

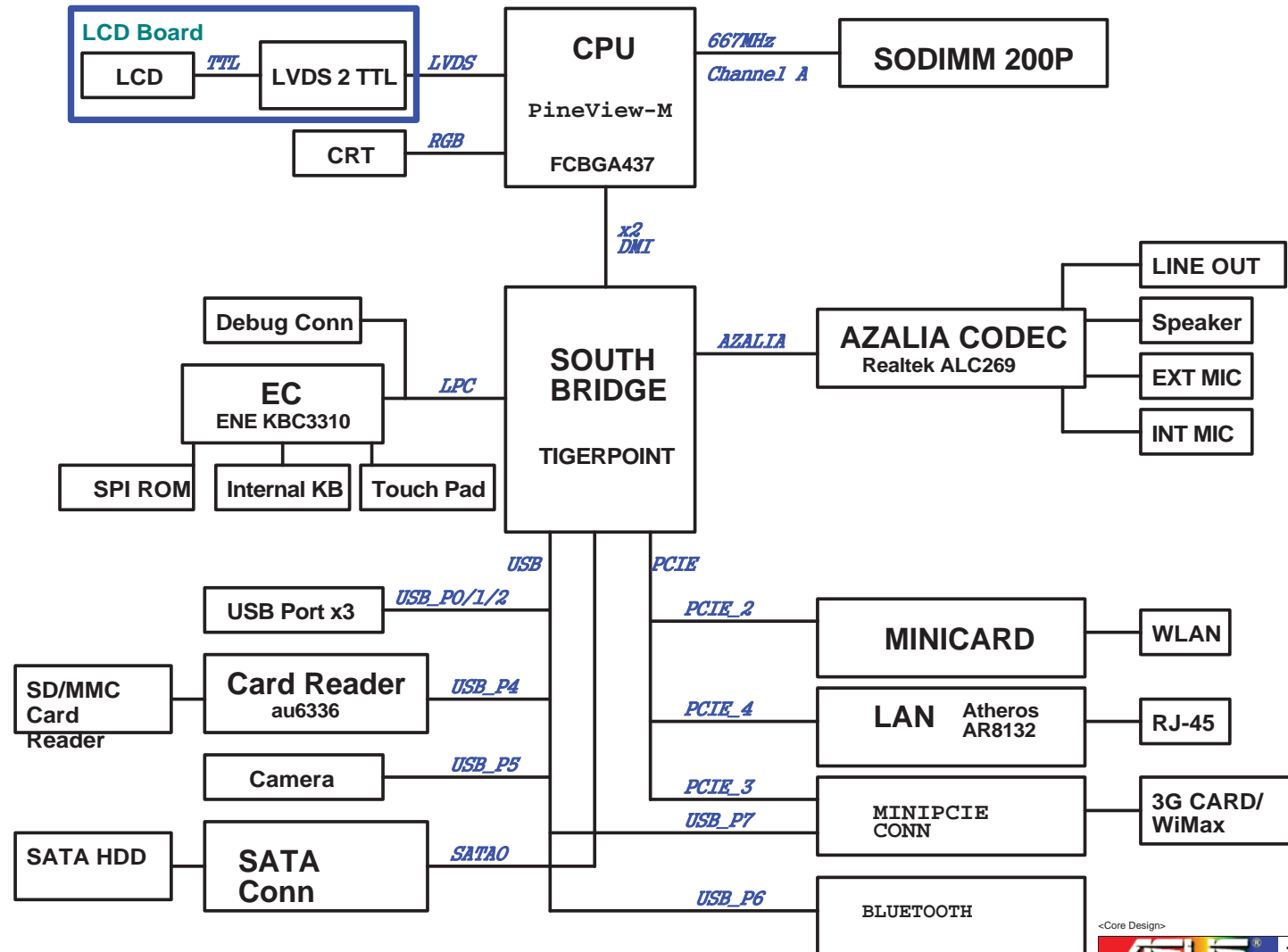
01\_Block Diagram  
 02\_Power Sequence  
 03\_Clock Gen\_ICS9LPRS427C  
 04.PineView-M\_1 (LVDS\_DMI\_CPU)  
 05.PineView-M\_2 (DDR2\_XDP\_CRT)  
 06.PineView-M\_3 (PWR&GND)  
 07.XDP  
 08.Tigerpoint\_DMI\_USB  
 09.Tigerpoint\_SYS  
 10.Tigerpoint\_PWR  
 11.DDR2 SODIMM  
 12.DDR2-Termination  
 13.Onboard VGA  
 14.LCD Conn\_LID  
 15.WIFI&SMART33SW  
 16.LAN\_AR8132  
 17.WLAN  
 18.USIN&3G\_CON  
 19.Bluetooth  
 20.HDD\_CON  
 21.  
 22.  
 23.USB Port1  
 24.EC\_ENE KB3310  
 25.KB\_TP  
 26.Fan\_debug  
 27.SPI\_ROM  
 28.DUA\_CON  
 29.PWR Jack  
 30\_Discharge  
 31.  
 32.Srew Hole&EMI  
 33.Power Flow  
 34.Power\_Charger  
 35.Vcore  
 36.Power\_+1.8V&VTTDDR&+1.8VS  
 37.Power\_VCCP  
 38.Power\_+0.89VS  
 39.Power\_+1.5VS  
 40.Power Latch  
 41.Power System  
 42.power switch

**1015P2** 1.0G

2010\_0104

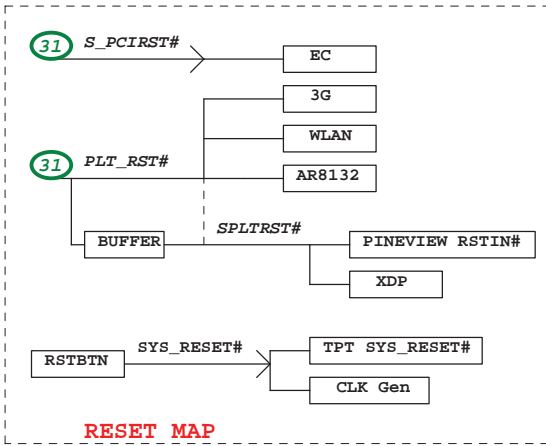
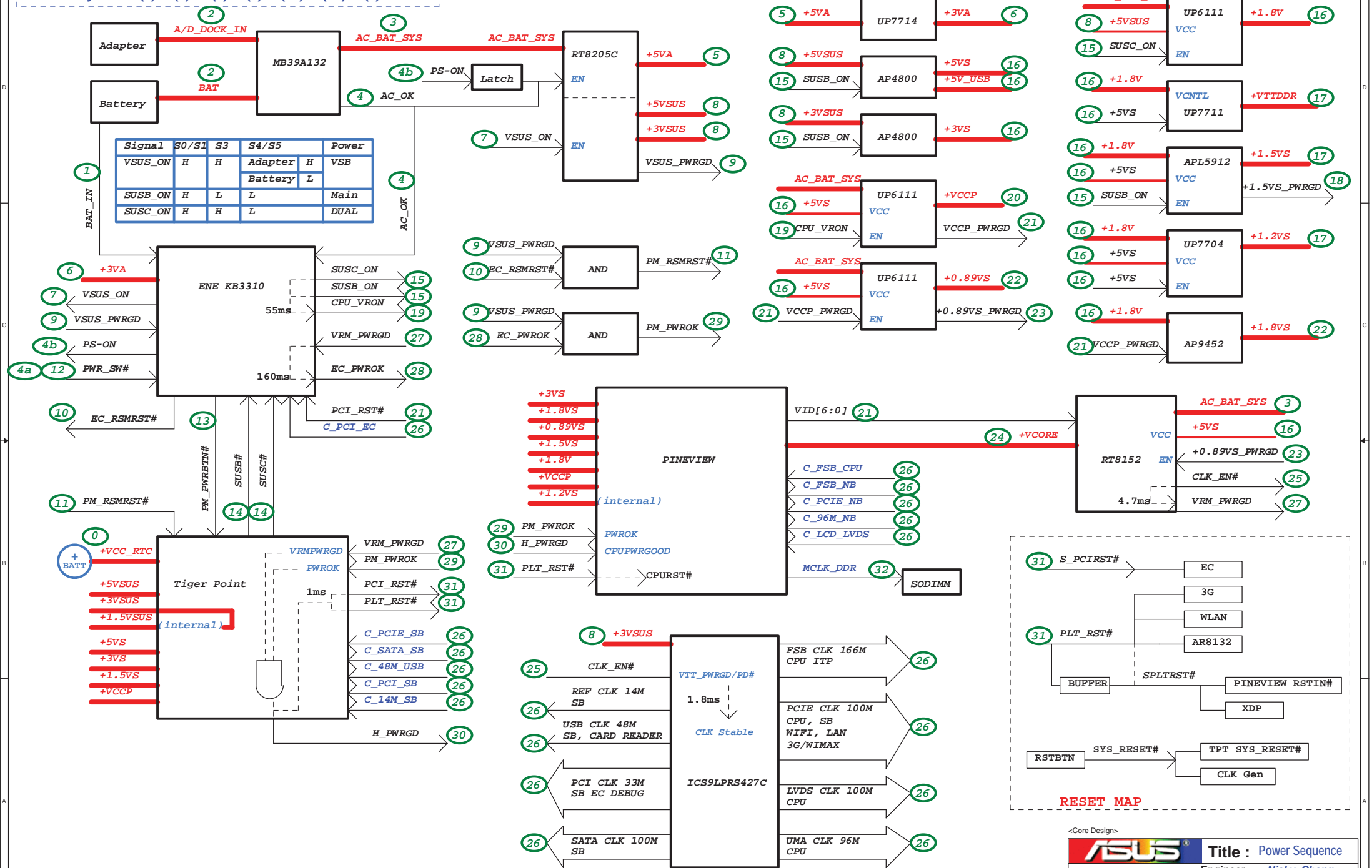
**CLOCK GEN**  
ICS9LPRS427CGLFT

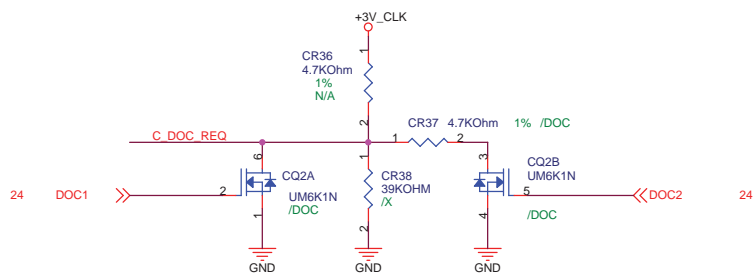
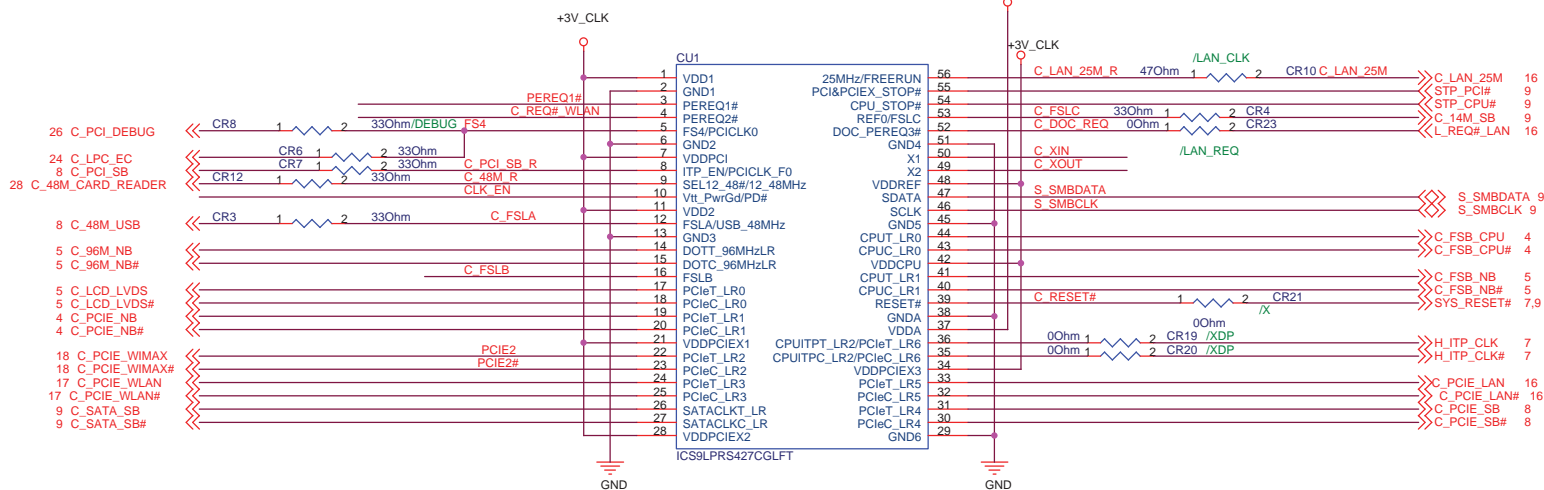
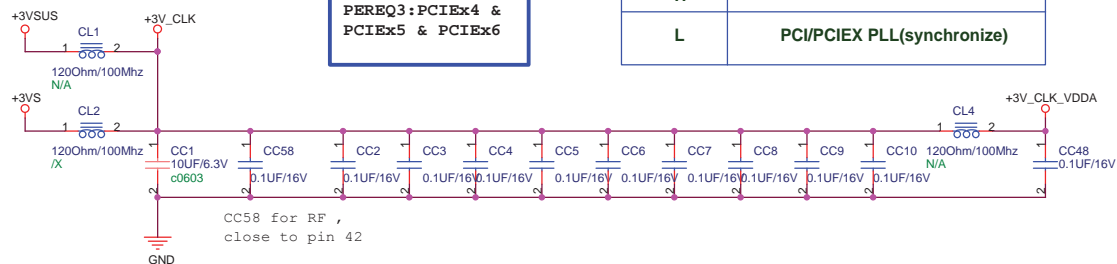
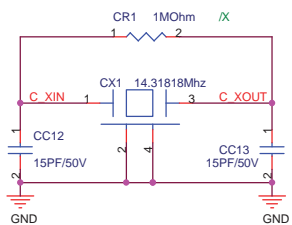
**THERMAL CONTROL**



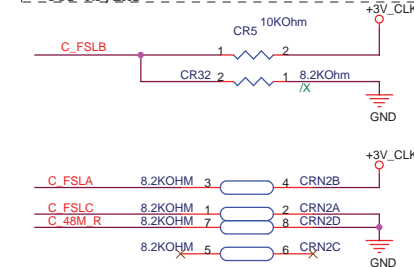
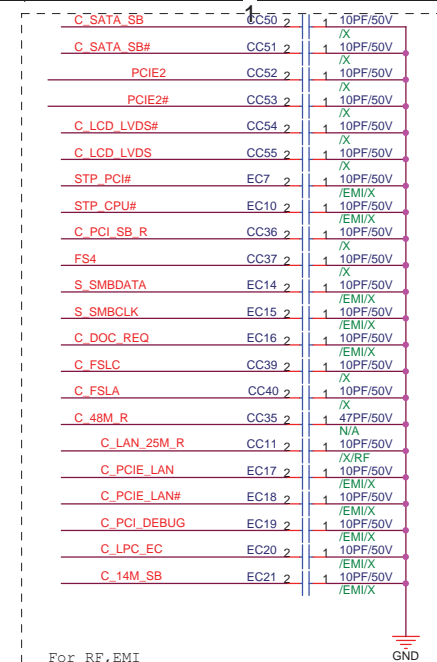
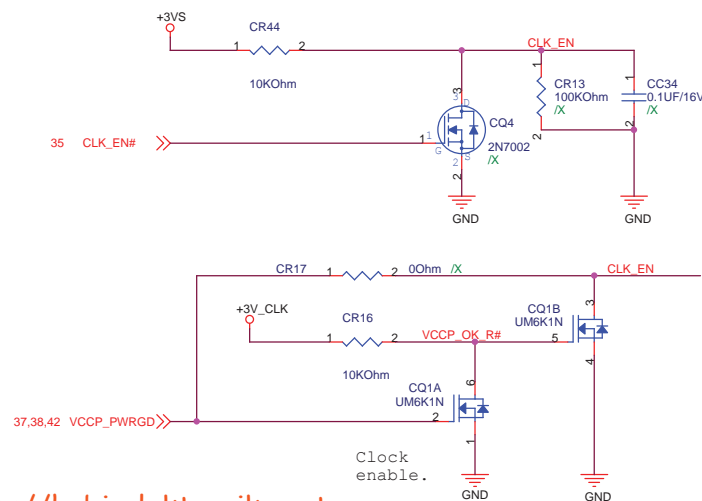
<Core Design>		ASUS®		Title : Block Diagram	
ASUSTek Computer INC.		Engineer: Nicky_Cheng		Rev	
Size	Project Name	1015P		1.1G	
Custom					
Date: Saturday, February 06, 2010		Sheet 1 of 42			

