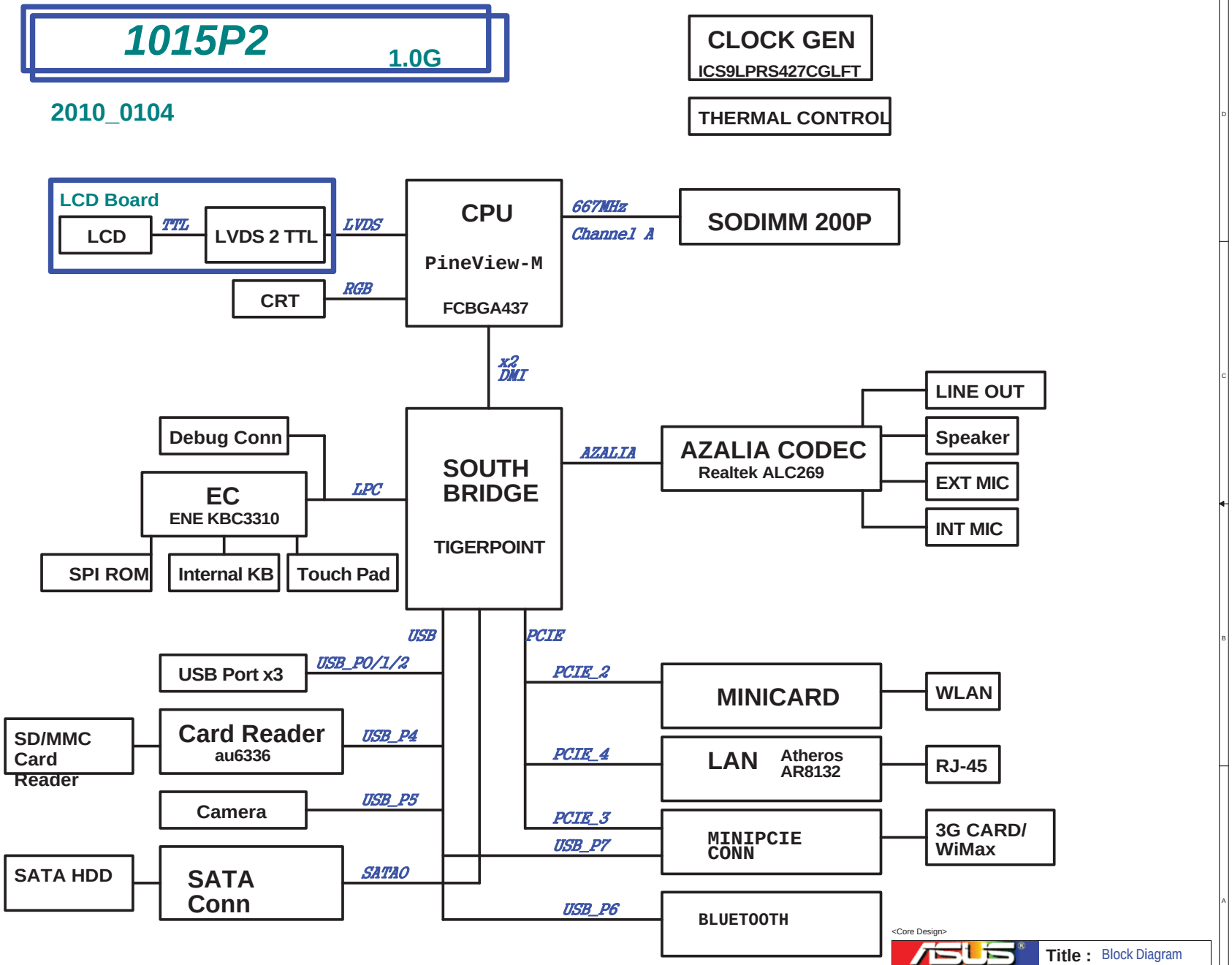
1015P2 1.0G

2010_0104



<Core Design>

ASUSTek Computer INC.

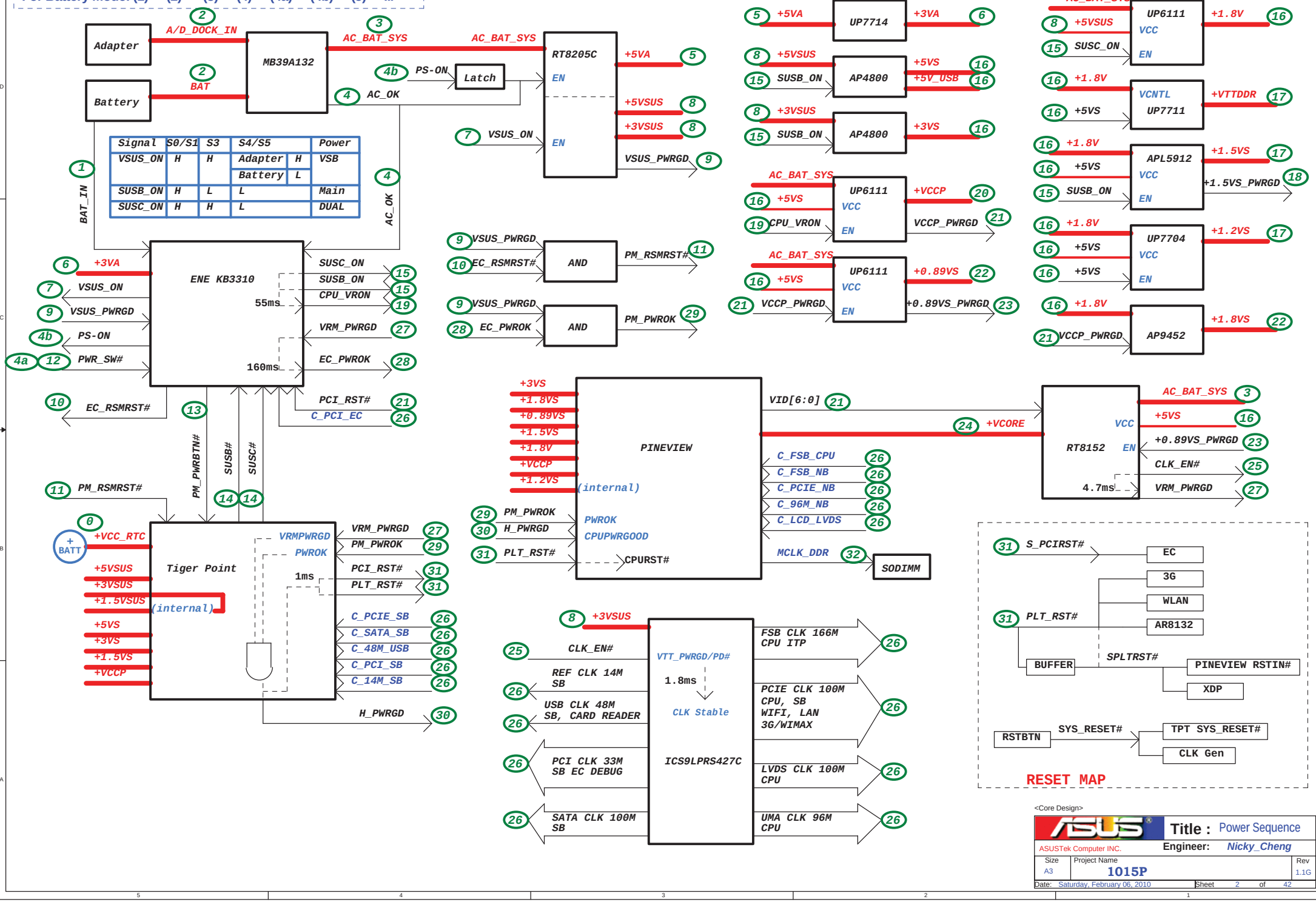
Title : Block Diagram

Engineer: Nicky_Cheng

Size	Project Name	Rev
Custom	1015P	1.1G

Date: Saturday, February 06, 2010 Sheet 1 of 42

For Adapter Mode: (1) -> (2) -> (3) -> (4) -> (5) -> ...
For Battery Mode: (1) -> (2) - > (3) -> (4) -> (4a) -> (4b) -> (5) -> ...



<Core Design>

ASUSTek Computer INC.

Title : Power Sequence

Engineer: Nicky_Cheng

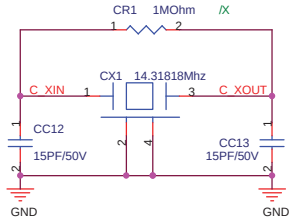
Size	Project Name	Rev
A3	1015P	1.1G

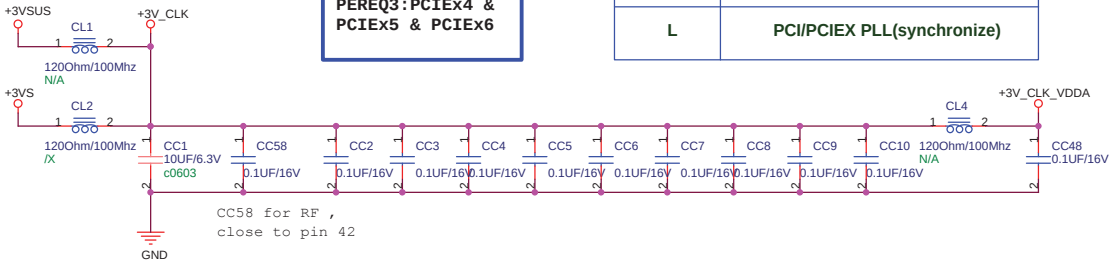
Date: Saturday, February 06, 2010 Sheet 2 of 42

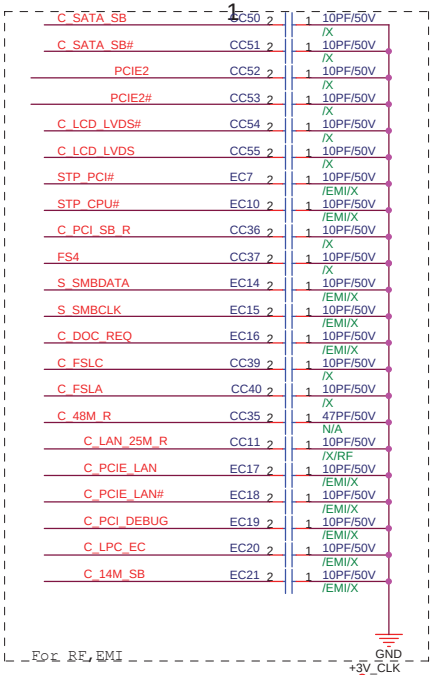
1:Disable
0:Enable

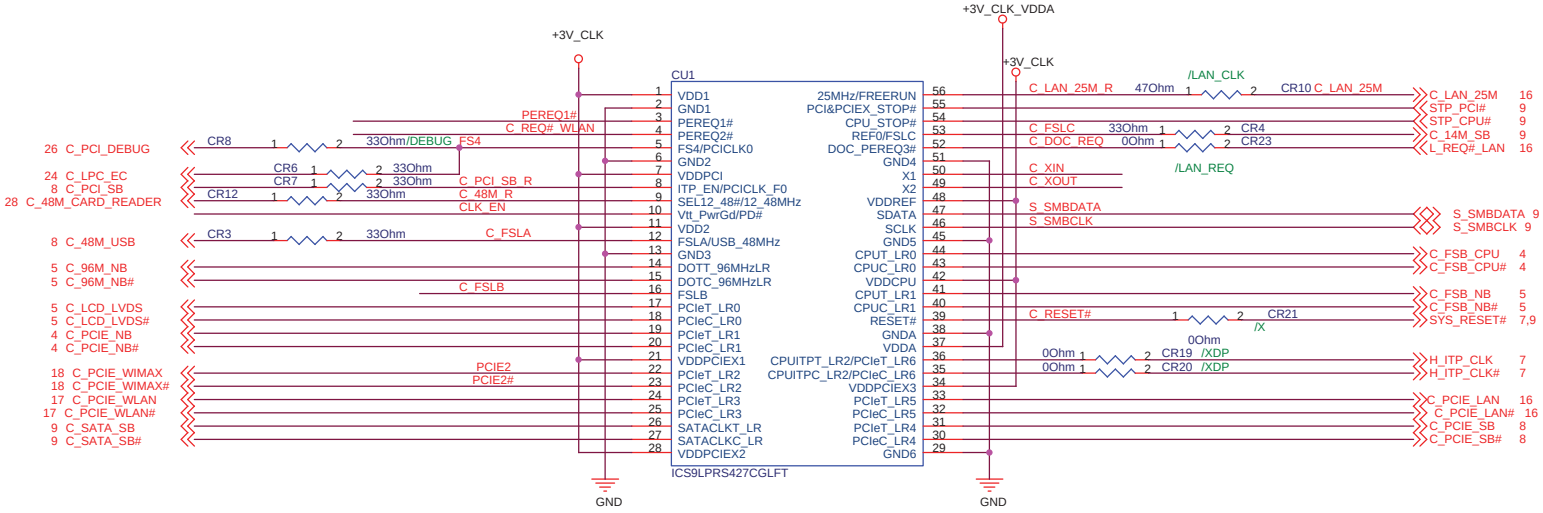
PEREQ1:PCIEx0 & PCIEx1
PEREQ2:PCIEx2 & PCIEx3 & SATA
PEREQ3:PCIEx4 & PCIEx5 & PCIEx6

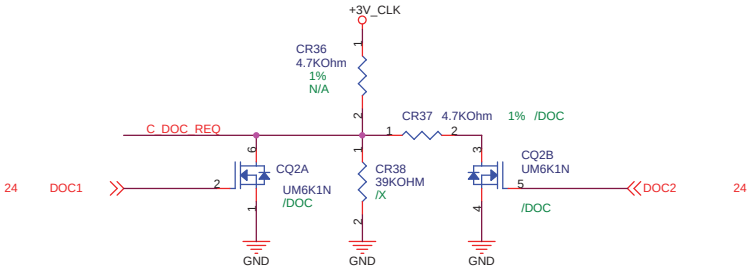
FS4	Function
H	FIXED PLL (Asynchronous)
L	PCI/PCIEX PLL(synchronize)

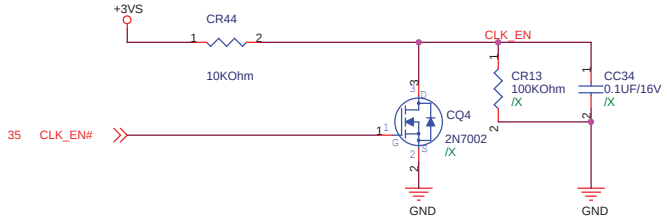


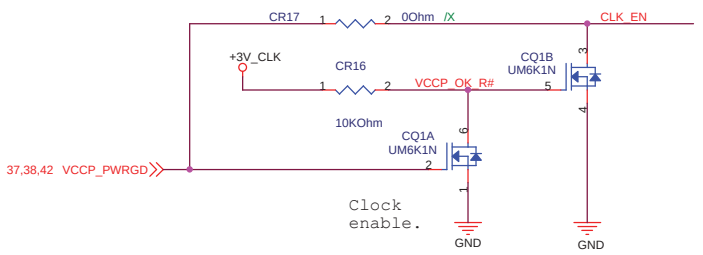


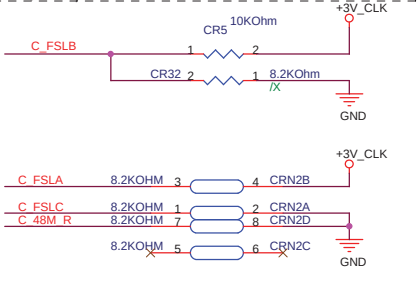




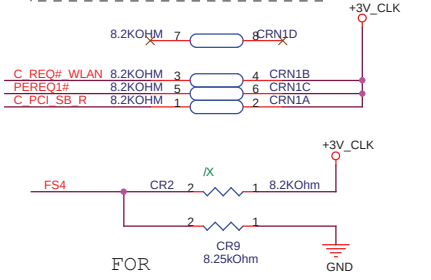








FSLC	FSLB	FSLA	CPU(MHZ)
0	1	1	166
0	0	1	133



O_DOC1	O_DOC2	Voltage	Status
L	L	2.4-3.3V	Super
L	H	0.5-2.36V	Normal
H	*	0-0.35V	Power saving

<Core Design>

ASUSTek Computer INC.

Title : ICS9LPRS427C

Engineer: Nicky_Cheng

Size	Project Name	Rev
A3	1015P	1.1G

Date: Saturday, February 06, 2010 Sheet 3 of 42

I2C to control LCD backlight, Type I/O.

Reserved for debug

NU1A

MICRO-FCBGA8-559
N/A

The rising time of CPUPWRGOOD should be small than 20ns and rising edge should be monotonicity

Reference voltage.Near PVN side.

Place Near CPU

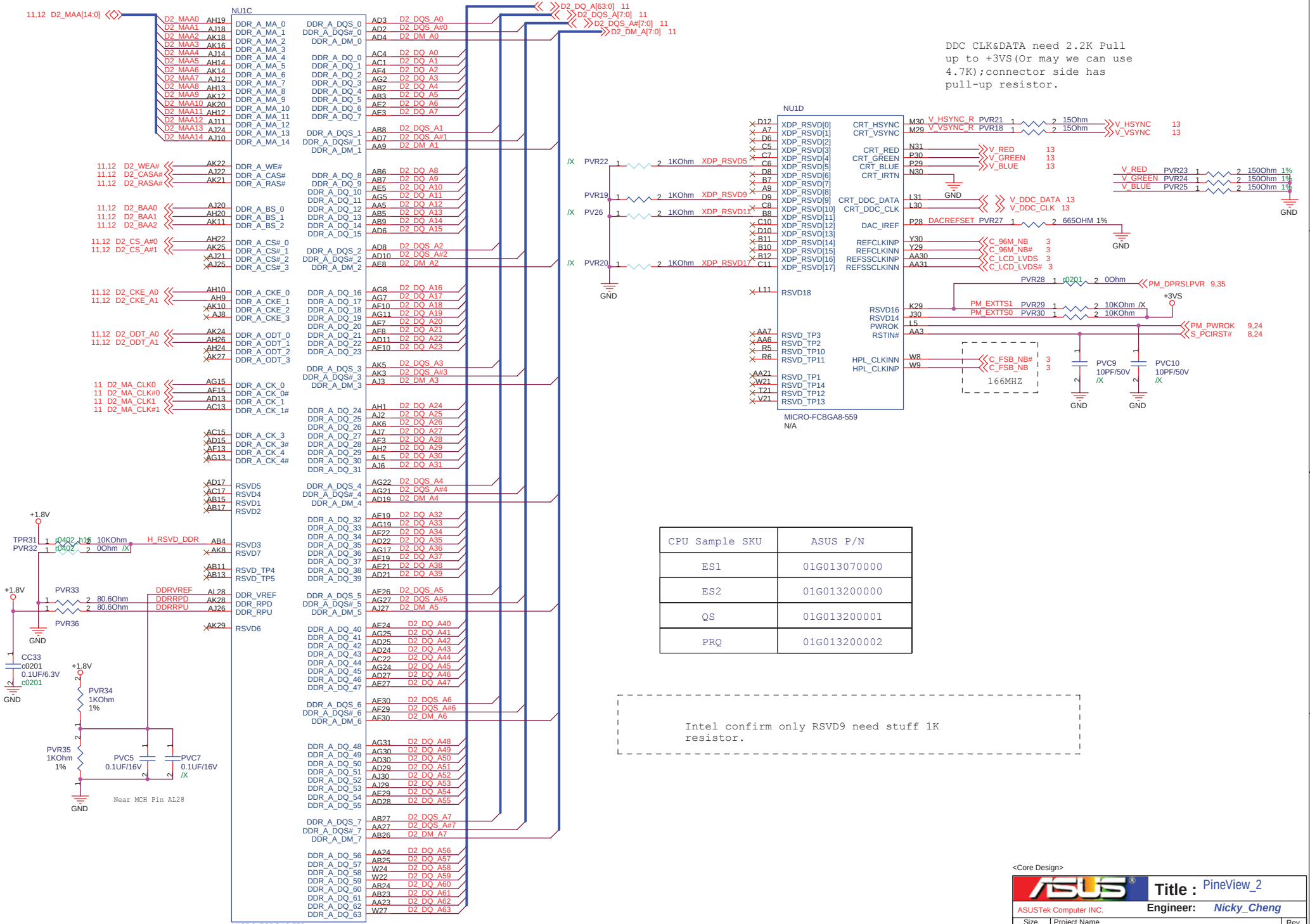
NU1B

MICRO-FCBGA8-559
N/A

HU1
G781P8F

<Core Design>

ASUSTek Computer INC.	Title : PineView_1	
	Engineer: Nicky_Cheng	
Size: A3	Project Name: 1015P	Rev: 1.1G
Date: Saturday, February 06, 2010	Sheet 4 of 42	



