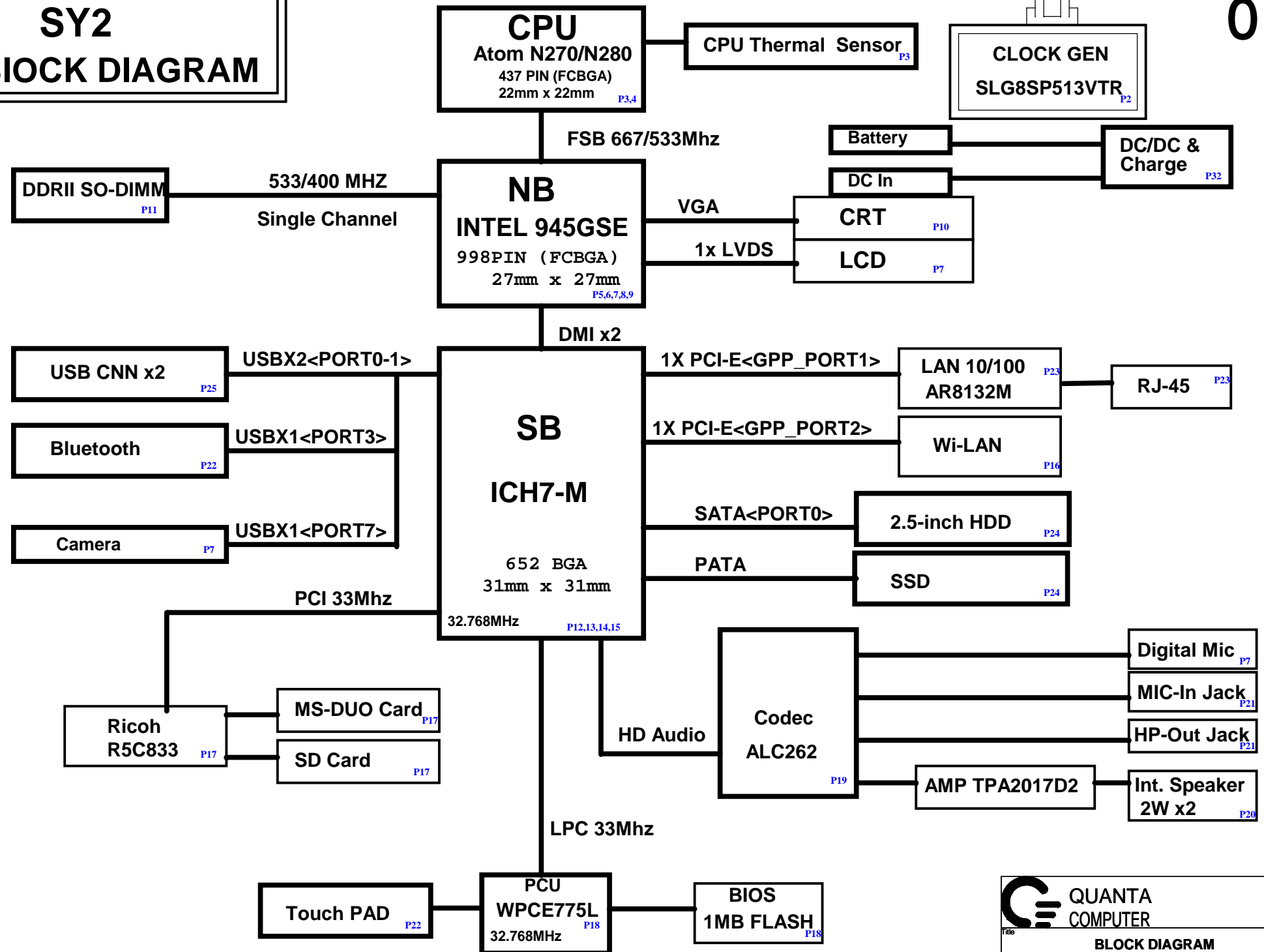


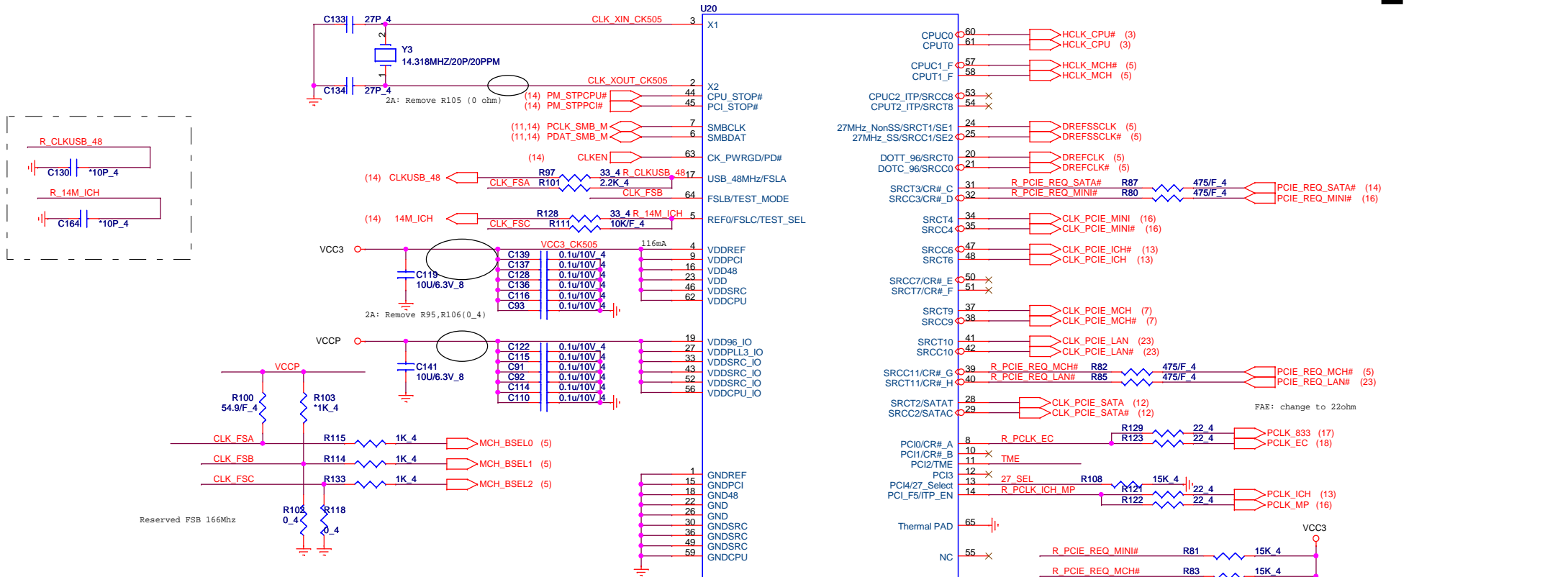
SY2 BLOCK DIAGRAM

01



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: Custom	Document Number: SY2 MB	Rev: 2C
Date: Friday, April 10, 2009	Sheet: 1	of 36



FSC	FSB	FSA	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							RESERVED

27 Select	PIN13	PIN 20/21	PIN 24/25
*	0	DOT_96 / DOT_96#	LCDCLK / LCDCLK#
	1	SRC_0 / SRC_0#	27M / 27M_SS

ITP_EN (PIN14)	PIN53/54
* 0	SRC8# / SRC8
1	ITP / ITP#

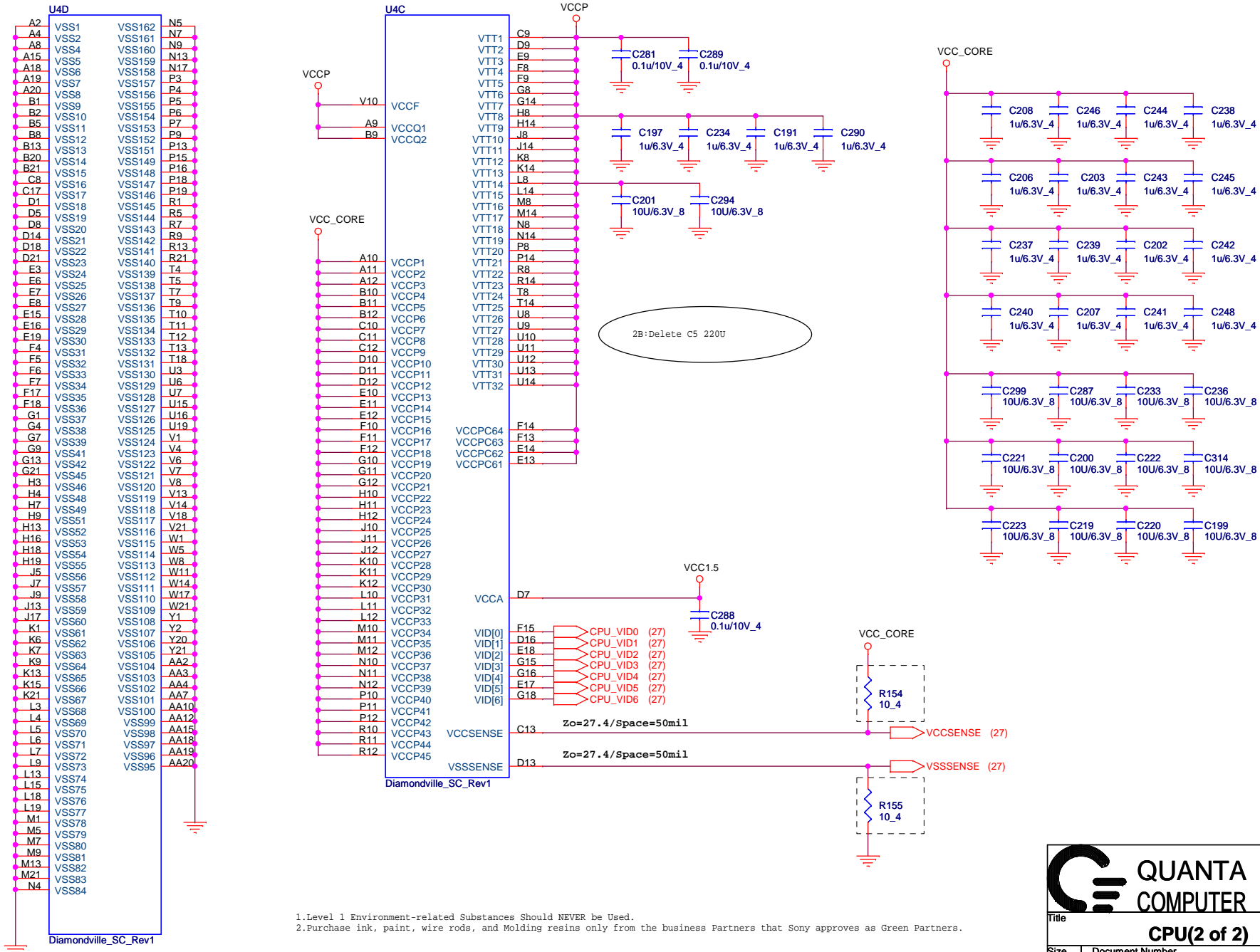
1. Level 1 Environment-related Substances should NEVER be Used.
 2. Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

QUANTA COMPUTER

Title: **CLKGEN**

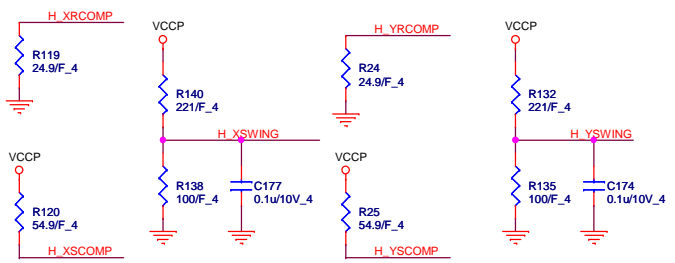
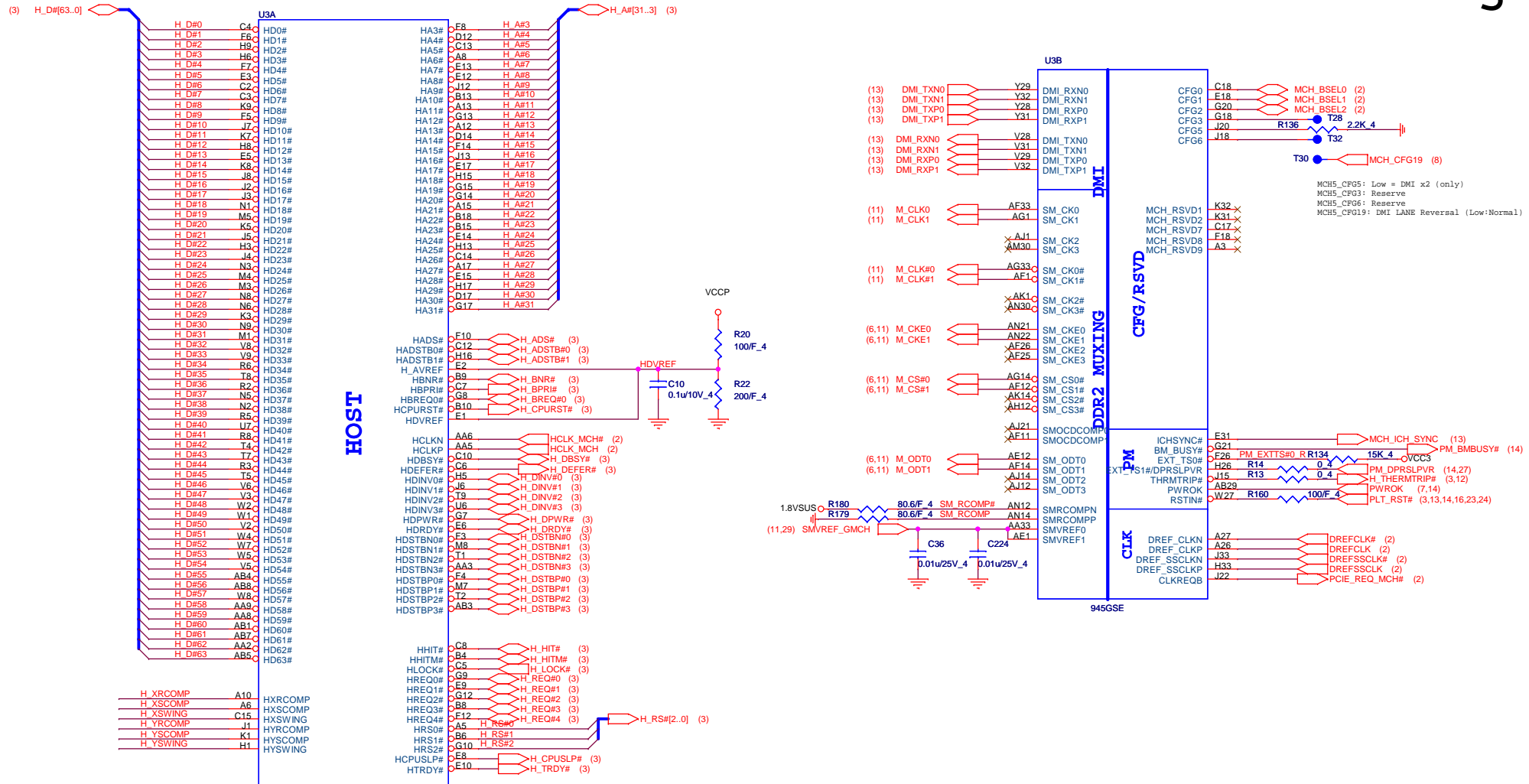
Size Custom: Document Number **SY2 MB** Rev 2C

