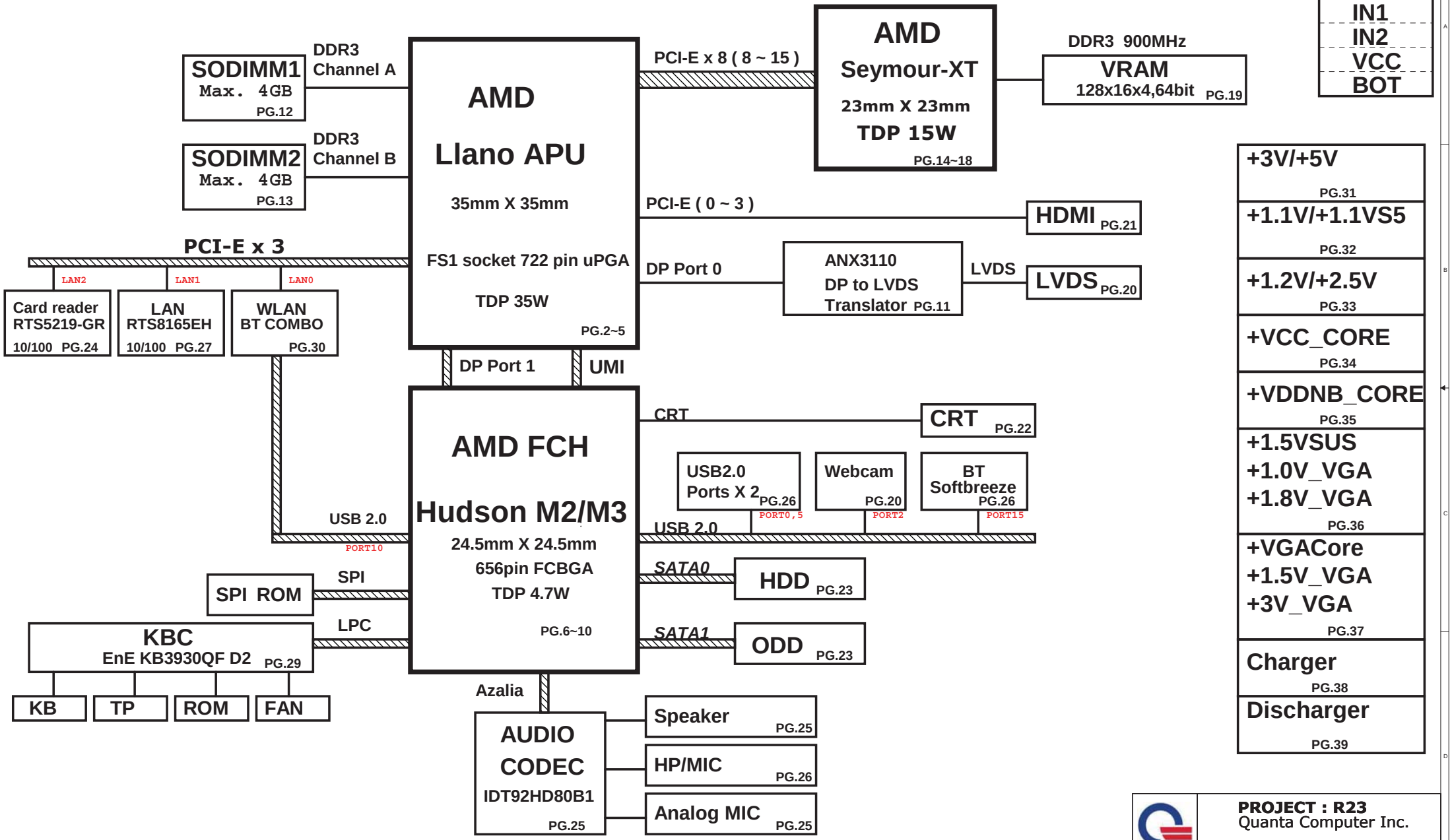
R23 AMD Sabin UMA/Muxless SYSTEM DIAGRAM



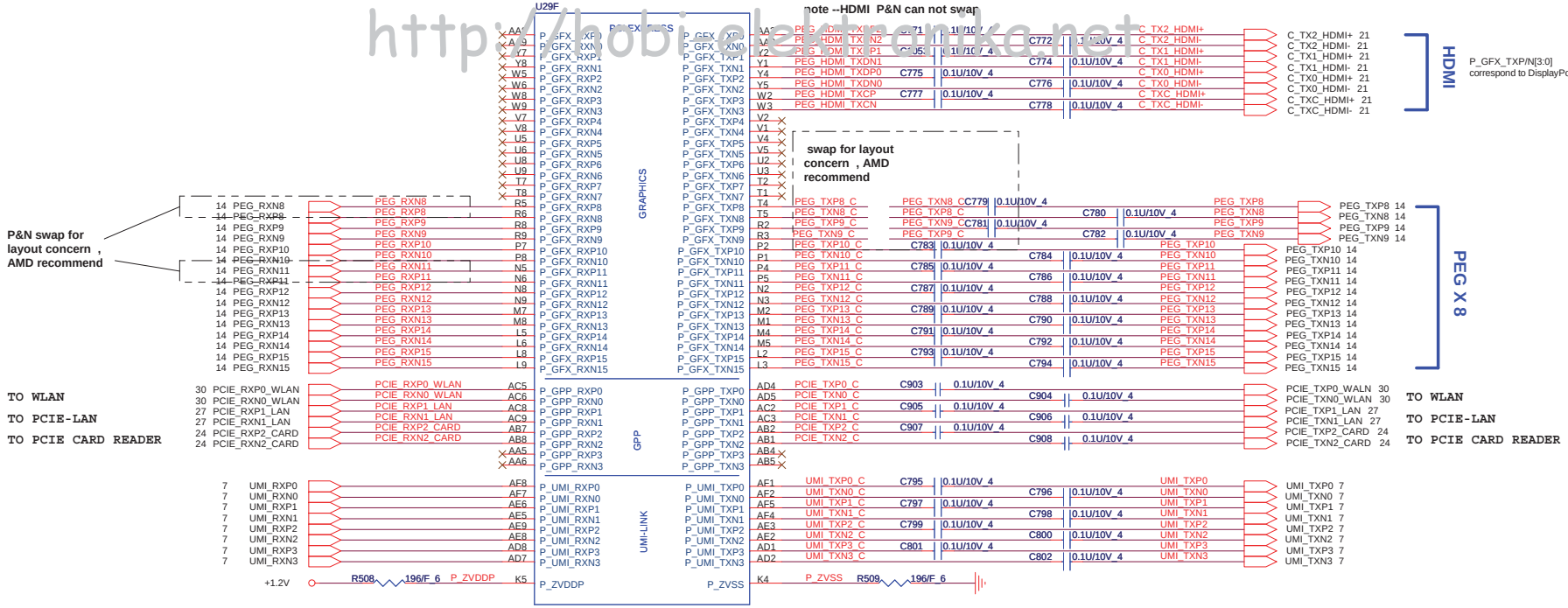
Stackup
TOP
GND
IN1
IN2
VCC
BOT

+3V/+5V PG.31
+1.1V/+1.1VS5 PG.32
+1.2V/+2.5V PG.33
+VCC_CORE PG.34
+VDDNB_CORE PG.35
+1.5VSUS +1.0V_VGA +1.8V_VGA PG.36
+VGACore +1.5V_VGA +3V_VGA PG.37
Charger PG.38
Discharger PG.39

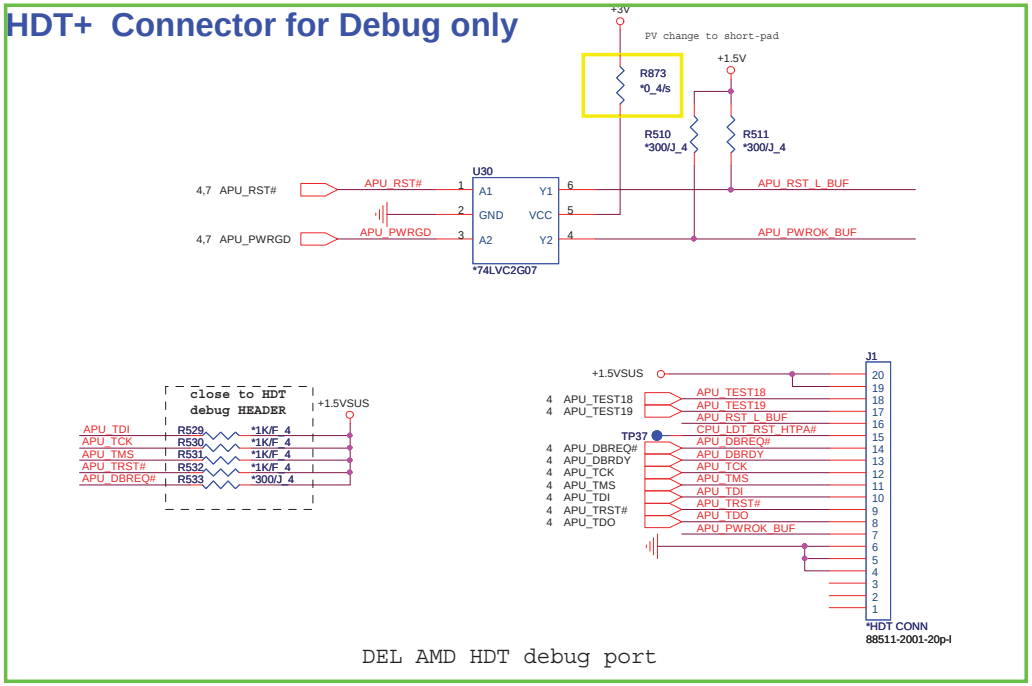
PROJECT : R23
Quanta Computer Inc.

Size	Document Number	Rev
Custom	BLOCK DIAGRAM	1A

Date: Tuesday, May 03, 2011 Sheet 1 of 40



HDT+ Connector for Debug only



VID Override Circuit

	BOOT VOLTAGE	
SVC	SVD	VFIX_+VDD =VCC/GND	VFIX_+VDD =OPEN
0	0	1.1	1.1
0	1	1.0	1.2
1	0	0.9	1.0
1	1	0.8	0.8

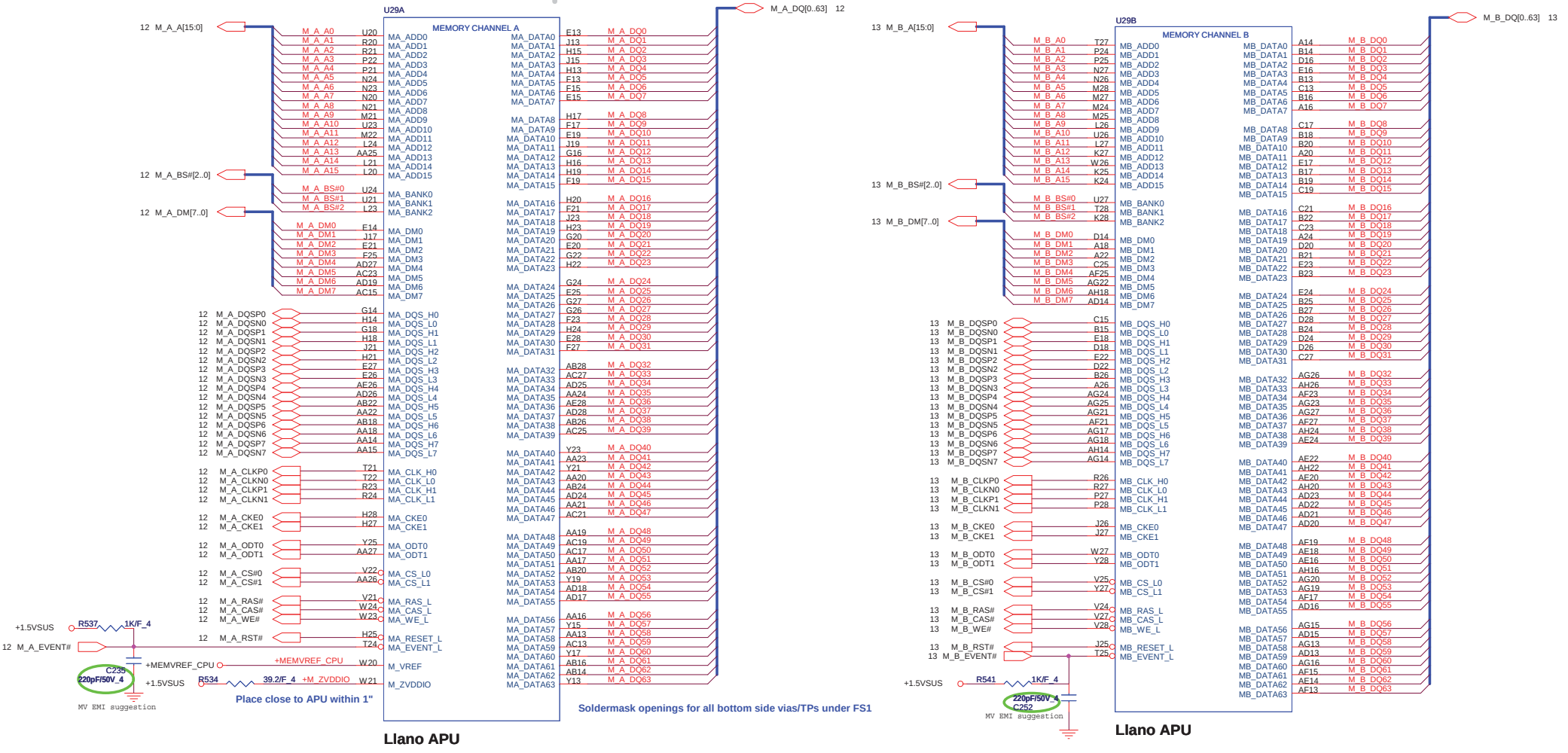
Note:
To override VID,Remove Rd, Re, Rf, install Rc
set VID via SVC & SVD option RES.

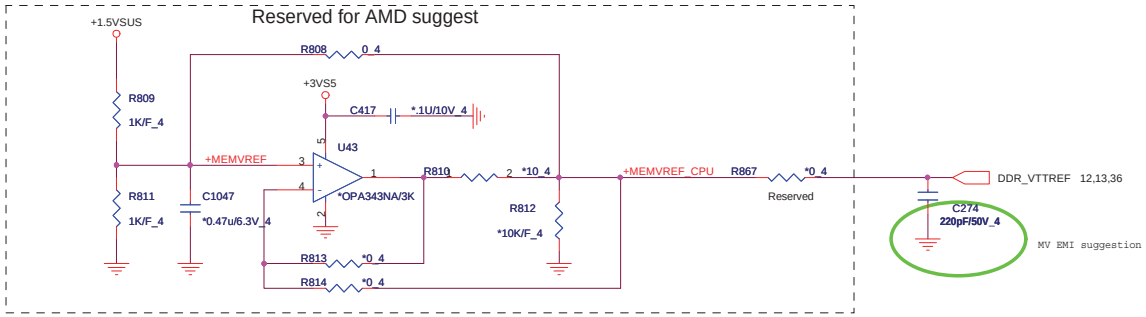
APU_PWRGD have pull up 300ohm to +1.5V on page 4

for normal operation open Ra , Rb,Rc

Quanta Computer Inc.
PROJECT : R23

Size	Document Number	Rev
	Llano PCIE/UMI/GPP	1A
Date: Wednesday, May 04, 2011	Sheet 2 of 40	





Quanta Computer Inc.		
PROJECT : R23		
Size	Document Number: Llano DDR3 MEM I/F	Rev: 1A
Date: Wednesday, May 04, 2011	Sheet 3 of 40	

Place caps with APU < 1 inch
route PCIE as 35ohm +/- 10%

DP0 output to
eDP to LVDS converter

DP1 output to Hudson-M2
for VGA translator interface

Note: CLK_APU_HCLKP/N is 100MHZ SSC

Note: CLK_DP_NSSCP/N is 100MHZ non-SSC

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

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

LVDS

VGA

HDMI

To AMD HDT

DMAACTIVE_L controls
entry and exit from the
sleep and power states

AMD internal test only

FS1R1 signals is for detect CPU TYPE and protect it.
FS1R1 CPU this pin is N.C
FS1R2 CPU this pin is LOW
can remove it at MP

Llano APU

THERMTRIP# shutdown temperature 125度C

APU_PROCHOT# 可以當 input or output
當Low 時CPU 會降 P - STATE

to EC reserve only

PV inner document ADD R830 for EC request

Thermal

ADD VGA TEMP_ FAIL function is active Hi

over 120 degree C= Low

When 100K-NTC 100 C=6.164K
Thermal Trip = 120 C

DEL Thermal IC circuit on MV

Quanta Computer Inc.			
PROJECT : R23			
Size	Document Number		Rev
	Llano Display/Misc		1A
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SI EMI

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

+VCC_CORE

C388 470P/50V_4 | C383 *470P/50V_4 | C371 *470P/50V_4

PV ADD 470pF on C388 for EMI suggestion

+VDDNB_CORE

C830 22U/6.3VS_8 | C831 22U/6.3VS_8 | C832 22U/6.3VS_8 | C833 22U/6.3VS_8 | C834 0.22U/6.3V_4

C845 0.22U/6.3V_4 | C842 0.22U/6.3V_4 | C843 180P/50V_4 | C844 180P/50V_4

U29D — Llano APU

+VCC_CORE

36A
Maximum IDDspike 50A

C823 22U/6.3VS_8 | C824 22U/6.3VS_8 | C825 22U/6.3VS_8 | C826 22U/6.3VS_8 | C827 22U/6.3VS_8 | C828 22U/6.3VS_8 | C829 22U/6.3VS_8

C835 0.22U/6.3V_4 | C836 0.22U/6.3V_4 | C837 180P/50V_4 | C838 180P/50V_4 | C839 0.01U/25V_4 | C840 0.01U/25V_4 | C841 0.01U/25V_4

18A
Maximum IDDNBspike 22.5A

+VDDNB_CORE

DECOUPLING between PROCESSOR and DIMMs
Across VDDIO and VSS split

+1.5VSUS

C846 0.22U/6.3V_4 | C847 0.22U/6.3V_4 | C848 180P/50V_4 | C849 180P/50V_4

4A Up to DDR3-1333 @ 1.50V VDDIO

+1.5VSUS

C851 0.22U/6.3V_4 | C852 0.22U/6.3V_4 | C853 0.22U/6.3V_4 | C854 0.22U/6.3V_4 | C855 180P/50V_4 | C856 180P/50V_4

EMI reserve

C857 22U/6.3VS_8 | C858 22U/6.3VS_8 | C859 4.7U/6.3V_6 | C860 4.7U/6.3V_6 | C861 4.7U/6.3V_6 | C862 4.7U/6.3V_6 | C863 0.22U/6.3V_4

If the VSS plane is cut to create a VDDIO plane, ceramic capacitors are connected across the VDDIO and VSS plane split as follows

VDDP_A + VDDP_B = 3.5A

1.75A

+1.2V — R591 *0_8/S — +1.2V_VDDP_A

C864 10U/6.3V_8 | C867 0.22U/6.3V_4 | C869 180P/50V_4

1.5A

+1.2V — R592 *0_8/S — +1.2V_VDDR_A

C871 1000P/50V_4 | C872 1000P/50V_4 | C875 0.22U/6.3V_4 | C876 0.22U/6.3V_4

C883 4.7U/6.3V_6 | C884 4.7U/6.3V_6 | C887 180P/50V_4 | C888 180P/50V_4

1.75A

+1.2V — R824 *0_8/S — +1.2V_VDDP_B

C865 10U/6.3V_8 | C866 10U/6.3V_8 | C868 0.22U/6.3V_4 | C870 180P/50V_4

1.5A

+1.2V — R825 *0_8/S — +1.2V_VDDR_B

VDDR = 3A (Up to DDR3-1333 @ 1.5V)

C873 1000P/50V_4 | C874 1000P/50V_4 | C877 0.22U/6.3V_4 | C878 0.22U/6.3V_4

C885 4.7U/6.3V_6 | C886 4.7U/6.3V_6 | C889 180P/50V_4 | C890 180P/50V_4

VDDA= 0.75A

+2.5V — L62 BLM21PG221SN1D(220,100M,2A)_8 — +2.5V_VDDA

C879 4.7U/6.3V_6 | C880 0.22U/6.3V_4 | C881 3300P/50V_4

U29E — Llano APU

A7	VSS_1	VSS_75 T11
A13	VSS_2	VSS_76 T19
A15	VSS_3	VSS_77 U4
A17	VSS_4	VSS_78 U7
A19	VSS_5	VSS_79 U10
A21	VSS_6	VSS_80 U18
A23	VSS_7	VSS_81 V9
A25	VSS_8	VSS_82 V11
B7	VSS_9	VSS_83 V19
C4	VSS_10	VSS_84 W4
C10	VSS_11	VSS_85 W7
C14	VSS_12	VSS_86 W10
C16	VSS_13	VSS_87 W12
C18	VSS_14	VSS_88 W14
C20	VSS_15	VSS_89 W16
C22	VSS_16	VSS_90 W18
C24	VSS_17	VSS_91 Y9
C26	VSS_18	VSS_92 Y22
C28	VSS_19	VSS_93 AA4
D13	VSS_20	VSS_94 AA7
D15	VSS_21	VSS_95 AB9
D17	VSS_22	VSS_96 AB13
D19	VSS_23	VSS_97 AB15
D21	VSS_24	VSS_98 AB17
D23	VSS_25	VSS_99 AB19
D25	VSS_26	VSS_100 AB21
D27	VSS_27	VSS_101 AB23
E4	VSS_28	VSS_102 AB25
E10	VSS_29	VSS_103 AB27
E12	VSS_30	VSS_104 AC4
F9	VSS_31	VSS_105 AC7
F11	VSS_32	VSS_106 AC10
F14	VSS_33	VSS_107 AC12
F16	VSS_34	VSS_108 AC14
F18	VSS_35	VSS_109 AC16
F20	VSS_36	VSS_110 AC18
F22	VSS_37	VSS_111 AC20
F24	VSS_38	VSS_112 AC22
F26	VSS_39	VSS_113 AC24
F28	VSS_40	VSS_114 AC26
G4	VSS_41	VSS_115 AC28
G8	VSS_42	VSS_116 AD9
G13	VSS_43	VSS_117 AD11
G15	VSS_44	VSS_118 AE4
G17	VSS_45	VSS_119 AE7
G19	VSS_46	VSS_120 AE13
G21	VSS_47	VSS_121 AE15
G23	VSS_48	VSS_122 AE17
G25	VSS_49	VSS_123 AE19
J4	VSS_50	VSS_124 AE21
J8	VSS_51	VSS_125 AE23
J18	VSS_52	VSS_126 AE25
J20	VSS_53	VSS_127 AE27
J22	VSS_54	VSS_128 AF3
J24	VSS_55	VSS_129 AF6
K19	VSS_56	VSS_130 AF9
L4	VSS_57	VSS_131 AF12
L7	VSS_58	VSS_132 AF14
L10	VSS_59	VSS_133 AF16
M9	VSS_60	VSS_134 AF18
M11	VSS_61	VSS_135 AF20
M19	VSS_62	VSS_136 AF22
N4	VSS_63	VSS_137 AF24
N7	VSS_64	VSS_138 AF26
N10	VSS_65	VSS_139 AF28
N18	VSS_66	VSS_140 AG10
P9	VSS_68	VSS_141 AH5
P11	VSS_67	VSS_142 AH8
P19	VSS_69	VSS_143 AH13
R4	VSS_70	VSS_144 AH15
R7	VSS_71	VSS_145 AH17
R10	VSS_72	VSS_146 AH19
R18	VSS_73	VSS_147 AH21
T9	VSS_74	VSS_148 AH23
		VSS_149 AH25

Quanta Computer Inc.

