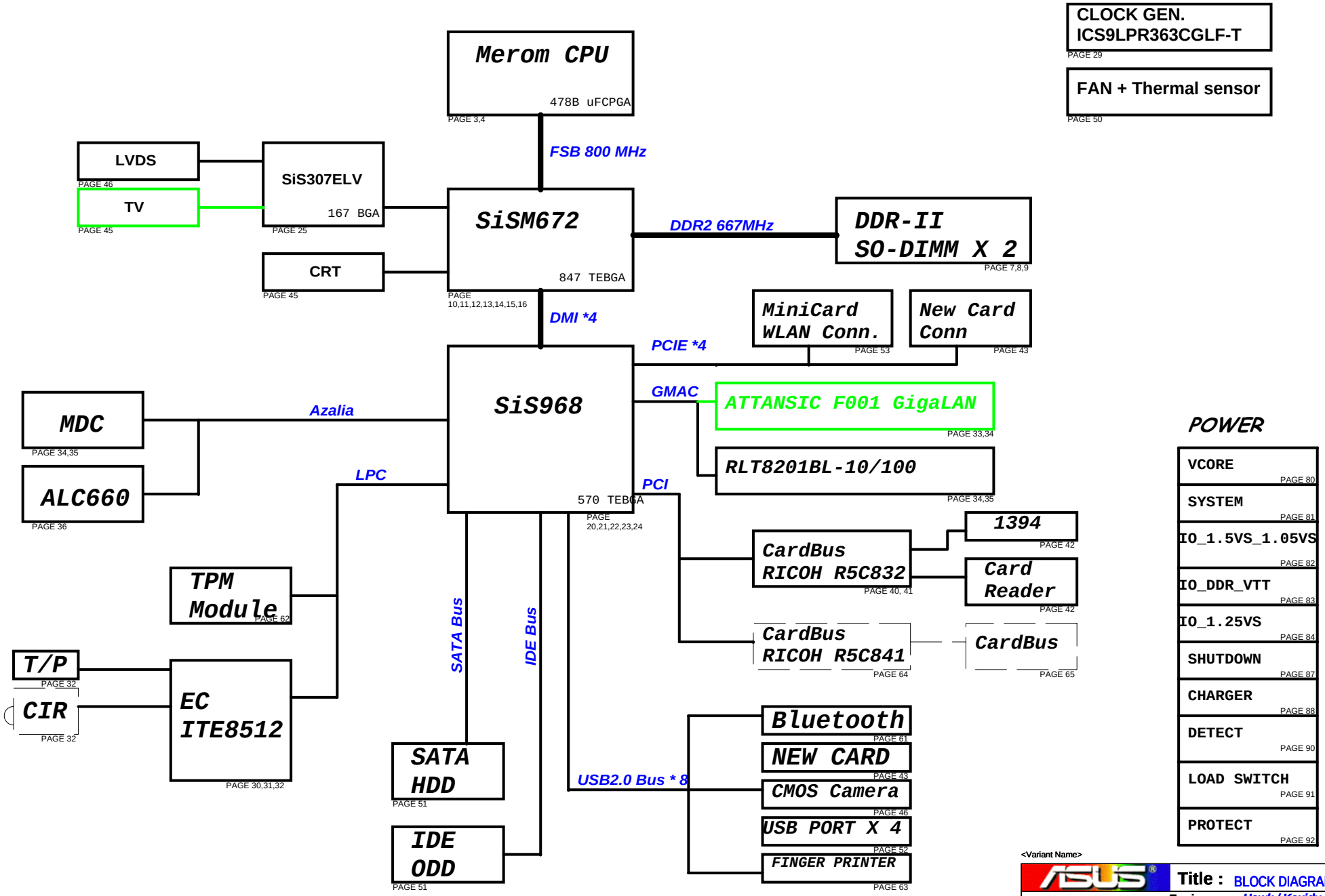
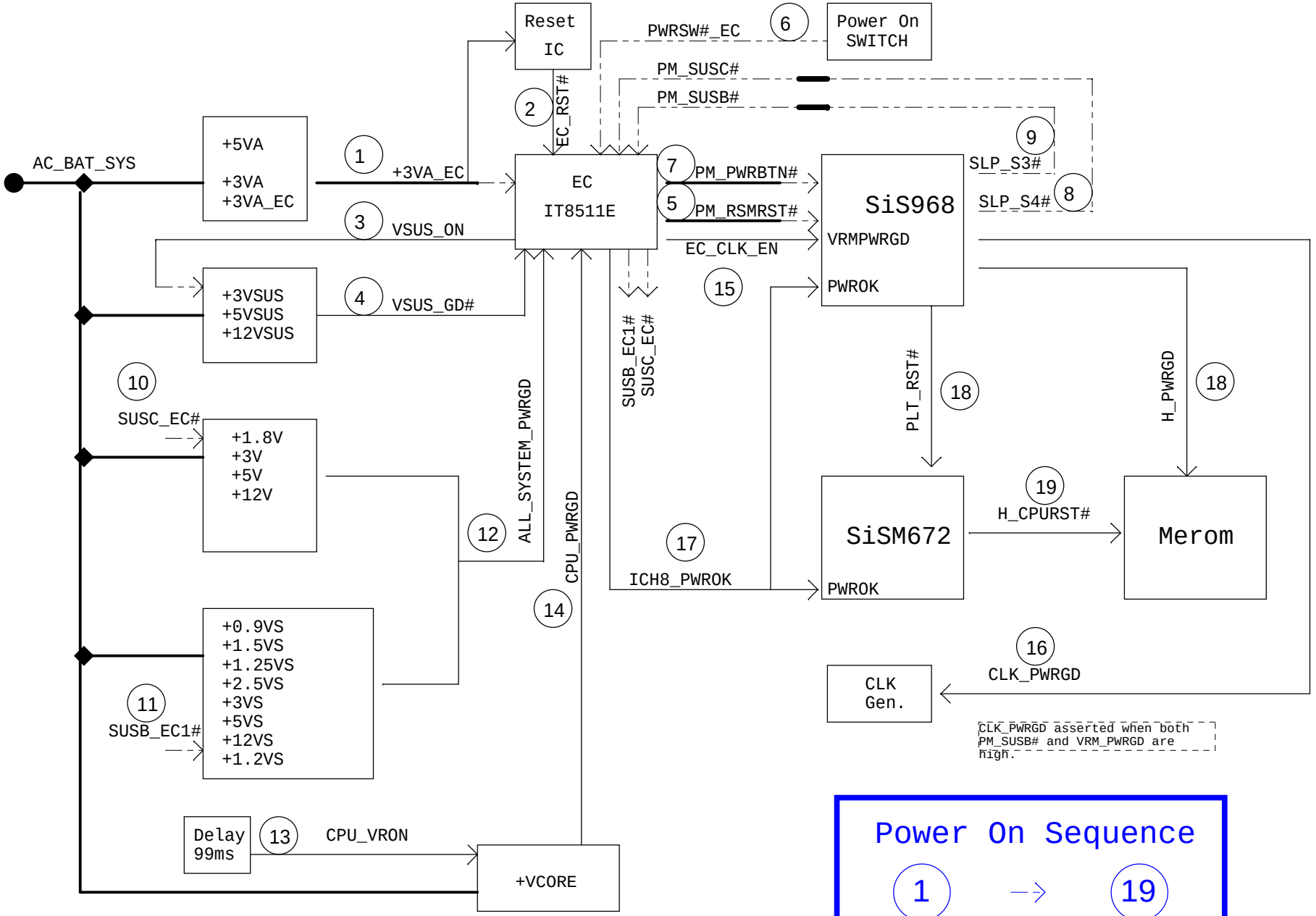
X51C Main BD. R1.0 BLOCK DIAGRAM



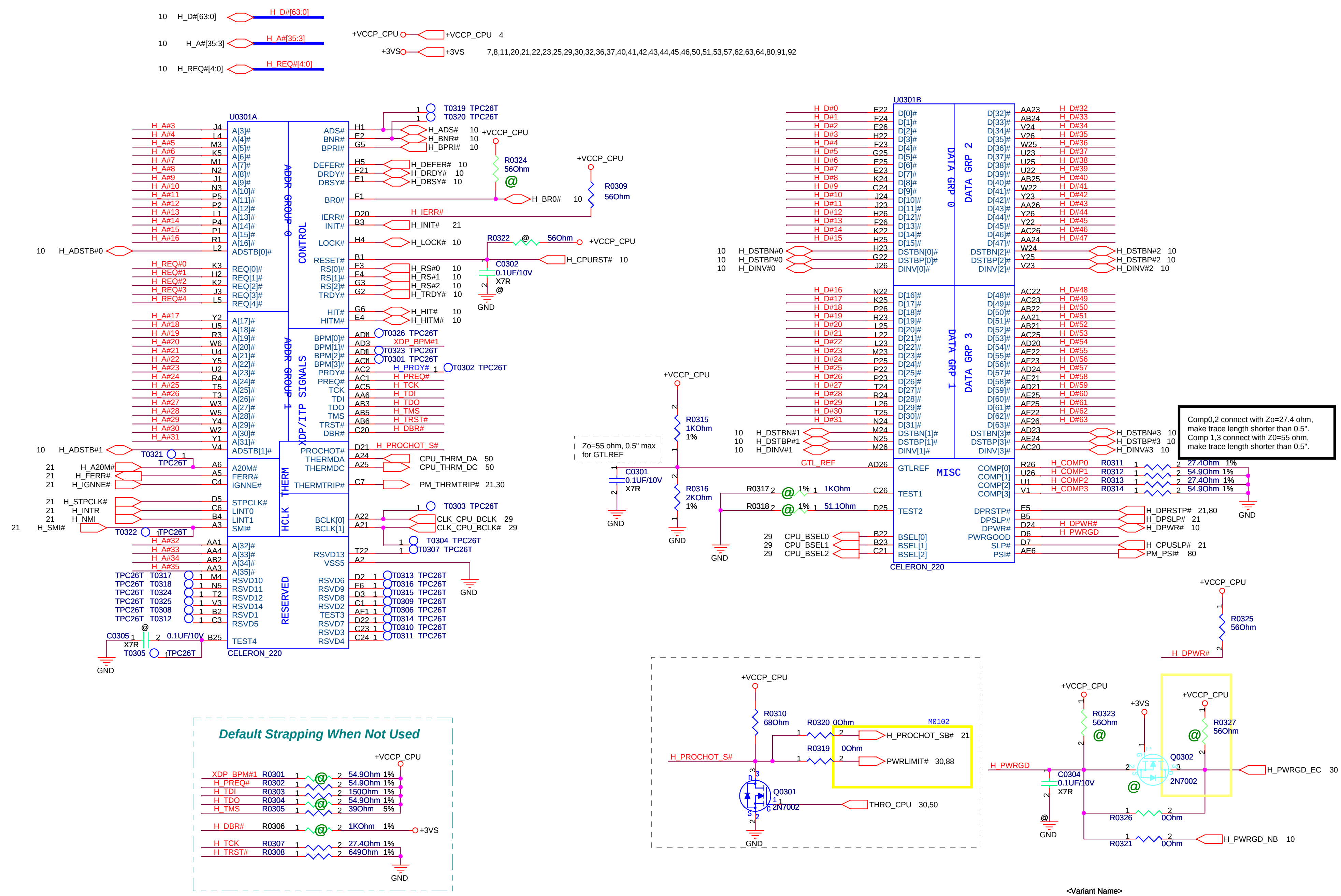
<Variant Name>

ASUSTeK COMPUTER INC	Title : BLOCK DIAGRAM	
	Engineer: Hawk / Kaxidy	
Size: Custom	Project Name: T12C	Rev: 1.1
Date: Tuesday, March 04, 2008	Sheet 1 of 94	



<Variant Name>

ASUSTeK COMPUTER INC	Title : PowerOn sequence	
	Engineer: Hawk / Kaxidy	
Size: Custom	Project Name: T12C	Rev: 1.1
Date: Monday, August 13, 2007	Sheet 2 of 94	


10 H_D#[63:0]
H_D#[63:0]
10 H_A#[35:3]
H_A#[35:3]
10 H_REQ#[4:0]
H_REQ#[4:0]
+VCCP_CPU
+VCCP_CPU 4
+3VS
+3VS 7,8,11,20,21,22,23,25,29,30,32,36,37,40,41,42,43,44,45,46,50,51,53,57,62,63,64,80,91,92
U0301A
ADDR GROUP 0
ADDR GROUP 1
CONTROL
XDP/ITP SIGNALS
THERM
HCLK
RESERVED
CELERON_220
H_A#3 J4 A[3]#
H_A#4 L4 A[4]#
H_A#5 M3 A[5]#
H_A#6 K5 A[6]#
H_A#7 M1 A[7]#
H_A#8 N2 A[8]#
H_A#9 J1 A[9]#
H_A#10 N3 A[10]#
H_A#11 P5 A[11]#
H_A#12 P2 A[12]#
H_A#13 L1 A[13]#
H_A#14 P4 A[14]#
H_A#15 P1 A[15]#
H_A#16 R1 A[16]#
10 H_ADSTB#0 L2 ADSTB[0]#
H_REQ#0 K3 REQ[0]#
H_REQ#1 H2 REQ[1]#
H_REQ#2 K2 REQ[2]#
H_REQ#3 J3 REQ[3]#
H_REQ#4 L5 REQ[4]#
H_A#17 Y2 A[17]#
H_A#18 U5 A[18]#
H_A#19 R3 A[19]#
H_A#20 W6 A[20]#
H_A#21 U4 A[21]#
H_A#22 Y5 A[22]#
H_A#23 U2 A[23]#
H_A#24 R4 A[24]#
H_A#25 T5 A[25]#
H_A#26 T3 A[26]#
H_A#27 W3 A[27]#
H_A#28 W5 A[28]#
H_A#29 Y4 A[29]#
H_A#30 W2 A[30]#
H_A#31 Y1 A[31]#
10 H_ADSTB#1 V4 ADSTB[1]#
T0321 TPC26T
21 H_A20M# A6 A20M#
21 H_FERR# A5 FERR#
21 H_IGNNE# C4 IGNNE#
21 H_STPCLK# D5 STPCLK#
21 H_INTR C6 LINT0
21 H_NMI B4 LINT1
21 H_SMI# A3 SMI#
T0322 TPC26T
H_A#32 AA1 A[32]#
H_A#33 AA4 A[33]#
H_A#34 AB2 A[34]#
H_A#35 AA3 A[35]#
TPC26T T0317 M4 RSVD10
TPC26T T0318 N5 RSVD11
TPC26T T0324 T2 RSVD12
TPC26T T0325 V3 RSVD14
TPC26T T0308 B2 RSVD1
TPC26T T0312 C3 RSVD5
C0305 0.1UF/10V X7R @ B25 TEST4
T0305 TPC26T
GND
ADS# H1 H_ADS# 10
BNR# E2 H_BNR# 10
BPRI# G5 H_BPRI# 10
T0319 TPC26T
T0320 TPC26T
DEFER# H5 H_DEFER# 10
DRDY# F21 H_DRDY# 10
DBSY# E1 H_DBSY# 10
BR0# F1 H_BR0# 10
IERR# D20 H_IERR#
INIT# B3 H_INIT# 21
LOCK# H4 H_LOCK# 10
RESET# B1 H_CPURST# 10
RS[0]# F3 H_RS#0 10
RS[1]# F4 H_RS#1 10
RS[2]# G3 H_RS#2 10
TRDY# G2 H_TRDY# 10
HIT# G6 H_HIT# 10
HITM# E4 H_HITM# 10
R0324 56Ohm @
R0309 56Ohm
R0322 @ 56Ohm +VCCP_CPU
C0302 0.1UF/10V X7R @
BPM[0]# AD4 T0326 TPC26T
BPM[1]# AD3 XDP_BPM#1
BPM[2]# AD1 T0323 TPC26T
BPM[3]# AC4 T0301 TPC26T
PRDY# AC2 H_PRDY# T0302 TPC26T
PREQ# AC1 H_PREQ#
TCK AC5 H_TCK
TDI AA6 H_TDI
TDO AB3 H_TDO
TMS AB5 H_TMS
TRST# AB6 H_TRST#
DBR# C20 H_DBR#
PROCHOT# D21 H_PROCHOT_S#
THERMDA A24 CPU_THRM_DA 50
THERMDC A25 CPU_THRM_DC 50
THERMTRIP# C7 PM_THRMTRIP# 21,30
BCLK[0] A22 CLK_CPU_BCLK 29
BCLK[1] A21 CLK_CPU_BCLK# 29
T0303 TPC26T
T0304 TPC26T
RSVD13 T22 T0307 TPC26T
VSS5 A2
RSVD6 D2 T0313 TPC26T
RSVD9 F6 T0316 TPC26T
RSVD8 D3 T0315 TPC26T
RSVD2 C1 T0309 TPC26T
TEST3 AF1 T0306 TPC26T
RSVD7 D22 T0314 TPC26T
RSVD3 C23 T0310 TPC26T
RSVD4 C24 T0311 TPC26T
U0301B
DATA GRP 0
DATA GRP 1
DATA GRP 2
DATA GRP 3
MISC
H_D#0 E22 D[0]#
H_D#1 F24 D[1]#
H_D#2 E26 D[2]#
H_D#3 H22 D[3]#
H_D#4 F23 D[4]#
H_D#5 G25 D[5]#
H_D#6 E25 D[6]#
H_D#7 E23 D[7]#
H_D#8 K24 D[8]#
H_D#9 G24 D[9]#
H_D#10 J24 D[10]#
H_D#11 J23 D[11]#
H_D#12 H26 D[12]#
H_D#13 F26 D[13]#
H_D#14 K22 D[14]#
H_D#15 H25 D[15]#
10 H_DSTBN#0 H23 DSTBN[0]#
10 H_DSTBP#0 G22 DSTBP[0]#
10 H_DINV#0 J26 DINV[0]#
H_D#16 N22 D[16]#
H_D#17 K25 D[17]#
H_D#18 P26 D[18]#
H_D#19 R23 D[19]#
H_D#20 L25 D[20]#
H_D#21 L22 D[21]#
H_D#22 L23 D[22]#
H_D#23 M23 D[23]#
H_D#24 P25 D[24]#
H_D#25 P22 D[25]#
H_D#26 P23 D[26]#
H_D#27 T24 D[27]#
H_D#28 R24 D[28]#
H_D#29 L26 D[29]#
H_D#30 T25 D[30]#
H_D#31 N24 D[31]#
10 H_DSTBN#1 M24 DSTBN[1]#
10 H_DSTBP#1 N25 DSTBP[1]#
10 H_DINV#1 M26 DINV[1]#
D[32]# AA23 H_D#32
D[33]# AB24 H_D#33
D[34]# V24 H_D#34
D[35]# V26 H_D#35
D[36]# W25 H_D#36
D[37]# U23 H_D#37
D[38]# U25 H_D#38
D[39]# U22 H_D#39
D[40]# AB25 H_D#40
D[41]# W22 H_D#41
D[42]# Y23 H_D#42
D[43]# AA26 H_D#43
D[44]# Y26 H_D#44
D[45]# Y22 H_D#45
D[46]# AC26 H_D#46
D[47]# AA24 H_D#47
DSTBN[2]# W24 H_DSTBN#2 10
DSTBP[2]# Y25 H_DSTBP#2 10
DINV[2]# V23 H_DINV#2 10
D[48]# AC22 H_D#48
D[49]# AC23 H_D#49
D[50]# AB22 H_D#50
D[51]# AA21 H_D#51
D[52]# AB21 H_D#52
D[53]# AC25 H_D#53
D[54]# AD20 H_D#54
D[55]# AE22 H_D#55
D[56]# AF23 H_D#56
D[57]# AD24 H_D#57
D[58]# AE21 H_D#58
D[59]# AD21 H_D#59
D[60]# AE25 H_D#60
D[61]# AF25 H_D#61
D[62]# AF22 H_D#62
D[63]# AF26 H_D#63
DSTBN[3]# AD23 H_DSTBN#3 10
DSTBP[3]# AE24 H_DSTBP#3 10
DINV[3]# AC20 H_DINV#3 10
Comp0,2 connect with Zo=27.4 ohm, make trace length shorter than 0.5". Comp 1,3 connect with Z0=55 ohm, make trace length shorter than 0.5".
COMP[0] R26 H_COMP0 R0311 27.4Ohm 1%
COMP[1] U26 H_COMP1 R0312 54.9Ohm 1%
COMP[2] U1 H_COMP2 R0313 27.4Ohm 1%
COMP[3] V1 H_COMP3 R0314 54.9Ohm 1%
DPRSTP# E5 H_DPRSTP# 21,80
DPSLP# B5 H_DPSLP# 21
DPWR# D24 H_DPWR# 10
PWRGOOD D6 H_PWRGD
SLP# D7 H_CPUSLP# 21
PSI# AE6 PM_PSI# 80
GTLREF AD26 GTL_REF
Zo=55 ohm, 0.5" max for GTLREF
R0315 1KOhm 1%
R0316 2KOhm 1%
C0301 0.1UF/10V X7R
TEST1 C26 R0317 @ 1% 1KOhm
TEST2 D25 R0318 @ 1% 51.1Ohm
29 CPU_BSEL0 B22 BSEL[0]
29 CPU_BSEL1 B23 BSEL[1]
29 CPU_BSEL2 C21 BSEL[2]
Default Strapping When Not Used
XDP_BPM#1 R0301 @ 54.9Ohm 1%
H_PREQ# R0302 54.9Ohm 1%
H_TDI R0303 150Ohm 1%
H_TDO R0304 @ 54.9Ohm 1%
H_TMS R0305 39Ohm 5%
H_DBR# R0306 @ 1KOhm 1% +3VS
H_TCK R0307 27.4Ohm 1%
H_TRST# R0308 649Ohm 1%
R0310 68Ohm
R0320 0Ohm
M0102
H_PROCHOT_SB# 21
R0319 0Ohm
PWRLIMIT# 30,88
H_PROCHOT_S#
Q0301 2N7002
THRO_CPU 30,50
R0325 56Ohm
H_DPWR#
R0323 56Ohm @
R0327 56Ohm @
Q0302 2N7002 @
H_PWRGD
C0304 0.1UF/10V X7R @
H_PWRGD_EC 30
R0326 0Ohm
R0321 0Ohm
H_PWRGD_NB 10

<Variant Name>

ASUSTeK COMPUTER INC

Title : MEROM CPU (1)

Engineer: Hawk / Kaxidy

Size	Project Name	Rev
Custom	T12C	1.1

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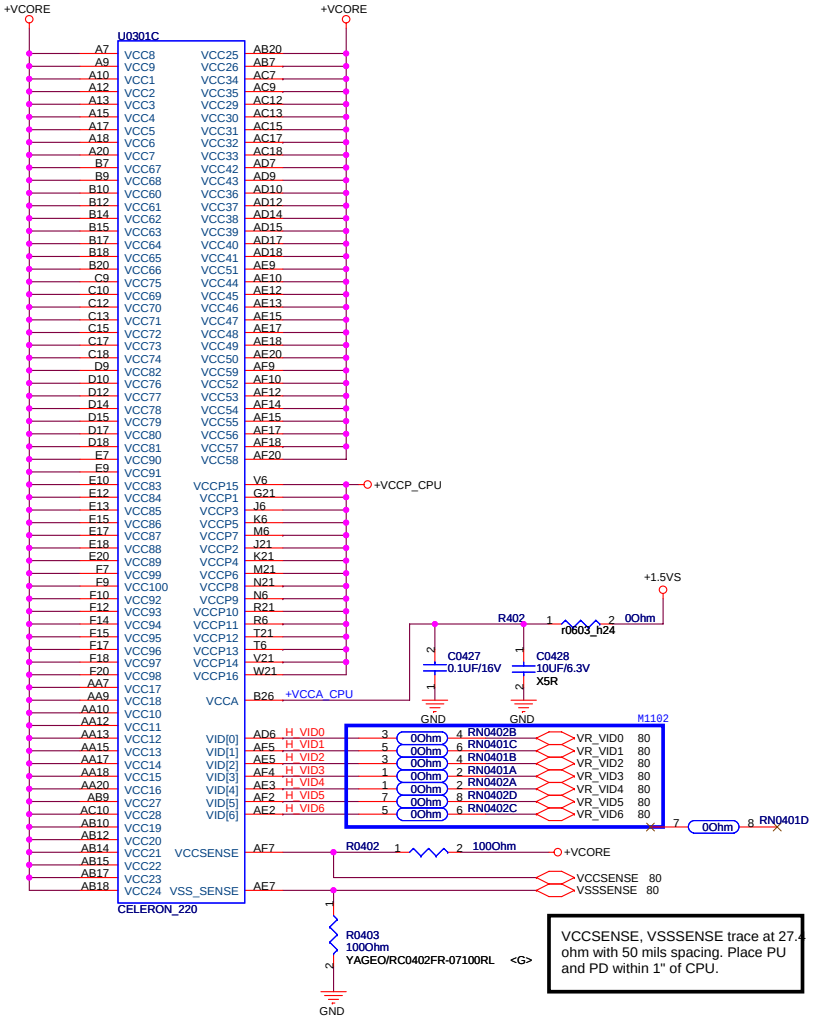
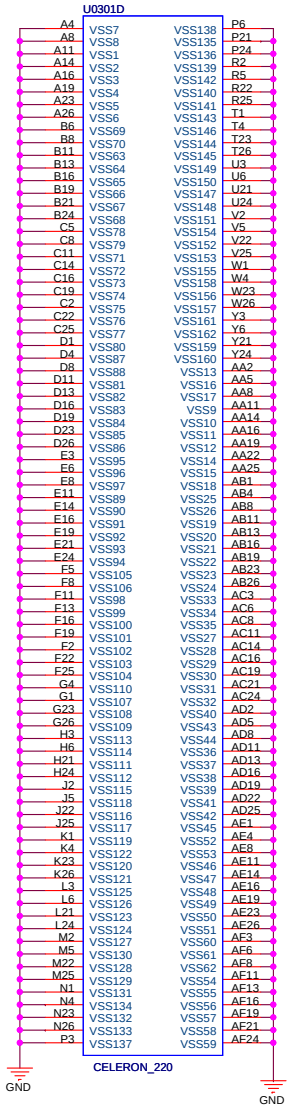
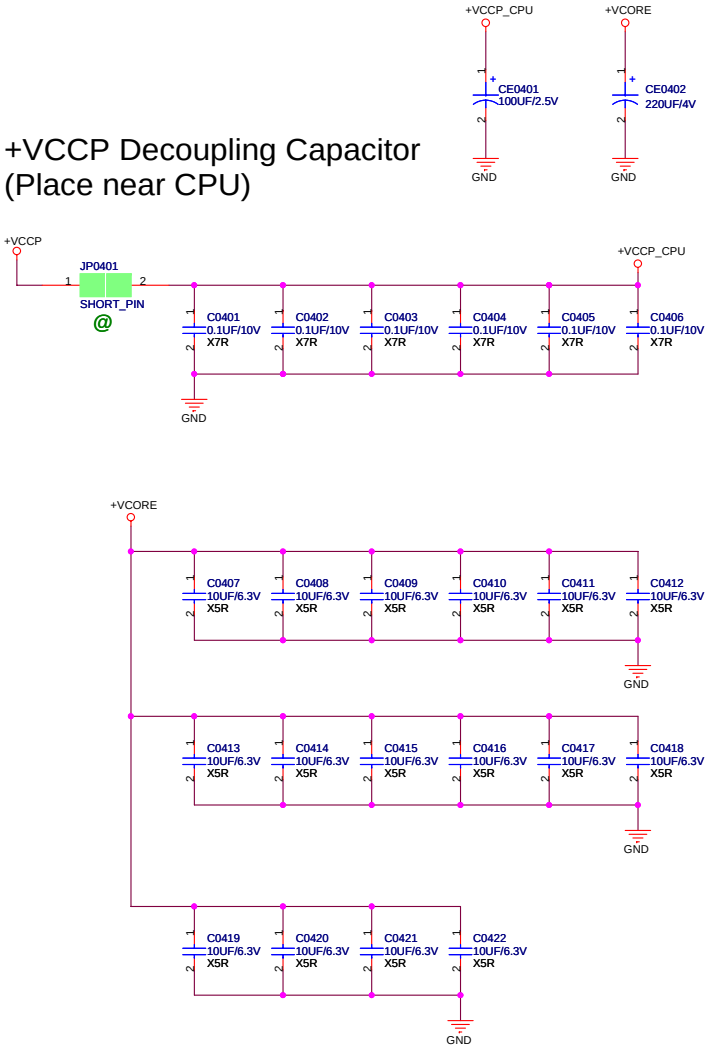




+VCCP Decoupling Capacitor (Place near CPU)



<Variant Name>

Title : MEROM CPU (2)

ASUSTeK COMPUTER INC

Engineer: Hawk / Kaxidy

Size	Project Name	Rev
Custom	T12C	1.1

Date: Monday, March 10, 2008 Sheet 4 of 94

<Variant Name>

ASUSTeK COMPUTER INC	Title : NULL
	Engineer: Hawk / Kaxidy
Size: A	Project Name: T12C
	Rev: 1.1
Date: Monday, August 13, 2007	Sheet 5 of 94

