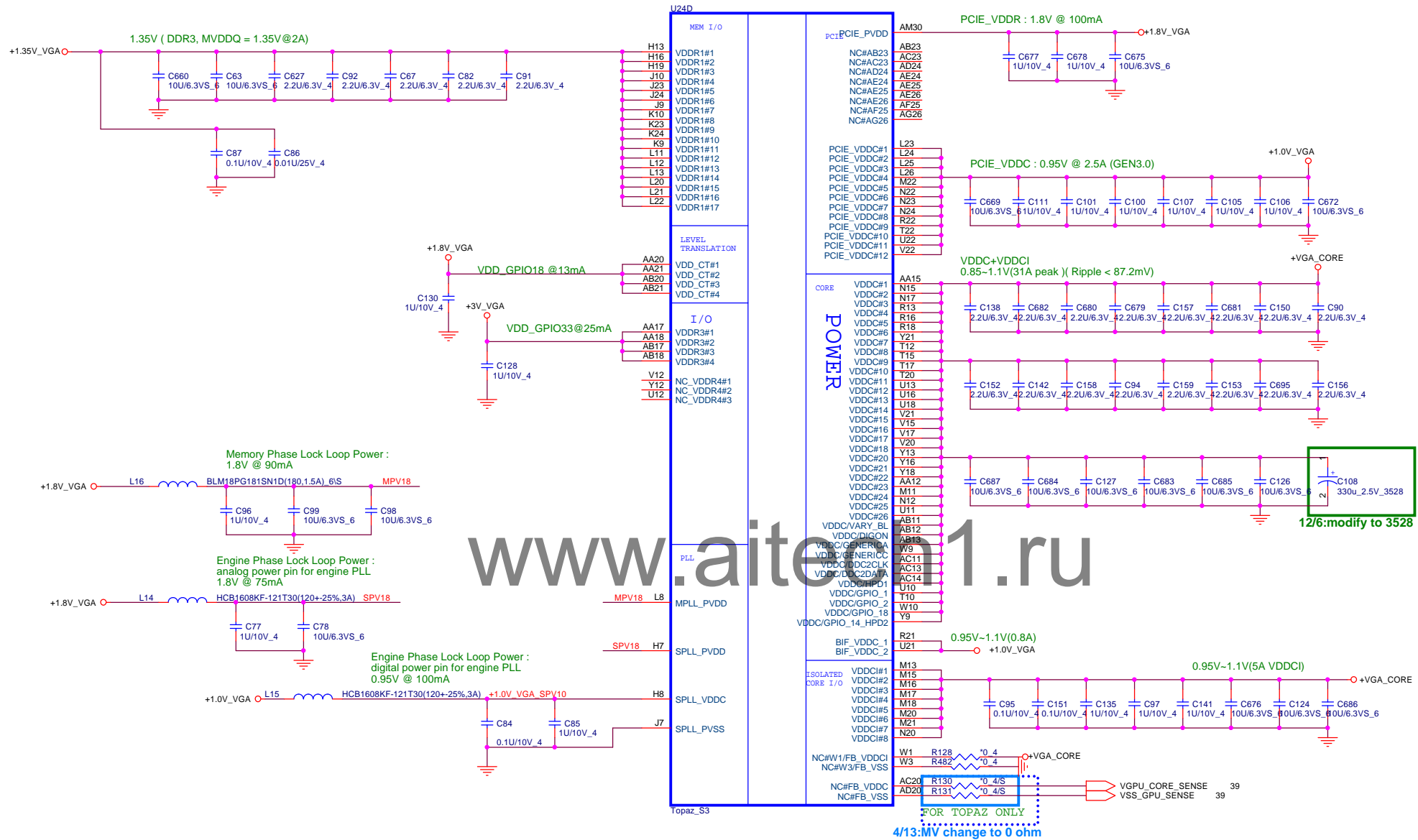
GPIO21 H2SYNC GENERICC GPIO8 GPIO2

POWER UP / POWER DOWN SEQUENCE

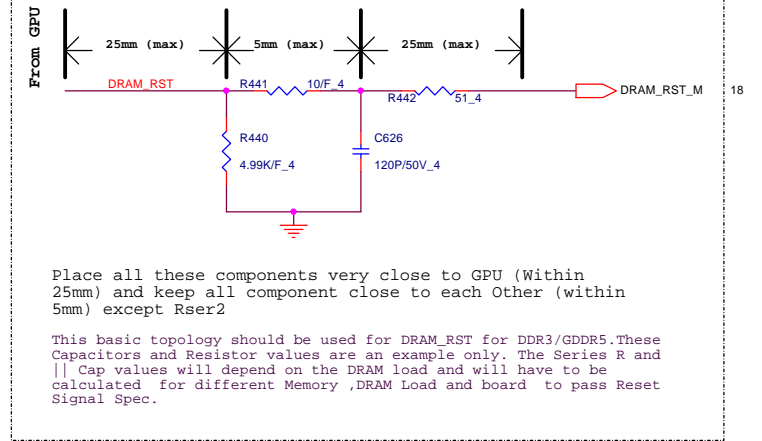
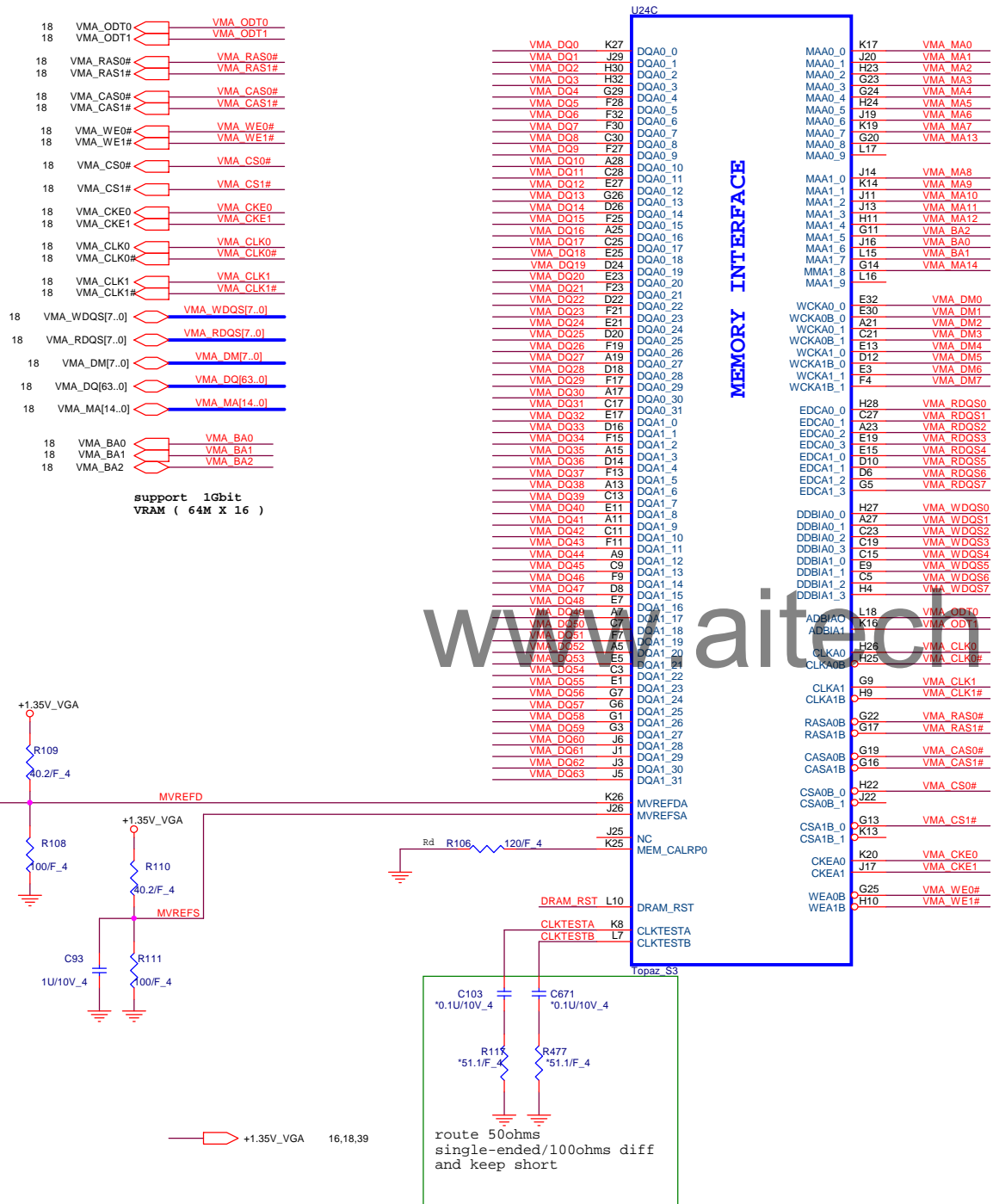


PROJECT : Y23
Quanta Computer Inc.

Size	Document Number	Rev
	TOPAZ_S3_GND/LVDS/Strap	1A
Date:	Wednesday, April 23, 2014	Sheet 15 of 41

