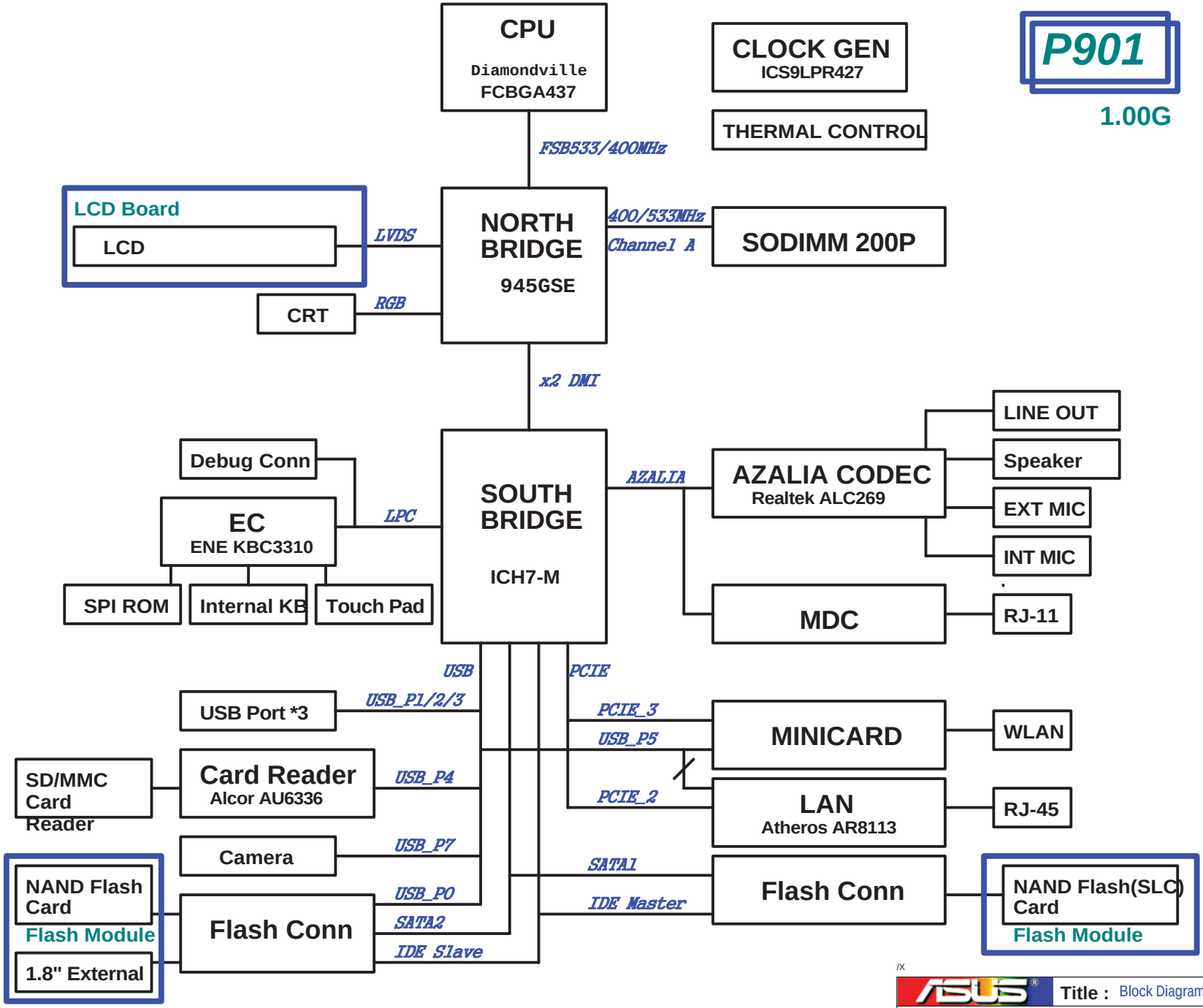
2008_0205_1430



/X

ASUSTek Computer INC.

Title : Block Diagram

Engineer: Regin Chiang

Size	Project Name	Rev
A3	P901	1.00G

Date: Tuesday, April 01, 2008 Sheet 1 of 50

EEE PC 701 PCB version

GPI37	GPI38	GPI39	PCB version
0	0	0	
0	0	0	
0	0	1	
0	0	1	
0	1	0	
0	1	0	
0	1	1	
0	1	1	
1	0	0	
1	0	0	
1	0	1	
1	0	1	
1	1	0	
1	1	0	
1	1	1	
1	1	1	

USB

USB 0	Flash Conn
USB 1	USB Conn
USB 2	USB Conn
USB 3	USB Conn
USB 4	Card Reader
USB 5	Minicard
USB 6	NC
USB 7	Camera

PCIE

PCIE 1	NC
PCIE 2	LAN
PCIE 3	Minicard
PCIE 4	NC

Azalia

ACZ_SDIN0	CODEC
ACZ_SDIN1	MODEM
ACZ_SDIN2	NC

/X

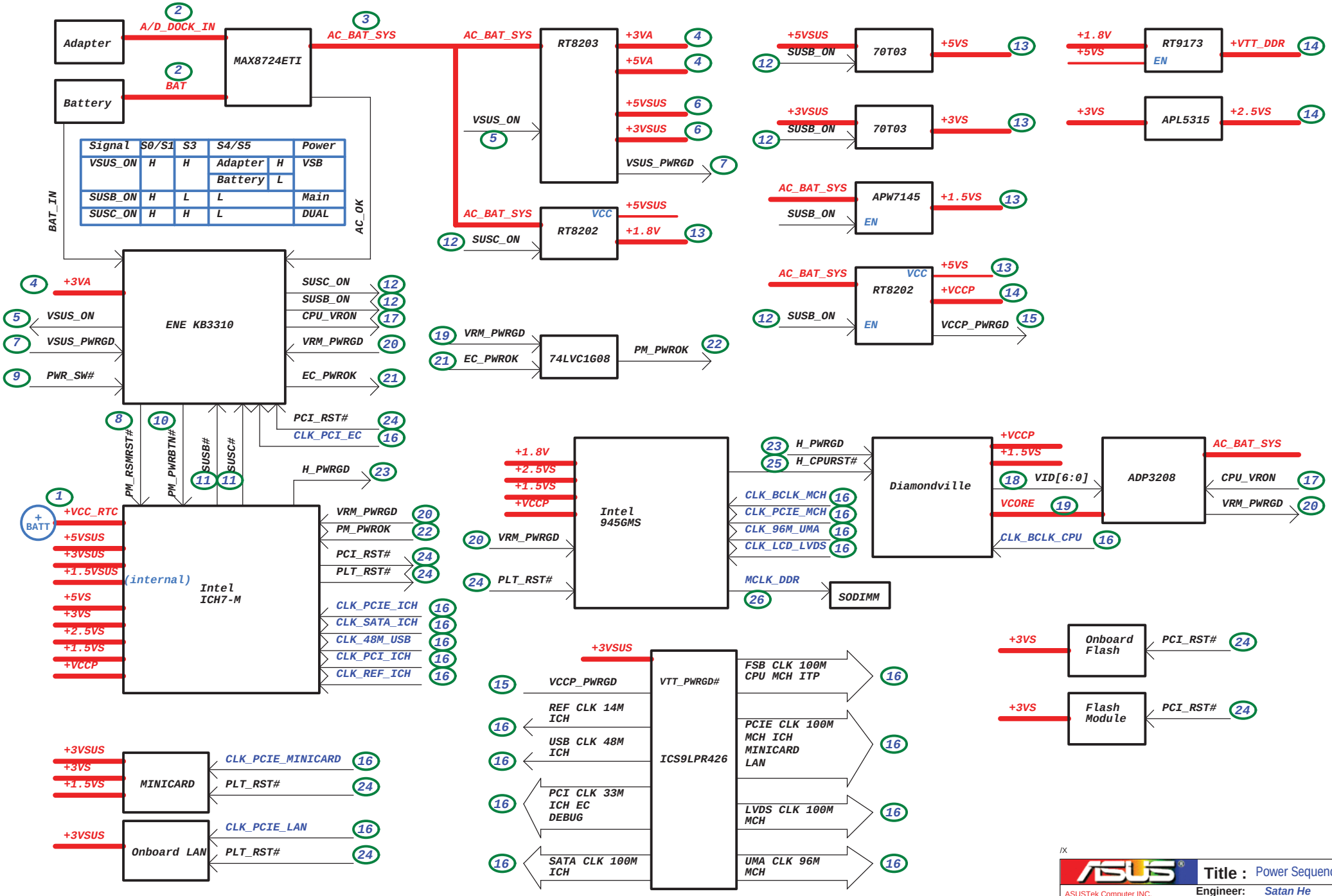
ASUSTek Computer INC.

Title : System Setting

Engineer: Satan_He

Size	Project Name	Rev
A3	P901	1.00G

Date: Monday, March 31, 2008 Sheet 2 of 50



/X

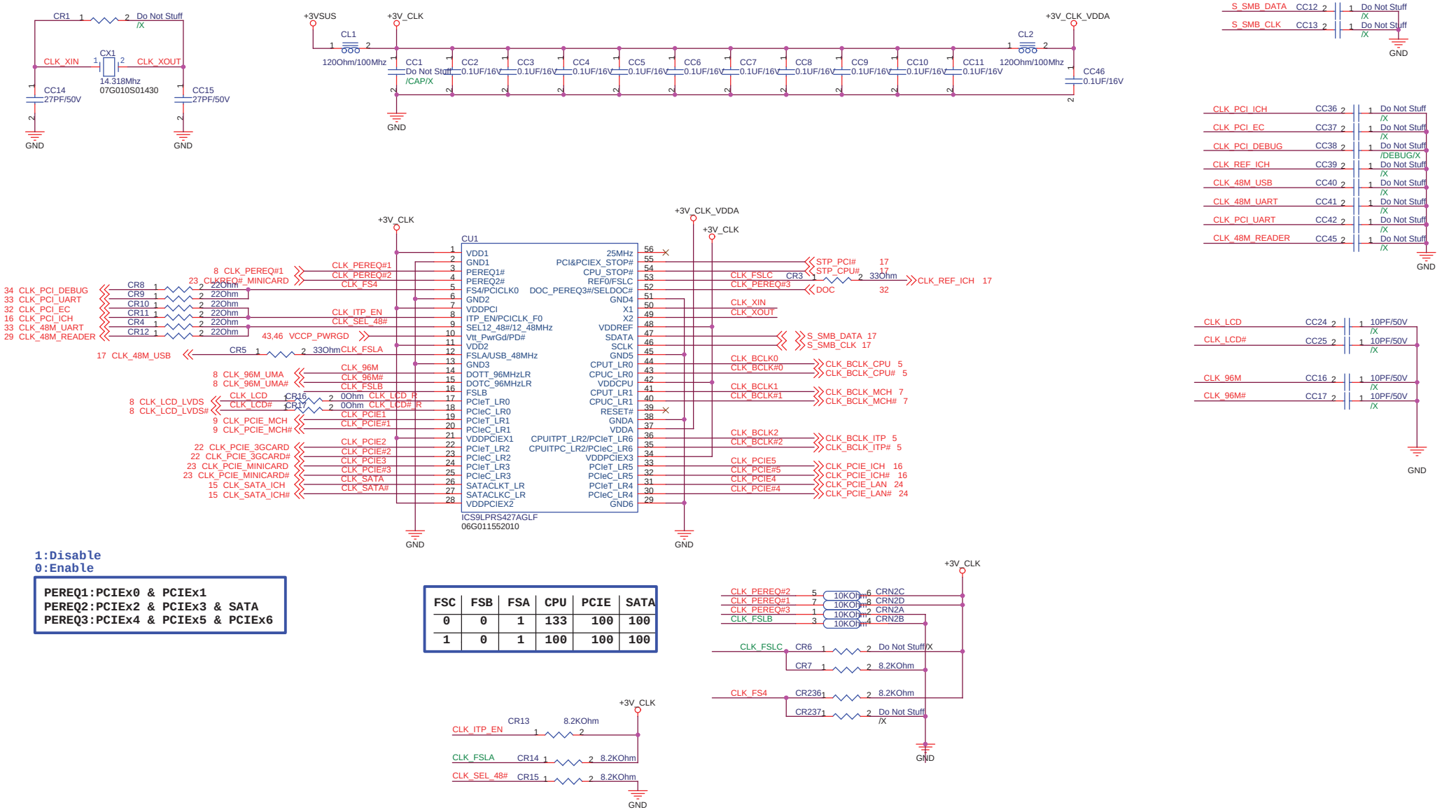
Title : Power Sequence

ASUSTek Computer INC.

Engineer: Satan He

Size	Project Name	Rev
A3	P901	1.00G

Date: Monday, March 31, 2008 Sheet 3 of 50



1:Disable
0:Enable

PEREQ1:PCIEx0 & PCIEx1
PEREQ2:PCIEx2 & PCIEx3 & SATA
PEREQ3:PCIEx4 & PCIEx5 & PCIEx6

FSC	FSB	FSA	CPU	PCIE	SATA
0	0	1	133	100	100
1	0	1	100	100	100

/X

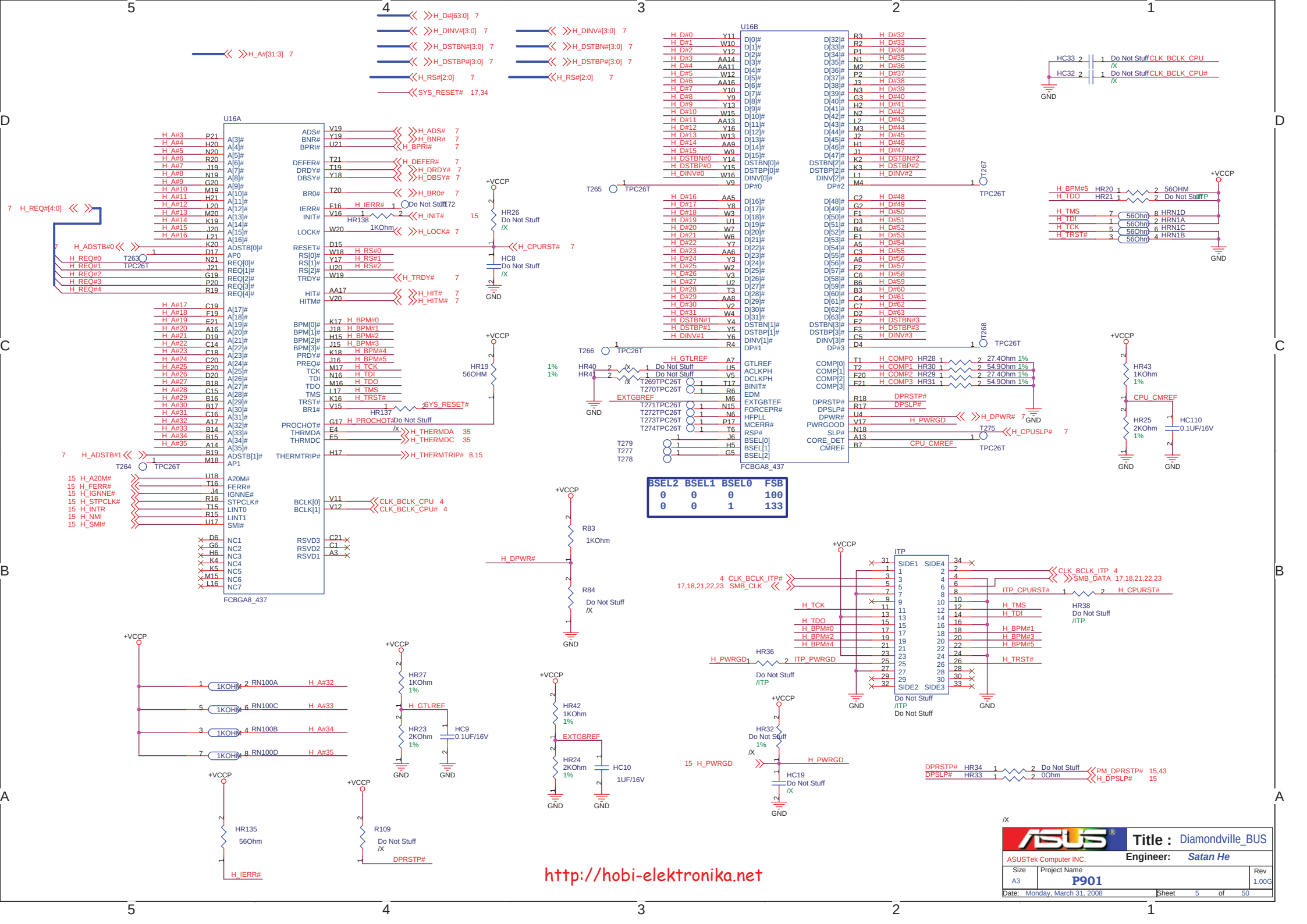
ASUSTek Computer INC.

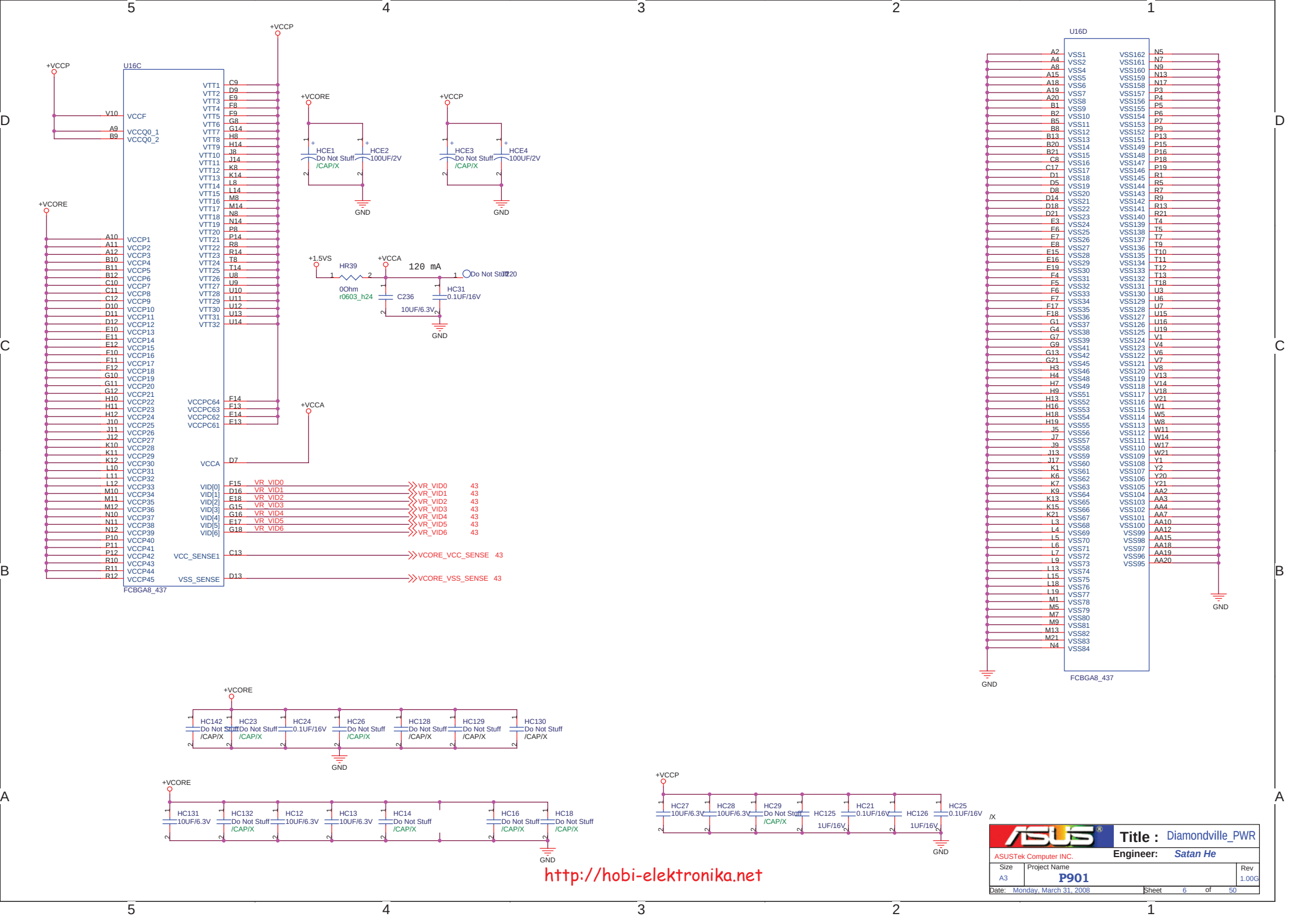
Title : Clock Gen_ICS9LPRS427

Engineer: Satan He

Size	Project Name	Rev
A3	P901	1.0G

Date: Monday, March 31, 2008 Sheet 4 of 50


H_D#[63:0] 7
H_DINV#[3:0] 7
H_DSTBN#[3:0] 7
H_DSTBP#[3:0] 7
H_RS#[2:0] 7
SYS_RESET# 17,34
H_A#[31:3] 7
U16A
FCBGA8_437
U16B
FCBGA8_437
BSEL2 BSEL1 BSEL0 FSB
0 0 0 100
0 0 1 133
http://hobi-elektronika.net
ASUSTek Computer INC.
Title : Diamondville_BUS
Engineer: Satan He
Project Name P901
Size A3
Rev 1.00G
Date: Monday, March 31, 2008
Sheet 5 of 50


U16C
FCBGA8_437
U16D
FCBGA8_437
+VCCP
+VCORE
+VCCA
+1.5VS
GND
HCE1
HCE2
HCE3
HCE4
Do Not Stuff
/CAP/X
100UF/2V
HR39
0Ohm
r0603_h24
C236
10UF/6.3V
HC31
0.1UF/16V
120 mA
VR_VID0
VR_VID1
VR_VID2
VR_VID3
VR_VID4
VR_VID5
VR_VID6
VCORE_VCC_SENSE
VCORE_VSS_SENSE
HC142
HC23
HC24
HC26
HC128
HC129
HC130
HC131
HC132
HC12
HC13
HC14
HC16
HC18
HC27
HC28
HC29
HC125
HC21
HC126
HC25
10UF/6.3V
0.1UF/16V
1UF/16V
Title : Diamondville_PWR
ASUSTek Computer INC.
Engineer: Satan He
Size A3
Project Name P901
Rev 1.00G
Date: Monday, March 31, 2008
Sheet 6 of 50
http://hobi-elektronika.net

Power :
+VCCP

RCOMP

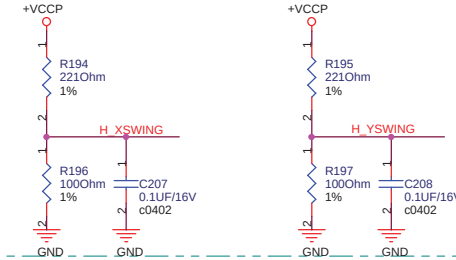
For Calibrating the FSB I/O Buffer

SCOMP

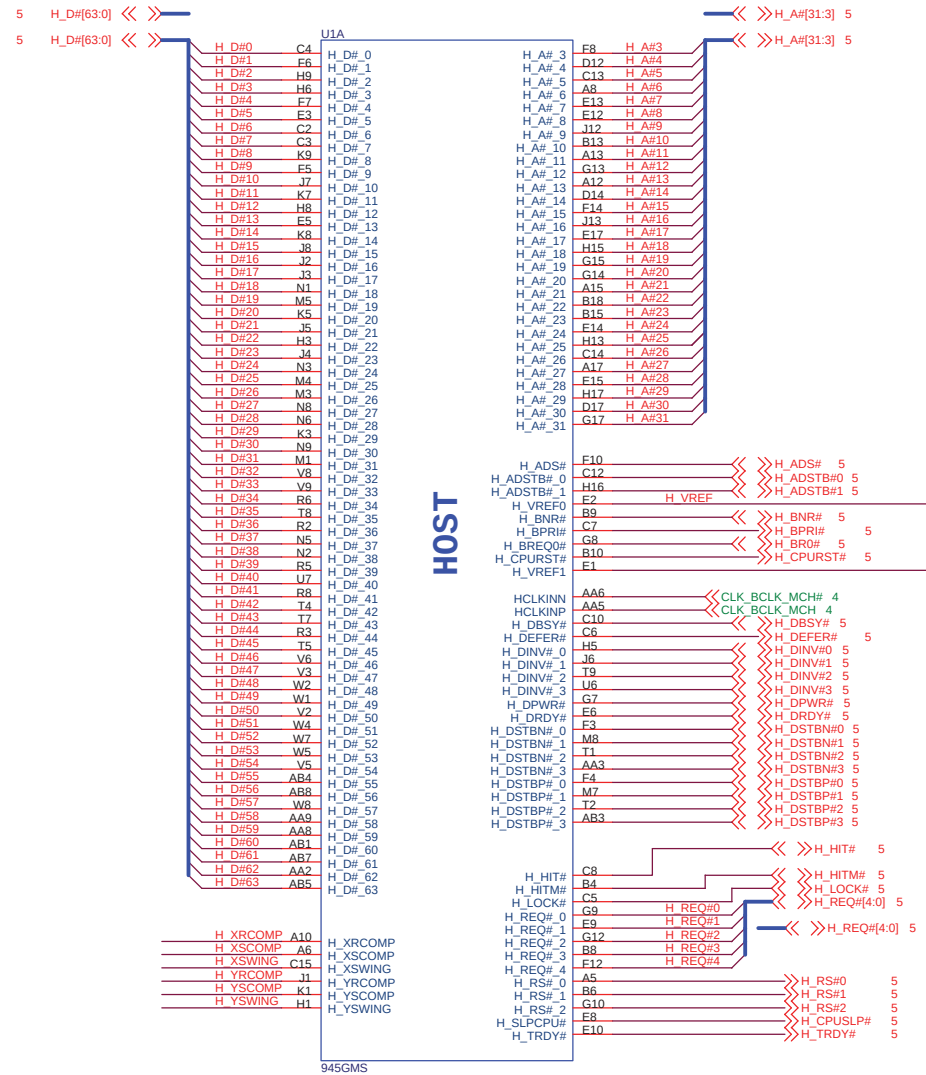
For Slew Rate Compenssation on the FSB

Voltage Swing

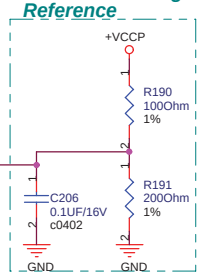
For Providing a Reference Voltage to The FSB RCOMP circuits



Signal voltage level =
0.3125*VCCP
Trace should be 10 mil wide
with 20 mil spacing



AGTL+ I/O Voltage Reference



Layout Note:
0.1uF should be placed 100mils or less from GMCH pin.

