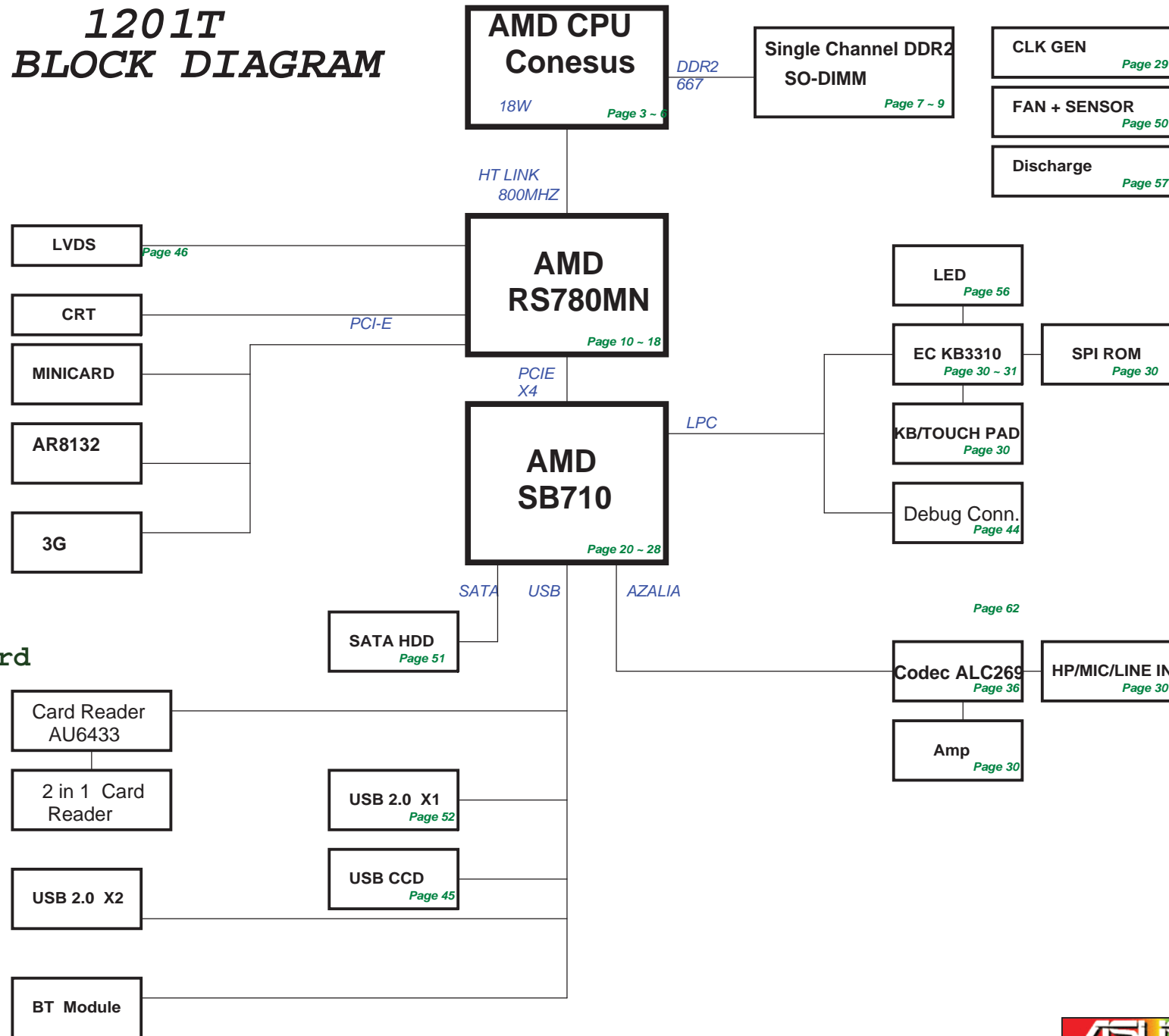
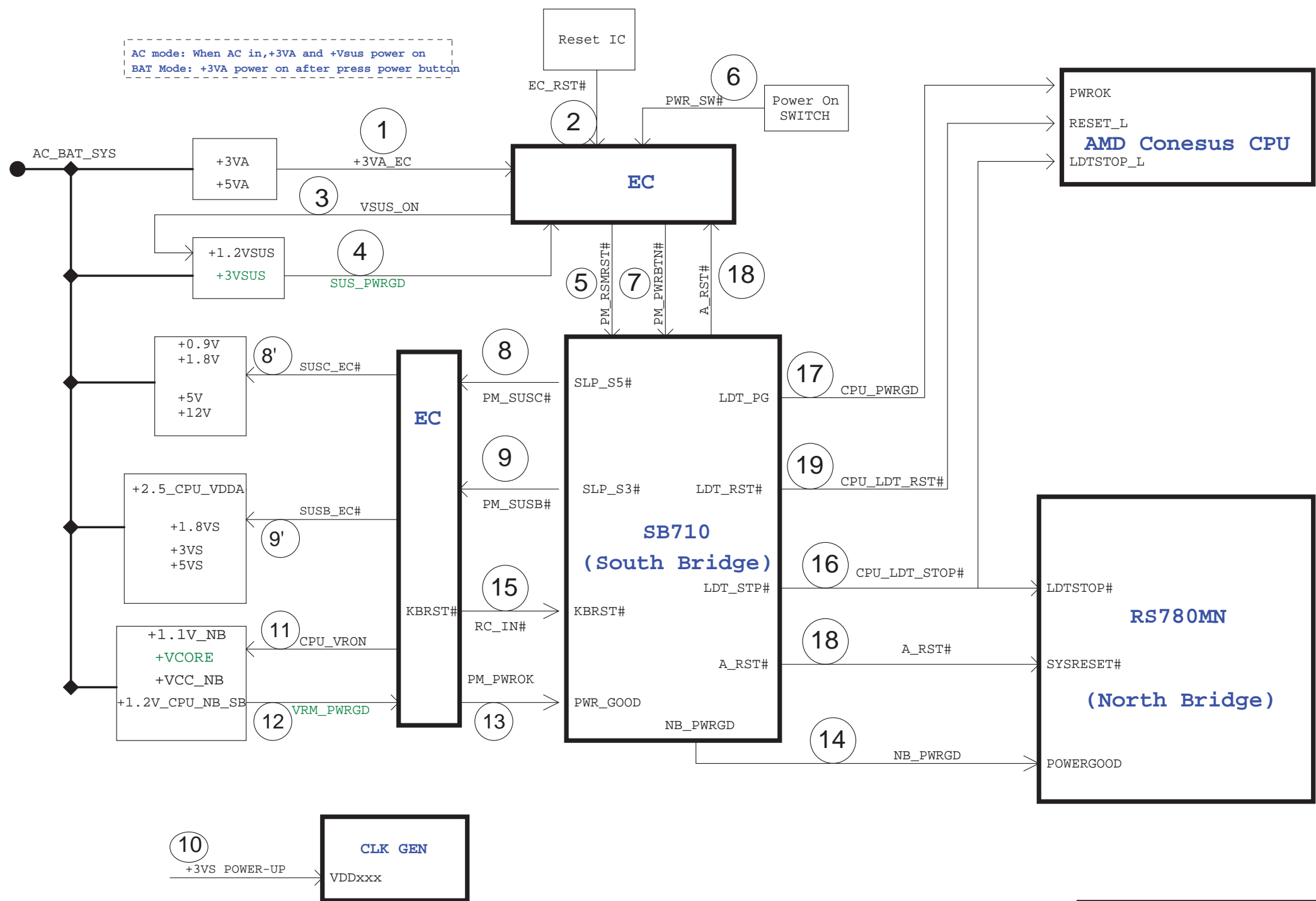


1201T BLOCK DIAGRAM

IO board



AC mode: When AC in, +3VA and +Vsus power on
 BAT Mode: +3VA power on after press power button



LAYOUT NOTE: Keep trace to resistors less than 1.5" from CPU pin.

place close to RROCESSOR within 1.5 inch

R0403 & R0404 change to 15ohm 1%

Mount R0405, Un -Mount U0401, C0401, R0406, R0408, R0409 for cost down

change from 15ohm to 1kOhm

sensing point for op-amp feedback routed near CPU

PLACE CLOSE TO CPU

NOTICE

If PWROK, RESET_L, LDTSTOP_L are driven by open-drain driver, a 300 ohm pull up to VDDIO.

mount cap C0503 AMD 漏電 10uF cap

VID5 is optional

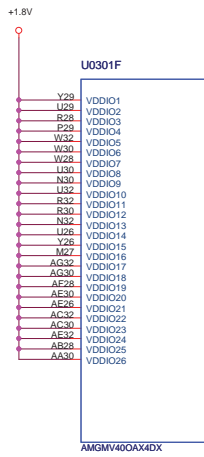
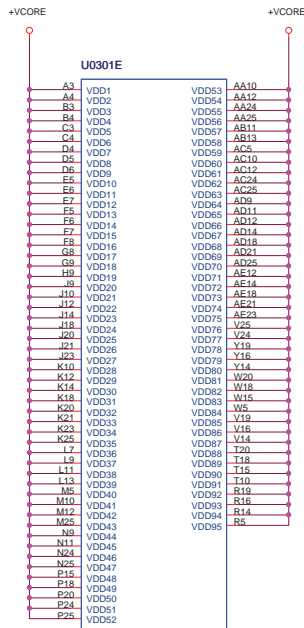
PSI_L is a Power Status Indicator signal.

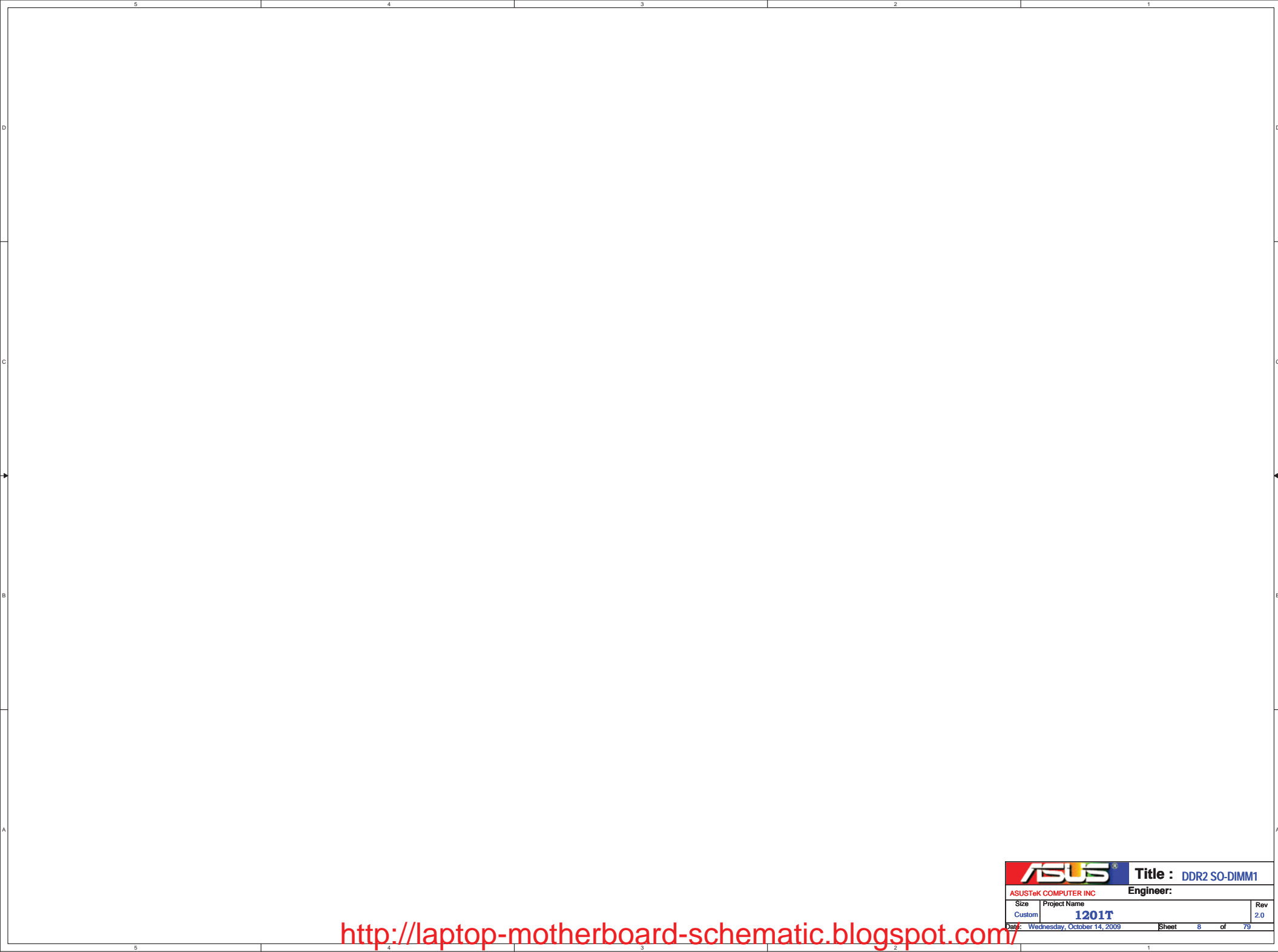
Change 300 ohm to 4R8P 090405

NOTICE r0541

HDT

Debug 簡療 090405

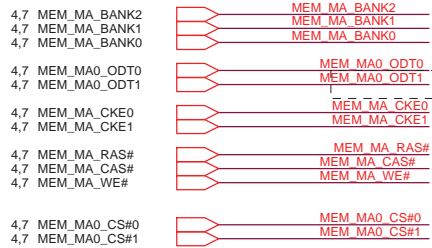




<http://laptop-motherboard-schematic.blogspot.com/>

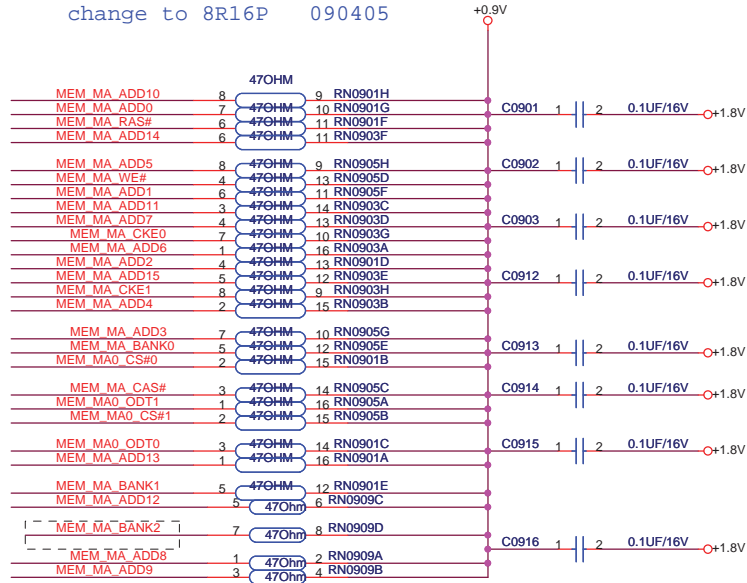
		Title : DDR2 SO-DIMM1	
ASUSTeK COMPUTER INC		Engineer:	
Size	Project Name		Rev
Custom	1201T		2.0
Date: Wednesday, October 14, 2009		Sheet	8 of 79

4,7 MEM_MA_ADD[0..15]

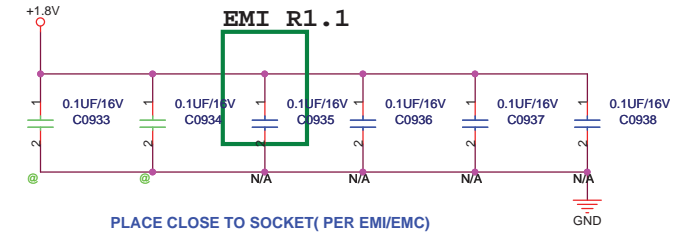
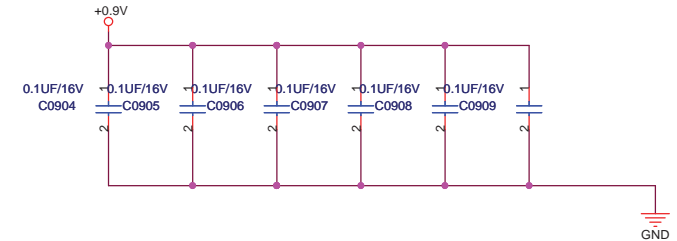


090818 Swap for Layout

change to 8R16P 090405



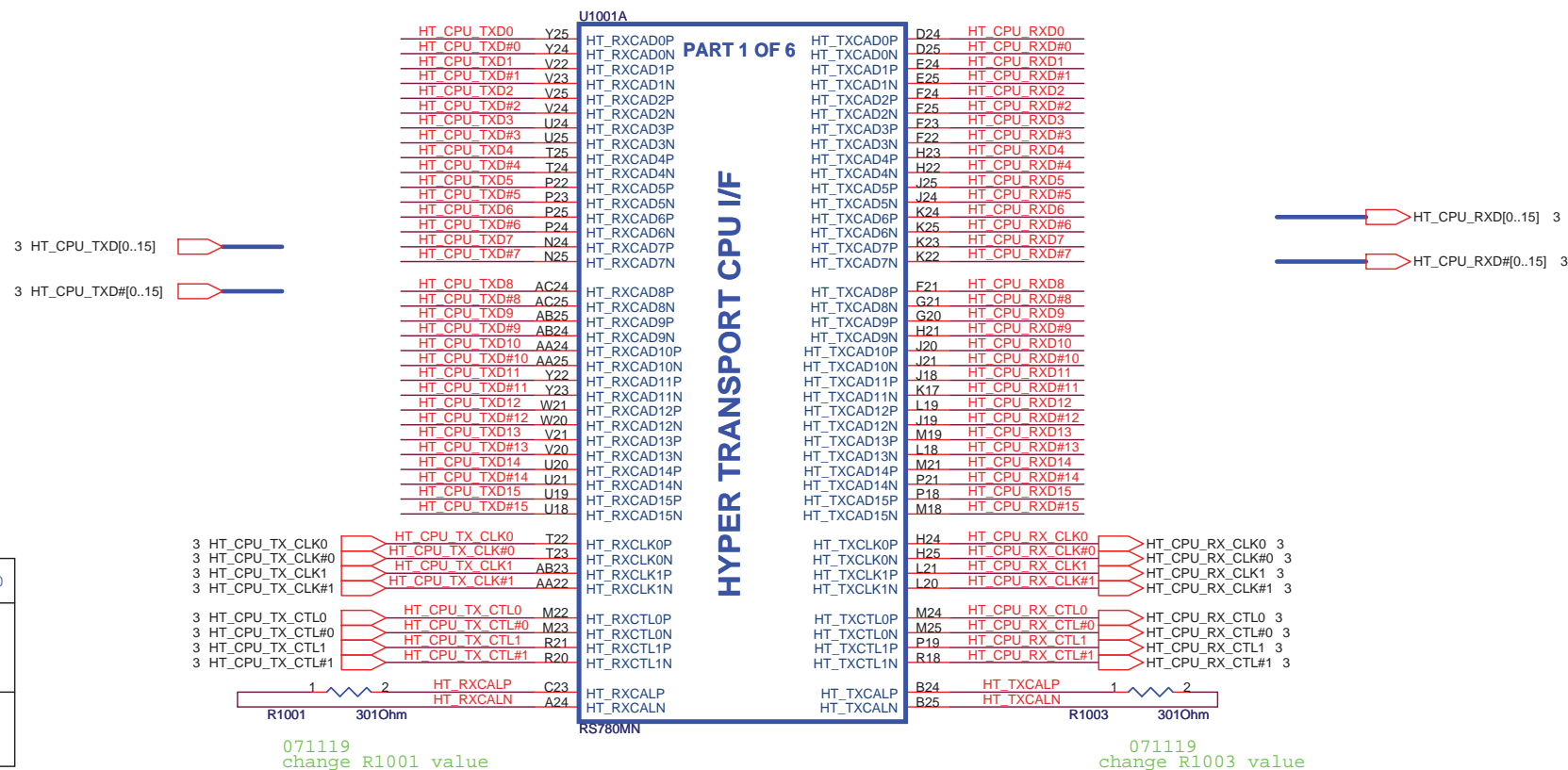
Remove 1.8V C0910, C0911 0.1uF 090405



ASUS		Title : DDR2_TERMINATIONS	
ASUSTeK COMPUTER INC		Engineer:	
Size	Project Name	Rev	
Custom	1201T	2.0	
Date: Wednesday, October 14, 2009		Sheet	9 of 79