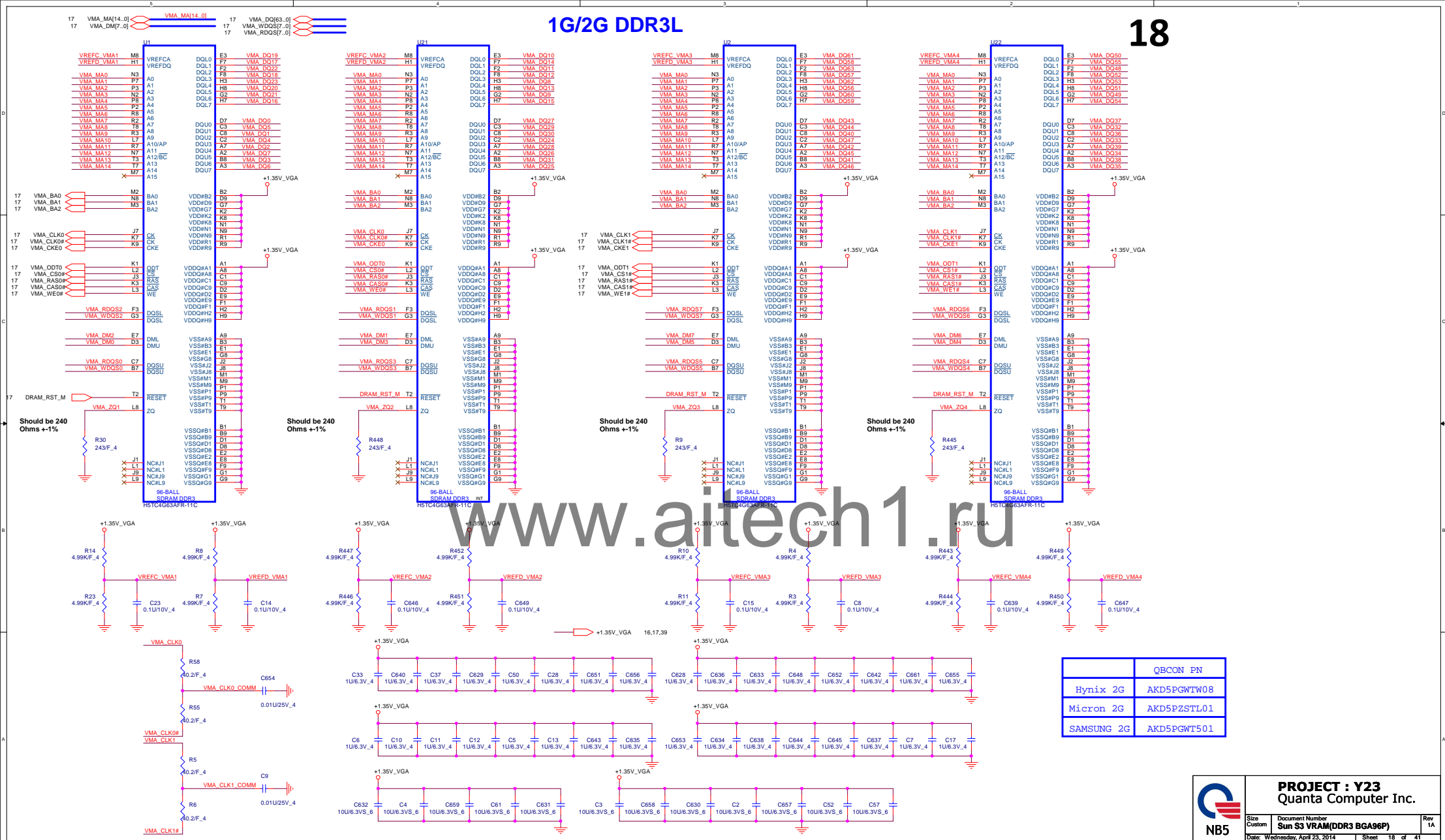


+1.35V_VGA	17,18,39
+1.8V_VGA	13,14,29,39,41
+1.0V_VGA	13,41
+VGA_CORE	39,40



1G/2G DDR3L

18



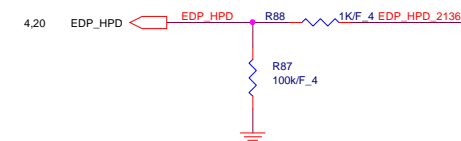
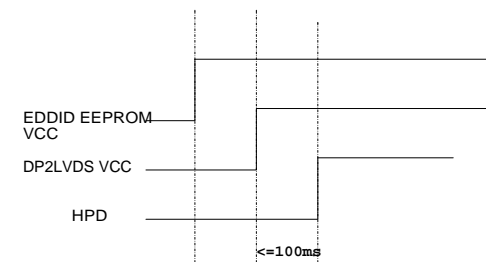
PROJECT : Y23
Quanta Computer Inc.

Size
Custom

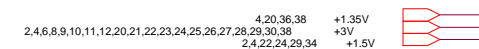
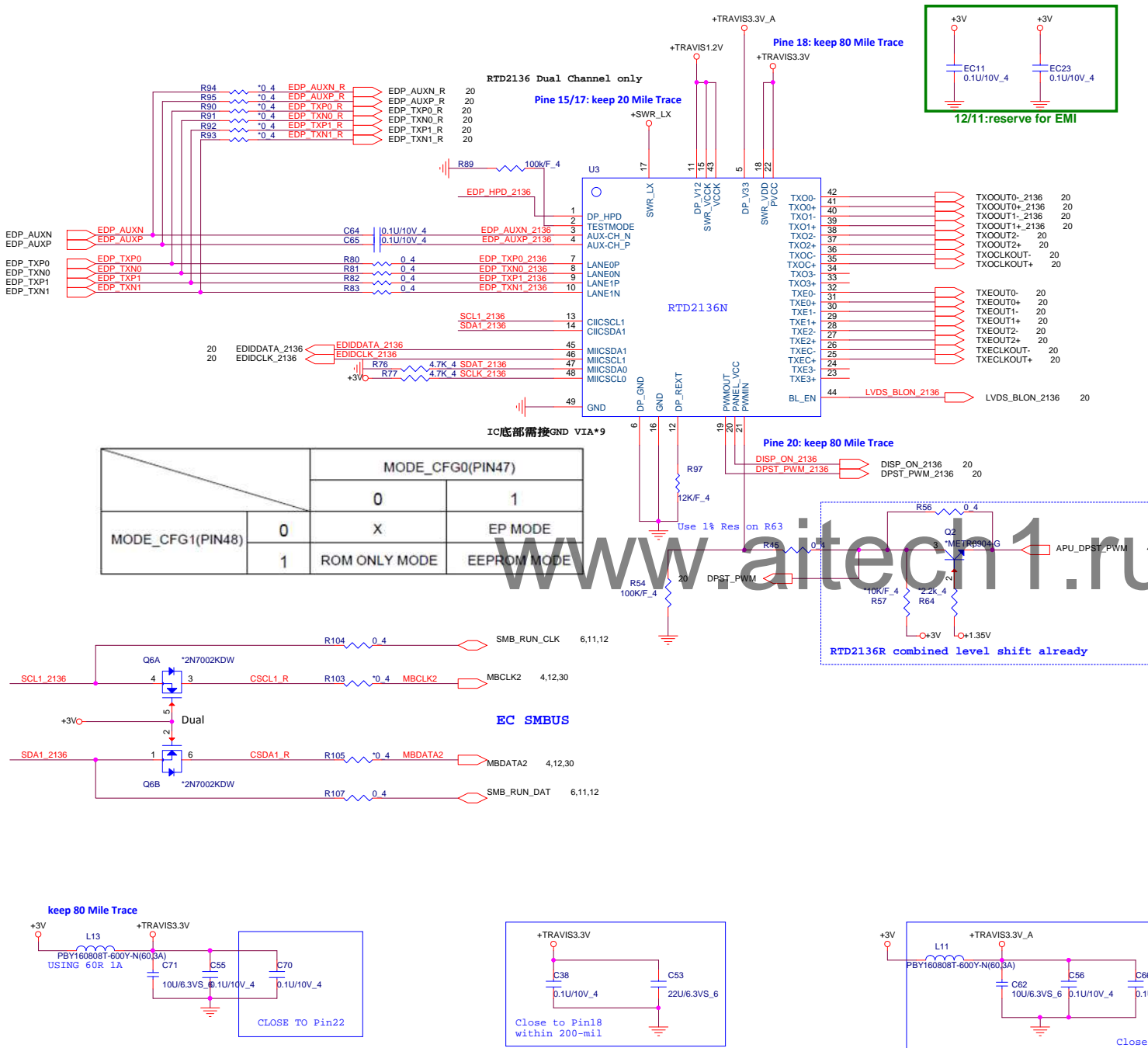
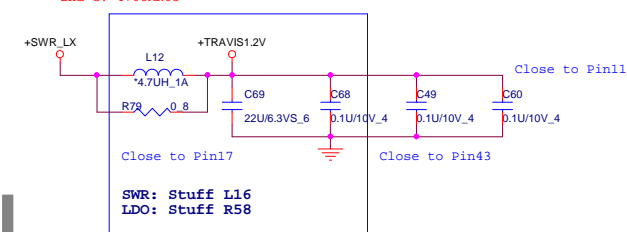
Document Number
Sun S3 VRAM(DDR3 BGA96P)

Rev
1A

Date: Wednesday, April 23, 2014 Sheet 18 of 41

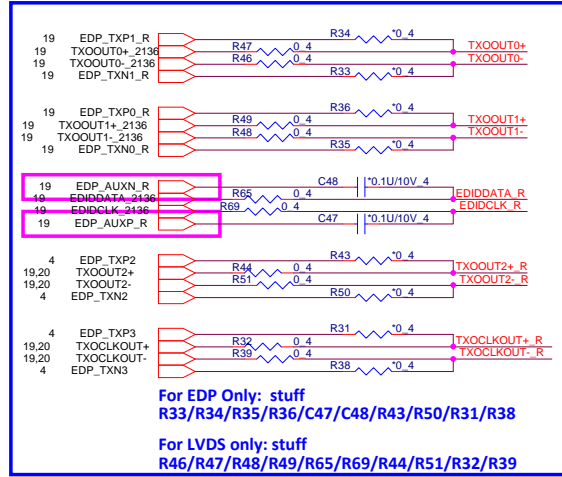
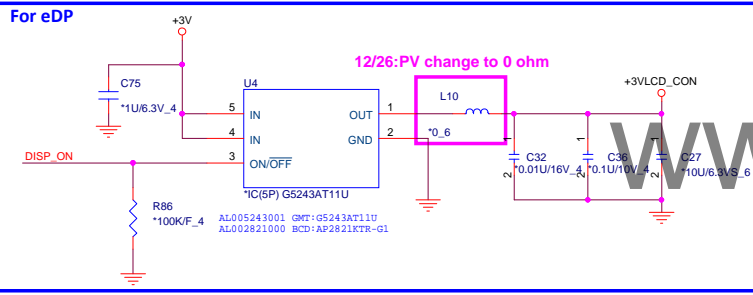
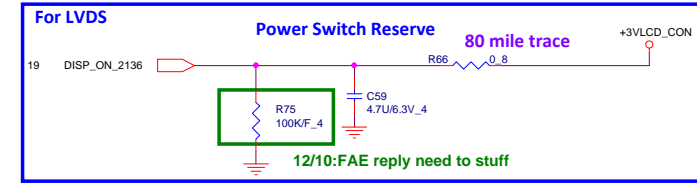
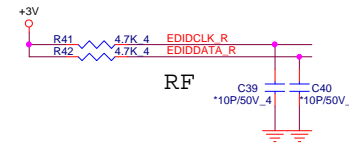
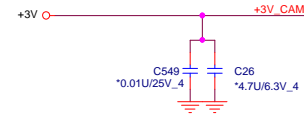
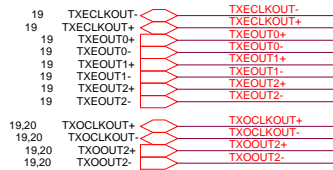
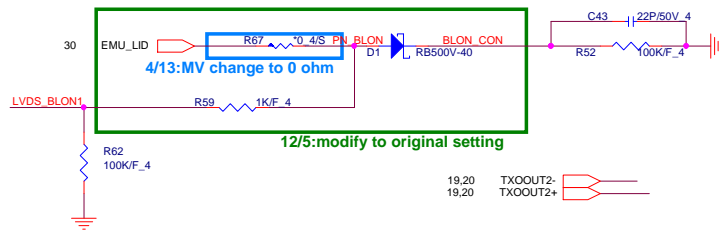


L69: need use CV-4709MN00 for Vendor suggestion
2nd CV-4708MN03



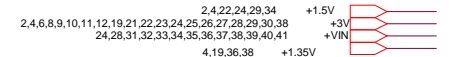
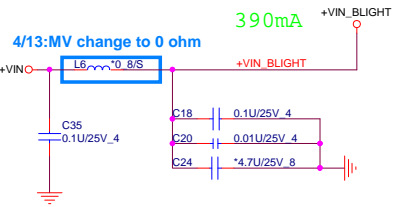
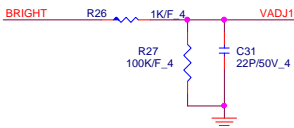
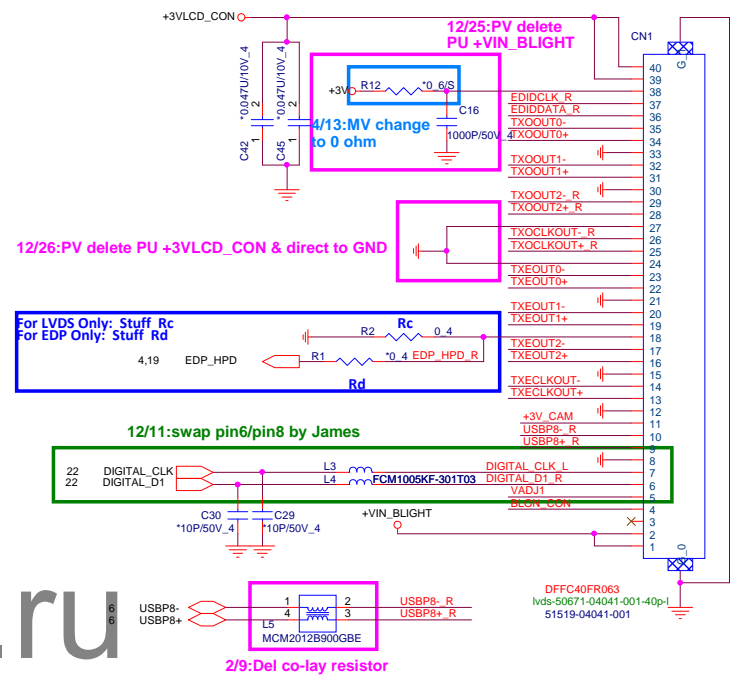
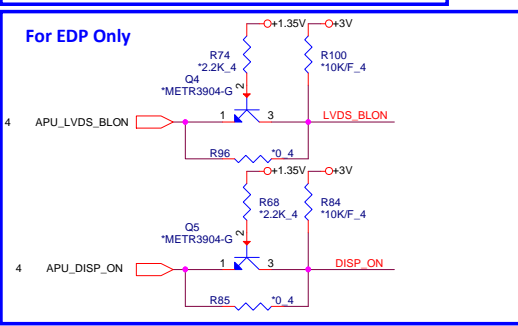
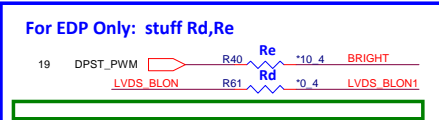
LVDS conn.

