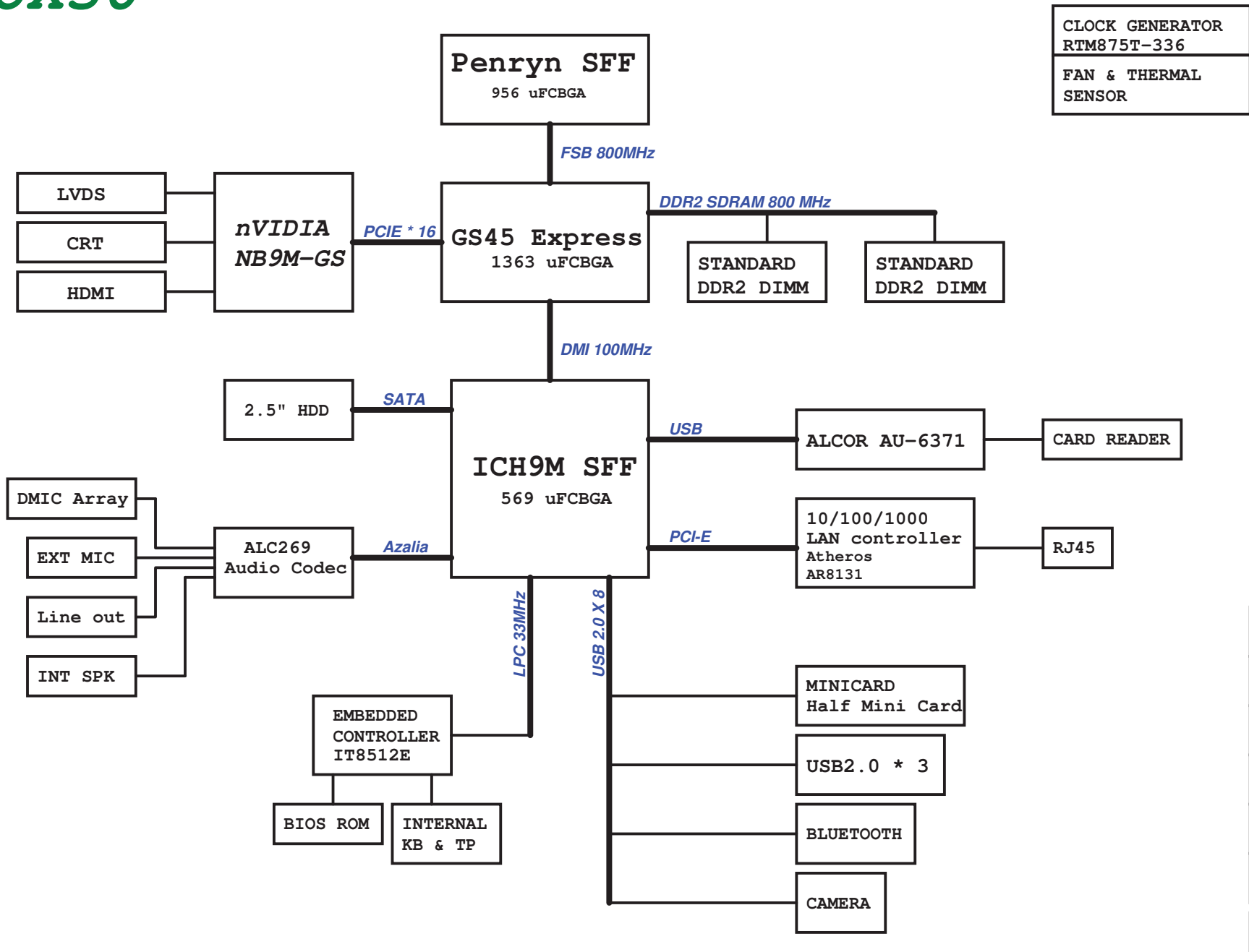


# UX50



|                                |
|--------------------------------|
| CLOCK GENERATOR<br>RTM875T-336 |
| FAN & THERMAL<br>SENSOR        |

## POWER

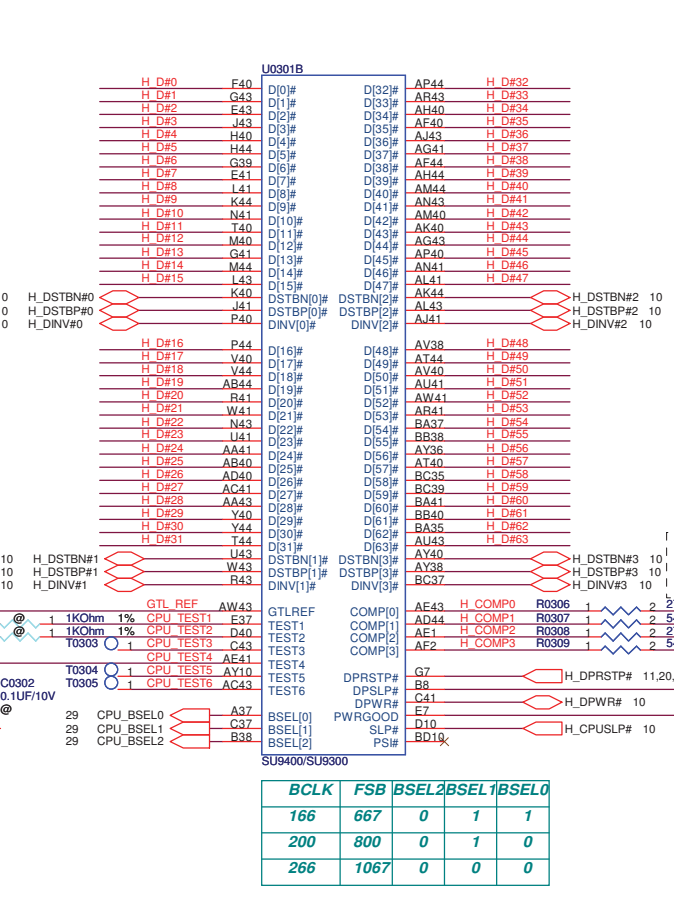
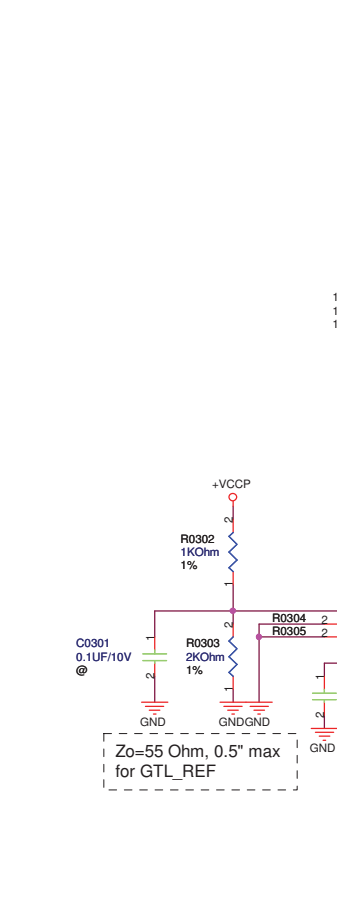
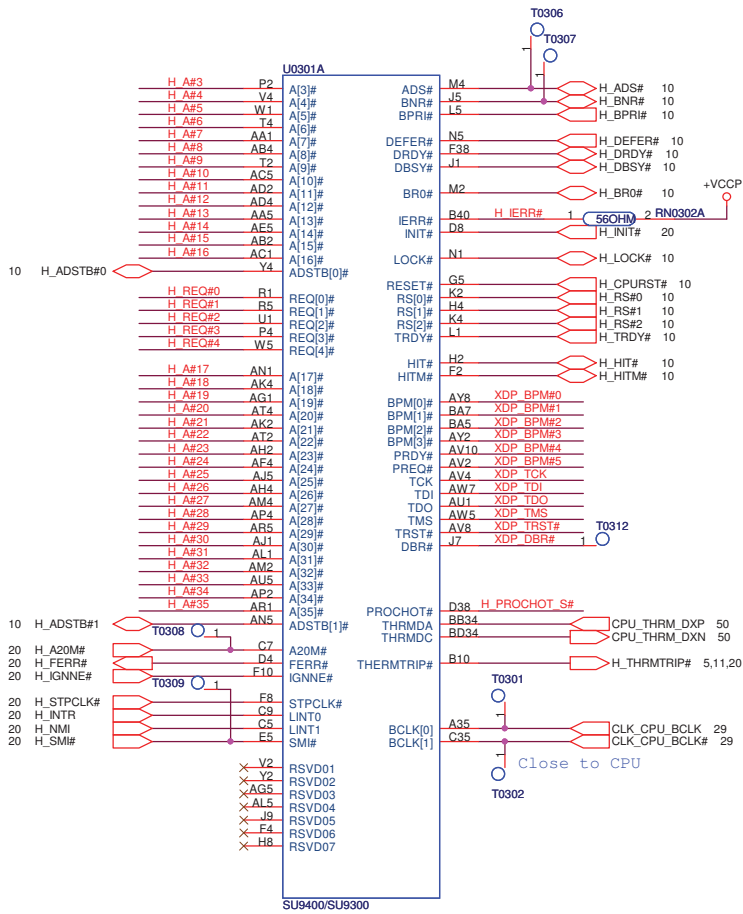
|                    |
|--------------------|
| VCORE              |
| SYSTEM             |
| I/O_1.5VS & 1.05VS |
| I/O_DDR & VTT      |
| I/O_ +1.8VS        |
| CHARGER            |
| LCD DRIVER         |

<Variant Name>

|                               |                             |                              |
|-------------------------------|-----------------------------|------------------------------|
| <b>ASUS</b>                   |                             | <b>Title : Block diagram</b> |
| ASUSTeK COMPUTER INC          |                             | Engineer: <b>Tony Su</b>     |
| Size<br>Custom                | Project Name<br><b>UX50</b> | Rev<br>1.0a                  |
| Date: Tuesday, March 31, 2009 | Sheet 1 of 97               |                              |

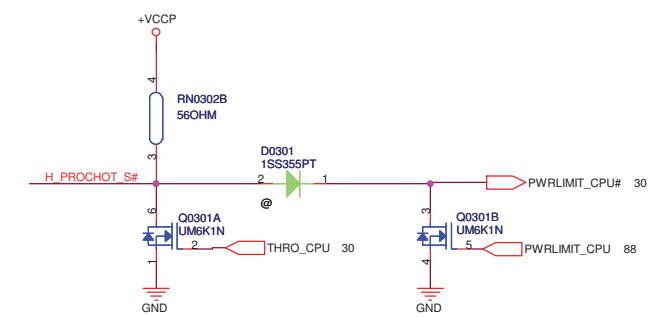
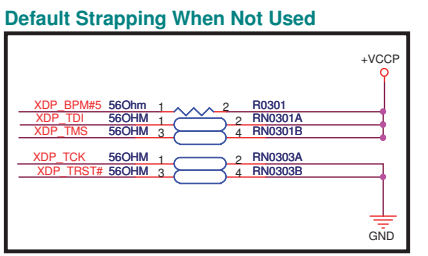


H\_D#[63:0] ← H\_D#[63:0]  
 H\_A#[35:3] ← H\_A#[35:3]  
 H\_REQ#[4:0] ← H\_REQ#[4:0]



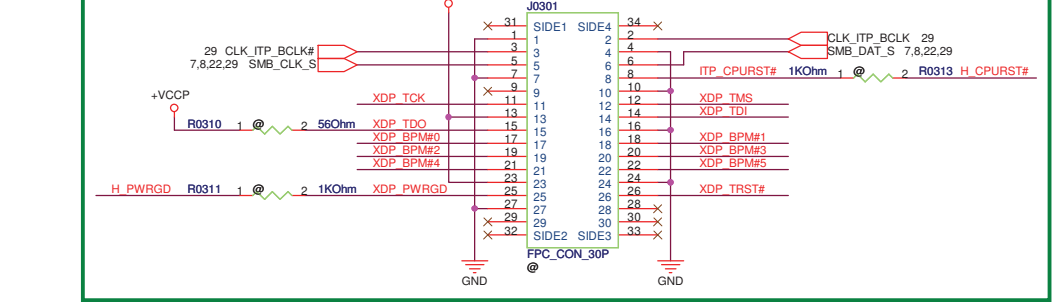
Comp 0,2: Zo=27.4 Ohm, trace length < 0.5"  
 Comp 1,3: Zo=55 Ohm, trace length < 0.5"

| BCLK | FSB  | BSEL2 | BSEL1 | BSEL0 |
|------|------|-------|-------|-------|
| 166  | 667  | 0     | 1     | 1     |
| 200  | 800  | 0     | 1     | 0     |
| 266  | 1067 | 0     | 0     | 0     |



### ITP Debug Port

R1.1

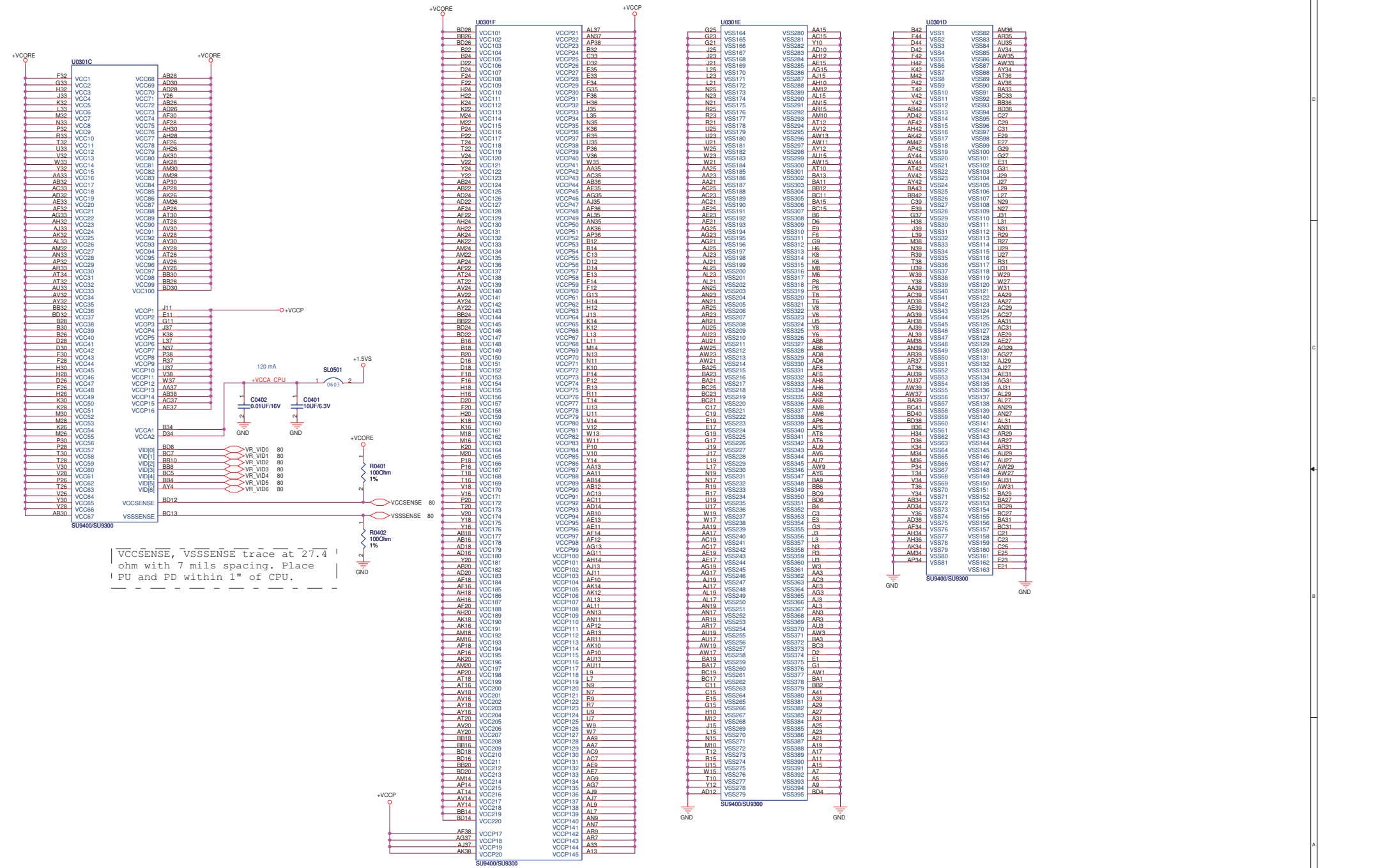


-Variant Name-

**Title : CPU PENRYN ULV FSB**  
**ASUSTek COMPUTER INC**  
**Engineer: Tony Su**

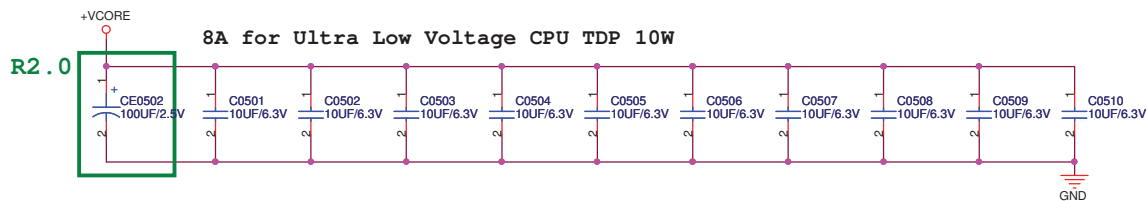
|        |              |      |
|--------|--------------|------|
| Size   | Project Name | Rev  |
| Custom | <b>UX50</b>  | 1.0a |

Date: Tuesday, March 31, 2009 Sheet 3 of 97

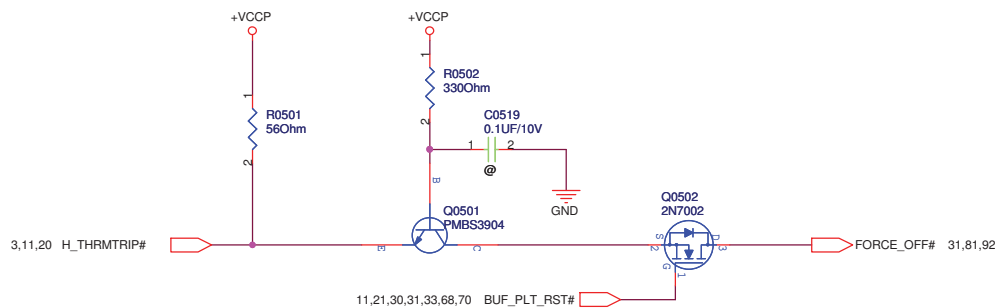
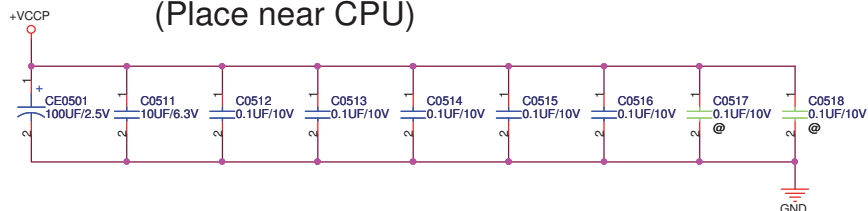


<http://laptop-motherboard-schematic.blogspot.com/>

ASUS Title : CPU PENRYN ULY POWER  
 ASUSTek COMPUTER INC Engineer: Tony Su  
 Size C Project Name UX50 Rev 1.0a  
 Date: Tuesday, March 31, 2009 Sheet 4 of 97



**+VCCP Decoupling Capacitor  
(Place near CPU)**



**Decoupling guide from Intel**

|        |             |        |
|--------|-------------|--------|
| VCCORE | 10uF mount  | *4pcs  |
|        | 0.1uF mount | *5pcs  |
| VCCP   | 1uF         | *12pcs |
|        | 270uF       | *1pcs  |
| VCCA   | 0.01uF      | *1 pcs |
|        | 10uF        | *1 pcs |

<Variant Name>

|                               |              |                              |
|-------------------------------|--------------|------------------------------|
| <b>ASUS</b>                   |              | <b>Title :CPU CAPACITORS</b> |
| ASUSTeK COMPUTER INC          |              | Engineer: <b>Tony Su</b>     |
| Size                          | Project Name | Rev                          |
| Custom                        | <b>UX50</b>  | 1.0a                         |
| Date: Tuesday, March 31, 2009 | Sheet        | 5 of 97                      |

5

4

3

2

1

D

D

C

C

B


B

A

A

<http://laptop-motherboard-schematic.blogspot.com/>

<Variant Name>

|   |                             |                          |
|---|-----------------------------|--------------------------|
|  |                             | <b>Title :</b>           |
| ASUSTeK COMPUTER INC  |                             | <b>Engineer: Tony Su</b> |
| Size<br>Custom  | Project Name<br><b>UX50</b> | Rev<br>1.0a              |
| Date: Tuesday, March 31, 2009   | Sheet 6 of 97               |                          |

5

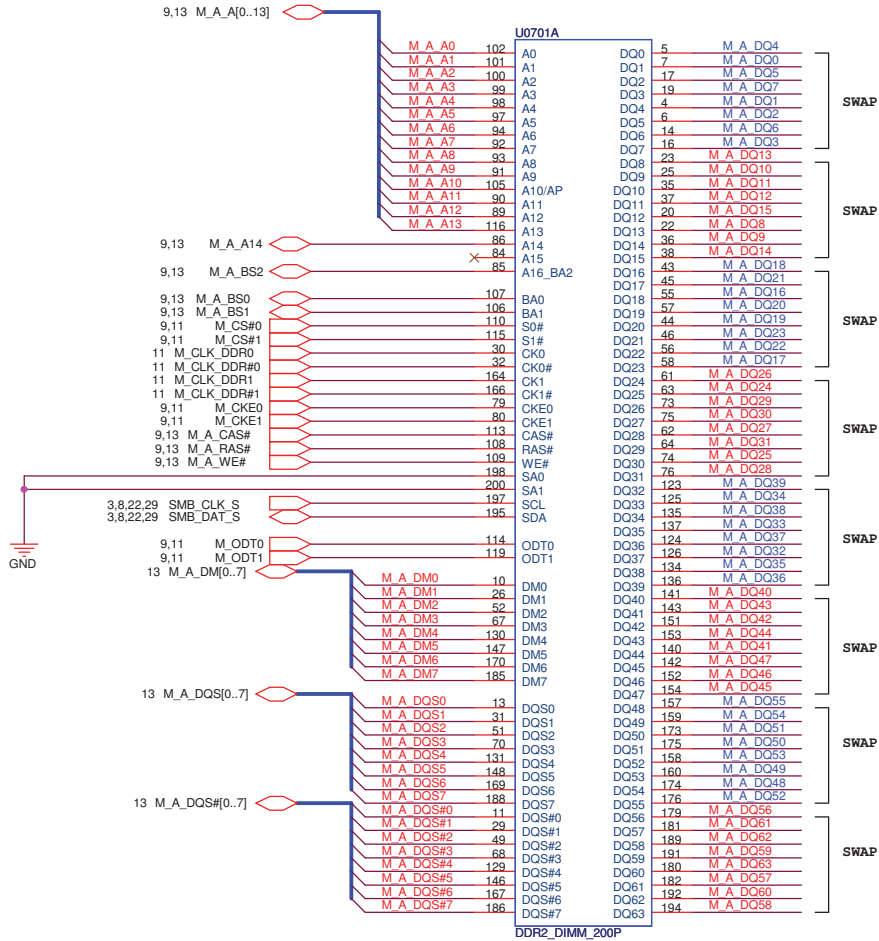
4

3

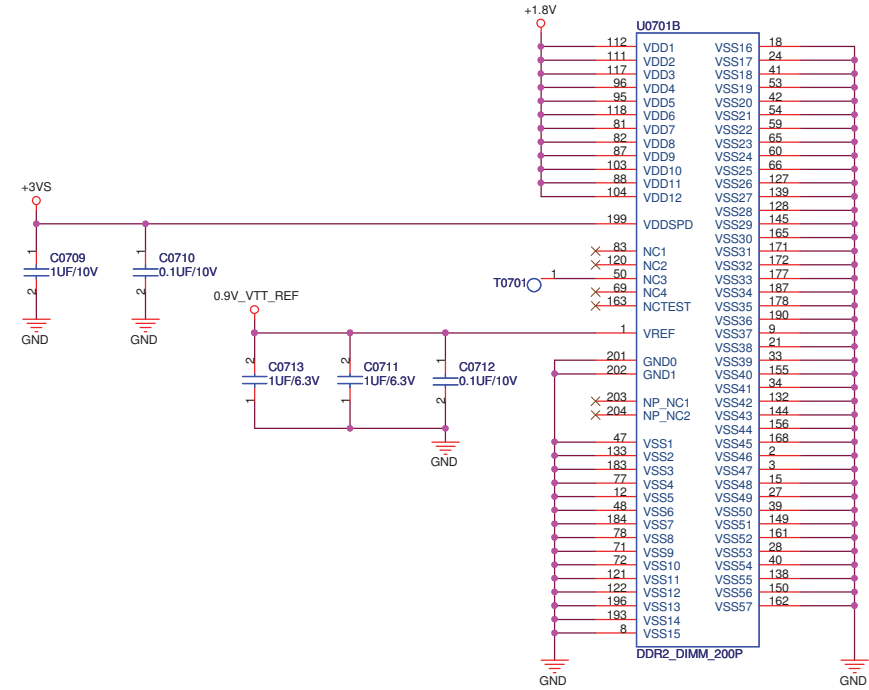
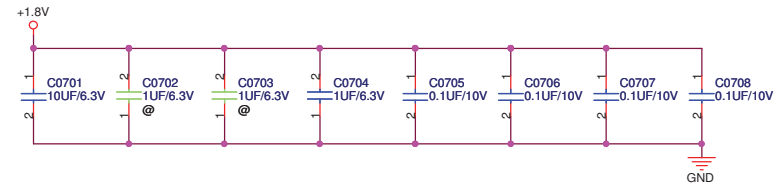
2

1

13 M\_A\_DQ[0..63] M A DQ[0..63]

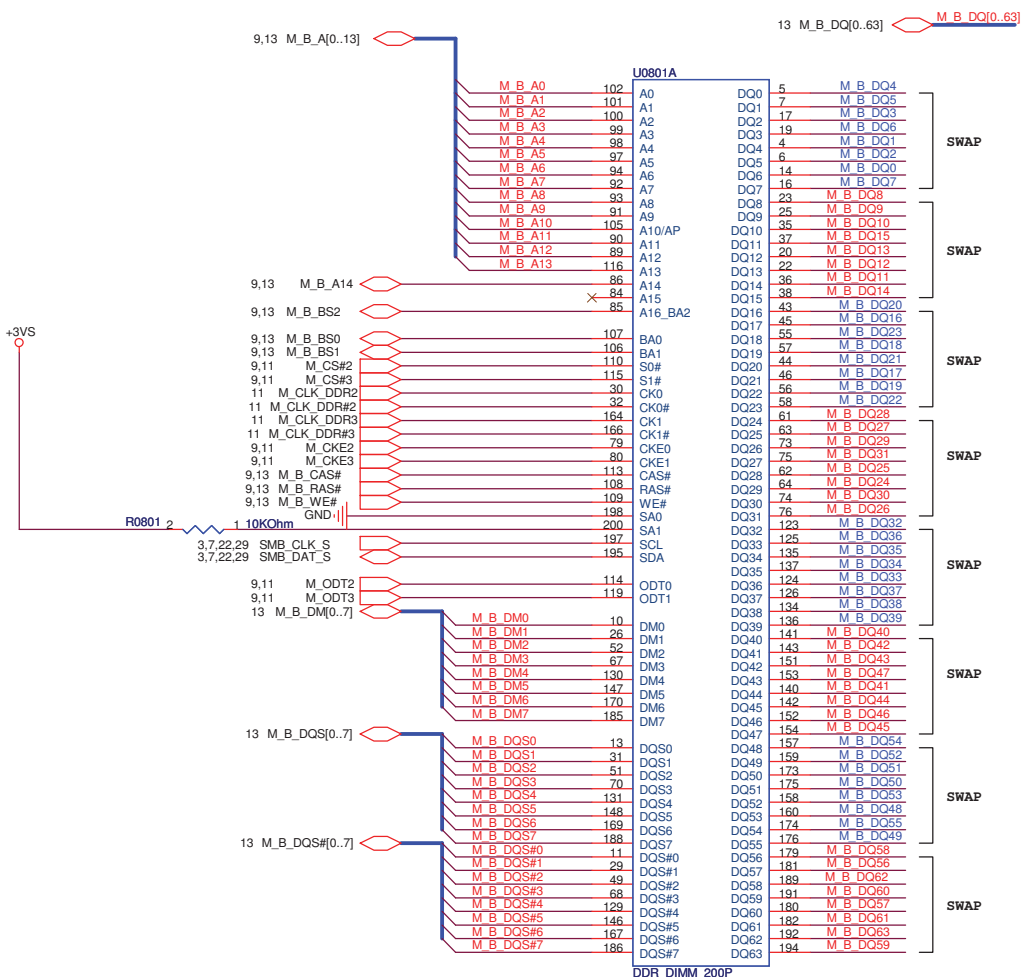


PN : 12G02512200Y (STD Type)

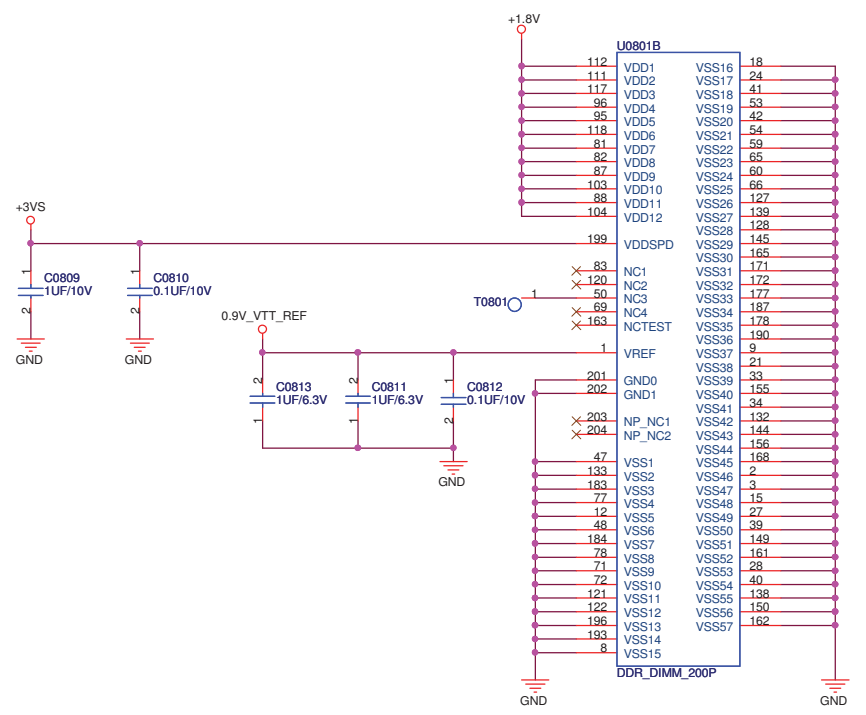
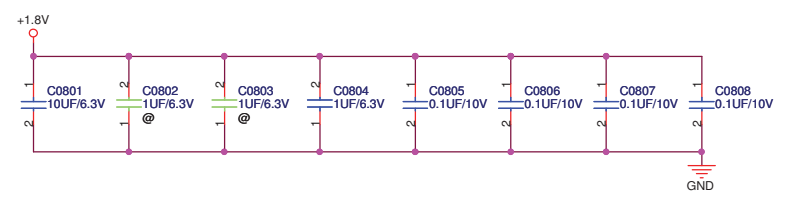


<Variant Name>

|                               |              |                            |                         |
|-------------------------------|--------------|----------------------------|-------------------------|
| <b>ASUS</b>                   |              | <b>R260 DIMM CHANNEL A</b> |                         |
| ASUSTeK COMPUTER INC          |              | Engineer: <b>Tony Su</b>   |                         |
| Size                          | Project Name | Rev                        | 1.0a                    |
| Custom                        | <b>UX50</b>  | Date:                      | Tuesday, March 31, 2009 |
| Date: Tuesday, March 31, 2009 |              | Sheet                      | 7 of 97                 |



PN: 12G02512200G (REV. Type)

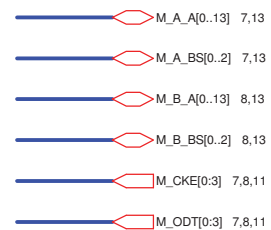


<http://laptop-motherboard-schematic.blogspot.com/>

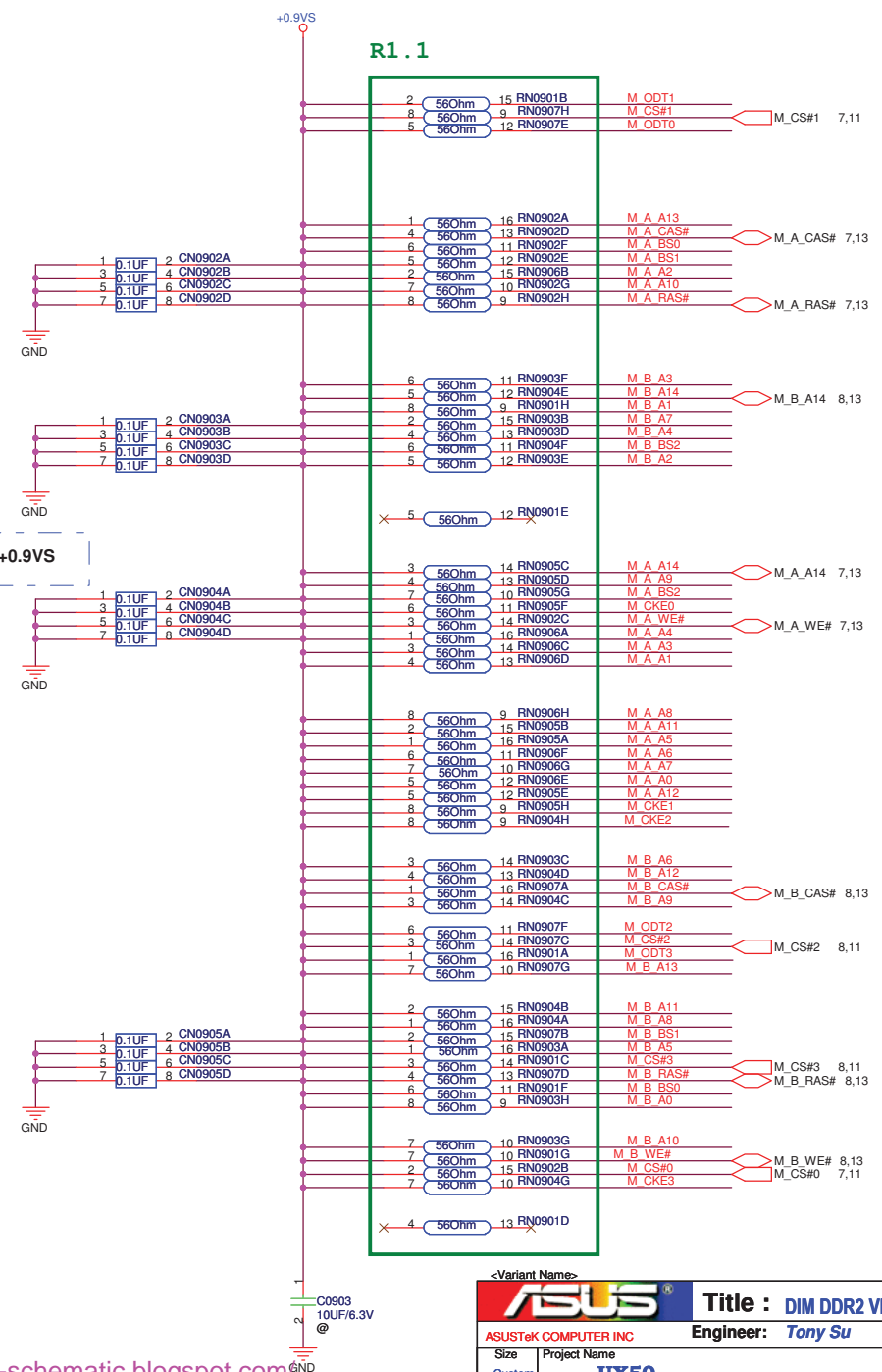
<Variant Name>

|                               |               |                              |          |
|-------------------------------|---------------|------------------------------|----------|
| <b>ASUS</b>                   |               | <b>Titles-DIMM CHANNEL B</b> |          |
| ASUSTek COMPUTER INC          |               | Engineer: Tony Su            |          |
| Size                          | Project Name  | Custom                       | Rev 1.0a |
|                               | <b>UX50</b>   |                              |          |
| Date: Tuesday, March 31, 2009 | Sheet 8 of 97 |                              |          |

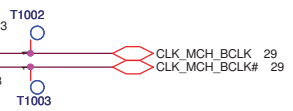
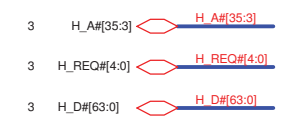
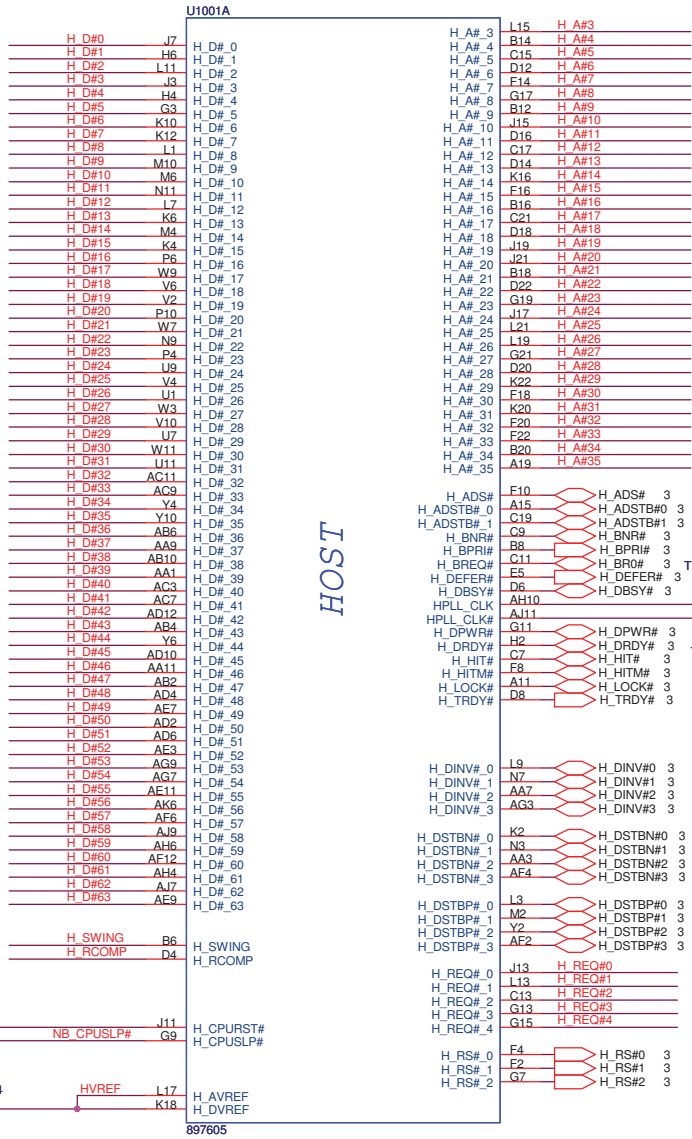
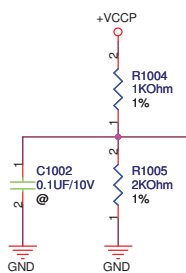
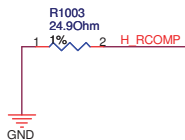
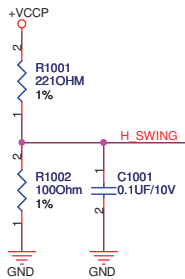




Layout note: Place array cap close to each pullup resistors terminated to +0.9VS

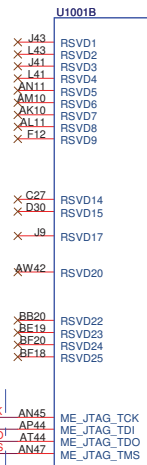
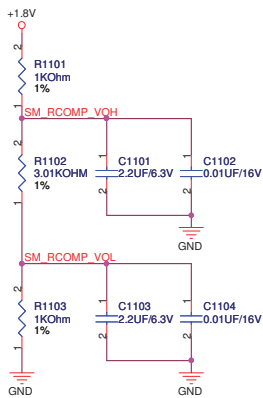


|                               |              |                       |       |
|-------------------------------|--------------|-----------------------|-------|
| ASUS                          |              | Title : DIM DDR2 VREF |       |
| ASUSTeK COMPUTER INC          |              | Engineer: Tony Su     |       |
| Size                          | Project Name | Rev                   |       |
| Custom                        | UX50         | 1.0a                  |       |
| Date: Tuesday, March 31, 2009 | Sheet        | 9                     | of 97 |