<Variant Name>

Title : NULL

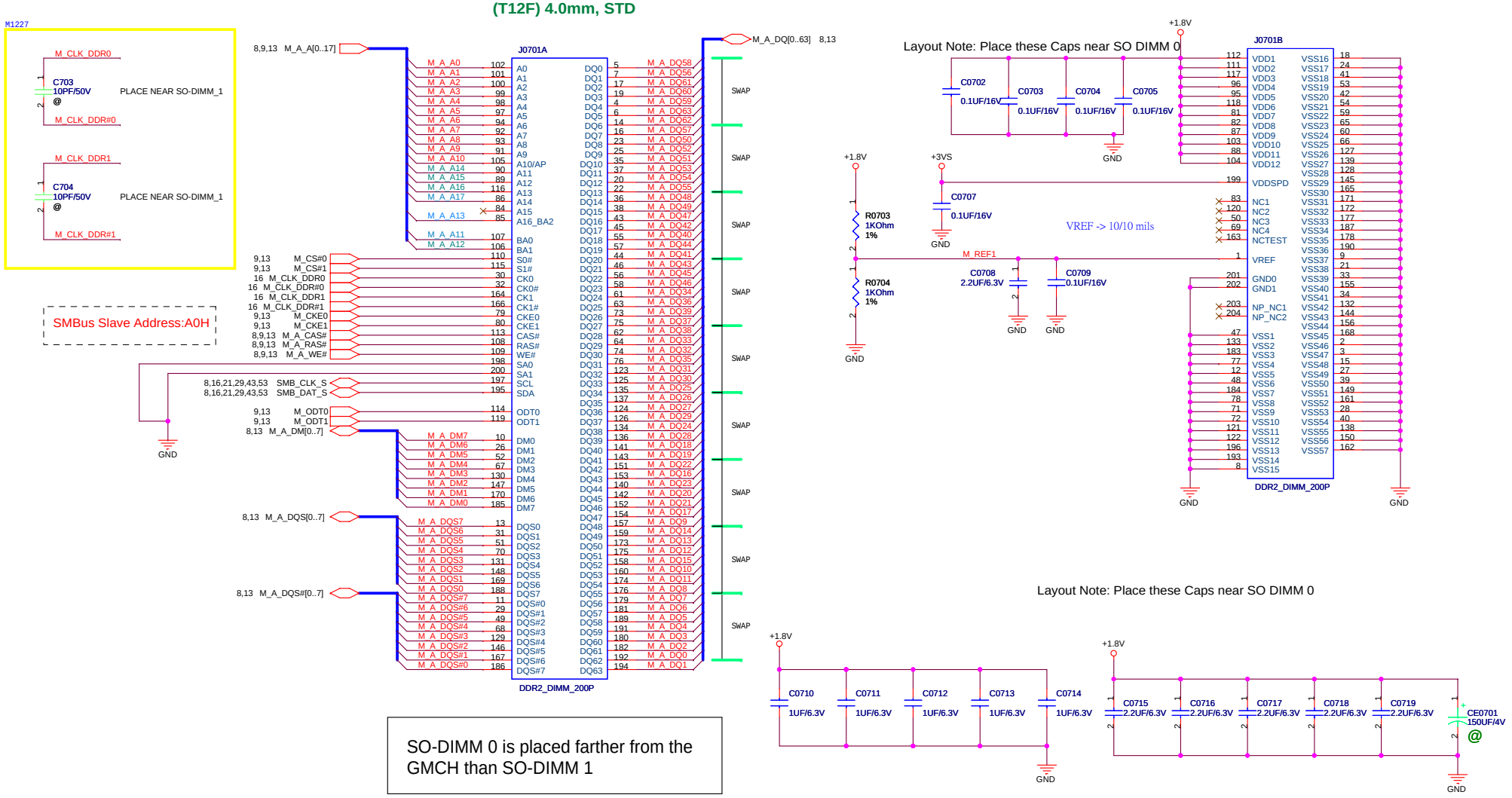
ASUSTeK COMPUTER INC

Engineer: Hawk / Kaxidy

Size	Project Name	Rev
A	T12C	1.1

Date: Monday, August 13, 2007 Sheet 6 of 94

P/N: 12G025022004
(T12F) 4.0mm, STD



<Variant Name>

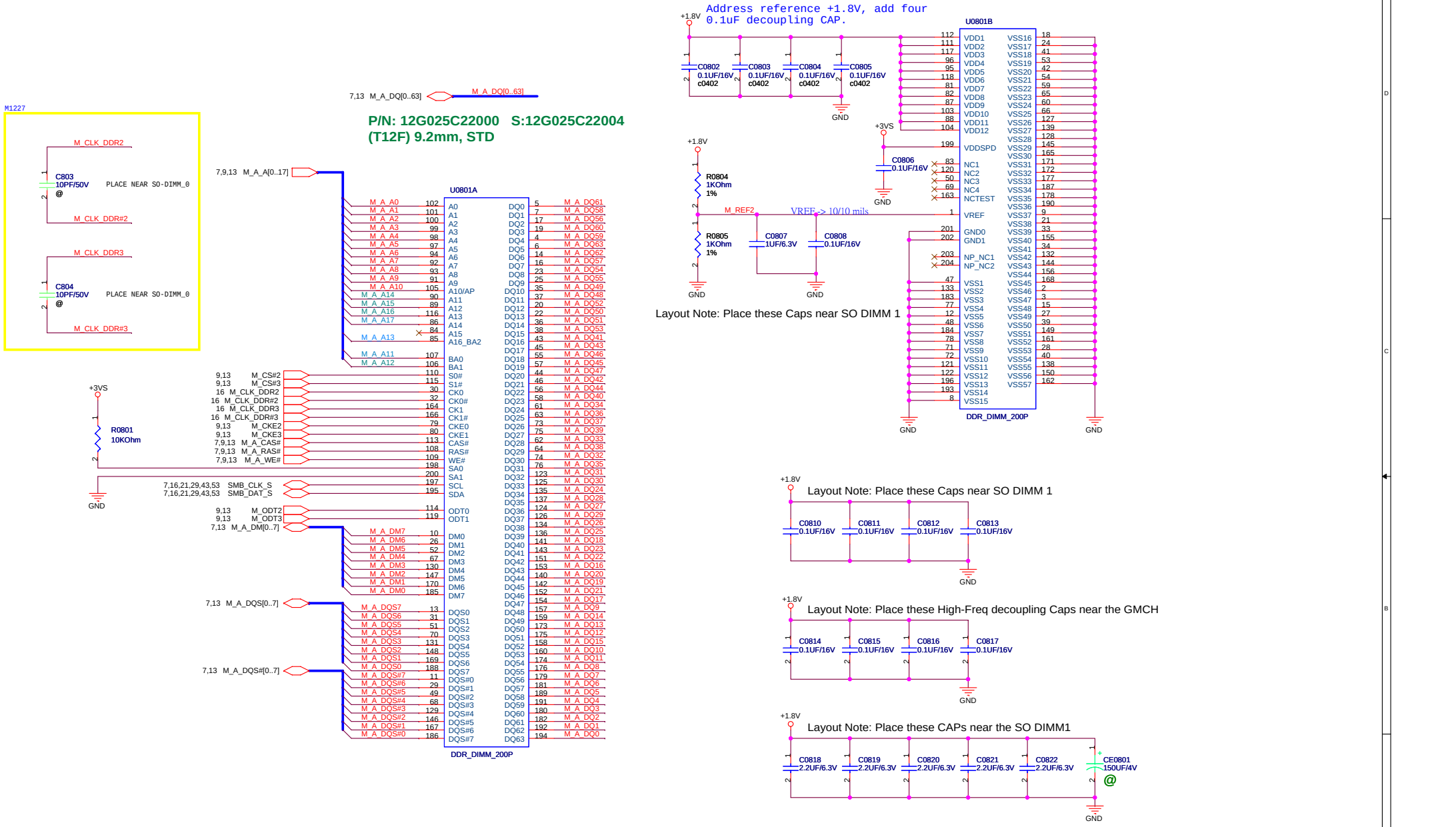
ASUSTeK COMPUTER INC

Title : DDR2 SO-DIMM_0

Engineer: Hawk / Kaxidy

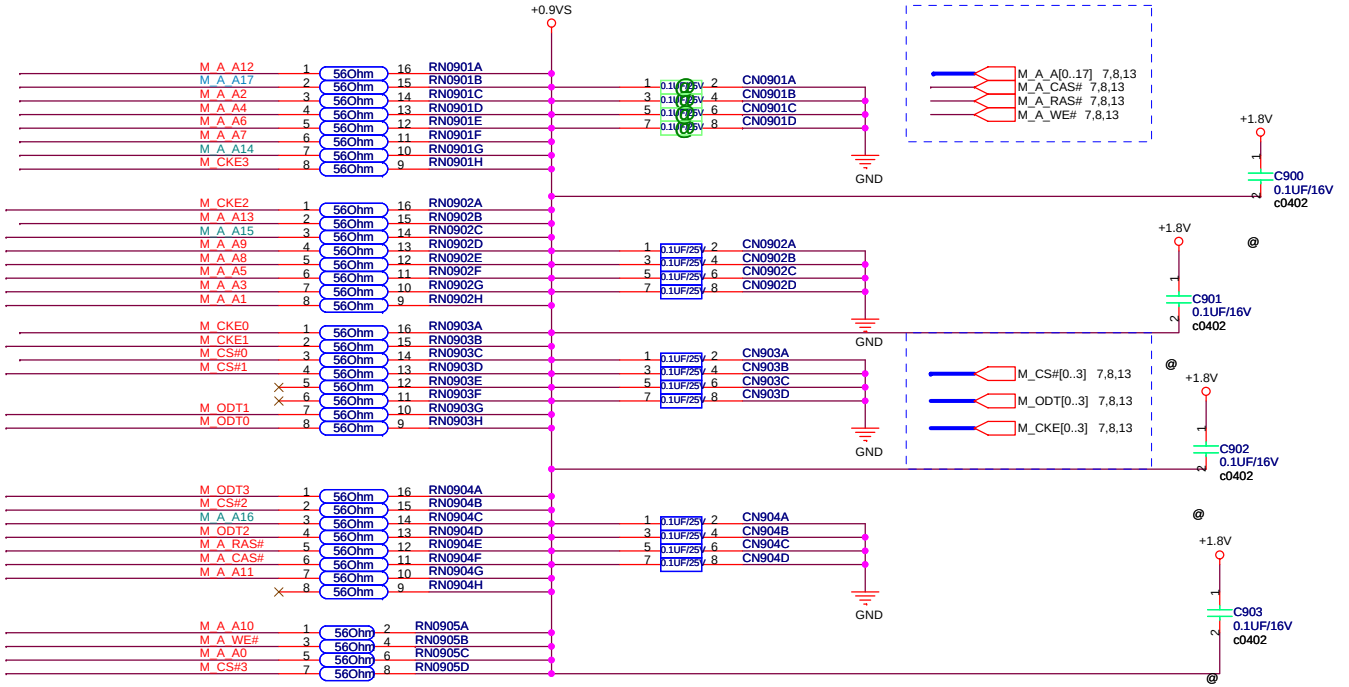
Size	Project Name	Rev
Custom	T12C	1.0

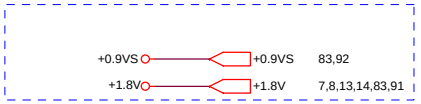
Date: Tuesday, February 26, 2008 Sheet 7 of 94



<Variant Name>

Title :	DDR2 SO-DIMM_1
ASUSTeK COMPUTER INC	Engineer: Hawk / Kaxidy
Size: Custom	Project Name: T12C
Rev: 1.1	
Date: Wednesday, February 27, 2008	Sheet 8 of 94

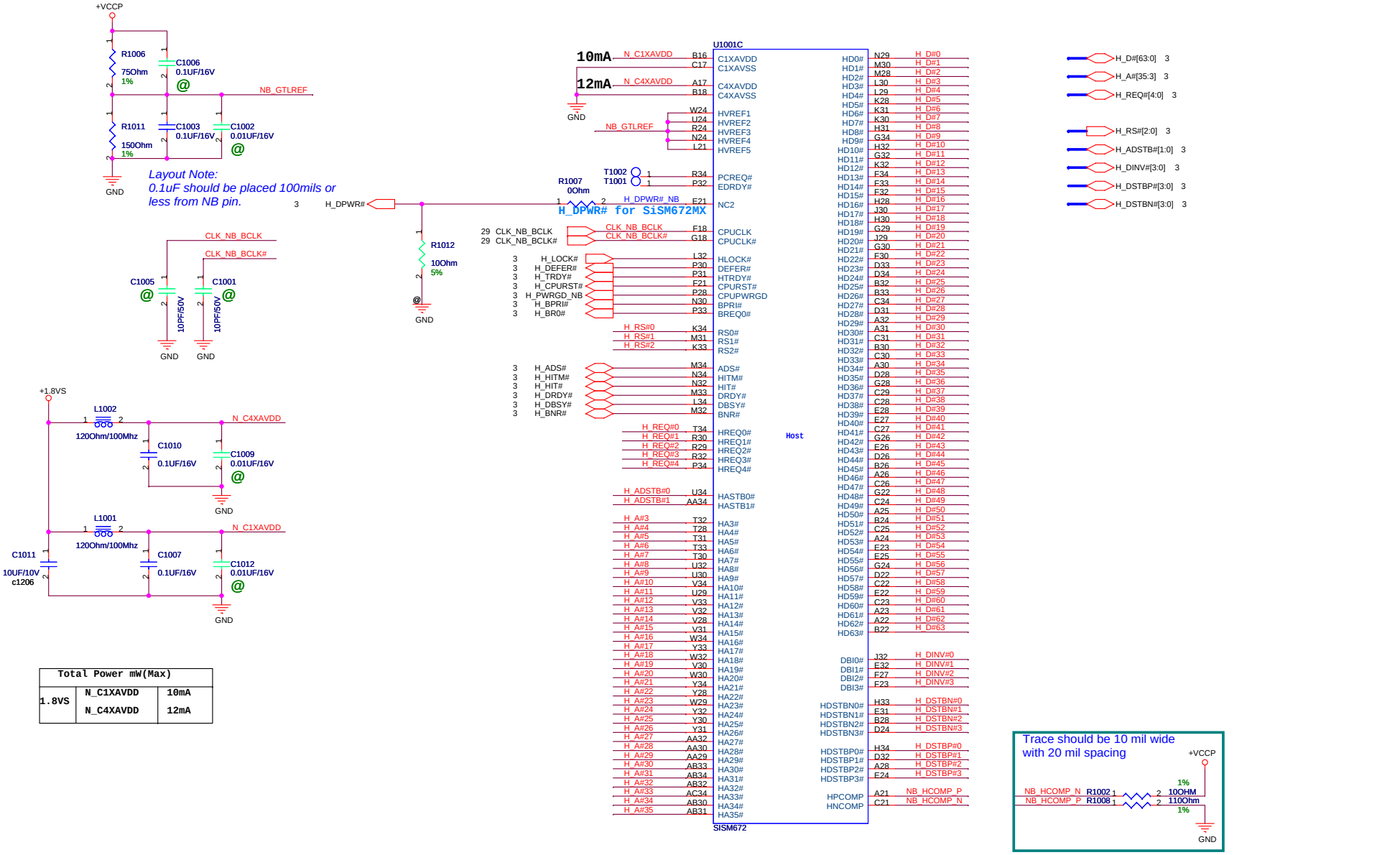




Layout note:
Place one cap close to every 2 pull-up resistors terminated to +0.9VS

<Variant Name>

ASUSTeK COMPUTER INC ETD	Title : DDR2 TERM	
	Engineer: Hawk / Kaxidy	
Size: Custom	Project Name: T12C	Rev: 1.1
Date: Tuesday, February 26, 2008	Sheet 9 of 94	



Total Power mW(Max)		
1.8VS	N_C1XAVDD	10mA
	N_C4XAVDD	12mA

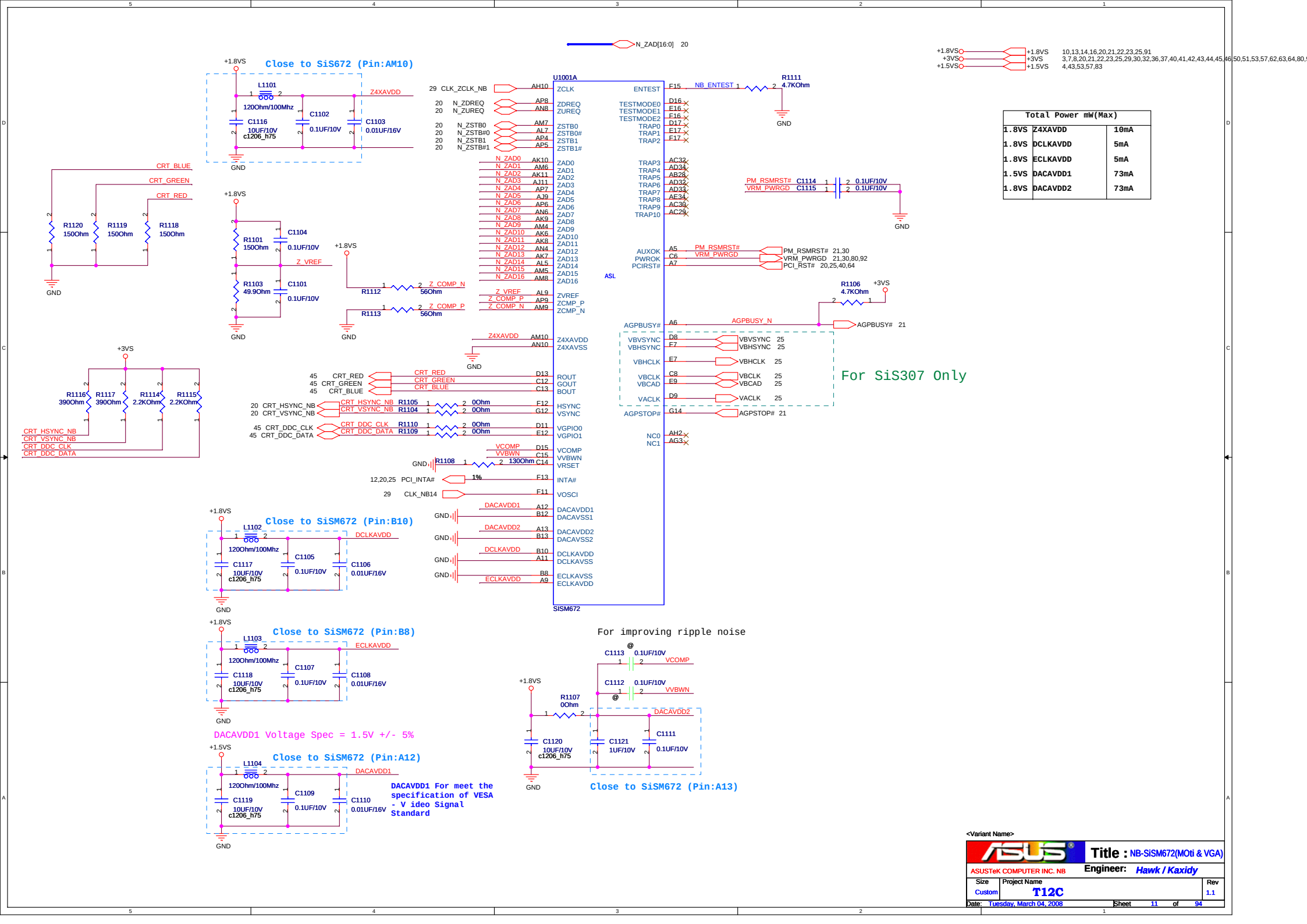
<Variant Name>

Title : NB-SiSM672

ASUSTeK COMPUTER INC.NB.ETD Engineer: Hawk / Kaxidy

Size	Project Name	Rev
Custom	T12C	1.1

Date: Tuesday, February 26, 2008 Sheet 10 of 94


Close to SiS672 (Pin:AM10)
Close to SiSM672 (Pin:B10)
Close to SiSM672 (Pin:B8)
Close to SiSM672 (Pin:A12)
Close to SiSM672 (Pin:A13)
U1001A
SISM672
For SiS307 Only
For improving ripple noise
DACAVDD1 Voltage Spec = 1.5V +/- 5%
DACAVDD1 For meet the specification of VESA - V ideo Signal Standard
Total Power mW(Max)
1.8VS Z4XAVDD 10mA
1.8VS DCLKAVDD 5mA
1.8VS ECLKAVDD 5mA
1.5VS DACAVDD1 73mA
1.8VS DACAVDD2 73mA
Title : NB-SiSM672(MOti & VGA)
ASUSTeK COMPUTER INC. NB
Engineer: Hawk / Kaxidy
Project Name T12C
Rev 1.1
Date: Tuesday, March 04, 2008
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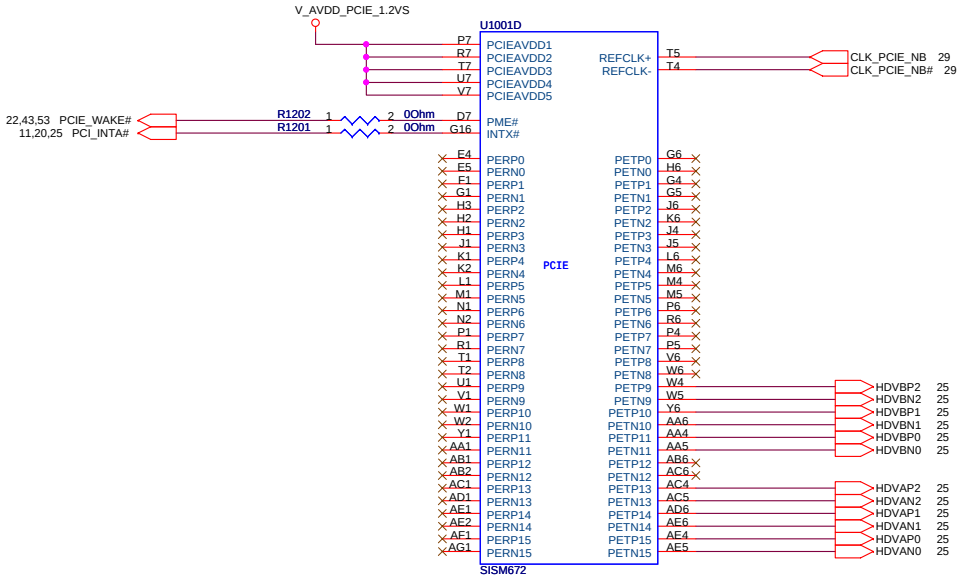
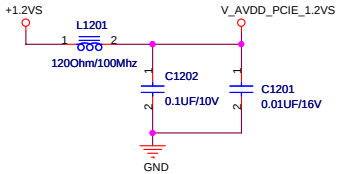
+1.2VS +1.2VS 14,83,91

Total Power mW(Max)		
1.2V	V_AVDD_PCIE_1.2V	190mA





<Variant Name>

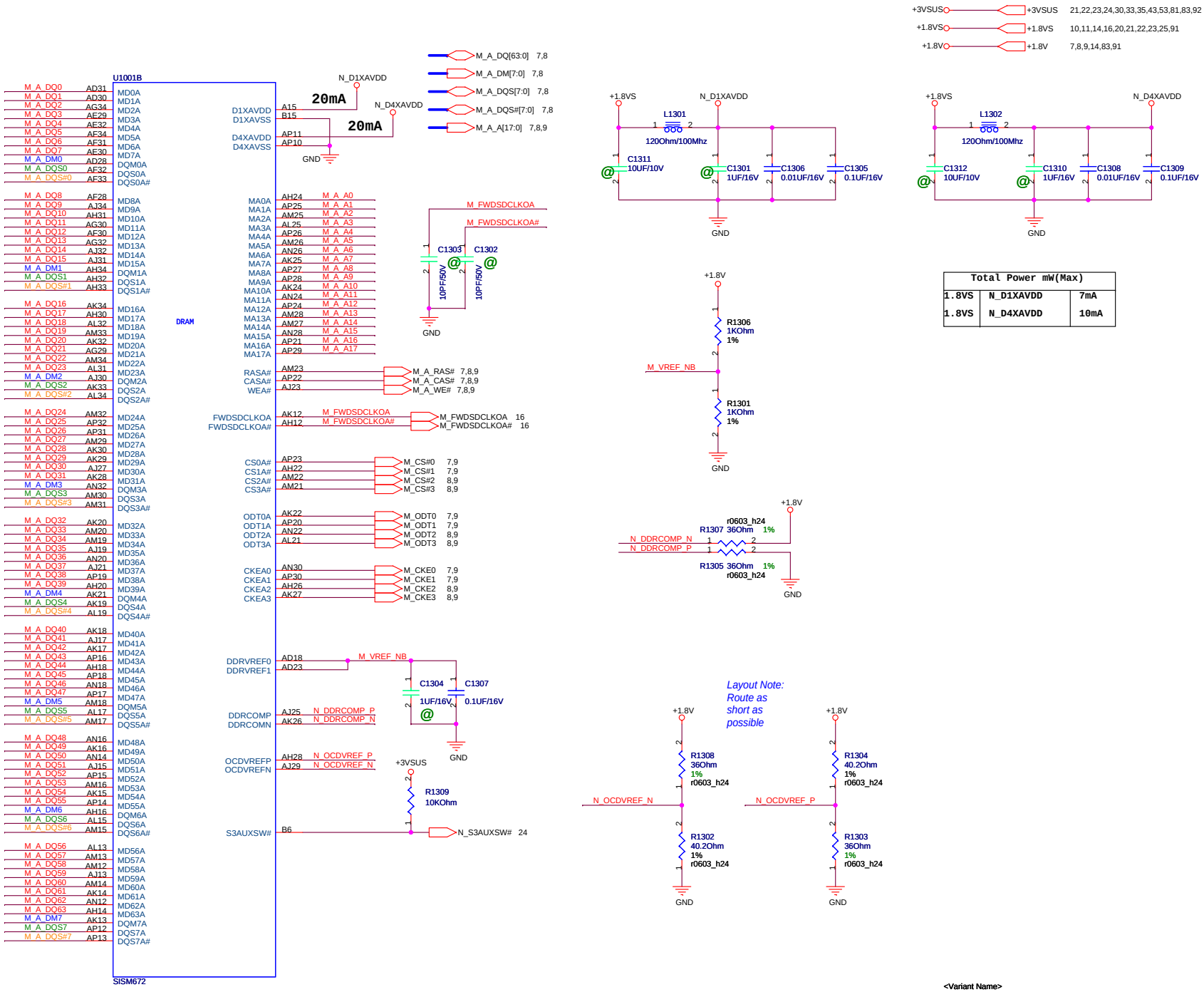
Title : NB_SiSM672(GRAPHIC)

ASUSTeK COMPUTER INC. ETD

Engineer: Hawk / Kaxidy

Size	Project Name	Rev
Custom	T12C	1.1

Date: Friday, August 17, 2007 Sheet 12 of 94


U1001B
DRAM
SiSM672
M_A_DQ0 AD31
M_A_DQ1 AD30
M_A_DQ2 AG34
M_A_DQ3 AE29
M_A_DQ4 AE32
M_A_DQ5 AF34
M_A_DQ6 AE31
M_A_DQ7 AE30
M_A_DM0 AD28
M_A_DQS0 AF32
M_A_DQS#0 AF33
M_A_DQ8 AF28
M_A_DQ9 AJ34
M_A_DQ10 AH31
M_A_DQ11 AG30
M_A_DQ12 AF30
M_A_DQ13 AG32
M_A_DQ14 AJ32
M_A_DQ15 AJ31
M_A_DM1 AH34
M_A_DQS1 AH32
M_A_DQS#1 AH33
M_A_DQ16 AK34
M_A_DQ17 AH30
M_A_DQ18 AL32
M_A_DQ19 AM33
M_A_DQ20 AK32
M_A_DQ21 AG29
M_A_DQ22 AM34
M_A_DQ23 AL31
M_A_DM2 AJ30
M_A_DQS2 AK33
M_A_DQS#2 AL34
M_A_DQ24 AM32
M_A_DQ25 AP32
M_A_DQ26 AP31
M_A_DQ27 AM29
M_A_DQ28 AK30
M_A_DQ29 AK29
M_A_DQ30 AJ27
M_A_DQ31 AK28
M_A_DM3 AN32
M_A_DQS3 AM30
M_A_DQS#3 AM31
M_A_DQ32 AK20
M_A_DQ33 AM20
M_A_DQ34 AM19
M_A_DQ35 AJ19
M_A_DQ36 AN20
M_A_DQ37 AJ21
M_A_DQ38 AP19
M_A_DQ39 AH20
M_A_DM4 AK21
M_A_DQS4 AK19
M_A_DQS#4 AL19
M_A_DQ40 AK18
M_A_DQ41 AJ17
M_A_DQ42 AK17
M_A_DQ43 AP16
M_A_DQ44 AH18
M_A_DQ45 AP18
M_A_DQ46 AN18
M_A_DQ47 AP17
M_A_DM5 AM18
M_A_DQS5 AL17
M_A_DQS#5 AM17
M_A_DQ48 AN16
M_A_DQ49 AK16
M_A_DQ50 AN14
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M_A_DM6 AH16
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M_A_DQ58 AM12
M_A_DQ59 AJ13
M_A_DQ60 AM14
M_A_DQ61 AK14
M_A_DQ62 AN12
M_A_DQ63 AH14
M_A_DM7 AK13
M_A_DQS7 AP12
M_A_DQS#7 AP13
MD0A MD1A MD2A MD3A MD4A MD5A MD6A MD7A DQM0A DQS0A DQS0A#
MD8A MD9A MD10A MD11A MD12A MD13A MD14A MD15A DQM1A DQS1A DQS1A#
MD16A MD17A MD18A MD19A MD20A MD21A MD22A MD23A DQM2A DQS2A DQS2A#
MD24A MD25A MD26A MD27A MD28A MD29A MD30A MD31A DQM3A DQS3A DQS3A#
MD32A MD33A MD34A MD35A MD36A MD37A MD38A MD39A DQM4A DQS4A DQS4A#
MD40A MD41A MD42A MD43A MD44A MD45A MD46A MD47A DQM5A DQS5A DQS5A#
MD48A MD49A MD50A MD51A MD52A MD53A MD54A MD55A DQM6A DQS6A DQS6A#
MD56A MD57A MD58A MD59A MD60A MD61A MD62A MD63A DQM7A DQS7A DQS7A#
D1XAVDD A15
D1XAVSS B15
D4XAVDD AP11
D4XAVSS AP10
N_D1XAVDD
N_D4XAVDD
20mA
20mA
GND
M_A_DQ[63:0] 7,8
M_A_DM[7:0] 7,8
M_A_DQS[7:0] 7,8
M_A_DQS#[7:0] 7,8
M_A_A[17:0] 7,8,9
MA0A AH24 M_A_A0
MA1A AP25 M_A_A1
MA2A AM25 M_A_A2
MA3A AL25 M_A_A3
MA4A AP26 M_A_A4
MA5A AM26 M_A_A5
MA6A AN26 M_A_A6
MA7A AK25 M_A_A7
MA8A AP27 M_A_A8
MA9A AP28 M_A_A9
MA10A AK24 M_A_A10
MA11A AN24 M_A_A11
MA12A AP24 M_A_A12
MA13A AM28 M_A_A13
MA14A AM27 M_A_A14
MA15A AN28 M_A_A15
MA16A AP21 M_A_A16
MA17A AP29 M_A_A17
M_FWDSDCLKOA
M_FWDSDCLKOA#
C1303 10PF/50V
C1302 10PF/50V
RASA# AM23 M_A_RAS# 7,8,9
CASA# AP22 M_A_CAS# 7,8,9
WEA# AJ23 M_A_WE# 7,8,9
FWDSDCLKOA AK12 M_FWDSDCLKOA M_FWDSDCLKOA 16
FWDSDCLKOA# AH12 M_FWDSDCLKOA# M_FWDSDCLKOA# 16
CS0A# AP23 M_CS#0 7,9
CS1A# AH22 M_CS#1 7,9
CS2A# AM22 M_CS#2 8,9
CS3A# AM21 M_CS#3 8,9
ODT0A AK22 M_ODT0 7,9
ODT1A AP20 M_ODT1 7,9
ODT2A AN22 M_ODT2 8,9
ODT3A AL21 M_ODT3 8,9
CKEA0 AN30 M_CKE0 7,9
CKEA1 AP30 M_CKE1 7,9
CKEA2 AH26 M_CKE2 8,9
CKEA3 AK27 M_CKE3 8,9
DDRVREF0 AD18
DDRVREF1 AD23
M_VREF_NB
C1304 1UF/16V
C1307 0.1UF/16V
DDRCOMP AJ25 N_DDRCOMP_P
DDRCOMN AK26 N_DDRCOMP_N
OCDVREFP AH28 N_OCDVREF_P
OCDVREFN AJ29 N_OCDVREF_N
+3VSUS
R1309 10KOhm
S3AUXSW# B6 N_S3AUXSW# 24
+3VSUS +3VSUS 21,22,23,24,30,33,35,43,53,81,83,92
+1.8VS +1.8VS 10,11,14,16,20,21,22,23,25,91
+1.8V +1.8V 7,8,9,14,83,91
+1.8VS
L1301 120Ohm/100Mhz
C1311 10UF/10V
C1301 1UF/16V
C1306 0.01UF/16V
C1305 0.1UF/16V
L1302 120Ohm/100Mhz
C1312 10UF/10V
C1310 1UF/16V
C1308 0.01UF/16V
C1309 0.1UF/16V
R1306 1KOhm 1%
R1301 1KOhm 1%
M_VREF_NB
R1307 36Ohm 1% r0603_h24
R1305 36Ohm 1% r0603_h24
N_DDRCOMP_N
N_DDRCOMP_P
R1308 36Ohm 1% r0603_h24
R1302 40.2Ohm 1% r0603_h24
R1304 40.2Ohm 1% r0603_h24
R1303 36Ohm 1% r0603_h24
N_OCDVREF_N
N_OCDVREF_P
Layout Note: Route as short as possible
Total Power mW(Max)
1.8VS N_D1XAVDD 7mA
1.8VS N_D4XAVDD 10mA
<Variant Name>
Title : NB-SiSM672 (DDR2)
ASUSTeK COMPUTER INC. NB
Engineer: Hawk / Kaxidy
Size Custom
Project Name T12C
Rev 1.1
Date: Friday, August 17, 2007
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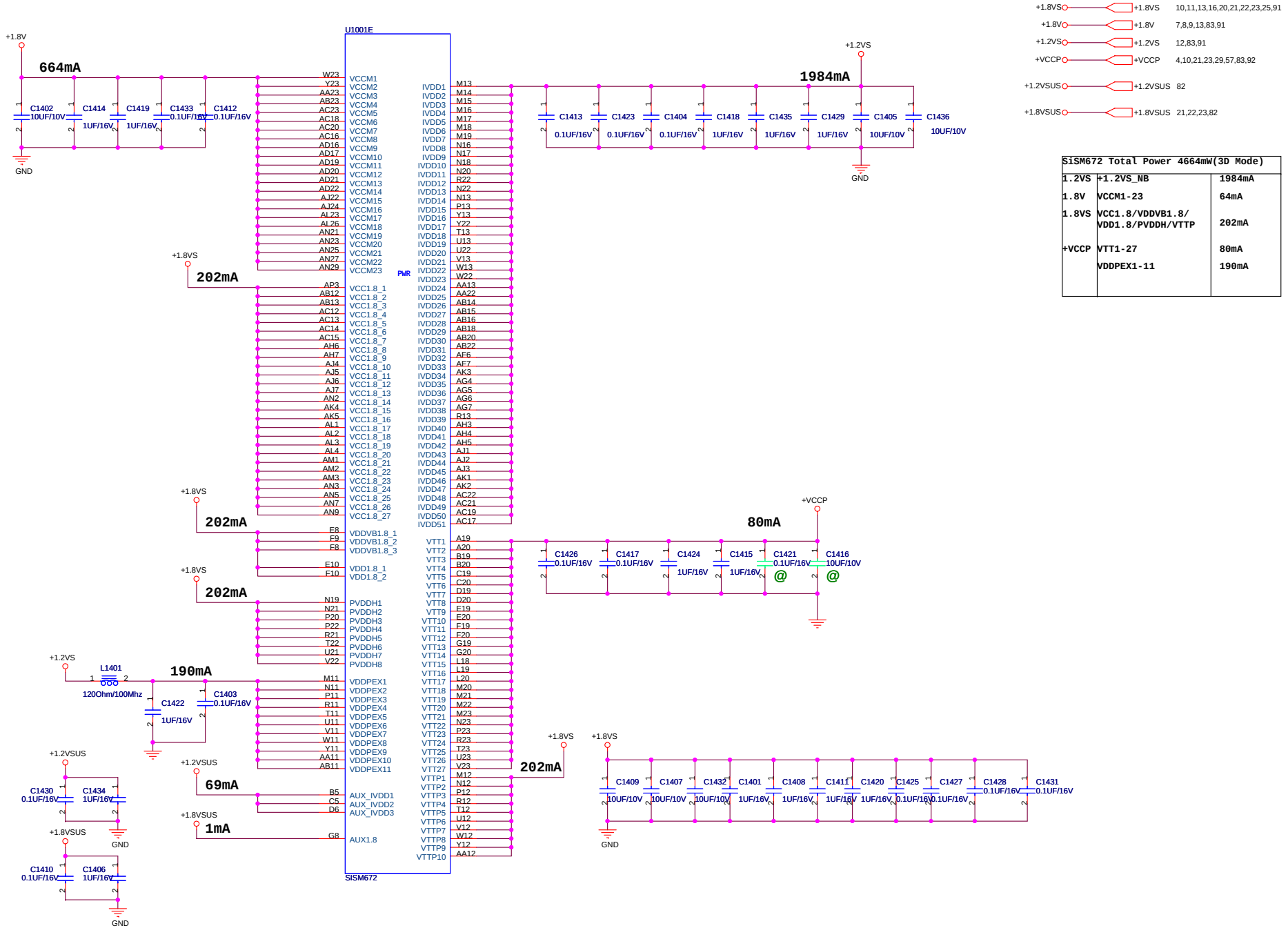


SiSM672 Total Power 4664mW(3D Mode)		
1.2VS	+1.2VS_NB	1984mA
1.8V	VCCM1-23	64mA
1.8VS	VCC1.8/VDDVB1.8/ VDD1.8/PVDDH/VTTP	202mA
+VCCP	VTT1-27	80mA
	VDDPEX1-11	190mA

<Variant Name>

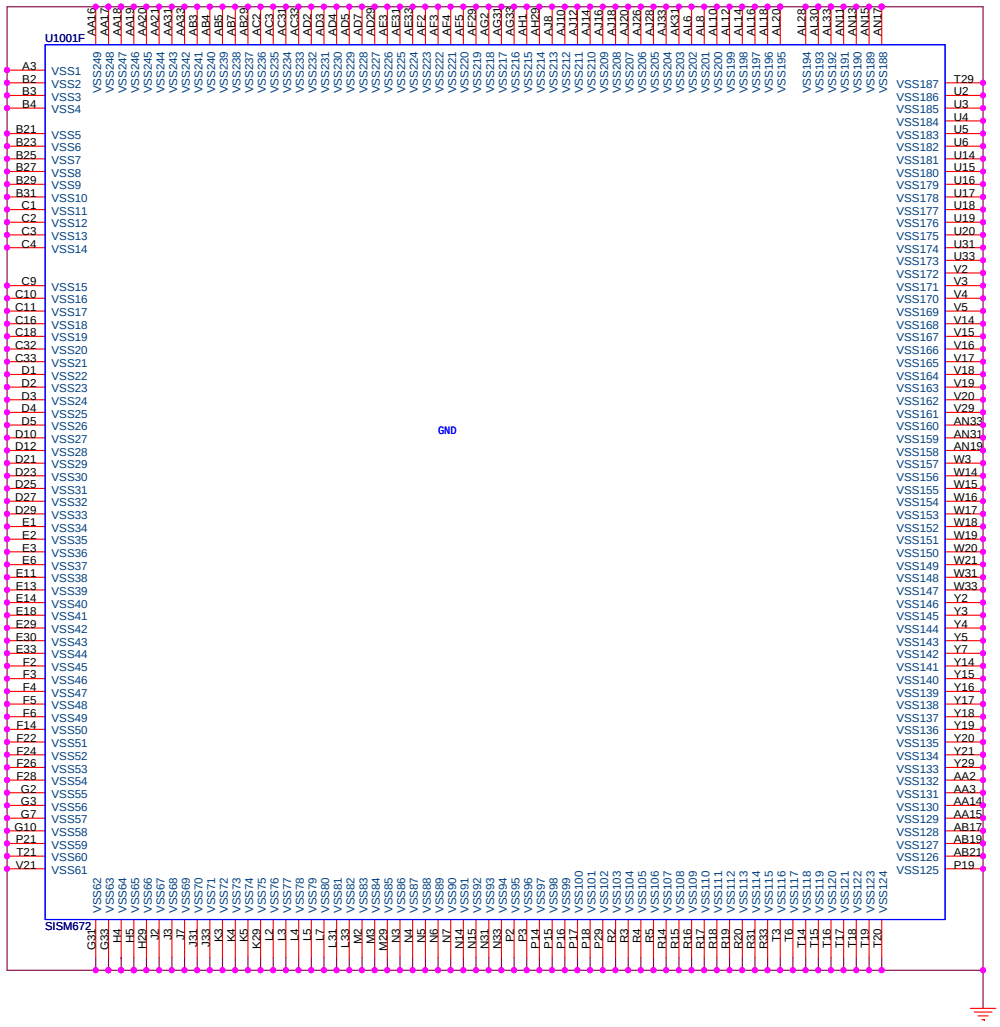
ASUSTeK COMPUTER INC. NB

Title : NB_SiS672 (PWR)