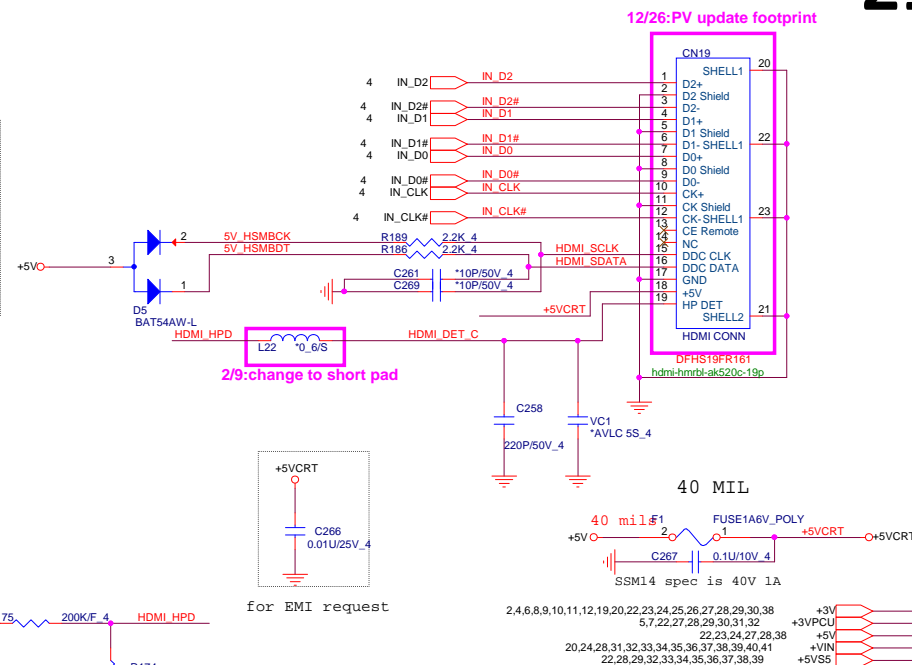
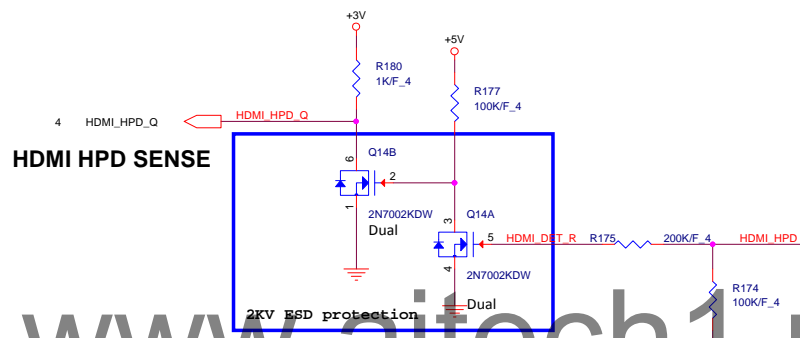
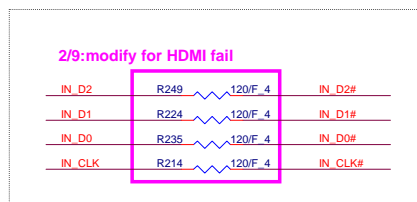
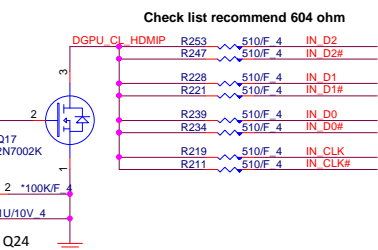
20

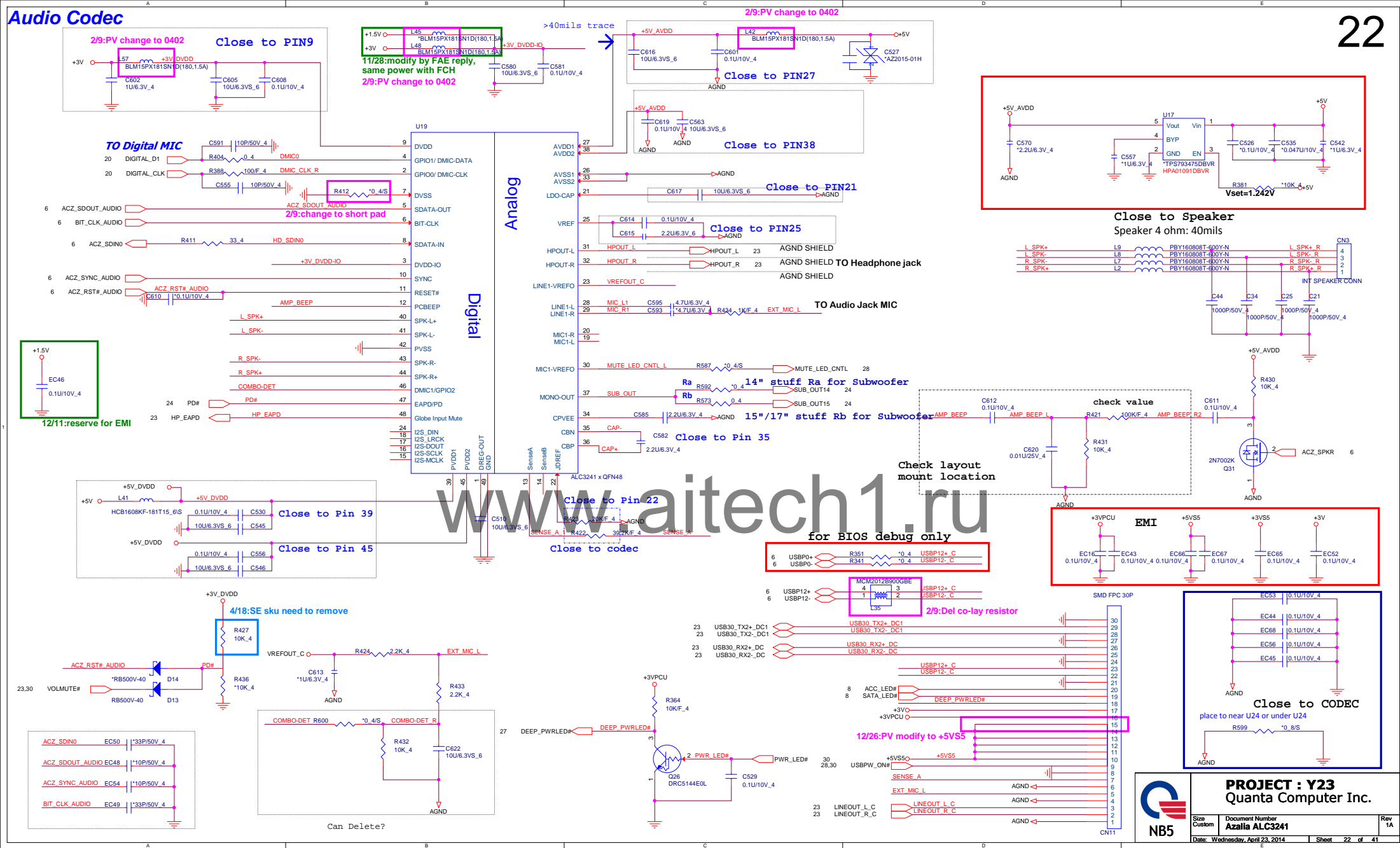


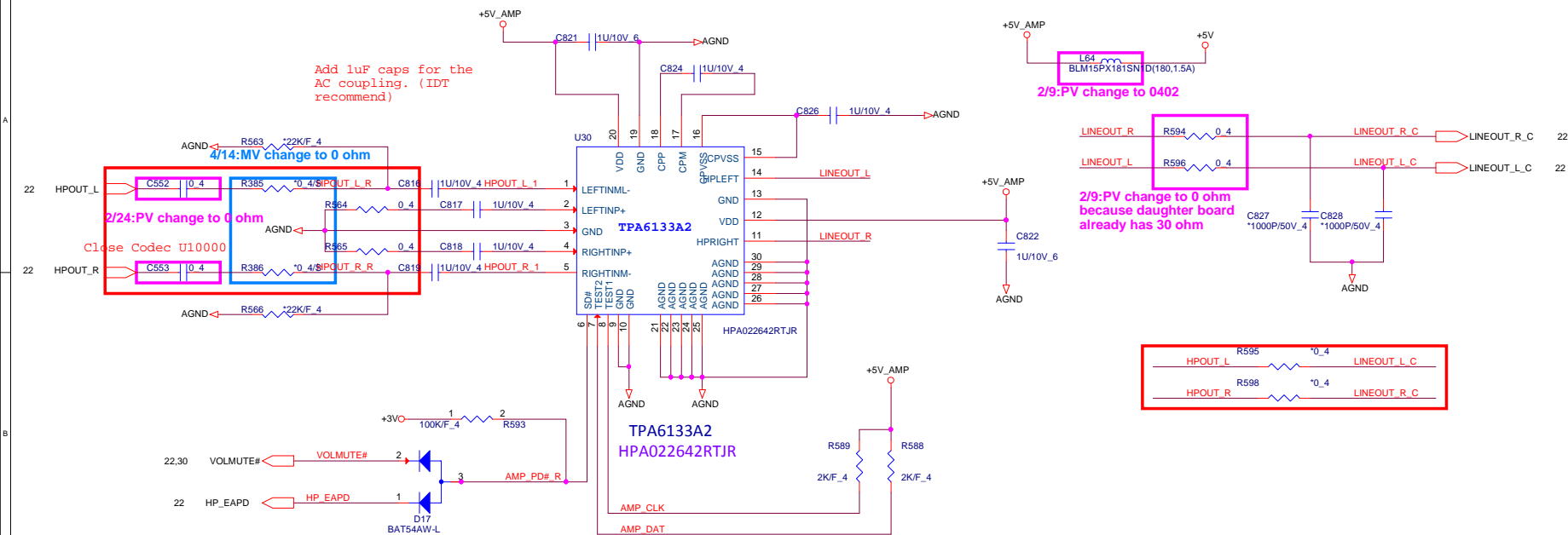
For EDP Only: stuff
R33/R34/R35/R36/C47/C48/R43/R50/R31/R38

