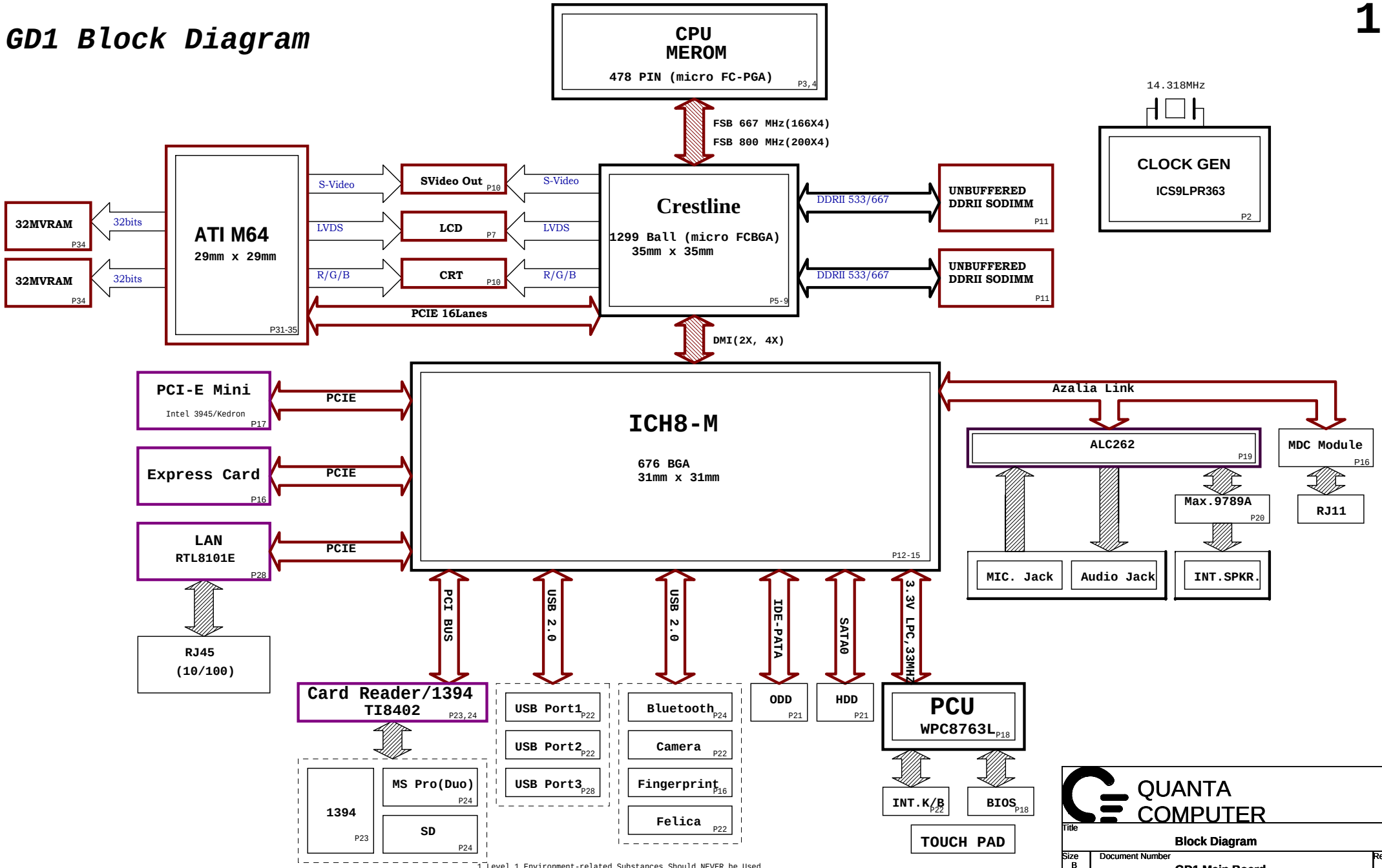
GD1 Block Diagram

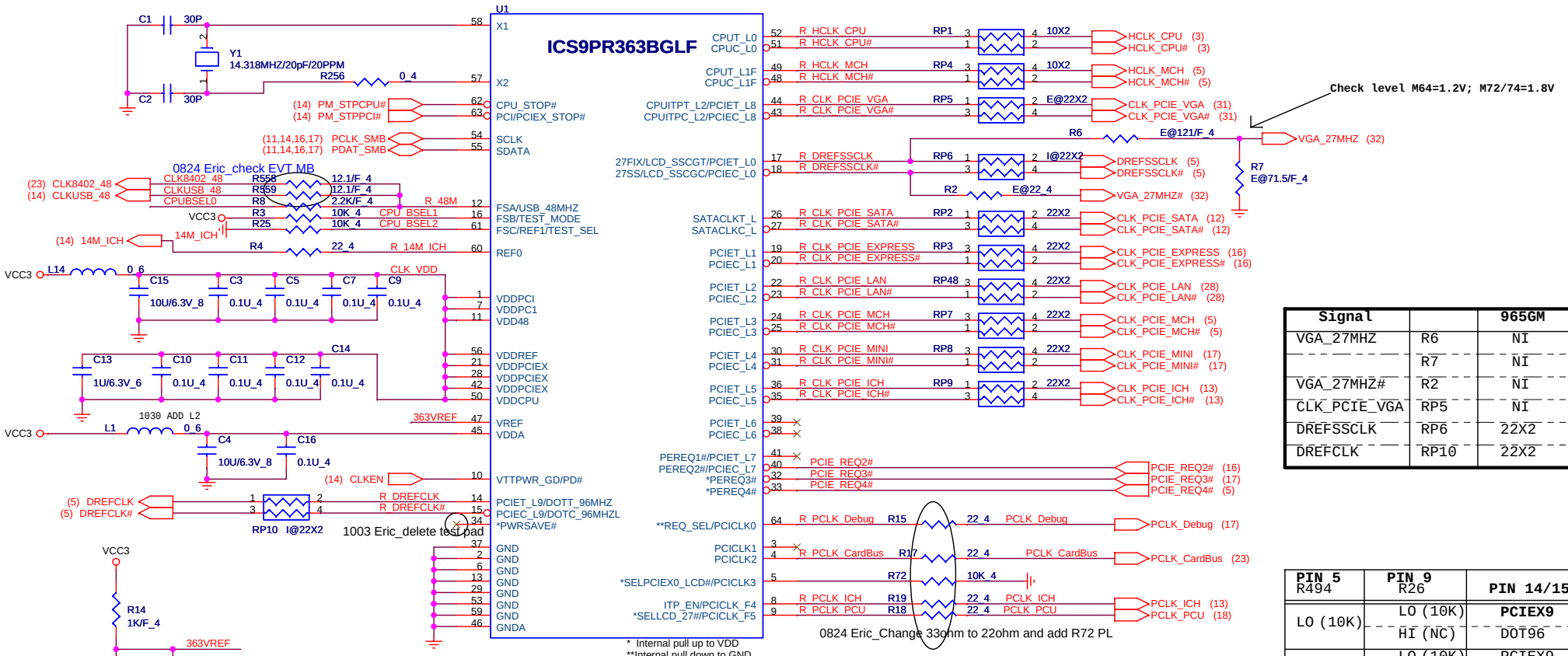
1



1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

QUANTA COMPUTER

Title	Block Diagram	
Size B	Document Number GD1 Main Board	Rev 1A
Date: Tuesday, November 14, 2006	Sheet 1 of 35	



Signal		965GM	965PM
VGA_27MHZ	R6	NI	121
	R7	NI	71.5
VGA_27MHZ#	R2	NI	22
CLK_PCIE_VGA	RP5	NI	22X2
DREFSSCLK	RP6	22X2	NI
DREFCLK	RP10	22X2	NI

PIN 5 R494	PIN 9 R26	PIN 14/15	PIN 17/18
LO (10K)	LO (10K)	PCIEX9	27MHZ
	HI (NC)	DOT96	LCD
HI (NC)	LO (10K)	PCIEX9	PCIEX0
	HI (NC)	DOT96	PCIEX0

ITP_EN(PIN8)
LOW : PIN43/44 SRC
HIGH : PIN43,44 CPUITP

PCIE_REQ1#	PCIE_L0	PCIE_L6		
PCIE_REQ2#	PCIE_L1	PCIE_L8		
PCIE_REQ3#	PCIE_L2	PCIE_L4		
PCIE_REQ4#	PCIE_L3	PCIE_L5	PCIE_L7	

FSC BSEL2	FSB BSEL1	FSA BSEL0	CPU	SRC	PCI	REF	USB	DOT	Spread %
0	0	0	266.66	100	33.33	14.318	48	96	0.5 Down
0	0	1	133.33	100	33.33	14.318	48	96	0.5 Down
* 0	1	0	**200.00**	100	33.33	14.318	48	96	0.5 Down
0	1	1	166.66	100	33.33	14.318	48	96	0.5 Down
1	0	0	333.33	100	33.33	14.318	48	96	0.5 Down
1	0	1	100.00	100	33.33	14.318	48	96	0.5 Down
1	1	0	400.00	100	33.33	14.318	48	96	0.5 Down
1	1	1	200.00	100	33.33	14.318	48	96	0.5 Down

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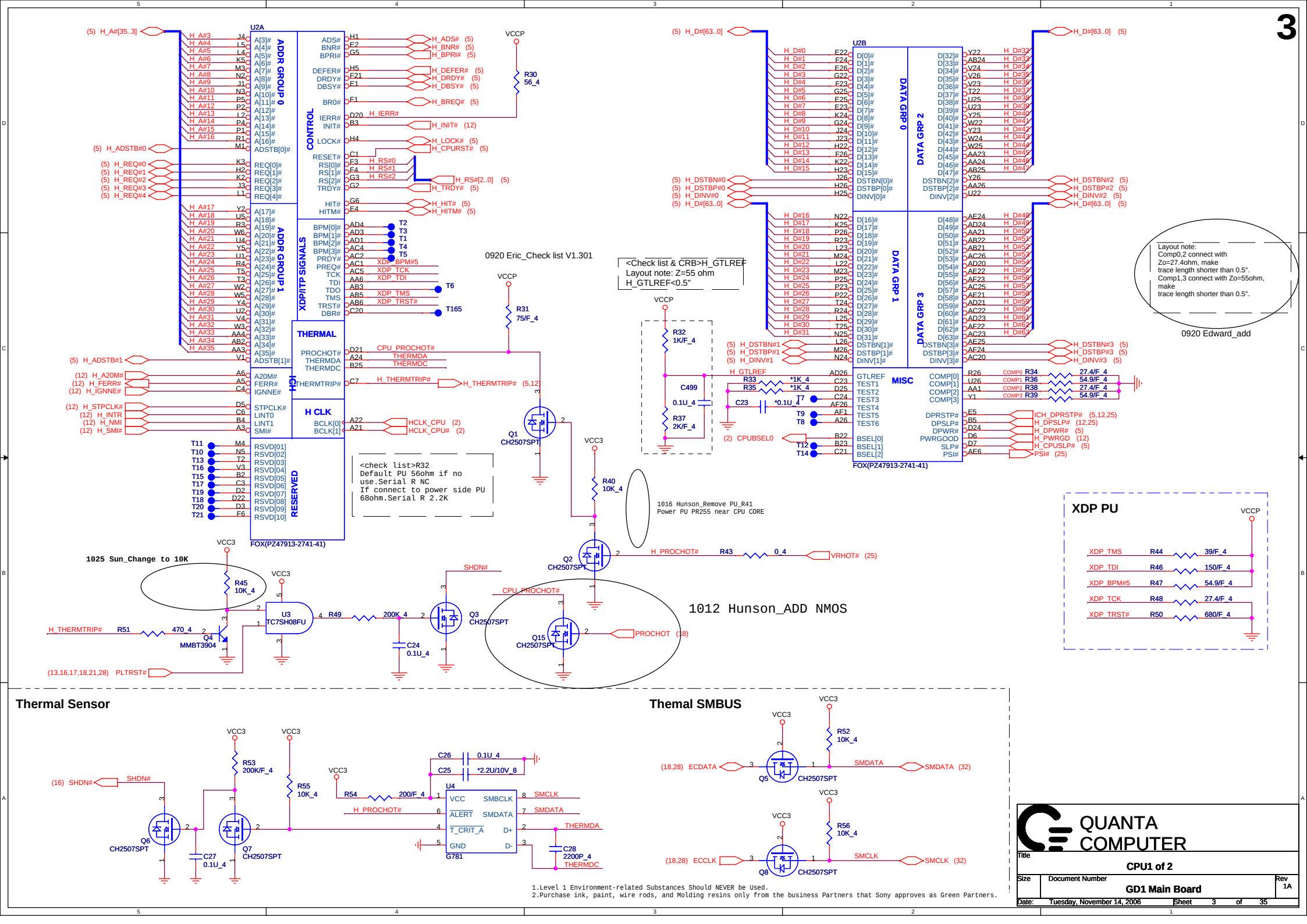
QUANTA COMPUTER

Title: CLOCK GENERATOR

Size: B | Document Number: GD1 Main Board | Rev: 1A

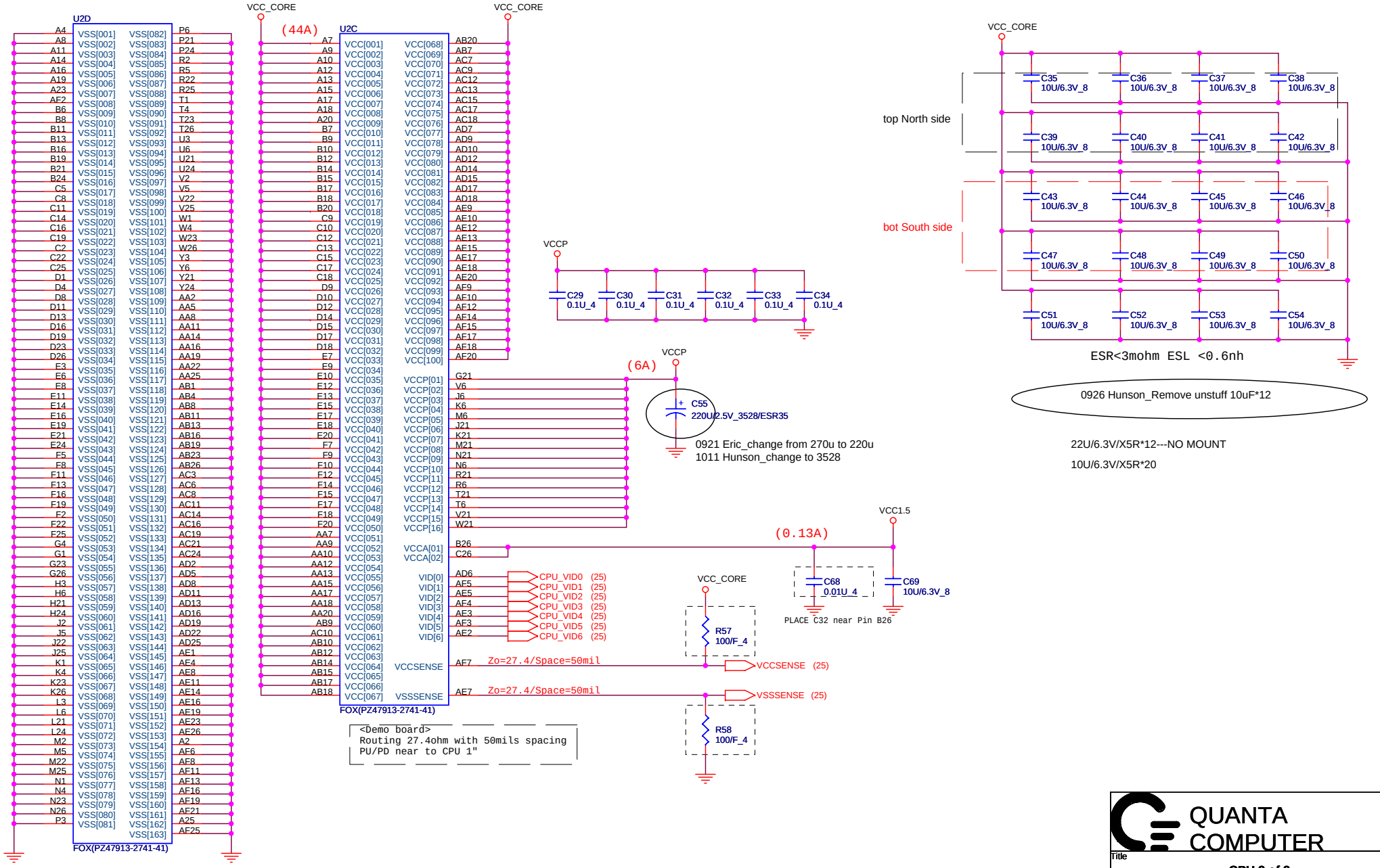
Date: Wednesday, November 15, 2006 | Sheet 2 of 35



1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

QUANTA COMPUTER

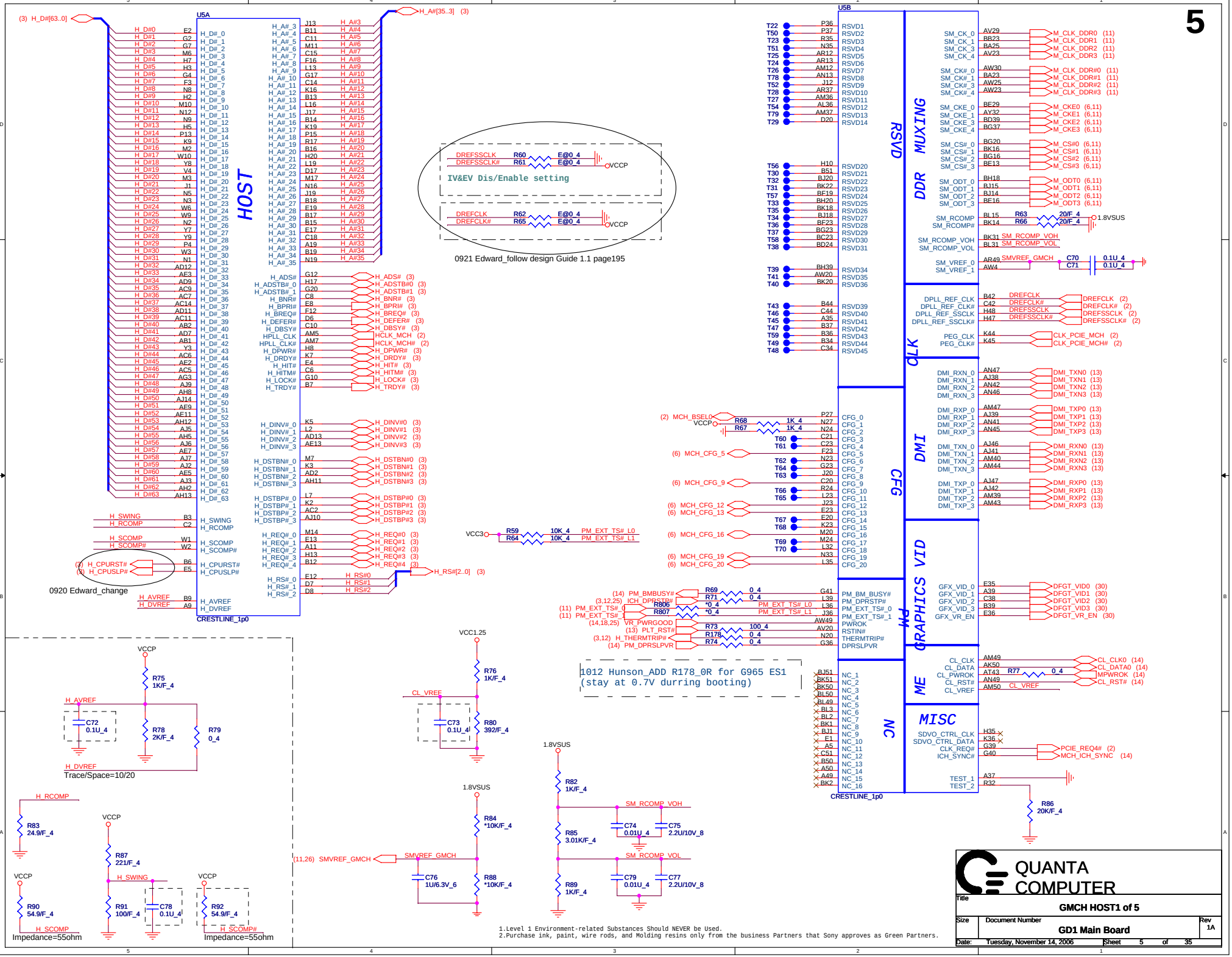
Title	CPU1 of 2	
Size	Document Number: GD1 Main Board	Rev: 1A
Date: Tuesday, November 14, 2006	Sheet 3 of 35	



1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

QUANTA COMPUTER

Title: CPU 2 of 2		
Size: B	Document Number: GD1 Main Board	Rev: 1A
Date: Tuesday, November 14, 2006	Sheet 4 of 35	



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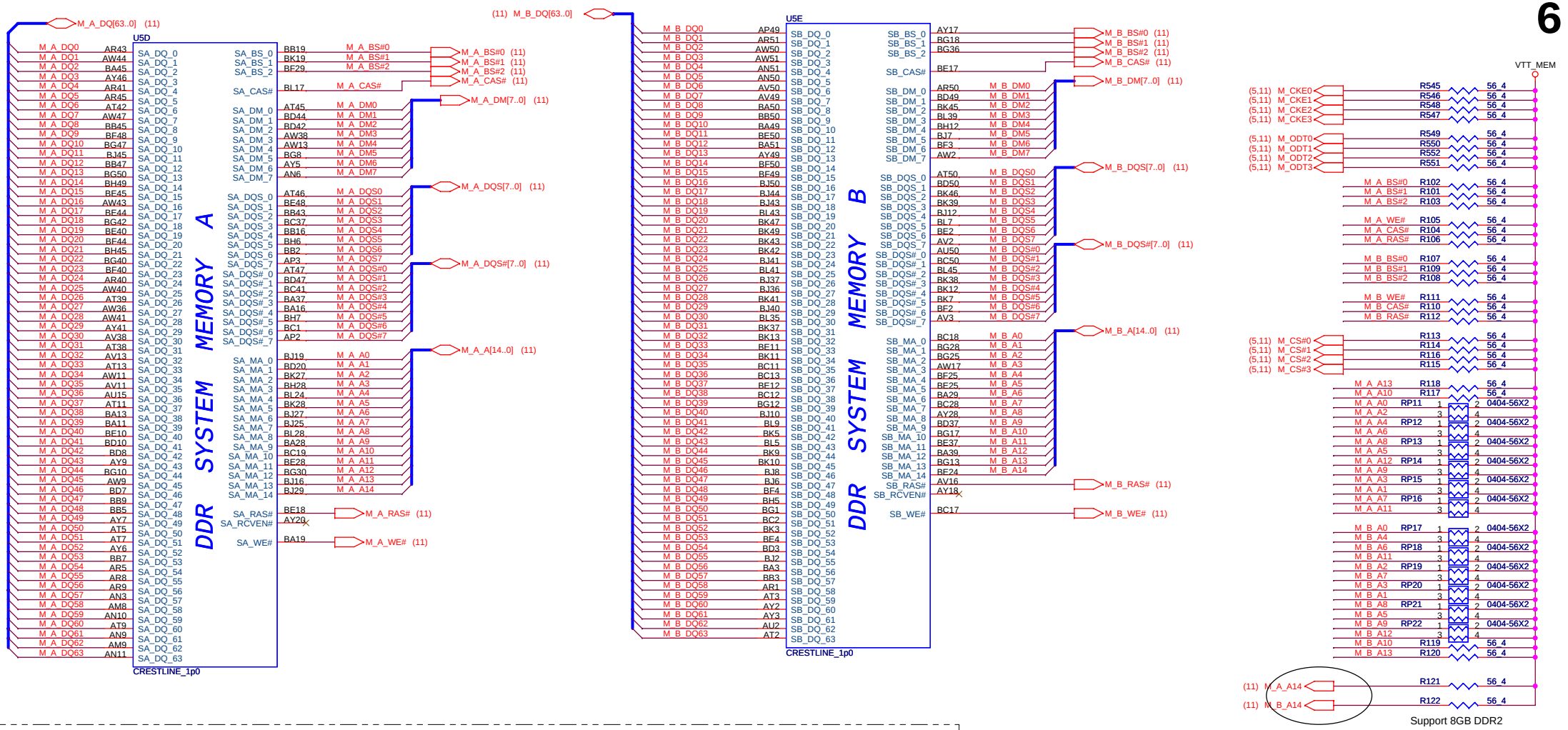


