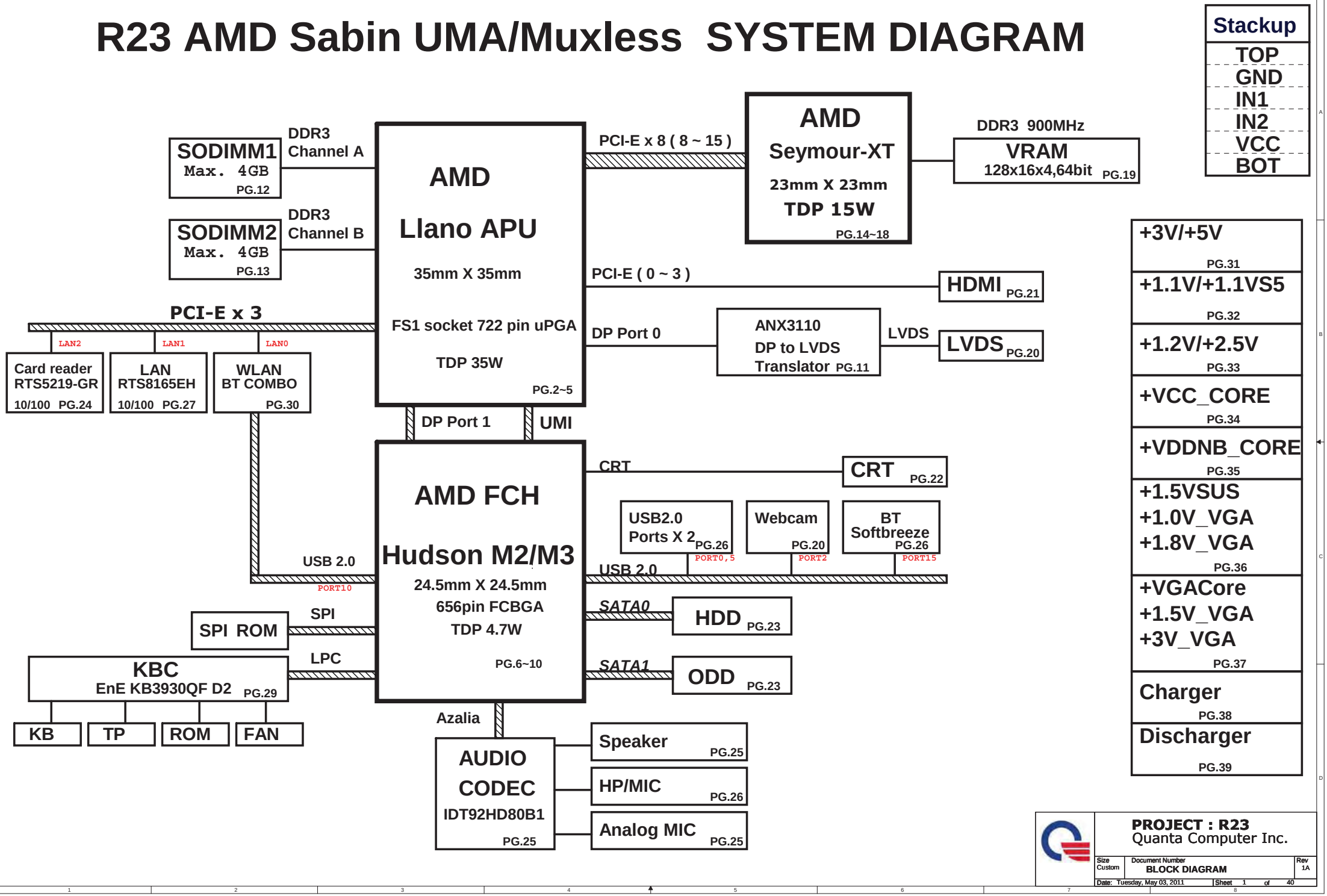
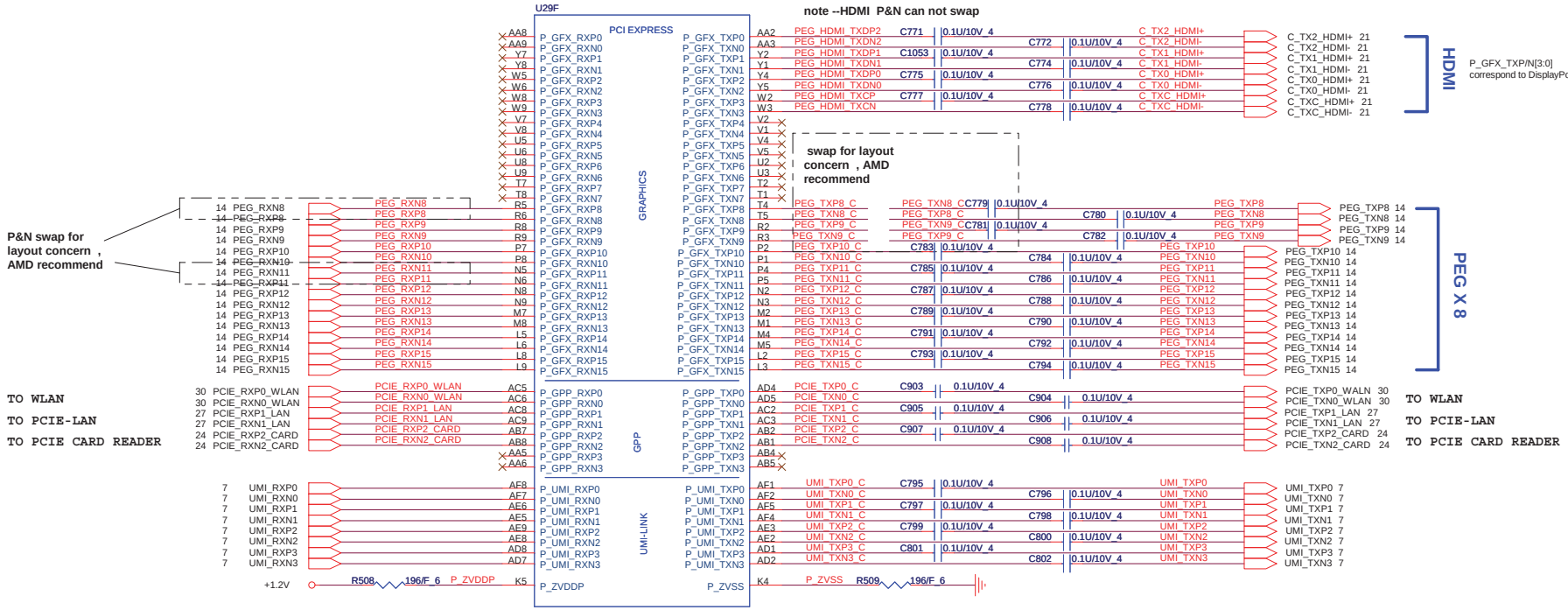
R23 AMD Sabin UMA/Muxless SYSTEM DIAGRAM



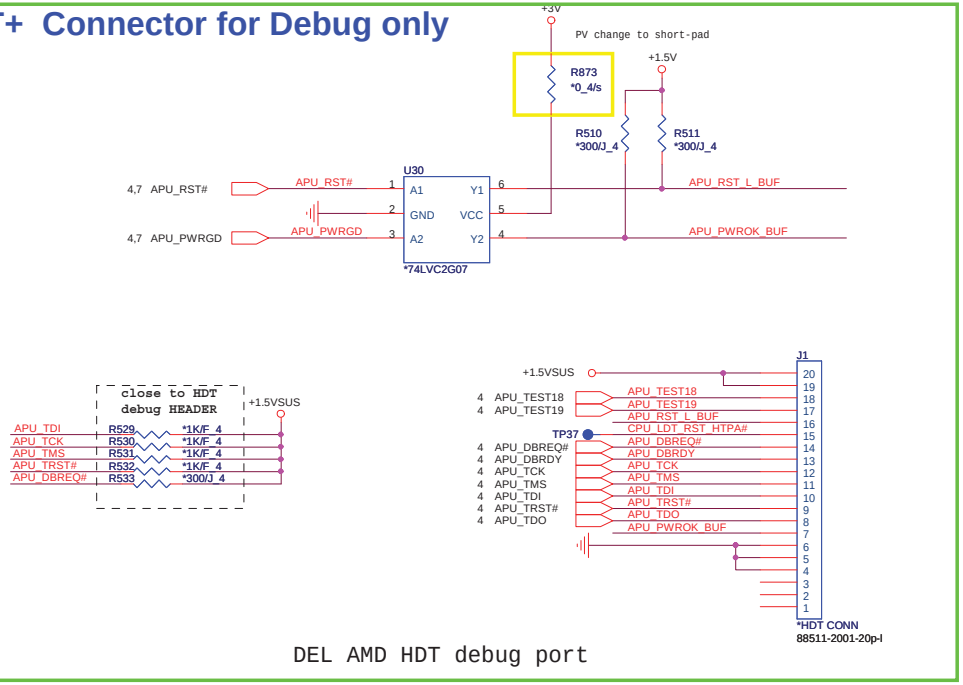
PROJECT : R23
Quanta Computer Inc.

Size	Document Number	Rev
Custom	BLOCK DIAGRAM	1A

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

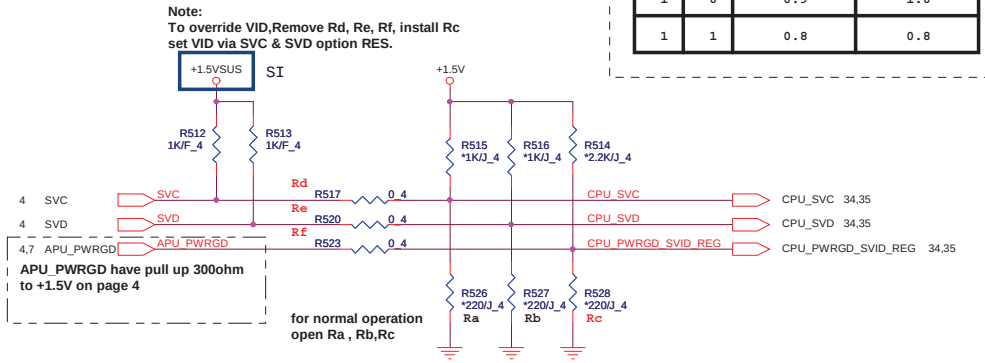


HDT+ Connector for Debug only

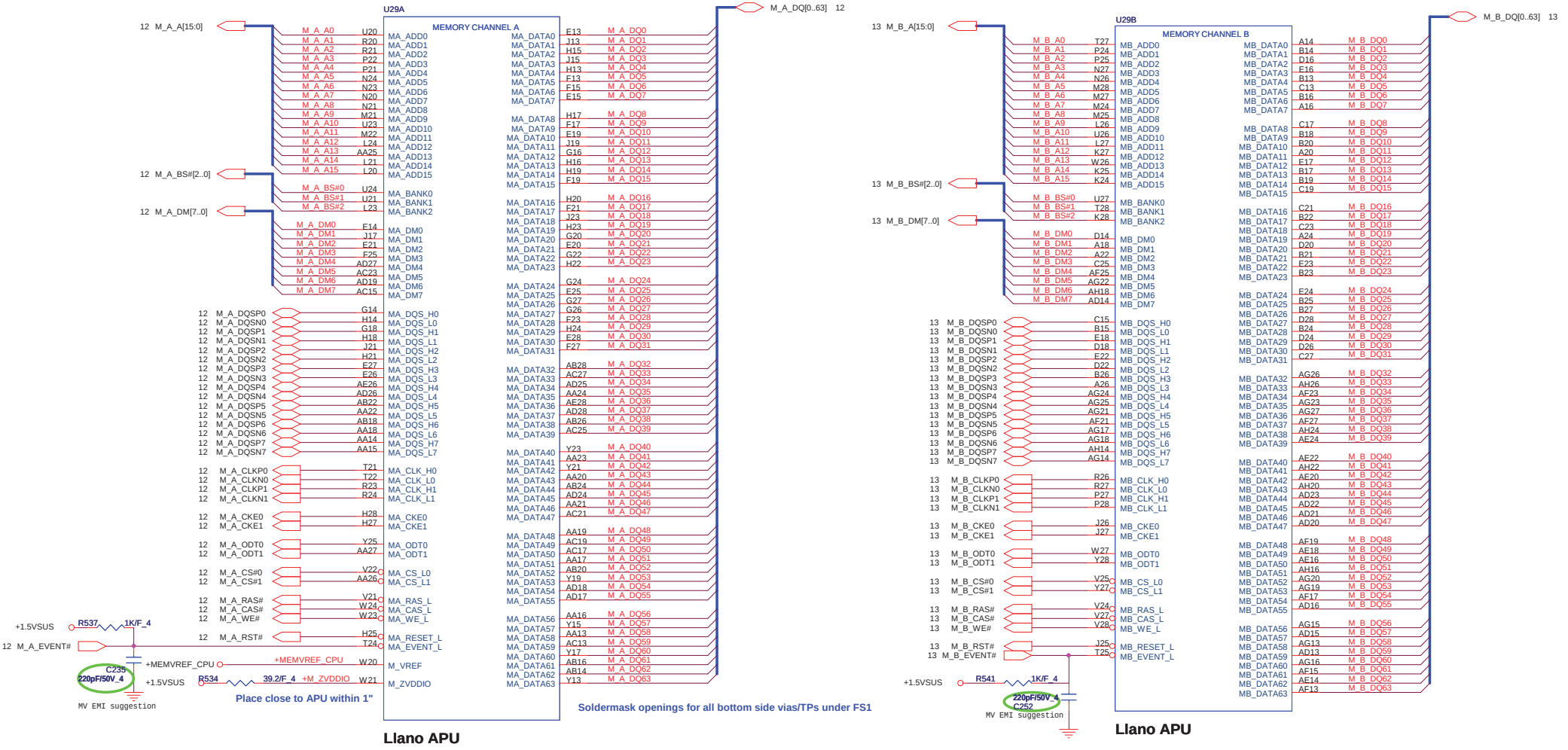


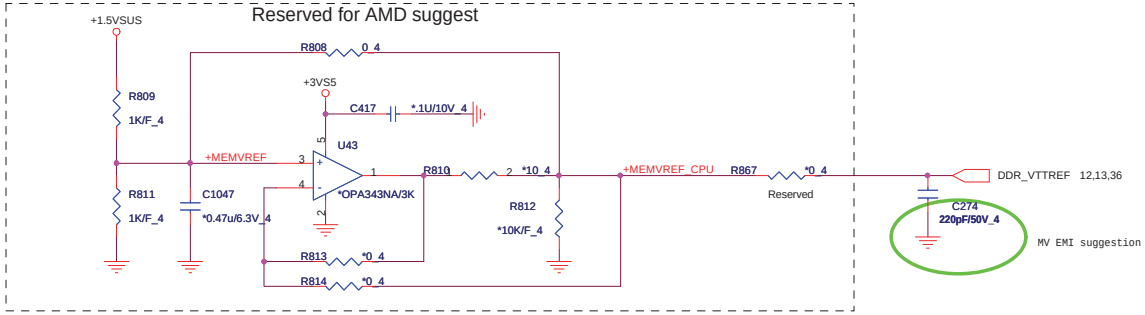
VID Override Circuit

	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



Quanta Computer Inc.
PROJECT : R23
Size | Document Number: Llano PCIE/UMI/GPP | Rev 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 85ohm +/- 10%

DP0 output to
eDP to LVDS converter

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

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

Llano APU

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

THERMTRIP# shutdown temperature 125度C

Thermal

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

to EC reserve only

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: Llano Display/Misc
Rev	1A
Date: Wednesday, May 04, 2011	Sheet 4 of 40

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

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

+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

18A
Maximum IDDNBspike 22.5A

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

+1.5VSUS
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
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

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

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

Quanta Computer Inc.		
PROJECT : R23		
Size	Document Number: Llano POWER/GND	Rev: 1A
Date: Wednesday, May 04, 2011	Sheet 5 of 40	

NC,no install by default

+3VS5
R594 *2.2K/J_4 FCH_TEST0
R596 *2.2K/J_4 FCH_TEST1
R598 *2.2K/J_4 FCH_TEST2

remove PCIE_RST2# from AMD recommend

+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

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

+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#

GEVENT16# internal pull Hi 8.2K to +3VS5
GEVENT15# internal pull Hi 8.2K to +3VS5

This pin is used to power down VGA DAC regulators when CRT no connected

SI

LLB# Not Implemented ,left unconnected.

MV

For Zero ODD

HD audio interface is +3V_S5 voltage

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

HUDSON-M3

Part 4 of 5

U32A

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#
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#
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#
AZ_BITCLK
AZ_SDOUT
AZ_SDIN0/GPIO167
AZ_SDIN1/GPIO168
AZ_SDIN2/GPIO169
AZ_SDIN3/GPIO170
AZ_SYNC
AZ_RST#
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
USBCLK/14M_25M_48M_OSC
USB_RCOMP
USB_FSD1P/GPIO186
USB_FSD1N
USB_FSD0P/GPIO185
USB_FSD0N
USB_HSD13P
USB_HSD13N
USB_HSD12P
USB_HSD12N
USB_HSD11P
USB_HSD11N
USB_HSD10P
USB_HSD10N
USB_HSD9P
USB_HSD9N
USB_HSD8P
USB_HSD8N
USB_HSD7P
USB_HSD7N
USB_HSD6P
USB_HSD6N
USB_HSD5P
USB_HSD5N
USB_HSD4P
USB_HSD4N
USB_HSD3P
USB_HSD3N
USB_HSD2P
USB_HSD2N
USB_HSD1P
USB_HSD1N
USB_HSD0P
USB_HSD0N
USBSS_CALRP
USBSS_CALRN
USB_SS_TX3P
USB_SS_TX3N
USB_SS_RX3P
USB_SS_RX3N
USB_SS_TX2P
USB_SS_TX2N
USB_SS_RX2P
USB_SS_RX2N
USB_SS_TX1P
USB_SS_TX1N
USB_SS_RX1P
USB_SS_RX1N
USB_SS_TX0P
USB_SS_TX0N
USB_SS_RX0P
USB_SS_RX0N
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

ACPI / WAKE UP EVENTS
USB 1.1
USB MISC
GPIO
USB 2.0
USB OC
USB 3.0
HD AUDIO
EMBEDDED CTRL

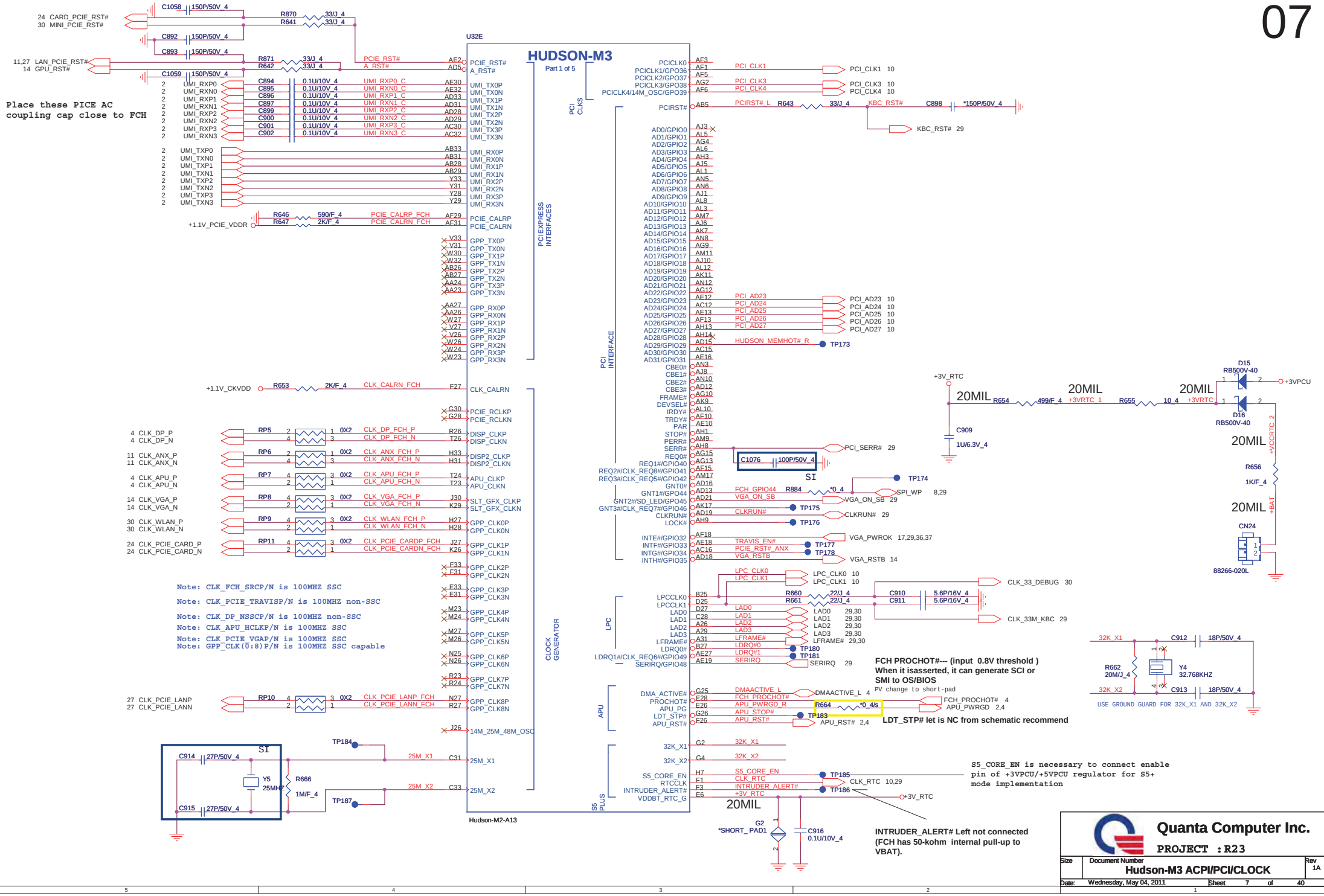
Hudson-M2-A13

BLUETOOTH
WLAN Min-Card
USB Connector
USB Connector
Carama USB
USB Connector
USB 3.0 Not Implemented: left unconnected.