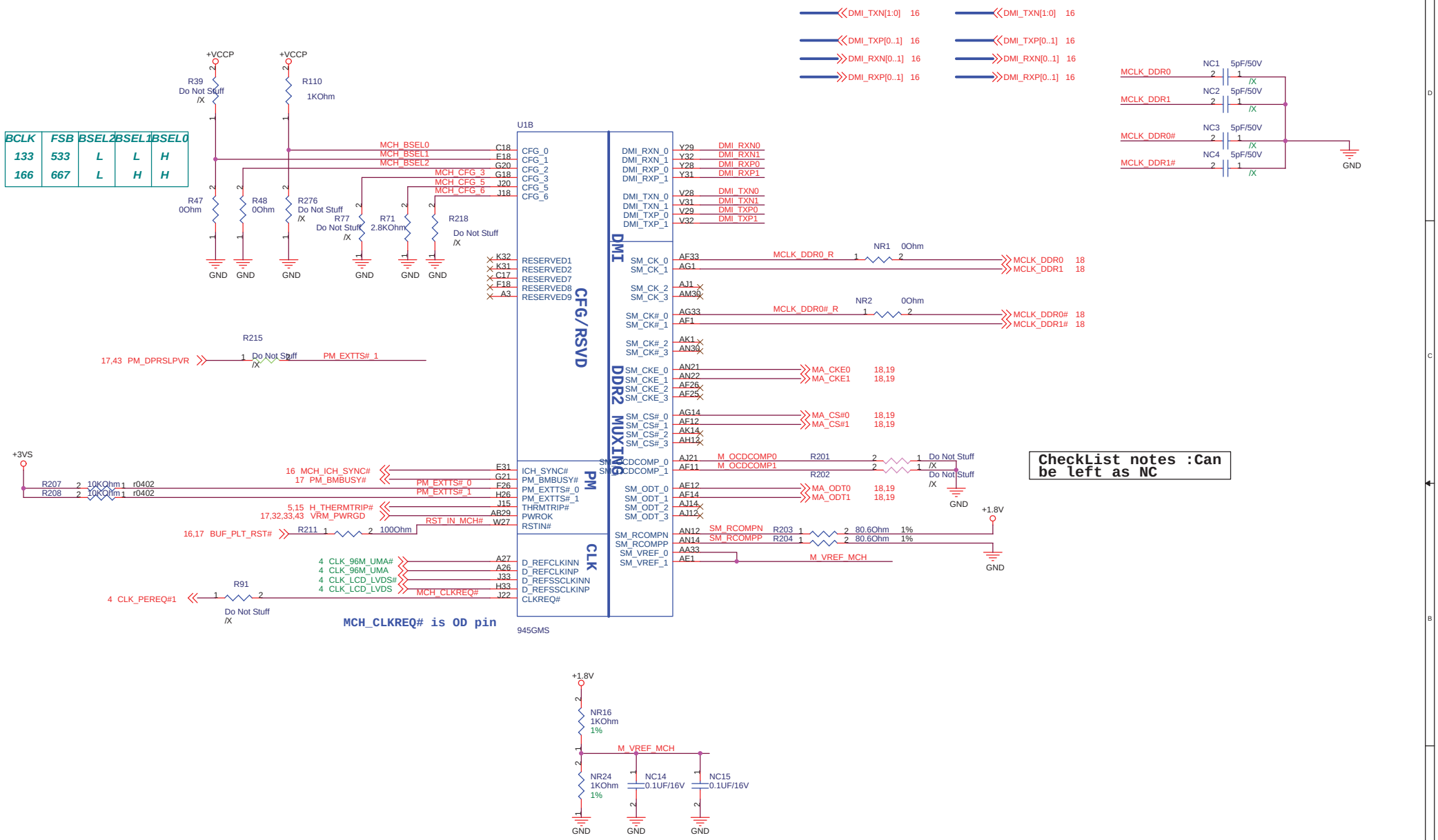
/X

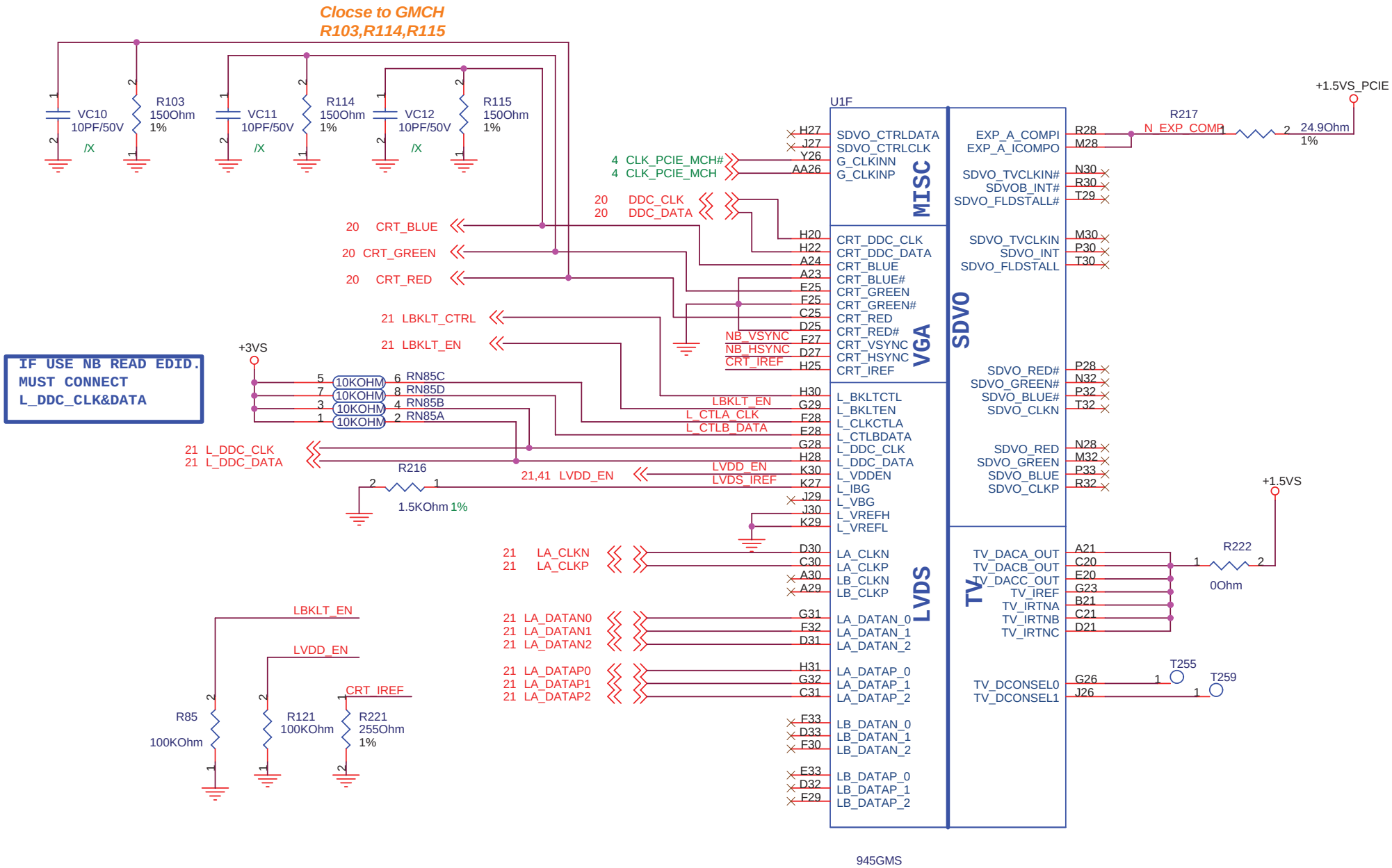
Title : NB-945GMS(HOST)

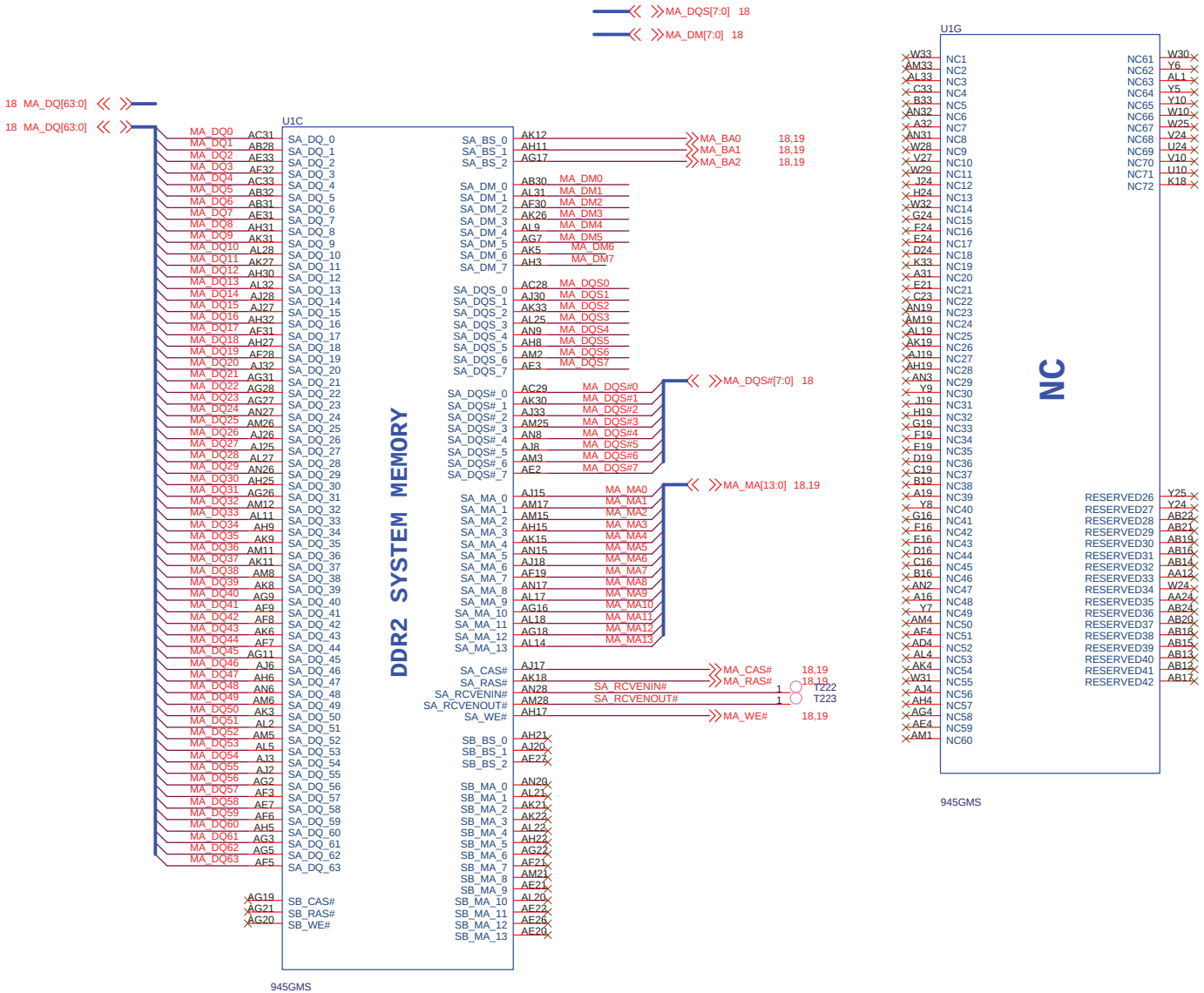
ASUSTeK COMPUTER INC. Engineer: Satan He

Size	Project Name	Rev
A3	P901	1.00G

Date: Monday, March 31, 2008 Sheet 7 of 50

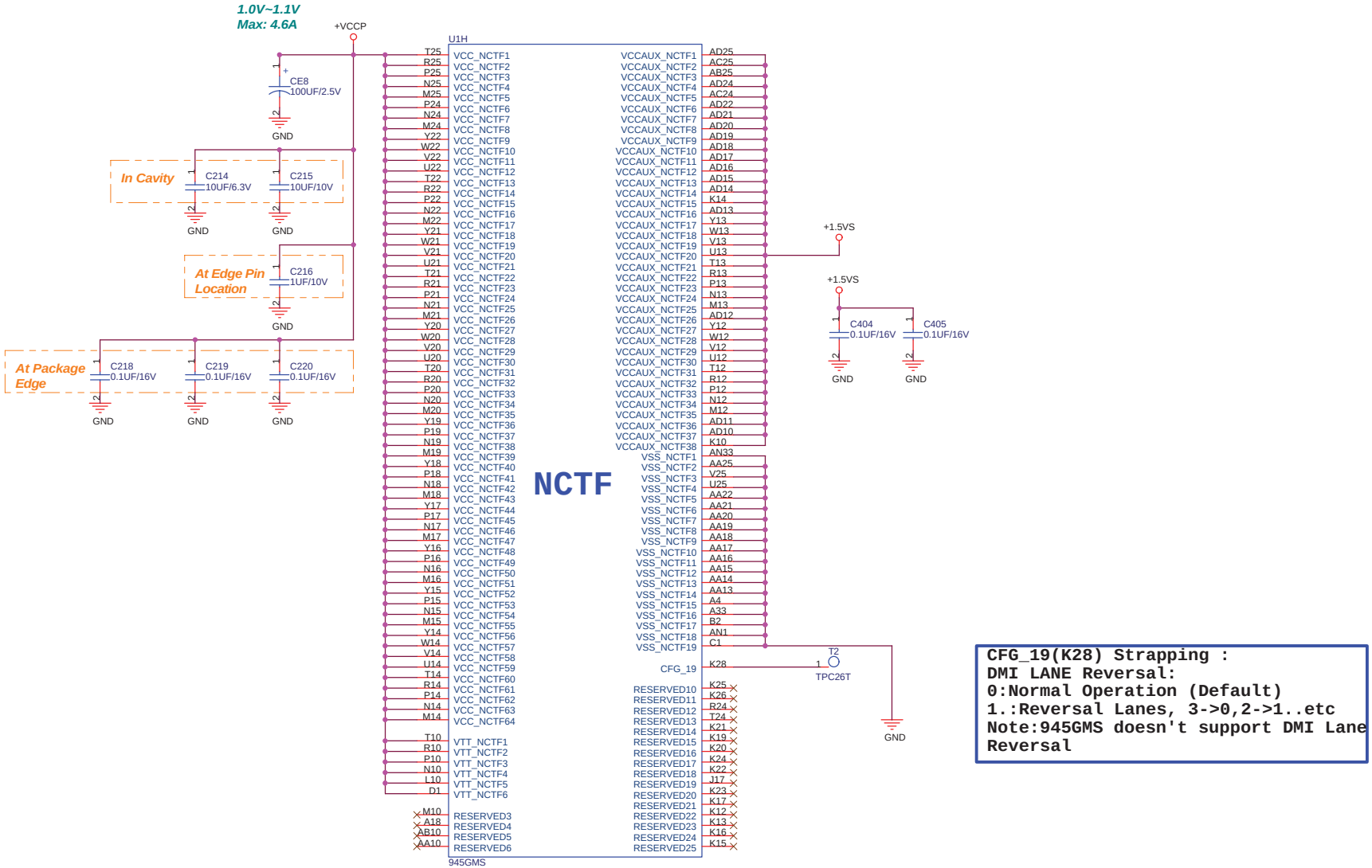



Clocse to GMCH
R103,R114,R115
VC10
10PF/50V
/X
R103
150Ohm
1%
VC11
10PF/50V
/X
R114
150Ohm
1%
VC12
10PF/50V
/X
R115
150Ohm
1%
U1F
MISC
SDVO_CTRLDATA
SDVO_CTRLCLK
G_CLKINN
G_CLKINP
4 CLK_PCIE_MCH#
4 CLK_PCIE_MCH
20 DDC_CLK
20 DDC_DATA
VGA
CRT_DDC_CLK
CRT_DDC_DATA
CRT_BLUE
CRT_BLUE#
CRT_GREEN
CRT_GREEN#
CRT_RED
CRT_RED#
CRT_VSYNC
CRT_HSYNC
CRT_IREF
20 CRT_BLUE
20 CRT_GREEN
20 CRT_RED
21 LBKLT_CTRL
21 LBKLT_EN
NB_VSYNC
NB_HSYNC
CRT_IREF
SDVO
EXP_A_COMPI
EXP_A_ICOMPO
SDVO_TVCLKIN#
SDVOB_INT#
SDVO_FLDSTALL#
SDVO_TVCLKIN
SDVO_INT
SDVO_FLDSTALL
SDVO_RED#
SDVO_GREEN#
SDVO_BLUE#
SDVO_CLKN
SDVO_RED
SDVO_GREEN
SDVO_BLUE
SDVO_CLKP
R217
N_EXP_COMP
24.9Ohm
1%
+1.5VS_PCIE
IF USE NB READ EDID.
MUST CONNECT
L_DDC_CLK&DATA
+3VS
RN85C
RN85D
RN85B
RN85A
10KOHM
LBKLT_EN
L_CTLA_CLK
L_CTLB_DATA
21 L_DDC_CLK
21 L_DDC_DATA
R216
1.5KOhm 1%
21,41 LVDD_EN
LVDD_EN
LVDS_IREF
L_BKLTCTL
L_BKLTEN
L_CLKCTLA
L_CTLBDATA
L_DDC_CLK
L_DDC_DATA
L_VDDEN
L_IBG
L_VBG
L_VREFH
L_VREFL
LVDS
21 LA_CLKN
21 LA_CLKP
LA_CLKN
LA_CLKP
LB_CLKN
LB_CLKP
21 LA_DATAN0
21 LA_DATAN1
21 LA_DATAN2
LA_DATAN_0
LA_DATAN_1
LA_DATAN_2
21 LA_DATAP0
21 LA_DATAP1
21 LA_DATAP2
LA_DATAP_0
LA_DATAP_1
LA_DATAP_2
LB_DATAN_0
LB_DATAN_1
LB_DATAN_2
LB_DATAP_0
LB_DATAP_1
LB_DATAP_2
TV
TV_DACA_OUT
TV_DACB_OUT
TV_DACC_OUT
TV_IREF
TV_IRTNA
TV_IRTNB
TV_IRTNC
TV_DCONSEL0
TV_DCONSEL1
R222
0Ohm
+1.5VS
T255
T259
LBKLT_EN
LVDD_EN
CRT_IREF
R85
100KOhm
R121
100KOhm
R221
255Ohm
1%
20 CRT_HSYNC
20 CRT_VSYNC
CRT_HSYNC
CRT_VSYNC
R220
R219
22Ohm
22Ohm
NB_HSYNC
NB_VSYNC
Clocse to GMCH
945GMS
/X
Title : NB-945GMS(GRAPHIC)
ASUSTeK COMPUTER INC.
Engineer: Satan_He
Size A4
Project Name P901
Rev 1.00G
Date: Monday, March 31, 2008
Sheet 9 of 50
http://hobi-elektronika.net



/X

ASUSTeK COMPUTER INC.	Title : NB-945GMS(DDR2)	
	Engineer: Satan He	
Size: A3	Project Name: P901	Rev: 1.00G
Date: Monday, March 31, 2008	Sheet 10 of 50	



/X

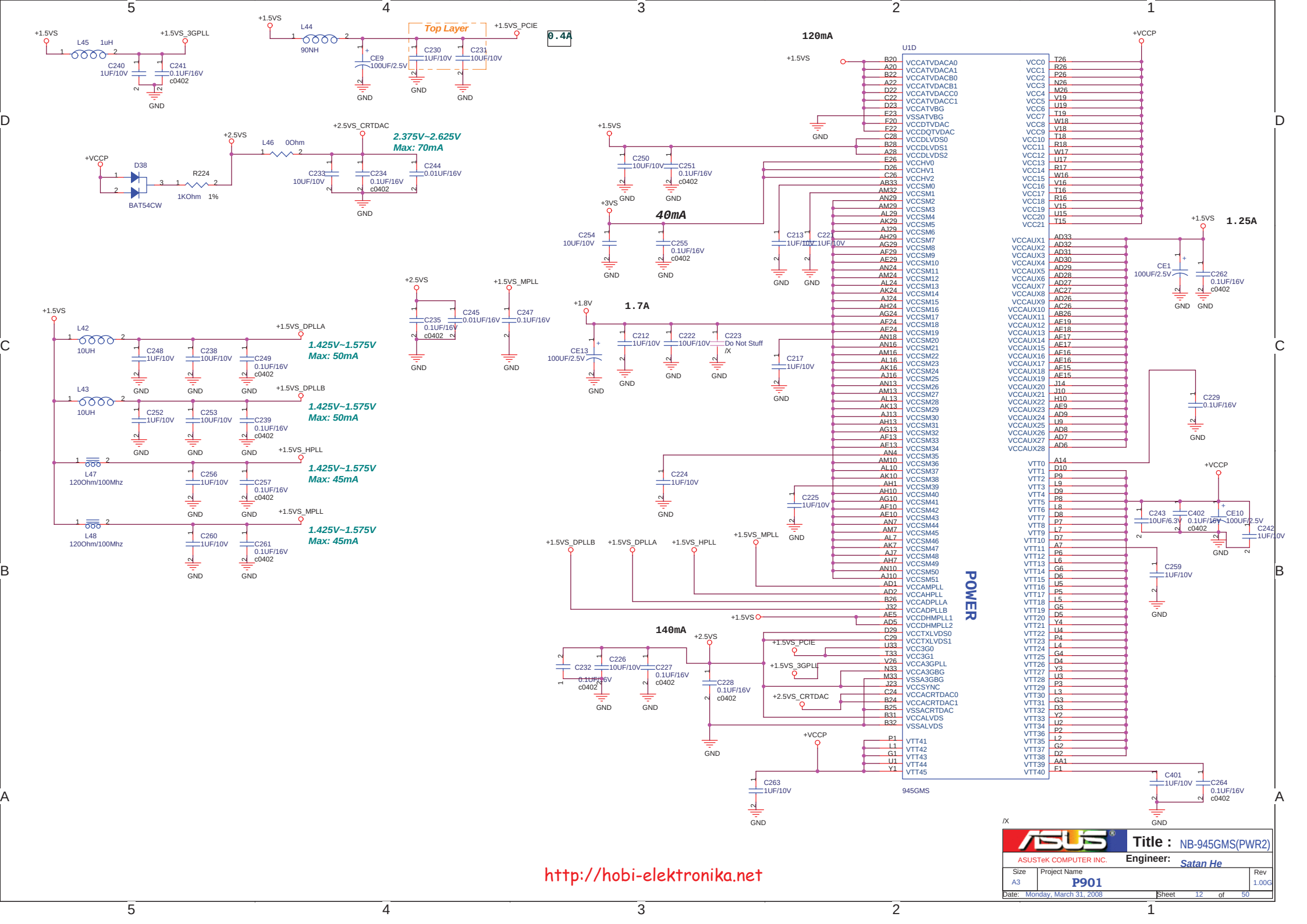
Title : NB-945GMs(PWR)

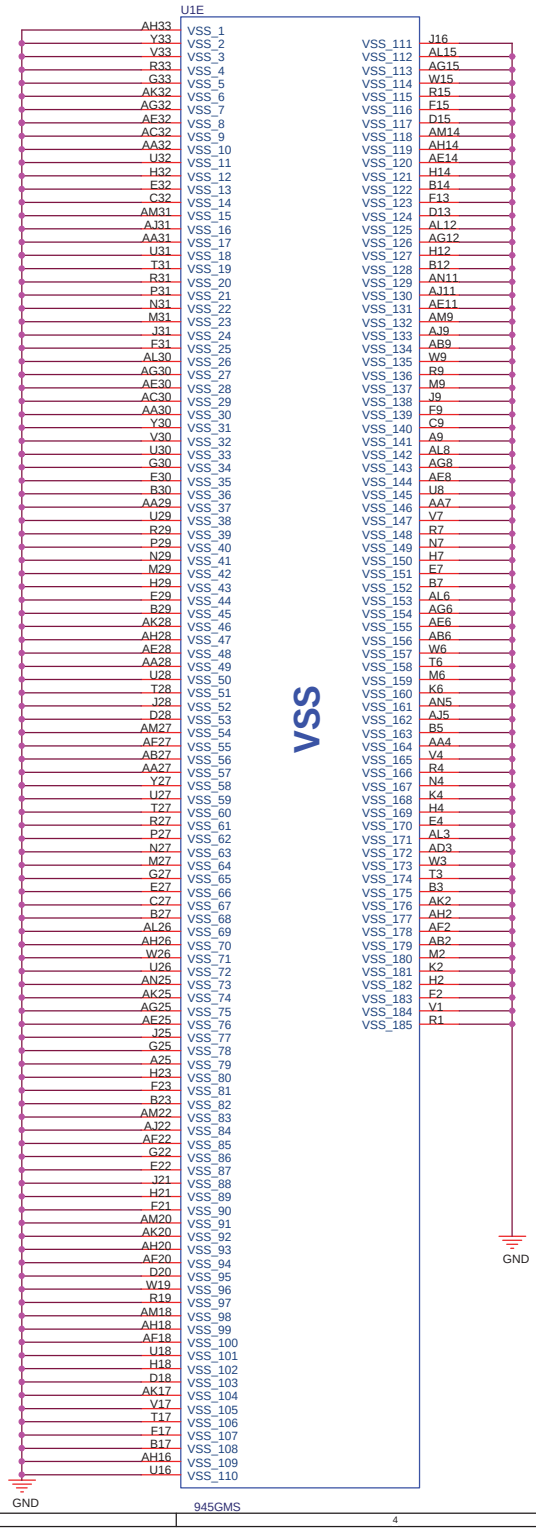
ASUSTeK COMPUTER INC.

Engineer: Satan_He

Size	Project Name	Rev
A3	P901	1.00G

Date: Monday, March 31, 2008 Sheet 11 of 50

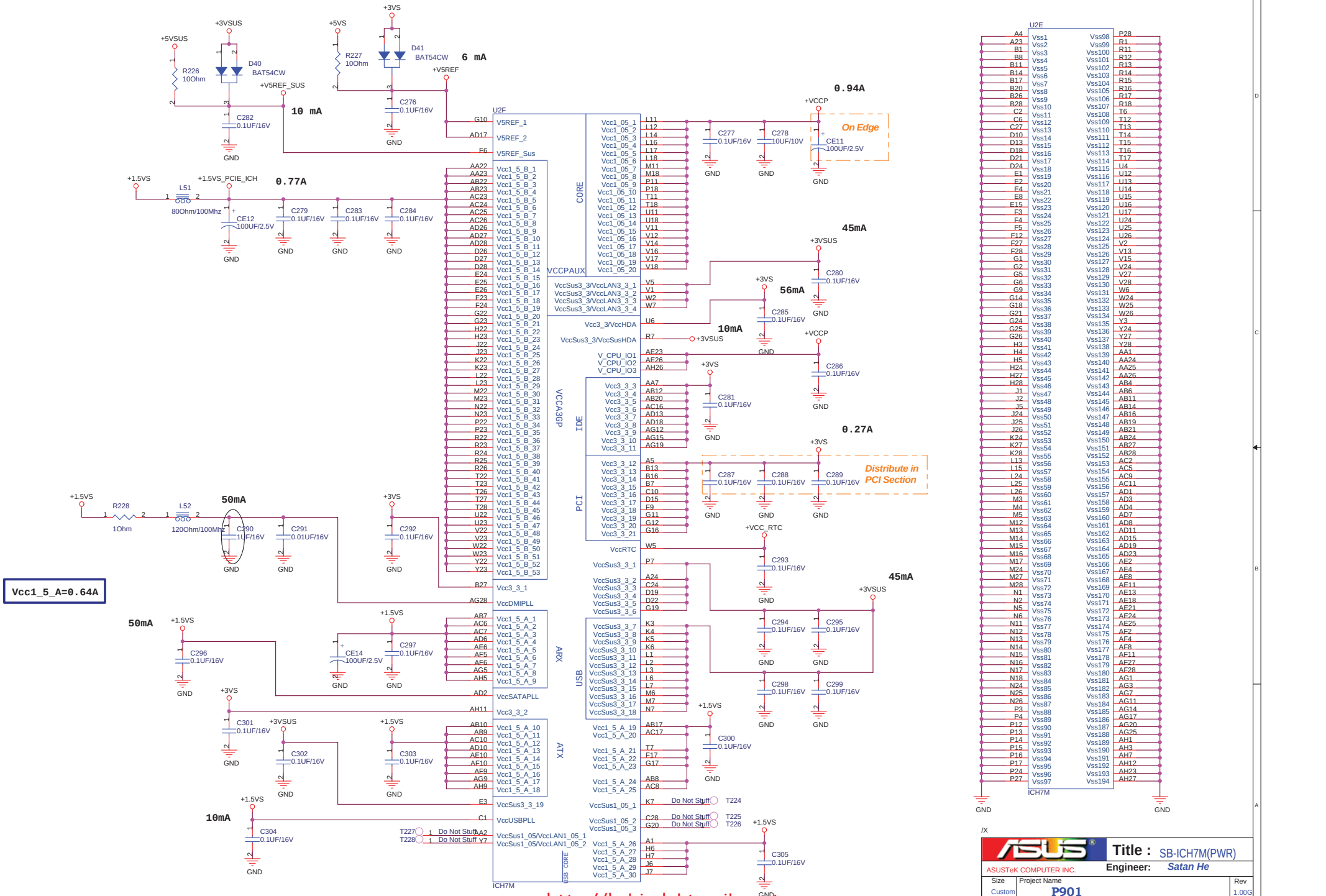

+1.5VS
L45 1uH
+1.5VS_3GPLL
C240 1UF/10V
C241 0.1UF/16V c0402
GND
L44
90NH
Top Layer
+1.5VS_PCIE
0.4A
CE9 100UF/2.5V
C230 1UF/10V
C231 10UF/10V
+2.5VS
L46 0Ohm
+2.5VS_CRTDAC
2.375V~2.625V
Max: 70mA
+VCCP
D38
BAT54CW
R224
1KOhm 1%
C233 10UF/10V
C234 0.1UF/16V c0402
C244 0.01UF/16V
120mA
U1D
VCCATVDACA0
VCCATVDACA1
VCCATVDACB0
VCCATVDACB1
VCCATVDACC0
VCCATVDACC1
VCCATVBG
VSSATVBG
VCCDTVDAC
VCCDQTVDAC
VCCDLVDS0
VCCDLVDS1
VCCDLVDS2
VCCHV0
VCCHV1
VCCHV2
VCCSM0
VCCSM1
VCCSM2
VCCSM3
VCCSM4
VCCSM5
VCCSM6
VCCSM7
VCCSM8
VCCSM9
VCCSM10
VCCSM11
VCCSM12
VCCSM13
VCCSM14
VCCSM15
VCCSM16
VCCSM17
VCCSM18
VCCSM19
VCCSM20
VCCSM21
VCCSM22
VCCSM23
VCCSM24
VCCSM25
VCCSM26
VCCSM27
VCCSM28
VCCSM29
VCCSM30
VCCSM31
VCCSM32
VCCSM33
VCCSM34
VCCSM35
VCCSM36
VCCSM37
VCCSM38
VCCSM39
VCCSM40
VCCSM41
VCCSM42
VCCSM43
VCCSM44
VCCSM45
VCCSM46
VCCSM47
VCCSM48
VCCSM49
VCCSM50
VCCSM51
VCCAMPLL
VCCAHPLL
VCCADPLLA
VCCADPLLB
VCCDHMPLL1
VCCDHMPLL2
VCCTXLVDS0
VCCTXLVDS1
VCC3G0
VCC3G1
VCCA3GPLL
VCCA3GBG
VSSA3GBG
VCCSYNC
VCCACRTDAC0
VCCACRTDAC1
VSSACRTDAC
VCCALVDS
VSSALVDS
VTT41
VTT42
VTT43
VTT44
VTT45
945GMS
POWER
C250 10UF/10V
C251 0.1UF/16V c0402
+3VS
40mA
C254 10UF/10V
C255 0.1UF/16V c0402
C213 1UF/10V
C221 1UF/10V
+1.8V
1.7A
CE13 100UF/2.5V
C212 1UF/10V
C222 10UF/10V
C223 Do Not Stuff /X
C217 1UF/10V
C224 1UF/10V
C225 1UF/10V
+1.5VS_DPLLB
+1.5VS_DPLLA
+1.5VS_HPLL
+1.5VS_MPLL
140mA
C232 0.1UF/16V c0402
C226 10UF/10V
C227 0.1UF/16V c0402
C228 0.1UF/16V c0402
C263 1UF/10V
+VCCP
VCC0
VCC1
VCC2
VCC3
VCC4
VCC5
VCC6
VCC7
VCC8
VCC9
VCC10
VCC11
VCC12
VCC13
VCC14
VCC15
VCC16
VCC17
VCC18
VCC19
VCC20
VCC21
VCCAUX1
VCCAUX2
VCCAUX3
VCCAUX4
VCCAUX5
VCCAUX6
VCCAUX7
VCCAUX8
VCCAUX9
VCCAUX10
VCCAUX11
VCCAUX12
VCCAUX13
VCCAUX14
VCCAUX15
VCCAUX16
VCCAUX17
VCCAUX18
VCCAUX19
VCCAUX20
VCCAUX21
VCCAUX22
VCCAUX23
VCCAUX24
VCCAUX25
VCCAUX26
VCCAUX27
VCCAUX28
VTT0
VTT1
VTT2
VTT3
VTT4
VTT5
VTT6
VTT7
VTT8
VTT9
VTT10
VTT11
VTT12
VTT13
VTT14
VTT15
VTT16
VTT17
VTT18
VTT19
VTT20
VTT21
VTT22
VTT23
VTT24
VTT25
VTT26
VTT27
VTT28
VTT29
VTT30
VTT31
VTT32
VTT33
VTT34
VTT35
VTT36
VTT37
VTT38
VTT39
VTT40
1.25A
CE1 100UF/2.5V
C262 0.1UF/16V c0402
C229 0.1UF/16V
C243 10UF/6.3V
C402 0.1UF/16V c0402
CE10 100UF/2.5V
C242 1UF/10V
C259 1UF/10V
C401 1UF/10V
C264 0.1UF/16V c0402
+2.5VS
C235 0.1UF/16V c0402
C245 0.01UF/16V
+1.5VS_MPLL
C247 0.1UF/16V
L42 10UH
+1.5VS_DPLLA
1.425V~1.575V
Max: 50mA
C248 1UF/10V
C238 10UF/10V
C249 0.1UF/16V c0402
L43 10UH
+1.5VS_DPLLB
1.425V~1.575V
Max: 50mA
C252 1UF/10V
C253 10UF/10V
C239 0.1UF/16V c0402
L47 120Ohm/100Mhz
+1.5VS_HPLL
1.425V~1.575V
Max: 45mA
C256 1UF/10V
C257 0.1UF/16V c0402
L48 120Ohm/100Mhz
+1.5VS_MPLL
1.425V~1.575V
Max: 45mA
C260 1UF/10V
C261 0.1UF/16V c0402
GND
/X
ASUSTeK COMPUTER INC.
Title : NB-945GMS(PWR2)
Engineer: Satan He
Size A3
Project Name P901
Rev 1.00G
Date: Monday, March 31, 2008
Sheet 12 of 50
http://hobi-elektronika.net