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	Llano POWER/GND	1A

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+3VS5 NC,no install by default
R594 *2.2K/J_4 FCH_TEST0
R596 *2.2K/J_4 FCH_TEST1
R598 *2.2K/J_4 FCH_TEST2

+3V
R602 2.2K_4 CGCLK_SMB
R603 2.2K_4 CGDAT_SMB
to DDR3 SMBUS
R604 *1K/J_4
J2 1 2 SYS_RST#
*SOLDERJUMPER-2
SYS_RST# internal 10K pull up

GEVENT0# internal pull Hi 8.2K to +3V
GEVENT1# internal pull Hi 8.2K to +3V
GEVENT23# internal pull Hi 8.2K to +3V
GEVENT5# internal pull Hi 8.2K to +3VS5
PCIE_WAKE# no need to pull Hi resistor from check list

+3VS5
R856 10K/F_4 SCL3
R857 10K/F_4 SDA3
R611 10K/F_4 SCL2
R613 10K/F_4 SDA2
R614 10K/F_4 SCL1
R616 10K/F_4 SDA1
R618 *4.7K/J_4 FCH_THERMTRIP#
C1073 *0.01U/25V_4
R629 10K/F_4 DNBSWON#

CLK_REQ2# internal pull Hi 8.2K to +3V
CLK_REQ3# internal pull Hi 8.2K to +3V
CLK_REQ4# internal pull Hi 8.2K to +3V
GEVENT16# internal pull Hi 8.2K to +3VS5
GEVENT15# internal pull Hi 8.2K to +3VS5

To Azalia

ACZ_SDOUT_R R635 33/J_4 ACZ_SDOUT_AUDIO 25
ACZ_SYNC_R R636 33/J_4 ACZ_SYNC_AUDIO 25
ACZ_BCLK_R R637 33/J_4 BIT_CLK_AUDIO 25
ACZ_RST#_R R638 33/J_4 ACZ_RST#_AUDIO 25
ACZ_SDIN0 ACZ_SDIN0 25

Pure UMA can remove
CLK_REQ# already internal pull up 8.2K
37 VGA_REQ 1 D26 2 CLKREQ1# RB501V-40

remove PCIE_RST# from AMD recommend
TP153 TP154 PCIE_RST#

29 SUSB# SUSB#
29 SUSC# SUSC#
29 DNBSWON# DNBSWON#
10 FCH_PWRGD FCH_PWRGD

FCH_TEST0 FCH_TEST1 FCH_TEST2 EC_A20GATE
29 EC_A20GATE
29 EC_RCIN# EC_RCIN#
TP155 SIO_EXT_SMI#
29 SIO_EXT_SCI# R829 *0_4/s GEVENT5# SYS_RST# PCIE_WAKE#
27,30 PCIE_WAKE#
C1075 *100P/50V_4
4 FCH_THERMTRIP# FCH_THERMTRIP#
+3V R607 10K/F_4 WD_PWRGD
PV change to short-pad
SI
29 RSMRST# RSMRST#

24 PCIE_CARD_CLKREQ# PCIE_CARD_CLKREQ#
27 PCIE_LAN_CLKREQ# PCIE_LAN_CLKREQ#
27,29 LAN_DISABLE# R868 *0/J_4 LAN_DISABLE#_FCH

25 ACZ_SPKR R612 *0_4/s FCH_GPIO66
12,13 CGCLK_SMB CGCLK_SMB
12,13 CGDAT_SMB CGDAT_SMB
SCL1
SDA1
30 PCIE_MINI_CLKREQ# PCIE_MINI_CLKREQ#
CLKREQ1#
LLB# Not Implemented ,left unconnected.
LLB#
SMARTVOLT2

This pin is used to power down VGA DAC regulators when CRT no connected
9 VGA_POWER_DOWN R619 0_4 VGA_PD
TP160
TP161 GBE_LED0
24 CARD_EECS R904 0_4
SI
TP163

MV
TP165
23 ODD_PLUGIN# ODD_PLUGIN#
23 ODD_DA#_FCH ODD_DA#_FCH
TP168 FCH_JTAG_TCK
TP169 FCH_JTAG_TDI
TP170 FCH_JTAG_RST#
For Zero ODD

HD audio interface is +3V_S5 voltage
R630 *10K/F_4 ACZ_BCLK_R
R631 *10K/F_4 ACZ_SDOUT_R
R632 *10K/F_4 ACZ_SDIN0
R633 *10K/F_4 ACZ_SDIN1
R634 *10K/F_4 ACZ_SDIN2_R
ACZ_SDIN3_R
ACZ_SYNC_R
ACZ_RST#_R

TP171 TP172

HUDSON-M3
Part 4 of 5

PCIE_RST2#/GEVENT4#
RI#/GEVENT22#
SPI_CS3#/GBE_STAT1/GEVENT21#
SLP_S3#
SLP_S5#
PWR_BTN#
PWR_GOOD
TEST0
TEST1/TMS
TEST2
GA20IN/GEVENT0#
KBRST#/GEVENT1#
PME#/GEVENT3#
LPC_SMI#/GEVENT23#
LPC_PD#/GEVENT5#
SYS_RESET#/GEVENT19#
WAKE#/GEVENT8#
IR_RX1/GEVENT20#
THRMTRIP#/SMBALERT#/GEVENT2#
WD_PWRGD
RSMRST#
ACPI / WAKE UP EVENTS

CLK_REQ4#/SATA_IS0#/GPIO64
CLK_REQ3#/SATA_IS1#/GPIO63
SMARTVOLT1/SATA_IS2#/GPIO50
CLK_REQ0#/SATA_IS3#/GPIO60
SATA_IS4#/FANOUT3/GPIO55
SATA_IS5#/FANIN3/GPIO59
SPKR/GPIO66
SCL0/GPIO43
SDA0/GPIO47
SCL1/GPIO227
SDA1/GPIO228
CLK_REQ2#/FANIN4/GPIO62
CLK_REQ1#/FANOUT4/GPIO61
IR_LED#/LLB#/GPIO184
SMARTVOLT2/SHUTDOWN#/GPIO51
DDR3_RST#/GEVENT7#/VGA_PD
GBE_LED0/GPIO183
SPI_HOLD#/GBE_LED1/GEVENT9#
GBE_LED2/GEVENT10#
GBE_STAT0/GEVENT11#
CLK_REQG#/GPIO65/OSCIN/IDLEEXIT#
GPIO

BLINK/USB_OC7#/GEVENT18#
USB_OC6#/IR_TX1/GEVENT6#
USB_OC5#/IR_TX0/GEVENT17#
USB_OC4#/IR_RX0/GEVENT16#
USB_OC3#/AC_PRES/TDO/GEVENT15#
USB_OC2#/TCK/GEVENT14#
USB_OC1#/TDI/GEVENT13#
USB_OC0#/SPI_TPM_CS#/TRST#/GEVENT12#
USB OC

AZ_BITCLK
AZ_SDOUT
AZ_SDIN0/GPIO167
AZ_SDIN1/GPIO168
AZ_SDIN2/GPIO169
AZ_SDIN3/GPIO170
AZ_SYNC
AZ_RST#
HD AUDIO

PS2_DAT/SDA4/GPIO187
PS2_CLK/CEC/SCL4/GPIO188
SPI_CS2#/GBE_STAT2/GPIO166
PS2KB_DAT/GPIO189
PS2KB_CLK/GPIO190
PS2M_DAT/GPIO191
PS2M_CLK/GPIO192

KSO_0/GPIO209
KSO_1/GPIO210
KSO_2/GPIO211
KSO_3/GPIO212
KSO_4/GPIO213
KSO_5/GPIO214
KSO_6/GPIO215
KSO_7/GPIO216
KSO_8/GPIO217
KSO_9/GPIO218
KSO_10/GPIO219
KSO_11/GPIO220
KSO_12/GPIO221
KSO_13/GPIO222
KSO_14/XDB0/GPIO223
KSO_15/XDB1/GPIO224
KSO_16/XDB2/GPIO225
KSO_17/XDB3/GPIO226
EMBEDDED CTRL

USBCLK/14M_25M_48M_OSC
USB_RCOMP
USB_FSD1P/GPIO186
USB_FSD1N
USB_FSD0P/GPIO185
USB_FSD0N
USB MISC
USB 1.1

USB_HSD13P/N
USB_HSD12P/N
USB_HSD11P/N
USB_HSD10P/N
USB_HSD9P/N
USB_HSD8P/N
USB_HSD7P/N
USB_HSD6P/N
USB_HSD5P/N
USB_HSD4P/N
USB_HSD3P/N
USB_HSD2P/N
USB_HSD1P/N
USB_HSD0P/N
USB 2.0

USBSS_CALRP
USBSS_CALRN
USB_SS_TX3P/N
USB_SS_RX3P/N
USB_SS_TX2P/N
USB_SS_RX2P/N
USB_SS_TX1P/N
USB_SS_RX1P/N
USB_SS_TX0P/N
USB_SS_RX0P/N
USB 3.0

SCL2/GPIO193
SDA2/GPIO194
SCL3_LV/GPIO195
SDA3_LV/GPIO196
EC_PWM0/EC_TIMER0/GPIO197
EC_PWM1/EC_TIMER1/GPIO198
EC_PWM2/EC_TIMER2/WOL_EN/GPIO199
EC_PWM3/EC_TIMER3/GPIO200
KSI_0/GPIO201
KSI_1/GPIO202
KSI_2/GPIO203
KSI_3/GPIO204
KSI_4/GPIO205
KSI_5/GPIO206
KSI_6/GPIO207
KSI_7/GPIO208

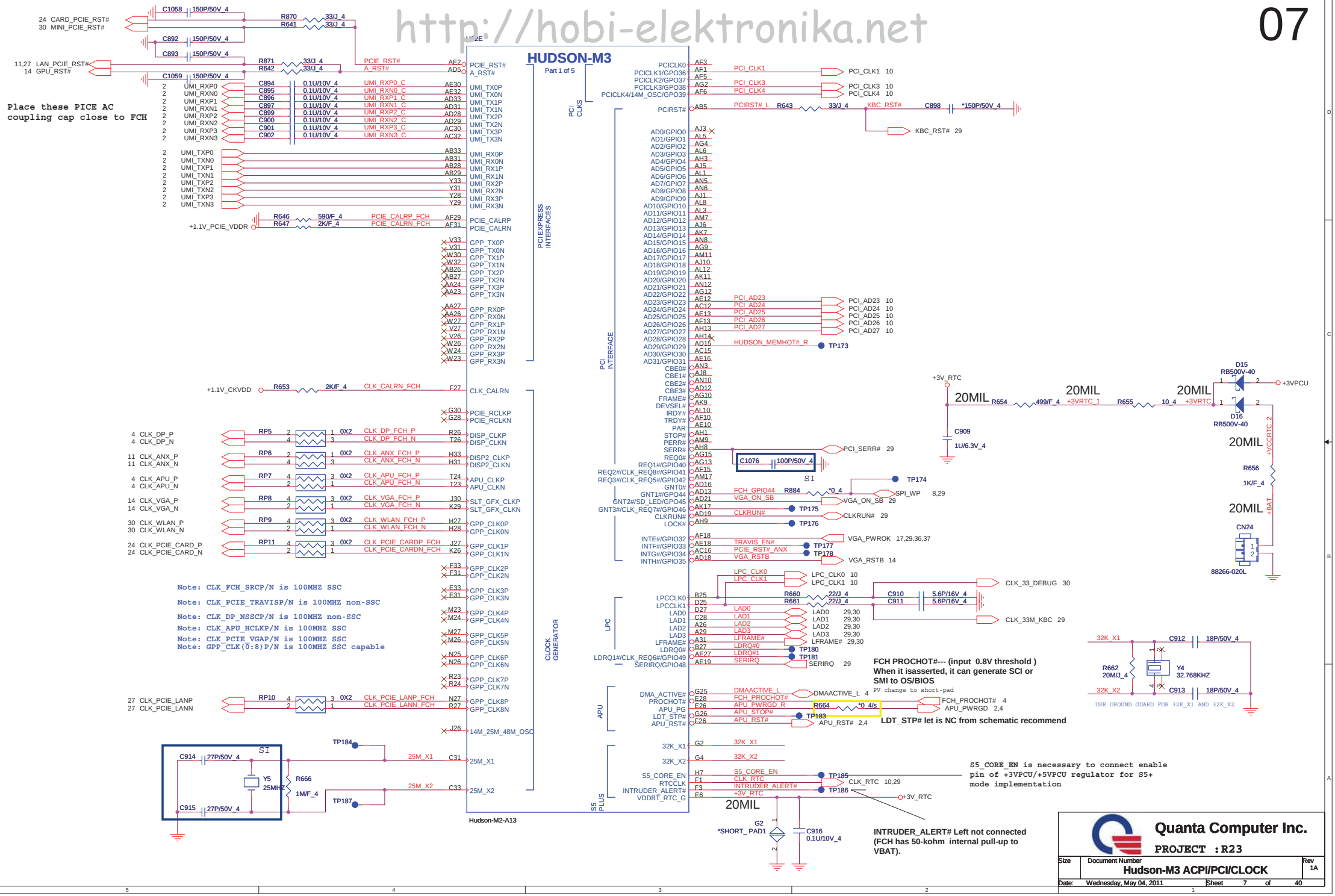
USBP15+ 26 USBP15- 26 BLUETOOTH
TP156 TP157 USBP11+ USBP11-
USBP10+ 30 USBP10- 30 WLAN Min-Card
TP158 TP159 USBP7+ USBP7-
USBP6+ 26 USBP6- 26 USB Connector
USBP5+ 26 USBP5- 26 USB Connector
USBP2+ 20 USBP2- 20 Carama USB
TP164 TP166 USBP1+ USBP1-
USBP0+ 26 USBP0- 26 USB Connector
TP151 TP152 USBSS_CALRP USBSS_CALRN
USB 3.0 Not Implemented: left unconnected.

EC_PWM2 EC_PWM2 10
No need for GPIO200

SCL3 of a TSI-capable APU's thermal bus,Pulled up to APU_VDDIO. Resistor value verified in the relevant APU design guide.

Hudson-M2-A13

Quanta Computer Inc.
PROJECT : R23
Size | Document Number: Hudson-M3 GPIO/USB/AZ/RGMII | Rev 1A
Date: Wednesday, May 04, 2011 | Sheet 6 of 40



Quanta Computer Inc.	PROJECT : R23
Size	Document Number: Hudson-M3 ACPI/PCI/CLOCK — Rev 1A
Date: Wednesday, May 04, 2011	Sheet 7 of 40

U32D

HUDSON-M3

Part 5 of 5

GROUND

VSS_1 VSS_2 VSS_3 VSS_4 VSS_5 VSS_6 VSS_7 VSS_8 VSS_9 VSS_10 VSS_11 VSS_12 VSS_13 VSS_14 VSS_15 VSS_16 VSS_17 VSS_18 VSS_19 VSS_20 VSS_21 VSS_22 VSS_23 VSS_24 VSS_25 VSS_26 VSS_27 VSS_28 VSS_29 VSS_30 VSS_31 VSS_32 VSS_33 VSS_34 VSS_35 VSS_36 VSS_37 VSS_38 VSS_39 VSS_40 VSS_41 VSS_42 VSS_43 VSS_44 VSS_45 VSS_46 VSS_47 VSS_48 VSS_49 VSS_50 VSS_51 VSS_52 VSS_53 VSS_54 VSS_55 VSS_56 VSS_57 VSS_58 VSS_59 VSS_60 VSS_61 VSS_62 VSS_63 VSS_64

VSS_65 VSS_66 VSS_67 VSS_68 VSS_69 VSS_70 VSS_71 VSS_72 VSS_73 VSS_74 VSS_75 VSS_76 VSS_77 VSS_78 VSS_79 VSS_80 VSS_81 VSS_82 VSS_83 VSS_84 VSS_85 VSS_86 VSS_87 VSS_88 VSS_89 VSS_90 VSS_91 VSS_92 VSS_93 VSS_94 VSS_95 VSS_96 VSS_97 VSS_98 VSS_99 VSS_100 VSS_101 VSS_102 VSS_103 VSS_104 VSS_105 VSS_106 VSS_107 VSS_108 VSS_109 VSS_110 VSS_111 VSS_112 VSS_113 VSS_114 VSS_115 VSS_116 VSS_117 VSS_118 VSS_119 VSS_120 VSS_121 VSS_122 VSS_123 VSS_124 VSS_125 VSS_126 VSS_127 VSS_128

T25 T27 U6 U14 U17 U20 U21 U30 U32 V11 V16 V18 W4 W6 W25 W28 Y14 Y16 Y18 AA6 AA12 AA13 AA14 AA16 AA17 AA25 AA28 AA30 AA32 AB25 AC6 AC18 AC28 AD27 AE6 AE15 AE21 AE28 AF8 AF12 AF16 AE33 AG30 AG32 AH5 AH11 AH18 AH19 AH21 AH23 AH25 AH27 AJ18 AJ28 AJ29 AK21 AK25 AL18 AM21 AM25 AN1 AN18 AN28 AN33

N8 VSSAN_HWM

K25 VSSXL

H25 VSSPL_SYS

T21 VSSPL_DAC

L28 VSSAN_DAC

K33 VSSANQ_DAC

N28 VSSIO_DAC

R6 EFUSE

Hudson-M2-A13

PLACE SATA AC COUPLING CAPS CLOSE TO HUDSON-M3

SATA HDD

23 SATA_TXP0 SATA_TXP0 AK19 SATA_TX0P
23 SATA_TXN0 SATA_TXN0 AM19 SATA_TX0N

23 SATA_RXN0 AL20 SATA_RX0N
23 SATA_RXP0 AN20 SATA_RX0P

SATA ODD

23 SATA_TXP1 SATA_TXP1 AN22 SATA_TX1P
23 SATA_TXN1 AL22 SATA_TX1N

23 SATA_RXN1 AH20 SATA_RX1N
23 SATA_RXP1 AJ20 SATA_RX1P

AJ22 SATA_TX2P
AH22 SATA_TX2N

AM23 SATA_RX2N
AK23 SATA_RX2P

AH24 SATA_TX3P
AJ24 SATA_TX3N

AN24 SATA_RX3N
AL24 SATA_RX3P

AL26 SATA_TX4P
AN26 SATA_TX4N

AJ26 SATA_RX4N
AH26 SATA_RX4P

AN29 SATA_TX5P
AL28 SATA_TX5N

AK27 SATA_RX5N
AM27 SATA_RX5P

AL29 NC6
AN31 NC7

AL31 NC8
AL33 NC9

AH33 NC10
AH31 NC11

AJ33 NC12
AJ31 NC13

+3V

C921 0.1U/10V_4

U36 TC7SH08FU

28 SATA_LED# 4 2 SB_SATA_LED#

PLACE SATA_CAL RES VERY CLOSE TO BALL OF HUDSON-M2/M3

+1.1V_AVDD_SATA R682 1K/F_4 SATA_CALRP AF28 SATA_CALRP
R683 1K/F_4 SATA_CALRN AF27 SATA_CALRN

+3V R685 10K/F_4 SB_SATA_LED# AD22 SATA_ACT#/GPIO67

AF21 SATA_X1

Integrated Clock Mode:
Leave unconnected.