For LVDS only: stuff
R46/R47/R48/R49/R65/R69/R44/R51/R32/R39







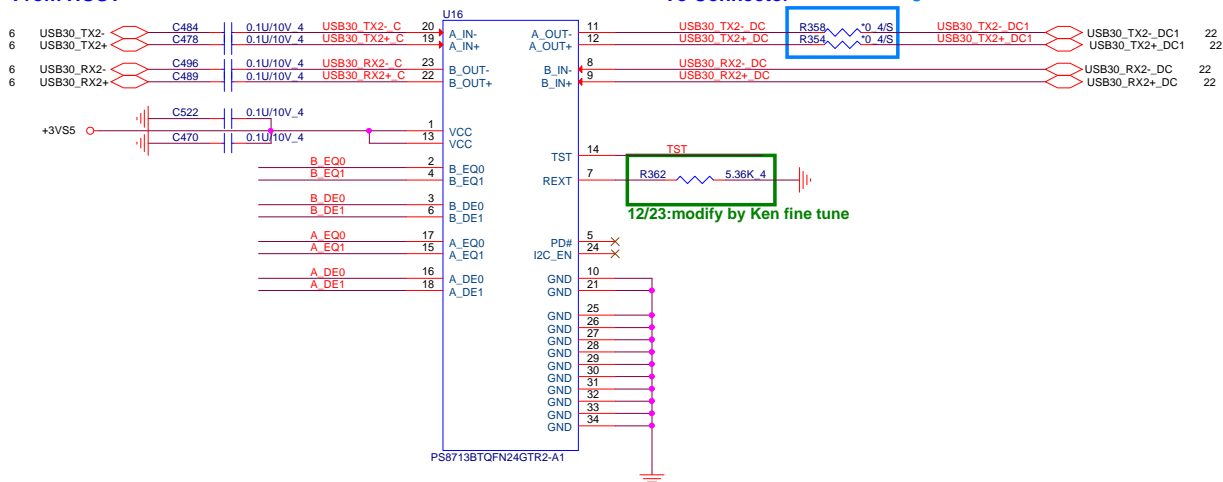
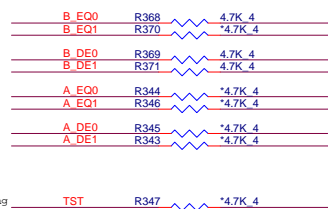


USB3.0 re-driver

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From HOST USB3.0 Re-driver To Connector

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 / Hight =Turn down LFPS swing

22,28,29,32,33,34,35,36,37,38,39
2,4,6,8,9,10,11,12,19,20,21,22,24,25,26,27,28,29,30,38
21,22,24,27,28,38
5,7,22,27,28,29,30,31,32

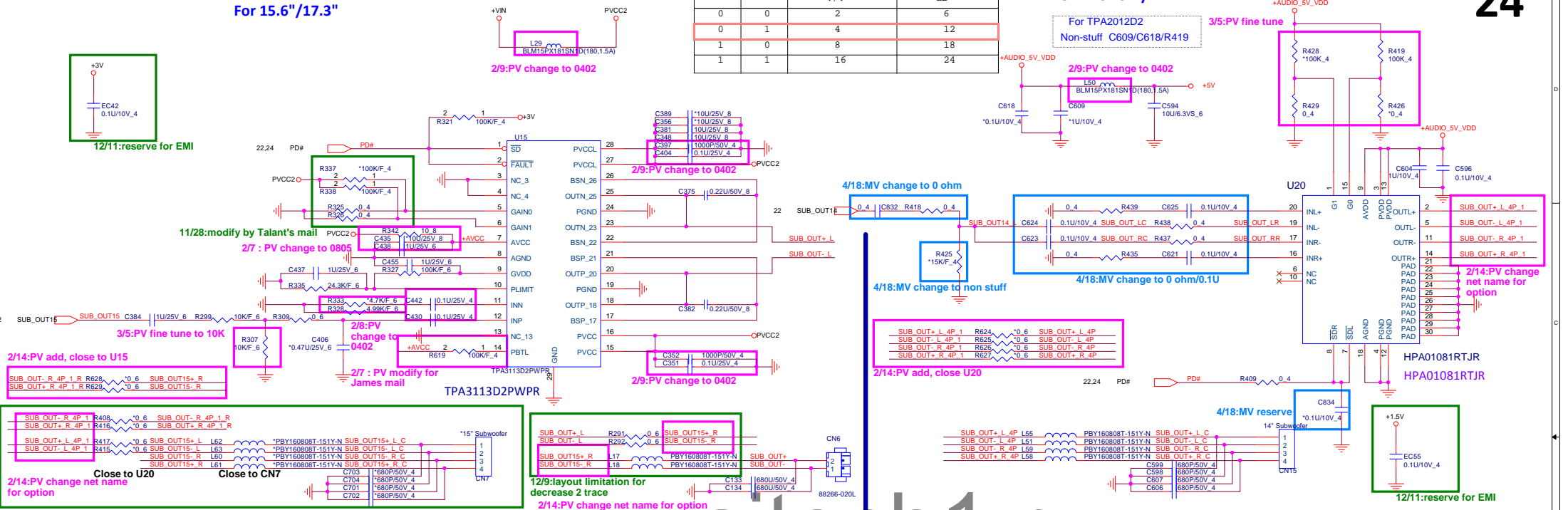
+5VSS
+3V
+5V
+3VPCU

Subwoofer

For 15.6"/17.3"

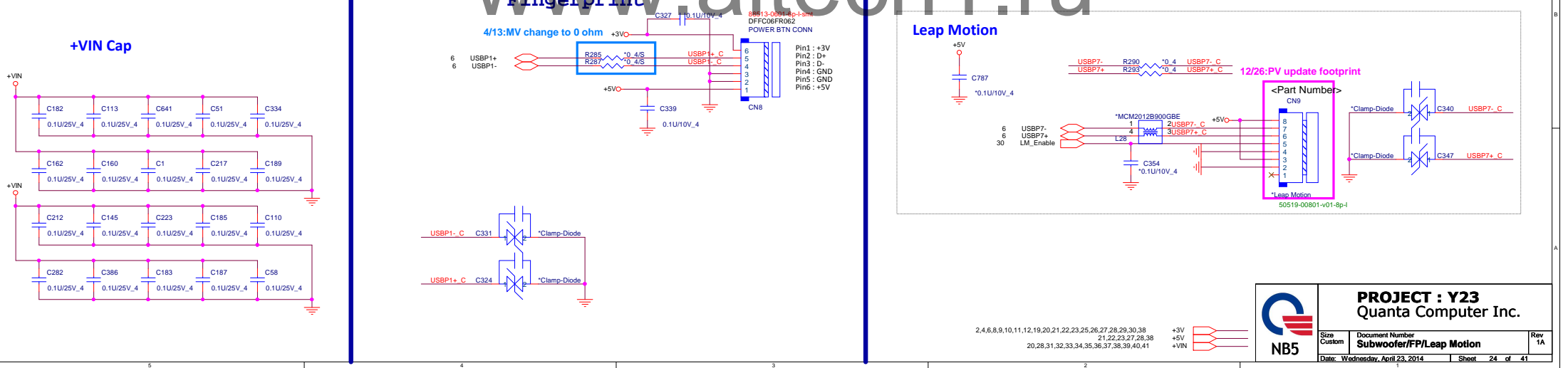
For 14.0" only

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



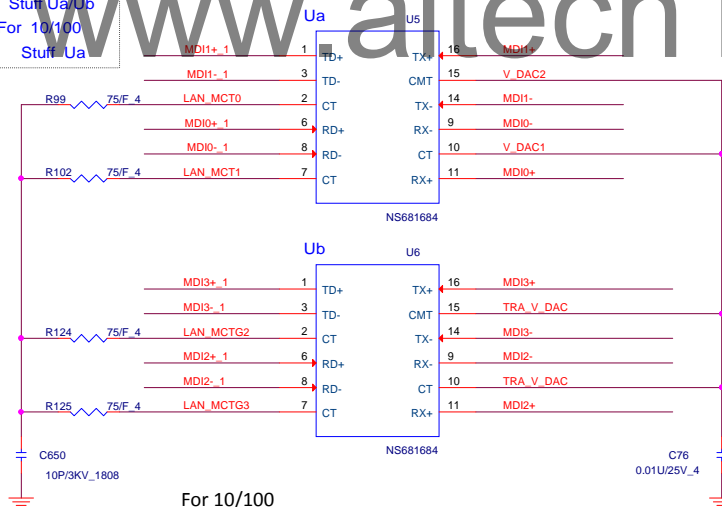
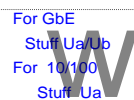
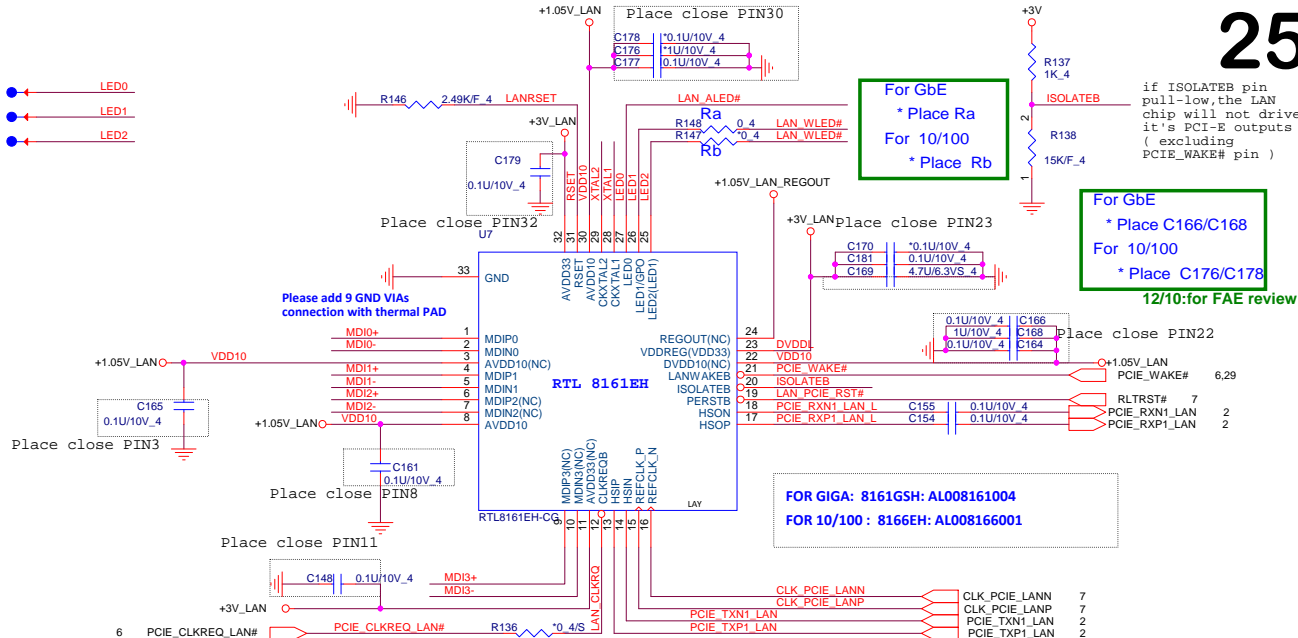
11/29:reserved 15" 4 pin subwoofer CONN

For 17" only

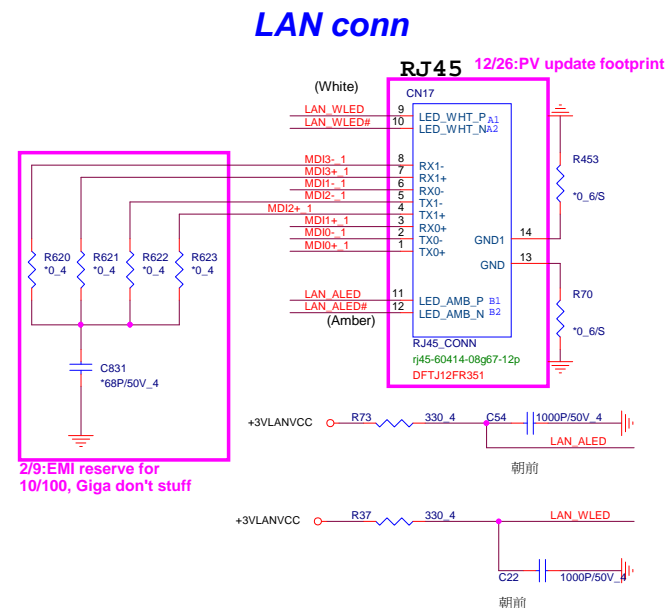



PROJECT : Y23
Quanta Computer Inc.