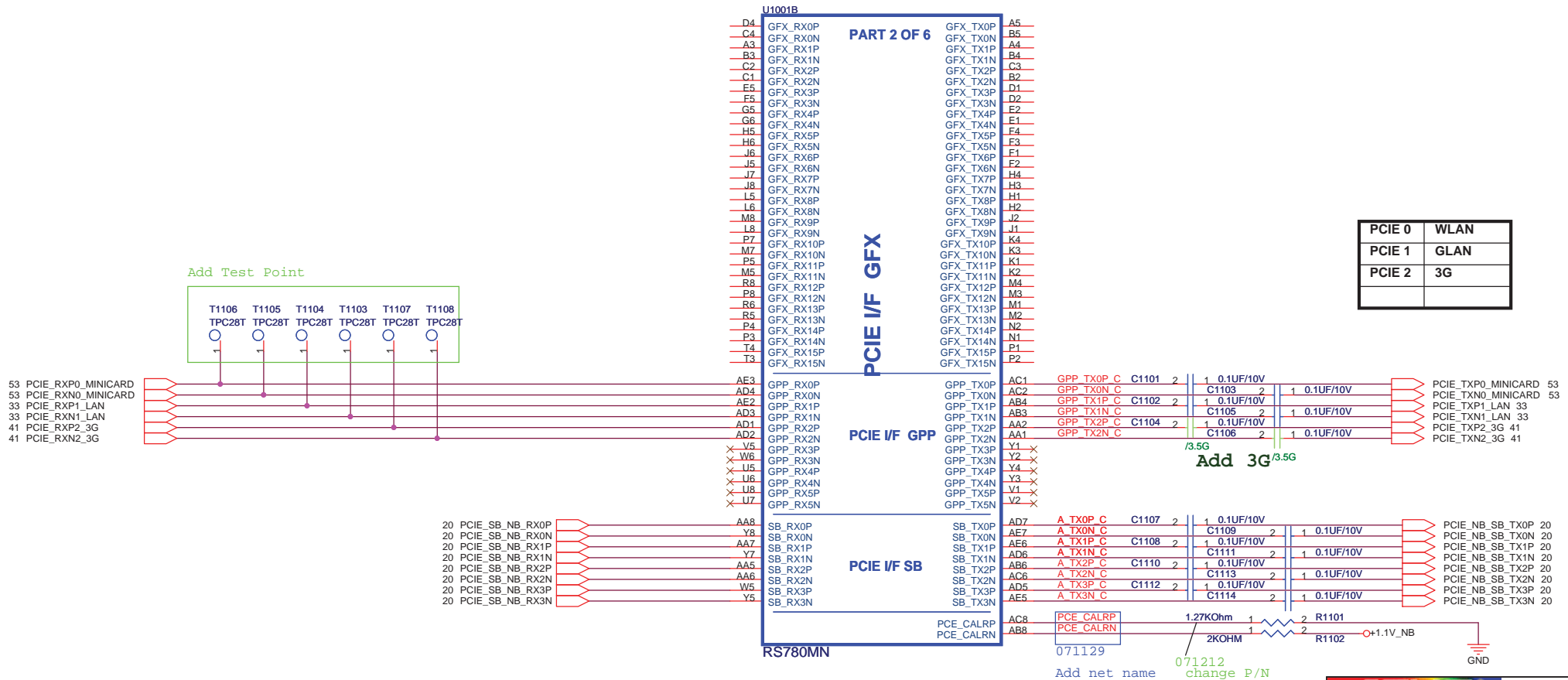
R1.11 080319

Change the NB Part number to RS780 (A13)



R1.11 080319

Change the NB Part number to RS780 (A13)



ASUS Title : RS780M-PCIE LINK I/F

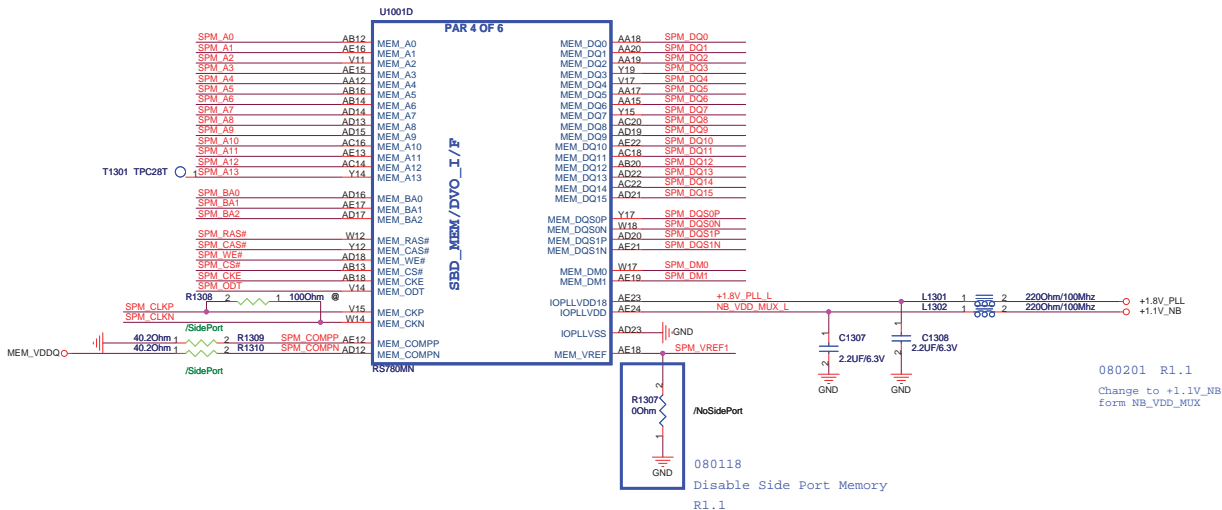
ASUSTeK Computer, INC. Engineer: N/A

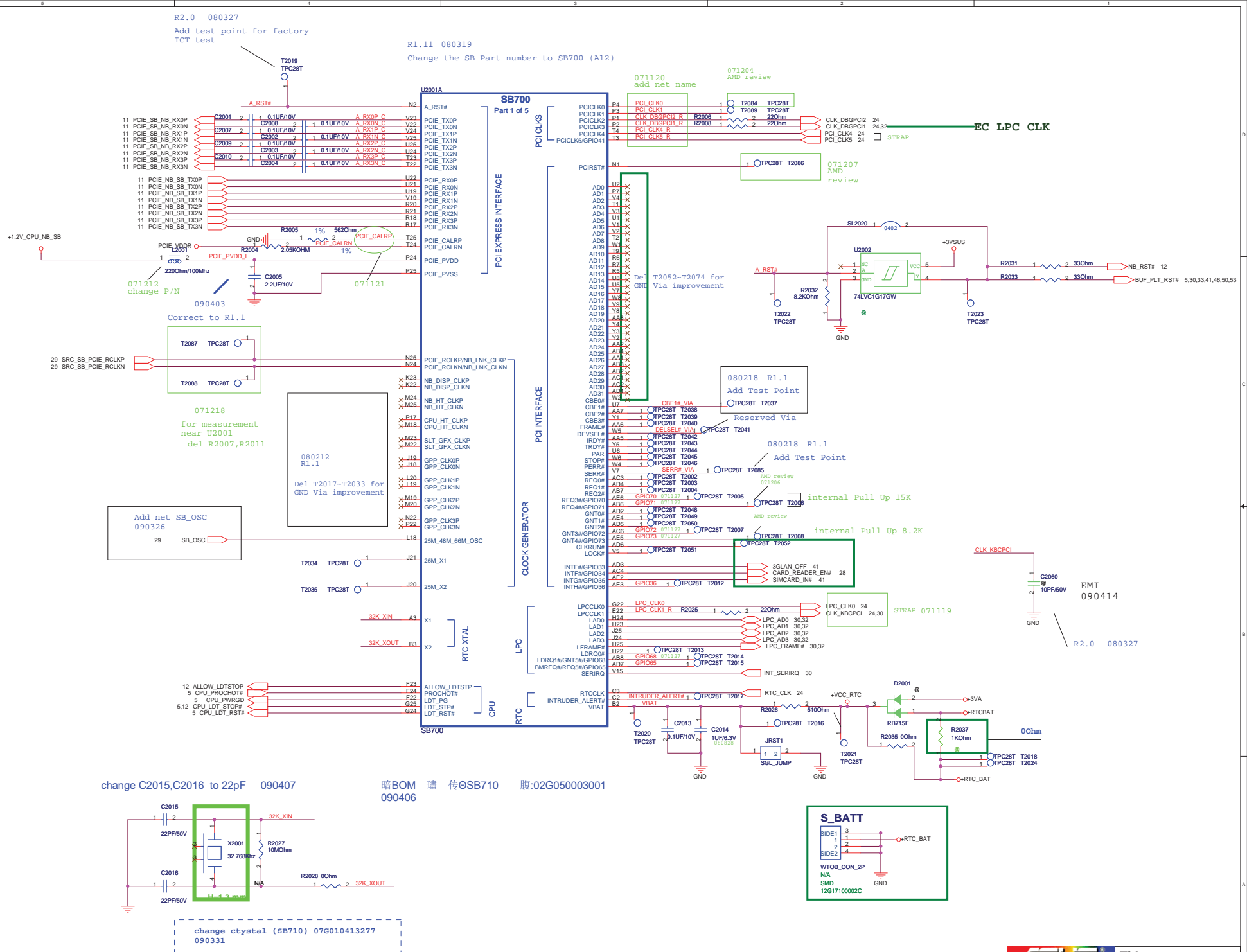
Size	Project Name	Rev
Custom	1201T	2.0

Date: Wednesday, October 14, 2009 Sheet 11 of 79

R1.11 080319

Change the NB Part number to RS780 (A13)

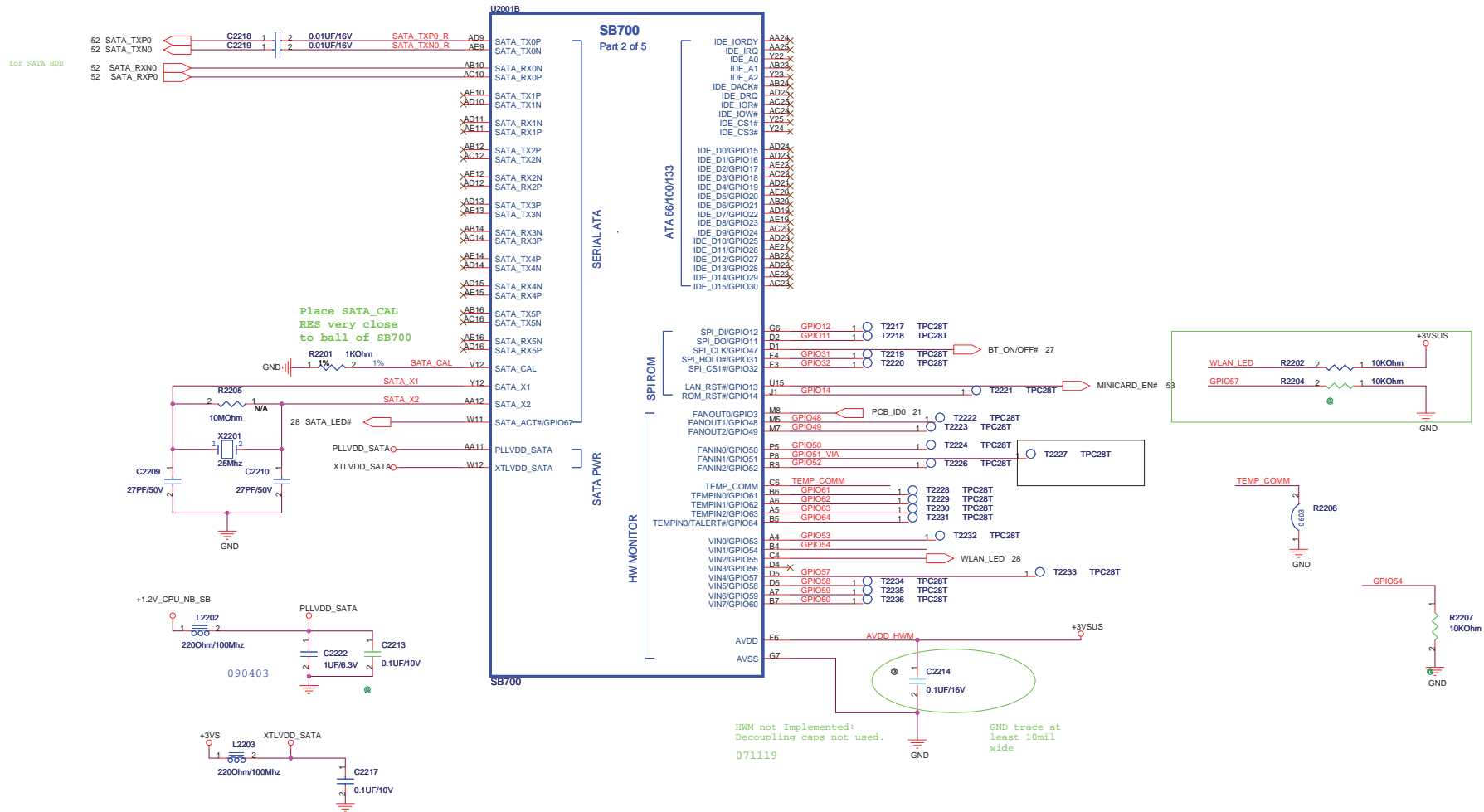




112001D



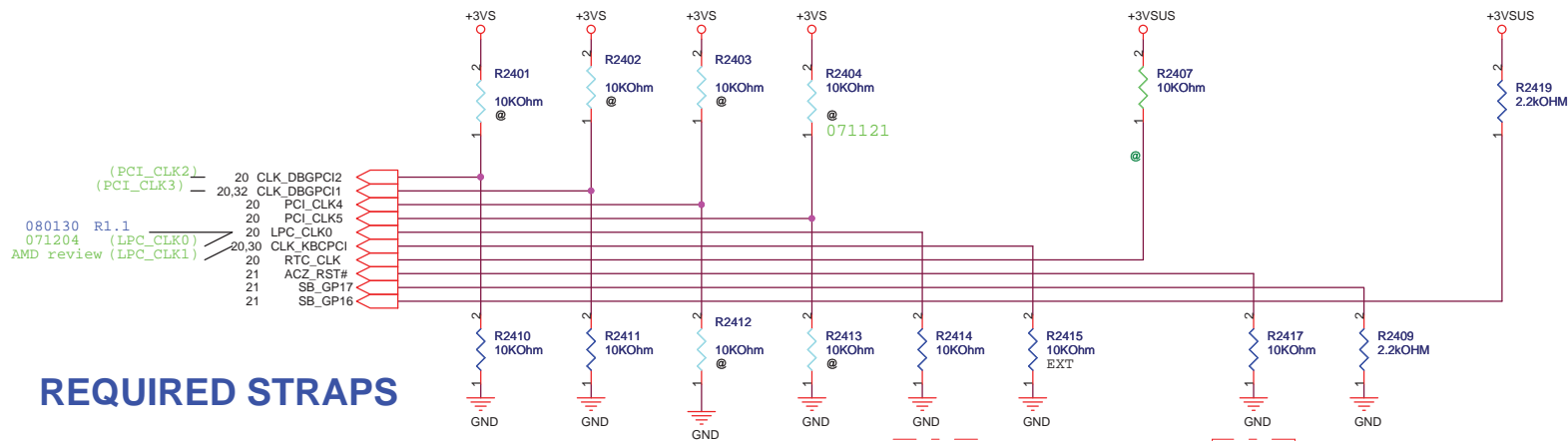
Change the SB Part number to SB710 (A14)



Remove R2405, R2406, R2416
R2408, R2418, R2420, R2418

090405

NOTE: SB700 HAS INTERNAL 15K PULL UP RESISTOR FOR RTC_CLK



REQUIRED STRAPS

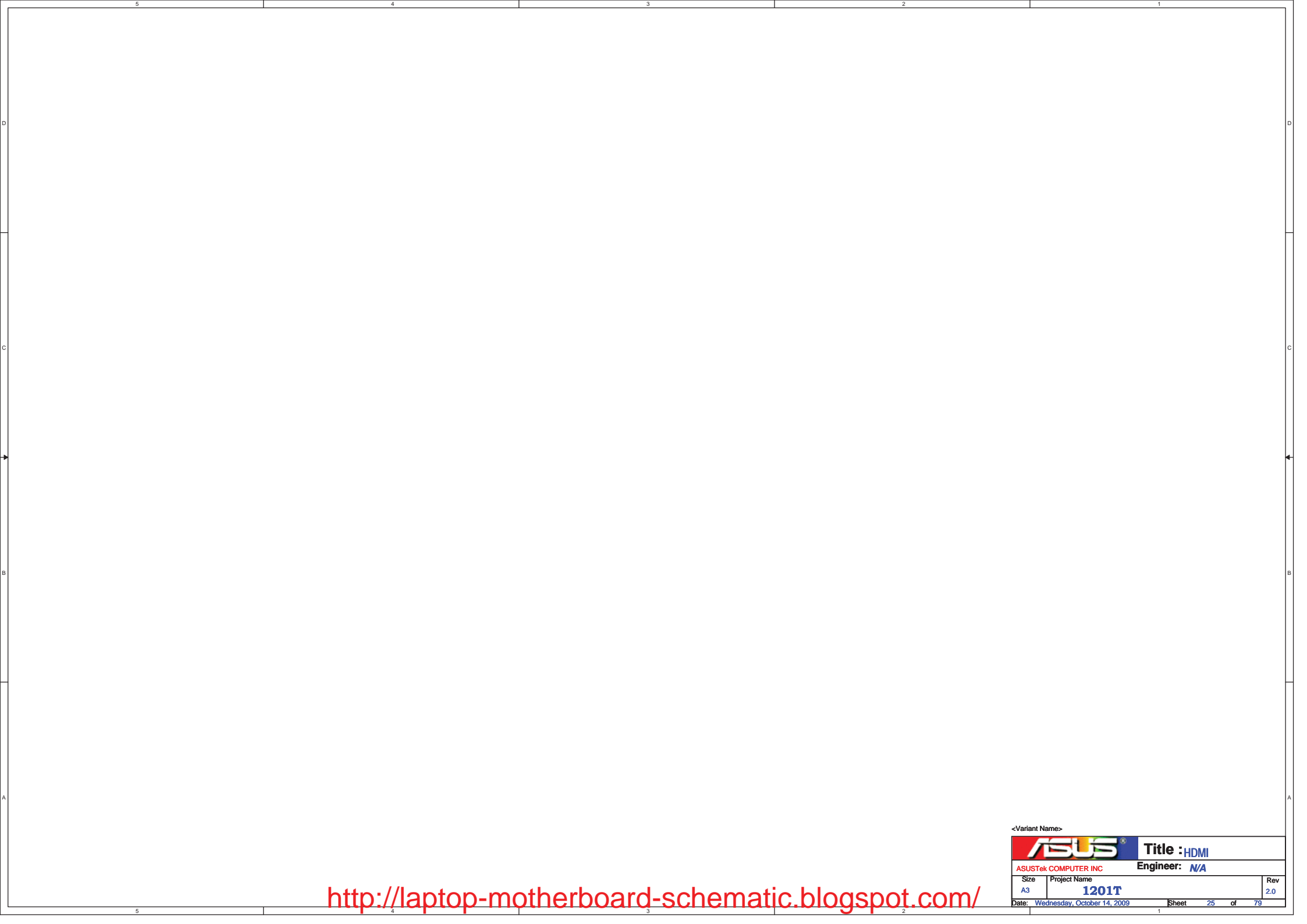
	PCI_CLK2	PCI_CLK3	PCI_CLK4	PCI_CLK5	LPC_CLK0	LPC_CLK1	RTC_CLK	ACZ_RST#	GP17	GP16
PULL HIGH	BOOTFAIL TIMER ENABLED	USE DEBUG STRAPS	RESERVED	RESERVED	EC ENABLED	CLKGEN ENABLED	INTERNAL RTC DEFAULT	ENABLE PCI MEM BOOT	H,H = Reserved H,L = SPI ROM	
PULL LOW	BOOTFAIL TIMER DISABLED DEFAULT	IGNORE DEBUG STRAPS DEFAULT			EC DISABLED DEFAULT	CLKGEN DISABLED DEFAULT	EXT. RTC (PD on X1, apply 32KHz to RTC_CLK)	DISABLE PCI MEM BOOT DEFAULT	L,H = LPC ROM (Default) L,L = FWH ROM	