AG21 SATA_X2

GPIO52 internal pull Hi 8.2K to +3V
GPIO53 internal pull Hi 8.2K to +3V
GPIO54 internal pull Hi 8.2K to +3V
GPIO56 internal pull Hi 8.2K to +3V
GPIO57 internal pull Hi 8.2K to +3V
GPIO58 internal pull Hi 8.2K to +3V

30 RF_OFF# RF_OFF# AH16 FANOUT0/GPIO52
26 BT_OFF# BT_OFF# AM15 FANOUT1/GPIO53
30 BT_COMBO_EN# BT_COMBO_EN# AJ16 FANOUT2/GPIO54

23 ODD_PWR ODD_PWR AK15 FANIN0/GPIO56
30 BT_COMBO_OFF# BT_COMBO_OFF# AN16 FANIN1/GPIO57
20 LCD_BK LCD_BK AL16 FANIN2/GPIO58

TEMPIN0 K6 TEMPIN0/GPIO171
TEMPIN1 K5 TEMPIN1/GPIO172
TEMPIN2 K3 TEMPIN2/GPIO173
TEMPIN3 M6 TEMPIN3/TALERT#/GPIO174

R693 10K/F_4 R694 10K/F_4 R695 10K/F_4 R696 10K/F_4

Hudson-M2-A13

TEMP(0 - 3)
Temp Monitor Not Implemented
10-KΩ 5% pull-up to +3VS5
or 10-KΩ 5% pull-down

U32B

HUDSON-M3

Part 2 of 5

SD CARD

SD_CLK/SCLK_2/GPIO73 AL14
SD_CMD/SLOAD_2/GPIO74 AN14
SD_CD#/GPIO75 AJ12
SD_WP/GPIO76 AH12
SD_DATA0/SDATI_2/GPIO77 AK13
SD_DATA1/SDATO_2/GPIO78 AM13
SD_DATA2/GPIO79 AH15
SD_DATA3/GPIO80 AJ14

GBE LAN

GBE_COL AC4 R668 10K/F_4
GBE_CRS AD3 R670 10K/F_4
GBE_MDCK AD9
GBE_MDIO W10 R672 10K/F_4 +3VS5
GBE_RXCLK AB8
GBE_RXD3 AH7
GBE_RXD2 AE7
GBE_RXD1 AD7
GBE_RXD0 AG8
GBE_RXCTL/RXDV AD1 GBE_RXERR R674 10K/F_4
GBE_RXERR AB7
GBE_TXCLK AF9
GBE_TXD3 AG6
GBE_TXD2 AE8
GBE_TXD1 AD8
GBE_TXD0 AB9
GBE_TXCTL/TXEN AC2
GBE_PHY_PD AA7
GBE_PHY_RST# W9
GBE_PHY_INTR R675 10K/F_4 +3VS5

follow AMD check list to pull UP / LOW

SERIAL ATA

SPI ROM

SPI_DI/GPIO164 V6 FCH_SPI_SI TP188
SPI_DO/GPIO163 V5 FCH_SPI_SO TP189
SPI_CLK/GPIO162 V3 FCH_SPI_CLK TP190
SPI_CS1#/GPIO165 T6 FCH_SPI_CS0# TP191
ROM_RST#/SPI_WP#/GPIO161 V1 FCH_SPI_WP TP192

FCH_SPI_CS0# R878 *0_4 SPI_CS0# 1 CE#
FCH_SPI_CLK R879 *0_4 SPI_CLK 6 SCK
FCH_SPI_SO R880 *0_4 SPI_SO 5 SI
FCH_SPI_SI R881 *0_4 SPI_SI 2 SO
SPI_WP 3 WP#
VDD 8
HOLD# 7
VSS 4
U44
*MX25L1605DM2I-12G
R877 *10K/F_4
7,29 SPI_WP

SPI_CLK C1064 *22P/50V_4 EMI

FCH SPI ROM

R876 *10K/F_4 C1063 *0.1U/10V_4

VGA DAC

VGA_RED L30 FCH_CRT_R R676 *0_4/S FCH_CRT_RED 22
VGA_GREEN L32 FCH_CRT_G R678 *0_4/S FCH_CRT_GRE 22
VGA_BLUE M29 FCH_CRT_B R680 *0_4/S FCH_CRT_BLU 22

VGA_HSYNC/GPO68 M28 FCH_CRT_HSYNC 22
VGA_VSYNC/GPO69 N30 FCH_CRT_VSYNC 22
VGA_DDC_SDA/GPO70 M33 FCH_DDCDAT 22
VGA_DDC_SCL/GPO71 N32 FCH_DDCCLK 22
VGA_DAC_RSET K31 VGA_DAC_REST R684 715/F_4

R place close to PCH
FCH_CRT_R R677 150/F_4
FCH_CRT_G R679 150/F_4
FCH_CRT_B R681 150/F_4

VGA MAINLINK

AUX_VGA_CH_P V28 APU_DP_AUXP 4
AUX_VGA_CH_N V29 APU_DP_AUXN 4
AUXCAL U28 AUXCAL R686 100/F_4 +FCH_VDDAN_11_MLDAC

ML_VGA_L0P T31 APU_DP_TXP0 4
ML_VGA_L0N T33 APU_DP_TXN0 4
ML_VGA_L1P T29 APU_DP_TXP1 4
ML_VGA_L1N T28 APU_DP_TXN1 4
ML_VGA_L2P R32 APU_DP_TXP2 4
ML_VGA_L2N R30 APU_DP_TXN2 4
ML_VGA_L3P P29 APU_DP_TXP3 4
ML_VGA_L3N P28 APU_DP_TXN3 4

PV change to +FCH_VDDAN_33_DAC_R for AMD suggestion

ML_VGA_HPD/GPO229 C29 VGA_HPD R687 *10K/F_4 +FCH_VDDAN_33_DAC_R

PV DEL R687 for AMD suggestion

HW MONITOR

VIN0/GPO175 N2 SIDE_PORT_ID0
VIN1/GPO176 M3 SIDE_PORT_ID1
VIN2/SDATI_1/GPO177 L2 SIDE_PORT_ID2
VIN3/SDATO_1/GPO178 N4 BOARD_ID0
VIN4/SLOAD_1/GPO179 P1 BOARD_ID1
VIN5/SCLK_1/GPO180 P3 BOARD_ID2
VIN6/GBE_STAT3/GPO181 M1 BOARD_ID3
VIN7/GBE_LED3/GPO182 M5 BOARD_ID4

NC1 AG16
NC2 AH10
NC3 A28
NC4 G27
NC5 L4

VIN (0 - 7)
Voltage Monitor Not Implemented
10-KΩ 5% pull-up to +3VS5
or 10-KΩ 5% pull-down

+3VS5

R836 10K/F_4 BOARD_ID0 R837 *10K/F_4
R838 *10K/F_4 BOARD_ID1 R839 10K/F_4
R840 *10K/F_4 BOARD_ID2 R841 10K/F_4
R842 *10K/F_4 BOARD_ID3 R843 10K/F_4
R844 *10K/F_4 BOARD_ID4 R845 10K/F_4
R846 10K/F_4 SIDE_PORT_ID0 R688 *10K/F_4
R847 *10K/F_4 SIDE_PORT_ID1 R689 10K/F_4
R848 *10K/F_4 SIDE_PORT_ID2 R690 10K/F_4

VGA Hot-plug

+1.5V R692 10K/F_4

4 FCH_VGA_HPD FCH_VGA_HPD

+5V R697 100K/F_4

Q53 DMN601K-7

Q54 DMN601K-7

VGA_HPD R700 *100K/F_4

Vender	Size	P/N
AMIC	2M	AKE38ZN0801
WINBOND	2M	AKE38FP0N01
Socket		DFHS08FS023

ID4	ID3	ID2	ID1	ID0	CONFIG	31- Level BOM	Item
0	0	0	0	0	UMA		1
0	0	0	1	0			2
0	0	1	0	0			3
0	0	1	1	0			4
0	1	0	1	0			5
0	1	1	1	0			6
1	0	0	1	0			7
1	0	1	1	0			8
0	0	0	0	1	SG / Muxless		9
0	0	1	0	1			10
1	0	0	1	1			11
1	0	1	1	1			12

SIDE_PORT_ID2	SIDE_PORT_ID1	SIDE_PORT_ID0	
0	0	0	Samsung
0	0	1	Hynix
0	1	0	NC
0	1	1	no supprot side port

Quanta Computer Inc.

PROJECT : R23

Size	Document Number	Rev
	Hudson-M3 SATA/HWM/SPI	1A

Date: Wednesday, May 04, 2011 Sheet 8 of 40

PLACE ALL THE DECOUPLING CAPS ON THIS SHEET CLOSE TO SOC AS POSSIBLE

U32C

HUDSON-M3 Part 3 of 5

Hudson-M2-A13

POWER

M2 chipset need to connect to GND

M2 chipset can let it to GND

NOTE : LDO_CAP
A11 stepping : C will install 1nf cap
A12 stepping : C will let it to NC

VDDQ--3.3V I/O power 102mA

1007mA for M3
902mA for M2

VDDCR-- S/B CORE power

VDDAN_11_CLK-- Internal clock Generator I/O power

VDDPL_11_SYS_S : System Clock Gen PLLs analog power

VDDAN_11_PCIE --PCIE/UMI analog power

VDDAN_11_SATA--SATA PHY analog/IO power

VDDAN_33_HWM_S -- Hardware monitor interface I/O power

VDDIO_33_S-- 3.3v S5 I/O power

VDDXL_33_S-- 25MHZ XTAL IO power

VDDCR_1.1_S-- 1.1V S5 Core power

VDDPL_33_USB_S : USB PHY PLL analog power

VDDAN_33_USB_S : USB PHY I/O analog power

VDDAN_11_USB_S : USB PHY PLL analog power

VDDCR_11_USB_S : USB PHY core power

VDDAN_11_SSUSB_S : USB3.0 PHY PLL analog power

VDDCR_11_SSUSB_S : USB3.0 PHY core power

if support USB 3.0 wake up should be change pull hi to S5 power

if support Modem wake up should be change pull hi to S5 power

VDDIO_AZ_S -- HD Audio Interface I/O power

VGA will power down when CRT no insert

VGA_PD is generated from FCH

next stage should be change to +1.2VS5 from AMD Errta 1.2

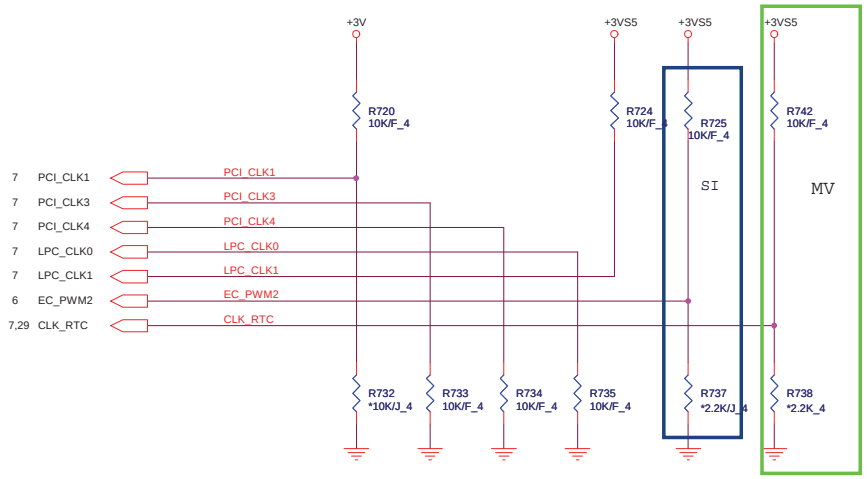
This circuit is for switch DAC and UMI analog power 32 mA Max

233 mA Max

Quanta Computer Inc.	PROJECT : R23	
Size	Document Number: Hudson-M3 POWER/GND	Rev: 1A
Date: Wednesday, May 04, 2011	Sheet 9 of 40	

STRAPS PINS

OVERLAP COMMON PADS WHERE POSSIBLE FOR DUAL-OP RESISTORS.



REQUIRED STRAPS

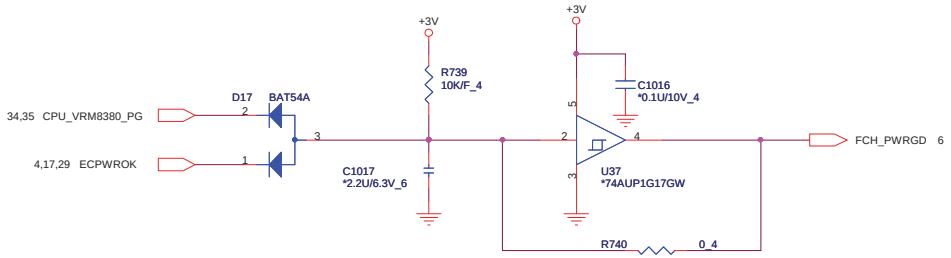
	--------	PCI_CLK1	--------	PCI_CLK3	PCI_CLK4	LPC_CLK0	LPC_CLK1	EC_PWM2	CLK_RTC
PULL HIGH	--------	ALLOW PCIE Gen2 DEFAULT	--------	USE DEBUG STRAP	non_Fusion CLOCK MODE	AMD internal EC ENABLED	CLKGEN ENABLED DEFAULT	LPC ROM DEFAULT	S5 PLUS MODE DISABLED DEFAULT
PULL LOW	--------	FORCE PCIE Gen1	--------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

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



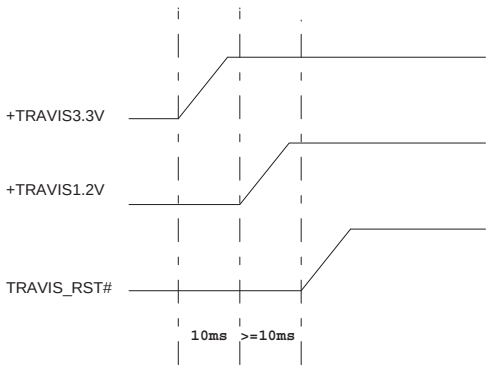
Quanta Computer Inc.

PROJECT : R23

Size	Document Number	Rev
	Hudson-M3 STRAP/PWRGD	1A

Date: Wednesday, May 04, 2011 Sheet 10 of 40

ANX3110 Power Up Sequence



ANALOGIX ANX3110

GPIO_0 : Define VAR_BL & BL_EN & DIGON H/W or S/W control power up timming
Pull Hi for H/W mode
---chip have defined power up timing
Pull Low for S/W mode -- APU through DPRX port to program it

CLK_SEL:
Pull Hi for 100MHZ clk source input
Pull Low for 27MHZ crystal input

DPRX_HPD :
It will transfer to Hi when power enable

TEST_EN : internal pull low
1:scan test mode
0:normal mode

GPIO_1 & GPIO_2 can let it to NC from vendor review

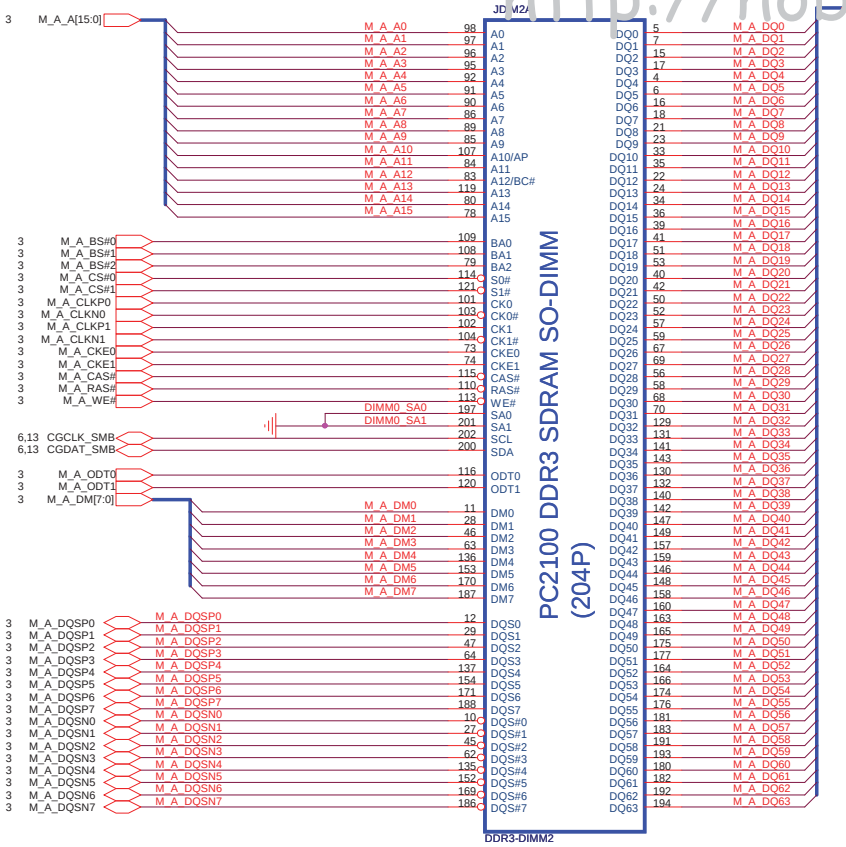
That is for debug only,can let it to NC

remove level shift

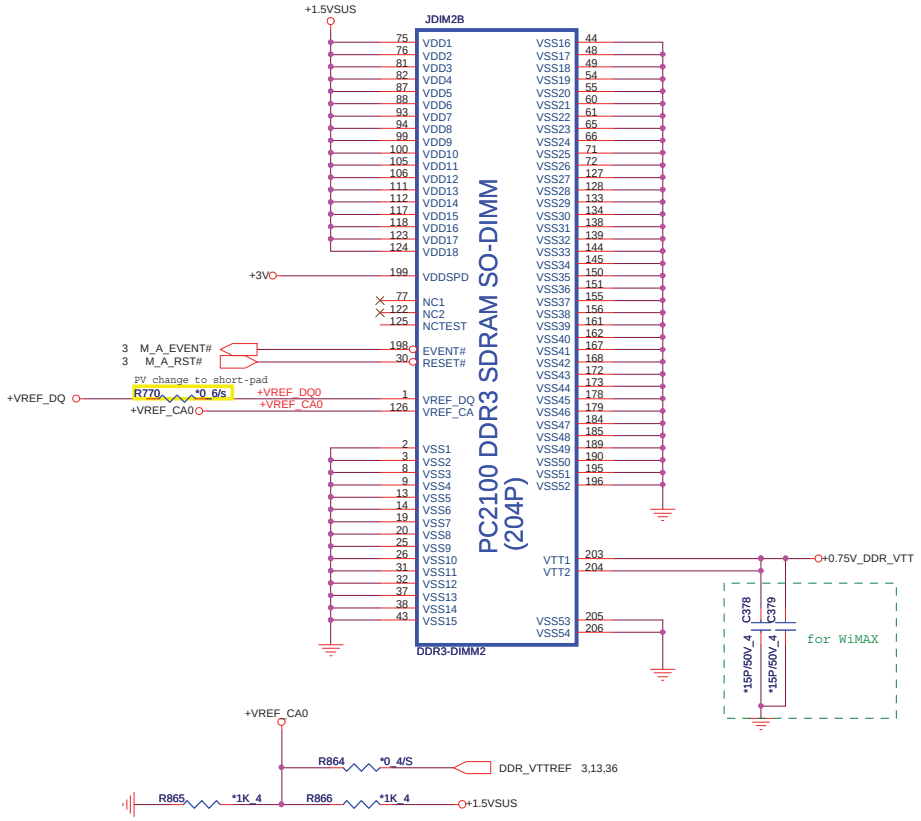
PV change for brightness issue

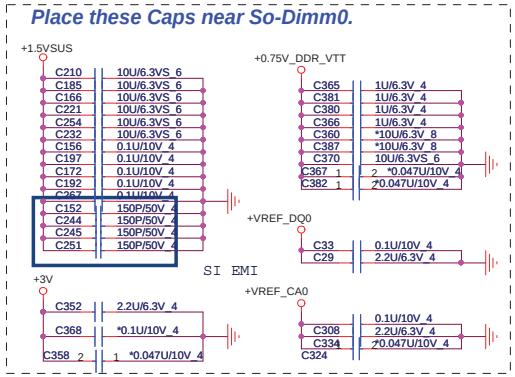
PV change to short-pad

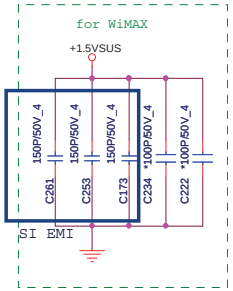
PROJECT : R23	Quanta Computer Inc.
Size: Custom	Document Number: ANX3110
Rev: 1A	
Date: Tuesday, May 03, 2011	Sheet 11 of 40

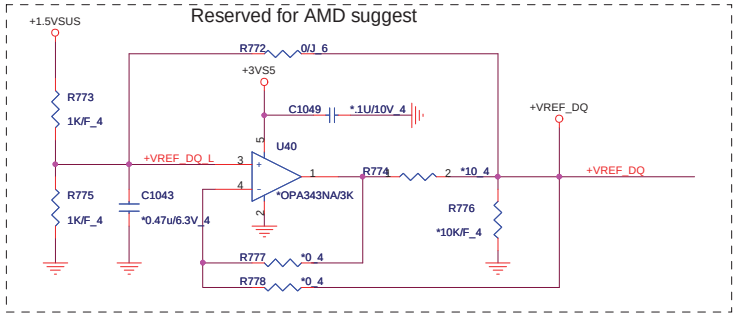


H9.2mm







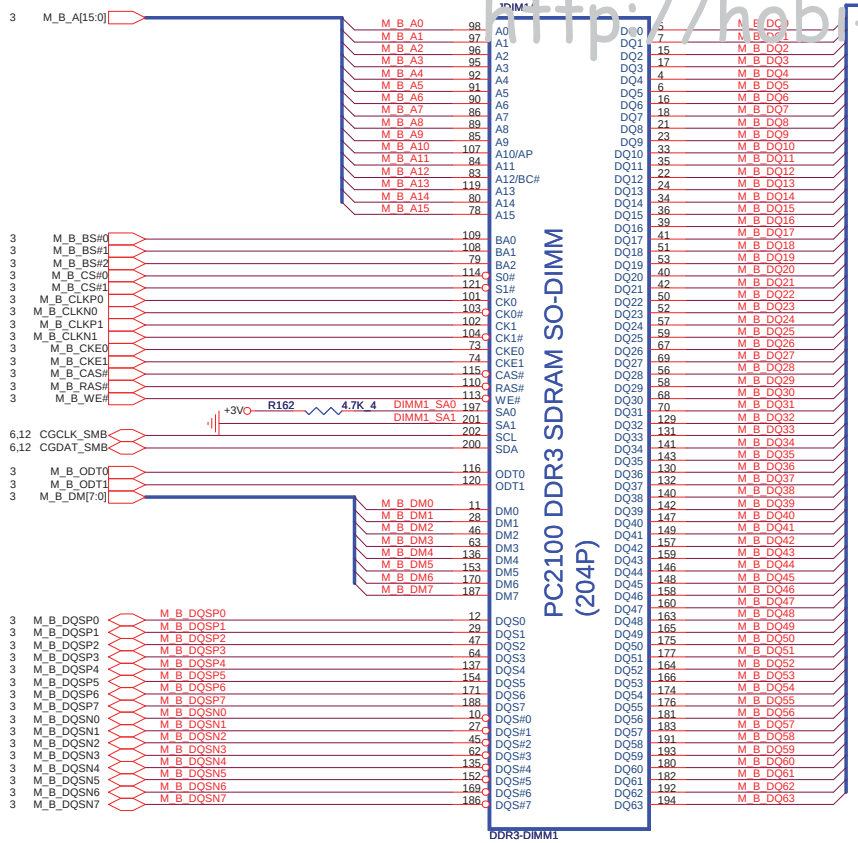


13,36 +0.75V_DDR_VTT
2,3,4,5,13,36,37,39 +1.5VSUS
2,4,6,8,9,10,11,13,14,17,20,22,23,24,25,27,28,29,30,34,37,39 +3V

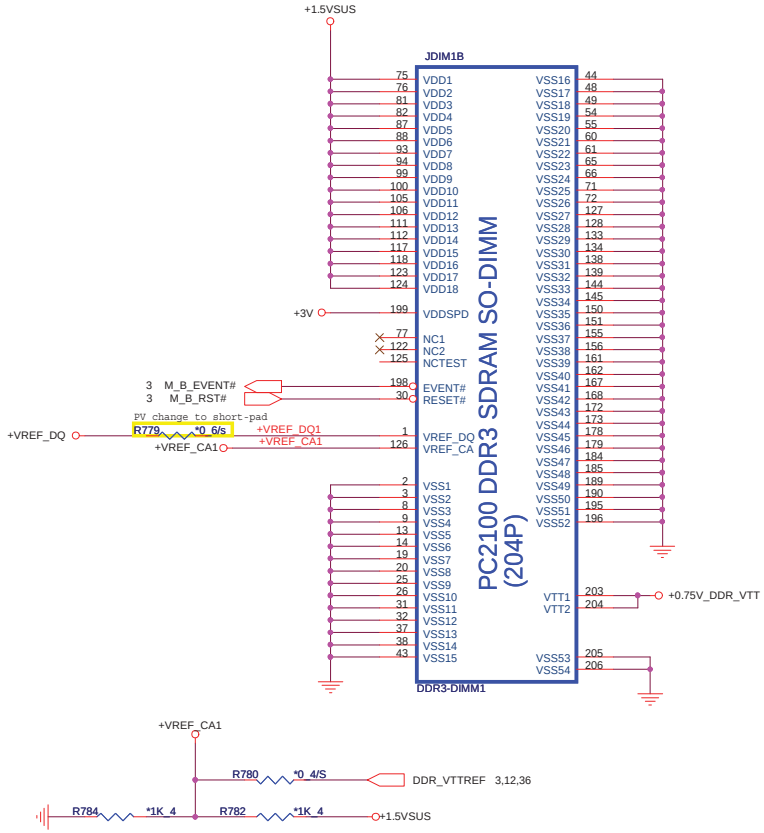
PROJECT : R23
Quanta Computer Inc.