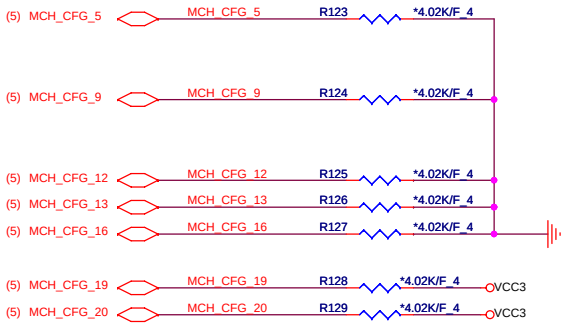
GMCH Strap pin description

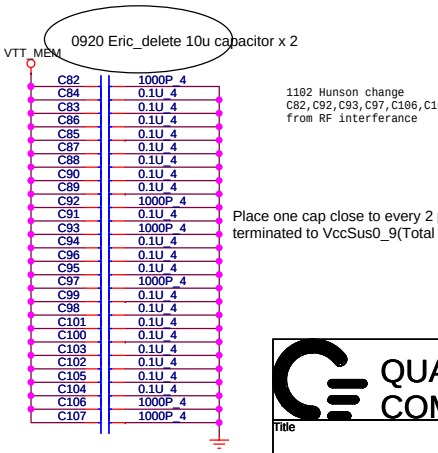
		Low		High
CGF5		DMIx2	*	DMIx4
CGF6		RSVD for 945GMS		
CGF7		RSVD	*	CPU type: Mobile CPU
CGF9		PCIE Graphics lan : Reverse Lane	*	PCIE Graphics lan : Normal operation
CGF10		reserved		
CGF11		reserved		
CGF16		FSB Dynamic ODT Disabled	*	FSB Dynamic ODT Enabled
CGF18	*	GMCH core: 1.05V		GMCH core: 1.5V
CGF19	*	DMI LANE Normal		DMI LANE Reversed
CGF20	*	only SDVO or PCIE x1 is operational		SDVO and PCIE x1 are operation simultaneously via the PEG port

CGF[13:12]

00 = Partial clock gating disable
01 = XOR mode enabled
10 = All-Z mode enabled
* 11 = Normal Operation(Default)

int.Pull-down : CFG 18,19,20
Int.Pull-high : CFG CFG 3~17





1102 Hunson change
C82,C92,C93,C97,C106,C107 to 1000P
from RF interferance

Place one cap close to every 2 pull-up resistors
terminated to VccSus0_9(Total 0.1u x 26)

1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

QUANTA COMPUTER

Title	GMCH DDR II 2 of 5		
Size	Document Number		Rev
	GD1 Main Board		1A
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E@: PM965(EXT) should mount
I@: GM965(INT) should mount
@:please refer to form nearly

Signal		GM965	PM965
NB_VSYNC	R158	NI	0_4
	R168	30.1_4	NI
NB_HSYNC	R159	NI	0_4
	R166	30.1_4	NI
GFX	C112, C114~C129, C130~C145	NI	0.1UF_4

Signal		965GM	965PM
NB_B	R160	0_4	NI
	R155	150_4	0_4
NB_G	R161	0_4	NI
	R157	150_4	0_4
NB_R	R162	0_4	NI
	R156	150_4	0_4
L_IBG	R147	2.4K_4	NI
LVDS	RP38 RP41~RP43	0X2	NI
L_BKLT_EN	R170	0_4	NI
L_CTRL_CLK	R130	10K	NI
	RP46	NI	0X4
L_CTRL_DATA	R145	10K	NI
	RP46	NI	0X4
LVDS_VDDEN	R146	0_4	NI
DDC2BC	R163	0_4	NI
	R553	NI	0_4
DDC2BD	R164	0_4	NI
	R554	NI	0_4
CRT_TVO_IREF	R167	1.3K_4	0
L_DDC_CLK	RP46	NI	0X4
L_DDC_DATA	RP46	NI	0X4
BRIGHT	R173	0_4	NI
	R175	NI	0_4

U5C

PCI-EXPRESS GRAPHICS

LVDS

TV

VGA

0912 Edward_exchange G27 and K27

1013 Edward_ADD PD R431_75R

1025 Edware_ADD PD 0R@ EXT GFX

CRESTLINE_1p0

SM Bus PD

CRT PU/PD

NB LVDS enable

Display On

1026 Hunson_Change R171 to 10K

LVDS

LVDS-FOX(GS13307-11230-7F)

1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

QUANTA COMPUTER

Title	GMCH DMI VEDIO 3 of 5	
Size	Document Number: GD1 Main Board	Rev: 1A
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POWER

U5G

VCCP
(965GM 1.31A)
(965PM 1.57262A)
VCC_1 VCC_2 VCC_3 VCC_5 VCC_4 VCC_6 VCC_7 VCC_8 VCC_9 VCC_10 VCC_11 VCC_12
R30 VCC_13
VCC CORE

1.8VSUS
VCC_SM_1 VCC_SM_2 VCC_SM_3 VCC_SM_4 VCC_SM_5 VCC_SM_6 VCC_SM_7 VCC_SM_8 VCC_SM_9 VCC_SM_10 VCC_SM_11 VCC_SM_12 VCC_SM_13 VCC_SM_14 VCC_SM_15 VCC_SM_16 VCC_SM_17 VCC_SM_18 VCC_SM_19 VCC_SM_20 VCC_SM_21 VCC_SM_22 VCC_SM_23 VCC_SM_24 VCC_SM_25 VCC_SM_26 VCC_SM_27 VCC_SM_28 VCC_SM_29 VCC_SM_30 VCC_SM_31 VCC_SM_32 VCC_SM_33 VCC_SM_34 VCC_SM_35 VCC_SM_36
C147 220U/2.5V/ESR15/H1.9
C155 10U/6.3V_8
C148 10U/6.3V_8
C149 0.1U_4
(667MTS 1.8V 2.4A)
VCC SM

VCC_AXG
(7.7A)
VCC_AXG_1 VCC_AXG_2 VCC_AXG_3 VCC_AXG_4 VCC_AXG_5 VCC_AXG_6 VCC_AXG_7 VCC_AXG_8 VCC_AXG_9 VCC_AXG_10 VCC_AXG_11 VCC_AXG_12 VCC_AXG_13 VCC_AXG_14 VCC_AXG_15 VCC_AXG_16 VCC_AXG_17 VCC_AXG_18 VCC_AXG_19 VCC_AXG_20 VCC_AXG_21 VCC_AXG_22 VCC_AXG_23 VCC_AXG_24 VCC_AXG_25 VCC_AXG_26 VCC_AXG_27 VCC_AXG_28 VCC_AXG_29 VCC_AXG_30 VCC_AXG_31 VCC_AXG_32 VCC_AXG_33 VCC_AXG_34
VCC GFX

VCC_AXG_NCTF_1 ... VCC_AXG_NCTF_83
VCC_AXG
VCC GFX NCTF

VCC_SM_LF1 VCC_SM_LF2 VCC_SM_LF3 VCC_SM_LF4 VCC_SM_LF5 VCC_SM_LF6 VCC_SM_LF7
C170 1U/6.3V_6
C169 1U/6.3V_6
C171 0.47U/10V_6
C173 0.22U/6.3V_4
C172 0.22U/6.3V_4
C174 0.1U_4
C175 0.1U_4
VCC SM LF

CRESTLINE_1p0

0929 Hunson_change from 330u to 220u
C159 220U/2.5V/ESR15/H1.9
C150 I@10U/6.3V_8
C151 I@10U/6.3V_8
C152 I@1U/6.3V_6
C146 I@0.47U/10V_6
C160 I@0.1U_4/E@0_4
C153 I@0.1U_4
+VCC_CFXCORE support int VGA
If ext -VGA,pull down GND

C161 220U/2.5V_3528/ESR35
C154 10U/6.3V_8
C156 0.22U/6.3V_4
C162 0.22U/6.3V_4
C157 0.1U_4
C158 0.1U_4

VCC3_SYNC R179 10_4 D1 CH501H-40

U5F

VCCP
(1.3A)
VCC_NCTF_1 ... VCC_NCTF_50
VCC NCTF

VSS_NCTF_1 ... VSS_NCTF_21
VSS NCTF

VSS_SCB1 VSS_SCB2 VSS_SCB3 VSS_SCB4 VSS_SCB5 VSS_SCB6
VSS SCB

VCCP
(0.54A)
VCC_AXM_NCTF_1 ... VCC_AXM_NCTF_19
VCC AXM NCTF

VCC_AXM_1 ... VCC_AXM_7
VCC AXM

C163 10U/6.3V_8
C165 0.22U/6.3V_4
C164 0.22U/6.3V_4
C166 0.1U_4
C168 0.1U_4
C167 0.1U_4

CRESTLINE_1p0

U5I

A13 A15 A17 A24 AA21 AA24 AA29 AB20 AB23 AB26 AB28 AB31 AC10 AC13 AC3 AC39 AC43 AC47 AD1 AD21 AD26 AD29 AD3 AD41 AD45 AD49 AD5 AD50 AD8 AE10 AE14 AE6 AF20 AF23 AF24 AF31 AG2 AG38 AG43 AG47 AG50 AH3 AH40 AH41 AH7 AH9 AJ11 AJ13 AJ21 AJ24 AJ29 AJ32 AJ43 AJ45 AJ49 AK20 AK21 AK26 AK28 AK31 AK51 AL1 AM11 AM13 AM3 AM4 AM41 AM45 AN1 AN38 AN39 AN43 AN5 AN7 AP4 AP48 AP50 AR11 AR2 AR39 AR44 AR47 AR7 AT10 AT14 AT41 AT49 AU1 AU23 AU29 AU3 AU36 AU49 AU51 AV39 AV48 AW1 AW12 AW16
VSS_1 ... VSS_99
VSS_100 ... VSS_198
AW24 AW29 AW32 AW5 AW7 AY10 AY24 AY37 AY42 AY43 AY45 AY47 AY50 B10 B20 B24 B29 B30 B35 B38 B43 B46 B5 B8 BA1 BA17 BA18 BA2 BA24 BB12 BB25 BB40 BB44 BB49 BB8 BC16 BC24 BC25 BC36 BC40 BC51 BD13 BD2 BD28 BD45 BD48 BD5 BE1 BE19 BE23 BE30 BE42 BE51 BE8 BF12 BF16 BF36 BG19 BG2 BG24 BG29 BG39 BG48 BG5 BG51 BH17 BH30 BH44 BH46 BH8 BJ11 BJ13 BJ38 BJ4 BJ42 BJ46 BK15 BK17 BK25 BK29 BK36 BK40 BK44 BK6 BK8 BL11 BL13 BL19 BL22 BL37 BL47 C12 C16 C19 C28 C29 C33 C36 C41
CRESTLINE_1p0

U5J

C46 C50 C7 D13 D24 D3 D32 D39 D45 D49 E10 E16 E24 E28 E32 E47 F19 F36 F4 F40 F50 G1 G13 G16 G19 G24 G28 G29 G33 G42 G45 G48 G8 H24 H28 H4 H45 J11 J16 J2 J24 J28 J33 J35 J39 K12 K47 K8 L1 L17 L20 L24 L28 L3 L33 L49 M28 M42 M46 M49 M5 M50 M9 N11 N14 N17 N29 N32 N36 N39 N44 N49 N7 P19 P2 P23 P3 P50 R49 T39 T43 T47 U41 U45 U50 V2 V3
VSS_199 ... VSS_313
W11 W39 W43 W47 W5 W7 Y13 Y2 Y41 Y45 Y49 Y5 Y50 Y11 P29 T29 T31 T33 R28 AA32 AB32 AD32 AF28 AF29 AT27 AV25 H50
VSS

CRESTLINE_1p0

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QUANTA COMPUTER

Title	GMCH Power 4 of 5	
Size	Document Number: GD1 Main Board	Rev: 1A
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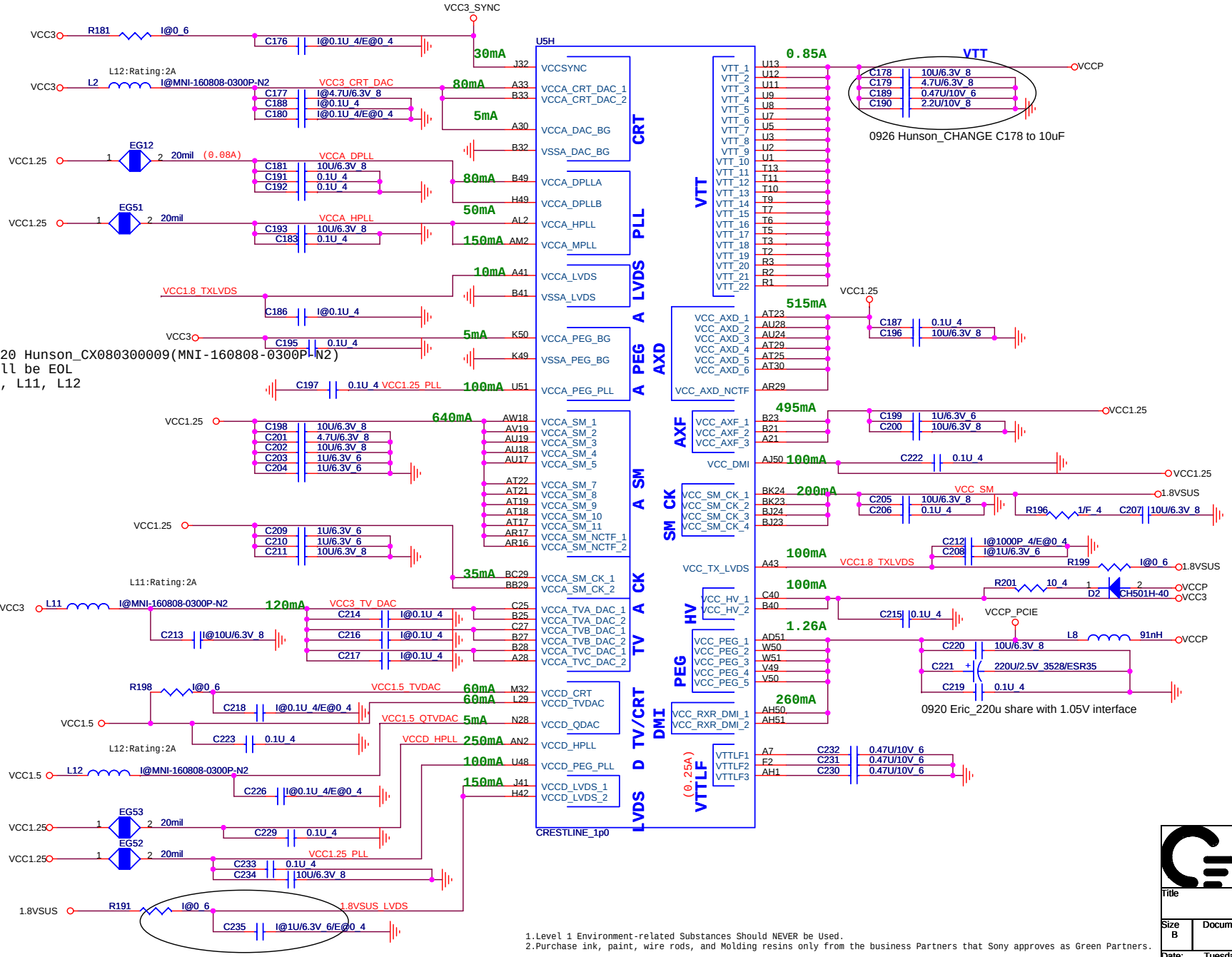

Signal		965GM	965PM
VCCA_TV_DAC	L12	V	X
	C244	V	X
	C245	V	X
	C246	V	X
	C248	V	X
	R193	X	V
VCC1.5_TVDAC	L14	V	X
	C250	V	X
	C247	V	X
	R195	X	V
VCC1.5_QTVDAC	L17	V	X
	C257	V	X
	C258	V	X
	R197	X	V

Signal		965GM	965PM
VCCA_DAC_BG	L8	V	X
	C214	V	X
	R181	X	V
VCCSYNC	R177	V	X
	C201	V	X
	C202	V	X
	R178	X	V
VCC3_CRT_DAC	L7	V	X
	C203	V	X
	C211	V	X
	R179	X	V
VCCD_LVDS	R198	V	X
	C265	V	X
	C264	V	X
	R199	X	V
VCCA_LVDS	R183	0_4	NC
	C208	0.01u_4	NC
	C209	0.1u_4	NC
	R184	NC	0_4
VCC_TX_LVDS	R192	V	X
	C240	V	X
	C238	V	X
	R191	X	V

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QUANTA COMPUTER

Title	GMCH Power 2 5 of 5	
Size B	Document Number GD1 Main Board	Rev 1A
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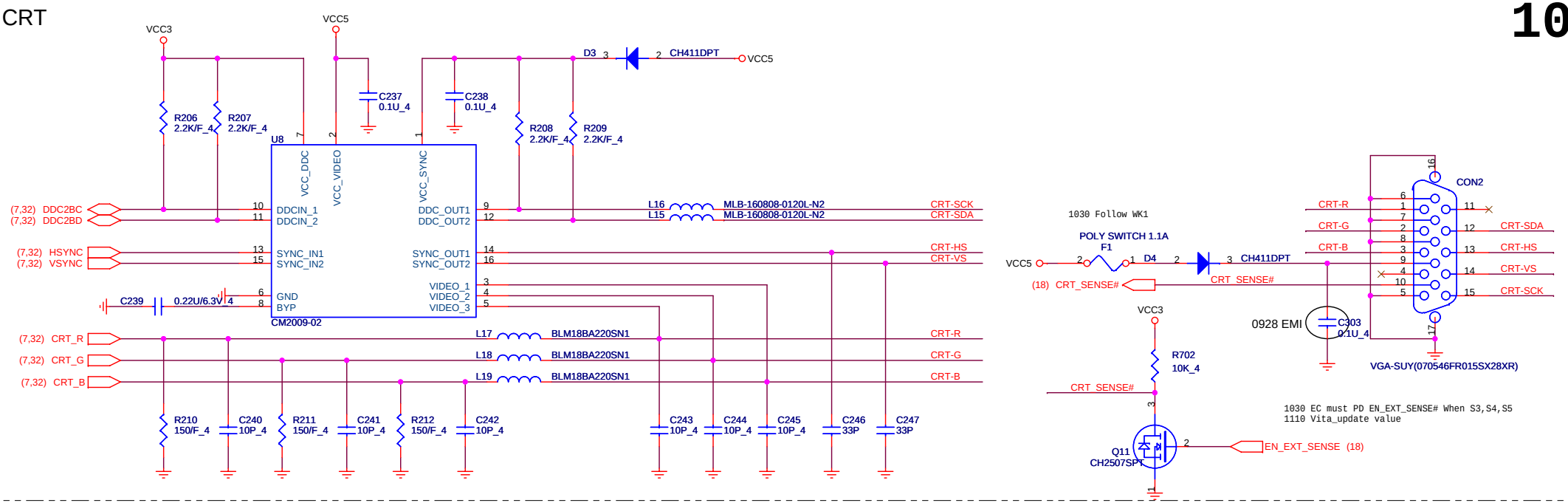
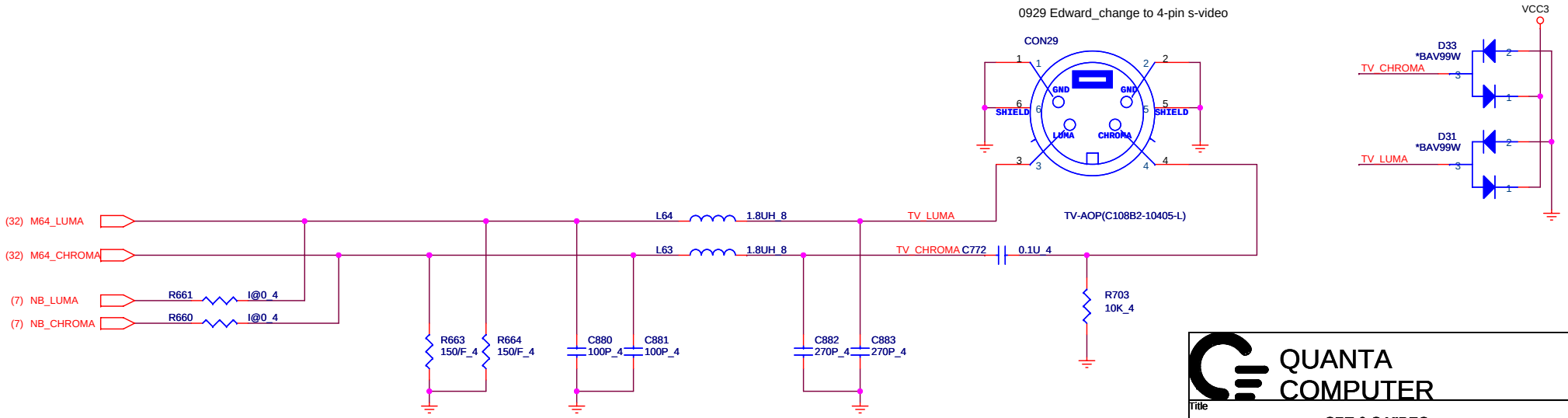
CRT