CPU Sample SKU	ASUS P/N
ES1	01G013070000
ES2	01G013200000
QS	01G013200001
PRQ	01G013200002

<Core Design>

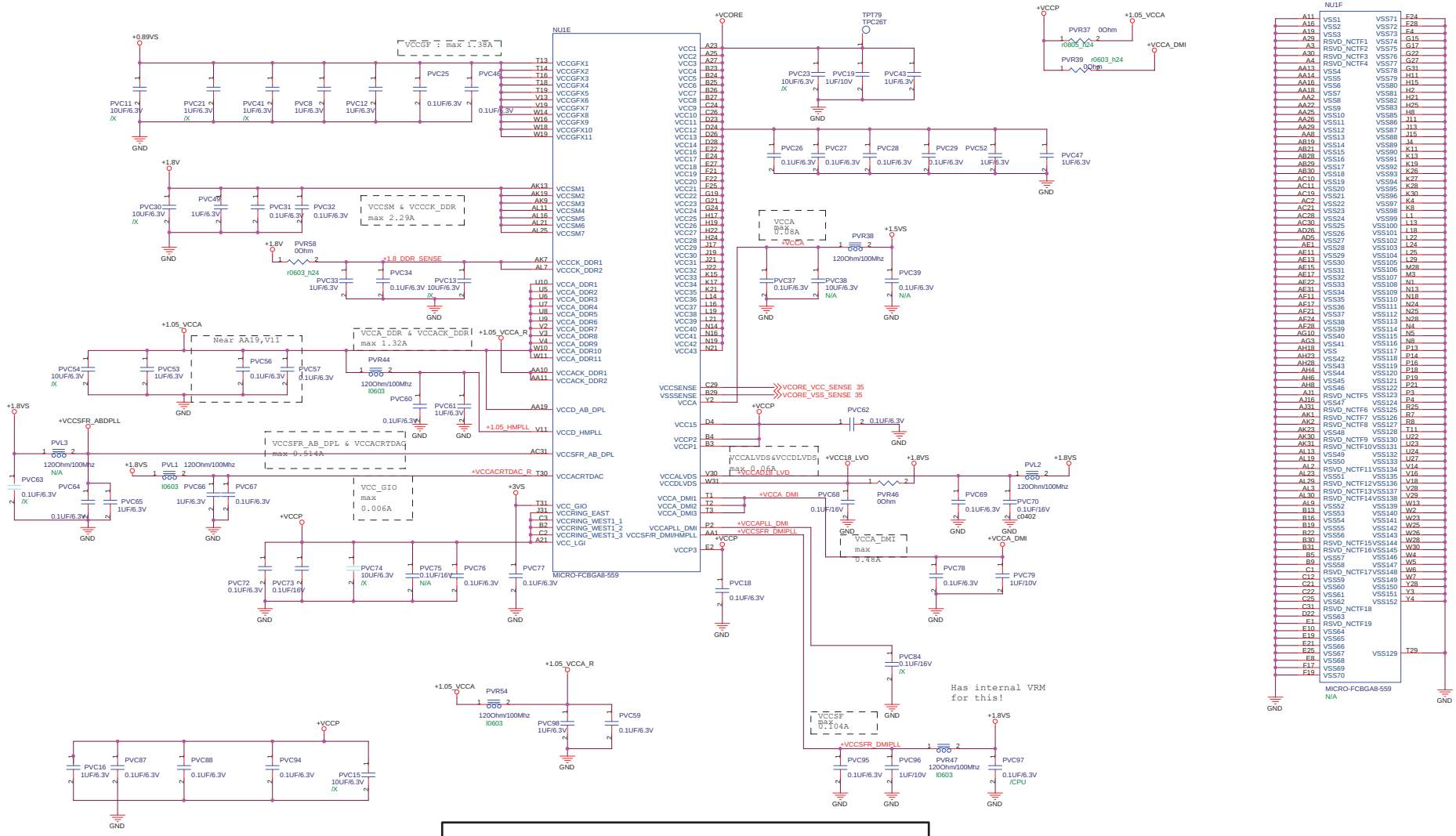
ASUSTek Computer INC.

Title : PineView_2

Engineer: Nicky_Cheng

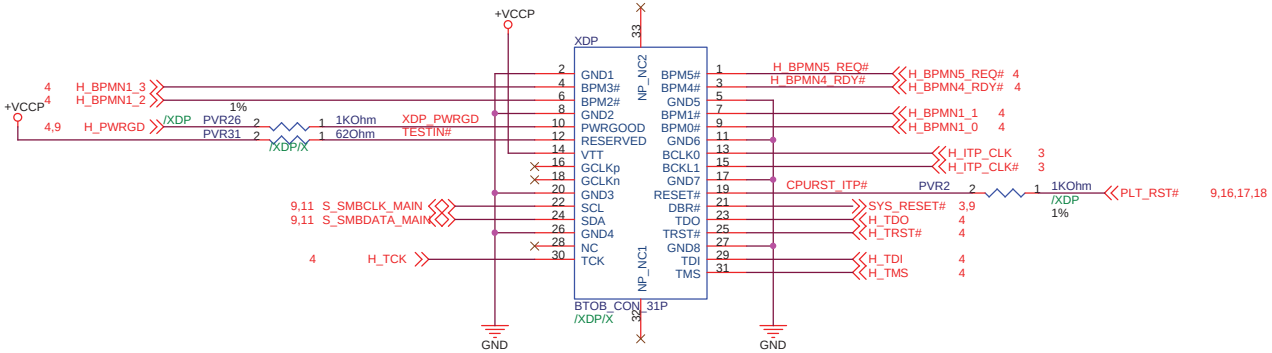
Size	Project Name	Rev
A3	1015P	1.0G

Date: Saturday, February 06, 2010 Sheet 5 of 42



<Core Design>
ASUSTek Computer INC.
Engineer: Nicky_Cheng

Title : PineView_3		
Size: A2	Project Name: 1015P	Rev: 1.1G
Date: Saturday, February 06, 2010	Sheet 6 of 42	



Change Device and PCB footprint of XDP1 to nomask footprint - nomask solution

穩 Layout 诀贺叫 XDP Connector 叫確
12G161300311 (w/ 2 through holes)

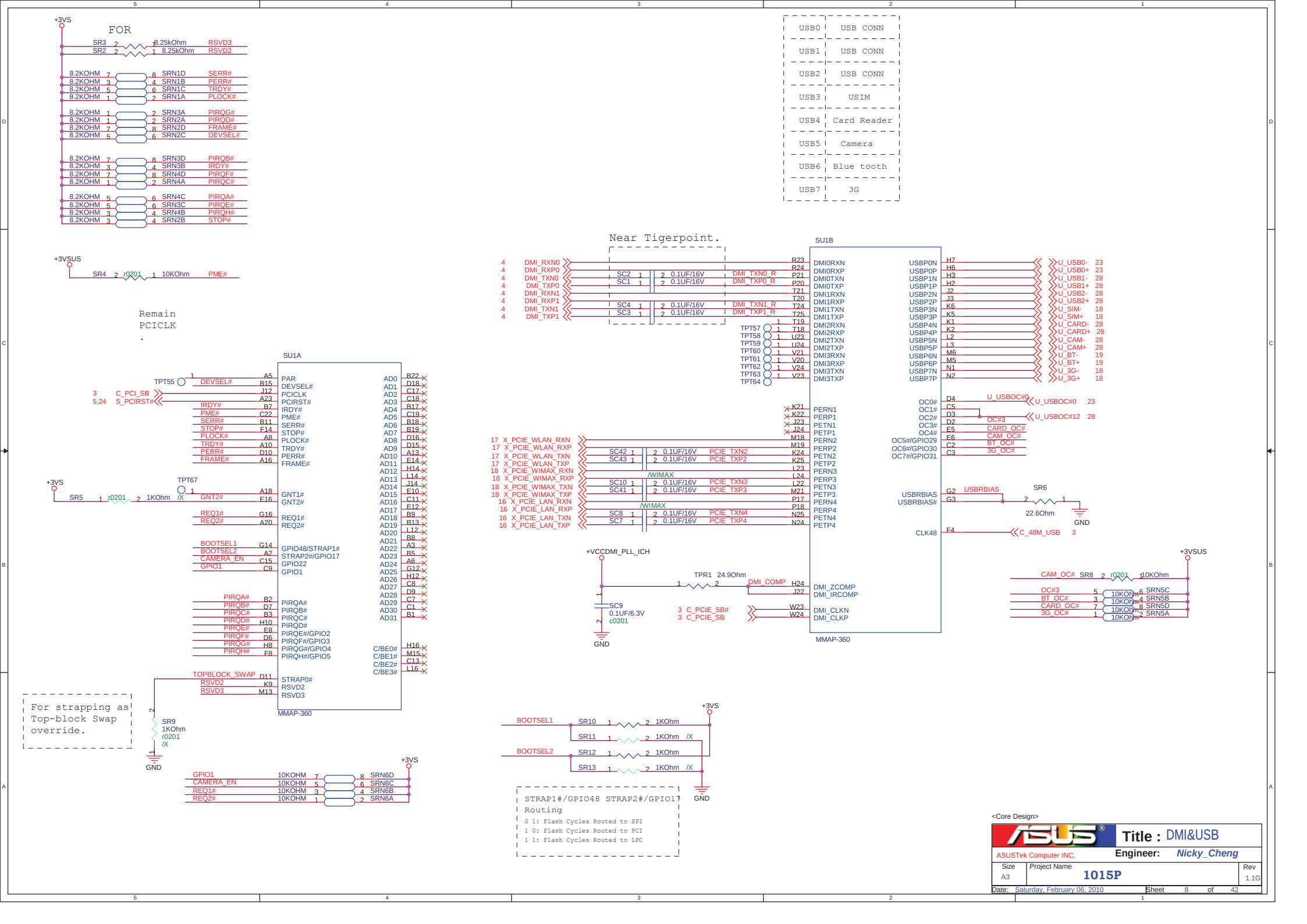
<Core Design>

Title : XDP

ASUSTek Computer INC. Engineer: Nicky_Cheng

Size	Project Name	Rev
A3	1015P	1.1G

Date: Saturday, February 06, 2010 Sheet 7 of 42


FOR
+3VS
SR3 2 8.25kOhm RSVD3
SR2 2 8.25kOhm RSVD2
8.2KOHM SRN1D SERR#
8.2KOHM SRN1B PERR#
8.2KOHM SRN1C TRDY#
8.2KOHM SRN1A PLOCK#
8.2KOHM SRN3A PIRQG#
8.2KOHM SRN2A PIRQD#
8.2KOHM SRN2D FRAME#
8.2KOHM SRN2C DEVSEL#
8.2KOHM SRN3D PIRQB#
8.2KOHM SRN3B IRDY#
8.2KOHM SRN4D PIRQF#
8.2KOHM SRN4A PIRQC#
8.2KOHM SRN4C PIRQA#
8.2KOHM SRN3C PIRQE#
8.2KOHM SRN4B PIRQH#
8.2KOHM SRN2B STOP#
USB0 USB CONN
USB1 USB CONN
USB2 USB CONN
USB3 USIM
USB4 Card Reader
USB5 Camera
USB6 Blue tooth
USB7 3G
+3VSUS
SR4 r0201 10KOhm PME#
Remain PCICLK .
Near Tigerpoint.
SU1B
DMI_RXN0 DMI_RXP0 DMI_TXN0 DMI_TXP0 DMI_RXN1 DMI_RXP1 DMI_TXN1 DMI_TXP1
SC2 SC1 SC4 SC3 0.1UF/16V
DMI_TXN0_R DMI_TXP0_R DMI_TXN1_R DMI_TXP1_R
TPT57 TPT58 TPT59 TPT60 TPT61 TPT62 TPT63 TPT64
DMI0RXN DMI0RXP DMI0TXN DMI0TXP DMI1RXN DMI1RXP DMI1TXN DMI1TXP DMI2RXN DMI2RXP DMI2TXN DMI2TXP DMI3RXN DMI3RXP DMI3TXN DMI3TXP
USBP0N USBP0P USBP1N USBP1P USBP2N USBP2P USBP3N USBP3P USBP4N USBP4P USBP5N USBP5P USBP6N USBP6P USBP7N USBP7P
U_USB0- U_USB0+ U_USB1- U_USB1+ U_USB2- U_USB2+ U_SIM- U_SIM+ U_CARD- U_CARD+ U_CAM- U_CAM+ U_BT- U_BT+ U_3G- U_3G+
PERN1 PERP1 PETN1 PETP1 PERN2 PERP2 PETN2 PETP2 PERN3 PERP3 PETN3 PETP3 PERN4 PERP4 PETN4 PETP4
X_PCIE_WLAN_RXN X_PCIE_WLAN_RXP X_PCIE_WLAN_TXN X_PCIE_WLAN_TXP X_PCIE_WIMAX_RXN X_PCIE_WIMAX_RXP X_PCIE_WIMAX_TXN X_PCIE_WIMAX_TXP X_PCIE_LAN_RXN X_PCIE_LAN_RXP X_PCIE_LAN_TXN X_PCIE_LAN_TXP
SC42 SC43 SC10 SC41 SC8 SC7 0.1UF/16V
PCIE_TXN2 PCIE_TXP2 PCIE_TXN3 PCIE_TXP3 PCIE_TXN4 PCIE_TXP4
/WIMAX
OC0# OC1# OC2# OC3# OC4# OC5#/GPIO29 OC6#/GPIO30 OC7#/GPIO31
U_USBOC#0 U_USBOC#12 OC#3 CARD_OC# CAM_OC# BT_OC# 3G_OC#
USBRBIAS USBRBIAS# SR6 22.6Ohm GND
CLK48 C_48M_USB
+VCCDMI_PLL_ICH
TPR1 24.9Ohm DMI_COMP
SC9 0.1UF/6.3V c0201
DMI_ZCOMP DMI_IRCOMP DMI_CLKN DMI_CLKP
3 C_PCIE_SB# 3 C_PCIE_SB
MMAP-360
+3VSUS
CAM_OC# SR8 r0201 10KOhm
OC#3 BT_OC# CARD_OC# 3G_OC#
SRN5C SRN5B SRN5D SRN5A
SU1A
TPT55 DEVSEL# C_PCI_SB S_PCIRST#
IRDY# PME# SERR# STOP# PLOCK# TRDY# PERR# FRAME#
PAR DEVSEL# PCICLK PCIRST# IRDY# PME# SERR# STOP# PLOCK# TRDY# PERR# FRAME#
AD0 AD1 AD2 AD3 AD4 AD5 AD6 AD7 AD8 AD9 AD10 AD11 AD12 AD13 AD14 AD15 AD16 AD17 AD18 AD19 AD20 AD21 AD22 AD23 AD24 AD25 AD26 AD27 AD28 AD29 AD30 AD31
+3VS TPT67 SR5 r0201 1KOhm /X
GNT2# GNT1# GNT2#
REQ1# REQ2# REQ1# REQ2#
BOOTSEL1 BOOTSEL2 CAMERA_EN GPIO1
GPIO48/STRAP1# STRAP2#/GPIO17 GPIO22 GPIO1
PIRQA# PIRQB# PIRQC# PIRQD# PIRQE# PIRQF# PIRQG# PIRQH#
PIRQA# PIRQB# PIRQC# PIRQD# PIRQE#/GPIO2 PIRQF#/GPIO3 PIRQG#/GPIO4 PIRQH#/GPIO5
C/BE0# C/BE1# C/BE2# C/BE3#
TOPBLOCK_SWAP RSVD2 RSVD3
STRAP0# RSVD2 RSVD3
MMAP-360
For strapping as Top-block Swap override.
SR9 1KOhm r0201 /X GND
GPIO1 CAMERA_EN REQ1# REQ2#
10KOHM SRN6D SRN6C SRN6B SRN6A
+3VS
BOOTSEL1 BOOTSEL2
SR10 SR11 SR12 SR13 1KOhm /X
GND
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
<Core Design>
Title : DMI&USB
ASUSTek Computer INC.
Engineer: Nicky_Cheng
Size A3
Project Name 1015P
Rev 1.1G
Date: Saturday, February 06, 2010
Sheet 8 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.

LAD[0:3] INT PU 20K

SU1C

MMAP-360

SU1D

MMAP-360

PCICLK Run,if no use must PU!

Already 10K pull up to +3VS in clk gen section.

0 ohm for debugging later.

Reserved as Intel demo sck.

SB Sample SKU	ASUS P/N
QS	02G010026301
PRQ	02G010026302

Change from 10K to 2.2K

Main system SMBUS.

PCB ID.

PCB ID.

RTC power.

RTC well input requires pull down to reduce leakage from coin cell battery in G3.
Cann't float in G3.

DMI strap.

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

For Rechargeable solution: Mount TPR2

For NON-Rechargeable solution: Unmount TPR2

<Core Design>

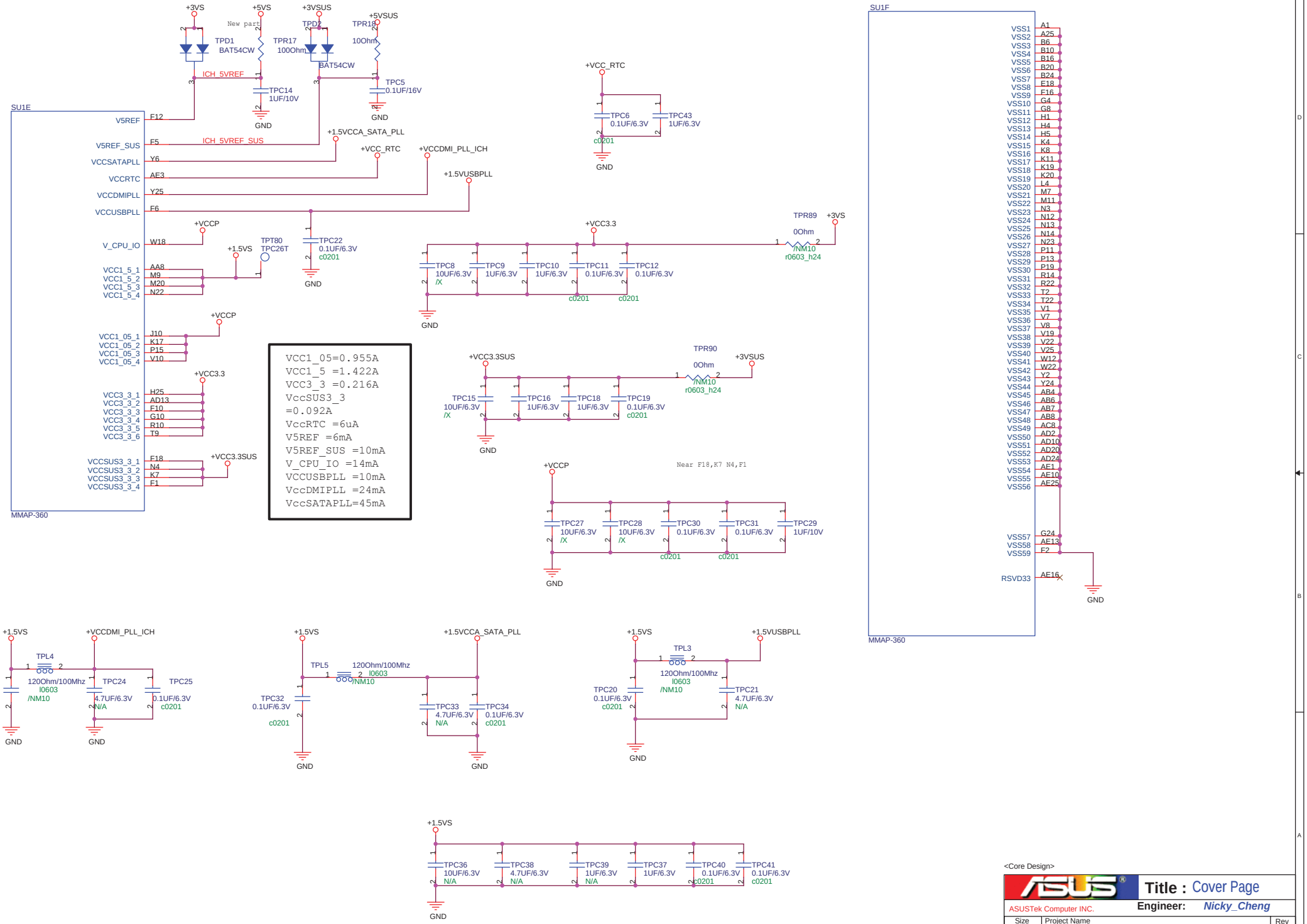
ASUSTek Computer INC.

