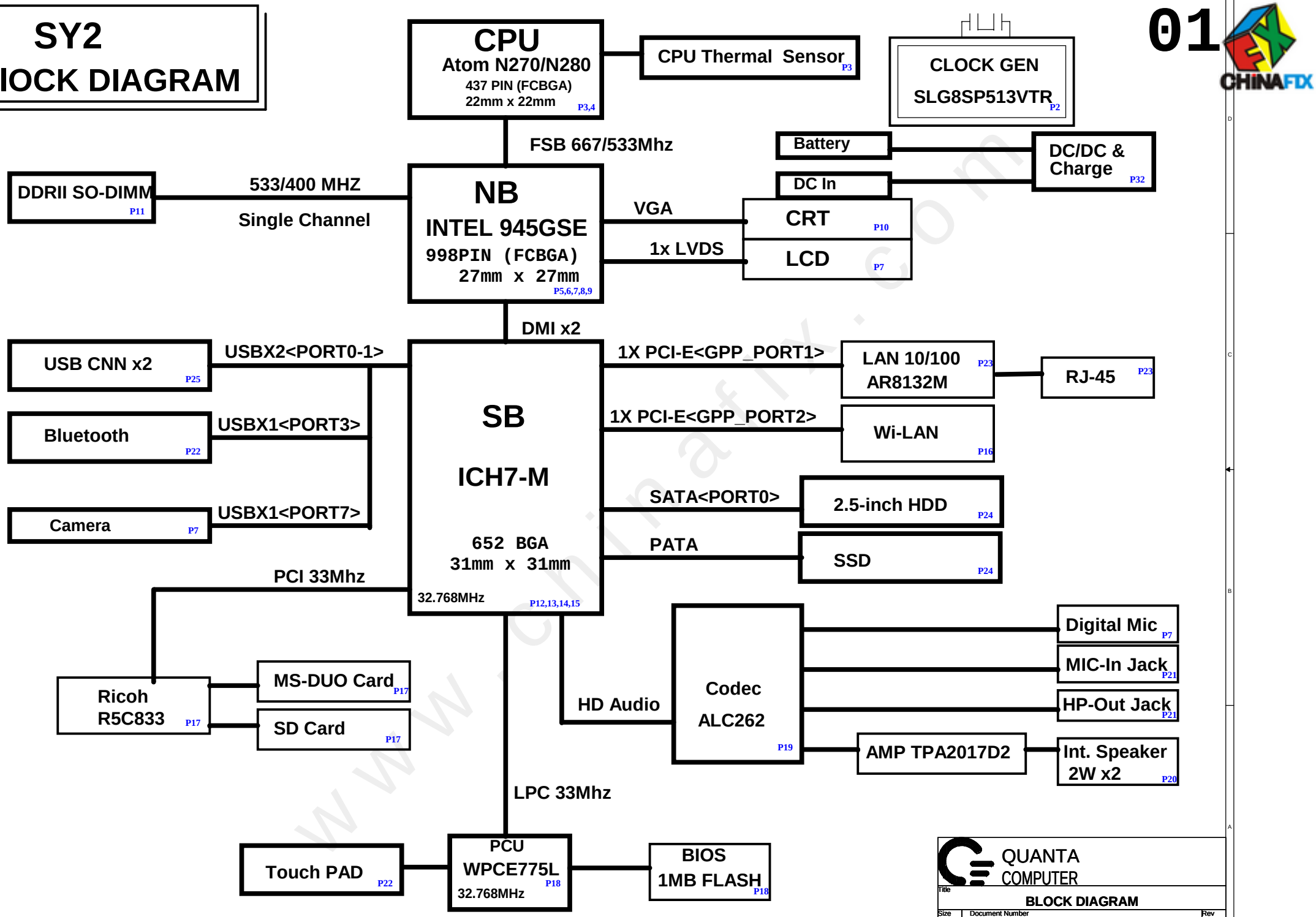
# SY2 BIOCK DIAGRAM

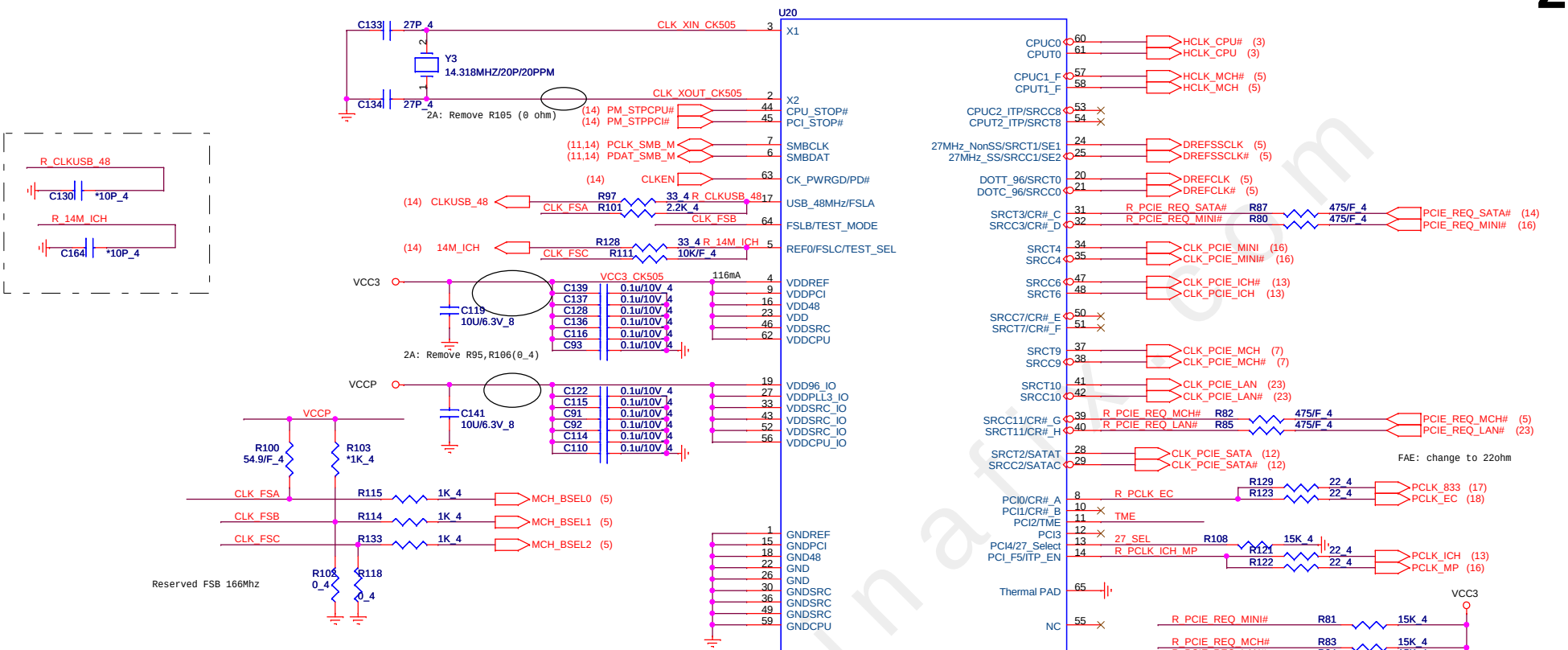
01




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 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 | RESERVED | | | | | | |

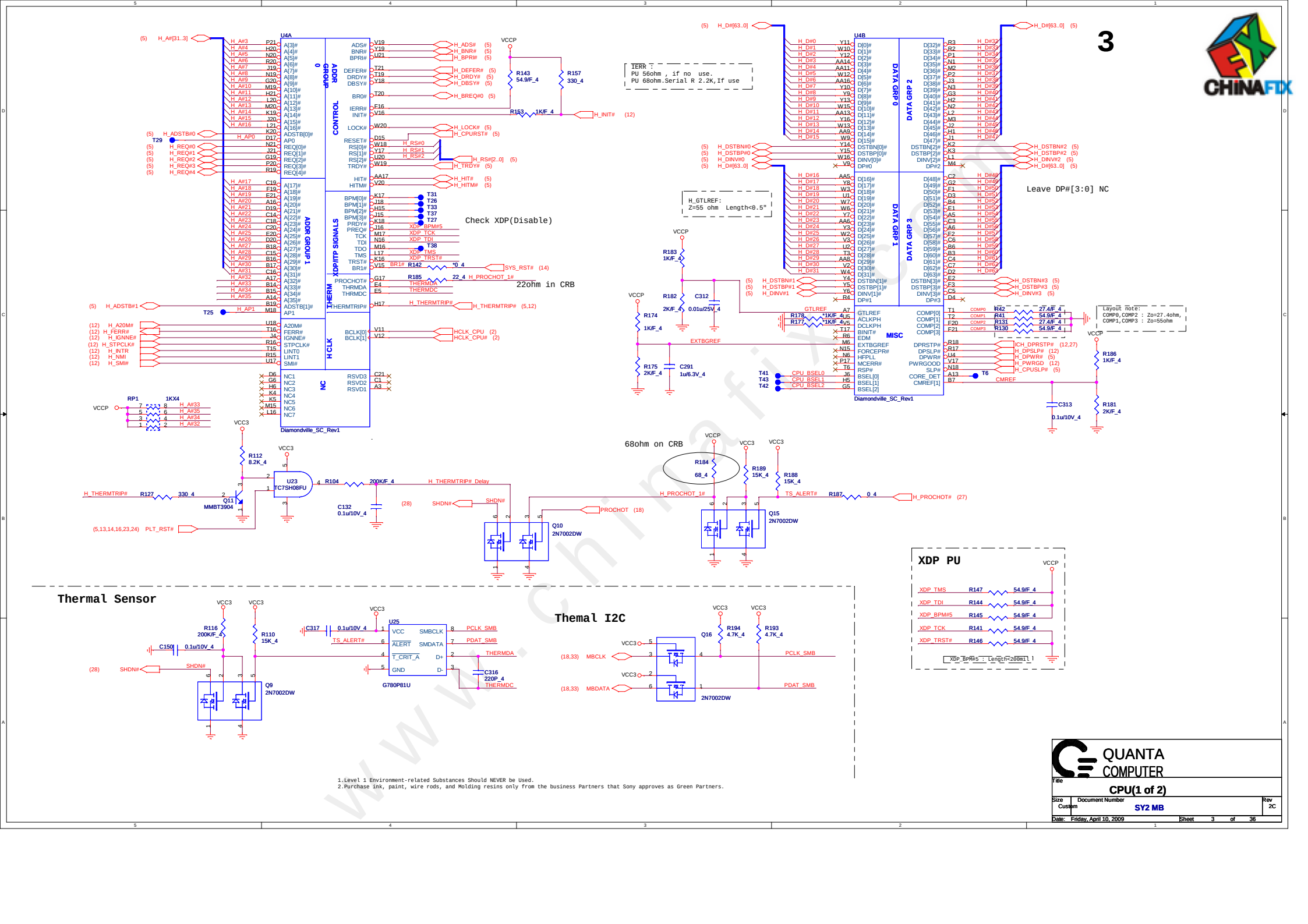
| 27 Select PIN13 | PIN 20/21 | PIN 24/25 |
|---|---|---|
| * 0 | DOT_96 / DOT_96# | LCDCLK / LCDCLK# |
| 1 | SRC_0 / SRC_0# | 27M / 27M_SS |

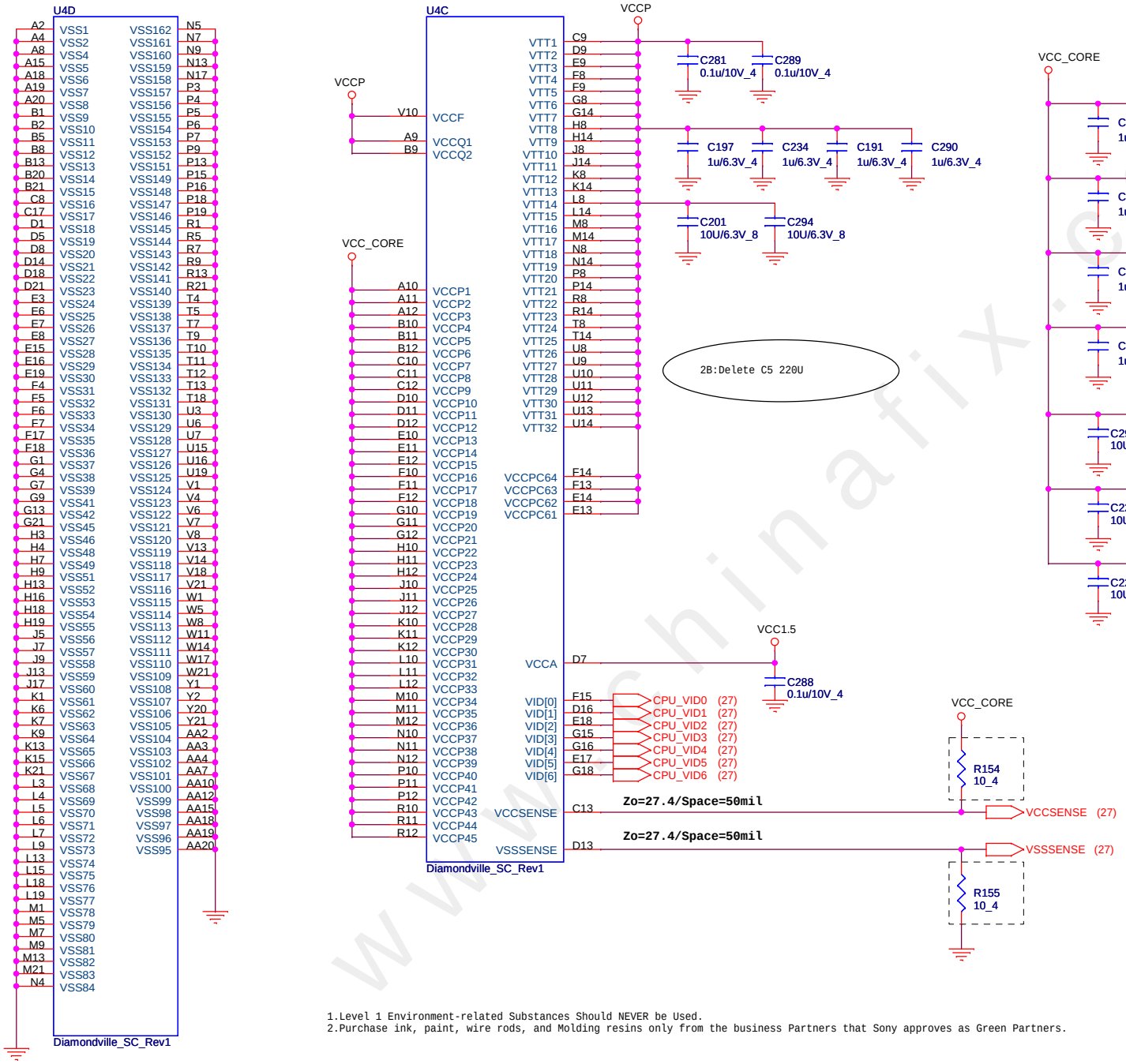
| ITP_EN(PIN14) | PIN53/54 |
|---|---|
| * 0 | SRC8#/SRC8 |
| 1 | ITP/ITP# |

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

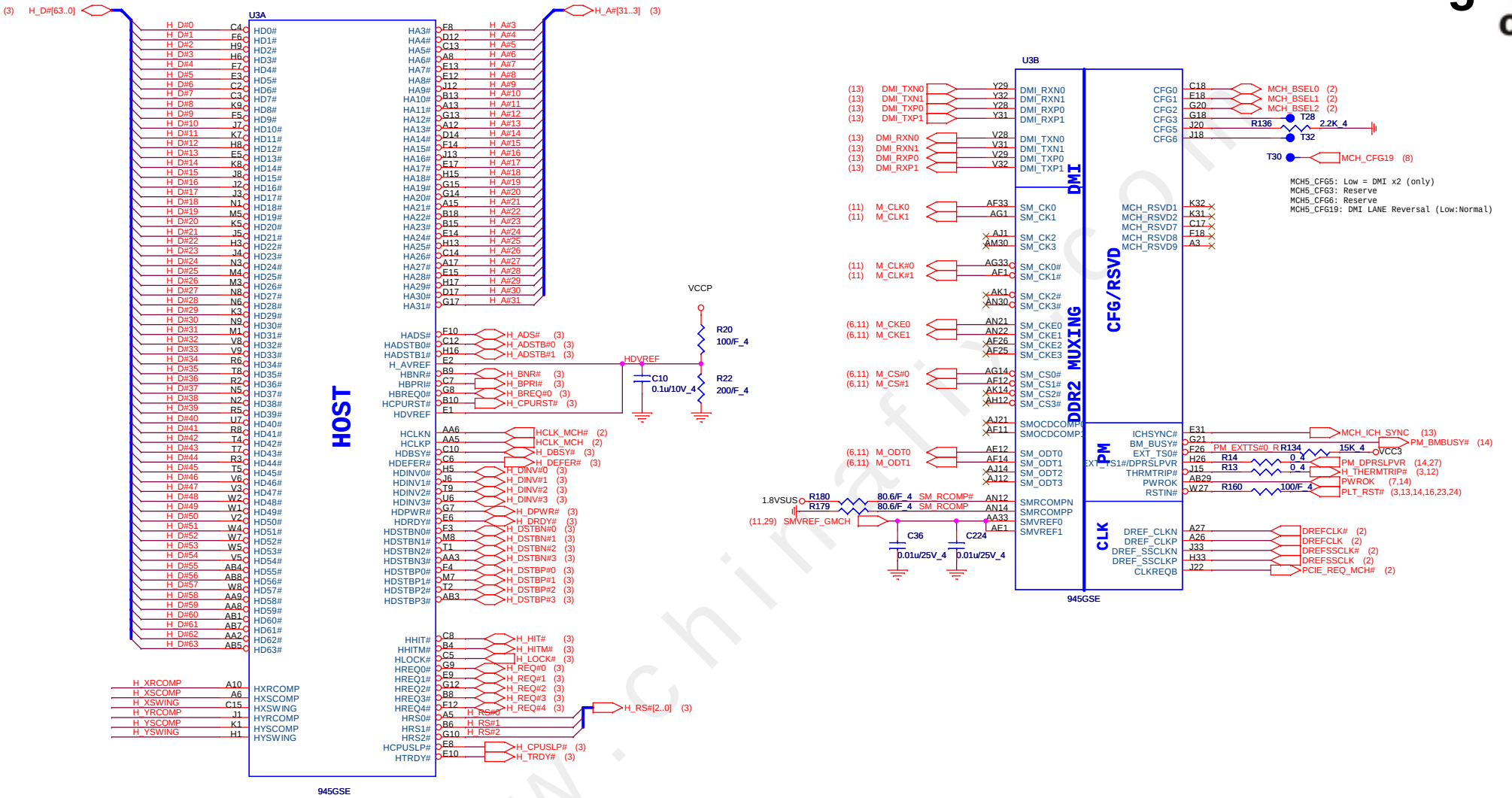
| | | |
|---|---|---|
| Title: CLKGEN | | |
| Size: Custom | Document Number: SY2 MB | Rev: 2C |
| Date: Friday, April 10, 2009 | Sheet 2 of 36 | |


3
U4A
U4B
ADDR GROUP 0
CONTROL
ADDR GROUP 1
XDP/ITP SIGNALS
THERM
H CLK
NC
DATA GRP 0
DATA GRP 2
DATA GRP 1
DATA GRP 3
MISC
Diamondville_SC_Rev1
IERR :
PU 56ohm , if no use.
PU 68ohm.Serial R 2.2K,If use
H_GTLREF:
Z=55 ohm Length<0.5"
Check XDP(Disable)
22ohm in CRB
68ohm on CRB
Leave DP#[3:0] NC
Layout note:
COMP0,COMP2 : Zo=27.4ohm,
COMP1,COMP3 : Zo=55ohm
XDP PU
XDP_BPM#5 : Length<200mil
Thermal Sensor
Themal I2C
G780P81U
2N7002DW
MMBT3904
TC7SH08FU
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(1 of 2)
SY2 MB
Friday, April 10, 2009
Sheet 3 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.