Date: Friday, April 10, 2009 Sheet 2 of 36



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	
		CPU(2 of 2)	
Title	Document Number	Rev	
Size Custom	SY2 MB	2C	
Date: Friday, April 10, 2009	Sheet 4 of 36	Rev	



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

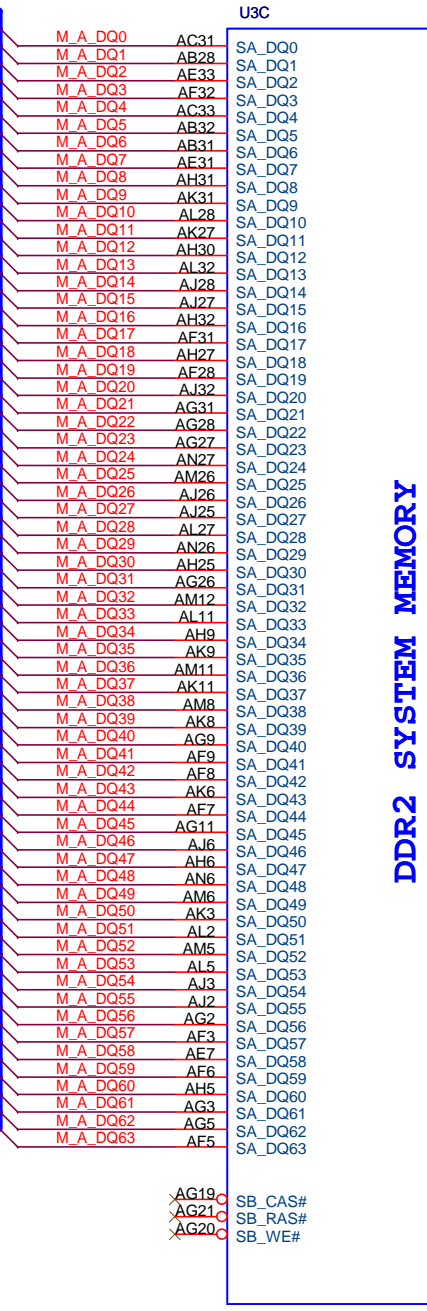
QUANTA COMPUTER

Title: **GMCH HOST(1 of 5)**

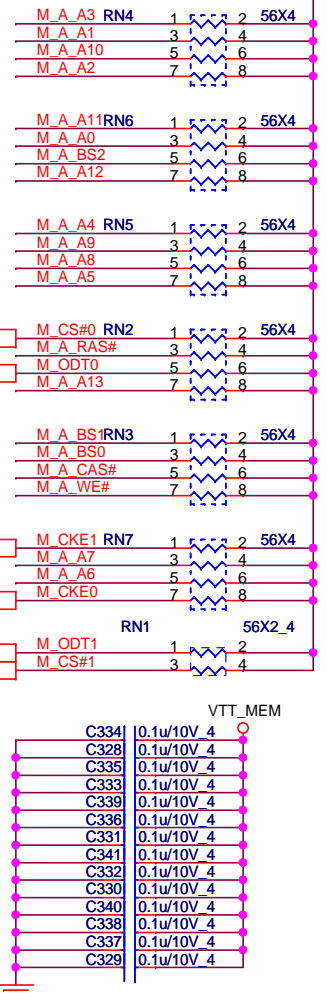
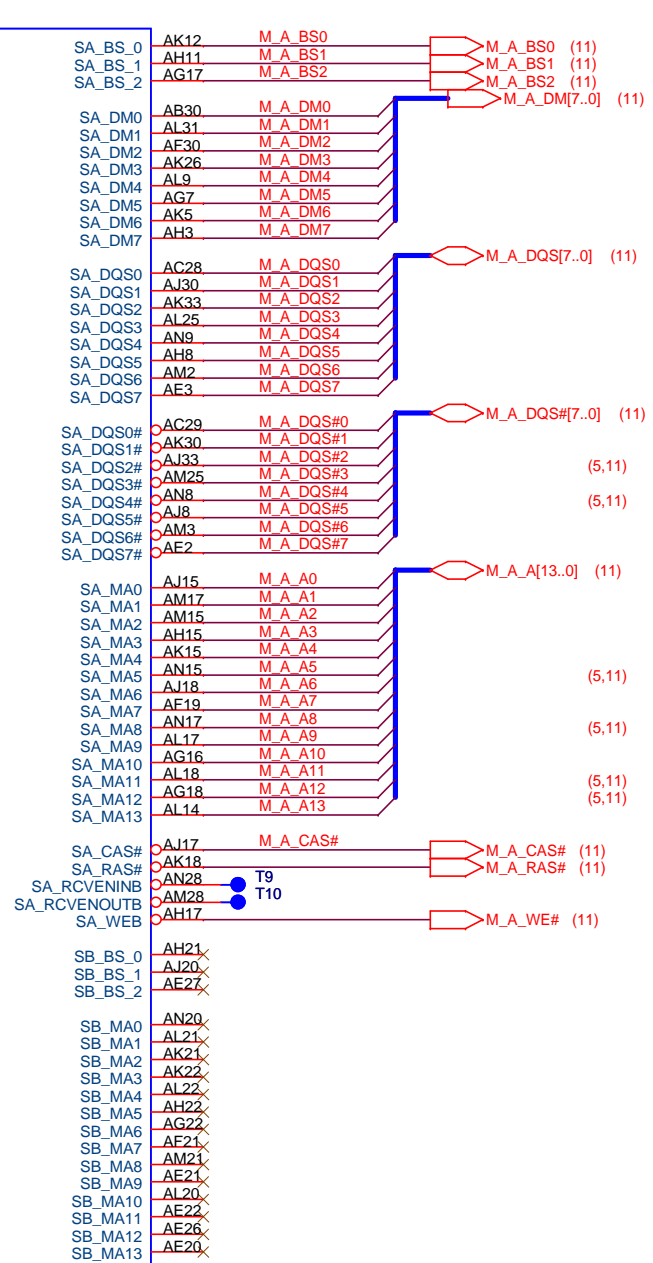
Size: Custom Document Number: **SY2 MB** Rev: 2C

Date: Friday, April 10, 2009 Sheet: 5 of 36

(11) M_A_DQ[63..0]



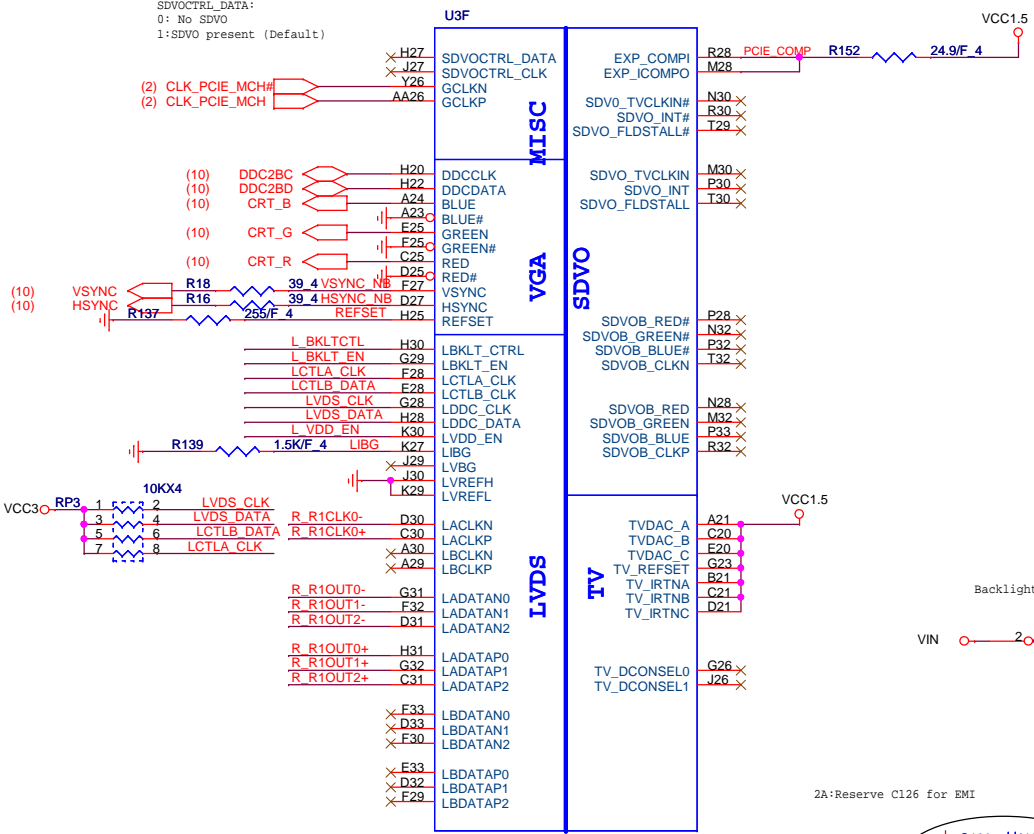
DDR2 SYSTEM MEMORY



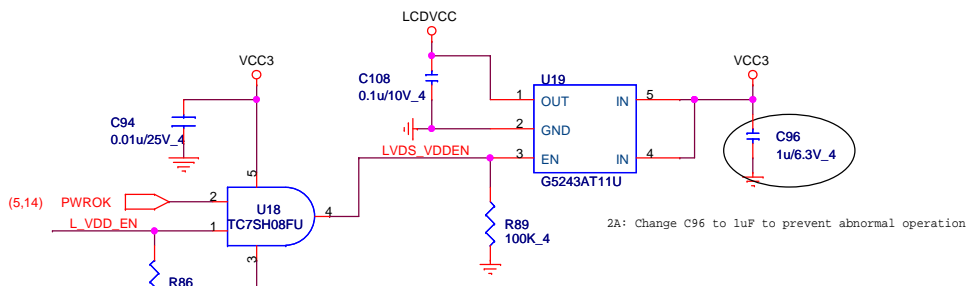
QUANTA
COMPUTER

Title			Rev 2C
GMCH DDR (2 of 5)			
Size Custom	Document Number SY2 MB		
Date: Friday, April 10, 2009	Sheet 6 of 36		

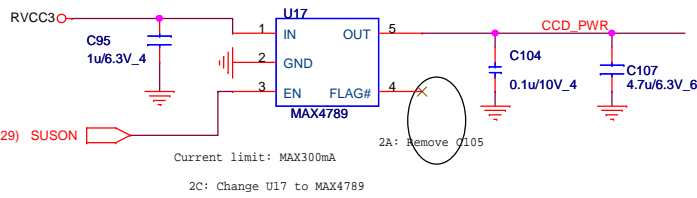
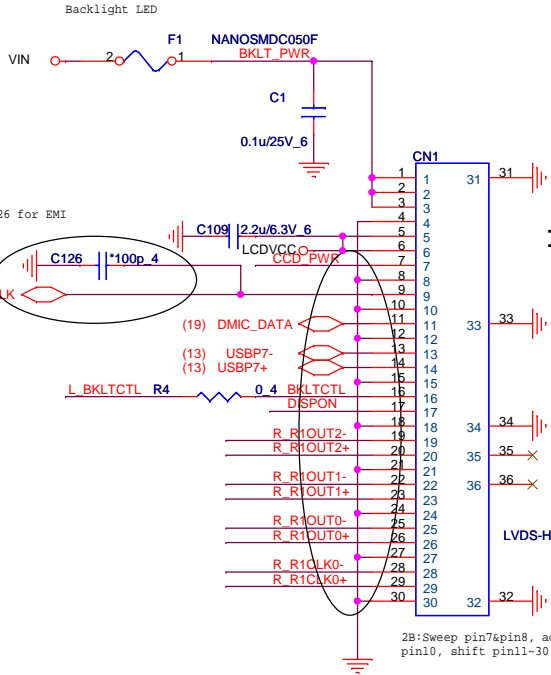
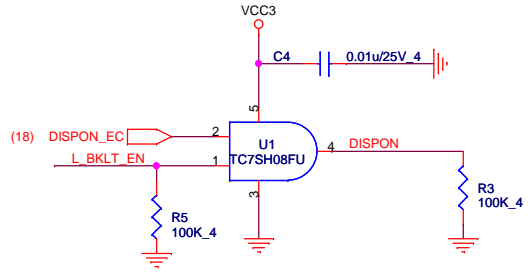
1. Level 1 Environment-related Substances Should NEVER be Used.
 2. Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.