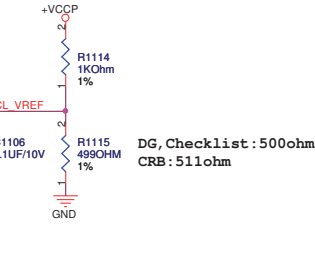
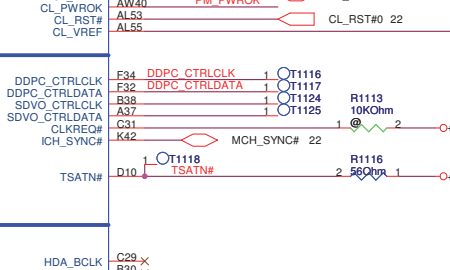
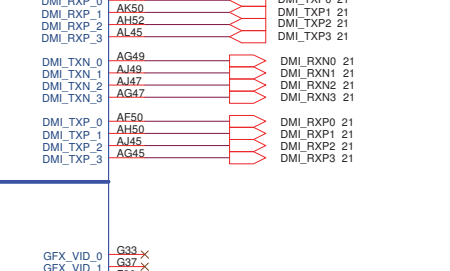
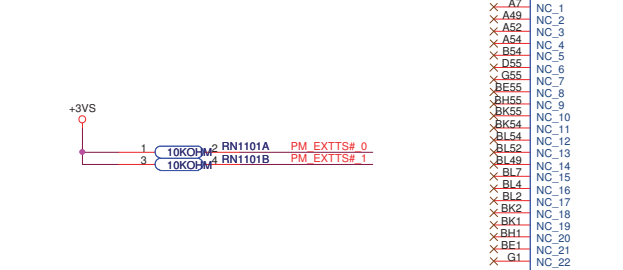
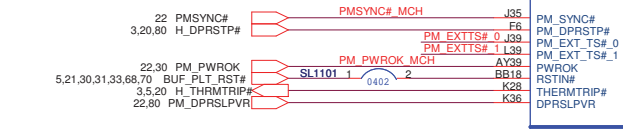
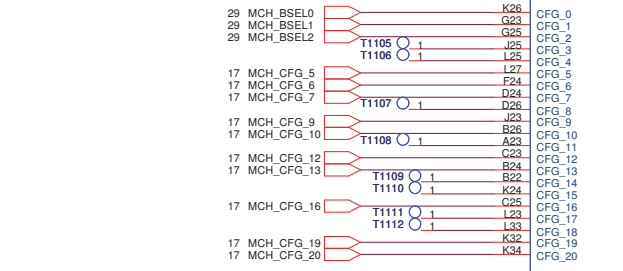
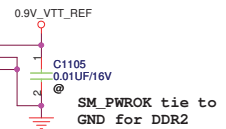
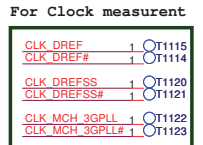
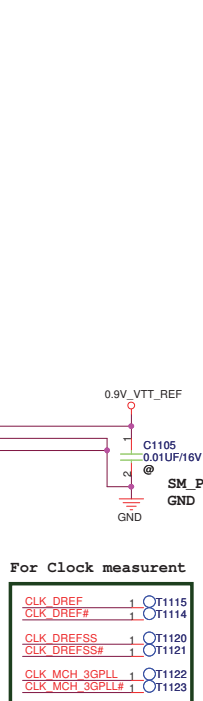
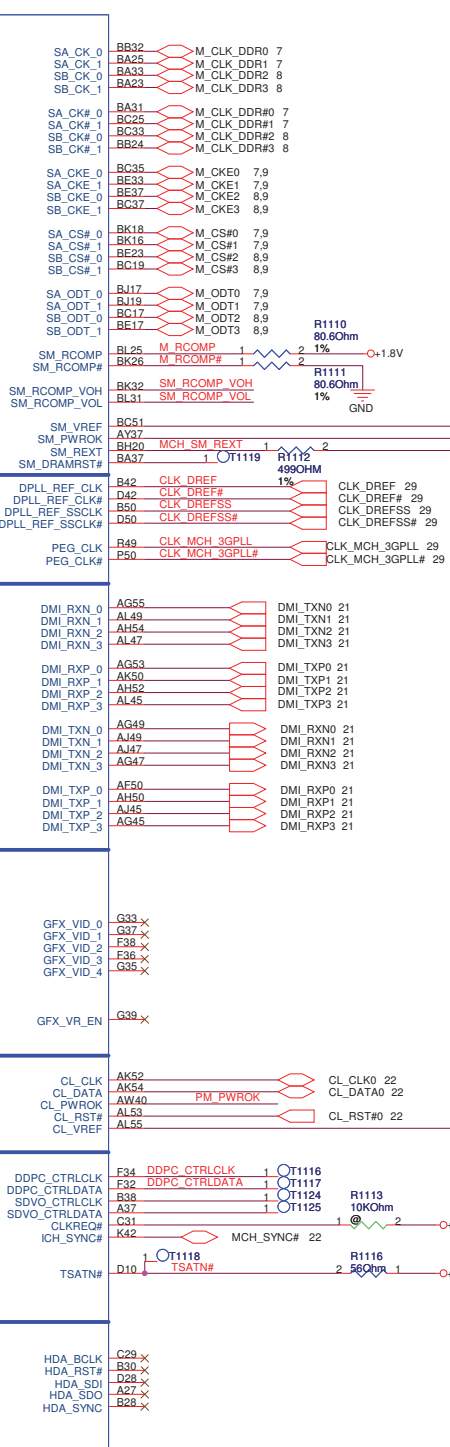


<Variant Name>

|                               |              |                            |       |
|-------------------------------|--------------|----------------------------|-------|
| <b>ASUS</b>                   |              | <b>Title :NB GS45 HOST</b> |       |
| ASUSTek COMPUTER INC          |              | Engineer: <b>Tony Su</b>   |       |
| Size                          | Project Name | Rev                        |       |
| Custom                        | <b>UX50</b>  | 1.0a                       |       |
| Date: Tuesday, March 31, 2009 | Sheet        | 10                         | of 97 |



RSV  
 CLK  
 DDR  
 CLK/  
 CONTROL/  
 COMPENSATION  
 DMI  
 GRAPHICS  
 VID  
 ME  
 MISC  
 HDA



<Variant Name>

**Title :NB GS45 DMI**

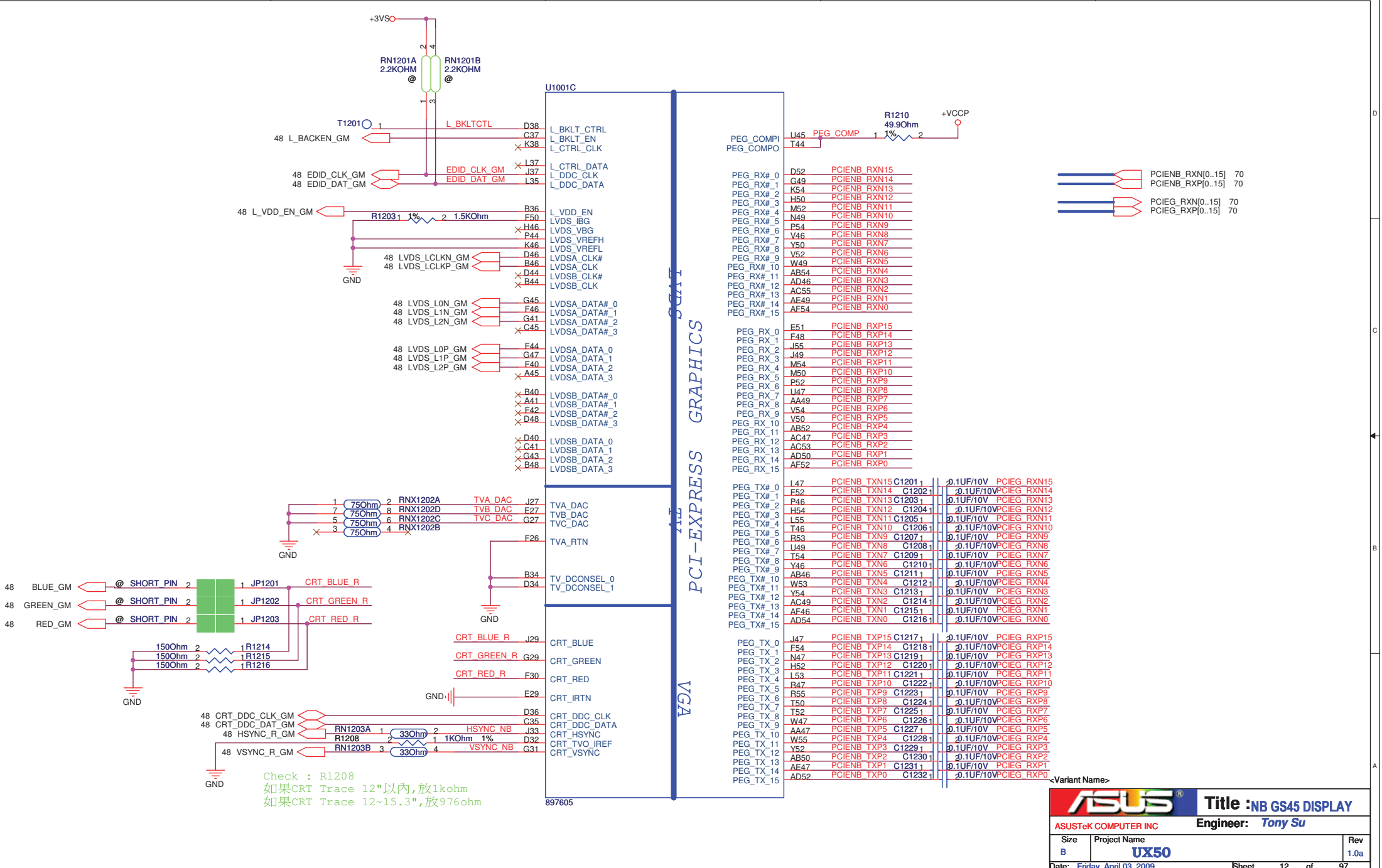
ASUSTek COMPUTER INC **Engineer: Tony Su**

|        |              |      |
|--------|--------------|------|
| Size   | Project Name | Rev  |
| Custom | <b>UX50</b>  | 1.0a |

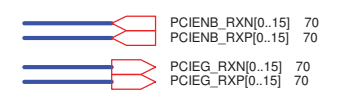
Date: Tuesday, March 31, 2009 Sheet 11 of 97

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897605



Check : R1208  
 如果CRT Trace 12"以内,放1kohm  
 如果CRT Trace 12~15.3",放976ohm



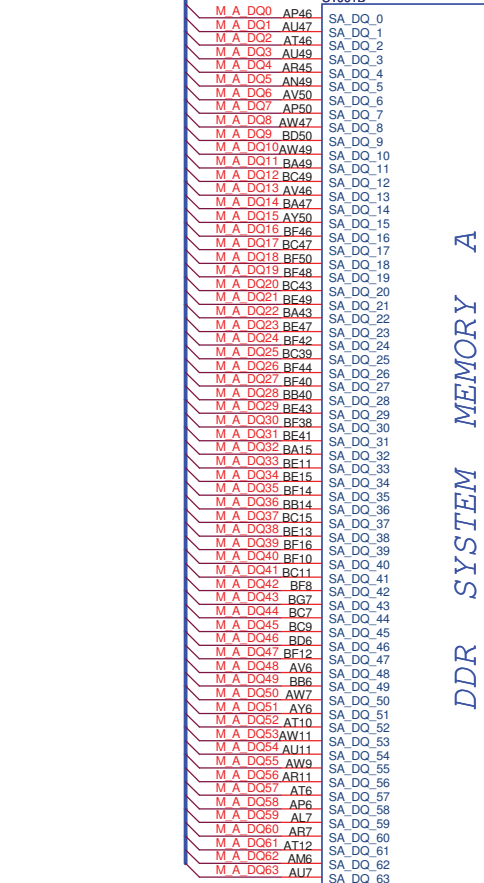
ASUS Title :NB GS45 DISPLAY

ASUSTeK COMPUTER INC Engineer: Tony Su

|      |              |      |
|------|--------------|------|
| Size | Project Name | Rev  |
| B    | UX50         | 1.0a |

Date: Friday, April 03, 2009 Sheet 12 of 97

7 M\_A\_DQ[0:63]

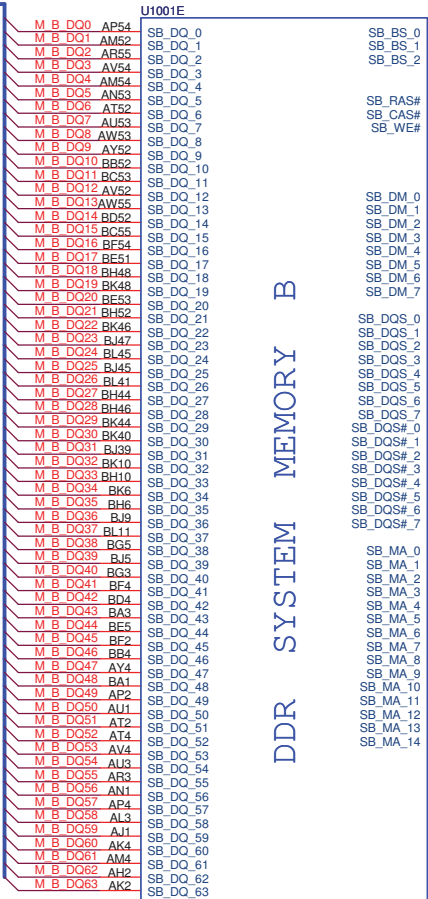


U1001D

DDR SYSTEM MEMORY A

897605

8 M\_B\_DQ[0:63]



U1001E

DDR SYSTEM MEMORY B

897605

SB\_DS\_0  
SB\_DS\_1  
SB\_DS\_2

SB\_RAS#  
SB\_CAS#  
SB\_WE#

SB\_DM\_0  
SB\_DM\_1  
SB\_DM\_2  
SB\_DM\_3  
SB\_DM\_4  
SB\_DM\_5  
SB\_DM\_6  
SB\_DM\_7

SB\_DQS\_0  
SB\_DQS\_1  
SB\_DQS\_2  
SB\_DQS\_3  
SB\_DQS\_4  
SB\_DQS\_5  
SB\_DQS\_6  
SB\_DQS\_7

SB\_MA\_0  
SB\_MA\_1  
SB\_MA\_2  
SB\_MA\_3  
SB\_MA\_4  
SB\_MA\_5  
SB\_MA\_6  
SB\_MA\_7  
SB\_MA\_8  
SB\_MA\_9  
SB\_MA\_10  
SB\_MA\_11  
SB\_MA\_12  
SB\_MA\_13  
SB\_MA\_14

BJ13  
BK12  
BK38

BE21  
BH14  
BK14

AP52  
AY54  
BJ49  
BJ43  
BH12  
BD2  
AY2  
AJ3

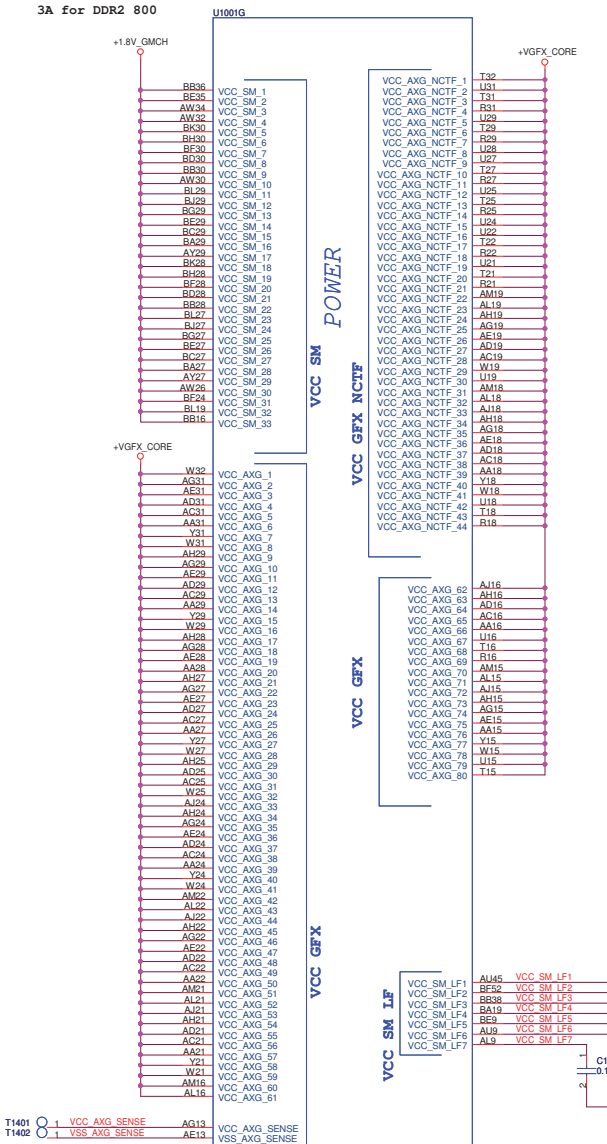
AR53  
BA53  
BH50  
BK42  
BH8  
B2  
AV2  
AM2  
AT54  
BB54  
BJ51  
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BK3  
BC3  
AW3  
AN3

BJ15  
BJ33  
BH24  
RA17  
BF36  
BH36  
BF34  
BK34  
BJ37  
BH40  
BH16  
BK36  
BH38  
BJ11  
BL37

<Variant Name>

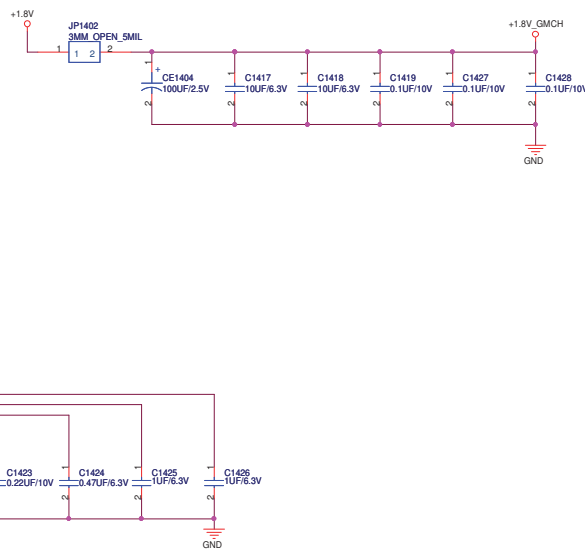
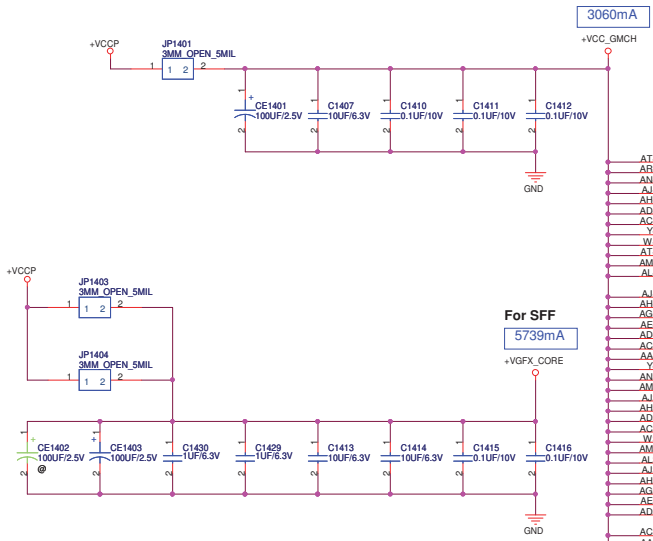
|                               |              |                                |       |
|-------------------------------|--------------|--------------------------------|-------|
| <b>ASUS</b>                   |              | <b>Title :NB GS45 DDR3 BUS</b> |       |
| ASUSTeK COMPUTER INC          |              | Engineer: Tony Su              |       |
| Size                          | Project Name | Rev                            |       |
| Custom                        | <b>UX50</b>  | 1.0a                           |       |
| Date: Tuesday, March 31, 2009 | Sheet        | 13                             | of 97 |

2.6A for DDR2 667  
3A for DDR2 800



T1401 1 VCC\_AXG\_SENSE AG13 VCC\_AXG\_SENSE  
T1402 1 VSS\_AXG\_SENSE AE13 VSS\_AXG\_SENSE

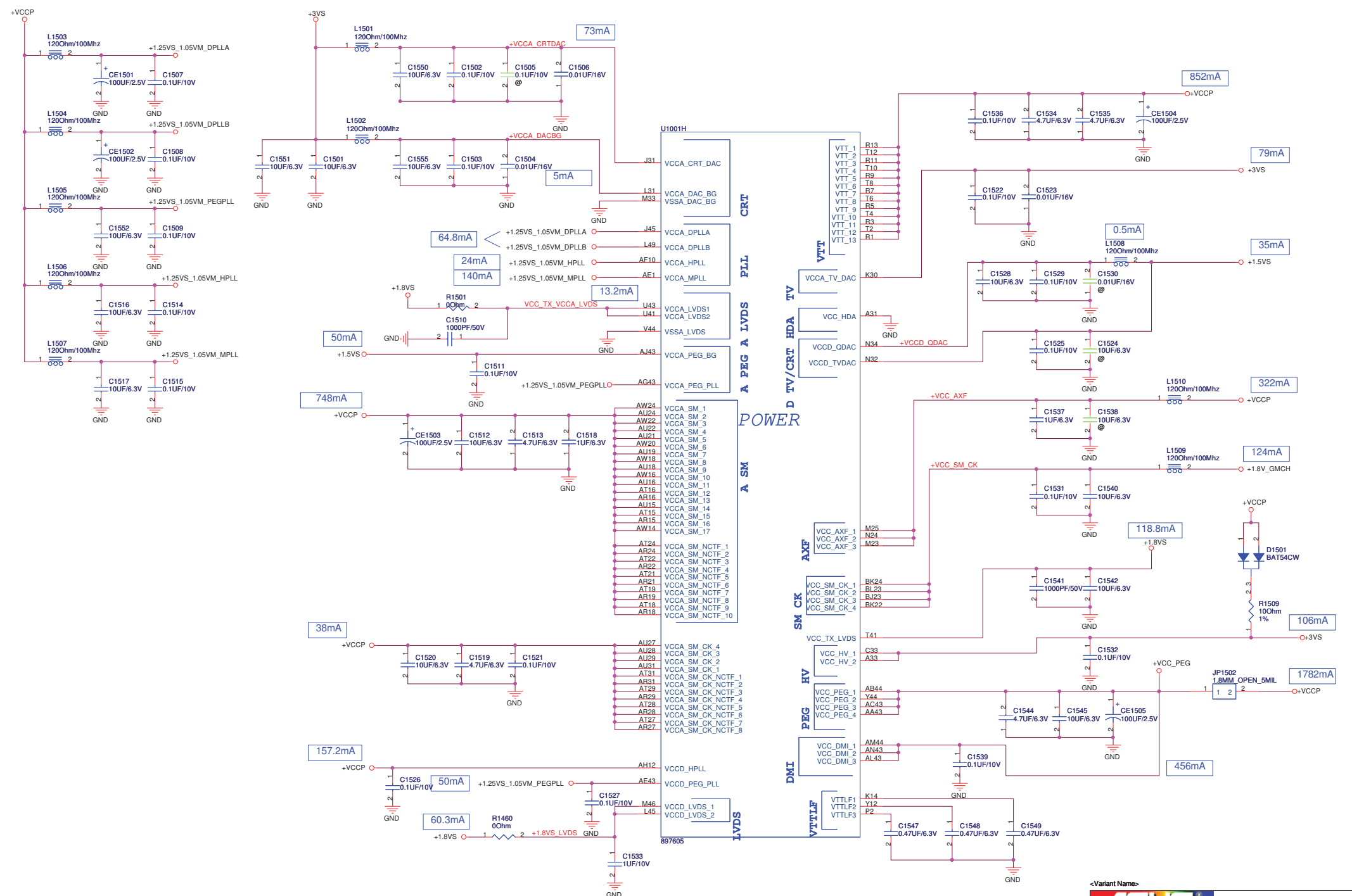
Route VCC\_AXG\_SENSE and VSS\_AXG\_SENSE differentially.



T1401 1 VCC\_AXG\_SENSE AG13 VCC\_AXG\_SENSE  
T1402 1 VSS\_AXG\_SENSE AE13 VSS\_AXG\_SENSE

ASUS  
ASUSTeK COMPUTER INC  
Project Name: **UX50**  
Date: Tuesday, March 31, 2009  
Sheet 14 of 97

Title: **NB GS45 POWER**  
Engineer: **Tony Su**  
Rev: 1.0a



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<Variant Name>

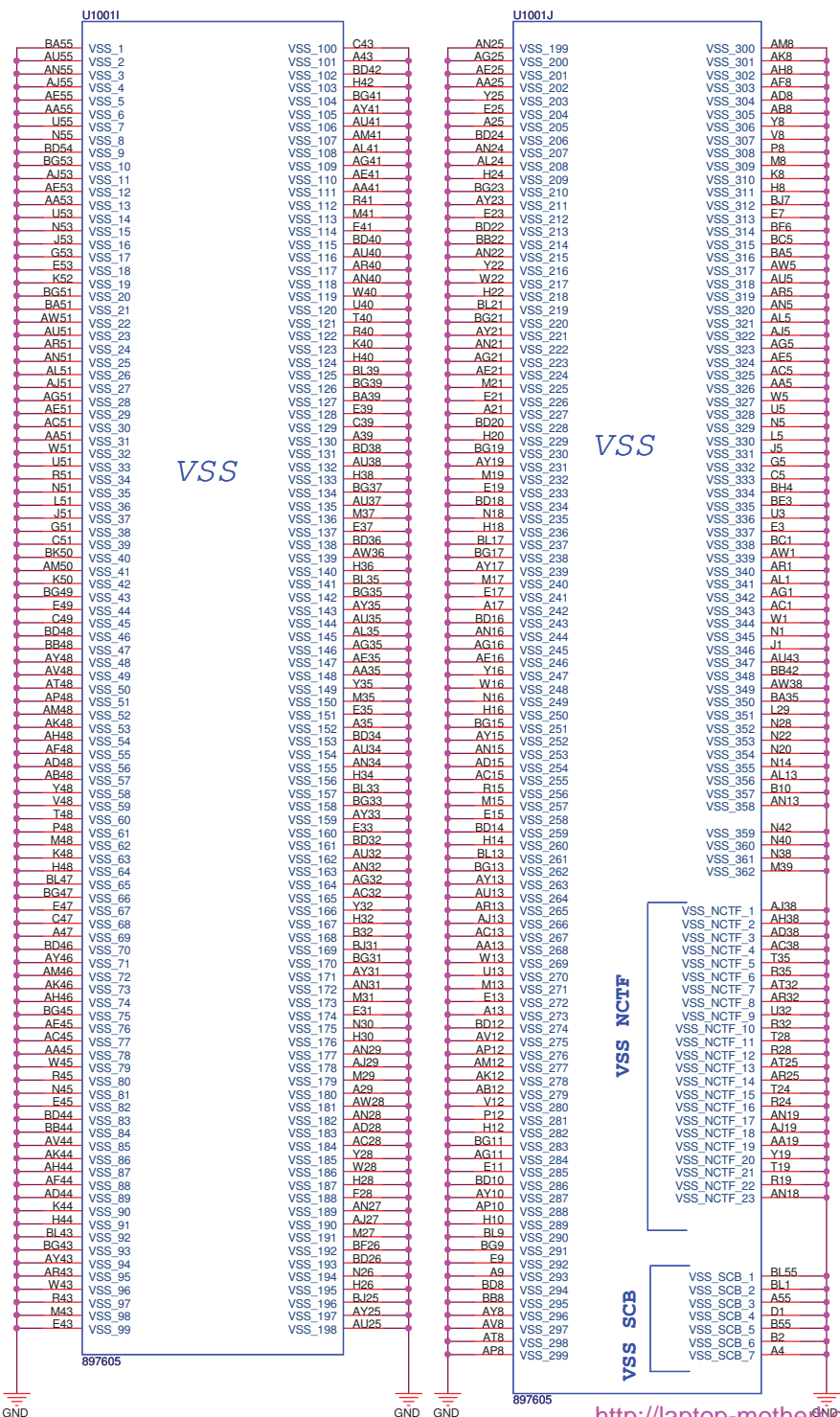
**Title : NB GS45 POWER**

ASUSTeK COMPUTER INC **Engineer: Tony Su**

Size: Custom **Project Name: UX50**

Date: Tuesday, March 31, 2009 **Sheet 15 of 97**

Rev 1.0a



<Variant Name>

|                               |                             |                           |             |
|-------------------------------|-----------------------------|---------------------------|-------------|
| <b>ASUS</b>                   |                             | <b>Title :NB GS45 GND</b> |             |
| ASUSTeK COMPUTER INC          |                             | Engineer: <b>Tony Su</b>  |             |
| Size<br>Custom                | Project Name<br><b>UX50</b> |                           | Rev<br>1.0a |
| Date: Tuesday, March 31, 2009 | Sheet                       | 16 of                     | 97          |

<http://laptop-motherboard-schematic.blogspot.com/>





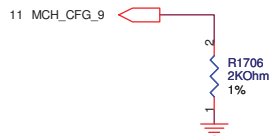
**CFG5 : DMI STRAP**  
**H = DMI X 4 (Default)**  
**L = DMI X 2**



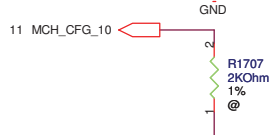
**CFG6 : ITPM Host Interface**  
**(Relate to SPL\_MOSI)**  
**H = ITPM Disable (Default)**  
**L = ITPM enable(Can disable by SW)**



**CFG7 : Intel ME Crypto Strap**  
**H = With confidentiality (Default)**  
**L = Without confidentiality**



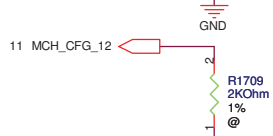
**CFG9 : PCIE Graphic Lane Reverse**  
**H = Normal (Default)**  
**L = Lanes Reverse**



**CFG10 : PCIE Loopback**  
**H = Disable (Default)**  
**L = Enable**



**CFG16 : FSB Dynamic ODT**  
**H =Enable (Default)**  
**L = Disable**

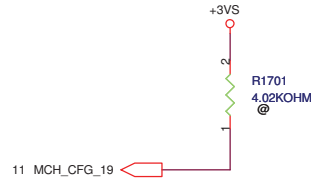


**CFG12 : ALL-Z Mode**  
**H =Disable (Default)**  
**L = Enable**

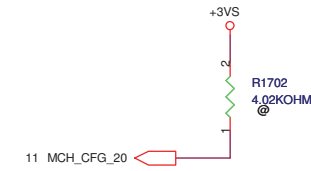


**CFG13 : XOR Mode**  
**H = Disable (Default)**  
**L = Enable**

**CFG [13:12] : XOR/ALL-Z**  
 00 = Reserved  
 01= XOR Mode Enabled  
 10= All-Z Mode Enabled  
**11= Normal Operation (Default)**



**CFG19 : DMI Lane Reversal**  
**H =DMI Lane Reversal**  
**L = Normal (Default)**




**CFG20 : SDVO/PCIE CONCURRENT MODE**  
**L = Only Digital display port or PCIE is Operational (Default)**  
**H = Digital display port and PCIE are operating simultaneously via the PEG port**

<Variant Name>

|                              |                             |                                 |  |
|------------------------------|-----------------------------|---------------------------------|--|
| <b>ASUS</b>                  |                             | <b>Title :NB GS45 STRAPPING</b> |  |
| ASUSTeK COMPUTER INC         |                             | Engineer: <i>Tony Su</i>        |  |
| Size<br>Custom               | Project Name<br><b>UX50</b> | Rev<br>1.0a                     |  |
| Date: Monday, April 06, 2009 | Sheet 17 of 97              |                                 |  |

<http://laptop-motherboard-schematic.blogspot.com/>

-Variant Name>

|   |                             |                                 |
|---|-----------------------------|---------------------------------|
|  |                             | <b>Title :</b>                  |
| ASUSTeK COMPUTER INC  |                             | <b>Engineer:</b> <i>Tony Su</i> |
| Size<br>C   | Project Name<br><b>UX50</b> | Rev<br>1.0a                     |
| Date: <i>Tuesday, March 31, 2009</i>  |                             | Sheet <b>18</b> of <b>97</b>    |

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D

D

C

C


B

B

A

A

<Variant Name>

|   |              |                                 |
|---|--------------|---------------------------------|
|  |              | <b>Title :</b>                  |
| ASUSTeK COMPUTER INC  |              | <b>Engineer:</b> <i>Tony Su</i> |
| Size  | Project Name | Rev                             |
| A   | <b>UX50</b>  | 1.0a                            |
| Date: <b>Tuesday, March 31, 2009</b>  |              | Sheet <b>19</b> of <b>97</b>    |

<http://laptop-motherboard-schematic.blogspot.com/>

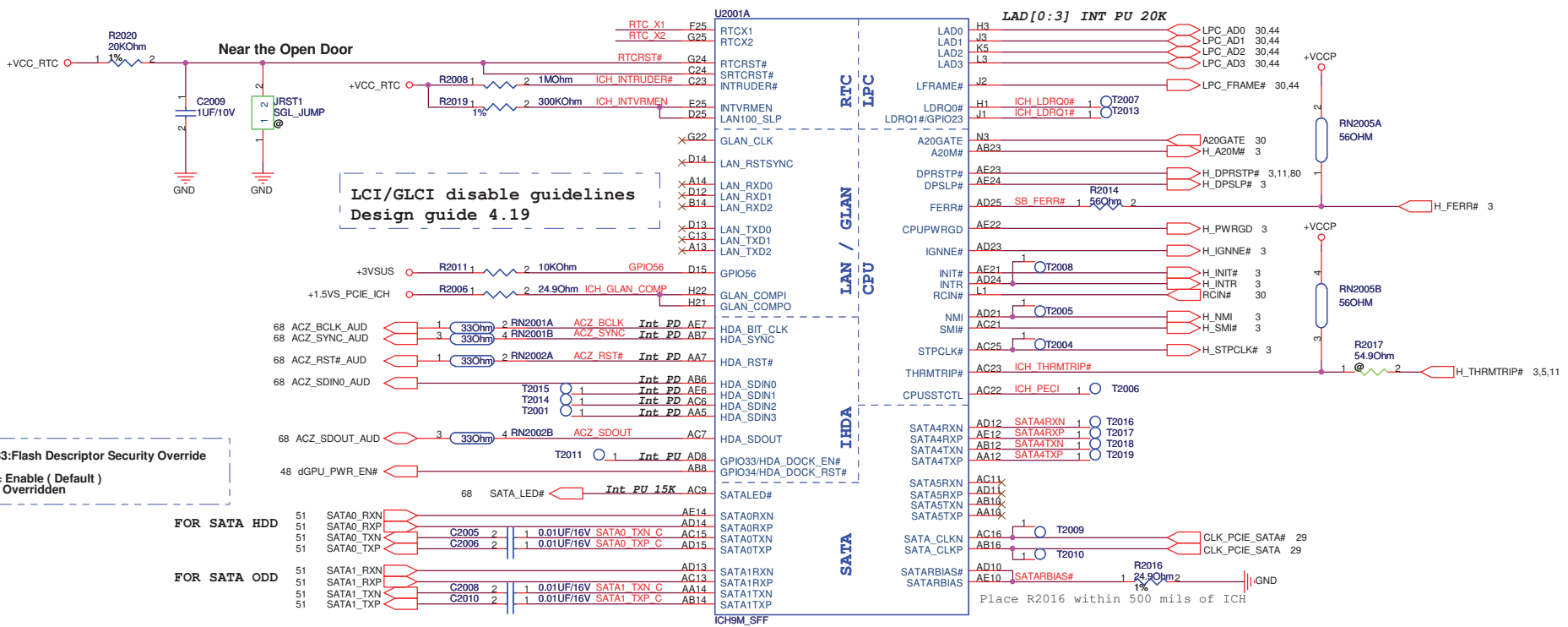
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4

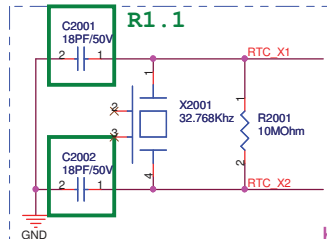
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2

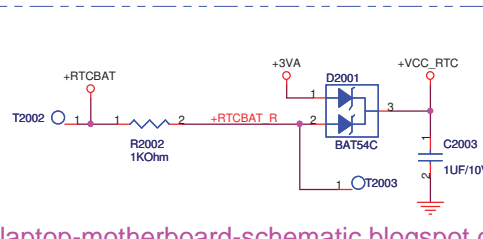
1



### Xtal



### RTC



<http://laptop-motherboard-schematic.blogspot.com/>

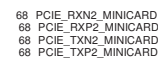
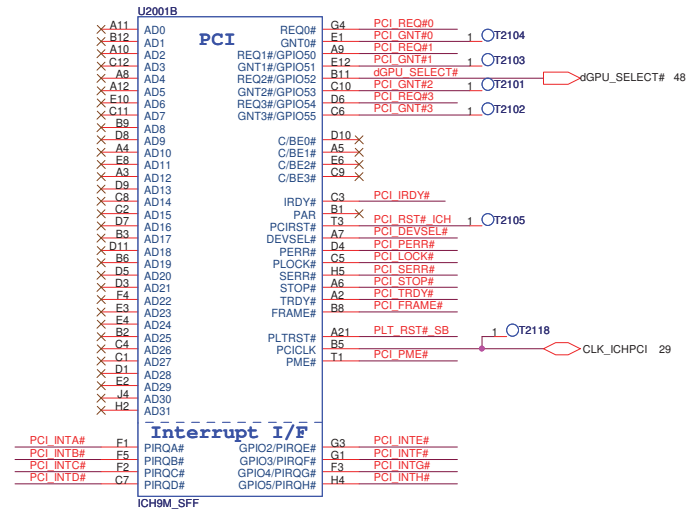
[ICH\_TP3, ACZ\_SDOUT] : XOR Chain Entrance Strap

- 00 = Reserved
- 01 = Enter XOR Chain
- 10 = Normal Operation (Default)
- 11 = Set PCIe Port Config Bit 1

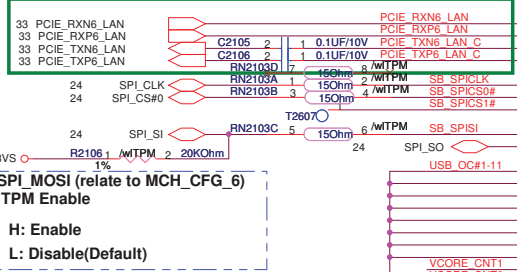
<Variant Name>

|                               |                             |                         |
|-------------------------------|-----------------------------|-------------------------|
| <b>ASUS</b>                   |                             | <b>Title : SB ICH9M</b> |
| ASUSTeK COMPUTER INC          |                             | Engineer: Tony Su       |
| Size<br>Custom                | Project Name<br><b>UX50</b> | Rev<br>1.0a             |
| Date: Tuesday, March 31, 2009 | Sheet                       | 20 of 97                |

|        |         |
|--------|---------|
| PCIE 1 |         |
| PCIE 2 | WLAN    |
| PCIE 3 | Newcard |
| PCIE 4 | GLAN    |



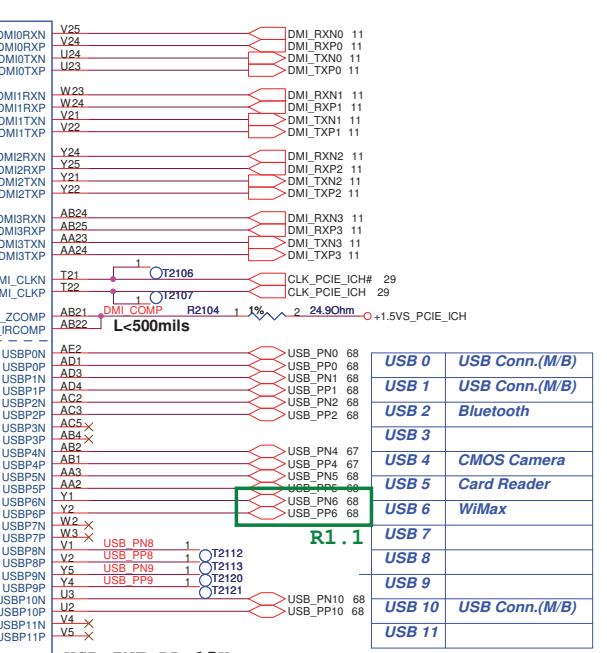
R1.1



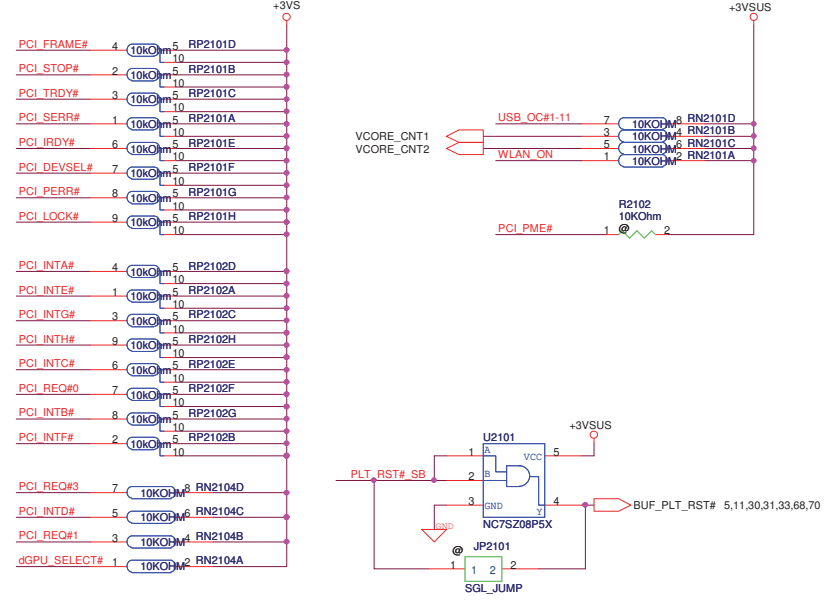
PCI-Express

PCI-Express Media Interface

USB



|        |                |
|--------|----------------|
| USB 0  | USB Conn.(M/B) |
| USB 1  | USB Conn.(M/B) |
| USB 2  | Bluetooth      |
| USB 3  |                |
| USB 4  | CMOS Camera    |
| USB 5  | Card Reader    |
| USB 6  | WiMax          |
| USB 7  |                |
| USB 8  |                |
| USB 9  |                |
| USB 10 | USB Conn.(M/B) |
| USB 11 |                |



SR Check可否Short過去?