Engineer: Hawk / Kaxidy

Size	Project Name	Rev
Custom	T12C	1.1

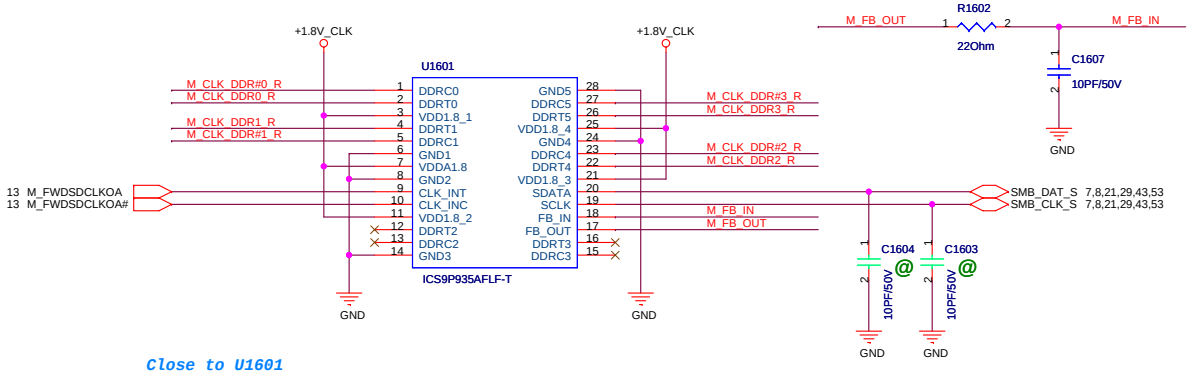
Date: Friday, August 17, 2007 Sheet 14 of 94



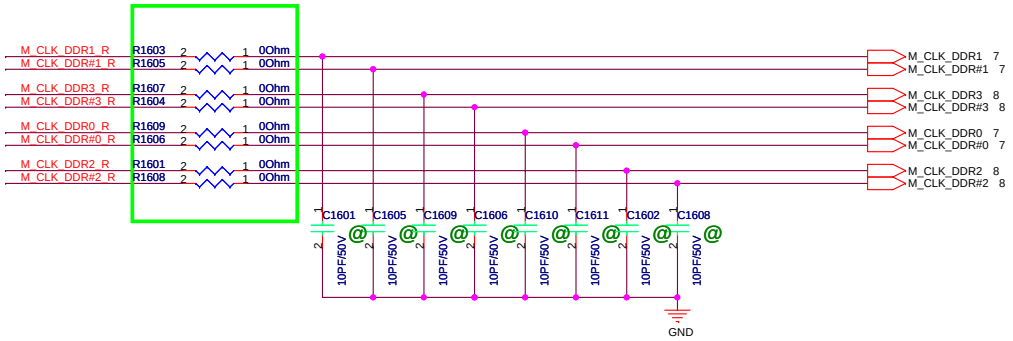
<Variant Name>

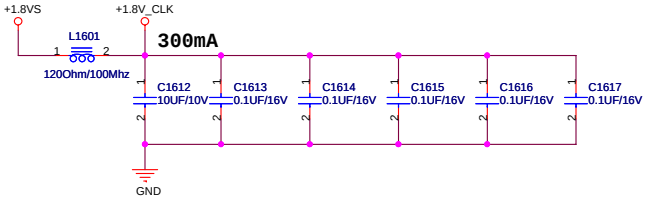
ASUSTeK COMPUTER INC. NB	Title : NB-SiSM672 (GND)	
	Engineer: Hawk / Kaxidy	
Size: Custom	Project Name: T12C	Rev: 1.1
Date: Monday, August 13, 2007	Sheet 15 of 94	

+1.8VS +1.8VS 10,11,13,14,20,21,22,23,25,91



Close to U1601





<Variant Name>

Title : CLK_DDR-BUFFER

ASUSTeK COMPUTER INC. NB

Engineer: Hawk / Kaxidy

Size	Project Name	Rev
Custom	T12C	1.1

Date: Friday, August 17, 2007 Sheet 16 of 94

<Variant Name>

Title : NULL

ASUSTeK COMPUTER INC.NB

Engineer: Hawk / Kaxidy

Size	Project Name	Rev
B	T12C	1.1

Date: Monday, August 13, 2007

<Variant Name>

Title : NULL

ASUSTeK COMPUTER INC .NB

Engineer: Hawk / Kaxidy

Size	Project Name	Rev
A	T12C	1.1

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<Variant Name>

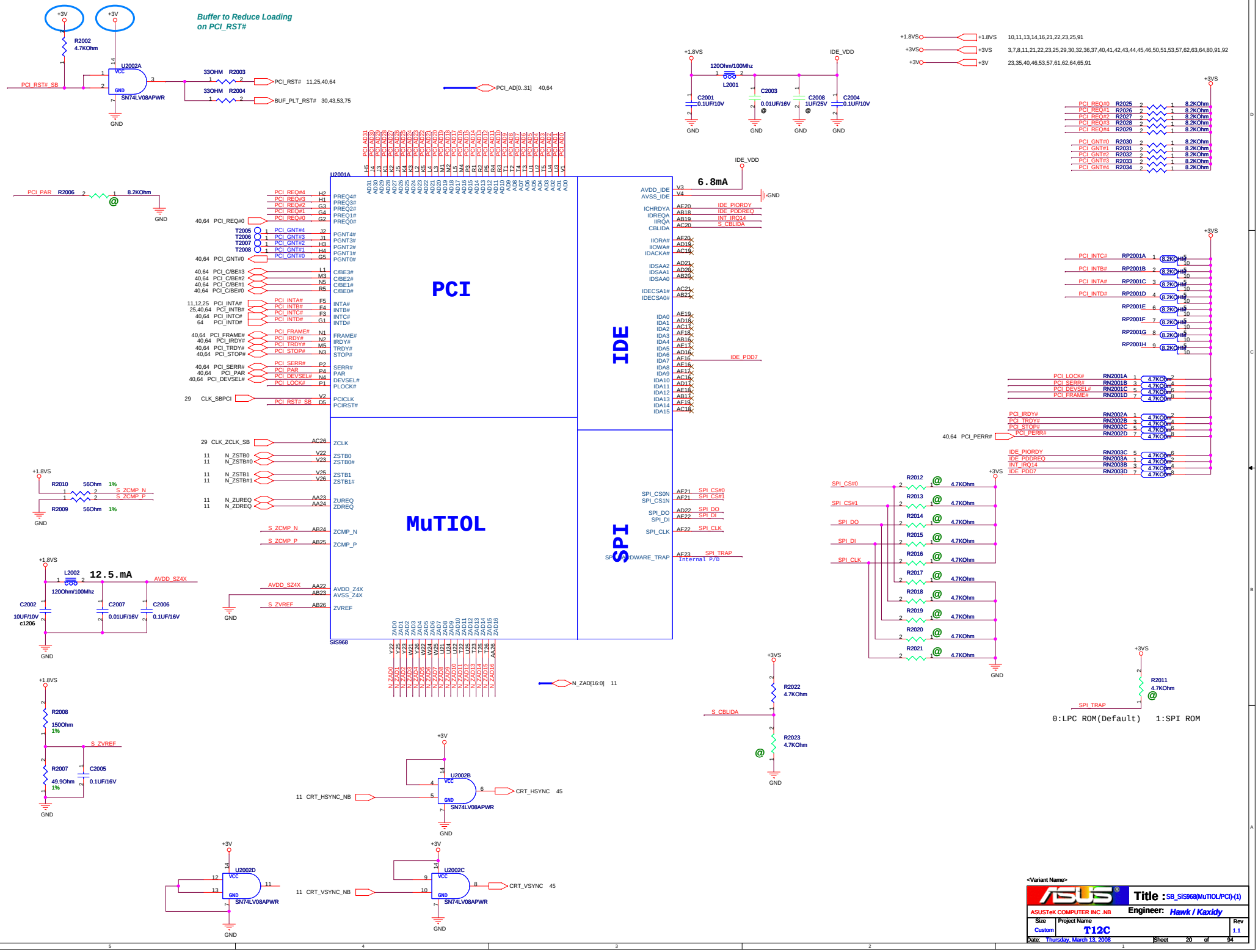
Title : NULL

ASUSTeK COMPUTER INC .NB

Engineer: Hawk / Kaxidy

Size	Project Name	Rev
A	T12C	1.1

Date: Monday, August 13, 2007 Sheet 19 of 94


Buffer to Reduce Loading on PCI_RST#
PCI
IDE
SPI
MuTIOL
SiS968
U2001A
U2002A
U2002B
U2002C
U2002D
SN74LV08APWR
6.8mA
12.5.mA
0:LPC ROM(Default) 1:SPI ROM
<Variant Name>
Title : SB_SiS968(MuTIOL/PCI)-(1)
ASUSTeK COMPUTER INC .NB
Engineer: Hawk / Kaxidy
Size: Custom
Project Name: T12C
Rev: 1.1
Date: Thursday, March 13, 2008
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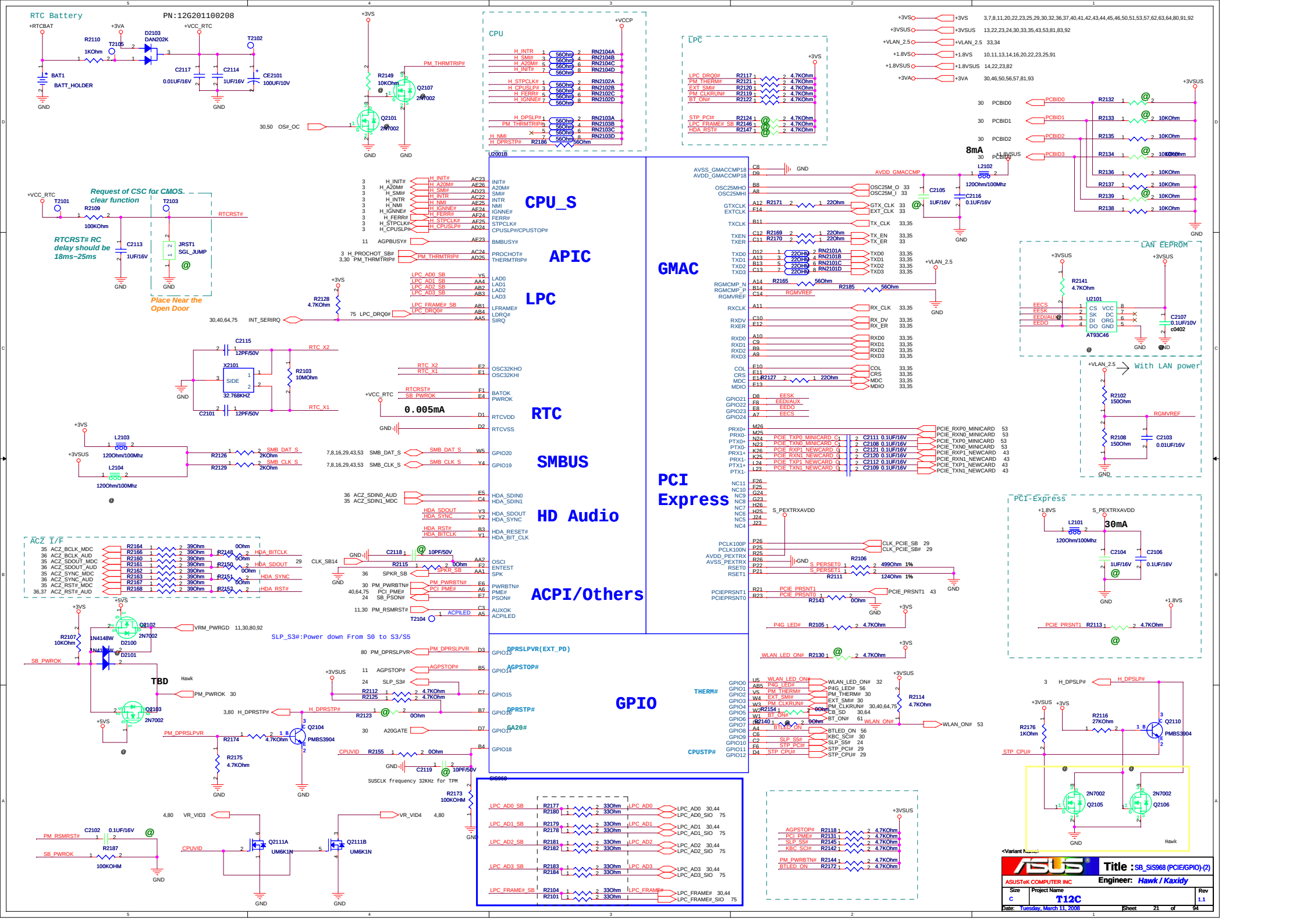
RTC Battery
PN:12G201100208
CPU
LPC
CPU_S
APIC
LPC
RTC
SMBUS
HD Audio
ACPI/Others
GPIO
GMAC
PCI Express
LAN EEPROM
With LAN power
PCI-Express
ACZ I/F
Request of CSC for CMOS clear function
RTCRST# RC delay should be 18ms~25ms
Place Near the Open Door
SLP_S3#:Power down From S0 to S3/S5
TBD
0.005mA
8mA
30mA
SUSCLK frequency 32Khz for TPM
Title : SB_SiS968 (PCIE/GPIO)-(2)
ASUSTeK COMPUTER INC.
Engineer: Hawk / Kaxidy
Project Name T12C
Rev 1.1
Date: Tuesday, March 11, 2008
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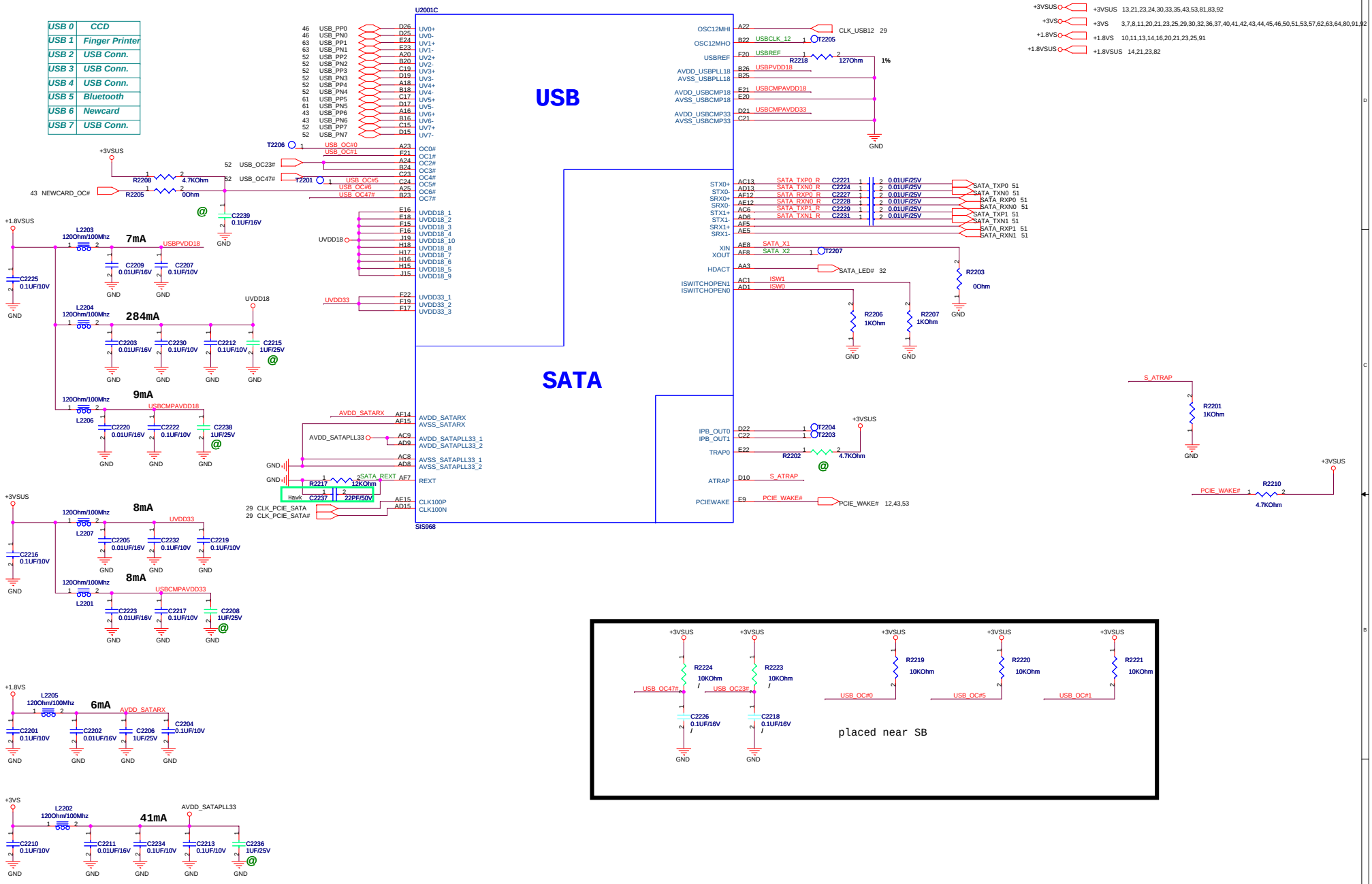
USB 0	CCD
USB 1	Finger Printer
USB 2	USB Conn.
USB 3	USB Conn.
USB 4	USB Conn.
USB 5	Bluetooth
USB 6	Newcard
USB 7	USB Conn.



<Variant Name>

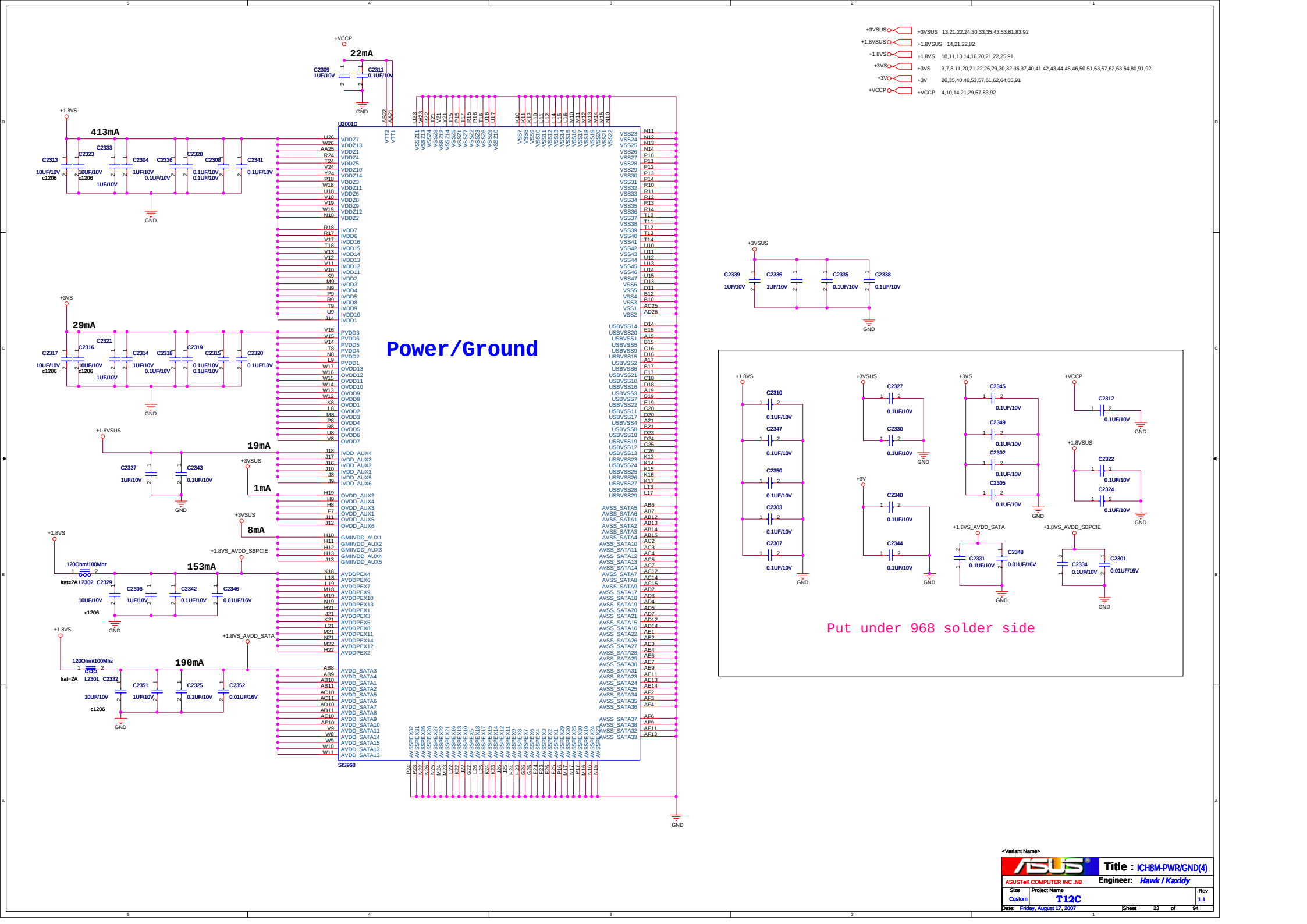
ASUSTeK COMPUTER INC.

Title : SiS968(SATA/USB)

Engineer: Hawk / Kaxidy

Size	Project Name	Rev
Custom	T12C	1.1

Date: Monday, March 03, 2008 Sheet 22 of 94


+3VSUS +3VSUS 13,21,22,24,30,33,35,43,53,81,83,92
+1.8VSUS +1.8VSUS 14,21,22,82
+1.8VS +1.8VS 10,11,13,14,16,20,21,22,25,91
+3VS +3VS 3,7,8,11,20,21,22,25,29,30,32,36,37,40,41,42,43,44,45,46,50,51,53,57,62,63,64,80,91,92
+3V +3V 20,35,40,46,53,57,61,62,64,65,91
+VCCP +VCCP 4,10,14,21,29,57,83,92
+VCCP
22mA
C2309 1UF/10V
C2311 0.1UF/10V
GND
U2001D
+1.8VS
413mA
C2313 10UF/10V c1206
C2323 10UF/10V c1206
C2333 1UF/10V
C2304 1UF/10V
C2326 0.1UF/10V
C2328 0.1UF/10V
C2308 0.1UF/10V
C2341 0.1UF/10V
+3VS
29mA
C2317 10UF/10V c1206
C2316 10UF/10V c1206
C2321 1UF/10V
C2314 1UF/10V
C2318 0.1UF/10V
C2319 0.1UF/10V
C2315 0.1UF/10V
C2320 0.1UF/10V
+1.8VSUS
19mA
C2337 1UF/10V
C2343 0.1UF/10V
+3VSUS
1mA
+3VSUS
8mA
+1.8VS
120Ohm/100Mhz
Irat=2A L2302
153mA
C2329
C2306 10UF/10V c1206
C2342 1UF/10V
C2346 0.1UF/10V
0.01UF/16V
+1.8VS_AVDD_SBPCIE
+1.8VS
120Ohm/100Mhz
Irat=2A L2301
190mA
C2332
C2351 10UF/10V c1206
C2325 1UF/10V
C2352 0.1UF/10V
0.01UF/16V
+1.8VS_AVDD_SATA
Power/Ground
SIS968
+3VSUS
C2339 1UF/10V
C2336 1UF/10V
C2335 0.1UF/10V
C2338 0.1UF/10V
+1.8VS
C2310 0.1UF/10V
C2347 0.1UF/10V
C2350 0.1UF/10V
C2303 0.1UF/10V
C2307 0.1UF/10V
+3VSUS
C2327 0.1UF/10V
C2330 0.1UF/10V
+3V
C2340 0.1UF/10V
C2344 0.1UF/10V
+3VS
C2345 0.1UF/10V
C2349 0.1UF/10V
C2302 0.1UF/10V
C2305 0.1UF/10V
+1.8VS_AVDD_SATA
C2331 0.1UF/10V
C2348 0.01UF/16V
+VCCP
C2312 0.1UF/10V
+1.8VSUS
C2322 0.1UF/10V
C2324 0.1UF/10V
+1.8VS_AVDD_SBPCIE
C2334 0.1UF/10V
C2301 0.01UF/16V
Put under 968 solder side
<Variant Name>
Title : ICH8M-PWR/GND(4)
ASUSTeK COMPUTER INC.,NB
Engineer: Hawk / Kaxidy
Size Custom
Project Name T12C
Rev 1.1
Date: Friday, August 17, 2007
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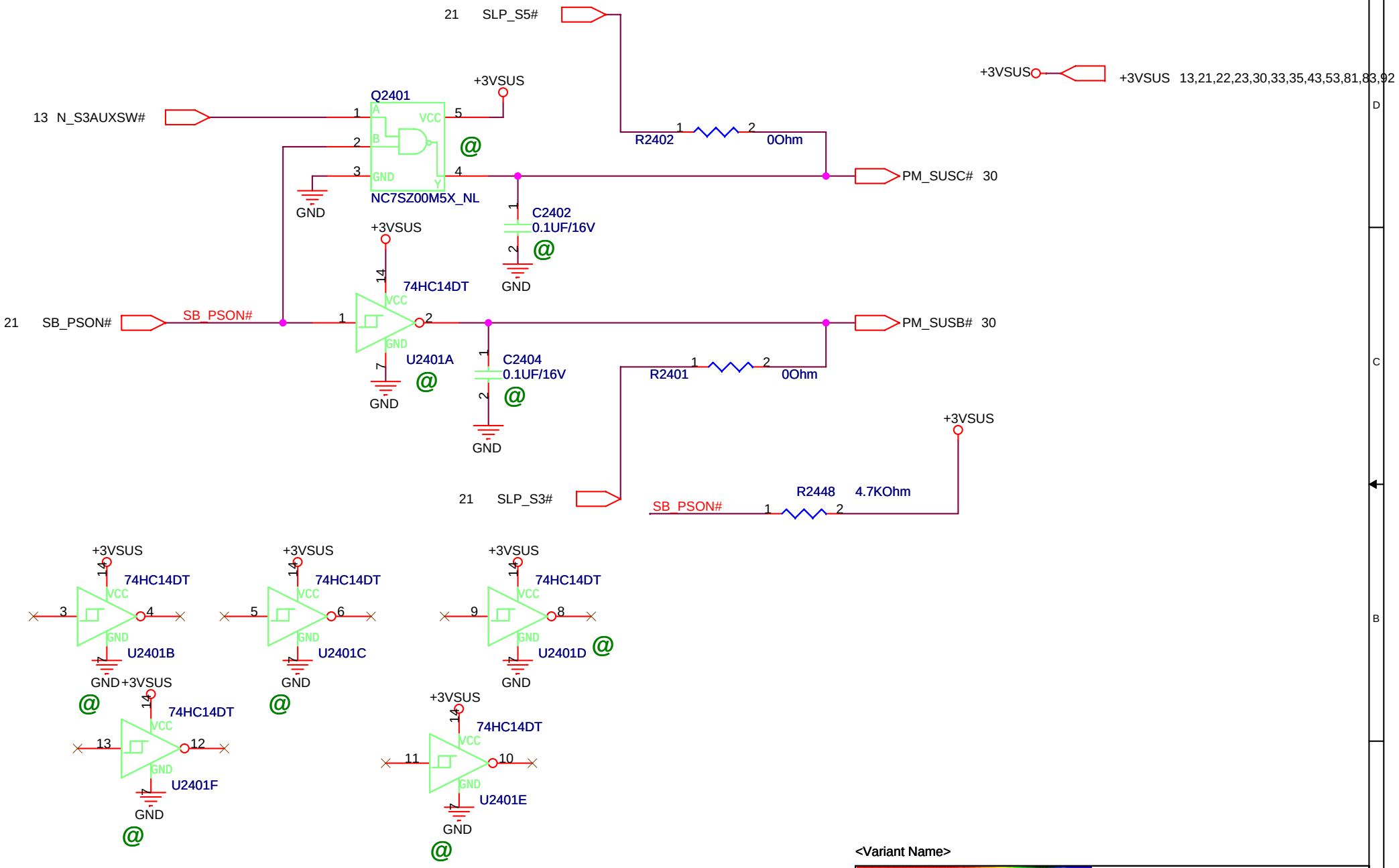
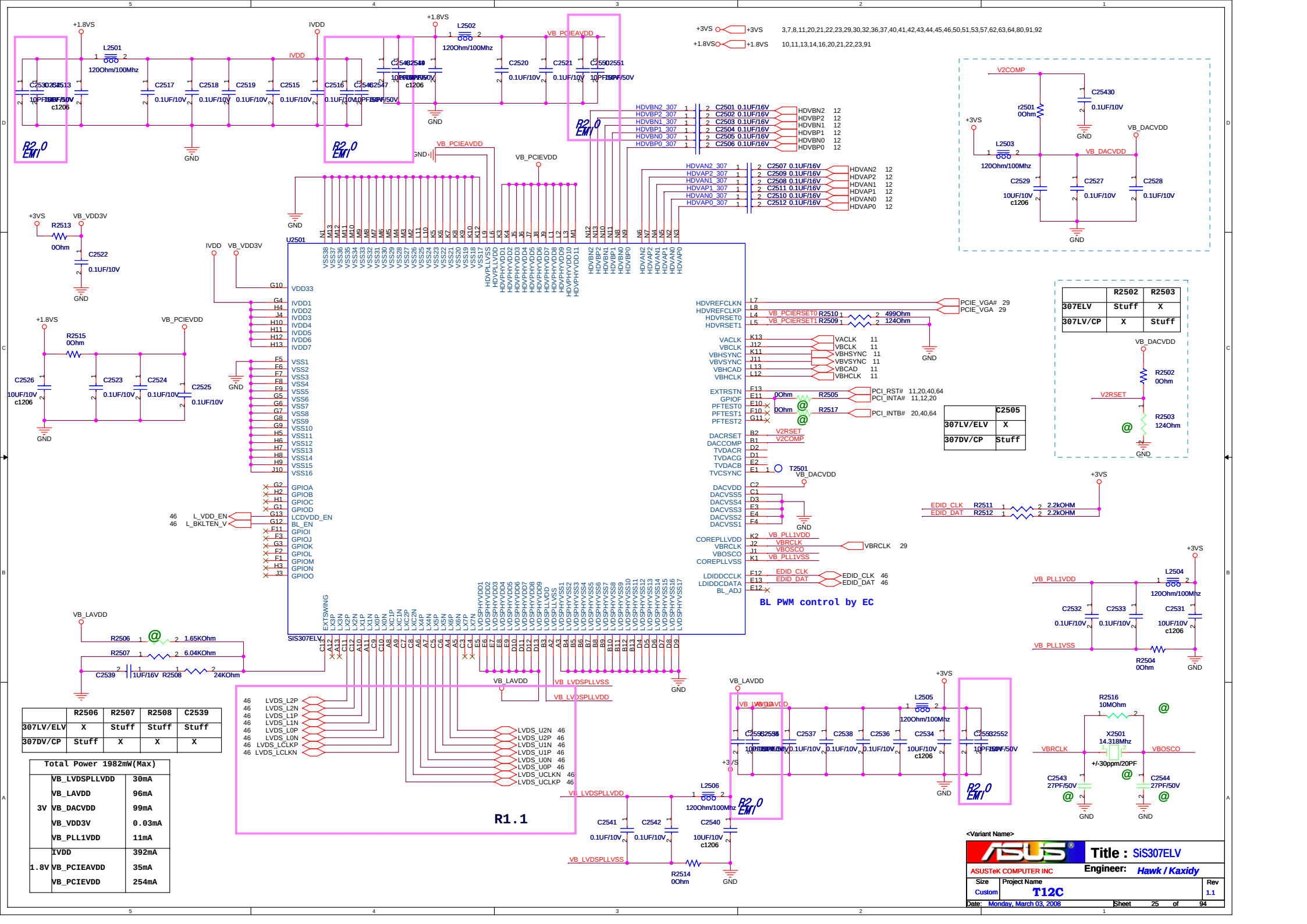


<Variant Name>

ASUSTeK COMPUTER INC	Title : SiS968 (STRAPING)	
	Engineer: Hawk / Kaxidy	
Size: A	Project Name: T12C	Rev: 1.1
Date: Friday, August 17, 2007	Sheet 24 of 94	



	R2502	R2503
307ELV	Stuff	X
307LV/CP	X	Stuff

	C2505
307LV/ELV	X
307DV/CP	Stuff

	R2506	R2507	R2508	C2539
307LV/ELV	X	Stuff	Stuff	Stuff
307DV/CP	Stuff	X	X	X

Total Power 1982mW(Max)		
3V	VB_LVDSPLLVDD	30mA
	VB_LAVDD	96mA
	VB_DACVDD	99mA
	VB_VDD3V	0.03mA
	VB_PLL1VDD	11mA
1.8V	IVDD	392mA
	VB_PCIEAVDD	35mA
	VB_PCIEVDD	254mA

