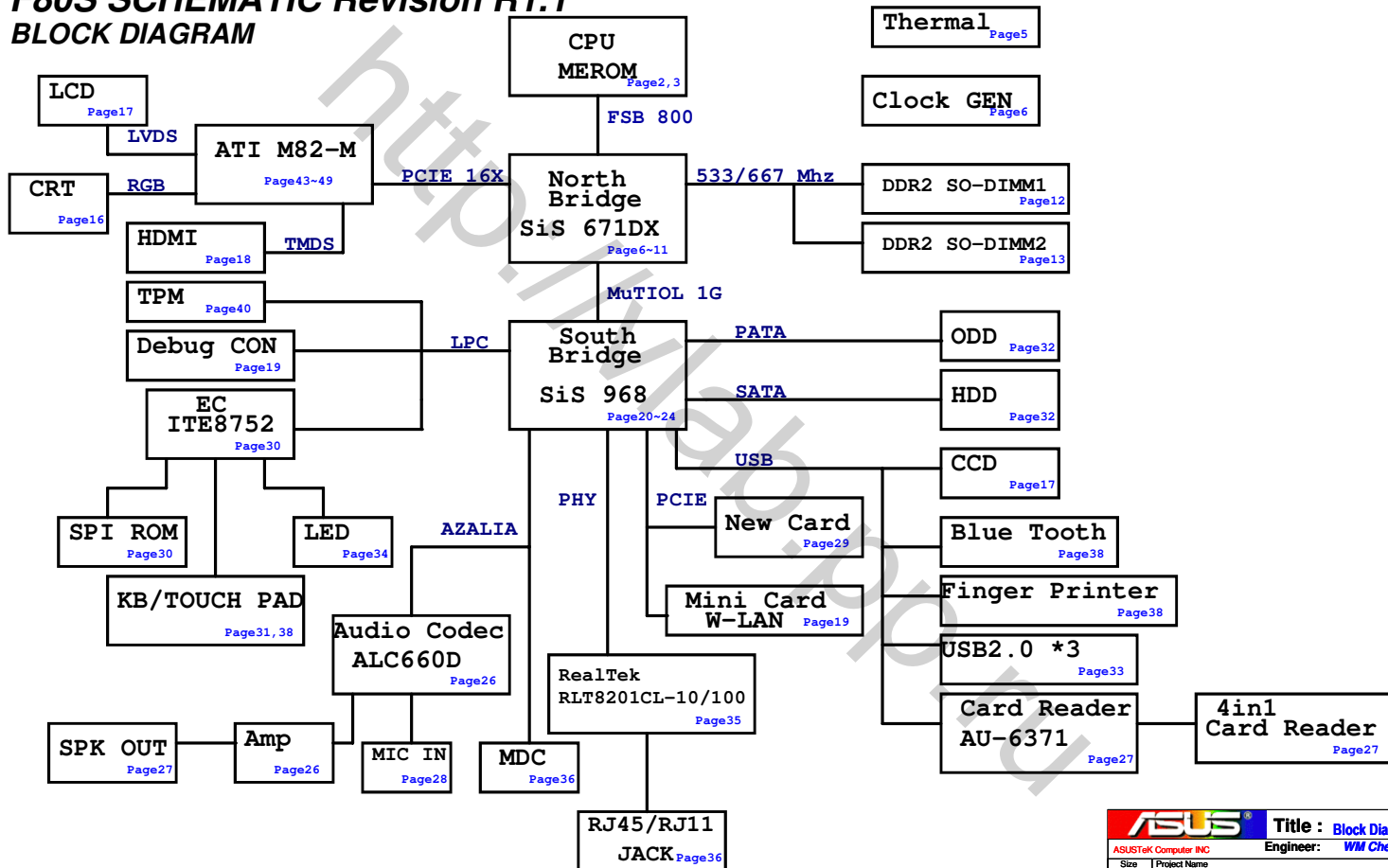
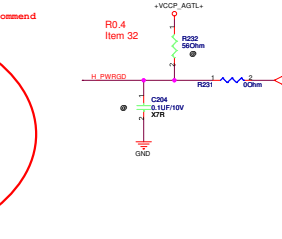
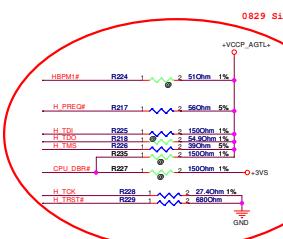
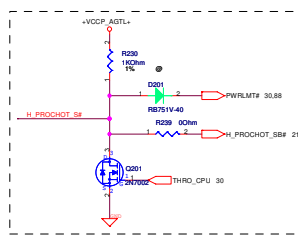
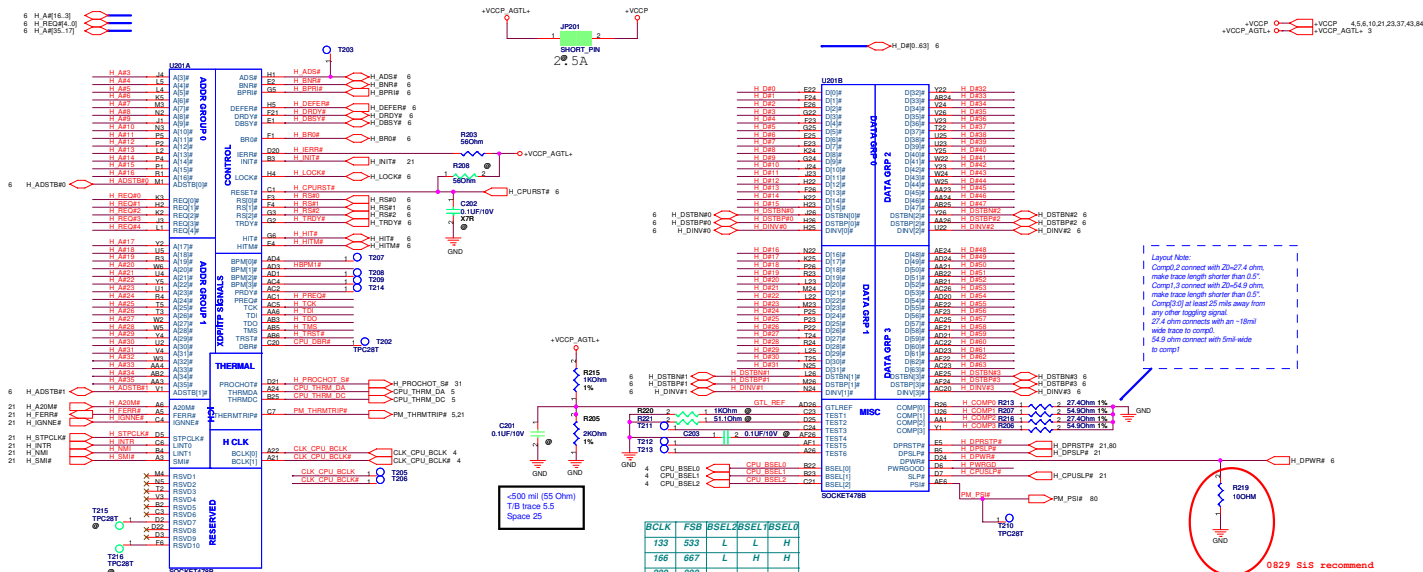
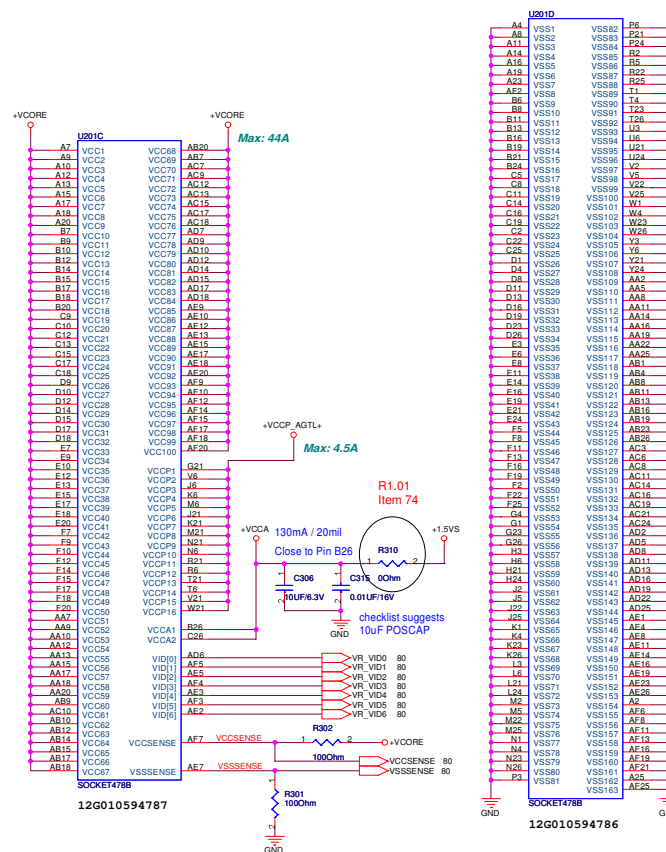


F80S SCHEMATIC Revision R1.1

BLOCK DIAGRAM



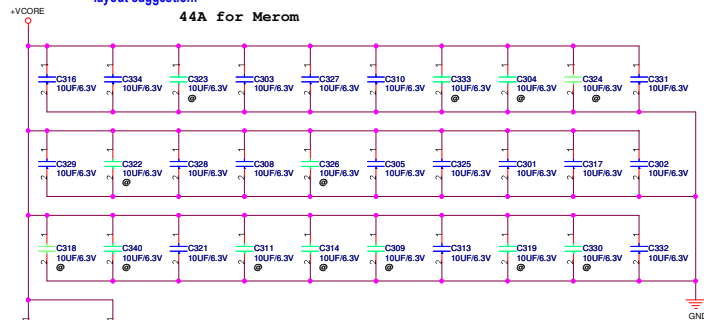




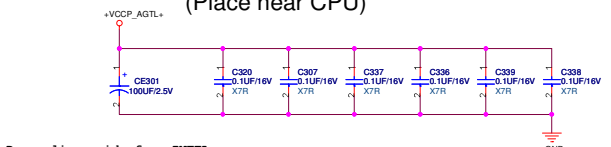
MEROM FSB 800			
	Min	Typ	Max
VCCP	1.00V	1.05V	1.10V
ICC	Min	Typ	Max
			2.5A

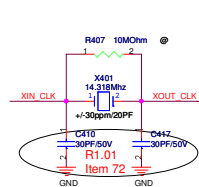
Place on L1/L8, upper/lower side of inside socket, according intel layout suggestion.

44A for Merom



+VCCP Decoupling Capacitor (Place near CPU)



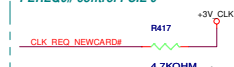


CLK_MODE

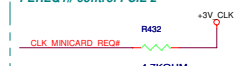
0 = Desktop Mode
1 = Mobile Mode



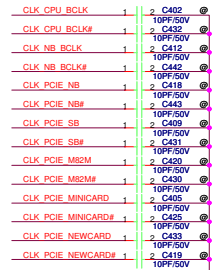
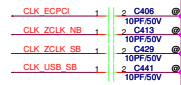
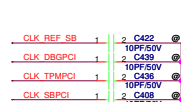
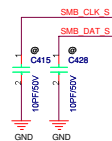
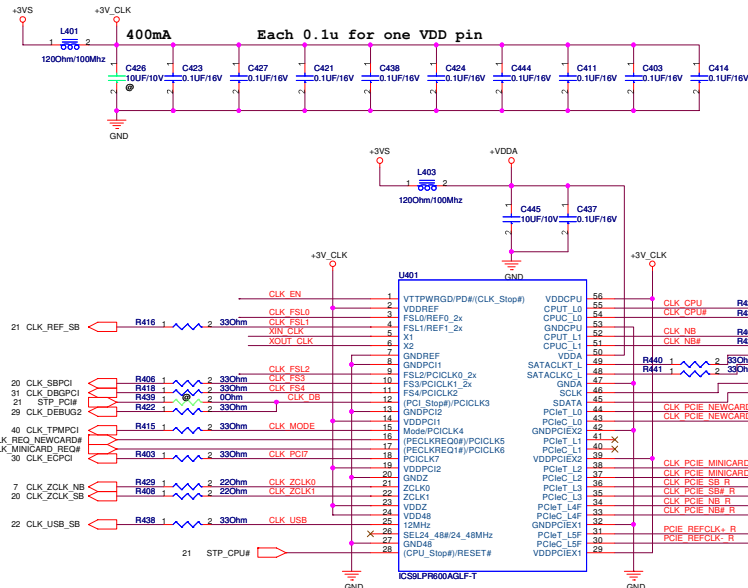
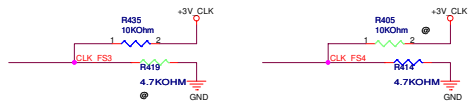
PEREQ0# control PCIE 0



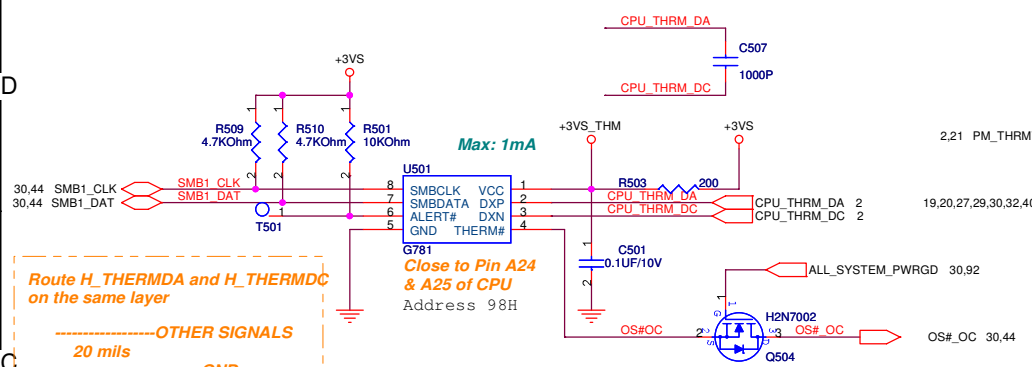
PEREQ1# control PCIE 2



FS4	FS3	FS2	FS1	FSL0	CPU	PCI	ZCLK	PCIE	SATA
0	1	0	0	1	133	33	133	100	100
0	1	0	1	1	166	33	133	100	100



CPU Thermal Sensor



Route H_THERMDA and H_THERMDC on the same layer

-----OTHER SIGNALS

20 mils

=====GND

10 mils

=====H_THERMDA(10 mils)

10 mils

=====H_THERMDC(10 mils)

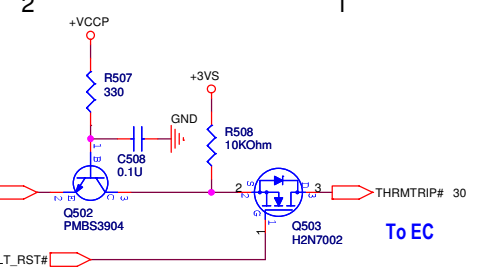
10 mils

=====GND

20 mils

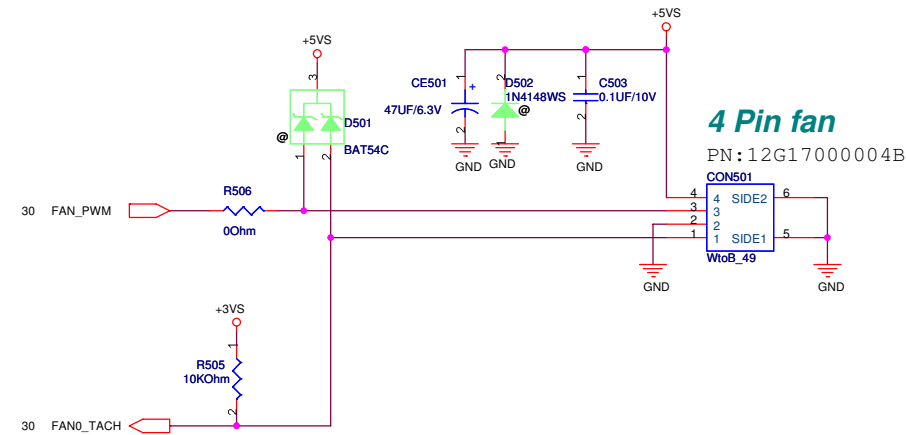
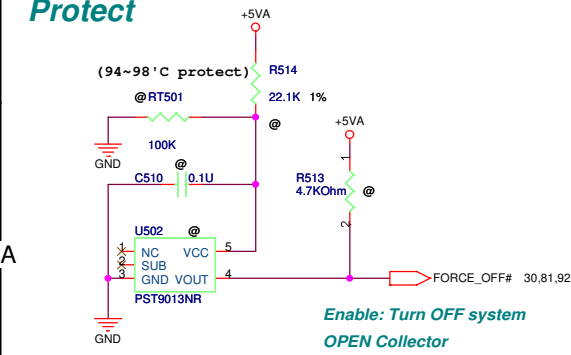
-----OTHER SIGNALS