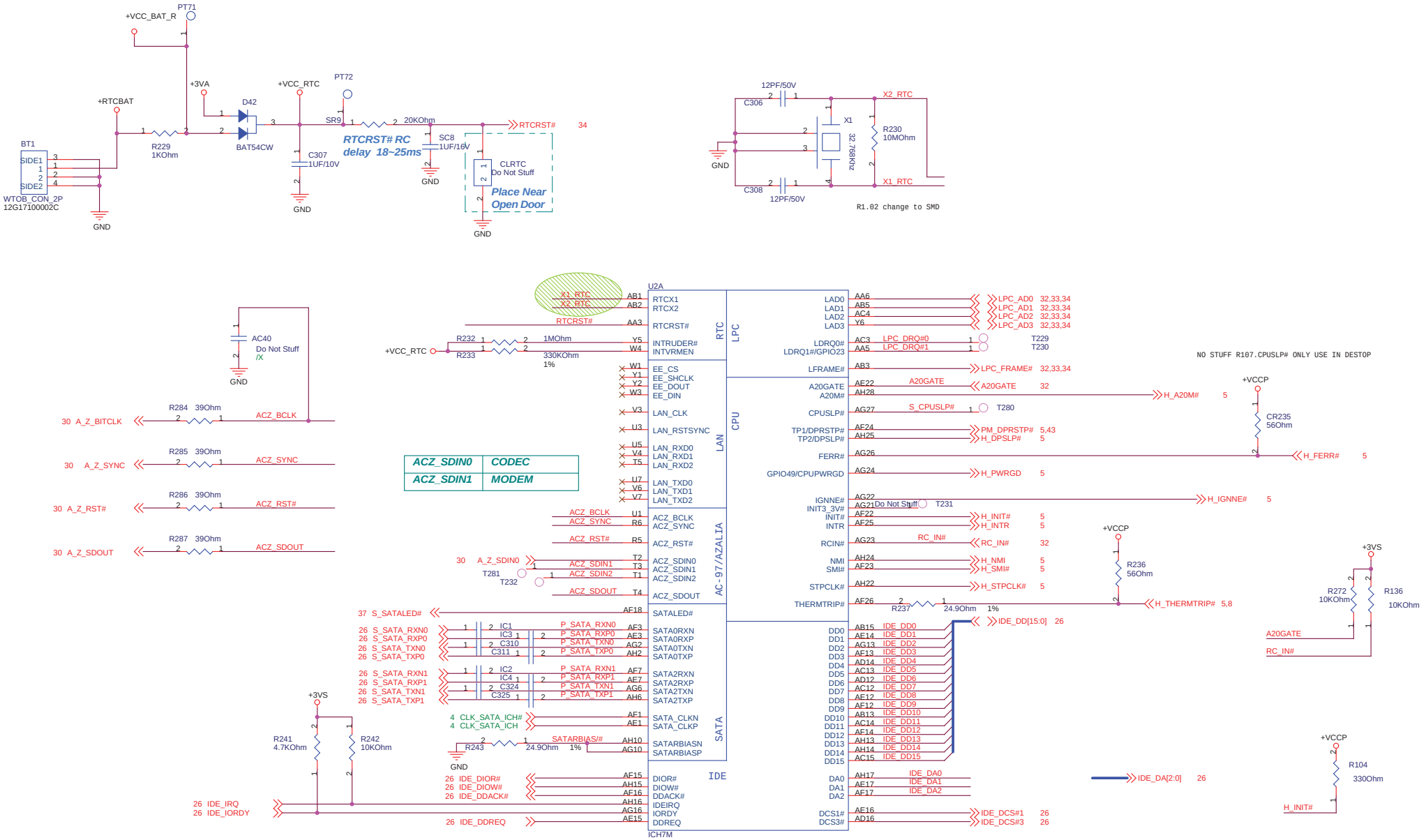


http://hobi-elektronika.net

/X

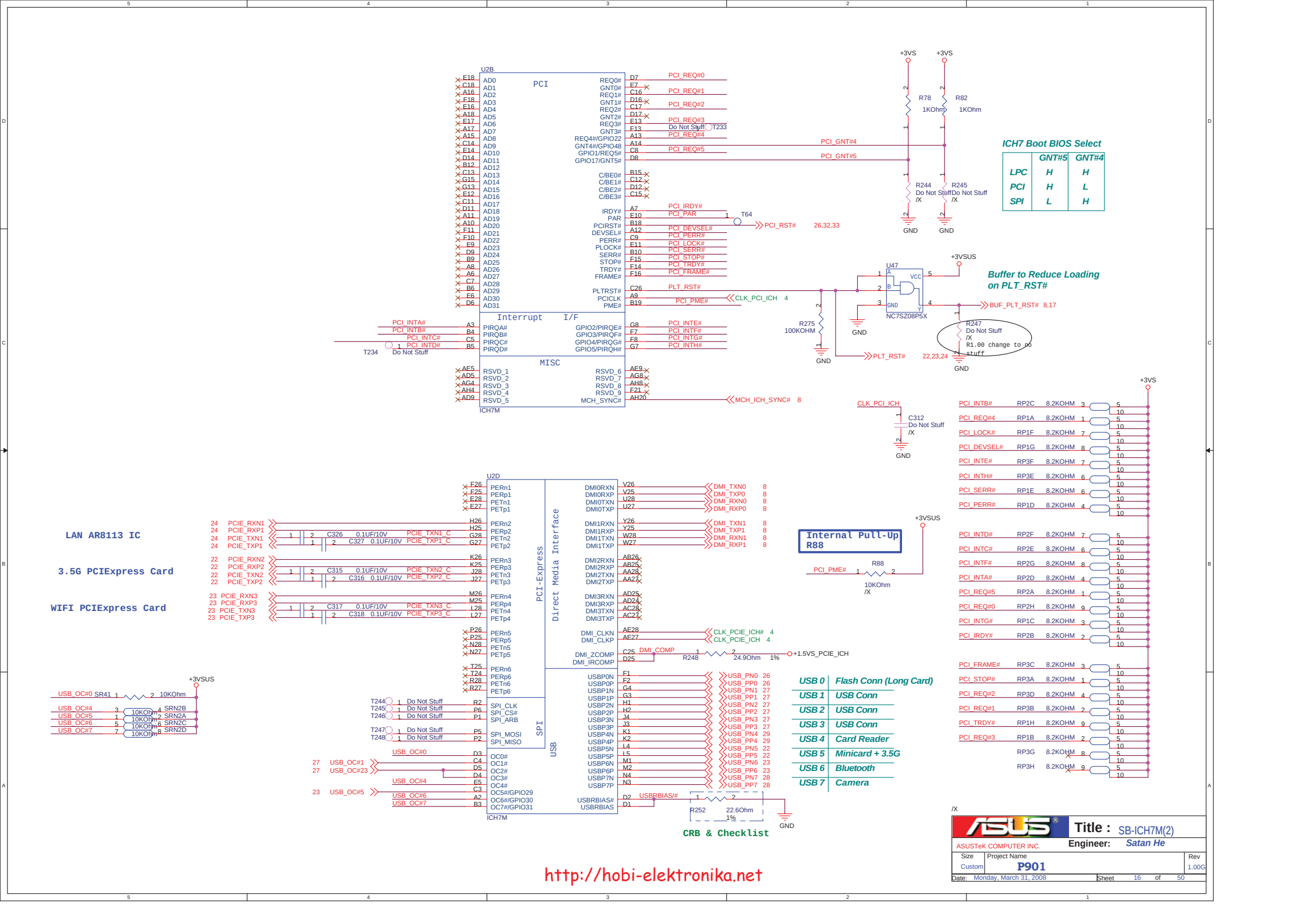
ASUSTeK COMPUTER INC.	Title : NB-945PMS(GND)	
	Engineer: Satan_He	
Size: A3	Project Name: P901	Rev: 1.00G
Date: Monday, March 31, 2008	Sheet 13 of 50	

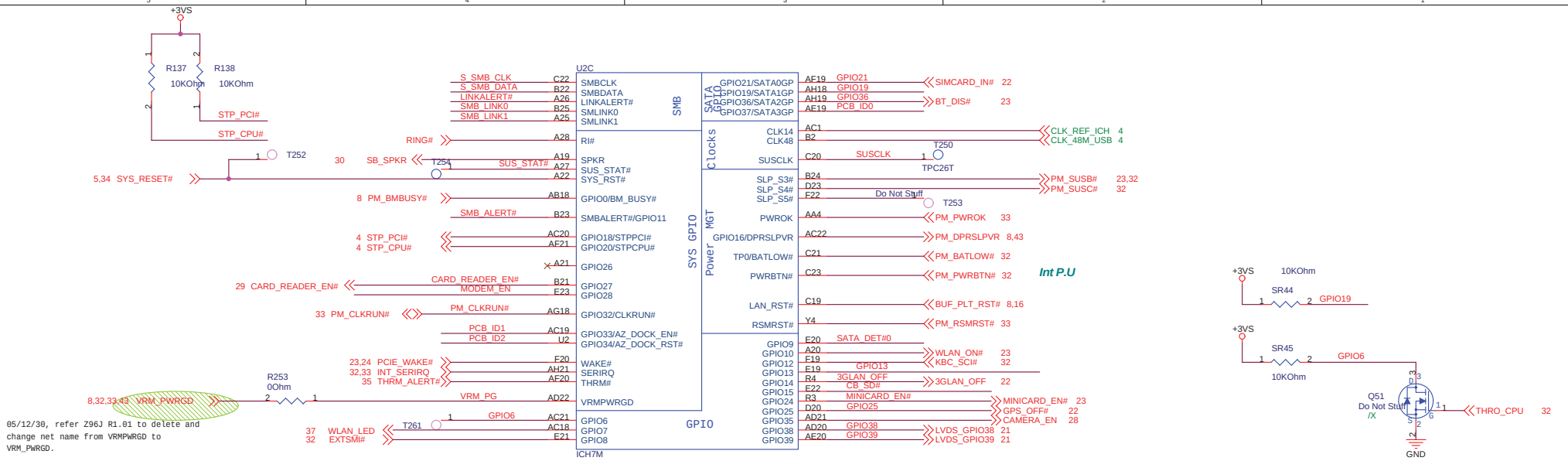

+3VS
+3VSUS
+5VSUS
+5VS
+V5REF
+V5REF_SUS
R226 10Ohm
R227 10Ohm
D40 BAT54CW
D41 BAT54CW
6 mA
10 mA
C276 0.1UF/16V
C282 0.1UF/16V
GND
U2F
V5REF_1
V5REF_2
V5REF_Sus
+1.5VS
+1.5VS_PCIE_ICH
0.77A
L51
80Ohm/100Mhz
CE12 100UF/2.5V
C279 0.1UF/16V
C283 0.1UF/16V
C284 0.1UF/16V
Vcc1_5_B_1
Vcc1_5_B_2
Vcc1_5_B_3
Vcc1_5_B_4
Vcc1_5_B_5
Vcc1_5_B_6
Vcc1_5_B_7
Vcc1_5_B_8
Vcc1_5_B_9
Vcc1_5_B_10
Vcc1_5_B_11
Vcc1_5_B_12
Vcc1_5_B_13
Vcc1_5_B_14
Vcc1_5_B_15
Vcc1_5_B_16
Vcc1_5_B_17
Vcc1_5_B_18
Vcc1_5_B_19
Vcc1_5_B_20
Vcc1_5_B_21
Vcc1_5_B_22
Vcc1_5_B_23
Vcc1_5_B_24
Vcc1_5_B_25
Vcc1_5_B_26
Vcc1_5_B_27
Vcc1_5_B_28
Vcc1_5_B_29
Vcc1_5_B_30
Vcc1_5_B_31
Vcc1_5_B_32
Vcc1_5_B_33
Vcc1_5_B_34
Vcc1_5_B_35
Vcc1_5_B_36
Vcc1_5_B_37
Vcc1_5_B_38
Vcc1_5_B_39
Vcc1_5_B_40
Vcc1_5_B_41
Vcc1_5_B_42
Vcc1_5_B_43
Vcc1_5_B_44
Vcc1_5_B_45
Vcc1_5_B_46
Vcc1_5_B_47
Vcc1_5_B_48
Vcc1_5_B_49
Vcc1_5_B_50
Vcc1_5_B_51
Vcc1_5_B_52
Vcc1_5_B_53
CORE
VCCPAUX
VCCA3GP
IDE
PCI
USB
ARX
ATX
Vcc1_05_1
Vcc1_05_2
Vcc1_05_3
Vcc1_05_4
Vcc1_05_5
Vcc1_05_6
Vcc1_05_7
Vcc1_05_8
Vcc1_05_9
Vcc1_05_10
Vcc1_05_11
Vcc1_05_12
Vcc1_05_13
Vcc1_05_14
Vcc1_05_15
Vcc1_05_16
Vcc1_05_17
Vcc1_05_18
Vcc1_05_19
Vcc1_05_20
C277 0.1UF/16V
C278 10UF/10V
CE11 100UF/2.5V
On Edge
0.94A
VccSus3_3/VccLAN3_3_1
VccSus3_3/VccLAN3_3_2
VccSus3_3/VccLAN3_3_3
VccSus3_3/VccLAN3_3_4
Vcc3_3/VccHDA
VccSus3_3/VccSusHDA
V_CPU_IO1
V_CPU_IO2
V_CPU_IO3
C280 0.1UF/16V
C285 0.1UF/16V
C286 0.1UF/16V
45mA
56mA
10mA
0.27A
Distribute in PCI Section
C281 0.1UF/16V
C287 0.1UF/16V
C288 0.1UF/16V
C289 0.1UF/16V
Vcc3_3_3
Vcc3_3_4
Vcc3_3_5
Vcc3_3_6
Vcc3_3_7
Vcc3_3_8
Vcc3_3_9
Vcc3_3_10
Vcc3_3_11
Vcc3_3_12
Vcc3_3_13
Vcc3_3_14
Vcc3_3_15
Vcc3_3_16
Vcc3_3_17
Vcc3_3_18
Vcc3_3_19
Vcc3_3_20
Vcc3_3_21
VccRTC
+VCC_RTC
C293 0.1UF/16V
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
VccSus3_3_17
VccSus3_3_18
C294 0.1UF/16V
C295 0.1UF/16V
C298 0.1UF/16V
C299 0.1UF/16V
C300 0.1UF/16V
45mA
Vcc1_5_A_19
Vcc1_5_A_20
Vcc1_5_A_21
Vcc1_5_A_22
Vcc1_5_A_23
Vcc1_5_A_24
Vcc1_5_A_25
VccSus1_05_1
VccSus1_05_2
VccSus1_05_3
Do Not Stuff
T224
T225
T226
C305 0.1UF/16V
Vcc1_5_A_26
Vcc1_5_A_27
Vcc1_5_A_28
Vcc1_5_A_29
Vcc1_5_A_30
ICH7M
R228 1Ohm
L52 120Ohm/100Mhz
50mA
C290 1UF/16V
C291 0.01UF/16V
C292 0.1UF/16V
B27
Vcc3_3_1
AG28
VccDMIPLL
Vcc1_5_A_1
Vcc1_5_A_2
Vcc1_5_A_3
Vcc1_5_A_4
Vcc1_5_A_5
Vcc1_5_A_6
Vcc1_5_A_7
Vcc1_5_A_8
Vcc1_5_A_9
C296 0.1UF/16V
CE14 100UF/2.5V
C297 0.1UF/16V
AD2
VccSATAPLL
AH11
Vcc3_3_2
C301 0.1UF/16V
C302 0.1UF/16V
C303 0.1UF/16V
Vcc1_5_A_10
Vcc1_5_A_11
Vcc1_5_A_12
Vcc1_5_A_13
Vcc1_5_A_14
Vcc1_5_A_15
Vcc1_5_A_16
Vcc1_5_A_17
Vcc1_5_A_18
E3
VccSus3_3_19
C1
VccUSBPLL
AA2
Y7
VccSus1_05/VccLAN1_05_1
VccSus1_05/VccLAN1_05_2
C304 0.1UF/16V
10mA
T227 Do Not Stuff
T228 Do Not Stuff
Vcc1_5_A=0.64A
U2E
Vss1
Vss2
Vss3
Vss4
Vss5
Vss6
Vss7
Vss8
Vss9
Vss10
Vss11
Vss12
Vss13
Vss14
Vss15
Vss16
Vss17
Vss18
Vss19
Vss20
Vss21
Vss22
Vss23
Vss24
Vss25
Vss26
Vss27
Vss28
Vss29
Vss30
Vss31
Vss32
Vss33
Vss34
Vss35
Vss36
Vss37
Vss38
Vss39
Vss40
Vss41
Vss42
Vss43
Vss44
Vss45
Vss46
Vss47
Vss48
Vss49
Vss50
Vss51
Vss52
Vss53
Vss54
Vss55
Vss56
Vss57
Vss58
Vss59
Vss60
Vss61
Vss62
Vss63
Vss64
Vss65
Vss66
Vss67
Vss68
Vss69
Vss70
Vss71
Vss72
Vss73
Vss74
Vss75
Vss76
Vss77
Vss78
Vss79
Vss80
Vss81
Vss82
Vss83
Vss84
Vss85
Vss86
Vss87
Vss88
Vss89
Vss90
Vss91
Vss92
Vss93
Vss94
Vss95
Vss96
Vss97
Vss98
Vss99
Vss100
Vss101
Vss102
Vss103
Vss104
Vss105
Vss106
Vss107
Vss108
Vss109
Vss110
Vss111
Vss112
Vss113
Vss114
Vss115
Vss116
Vss117
Vss118
Vss119
Vss120
Vss121
Vss122
Vss123
Vss124
Vss125
Vss126
Vss127
Vss128
Vss129
Vss130
Vss131
Vss132
Vss133
Vss134
Vss135
Vss136
Vss137
Vss138
Vss139
Vss140
Vss141
Vss142
Vss143
Vss144
Vss145
Vss146
Vss147
Vss148
Vss149
Vss150
Vss151
Vss152
Vss153
Vss154
Vss155
Vss156
Vss157
Vss158
Vss159
Vss160
Vss161
Vss162
Vss163
Vss164
Vss165
Vss166
Vss167
Vss168
Vss169
Vss170
Vss171
Vss172
Vss173
Vss174
Vss175
Vss176
Vss177
Vss178
Vss179
Vss180
Vss181
Vss182
Vss183
Vss184
Vss185
Vss186
Vss187
Vss188
Vss189
Vss190
Vss191
Vss192
Vss193
Vss194
ICH7M
/X
Title : SB-ICH7M(PWR)
ASUSTeK COMPUTER INC.
Engineer: Satan He
Size Custom
Project Name P901
Rev 1.00G
Date: Monday, March 31, 2008
Sheet 14 of 50
http://hobi-elektronika.net



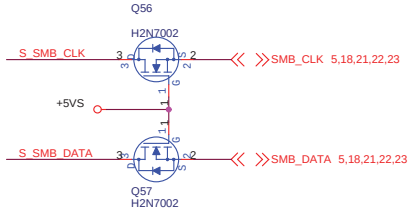
/X

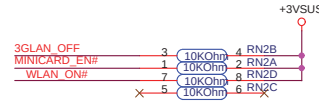
ASUSTeK COMPUTER INC.	Title : SB-ICH7-M(1)	
	Engineer: Satan He	
Size: Custom	Project Name: P901	Rev: 1.00G
Date: Monday, March 31, 2008	Sheet 15 of 50	

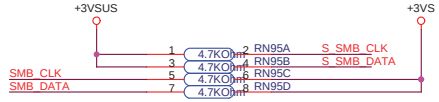

U2B
PCI
Interrupt I/F
MISC
ICH7M
ICH Boot BIOS Select
LPC H H
PCI H L
SPI L H
Buffer to Reduce Loading on PLT_RST#
NC7SZ08P5X
U2D
PCI-Express
Direct Media Interface
USB
SPI
LAN AR8113 IC
3.5G PCIExpress Card
WIFI PCIExpress Card
Internal Pull-Up R88
USB 0 Flash Conn (Long Card)
USB 1 USB Conn
USB 2 USB Conn
USB 3 USB Conn
USB 4 Card Reader
USB 5 Minicard + 3.5G
USB 6 Bluetooth
USB 7 Camera
CRB & Checklist
Title : SB-ICH7M(2)
ASUSTeK COMPUTER INC.
Engineer: Satan He
Project Name P901
Rev 1.00G
Date: Monday, March 31, 2008
Sheet 16 of 50
http://hobi-elektronika.net

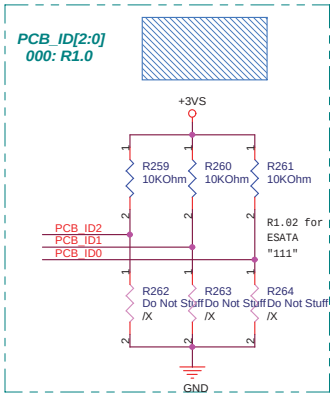


WLAN_LED	WLAN	BT
High	v	v
High	v	x
High	x	v
Low	x	x

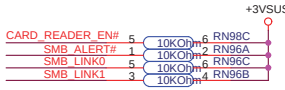


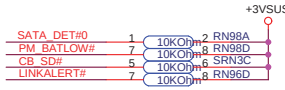


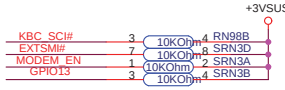


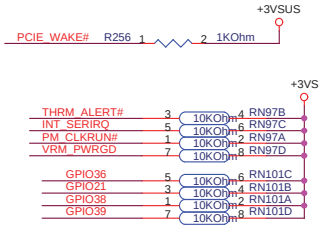


PCB_VID3 : PROJECT CODE









/X

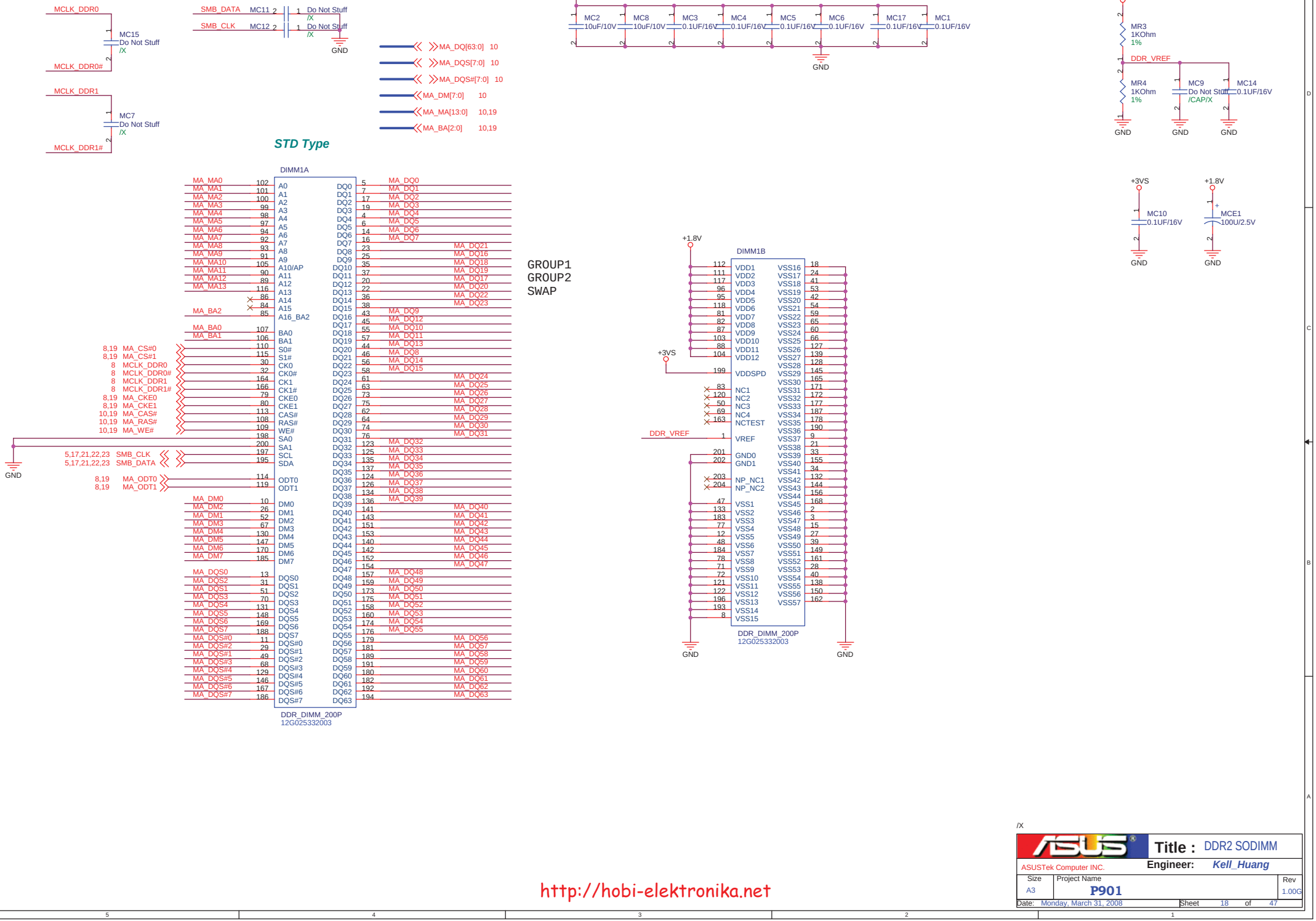
ASUSTeK COMPUTER INC

Title : SB-ICH7M(3)

Engineer: Satan He

Size	Project Name	Rev
Custom	P901	1.00G

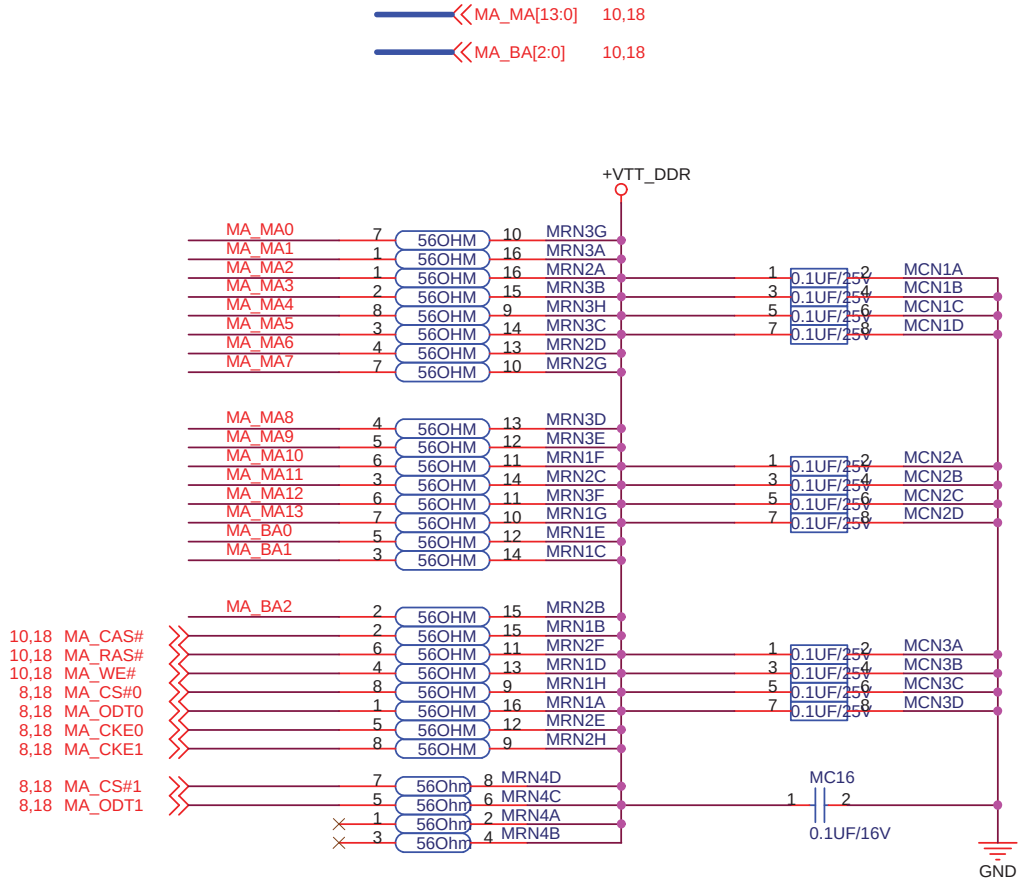
Date: Monday, March 31, 2008 Sheet 17 of 50



http://hobi-elektronika.net

/X

ASUSTek Computer INC.	Title : DDR2 SODIMM	
	Engineer: Kell_Huang	
Size: A3	Project Name: P901	Rev: 1.00G
Date: Monday, March 31, 2008	Sheet 18 of 47	



/X

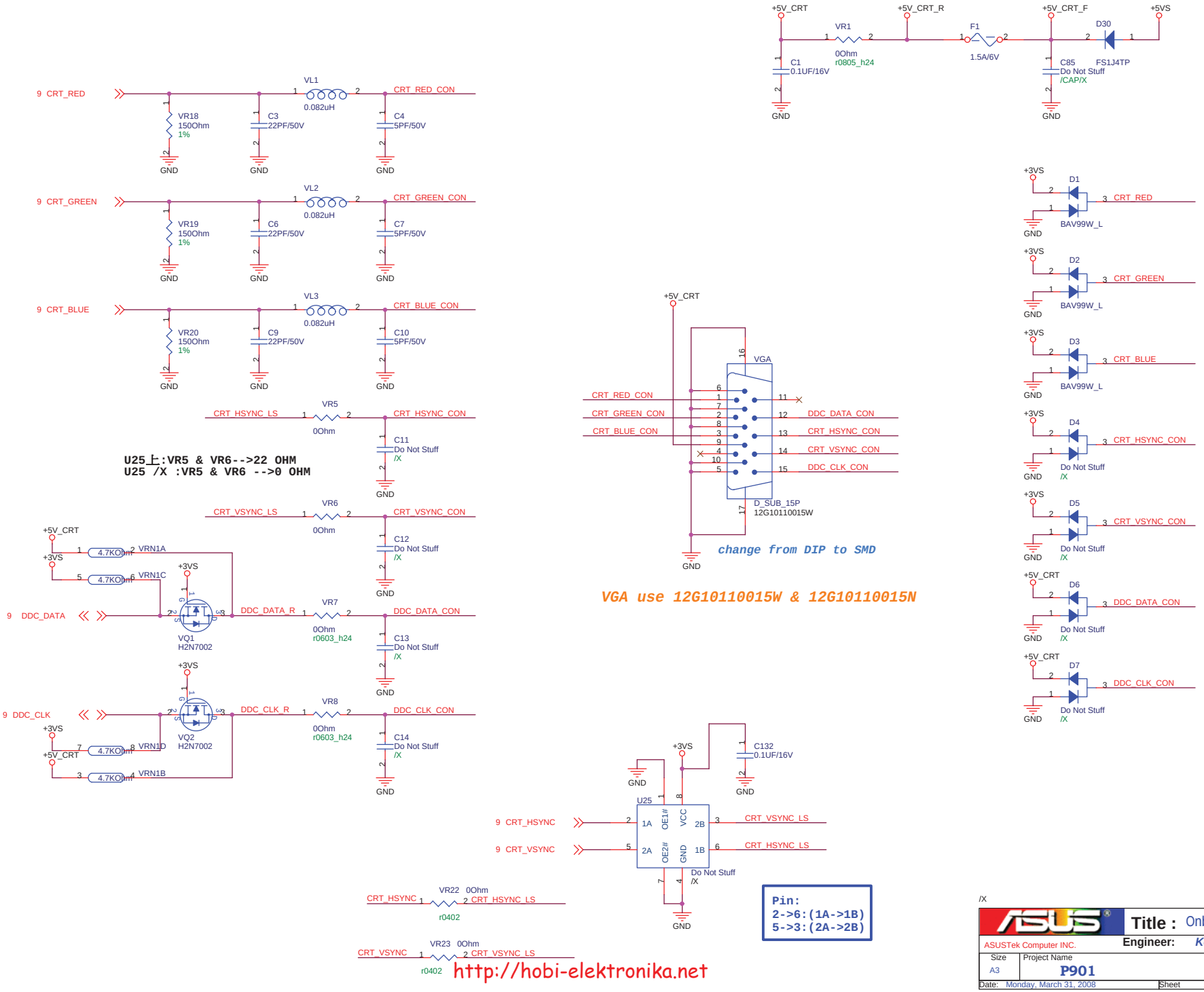
ASUSTek Computer INC.