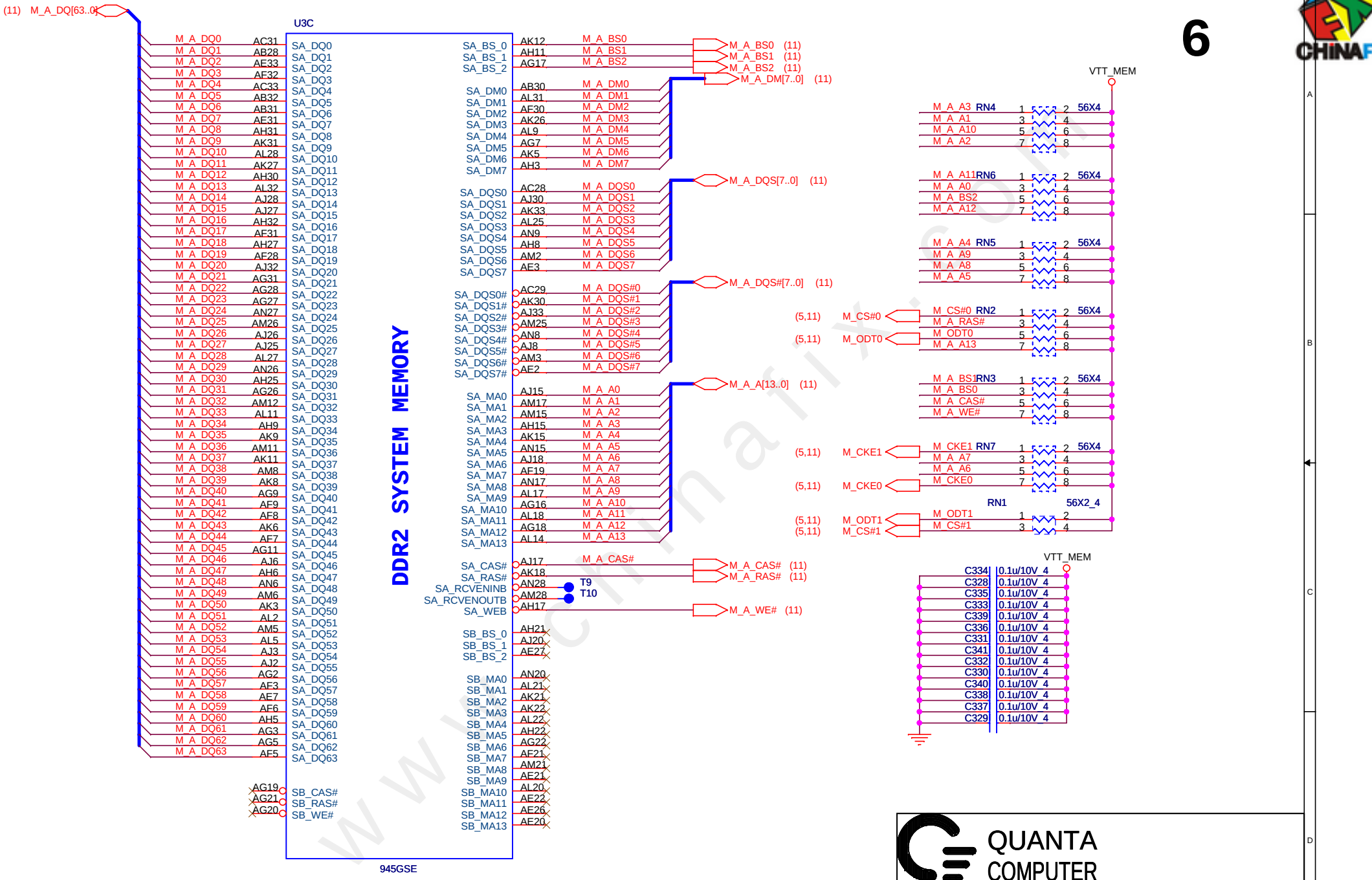
| | | |
|---|---|---|
| QUANTA COMPUTER | | |
| Title: CPU(2 of 2) | | |
| Size: Custom | Document Number: SY2 MB | Rev: 2C |
| Date: Friday, April 10, 2009 | Sheet 4 of 36 | |



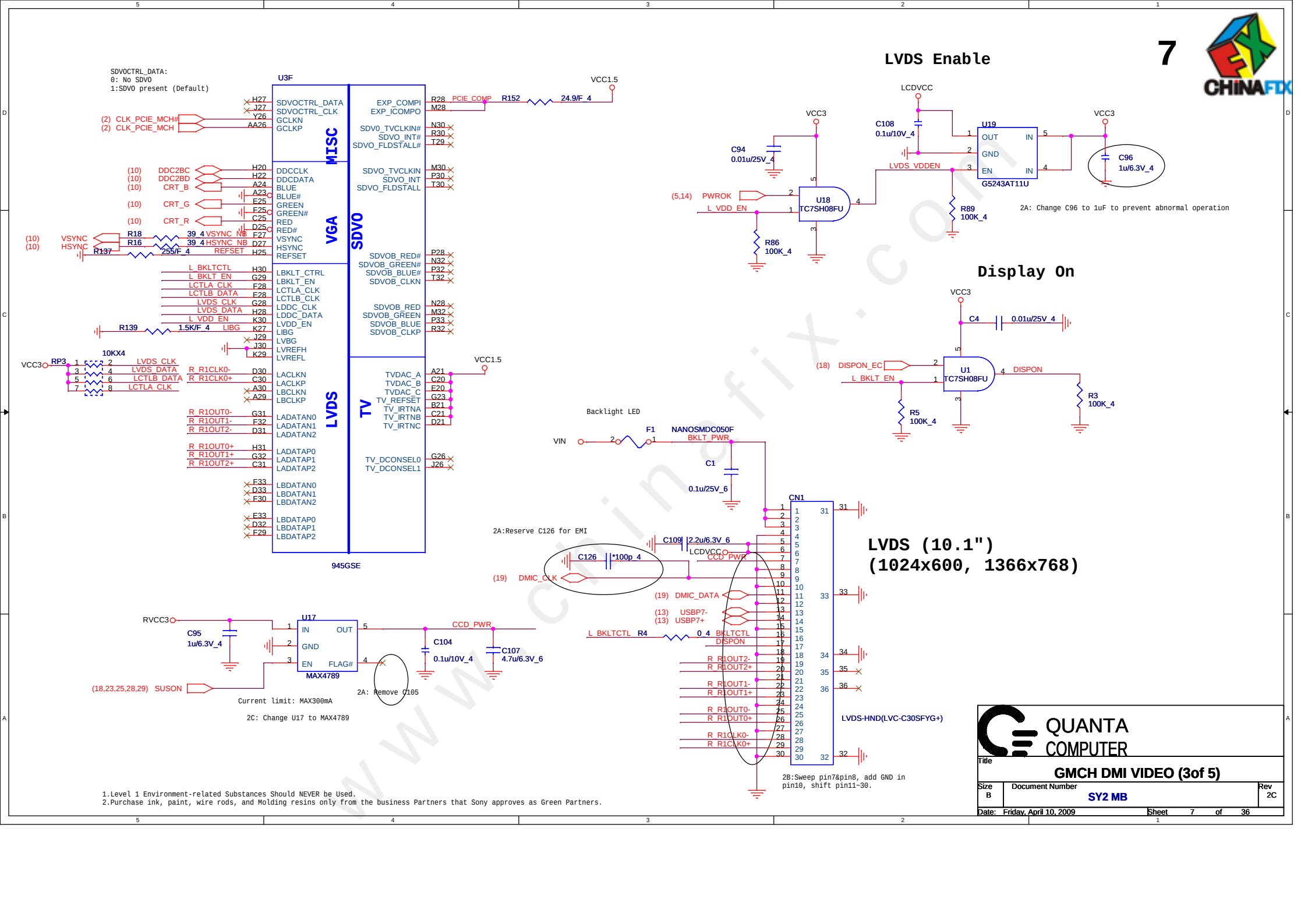

1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

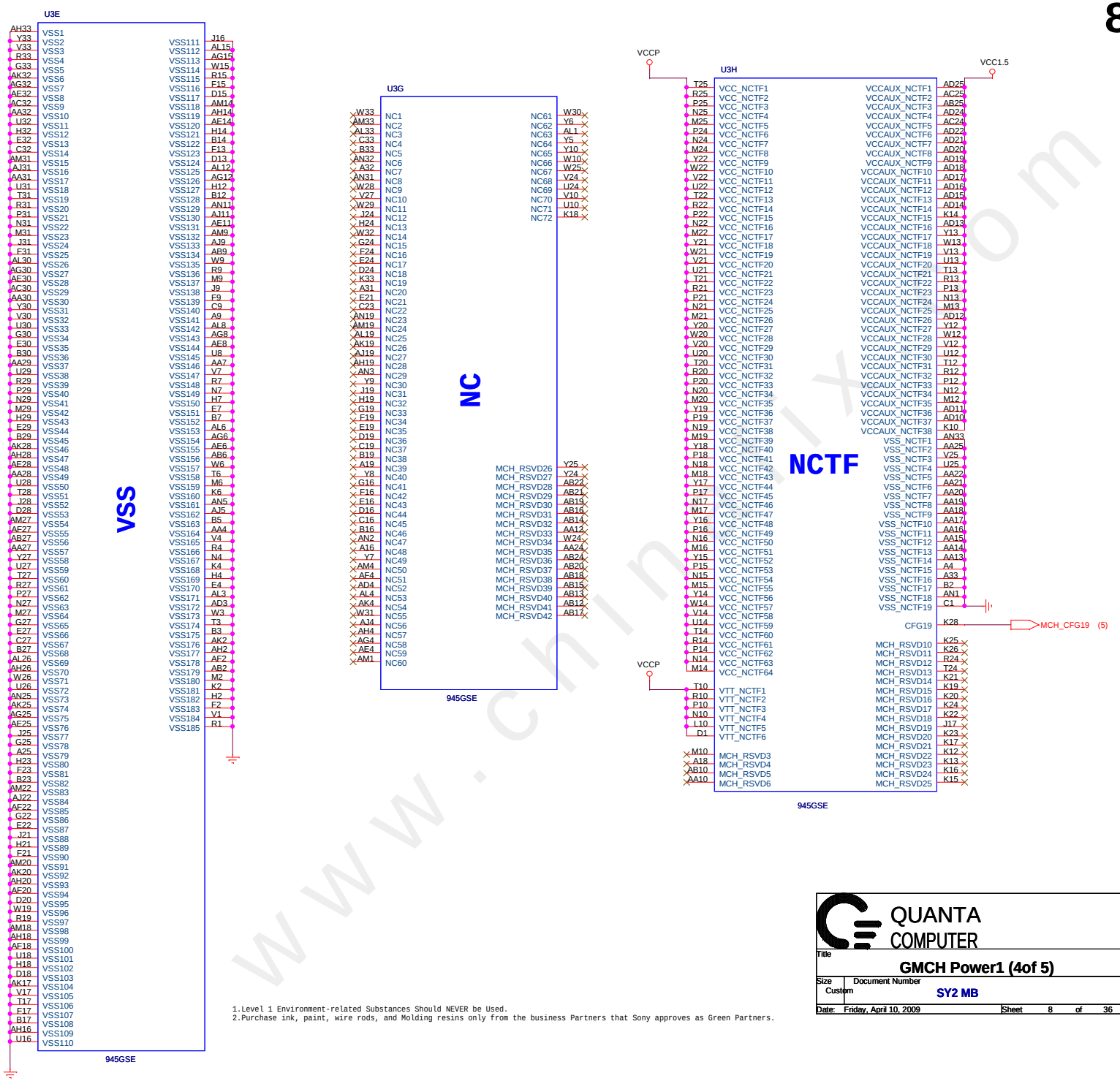
QUANTA COMPUTER

| | | |
|---|---|---|
| Title: GMCH HOST(1 of 5) | | |
| Size: Custom | Document Number: SY2 MB | Rev: 2C |
| Date: Friday, April 10, 2009 | Sheet 5 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.

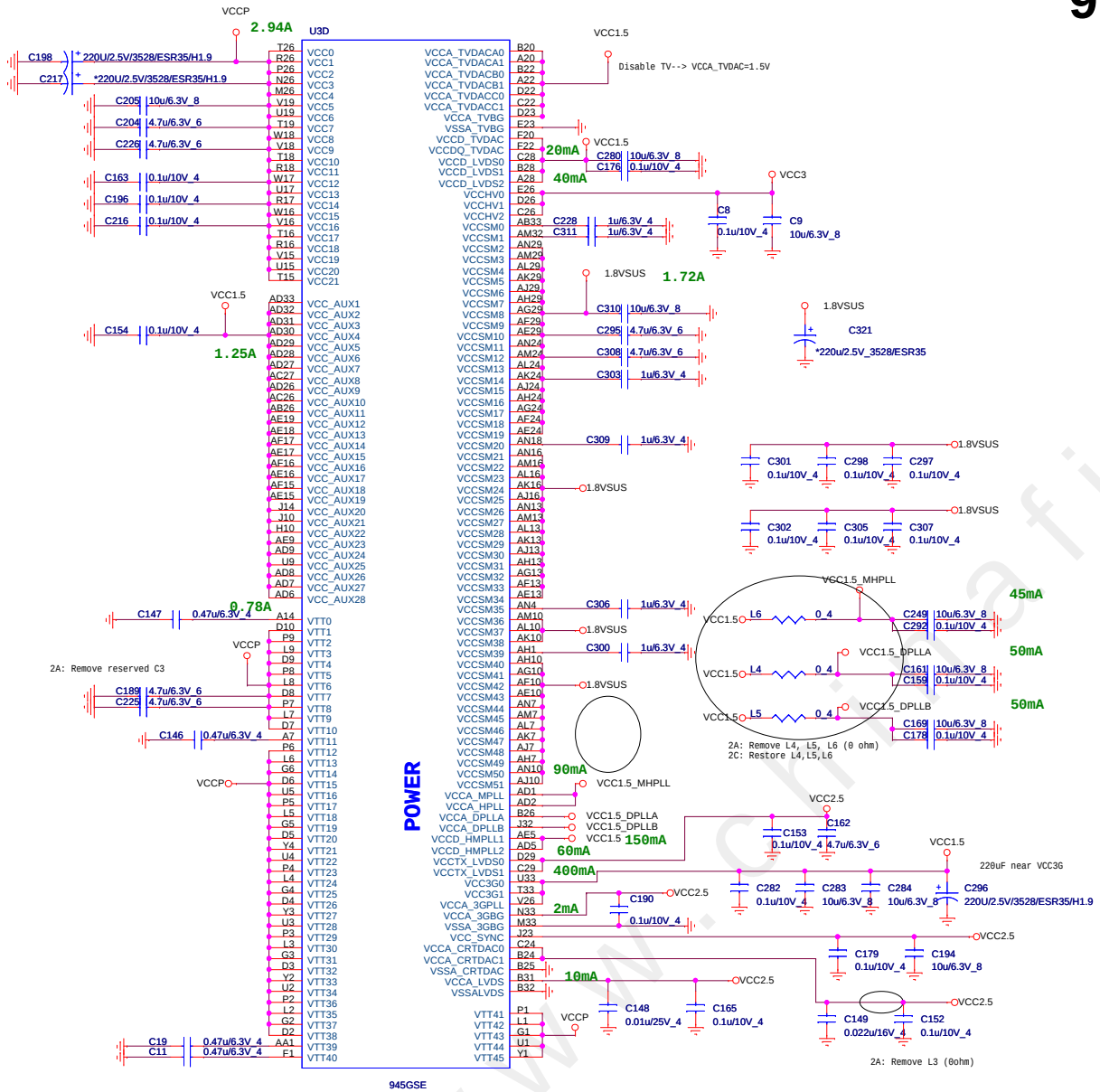

7
LVDS Enable
Display On
LVDS (10.1")
(1024x600, 1366x768)
U3F
945GSE
MISC
VGA
SDVO
LVDS
TV
U17
MAX4789
U18
TC7SH08FU
U19
G5243AT11U
U1
TC7SH08FU
CN1
LVDS-HND(LVC-C30SFYG+)
SDVOCTRL_DATA:
0: No SDVO
1:SDVO present (Default)
Current limit: MAX300mA
2C: Change U17 to MAX4789
2A: Remove C105
2A:Reserve C126 for EMI
2A: Change C96 to 1uF to prevent abnormal operation
2B:Sweep pin7&pin8, add GND in pin10, shift pin11~30.
Backlight LED
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 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.

