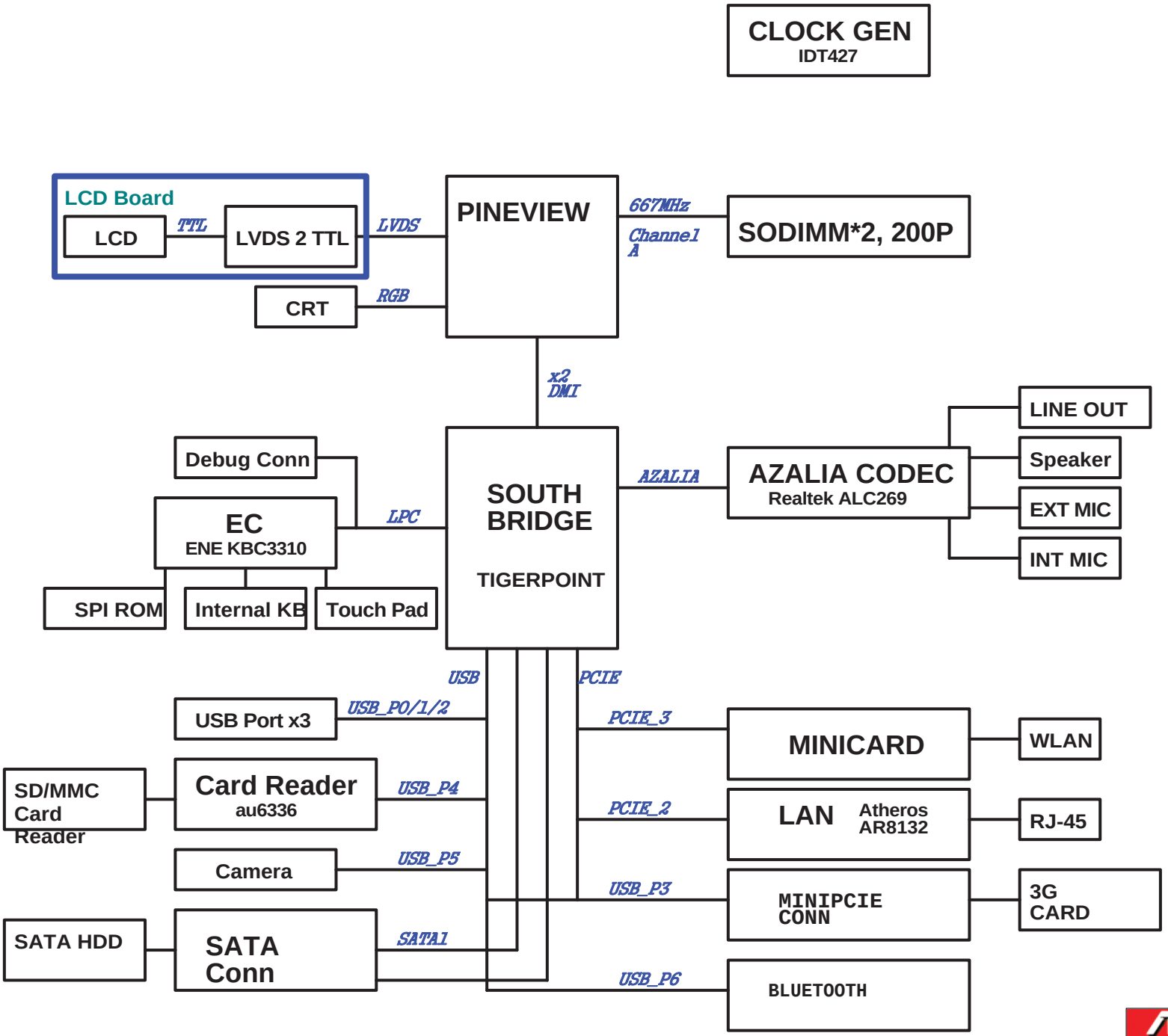


ASUSTek Computer Inc.	Title : Cover Page	
	Engineer: Henry_Yang	
Size: A3	Project Name: PINEVIEW	Rev: 1.0G
Date: Wednesday, January 14, 2009	Sheet 1 of 42	

ICH7M GPIO DEFAULT&NOW SETTING

Pin	Pin Name	Type	Tolerance	Powe Well	Default	Now Setting
AB18	GPIO0/BM_BUSY#	I/O	3.3V	CORE	GPI	BM_BUSY#
C8	GPIO1/REQ5#	I/O	5V	CORE	GPI	REQ5#
G8	GPIO2/PIRQE#	I/OD	5V	CORE	GPI	PIRQE#
F7	GPIO3/PIRQF#	I/OD	5V	CORE	GPI	PIRQF#
F8	GPIO4/PIRQG#	I/OD	5V	CORE	GPI	PIRQG#
G7	GPIO5/PIRQH#	I/OD	5V	CORE	GPI	PIRQH#
AC21	GPIO6	I/O	3.3V	CORE	GPI	GPI,No Function,10K Pull +3VS
AC18	GPIO7	I/O	3.3V	CORE	GPI	GPO,WLAN_LED
E21	GPIO8	I/O	3.3V	Resume	GPI	GPI,EXTSMI#
E20	GPIO9	I/O	3.3V	Resume	GPI	GPI,No Function,10K Pull +3VS
A20	GPIO10	I/O	3.3V	Resume	GPI	GPO,WLAN_ON#
B23	GPIO11/SMBALERT#	I/O	3.3V	Resume	Native	SMBALERT#
F19	GPIO12	I/O	3.3V	Resume	GPI	GPI,KBC_SCI#
E19	GPIO13	I/O	3.3V	Resume	GPI	GPO,VCCP_DOWN
R4	GPIO14	I/O	3.3V	Resume	GPI	GPO,1.5VS_DOWN
E22	GPIO15	I/O	3.3V	Resume	GPI	GPI,No Function,10K Pull +3VSUS
AC22	GPIO16/DPRSLVR	I/O	3.3V	CORE	Native	DPRSLVR
D8	GPIO17/GNT5#	I/O	3.3V	CORE	GPO	BIOS_SEL1
AC20	GPIO18/STPPCI#	I/O	3.3V	CORE	GPO	STP_PCI#
AH18	GPIO19/SATA1GP	I/O	3.3V	CORE	GPI	GPI,No Function,10K Pull +3VS
AF21	GPIO20/STPCPU#	I/O	3.3V	CORE	GPO	STP_CPU#
AF19	GPIO21/SATA0GP	I/O	3.3V	CORE	GPI	GPI,No Function,10K Pull +3VS
A13	GPIO22/REQ4#	I/O	3.3V	CORE	Native	REQ4#
AA5	GPIO23/LDRQ1#	I/O	3.3V	CORE	Native	LDRQ1#
R3	GPIO24	I/O	3.3V	Resume	GPO	GPO,MINICARD1_EN#
D20	GPIO25	I/O	3.3V	Resume	GPO	GPO,DUAL_DOWN

Pin	Pin Name	Type	Tolerance	Powe Well	Default	Now Setting
A21	GPIO26	I/O	3.3V	Resume	GPO	GPO,VCORE_DOWN
B21	GPIO27	I/O	3.3V	Resume	GPO	GPO,CARD_READER_EN#
E23	GPIO28	I/O	3.3V	Resume	GPO	GPO,MODEM_EN#
C3	GPIO29/OC5#	I/O	3.3V	Resume	Native	OC5#
A2	GPIO30/OC6#	I/O	3.3V	Resume	Native	OC6#
B3	GPI031/OC7#	I/O	3.3V	Resume	Native	OC7#
AG18	GPIO32/CLKRUN#	I/O	3.3V	CORE	GPO	CLKRUN#
AC19	GPIO33/AZ_DOCK_EN#	I/O	3.3V	CORE	GPO	GPO,No Function,NC
U2	GPIO34/AZ_DOCK_RST#	I/O	3.3V	CORE	GPO	GPO,No Function,NC
AD21	GPIO35	I/O	3.3V	CORE	GPO	GPO,CAMERA_EN
AH19	GPIO36/SATA2GP	I/O	3.3V	CORE	GPI	GPI,No Function,10K Pull +3VS
AE19	GPIO37/SATA3GP	I/O	3.3V	CORE	GPI	GPI,PCB_ID0
AE20	GPIO38	I/O	3.3V	CORE	GPI	GPI,PCB_ID1
AD20	GPIO39	I/O	3.3V	CORE	GPI	GPI,PCB_ID2
NA	GPIO40	NA	NA	NA	NA	NA
NA	GPIO41	NA	NA	NA	NA	NA
NA	GPIO42	NA	NA	NA	NA	NA
NA	GPIO43	NA	NA	NA	NA	NA
NA	GPIO44	NA	NA	NA	NA	NA
NA	GPIO45	NA	NA	NA	NA	NA
NA	GPIO46	NA	NA	NA	NA	NA
NA	GPIO47	NA	NA	NA	NA	NA
A14	GPIO48/GNT4#	I/O	3.3V	CORE	Native	BIOS_SEL0
AG24	GPIO49/CPUPWRGD	I/O	V_CPU_IO	V_CPU_IO	Native	CPUPWRGD

ASUSTek Computer Inc.

Title : System setting

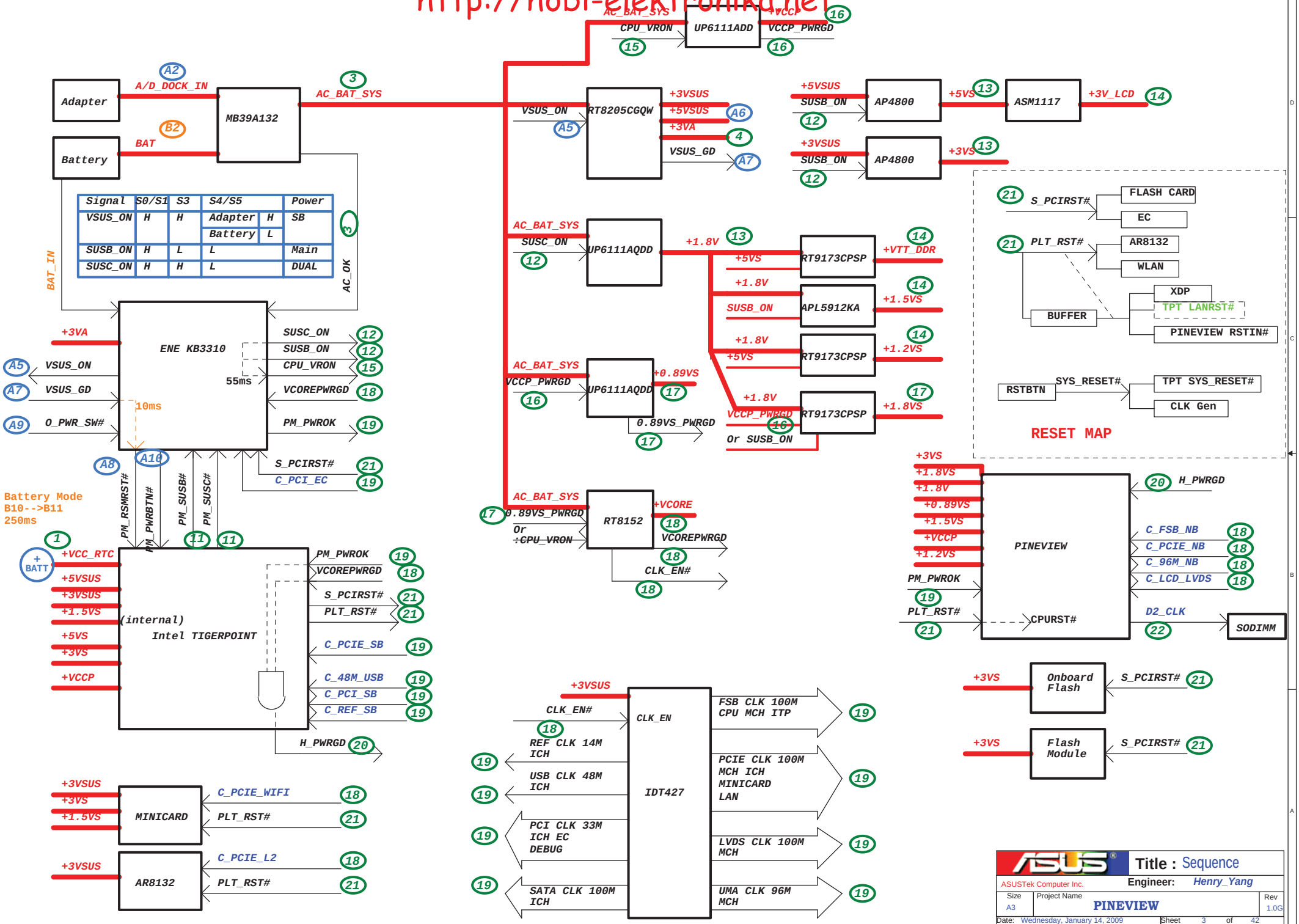
Engineer: Henry_Yang

Size	Project Name	Rev
A3	PINEVIEW	1.0G

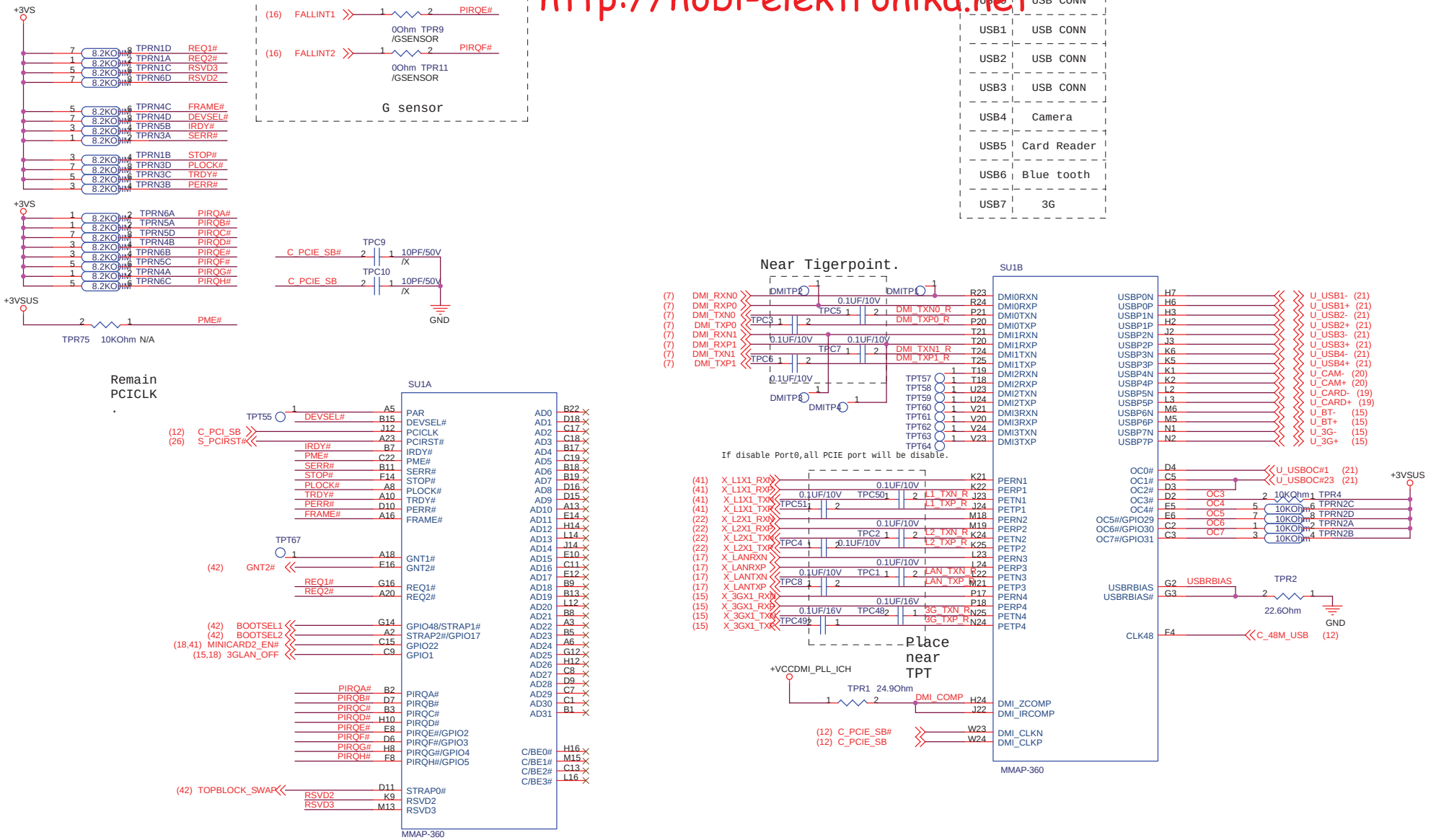
Date: Wednesday, January 14, 2009 Sheet 2 of 42

0.1 A Beta

http://hobi-elektronika.net



ASUSTek Computer Inc.	Title : Sequence		
	Engineer: Henry_Yang		
Size: A3	Project Name: PINEVIEW		Rev: 1.0G
Date: Wednesday, January 14, 2009	Sheet 3 of 42		

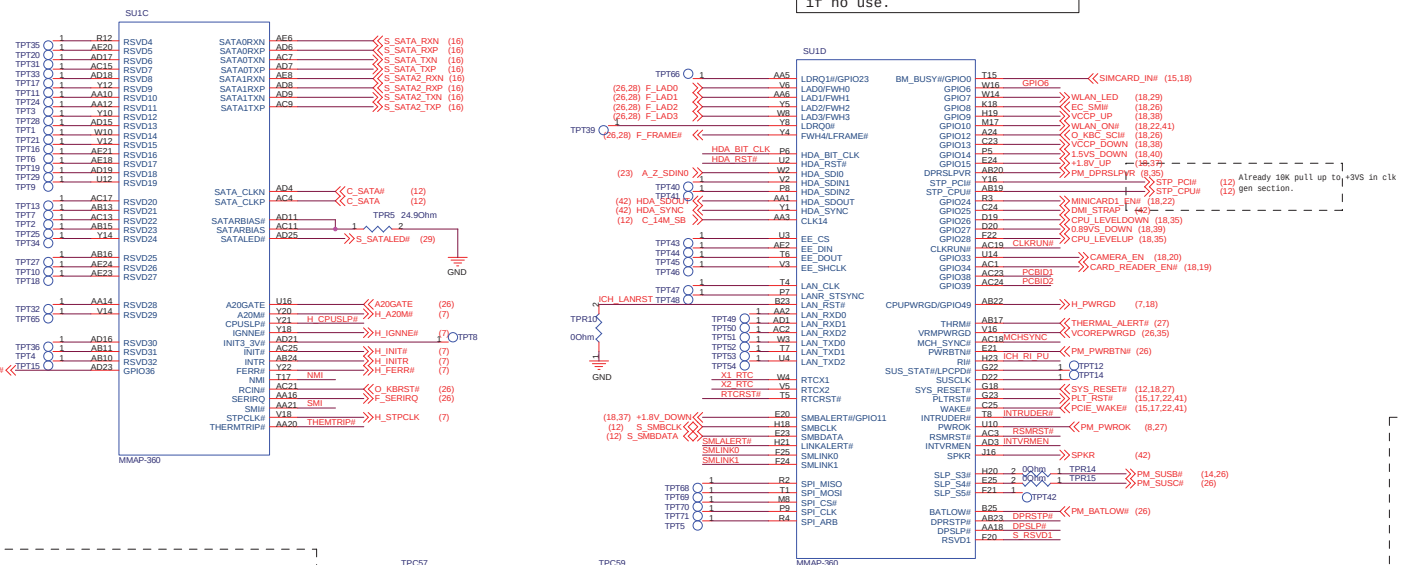


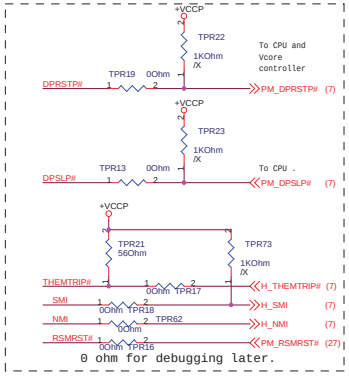
ASUSTek Computer Inc.	Title : DMI&USB		
	Engineer: Henry_Yang		
Size: A3	Project Name: PINEVIEW		Rev: 1.0G
Date: Wednesday, January 14, 2009	Sheet 4 of 42		

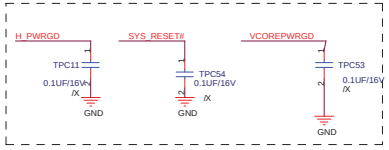
CLK 14MHZ has a 22ohm resistor near clk Gen.

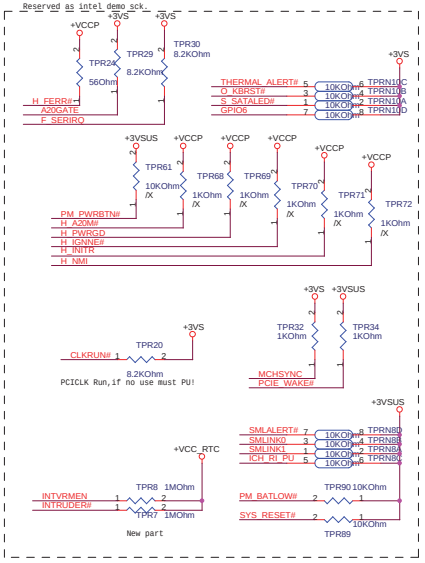
LDRQ0/1 LPC DMA/master request,ICH7M has internal PU, but we need TPT datasheet

SATA RX,TX all need AC couple and place near Connector side for signal quality.And Traces to them should match length. ICH7M need pull down RX, if no use.

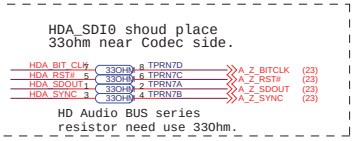




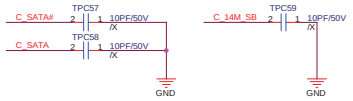


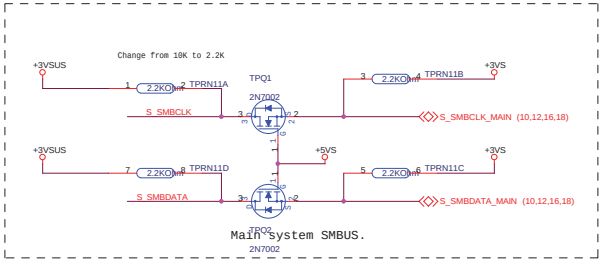


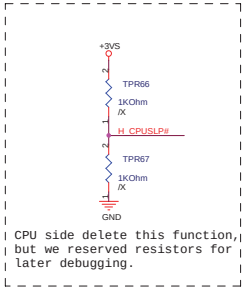
HDA_SDI0 shoud place 33ohm near Codec side.

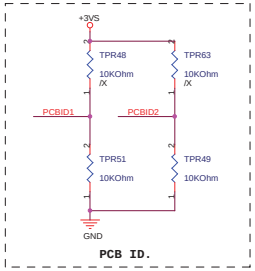


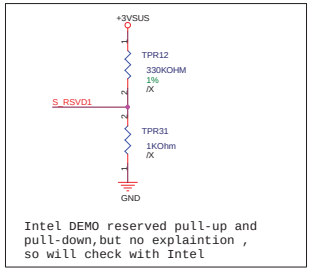
HD Audio BUS series resistor need use 33Ohm.