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

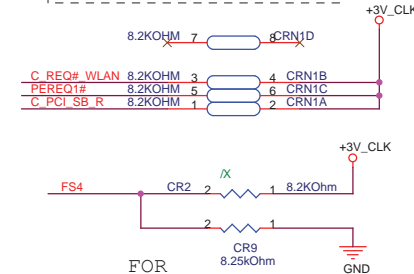


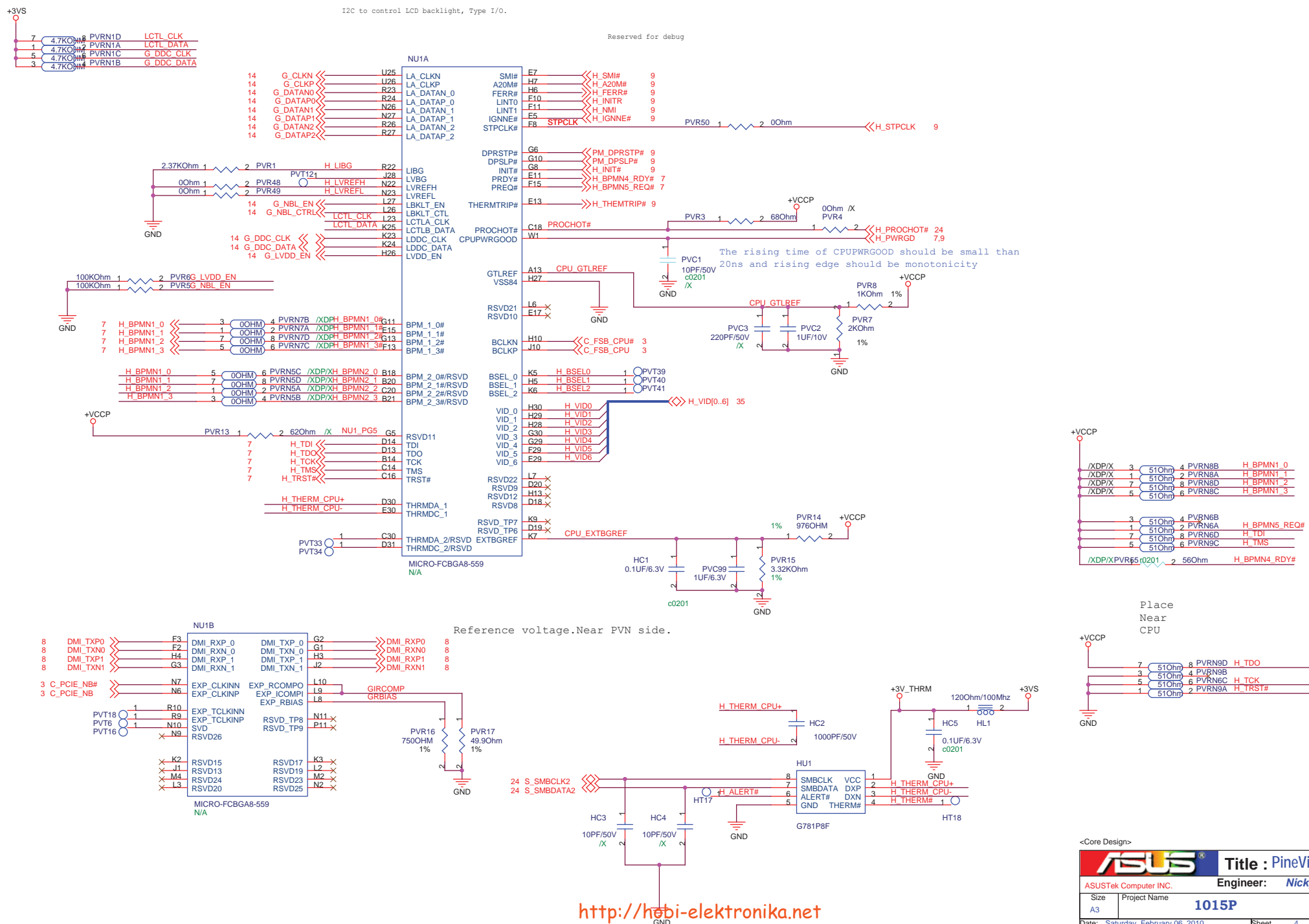


O_DOC1	O_DOC2	Voltage	Status
L	L	2.4-3.3V	Super
L	H	0.5-2.36V	Normal
H	*	0-0.35V	Power saving



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





11,12 D2\_MAA[14:0]

NU1C

D2\_MAA0 AH19  
D2\_MAA1 AJ18  
D2\_MAA2 AK18  
D2\_MAA3 AK16  
D2\_MAA4 AJ14  
D2\_MAA5 AK14  
D2\_MAA6 AK14  
D2\_MAA7 AJ12  
D2\_MAA8 AH13  
D2\_MAA9 AK12  
D2\_MAA10 AK20  
D2\_MAA11 AH12  
D2\_MAA12 AJ11  
D2\_MAA13 AJ24  
D2\_MAA14 AJ10

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

DDR\_A\_DQS\_0  
DDR\_A\_DQS#\_0  
DDR\_A\_DM\_0

DDR\_A\_DQ\_0  
DDR\_A\_DQ\_1  
DDR\_A\_DQ\_2  
DDR\_A\_DQ\_3  
DDR\_A\_DQ\_4  
DDR\_A\_DQ\_5  
DDR\_A\_DQ\_6  
DDR\_A\_DQ\_7

DDR\_A\_DQS\_1  
DDR\_A\_DQS#\_1  
DDR\_A\_DM\_1

DDR\_A\_WE#  
DDR\_A\_CAS#  
DDR\_A\_RAS#

DDR\_A\_BS\_0  
DDR\_A\_BS\_1  
DDR\_A\_BS\_2

DDR\_A\_CS#\_0  
DDR\_A\_CS#\_1  
DDR\_A\_CS#\_2  
DDR\_A\_CS#\_3

DDR\_A\_CKE\_0  
DDR\_A\_CKE\_1  
DDR\_A\_CKE\_2  
DDR\_A\_CKE\_3

DDR\_A\_ODT\_0  
DDR\_A\_ODT\_1  
DDR\_A\_ODT\_2  
DDR\_A\_ODT\_3

DDR\_A\_CK\_0  
DDR\_A\_CK\_0#  
DDR\_A\_CK\_1  
DDR\_A\_CK\_1#

DDR\_A\_CK\_3  
DDR\_A\_CK\_3#  
DDR\_A\_CK\_4  
DDR\_A\_CK\_4#

RSVD5  
RSVD4  
RSVD1  
RSVD2

RSVD3  
RSVD7  
RSVD\_TP4  
RSVD\_TP5

RSVD6

DDR\_VREF  
DDR\_RPD  
DDR\_RPU

11,12 D2\_WEA#  
11,12 D2\_CASA#  
11,12 D2\_RASA#

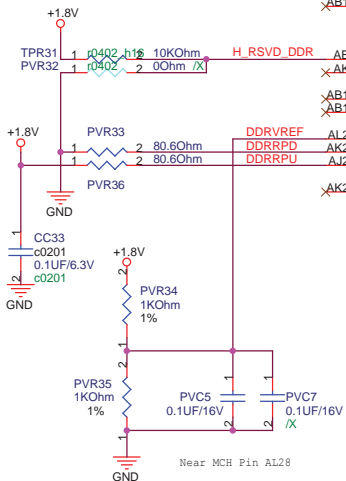
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11,12 D2\_BAA1  
11,12 D2\_BAA2

11,12 D2\_CS\_A#0  
11,12 D2\_CS\_A#1

11,12 D2\_CKE\_A0  
11,12 D2\_CKE\_A1

11,12 D2\_ODT\_A0  
11,12 D2\_ODT\_A1

11 D2\_MA\_CLK0  
11 D2\_MA\_CLK#0  
11 D2\_MA\_CLK1  
11 D2\_MA\_CLK#1



MICRO-FCBGA8-559  
N/A

<http://hobi-elektronika.net>

D2\_DQ\_A[63:0] 11  
D2\_DQS\_A[7:0] 11  
D2\_DQS\_A#7[0] 11  
D2\_DM\_A[7:0] 11

IX PVR22 1 2 1KOhm XDP\_RSVD5

IX PVR19 1 2 1KOhm XDP\_RSVD9

IX PVR26 1 2 1KOhm XDP\_RSVD17

IX PVR20 1 2 1KOhm XDP\_RSVD17

IX PVR20 1 2 1KOhm XDP\_RSVD17

IX PVR20 1 2 1KOhm XDP\_RSVD17

IX PVR20 1 2 1KOhm XDP\_RSVD17

IX PVR20 1 2 1KOhm XDP\_RSVD17

IX PVR20 1 2 1KOhm XDP\_RSVD17

IX PVR20 1 2 1KOhm XDP\_RSVD17

IX PVR20 1 2 1KOhm XDP\_RSVD17

IX PVR20 1 2 1KOhm XDP\_RSVD17

IX PVR20 1 2 1KOhm XDP\_RSVD17

IX PVR20 1 2 1KOhm XDP\_RSVD17

IX PVR20 1 2 1KOhm XDP\_RSVD17

IX PVR20 1 2 1KOhm XDP\_RSVD17

IX PVR20 1 2 1KOhm XDP\_RSVD17

IX PVR20 1 2 1KOhm XDP\_RSVD17

IX PVR20 1 2 1KOhm XDP\_RSVD17

NU1D

XDP\_RSVD[0]  
XDP\_RSVD[1]  
XDP\_RSVD[2]  
XDP\_RSVD[3]  
XDP\_RSVD[4]  
XDP\_RSVD[5]  
XDP\_RSVD[6]  
XDP\_RSVD[7]  
XDP\_RSVD[8]  
XDP\_RSVD[9]  
XDP\_RSVD[10]  
XDP\_RSVD[11]  
XDP\_RSVD[12]  
XDP\_RSVD[13]  
XDP\_RSVD[14]  
XDP\_RSVD[15]  
XDP\_RSVD[16]  
XDP\_RSVD[17]

CRT\_HSYNC  
CRT\_VSYNC  
CRT\_RED  
CRT\_GREEN  
CRT\_BLUE  
CRT\_IRTN

CRT\_DDC\_DATA  
CRT\_DDC\_CLK

DAC\_IREF

REFCLKINP  
REFCLKINN  
REFSSCLKINP  
REFSSCLKINN

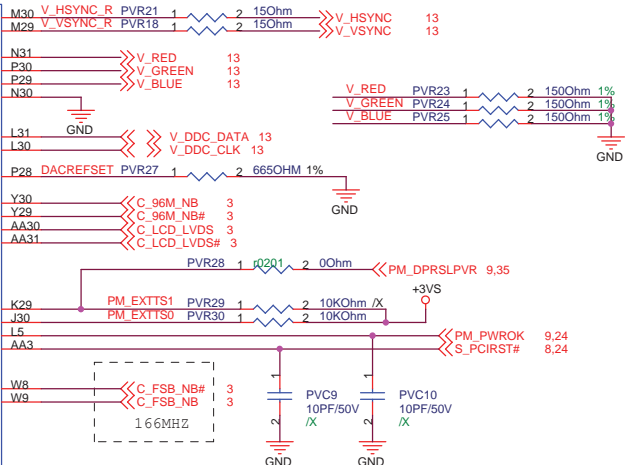
RSVD18  
RSVD16  
RSVD14  
PWROK  
RSTIN#

HPL\_CLKINN  
HPL\_CLKINP

RSVD\_TP3  
RSVD\_TP2  
RSVD\_TP10  
RSVD\_TP11  
RSVD\_TP1  
RSVD\_TP14  
RSVD\_TP12  
RSVD\_TP13

MICRO-FCBGA8-559  
N/A

DDC CLK&DATA need 2.2K Pull  
up to +3VS(Or may we can use  
4.7K);connector side has  
pull-up resistor.

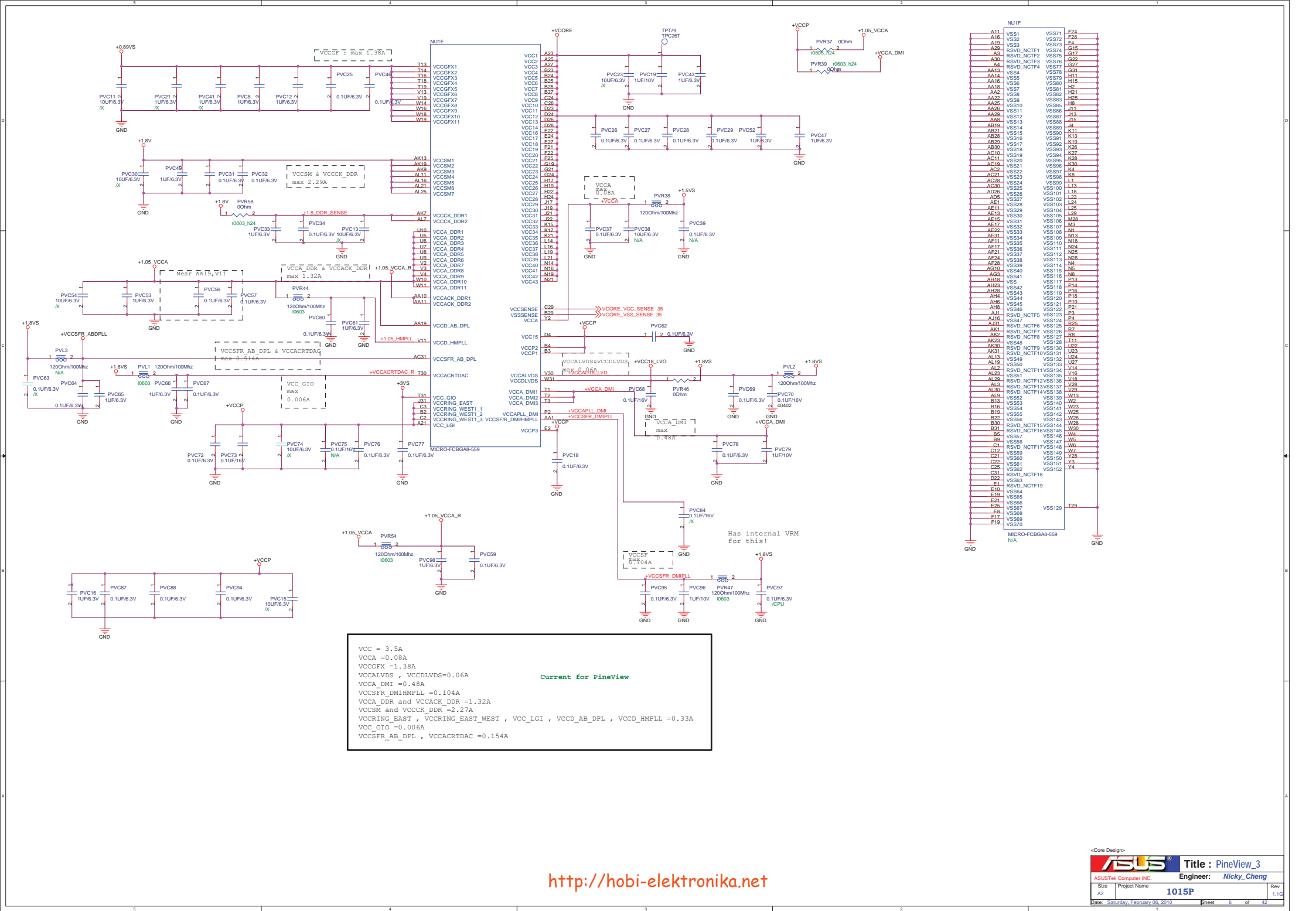


CPU Sample SKU	ASUS P/N
ES1	01G013070000
ES2	01G0132000000
QS	01G0132000001
PRQ	01G0132000002


Intel confirm only RSVD9 need stuff 1K  
resistor.