QUANTA COMPUTER

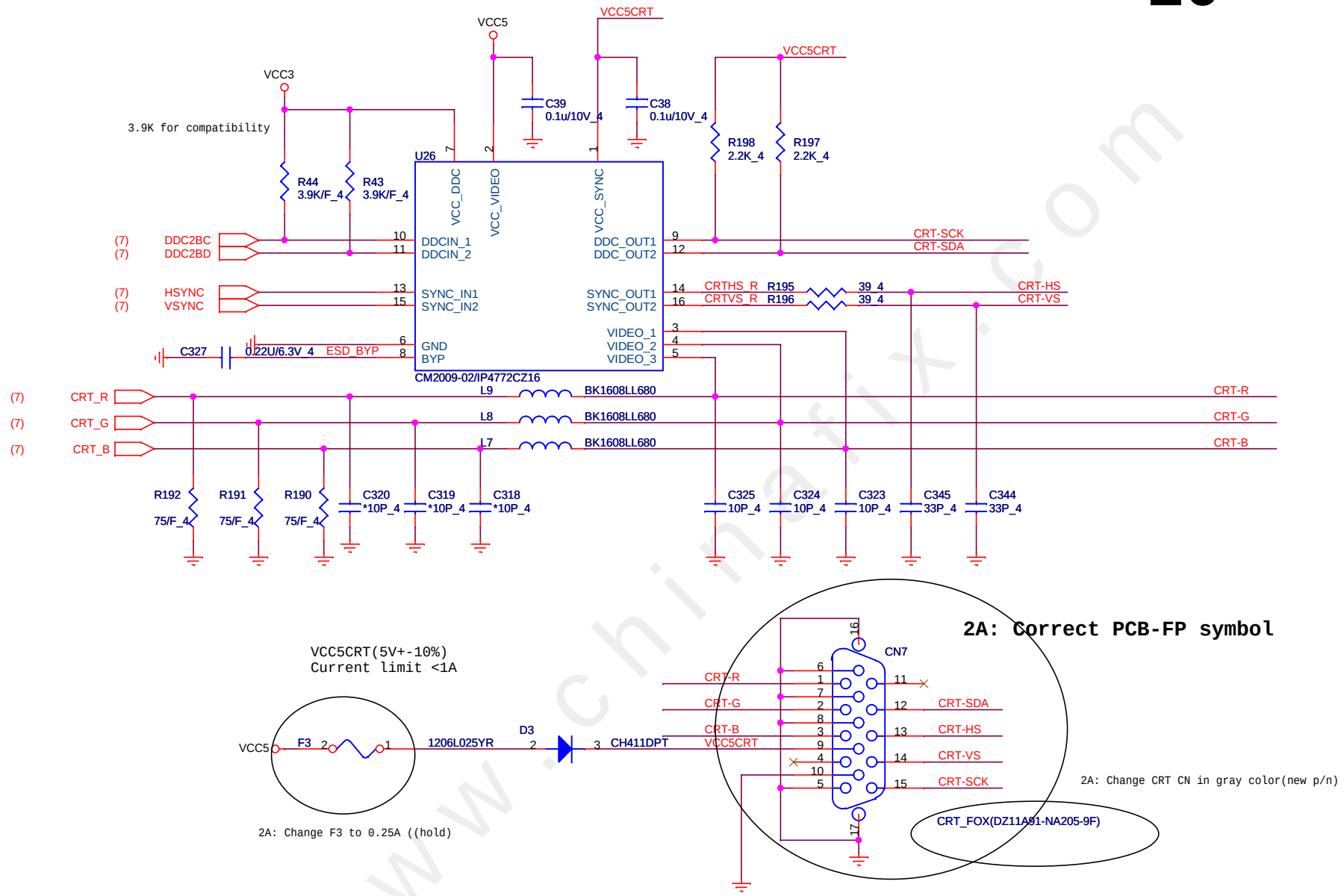
| | | |
|---|---|---|
| Title | GMCH Power1 (4of 5) | |
| Size: Custom | Document Number: SY2 MB | Rev: 2C |
| Date: Friday, April 10, 2009 | Sheet 8 of 36 | |




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.

QUANTA COMPUTER

| | | |
|---|---|---|
| Title | GMCH Power 2 (4 of 5) | |
| Size: Custom | Document Number: SY2 MB | Rev: 2C |
| Date: Friday, April 10, 2009 | Sheet 9 of 36 | |



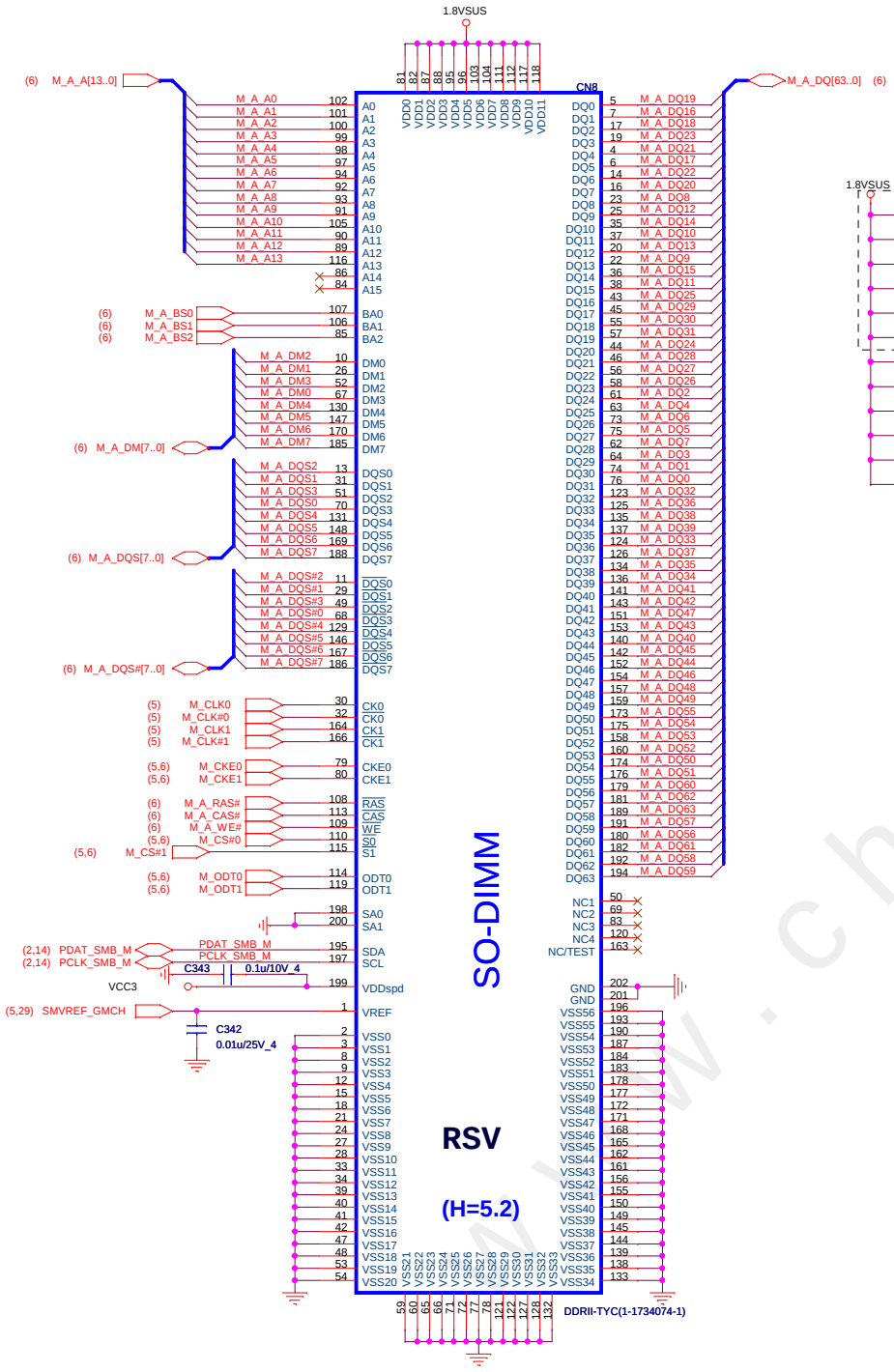




1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

QUANTA COMPUTER

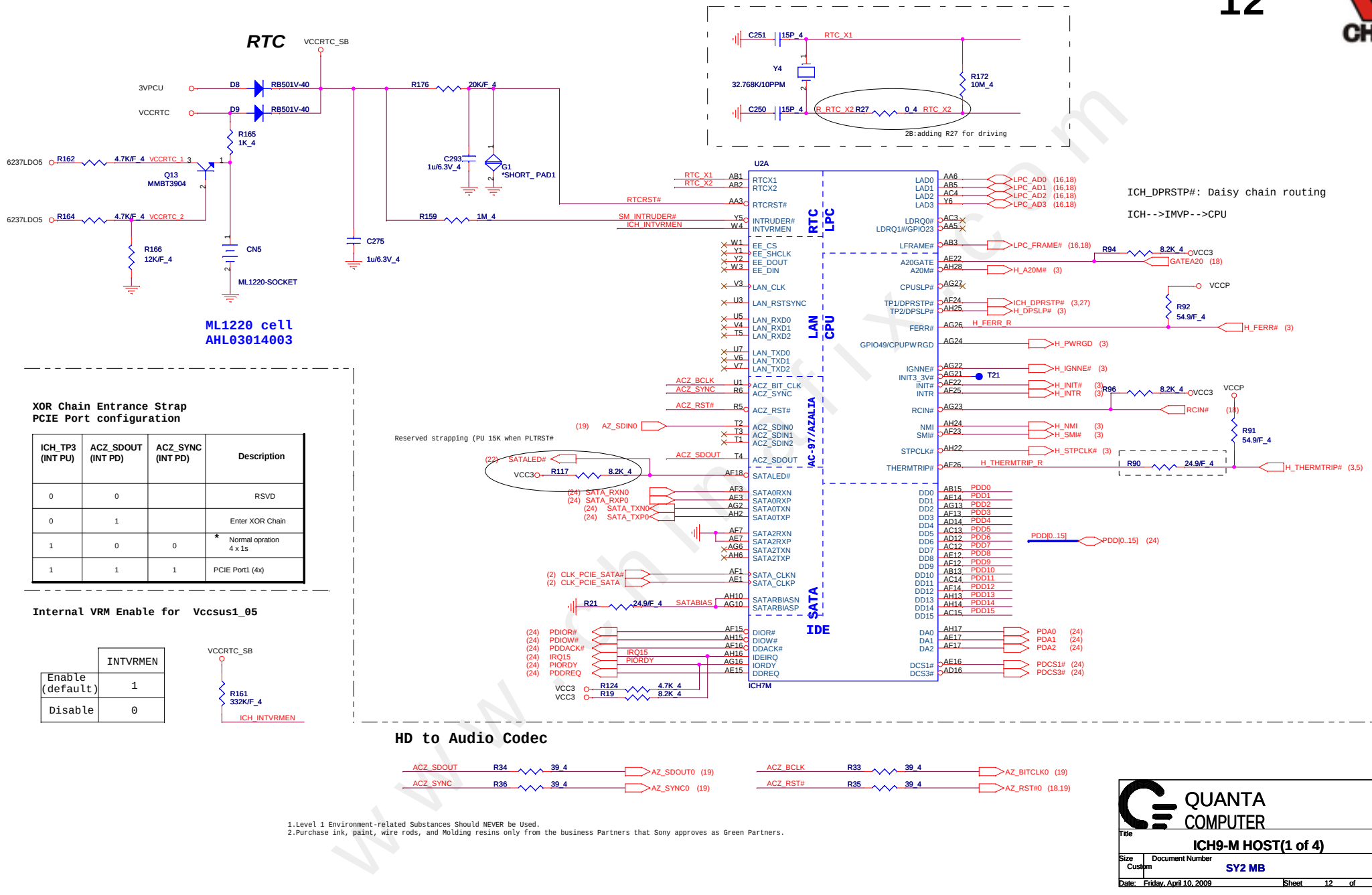
| | | |
|---|---|---|
| Title: CRT | | |
| Size: Custom | Document Number: SY2 MB | Rev: 2C |
| Date: Friday, April 10, 2009 | Sheet 10 of 36 | |




# 11

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: DDRII SODIMMx1 | | |
| Size: Custom | Document Number: SY2 MB | Rev: 2C |
| Date: Friday, April 10, 2009 | Sheet 11 of 36 | |




**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 opration 4 x 1s |
| 1 | 1 | 1 | PCIE Port1 (4x) |

**Internal VRM Enable for Vccsus1_05**

| | INTVRMEN |
|---|---|
| Enable (default) | 1 |
| Disable | 0 |



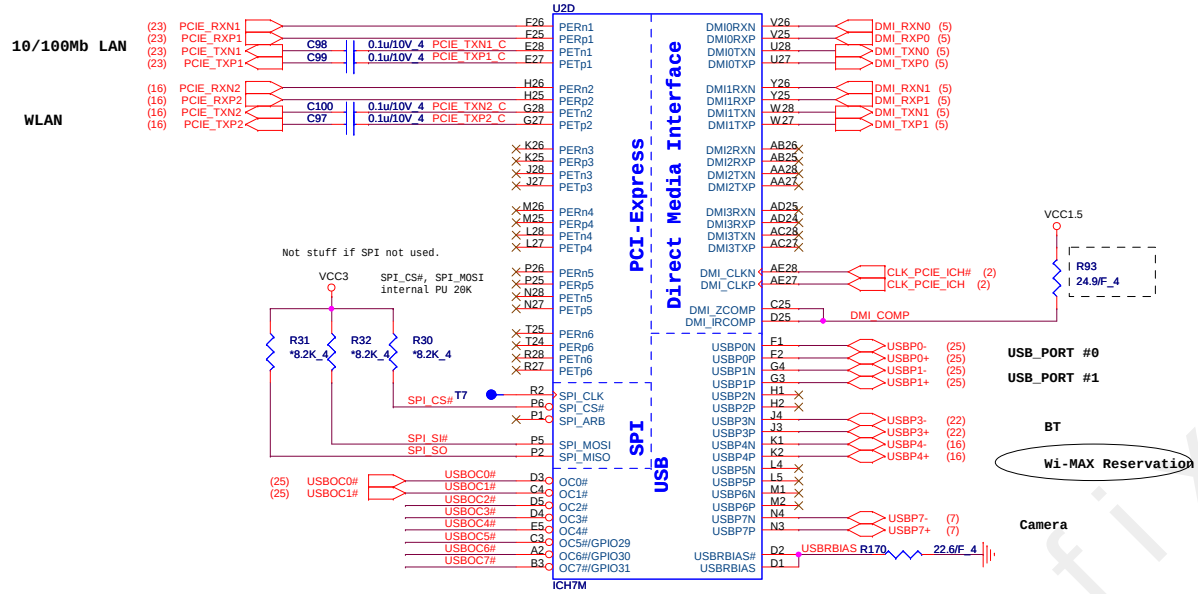

## HD to Audio Codec

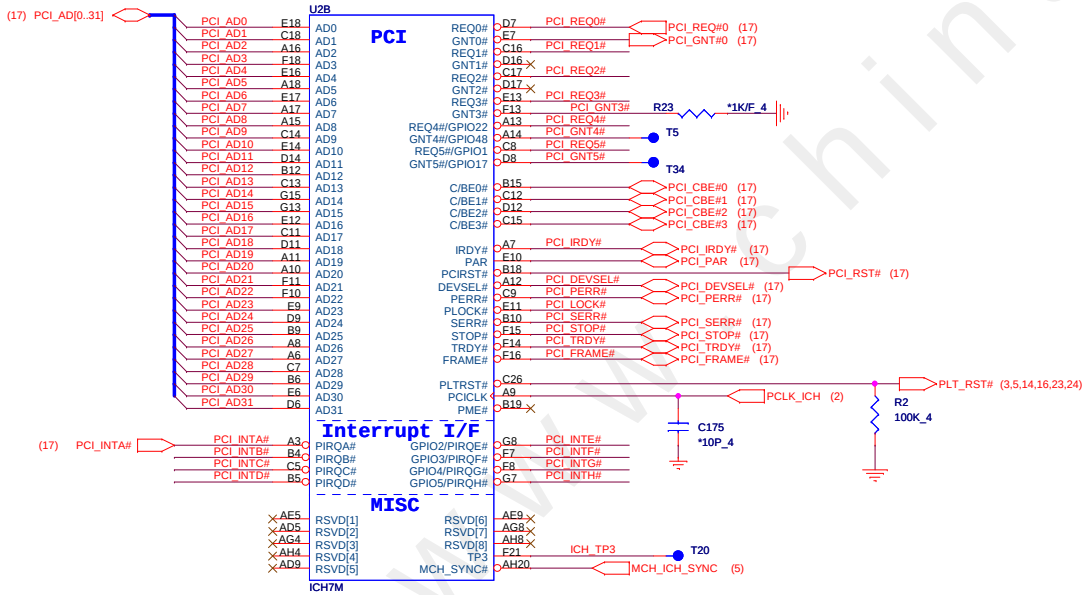


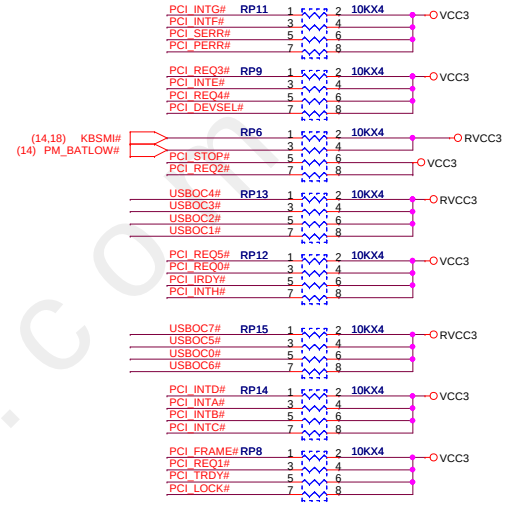

1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

QUANTA COMPUTER

| | | |
|---|---|---|
| Title | ICH9-M HOST(1 of 4) | |
| Size: Custom | Document Number: SY2 MB | Rev: 2C |
| Date: Friday, April 10, 2009 | Sheet 12 of 36 | |




| | |
|---|---|
| SPI_CS# | Internal PD ;Should not be PU |
| SPI_MISO | Internal PU ;Should not be PD |

| | |
|---|---|
| PCI_GNT#2 | Internal PU<br>Should not be PD |

**A16 SWAP Override strap**

| | |
|---|---|
| PCI_GNT#3 | Low = A16 swap override enabled<br>High = Default |

**ICH Boot BIOS select**

| PCI_GNT#5 (INT PU) | PCI_GNT#4 (INT PU) | Boot BIOS Location |
|---|---|---|
| 0 | 1 | SPI |
| 1 | 0 | PCI |
| 1 | 1 | LPC (Default) |

| IRQ | Description |
|---|---|
| PIRQA | USB UHCI Controller #1, #4 |
| PIRQB | AC'97 Codec; option for SMBUS |
| PIRQC | USB UH Controller #3; SATA/IDE Native Mode |
| PIRQD | USB UHCI Controller #2 |
| PIRQE | Internal LAN; Option for SCI, TCO, HPET#0,1,2 |
| PIRQF | Option for SCI, TCO, HPET#0,1,2 |
| PIRQG | Option for SCI, TCO, HPET#0,1,2 |
| PIRQH | USB EHCI Controller; Option for SCI, TCO, HPET#0,1,2 |