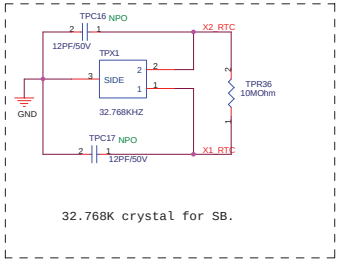


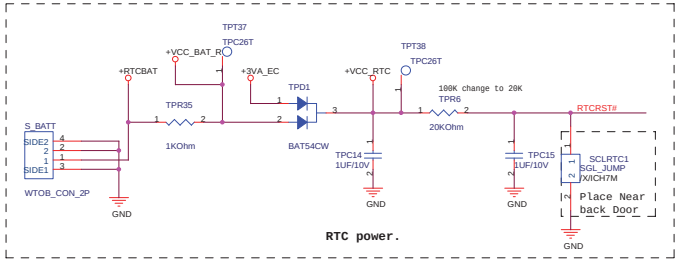


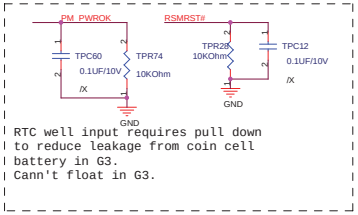


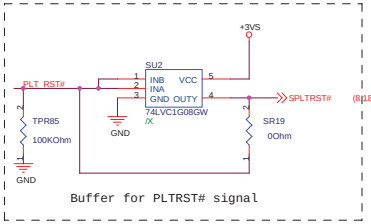




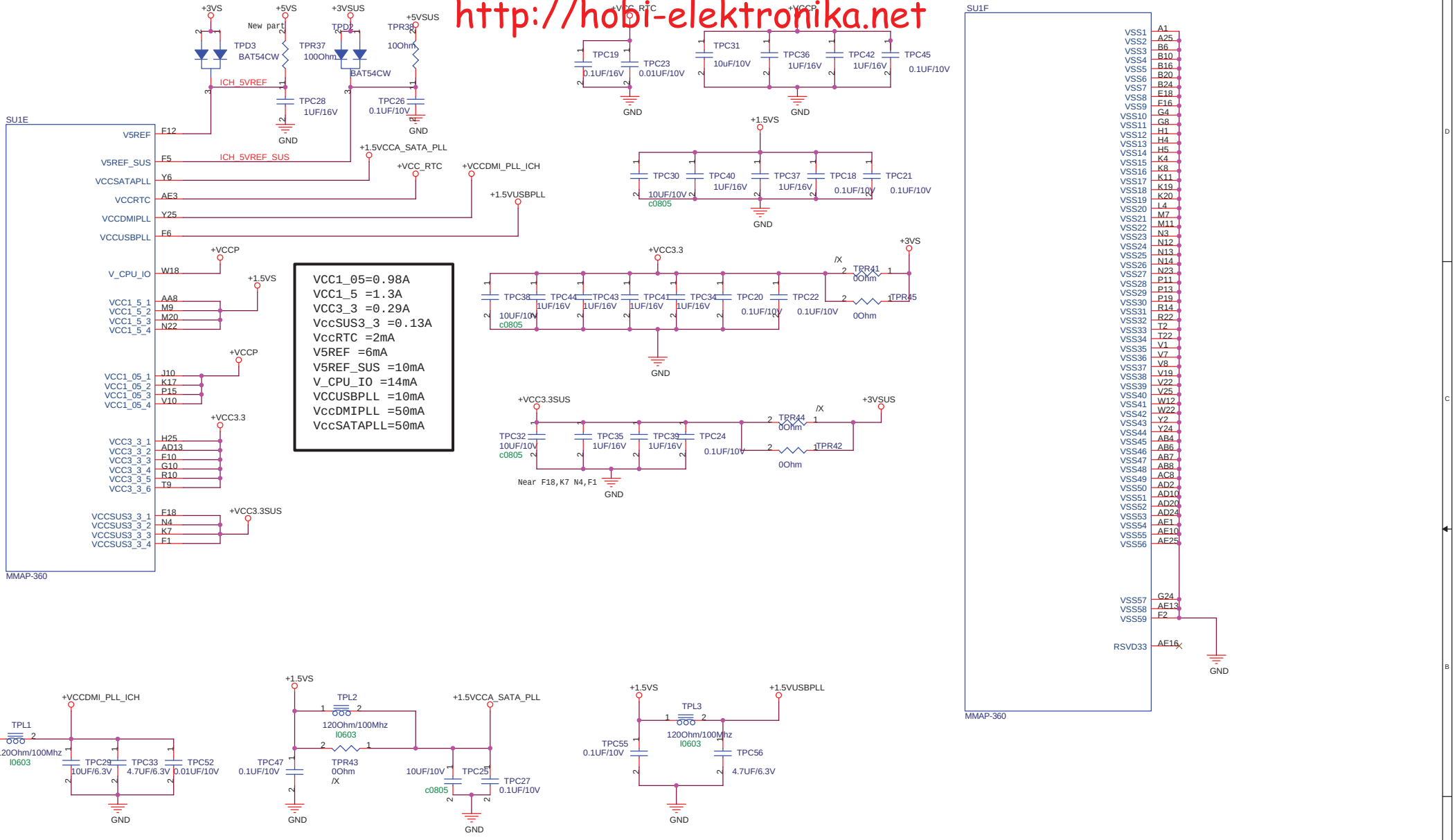




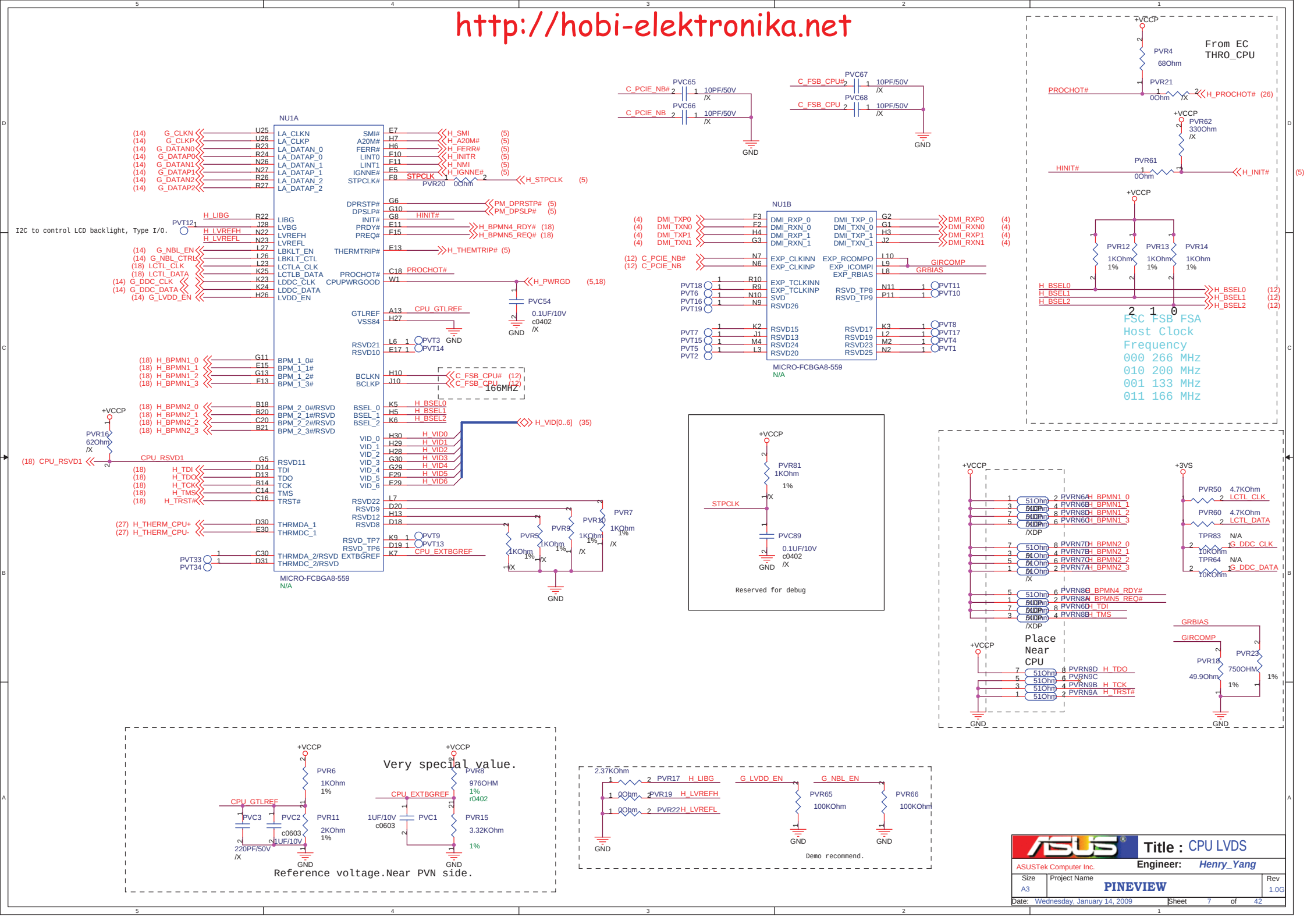


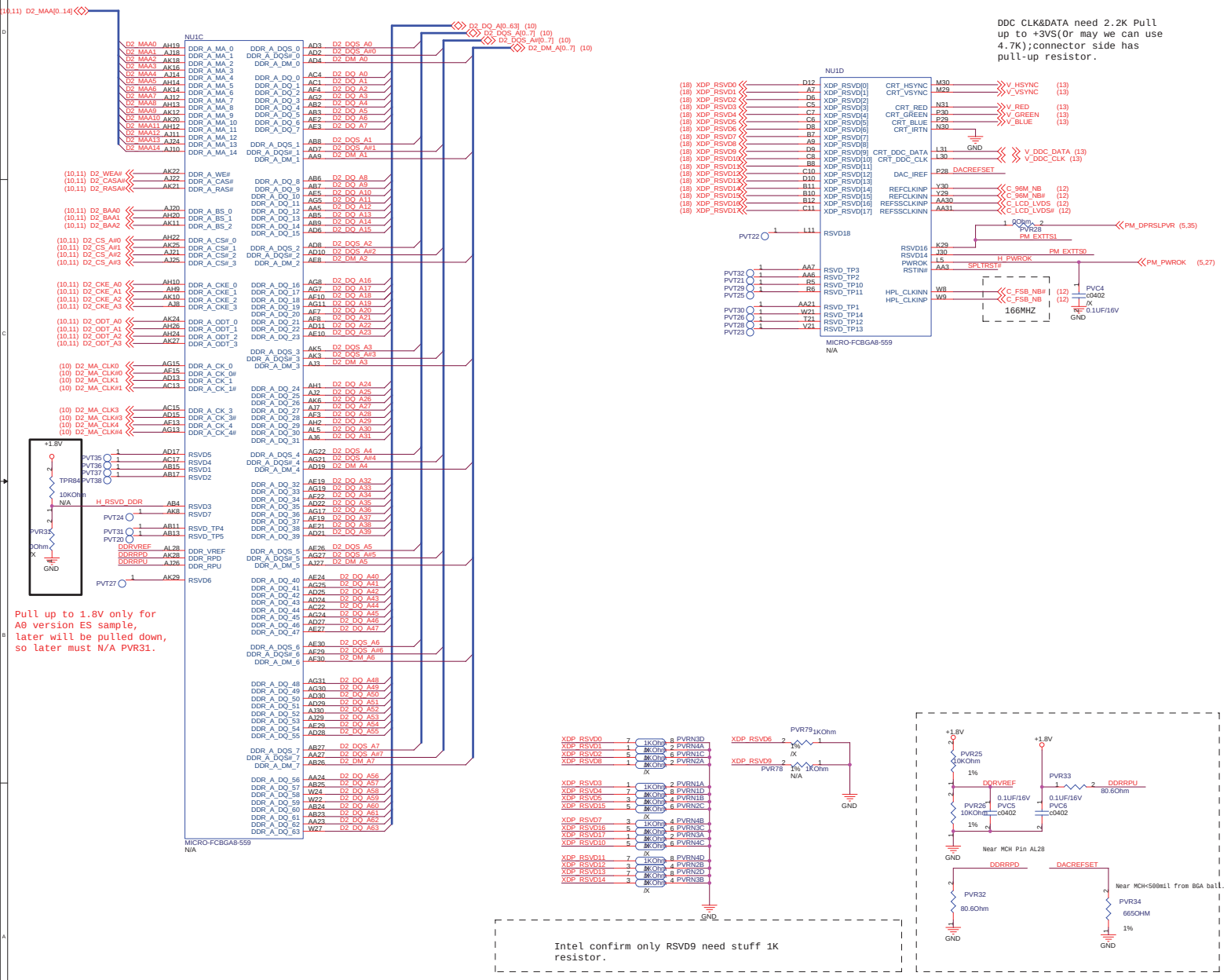


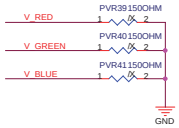
ASUSTek Computer Inc.	Title : SCH system		
	Engineer: Henry_Yang		
Size: A2	Project Name: PINEVIEW		Rev: 1.0G
Date: Wednesday, January 14, 2009	Sheet 5 of 42		

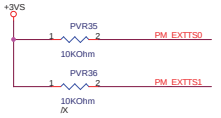


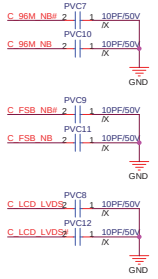
Title : Cover Page		
ASUSTek Computer Inc.	Engineer: Henry_Yang	
Size: A3	Project Name: PINEVIEW	Rev: 1.0G
Date: Wednesday, January 14, 2009	Sheet 6 of 42	



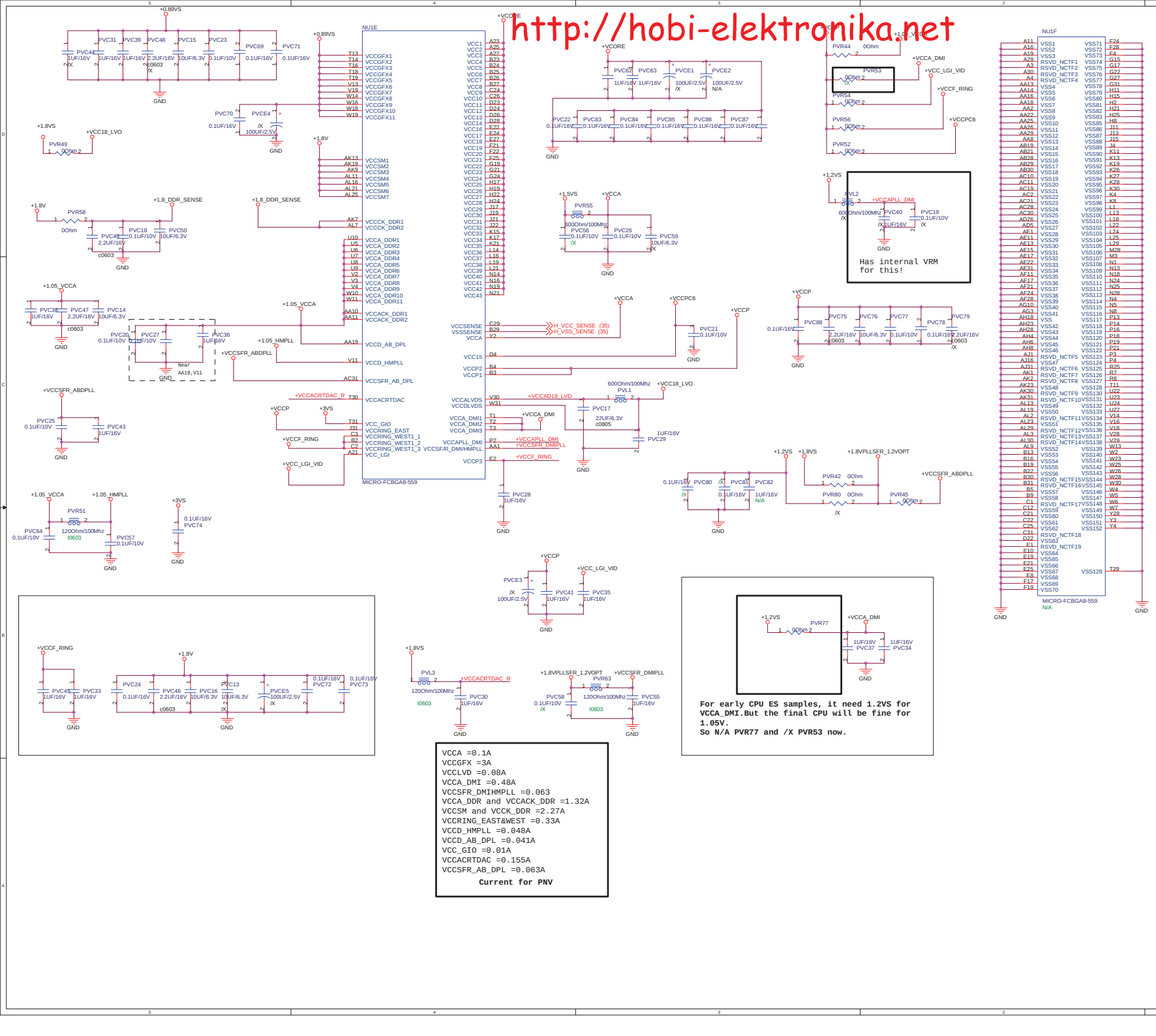




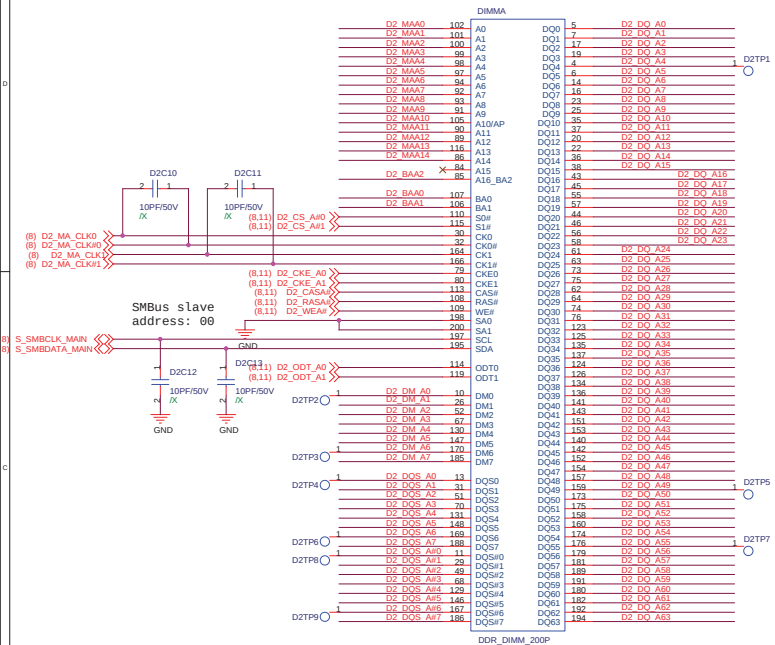




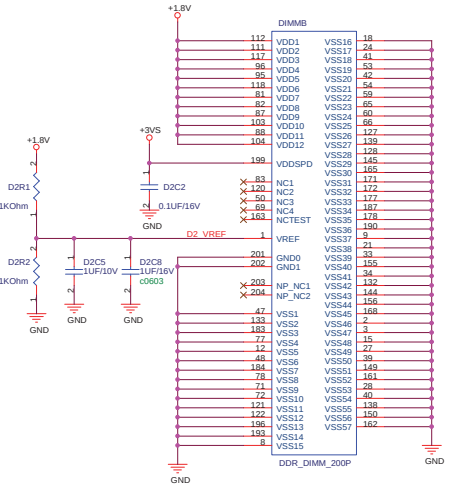
Title :	PNV_DDR2&RGB
ASUSTek Computer Inc.	Engineer: Henry_Yang
Size: A2	Project Name: PINEVIEW
Rev: 1.0C	
Date: Wednesday, January 14, 2009	Sheet 8 of 42

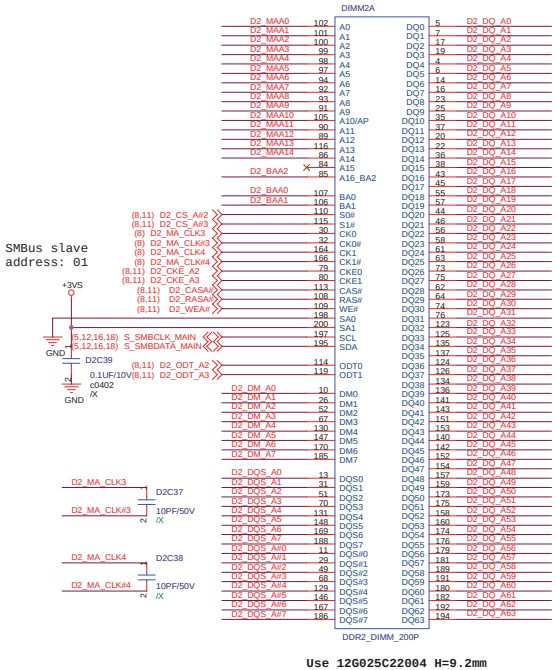


0.1BBeta

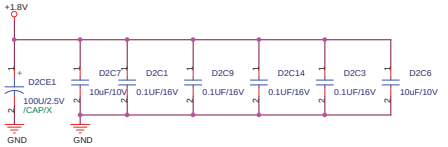


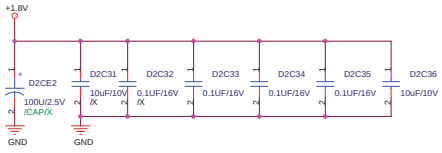
Use 12G025122000
H=5.2mm,
standard

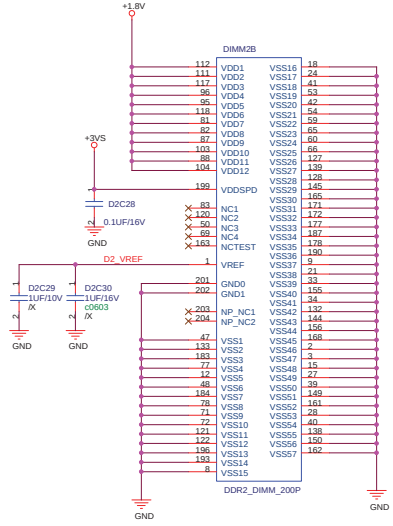




Use 12G025C22004 H=9.2mm





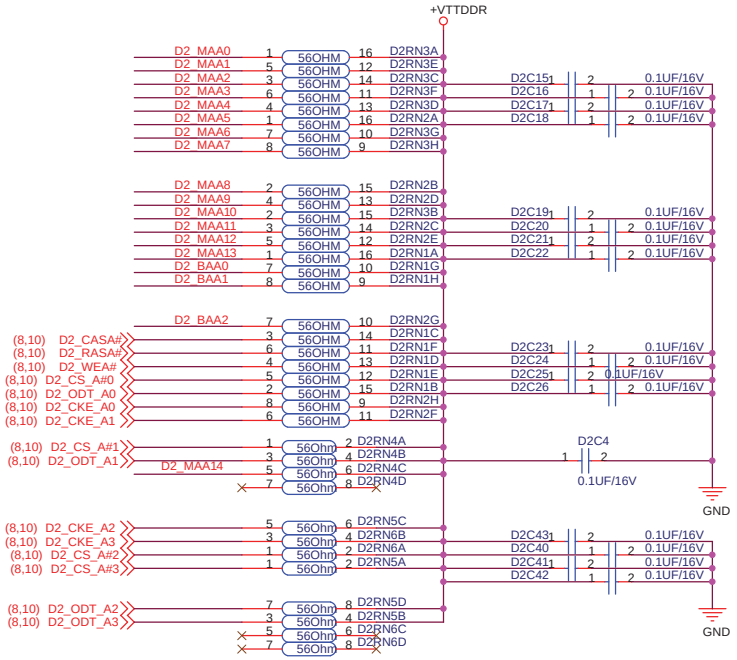


ASUSTek Computer Inc.	Title : SO-DIMM		
	Engineer: Henry_Yang		
Size: A2	Project Name: PINEVIEW		Rev: 1.0G
Date: Wednesday, January 14, 2009	Sheet 10 of 42		