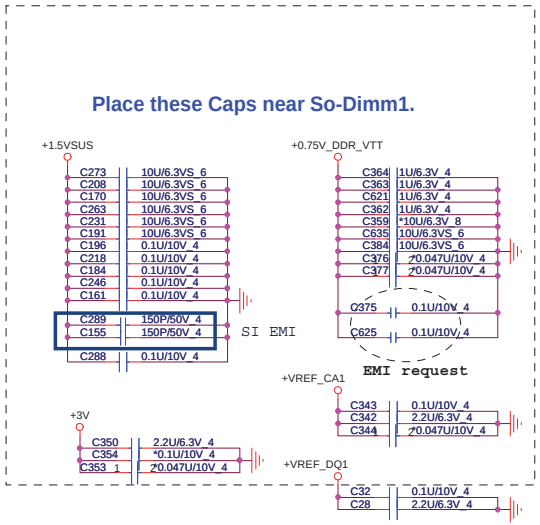
Size	Document Number	Rev
Custom	DDR3 DIMM-0	1A

Date: Tuesday, May 03, 2011 Sheet 12 of 40



H5.2mm





12,36 +0.75V_DDR_VTT
2,3,4,5,12,36,37,39 +1.5VSUS
2,4,6,8,9,10,11,12,14,17,20,22,23,24,25,27,28,29,30,34,37,39 +3V

PROJECT : R23
Quanta Computer Inc.

Size	Document Number	Rev
Custom	DDR3 DIMM-1	1A

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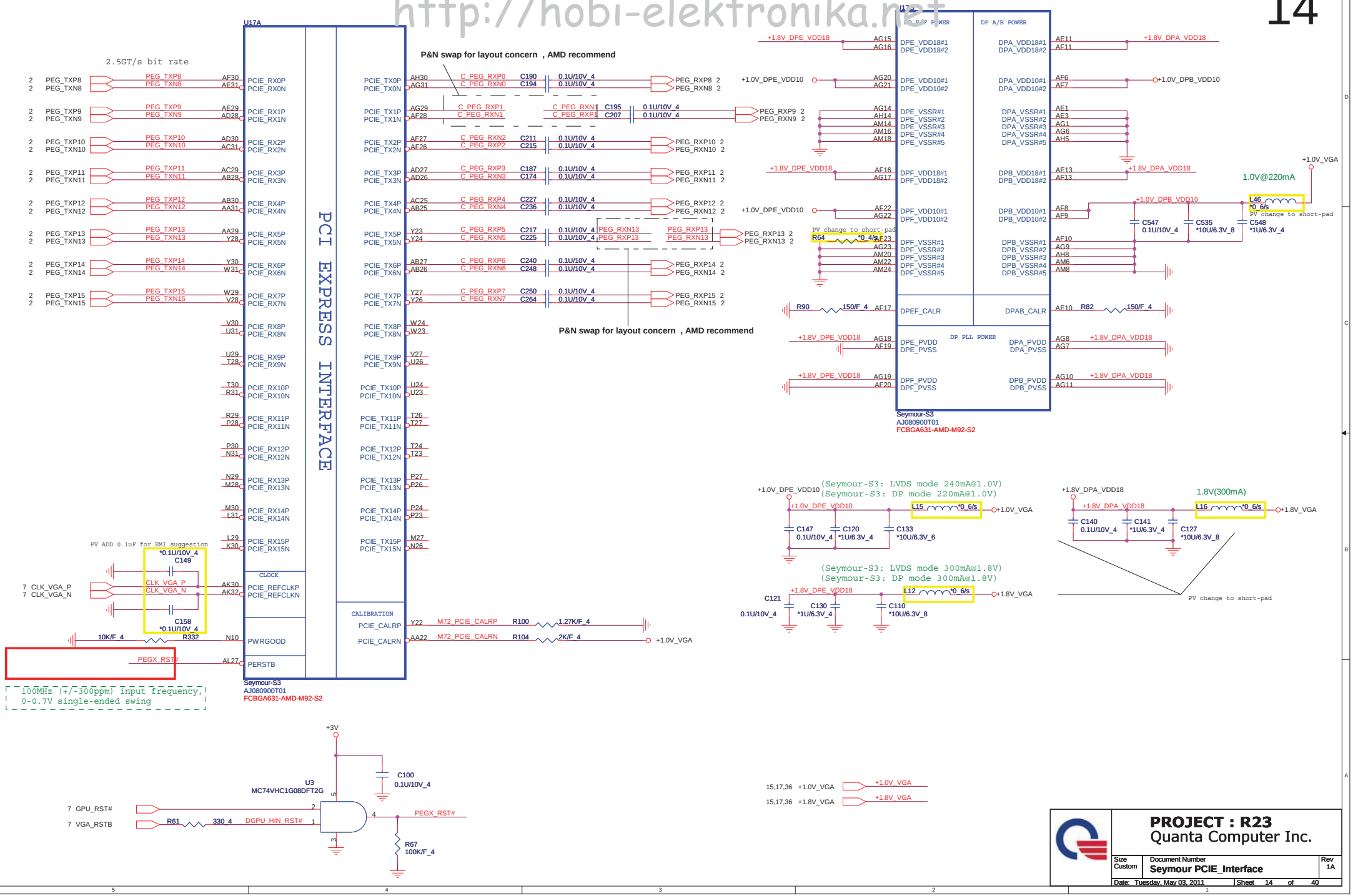


PROJECT : R23
Quanta Computer Inc.

Size	Document Number	Rev
Custom	Seymour PCIE_Interface	1A

Date: Tuesday, May 03, 2011 Sheet 14 of 40

MEM_ID[3:0]	Vendor	Type	Vendor P/N	QUANTA P/N
0000	Samsung- E die	64*16-800MHZ	K4W1G1646E-HC12	Reserved
0001	Hynix- Vega die	64*16-800MHZ	H5TQ1G63DFR-12C	Reserved
0010	Hynix- Vega die	128*16-800MHZ	H5TQ2G63BFR-12C	Reserved
0011	Samsung- C die	128*16-800MHZ	K4W2G1646C-HC12	Reserved
0100	Micron	128*16-800MHZ	MT41J128M16HA-125:D	Reserved
0101	Reserved	Reserved	Reserved	Reserved
0110	Hynix- Vega die	64*16-900MHZ	H5TQ1G63DFR-11C	AKD5LZWTW02
0111	Samsung- E die	64*16-900MHZ	K4W1G1646E-HC11	Reserved
1000	Samsung- G die	64*16-900MHZ	K4W1G1646G-BC11	AKD5BGGT500
1001	Reserved	Reserved	Reserved	Reserved
1010	Hynix- Vega die	128*16-900MHZ	H5TQ2G63BFR-11C	AKD5MGWTW00
1011	Samsung- C die	128*16-900MHZ	K4W2G1646C-HC11	AKD5MGWT500
1100			Reserved	Reserved
1101			Reserved	Reserved
1110			Reserved	Reserved
1111			Reserved	Reserved

AMD request to use Hi voltage enter O.S

GPIO15 GPIO20

Seymour-XT	PWRCNTL0	PWRCNTL1	V-CORE
L	0	0	0.9V
M	0	1	1V
H	1	0	1.1V (Default)
TBD	1	1	NA

Access to SCL and SDA is mandatory on BACO designs for debug purposes

GPIO22(ROMCS#) PD without external VBIOS ROM

If no contact this pin to LVDS need pull low

Seymour uninstall Ra to meet AF24 N/C

DAC2 is NC on Seymour

Reserve for AMD debug only

Reserve for DB debug only

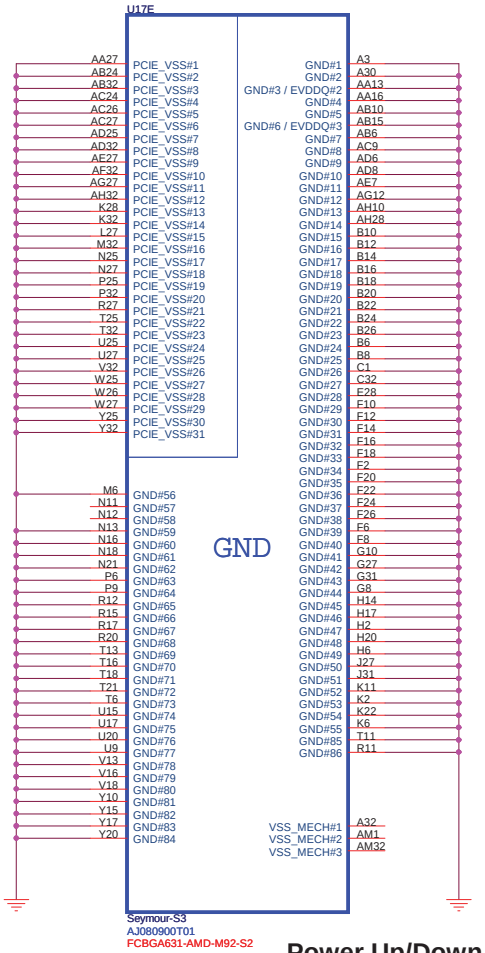
Seymour-S3--NC ROBSON--install

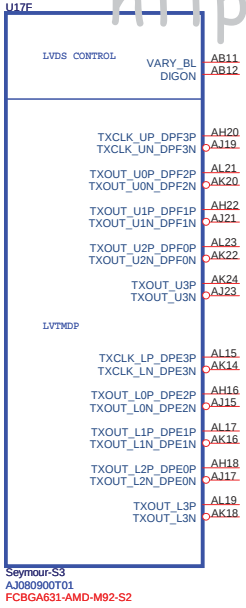
Robson-- Install Seymour- NC BACO mode -- install

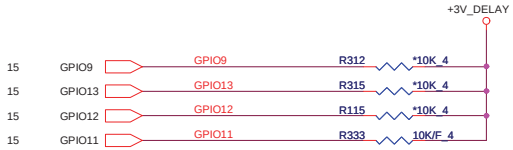
follow AMD checklist change from 10M to 1Mohm

For Int Clk 27Mhz

PROJECT : R23
Quanta Computer Inc.
Size: Custom | Document Number: Seymour Main | Rev: 1A
Date: Tuesday, May 03, 2011 | Sheet 15 of 40







CONFIGURATION STRAPS

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 10K RESISTOR
X = DESIGN DEPENDANT
NA = NOT APPLICABLE

STRAPS	PIN	DESCRIPTION OF DEFAULT SETTINGS	
TX_PWRS_ENB	GPIO0	**Transmitter Power Savings Enable** 0: 50% Tx output swing for mobile mode 1: full Tx output swing (Default setting for Desktop)	1
TX_DEEMPH_EN	GPIO1	**PCI Express Transmitter De-emphasis Enable** 0: Tx de-emphasis disabled for mobile mode 1: Tx de-emphasis enabled (Default setting for Desktop)	1
BIF_GEN2_EN_A	GPIO2	Enable CLKREQ# Power Management 0 - CLKREQ# power management capability is disabled 1 - CLKREQ# power management capability is enabled	0
RSVD BIF_VGA_DIS RSVD	GPIO8 GPIO9 GPIO21	VGA ENABLED	0 0 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	0
RSVD AUD[1] AUD[0]	GENERICC HSYNC VSYNC	AUD[1] AUD[0] 0 0 No audio function 0 1 Audio for DisplayPort and HDMI if dongle is detected 1 0 Audio for DisplayPort only 1 1 Audio for both DisplayPort and HDMI	0 0 11

AMD RESERVED CONFIGURATION STRAPS

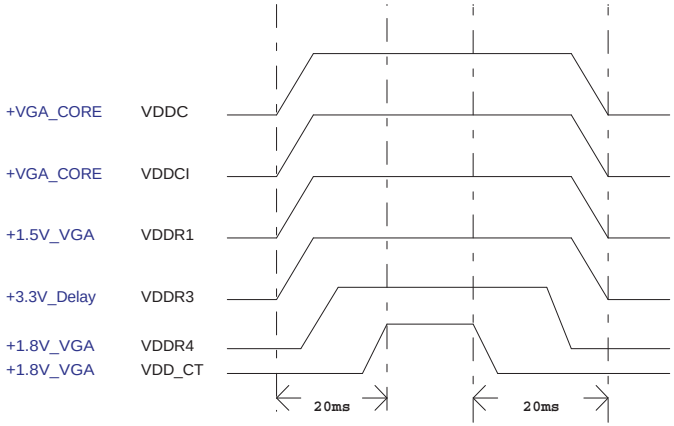
ALLOW FOR PULLUP PADS FOR THESE STRAPS AND IF THESE GPIOS ARE USED, THEY MUST NOT CONFLICT DURING RESET

H2SYNC GENERICC

PULLUP PADS ARE NOT REQUIRED FOR THESE STRAPS BUT IF THESE GPIOS ARE USED, THEY MUST NOT CONFLICT DURING RESET

GPIO21_BB_EN

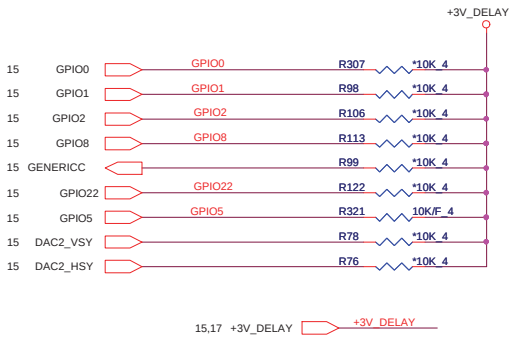
Power Up/Down Sequence



Memory Aperture size

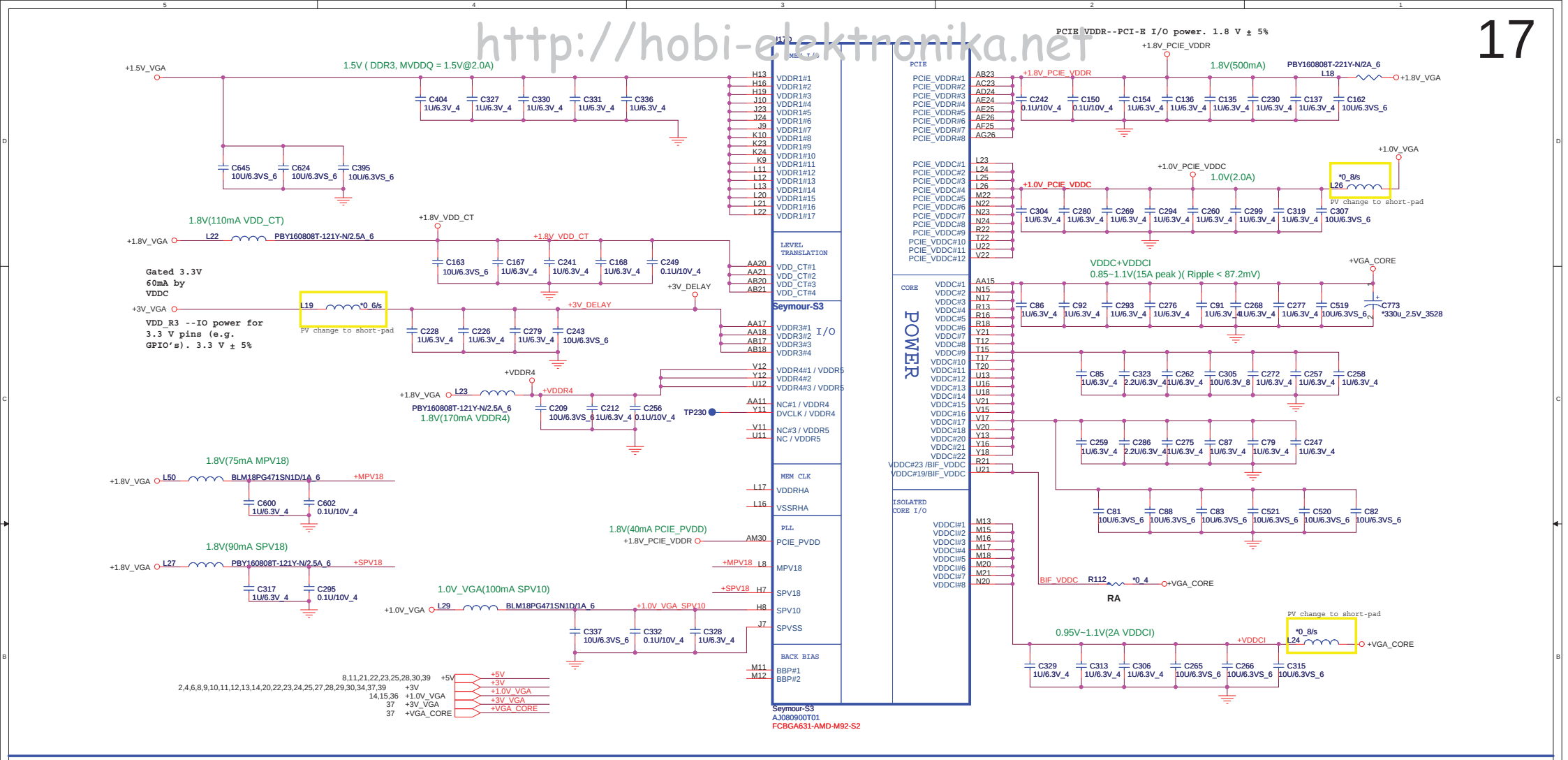
GPIO9 BIOSROM		GPIO13 ROMIDCFG2	GPIO12 ROMIDCFG1	GPIO11 ROMIDCFG0
0	128M	0	0	0
0	256M	0	0	1
0	64M	0	1	0
0	32M	0	1	1
0	512M	1	0	0
0	1G	1	0	1
0	2G	1	1	0
0	4G	1	1	1

It is a shared pin strap with CONFIG[2:0] if BIOS_ROM_EN is set to 0.

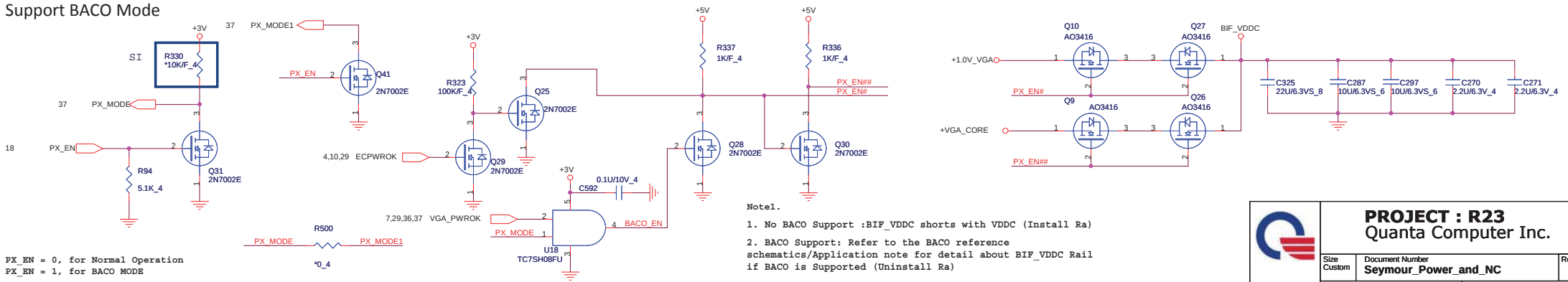


PROJECT : R23
Quanta Computer Inc.

Size	Document Number	Rev
Custom	Seymour GND / LVDS/ Straps	1A
Date: Tuesday, May 03, 2011	Sheet 16 of 40	



Support BACO Mode

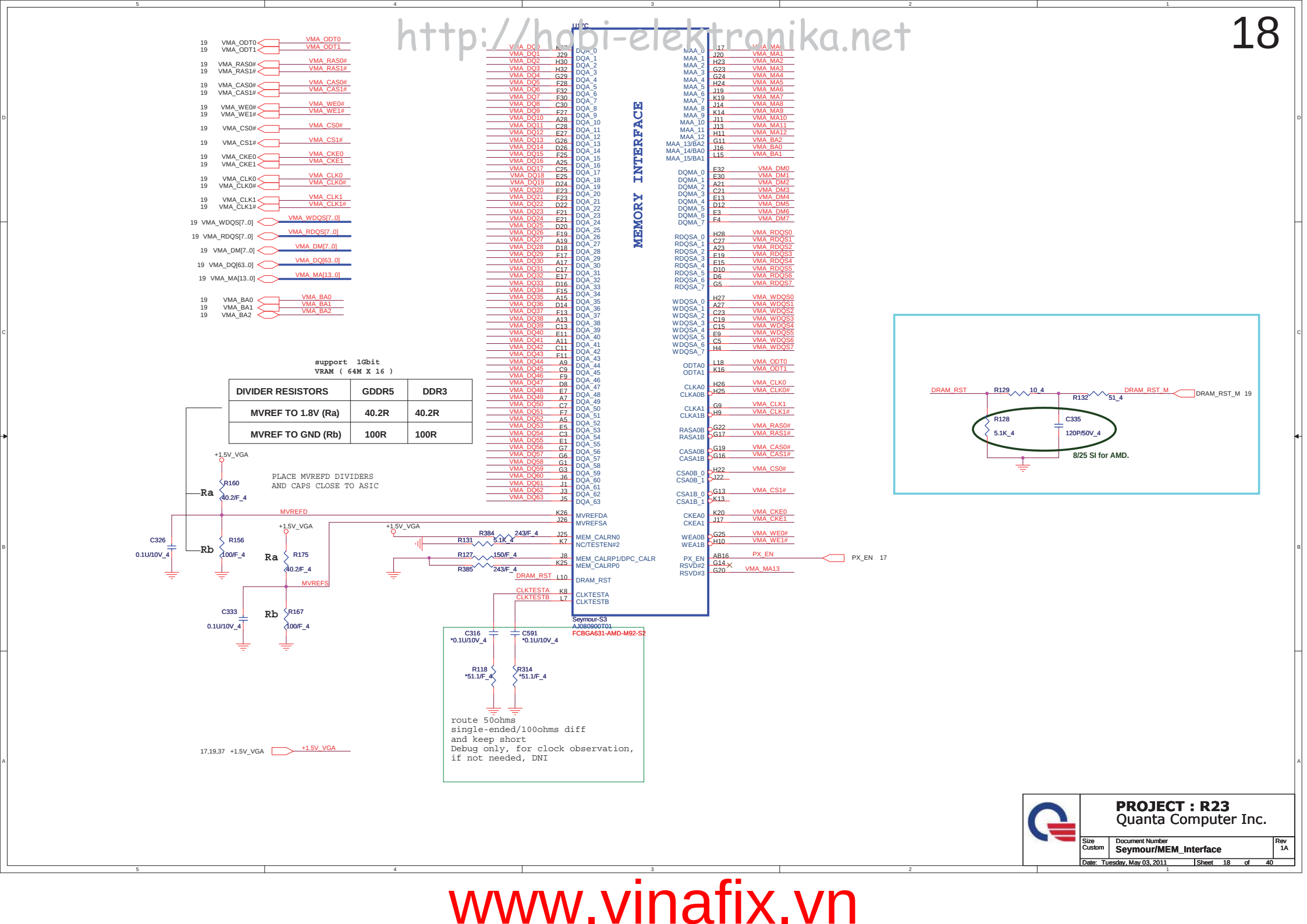


Note1.

1. No BACO Support :BIF_VDDC shorts with VDDC (Install Ra)
2. BACO Support: Refer to the BACO reference schematics/Application note for detail about BIF_VDDC Rail if BACO is Supported (Uninstall Ra)

PROJECT : R23
Quanta Computer Inc.

