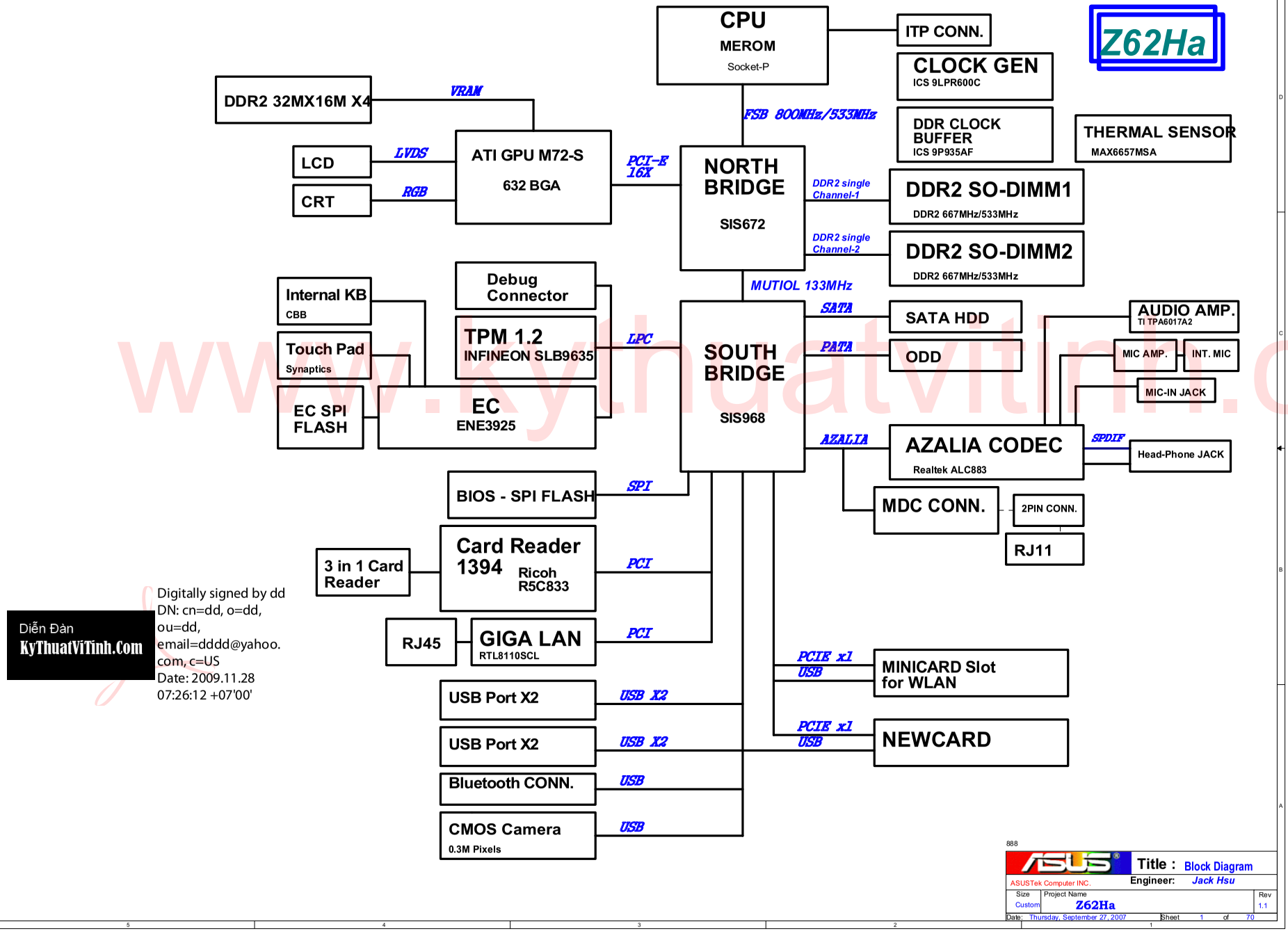


888

ASUSTek Computer INC.

Title : Block Diagram

Engineer: Jack Hsu

Size	Project Name	Rev
Custom	Z62Ha	1.1

Date: Thursday, September 27, 2007 Sheet 1 of 70

EC GPIO SETTING

Pin	Pin Name	Signal Name	Type
32	PWM0/GPA0	BL_PWM_DA	O
33	PWM1/GPA1	FAN_PWM	O
36	PWM2/GPA2	CLK_PWRSAVE#	O
37	PWM3/GPA3	/	
38	PWM4/GPA4	CHG_LED_UP#	O
39	PWM5/GPA5	PWR_LED_UP#	O
40	PWM6/GPA6	/	
43	PWM7/GPA7	LCD_BACKOFF#	O
153	RXD/GPB0	NUM_LED	O
154	TXD/GPB1	CAP_LED	O
162	GPB2	SCRL_LED	O
163	SMCLK0/GPB3	SMB0_CLK	I/0
164	SMDAT0GPB4	SMB0_DAT	I/0
5	GA20/GPB5	A20GATE	O
6	KBRST#/GPB6	RC_IN#	O
165	GPB7	/	
47	CLKOUT/GPC0	/	
169	SMCLK1/GPC1	SMB1_CLK	I/0
170	SMDAT1/GPC2	SMB1_DAT	I/0
171	GPC3	Mail_LED	O
172	TMRI0/WUI2/GPC4	AC_OK#	I
175	GPC5	OP_SD#	O
176	TMRI1/WUI3/GPC6	BAT_IN_OC#	I
1	CK32KOUT/GPC7	/	
26	RI1#/WUI0/GPD0	SUSB#	I
29	RI2#/WUI1/GPD1	SUSC#	I
30	LPCRST#/WUI4//GPD2	PLT_RST#	I
31	ECSCI#/GPD3	EXT_SCI#	O
41	GPD4	/	
42	GINT/GPD5	/	
62	TACH0/GPD6	FAN0_TACH	I
63	TACH1/GPD7	/	
87	ADC4/GPE0	EMAIL_SW#	I
88	ADC5/GPE1	INTERNET#	I
89	ADC6/GPE2	PWR4G_SW#	I
90	ADC7/GPE3	DISTP_SW#	I
2	PWRSW/GPE4	PWR_SW#	I
44	WUI5/GPE5	/	
24	LPCPD#/WUI6/GPE6	LID_EC#	I
25	CLKRUN#/WUI7/GPE7	/	
110	PS2CLK0/GPF0	/	
111	PS2DAT0/GPF1	/	
114	PS2CLK1/GPF2	/	I
115	PS2DAT1/GPF3	/	I
116	PS2CLK2/GPF4	TP_CLK	I/0
117	PS2DAT2/GPF5	TP_DAT	I/0
118	PS2CLK3/GPF6	/	
119	PS2DAT3/GPF7	/	
113	FA16/GPG0	FA16	O
112	FA17/GPG1	FA17	O
104	FA18/GPG2	FA18	O
103	FA19/GPG3	/	
3	FA20/GPG4	THRM_CPU#	I
4	FA21/GPG5	/	
27	LPC80HL/GPG6	PMTHERM#	O
28	LPC80LL/GPG7	AC_APR_UC#	I

Pin	Pin Name	Signal Name	Type
48	GPH0	VSUS_ON	O
54	GPH1	VSUS_GD#	I
55	GPH2	CPUPWR_GD#	I
69	GPH3	PM_PWRBTN#	O
70	GPH4	SUSC_ON	O
75	GPH5	SUSB_ON	O
76	GPH6	CPU_VRON	O
105	GPH7	PM_RSMRST#	O
148	GPI0	ICH7_PWROK	O
149	GPI1	/	
152	GPI2	MCHOK	I
155	GPI3	CHG_EN#	O
156	GPI4	PRECHG	O
168	GPI5	BAT_LL#	O
174	GPI6	BAT_LEARN	O

ICH7-M GPIO SETTING

Pin	Pin Name	Signal Name	Type	Power_Well	Default
AB18	GPIO00/BM_BUSY#	PM_BMBUSY#	I	Core(To:3.3V)	GPI
C8	GPIO01/REQ5#	PCI_REQ#5	I/O	Core(To:5V)	GPI
G8	GPIO02/PIRQE#	PCI_INTE#	I(OD)	Core(To:5V)	GPI
F7	GPIO03/PIRQF#	PCI_INTF#	I(OD)	Core(To:5V)	GPI
F8	GPIO04/PIRQG#	PCI_INTG#	I(OD)	Core(To:5V)	GPI
G7	GPIO05/PIRQH#	PCI_INTH#	I(OD)	Core(To:5V)	GPI
AC21	GPIO06	NC	I/O	Core(To:3.3V)	GPI
AC18	GPIO07	WLAN_BT_LED_EN#	I	Core(To:3.3V)	GPI
E21	GPIO08	EXTSMI#	I	SUS(To:3.3V)	GPI
E20	GPIO09	SATA_DET#0	I/O	SUS(To:3.3V)	GPI
A20	GPIO10	WLAN_ON#	O	SUS(To:3.3V)	GPI
B23	SMBALERT#/GPIO11	SMB_ALERT#	I/O	SUS(To:3.3V)	Native
F19	GPIO12	KBC_SCI#	I	SUS(To:3.3V)	GPI
E19	GPIO13	TP	I/O	SUS(To:3.3V)	GPI
R4	GPIO14	NC	I/O	SUS(To:3.3V)	GPI
E22	GPIO15	CB_SD#	I/O	SUS(To:3.3V)	GPI
AC22	GPIO16	PM_DPRSLPVR	O	Core(To:3.3V)	Native
D8	GPIO17/GNT5#	PCI_GNT#5	I/O	Core(To:3.3V)	GPO
AC20	GPIO18/STP_PCI#	STP_PCI#	O	Core(To:3.3V)	GPO
AH18	GPIO19/SATA1GP	NC	O	Core(To:3.3V)	GPI
AF21	GPIO20/STP_CPU#	STP_CPU#	O	Core(To:3.3V)	GPO
AE19	GPIO21/SATA0GP	NC	I/O	Core(To:3.3V)	GPI
A13	GPIO22/REQ4#	PCI_REQ#4	I/O	Core(To:3.3V)	Native
AA5	LDRQ1#/GPIO23	TP	I/O	Core(To:3.3V)	Native
R3	GPIO24	NC	I/O	SUS(To:3.3V)	GPO
D20	GPIO25	NC	I/O	SUS(To:3.3V)	GPO
A21	GPIO26/EL_RSVD	NC	I/O	SUS(To:3.3V)	GPO
B21	GPIO27/EL_STATE0	PD_DET#	I/O	SUS(To:3.3V)	GPO
E23	GPIO28/EL_STATE1	NC	I/O	SUS(To:3.3V)	GPO
C3	GPIO29/OC#5	USB_OC#5	I/O	SUS(To:3.3V)	Native
A2	GPIO30/OC#6	NEWCARD_OC#	I	SUS(To:3.3V)	Native
B3	GPIO31/OC#7	USB_OC#7	I/O	SUS(To:3.3V)	Native
AG18	GPIO32/CLKRUN#	PM_CLKRUN#	O	Core(To:3.3V)	GPO
AC19	GPIO33/AZ_DOCK_EN#	BT_ON#	O	Core(To:3.3V)	GPO
U2	GPIO34/AZ_DOCK_RST#	NC	I/O	Core(To:3.3V)	GPO
AD21	GPIO35	NC	I/O	Core(To:3.3V)	GPO
AH19	GPIO36/SATA2GP	NC	I/O	Core(To:3.3V)	GPI
AE19	GPIO37/SATA3GP	PCB_ID0	I	Core(To:3.3V)	GPI
AD20	GPIO38	PCB_ID1	I	Core(To:3.3V)	GPI
AE20	GPIO39	PCB_ID2	I	Core(To:3.3V)	GPI
A14	GNT4#/GPIO48	PCI_GNT#4	I/O	Core(To:3.3V)	Native
AG24	GPIO49/CPUPWRGD	H_PWRGD	I	V_CPU_IO	Native

PCI Device	IDSEL#	REQ/GNT#	Interrupts
CARD READER	AD22	0	INTB-->INTB
1394	AD22	0	INTA-->INTA
LAN	AD24	REQ#2/GNT#2	INTA-->INTC

SM-Bus Device	SM-Bus Address
Clock Generator	1101001x (D2)
SO-DIMM 0	1010000x (A0)
SO-DIMM 1	1010001x (A2)
Thermal Sensor	0101110x (5C)

888

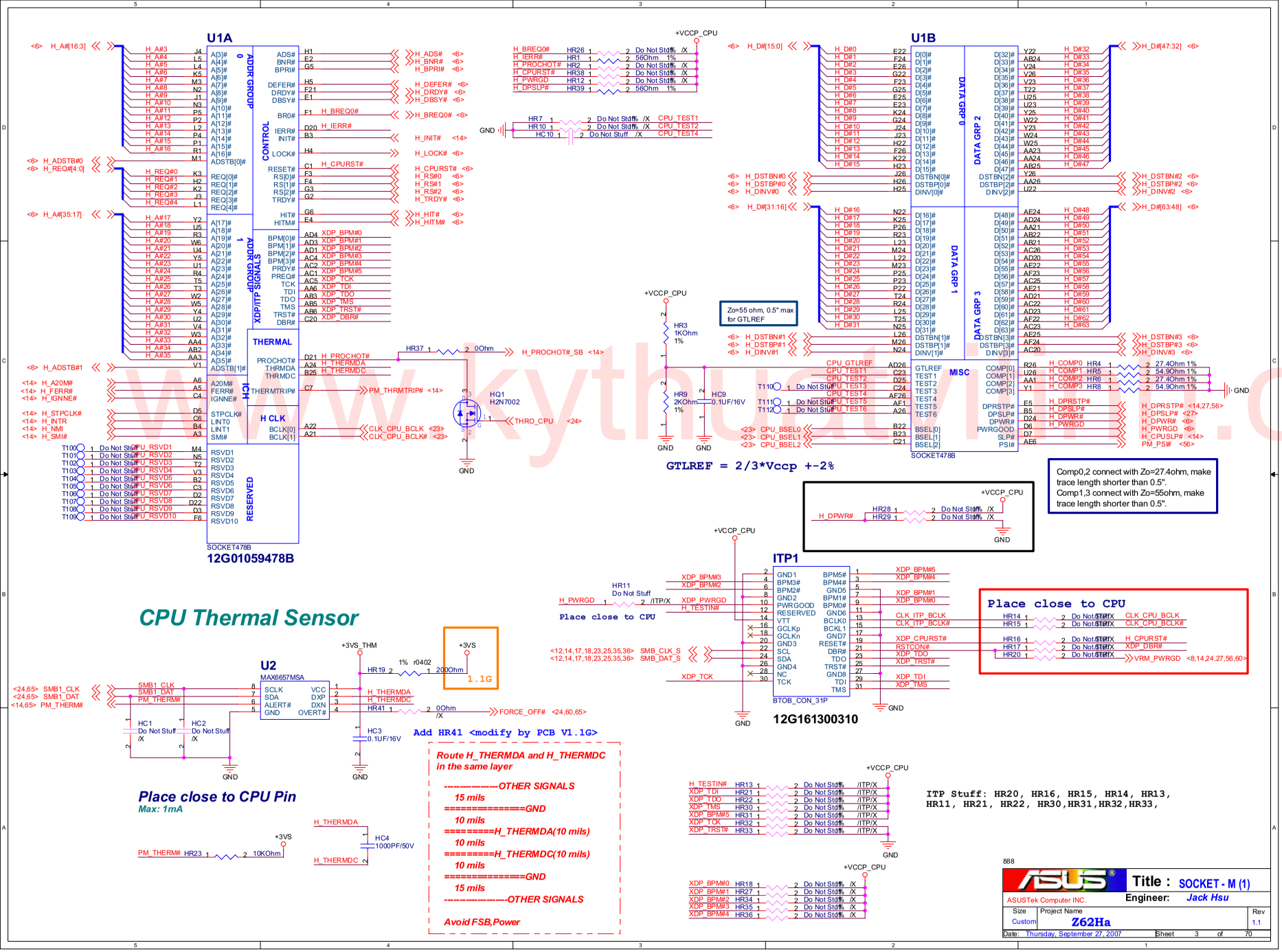
ASUSTek Computer INC.

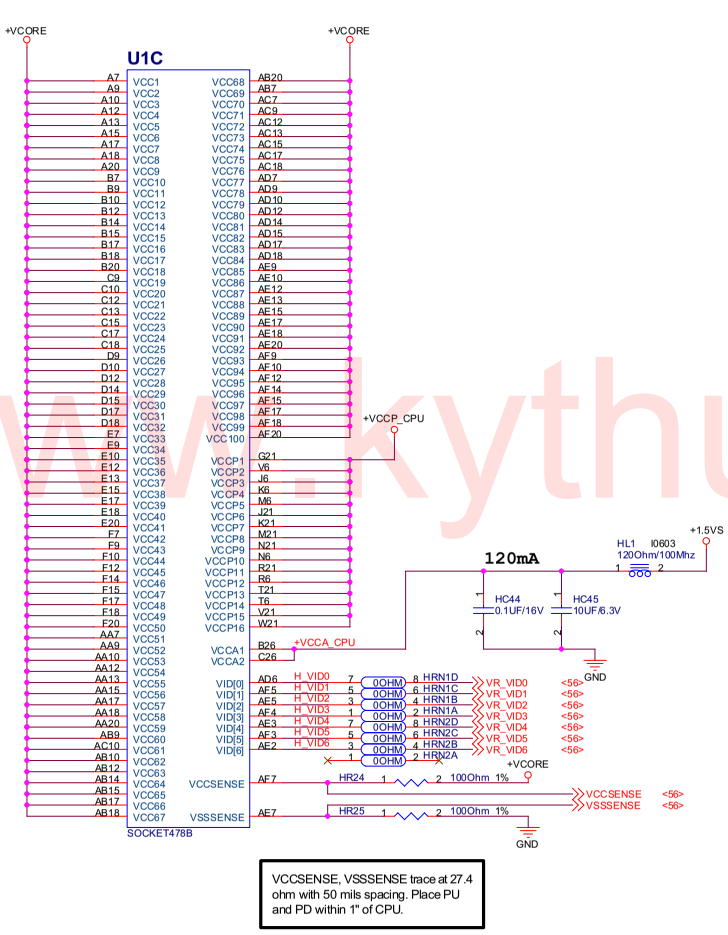
Title : System Setting

Engineer: Jack Hsu

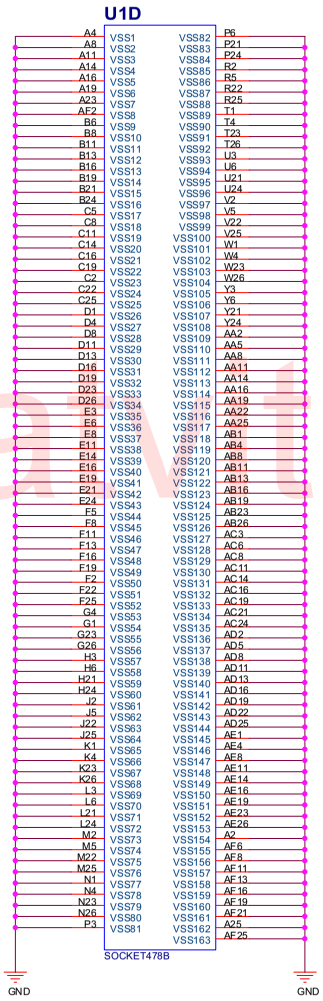
Size	Project Name	Rev
Custom	Z62Ha	1.1

Date: Thursday, September 27, 2007 Sheet 2 of 70





VCCSENSE, VSSSENSE trace at 27.4 ohm with 50 mils spacing. Place PU and PD within 1" of CPU.



888

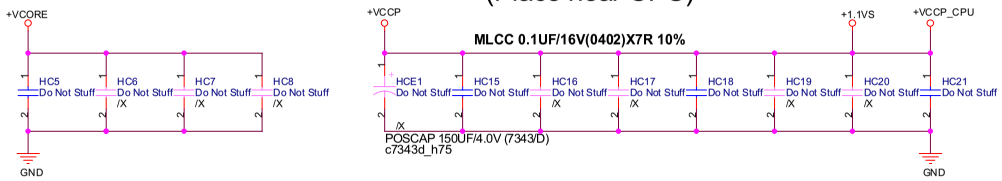
Title : SOCKET - M (2)

ASUSTek Computer INC. Engineer: Jack Hsu

Size	Project Name	Rev
Custom	Z62Ha	1.1

Date: Thursday, September 27, 2007 Sheet 4 of 70

+VCCP Decoupling Capacitor
(Place near CPU)

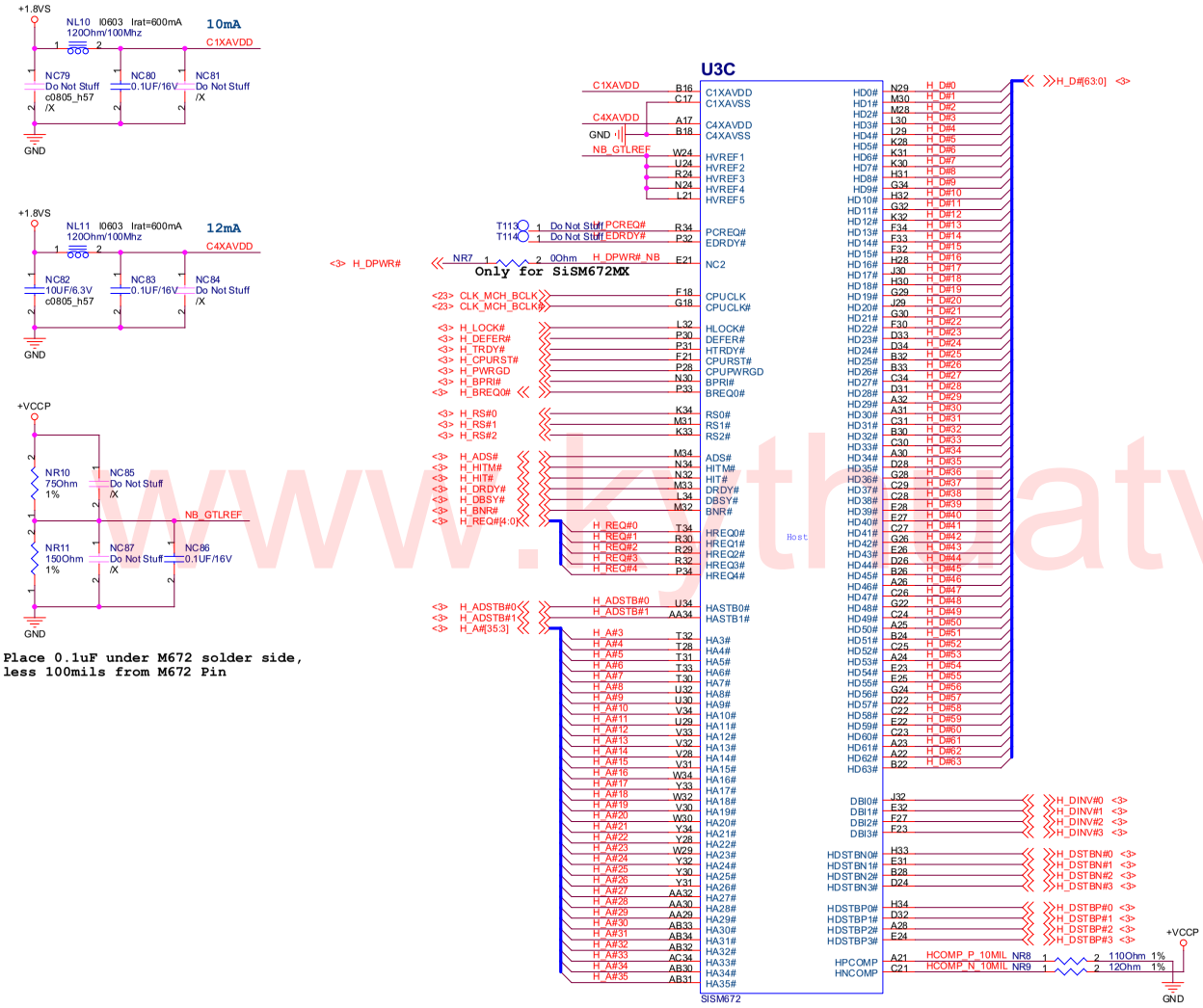


Decoupling guide from INTEL
44A for Merom

```
VCORE 22uF/10V * 32pcs, 330uF/2V * 6pcs
VCCP 0.1uF * 6pcs, 150uF * 1pcs
```


888

ASUSTek Computer INC.	Title : CPU CAP Engineer: Jack Hsu	
Size: Custom	Project Name: Z62Ha	Rev: 1.1
Date: Thursday, September 27, 2007	Sheet 5 of 70	



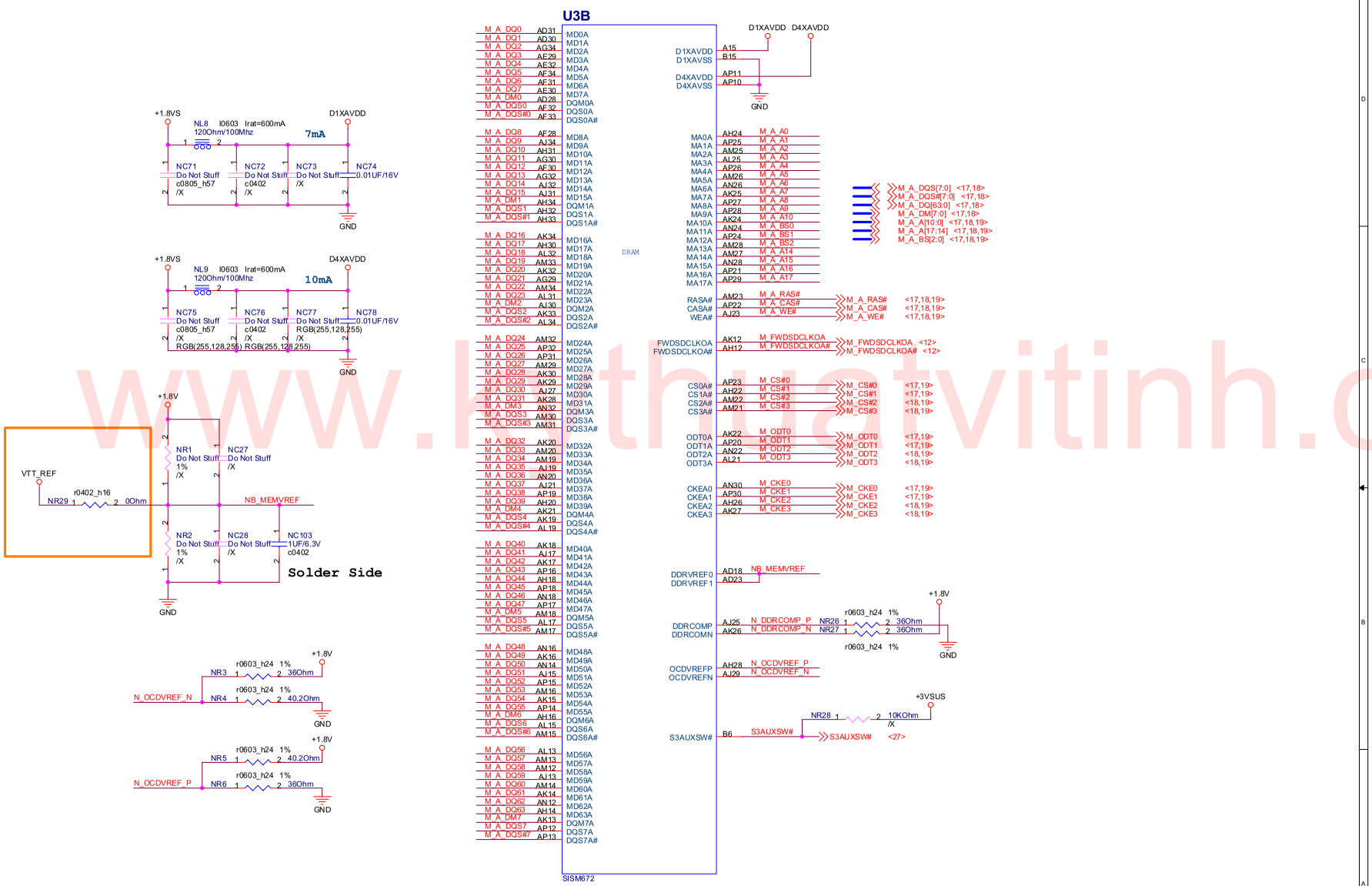
888

Title : SiSM672 - HOST(1)