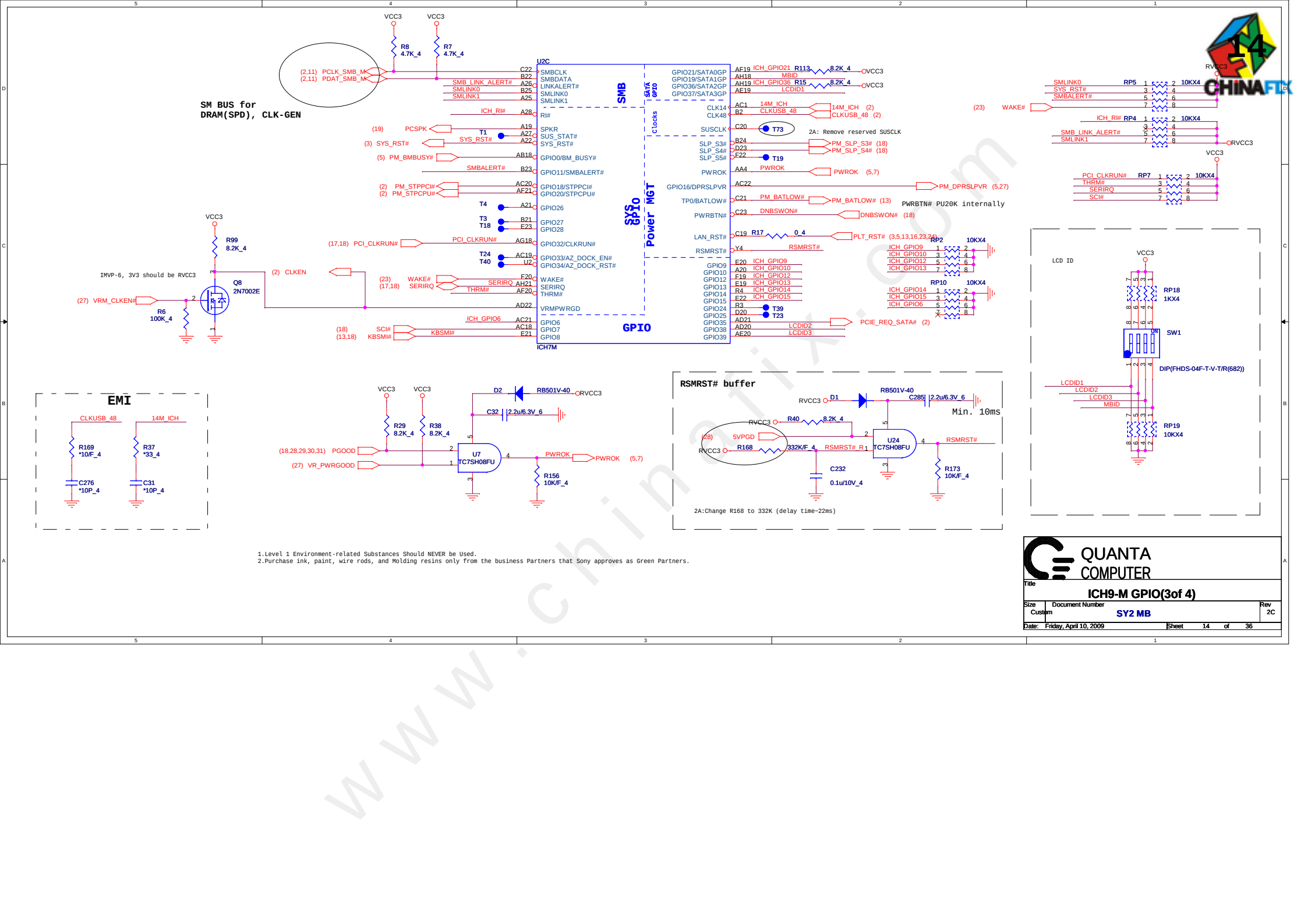
1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

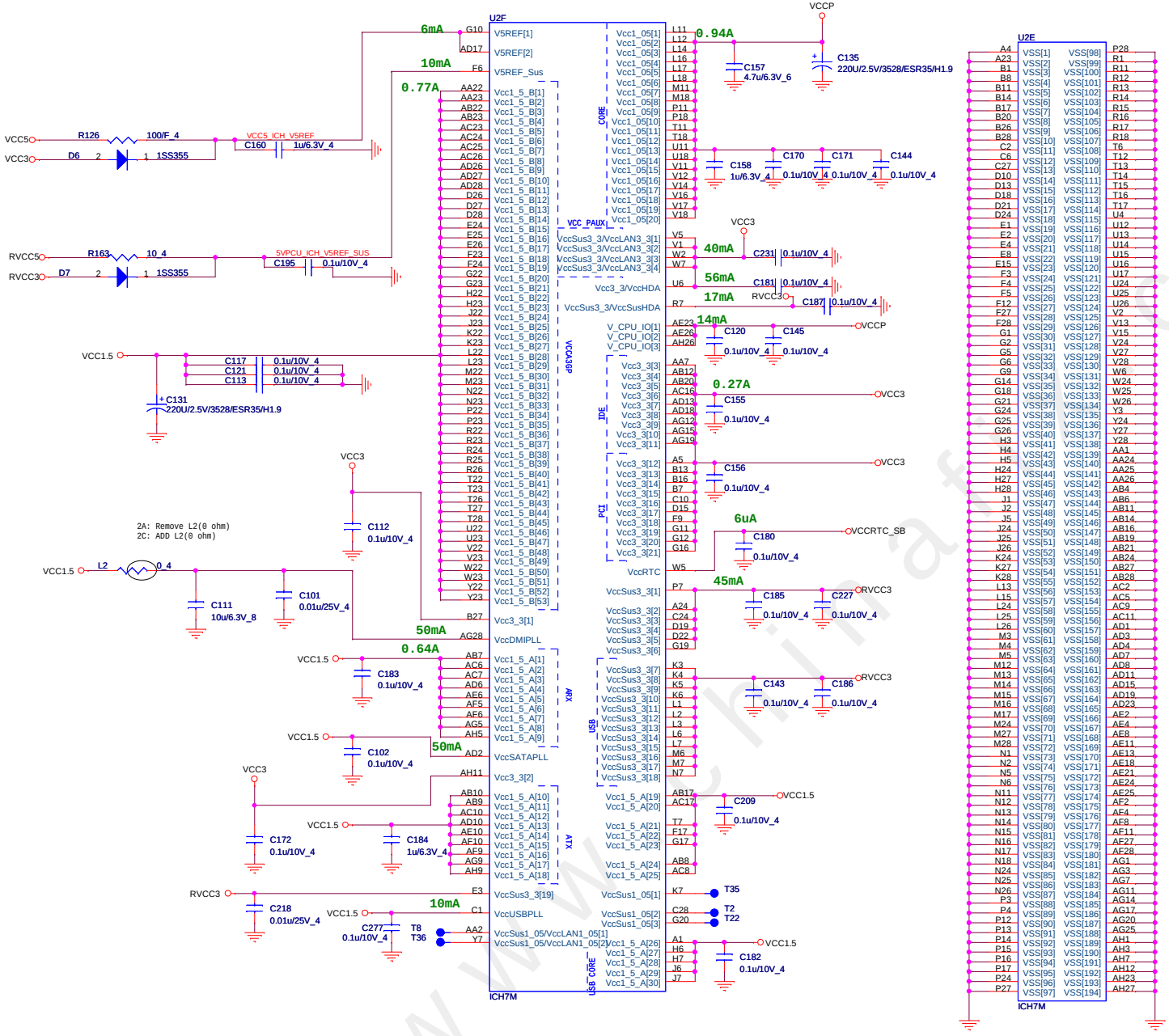
QUANTA COMPUTER

Title: ICH9-M PCI-E, USB, PCI (2 of 4)

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

Date: Friday, April 10, 2009 | Sheet 13 of 36


SM BUS for
DRAM(SPD), CLK-GEN
U2C
SMB
SYS GPIO
Power MGT
GPIO
ICH7M
EMI
RSMRST# buffer
Min. 10ms
2A:Change R168 to 332K (delay time~22ms)
LCD ID
DIP(FHDS-04F-T-V-T/R(682))
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
ICH9-M GPIO(3of 4)
SY2 MB
Rev 2C
Friday, April 10, 2009
Sheet 14 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.

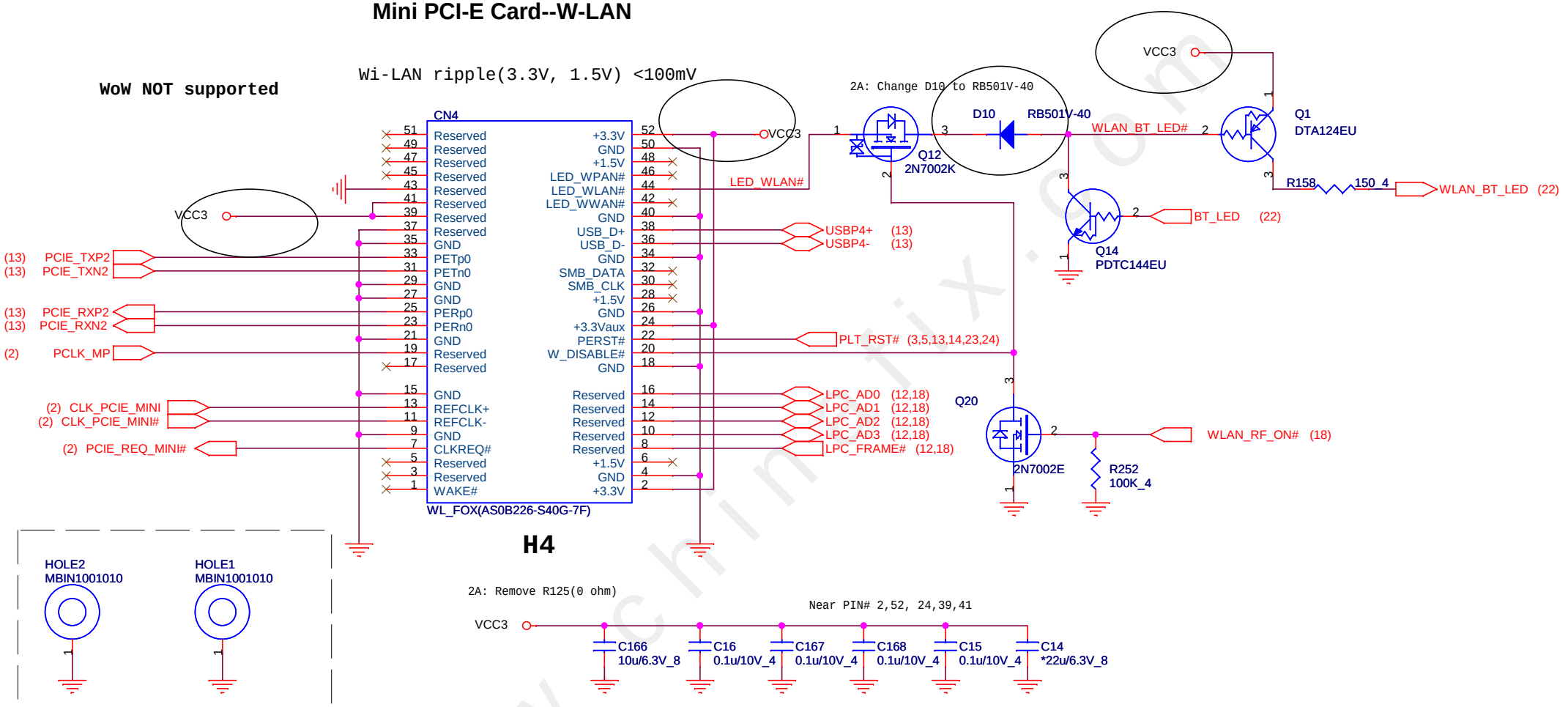
QUANTA COMPUTER

| | | |
|---|---|---|
| Title | ICH9-M Power (4 of 4) | |
| Size: Custom | Document Number: SY2 MB | Rev: 2C |
| Date: Friday, April 10, 2009 | Sheet 15 of 36 | |

# Mini PCI-E Card--W-LAN

WoW NOT supported

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




## H4




2A: Remove R125(0 ohm)

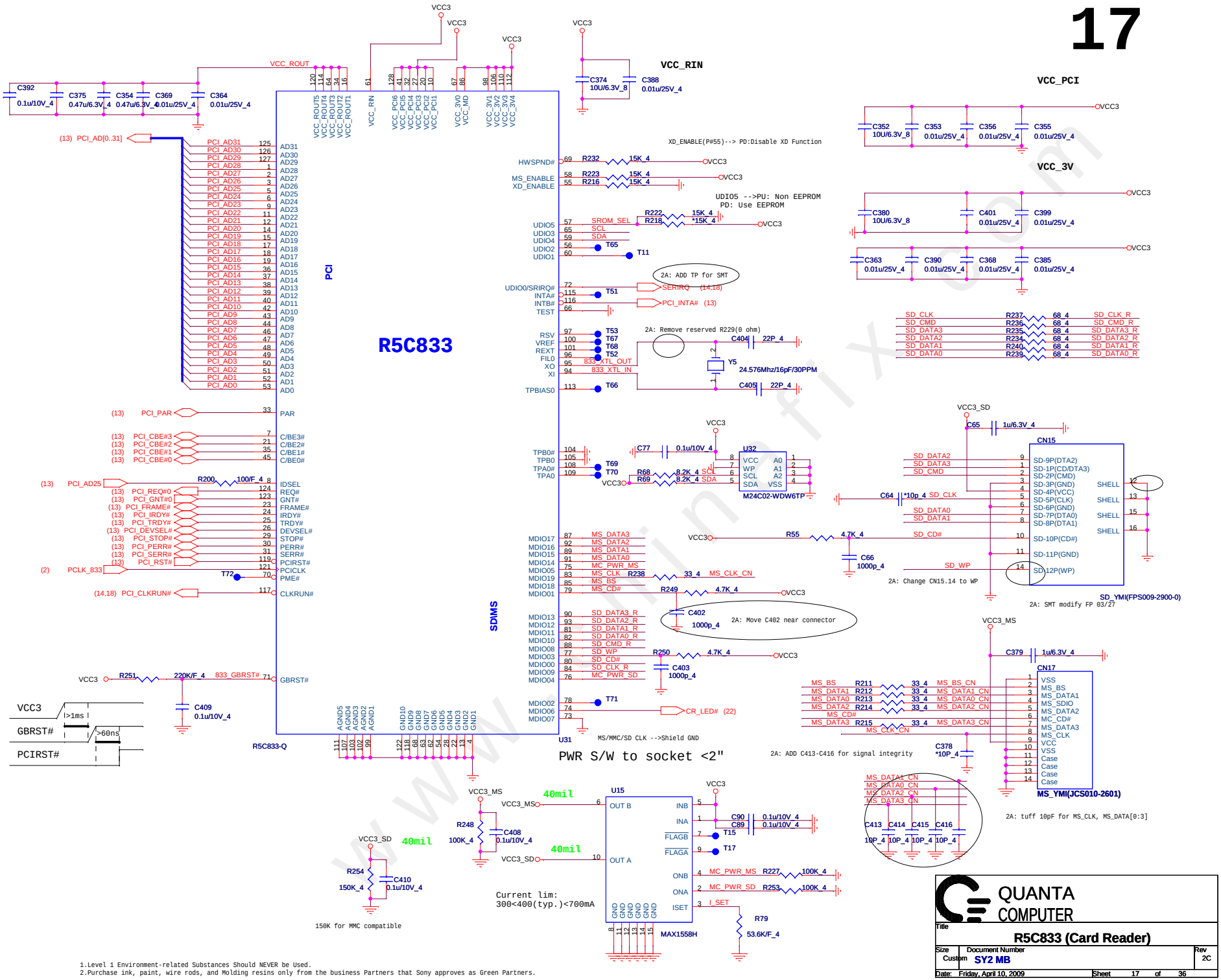
Near PIN# 2,52, 24,39,41




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.