Size	Document Number	Rev
Custom	Seymour_Power_and_NC	1A
Date: Tuesday, May 03, 2011	Sheet 17 of 40	



1GB DDR3

18 VMA_MA[13..0]
18 VMA_DM[7..0]
VMA_MA[13..0]
18 VMA_DQ[63..0]
18 VMA_WDQS[7..0]
18 VMA_RDQS[7..0]

U7 / U1 / U6 / U20 — 100-BALL SDRAM DDR3 — K4W2G1646C-HC11

Should be 243 Ohms +-1%
R174 243/F_4
R389 243/F_4
R159 243/F_4
R379 243/F_4

+1.5V_VGA

R401 4.99K/F_4 VREFC_VMA1
R400 4.99K/F_4
C644 0.1U/10V_4
R148 4.99K/F_4 VREFD_VMA1
R151 4.99K/F_4
C372 0.1U/10V_4
R392 4.99K/F_4 VREFC_VMA2
R405 4.99K/F_4
C650 0.1U/10V_4
R146 4.99K/F_4 VREFD_VMA2
R153 4.99K/F_4
C369 0.1U/10V_4
R185 4.99K/F_4 VREFC_VMA3
R183 4.99K/F_4
C402 0.1U/10V_4
R165 4.99K/F_4 VREFD_VMA3
R181 4.99K/F_4
C396 0.1U/10V_4
R383 4.99K/F_4 VREFC_VMA4
R388 4.99K/F_4
C626 0.1U/10V_4
R378 4.99K/F_4 VREFD_VMA4
R386 4.99K/F_4
C623 0.1U/10V_4

VMA_CLK0
R161 56.2/F_4
VMA_CLK0_COMM
C374 0.01U/25V_4
R169 56.2/F_4
VMA_CLK0#
VMA_CLK1
R154 56.2/F_4
VMA_CLK1_COMM
C385 0.01U/25V_4
R158 56.2/F_4
VMA_CLK1#
17,18,37 +1.5V_VGA

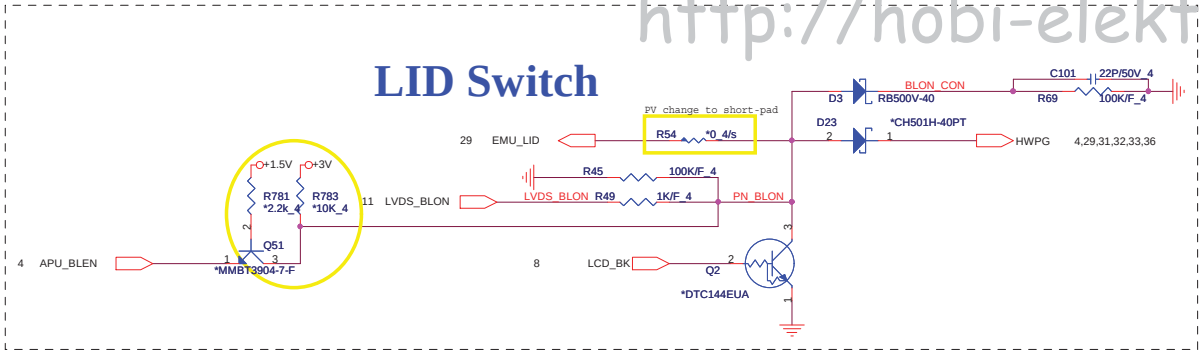
C355 C357 C406 C397 C393 C349 C347 C655 1U/6.3V_4
C620 C618 C651 C346 C654 C636 C614 C611 0.1U/10V_4
C653 C648 C637 C403 C408 C345 C641 C643 1U/6.3V_4
C627 C622 C628 C632 C639 C642 C400 C405 0.1U/10V_4
C656 C633 C410 C409 10U/6.3VS_6

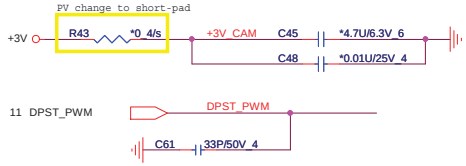
	QCI PN
SAM 1G	AKD5MGWT500
HYU 1G	AKD5MGWTW00
SAMSUNG	AKD5EGGT500
HYNIX	AKD5LZWTW02

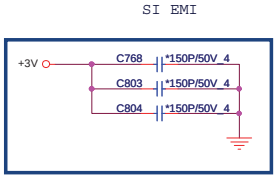
PROJECT : R23
Quanta Computer Inc.

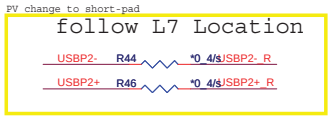
Size: Custom | Document Number: Seymour VRAM(DDR3 BGA96) | Rev: 3A
Date: Tuesday, May 03, 2011 | Sheet 19 of 40

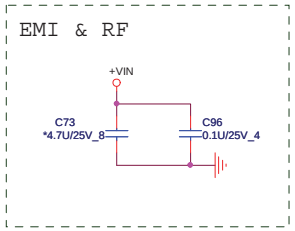
LID Switch

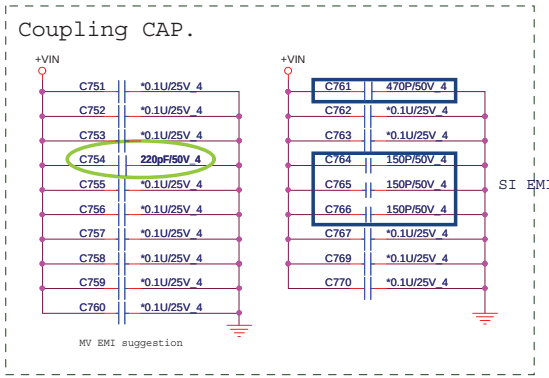


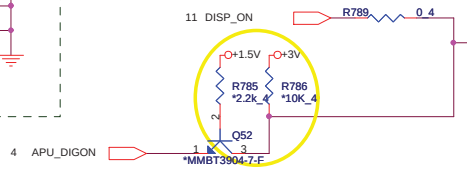


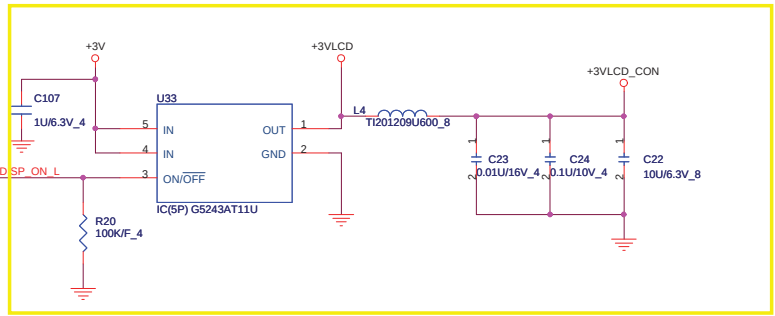


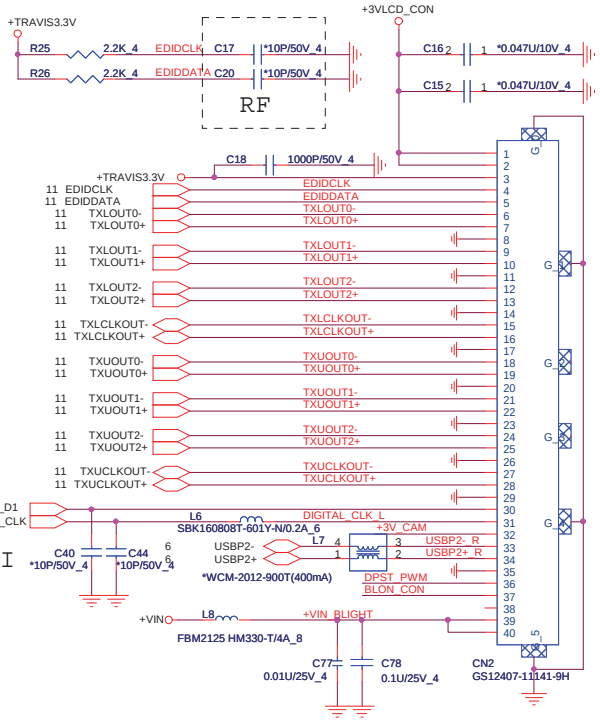










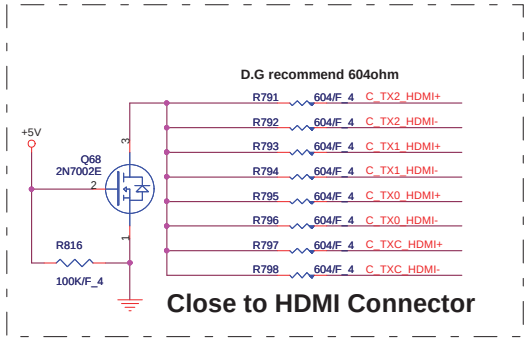


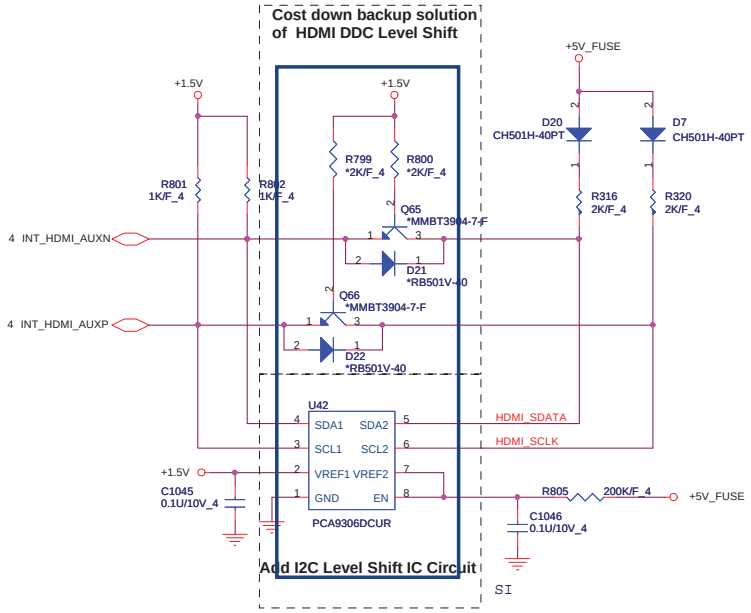
4,7,26,28,29,31,38 +3VPCU
2,4,6,8,9,10,11,12,13,14,17,22,23,24,25,27,28,29,30,34,37,39 +3V
9,37,38,39 +12VALW
31,32,33,34,35,36,37,38,39 +VIN

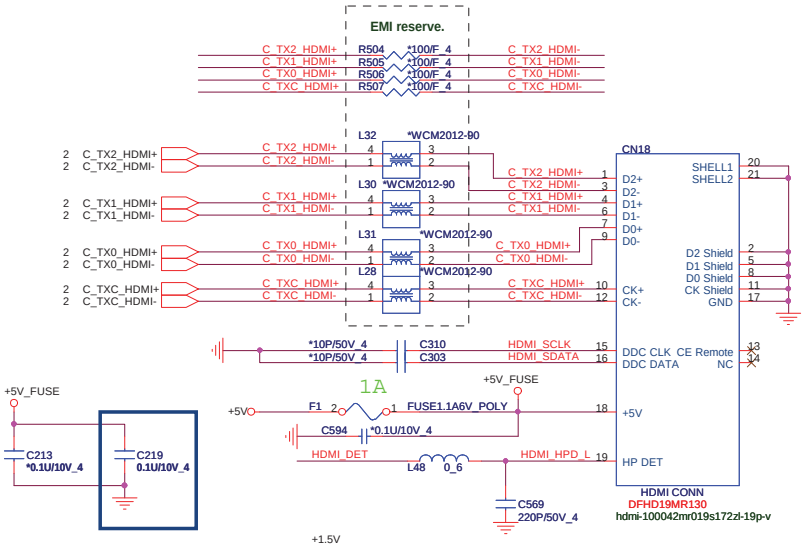
PROJECT : R23
Quanta Computer Inc.

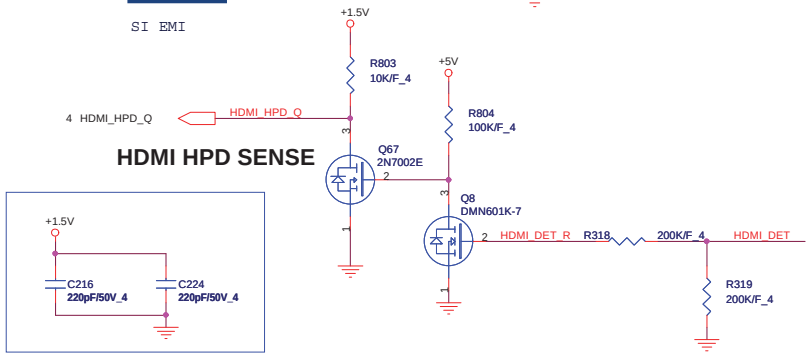
Size	Document Number	Rev
Custom	LCD CONN/LID/CAM	1A

Date: Tuesday, May 03, 2011 Sheet 20 of 40





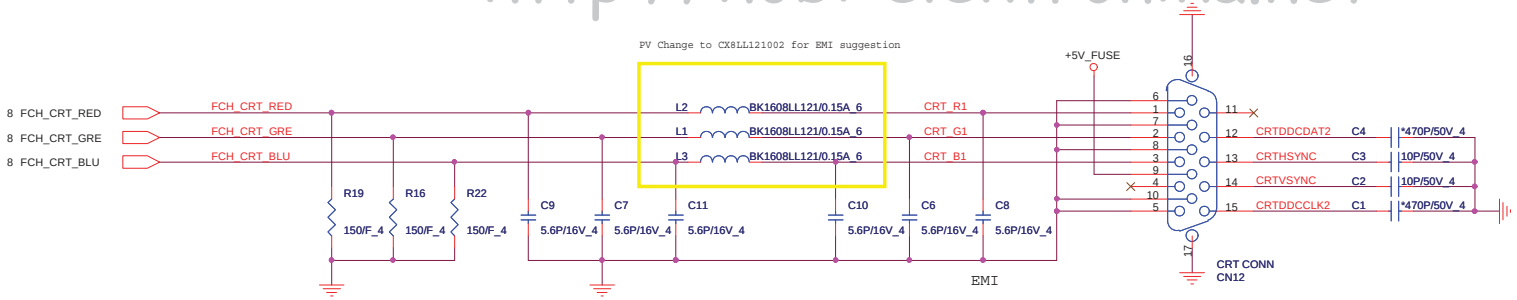


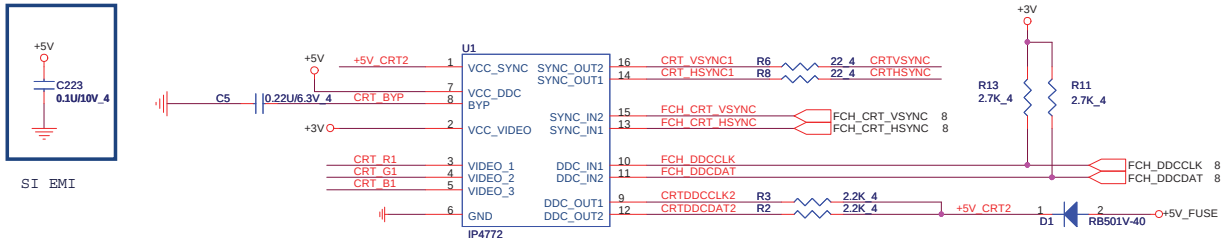


PROJECT : R23
Quanta Computer Inc.

Size	Document Number	Rev
Custom	HDMI CONN	1A

Date: Tuesday, May 03, 2011 Sheet 21 of 40





HOLE

H1 *h-c354d118p2 h-c354d118p2
H6 *h-c354d118p2 h-c354d118p2
H14 *h-c354d118p2 h-c354d118p2
H11 *h-c354d118p2 h-c354d118p2
H12 *H-C354I158D118P2 H-C354I158D118P2
H3 *h-c354d118p2 h-c354d118p2
H8 *H-C354I158D118P2 H-C354I158D118P2
H4 *H-C354I158D118P2 H-C354I158D118P2
H2 *h-c236d118p2 h-c236d118p2
H13 *h-c236d118p2 H-tc354bc236d118p2
H15 *h-c354d118p2 h-c354d118p2

PAD2 *EMIPAD
For EMI

CPU

H7 *IINTEL-CPU-BKT2
INTEL-CPU-BKT2

VGA

H10 *h-tc248bc197d150p2 h-tc248bc197d150p2
H9 *h-tc248bc197d150p2 h-tc248bc197d150p2
H5 *h-tc248bc197d150p2 h-tc248bc197d150p2

PROJECT : R23
Quanta Computer Inc.

Size	Document Number	Rev
Custom	CRT,Hole	1A

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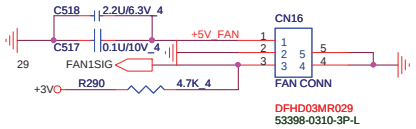
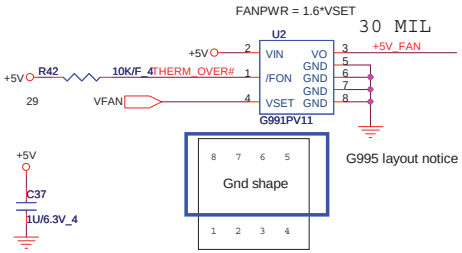
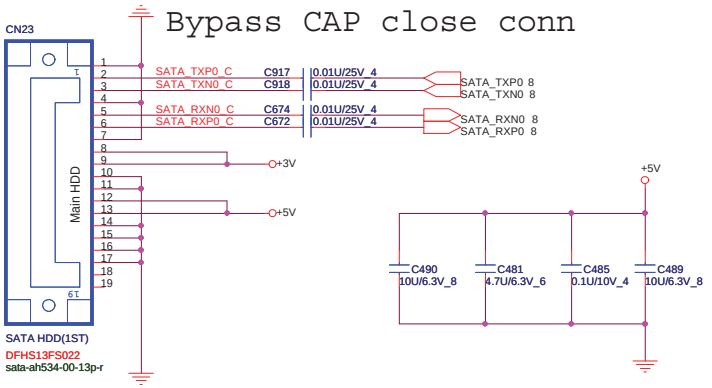
CPU FAN



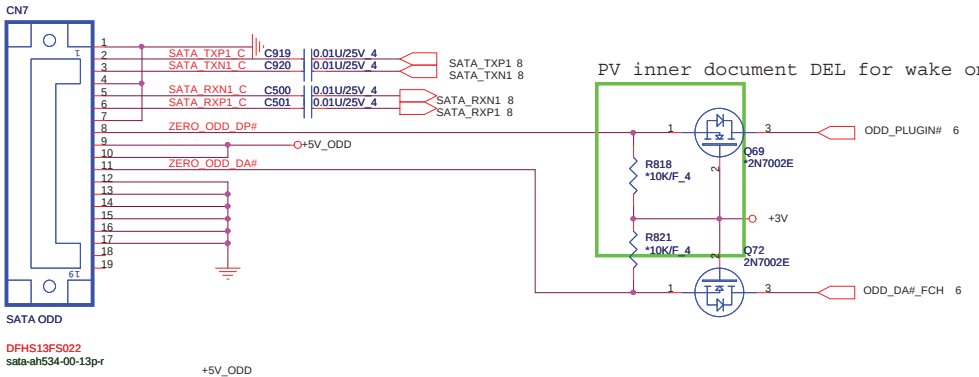


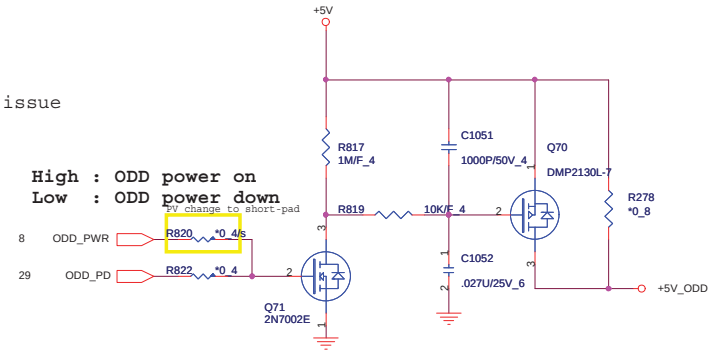
SATA HDD CONNECTOR

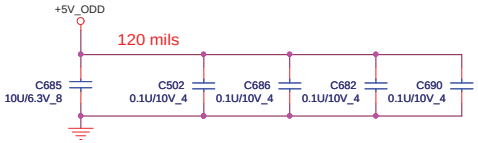


SATA ODD CONNECTOR

SATA ODD



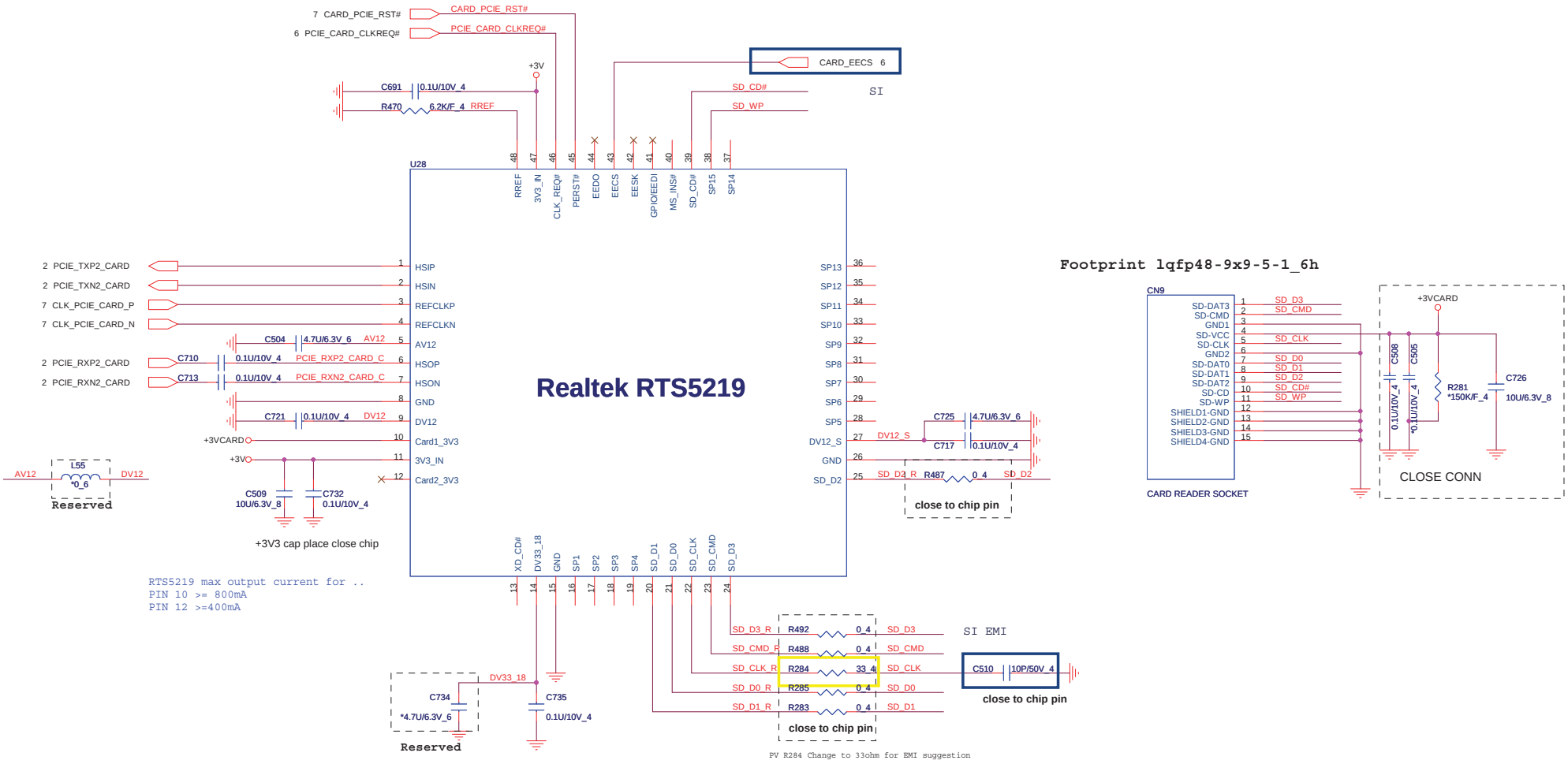




PROJECT : R23
Quanta Computer Inc.