Title : SCH system

Engineer: Nicky_Cheng

Size	Project Name	Rev
A2	1015P	1.1G

Date: Saturday, February 06, 2010 Sheet 9 of 42



<Core Design>

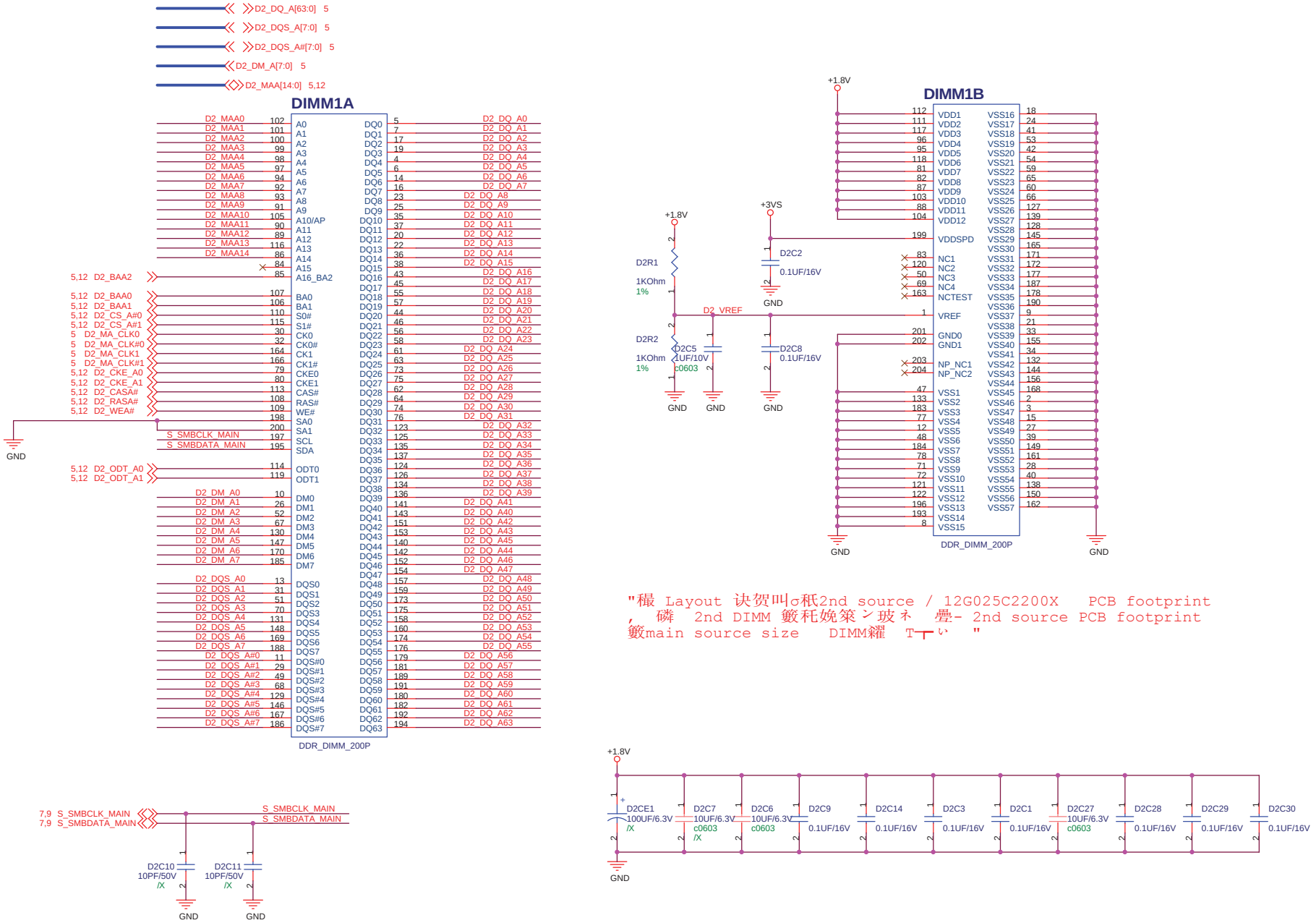
Title : Cover Page

ASUSTek Computer INC.

Engineer: Nicky_Cheng

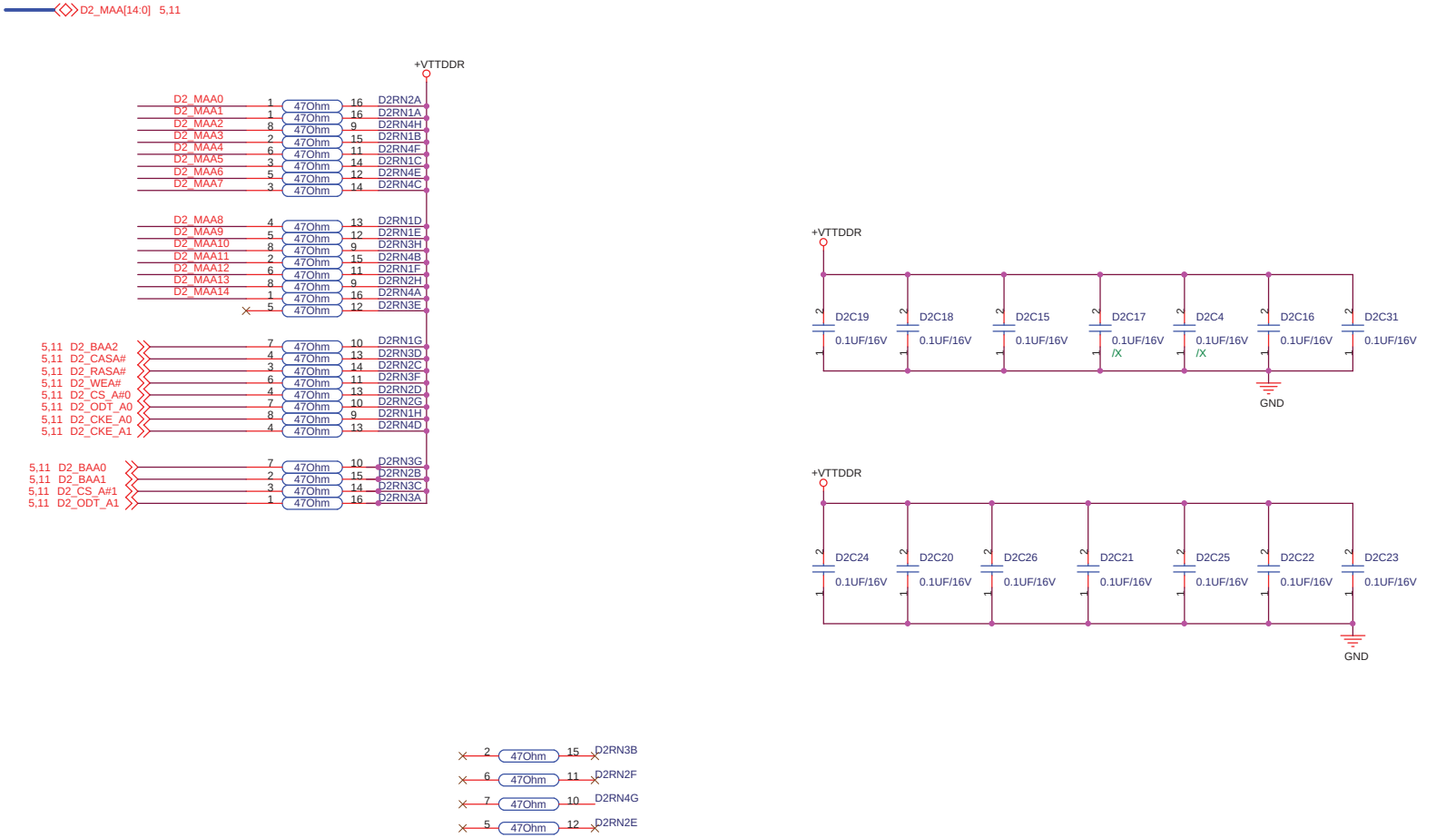
Size	Project Name	Rev
A3	1015P	1.1G

Date: Saturday, February 06, 2010 Sheet 10 of 42



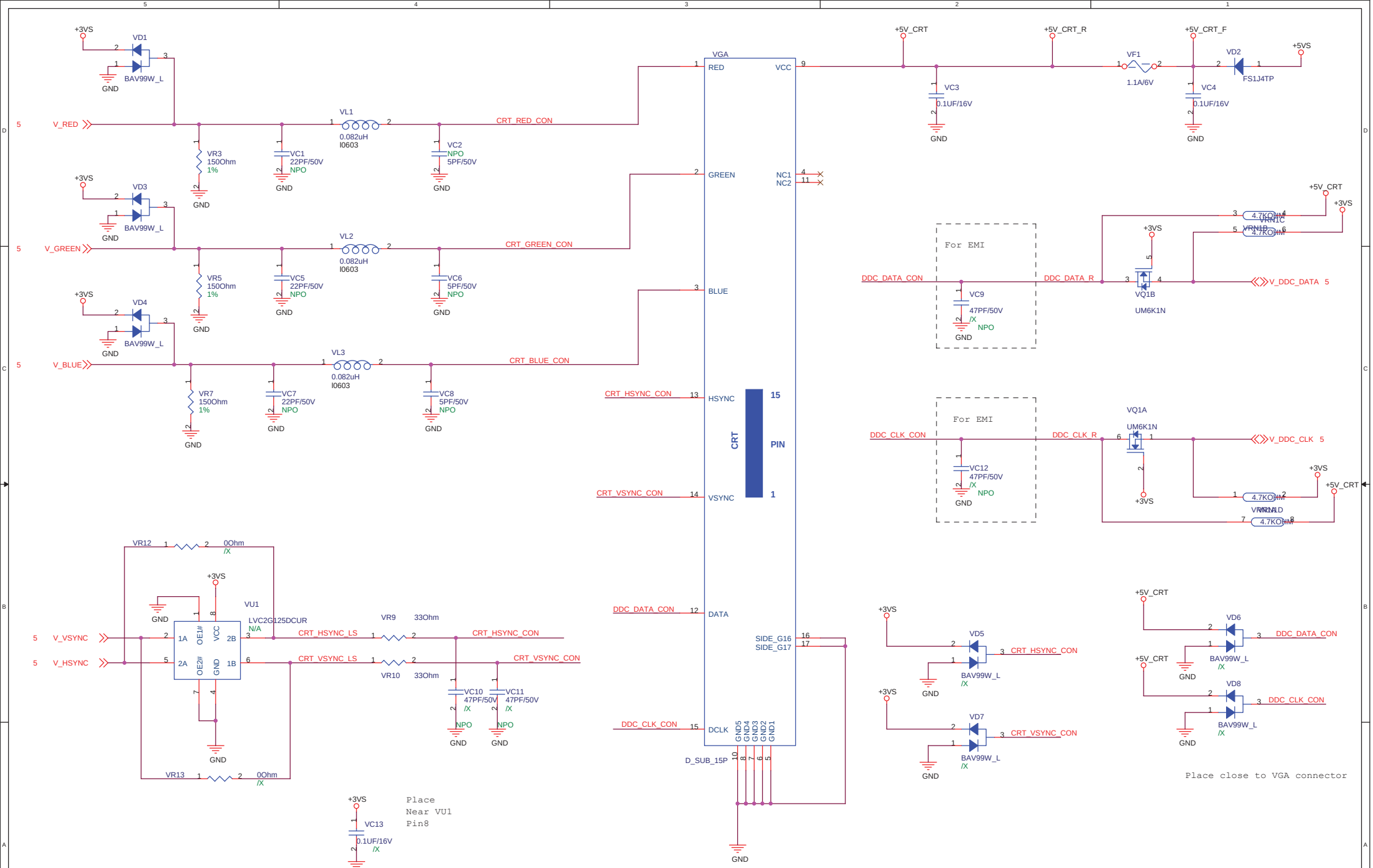
<Core Design>

ASUSTek Computer INC.	Title : DDR2-SO-DIMM	
	Engineer: Nicky_Cheng	
Size: A3	Project Name: 1015P	Rev: 1.0G
Date: Saturday, February 06, 2010	Sheet 11 of 42	



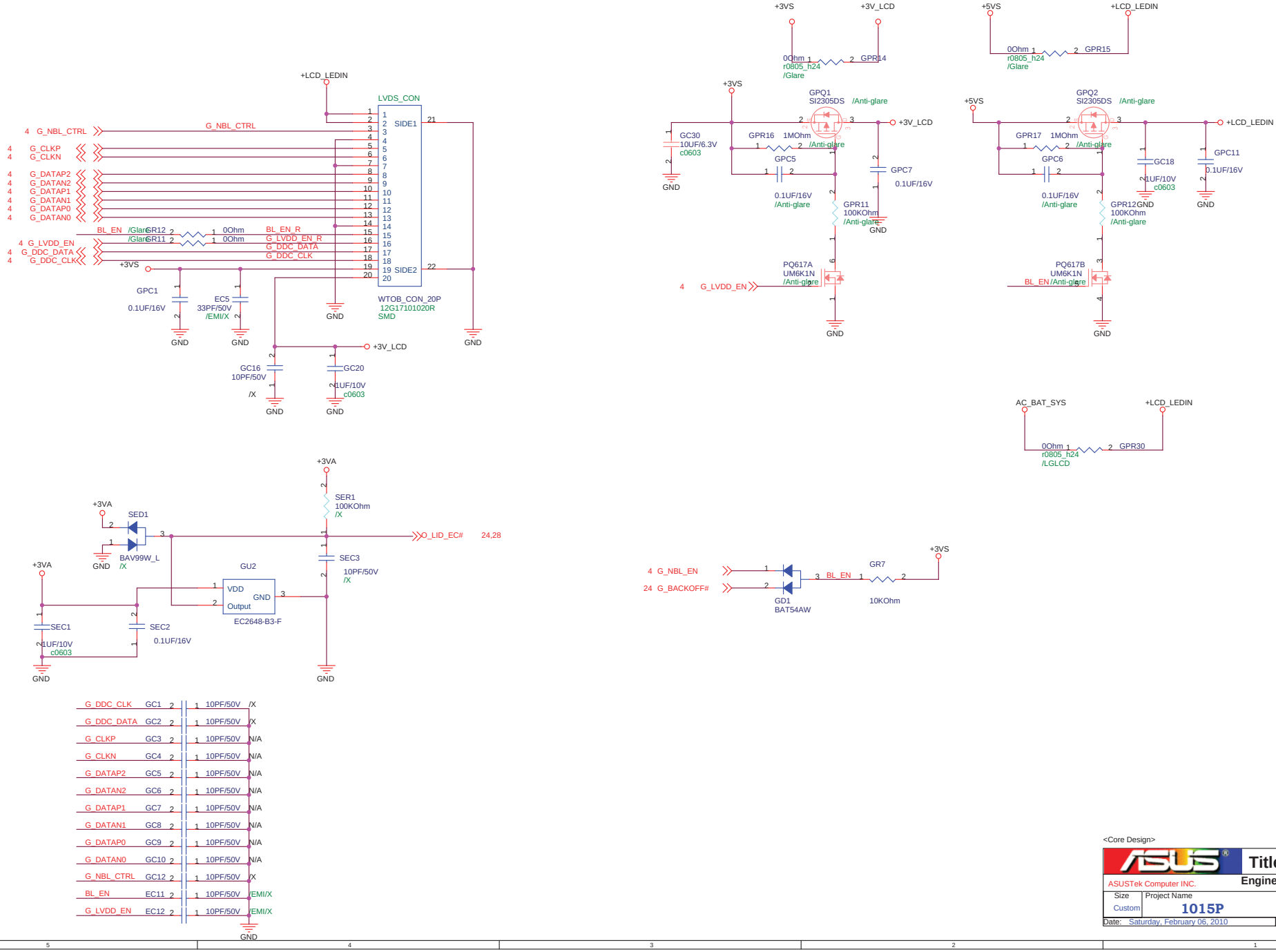
<Core Design>

ASUSTek Computer INC.	Title : DDR2-Termination	
	Engineer: Nicky_Cheng	
Size: A3	Project Name: 1015P	Rev: 1.0G
Date: Saturday, February 06, 2010	Sheet 12 of 42	



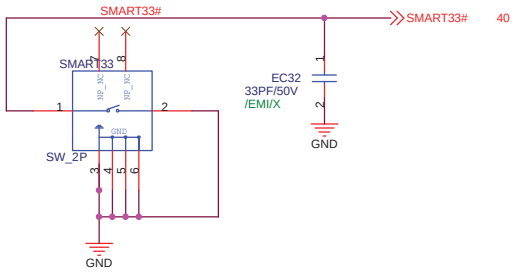
<Core Design>

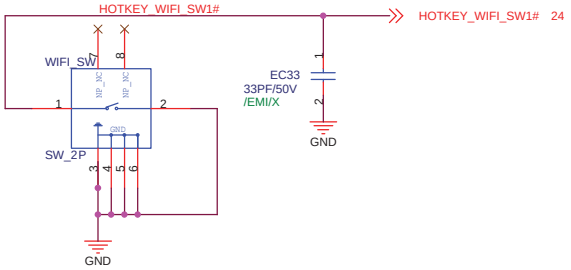
ASUSTek Computer INC.	Title : Onboard-VGA	
	Engineer: Nicky_Cheng	
Size: A3	Project Name: 1015P	Rev: 1.1G
Date: Saturday, February 06, 2010	Sheet 13 of 42	



<Core Design>

ASUSTek Computer INC.	Title : LVDS Conn_LID	
	Engineer: Nicky_Cheng	
Size: Custom	Project Name: 1015P	Rev: 1.1G
Date: Saturday, February 06, 2010	Sheet 14 of 42	





<Core Design>

ASUSTek Computer INC.	Title : WIFI_SAMRT33	
	Engineer: *Nicky_Cheng*	
Size: A3	Project Name: **1015P**	Rev: 1.1G
Date: Saturday, February 06, 2010	Sheet 15 of 42	