Size Custom	Document Number Subwoofer/FP/Leap Motion	Rev 1A
Date: Wednesday, April 23, 2014		Sheet 24 of 41



For 10/100
FCE :NS681684 ,DB0LE6LAN20



6 CLK_PCIE_REQ2# 

2/9:change to short pad

$$Z_{diff} = 100 \text{ ohm}$$

Please add 9 GND VIAs
connection with thermal PAD

R357 need colse to Chip

0.1u/10V_4 C398

4.7u/6.3V_4 C393

R538 6.2K/F 4

RTSS239_RREF

C800 0.1u/10V_4

C801 4.7u/6.3V_4

+3V

C799 10u/6.3V_6

C798 0.1u/10V_4

+3VCARD

CARD READER
CN13

CLOSE CONN

Change footprint to
sdcard-psdbtc-09glbs1nn4h3-11p

Reserve for EMI

SD_D0	EC33	5.6P/16V 4
SD_D1	EC32	5.6P/16V 4
SD_D2	EC51	5.6P/16V 4
SD_D3	EC47	5.6P/16V 4



PROJECT : Y23
Quanta Computer Inc.

Size Custom	Document Number RTS5239 & CR SOCKET
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Date: Wednesday, April 23, 2014	Sheet 26 of 41
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[illegible]

12/26:PV update footprint

SATA HDD

1

2

3

4

5

6

7

8

9

10

HDD17

SATA_TXP0 C C432 0.01U/25V 4

SATA_TXN0 C C428 0.01U/25V 4

SATA_RXN0 C C421 0.01U/25V 4

SATA_RXP0 C C409 0.01U/25V 4

SATA_TXP0 8

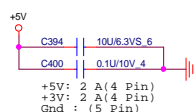
SATA_TXN0 8

SATA_RXN0 8

SATA_RXP0 8

+5V

DFFC10FR114
51625-01001-001-10q-I



15" SATA ODD

OD1517

18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

20 19

ZERO_ODD_DA#

ZERO_ODD_DP#

+5V_0DD

SATA_RXP15_C C284 0.01U/25V 4 SATA_RXP1

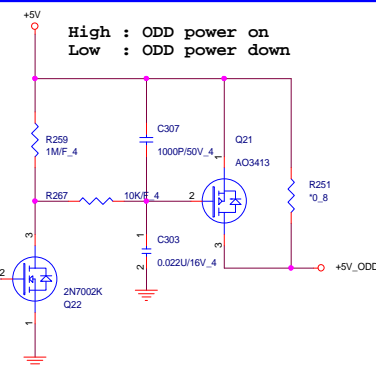
SATA_RXN15_C C285 0.01U/25V 4 SATA_RXN1

SATA_TXN15_C C295 0.01U/25V 4 SATA_TXN1

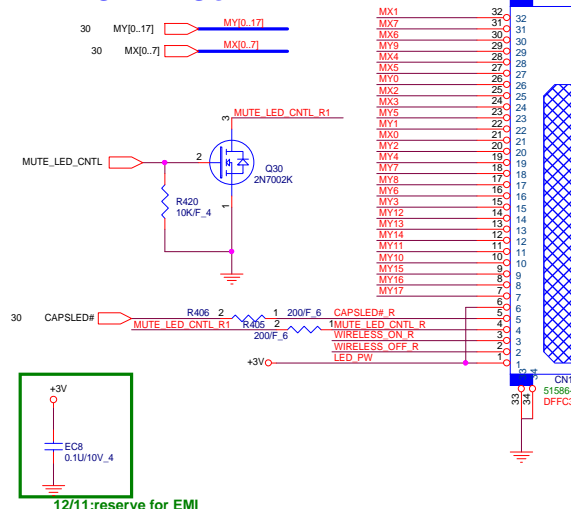
SATA_TXP15_C C296 0.01U/25V 4 SATA_TXP1

15 SATA ODD

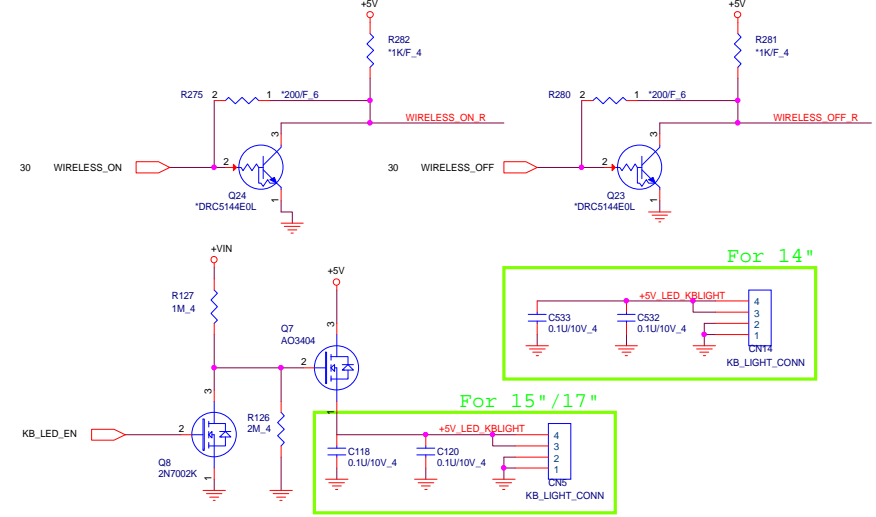
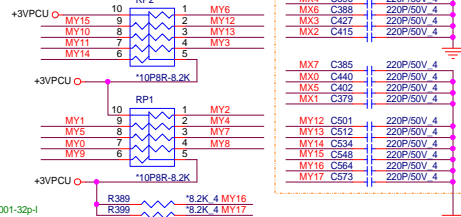
8 0DD



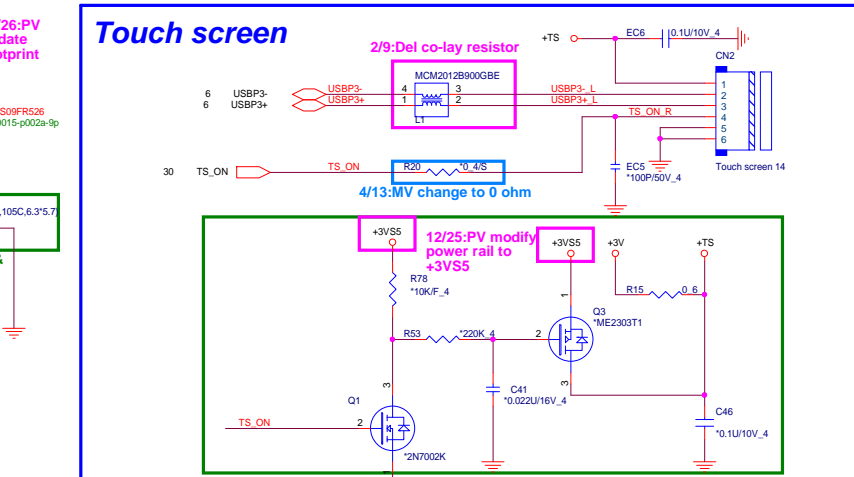
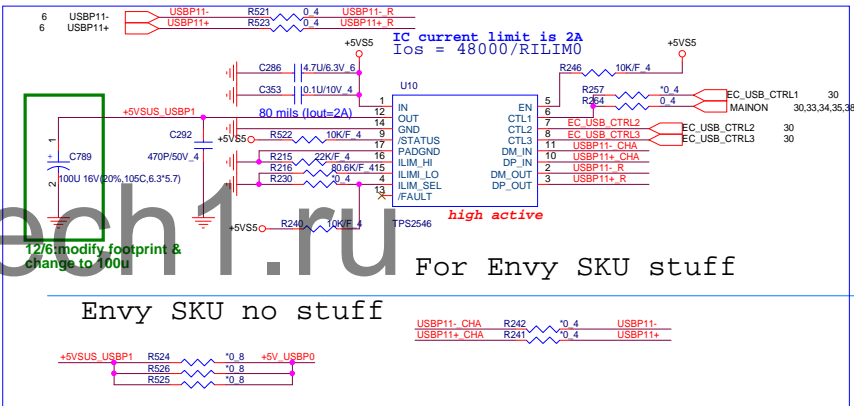
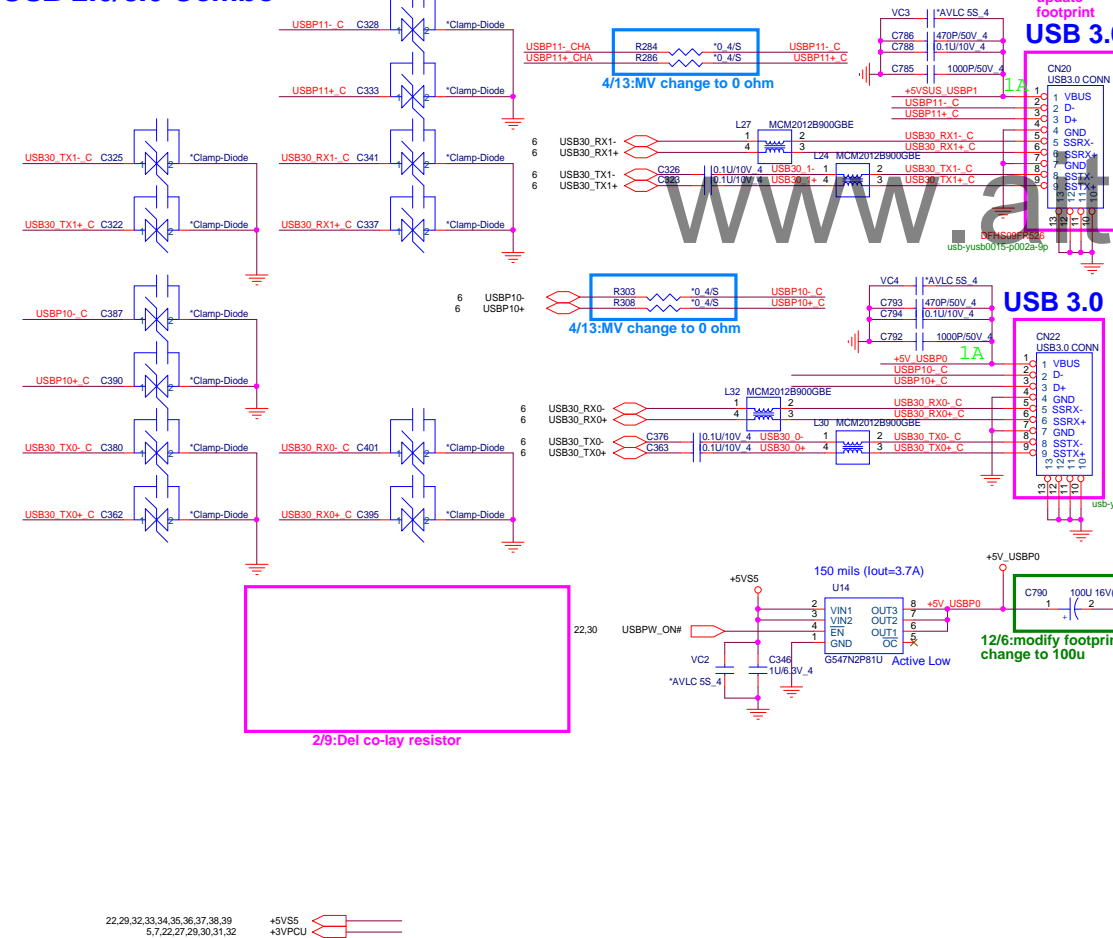
KEYBOARD Con.