LVDS Enable



Display On



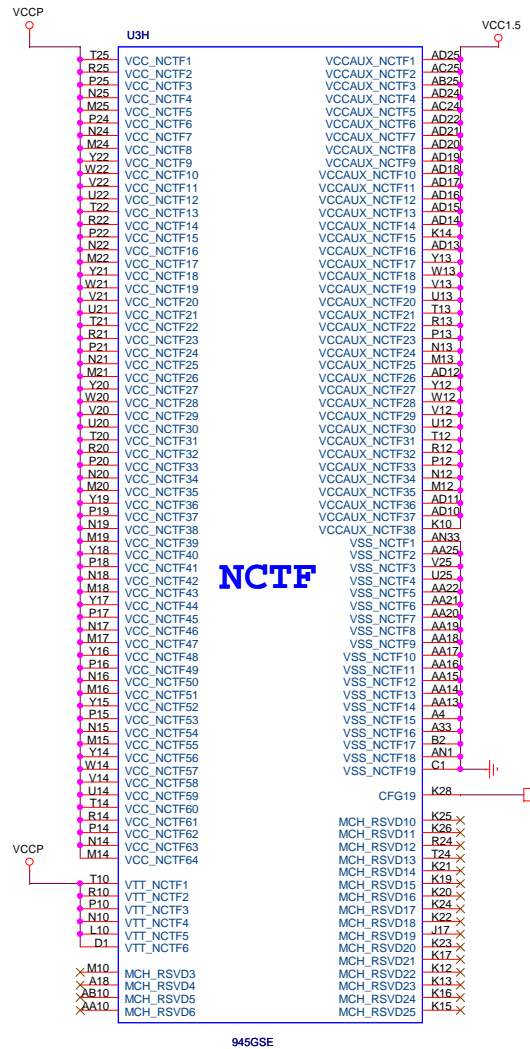
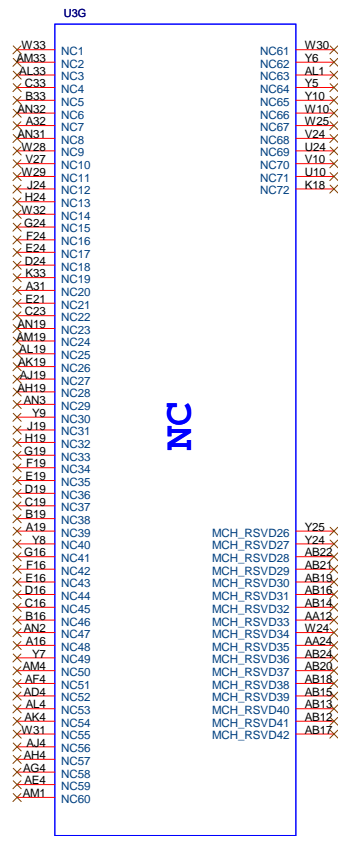
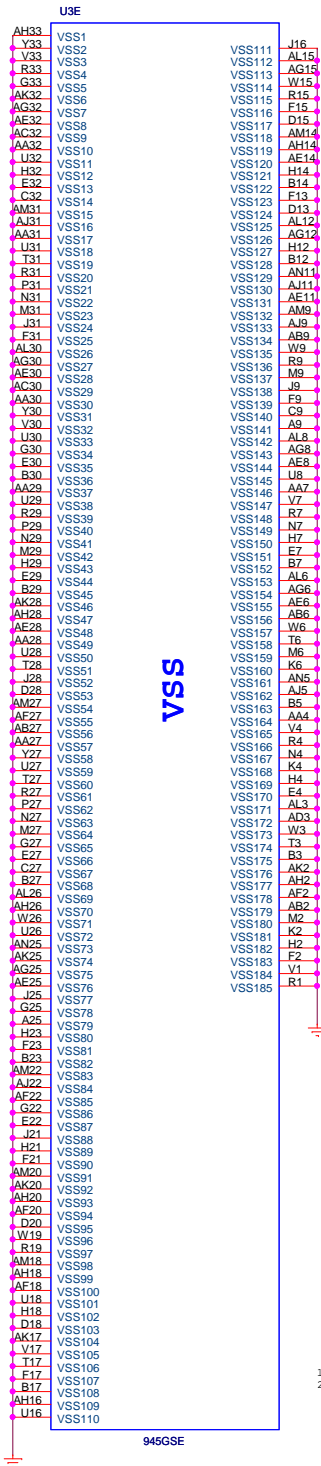
QUANTA COMPUTER

Title: **GMCH DMI VIDEO (3of 5)**

Size B Document Number **SY2 MB** Rev 2C

Date: Friday, April 10, 2009 Sheet 7 of 36

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.



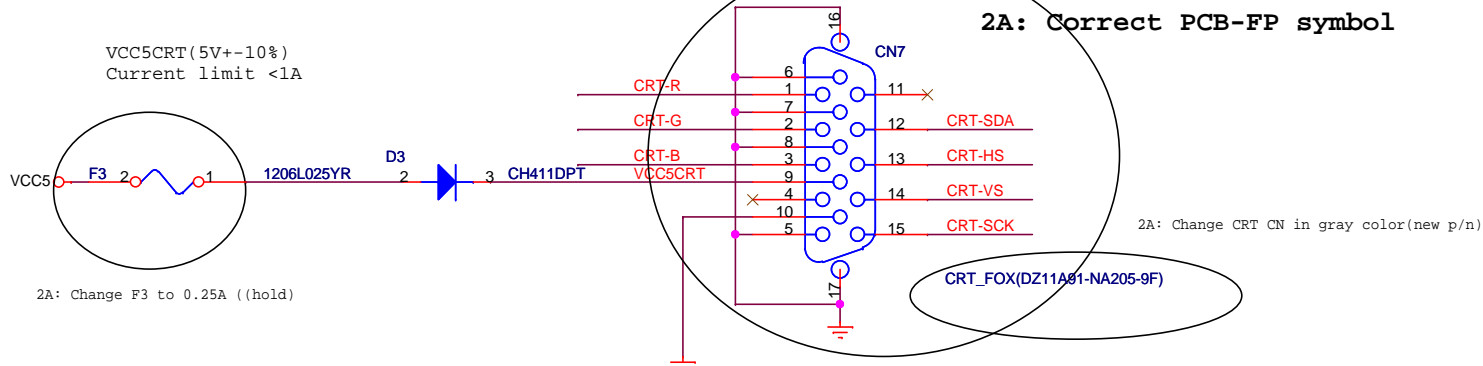
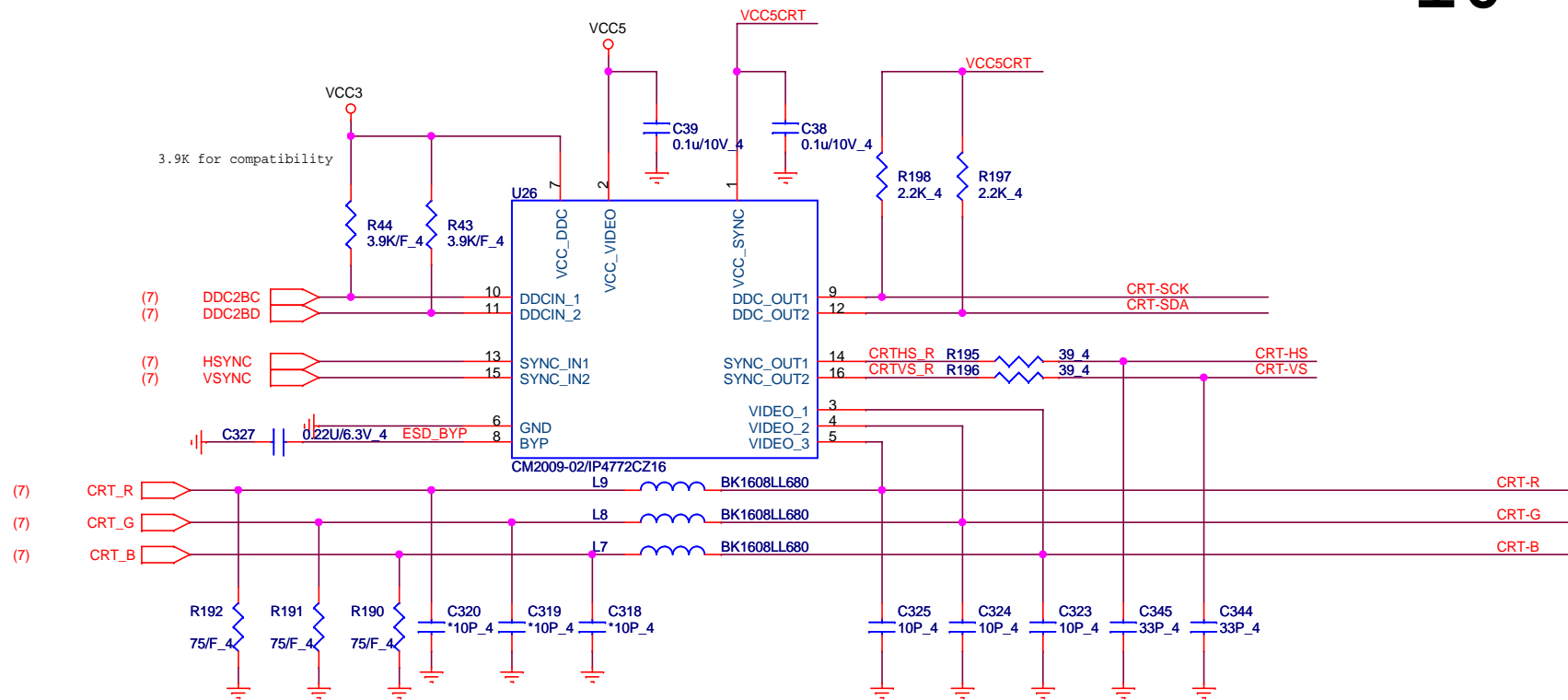
1. Level 1 Environment-related Substances Should NEVER be Used.
 2. Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

QUANTA COMPUTER

Title: **GMCH Power1 (4of 5)**

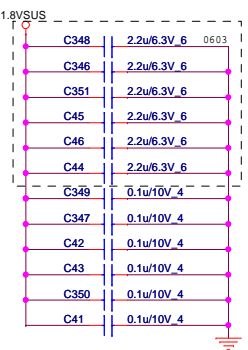
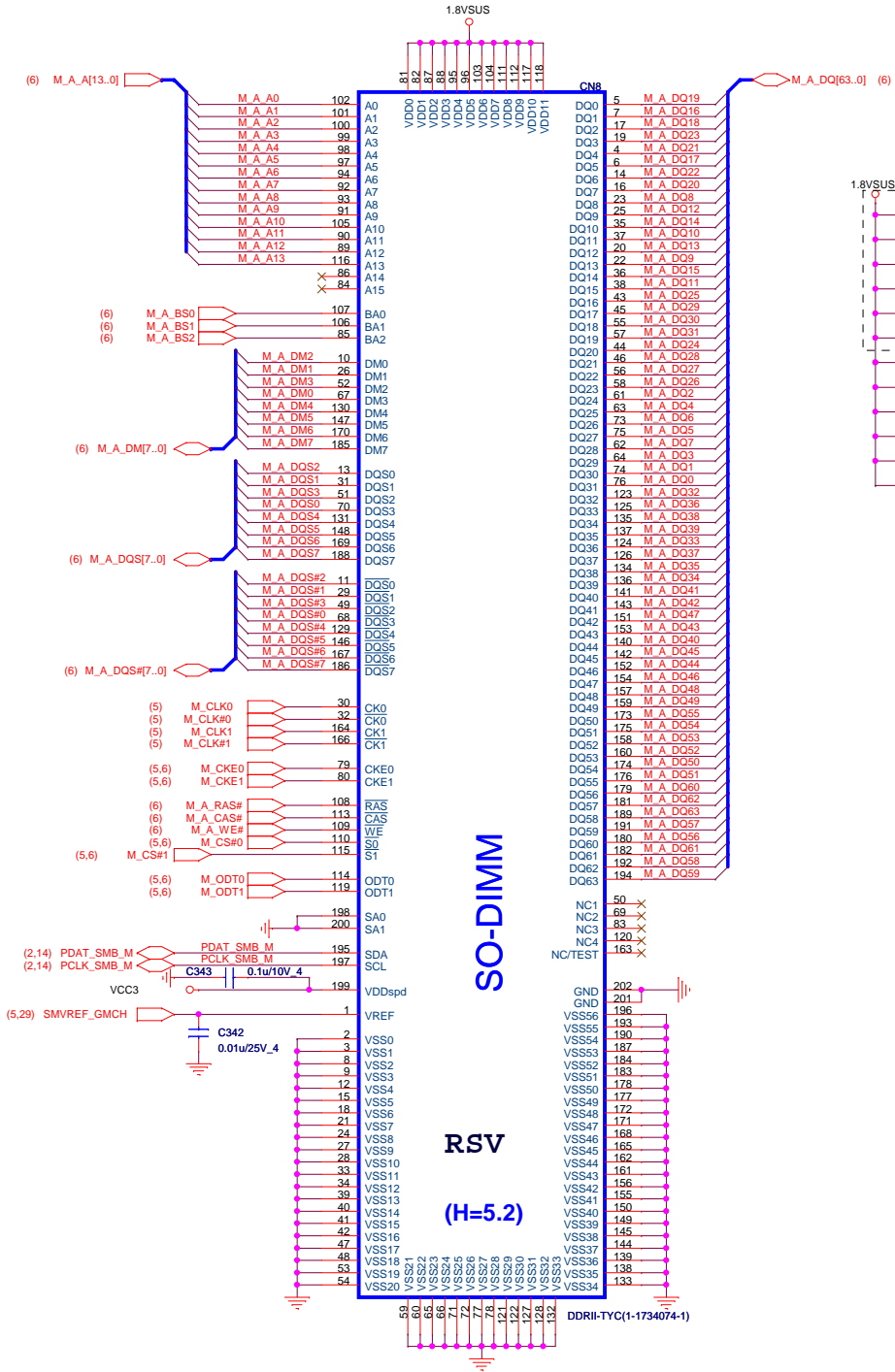
Size	Document Number	Rev
Custom	SY2 MB	2C

Date: Friday, April 10, 2009 Sheet 8 of 36



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.

		Title	
		CRT	
Size	Document Number	Rev	
Custom	SY2 MB	2C	
Date: Friday, April 10, 2009		Sheet	10 of 36



SO-DIMM

RSV (H=5.2)

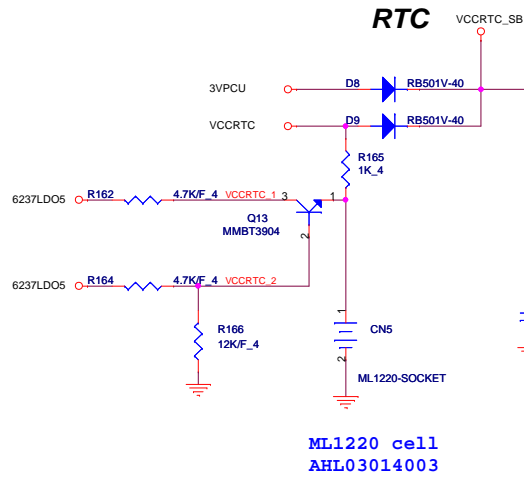
QUANTA COMPUTER

Title: **DDR2 SODIMMx1**

Size: Custom Document Number: **SY2 MB** Rev: 2C

Date: Friday, April 10, 2009 Sheet: 11 of 36

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.