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.

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

A3	VSS_1	VSS_65	T25
A33	VSS_2	VSS_66	T27
B7	VSS_3	VSS_67	U6
B13	VSS_4	VSS_68	U14
D9	VSS_5	VSS_69	U17
D13	VSS_6	VSS_70	U20
E5	VSS_7	VSS_71	U21
E12	VSS_8	VSS_72	U30
E16	VSS_9	VSS_73	U32
E29	VSS_10	VSS_74	V11
F7	VSS_11	VSS_75	V16
F9	VSS_12	VSS_76	V18
F11	VSS_13	VSS_77	W4
F13	VSS_14	VSS_78	W6
F16	VSS_15	VSS_79	W25
F17	VSS_16	VSS_80	W28
F19	VSS_17	VSS_81	Y14
F23	VSS_18	VSS_82	Y16
F25	VSS_19	VSS_83	Y18
F29	VSS_20	VSS_84	AA6
G6	VSS_21	VSS_85	AA12
G16	VSS_22	VSS_86	AA13
G32	VSS_23	VSS_87	AA14
H12	VSS_24	VSS_88	AA16
H15	VSS_25	VSS_89	AA17
H29	VSS_26	VSS_90	AA25
J6	VSS_27	VSS_91	AA28
J9	VSS_28	VSS_92	AA30
J10	VSS_29	VSS_93	AA32
J13	VSS_30	VSS_94	AB25
J28	VSS_31	VSS_95	AC6
J32	VSS_32	VSS_96	AC18
K7	VSS_33	VSS_97	AC28
K16	VSS_34	VSS_98	AD27
K27	VSS_35	VSS_99	AE6
K28	VSS_36	VSS_100	AE15
L6	VSS_37	VSS_101	AE21
L12	VSS_38	VSS_102	AE28
L13	VSS_39	VSS_103	AF8
L15	VSS_40	VSS_104	AF12
L16	VSS_41	VSS_105	AF16
L21	VSS_42	VSS_106	AF33
M13	VSS_43	VSS_107	AG30
M16	VSS_44	VSS_108	AG32
M21	VSS_45	VSS_109	AH5
M25	VSS_46	VSS_110	AH11
N6	VSS_47	VSS_111	AH18
N11	VSS_48	VSS_112	AH19
N13	VSS_49	VSS_113	AH21
N23	VSS_50	VSS_114	AH23
N24	VSS_51	VSS_115	AH25
P12	VSS_52	VSS_116	AH27
P18	VSS_53	VSS_117	AJ18
P20	VSS_54	VSS_118	AJ28
P21	VSS_55	VSS_119	AJ29
P31	VSS_56	VSS_120	AK21
P33	VSS_57	VSS_121	AK25
R4	VSS_58	VSS_122	AL18
R11	VSS_59	VSS_123	AM21
R25	VSS_60	VSS_124	AM25
R28	VSS_61	VSS_125	AN1
T11	VSS_62	VSS_126	AN18
T16	VSS_63	VSS_127	AN28
T18	VSS_64	VSS_128	AN33
N8	VSSAN_HWM	VSSPL_DAC	T21
		VSSAN_DAC	L28
K25	VSSXL	VSSANQ_DAC	K33
		VSSIO_DAC	N28
H25	VSSPL_SYS	EFUSE	R6

Hudson-M2-A13

PLACE SATA AC COUPLING
CAPS CLOSE TO HUDSON-M2/M3

SATA HDD

SATA ODD

U32B

HUDSON-M3

Part 2 of 5

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
23 SATA_TXP1	SATA_TXP1	AN22 SATA_TX1P
23 SATA_TXN1	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
		AF28 SATA_CALRP
		AF27 SATA_CALRN
		AD22 SATA_ACT#/GPIO67
		AF21 SATA_X1
		AG21 SATA_X2

SD CARD

GBE LAN

SERIAL ATA

SPI ROM

VGA DAC

VGA MAINLINK

HW MONITOR

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_COL	R668 10K/F_4	AC4
GBE_CRS	R670 10K/F_4	AD3
GBE_MDCK		AD9
GBE_MDIO	R672 10K/F_4 +3VS5	W10
GBE_RXCLK		AB8
GBE_RXD3		AH7
GBE_RXD2		AE7
GBE_RXD1		AD7
GBE_RXD0		AG8
GBE_RXERR	R674 10K/F_4	AD1
GBE_TXCLK		AB7
GBE_TXD3		AF9
GBE_TXD2		AG6
GBE_TXD1		AE8
GBE_TXD0		AD8
GBE_TXCTL/TXEN		AB9
GBE_PHY_PD		AC2
GBE_PHY_RST#		AA7
GBE_PHY_INTR	R675 10K/F_4 +3VS5	W9
SPI_DI/GPIO164	TP188	V6
SPI_DO/GPIO163	TP189	V5
SPI_CLK/GPIO162	TP190	V3
SPI_CS1#/GPIO165	TP191	T6
ROM_RST#/SPI_WP#/GPIO161	TP192	V1
VGA_RED	R676 *0_4/S	L30
VGA_GREEN	R678 *0_4/S	L32
VGA_BLUE	R680 *0_4/S	M29
VGA_HSYNC/GPO68		M28
VGA_VSYNC/GPO69		N30
VGA_DDC_SDA/GPO70		M33
VGA_DDC_SCL/GPO71		N32
VGA_DAC_RSET	R684 715/F_4	K31
AUX_VGA_CH_P		V28
AUX_VGA_CH_N		V29
AUXCAL	R686 100/F_4	U28
ML_VGA_L0P		T31
ML_VGA_L0N		T33
ML_VGA_L1P		T29
ML_VGA_L1N		T28
ML_VGA_L2P		R32
ML_VGA_L2N		R30
ML_VGA_L3P		P29
ML_VGA_L3N		P28
ML_VGA_HPD/GPO229	R687 *10K/F_4	C29
VIN0/GPO175		N2
VIN1/GPO176		M3
VIN2/SDATI_1/GPIO177		L2
VIN3/SDATO_1/GPIO178		N4
VIN4/SLOAD_1/GPIO179		P1
VIN5/SCLK_1/GPIO180		P3
VIN6/GBE_STAT3/GPIO181		M1
VIN7/GBE_LED3/GPIO182		M5
		AG16
		AH10
		A28
		G27
		L4
		NC1
		NC2
		NC3
		NC4
		NC5

Hudson-M2-A13

follow AMD check list to pull UP / LOW

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

SPI_CLK — C1064 *22P/50V_4 — EMI

FCH SPI ROM

SI

R876 *10K/F_4 — C1063 *0.1U/10V_4 — +3V

U44

1	CE#	VDD 8
6	SCK	
5	SI	
2	SO	HOLD# 7
3	WP#	VSS 4

R878 *0_4 SPI_CS0# — R879 *0_4 SPI_CLK — R880 *0_4 SPI_SO — R881 *0_4 SPI_SI — R877 *10K/F_4

SPI_WP — 7,29 SPI_WP

*MX25L1605DM2I-12G

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

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

+1.1V_AVDD_SATA — R682 1K/F_4 — R683 1K/F_4

+3V — R685 10K/F_4 — SB_SATA_LED#

Integrated Clock Mode:
Leave unconnected.

U36 TC7SH08FU — +3V — C921 0.1U/10V_4 — 28 SATA_LED# — SB_SATA_LED#

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
26 BT_OFF#	BT_OFF#	AM15
30 BT_COMBO_EN#	BT_COMBO_EN#	AJ16
23 ODD_PWR	ODD_PWR	AK15
30 BT_COMBO_OFF#	BT_COMBO_OFF#	AN16
20 LCD_BK	LCD_BK	AL16
	TEMPIN0	K6
	TEMPIN1	K5
	TEMPIN2	K3
	TEMPIN3	M6

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

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

PV change to +FCH_VDDAN_33_DAC_R for AMD suggestion

PV DEL R687 for AMD suggestion

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

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 SB AS POSSIBLE.

U32C

HUDSON-M3 Part 3 of 5

Hudson-M2-A13

1007mA for M3
902mA for M2

VDDQ--3.3V I/O power 102mA

M2 chipset need to connect to GND

VDDCR-- S/B CORE power

VDDAN_11_CLK-- Internal clock Generator I/O power

VDDAN_11_PCIE --PCIE/UMI analog power

VDDAN_11_SATA--SATA PHY analog/IO power

VDDPL_11_SYS_S : System Clock Gen PLLs analog power

VDDPL_33_USB_S : USB PHY PLL analog power

VDDAN_33_HWM_S -- Hardware monitor interface I/O power

VDDAN_33_USB_S : USB PHY I/O analog power

VDDIO_33_S-- 3.3v S5 I/O power

VDDAN_11_USB_S : USB PHY PLL analog power

VDDXL_33_S-- 25MHZ XTAL IO power

VDDCR_1.1_S-- 1.1V S5 Core 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

M2 chipset can let it to GND

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

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

VGA will power down when CRT no insert

VGA_PD is generated from FCH

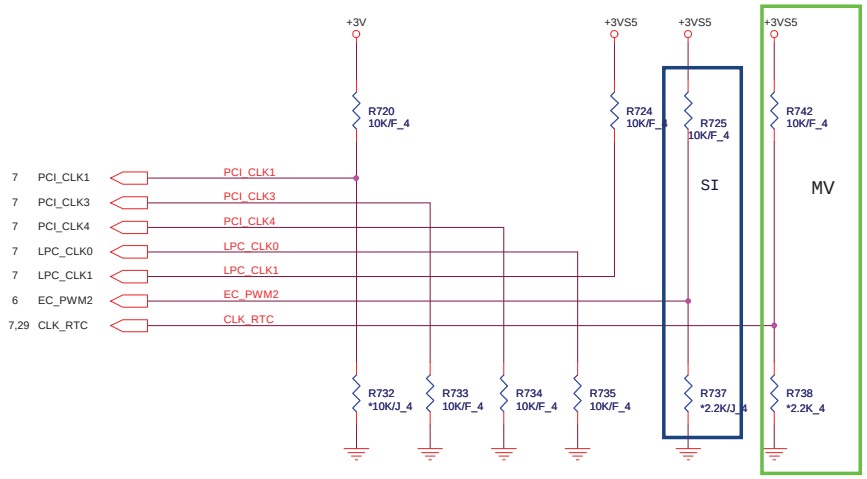
233 mA Max

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

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

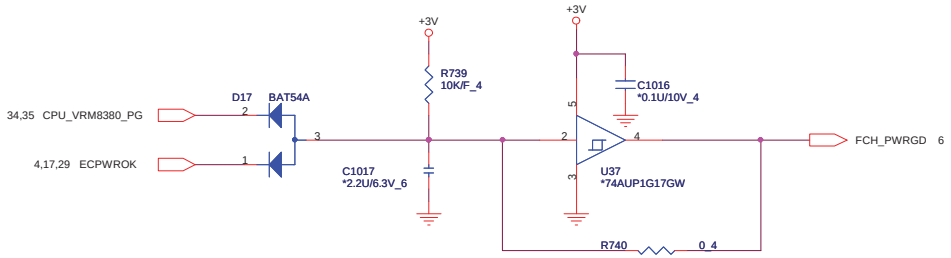
	--------	PCI_CLK1	--------	PCI_CLK3	PCI_CLK4	LPC_CLK0	LPC_CLK1	EC_PWM2	CLK_RTC
PULL HIGH	--------	ALLOW PCIE Gen2 DEFAULT	--------	USE DEBUG STRAP	non_Fusion CLOCK MODE	AMD internal EC ENABLED	CLKGEN ENABLED DEFAULT	LPC ROM DEFAULT	S5 PLUS MODE DISABLED DEFAULT
PULL LOW	--------	FORCE PCIE Gen1	--------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



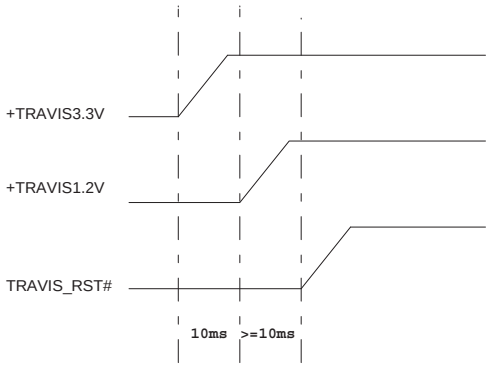
Quanta Computer Inc.

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

U38 — 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

GPIO_1 & GPIO_2 can let it to NC from vendor review

DPRX_HPD :
It will transfer to Hi when power enable

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

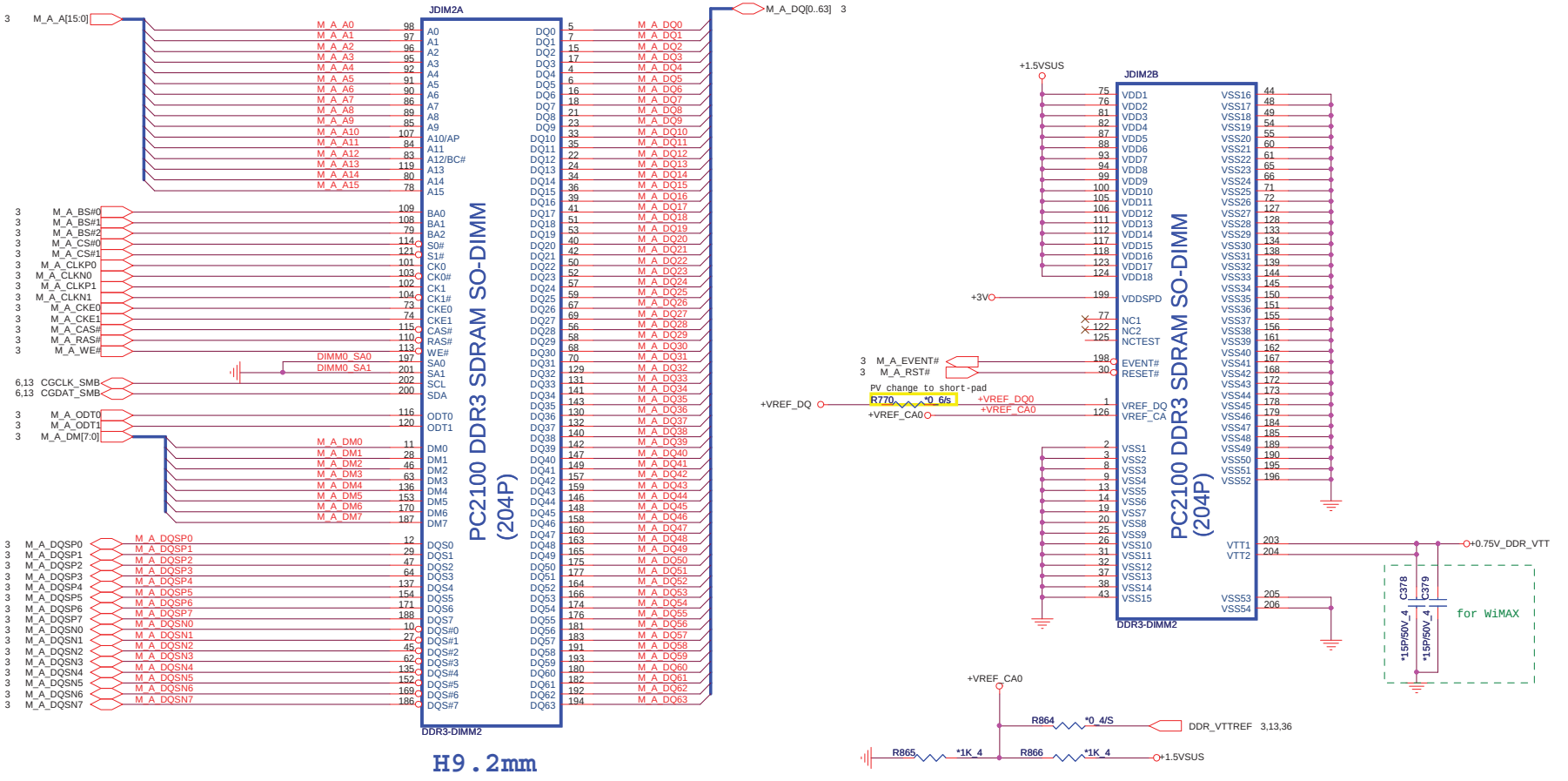
That is for debug only,can let it to NC

remove level shift

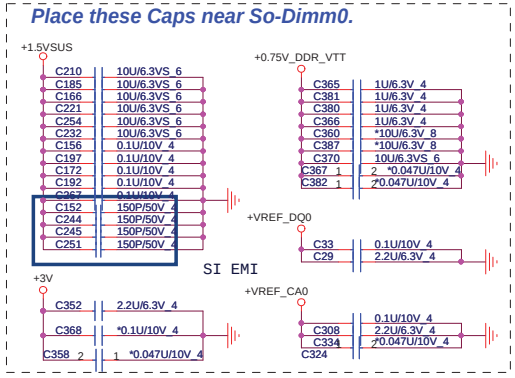
PV change for brightness issue

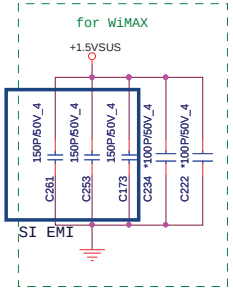
PV change to short-pad

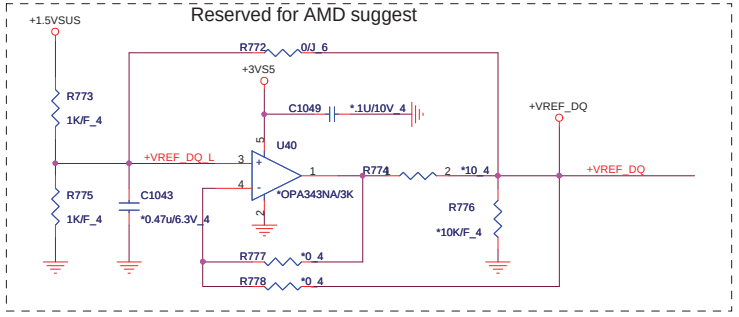
Project	PROJECT : R23 Quanta Computer Inc.
Size	Custom
Document Number	ANX3110
Rev	1A
Date	Tuesday, May 03, 2011
Sheet	11 of 40