Avoid FSB,Power



DC FAN Control

H/W Thermal Protect



4 Pin fan

PN:12G17000004B

CON501

4 SIDE2

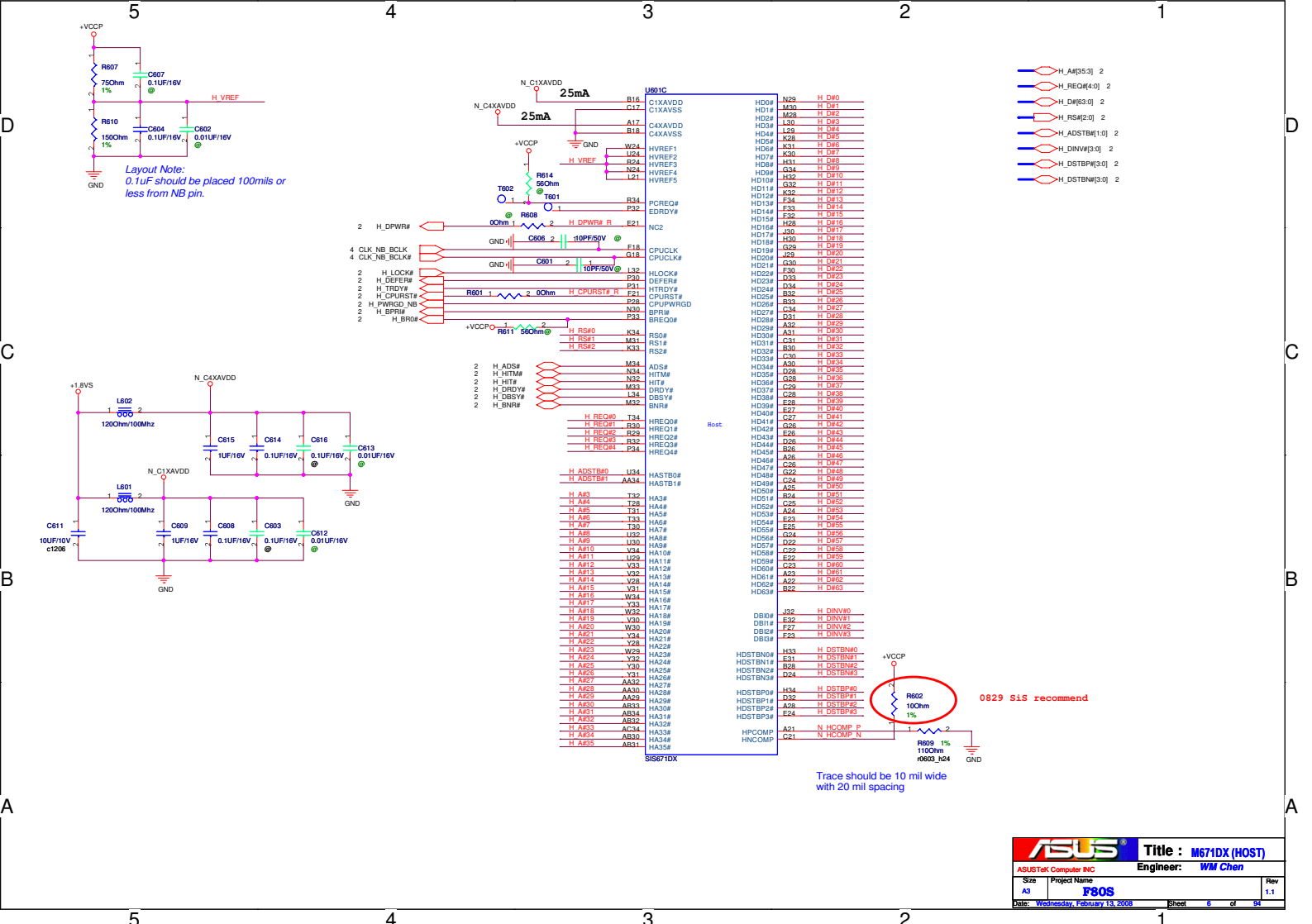
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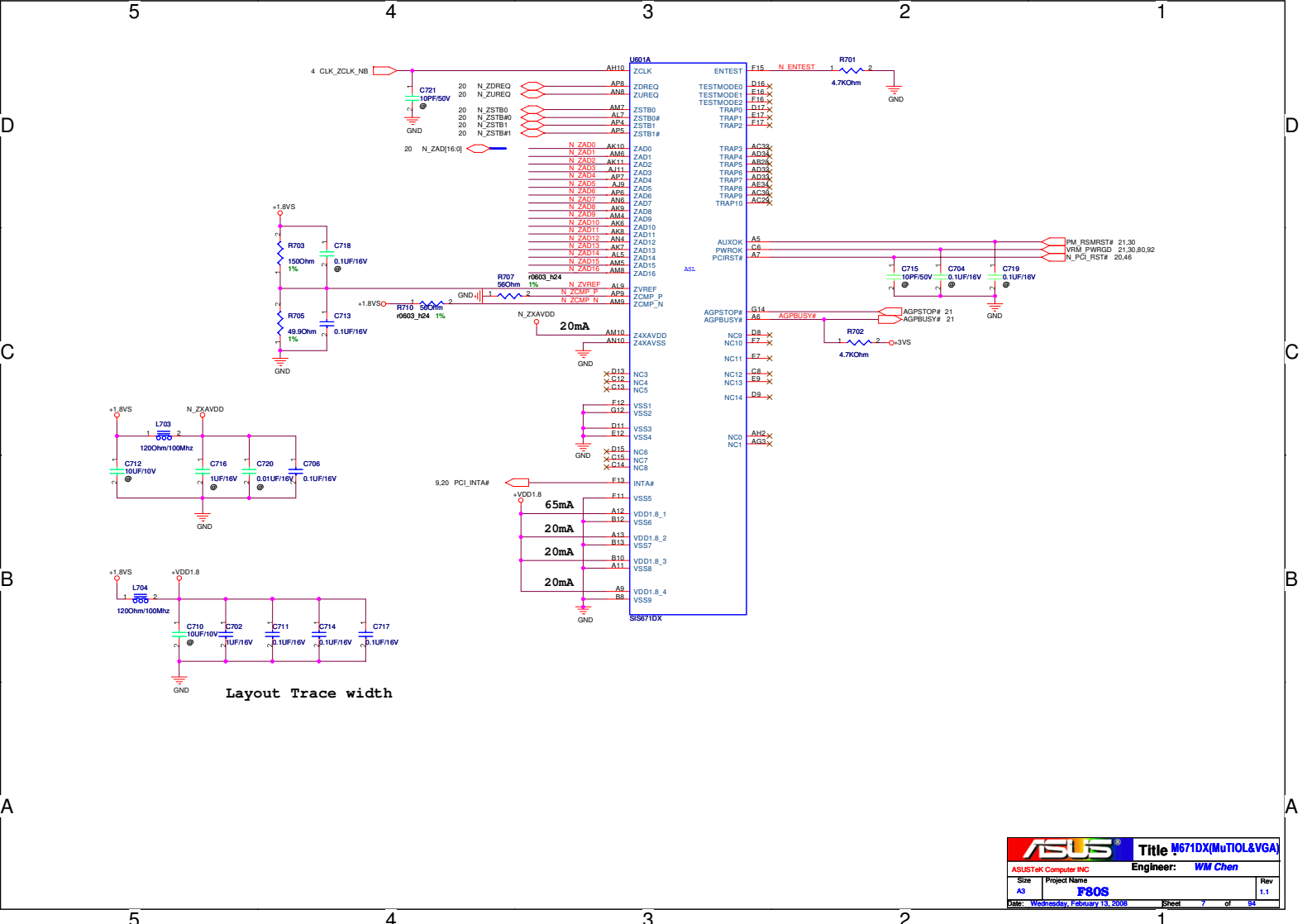
2

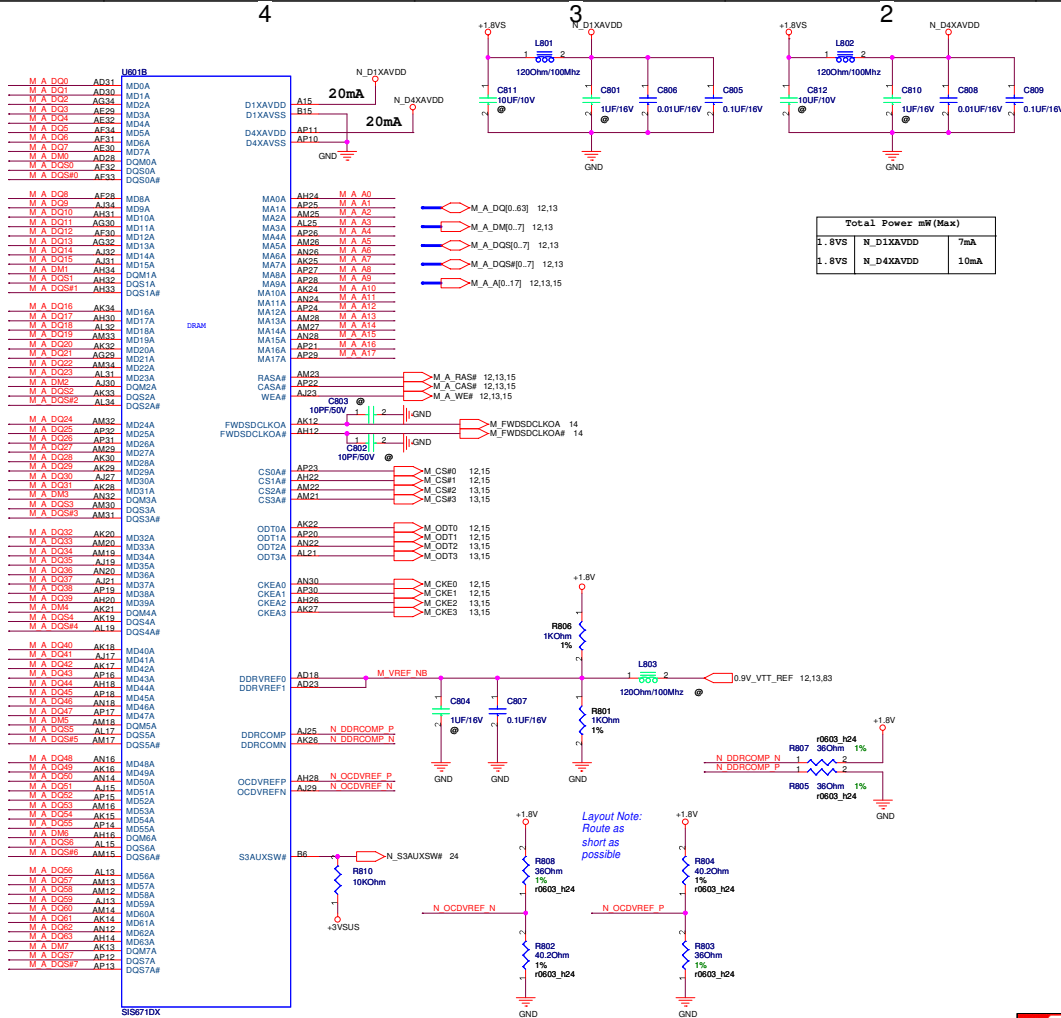
1 SIDE1

WtoB_49

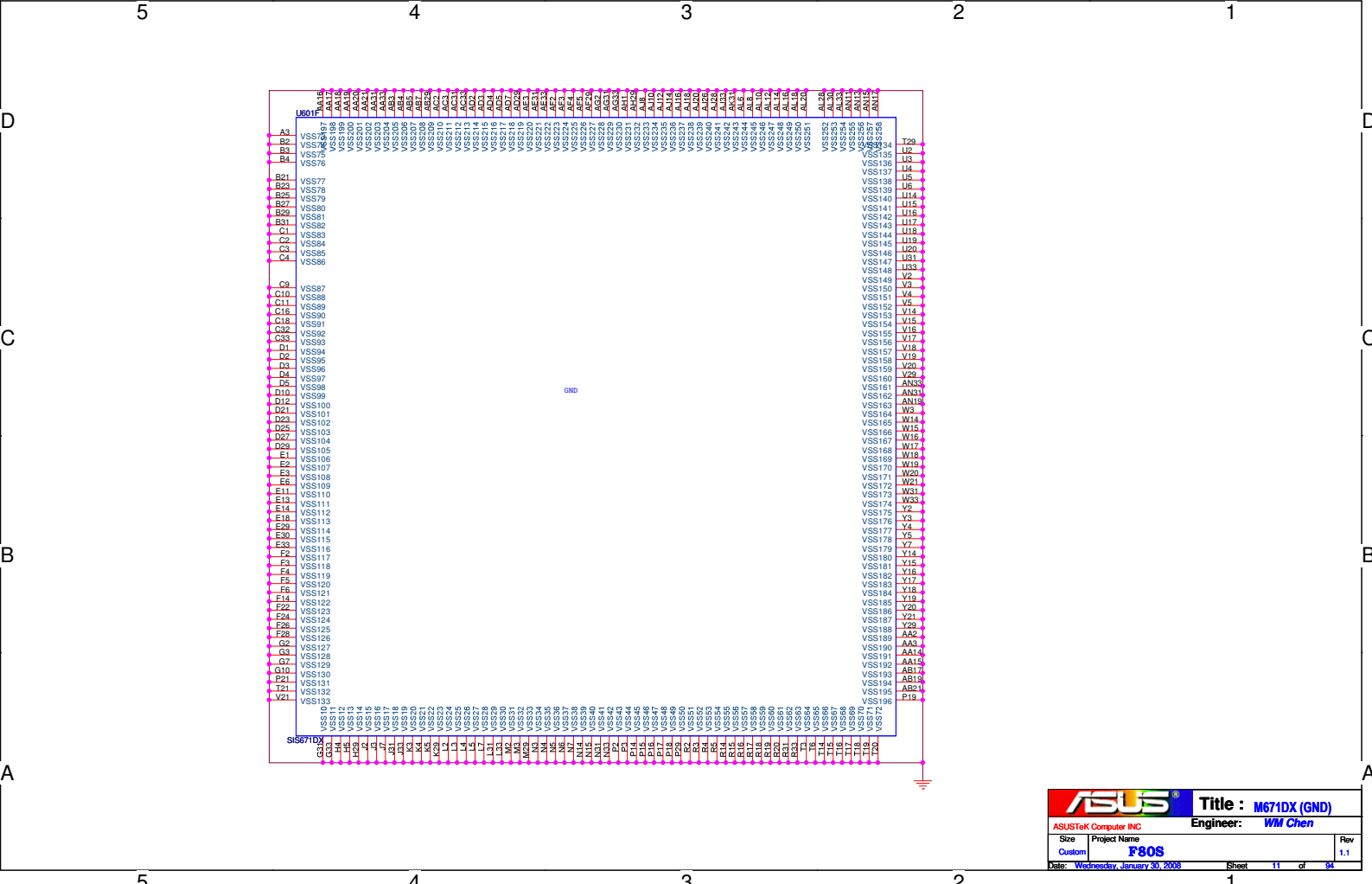
ASUS		Title : Thermal Sensor	
ASUSTek Computer INC		Engineer: WM Chen	
Size A4	Project Name F80S	Rev 1.1	
Date: Wednesday, February 13, 2008		Sheet	5 of 94