ASUSTek Computer INC. Engineer: Jack Hsu

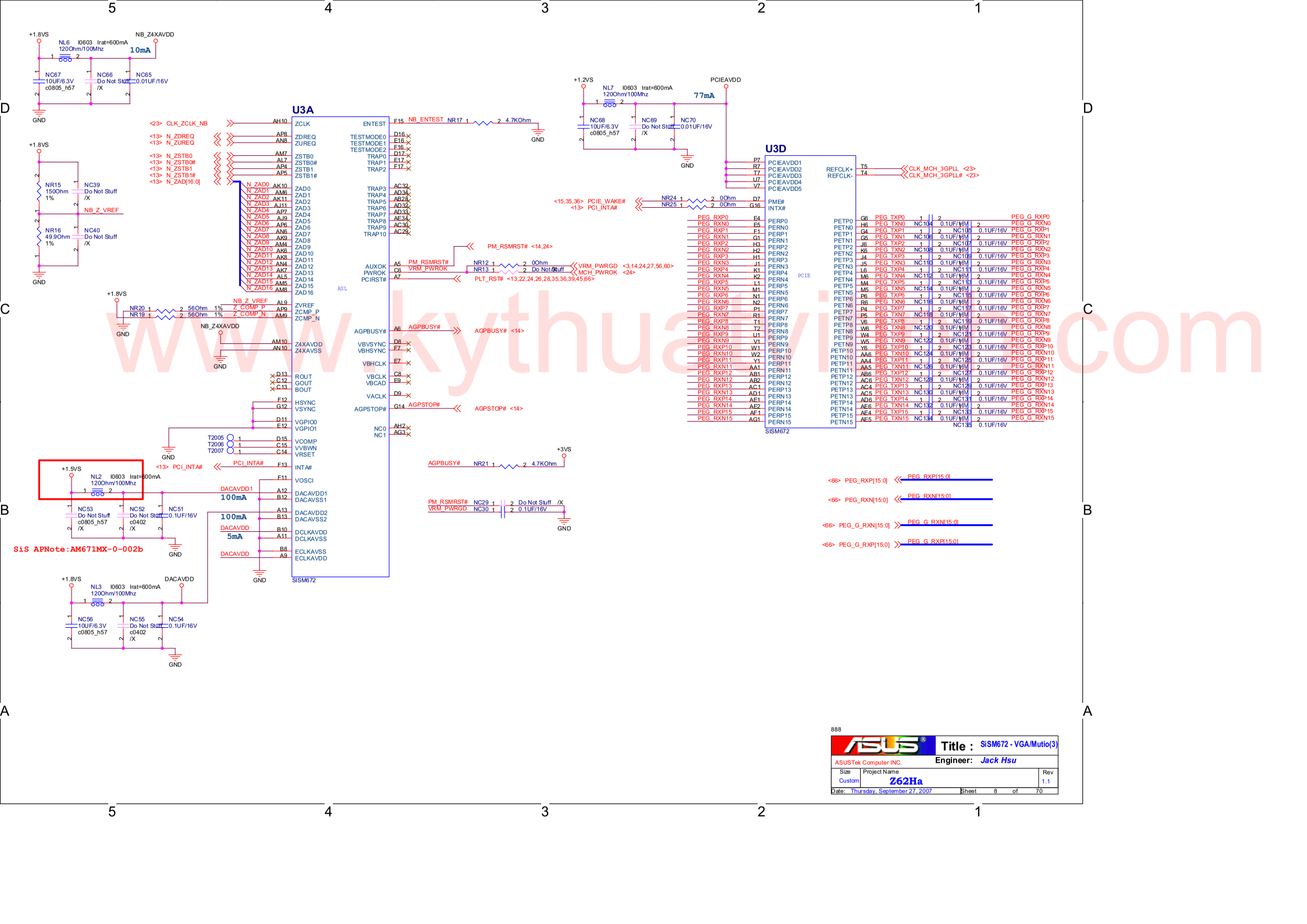
Size	Project Name	Rev
Custom	Z62Ha	1.1

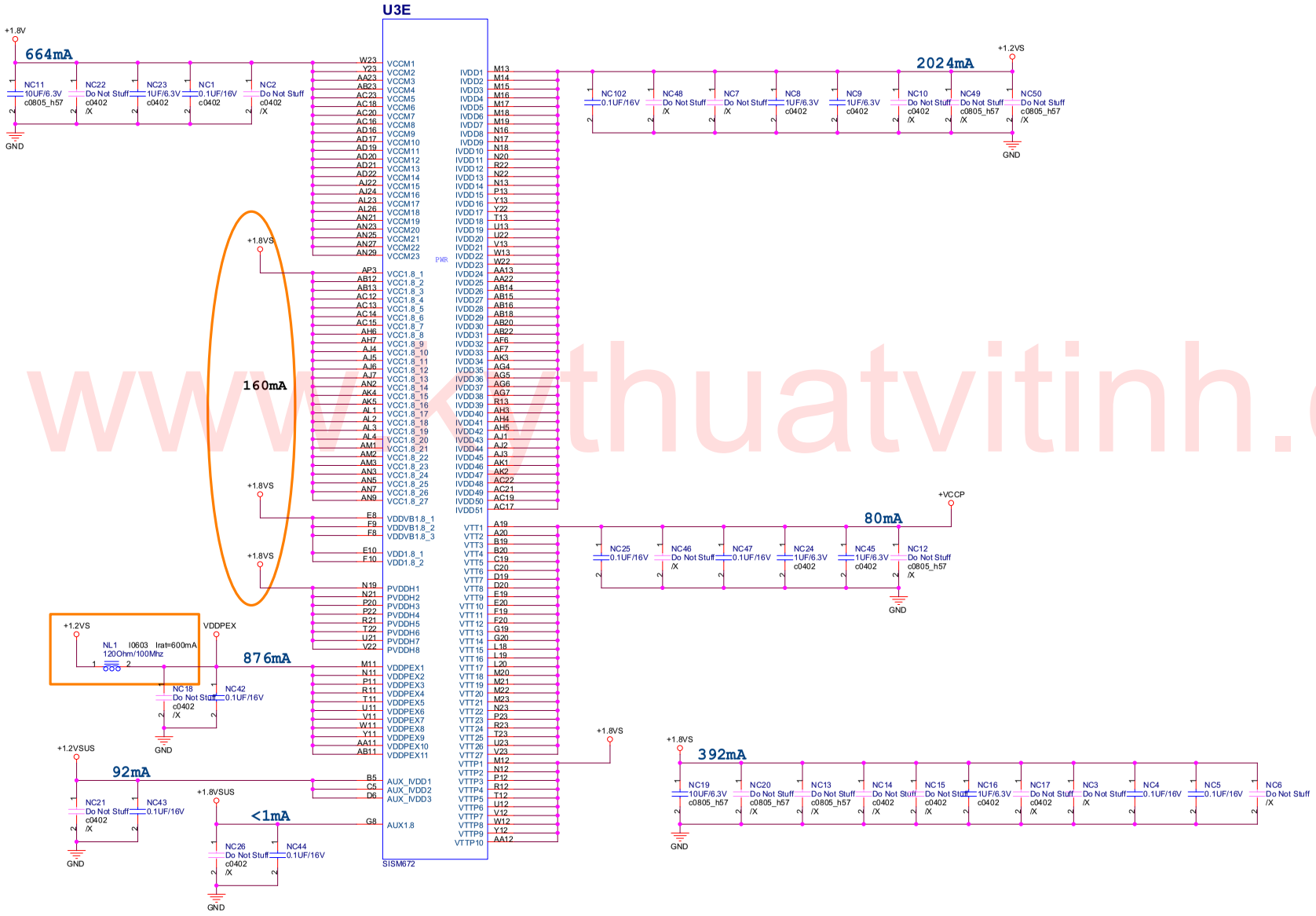
Date: Thursday, September 27, 2007 Sheet 6 of 70



888

ASUSTek Computer INC.	Title : SiSM672 - DDR2(2)	
	Engineer: Jack Hsu	
Size: Custom	Project Name: Z62Ha	Rev: 1.1
Date: Thursday, September 27, 2007	Sheet 7 of 70	





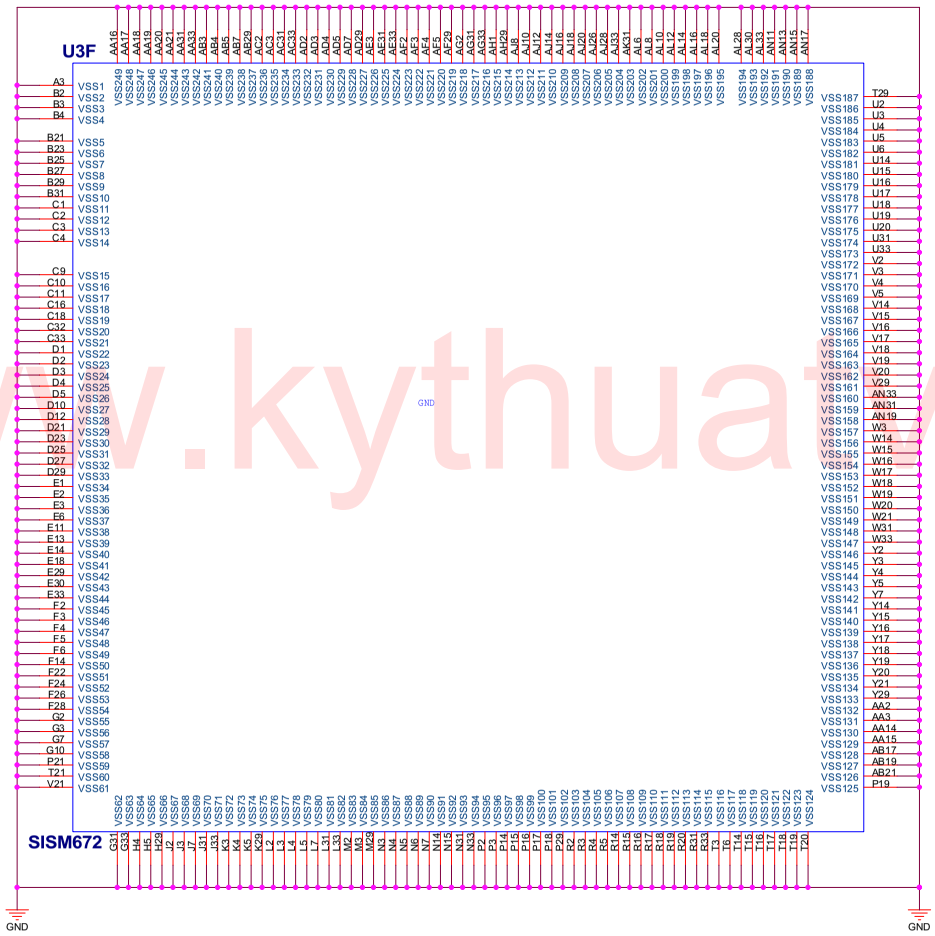
888

Title : SiSM672 - POWER(4)

ASUSTek Computer INC. Engineer: Jack Hsu

Size	Project Name	Rev
Custom	Z62Ha	1.1

Date: Thursday, September 27, 2007 Sheet 9 of 70

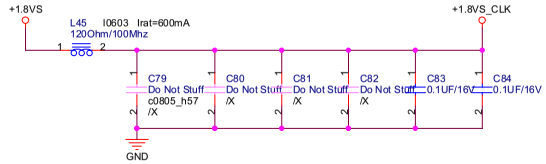


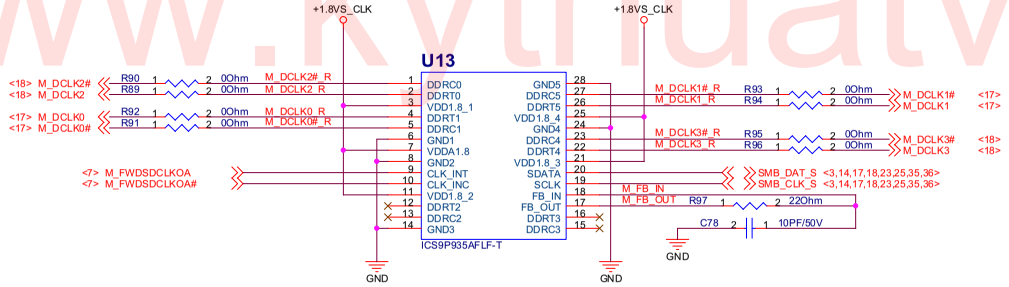
888

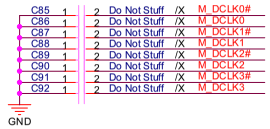
ASUSTek Computer INC.	Title : SiSM672 - GND(5)	
	Engineer: Jack Hsu	
Size: Custom	Project Name: Z62Ha	Rev: 1.1
Date: Thursday, September 27, 2007	Sheet 10 of 70	

888

ASUSTek Computer INC.	Title : BLANK	
	Engineer: Jack Hsu	
Size: Custom	Project Name: Z62Ha	Rev: 1.1
Date: Thursday, September 27, 2007	Sheet 11 of 70	







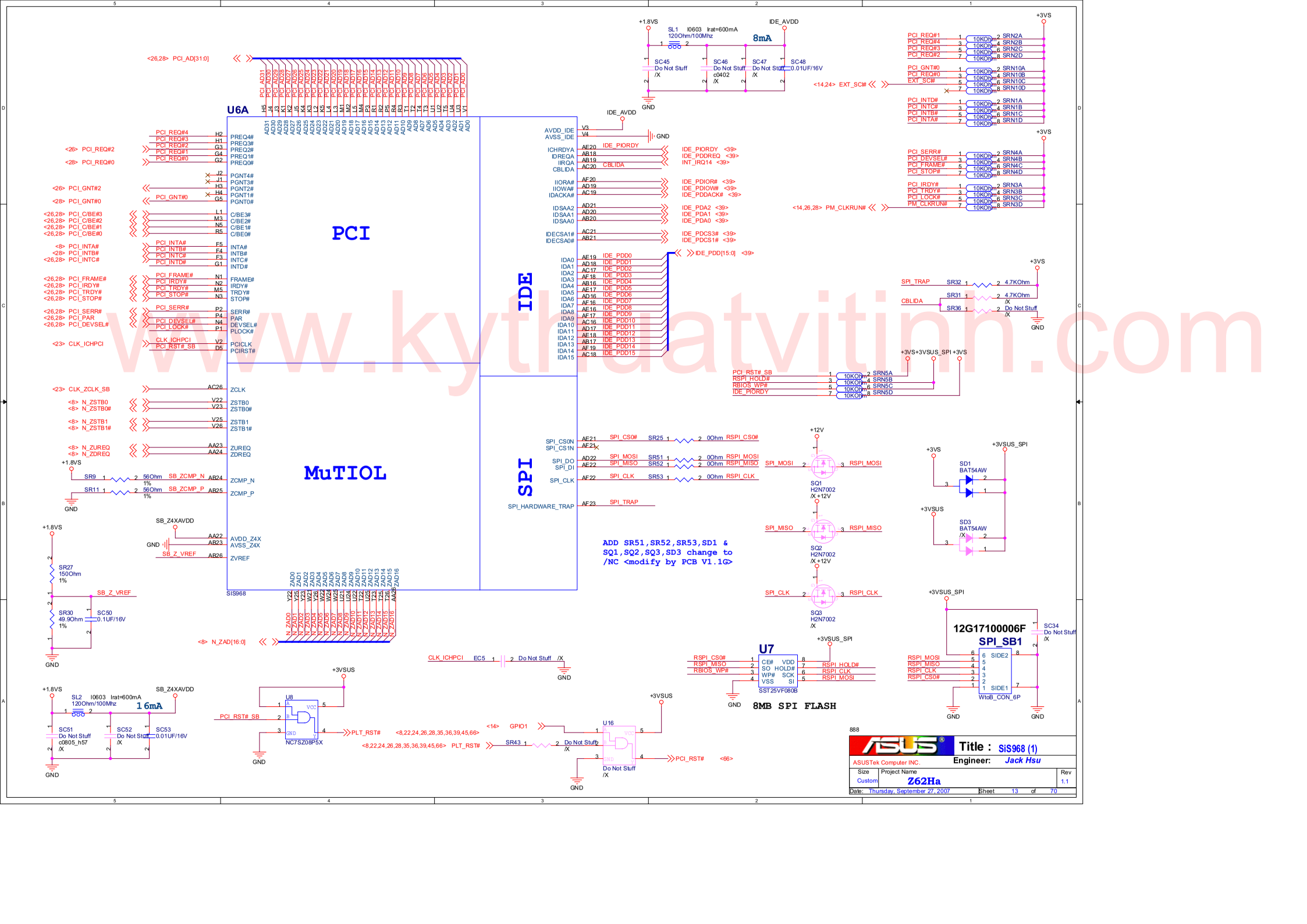
888

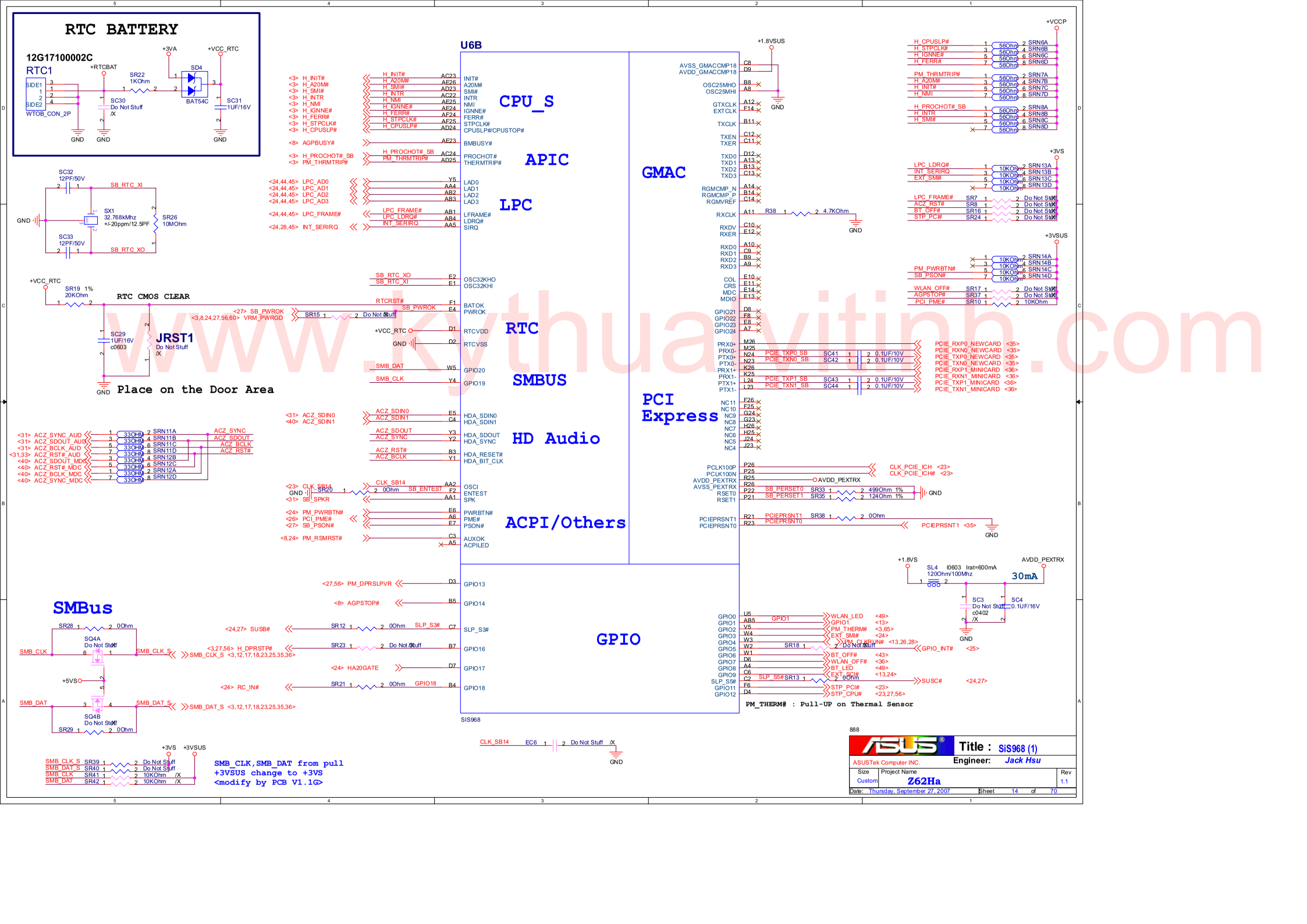
Title : DDR2 CLOCK BUFFER

ASUSTek Computer INC. Engineer: Jack Hsu

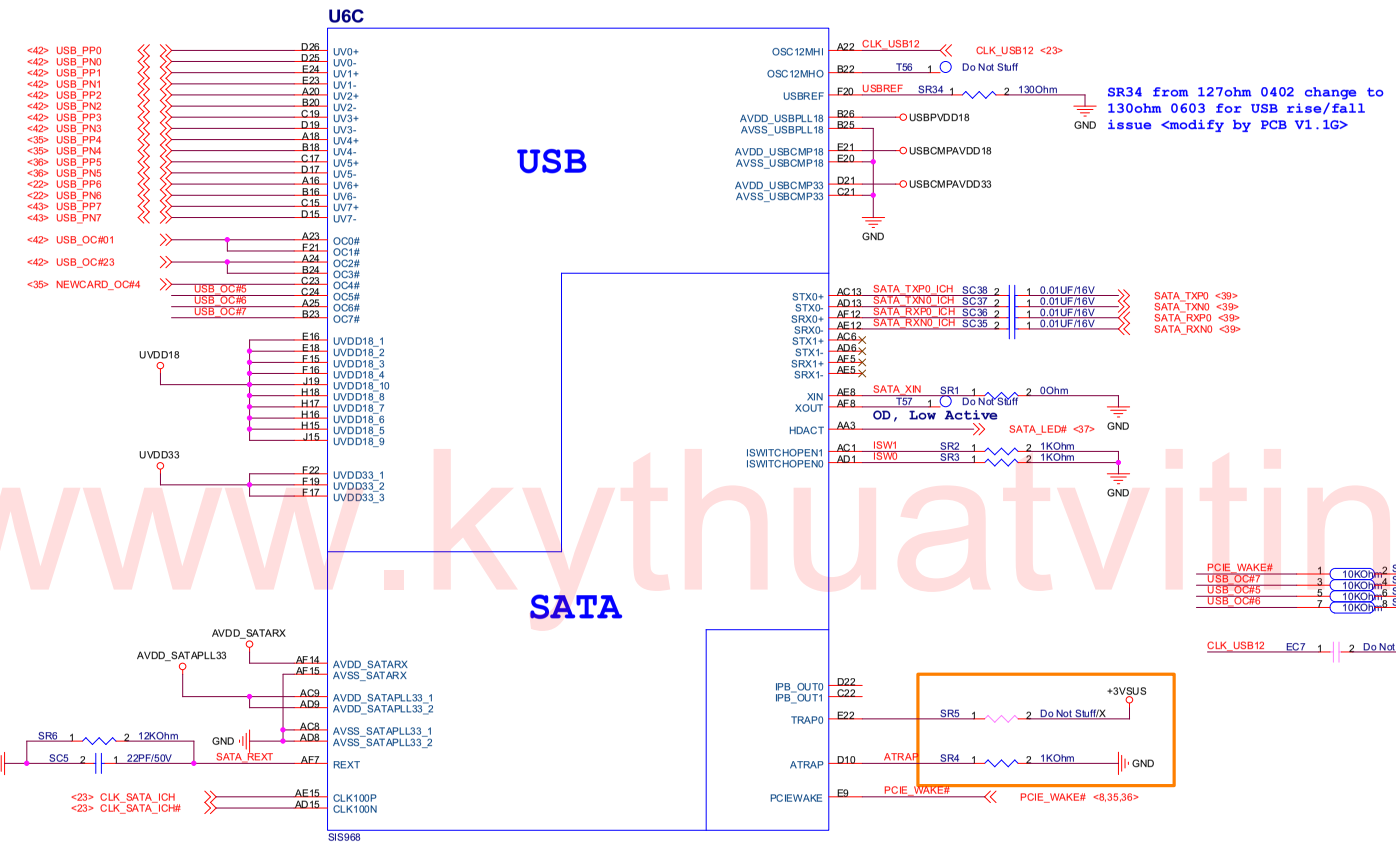
Size	Project Name	Rev
Custom	Z62Ha	1.1

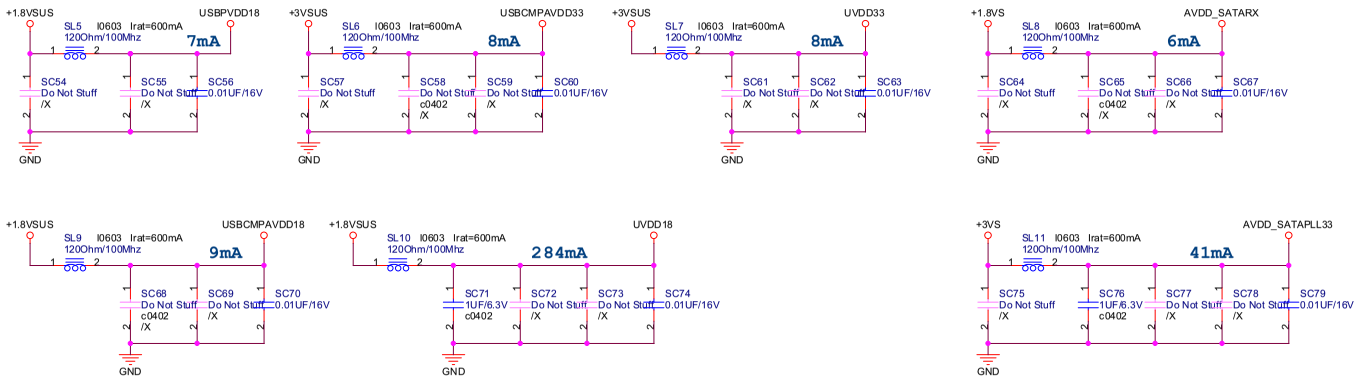
Date: Thursday, September 27, 2007 Sheet 12 of 70





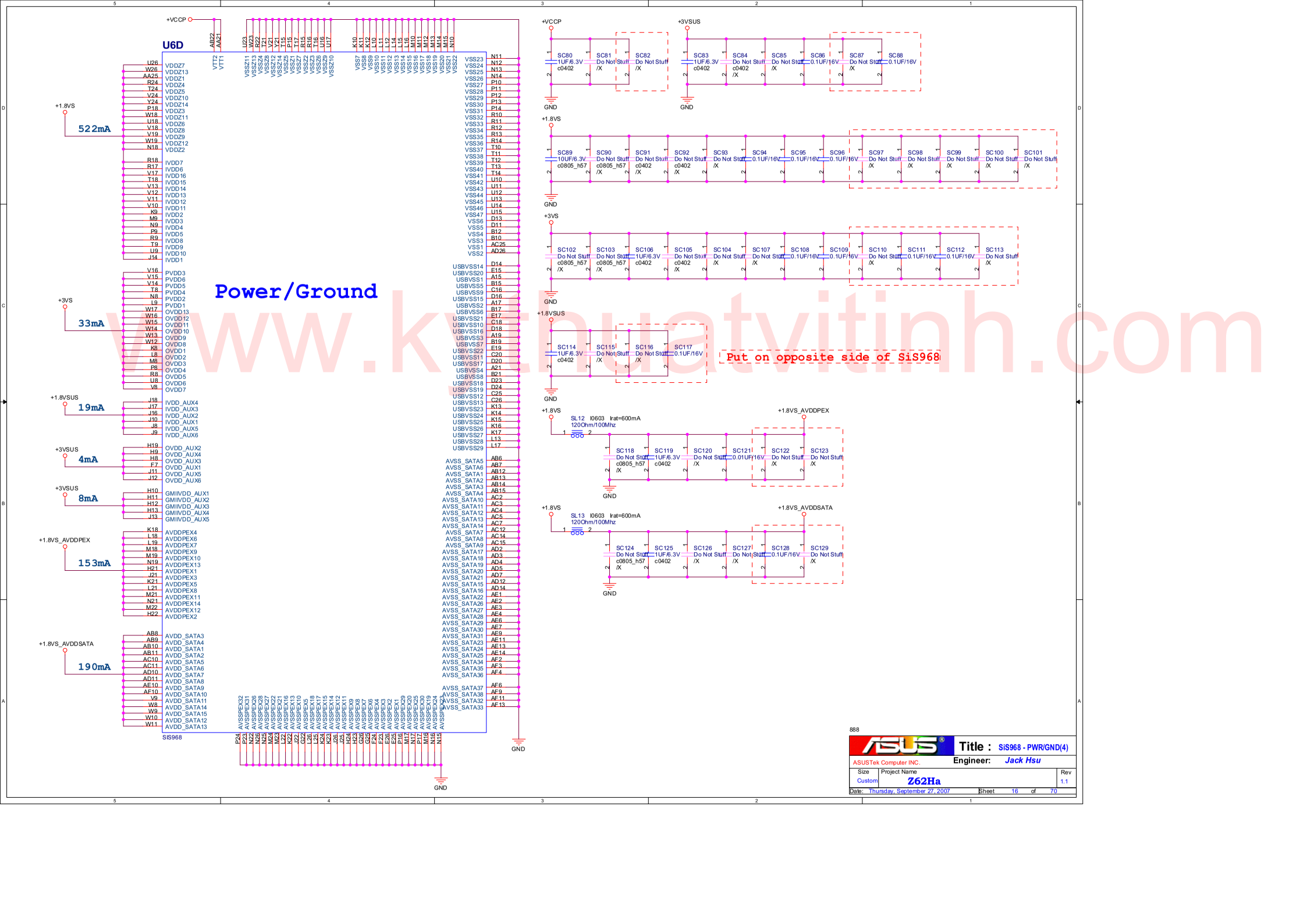
USB 0	USB Conn.
USB 1	USB Conn.
USB 2	USB Conn.
USB 3	USB Conn.
USB 4	USB NEWCARD
USB 5	USB MINICARD
USB 6	CMOS Camera
USB 7	Bluetooth