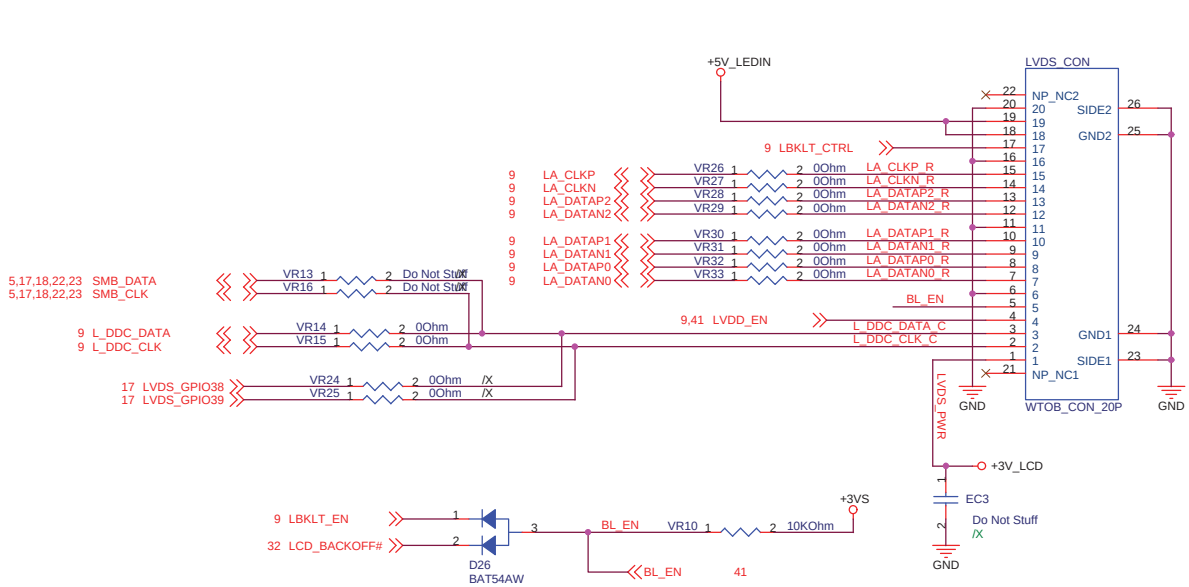
Title : DDR2_Termination

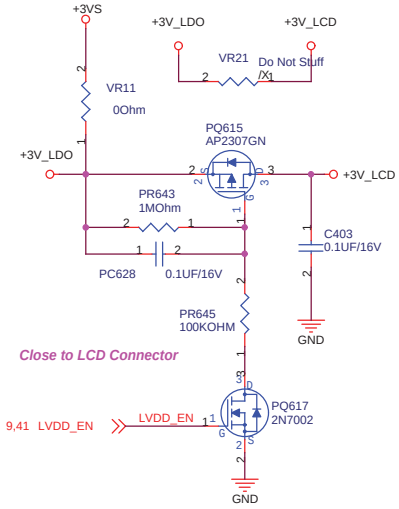
Engineer: *Kell_Huang*

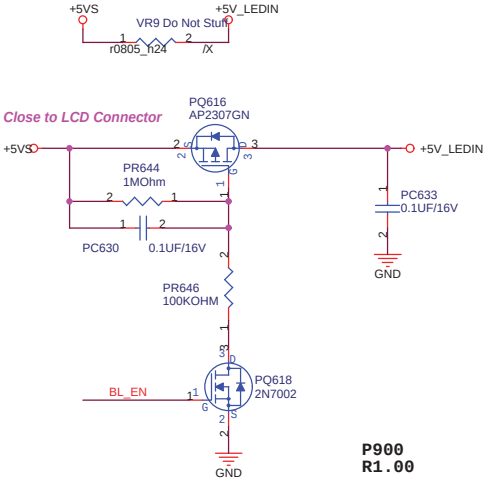
Size	Project Name	Rev
A4	**P901**	1.00G

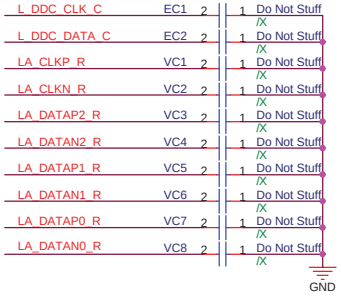
Date: Monday, March 31, 2008 Sheet 19 of 47

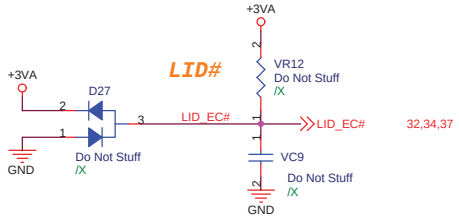

9 CRT_RED
VL1
0.082uH
CRT_RED_CON
VR18
150Ohm
1%
C3
22PF/50V
C4
5PF/50V
GND
9 CRT_GREEN
VL2
0.082uH
CRT_GREEN_CON
VR19
150Ohm
1%
C6
22PF/50V
C7
5PF/50V
9 CRT_BLUE
VL3
0.082uH
CRT_BLUE_CON
VR20
150Ohm
1%
C9
22PF/50V
C10
5PF/50V
CRT_HSYNC_LS
VR5
0Ohm
CRT_HSYNC_CON
C11
Do Not Stuff
/X
U25上:VR5 & VR6-->22 OHM
U25 /X :VR5 & VR6 -->0 OHM
CRT_VSYNC_LS
VR6
0Ohm
CRT_VSYNC_CON
C12
Do Not Stuff
/X
+5V_CRT
+3VS
4.7KOhm
VRN1A
VRN1C
9 DDC_DATA
VQ1
H2N7002
DDC_DATA_R
VR7
0Ohm
r0603_h24
DDC_DATA_CON
C13
Do Not Stuff
/X
9 DDC_CLK
VQ2
H2N7002
DDC_CLK_R
VR8
0Ohm
r0603_h24
DDC_CLK_CON
C14
Do Not Stuff
/X
VRN1D
VRN1B
+5V_CRT
+5V_CRT_R
VR1
0Ohm
r0805_h24
F1
1.5A/6V
+5V_CRT_F
D30
FS1J4TP
+5VS
C1
0.1UF/16V
C85
Do Not Stuff
/CAP/X
VGA
CRT_RED_CON
CRT_GREEN_CON
CRT_BLUE_CON
DDC_DATA_CON
CRT_HSYNC_CON
CRT_VSYNC_CON
DDC_CLK_CON
D_SUB_15P
12G10110015W
change from DIP to SMD
VGA use 12G10110015W & 12G10110015N
D1
D2
D3
D4
D5
D6
D7
BAV99W_L
Do Not Stuff
/X
U25
9 CRT_HSYNC
9 CRT_VSYNC
1A
2A
OE1#
OE2#
VCC
GND
2B
1B
C132
0.1UF/16V
Do Not Stuff
/X
Pin:
2->6:(1A->1B)
5->3:(2A->2B)
CRT_HSYNC
VR22 0Ohm
CRT_HSYNC_LS
r0402
CRT_VSYNC
VR23 0Ohm
CRT_VSYNC_LS
r0402
http://hobi-elektronika.net
/X
Title : Onboard VGA
ASUSTek Computer INC.
Engineer: Kell_Huang
Size
A3
Project Name
P901
Rev
1.00G
Date: Monday, March 31, 2008
Sheet 20 of 47

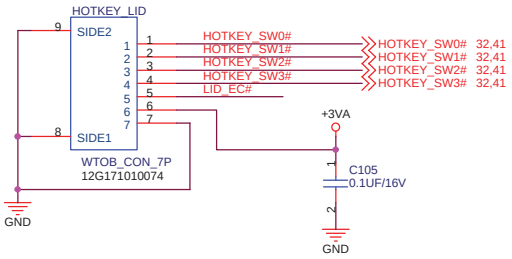


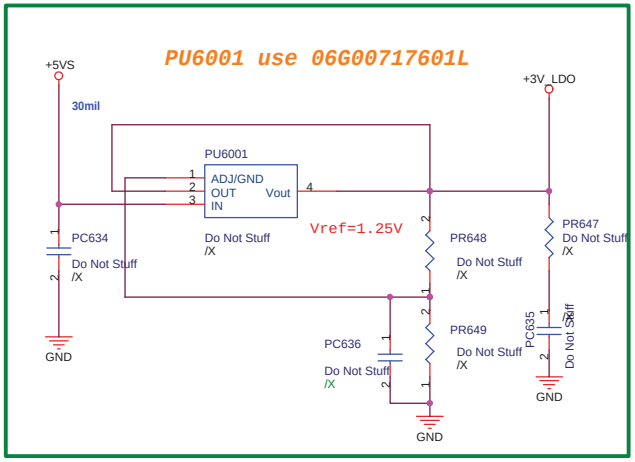








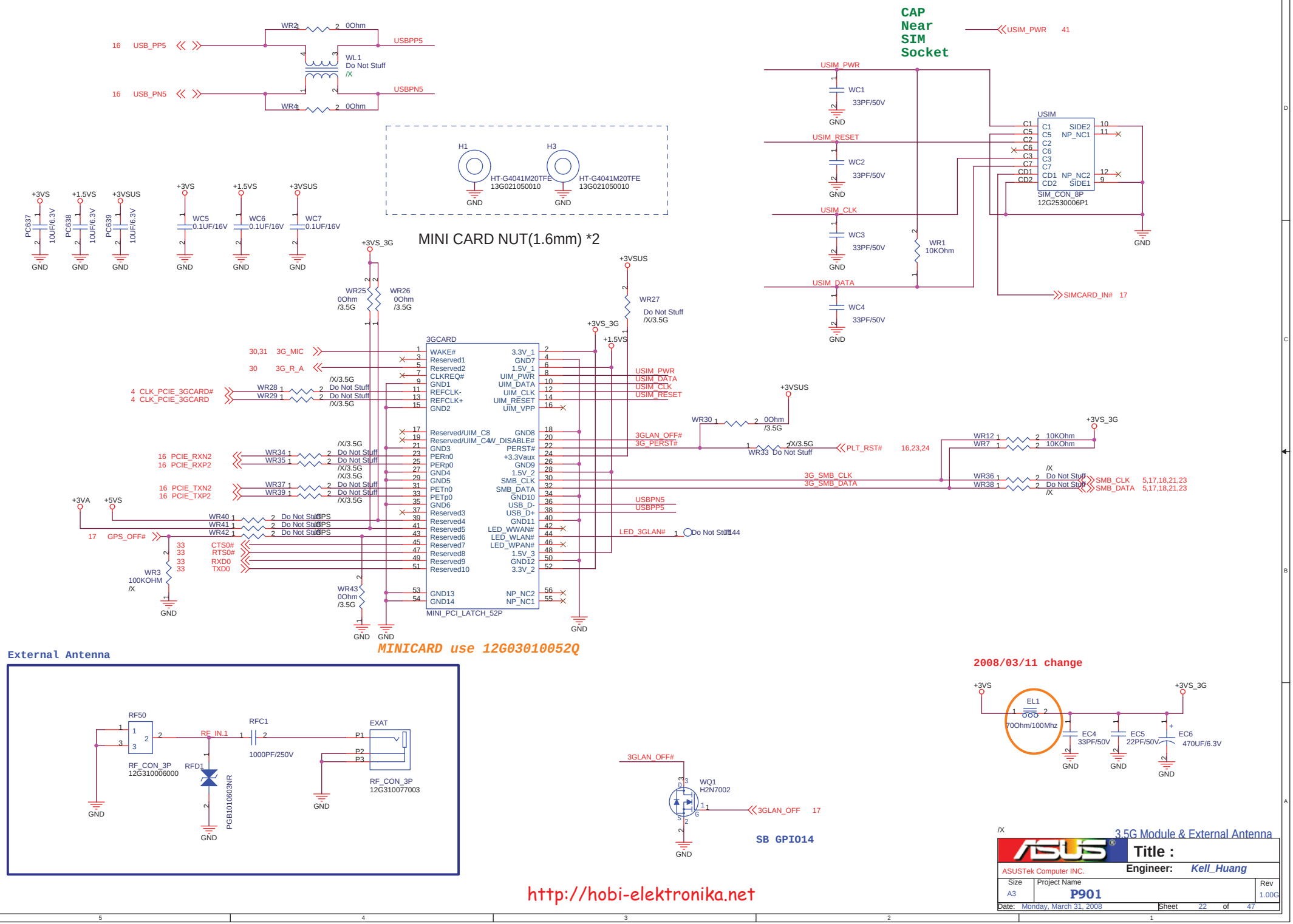


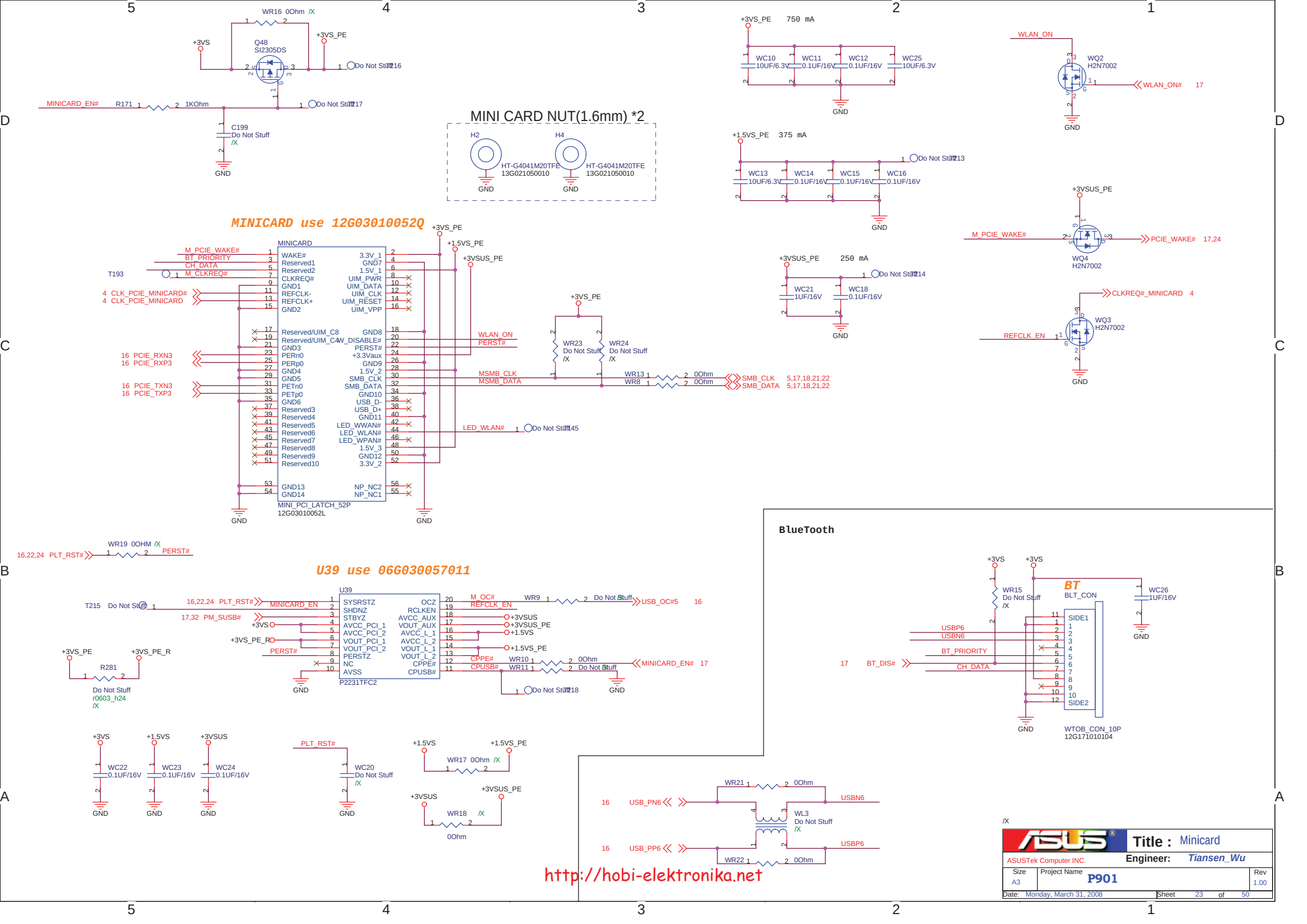


http://hobi-elektronika.net

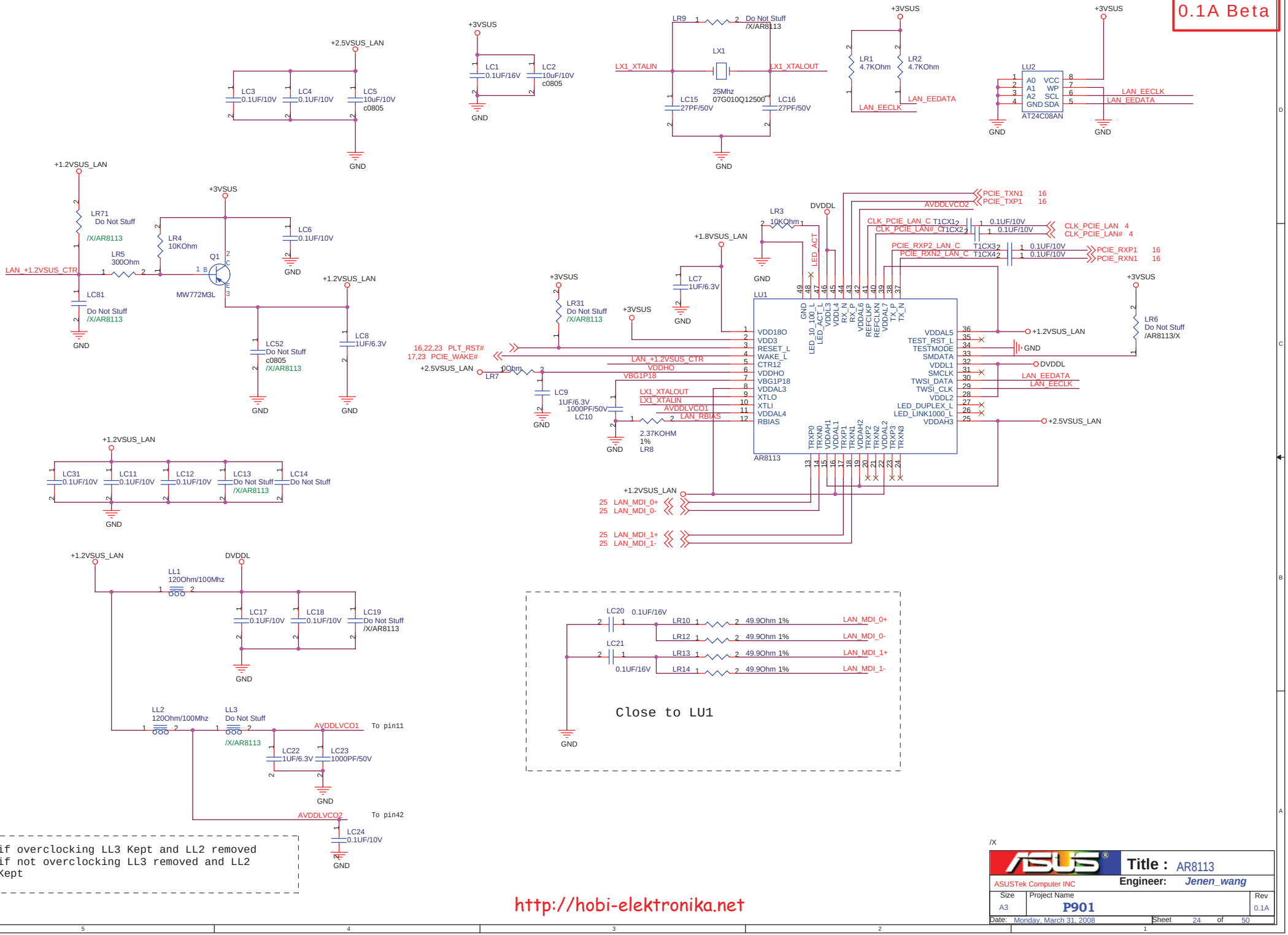
/X

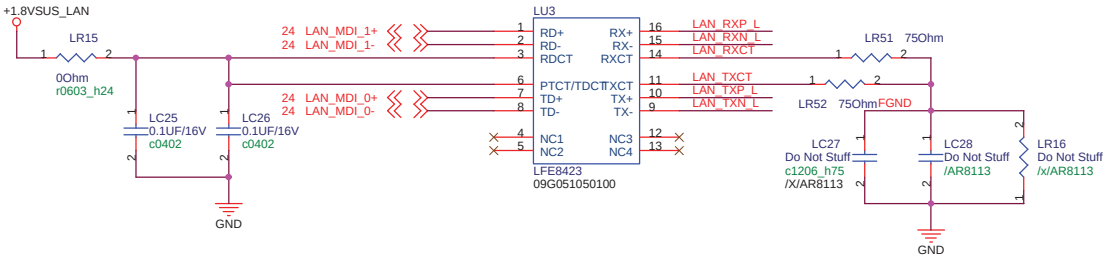
ASUSTek Computer INC.	Title : LVDS Conn_LID	
	Engineer: Kell_Huang	
Size: A3	Project Name: P901	Rev: 1.00G
Date: Monday, March 31, 2008	Sheet 21 of 47	

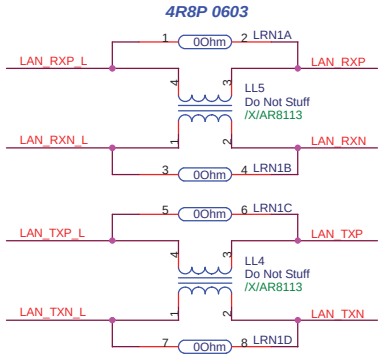

CAP Near SIM Socket
USIM_PWR 41
USIM_PWR
WC1 33PF/50V
USIM_RESET
WC2 33PF/50V
USIM_CLK
WC3 33PF/50V
USIM_DATA
WC4 33PF/50V
WR1 10KOhm
USIM
C1 SIDE2 10
C5 NP_NC1 11
C2
C6
C3
C7
CD1 NP_NC2 12
CD2 SIDE1 9
SIM_CON_8P
12G2530006P1
SIMCARD_IN# 17
GND
16 USB_PP5
16 USB_PN5
WR2 0Ohm
WR4 0Ohm
WL1
Do Not Stuff
/X
USBPP5
USBPN5
H1 HT-G4041M20TFE 13G021050010
H3 HT-G4041M20TFE 13G021050010
MINI CARD NUT(1.6mm) *2
PC637 10UF/6.3V
PC638 10UF/6.3V
PC639 10UF/6.3V
WC5 0.1UF/16V
WC6 0.1UF/16V
WC7 0.1UF/16V
+3VS
+1.5VS
+3VSUS
+3VS_3G
WR25 0Ohm /3.5G
WR26 0Ohm /3.5G
WR27 Do Not Stuff /X/3.5G
3GCARD
WAKE# 3.3V_1
Reserved1 GND7
Reserved2 1.5V_1
CLKREQ# UIM_PWR
GND1 UIM_DATA
REFCLK- UIM_CLK
REFCLK+ UIM_RESET
GND2 UIM_VPP
Reserved/UIM_C8 GND8
Reserved/UIM_C4 W_DISABLE#
GND3 PERST#
PERn0 +3.3Vaux
PERp0 GND9
GND4 1.5V_2
GND5 SMB_CLK
PETn0 SMB_DATA
PETp0 GND10
GND6 USB_D-
Reserved3 USB_D+
Reserved4 GND11
Reserved5 LED_WWAN#
Reserved6 LED_WLAN#
Reserved7 LED_WPAN#
Reserved8 1.5V_3
Reserved9 GND12
Reserved10 3.3V_2
GND13 NP_NC2
GND14 NP_NC1
MINI_PCI_LATCH_52P
30,31 3G_MIC
30 3G_R_A
4 CLK_PCIE_3GCARD#
4 CLK_PCIE_3GCARD
WR28 Do Not Stuff /X/3.5G
WR29 Do Not Stuff /X/3.5G
16 PCIE_RXN2
16 PCIE_RXP2
WR34 Do Not Stuff /X/3.5G
WR35 Do Not Stuff /X/3.5G
16 PCIE_TXN2
16 PCIE_TXP2
WR37 Do Not Stuff /X/3.5G
WR39 Do Not Stuff /X/3.5G
USIM_PWR
USIM_DATA
USIM_CLK
USIM_RESET
3GLAN_OFF#
3G_PERST#
USBPN5
USBPP5
LED_3GLAN# Do Not Stuff
WR30 0Ohm /3.5G
WR33 Do Not Stuff /X/3.5G
PLT_RST# 16,23,24
WR12 10KOhm
WR7 10KOhm
3G_SMB_CLK
3G_SMB_DATA
WR36 Do Not Stuff /X
WR38 Do Not Stuff /X
SMB_CLK 5,17,18,21,23
SMB_DATA 5,17,18,21,23
+3VA
+5VS
WR40 Do Not Stuff GPS
WR41 Do Not Stuff GPS
WR42 Do Not Stuff GPS
17 GPS_OFF#
33 CTS0#
33 RTS0#
33 RXD0
33 TXD0
WR3 100KOHM /X
WR43 0Ohm /3.5G
MINICARD use 12G03010052Q
External Antenna
RF50
RF_CON_3P
12G310006000
RF_IN.1
RFC1
1000PF/250V
RFD1
PGB1010603NR
EXAT
P1
P2
P3
RF_CON_3P
12G310077003
3GLAN_OFF#
WQ1
H2N7002
3GLAN_OFF 17
SB GPIO14
2008/03/11 change
EL1
70Ohm/100Mhz
EC4 33PF/50V
EC5 22PF/50V
EC6 470UF/6.3V
/X
3.5G Module & External Antenna
Title :
ASUSTek Computer INC.
Engineer: Kell_Huang
Size A3
Project Name P901
Rev 1.00G
Date: Monday, March 31, 2008
Sheet 22 of 47
http://hobi-elektronika.net

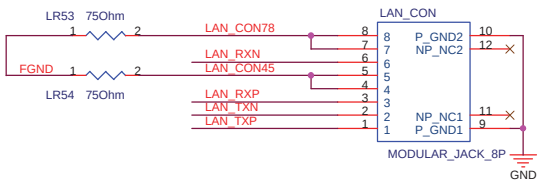

WR16 0Ohm /X
+3VS
Q48
SI2305DS
+3VS_PE
Do Not Stuff
MINICARD_EN#
R171 1KOhm
C199
Do Not Stuff
/X
GND
MINI CARD NUT(1.6mm) *2
H2
H4
HT-G4041M20TFE
13G021050010
+3VS_PE 750 mA
WC10 10UF/6.3V
WC11 0.1UF/16V
WC12 0.1UF/16V
WC25 10UF/6.3V
+1.5VS_PE 375 mA
WC13 10UF/6.3V
WC14 0.1UF/16V
WC15 0.1UF/16V
WC16 0.1UF/16V
WLAN_ON
WQ2
H2N7002
WLAN_ON# 17
MINICARD use 12G030010052Q
MINICARD
M_PCIE_WAKE#
BT_PRIORITY
CH_DATA
M_CLKREQ#
T193
CLK_PCIE_MINICARD#
CLK_PCIE_MINICARD
PCIE_RXN3
PCIE_RXP3
PCIE_TXN3
PCIE_TXP3
WAKE#
Reserved1
Reserved2
CLKREQ#
GND1
REFCLK-
REFCLK+
GND2
3.3V_1
GND7
1.5V_1
UIM_PWR
UIM_DATA
UIM_CLK
UIM_RESET
UIM_VPP
Reserved/UIM_C8
Reserved/UIM_C4
GND3
PERn0
PERp0
GND4
GND5
PETn0
PETp0
GND6
Reserved3
Reserved4
Reserved5
Reserved6
Reserved7
Reserved8
Reserved9
Reserved10
GND8
W_DISABLE#
PERST#
+3.3Vaux
GND9
1.5V_2
SMB_CLK
SMB_DATA
GND10
USB_D-
USB_D+
GND11
LED_WWAN#
LED_WLAN#
LED_WPAN#
1.5V_3
GND12
3.3V_2
GND13
GND14
NP_NC2
NP_NC1
MINI_PCI_LATCH_52P
12G03010052L
WLAN_ON
PERST#
MSMB_CLK
MSMB_DATA
LED_WLAN#
Do Not Stuff
WR23 Do Not Stuff /X
WR24 Do Not Stuff /X
WR13 0Ohm
WR8 0Ohm
SMB_CLK 5,17,18,21,22
SMB_DATA 5,17,18,21,22
+3VSUS_PE 250 mA
WC21 1UF/16V
WC18 0.1UF/16V
+3VSUS_PE
M_PCIE_WAKE#
PCIE_WAKE# 17,24
WQ4
H2N7002
CLKREQ#_MINICARD 4
REFCLK_EN
WQ3
H2N7002
WR19 0OHM /X
16,22,24 PLT_RST#
PERST#
U39 use 06G030057011
U39
T215 Do Not Stuff
16,22,24 PLT_RST#
17,32 PM_SUSB#
MINICARD_EN
+3VS
+3VS_PE_R
PERST#
SYSRSTZ
SHDNZ
STBYZ
AVCC_PCI_1
AVCC_PCI_2
VOUT_PCI_1
VOUT_PCI_2
PERSTZ
NC
AVSS
OCZ
RCLKEN
AVCC_AUX
VOUT_AUX
AVCC_L_1
AVCC_L_2
VOUT_L_1
VOUT_L_2
CPPE#
CPUSB#
P2231TFC2
M_OC#
REFCLK_EN
+3VSUS
+3VSUS_PE
+1.5VS
+1.5VS_PE
WR9 Do Not Stuff
USB_OC#5 16
WR10 0Ohm
WR11 Do Not Stuff
MINICARD_EN# 17
+3VS_PE
+3VS_PE_R
R281
Do Not Stuff
r0603_h24
/X
BlueTooth
BT
BLT_CON
WR15 Do Not Stuff /X
WC26 1UF/16V
USBP6
USBN6
BT_PRIORITY
CH_DATA
17 BT_DIS#
SIDE1
SIDE2
WTOB_CON_10P
12G171010104
WC22 0.1UF/16V
WC23 0.1UF/16V
WC24 0.1UF/16V
PLT_RST#
WC20 Do Not Stuff /X
WR17 0Ohm /X
WR18 /X
0Ohm
WR21 0Ohm
WR22 0Ohm
WL3 Do Not Stuff /X
16 USB_PN6
16 USB_PP6
USBN6
USBP6
/X
Title : Minicard
ASUSTek Computer INC.
Engineer: Tiansen_Wu
Size A3
Project Name P901
Rev 1.00
Date: Monday, March 31, 2008
Sheet 23 of 50
http://hobi-elektronika.net