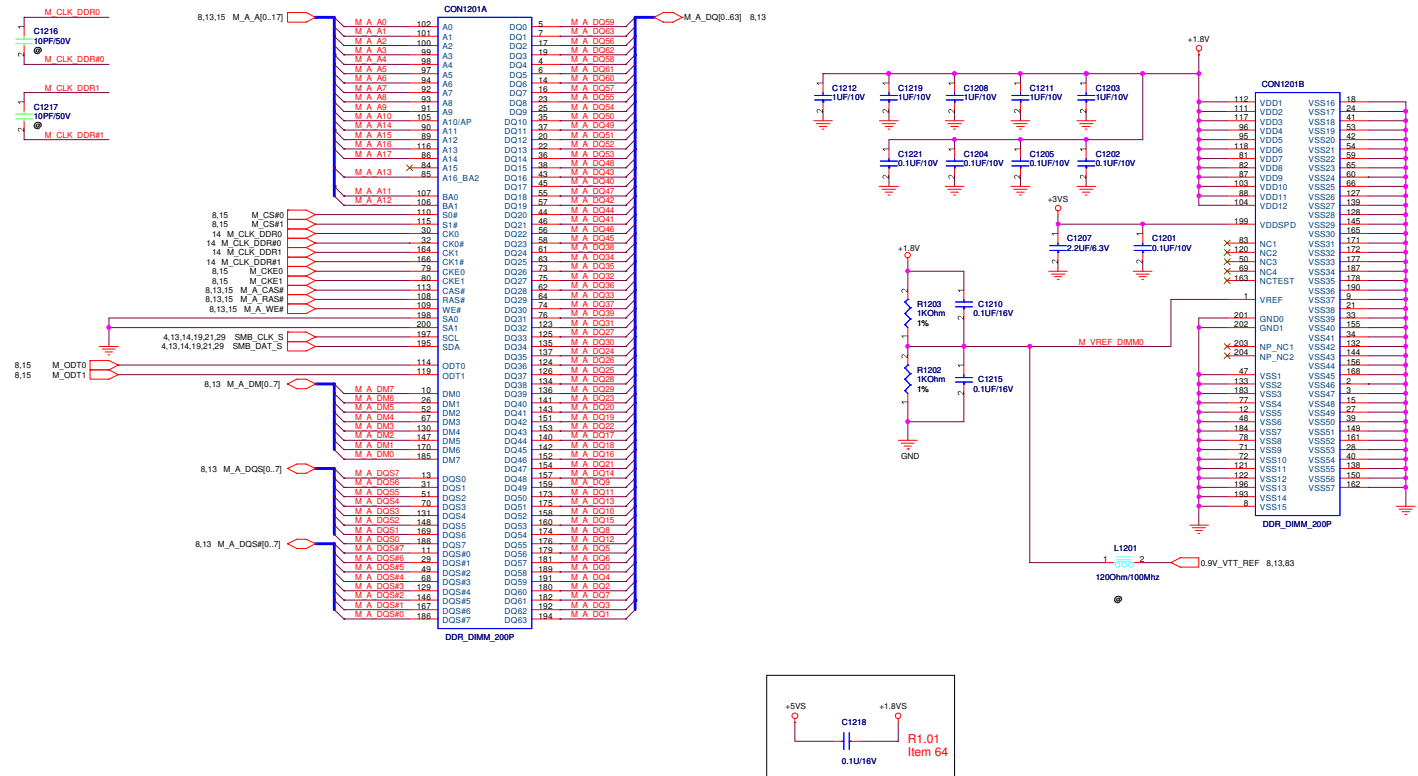


Total Power mW(Max)		
1.8VS	N_D1XAVDD	7mA
1.8VS	N_D4XAVDD	10mA

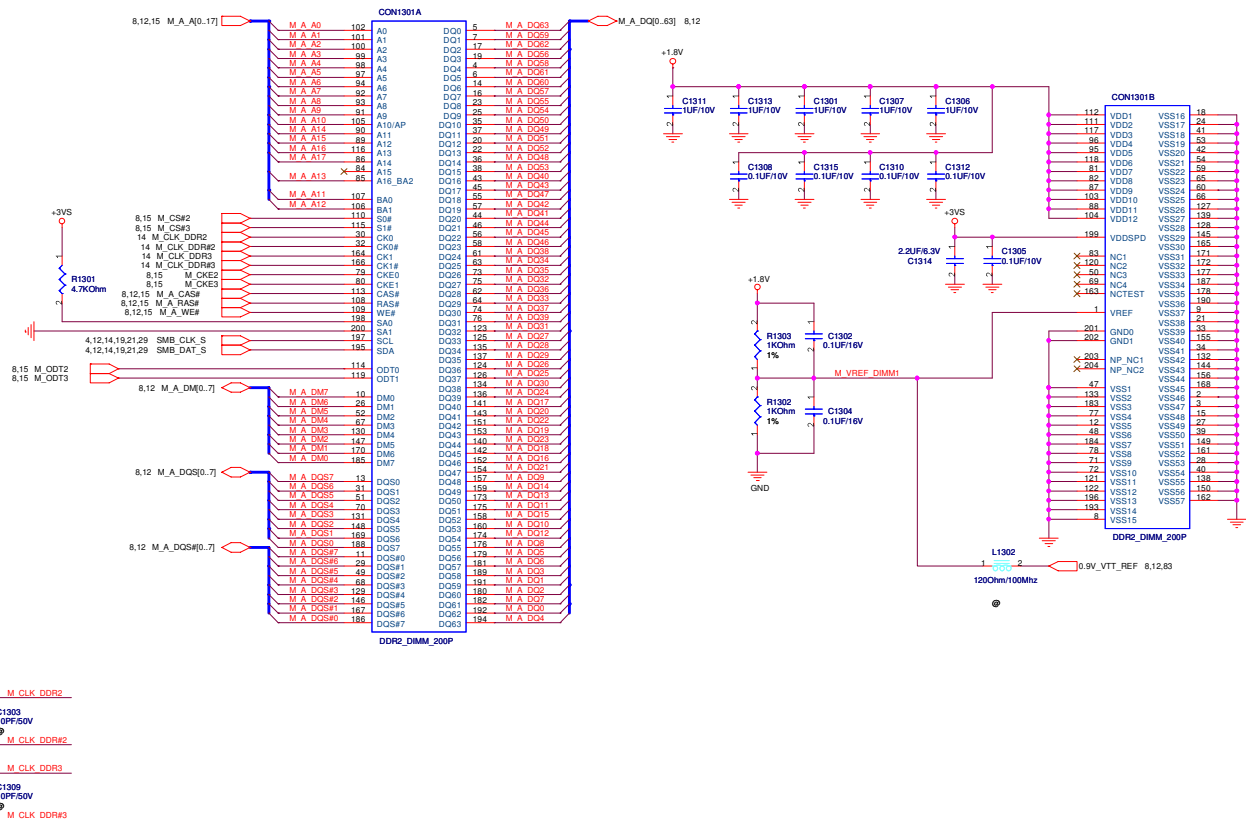


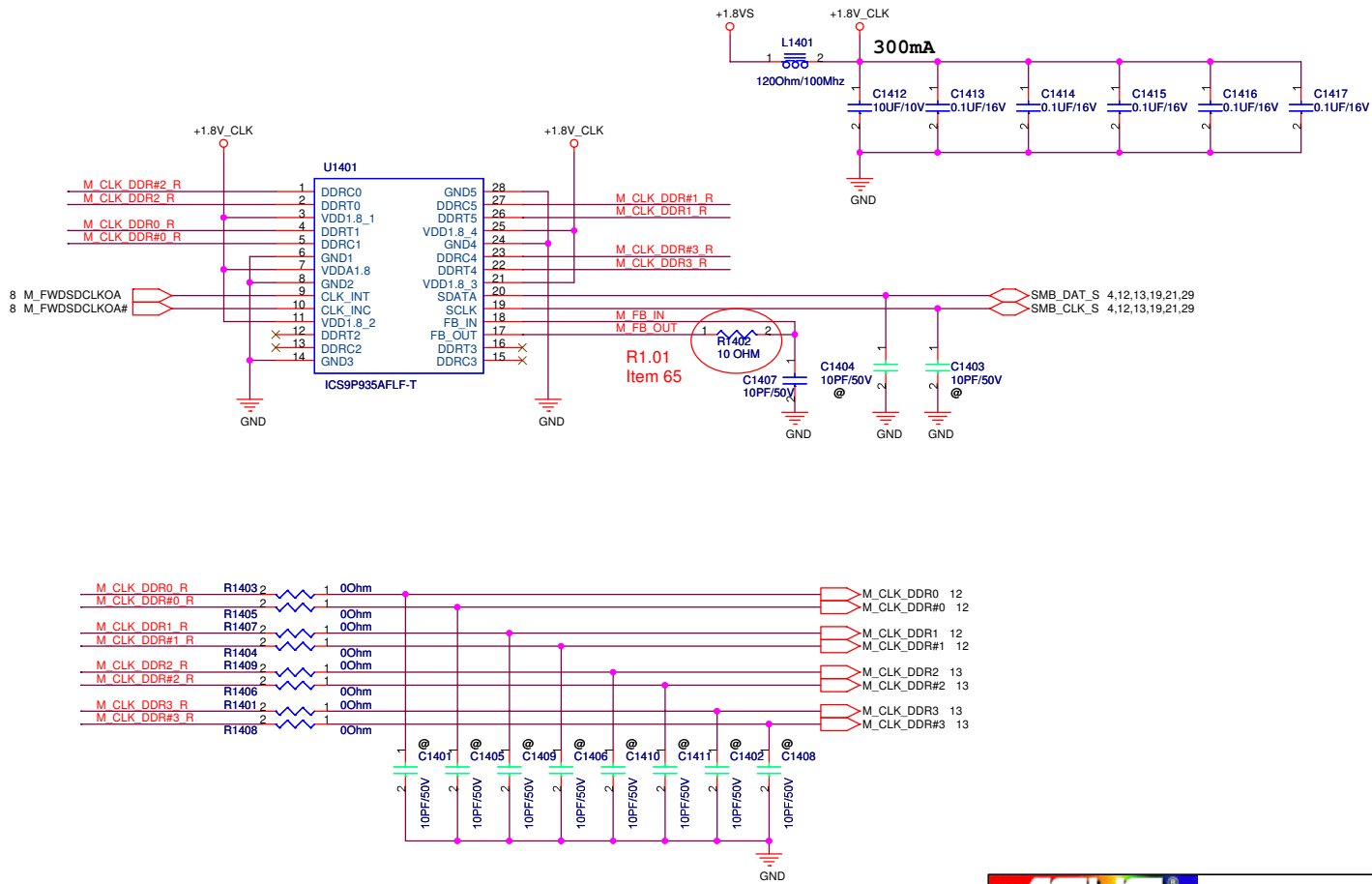
R0.4
Item 30

P/N : 12G025122006 H:5.2mm

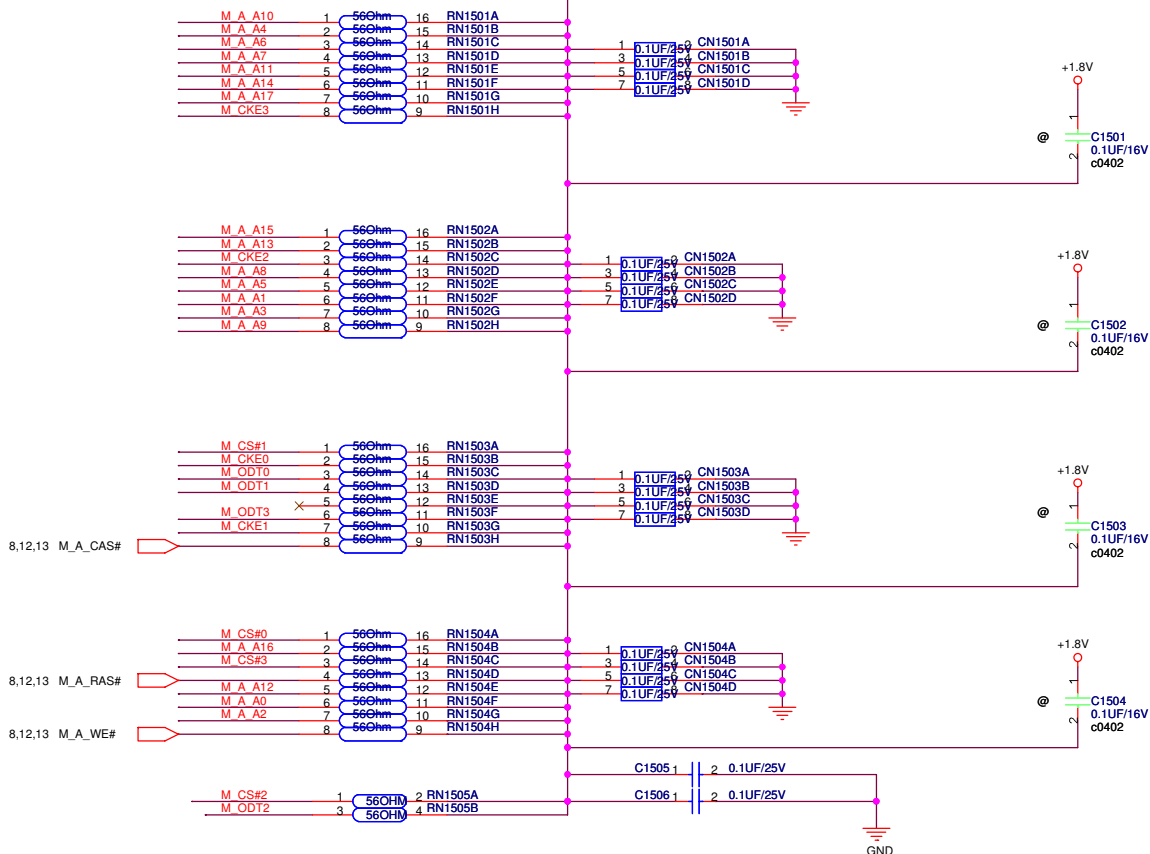


P/N : 12G025C22002 H:9.2mm





8,12,13 M_A_A[17:0]
8,12,13 M_CKE[0:3]
8,12,13 M_CS#[0:3]
8,12,13 M_ODT[0:3]



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

37.5 ohm

44 CRT_RED JP1801 2 SHORT_FIM 2

R1803 150Ohm 1%

GND

44 CRT_GREEN JP1802 2 SHORT_FIM 2

R1805 150Ohm 1%

GND

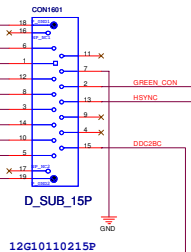
44 CRT_BLUE JP1807 2 SHORT_FIM 2

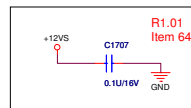
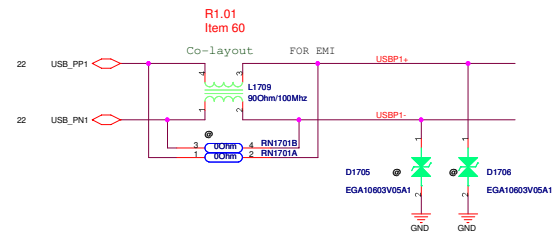
R1807 150Ohm 1%

GND

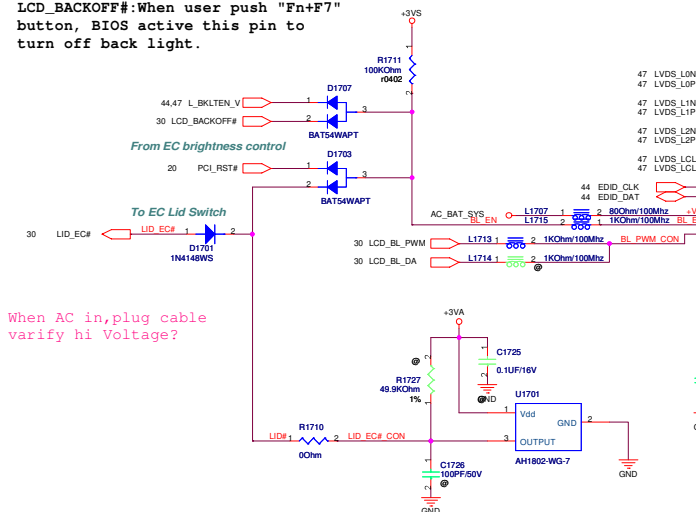
[illegible]

The schematic diagram illustrates the video input section of the TDA9640. It features five diode buffers, labeled D1601 through D1605, each consisting of a diode and a BAV99 transistor. Each buffer is connected to a +3VS supply and a GND reference. The outputs of these buffers are labeled as follows: D1601 outputs RED_CON, D1602 outputs GREEN_CON, D1603 outputs BLUE_CON, D1604 outputs HSYNC, and D1605 outputs VSYNC. The diodes are oriented with their cathodes towards the +3VS supply and their anodes towards the GND reference.

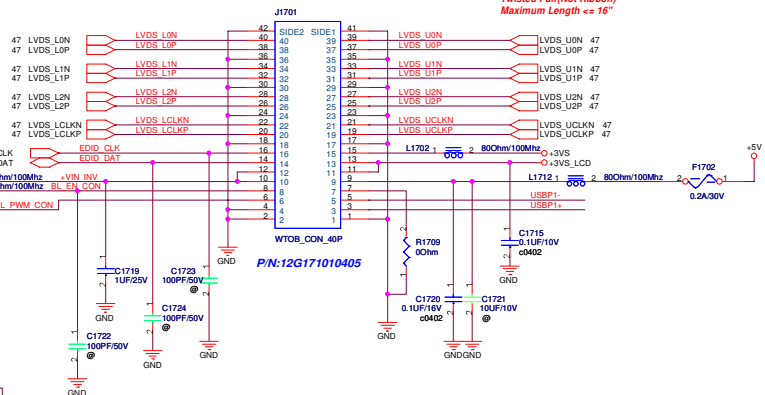




LCD_BACKOFF#:When user push "Fn+F7" button, BIOS active this pin to turn off back light.



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

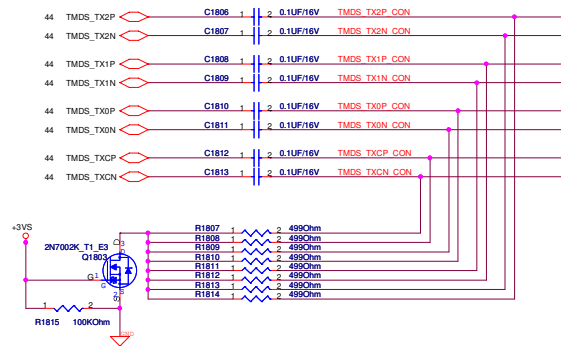


ASUS Title : LVDS & INVERTER

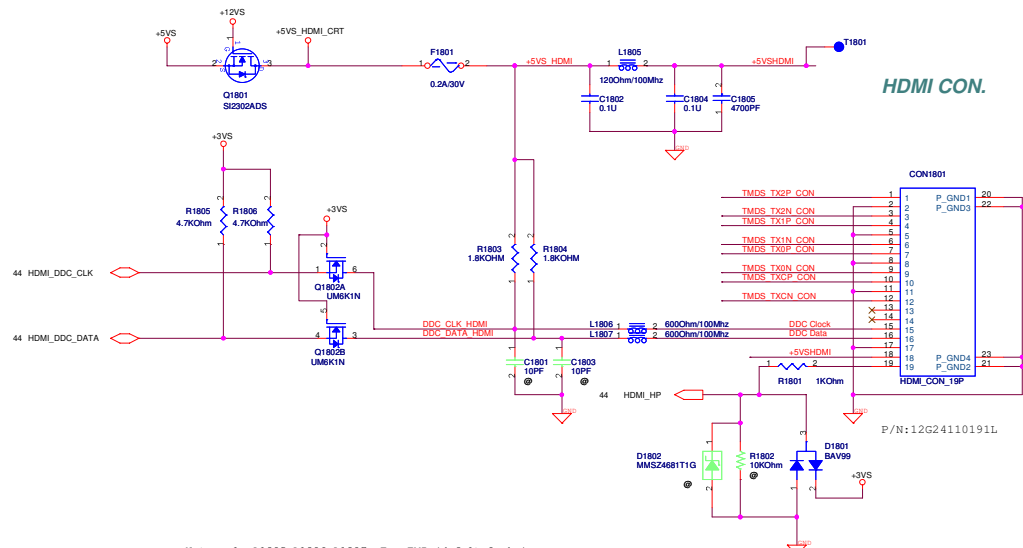
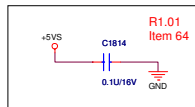
ASUSTeK COMPUTER INC		Engineer: WM Chen	
Size Custom	Project Name F80S		Rev 1.1
Date: Wednesday, February 13, 2008		Sheet	17 of 94