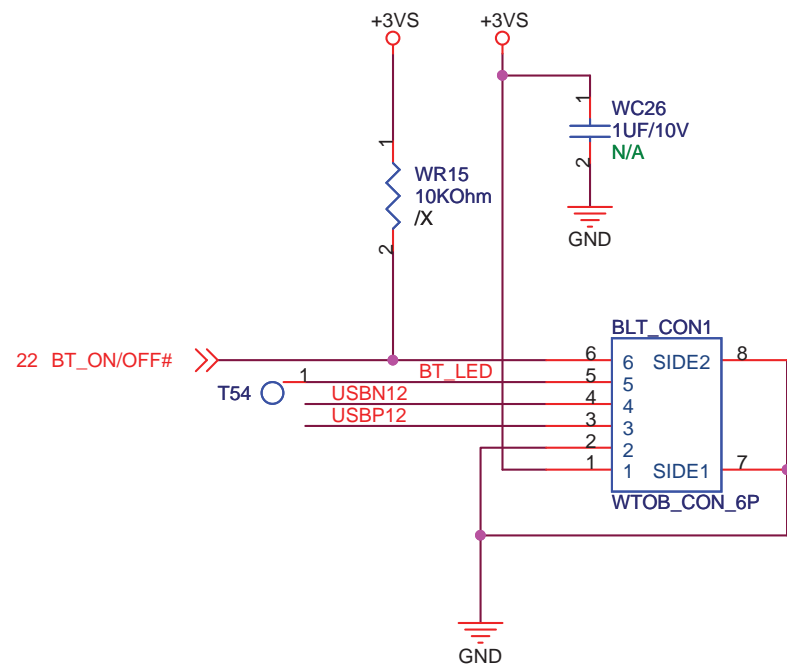
For SB700 A12 and later version

080204 R1.1

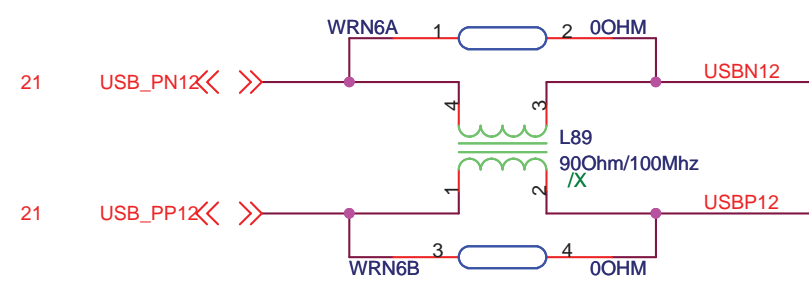
Change the Text Comment

ASUS		Title : SB700_STRAP	
ASUSTeK Computer, INC		Engineer: N/A	
Size	Project Name		Rev
Custom	1201T		2.0
Date: Wednesday, October 14, 2009		Sheet	24 of 79





BT Conn

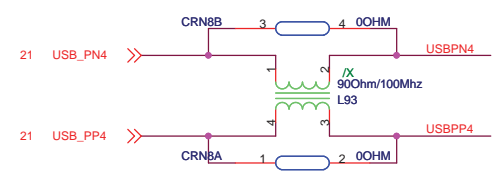
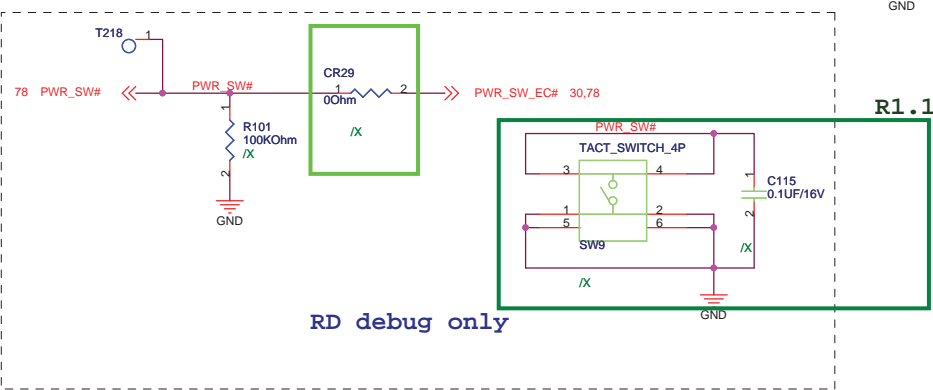
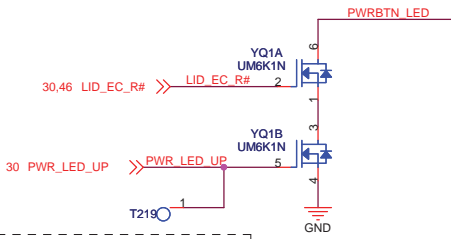
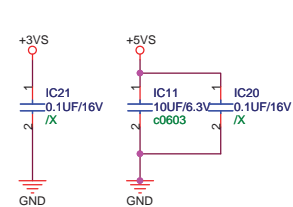
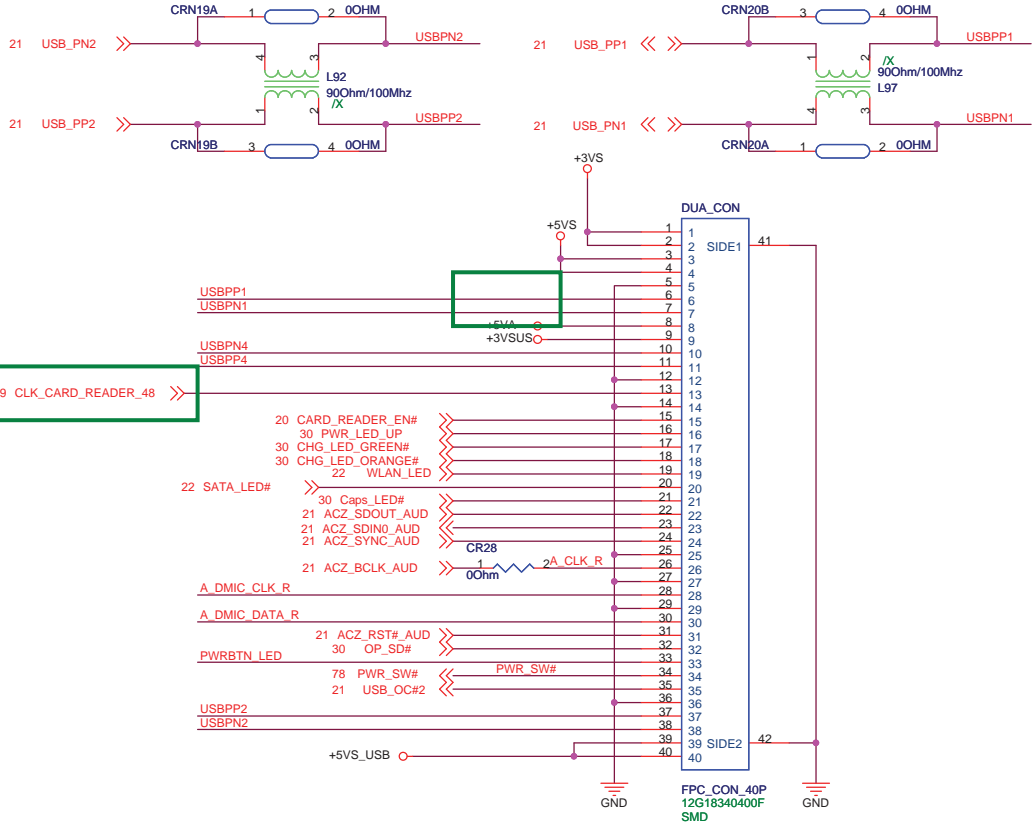
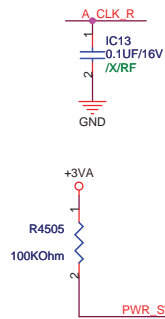


<Variant Name>

ASUS		Title : Bluetooth	
ASUSTek Computer INC.		Engineer: N/A	
Size A	Project Name 1201T		Rev 2.0
Date: Wednesday, October 14, 2015	Sheet	27 of 79	

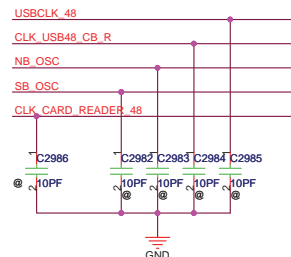
35 A_DMIC_CLK_R << A_DMIC_CLK_R

35 A_DMIC_DATA_R << A_DMIC_DATA_R

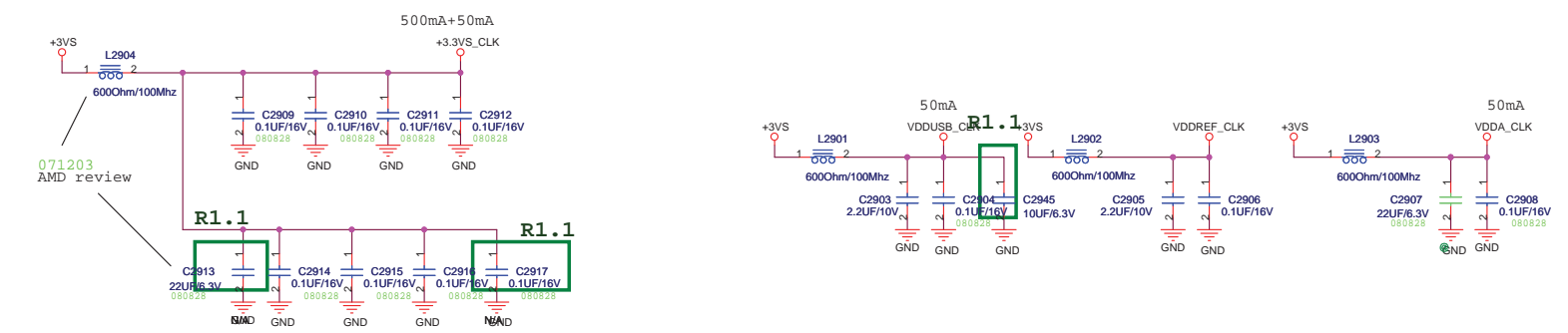
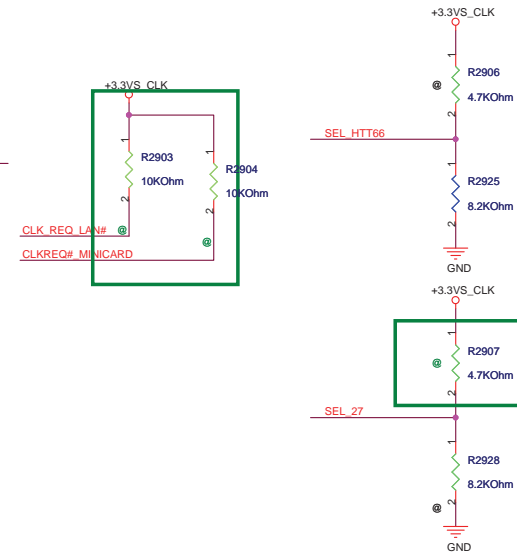
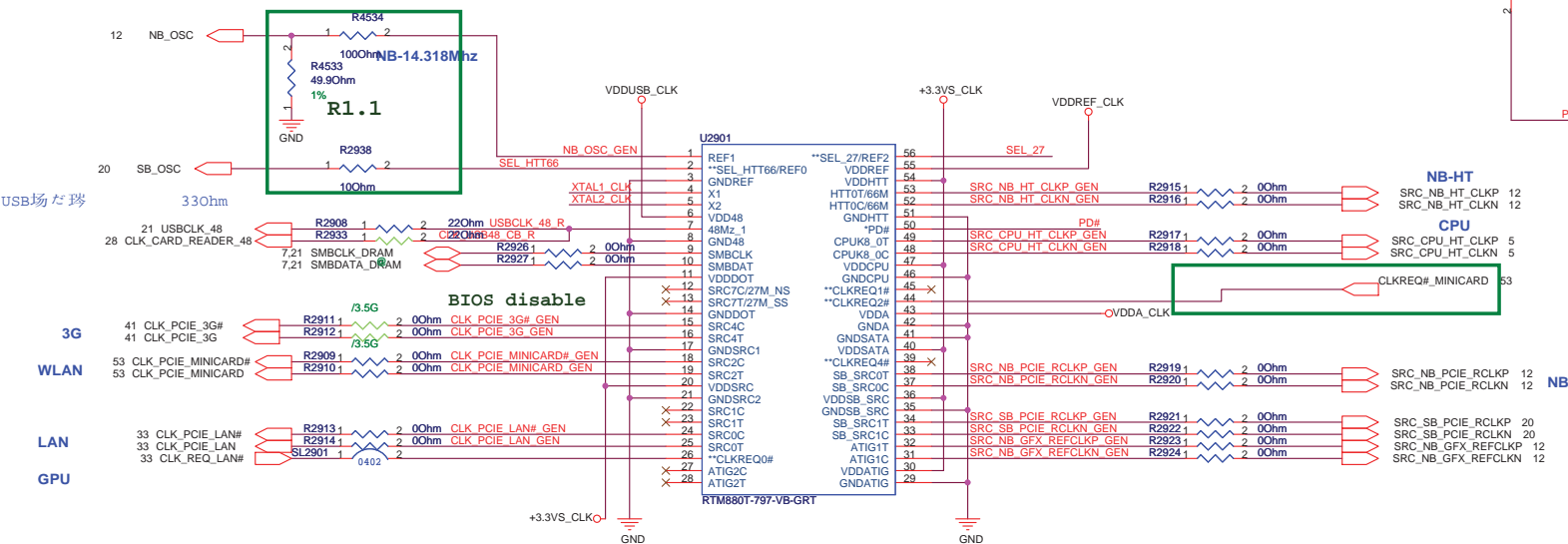


071203
AMD review

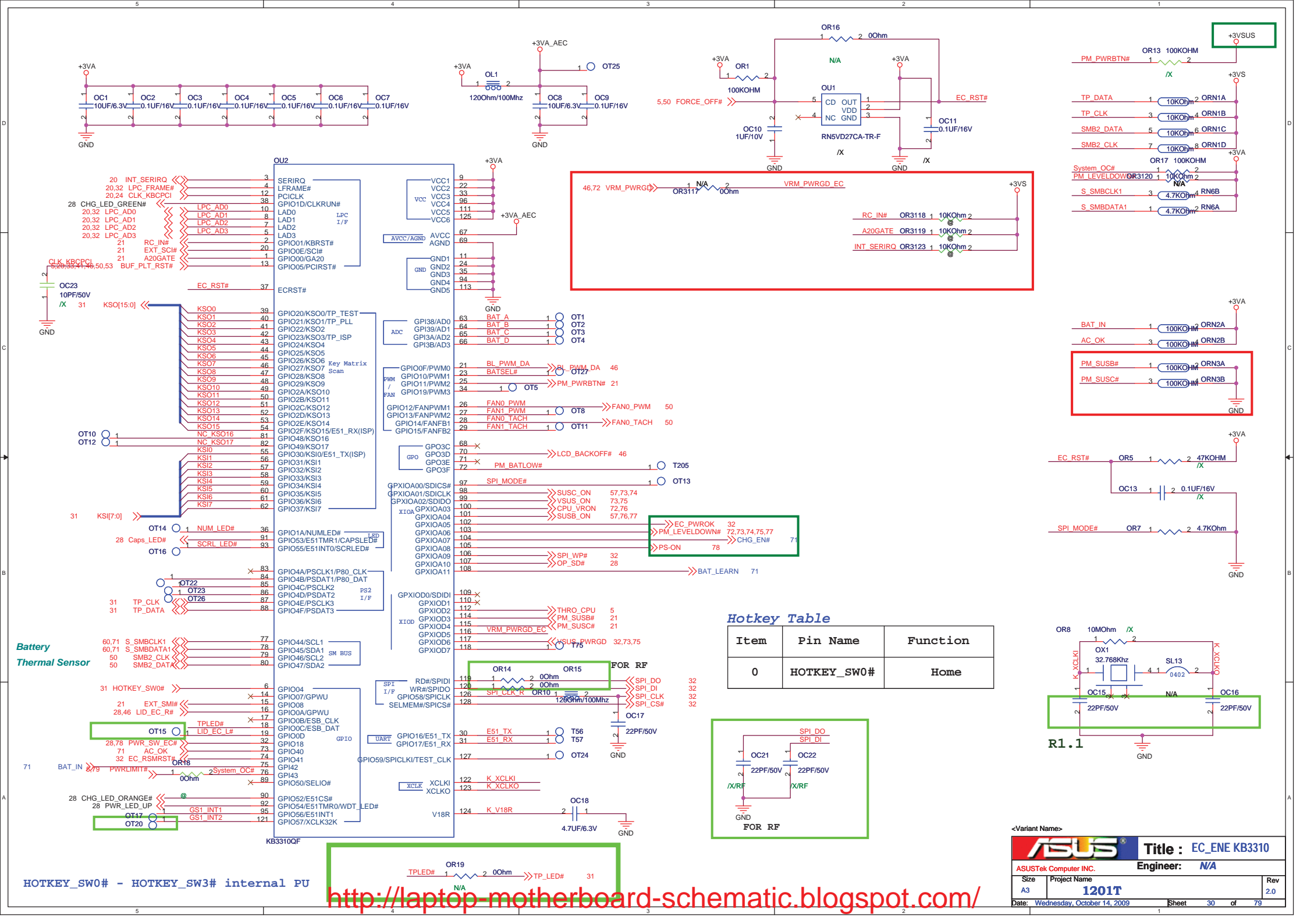
Change to chip One



071203
AMD review



SEL_27	0	100 MHz differential spreading SRC clock
	1	27MHz non-spreading singled clock on pin12 27MHz spread clock on pin13.
SEL_HTT66	0	100 MHz differential HTT clock
	1	66MHz 3.3V single ended HTT clock



Hotkey Table

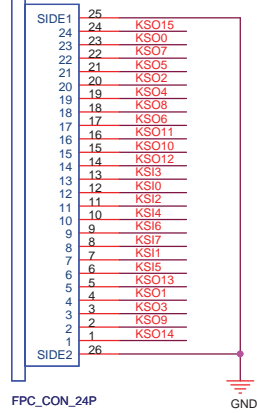
Item	Pin Name	Function
0	HOTKEY_SW0#	Home

<Variant Name>

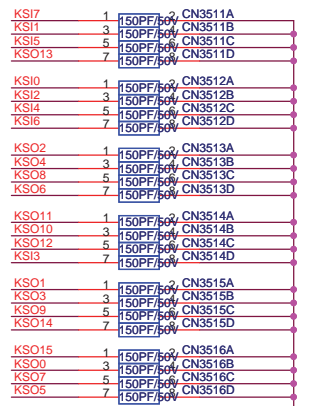
ASUS		Title : EC_ENE KB3310	
ASUSTek Computer INC.		Engineer: N/A	
Size A3	Project Name 1201T	Rev 2.0	
Date: Wednesday, October 14, 2009		Sheet 30	of 79

1201HA need check pin define

CON2 12G182102402



KSQ[15:0] 30
KSQ[7:0] 30

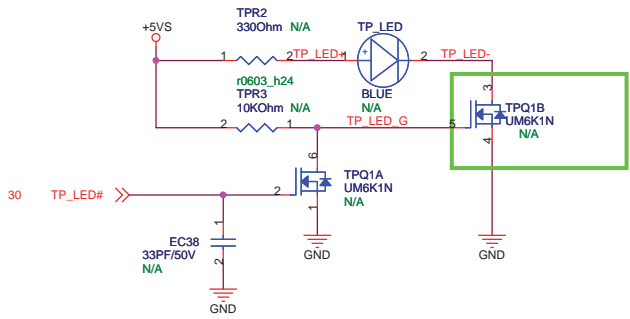
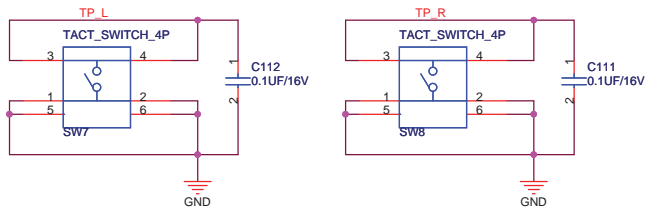