S-VIDEO_OUT



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QUANTA COMPUTER

Title	CRT & S-VIDEO	
Size B	Document Number GD1 Main Board	Rev 1A
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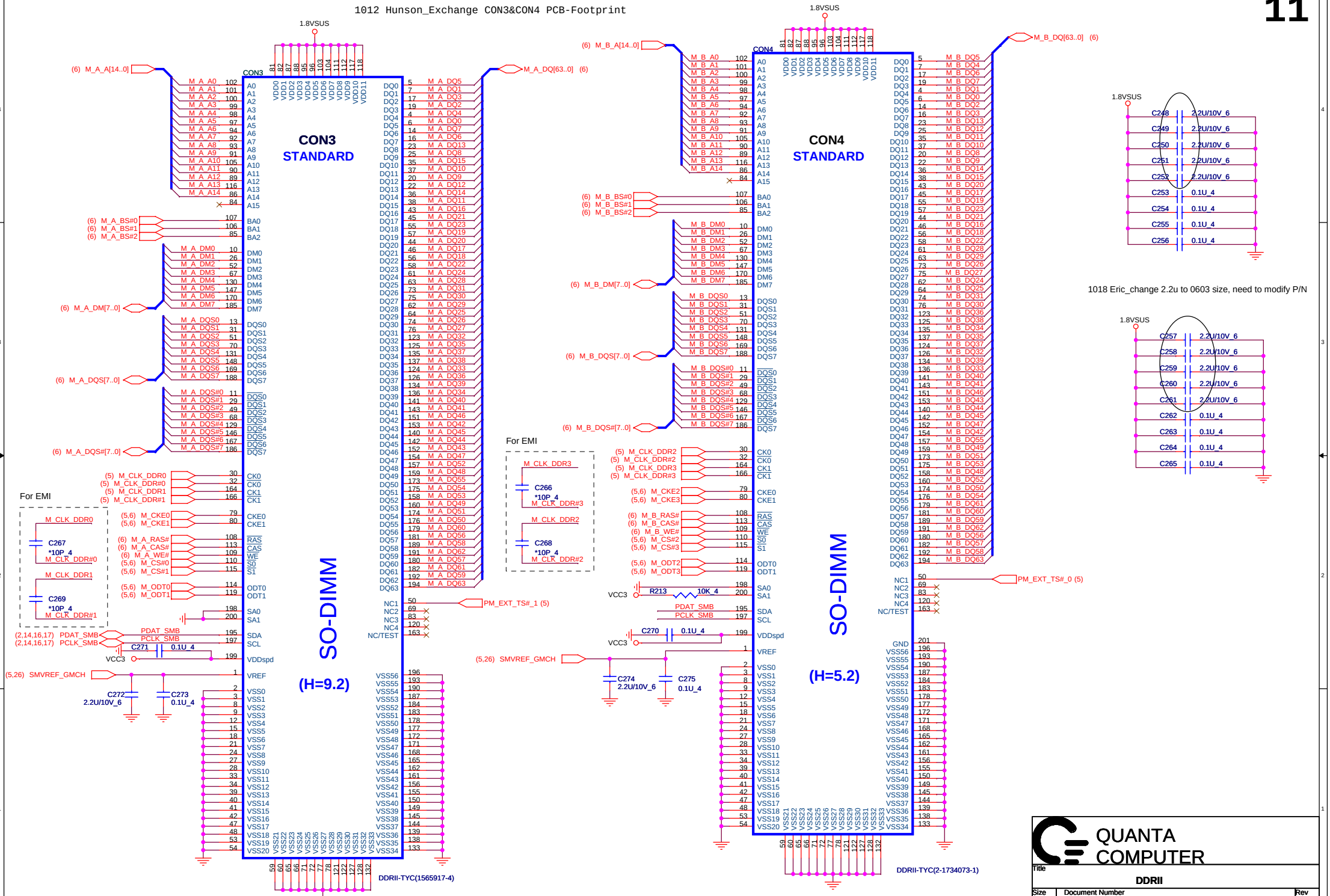
1012 Hunson_Exchange CON3&CON4 PCB-Footprint



1018 Eric_change 2.2u to 0603 size, need to modify P/N

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QUANTA COMPUTER

Title	DDRII	
Size	Document Number: GD1 Main Board	Rev: 1A
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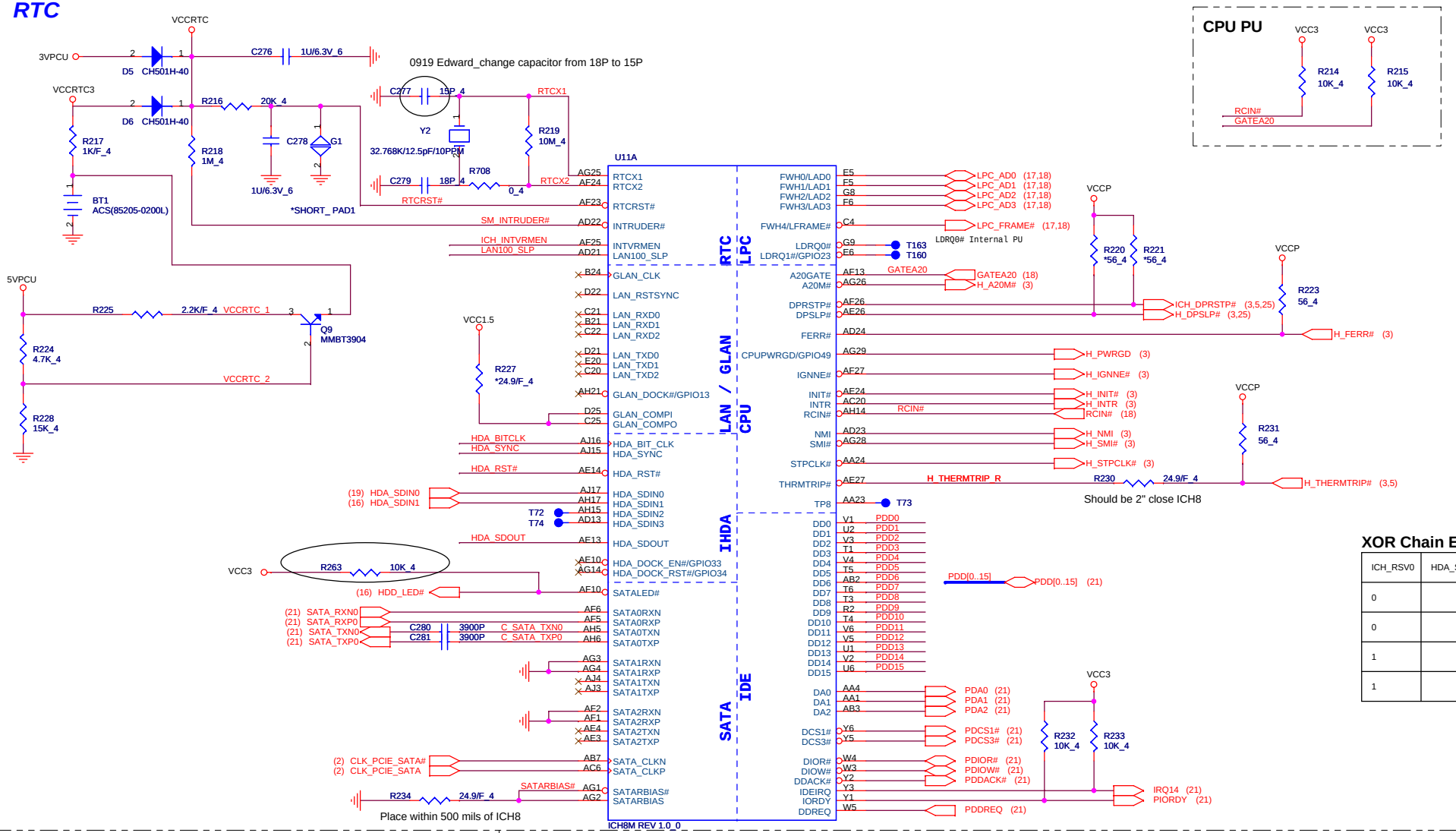
RTC



CPU PU

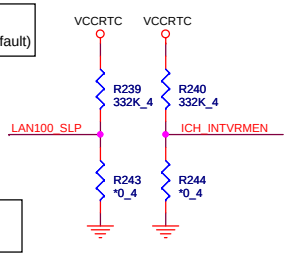
XOR Chain Entrance Strap

ICH_RSV0	HDA_SDOUT	Description
0	0	RSVD
0	1	Enter XOR Chain
1	0	Normal opration(Default)
1	1	Set PCIE port config bit 1

ICH8 strap

ICH8-M LAN100_SLP Strap
(Internal VR for VccLAN1_05 and VccCL1.05)

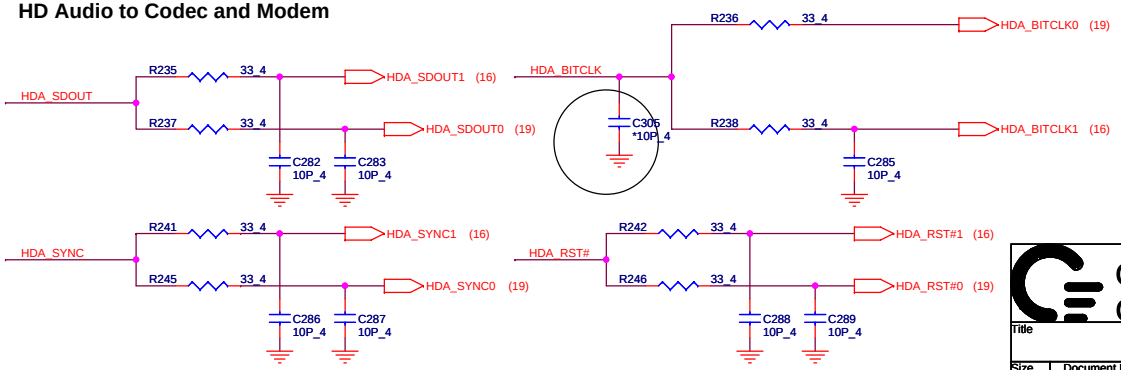
LAN100_SLP	Low = Internal VR disable High = Internal VR enable(Default)



ICH_INTVRMEN	Low = Disable High = Enable(Default)

ICH8-M Internal VR Enable strap
(Internal VR for Vccsus1_05,VccSus1_5 and VccCL1_5)

HD Audio to Codec and Modem



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QUANTA COMPUTER

Title	ICH8-M HOST 1 of 4	
Size	Document Number: GD1 Main Board	Rev: 1A
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WireLess Lan

Express card

10/100 Lan

U11D

PCI-Express Direct Media Interface

SPI

USB

ICH8M REV 1.0_0

USB_PORT

USB_PORT

USB_PORT

Express Card

Finger Print

Blue Tooth

Felica

CAMERA

USB ARRANGE Accoring to Product spec.

VCC1.5

R247 24.9/F_4

Within 500 mils

R250 22.6/F_4

<CRB>
USB_RBIAS_PN<500mils

U11B

PCI

Interrupt I/F

ICH8M REV 1.0_0

ICH8 internal PU PME# 3Vsus

U12 TC7SH08FU

U13 *TC7SH08FU

R255 0_4

R182 100K_4

1.This part should not contain any substances which are specified in SS-00259-1
2.Purchase ink, paint, wire rods and molding resins only from the business partners that Sony approves as Green Partners.

PCI bus info.

PCI DEVICE	IDSEL#	REQ# / GNT#	Interrupts
TI8402	AD23	REQ0# / GNT0#	PIRQ E/F/G

A16 SWAP Override strap

PCI_GNT#3	Low = A16 swap override enabled High = Default

PCI_GNT3# R248 *1K_4

ICH8 Boot BIOS select

PCI_GNT#0	SPI_CS#1	Boot BIOS Location
0	1	SPI
1	0	PCI
1	1	LPC(Default)

PCI_GNT0# R251 *1K_4

SPI_CS1# R249 *1K_4

RP23 10KX8

RP24 10KX8

RP25 10KX8

RP26 10KX8

1030 PU 10K

Title	ICH8-M PCIE 2 of 4
Size B	Document Number GD1 Main Board
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RVCC3
SMLINK0 R421 10K_4
SMLINK1 R426 10K_4
KBSMI# R427 10K_4
WAKE_SCI# R R261 10K_4
PCIE_WAKE# R262 1K_4
PM_BATLOW# R R265 8.2K_4
DNBSWON# R264 10K_4
SYS_RST# R258 10K_4

0915 Edward.Tsai follow intel check list

VCC3
PCI_CLKRUN# R289 8.2K_4
SERIRQ R292 8.2K_4
RUNTIME_SCI# R R293 10K_4
PCLK_SMB R294 2.2K/F_4
PDAT_SMB R295 2.2K/F_4
PM_STPPCI# R268 *10K_4
PM_STPCPU# R269 *10K_4

ICH_TP3 R297 *1K_4
PWROK R298 10K_4
PM_DPRSLPVR R301 100K/F_4

RSMRST# must be after RVCC3 10 ms

U11C

(2,11,16,17) PCLK_SMB
(2,11,16,17) PDAT_SMB
VCC3 R382 10K_4 SMB_LINK_ALERT#
SMLINK0
SMLINK1
VCC3 R267 10K_4 ICH_RI#
T93
SYS_RST#
(5) PM_BMBUSY#
VCC3 R271 10K_4
(2) PM_STPPCI# R272 0_4
(2) PM_STPCPU# R273 0_4
(23) PCI_CLKRUN#
(16,17,28) WAKE#
(18,23) SERIRQ
VCC3 R276 8.2K_4
(5,18,25) VR_PWRGOOD
T97
(18) SCI# D7 1 2 CH501H-40 RUNTIME_SCI# R
T98
T99
(18) KBSMI# KBSMI#
T115
0918 Edward_delete
(7) DISP_ON
MBID0
WAKE_SCI# R
T101
T102
0918 Edward_delete T114
LCDID0
T164
T103
(19) PCSPK
(5) MCH_ICH_SYNC
ICH_TP3

SMBCLK	AJ26	SMB	
SMBDATA	AD19		
LINKALERT#	AG21		
SMLINK0	AC17		
SMLINK1	AE19		
RI#	AF17		
SUS_STAT#/LPCPD#	F4	SYS GPIO	
SYS_RESET#	AD15		
BMBUSY#/GPIO0	AG12		
SMBALERT#/GPIO11	AG22		
STP_PCI#/GPIO15	AE20		
STP_CPU#/GPIO25	AG18		
CLKRUN#/GPIO32	AH11		
WAKE#	AE17		
SERIRQ	AF12		
THRM#	AC13		
VRMPWRGD	AJ20		
TP7	AJ22		
TACH1/GPIO1	AJ8	Power MGT	
TACH2/GPIO6	AJ9		
TACH3/GPIO7	AH9		
GPIO8	AE16		
GPIO12	AC19		
TACH0/GPIO17	AG8		
GPIO18	AH12		
GPIO20	AE11		
SCLOCK/GPIO22	AG10		
QRT_STATE0/GPIO27	AH25	GPIO Controller Link	
QRT_STATE1/GPIO28	AD16		
SATACLKREQ#/GPIO35	AG13		
SLOAD/GPIO38	AF9		
SDATAOUT0/GPIO39	AJ11		
SDATAOUT1/GPIO48	AD10		
SPKR	AD9		
MCH_SYNC#	AJ13		
TP3	AJ21	MISC	

ICH8M REV 1.0_0

SATA0GP/GPIO21	AJ12	T92	
SATA1GP/GPIO19	AJ10	BT_PRS# (24)	
SATA2GP/GPIO36	AF11	MBID1	
SATA3GP/GPIO37	AG11	MBID2	
CLK14	AG9	14M_ICH	14M_ICH (2)
CLK48	G5	CLKUSB_48	CLKUSB_48 (2)
SUSCLK	D3	T94	
SLP_S3#	AG23		SUSB# (18)
SLP_S4#	AF21		SUSC# (18)
SLP_S5#	AD18	T95	
S4_STATE#/GPIO26	AH27	T96	
PWROK	AE23	PWROK	PWROK (7,18)
DPRSLPVR/GPIO16	AJ14	R274 100/F_4 PM_DPRSLPVR	PM_DPRSLPVR (5)
BATLOW#	AF21	PM_BATLOW# R	
PWRBTN#	C2	DNBSWON#	DNBSWON# (18)
LAN_RST#	AH20		
RSMRST#	AG27	RSMRST#	
CK_PWRGD	E1		CLKEN (2)
CLPWROK	E3	R278 0_4	PWROK (7,18) MPWROK (5)
SLP_M#	AJ25	T100	
CL_CLK0	F23		CL_CLK0 (5)
CL_CLK1	AE18		
CL_DATA0	F22		CL_DATA0 (5)
CL_DATA1	AF19		
CL_VREF0	D24	CL_VREF0	
CL_VREF1	AH23		
CL_RST#	AJ23		CL_RST# (5)
MEM_LED/GPIO24	AJ27	T104	
ME_EC_ALERT/GPIO10	AJ24	LCDID2	
EC_ME_ALERT/GPIO14	AF22	LCDID1	
WOL_EN/GPIO9	AG19		

R305 100K_4

CLKUSB_48 R303 *33_4 C299 *10P_4
14M_ICH R304 *33_4 C300 *10P_4

VCC3 R266 3.24K/F_4
CL_VREF0 C296 0.1U_4 R270 453/F_4

RSMRST#

RVCC3 C891 0.1U_4
(16) 8734_PGOOD
RVCC3 R801 180K_4 C892 0.1U_4
RSMRST_1#
U51 TC7SH08FU
RSMRST# R299 10K_4

LCD ID

1012 Edward_Change SW3 PN#

VCC3
R279 10K_4
R281 10K_4
R275 10K_4
LCDID0
LCDID1
LCDID2
SW3
R81 1K/F_4
R94 1K/F_4
R277 1K/F_4
DIP(FHDS-04F-T-V-T/R(682))

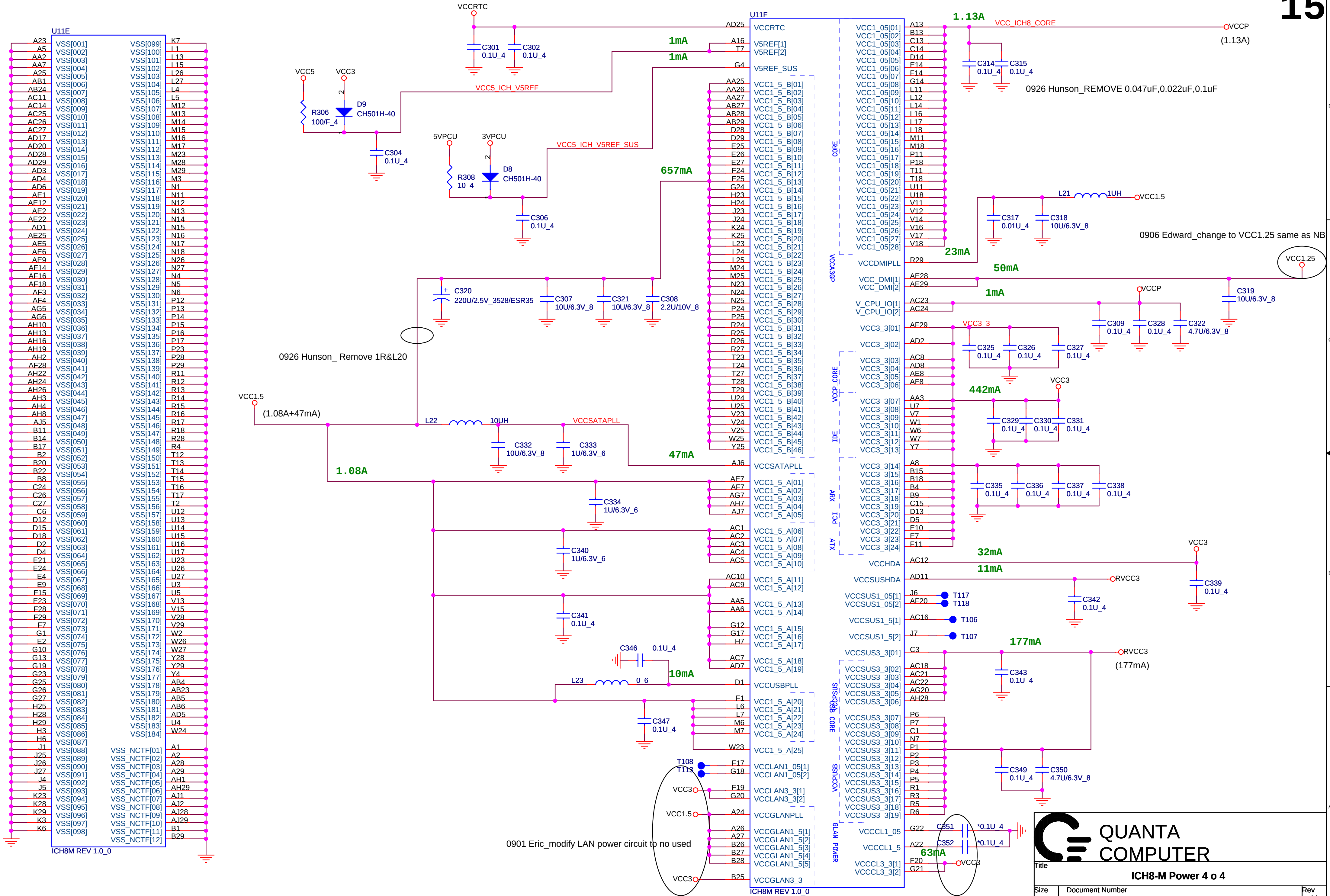
MB ID

VCC3
R285 *10K_4 MBID0 R286 10K_4
R287 10K_4 MBID1 R288 *10K_4
R290 10K_4 MBID2 R291 *10K_4

1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

QUANTA COMPUTER

Title	ICH8-M GPIO 3 of 4	
Size B	Document Number GD1 Main Board	Rev 1A
Date: Wednesday, November 15, 2006	Sheet 14 of 35	



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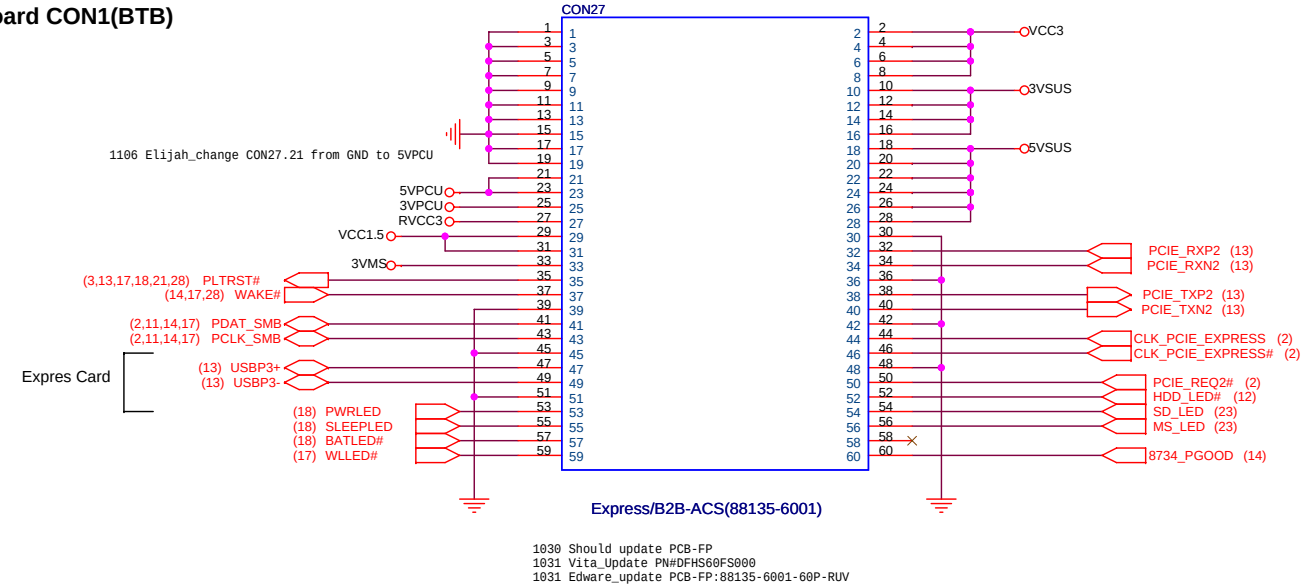
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

QUANTA COMPUTER

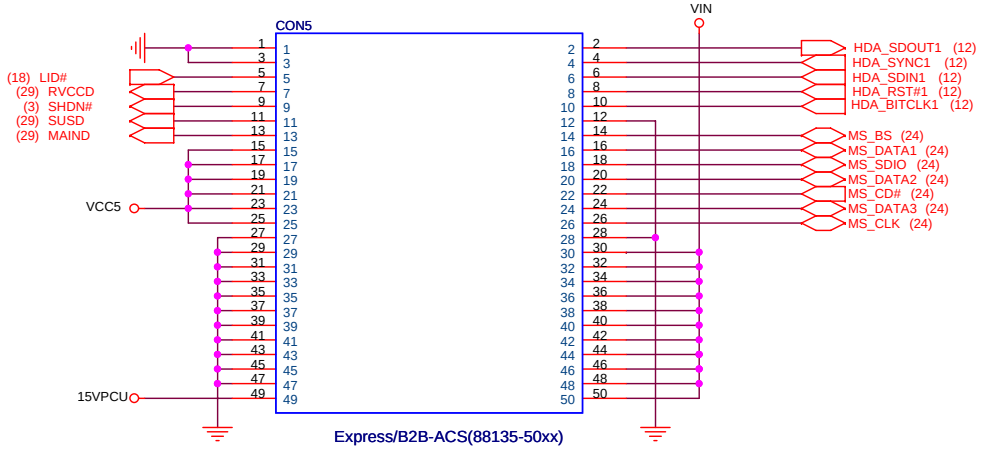
Title	ICH8-M Power 4 o 4		
Size	Document Number: GD1 Main Board	Rev	1A
Date:	Tuesday, November 14, 2006	Sheet	15 of 35

Express Board CON1(BTB)

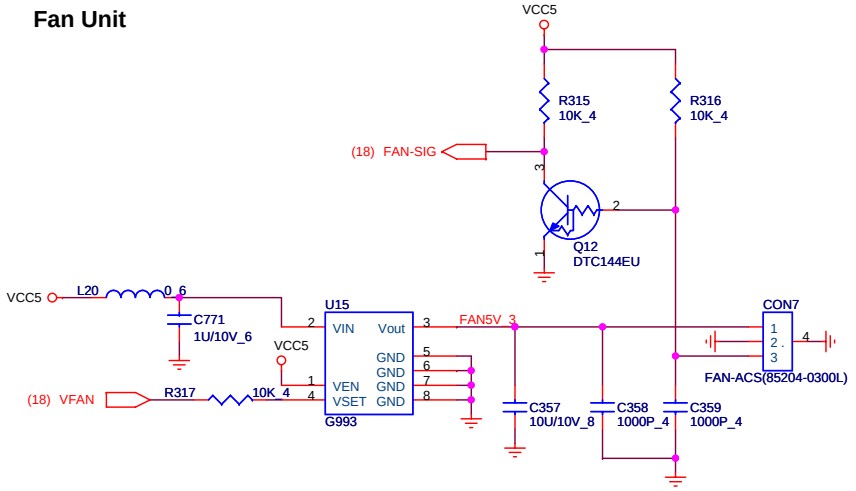


1030 Should update PCB-FP
1031 Vita_Update PN#DFHS60FS000
1031 Edware_update PCB-FP:88135-6001-60P-RUV

Express Board CON2(BTB)



Fan Unit



1.This part should not contain any substances which are specified in SS-00259-1
2.Purchase ink, paint, wire rods and molding resins only from the business partners that Sony approves as Green Partners.