HDMI

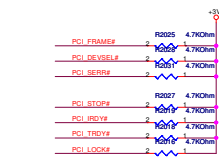
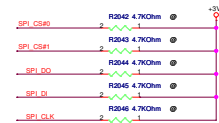
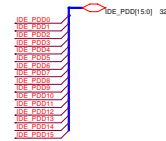
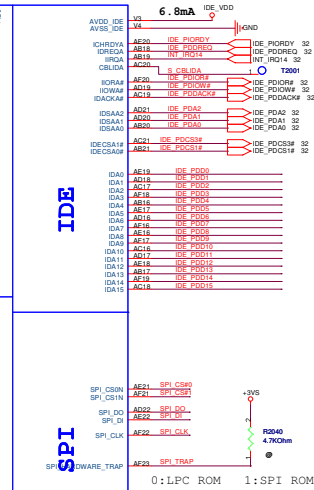
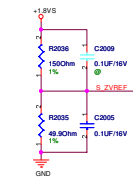
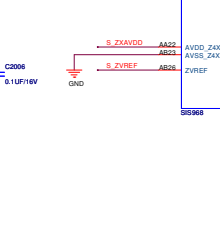
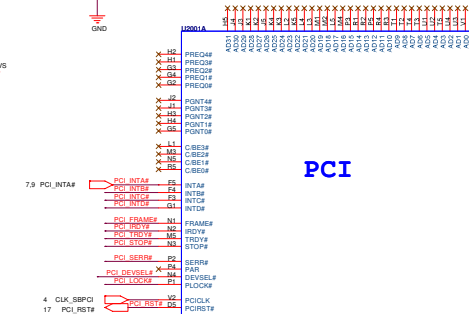
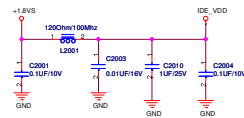
near the HDMI connector

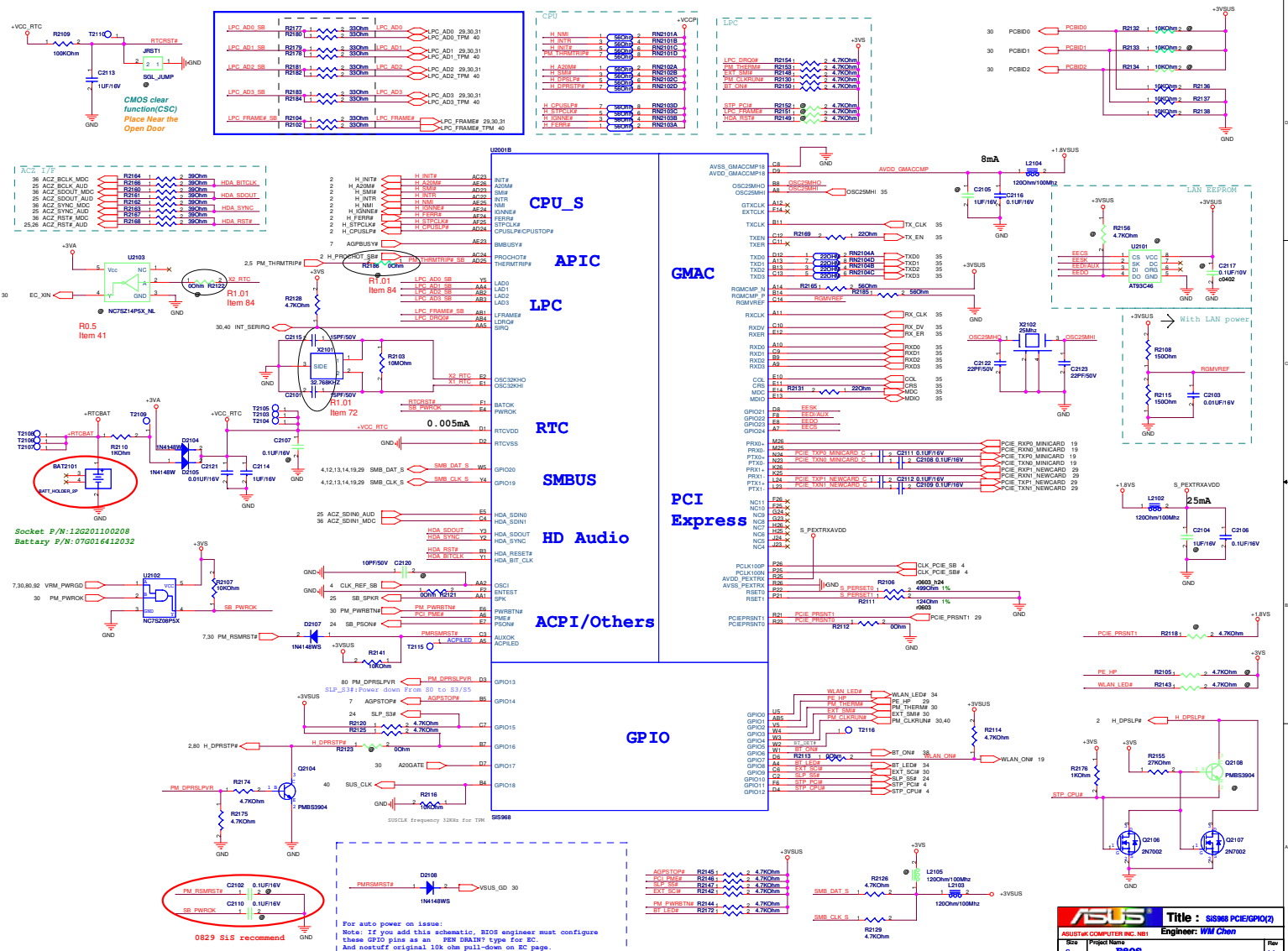


reference should be +5VS, but Ari answer that +3VS is fine. As long as it can turn the MOSFET on.

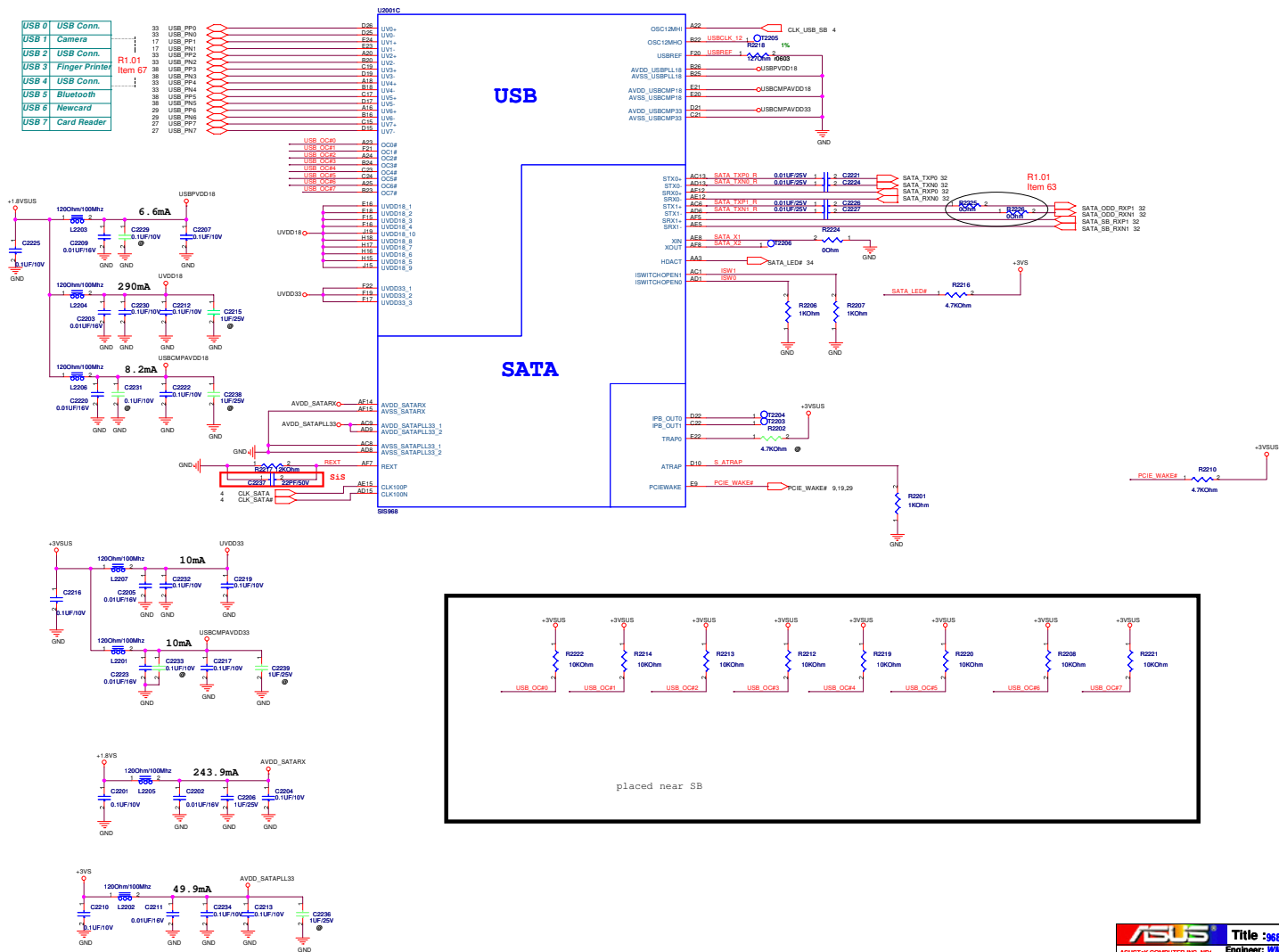


Note: 1. L1805,L1806,L1807: For EMI.(default=0 ohm)
2. DDC_CLK_HDMI,DDC_DATA_HDMI: +5V tolerant

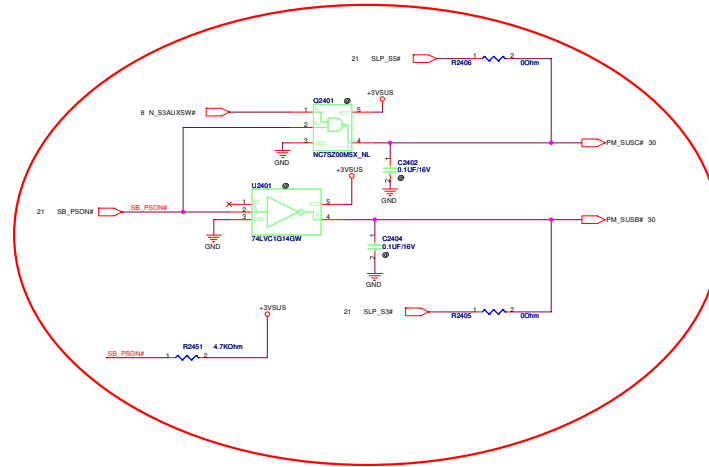




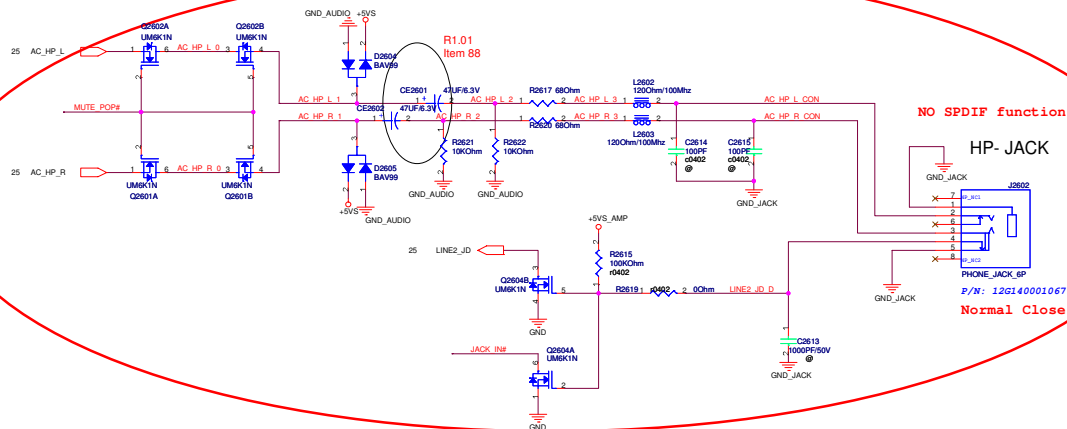
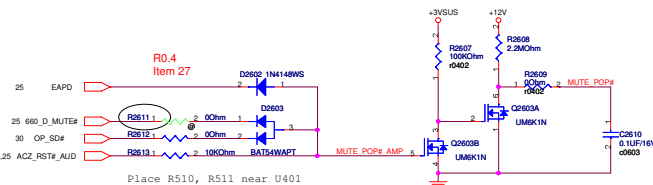
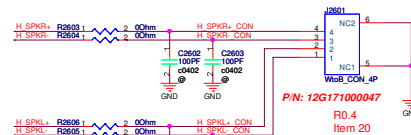
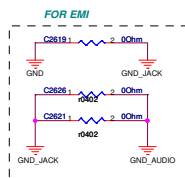
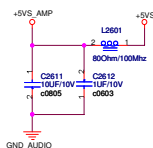
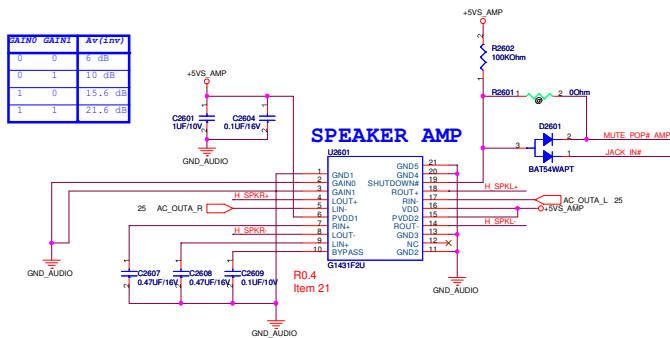
USB 0	USB Conn.	33	USB PP0
USB 1	Camera	33	USB PP0
USB 2	USB Conn.	17	USB PP1
USB 3	USB Conn.	33	USB PP2
USB 4	Finger Printer	33	USB PP2
USB 5	USB Conn.	38	USB PP3
USB 6	Bluetooth	33	USB PP4
USB 7	Card Reader	33	USB PP4
		38	USB PP5
		29	USB PP6
		27	USB PP7
		27	USB PP7



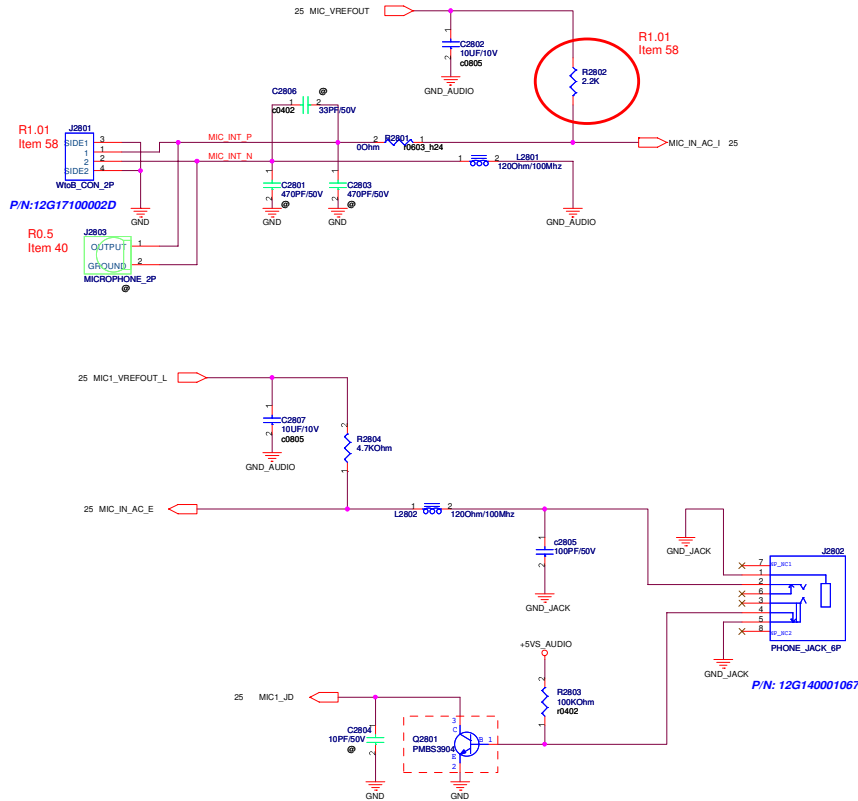
0829 SIS recommend




GA1N0	GA1N1	Av(inv)
0	0	6 dB
0	1	10 dB
1	0	15.6 dB
1	1	21.6 dB

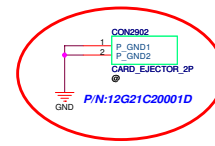
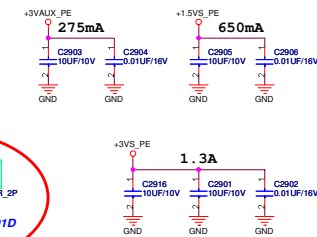
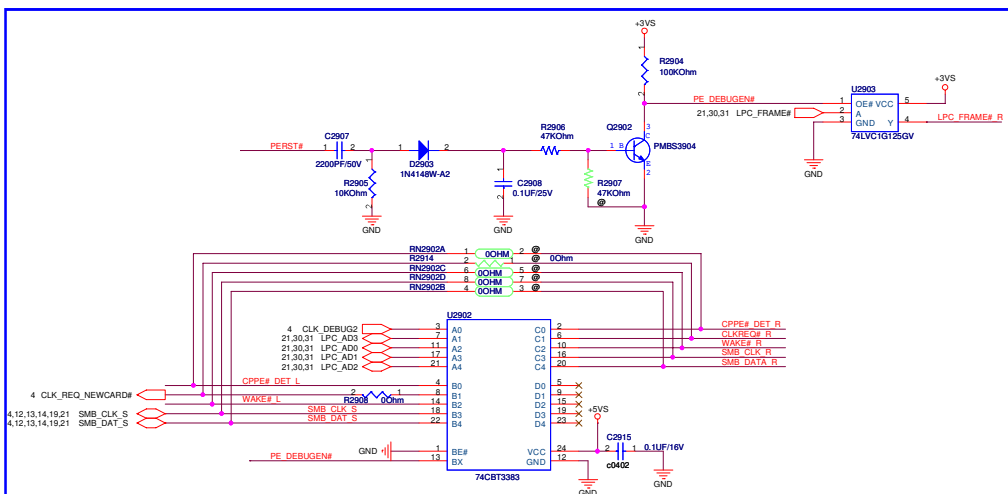
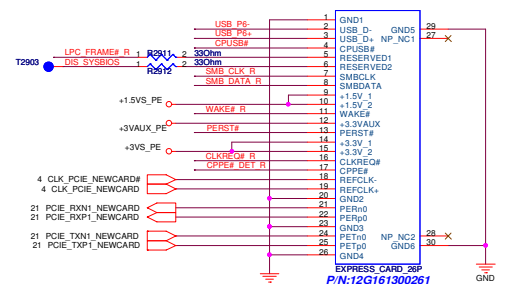
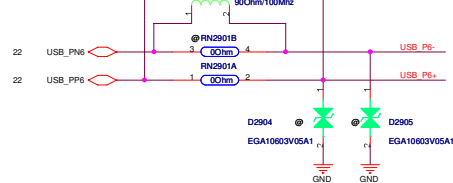
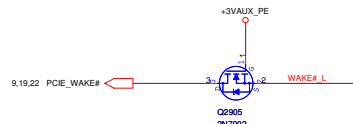
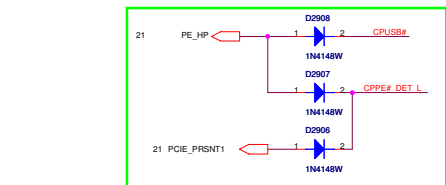