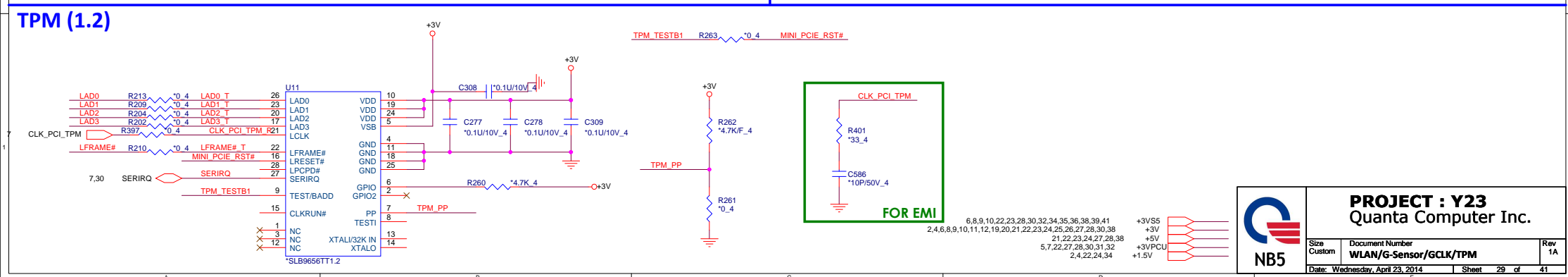
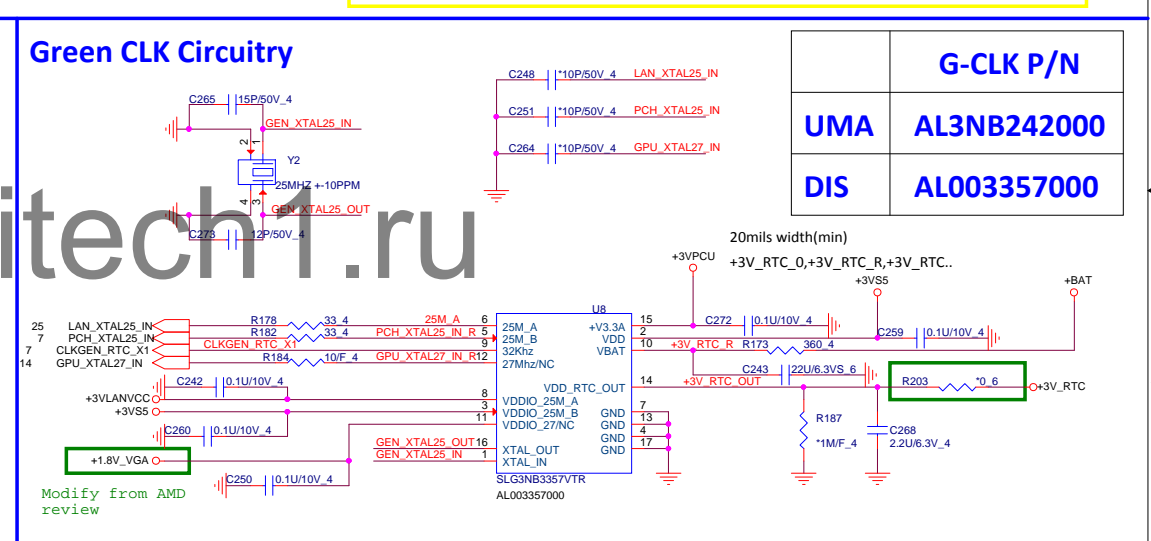
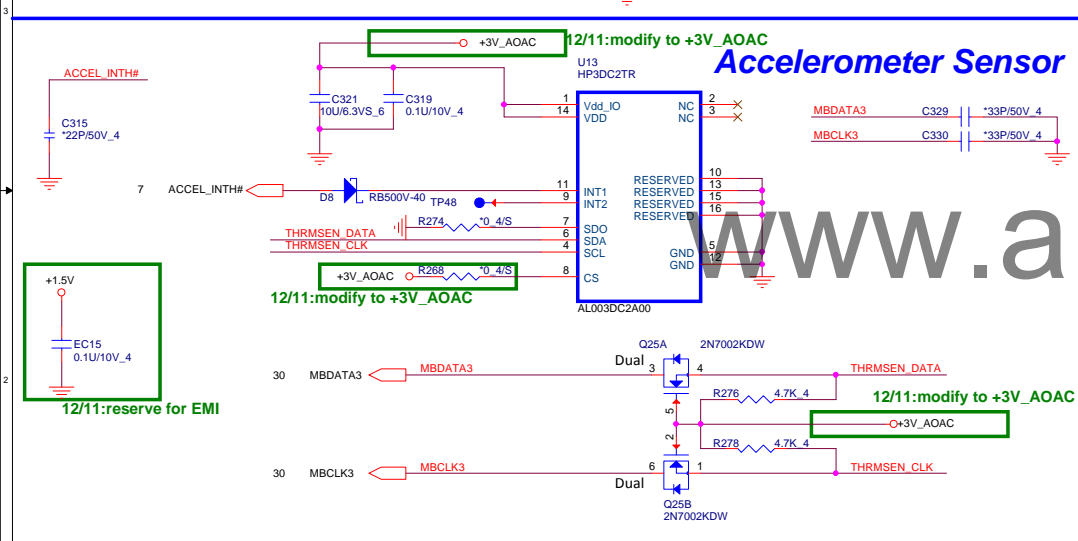
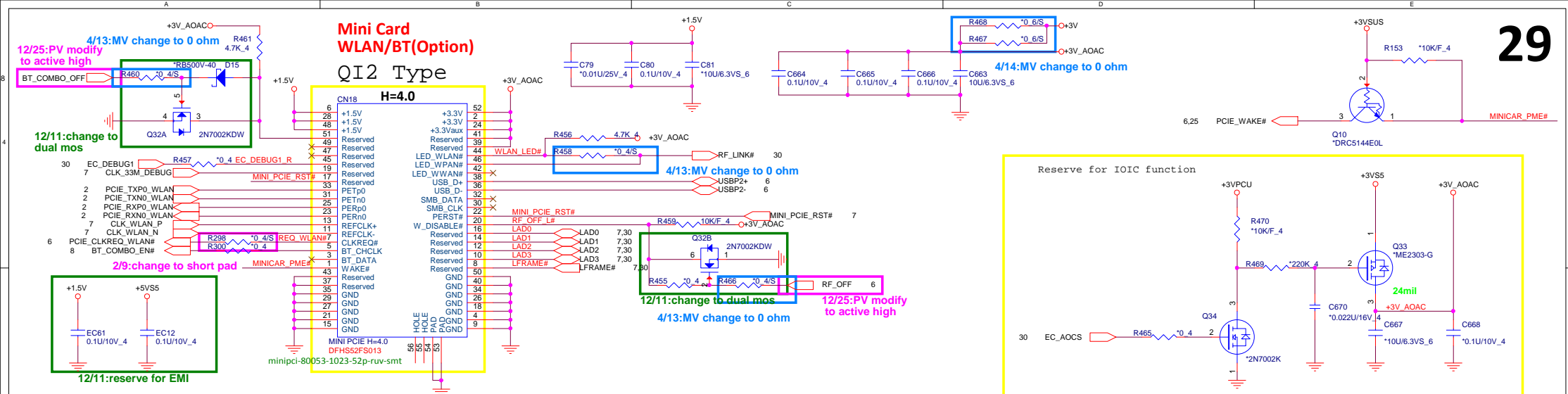


KEYBOARD PULL-UP



USB 2.0/3.0 Combo





2,4,6,8,9,10,11,12,19,20,21,22,23,24,25,26,27,28,29,38
5,7,22,27,28,29,31,32

+3V
+3VPCU

+3VPCU_EC
500mA
+3VPCU

7,29 SERIRQ
7,29 LFRAME#
7,29 LAD0
7,29 LAD1
7,29 LAD2
7,29 LAD3
7,29 CLK_33M_KBC
7,29 KBC_RST#
7,29 CLKRUN#

6 SIO_EXT_SCI#
6 EC_A20GATE
6 EC_RCIN#

28 MX0
28 MX1
28 MX2
28 MX3
28 MX4
28 MX5
28 MX6
28 MX7

28 MY0
28 MY1
28 MY2
28 MY3
28 MY4
28 MY5
28 MY6
28 MY7
28 MY8
28 MY9
28 MY10
28 MY11
28 MY12
28 MY13
28 MY14
28 MY15
28 MY16
28 MY17

14 GPURT_CLK
14 GPURT_DATA
29 MBCLK3
29 MBDATA3
27 TPCCLK
27 TPDATA

31 ACIN
7 DGPU_PWRK
29 RF_LINK#
28 EC_USB_CTRL1
28 EC_USB_CTRL2
28 EC_USB_CTRL3

22,28 USBPW_ON#
33,38 SUSON
28,33,34,35,38 MAINON
6,39,41 DGPU_PR_EN
5 THRM_MONITOR1

31 MBATLED0#
31 AC_LED_ON#
28 WIRELESS_ON
28 WIRELESS_OFF

124 VCC_IO2

KB9028QFC

9 TEMP_MBAT
64 AD_TYPE
65 AD_AIR
66 SYS_I
68 LAN_POWER
70 GPU_AC_BATT
71 BATSHIP
72

21 KB_LED_EN
23

26 FANPWM1/GPIO12
27 FANPWM2/GPIO13
28 FANFBI1/GPIO14
29 FANFBI2/GPIO15

77 MBCLK
78 MBDATA
79 MBCLK2
80 MBDATA2

6 SUSB#
14 H_WPG
15 H_PROCHOT#_EC
16 SUSC#
17 L1VSS5_ON
18 EC_AOCES
19 NBSWON1#
20 EMU_LID
21 EC_DEBUG1
22 SIO_EXT_SMI#

34 VRON
36

73 VGA_ON_SB
74 GPIC42
75 1.1VSS5_ON
76 GPIC42
77 GPIC42
78 GPIC42
79 GPIC42
80 GPIC42

91 CAPSLED#
92 PWR_LED#
93 ECPWROK
94 RSMRST#
121 VOLMUTE#
126 BIOS_SPI_CLK
127 LID_EC#

123 CRY2
122 CRY1

11 GND1
24 GND2
35 GND3
94 GND4
113 GND5
69 AGND

7,10 CLK_RTC

2/9:change to short pad

22 C270
22 C282
22 C287
22 C301
22 C316
22 C275
22 C304
22 C283
22 C311

63 TEMP_MBAT
64 AD_TYPE
65 AD_AIR
66 SYS_I
68 LAN_POWER
70 GPU_AC_BATT
71 BATSHIP
72

21 KB_LED_EN
23

26 FANPWM1/GPIO12
27 FANPWM2/GPIO13
28 FANFBI1/GPIO14
29 FANFBI2/GPIO15

77 MBCLK
78 MBDATA
79 MBCLK2
80 MBDATA2

6 SUSB#
14 H_WPG
15 H_PROCHOT#_EC
16 SUSC#
17 L1VSS5_ON
18 EC_AOCES
19 NBSWON1#
20 EMU_LID
21 EC_DEBUG1
22 SIO_EXT_SMI#

34 VRON
36

73 VGA_ON_SB
74 GPIC42
75 1.1VSS5_ON
76 GPIC42
77 GPIC42
78 GPIC42
79 GPIC42
80 GPIC42

91 CAPSLED#
92 PWR_LED#
93 ECPWROK
94 RSMRST#
121 VOLMUTE#
126 BIOS_SPI_CLK
127 LID_EC#

123 CRY2
122 CRY1

11 GND1
24 GND2
35 GND3
94 GND4
113 GND5
69 AGND

2/9:change to short pad

14 TEMP_FAIL

2

27

31

4,12,19

4,12,19

6

24

27

20

29

6

0.1U/10V_4
EC13
R188
R244
R248
R243
R197
R226
R227
R228
R229
R269
C291
C297
C313
C171
C281

HW_ALERT#
NBSWON1#
MBCLK
MBDATA
LID_EC#
MBCLK2
MBDATA2
RSMRST#
RSMRST#
3920_RST#
3920_RST#
47K_F_4
0.1U/10V_4
*33_4
CLK_33M_KBC

0.1U/10V_4
EC13
R188
R244
R248
R243
R197
R226
R227
R228
R229
R269
C291
C297
C313
C171
C281

HWPG
FAN1SIG
DGPU_PR_EN
SERIRQ

For +VIN noise

30

30

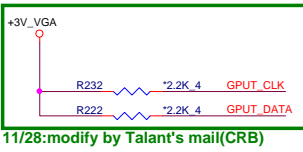
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30