LAN AR8132M

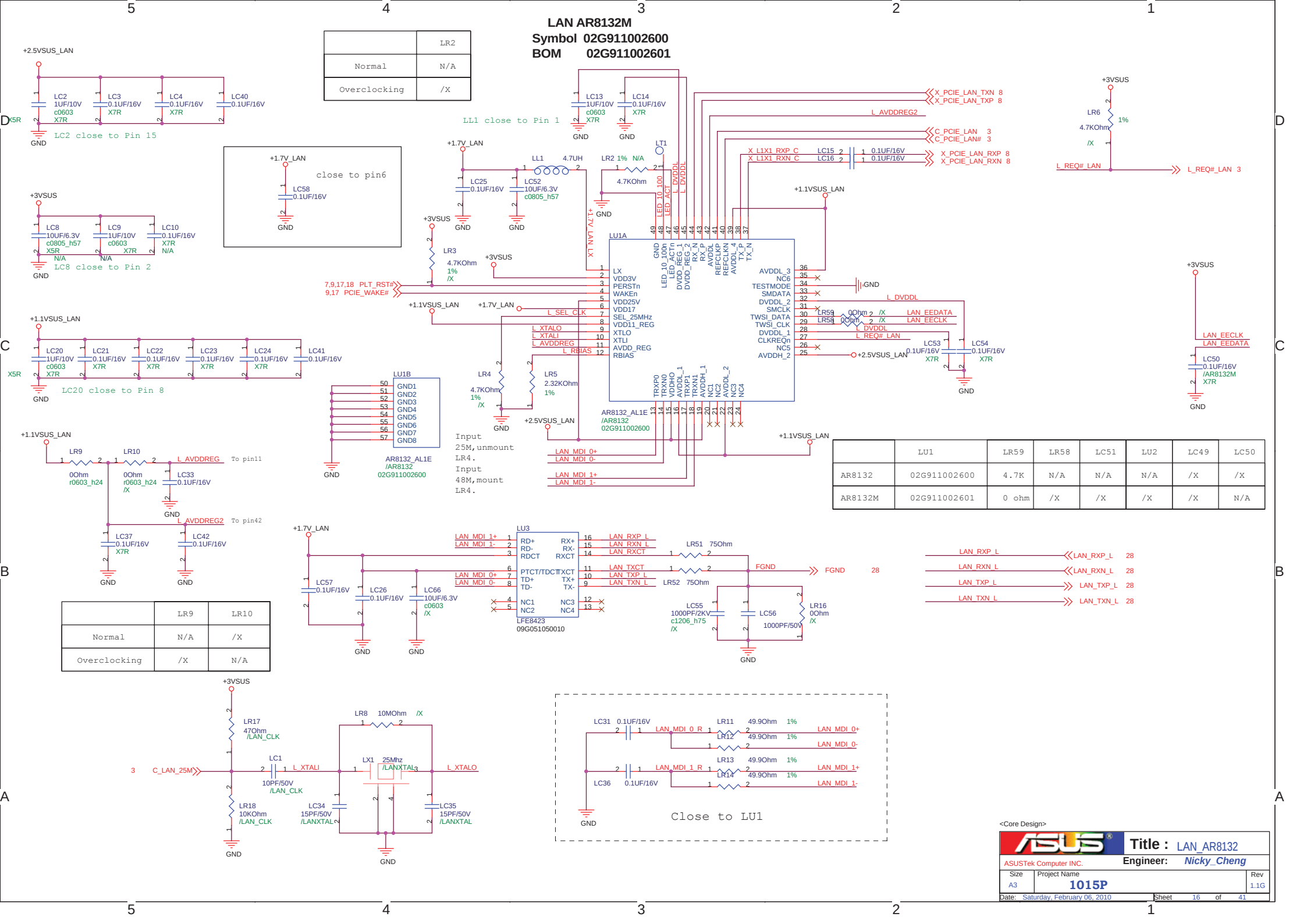
Symbol 02G911002600

BOM 02G911002601

	LR2
Normal	N/A
Overclocking	/X

	LR9	LR10
Normal	N/A	/X
Overclocking	/X	N/A

	LU1	LR59	LR58	LC51	LU2	LC49	LC50
AR8132	02G911002600	4.7K	N/A	N/A	N/A	/X	/X
AR8132M	02G911002601	0 ohm	/X	/X	/X	/X	N/A



<Core Design>

ASUSTek Computer INC.

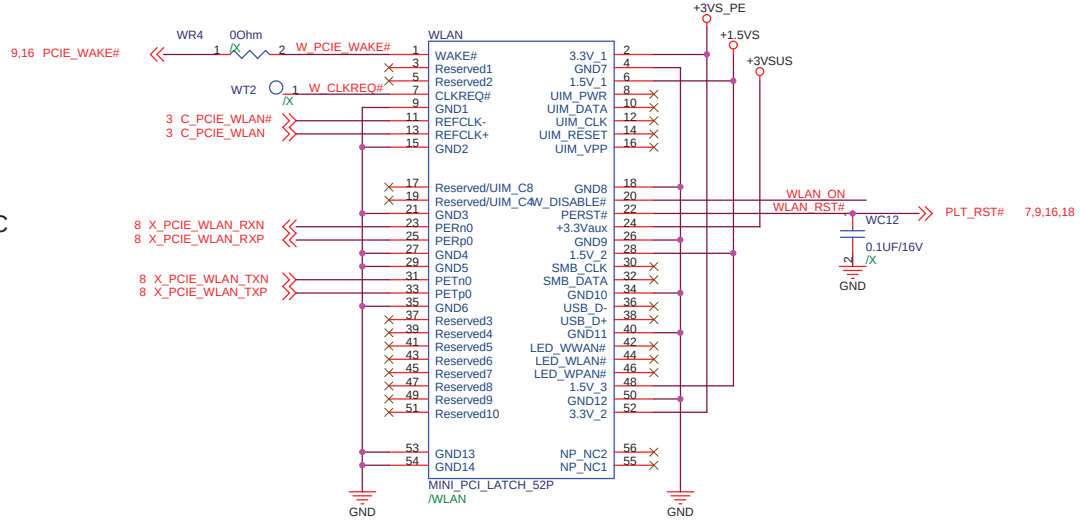
Title : LAN_AR8132

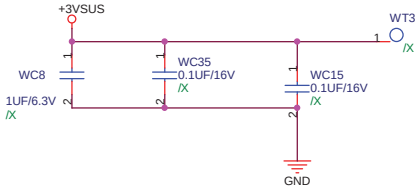
Engineer: Nicky_Cheng

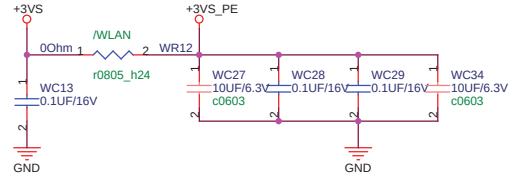
Size	Project Name	Rev
A3	1015P	1.1G

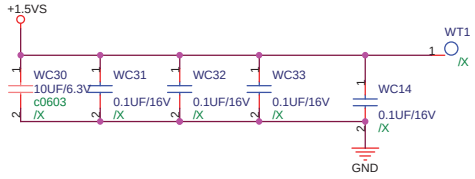
Date: Saturday, February 06, 2010 Sheet 16 of 41

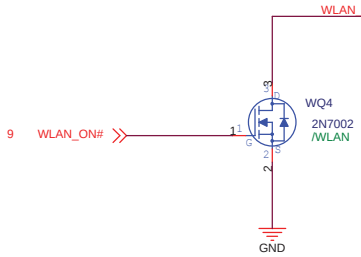
WIFI use PCIE 1.1 Spec
+3VS = 1.0A peak / 0.75A Normal
+1.5VS = 0.5A peak / 0.375A Normal
+3VSUS = 0.375A peak / 0.25A Normal





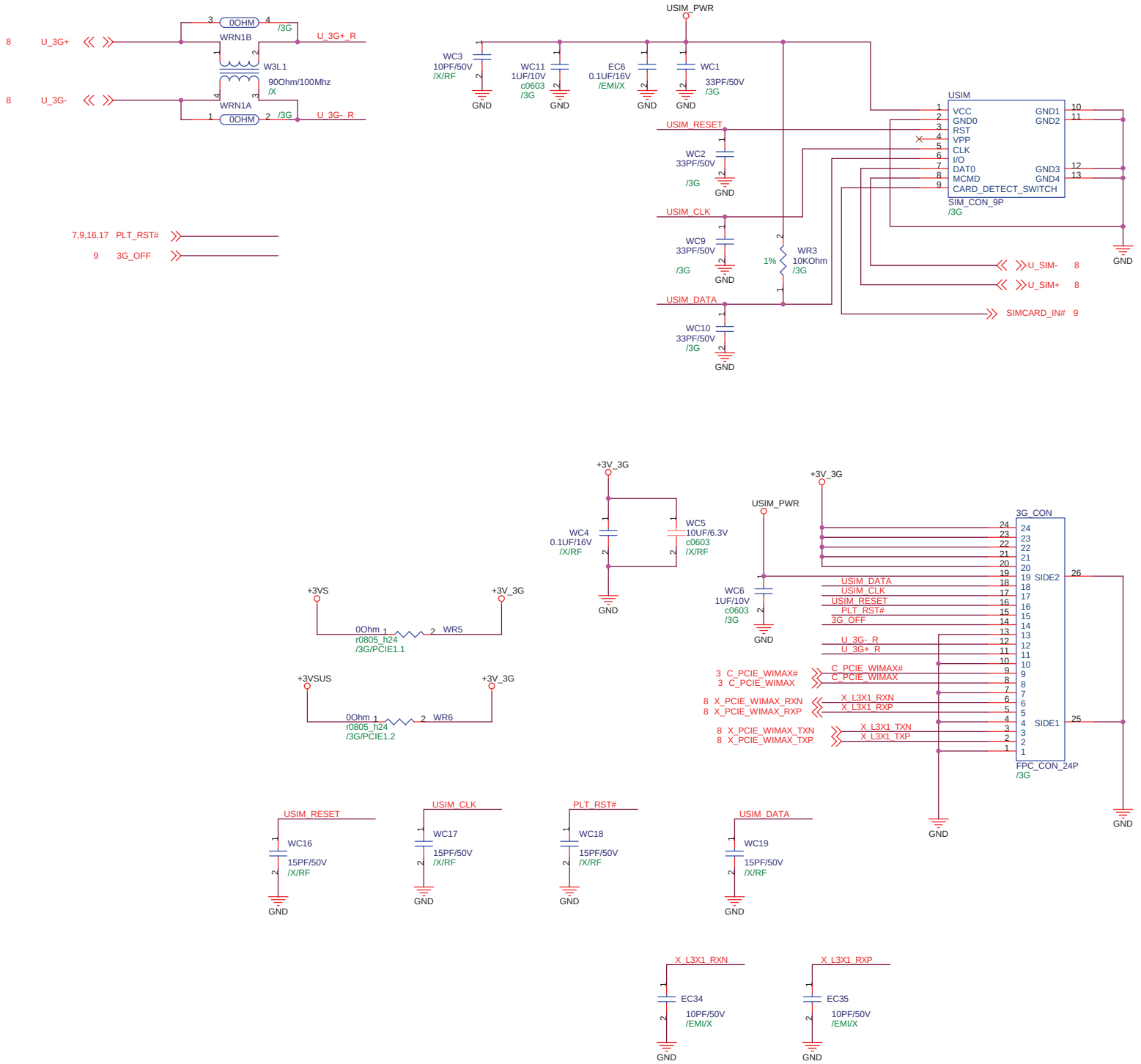






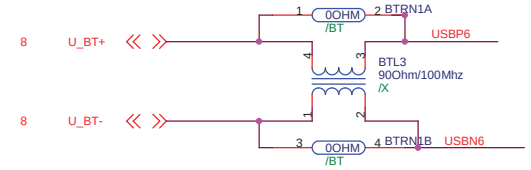
<Core Design>

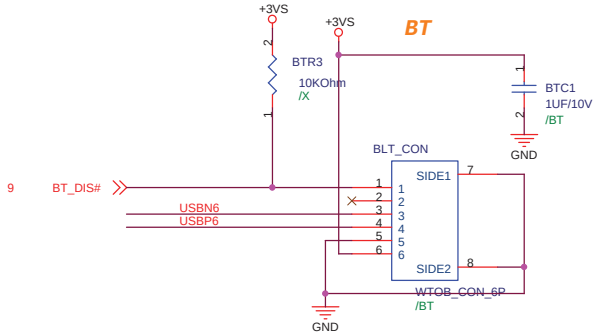
ASUSTek Computer INC.	Title : WLAN	
	Engineer: Nicky_Cheng	
Size: A3	Project Name: 1015P	Rev: 1.1G
Date: Saturday, February 06, 2010	Sheet 17 of 42	



<Core Design>

ASUSTek Computer INC.	Title : 3G CON	
	Engineer: Nicky_Cheng	
Size: A3	Project Name: 1015P	Rev: 1.1G
Date: Saturday, February 06, 2010	Sheet 18 of 42	





<Core Design>

Title : Bluetooth

ASUSTek Computer INC.

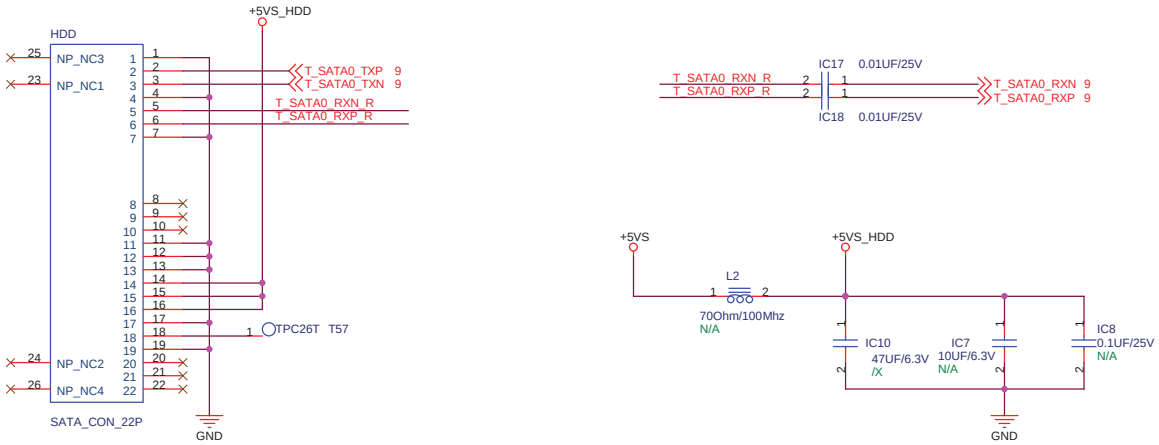
Engineer: Nicky_Cheng

Size	Project Name	Rev
A3	1015P	1.1G

Date: Saturday, February 06, 2010 Sheet 19 of 42

0.1A Beta

SATA HDD Connector

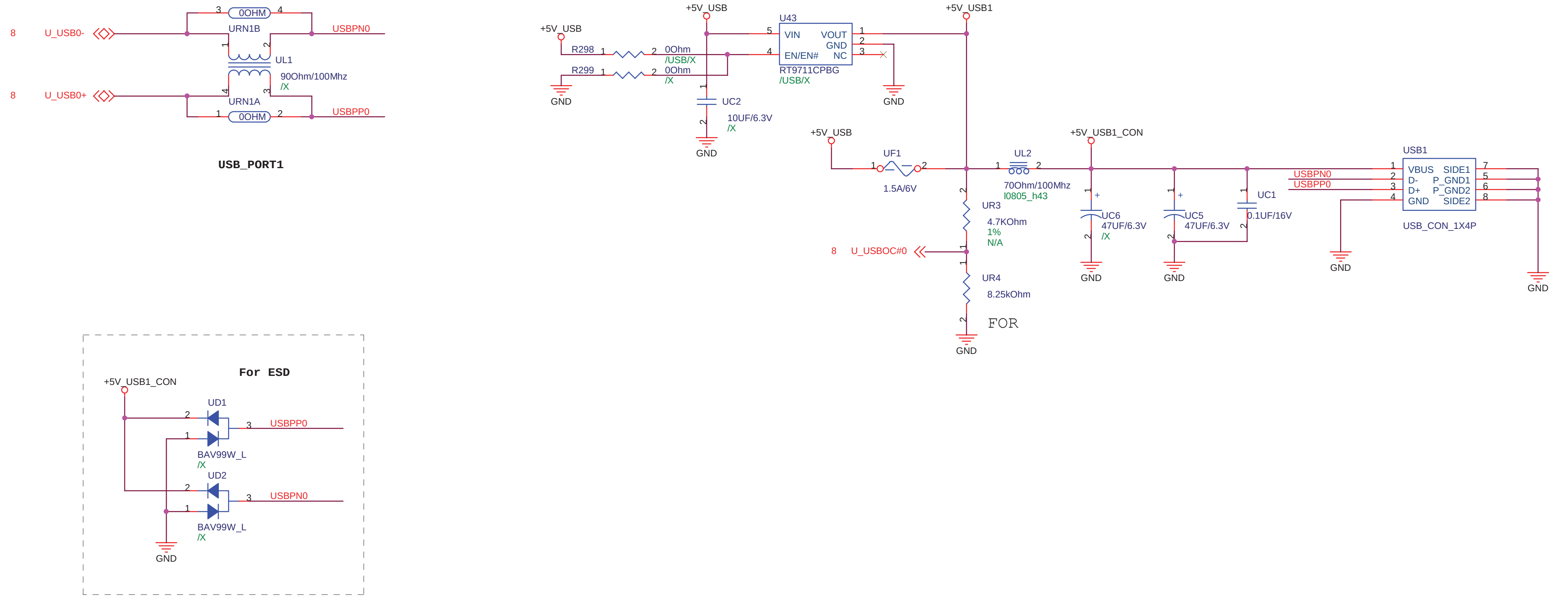


<Core Design>

ASUSTek Computer INC.	Title : HD_CON	
	Engineer: Nicky_Cheng	
Size: A3	Project Name: 1015P	Rev: 1.1G
Date: Saturday, February 06, 2010	Sheet 20 of 42	

<Core Design>

ASUSTek Computer INC.	Title : USB 3.0	
	Engineer: *Nicky_Cheng*	
Size: A3	Project Name: **1015P**	Rev: 1.1G
Date: Saturday, February 06, 2010	Sheet 22 of 42	



<Core Design>

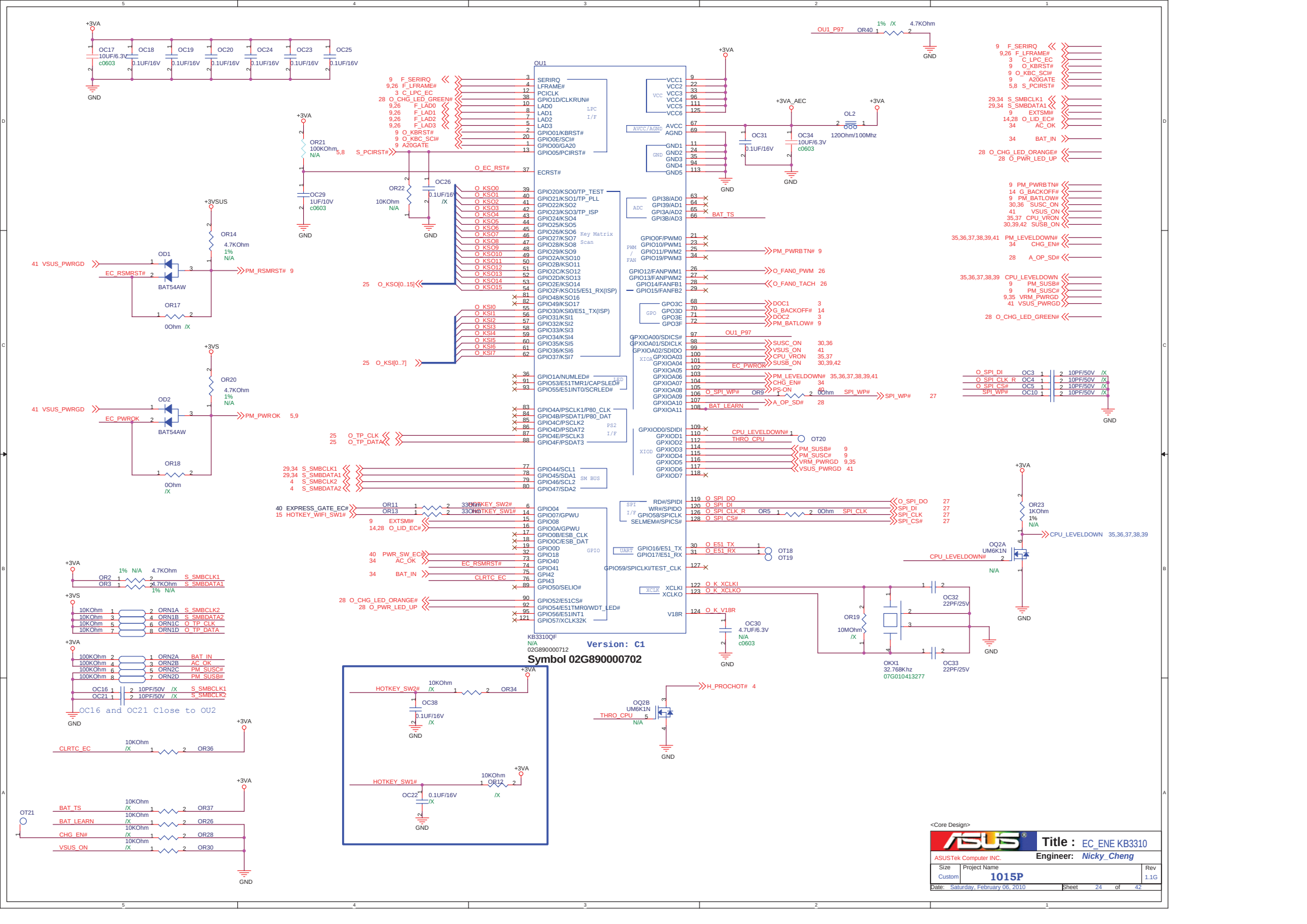
Title : USB Port1

ASUSTek Computer INC.