<Core Design>

<b>ASUS</b>		Title : PineView_2	
ASUSTek Computer INC.		Engineer: Nicky Cheng	
Size A3	Project Name 1015P	Rev 1.0G	
Date: Saturday, February 06, 2010	Sheet	5	of 42





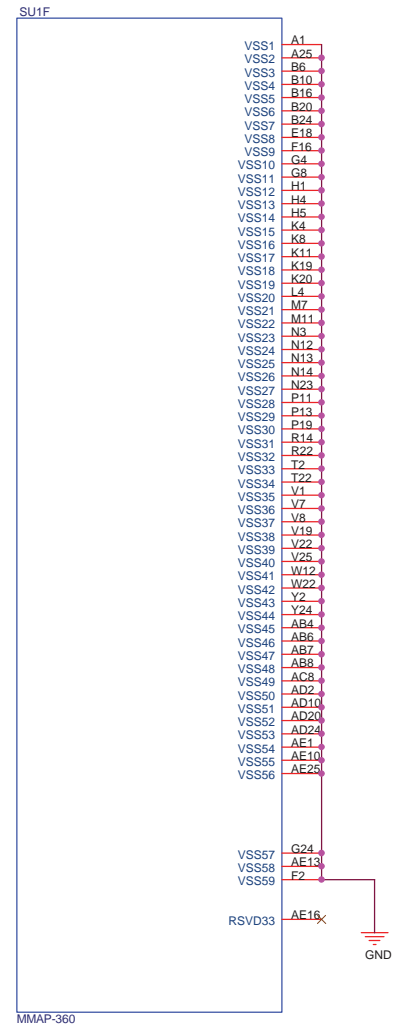
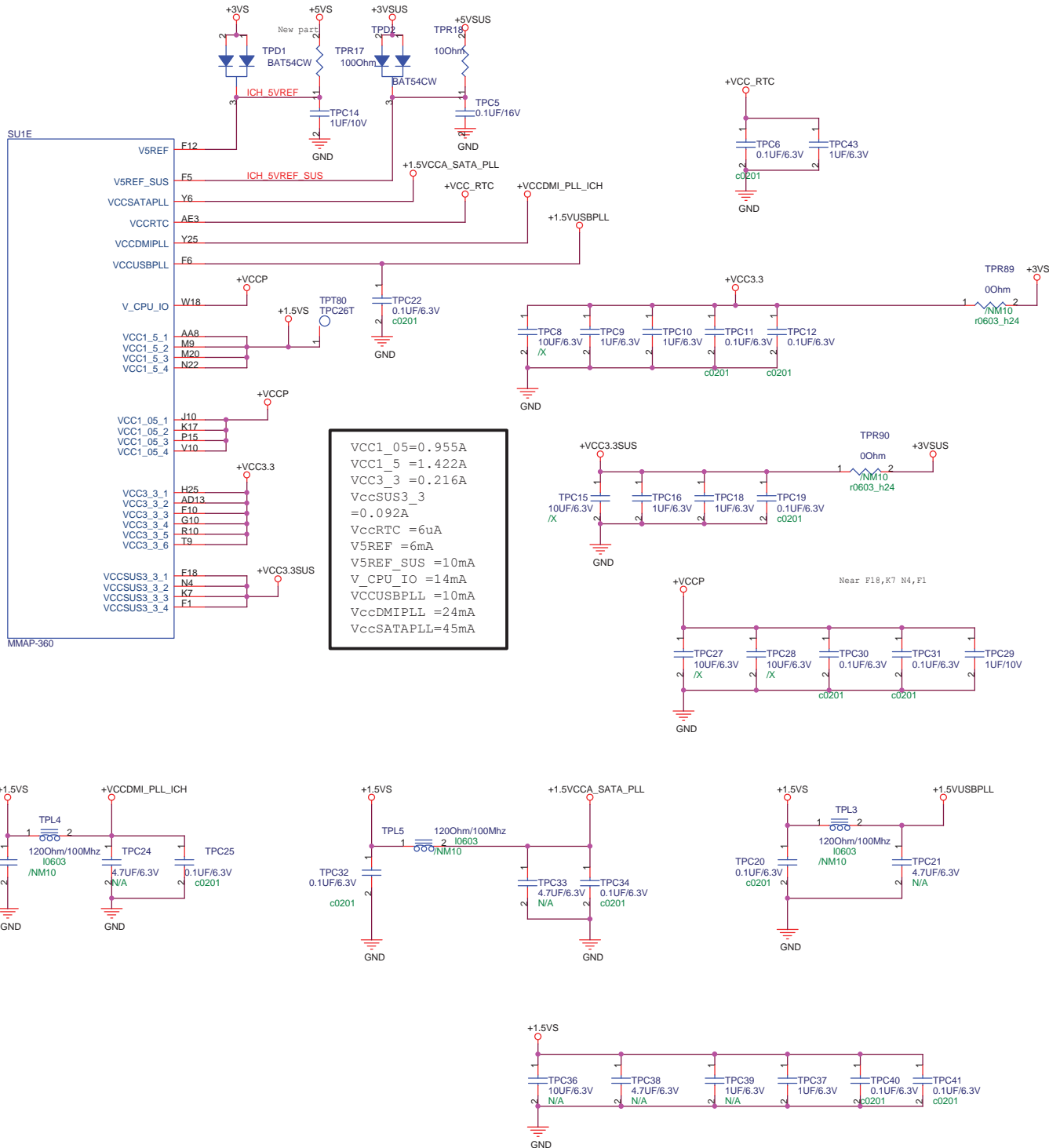
		<b>Title :</b> <i>XDP</i>	
<b>ASUSTek Computer INC.</b>		<b>Engineer:</b> <i>Nicky_Cheng</i>	
<b>Size</b> A3	<b>Project Name</b> <i>1015P</i>		<b>Rev</b> 1.1G
<b>Date:</b> <i>Saturday, February 06, 2010</i>		<b>Sheet</b> <i>7</i>	<b>of</b> <i>42</i>

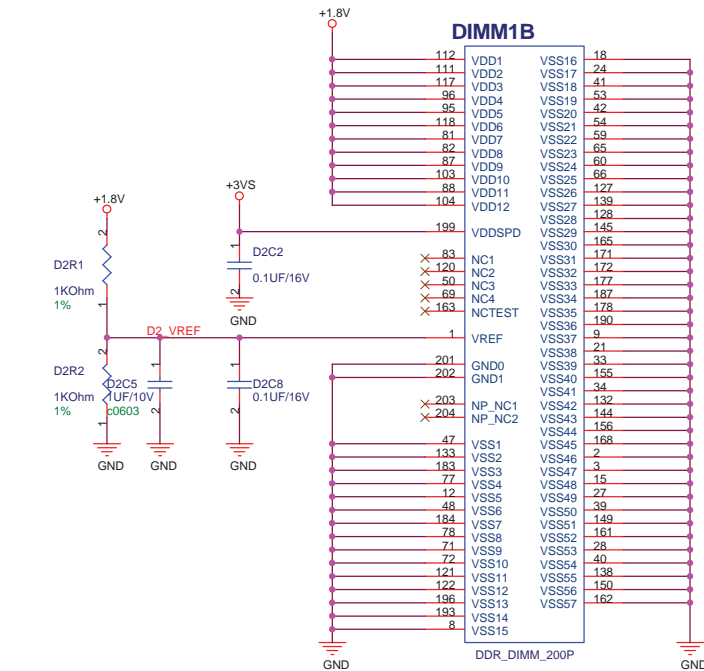
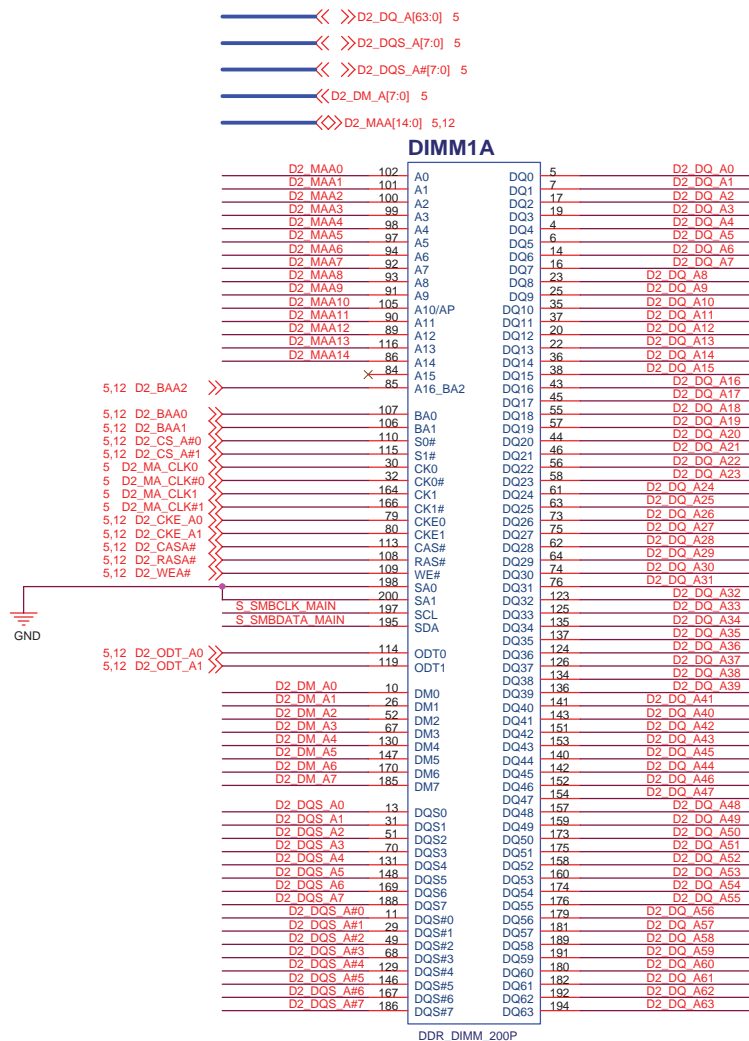




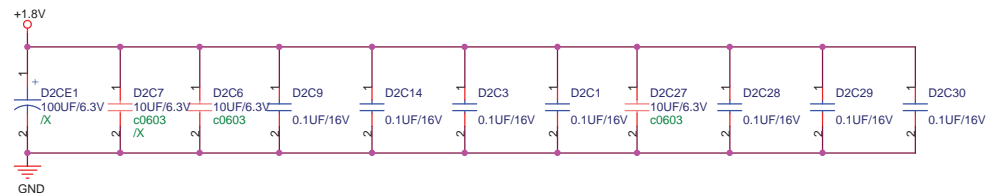
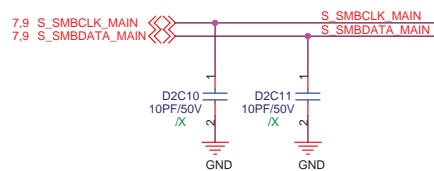






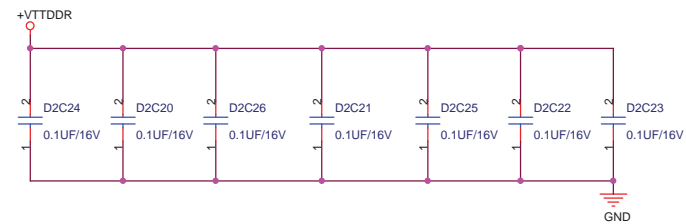
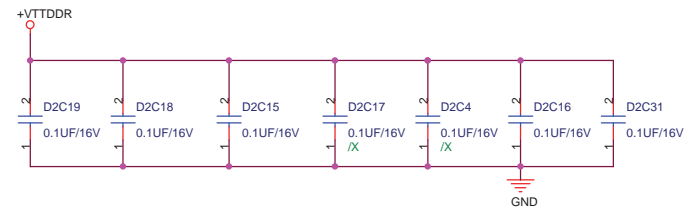
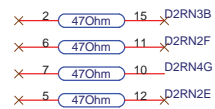
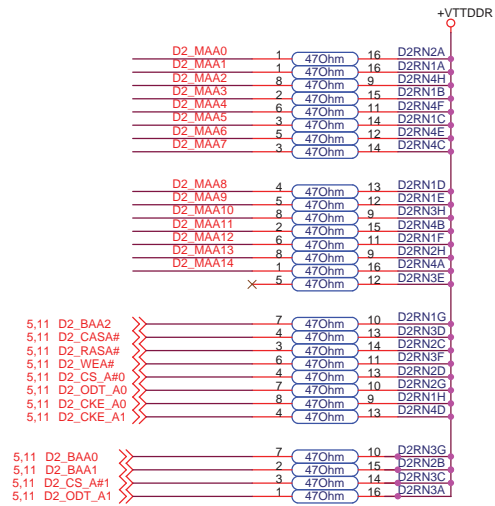


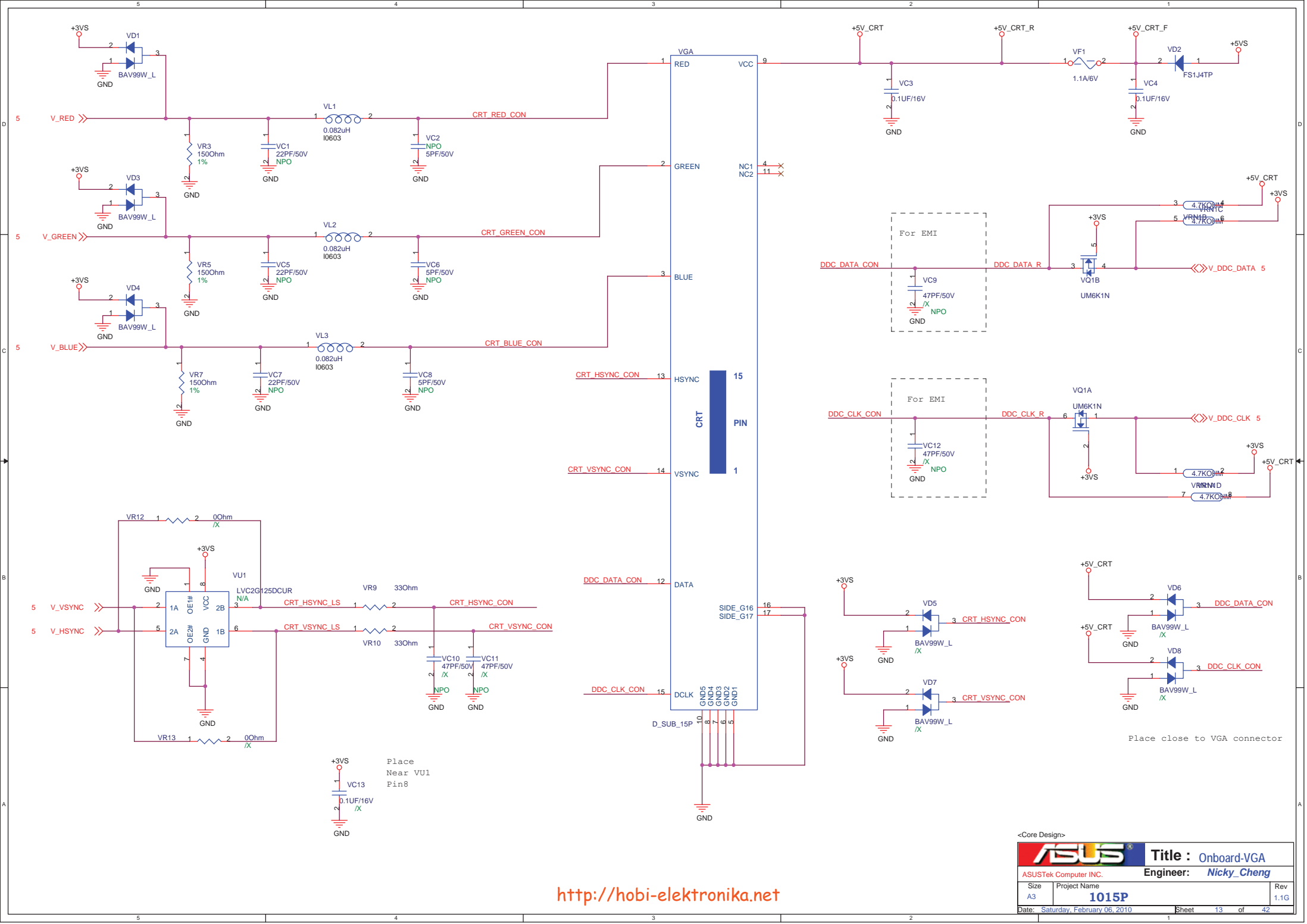
"根 Layout 訣賀叫〇祇2nd source / 12G025C2200X PCB footprint  
 , 磷 2nd DIMM 敷耗婉策ン玻ネ 豊- 2nd source PCB footprint  
 敷main source size DIMM羅 T-い "