FOR RF and EMI

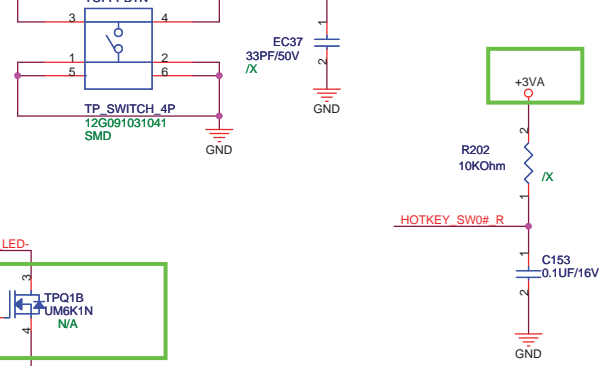
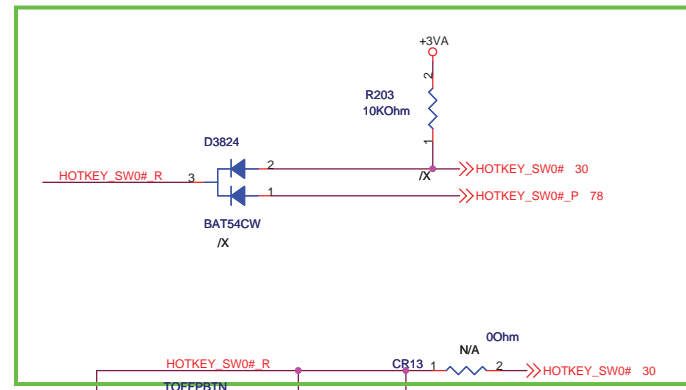
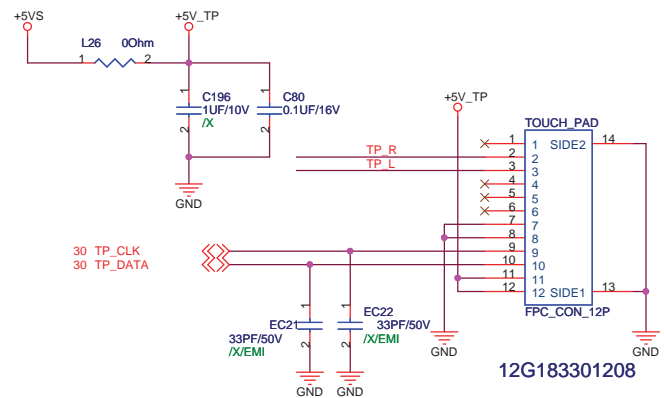
R1.1 change to 150pf

For Keyboard Connector

8/3 Del Keyboard ESD Protect



For Touch-Pad

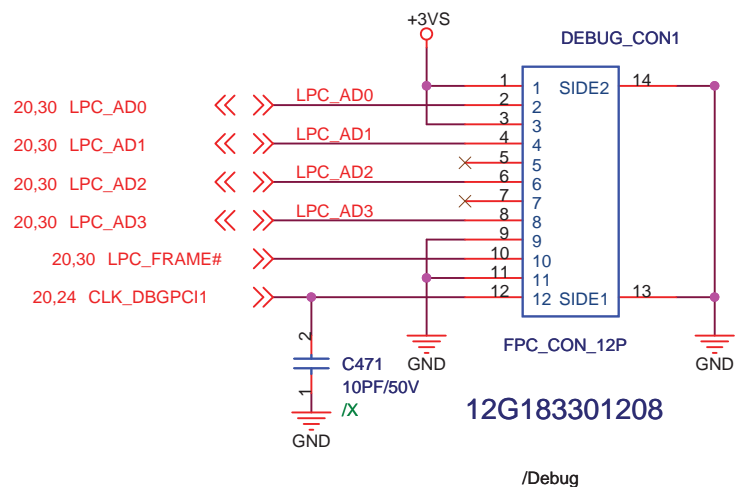


<Variant Name>

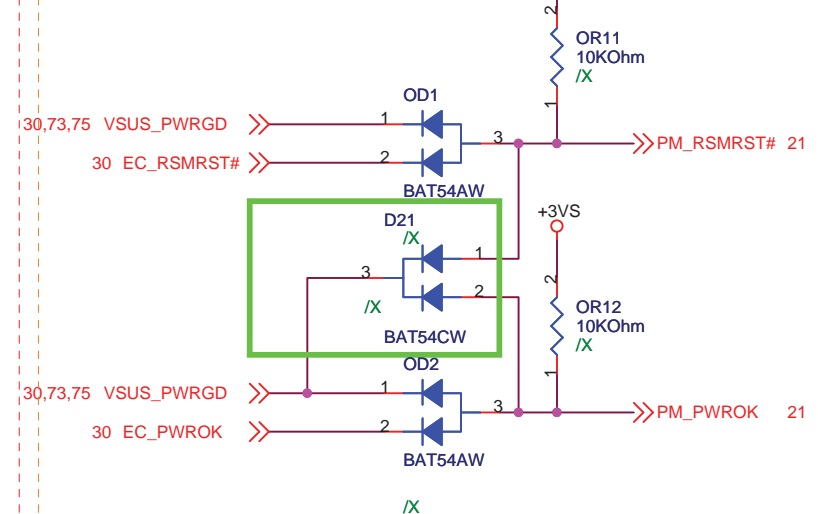
ASUS		Title : KB_Touch Pad	
ASUSTek Computer INC.		Engineer: N/A	
Size	Project Name	Rev	
A3	1201T	2.0	
Date: Wednesday, October 14, 2009		Sheet	31 of 79

<http://laptop-motherboard-schematic.blogspot.com/>

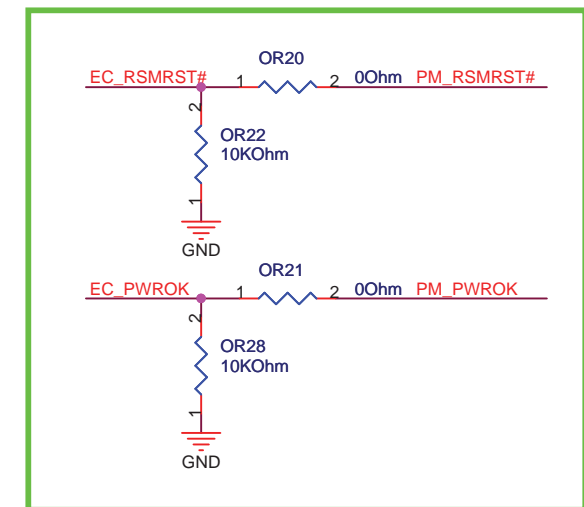
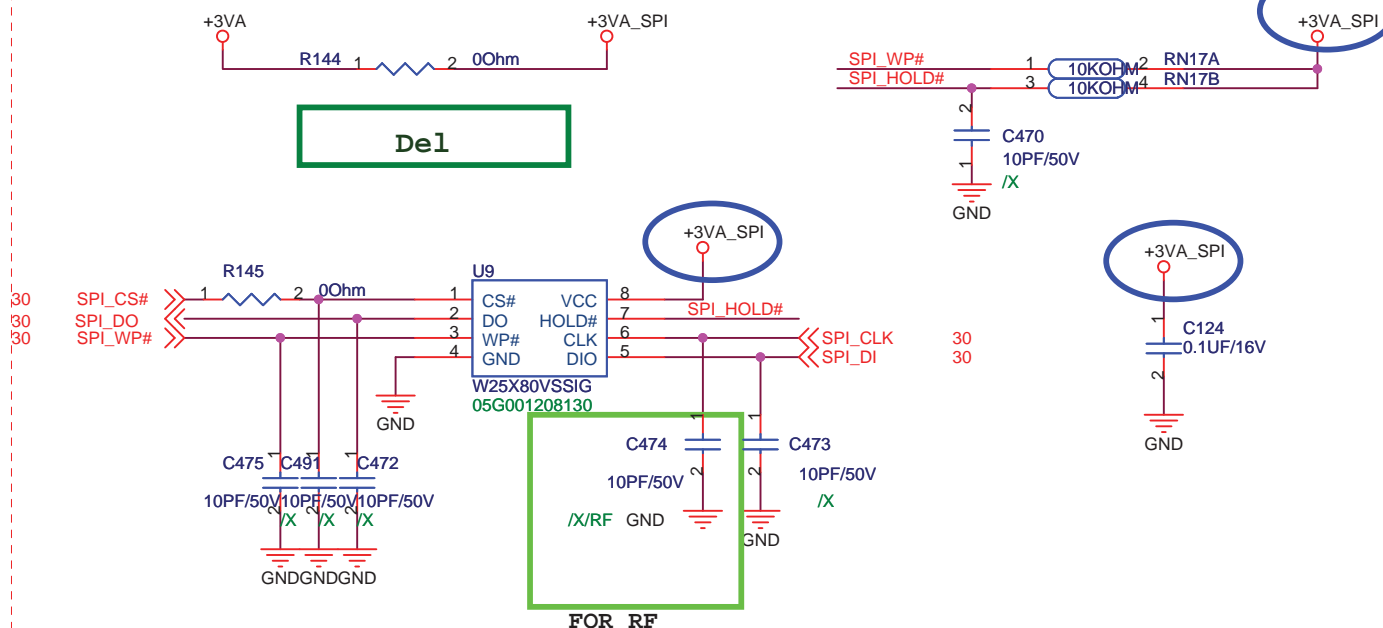
For Debug



Resolve auto-boot issue

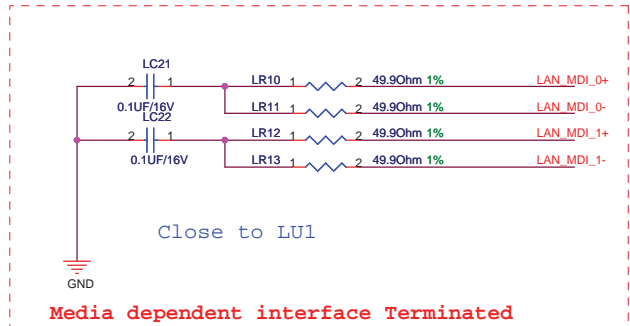
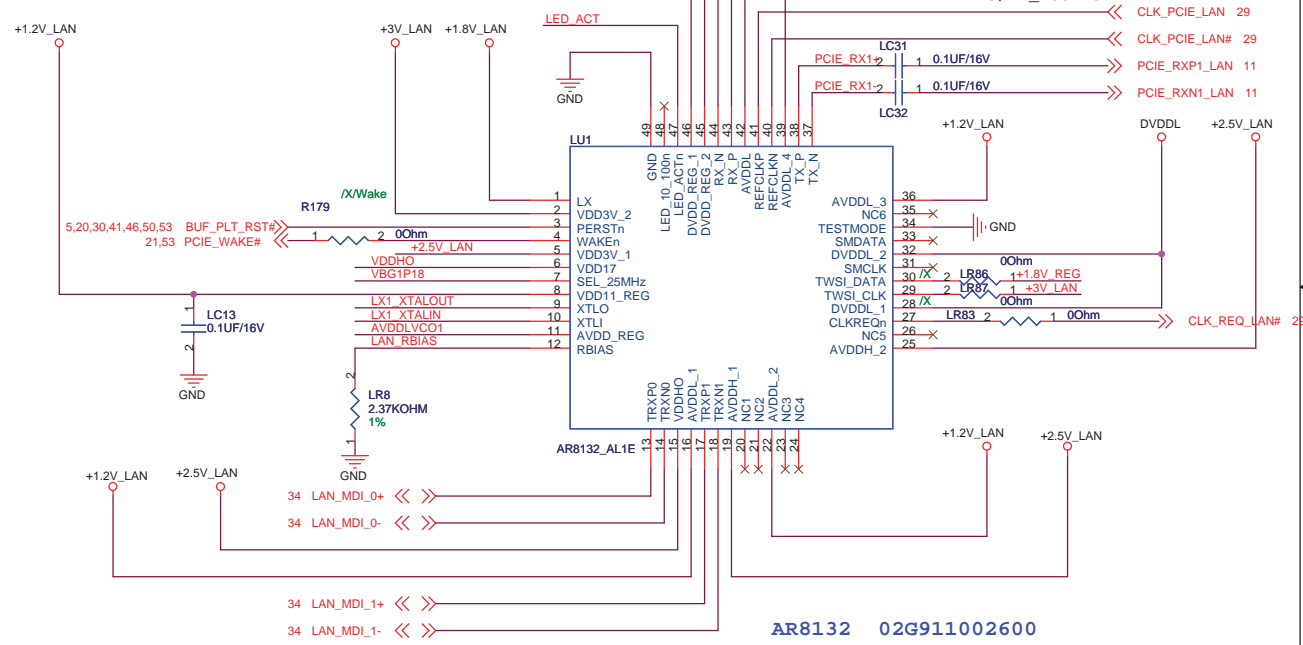
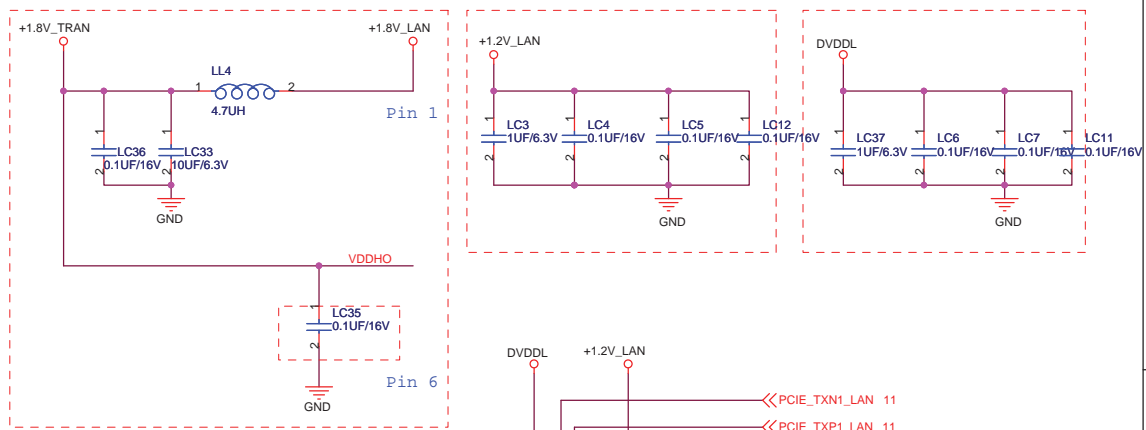
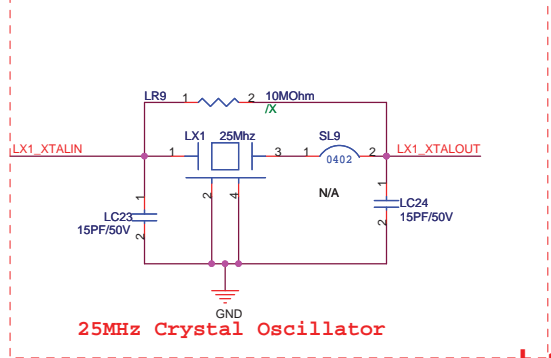
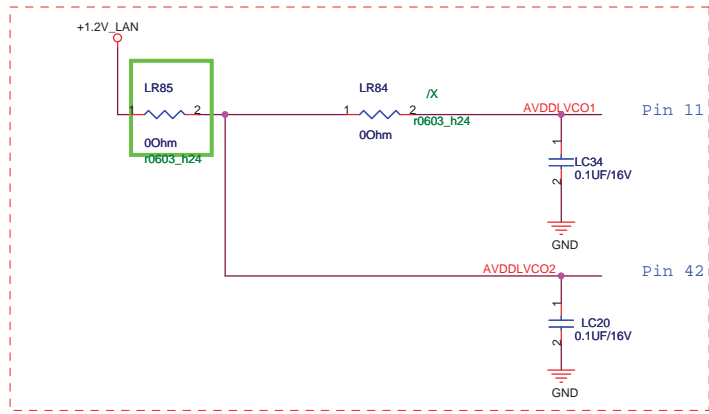
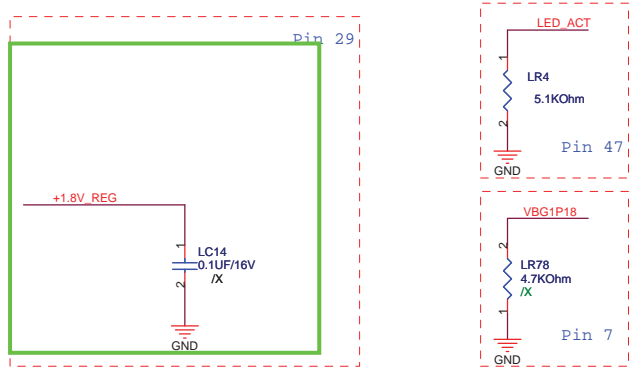
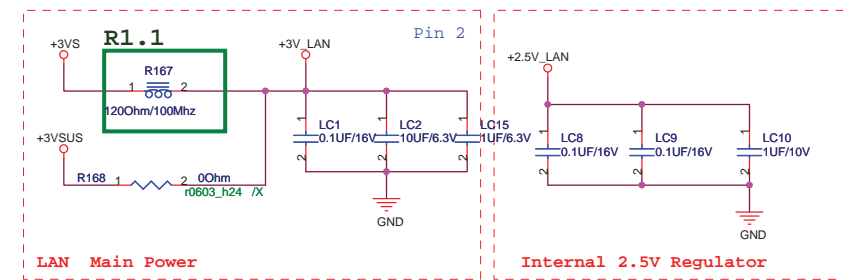


SPI ROM

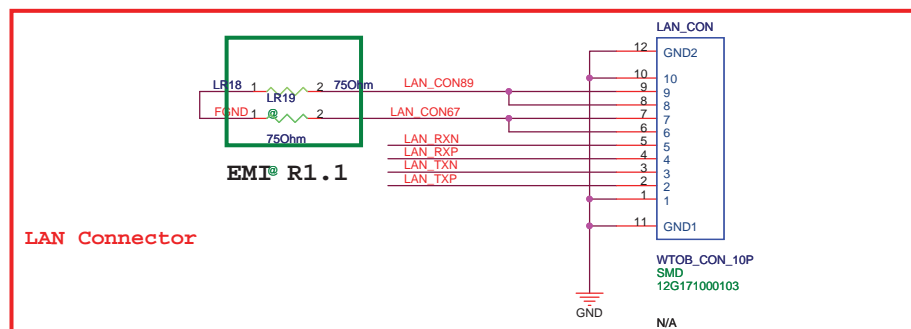
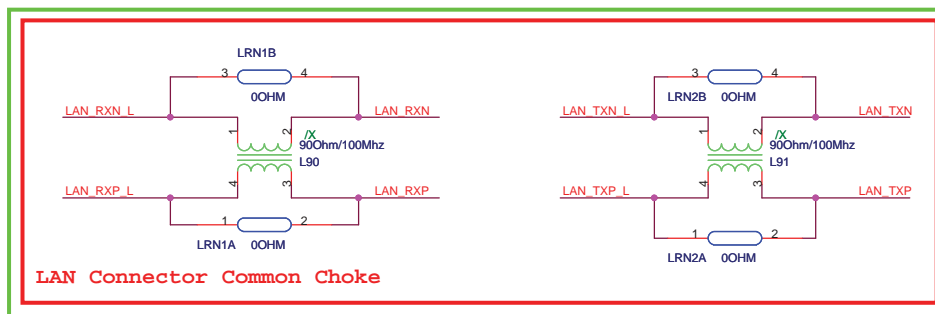
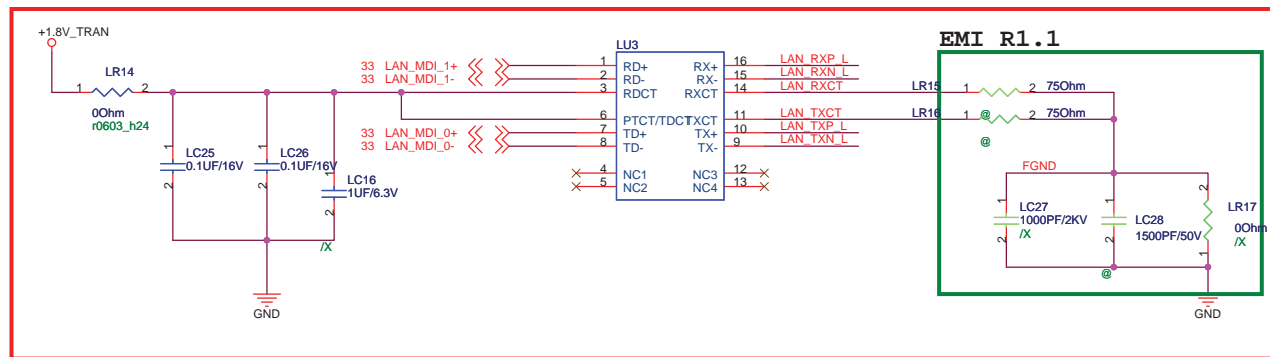