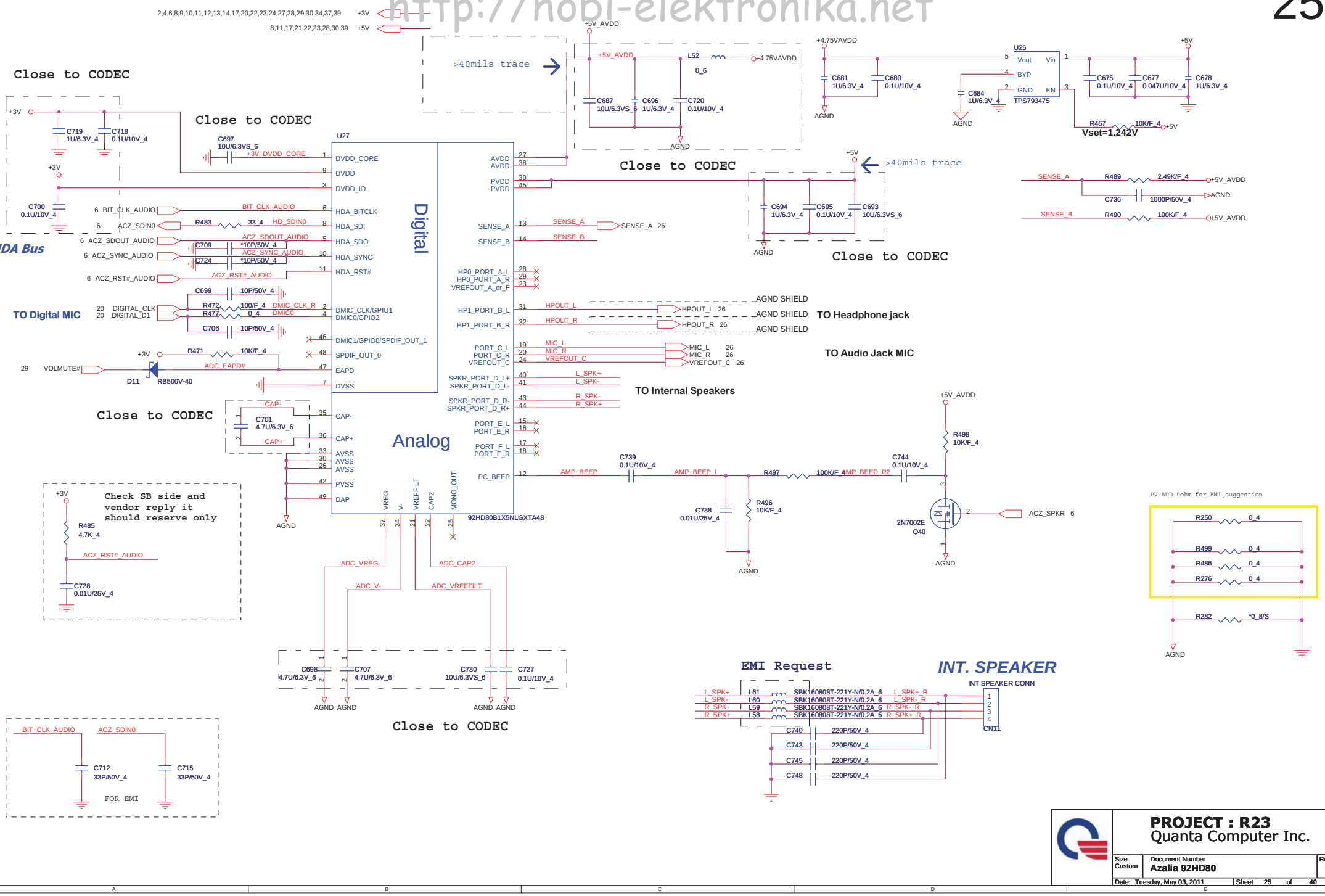
Size	Document Number	Rev
Custom	HDD/ODD/FAN	1A

Date: Wednesday, May 04, 2011 Sheet 23 of 40



Footprint lqfp48-9x9-5-1_6h

PROJECT : R23 Quanta Computer Inc.		
Size: Custom	Document Number: RTS5219 & CR SOCKET &HOLE	Rev: 1A
Date: Tuesday, May 03, 2011	Sheet 24 of 40	



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Quanta Computer Inc.

Size	Document Number	Rev
Custom	Azalia 92HD80	1A

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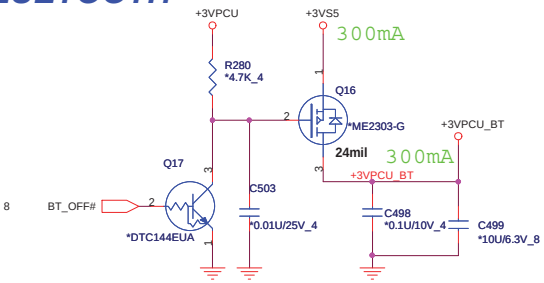
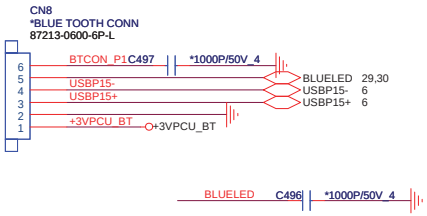
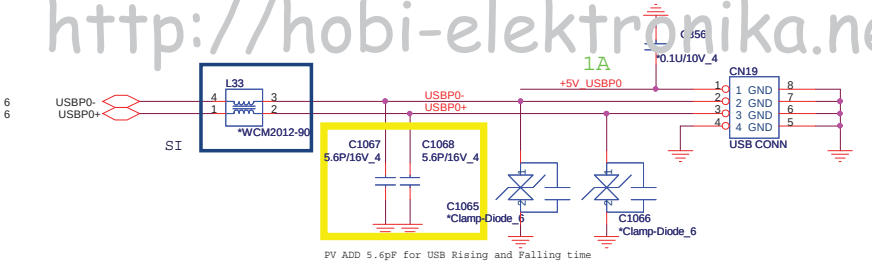
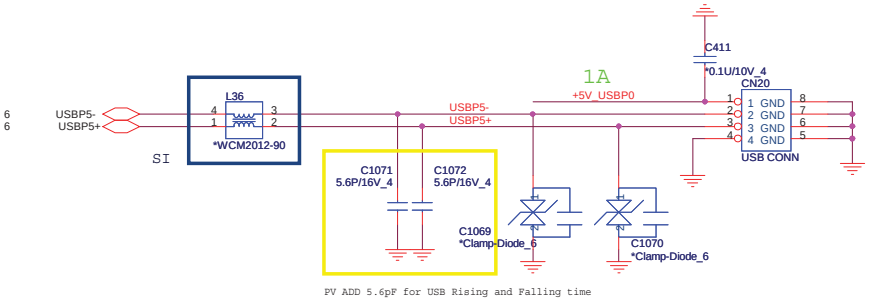
BLUETOOTH

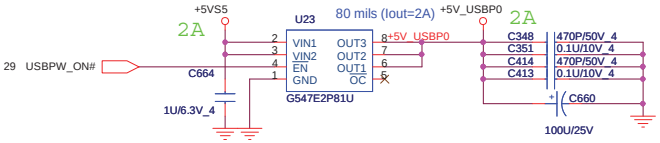




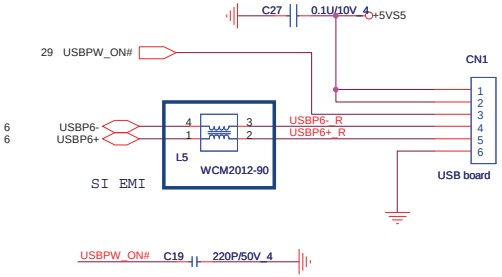




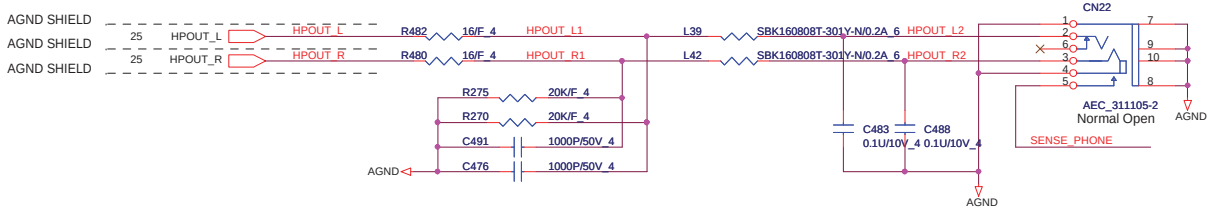
LEFT SIDE USBX2



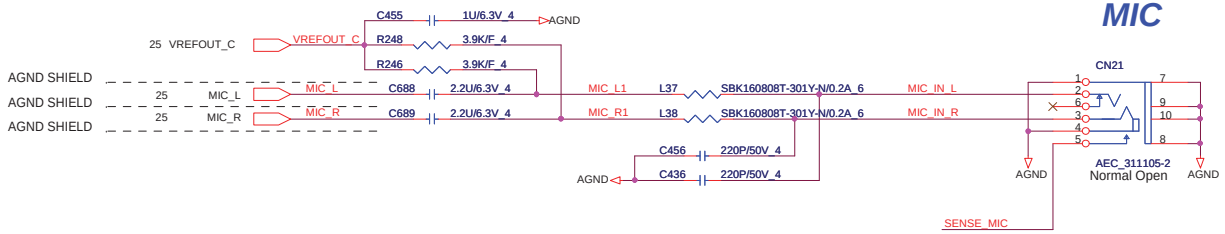
Right SIDE USBX1



Line out

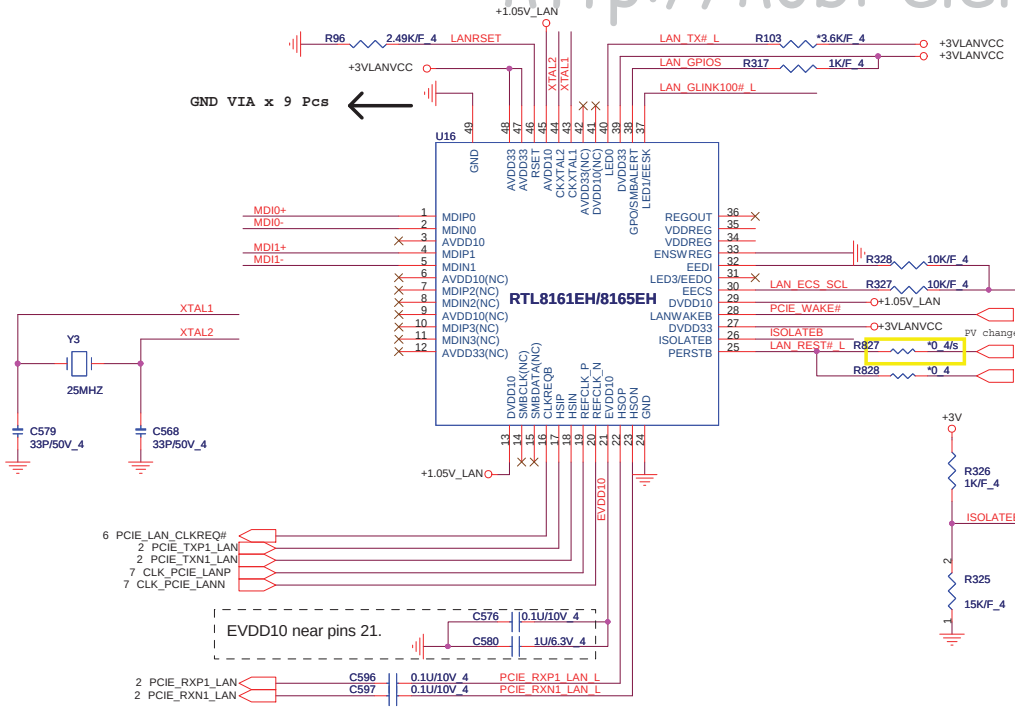


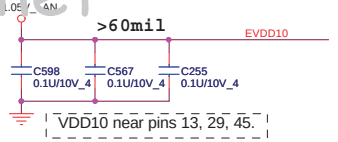
MIC

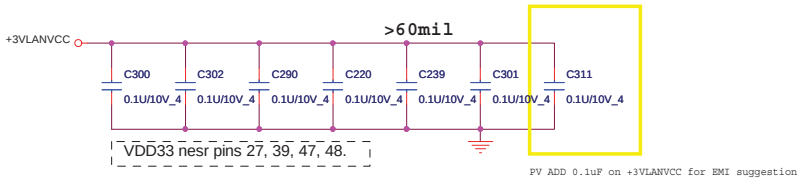


PROJECT : R23
Quanta Computer Inc.

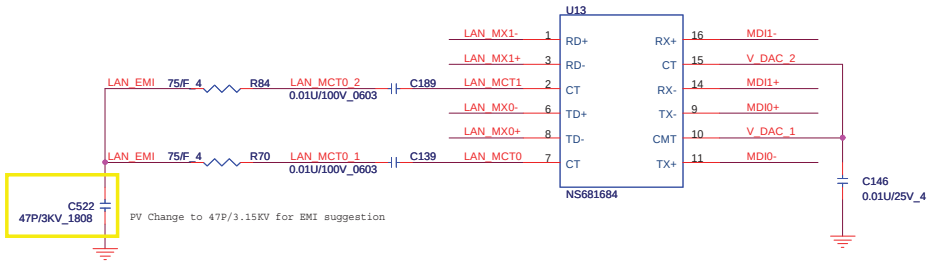
Size	Document Number	Rev
Custom	USB/BT/Audio JacK	1A
Date: Tuesday, May 03, 2011	Sheet 26 of 40	



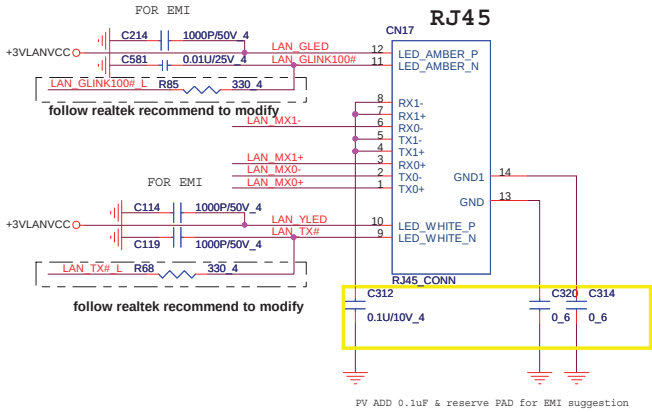




Transformer for 10/100



Lan Con.



39 +3VLANVCC
2,4,6,8,9,10,11,12,13,14,17,20,22,23,24,25,28,29,30,34,37,39 +3V

PROJECT : R23
Quanta Computer Inc.

Size	Document Number	Rev
Custom	RTL8165EH	1A

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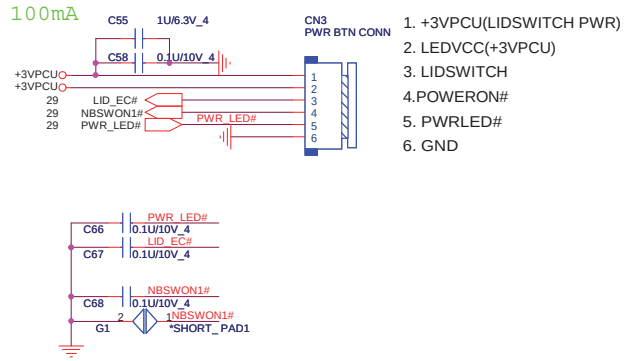
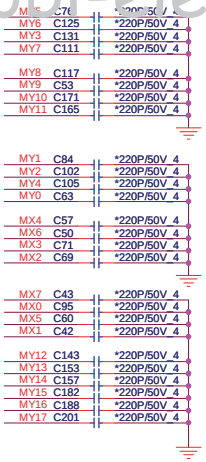
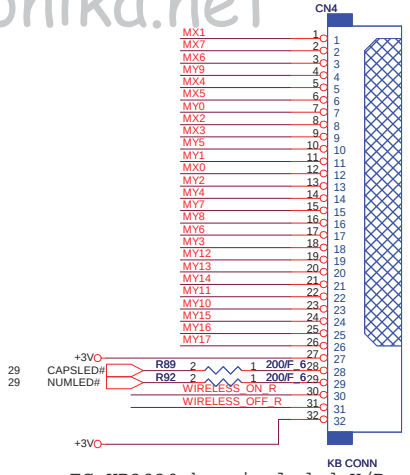
POWER BOTTON CONNECT

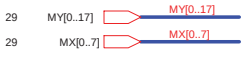


1. +3VPCU(LIDSWITCH PWR)
2. LEDVCC(+3VPCU)
3. LIDSWITCH
4.POWERON#
5. PWRLED#
6. GND

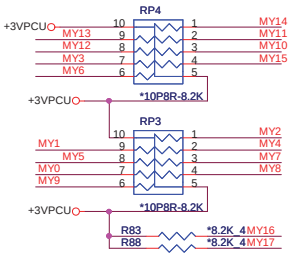
KEYBOARD Con.



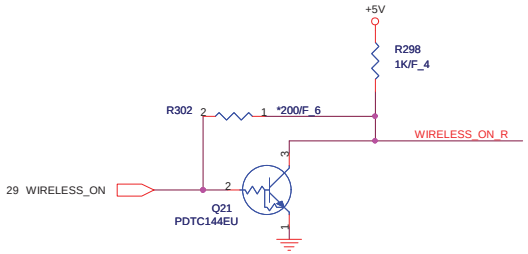


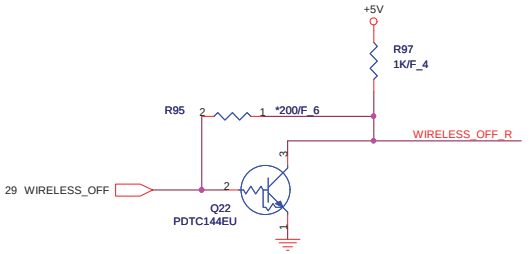


KEYBOARD PULL-UP

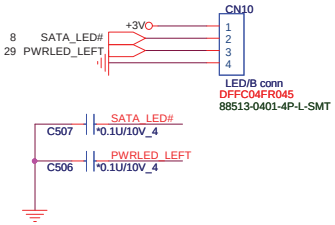


EC KB3930 has included K/B pull-up resistor and function

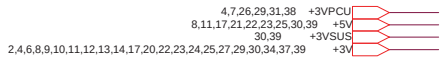




LED Con.

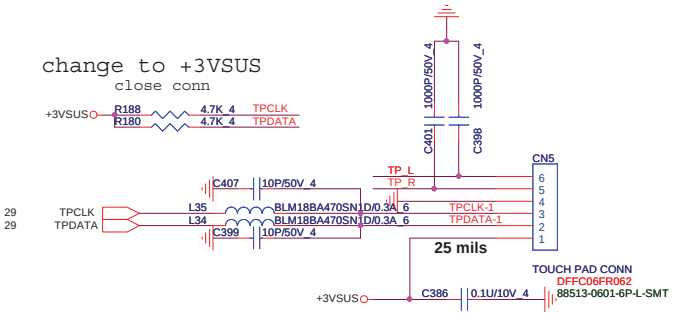


1. +3V
2. SATA_LED#
3. PWR_LED#
4.GND

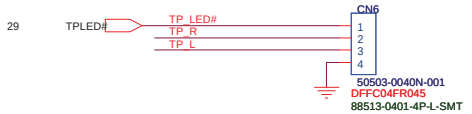


TOUCH PAD Con.

change to +3VSUS
close conn



To TOUCH PAD SW board

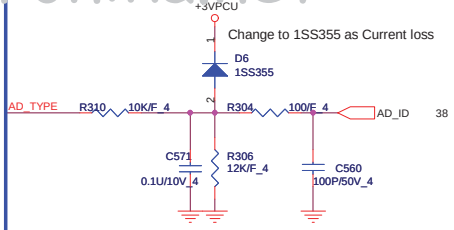


PROJECT : R23
Quanta Computer Inc.