Internal MIC Pre-Amplifier



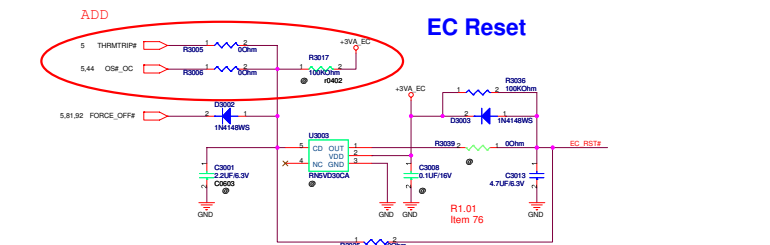
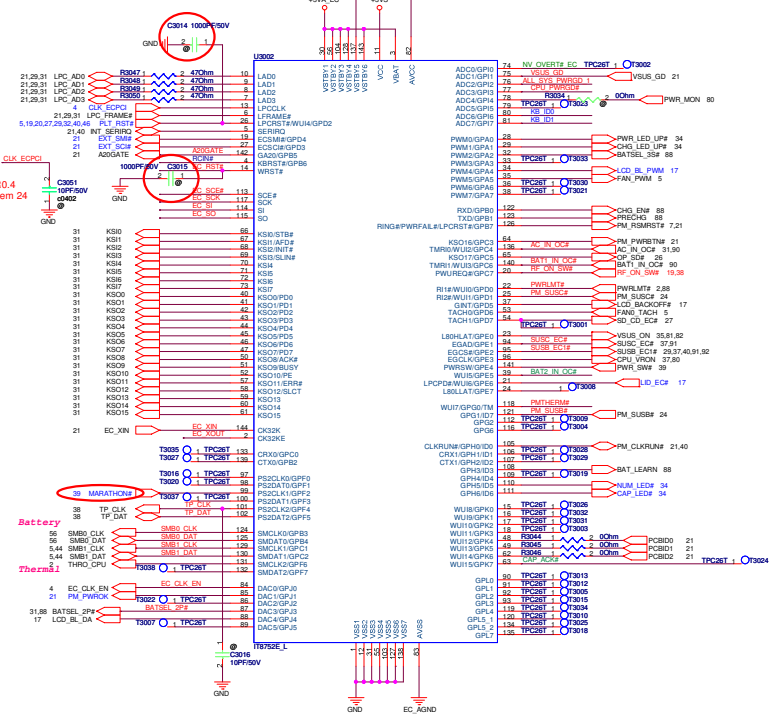
<Variant Name>

0,37,40,91,92 SUSB_EC1# 

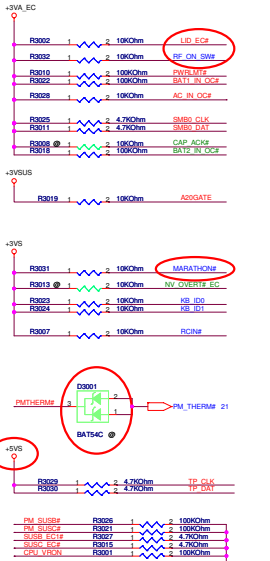


IT8752 Core Chip

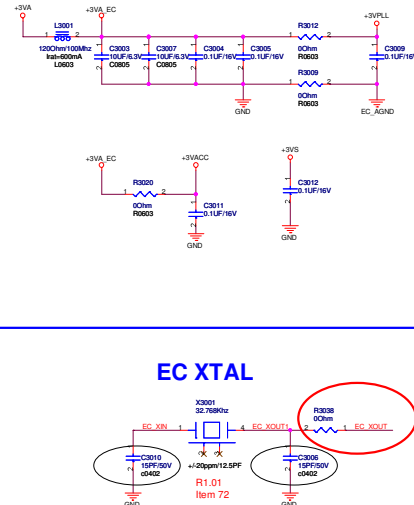
Standby (Sleep) Power Consumption:
0.1mA * 3.3V = 0.33mW



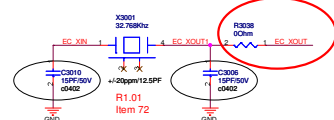
EC Pull-Up/Down



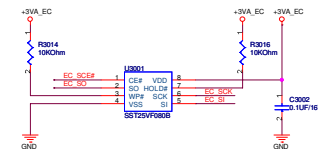
EC Power



EC XTAL

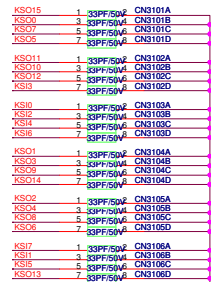
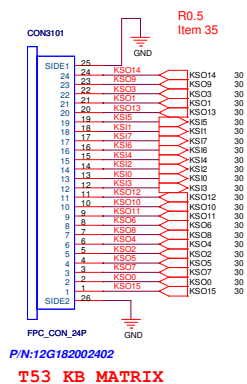


SPI ROM

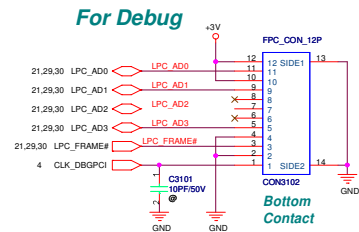


-Hazard Name-

For Keyboard

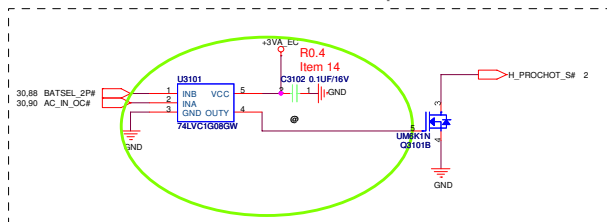


Reserve for EMI



Bottom Contact

PWRLMT Circuit: For 65W adaptor.

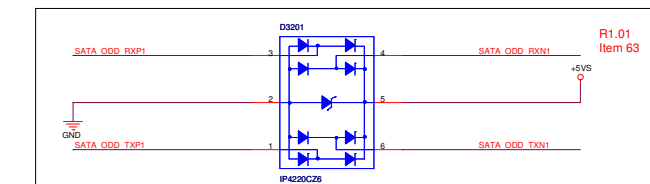


Variant Names



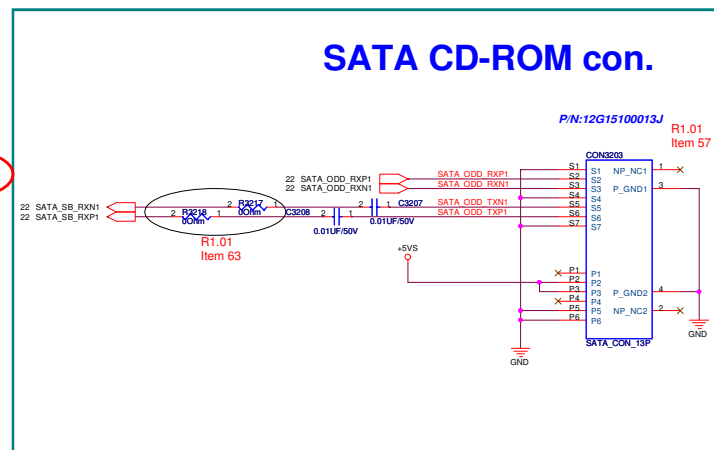
Title : KB conn
Engineer: WM Chen

Size	Project Name	Rev
Custom	F80S	1.1
Date: Wednesday, February 13, 2008		Sheet 31 of 94

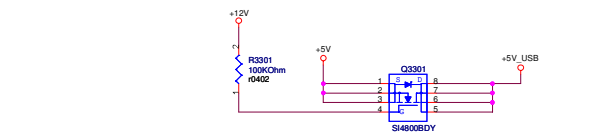
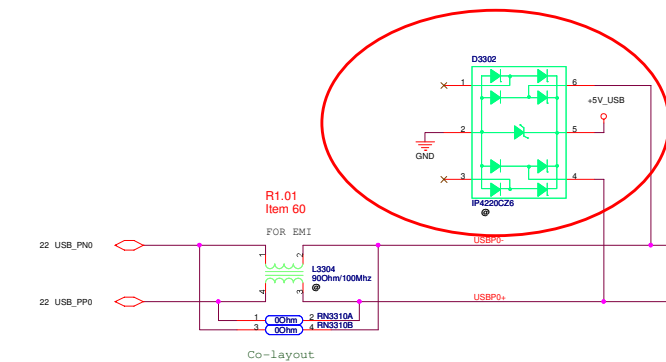
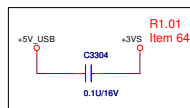
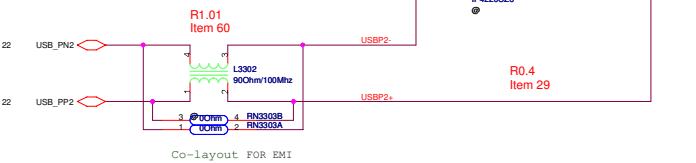


PATA CD-ROM CON

20 IDE_PDD[15:0] IDE_PDD[15:0]

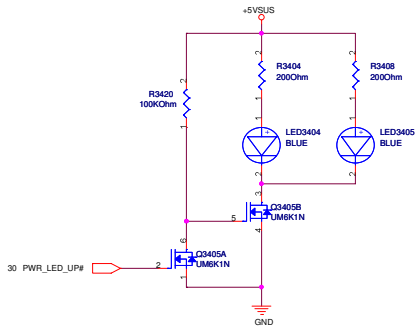


		Title : HDD & CD-ROM	
ASUSTek COMPUTER INC		Engineer: WM Chen	
Size Custom	Project Name F80S	Rev 1.1	
Date: Wednesday, February 13, 2008		Sheet 32	of 94

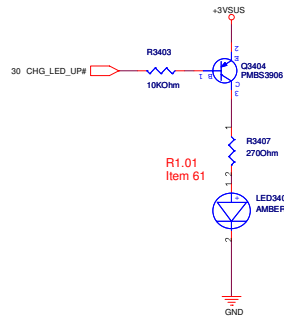


The schematic diagram illustrates the USB connection circuit. It features a USB connector (P/N: 12G130011045) connected to a USB controller (C3305) and a USB hub (C3302). The USB controller is connected to the USB hub via USBP1 and USBP2 signals. The USB hub is connected to the USB connector via USB_CON_1x4P signals. The USB connector is also connected to a USB cable (P/N: 12G130011045). The USB controller is connected to a USB cable (P/N: 12G130011045) via USBP1 and USBP2 signals. The USB hub is connected to a USB cable (P/N: 12G130011045) via USB_CON_1x4P signals. The USB connector is also connected to a USB cable (P/N: 12G130011045).

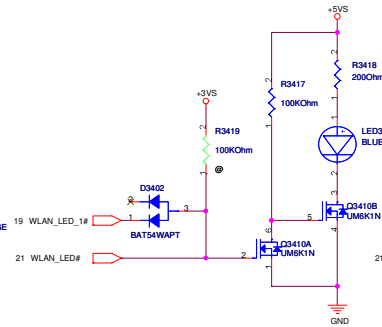
PWR LED



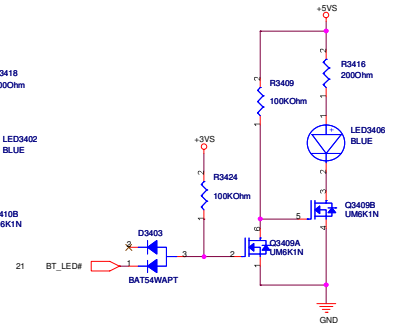
For BATTERY LED



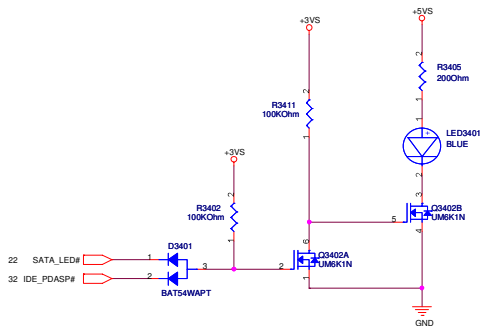
WireLess LED



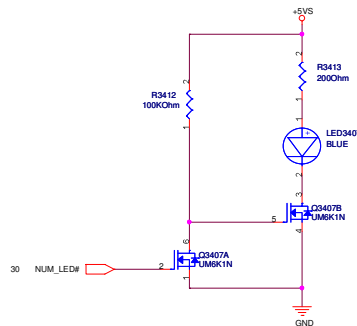
BT LED



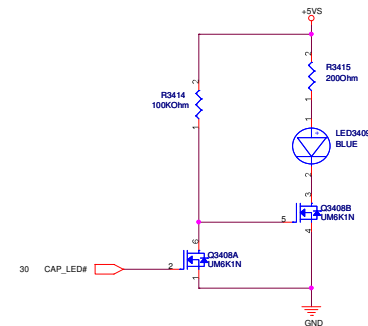
SATA/IDE LED



Num Lock



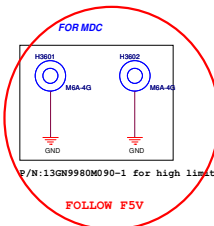
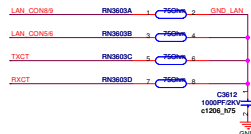
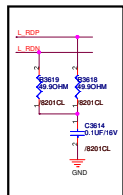
Cap. Lock

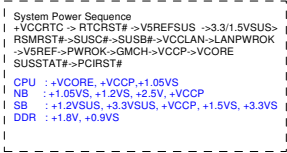


<Variant Name>

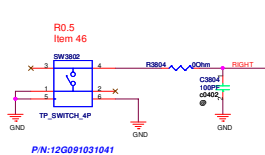
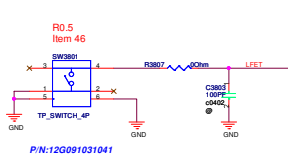
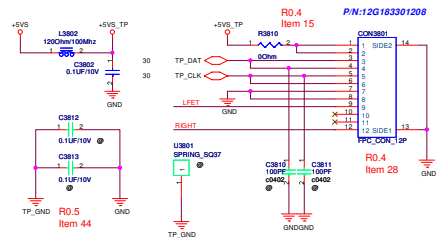
ASUS		Title : LED	
ASUSTeK COMPUTER INC		Engineer: WN Chan	
Size	Project Name	Rev	
Custom	F80S	1.1	
Date: Wednesday, February 13, 2008		Sheet	34 of 84



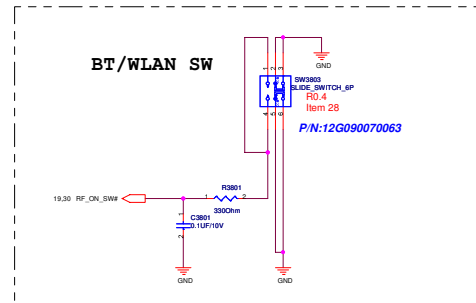
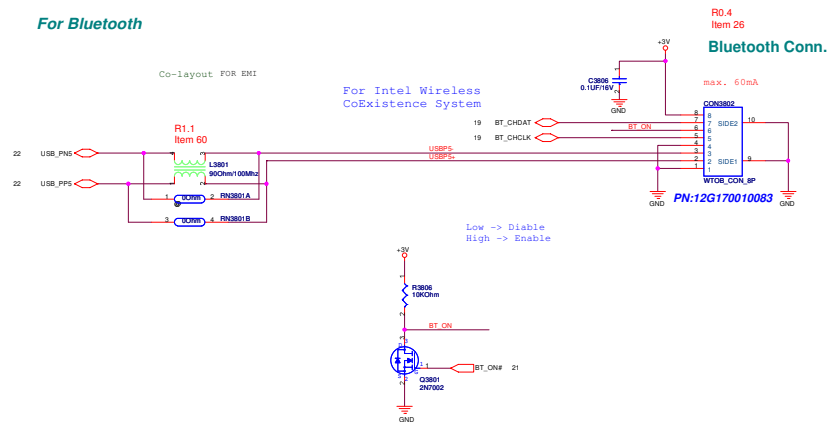




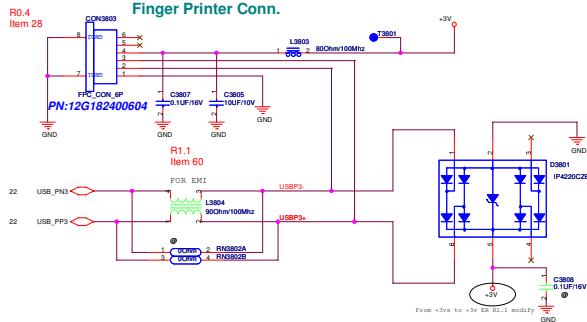
Touch-Pad



For Bluetooth



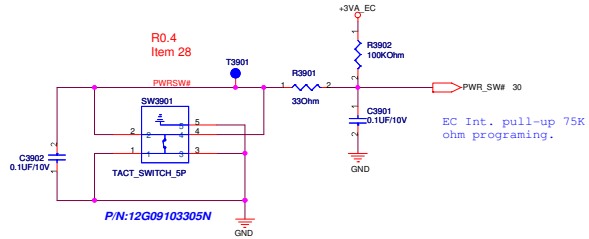
Finger Printer Conn.