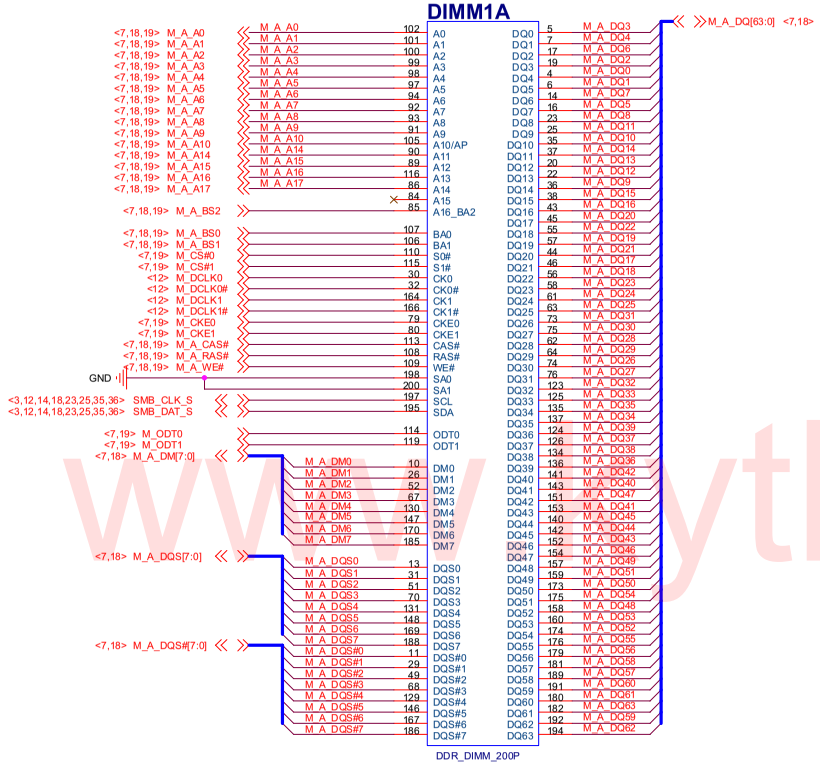


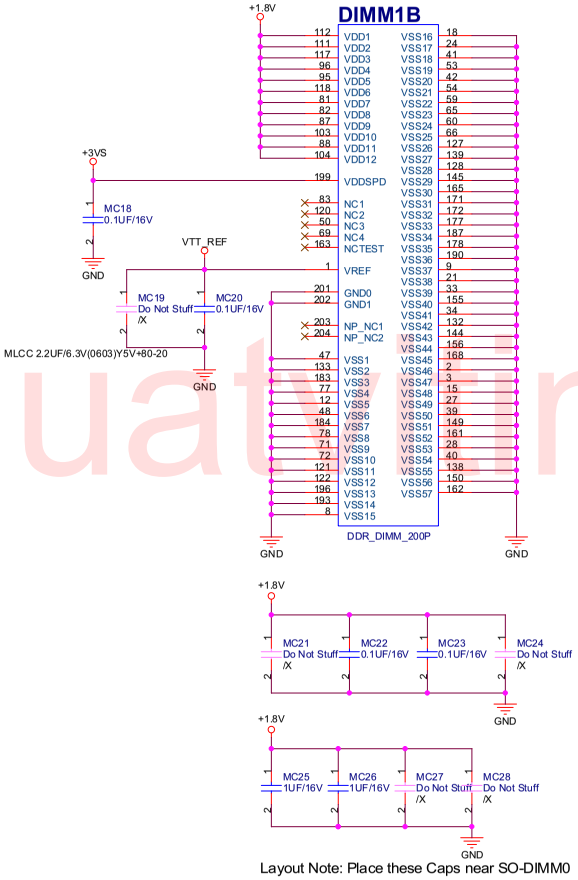


888

ASUSTek Computer INC.	Title : SiS968 (3)	
	Engineer: Jack Hsu	
Size: Custom	Project Name: Z62Ha	Rev: 1.1
Date: Thursday, September 27, 2007	Sheet 15 of 70	







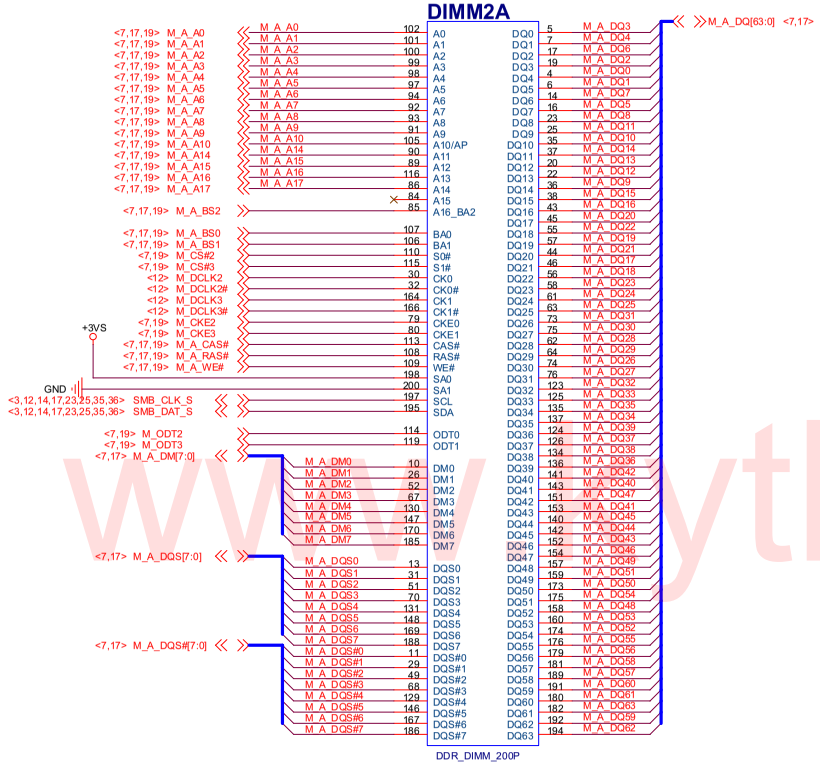
Layout Note: Place these Caps near SO-DIMM0

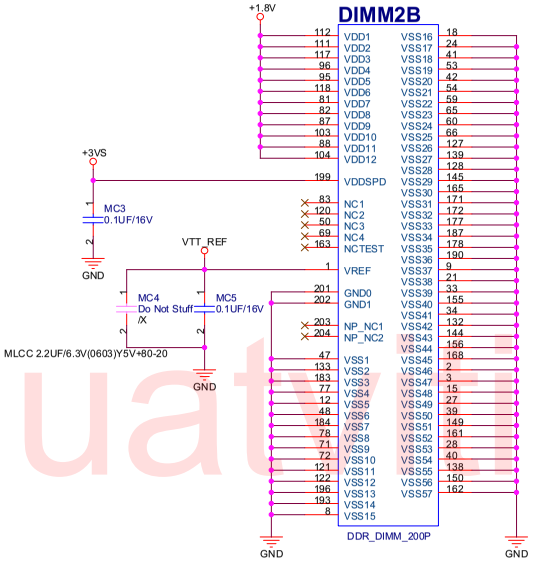
H=9.2mm Standard Type, 12G025C22000

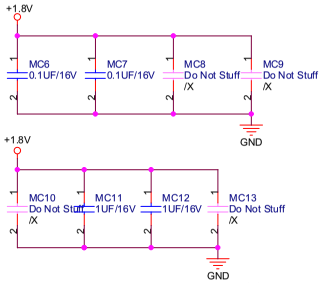
Channel A, DIMM 0

888

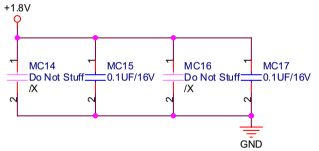
ASUSTek Computer INC.	Title : DDR SO-DIMM0	
	Engineer: Jack Hsu	
Size: Custom	Project Name: Z62Ha	Rev: 1.1
Date: Thursday, September 27, 2007	Sheet 17 of 70	







Layout Note: Place these Caps near SO-DIMM1

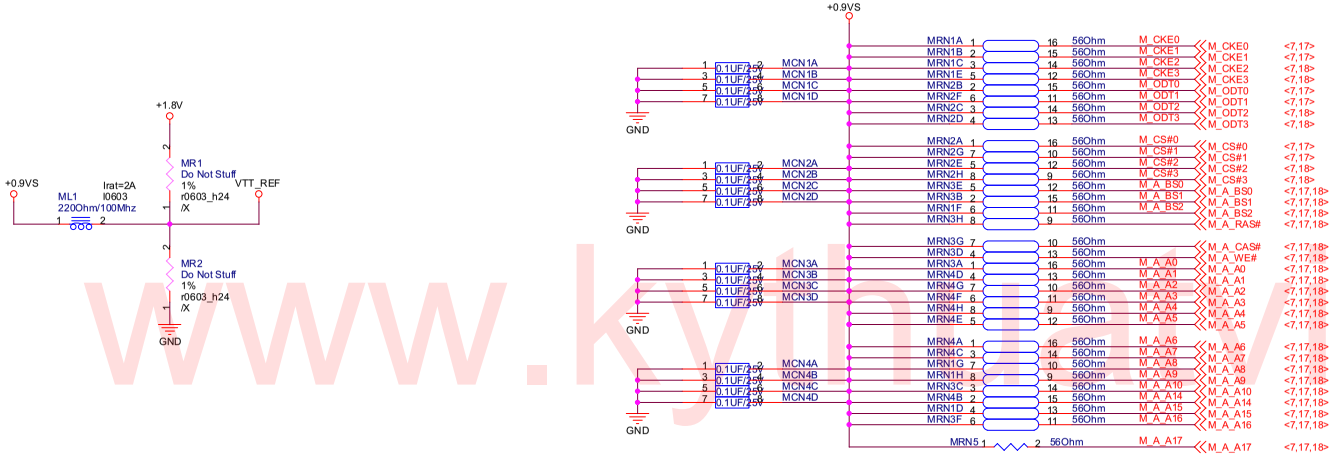


Layout Note: Place these High-Freq decoupling Caps near the GMCH

H=5.2mm Standard Type, 12G025122007
Channel A, DIMM 1

888

ASUSTek Computer INC.	Title : DDR SO-DIMM1	
	Engineer: Jack Hsu	
Size: Custom	Project Name: Z62Ha	Rev: 1.1
Date: Thursday, September 27, 2007	Sheet 18 of 70	

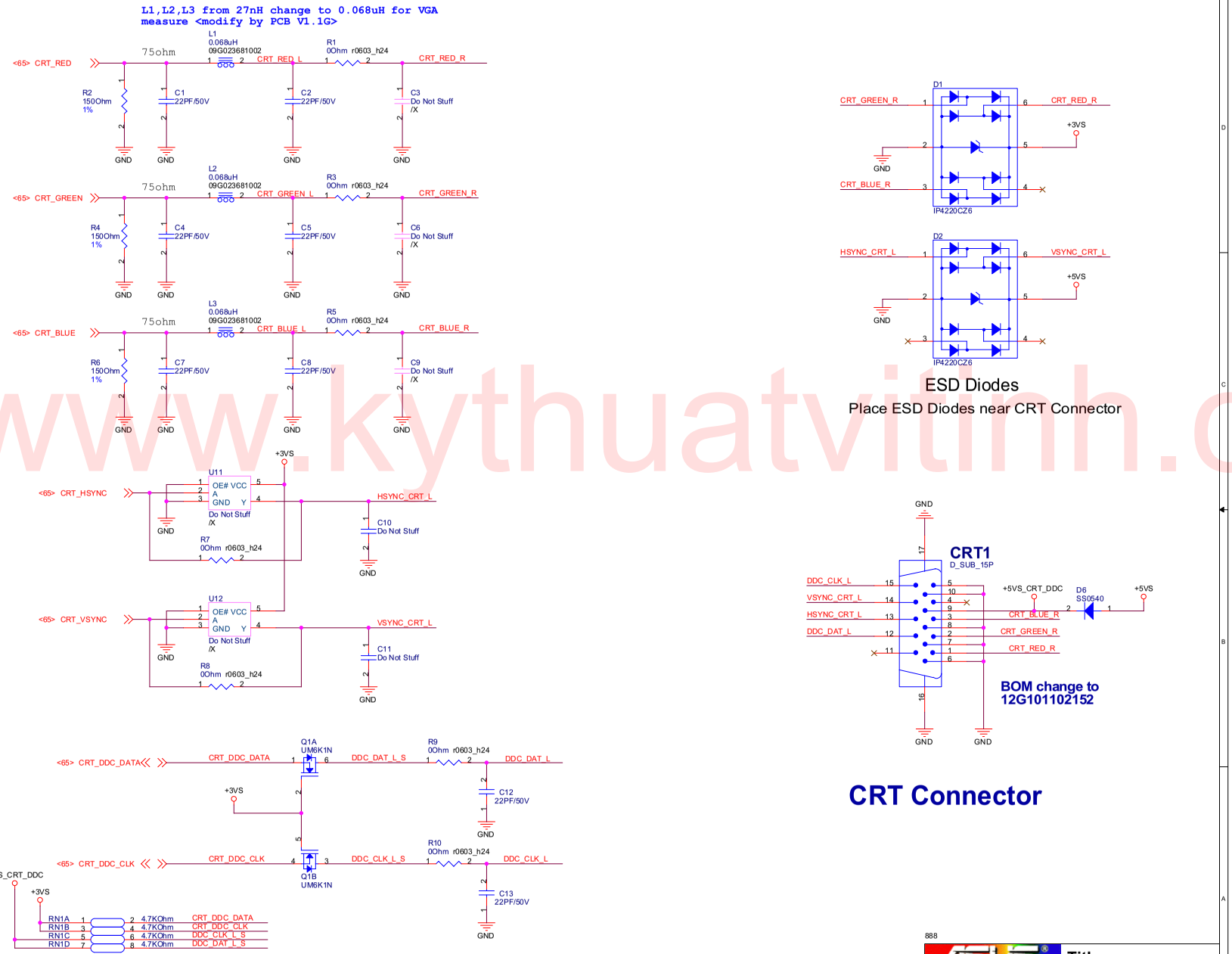


DDR2 : Command, Control Signal need termination

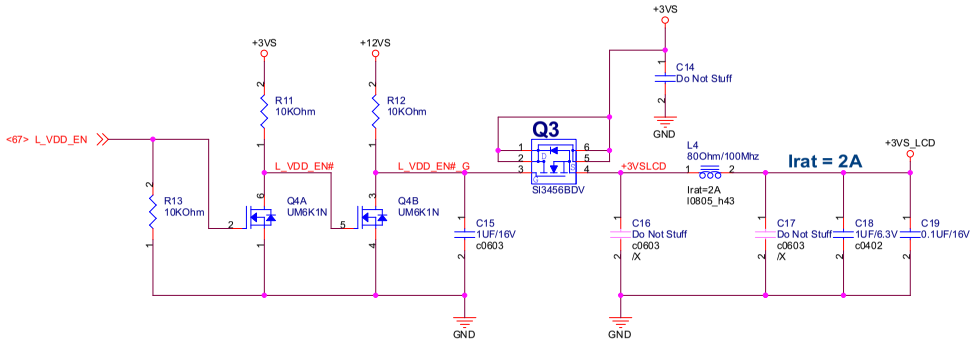
Layout note: Place one cap close to every 2 pull-up resistors terminated to +0.9V

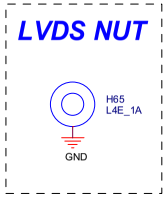
888

ASUSTek Computer INC.	Title : DDR2 Termination	
	Engineer: Jack Hsu	
Size: Custom	Project Name: Z62Ha	Rev: 1.1
Date: Thursday, September 27, 2007	Sheet 19 of 70	

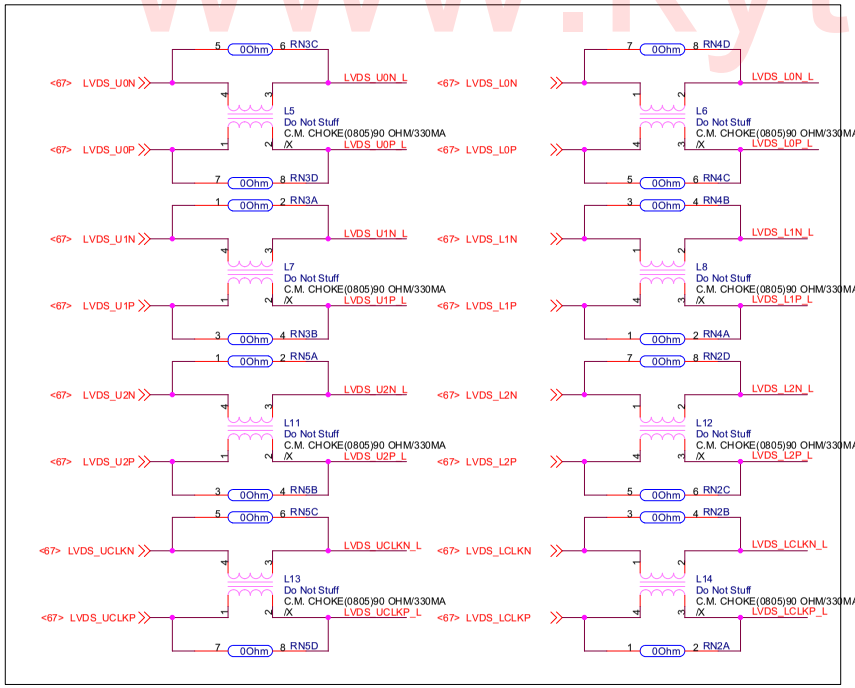


LCD Power Switch



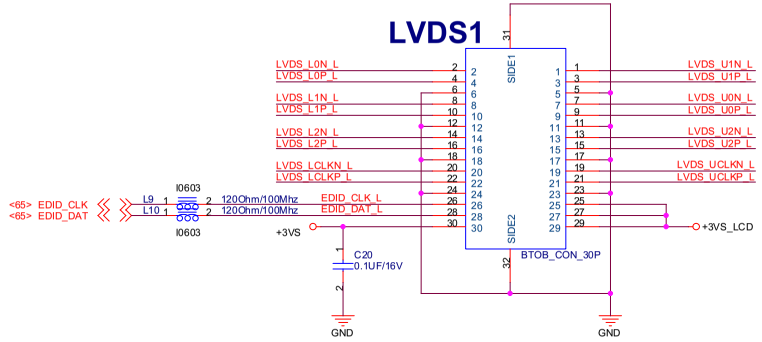


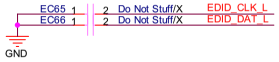
C14,C20 for EMI solution
<modify by PCB V1.1G>



LVDS Connector

12G17001030B





Cable Requirement:
Impedence: 100 ohm +/- 10%
Length Mismatch <= 10 mils
Twisted Pair(Not Ribbon)
Maximum Length <= 16"

888

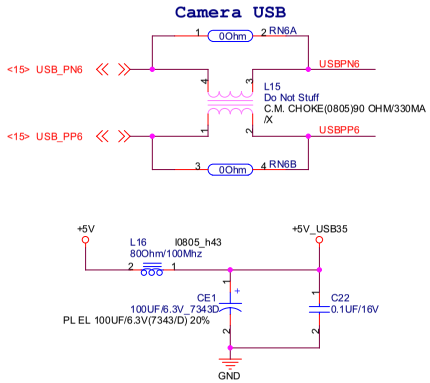
ASUSTek Computer INC.	Title : LVDS Connector	
	Engineer: Jack Hsu	
Size: Custom	Project Name: Z62Ha	Rev: 1.1
Date: Thursday, September 27, 2007	Sheet 21 of 70	

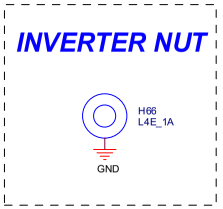
INVERTER Interface

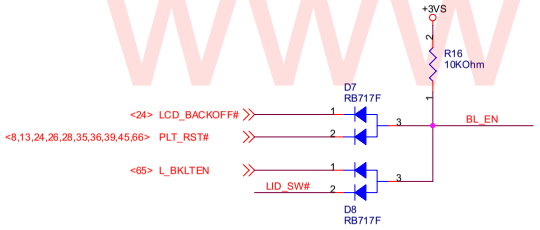
BIOS
LCD_BACKOFF#:When user push "Fn+F7" button, BIOS active this pin to turn off back light.

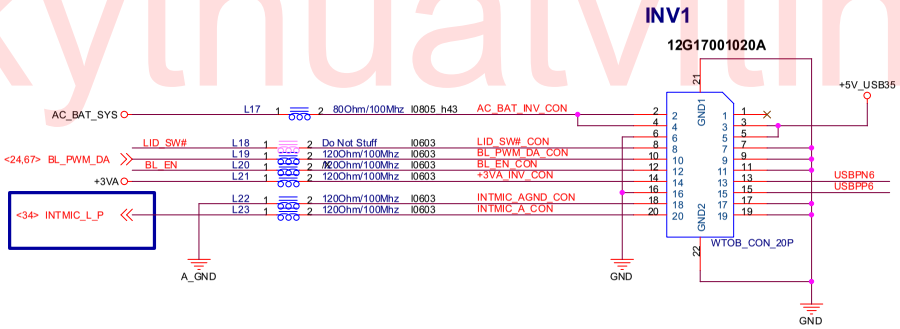
BIOS
BACK_ADJ: KBC output PWM signal (adjust pulse width) to adjust Back light.

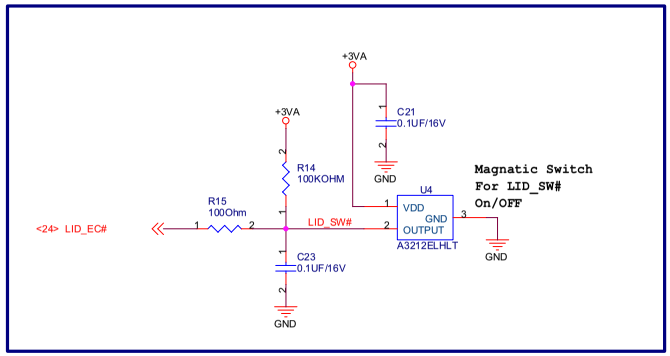
Inverter Board built in 14.1W LCD Panel

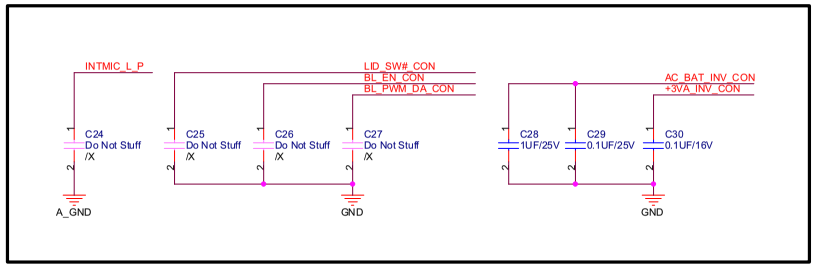












888

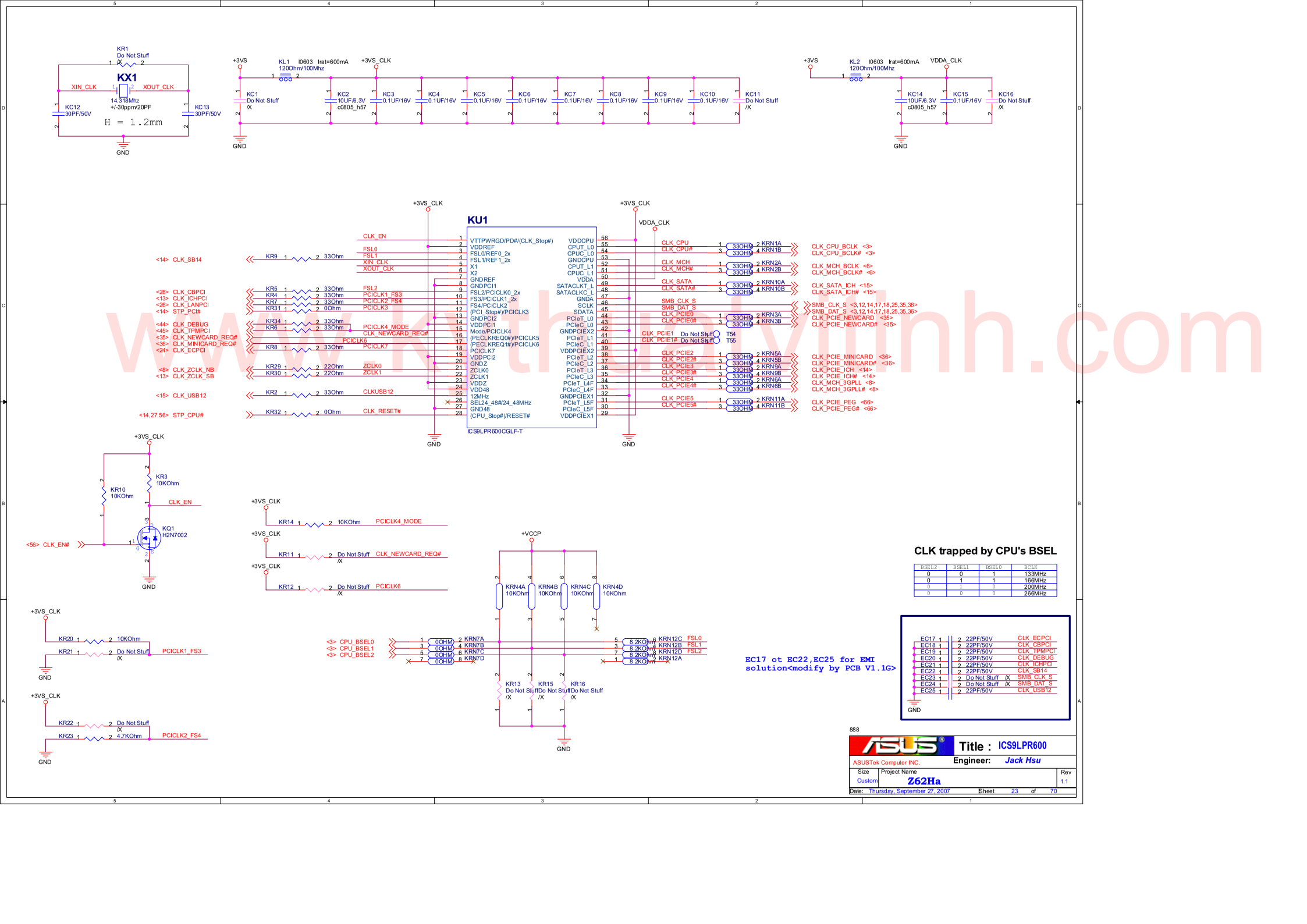
ASUSTek Computer INC.

Title : Inverter

Engineer: Jack Hsu

Size	Project Name	Rev
Custom	Z62Ha	1.1

Date: Thursday, September 27, 2007 Sheet 22 of 70



CLK trapped by CPU's BSEL

BSEL2	BSEL1	BSEL0	BCLK
0	0	1	133MHz
0	1	1	166MHz
0	1	0	200MHz
0	0	0	266MHz

888

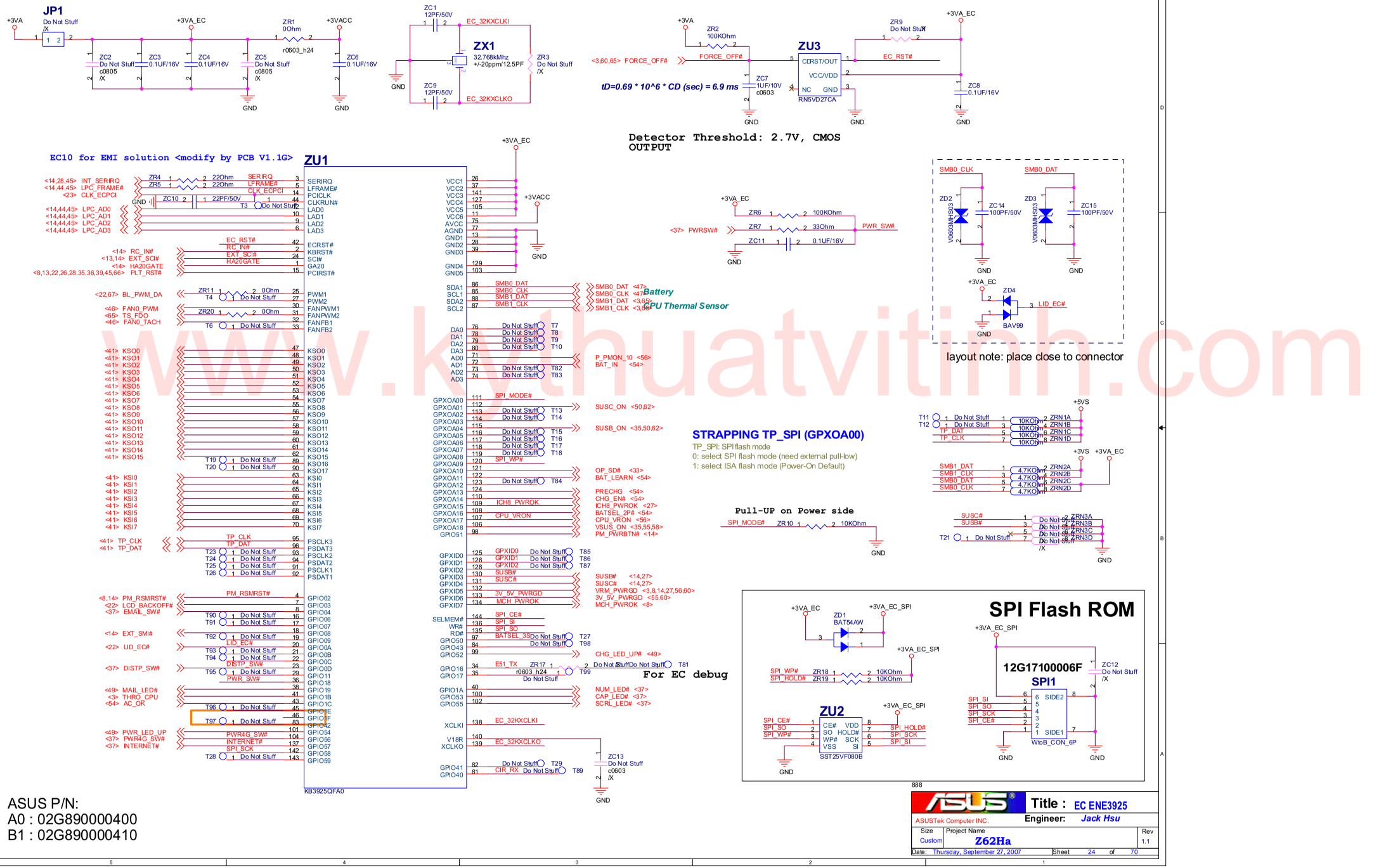
ASUSTek Computer INC.