QUANTA COMPUTER

Title: Express Card		
Size: B	Document Number: GD1 Main Board	Rev: 1A
Date: Tuesday, November 14, 2006	Sheet 16 of 35	

LED_GP :LED WLEN LINK
Output Current : 7mA
Blink rate : 1 flash per every 3 sec.

WLSW:
Low : disable the radio.
High : Enable the radio.

LED_WLAN# MAX sink current=16mA
(recommend<=14mA)
Drive in LED/B
+3.3V:1A
+1.5V:500mA
+3.3Vaux:5mA

Mini PCI-E Card FOR WL

CON8

51	Reserved	+3.3V	52
49	Reserved	GND	50
47	Reserved	+1.5V	48
45	Reserved	NC	46
43	GND	LED_WLAN#	44
41	Reserved	NC	42
39	Reserved	GND	40
37	GND	Reserved	38
35	GND	Reserved	36
33	PERp0	GND	34
31	PERn0	Reserved	32
29	GND	Reserved	30
27	GND	+1.5V	28
25	PETp0	GND	26
23	PETno	+3.3Vaux	24
21	GND	PERST#	22
19	Reserved	W_DISABLE#	20
17	Reserved	GND	18
	Mini-PCIE Socket		
15	GND	LPC_AD1	16
13	REFCLK+	LPC_AD0	14
11	REFCLK-	LPC_AD3	12
9	GND	LPC_AD2	10
7	CLKREQ#	LPC_FRAME#	8
5	BT_CHCLK	+1.5V	6
3	BT_DATA	GND	4
1	WAKE#	+3.3V	2

MiniPCIE-JAE(MM60-52B1-B1-R600)

VCC3 VCC1.5 3VSUS

(13) PCIE_TXP1
(13) PCIE_TXN1
(13) PCIE_RXP1
(13) PCIE_RXN1
(2) PCLK_Debug
(2) CLK_PCIE_MINI
(2) CLK_PCIE_MINI#
(2) PCIE_REQ3#
(24) CH_CLK_INTEL
(24) CH_DATA_INTEL
(14,16,28) WAKE#
WAKE#

LED_WLAN# → T109

Q34
CH2507SPT

WLLED# (16)
WLAN_RF_ON
WLAN_RF_ON (18)

PDAT_SMB (2,11,14,16)
PCLK_SMB (2,11,14,16)

PLTRST# (3,13,16,18,21,28)

WLAN_RF_ON
WLAN_RF_ON (18)
W_DISABLE# Vil=0.3V

LPC_AD1 (12,18)
LPC_AD0 (12,18)
LPC_AD3 (12,18)
LPC_AD2 (12,18)
LPC_FRAME# (12,18)

VCC1.5
VCC3

1031 Hunson_Must ADD NMOS,R LED in Express/B

3VSUS
C360 0.1U_4
C361 1U/6.3V_6

VCC3
C362 0.1U_4
C363 10U/6.3V_8
C367 10U/6.3V_8

VCC1.5
C364 0.01U_4
C365 0.1U_4
C366 10U/6.3V_8

1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

QUANTA COMPUTER

Title: MINIPCIE / MDC

Size	Document Number	Rev
B	GD1 Main Board	1A

Date: Wednesday, November 15, 2006 Sheet 17 of 35

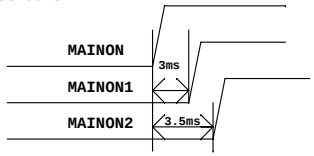
I/O Address		
BADDR1:0	Index	Data
1 0	2E	2F
1 1	4E	4F
0 0	(HCFGBAH, HCFGBAL)	(HCFGBAH, HCFGBAL)+1
0 1	XOR-TREE TEST	

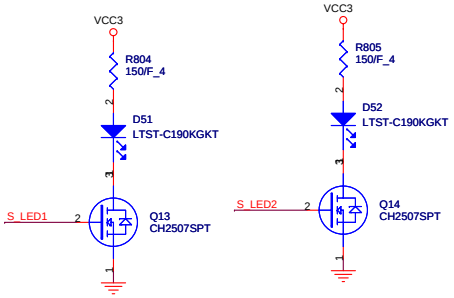
DOCK_RST# = BADDR0
DK_BAY_PWEN: BADDR1

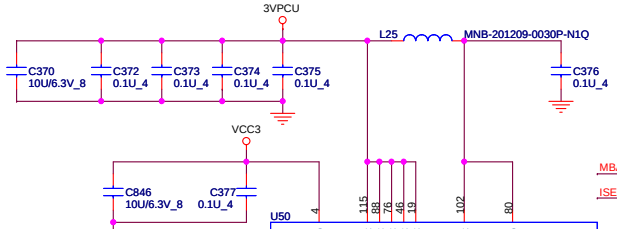
BT_PEN# : SHBM(If = 0 Enable share host BIOS memory)

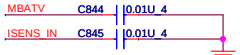
PWROK must be after HWPG at least 10ms
VRON must be after PGOOD at least 99ms

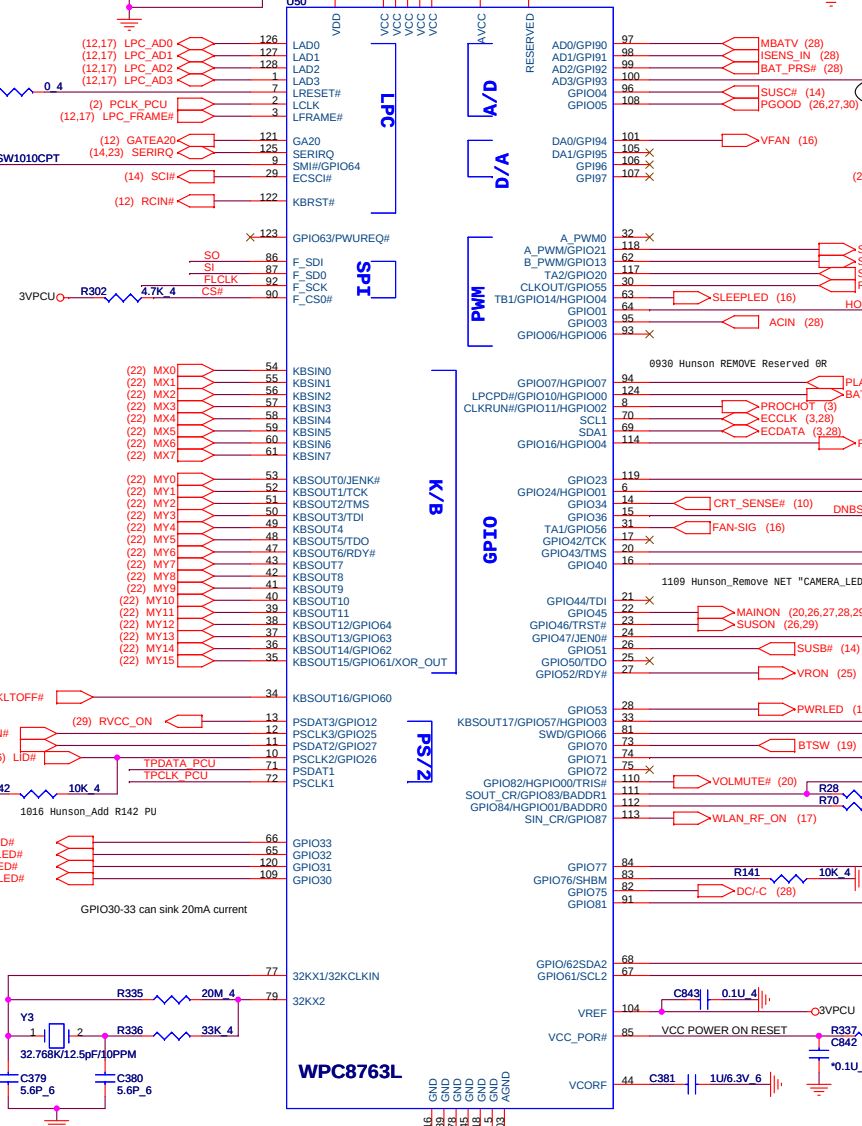
MAINON <-- 3ms --> MAION1
MAINON <-- 3.5ms --> MAION2

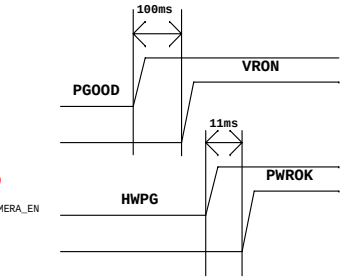








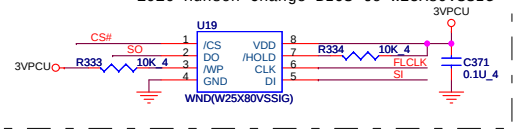




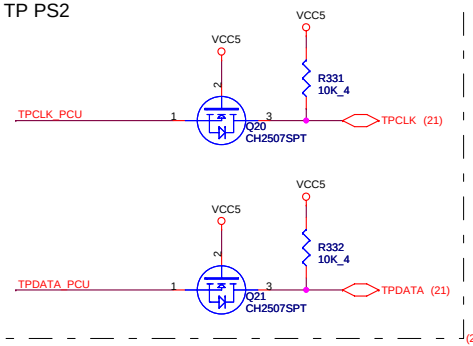
1016 Hunson_Add D10 to prevent leakage to S.B.

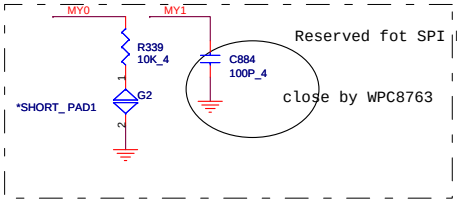
SPI Flash

1012 Hunson_ADD PU R302_4.7K
1016 Hunson Change BIOS to W25X80VSSIG



TP PS2





JTAG SELECT CONFIGURATION

JEN0(PIN24)	JENK(PIN53)	Functionality of PINs (17,20,21,23,25,27)	Functionality of PINs (47,48,50,51,52)
NC	NC	GPIO	KEYBOARD OUTPUT
10K PD	NC	JTAG Signal	KEYBOARD OUTPUT
NC	10K PD	GPIO	JTAG Signal
10K PD	10K PD	Illegal Strap combination	

1016 Hunson_Change EC to WPC8763L

1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

QUANTA COMPUTER

Title	WPC8763L & SPI FLASH	
Size	Document Number: GD1 Main Board	Rev 1A
Date: Tuesday, November 14, 2006	Sheet 18 of 35	

Audio decoupling

EG31 1 2 40mil
R353 *0_4
R354 *0_4
AGND

1101 FAE comment

+5VA
C820 12P_4
C382 0.1U_4
C383 10U/10V_8
R338 20K/F_4
AGND
R544 10K_4
(20) EAPD
R350 0_4
R351 *0_4
HPOUT_R (20)
HPOUT_L (20)
C815 12P_4
C816 12P_4

U20
ALC262
ALC262-VC2-GR

VCC3
C386 0.1U_4
C387 10U/6.3V_8
Low enable speaker
(20) SPKR_EN#
R681 0_4
(20) HP_EN
R682 0_4
High enable HP
(12) HDA_BITCLK0
R16 *22_4
0928 EMI
C284 *10P_4
(12) HDA_SDOUT0
(12) HDA_SDIN0
R342 33_4
(12) HDA_SYNC0
(12) HDA_RST#0
C392 0.1U_4

DVDD-CORE
GPIO2/DMIC-DATA
GPIO3
DVSS
SDATA-OUT
BCLK
DVSS
SDATA-IN
DVDD-IO
SYNC
RESET#
PCBEEP

LINE-OUT-R
LINE-OUT-L
SENSEB
DCVOL
MIC1-VREFO-R
LINE2-VREFO
MIC2-VREFO
LINE1-VREFO
MIC1-VREFO-L
VREF
AVSS1
AVDD1

LINE-OUT-R
LINE-OUT-L
C813 12P_4
C814 12P_4
C388 1U/10V_6
C389 1U/10V_6
LINEOUT_R (20)
LINEOUT_L (20)
R709 10K_4
MIC1-VERFO-R
C404 1U/6.3V_6
+5VA
Standby DePOP
AGND
T162
MIC1-VERFO-L
C403 1U/6.3V_6
C397 10U/6.3V_8
C394 10U/10V_8
C395 0.1U_4

SPDIFO
EAPD/SPDIFI
DMIC-CLK
NC
GPIO1
GPIO0
AVSS2
AVDD2
JDREF
MONO-OUT
HP-OUT-R
HP-OUT-L

SENSEA
LINE2-L
LINE2-R
MIC2-L
MIC2-R
CD-L
CD-GND
CD-R
MIC1-L
MIC1-R
LINE1-L
LINE1-R

1101 FAE comment
VCC3
R802 10K_4
R345 15K_4
(14) PCSPK
Q52
DTC144EU
R344 1K/F_4
C399 *0.1U_4
AGND
1031 Hunson_Add Q52 as NBDC comment

MIC-JD R346 20K/F_4
HP-JD R347 39.2K/F_4
SENSEA
R364 0_6 C401 1U/10V_6
R365 0_6 C402 1U/10V_6
MIC2_L
MIC2_R
C811 12P_4
C812 12P_4
C819 33P_4
Analog MIC Connector

MIC1-R
MIC1-L
C390 2.2U/10V_8
C393 2.2U/10V_8
AU3
AU4
R429 4.7K/F_6
R430 4.7K/F_6
EXTMICR
EXTMICL
C817 12P_4
C818 12P_4
C463 1000P_4
C502 1000P_4

MIC2_IN1
CON10
VCC5
EG2 20mil
MIC-ACS(87213-0400G)

1013 Hunson ADD Pre_AMP(MAX9812H) in MIC/B
1020 Hunson_Change 87213-0400

Audio/B CON(B2B)

+5VA
R711 10K_4
MIC-JD
MIC-JD#
Q16
CH2507SPT
AGND

+5VA
R712 10K_4
HP-JD
HP-JD#
Q17
CH2507SPT
AGND

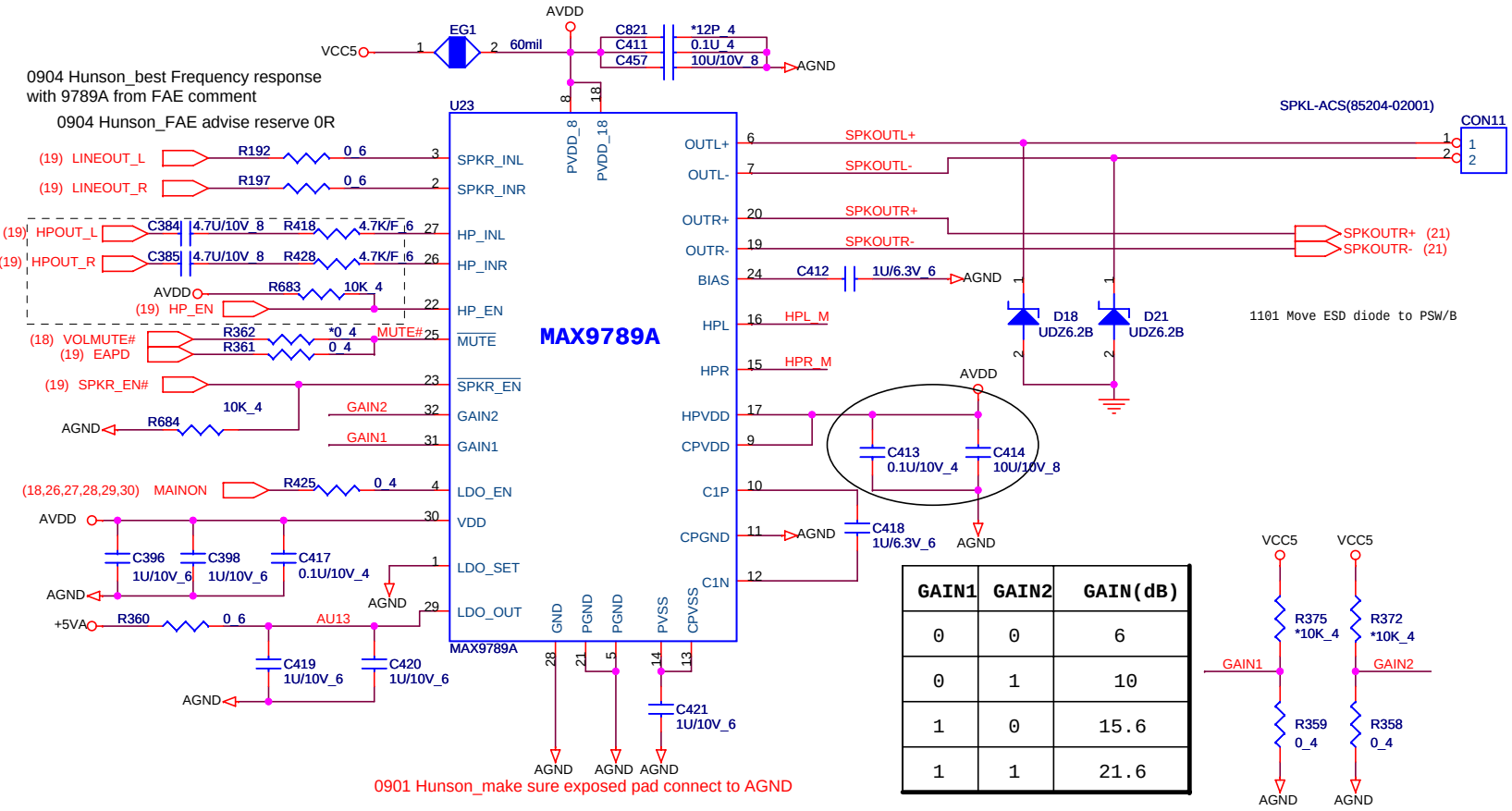
CON26
EXTMICR
EXTMICL
MIC1-VERFO-L
MIC1-VERFO-R
(18) BTSW
HPR (20)
HPL (20)
MIC-JD#
HP-JD#
3VSUS

AUDIO/B ACS(88135-1601)

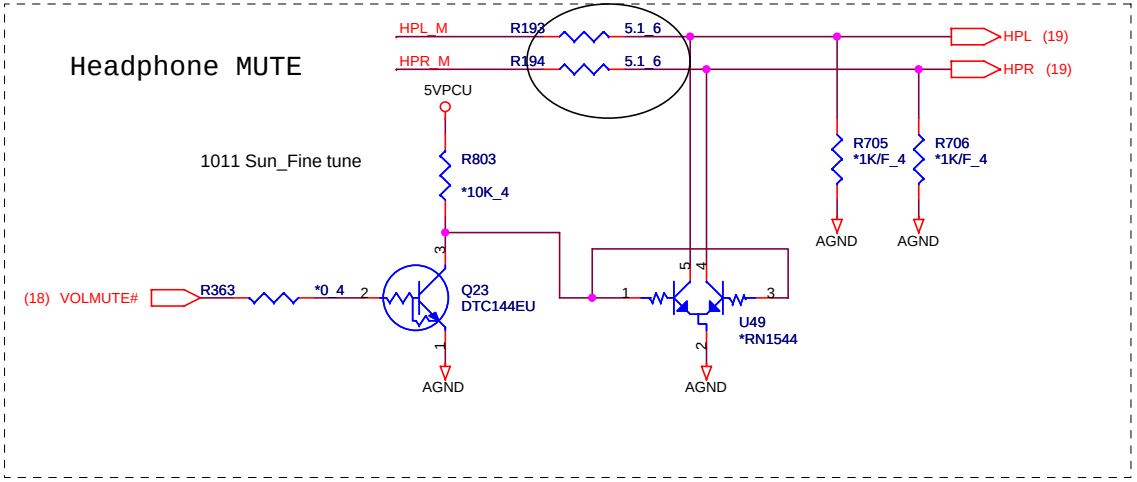
1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

QUANTA COMPUTER

Title	Audio ALC268	
Size: Custom	Document Number: GD1 Main Board	Rev: 1A
Date: Tuesday, November 14, 2006	Sheet 19 of 35	