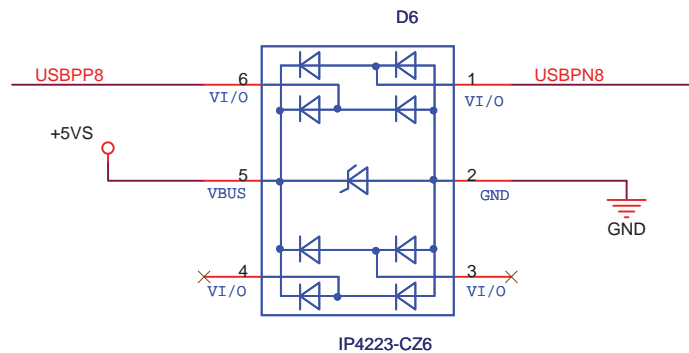
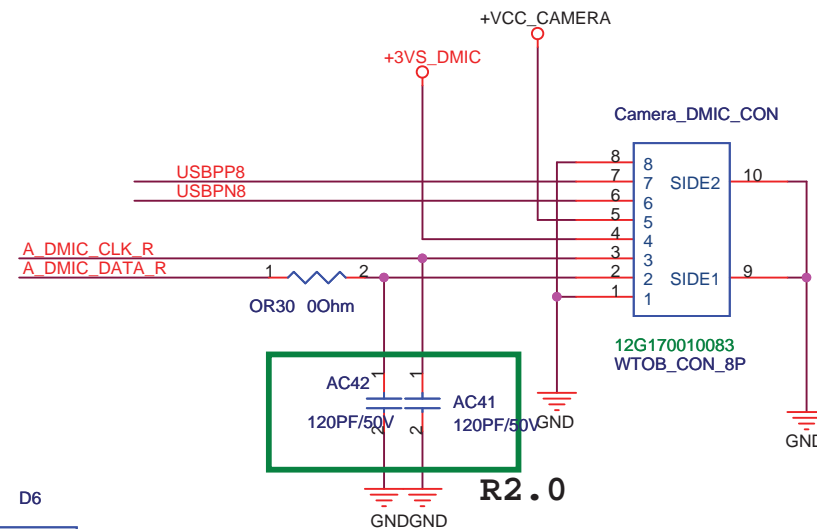
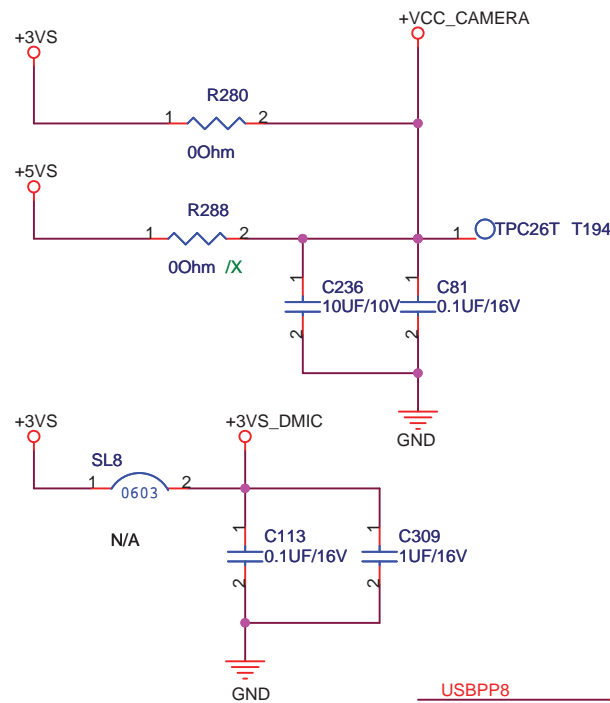
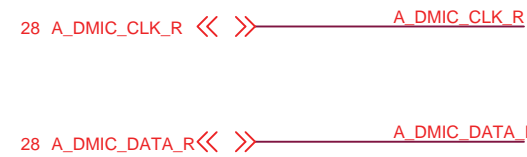
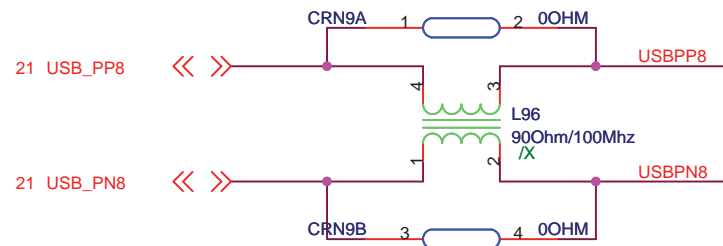
<Variant Name>

ASUS		Title : SPI ROM/ Debug	
ASUSTek Computer INC.		Engineer: N/A	
Size A4	Project Name 1201T		Rev 2.0
Date: Wednesday, October 14, 2009	Sheet 32 of 79		



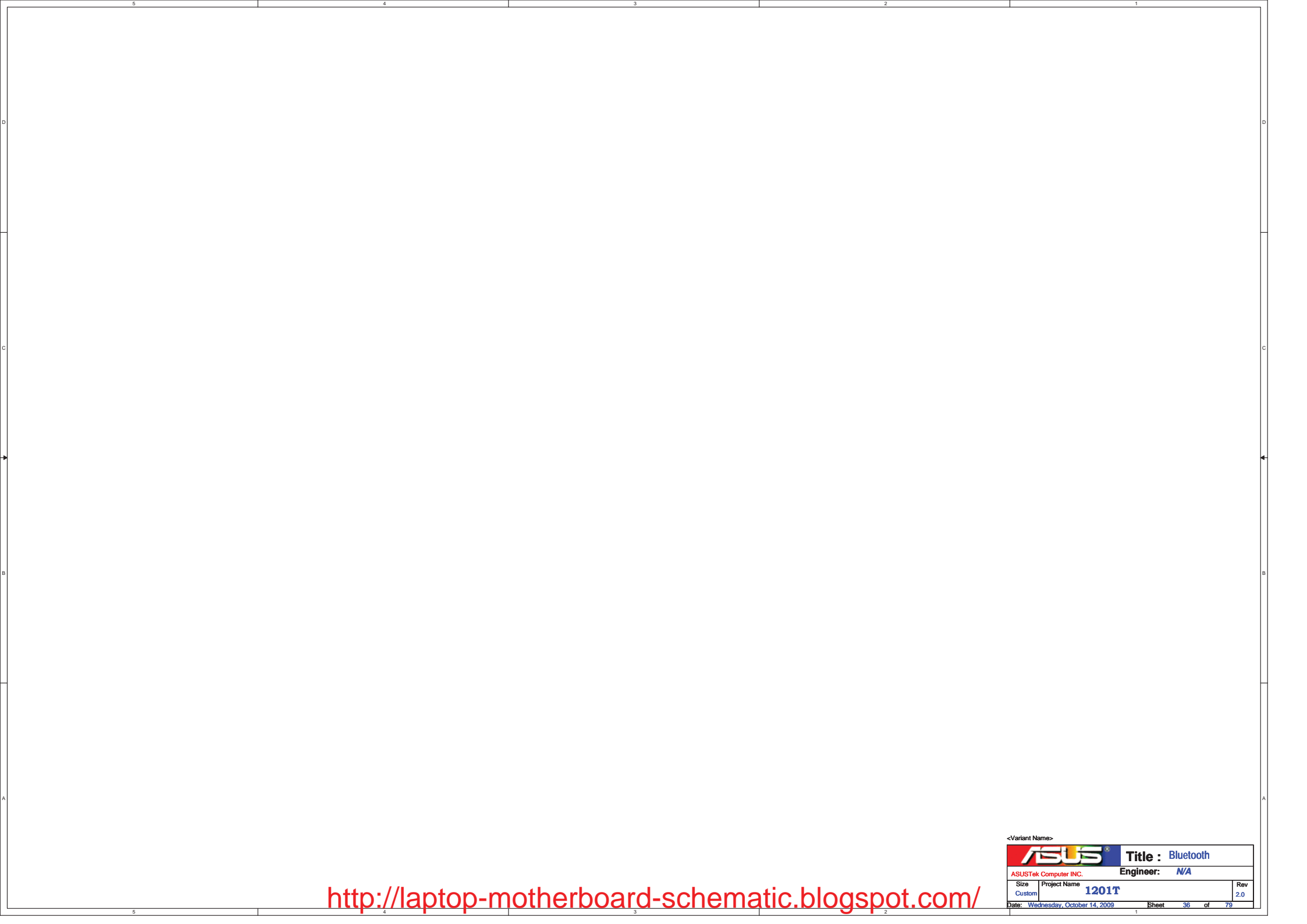
<http://laptop-motherboard-schematic.blogspot.com/>







<Variant Name>

ASUS		Title : CMOS	
ASUSTek Computer INC.		Engineer: N/A	
Size A4	Project Name 1201T	Rev 2.0	
Date: Wednesday, October 14, 2009	Sheet	35	of 79




<Variant Name>		
		Title : Bluetooth
ASUSTek Computer INC.		Engineer: N/A
Size Custom	Project Name 1201T	Rev 2.0
Date: Wednesday, October 14, 2009		
Sheet 36 of 79		

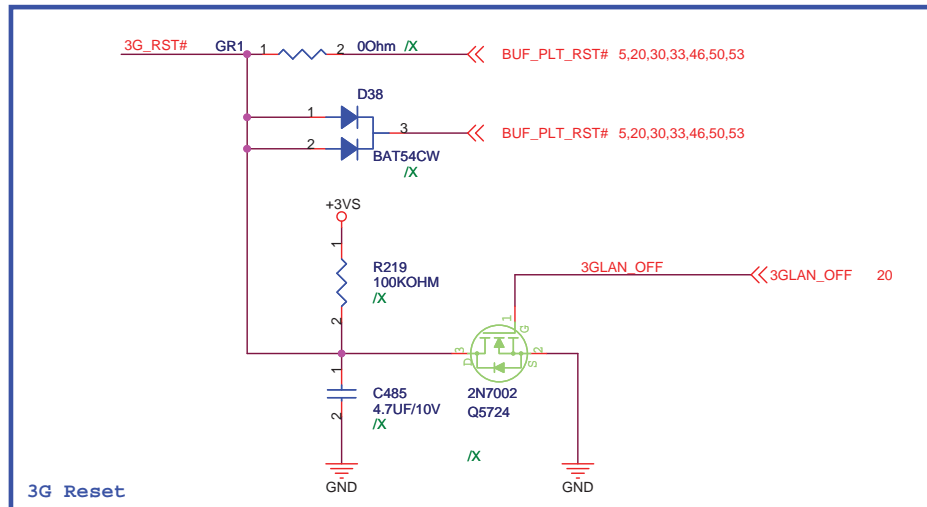
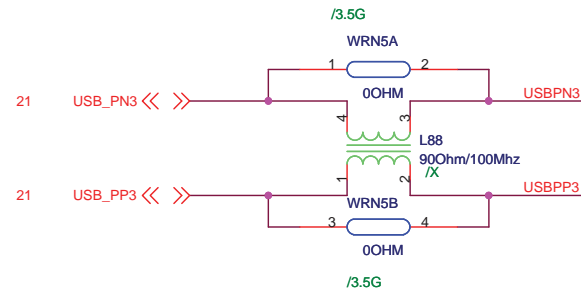
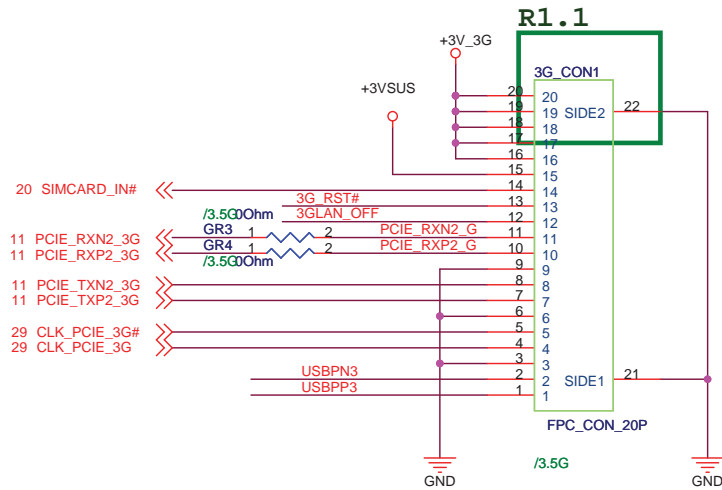
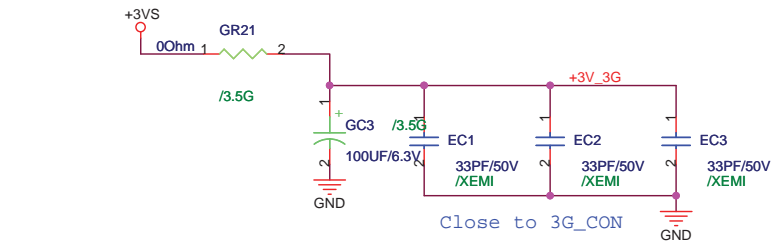
	5	4	3	2	1
D					
C					
B					
A				<div> <div><Variant Name></div> <div>  <div> <div>Title : Bluetooth</div> <div> <div>ASUSTek Computer INC.</div> <div>Engineer: N/A</div> </div> <div> <div> <div>Size Custom</div> <div>Project Name 1201T</div> <div>Rev 2.0</div> </div> <div> <div>Date: Wednesday, October 14, 2009</div> <div>Sheet 37 of 79</div> </div> </div> </div> </div></div>	
	5	4	3	2	1

	5	4	3	2	1
D					
C					
B					
A				<div><Variant Name></div> <div><div><div><div><div><div></div><div>ASUS®</div></div></div><div><div>Title : Bluetooth</div><div>Engineer: N/A</div></div></div><div><div><div>Size</div><div>Custom</div></div><div><div>Project Name</div><div>1201T</div></div><div><div>Rev</div><div>2.0</div></div></div><div><div>Date: Wednesday, October 14, 2009</div><div>Sheet 38 of 79</div></div></div></div>	
	5	4	3	2	1

	5	4	3	2	1
D					
C					
B					
A					
	5	4	3	2	1

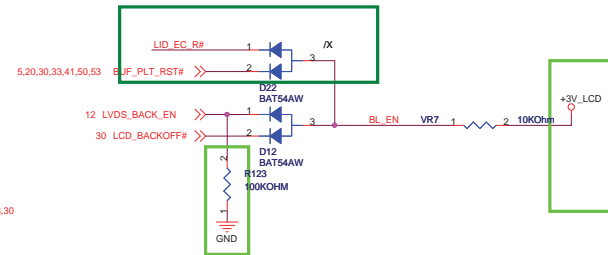
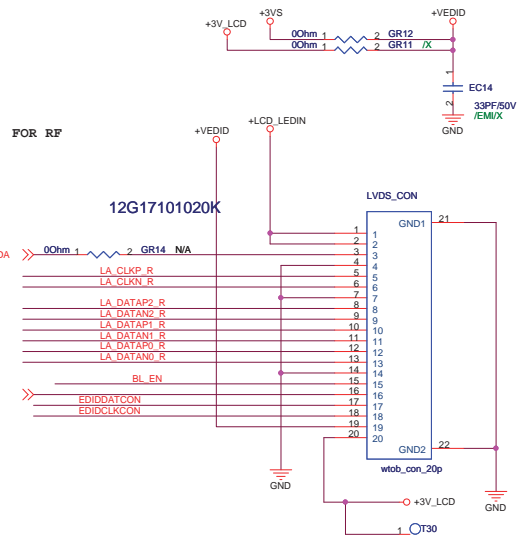
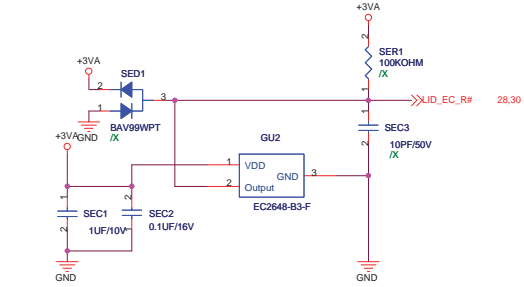
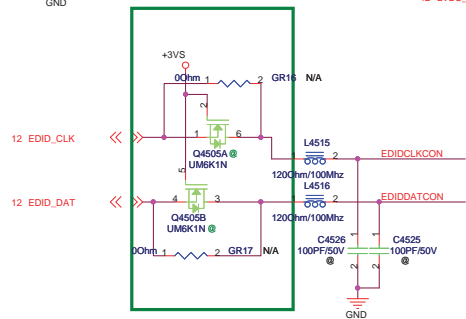
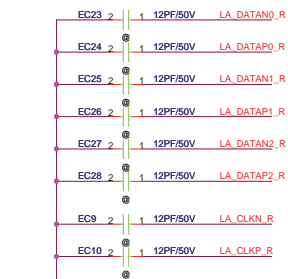
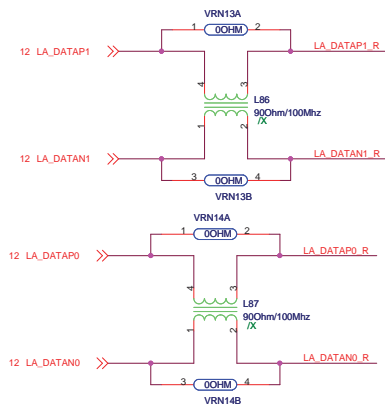
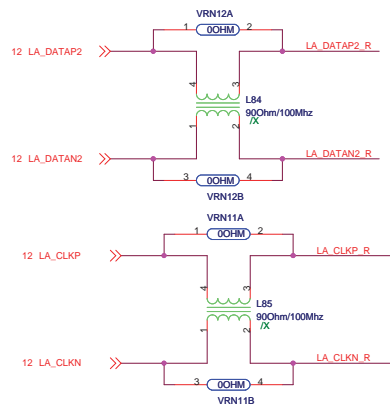
<Variant Name>

		Title : CB_AU-6371_JEL	
ASUSTeK COMPUTER INC		Engineer: N/A	
Size Custom	Project Name 1201T		Rev 2.0

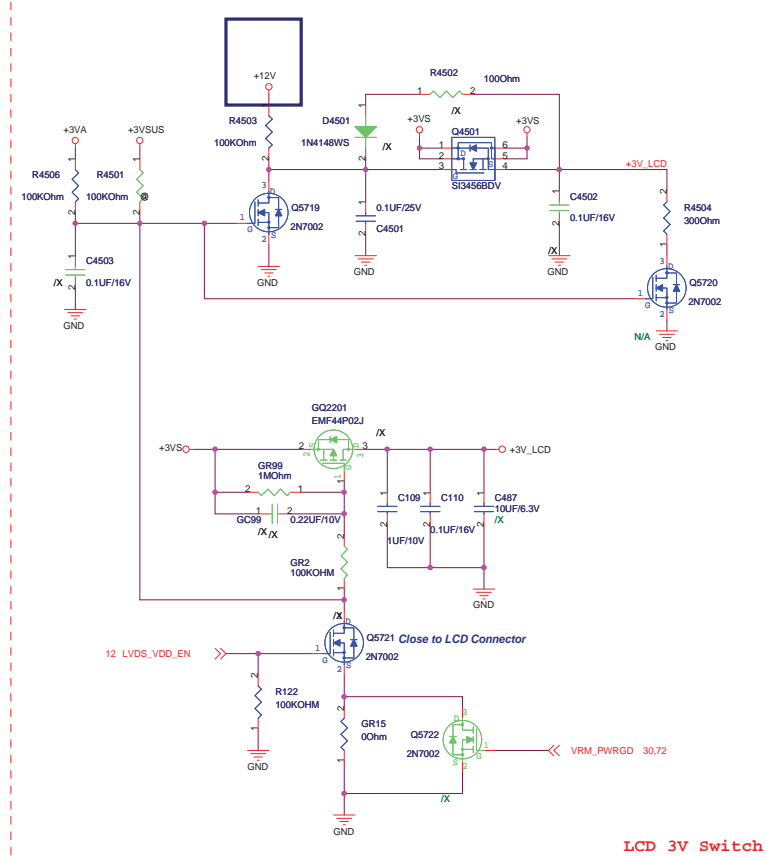


<Variant Name> 3.5G Module & External Antenna

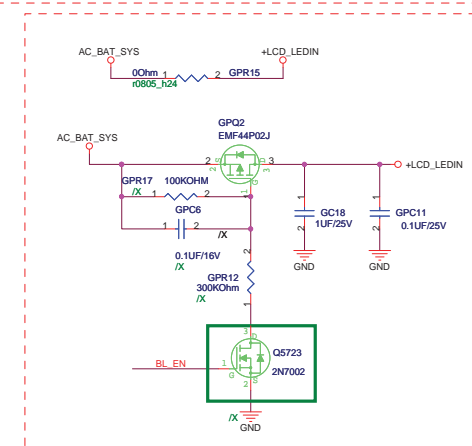
ASUS		Title :	
ASUSTek Computer INC.		Engineer: N/A	
Size	Project Name	Rev	
Custom	1201T	2.0	
Date: Wed Aug 14 2019 11:20:09	Sheet	41	of 79