Title : ICS9LPR600

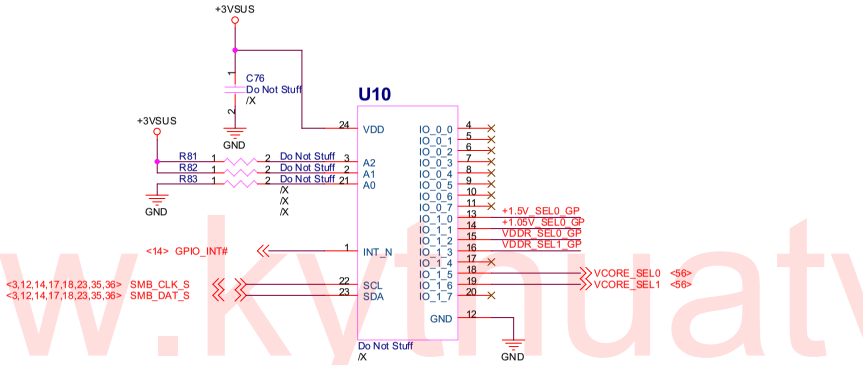
Engineer: Jack Hsu

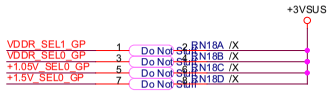
Size	Project Name	Rev
Custom	Z62Ha	1.1

Date: Thursday, September 27, 2007 Sheet 23 of 70



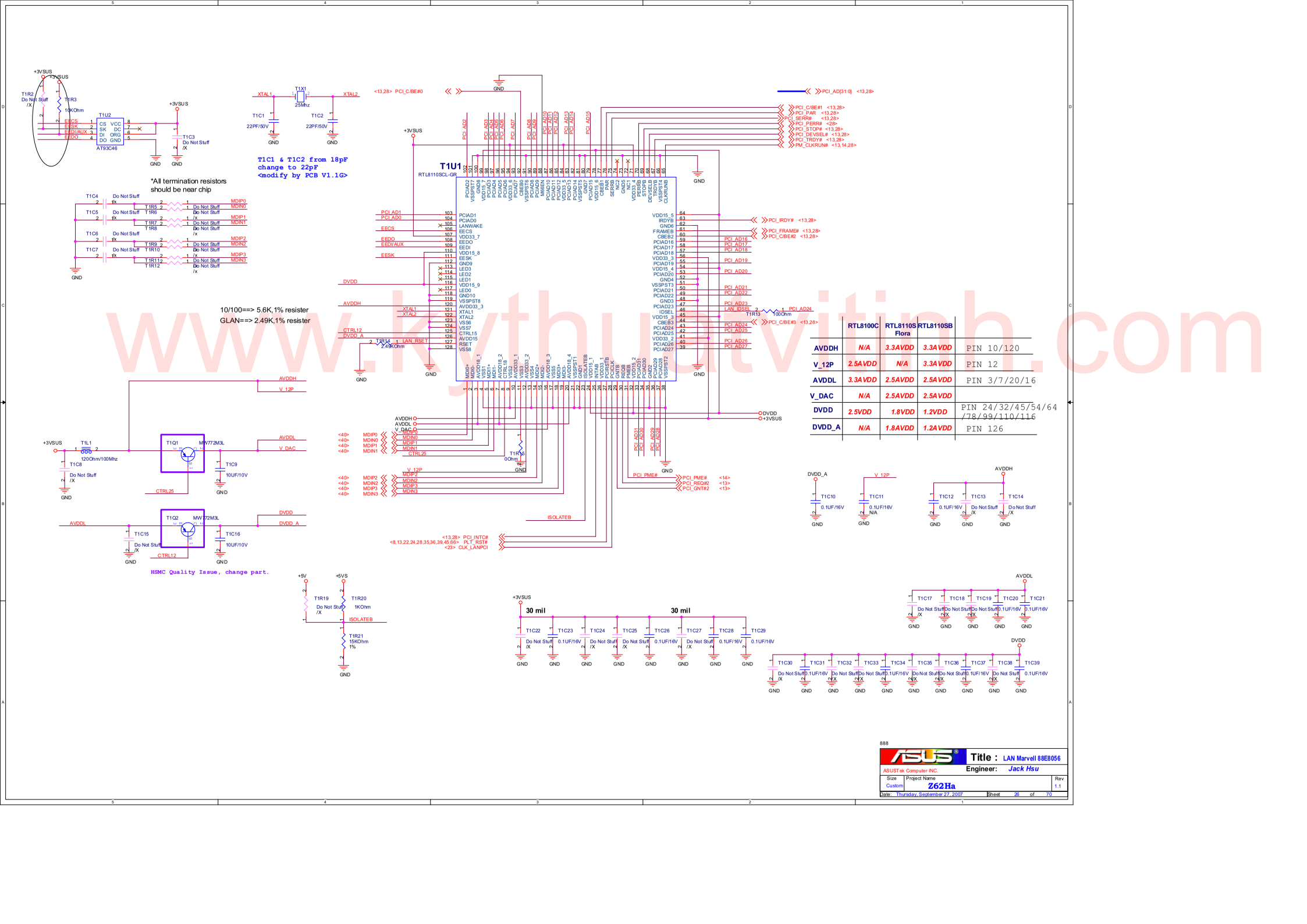
ASUS P/N:
A0 : 02G890000400
B1 : 02G890000410





888

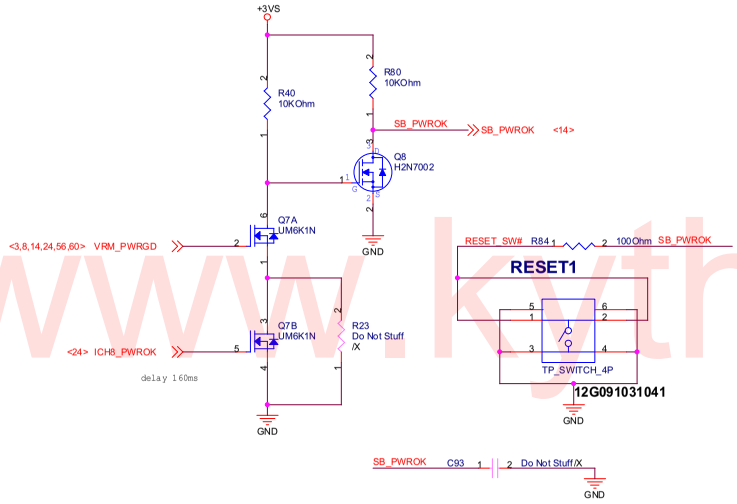
ASUSTek Computer INC.	Title : GPIO EXP.	
	Engineer: Jack Hsu	
Size: Custom	Project Name: Z62Ha	Rev: 1.1
Date: Thursday, September 27, 2007	Sheet 25 of 70	

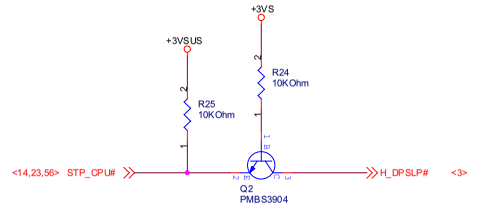


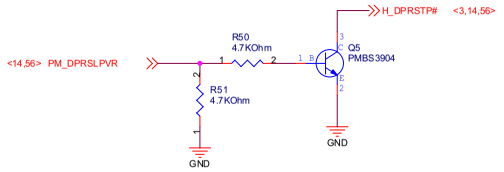
	RTL8100C	RTL8110S Flora	RTL8110SB	
AVDDH	N/A	3.3AVDD	3.3AVDD	PIN 10/120
V_12P	2.5AVDD	N/A	3.3AVDD	PIN 12
AVDDL	3.3AVDD	2.5AVDD	2.5AVDD	PIN 3/7/20/16
V_DAC	N/A	2.5AVDD	2.5AVDD	
DVDD	2.5VDD	1.8VDD	1.2VDD	PIN 24/32/45/54/64 /78/99/110/116
DVDD_A	N/A	1.8AVDD	1.2AVDD	PIN 126

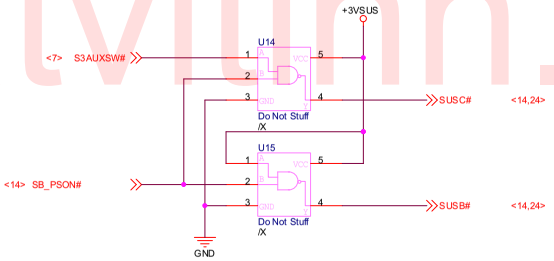
888

ASUSTek Computer INC.	Title : LAN Marvell 88E8056	
	Engineer: Jack Hsu	
Size: Custom	Project Name: Z62Ha	Rev: 1.1
Date: Thursday, September 27, 2007	Sheet 26 of 70	









Sleep & Wake up

	S0		S3		S0
S3AUXSW#	1	0	0	0	1
SB_PSON#	0	0	1	0	0
SUSC#(S4)	1	1	1	1	1
SUSB#(S3)	1	1	0	1	1
Power Status	Main	Main	System, S4	Main	Main

Power ON & OFF:

	S5 →	S0 →	S5
S3AUXSW#	1	1	1
SB_PSON#	1	0	1
SUSC#(S4)	0	1	0
SUSB#(S3)	0	1	0
Power Status	System	Main	System

888

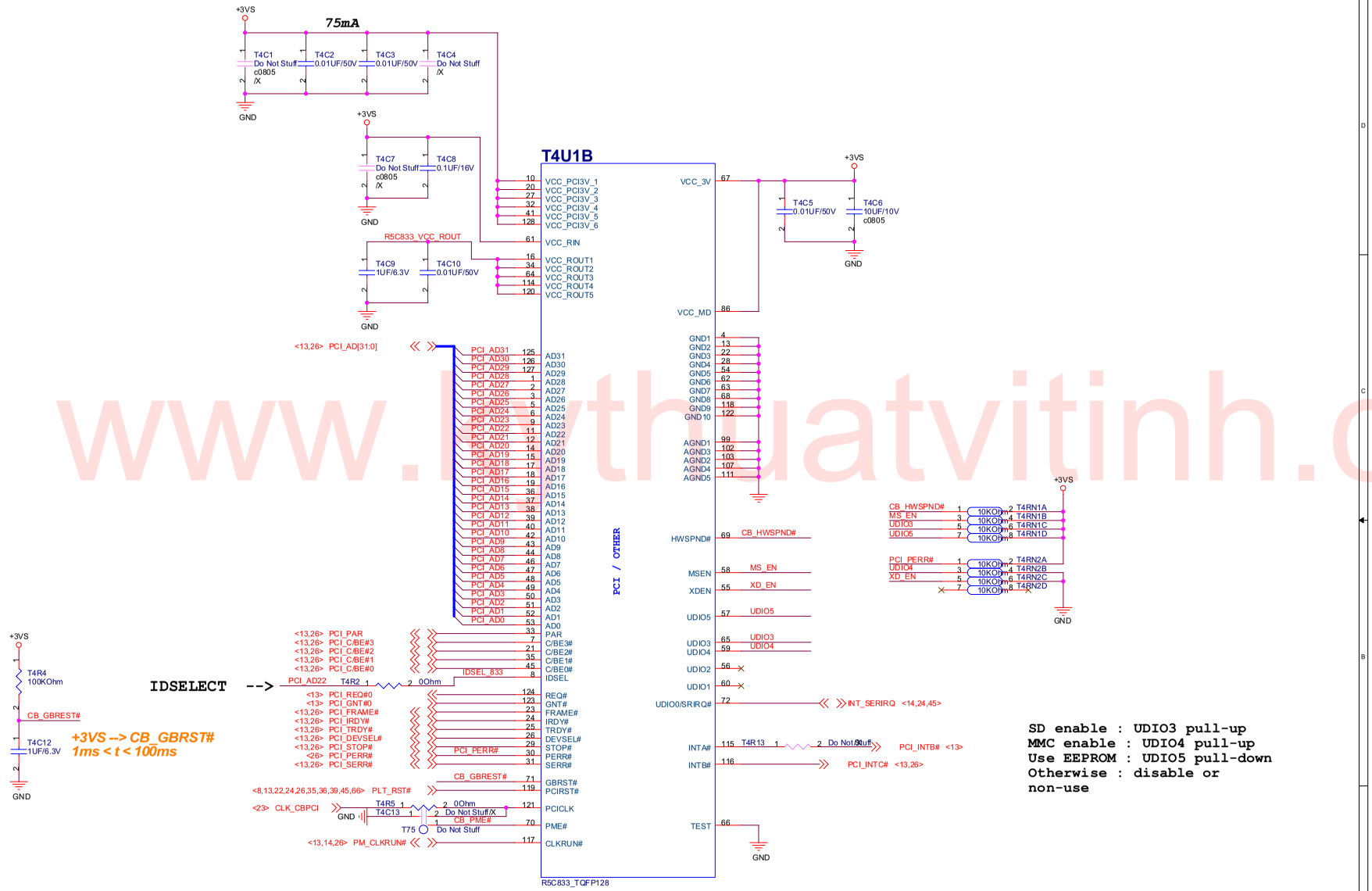
ASUSTek Computer INC.

Title : Other

Engineer: Jack Hsu

Size	Project Name	Rev
Custom	Z62Ha	1.1

Date: Thursday, September 27, 2007 Sheet 27 of 70



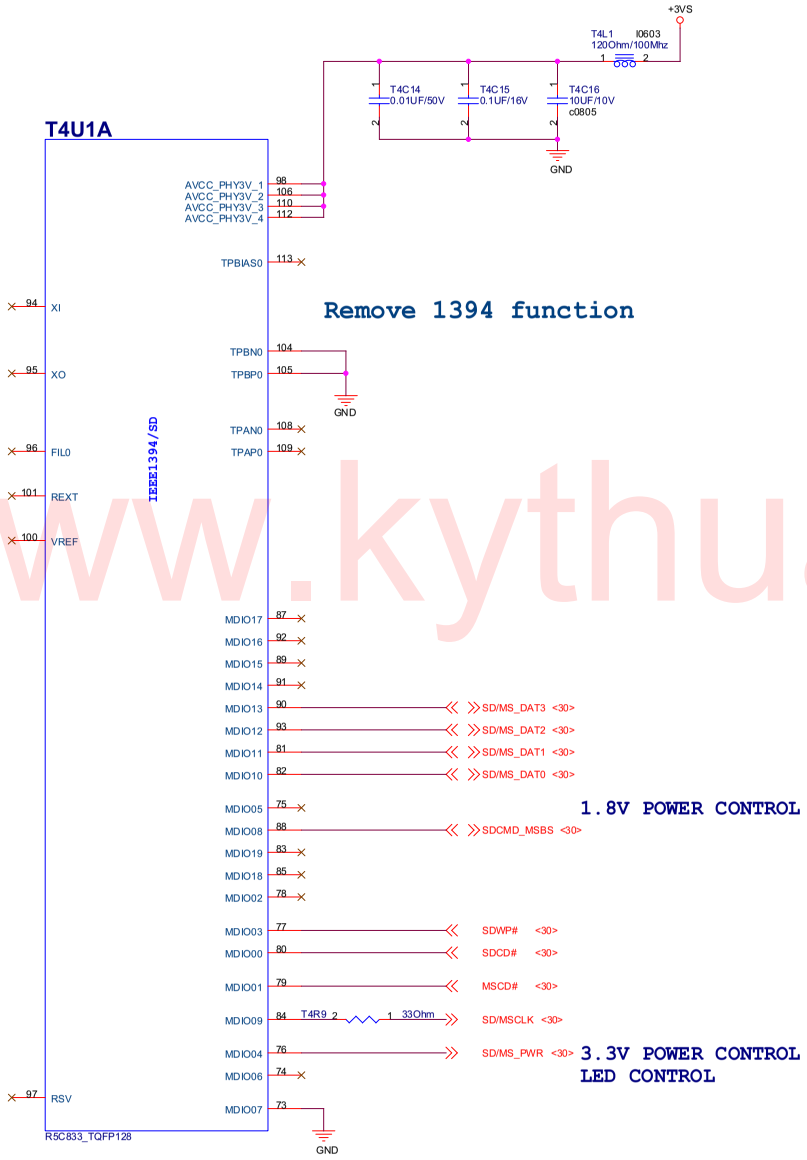
888

Title : R5C833_PCI

ASUSTek Computer INC. Engineer: Jack Hsu

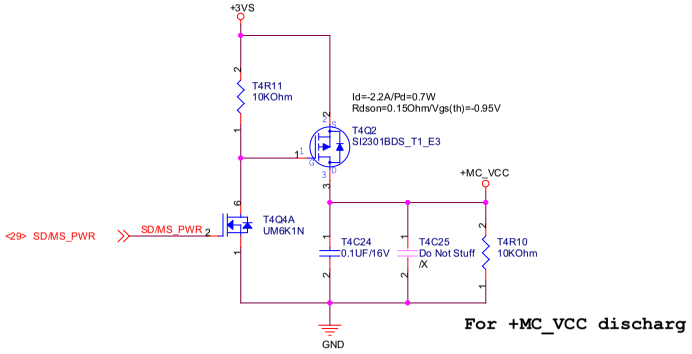
Size	Project Name	Rev
Custom	Z62Ha	1.1

Date: Thursday, September 27, 2007 Sheet 28 of 70



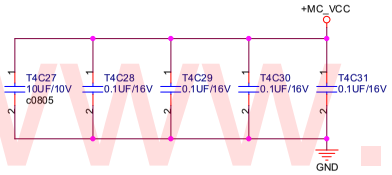
888

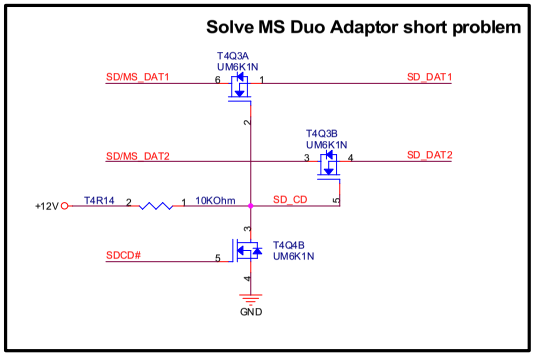
ASUSTek Computer INC.	Title : R5C833_1394/SD	
	Engineer: Jack Hsu	
Size: Custom	Project Name: Z62Ha	Rev: 1.1
Date: Thursday, September 27, 2007	Sheet 29 of 70	

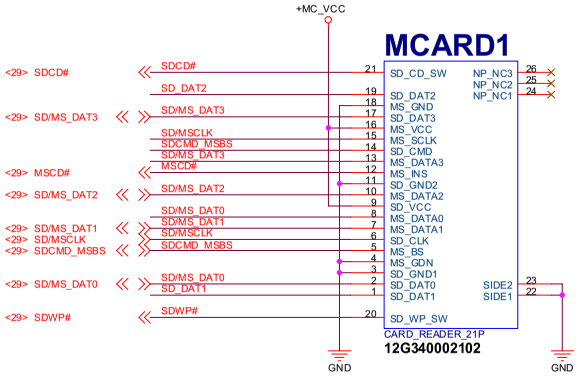


For +MC_VCC discharg

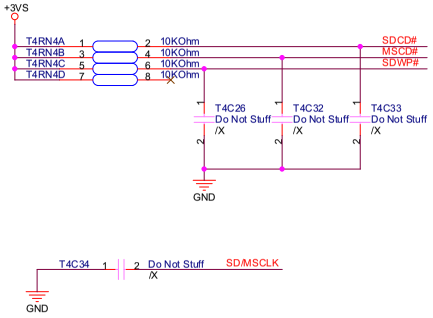
Card Reader Power Switcher





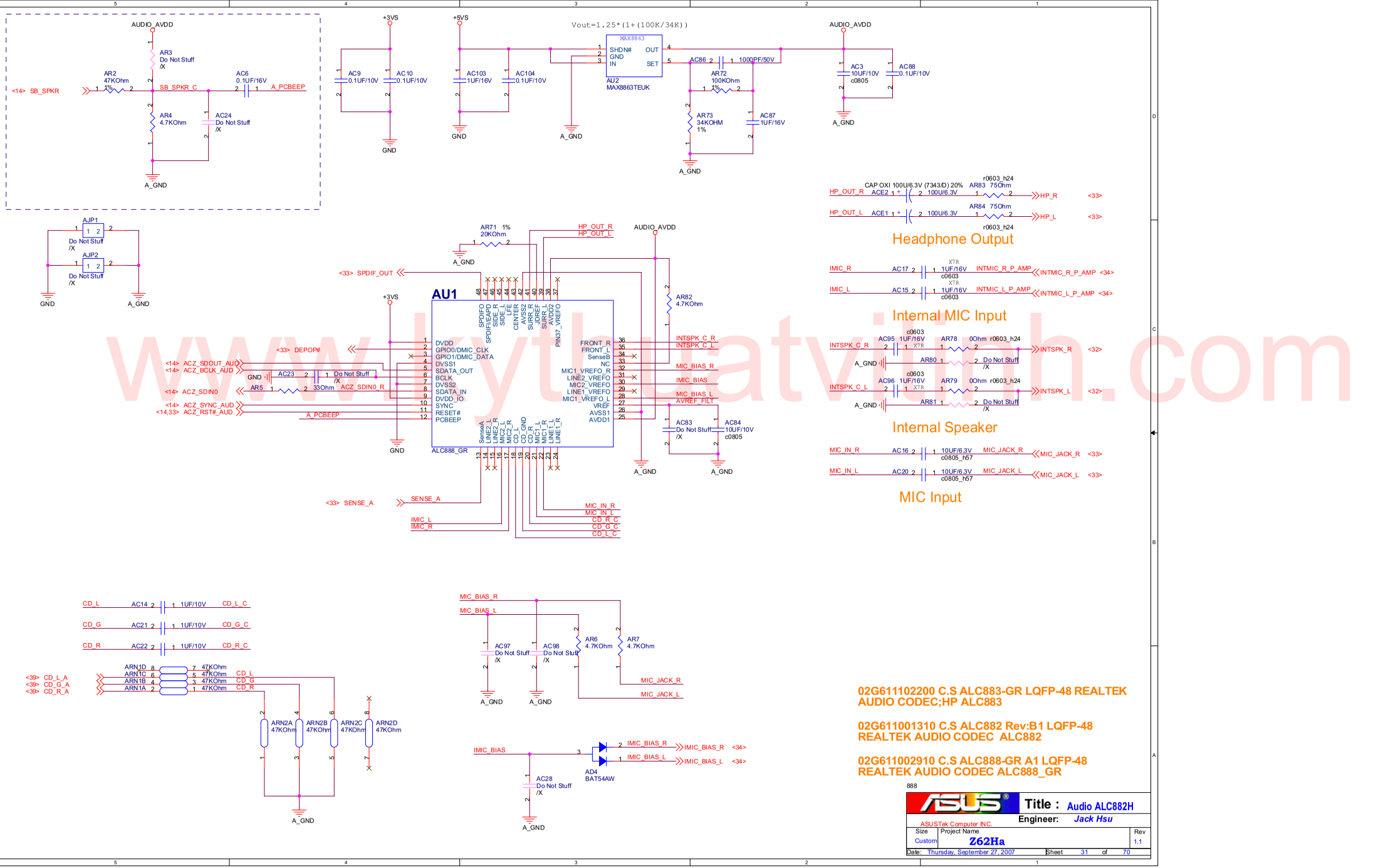


3 in 1 Card Reader



888

ASUSTek Computer INC.	Title: 3 in 1 Card Reader	
	Engineer: Jack Hsu	
Size: Custom	Project Name: Z62Ha	Rev: 1.1
Date: Thursday, September 27, 2007	Sheet 30 of 70	



02G611102200 C.S ALC883-GR LQFP-48 REALTEK AUDIO CODEC;HP ALC883

02G611001310 C.S ALC882 Rev:B1 LQFP-48 REALTEK AUDIO CODEC ALC882

02G611002910 C.S ALC888-GR A1 LQFP-48 REALTEK AUDIO CODEC ALC888_GR

888

Title : Audio ALC882H

Engineer: Jack Hsu

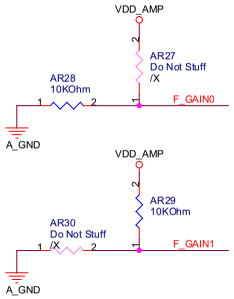
ASUSTek Computer INC.

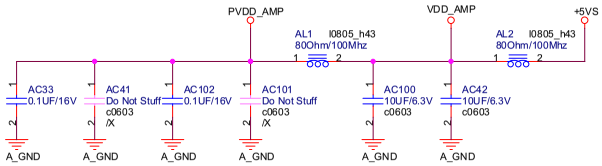
Size	Project Name	Rev
Custom	Z62Ha	1.1

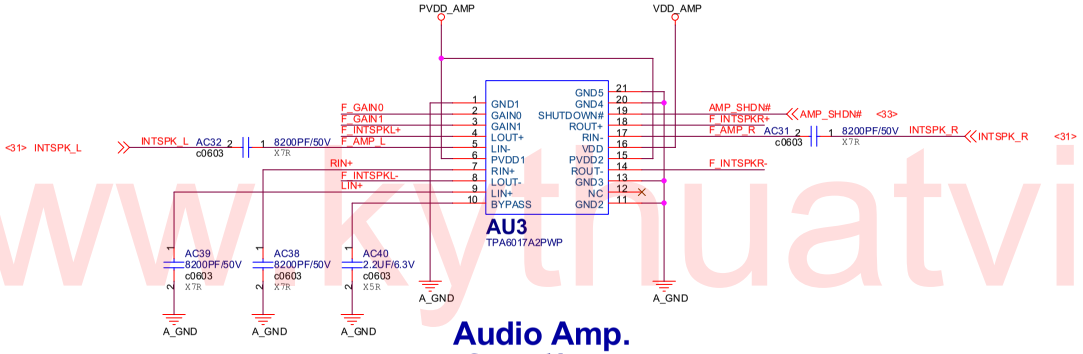
Date: Thursday, September 27, 2007 Sheet 31 of 70

GAIN Control

GAIN0	GAIN1	
0	0	6db
0	1	10db
1	0	15.6db
1	1	21.6db

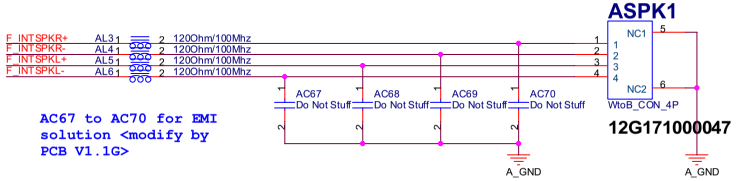






Audio Amp.
fc = 1kHz

12G171000047
Internal Speaker Connector



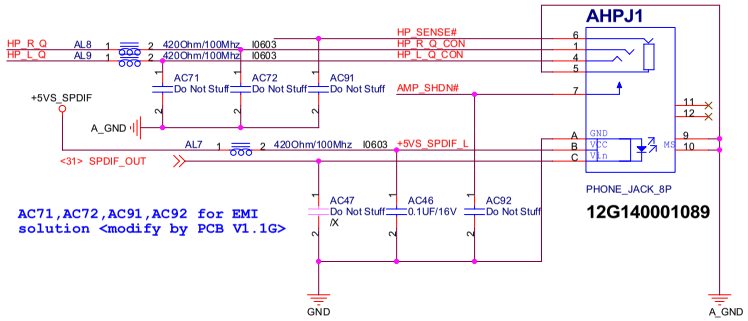
AC67 to AC70 for EMI solution <modify by PCB V1.1G>

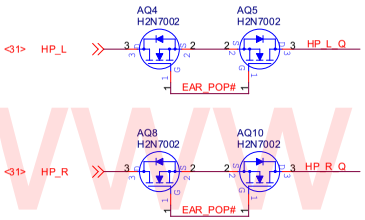
12G171000047

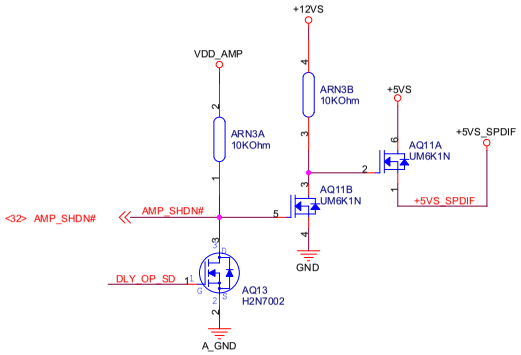
888

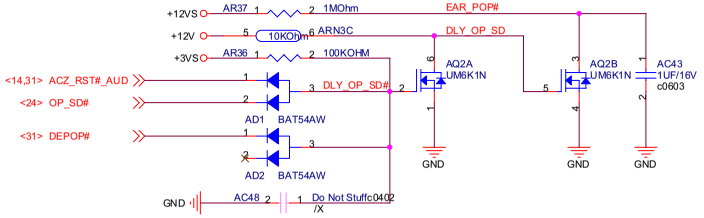
ASUSTek Computer INC.	Title : Audio Amp. & Conn.	
	Engineer: Jack Hsu	
Size: Custom	Project Name: Z62Ha	Rev: 1.1
Date: Thursday, September 27, 2007	Sheet 32 of 70	

Headphone & S/PDIF Jack

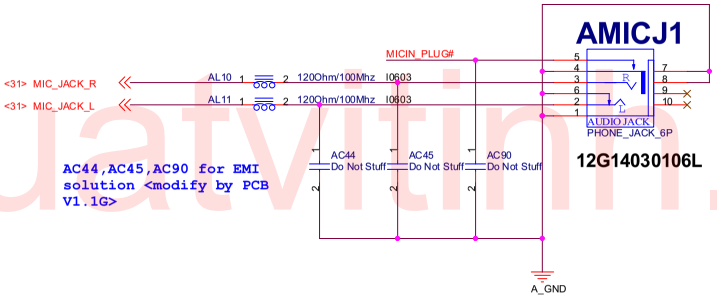








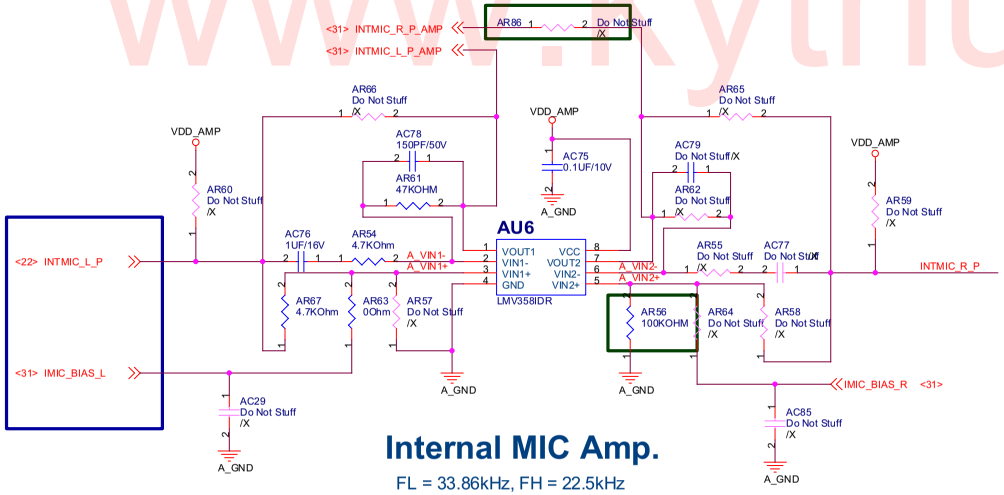
Microphone-In Jack



Jack Plug-in Detection

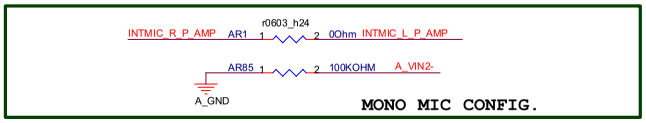
888

ASUSTek Computer INC.	Title : Audio JACK	
	Engineer: Jack Hsu	
Size: Custom	Project Name: Z62Ha	Rev: 1.1
Date: Thursday, September 27, 2007	Sheet 33 of 70	



Internal MIC Amp.