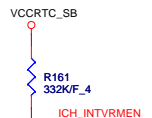
ML1220 cell
AHL03014003

XOR Chain Entrance Strap
PCIE Port configuration

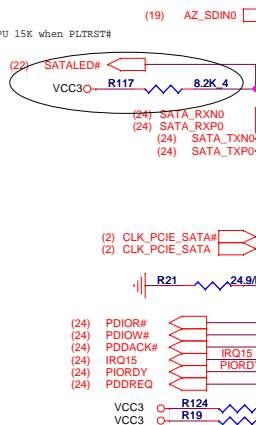
ICH_TP3 (INT PU)	ACZ_SDOUT (INT PD)	ACZ_SYNC (INT PD)	Description
0	0		RSVD
0	1		Enter XOR Chain
1	0	0	* Normal operation 4 x 1s
1	1	1	PCIE Port1 (4x)

Internal VRM Enable for Vccsus1_05

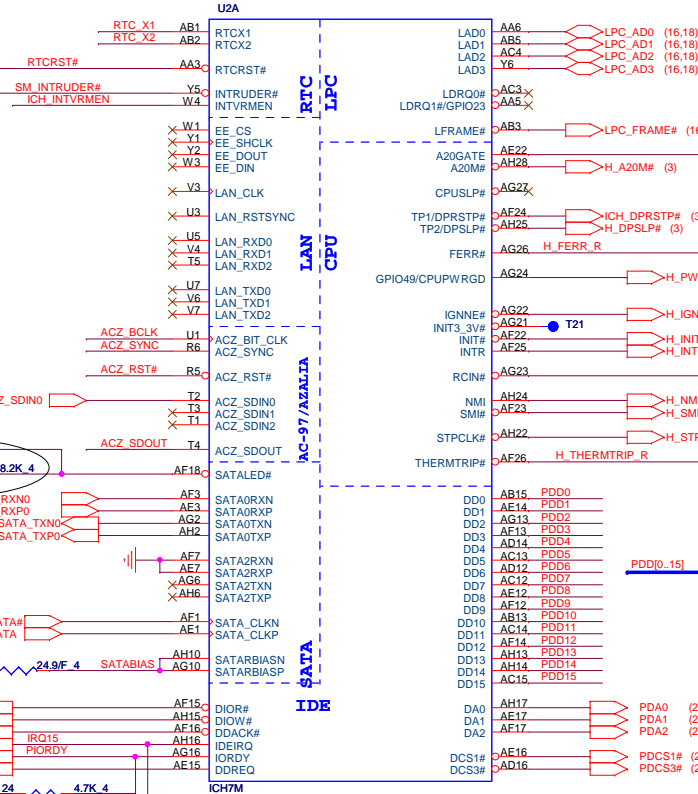
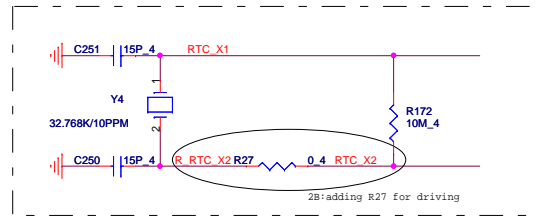
	INTVRMEN
Enable (default)	1
Disable	0



Reserved strapping (PU 15k when PLTRST#)



HD to Audio Codec



ICH_DPRSTP#: Daisy chain routing
ICH-->IMVP-->CPU

QUANTA
COMPUTER

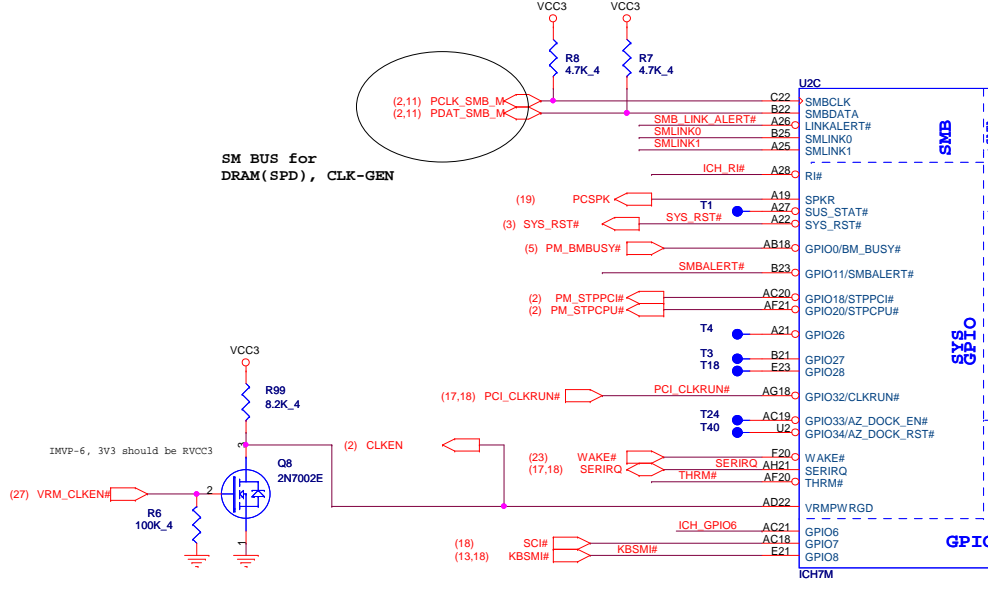
Title: ICH9-M HOST(1 of 4)

Size: Custom Document Number: SY2 MB Rev: ZC

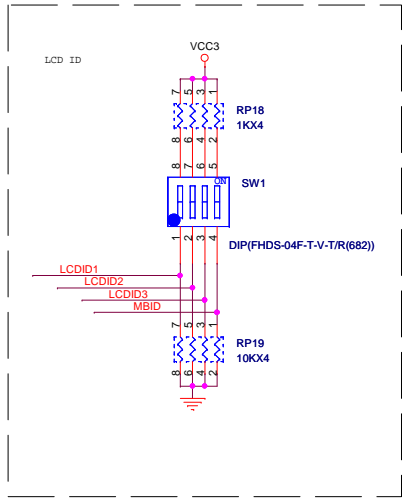
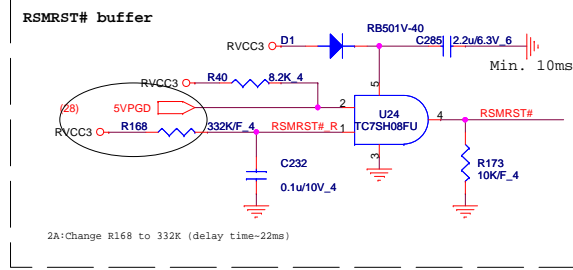
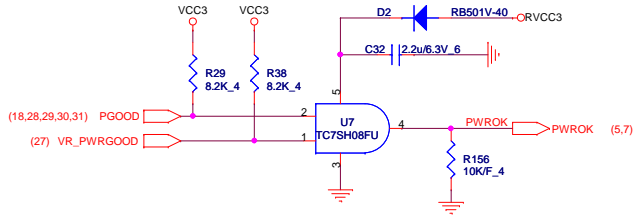
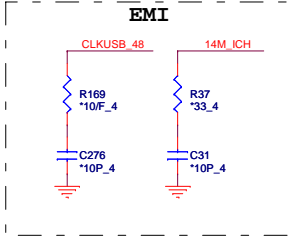
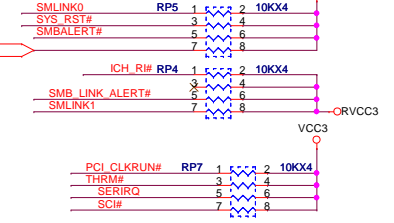
Date: Friday, April 10, 2009 Sheet: 12 of 36

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.

SM BUS for DRAM(SPD), CLK-GEN



(23)



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: **ICH9-M GPIO(3of 4)**

Size: Document Number **SY2 MB** Rev 2C

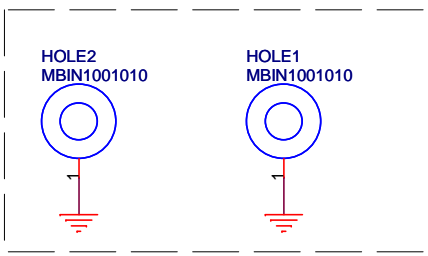
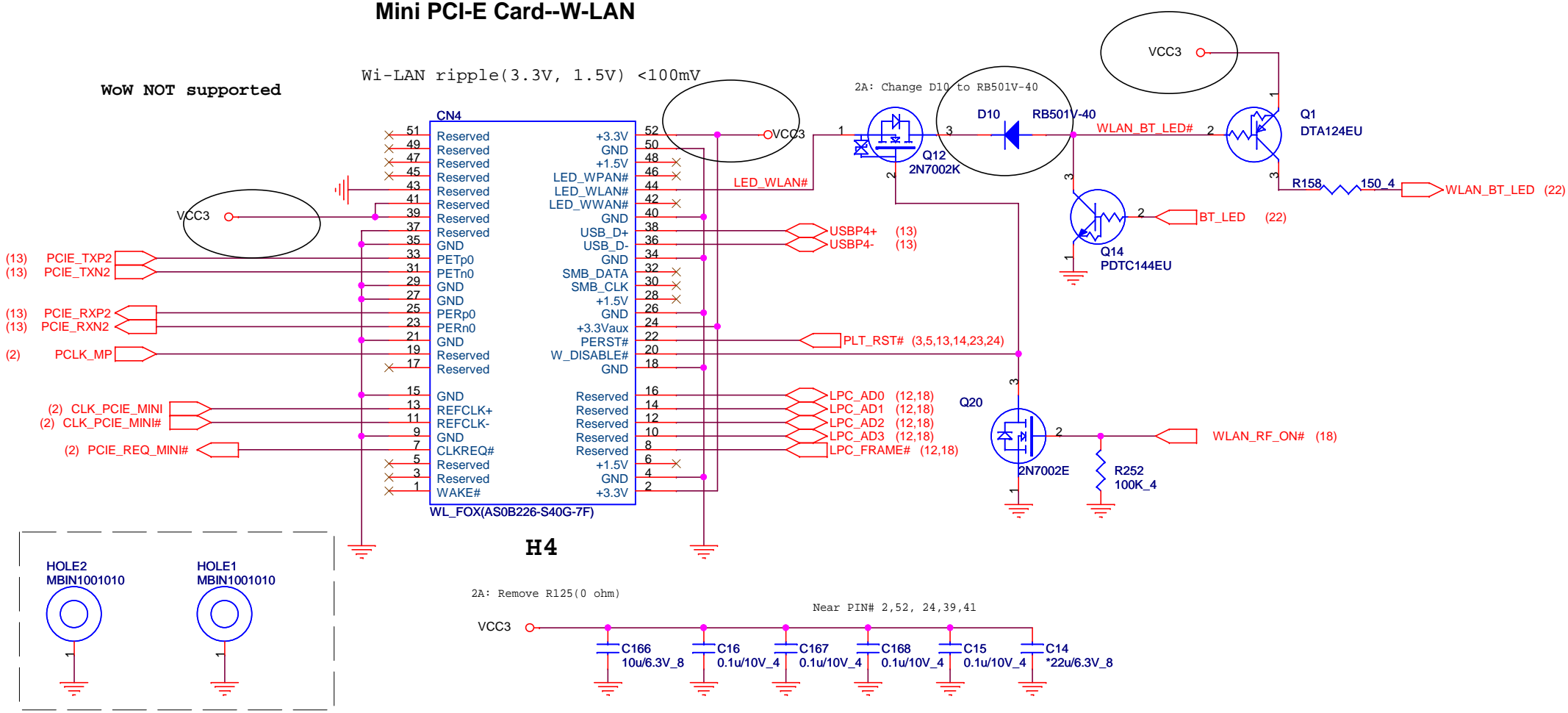
Date: Friday, April 10, 2009 Sheet 14 of 36

Mini PCI-E Card--W-LAN

WoW NOT supported

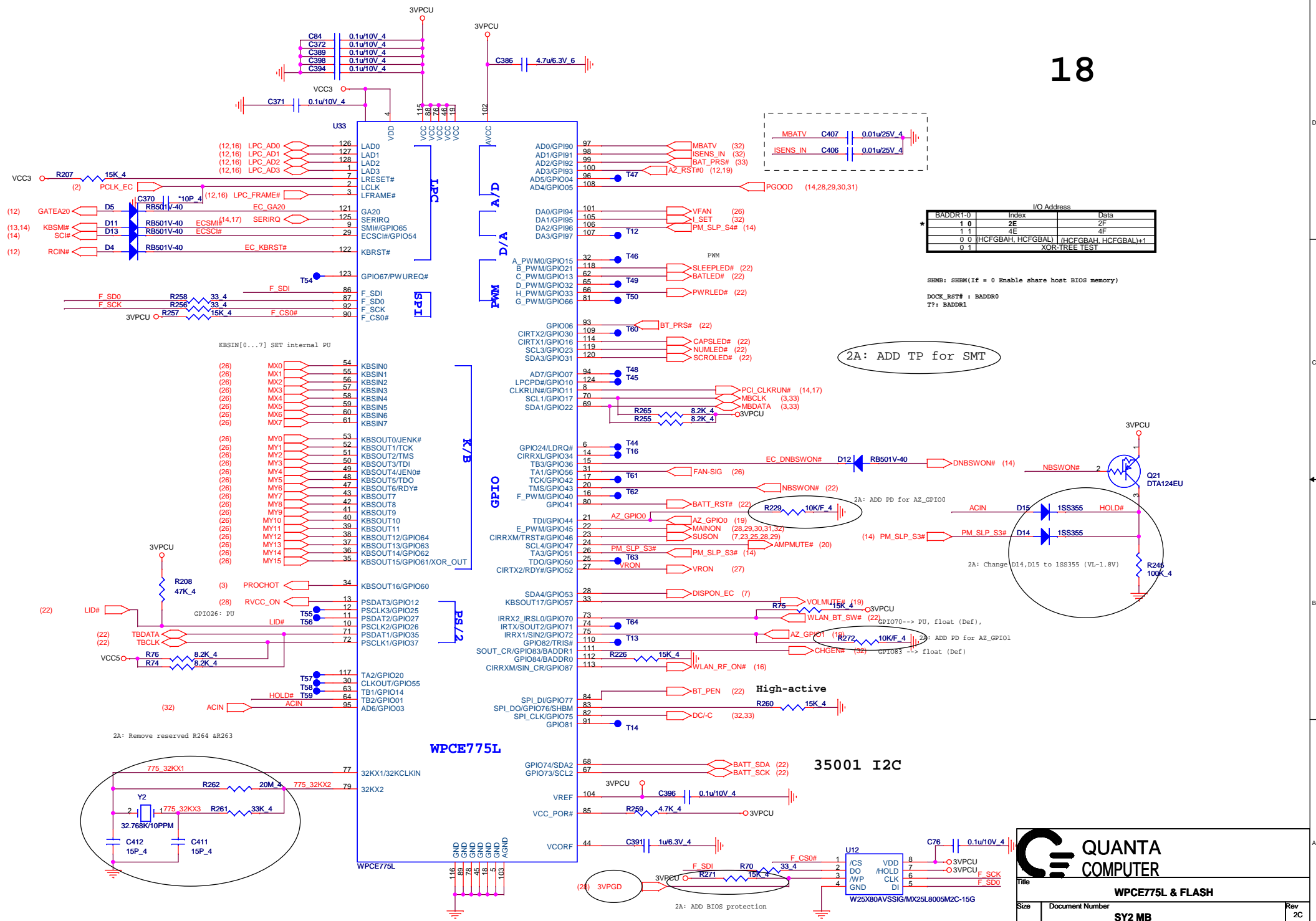
Wi-LAN ripple(3.3V, 1.5V) <100mV

2A: Change D10 to RB501V-40



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 WLAN & BT	
Size Custom	Document Number SY2 MB	Rev 2C	
Date: Friday, April 10, 2009		Sheet 16	of 36