H9.2mm



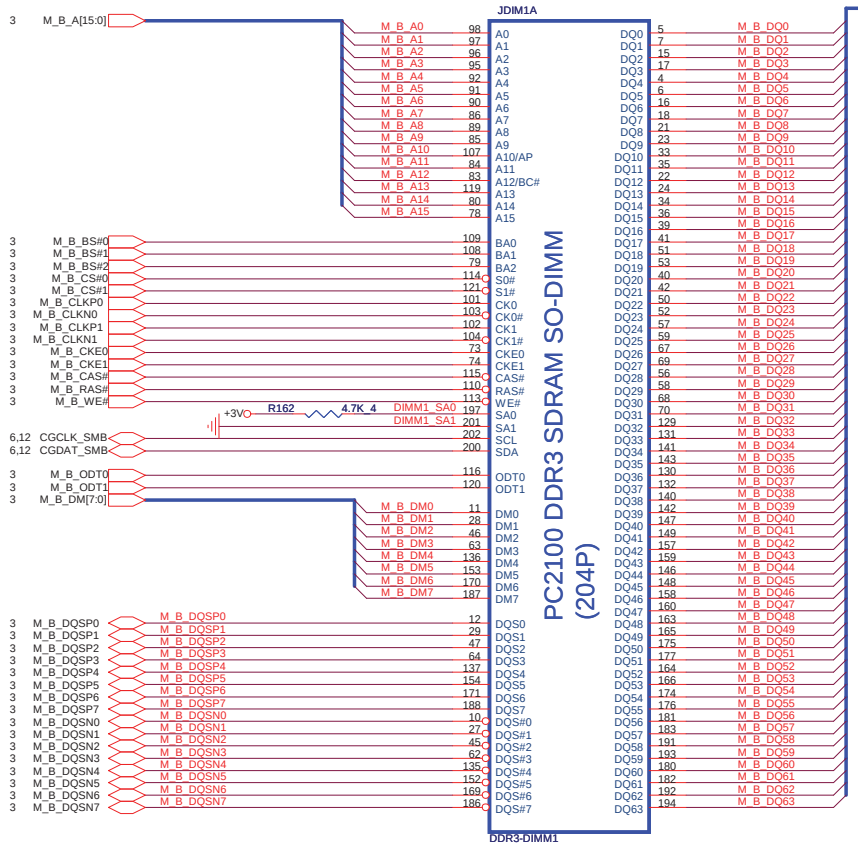




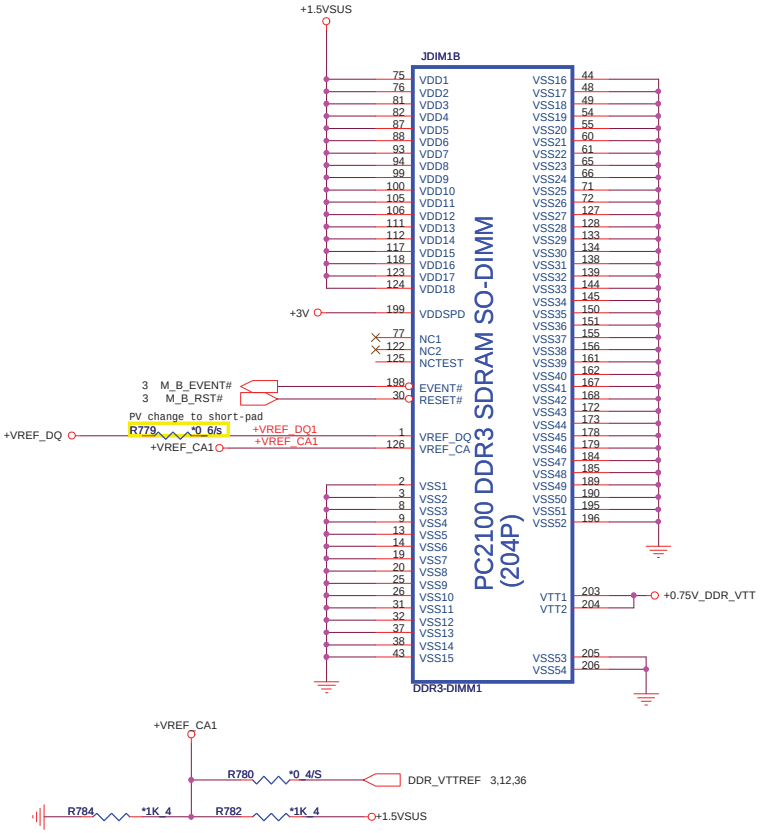
13,36 +0.75V_DDR_VTT
2,3,4,5,13,36,37,39 +1.5VSUS
2,4,6,8,9,10,11,13,14,17,20,22,23,24,25,27,28,29,30,34,37,39 +3V

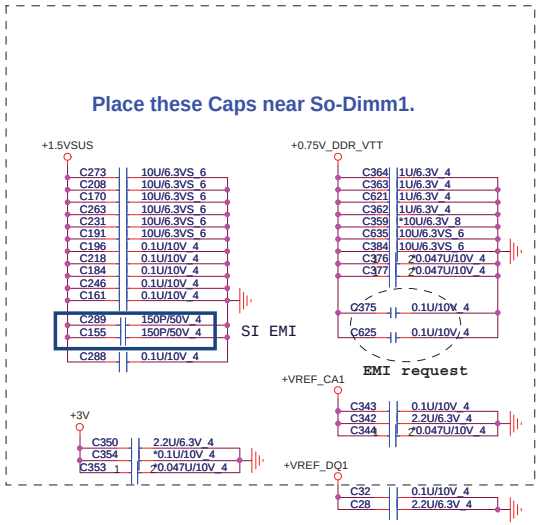
PROJECT : R23
Quanta Computer Inc.

Size	Document Number	Rev
Custom	DDR3 DIMM-0	1A
Date: Tuesday, May 03, 2011	Sheet 12 of 40	



H5.2mm



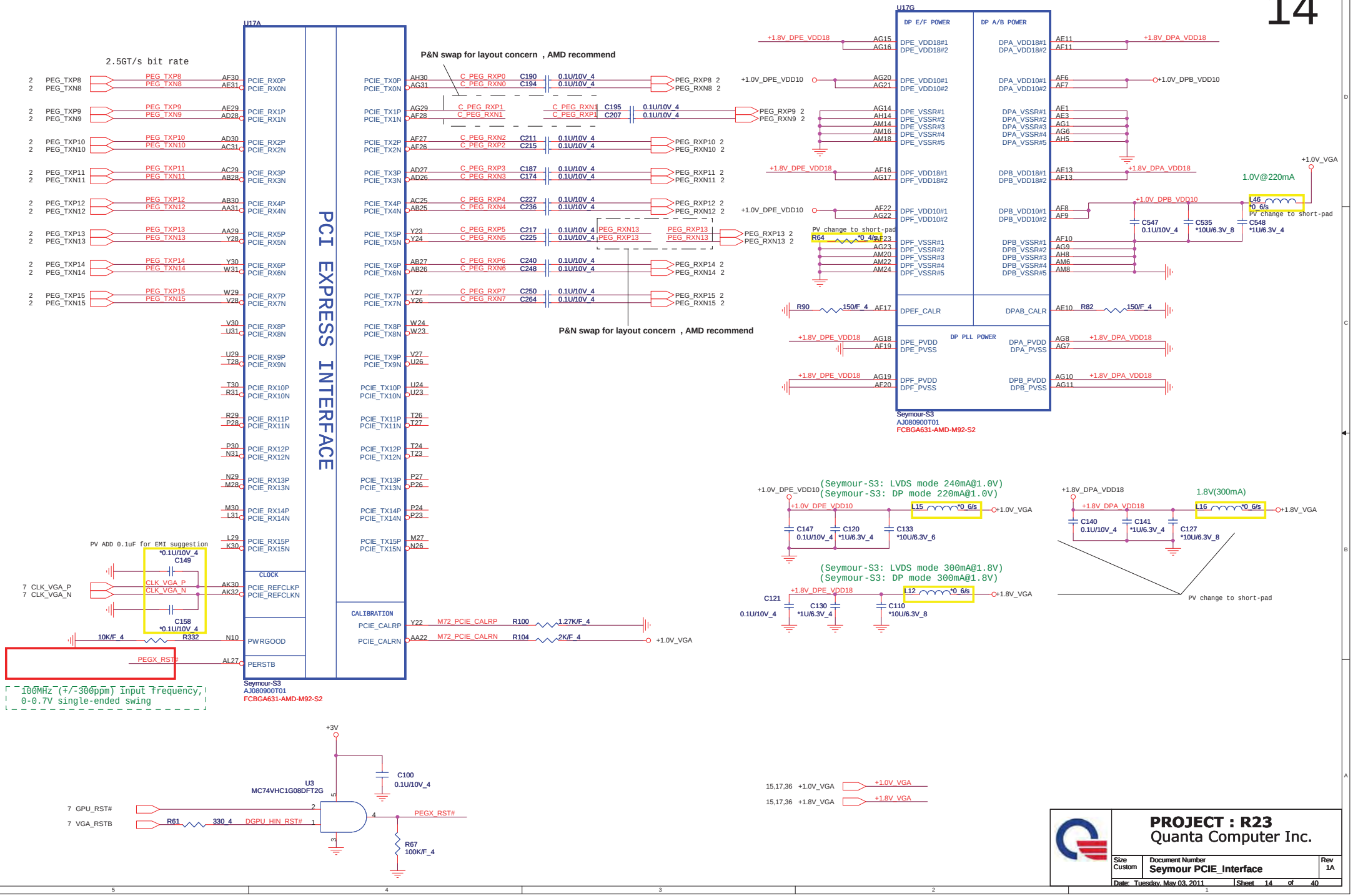


12,36 +0.75V_DDR_VTT
2,3,4,5,12,36,37,39 +1.5VSUS
2,4,6,8,9,10,11,12,14,17,20,22,23,24,25,27,28,29,30,34,37,39 +3V

PROJECT : R23
Quanta Computer Inc.

Size	Document Number	Rev
Custom	DDR3 DIMM-1	1A

Date: Tuesday, May 03, 2011 Sheet 13 of 40


U17A
PCI EXPRESS INTERFACE
2.5GT/s bit rate
P&N swap for layout concern , AMD recommend
P&N swap for layout concern , AMD recommend
PEG_TXP8
PEG_TXN8
PEG_TXP9
PEG_TXN9
PEG_TXP10
PEG_TXN10
PEG_TXP11
PEG_TXN11
PEG_TXP12
PEG_TXN12
PEG_TXP13
PEG_TXN13
PEG_TXP14
PEG_TXN14
PEG_TXP15
PEG_TXN15
PCIE_RX0P
PCIE_RX0N
PCIE_RX1P
PCIE_RX1N
PCIE_RX2P
PCIE_RX2N
PCIE_RX3P
PCIE_RX3N
PCIE_RX4P
PCIE_RX4N
PCIE_RX5P
PCIE_RX5N
PCIE_RX6P
PCIE_RX6N
PCIE_RX7P
PCIE_RX7N
PCIE_RX8P
PCIE_RX8N
PCIE_RX9P
PCIE_RX9N
PCIE_RX10P
PCIE_RX10N
PCIE_RX11P
PCIE_RX11N
PCIE_RX12P
PCIE_RX12N
PCIE_RX13P
PCIE_RX13N
PCIE_RX14P
PCIE_RX14N
PCIE_RX15P
PCIE_RX15N
PCIE_TX0P
PCIE_TX0N
PCIE_TX1P
PCIE_TX1N
PCIE_TX2P
PCIE_TX2N
PCIE_TX3P
PCIE_TX3N
PCIE_TX4P
PCIE_TX4N
PCIE_TX5P
PCIE_TX5N
PCIE_TX6P
PCIE_TX6N
PCIE_TX7P
PCIE_TX7N
PCIE_TX8P
PCIE_TX8N
PCIE_TX9P
PCIE_TX9N
PCIE_TX10P
PCIE_TX10N
PCIE_TX11P
PCIE_TX11N
PCIE_TX12P
PCIE_TX12N
PCIE_TX13P
PCIE_TX13N
PCIE_TX14P
PCIE_TX14N
PCIE_TX15P
PCIE_TX15N
C_PEG_RXP0
C_PEG_RXN0
C_PEG_RXP1
C_PEG_RXN1
C_PEG_RXP2
C_PEG_RXN2
C_PEG_RXP3
C_PEG_RXN3
C_PEG_RXP4
C_PEG_RXN4
C_PEG_RXP5
C_PEG_RXN5
C_PEG_RXP6
C_PEG_RXN6
C_PEG_RXP7
C_PEG_RXN7
C190
C194
C195
C207
C211
C215
C187
C174
C227
C236
C217
C225
C240
C248
C250
C264
0.1U/10V_4
PEG_RXP8 2
PEG_RXN8 2
PEG_RXP9 2
PEG_RXN9 2
PEG_RXP10 2
PEG_RXN10 2
PEG_RXP11 2
PEG_RXN11 2
PEG_RXP12 2
PEG_RXN12 2
PEG_RXP13 2
PEG_RXN13 2
PEG_RXP14 2
PEG_RXN14 2
PEG_RXP15 2
PEG_RXN15 2
PEG_RXP13
PEG_RXN13
CLOCK
CLK_VGA_P
CLK_VGA_N
7 CLK_VGA_P
7 CLK_VGA_N
PV ADD 0.1uF for EMI suggestion
C149
C158
*0.1U/10V_4
R332
10K/F_4
PEGX_RST#
PWRGOOD
PERSTB
CALIBRATION
PCIE_CALRP
PCIE_CALRN
M72_PCIE_CALRP
M72_PCIE_CALRN
R100
R104
1.27K/F_4
2K/F_4
+1.0V_VGA
100MHz (+/-300ppm) input frequency,
0-0.7V single-ended swing
Seymour-S3
AJ080900T01
FCBGA631-AMD-M92-S2
U17G
DP E/F POWER
DP A/B POWER
DP PLL POWER
+1.8V_DPE_VDD18
+1.0V_DPE_VDD10
+1.8V_DPA_VDD18
+1.0V_DPB_VDD10
DPE_VDD18#1
DPE_VDD18#2
DPE_VDD10#1
DPE_VDD10#2
DPE_VSSR#1
DPE_VSSR#2
DPE_VSSR#3
DPE_VSSR#4
DPE_VSSR#5
DPA_VDD18#1
DPA_VDD18#2
DPA_VDD10#1
DPA_VDD10#2
DPA_VSSR#1
DPA_VSSR#2
DPA_VSSR#3
DPA_VSSR#4
DPA_VSSR#5
DPB_VDD18#1
DPB_VDD18#2
DPB_VDD10#1
DPB_VDD10#2
DPB_VSSR#1
DPB_VSSR#2
DPB_VSSR#3
DPB_VSSR#4
DPB_VSSR#5
DPF_VDD10#1
DPF_VDD10#2
DPF_VSSR#1
DPF_VSSR#2
DPF_VSSR#3
DPF_VSSR#4
DPF_VSSR#5
DPEF_CALR
DPAB_CALR
R90
R82
150/F_4
DPE_PVDD
DPE_PVSS
DPA_PVDD
DPA_PVSS
DPF_PVDD
DPF_PVSS
DPB_PVDD
DPB_PVSS
PV change to short-pad
R64
*0_4/s
1.0V@220mA
L46
*0_6/s
C547
C535
C548
0.1U/10V_4
*10U/6.3V_8
*1U/6.3V_4
Seymour-S3
AJ080900T01
FCBGA631-AMD-M92-S2
(Seymour-S3: LVDS mode 240mA@1.0V)
(Seymour-S3: DP mode 220mA@1.0V)
L15
C147
C120
C133
*10U/6.3V_6
(Seymour-S3: LVDS mode 300mA@1.8V)
(Seymour-S3: DP mode 300mA@1.8V)
L12
C121
C130
C110
*10U/6.3V_8
1.8V(300mA)
L16
C140
C141
C127
U3
MC74VHC1G08DFT2G
7 GPU_RST#
7 VGA_RSTB
R61
330_4
DGPU_HIN_RST#
C100
R67
100K/F_4
15,17,36 +1.0V_VGA
15,17,36 +1.8V_VGA
PROJECT : R23
Quanta Computer Inc.
Size
Custom
Document Number
Seymour PCIE_Interface
Rev
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

Reserve for AMD debug only

DAC2 is NC on Seymour

Seymour-S3--NC ROBSON--install

Reserve for DB debug only

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

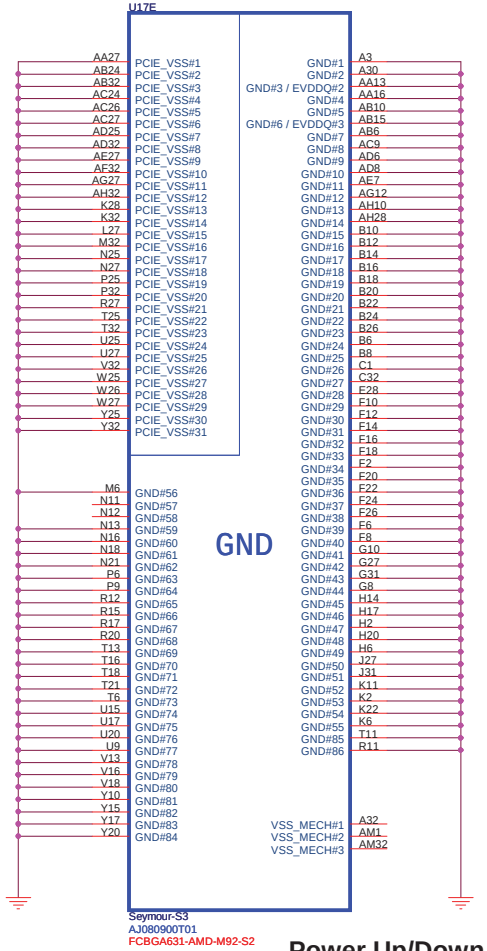
Robson-- Install Seymour- NC BACO mode -- install

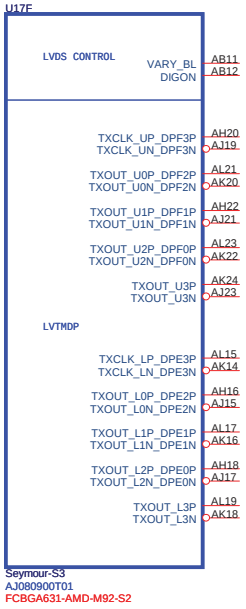
follow AMD checklist change from 10M to 1Mohm

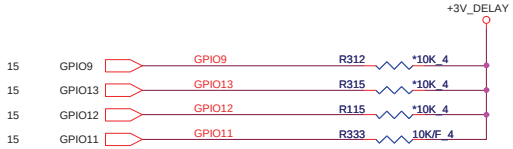
For Int Clk 27Mhz

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

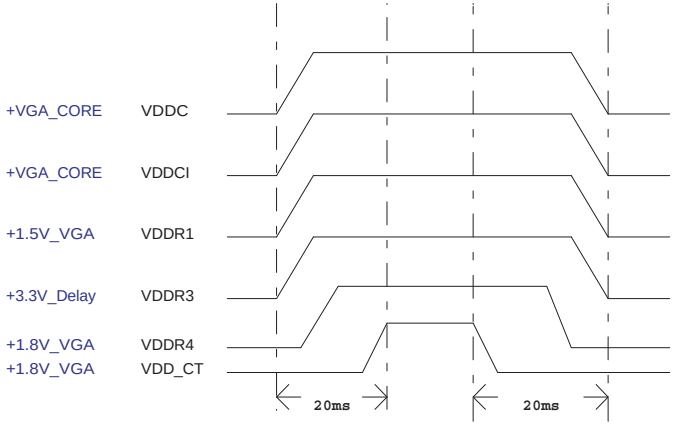
ALLOW FOR PULLUP PADS FOR THESE STRAPS AND IF THESE GPIOS ARE USED, THEY MUST NOT CONFLICT DURING RESET