FL = 33.86kHz, FH = 22.5kHz



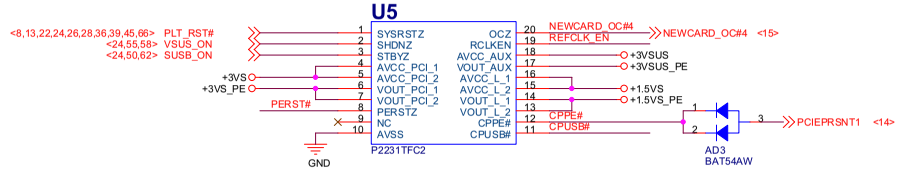
888

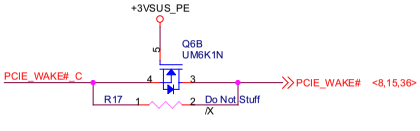
ASUSTek Computer INC.	Title : MIC PreAmp.	
	Engineer: Jack Hsu	
Size: Custom	Project Name: Z62Ha	Rev: 1.1
Date: Thursday, September 27, 2007	Sheet 34 of 70	

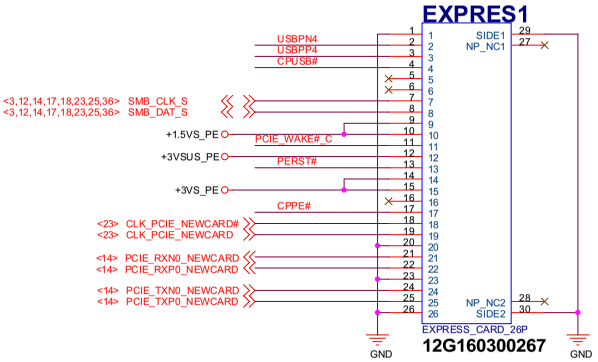
06G030057011 POWER SW. P2231TFC1 TSSOP-20 ENE P2231TFC1

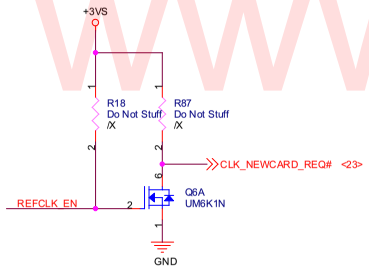
06G030057012 POWER SW. P2231TFC2 TSSOP-20 ENE P2231TFC2

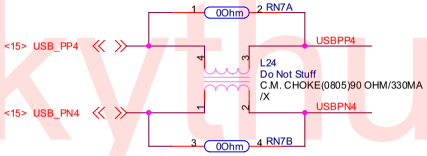
NewCard Header





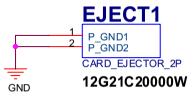


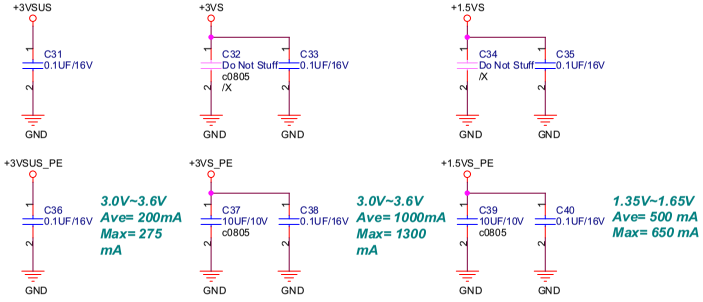




ExpressCard Standard 1.0:
Change Pin7 from RESERVED to SMBCLK
Change Pin8 from SMBCLK to SMBDATA
Change Pin9 from SMBDATA to +1.5V

NewCard Ejector





888

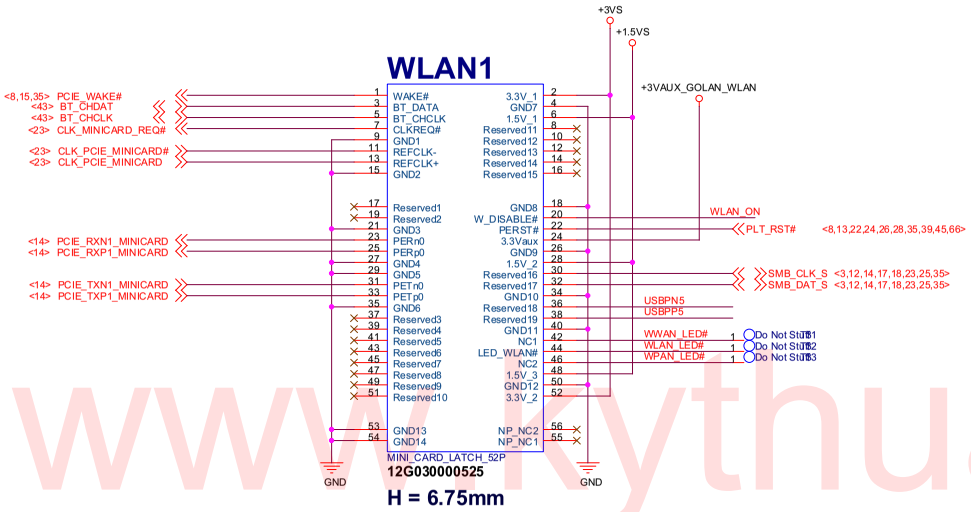
ASUSTek Computer INC.

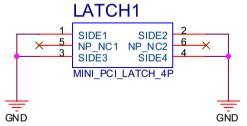
Title : NEWCARD

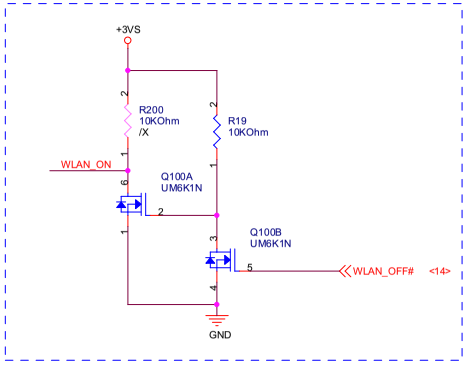
Engineer: Jack Hsu

Size	Project Name	Rev
Custom	Z62Ha	1.1

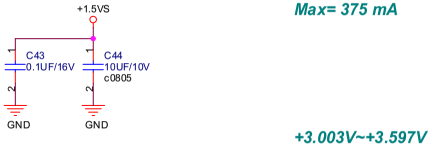
Date: Thursday, September 27, 2007 Sheet 35 of 70



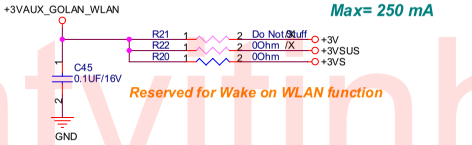




+3.003V~+3.597V
Max= 750 mA

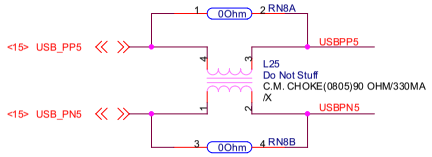


+1.425V~+1.575V
Max= 375 mA



+3.003V~+3.597V
Max= 250 mA

Reserved for Wake on WLAN function



888

ASUSTek Computer INC.

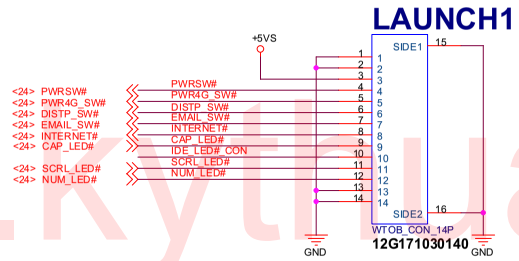
Title : MINICARD - WLAN

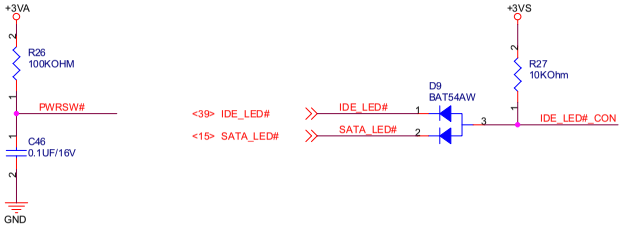
Engineer: Jack Hsu

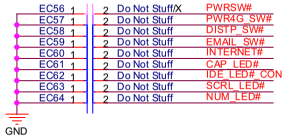
Size	Project Name	Rev
Custom	Z62Ha	1.1

Date: Thursday, September 27, 2007 Sheet 36 of 70

LAUNCH BOARD Connector



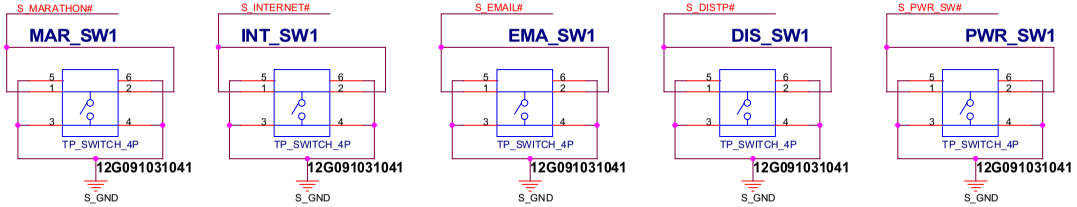


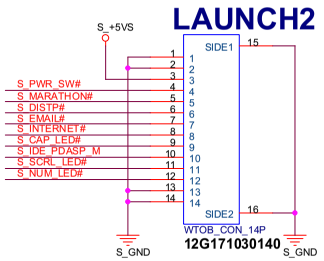


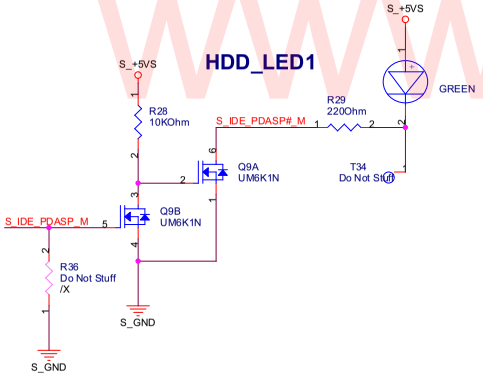
EC57 to EC64 for EMI solution
<modify by PCB V1.1G>

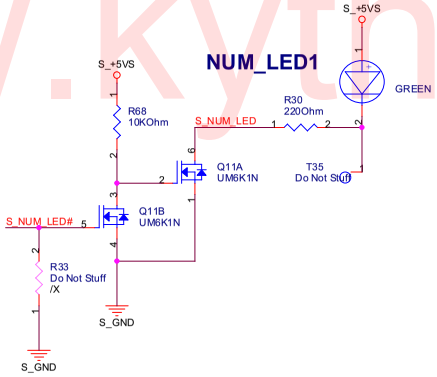
888

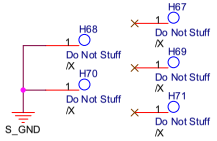
ASUSTek Computer INC.	Title : LAUNCH_B Conn.	
	Engineer: Jack Hsu	
Size: Custom	Project Name: Z62Ha	Rev: 1.1
Date: Thursday, September 27, 2007	Sheet 37 of 70	

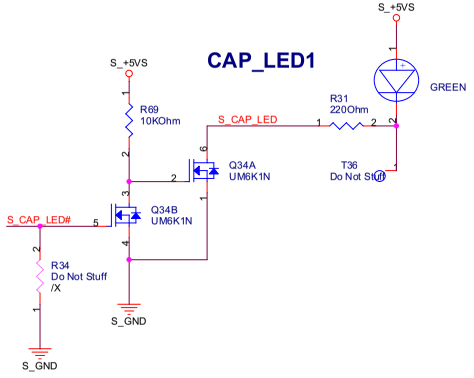


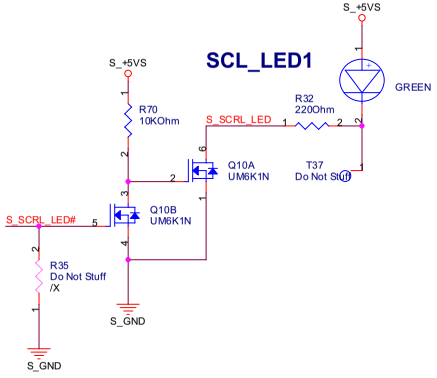












888

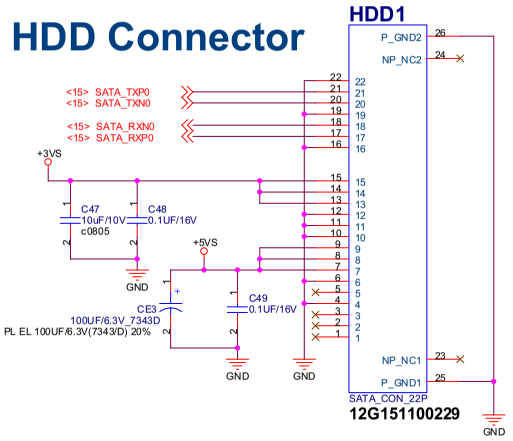
Title : LAUNCH BOARD

ASUSTek Computer INC. Engineer: Jack Hsu

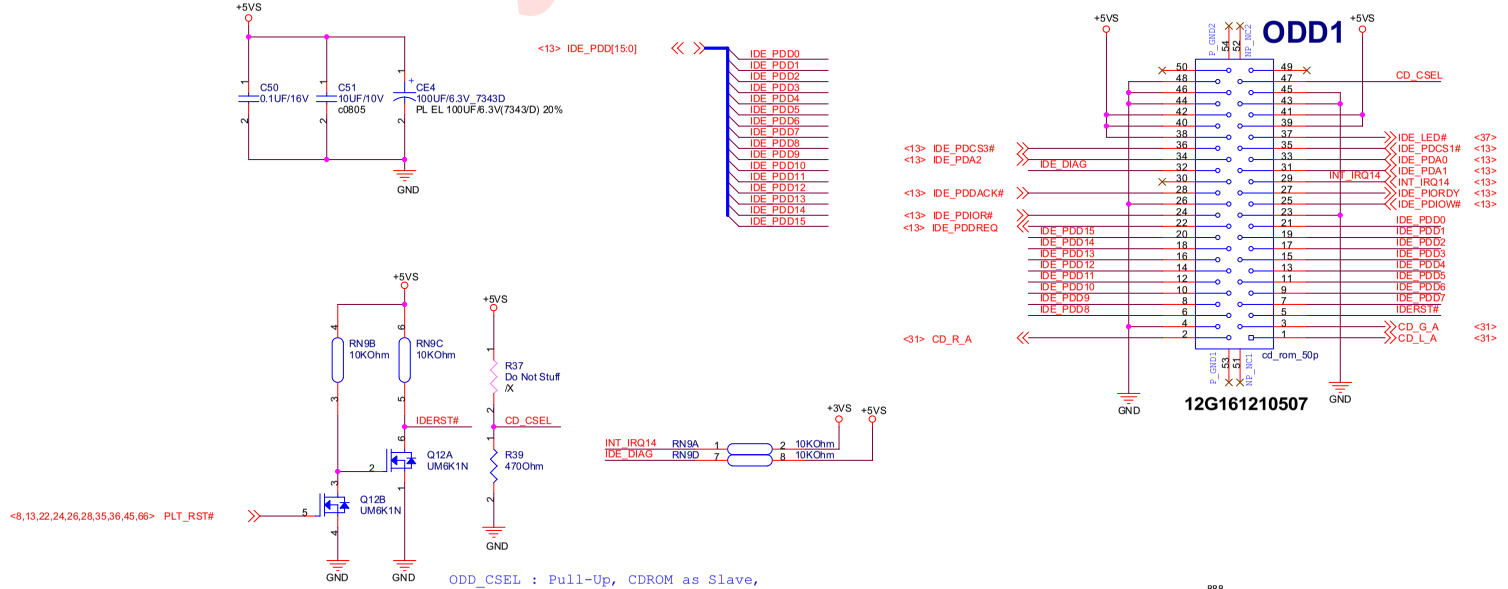
Size	Project Name	Rev
Custom	Z62Ha	1.1

Date: Thursday, September 27, 2007 Sheet 38 of 70

SATA HDD Connector



ODD Connector

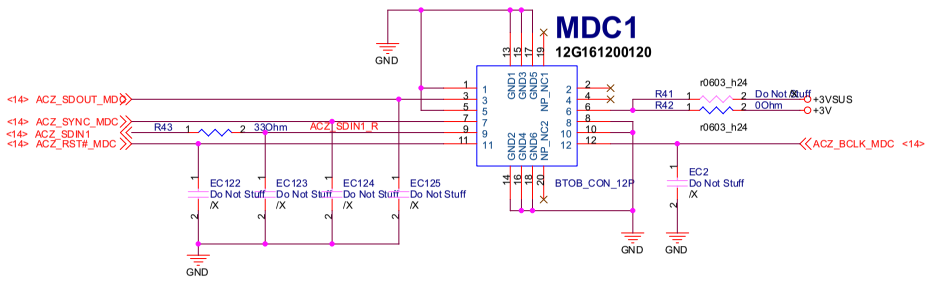


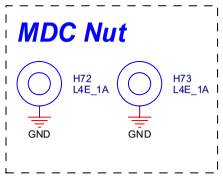
ODD_CSEL : Pull-Up, CDROM as Slave,
Pull-Down, CDROM as Master

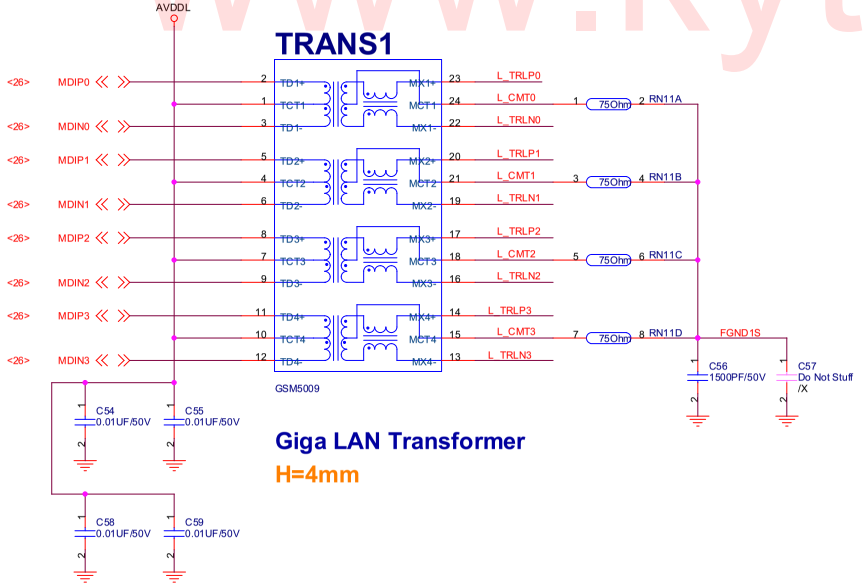
888

ASUSTek Computer INC.	Title : HDD & ODD	
	Engineer: Jack Hsu	
Size: Custom	Project Name: Z62Ha	Rev: 1.1
Date: Thursday, September 27, 2007	Sheet 39 of 70	

MDC Connector

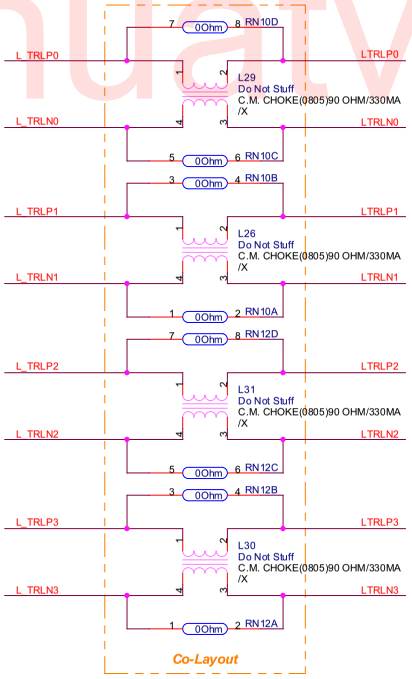


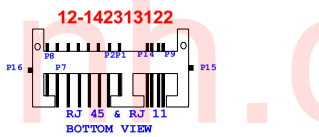


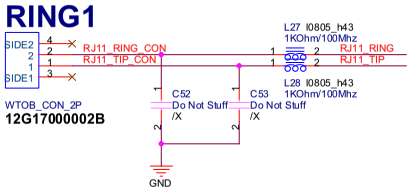


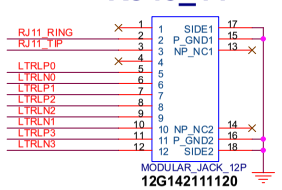
Giga LAN Transformer

H=4mm









888

ASUSTek Computer INC.

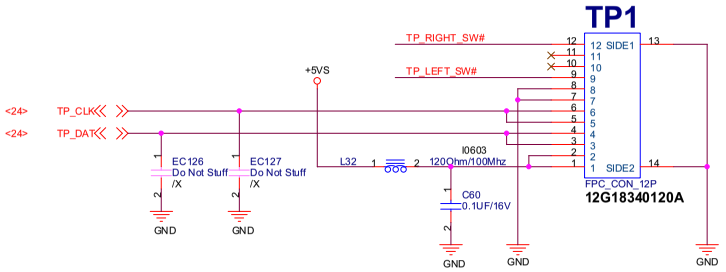
Title : MDC_RJ45_RJ11

Engineer: Jack Hsu

Size	Project Name	Rev
Custom	Z62Ha	1.1

Date: Thursday, September 27, 2007 Sheet 40 of 70

TouchPad Connector

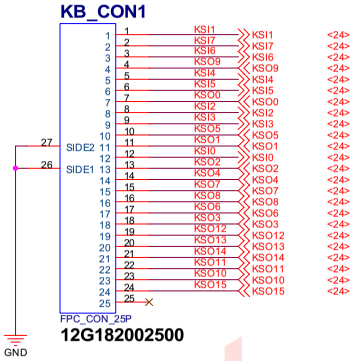


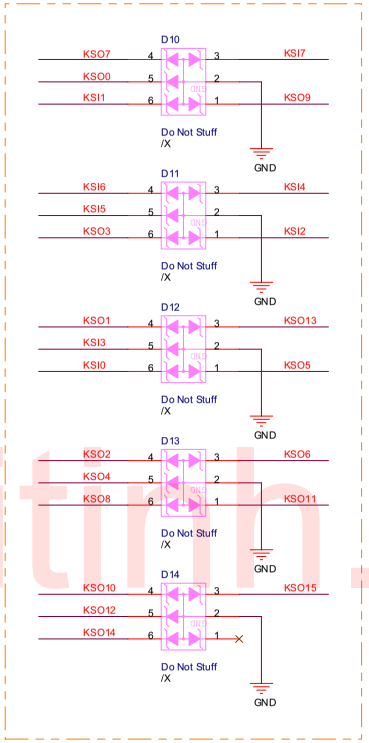
Touch pad Definition

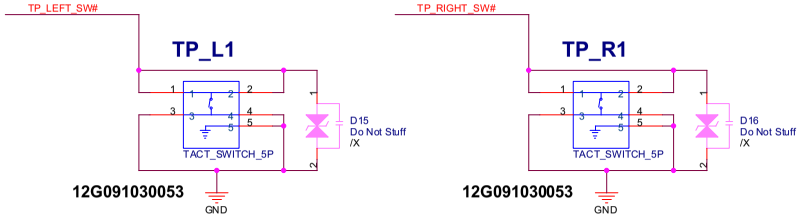
1	2	3	4	5	6	7	8	9	10	11	12
R	x	x	L	GND	GND	CLK	CLK	DAT	DAT	VDD	VDD

Z62F: pin1 reversal

Keyboard Connector







TOUCH PAD SWITCH

888

ASUSTek Computer INC.

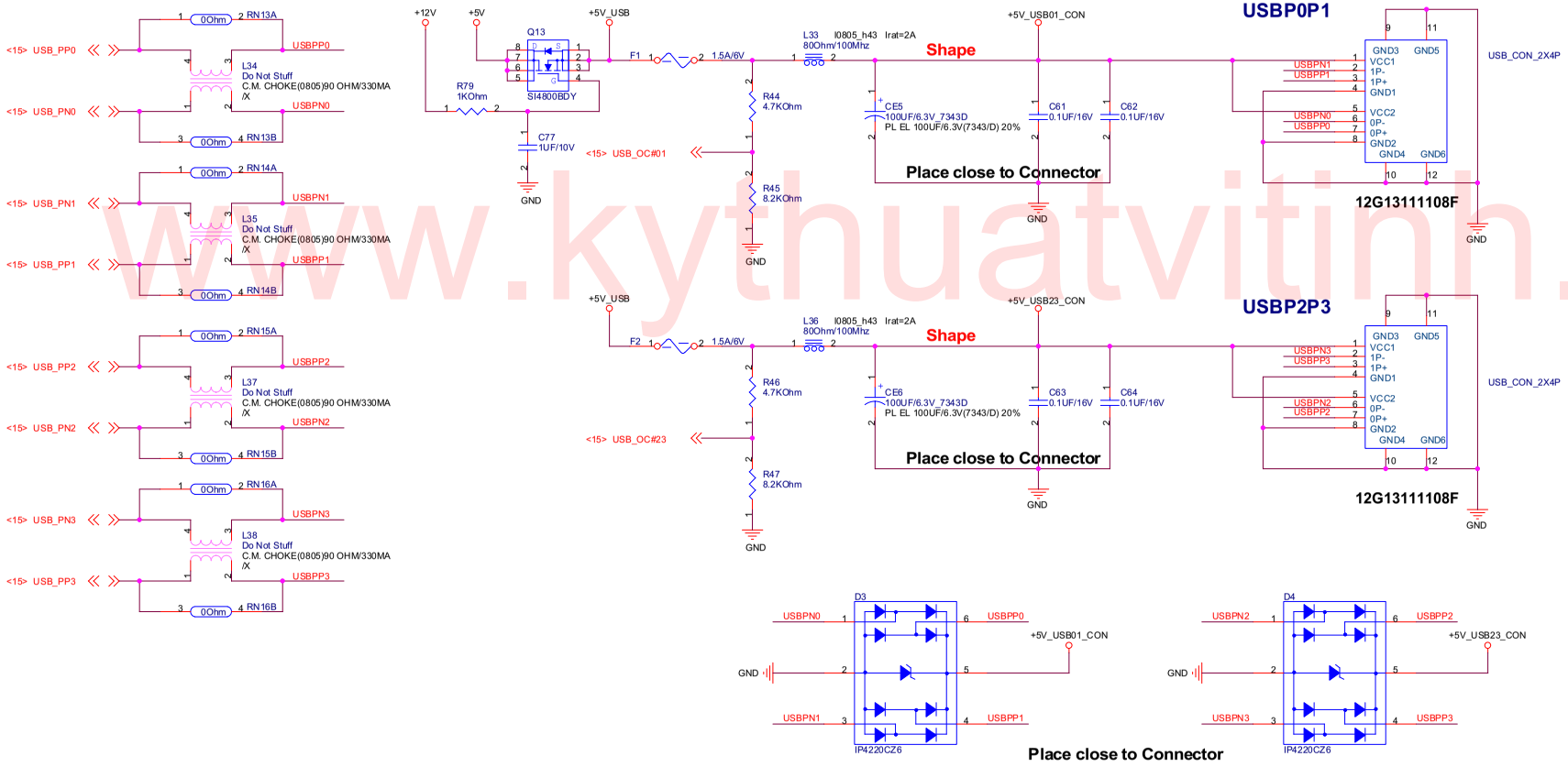
Title : TP / KB Conn.