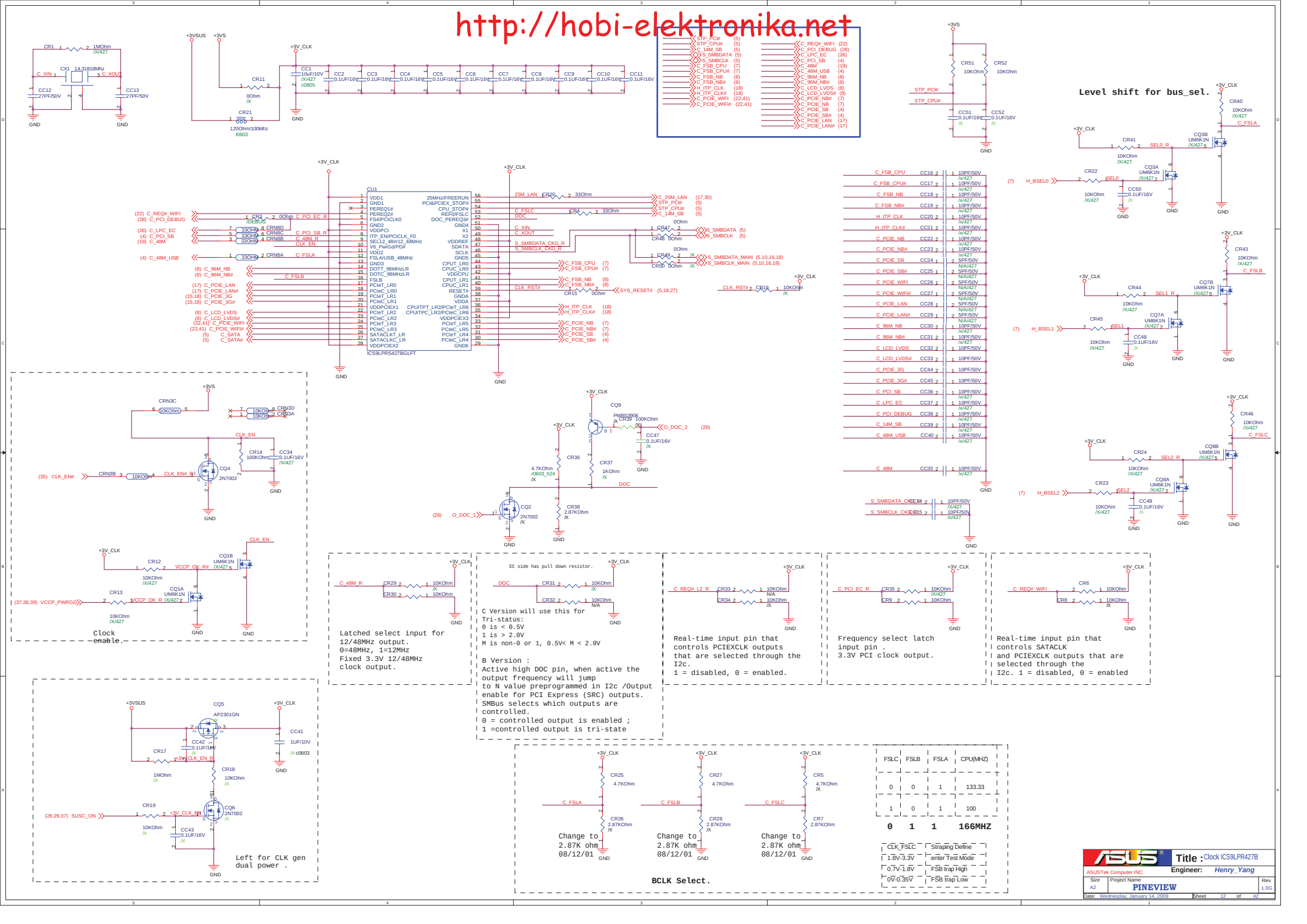
0.1BBeta

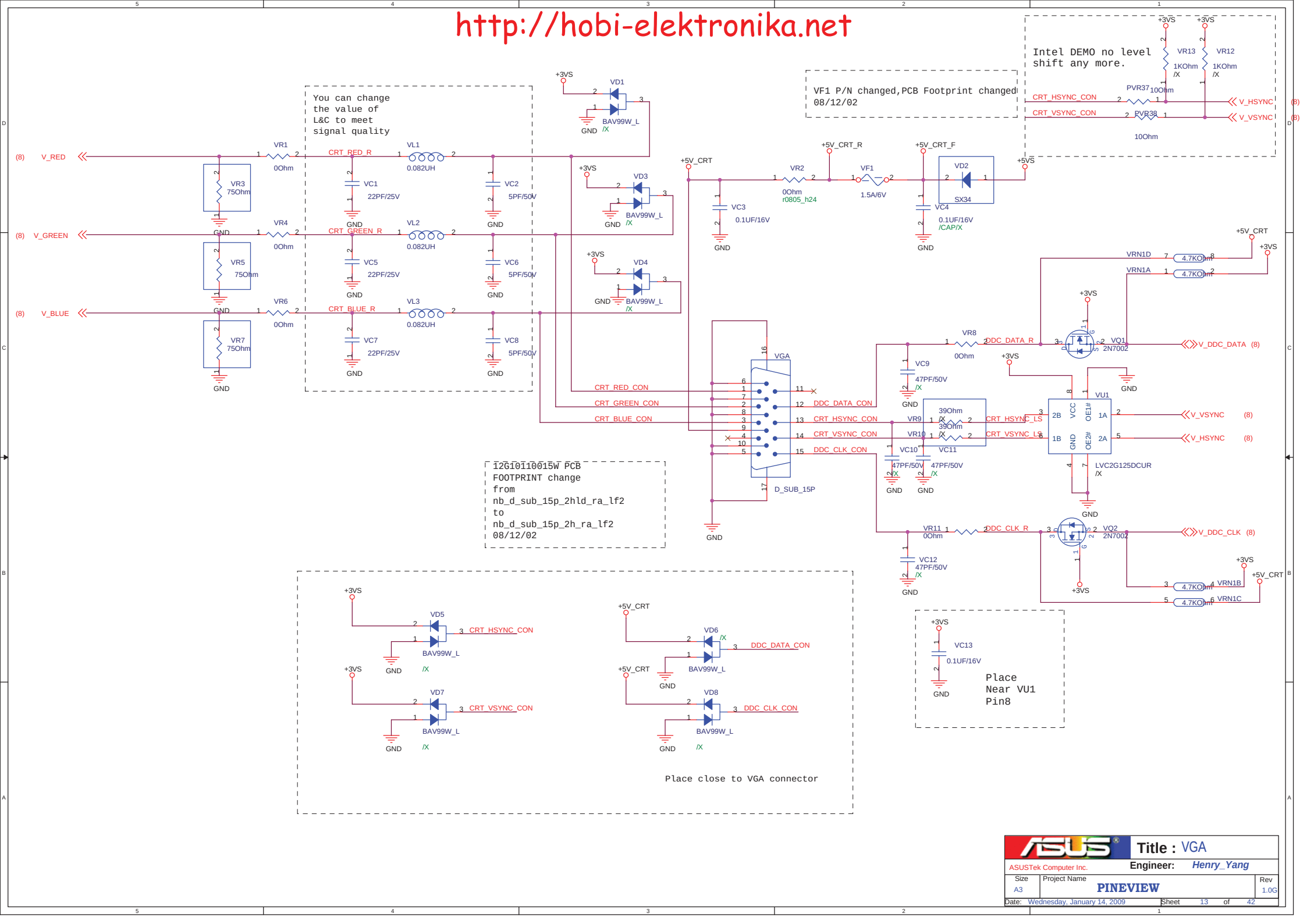
D2_MAA[0..14] (8,10)
D2_BAA[0..2] (8,10)

D2_CASA# (8,10)
D2_RASA# (8,10)
D2_WEA# (8,10)
D2_CS_A#0 (8,10)
D2_ODT_A0 (8,10)
D2_CKE_A0 (8,10)
D2_CKE_A1 (8,10)
D2_CS_A#1 (8,10)
D2_ODT_A1 (8,10)



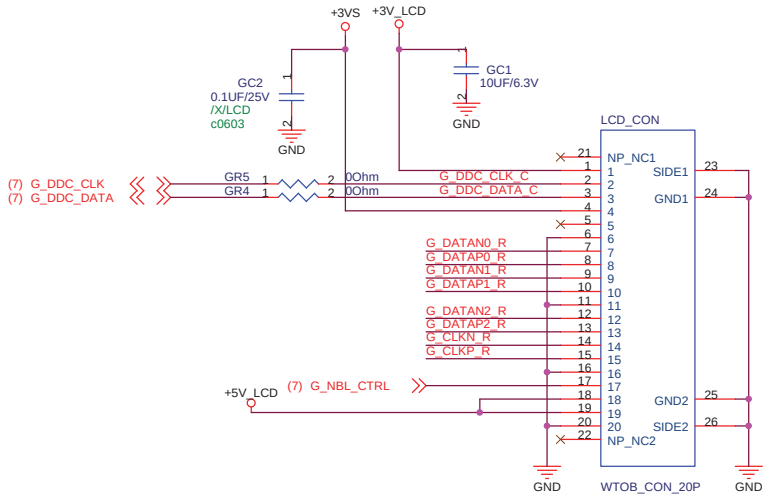
ASUSTek Computer Inc.	Title : DDR-Termination	
	Engineer: Henry_Yang	
Size: A3	Project Name: PINEVIEW	Rev: 1.0G
Date: Wednesday, January 14, 2009	Sheet 11 of 42	

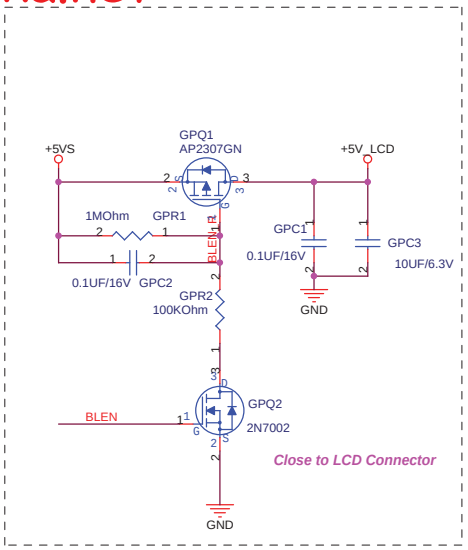


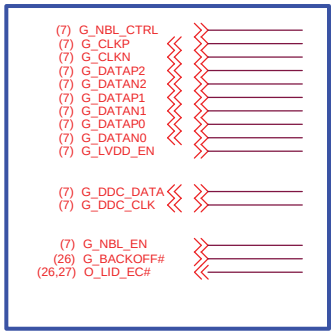


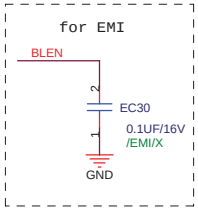
ASUSTek Computer Inc.	Title : VGA		
	Engineer: Henry_Yang		
Size: A3	Project Name: PINEVIEW		Rev: 1.0G
Date: Wednesday, January 14, 2009	Sheet 13 of 42		

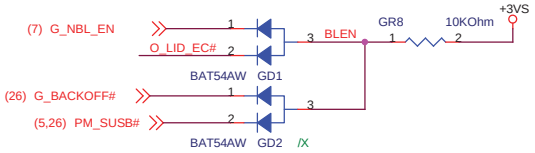
0.1 B Beta

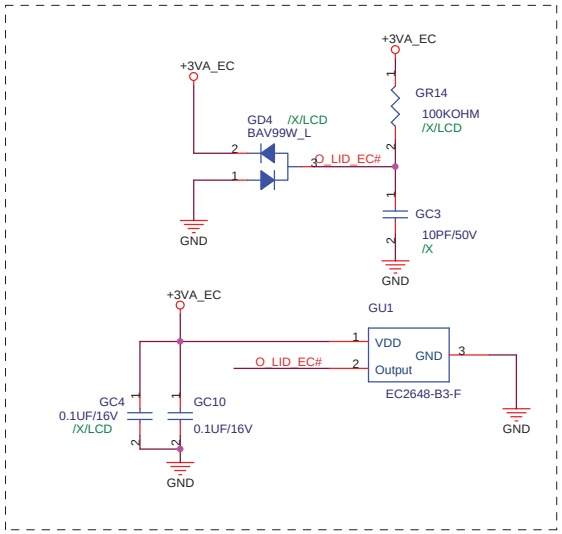


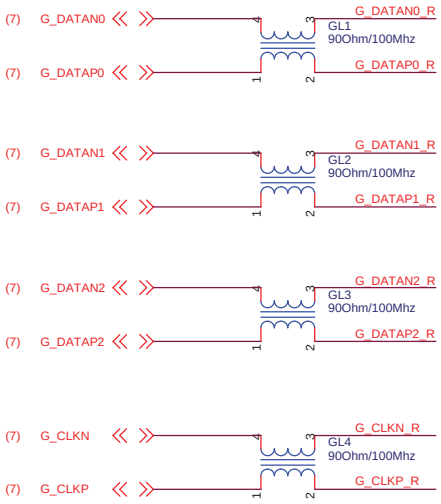




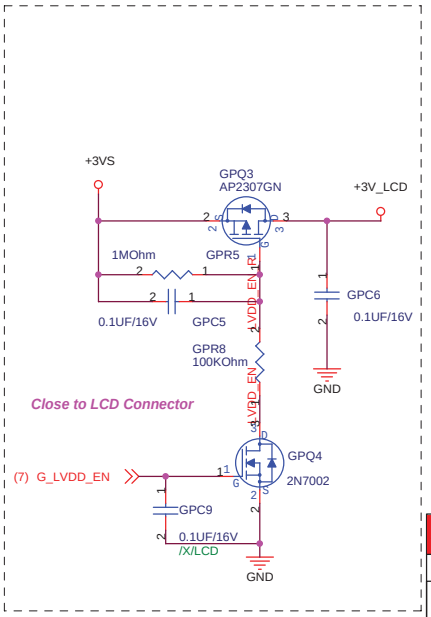




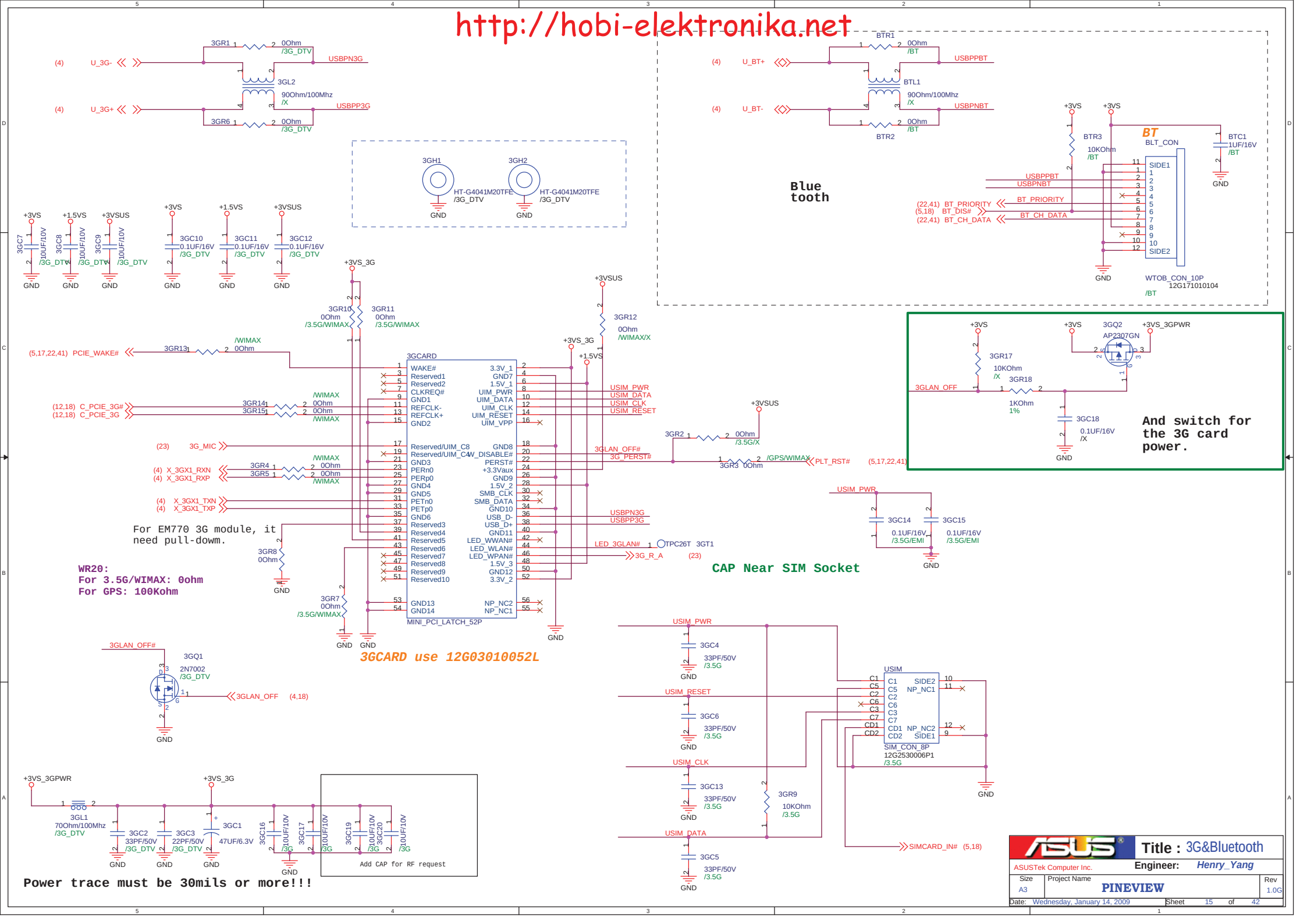




Add for RF request.

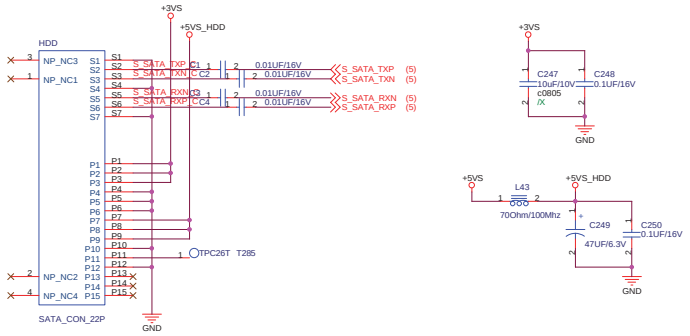


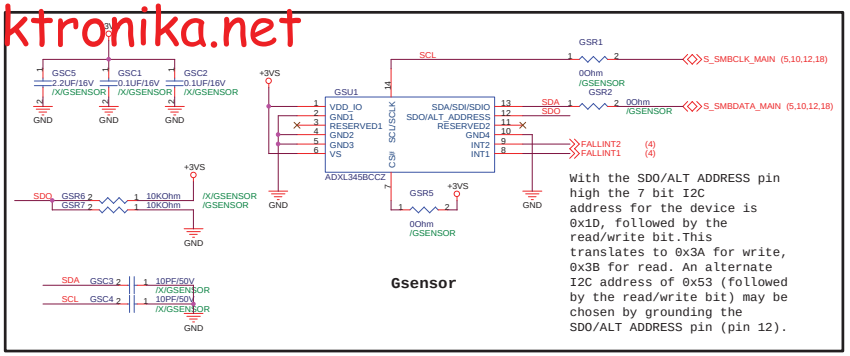
ASUSTek Computer Inc.	Title : LCD	
	Engineer: Henry_Yang	
Size: A3	Project Name: PINEVIEW	Rev: 1.0G
Date: Wednesday, January 14, 2009	Sheet 14 of 42	



Title :	3G&Bluetooth
ASUSTek Computer Inc.	Engineer: Henry_Yang
Size: A3	Project Name: PINEVIEW
Rev: 1.0G	
Date: Wednesday, January 14, 2009	Sheet 15 of 42

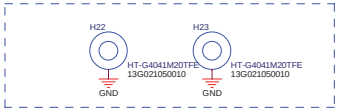
SATA HDD Connector



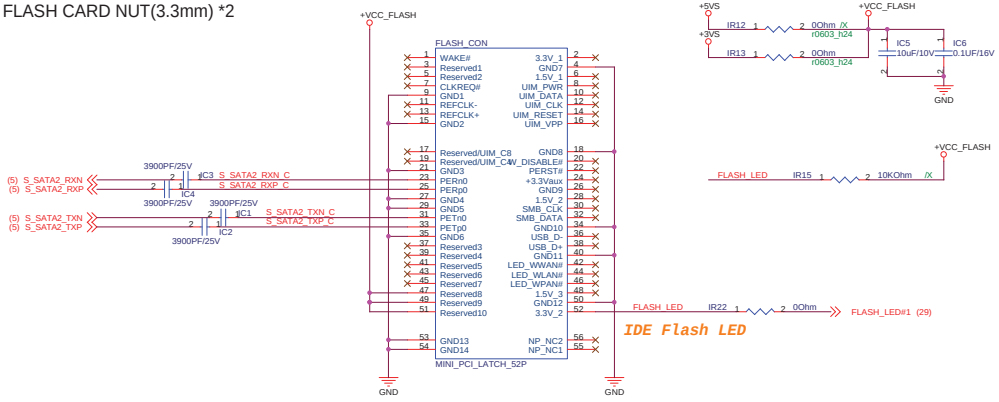


Gsensor

With the SDO/ALT ADDRESS pin high the 7 bit I2C address for the device is 0x1D, followed by the read/write bit.This translates to 0x3A for write, 0x3B for read. An alternate I2C address of 0x53 (followed by the read/write bit) may be chosen by grounding the SDO/ALT ADDRESS pin (pin 12).