<Variant Name>

Title : SiS307ELV

ASUSTeK COMPUTER INC

Engineer: Hawk / Kaxidy

Size	Project Name	Rev
Custom	T12C	1.1

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<Variant Name>

Title : NULL

ASUSTeK COMPUTER INC .NB

Engineer: Hawk / Kaxidy

Size	Project Name	Rev
A	T12C	1.1

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<Variant Name>

Title : NULL

ASUSTeK COMPUTER INC

Engineer: Hawk / Kaxidy

Size	Project Name	Rev
A	T12C	1.1

Date: Monday, August 13, 2007 Sheet 27 of 94

<Variant Name>

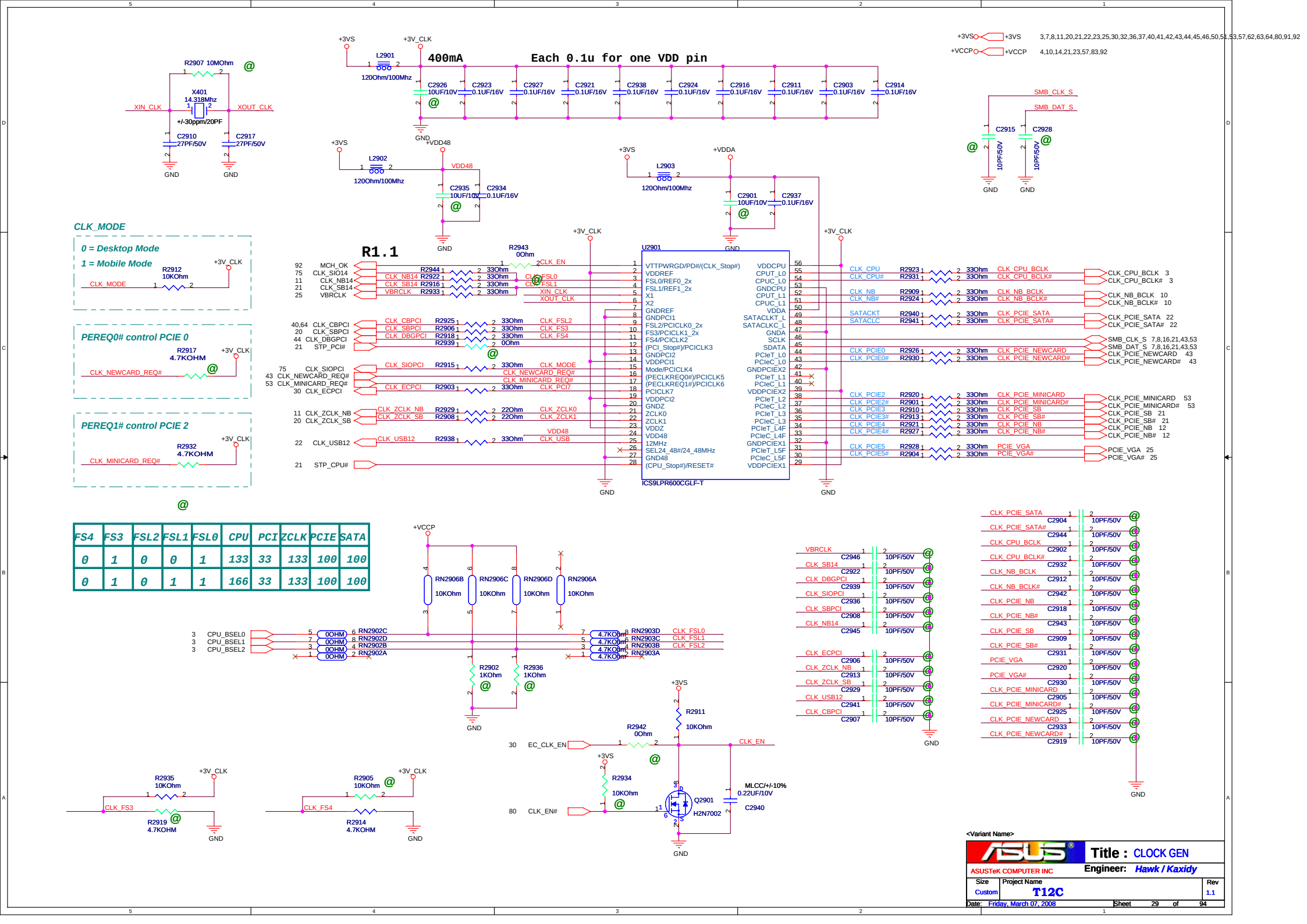
Title : NULL

ASUSTeK COMPUTER INC

Engineer: Hawk / Kaxidy

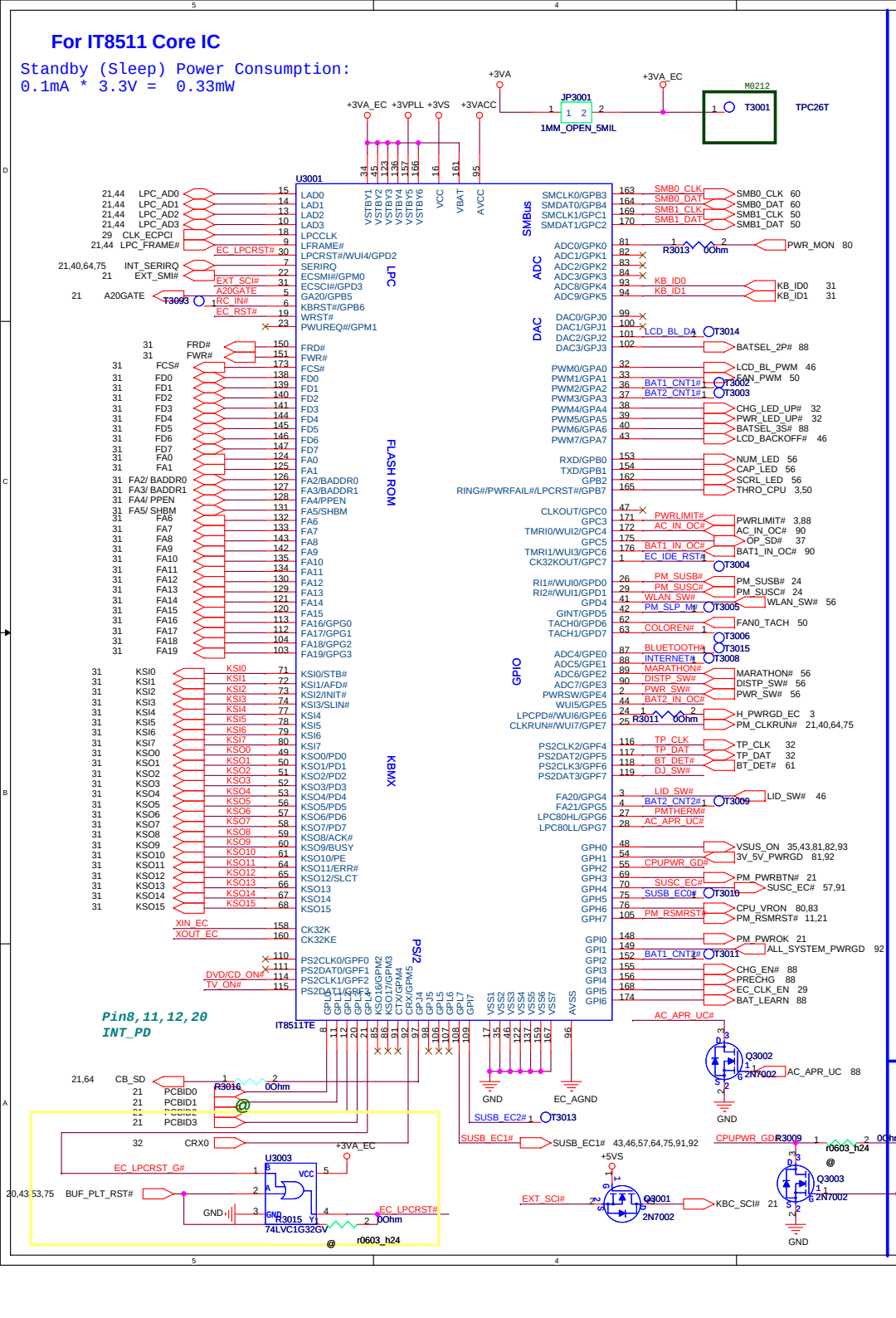
Size	Project Name	Rev
Custom	T12C	1.1

Date: Monday, August 13, 2007 Sheet 28 of 94

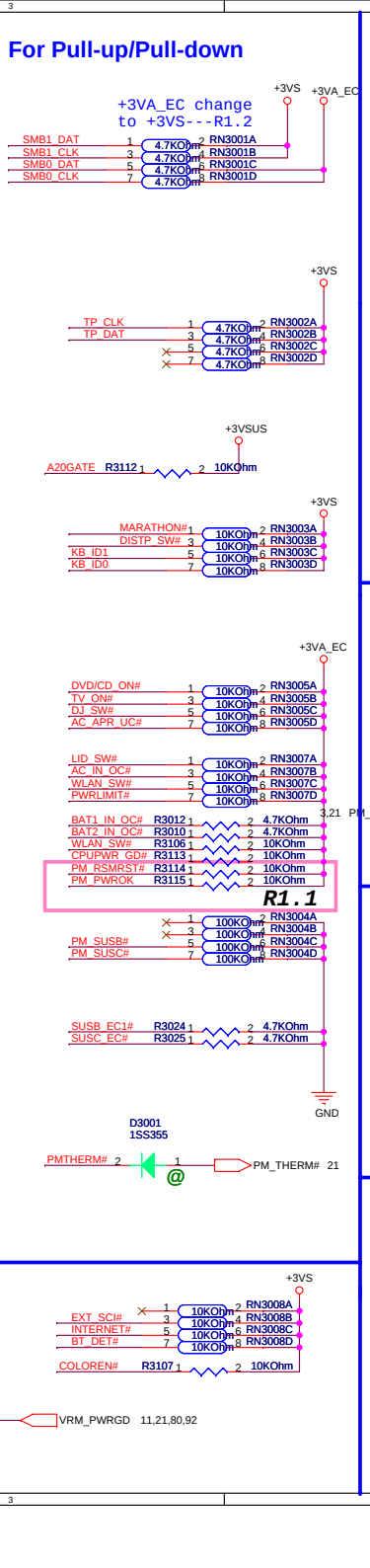

+3VS 3,7,8,11,20,21,22,23,25,30,32,36,37,40,41,42,43,44,45,46,50,51,53,57,62,63,64,80,91,92
+VCCP +VCCP 4,10,14,21,23,57,83,92
R2907 10MOhm
X401 14.318Mhz +/-30ppm/20PF
XIN_CLK XOUT_CLK
C2910 27PF/50V
C2917 27PF/50V
GND
+3VS +3V_CLK
L2901 120Ohm/100Mhz
400mA
Each 0.1u for one VDD pin
C2926 10UF/10V
C2923 C2927 C2921 C2938 C2924 C2916 C2911 C2903 C2914 0.1UF/16V
L2902 120Ohm/100Mhz +VDD48 VDD48
C2935 10UF/10V C2934 0.1UF/16V
L2903 120Ohm/100Mhz +VDDA
C2901 10UF/10V C2937 0.1UF/16V
SMB_CLK_S SMB_DAT_S
C2915 C2928 10PF/50V
CLK_MODE
0 = Desktop Mode
1 = Mobile Mode
R2912 10KOhm
PEREQ0# control PCIE 0
R2917 4.7KOHM CLK_NEWCARD_REQ#
PEREQ1# control PCIE 2
R2932 4.7KOHM CLK_MINICARD_REQ#
R1.1
U2901
ICS9LPR600CGLF-T
R2943 0Ohm CLK_EN
MCH_OK CLK_SIO14 CLK_NB14 CLK_SB14 VBRCLK
R2944 R2922 R2916 R2933 33Ohm
CLK_FSL0 CLK_FSL1 XIN_CLK XOUT_CLK
CLK_CBPCI CLK_SBPCI CLK_DBGPCI STP_PCI#
R2925 R2906 R2918 R2939 0Ohm
CLK_FSL2 CLK_FS3 CLK_FS4
CLK_SIOPCI CLK_NEWCARD_REQ# CLK_MINICARD_REQ# CLK_ECPCI
R2915 R2903 CLK_MODE CLK_PCI7
CLK_ZCLK_NB CLK_ZCLK_SB R2929 R2908 22Ohm CLK_ZCLK0 CLK_ZCLK1
CLK_USB12 R2938 CLK_USB VDD48
STP_CPU#
VTTPWRGD/PD#/(CLK_Stop#) VDDREF FSL0/REF0_2x FSL1/REF1_2x X1 X2 GNDREF GNDPCI1 FSL2/PCICLK0_2x FS3/PCICLK1_2x FS4/PCICLK2 (PCI_Stop#)/PCICLK3 GNDPCI2 VDDPCI1 Mode/PCICLK4 (PECLKREQ0#)/PCICLK5 (PECLKREQ1#)/PCICLK6 PCICLK7 VDDPCI2 GNDZ ZCLK0 ZCLK1 VDDZ VDD48 12MHz SEL24_48#/24_48MHz GND48 (CPU_Stop#)/RESET#
VDDCPU CPUT_L0 CPUC_L0 GNDCPU CPUT_L1 CPUC_L1 VDDA SATACLKT_L SATACLKC_L GNDA SCLK SDATA PCIeT_L0 PCIeC_L0 GNDPCIEX2 PCIeT_L1 PCIeC_L1 VDDPCIEX2 PCIeT_L2 PCIeC_L2 PCIeT_L3 PCIeC_L3 PCIeT_L4F PCIeC_L4F GNDPCIEX1 PCIeT_L5F PCIeC_L5F VDDPCIEX1
CLK_CPU CLK_CPU# R2923 R2931 CLK_CPU_BCLK CLK_CPU_BCLK#
CLK_NB CLK_NB# R2909 R2924 CLK_NB_BCLK CLK_NB_BCLK#
SATACKT SATACLC R2940 R2941 CLK_PCIE_SATA CLK_PCIE_SATA#
CLK_PCIE0 CLK_PCIE0# R2926 R2930 CLK_PCIE_NEWCARD CLK_PCIE_NEWCARD#
CLK_PCIE2 CLK_PCIE2# CLK_PCIE3 CLK_PCIE3# CLK_PCIE4 CLK_PCIE4# R2920 R2901 R2910 R2913 R2921 R2927 CLK_PCIE_MINICARD CLK_PCIE_MINICARD# CLK_PCIE_SB CLK_PCIE_SB# CLK_PCIE_NB CLK_PCIE_NB#
CLK_PCIE5 CLK_PCIE5# R2928 R2904 PCIE_VGA PCIE_VGA#
SMB_CLK_S 7,8,16,21,43,53
SMB_DAT_S 7,8,16,21,43,53
CLK_PCIE_NEWCARD 43
CLK_PCIE_NEWCARD# 43
CLK_PCIE_MINICARD 53
CLK_PCIE_MINICARD# 53
CLK_PCIE_SB 21
CLK_PCIE_SB# 21
CLK_PCIE_NB 12
CLK_PCIE_NB# 12
PCIE_VGA 25
PCIE_VGA# 25
FS4 FS3 FSL2 FSL1 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
+VCCP
RN2906B RN2906C RN2906D RN2906A 10KOhm
CPU_BSEL0 CPU_BSEL1 CPU_BSEL2
0OHM RN2902C RN2902D RN2902B RN2902A
4.7KOhm RN2903D RN2903C RN2903B RN2903A CLK_FSL0 CLK_FSL1 CLK_FSL2
R2902 R2936 1KOhm
VBRCLK CLK_SB14 CLK_DBGPCI CLK_SIOPCI CLK_SBPCI CLK_NB14 CLK_ECPCI CLK_ZCLK_NB CLK_ZCLK_SB CLK_USB12 CLK_CBPCI
C2946 C2922 C2939 C2936 C2908 C2945 C2906 C2913 C2929 C2941 C2907 10PF/50V
CLK_PCIE_SATA CLK_PCIE_SATA# CLK_CPU_BCLK CLK_CPU_BCLK# CLK_NB_BCLK CLK_NB_BCLK# CLK_PCIE_NB CLK_PCIE_NB# CLK_PCIE_SB CLK_PCIE_SB# PCIE_VGA PCIE_VGA# CLK_PCIE_MINICARD CLK_PCIE_MINICARD# CLK_PCIE_NEWCARD CLK_PCIE_NEWCARD#
C2904 C2944 C2902 C2932 C2912 C2942 C2918 C2943 C2909 C2931 C2920 C2930 C2905 C2925 C2933 C2919 10PF/50V
R2911 10KOhm
R2942 0Ohm
30 EC_CLK_EN CLK_EN
R2934 10KOhm
80 CLK_EN#
Q2901 H2N7002
MLCC/+/-10% 0.22UF/10V C2940
R2935 10KOhm CLK_FS3 R2919 4.7KOHM
R2905 10KOhm CLK_FS4 R2914 4.7KOHM
<Variant Name>
ASUSTeK COMPUTER INC
Title : CLOCK GEN
Engineer: Hawk / Kaxidy
Size Custom
Project Name T12C
Rev 1.1
Date: Friday, March 07, 2008
Sheet 29 of 94

For IT8511 Core IC

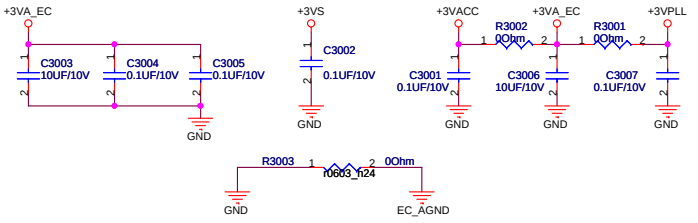
Standby (Sleep) Power Consumption:
0.1mA * 3.3V = 0.33mW



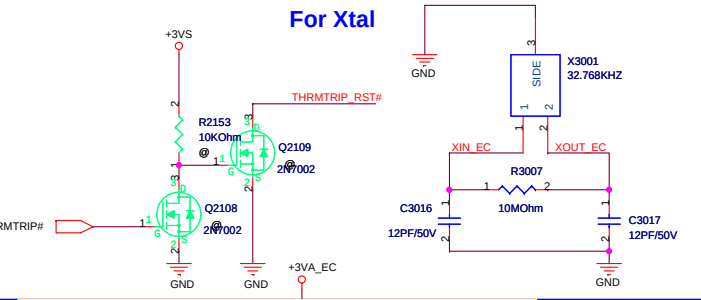
For Pull-up/Pull-down



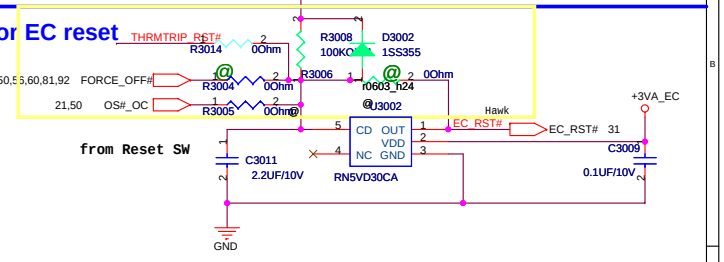
For IT8511 Power



For Xtal



For EC reset



For EC Hardware Strap

I/O Base Address	Share Memory	PP Enable
Note:	Note:	Note:
It can be programmable by EC fireware	It can be programmable by EC fireware	Default Internal Pull-Low

<Variant Name>

ASUSTeK COMPUTER INC

Title : EC-ITE8511 (2)

Engineer: Hawk / Kaxidy

Size	Project Name	Rev
Custom	T12C	1.1

Date: Friday, March 07, 2008 Sheet 30 of 94

EC Hardware Strap

Strap value sampled after VSTBY power up reset

+3VA_EC — +3VA_EC 30,46

PNPCFG base address set by SWCBAHR/SWCBALR

+3VA_EC
R3101 10KOhm r0402 @
FA2/ BADDR0
R3104 10KOhm r0402
GND

+3VA_EC
R3108 10KOhm r0402
FA3/ BADDR1
R3102 10KOhm r0402 @
GND

BADDR[1:0]

No pull up:	*The register pair to access PNPCFG is 002Eh and 002Fh.*
Ext 10K up on BADDR0:	*The register pair to access PNPCFG is 004Eh and 004Fh.*
Ext 10K up on BADDR1:	*The register pair to access PNPCFG is determined by EC domain registers SWCBALR and SWCBAHR.*

KSO7 C3112 33pF/50V
KSO0 C3113 33pF/50V
KSI1 C3114 33pF/50V
KSI7 C3115 33pF/50V
KSO9 C3116 33pF/50V
KSI6 C3130 33pF/50V
KSI5 C3131 33pF/50V
KSO3 C3132 33pF/50V
KSI4 C3133 33pF/50V
KSI2 C3134 33pF/50V
KSO1 C3135 33pF/50V
KSI3 C3127 33pF/50V
KSI0 C3126 33pF/50V
KSO13 C3128 33pF/50V
KSO5 C3123 33pF/50V
KSO2 C3124 33pF/50V
KSO4 C3125 33pF/50V
KSO8 C3129 33pF/50V
KSO6 C3120 33pF/50V
KSO11 C3121 33pF/50V
KSO10 C3122 33pF/50V
KSO12 C3117 33pF/50V
KSO14 C3118 33pF/50V
KSO15 C3119 33pF/50V
GND

Share Memory

+3VA_EC
R3109 10KOhm r0402
FA5/ SHBM
R3110 10KOhm r0402 @
GND

SHBM

No pull up:	*Disable shared memory with host BIOS*
Ext 10K up:	*Enable shared memory with host BIOS*

+3VA_EC
R3105 10KOhm r0402
FA4/ PPEN
R3103 10KOhm r0402 @
GND

PPEN

No pull up:	*Normal*
Ext 10K up:	*KBS interface pins are switched to parallel port interface for in-system programming.*

Keyboard Conn.

P/N: 12G182402806 (T12F)

J3101
SIDE1 29
1 KSO7 — KSO7 30
2 KSO0 — KSO0 30
3 KSI1 — KSI1 30
4 KSI7 — KSI7 30
5 KSO9 — KSO9 30
6 KSI6 — KSI6 30
7 KSI5 — KSI5 30
8 KSO3 — KSO3 30
9 KSI4 — KSI4 30
10 KSI2 — KSI2 30
11 KSO1 — KSO1 30
12 KSI3 — KSI3 30
13 KSI0 — KSI0 30
14 KSO13 — KSO13 30
15 KSO5 — KSO5 30
16 KSO2 — KSO2 30
17 KSO4 — KSO4 30
18 KSO8 — KSO8 30
19 KSO6 — KSO6 30
20 KSO11 — KSO11 30
21 KSO10 — KSO10 30
22 KSO12 — KSO12 30
23 KSO14 — KSO14 30
24 KSO15 — KSO15 30
25
26 KB_ID0 — KB_ID0 30
27
28 KB_ID1 — KB_ID1 30
30
SIDE2
FPC_CON_28P
GND
C3110 33pF/50V C3111 33pF/50V GND

For 8M bits SPI ROM

8M TSOP

U3102
30 FA1 — 25 A0
30 FA2/ BADDR0 — 24 A1
30 FA3/ BADDR1 — 23 A2
30 FA4/ PPEN — 22 A3
30 FA5/ SHBM — 21 A4
30 FA6 — 20 A5
30 FA7 — 19 A6
30 FA8 — 18 A7
30 FA9 — 8 A8
30 FA10 — 7 A9
30 FA11 — 6 A10
30 FA12 — 5 A11
30 FA13 — 4 A12
30 FA14 — 3 A13
30 FA15 — 2 A14
30 FA16 — 1 A15
30 FA17 — 48 A16
30 FA18 — 17 A17
30 FA19 — 16 A18

DQ0 29 — FD0 30
DQ1 31 — FD1 30
DQ2 33 — FD2 30
DQ3 35 — FD3 30
DQ4 38 — FD4 30
DQ5 40 — FD5 30
DQ6 42 — FD6 30
DQ7 44 — FD7 30
DQ8 30
DQ9 32
DQ10 34
DQ11 36
DQ12 39
DQ13 41
DQ14 43
DQ15/A-1 45 — FA0 30

CE# 26 — FCS# 30
OE# 28 — FRD# 30
WE# 11 — FWR# 30
RESET# 12 — EC_RST# 30
RY/BY# 15
BYTE# 47

NC0 9
NC1 10
NC2 13
NC3 14

Vcc 37 — +3VA_EC
Vss1 27
Vss2 46 — GND

C3109 1UF/10V
GND
R3111 10KOhm
GND

MX29LV800CTTC

<Variant Name>

ASUSTeK COMPUTER INC ETD

Title : EC-ITE8511(2)

Engineer: *Hawk / Kaxidy*

Size	Project Name	Rev
Custom	T12C	1.1

Date: Friday, August 17, 2007 Sheet 31 of 94

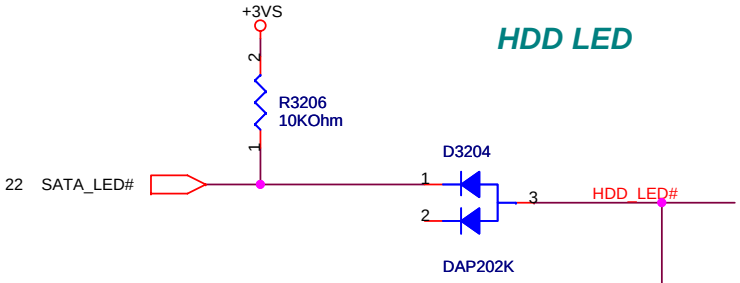
Touchpad

+5VSUS +5VSUS 33,81

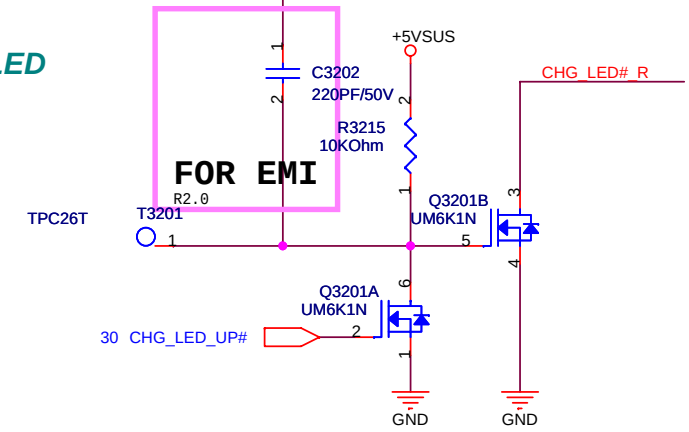
+5VS +5VS 21,30,36,37,38,45,50,51,56,57,80,91
+3VS +3VS 3,7,8,11,20,21,22,23,25,29,30,36,37,40,41,42,43,44,45,46,50,51,53,57,62,63,64,80,91,92
+5V +5V 37,46,52,56,57,65,91