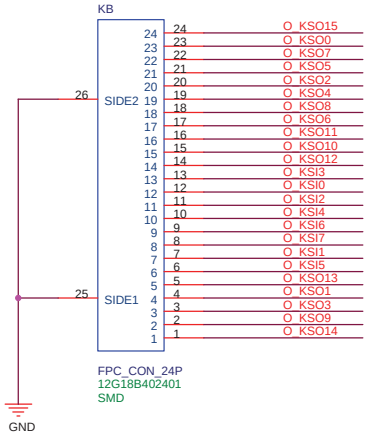
Engineer: *Nicky_Cheng*

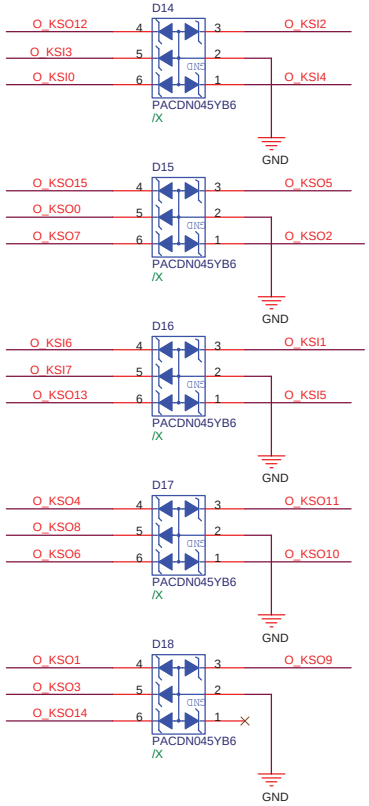
Size	Project Name	Rev
A3	1015P	1.1G

Date: Saturday, February 06, 2010 Sheet 23 of 42

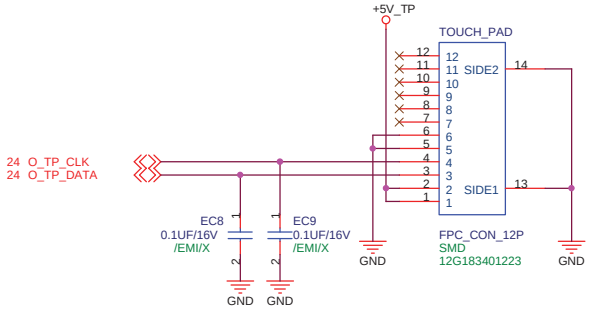

OU1
KB3310QF
N/A
02G890000712
Version: C1
Symbol 02G890000702
OC16 and OC21 Close to OU2
<Core Design>
ASUSTek Computer INC.
Title : EC_ENE KB3310
Engineer: Nicky_Cheng
Size Custom
Project Name 1015P
Rev 1.1G
Date: Saturday, February 06, 2010
Sheet 24 of 42

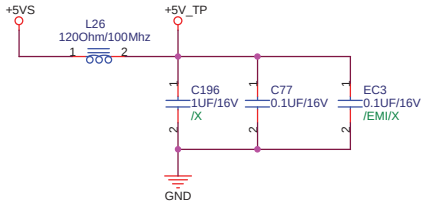
For Keyboard Connector





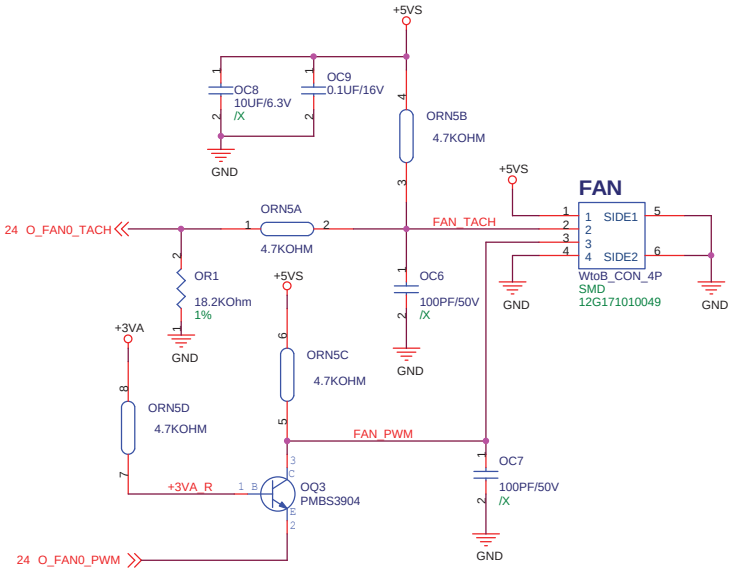
For Touch-Pad

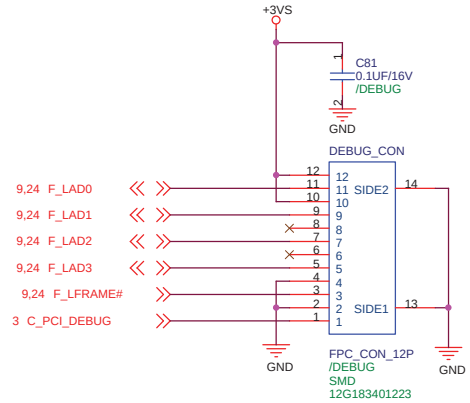




<Core Design>

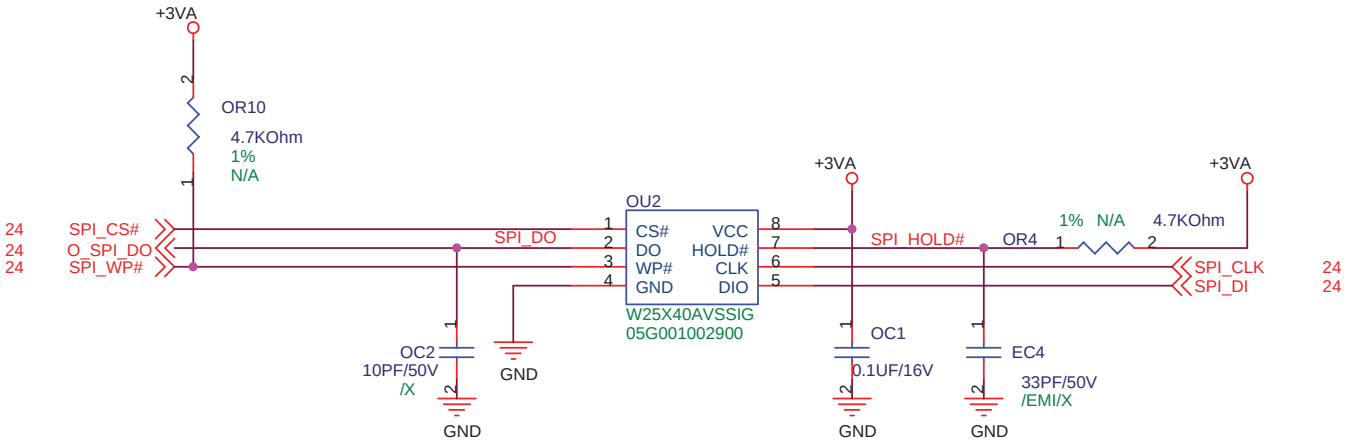
ASUSTek Computer INC.	Title : KB_TP	
	Engineer: Nicky_Cheng	
Size: A3	Project Name: 1015P	Rev: 1.1G
Date: Saturday, February 06, 2010	Sheet 25 of 42	





<Core Design>

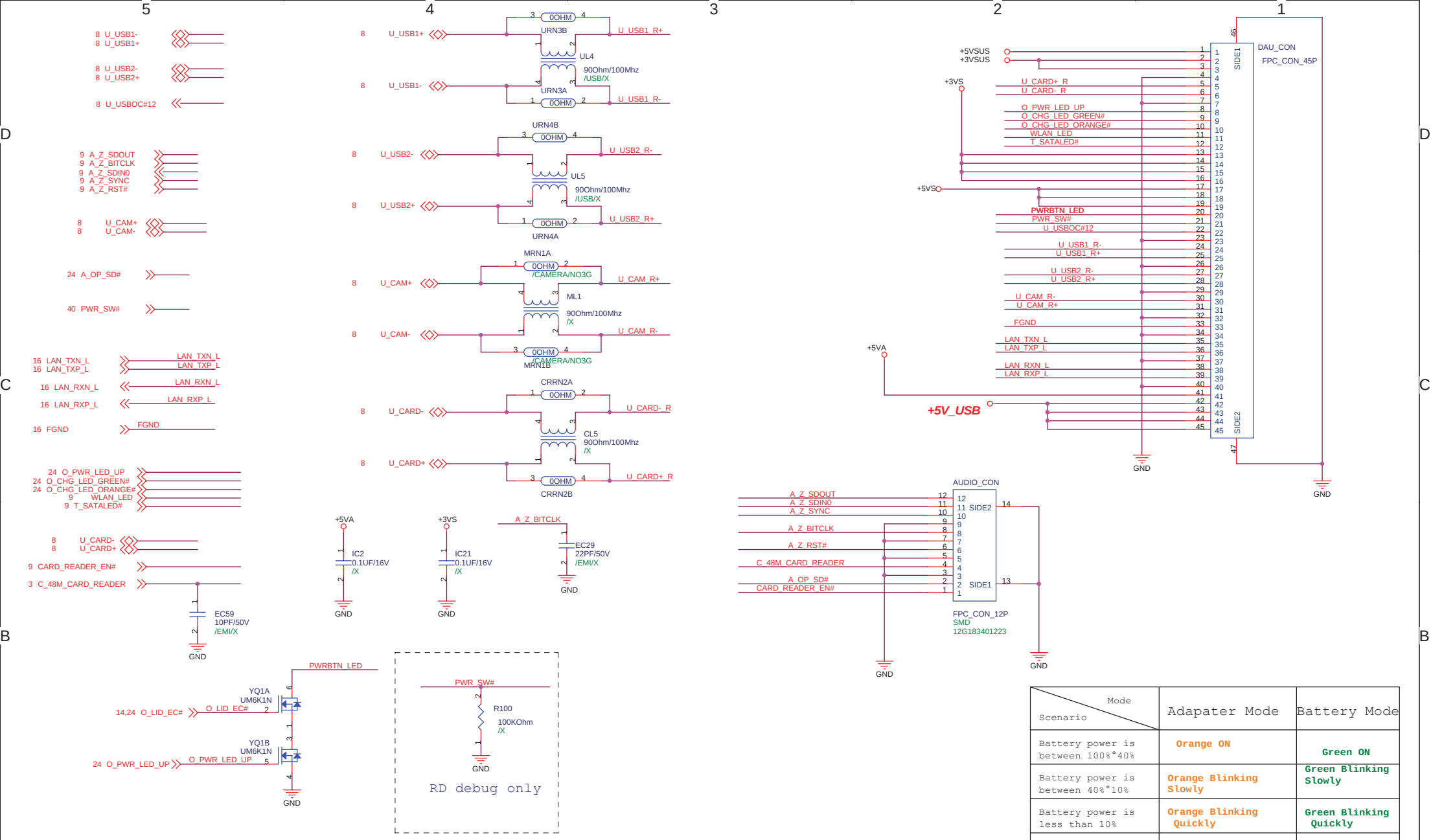
ASUSTek Computer INC.	Title : Fan_Debug	
	Engineer: Nicky_Cheng	
Size: A3	Project Name: 1015P	Rev: 1.1G
Date: Saturday, February 06, 2010	Sheet 26 of 42	



05G001002900;
05G00100F131;
05G00100F133

<Core Design>

ASUSTek Computer INC.	Title : SPI_ROM	
	Engineer: Nicky_Cheng	
Size: A4	Project Name: 1015P	Rev: 1.1G
Date: Saturday, February 06, 2010	Sheet 27 of 42	



Mode / Scenario	Adapater Mode	Battery Mode
Battery power is between 100%~40%	Orange ON	Green ON
Battery power is between 40%~10%	Orange Blinking Slowly	Green Blinking Slowly
Battery power is less than 10%	Orange Blinking Quickly	Green Blinking Quickly
S3/S5 Mode	Scenario the same as above	OFF

<Core Design>

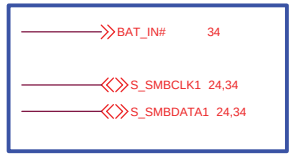
Title : DUA_CON

ASUSTek Computer INC. Engineer: Nicky_Cheng

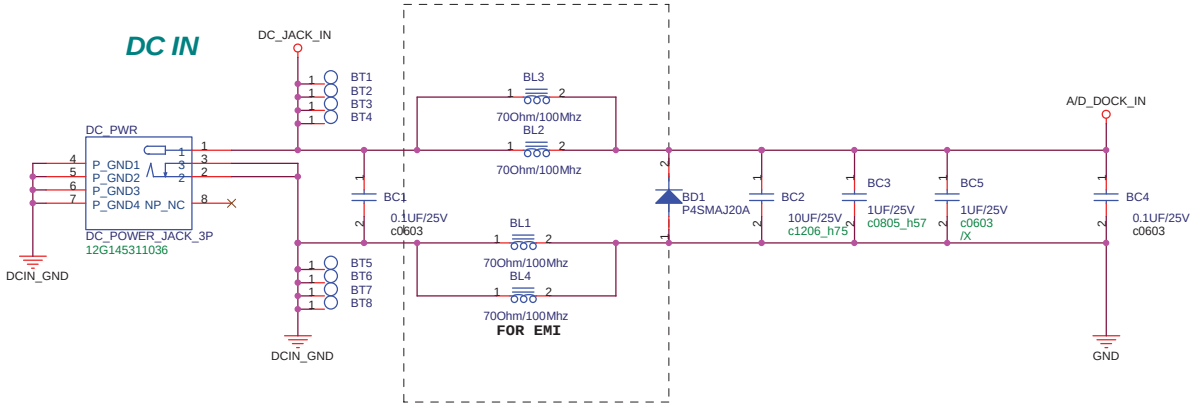
Size	Project Name	Rev
A3	1015P	1.1G

Date: Saturday, February 06, 2010 Sheet 28 of 42

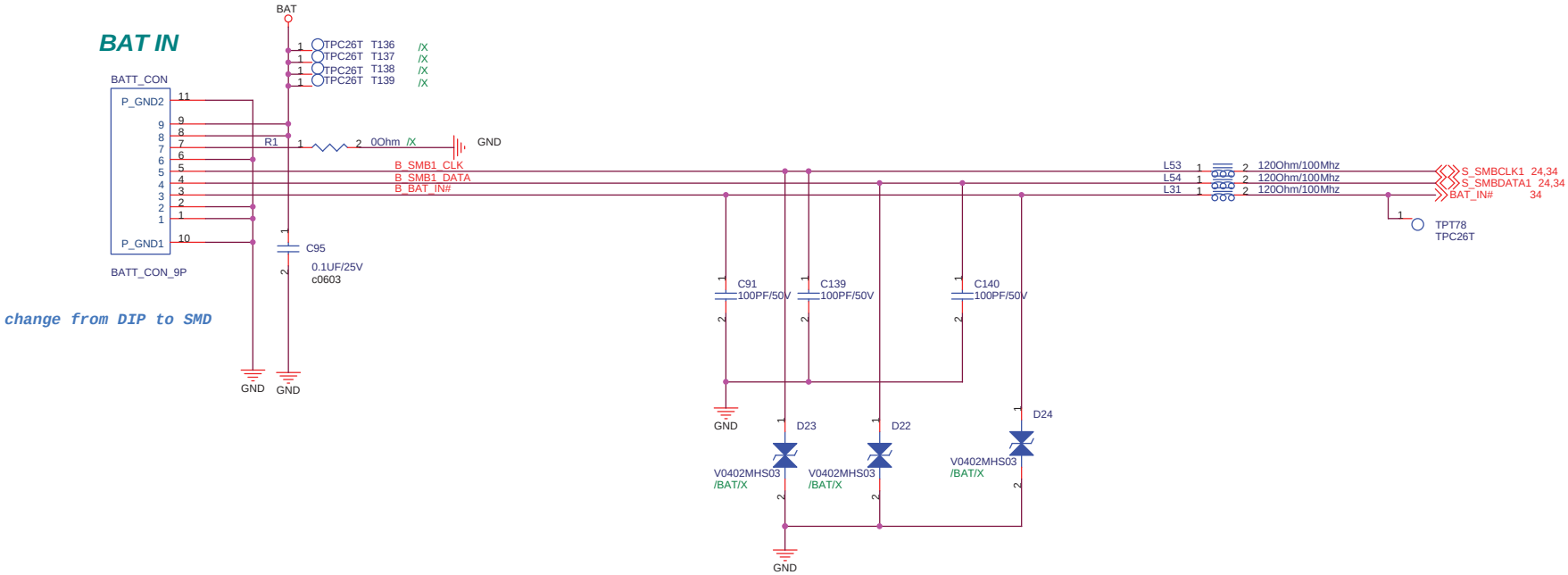
0.1B Beta



DC IN



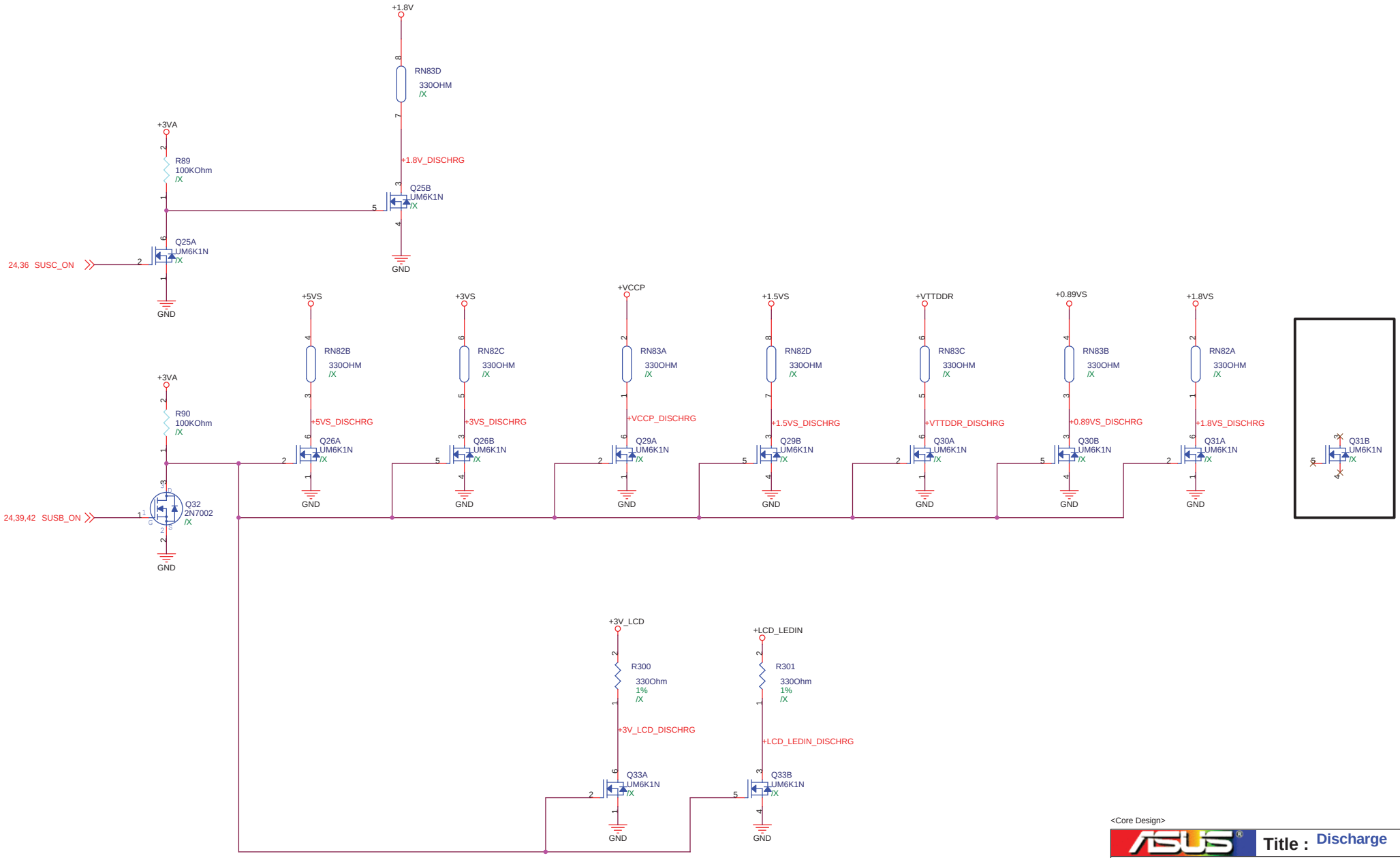
BAT IN



change from DIP to SMD

<Core Design>

ASUSTek Computer INC.	Title : PWR Jack	
	Engineer: Nicky_Cheng	
Size: A3	Project Name: 1015P	Rev: 1.1G
Date: Saturday, February 06, 2010	Sheet 29 of 42	