Engineer: Jack Hsu

Size	Project Name	Rev
Custom	Z62Ha	1.1

Date: Thursday, September 27, 2007 Sheet 41 of 70

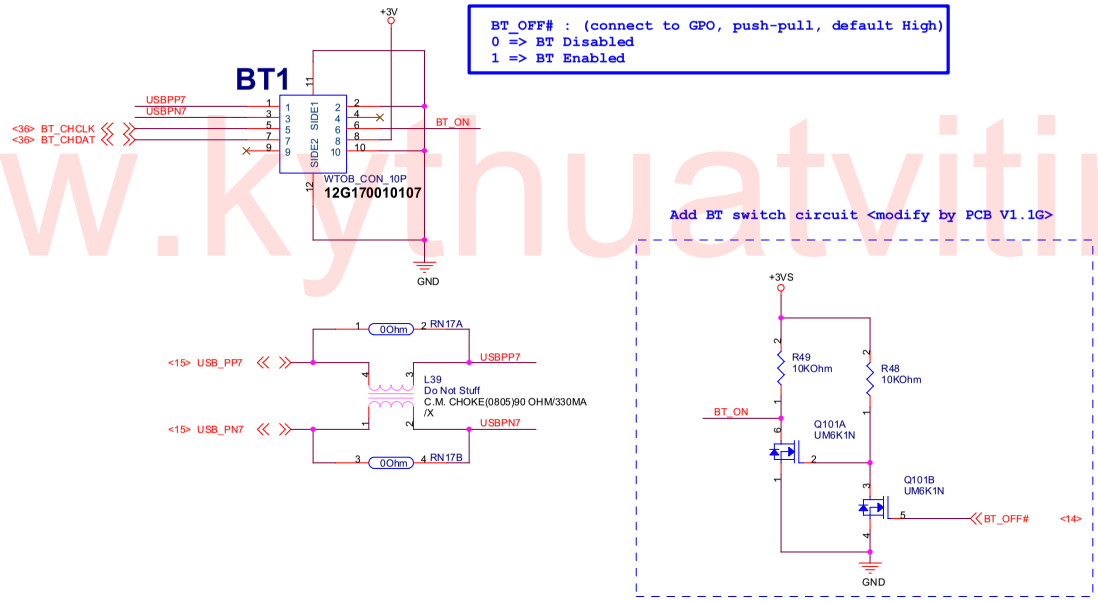
USB Power & OC Alert



888

ASUSTek Computer INC.	Title : USB Connector	
	Engineer: Jack Hsu	
Size: Custom	Project Name: Z62Ha	Rev: 1.1
Date: Thursday, September 27, 2007	Sheet 42 of 70	

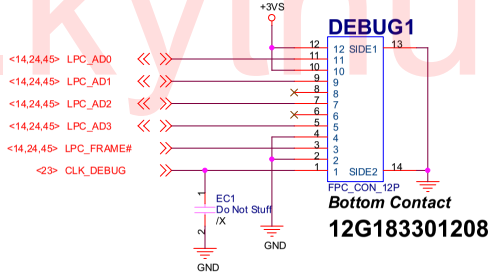
Bluetooth Connector



888

ASUSTek Computer INC.	Title : Bluetooth Conn.	
	Engineer: Jack Hsu	
Size: Custom	Project Name: Z62Ha	Rev: 1.1
Date: Thursday, September 27, 2007	Sheet 43 of 70	

Debug Connector



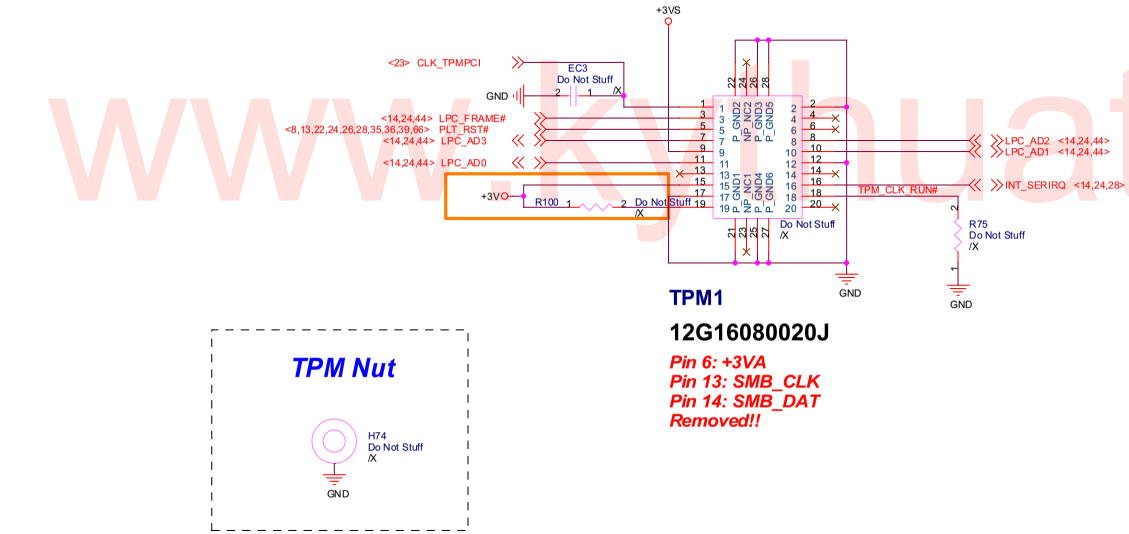
Bottom Contact

12G183301208

888

ASUSTek Computer INC.	Title : Debug Port	
	Engineer: *Jack Hsu*	
Size: Custom	Project Name: Z62Ha	Rev: 1.1
Date: Thursday, September 27, 2007	Sheet 44 of 70	

TPM Connector



TPM1

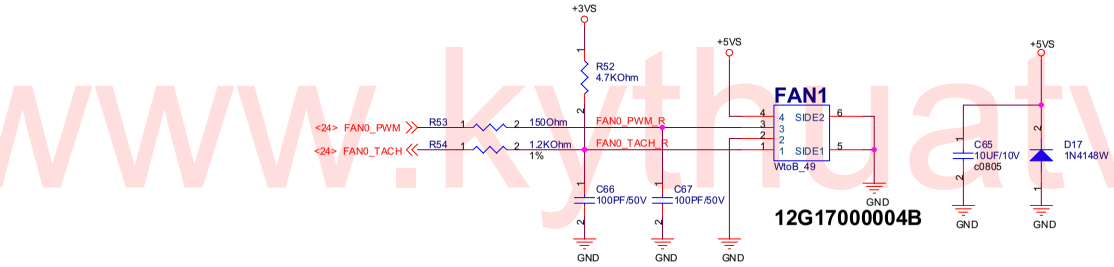
12G16080020J

Pin 6: +3VA
Pin 13: SMB_CLK
Pin 14: SMB_DAT
Removed!!

TPM Nut

888

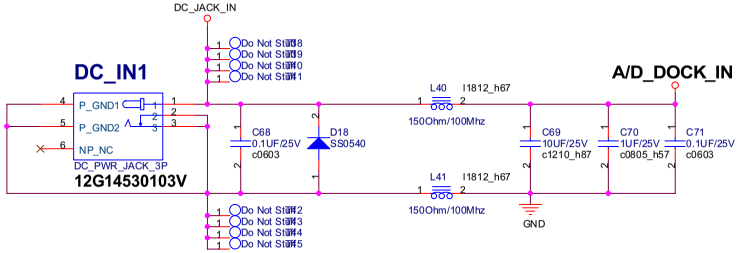
ASUSTek Computer INC.	Title : TPM Connector	
	Engineer: Jack Hsu	
Size: Custom	Project Name: Z62Ha	Rev: 1.1
Date: Thursday, September 27, 2007	Sheet 45 of 70	

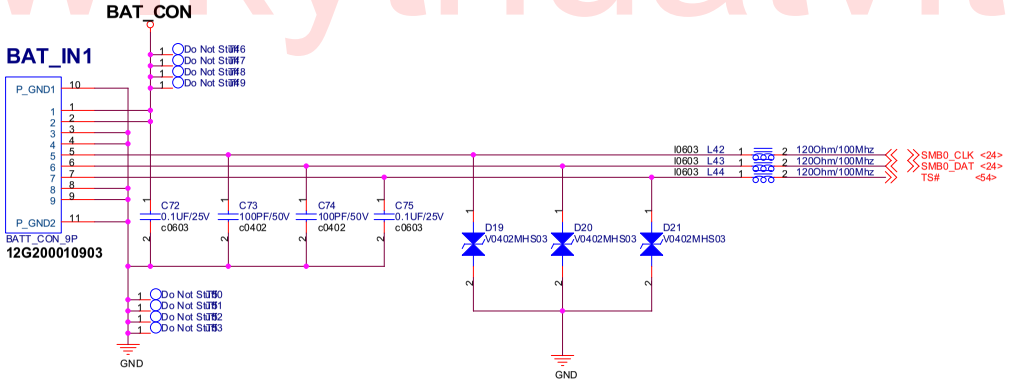


SYSTEM Fan Connector

888

ASUSTek Computer INC.	Title : Fan Connector	
	Engineer: Jack Hsu	
Size: Custom	Project Name: Z62Ha	Rev: 1.1
Date: Thursday, September 27, 2007	Sheet 46 of 70	





888

ASUSTek Computer INC.	Title : DC-IN & BAT-IN	
	Engineer: Jack Hsu	
Size: Custom	Project Name: Z62Ha	Rev: 1.1
Date: Thursday, September 27, 2007	Sheet 47 of 70	

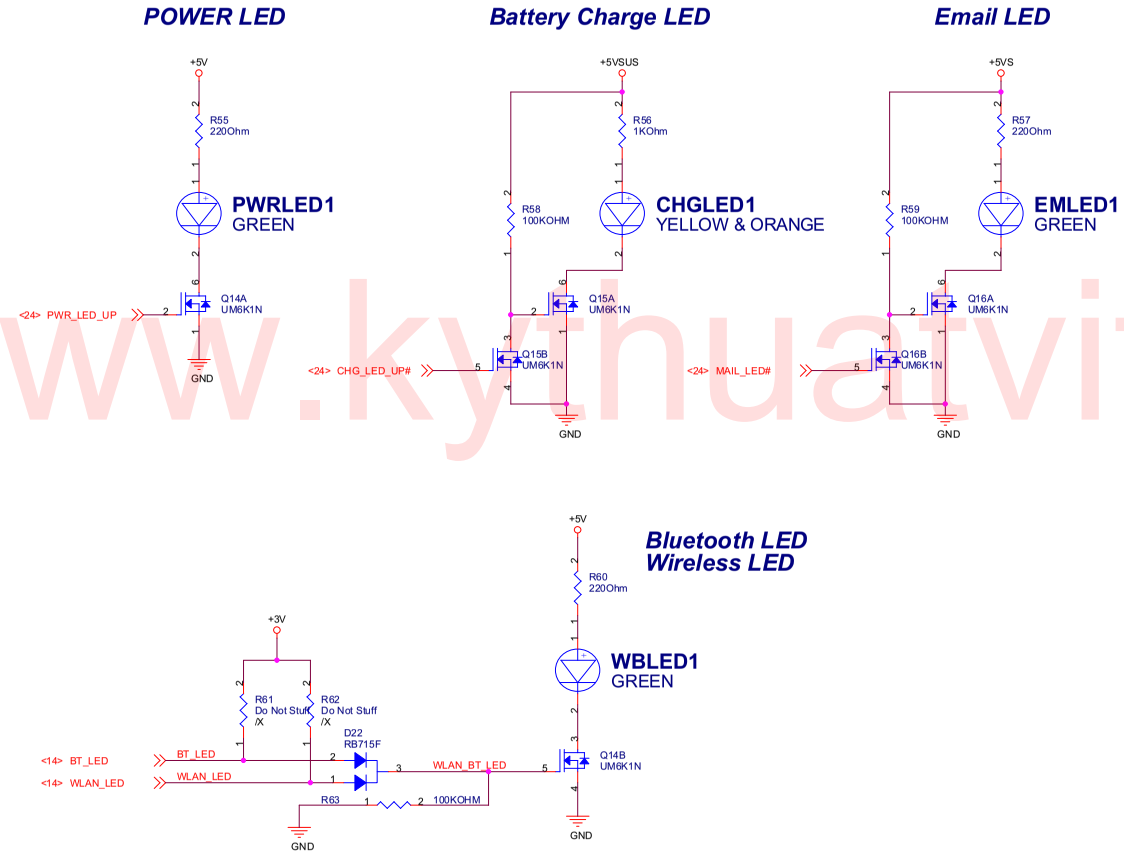
888

Title : BLANK

ASUSTek Computer INC. Engineer: Jack Hsu

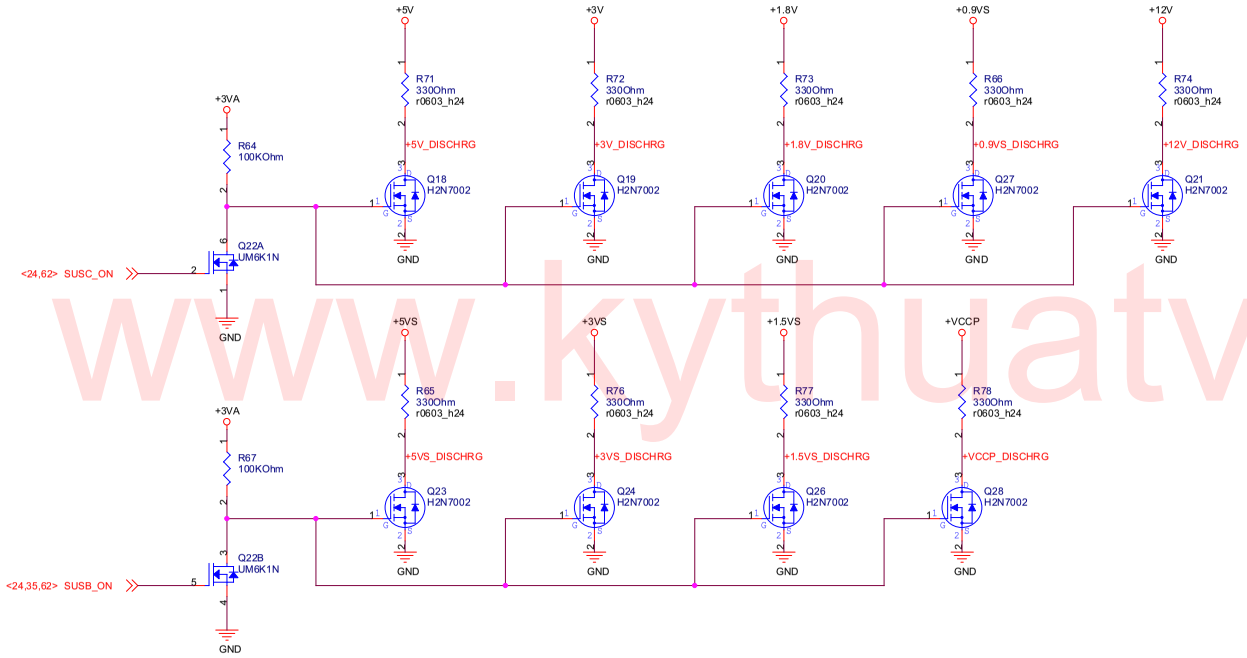
Size	Project Name	Rev
Custom	Z62Ha	1.1

Date: Thursday, September 27, 2007 Sheet 48 of 70



888

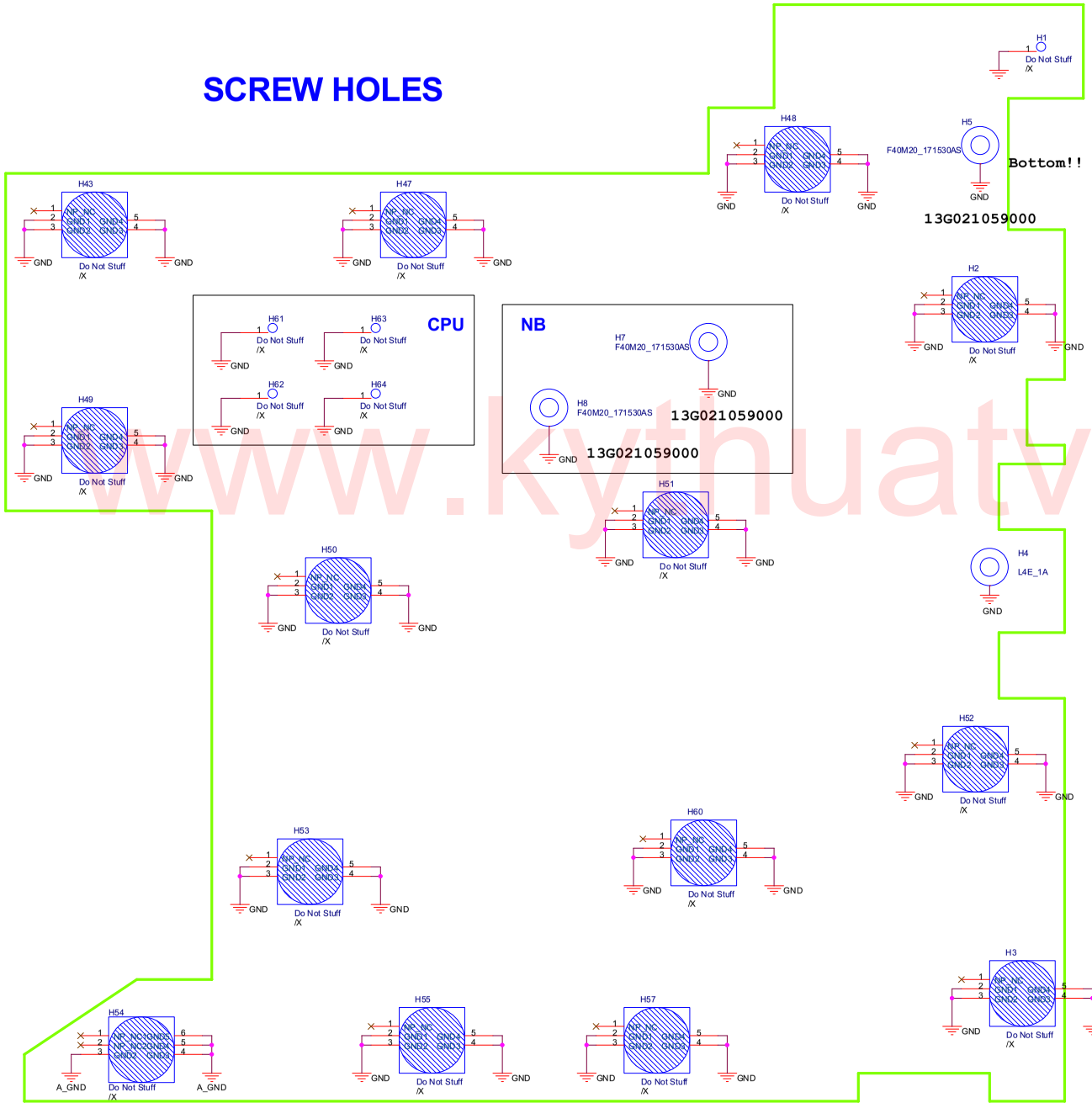
ASUSTek Computer INC.	Title : LED	
	Engineer: Jack Hsu	
Size: Custom	Project Name: Z62Ha	Rev: 1.1
Date: Thursday, September 27, 2007	Sheet 49 of 70	



888

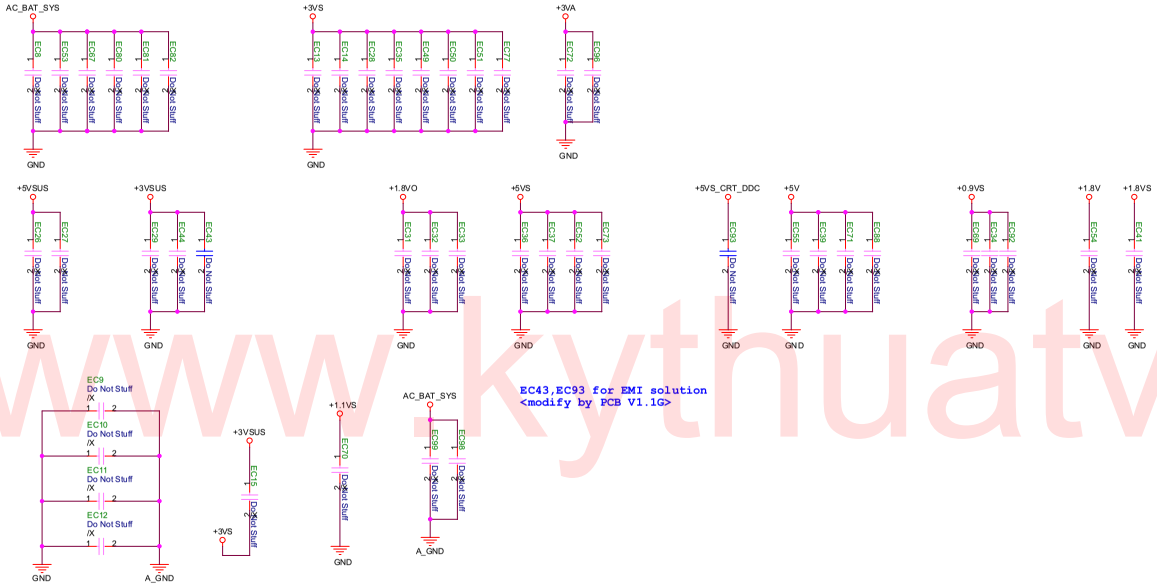
ASUSTek Computer INC.	Title : Discharger	
	Engineer: Jack Hsu	
Size: Custom	Project Name: Z62Ha	Rev: 1.1
Date: Thursday, September 27, 2007	Sheet 50 of 70	

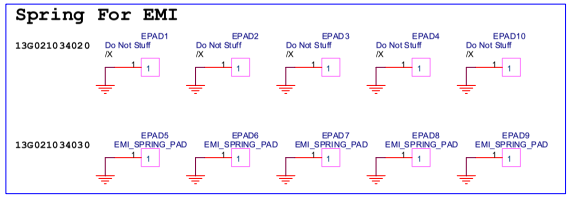
SCREW HOLES



888

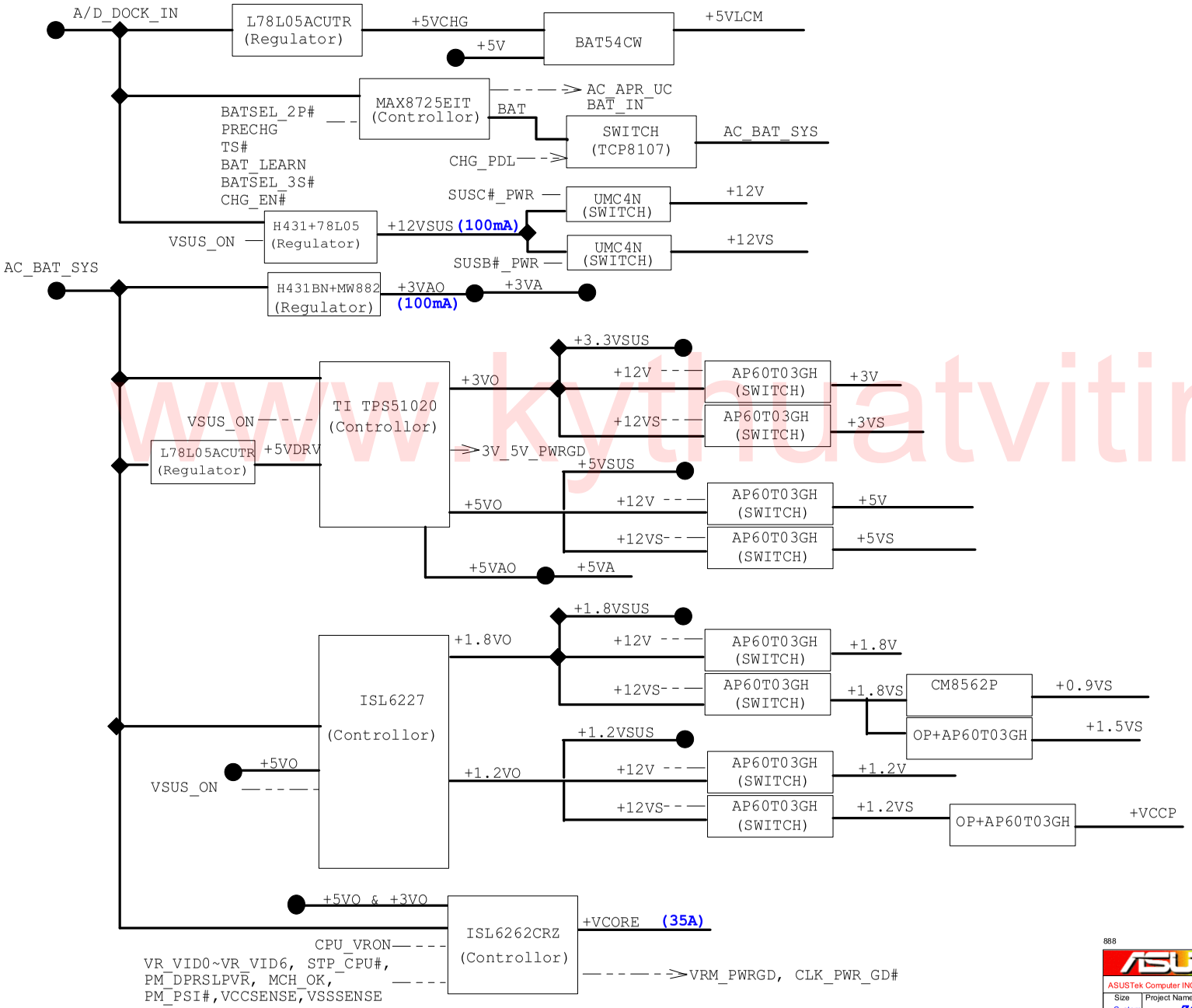
ASUSTek Computer INC.	Title : Screw Hole	
	Engineer: Jack Hsu	
Size: Custom	Project Name: Z62Ha	Rev: 1.1
Date: Thursday, September 27, 2007	Sheet 51 of 70	





888

ASUSTek Computer INC.	Title : EMI CAP	
	Engineer: Jack Hsu	
Size: C	Project Name: Z62Ha	Rev: 1.1
Date: Thursday, September 27, 2007	Sheet 52 of 70	



888

ASUSTek Computer INC.