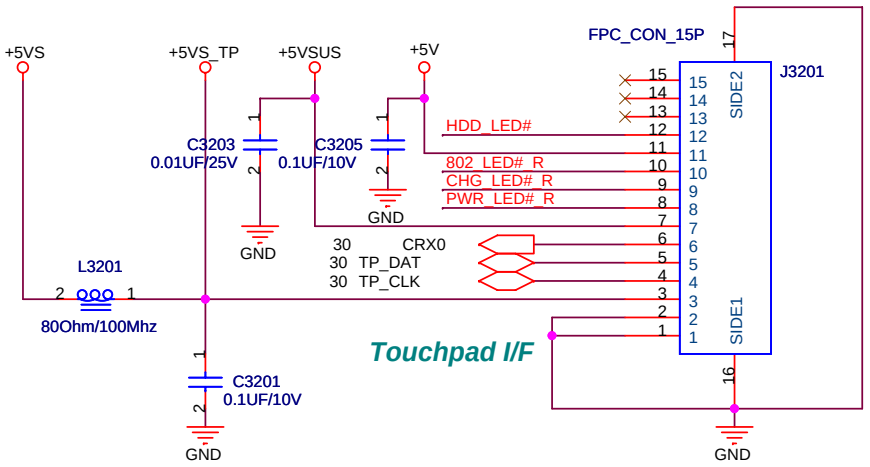
12G183101506
T12

HDD LED

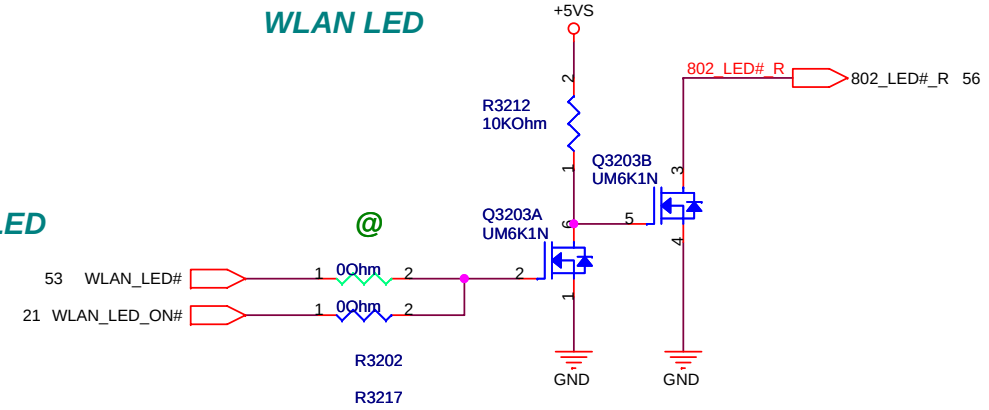


CHARGE LED

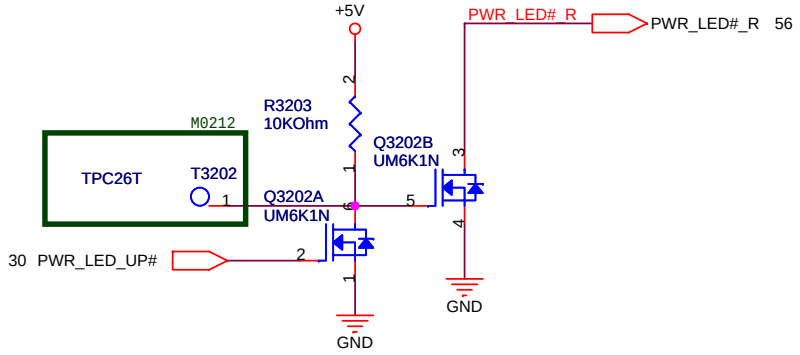




WLAN LED

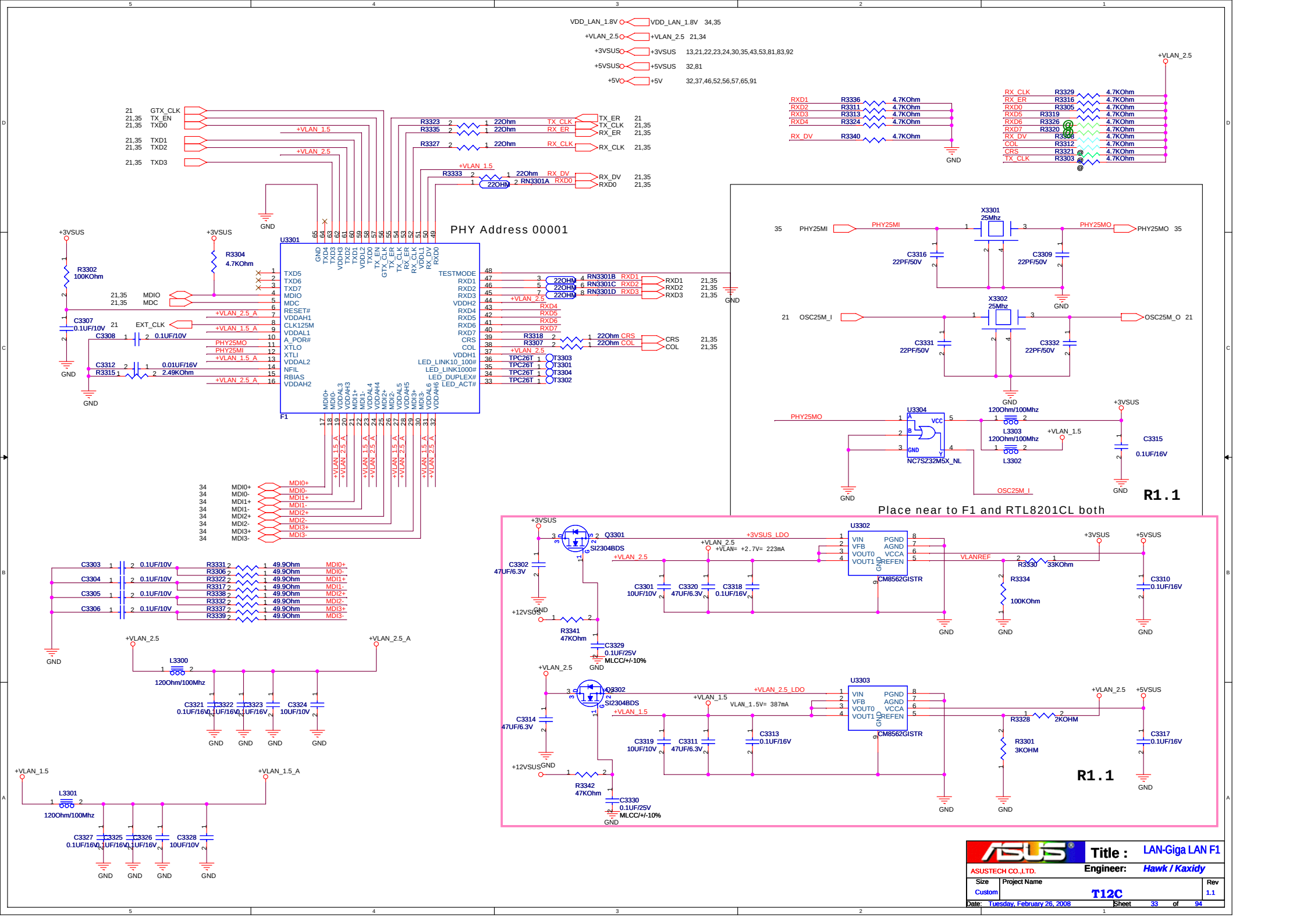


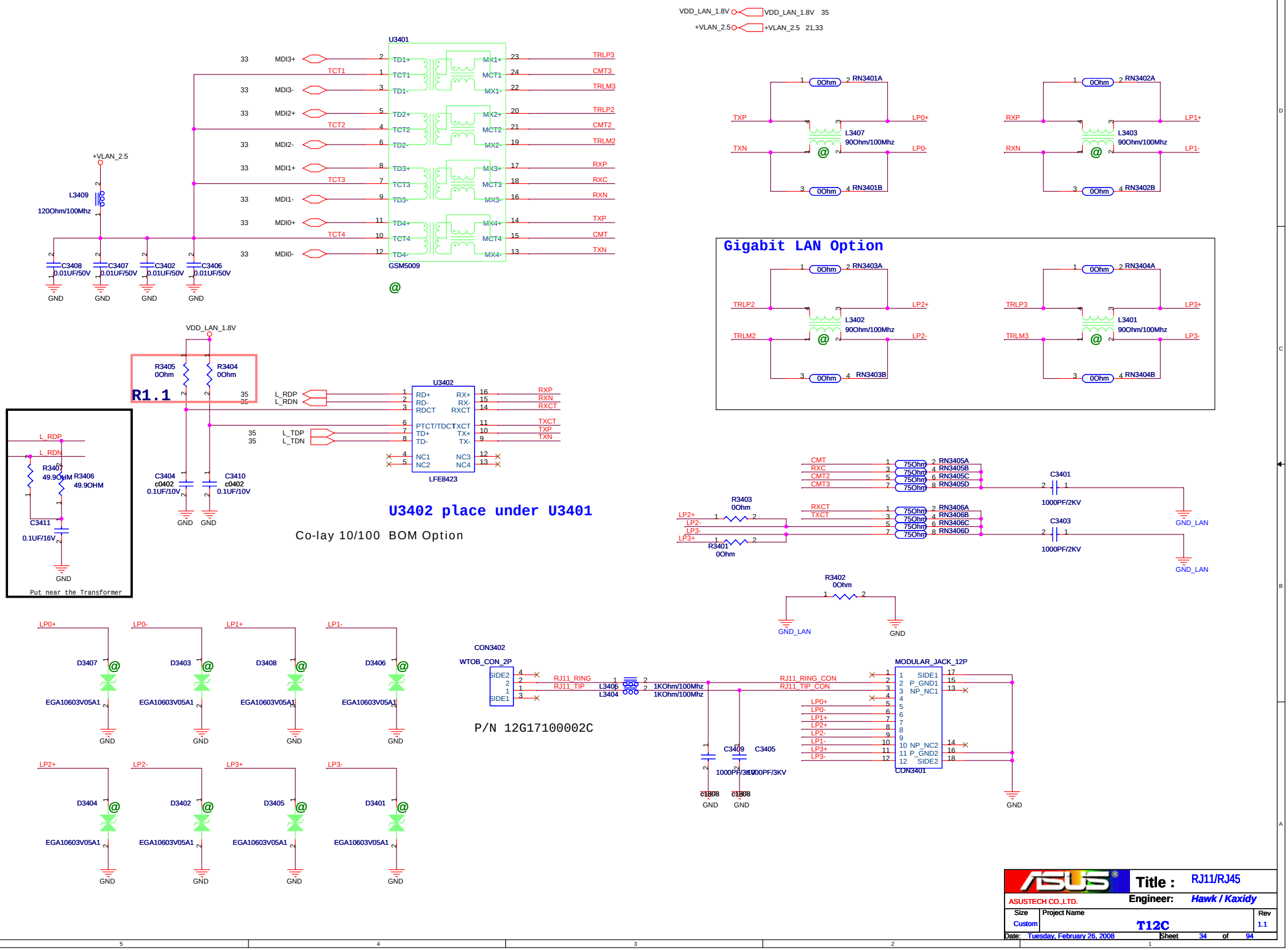
POWER LED



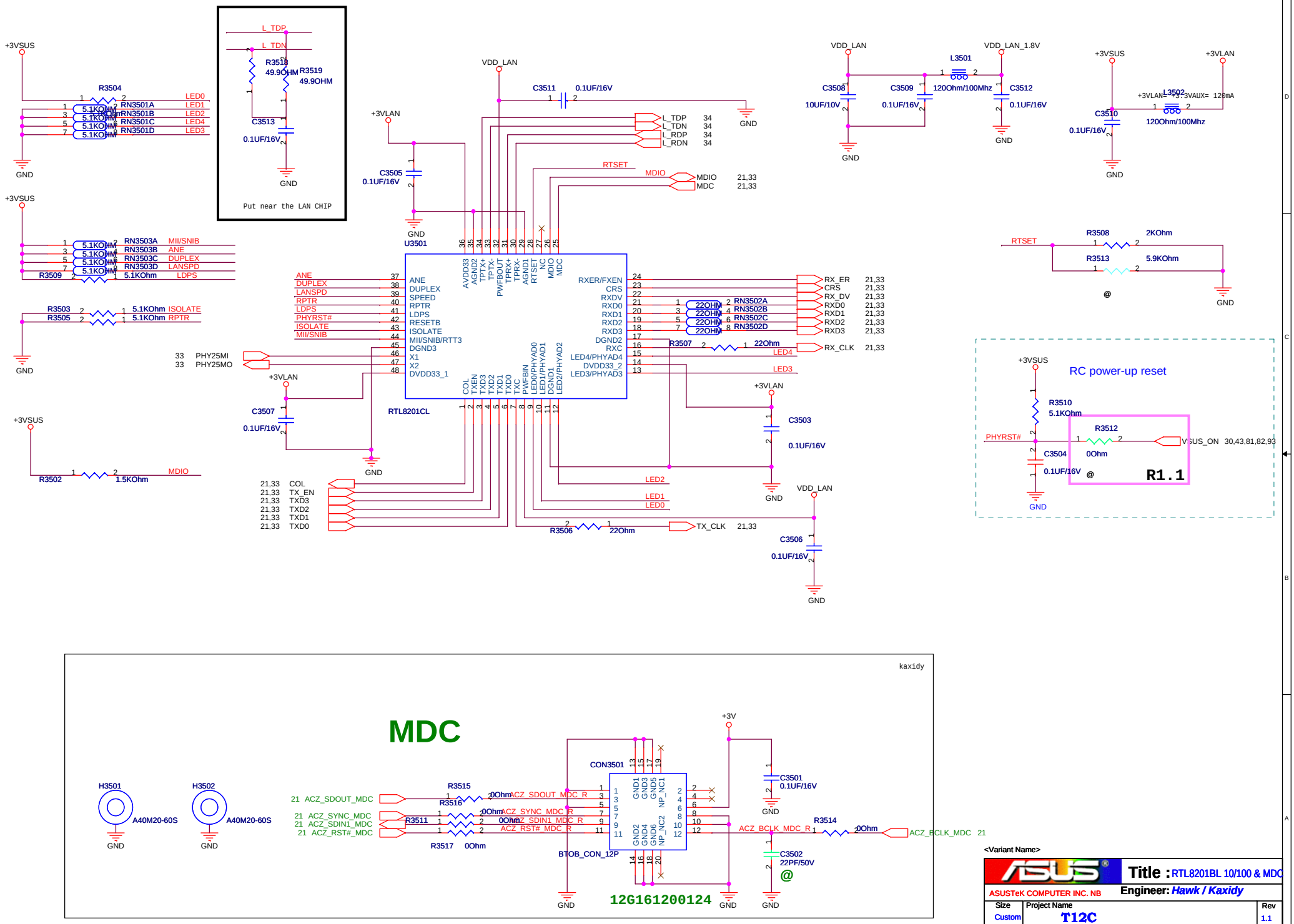
<Variant Name>

ASUSTeK COMPUTER INC	Title : TouchPad	
	Engineer: Hawk / Kaxidy	
Size: Custom	Project Name: T12C	Rev: 1.1
Date: Tuesday, March 04, 2008	Sheet 32 of 94	


VDD_LAN_1.8V VDD_LAN_1.8V 34,35
+VLAN_2.5 +VLAN_2.5 21,34
+3VSUS +3VSUS 13,21,22,23,24,30,35,43,53,81,83,92
+5VSUS +5VSUS 32,81
+5V +5V 32,37,46,52,56,57,65,91
PHY Address 00001
U3301
F1
TESTMODE
RESET#
R3302 100KOhm
R3304 4.7KOhm
C3307 0.1UF/10V
C3308 0.1UF/10V
C3312 0.01UF/16V
R3315 2.49KOhm
C3303 0.1UF/10V
C3304 0.1UF/10V
C3305 0.1UF/10V
C3306 0.1UF/10V
R3331 49.9Ohm
R3306 49.9Ohm
R3322 49.9Ohm
R3317 49.9Ohm
R3338 49.9Ohm
R3332 49.9Ohm
R3337 49.9Ohm
R3339 49.9Ohm
L3300 120Ohm/100Mhz
C3321 0.1UF/16V
C3322 0.1UF/16V
C3323 0.1UF/16V
C3324 10UF/10V
L3301 120Ohm/100Mhz
C3327 0.1UF/16V
C3325 0.1UF/16V
C3326 0.1UF/16V
C3328 10UF/10V
R3323 22Ohm
R3335 22Ohm
R3327 22Ohm
R3333 22Ohm
RN3301A
RN3301B
RN3301C
RN3301D
R3318 22Ohm
R3307 22Ohm
TPC26T T3303
TPC26T T3301
TPC26T T3304
TPC26T T3302
R3336 4.7KOhm
R3311 4.7KOhm
R3313 4.7KOhm
R3324 4.7KOhm
R3340 4.7KOhm
R3329 4.7KOhm
R3316 4.7KOhm
R3305 4.7KOhm
R3319 4.7KOhm
R3326 4.7KOhm
R3320 4.7KOhm
R3308 4.7KOhm
R3312 4.7KOhm
R3321 4.7KOhm
R3303 4.7KOhm
X3301 25Mhz
C3316 22PF/50V
C3309 22PF/50V
X3302 25Mhz
C3331 22PF/50V
C3332 22PF/50V
U3304 NC7SZ32M5X_NL
L3303 120Ohm/100Mhz
L3302 120Ohm/100Mhz
C3315 0.1UF/16V
R1.1
Place near to F1 and RTL8201CL both
Q3301 SI2304BDS
U3302 CM8562GISTR
C3302 47UF/6.3V
C3301 10UF/10V
C3320 47UF/6.3V
C3318 0.1UF/16V
R3341 47KOhm
C3329 0.1UF/25V MLCC/+/-10%
R3330 33KOhm
R3334 100KOhm
C3310 0.1UF/16V
Q3302 SI2304BDS
U3303 CM8562GISTR
C3314 47UF/6.3V
C3319 10UF/10V
C3311 47UF/6.3V
C3313 0.1UF/16V
R3342 47KOhm
C3330 0.1UF/25V MLCC/+/-10%
R3328 2KOHM
R3301 3KOHM
C3317 0.1UF/16V
R1.1
Title : LAN-Giga LAN F1
ASUSTECH CO.,LTD.
Engineer: Hawk / Kaxidy
Size Custom
Project Name T12C
Rev 1.1
Date: Tuesday, February 26, 2008
Sheet 33 of 94



ASUSTECH CO.,LTD.	Title :	RJ11/RJ45	
	Engineer:	Hawk / Kaxidy	
Size: Custom	Project Name: T12C		Rev: 1.1
Date: Tuesday, February 26, 2008	Sheet 34 of 94		


L_TDP
L_TDN
R3518 49.9OHM
R3519 49.9OHM
C3513 0.1UF/16V
Put near the LAN CHIP
+3VSUS
R3504
RN3501A LED0
RN3501B LED1
RN3501C LED2
RN3501D LED3
5.1KOHM
GND
VDD_LAN
C3511 0.1UF/16V
+3VLAN
C3505 0.1UF/16V
L_TDP 34
L_TDN 34
L_RDP 34
L_RDN 34
RTSET
MDIO
MDIO 21,33
MDC 21,33
U3501
RTL8201CL
AVDD33 AGND2 TPTX+ TPTX- PWFBOUT TPRX+ TPRX- AGND1 RTSET NC MDIO MDC
ANE DUPLEX SPEED RPTR LDPS RESETB ISOLATE MII/SNIB/RTT3 DGND3 X1 X2 DVDD33_1
RXER/FXEN CRS RXDV RXD0 RXD1 RXD2 RXD3 DGND2 RXC LED4/PHYAD4 DVDD33_2 LED3/PHYAD3
COL TXEN TXD3 TXD2 TXD1 TXD0 TXC PWFBIN LED0/PHYAD0 LED1/PHYAD1 DGND1 LED2/PHYAD2
RN3503A MII/SNIB
RN3503B ANE
RN3503C DUPLEX
RN3503D LANSPD
R3509 5.1KOhm LDPS
R3503 5.1KOhm ISOLATE
R3505 5.1KOhm RPTR
33 PHY25MI
33 PHY25MO
R3502 1.5KOhm MDIO
C3507 0.1UF/16V
C3503 0.1UF/16V
C3506 0.1UF/16V
RN3502A 22OHM
RN3502B 22OHM
RN3502C 22OHM
RN3502D 22OHM
R3507 22Ohm
R3506 22Ohm
RX_ER 21,33
CRS 21,33
RX_DV 21,33
RXD0 21,33
RXD1 21,33
RXD2 21,33
RXD3 21,33
RX_CLK 21,33
TX_CLK 21,33
LED4
LED3
LED2
LED1
LED0
21,33 COL
21,33 TX_EN
21,33 TXD3
21,33 TXD2
21,33 TXD1
21,33 TXD0
VDD_LAN
VDD_LAN_1.8V
L3501
C3508 10UF/10V
C3509 0.1UF/16V
120Ohm/100Mhz
C3512 0.1UF/16V
+3VLAN
L3502
+3VLAN=+3.3VAUX= 120mA
C3510 0.1UF/16V
RTSET
R3508 2KOhm
R3513 5.9KOhm
@
RC power-up reset
R3510 5.1KOhm
R3512 0Ohm
PHYRST#
C3504 0.1UF/16V
VSUS_ON 30,43,81,82,93
R1.1
kaxidy
MDC
H3501 A40M20-60S
H3502 A40M20-60S
R3515 0Ohm
R3516 0Ohm
R3511 0Ohm
R3517 0Ohm
21 ACZ_SDOUT_MDC
21 ACZ_SYNC_MDC
21 ACZ_SDIN1_MDC
21 ACZ_RST#_MDC
ACZ_SDOUT_MDC_R
ACZ_SYNC_MDC_R
ACZ_SDIN1_MDC_R
ACZ_RST#_MDC_R
CON3501
BTOB_CON_12P
+3V
C3501 0.1UF/16V
C3502 22PF/50V
ACZ_BCLK_MDC_R
R3514 0Ohm
ACZ_BCLK_MDC 21
12G161200124
<Variant Name>
Title : RTL8201BL 10/100 & MDC
ASUSTeK COMPUTER INC. NB
Engineer: Hawk / Kaxidy
Size Custom
Project Name T12C
Rev 1.1
Date: Friday, August 17, 2007
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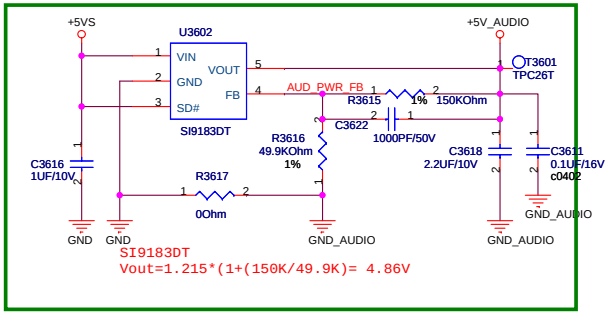
CODEC ALC660 REV:D

AUDIO POWER

M0207



+5VS +5VS 21,30,32,37,38,45,50,51,56,57,80,91

+5V_AUDIO +5V_AUDIO 38

Realtek Recommand for vista classic driver pop

37 EAPD EAPD

Digital

ACZ_BCLK_AUD

C3601 22PF/50V c0603 YAGEO/CC0603JRNPO9BN220 <G>

GND

+3VS

L3601 120Ohm/100Mhz

C3602 0.1UF/16V c0402

C3603 0.1UF/16V c0402

C3604 10UF/10V c0805

GND

+3VS_CODEC

GND_AUDIO

R3601 20KOhm 1%

GND_AUDIO +5V_AUDIO

C3605 10UF/6.3V c0805

C3606 0.1UF/16V c0402

GND_AUDIO

JDVREF

SPDIFO EAPD NC3 NC2 LFE(PORT-G-L) CENTER(PORT-G-R) AVSS2 JDREF SURR-R(PORT-A-R) SURR-L(PORT-A-L) AVDD2 NC1

DVDD1 GPIO0 GPIO1 DVSS1 SDATA-OUT BCLK DVSS2 SDATA-IN DVDD_IO SYNC RESET# PCBEEP

FRONT-R(PORT-D-R) FRONT-L(PORT-D-L) SenseB NC4 MIC1-VREFO-R LINE2-VREFO MIC2-VREFO NC5 MIC1-VREFO-L VREF AVSS1 AVDD1

SenseA LINE2-L(PORT-E-L) LINE2-R(PORT-E-R) MIC2-L(PORT-F-L) MIC2-R(PORT-F-R) CD-GND CD-R CD-L MIC1-L(PORT-B-L) MIC1-R(PORT-B-R) LINE1-L(PORT-C-L) LINE1-R(PORT-C-R)

ALC660-VD-GR

U3603

37 660_D_MUTE# 660_D_MUTE#

R3633 0Ohm

21 ACZ_SDOUT_AUD ACZ_SDOUT_AUD 1 2 ACZ_SDOUT_AUD_R

21 ACZ_BCLK_AUD ACZ_BCLK_AUD R3634 0Ohm ACZ_BCLK_AUD_R

FROM SiS968

21 ACZ_SDIN0_AUD R3608 33Ohm ACZ_SDIN0_R

21 ACZ_SYNC_AUD ACZ_SYNC_AUD R3635 0Ohm ACZ_SYNC_AUD_R

21,37 ACZ_RST#_AUD ACZ_RST#_AUD R3636 0Ohm ACZ_RST#_AUD_R

PC_BEEP

GND

FRONT_R FRONT_OUT_R R3627 0Ohm AC_OUT_R C3607 0.47UF/16V C3630 0.47UF/16V AC_OUTA_R AC_OUTA_R 37,39

FRONT_L FRONT_OUT_L R3628 0Ohm AC_OUT_L C3608 0.47UF/16V C3631 0.47UF/16V AC_OUTA_L AC_OUTA_L 37,39

FOR DE-POP

R3629 10KOhm C3632 100PF/50V FOR GAIN.

R3630 10KOhm C3633 100PF/50V FOR FILTER.

THE VALUE DEPEND ON C3607/C3608 TO MEET THE RECOMMENDATION VALUE(0.47UF).

Sense_B R3606 39.2KOhm 1% LINE2_JD LINE2_JD 37

GND_AUDIO

MIC2_VREFOUT MIC2_VREFOUT 38

MIC1_VREFOUT MIC1_VREFOUT 38

VREF_CODEC

+5V_AUDIO

C3609 10UF/6.3V c0805

C3610 0.1UF/16V c0402

GND_AUDIO

M0207

LINE2_JD R3607 39.2KOhm 1%

38 MIC1_JD MIC1_JD R3610 20KOhm 1% Sense_A

37 AC_HP_L AC_HP_L R3631 0Ohm

37 AC_HP_R AC_HP_R R3632 0Ohm

M0213

38 MIC_IN_AC_I MIC_IN_AC_I C3623 1UF/10V MIC_IN_AC_I_L

C3624 1UF/10V MIC_IN_AC_I_R

38 MIC_IN_AC_E MIC_IN_AC_E C3628 1UF/10V MIC_IN_AC_E_L

C3629 1UF/10V MIC_IN_AC_E_R

Input impedence:64K ohm(Typical)

VREF_CODEC C3613 10UF/10V c0805 GND_AUDIO

MIC2_VREFOUT MIC1_VREFOUT C3614 10UF/10V c0805 C3615 10UF/10V c0805 GND_AUDIO GND_AUDIO

For EMI

R3614 0Ohm

L3602 120Ohm/100Mhz

GND GND_AUDIO

PC BEEP

Reserve for Cardbus controllor that has PCMCIA function.

FROM PCMCIA

64 SPKR_CB SPKR_CB C3619 0.1UF/16V

IF NO PCMCIA,UNMOUNT.

21 SPKR_SB SPKR_SB C3620 0.1UF/16V PC_BEEP_RC D3601 1N4148W PC_BEEP_C C3621 0.1UF/16V PC_BEEP

FROM SiS968

R3619 20KOhm 1%

R3620 20KOhm 1% C3634 100PF/50V

GND

<Variant Name>

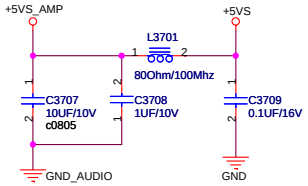
Title : AUD_Codec ALC660(D)

ASUSTeK COMPUTER INC. NB1 Engineer: Hawk / Kaxidy

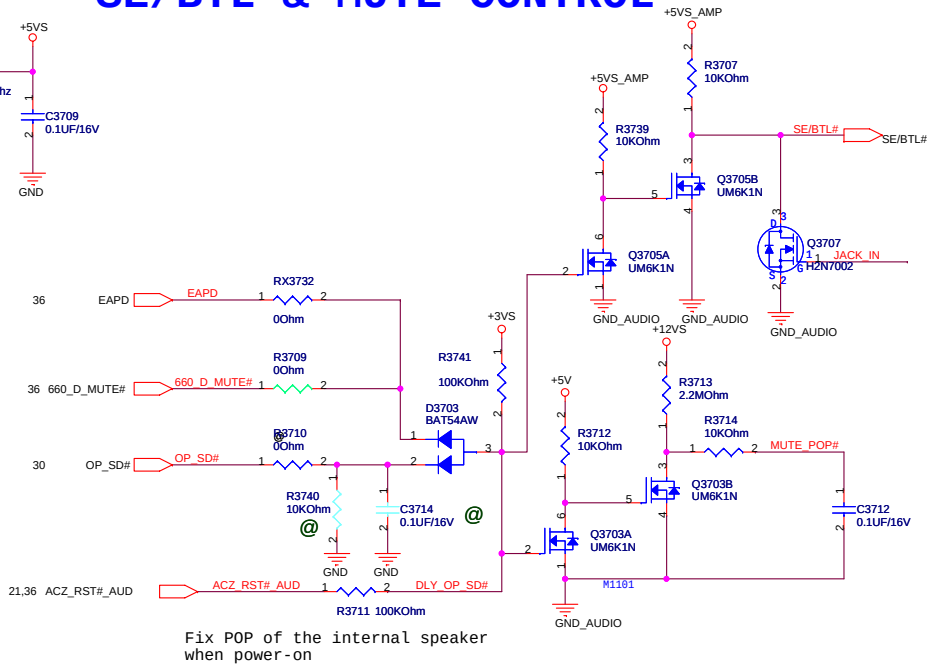
Size	Project Name	Rev
Custom	T12C	1.1

Date: Tuesday, March 04, 2008 Sheet 36 of 94

AMP POWER



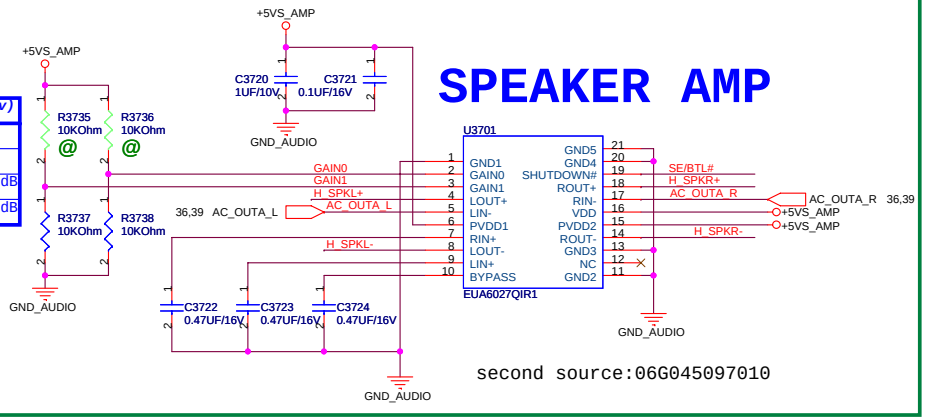
SE/BTL & MUTE CONTROL



Fix POP of the internal speaker when power-on

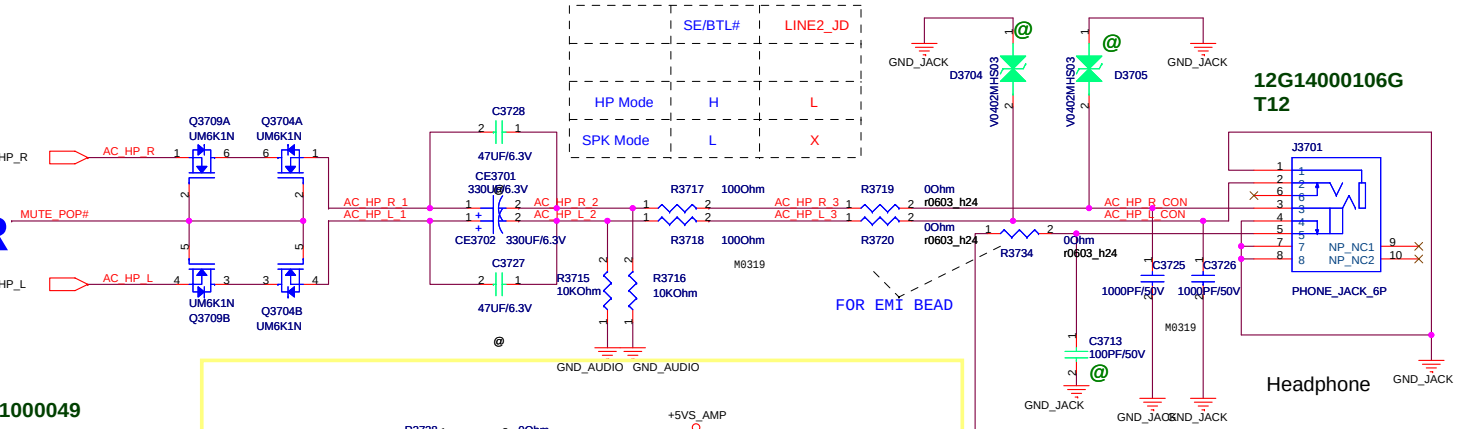
SPEAKER AMP

GAIN0	GAIN1	Av(inv)
0	0	6 dB
0	1	10 dB
1	0	15.6 dB
1	1	21.6 dB

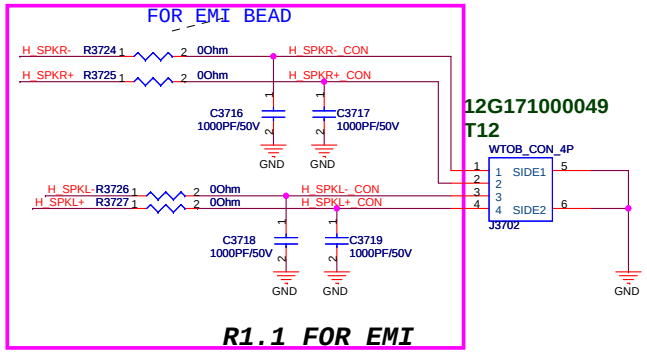


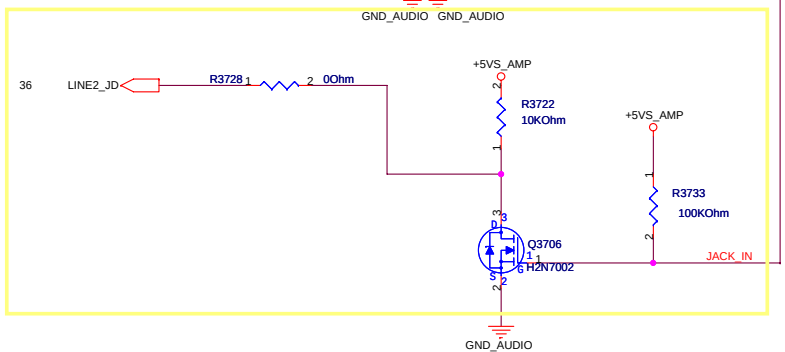
second source:06G045097010

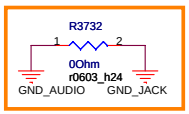
HP CONN

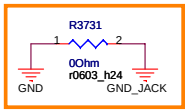


SPEAKER CONNECTOR









<Variant Name>

ASUSTeK COMPUTER INC. NB1

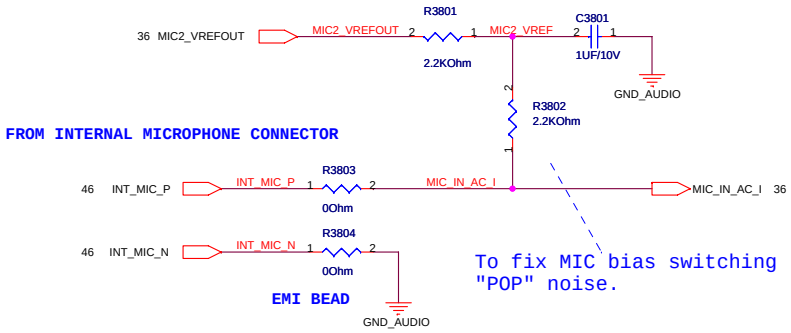
Title : AUDIO AMP

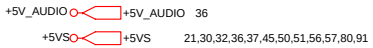
Engineer: Hawk / Kaxidy

Size	Project Name	Rev
Custom	T12C	1.1

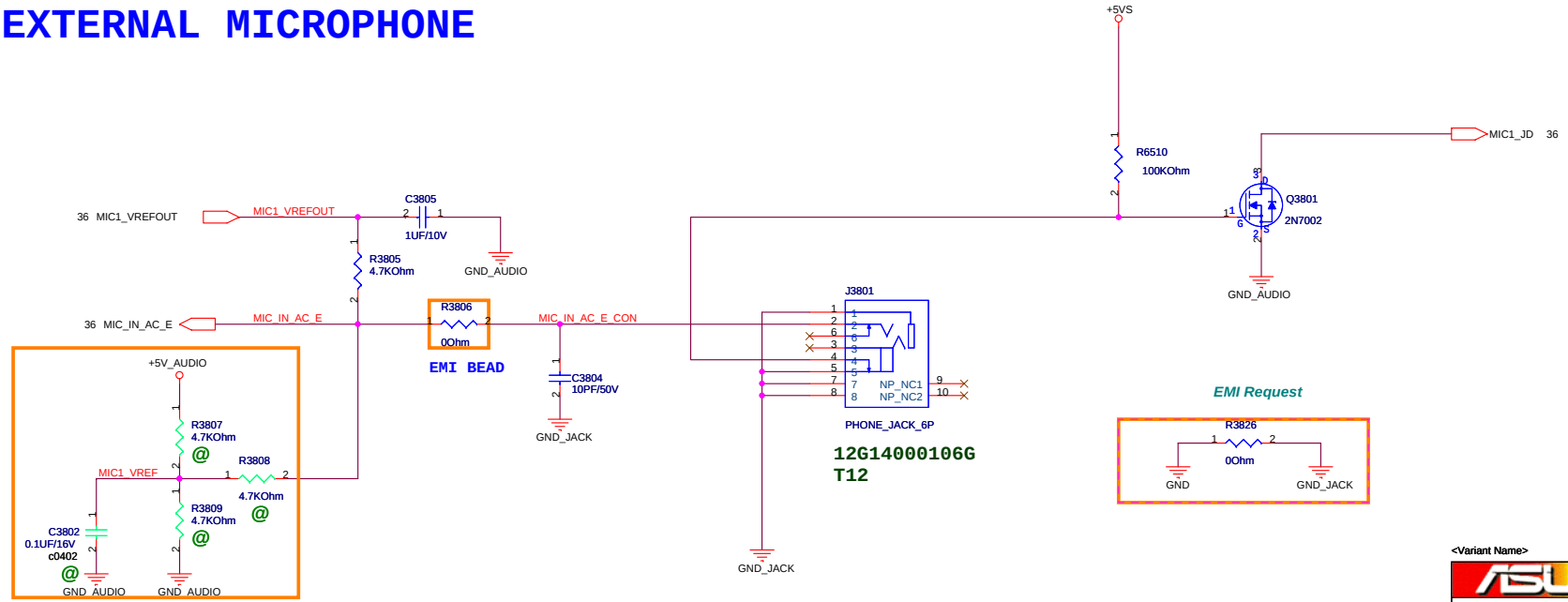
Date: Tuesday, August 21, 2007 Sheet 37 of 94

INTERNAL MICROPHONE





EXTERNAL MICROPHONE



<Variant Name>

Title : MICROPHONE

ASUSTeK COMPUTER INC. NB1

Engineer: Hawk / Kaxidy

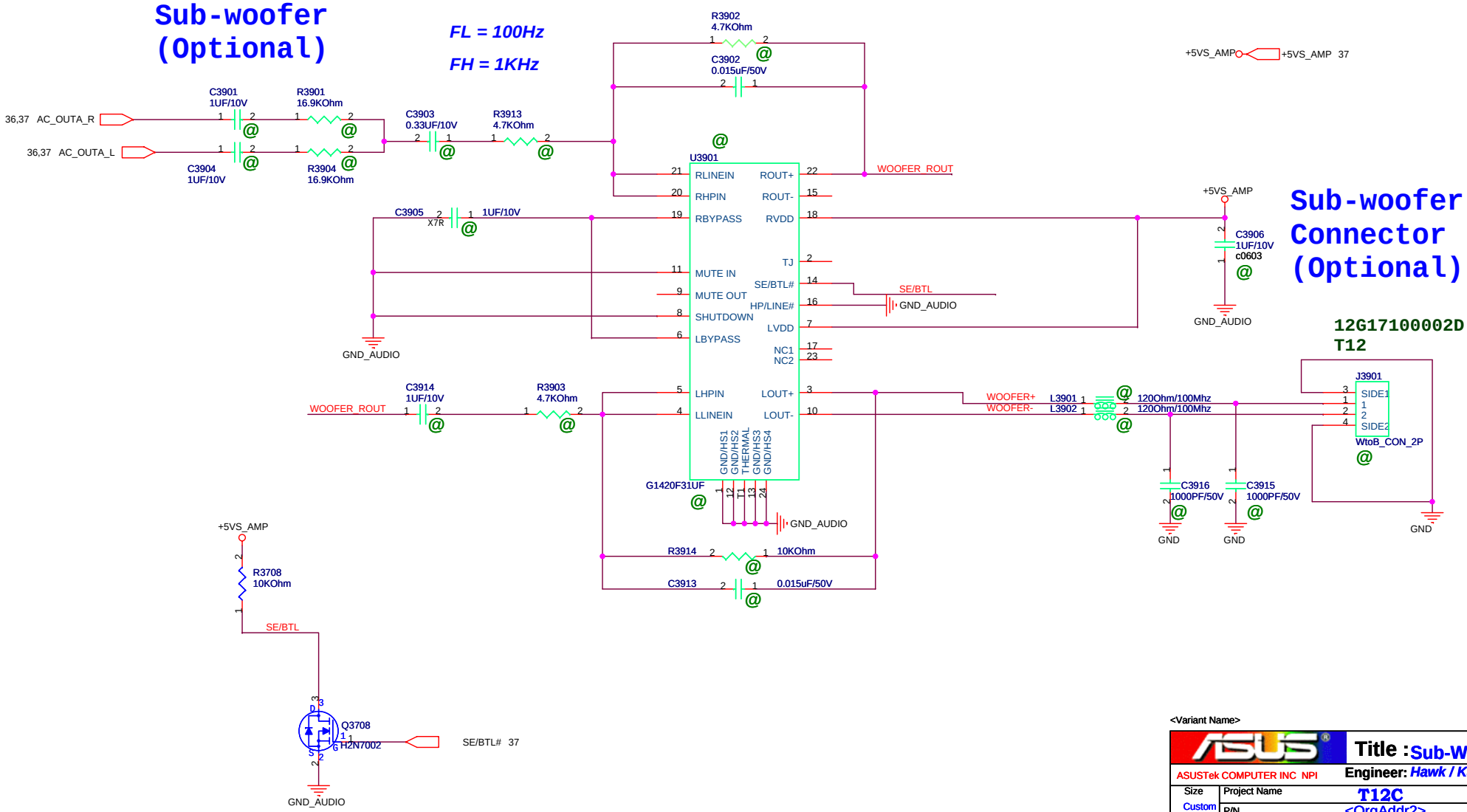
Size	Project Name	Rev
Custom	T12C	1.1

Date: Friday, August 17, 2007 Sheet 38 of 94

Sub-woofer (Optional)