<Core Design>

ASUSTek Computer INC.	Title : Discharge	
	Engineer: Nicky_Cheng	
Size: A3	Project Name: 1015P	Rev: 1.1G
Date: Saturday, February 06, 2010	Sheet 30 of 42	

<Core Design>

Title : SD_CON

ASUSTek Computer INC.

Engineer: Nicky_Cheng

Size	Project Name	Rev
A3	1015P	1.1G

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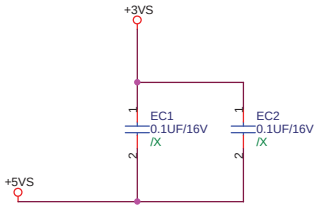
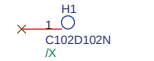
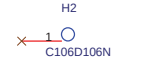
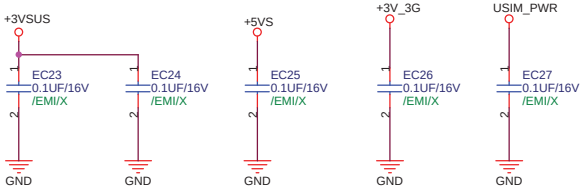
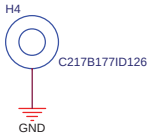


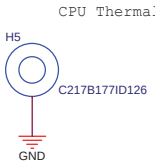


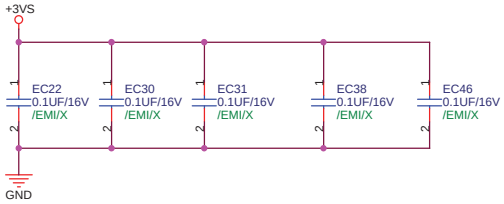


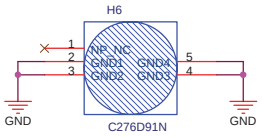


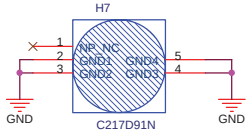


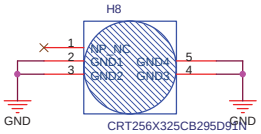
CPU Thermal HOLD

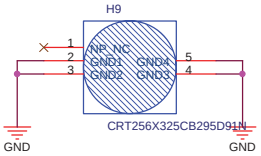


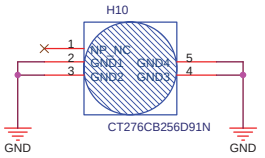


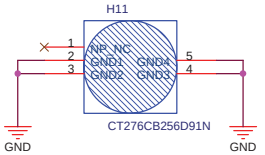


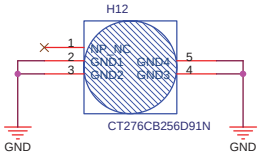


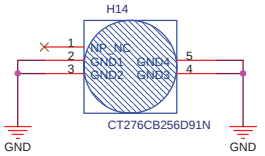


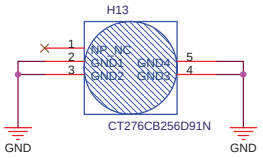


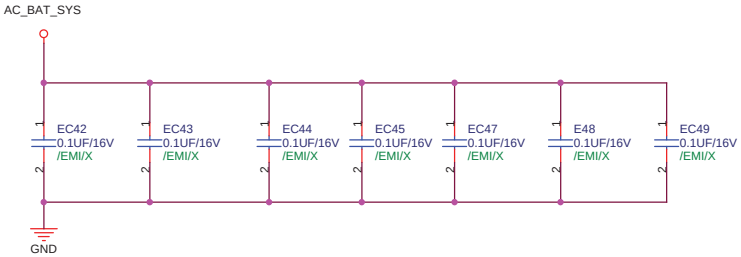


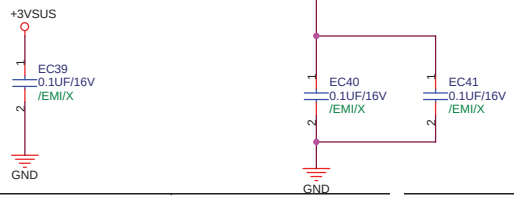


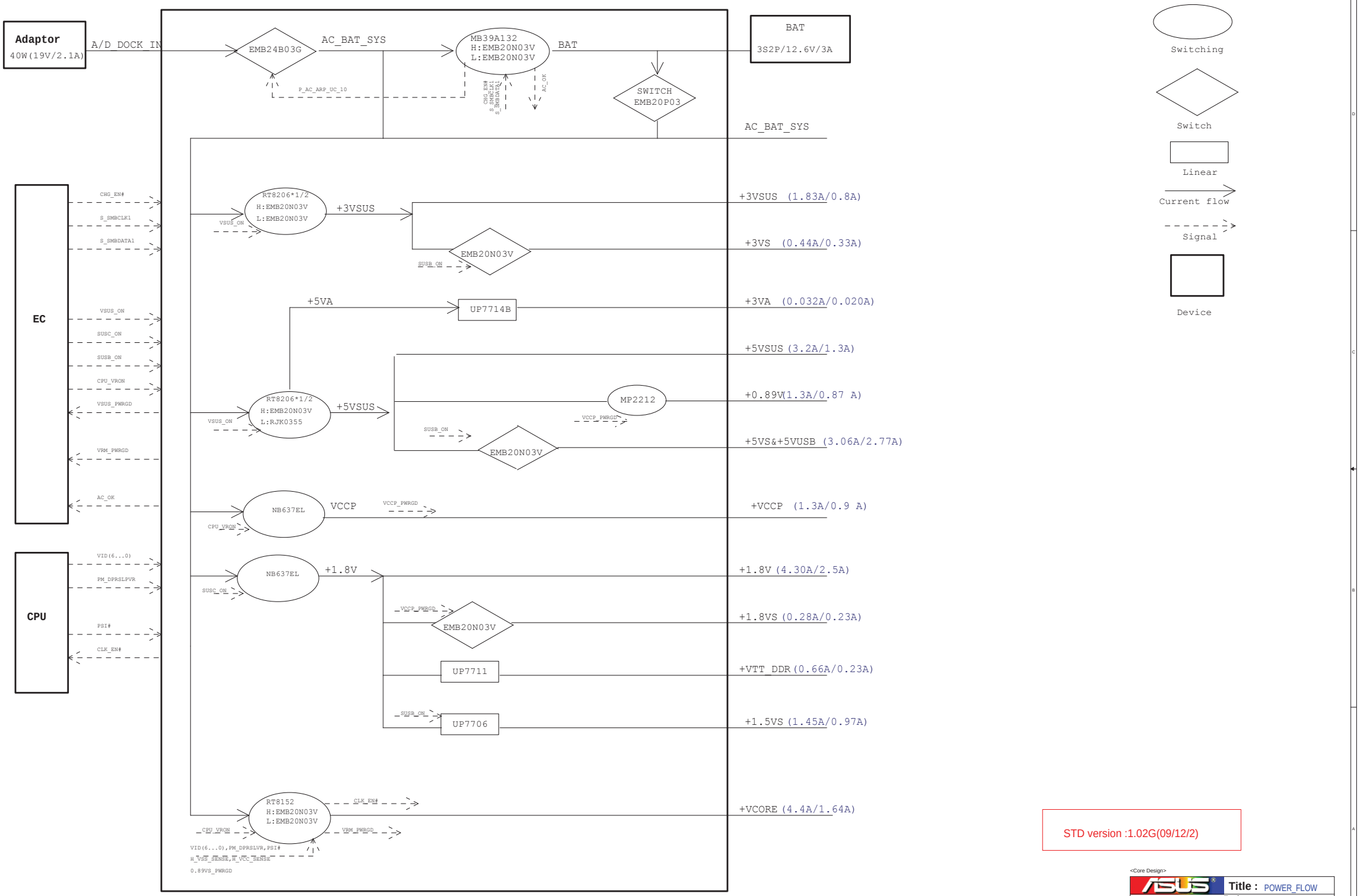












STD version :1.02G(09/12/2)

<Core Design>

ASUSTek Computer INC

Title : POWER_FLOW

Engineer:

Size	Project Name	Rev
A2	1015P	1.0

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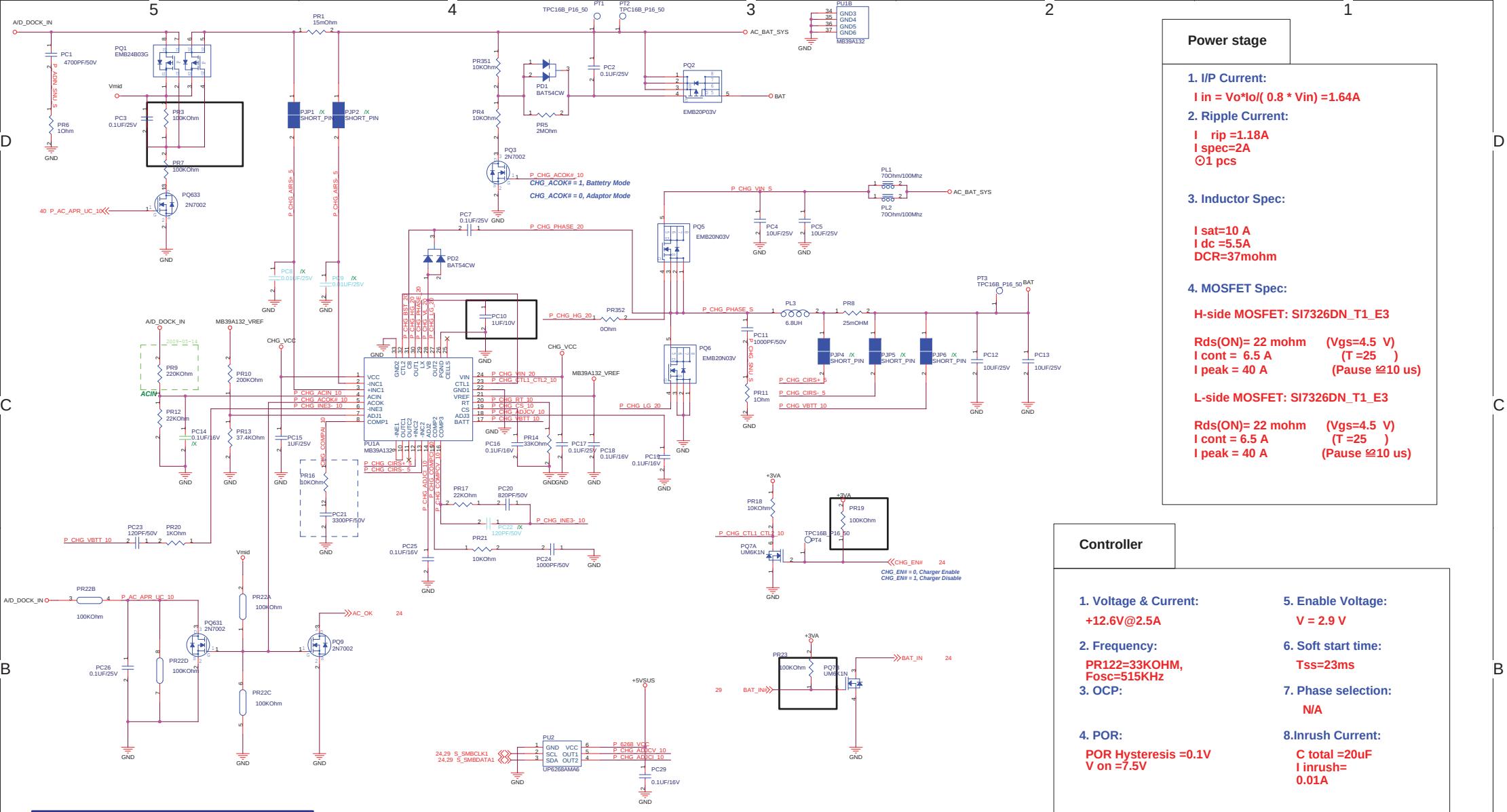


Power stage

1. I/P Current:
   I in = Vo*Io/(0.8 * Vin) =1.64A
2. Ripple Current:
   I rip =1.18A
   I spec=2A
   ⊙1 pcs
3. Inductor Spec:
   I sat=10 A
   I dc =5.5A
   DCR=37mohm
4. MOSFET Spec:

   H-side MOSFET: SI7326DN_T1_E3

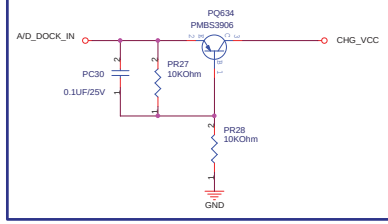
   Rds(ON)= 22 mohm (Vgs=4.5 V)
   I cont = 6.5 A (T =25)
   I peak = 40 A (Pause ≦10 us)

   L-side MOSFET: SI7326DN_T1_E3

   Rds(ON)= 22 mohm (Vgs=4.5 V)
   I cont = 6.5 A (T =25)
   I peak = 40 A (Pause ≦10 us)

Controller

1. Voltage & Current:
   +12.6V@2.5A
2. Frequency:
   PR122=33KOHM,
   Fosc=515KHz
3. OCP:
4. POR:
   POR Hysteresis =0.1V
   V on =7.5V
5. Enable Voltage:
   V = 2.9 V
6. Soft start time:
   Tss=23ms
7. Phase selection:
   N/A
8. Inrush Current:
   C total =20uF
   I inrush=
   0.01A



Battery Charging Current :

4.4V > Vadj2 >= 0V ==>
Ichg =
(Vadj2-0.075)/(25*Rs)

BATSEL_2P# = 1, Ich=1.49A
BATSEL_2P# = 0, Ich=2.62A

Input Adaptor Max. Current Limit :

Ilimit_current = (Vadj1-0.075) / (25*Rs)=1.90A

Pre-Charging Mode :

Precharging current = 149.2mA

Vadj2 = 168mV

ACIN Threshold = 1.25V

Adaptor > 13.75V, System Powered by Adaptor

Adaptor <13.75V, System Powered by Battery

Battery Charging Voltage :

Vadj3 :VREF ==> Vbat = 4.2V /cell
3.9V>Vadj3>2.4V ==> Vbat = 4.35V/cell
Vadj3 :GND ==> Vbat = 4.0V /cell
2.2V>Vadj3>1.1V ==> Vbat = 2*Vadj3 /cell

Battery Cell Selection :

CELLS: VREF ==> 4 Cells;
CELLS: OPEN ==> 3 Cells;
CELLS: GND ==> 2 Cells;

VREF = 5.0V

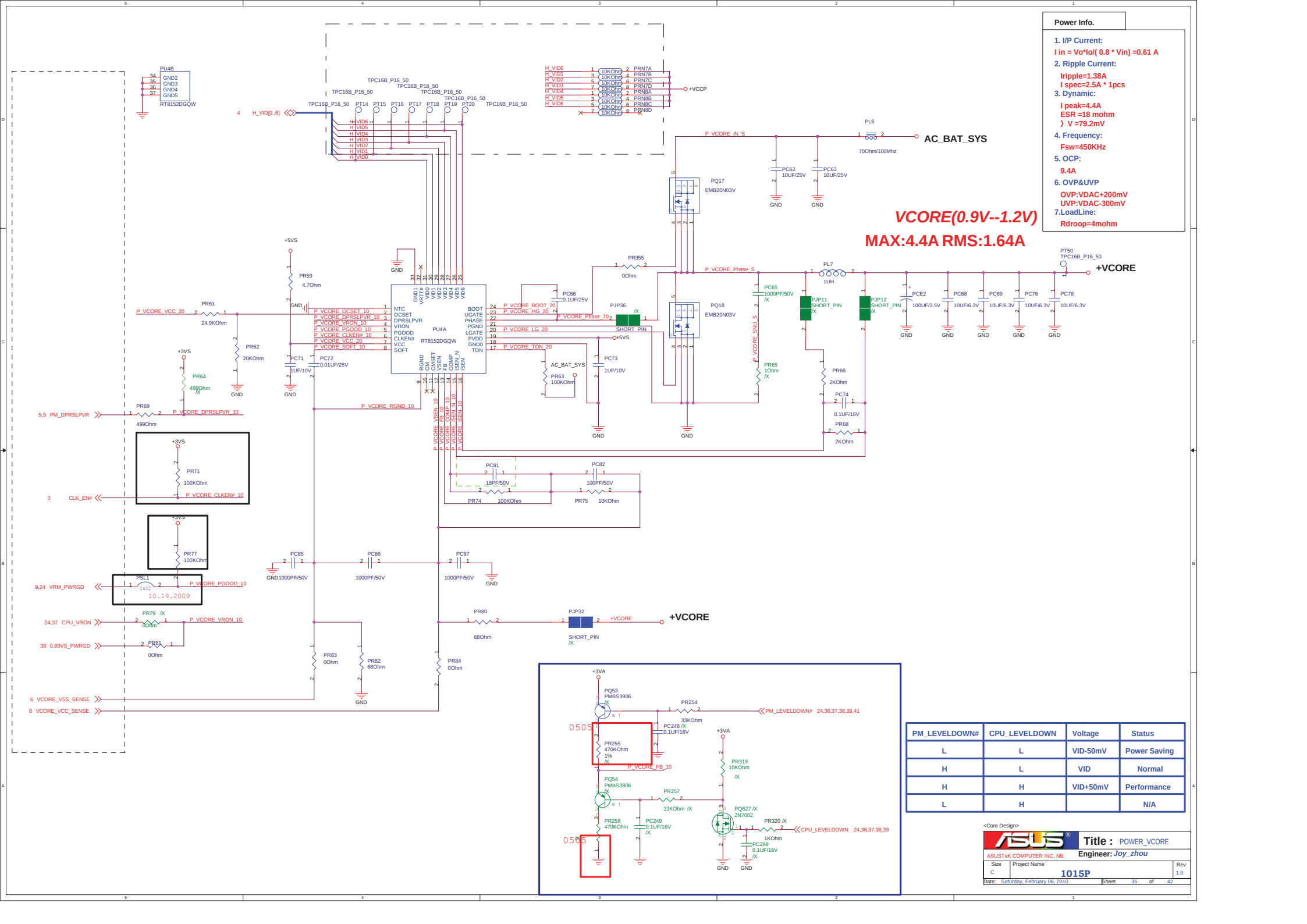
fosc(KHz) = 17000 / RT (KOhm)