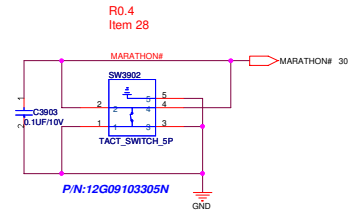
Variant Name:

ASUS		Title :BT&TP&P	
ASUSTAR COMPUTER INC. ME1		Engineer: WM Chen	
Rev	Project Name	Rev	
C	F80S	1.1	
Date: Wednesday, February 15, 2006		Sheet 31 of 37	

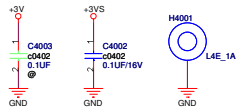
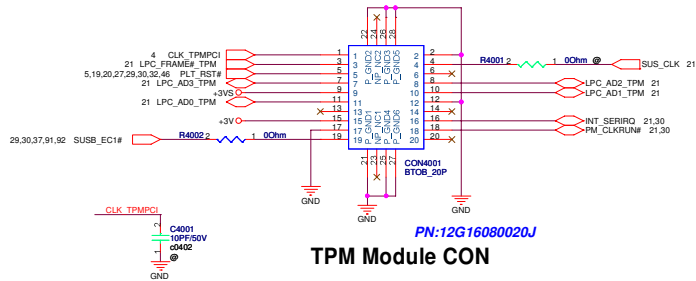
Power Button



MARATHON#



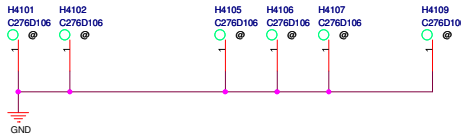
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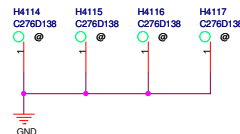
<Variant Name>

ASUS		Title : TPM	
ASUSTek COMPUTER INC. NBI		Engineer: WM Chen	
Size	Project Name		Rev
Custom	F80S		1.1
Date: Wednesday, February 13, 2008	Sheet	40 of	84

A

R0.5
Item 36

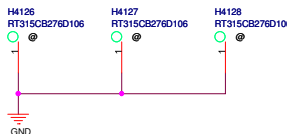
B



E



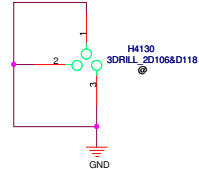
G



C



H



I



J

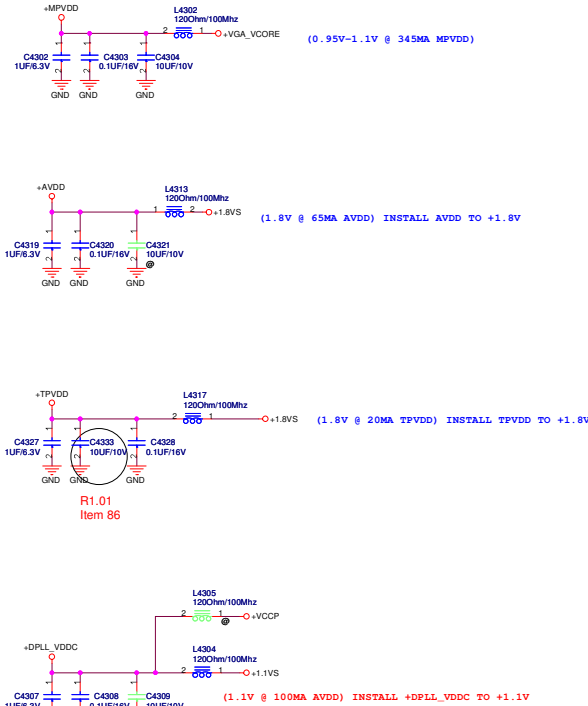
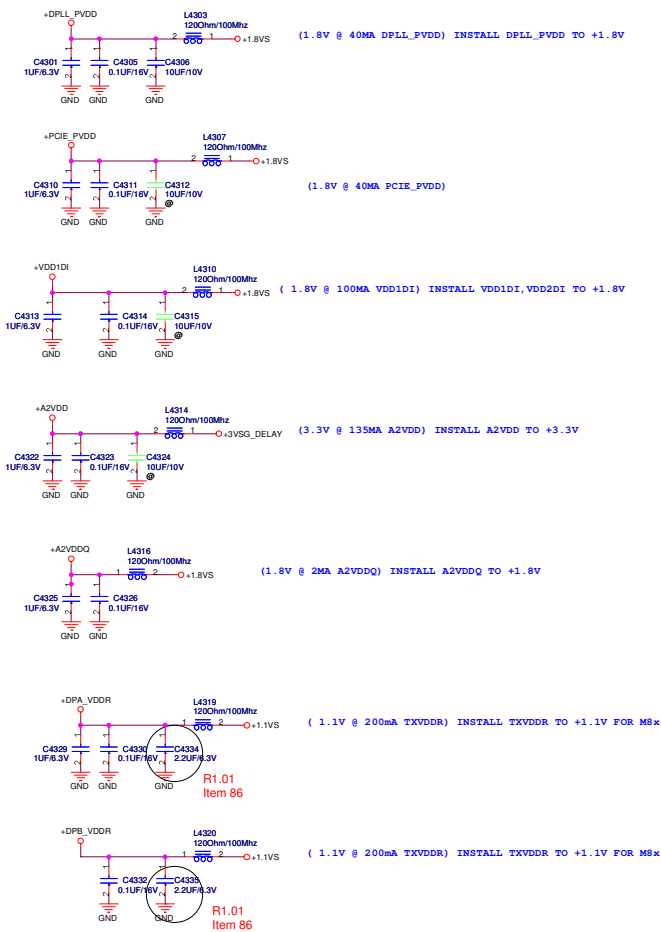


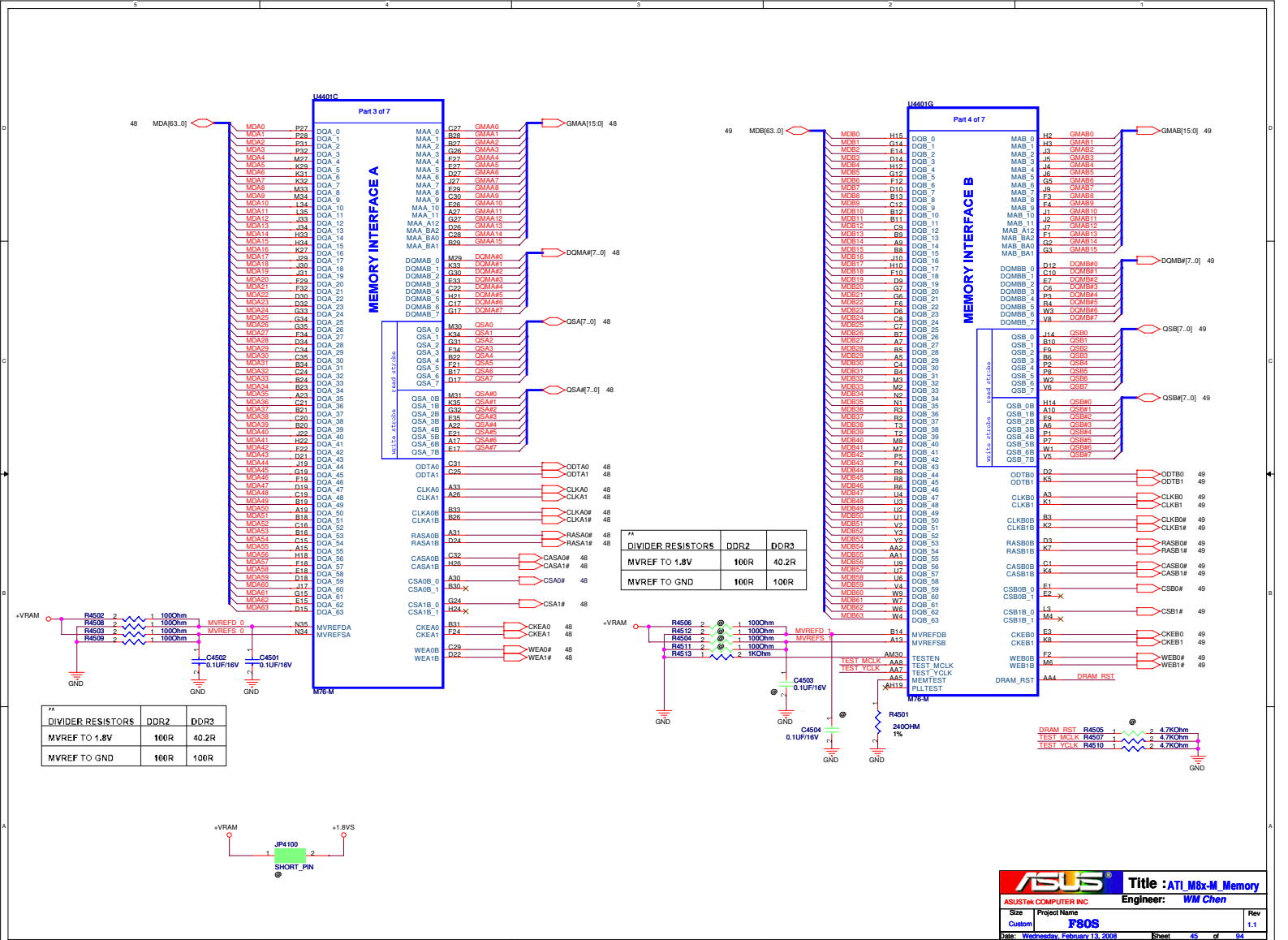
K

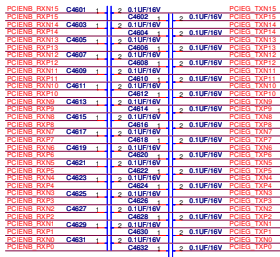
R1.01
Item 66

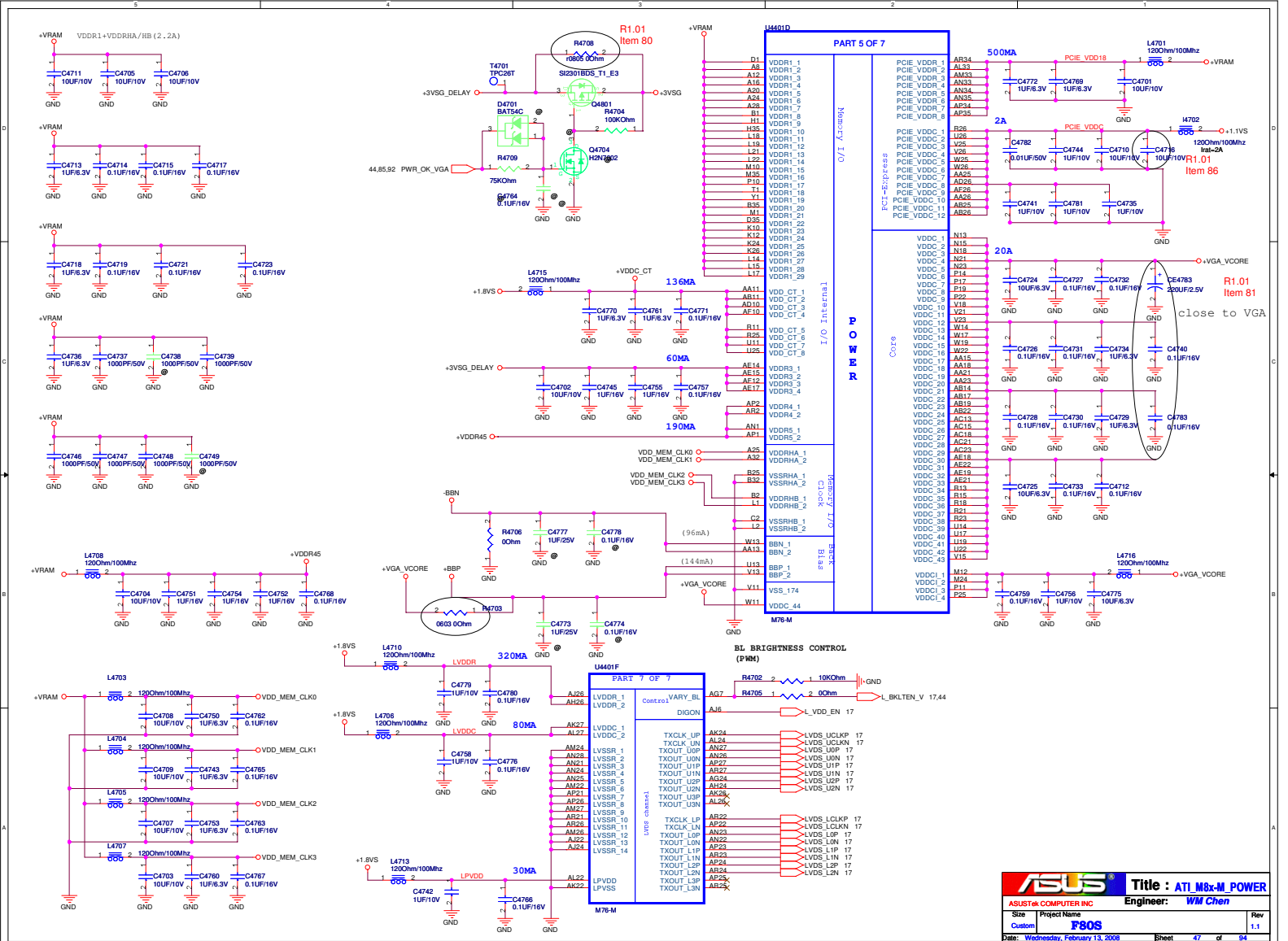
M8x Power

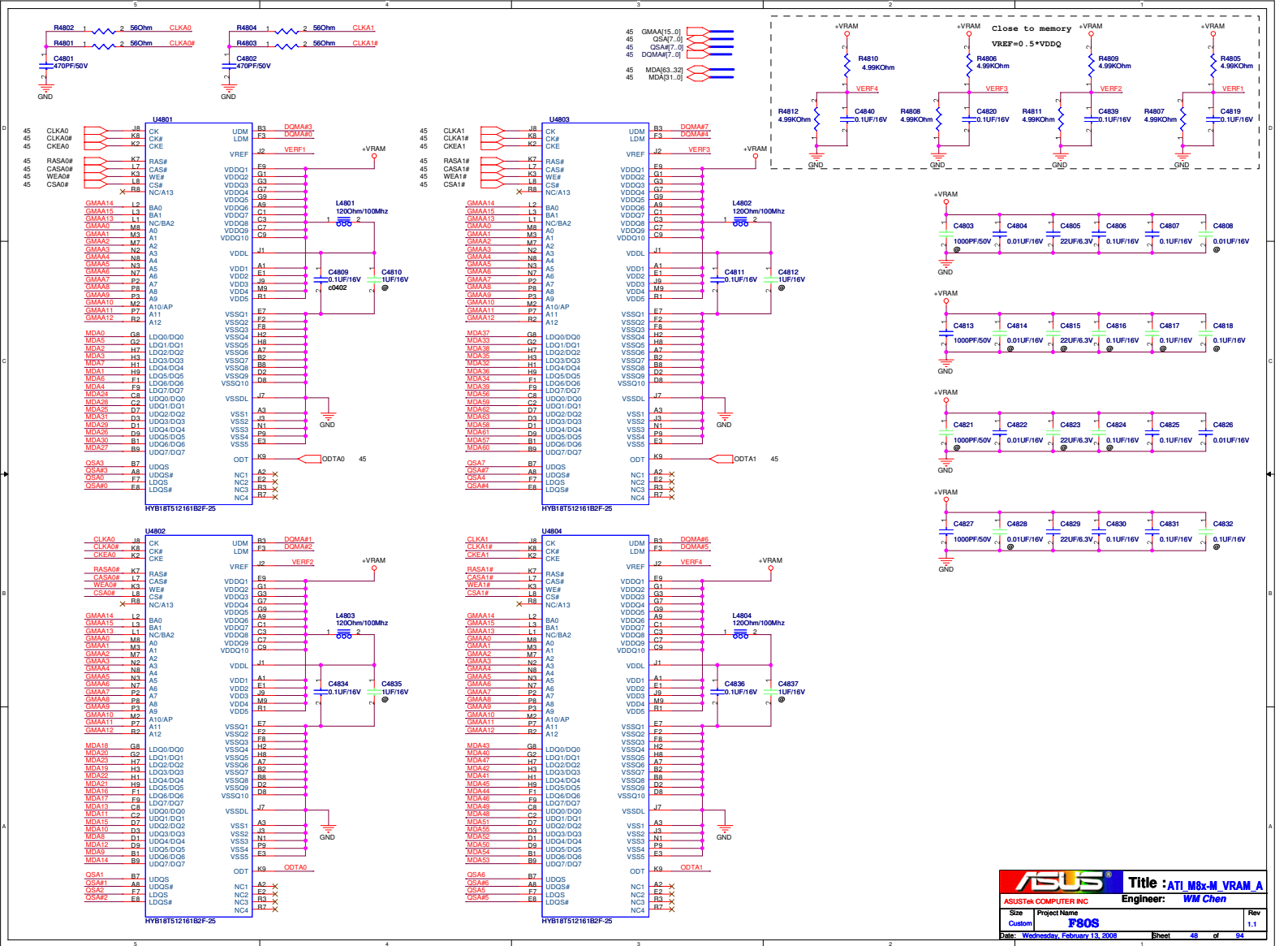
PLACE ALL DECOUPLING AS CLOSE TO ASIC AS POSSIBLE

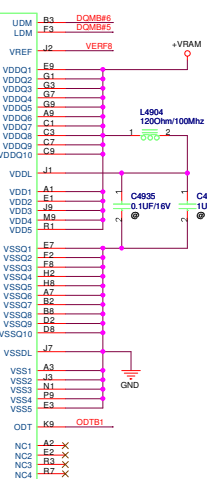
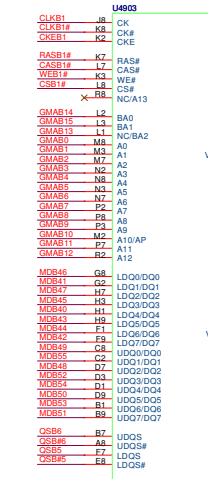