FL = 100Hz

FH = 1KHz

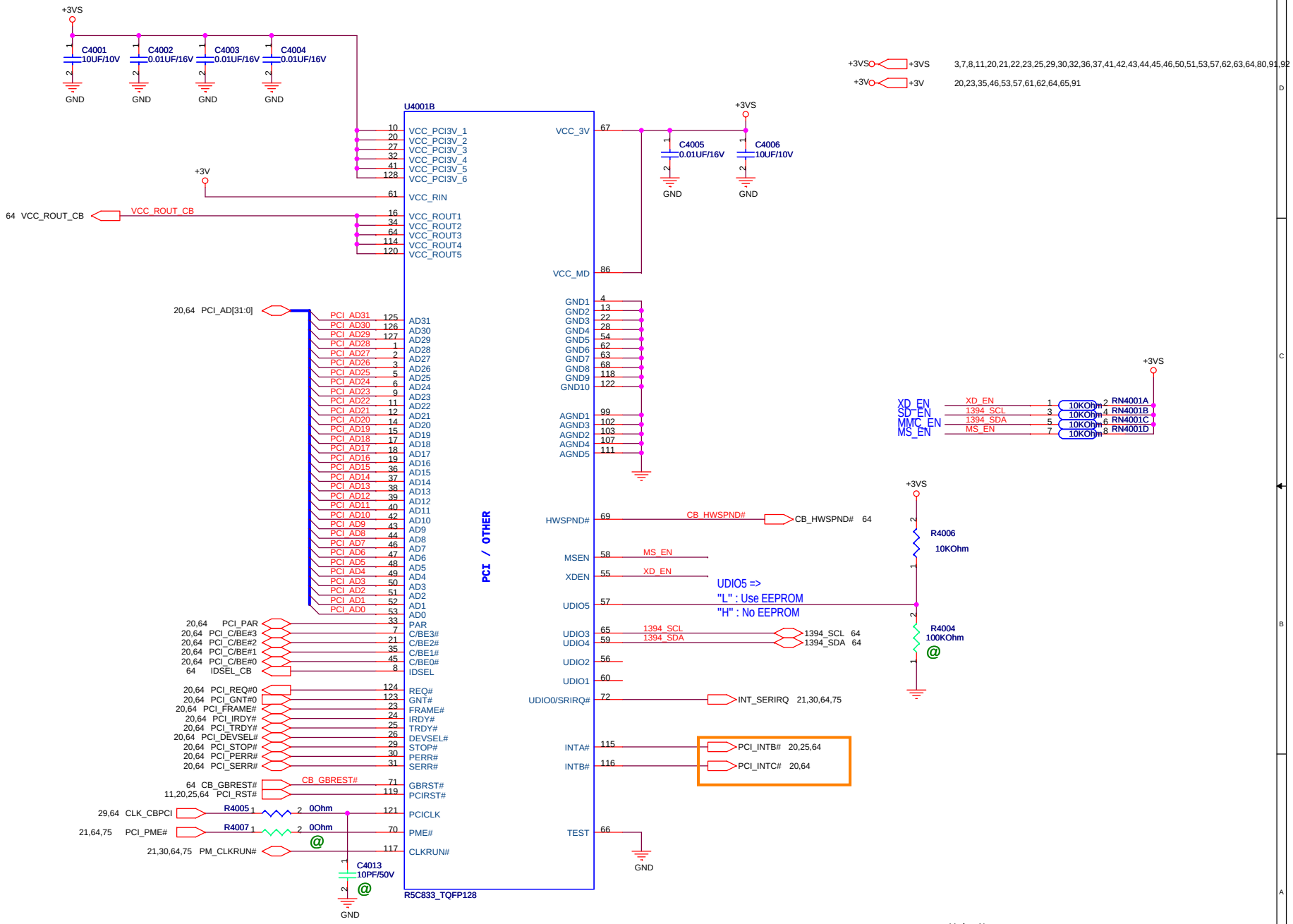


Sub-woofer Connector (Optional)

12G17100002D
T12

<Variant Name>

ASUSTek COMPUTER INC NPI	Title : Sub-Woofer	
	Engineer: Hawk / Kaxidy	
Size: Custom	Project Name: T12C	Rev: 1.1
	P/N: <OrgAddr2>	
Date: Friday, August 17, 2007	Sheet 39 of 94	



<Variant Name>

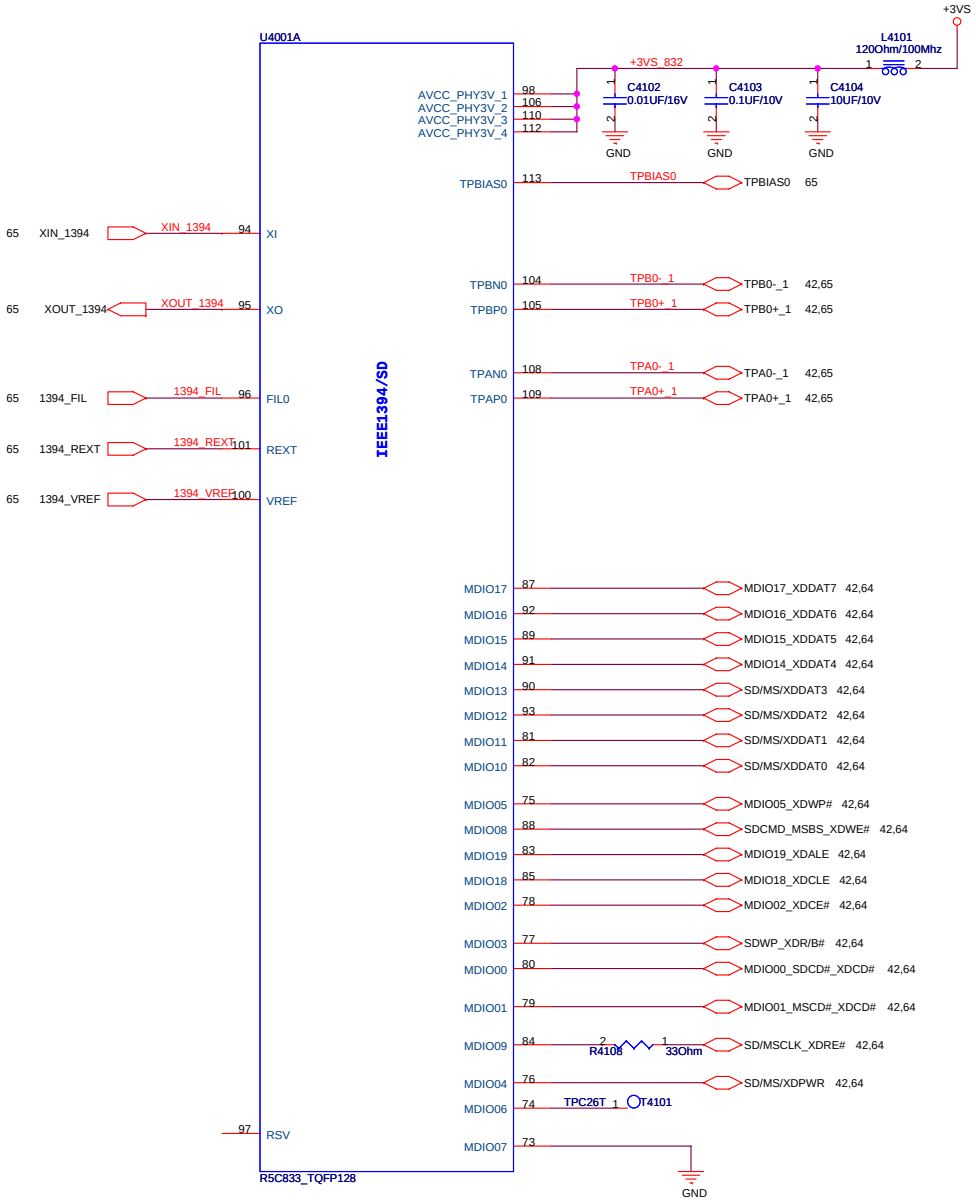
ASUSTeK COMPUTER INC

Title : CARDBUS R5C832 (1)

Engineer: Arthur & Bruce

Size	Project Name	Rev
Custom	T12C	1.1

Date: Tuesday, March 04, 2008 Sheet 40 of 94



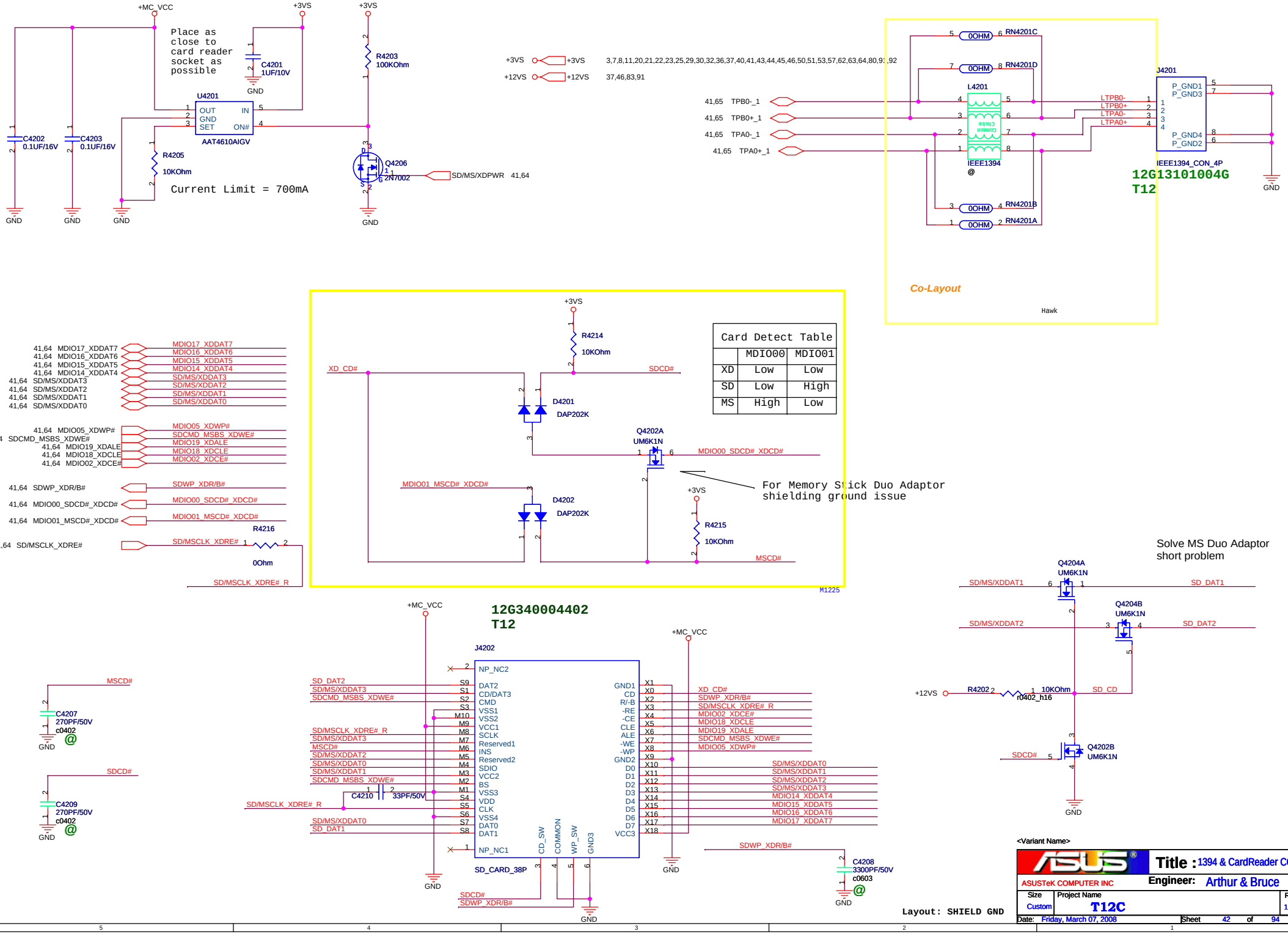
+3VS +3VS 3,7,8,11,20,21,22,23,25,29,30,32,36,37,40,42,43,44,45,46,50,51,53,57,62,63,64,80,91,92

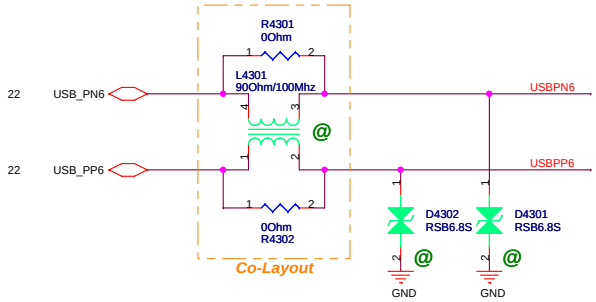
```
MDIO00--> SD Card Detect
MDIO01--> MS Card Detect
MDIO03--> SD Write Protect
MDIO04--> SD Card Power0 Control/
          MS Power Control
MDIO08--> SD Command/MS Bus State
MDIO09--> SD Clock/MS Clock
MDIO10--> SD Data 0/MS Data 0
MDIO11--> SD Data 1/MS Data 1
MDIO12--> SD Data 2/MS Data 2
MDIO13--> SD Data 3/MS Data 3
```

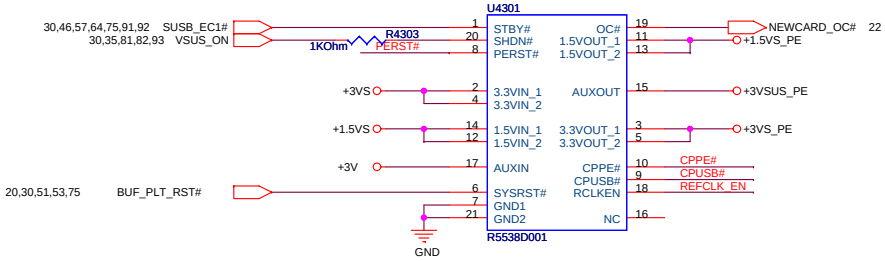
```
MDIO02--> xDCE#
MDIO05--> SD Power Control 1 / xDWP
MDIO06--> xD/MS/SD LED Control
MDIO14--> xD Data
MDIO15--> xD Data
MDIO16--> xD Data
MDIO17--> xD Data
MDIO18--> xD CLE
MDIO19--> xD ALE
```

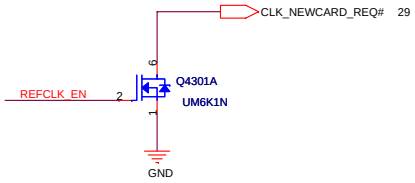
<Variant Name>

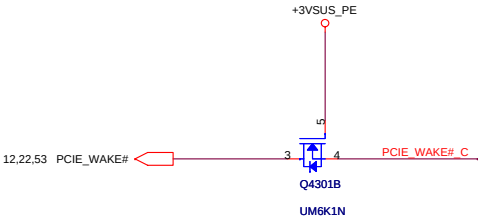
ASUSTeK COMPUTER INC	Title : CARDBUS R5C832 (2)	
	Engineer: Arthur & Bruce	
Size: Custom	Project Name: T12C	Rev: 1.1
Date: Friday, August 17, 2007	Sheet 41 of 94	


Place as close to card reader socket as possible
Current Limit = 700mA
U4201
AAT4610AIGV
C4201 1UF/10V
C4202 0.1UF/16V
C4203 0.1UF/16V
R4203 100KOhm
R4205 10KOhm
Q4206 2N7002
SD/MS/XDPWR 41,64
+MC_VCC
+3VS
GND
+3VS 3,7,8,11,20,21,22,23,25,29,30,32,36,37,40,41,43,44,45,46,50,51,53,57,62,63,64,80,91,92
+12VS 37,46,83,91
41,65 TPB0-_1
41,65 TPB0+_1
41,65 TPA0-_1
41,65 TPA0+_1
0OHM RN4201C
0OHM RN4201D
0OHM RN4201B
0OHM RN4201A
L4201
IEEE1394 @
LTPB0-
LTPB0+
LTPA0-
LTPA0+
J4201
P_GND1
P_GND3
P_GND4
P_GND2
IEEE1394_CON_4P
12G13101004G
T12
Co-Layout
Hawk
41,64 MDIO17_XDDAT7
41,64 MDIO16_XDDAT6
41,64 MDIO15_XDDAT5
41,64 MDIO14_XDDAT4
41,64 SD/MS/XDDAT3
41,64 SD/MS/XDDAT2
41,64 SD/MS/XDDAT1
41,64 SD/MS/XDDAT0
41,64 MDIO05_XDWP#
41,64 SDCMD_MSBS_XDWE#
41,64 MDIO19_XDALE
41,64 MDIO18_XDCLE
41,64 MDIO02_XDCE#
41,64 SDWP_XDR/B#
41,64 MDIO00_SDCD#_XDCD#
41,64 MDIO01_MSCD#_XDCD#
41,64 SD/MSCLK_XDRE#
R4216
0Ohm
SD/MSCLK_XDRE#_R
R4214 10KOhm
XD_CD#
SDCD#
D4201 DAP202K
D4202 DAP202K
Q4202A UM6K1N
MDIO00_SDCD#_XDCD#
MDIO01_MSCD#_XDCD#
R4215 10KOhm
MSCD#
For Memory Stick Duo Adaptor shielding ground issue
M1225
Card Detect Table
MDIO00 MDIO01
XD Low Low
SD Low High
MS High Low
12G340004402
T12
J4202
SD_CARD_38P
NP_NC1
NP_NC2
SD_DAT2
SD/MS/XDDAT3
SDCMD_MSBS_XDWE#
SD/MS/XDDAT2
SD/MS/XDDAT0
SD/MS/XDDAT1
SD_DAT1
C4210 33PF/50V
C4207 270PF/50V c0402 @
C4209 270PF/50V c0402 @
C4208 3300PF/50V c0603 @
SDWP_XDR/B#
Solve MS Duo Adaptor short problem
Q4204A UM6K1N
Q4204B UM6K1N
Q4202B UM6K1N
SD_DAT1
SD_DAT2
SD_CD
R4202 10KOhm r0402_h16
Layout: SHIELD GND
<Variant Name>
Title : 1394 & CardReader CON
ASUSTeK COMPUTER INC
Engineer: Arthur & Bruce
Size Custom
Project Name T12C
Rev 1.1
Date: Friday, March 07, 2008
Sheet 42 of 94



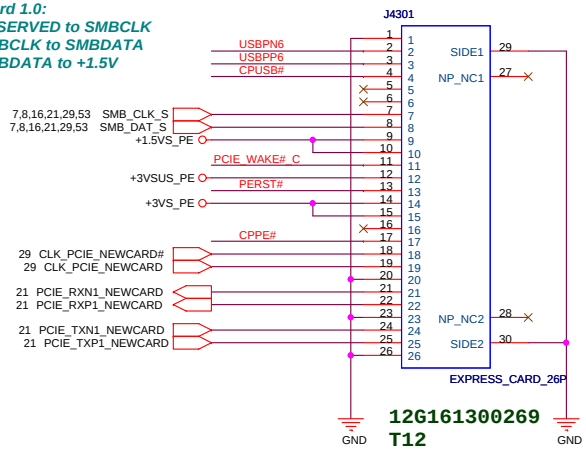


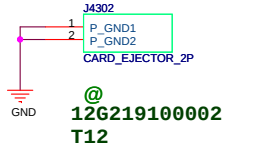


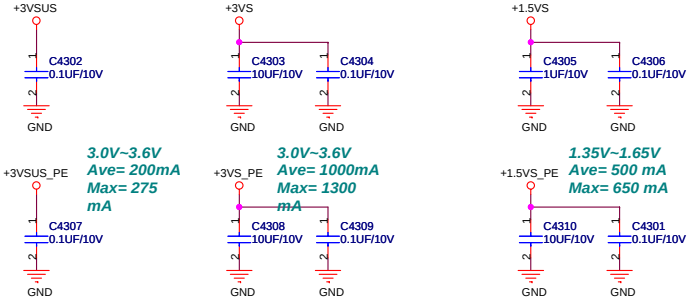


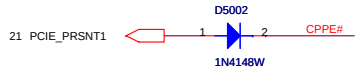
!! ExpressCard Standard 1.0:
Change Pin7 from RESERVED to SMBCLK
Change Pin8 from SMBCLK to SMBDATA
Change Pin9 from SMBDATA to +1.5V

NewCard Header









<Variant Name>

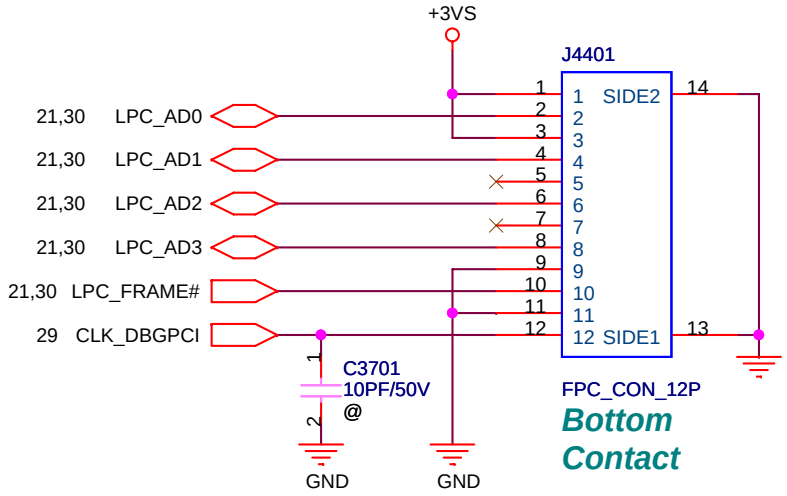
ASUSTeK COMPUTER INC. ETD

Title : NEWCARD

Engineer: Hawk / Kaxidy

Size	Project Name	Rev
Custom	T12C	1.1

Date: Tuesday, March 11, 2008 Sheet 43 of 94



<Variant Name>

ASUSTeK COMPUTER INC. NB

Title : DEBUG

Engineer: Hawk / Kaxidy

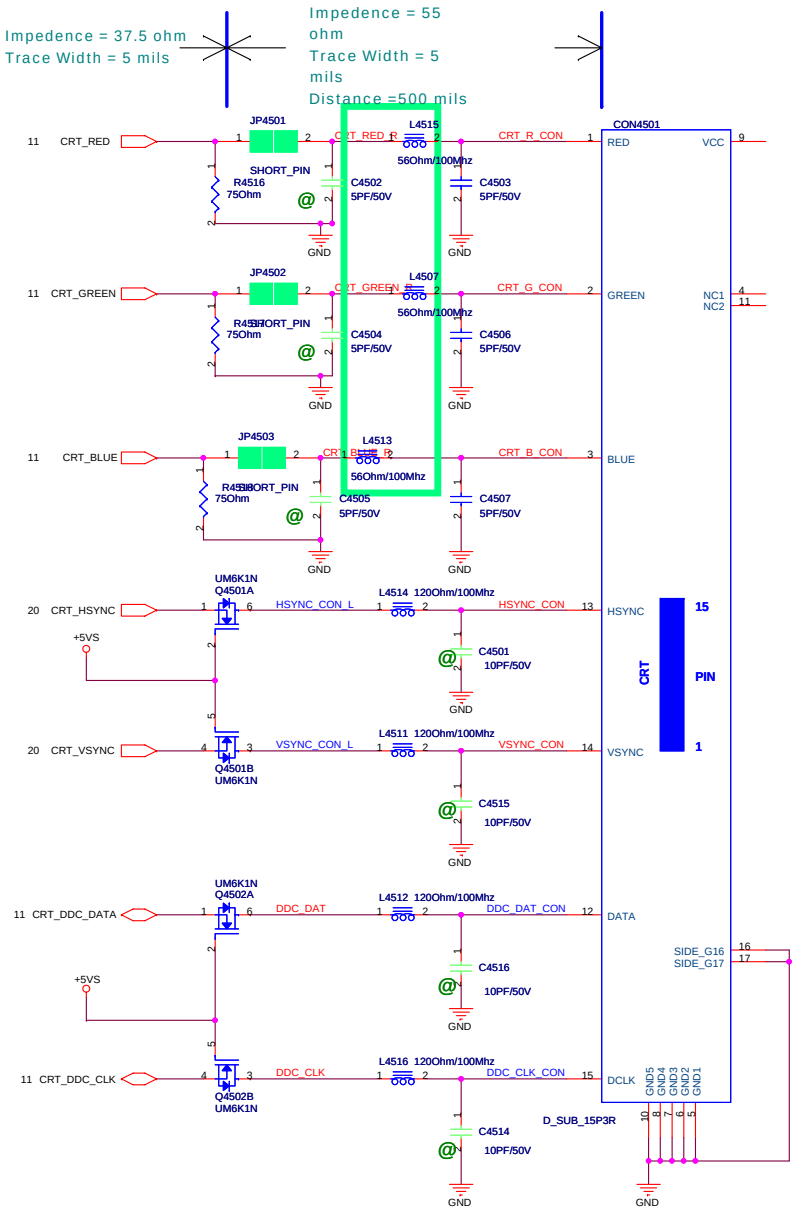
Size	Project Name	Rev
A	T12C	1.1

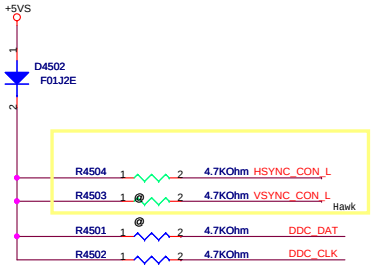
Date: Tuesday, February 26, 2008 Sheet 44 of 94

CRT Connector

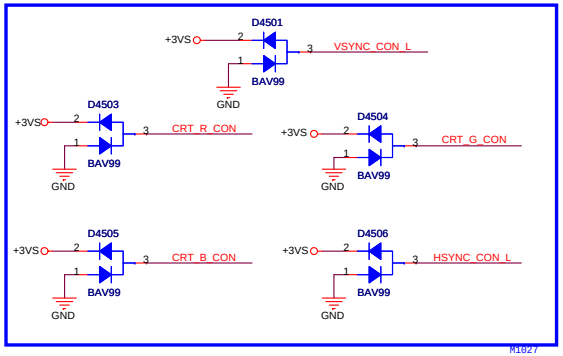
+5VS +5VS 21,30,32,36,37,38,50,51,56,57,80,91

+3VS +3VS 3,7,8,11,20,21,22,23,25,29,30,32,36,37,40,41,42,43,44,46,50,51,53,57,62,63,64,80,91,92

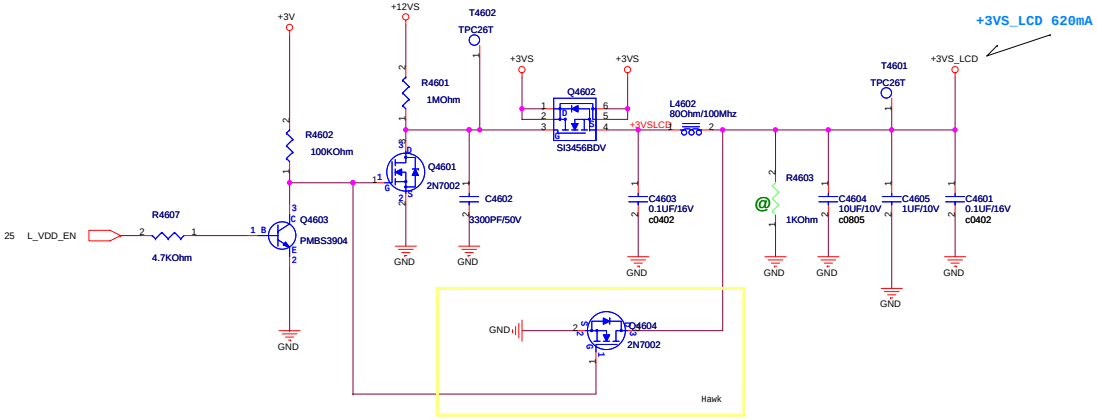


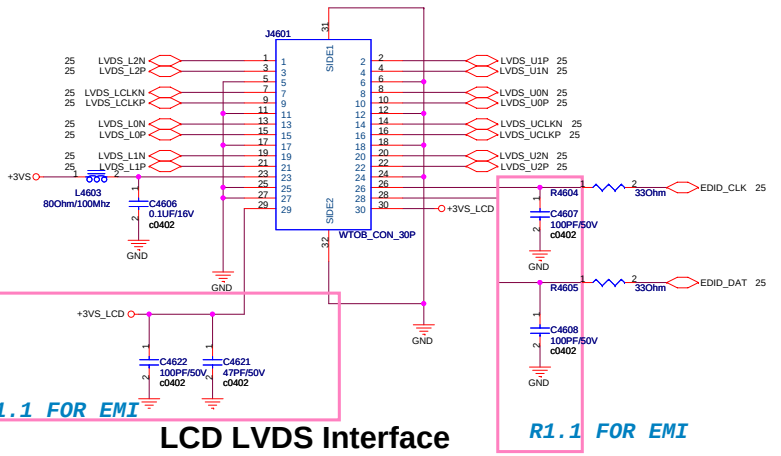


Place near to CRT Port

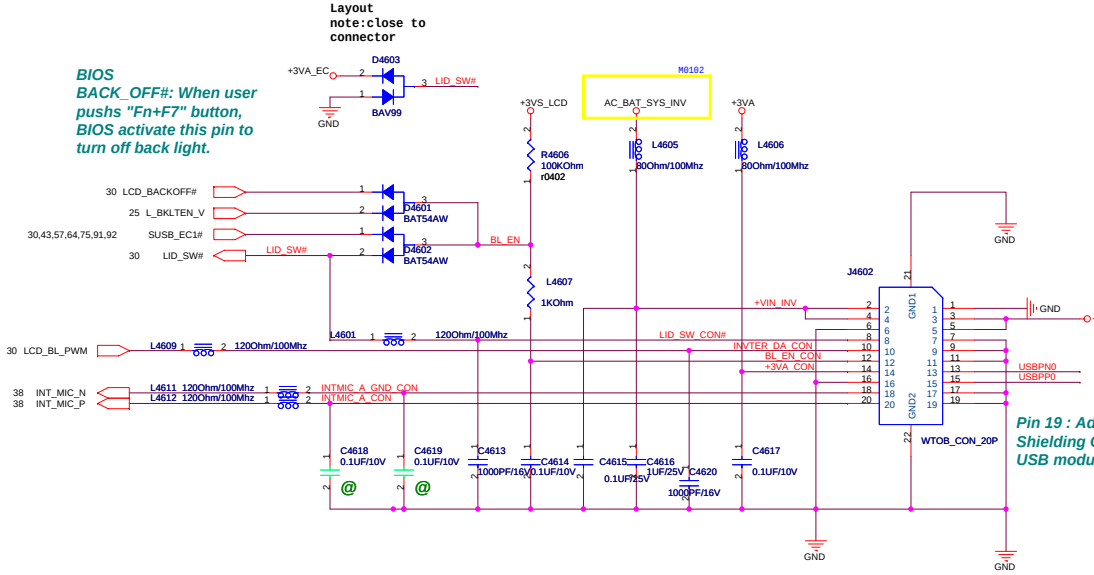


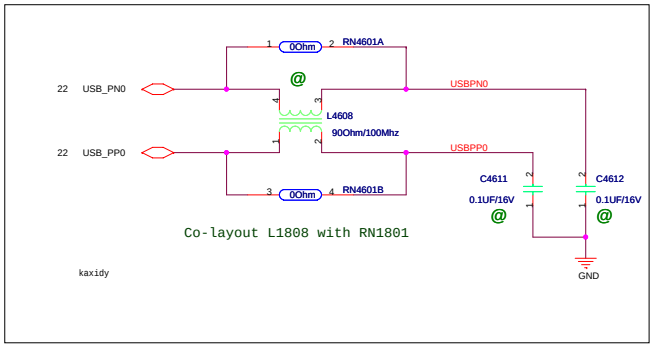
ASUSTeK COMPUTER INC	Title : CRT & TV Conn.		
	Engineer: Hawk / Kaxidy		
Size: Custom	Project Name: T12C		Rev: 1.1
Date: Monday, March 03, 2008	Sheet 45 of 94		





LCD LVDS Interface





ASUSTeK COMPUTER INC	Title : LVDS & Inverter Conn.		
	Engineer: Hawk / Kaxidy		
Size: Custom	Project Name: T12C		Rev: 1.1
Date: Tuesday, March 04, 2008	Sheet 46 of 94		

<Variant Name>

Title : NULL

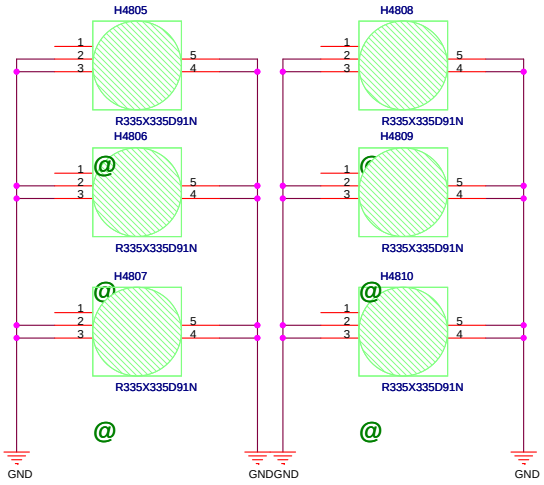
ASUSTeK COMPUTER INC

Engineer: Hawk / Kaxidy

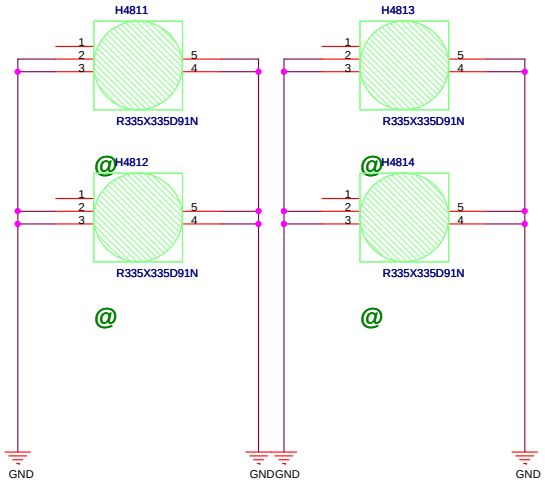
Size	Project Name	Rev
A	T12C	1.1

Date: Monday, August 13, 2007 Sheet 47 of 94

A Hole / TOP Side



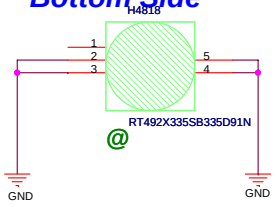
A Hole / Bottom Side



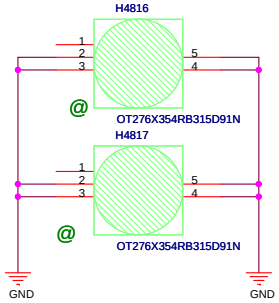
Drill Hole for Fix

圓孔　　橢圓孔

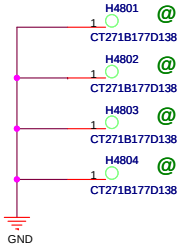
A Hole Special / Bottom Side



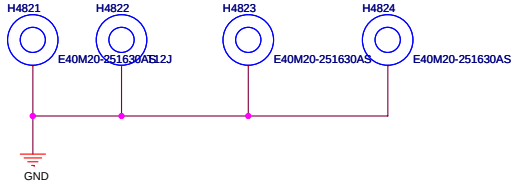
E Hole for Main board fix



F Hole for CPU



銅柱 Hole for VGA 13GNJ510M170-1



ASUSTek COMPUTER INC NPI	Title : SREW HOLE	
	Engineer: Hawk / Kaxidy	
Size: Custom	Project Name: T12C	Rev: 1.1
	P/N: <OrgAddr2>	
Date: Monday, August 13, 2007	Sheet 48 of 94	