Title : POWER_FLOWCHART

Engineer:

Size	Project Name	Rev
Custom	Z62Ha	1.1

Date: Thursday, September 27, 2007 Sheet 53 of 70

AC_IN Threshold 2.048Vmax A/D_DOCK_IN > 17.44V active

Setting the Adapter Input Current Limit

Adapter Iin(max) = [0.075V/Rsense(ADin)]*[VCLS/VREF]

VCLS= 2.865V

Adaptor Max. Current :

PR5708=20K PR5714 = 178K; Ilimit = 4.5A; 81W

PR5708=27K PR5714 = 47K; Ilimit = 3.175A; 60W

Setting the Charge Voltage

Vbatt = Cell * { Vref +[(VCTL- 1.8V) / 9.52] }

VCTL= 1.588V => Vbatt = 4.2V

Setting the Charge Current

Charge Current Ichg = [0.075V/Rsense(CHG)]*[VICTL/3.6V]

Rsense(CHG)= 15m Ohm

Pre-Charging Mode :

Precharging current = 148 ~ 152mA

Victl = 0.107V ~ 0.109V

Battery Cell Selection :

BATSEL_2P# = 1, 3 Cells; Victl = 2.084V

=> Icharge = 1.6933A

BATSEL_2P# = 0, 6 or 9 Cells; Victl = 2.111V

=> Icharge = 2.9329A

PR5709=120K PR5715 = 120K; Icharge = 2.9329A

Mode pin : Vmode > 2.8V (trie to LDO pin) ----> 4 Cells

2.0 > Vmode > 1.6V (floating) ----> 3 Cells

0.8 > Vmode (trie to GND) ----> Learning mode

VICTL< 0.8V or DCIN < 7V -->Charger Disable

MAX8725_REF : 4.2235V

MAX8725_LDO : 5.4V

POWER PATH & BAT_LEARN

Battery Voltage

PR815 from 3.3K change to 7.5K for Precharge mode issue <modify by PCB V1.1G>

<24> BATSEL_2P#

BATSEL_2P# = 1, 3 Cells

BATSEL_2P# = 0, 6 or 9 Cells

<24> PRECHG

PRECHG = 1, Pre-Charging Mode

Charging Current = 156mA

<24> CHG_EN#

CHG_EN# = 1, Charger Disabled

CHG_EN# = 0, Charger Enabled

<24> AC_OK

AC_OK = 1, Adaptor is present

AC_OK = 0, Adaptor is absent

<24> BAT_LEARN

BAT_LEARN = 1, Battery discharges

BAT_LEARN = 0, charging voltage with 3 time VCTL (3 Cells)

<47> TS#

TS# = 1; Battery absence

TS# = 0; Battery Plug-in

BAT_IN_OC# = 1; Battery absence

BAT_IN_OC# = 0; Battery Plug-in

888

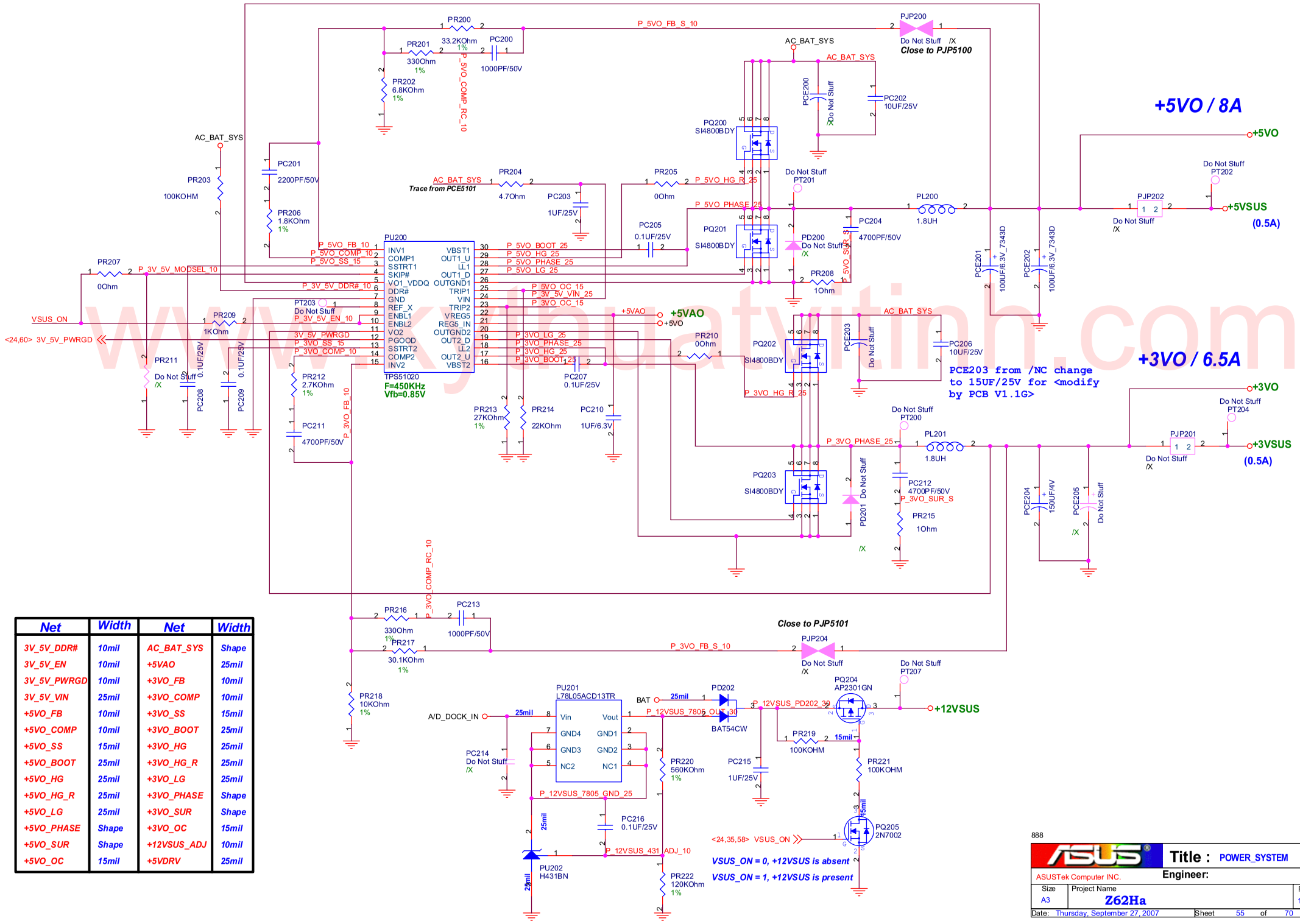
ASUSTek Computer INC.

Title : POWER_CHARGER

Engineer:

Size: C | Project Name: Z62Ha | Rev: 1.1

Date: Thursday, September 27, 2007 | Sheet 54 of 70



Net	Width	Net	Width
3V_5V_DDR#	10mil	AC_BAT_SYS	Shape
3V_5V_EN	10mil	+5VAO	25mil
3V_5V_PWRGD	10mil	+3VO_FB	10mil
3V_5V_VIN	25mil	+3VO_COMP	10mil
+5VO_FB	10mil	+3VO_SS	15mil
+5VO_COMP	10mil	+3VO_BOOT	25mil
+5VO_SS	15mil	+3VO_HG	25mil
+5VO_BOOT	25mil	+3VO_HG_R	25mil
+5VO_HG	25mil	+3VO_LG	25mil
+5VO_HG_R	25mil	+3VO_PHASE	Shape
+5VO_LG	25mil	+3VO_SUR	Shape
+5VO_PHASE	Shape	+3VO_OC	15mil
+5VO_SUR	Shape	+12VSUS_ADJ	10mil
+5VO_OC	15mil	+5VDRV	25mil

888

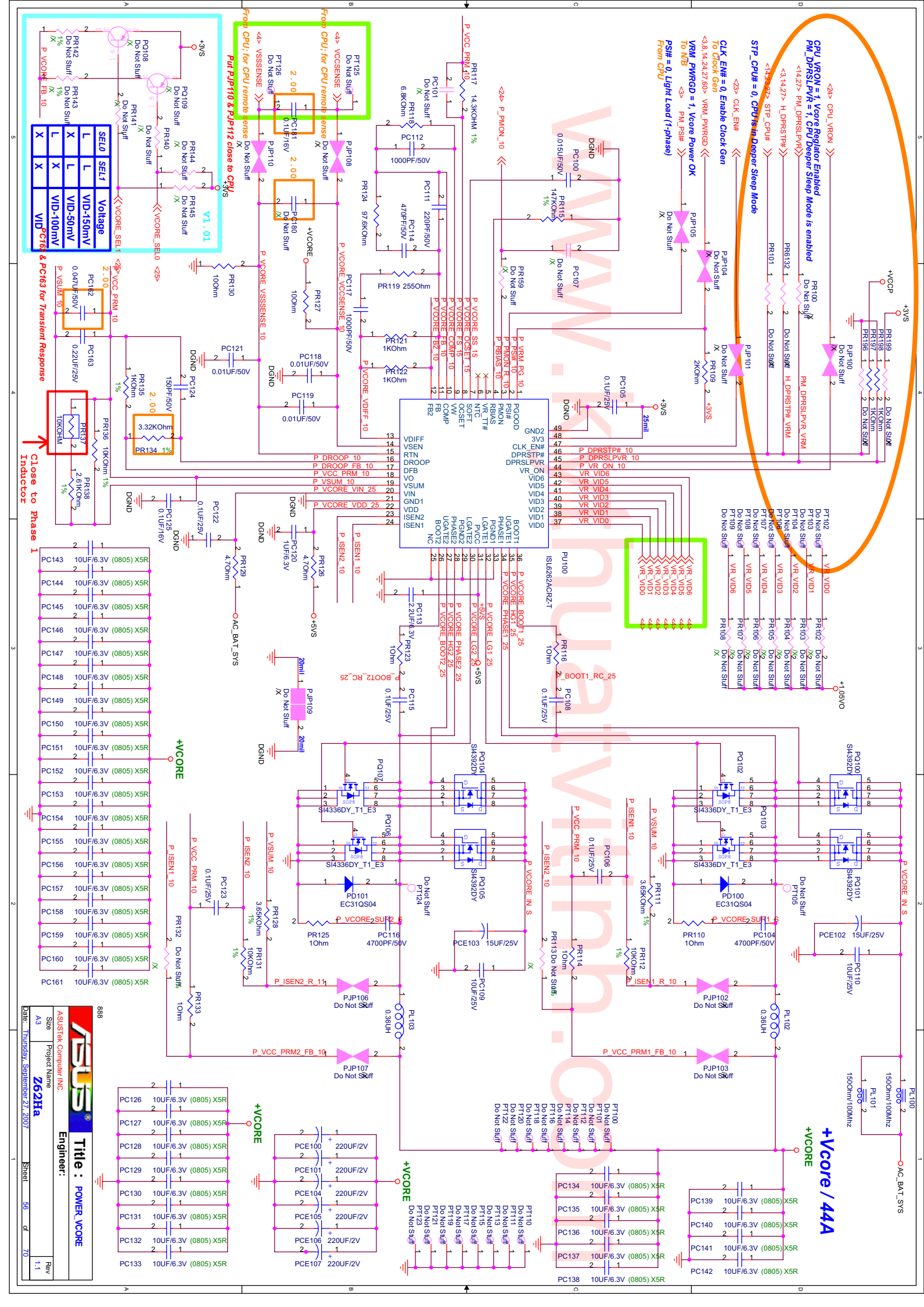
ASUSTek Computer INC.

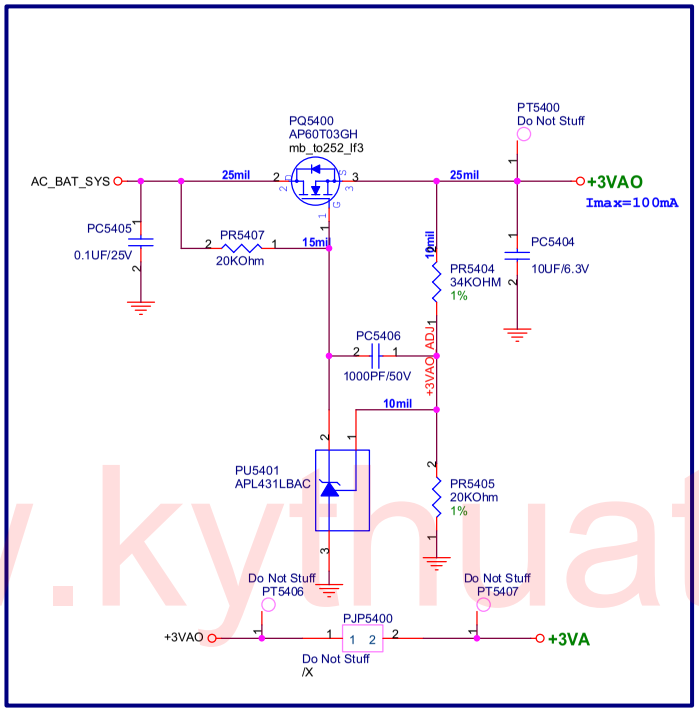
Title : POWER_SYSTEM

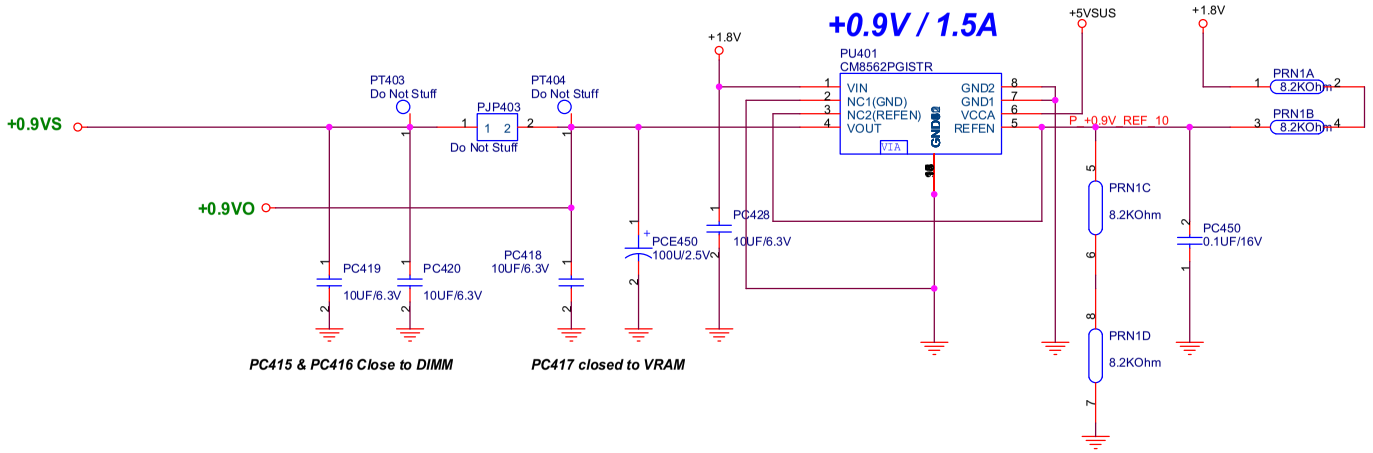
Engineer:

Size	Project Name	Rev
A3	Z62Ha	1.1

Date: Thursday, September 27, 2007 Sheet 55 of 70


CPU_VRON = 1, Vcore Regulator Enabled
PM_DPRSLPVR = 1, CPU Deeper Sleep Mode is enabled
STP_CPU# = 0, CPU is in Deeper Sleep Mode
CLK_EN# = 0, Enable Clock Gen
To Clock Gen
VRM_PWRGD = 1, Vcore Power OK
To NB
PS# = 0, Light Load (1-phase)
From CPU
Put PJP110 & PJP112 close to CPU
Close to Phase 1 Inductor
PC163 & PC163 for Transient Response
ISL6262ACRZ-T
PU100
+Vcore / 44A
+VCORE
AC_BAT_SYS
ASUSTek Computer INC.
Title : POWER_VCORE
Engineer:
Project Name
Z62Ha
Size A3
Date: Thursday, September 27, 2007
Sheet 56 of 70
Rev 1.1





DDR Power Rev:1.00

888

ASUSTek Computer INC.

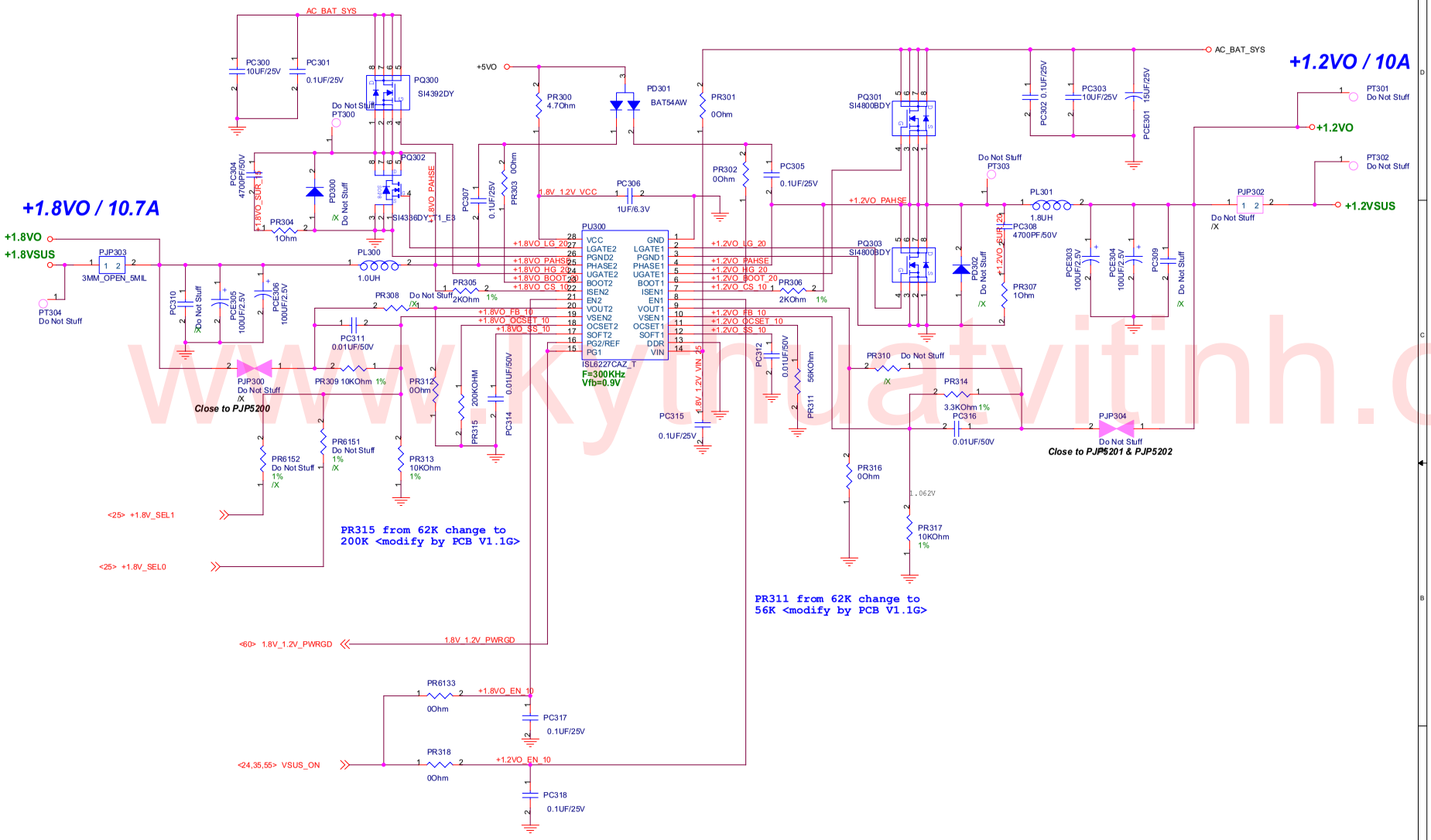
Title :

Engineer:

Size	Project Name	Rev
A3		1.1

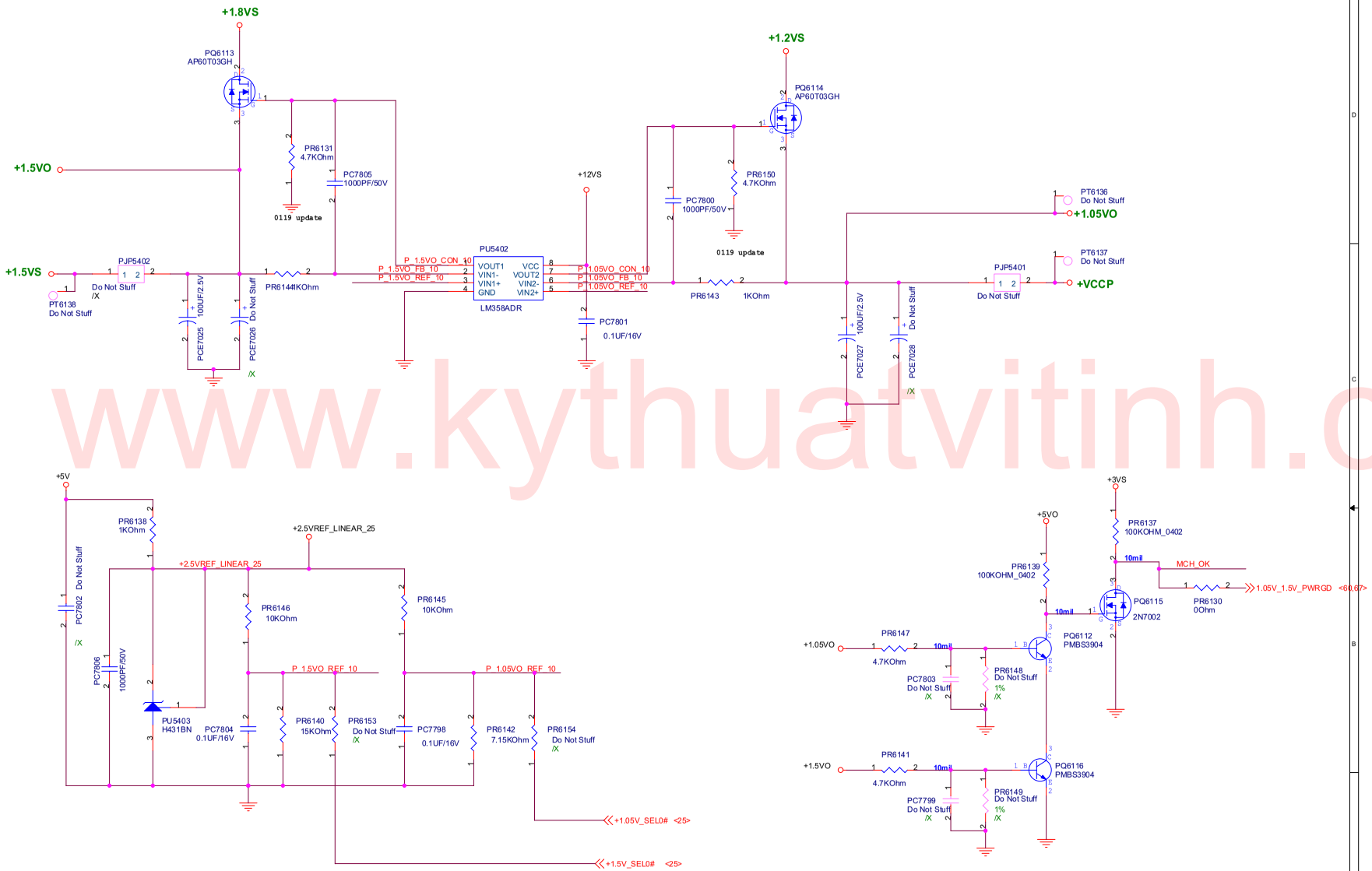
Date: Thursday, September 27, 2007 Sheet 57 of 70

PR311 from 62K change to
200K <modify by PCB
V1.1G>



888

ASUSTek Computer INC.	Title : POWER_I/O_1.5VS & 1.05VS	
	Engineer:	
Size: Custom	Project Name: Z62Ha	Rev: 1.1
Date: Thursday, September 27, 2007	Sheet 58 of 70	



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ASUSTek Computer INC.

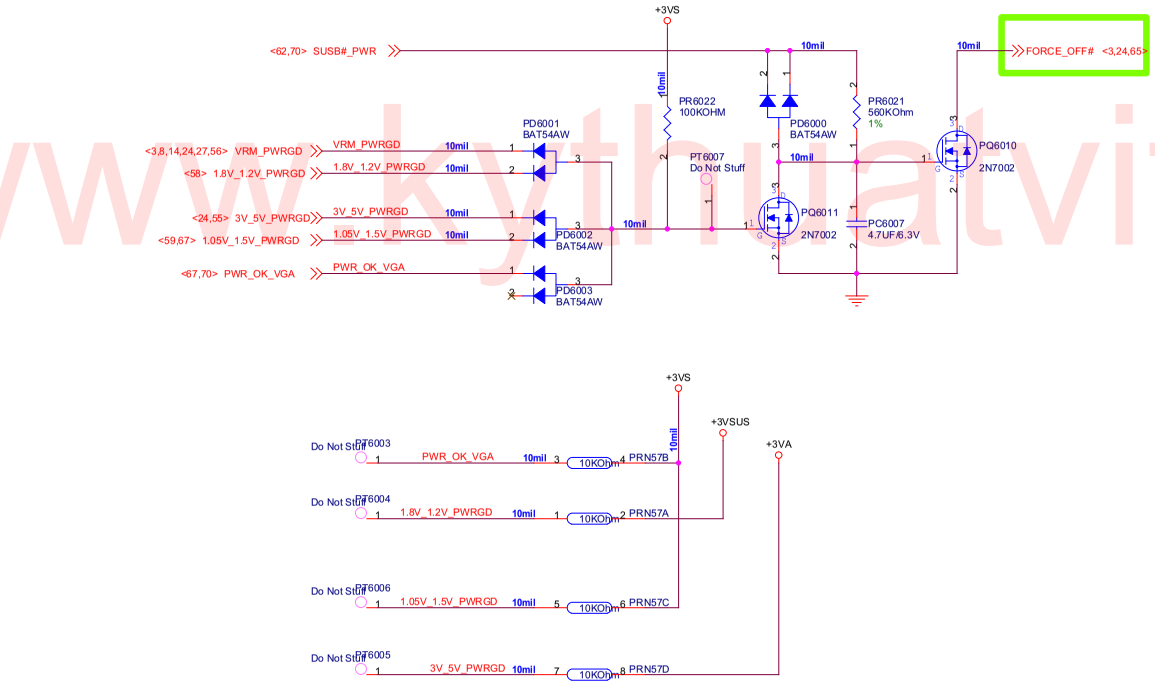
Title : POWER_I/O_+3VA & +2.5V

Engineer:

Size	Project Name	Rev
Custom	Z62Ha	1.1

Date: Thursday, September 27, 2007 Sheet 59 of 70

Power Good Detecter



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ASUSTek Computer INC.

Title : POWER_PROTECT

Engineer:

Size	Project Name	Rev
Custom	Z62Ha	1.1

Date: Thursday, September 27, 2007 Sheet 60 of 70

888

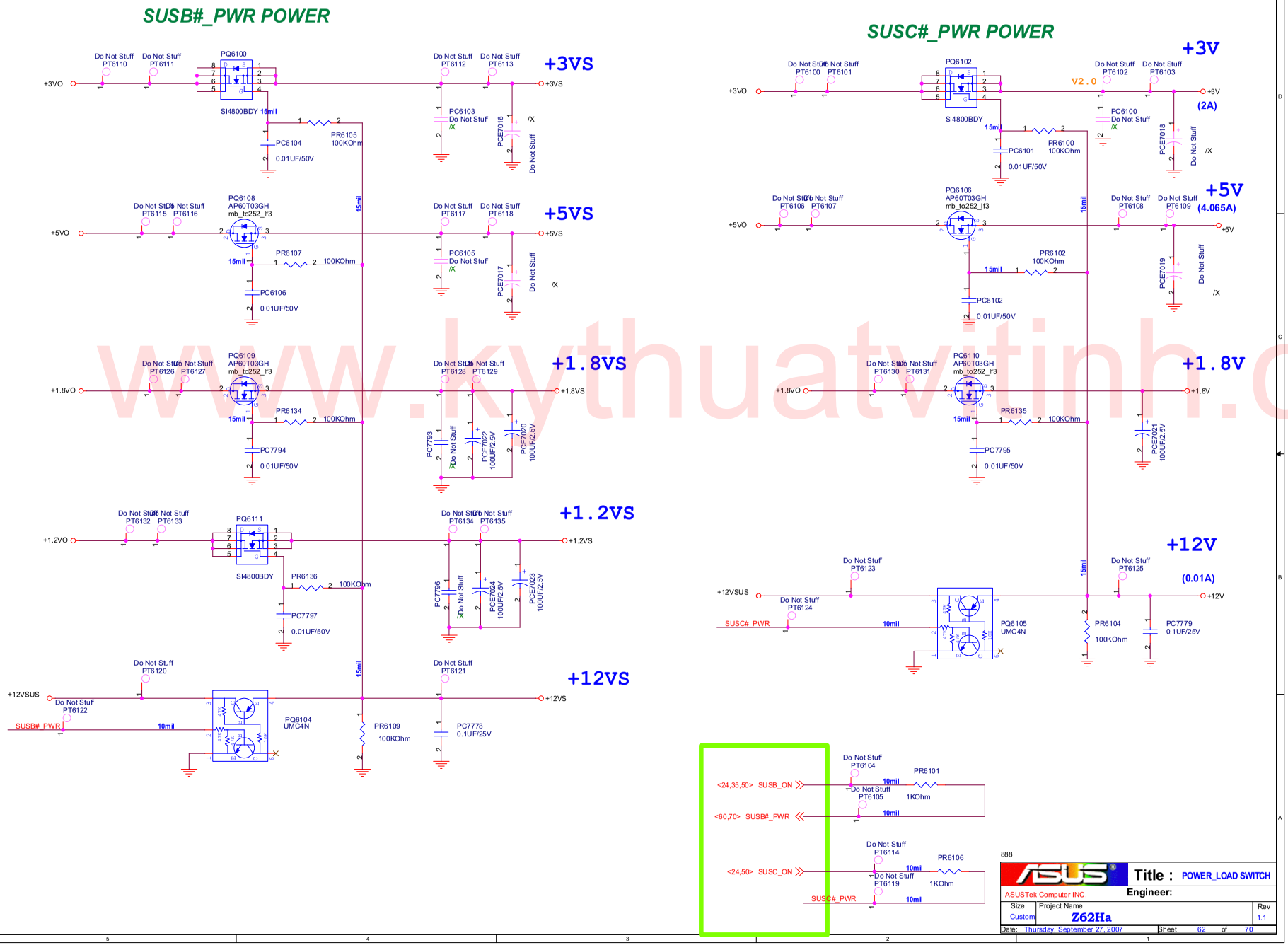
Title : POWER_BLANK

ASUSTek Computer INC.

Engineer:

Size	Project Name	Rev
Custom	Z62Ha	1.1

Date: Thursday, September 27, 2007 Sheet 61 of 70



Rev	Date	Description
1.0	2007/02/14	1. Initial release.
1.1	2007/05/29	1. Change to SiSM672, SiS968, SiS307

Rev	Date	Description

888

ASUSTek Computer INC.