GAIN1	GAIN2	GAIN(dB)
0	0	6
0	1	10
1	0	15.6
1	1	21.6



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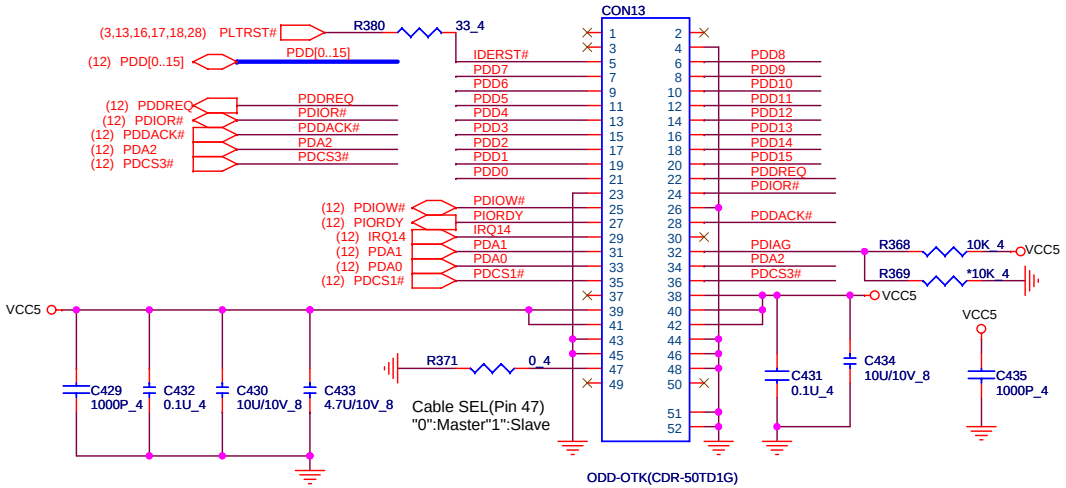
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

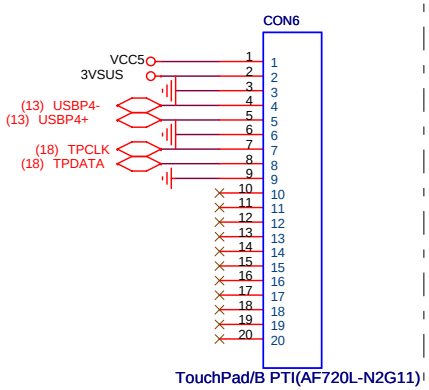
QUANTA COMPUTER

Title	Audio AMP. & Speaker	
Size: Custom	Document Number: GD1 Main Board	Rev: 1A
Date: Tuesday, November 14, 2006	Sheet 20 of 35	

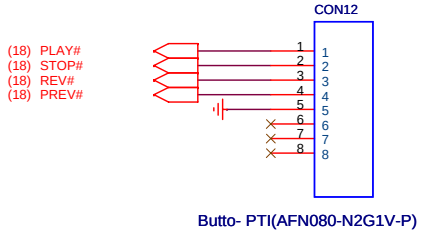
ODD CONNECTOR



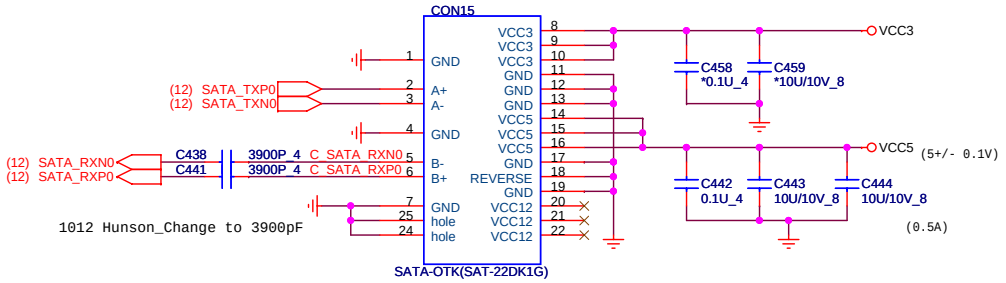
TouchPAD Board CON(FFC)



Button CON(FFC)



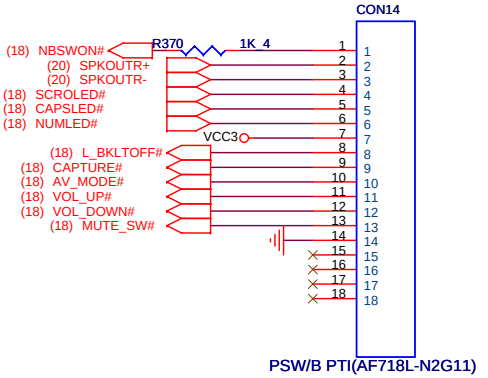
HDD CONNECTOR



1019 Hunson_Change to OTK(SAT-22DK1G)

PSW Board CON(FFC)

1031 Hunson_update PCB-FP



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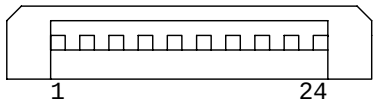
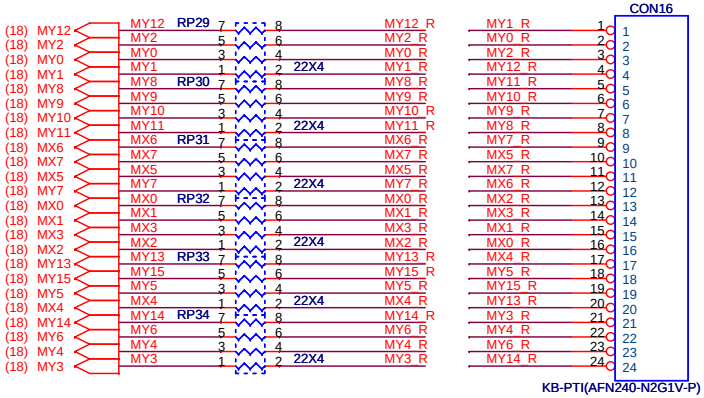
2. Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

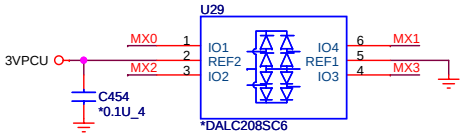
QUANTA COMPUTER

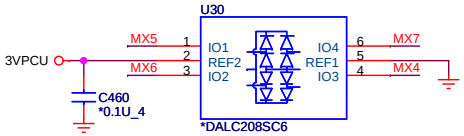
Title: HDD/ODD/PW CON		
Size: B	Document Number: GD1 Main Board	Rev: 1A
Date: Wednesday, November 15, 2006	Sheet 21 of 35	

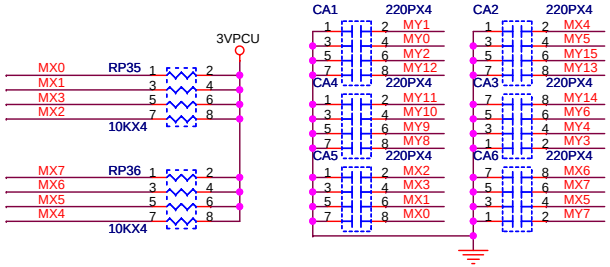
Keyboard



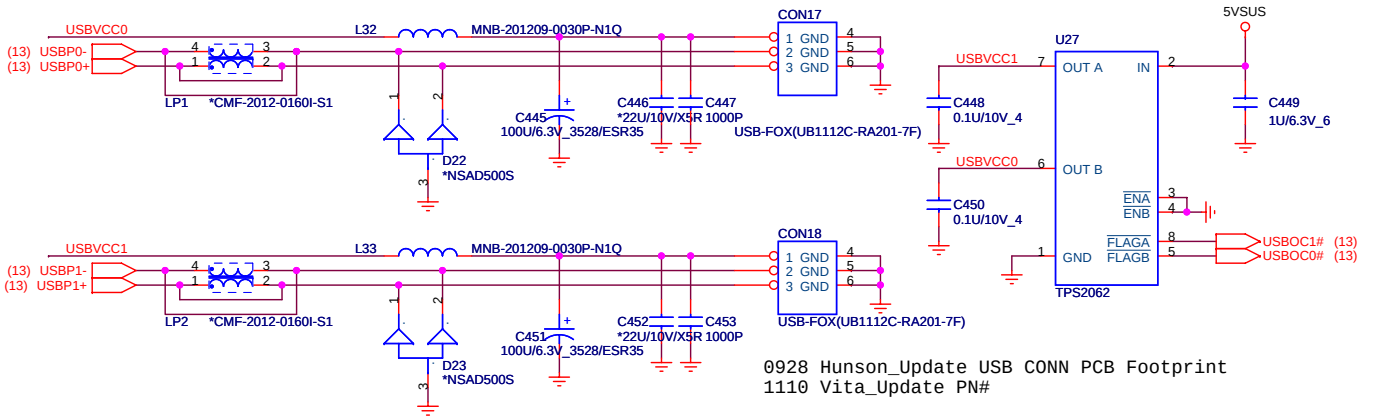








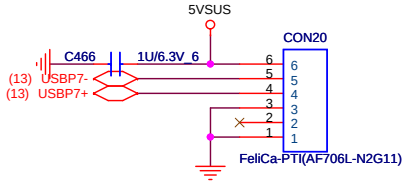
USB Port x 2



0928 Hunson_Update USB CONN PCB Footprint
1110 Vita_Update PN#

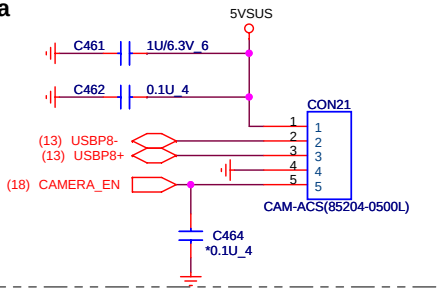
Felica

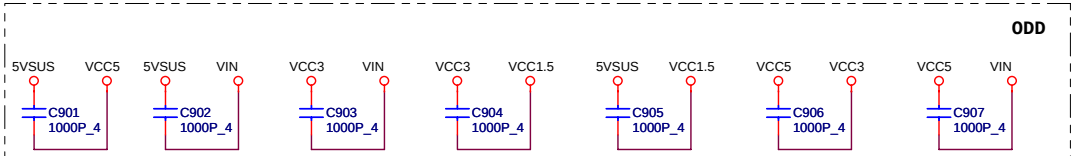
0929 Eric_
1.change material to gold plating
2.change Foot Print to PTI

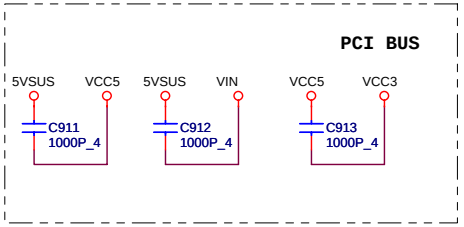


1012 Edward_Change CON20 PN#(gold-pating)

USB Camera



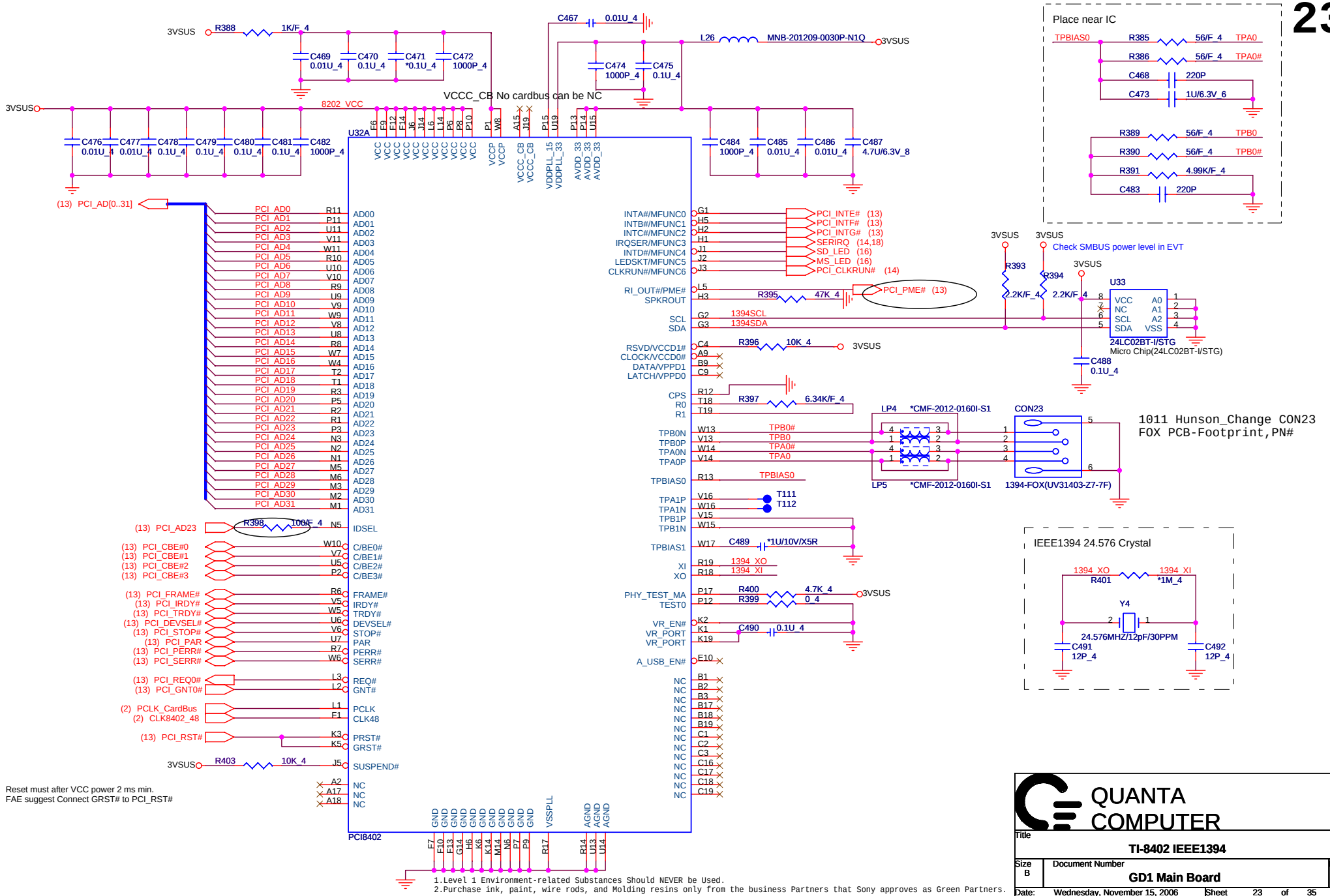




1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

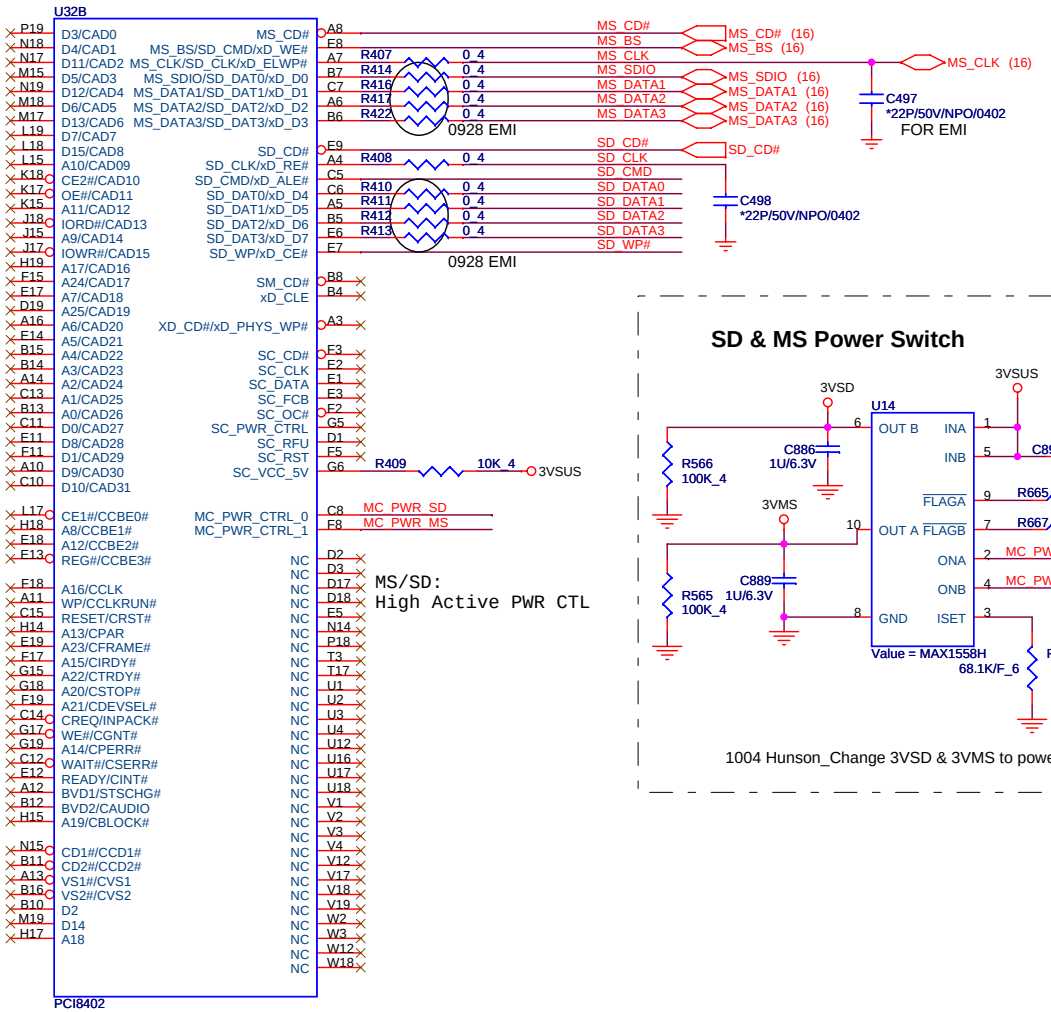
QUANTA COMPUTER

Title	K/B ,USB Device	
Size B	Document Number GD1 Main Board	Rev 1A
Date: Wednesday, November 15, 2006	Sheet 22 of 35	



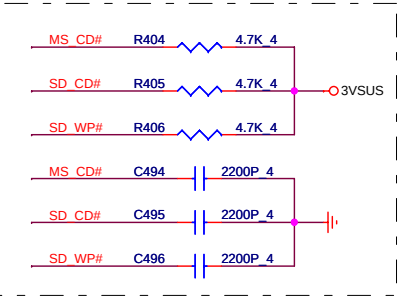
QUANTA COMPUTER

Title	TI-8402 IEEE1394	
Size B	Document Number GD1 Main Board	Rev 1A
Date: Wednesday, November 15, 2006	Sheet 23 of 35	

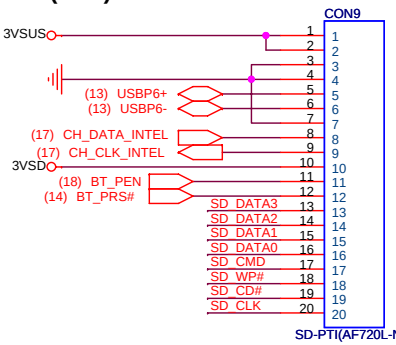


SD & MS Power Switch

1004 Hunson_Change 3VSD & 3VMS to power switch



SD CON(FPC)

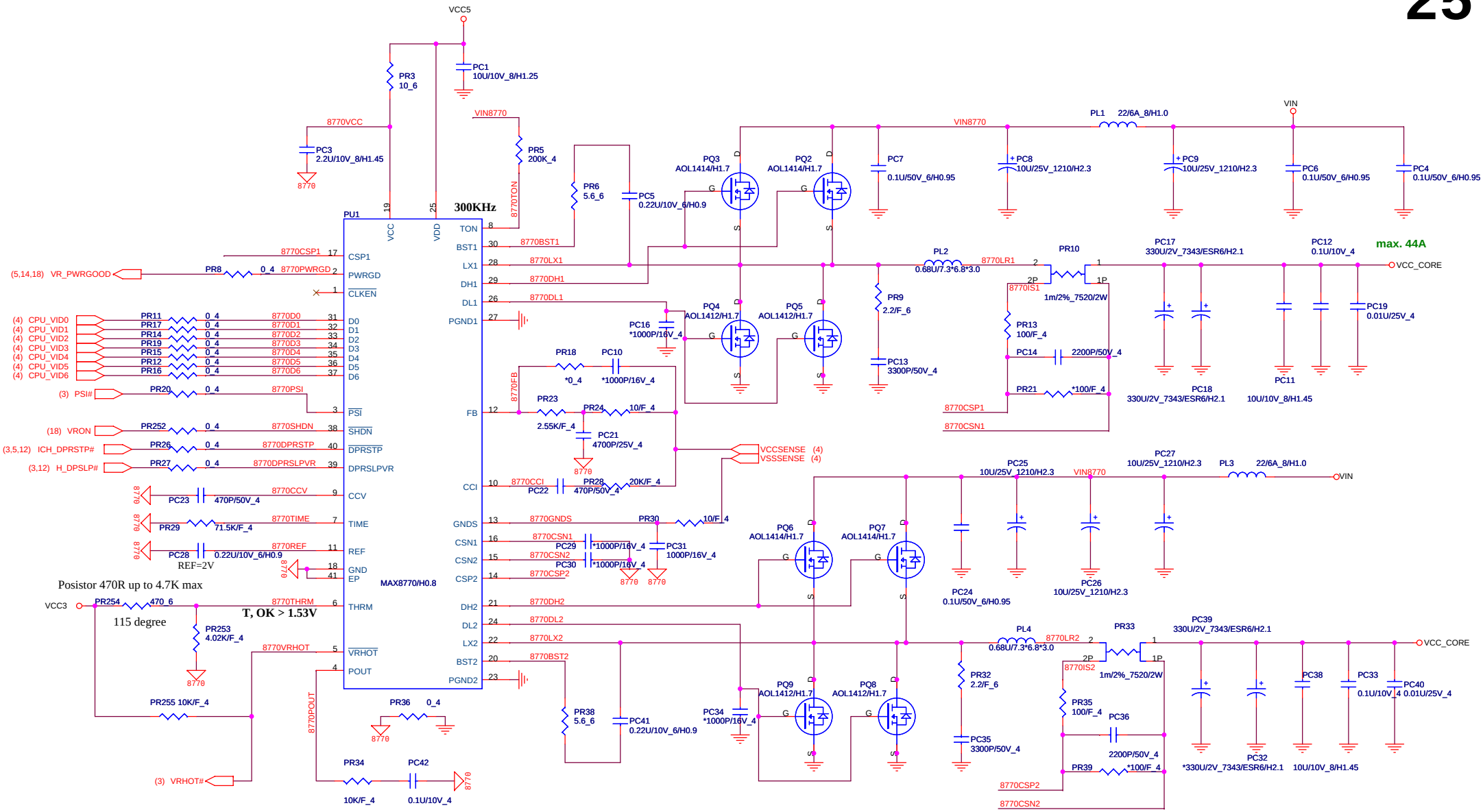


1031 Hunson_Change pin assignment
FAE comment:MS/SD_clock must have 3W space away DATA[0:3]

1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

QUANTA COMPUTER

Title	TI-8402 MS & SD	
Size B	Document Number GD1 Main Board	Rev 1A
Date: Wednesday, November 15, 2006	Sheet 24 of 35	