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

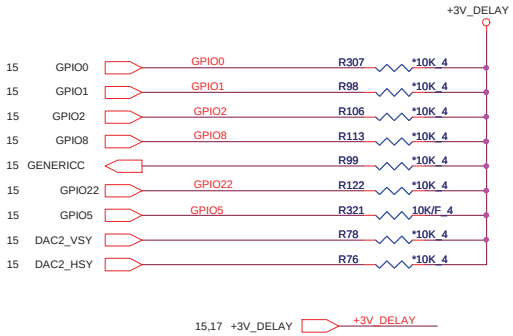
Power Up/Down Sequence



Memory Aperture size

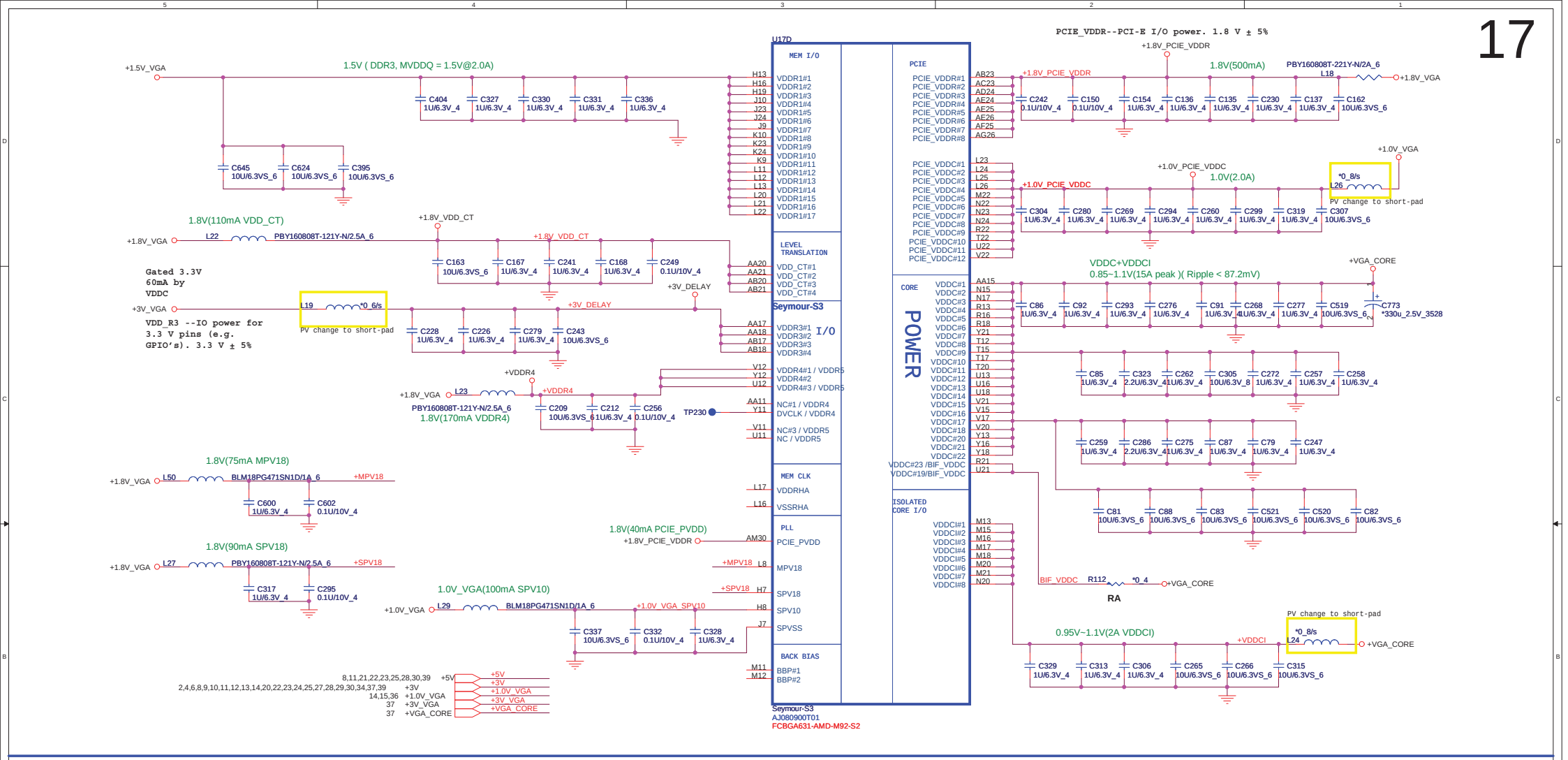
GPIO9 BIOSROM		GPIO13 ROMIDCFG2	GPIO12 ROMIDCFG1	GPIO11 ROMIDCFG0
0	128M	0	0	0
0	256M	0	0	1
0	64M	0	1	0
0	32M	0	1	1
0	512M	1	0	0
0	1G	1	0	1
0	2G	1	1	0
0	4G	1	1	1

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

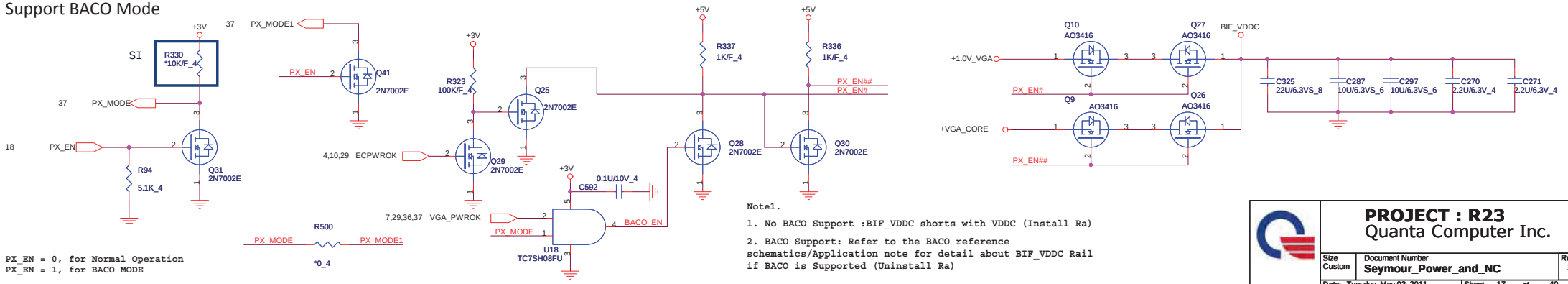


PROJECT : R23
Quanta Computer Inc.

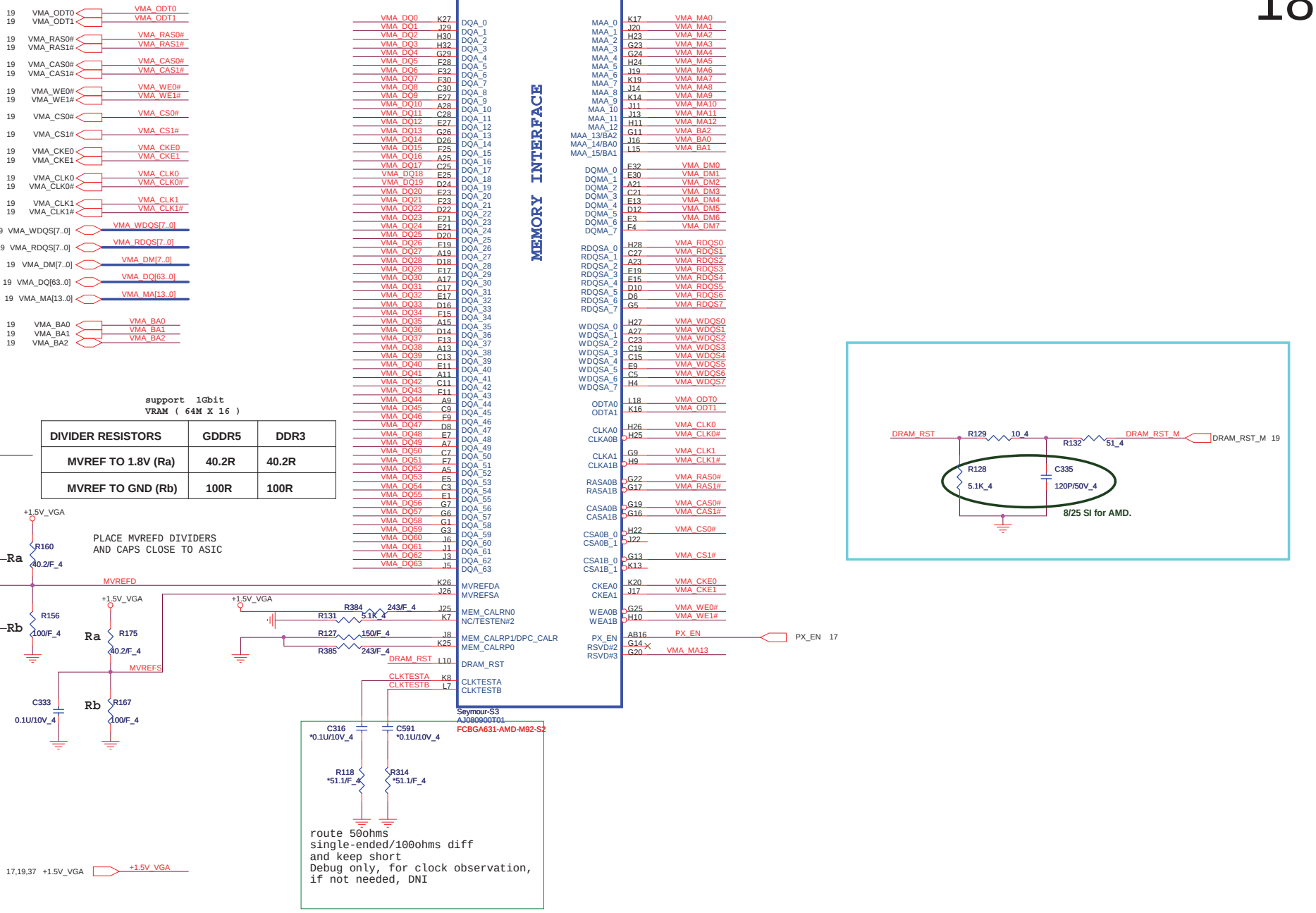
Size	Document Number	Rev
Custom	Seymour GND / LVDS/ Straps	1A
Date: Tuesday, May 03, 2011	Sheet 16 of 40	



Support BACO Mode

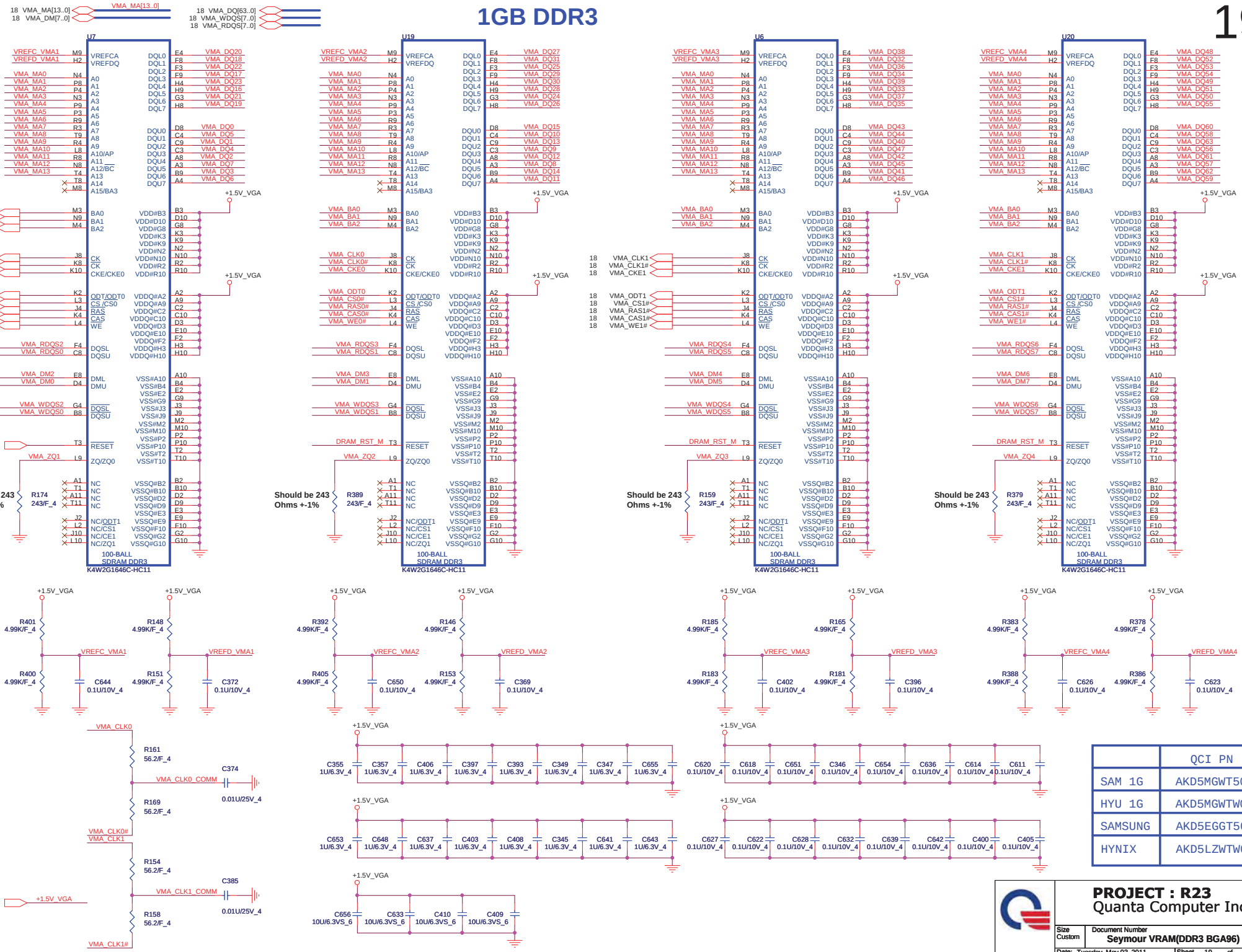


PROJECT : R23 Quanta Computer Inc.			
Size: Custom	Document Number: Seymour_Power_and_NC		Rev: 1A
Date: Tuesday, May 03, 2011	Sheet 17 of 40		



PROJECT : R23		
Quanta Computer Inc.		
Size: Custom	Document Number: Seymour/MEM_Interface	Rev: 1A
Date: Tuesday, May 03, 2011	Sheet 18 of 40	

1GB DDR3



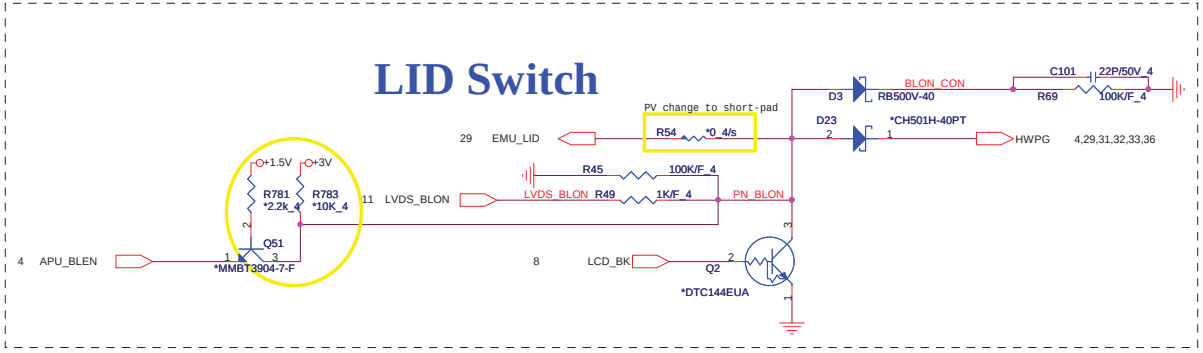
	QCI PN
SAM 1G	AKD5MGWT500
HYU 1G	AKD5MGWTW00
SAMSUNG	AKD5EGGT500
HYNIX	AKD5LZWTW02

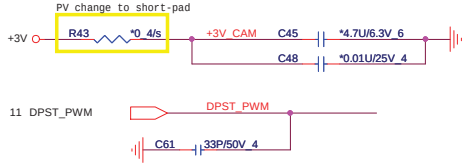
PROJECT : R23
Quanta Computer Inc.

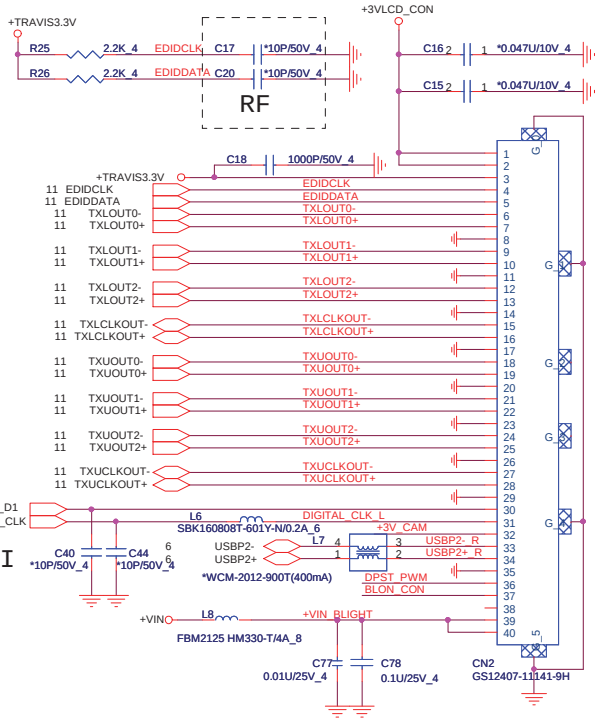
Size	Document Number	Rev
Custom	Seymour VRAM(DDR3 BGA96)	3A

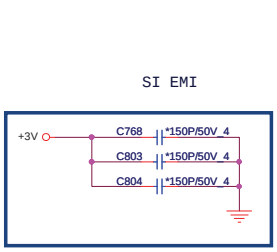
Date: Tuesday, May 03, 2011 Sheet 19 of 40

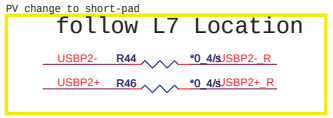
LID Switch

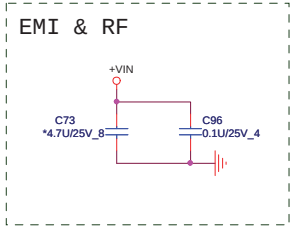


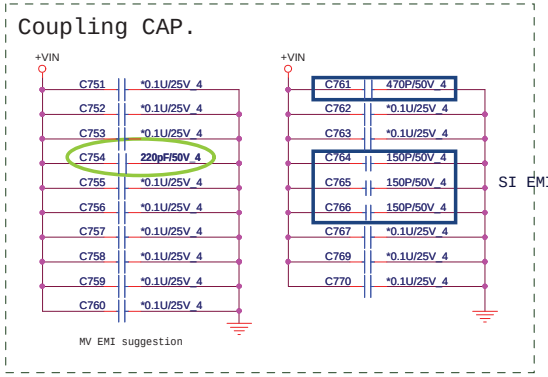


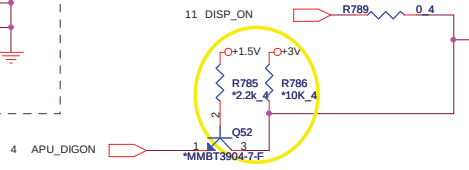


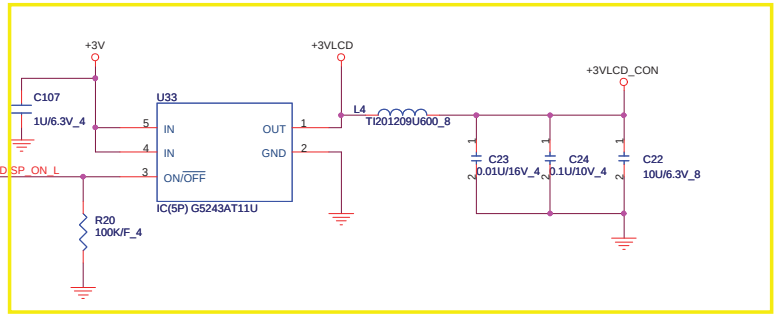








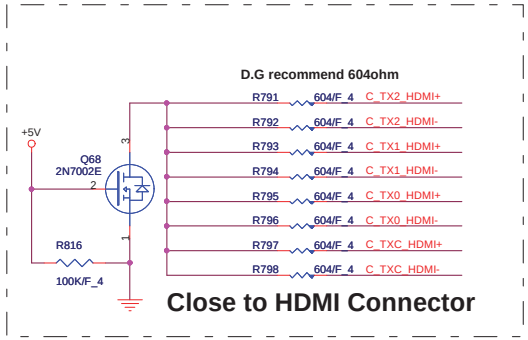


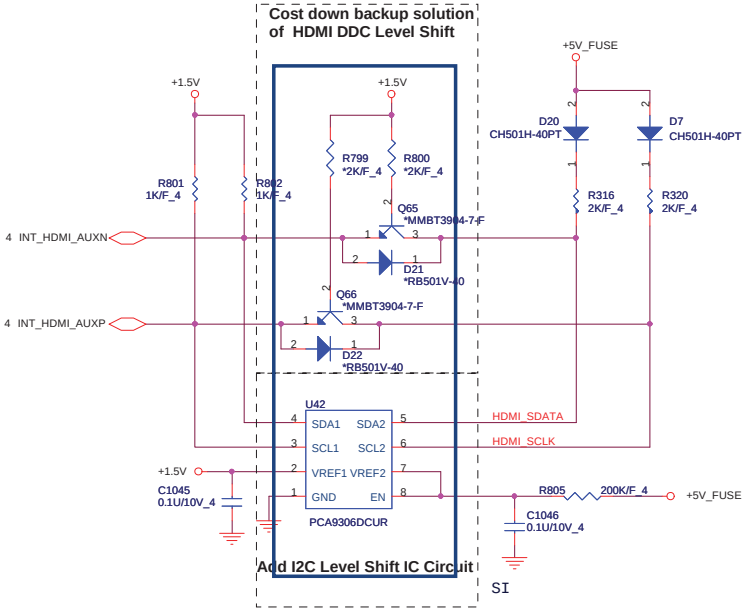


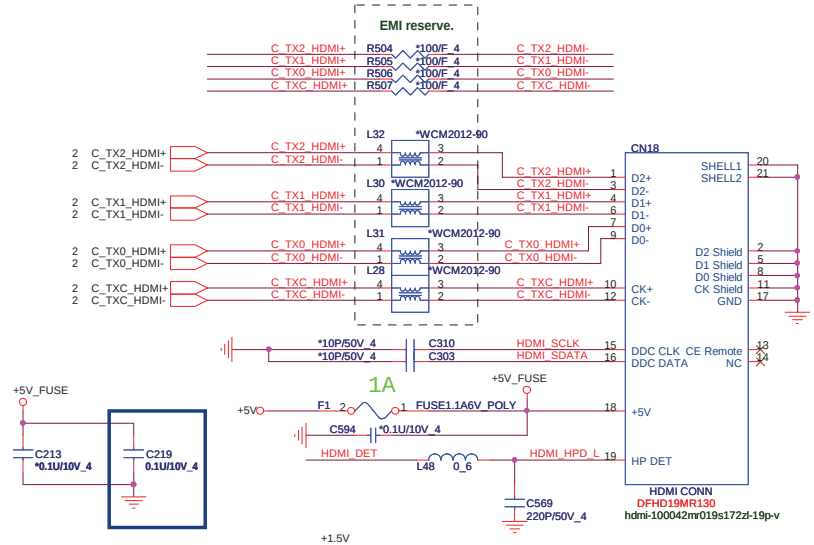
4,7,26,28,29,31,38 +3VPCU
2,4,6,8,9,10,11,12,13,14,17,22,23,24,25,27,28,29,30,34,37,39 +3V
9,37,38,39 +12VALW
31,32,33,34,35,36,37,38,39 +VIN

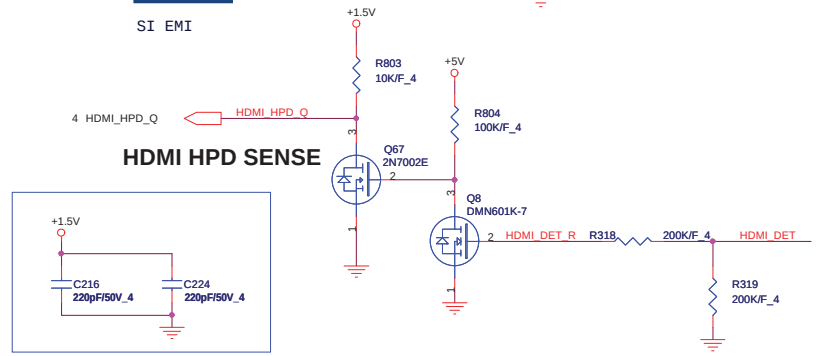
PROJECT : R23
Quanta Computer Inc.