ICH9 Boot BIOS select

|     | GNT#0 | SPICS#1 |             |
|-----|-------|---------|-------------|
| LPC | 11    | 1       | 1 (default) |
| PCI | 10    | 1       | 0           |
| SPI | 01    | 0       | 1           |

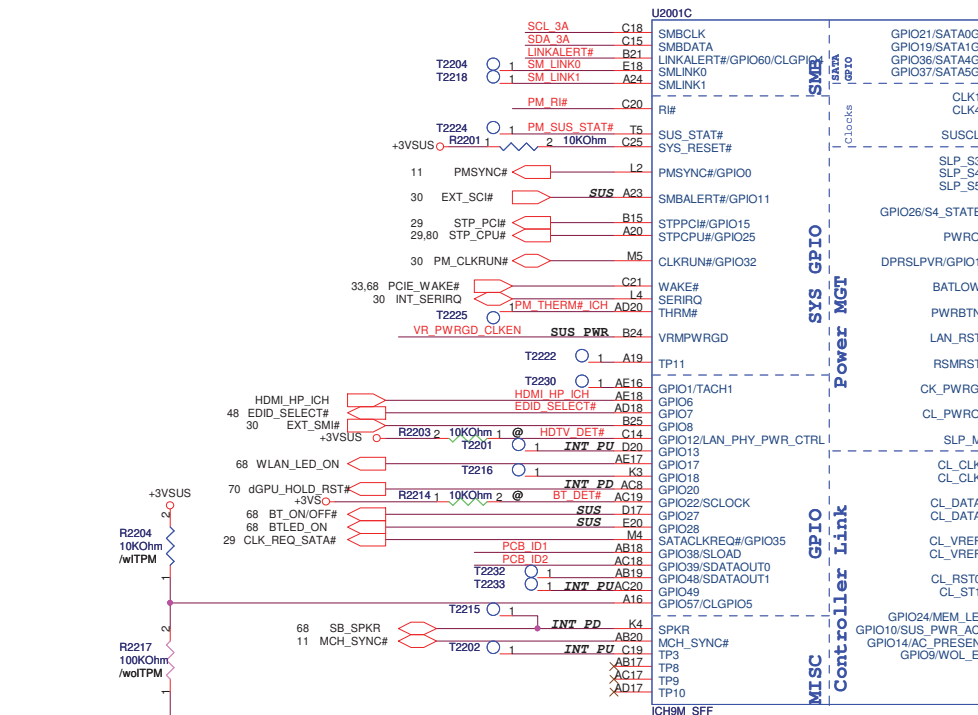
<Variant Name>

Title : SB ICH9M(2)

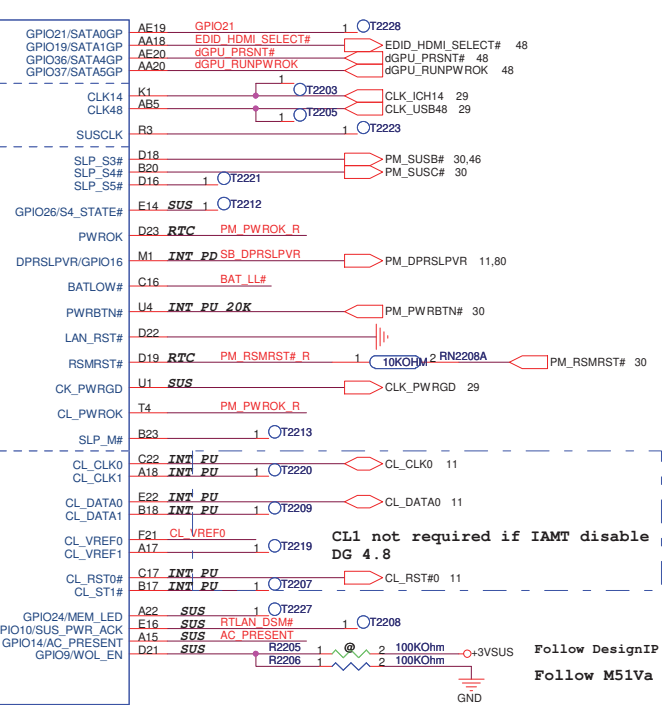
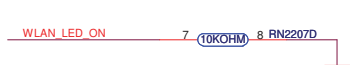
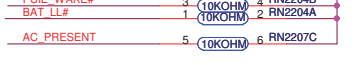
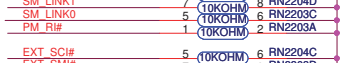
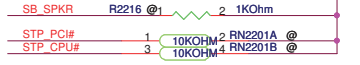
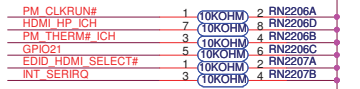
ASUSTek COMPUTER INC Engineer: Tony Su

|        |              |      |
|--------|--------------|------|
| Size   | Project Name | Rev  |
| Custom | UX50         | 1.0a |

Date: Tuesday, March 31, 2009 Sheet 21 of 97



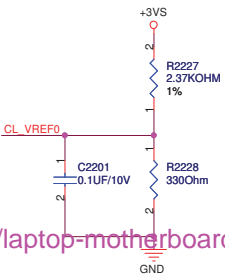
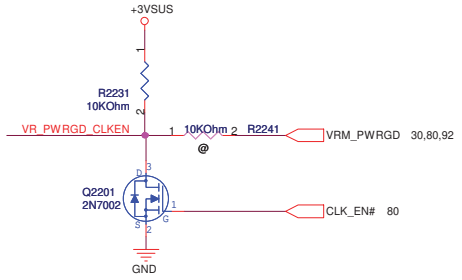
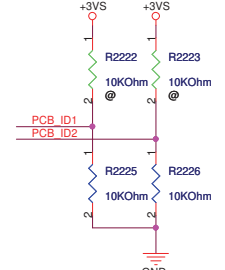
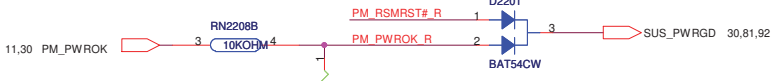
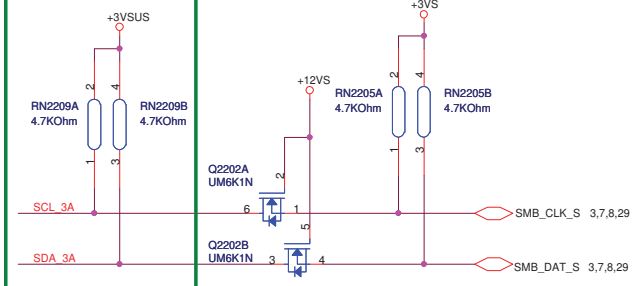
SATA[X]GP unused need PU 10K to +3VS (DG 4.2.6)



Follow Design IP  
Follow M51Va

SPKR  
No Reboot Strap  
Low = Default  
High = No Reboot

R1.1

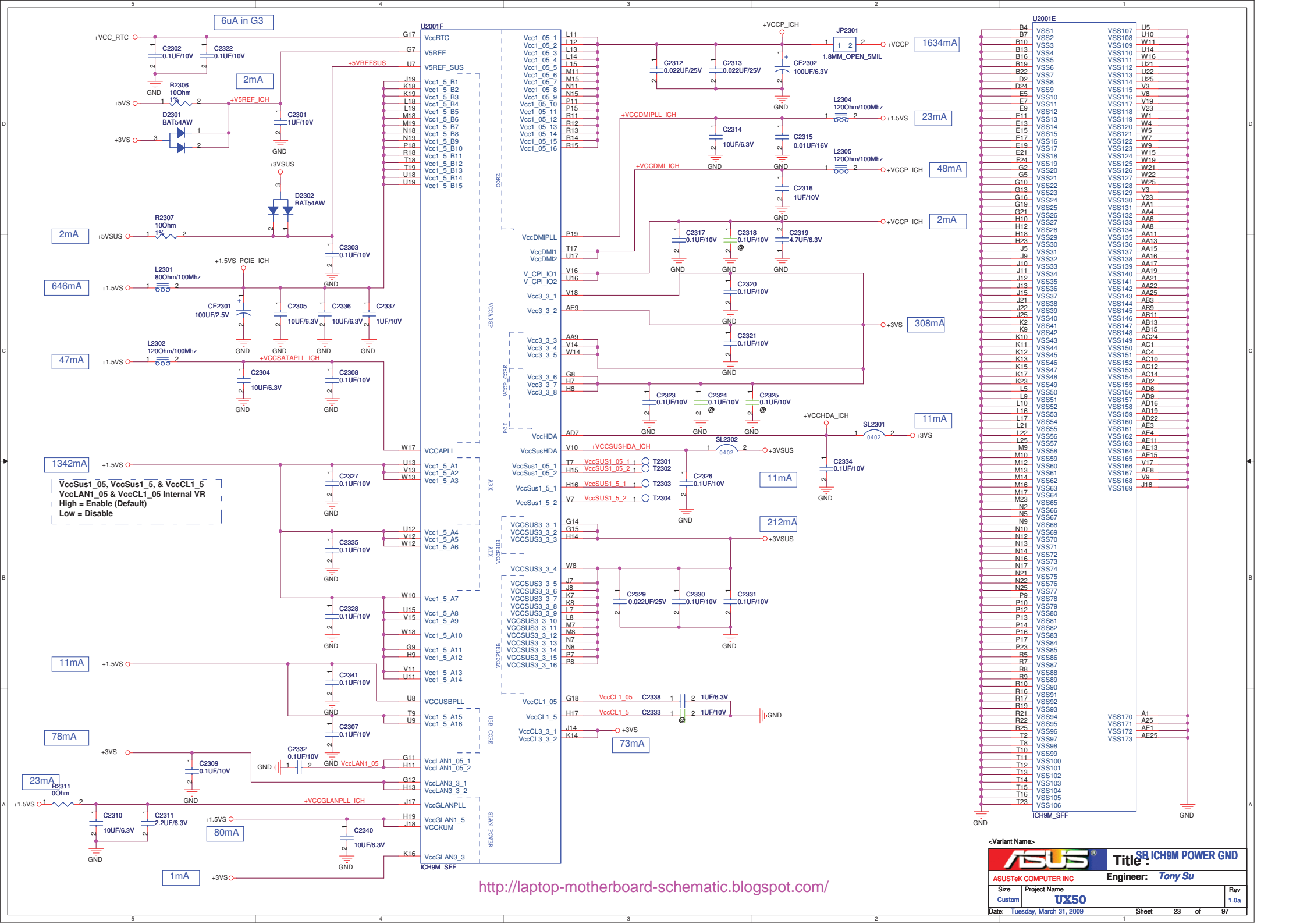


| PCB ID | GPIO38 | GPIO39 |
|--------|--------|--------|
| MBR1.0 | 0      | 0      |
| MBR1.1 | 0      | 1      |
| MBR2.0 | 1      | 0      |

CL\_VREF0 routing rules  
Width = 12 mils min  
Specified in U2001C M51Va  
Break-out = 5 mils on 5 mils for 300 mils max

<http://laptop-motherboard.schematics4u.com/>

<Variant Name>  
**Title:** SB ICH9M GPIO PMGT  
**ASUSTek COMPUTER INC**  
**Engineer:** Tony Su  
 Size: Custom  
 Project Name: UX50  
 Date: Monday, April 06, 2009  
 Sheet: 22 of 97  
 Rev: 1.0a



6uA in G3

2mA

2mA

646mA

47mA

1342mA

11mA

78mA

23mA

80mA

1mA

U2001F  
VccRTC  
V5REF  
V5REF\_SUS  
Vcc1\_5\_B1  
Vcc1\_5\_B2  
Vcc1\_5\_B3  
Vcc1\_5\_B4  
Vcc1\_5\_B5  
Vcc1\_5\_B6  
Vcc1\_5\_B7  
Vcc1\_5\_B8  
Vcc1\_5\_B9  
Vcc1\_5\_B10  
Vcc1\_5\_B11  
Vcc1\_5\_B12  
Vcc1\_5\_B13  
Vcc1\_5\_B14  
Vcc1\_5\_B15

Vcc1\_05\_1  
Vcc1\_05\_2  
Vcc1\_05\_3  
Vcc1\_05\_4  
Vcc1\_05\_5  
Vcc1\_05\_6  
Vcc1\_05\_7  
Vcc1\_05\_9  
Vcc1\_05\_10  
Vcc1\_05\_11  
Vcc1\_05\_12  
Vcc1\_05\_13  
Vcc1\_05\_14  
Vcc1\_05\_15  
Vcc1\_05\_16

VccDMIPLL  
VccDMI1  
VccDMI2  
V\_CPL\_I01  
V\_CPL\_I02  
Vcc3\_3\_1  
Vcc3\_3\_2

Vcc3\_3\_3  
Vcc3\_3\_4  
Vcc3\_3\_5  
Vcc3\_3\_6  
Vcc3\_3\_7  
Vcc3\_3\_8

VccHDA  
VccSusHDA  
VccSus1\_05\_1  
VccSus1\_05\_2  
VccSus1\_5\_1  
VccSus1\_5\_2

VCCSUS3\_3\_1  
VCCSUS3\_3\_2  
VCCSUS3\_3\_3  
VCCSUS3\_3\_4  
VCCSUS3\_3\_5  
VCCSUS3\_3\_6  
VCCSUS3\_3\_7  
VCCSUS3\_3\_8  
VCCSUS3\_3\_9  
VCCSUS3\_3\_10  
VCCSUS3\_3\_11  
VCCSUS3\_3\_12  
VCCSUS3\_3\_13  
VCCSUS3\_3\_14  
VCCSUS3\_3\_15  
VCCSUS3\_3\_16

VccCL1\_05  
VccCL1\_5  
VccCL3\_3\_1  
VccCL3\_3\_2

VccLAN1\_05\_1  
VccLAN1\_05\_2  
VccLAN3\_3\_1  
VccLAN3\_3\_2  
VccGLANPLL  
VccGLAN1\_5  
VccCKUM  
VccGLAN3\_3  
ICH9M\_SFF

L11  
L12  
L13  
L14  
L15  
M11  
M15  
N11  
N15  
P11  
P15  
R11  
R12  
R13  
R14  
R15

P19  
T17  
U17  
V16  
U16  
V18  
V18  
AE9  
Vcc3\_3\_1  
Vcc3\_3\_2

AA9  
V14  
W14  
Vcc3\_3\_6  
Vcc3\_3\_7  
Vcc3\_3\_8  
G8  
H7  
H8

AD7  
V10  
V10  
T7  
T2301  
H15  
T302  
H16  
T303  
V7  
T304

G14  
G15  
H14  
W8  
J7  
J8  
J8  
K7  
L7  
L7  
L8  
M7  
M8  
N7  
N8  
P7  
P8

G18  
H17  
J14  
K14

VccCL1\_05  
VccCL1\_5  
VccCL3\_3\_1  
VccCL3\_3\_2

+VCCP\_ICH

+VCCDMIPLL\_ICH

+VCCDMI\_ICH

+VCCSUS\_HDA\_ICH

+VCCSUS\_HDA\_ICH

+VCCSUS\_HDA\_ICH

+VCCSUS\_HDA\_ICH

+VCCSUS\_HDA\_ICH

+VCCSUS\_HDA\_ICH

+VCCSUS\_HDA\_ICH

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+VCCSUS\_HDA\_ICH

+VCCSUS\_HDA\_ICH

+VCCSUS\_HDA\_ICH

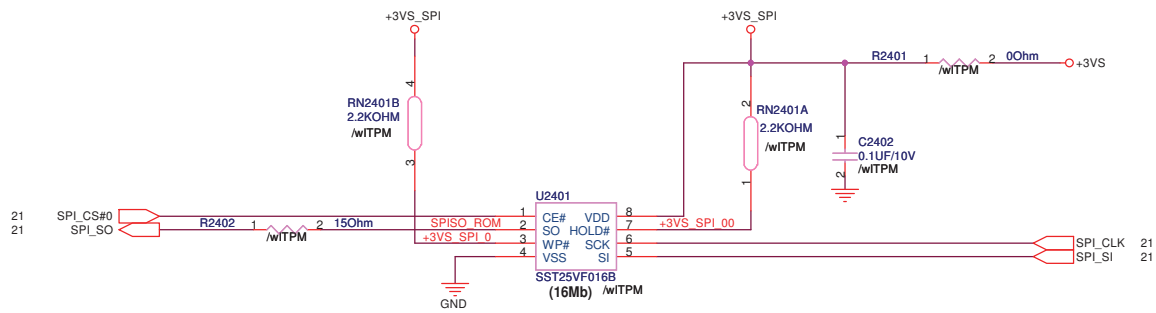
+VCCSUS\_HDA\_ICH

+VCCSUS\_HDA\_ICH

U2001E  
B4  
B7  
VSS1  
VSS2  
B10  
VSS3  
VSS109  
VSS4  
B16  
VSS5  
VSS110  
VSS11  
VSS12  
U21  
VSS13  
D2  
VSS8  
VSS114  
VSS9  
D24  
VSS9  
E5  
VSS10  
E7  
VSS11  
E9  
VSS12  
E11  
VSS13  
E13  
VSS14  
E15  
VSS15  
E17  
VSS16  
E19  
VSS17  
E21  
VSS18  
F24  
VSS19  
G2  
VSS20  
G10  
VSS21  
VSS22  
G13  
VSS23  
G16  
VSS24  
G19  
VSS25  
Q21  
VSS26  
H10  
VSS27  
H12  
VSS28  
H18  
VSS29  
H23  
VSS30  
J5  
VSS31  
J9  
VSS32  
J10  
VSS33  
J11  
VSS34  
J12  
VSS35  
J15  
VSS36  
J15  
VSS37  
J21  
VSS38  
J22  
VSS39  
J25  
VSS40  
K9  
VSS41  
K9  
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K10  
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VSS57  
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VSS58  
M10  
VSS59  
M12  
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M13  
VSS61  
M14  
VSS62  
M16  
VSS63  
M17  
VSS64  
N2  
VSS65  
N5  
VSS66  
VSS67  
N9  
VSS68  
N10  
VSS69  
N12  
VSS70  
N13  
VSS71  
N14  
VSS72  
N16  
VSS73  
N17  
VSS74  
N21  
VSS75  
N22  
VSS76  
N25  
VSS77  
P9  
VSS78  
P10  
VSS79  
P12  
VSS80  
P14  
VSS81  
P15  
VSS82  
P16  
VSS83  
P17  
VSS84  
P23  
VSS85  
R5  
VSS86  
R7  
VSS87  
R8  
VSS88  
R9  
VSS89  
R10  
VSS90  
R16  
VSS91  
R17  
VSS92  
R19  
VSS93  
R21  
VSS94  
R22  
VSS95  
R25  
VSS96  
T2  
VSS97  
T8  
VSS98  
T10  
VSS99  
T11  
VSS100  
T12  
VSS101  
T13  
VSS102  
T14  
VSS103  
T15  
VSS104  
T18  
VSS105  
VSS106

ASUS logo, Title: SB ICH9M POWER GND, Engineer: Tony Su, Date: Tuesday, March 31, 2009, Sheet 23 of 97

http://laptop-motherboard-schematic.blogspot.com/



FOR iTPM

<http://laptop-motherboard-schematic.blogspot.com/>

<Variant Name>

|                               |              |                                    |       |
|-------------------------------|--------------|------------------------------------|-------|
| <b>ASUS</b>                   |              | <b>SB ICH9M SPI ROM &amp; HDPC</b> |       |
| ASUSTeK COMPUTER INC          |              | Engineer: <i>Tony Su</i>           |       |
| Size                          | Project Name | Rev                                |       |
| Custom                        | <b>UX50</b>  | 1.0a                               |       |
| Date: Tuesday, March 31, 2009 | Sheet        | 24                                 | of 97 |



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D

C

C


B

B

A

A

<Variant Name>

|   |                             |                                 |
|---|-----------------------------|---------------------------------|
|  |                             | <b>Title :</b>                  |
| ASUSTeK COMPUTER INC  |                             | <b>Engineer:</b> <i>Tony Su</i> |
| Size<br>A   | Project Name<br><b>UX50</b> | Rev<br>1.0a                     |
| Date: <b>Tuesday, March 31, 2009</b>  |                             | Sheet <b>25</b> of <b>97</b>    |

<http://laptop-motherboard-schematic.blogspot.com/>

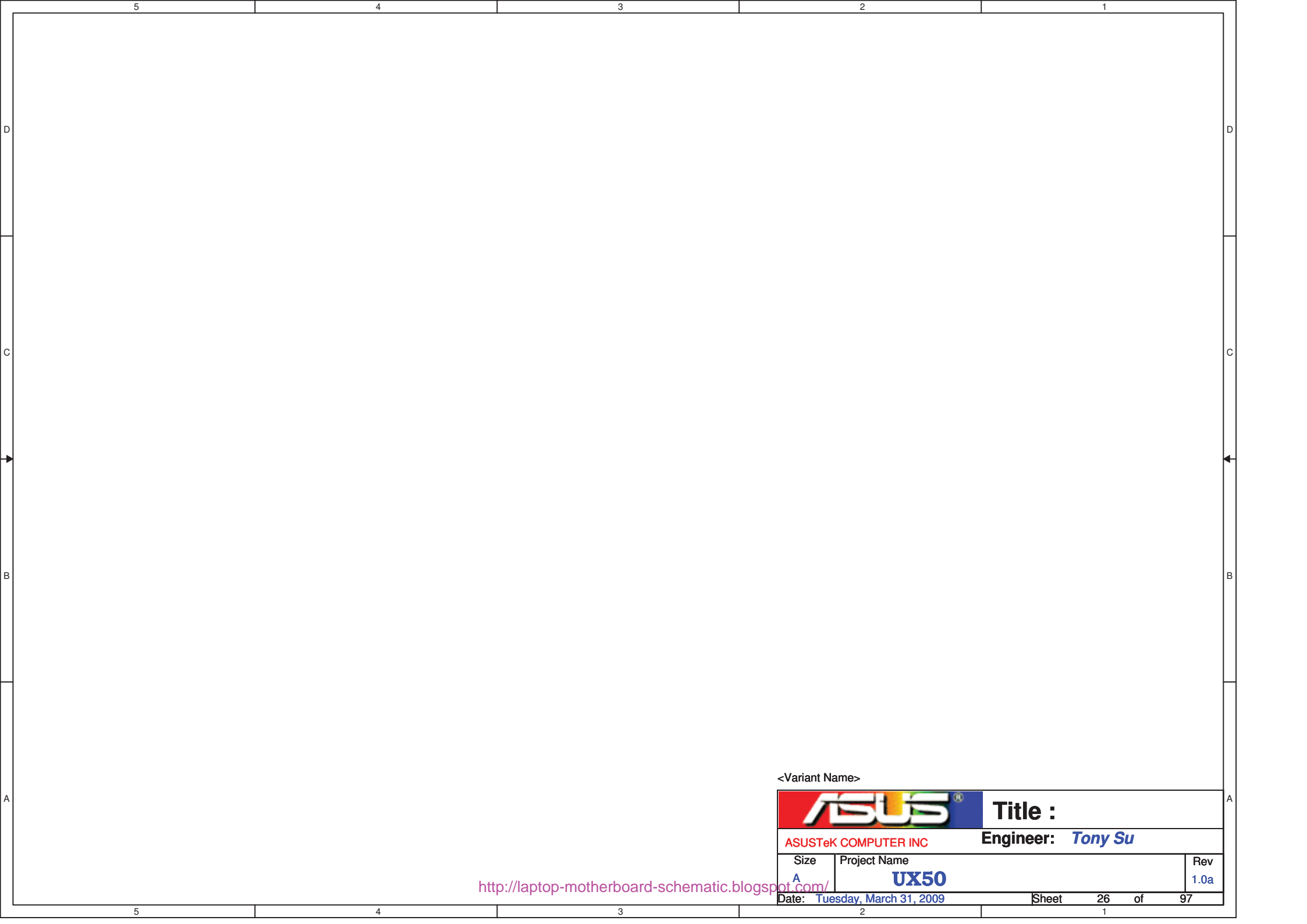
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<Variant Name>

|   |              |                                 |
|---|--------------|---------------------------------|
|  |              | <b>Title :</b>                  |
| ASUSTeK COMPUTER INC  |              | <b>Engineer:</b> <i>Tony Su</i> |
| Size  | Project Name | Rev                             |
| A   | <b>UX50</b>  | 1.0a                            |
| Date: <b>Tuesday, March 31, 2009</b>  |              | Sheet 26 of 97                  |

<http://laptop-motherboard-schematic.blogspot.com/>

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A

<Variant Name>

|   |                             |                                 |
|---|-----------------------------|---------------------------------|
|  |                             | <b>Title :</b>                  |
| ASUSTeK COMPUTER INC  |                             | <b>Engineer:</b> <i>Tony Su</i> |
| Size<br>A   | Project Name<br><b>UX50</b> | Rev<br>1.0a                     |
| Date: <b>Tuesday, March 31, 2009</b>  |                             | Sheet <b>27</b> of <b>97</b>    |

<http://laptop-motherboard-schematic.blogspot.com/>

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C

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B

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A

A

<Variant Name>

|   |                             |                                 |
|---|-----------------------------|---------------------------------|
|  |                             | <b>Title :</b>                  |
| ASUSTeK COMPUTER INC  |                             | <b>Engineer:</b> <i>Tony Su</i> |
| Size<br>A   | Project Name<br><b>UX50</b> | Rev<br>1.0a                     |
| Date: <b>Tuesday, March 31, 2009</b>  |                             | Sheet <b>28</b> of <b>97</b>    |

<http://laptop-motherboard-schematic.blogspot.com/>

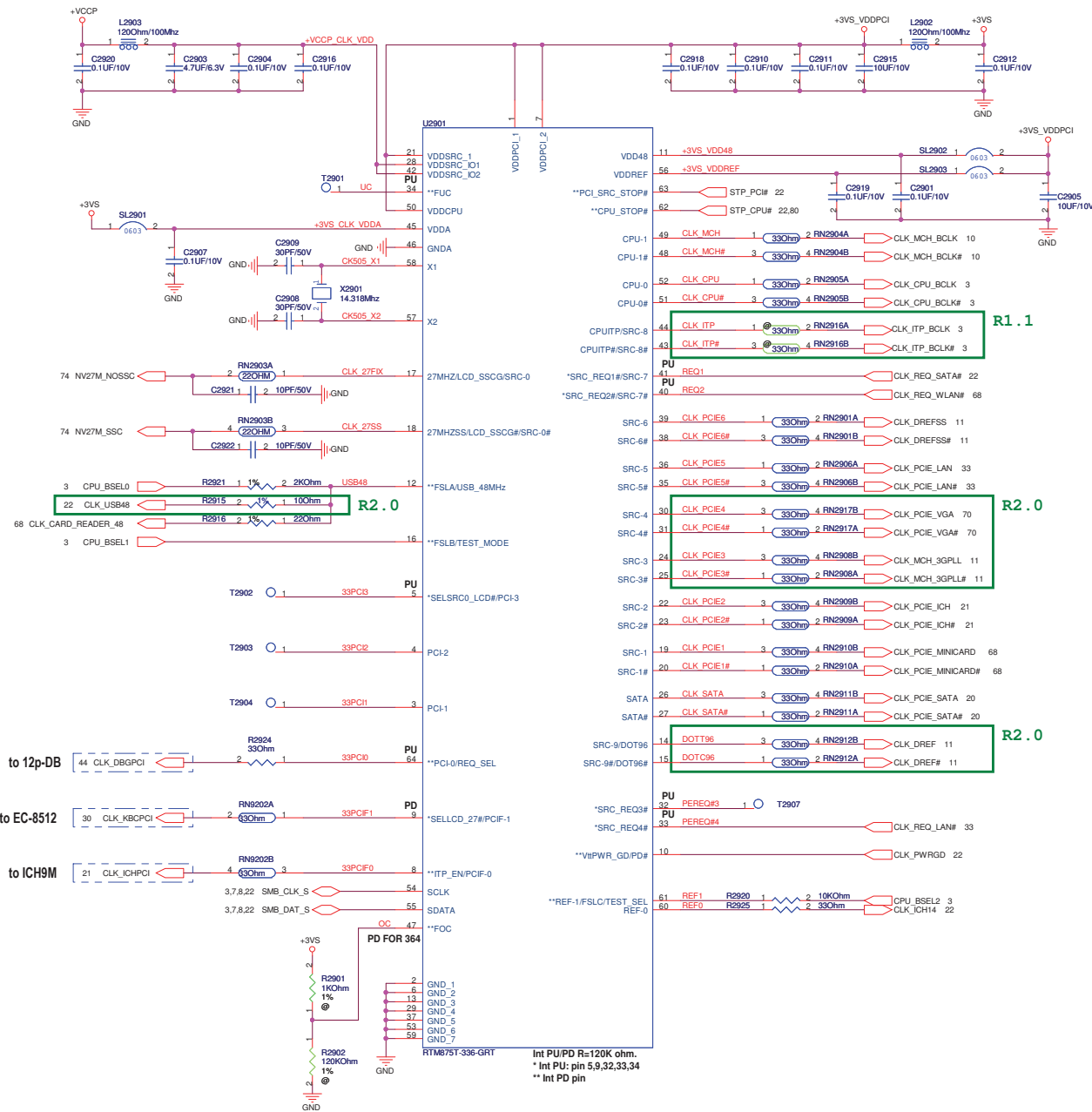
5

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2

1



### Latched Input Select

| Pin5            | Pin9         | Pin14/15 | Pin17/18 |
|-----------------|--------------|----------|----------|
| SELPCIEX0_LCD#  | SELLCD_27#=# | PCIEX0   | 27FIX/SS |
| PCI3 = 0 (low)  | SELLCD_27#=# | DOT96    | LCD      |
| SELPCIEX0_LCD#  | SELLCD_27#=# | DOT96    | 27FIX/SS |
| PCI3 = 1 (high) | SELLCD_27#=# | DOT96    | PCIEX0   |

Decide pin 43/44  
 0 = SRC CLK  
 1 = CPU\_ITP CLK

(Pin8)  
 ITP\_EN  
 33PCIF0

Decide pin 17/18  
 0 = LCDCLK  
 1 = PCIE

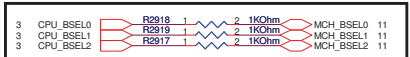
(Pin5)  
 SELPCIEX0\_LCD#  
 33PCIB

Decide pin 40/41  
 0 = PCIECLK  
 1 = PEREQ#

(Pin64)  
 REQ\_SEL#  
 33PCIO

Decide pin 17/18  
 SELLCD\_27# = 0:  
 pin14/15=PCIEX\_9L  
 pin17/18=27FIX/27SS

SELLCD\_27# = 1:  
 pin14/15=DOT\_96MHzL  
 pin17/18=LCD\_SSCG/PCIE\_L0



|      | FSLC | FSLB | FSLA |
|------|------|------|------|
| BCLK |      |      |      |
| 166  | 667  | 0    | 1    |
| 200  | 800  | 0    | 1    |
| 266  | 1066 | 0    | 0    |

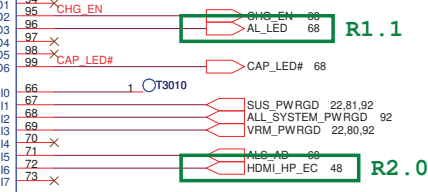
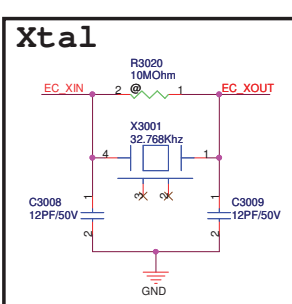
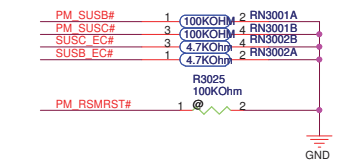
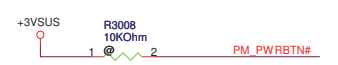
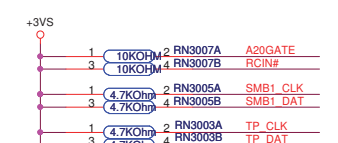
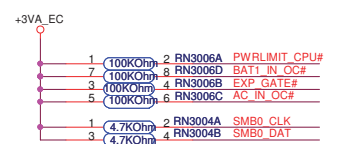
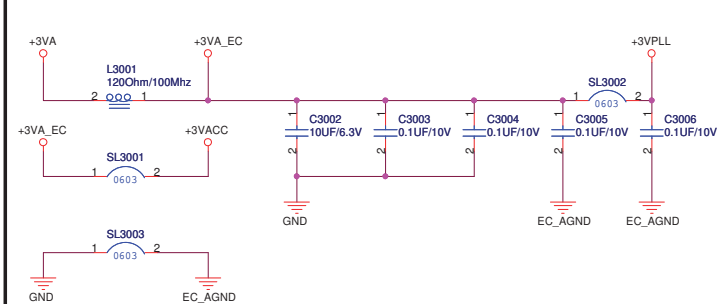
R1.1

R2.0

R2.0

PD FOR 364  
 2 GND\_1  
 8 GND\_2  
 13 GND\_3  
 29 GND\_4  
 37 GND\_5  
 53 GND\_6  
 59 GND\_7  
 RTM875T-336-GRT  
 Int PU/PD R=120K ohm.  
 \* Int PU: pin 5,9,32,33,34  
 \*\* Int PD pin

<Variant Name>  
**ASUS** Title: **CLK RTM875T-336-GRT**  
 ASUSTek COMPUTER INC Engineer: **Tony Su**  
 Size Project Name  
 Custom **UX50**  
 Date: Wednesday, April 01, 2009 Sheet 29 of 97



<Variant Name>

**ASUS** Title: KBC ITE8512

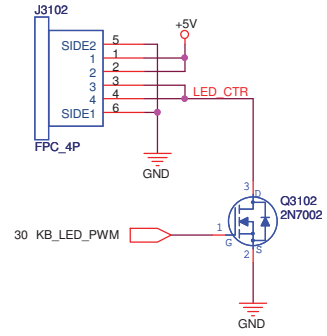
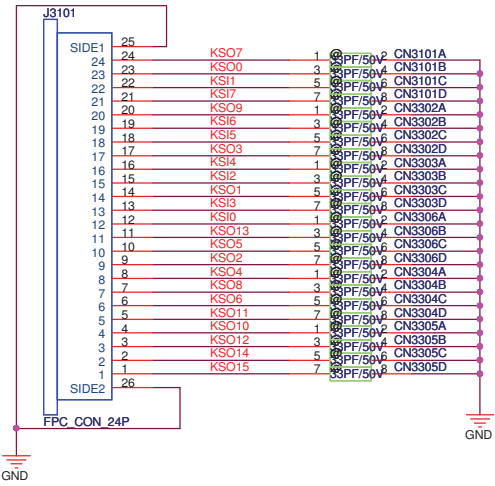
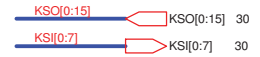
ASUSTeK COMPUTER INC Engineer: Tony Su

|        |              |      |
|--------|--------------|------|
| Size   | Project Name | Rev  |
| Custom | UX50         | 1.0a |

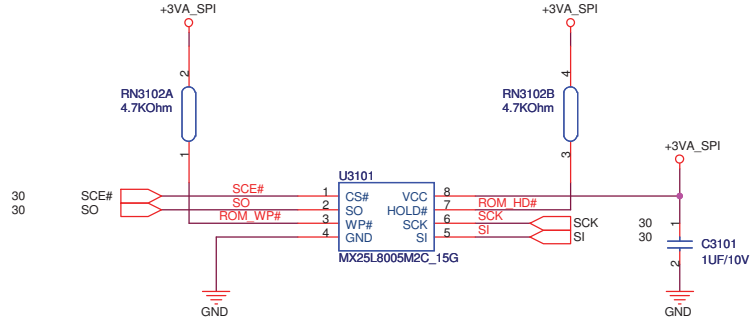
Date: Wednesday, April 01, 2009 Sheet 30 of 97

<http://laptop-motherboard-schematic.blogspot.com/>

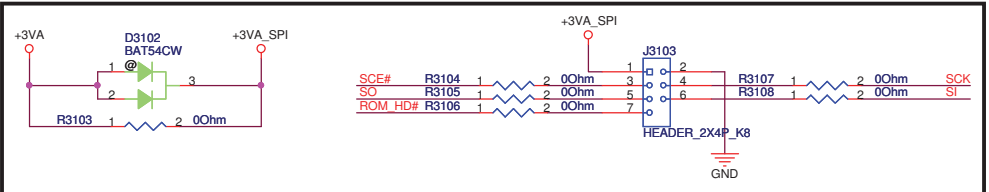
# Internal Keyboard



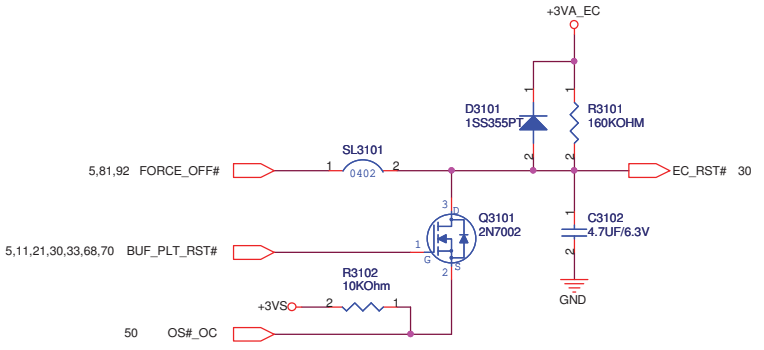
# 8Mb SPI ROM



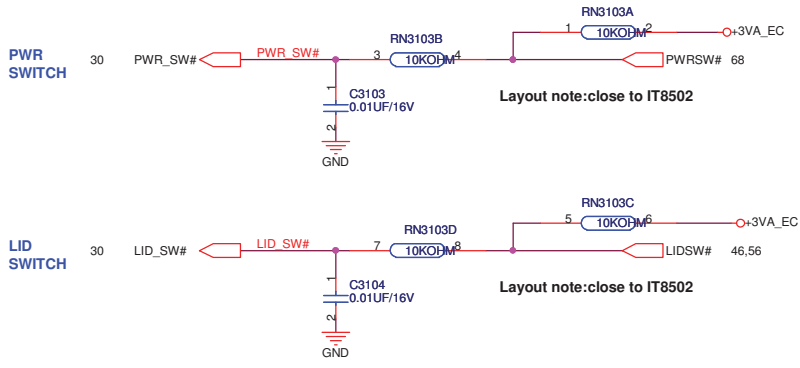
## For SPI Flash Debug



# EC RST



# For Switch



<Variant Name> **ROM FLASH ROM TOUCH PAD KB**


**ASUS** Title : \_\_\_\_\_

ASUSTeK COMPUTER INC Engineer: **Tony Su**

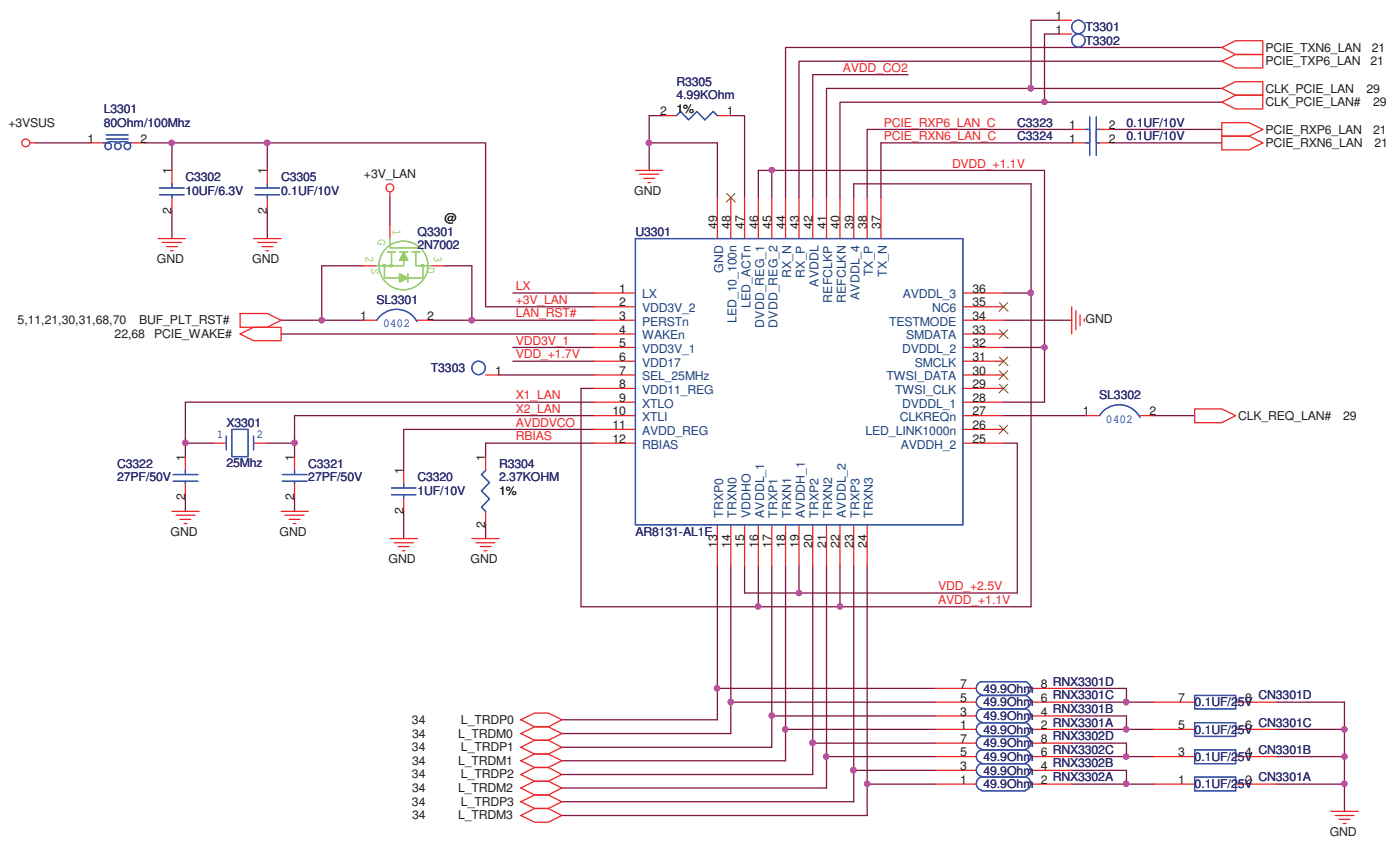
|                              |              |          |
|------------------------------|--------------|----------|
| Size                         | Project Name | Rev      |
| Custom                       | <b>UX50</b>  | 1.0a     |
| Date: Monday, April 06, 2009 | Sheet        | 31 of 97 |

<http://laptop-motherboard-schematic.blogspot.com/>

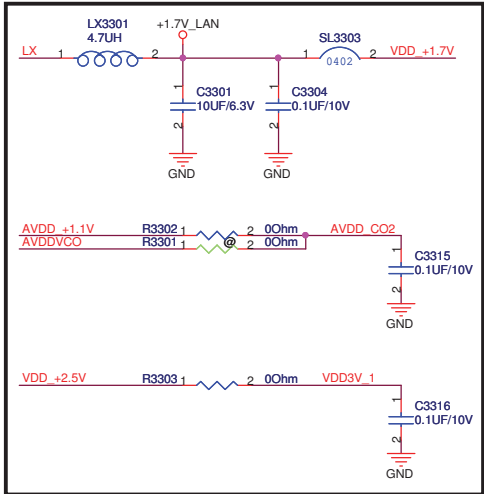
-Variant Name-

|   |              |                                  |          |
|---|--------------|----------------------------------|----------|
|  |              | <b>Title:</b> IMA LEVEL SHIFTERS |          |
| ASUSTeK COMPUTER INC  |              | <b>Engineer:</b> Tony Su         |          |
| Size  | Project Name | Rev                              |          |
| C   | UX50         | 1.0a                             |          |
| Date: Tuesday, March 31, 2009   |              | Sheet                            | 32 of 97 |

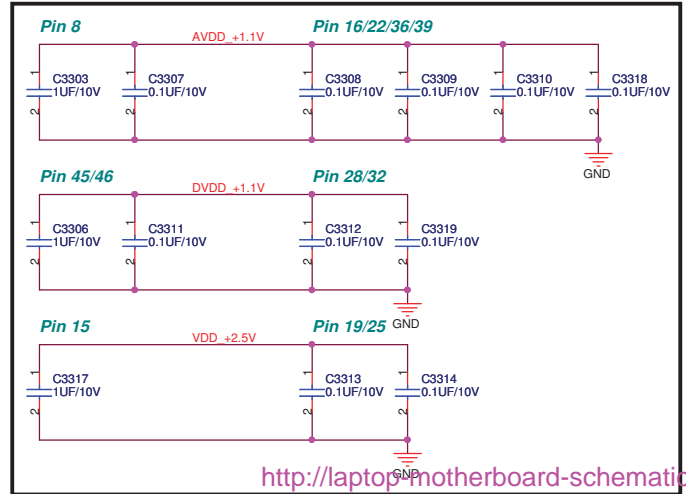




**Power**

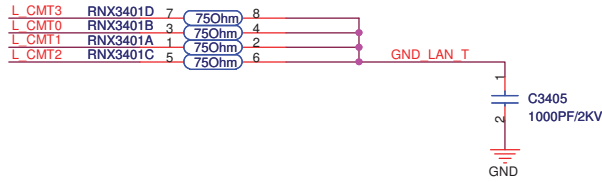
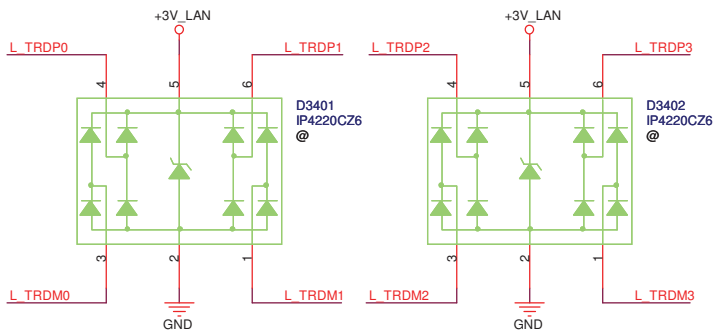