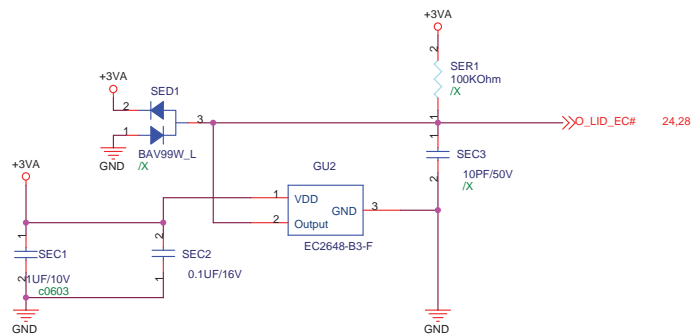
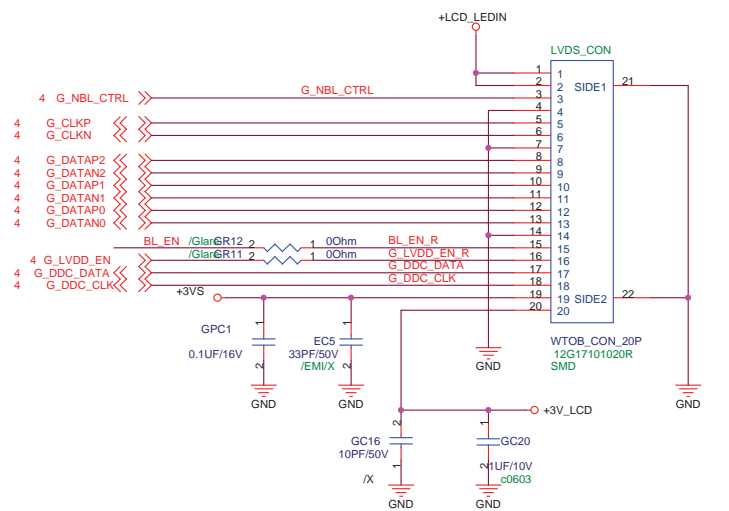
<http://hobi-elektronika.net>

◇◇ D2\_MAA[14:0] 5,11

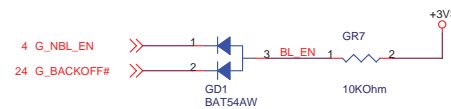
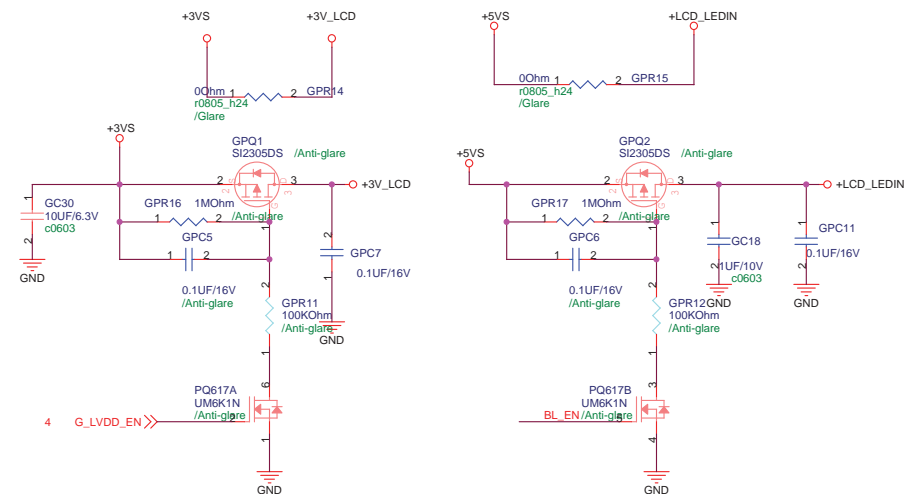




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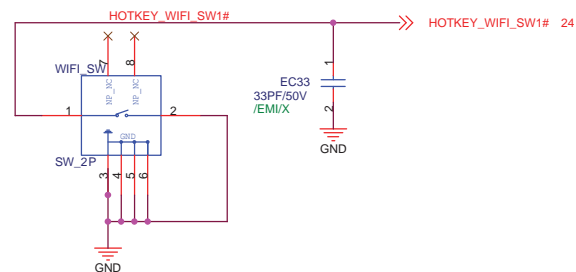
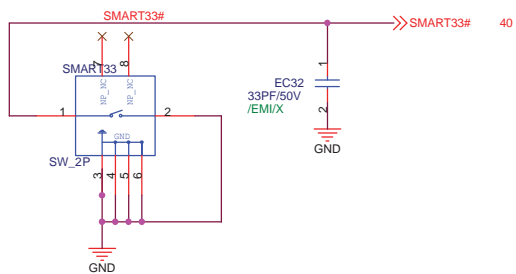


G_DDC_CLK	GC1	2	1	10PF/50V	/X
G_DDC_DATA	GC2	2	1	10PF/50V	/X
G_CLKP	GC3	2	1	10PF/50V	N/A
G_CLKN	GC4	2	1	10PF/50V	N/A
G_DATAP2	GC5	2	1	10PF/50V	N/A
G_DATAN2	GC6	2	1	10PF/50V	N/A
G_DATAP1	GC7	2	1	10PF/50V	N/A
G_DATAN1	GC8	2	1	10PF/50V	N/A
G_DATAP0	GC9	2	1	10PF/50V	N/A
G_DATAN0	GC10	2	1	10PF/50V	N/A
G_NBL_CTRL	GC12	2	1	10PF/50V	/X
BL_EN	EC11	2	1	10PF/50V	EMI/X
G_LVDD_EN	EC12	2	1	10PF/50V	EMI/X



<Core Design>

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



<http://hobi-elektronika.net>

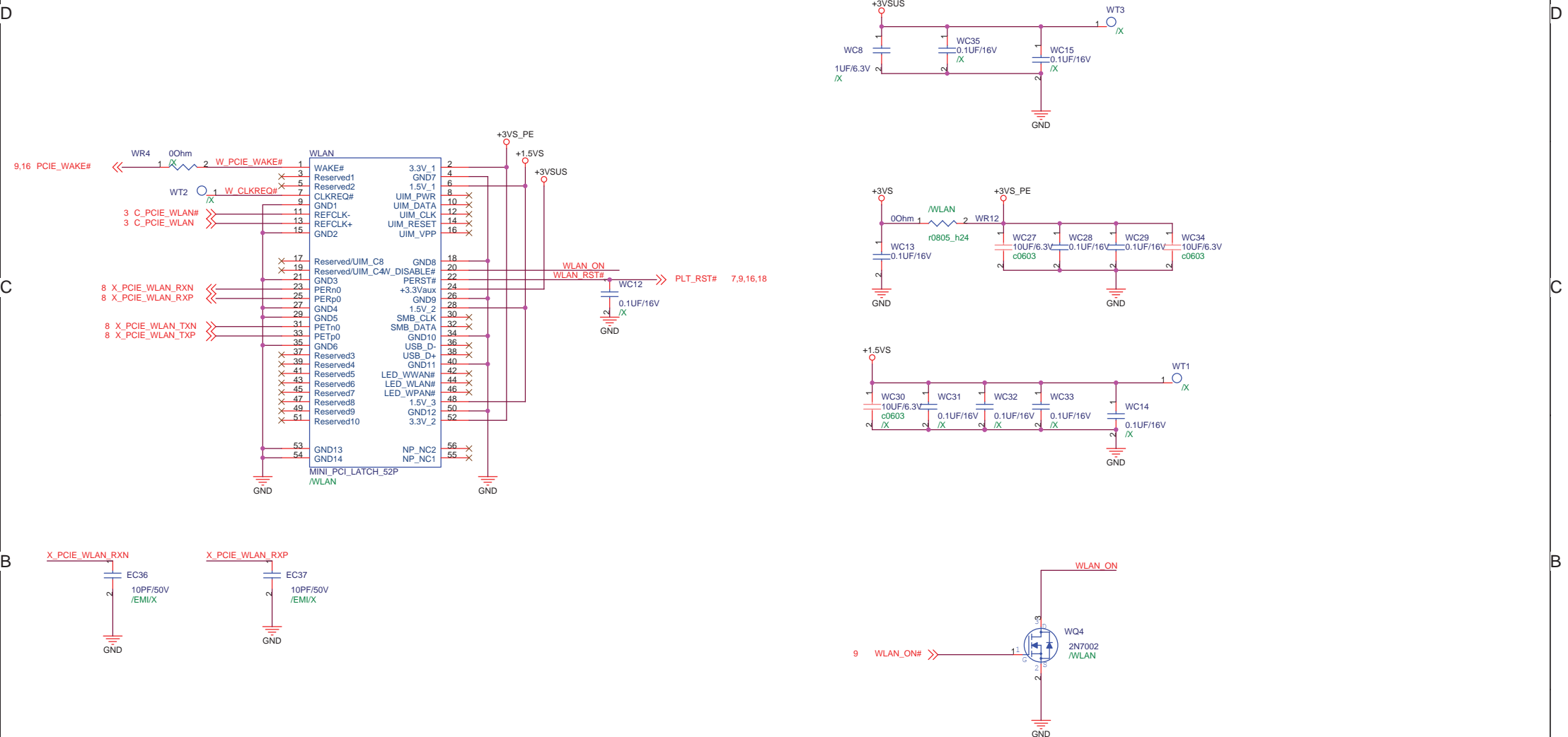
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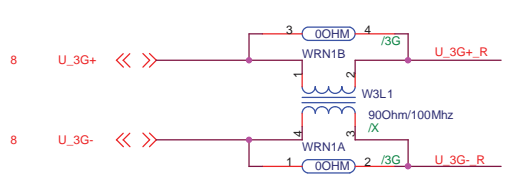
		<b>Title :</b> <u>WIFI_SAMRT33</u>	
ASUSTek Computer INC.		<b>Engineer:</b> <u>Nicky_Cheng</u>	
Size A3	Project Name <b>1015P</b>		Rev 1.1G
Date: <u>Saturday, February 06, 2010</u>		Sheet	15 of 42



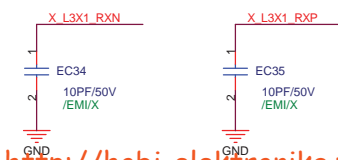
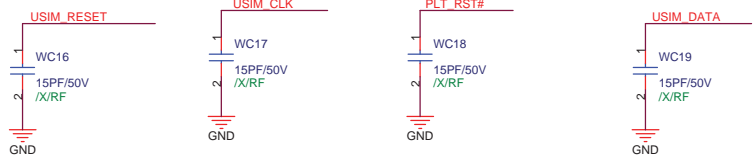
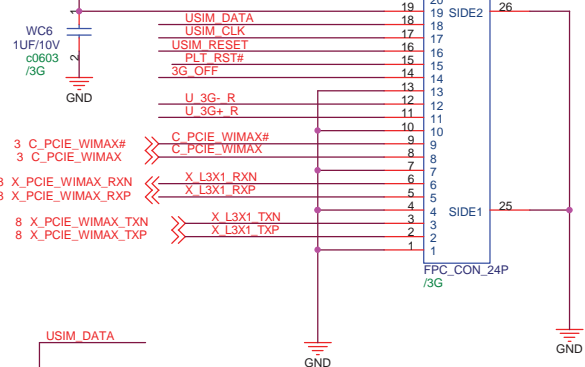
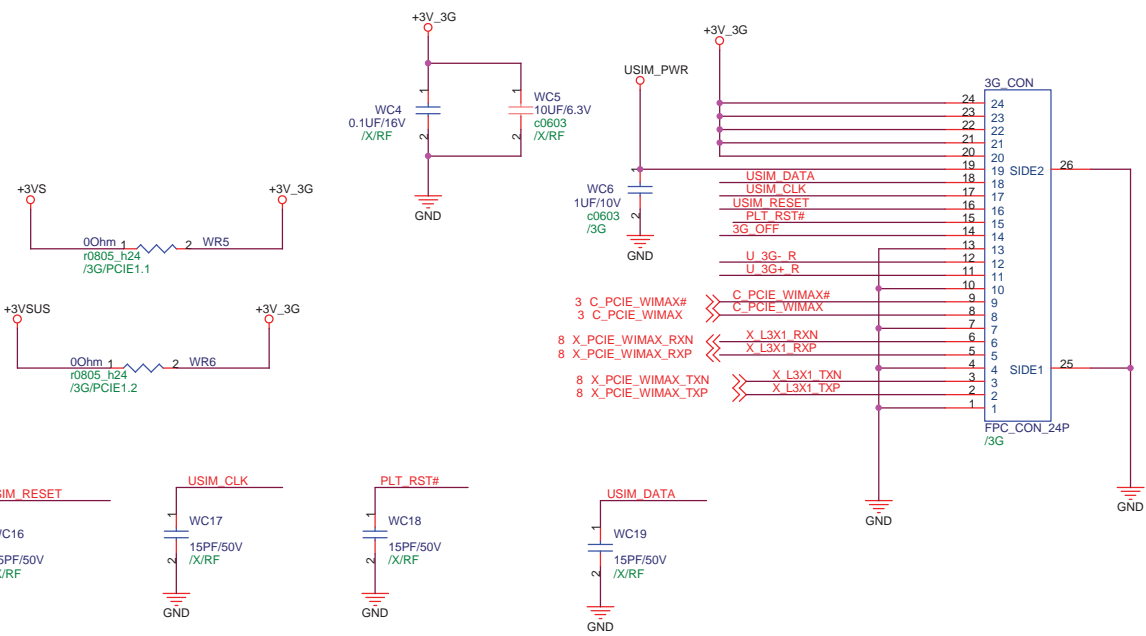
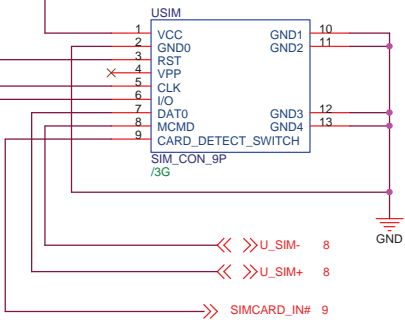
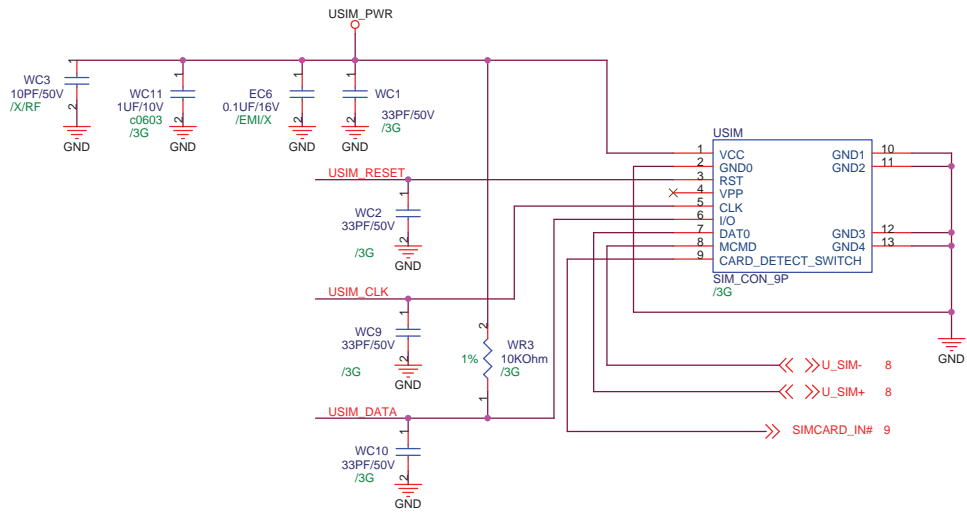