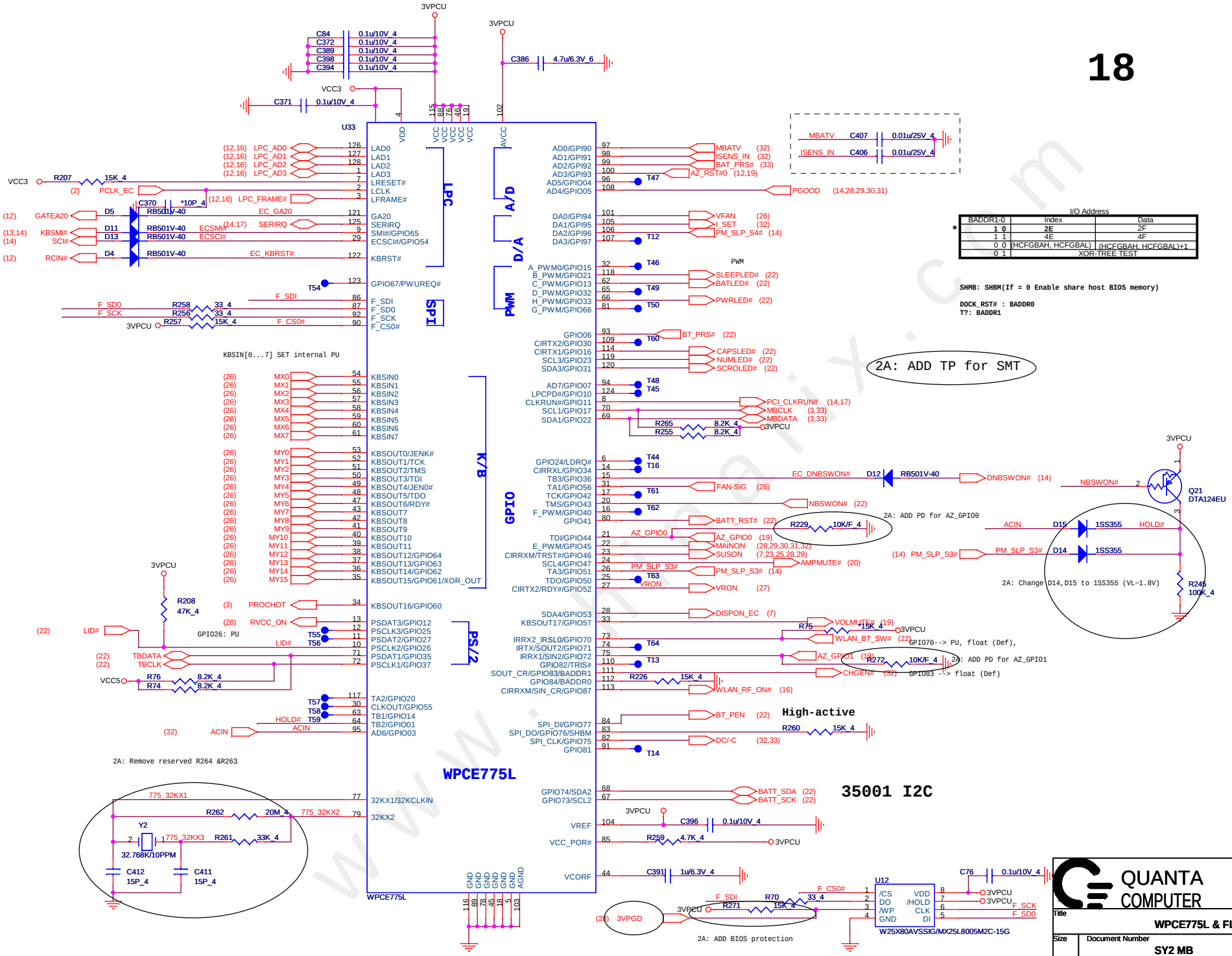
QUANTA COMPUTER

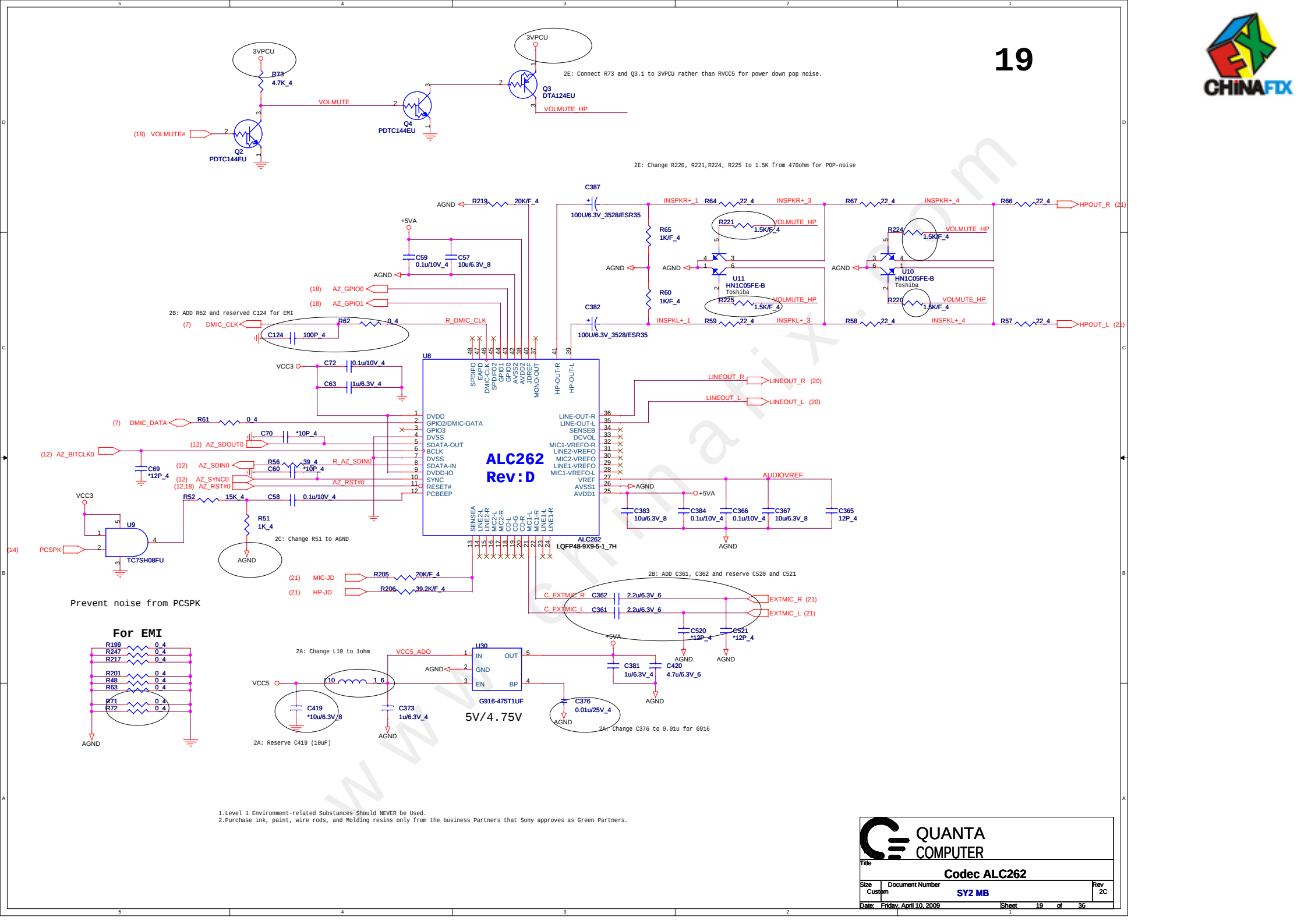
| | | |
|---|---|---|
| Title: WLAN & BT | | |
| Size: Custom | Document Number: SY2 MB | Rev: 2C |
| Date: Friday, April 10, 2009 | Sheet 16 of 36 | |




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: R5C833 (Card Reader) | | | |
| Size: Custom | Document Number: SY2 MB | | Rev: 2C |
| Date: Friday, April 10, 2009 | Sheet 17 of 36 | | |

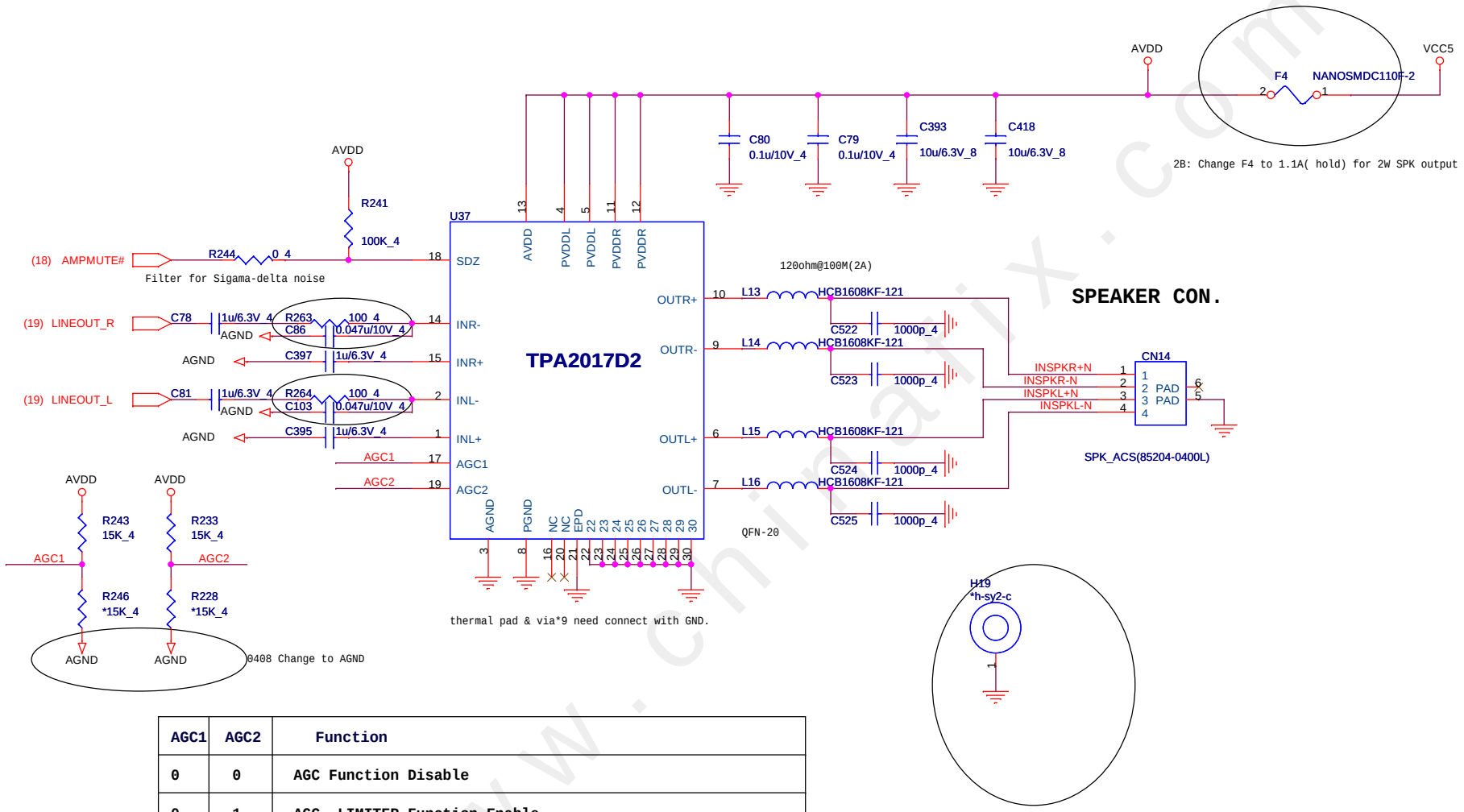

U33
WPCE775L
LPC
A/D
D/A
PWM
SPI
K/B
GPIO
PS/2
3VPCU
VCC3
VCC5
LAD0
LAD1
LAD2
LAD3
LRESET#
LCLK
LFRAME#
SERIRQ
SMI#/GPIO65
ECSCI#/GPIO54
KBRST#
GPIO67/PWUREQ#
F_SDI
F_SD0
F_SCK
F_CS0#
KBSIN0
KBSIN1
KBSIN2
KBSIN3
KBSIN4
KBSIN5
KBSIN6
KBSIN7
KBSOUT0/JENK#
KBSOUT1/TCK
KBSOUT2/TMS
KBSOUT3/TDI
KBSOUT4/JEN0#
KBSOUT5/TDO
KBSOUT6/RDY#
KBSOUT7
KBSOUT8
KBSOUT9
KBSOUT10
KBSOUT11
KBSOUT12/GPIO64
KBSOUT13/GPIO63
KBSOUT14/GPIO62
KBSOUT15/GPIO61/XOR_OUT
KBSOUT16/GPIO60
PSDAT3/GPIO12
PSCLK3/GPIO25
PSDAT2/GPIO27
PSCLK2/GPIO26
PSDAT1/GPIO35
PSCLK1/GPIO37
TA2/GPIO20
CLKOUT/GPIO55
TB1/GPIO14
TB2/GPIO01
AD6/GPIO03
32KX1/32KCLKIN
32KX2
VREF
VCC_POR#
VCORF
AD0/GPIO90
AD1/GPIO91
AD2/GPIO92
AD3/GPIO93
AD5/GPIO04
AD4/GPIO05
DA0/GPIO94
DA1/GPIO95
DA2/GPIO96
DA3/GPIO97
A_PWM0/GPIO15
B_PWM/GPIO21
C_PWM/GPIO13
D_PWM/GPIO32
H_PWM/GPIO33
G_PWM/GPIO66
GPIO06
CIRTX2/GPIO30
CIRTX1/GPIO16
SCL3/GPIO23
SDA3/GPIO31
AD7/GPIO07
LPCPD#/GPIO10
CLKRUN#/GPIO11
SCL1/GPIO17
SDA1/GPIO22
GPIO24/LDRQ#
CIRRXL/GPIO34
TB3/GPIO36
TA1/GPIO56
TCK/GPIO42
TMS/GPIO43
F_PWM/GPIO40
GPIO41
TDI/GPIO44
E_PWM/GPIO45
CIRRXM/TRST#/GPIO46
SCL4/GPIO47
TA3/GPIO51
TDO/GPIO50
CIRTX2/RDY#/GPIO52
SDA4/GPIO53
KBSOUT17/GPIO57
IRRX2_IRSL0/GPIO70
IRTX/SOUT2/GPIO71
IRRX1/SIN2/GPIO72
GPIO82/TRIS#
SOUT_CR/GPIO83/BADDR1
GPIO84/BADDR0
CIRRXM/SIN_CR/GPIO87
SPI_DI/GPIO77
SPI_DO/GPIO76/SHBM
SPI_CLK/GPIO75
GPIO81
GPIO74/SDA2
GPIO73/SCL2
PGOOD (14,28,29,30,31)
MBATV (32)
ISENS_IN (32)
BAT_PRS# (33)
AZ_RST#0 (12,19)
VFAN (26)
I_SET (32)
PM_SLP_S4# (14)
SLEEPLED# (22)
BATLED# (22)
PWRLED# (22)
BT_PRS# (22)
CAPSLED# (22)
NUMLED# (22)
SCROLED# (22)
PCI_CLKRUN# (14,17)
MBCLK (3,33)
MBDATA (3,33)
EC_DNBSWON#
DNBSWON# (14)
FAN-SIG (26)
NBSWON# (22)
BATT_RST# (22)
AZ_GPIO0 (19)
MAINON (28,29,30,31,32)
SUSON (7,23,25,28,29)
AMPMUTE# (20)
PM_SLP_S3# (14)
VRON (27)
DISPON_EC (7)
VOLMUTE# (19)
WLAN_BT_SW# (22)
AZ_GPIO1 (19)
CHGEN# (32)
WLAN_RF_ON# (16)
BT_PEN (22)
DC/-C (32,33)
BATT_SDA (22)
BATT_SCK (22)
LID#
PROCHOT (3)
RVCC_ON (28)
TBDATA (22)
TBCLK (22)
ACIN (32)
HOLD#
EC_LPC_AD0 (12,16)
EC_LPC_AD1 (12,16)
EC_LPC_AD2 (12,16)
EC_LPC_AD3 (12,16)
EC_LPC_FRAME# (12,16)
EC_GA20 (14,17)
EC_KBRST#
SERIRQ (14,17)
ECSMI# (13,14)
ECSCI# (14)
GATEA20 (12)
RCIN# (12)
KBSMI# (13,14)
SCI# (14)
PCLK_EC (2)
F_CS0# (22)
PM_SLP_S3# (14)
T47
T12
T46
T49
T50
T60
T48
T45
T44
T16
T61
T62
T64
T13
T14
T63
T54
T55
T56
T57
T58
T59
R207 15K_4
C370 *10P_4
D5 RB501V-40
D11 RB501V-40
D13 RB501V-40
D4 RB501V-40
R258 33_4
R256 33_4
R257 15K_4
R208 47K_4
R76 8.2K_4
R74 8.2K_4
R265 8.2K_4
R255 8.2K_4
R229 10K/F_4
R75 15K_4
R272 10K/F_4
R226 15K_4
R260 15K_4
R259 4.7K_4
R262 20M_4
R261 33K_4
Y2 32.768K/10PPM
C412 15P_4
C411 15P_4
C84 0.1u/10V_4
C372 0.1u/10V_4
C389 0.1u/10V_4
C398 0.1u/10V_4
C394 0.1u/10V_4
C371 0.1u/10V_4
C386 4.7u/6.3V_6
C407 0.01u/25V_4
C406 0.01u/25V_4
C396 0.1u/10V_4
C391 1u/6.3V_4
C76 0.1u/10V_4
R270 33_4
R271 15K_4
U12
W25X80AVSSIG/MX25L8005M2C-15G
Q21 DTA124EU
D15 1SS355
D14 1SS355
R245 100K_4
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
2A: ADD BIOS protection
High-active
35001 I2C
GPIO26: PU
GPIO70--> PU, float (Def),
GPIO83 --> float (Def)
KBSIN[0...7] SET internal PU
SHMB: SHBM(If = 0 Enable share host BIOS memory)
DOCK_RST# : BADDR0
T?: BADDR1
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
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: WPCE775L & FLASH
Size: Document Number: SY2 MB
Rev: 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.

QUANTA COMPUTER

| | | |
|---|---|---|
| Title | Codec ALC262 | |
| Size: Custom | Document Number: SY2 MB | Rev: 2C |
| Date: Friday, April 10, 2009 | Sheet 19 of 36 | |




| 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 |

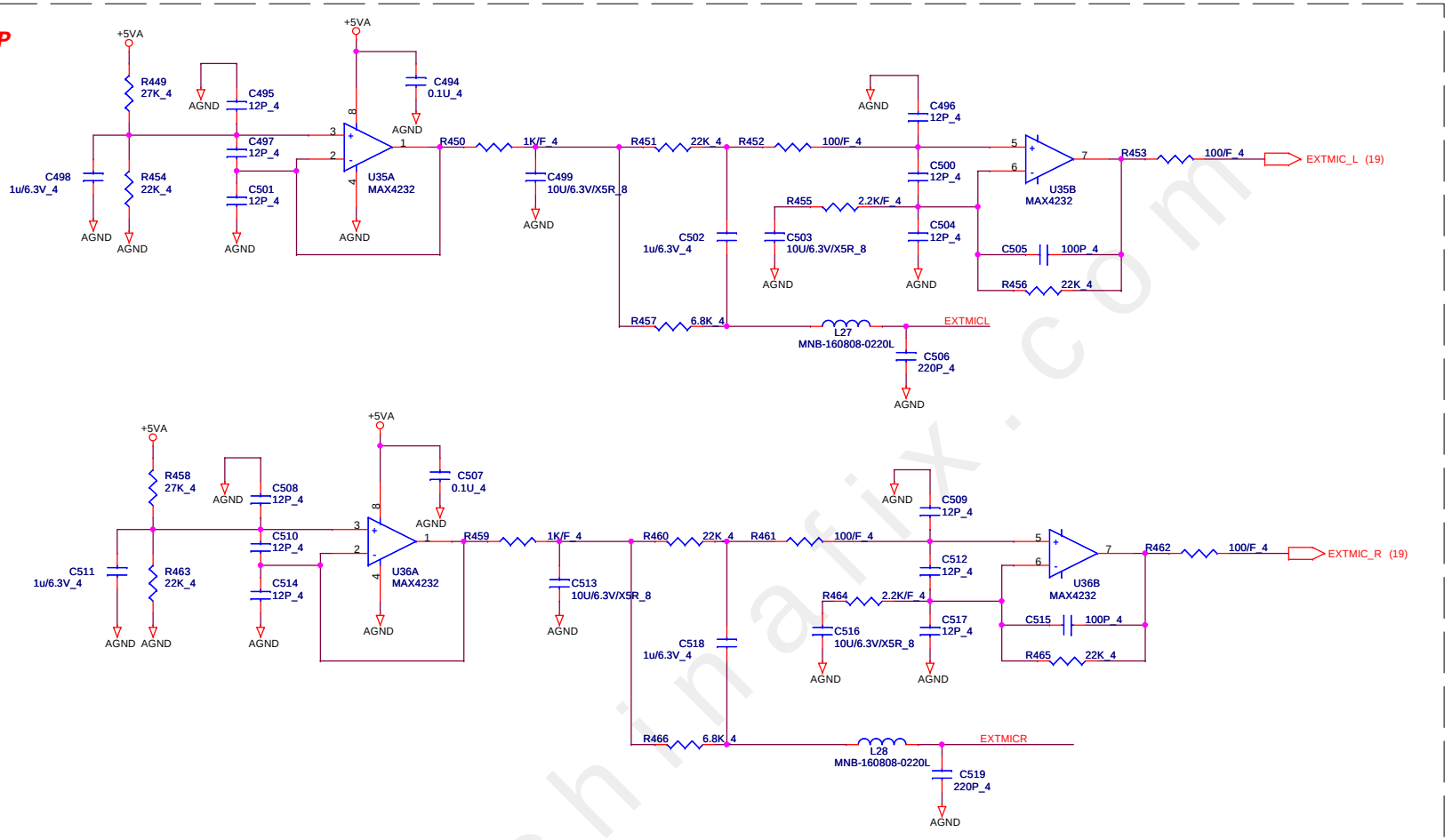
1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

QUANTA COMPUTER

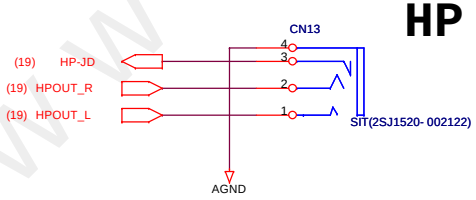
| | | |
|---|---|---|
| Title | AMP TPA2017D2 | |
| Size: Custom | Document Number: SY2 MB | Rev: 2C |
| Date: Friday, April 10, 2009 | Sheet 20 of 36 | |