*Soft start: ts(s) = 0.13 * CS (uF)*

<Core Design>

ASUSTek Computer INC

Title : Charger
Engineer: Joy_Zhou
Size: A2
Project Name: 1008P
Rev: <RevCode>
Date: Saturday, February 06, 2010
Sheet 34 of 42


Power Info.
1. I/P Current:
I in = Vo*Io/(0.8 * Vin) =0.61 A
2. Ripple Current:
Iripple=1.38A
I spec=2.5A * 1pcs
3. Dynamic:
I peak=4.4A
ESR =18 mohm
〉V =79.2mV
4. Frequency:
Fsw=450KHz
5. OCP:
9.4A
6. OVP&UVP
OVP:VDAC+200mV
UVP:VDAC-300mV
7.LoadLine:
Rdroop=4mohm
VCORE(0.9V--1.2V)
MAX:4.4A RMS:1.64A
AC_BAT_SYS
+VCORE
PU4A
RT8152DGQW
PU4B
RT8152DGQW
PQ17
EMB20N03V
PQ18
EMB20N03V
PL6
70Ohm/100Mhz
PL7
1UH
PT50
TPC16B_P16_50
PJP36
SHORT_PIN
PJP11
SHORT_PIN
PJP12
SHORT_PIN
PJP32
SHORT_PIN
PSL1
10.19.2009
PQ53
PMBS3906
PQ54
PMBS3906
PQ627
2N7002
P_VCORE_IN_S
P_VCORE_Phase_S
P_VCORE_SNU_S
P_VCORE_BOOT_20
P_VCORE_HG_20
P_VCORE_Phase_20
P_VCORE_LG_20
P_VCORE_TON_20
P_VCORE_RGND_10
P_VCORE_VSEN_10
P_VCORE_FB_10
P_VCORE_ISEN_N_10
P_VCORE_ISEN_10
P_VCORE_OCSET_10
P_VCORE_DPRSLPVR_10
P_VCORE_VRON_10
P_VCORE_PGOOD_10
P_VCORE_CLKEN#_10
P_VCORE_VCC_20
P_VCORE_SOFT_10
P_VCORE_PGOOD_10
P_VCORE_VRON_10
P_VCORE_CLKEN#_10
P_VCORE_DPRSLPVR_10
P_VCORE_VCC_20
PM_LEVELDOWN# 24,36,37,38,39,41
CPU_LEVELDOWN 24,36,37,38,39
PM_DPRSLPVR
CLK_EN#
VRM_PWRGD
CPU_VRON
0.89VS_PWRGD
VCORE_VSS_SENSE
VCORE_VCC_SENSE
H_VID[0..6]
+VCCP
+5VS
+3VS
+3VA
GND
PR59 4.7Ohm
PR61 24.9KOhm
PR62 20KOhm
PR63 100KOhm
PR64 499Ohm /X
PR65 1Ohm /X
PR66 2KOhm
PR68 2KOhm
PR69 499Ohm
PR71 100KOhm
PR74 100KOhm
PR75 10KOhm
PR77 100KOhm
PR79 /X 0Ohm
PR80 68Ohm
PR81 0Ohm
PR82 68Ohm
PR83 0Ohm
PR84 0Ohm
PR254 33KOhm
PR255 470KOhm 1% /X
PR257 33KOhm /X
PR258 470KOhm
PR319 10KOhm /X
PR320 /X 1KOhm
PR355 0Ohm
PC62 10UF/25V
PC63 10UF/25V
PC65 1000PF/50V /X
PC66 0.1UF/25V
PC68 10UF/6.3V
PC69 10UF/6.3V
PC71 1UF/10V
PC72 0.01UF/25V
PC73 1UF/10V
PC74 0.1UF/16V
PC76 10UF/6.3V
PC78 10UF/6.3V
PC81 18PF/50V
PC82 100PF/50V
PC85 1000PF/50V
PC86 1000PF/50V
PC87 1000PF/50V
PC248 /X 0.1UF/16V
PC249 0.1UF/16V /X
PC299 0.1UF/16V /X
PCE2 100UF/2.5V
0505
PM_LEVELDOWN# | CPU_LEVELDOWN | Voltage | Status
L | L | VID-50mV | Power Saving
H | L | VID | Normal
H | H | VID+50mV | Performance
L | H | | N/A
<Core Design>
Title : POWER_VCORE
ASUSTeK COMPUTER INC. NB
Engineer: Joy_zhou
Size C
Project Name 1015P
Rev 1.0
Date: Saturday, February 06, 2010
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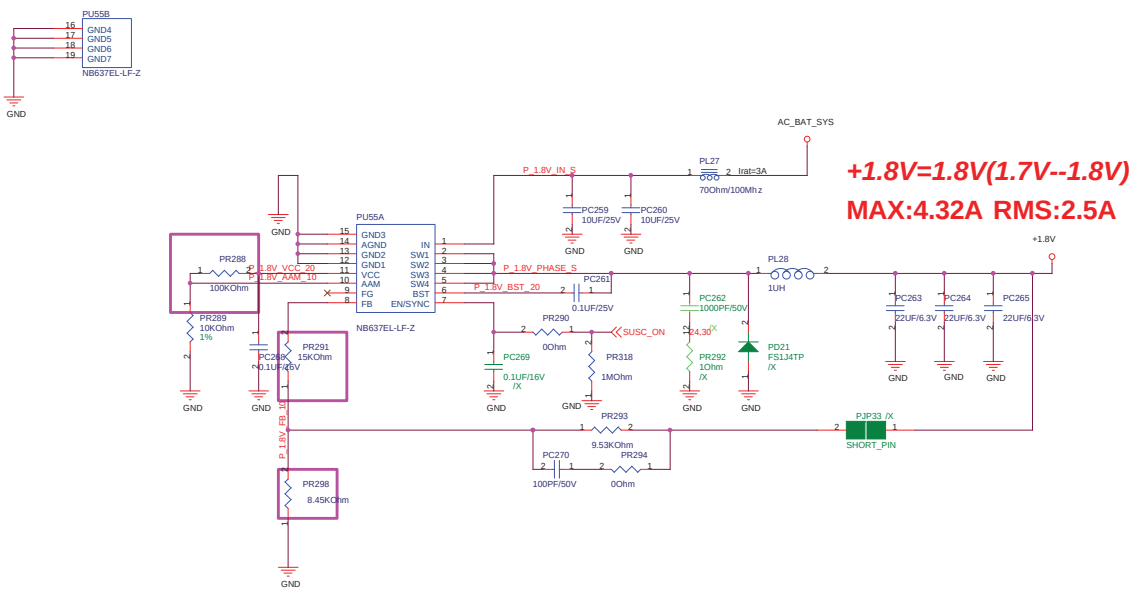


Power Info.

1. I/P Current:
   I in = Vo*Io/(0.8 * Vin) =1.08A
2. Ripple Current:
   I rip =1A
3. Frequency:
   Fosc=600KHz
4. Current Limit:
   6A

0.9VS@1 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

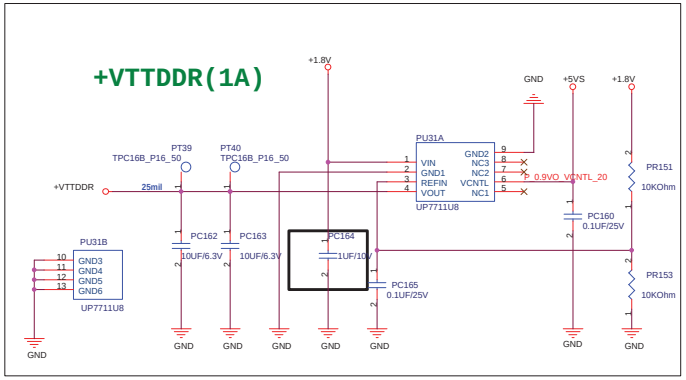
2009.11.27

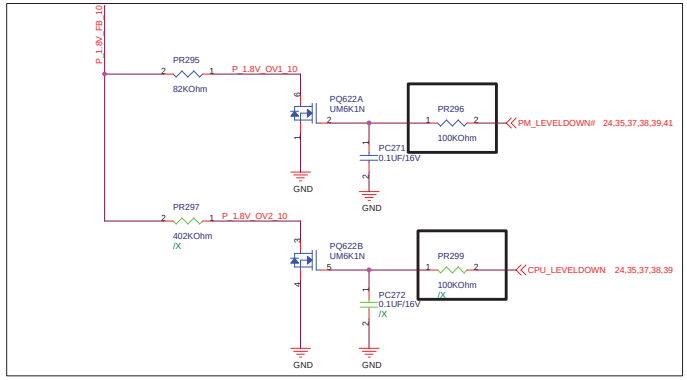
SUSC_ON 24,30

PM_LEVELDOWN# 24,35,37,38,39,41

CPU_LEVELDOWN 24,35,37,38,39

PM_LEVELDOWN#	CPU_LEVELDOWN	CPU_LEVELDOWN#	Voltage	Status
L	L	H	1.670V	Power Saving
H	L	H	1.800V	Normal
H	H	L	1.912V	Performance
L	H	L		





<Core Design>

ASUSTek Computer INC

Title : +1.8V&VTTDDR

Engineer: Joy_Zhou

Size	Project Name	Rev
Custom	1015P	1.0

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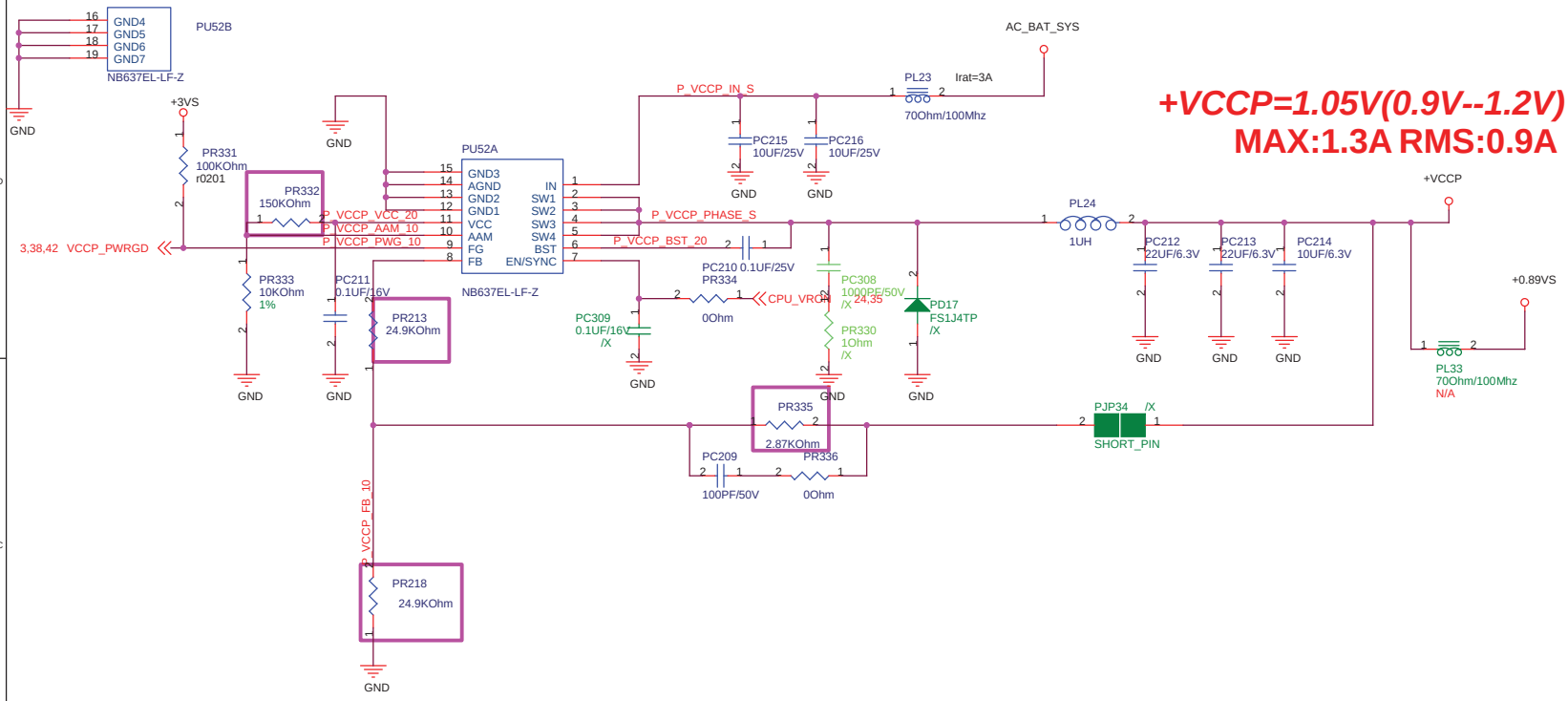


+VCCP=1.05V(0.9V--1.2V)
MAX:1.3A RMS:0.9A

Power Info.

1. I/P Current:

I in = Vo*Io/(0.8 * Vin) =0.7A

2. Ripple Current:

I rip =1.08A
I spec=2.5A ⊙1
I OC

3. Frequency:

Fosc=600KHz

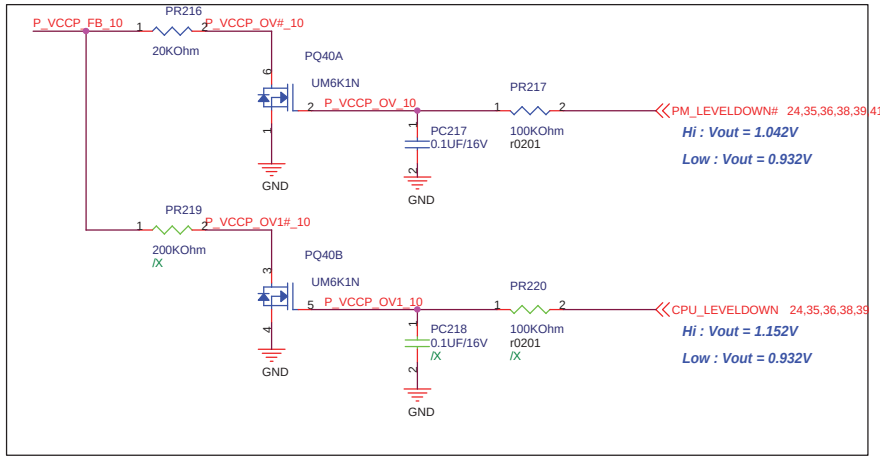
4. Current Limit:

6A

2009.11.27

CPU_VRON 24,35
PM_LEVELDOWN# 24,35,36,38,39,41
CPU_LEVELDOWN 24,35,36,38,39

PM_LEVELDOWN#	CPU_LEVELDOWN	CPU_LEVELDOWN#	Voltage	Status
L	L	H	0.932V	Power Saving
H	L	H	1.042V	Normal
H	H	L	1.127V	Performance
L	H	L		N/A



<Core Design>

ASUSTek Computer INC

Title : +1.5VS & +2.5VS

Engineer: Joy_Zhou

Size	Project Name	Rev
A3	1015P	1.0

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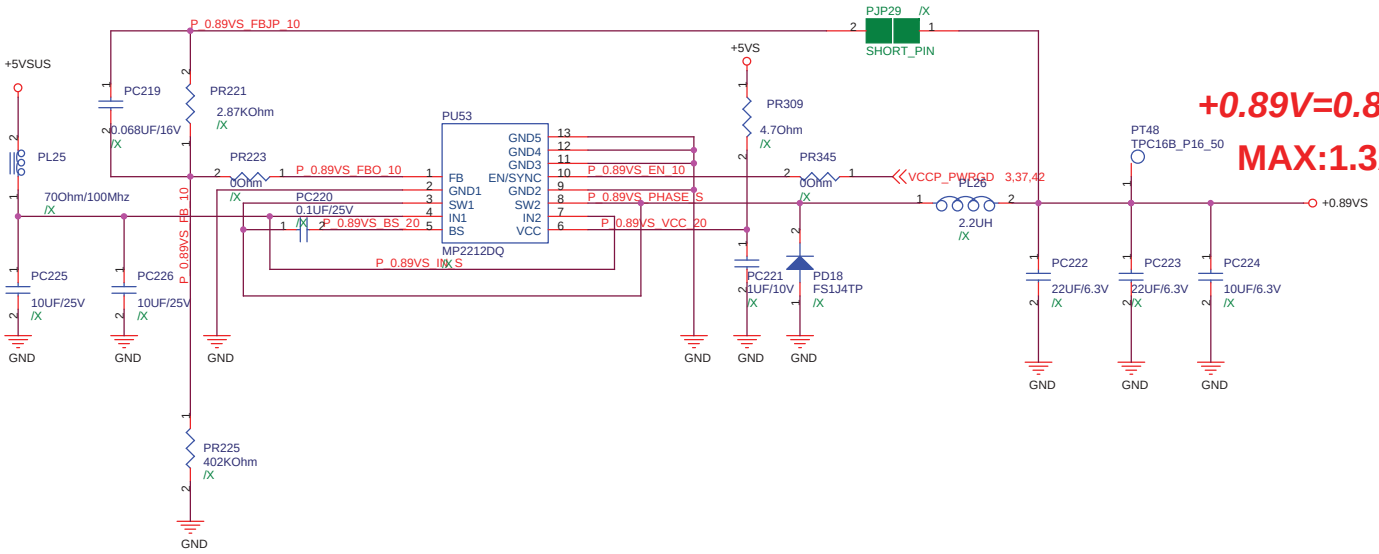


+0.89V=0.89V(0.844V--0.95V)

MAX:1.3A RMS:0.87A

Power Info.