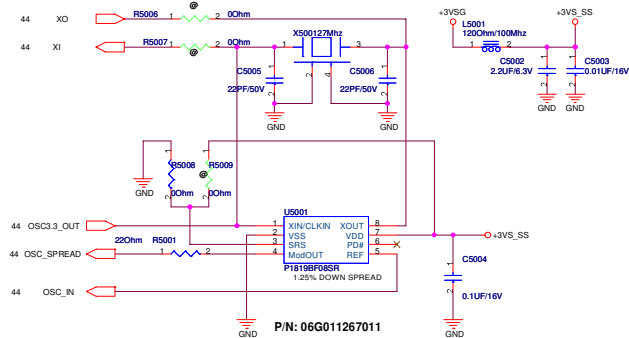




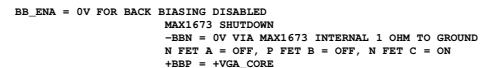




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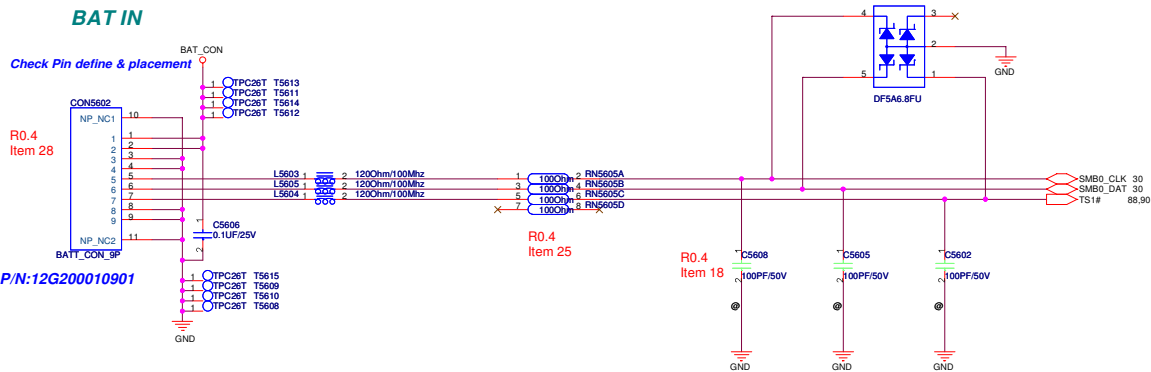
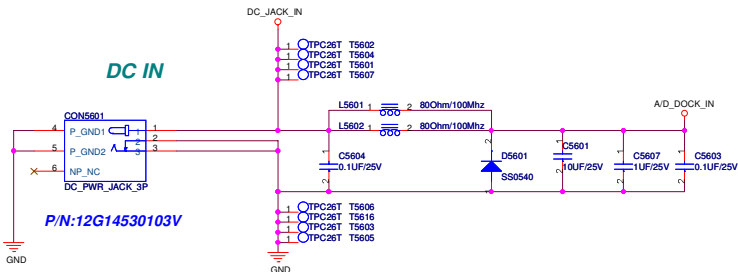


R0.4
Item 30



```
MAX1673 ENABLED
-BBN = -.5V
N FET A = ON, P FET B = ON, N FET C = OFF
+BBP = +1.5V
```

GPIO_21_BB_EN	-BB
0	GND
1	-0.5V



R0.4 revision history:

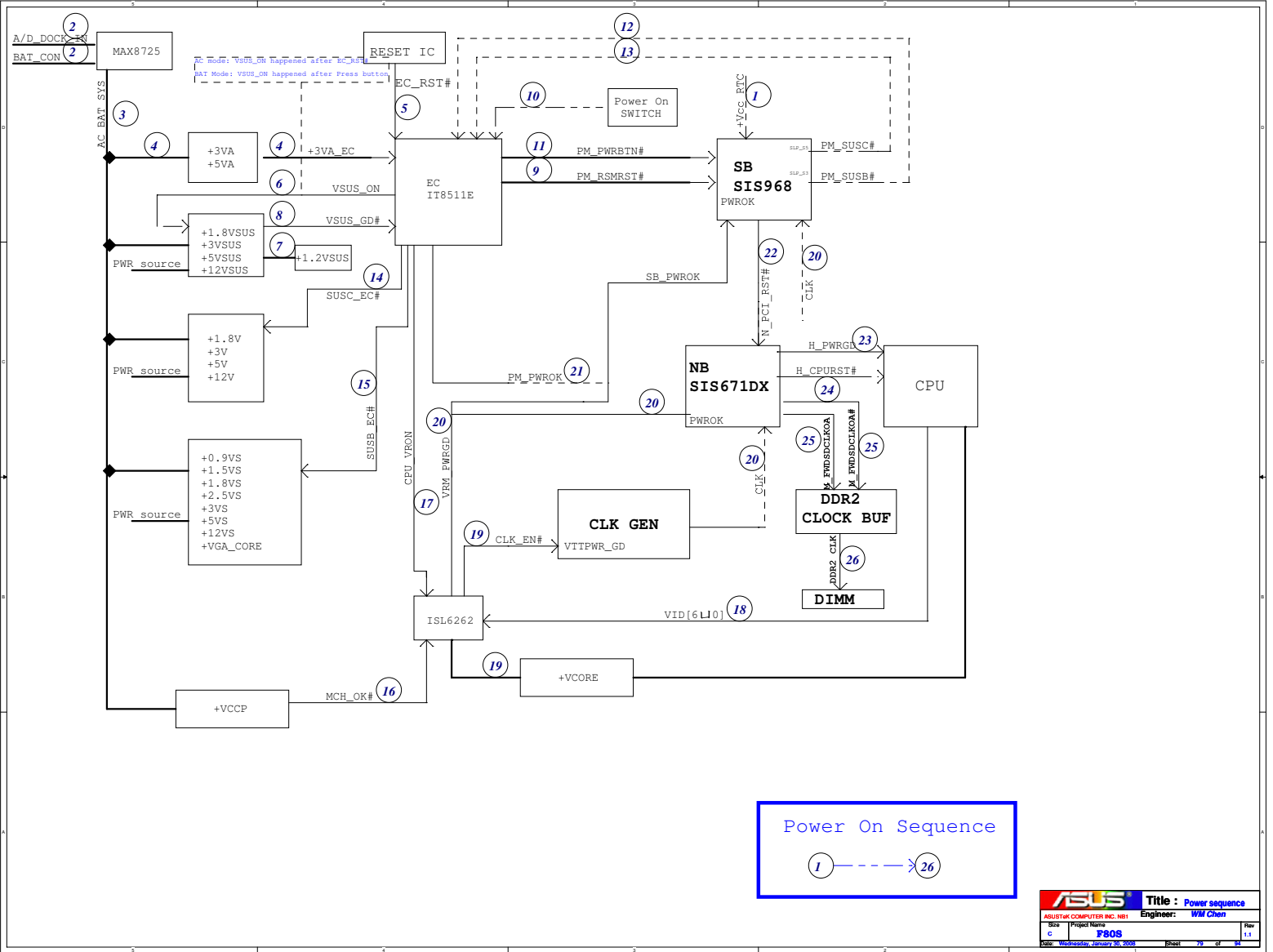
1. Delete R511,R515,D503,C503,C509,Q505,R506 from 100K change to 0ohm for better signal quality .
2. Change D3302,D3303,D2107 from 1SS355 to 1N4148WS-L for cost down.
3. Change D3401,D3402,D2601,D2603 to BAT54WAPT for cost down and common part.
4. Change D2106 to BAT54C for cost down.
5. Change U1701 to AH180-WG-7 for cost down.
6. Delete RN301,RN302 for not use on board CPU cost down.
7. Add R3047-R3050 for newcard debug card.
8. Change CAP_ACK# from pin24 to pin63 for EC(page30) pin assignment R0.06.
9. Add R3028 for net:AC_IN_OC# pull hi.
10. Change C3002 from 1uF to 0.1uF for cost down.
11. Change Q4203 from 2N7002 to PMBS3904 for cost down and MIC jack.
12. Unmount R1727 for pull hi in p34.Change L1716 to R1710 for U1701 on MB.
13. Change USB connector J2401~ J2403.
14. Unmount C3102 for cost down.
15. Reserve R3810 for prevent power short cause large current.
16. Change R3404,R3403,R3412,R3414 from 4.7K to 10K for power saving.
17. Change L3601,L3605 to R3622,R3623 for EMI fine tune cost down.
18. Unmount C5608,C5605,C5602 for EMI fine tune cost down.
19. Change R2505,R2506 from 680ohm to 2.7kohm for 1W speaker.
20. Change CON3303,J2601 part number for ME request.
21. Change U2601 from TI to GMT,C2609 to 0.1uF for cost down.
22. Change card reader connector J2701 part number for connector in bottom side.
23. Change U2501 from 660 to 662 for the logo request codec need 2-ADC after 2008/6.
24. Reserve C3051 for fine tune CLK_ECPIC1.
25. Add RN5605 for protect EC to prevent voltage damage.
26. Change CON3802 pin assignment for use W7 BT cable.
27. Unmount R2611 for ALC662 not need.
28. Change SW3901,SW3902,SW3801,SW3802,SW3803,J2801,CON5602,BAT2101,CON3801,CON3803 part number for ME request.
29. Delete D3301 for cost down.
30. Add VGA Back Bias on page51 for power play function
31. +1.2VSUS from page57 change to page82 for power circuit
32. Delete H_PWRGD_EC (Q202,R233) because it's not necessary.

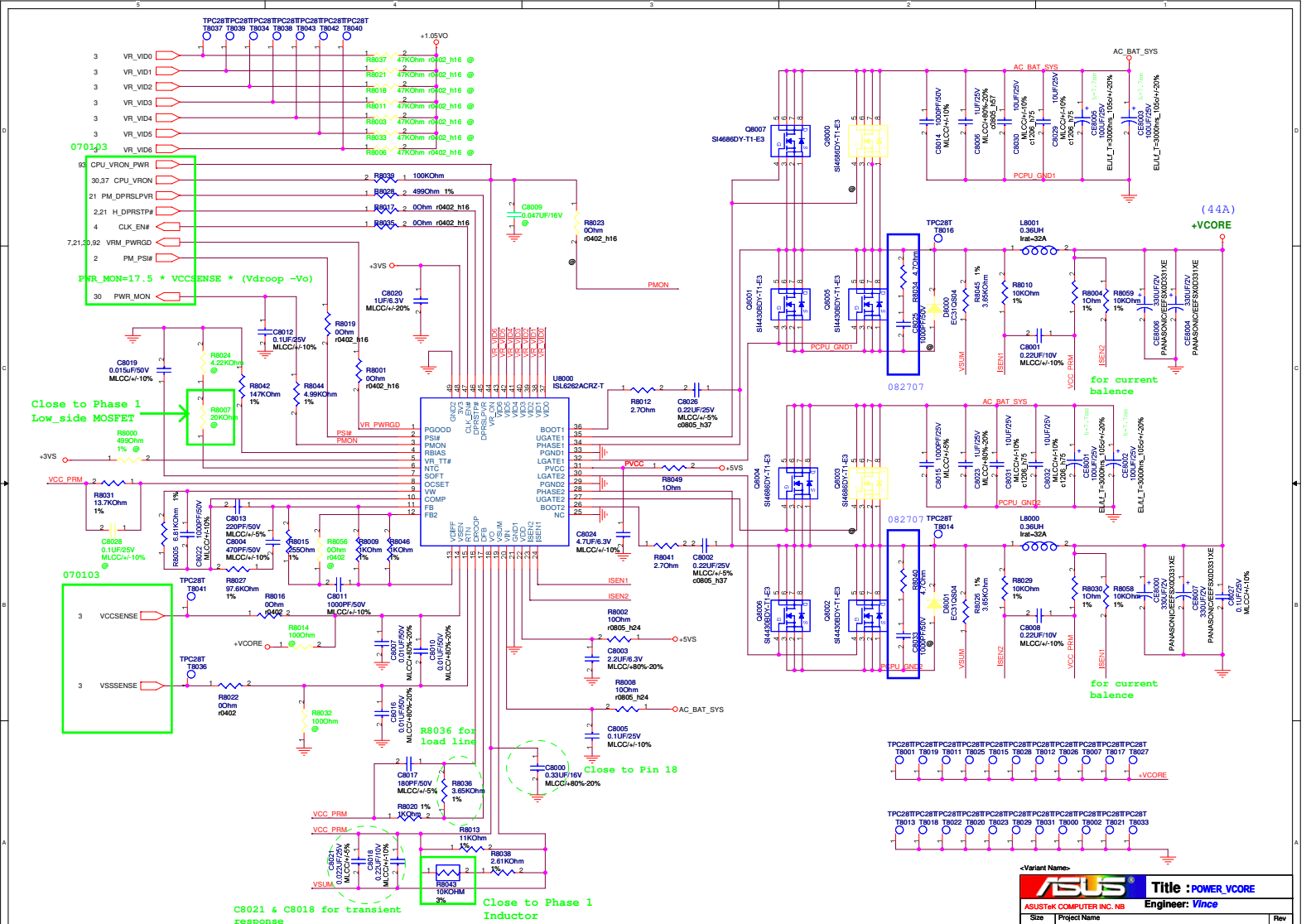
R0.5 revision history:

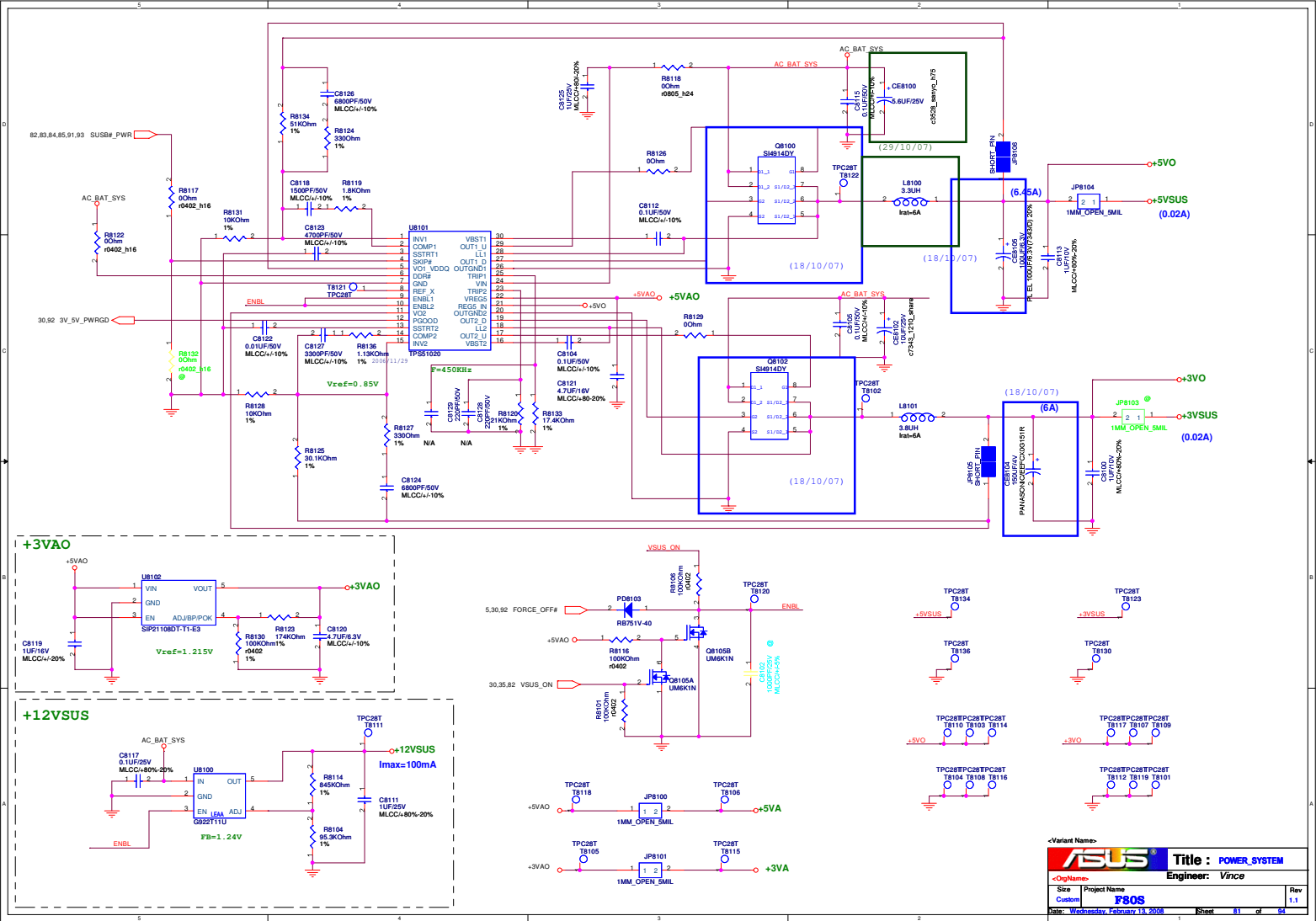
33. Reserve CON1901 pin24 to +3VAUX for Azurewave's Wireless-Lan Card.
34. Modify p25,p26 for colay ALC662 and ALC663 for sales recomment.
35. Change KB connector CON3101 part number for ME request.
36. Change Screw hole for ME request.
37. Change CON3602 part number for ME request.
38. Cap. Array CN3101-CN3106 from 0805 change to 1206 size.
39. Add H4401,H4402 VGA NUT
40. Reserve internal mic J2803 for experiment.
41. Reserve U3502,U2103 circuit for experiment.
42. Add U1601,U1602 for NB output 3.3V level cost down.
43. Change page34 LED schematic for use Blue LED.
44. Reserve C3812,C3813 for EMI request TP_GND.
45. Modify Page 22,32 for sales require SATA ODD.
46. Change SW3801,SW3802 part number for ME request.
47. Change U3001 part number for cost down.
48. Reserve R208,C202 for H_CPURST#.
49. Add U3801 for EMI request.
50. Add RN1801-RN1804 for EMI request.
51. Delete VRAM termination
52. Add Q4405,R4411,C4466 for +3VSG
53. Change Hall-sensor U1701 part number for ME request.