0.1A Beta


+2.5VSUS_LAN
LC3 0.1UF/10V
LC4 0.1UF/10V
LC5 10uF/10V c0805
GND
+3VSUS
LC1 0.1UF/16V
LC2 10uF/10V c0805
GND
LR9 Do Not Stuff /X/AR8113
LX1
LX1_XTALIN
LX1_XTALOUT
LC15 27PF/50V
25Mhz 07G010Q12500
LC16 27PF/50V
GND
+3VSUS
LR1 4.7KOhm
LR2 4.7KOhm
LAN_EECLK
LAN_EEDATA
+3VSUS
LU2
A0 A1 A2 GND
VCC WP SCL SDA
AT24C08AN
LAN_EECLK
LAN_EEDATA
GND
GND
+1.2VSUS_LAN
LR71 Do Not Stuff /X/AR8113
LR4 10KOhm
LR5 300Ohm
LAN_+1.2VSUS_CTR
Q1
MW772M3L
+3VSUS
LC6 0.1UF/10V
GND
LC81 Do Not Stuff /X/AR8113
GND
LC52 Do Not Stuff c0805 /X/AR8113
+1.2VSUS_LAN
LC8 1UF/6.3V
GND
GND
+1.2VSUS_LAN
LC31 0.1UF/10V
LC11 0.1UF/10V
LC12 0.1UF/10V
LC13 Do Not Stuff /X/AR8113
LC14 Do Not Stuff
GND
+1.2VSUS_LAN
DVDDL
LL1 120Ohm/100Mhz
LC17 0.1UF/10V
LC18 0.1UF/10V
LC19 Do Not Stuff /X/AR8113
GND
LL2 120Ohm/100Mhz
LL3 Do Not Stuff
/X/AR8113
AVDDLVCO1
To pin11
LC22 1UF/6.3V
LC23 1000PF/50V
GND
AVDDLVCO2
To pin42
LC24 0.1UF/10V
GND
if overclocking LL3 Kept and LL2 removed
if not overclocking LL3 removed and LL2 Kept
+3VSUS
LR31 Do Not Stuff /X/AR8113
+3VSUS
16,22,23 PLT_RST#
17,23 PCIE_WAKE#
+2.5VSUS_LAN
0Ohm
LR7
LC9 1UF/6.3V
1000PF/50V
LC10
GND
LAN_+1.2VSUS_CTR
VDDHO
VBG1P18
LX1_XTALOUT
LX1_XTALIN
AVDDLVCO1
LAN_RBIAS
2.37KOHM 1% LR8
GND
+1.8VSUS_LAN
LR3 10KOhm
GND
LC7 1UF/6.3V
GND
DVDDL
LED_ACT
LED_10_100_L
LED_ACT_L
VDDL3
VDDL4
RX_N
RX_P
VDDAL6
REFCLKP
REFCLKN
VDDAL7
TX_P
TX_N
LU1
VDD18O
VDD3
RESET_L
WAKE_L
CTR12
VDDHO
VBG1P18
VDDAL3
XTLO
XTLI
VDDAL4
RBIAS
AR8113
VDDAL5
TEST_RST_L
TESTMODE
SMDATA
VDDL1
SMCLK
TWSI_DATA
TWSI_CLK
VDDL2
LED_DUPLEX_L
LED_LINK1000_L
VDDAH3
TRXP0
TRXN0
VDDAH1
VDDAL1
TRXP1
TRXN1
VDDAH2
TRXP2
TRXN2
VDDAL2
TRXP3
TRXN3
PCIE_TXN1 16
PCIE_TXP1 16
AVDDLVCO2
CLK_PCIE_LAN_C T1CX1
CLK_PCIE_LAN# C T1CX2
0.1UF/10V
0.1UF/10V
CLK_PCIE_LAN 4
CLK_PCIE_LAN# 4
PCIE_RXP2_LAN_C T1CX3
PCIE_RXN2_LAN_C T1CX4
0.1UF/10V
0.1UF/10V
PCIE_RXP1 16
PCIE_RXN1 16
+1.2VSUS_LAN
GND
DVDDL
LAN_EEDATA
LAN_EECLK
+2.5VSUS_LAN
+3VSUS
LR6 Do Not Stuff /AR8113/X
+1.2VSUS_LAN
25 LAN_MDI_0+
25 LAN_MDI_0-
25 LAN_MDI_1+
25 LAN_MDI_1-
LC20 0.1UF/16V
LR10 49.9Ohm 1%
LR12 49.9Ohm 1%
LC21 0.1UF/16V
LR13 49.9Ohm 1%
LR14 49.9Ohm 1%
LAN_MDI_0+
LAN_MDI_0-
LAN_MDI_1+
LAN_MDI_1-
Close to LU1
GND
http://hobi-elektronika.net
/X
Title : AR8113
ASUSTek Computer INC
Engineer: Jenen_wang
Size A3
Project Name P901
Rev 0.1A
Date: Monday, March 31, 2008
Sheet 24 of 50

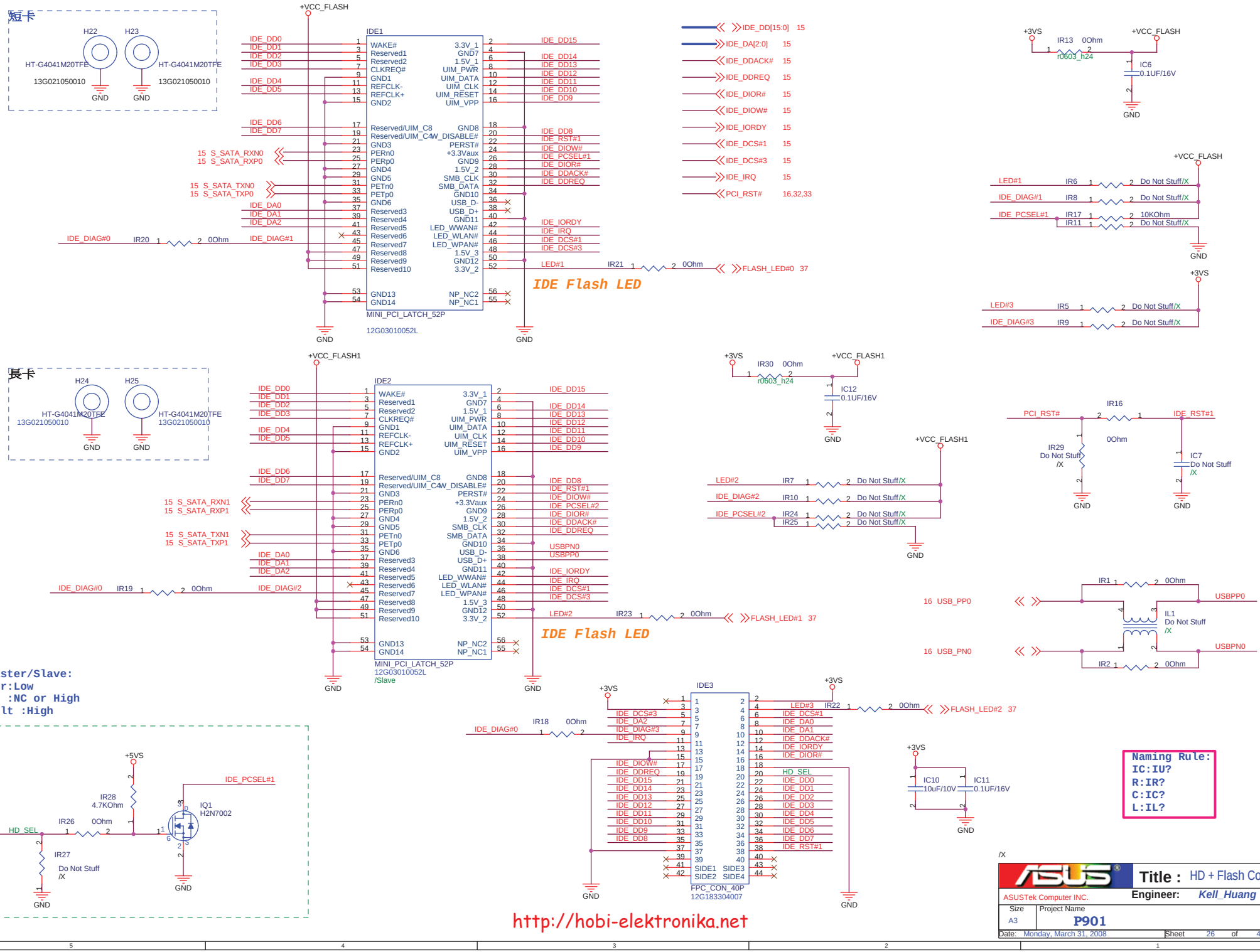


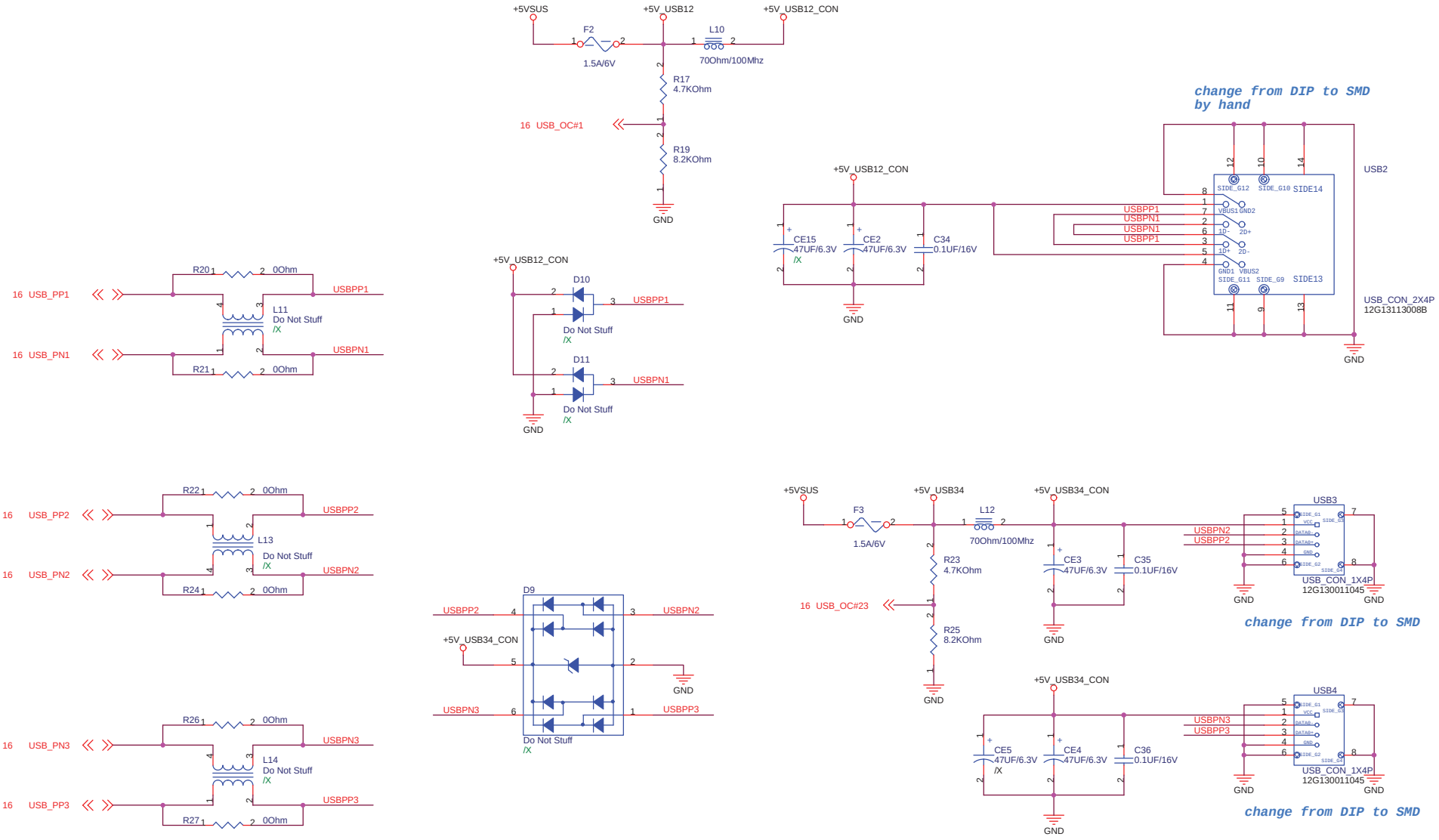




/X

ASUSTek Computer INC.	Title : RJ11_RJ45	
	Engineer: Kell_Huang	
Size: A3	Project Name: P901	Rev: 1.00G
Date: Monday, March 31, 2008	Sheet 25 of 47	


短卡
H22
H23
HT-G4041M20TFE
13G021050010
GND
+VCC_FLASH
IDE1
WAKE#
Reserved1
Reserved2
CLKREQ#
GND1
REFCLK-
REFCLK+
GND2
3.3V_1
GND7
1.5V_1
UIM_PWR
UIM_DATA
UIM_CLK
UIM_RESET
UIM_VPP
Reserved/UIM_C8
Reserved/UIM_C4
GND3
PERn0
PERp0
GND4
GND5
PETn0
PETp0
GND6
Reserved3
Reserved4
Reserved5
Reserved6
Reserved7
Reserved8
Reserved9
Reserved10
GND8
W_DISABLE#
PERST#
+3.3Vaux
GND9
1.5V_2
SMB_CLK
SMB_DATA
GND10
USB_D-
USB_D+
GND11
LED_WWAN#
LED_WLAN#
LED_WPAN#
1.5V_3
GND12
3.3V_2
GND13
GND14
NP_NC2
NP_NC1
MINI_PCI_LATCH_52P
12G03010052L
IDE_DD0
IDE_DD1
IDE_DD2
IDE_DD3
IDE_DD4
IDE_DD5
IDE_DD6
IDE_DD7
IDE_DA0
IDE_DA1
IDE_DA2
IDE_DD15
IDE_DD14
IDE_DD13
IDE_DD12
IDE_DD11
IDE_DD10
IDE_DD9
IDE_DD8
IDE_RST#1
IDE_DIOW#
IDE_PCSEL#1
IDE_DIOR#
IDE_DDACK#
IDE_DDREQ
IDE_IORDY
IDE_IRQ
IDE_DCS#1
IDE_DCS#3
15 S_SATA_RXN0
15 S_SATA_RXP0
15 S_SATA_TXN0
15 S_SATA_TXP0
IDE_DIAG#0
IR20 0Ohm
IDE_DIAG#1
LED#1
IR21 0Ohm
FLASH_LED#0 37
IDE Flash LED
IDE_DD[15:0] 15
IDE_DA[2:0] 15
IDE_DDACK# 15
IDE_DDREQ 15
IDE_DIOR# 15
IDE_DIOW# 15
IDE_IORDY 15
IDE_DCS#1 15
IDE_DCS#3 15
IDE_IRQ 15
PCI_RST# 16,32,33
+3VS
IR13 0Ohm
r0603_h24
IC6
0.1UF/16V
LED#1
IR6 Do Not Stuff/X
IDE_DIAG#1
IR8 Do Not Stuff/X
IDE_PCSEL#1
IR17 10KOhm
IR11 Do Not Stuff/X
LED#3
IR5 Do Not Stuff/X
IDE_DIAG#3
IR9 Do Not Stuff/X
副卡
H24
H25
+VCC_FLASH1
IDE2
/Slave
IR30 0Ohm
IC12
IR16
PCI_RST#
IDE_RST#1
IR29 Do Not Stuff /X
IC7 Do Not Stuff /X
LED#2
IR7 Do Not Stuff/X
IDE_DIAG#2
IR10 Do Not Stuff/X
IDE_PCSEL#2
IR24 Do Not Stuff/X
IR25 Do Not Stuff/X
15 S_SATA_RXN1
15 S_SATA_RXP1
15 S_SATA_TXN1
15 S_SATA_TXP1
USBPN0
USBPP0
IDE_DIAG#0
IR19 0Ohm
IDE_DIAG#2
LED#2
IR23 0Ohm
FLASH_LED#1 37
IDE Flash LED
16 USB_PP0
16 USB_PN0
IR1 0Ohm
IL1 Do Not Stuff /X
IR2 0Ohm
HD Master/Slave:
Master:Low
Slave :NC or High
Default :High
+5VS
IR28 4.7KOhm
IR26 0Ohm
HD_SEL
IR27 Do Not Stuff /X
IQ1 H2N7002
IDE_PCSEL#1
IDE3
FPC_CON_40P
12G183304007
IR18 0Ohm
IDE_DIAG#0
LED#3
IR22 0Ohm
FLASH_LED#2 37
IC10 10uF/10V
IC11 0.1UF/16V
Naming Rule:
IC:IU?
R:IR?
C:IC?
L:IL?
/X
Title : HD + Flash Conn
ASUSTek Computer INC.
Engineer: Kell_Huang
Size A3
Project Name P901
Rev 1.00G
Date: Monday, March 31, 2008
Sheet 26 of 47
http://hobi-elektronika.net

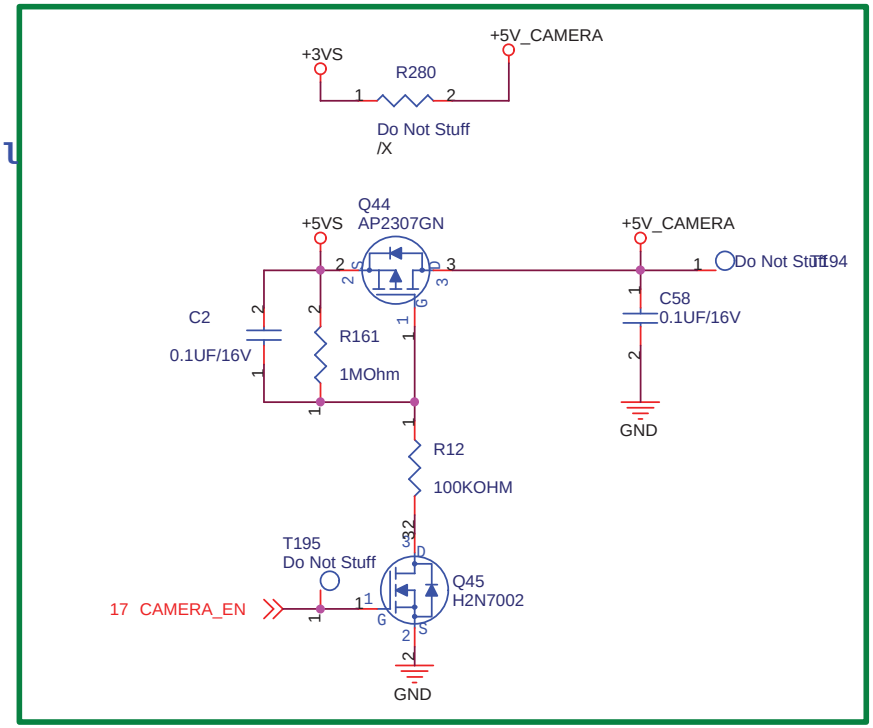


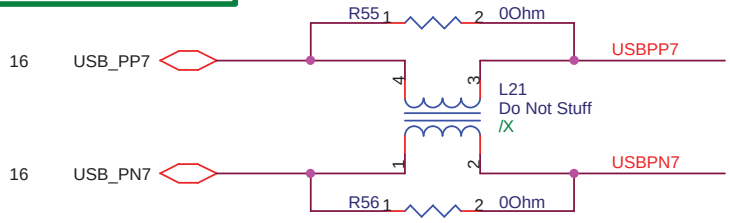
http://hobi-elektronika.net

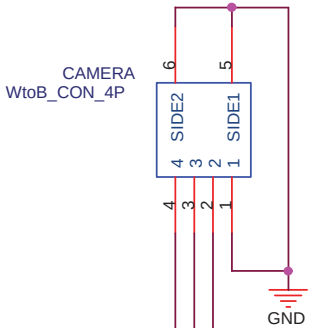
/X

ASUSTek Computer INC.	Title : USB Port	
	Engineer: Kell_Huang	
Size: A3	Project Name: P901	Rev: 1.00G
Date: Monday, March 31, 2008	Sheet 27 of 47	

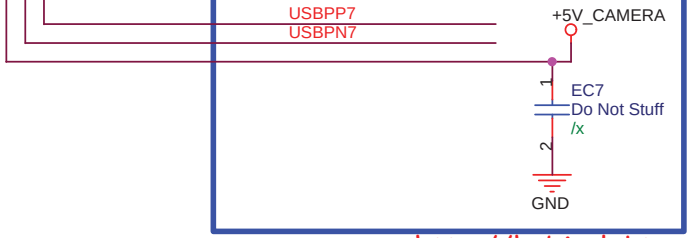
Power Control







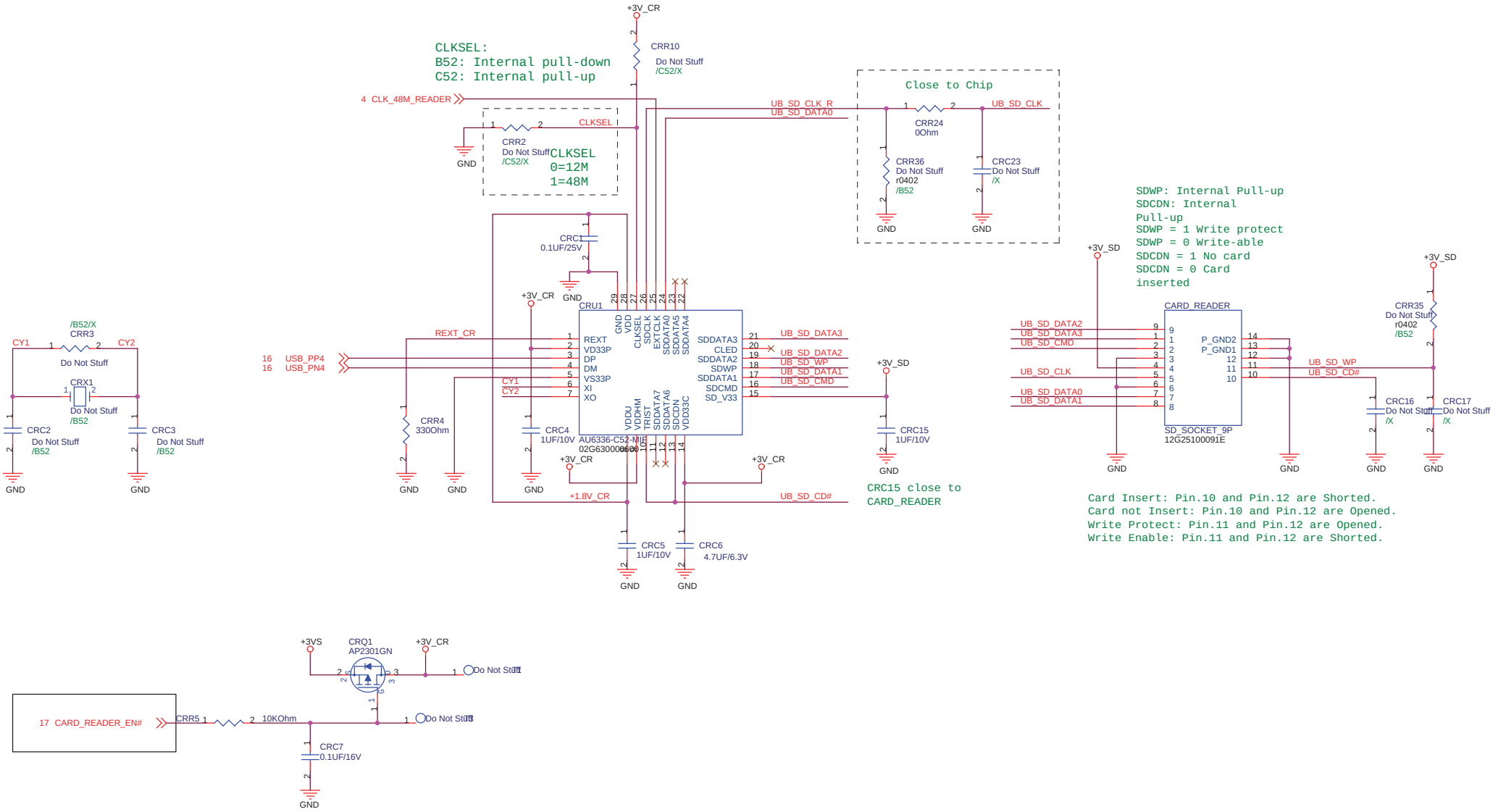
CAMERA USB Interface



http://hobi-elektronika.net

/X

ASUSTek Computer INC.	Title : Camera Power	
	Engineer: Kell_Huang	
Size: A4	Project Name: P901	Rev: 1.00G
Date: Monday, March 31, 2008	Sheet 28 of 47	



http://hobi-elektronika.net

/X

ASUSTek Computer Inc.	Title : AU6336-C52	
	Engineer: Boison Hung	
Size: A3	Project Name: P901	Rev: 0.1A
Date: Monday, March 31, 2008	Sheet 29 of 50	

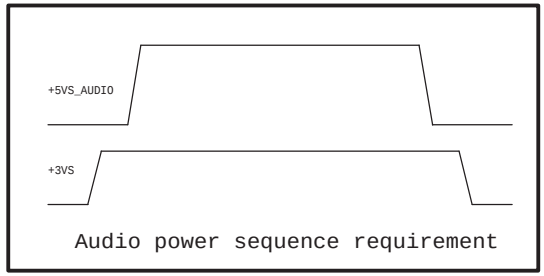
Change Note
1. Remove AR34, AR63 for cost down
2. Add +5VS_AUDIO shut_down control
3. Remove net name +3VS_AUDIO
4. Add diagram for power sequence requirement

Return Path

OP_SD#: Controlled by EC to power down Class-D speaker amp.