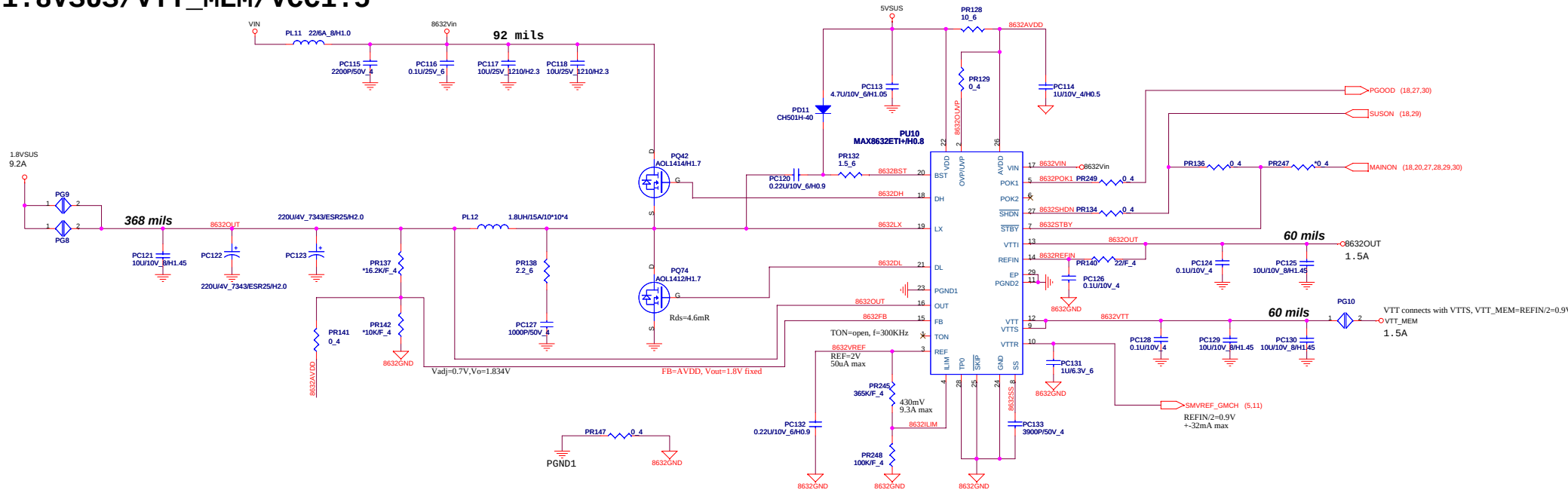
In progress

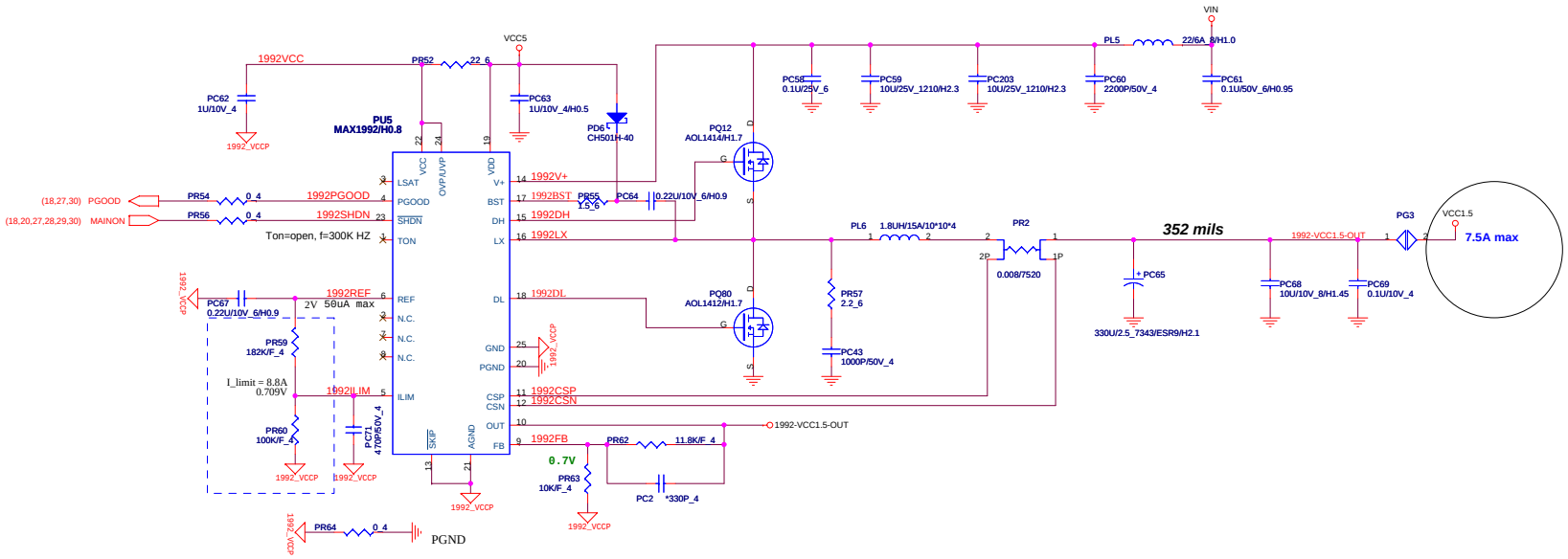
1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

QUANTA COMPUTER

Title	CPU CORE (MAX8770)	
Size: Custom	Document Number: RD3 Main Board	Rev: 1A
Date: Tuesday, November 14, 2006	Sheet 25 of 35	

1.8VSUS/VTT_MEM/VCC1.5



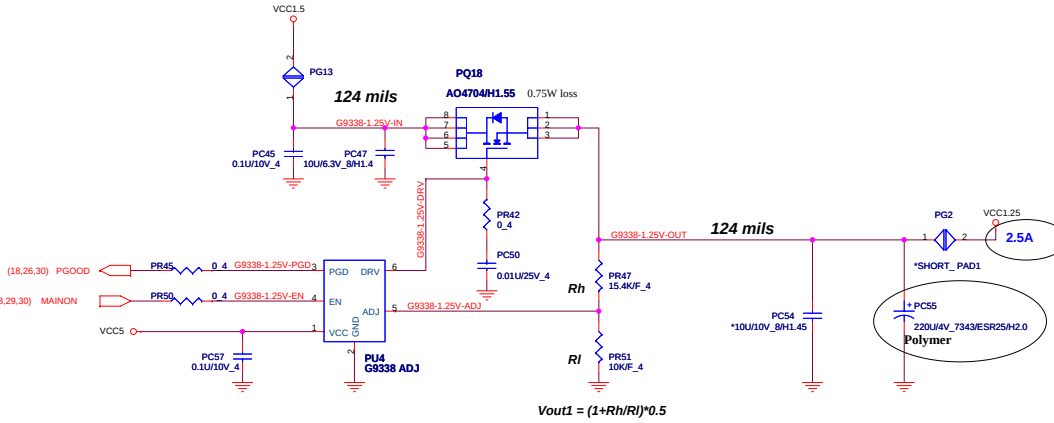


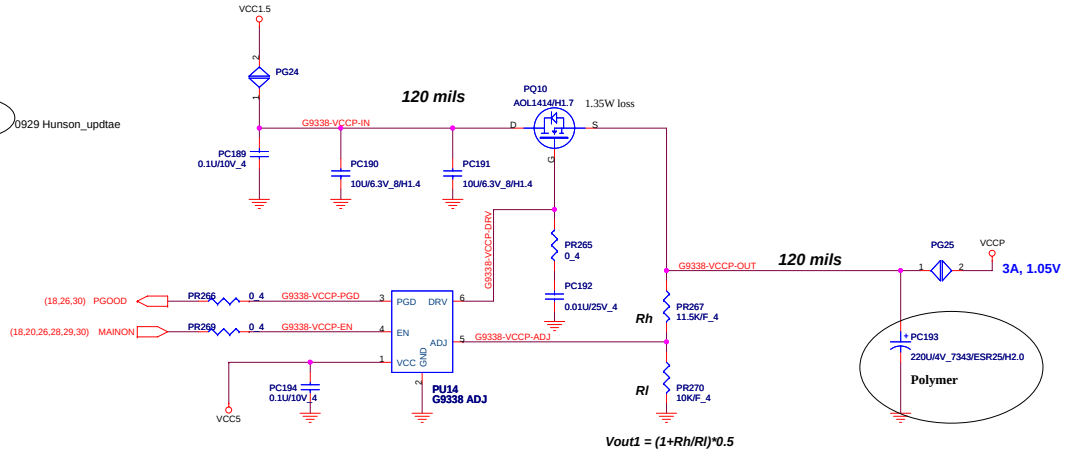
1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

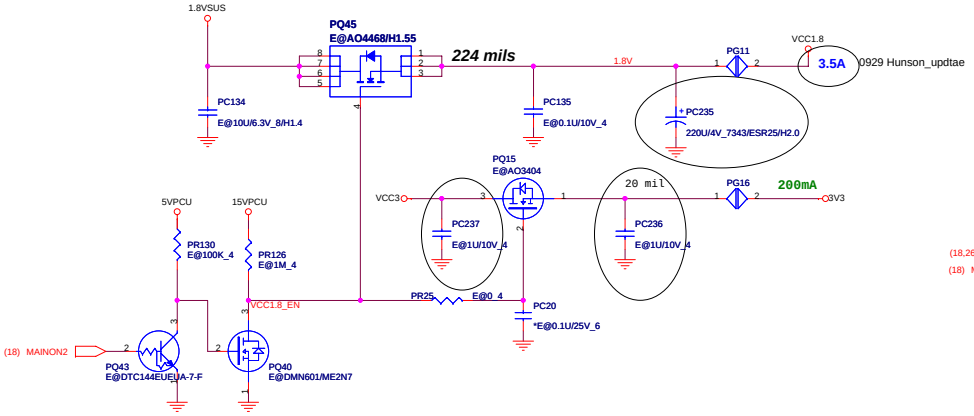
QUANTA COMPUTER

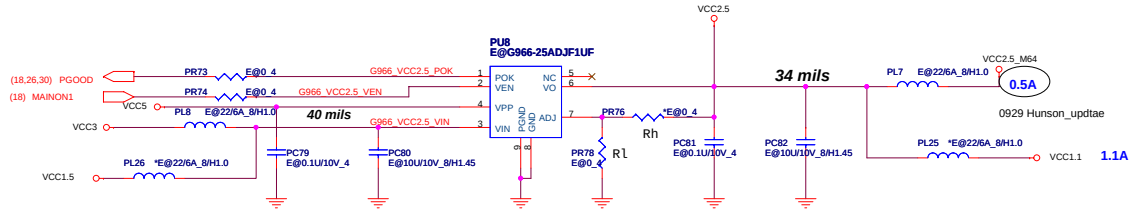
Title	VCCP & VCC1.5 & VCC1.25	
Size	Document Number: RD3 Main Board	Rev: 1A
Date: Tuesday, November 14, 2006	Sheet 26 of 35	

VCC2.5/VCC1.25/VCC1.8/VCCP









In progress

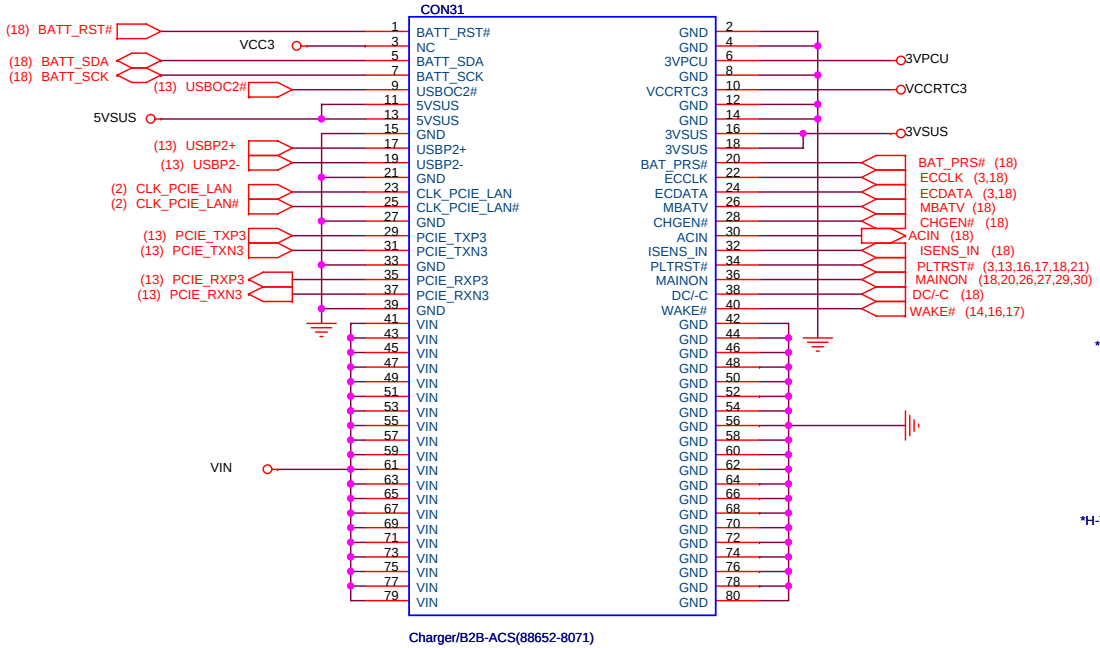
1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

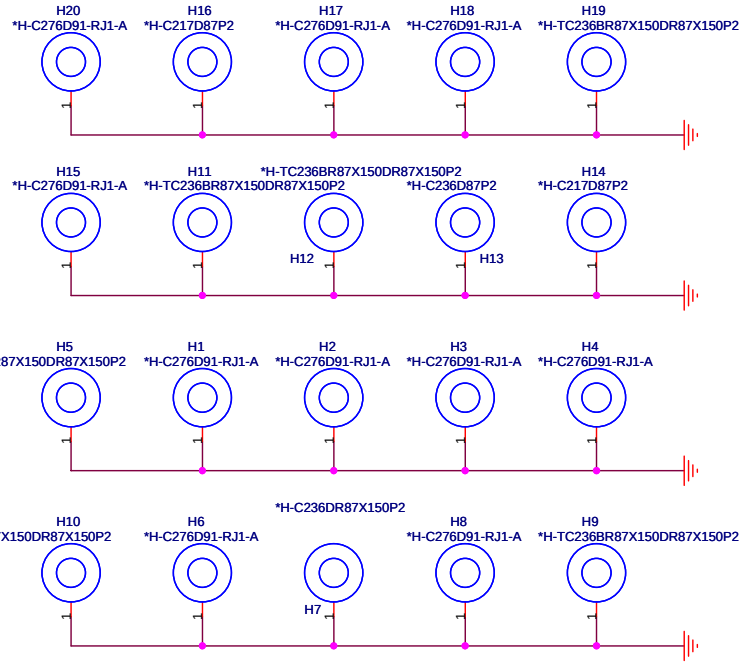
QUANTA COMPUTER

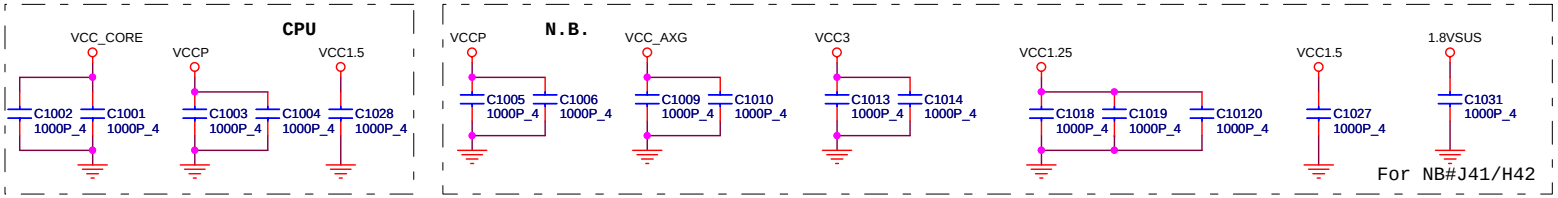
Title	VCCP & VCC1.5 & VCC1.25	
Size	Document Number: RD3 Main Board	Rev: 1A
Date: Tuesday, November 14, 2006	Sheet 27 of 35	

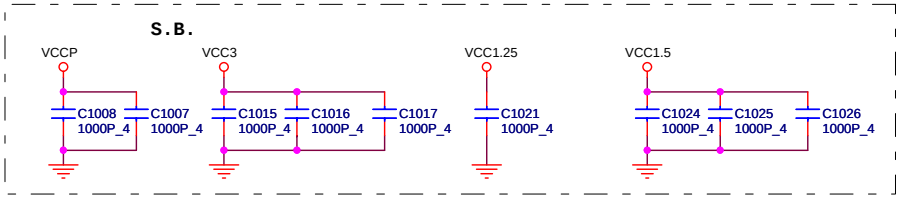
1027 Vita modify pin definition

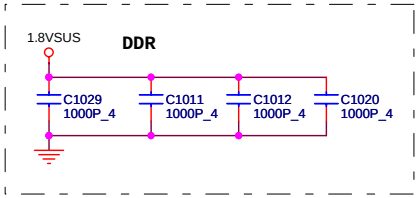
1106 Vita_ADD VCC3 on CON31.3

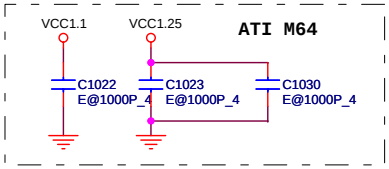








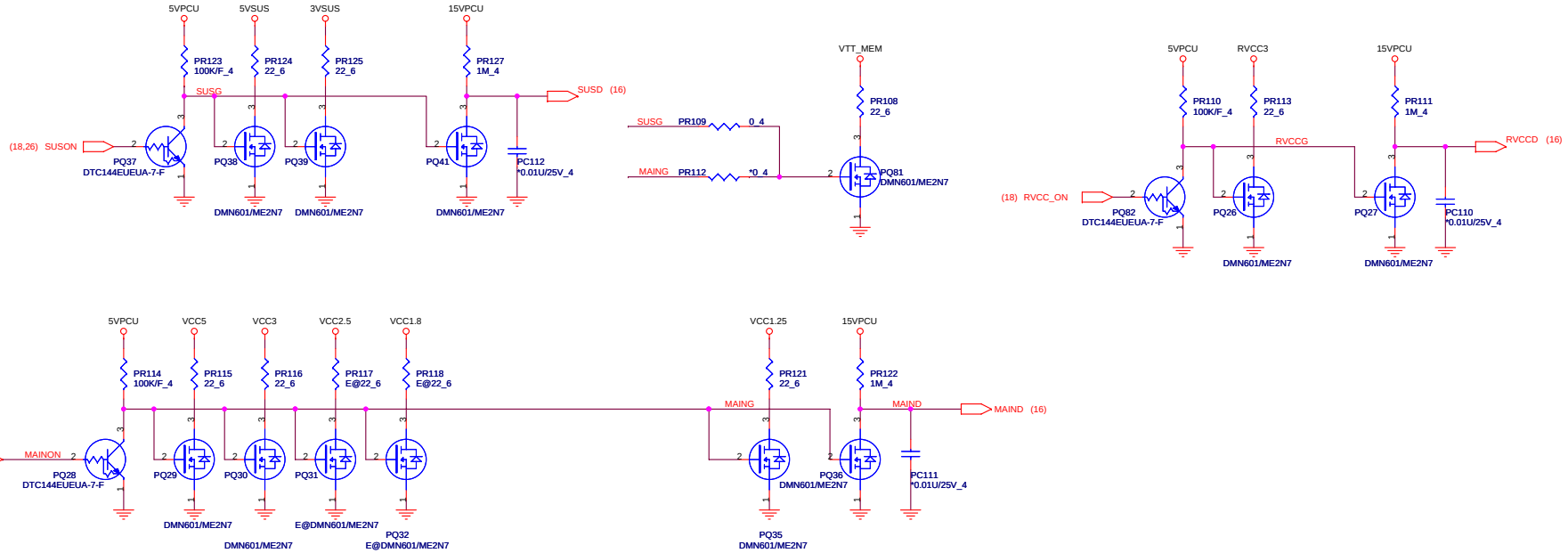




1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

QUANTA COMPUTER

Title	Power Charger & LAN CON	
Size B	Document Number GD1 Main Board	Rev 1A
Date: Wednesday, November 15, 2006	Sheet 28 of 35	

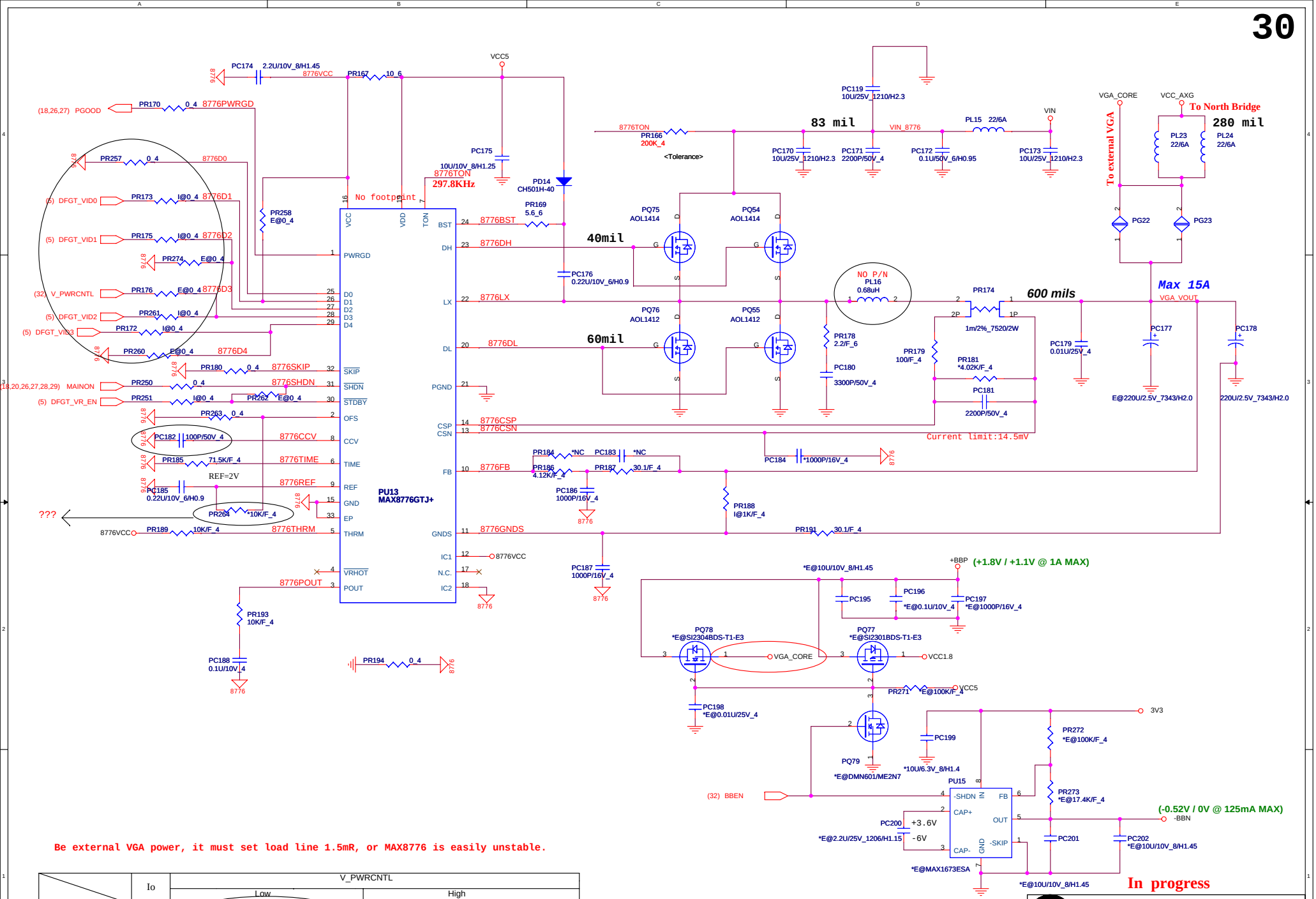


1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

In progress

QUANTA COMPUTER

Title: 3VPCU & 5VPCU		
Size: Custom	Document Number: RD3 Main Board	Rev: 1A
Date: Wednesday, November 15, 2006	Sheet 29 of 35	