1. I/P Current:

I in = Vo*Io/(0.8 * Vin) =0.36A

2. Ripple Current:

I rip =0.61A
I spec=2.5A *
1pcs

3. Dynamic:

I peak=1.6A
ESR=18 mohm
〉V =28.8mV

4. Frequency:

Fosc=600KHz

5. Current Limit:

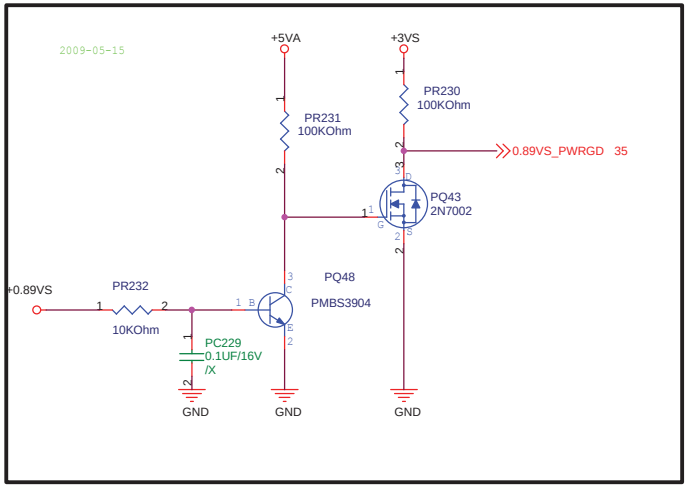
6A

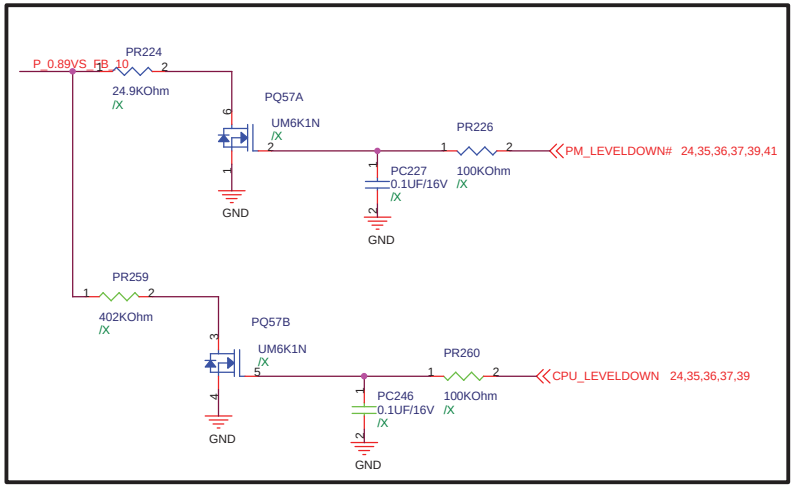
2009.11.27

VCCP_PWRGD 3,37,42

PM_LEVELDOWN# 24,35,36,37,39,41

CPU_LEVELDOWN 24,35,36,37,39





PM_LEVELDOWN#	CPU_LEVELDOWN	Voltage	Status
L	L	0.844V	Power Saving
H	L	0.897V	Normal
H	H	0.950V	Performance
L	H		N/A

<Core Design>

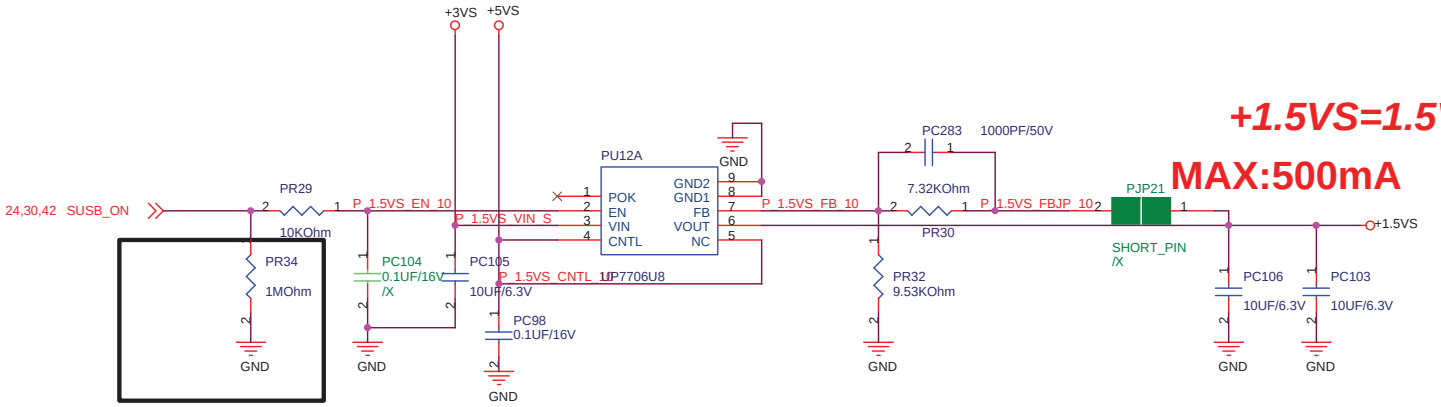
ASUSTek Computer INC

Title : +1.5VS & +2.5VS

Engineer: Joy_Zhou

Size	Project Name	Rev
A3	1015P	1.0

Date: Saturday, February 06, 2010 Sheet 38 of 42



+1.5VS=1.5V(1.44V--1.5V)

MAX:500mA RMS:350mA

1. Dropout Voltage:

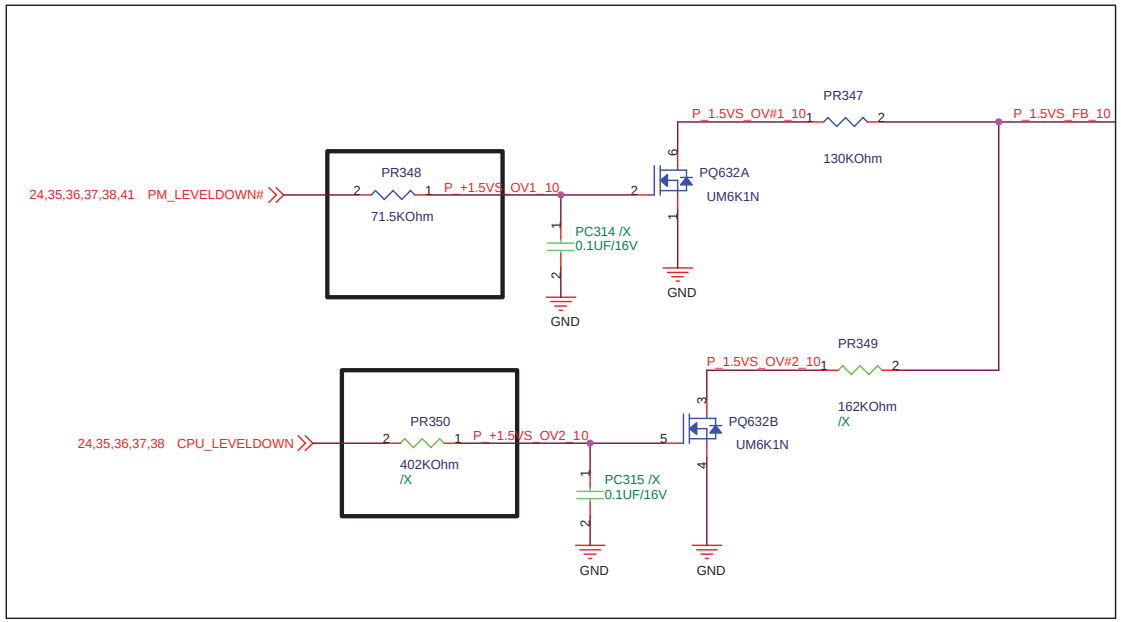
V= 300 mV (Io=2A)

2. Current Limit:

I limit= 2.8A

3. Pd:

R thjc =5 C/W
Pd =1.9W

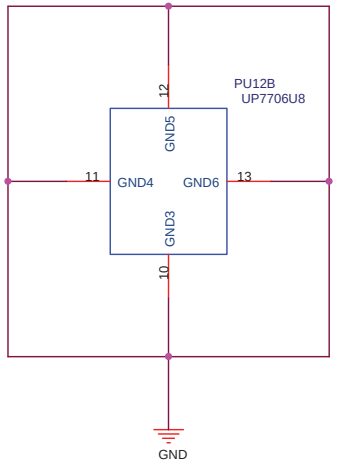


2009.11.27

24,30,42 SUSB_ON

24,35,36,37,38,41 PM_LEVELDOWN#

24,35,36,37,38 CPU_LEVELDOWN



PM_LEVELDOWN#	CPU_LEVELDOWN	Voltage	Status
L	L	1.41V	Power Saving
H	L	1.49V	Normal
H	H	1.51V	Performance
L	H	1.50V	

<Core Design>

ASUSTek Computer INC

Title : +1.5VS & +2.5VS

Engineer: Joy_Zhou

Size	Project Name	Rev
B	1015P	1.0

Date: Saturday, February 06, 2010 Sheet 39 of 42

Power Latch table :			
BAT	A/D_DOCK_IN		Mode
1	X	BAT /X	Latch
0	1	ADP, BAT	Out
0	0	ADP /X	Latch

+3V_P L

AC_BAT_SYS
PR272 0Ohm
+3V_PL431
PR274 330KOHM /X
PU54
AZ431LBNTR_E1 /X
PR276 200KOhm /X
P_3VPL_FB_10
For Power Latch
GND

+3V_PL431
PR273 100KOhm
+VCC_RTC
PR275 100KOhm /X
+3V_PL

RT8206

+3VA
V1.3
PR278 100KOhm
+3V_PL
PR277 0Ohm
P_+5VA_+3VA_EN_10 41
PQ618A UM6K1N
+3VA
EC
PS-ON 24
Latch

24 PWR_SW_EC#
PD20 BAT54CW
PR308 100KOhm
PQ618B UM6K1N
PS-ON
PR279 1MOhm
GND

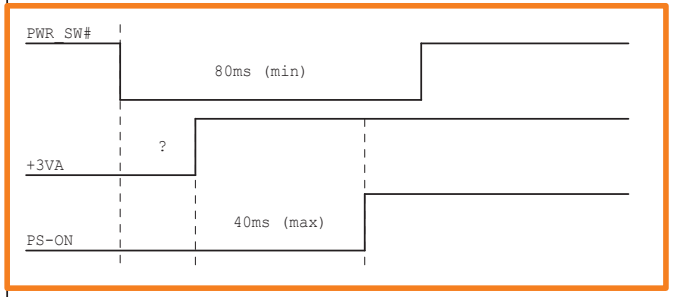
+3VA
PR2 100KOhm
28 PWR_SW#
V1.2
24 EXPRESS_GATE_EC#
PD24
15 SMART33#
BAT54CW

ADP_IN
PR285 0Ohm /X 0-Ohm
PR286 0Ohm

BAT_IN

A/D_DOCK_IN
PR280 0.22UF/25V /X
PR282 100KOhm /X
PQ619A UM6K1N
PR188 390KOhm /X
0.22u
PR284 0Ohm
34 P_AC_APR_UC_10
V1.2 For ADP power latch

V1.3
PQ619B UM6K1N
BAT
PR283 100KOhm /X
PC258 0.22UF/25V /X
PR281 510KOhm /X
V1.2



<Core Design>

ASUSTek Computer INC.

Title : Power Latch

Engineer: River_Hsu

Size	Project Name	Rev
A4	1015P	1.0G

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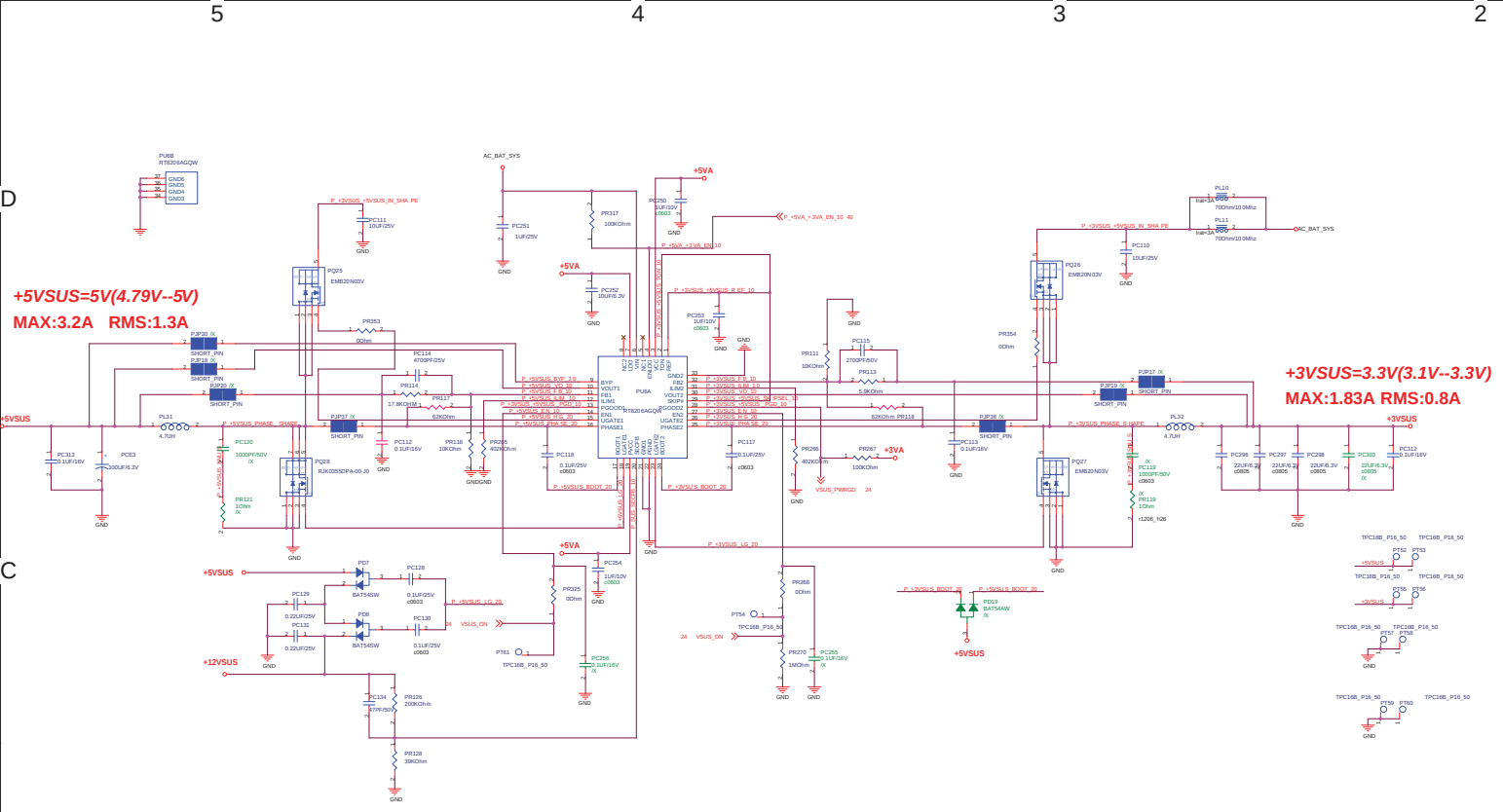
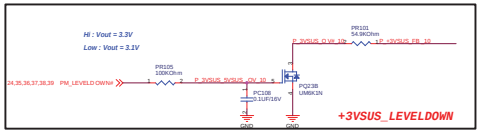
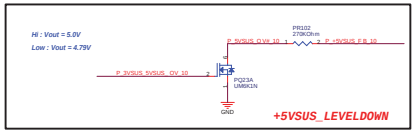
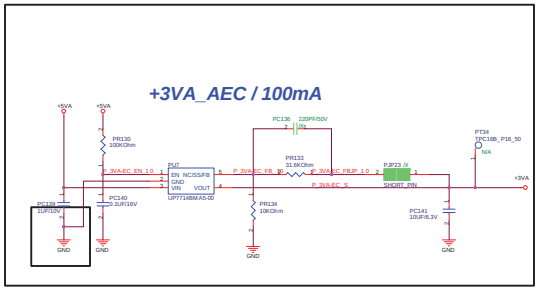








Power Info. +5VSUS

1. I/P Current:
   I in = Vo*Io(0.8 * Vin) =2.082A
2. Ripple Current:
   I rip =1.482A
   I spec=2.5A
   ⊙1 pcs
3. Frequency:
   fosc=300KHz
4. OCP:
   Iocp=17A

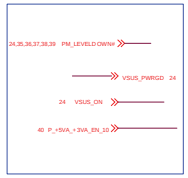
Power Info. +3VSUS

1. I/P Current:
   I in = Vo*Io(0.8 * Vin) =1.832A
2. Ripple Current:
   I rip =1.92A
   I spec=2.5A
   ⊙1 pcs
3. Frequency:
   fosc=375KHz
4. OCP:
   Iocp=8.74A

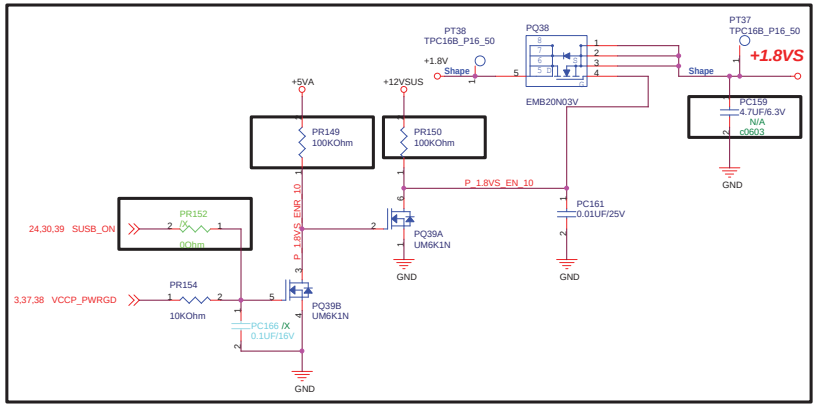
Power Info. +3VA

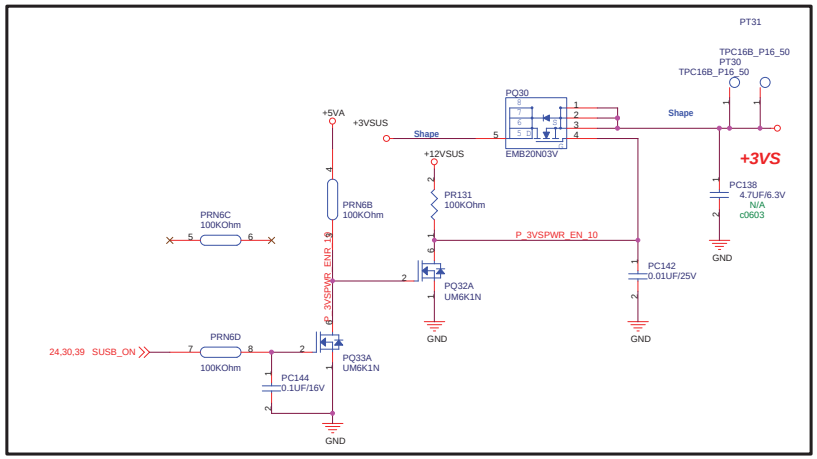
1. Dropout Voltage:
   V= 210mV (Io=300m A)
2. Current Limit:
   I limit= 480mA
3. Pd:
   R thjc =5 C/W
   Pd =0.4W

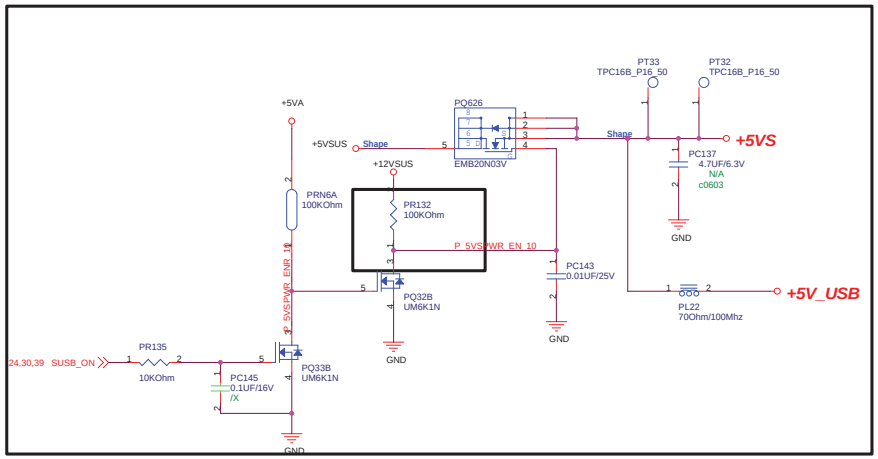
2009.11.23



ASUSTeK Computer INC	Title :	+5VSUS&+12VSUS
	Engineer:	Joy_Zhou
Size: A1	Project Name: 1015P	Rev: 1.0
Date: Saturday, February 06, 2010	Sheet 41 of 42	







2009.11.27

SUSB_ON 24,30,39

VCCP_PWRGD 3,37,38

<Core Design>

ASUSTek Computer INC	Title : load switch	
	Engineer: Joy_Zhou	
Size: C	Project Name: 1015P	Rev: 1.0
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