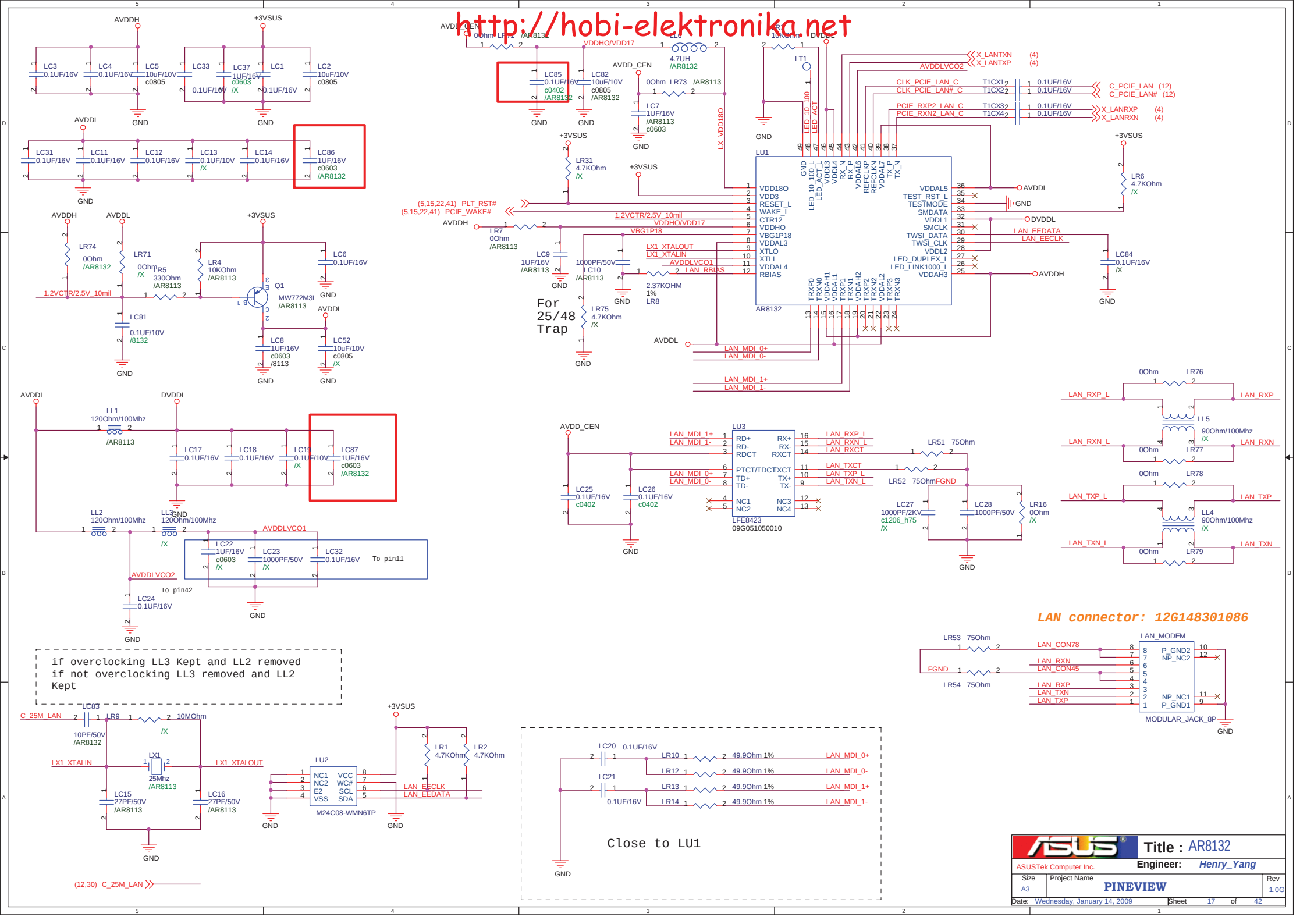
FLASH CARD NUT(3.3mm) *2



IDE Flash LED

<variant_name>

ASUSTek Computer INC.	Title : HDD&Flash card	
	Engineer: Henry_Yang	
Size: A2	Project Name: PINEVIEW	Rev: 1.0G
Date: Wednesday, January 14, 2009	Sheet 16 of 42	



ASUSTek Computer Inc.	Title : AR8132	
	Engineer: Henry_Yang	
Size: A3	Project Name: PINEVIEW	Rev: 1.0G
Date: Wednesday, January 14, 2009	Sheet 17 of 42	

SUS power plane

main power plane

Main power plane,5V tolerance.

GPIO11	+1.8V_DOWN
GPIO15	+1.8V_UP
GPIO13	VCCP_DOWN
GPIO9	VCCP_UP
GPIO14	1.5VS_DOWN
GPIO12	O_KBC_SCI#
GPIO8	EC_SMI#
GPIO10	WLAN_ON#
GPIO24	MINICARD1_EN#
GPIO26	CPU_LEVELDOWN
GPIO28	CPU_LEVELUP
GPIO27	0.89VS_DOWN

SUS power plane ,5V tolerance.

Main power plane ,3V tolerance.

GPIO33	CAMERA_EN
GPIO7	WLAN_LED
GPIO36	BT_DIS#
GPIO34	CARD_READER_EN#

Main power plane ,5V tolerance.

GPIO0	SIMCARD_IN#
GPIO1	3GLAN_OFF

GPIO puu-up resistors.

SIMCARD_IN# TPC61 0.1UF/10V GND /X

XDP2 ITP_CON_60P /X

XDP1 BTOB_CON_31P /X

PVR75 0Ohm N/A

PVR76 0Ohm N/A

PVR69 0Ohm N/A

PVR70 0Ohm /X

PVR71 0Ohm N/A

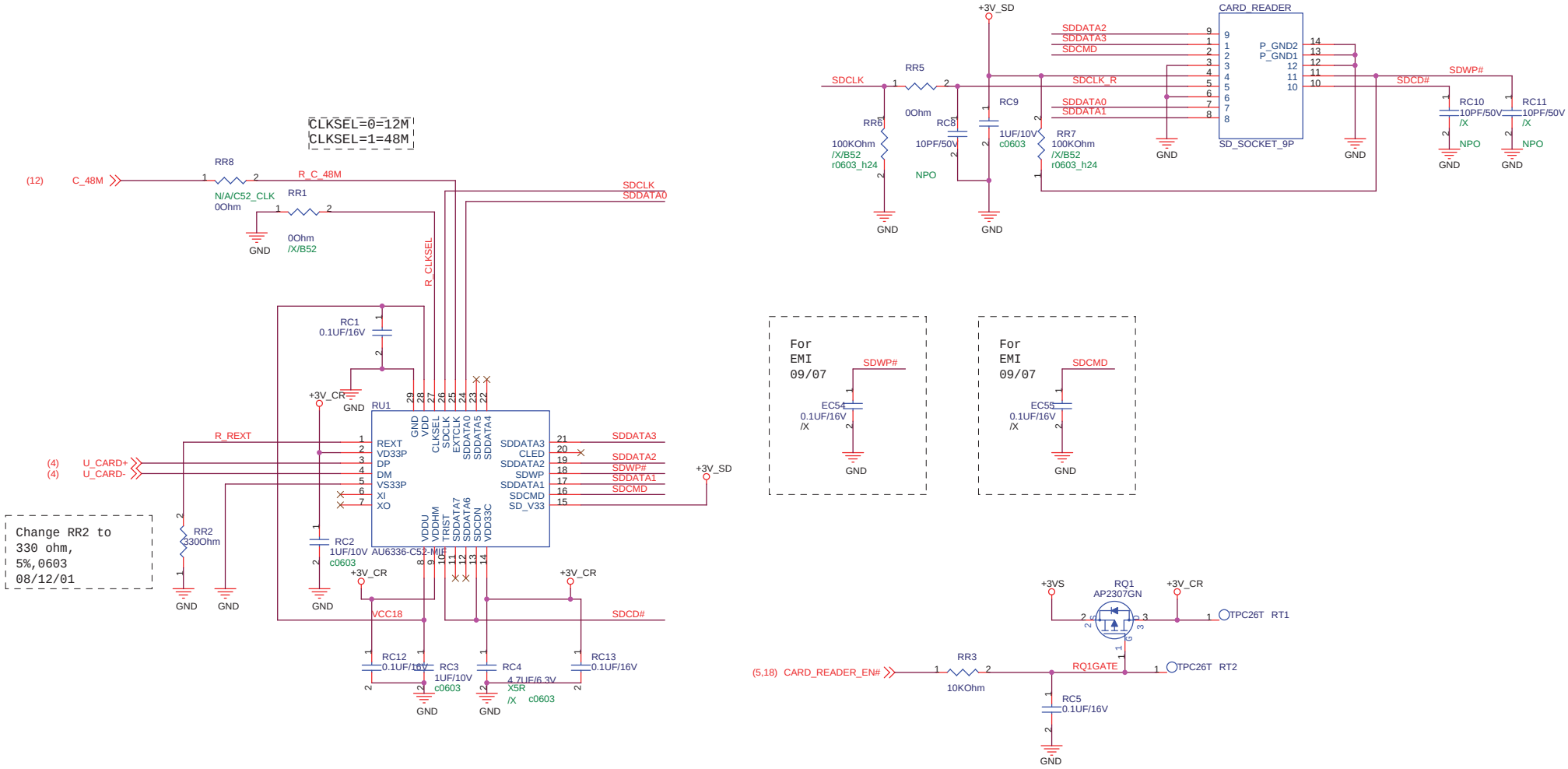
PVR72 0Ohm /X

PVR73 0Ohm N/A

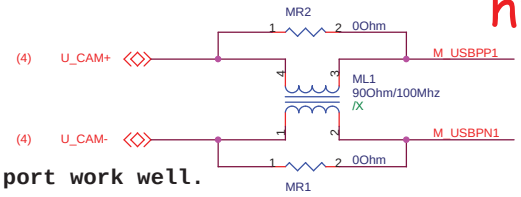
PVR74 1KOhm 1%

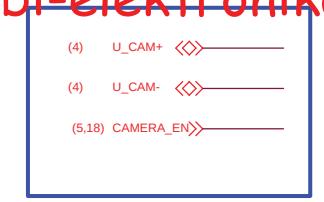
Title :	RJ45,RJ11
ASUSTek Computer Inc.	Engineer: Henry_Yang
Size: A3	Project Name: PINEVIEW
Rev: 1.0G	
Date: Wednesday, January 14, 2009	Sheet 18 of 42

0.1A Beta

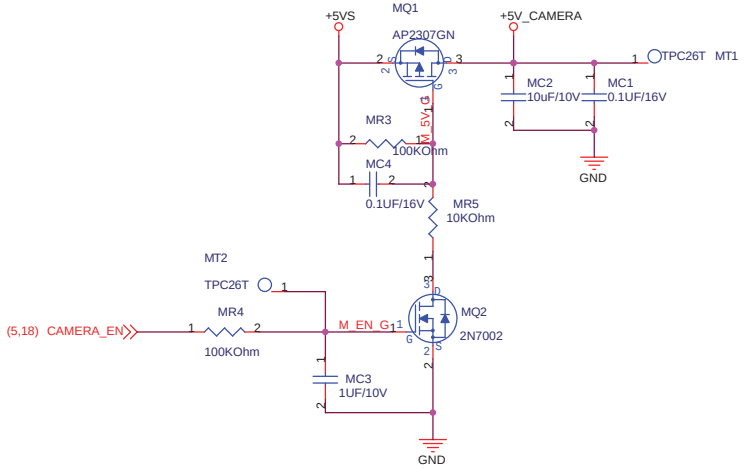


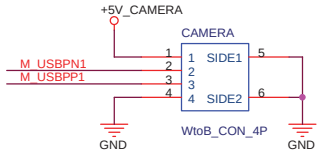
ASUSTek Computer Inc.	Title : Card Reader		
	Engineer: Henry_Yang		
Size: A3	Project Name: PINEVIEW		Rev: 1.0G
Date: Wednesday, January 14, 2009	Sheet 19 of 42		



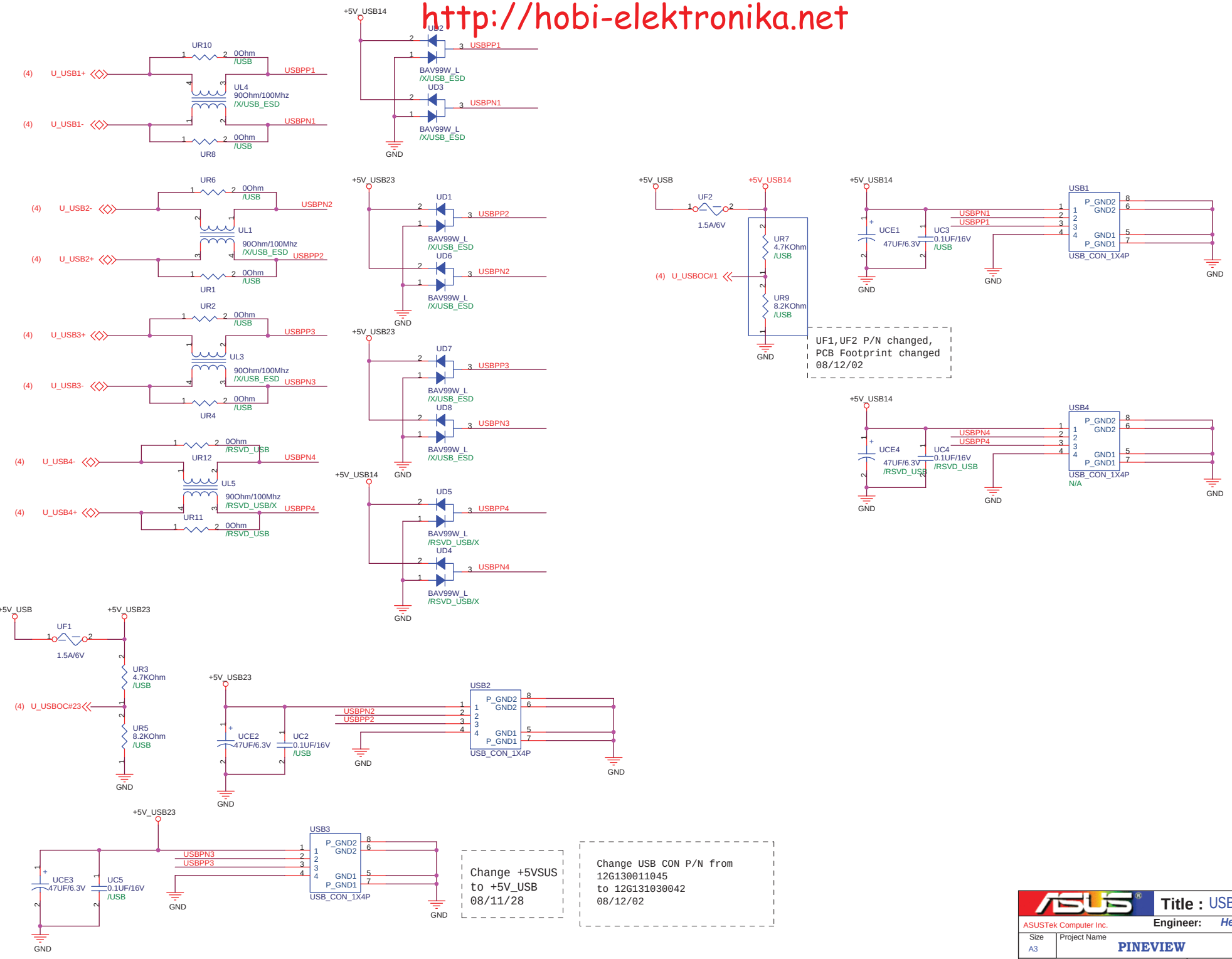


For check if the USB port work well.





ASUSTek Computer Inc.	Title : Camera	
	Engineer: Henry_Yang	
Size: A3	Project Name: PINEVIEW	Rev: 1.0G
Date: Wednesday, January 14, 2009	Sheet 20 of 42	



ASUSTek Computer Inc.

Title : USB PORT

Engineer: Henry_Yang

Size	Project Name	Rev
A3	PINEVIEW	1.0G

Date: Wednesday, January 14, 2009 Sheet 21 of 42

H1 U5F-M-EXPREE 13G021036001 GND
H2 U5F-M-EXPREE 13G021036001 GND

MINI CARD NUT(1.6mm) *2

MINICARD use 12G030010052Q

WLAN
WR3 0Ohm /X
(5,15,17,41) PCIE_WAKE# → M_PCIE_WAKE#
(15,41) BT_PRIORITY
(15,41) BT_CH_DATA
WT2 M1_CLKREQ#
(12,41) C_PCIE_WIFI#
(12,41) C_PCIE_WIFI
WR22 0Ohm N/A
(4) X_L2X1_RXN
(4) X_L2X1_RXP
0Ohm N/A WR23
WR24 0Ohm N/A
(4) X_L2X1_TXN
(4) X_L2X1_TXP
WR25 0Ohm N/A
C_PCIE_WIFI WC10 10PF/50V /X
C_PCIE_WIFI# WC11 10PF/50V /X
GND

1	WAKE#	3.3V_1	2
3	Reserved1	GND7	4
5	Reserved2	1.5V_1	6
7	CLKREQ#	UIM_PWR	8
9	GND1	UIM_DATA	10
11	REFCLK-	UIM_CLK	12
13	REFCLK+	UIM_RESET	14
15	GND2	UIM_VPP	16
17	Reserved/UIM_C8	GND8	18
19	Reserved/UIM_C4	W_DISABLE#	20
21	GND3	PERST#	22
23	PERn0	+3.3Vaux	24
25	PERp0	GND9	26
27	GND4	1.5V_2	28
29	GND5	SMB_CLK	30
31	PETn0	SMB_DATA	32
33	PETp0	GND10	34
35	GND6	USB_D-	36
37	Reserved3	USB_D+	38
39	Reserved4	GND11	40
41	Reserved5	LED_WWAN#	42
43	Reserved6	LED_WLAN#	44
45	Reserved7	LED_WPAN#	46
47	Reserved8	1.5V_3	48
49	Reserved9	GND12	50
51	Reserved10	3.3V_2	52
53	GND13	NP_NC2	56
54	GND14	NP_NC1	55

MINI_PCI_LATCH_52P

+3VS_PE +1.5VS_PE +3VSUS_PE
WLAN_ON
WLAN_RST# → WR14 0Ohm /X → WLAN_RST#_R
MSMB_CLK1 WR5 10KOhm
MSMB_DATA1 WR6 10KOhm
LED_WLAN# WT4

WLAN_ON WR15 0Ohm /X
WLAN_RST# WR16 0Ohm /X
WR4 10KOhm /X
WQ1 2N7002 /X
WLAN_ON# (5,18,41)

+3VS_PE 750 mA
WC1 10uF/10V
WC2 0.1UF/16V /X
WC3 0.1UF/16V
+1.5VS_PE 375 mA
WT1
WC4 10uF/10V /X
WC5 0.1UF/16V /X
WC6 0.1UF/16V /X
WC7 0.1UF/16V /X
+3VSUS_PE 250 mA
WT3
WC8 1UF/10V /X
WC9 0.1UF/16V /X

WU1 use 06G030057011

WU1
(5,15,17,41) PLT_RST#
WC12 0.1UF/16V /X
+3VS +3VS_PE_R
+3VS_PE +3VS_PE_R
WR12 0Ohm r0603_h24 /X
WLAN_RST#_R

1	SYSRSTZ	GND	21
2	SHDNZ	OCZ	20
3	STBYZ	RCLKEN	19 → WLANCLK_EN
4	AVCC_PCI1	AVCC_AUX	18 → +3VSUS
5	AVCC_PCI2	VOUT_AUX	17 → +3VSUS_PE
6	VOUT_PCI1	AVCC_L2	16 → +1.5VS
7	VOUT_PCI2	VOUT_L1	15
8	PERSTZ	VOUT_L2	14 → +1.5VS_PE
9	NC	VOUT_L1	13
10	AVSS	CPPE#	12 → MINICARD1_EN# (5,18)
		CPUSB#	11

P2231TFC1 /X

+3VS WC13 0.1UF/16V
+1.5VS WC14 0.1UF/16V /X
+3VSUS WC15 0.1UF/16V /X

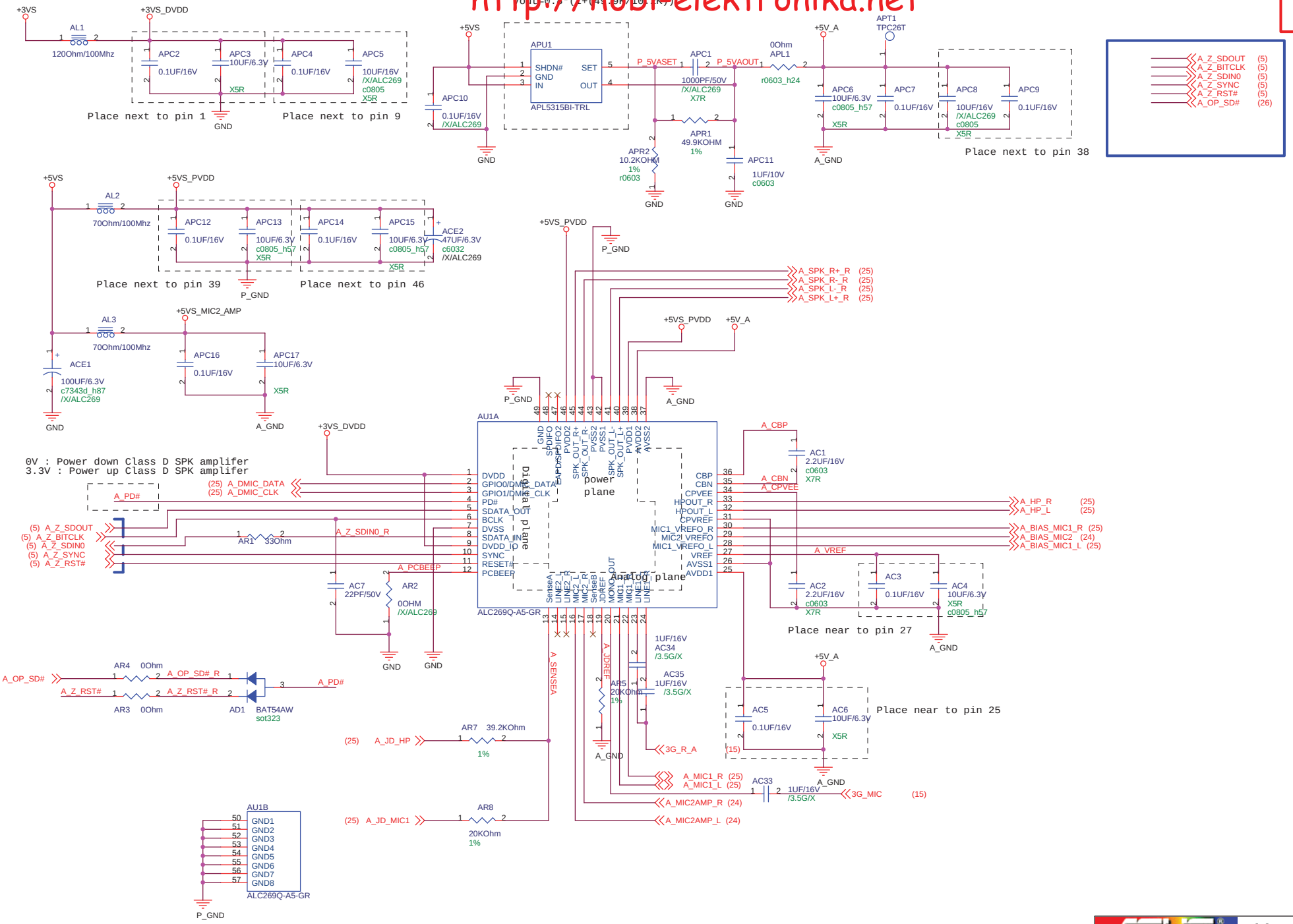
+3VS_PE WR13 100KOhm /X
WLANCLK_EN WQ2 2N7002 /X
WC20 0.1UF/16V /X
C_REQ#_WIFI (12)
1.2G

+3VS WR17 10KOhm /X
MINICARD1_EN# WR8 1KOhm 1%
+3VS WQ3 AP2307GN +3VS_PE
TPC26T WT5
TPC26T WT6
WC16 0.1UF/16V /X
Change WR8 to 1K 1%
08/11/26
1.2G

+3VS_PE WR9 100KOhm
WC18 0.1UF/16V N/A
WU2 AME8550BEEVC2702
MRST# 5 CD OUT 1
IN 2
NC 4 GND 3
WC17 0.1UF/16V
WR11 10KOhm
Q11 PMBS3904 N/A
WR10 10KOhm
WC19 0.1UF/16V /X
WLAN_RST#
PLT_RST#
1.2G