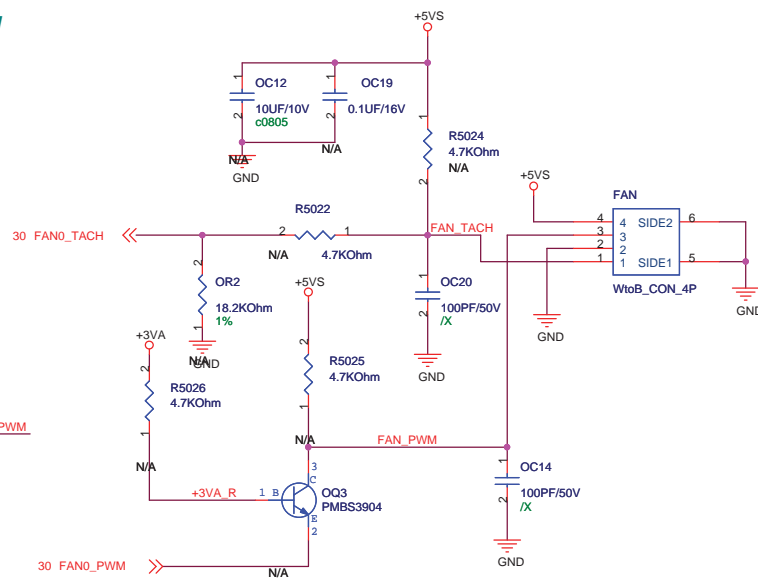
Backlight Enable Discharge



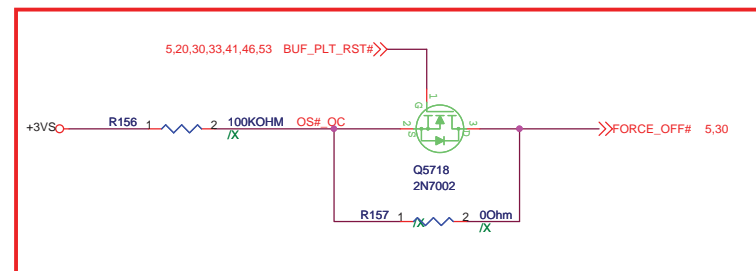
LCD 3V Switch



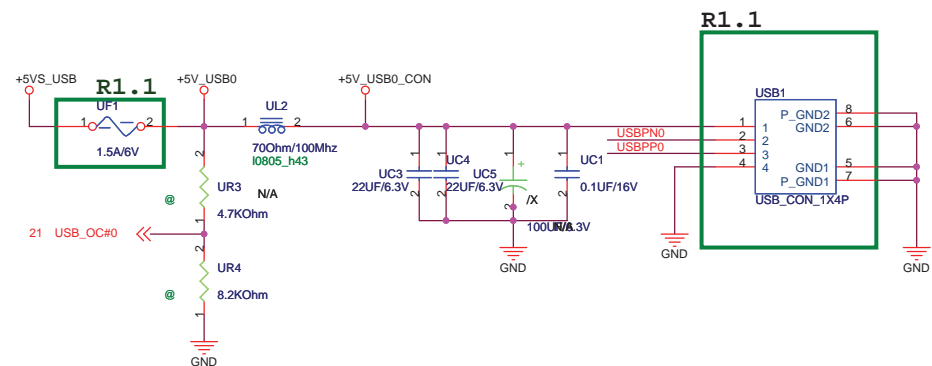
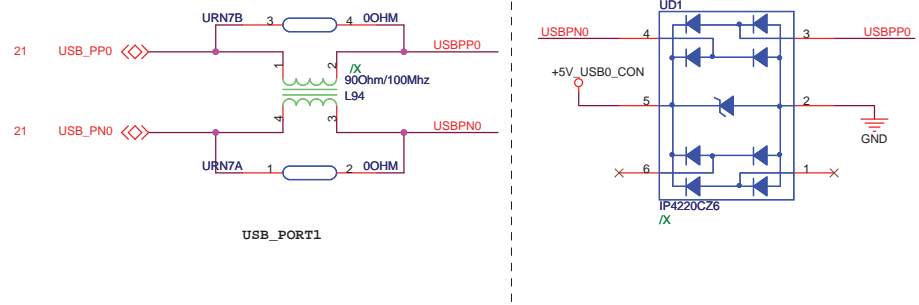
<Variant Name>		Title : LVDS Conn	
ASUS		Engineer: N/A	
Size	Project Name	Rev 2.0	
ASUSTek Computer INC.	ASUS	12017	
Size	Project Name	Rev 2.0	
ASUSTek Computer INC.	ASUS	12017	
Size	Project Name	Rev 2.0	
ASUSTek Computer INC.	ASUS	12017	



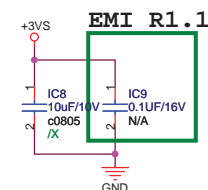
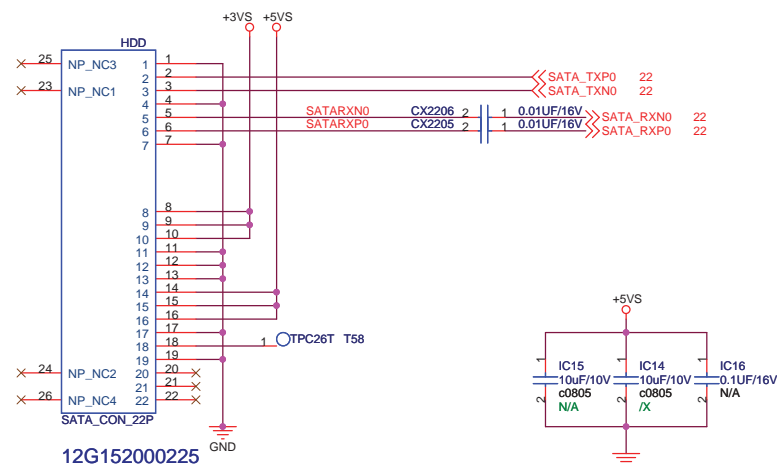
The schematic diagram illustrates the CPU section of a board. A blue box represents the **G781 CPU** (G786P11U) with a maximum current of **1mA** and part number **PN: 06G023107010**. It is connected to a **U5002** SMBus controller. The CPU pins are labeled: 8 (SMBCLK), 7 (VCC), 6 (SMBDATA), 5 (GND), 1 (VCC), 2 (DXP), 3 (ALERT#), 4 (THERM#), and 5 (GND). The U5002 pins are labeled: 1 (VCC), 2 (DXP), 3 (ALERT#), 4 (THERM#), and 5 (GND). The CPU is connected to a **+3VS_THM** supply and a **+3VS** supply. A **00hm** resistor is connected between the two supplies. The CPU is also connected to a **THRM_AL#** signal (pin 1 of T5002) and a **071113** signal. The CPU is connected to a **C5007** capacitor (100PF/50V) and a **C5005** capacitor (100PF/50V). The CPU is connected to a **C5010** capacitor (0.1UF/10V). The CPU is connected to a **GND** plane. The CPU is connected to a **OS# OC** signal. The CPU is connected to a **CPU_THRM_DA** signal (pin 5) and a **CPU_THRM_DC** signal (pin 5).



Add R5014 for thermal sensor read
wrong temp issue. 090406



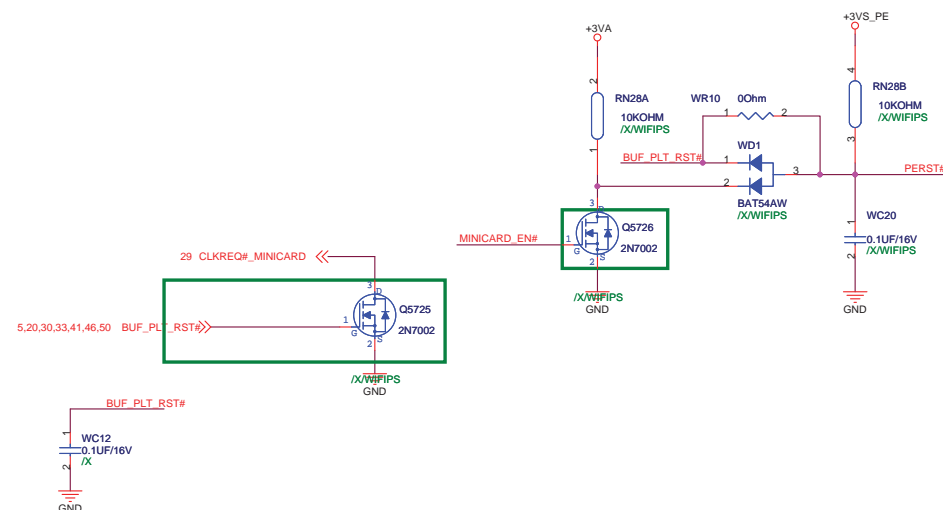
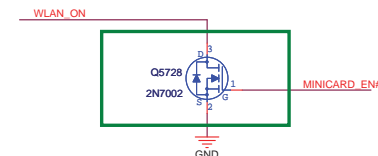
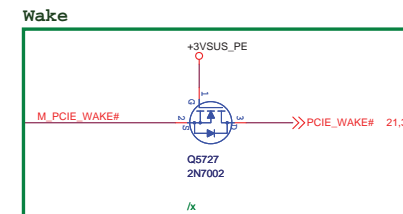
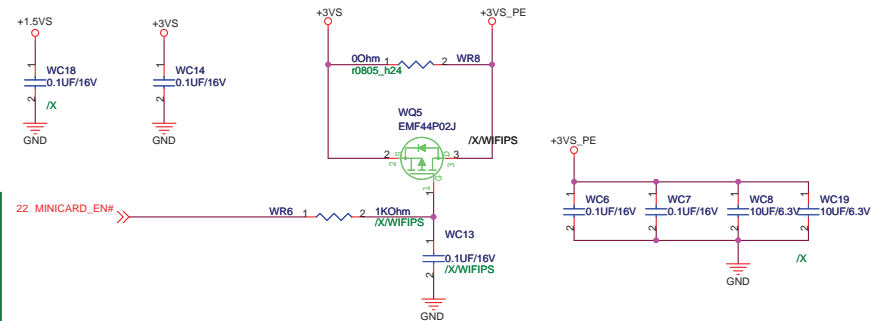
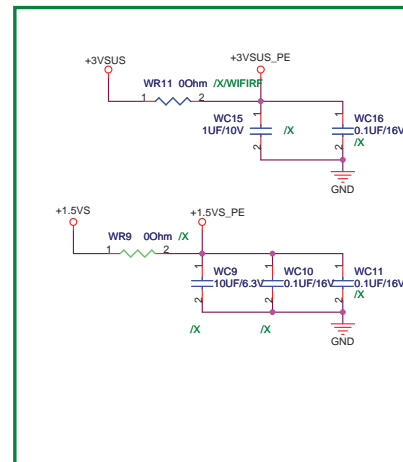
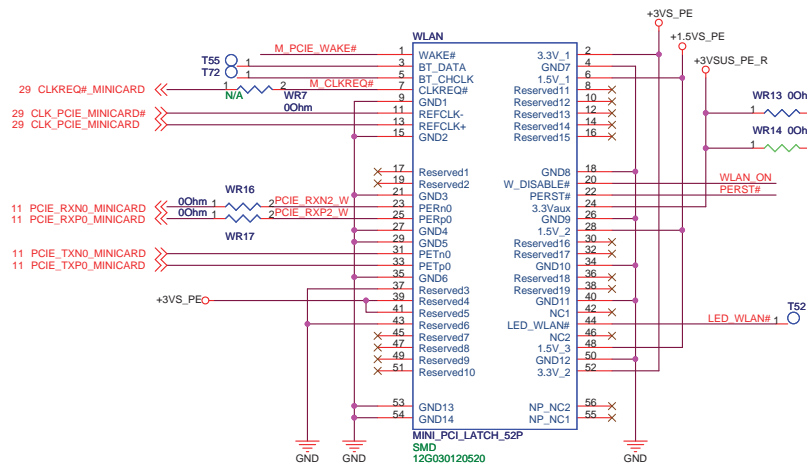
SATA HDD Connector

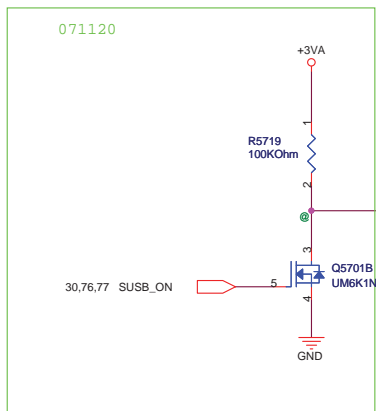
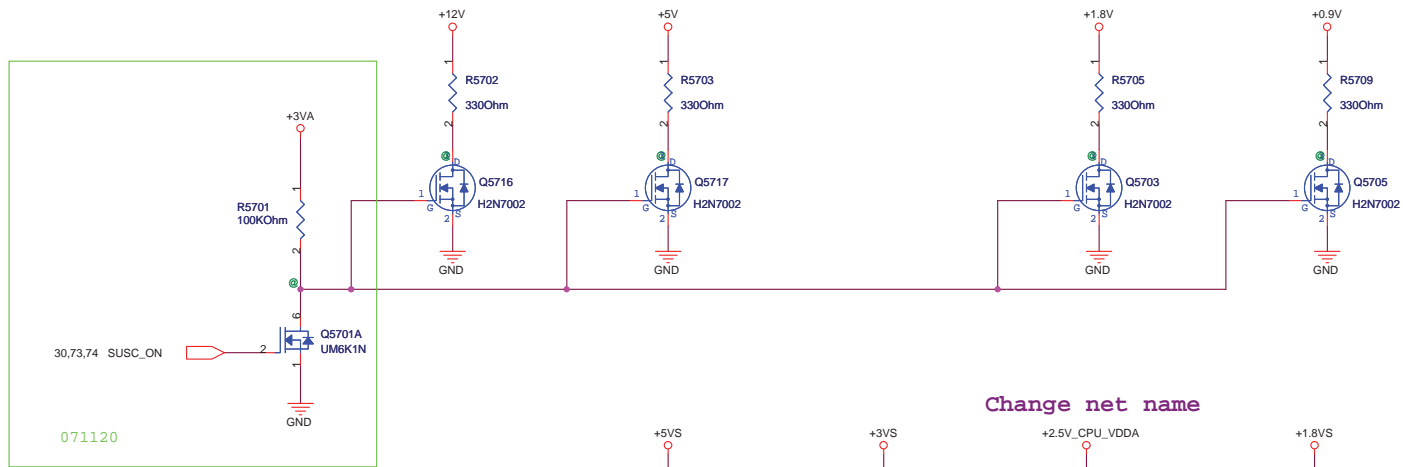


<Variant Name>

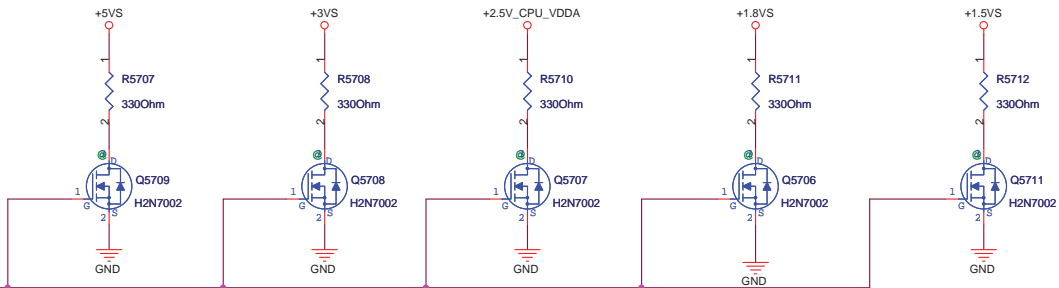
ASUS		Title : USB Port	
ASUSTek Computer INC.		Engineer: N/A	
Size	Project Name		Rev
A3	1201T		2.0
Date: Wednesday, October 14, 2009		Sheet	52 of 79

<http://laptop-motherboard-schematic.blogspot.com/>

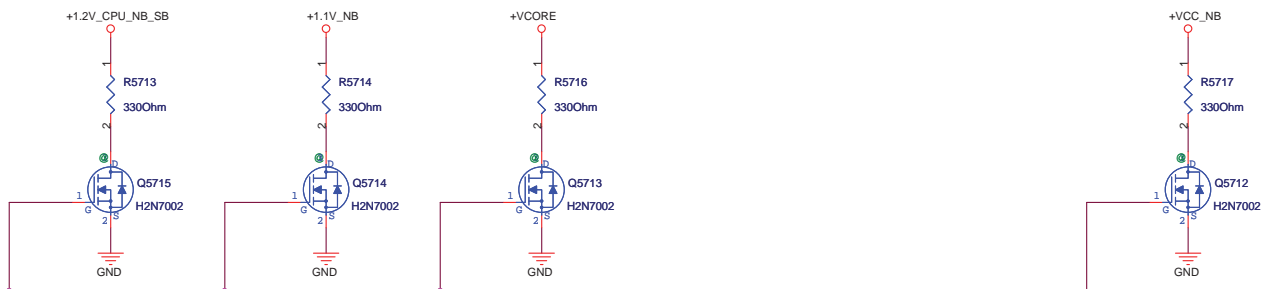




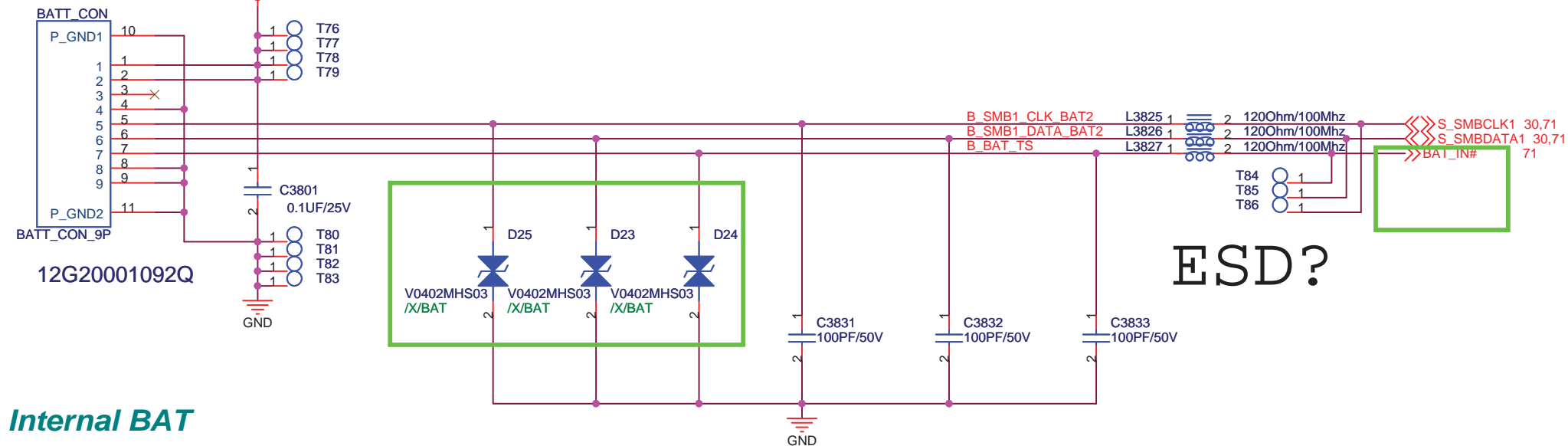
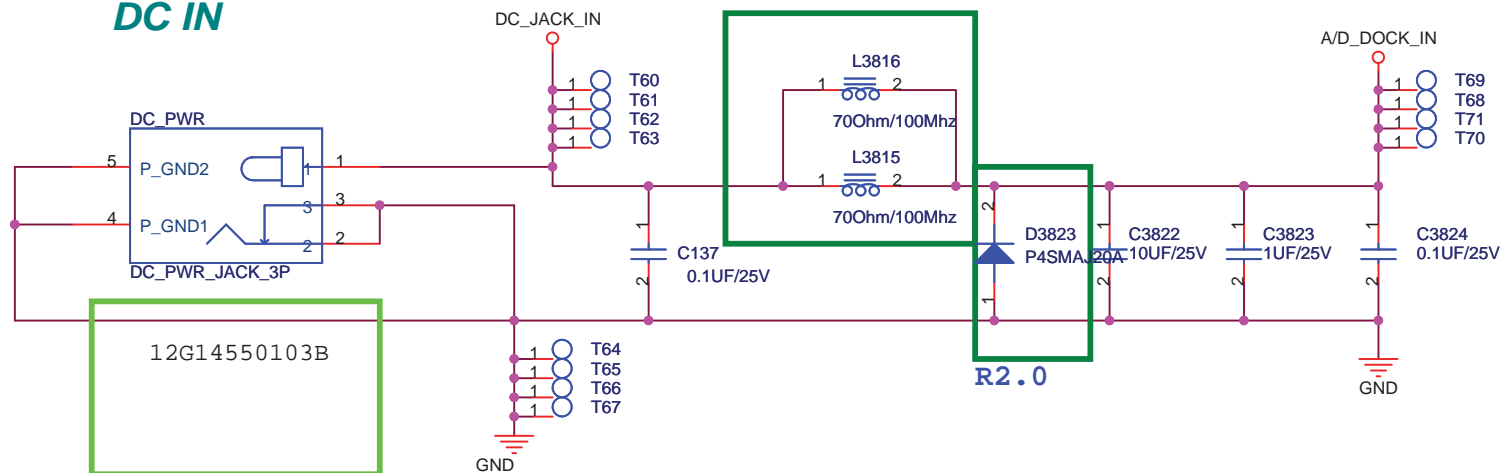
Change net name