<Variant Name>

Title : NULL

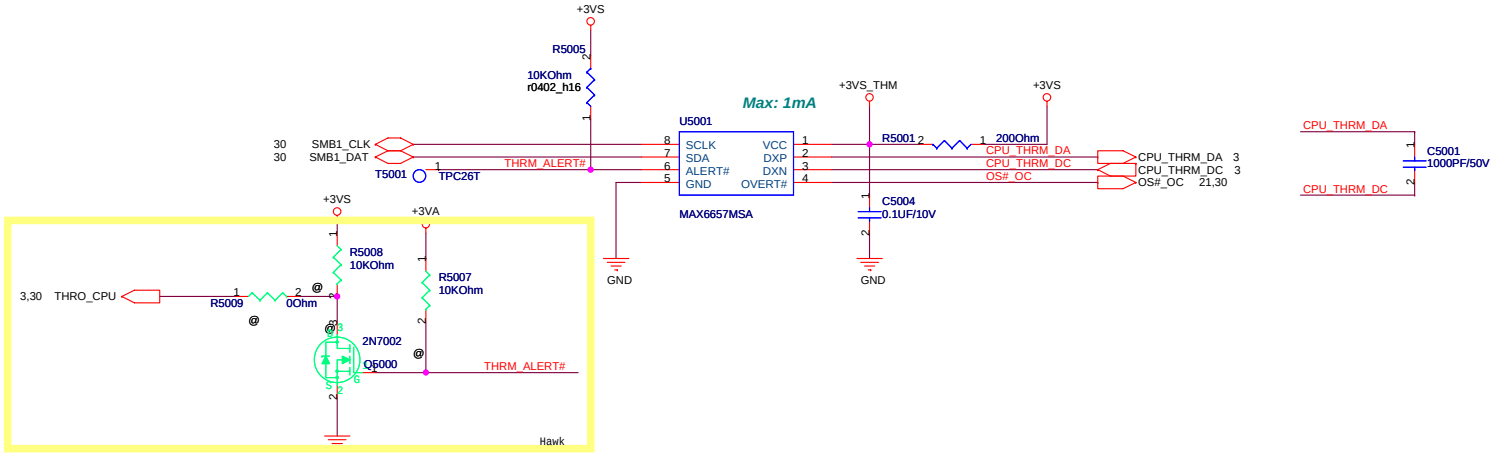
ASUSTeK COMPUTER INC

Engineer: Hawk / Kaxidy

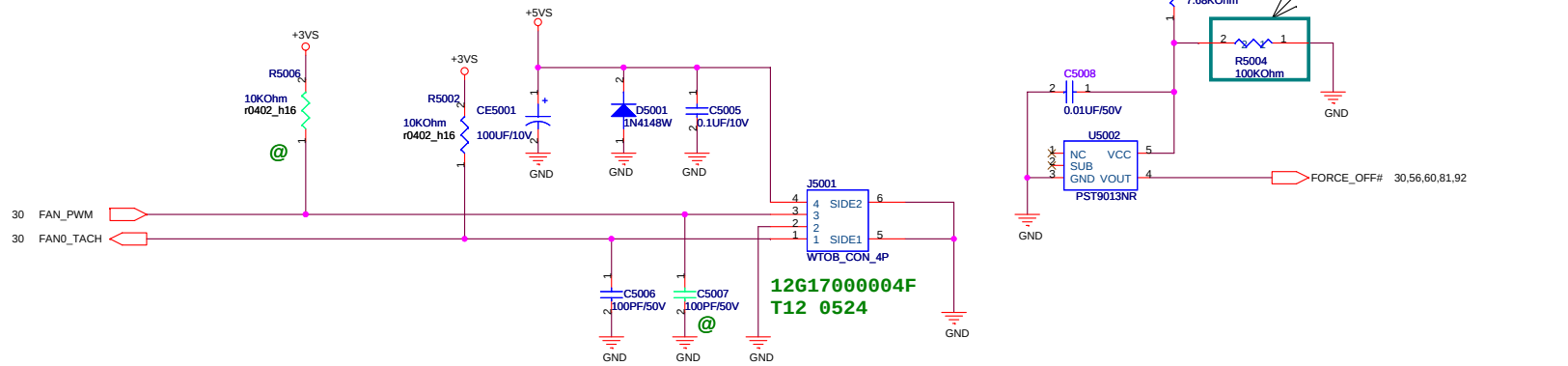
Size	Project Name	Rev
A	T12C	1.1

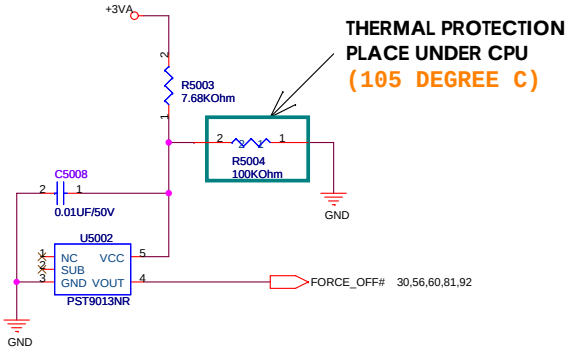
Date: Monday, August 13, 2007 Sheet 49 of 94

Thermal Sensor



DC FAN Control





<Variant Name>

ASUSTeK COMPUTER INC. NB

Title : FAN

Engineer: Hawk / Kaxidy

Size	Project Name	Rev
Custom	T12C	1.1

Date: Friday, August 17, 2007 Sheet 50 of 94

SATA HDD

+3VS → +3VS 3,7,8,11,20,21,22,23,25,29,30,32,36,37,40,41,42,43,44,45,46,50,53,57,62,63,64,80,91,92

+5VS → +5VS 21,30,32,36,37,38,45,50,56,57,80,91

22 SATA_TXP0
22 SATA_TXN0
22 SATA_RXN0
22 SATA_RXP0

J5102
SATA_CON_22P
NP_NC3
NP_NC1
NP_NC2
NP_NC4

12G15100022F(5h)
12G152000221(8h)
T12

M1215

D5101
IP4220CZ6
SATA_TXN1
SATA_TXP1
SATA_RXP1_R
SATA_RXN1_R

CE5104 10UF/10V
C5100 4700PF/25V
CE5102 10UF/10V
C5101 4700PF/25V
C5102 4700PF/25V

Reserved for ODD device present

R5108 470Ohm @
R5109 470Ohm @
DEVICE_PRE

22 SATA_TXP1
22 SATA_TXN1
22 SATA_RXN1
22 SATA_RXP1
C5113 0.01UF/25V
C5114 0.01UF/25V

J5101
SATA_CON_13P
NP_NC4
NP_NC2
NP_NC1
NP_NC3

C5104 10UF/10V
CE5105 100UF/16V
C5112 0.1UF/16V

CE5105 Only use 11G041210754

<Variant Name>

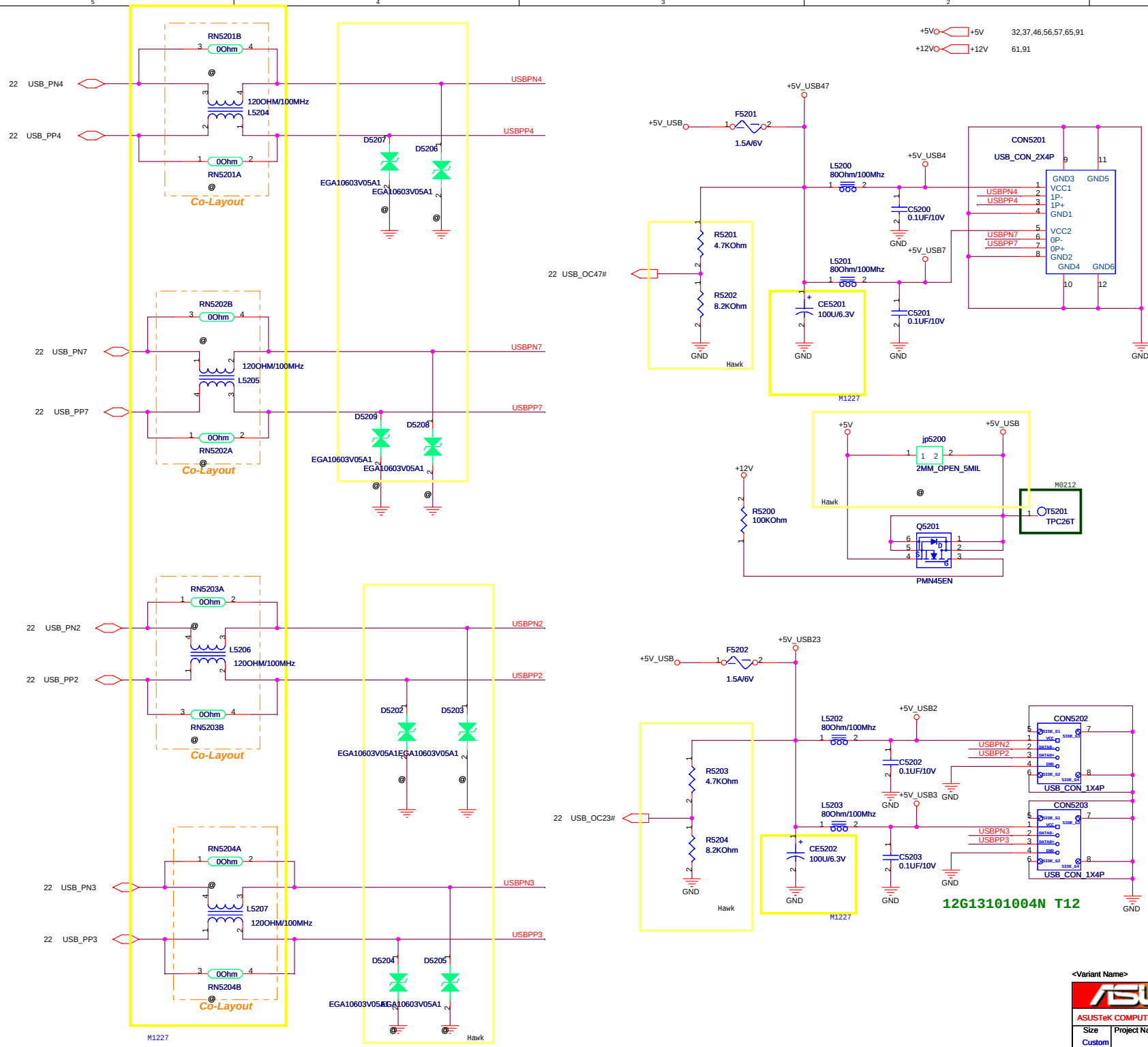
ASUSTeK COMPUTER INC

Title : HDD & CDROM

Engineer: Hawk / Kaxidy

Size	Project Name	Rev
Custom	T12C	1.1

Date: Wednesday, March 12, 2008 Sheet 51 of 94



<Variant Name>

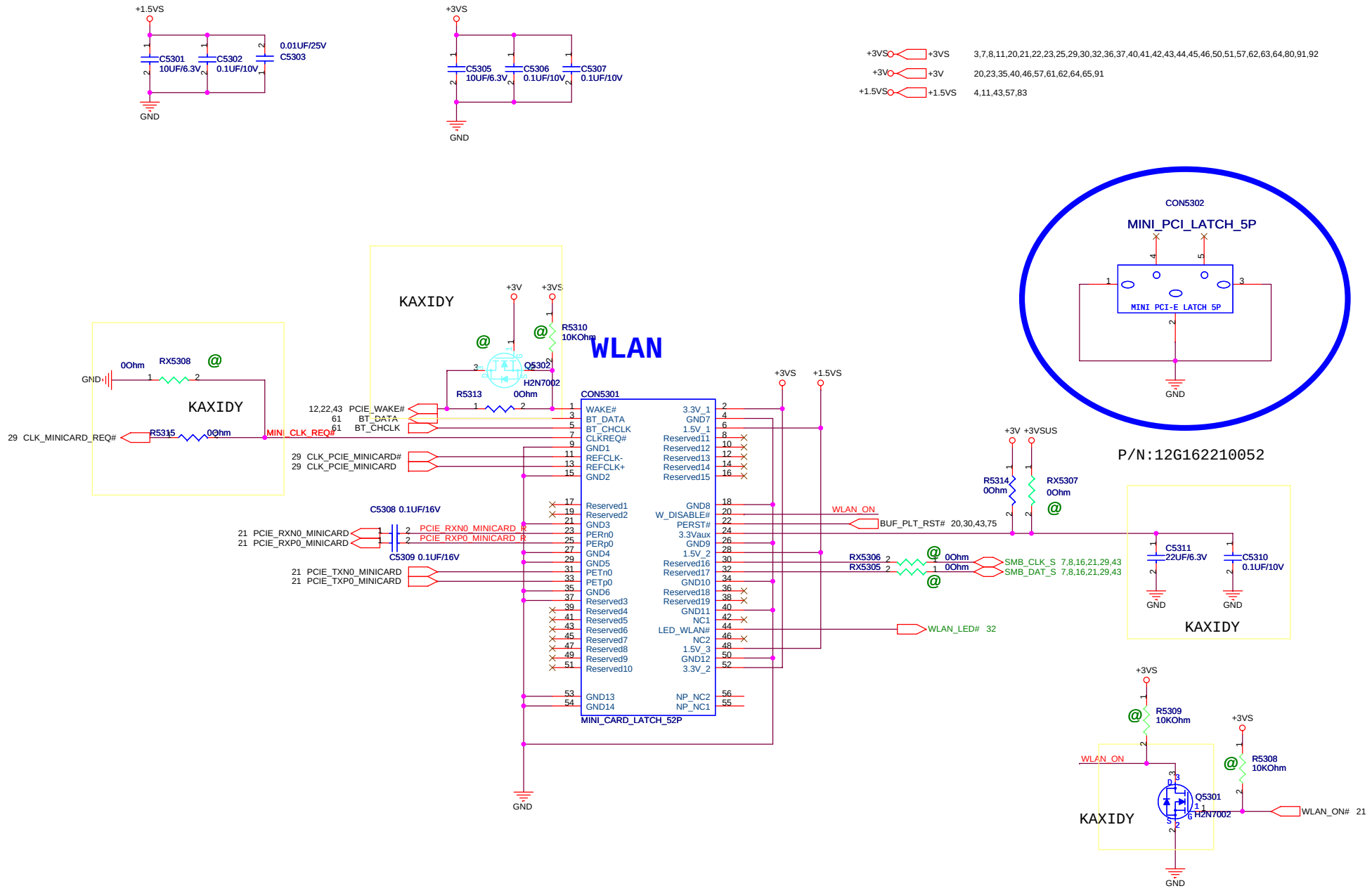
ASUSTeK COMPUTER INC. NB

Title : USB CONN X 4

Engineer: Hawk / Kaxidy

Size	Project Name	Rev
Custom	T12C	1.1

Date: Friday, August 17, 2007 Sheet 52 of 94



<Variant Name>

ASUSTeK COMPUTER INC	Title : MINICARD		
	Engineer: Hawk / Kaxidy		
Size: Custom	Project Name: T12C		Rev: 1.1
Date: Friday, March 07, 2008	Sheet 53 of 94		

<Variant Name>

ASUSTeK COMPUTER INC	Title : NULL	
	Engineer: Hawk / Kaxidy	
Size: A	Project Name: T12C	Rev: 1.1
Date: Monday, August 13, 2007	Sheet 54 of 94	

<Variant Name>

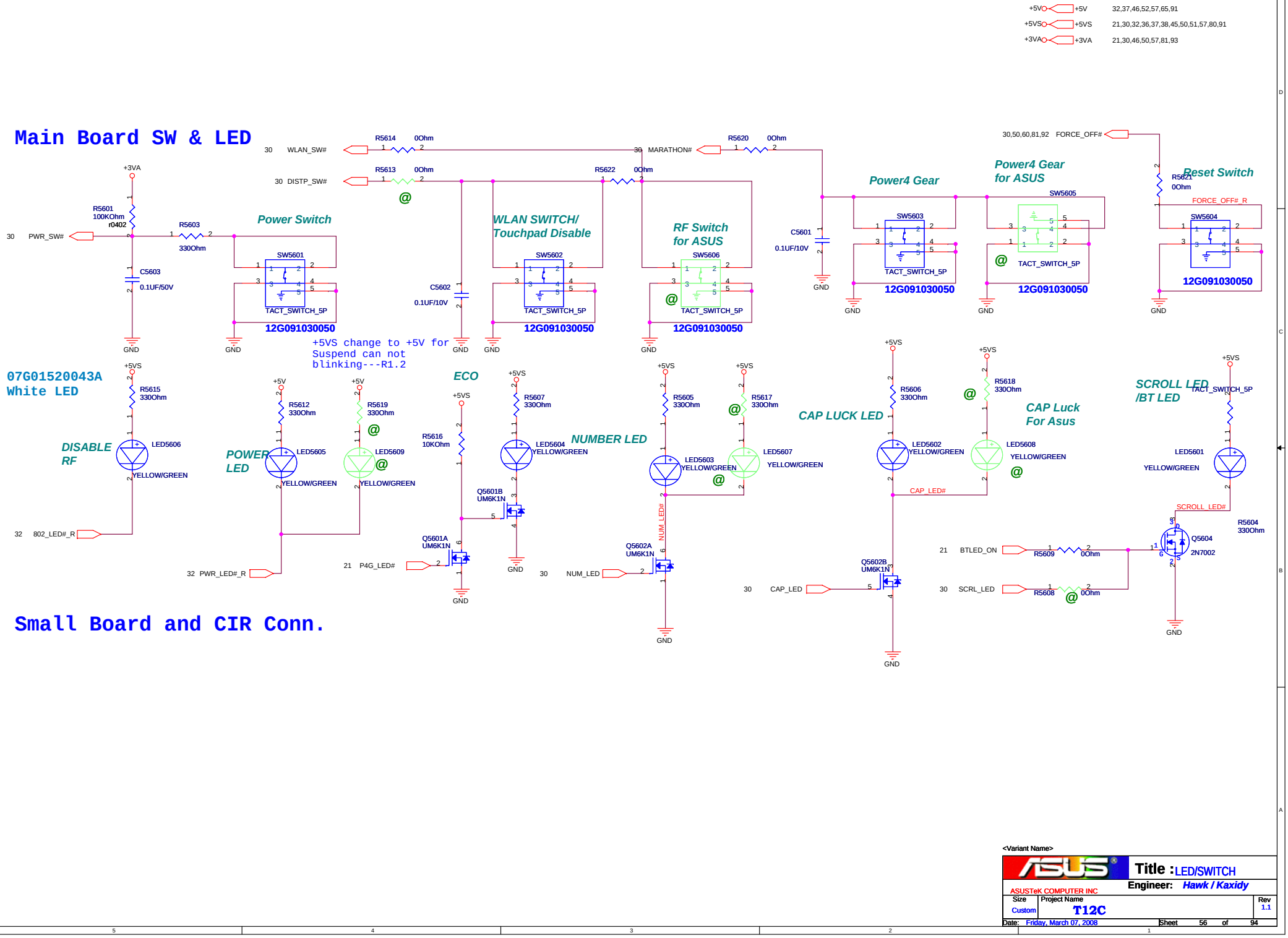
Title : NULL

ASUSTeK COMPUTER INC

Engineer: Hawk / Kaxidy

Size	Project Name	Rev
A	T12C	1.1

Date: Monday, August 13, 2007 Sheet 55 of 94


+5V +5V 32,37,46,52,57,65,91
+5VS +5VS 21,30,32,36,37,38,45,50,51,57,80,91
+3VA +3VA 21,30,46,50,57,81,93
Main Board SW & LED
30 WLAN_SW#
30 DISTP_SW#
30 MARATHON#
30,50,60,81,92 FORCE_OFF#
R5614 0Ohm
R5613 0Ohm
R5620 0Ohm
R5622 0Ohm
R5621 0Ohm
FORCE_OFF#_R
+3VA
R5601 100KOhm r0402
30 PWR_SW#
R5603 330Ohm
C5603 0.1UF/50V
C5602 0.1UF/10V
C5601 0.1UF/10V
GND
Power Switch
WLAN SWITCH/ Touchpad Disable
RF Switch for ASUS
Power4 Gear
Power4 Gear for ASUS
Reset Switch
SW5601
SW5602
SW5606
SW5603
SW5605
SW5604
TACT_SWITCH_5P
12G091030050
+5VS change to +5V for Suspend can not blinking---R1.2
07G01520043A White LED
+5VS
R5615 330Ohm
LED5606
YELLOW/GREEN
DISABLE RF
32 802_LED#_R
+5V
R5612 330Ohm
LED5605
POWER LED
32 PWR_LED#_R
R5619 330Ohm
LED5609
ECO
R5607 330Ohm
R5616 10KOhm
LED5604
YELLOW/GREEN
Q5601B UM6K1N
Q5601A UM6K1N
21 P4G_LED#
NUMBER LED
R5605 330Ohm
R5617 330Ohm
LED5603
YELLOW/GREEN
LED5607
YELLOW/GREEN
NUM_LED#
Q5602A UM6K1N
30 NUM_LED
CAP LUCK LED
R5606 330Ohm
R5618 330Ohm
LED5602
YELLOW/GREEN
LED5608
YELLOW/GREEN
CAP Luck For Asus
CAP_LED#
Q5602B UM6K1N
30 CAP_LED
SCROLL LED /BT LED
LED5601
YELLOW/GREEN
SCROLL_LED#
R5604 330Ohm
Q5604 2N7002
21 BTLED_ON
R5609 0Ohm
30 SCRL_LED
R5608 0Ohm
Small Board and CIR Conn.
<Variant Name>
Title : LED/SWITCH
Engineer: Hawk / Kaxidy
ASUSTeK COMPUTER INC
Size Custom
Project Name T12C
Rev 1.1
Date: Friday, March 07, 2008
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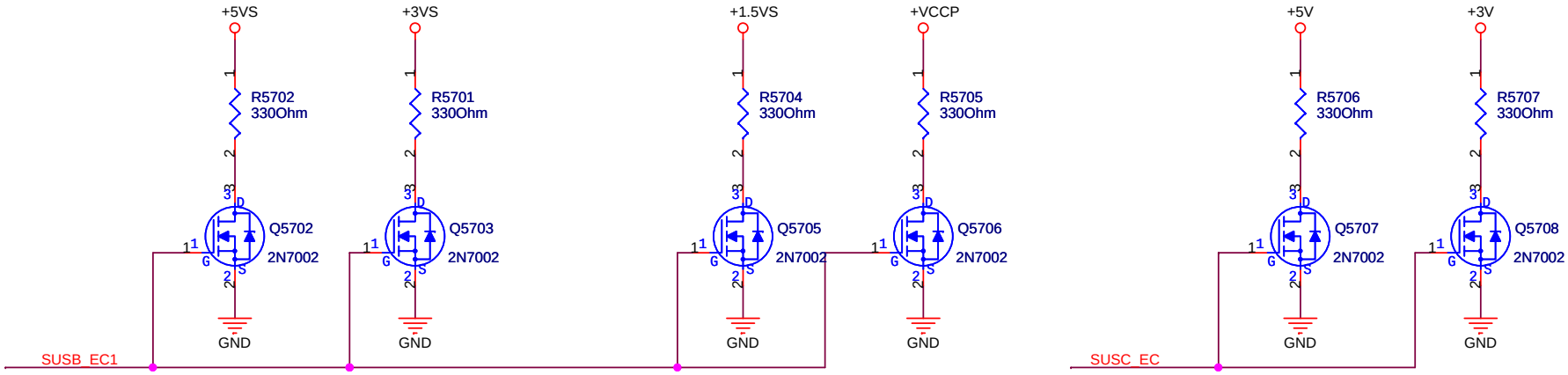
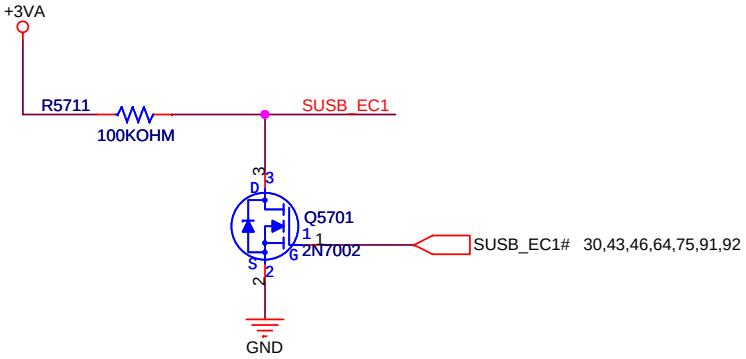
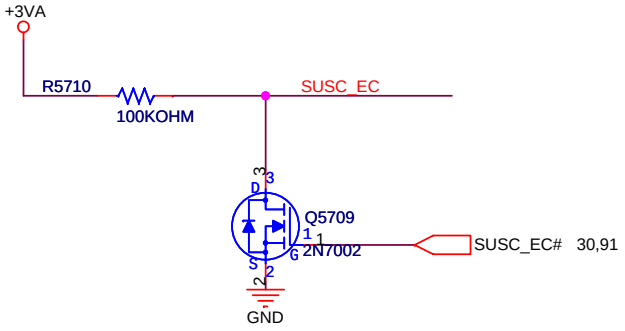
+3V	+3V	20,23,35,40,46,53,61,62,64,65,91
+5V	+5V	32,37,46,52,56,65,91
+VCCP	+VCCP	4,10,14,21,23,29,83,92
+1.5VS	+1.5VS	4,11,43,53,83
+3VS	+3VS	3,7,8,11,20,21,22,23,25,29,30,32,36,37,40,41,42,43,44,45,46,50,51,53,62,63,64,80,91,92
+5VS	+5VS	21,30,32,36,37,38,45,50,51,56,80,91







ASUSTeK COMPUTER INC. NB

Title : DISCHARGE

Engineer: Hawk / Kaxidy

Size	Project Name	Rev
Custom	T12C	1.1

Date: Tuesday, March 04, 2008 Sheet 57 of 94

<Variant Name>

ASUSTeK COMPUTER INC	Title : NULL
	Engineer: Hawk / Kaxidy
Size: A	Project Name: T12C
	Rev: 1.1
Date: Monday, August 13, 2007	Sheet 58 of 94

<Variant Name>

Title : NULL

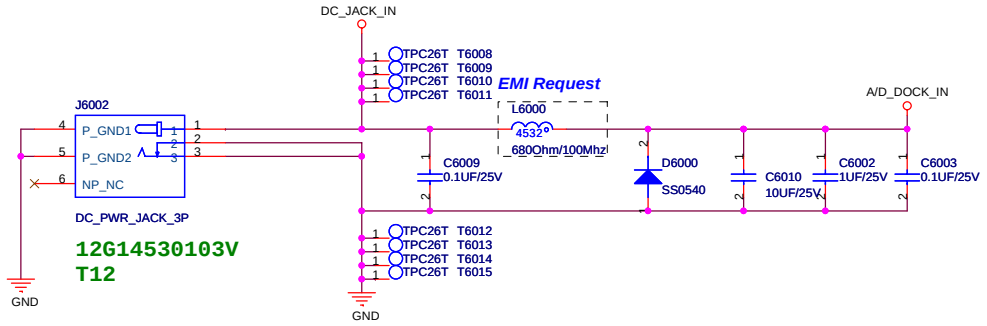
ASUSTeK COMPUTER INC

Engineer: Hawk / Kaxidy

Size	Project Name	Rev
A	T12C	1.1

Date: Monday, August 13, 2007 Sheet 59 of 94

DC-IN



AC_BAT_SYS — AC_BAT_SYS 80,81,82,88

BAT_CON — BAT_CON 88

A/D_DOCK_IN — A/D_DOCK_IN 88,90

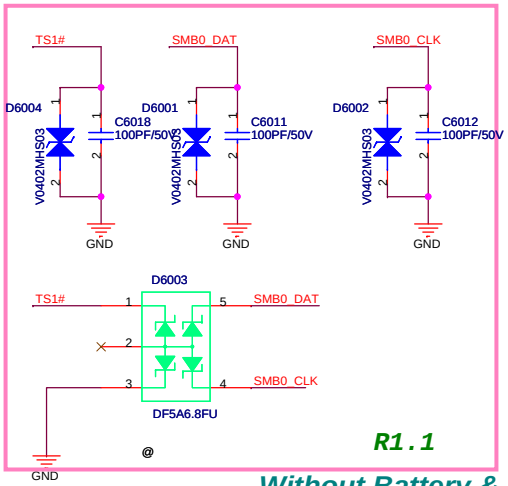
For Battery

Single Battery

BAT1_CNT1#, BAT1_CNT2#, BAT2_CNT1#, BAT2_CNT2# don't connect to Battery Connector.

Dual Battery

BAT1_CNT1#, BAT1_CNT2#, BAT2_CNT1#, BAT2_CNT2# must connect to Battery Connector.