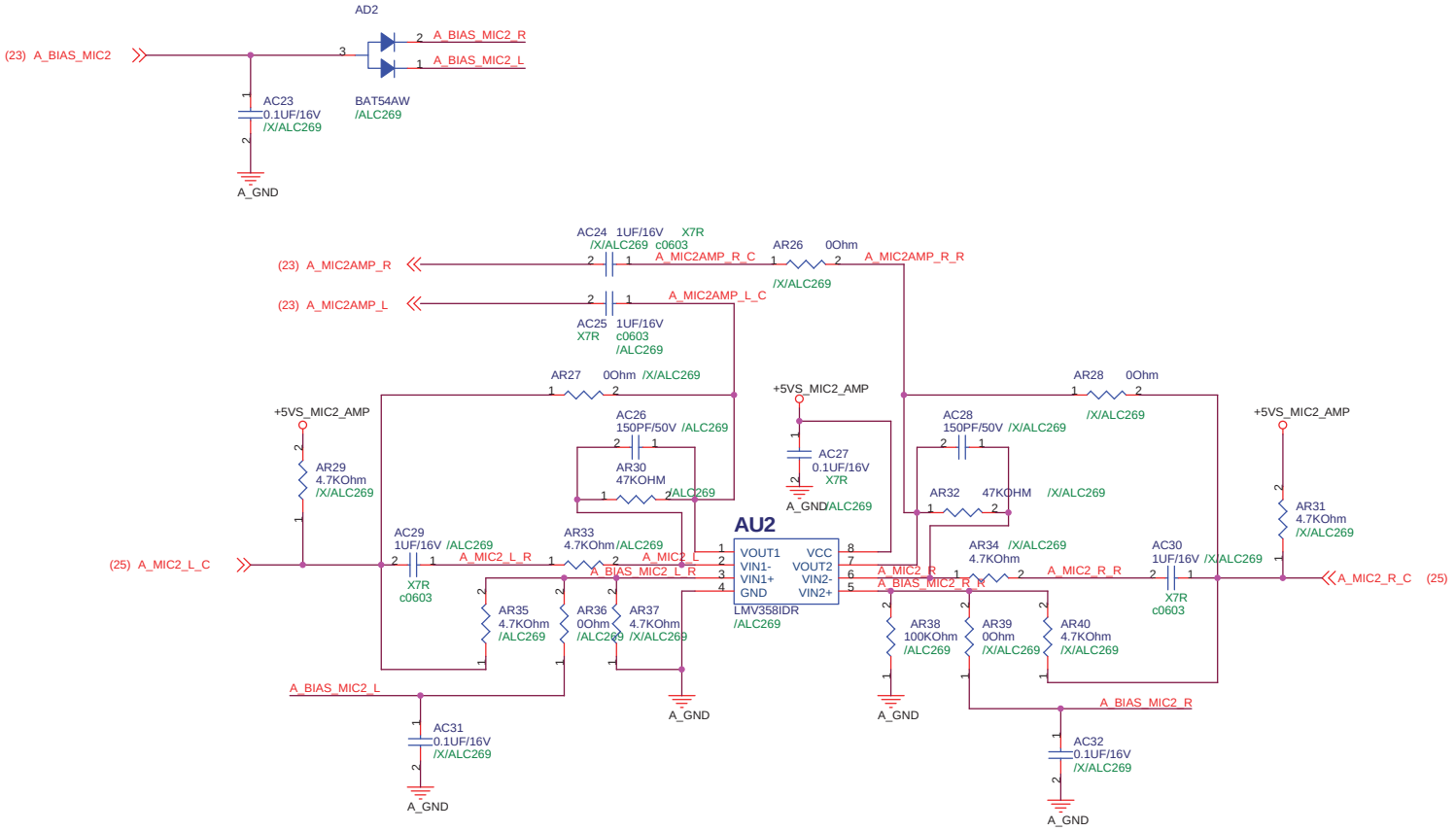
Title :	WLAN		
ASUSTek Computer Inc.	Engineer:	Henry_Yang	
Size A3	Project Name PINEVIEW		Rev 1.0G
Date: Wednesday, January 14, 2009	Sheet 22 of 42		

0.1ABeta



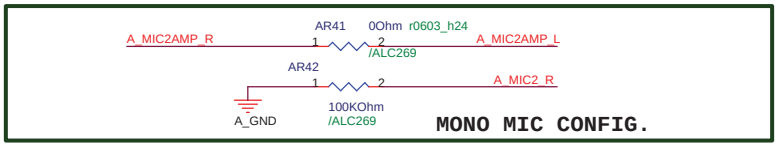
ASUSTek Computer Inc.	Title : ALC269-1	
	Engineer: Henry_Yang	
Size: A3	Project Name: PINEVIEW	Rev: 1.0G
Date: Wednesday, January 14, 2009	Sheet 23 of 42	

0.1ABeta



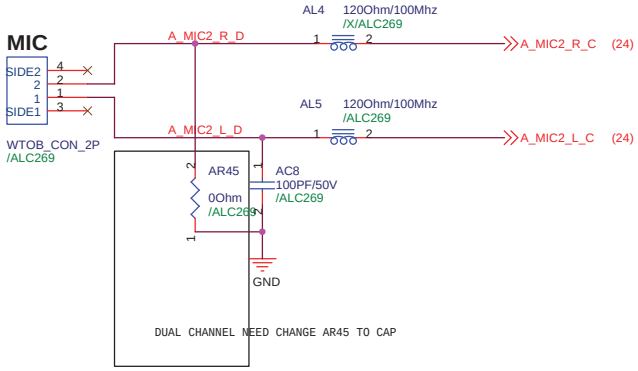
Internal MIC Amp.

FL = 33.86kHz, FH = 22.5kHz



ASUSTek Computer Inc.	Title : Internal MIC AMP	
	Engineer: Henry_Yang	
Size: A3	Project Name: PINEVIEW	Rev: 1.0G
Date: Wednesday, January 14, 2009	Sheet 24 of 42	

Internal MIC

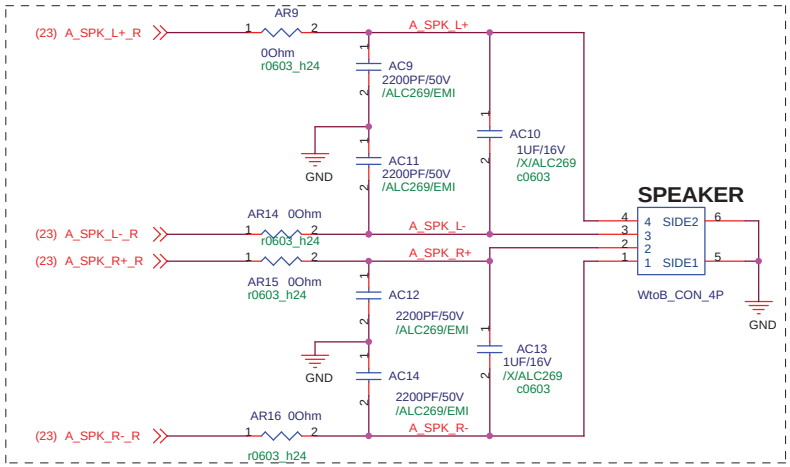


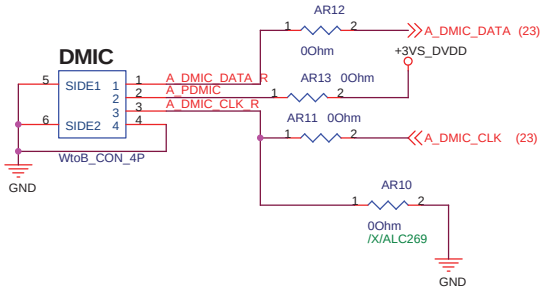
Change AR21,AR22 to 1K 1%
08/11/26

SPEAKER

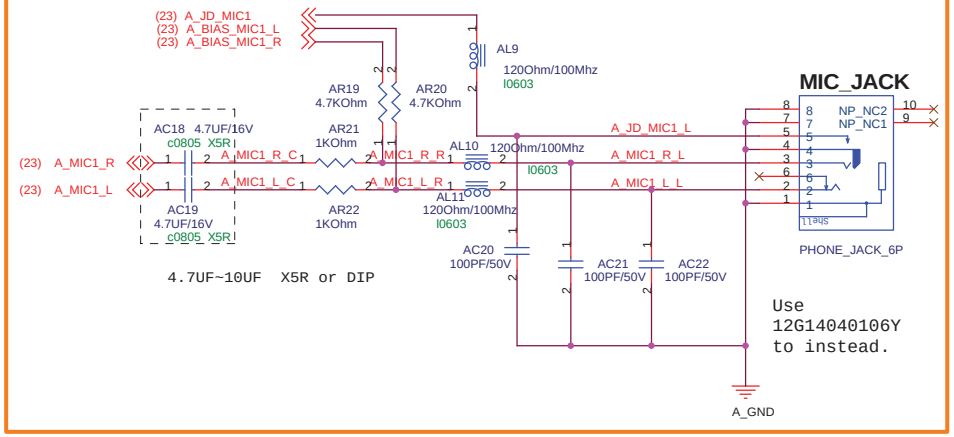
Demodulation Filter
Placement near
Audio Codec

<<Attention>>
you can use LC filter(AR9,AR14,AR15,AR16 mount 8.2uH L ;and mount AC10,AC13) to eliminate the EMI(please don't use general beads,because they may influence the THD+N quality) , AC9/AC11/AC12/AC14 are reserved for EMI fine-tune ; For EMI issue, All L and C should near to codec

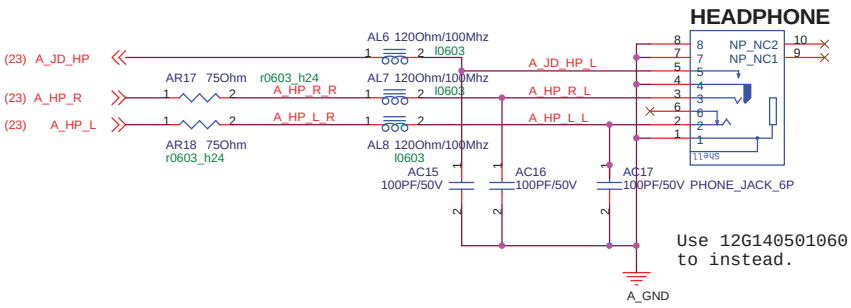


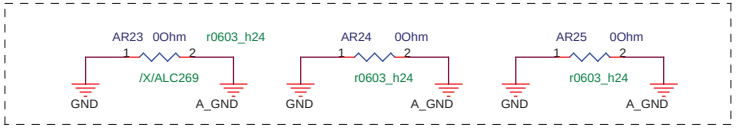


MIC JACK

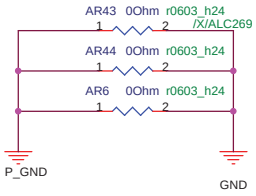


HEADPHONE



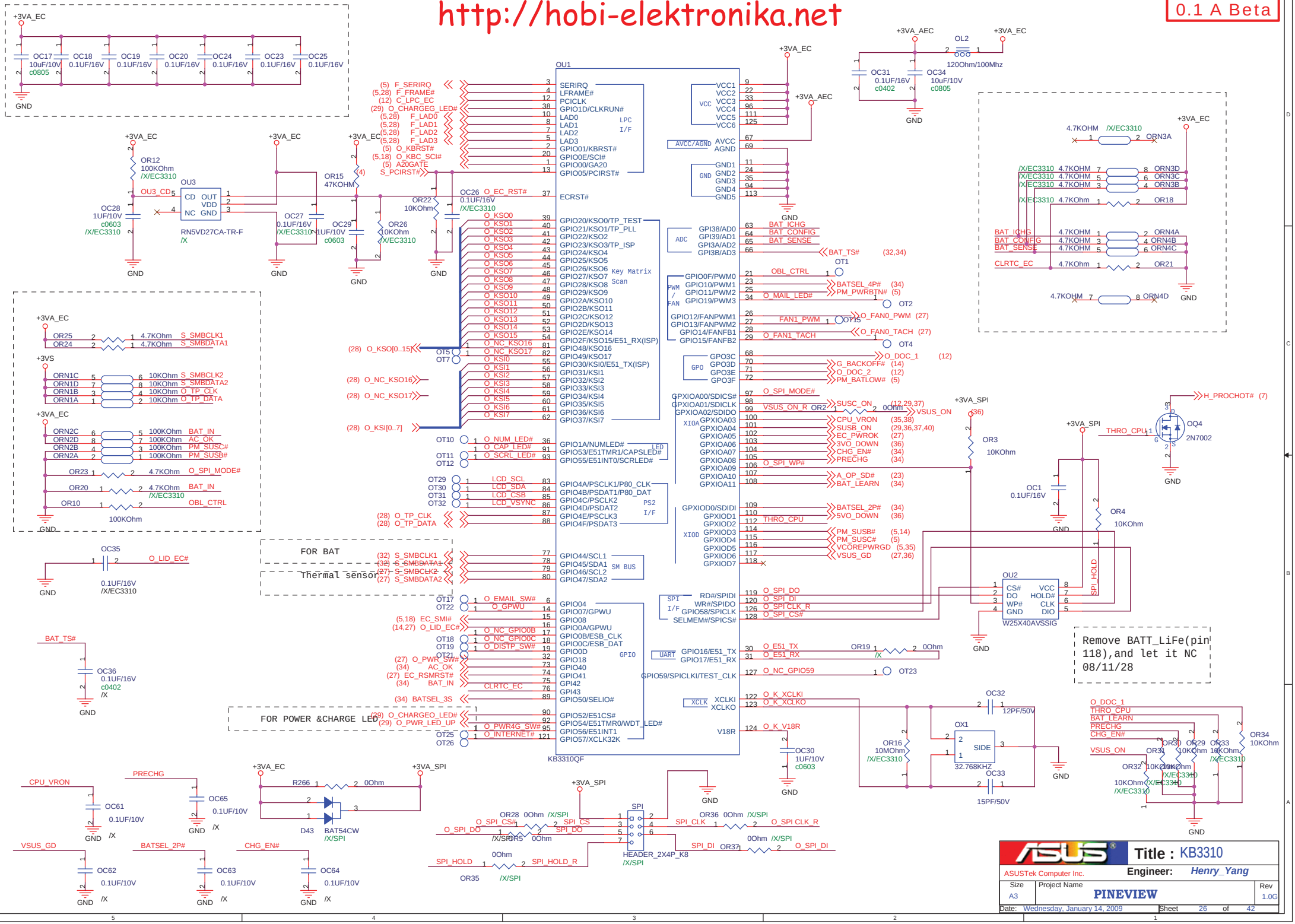


AR24, AR25 can use
0.1UF 11G233310432320
for EMI



ASUSTek Computer Inc.	Title : JACK&SPEAKER	
	Engineer: Henry_Yang	
Size: A3	Project Name: PINEVIEW	Rev: 1.0G
Date: Wednesday, January 14, 2009	Sheet 25 of 42	

0.1 A Beta



0.1 A Beta

Remove Force_off
function
08/11/28

H_THERM_CPU+
H_THERM_CPU-
OC12
1000PF/50V
X7R

S_SMBCLK2 OC11 10PF/50V /X/EC3310
S_SMBDATA2 OC10 10PF/50V /X/EC3310
GND

+3V_THRM
OR9 0Ohm
OC13 0.1UF/16V
OR6 0Ohm /X/EC3310
+3VS +3VA_EC
GND

+3V_THRM
OU4
(26) S_SMBCLK2
(26) S_SMBDATA2
(5) THERMAL_ALERT#
0Ohm /X OR38
SMBCLK VCC
SMBDATA DXP
ALERT# DXN
GND THERM#
G781P8F
H_THERM_CPU+ (7)
H_THERM_CPU- (7)
GND
OU4 use 06G023048021

For
EMI
09/07
PWRBTN#
EC63 0.1UF/16V /X
GND

+3VA_EC
ORN6B 100KOHM
ORN6C 100KOHM
PWRBTN#
OT20 for ATS
OD6 BAT54AW
(14,26) O_LID_EC#
O_D10
OQ1 2N7002
OR14 0Ohm /X/EC3310
OC15 0.1UF/16V /X/EC3310
PWRSW#
OR11 33Ohm
ORN6D 100KOHM
OC14 0.1UF/16V /X/EC3310
GND

+3VA_EC
PWRBTN#
PWRBTN
TACT_SWITCH_5P
ORN6A 100KOHM
OT3
O_PWR_SW# (26)

prevent system power on when LCD close

BOTTOM_BTN#
SW6
TACT_SWITCH_5P
R99 0Ohm
C80 0.1UF/16V /X
SYS_RESET# (5,12,18)
GND

+5VS
OC8 10uF/10V c0805
OC9 0.1UF/16V
GND

+5VS
ORN5B 4.7KOhm
ORN5A 4.7KOhm
(26) O_FAN0_TACH
FAN_TACH
OR1 18.2KOhm 1%
OC6 100PF/50V /X/EC3310
+5VS
FAN
SIDE1
SIDE2
WtoB_CON_4P
GND

+3VA_EC
ORN5C 4.7KOhm
ORN5D 4.7KOhm
FAN_PWM
+3VA_R
OQ3 2N7002
OC7 100PF/50V /X/EC3310
(26) O_FAN0_PWM

+3VSUS
OR222 10KOhm N/A
(26,36) VSUS_GD
(26) EC_RSMRST#
OD10 BAT54AW N/A
PM_RSMRST# (5)

900HA 1.1G
For RTC Issue
12/05

EC_RSMRST# R199 0Ohm /X PM_RSMRST#

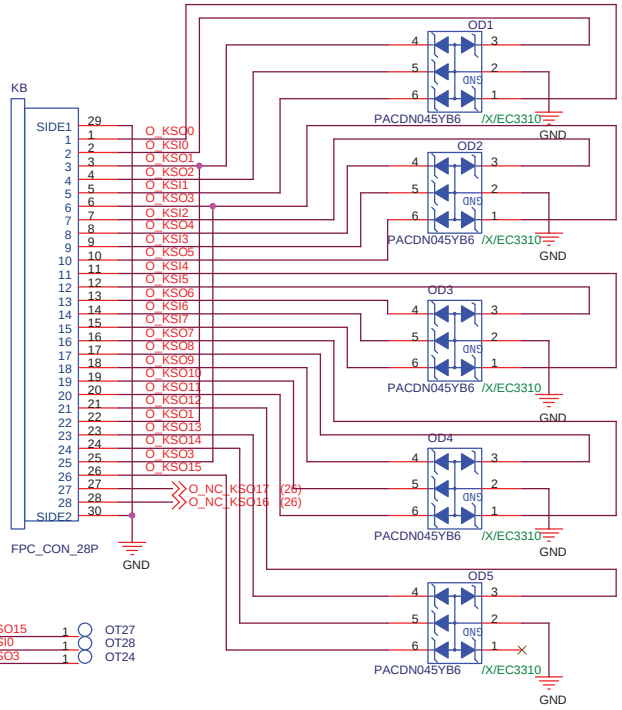
+3VS
OR233 10KOhm N/A
(26,36) VSUS_GD
(26) EC_PWROK
OD20 BAT54AW N/A
PM_PWROK (5,8)

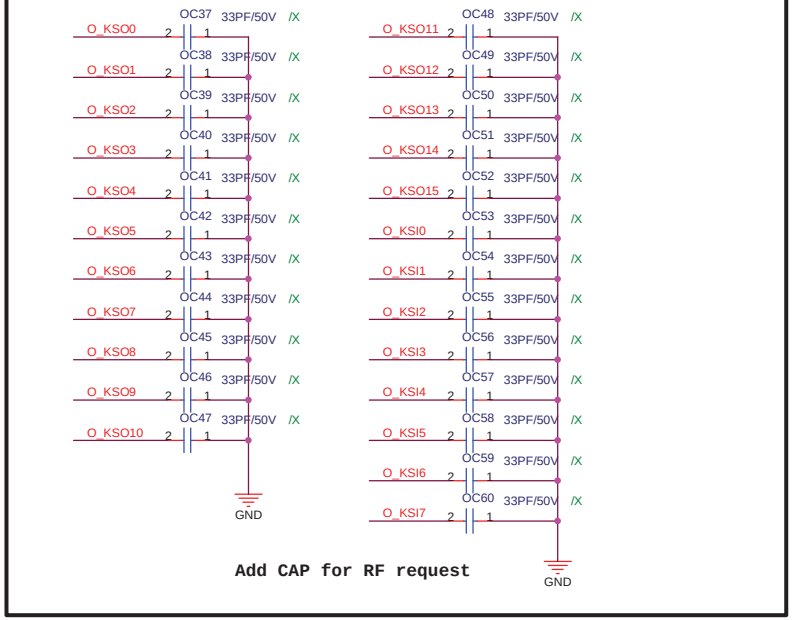
EC_PWROK R299 0Ohm /X PM_PWROK

ASUSTek Computer Inc.
Title : T sensor&BTN
Engineer: Henry_Yang
Size A3
Project Name PINEVIEW
Rev 1.0G
Date: Wednesday, January 14, 2009
Sheet 27 of 42

0.1 A Beta

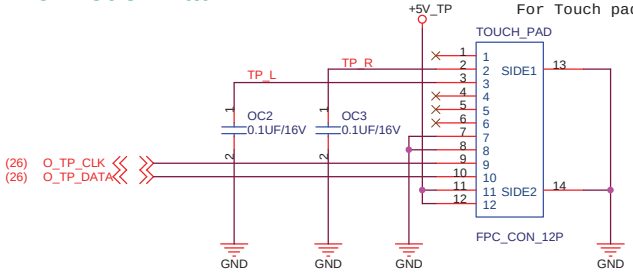
For Keyboard

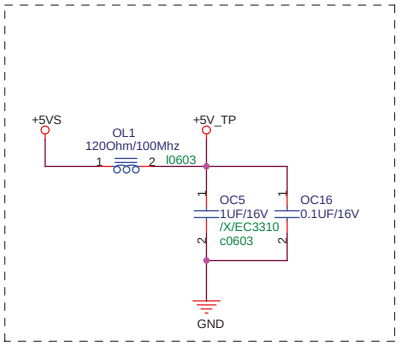


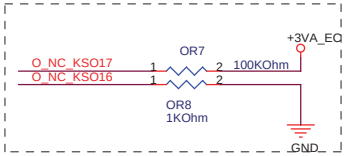


Add CAP for RF request

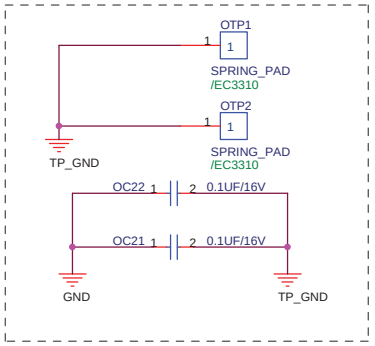
For Touch-Pad

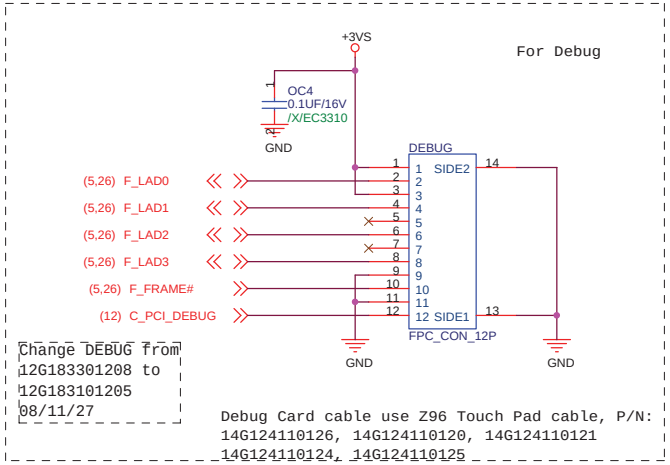






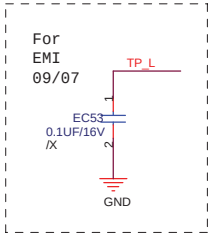
Change OR8 to 1K 1%
08/11/26



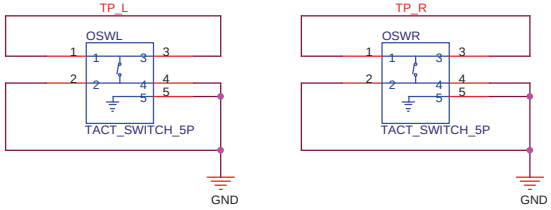


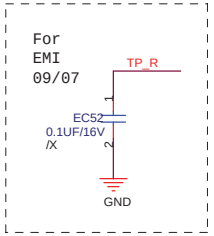
Change DEBUG from 12G183301208 to 12G183101205
08/11/27