Change all MOS with ESD part



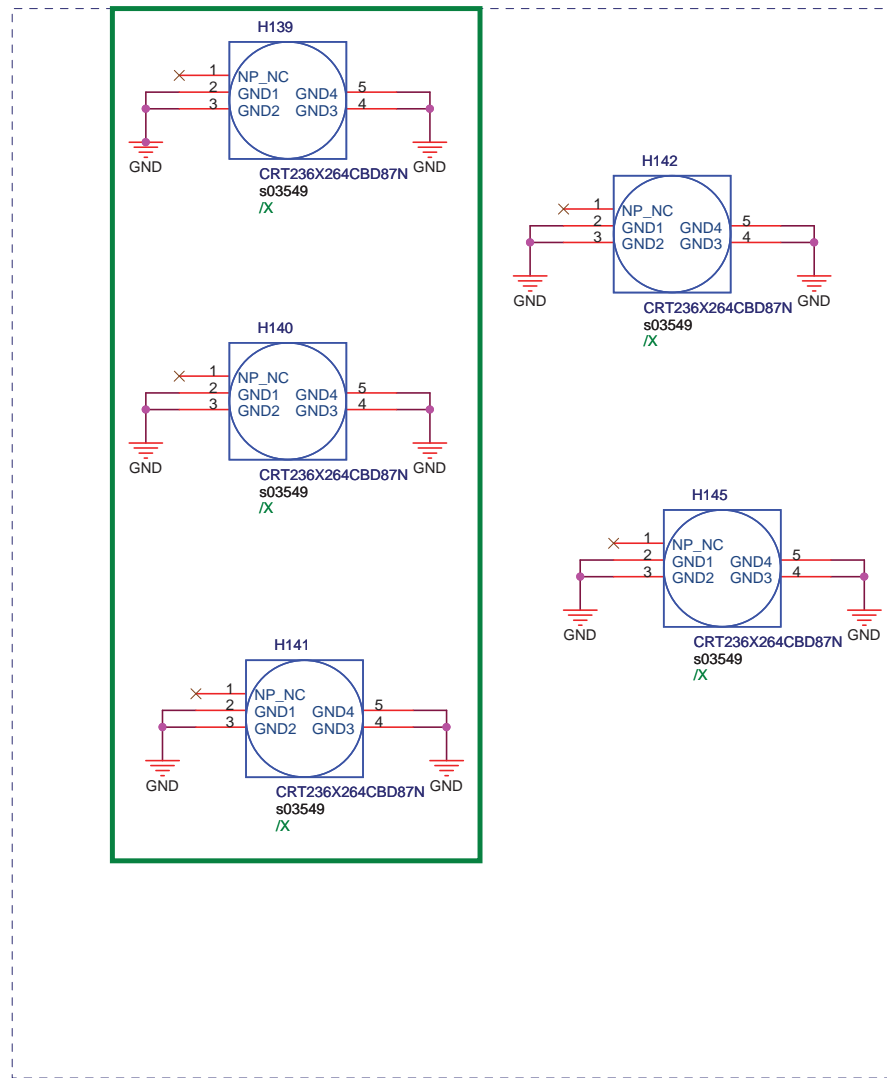
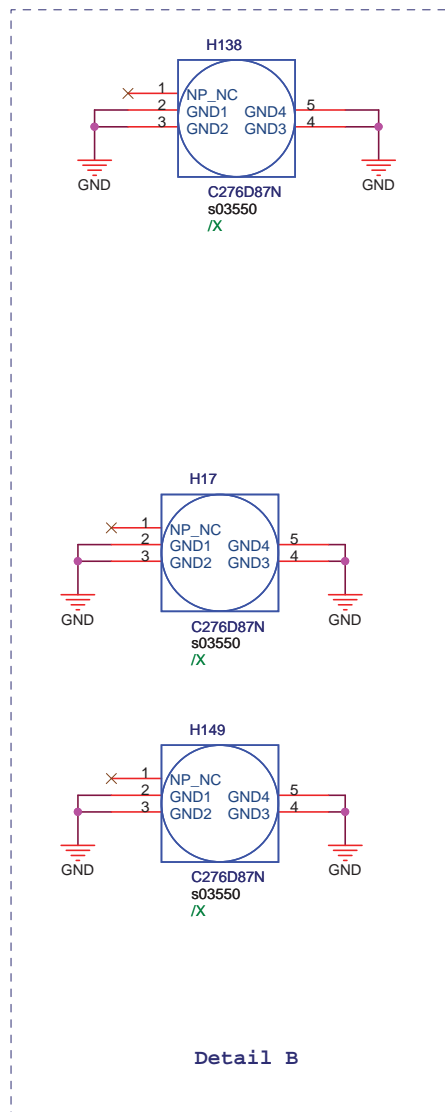
DC IN



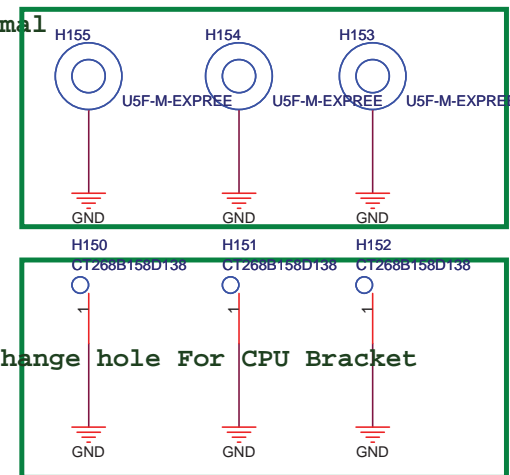
Internal BAT

<Variant Name>

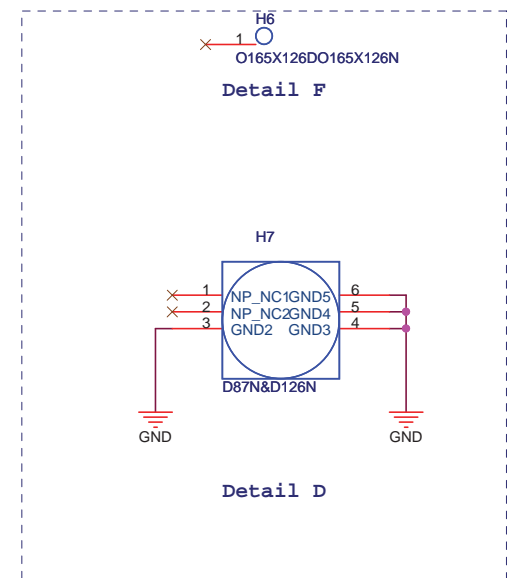
ASUS		Title : PWR Jack	
ASUSTek Computer INC.		Engineer: N/A	
Size	Project Name		Rev
A4	1201T		2.0
Date:	Wednesday, October 14, 2009		Sheet 60 of 79



For Thermal
Detail A

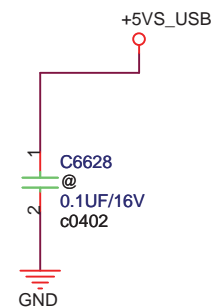
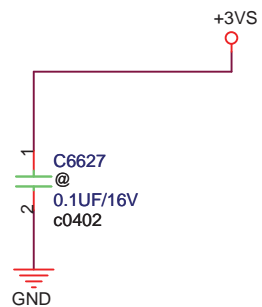
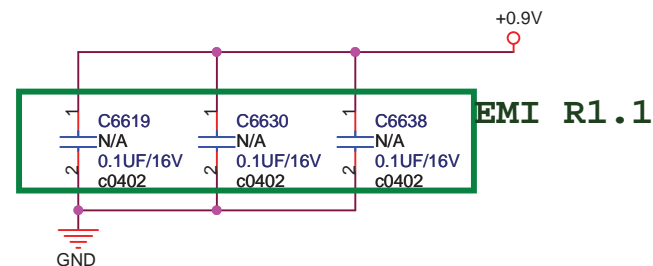
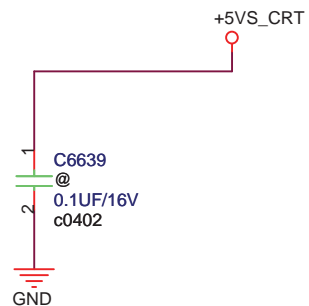
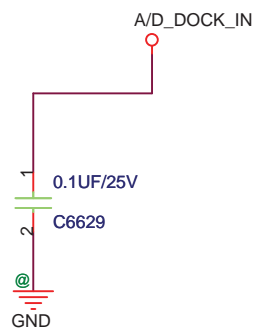
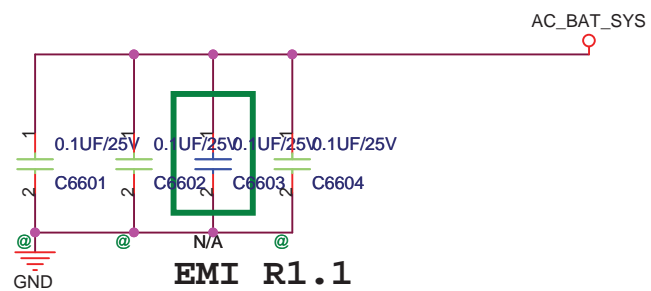


R1.1 change hole For CPU Bracket



<Variant Name>

		Title : Screw Hole	
ASUSTek Computer INC.		Engineer: N/A	
Size Custom	Project Name 1201T		Rev 2.0
Date: Wednesday, October 14, 2009		Sheet 65 of 79	



<Variant Name>

		Title : EMI	
ASUSTeK COMPUTER INC		Engineer: N/A	
Size	Project Name	Rev	
Custom	1201T	2.0	
Date: Wednesday, October 12, 2016		Sheet	66 of 79

R1.0

8/14: change DC-in jack to 12G14550103B
add 1.8VS power for sideport

8/17: Swap DDR address for layout request
add cap for EMI request

8/18: Swap DDR address for layout request
P33 del CLK_25M_LAN
P60 change L3815 to other parts, add L3816
add L1211

8/19: P50 change FAN CON and some related components
P12 change LVDS BL enable singal LVDS_BACK_EN, del L_G_BKLT_CTRL


R1.1

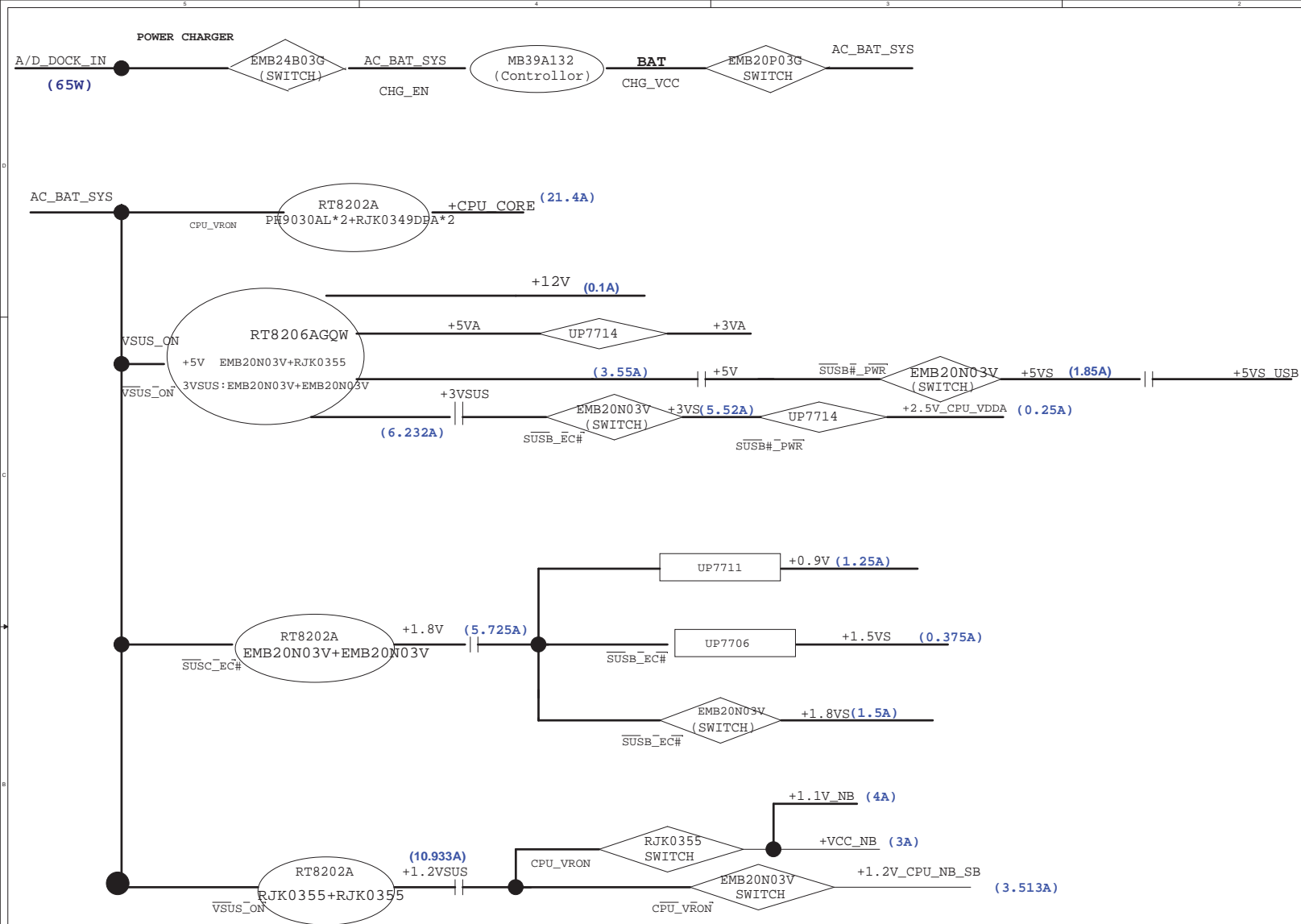
1.change 3G_CON to 3G_CON1
2.H150, H151, H152 no need NUT, and change hole size
3.OC15 OC16 change to 22pf
4.UF1 fuse change to 07G014150121
5.R4612, R4613 change to 120ohm/100Mhz bead for EA test
6.R2104 change to 8.87K 10G213887113030 for EA
7.mount C2913, C2917 , add C2945, change R2938 to 22ohm;
change R4534 to 100Ohm, R4533 to 49.9Ohm
8.change some parts for EMI request
9.VDDHTTX 与CPU_VLDT分别预留0 ohm到+1.1V_NB
10. CN3511-CN3516 change to 150pf array CAP
11.Unmount SW9, C115
12.change R2938 to 10ohm,
13.change R167 to 120Ohm/100Mhz bead for noise test
14.USB1 change Part Number to 12G13107004E
15. unmount L0301, mount L0302; unmount L1403, mount L1405;

R2.0

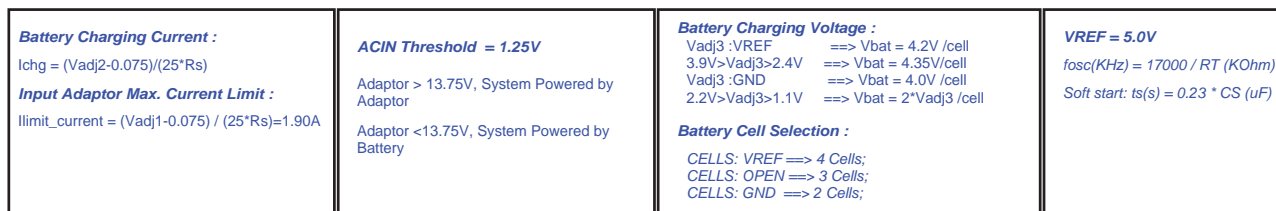
1. DMIC:AC41, AC42 change to 120pf CAP
2. P45 CRT:C4601/C4603/C4605: 24PF/50V
L4601/L4602/L4603: 75Ohm/100Mhz Bead
C4602/C4604/C4606: 10PF/50V
3. change D3823 to a TVS diode

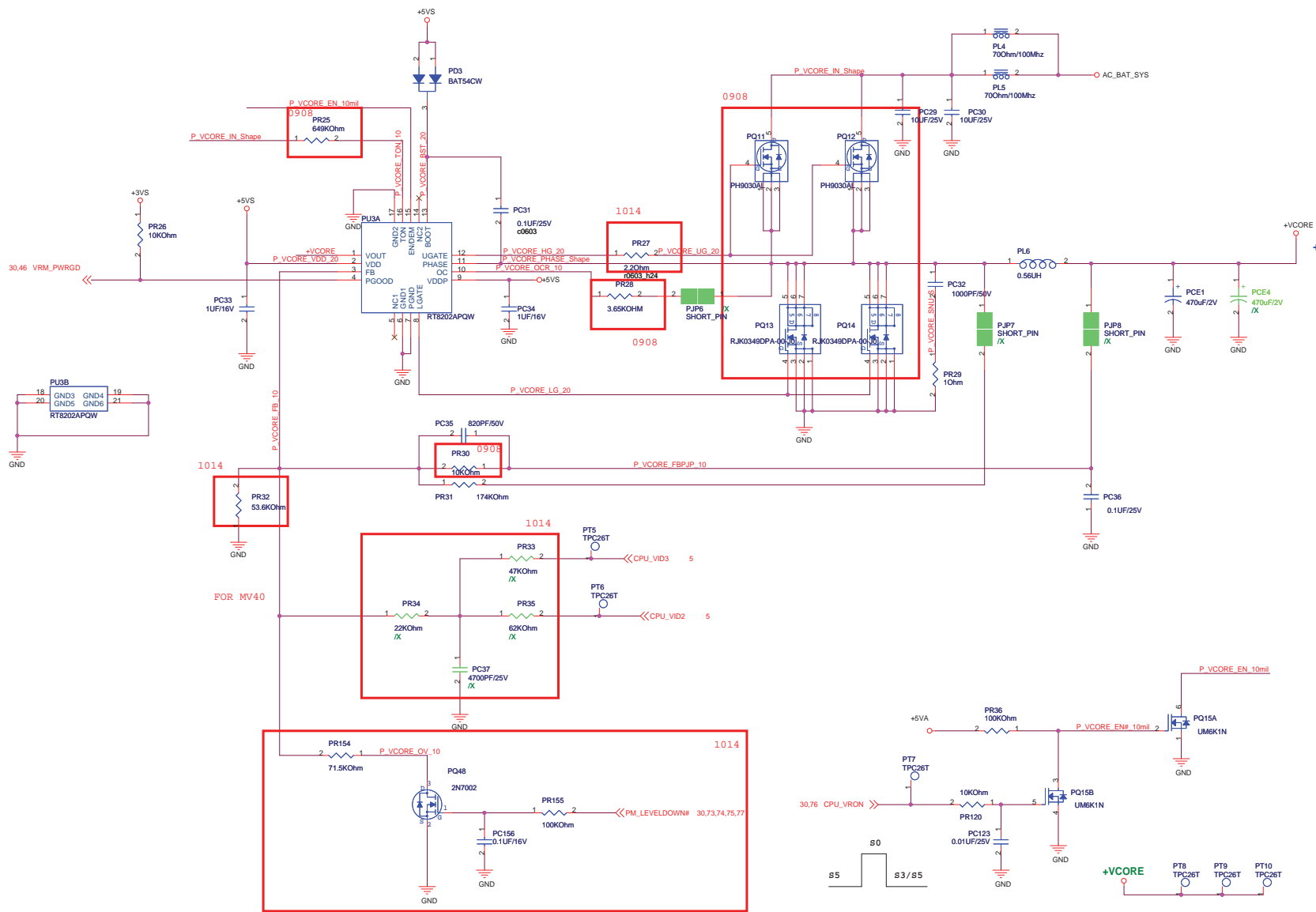
<Variant Name>

		Title : History	
ASUSTek Computer INC.		Engineer: N/A	
Size A	Project Name 1201T		Rev 2.0
Date	Wednesday, October 14, 2009		Sheet 68 of 79