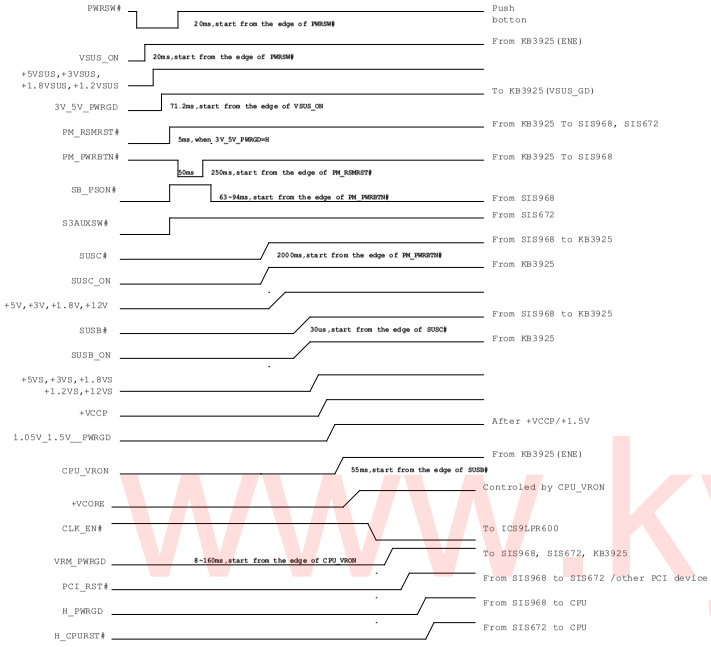
Title : History

Engineer: Chihwan

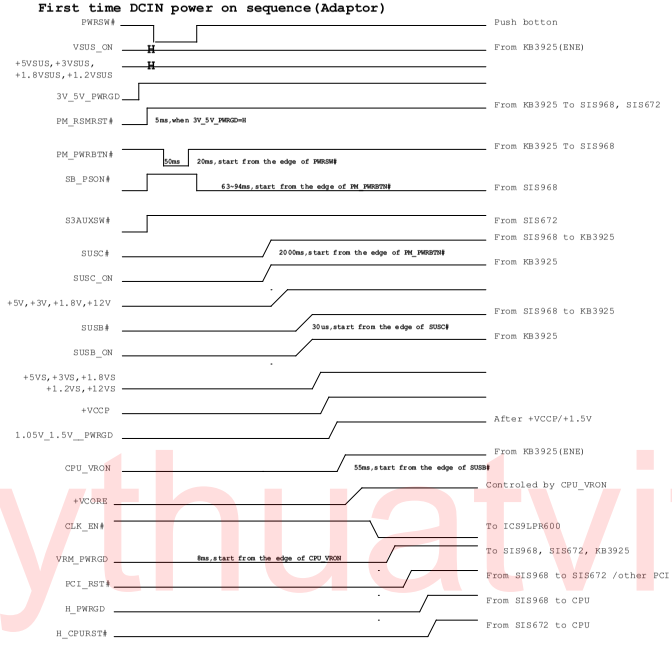
Size	Project Name	Rev
Custom	Z62Ha	1.1

Date: Thursday, September 27, 2007 Sheet 63 of 70

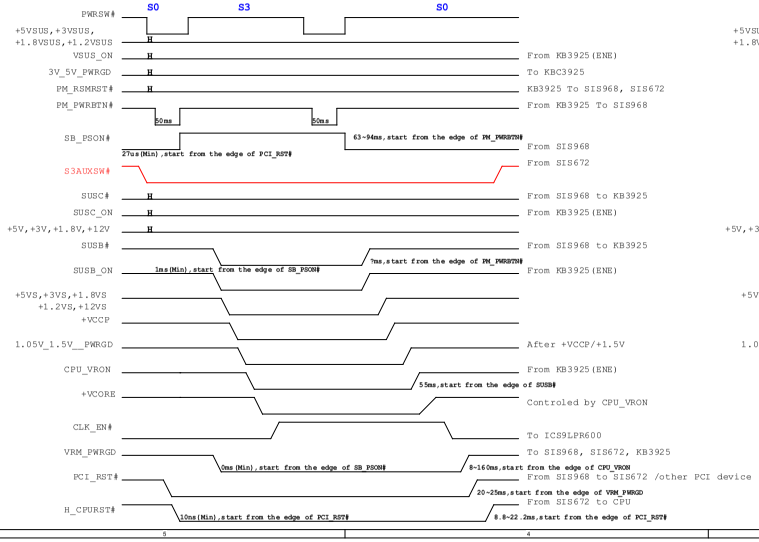
BATTERY ONLY POWER ON TIMING



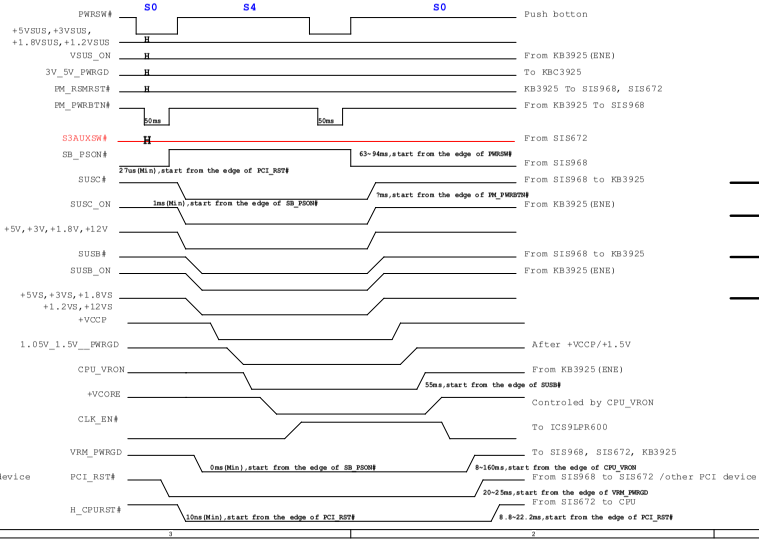
First time DCIN power on sequence(Adaptor)

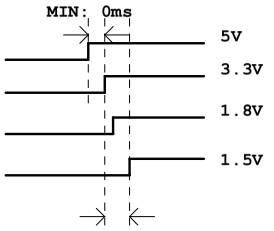


Z62H S3 SUSPEND AND RESUME TIMING



Z62H S4 SUSPEND AND RESUME TIMING





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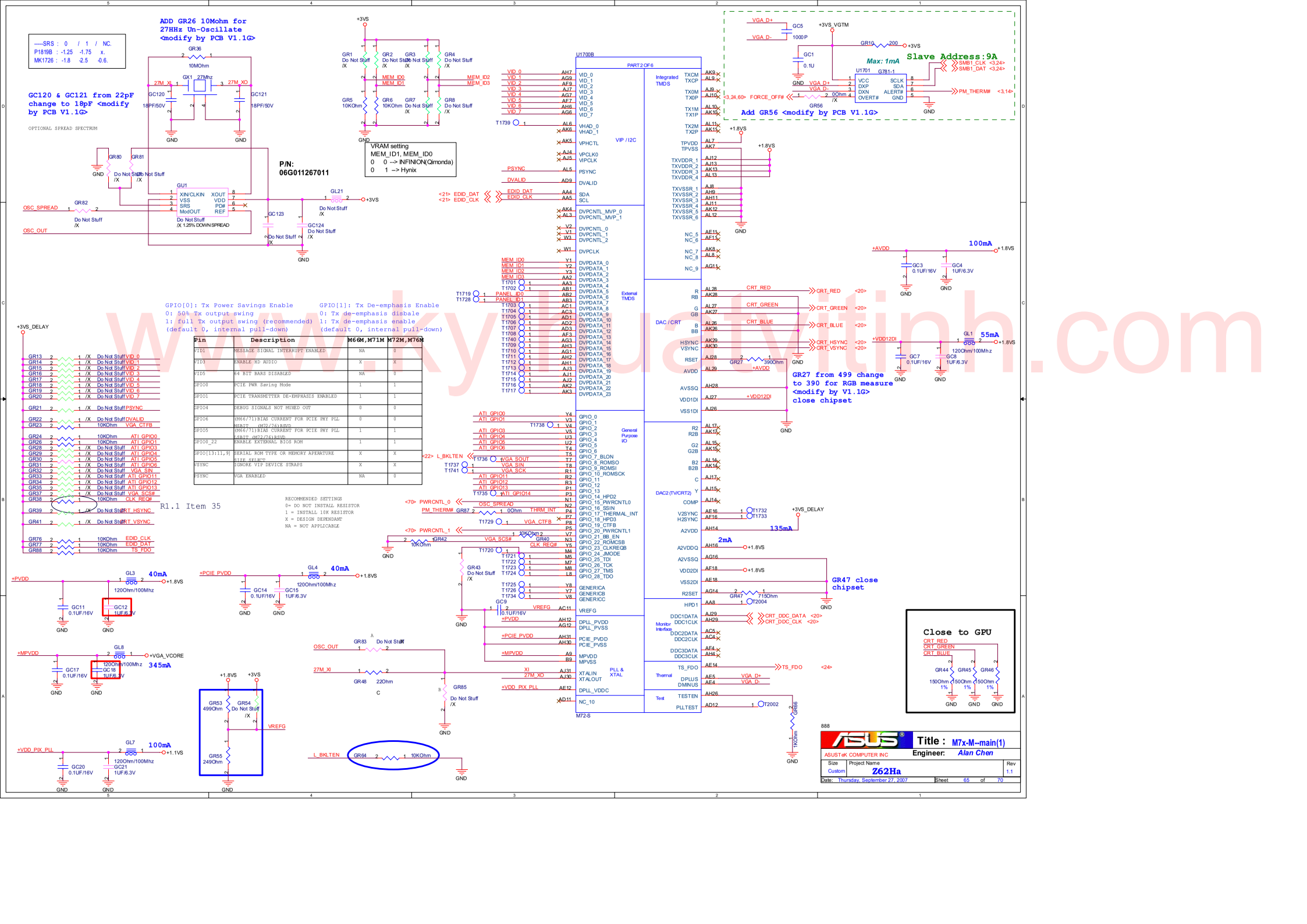
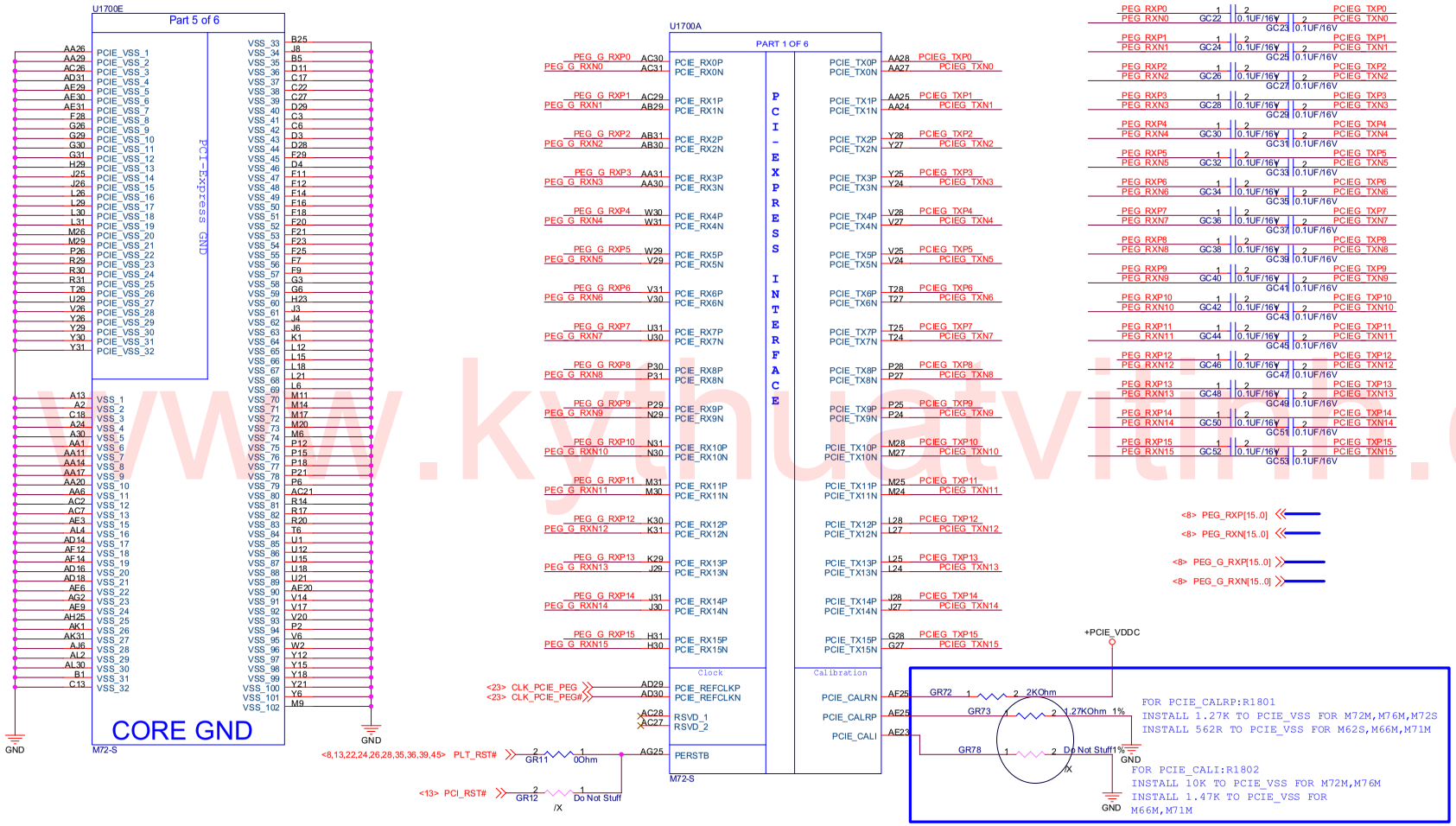
Title	<Title>	
Size: Custom	Document Number: Z62Ha	Rev: 1.1
Date: Thursday, September 27, 2007	Sheet 64 of 70	



Pin	Description	M66M,M71M	M72M,M76M
VID1	MESSAGE SIGNAL INTERRUPT ENABLED	NA	0
VID3	ENABLE HD AUDIO	X	X
VID5	64 BIT BARS DISABLED	NA	0
GPIO0	PCIE PWR Saving Mode	1	1
GPIO1	PCIE TRANSMITTER DE-EMPHASIS ENABLED	1	1
GPIO4	DEBUG SIGNALS NOT MUXED OUT	0	0
GPIO6	(M66/71)BIAS CURRENT FOR PCIE PHY PLL MSBIT (M72/76)RSVD	0	0
GPIO5	(M66/71)BIAS CURRENT FOR PCIE PHY PLL LSBIT (M72/76)RSVD	1	1
GPIO8_22	ENABLE EXTERNAL BIOS ROM	1	1
GPIO[13:11,9]	SERIAL ROM TYPE OR MEMORY APERATURE SIZE SELECT	X	X
VSYNC	IGNORE VIP DEVICE STRAPS	X	X
PSYNC	VGA ENABLED	NA	0



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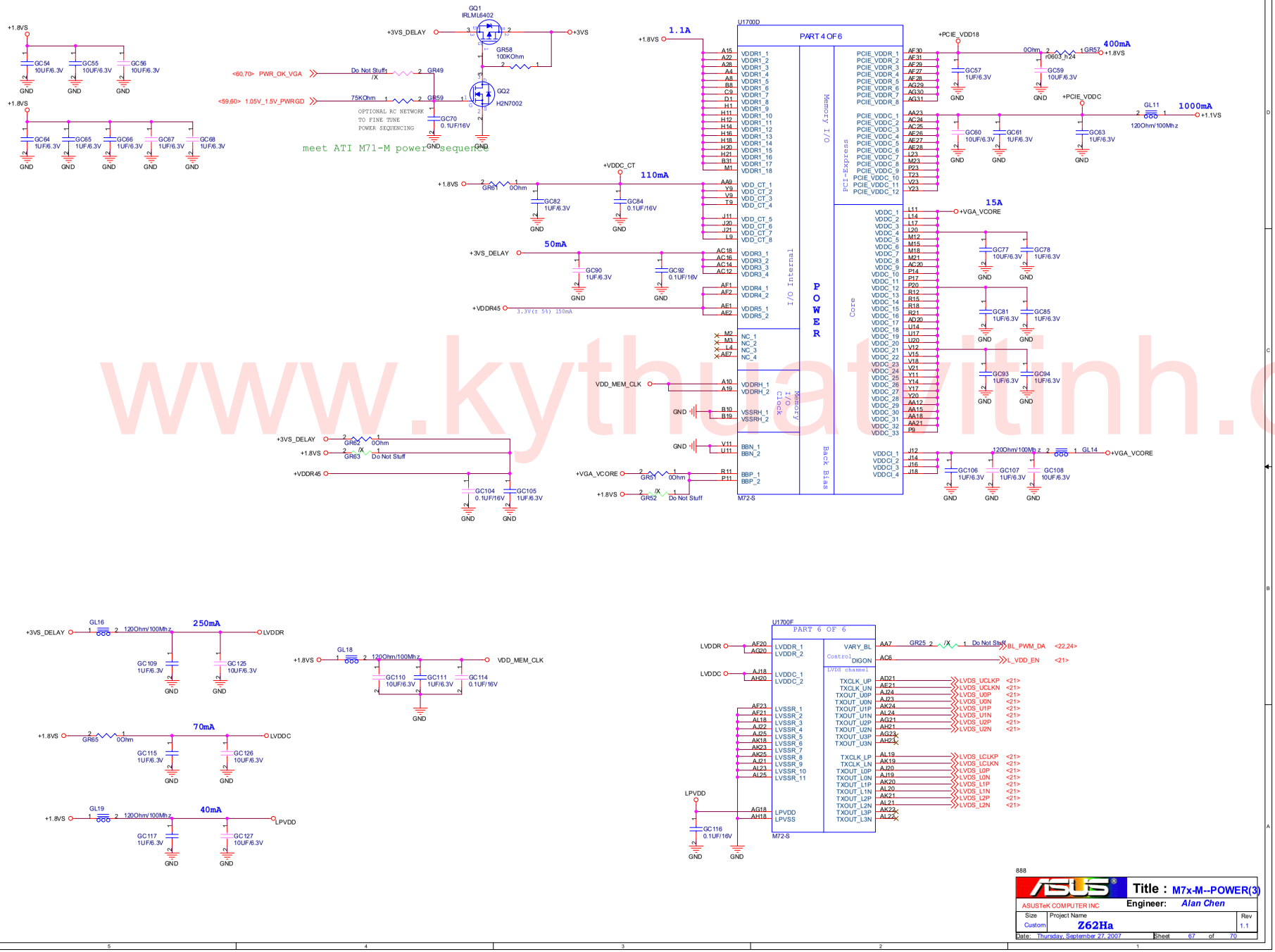
ASUSTeK COMPUTER INC	Title : M7x-M-PCIE(2)	
	Engineer: Alan Chen	
Size: Custom	Project Name: Z62Ha	Rev: 1.1
Date: Thursday, September 27, 2007	Sheet 66 of 70	



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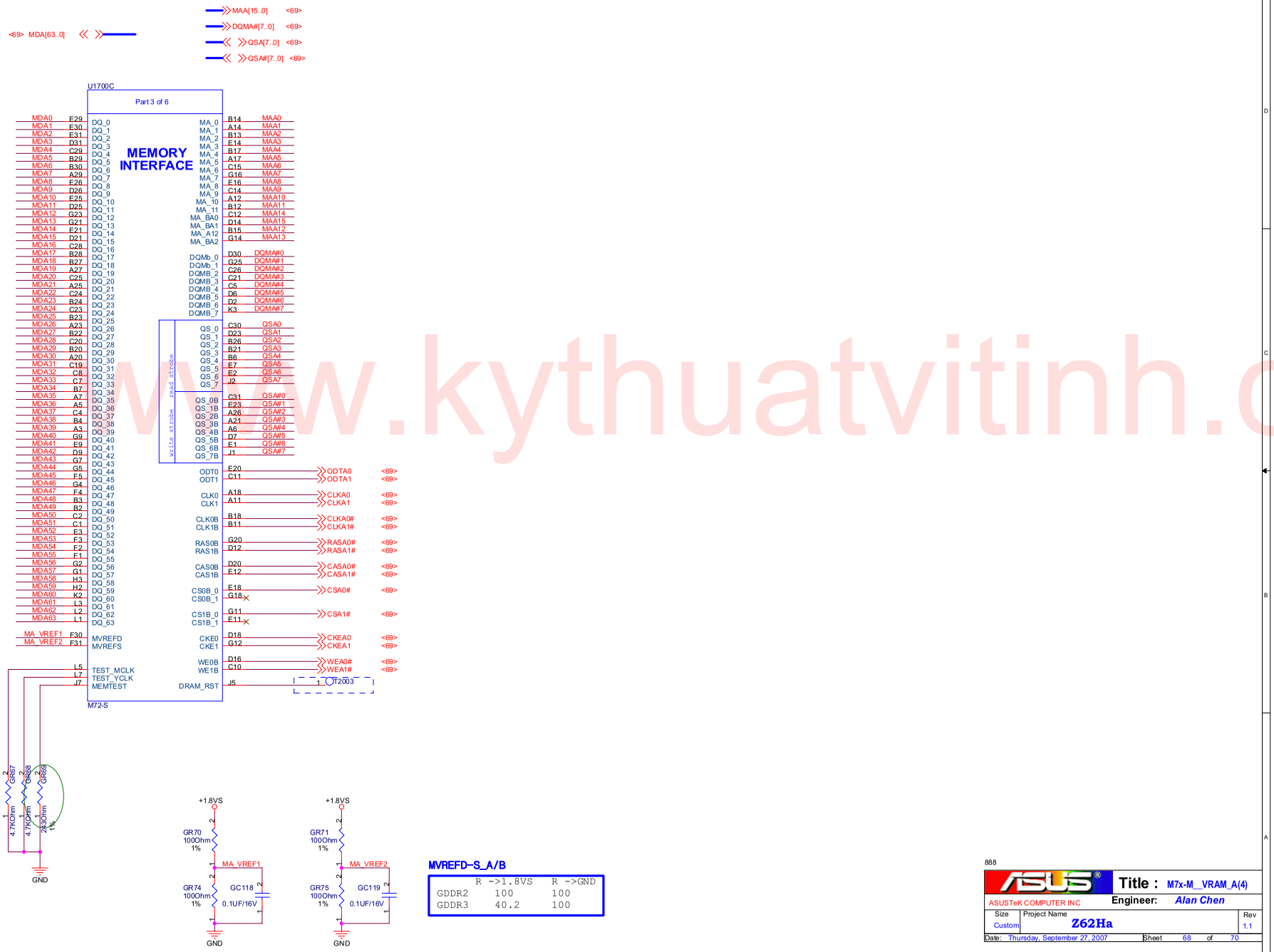
ASUSTeK COMPUTER INC

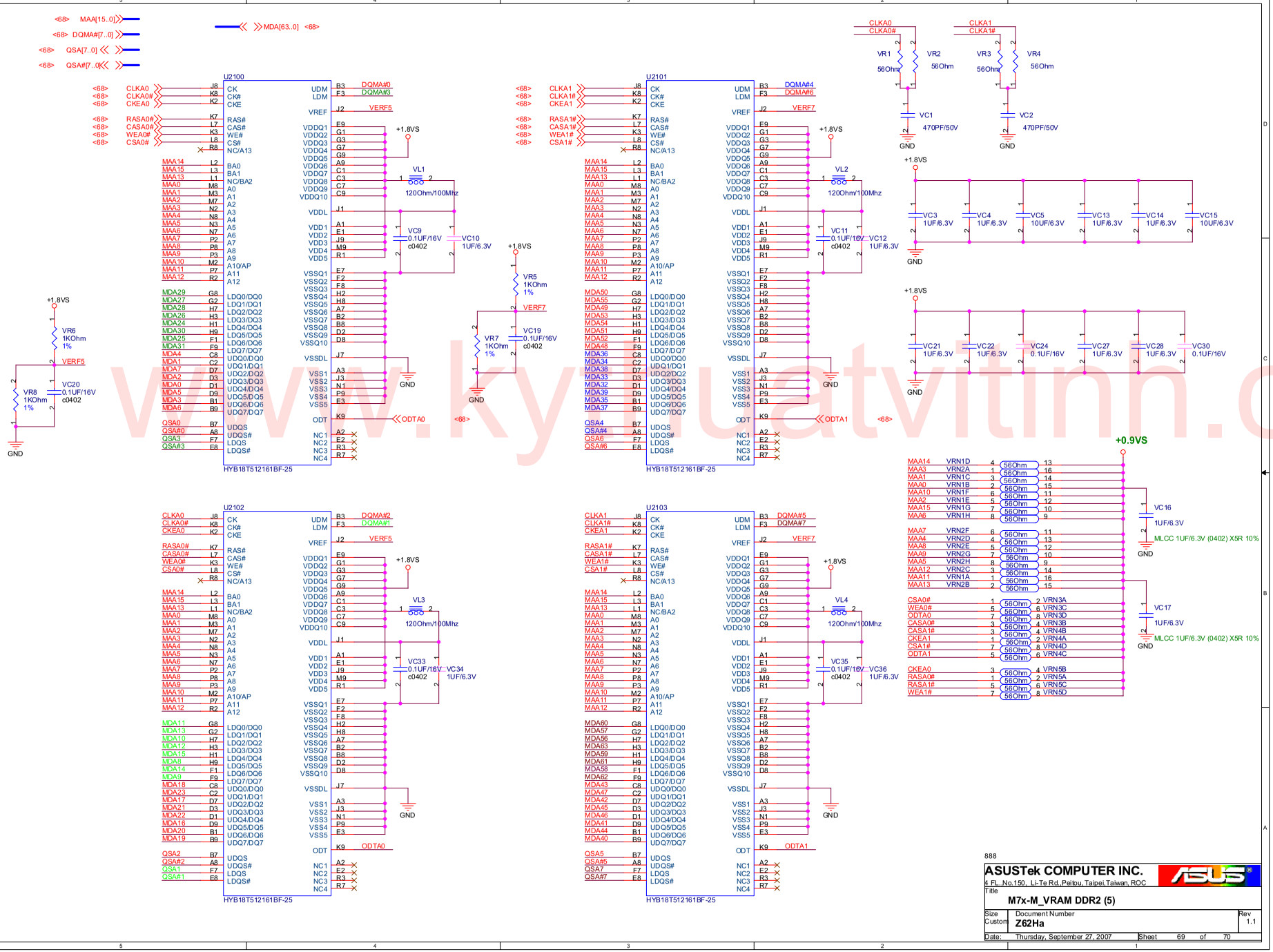
Title : M7x-M--POWER(3)

Engineer: Alan Chen

Size	Project Name	Rev
Custom	Z62Ha	1.1

Date: Thursday, September 27, 2007 Sheet 67 of 70





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ASUSTek COMPUTER INC.

4 FL.,No.150, Li-Te Rd.,Peitou, Taipei,Taiwan, ROC

Title: **M7x-M_VRAM DDR2 (5)**

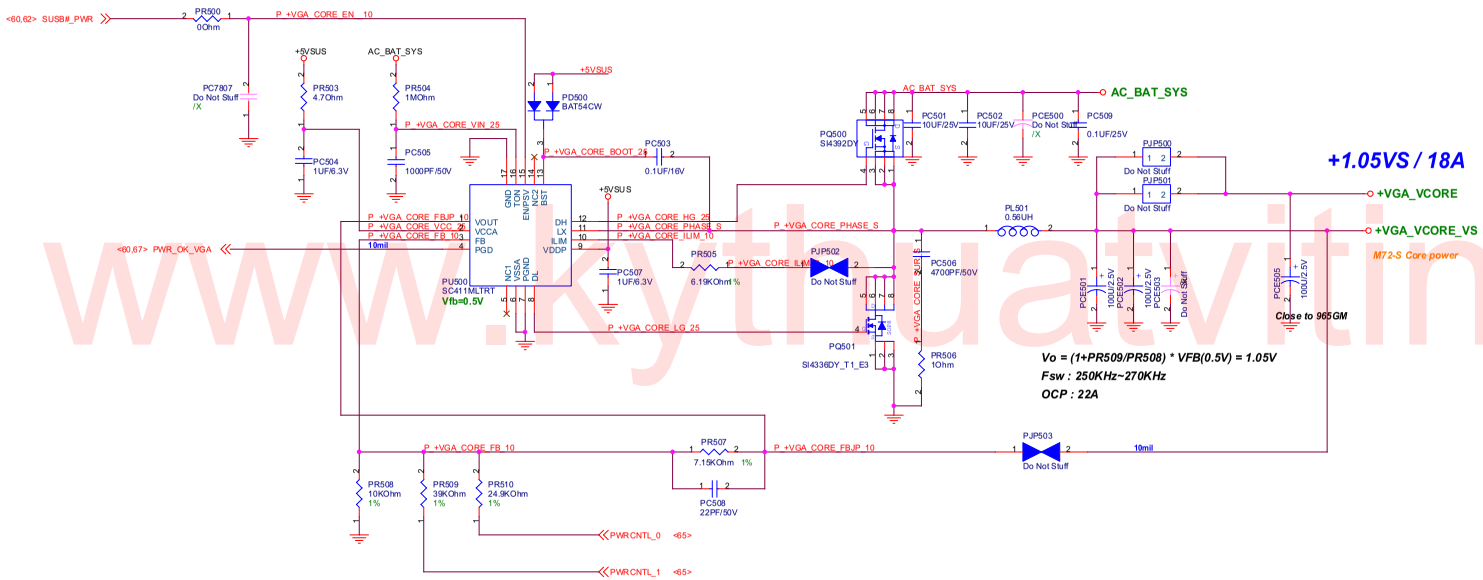
Size	Document Number	Rev
Custom	Z62Ha	1.1

Date: Thursday, September 27, 2007 Sheet 69 of 70

Enable Signal :

Implemet Intel 965GM --> PR502

Implemet M72-S Chipset --> PR500



+1.05VS

VGMCH_SEL0	VGMCH_SEL1	Voltage
L	L	1.093V
X	L	1.001V
L	X	0.949V
X	X	0.857V

888

ASUSTek COMPUTER INC.
4 FL, No.150, Li-Te Rd.,Peitou, Taipei,Taiwan,ROC

Title: VGA_VCORD

Size: Custom | Document Number: Z62Ha | Rev: 1.1

Date: Thursday, September 27, 2007 | Sheet 70 of 70