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



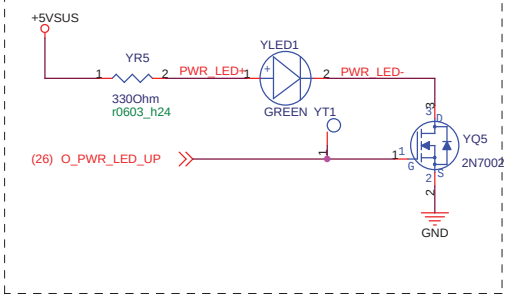
OSW1, OSW2 use 12G09103305N



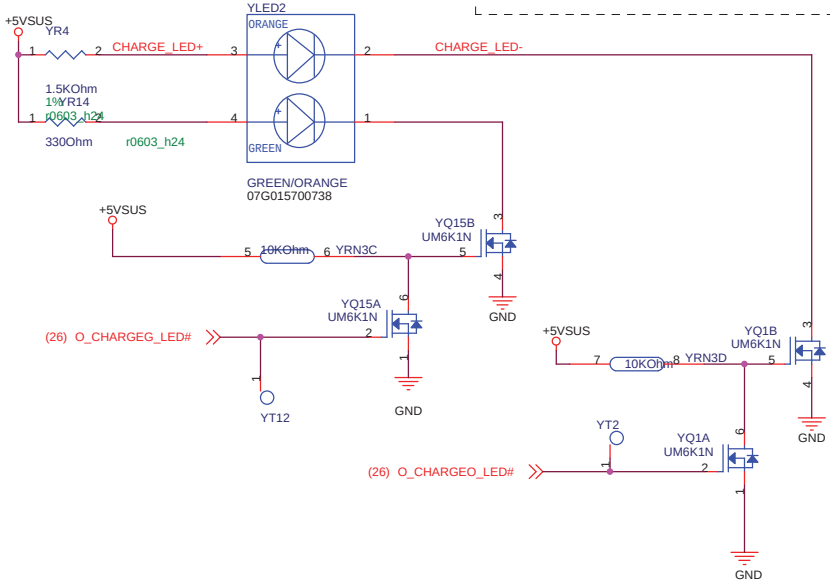


ASUSTek Computer Inc.	Title : TP&KB	
	Engineer: Henry_Yang	
Size: A3	Project Name: PINEVIEW	Rev: 1.0G
Date: Wednesday, January 14, 2009	Sheet 28 of 42	

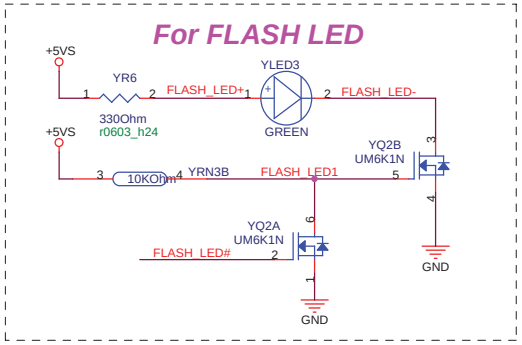
For POWER LED



For CHARGE LED

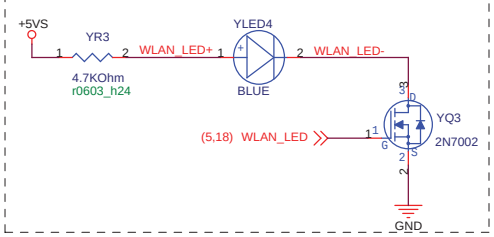


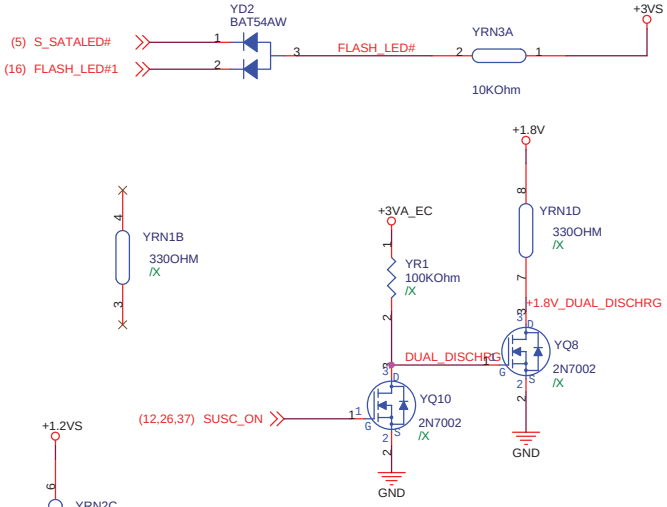
For FLASH LED

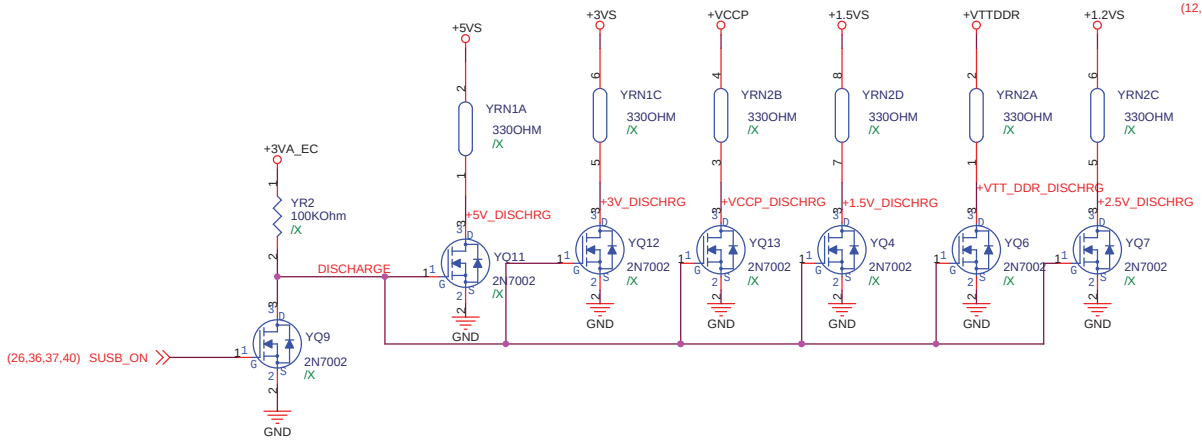


For WLAN LED

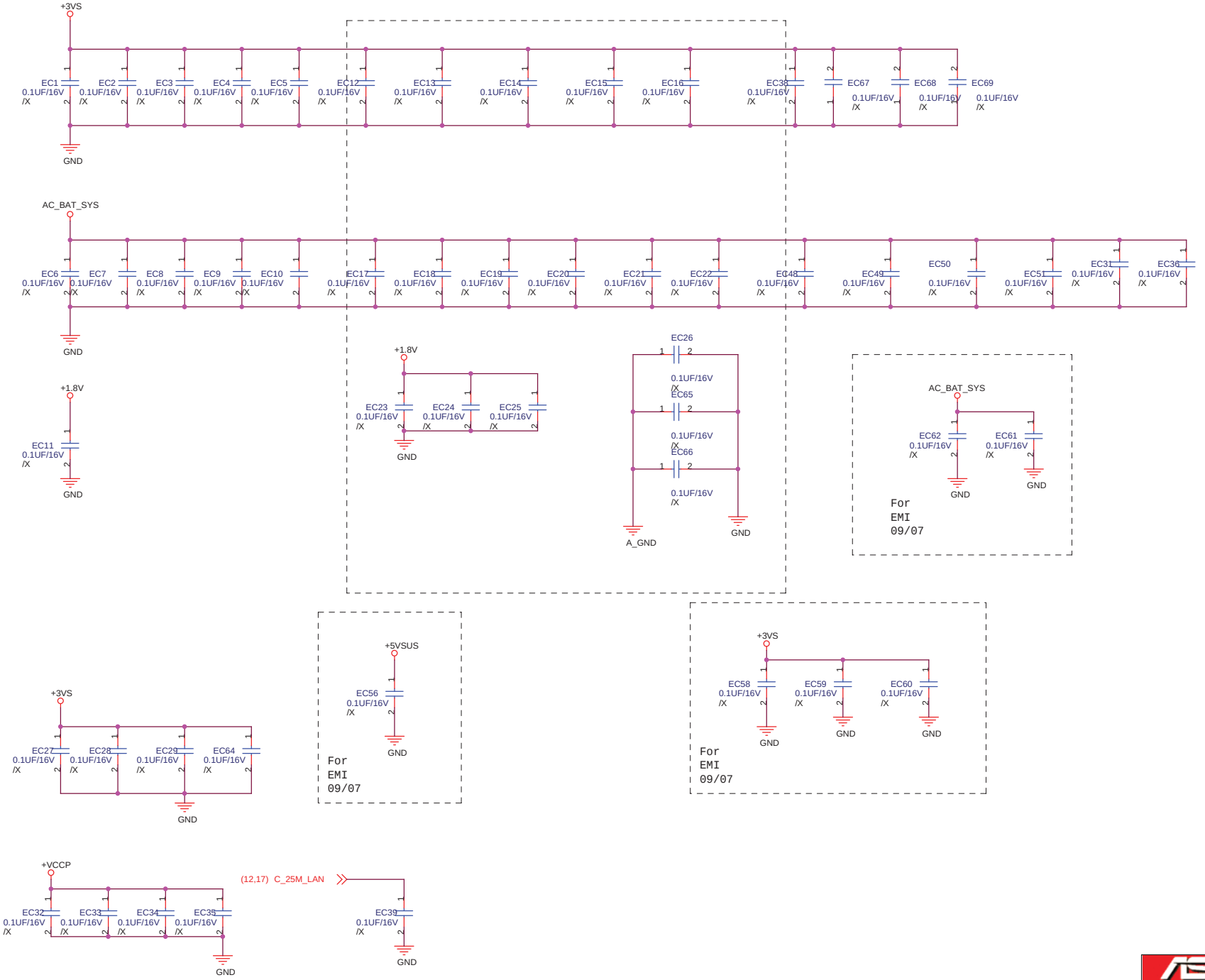
YR3 use 4.7K OHm 10G213472003030



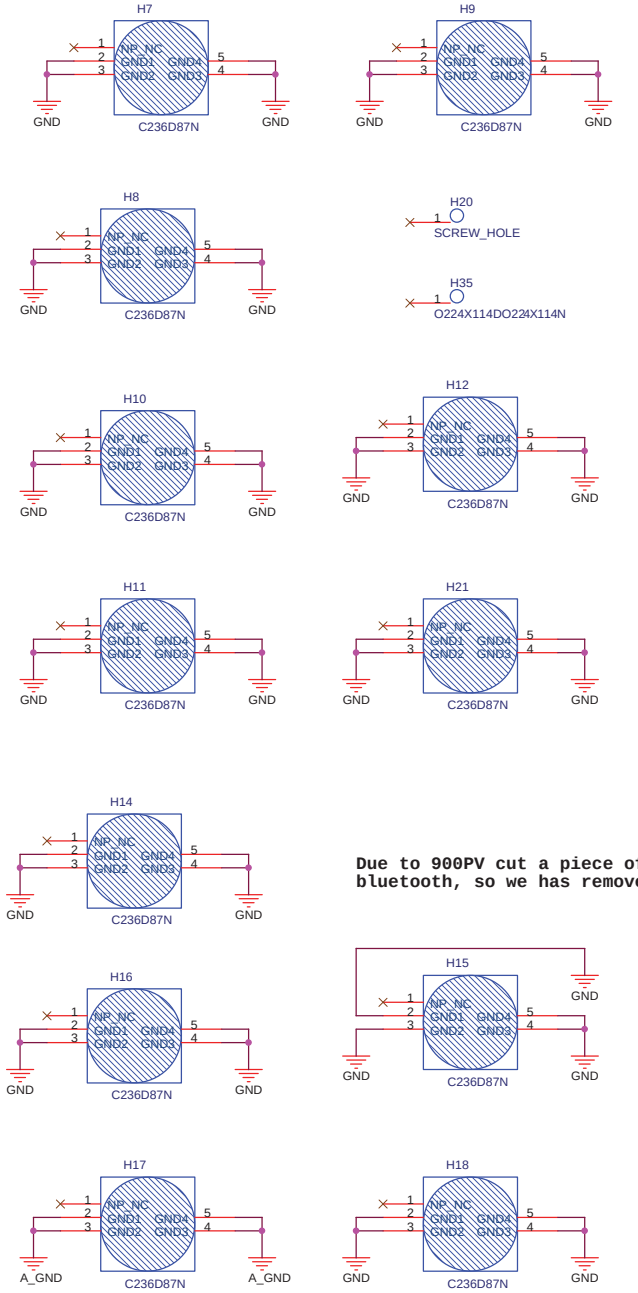




ASUSTek Computer Inc.	Title : LED&DISCHARGE		
	Engineer: Henry_Yang		
Size: A3	Project Name: PINEVIEW		Rev: 1.0G
Date: Wednesday, January 14, 2009	Sheet 29 of 42		



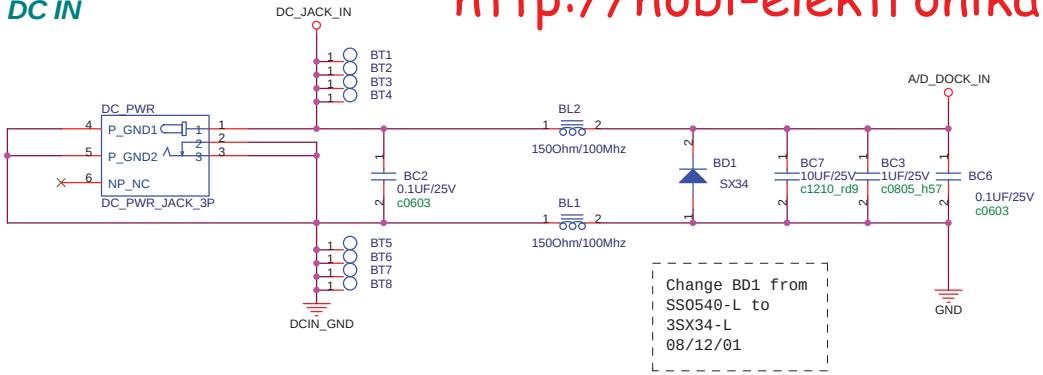
ASUSTEK COMPUTER INC	Title : EMI	
	Engineer: Henry_Yang	
Size: A3	Project Name: PINEVIEW	Rev: 1.0G
Date: Wednesday, January 14, 2009	Sheet 30 of 42	



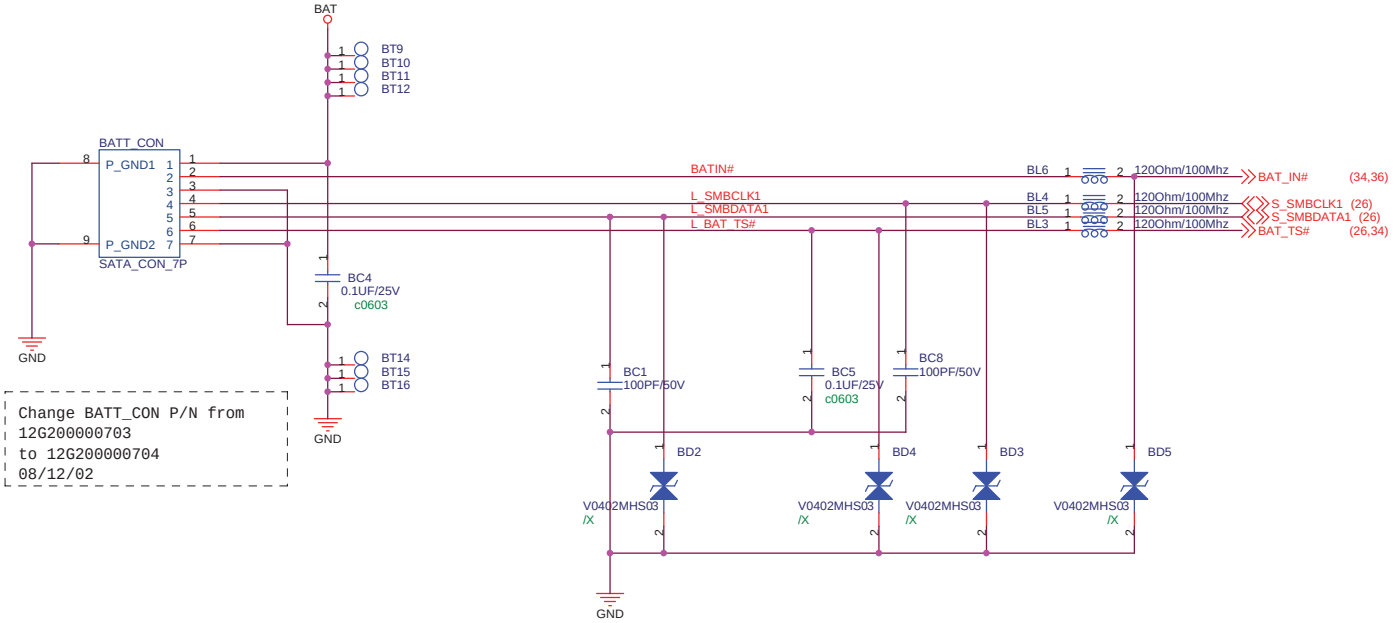
Due to 900PV cut a piece of PCB for bluetooth, so we has removed the H13.

ASUSTek Computer Inc.	Title : SREW HOLE	
	Engineer: Henry_Yang	
Size: A3	Project Name: PINEVIEW	Rev: 1.0G
Date: Wednesday, January 14, 2009	Sheet 31 of 42	

DC IN

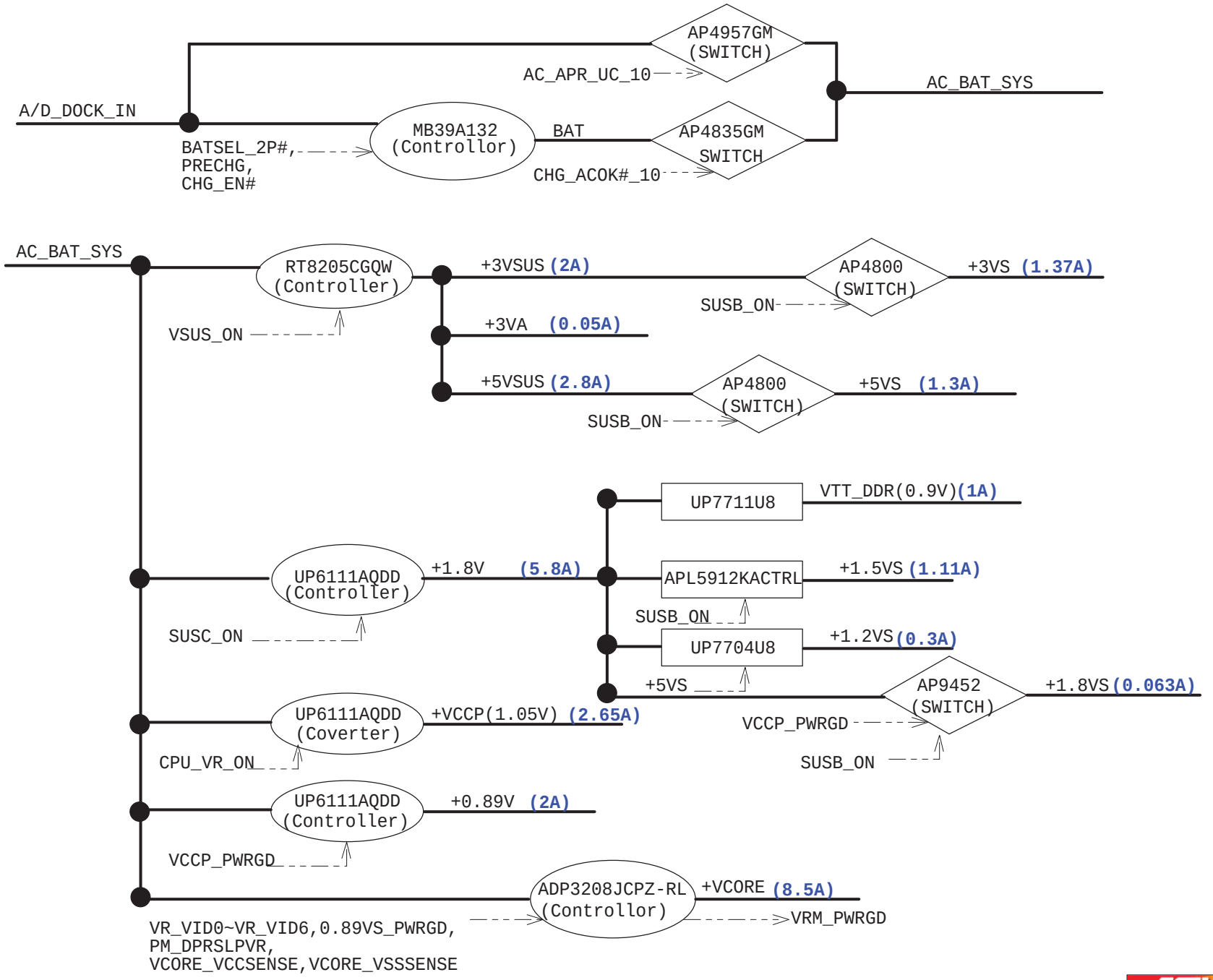


Change BD1 from
SSO540-L to
3SX34-L
08/12/01

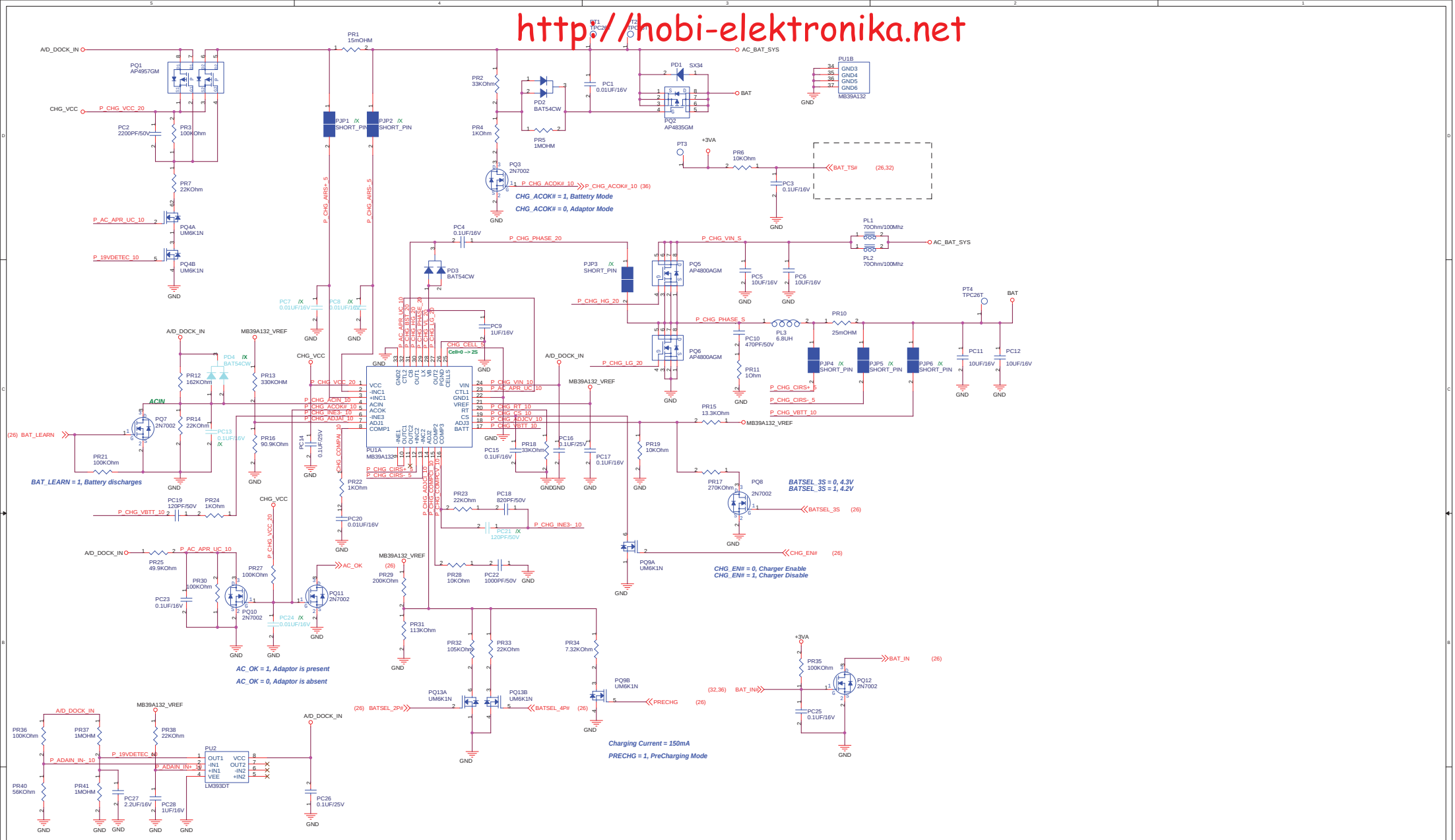


Change BATT_CON P/N from
12G200000703
to 12G200000704
08/12/02

ASUSTek Computer Inc.	Title : PWR JACK	
	Engineer: Henry_Yang	
Size: A3	Project Name: PINEVIEW	Rev: 1.0G
Date: Wednesday, January 14, 2009	Sheet 32 of 42	