# MIC Pre-AMP

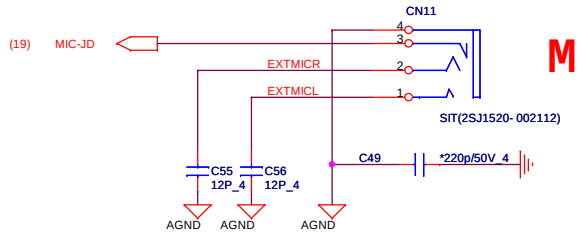
2A: Change MIC- AMP circuit




## HP




## MIC

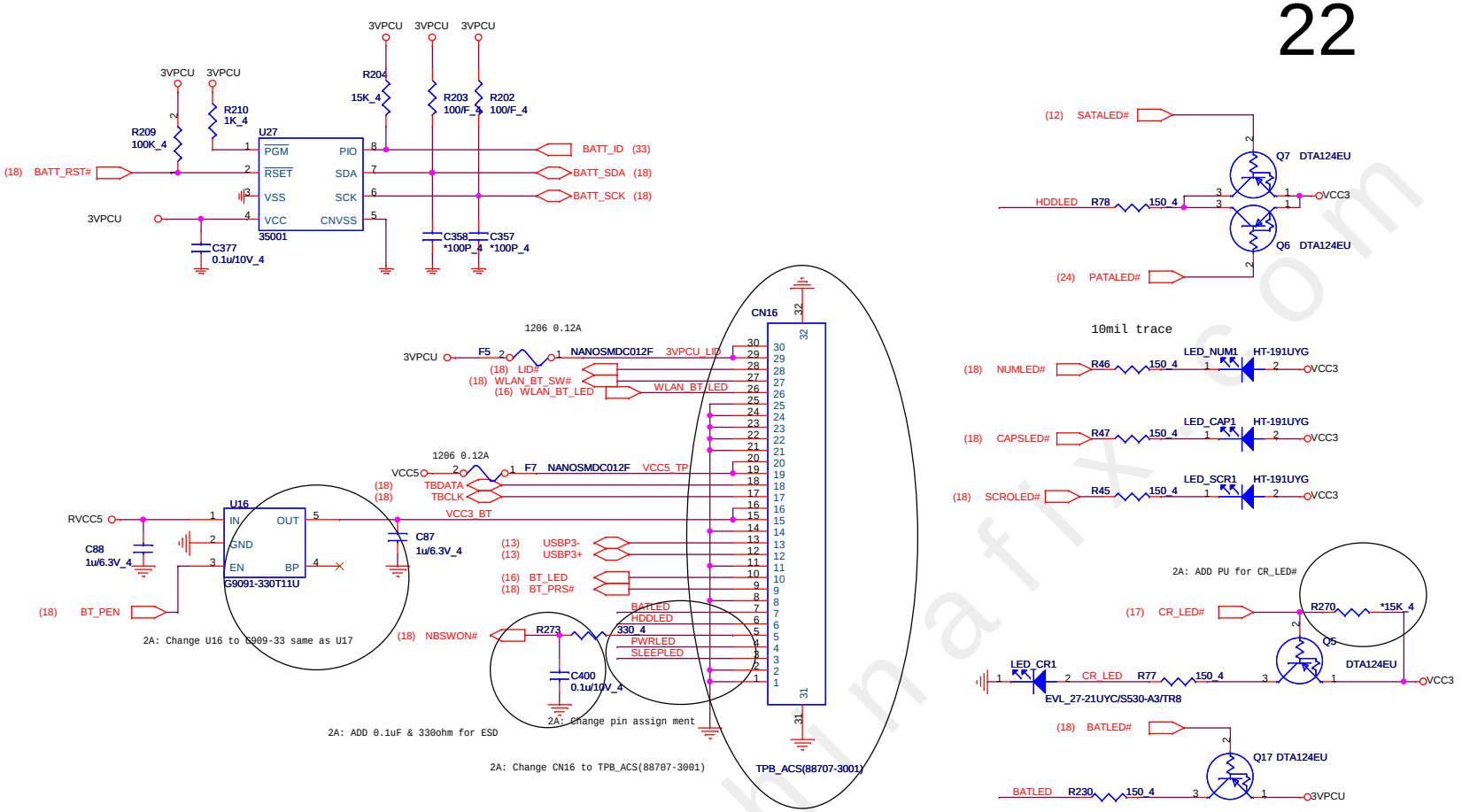





1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

QUANTA COMPUTER

| | | |
|---|---|---|
| Title | AUDIO JACK & MIC PRE-AMP | |
| Size: Custom | Document Number: SY2 MB | Rev: 2C |
| Date: Friday, April 10, 2009 | Sheet 21 of 36 | |





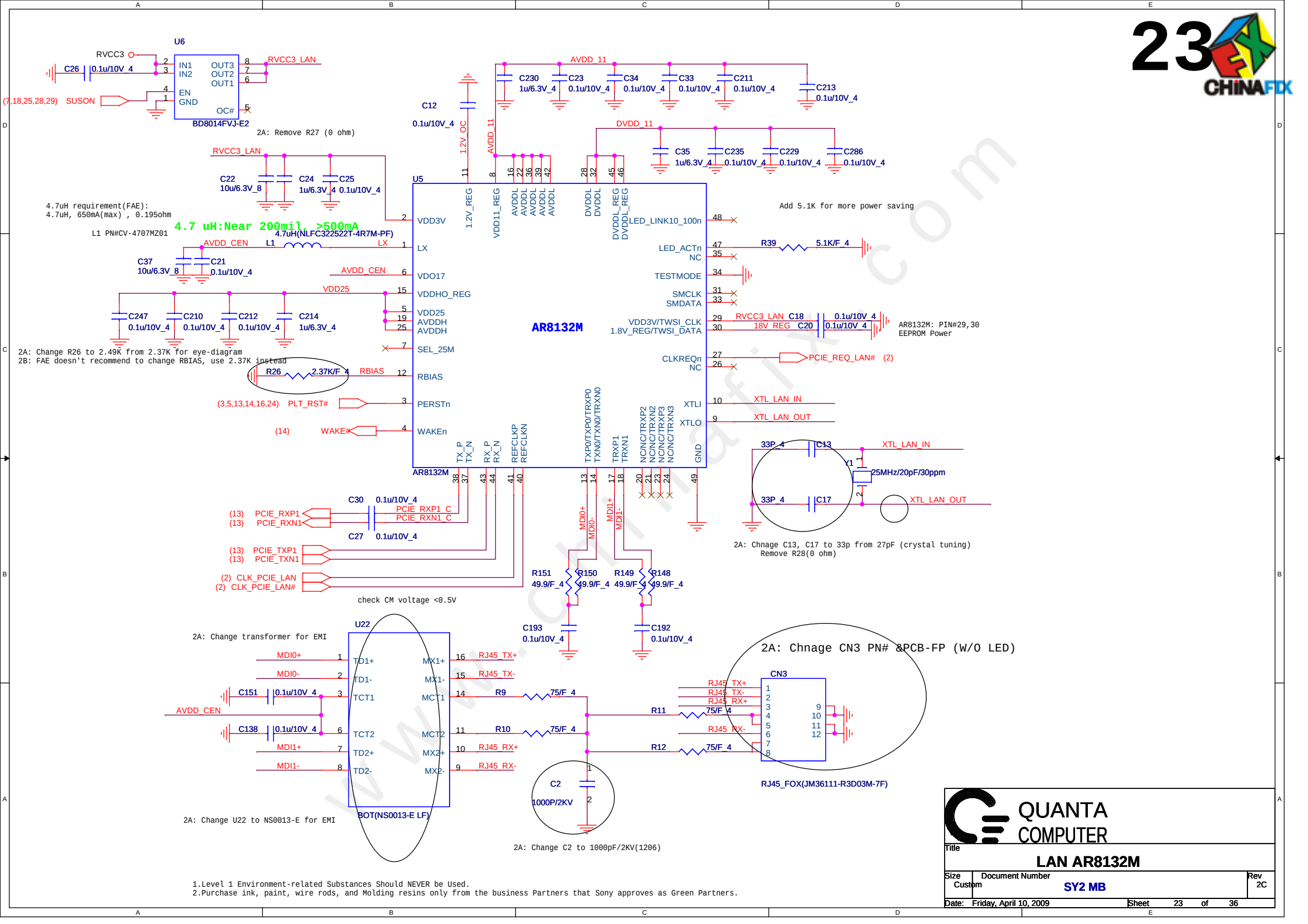


"Power, S0 (green), S3 (Umber flash), S4 (off), S5 (off)
"Charger status in Umber color, Charge (on), Error (flash quickly)
"HDD status, LED in yellow color
"Caps Lock/Num Lock/Scroll Lock in green color
"Wireless status in green color
"Memory Stick Duo/SD Card status in yellow color
"Camera status in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

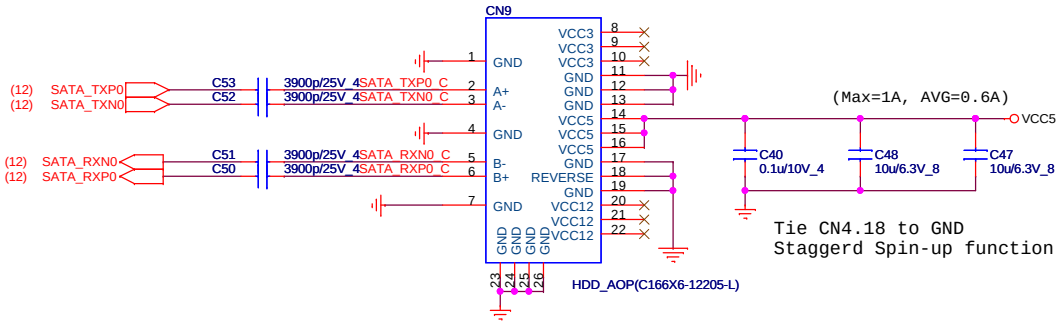
QUANTA COMPUTER

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

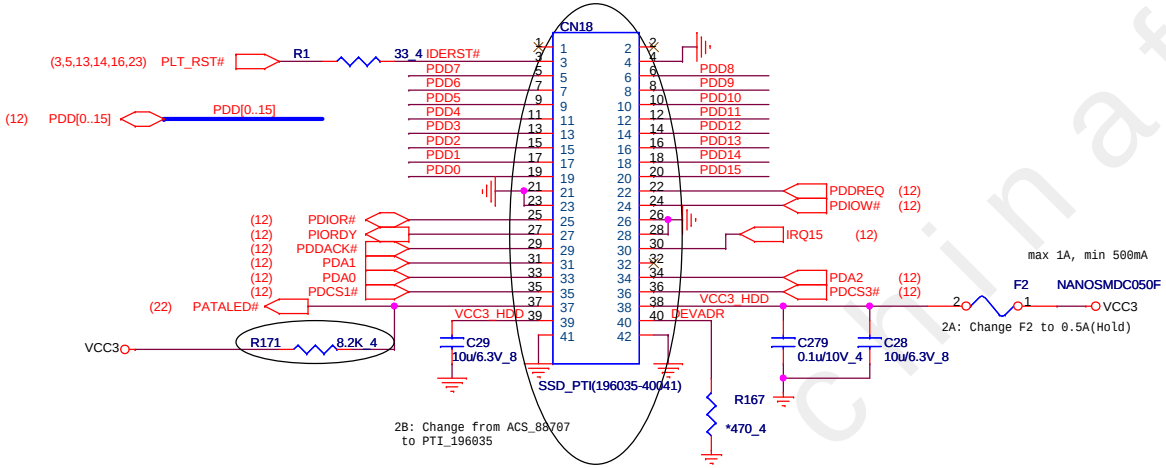

U6
RVCC3
C26 0.1u/10V_4
IN1
IN2
EN
GND
OUT3
OUT2
OUT1
OC#
RVCC3_LAN
(7,18,25,28,29) SUSON
BD8014FVJ-E2
2A: Remove R27 (0 ohm)
AVDD_11
C230 1u/6.3V_4
C23 0.1u/10V_4
C34 0.1u/10V_4
C33 0.1u/10V_4
C211 0.1u/10V_4
C213 0.1u/10V_4
C12 0.1u/10V_4
1.2V_OC
DVDD_11
C35 1u/6.3V_4
C235 0.1u/10V_4
C229 0.1u/10V_4
C286 0.1u/10V_4
RVCC3_LAN
C22 10u/6.3V_8
C24 1u/6.3V_4
C25 0.1u/10V_4
U5
4.7uH requirement(FAE):
4.7uH, 650mA(max) , 0.195ohm
4.7 uH:Near 200mil, >500mA
L1 PN#CV-4707MZ01
4.7uH(NLFC322522T-4R7M-PF)
AVDD_CEN
L1
C37 10u/6.3V_8
C21 0.1u/10V_4
VDD25
C247 0.1u/10V_4
C210 0.1u/10V_4
C212 0.1u/10V_4
C214 1u/6.3V_4
2A: Change R26 to 2.49K from 2.37K for eye-diagram
2B: FAE doesn't recommend to change RBIAS, use 2.37K instead
R26 2.37K/F_4
RBIAS
(3,5,13,14,16,24) PLT_RST#
(14) WAKE#
VDD3V
LX
VDO17
VDDHO_REG
VDD25
AVDDH
AVDDH
SEL_25M
RBIAS
PERSTn
WAKEn
AR8132M
1.2V_REG
VDD11_REG
AVDDL
AVDDL
AVDDL
AVDDL
AVDDL
DVDDL
DVDDL
DVDDL_REG
DVDDL_REG
LED_LINK10_100n
LED_ACTn
NC
TESTMODE
SMCLK
SMDATA
VDD3V/TWSI_CLK
1.8V_REG/TWSI_DATA
CLKREQn
NC
XTLI
XTLO
GND
Add 5.1K for more power saving
R39 5.1K/F_4
RVCC3_LAN C18 0.1u/10V_4
18V_REG C20 0.1u/10V_4
AR8132M: PIN#29,30
EEPROM Power
PCIE_REQ_LAN# (2)
XTL_LAN_IN
XTL_LAN_OUT
33P_4 C13
Y1 25MHz/20pF/30ppm
33P_4 C17
2A: Chnage C13, C17 to 33p from 27pF (crystal tuning)
Remove R28(0 ohm)
TX_P
TX_N
RX_P
RX_N
REFCLKP
REFCLKN
TXP0/TXP0/TRXP0
TXN0/TXN0/TRXN0
TRXP1
TRXN1
NC/NC/TRXP2
NC/NC/TRXN2
NC/NC/TRXP3
NC/NC/TRXN3
C30 0.1u/10V_4
PCIE_RXP1_C
PCIE_RXN1_C
C27 0.1u/10V_4
(13) PCIE_RXP1
(13) PCIE_RXN1
(13) PCIE_TXP1
(13) PCIE_TXN1
(2) CLK_PCIE_LAN
(2) CLK_PCIE_LAN#
check CM voltage <0.5V
MDI0+
MDI0-
MDI1+
MDI1-
R151 49.9/F_4
R150 49.9/F_4
R149 49.9/F_4
R148 49.9/F_4
C193 0.1u/10V_4
C192 0.1u/10V_4
U22
2A: Change transformer for EMI
MDI0+
MDI0-
C151 0.1u/10V_4
AVDD_CEN
C138 0.1u/10V_4
MDI1+
MDI1-
TD1+
TD1-
TCT1
TCT2
TD2+
TD2-
MX1+
MX1-
MCT1
MCT2
MX2+
MX2-
RJ45_TX+
RJ45_TX-
RJ45_RX+
RJ45_RX-
R9 75/F_4
R10 75/F_4
R11 75/F_4
R12 75/F_4
BOT(NS0013-E LF)
2A: Change U22 to NS0013-E for EMI
C2 1000P/2KV
2A: Change C2 to 1000pF/2KV(1206)
2A: Chnage CN3 PN# &PCB-FP (W/O LED)
CN3
RJ45_FOX(JM36111-R3D03M-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
LAN AR8132M
Size Custom
Document Number SY2 MB
Rev 2C
Date: Friday, April 10, 2009
Sheet 23 of 36

# 2.5 inch SATA HDD






# 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

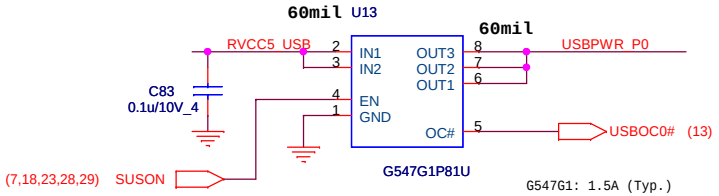
| | | | |
|---|---|---|---|
| Title: HDD | | | |
| Size: Custom | Document Number: SY2 MB | | Rev: 2C |
| Date: Friday, April 10, 2009 | Sheet 24 of 36 | | |

# USB Power and Over current

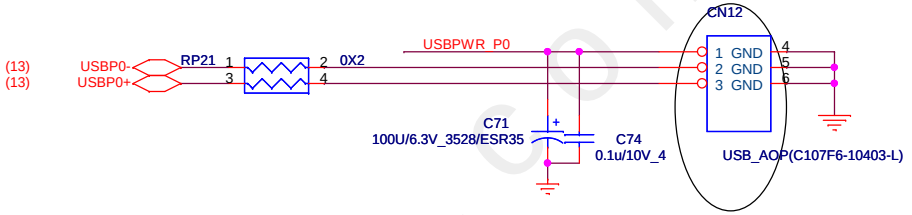
25

## USB Connector

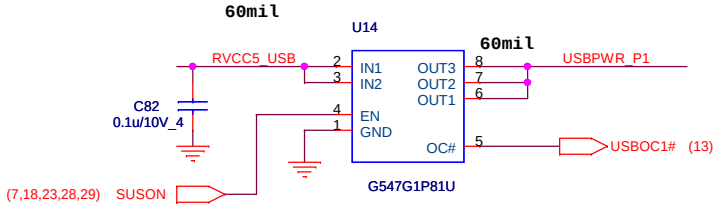
Current limit =1.5~2A

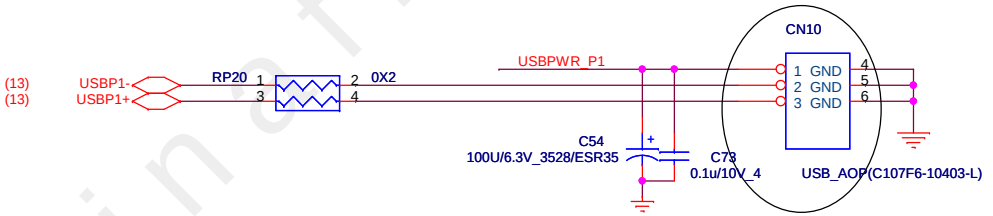


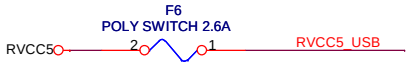

G547G1: 1.5A (Typ.)