Size	Document Number	Rev
Custom	LCD CONN/LID/CAM	1A
Date: Tuesday, May 03, 2011	Sheet 20 of 40	

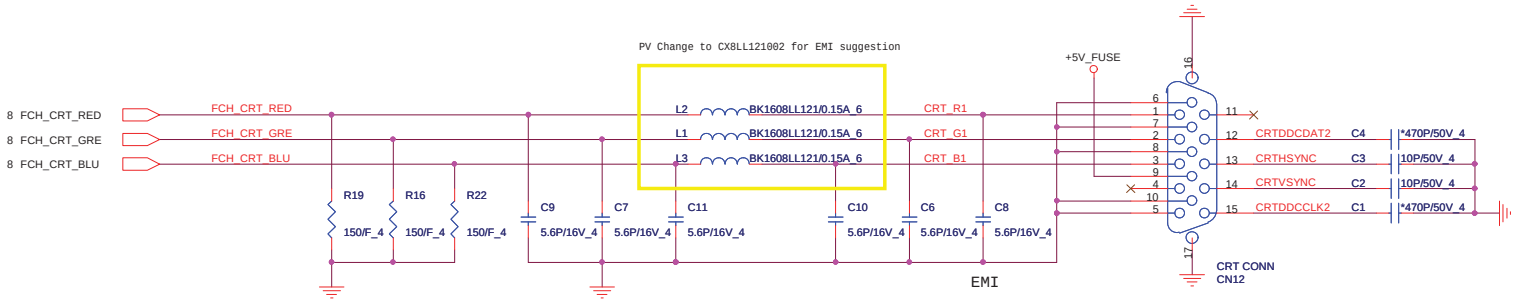

D.G recommend 604ohm
R791 604/F_4 C_TX2_HDMI+
R792 604/F_4 C_TX2_HDMI-
R793 604/F_4 C_TX1_HDMI+
R794 604/F_4 C_TX1_HDMI-
R795 604/F_4 C_TX0_HDMI+
R796 604/F_4 C_TX0_HDMI-
R797 604/F_4 C_TXC_HDMI+
R798 604/F_4 C_TXC_HDMI-
+5V
Q68
2N7002E
R816
100K/F_4
Close to HDMI Connector

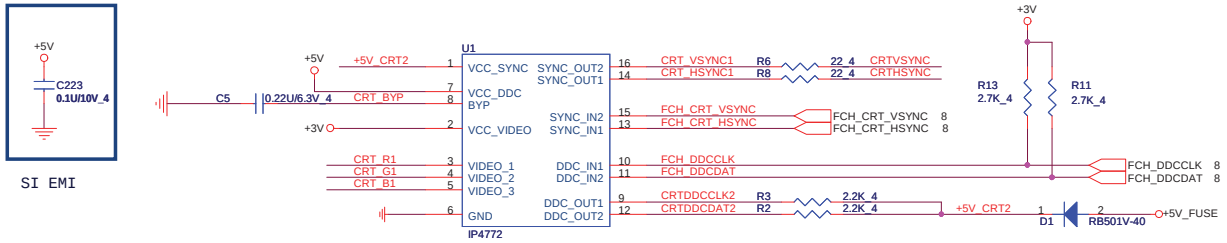

Cost down backup solution
of HDMI DDC Level Shift
+1.5V
+5V_FUSE
R801 1K/F_4
R802 1K/F_4
R799 *2K/F_4
R800 *2K/F_4
D20 CH501H-40PT
D7 CH501H-40PT
R316 2K/F_4
R320 2K/F_4
Q65 *MMBT3904-7-F
D21 *RB501V-40
Q66 *MMBT3904-7-F
D22 *RB501V-40
4 INT_HDMI_AUXN
4 INT_HDMI_AUXP
U42
SDA1 SDA2
SCL1 SCL2
VREF1 VREF2
GND EN
PCA9306DCUR
HDMI_SDATA
HDMI_SCLK
C1045 0.1U/10V_4
R805 200K/F_4
C1046 0.1U/10V_4
Add I2C Level Shift IC Circuit
SI


EMI reserve.
R504 *100/F_4
R506 *100/F_4
R506 *100/F_4
R507 *100/F_4
L32 *WCM2012-90
L30 *WCM2012-90
L31 *WCM2012-90
L28 *WCM2012-90
CN18
D2+ D2- D1+ D1- D0+ D0- CK+ CK-
SHELL1 SHELL2
D2 Shield D1 Shield D0 Shield CK Shield GND
DDC CLK CE Remote
DDC DATA NC
+5V
HP DET
HDMI CONN
DFHD19MR130
hdmi-100042mr019s172zl-19p-v
*10P/50V_4 C310 HDMI_SCLK
*10P/50V_4 C303 HDMI_SDATA
1A
F1 FUSE1.1A6V_POLY
C594 *0.1U/10V_4
HDMI_DET
L48 0_6
HDMI_HPD_L
C569 220P/50V_4
C213 *0.1U/10V_4
C219 0.1U/10V_4
SI EMI

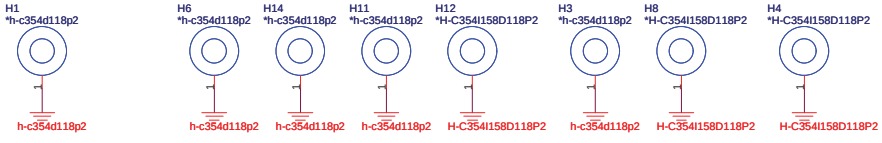

+1.5V
R803 10K/F_4
+5V
R804 100K/F_4
4 HDMI_HPD_Q
HDMI_HPD_Q
HDMI HPD SENSE
Q67 2N7002E
Q8 DMN601K-7
HDMI_DET_R
R318 200K/F_4
HDMI_DET
R319 200K/F_4
C216 220pF/50V_4
C224 220pF/50V_4
MV EMI suggestion

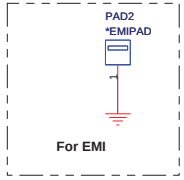
CRT PORT



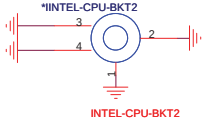


HOLE

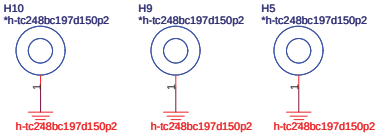




CPU



VGA

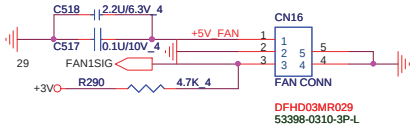


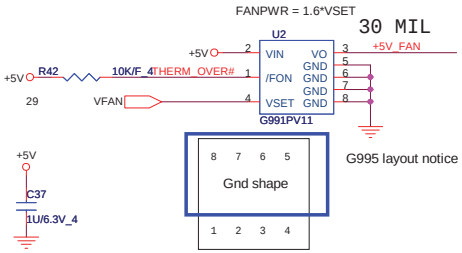
PROJECT : R23
Quanta Computer Inc.

Size	Document Number	Rev
Custom	CRT,Hole	1A

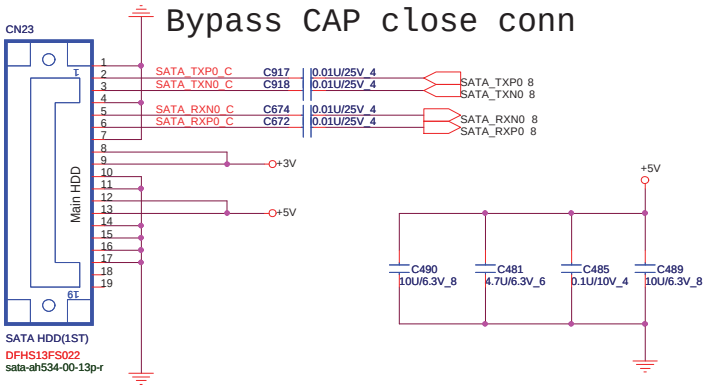
Date: Tuesday, May 03, 2011 Sheet 22 of 40

CPU FAN



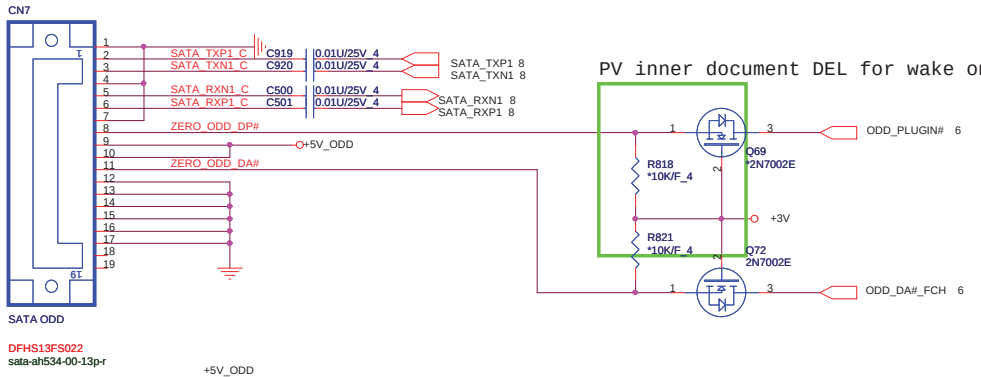


SATA HDD CONNECTOR

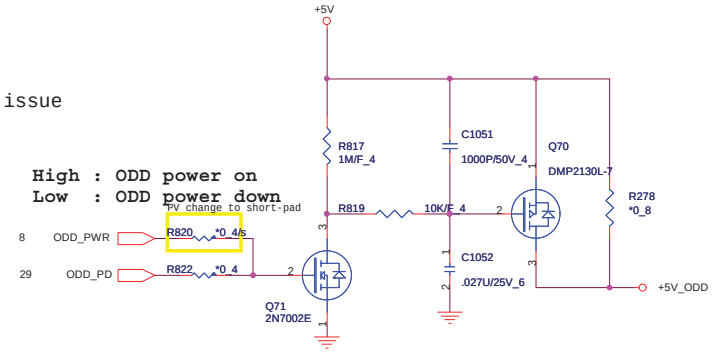


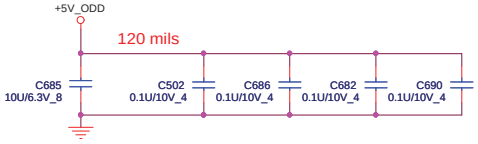
SATA ODD CONNECTOR

SATA ODD



PV inner document DEL for wake on LAN issue

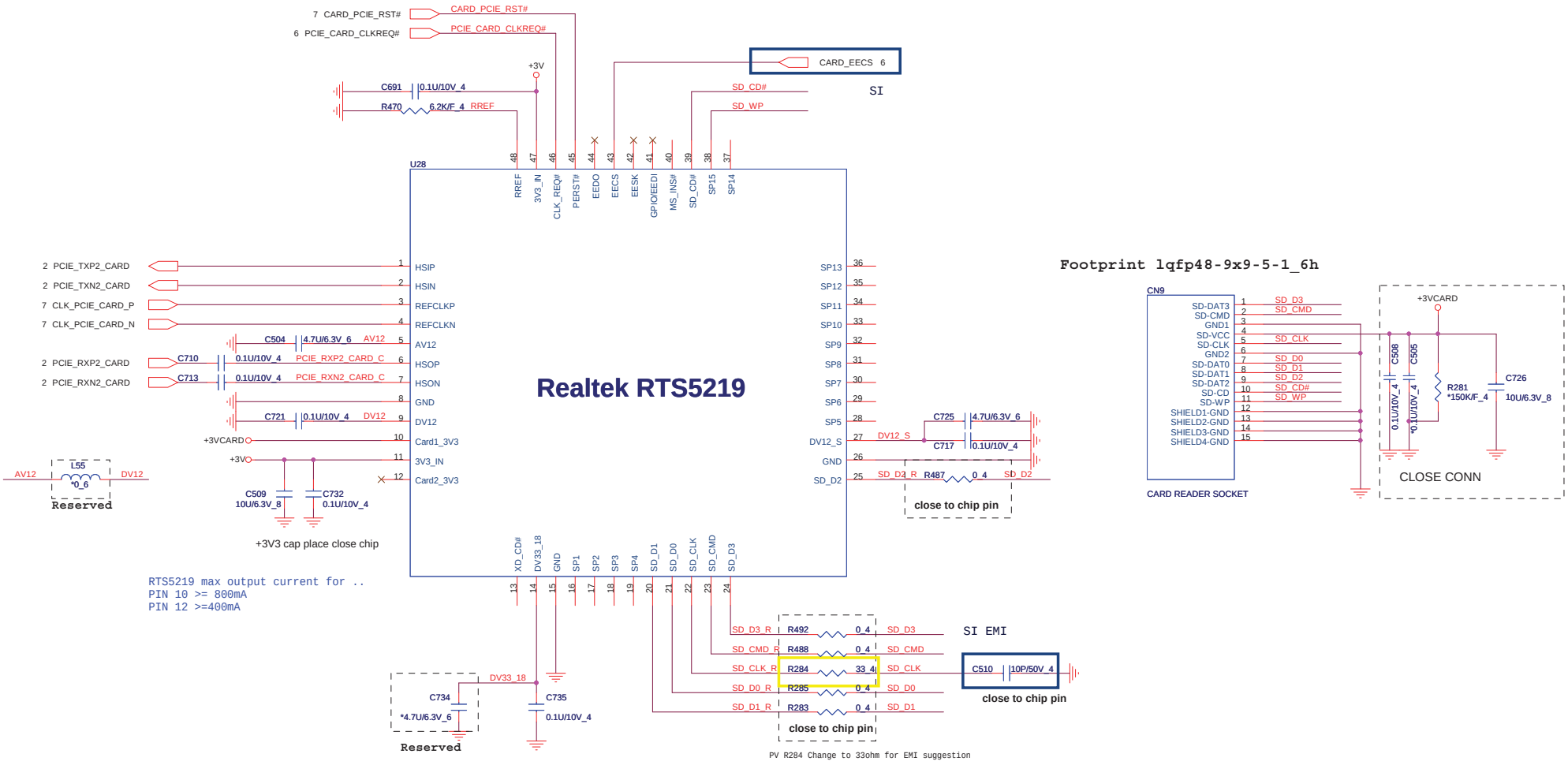




PROJECT : R23
Quanta Computer Inc.

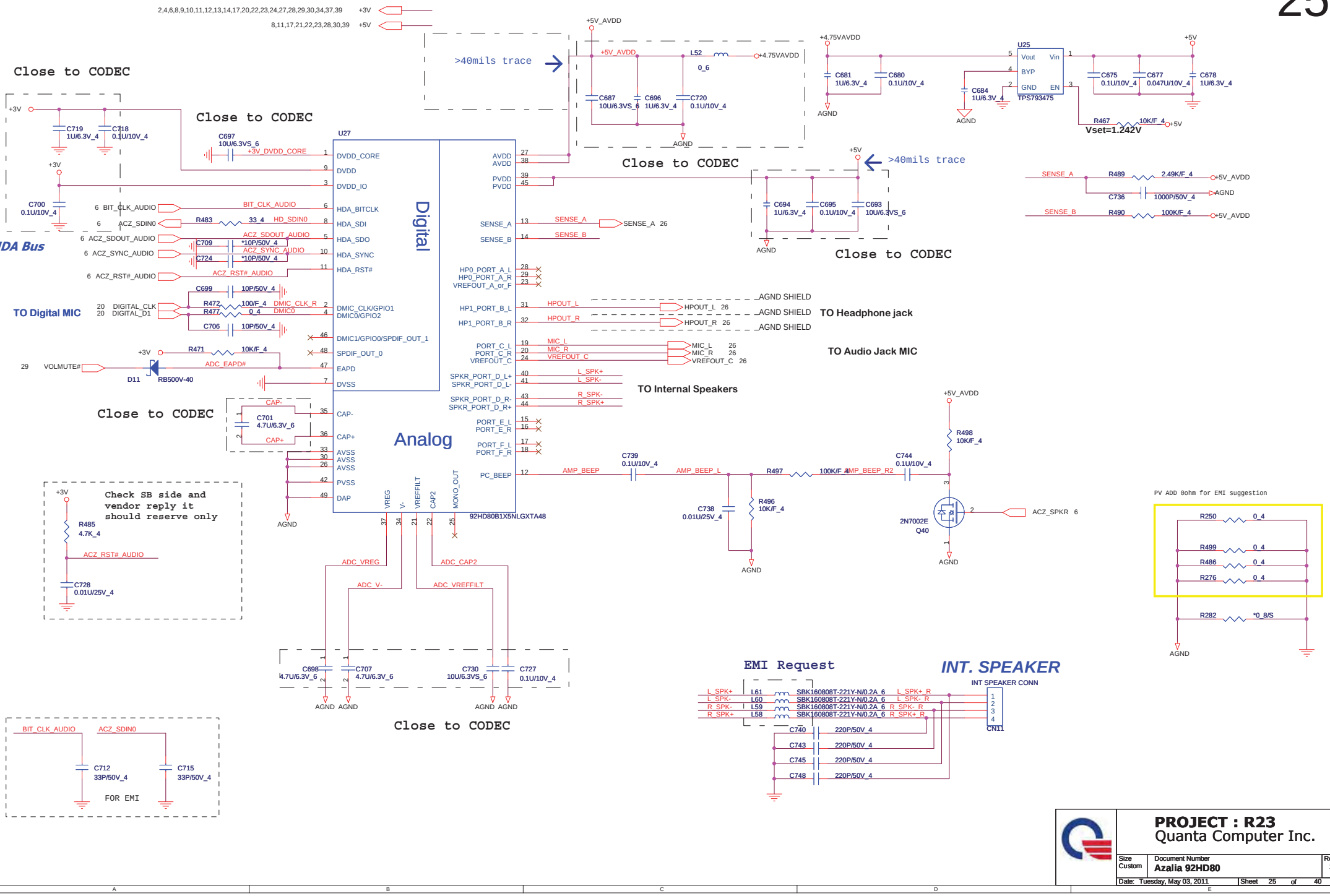
Size	Document Number	Rev
Custom	HDD/ODD/FAN	1A