ASUSTek Computer Inc.	Title : POWER FLOW	
	Engineer: Joy_ZHOU	
Size: A3	Project Name: PINEVIEW	Rev: 1.0G
Date: Wednesday, January 14, 2009	Sheet 33 of 42	



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)

Pre-Charging Mode :

Precharging current = 146mA
Vadj2 = 166mV

Adaptor Max. Current :

PR13=330KOHM; PR16=90.9KOHM=>
Ilimit = 2.679A

ACIN Threshold = 1.25V

Adaptor >10.45V, System Powered by Adaptor

Adaptor <10.45V, System Powered by Battery

Prevent Input from 19V :

Adaptor > 13.92V, PQ4B Turn-off

Adaptor < 13.92V, PQ4B Turn-on

Battery Cell Selection :

CELLS:VREF,4-Cell;

CELLS:OPEN,3-Cell;

CELLS:GND,2-Cell;

VREF = 5.0V

fosc(KHz) = 17000 / RT (KOhm)
=515KHz

Soft start:

ts(s) = 0.23 * CS (uF)

=23mS

Charging Current :

4P#	2P#	Icharge
1	0	0.56A
0	1	1.6A
0	0	2.8A

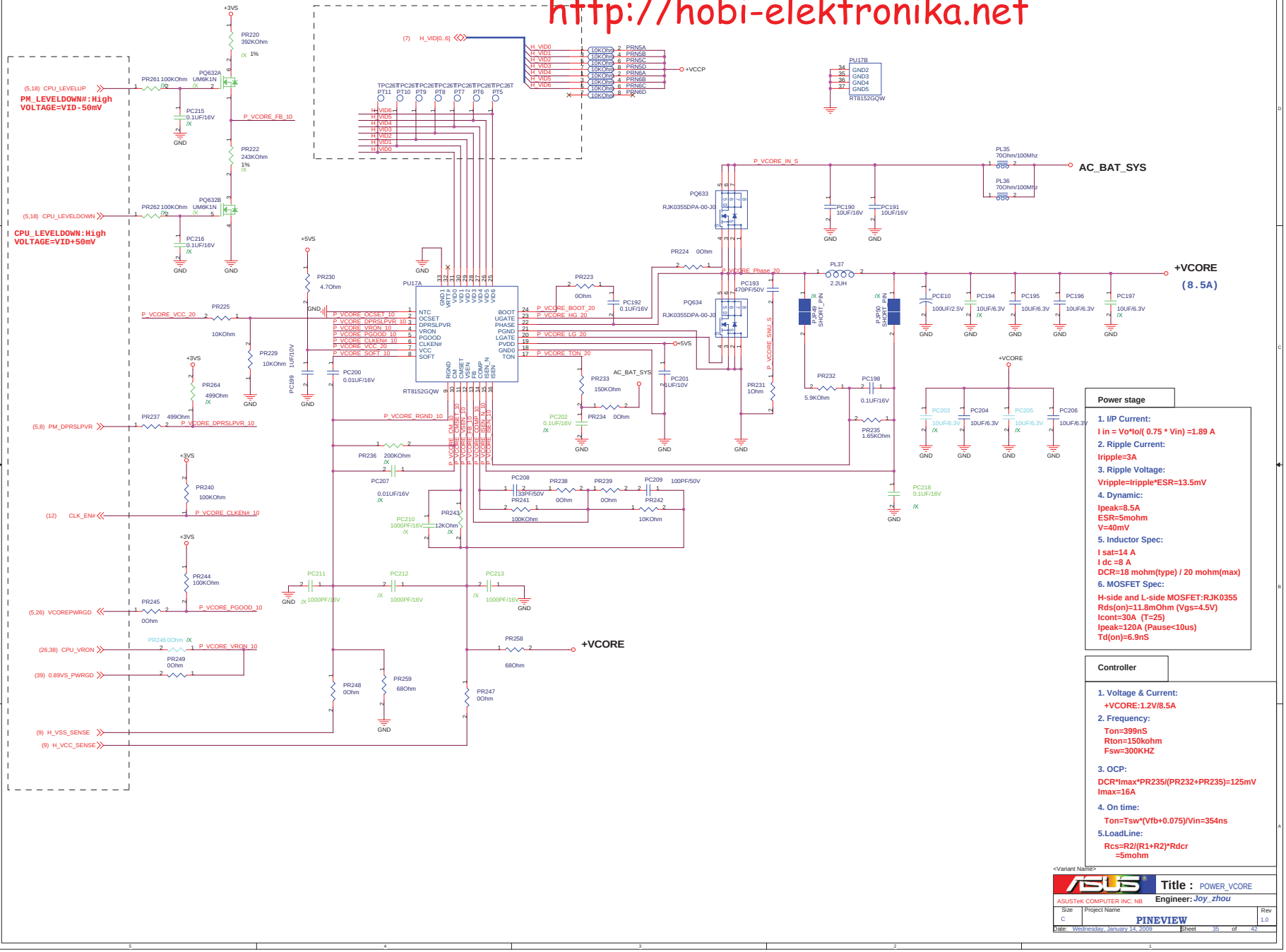
ASUSTek Computer Inc.

Title : CHARGER

Engineer: Joy_ZHOU

Size: A2 | Project Name: PINEVIEW | Rev: 1.0G

Date: Wednesday, January 14, 2009 | Sheet 34 of 42



Power stage

1. I/P Current:
   I in = Vo*Io/(0.75 * Vin) =1.89 A
2. Ripple Current:
   Iripple=3A
3. Ripple Voltage:
   Vripple=Iripple*ESR=13.5mV
4. Dynamic:
   Ipeak=8.5A
   ESR=5mohm
   V=40mV
5. Inductor Spec:
   I sat=14 A
   I dc =8 A
   DCR=18 mohm(type) / 20 mohm(max)
6. MOSFET Spec:
   H-side and L-side MOSFET:RJK0355
   Rds(on)=11.8mOhm (Vgs=4.5V)
   Icont=30A (T=25)
   Ipeak=120A (Pause<10us)
   Td(on)=6.9nS

Controller

1. Voltage & Current:
   +VCORE:1.2V/8.5A
2. Frequency:
   Ton=399nS
   Rton=150kohm
   Fsw=300KHZ
3. OCP:
   DCR*Imax*PR235/(PR232+PR235)=125mV
   Imax=16A
4. On time:
   Ton=Tsw*(Vfb+0.075)/Vin=354ns
5. LoadLine:
   Rcs=R2/(R1+R2)*Rdcr
   =5mohm

<Variant Name>

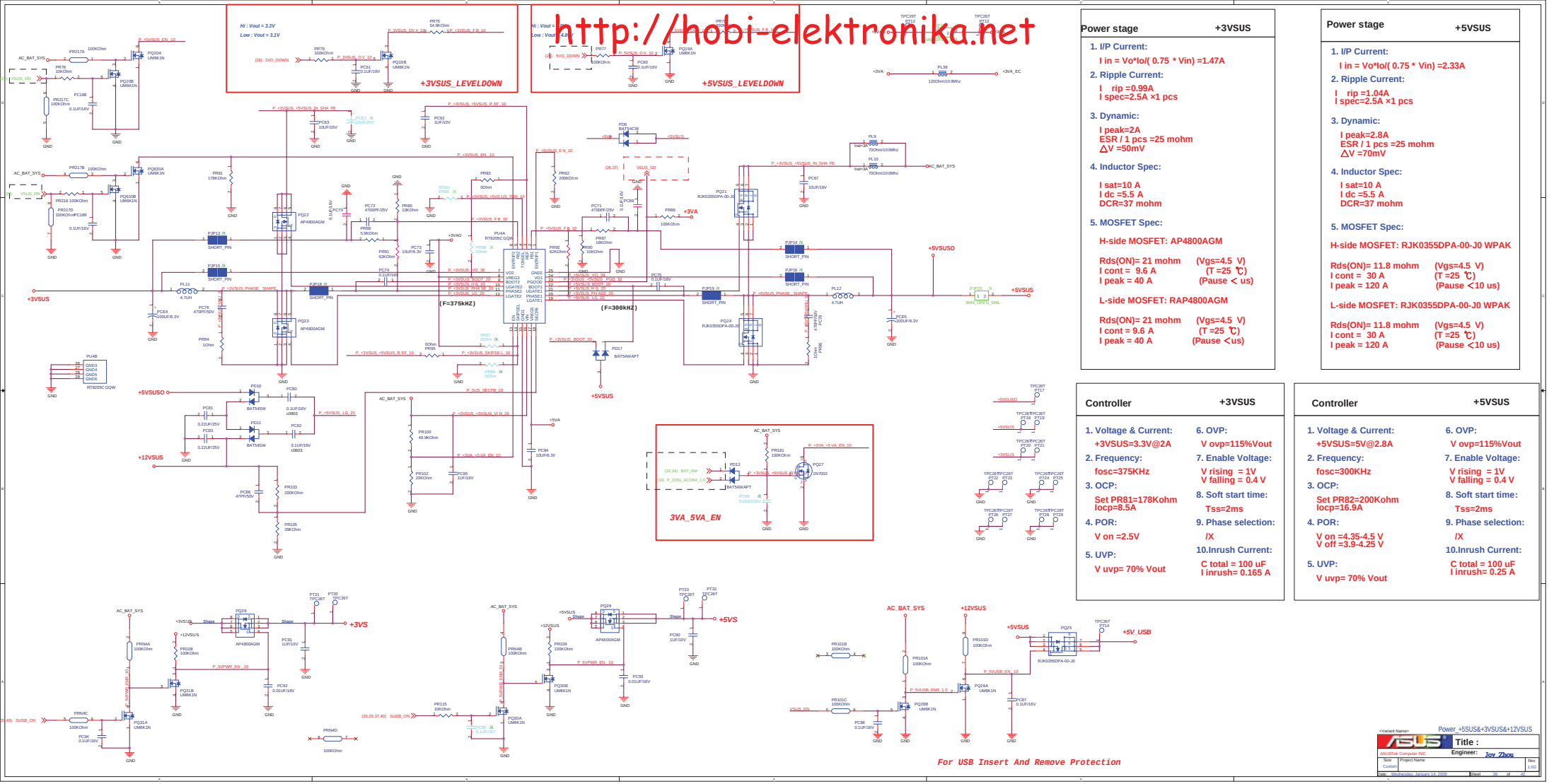
ASUSTeK COMPUTER INC. NB

Title : POWER_VCORE

Engineer: Joy_zhou

Size	Project Name	Rev
C	PINEVIEW	1.0

Date: Wednesday, January 14, 2009 Sheet 35 of 42



Power stage +3VSUS

1. I/P Current:
   I in = Vo*Io/(0.75 * Vin) =1.47A
2. Ripple Current:
   I rip =0.99A
   I spec=2.5A ×1 pcs
3. Dynamic:
   I peak=2A
   ESR / 1 pcs =25 mohm
   △V =50mV
4. Inductor Spec:
   I sat=10 A
   I dc =5.5 A
   DCR=37 mohm
5. MOSFET Spec:
   H-side MOSFET: AP4800AGM
   Rds(ON)= 21 mohm (Vgs=4.5 V)
   I cont = 9.6 A (T =25 ℃)
   I peak = 40 A (Pause < us)
   L-side MOSFET: RAP4800AGM
   Rds(ON)= 21 mohm (Vgs=4.5 V)
   I cont = 9.6 A (T =25 ℃)
   I peak = 40 A (Pause <us)

Power stage +5VSUS

1. I/P Current:
   I in = Vo*Io/(0.75 * Vin) =2.33A
2. Ripple Current:
   I rip =1.04A
   I spec=2.5A ×1 pcs
3. Dynamic:
   I peak=2.8A
   ESR / 1 pcs =25 mohm
   △V =70mV
4. Inductor Spec:
   I sat=10 A
   I dc =5.5 A
   DCR=37 mohm
5. MOSFET Spec:
   H-side MOSFET: RJK0355DPA-00-J0 WPAK
   Rds(ON)= 11.8 mohm (Vgs=4.5 V)
   I cont = 30 A (T =25 ℃)
   I peak = 120 A (Pause <10 us)
   L-side MOSFET: RJK0355DPA-00-J0 WPAK
   Rds(ON)= 11.8 mohm (Vgs=4.5 V)
   I cont = 30 A (T =25 ℃)
   I peak = 120 A (Pause <10 us)

Controller +3VSUS

1. Voltage & Current:
   +3VSUS=3.3V@2A
2. Frequency:
   fosc=375KHz
3. OCP:
   Set PR81=178Kohm
   Iocp=8.5A
4. POR:
   V on =2.5V
5. UVP:
   V uvp= 70% Vout
6. OVP:
   V ovp=115%Vout
7. Enable Voltage:
   V rising = 1V
   V falling = 0.4 V
8. Soft start time:
   Tss=2ms
9. Phase selection:
   /X
10. Inrush Current:
    C total = 100 uF
    I inrush= 0.165 A

Controller +5VSUS

1. Voltage & Current:
   +5VSUS=5V@2.8A
2. Frequency:
   fosc=300KHz
3. OCP:
   Set PR82=200Kohm
   Iocp=16.9A
4. POR:
   V on =4.35-4.5 V
   V off =3.9-4.25 V
5. UVP:
   V uvp= 70% Vout
6. OVP:
   V ovp=115%Vout
7. Enable Voltage:
   V rising = 1V
   V falling = 0.4 V
8. Soft start time:
   Tss=2ms
9. Phase selection:
   /X
10. Inrush Current:
    C total = 100 uF
    I inrush= 0.25 A

Power_+5SUS&+3VSUS&+12VSUS

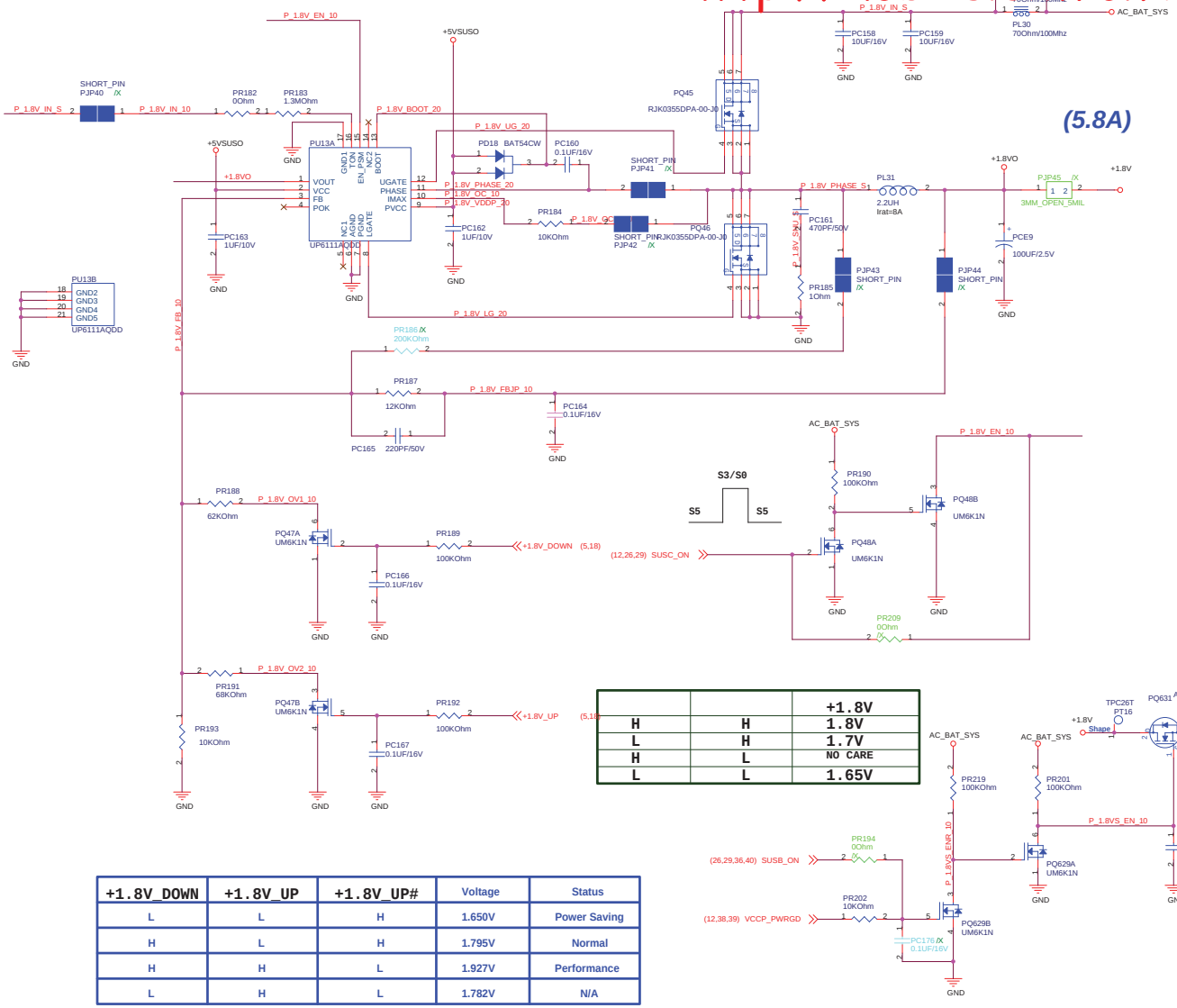
Title :

Engineer: Joy Zhou

ASUSTeK Computer INC

Size: Custom | Project Name | Rev: 1.00

Date: Wednesday, January 14, 2009 | Sheet 38 of 42



		+1.8V
H	H	1.8V
L	H	1.7V
H	L	NO CARE
L	L	1.65V

+1.8V_DOWN	+1.8V_UP	+1.8V_UP#	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

Power stage

1. I/P Current:
   I in = Vo*Io/(0.8 * Vin) =2.175A
2. Ripple Current:
   I rip =2.65A
   I spec=2.5A ×2 pcs
3. Dynamic:
   I peak=5.8 A
   ESR / 1 pcs =18 mohm
   △V =104.4mV
4. Inductor Spec:
   I sat=14 A
   I dc =8 A
   DCR=18 mohm
5. MOSFET Spec:

   H-side MOSFET: RJK0355DPA-00-J0 WPAK

   Rds(ON)= 11.8 mohm (Vgs=4.5 V)
   I cont = 30 A (T =25 ℃)
   I peak = 120 A (Pause ＜10 us)

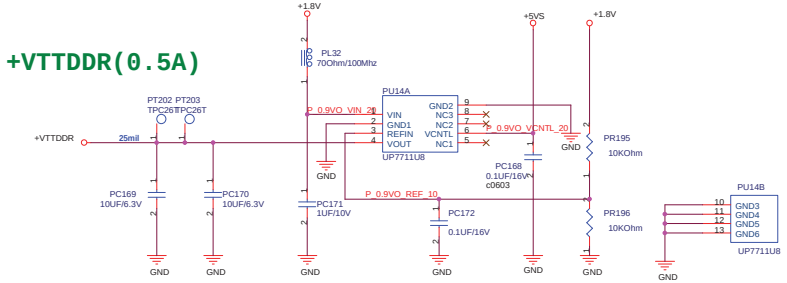
   L-side MOSFET: RJK0355DPA-00-J0 WPAK

   Rds(ON)= 11.8 mohm (Vgs=4.5 V)
   I cont = 30 A (T =25 ℃)
   I peak = 120 A (Pause ＜10 us)

Controller

1. Voltage & Current:
   +1.8V@5.8A
2. Frequency:
   PR183=1.3M ohm
   Fosc=191KHz
3. OCP:
   PR184=10K ohm -> 16.7A
4. POR:
   Vccrth =3.7~4.1V
   Vcchys=0.2V
5. UVP:
   Vout*70%
6. OVP:
   Vout*115%
7. Enable Voltage:
   V = 2.9V
8. Soft start time:
   Tss=1.2 ms
9. Phase selection:
   /X
10. Inrush Current:
    C total = 100 uF
    I inrush= 0.15 A

+VTTDDR(0.5A)



1.5VS @1.11 A

1. Dropout Voltage:
   △V = 0.3V (Io = 2 A)
2. Current Limit:
   I limit = 4 A
3. Continue Current:
   I cont = 3 A
4. Power Dissipation:
   Rthjc = 52 ℃/W
   Pd = 1.9 W
5. EN Voltage:
   V en = 1.4V
   V sd = 0.8 V
6. Supply Voltage:
   Vcc = 5 V
7. Inrush current:
   T ss = 5 ms
   C total = 10 uF
   I inrush = 3 mA

<Variant Name>

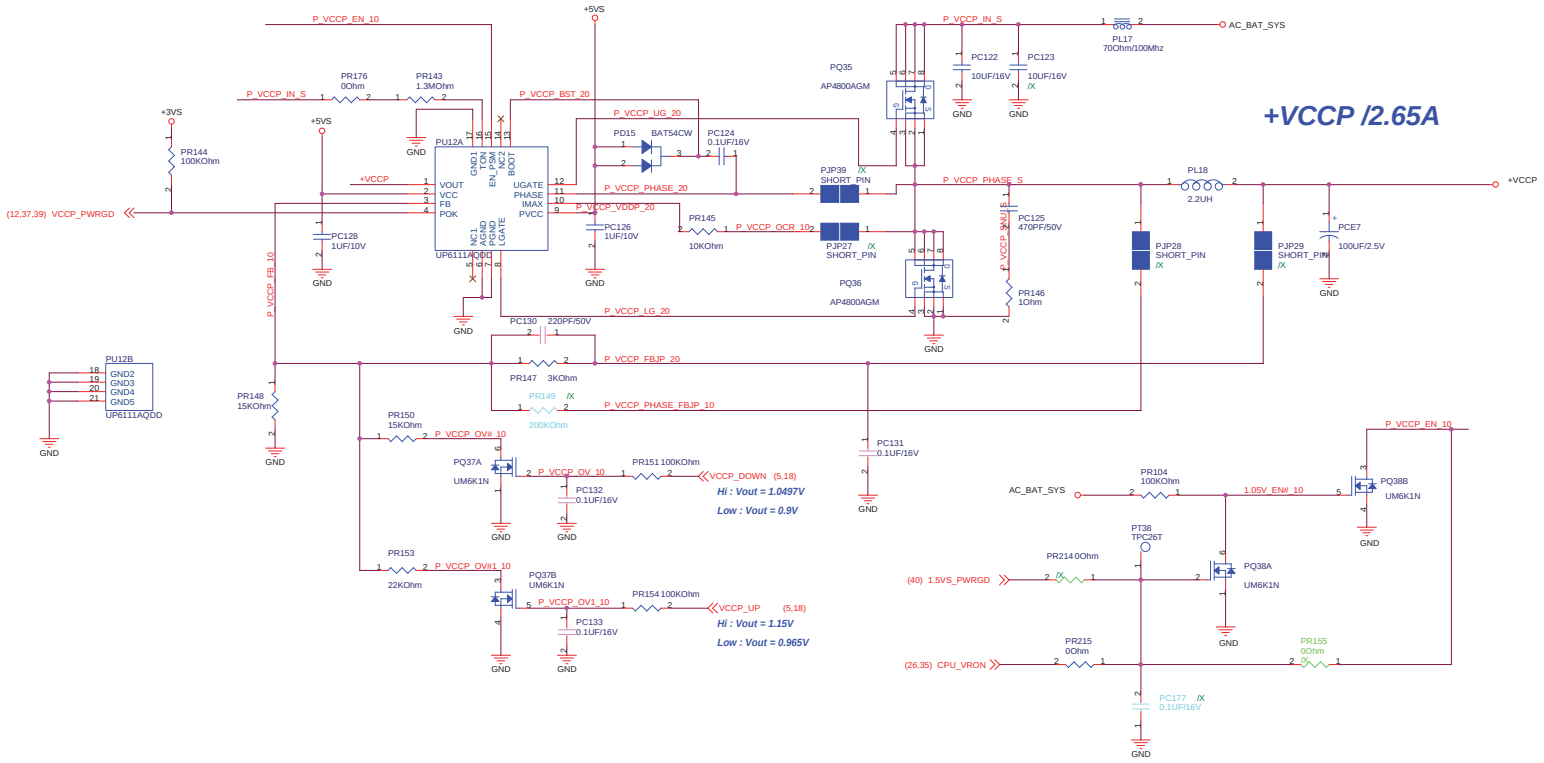
ASUSTek Computer INC.