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



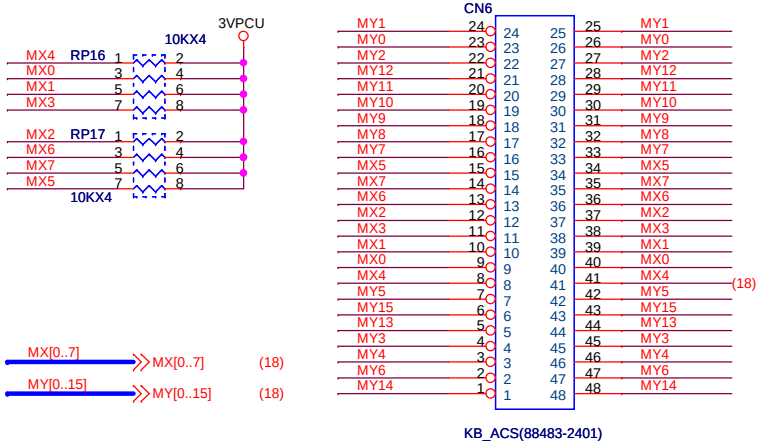

1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

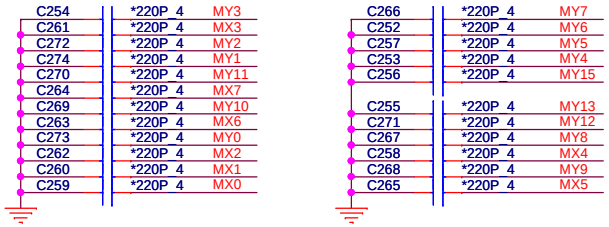
QUANTA COMPUTER

| | | |
|---|---|---|
| Title: USB | | |
| Size: Custom | Document Number: SY2 MB | Rev: 2C |
| Date: Friday, April 10, 2009 | Sheet 25 of 36 | |

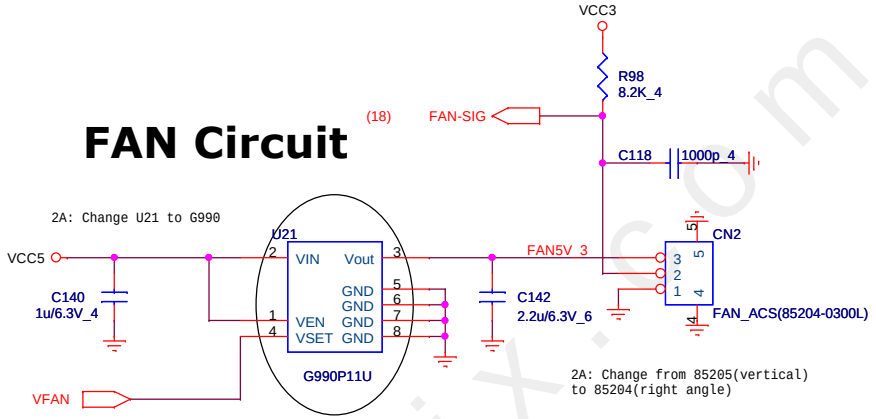
# INT. KEYBOARD





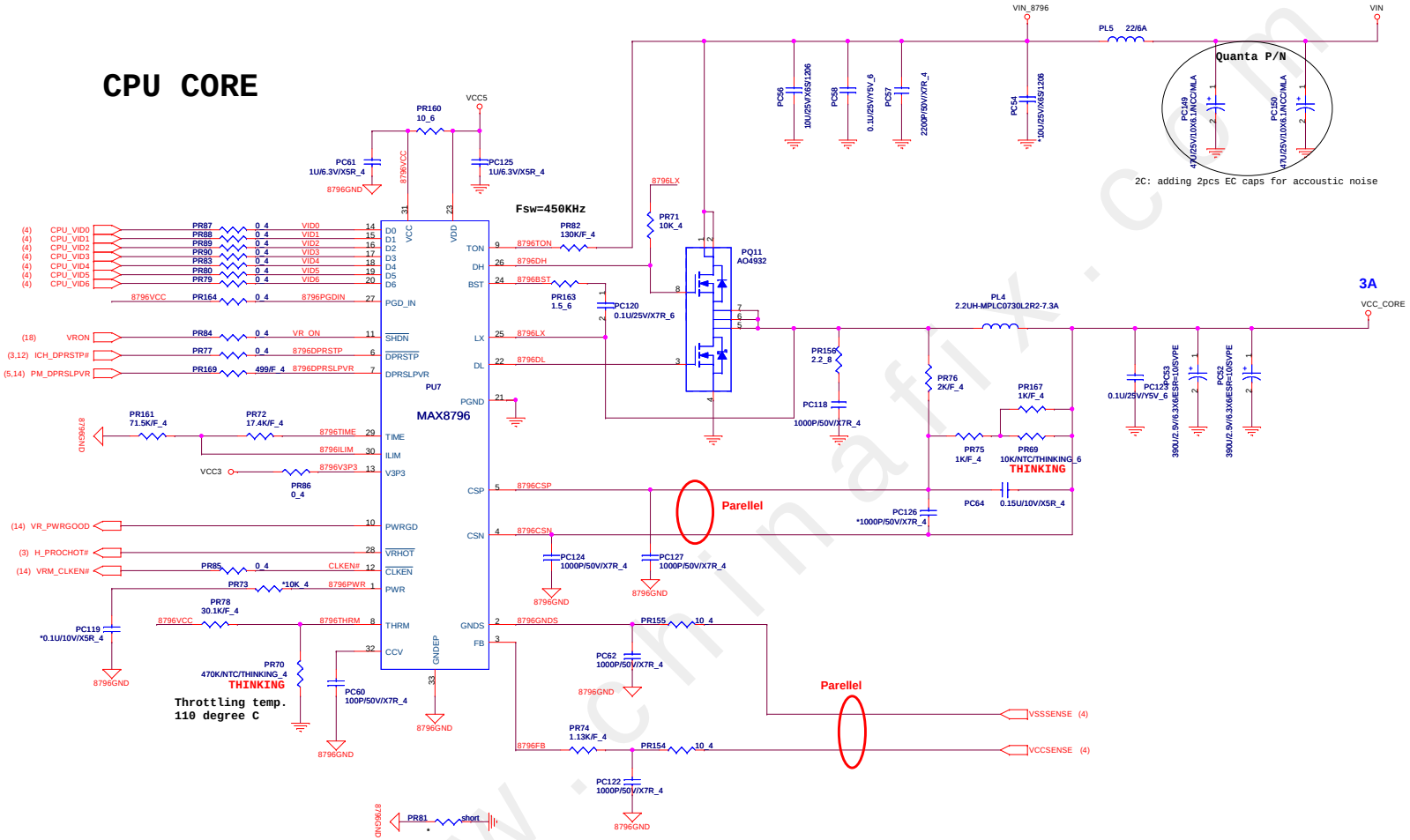

## FAN Circuit




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, FAN, T/P | | |
| Size: Custom | Document Number: SY2 MB | Rev: 2C |
| Date: Friday, April 10, 2009 | Sheet 26 of 36 | |

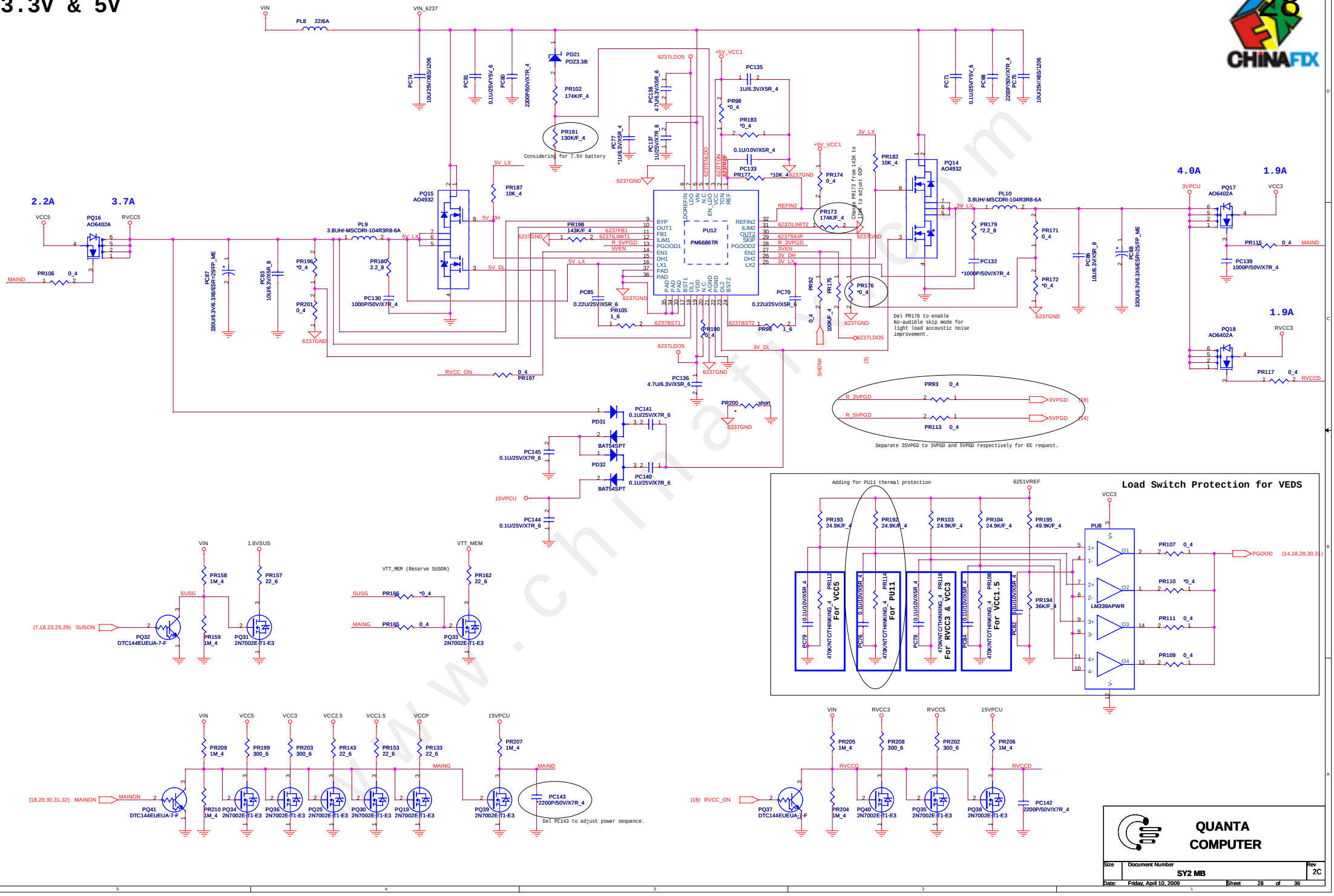
# CPU CORE



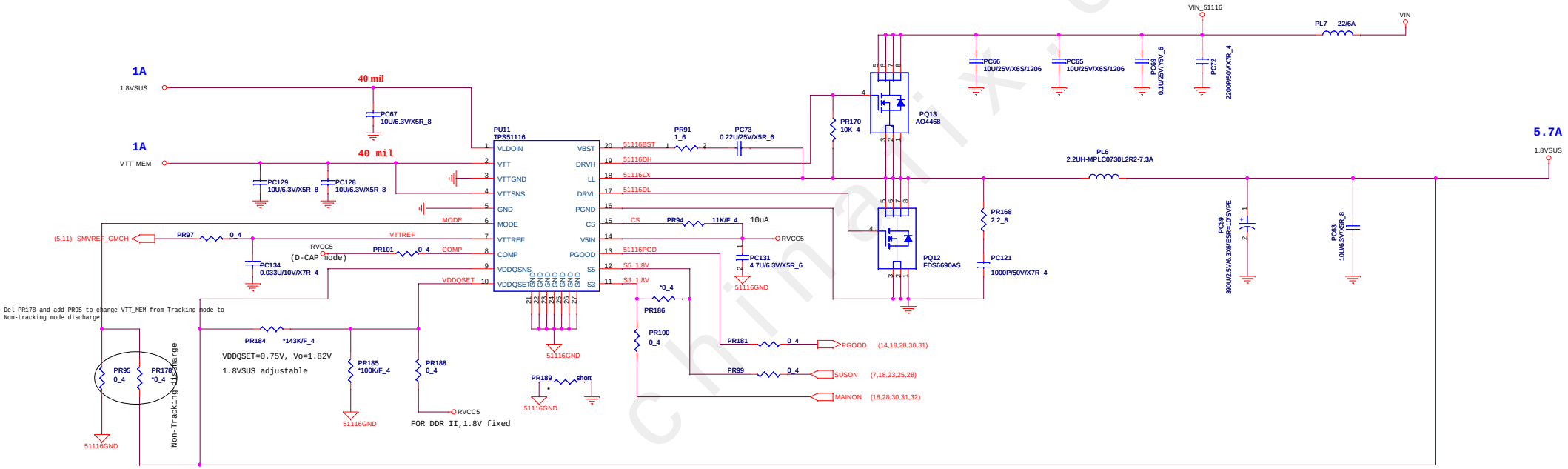

1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

| | | | |
|---|---|---|---|
| QUANTA COMPUTER | | | |
| Title: CPU CORE | | | |
| Size: Custom | Document Number: SY2 MB | | Rev: 2C |
| Date: Friday, April 10, 2009 | | Sheet 27 of 36 | |

# 3.3V & 5V


2.2A
3.7A
4.0A
1.9A
1.9A
PU12
PM6686TR
PU8
LM339APWR
Load Switch Protection for VEDS
For VCC5
For PU11
For RVCC3 & VCC3
For VCC1.5
Adding for PU11 thermal protection
Del PR176 to enable No-audible skip mode for light load accoustic noise improvement.
Separate 35VPGD to 3VPGD and 5VPGD respectively for EE request.
Considering for 7.5V battery
Del PC143 to adjust power sequence.
QUANTA COMPUTER
SY2 MB
Friday, April 10, 2009

# 1.8VSUS & VTT_MEM




| MODE | DISCHARGE MODE |
|---|---|
| +5V | No discharge |
| +1.8V | Tracking discharge |
| GND | Non-tracking discharge |

| VDDQSET | VDDQ(V) | VTTREF & VTT | NOTE |
|---|---|---|---|
| GND | 2.5 fixed | VDDQSNS/2 | DDR |
| 5V | 1.8 fixed | VDDQSNS/2 | DDR2 |
| FB-Resistor | Adjustable | VDDQSNS/2 | 1.5V<VDDQ<3V |

VTT = VTTREF = VDDQSNS/2 = 0.9V

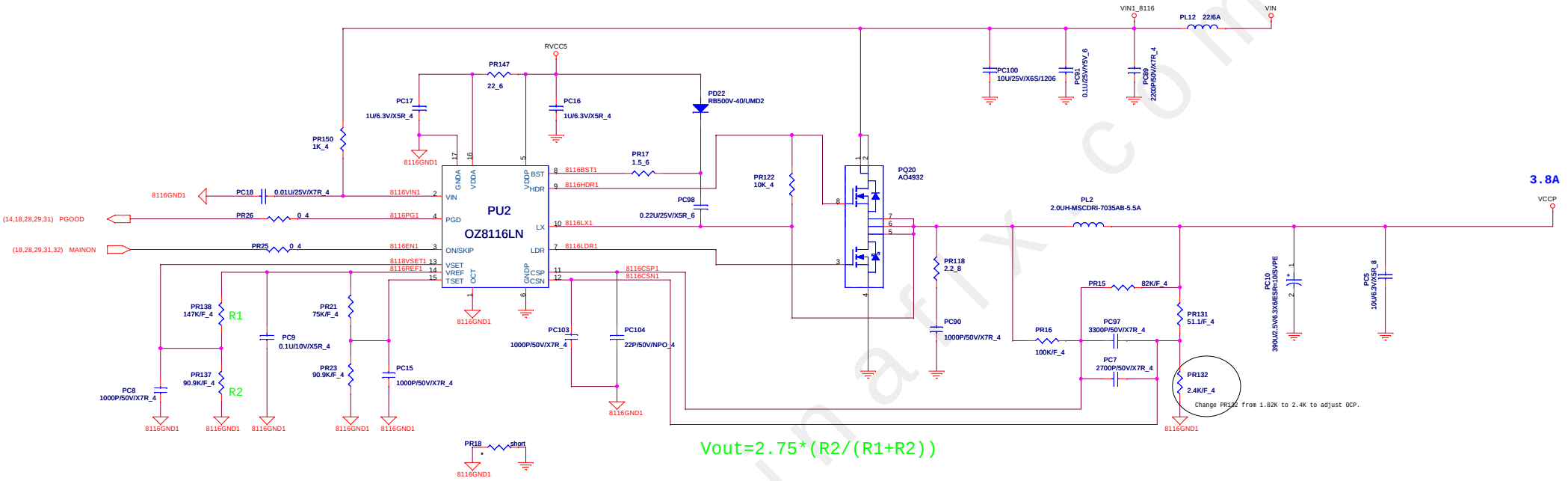
| STATE | S3 | S5 | 1.8VSUS | VTTREF | VTT |
|---|---|---|---|---|---|
| S0 | 1 | 1 | on | on | on |
| S3 | 0 | 1 | on | on | off |
| S4/S5 | 0 | 0 | off | off | off |

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

| Size | Document Number | Rev |
|---|---|---|
| | SY2 MB | 2C |
| Date: Friday, April 10, 2009 | Sheet 29 of 36 | |

# VCCP



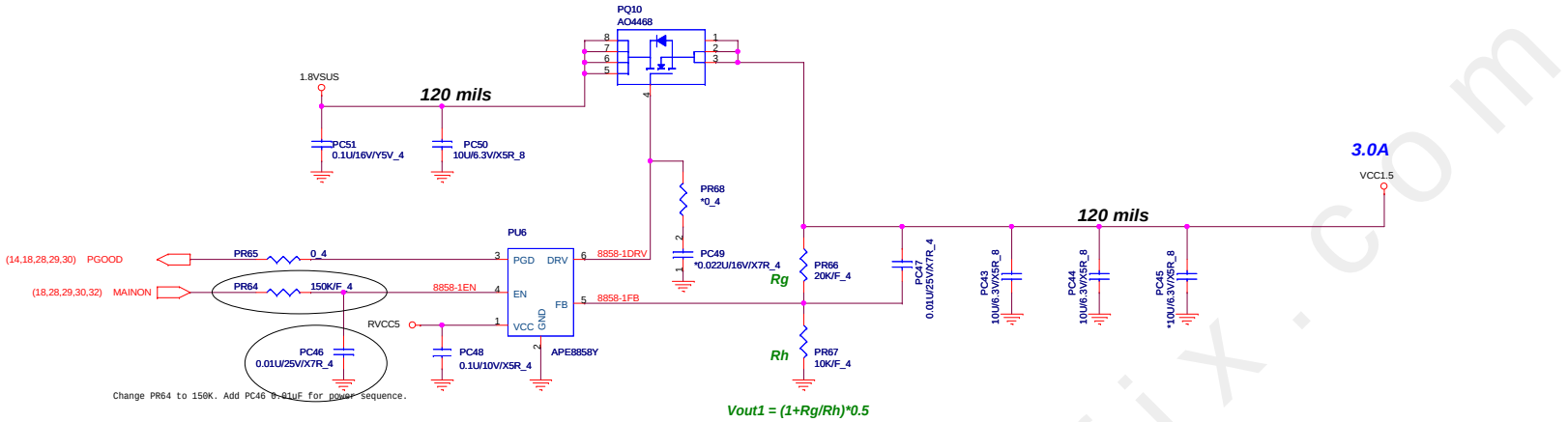



1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

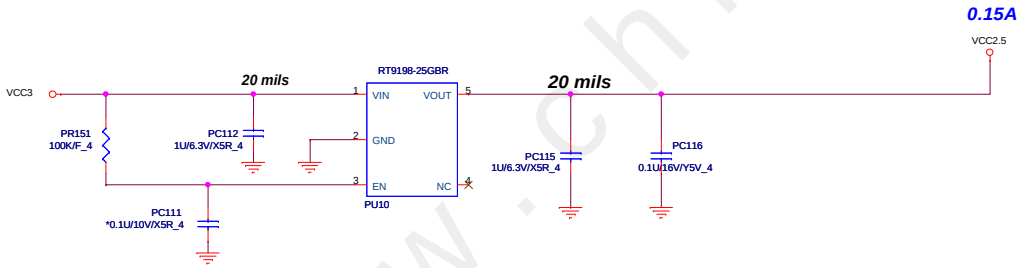
QUANTA COMPUTER

| Size | Document Number | Rev |
|---|---|---|
| | SY2 MB | 2C |
| Date: Friday, April 10, 2009 | Sheet 30 of 36 | |