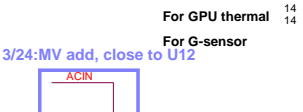
30

30

30



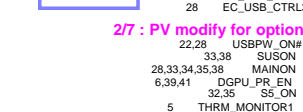
11/28:modify by Talant's mail(CRB)



For GPU thermal

For G-sensor

3/24:MV add, close to U12



2/7 : PV modify for option

2/9:change to short pad

2/9:change to short pad

2/9:change to short pad

4/13:MV change to 0 ohm

4/14:MV change to 0 ohm

2/7 : PV modify for option

2/9:change to short pad

2/9:change to short pad

2/9:change to short pad

4/13:MV change to 0 ohm

4/14:MV change to 0 ohm

2/7 : PV modify for option

2/9:change to short pad

2/9:change to short pad

2/9:change to short pad

4/13:MV change to 0 ohm

4/14:MV change to 0 ohm

2/7 : PV modify for option

2/9:change to short pad

2/9:change to short pad

2/9:change to short pad

4/13:MV change to 0 ohm

4/14:MV change to 0 ohm

2/7 : PV modify for option

2/9:change to short pad

2/9:change to short pad

2/9:change to short pad

4/13:MV change to 0 ohm

4/14:MV change to 0 ohm

2/7 : PV modify for option

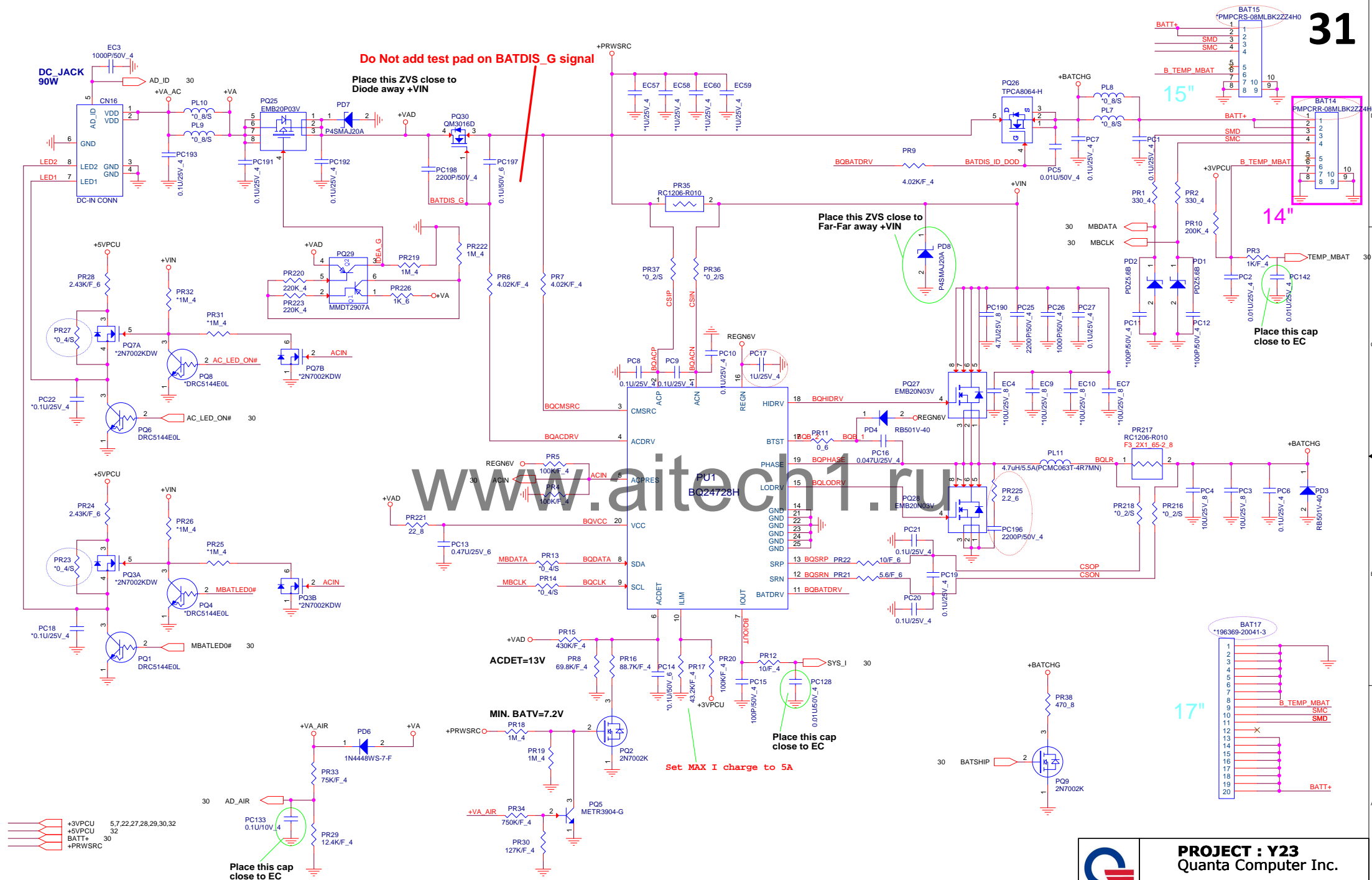
2/9:change to short pad

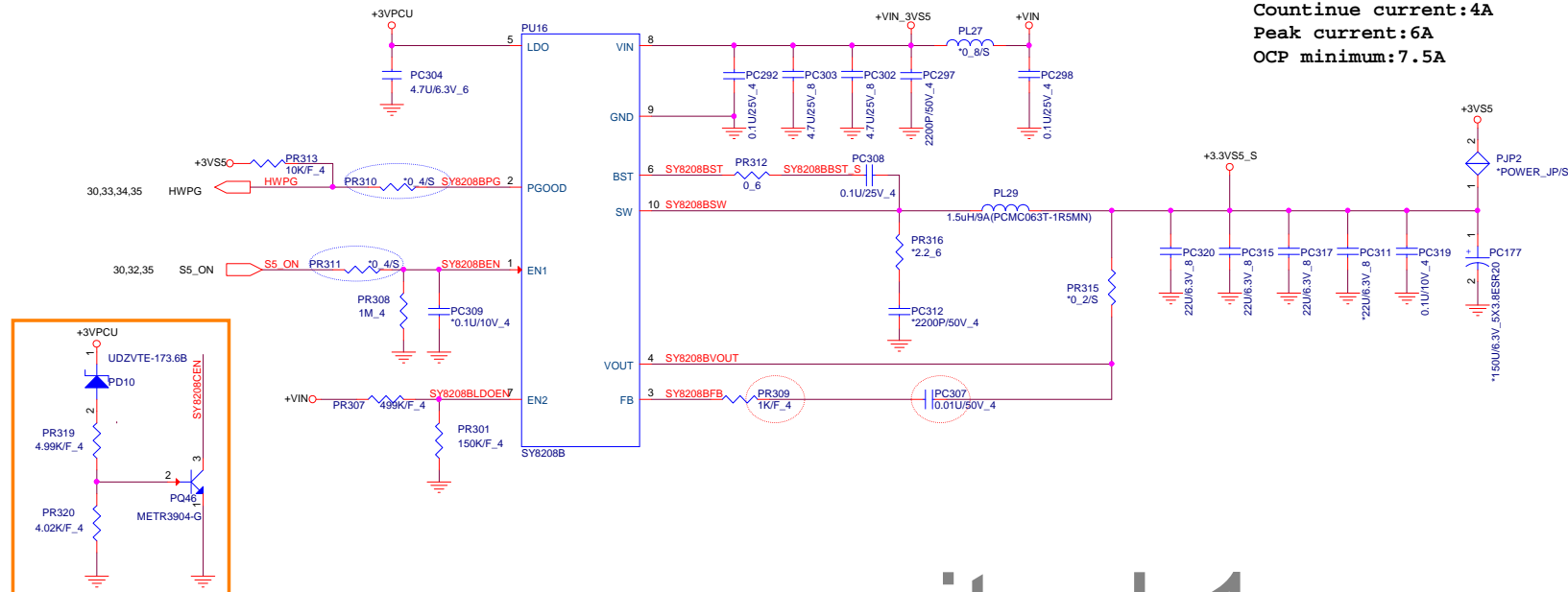
2/9:change to short pad

2/9:change to short pad

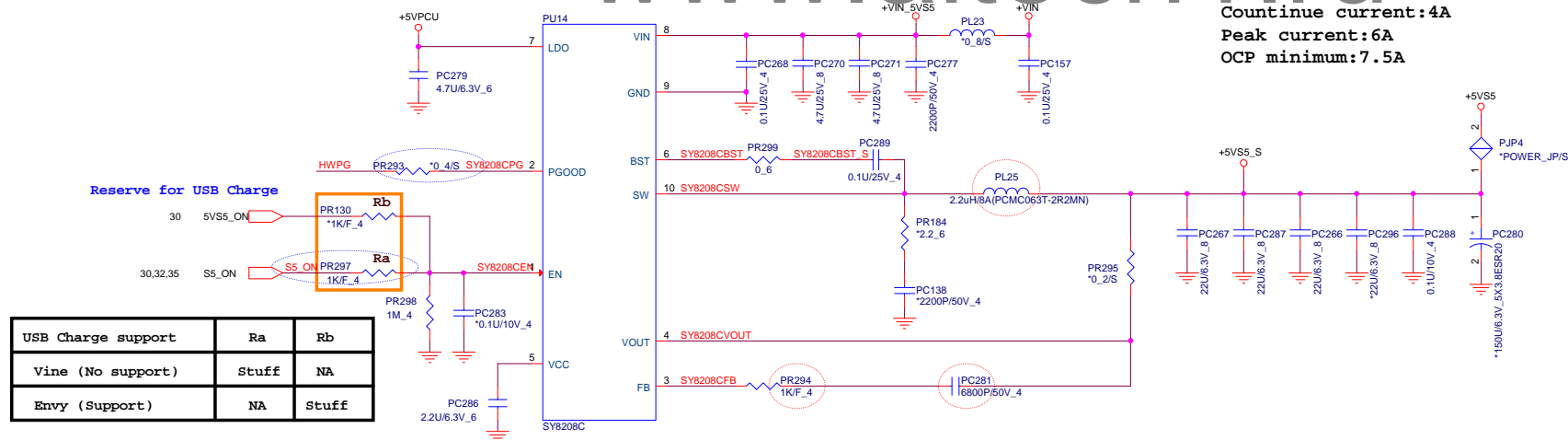


PROJECT : Y23		
Quanta Computer Inc.		
Size	Document Number	Rev
Custom	EC (KB9028QF C)/ROM	1A
Date: Wednesday, April 23, 2014	Sheet	30 of 41