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

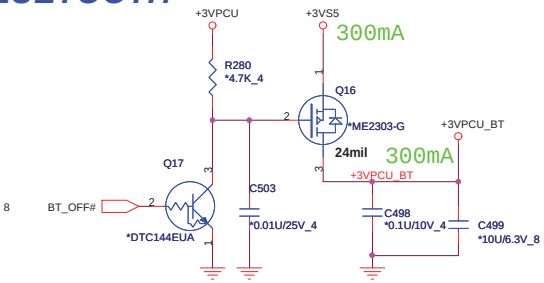


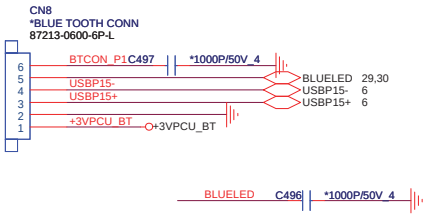
Footprint lqfp48-9x9-5-1_6h

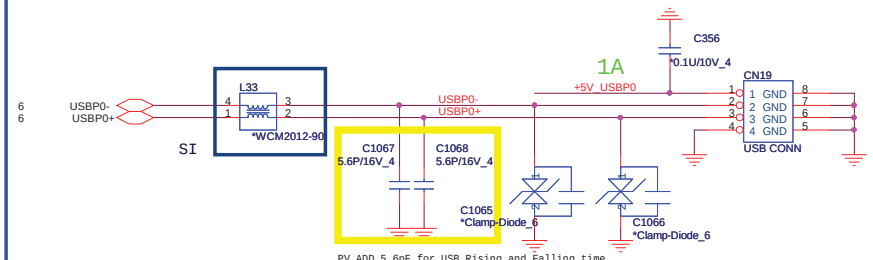
PROJECT : R23 Quanta Computer Inc.		
Size: Custom	Document Number: RTS5219 & CR SOCKET &HOLE	Rev: 1A
Date: Tuesday, May 03, 2011	Sheet 24 of 40	

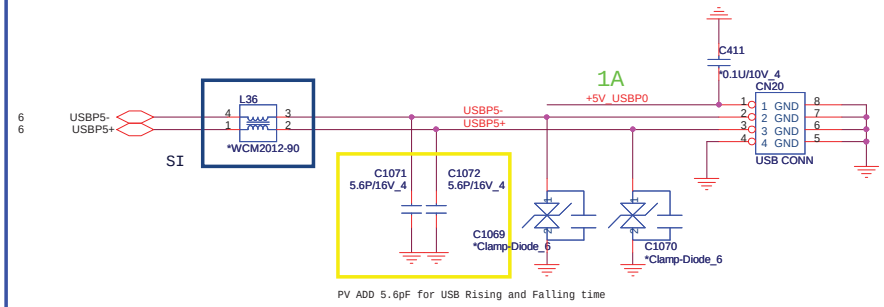

Close to CODEC
HDA Bus
TO Digital MIC
TO Headphone jack
TO Audio Jack MIC
TO Internal Speakers
Digital
Analog
92HD80B1X5NLGXTA48
>40mils trace
Vset=1.242V
TPS793475
Check SB side and vendor reply it should reserve only
FOR EMI
EMI Request
INT. SPEAKER
INT SPEAKER CONN
PROJECT : R23
Quanta Computer Inc.
Azalia 92HD80
Date: Tuesday, May 03, 2011
Sheet 25 of 40

BLUETOOTH

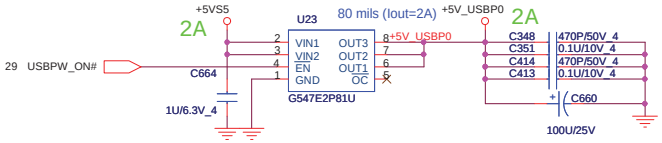




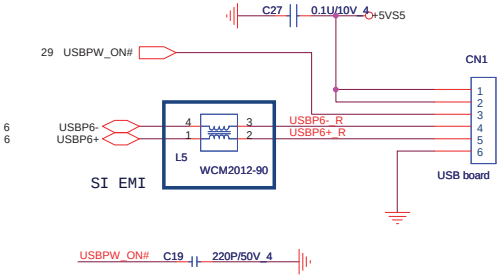




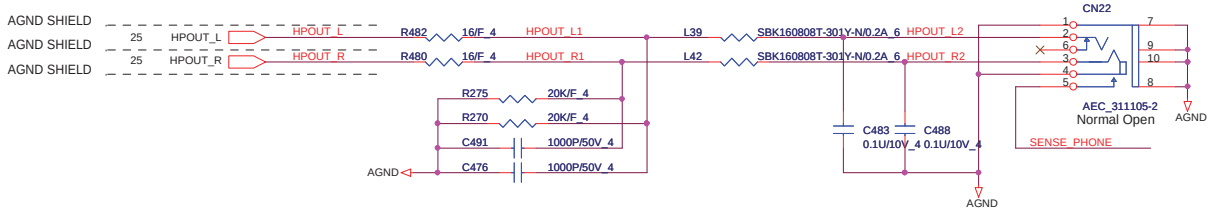
LEFT SIDE USBX2



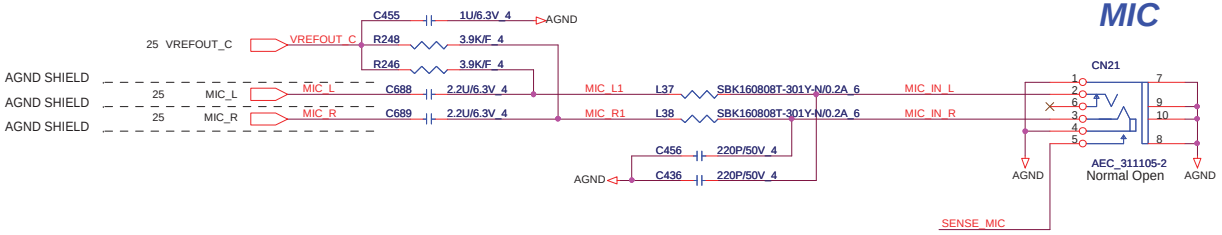
Right SIDE USBX1



Line out

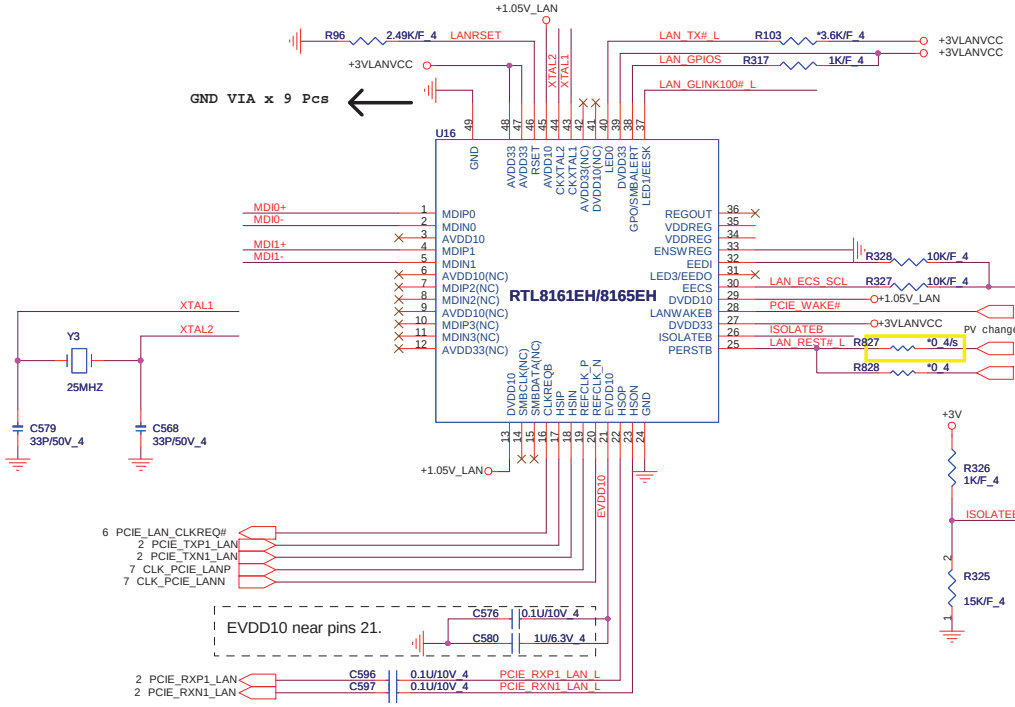


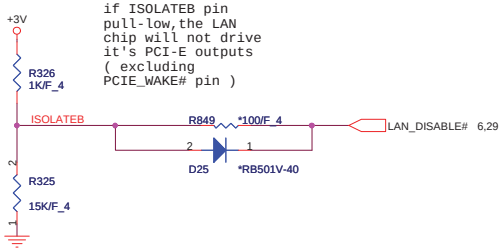
MIC

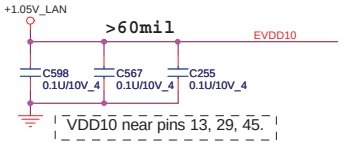


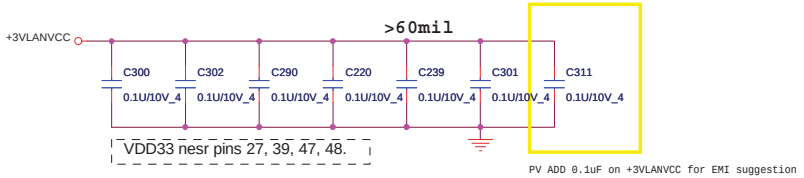
PROJECT : R23
Quanta Computer Inc.

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

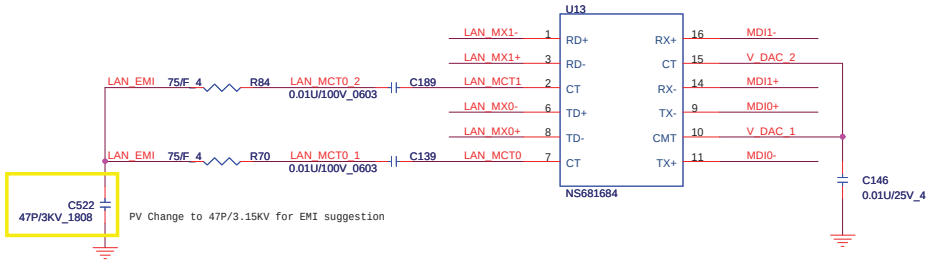




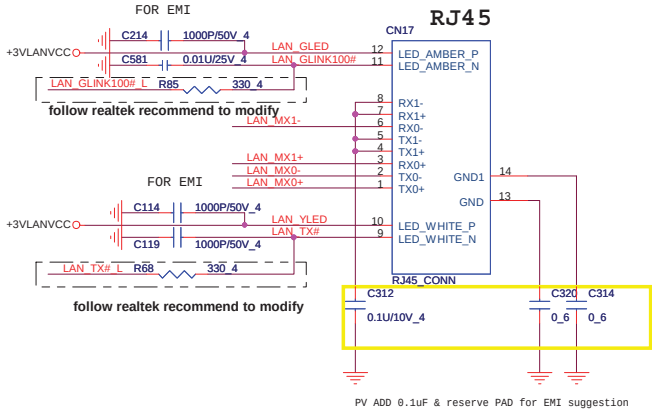




Transformer for 10/100



Lan Con.

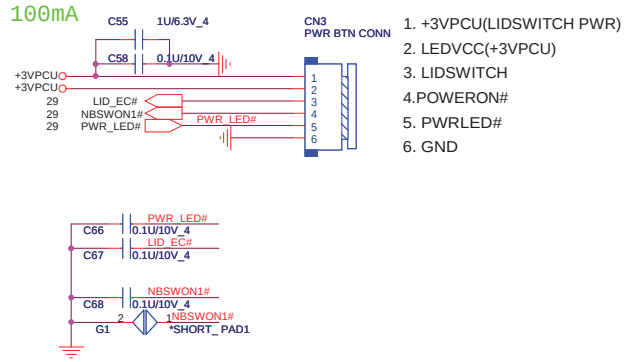


39 +3VLANVCC
2,4,6,8,9,10,11,12,13,14,17,20,22,23,24,25,28,29,30,34,37,39 +3V

PROJECT : R23
Quanta Computer Inc.

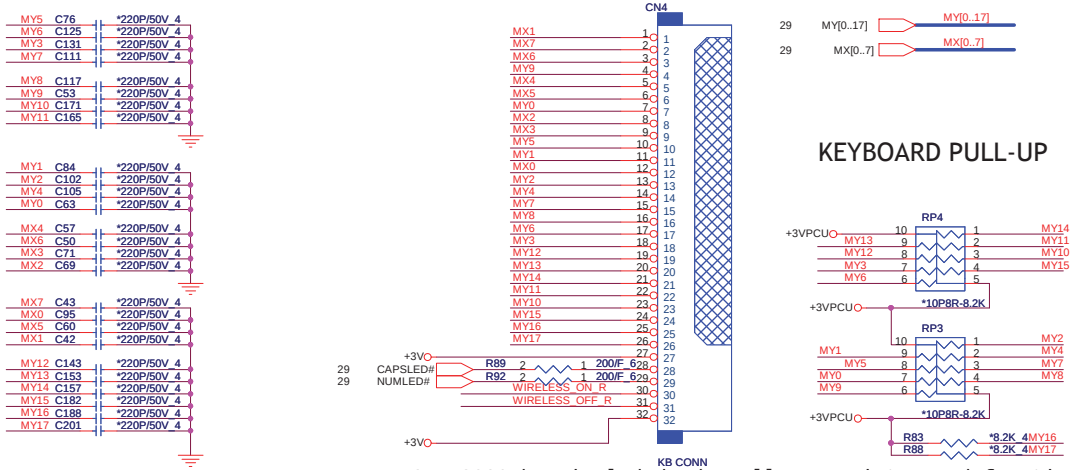
Size	Document Number	Rev
Custom	RTL8165EH	1A
Date: Tuesday, May 03, 2011	Sheet 27 of 40	

POWER BOTTON CONNECT



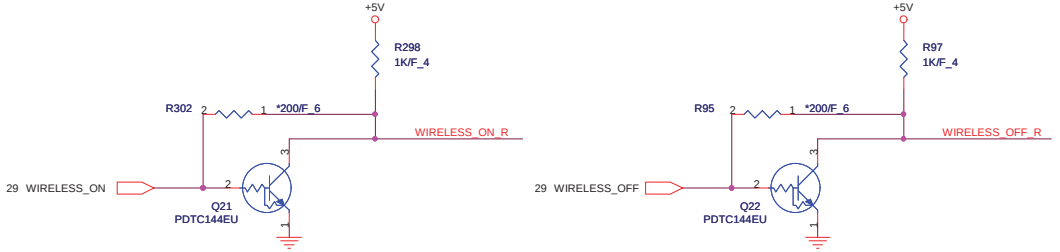
1. +3VPCU(LIDSWITCH PWR)
2. LEDVCC(+3VPCU)
3. LIDSWITCH
4.POWERON#
5. PWRLED#
6. GND

KEYBOARD Con.

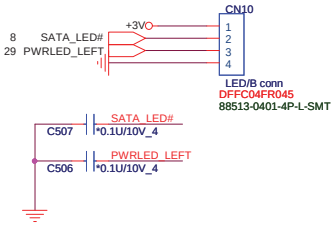


KEYBOARD PULL-UP

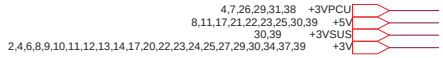
EC KB3930 has included K/B pull-up resistor and function



LED Con.

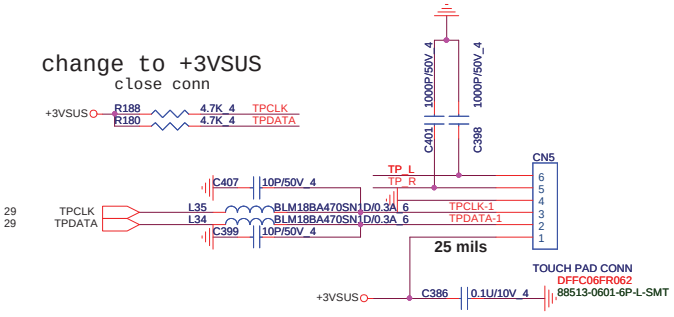


1. +3V
2. SATA_LED#
3. PWR_LED#
4.GND

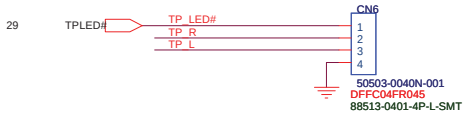


TOUCH PAD Con.

change to +3VSUS
close conn



To TOUCH PAD SW board

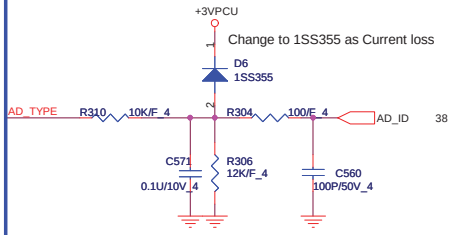


PROJECT : R23
Quanta Computer Inc.

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

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

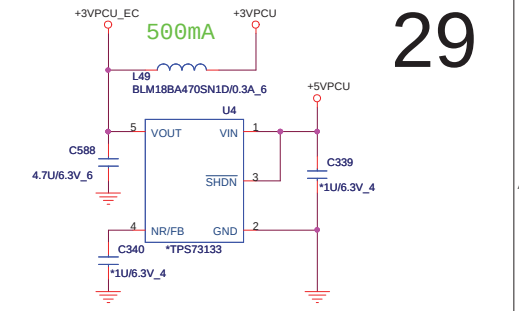
Smart adapter Type check



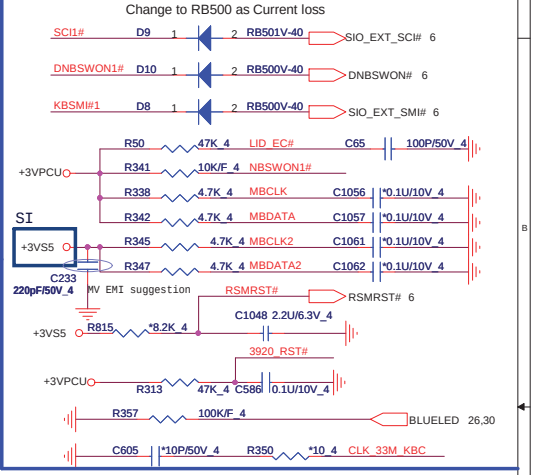
Adapter select

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

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

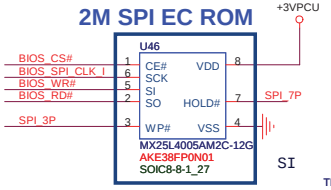


Change to RB500 as Current loss

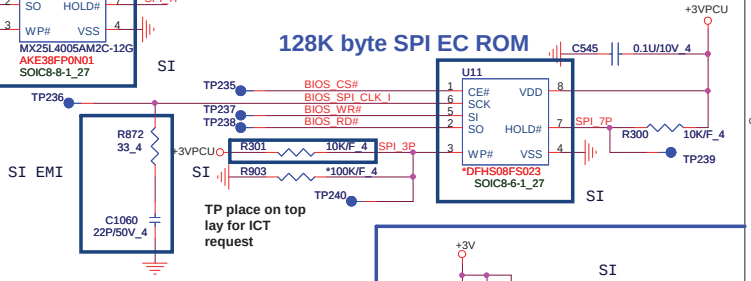


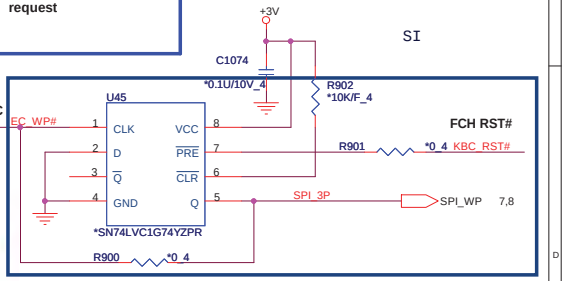
Vender	Size	P/N
AMIC	128K	AKE35ZN0801
EON	128K	AKE35FN0Q00
Socket		DFHS08FS023