WIFI use PCIE 1.1 Spec  
+3VS = 1.0A peak / 0.75A Normal  
+1.5VS = 0.5A peak / 0.375A Normal  
+3VSUS = 0.375A peak / 0.25A Normal



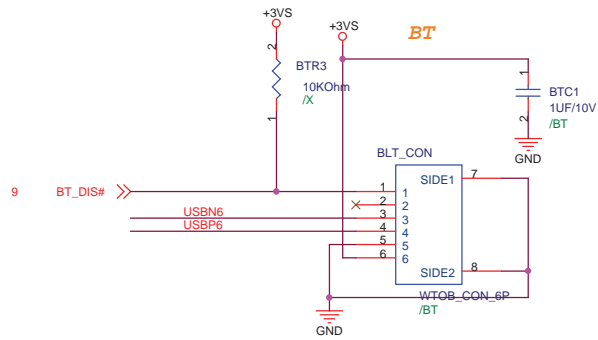
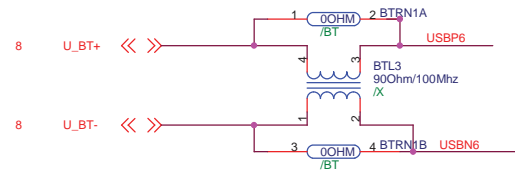


7,9,16,17 PLT\_RST# >>>  
9 3G\_OFF >>>



<http://hobi-elektronika.net>

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

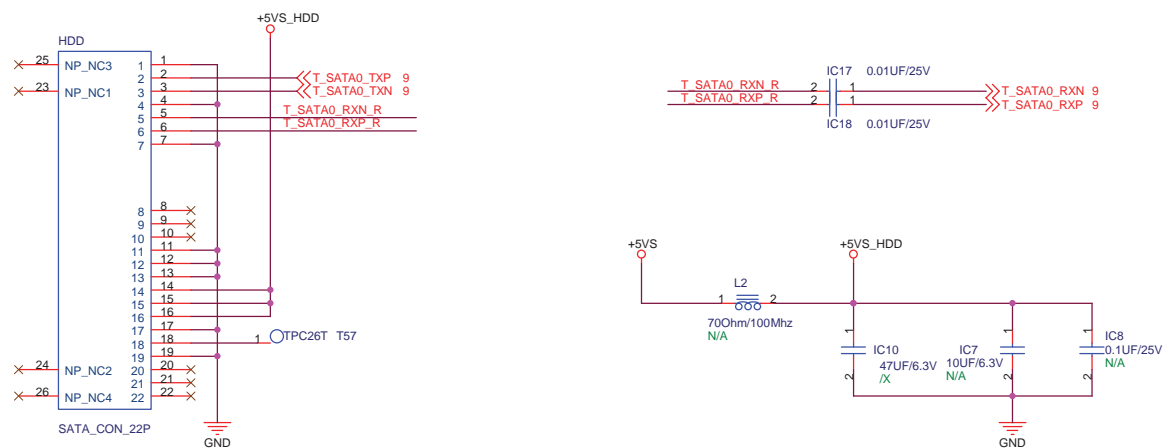


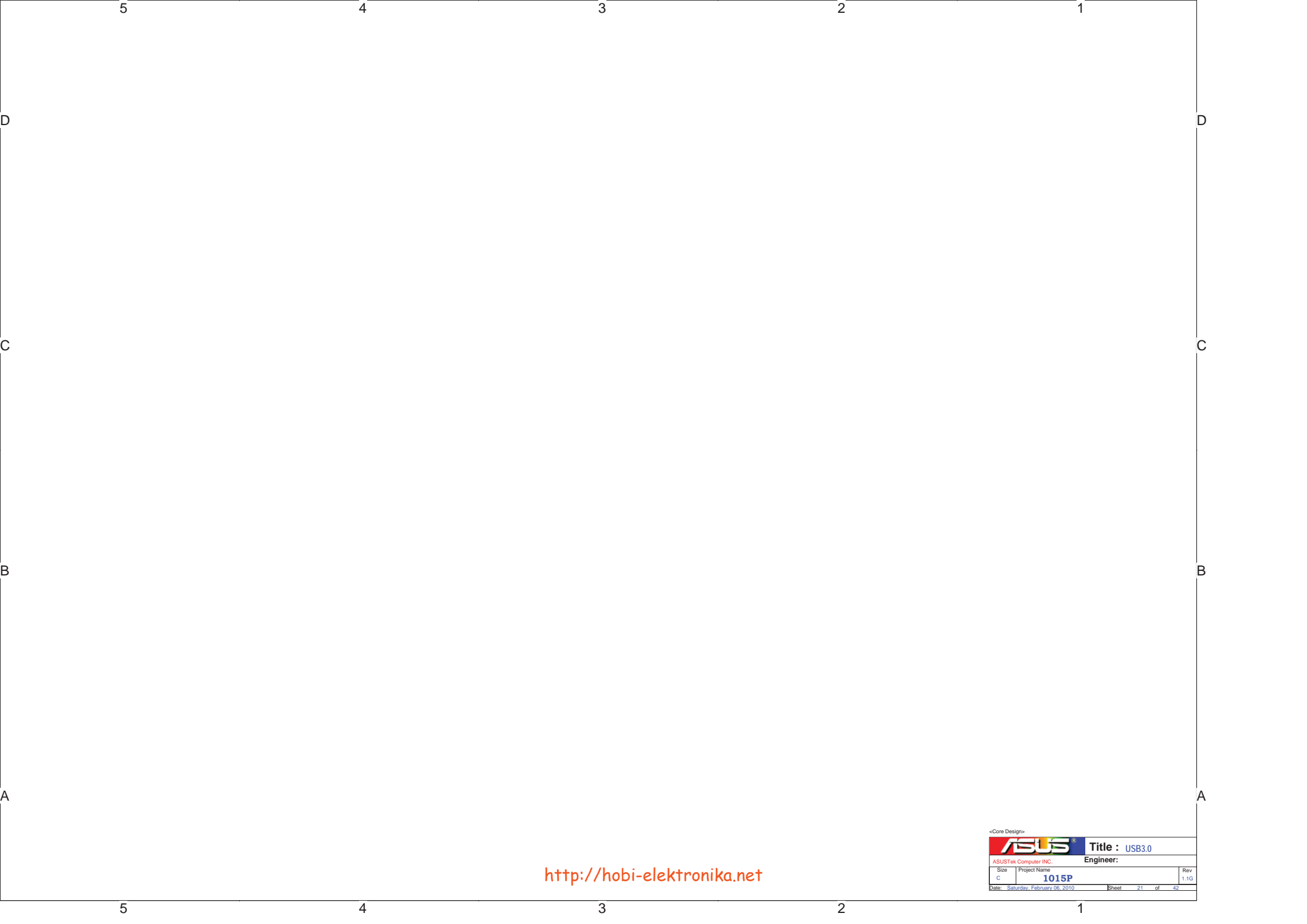
<http://hobi-elektronika.net>

<Core Design>


<b>ASUS</b>		Title : Bluetooth	
ASUSTek Computer INC.		Engineer: Nicky_Cheng	
Size A3	Project Name <b>1015P</b>	Rev 1.1G	
Date: Saturday, February 06, 2010		Sheet 19 of 42	

# SATA HDD Connector



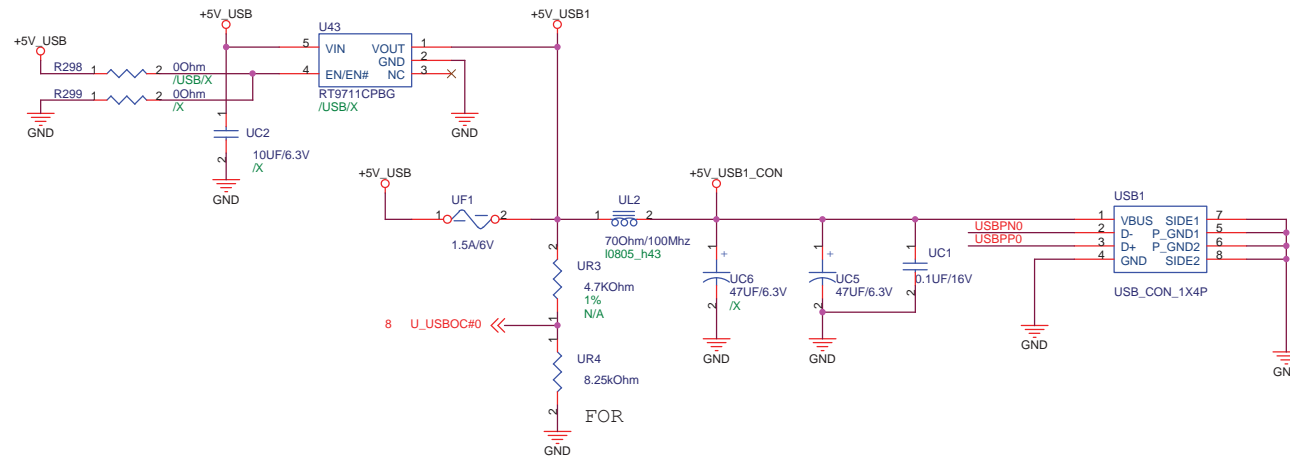
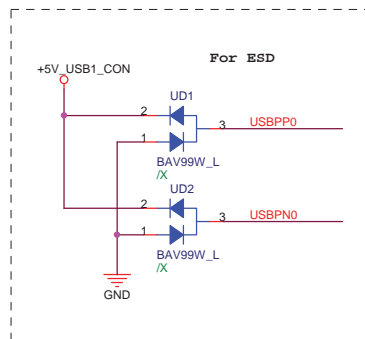
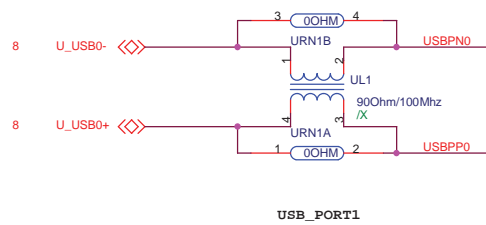


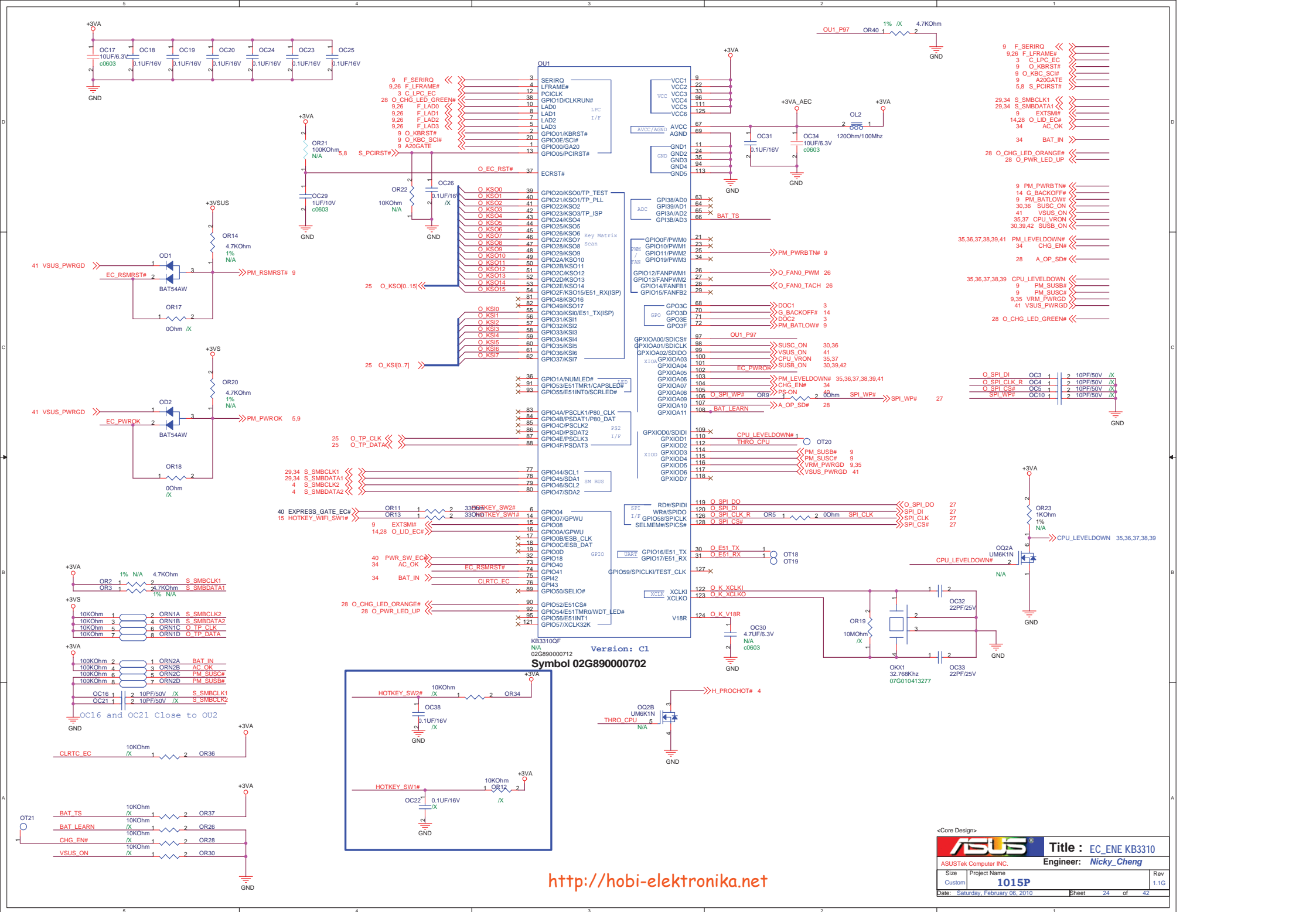
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<Core Design>				
		Title : USB3.0		
ASUSTek Computer INC.		Engineer:		
Size	Project Name		Rev	
C	1015P		1.1G	
Date:	Saturday, February 06, 2010		Sheet	21 of 42



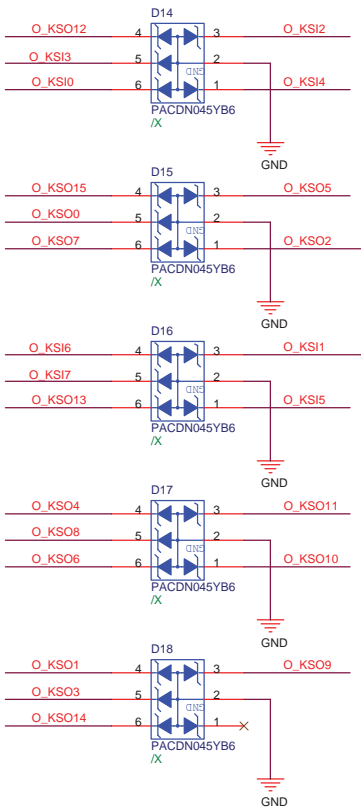
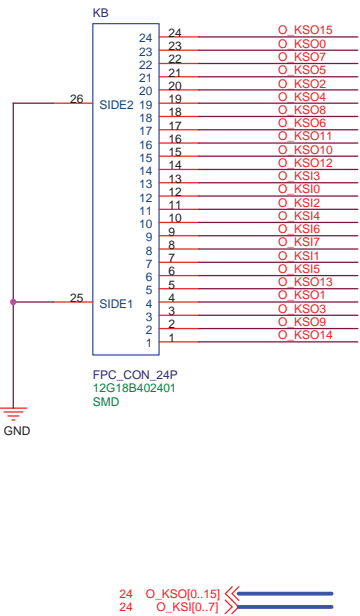