**Cap.**

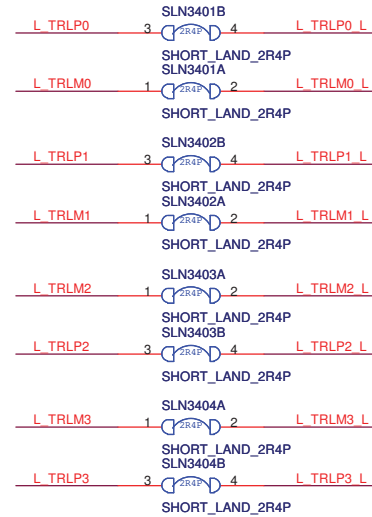
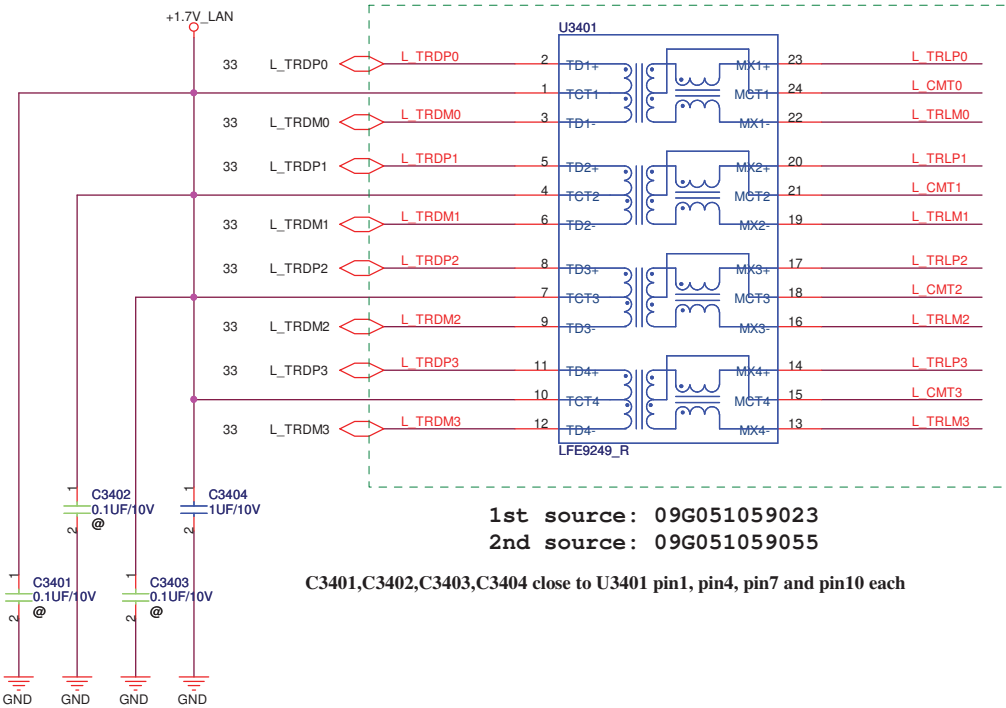
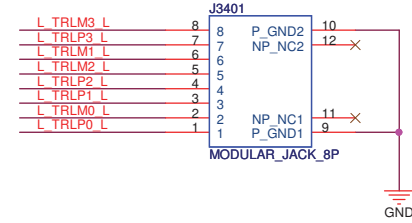


<http://laptop-motherboard-schematic.blogspot.com/>

|                                 |              |                                 |          |
|---------------------------------|--------------|---------------------------------|----------|
| <b>ASUS</b>                     |              | <b>Title : LAN-AR8131-AR812</b> |          |
| ASUSTeK COMPUTER INC. NB1       |              | Engineer: <b>Tony Su</b>        |          |
| Size                            | Project Name | Custom                          | Rev 1.00 |
| Date: Wednesday, April 08, 2009 | Sheet 33     | of 97                           |          |

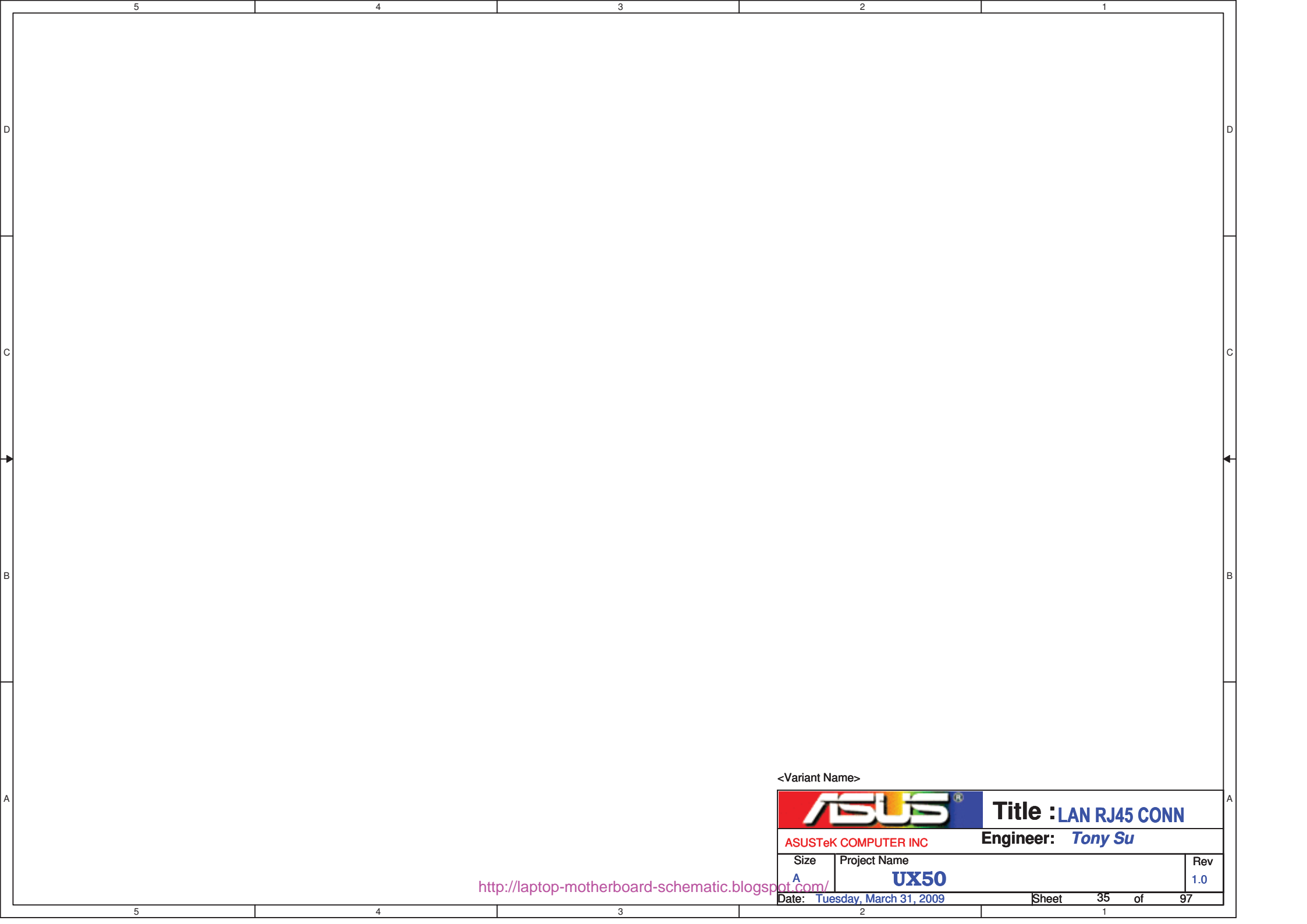


For RJ-45




<Variant Name>

|                               |                             |                              |            |
|-------------------------------|-----------------------------|------------------------------|------------|
|                               |                             | <b>Title : LAN RJ45 CONN</b> |            |
| ASUSTeK COMPUTER INC          |                             | Engineer: <i>Tony Su</i>     |            |
| Size<br>Custom                | Project Name<br><b>UX50</b> |                              | Rev<br>1.0 |
| Date: Tuesday, March 31, 2009 |                             | Sheet 34 of 97               |            |




<Variant Name>

|   |                             |                              |
|---|-----------------------------|------------------------------|
|  |                             | <b>Title : LAN RJ45 CONN</b> |
| ASUSTeK COMPUTER INC  |                             | <b>Engineer: Tony Su</b>     |
| Size<br>A   | Project Name<br><b>UX50</b> | Rev<br>1.0                   |
| Date: <b>Tuesday, March 31, 2009</b>  |                             | Sheet <b>35</b> of <b>97</b> |

<http://laptop-motherboard-schematic.blogspot.com/>

<http://laptop-motherboard-schematic.blogspot.com/>

|   |                             |                          |
|---|-----------------------------|--------------------------|
| <Variant Name>  |                             |                          |
|  |                             | <b>Title :AUD ALC269</b> |
| ASUSTeK COMPUTER INC  |                             | <b>Engineer: Tony Su</b> |
| Size<br>Custom  | Project Name<br><b>UX50</b> | Rev<br>1.0a              |
| Date: Tuesday, March 31, 2009 Sheet 96 of 97  |                             |                          |

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<http://laptop-motherboard-schematic.blogspot.com/>

<Variant Name>

|   |                             |                          |
|---|-----------------------------|--------------------------|
|  |                             | <b>Title :</b>           |
| ASUSTeK COMPUTER INC  |                             | <b>Engineer: Tony Su</b> |
| Size<br>Custom  | Project Name<br><b>UX50</b> | Rev<br>1.0a              |
| Date: Tuesday, March 31, 2009   | Sheet 37 of 97              |                          |

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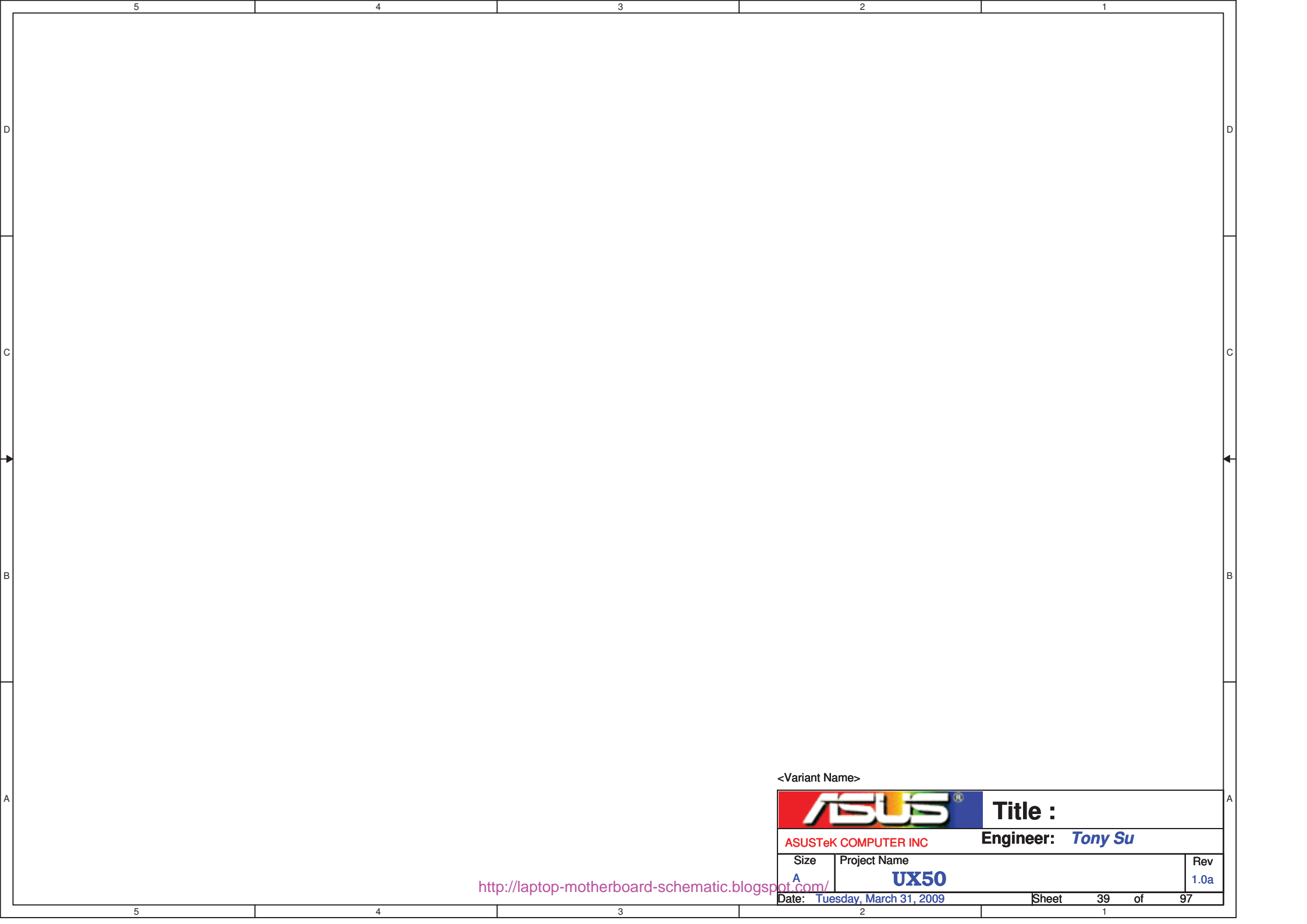
2

1


<http://laptop-motherboard-schematic.blogspot.com/>

<Variant Name> **AUD-HP&SPK&MIC&DMI-CONN**

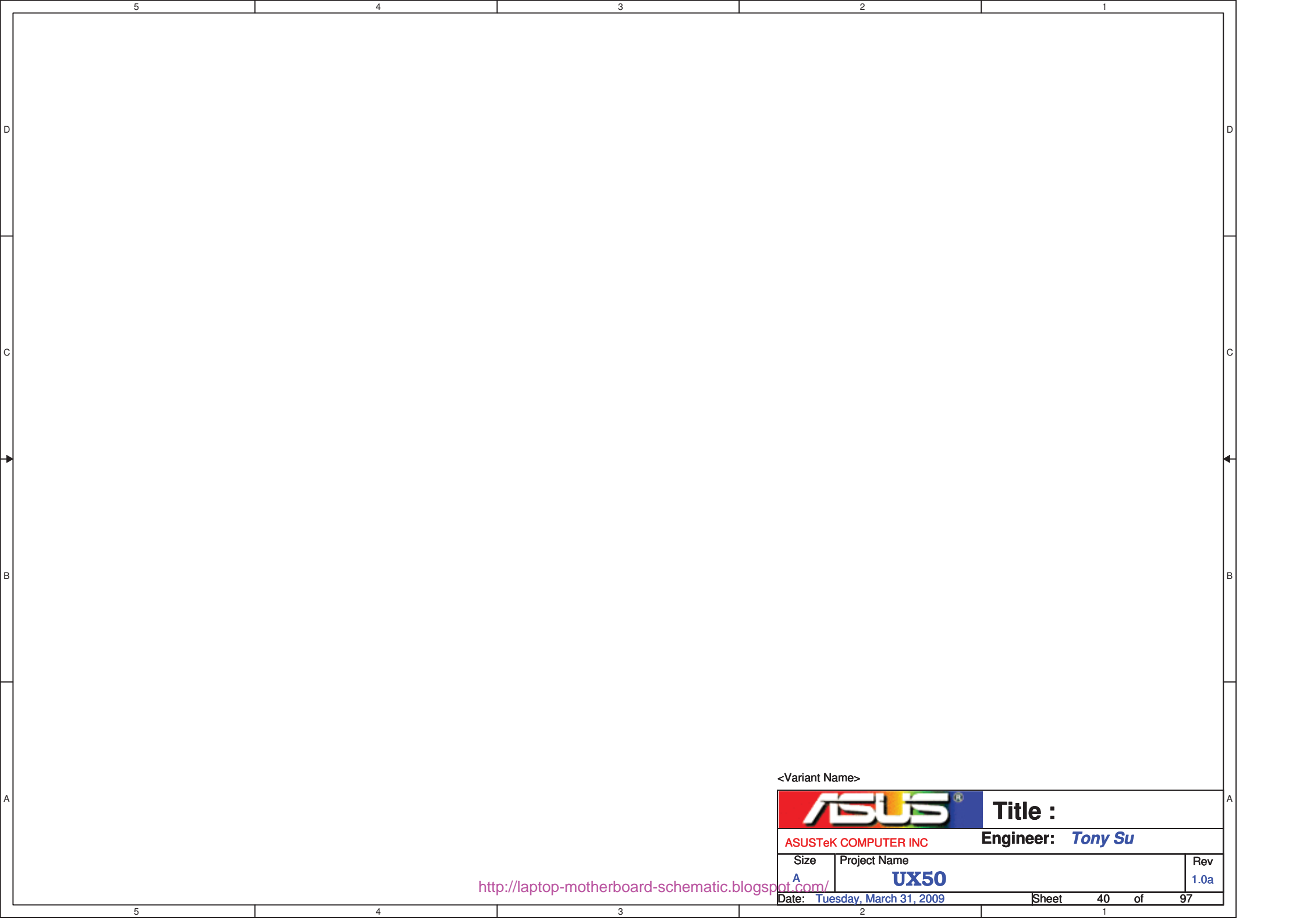
|   |              |                          |
|---|--------------|--------------------------|
|  |              | <b>Title :</b>           |
| ASUSTeK COMPUTER INC  |              | <b>Engineer: Tony Su</b> |
| Size  | Project Name | Rev                      |
| Custom  | <b>U20A</b>  | 1.0a                     |
| Date: Tuesday, March 31, 2009   |              |                          |
| Sheet 38 of 97  |              |                          |




<Variant Name>

|   |                             |                                 |
|---|-----------------------------|---------------------------------|
|  |                             | <b>Title :</b>                  |
| ASUSTeK COMPUTER INC  |                             | <b>Engineer:</b> <i>Tony Su</i> |
| Size<br>A   | Project Name<br><b>UX50</b> | Rev<br>1.0a                     |
| Date: <b>Tuesday, March 31, 2009</b>  |                             | Sheet <b>39</b> of <b>97</b>    |

<http://laptop-motherboard-schematic.blogspot.com/>

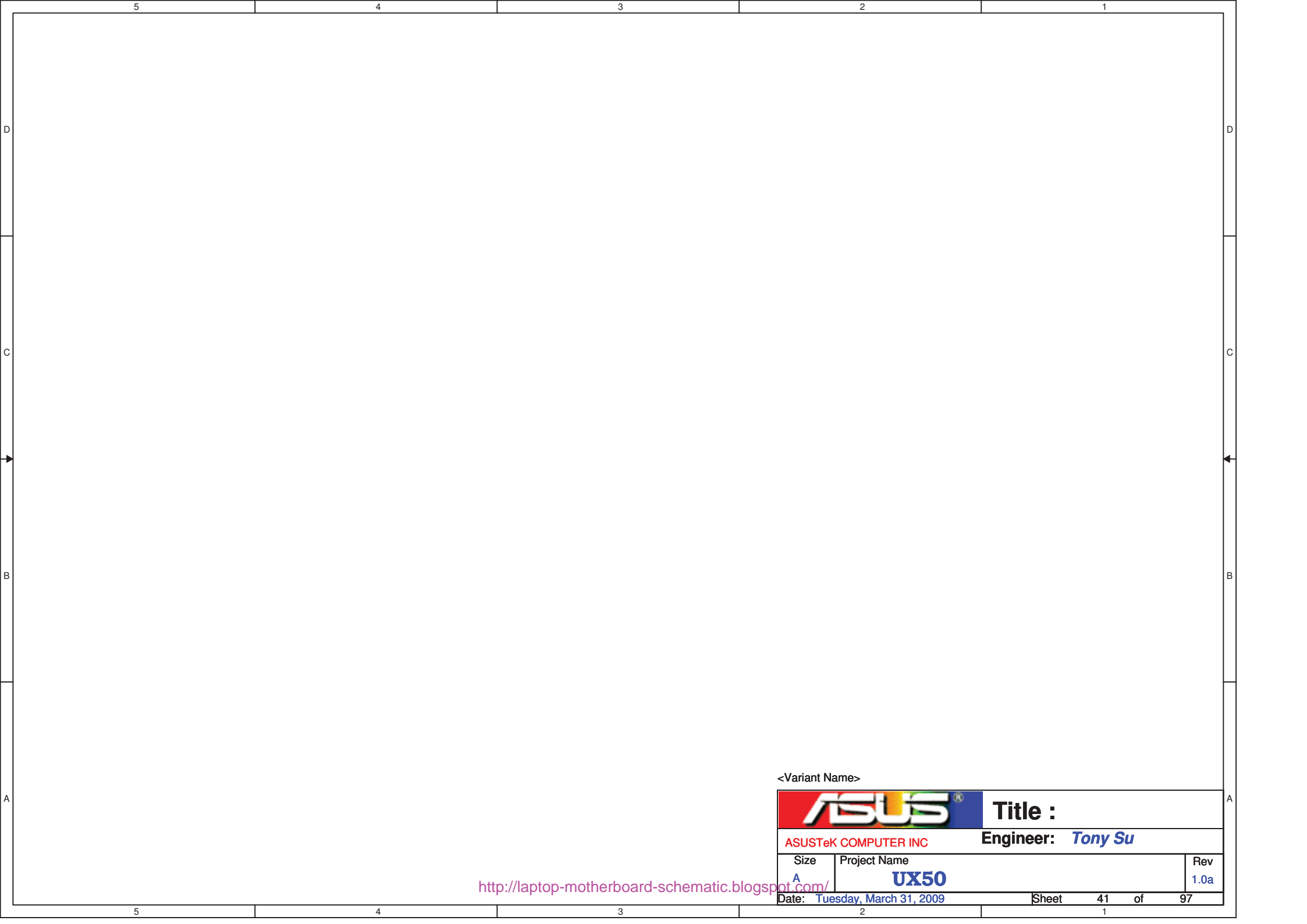


<Variant Name>


|   |              |                                 |
|---|--------------|---------------------------------|
|  |              | <b>Title :</b>                  |
| ASUSTeK COMPUTER INC  |              | <b>Engineer:</b> <i>Tony Su</i> |
| Size  | Project Name | Rev                             |
| A   | <b>UX50</b>  | 1.0a                            |
| Date: <b>Tuesday, March 31, 2009</b>  |              | Sheet <b>40</b> of <b>97</b>    |

<http://laptop-motherboard-schematic.blogspot.com/>

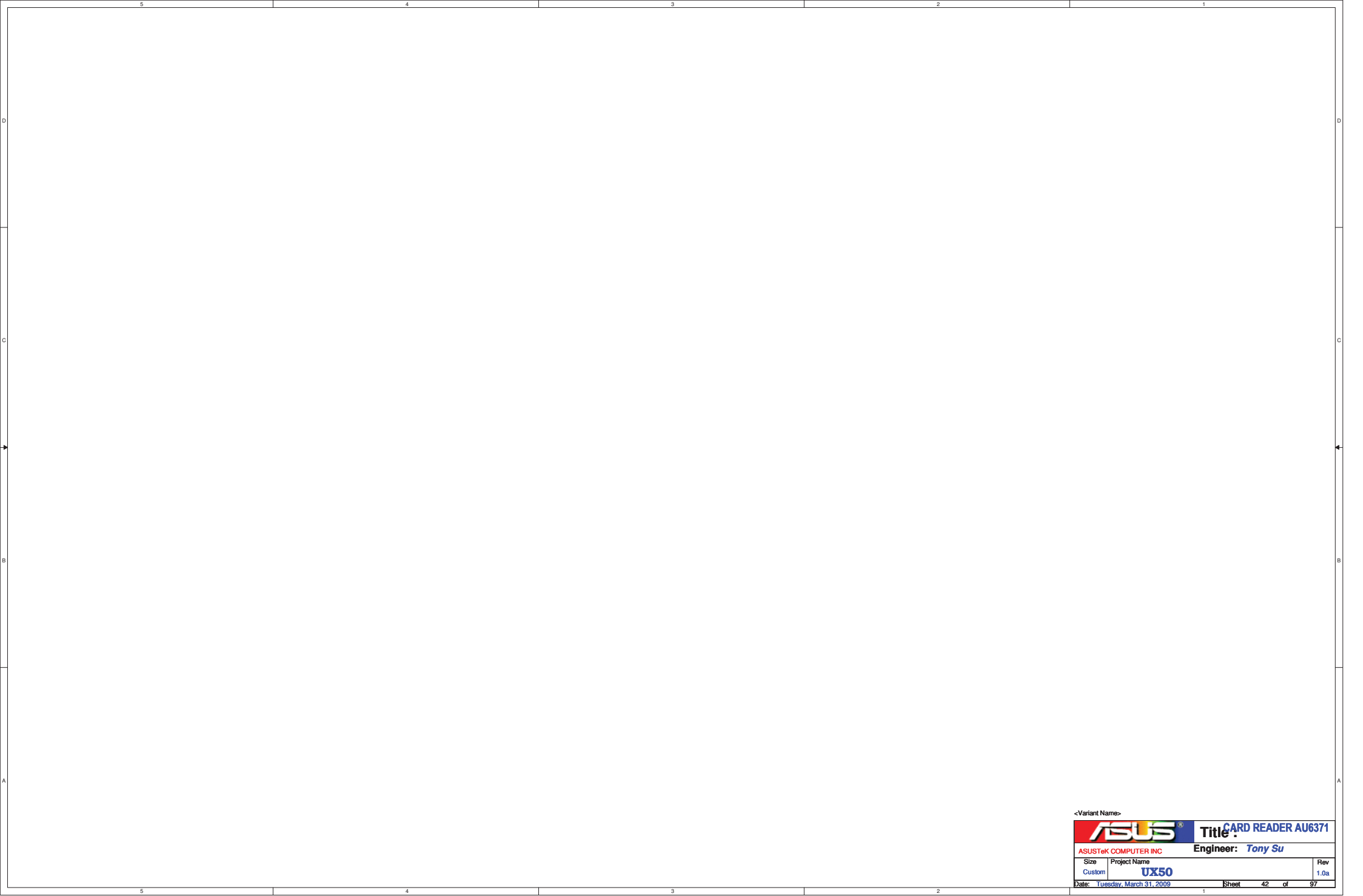





<Variant Name>

|   |              |                                 |
|---|--------------|---------------------------------|
|  |              | <b>Title :</b>                  |
| ASUSTeK COMPUTER INC  |              | <b>Engineer:</b> <i>Tony Su</i> |
| Size  | Project Name | Rev                             |
| A   | <b>UX50</b>  | 1.0a                            |
| Date: <b>Tuesday, March 31, 2009</b>  |              | Sheet <b>41</b> of <b>97</b>    |

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<Variant Name>

|   |              |                                  |
|---|--------------|----------------------------------|
|  |              | <b>Title:</b> CARD READER AU6371 |
| ASUSTeK COMPUTER INC  |              | <b>Engineer:</b> Tony Su         |
| Size  | Project Name | Rev                              |
| Custom  | UX50         | 1.0a                             |
| Date: Tuesday, March 31, 2009   |              | Sheet 42 of 97                   |

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<Variant Name>

|   |              |                                     |          |
|---|--------------|-------------------------------------|----------|
|  |              | <b>Title :</b> CB EXPRESS CARD CONN |          |
| ASUSTeK COMPUTER INC  |              | <b>Engineer:</b> <i>Tony Su</i>     |          |
| Size  | Project Name | Rev                                 |          |
| A   | <b>UX50</b>  | 1.0a                                |          |
| Date: <b>Tuesday, March 31, 2009</b>  |              | Sheet                               | 43 of 97 |

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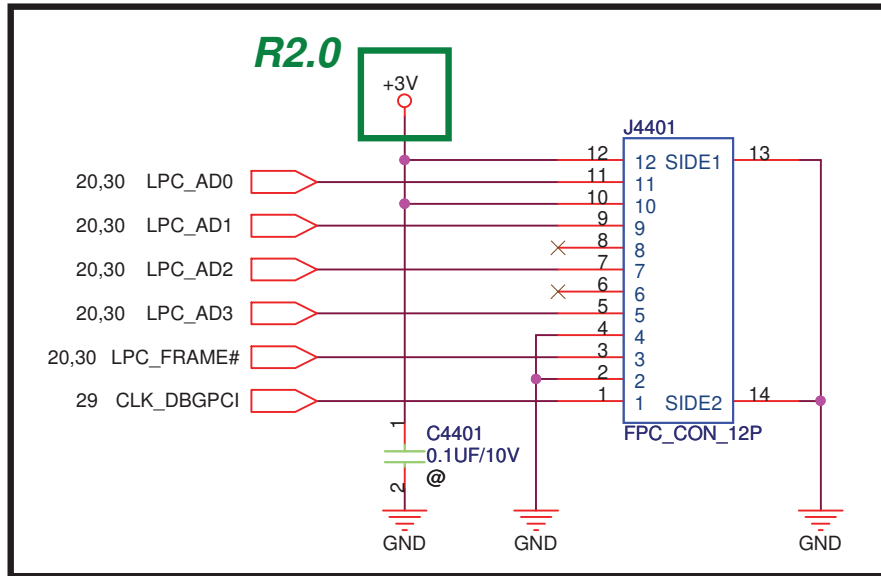
4

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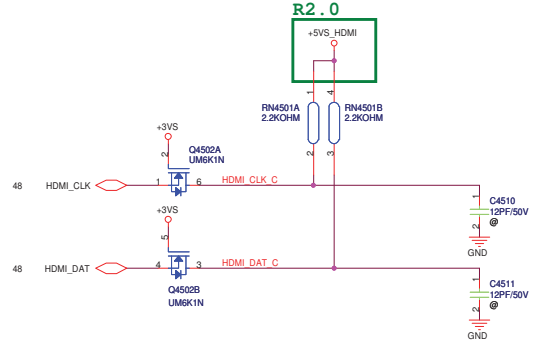
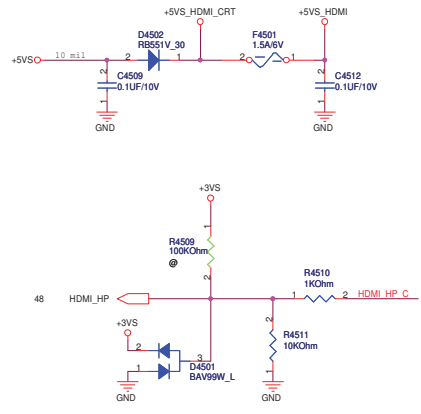
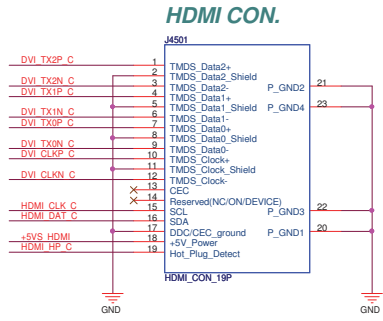
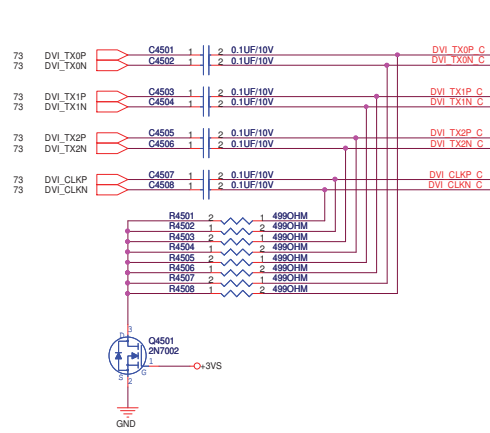
1

# LPC DEBUG PORT



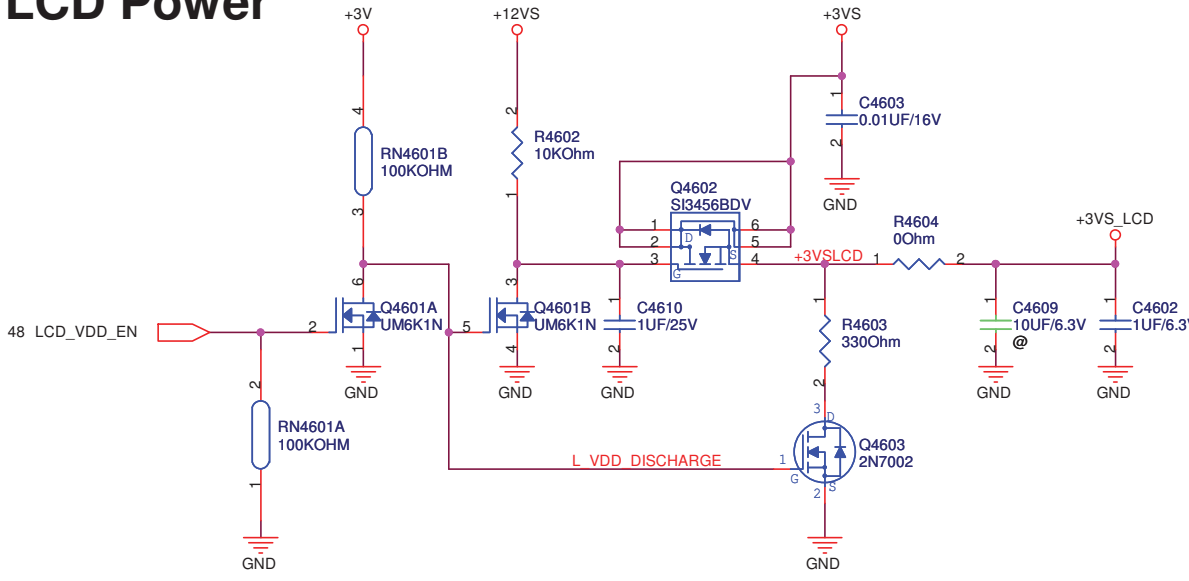
<Variant Name>

|                                      |                             |                              |
|--------------------------------------|-----------------------------|------------------------------|
|                                      |                             | <b>Title :BUG DEBUG PORT</b> |
| ASUSTeK COMPUTER INC                 |                             | Engineer: <b>Tony Su</b>     |
| Size<br>A                            | Project Name<br><b>UX50</b> | Rev<br>1.0a                  |
| Date: <b>Tuesday, March 31, 2009</b> |                             | Sheet <b>44</b> of <b>97</b> |

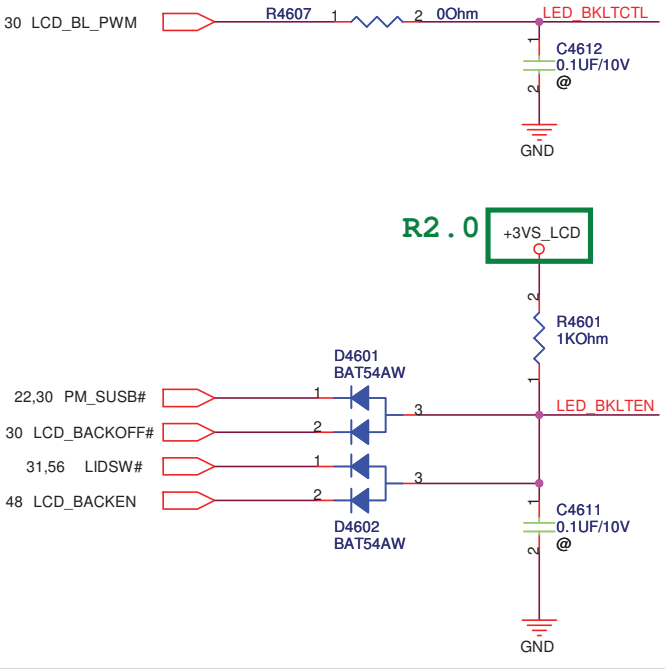
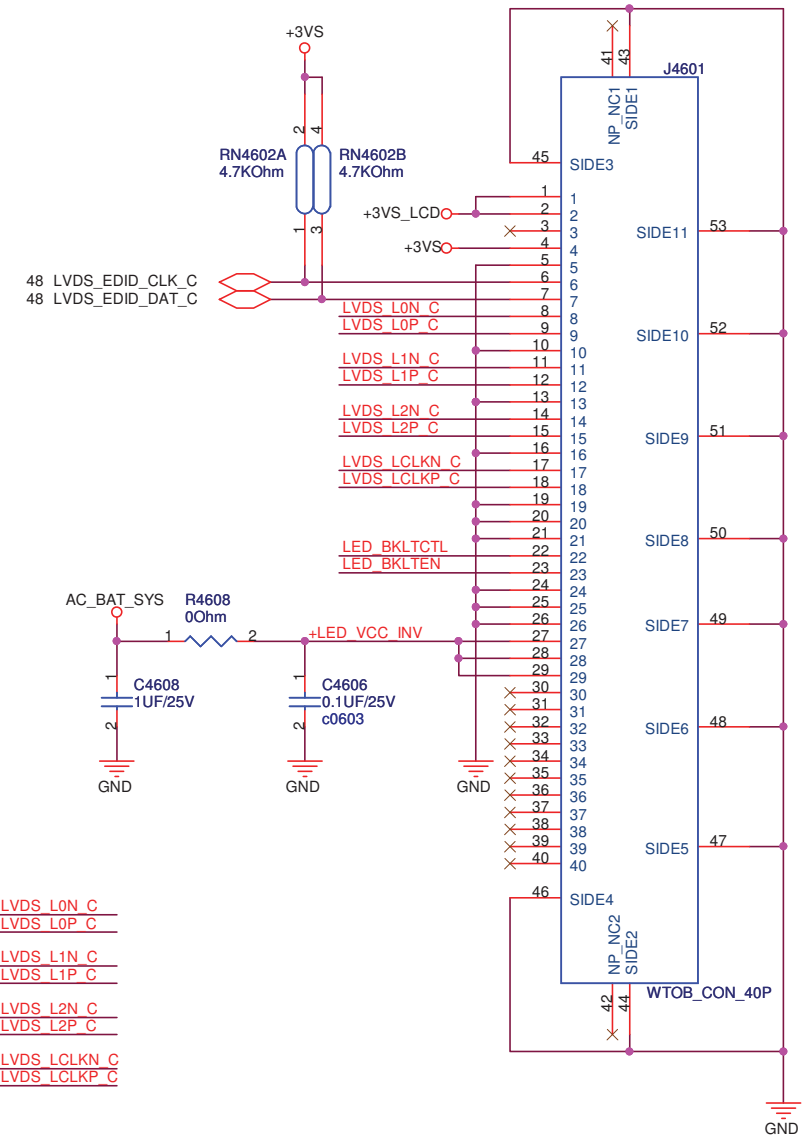


<http://laptop-motherboard-schematic.blogspot.com/>

# LCD Power



# LVDS CONN



|    |            |   |      |   |          |              |
|----|------------|---|------|---|----------|--------------|
| 48 | LVDS_L0N   | 1 | 2R4F | 2 | SLN4601A | LVDS_L0N_C   |
| 48 | LVDS_L0P   | 3 | 2R4F | 4 | SLN4601B | LVDS_L0P_C   |
| 48 | LVDS_L1N   | 1 | 2R4F | 2 | SLN4602A | LVDS_L1N_C   |
| 48 | LVDS_L1P   | 3 | 2R4F | 4 | SLN4602B | LVDS_L1P_C   |
| 48 | LVDS_L2N   | 1 | 2R4F | 2 | SLN4603A | LVDS_L2N_C   |
| 48 | LVDS_L2P   | 3 | 2R4F | 4 | SLN4603B | LVDS_L2P_C   |
| 48 | LVDS_LCLKN | 1 | 2R4F | 2 | SLN4604A | LVDS_LCLKN_C |
| 48 | LVDS_LCLKP | 3 | 2R4F | 4 | SLN4604B | LVDS_LCLKP_C |

<Variant Name>

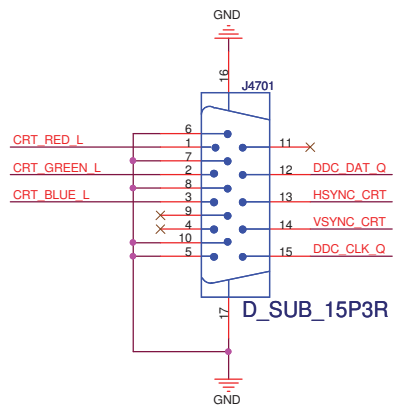
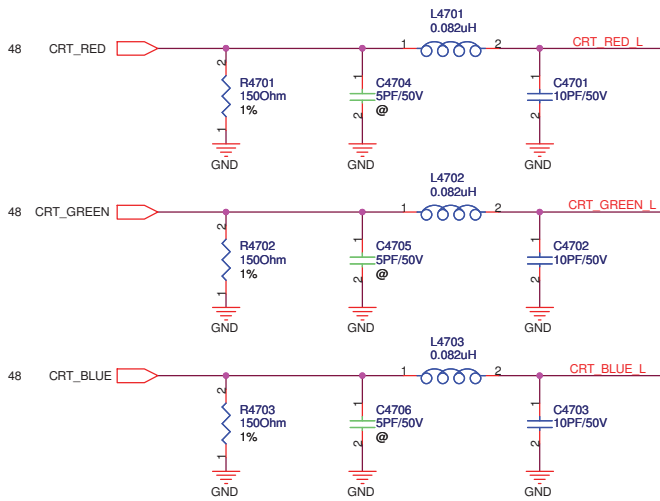
**ASUS** Title : **CRT LVDS CONN**

ASUSTeK COMPUTER INC Engineer: **Tony Su**

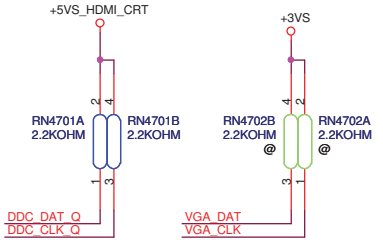
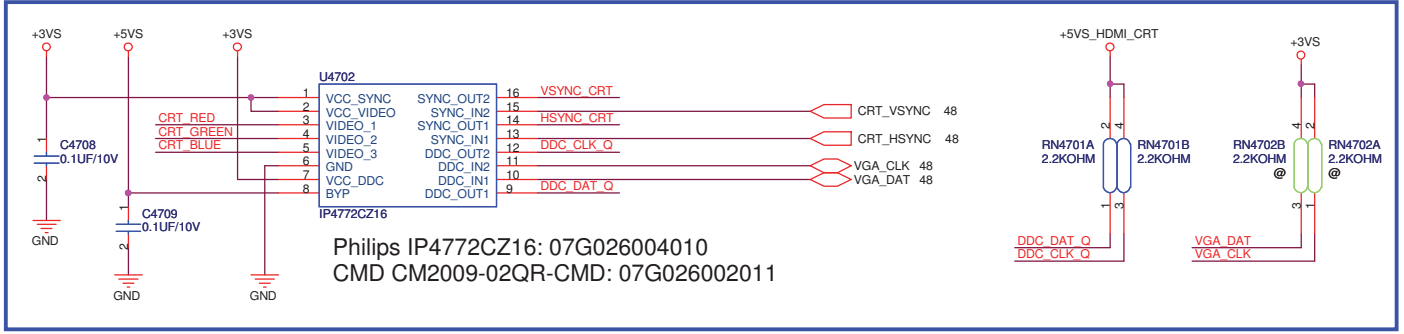
|        |              |      |
|--------|--------------|------|
| Size   | Project Name | Rev  |
| Custom | <b>UX50</b>  | 1.0a |