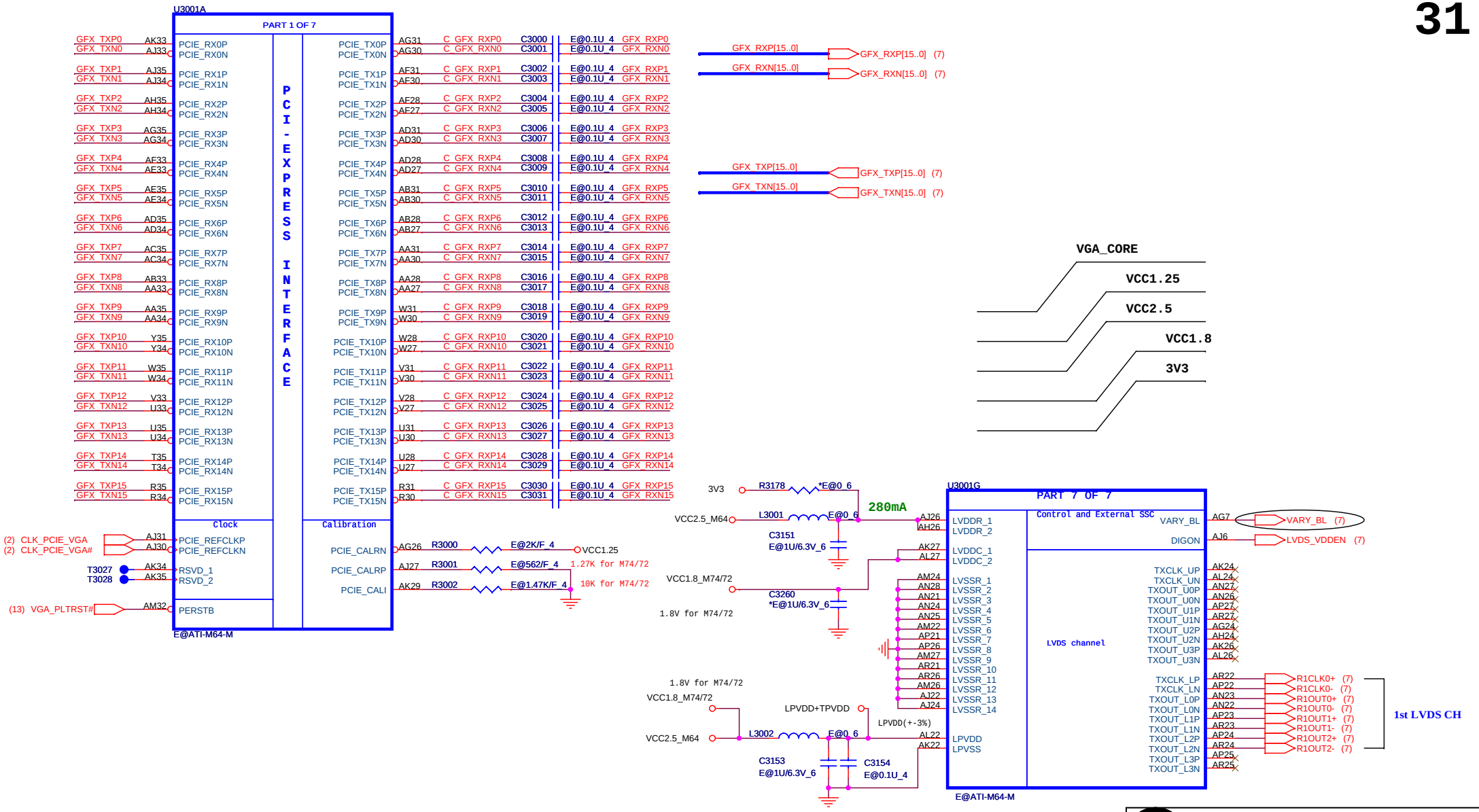
Be external VGA power, it must set load line 1.5mR, or MAX8776 is easily unstable.

	Io	V_PWRCNTL	
		Low	High
Ext :ATI M71-M74	15A	1.2V (D4,D3,D2,D1,D0=0,0,0,1,0)	1.0V (D4,D3,D2,D1,D0=0,1,0,1,0)
Int :North Bridge	7.7A	VID	

1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

QUANTA COMPUTER

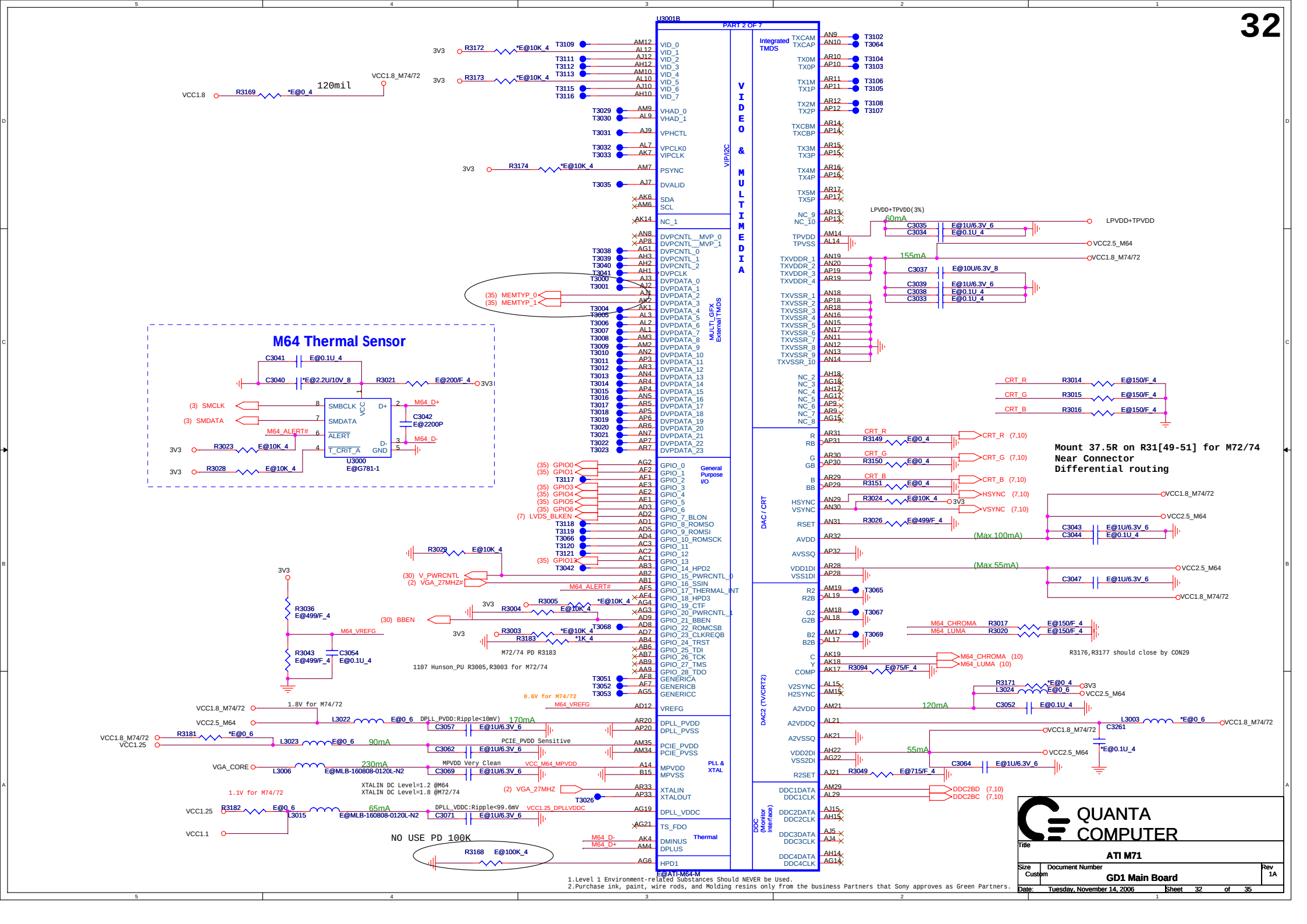
Title	VGA CORE	
Size	Document Number: RD3 Main Board	Rev: 1A
Date: Tuesday, November 14, 2006	Sheet 30 of 35	

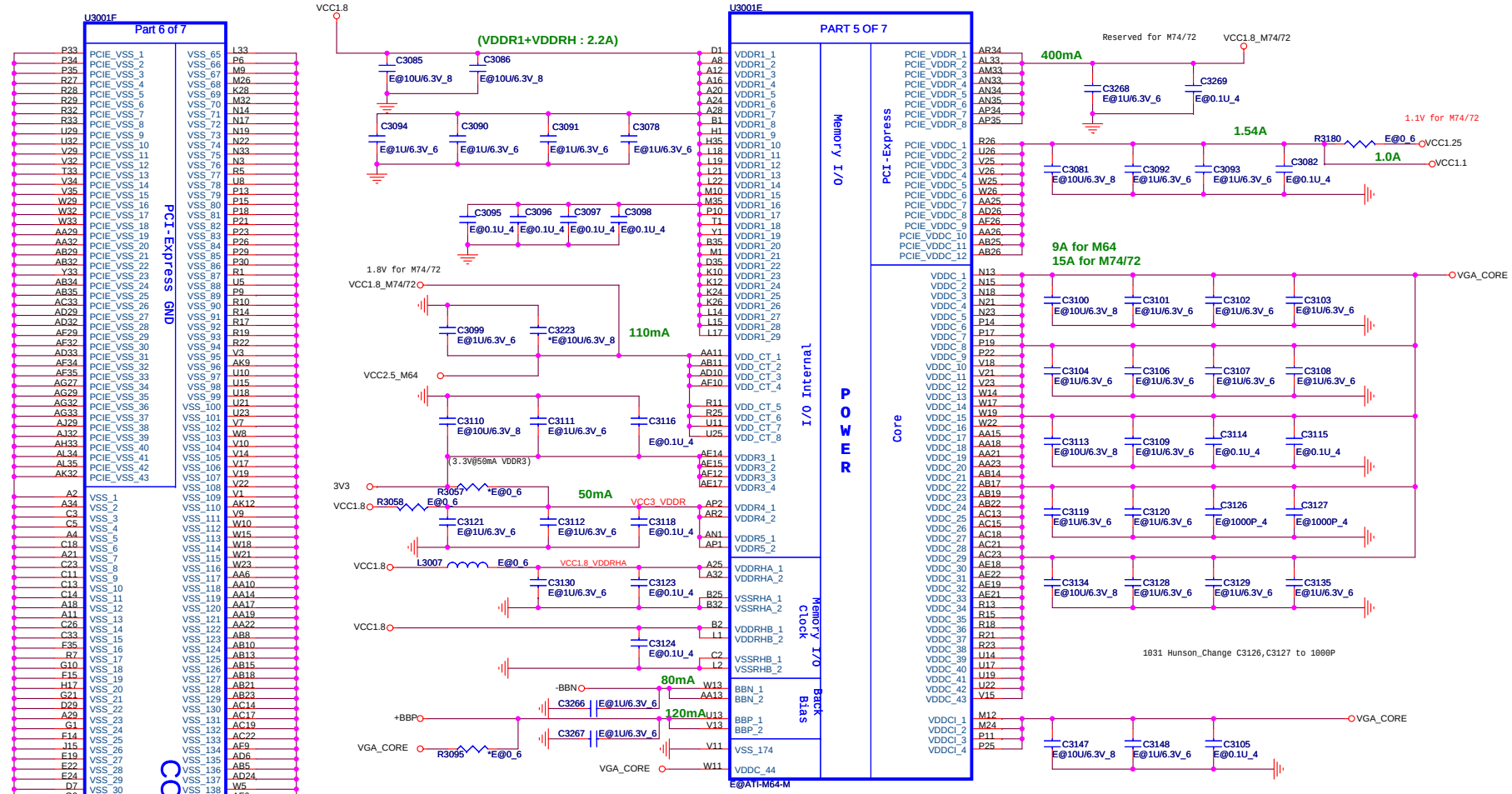


1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

QUANTA COMPUTER

Title	ATI M64M PCIE	
Size B	Document Number GD1 Main Board	Rev 1A
Date: Tuesday, November 14, 2006	Sheet 31 of 35	


M64 Thermal Sensor
U3001B
PART 2 OF 7
VIDEO & MULTIMEDIA
VID_0
VID_1
VID_2
VID_3
VID_4
VID_5
VID_6
VID_7
VHAD_0
VHAD_1
VPHCTL
VPCLK0
VIPCLK
PSYNC
DVALID
SDA
SCL
NC_1
DVPCNTL_MVP_0
DVPCNTL_MVP_1
DVPCNTL_0
DVPCNTL_1
DVPCNTL_2
DVPCLK
DVPDATA_0
DVPDATA_1
DVPDATA_2
DVPDATA_3
DVPDATA_4
DVPDATA_5
DVPDATA_6
DVPDATA_7
DVPDATA_8
DVPDATA_9
DVPDATA_10
DVPDATA_11
DVPDATA_12
DVPDATA_13
DVPDATA_14
DVPDATA_15
DVPDATA_16
DVPDATA_17
DVPDATA_18
DVPDATA_19
DVPDATA_20
DVPDATA_21
DVPDATA_22
DVPDATA_23
VIP/I2C
MULTI_GFX External TMDS
GPIO_0
GPIO_1
GPIO_2
GPIO_3
GPIO_4
GPIO_5
GPIO_6
GPIO_7_BLON
GPIO_8_ROMSO
GPIO_9_ROMSI
GPIO_10_ROMSCK
GPIO_11
GPIO_12
GPIO_13
GPIO_14_HPD2
GPIO_15_PWRCNTL_0
GPIO_16_SSIN
GPIO_17_THERMAL_INT
GPIO_18_HPD3
GPIO_19_CTF
GPIO_20_PWRCNTL_1
GPIO_21_BBEN
GPIO_22_ROMCSB
GPIO_23_CLKREQB
GPIO_24_TRST
GPIO_25_TDI
GPIO_26_TCK
GPIO_27_TMS
GPIO_28_TDO
GENERICA
GENERICB
GENERICC
General Purpose I/O
VREFG
DPLL_PVDD
DPLL_PVSS
PCIE_PVDD
PCIE_PVSS
MPVDD
MPVSS
XTALIN
XTALOUT
DPLL_VDDC
PLL & XTAL
TS_FDO
DMINUS
DPLUS
HPD1
Thermal
E@ATI-M64-M
Integrated TMDS
TXCAM
TXCAP
TX0M
TX0P
TX1M
TX1P
TX2M
TX2P
TXCBM
TXCBP
TX3M
TX3P
TX4M
TX4P
TX5M
TX5P
NC_9
NC_10
TPVDD
TPVSS
TXVDDR_1
TXVDDR_2
TXVDDR_3
TXVDDR_4
TXVSSR_1
TXVSSR_2
TXVSSR_3
TXVSSR_4
TXVSSR_5
TXVSSR_6
TXVSSR_7
TXVSSR_8
TXVSSR_9
TXVSSR_10
NC_2
NC_3
NC_4
NC_5
NC_6
NC_7
NC_8
DAC / CRT
R
RB
G
GB
B
BB
HSYNC
VSYNC
RSET
AVDD
AVSSQ
VDD1DI
VSS1DI
R2
R2B
G2
G2B
B2
B2B
C
Y
COMP
DAC2 (TV/CRT2)
V2SYNC
H2SYNC
A2VDD
A2VDDQ
A2VSSQ
VDD2DI
VSS2DI
R2SET
DDC (Monitor Interface)
DDC1DATA
DDC1CLK
DDC2DATA
DDC2CLK
DDC3DATA
DDC3CLK
DDC4DATA
DDC4CLK
U3000
E@G781-1
SMBCLK
SMDATA
ALERT
T_CRIT_A
VCC
D+
D-
GND
(3) SMCLK
(3) SMDATA
M64_ALERT#
M64_D+
M64_D-
C3041 E@0.1U_4
C3040 *E@2.2U/10V_8
R3021 E@200/F_4
R3023 E@10K_4
R3028 E@10K_4
R3172 *E@10K_4
R3173 *E@10K_4
R3174 *E@10K_4
R3169 *E@0_4
120mil
VCC1.8_M74/72
VCC1.8
3V3
(35) MEMTYP_0
(35) MEMTYP_1
(35) GPIO0
(35) GPIO1
(35) GPIO3
(35) GPIO4
(35) GPIO5
(35) GPIO6
(7) LVDS_BLKEN
(35) GPIO13
(30) V_PWRCNTL
(2) VGA_27MHZ#
(30) BBEN
R3029 E@10K_4
R3004 E@10K_4
R3005 *E@10K_4
R3003 *E@10K_4
R3183 *1K_4
M72/74 PD R3183
1107 Hunson_PU R3005,R3003 for M72/74
R3036 E@499/F_4
R3043 E@499/F_4
C3054 E@0.1U_4
M64_VREFG
0.6V for M74/72
1.8V for M74/72
VCC2.5_M64
VCC1.25
VGA_CORE
L3022 E@0_6
L3023 E@0_6
L3006 E@MLB-160808-0120L-N2
DPLL_PVDD:Ripple<10mV)
170mA
C3057 E@1U/6.3V_6
90mA
C3062 E@1U/6.3V_6
PCIE_PVDD Sensitive
230mA
MPVDD Very Clean
C3069 E@1U/6.3V_6
VCC_M64_MPVDD
XTALIN DC Level=1.2 @M64
XTALIN DC Level=1.8 @M72/74
(2) VGA_27MHZ
T3026
1.1V for M74/72
R3182 E@0_6
L3015 E@MLB-160808-0120L-N2
65mA
DPLL_VDDC:Ripple<99.6mV
VCC1.25_DPLLVDDC
C3071 E@1U/6.3V_6
VCC1.1
NO USE PD 100K
R3168 E@100K_4
R3181 *E@0_6
LPVDD+TPVDD(3%)
60mA
C3035 E@1U/6.3V_6
C3034 E@0.1U_4
LPVDD+TPVDD
155mA
C3037 E@10U/6.3V_8
C3039 E@1U/6.3V_6
C3038 E@0.1U_4
C3033 E@0.1U_4
CRT_R
CRT_G
CRT_B
R3014 E@150/F_4
R3015 E@150/F_4
R3016 E@150/F_4
R3149 E@0_4
R3150 E@0_4
R3151 E@0_4
R3024 E@10K_4
R3026 E@499/F_4
(7,10)
HSYNC (7,10)
VSYNC (7,10)
Mount 37.5R on R31[49-51] for M72/74
Near Connector
Differential routing
(Max.100mA)
(Max.55mA)
C3043 E@1U/6.3V_6
C3044 E@0.1U_4
C3047 E@1U/6.3V_6
M64_CHROMA R3017 E@150/F_4
M64_LUMA R3020 E@150/F_4
R3176,R3177 should close by CON29
M64_CHROMA (10)
M64_LUMA (10)
R3094 E@75/F_4
R3171 *E@0_4
L3024 E@0_6
120mA
C3052 E@0.1U_4
L3003 *E@0_6
C3261 *E@0.1U_4
55mA
C3064 E@1U/6.3V_6
R3049 E@715/F_4
DDC2BD (7,10)
DDC2BC (7,10)
1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.
QUANTA COMPUTER
Title
ATI M71
Size Custom
Document Number
GD1 Main Board
Rev 1A
Date: Tuesday, November 14, 2006
Sheet 32 of 35



POWER Regulator	M64/M71	Rail	M72/M74	Rail
VDDC+VDDCI	1.0~1.2V	VGA_CORE	0.95~1.1V	VGA_CORE
PCIE_PVDD	1.25	VCC1.25	1.8	VCC1.8_M74/72
PCIE_VDDR	NC	x	1.8	VCC1.8_M74/72
PCIE_VDDC	1.25	VCC1.25	1.1	VCC1.1
MPVDD	VDDC	VGA_CORE	VDDC	VGA_CORE
DPLL_PVDD	2.5	VCC2.5_M64	1.8	VCC1.8_M74/72
DPLL_VDDC	1.25	VCC1.25	1.1	VCC1.1
VDDR1+VDDRH	1.8	VCC1.8	1.8	VCC1.8
VDDR4+VDDR5	1.8	VCC1.8	1.8	VCC1.8
VDDR3	3.3	3V3	3.3	3V3
VDD_CT	2.5	VCC2.5_M64	1.8	VCC1.8_M74/72
LPVDD+TPVDD	2.5	VCC2.5_M64	1.8	VCC1.8_M74/72
LVDDR	2.5	VCC2.5_M64	3.3	3V3_M74/72
LVDDC	NC	x	1.8	VCC1.8_M74/72
TXVDDR	2.5	VCC2.5_M64	1.8	VCC1.8_M74/72
AVDD	2.5	VCC2.5_M64	1.8	VCC1.8_M74/72
VDD1DI+VDD2DI	2.5	VCC2.5_M64	1.8	VCC1.8_M74/72
A2VDD	2.5	VCC2.5_M64	3.3	3V3_M74/72
A2VDDQ	NC	x	1.8	VCC1.8_M74/72