I/O Address			
BADDR1-0	Index	Data	
1 0	2E	2F	
1 1	4E	4F	
0 0	[HCFGBAH, HCFGBALL] [HCFGBAH, HCFGBAL+1 XOR-TREE TEST]		
0 1			

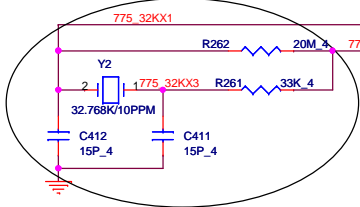
SHMB: SHBM (If = 0 Enable share host BIOS memory)
 DOCK_RST# : BADDR0
 T?: BADDR1

2A: ADD TP for SMT

2A: ADD PD for AZ_GPIO0

2A: Change D14, D15 to 1SS355 (VL-1.8V)

2A: Remove reserved R264 & R263



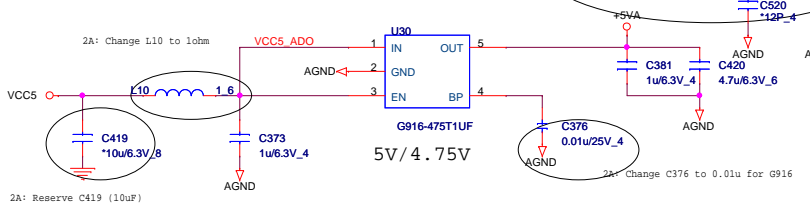
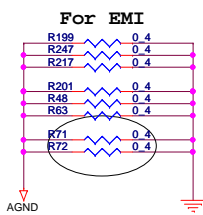
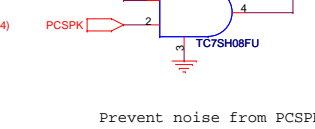
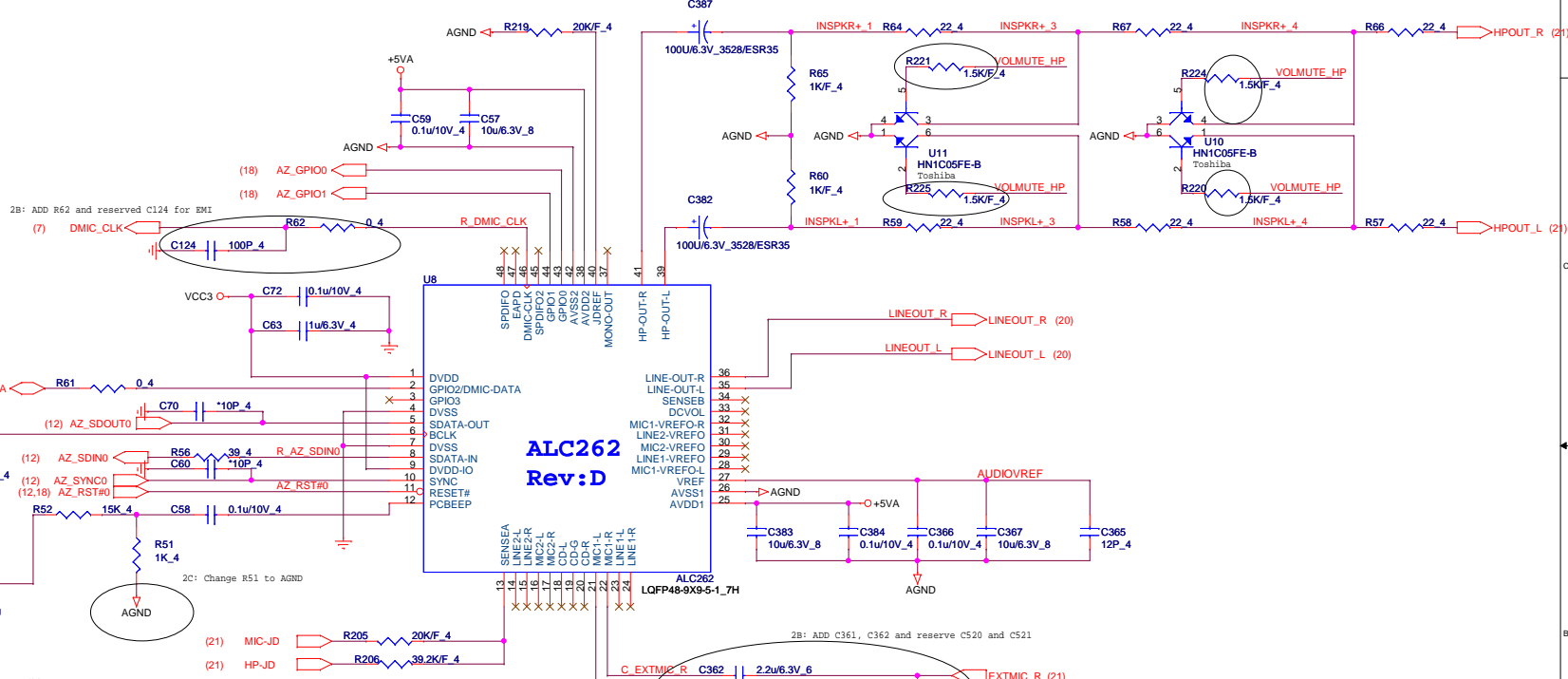
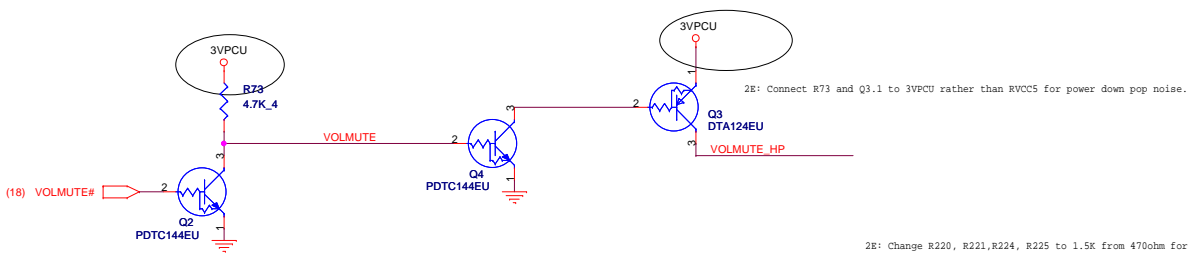
1. Level 1 Environment-related Substances Should NEVER be Used.
 2. Purchase ink, paint, wire rods, and Welding resins only from the business Partners that Sony approves as Green Partners.

QUANTA COMPUTER

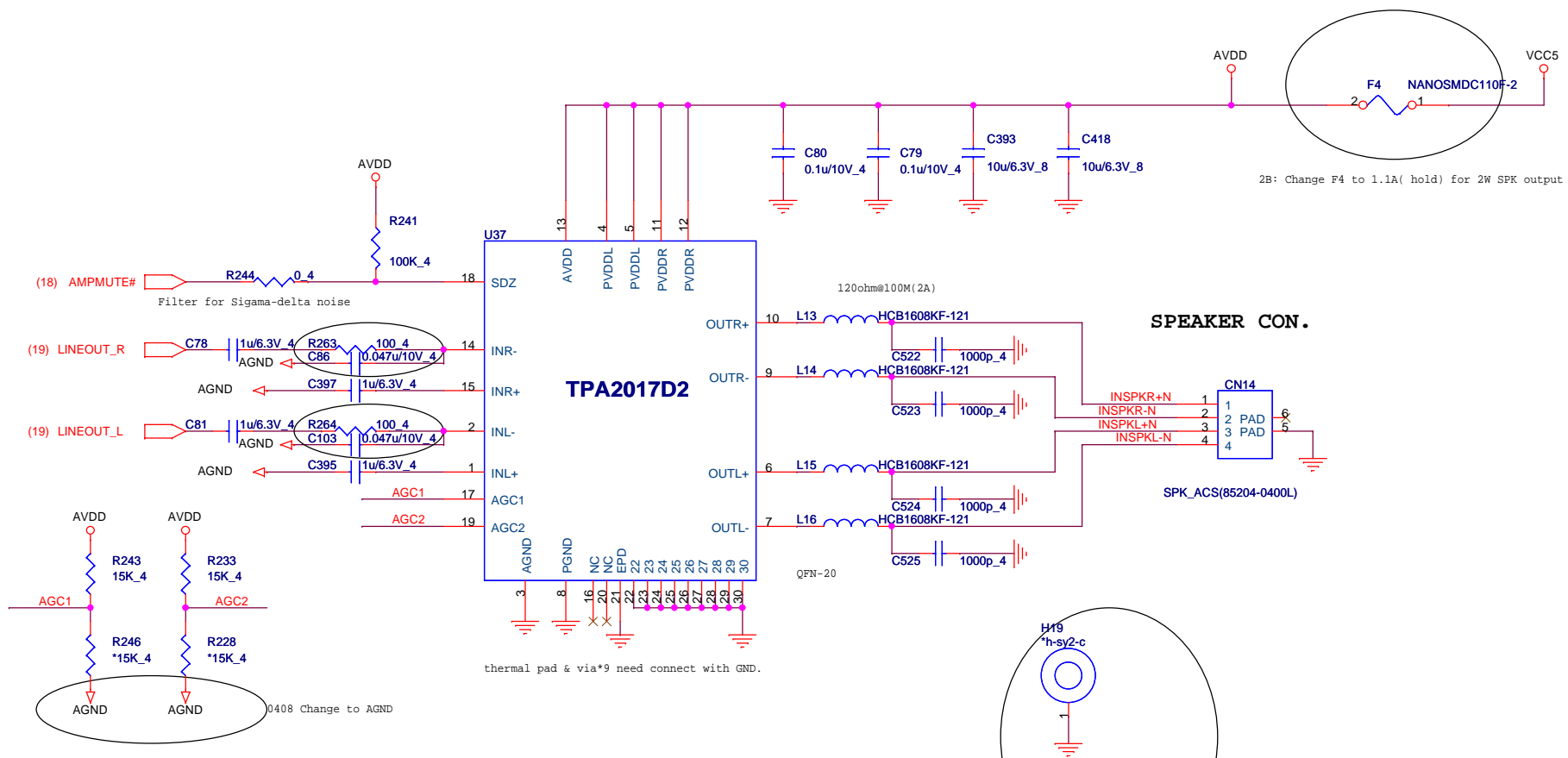
Title: **WPCE775L & FLASH**

Size	Document Number	Rev
	SY2 MB	2C

Date: Friday, April 10, 2009 Sheet 18 of 36



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.



AGC1	AGC2	Function
0	0	AGC Function Disable
0	1	AGC, LIMITER Function Enable
1	0	AGC, LIMITER, Compression Function Enable
1	1	AGC, LIMITER, Compression and Noise Gate Function Enable

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.