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# CRT Connector

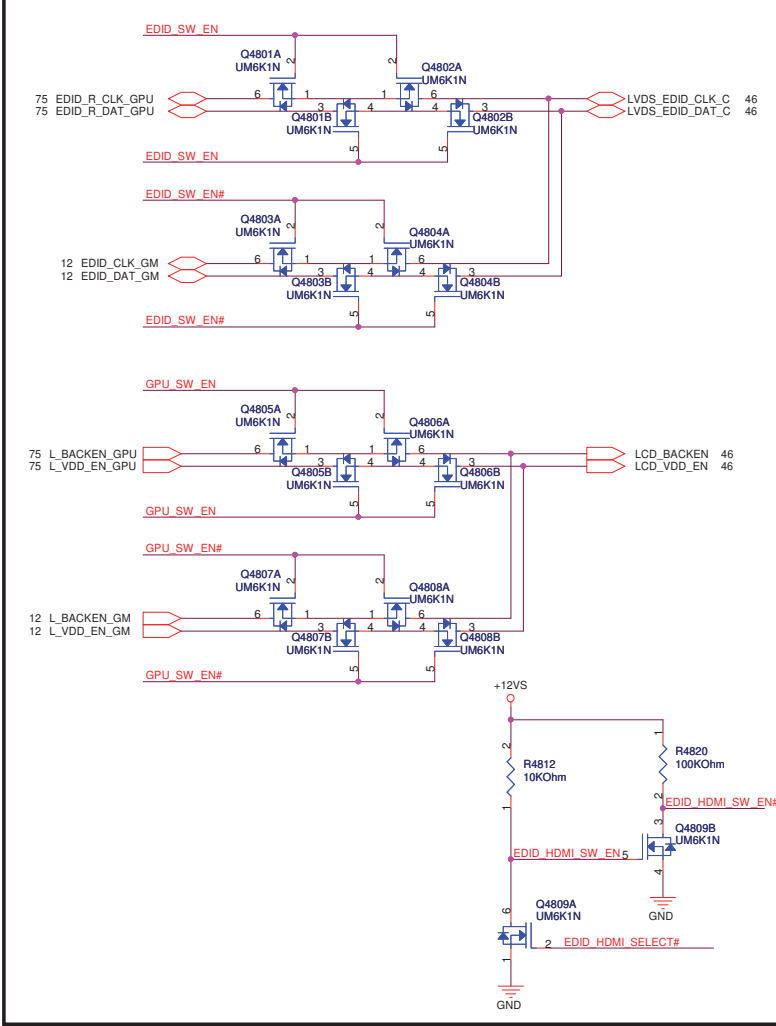
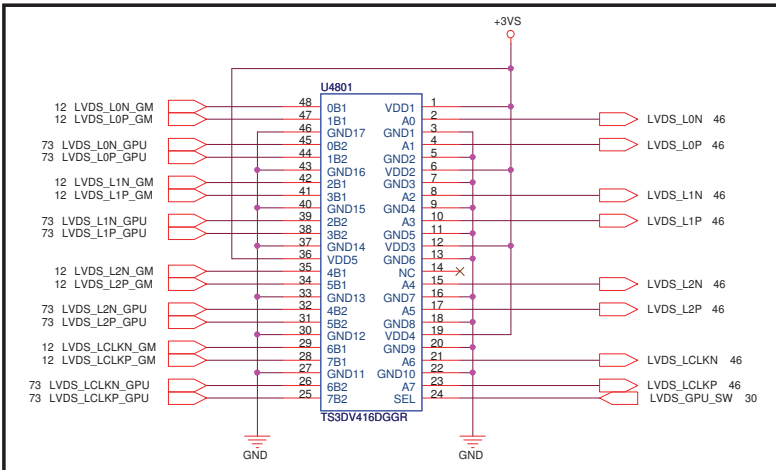


## PLACE ESD IC near J4701

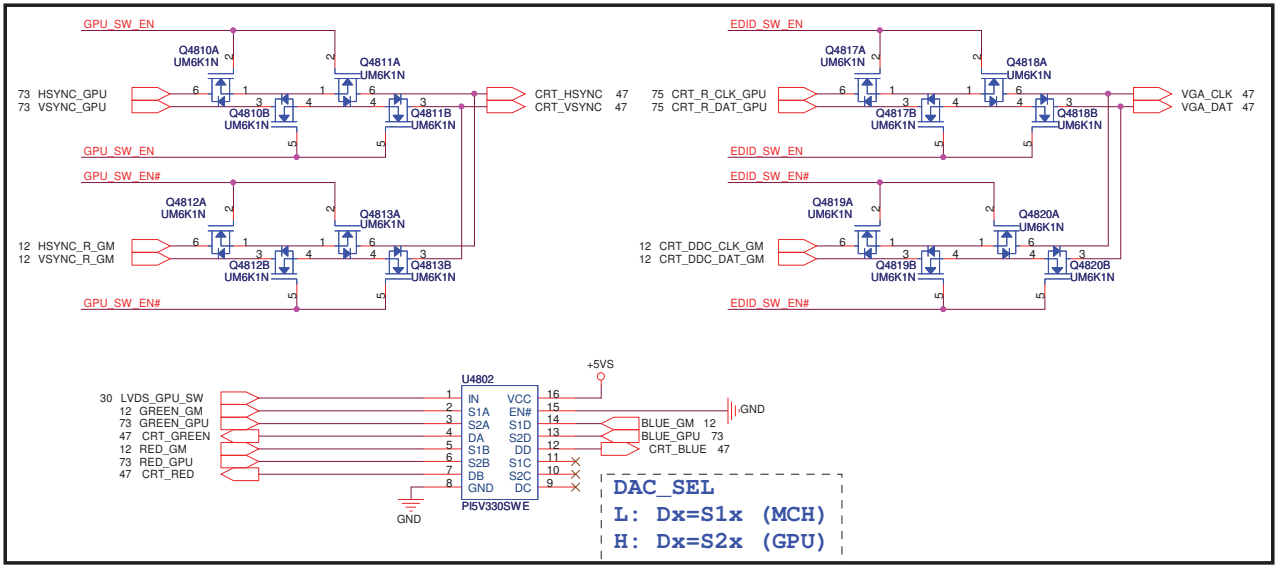


|                               |                             |                               |
|-------------------------------|-----------------------------|-------------------------------|
| -Variant Name-                |                             |                               |
| <b>ASUS</b>                   |                             | <b>Title : CRT D-SUB CONN</b> |
| ASUSTeK COMPUTER INC          |                             | Engineer: <b>Tony Su</b>      |
| Size<br>Custom                | Project Name<br><b>UX50</b> | Rev<br>1.0a                   |
| Date: Tuesday, March 31, 2009 | Sheet 47 of 97              |                               |

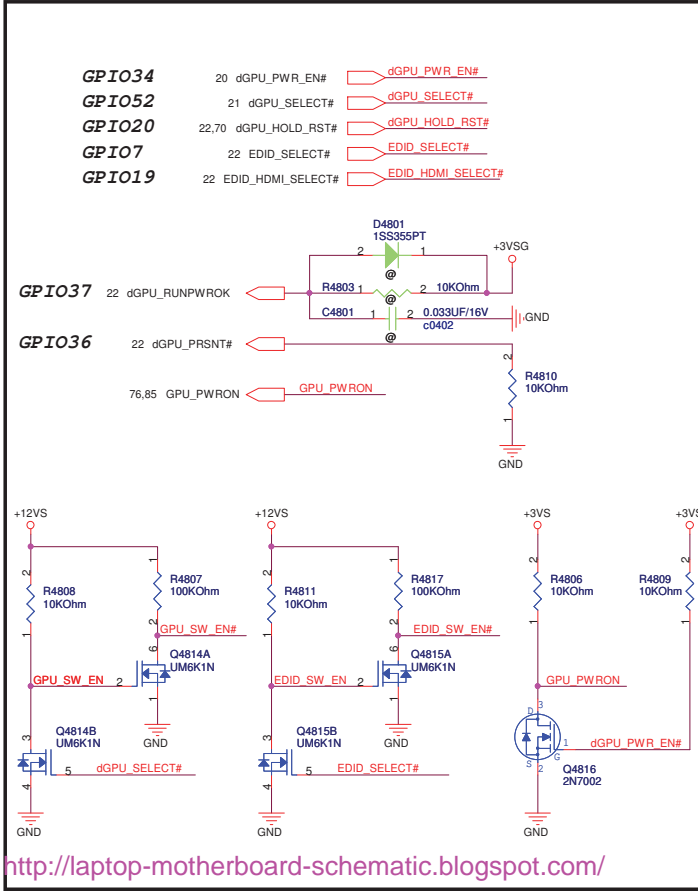
# LVDS Switch



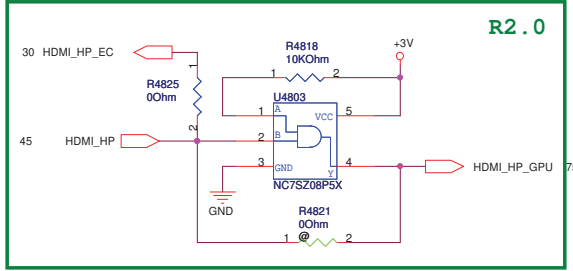
# CRT Switch



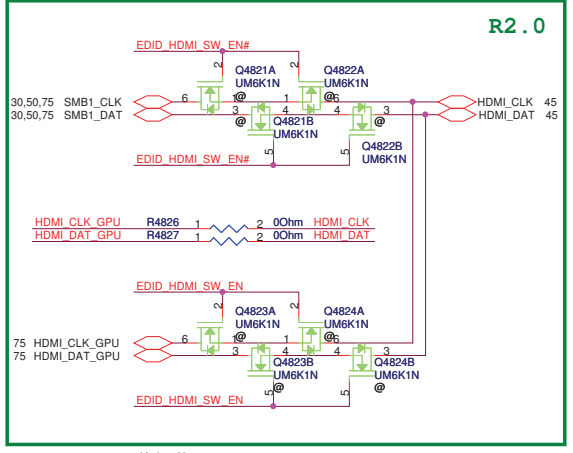
# Control Signal from ICH9M



# HDMI Hot-Plug Detect Switch



# HDMI I2C Switch



**ASUS** Title: Hybrid Switch  
 ASUSTeK COMPUTER INC Engineer: Tony Su  
 Size: Project Name  
 Custom: UX50  
 Date: Tuesday, March 31, 2009 Sheet 48 of 97



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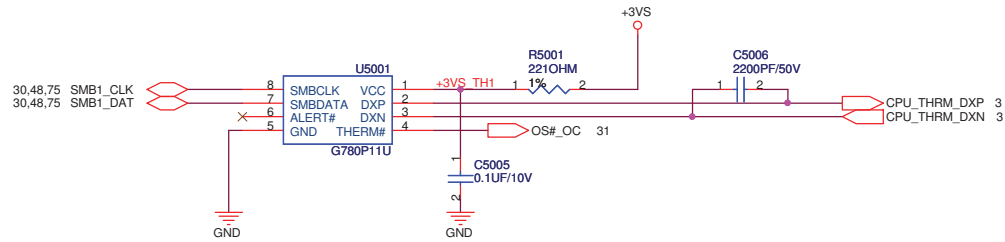
A

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<Variant Name>

|   |              |                               |       |
|---|--------------|-------------------------------|-------|
|  |              | <b>Title : CRT D-SUB CONN</b> |       |
| ASUSTeK COMPUTER INC  |              | Engineer: <i>Tony Su</i>      |       |
| Size  | Project Name | Rev                           |       |
| Custom  | <b>UX50</b>  | 1.0a                          |       |
| Date: Tuesday, March 31, 2009   | Sheet        | 49                            | of 97 |

# Thermal Sensor



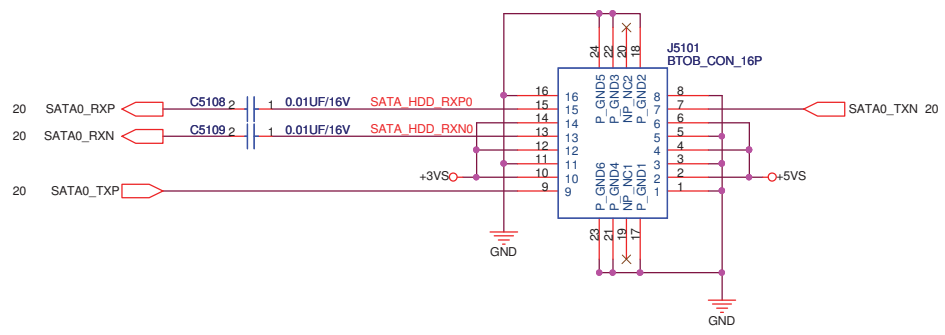
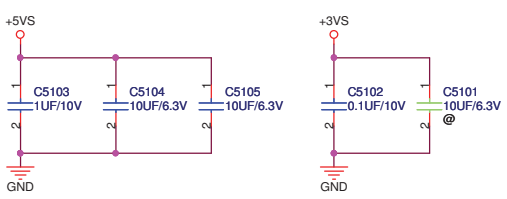
1nd: 06G023096010 G780P11U SOP-8  
 2nd: 06G023026012 MAX6657YMS+ SOP-8

Route CPU\_THRM\_DA , CPU\_THRM\_DC and MEM\_THERM\_DA , MEM\_THERM\_DC on the same layer

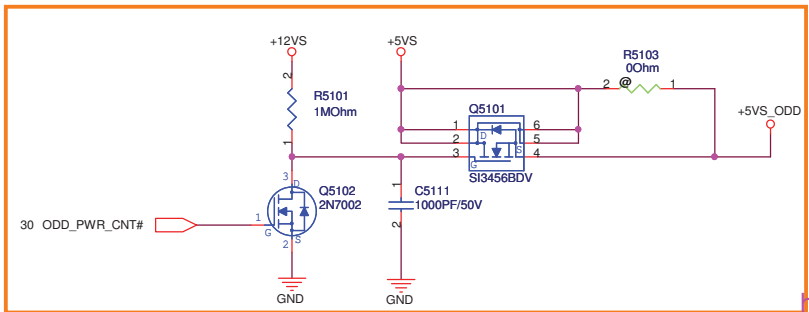
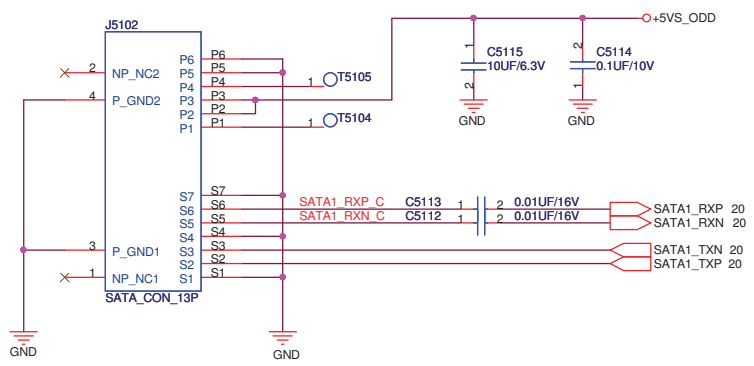
-----OTHER SIGNALS  
 10 mils  
 =====GND  
 10 mils  
 =====H\_THERMDA(10 mils)  
 10 mils  
 =====H\_THERMDC(10 mils)  
 10 mils  
 =====GND  
 10 mils  
 -----OTHER SIGNALS

Avoid FSB,Power

# SATA HDD



# SATA ODD




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|                               |              |                          |       |
|-------------------------------|--------------|--------------------------|-------|
| -Variant Name-                |              | Title: XDD SATA HDD CONN |       |
| ASUSTeK COMPUTER INC          |              | Engineer: Tony Su        |       |
| Size                          | Project Name | Rev                      |       |
| Custom                        | UX50         | 1.0a                     |       |
| Date: Tuesday, March 31, 2009 | Sheet        | 51                       | of 97 |



<Variant Name>

|   |                             |                              |
|---|-----------------------------|------------------------------|
|  |                             | <b>Title :USB 2.0 CONN*1</b> |
| ASUSTek COMPUTER INC  |                             | Engineer: <i>Tony Su</i>     |
| Size<br>Custom  | Project Name<br><b>UX50</b> | Rev<br>1.0a                  |
| Date: Tuesday, March 31, 2009   |                             | Sheet 52 of 97               |

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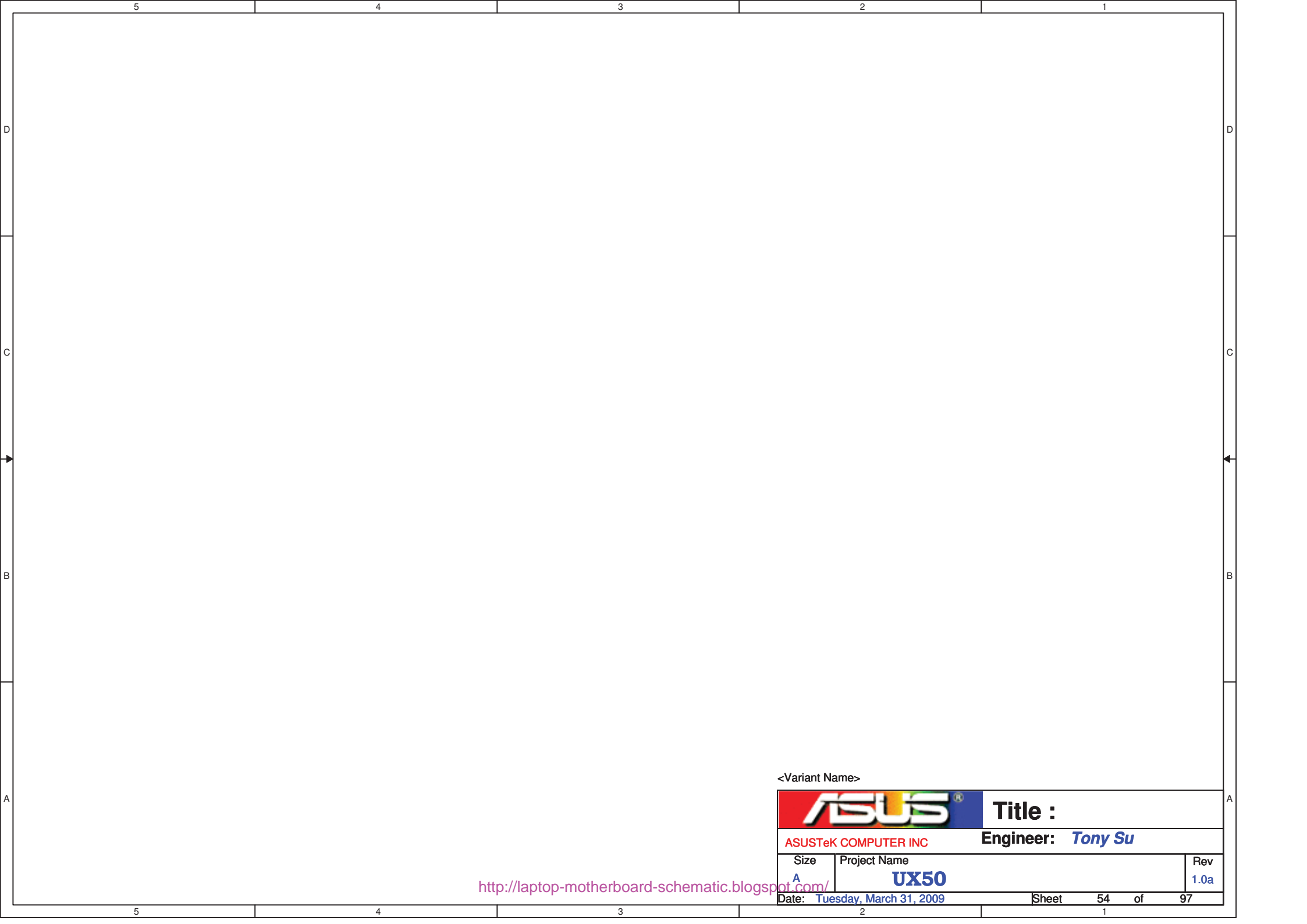
B

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<http://laptop-motherboard-schematic.blogspot.com/>

|   |              |                             |          |
|---|--------------|-----------------------------|----------|
|  |              | <b>Title :</b> PCI_Minicard |          |
| ASUSTeK COMPUTER INC. NB1   |              | <b>Engineer:</b> Tony Su    |          |
| Size  | Project Name | Rev                         |          |
| Custom  | UX50         | 1.00                        |          |
| Date: Tuesday, March 31, 2009   |              | Sheet                       | 53 of 97 |



<Variant Name>

|   |              |                                 |
|---|--------------|---------------------------------|
|  |              | <b>Title :</b>                  |
| ASUSTeK COMPUTER INC  |              | <b>Engineer:</b> <i>Tony Su</i> |
| Size  | Project Name | Rev                             |
| A   | <b>UX50</b>  | 1.0a                            |
| Date: <b>Tuesday, March 31, 2009</b>  |              | Sheet 54 of 97                  |

<http://laptop-motherboard-schematic.blogspot.com/>

5

4

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1

D

D

C

C


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B

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A

<Variant Name>

|   |                             |                                 |
|---|-----------------------------|---------------------------------|
|  |                             | <b>Title :</b>                  |
| ASUSTeK COMPUTER INC  |                             | <b>Engineer:</b> <i>Tony Su</i> |
| Size<br>A   | Project Name<br><b>UX50</b> | Rev<br>1.0a                     |
| Date: <b>Tuesday, March 31, 2009</b>  |                             | Sheet <b>55</b> of <b>97</b>    |

<http://laptop-motherboard-schematic.blogspot.com/>

5

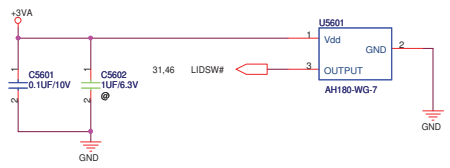
4

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2

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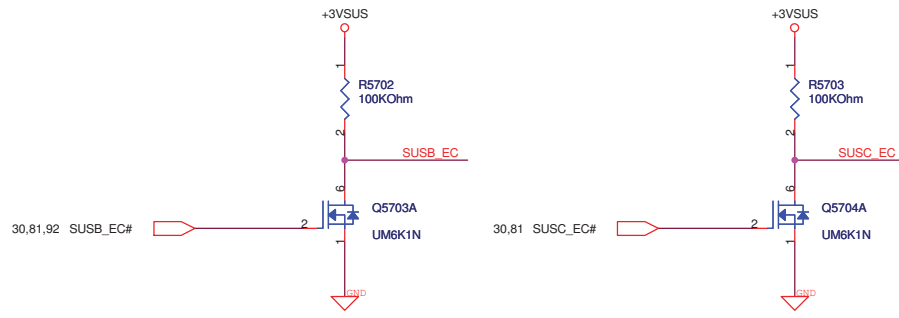
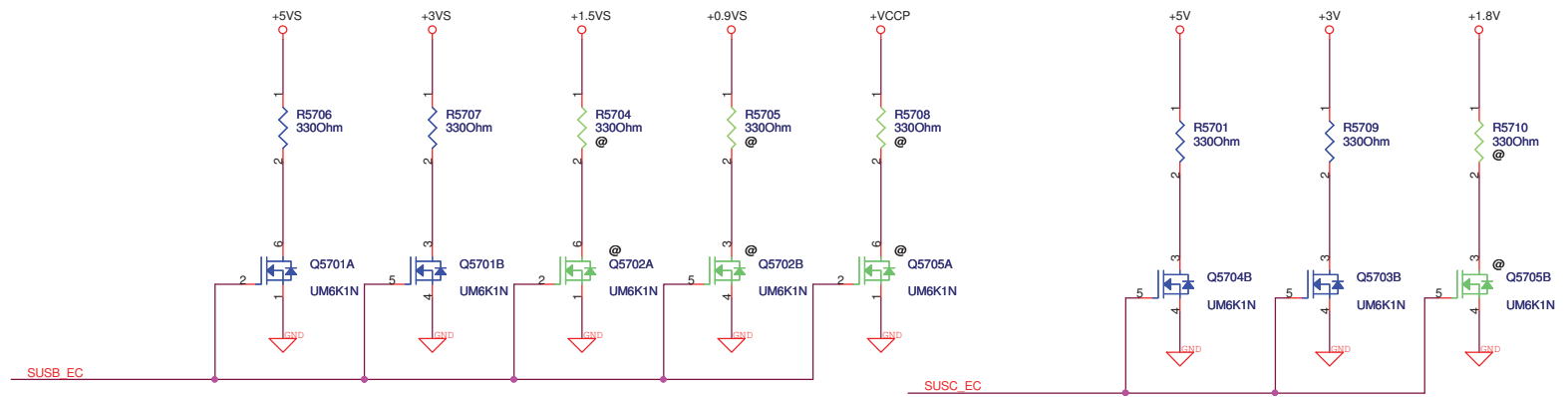
**LID SENSER**



Hall Sensor Second Source  
06G036012010 Cheap  
06G036013010  
06G036009011  
06G051001012

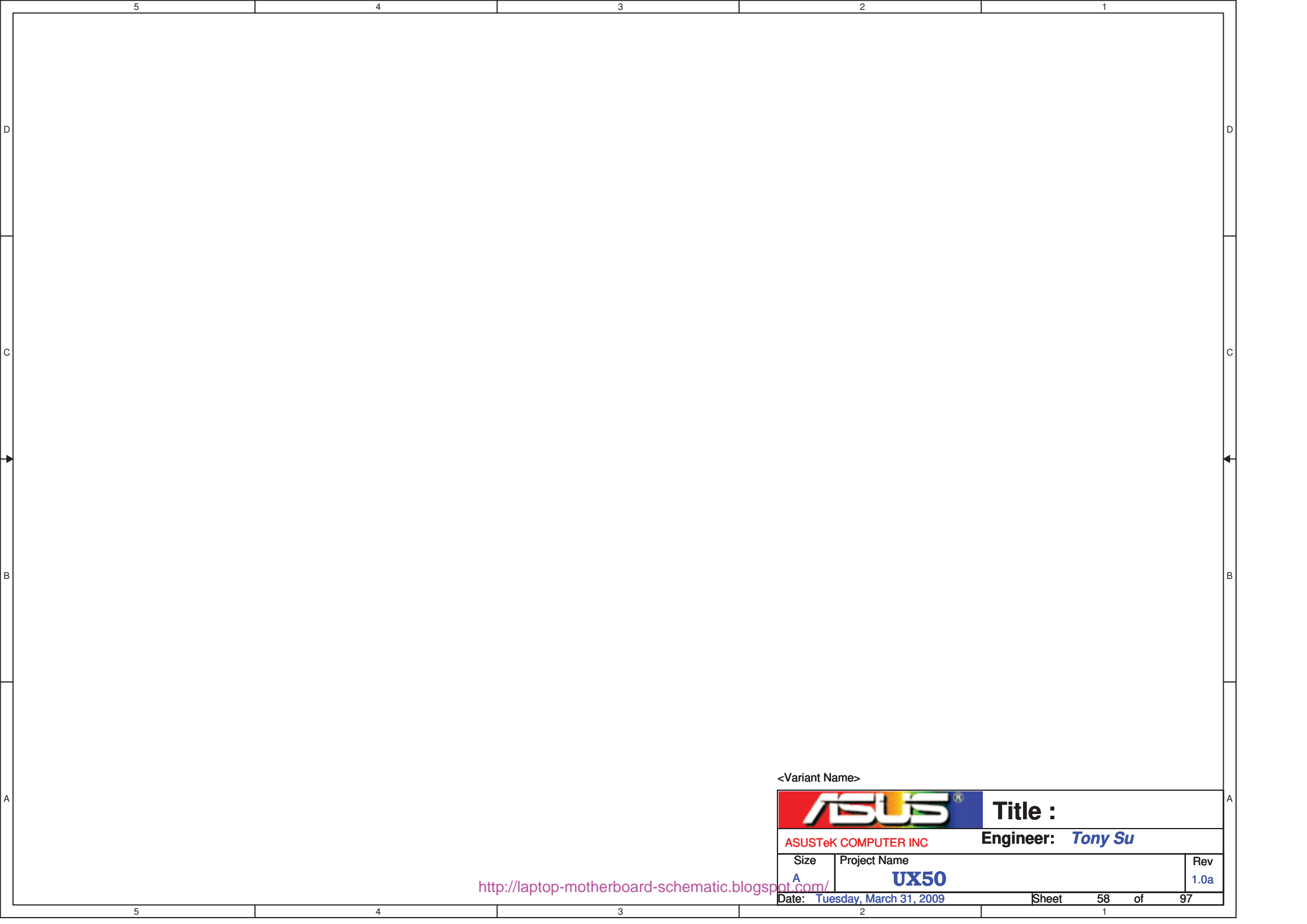


# Discharge Circuit




<http://laptop-motherboard-schematic.blogspot.com/>

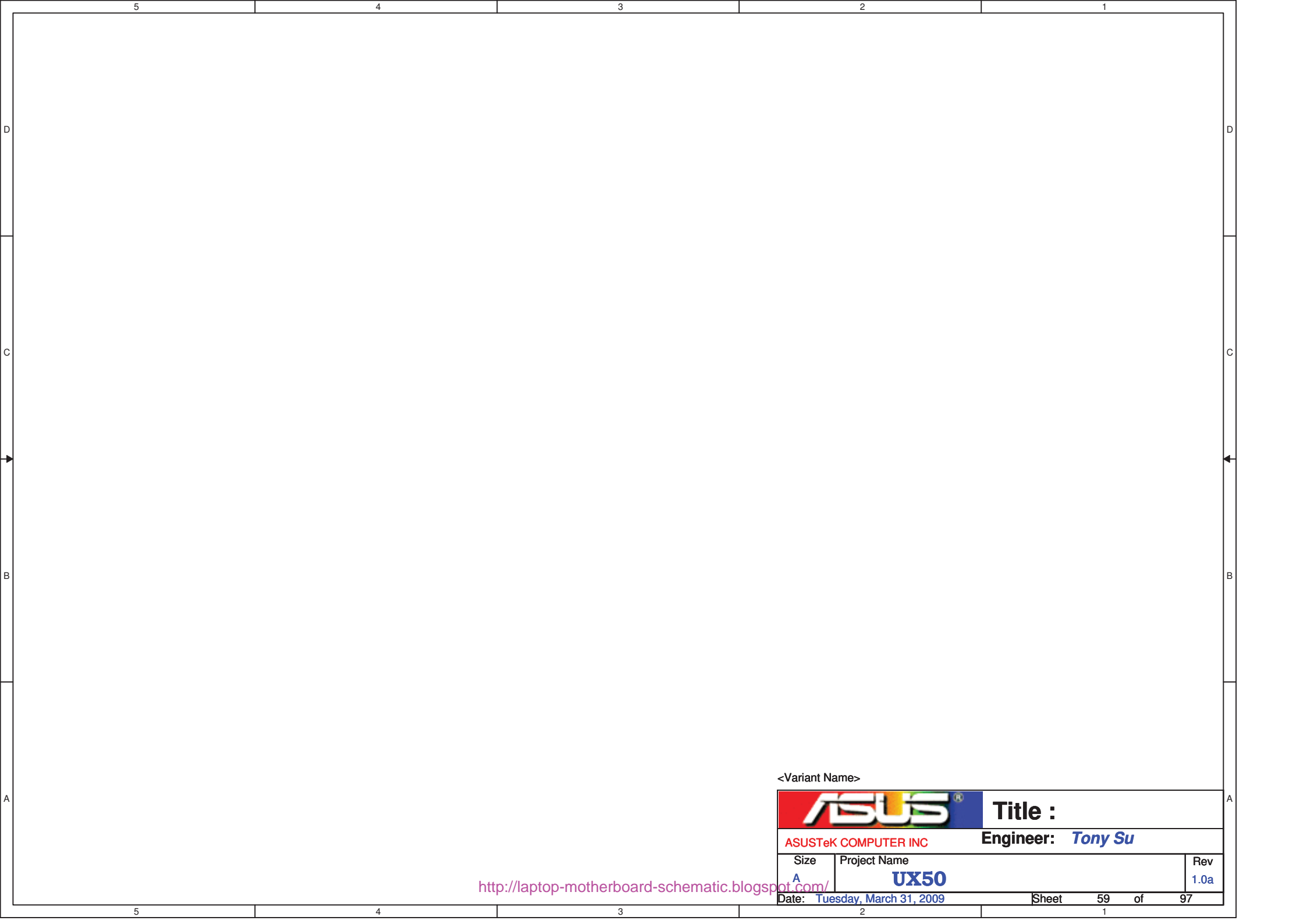
|                               |                             |                              |          |
|-------------------------------|-----------------------------|------------------------------|----------|
| -Variant Name-                |                             | <b>D56-DISCHARGE CIRCUIT</b> |          |
| <b>ASUS</b>                   |                             | <b>Title :</b>               |          |
| ASUSTeK COMPUTER INC          |                             | Engineer: <b>Tony Su</b>     |          |
| Size<br>Custom                | Project Name<br><b>UX50</b> | Rev<br>1.0a                  |          |
| Date: Tuesday, March 31, 2009 |                             | Sheet                        | 57 of 97 |




<Variant Name>

|   |                             |                                 |
|---|-----------------------------|---------------------------------|
|  |                             | <b>Title :</b>                  |
| ASUSTeK COMPUTER INC  |                             | <b>Engineer:</b> <i>Tony Su</i> |
| Size<br>A   | Project Name<br><b>UX50</b> | Rev<br>1.0a                     |
| Date: <b>Tuesday, March 31, 2009</b>  |                             | Sheet <b>58</b> of <b>97</b>    |

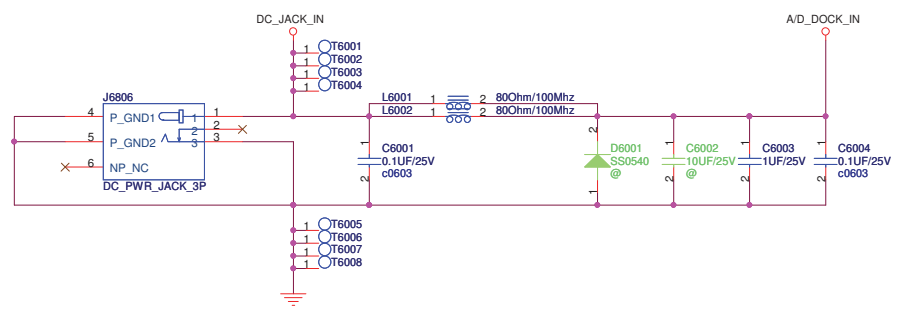
<http://laptop-motherboard-schematic.blogspot.com/>



<Variant Name>

|   |                             |                                 |
|---|-----------------------------|---------------------------------|
|  |                             | <b>Title :</b>                  |
| ASUSTeK COMPUTER INC  |                             | <b>Engineer:</b> <i>Tony Su</i> |
| Size<br>A   | Project Name<br><b>UX50</b> | Rev<br>1.0a                     |
| Date: <b>Tuesday, March 31, 2009</b>  |                             | Sheet <b>59</b> of <b>97</b>    |

<http://laptop-motherboard-schematic.blogspot.com/>



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B

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<http://laptop-motherboard-schematic.blogspot.com/>

<Variant Name>

|   |              |                                 |          |
|---|--------------|---------------------------------|----------|
|  |              | <b>Title:</b> BT BLUETOOTH CONN |          |
| ASUSTeK COMPUTER INC  |              | Engineer: <i>Tony Su</i>        |          |
| Size  | Project Name | Rev                             |          |
| Custom  | <b>UX50</b>  | 1.0a                            |          |
| Date: Tuesday, March 31, 2009   |              | Sheet                           | 61 of 97 |

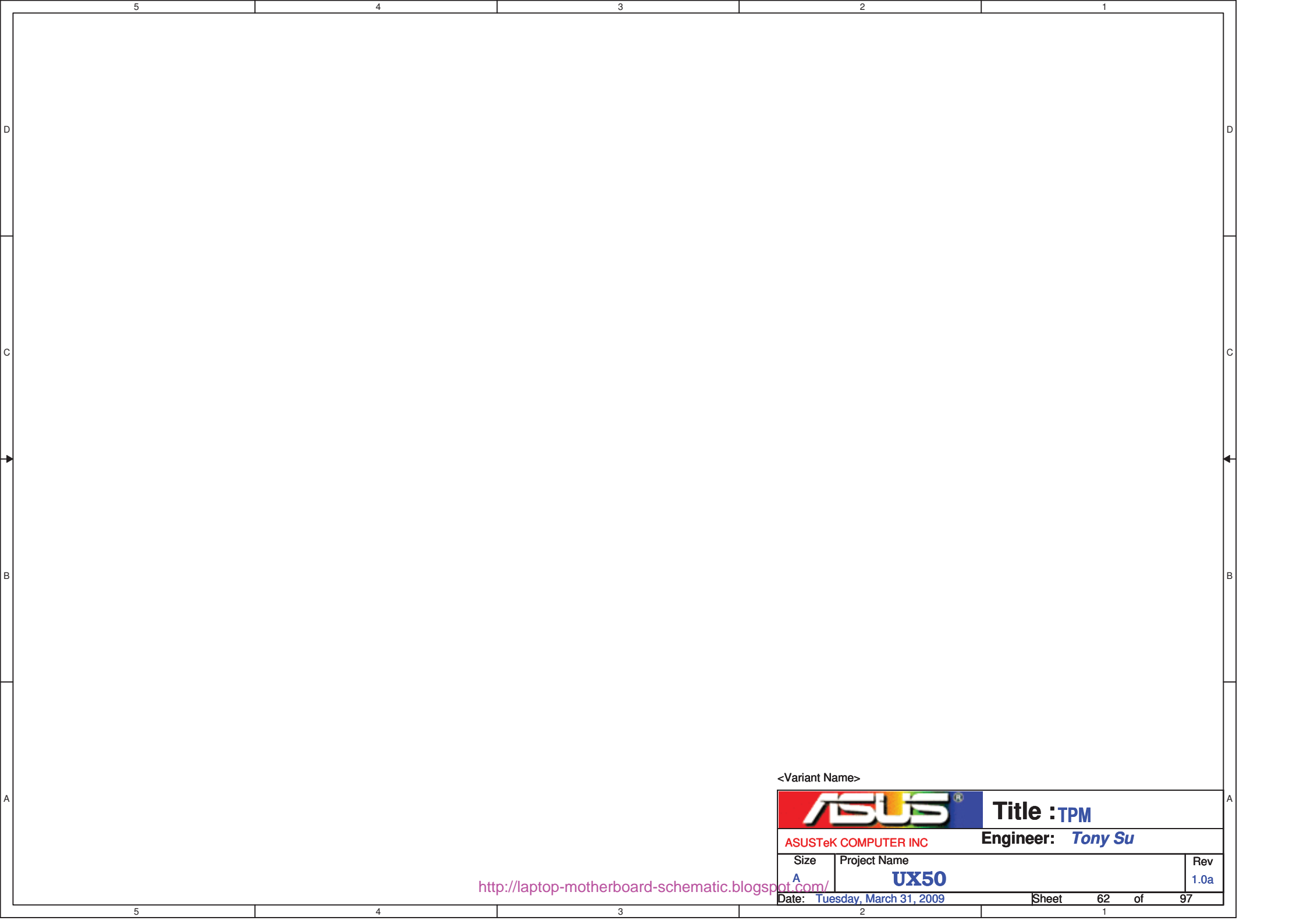
5

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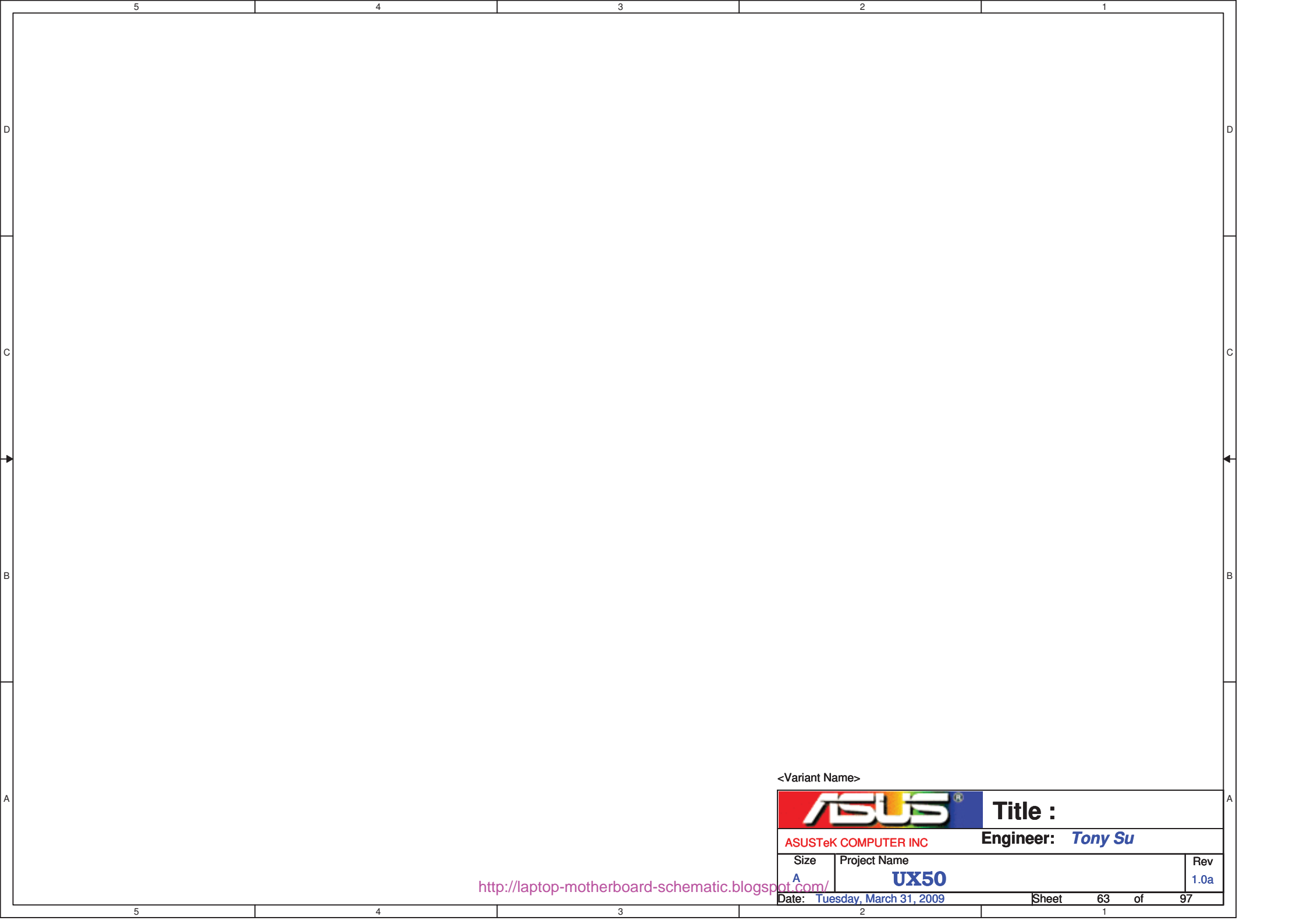
1