1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

QUANTA COMPUTER

Title: ATI M64M POWER

Size: Custom | Document Number: GD1 Main Board | Rev: 1A

Date: Tuesday, November 14, 2006 | Sheet 33 of 35

Channel A

U3001C — Part 3 of 7 — MEMORY INTERFACE A — E@ATI-M64-M

MDA0	P27	DQA_0	MAA_0 C27 MAA0
MDA1	P28	DQA_1	MAA_1 B28 MAA1
MDA2	P31	DQA_2	MAA_2 B27 MAA2
MDA3	P32	DQA_3	MAA_3 G26 MAA3
MDA4	M27	DQA_4	MAA_4 F27 MAA4
MDA5	K29	DQA_5	MAA_5 E27 MAA5
MDA6	K31	DQA_6	MAA_6 D27 MAA6
MDA7	K32	DQA_7	MAA_7 J27 MAA7
MDA8	M33	DQA_8	MAA_8 E29 MAA8
MDA9	M34	DQA_9	MAA_9 C30 MAA9
MDA10	L34	DQA_10	MAA_10 E26 MAA10
MDA11	L35	DQA_11	MAA_11 A27 MAA11
MDA12	J33	DQA_12	MAA_A12 G27 A_A12_M6X
MDA13	J34	DQA_13	MAA_BA2 D26 A_BA2_M6X
MDA14	H33	DQA_14	MAA_BA0 C28 A_BA0_M6X
MDA15	H34	DQA_15	MAA_BA1 B29 A_BA1_M6X
MDA16	K27	DQA_16	
MDA17	J29	DQA_17	DQMAb_0 M29 DQMA#0
MDA18	J30	DQA_18	DQMAb_1 K33 DQMA#1
MDA19	J31	DQA_19	DQMAb_2 G30 DQMA#2
MDA20	F29	DQA_20	DQMAb_3 E33 DQMA#3
MDA21	F32	DQA_21	DQMAb_4 C22 DQMA#4
MDA22	D30	DQA_22	DQMAb_5 H21 DQMA#5
MDA23	D32	DQA_23	DQMAb_6 C17 DQMA#6
MDA24	G33	DQA_24	DQMAb_7 G17 DQMA#7
MDA25	G34	DQA_25	
MDA26	G35	DQA_26	QSA_0 M30 RDQSA0
MDA27	F34	DQA_27	QSA_1 K34 RDQSA1
MDA28	D34	DQA_28	QSA_2 G31 RDQSA2
MDA29	C34	DQA_29	QSA_3 E34 RDQSA3
MDA30	C35	DQA_30	QSA_4 B22 RDQSA4
MDA31	B34	DQA_31	QSA_5 F21 RDQSA5
MDA32	C24	DQA_32	QSA_6 B17 RDQSA6
MDA33	B24	DQA_33	QSA_7 D17 RDQSA7
MDA34	B23	DQA_34	
MDA35	A23	DQA_35	QSA_0B M31 WDQSA0
MDA36	C21	DQA_36	QSA_1B K35 WDQSA1
MDA37	B21	DQA_37	QSA_2B G32 WDQSA2
MDA38	C20	DQA_38	QSA_3B E35 WDQSA3
MDA39	B20	DQA_39	QSA_4B A22 WDQSA4
MDA40	J22	DQA_40	QSA_5B E21 WDQSA5
MDA41	H22	DQA_41	QSA_6B A17 WDQSA6
MDA42	F22	DQA_42	QSA_7B E17 WDQSA7
MDA43	D21	DQA_43	
MDA44	J19	DQA_44	ODTA0 C31 T3077
MDA45	G19	DQA_45	ODTA1 C25 T3078
MDA46	F19	DQA_46	
MDA47	D19	DQA_47	CLKA0 A33 M_CLKA0
MDA48	C19	DQA_48	CLKA1 A26 M_CLKA1
MDA49	B19	DQA_49	
MDA50	A19	DQA_50	CLKA0b B33 M_CLKA0#
MDA51	B18	DQA_51	CLKA1b B26 M_CLKA1#
MDA52	C16	DQA_52	
MDA53	B16	DQA_53	RASA0b A31 RASA0#
MDA54	C15	DQA_54	RASA1b D24 RASA1#
MDA55	A15	DQA_55	
MDA56	H18	DQA_56	CASA0b C32 CASA0#
MDA57	F18	DQA_57	CASA1b H26 CASA1#
MDA58	E18	DQA_58	
MDA59	D18	DQA_59	CSA0b_0 A30 CSA0B_0#
MDA60	J17	DQA_60	CSA0b_1 B30
MDA61	G15	DQA_61	
MDA62	E15	DQA_62	CSA1b_0 G24 CSA1B_0#
MDA63	D15	DQA_63	CSA1b_1 H24
M64_MVREFDA	N35	MVREFDA	CKEA0 B31 CKEA0
	N34	MVREFSA	CKEA1 F24 CKEA1
			WEA0b C29 WEA0#
			WEA1b D22 WEA1#

read strobe / write strobe

T3094 — For 8 Banks MAA_13=BA2

Use for DDR2 only, keep NC for others

U3002 — E@VRAM_256Mb

MDA0	T3	DQ31 | DQ23	VDDQ A1
MDA2	T2	DQ30 | DQ22	VDDQ#A12 A12
MDA1	R3	DQ29 | DQ21	VDDQ#C1 C1
MDA3	R2	DQ28 | DQ20	VDDQ#C4 C4
MDA7	M3	DQ27 | DQ19	VDDQ#C9 C9
MDA5	N2	DQ26 | DQ18	VDDQ#C12 C12
MDA4	L3	DQ25 | DQ17	VDDQ#E1 E1
MDA6	M2	DQ24 | DQ16	VDDQ#E4 E4
MDA11	T10	DQ23 | DQ31	VDDQ#E9 E9
MDA10	T11	DQ22 | DQ30	VDDQ#E12 E12
MDA9	R10	DQ21 | DQ29	VDDQ#J4 J4
MDA8	R11	DQ20 | DQ28	VDDQ#J9 J9
MDA12	M10	DQ19 | DQ27	VDDQ#N1 N1
MDA13	N11	DQ18 | DQ26	VDDQ#N4 N4
MDA14	L10	DQ17 | DQ25	VDDQ#N9 N9
MDA15	M11	DQ16 | DQ24	VDDQ#N12 N12
MDA19	G10	DQ15 | DQ7	VDDQ#R1 R1
MDA23	F11	DQ14 | DQ6	VDDQ#R4 R4
MDA21	F10	DQ13 | DQ5	VDDQ#R9 R9
MDA22	E11	DQ12 | DQ4	VDDQ#R12 R12
MDA20	C10	DQ11 | DQ3	VDDQ#V1 V1
MDA18	C11	DQ10 | DQ2	VDDQ#V12 V12
MDA17	B10	DQ9 | DQ1	
MDA16	B11	DQ8 | DQ0	VDD A2
MDA27	G3	DQ7 | DQ15	VDD#A11 A11
MDA30	F2	DQ6 | DQ14	VDD#F1 F1
MDA26	F3	DQ5 | DQ13	VDD#F12 F12
MDA29	E2	DQ4 | DQ12	VDD#M1 M1
MDA31	C3	DQ3 | DQ11	VDD#M12 M12
MDA28	C2	DQ2 | DQ10	VDD#V2 V2
MDA24	B3	DQ1 | DQ9	VDD#V11 V11
MDA25	B2	DQ0 | DQ8	
			VSSQ B1
A_BA2_M6X	H10	BA2 | RAS	VSSQ#B4 B4
A_BA1_M6X	G9	BA1 | BA0	VSSQ#B9 B9
A_BA0_M6X	G4	BA0 | BA1	VSSQ#B12 B12
			VSSQ#D1 D1
MAA11	L4	A11 | A7	VSSQ#D4 D4
MAA10	K2	A10 | A8	VSSQ#D9 D9
MAA9	M9	A9 | A3	VSSQ#D12 D12
MAA8	K11	A8/AP | A10	VSSQ#G2 G2
MAA7	L9	A7 | A11	VSSQ#G11 G11
MAA6	K10	A6 | A2	VSSQ#L2 L2
MAA5	H11	A5 | A1	VSSQ#L11 L11
MAA4	K9	A4 | A0	VSSQ#P1 P1
MAA3	M4	A3 | A9	VSSQ#P4 P4
MAA2	K3	A2 | A6	VSSQ#P9 P9
MAA1	H2	A1 | A5	VSSQ#P12 P12
MAA0	K4	A0 | A4	VSSQ#T1 T1
			VSSQ#T4 T4
CSA0B_0#	F9	CS | CAS	VSSQ#T9 T9
			VSSQ#T12 T12
WEA0#	H9	WE | CKE	VSS A3
			VSS#A10 A10
RASA0#	H3	RAS | BA2	VSS#G1 G1
			VSS#G12 G12
CASA0#	F4	CAS | CS	VSS#L1 L1
			VSS#L12 L12
CKEA0	H4	CKE | WE	VSS#V3 V3
			VSS#V10 V10
M_CLKA0#	J10	CK	
M_CLKA0	J11	CK	VDDA K1
			VDDA#K12 K12
RDQSA0	P3	RDQS3 | RDQS2	
RDQSA1	P10	RDQS2 | RDQS3	
RDQSA2	D10	RDQS1 | RDQS0	
RDQSA3	D3	RDQS0 | RDQS1	
WDQSA0	P2	WDQS3 | WDQS2	
WDQSA1	P11	WDQS2 | WDQS3	VSSA#J12 J12
WDQSA2	D11	WDQS1 | WDQS0	VSSA J1
WDQSA3	D2	WDQS0 | WDQS1	
DQMA#0	N3	DM3 | DM2	RFU2 J3
DQMA#1	N10	DM2 | DM3	
DQMA#2	E10	DM1 | DM0	RFU1 J2
DQMA#3	E3	DM0 | DM1	
			RFU0 V4
MEM_RST	V9	RESET	
	A4	ZQ	
VREF_0	H1	VREF	
VREF#H12_0	H12	VREF#H12	MF A9
			GND | VDD

U3003 — E@VRAM_256Mb

MDA52	T3	DQ31 | DQ23	VDDQ A1
MDA55	T2	DQ30 | DQ22	VDDQ#A12 A12
MDA53	R3	DQ29 | DQ21	VDDQ#C1 C1
MDA54	R2	DQ28 | DQ20	VDDQ#C4 C4
MDA49	M3	DQ27 | DQ19	VDDQ#C9 C9
MDA50	N2	DQ26 | DQ18	VDDQ#C12 C12
MDA48	L3	DQ25 | DQ17	VDDQ#E1 E1
MDA51	M2	DQ24 | DQ16	VDDQ#E4 E4
MDA45	T10	DQ23 | DQ31	VDDQ#E9 E9
MDA46	T11	DQ22 | DQ30	VDDQ#E12 E12
MDA43	R10	DQ21 | DQ29	VDDQ#J4 J4
MDA47	R11	DQ20 | DQ28	VDDQ#J9 J9
MDA41	M10	DQ19 | DQ27	VDDQ#N1 N1
MDA42	N11	DQ18 | DQ26	VDDQ#N4 N4
MDA40	L10	DQ17 | DQ25	VDDQ#N9 N9
MDA44	M11	DQ16 | DQ24	VDDQ#N12 N12
MDA60	G10	DQ15 | DQ7	VDDQ#R1 R1
MDA62	F11	DQ14 | DQ6	VDDQ#R4 R4
MDA61	E10	DQ13 | DQ5	VDDQ#R9 R9
MDA63	E11	DQ12 | DQ4	VDDQ#R12 R12
MDA57	C10	DQ11 | DQ3	VDDQ#V1 V1
MDA59	C11	DQ10 | DQ2	VDDQ#V12 V12
MDA56	B10	DQ9 | DQ1	
MDA58	B11	DQ8 | DQ0	VDD A2
MDA38	G3	DQ7 | DQ15	VDD#A11 A11
MDA39	F2	DQ6 | DQ14	VDD#F1 F1
MDA36	F3	DQ5 | DQ13	VDD#F12 F12
MDA37	E2	DQ4 | DQ12	VDD#M1 M1
MDA34	C3	DQ3 | DQ11	VDD#M12 M12
MDA32	C2	DQ2 | DQ10	VDD#V2 V2
MDA35	B3	DQ1 | DQ9	VDD#V11 V11
MDA33	B2	DQ0 | DQ8	
			VSSQ B1
RASA1#	H10	BA2 | RAS	VSSQ#B4 B4
A_BA0_M6X	G9	BA1 | BA0	VSSQ#B9 B9
A_BA1_M6X	G4	BA0 | BA1	VSSQ#B12 B12
			VSSQ#D1 D1
MAA7	L4	A11 | A7	VSSQ#D4 D4
MAA8	K2	A10 | A8	VSSQ#D9 D9
MAA3	M9	A9 | A3	VSSQ#D12 D12
MAA10	K11	A8/AP | A10	VSSQ#G2 G2
MAA11	L9	A7 | A11	VSSQ#G11 G11
MAA2	K10	A6 | A2	VSSQ#L2 L2
MAA1	H11	A5 | A1	VSSQ#L11 L11
MAA0	K9	A4 | A0	VSSQ#P1 P1
MAA9	M4	A3 | A9	VSSQ#P4 P4
MAA6	K3	A2 | A6	VSSQ#P9 P9
MAA5	H2	A1 | A5	VSSQ#P12 P12
MAA4	K4	A0 | A4	VSSQ#T1 T1
			VSSQ#T4 T4
CASA1#	F9	CS | CAS	VSSQ#T9 T9
			VSSQ#T12 T12
CKEA1	H9	WE | CKE	VSS A3
			VSS#A10 A10
A_BA2_M6X	H3	RAS | BA2	VSS#G1 G1
			VSS#G12 G12
CSA1B_0#	F4	CAS | CS	VSS#L1 L1
			VSS#L12 L12
WEA1#	H4	CKE | WE	VSS#V3 V3
			VSS#V10 V10
M_CLKA1#	J10	CK	
M_CLKA1	J11	CK	VDDA K1
			VDDA#K12 K12
RDQSA6	P3	RDQS3 | RDQS2	
RDQSA5	P10	RDQS2 | RDQS3	
RDQSA7	D10	RDQS1 | RDQS0	
RDQSA4	D3	RDQS0 | RDQS1	
WDQSA6	P2	WDQS3 | WDQS2	
WDQSA5	P11	WDQS2 | WDQS3	VSSA#J12 J12
WDQSA7	D11	WDQS1 | WDQS0	VSSA J1
WDQSA4	D2	WDQS0 | WDQS1	
DQMA#6	N3	DM3 | DM2	RFU2 J3
DQMA#5	N10	DM2 | DM3	
DQMA#7	E10	DM1 | DM0	RFU1 J2
DQMA#4	E3	DM0 | DM1	
			RFU0 V4
MEM_RST	V9	RESET	
	A4	ZQ	
VREF_1	H1	VREF	
VREF#H12_1	H12	VREF#H12	MF A9
			GND | VDD

(35) MEM_RST → R3088 E@243/F_4 → A4

(35) MEM_RST → R3090 E@243/F_4 → A4

VCC1.8

R3084 E@40.2/F_4 — C3159 E@0.1U_4
R3085 E@100/F_4

R3089 E@40.2/F_4 — C3161 E@0.1U_4
R3092 E@100/F_4

E@MLB-160808-0120L-N2: L3010, L3011

C3257 E@0.1U_4 — C3258 E@0.1U_4

E@MLB-160808-0120L-N2: L3020, L3021

C3157 E@0.1U_4 — C3158 E@0.1U_4

R3080 E@2.37K_4 — R3081 E@5.49K/F_4 — C3155 E@0.1U_4 — VREF_1

R3082 E@2.37K_4 — R3083 E@5.49K/F_4 — C3156 E@0.1U_4 — VREF#H12_1

R3086 E@2.37K_4 — R3087 E@5.49K/F_4 — C3160 E@0.1U_4 — VREF#H12_0

R3091 E@2.37K — R3093 E@5.49K/F_4 — C3162 E@0.1U_4 — VREF_0

CKEA0	R3067	E@121/F_4
CKEA1	R3066	E@121/F_4
CSA0b_0#	R3069	E@121/F_4
CSA1b_0#	R3068	E@121/F_4
WEA0#	R3071	E@121/F_4
WEA1#	R3070	E@121/F_4
CASA0#	R3072	E@121/F_4
CASA1#	R3073	E@121/F_4
RASA0#	R3074	E@121/F_4
RASA1#	R3075	E@121/F_4
M_CLKA0#	R3076	E@60.4/F_4
M_CLKA0	R3077	E@60.4/F_4
M_CLKA1#	R3078	E@60.4/F_4
M_CLKA1	R3079	E@60.4/F_4

1031 Hunson_Change C3184,C3164,c3179,C3174 to 1000P

C3185	E@1U/6.3V_6
C3186	E@1U/6.3V_6
C3179	E@1000P_4
C3180	E@0.1U_4
C3181	E@0.1U_4
C3182	E@0.1U_4
C3183	E@0.1U_4
C3184	E@1000P_4
C3187	E@0.01U_4
C3188	E@0.01U_4

C3170	E@10U/6.3V_8
C3171	E@10U/6.3V_8
C3165	E@1U/6.3V_6
C3166	E@1U/6.3V_6
C3227	E@0.1U_4
C3172	E@0.1U_4
C3173	E@0.1U_4
C3174	E@1000P_4
C3175	E@0.1U_4
C3163	E@0.1U_4
C3164	E@1000P_4
C3167	E@0.01U_4
C3168	E@0.01U_4

Signal		DDR1,2	DDR3
MVREF to 1.8V		100R	40.2R
MVREF to GND		100R	100R

1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

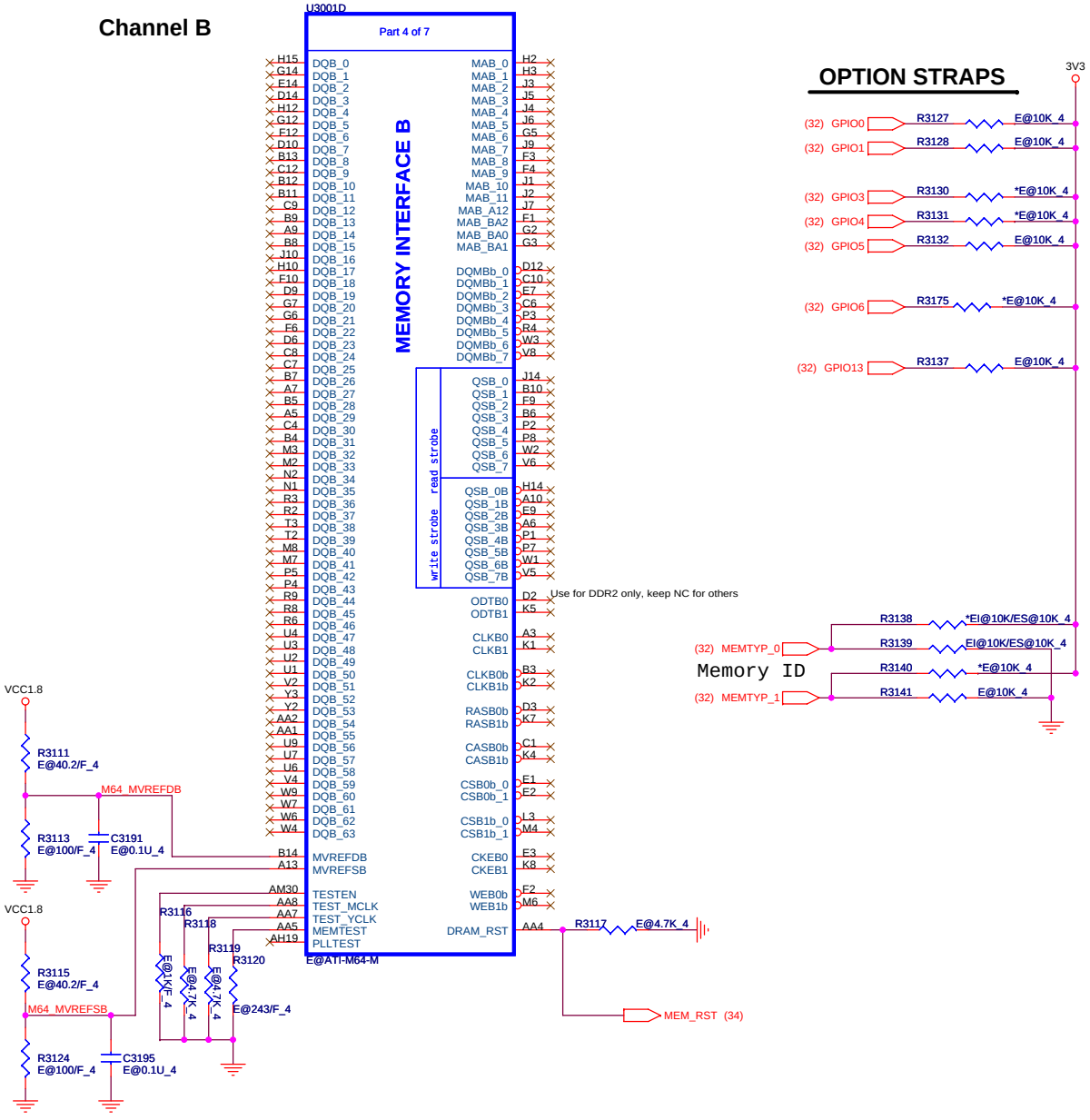
QUANTA COMPUTER

Title: ATI M64M VRAM

Size: Custom | Document Number: GD1 Main Board | Rev: 1A

Date: Tuesday, November 14, 2006 | Sheet 34 of 35

Channel B



OPTION STRAPS

M64-M Strap

STRAPS	PIN	DESCRIPTION	ASIC DEFAULT
TX_PWRS_ENB	GPIO0	Transmitter Power Savings Enable 0: 50% Tx output swing 1: full Tx output swing (recommended)	0 (internal pull-down)
TX_DEEMPH_EN	GPIO1	Transmitter De-emphasis Enable 0: Tx de-emphasis disabled 1: Tx de-emphasis enabled (recommended)	0 (internal pull-down)
Reserved	GPIO(3:2)	ATI internal use only. Other logic must not affect this signal during RESET.(GPIO2=VDD_VCL)	00
DEBUG_ACCESS	GPIO4	Strap to set the debug muxes to bring out DEBUG signals even if registers are inaccessible	0 (internal pull-down)
PLL_IBIAS_RD	GPIO[6:5]	Bias Current for the PCI Express PHY PLL	01
Reserved	GPIO8	ATI internal use only. Other logic must not affect this signal during RESET.(Serial ROM Output from ROM)	0
ROMIDCFG(3:0)	GPIO(9,13:11)	If no ROM attached, comtrols chip IDis. If rom attached identifies ROM type 000x - No ROM, MEM_AP_SIZE=00 128MB 001x - No ROM,MEM_AP_SIZE=01 256MB 010x - No ROM, MEM_AP_SIZE=10 64MB(Default) 011x - No ROM,MEM_AP_SIZE=11 Reserved 1000 - Parallel ROM, chip IDis from ROM 1001 - Serial AT25F1024 ROM (Atmel), chip IDis from ROM 1010 - Serial AT45DB011 ROM (Atmel), chip IDis from ROM 1011 - Serial M25P10 ROM (ST), chip IDis from ROM 1100 - Serial M25P05 ROM (ST), chip IDis from ROM 1100 - Serial NX25F011B ROM (ISSI), chip IDis from ROM	GPIO[9,13,12,11] 0000 (internal pull-down)
VIP_DEVICE	VSYNC	Indicates if any slave VIP host devices drove this pin low during reset. 0- Slave VIP host port deviced present. 1-No slave VIP port devices reporting presence during reset	0 (internal pull-down)
Reserved	PCIE_TEST	ATI internal use only. Other logic must not affect this signal during RESET.(Serial ROM Output from ROM)	0
Reserved	HSYNC	ATI internal use only. Other logic must not affect this signal during RESET.(Serial ROM Output from ROM)	0

VRAM Straps REV. 0.1

STRAPS	PIN	DESCRIPTION	VALUE
MEMTYPE[1:0]	GPIO 27,26	Memory identification for BIOS 00 - Infineon GDDR3 : 2M x 32 bits x 4 banks(Default) 01 - SAMSUNG GDDR3 : 2M x 32 bits x 4 banks 10 - RESERVED 11 - RESERVED	00

MEMTYPE1	MEMTYPE0	R3124	R3125	R3122	R3123	
0	0	NC	10K	NC	10K	00 - Infineon GDDR3 : 2M x 32 bits x 4 banks
0	1	NC	10K	10K	NC	01 - SAMSUNG GDDR3 : 2M x 32 bits x 4 banks
1	0	10K	NC	NC	10K	10 - RESERVED
1	1	10K	NC	10K	NC	11 - RESERVED

1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

QUANTA COMPUTER

Title	ATI M64-M STRAP	
Size: Custom	Document Number: GD1 Main Board	Rev: 1A
Date: Tuesday, November 14, 2006	Sheet 35 of 35	