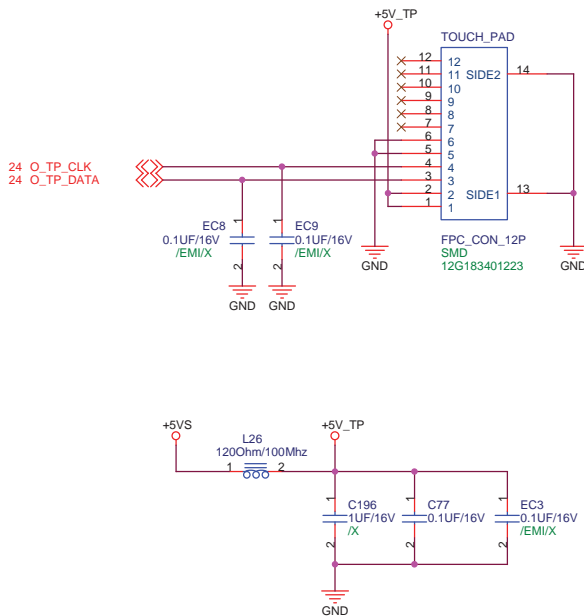


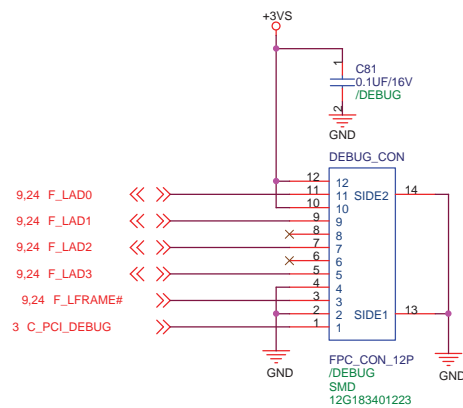
<http://hobi-elektronika.net>

For Keyboard Connector

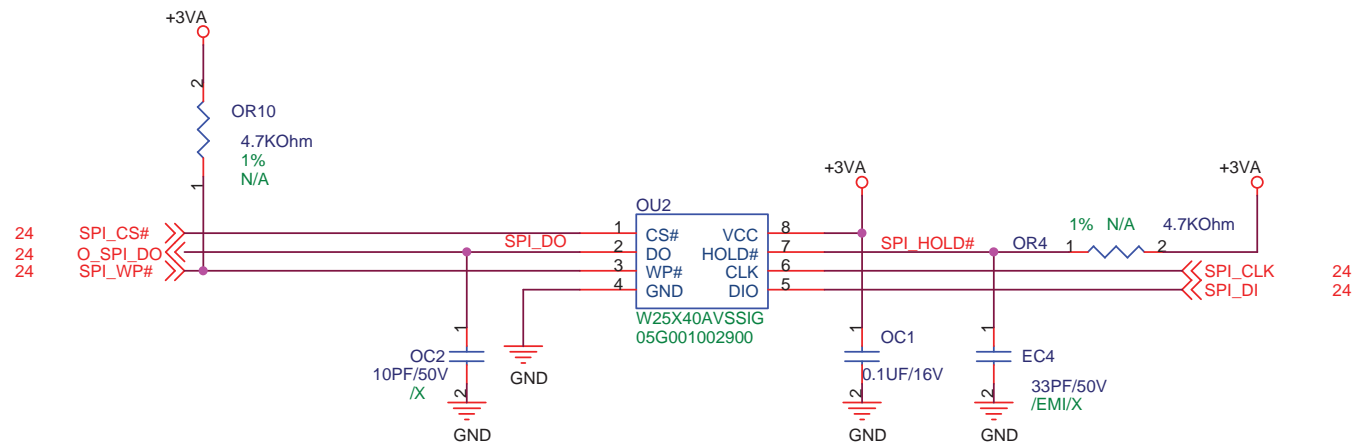


For Touch-Pad





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



05G001002900;  
05G00100F131;  
05G00100F133

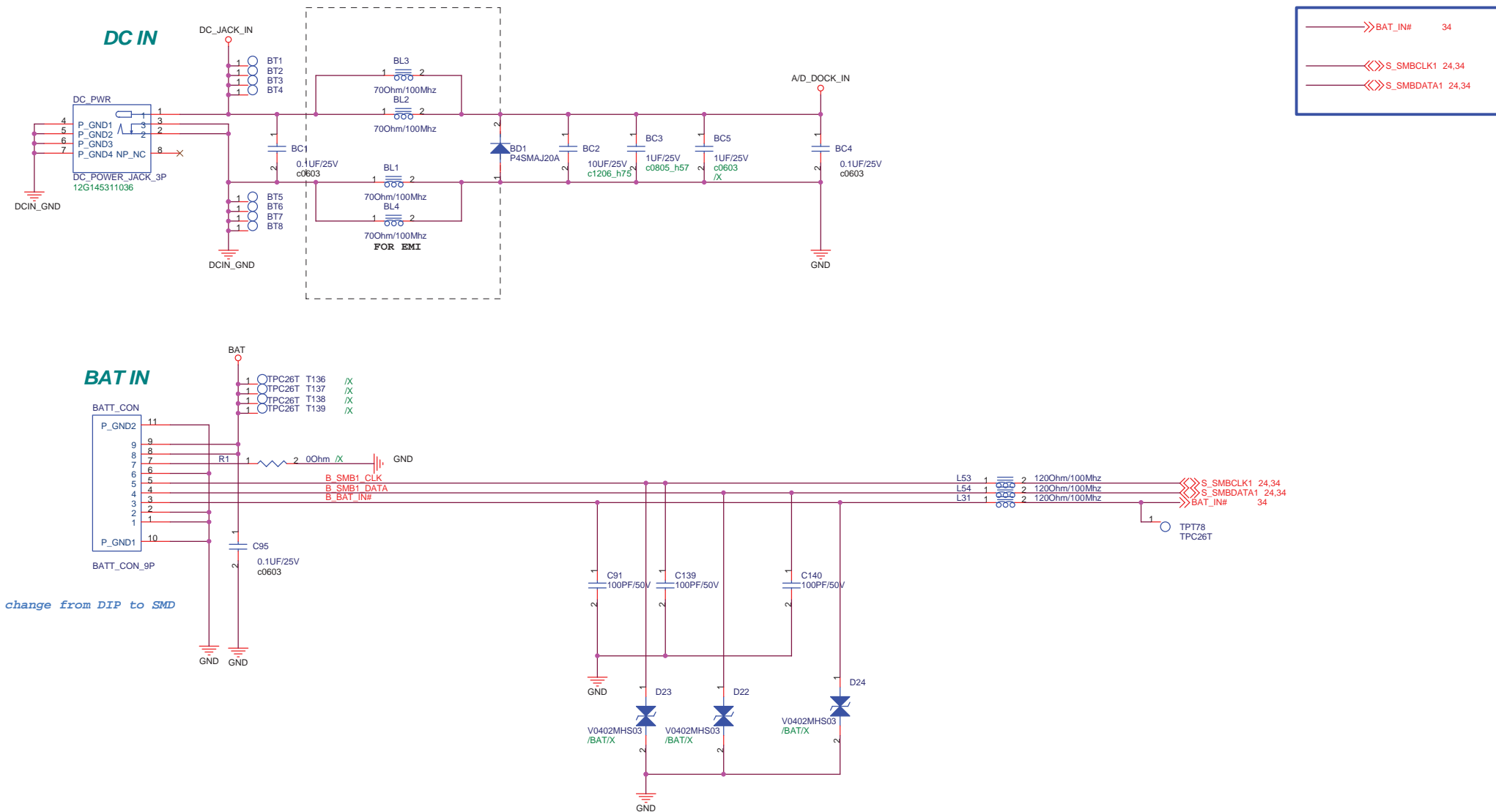
<http://hobi-elektronika.net>

<Core Design>

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



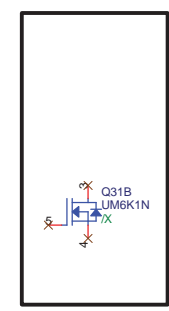
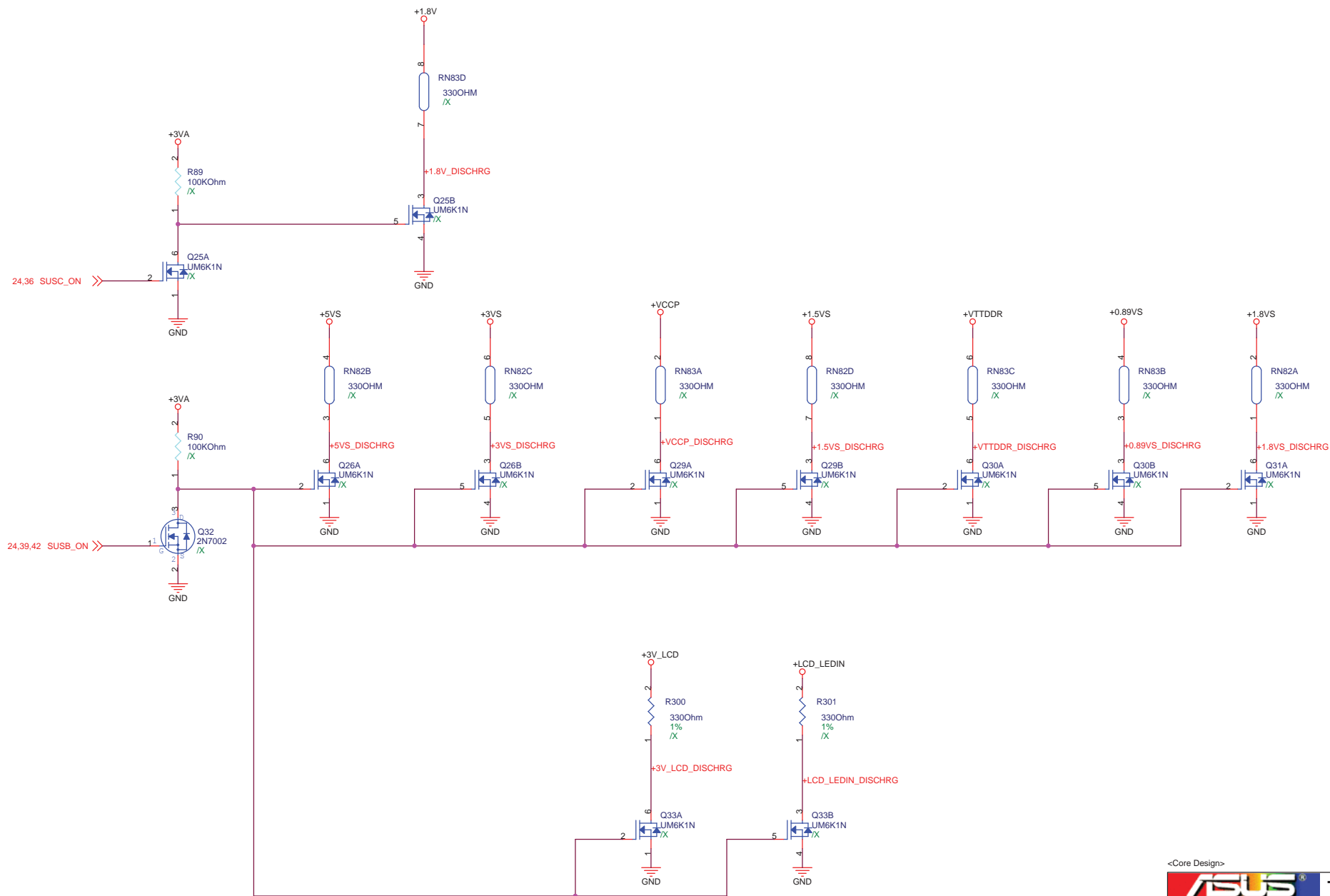
0.1B Beta



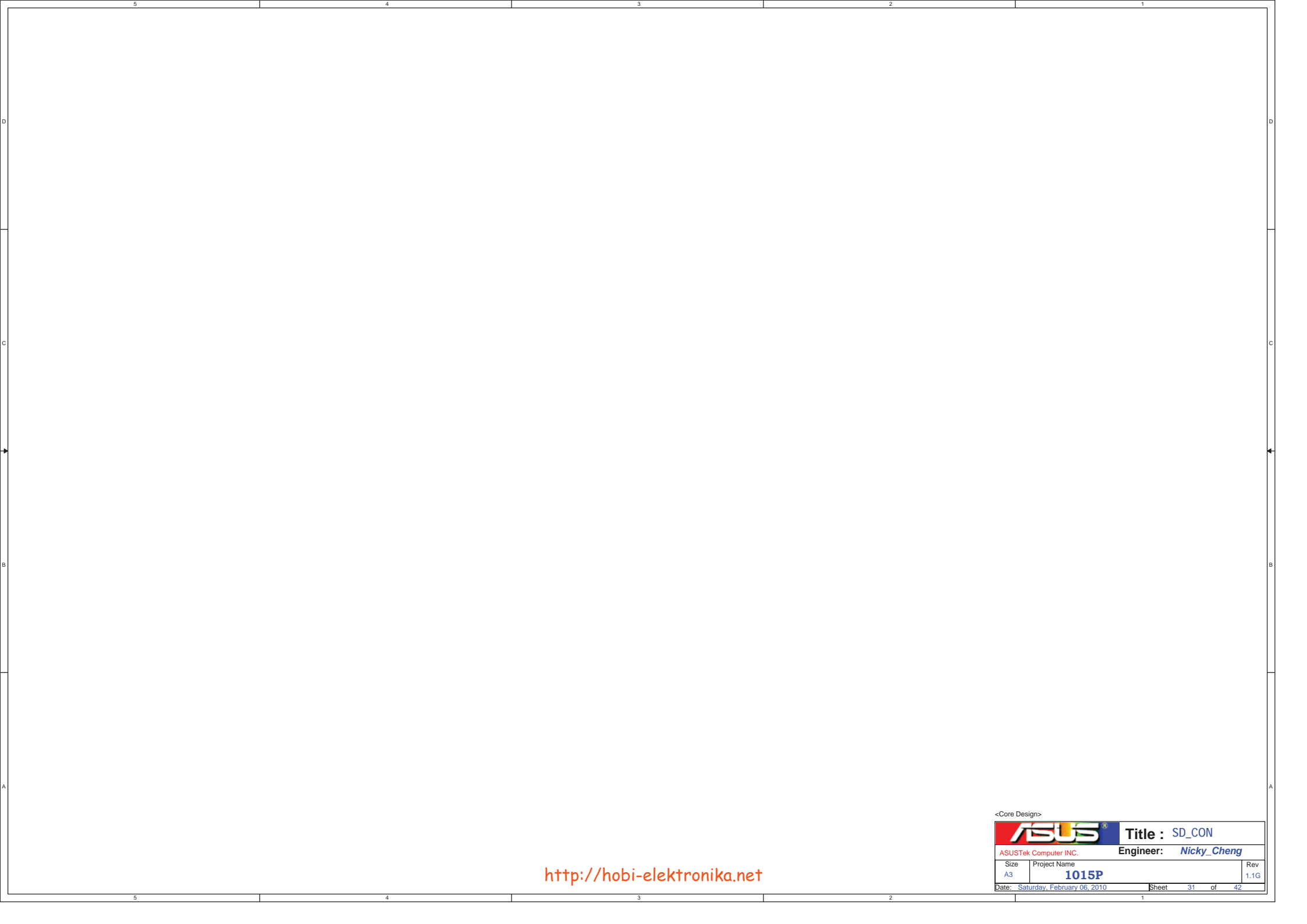
<http://hobi-elektronika.net>

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




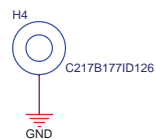
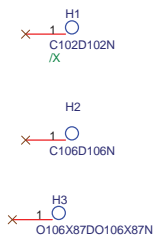
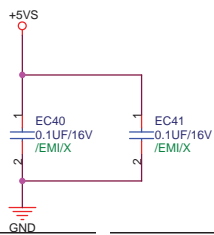
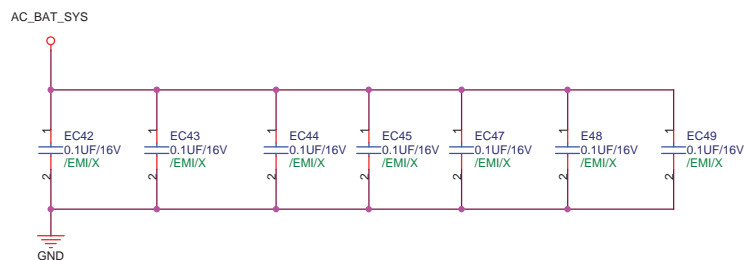
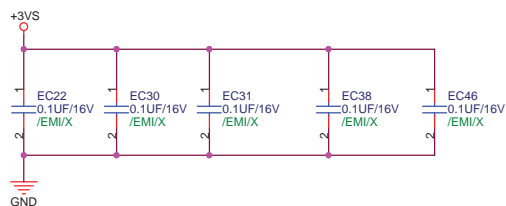
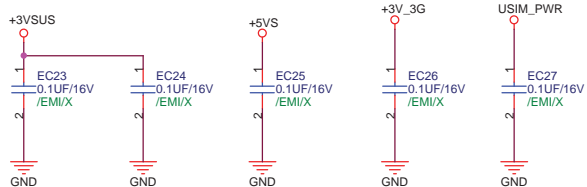
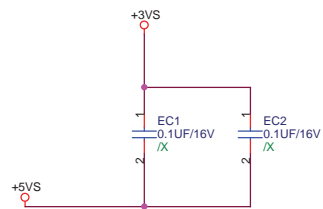