R1.01 revision history:

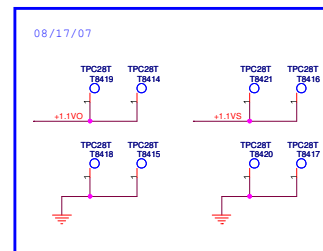
54. Unmount R4428 for leakage current issue.
55. Change R4435 from 71.5 to 150 for SIS request.
56. Mount R4440,R4441,R4443 37.4 ohm for VGA issue.
57. Change SATA ODD Connector CON3203 part number for ME request.
58. Change J2801 connector for Wire-MIC,change R2802 from 4.7K to 2.2K after test internal mic performance.
59. Add D3603,C3609 for LAN ESD solution.
60. Change L1709,L3801,L3804,L3301,L3302,L3304,L2901 part number for colay footprint.
61. Change R3407,LED3403 value for meet factory LED spec.
62. Change VGA NUT H4401,H4402 to 13G021036001 for Thermal request.
63. Add D3201 IP4220CZ6 and R2225, R2226, R3217, R3218 0 ohm for EMI request.
64. Add C1218, C1707, C1814, C3304 0.1uF for EMI request.
65. Change R1402 from 22 to 10 for DDR Feedback quality.
66. Change Screw hole H4103, H4104, H4108 and Add H4131 for ME request.
67. Change USB external ports for controller.
68. Change CON3602 RJ11+45 part number for ME request.
69. Change R1705 from 100ohm to 330ohm for meet panel spec.
70. Add R2730 for factory recovery AU6371 driver CD.
71. Change R2505,R2506 from 2.7K to 3.3K for HDD-Speaker resonance issue.
72. Change C410,C417,C2101,C2115,C2715,C2716,C3006,C3010 value for TXC report suggest.
73. Del R1816,R1817 for SMT colay request.
74. Add R310 for +VCCA_CPU voltage ripple.
75. Add C2355 2.2uf for SB issue.
76. Unmount R3017,C3001,U3003,C3008, mount R3036,D3003,C3013,R3035, Add R3039 for cost down.
77. Add C3514 for Lan issue.
78. Mount R4459 and unmount Q4405, R4411,C4466 for cost down.
79. Add R4603 and unmount D4601 for cost down.
80. Mount R4708 and unmount Q4801,Q4704,R4709,R4704 for cost down.
81. Add CE4783 220UF,C4740,C4783 0.1uF for VGA issue.
82. Mount R1611,R1612 from 0 ohm to 33 ohm and mount C1606,C1607 for meet spec.
83. Change CON3201 part number for ME request.
84. Add R2122,R2186 for SB issue.
85. Add C3305 220UF for meet spec.
86. Add C1905,C2727,C4333,C4334,C4335,C4716, Del C4331 for meet spec.
87. Del CE3202 100UF and Add C3209 47UF for ME request.
88. Change CE2601,CE2602 from 27uF to 47uF for better Low frequency response.
89. Add D4401,R3717,Q3709 for meet VGA spec.











<Variant Name>


```

IC50 IN Threshold 2.04VmaxA/D_DOCK_IN
> 17.44V active

Adapter (InImax) = [0.075V]Rsense(ADIN)[VCL5.1VREF]
Rsense(ADIN)=[0.010ohm]
VCL5.1=2.541V
> InImax=4.5A
> Constant Power = 19 * 4.5 = 85.5W
> RS110=20K/RS115=30K

Charge Current kchg = [0.075V]Rsense(CHG)[VCLT3.6V]
Rsense(CHG)=0.025ohm
VCLT=3V --> kchg = 2.5A
VCLT=1.68V --> kchg = 1.44A

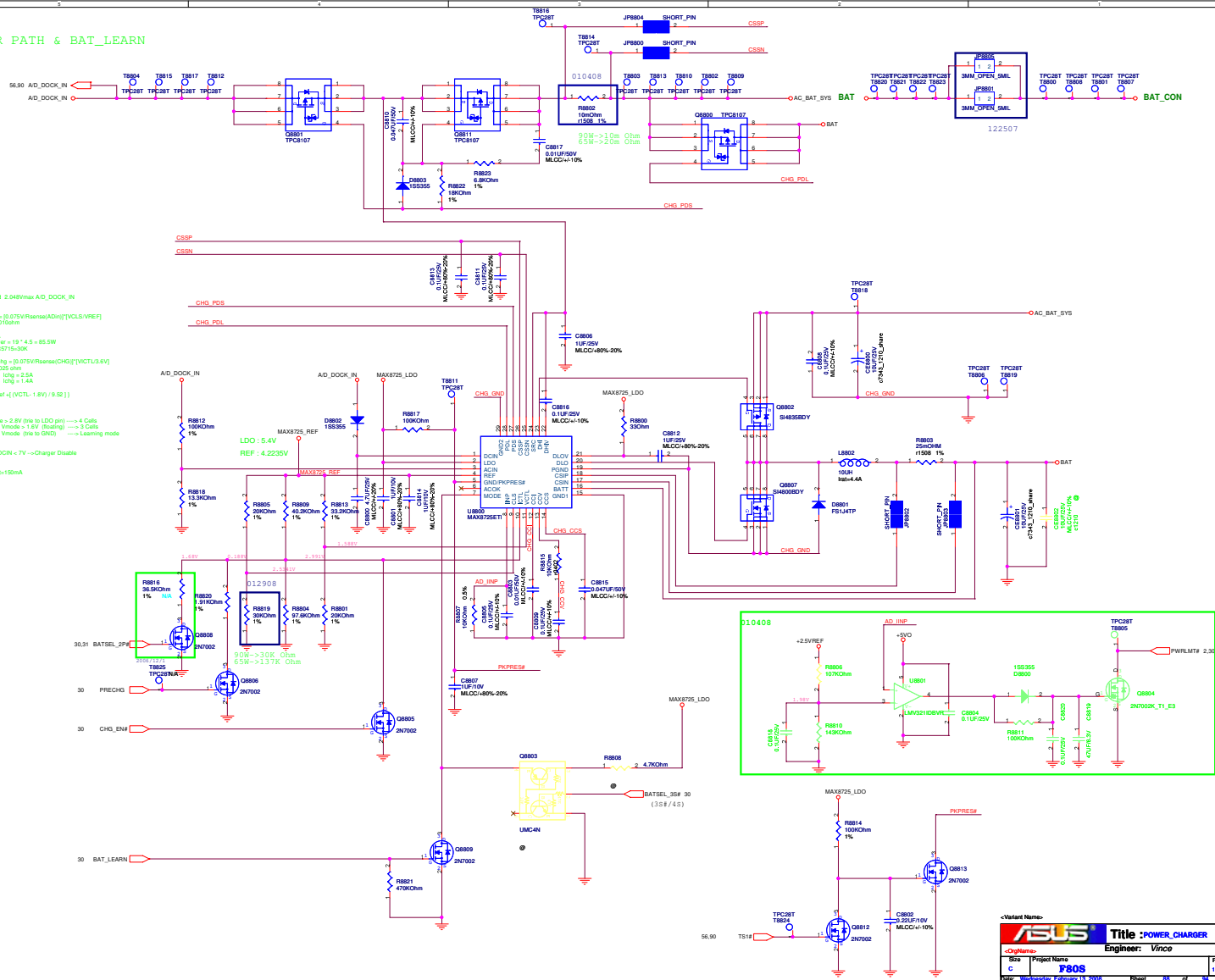
Vbat = Gsk * Vref * (VCLT - 1.8V) / 9.52
VCLT=1.588V
> Vbat = 4.2V

Mode pin : Vmode = 2.8V (rise to LDO pin) --> 4 Cals
2.0 > Vmode > 1.6V (floating) --> 3 Cals
0.5 > Vmode --> 1.6V (to GND) --> Learning mode

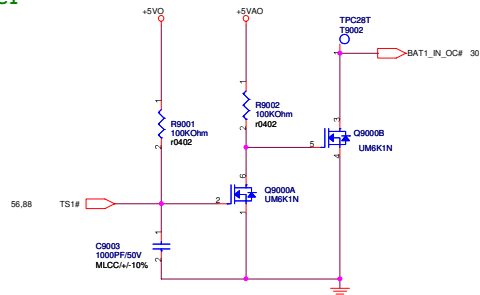
VCLT=0.8V or DGIN = 7V --> Charge Disable

Precharge current=150mA

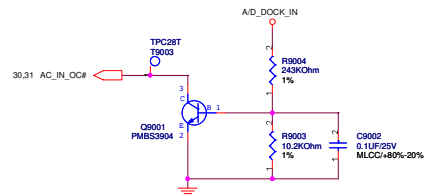
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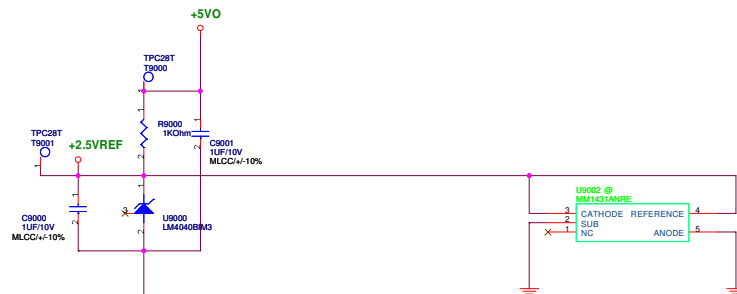
BATTERY IN DETECT



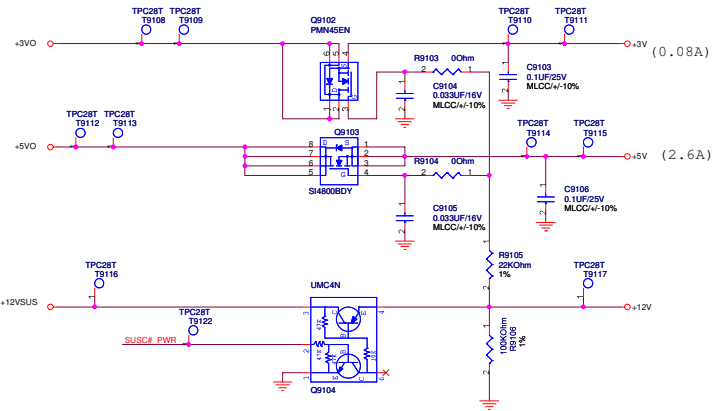
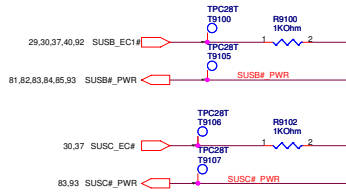
ADAPTER IN DETECT



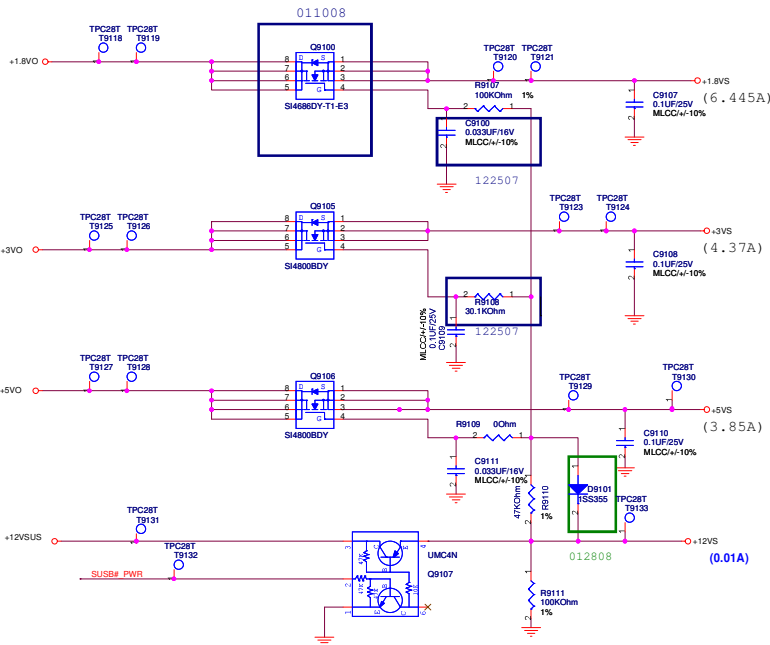
+2.5VREF



SUSC#_STAGE POWER



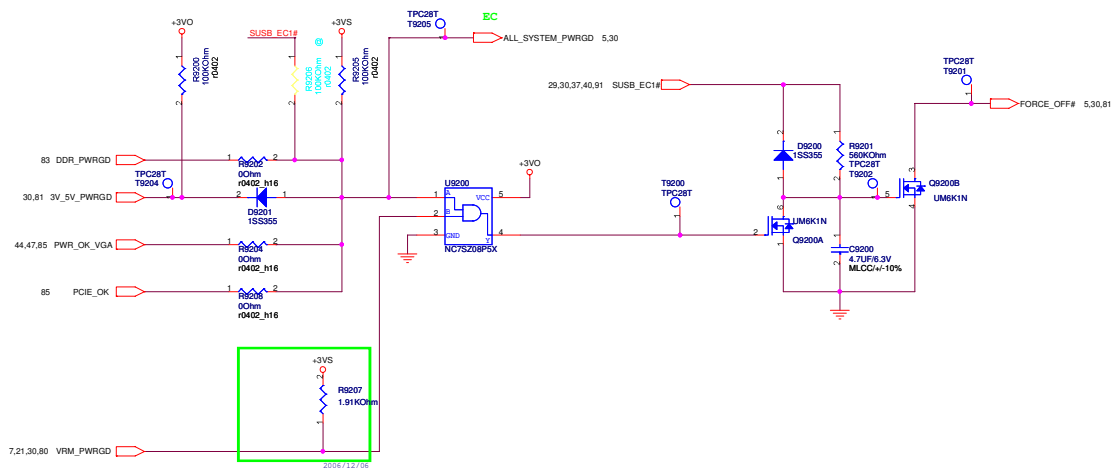
SUSB#_PWR POWER



<Variant Name>

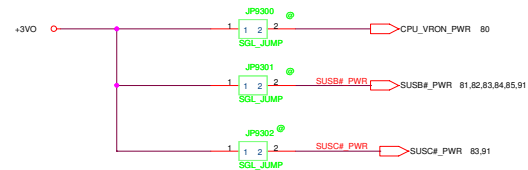
ASUS		Title : POWER_LOAD SWITCH	
Size		Engineer: Vince	
Project Name		Rev	
Custom		1.1	
Date: Wednesday, February 13, 2008		Sheet 81 of 84	

POWER GOOD DETECTOR



AC_BAT_SYS	AC_BAT_SYS	17,80,81,83,85,88
+3VA	+3VA	17,21,30,37,81
+5VA	+5VA	5,81
+5VO	+5VO	81,83,85,88,90,91
+3VO	+3VO	81,85,91,92
+3VSUS	+3VSUS	8,17,19,20,21,22,23,24,26,30,34,35,36,81,82
+5VSUS	+5VSUS	34,81
+3V	+3V	19,27,29,31,36,37,38,40,91
+3VS	+3VS	2,4,5,7,12,13,16,17,18,19,20,21,22,23,25,29,30,32,33,34,37,40,44,80,91,92
+12VSUS	+12VSUS	81,82,91
+12V	+12V	26,27,33,37,84,91
+12VS	+12VS	17,18,37,44,91
+5V	+5V	17,33,37,91
+5VS	+5VS	5,12,16,18,25,26,29,30,32,34,37,38,51,80,91
+1.8VO	+1.8VO	82,83,91
+1.8VSUS	+1.8VSUS	10,21,22,23,82
+1.8V	+1.8V	8,10,12,13,15,37,83
+1.8VS	+1.8VS	6,7,8,10,12,14,20,21,22,23,37,43,44,45,47,51,91
+1.5VS	+1.5VS	3,19,25,29,37,51,82
+VCCP	+VCCP	2,4,5,6,10,21,23,37,43,84
+0.9VS	+0.9VS	15,37,83
BAT	BAT	88
+2.5VREF	+2.5VREF	82,84,88,90
+VCORE	+VCORE	3,37,80
+VGA_VCORE	+VGA_VCORE	37,43,47,51,85
+1.2VO	+1.2VO	84,85
+1.2VS	+1.2VS	9,10,37,85
BAT_CON	BAT_CON	56,88

FOR POWER TEST



<Variant Name>

ASUS		Title : POWER SIGNAL	
<OrigName>		Engineer: Vince	
Size	Project Name	Rev	
Custom	F80S	1.1	
Date: Wednesday, February 13, 2008		Sheet	93 of 94