# VCC1.5




# VCC2.5

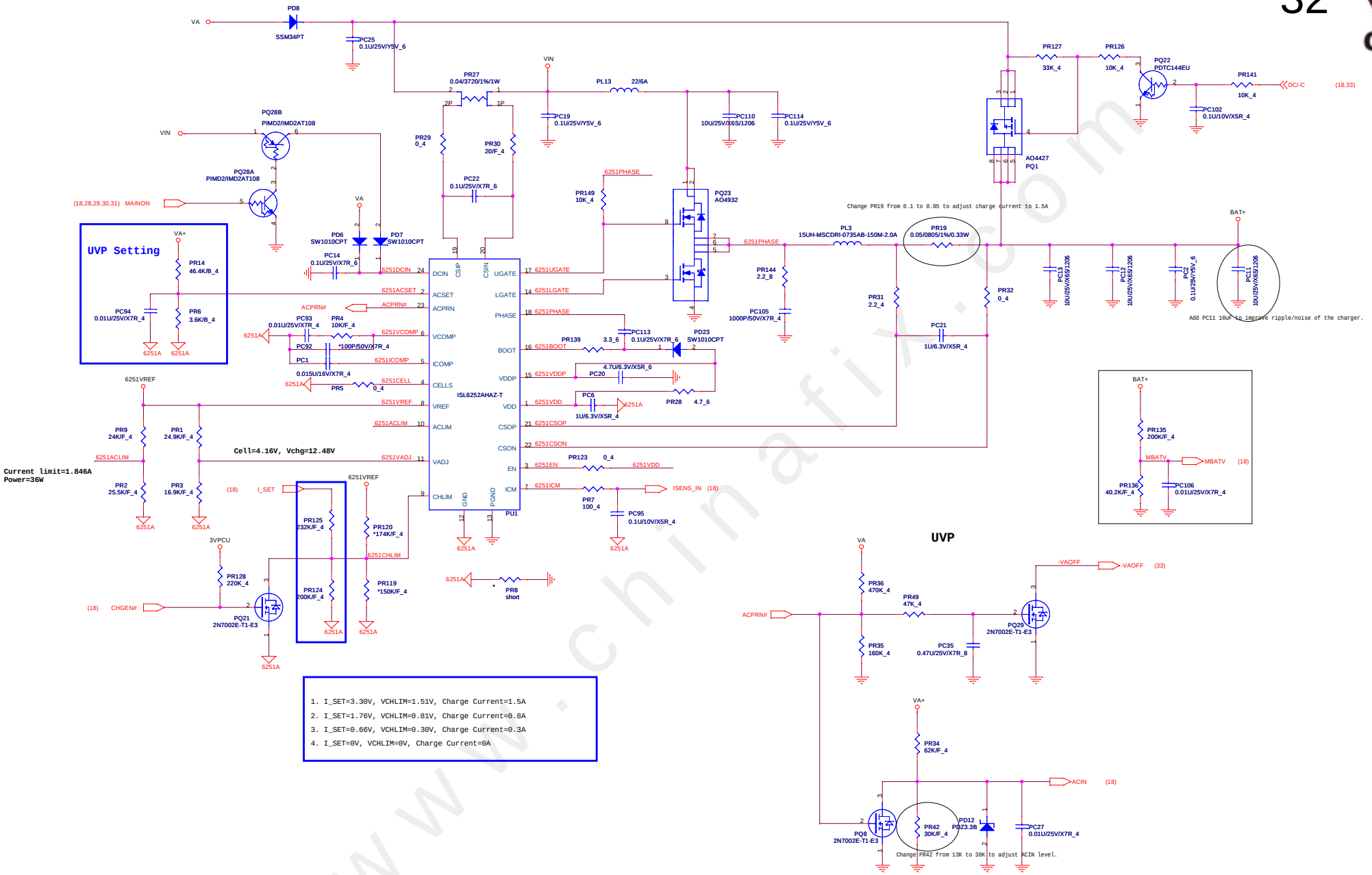





1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

QUANTA COMPUTER

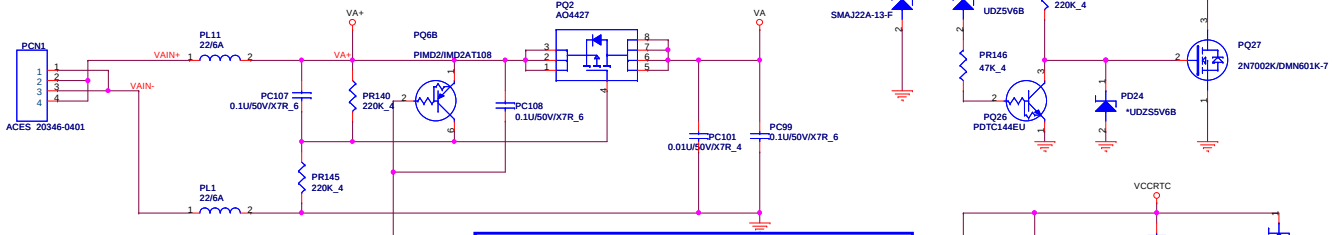
| Size | Document Number | Rev |
|---|---|---|
| | SY2 MB | 2C |
| Date: Friday, April 10, 2009 | Sheet 31 of 36 | |




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

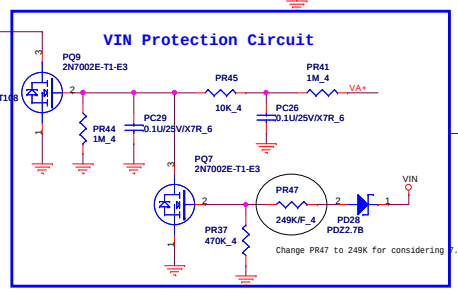
| Size | Document Number | Rev |
|---|---|---|
| | SY2 MB | 2C |
| Date: Friday, April 10, 2009 | Sheet 32 of 36 | |

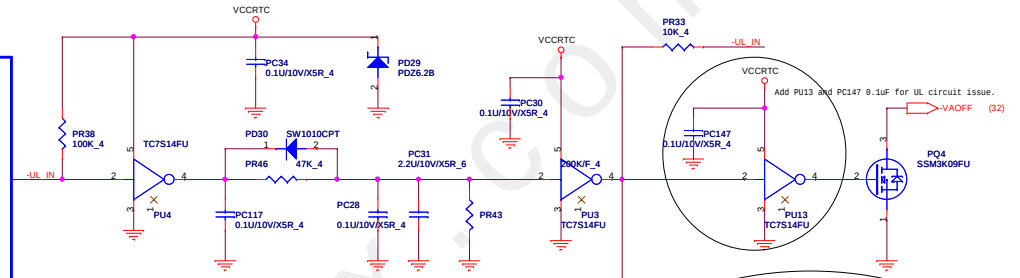




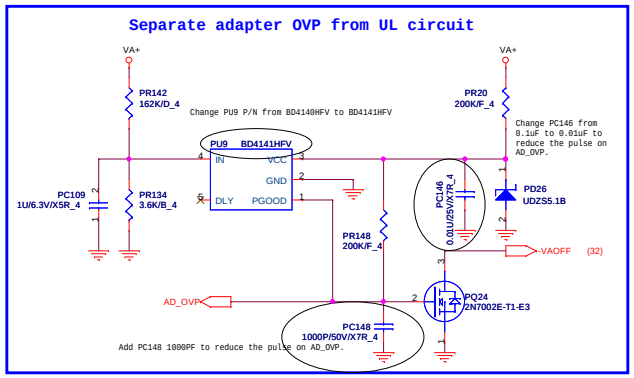


## VIN Protection Circuit

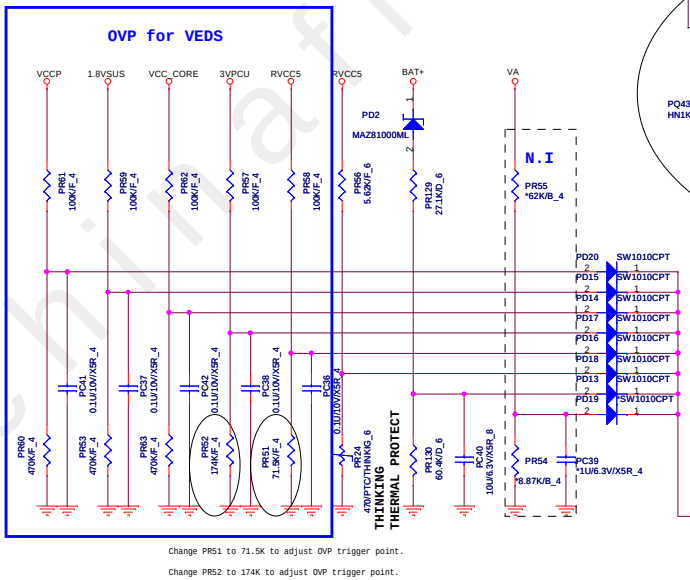


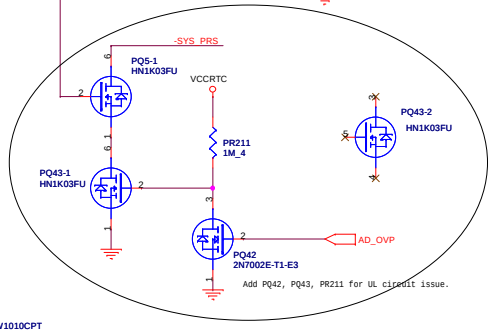



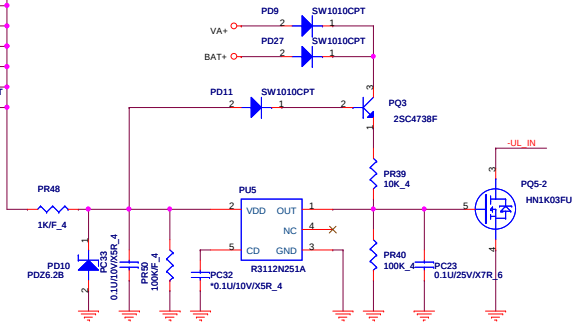

## Separate adapter OVP from UL circuit



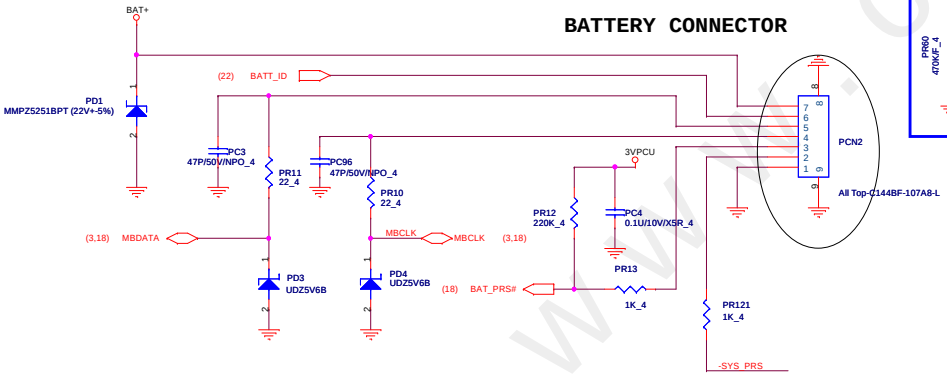

## OVP for VEDS




## BATTERY CONNECTOR

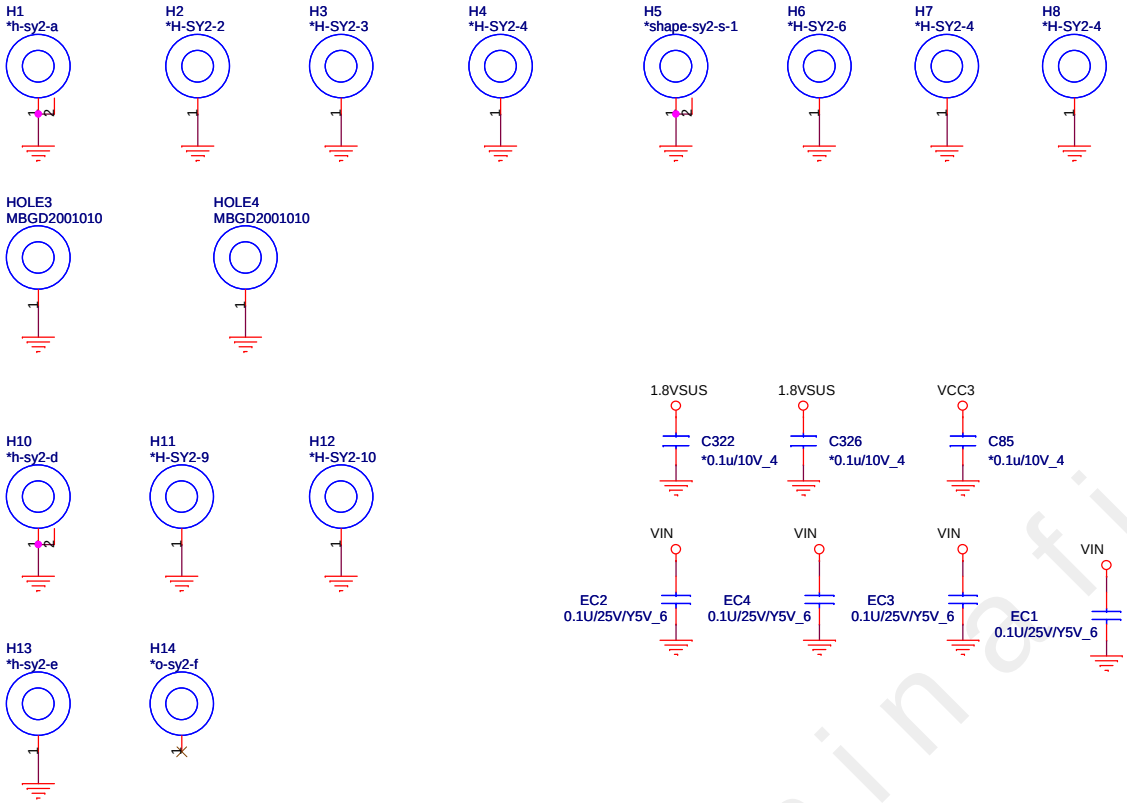





1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

QUANTA COMPUTER

| Size | Document Number | Rev |
|---|---|---|
| | SY2 MB | 2C |
| Date: Friday, April 10, 2009 | Sheet 33 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.



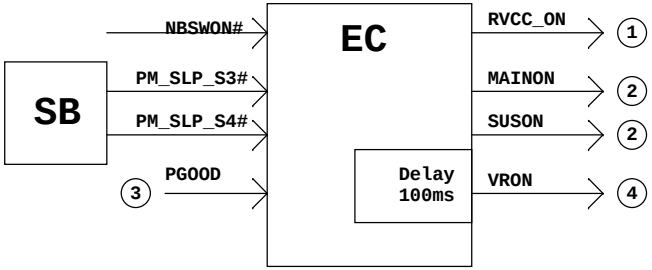
QUANTA COMPUTER

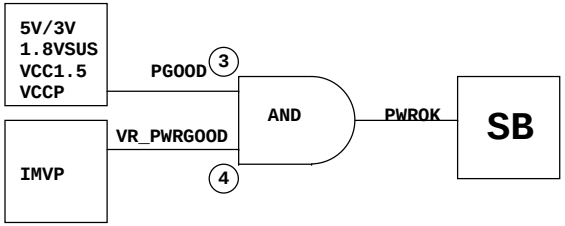
Title: Screw Hole

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

Date: Friday, April 10, 2009 | Sheet 34 of 36

# SY2 Power-up Block

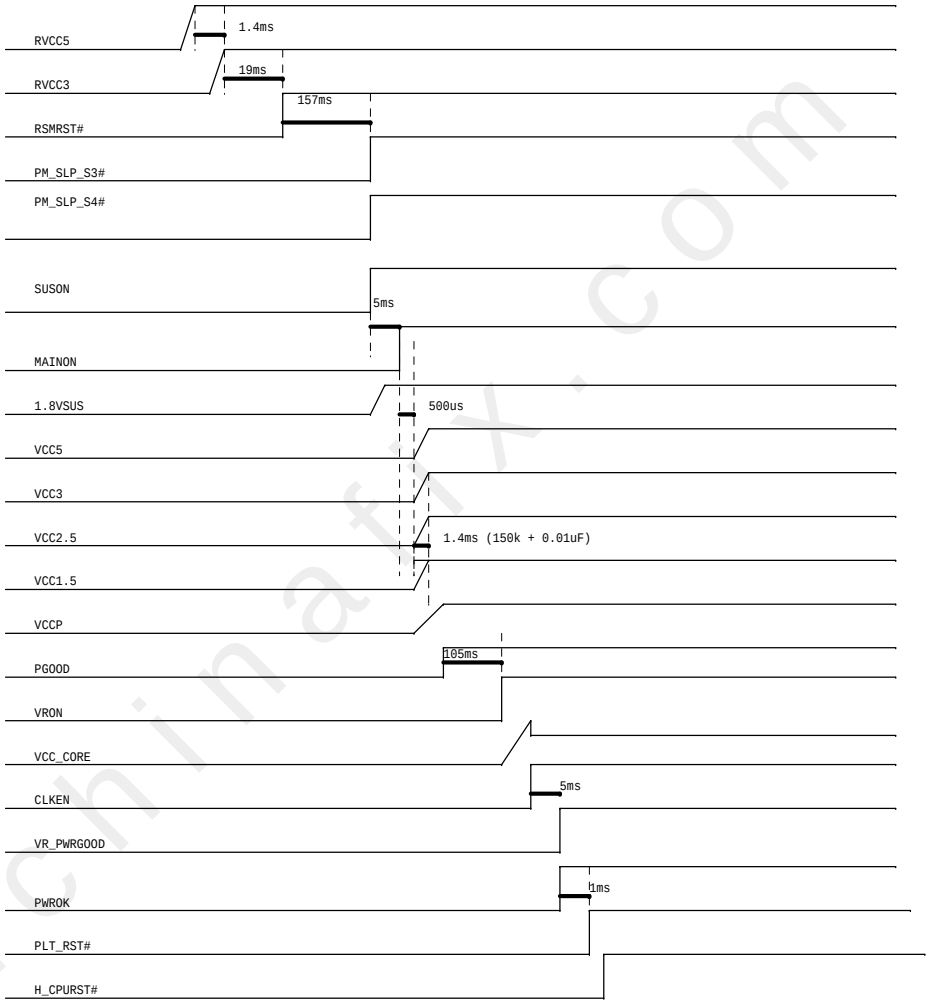



**Power State Table**

| AC Mode | S0 | S3 | S4 | S5 | BATT | 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

Size: B | Document Number: SY2 MB | Rev: 2C

Date: Friday, April 10, 2009 | Sheet 35 of 36

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

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#, WP
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

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 1SS355 (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- PREAMP 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 accoustic
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.
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.

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

0408 (2D)
-P.27
Add PC149, PC150 to improve accoustic 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.

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.

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