<Variant Name>

|   |                             |                          |
|---|-----------------------------|--------------------------|
|  |                             | <b>Title :TPM</b>        |
| ASUSTeK COMPUTER INC  |                             | <b>Engineer: Tony Su</b> |
| Size<br>A   | Project Name<br><b>UX50</b> | Rev<br>1.0a              |
| Date: Tuesday, March 31, 2009   |                             | Sheet 62 of 97           |

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<Variant Name>

|   |              |                                 |
|---|--------------|---------------------------------|
|  |              | <b>Title :</b>                  |
| ASUSTeK COMPUTER INC  |              | <b>Engineer:</b> <i>Tony Su</i> |
| Size  | Project Name | Rev                             |
| A   | <b>UX50</b>  | 1.0a                            |
| Date: <b>Tuesday, March 31, 2009</b>  |              | Sheet <b>63</b> of <b>97</b>    |

<http://laptop-motherboard-schematic.blogspot.com/>

5

4

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2

1

D

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C

C


B

B

A

A

<Variant Name>

|   |                             |                                 |
|---|-----------------------------|---------------------------------|
|  |                             | <b>Title :</b>                  |
| ASUSTeK COMPUTER INC  |                             | <b>Engineer:</b> <i>Tony Su</i> |
| Size<br>A   | Project Name<br><b>UX50</b> | Rev<br>1.0a                     |
| Date: <b>Tuesday, March 31, 2009</b>  |                             | Sheet <b>64</b> of <b>97</b>    |

<http://laptop-motherboard-schematic.blogspot.com/>

5

4

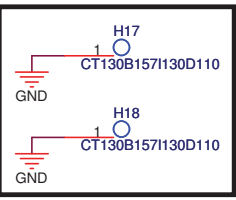
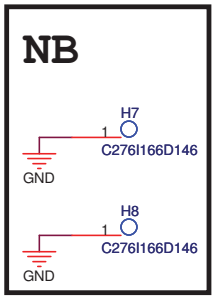
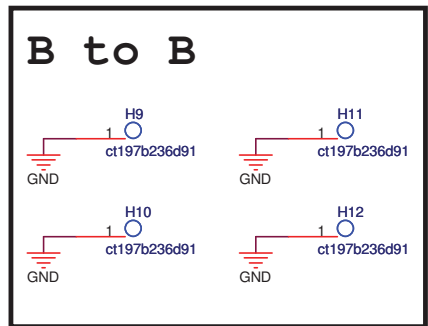
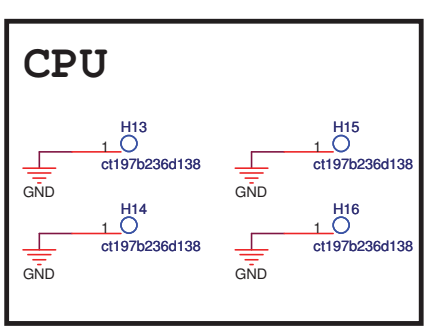
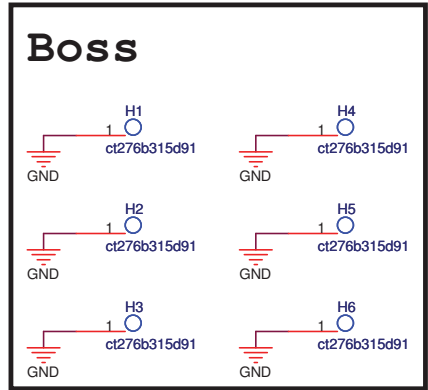
3

2

1

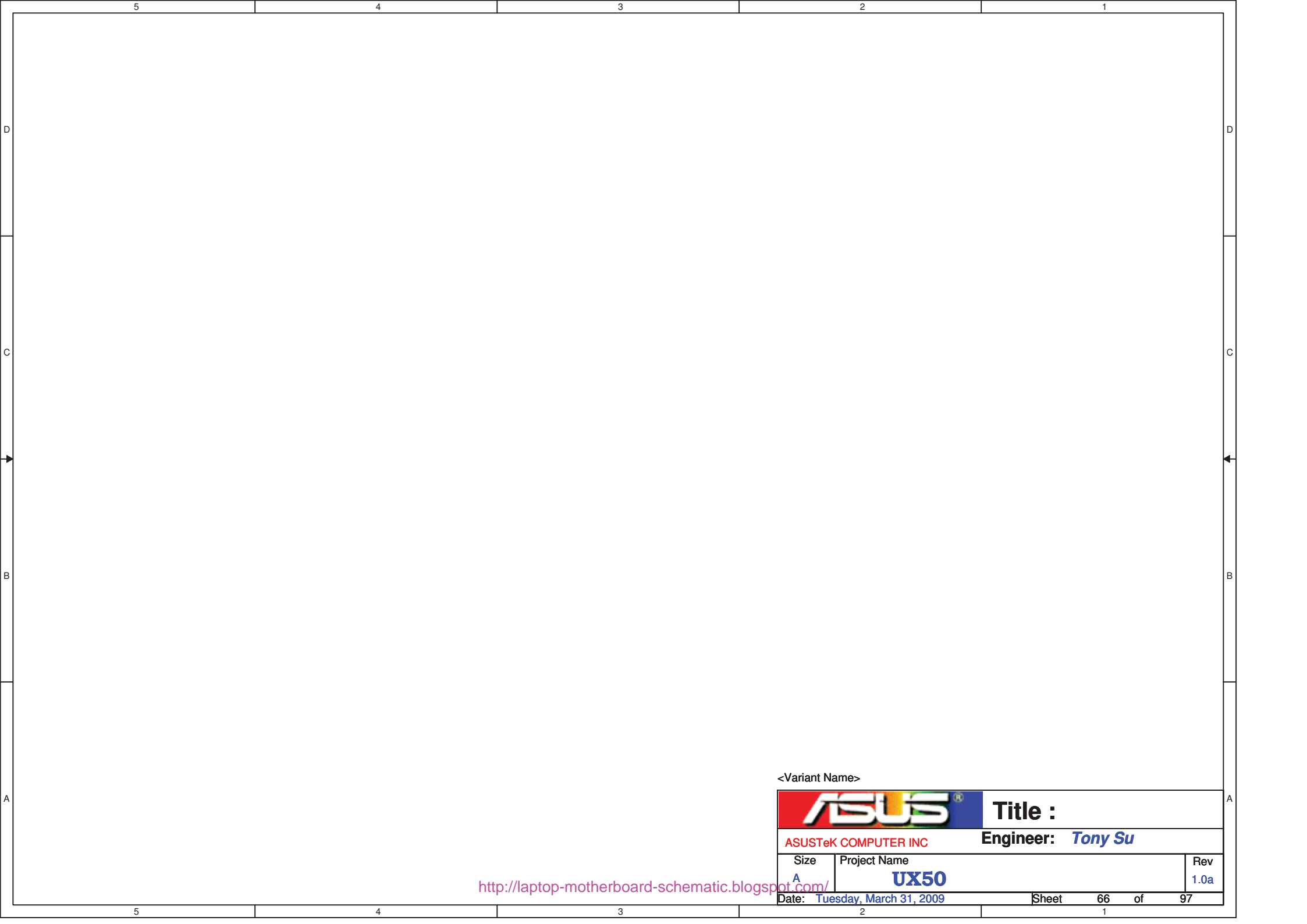


# Screw Hole & SMT Nut




<Variant Name>

|                               |              |                              |
|-------------------------------|--------------|------------------------------|
| <b>ASUS</b>                   |              | <b>ME SCREW HOLE AMT NUT</b> |
| ASUSTeK COMPUTER INC          |              | <b>Title :</b>               |
| Project Name                  |              | Engineer: <i>Tony Su</i>     |
| Size                          | Project Name | Rev                          |
| Custom                        | <b>UX50</b>  | 1.0a                         |
| Date: Tuesday, March 31, 2009 | Sheet        | 65 of 97                     |

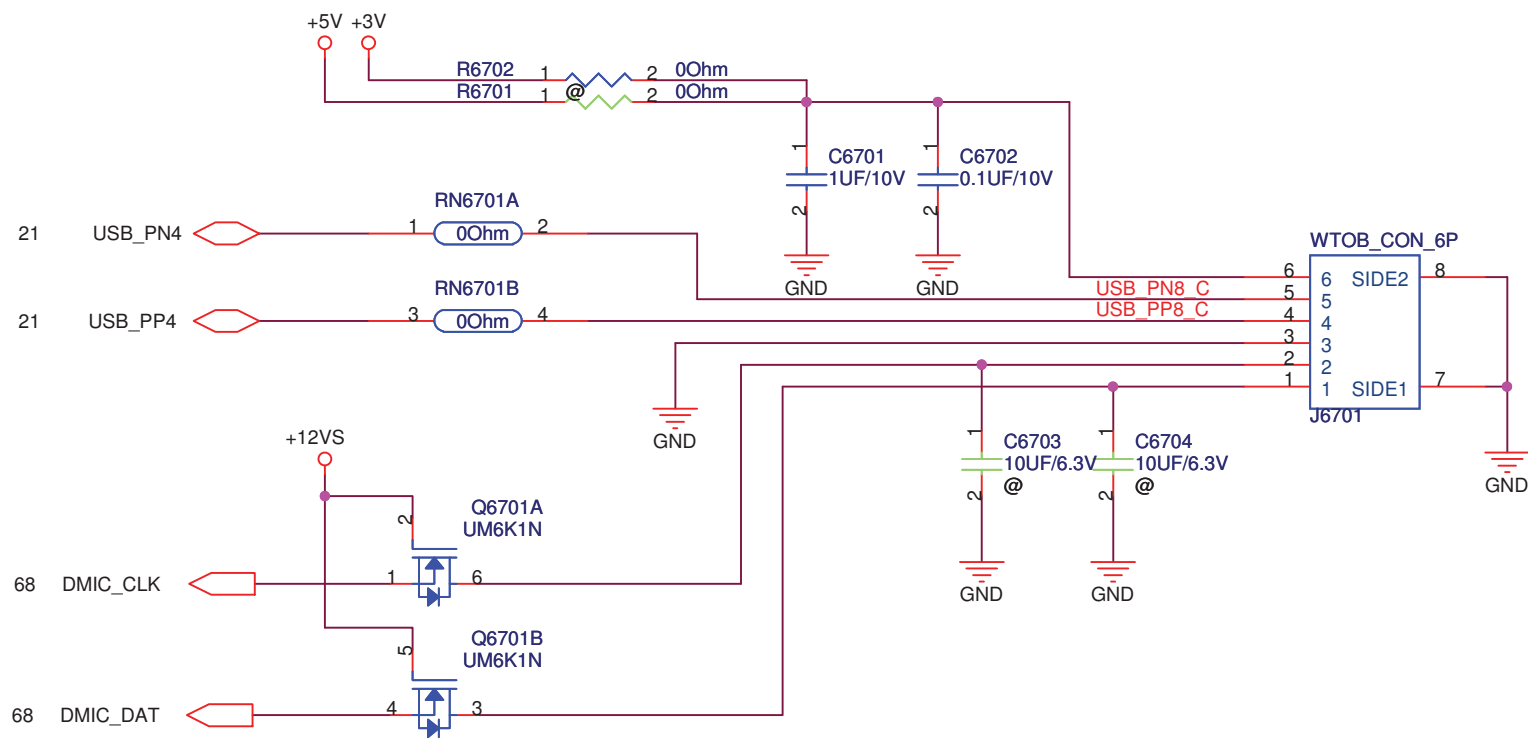


<Variant Name>


|   |                             |                                 |
|---|-----------------------------|---------------------------------|
|  |                             | <b>Title :</b>                  |
| ASUSTeK COMPUTER INC  |                             | <b>Engineer:</b> <i>Tony Su</i> |
| Size<br>A   | Project Name<br><b>UX50</b> | Rev<br>1.0a                     |
| Date: <b>Tuesday, March 31, 2009</b>  |                             | Sheet <b>66</b> of <b>97</b>    |

<http://laptop-motherboard-schematic.blogspot.com/>

# Camera Module

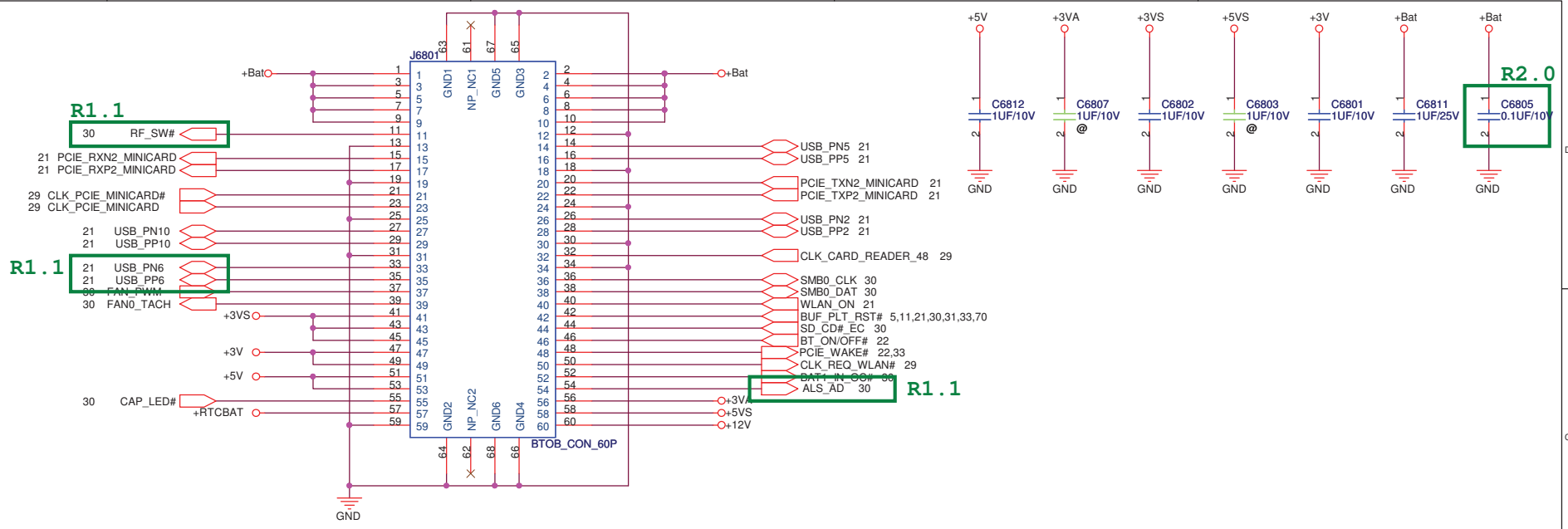


<Variant Name>

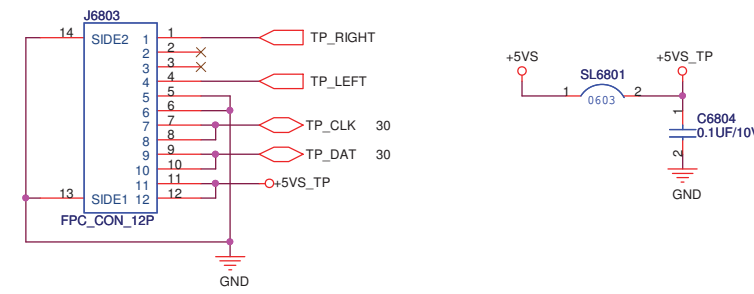
|   |              |                            |
|---|--------------|----------------------------|
|  |              | <b>Title :</b> CMOS CAMERA |
| ASUSTeK COMPUTER INC  |              | <b>Engineer:</b> Tony Su   |
| Size  | Project Name | Rev                        |
| A   | UX50         | 1.0a                       |
| Date: Tuesday, March 31, 2009   |              | Sheet 67 of 97             |

<http://laptop-motherboard-schematic.blogspot.com/>

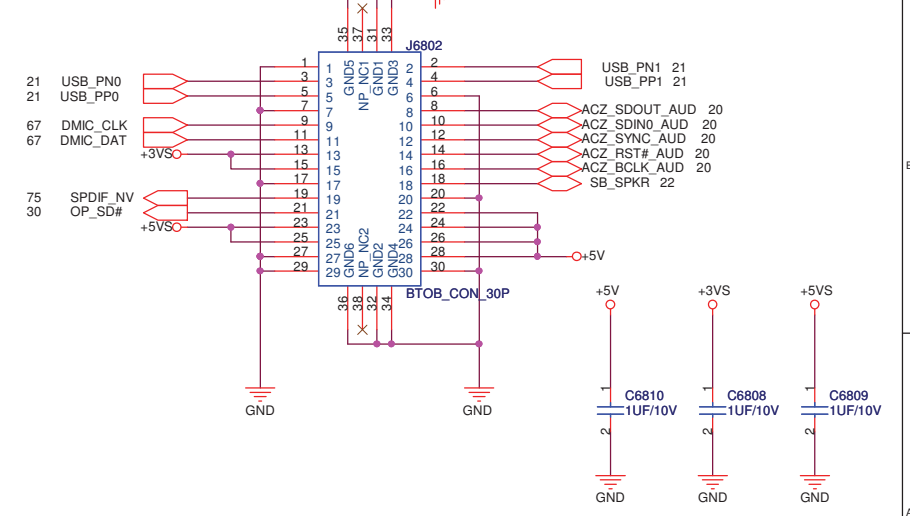
# CR Board



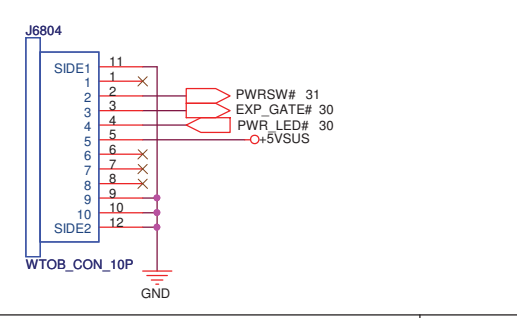
# Touch Pad Board



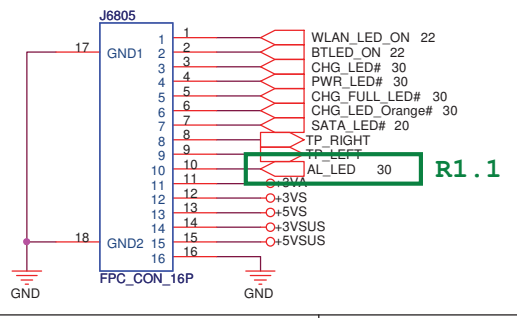
# Audio Board



# Switch Board



# LED Board



**ASUS** Title: **B TO B CONN**  
**ASUSTeK COMPUTER INC** Engineer: **Tony Su**

|      |              |      |
|------|--------------|------|
| Size | Project Name | Rev  |
| B    | <b>UX50</b>  | 1.0a |

Date: Tuesday, March 31, 2009 Sheet 68 of 97



# SYSTEM

+VCCP   +VCCP 3,4,5,10,11,12,14,15,20,23,29,57,76,82



+VCC\_GMCH   +VCC\_GMCH 14

+VGFX\_CORE   +VGFX\_CORE 14

+3VS   +3VS 7,8,11,12,15,17,21,22,23,24,29,30,31,45,46,47,48,50,51,57,68,80,91,92

+12VS   +12VS 22,46,48,51,67,91

+VCORE   +VCORE 4,5,80

+1.5VS   +1.5VS 4,15,20,23,57,84

AC\_BAT\_SYS   AC\_BAT\_SYS 46,80,81,82,83,85,86,88

+5V   +5V 31,57,67,68,91

+5VS   +5VS 23,45,47,48,51,57,68,80,84,91

+3VA   +3VA 20,30,31,56,68,81,88

+VCC\_RTC   +VCC\_RTC 20,23

+3V   +3V 44,46,48,57,67,68,70,91

+5VA   +5VA 81

+3VSUS   +3VSUS 20,21,22,23,30,33,57,68,76,81,85,91,92

+5VSUS   +5VSUS 23,68,80,81,82,83,85,86,88,91


+3VPLL   +3VPLL 30

+3VACC   +3VACC 30

+3VA\_ECO   +3VA\_EC 30,31

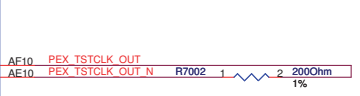
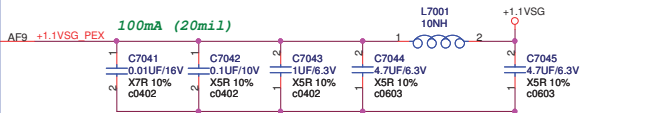
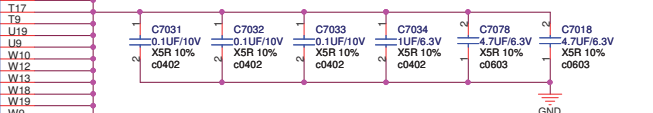
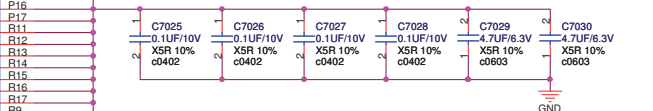
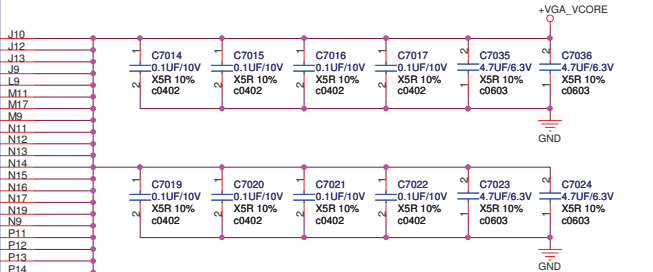
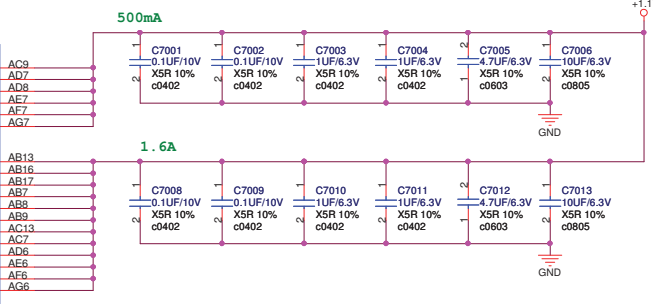
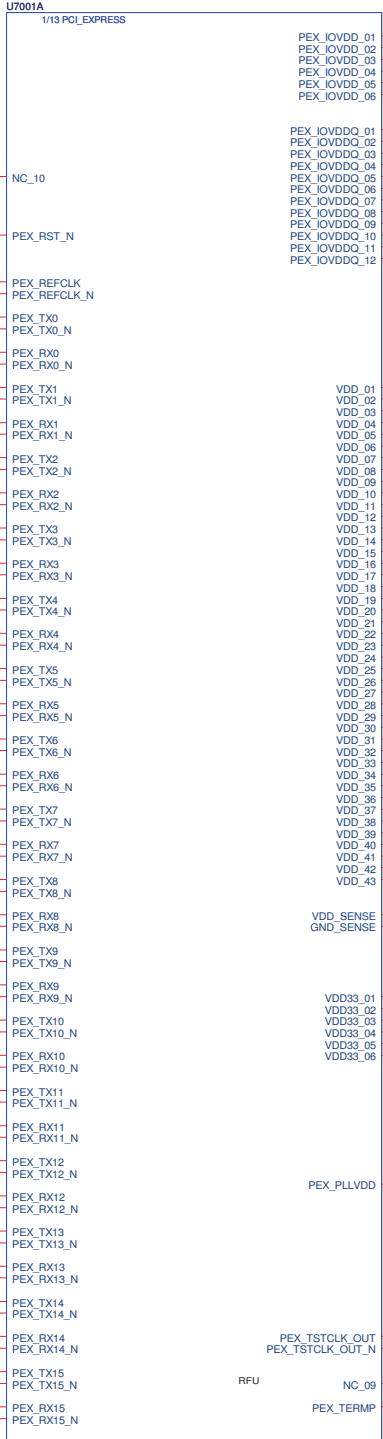
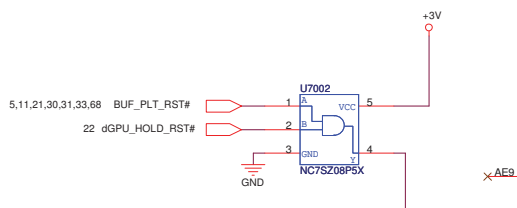
+12V   +12V 68,91

<Variant Name>

|   |              |                          |          |
|---|--------------|--------------------------|----------|
|  |              | <b>Title :</b>           |          |
| ASUSTeK COMPUTER INC  |              | Engineer: <i>Tony Su</i> |          |
| Size  | Project Name | Rev                      |          |
| A   | <b>UX50</b>  | 1.0a                     |          |
| Date: <b>Tuesday, March 31, 2009</b>  |              | Sheet                    | 69 of 97 |

PCIEG\_RXP[0..15] 12  
 PCIEG\_RXN[0..15] 12  
 PCIEB\_RXP[0..15] 12  
 PCIEB\_RXN[0..15] 12

|             |       |   |   |           |             |
|-------------|-------|---|---|-----------|-------------|
| PCIEB_RXN15 | C7046 | 1 | 2 | 0.1UF/10V | PCIEG_TXN15 |
| PCIEB_RXP15 | C7062 | 1 | 2 | 0.1UF/10V | PCIEG_TXP15 |
| PCIEB_RXN14 | C7047 | 1 | 2 | 0.1UF/10V | PCIEG_TXN14 |
| PCIEB_RXP14 | C7063 | 1 | 2 | 0.1UF/10V | PCIEG_TXP14 |
| PCIEB_RXN13 | C7048 | 1 | 2 | 0.1UF/10V | PCIEG_TXN13 |
| PCIEB_RXP13 | C7064 | 1 | 2 | 0.1UF/10V | PCIEG_TXP13 |
| PCIEB_RXN12 | C7049 | 1 | 2 | 0.1UF/10V | PCIEG_TXN12 |
| PCIEB_RXP12 | C7065 | 1 | 2 | 0.1UF/10V | PCIEG_TXP12 |
| PCIEB_RXN11 | C7050 | 1 | 2 | 0.1UF/10V | PCIEG_TXN11 |
| PCIEB_RXP11 | C7066 | 1 | 2 | 0.1UF/10V | PCIEG_TXP11 |
| PCIEB_RXN10 | C7051 | 1 | 2 | 0.1UF/10V | PCIEG_TXN10 |
| PCIEB_RXP10 | C7067 | 1 | 2 | 0.1UF/10V | PCIEG_TXP10 |
| PCIEB_RXN9  | C7052 | 1 | 2 | 0.1UF/10V | PCIEG_TXN9  |
| PCIEB_RXP9  | C7068 | 1 | 2 | 0.1UF/10V | PCIEG_TXP9  |
| PCIEB_RXN8  | C7053 | 1 | 2 | 0.1UF/10V | PCIEG_TXN8  |
| PCIEB_RXP8  | C7069 | 1 | 2 | 0.1UF/10V | PCIEG_TXP8  |
| PCIEB_RXN7  | C7054 | 1 | 2 | 0.1UF/10V | PCIEG_TXN7  |
| PCIEB_RXP7  | C7070 | 1 | 2 | 0.1UF/10V | PCIEG_TXP7  |
| PCIEB_RXN6  | C7055 | 1 | 2 | 0.1UF/10V | PCIEG_TXN6  |
| PCIEB_RXP6  | C7071 | 1 | 2 | 0.1UF/10V | PCIEG_TXP6  |
| PCIEB_RXN5  | C7056 | 1 | 2 | 0.1UF/10V | PCIEG_TXN5  |
| PCIEB_RXP5  | C7072 | 1 | 2 | 0.1UF/10V | PCIEG_TXP5  |
| PCIEB_RXN4  | C7057 | 1 | 2 | 0.1UF/10V | PCIEG_TXN4  |
| PCIEB_RXP4  | C7073 | 1 | 2 | 0.1UF/10V | PCIEG_TXP4  |
| PCIEB_RXN3  | C7058 | 1 | 2 | 0.1UF/10V | PCIEG_TXN3  |
| PCIEB_RXP3  | C7074 | 1 | 2 | 0.1UF/10V | PCIEG_TXP3  |
| PCIEB_RXN2  | C7059 | 1 | 2 | 0.1UF/10V | PCIEG_TXN2  |
| PCIEB_RXP2  | C7075 | 1 | 2 | 0.1UF/10V | PCIEG_TXP2  |
| PCIEB_RXN1  | C7060 | 1 | 2 | 0.1UF/10V | PCIEG_TXN1  |
| PCIEB_RXP1  | C7076 | 1 | 2 | 0.1UF/10V | PCIEG_TXP1  |
| PCIEB_RXN0  | C7061 | 1 | 2 | 0.1UF/10V | PCIEG_TXN0  |
| PCIEB_RXP0  | C7077 | 1 | 2 | 0.1UF/10V | PCIEG_TXP0  |



**ASUS** Title :  
 ASUSTeK COMPUTER INC. NBI Engineer: Tony Su  
 Size Project Name  
 Custom UX50 Rev 2.2  
 Date: Tuesday, March 31, 2009 Sheet 70 of 97

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72 FBAD[0..63]  
 72 FBADOM[0..7]  
 72 FBAWDS[0..7]  
 72 FBARDOS[0..7]

**U7001B**  
 2/13 FRAME\_BUFFER

|         |      |         |
|---------|------|---------|
| FBA_D0  | D21  | FBA_D0  |
| FBA_D1  | C22  | FBA_D1  |
| FBA_D2  | B22  | FBA_D2  |
| FBA_D3  | A22  | FBA_D3  |
| FBA_D4  | C24  | FBA_D4  |
| FBA_D5  | B25  | FBA_D5  |
| FBA_D6  | A25  | FBA_D6  |
| FBA_D7  | A26  | FBA_D7  |
| FBA_D8  | D22  | FBA_D8  |
| FBA_D9  | E22  | FBA_D9  |
| FBA_D10 | E24  | FBA_D10 |
| FBA_D11 | D24  | FBA_D11 |
| FBA_D12 | D26  | FBA_D12 |
| FBA_D13 | D27  | FBA_D13 |
| FBA_D14 | C27  | FBA_D14 |
| FBA_D15 | B27  | FBA_D15 |
| FBA_D16 | D16  | FBA_D16 |
| FBA_D17 | E16  | FBA_D17 |
| FBA_D18 | D17  | FBA_D18 |
| FBA_D19 | F18  | FBA_D19 |
| FBA_D20 | D20  | FBA_D20 |
| FBA_D21 | F20  | FBA_D21 |
| FBA_D22 | E21  | FBA_D22 |
| FBA_D23 | F21  | FBA_D23 |
| FBA_D24 | C18  | FBA_D24 |
| FBA_D25 | B18  | FBA_D25 |
| FBA_D26 | C18  | FBA_D26 |
| FBA_D27 | D18  | FBA_D27 |
| FBA_D28 | C19  | FBA_D28 |
| FBA_D29 | C21  | FBA_D29 |
| FBA_D30 | B21  | FBA_D30 |
| FBA_D31 | A21  | FBA_D31 |
| FBA_D32 | P22  | FBA_D32 |
| FBA_D33 | P24  | FBA_D33 |
| FBA_D34 | R23  | FBA_D34 |
| FBA_D35 | R24  | FBA_D35 |
| FBA_D36 | T23  | FBA_D36 |
| FBA_D37 | U24  | FBA_D37 |
| FBA_D38 | V23  | FBA_D38 |
| FBA_D39 | V24  | FBA_D39 |
| FBA_D40 | N25  | FBA_D40 |
| FBA_D41 | N26  | FBA_D41 |
| FBA_D42 | R25  | FBA_D42 |
| FBA_D43 | R26  | FBA_D43 |
| FBA_D44 | T25  | FBA_D44 |
| FBA_D45 | V26  | FBA_D45 |
| FBA_D46 | V25  | FBA_D46 |
| FBA_D47 | V27  | FBA_D47 |
| FBA_D48 | V22  | FBA_D48 |
| FBA_D49 | W22  | FBA_D49 |
| FBA_D50 | W23  | FBA_D50 |
| FBA_D51 | W24  | FBA_D51 |
| FBA_D52 | A22  | FBA_D52 |
| FBA_D53 | AB23 | FBA_D53 |
| FBA_D54 | AB24 | FBA_D54 |
| FBA_D55 | AC24 | FBA_D55 |
| FBA_D56 | W25  | FBA_D56 |
| FBA_D57 | W26  | FBA_D57 |
| FBA_D58 | W27  | FBA_D58 |
| FBA_D59 | AB25 | FBA_D59 |
| FBA_D60 | AB26 | FBA_D60 |
| FBA_D61 | AD26 | FBA_D61 |
| FBA_D62 | AD27 | FBA_D62 |
| FBA_D63 | AD27 | FBA_D63 |

|           |       |          |          |    |
|-----------|-------|----------|----------|----|
| FBA_CMD0  | F26   | FBA_A3   | FBA_A3   | 72 |
| FBA_CMD1  | J24   | FBA_A0   | FBA_A0   | 72 |
| FBA_CMD2  | F25   | FBA_A2   | FBA_A2   | 72 |
| FBA_CMD3  | M23   | FBA_A1   | FBA_A1   | 72 |
| FBA_CMD4  | N27   | FBE_A3   | FBE_A3   | 72 |
| FBA_CMD5  | M27   | FBE_A4   | FBE_A4   | 72 |
| FBA_CMD6  | K26   | FBE_A5   | FBE_A5   | 72 |
| FBA_CMD7  | J25-X |          |          |    |
| FBA_CMD8  | J27   | FBA_CS#  | FBA_CS#  | 72 |
| FBA_CMD9  | G23   | FBA_WE#  | FBA_WE#  | 72 |
| FBA_CMD10 | G26   | FBA_BA0  | FBA_BA0  | 72 |
| FBA_CMD11 | J23   | FBA_CKE  | FBA_CKE  | 72 |
| FBA_CMD12 | M22   | FBA_ODT  | FBA_ODT  | 72 |
| FBA_CMD13 | G25   | FBE_A2   | FBE_A2   | 72 |
| FBA_CMD14 | L24   | FBA_RAS# | FBA_RAS# | 72 |
| FBA_CMD15 | K23   | FBA_A11  | FBA_A11  | 72 |
| FBA_CMD16 | K24   | FBA_A10  | FBA_A10  | 72 |
| FBA_CMD17 | G22   | FBA_BA1  | FBA_BA1  | 72 |
| FBA_CMD18 | K25   | FBA_A8   | FBA_A8   | 72 |
| FBA_CMD19 | H22   | FBA_A9   | FBA_A9   | 72 |
| FBA_CMD20 | M26   | FBA_A6   | FBA_A6   | 72 |
| FBA_CMD21 | H24   | FBA_A5   | FBA_A5   | 72 |
| FBA_CMD22 | F27   | FBA_A7   | FBA_A7   | 72 |
| FBA_CMD23 | J26   | FBA_A4   | FBA_A4   | 72 |
| FBA_CMD24 | G24   | FBA_CAS# | FBA_CAS# | 72 |
| FBA_CMD25 | G27   | FBA_A13  | FBA_A13  | 72 |
| FBA_CMD26 | M24   | FBA_BA2  | FBA_BA2  | 72 |
| FBA_CMD27 | K22   |          |          |    |
| FBA_CMD28 | J22-X |          |          |    |
| NC_11     |       |          |          |    |
| NC_12     |       |          |          |    |

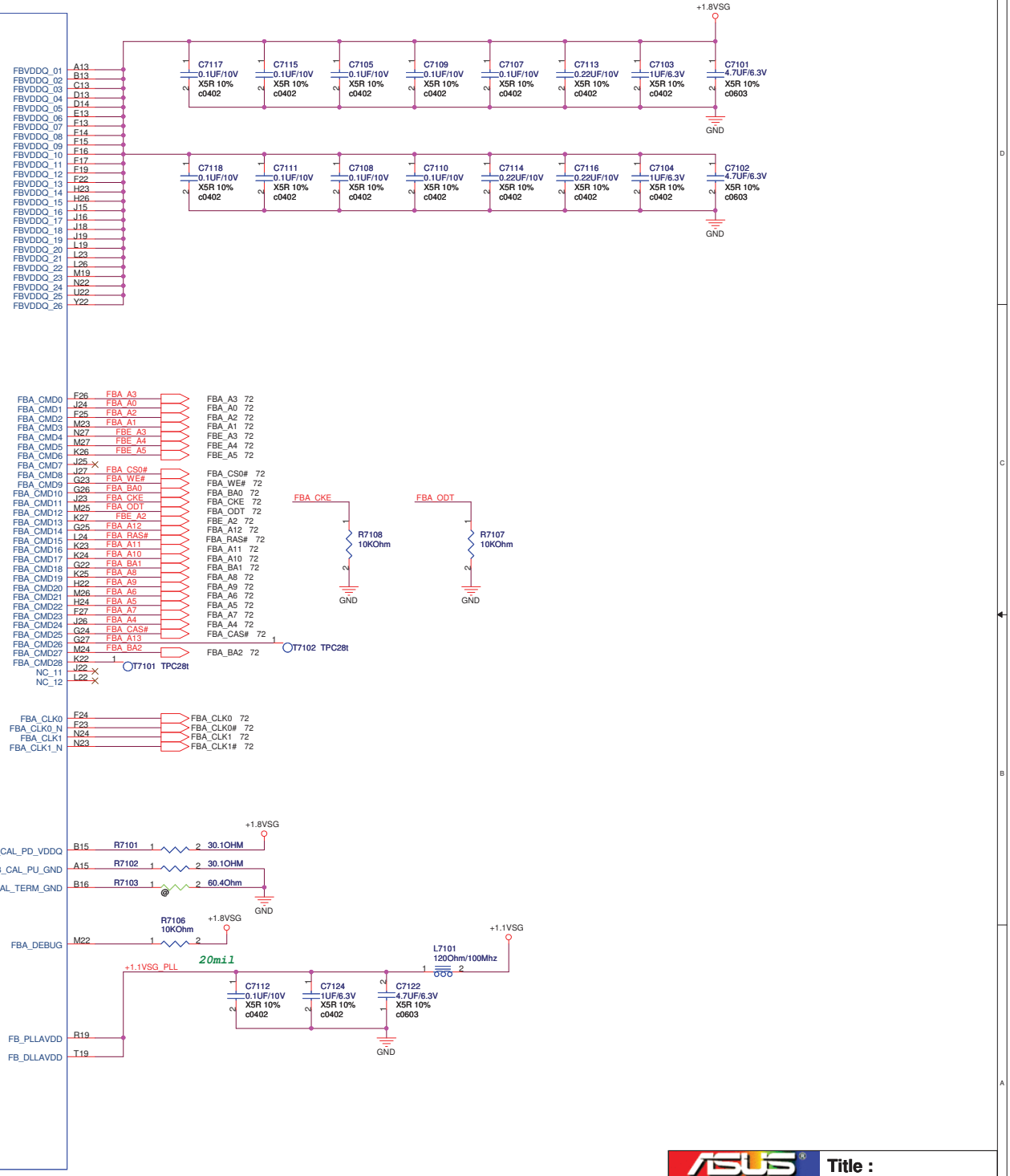
|            |     |           |           |    |
|------------|-----|-----------|-----------|----|
| FBA_CLK0   | F24 | FBA_CLK0  | FBA_CLK0  | 72 |
| FBA_CLK0_N | F23 | FBA_CLK0# | FBA_CLK0# | 72 |
| FBA_CLK1   | N24 | FBA_CLK1  | FBA_CLK1  | 72 |
| FBA_CLK1_N | N23 | FBA_CLK1# | FBA_CLK1# | 72 |

|             |      |             |
|-------------|------|-------------|
| FBA_DQS_WP0 | A24  | FBA_DQS_WP0 |
| FBA_DQS_WP1 | C26  | FBA_DQS_WP1 |
| FBA_DQS_WP2 | E19  | FBA_DQS_WP2 |
| FBA_DQS_WP3 | A19  | FBA_DQS_WP3 |
| FBA_DQS_WP4 | T22  | FBA_DQS_WP4 |
| FBA_DQS_WP5 | T27  | FBA_DQS_WP5 |
| FBA_DQS_WP6 | A24  | FBA_DQS_WP6 |
| FBA_DQS_WP7 | AA26 | FBA_DQS_WP7 |