PD#: Internal Pull-up 50K to +3V

Analog: Pin.13~Pin.38
Digital: Pin.1~Pin.12
and Pin.39~Pin.48



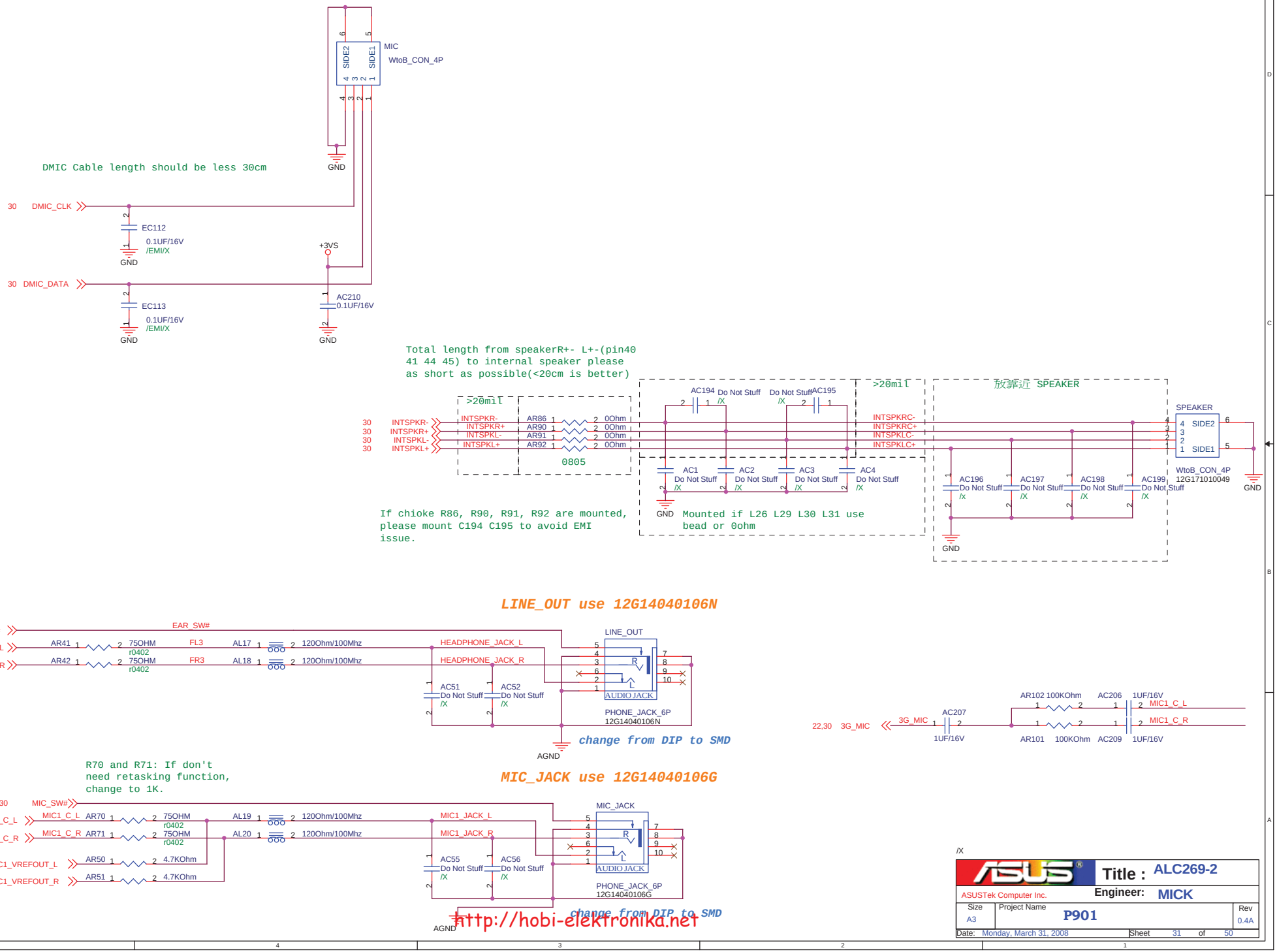
Need 4.7u/10v X5R to prevent poor THD+N

Vout=0.8*(1+(49.9K/10.2K))

For Audio Noise Issue

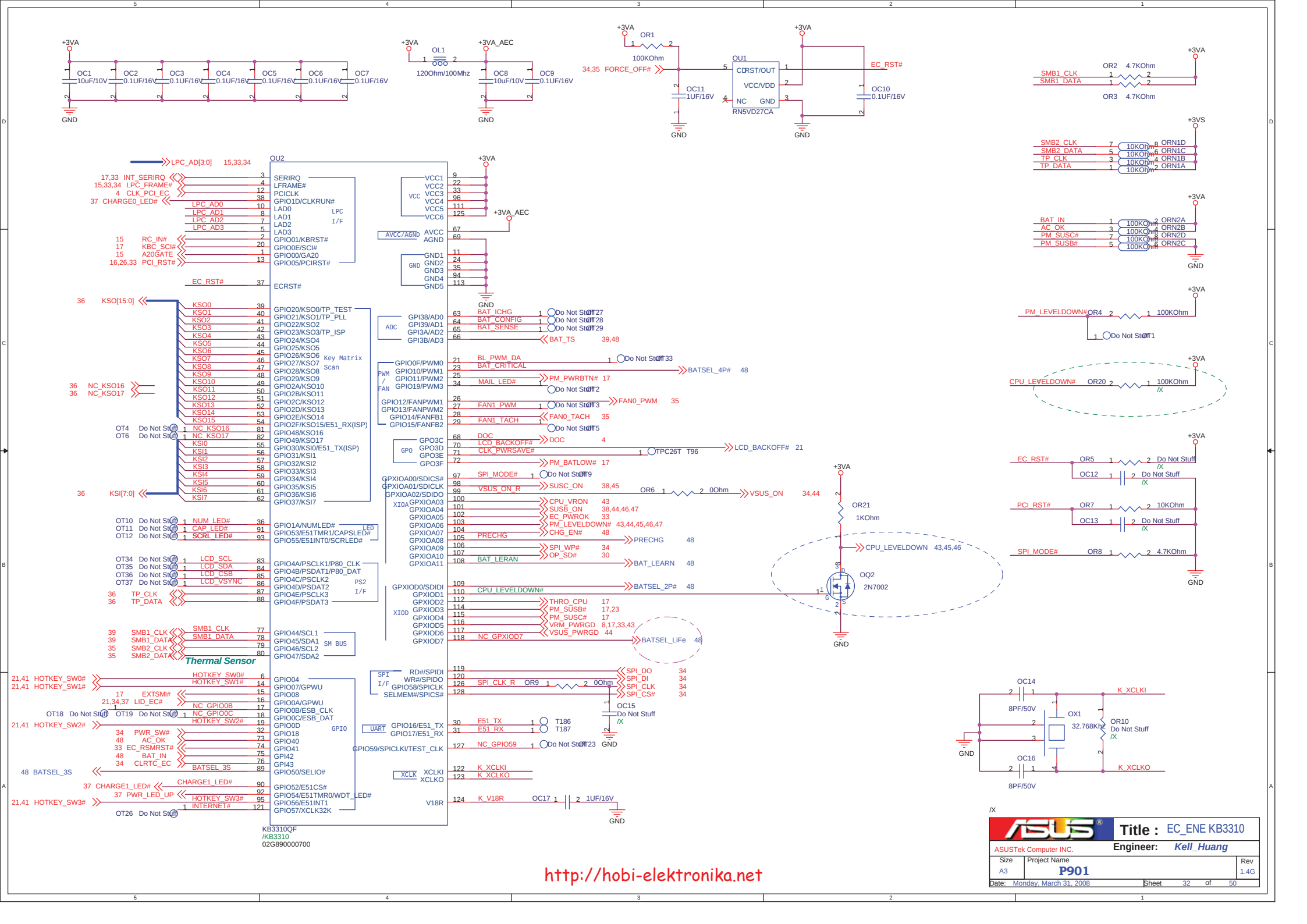
http://hobi-elektronika.net

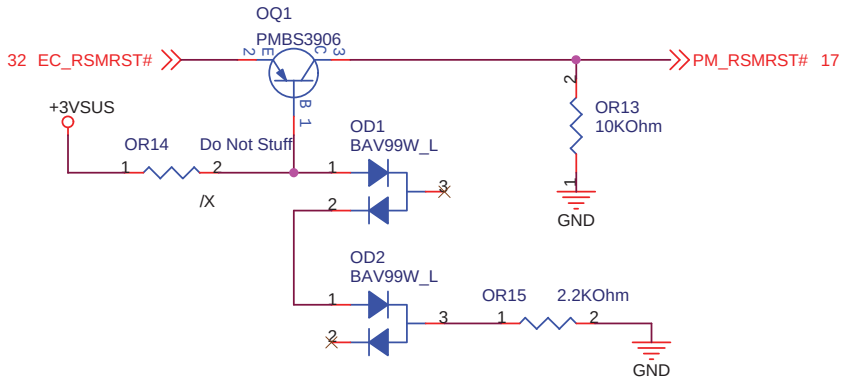
Title : ALC269-1		
ASUSTek Computer Inc.	Engineer: Mick	
Size: A3	Project Name: P901	Rev: 0.4A
Date: Monday, March 31, 2008	Sheet 30 of 50	

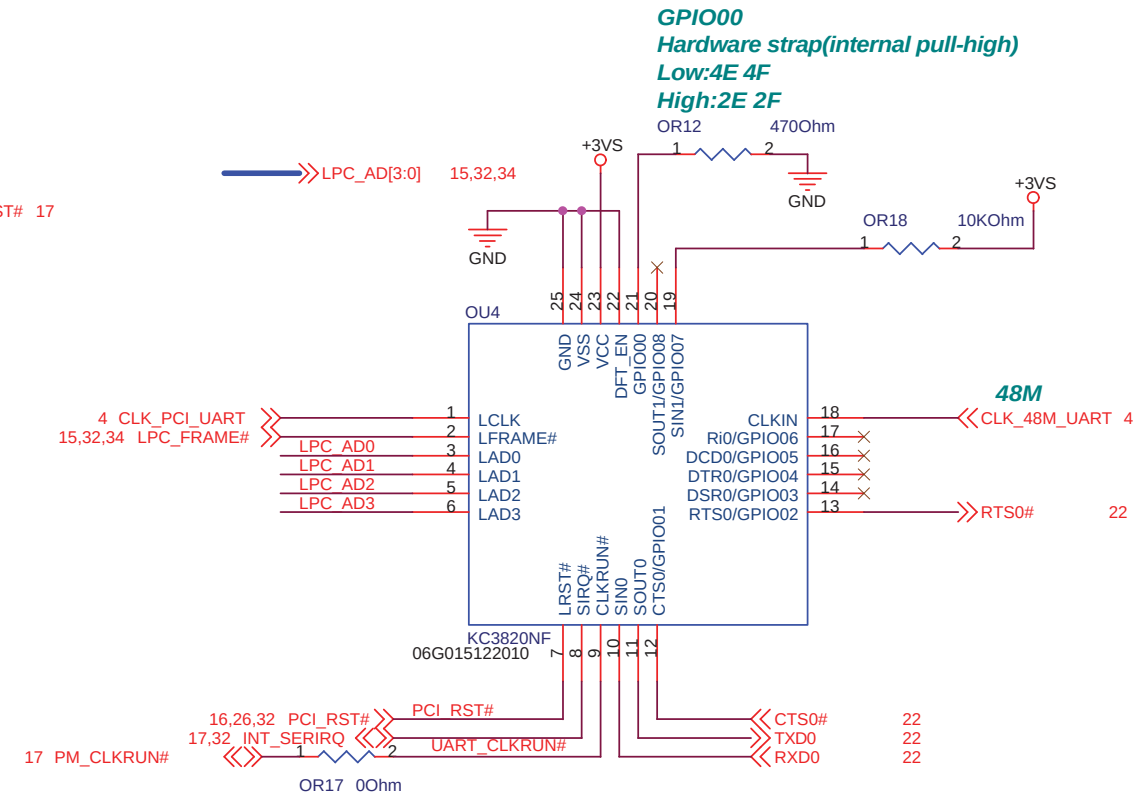


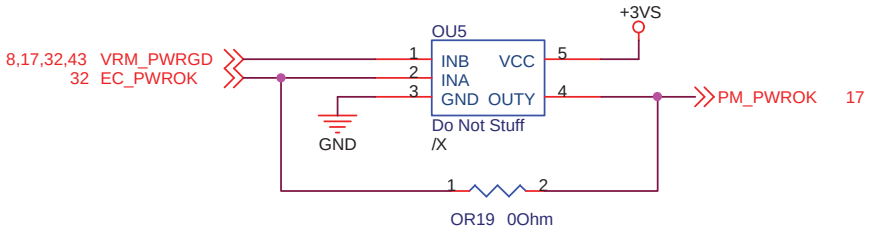
/X

ASUSTek Computer Inc.	Title : ALC269-2	
	Engineer: MICK	
Size: A3	Project Name: P901	Rev: 0.4A
Date: Monday, March 31, 2008	Sheet 31 of 50	


OU2
KB3310QF
/KB3310
02G890000700
Thermal Sensor
Key Matrix Scan
LPC I/F
PS2 I/F
SM BUS
LED
GPIO
Title : EC_ENE KB3310
ASUSTek Computer INC.
Engineer: Kell_Huang
Size A3
Project Name P901
Rev 1.4G
Date: Monday, March 31, 2008
Sheet 32 of 50
http://hobi-elektronika.net



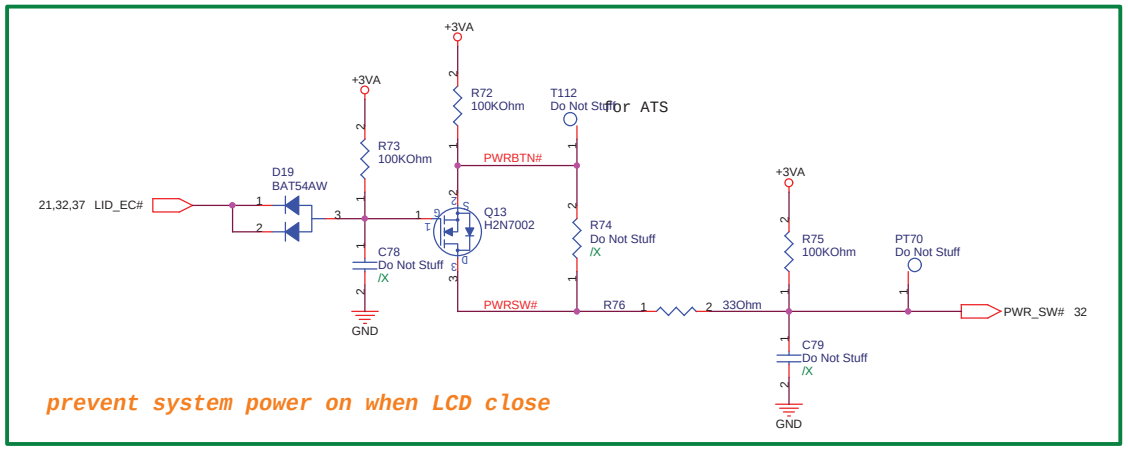


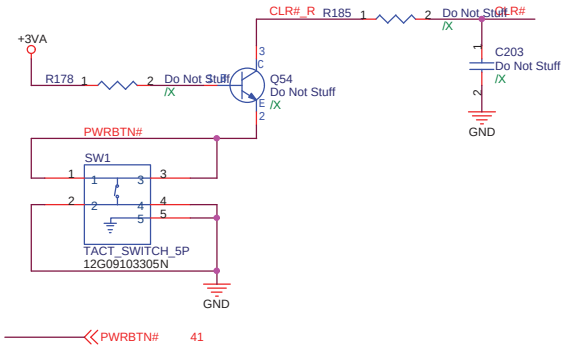


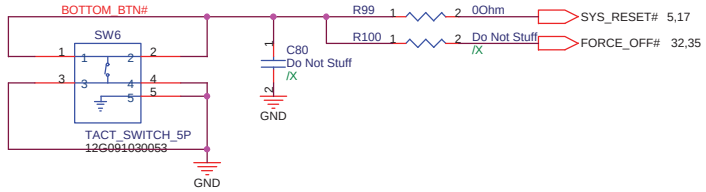
UART Control IC for using GPS module due to no UART on ENE EC

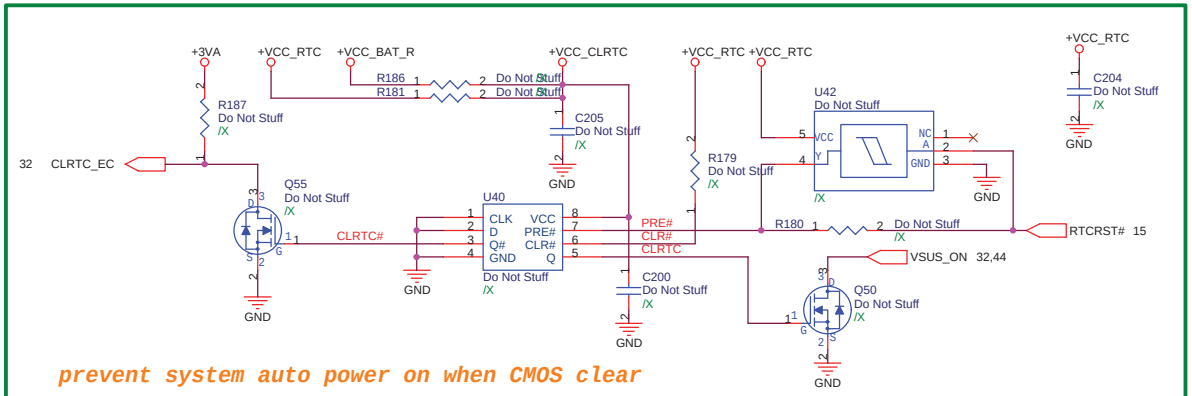
/X

ASUSTek Computer INC.	Title : EC_UART_KC3820	
	Engineer: Kell_Huang	
Size: A4	Project Name: P901	Rev: 1.4G
Date: Monday, March 31, 2008	Sheet 33 of 50	

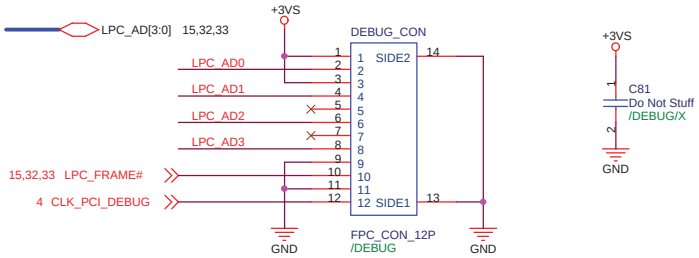




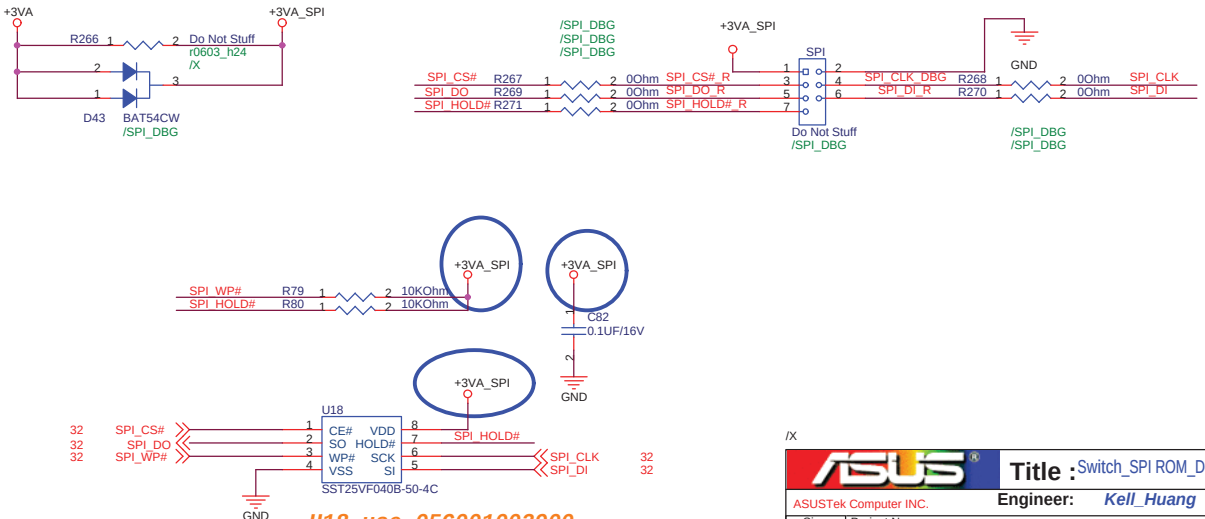




For Debug



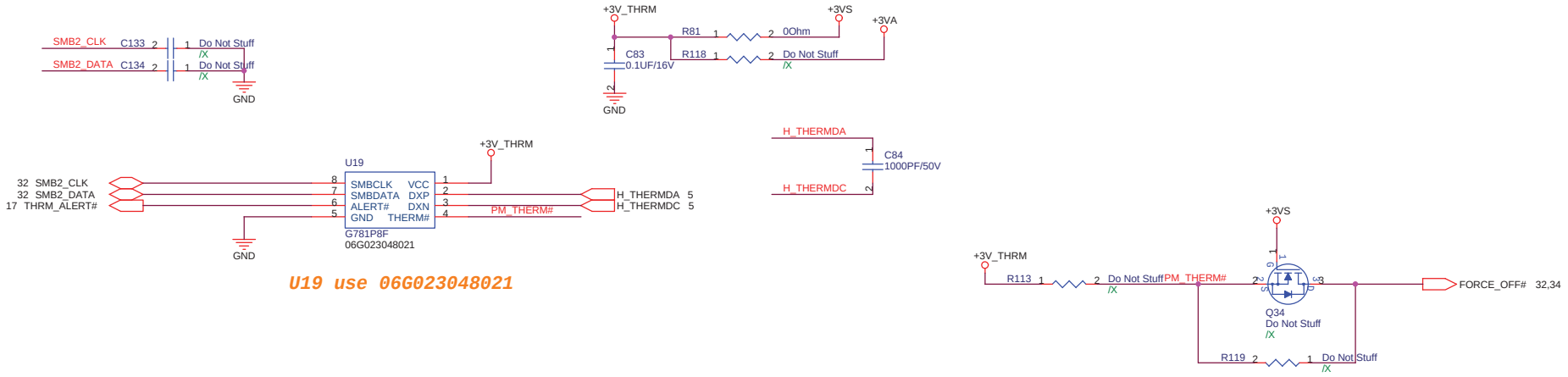
Debug Card cable use Z96 Touch Pad cable, P/N: 14G124110126, 14G124110120, 14G124110121 14G124110124, 14G124110125



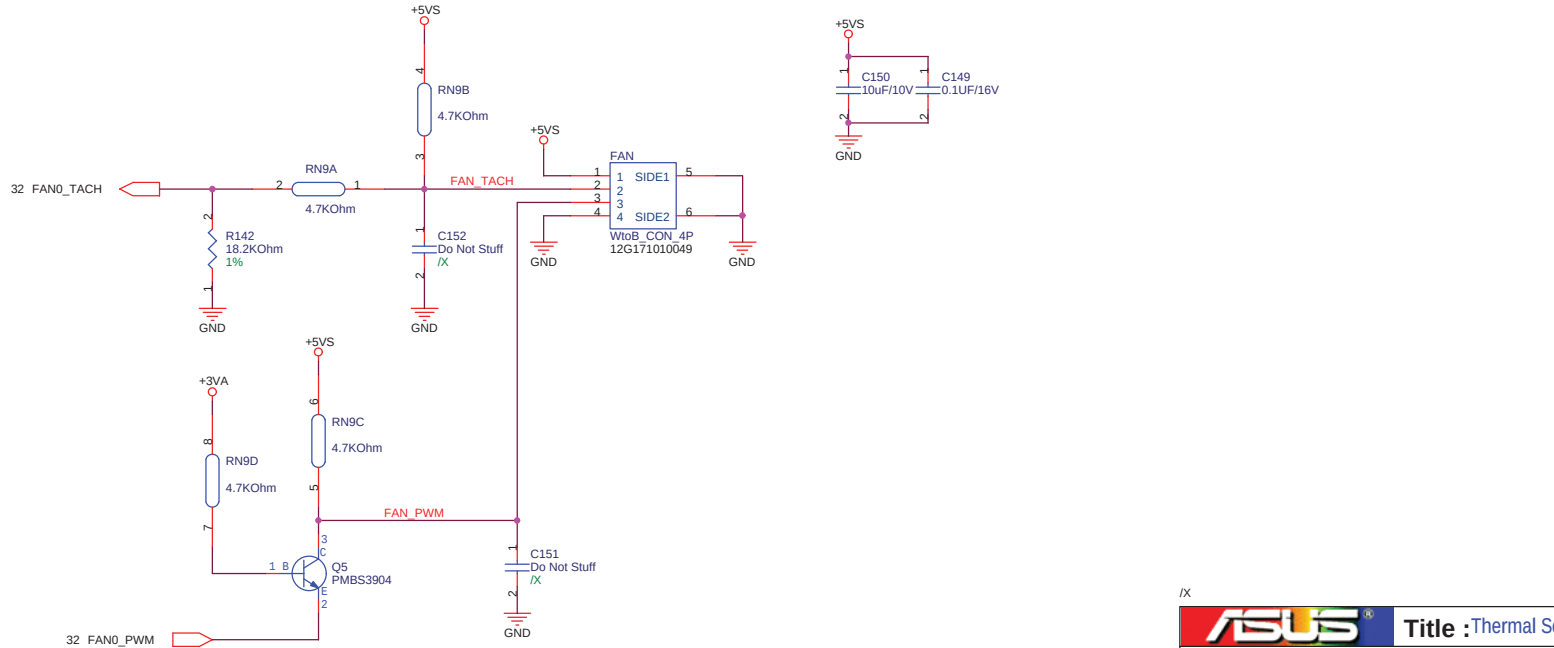
http://hobi-elektronika.net

/X

ASUSTek Computer INC.	Title : Switch_SPI ROM_Debug	
	Engineer: Kell_Huang	
Size: A3	Project Name: P901	Rev: 1.00G
Date: Monday, March 31, 2008	Sheet 34 of 47	



U19 use 06G023048021

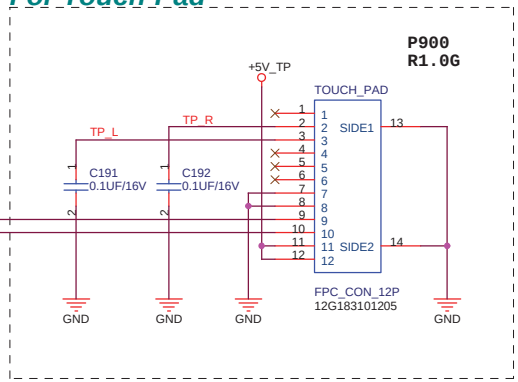


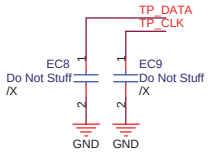
http://hobi-elektronika.net

/X

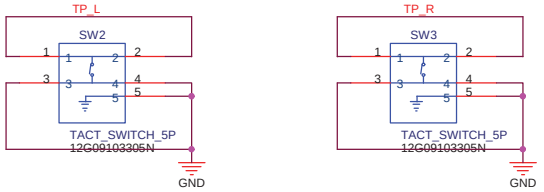
ASUSTek Computer INC.	Title : Thermal Sensor_FAN	
	Engineer: Kell_Huang	
Size: A3	Project Name: P901	Rev: 1.00G
Date: Monday, March 31, 2008	Sheet 35 of 47	

For Touch-Pad

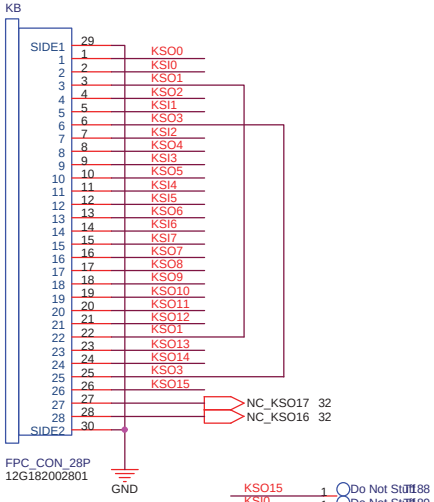


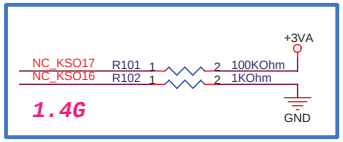


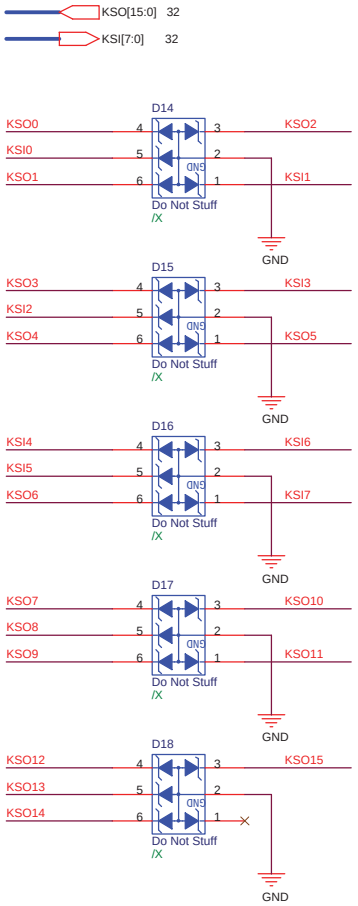
SW2, SW3 use 12G09103305N

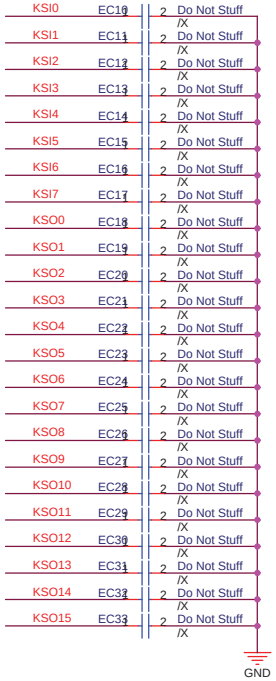


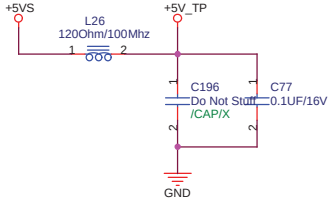
For Keyboard Connector

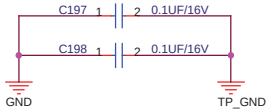


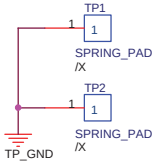








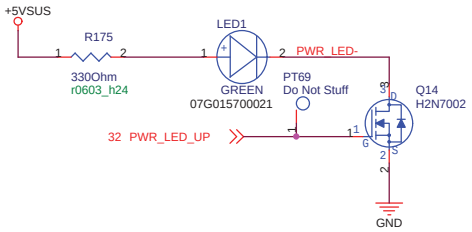




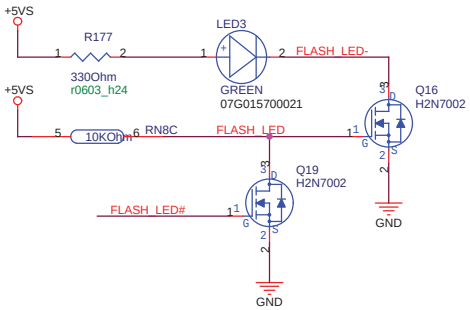
/X

ASUSTek Computer INC.	Title : KB_Touch Pad	
	Engineer: Kell_Huang	
Size: A3	Project Name: P901	Rev: 1.00G
Date: Monday, March 31, 2008	Sheet 36 of 47	

for POWER LED

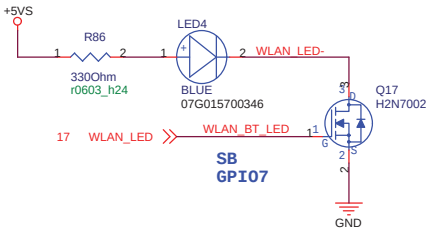


for FLASH LED

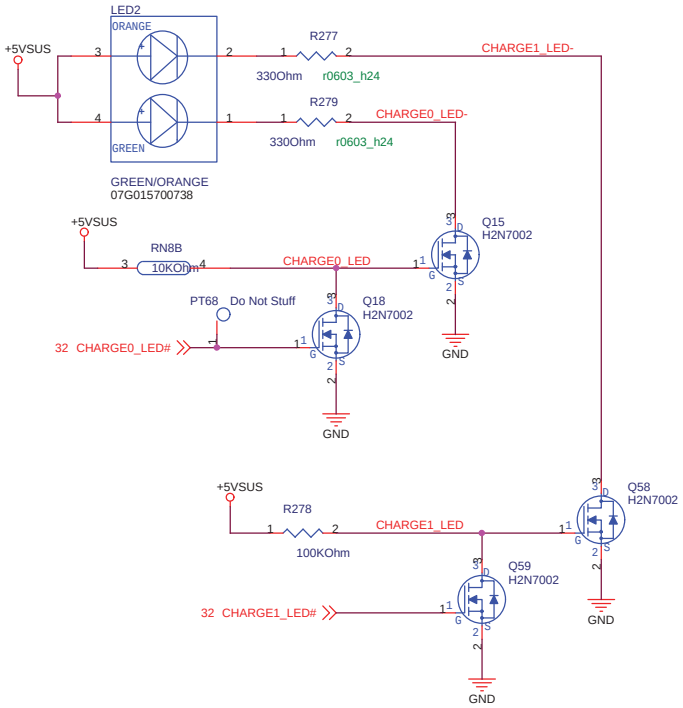


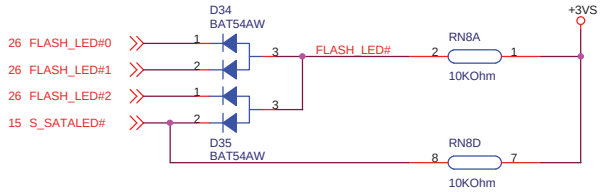
for WLAN/BlueTooth LED

R86 use 4.7K OHm 10G213472003030

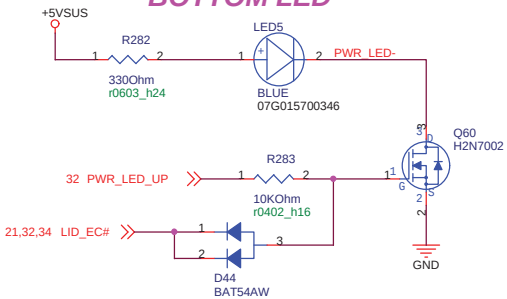


for CHARGE LED





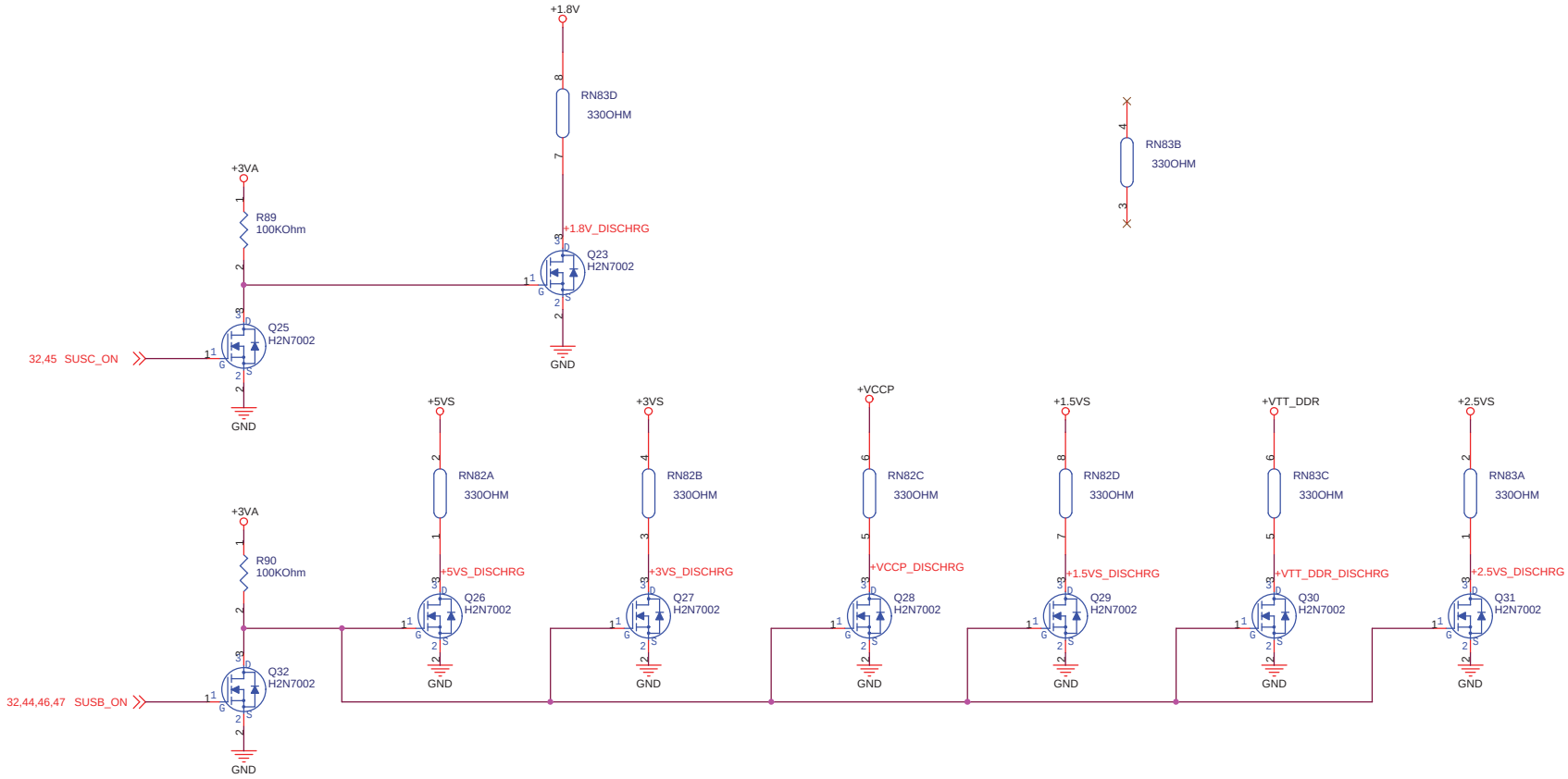
for POWER BOTTOM LED



http://hobi-elektronika.net

/X

ASUSTek Computer INC.	Title : LED	
	Engineer: Kell_Huang	
Size: A3	Project Name: P901	Rev: 1.00G
Date: Monday, March 31, 2008	Sheet 37 of 47	