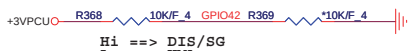
Size	Document Number	Rev
Custom	LED/KB/SW/TP	1A

Date: Tuesday, May 03, 2011 Sheet 28 of 40

Smart adapter Type check

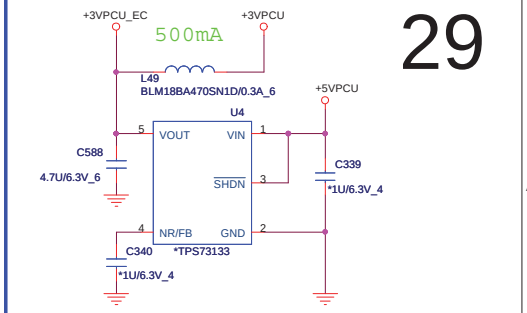


Adapter select

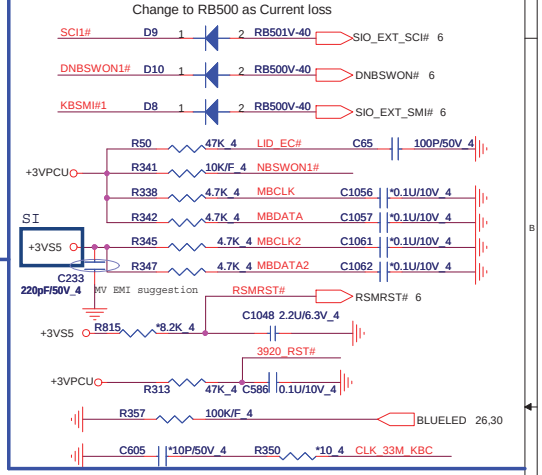


Hi ==> DIS/SG
Low ==>UMA

Platform model	GPIO42	adapter
SG/DIS	High	90W
UMA	Low	65W

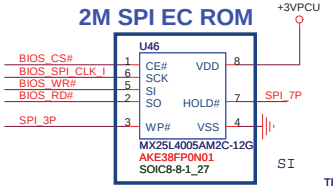


Change to RB500 as Current loss

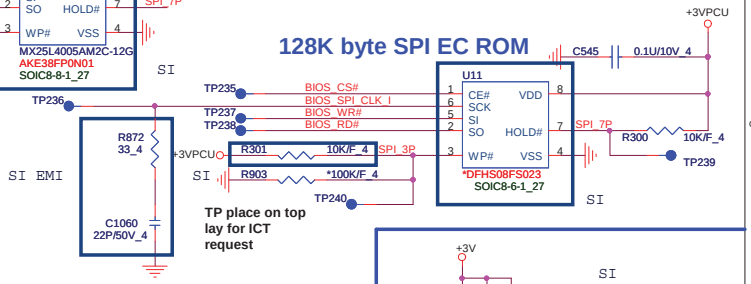


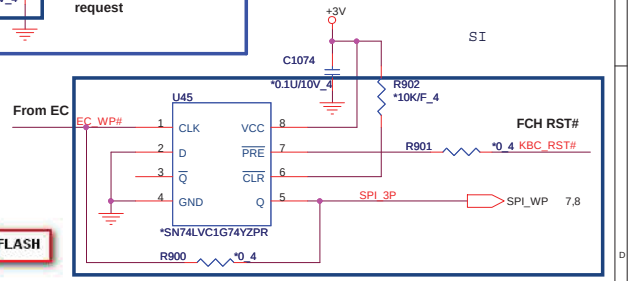
Vender	Size	P/N
AMIC	128K	AKE35ZN0801
EON	128K	AKE35FN0Q00
Socket		DFHS08FS023

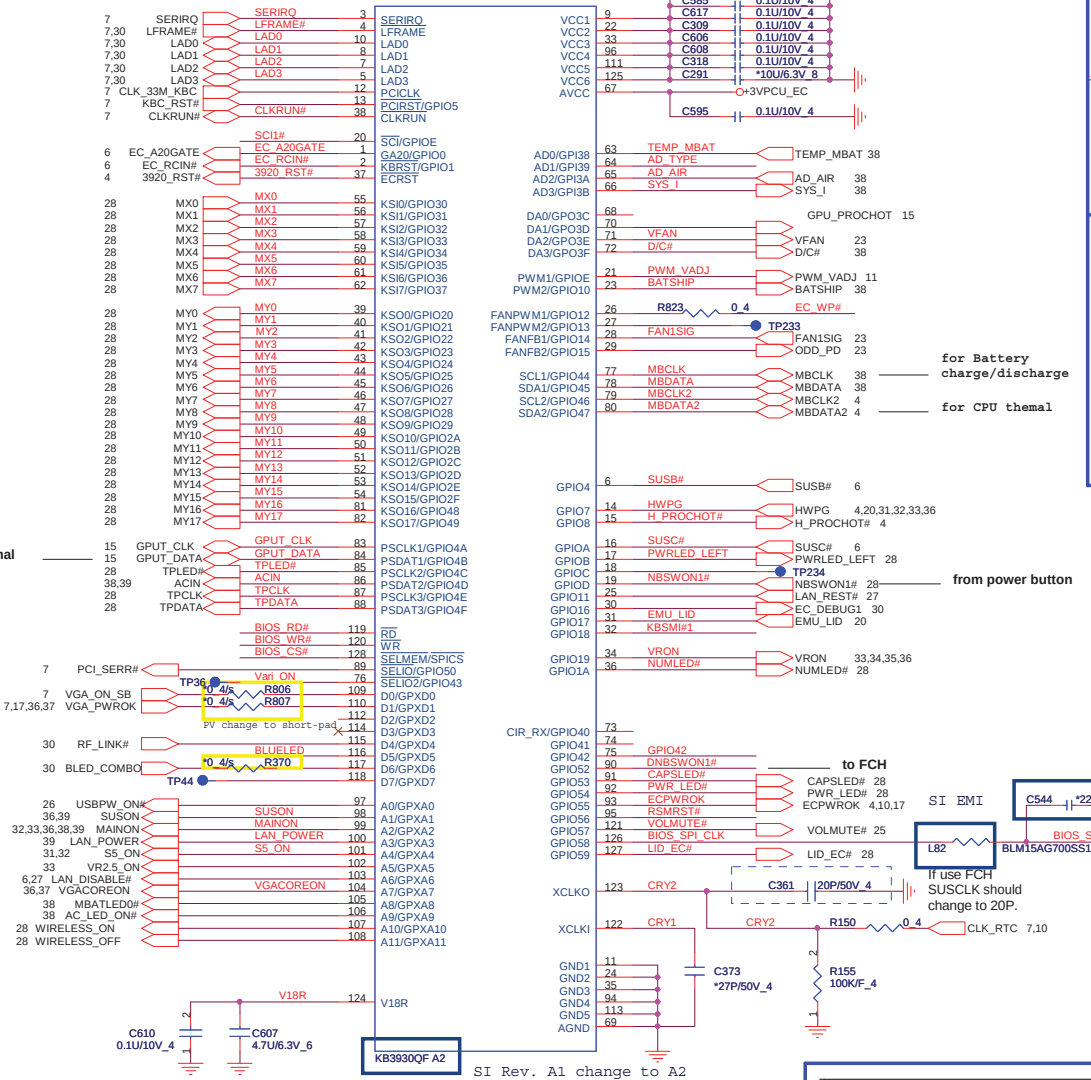
2M SPI EC ROM

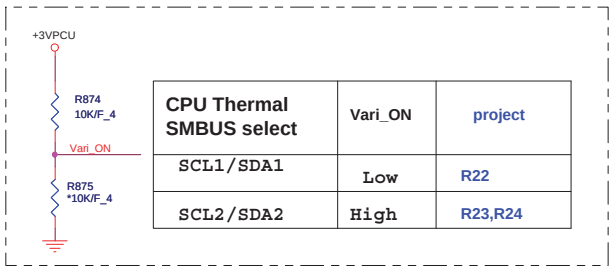


128K byte SPI EC ROM









CPU Thermal SMBUS select	Vari_ON	project
SCL1/SDA1	Low	R22
SCL2/SDA2	High	R23,R24

INPUTS				OUTPUTS		
PRE	CLR	CLK	D	Q	Q	
L	H	X	X	H	L	FLASH
H	L	X	X	L	H	
L	L	X	X	H (1)	H (1)	
H	H	↑	H	H	L	
H	H	↑	L	L	H	LOCK
H	H	L	X	Q_0	$\overline{Q}_0$	

PROJECT : R23
Quanta Computer Inc.

Size	Document Number	Rev
Custom	EC (KB3926)/ROM	1A
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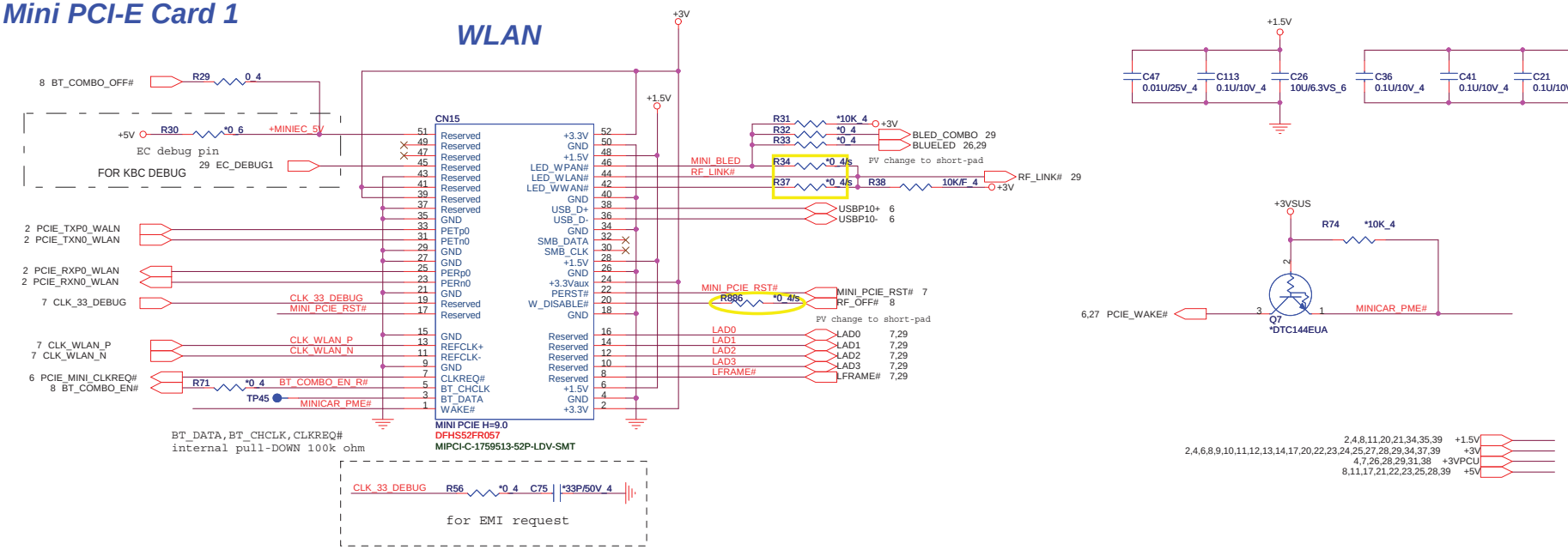
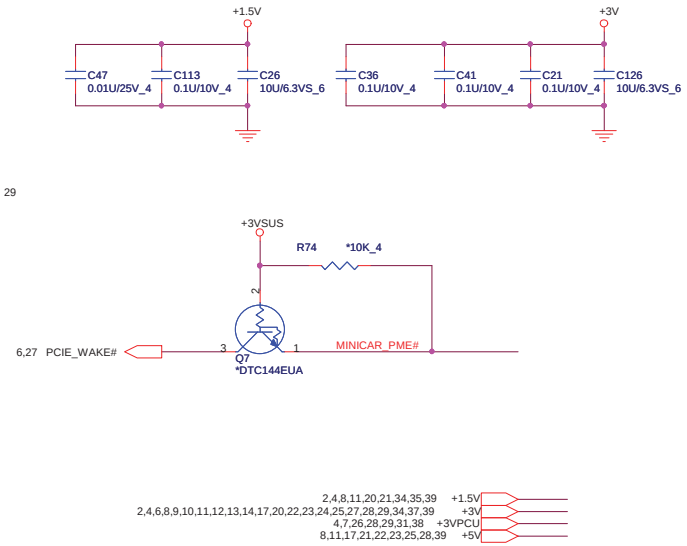
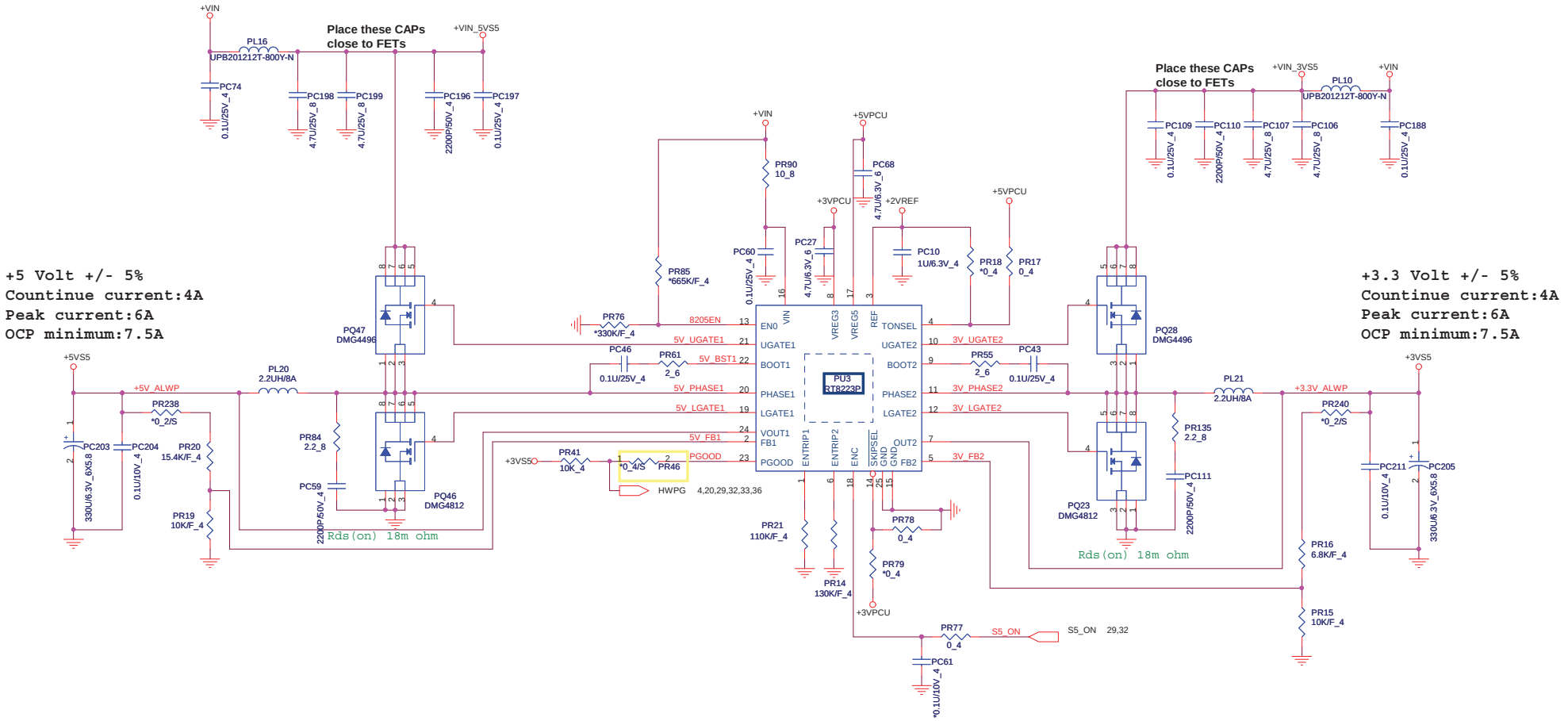
Mini PCI-E Card 1

WLAN





	PROJECT : R23 Quanta Computer Inc.	
Size Custom	Document Number **MINI PCIE CONN X1**	Rev 1A
Date: Tuesday, May 03, 2011	Sheet 30 of 40	



PROJECT : R23
Quanta Computer Inc.

Size	Document Number	Rev
Custom	+5V/+3V (RT8206B)	1A

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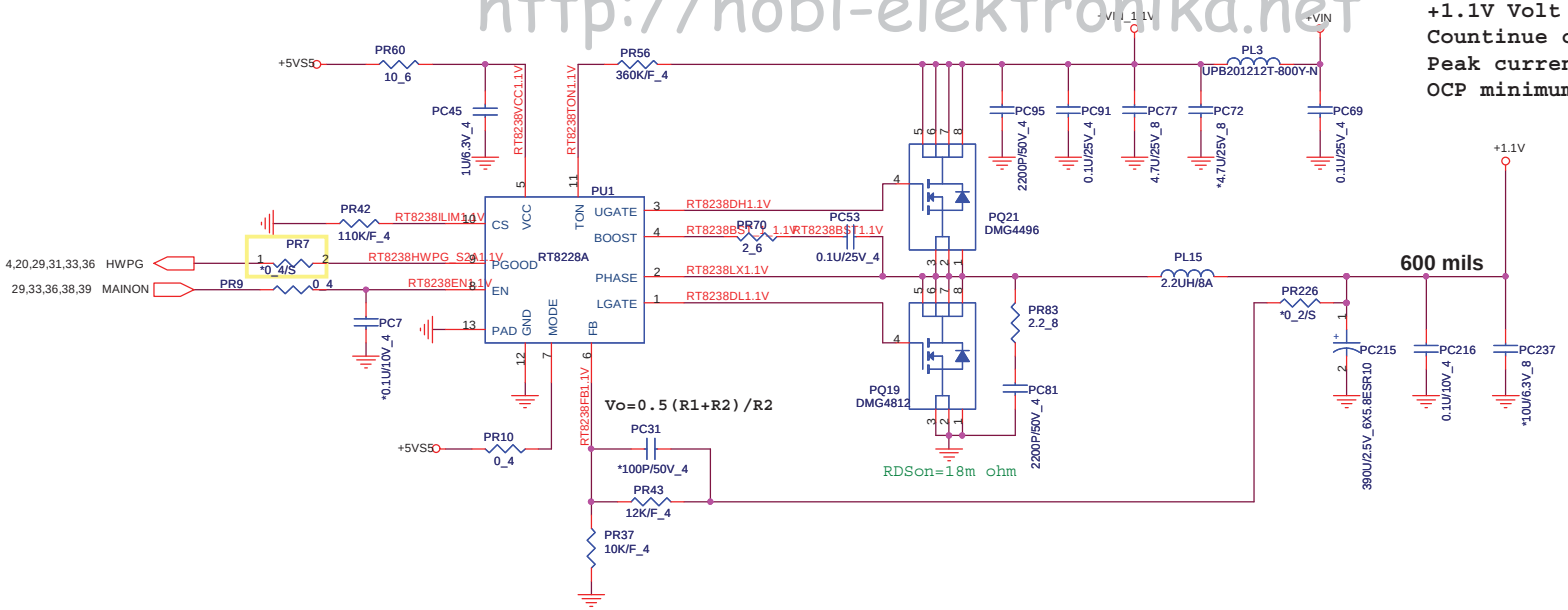
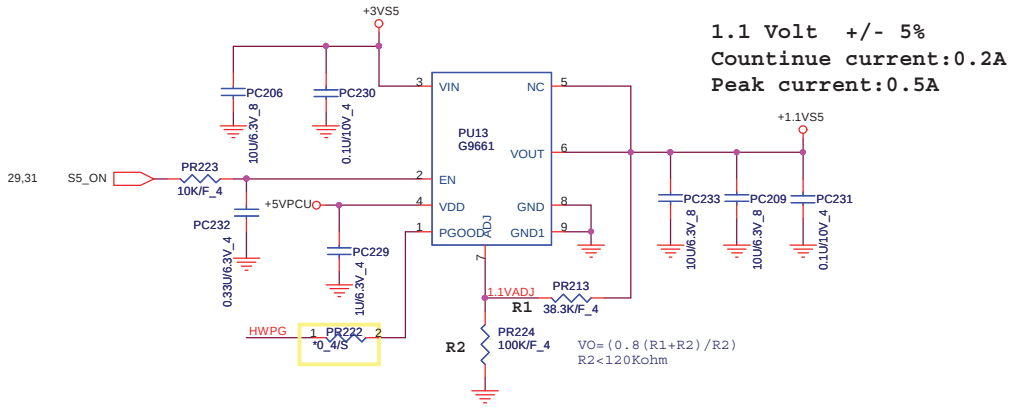
+1.1V Volt +/- 5%
Countinue current:3A
Peak current: 4A
OCP minimum:6A

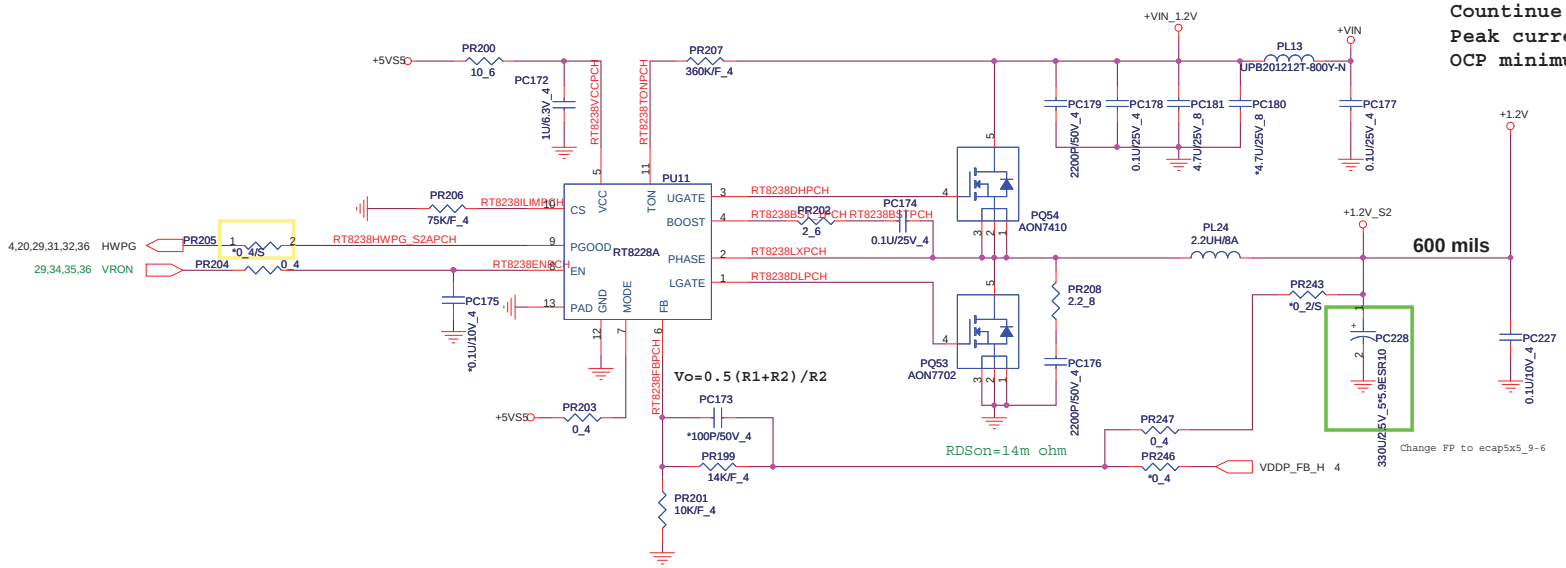


1.1 Volt +/- 5%
Countinue current:0.2A
Peak current:0.5A

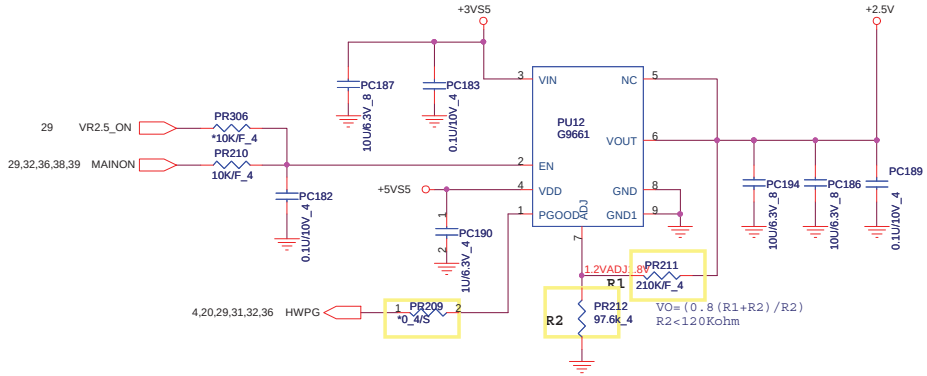


NB5/RD2	PROJECT : R23 Quanta Computer Inc.	
	Size: Custom Document Number: VGA Core/+1.8VGFX/1.0VGFX	Rev: 1A
	Date: Tuesday, May 03, 2011	Sheet 32 of 40