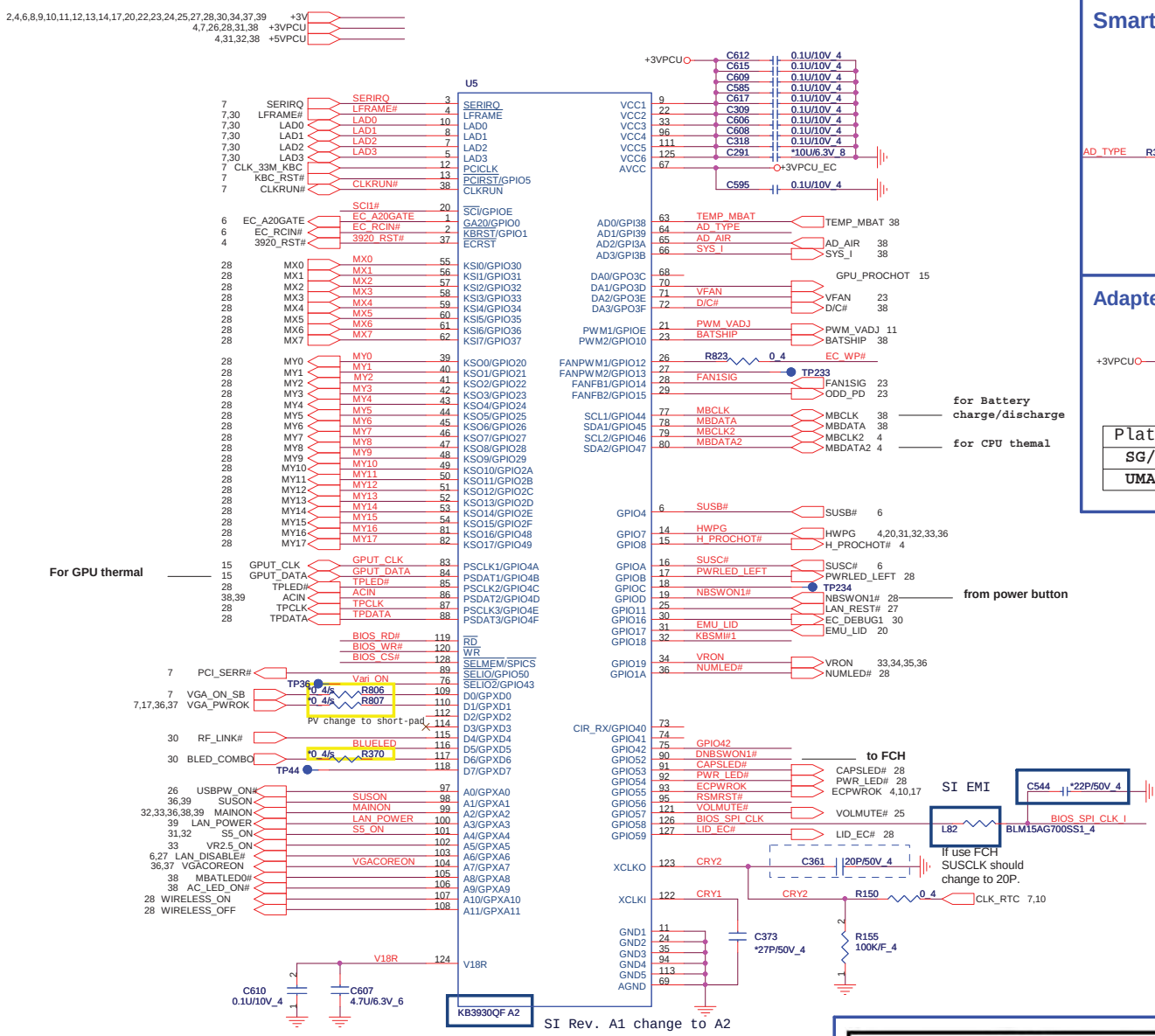
2M SPI EC ROM

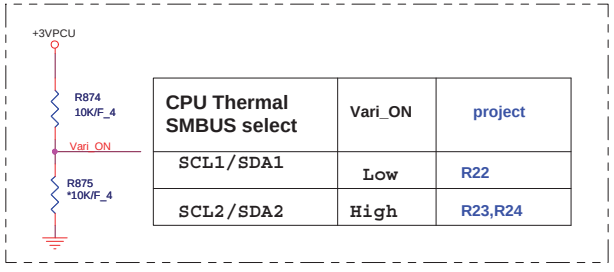


128K byte SPI EC ROM









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

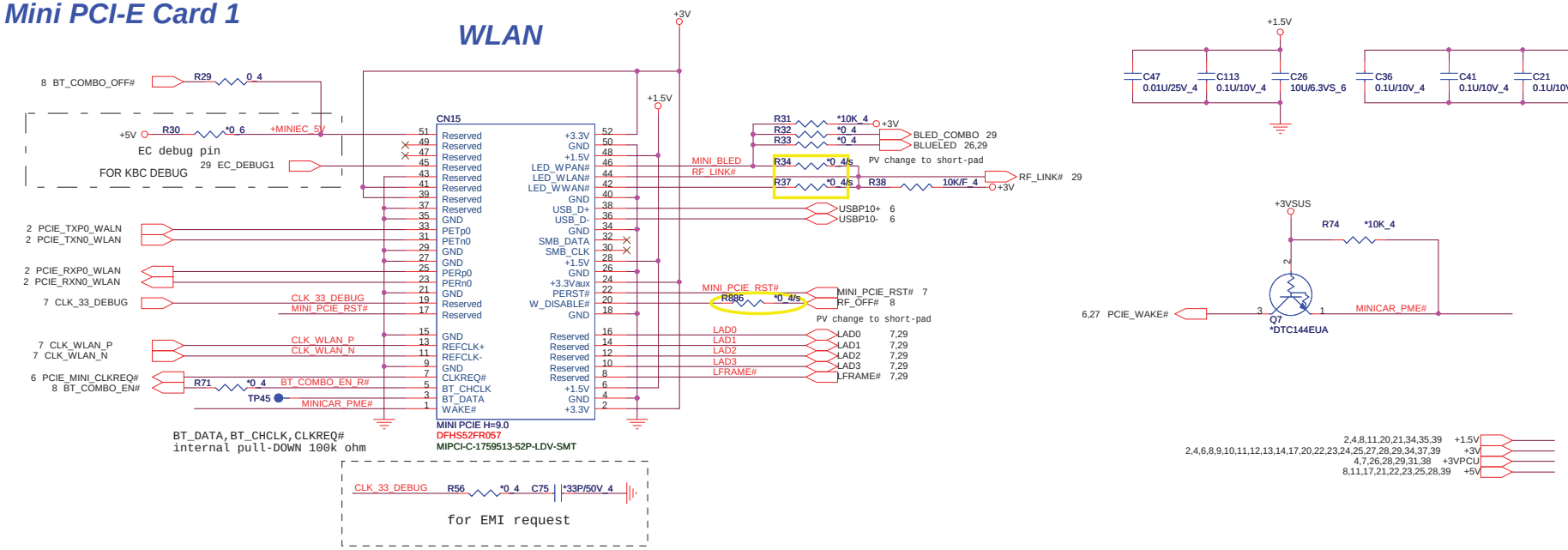
INPUTS				OUTPUTS		
PRE	CLR	CLK	D	Q	Q	
L	H	X	X	H	L	FLASH
H	L	X	X	L	H	
L	L	X	X	H (1)	H (1)	
H	H	↑	H	H	L	
H	H	↑	L	L	H	LOCK
H	H	L	X	Q_0	$\overline{Q_0}$	

PROJECT : R23
Quanta Computer Inc.

Size	Document Number	Rev
Custom	EC (KB3926)/ROM	1A
Date: Tuesday, May 03, 2011	Sheet 29 of 40	

Mini PCI-E Card 1

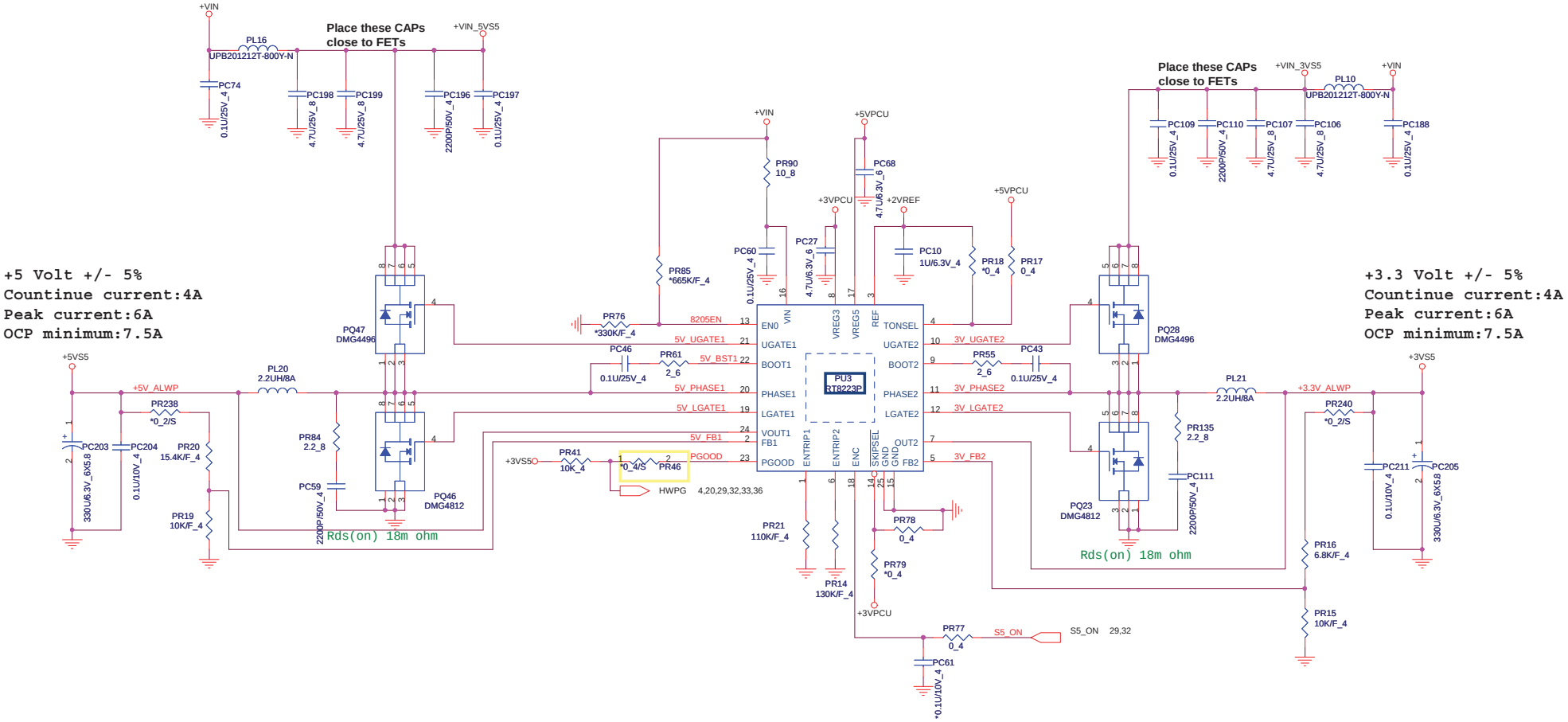
WLAN



PROJECT : R23
Quanta Computer Inc.

Size	Document Number	Rev
Custom	MINI PCIE CONN X1	1A

Date: Tuesday, May 03, 2011 Sheet 30 of 40

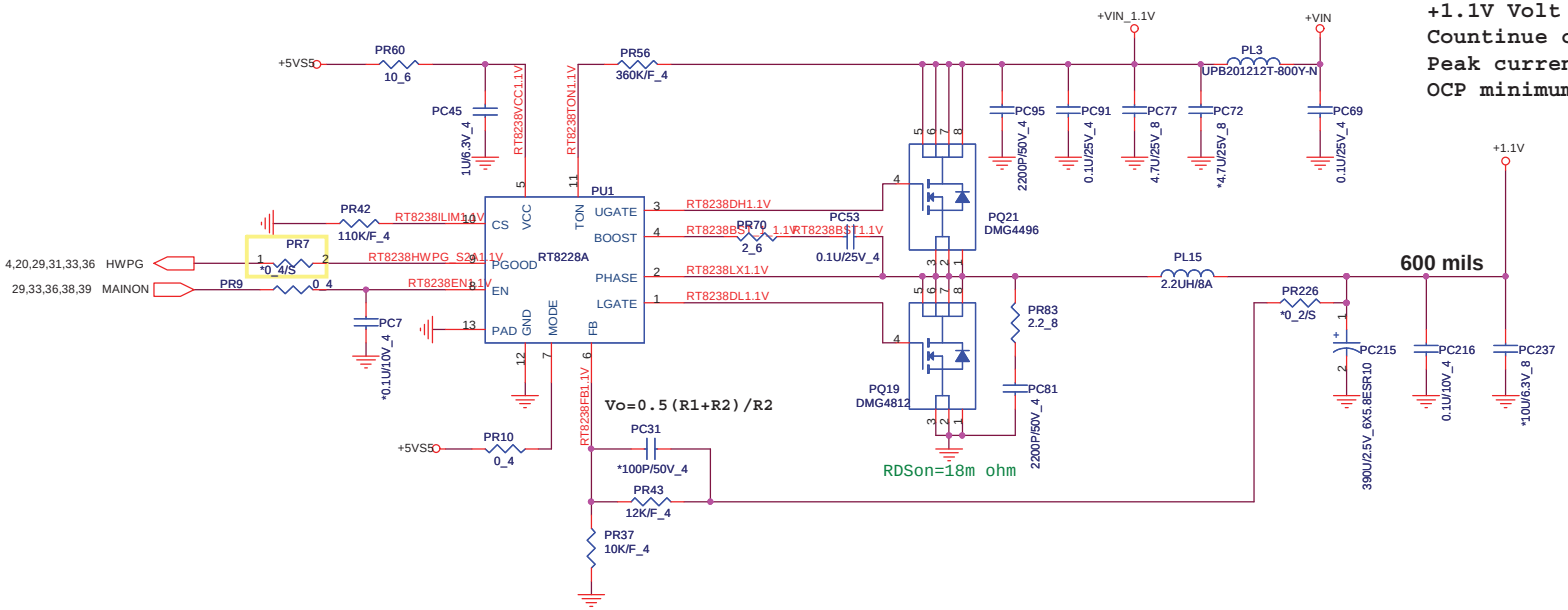


PROJECT : R23
Quanta Computer Inc.

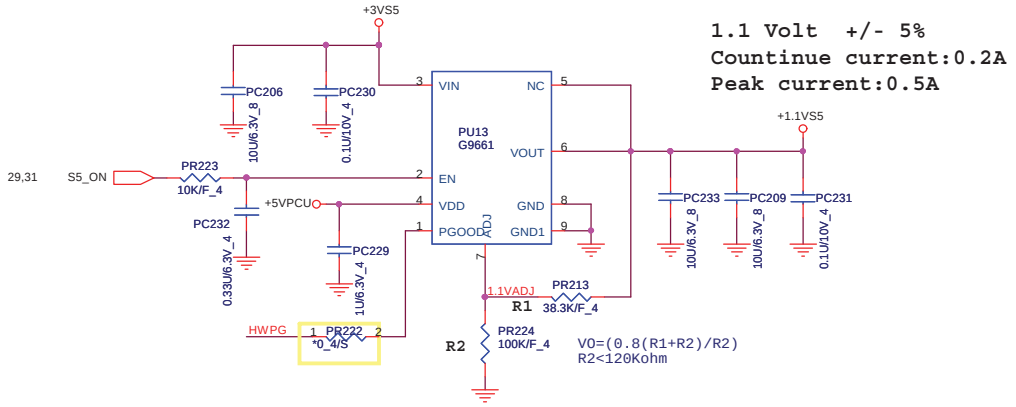
Size	Document Number	Rev
Custom	+5V/+3V (RT8206B)	1A

Date: Tuesday, May 03, 2011 Sheet 31 of 40

+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

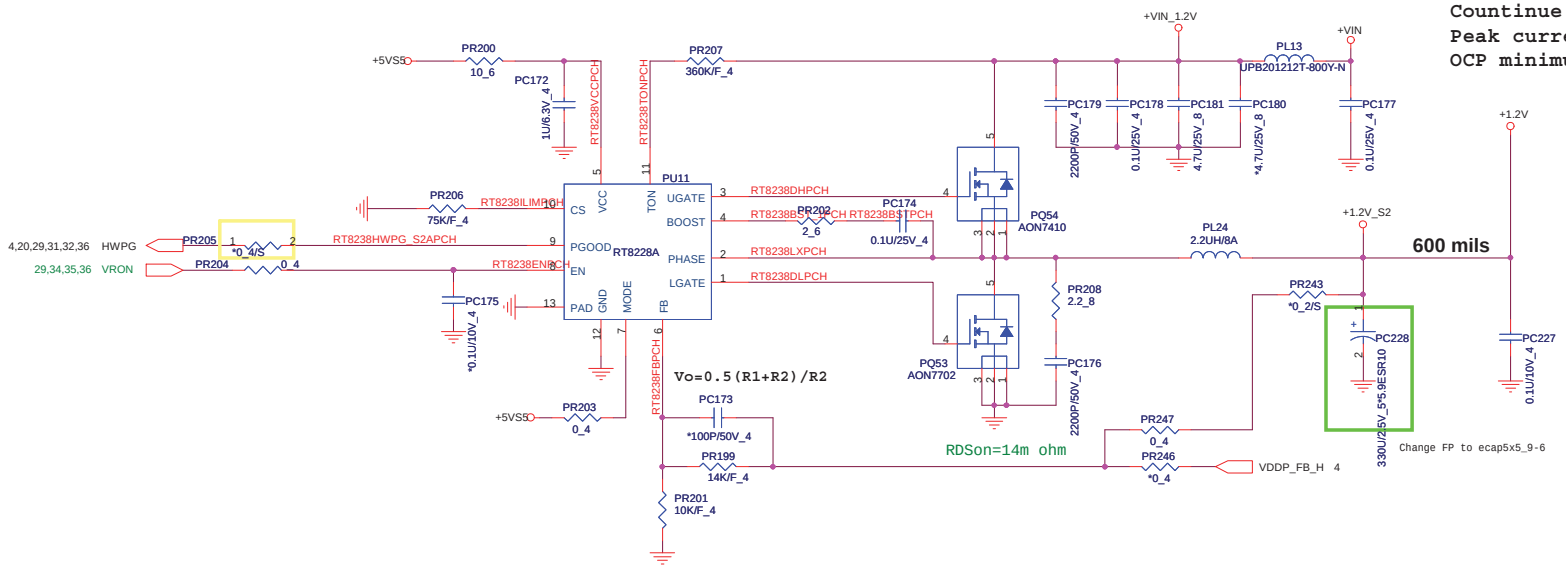


PROJECT : R23
Quanta Computer Inc.