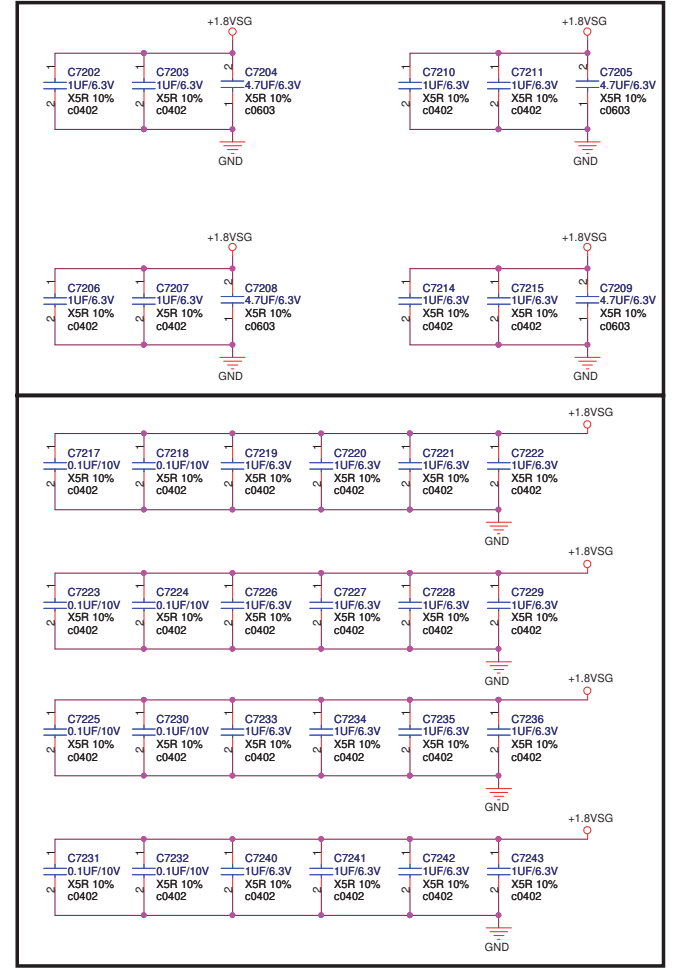
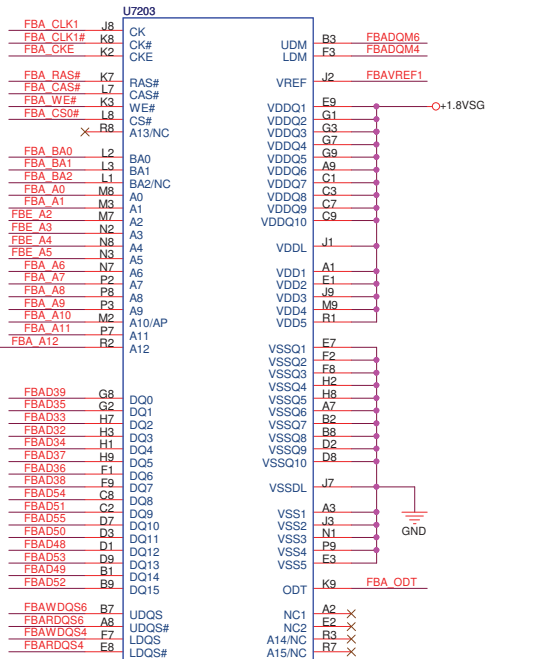
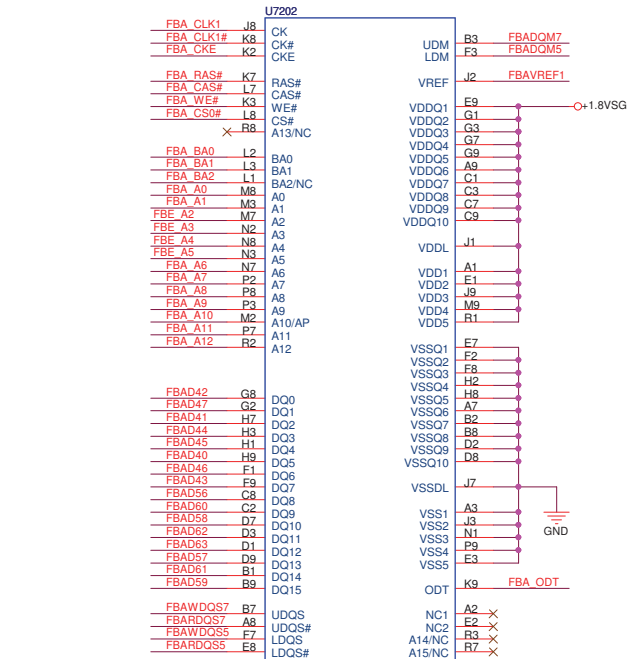
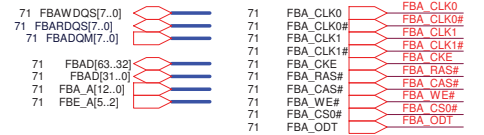
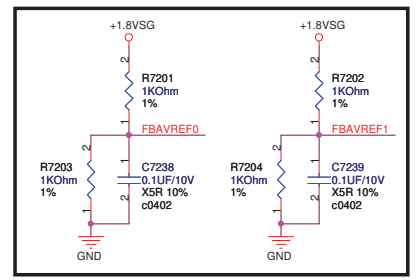
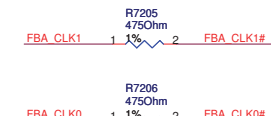
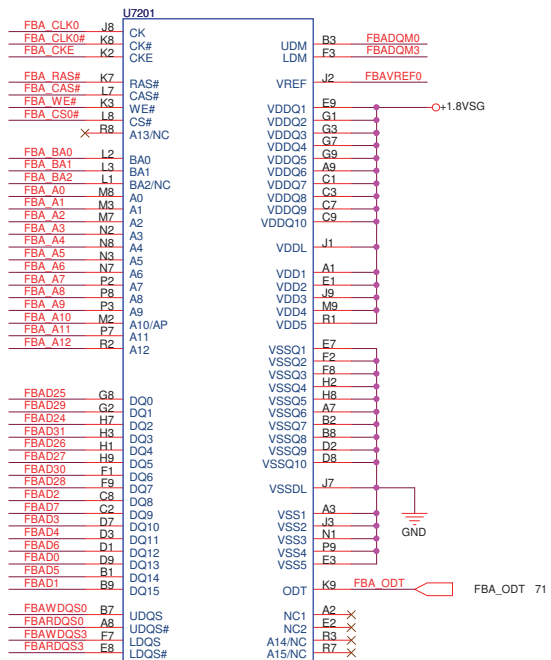
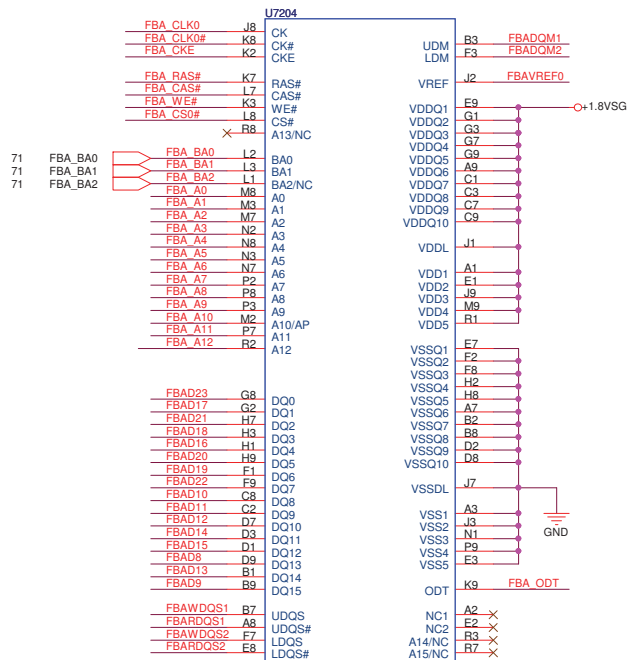
  

|             |      |             |
|-------------|------|-------------|
| FBA_DQS_RN0 | B24  | FBA_DQS_RN0 |
| FBA_DQS_RN1 | D25  | FBA_DQS_RN1 |
| FBA_DQS_RN2 | E18  | FBA_DQS_RN2 |
| FBA_DQS_RN3 | A18  | FBA_DQS_RN3 |
| FBA_DQS_RN4 | B22  | FBA_DQS_RN4 |
| FBA_DQS_RN5 | B27  | FBA_DQS_RN5 |
| FBA_DQS_RN6 | Y24  | FBA_DQS_RN6 |
| FBA_DQS_RN7 | AA27 | FBA_DQS_RN7 |



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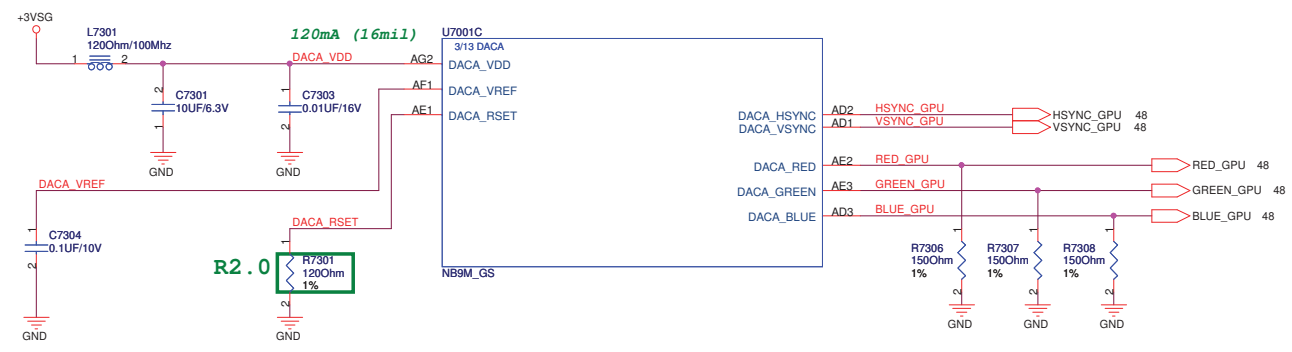
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|-------------------------------|-----------------------------|-------------------|-------|
| <b>ASUS</b>                   |                             | Title :           |       |
| ASUSTeK COMPUTER INC. NB1     |                             | Engineer: Tony Su |       |
| Size<br>Custom                | Project Name<br><b>UX50</b> | Rev<br>2.2        |       |
| Date: Tuesday, March 31, 2009 | Sheet                       | 71                | of 97 |



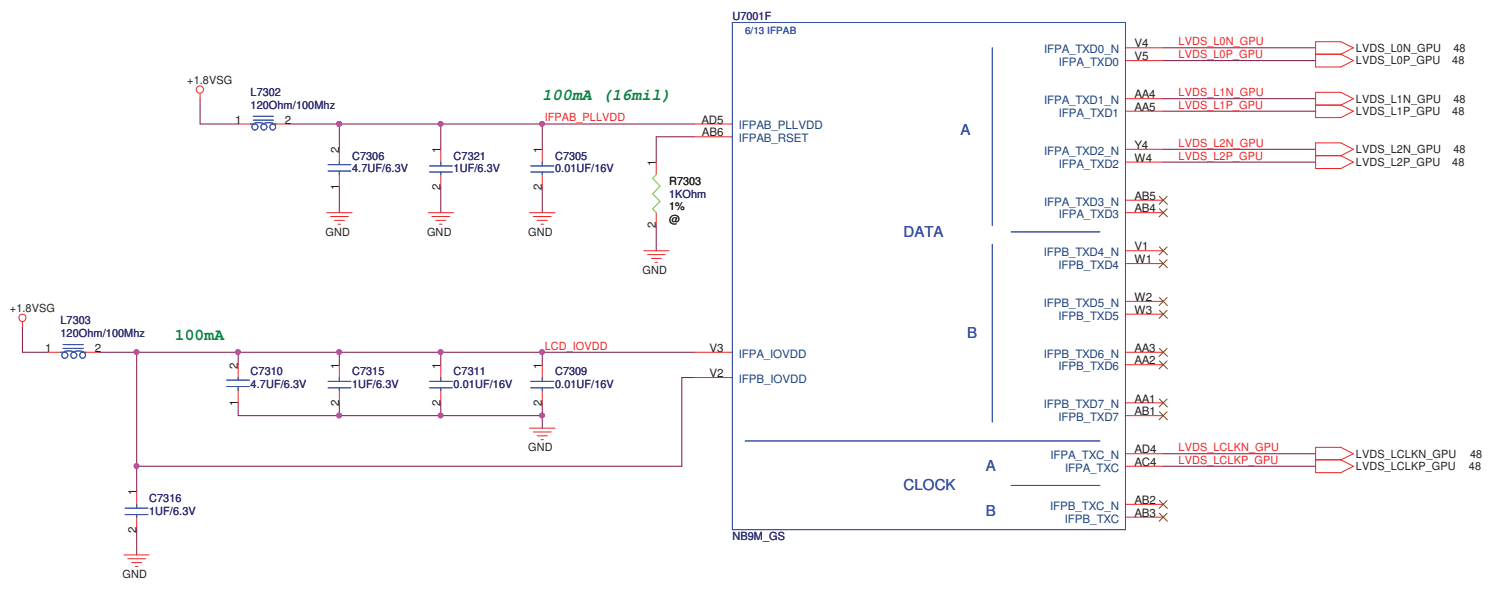
**ASUS** Title :  
**ASUS** COMPUTER INC. NBI Engineer: **Tony Su**  
 Size Project Name  
 Custom **UX50**  
 Date: Monday, April 06, 2009 Sheet 72 of 97



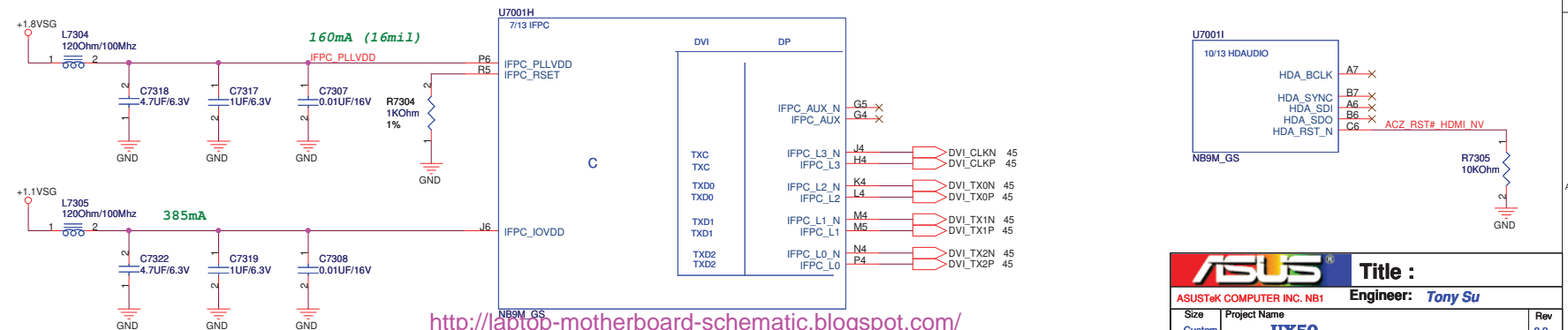
VGA



LVDS



HDMI



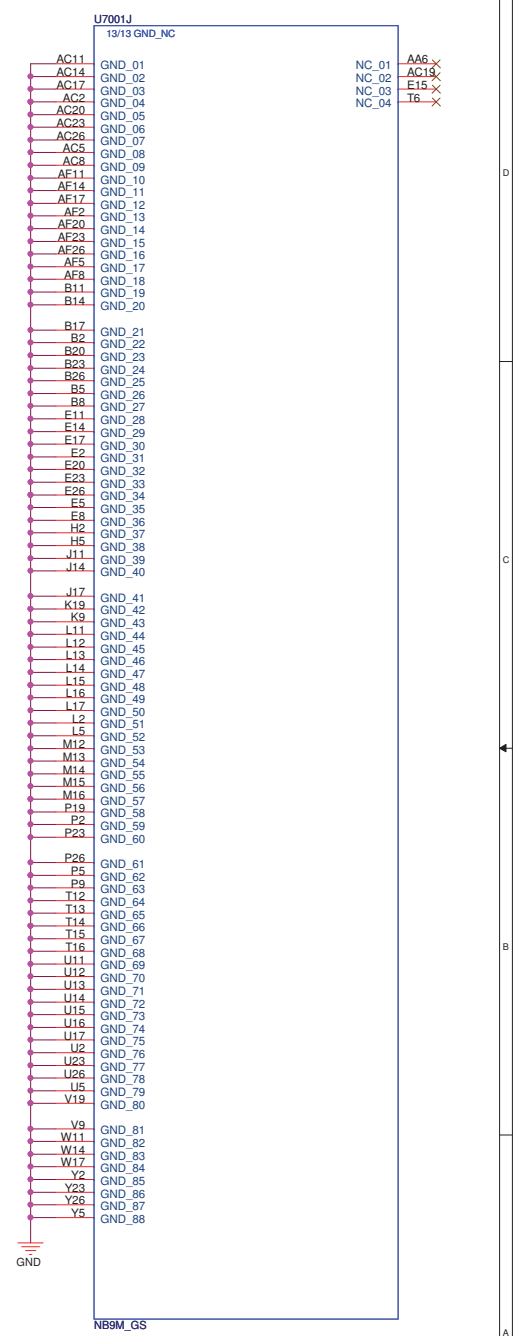
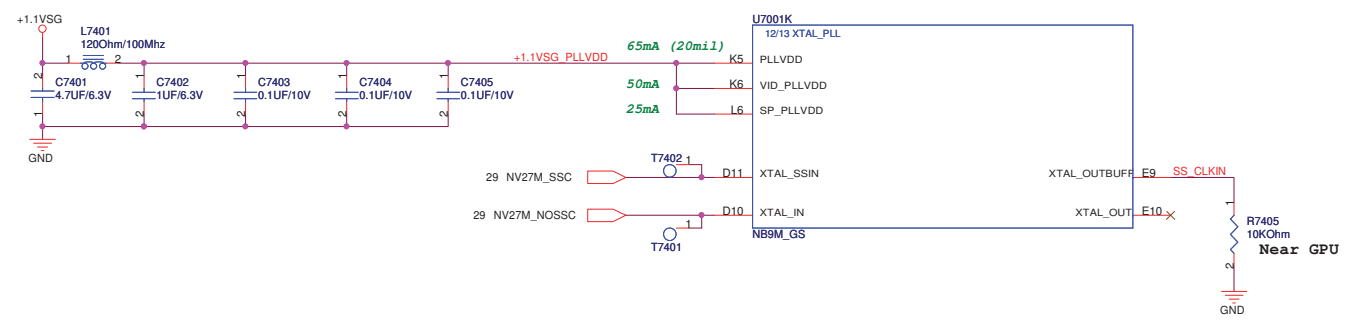
<http://laptop-motherboard-schematic.blogspot.com/>

**ASUS** Title : **ASUSTeK COMPUTER INC. N81** Engineer: **Tony Su**

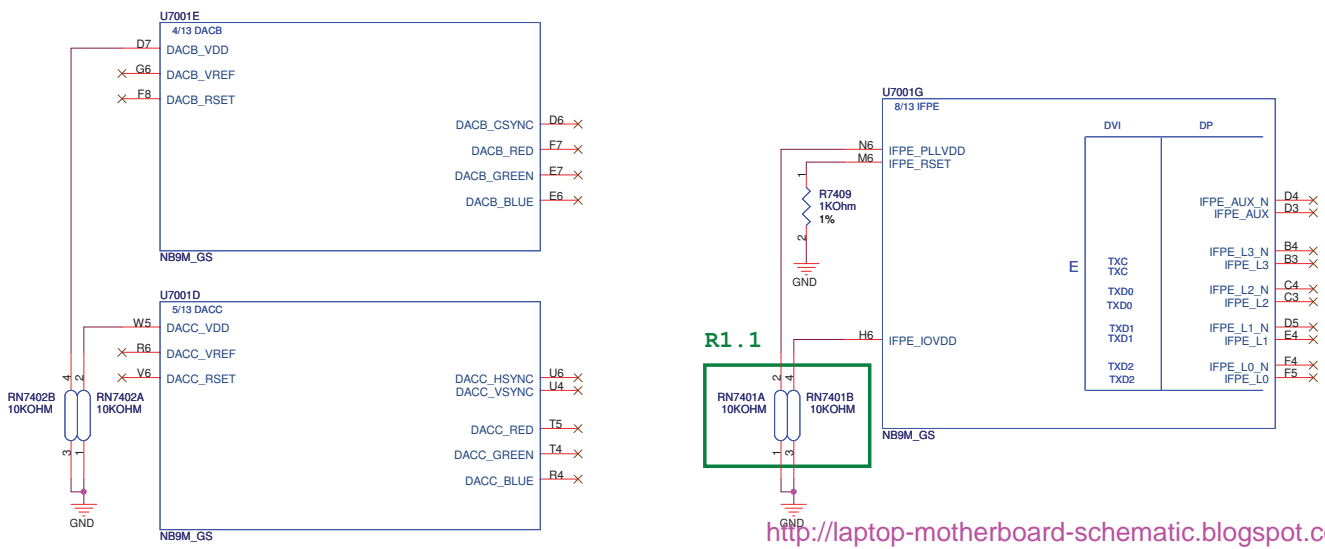
Size: Custom Project Name: **UX50** Rev: 2.2

Date: Tuesday, March 31, 2009 Sheet: 73 of 97

# Xtal

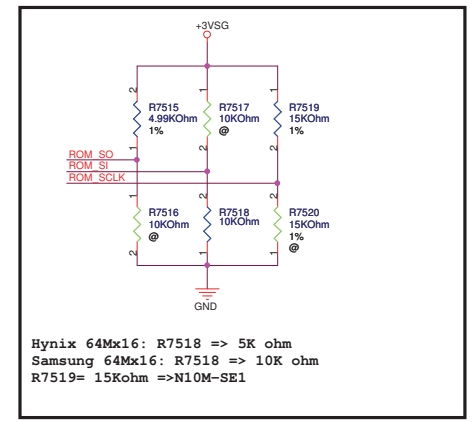
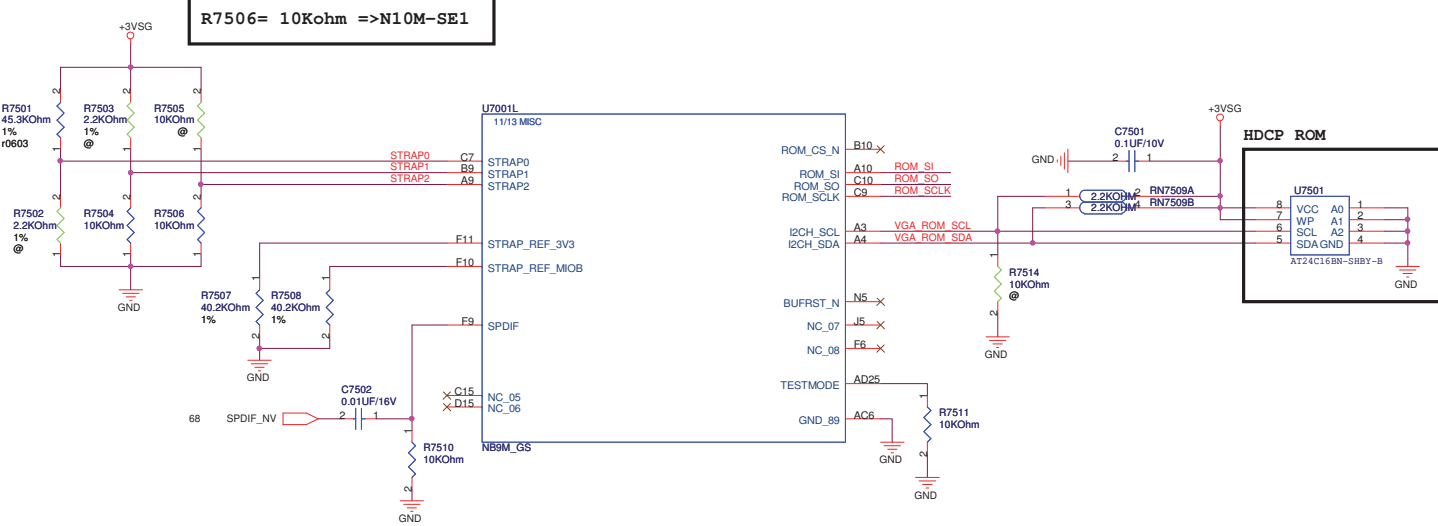


# Other



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**ROM**

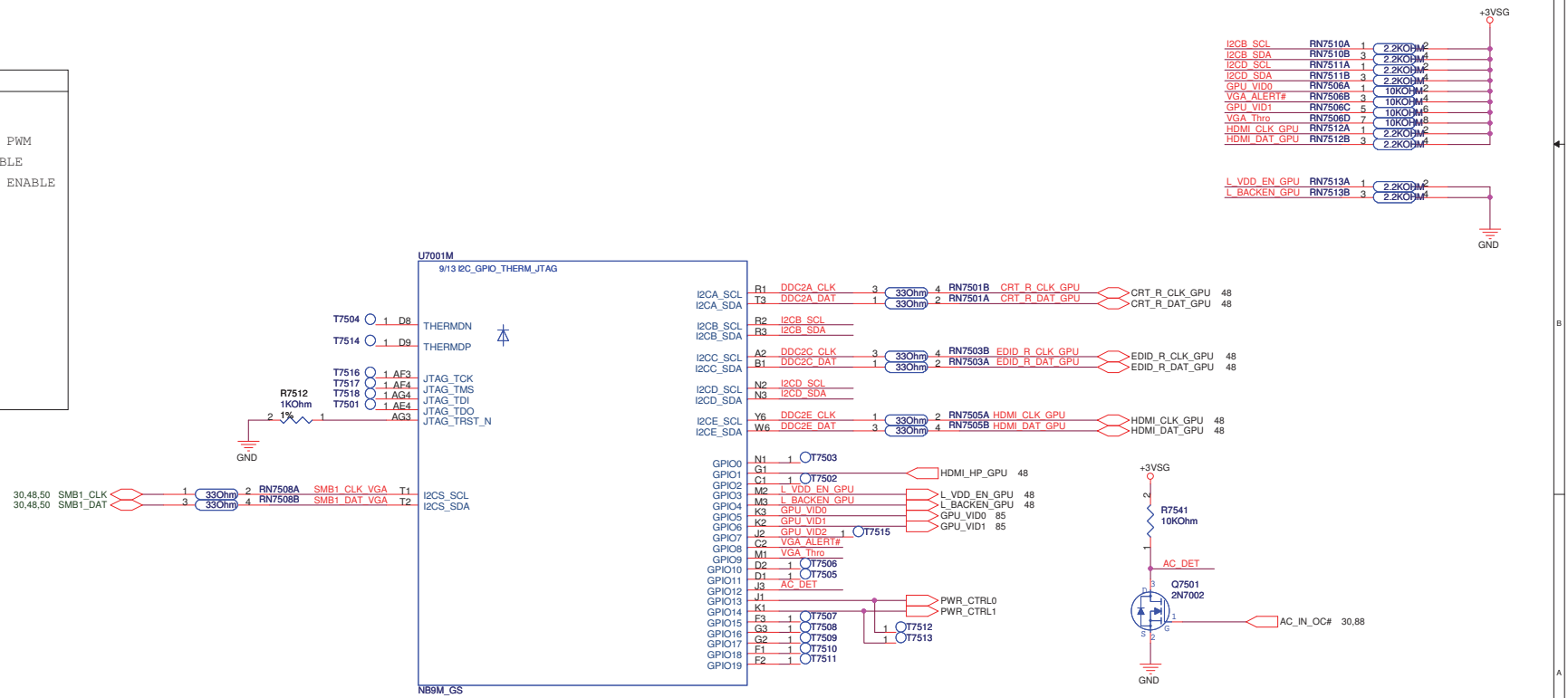


Hynix 64Mx16: R7518 => 5K ohm  
 Samsung 64Mx16: R7518 => 10K ohm  
 R7519= 15Kohm =>N10M-SE1

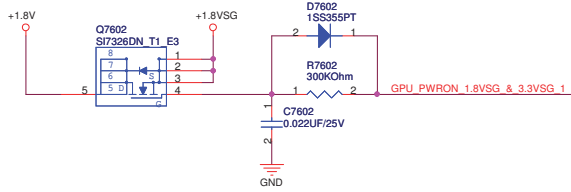
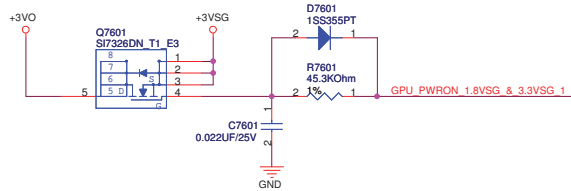
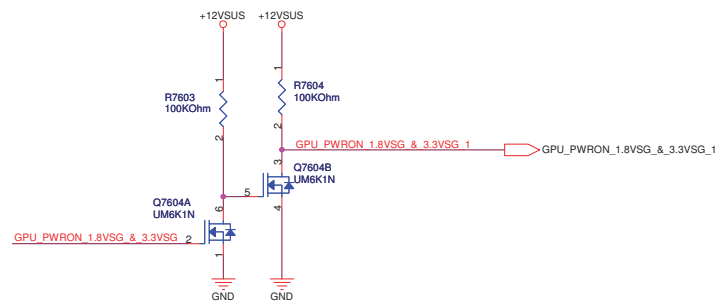
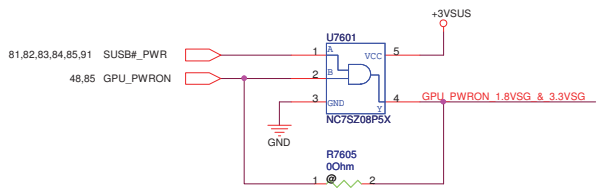
**GPIO**

**GPIO ASSIGNMENTS**

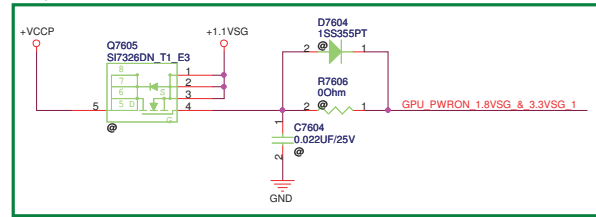
| GPIO | I/O | ACTIVE | USAGE                  |
|------|-----|--------|------------------------|
| 0    | IN  | N/A    | N/A                    |
| 1    | IN  | N/A    | HDMI HOTPLUG           |
| 2    | OUT | HIGH   | PANEL BACKLIGHT PWM    |
| 3    | OUT | HIGH   | PANEL POWER ENABLE     |
| 4    | OUT | HIGH   | PANEL BACKLIGHT ENABLE |
| 5    | OUT | N/A    | NVVDD VID 0            |
| 6    | OUT | N/A    | NVVDD VID 1            |
| 7    | OUT | N/A    | FBVDD VID 0            |
| 8    | IN  | LOW    | THERMAL ALERT          |
| 9    | OUT | LOW    | FAN PWM                |
| 10   | OUT | N/A    | FBVREF SELECT          |
| 11   | OUT | Low    | SLI SYNCO              |
| 12   | IN  | N/A    | AC DETECT              |
| 13   | OUT | N/A    | PS CONTROL             |
| 14   | OUT | N/A    | PS CONTROL             |



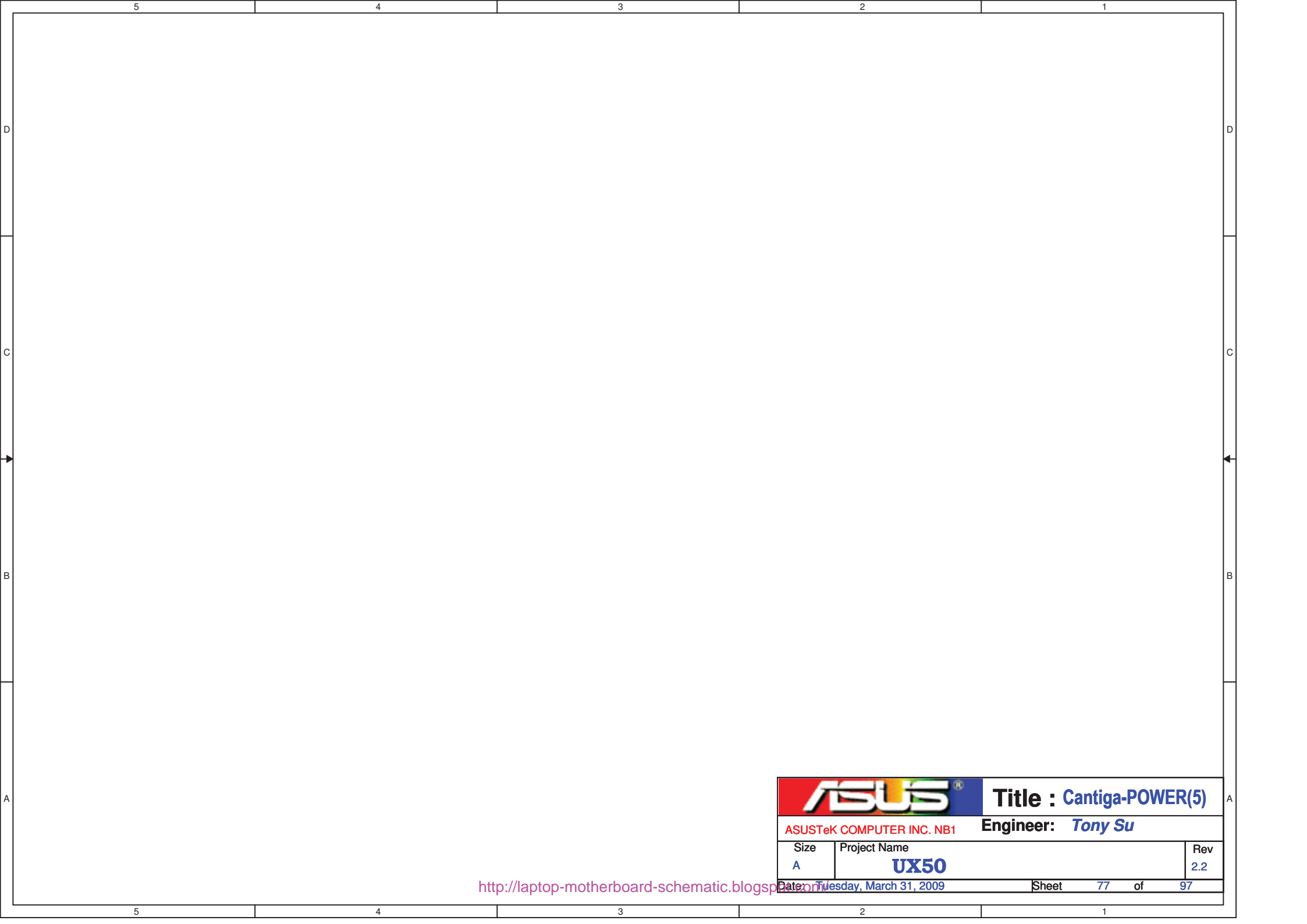
**ASUS** Title :  
 ASUSTeK COMPUTER INC. NBI Engineer: **Tony Su**  
 Size Project Name  
 Custom **UX50**  
 Date: Tuesday, March 31, 2009 Sheet 75 of 97



**R1.1**



|                                 |              |                  |       |
|---------------------------------|--------------|------------------|-------|
| <b>ASUS</b>                     |              | <b>Title :</b>   |       |
| ASUSTeK COMPUTER INC            |              | <b>Engineer:</b> |       |
| Size                            | Project Name | Rev              |       |
| Custom                          | <b>UX50</b>  | 2.2              |       |
| Date: Wednesday, April 01, 2009 | Sheet        | 76               | of 97 |



**Title : Cantiga-POWER(5)**

ASUSTeK COMPUTER INC. NB1

**Engineer: Tony Su**

| Size | Project Name | Rev |
|------|--------------|-----|
| A    | <b>UX50</b>  | 2.2 |

Date: Tuesday, March 31, 2009 Sheet 77 of 97

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**Title : Cantiga-POWER(5)**

ASUSTeK COMPUTER INC. NB1

**Engineer: Tony Su**

|           |                             |            |
|-----------|-----------------------------|------------|
| Size<br>A | Project Name<br><b>UX50</b> | Rev<br>2.2 |
|-----------|-----------------------------|------------|

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|   |                             |                                 |
|---|-----------------------------|---------------------------------|
|  |                             | <b>Title :</b>                  |
| ASUSTeK COMPUTER INC. NB1   |                             | <b>Engineer:</b> <i>Tony Su</i> |
| Size<br>A   | Project Name<br><b>UX50</b> | Rev<br>2.2                      |
| Date: <b>Tuesday, March 31, 2009</b>  |                             | Sheet <b>79</b> of <b>97</b>    |

<http://laptop-motherboard-schematic.blogspot.com/>

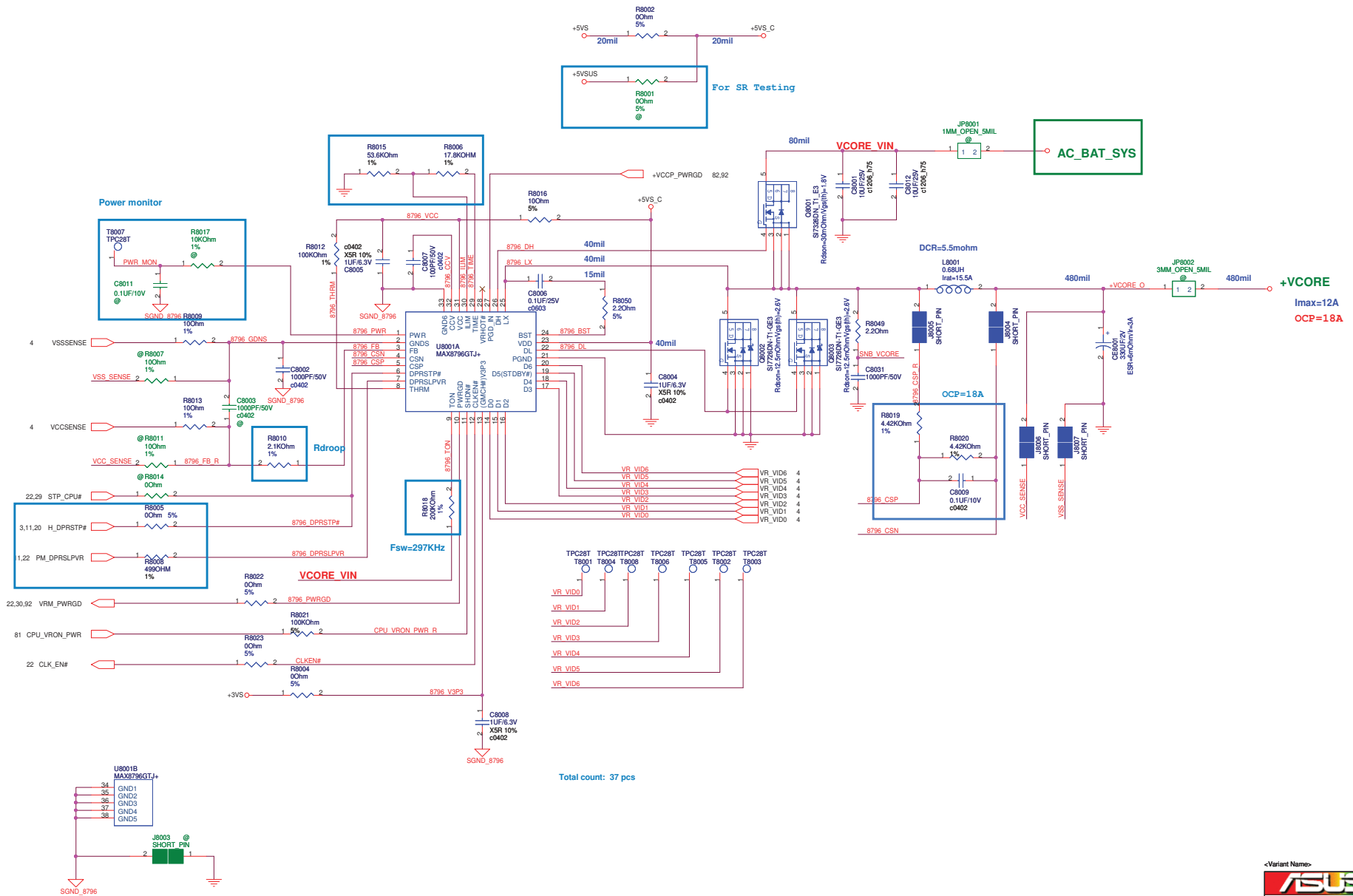
5

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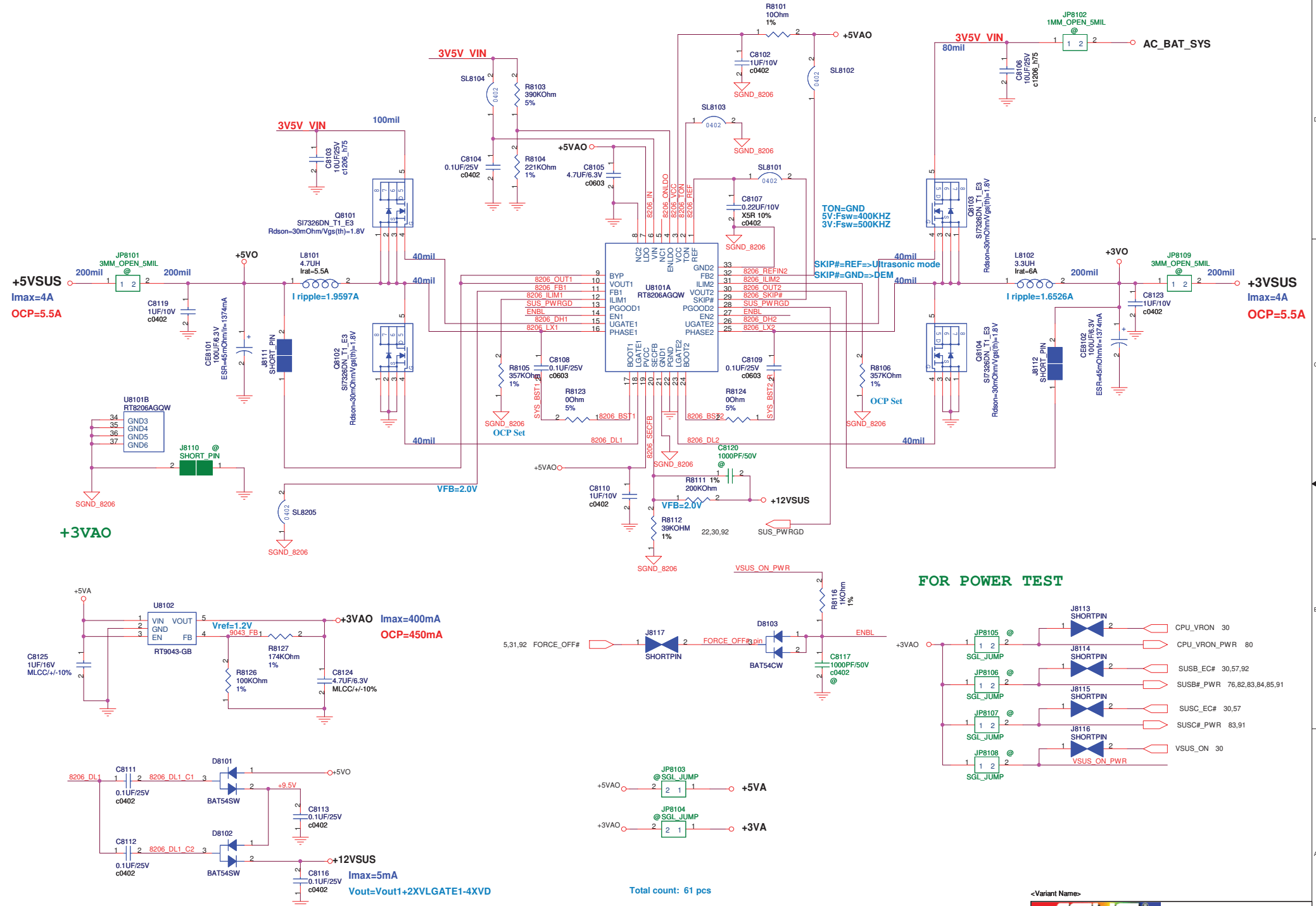


Total count: 37 pcs

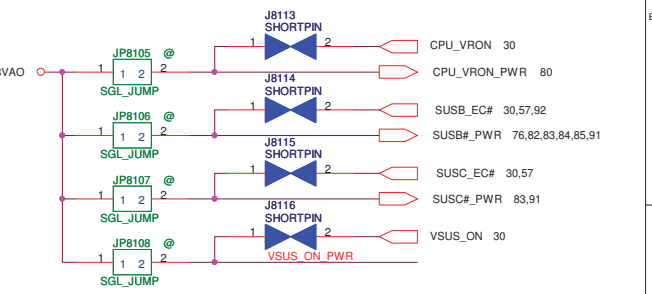
<Variant Name>

|                               |              |                       |
|-------------------------------|--------------|-----------------------|
| <b>ASUS</b>                   |              | <b>Title : +Vcore</b> |
| ASUSTeK COMPUTER INC. NBI     |              | Engineer: Morris/Eric |
| Size                          | Project Name | Rev                   |
| Custom                        | UX50         | 1.0                   |
| Date: Tuesday, March 31, 2009 |              | Sheet 80 of 97        |