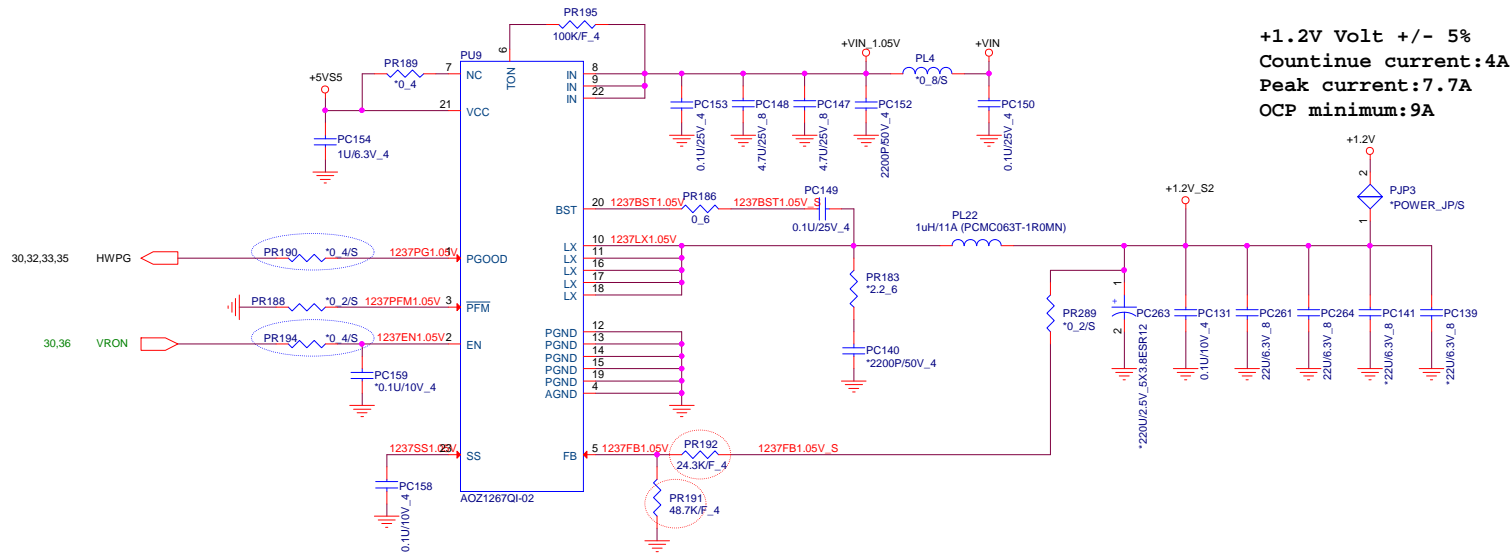
www.aitech1.ru



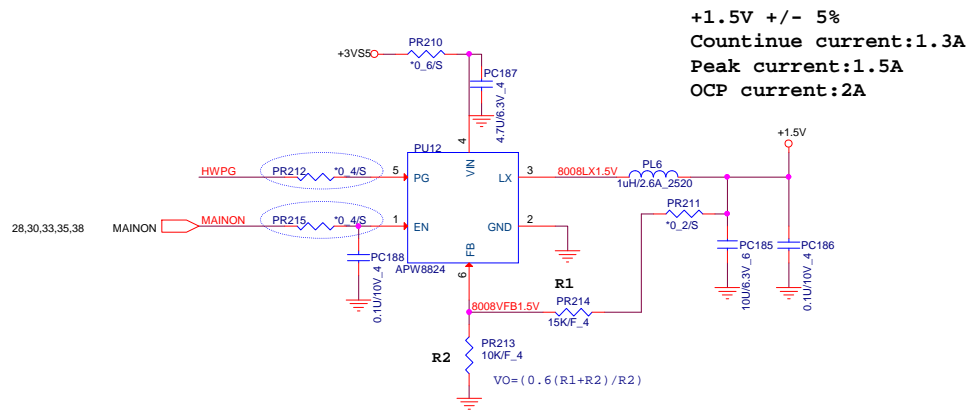
USB Charge support	Ra	Rb
Vine (No support)	Stuff	NA
Envy (Support)	NA	Stuff



 +1.35VSUS 2,3,4,5,11,12,38



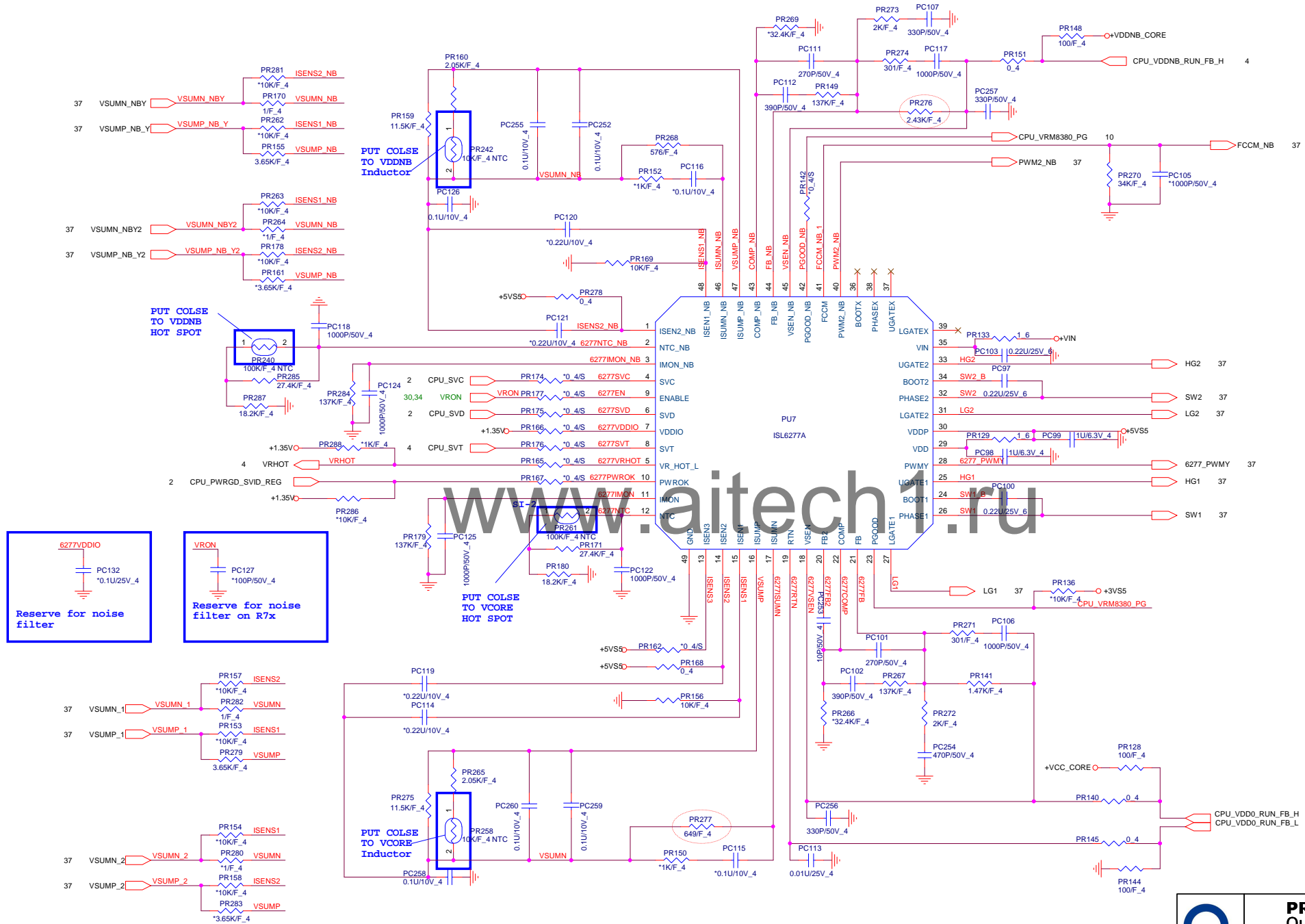
www.aitech1.ru



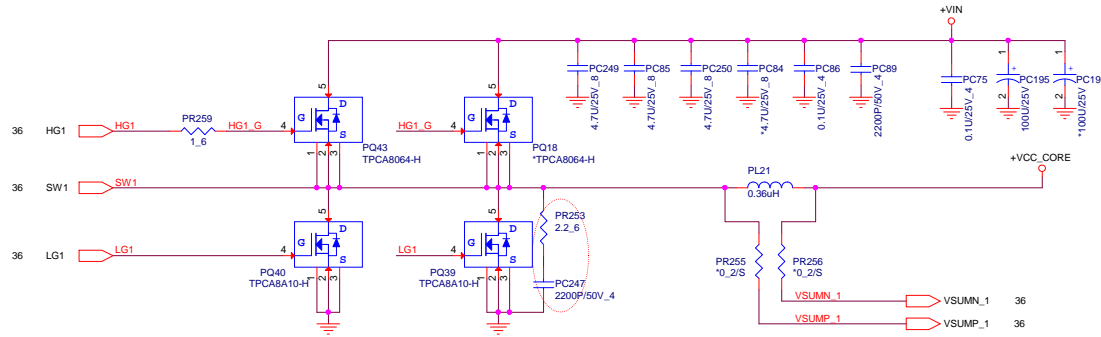
+VIN	20,24,28,31,32,33,35,36,37,38,39,40,41
+3VSS	6,8,9,10,22,23,28,29,30,32,35,36,38,39,41
+5VSS	22,28,29,32,33,35,36,37,38,39
+5VPCU	31,32



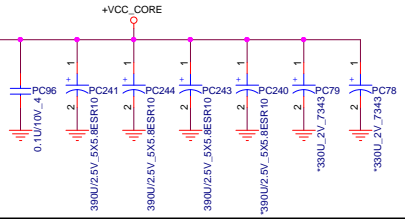
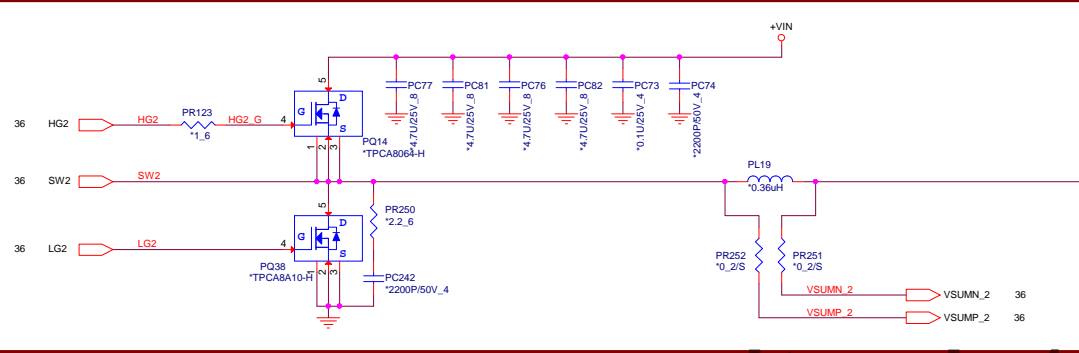
PROJECT : Y23 Quanta Computer Inc.		
Document Number +1.1VS5 (AOZ1267)/2.5V	Rev 1A	
Wednesday, April 23, 2014	Sheet 85	of 41



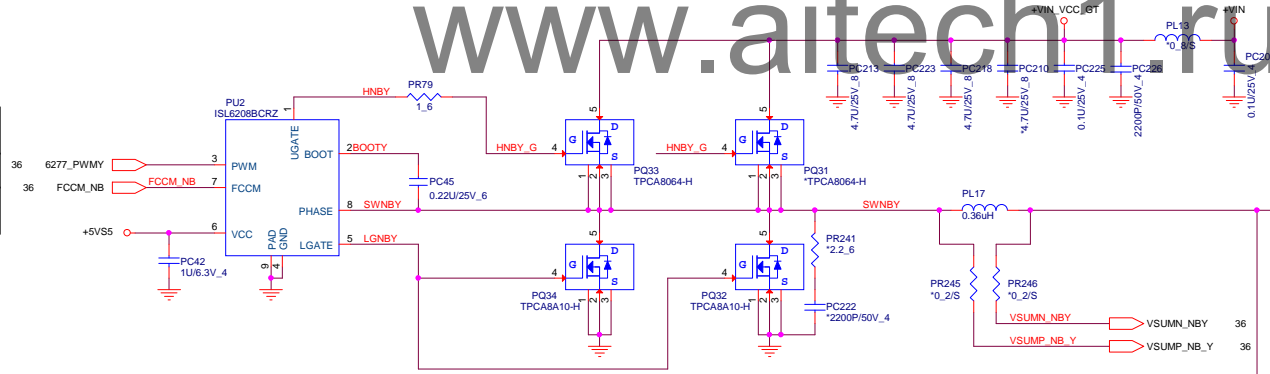
CPU TYPE	MOSFET
25W	1H2L/1phase
19W	1H1L/1phase



CPU CORE Volt (25W)
 Countinue current:20A
 Peak current:34A
 OCP minimum:39A



CPU TYPE	MOSFET
25W	1H2L/1phase
19W	1H1L/1phase



VDDNB Volt
 Countinue current:14.1A
 Peak current:24.1A
 OCP minimum:37A