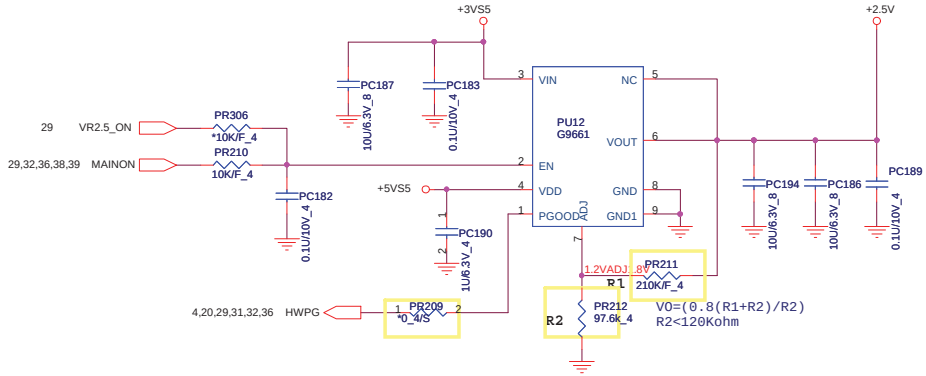
Size	Document Number	Rev
Custom	VGA Core/+1.8VGFX/1.0VGFX	1A
Date: Tuesday, May 03, 2011	Sheet 32 of 40	

NB5/RD2

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

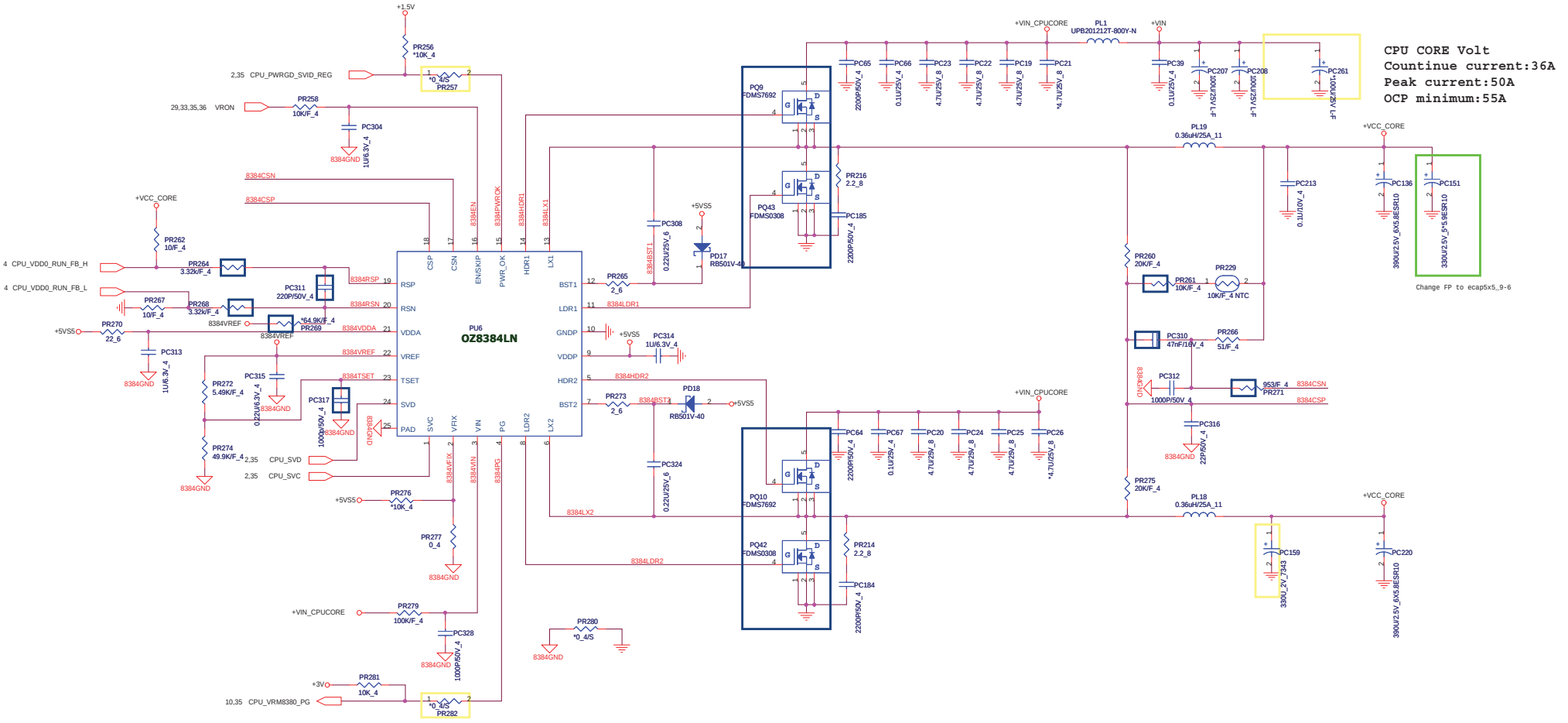


+2.5V +/- 5%
Countinue current:0.3A
Peak current:0.75A

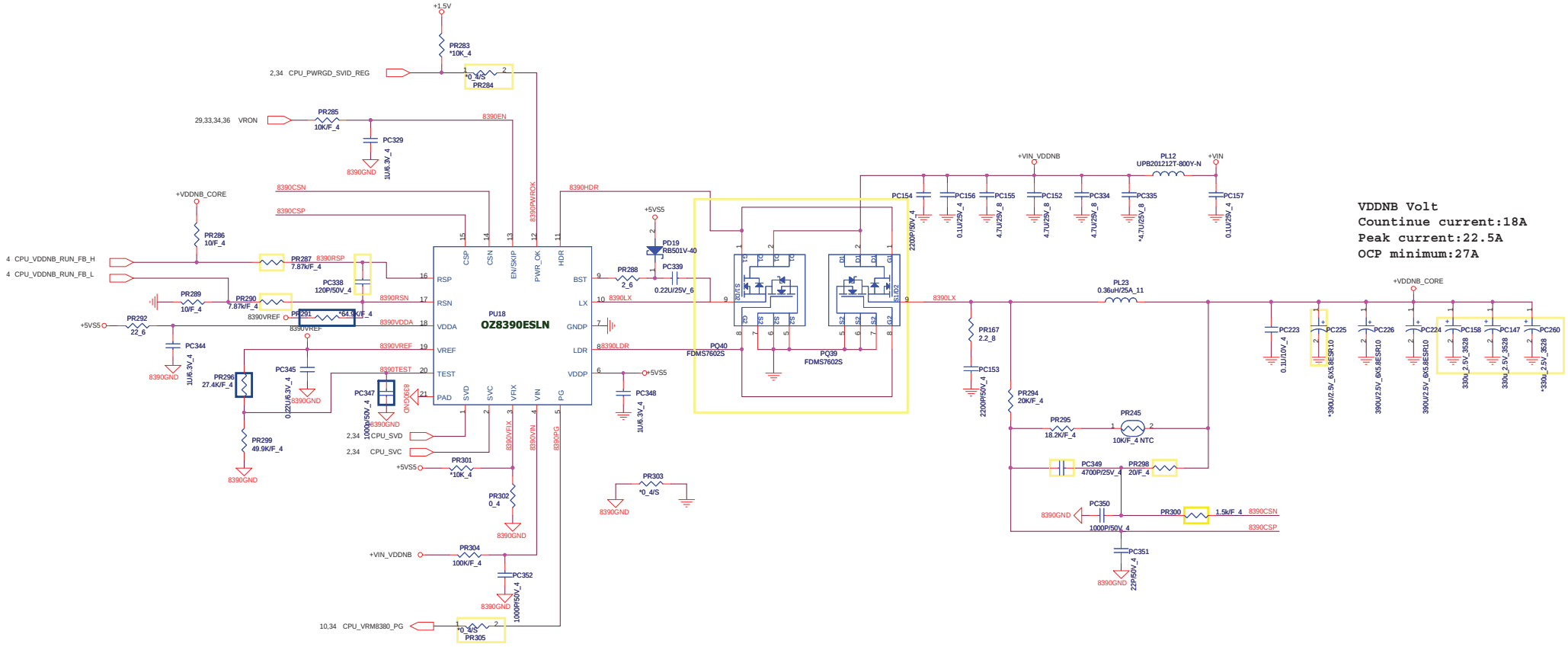


PROJECT : R23
Quanta Computer Inc.

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	

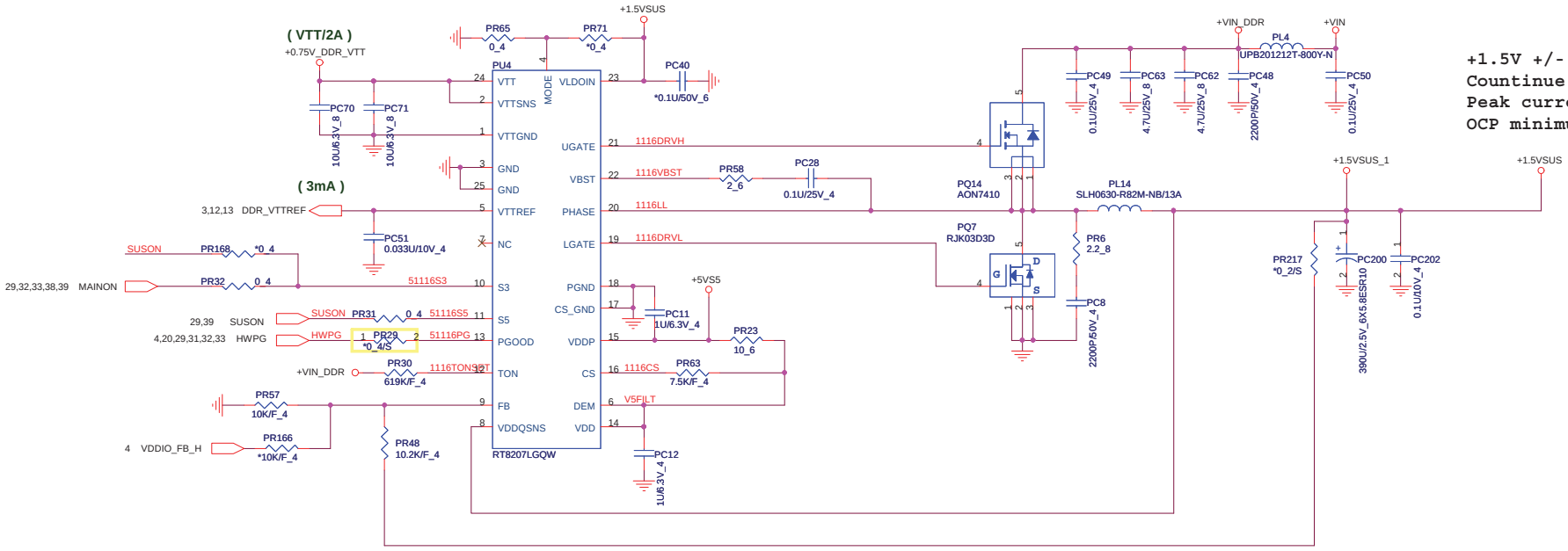


PROJECT : R23
Quanta Computer Inc.

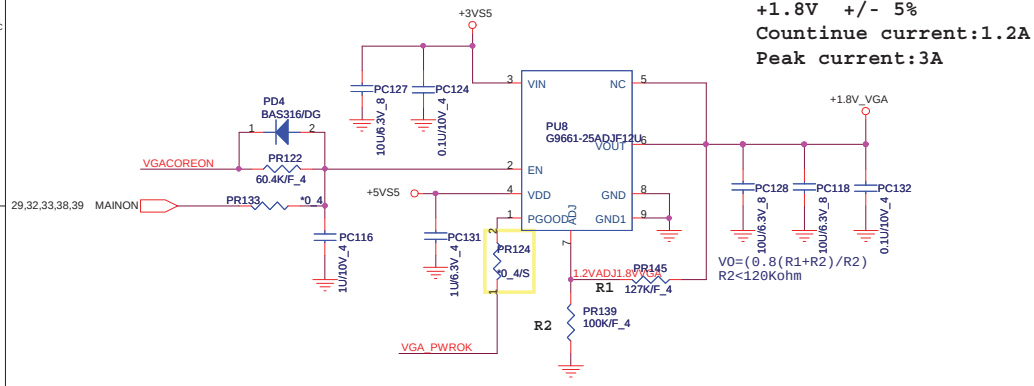
Size	Document Number	Rev
C	+1.1V VTT / PCH	1A

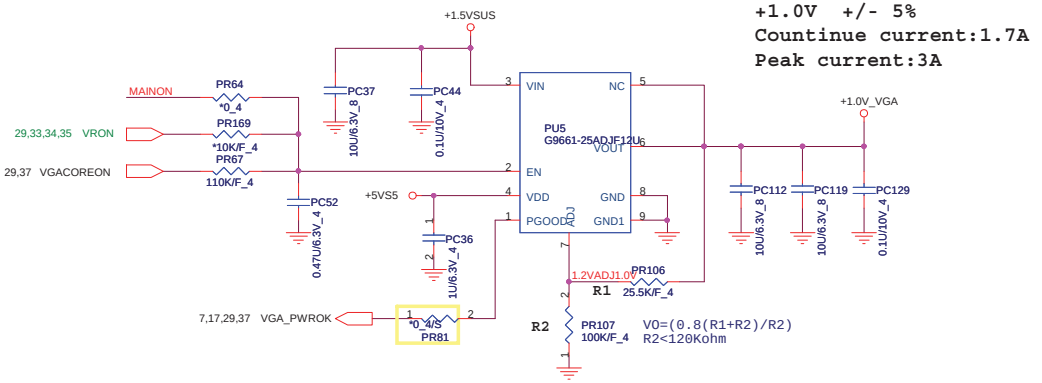
NB5/RD2

Date: Tuesday, May 03, 2011 | Sheet 35 of 40



SG & Discrete Only

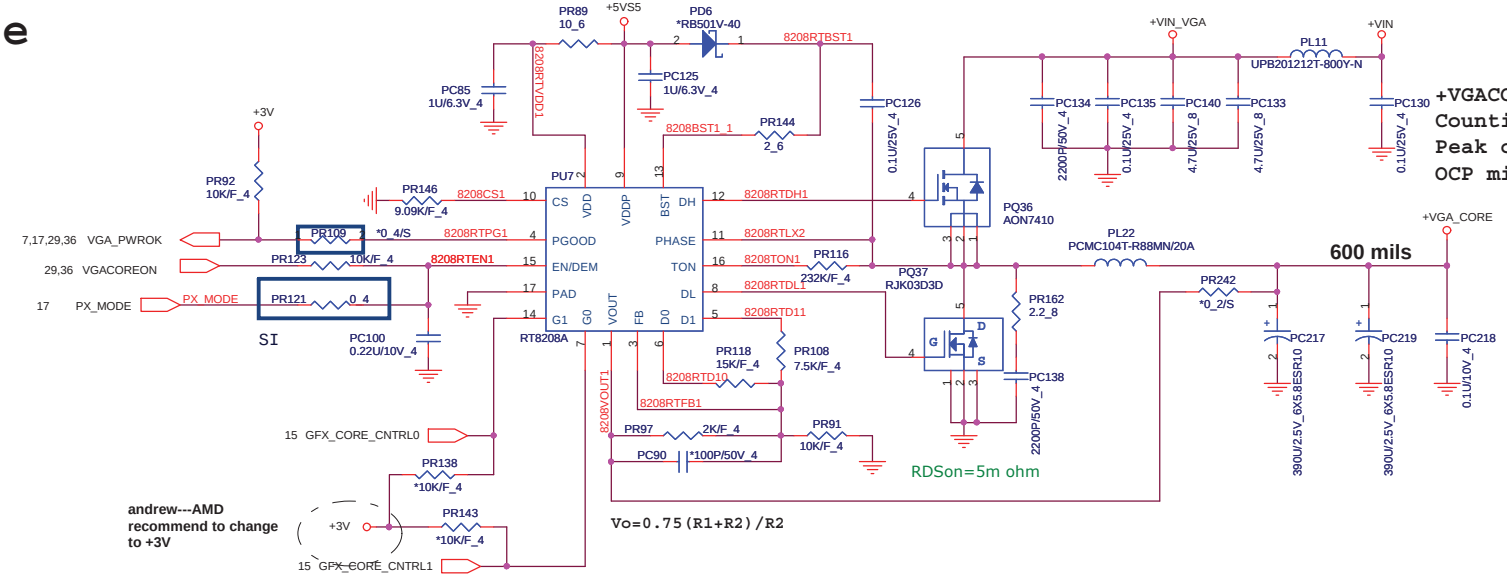




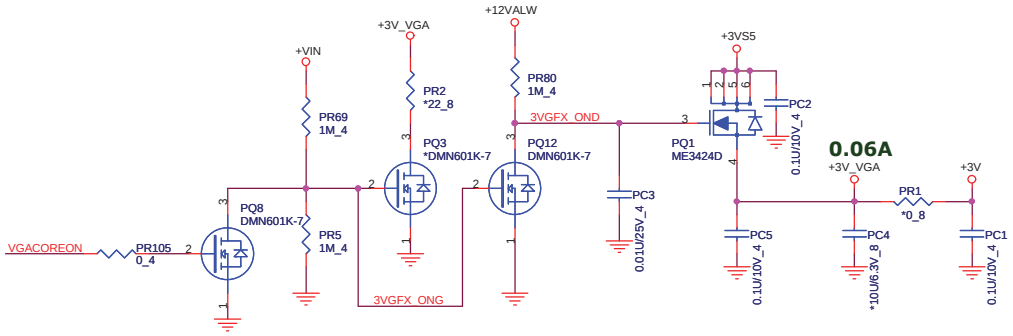
PROJECT : R23
Quanta Computer Inc.

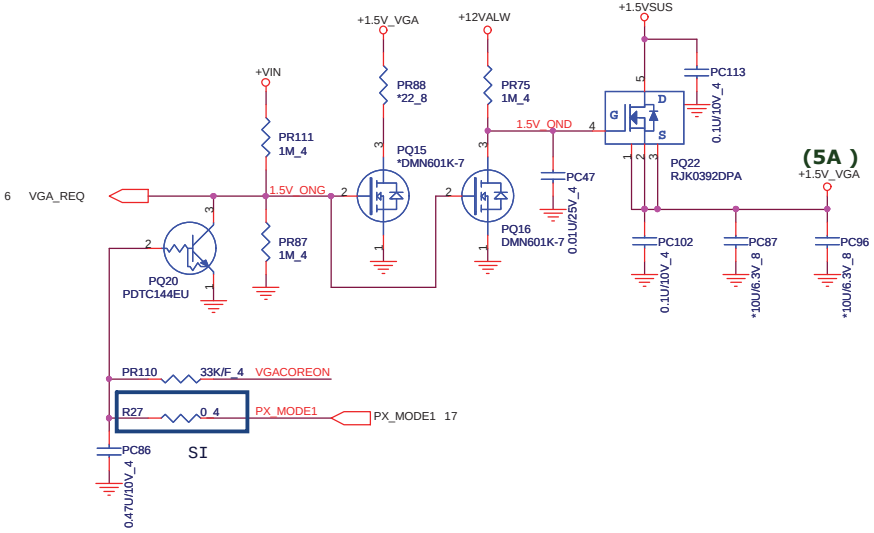
Size	Document Number	Rev
Custom	DDR3 (RT8207)	1A
Date: Tuesday, May 03, 2011	Sheet 36 of 40	

VGA Core



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: Custom	Document Number: +VGACORE (RT8208/1.8V)	Rev: 1A
Date: Tuesday, May 03, 2011	Sheet 37 of 40	

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

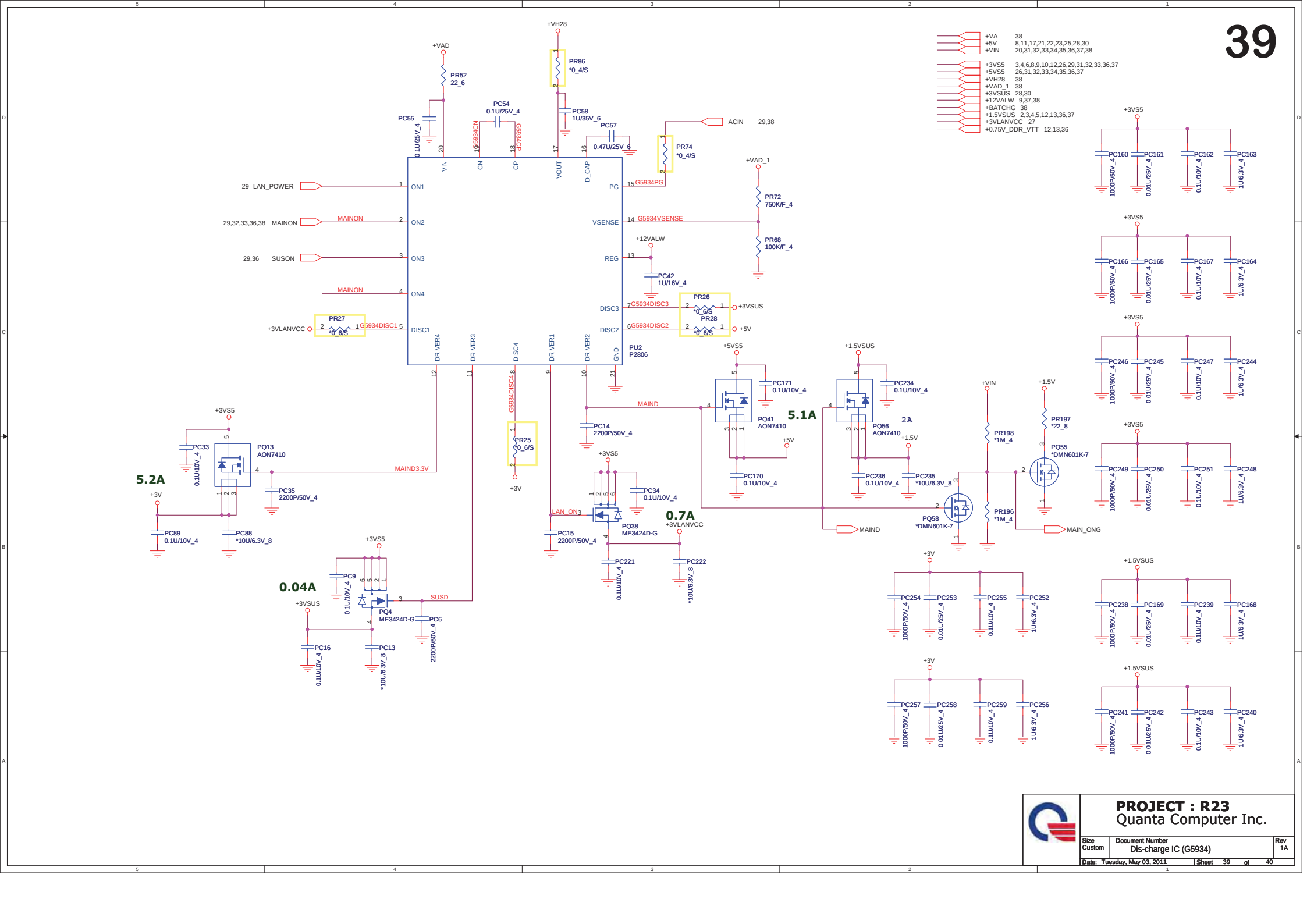
PU9
OZ8681

+VA
+VH28 39
+VAD_1 39
+3VPCU 4,7,26,28,29,31
+5VPCU 4,29,31,32
+BATCHG

PROJECT : R23
Quanta Computer Inc.

Size	Document Number	Rev
Custom	Charger (OZ8681)	1A

Date: Tuesday, May 03, 2011 Sheet 38 of 40



PROJECT : R23
Quanta Computer Inc.

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

Date: Tuesday, May 03, 2011 Sheet 39 of 40