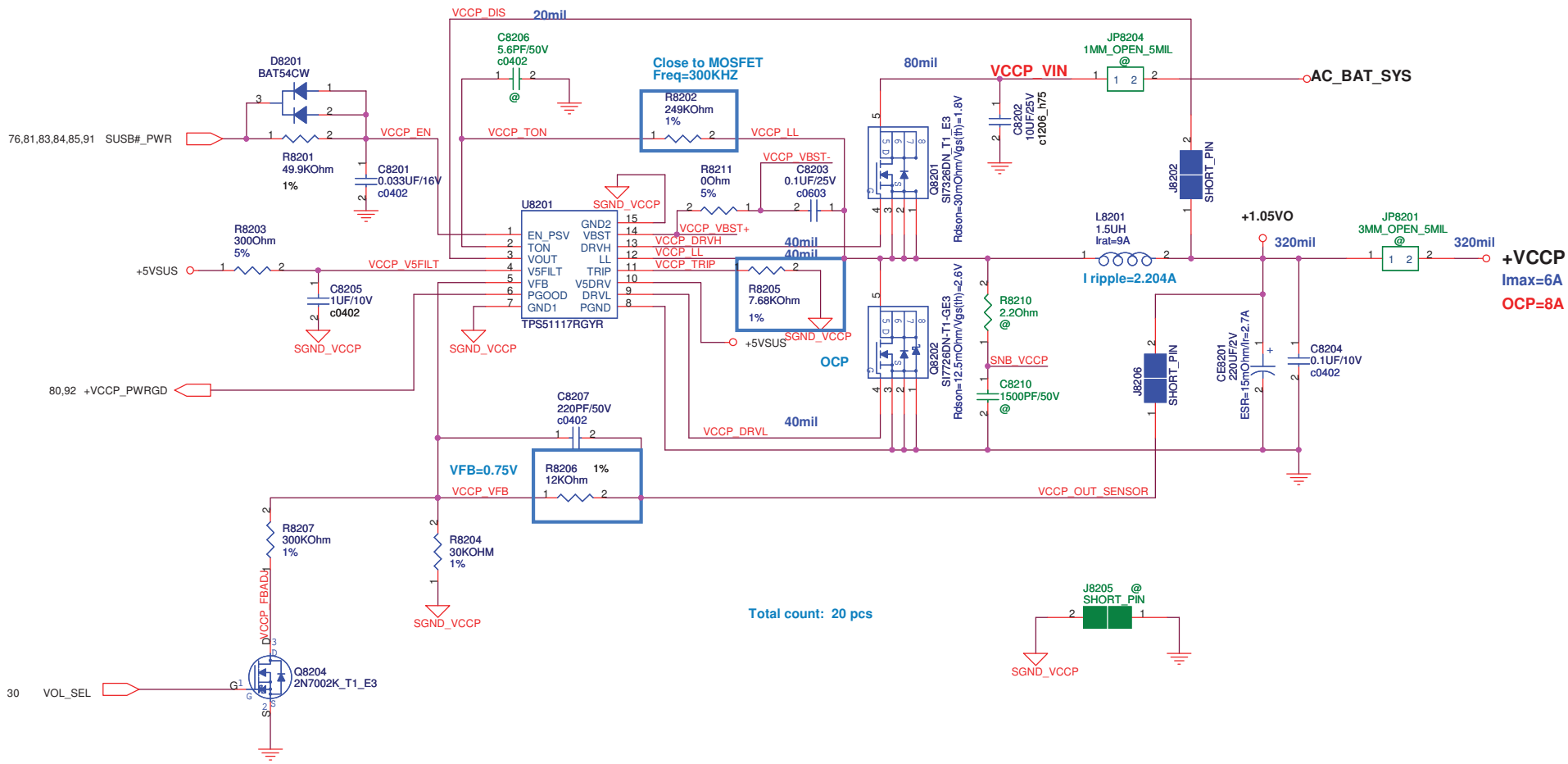


**FOR POWER TEST**



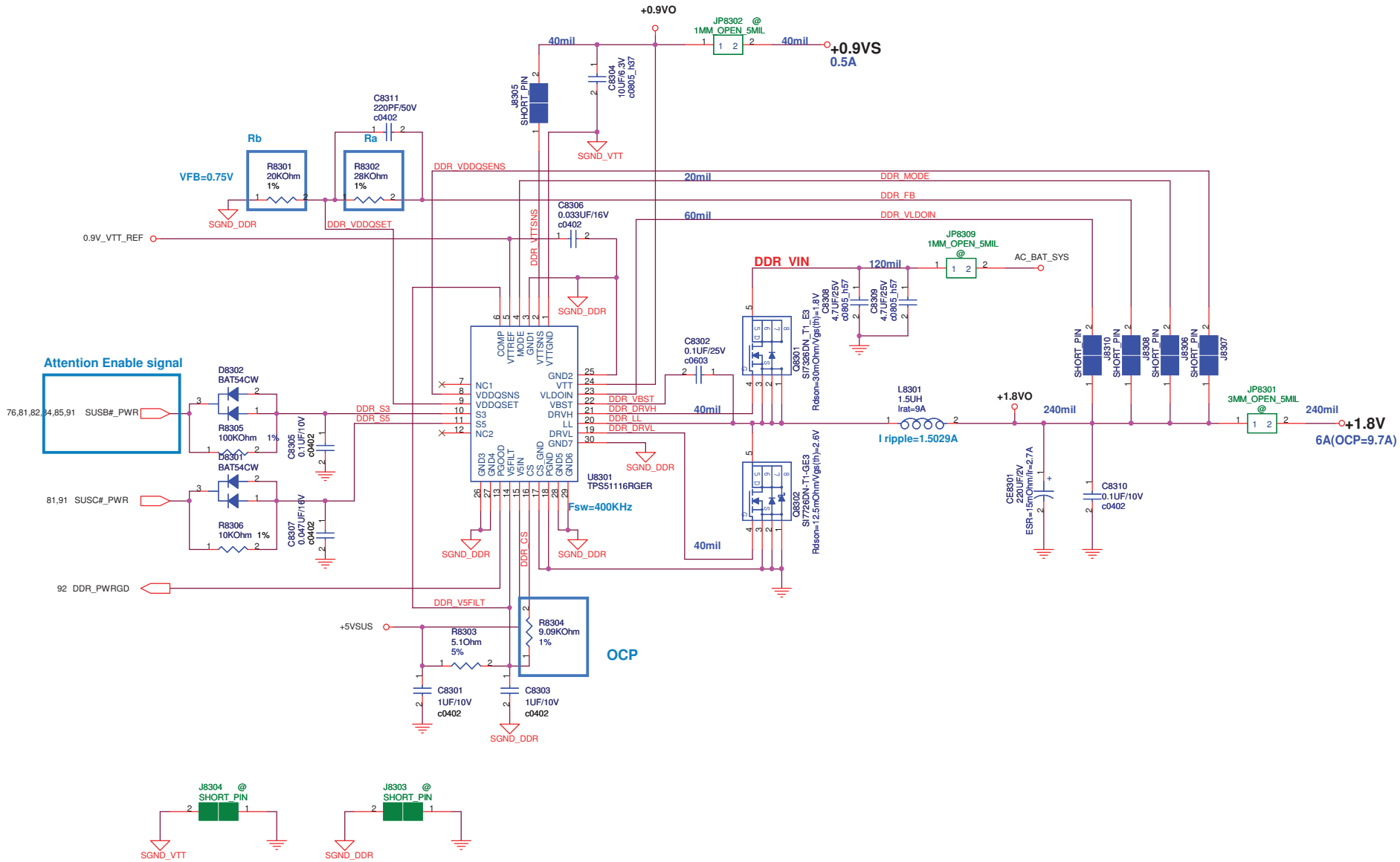
Total count: 61 pcs

|                               |              |                       |          |
|-------------------------------|--------------|-----------------------|----------|
| ASUS                          |              | Title : POWER_SYSTEM  |          |
| ASUSTeK COMPUTER INC. NB      |              | Engineer: Morris/Eric |          |
| Size                          | Project Name | Rev                   |          |
| Custom                        |              | UX50                  | 1.0      |
| Date: Tuesday, March 31, 2009 |              | Sheet                 | 81 of 97 |



VOL\_SEL:High VOLTAGE=1.080V  
VOL\_SEL:Low VOLTAGE=1.050V

|                               |                             |                              |
|-------------------------------|-----------------------------|------------------------------|
| <Variant Name>                |                             |                              |
| <b>ASUS</b>                   |                             | <b>Title :POWER_IO_+VCCP</b> |
| ASUSTeK COMPUTER INC. NB      |                             | Engineer: Morris/Eric        |
| Size<br>B                     | Project Name<br><b>UX50</b> | Rev<br>1.0                   |
| Date: Tuesday, March 31, 2009 | Sheet 82                    | of 97                        |



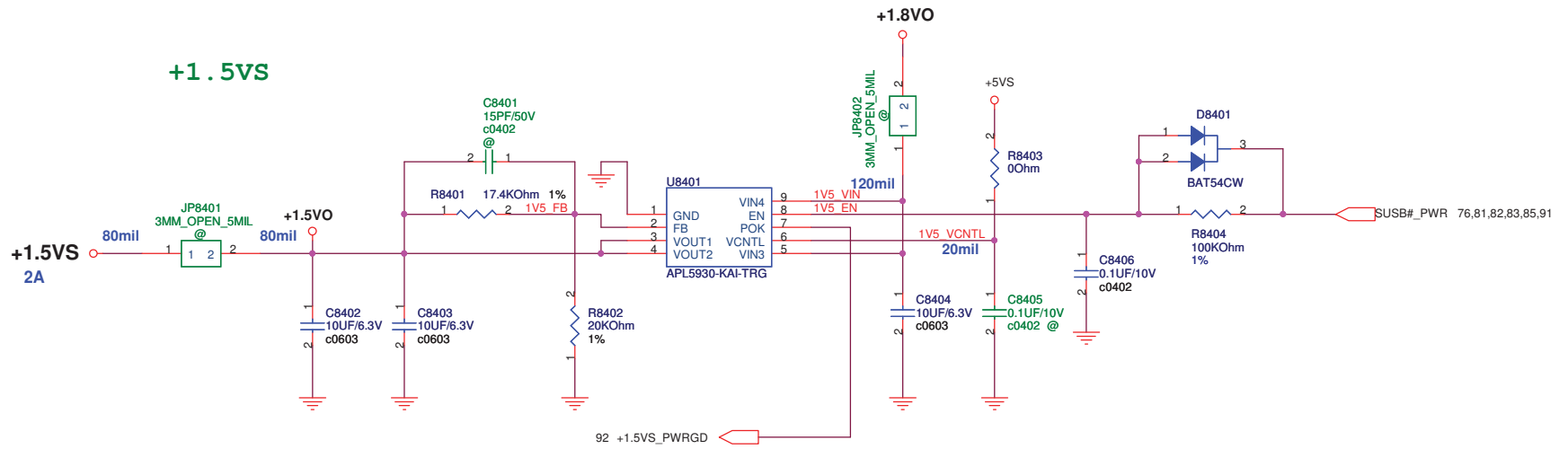
<http://laptop-motherboard-schematic.blogspot.com/>

<Variant Name>

**ASUS** Title : POWER\_I/O\_DDR & VTT

ASUSTeK COMPUTER INC. NB Engineer: Morris/Eric

|                               |                             |                |
|-------------------------------|-----------------------------|----------------|
| Size<br>Custom                | Project Name<br><b>UX50</b> | Rev<br>1.0     |
| Date: Tuesday, March 31, 2009 |                             | Sheet 83 of 97 |

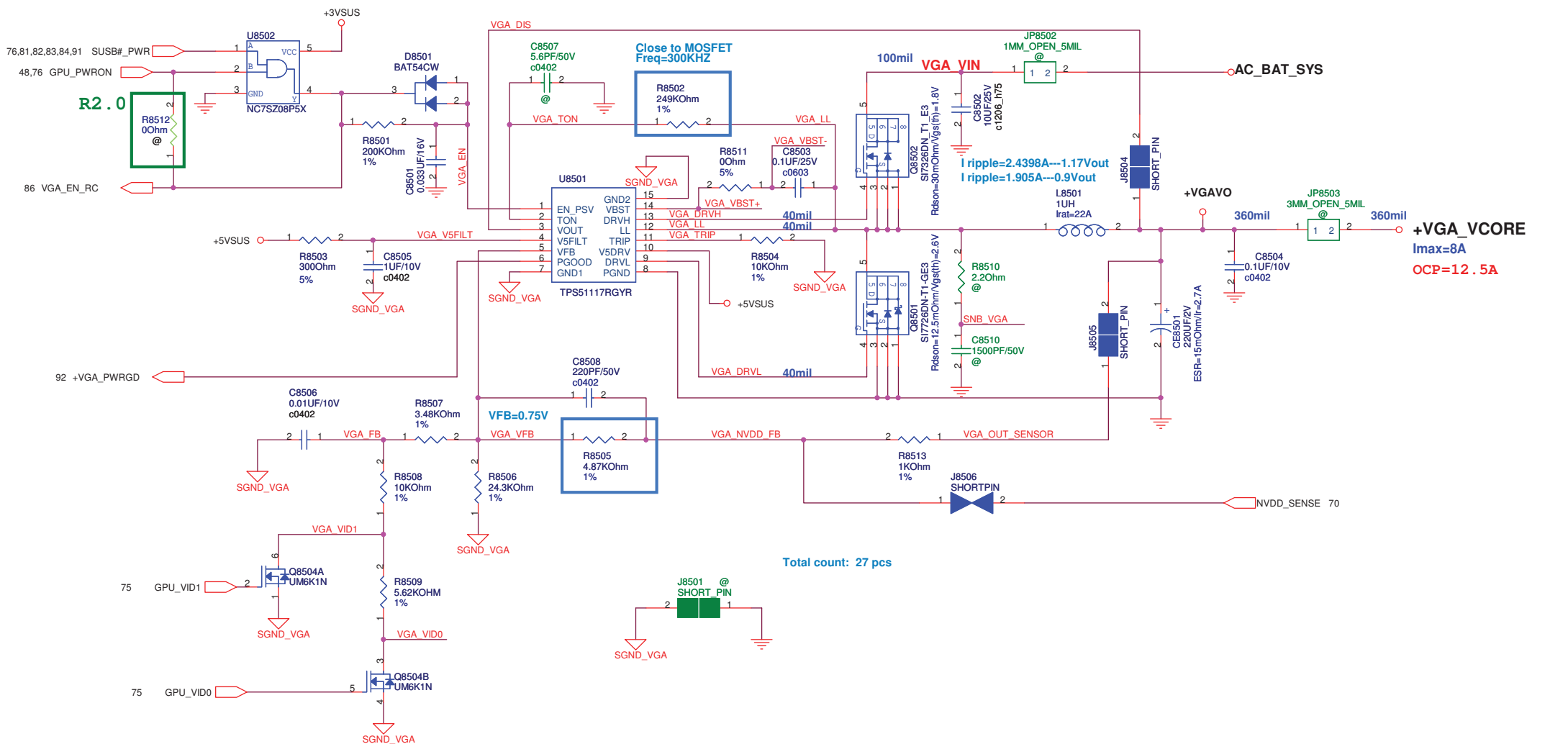


Total count: 12 pcs

<Variant Name>

|                               |                             |                                 |          |
|-------------------------------|-----------------------------|---------------------------------|----------|
| <b>ASUS</b>                   |                             | <b>Title :POWER_I/O_ +1.5VS</b> |          |
| ASUSTeK COMPUTER INC. NB      |                             | Engineer: Morris/Eric           |          |
| Size<br>B                     | Project Name<br><b>UX50</b> | Rev<br>1.0                      |          |
| Date: Tuesday, March 31, 2009 |                             | Sheet                           | 84 of 97 |

LDO Second source APL5913-KAC-TRL

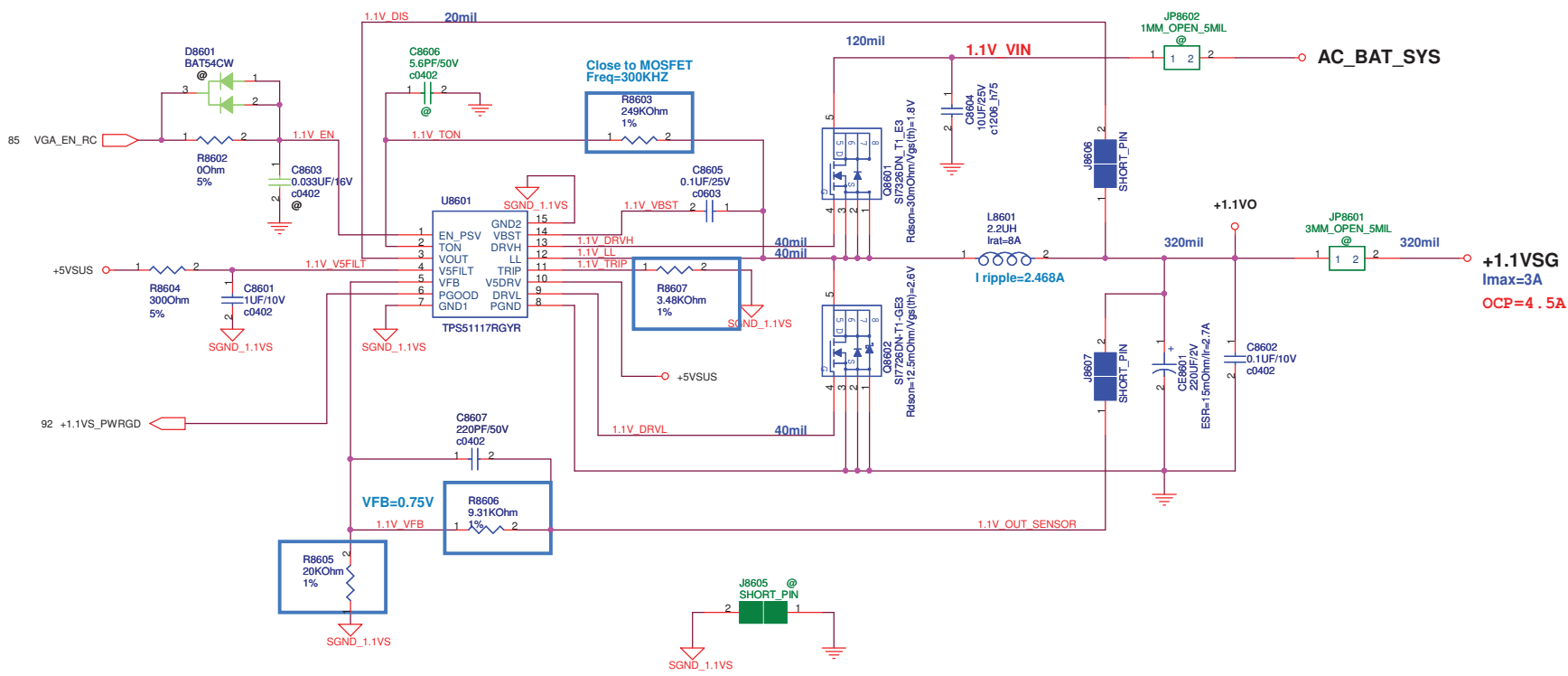


Total count: 27 pcs

| GPU_VID0 | GPU_VID1 | +VGA_VCORE |
|----------|----------|------------|
| H        | H        | 1.17V      |
| H        | L        | 1.09V      |
| L        | L        | 0.9V       |
| L        | H        | 1.17V      |

<Variant Name>

|                               |                             |                             |
|-------------------------------|-----------------------------|-----------------------------|
|                               |                             | <b>Title :POWER_I/O_VGA</b> |
| ASUSTeK COMPUTER INC. NB      |                             | Engineer: Morris/Eric       |
| Size<br>B                     | Project Name<br><b>UX50</b> | Rev<br>1.0                  |
| Date: Tuesday, March 31, 2009 | Sheet 85 of 97              |                             |



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|                               |                             |                               |            |
|-------------------------------|-----------------------------|-------------------------------|------------|
| <Variant Name>                |                             |                               |            |
| <b>ASUS</b>                   |                             | <b>Title : POWER_IO_1.1VS</b> |            |
| ASUSTeK COMPUTER INC. NB      |                             | Engineer: <i>Morris/Eric</i>  |            |
| Size<br>Custom                | Project Name<br><b>UX50</b> | Date: Tuesday, March 31, 2009 | Rev<br>1.0 |
| Date: Tuesday, March 31, 2009 |                             | Sheet                         | 86 of 97   |

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|         |                         |                |
|---------|-------------------------|----------------|
| Title   |                         |                |
| <Title> |                         |                |
| Size    | Document Number         | Rev            |
| A       | <Doc>                   | <RevCode>      |
| Date:   | Tuesday, March 31, 2009 | Sheet 87 of 97 |

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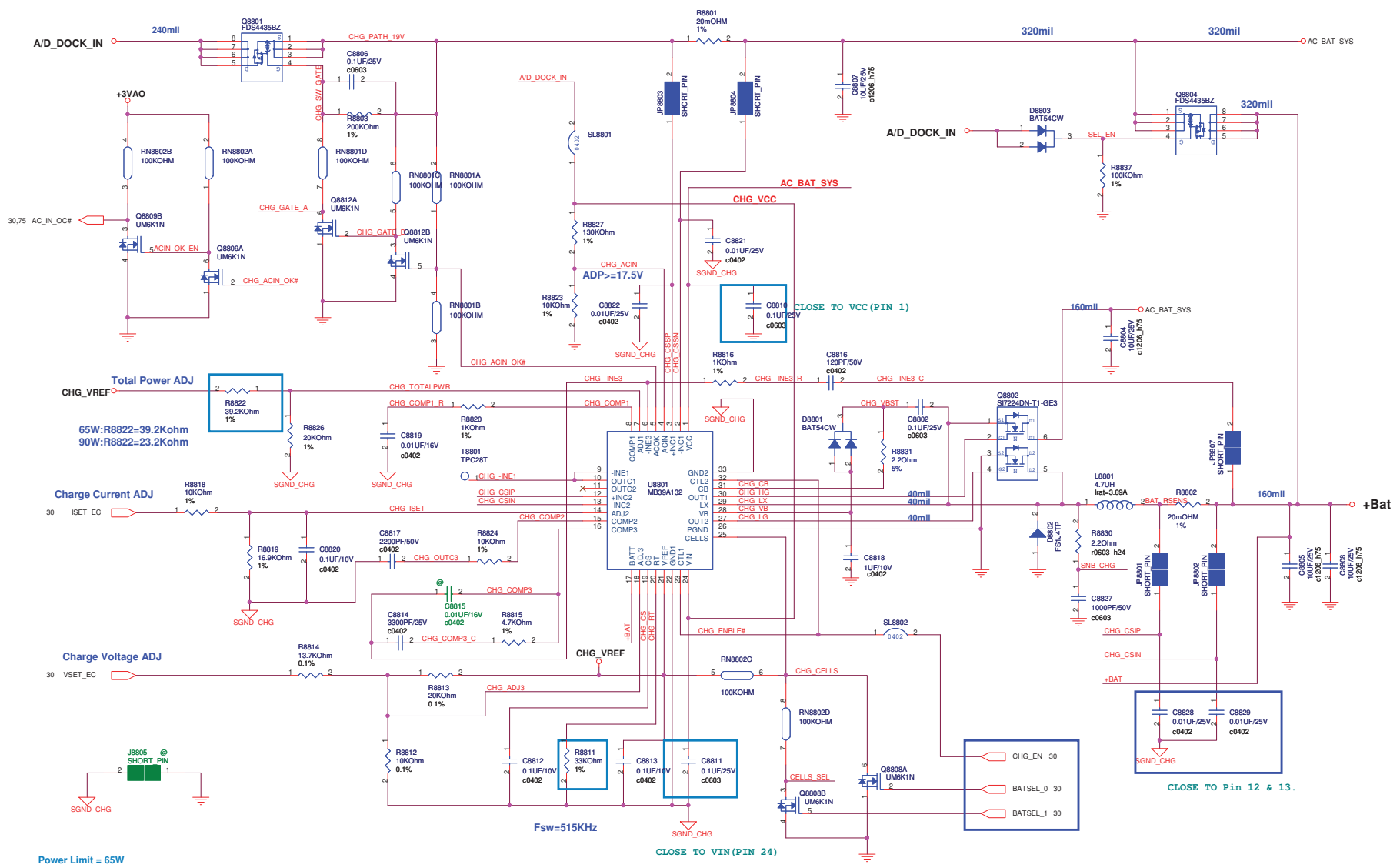
5

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**Total Power ADJ**  
 CHG\_VREF  
 65W: R8822=39.2Kohm  
 90W: R8822=23.2Kohm

**Charge Current ADJ**  
 ISET\_EC  
 R8818 10Kohm 1%

**Charge Voltage ADJ**  
 VSET\_EC  
 R8814 13.7Kohm 0.1%

**Power Limit = 65W**

TOTAL COUNT:56 PCS

**Battery Cells**

| BATSEL_1 | BATSEL_0 | CELLS   |
|----------|----------|---------|
| H        | H        | 2 CELLS |
| L        | H        | 2 CELLS |
| H        | L        | 3 CELLS |

Charger IC and EC Code correlation sheet :  
 Charger MAX8725 => EC CODE : 200  
 Charger MAX17015 => EC CODE : 201  
 Charger MB39A132 => EC CODE : 202

<http://laptop-motherboard-schematic.blogspot.com/>






|         |                         |                |
|---------|-------------------------|----------------|
| Title   |                         |                |
| <Title> |                         |                |
| Size    | Document Number         | Rev            |
| A       | <Doc>                   | <RevCode>      |
| Date:   | Tuesday, March 31, 2009 | Sheet 89 of 97 |

<http://laptop-motherboard-schematic.blogspot.com/>

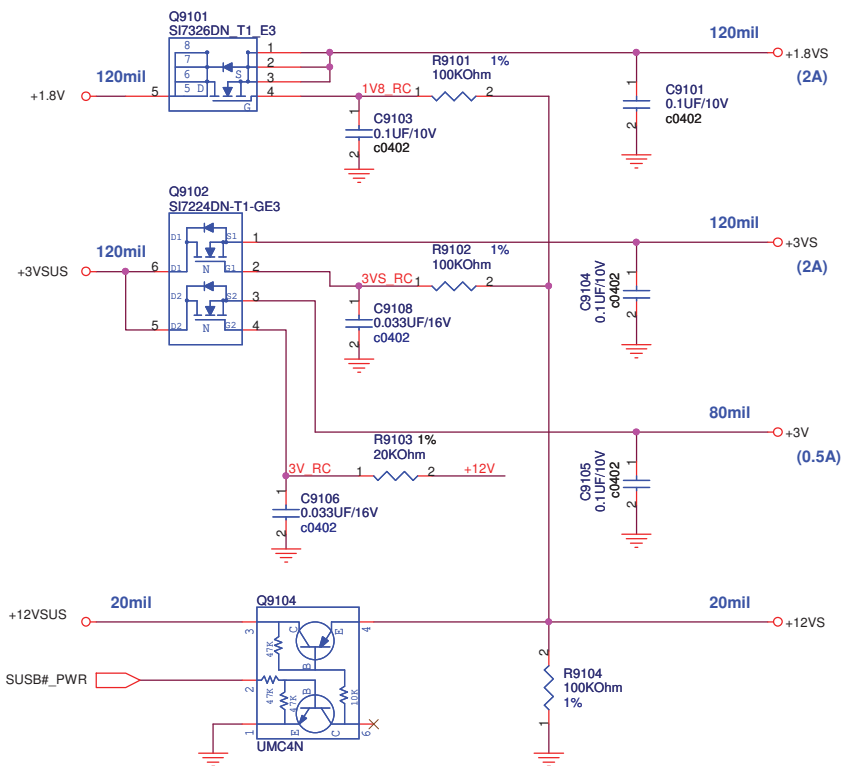
BATTERY IN DETECT

<http://laptop-motherboard-schematic.blogspot.com/>

<Variant Name>

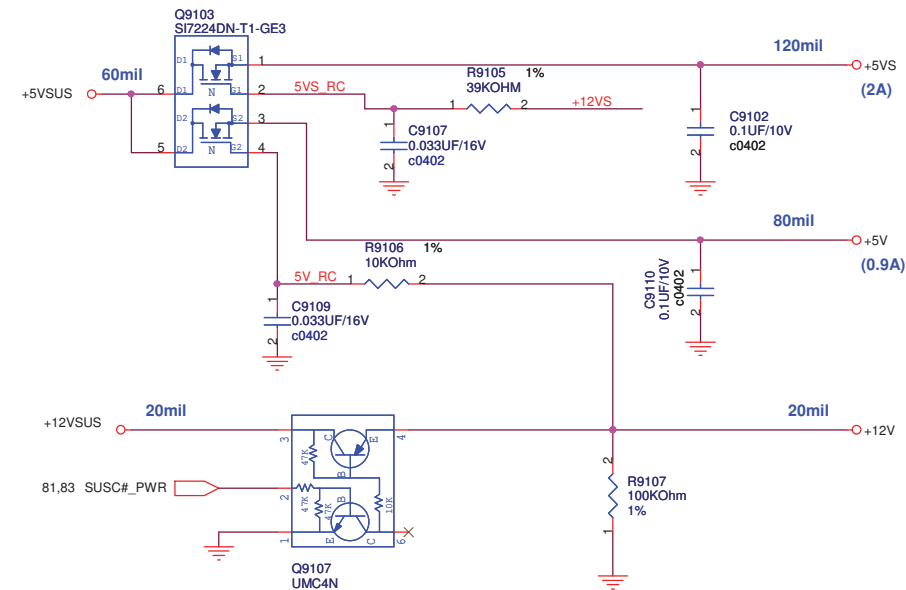
|   |              |                              |          |
|---|--------------|------------------------------|----------|
|  |              | <b>Title :</b> POWER_DETECT  |          |
| ASUSTeK COMPUTER INC. NB  |              | <b>Engineer:</b> Morris/Eric |          |
| Size  | Project Name | Rev                          |          |
| Custom  | UX50         | 1.0                          |          |
| Date: Tuesday, March 31, 2009   |              | Sheet                        | 90 of 97 |

### SUSB#\_PWR POWER



Total count: 20 pcs

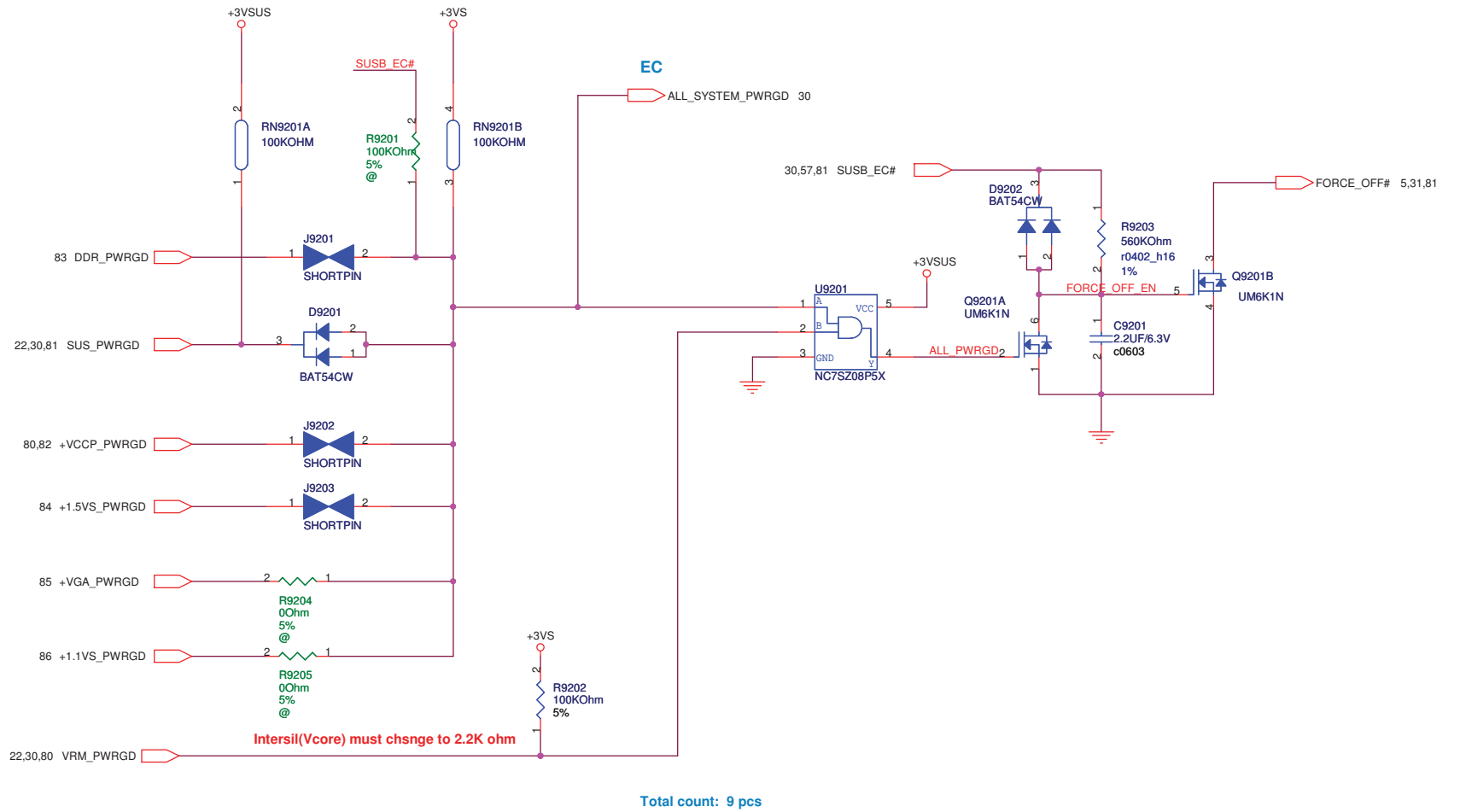
### SUSC#\_PWR POWER



<Variant Name>

|                          |                      |                                  |            |
|--------------------------|----------------------|----------------------------------|------------|
| <b>ASUS</b>              |                      | <b>Title : POWER_LOAD SWITCH</b> |            |
| ASUSTeK COMPUTER INC. NB |                      | Engineer: Morris/Eric            |            |
| Size<br>B                | Project Name<br>UX50 | Date<br>Tuesday, March 31, 2009  | Rev<br>1.0 |
|                          |                      | Sheet 91                         | of 97      |

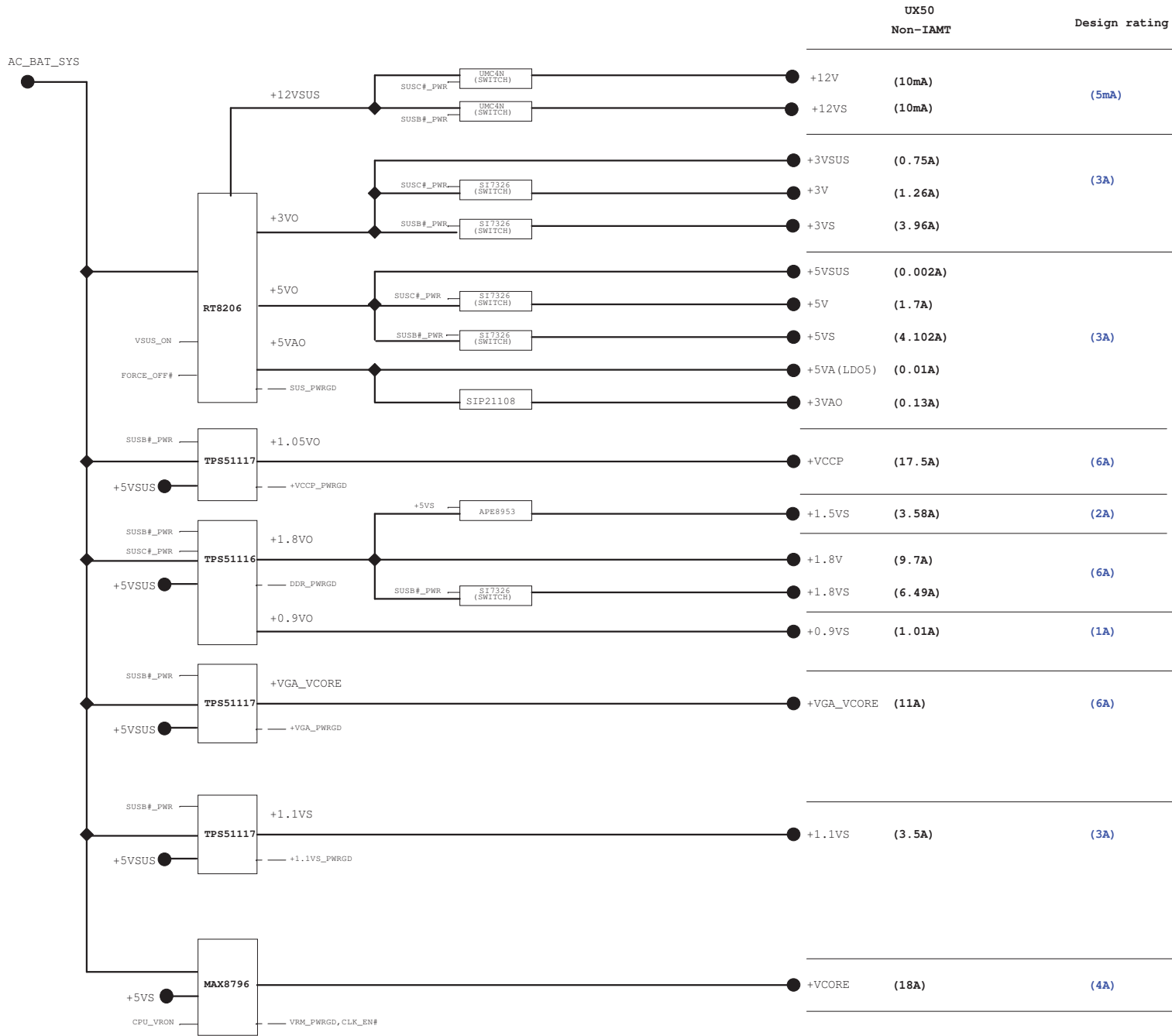
# POWER GOOD DETECTOR



|                               |                |                              |
|-------------------------------|----------------|------------------------------|
| <Variant Name>                |                |                              |
| <b>ASUS</b>                   |                | <b>Title :POWER_PROTECT</b>  |
| ASUSTeK COMPUTER INC. NB      |                | <b>Engineer: Morris/Eric</b> |
| Size                          | Project Name   | Rev                          |
| B                             | <b>UX50</b>    | 1.0                          |
| Date: Tuesday, March 31, 2009 | Sheet 92 of 97 |                              |

|             |   |   |             |   |
|-------------|---|---|-------------|---|
| AC_BAT_SYS  | ○ | → | AC_BAT_SYS  | 46,80,81,82,83,85,86,88   |
| +BAT        | ○ | → | +BAT        | 68,88   |
| +3VAO       | ○ | → | +3VAO       | 81,88   |
| +5VA        | ○ | → | +5VA        | 81  |
| +3VA        | ○ | → | +3VA        | 20,30,31,56,68,81,88  |
| +5VAO       | ○ | → | +5VAO       | 81  |
| +5VO        | ○ | → | +5VO        | 81  |
| +5VSUS      | ○ | → | +5VSUS      | 23,68,80,81,82,83,85,86,88,91   |
| +5V         | ○ | → | +5V         | 31,57,67,68,91  |
| +5VS        | ○ | → | +5VS        | 23,45,47,48,51,57,68,80,84,91   |
| +3VO        | ○ | → | +3VO        | 76,81   |
| +3VSUS      | ○ | → | +3VSUS      | 20,21,22,23,30,33,57,68,76,81,85,91,92                                |
| +3V         | ○ | → | +3V         | 44,46,48,57,67,68,70,91   |
| +3VS        | ○ | → | +3VS        | 7,8,11,12,15,17,21,22,23,24,29,30,31,45,46,47,48,50,51,57,68,80,91,92 |
| +12VSUS     | ○ | → | +12VSUS     | 76,81,91  |
| +12V        | ○ | → | +12V        | 68,91   |
| +12VS       | ○ | → | +12VS       | 22,46,48,51,67,91   |
| +1.8VO      | ○ | → | +1.8VO      | 83,84   |
| +1.8V       | ○ | → | +1.8V       | 7,8,11,14,57,76,83,91   |
| +1.8VS      | ○ | → | +1.8VS      | 15,91   |
| +0.9VS      | ○ | → | +0.9VS      | 9,57,83   |
| +0.9VO      | ○ | → | +0.9VO      | 83  |
| +1.05VO     | ○ | → | +1.05VO     | 82  |
| +VCCP       | ○ | → | +VCCP       | 3,4,5,10,11,12,14,15,20,23,29,57,76,82                                |
| +1.5VO      | ○ | → | +1.5VO      | 84  |
| +1.5VS      | ○ | → | +1.5VS      | 4,15,20,23,57,84  |
| +VCOORE     | ○ | → | +VCOORE     | 4,5,80  |
| +VCCP       | ○ | → | +VCCP       | 3,4,5,10,11,12,14,15,20,23,29,57,76,82                                |
| +1.05VO     | ○ | → | +1.05VO     | 82  |
| +1.1VSG     | ○ | → | +1.1VSG     | 70,71,73,74,76,86   |
| +VGA_VCOORE | ○ | → | +VGA_VCOORE | 70,85   |
| A/D_DOCK_IN | ○ | → | A/D_DOCK_IN | 60,88   |

Total sum count: 236 pcs



VR\_VID0-VR\_VID6, H\_DPRSTP#,  
MCH\_OK, PM\_DPRSLEPVR, PM\_PSI#,  
VCCSENSE, VSSSENSE, STP\_CPD#,  
PWR\_MON

<http://laptop-motherboard-schematic.blogspot.com/>

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D

D

C

C

B

B

A

A



**Title :POWER\_CHARGER**

ASUSTeK COMPUTER INC. NB3

**Engineer: Eric\_Ho**

Size

Project Name

Rev

A

**UX50**

1.0

<http://laptop-motherboard-schematic.blogspot.com/>

Date: Tuesday, March 31, 2009

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4

3

2

1

| Rev  | Date       | Description   |
|------|------------|---|
| 1.00 |            | First Release!  |
| 1.10 | 02/08/2009 | 1. Change net ALS_AD to J6801. (Page 68)<br>2. Change RTC circuit from small board to M/B. (Page 20)<br>3. Add net CLK_PCIE_VGA and CLK_PCIE_VGA#.(Page 29)<br>4. Add pull-up for SMBus.(Page 22)<br>5. Add ITP connector. (Page 03,29)<br>6. Add MOS for dGPU power. (Page 76) |
|      | 02/10/2009 | 7. Change LAN PCIE to port 6. (Page 21)<br>8. Add AL_LED# to control ambient light LED. (Page 30,68)<br>9. Change C7036 to 4.7UF. (Page 70)<br>10. Swapping DDR2 nets (Page 09,29,74)   |
|      | 02/11/2009 | 11. Add USB port for WiMax (Page 68,21)<br>12. Remove test point for layout. (Page 30)  |
|      | 02/16/2009 | 13. Change 8pF cap for 32.768KHz crystal. (Page 20,30)  |
|      | 02/17/2009 | 14. Swap J6801 BAT pins (Page 68)   |
| 2.00 | 03/04/2009 | 1. Remove D4503 for HDA issue. (Page 45)  |
|      | 03/09/2009 | 2. Add HDMI hot plug detect in iGPU mode. (Page 48)   |
|      | 03/09/2009 | 3. Add C6805 for EMI. (Page 68)   |
|      | 03/12/2009 | 4. Change HDMI hot plug detect pin to EC GPI6. (Page 30,48)   |
|      | 03/12/2009 | 5. Add CE0502 for CPU SU9600 hang issue. (Page 5)   |
|      | 03/12/2009 | 6. Pull up backligh enable pin tto +3VS_LCD from +3VS. (Page 46)  |
|      | 03/16/2009 | 7. Swap RN2917. (Page 29)   |
|      | 03/18/2009 | 8. Change R7301 to 120ohm. (Page 73)  |