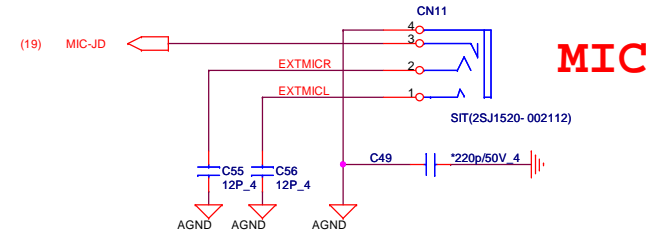
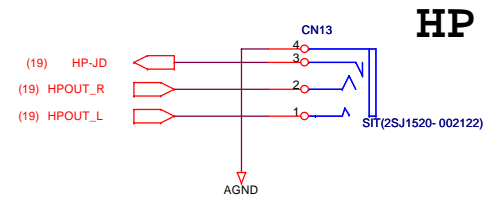
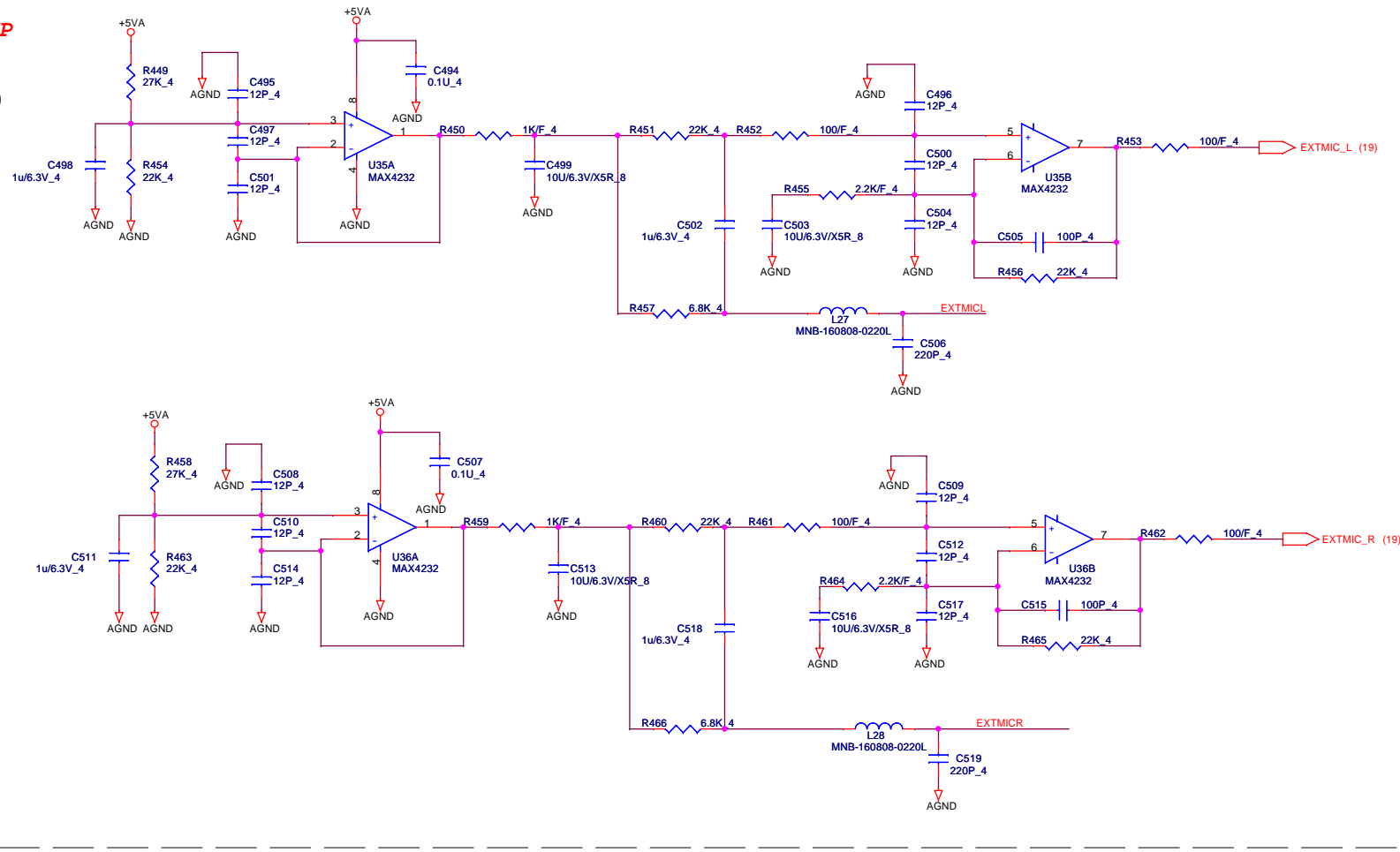


**QUANTA
COMPUTER**

Title		
AMP TPA2017D2		
Size	Document Number	Rev
Custom	SY2 MB	2C
Date:	Friday, April 10, 2009	Sheet 20 of 36

MIC Pre-AMP

2A: Change MIC- AMP circuit

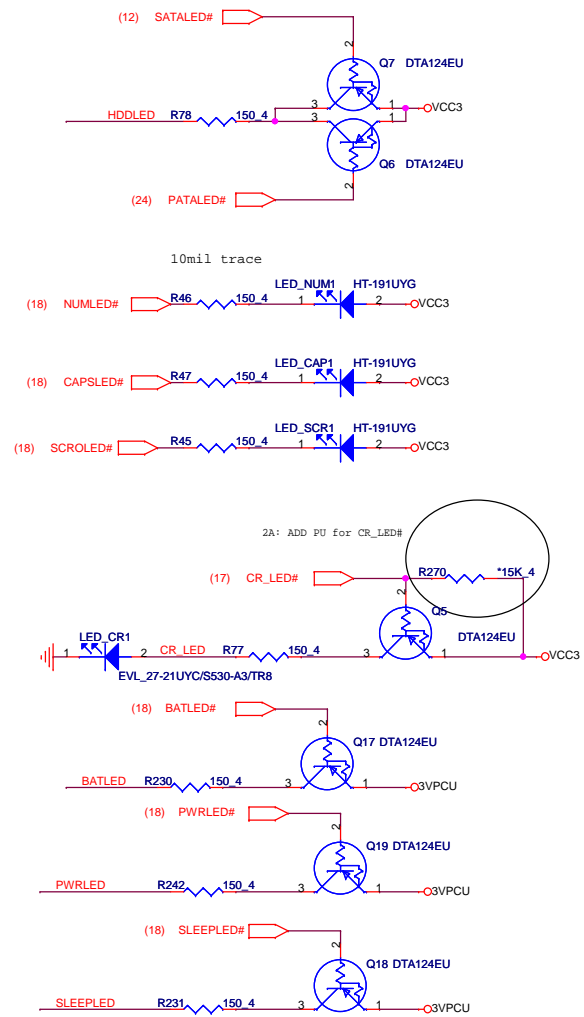
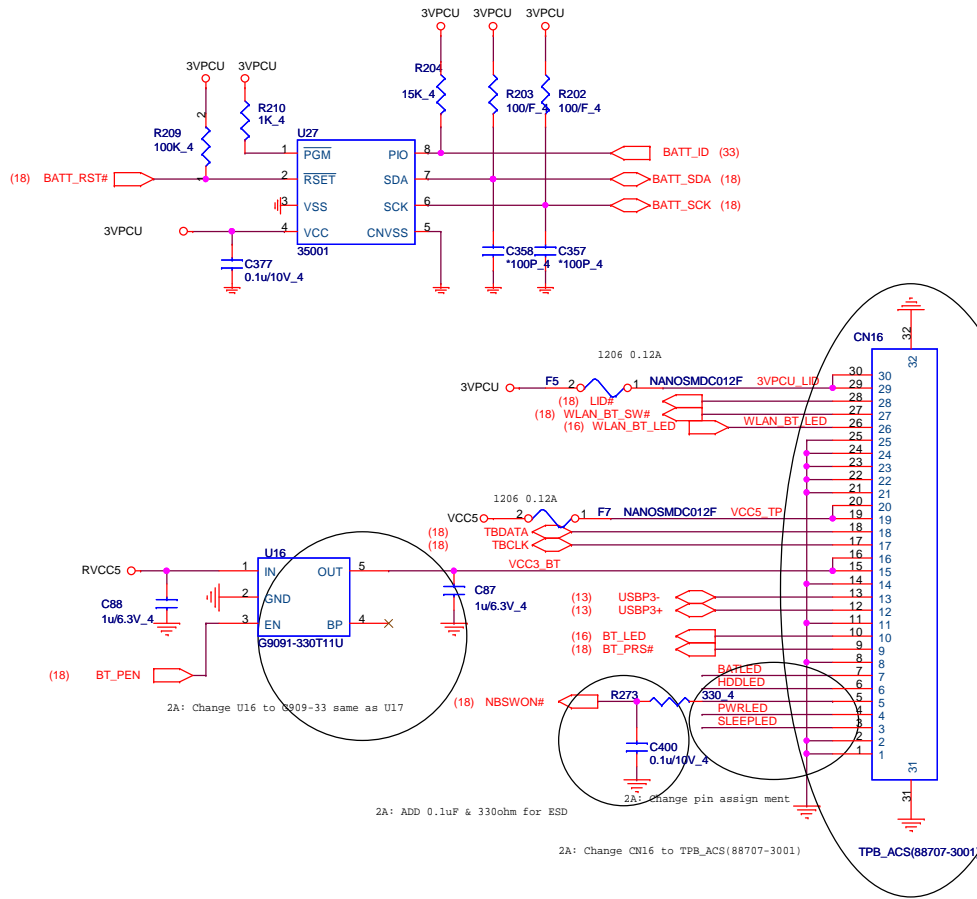


QUANTA COMPUTER

Title: **AUDIO JACK & MIC PRE-AMP**

Size Custom	Document Number SY2 MB	Rev 2C
Date: Friday, April 10, 2009	Sheet 21 of 36	

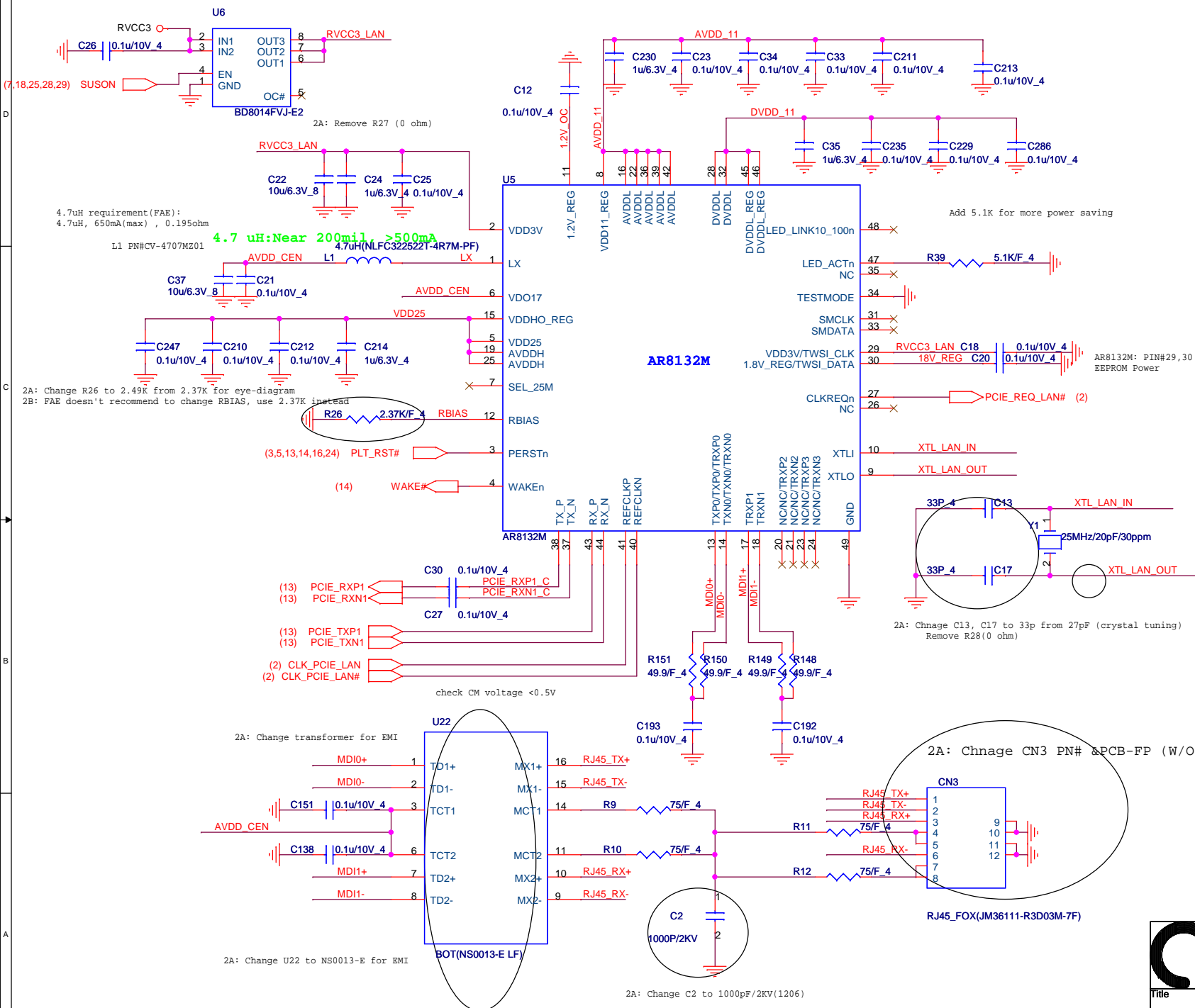
1.Level 1 Environment-related Substances should NEVER be Used.
 2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.



"Power, S0 (green), S3 (Umber flash), S4 (off), S5 (off)
 "Charger status in Umber color, Charge (on), Error (flash quickly)
 "HDD status, LED in yellow color
 "Caps Lock/Num Lock/Scroll Lock in green color
 "Wireless status in green color
 "Memory Stick Duo/SD Card status in yellow color
 "Camera status in green color (on Camera module)

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 35001/LED/Button/TP/BT		
Size Custom	Document Number SY2 MB	Rev 2C
Date: Friday, April 10, 2009	Sheet 22 of 36	



4.7uH requirement (FAE):
 4.7uH, 650mA(max), 0.195ohm

L1 PN#CV-4707M201
 4.7 uH: Near 200mil, >500mA
 4.7uH(NLFC322522T-4R7M-PF)

2A: Change R26 to 2.49K from 2.37K for eye-diagram
 2B: FAE doesn't recommend to change RBIAS, use 2.37K instead

Add 5.1K for more power saving

AR8132M: PIN#29,30
 EEPROM Power

2A: Chnage C13, C17 to 33p from 27pF (crystal tuning)
 Remove R28(0 ohm)

check CM voltage <0.5V

2A: Change transformer for EMI

2A: Chnage CN3 PN# & PCB-FP (W/O LED)

2A: Change U22 to NS0013-B for EMI

2A: Change C2 to 1000pF/2KV(1206)

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.