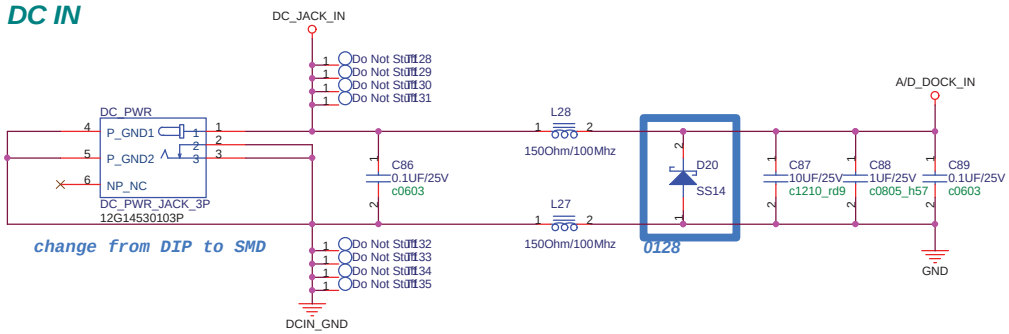


http://hobi-elektronika.net

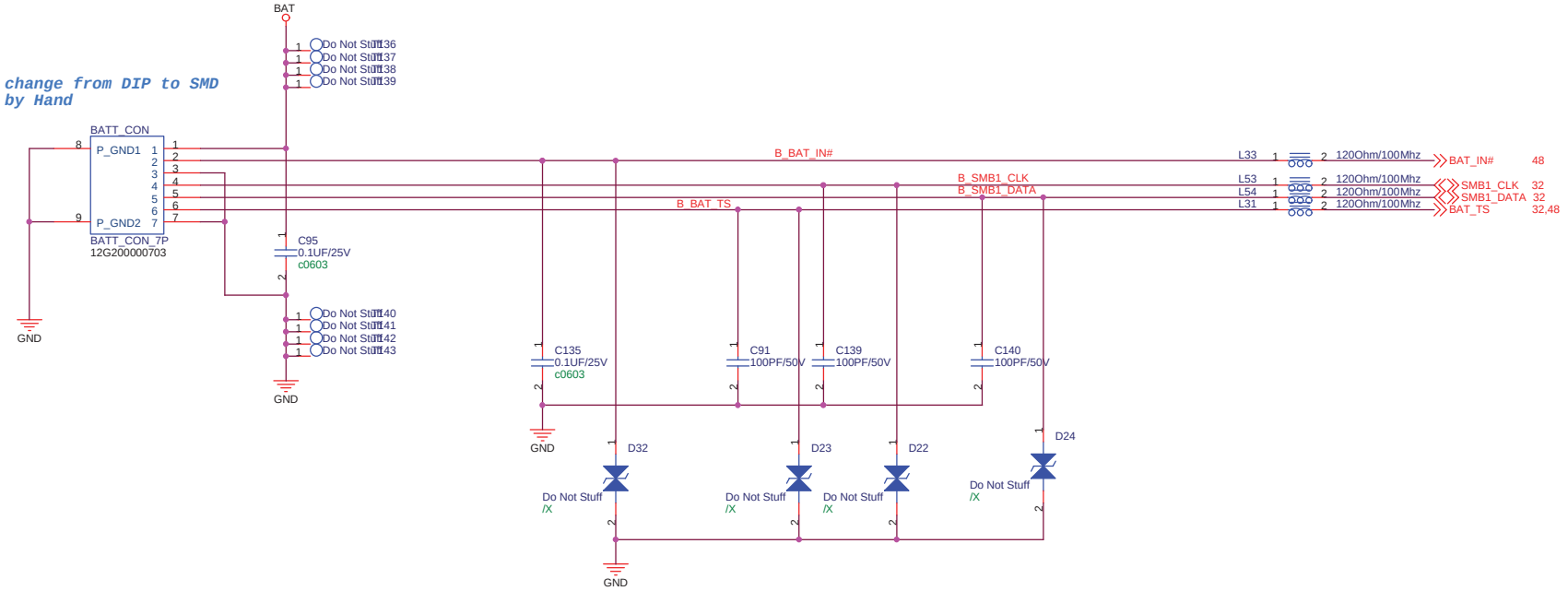
/X

ASUSTek Computer INC.	Title : Discharge	
	Engineer: Kell_Huang	
Size: A3	Project Name: P901	Rev: 1.00G
Date: Monday, March 31, 2008	Sheet 38 of 47	

DC IN

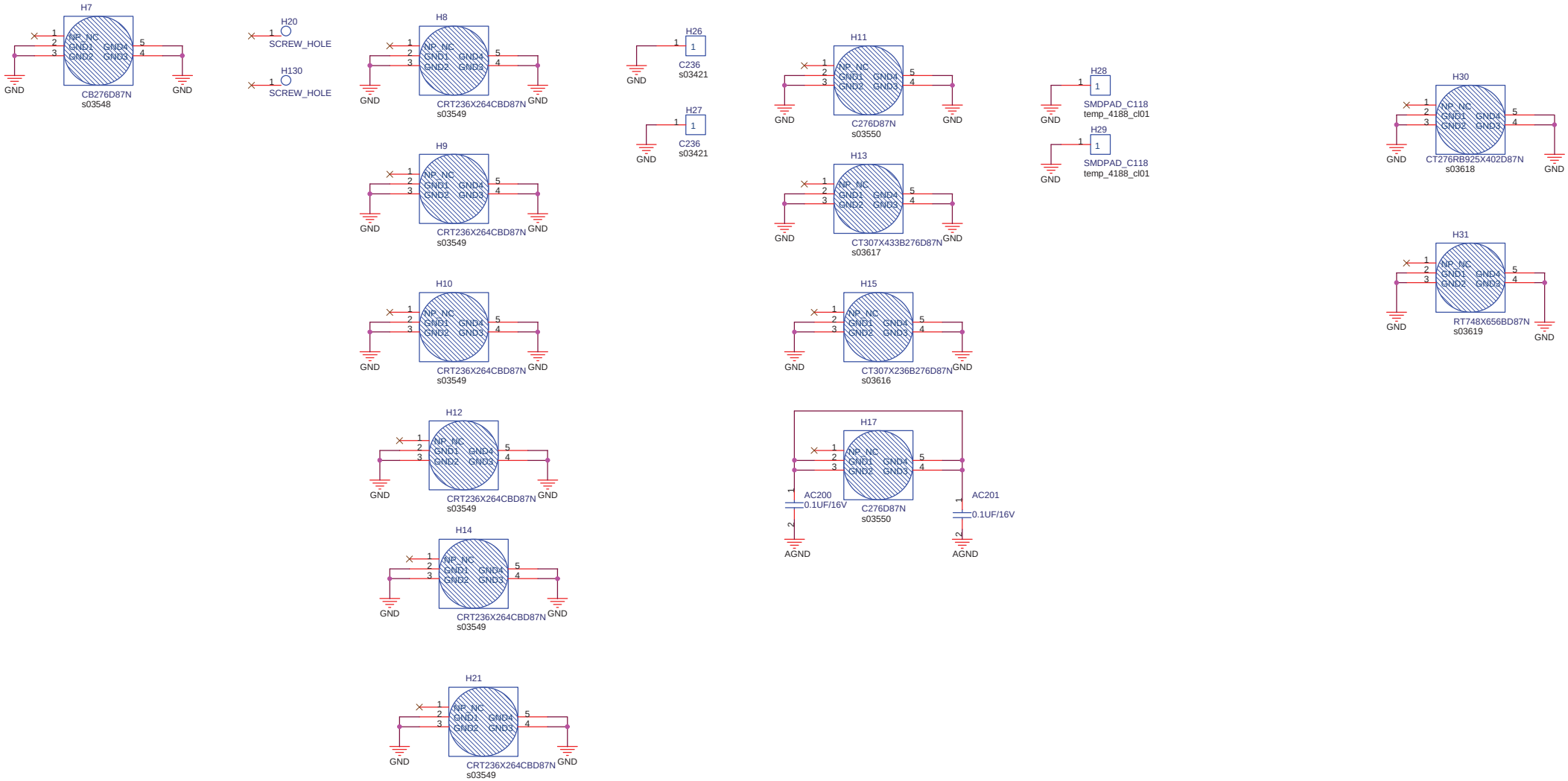


BAT IN



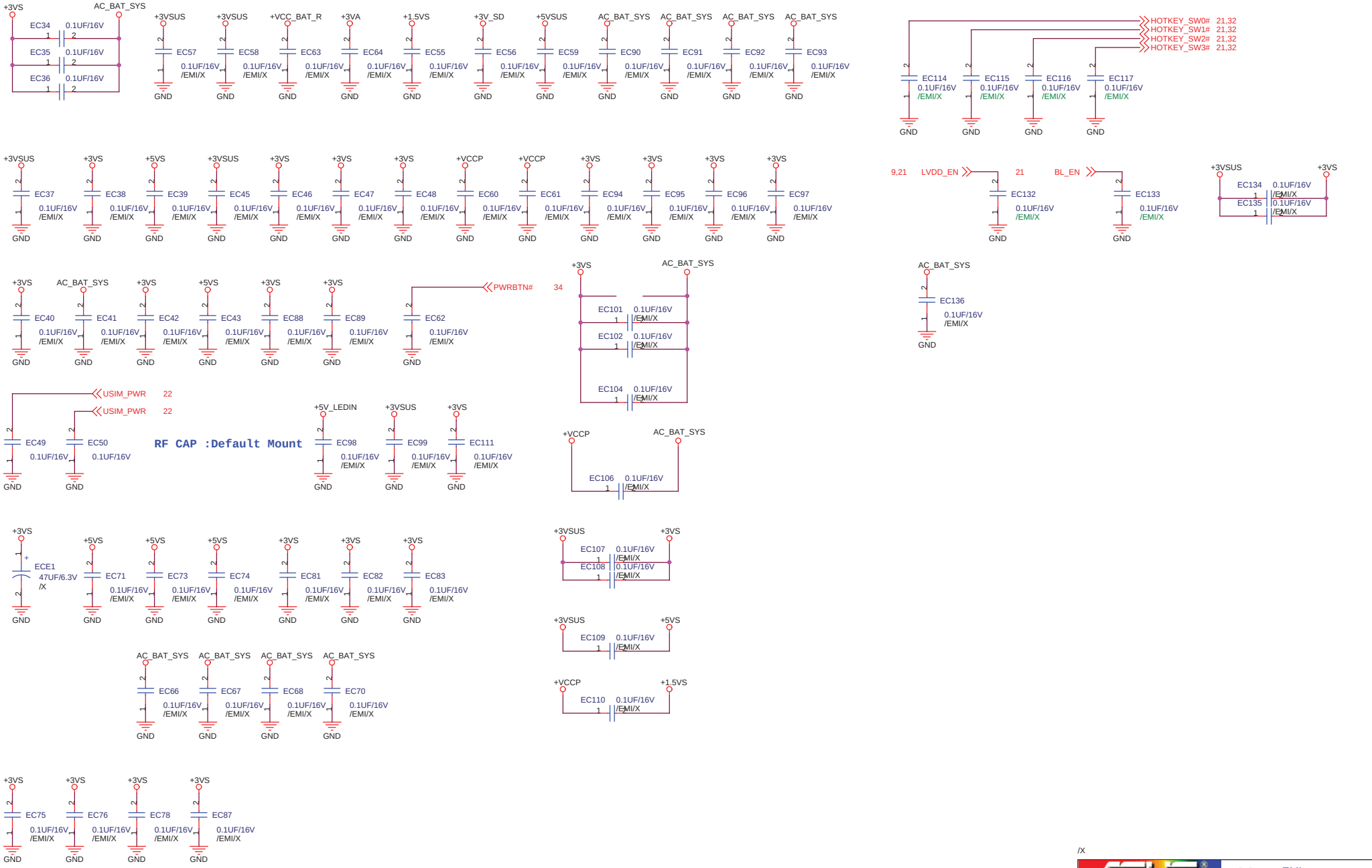
/X

ASUSTek Computer INC.	Title : PWR Jack	
	Engineer: Kell_Huang	
Size: A3	Project Name: P901	Rev: 1.00G
Date: Monday, March 31, 2008	Sheet 39 of 47	



/X

ASUSTek Computer INC.	Title : Srew Hole	
	Engineer: Kell_Huang	
Size: A3	Project Name: P901	Rev: 1.00G
Date: Monday, March 31, 2008	Sheet 40 of 47	



/X

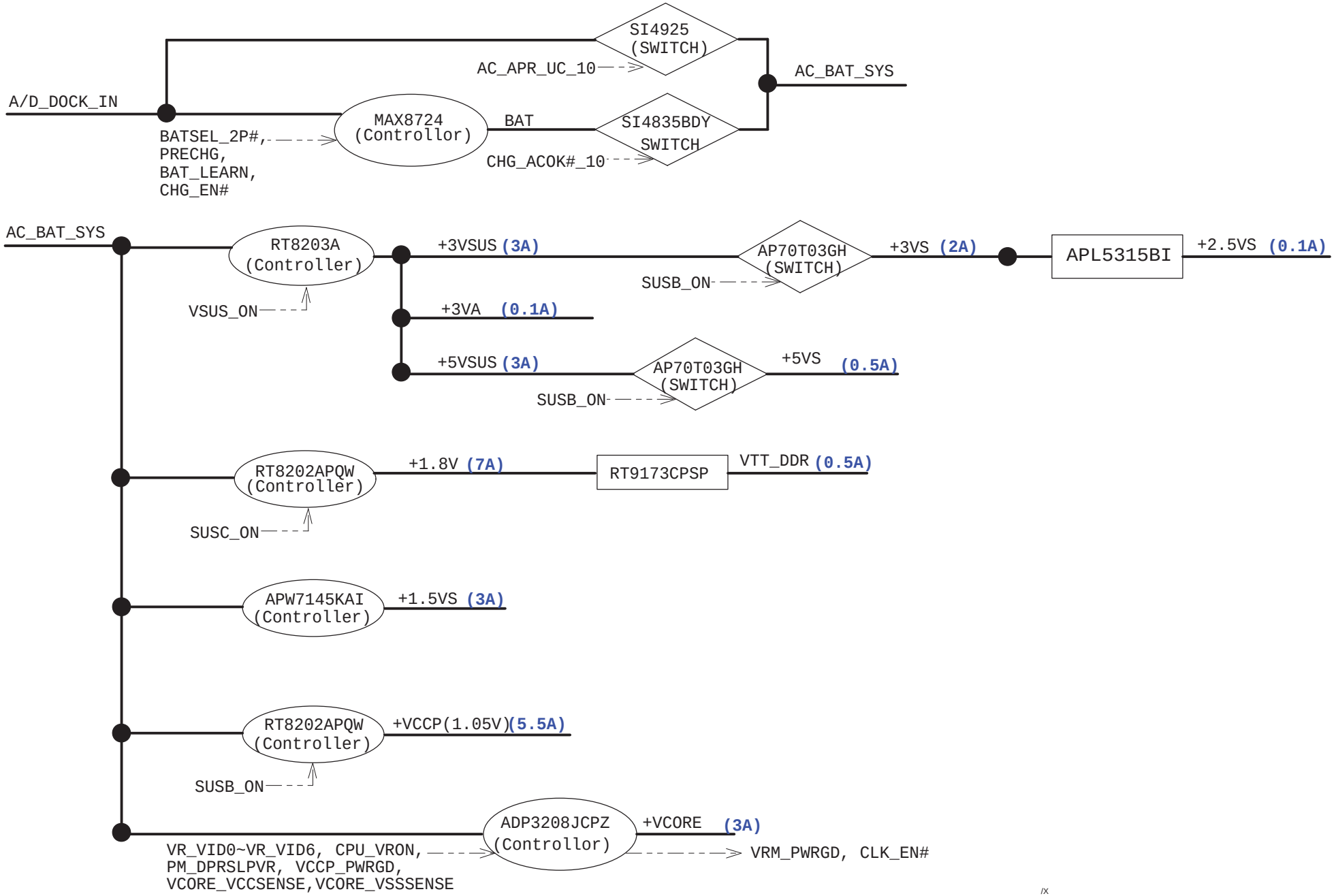
Title : EMI

ASUSTek Computer INC.

Engineer: Kell_Huang

Size	Project Name	Rev
A3	P901	1.00G

Date: Monday, March 31, 2008 Sheet 41 of 47



/X

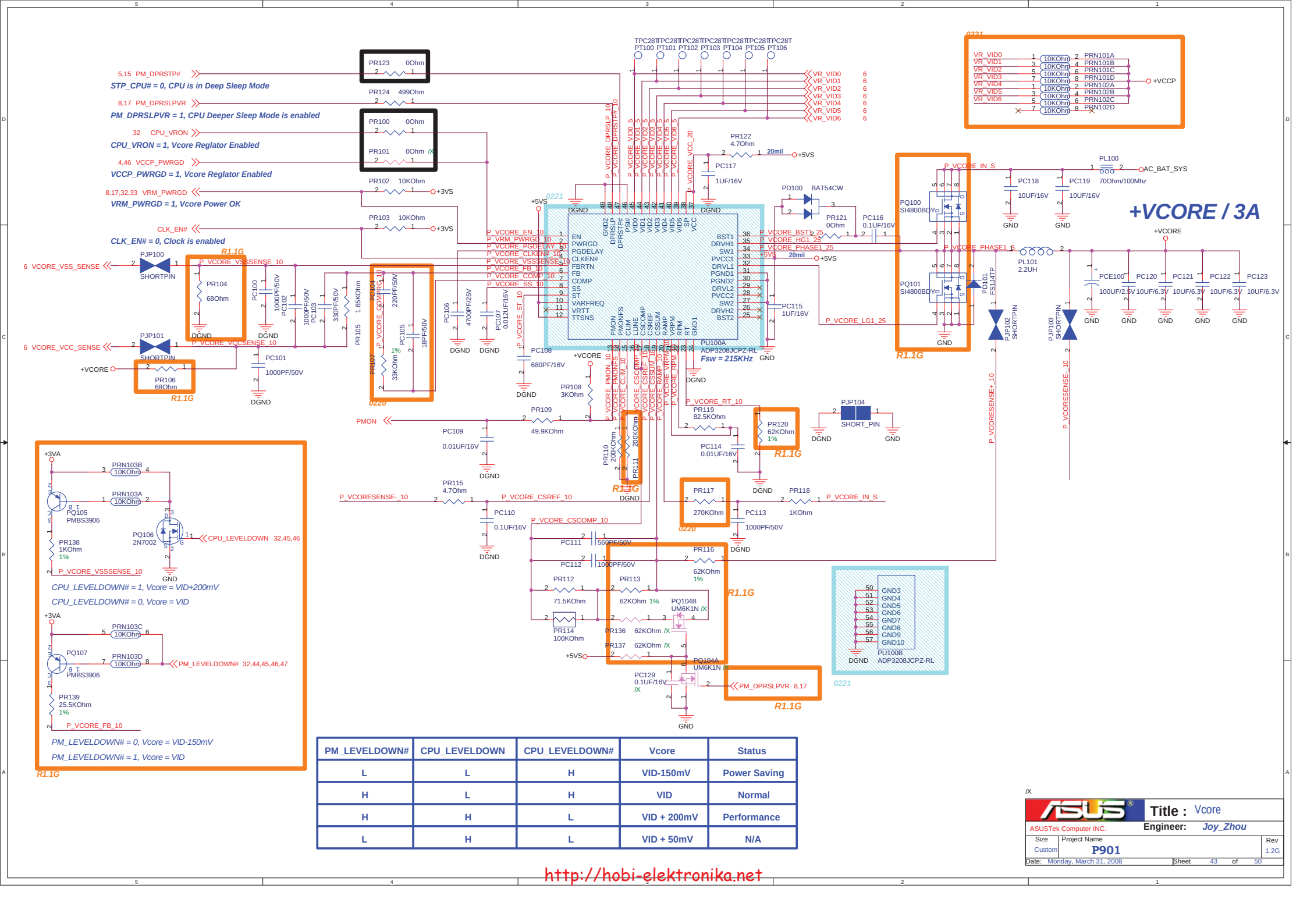
ASUSTek Computer INC.

Title : Power Flow

Engineer: Joy_Zhou

Size	Project Name	Rev
A3	P901	1.00G

Date: Monday, March 31, 2008 Sheet 42 of 50



PM_LEVELDOWN#	CPU_LEVELDOWN	CPU_LEVELDOWN#	Vcore	Status
L	L	H	VID-150mV	Power Saving
H	L	H	VID	Normal
H	H	L	VID + 200mV	Performance
L	H	L	VID + 50mV	N/A

/X

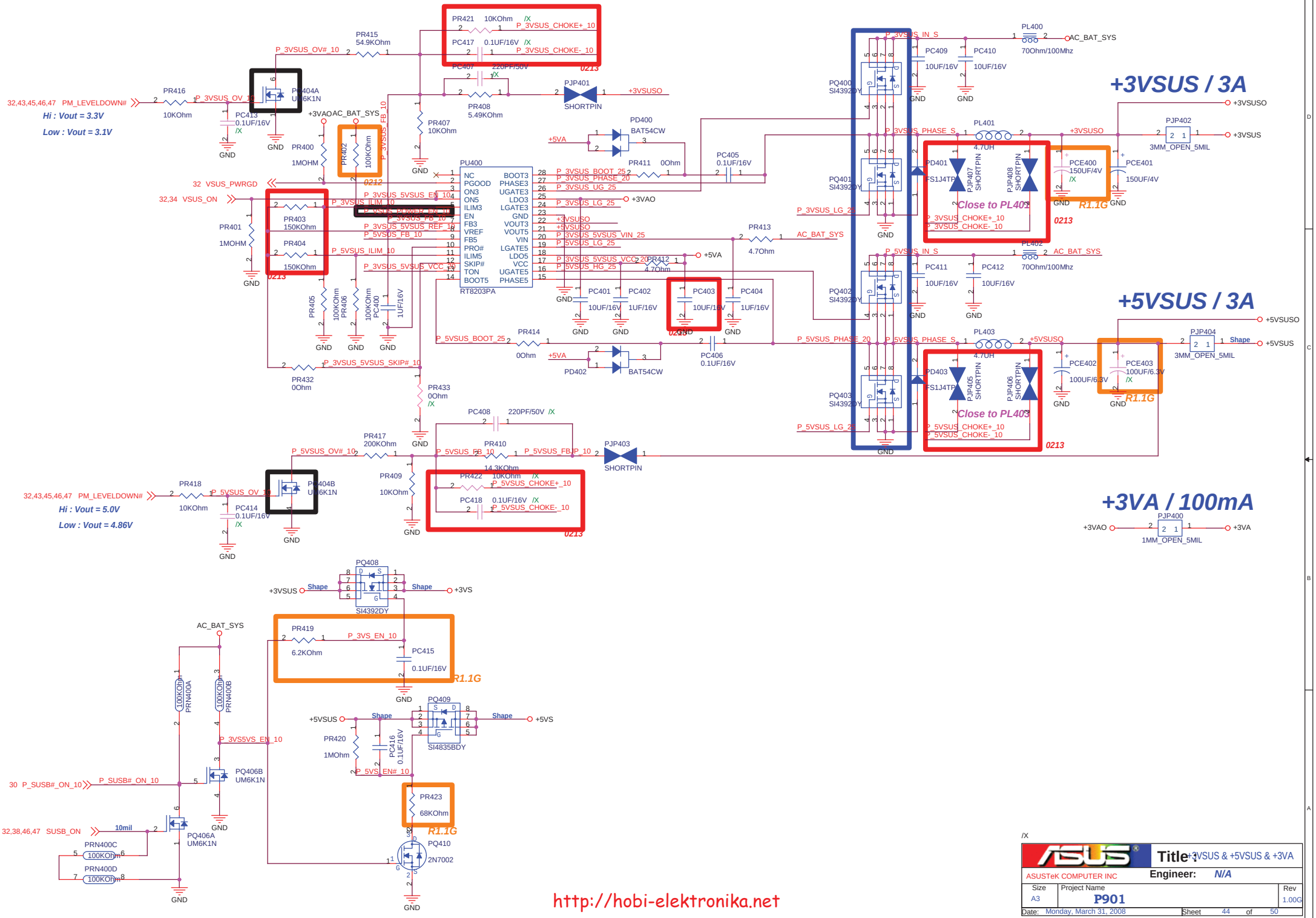
ASUSTek Computer INC.