<http://hobi-elektronika.net>

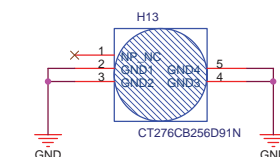
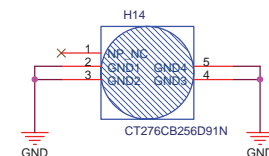
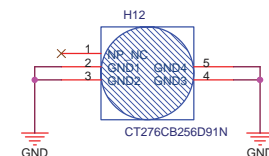
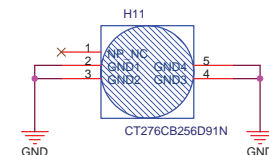
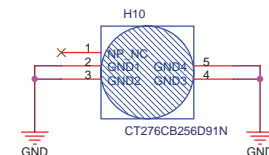
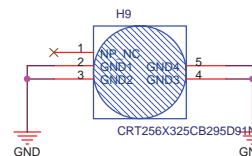
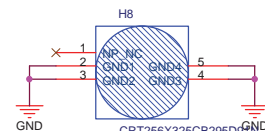
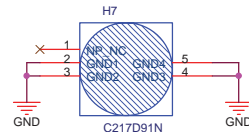
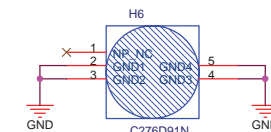
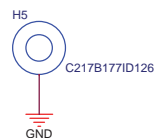


<http://hobi-elektronika.net>

<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



<http://hobi-elektronika.net>

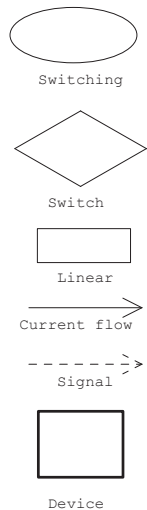
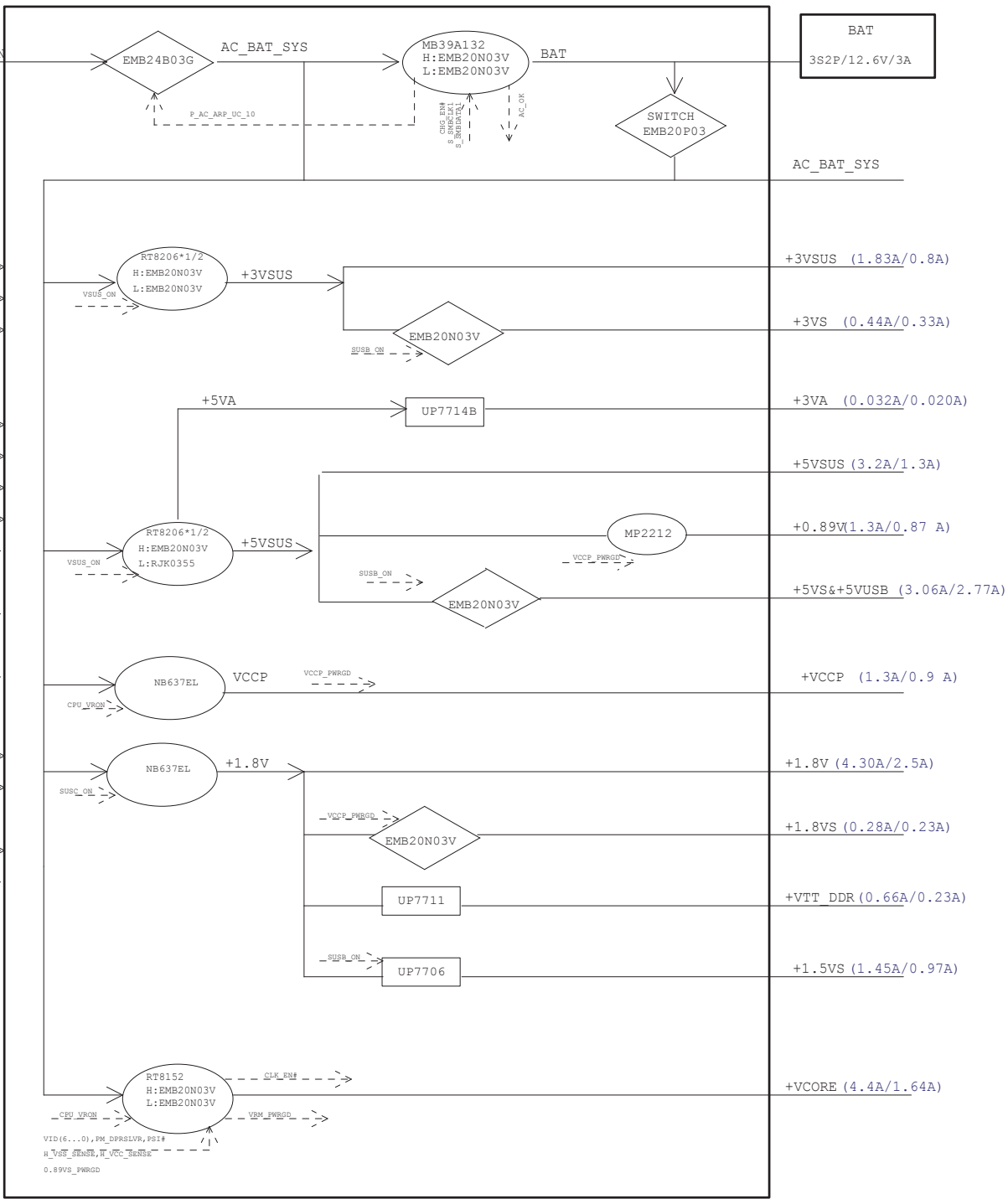
<Core Design>

<b>ASUS</b>		Title : SREW HOLE&EMI	
ASUSTek Computer INC.		Engineer: Nicky_Cheng	
Size	Project Name	1015P	Rev
A3			1.1G
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Adaptor  
40W (19V/2.1A)

EC

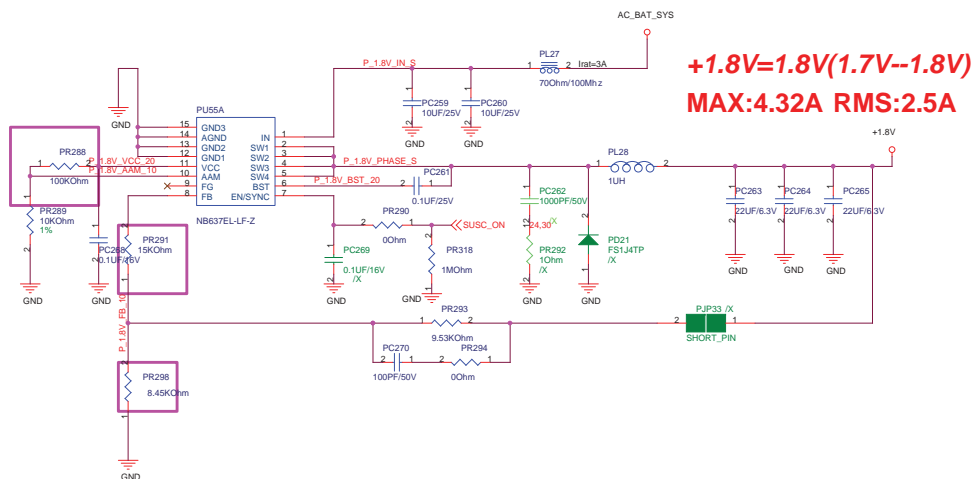
CPU



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







1.  $I_{in} = V_o \cdot I_o / (0.8 \cdot V_{in}) = 1.08A$

2. Ripple Current:  
 $I_{rip} = 1A$

3. Frequency:  
 $f_{osc} = 600KHz$

4. Current Limit:  
 $6A$

1. Dropout Voltage:  
 $V = 0.3V$  ( $I_o = 2A$ )
2. Current Limit:  
 $I_{limit} = 4A$
3. Continue Current:  
 $I_{cont} = 3A$
4. Power Dissipation:  
 $R_{thjc} = 52 \text{ } ^\circ W$   
 $P_d = 1.9W$

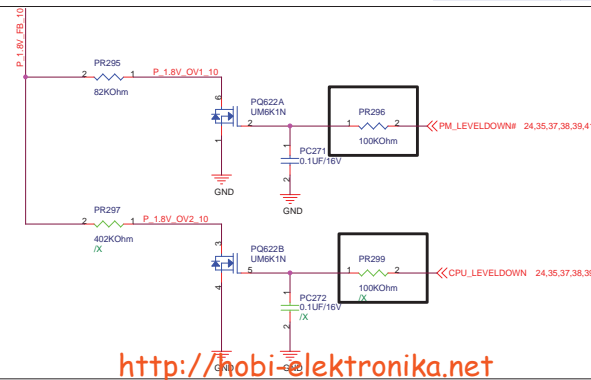
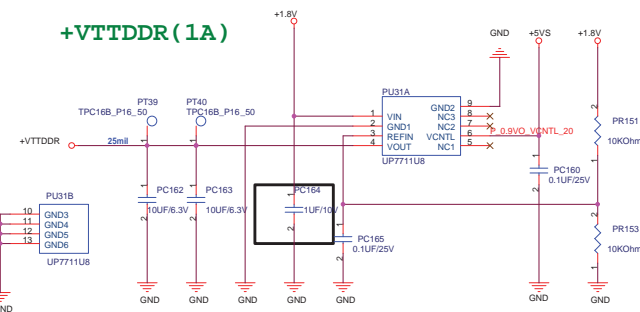
2009.11.27

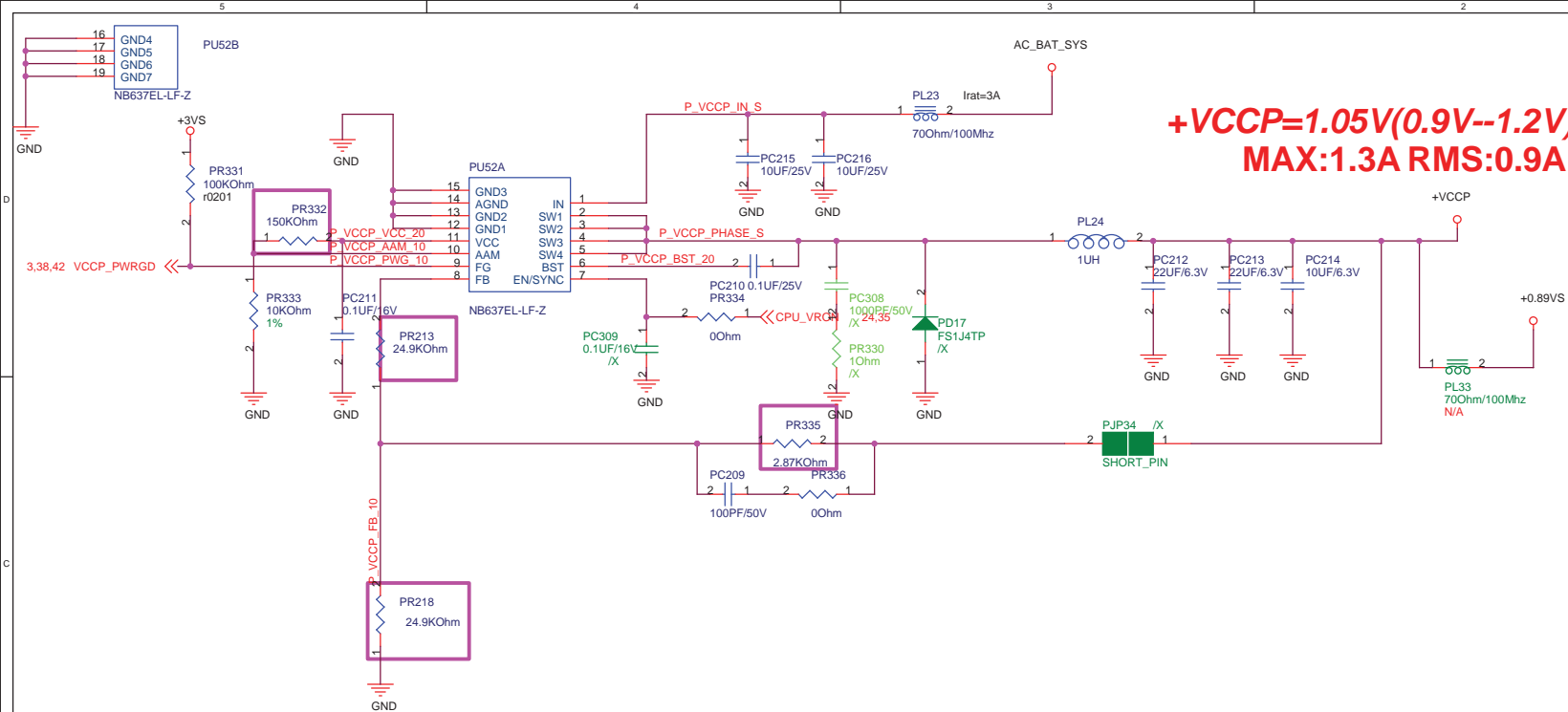
— << SUSC\_ON 24,30

— << 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		





## Power Info.

### 1. I/P Current:

$$I_{in} = V_o * I_o / (0.8 * V_{in}) = 0.7A$$

### 2. Ripple Current:

$$I_{rip} = 1.08A$$

$$I_{spec} = 2.5A \odot 1$$

$$f_{osc} = 600KHz$$

$$f_{osc} = 600KHz$$

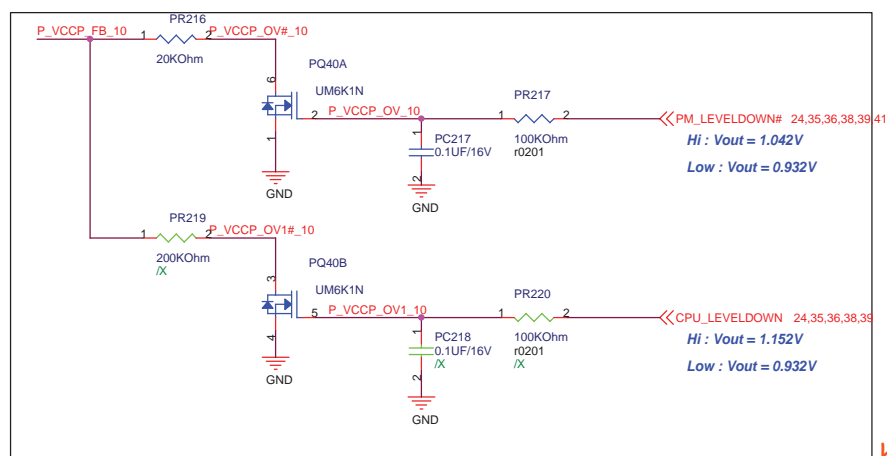
### 4. Current Limit:

**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

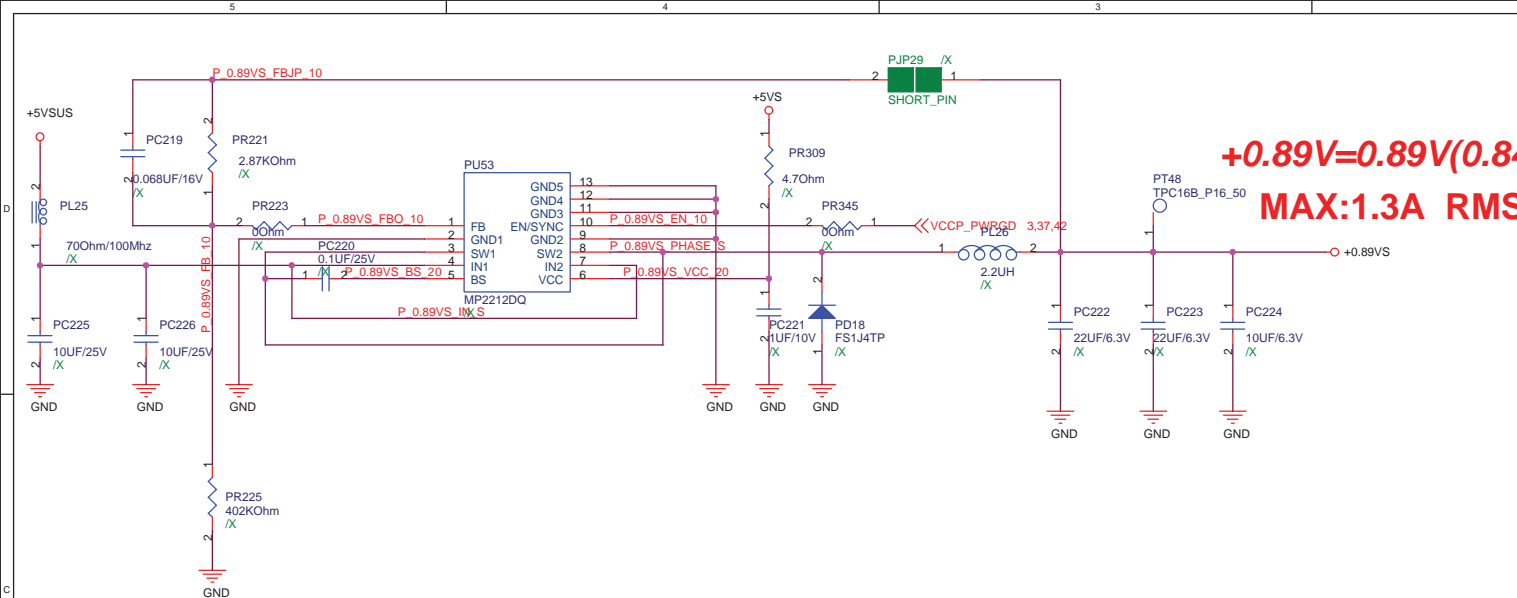


<http://hobi-elektronika.net>

<Core Design>

<b>ASUS</b>		<b>Title : +1.5VS &amp; +2.5VS</b>	
ASUSTek Computer INC		Engineer: <b>Joy_Zhou</b>	
Size A3	Project Name <b>1015P</b>	Rev 1.0	
Date: Saturday, February 06, 2010	Sheet	37	of 42





**+0.89V=0.89V(0.844V--0.95V)**  
**MAX:1.3A RMS:0.87A**

## Power Info.

### 1. I/P Current:

$$I_{in} = V_o * I_o / (0.8 * V_{in}) = 0.36A$$

### 2. Ripple Current:

$$I_{rip} = 0.61A$$

$$I_{spec} = 2.5A * 1pc$$

### 3. Dynamic:

$$I_{peak} = 1.6A$$

$$ESR = 18 \text{ mohm}$$

$$\Delta V = 28.8mV$$

### 4. Frequency:

$$F_{osc} = 600KHz$$

### 5. Current Limit:

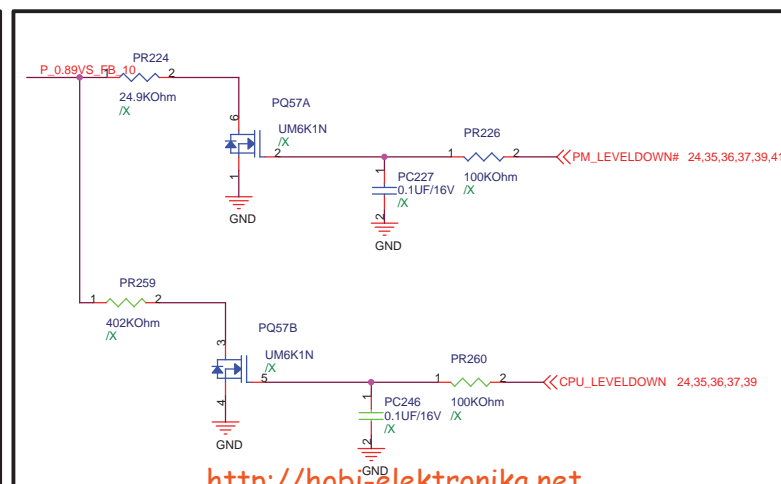
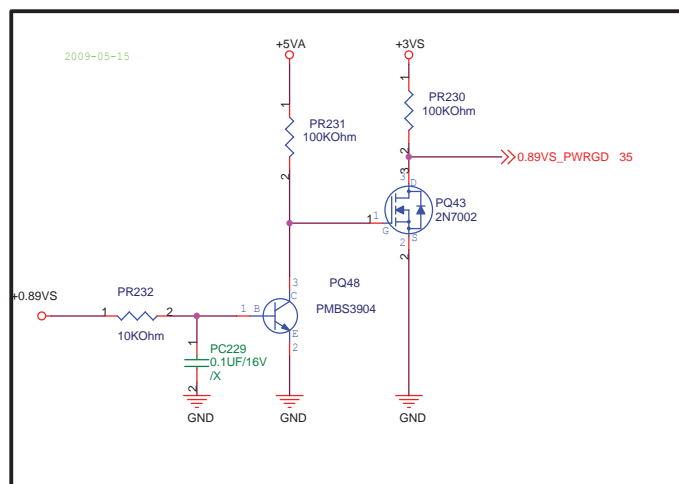
**6A**

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——— VCCP\_PWRGD 3,37,42

——— PM\_LEVELDOWN# 24,35,36,37,39,41

——— CPU\_LEVELDOWN 24,35,36,37,39

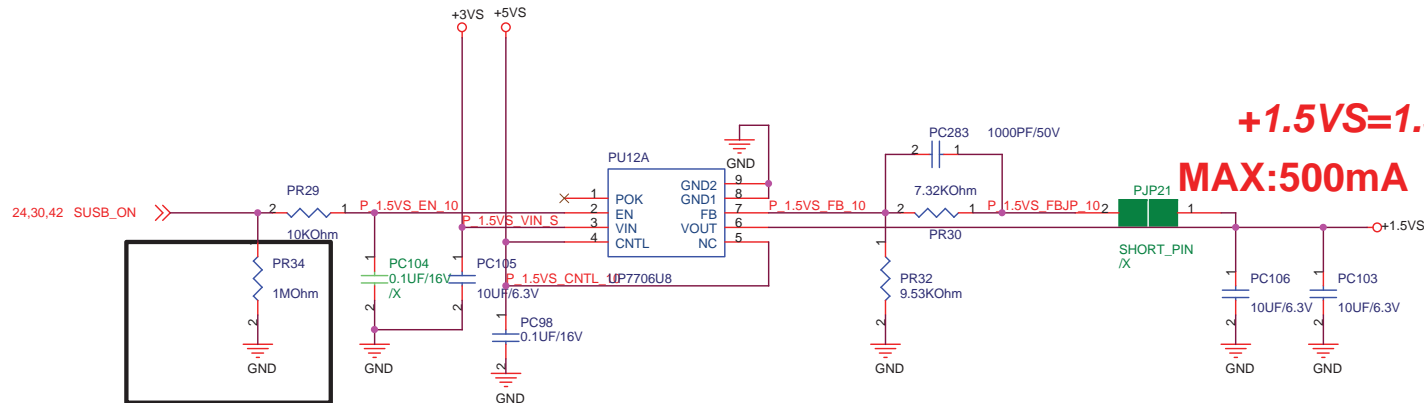


PM_LEVELDOWN#	CPU_LEVELDOWN	Voltage	Status
L	L	0.844V	Power Saving
H	L	0.897V	Normal
H	H	0.950V	Performance
L	H		N/A

<Core Design>

<b>ASUS</b>		<b>Title : +1.5VS &amp; +2.5VS</b>	
ASUSTek Computer INC		Engineer: <b>Joy_Zhou</b>	
Size A3	Project Name <b>1015P</b>	Rev 1.0	
Date: Saturday, February 06, 2010	Sheet	38 of 42	

<http://hobi-elektronika.net>



**+1.5VS=1.5V(1.44V--1.5V)**  
**MAX:500mA RMS:350mA**

### 1. Dropout Voltage:

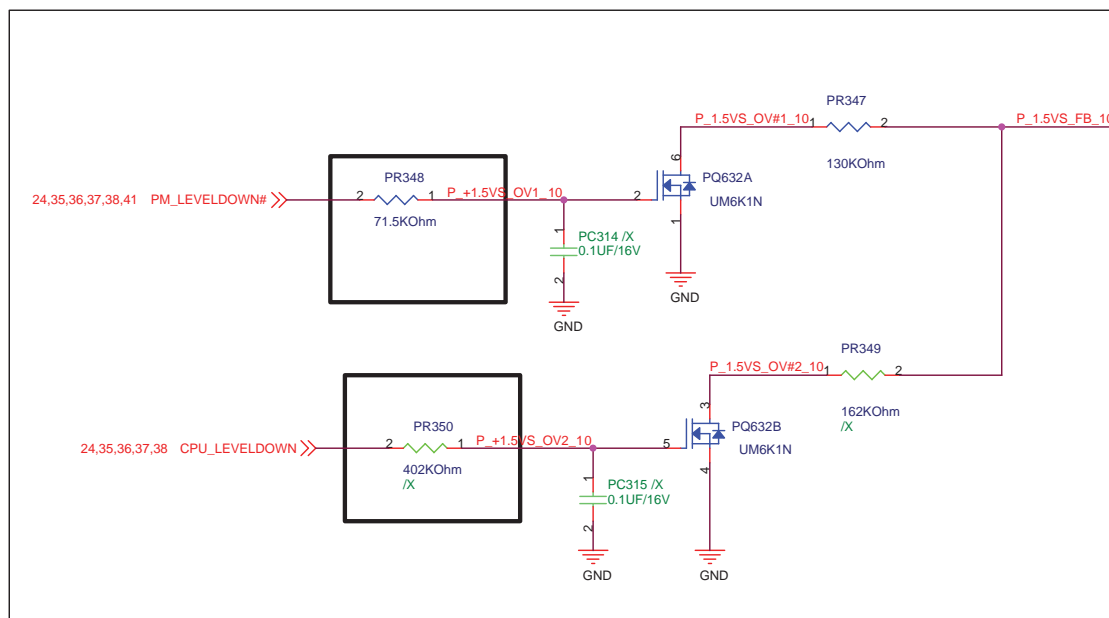
**V= 300 mV (I<sub>o</sub>=2A)**

### 2. Current Limit:

**I limit= 2.8A**

### 3. Pd:

**R thjc =5 C/W**  
**Pd =1.9W**

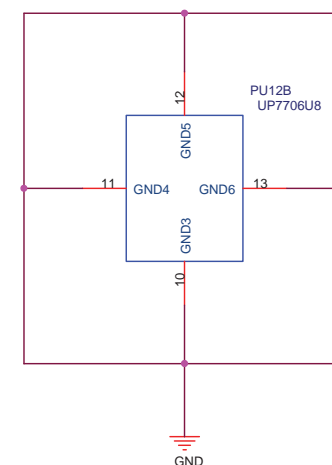


2009.11.27

24,30,42 SUSB\_ON >>

24,35,36,37,38,41 PM\_LEVELDOWN# >>

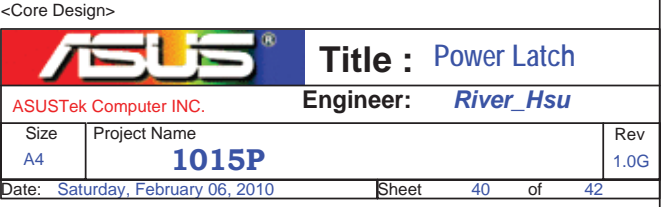
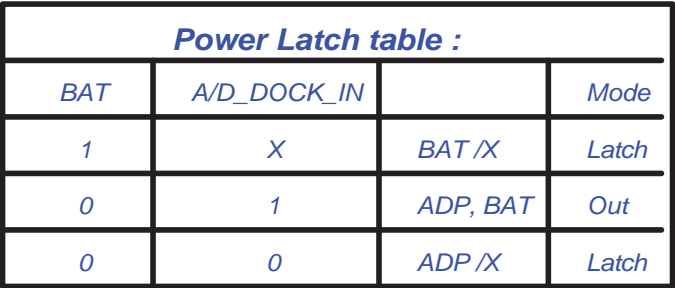
24,35,36,37,38 CPU\_LEVELDOWN# >>



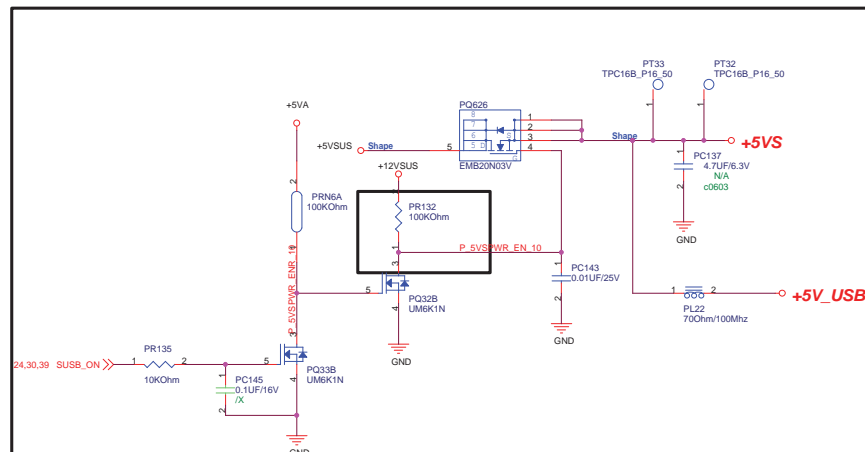
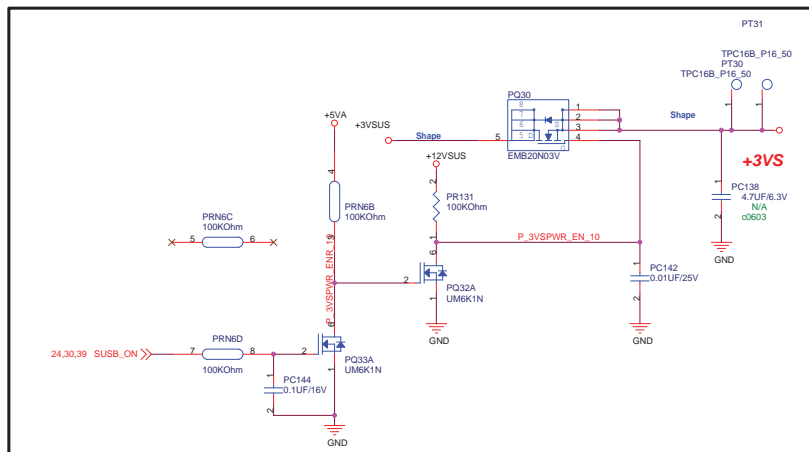
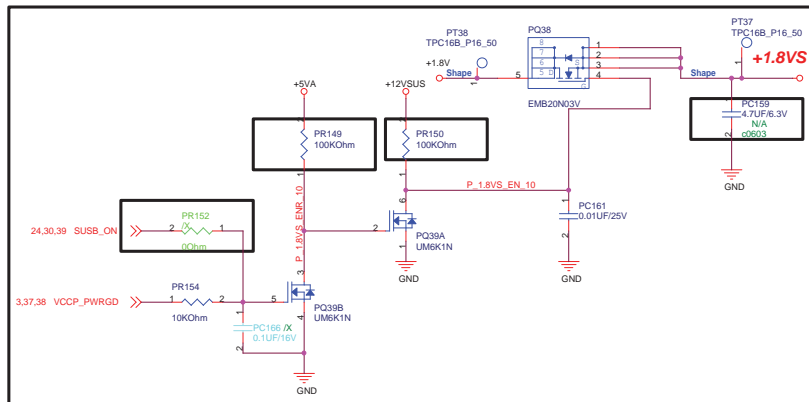
PM_LEVELDOWN#	CPU_LEVELDOWN	Voltage	Status
L	L	1.41V	Power Saving
H	L	1.49V	Normal
H	H	1.51V	Performance
L	H	1.50V	

<Core Design>

		Title : +1.5VS & +2.5VS	
ASUSTek Computer INC		Engineer: Joy_Zhou	
Size B	Project Name <b>1015P</b>		Rev 1.0
Date: Saturday, February 06, 2010		Sheet 39 of 42	







2009.11.27

24,30,39 USB\_ON

3,37,38 VCCP\_PWRGD