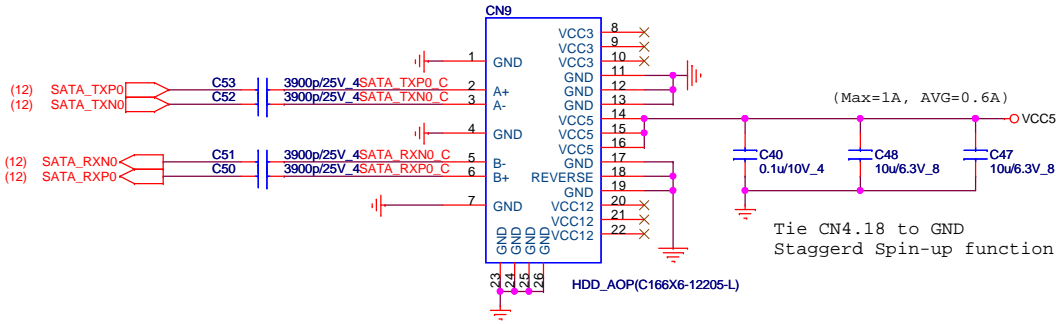
QUANTA COMPUTER

Title: **LAN AR8132M**

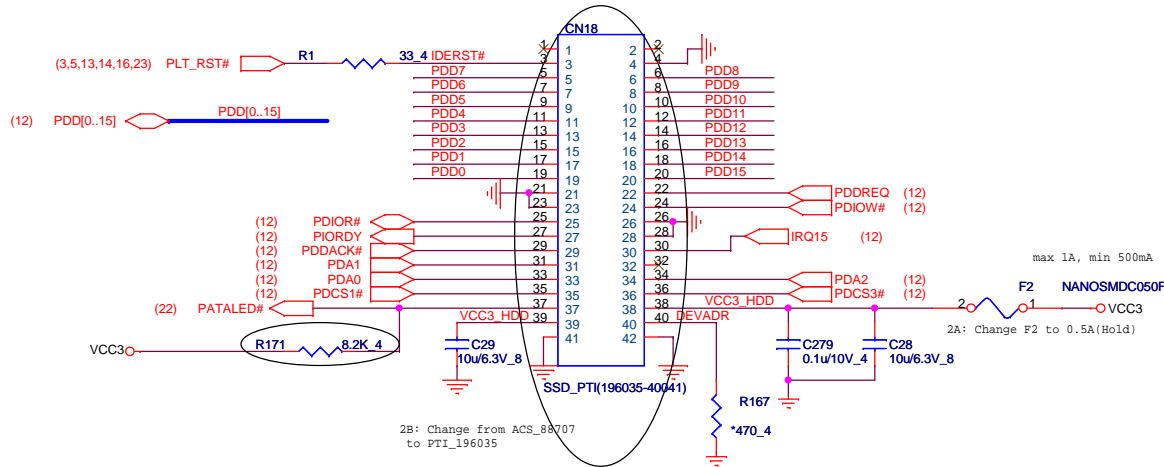
Size: Custom	Document Number: SY2 MB	Rev: 2C
Date: Friday, April 10, 2009	Sheet: 23 of 36	

2.5 inch SATA HDD

24



PATA SSD(16GB)

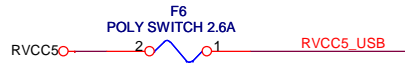
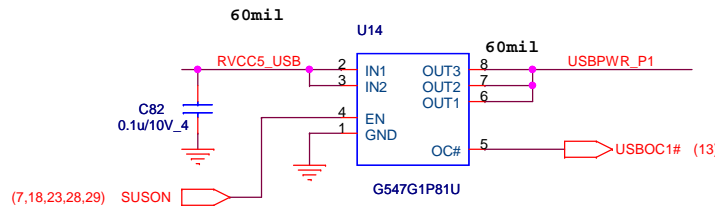
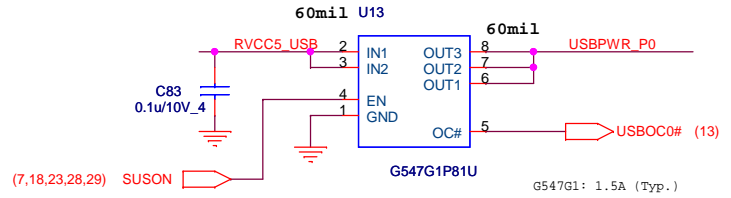


1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

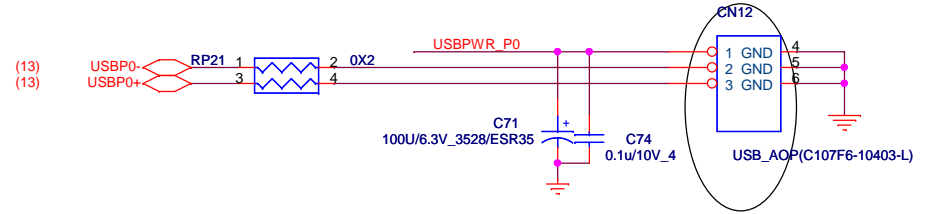
QUANTA COMPUTER		
Title HDD		
Size Custom	Document Number SY2 MB	Rev 2C
Date: Friday, April 10, 2009 Sheet 24 of 36		

USB Power and Over current

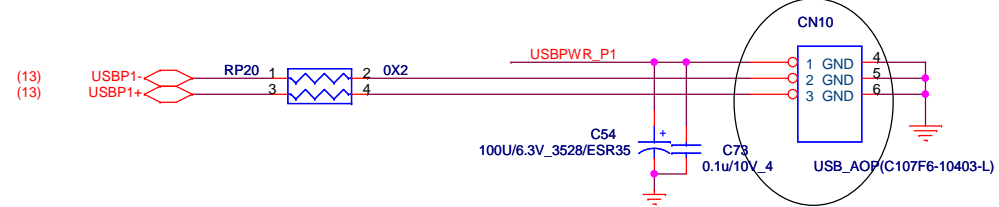
Current limit =1.5~2A



USB Connector



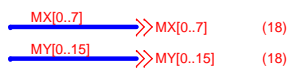
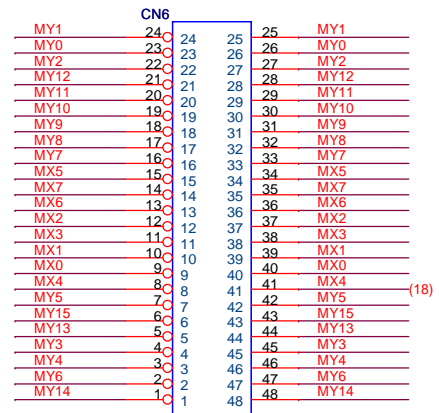
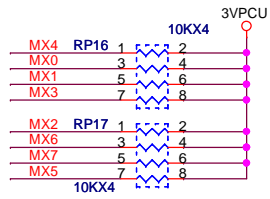
2A: Change CN10, CN12 PN# (gray color)



Title		USB		Rev	2C
Size	Document Number	SY2 MB			
Custom					
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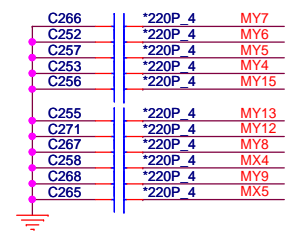
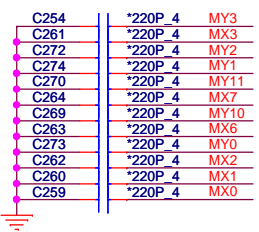
- 1.Level 1 Environment-related Substances Should NEVER be Used.
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INT. KEYBOARD

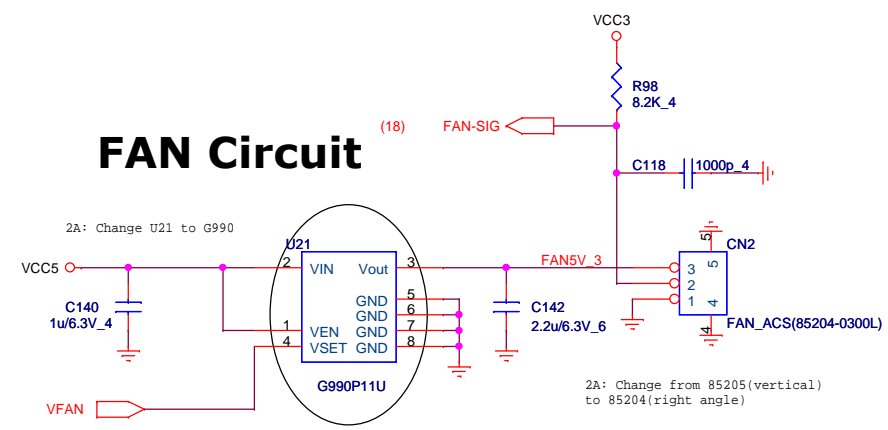


KB_ACS(88483-2401)

check internal PU



FAN Circuit



2A: Change U21 to G990

2A: Change from 85205(vertical) to 85204(right angle)

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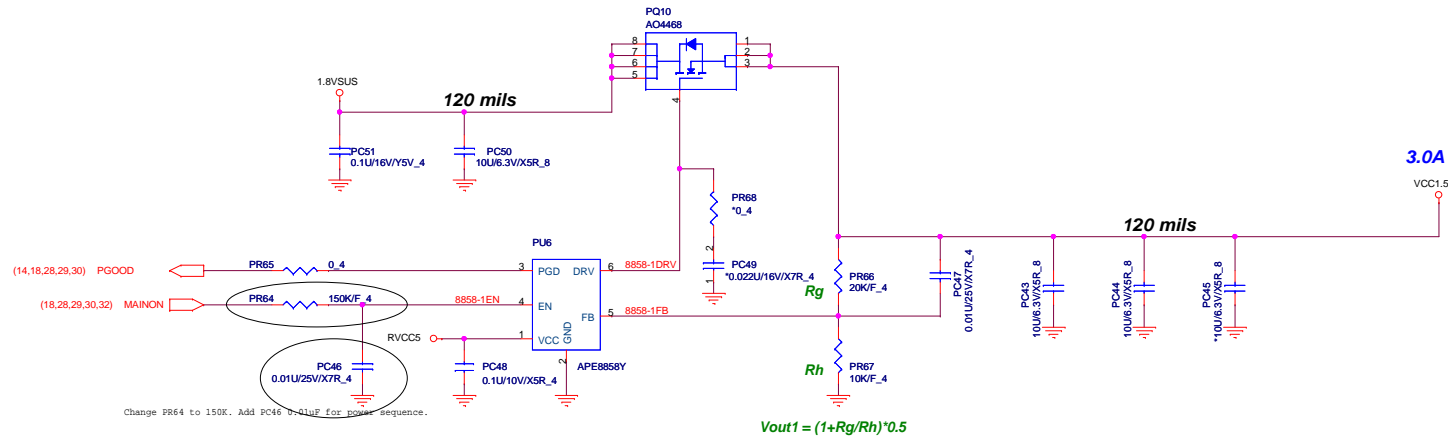
**QUANTA
COMPUTER**

Title: **K/B, FAN, T/P**

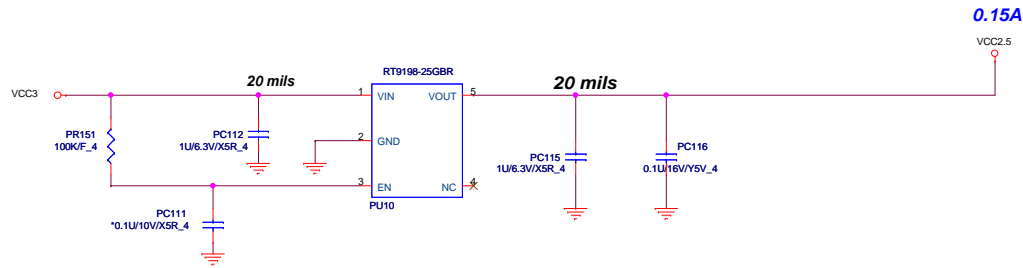
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Custom	SY2 MB	2C

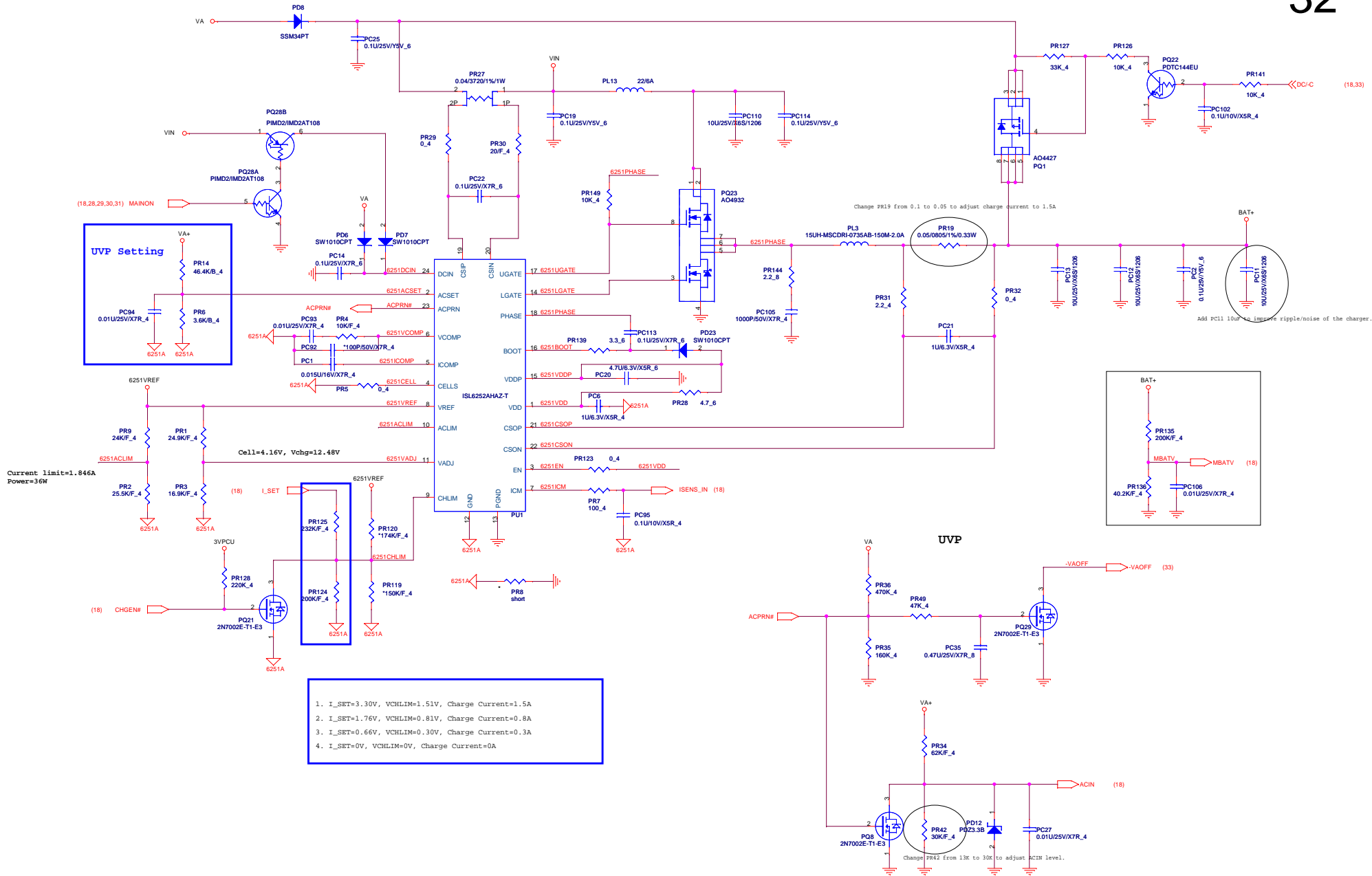
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VCC1.5