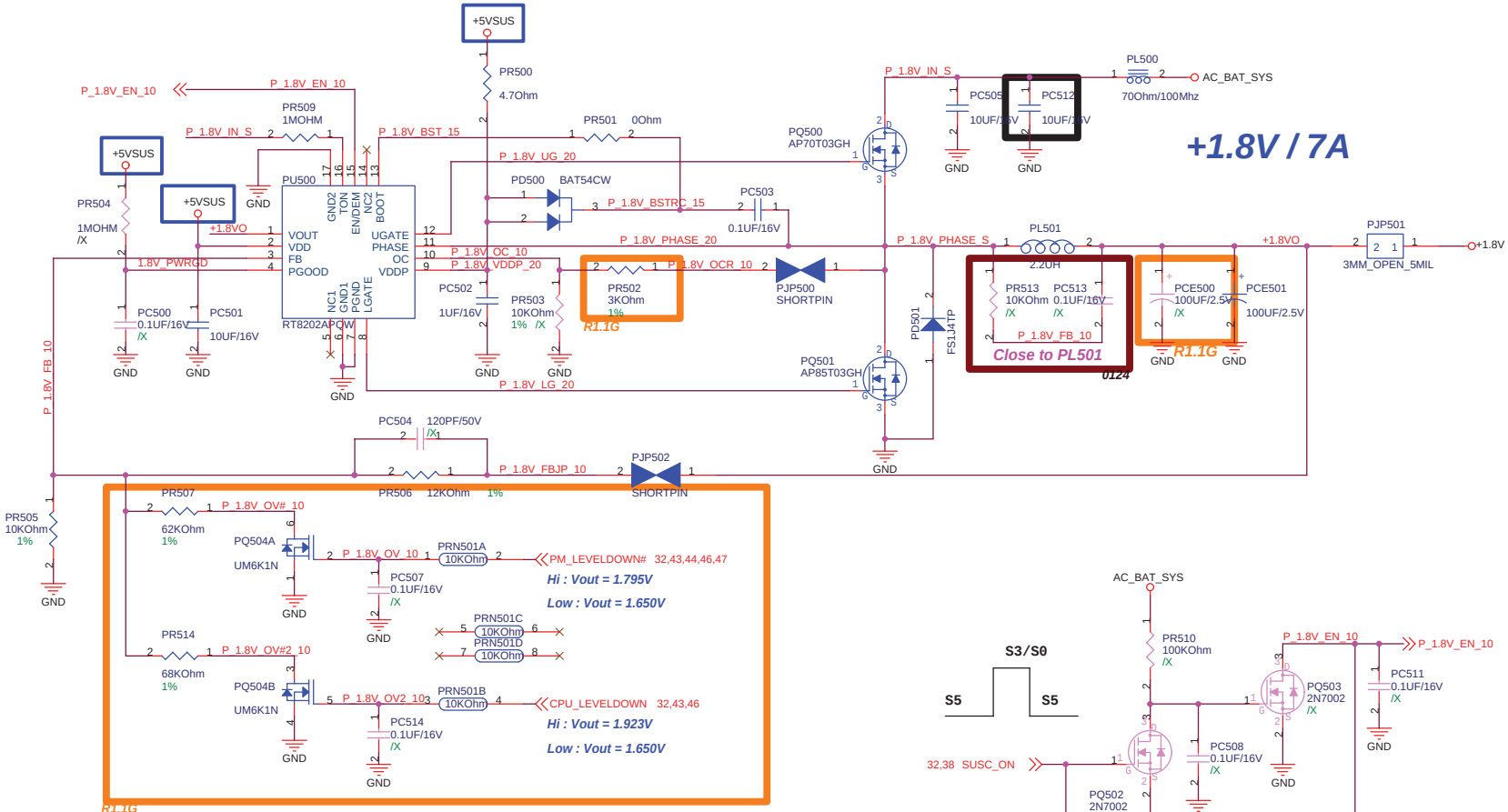
Title : Vcore

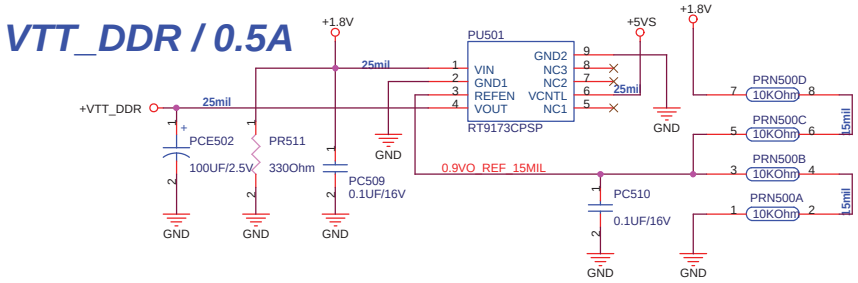
Engineer: Joy_Zhou

Size	Project Name	Rev
Custom	P901	1.2G

Date: Monday, March 31, 2008 Sheet 43 of 50


+3VSUS / 3A
+5VSUS / 3A
+3VA / 100mA
Hi : Vout = 3.3V
Low : Vout = 3.1V
Hi : Vout = 5.0V
Low : Vout = 4.86V
Close to PL401
Close to PL403
R1.1G
0213
0212
PU400
RT8203PA
PQ400 SI4392DY
PQ401 SI4392DY
PQ402 SI4392DY
PQ403 SI4392DY
PQ408 SI4392DY
PQ409 SI4835BDY
PQ410 2N7002
PQ404A UM6K1N
PQ404B UM6K1N
PQ406A UM6K1N
PQ406B UM6K1N
PRN400A
PRN400B
PRN400C
PRN400D
PJP401 SHORTPIN
PJP402 3MM_OPEN_5MIL
PJP403 SHORTPIN
PJP404 3MM_OPEN_5MIL
PJP400 1MM_OPEN_5MIL
PJP405 SHORTPIN
PJP406 SHORTPIN
PJP407 SHORTPIN
PJP408 SHORTPIN
PD400 BAT54CW
PD401 FS1J4TP
PD402 BAT54CW
PD403 FS1J4TP
PL400 70Ohm/100Mhz
PL401 4.7UH
PL402 70Ohm/100Mhz
PL403 4.7UH
AC_BAT_SYS
+3VAO
+3VSUSO
+3VSUS
+5VSUSO
+5VSUS
+3VA
+5VA
+3VS
+5VS
P_3VSUS_IN_S
P_5VSUS_IN_S
P_3VSUS_PHASE_S
P_5VSUS_PHASE_S
P_3VSUS_CHOKE+_10
P_3VSUS_CHOKE-_10
P_5VSUS_CHOKE+_10
P_5VSUS_CHOKE-_10
P_3VSUS_OV#_10
P_5VSUS_OV#_10
P_3VSUS_FB_10
P_5VSUS_FB_10
P_3VSUS_FB2P_10
P_5VSUS_FB2P_10
P_3VSUS_ILIM_10
P_5VSUS_ILIM_10
P_3VSUS_5VSUS_EN_10
P_3VSUS_5VSUS_SKIP#_10
P_3VS_EN_10
P_5VS_EN#_10
P_3VS5VS_EN_10
P_SUSB#_ON_10
P_3VSUS_BOOT_25
P_5VSUS_BOOT_25
P_3VSUS_UG_25
P_5VSUS_UG_25
P_3VSUS_LG_25
P_5VSUS_LG_25
P_3VSUS_PHASE_20
P_5VSUS_PHASE_20
P_3VSUS_5VSUS_VIN_25
P_3VSUS_5VSUS_VCC_20
P_5VSUS_HG_25
P_3VSUS_REF_10
P_5VSUS_REF_10
32,43,45,46,47 PM_LEVELDOWN#
32 VSUS_PWRGD
32,34 VSUS_ON
30 P_SUSB#_ON_10
32,38,46,47 SUSB_ON
PR401 1MOHM
PR403 150KOhm
PR404 150KOhm
PR405 100KOhm
PR406 100KOhm
PR407 10KOhm
PR408 5.49KOhm
PR409 10KOhm
PR410 14.3KOhm
PR411 0Ohm
PR412 4.7Ohm
PR413 4.7Ohm
PR414 0Ohm
PR415 54.9KOhm
PR416 10KOhm
PR417 200KOhm
PR418 10KOhm
PR419 6.2KOhm
PR420 1MOhm
PR422 10KOhm
PR423 68KOhm
PR432 0Ohm
PR433 0Ohm
PC400 1UF/16V
PC401 10UF/16V
PC402 1UF/16V
PC403 10UF/16V
PC404 1UF/16V
PC405 0.1UF/16V
PC406 0.1UF/16V
PC407 220PF/50V
PC408 220PF/50V
PC409 10UF/16V
PC410 10UF/16V
PC411 10UF/16V
PC412 10UF/16V
PC413 0.1UF/16V
PC414 0.1UF/16V
PC415 0.1UF/16V
PC416 0.1UF/16V
PC417 0.1UF/16V
PC418 0.1UF/16V
PCE400 150UF/4V
PCE401 150UF/4V
PCE402 100UF/6.3V
PCE403 100UF/6.3V
PR421 10KOhm
PR422 10KOhm
GND
http://hobi-elektronika.net
ASUSTeK COMPUTER INC
Title: +3VSUS & +5VSUS & +3VA
Engineer: N/A
Size A3
Project Name P901
Rev 1.00G
Date: Monday, March 31, 2008
Sheet 44 of 50





PM_LEVELDOWN#	CPU_LEVELDOWN	CPU_LEVELDOWN#	Voltage	Status
L	L	H	1.650V	Power Saving
H	L	H	1.795V	Normal
H	H	L	1.927V	Performance
L	H	L	1.782V	N/A

/X

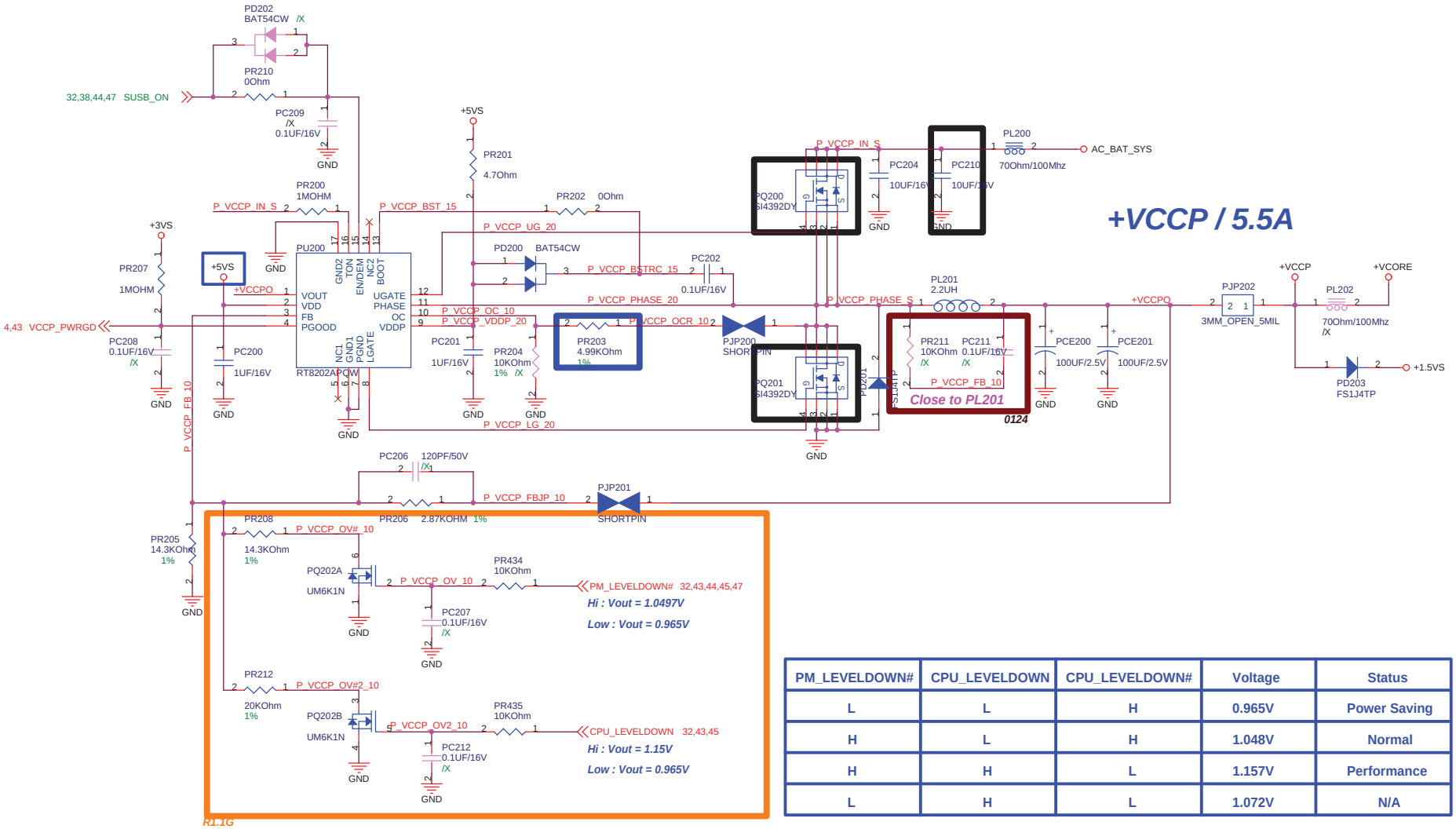
ASUSTek Computer INC.

Title : +1.8V & VTTDDR

Engineer: Joy_Zhou

Size	Project Name	Rev
A3	P901	1.00G

Date: Monday, March 31, 2008 Sheet 45 of 50



PM_LEVELDOWN#	CPU_LEVELDOWN	CPU_LEVELDOWN#	Voltage	Status
L	L	H	0.965V	Power Saving
H	L	H	1.048V	Normal
H	H	L	1.157V	Performance
L	H	L	1.072V	N/A

/X

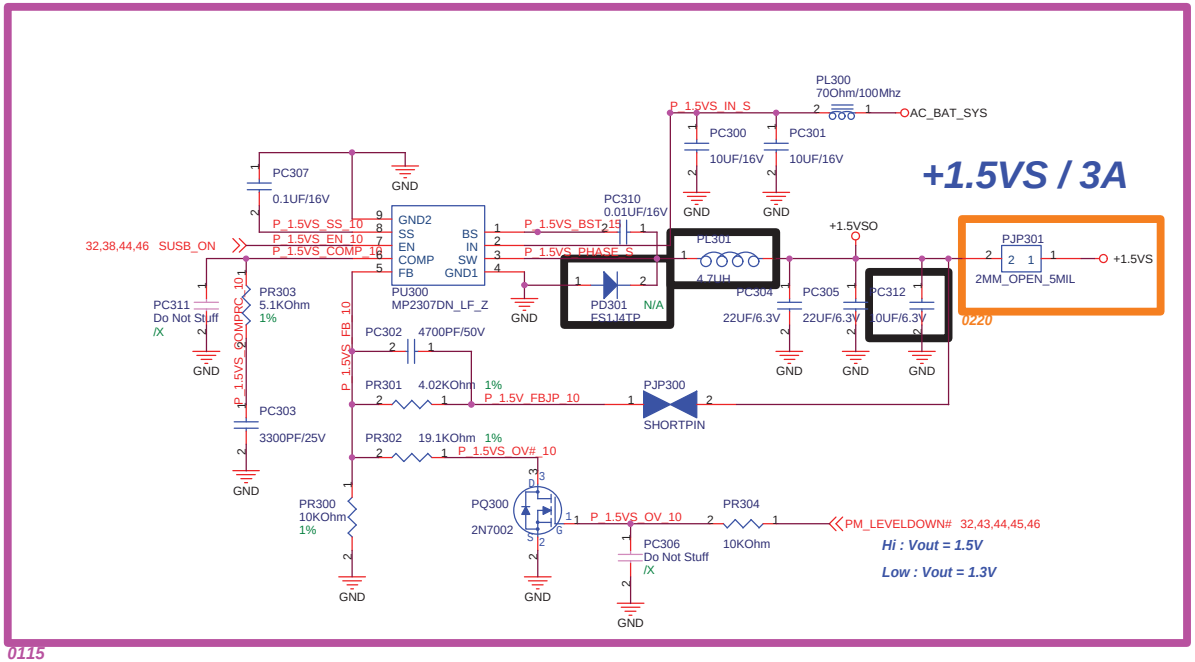
ASUSTek Computer INC.

Title : VCCP

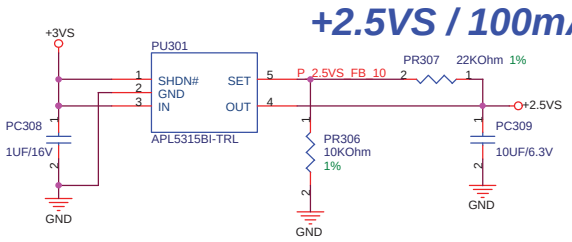
Engineer: Joy_Zhou

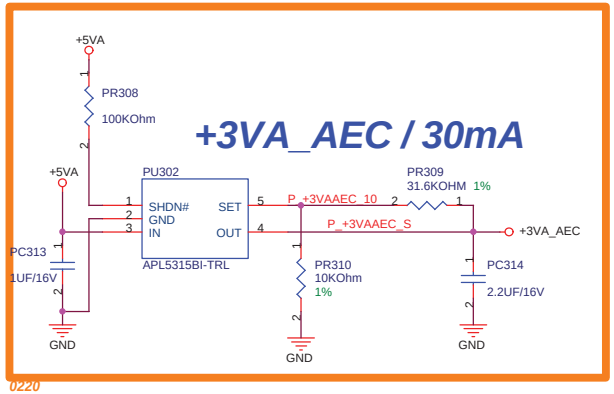
Size	Project Name	Rev
A3	P901	1.00G

Date: Monday, March 31, 2008 Sheet 46 of 50



0115

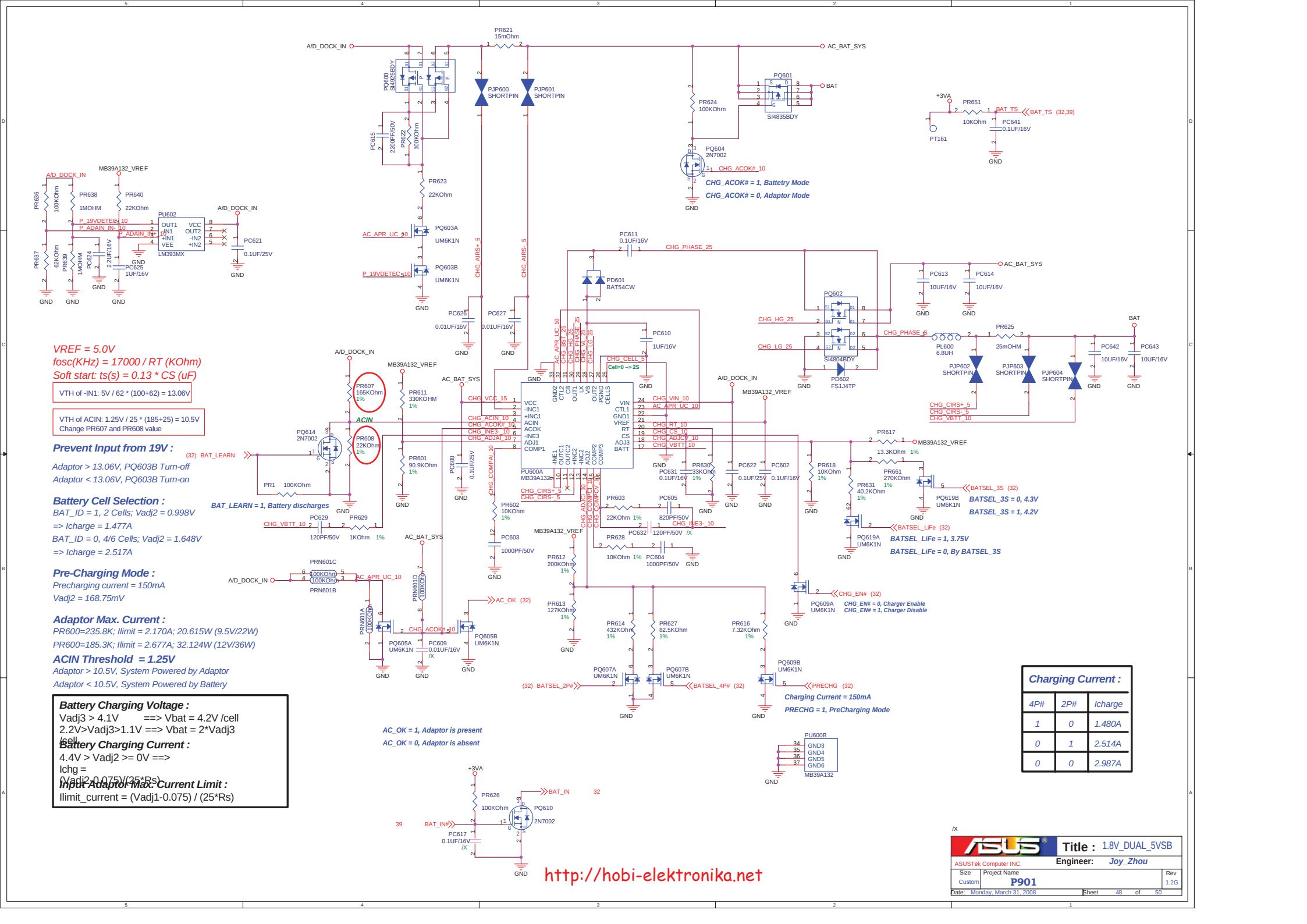




0220

/X

ASUSTek Computer INC.	Title : +1.5VS & +2.5VS	
	Engineer: Joy_Zhou	
Size: A3	Project Name: P901	Rev: 1.2G
Date: Monday, March 31, 2008	Sheet 47 of 50	


VREF = 5.0V
fosc(KHz) = 17000 / RT (KOhm)
Soft start: ts(s) = 0.13 * CS (uF)
VTH of -IN1: 5V / 62 * (100+62) = 13.06V
VTH of ACIN: 1.25V / 25 * (185+25) = 10.5V
Change PR607 and PR608 value
Prevent Input from 19V :
Adaptor > 13.06V, PQ603B Turn-off
Adaptor < 13.06V, PQ603B Turn-on
Battery Cell Selection :
BAT_ID = 1, 2 Cells; Vadj2 = 0.998V
=> Icharge = 1.477A
BAT_ID = 0, 4/6 Cells; Vadj2 = 1.648V
=> Icharge = 2.517A
Pre-Charging Mode :
Precharging current = 150mA
Vadj2 = 168.75mV
Adaptor Max. Current :
PR600=235.8K; Ilimit = 2.170A; 20.615W (9.5V/22W)
PR600=185.3K; Ilimit = 2.677A; 32.124W (12V/36W)
ACIN Threshold = 1.25V
Adaptor > 10.5V, System Powered by Adaptor
Adaptor < 10.5V, System Powered by Battery
Battery Charging Voltage :
Vadj3 > 4.1V ==> Vbat = 4.2V /cell
2.2V>Vadj3>1.1V ==> Vbat = 2*Vadj3 /cell
Battery Charging Current :
4.4V > Vadj2 >= 0V ==>
Ichg = (Vadj2-0.075)/(25*Rs)
Input Adaptor Max. Current Limit :
Ilimit_current = (Vadj1-0.075) / (25*Rs)
A/D_DOCK_IN
AC_BAT_SYS
MB39A132_VREF
BAT
PR621 15mOhm
PJP600 SHORTPIN
PJP601 SHORTPIN
PQ600 SI4925BDY
PQ601 SI4835BDY
PQ602 SI4804BDY
PQ603A UM6K1N
PQ603B UM6K1N
PQ604 2N7002
PD601 BAT54CW
PD602 FS1J4TP
PU602 LM393MX
PU600A MB39A132
PU600B MB39A132
CHG_ACOK# = 1, Battery Mode
CHG_ACOK# = 0, Adaptor Mode
BAT_LEARN = 1, Battery discharges
AC_OK = 1, Adaptor is present
AC_OK = 0, Adaptor is absent
CHG_EN# = 0, Charger Enable
CHG_EN# = 1, Charger Disable
BATSEL_3S = 0, 4.3V
BATSEL_3S = 1, 4.2V
BATSEL_LiFe = 1, 3.75V
BATSEL_LiFe = 0, By BATSEL_3S
Charging Current = 150mA
PRECHG = 1, PreCharging Mode
Charging Current :
4P# 2P# Icharge
1 0 1.480A
0 1 2.514A
0 0 2.987A
Title : 1.8V_DUAL_5VSB
ASUSTek Computer INC.
Engineer: Joy_Zhou
Project Name P901
Rev 1.2G
Date: Monday, March 31, 2008
Sheet 48 of 50
http://hobi-elektronika.net

EC KB3310 GPIO SETTING

Pin	Pin Name	Signal Name	Type	Note
1	GPIO00/GA20	A20GATE	O	
2	GPIO01/KBRST#	RC_IN#	O	
6	GPIO04	EMAIL_SW#	I	Internal pull high
13	GPIO05/PCIRST#	PCI_RST#	I	
14	GPIO07	BAT_OTP	I	Battery over temperature
15	GPIO08	EXTSMI#	OD	10K pull high to +3VSB
16	GPIO0A	LID_EC#	I	Internal pull high
17	GPIO0B/ESB_CLK	NC	O	
18	GPIO0C/ESB_DAT	NC	O	
19	GPIO0D	DISTP_SW#	I	Internal pull high
20	GPIO0E/SCI#	EXT_SCI#	O	10K pull high to +3VSB
21	GPIO0F/PWM0	BL_PWM_DA	O	
23	GPIO10/PWM1	BAT_CRITICAL	I	Battery critical capacity
25	GPIO11/PWM2	PM_PWRBTN#	OD	Internal pull high in ICH
26	GPIO12/FANPWM1	FAN0_PWM	O	CPU Fan
27	GPIO13/FANPWM2	FAN1_PWM	O	VGA Fan
28	GPIO14/FANFB1	FAN0_TACH	I	CPU FanTach
29	GPIO15/FANFB2	FAN1_TACH	I	VGA FanTach
30	GPIO16/E51_TX	E51_TX	O	RS232 debug port
31	GPIO17/E51_RX	E51_RX	I	RS232 debug port
32	GPIO18	PWR_SW#	I	Internal pull high
34	GPIO19/PWM3	MAIL_LED#	O	
36	GPIO1A/NUMLED	NUM_LED#	O	
38	GPIO1D/CLKRUN#	NC	O	
39	GPIO20/KSO0/TP_TEST	KSO0	O	
40	GPIO21/KSO1/TP_PLL	KSO1	O	
41	GPIO22/KSO2	KSO2	O	
42	GPIO23/KSO3	KSO3	O	
43	GPIO24/KSO4	KSO4	O	
44	GPIO25/KSO5	KSO5	O	
45	GPIO26/KSO6	KSO6	O	
46	GPIO27/KSO7	KSO7	O	
47	GPIO28/KSO8	KSO8	O	
48	GPIO29/KSO9	KSO9	O	
49	GPIO2A/KSO10	KSO10	O	
50	GPIO2B/KSO11	KSO11	O	
51	GPIO2C/KSO12	KSO12	O	
52	GPIO2D/KSO13	KSO13	O	
53	GPIO2E/KSO14	KSO14	O	
54	GPIO2F/KSO15	KSO15	O	
55	GPIO30/KSI0	KSI0	I	Internal pull high
56	GPIO31/KSI1	KSI1	I	Internal pull high
57	GPIO32/KSI2	KSI2	I	Internal pull high
58	GPIO33/KSI3	KSI3	I	Internal pull high
59	GPIO34/KSI4	KSI4	I	Internal pull high
60	GPIO35/KSI5	KSI5	I	Internal pull high
61	GPIO36/KSI6	KSI6	I	Internal pull high
62	GPIO37/KSI7	KSI7	I	Internal pull high
63	GPI38/AD0	BAT_ICHG	I	
64	GPI39/AD1	BAT_CONFIG	I	Battery configureation
65	GPIO3A/AD2	BAT_SENSE	I	Battery Voltage Sensor
66	GPIO3B/AD3	BAT_TS	I	Battery Thermal Sensor
68	GPO3C/DA0	DOC	O	Trigger Clock Gen

Pin	Pin Name	Signal Name	Type	Note
70	GPO3D/DA1	LCD_BACKOFF#	O	
71	GPO3E/DA2	CLK_PWRSAVE#	O	
72	GPO3F/DA3	BAT_LL#	O	Battery Low Low
73	GPIO40	AC_OK	I	AC Adaptor Plug in
74	GPIO41	PM_RSMRST#	O	10K pull down to GND
75	GPI42	BAT_IN	I	
76	GPI43	CLRTC_EC	I	
77	GPIO44/SCL1	SMB0_CLK	I/OD	4.7K pull high to +3VA_EC
78	GPIO45/SDA1	SMB0_DAT	I/OD	4.7K pull high to +3VA_EC
79	GPIO46/SCL2	SMB1_CLK	I/OD	10K pull high to +3V
80	GPIO47/SDA2	SMB1_DAT	I/OD	10K pull high to +3V
81	GPIO48/KSO16	KB pin 28	I	for KB type detection
82	GPIO49/KSO17	KB pin 27	I	for KB type detection
83	GPIO4A/PSCLK1	AUO_SCL	O	for AUO, default H at S0
84	GPIO4B/PSDAT1	AUO_SDA	O	for AUO, default L at S0
85	GPIO4C/PSCLK2	AUO_CSB	O	for AUO, default H at S0
86	GPIO4D/PSDAT2	LVDD_EN	I	for AUO 7" Panel
87	GPIO4E/PSCLK3	TP_CLK	I/OD	10K pull high to +3V
88	GPIO4F/PSDAT3	TP_DAT	I/OD	10K pull high to +3V
89	GPIO50/SELIO#	BATSEL_3S	O	Battery series, H:3S, L:4S
90	GPIO52/E51_CS#	CHG_LED_UP#	O	
91	GPIO53/CAPLED	CAP_LED#	O	
92	GPIO54	PWR_LED_UP	O	
93	GPIO55/SCRLED	SCRL_LED#	O	
95	GPIO56	PWR4G_SW#	I	Internal pull high
97	GPXOA00/SDICS#	SPI_MODE#	O	4.7K pull down to GND
98	GPXOA01/SDICLK	SUSC_ON	O	
99	GPXOA02/SDIDO	VSUS_ON	O	
100	GPXOA03	CPU_VRON	O	
101	GPXOA04	SUSB_ON	O	
102	GPXOA05	ICH_PWROK	O	
103	GPXOA06	VOLT_CTRL	O	
104	GPXOA07	CHG_EN#	O	Battery charging enabled
105	GPXOA08	PRECHG	O	
106	GPXOA09	SPI_WP#	O	
107	GPX0A10	OP_SD#	O	Audio OP
108	GPXOA11	BAT_LEARN	O	
109	GPXID0/SDIDI	BATSEL_2P#	O	Battery parallel, H:1P, L:2P~3P
110	GPXID1	NC	O	
112	GPXID2	THRO_CPU	O	Active if CPU temperature over spec
114	GPXID3	SUSB#	I	100K pull down to GND
115	GPXID4	SUSC#	I	100K pull down to GND
116	GPXID5	CPUPWR_GD	I	Pull high to +3V
117	GPXID6	VSUS_GD	I	
118	GPXID7	NC	O	
121	GPIO57	INTERNET#	I	Internal pull high
126	GPIO57/SPICLK	SPI_CLK	O	
127	GPIO59/TEST_CLK	NC	O	

EC KB3310 Other Pin SETTING

Pin	Pin Name	Signal Name	Type	Note
3	SERIRQ	INT_SERIRQ	I/OD	10K pull high to +3V
4	LFRAME#	LPC_FRAME#	I	
5	LAD3	LPC_AD3	I/O	
7	LAD2	LPC_AD2	I/O	
8	LAD1	LPC_AD1	I/O	
9	VCC	+3VA_EC	P	
10	LAD0	LPC_AD0	I/O	
11	GND	GND	P	
12	PCICLK	CLK_PCI_EC	I	
22	VCC	+3VA_EC	P	
24	GND	GND	P	
33	VCC	+3VA_EC	P	
35	GND	GND	P	
37	ECRST#	EC_RST#	I	100K pull high to +3VA_EC
67	AVCC	+3VACC	P	
69	AGND	AGND	P	
94	GND	GND	P	
96	VCC	+3VA_EC	P	
111	VCC	+3VA_EC	P	
113	GND	GND	P	
119	RD#/SPIDI	SPI_SO	I	
120	WR#/SPIDO	SPI_SI	O	
112	XCLKI	32KXCLKI	I	
123	XCLKO	32KXCLKO	O	
124	V18R	V18R	P	Reserved 1uF to GND
125	VCC	+3VA_EC	P	
128	SPICS#/SELMEM#	SPI_CE#	O	

/X

ASUSTek Computer INC.

Title : EC Pin Define

Engineer: Satan He

Size	Project Name	Rev
A3	P901	1.00G

Date: Monday, March 31, 2008 Sheet 49 of 50

/X

ASUSTek Computer INC.	Title : History	
	Engineer: *Satan He*	
Size: A3	Project Name: P901	Rev: 1.00G
Date: Monday, March 31, 2008	Sheet 50 of 50	