Title : 1.8V_1.8VS_VTTDDR

Engineer: Joy_Zhou

Size	Project Name	Rev
A2		1.0G

Date: Wednesday, January 14, 2009 Sheet 37 of 42



VCCP_DOWN	VCCP_UP	VCCP_UP#	Voltage	Status
L	L	H	0.9V	Power Saving
H	L	H	1.050V	Normal
H	H	L	1.152V	Performance
L	H	L	1.002V	N/A

Power stage

1. I/P Current:

   I in = Vo*Io/(0.8 * Vin) =0.58A
2. Ripple Current:

   I rip =1A
   I spec=2.5A ×1 pcs
3. Dynamic:

   I peak=2.65 A
   ESR / 1 pcs =18 mohm
   △V =47.7mV
4. Inductor Spec:

   I sat=14 A
   I dc =8 A
   DCR=18 mohm
5. MOSFET Spec:

   H-side MOSFET: AP4800AGM

   Rds(ON)= 21 mohm (Vgs=4.5 V)
   I cont = 9.6 A (T =25 ℃)
   I peak = 40 A (Pause < us)

   L-side MOSFET: RAP4800AGM

   Rds(ON)= 21 mohm (Vgs=4.5 V)
   I cont = 9.6 A (T =25 ℃)
   I peak = 40 A (Pause <us)

Controller

1. Voltage & Current:

   +1.05V@2.65A
2. Frequency:

   PR143=1.3M ohm
   Fosc=191KHz
3. OCP:

   PR145=10K ohm -> 9.5A
4. POR:

   Vccrth =3.7~4.1V
   Vcchys=0.2V
5. UVP:

   Vout*70%
6. OVP:

   Vout*115%
7. Enable Voltage:

   V = 2.9V
8. Soft start time:

   Tss=1.2 ms
9. Phase selection:

   /X
10. Inrush Current:

    C total = 100 uF
    I inrush= 0.0875 A

<Variant Name>

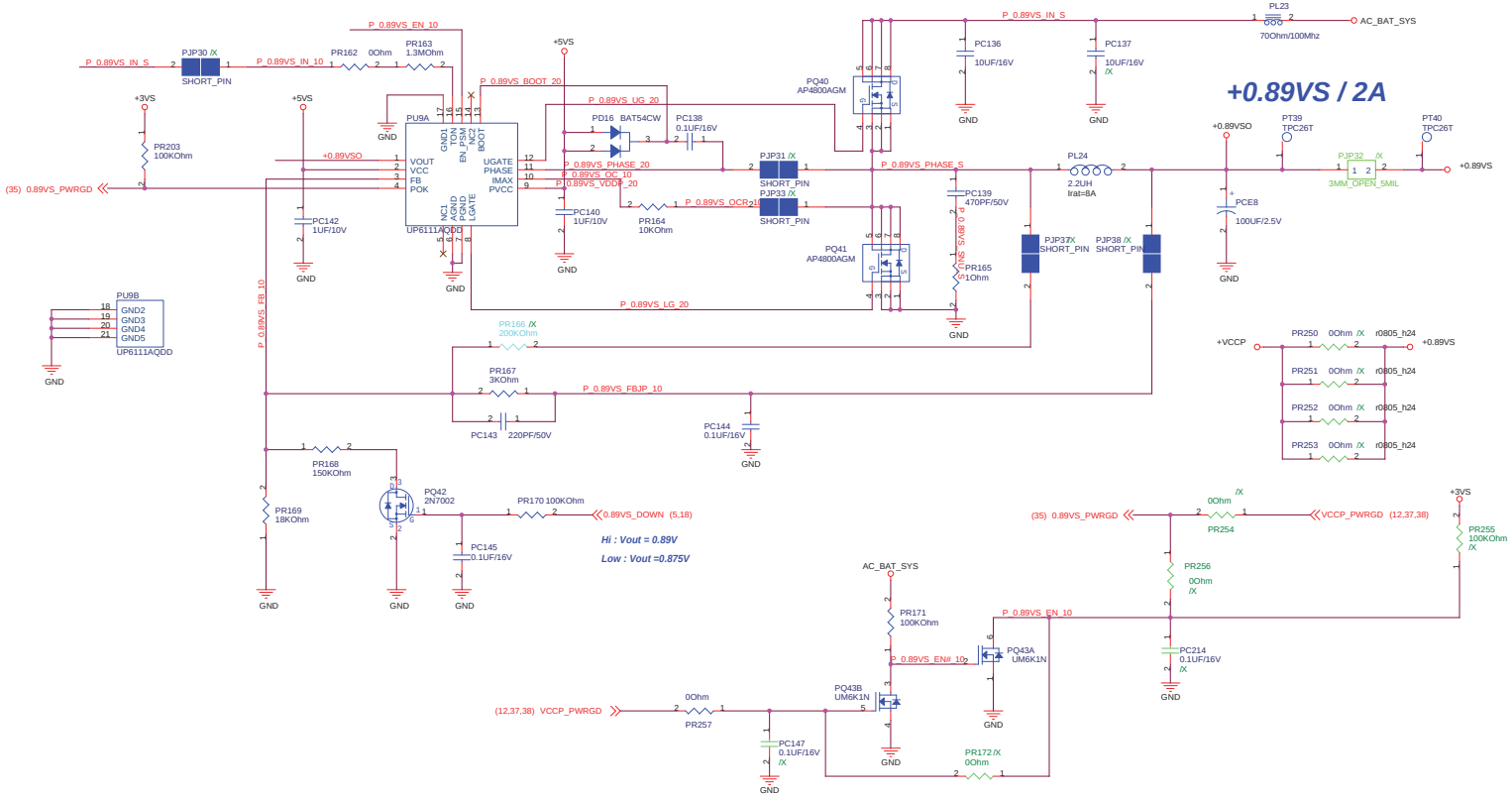
ASUSTeK COMPUTER INC. NB

Title : VCCP

Engineer: Joy_ZHOU

Size	Project Name	Rev
A2	900PV	1.0

Date: Wednesday, January 14, 2009 Sheet 38 of 42



Power stage

1. I/P Current:
   I in = Vo*Io/(0.75 * Vin) =0.4A
2. Ripple Current:
   I rip =0.52A
   I spec=2.5A ×1 pcs
3. Dynamic:
   I peak=2A
   ESR=18 mohm
   △V =36mV
4. Inductor Spec:
   I sat=14 A
   I dc =8 A
   DCR=18 mohm
5. MOSFET Spec:

   H-side MOSFET: AP4800AGM

   Rds(ON)= 21 mohm (Vgs=4.5 V)
   I cont = 9.6 A (T =25 ℃)
   I peak = 40 A (Pause < us)

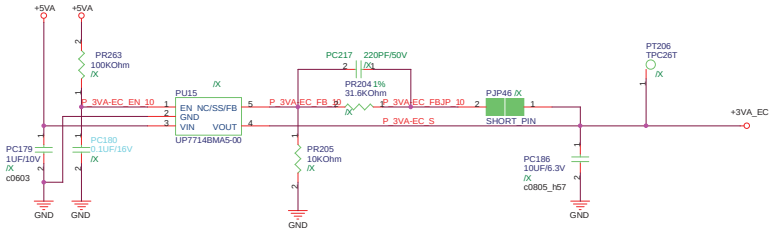
   L-side MOSFET: RAP4800AGM

   Rds(ON)= 21 mohm (Vgs=4.5 V)
   I cont = 9.6 A (T =25 ℃)
   I peak = 40 A (Pause <us)

Controller

1. Voltage & Current:
   +0.89VS@2A
2. Frequency:
   fosc=251KHz
3. OCP:
   Set PR164=10Kohm
   Iocp=9.5A
4. POR:
   POR Hysteresis =0.2V
   V on =3.9V
5. UVP:
   V uvp= 70% Vout
6. OVP:
   V ovp=115%Vout
7. Enable Voltage:
   V = 2.9 V
8. Soft start time:
   Tss=1.2ms
9. Phase selection:
   /X
10. Inrush Current:
    C total = 100 uF
    I inrush= 0.074 A

+3VA_AEC / 100mA



+3VA_AEC / 100mA

1. Dropout Voltage:
   △V = 0.21V (Io = 0.3A)
2. OCP:
   I ocp=480mA
3. Short Circuit Current Limit:
   I sc= 320mA
4. Power Dissipation:
   Rthjc =250℃/W
   Pd = 0.4W
5. EN Voltage:
   V en = 2V
   V sd = 0.4V
6. Power OK Voltage:
   Vpokth = 92%*Vout
   Vpokhys = 8%
7. Inrush current:
   T ss = 400uS
   C total =10uF
   I inrush =82.5mA
8. FB Voltage:
   VFB = 0.8 V

<Variant Name>

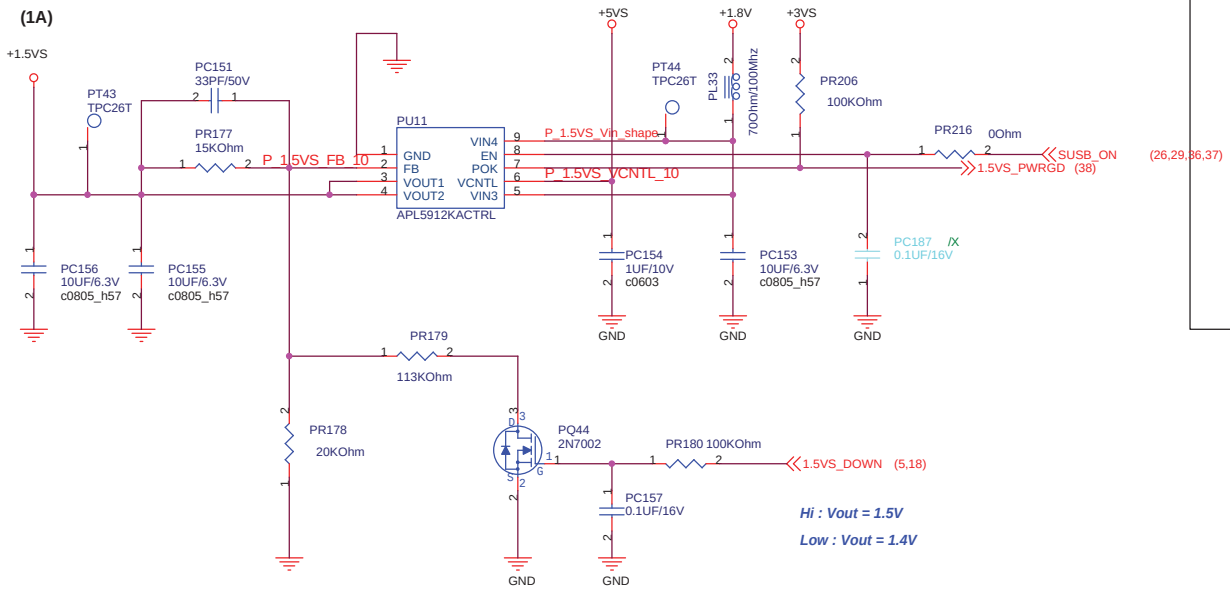
ASUSTeK COMPUTER INC. NB

Title : 0.89VS&3VA_EC

Engineer: Joy_ZHOU

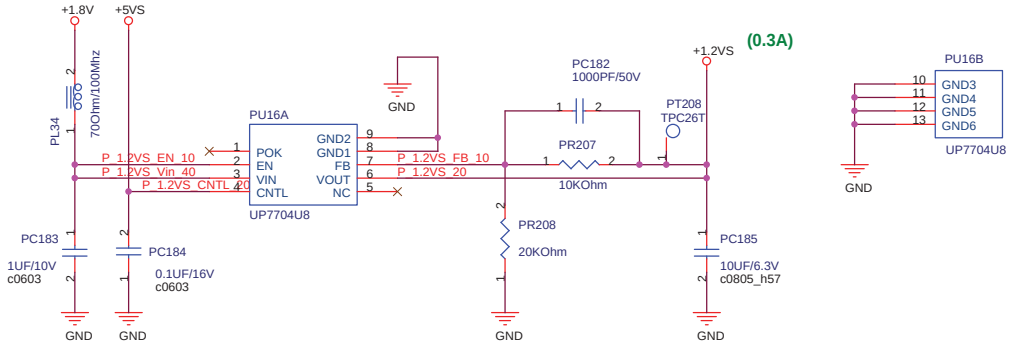
Size	Project Name	Rev
A2	900PV	1.0

Date: Wednesday, January 14, 2009 Sheet 39 of 42



1.5VS @ 1.A

1. Dropout Voltage:
   △V = 0.2V (Io = 5A)
2. Current Limit:
   I limit =7A
3. Continue Current:
   I cont = 6A
4. Power Dissipation:
   Rthjc = 40℃/W
   Pd = 3W
5. EN Voltage:
   V rising = 0.4V
   Hysteresis = 30mV
6. Supply Voltage:
   Vcc = 5 V
7. Inrush current:
   T ss = 2ms
   C total =20uF
   I inrush =15 mA



1.2VS @ 0.3A

1. Dropout Voltage:
   △V = 0.3V (Io = 1A)
2. OCP:
   I ocp=1.5A
3. Short Circuit Current Limit:
   I sc= 300mA
4. Power Dissipation:
   Rthjc = 75℃/W
   Pd = 1.33W
5. EN Voltage:
   V en = 1.6V
   V sd = 0.4V
6. Power OK Voltage:
   Vpokth = 92%*Vout
   Vpokhys = 8%
7. Inrush current:
   T ss = 5ms
   C total =10uF
   I inrush =2.4mA
8. FB Voltage:
   VFB = 0.8 V

<Variant Name>

ASUSTeK COMPUTER INC. NB	Title : +1.5VS&1.2VS	
	Engineer: Joy_ZHOU	
Size: A3	Project Name: 900PV	Rev: 1.0
Date: Wednesday, January 14, 2009	Sheet 40 of 42	

1.Delete LCD liner power sch..

W2H1 U5F-M-EXPREE GND
W2H2 U5F-M-EXPREE GND

MINI CARD NUT(1.6mm) *2

MINICARD use 12G030010052Q

WLAN2 MINI_PCI_LATCH_52P

	WAKE#	3.3V_1	2
	Reserved1	GND7	4
	Reserved2	1.5V_1	6
	CLKREQ#	UIM_PWR	8
	GND1	UIM_DATA	10
	REFCLK-	UIM_CLK	12
	REFCLK+	UIM_RESET	14
	GND2	UIM_VPP	16
17	Reserved/UIM_C8	GND8	18
19	Reserved/UIM_C4	W_DISABLE#	20
21	GND3	PERST#	22
23	PERn0	+3.3Vaux	24
25	PERp0	GND9	26
27	GND4	1.5V_2	28
29	GND5	SMB_CLK	30
31	PETn0	SMB_DATA	32
33	PETp0	GND10	34
35	GND6	USB_D-	36
37	Reserved3	USB_D+	38
39	Reserved4	GND11	40
41	Reserved5	LED_WWAN#	42
43	Reserved6	LED_WLAN#	44
45	Reserved7	LED_WPAN#	46
47	Reserved8	1.5V_3	48
49	Reserved9	GND12	50
51	Reserved10	3.3V_2	52
53	GND13	NP_NC2	56
54	GND14	NP_NC1	55

W2R3 0Ohm /X M_PCIE_WAKE#2
W2T2 M1_CLKREQ#2
W2R1 0Ohm /RSVD_MINIPCIE
W2R2 0Ohm /RSVD_MINIPCIE
W2R18 0Ohm /RSVD_MINIPCIE
W2R19 0Ohm /RSVD_MINIPCIE
W2R20 0Ohm /RSVD_MINIPCIE
W2R21 0Ohm /RSVD_MINIPCIE
W2C10 10PF/50V /X
W2C11 10PF/50V /X

(5,15,17,22) PCIE_WAKE#
(15,22) BT_PRIORITY
(15,22) BT_CH_DATA
(12,22) C_PCIE_WIFI#
(12,22) C_PCIE_WIFI
(4) X_L1X1_RXN
(4) X_L1X1_RXP
(4) X_L1X1_TXN
(4) X_L1X1_TXP
C_PCIE_WIFI
C_PCIE_WIFI#

+3VS_PE2 +1.5VS_PE2 GND

WLAN_ON2
WLAN_RST#2
MSMB_CLK2 W2R5 10KOhm
MSMB_DATA2 W2R6 10KOhm
LED_WLAN#2 W2T4

+3VS_PE2 750 mA
W2C1 10uF/10V
W2C2 0.1UF/16V /X
W2C3 0.1UF/16V

W2R4 10KOhm /X
W2R15 0Ohm /X
W2R16 0Ohm /X
W2Q1 2N7002 /X
WLAN_ON# (5,18,22)

1.2G

W2R9 100KOhm
W2C17 0.1UF/16V
W2C18 0.1UF/16V /RSVD_MINIPCIE
W2U2 AME8550BEEVC2702
MRST#2
W2R11 10KOhm
W2R10 10KOhm
W2Q11 PMBS3904 /RSVD_MINIPCIE
W2C19 0.1UF/16V /X
WLAN_RST#2
(5,15,17,22) PLT_RST#
W2C12 0.1UF/16V /X

+3VS W2C13 0.1UF/16V GND

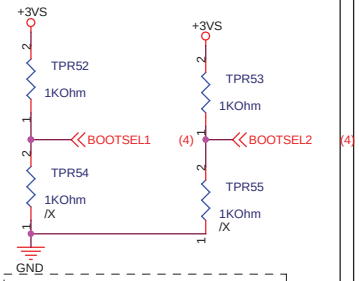
+3VS W2R17 10KOhm /X
W2Q3 AP2307GN
+3VS_PE2 TPC26T W2T5
W2R8 1KOhm 1%
TPC26T W2T6
(4,18) MINICARD2_EN#
W2C16 0.1UF/16V /RSVD_MINIPCIE

Change WR8 to 1K 1%
08/11/26

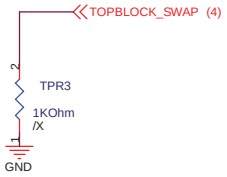
1.2G

ASUSTek Computer Inc.		Engineer:	Henry_Yang
Size: A3	Project Name: PINEVIEW		Rev: 1.0G
Date: Wednesday, January 14, 2009		Sheet 41 of 42	

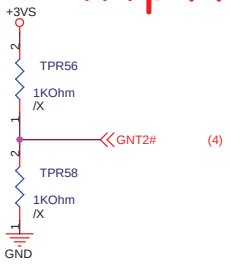
Title : HISTORY



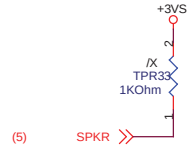
STRAP1#/GPIO48 STRAP2#/GPIO17 Routing
0 1: Flash Cycles Routed to SPI
1 0: Flash Cycles Routed to PCI
1 1: Flash Cycles Routed to LPC



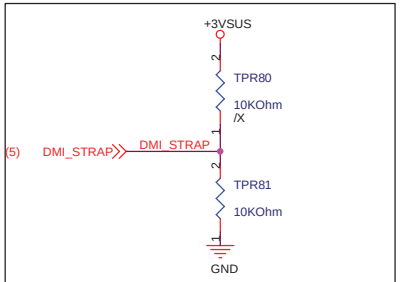
For strapping as Top-block Swap override.



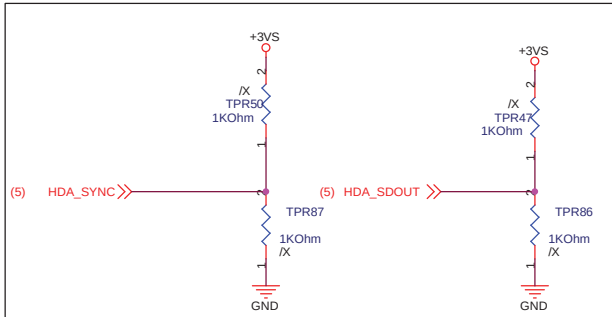
Reserved, has a weak internal pull-up,cann't be pulled low



SPKR:For no reboot function.
Has internal pull-down.
If sample high ,it indicates that the system is strapped to "no reboot "mode.
(TPT will disable the TCO Timer system reboot feature).



DMI strap.
1=DMI interface is strapped to operate in DC coupled mode.
0=DMI interface is straped to operate in AC coupled mode.



Check EDS of TPT Section 10.1.30 for details.
HDA_SYNC(PCIE port config bit 0):
Has weak internal pull-down.

HDA_SDOUT(PCIE port config bit 1):
Has weak internal pull-down,if not pulled
low at rising edge of PWROK,sets bit 1 of RPC.PC.

From 1225.1900 change 3GC1 to 47u,modify screw to 13G021050010.

ASUSTek Computer Inc.	Title : HISTORY	
	Engineer: Henry_Yang	
Size: A3	Project Name: PINEVIEW	Rev: 1.0G
Date: Wednesday, January 14, 2009	Sheet 42 of 42	