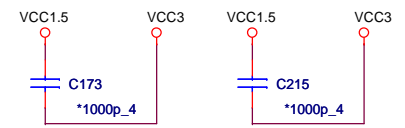
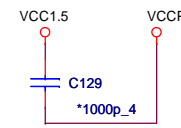
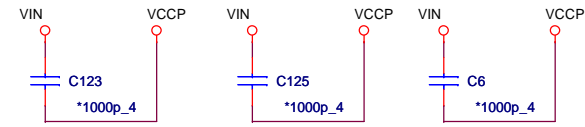
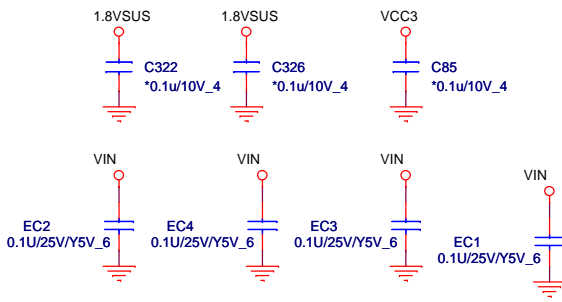
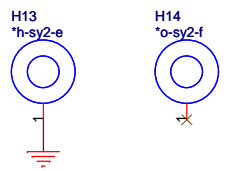
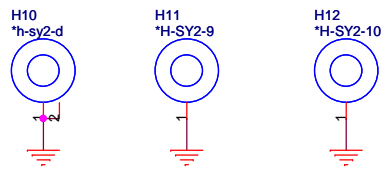
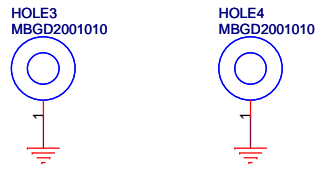
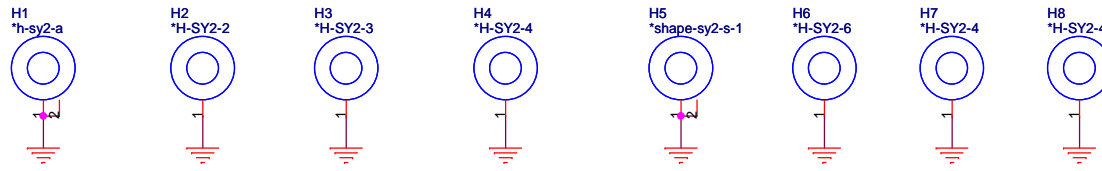


VCC2.5






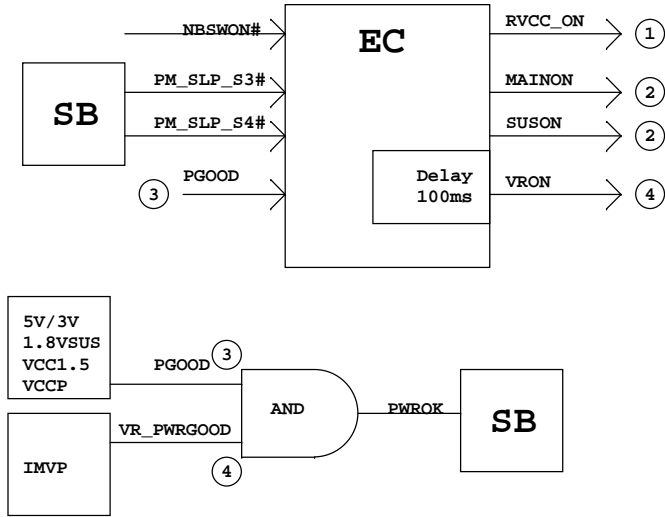
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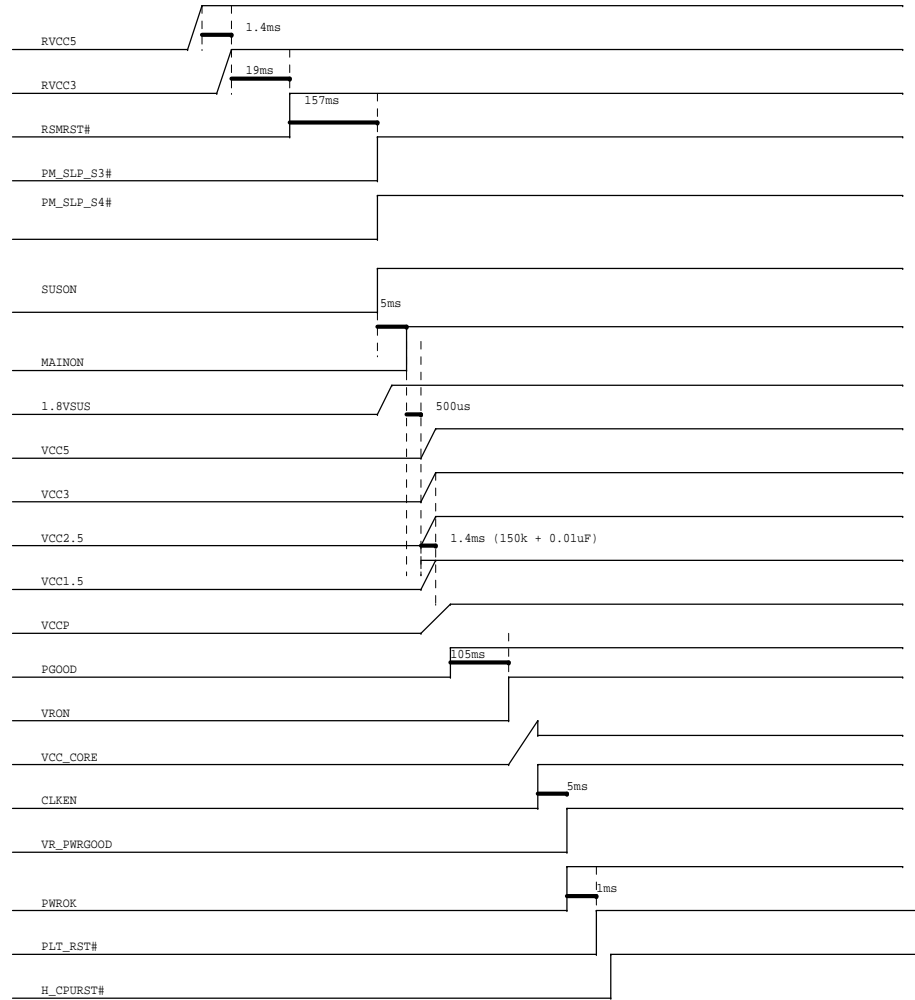
SY2 Power-up Block



Power State Table

AC Mode	S0 S3 S4 S5				BATT	S0 S3 S4 S5			
	S0	S3	S4	S5		S0	S3	S4	S5
6237LDO5	ON	ON	ON	ON	6237LDO5	ON	ON	ON	ON
3VPCU	ON	ON	ON	ON	3VPCU	ON	ON	ON	ON
RVCC5	ON	ON	ON	OFF	RVCC5	ON	ON	OFF	OFF
RVCC3	ON	ON	ON	OFF	RVCC3	ON	ON	OFF	OFF
1.8VSUS	ON	ON	OFF	OFF	1.8VSUS	ON	ON	OFF	OFF
VCC5	ON	OFF	OFF	OFF	VCC5	ON	OFF	OFF	OFF
VCC3	ON	OFF	OFF	OFF	VCC3	ON	OFF	OFF	OFF
VCC2.5	ON	OFF	OFF	OFF	VCC2.5	ON	OFF	OFF	OFF
VCCP	ON	OFF	OFF	OFF	VCCP	ON	OFF	OFF	OFF
VCC_CORE	ON	OFF	OFF	OFF	VCC_CORE	ON	OFF	OFF	OFF

SY2 Power-up Sequencing



**QUANTA
COMPUTER**

Title: **Power-up Sequence**

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1219:(1A)
 First release
 1231:(1B)
 -P.2
 Modify CLK_FSC, CLK_FSB strapping circuit to CLK-GEN
 Change PCI CLK damping to 22ohm (impedance matching)
 -P.9
 Reserve one 220uF for 1.8VSUS to 945GSE
 -P.10
 Change CRT-SCK, CRT-SDA PU to 2.2K for compatibility
 Change DDC2BC, DDC2BD PU to 3.9K for compatibility
 Change VCC5CRT circuit using fuse and Schottky
 -P.14
 Modify RSMRST# buffer circuit
 -P.17
 Change R5C833 GBRST# circuit
 -P.20
 Reserve 0 ohm to AMP R/L_in
 Change AMP to APA2031
 -P.21
 Change Fuse to 0.12A for Hall sensor
 Change fuse to 0.12A for TP/B

0325(2A)
 -P.2
 Remove reserved 0ohm (R95,R106,R105)
 -P7
 Change C96 to 1uF for abnormal operation
 Reserve L11 and C126 for EMI
 -P9
 Remove reserved L3-6, C3
 Remove unnecessary C105
 -P10
 Change F3 to 0.25A ((hold)
 Change CN7 PCB-FP
 -P14
 Change R168 to 332K (delay time-22ms)
 Remove reserved SUSCLK
 -P15
 Remove reserved L2
 -P16
 Change D10 to RB501V-40
 Remove reserved R125(0 ohm)
 -P17
 ADD C413-C416 for signal integrity
 Change CN15.14 to WP (mistake)
 Remove reserved R229 (0 ohm)
 Move C402 near CN17
 -P18
 ADD BIOS protection circuit to
 ADD PD for AZ_GPIO0 and AZ_GPIO1
 Change D14,D15 to 1S8355 (VL-1.8V)
 Remove reserved R263, R264
 -P19
 ADD L12 and reserved C124 for EMI
 Change C376 to 0.01uF for G916
 Change L10 to 1ohm
 Add reserved C419 (10uF) for VCC5
 -P20
 Change C78,C81, C395, C397 to 0.47uF
 for better Low freq response.
 -P21
 Change MIC- PRAMP circuit
 -P22
 Change U16 to G909-33 same as U17
 ADD R237 and C400 for ESD
 -P23
 Change R26 to 2.49K for better PCIE eye
 Change U6 to BD8014
 Remove reserved R27 (0ohm)
 Change C13 and C17 to 33pF (crystal tuning)
 Change C2 to 1000p/2KV (1206 size)
 Change U22 to NS013-E for EMI
 -P24
 Change F2 to 0.5A(Hold)
 -P26
 Change U21 to GMT G990
 -P28
 Remove PC143 for power up sequence
 -P29
 Mount PR96 and un-stuff PR178 for discharge mode
 -P31
 Cange PR64/PC46 to 150K/ 0.1u for power up sequence

0403 (2B)
 -P4
 Remove reserved C5
 -P7
 Change CN1 pin definition
 -P12
 Reserve R27 (0 ohm)
 -P19
 ADD C124 with 100pF for DMIC_CLK
 ADD C361, C362 and reserve C520 and C521
 -P20
 Change F4 to 1.1A(hold) for 2W SPK
 Change U34(AMP) to TPA2016D2
 -P24
 Change SSD FFC CNN to easy on type.
 -P.27
 Remove jumper PG3.
 Remove PC55 due to PC55 is reserved only.
 -P.28
 Remove jumper PG5, PG6
 Change PR173 from 143K to 174K to adjust OCP.
 Del PR176 to enable No-audible skip mode for light load acoustic
 noise improvement.
 Del PC143 to adjust power sequence.
 Separate 35VPGD to 3VPGD and 5VPGD respectively for EE request.
 -P.29
 Remove jumper PG4, PG8.
 Del PR178 and add PR95 to change VTT_MEM from Tracking mode to
 Non-tracking mode discharge.
 -P.30
 Remove jumper PG1.
 Change PR132 from 1.82K to 2.4K to adjust OCP.
 -P.31
 Remove jumper PG2, PG7.
 Change PR64 to 150K. Add PC46 0.01uF for power sequence.
 -P.32
 Change PR19 from 0.1 to 0.05 to adjust charge current to 1.5A
 Add PC11 10uF to improve ripple/noise of the charger.
 -P21
 Change PR42 from 13K to 30K to adjust ACIN level.
 -P.33
 Add PU13 and PC147 0.1uF for UL circuit issue.
 Add PC149 1000PF to reduce the pulse on AD_OVP.
 Change PC146 from 0.1uF to 0.01uF to reduce the pulse on AD_OVP.
 Add PQ42, PQ43, PR211 for UL circuit issue.
 Change PU9 P/N from BD4140HFV to BD4141HFV due to supplier change its
 P/N.

0114(1C):
 -P.7
 Change CAMERA LDO to APL5151
 -P.10
 Change power of VCC_SYNC to VCC5CRT
 Tie VGA CN#10 to GND
 -P.14
 ADD PU/PD for GPIO (default input)
 -P.16
 NC Wi-LAN WAKE# PIN#
 Change WLAN_BT_LED circuit
 -P.17
 STUFF 1000p_4 for MS:CD#, SD: CD#, MP
 Change MS/SD Power S/W to MAX1558H
 -P.19
 Connect Codec GPIO1 to EC for AMP standby
 Change +5VA LDO to APL5151 for better PSRR

0119(1D)
 -P.2
 Reserve damping resistor for crystal
 -P.10
 Remove CRT PnP
 -P.18
 Remove CRTSENSE# to disable CRT PnP
 Change AMPMUT# to PIN#24(OD type)
 -P.21
 Change BT PWR S/W to LDO
 -P.32
 Separate adapter OVP from UL circuit


0202(1E)
 -P.7
 Change CAMERA LDO to G909-330T1U(current limit>150mA)
 Change LVDS PWR S/W to G5243A
 -P.14
 PU "ICH_RI#" to RVCC3
 -P.17
 Change R5C833 INTERRUPT to INTB#
 -P.21
 Move CR LED to MB from TP/B

0406A(2C)
 -P.7
 Change U17 to MAX4789
 -P.9
 Reserve L4,L5,L6
 -P.15
 Reserve L2
 -P.19
 Change R51 to connect AGND
 -P.20
 Change AMP(U37) to TPA2017D2
 -P35
 Update Power up sequence

0409 (2E)
 -P.19
 Connect R73 and Q3.1 to 3VPCU rather than RVCC5 for power down pop noise.
 Change R220, R221,R224, R225 to 1.5K from 470ohm for POP-noise
 0409 (2F)
 -P.28
 Add PR192, PR114, PC76 for PU11 thermal protection.
 Change PR191 to 130K for considering 7.5V battery.

0408 (2D)
 -P.27
 Add PC149, PC150 to improve acoustic noise.
 -P.33
 Change PR47 to 249K for considering 7.5V battery.
 Change PR51 to 71.5K to adjust OVP trigger point.
 Change PR52 to 174K to adjust OVP trigger point.

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				QUANTA COMPUTER	
Title Change History					
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