STD version :1.00g(08/05/09)





Controller

1. Voltage & Current:

VCORE: 18A

2. Frequency:

$Ton = 3.85p \cdot R_t(on) \cdot Vout / Vin - 0.3us$
 $Frequency = Vout / (Vin \cdot Ton) = 500KHZ$

3. OCP:

SetPR28=6.34K
 $I_{ocp} = R_{ocp} \cdot 20 / R_{ds(on)} = 20 \cdot 6.34 / 3.8 = 31.6A$

4. Soft start time:

Soft-Start duration is 1.35ms

5. Inrush Current:

C total = 470UF
 $I_{inrush} = 0.35A$

Power stage

1. I/P Current:

$I_{in} = Vo \cdot Io / (0.8 \cdot Vin) = 2.5A$

2. Ripple Current:

$I_{ripple} = 5.66A$

3. Dynamic:

$I_{peak} = 18A$
 $ESR = 9mohm$
 $V = 162mV$

4. Inductor Spec:

$I_{sat} = 40A$
 $I_{dc} = 25A$
 $DCR = 1.6mohm$

5. MOSFET Spec:

L-side MOSFET: RJK0353DPA-00-J0
 $R_{ds(on)}_{max} = 7.6mohm$ ($V_{gs} = 4.5V$)
 $I_{cont} = 35A$ ($T = 25^\circ C$)
 $I_{peak} = 140A$ (Pause < 10us)

H-side MOSFET: RJK0355DPA-00-J0
 WPAK
 $R_{ds(ON)} = 11.8mohm$ ($V_{gs} = 4.5V$)
 $I_{cont} = 30A$ ($T = 25^\circ C$)
 $I_{peak} = 120A$ (Pause < 10us)

FOR MV40

PM_LEVELDOWN#	VID3	VID2	Voltage
0	0	0	/
0	0	1	0.90V
0	1	0	/
0	1	1	/
1	0	0	/
1	0	1	1.00V
1	1	0	/
1	1	1	/

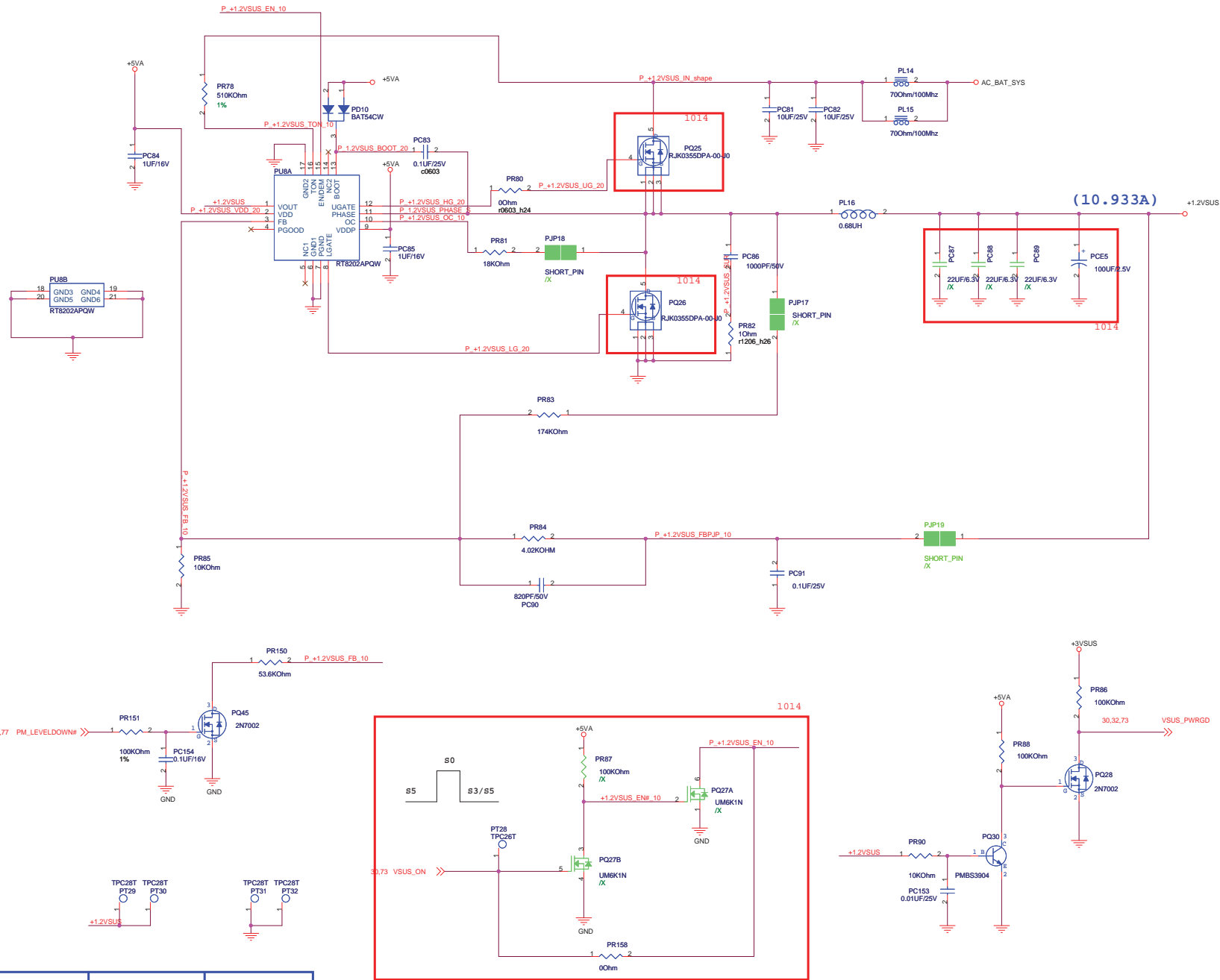
FOR L335

PM_LEVELDOWN#	VID3	VID2	Voltage
0	0	0	1.10V
0	0	1	0.95V
0	1	0	0.90V
0	1	1	0.75V
1	0	0	1.14V
1	0	1	1.00V
1	1	0	0.94V
1	1	1	0.80V

<Variant Name>







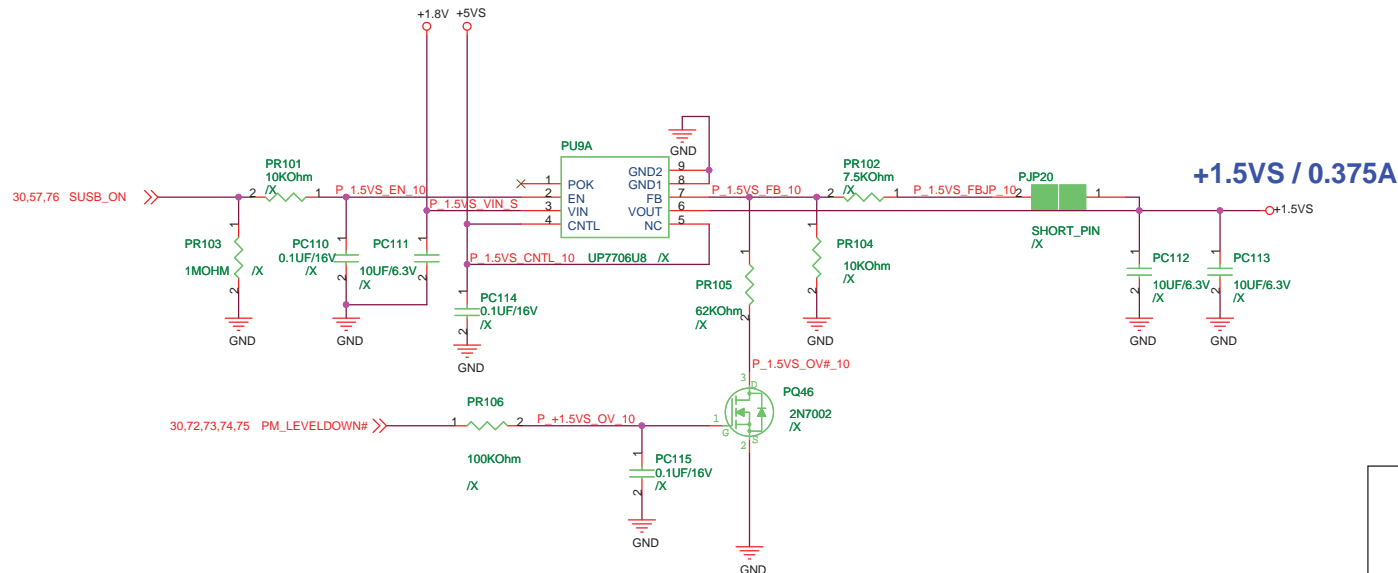
Power stage

1. I/P Current:
 $I_{in} = V_o \cdot I_o / (0.8 \cdot V_{in}) = 1.822A$
2. Ripple Current:
 $I_{ripple} = 3.73A$
3. Ripple Voltage:
 $I_{peak} = 10.933$
 $ESR = 18m\Omega$
 $V = 197mV$
4. Inductor Spec:
 $I_{sat} = 25A$
 $I_{dc} = 15.5A$
 $DCR = 5.5m\Omega$
5. MOSFET Spec:
H-side and L-side MOSFET:
 $R_{ds(on)} = 16.5m\Omega$ ($V_{gs} = 4.5V$)
 $I_{cont} = 30A$ ($T = 25$)
 $I_{peak} = 120A$ (Pause < 10us)

Controller

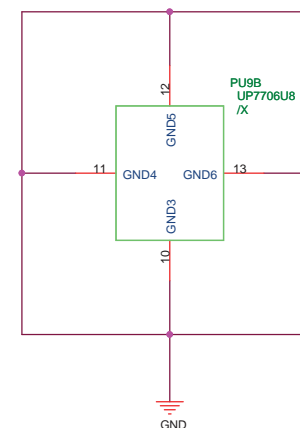
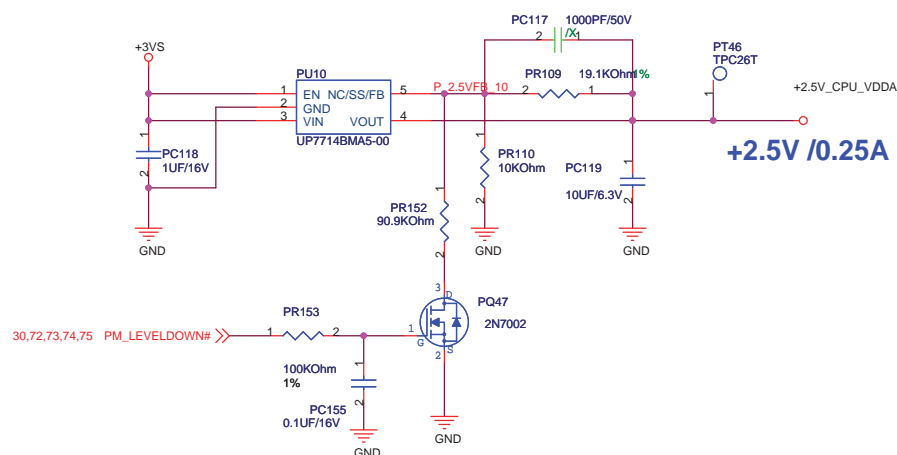
1. Voltage & Current:
 $+1.2VSUS = 1.2V \& 10.933A$
2. Frequency:
Frequency = 500KHZ
3. OCP:
Set $PR81 = 18K\Omega$
 $I_{ocp} = R_{ocp} \cdot 20 / R_{ds(on)} = 21.9A$
4. Soft start time:
Soft-Star duration is 1.35ms
5. Inrush Current:
 $C_{total} = 66\mu F$
 $I_{inrush} = 0.088A$

PM_LEVELDOWN#	Voltage	Status
L	1.15V	Power Saving
H	1.2V	Normal



PM_LEVELDOWN#	Voltage	Status
L	1.4V	Power Saving
H	1.5V	Normal

PM_LEVELDOWN#	Voltage	Status
L	2.35V	Power Saving
H	2.5V	Normal



- Dropout Voltage:
V = 300 mV ($I_o=2$ A)
- Current Limit:
I limit = 2.8 A
- Continue Current:
I cont = 1A
- Pd:
R thjc = 5 C/W
Pd = 1.9W
- EN Voltage:
V rising = 1.4 V
V falling = 0.4 V
- Supply Voltage:
Vcc = 5V
- Inrush current:
Tss = 4 ms
C total = 20 uF
I inrush = 7.5mA

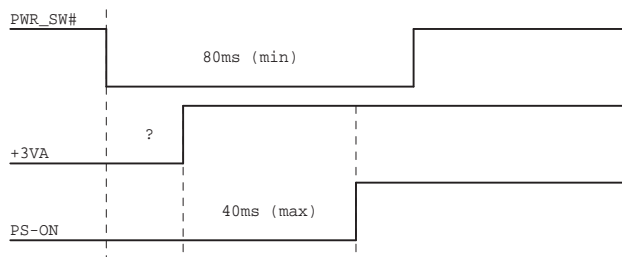
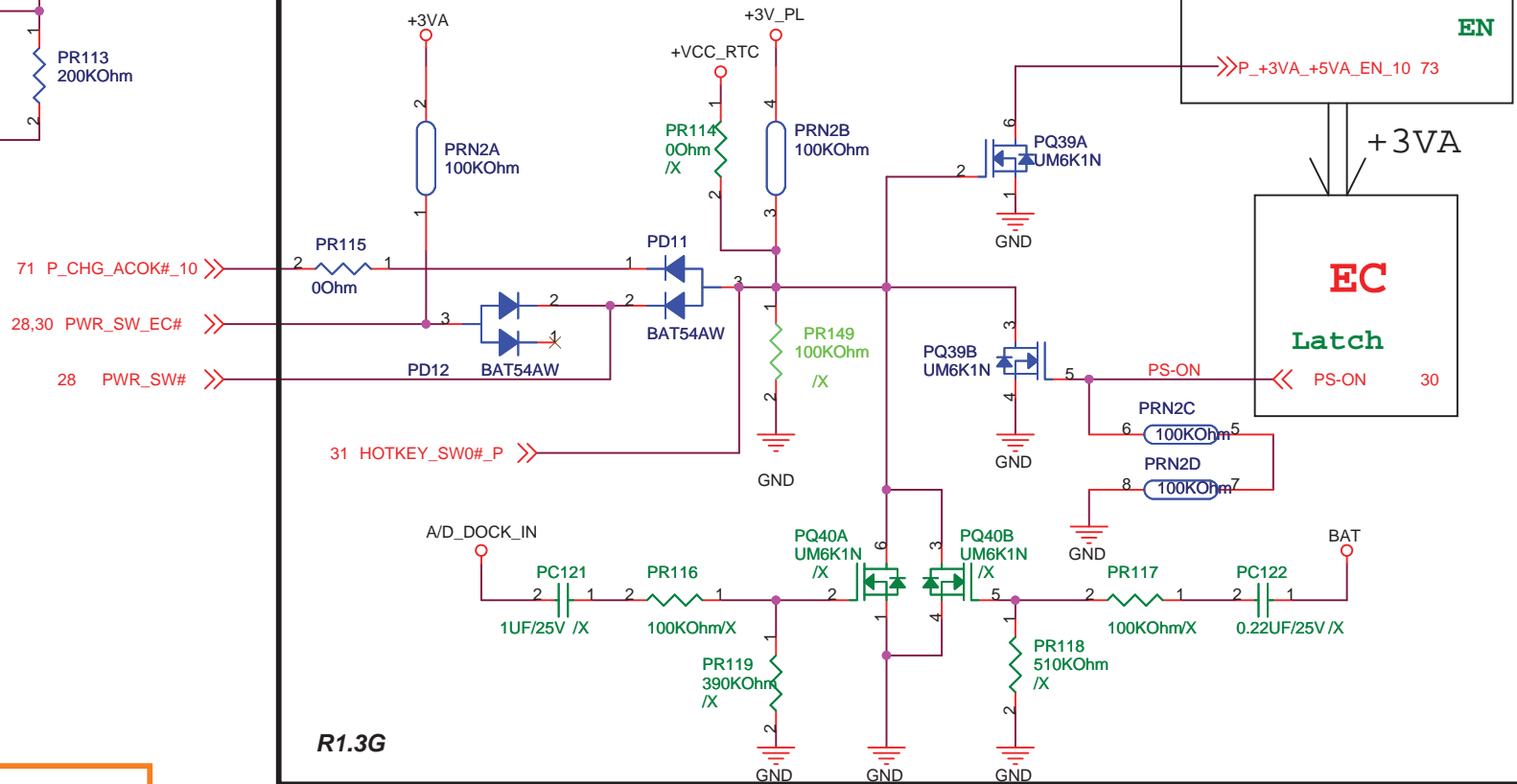
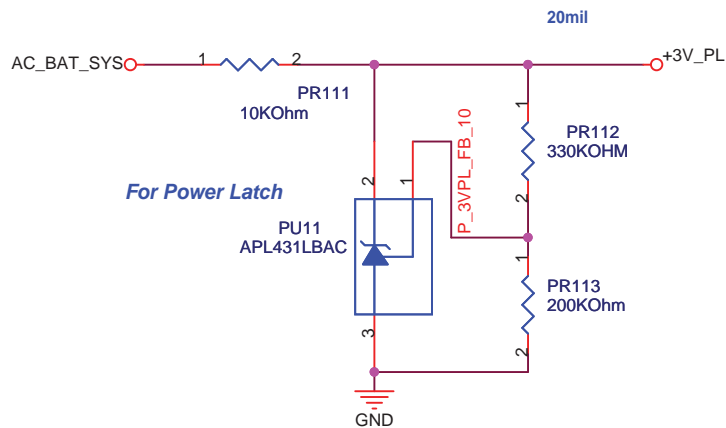
2.5V @ 0.25A

- Dropout Voltage:
V = 0.21V ($I_o=0.3$ A)
- Current Limit:
I limit = 320mA
- Continue Current:
I cont = 300mA
- Power Dissipation:
R thjc = 250 /W
Pd = 0.4W
- EN Voltage:
V rising = 2V
V falling = 0.8V
- Supply Voltage:
Vcc = 3V
- Inrush current:
Tss = 400us
C total = 10uF
I inrush = 0.063A

<Variant Name>

ASUS		Title : +1.5VS & +2.5VS	
ASUSTek Computer INC		Engineer: N/A	
Size A3	Project Name 1201T	Rev 2.0	
Date: Thursday, October 15, 2009		Sheet	77 of 79

+3V_PL



<Variant Name>

ASUS		Title : Power Latch	
ASUSTek Computer INC.		Engineer: N/A	
Size A4	Project Name 1201T		Rev 2.0
Date: Thursday, October 15, 2009		Sheet	78 of 79