+1.05V PCH Volt +/- 5%
Countinue current:4A
Peak current:6A
OCP minimum:7.5A

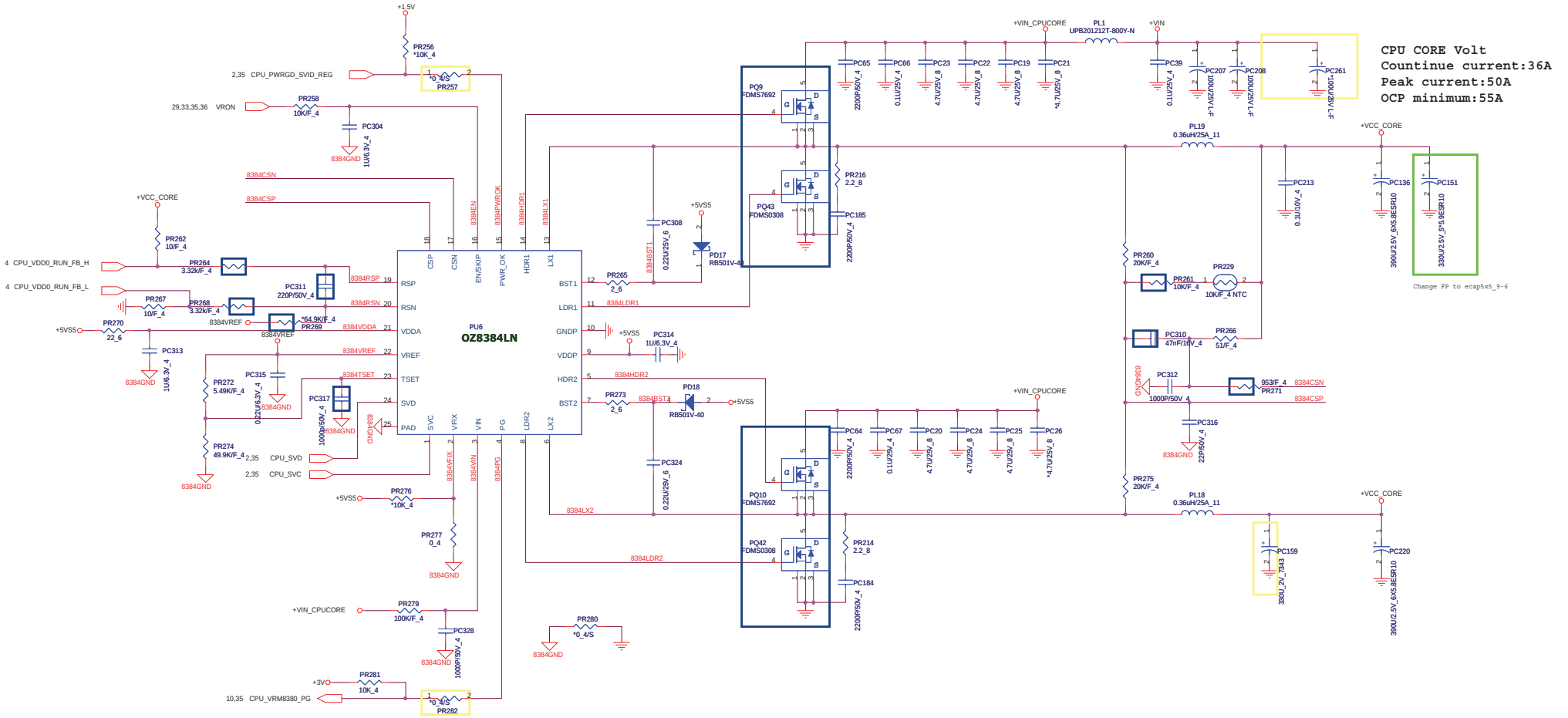


+2.5V +/- 5%
Countinue current:0.3A
Peak current:0.75A

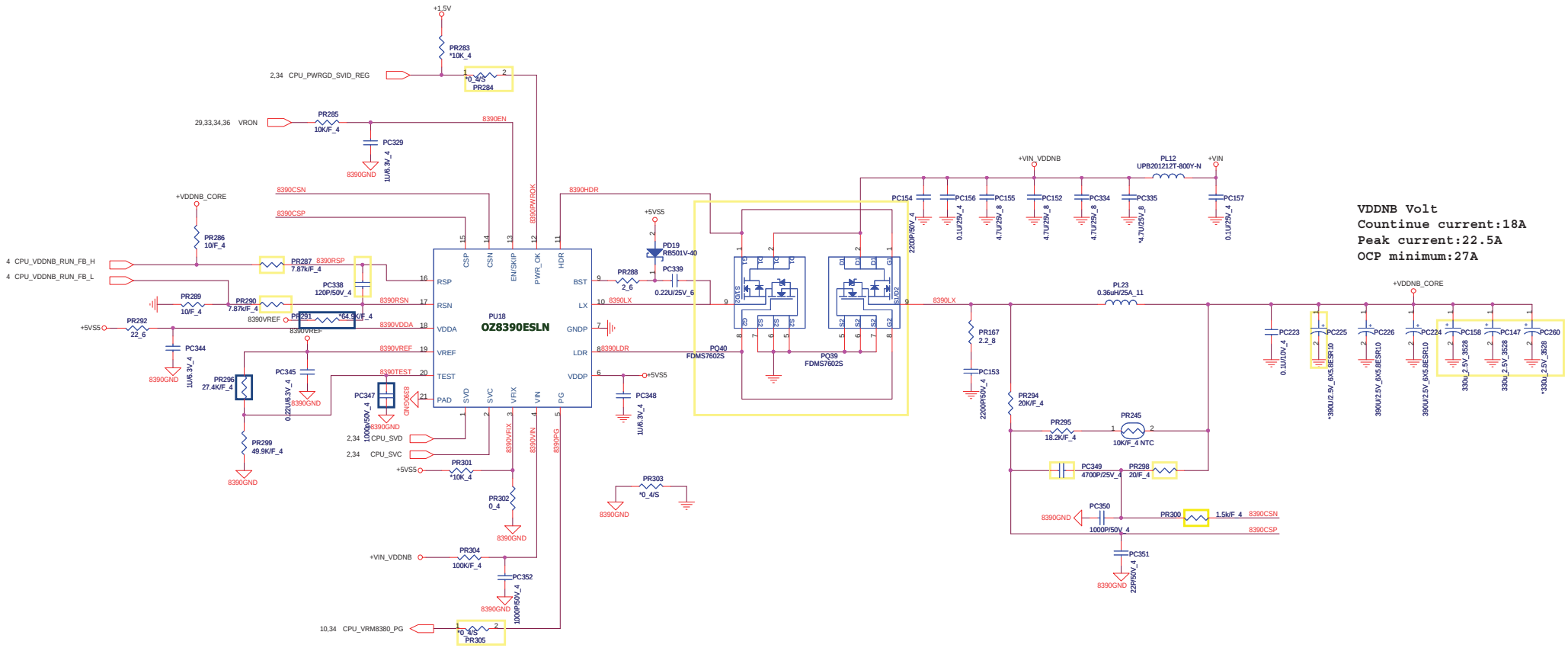


PROJECT : R23
Quanta Computer Inc.

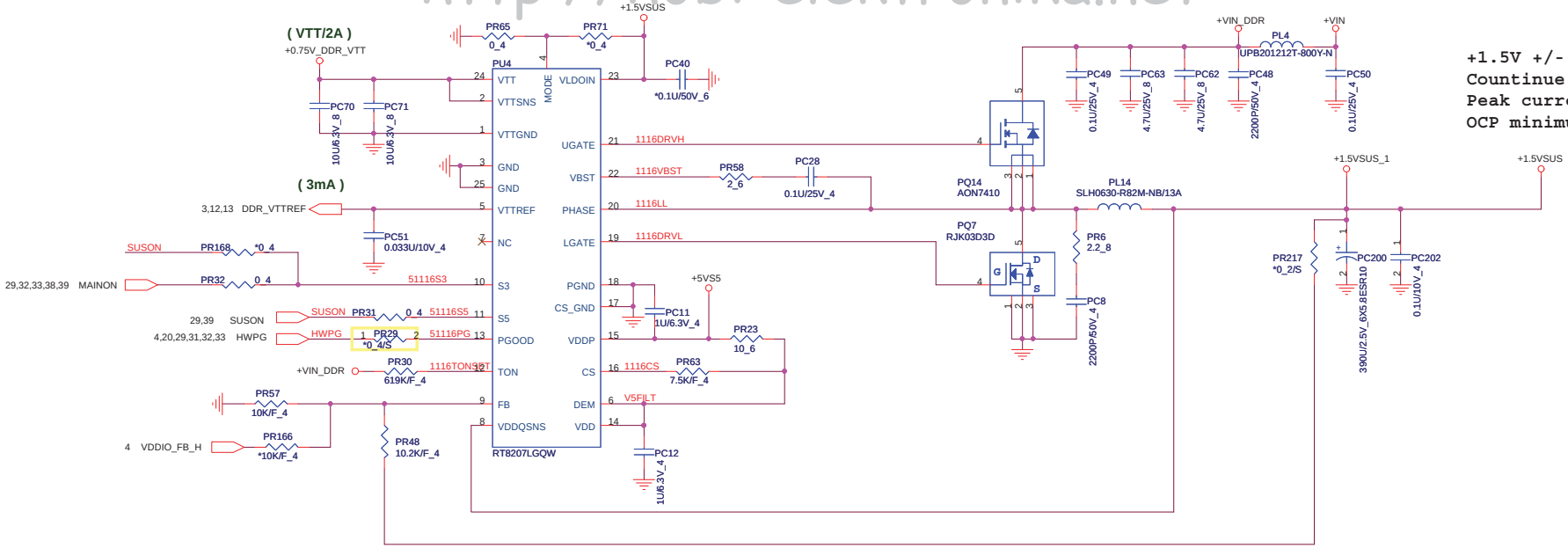
Size	Document Number	Rev
Custom	+1.05V (RT8238A)	1A
Date: Tuesday, May 03, 2011	Sheet 33 of 40	



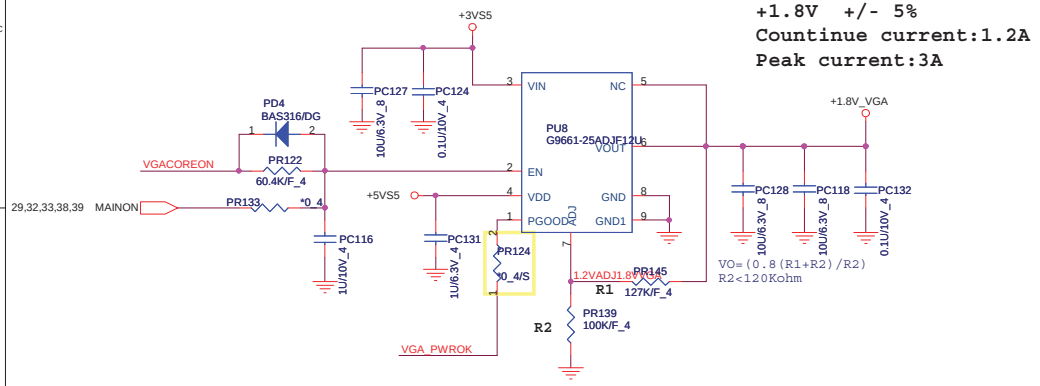
PROJECT : R23 Quanta Computer Inc.		
NB5/RD2	Size C / Document Number +1.1V VTT / PCH	Rev 1A
	Date: Tuesday, May 03, 2011 / Sheet 34 of 40	

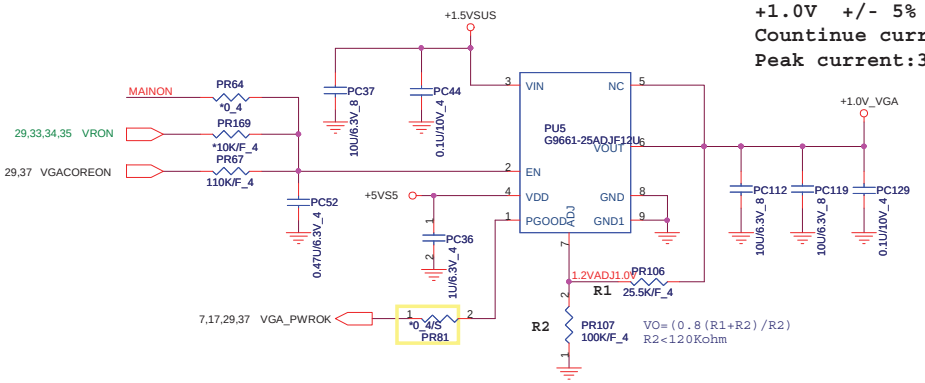


NB5/RD2	PROJECT : R23 Quanta Computer Inc.	
Size: C	Document Number: +1.1V VTT / PCH	Rev: 1A
Date: Tuesday, May 03, 2011	Sheet 35 of 40	



SG & Discrete Only





PROJECT : R23
Quanta Computer Inc.

Size	Document Number	Rev
Custom	DDR3 (RT8207)	1A

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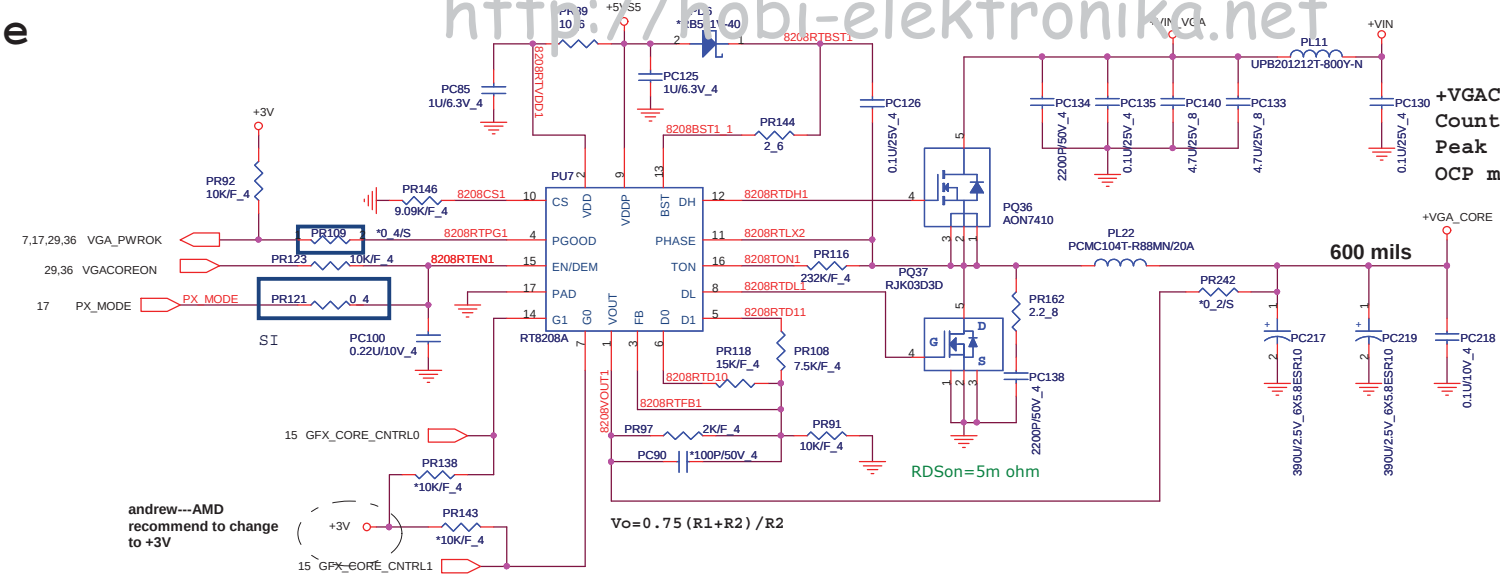
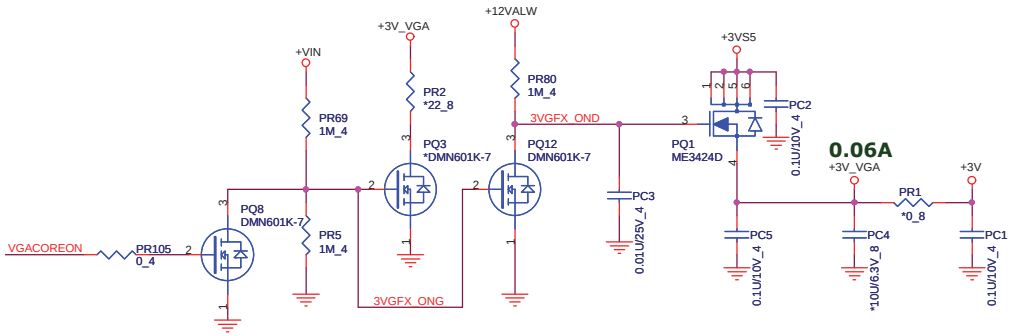
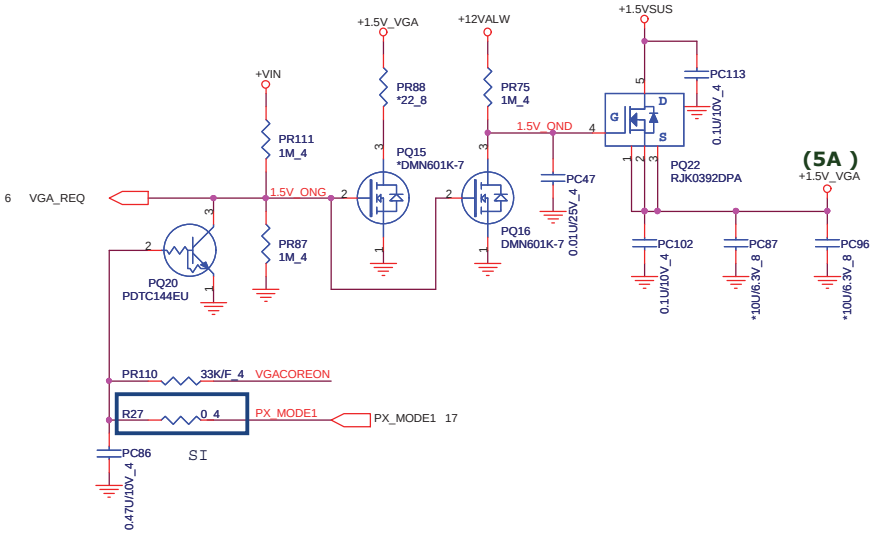
VGA Core

+VGACORE +/- 5%
Countinue current:12.5A
Peak current:15A
OCP minimum 18A



Seymour-XT	PWRCNTL0	PWRCNTL1	V-CORE
L	0	0	0.9V
M	0	1	1V
H	1	0	1.1V (Default)
TBD	1	1	NA





PROJECT : R23
Quanta Computer Inc.

Size	Document Number	Rev
Custom	+VGACORE (RT8208/1.8V)	1A

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DC_JACK
90W

Do Not add test pad on BATDIS_G signal

To PWR LED

Place this ZVS close to Diode away +VIN

Place this ZVS close to Far-Far away +VIN

Place this cap close to EC

Place this cap close to EC

Place this cap close to EC

Place this cap close to EC

PU9
OZ8681

PROJECT : R23
Quanta Computer Inc.

Charger (OZ8681)

Size Custom | Rev 1A

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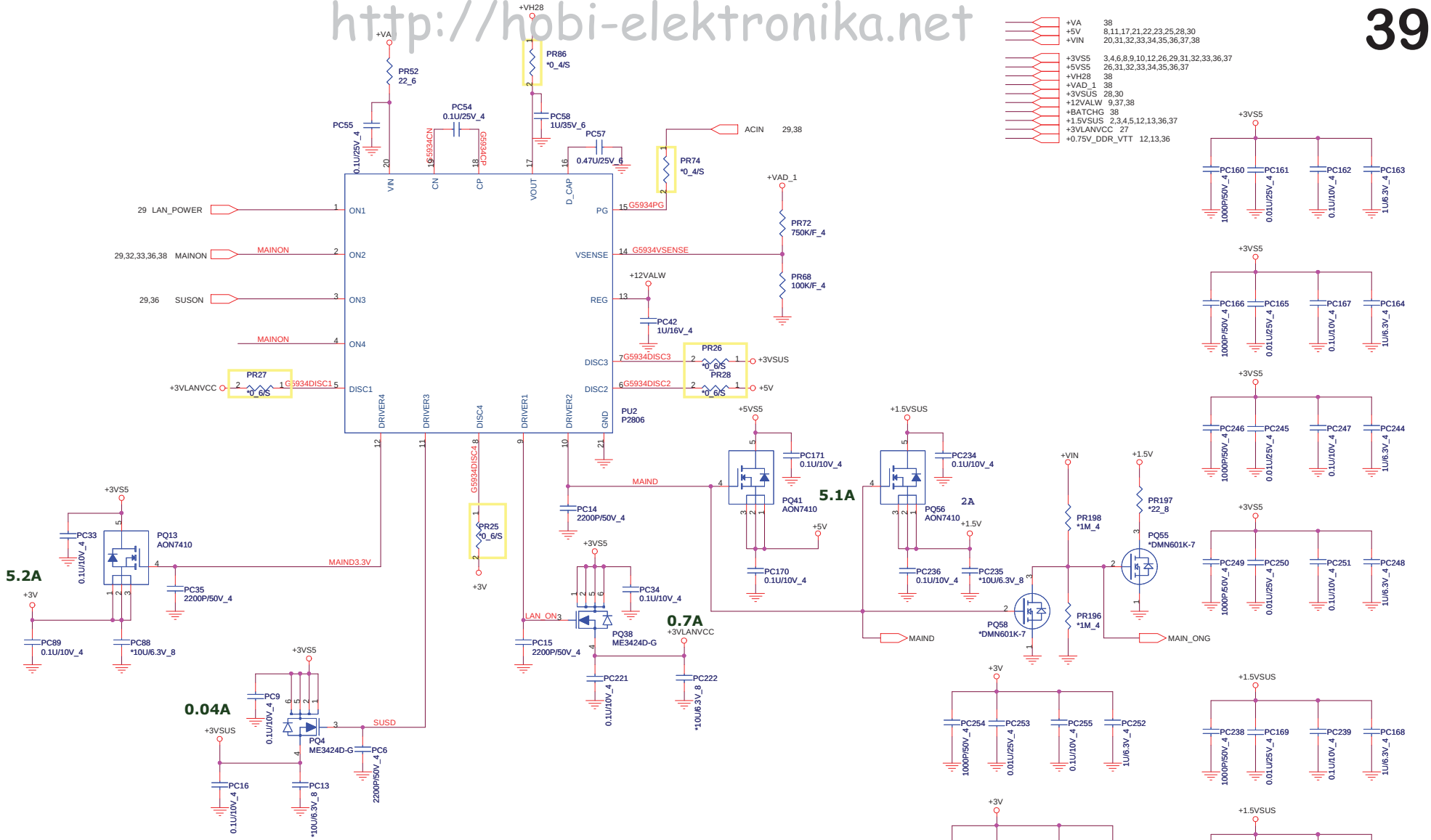

PROJECT : R23
Quanta Computer Inc.

Size	Document Number	Rev
Custom	Dis-charge IC (G5934)	1A

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