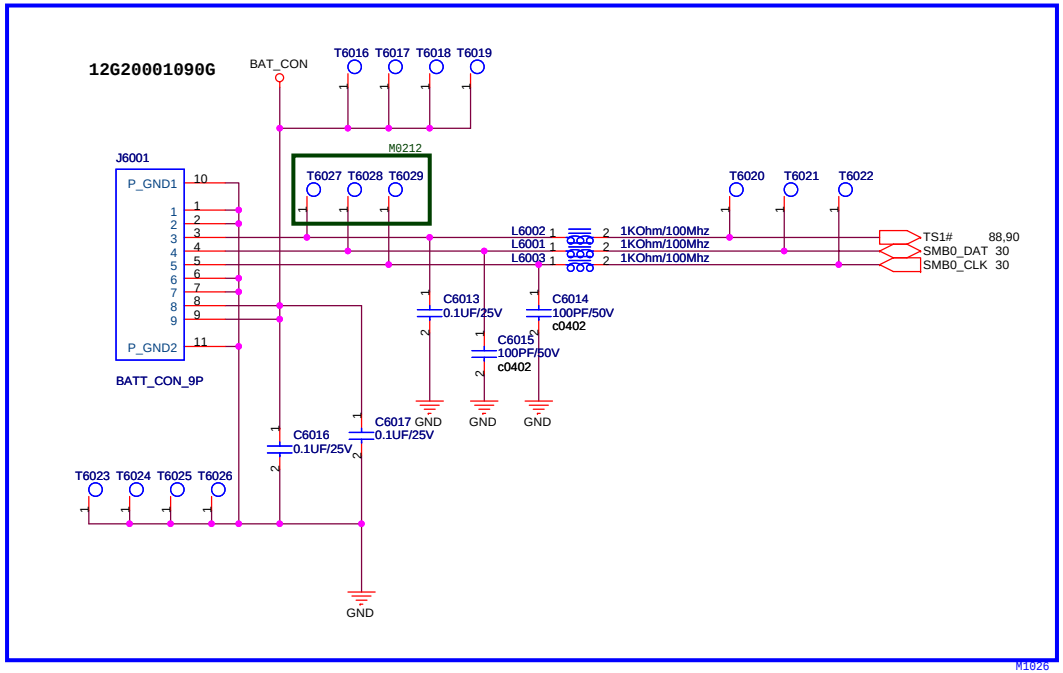


Note:

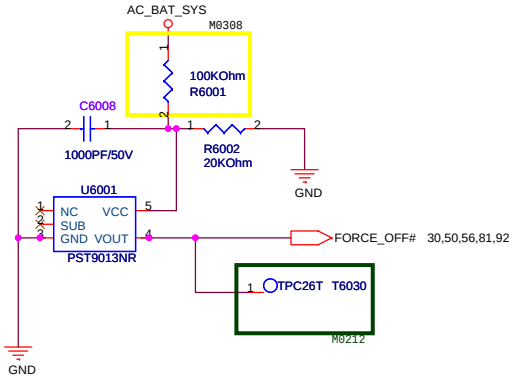
When we plug in or plug out the battery, it may cause a spike to damage the EC and gas gauge. It needed to add these varistors to protect those pins.

close to connector

Battery Connector



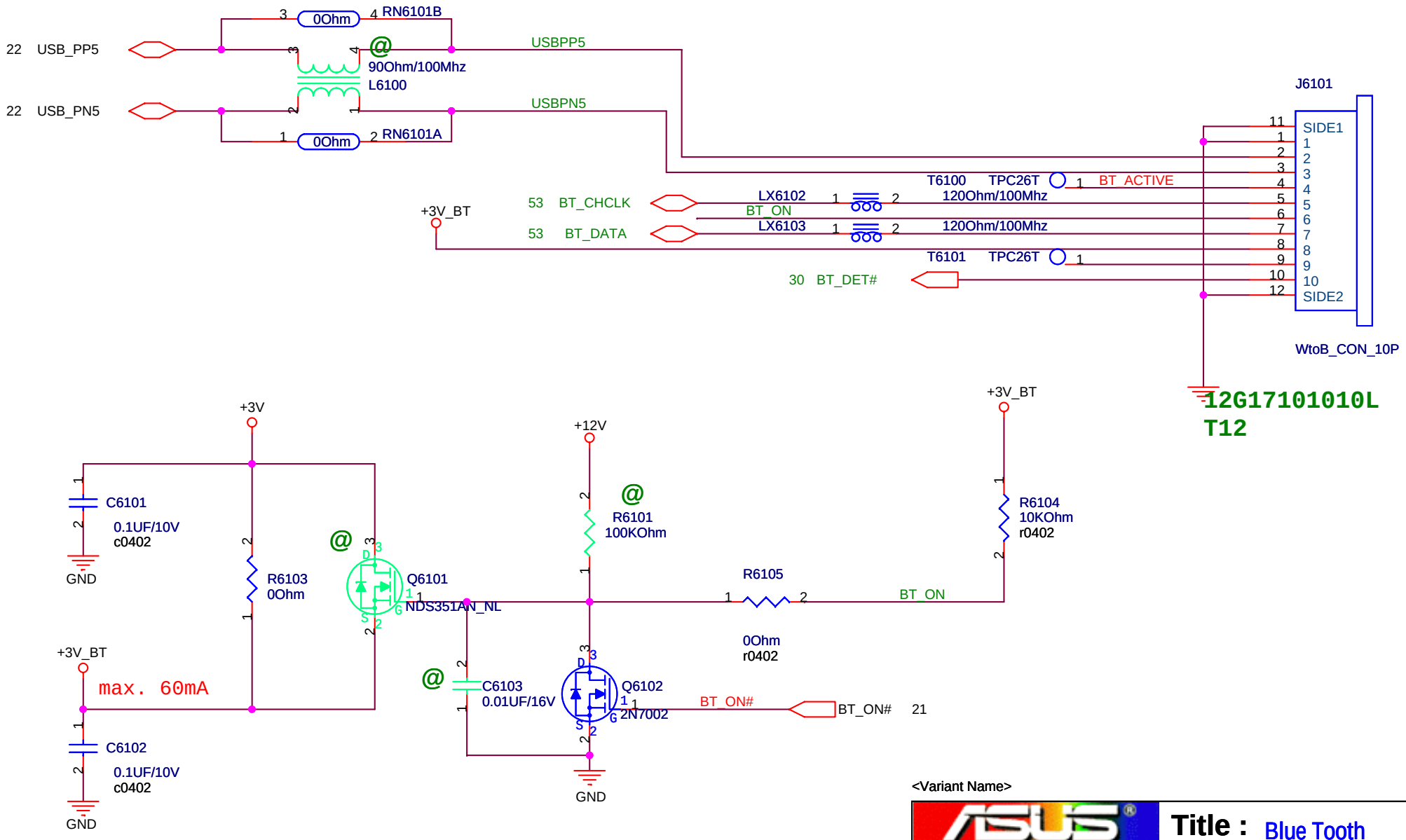
Without Battery & Pull out Adapter



<Variant Name>

ASUSTeK COMPUTER INC. NB	Title : DCIN/Batt conn.	
	Engineer: Hawk / Kaxidy	
Size: Custom	Project Name: T12C	Rev: 1.1
Date: Friday, August 17, 2007	Sheet 60 of 94	

BLUETOOTH CONNECTOR



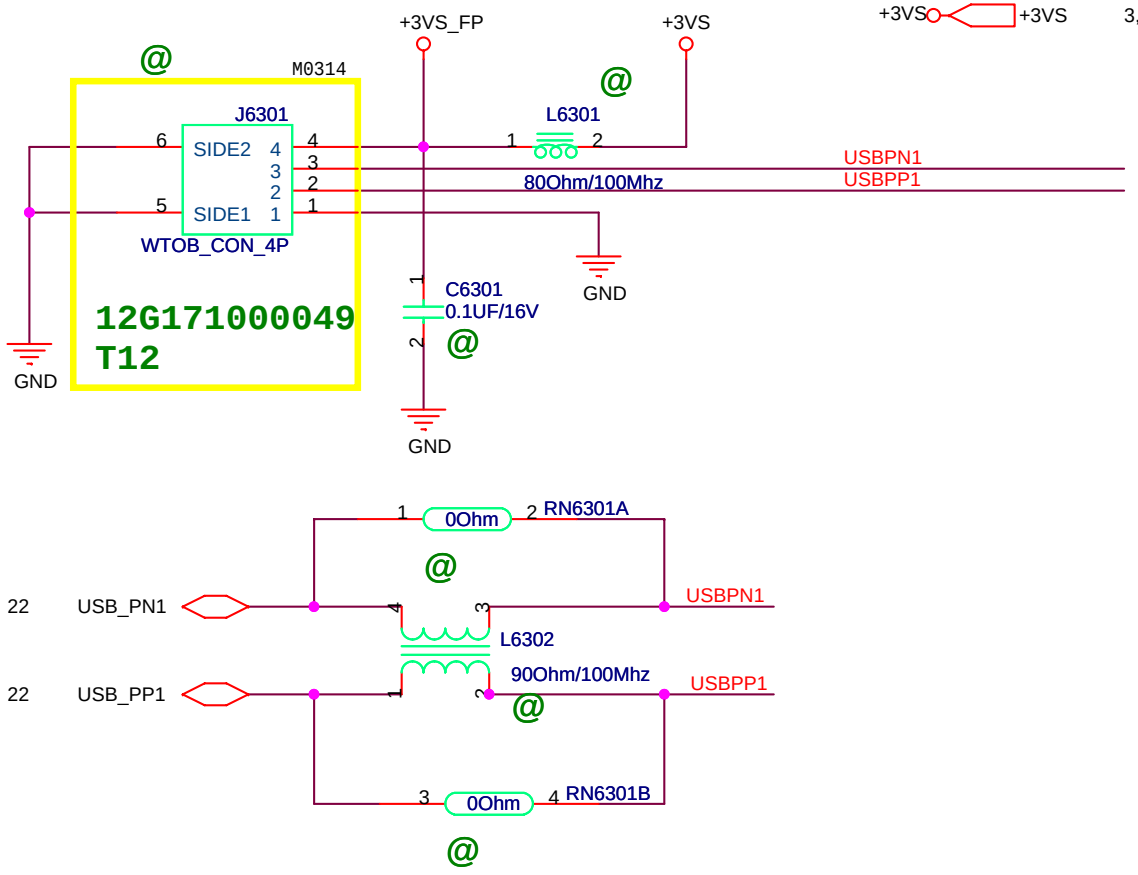
<Variant Name>

ASUSTeK COMPUTER INC .NB	Title : Blue Tooth	
	Engineer: Hawk / Kaxidy	
Size: A	Project Name: T12C	Rev: 1.1
Date: Friday, August 17, 2007	Sheet 61 of 94	

TPM Connector

<Variant Name>

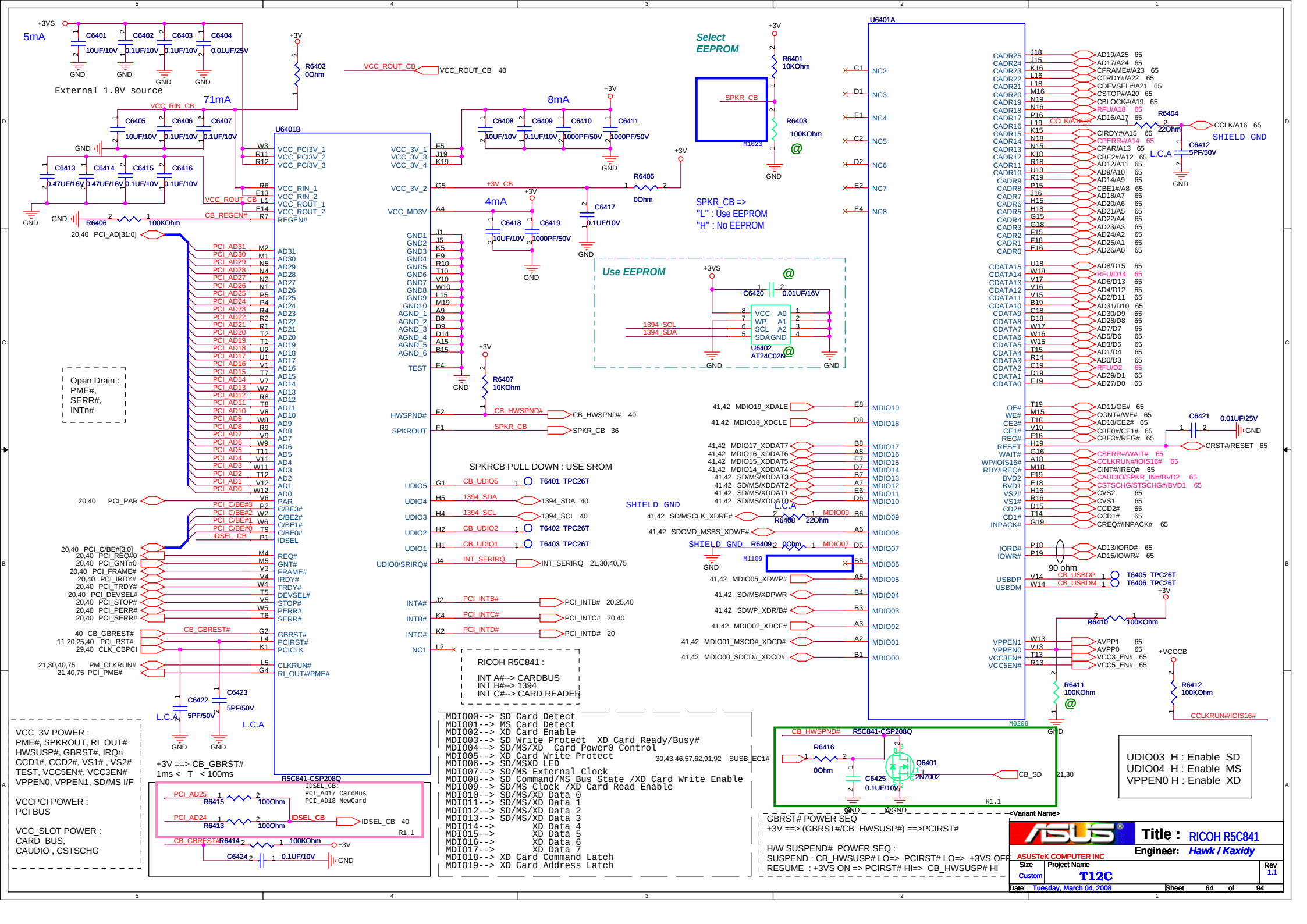
ASUSTeK COMPUTER INC. NB	Title : TPM
	Engineer: Hawk / Kaxidy
Size: A	Project Name: T12C
	Rev: 1.1
Date: Tuesday, March 04, 2008	Sheet 62 of 94



+3VS +3VS 3,7,8,11,20,21,22,23,25,29,30,32,36,37,40,41,42,43,44,45,46,50,51,53,57,62,64,80,91,92

<Variant Name>

ASUSTeK COMPUTER INC. NB	Title : Finger Print	
	Engineer: Hawk / Kaxidy	
Size: A	Project Name: T12C	Rev: 1.1
Date: Friday, August 17, 2007	Sheet 63 of 94	


5mA
External 1.8V source
71mA
8mA
4mA
Select EEPROM
SPKR_CB =>
"L" : Use EEPROM
"H" : No EEPROM
Use EEPROM
U6401A
U6401B
SPKRCB PULL DOWN : USE SROM
SHIELD GND
Open Drain : PME#, SERR#, INTn#
RICOH R5C841 :
INT A#--> CARDBUS
INT B#--> 1394
INT C#--> CARD READER
MDIO00--> SD Card Detect
MDIO01--> MS Card Detect
MDIO02--> XD Card Enable
MDIO03--> SD Write Protect XD Card Ready/Busy#
MDIO04--> SD/MS/XD Card Power0 Control
MDIO05--> XD Card Write Protect
MDIO06--> SD/MSXD LED
MDIO07--> SD/MS External Clock
MDIO08--> SD Command/MS Bus State /XD Card Write Enable
MDIO09--> SD/MS Clock /XD Card Read Enable
MDIO10--> SD/MS/XD Data 0
MDIO11--> SD/MS/XD Data 1
MDIO12--> SD/MS/XD Data 2
MDIO13--> SD/MS/XD Data 3
MDIO14--> XD Data 4
MDIO15--> XD Data 5
MDIO16--> XD Data 6
MDIO17--> XD Data 7
MDIO18--> XD Card Command Latch
MDIO19--> XD Card Address Latch
VCC_3V POWER :
PME#, SPKROUT, RI_OUT#
HWSUSP#, GBRST#, IRQn
CCD1#, CCD2#, VS1# , VS2#
TEST, VCC5EN#, VCC3EN#
VPPEN0, VPPEN1, SD/MS I/F
VCCPCI POWER :
PCI BUS
VCC_SLOT POWER :
CARD_BUS,
CAUDIO , CSTSCHG
+3V ==> CB_GBRST#
1ms < T < 100ms
GBRST# POWER SEQ
+3V ==> (GBRST#/CB_HWSUSP#) ==>PCIRST#
H/W SUSPEND# POWER SEQ :
SUSPEND : CB_HWSUSP# LO=> PCIRST# LO=> +3VS OFF
RESUME : +3VS ON => PCIRST# HI=> CB_HWSUSP# HI
UDIO03 H : Enable SD
UDIO04 H : Enable MS
VPPEN0 H : Enable XD
Title : RICOH R5C841
Engineer: Hawk / Kaxidy
ASUSTeK COMPUTER INC
Size Custom
Project Name T12C
Rev 1.1
Date: Tuesday, March 04, 2008
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PCMCIA SOCKET

CCD1# CCD2#
L L 16bit
OTHER 32bit

U6401C

R5C841-CSP208Q

J6501

PCMCIA_68P

12G160420683

Layout: SHIELD GND

U6501

R5531V002

X6501

M0209

<Variant Name>

Title : CARDBUS SOCKET

Engineer: Hawk / Kaxidy

ASUSTeK COMPUTER INC

Size	Project Name	Rev
A3	T12C	1.1

Date: Friday, August 17, 2007 Sheet 65 of 94

<Variant Name>

Title : eSATA

ASUSTeK COMPUTER INC

Engineer: Hawk / Kaxidy

Size	Project Name	Rev
Custom	T12C	1.1

Date: Monday, August 13, 2007 Sheet 66 of 94

PCI Device	IDSEL#	REQ/GNT#	Interrupts
LAN	AD15	2	D
1394 (R5C841)	AD17	1	B
CARD READER (R5C841)	AD17	1	C
CARDBUS (R5C841)	AD17	1	D
1394 (R5C832)	AD18	1	B
CARD READER (R5C832)	AD18	1	C

SM-Bus Device	SM-Bus Address
Clock Generator	1101001x (D2)
SO-DIMM 0	1010000x (A0)
SO-DIMM 1	1010001x (A2)
Thermal Sensor (MAX6657)	1001100x (98)
SDVO to DVI (SIL1362A)	0111000x (70)

ASUSTeK COMPUTER INC

Title : RESOURCE

Engineer: Hawk / Kaxidy

Size	Project Name	Rev
Custom	T12C	1.1

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<Variant Name>

Title : NULL

ASUSTeK COMPUTER INC

Engineer: Hawk / Kaxidy

Size	Project Name	Rev
A	T12C	1.1

Date: Monday, August 13, 2007 Sheet 68 of 94

<Variant Name>

Title : NULL

ASUSTeK COMPUTER INC

Engineer: Hawk / Kaxidy

Size	Project Name	Rev
A	T12C	1.1

Date: Monday, August 13, 2007 Sheet 69 of 94

<Variant Name>

Title : NULL

ASUSTeK COMPUTER INC

Engineer: Hawk / Kaxidy

Size	Project Name	Rev
A	T12C	1.1

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<Variant Name>

ASUSTeK COMPUTER INC	Title : NULL	
	Engineer: Hawk / Kaxidy	
Size: A	Project Name: T12C	Rev: 1.1
Date: Monday, August 13, 2007	Sheet 71 of 94	

<Variant Name>

Title : NULL

ASUSTeK COMPUTER INC

Engineer: Hawk / Kaxidy

Size	Project Name	Rev
A	T12C	1.1

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<Variant Name>

ASUSTeK COMPUTER INC	Title : NULL	
	Engineer: Hawk / Kaxidy	
Size: A	Project Name: T12C	Rev: 1.1
Date: Monday, August 13, 2007	Sheet 73 of 94	

<Variant Name>

Title : NULL

ASUSTeK COMPUTER INC

Engineer: Hawk / Kaxidy

Size	Project Name	Rev
A	T12C	1.1

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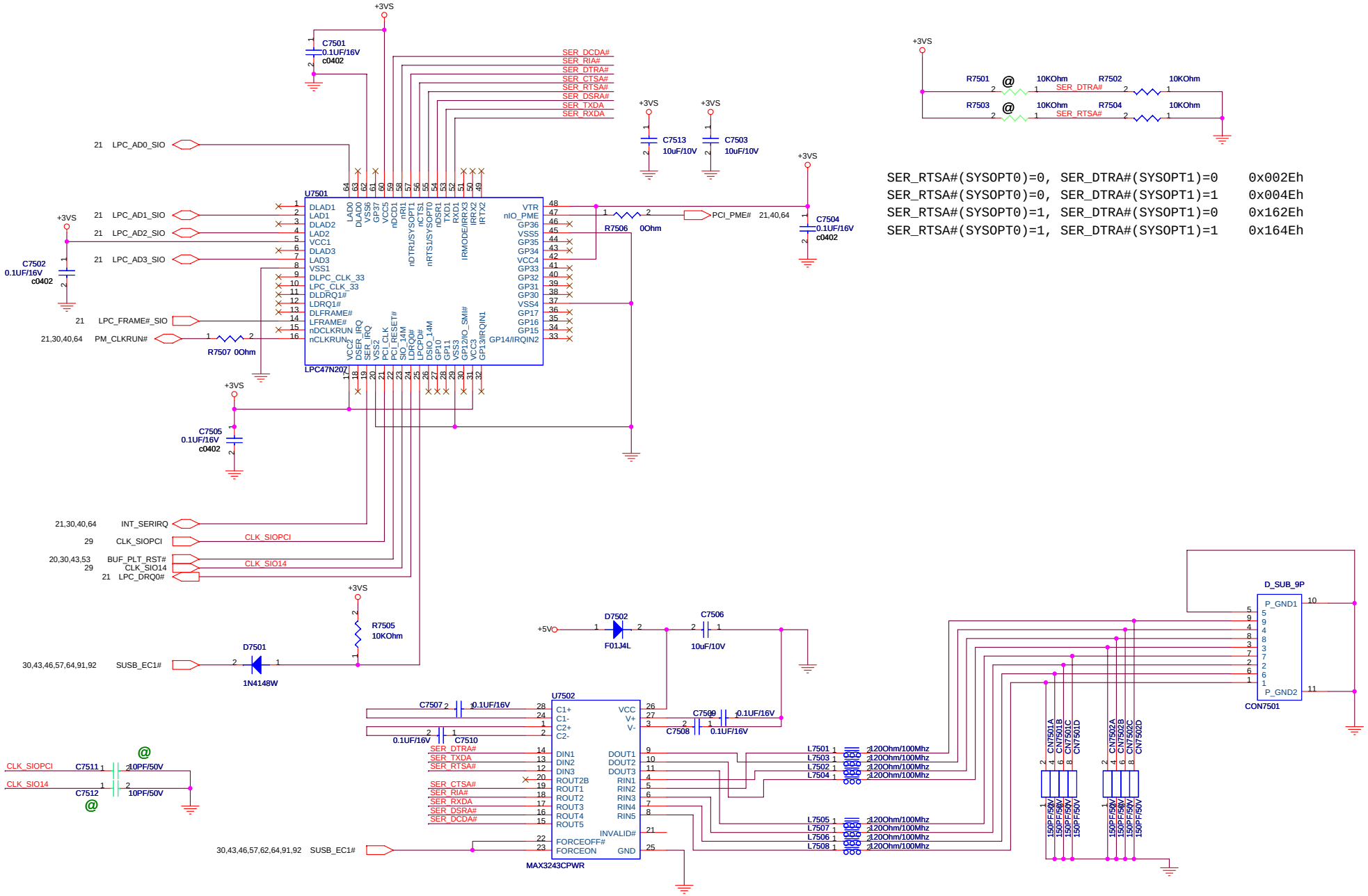

<Variant Name>

ASUSTeK COMPUTER INC	Title : NULL	
	Engineer: Hawk / Kaxidy	
Size: Custom	Project Name: T12C	Rev: 1.1
Date: Friday, March 07, 2008	Sheet 75 of 94	

Title :	Null
ASUSTeK COMPUTER INC	Engineer: Hawk / Kaxidy
Size: Custom	Project Name: T12C
Rev: 1.1	
Date: Tuesday, February 26, 2008	Sheet 76 of 94

<Variant Name>

Title : NULL

ASUSTeK COMPUTER INC

Engineer: Hawk / Kaxidy

Size	Project Name	Rev
A	T12C	1.1

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<Variant Name>

ASUSTeK COMPUTER INC	Title : NULL	
	Engineer: Hawk / Kaxidy	
Size: A	Project Name: T12C	Rev: 1.1
Date: Monday, August 13, 2007	Sheet 78 of 94	

Change Note:

R1.1 :

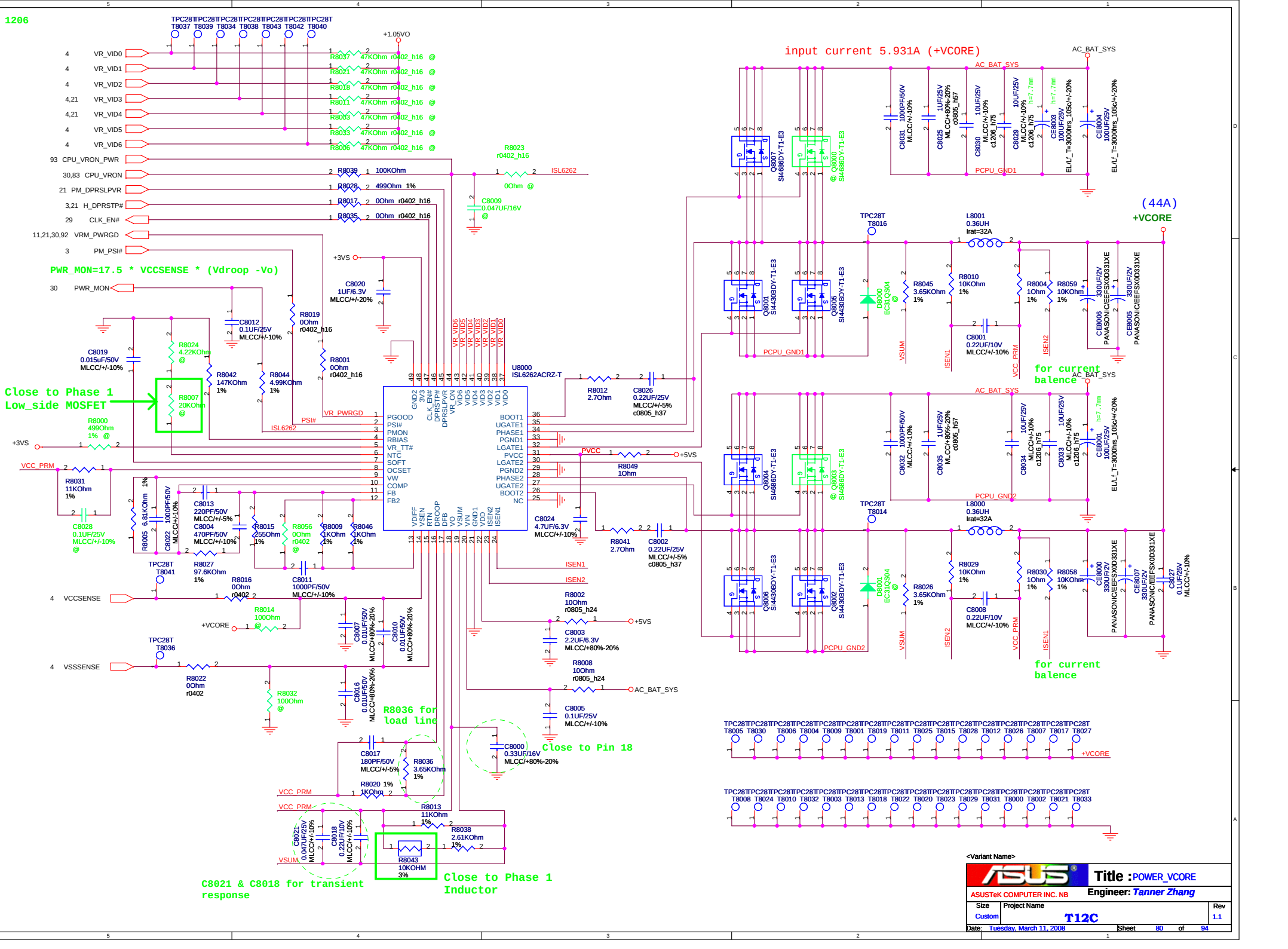
1. Reserve LVDS Up and Low channel of VGA side.
2. Change R3404 R3405 to 0ohm for LAN disconnect issue.
3. Change U3302 U3303 for new part.
4. Add D6004/D6003 for optional
5. Add R3114,R3115
6. Add Q3301,Q3302,R3341,R3342, C3329,C3330
7. Change IDSEL_CB to AD24/AD25. p64
8. add R6416 to CB_HWSPND#. P65
9. add Q3709 for depop issue. P37
9. change Q9203 TO Q3705B for ref error.

R2.0 :

1. Add C3202/C4210 /R4216 for EMI
2. Add R4607 and change Q4603 for LCD VCC
3. Add C2530,C2545,C2546,C2547,C2548,C2549,C2550,C2551,C2552,C2553,C2554,C2555

<Variant Name>

ASUSTeK COMPUTER INC	Title : NULL	
	Engineer: Hawk / Kaxidy	
Size: Custom	Project Name: T12C	Rev: 1.1
Date: Friday, August 17, 2007	Sheet 79 of 94	


1206
input current 5.931A (+VCORE)
(44A)
+VCORE
PWR_MON=17.5 * VCCSENSE * (Vdroop -Vo)
Close to Phase 1
Low_side MOSFET
for current
balence
R8036 for
load line
Close to Pin 18
C8021 & C8018 for transient
response
Close to Phase 1
Inductor
U8000
ISL6262ACRZ-T
PGOOD
PSI#
PMON
RBIAS
VR_TT#
NTC
SOFT
OCSET
VW
COMP
FB
FB2
BOOT1
UGATE1
PHASE1
PGND1
LGATE1
PVCC
LGATE2
PGND2
PHASE2
UGATE2
BOOT2
NC
VDIFF
VSEN
RTN
DROOP
DFB
VO
VSUM
VIN
GND1
VDD
ISEN2
ISEN1
GND2
3V3
CLK_EN#
DPRSTP#
DPRSLPVR
VR_ON
VID6
VID5
VID4
VID3
VID2
VID1
VID0
VR_PWRGD
PSI#
ISL6262
VCC_PRM
+3VS
+5VS
+VCORE
PVCC
AC_BAT_SYS
PCPU_GND1
PCPU_GND2
VSUM
ISEN1
ISEN2
VCC_PRM
VCCSENSE
VSSSENSE
Title : POWER_VCORE
ASUSTeK COMPUTER INC. NB
Engineer: Tanner Zhang
Project Name
T12C
Size
Custom
Rev
1.1
Date: Tuesday, March 11, 2008
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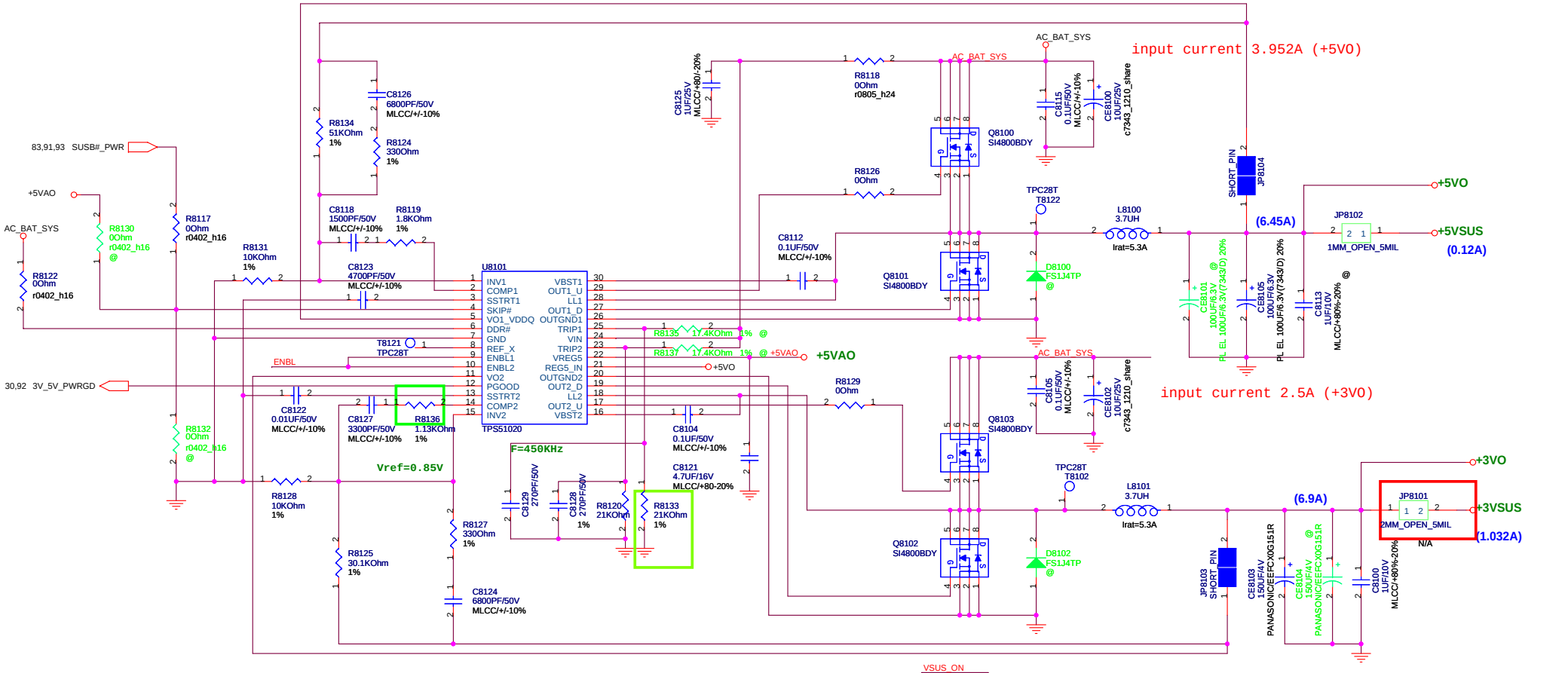
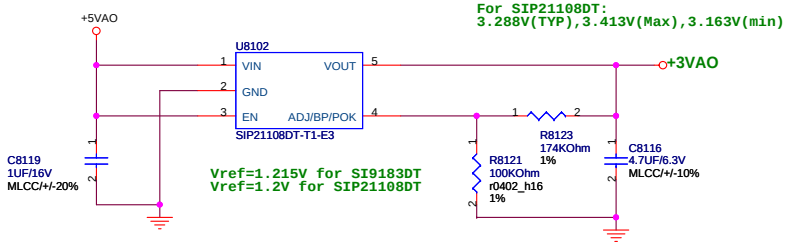
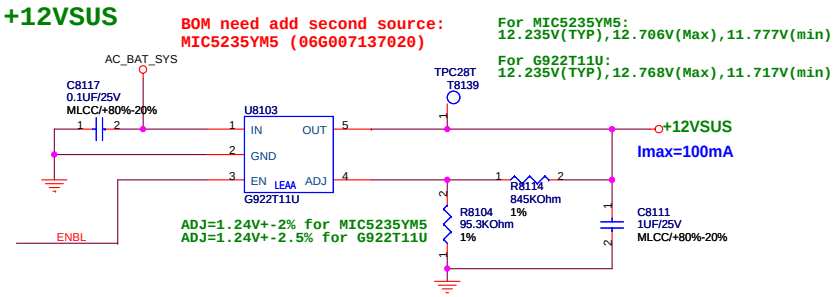
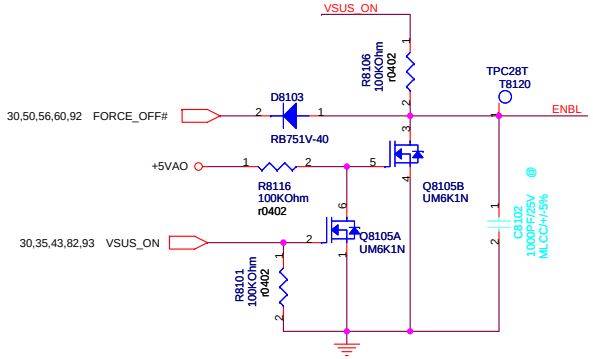
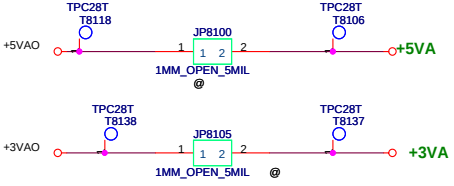
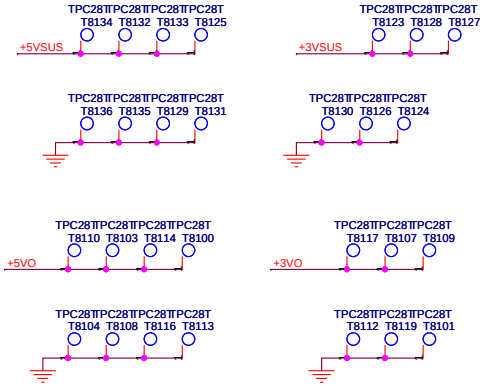

input current 3.952A (+5V0)
input current 2.5A (+3V0)
U8101
TPS51020
F=450KHz
Vref=0.85V
+5VO
+3VO
+5VSUS
+3VSUS
(6.45A)
(0.12A)
(6.9A)
(1.032A)
Q8100 Si4800BDY
Q8101 Si4800BDY
Q8103 Si4800BDY
Q8102 Si4800BDY
L8100 3.7UH
L8101 3.7UH
Irat=5.3A
D8100 FS1J4TP
D8102 FS1J4TP
JP8104 SHORT_PIN
JP8103 SHORT_PIN
JP8102 1MM_OPEN_5MIL
JP8101 2MM_OPEN_5MIL
N/A
83,91,93 SUSB#_PWR
30,92 3V_5V_PWRGD
ENBL
AC_BAT_SYS


+3VA0
BOM need add second source:
SI9183 (06G007055114)
For SI9183DT:
3.329V(TYP),3.473V(Max),3.178V(min)
For SIP21108DT:
3.288V(TYP),3.413V(Max),3.163V(min)
U8102
SIP21108DT-T1-E3
+3VAO
Vref=1.215V for SI9183DT
Vref=1.2V for SIP21108DT


+12VSUS
BOM need add second source:
MIC5235YM5 (06G007137020)
For MIC5235YM5:
12.235V(TYP),12.706V(Max),11.777V(min)
For G922T11U:
12.235V(TYP),12.768V(Max),11.717V(min)
U8103
G922T11U
+12VSUS
Imax=100mA
ADJ=1.24V+-2% for MIC5235YM5
ADJ=1.24V+-2.5% for G922T11U


VSUS_ON
30,50,56,60,92 FORCE_OFF#
30,35,43,82,93 VSUS_ON
D8103 RB751V-40
Q8105B UM6K1N
Q8105A UM6K1N
TPC28T T8120
ENBL


+5VA
+3VA
JP8100 1MM_OPEN_5MIL
JP8105 1MM_OPEN_5MIL


+5VSUS
+3VSUS
+5VO
+3VO

<Variant Name>
Title : POWER_SYSTEM
<OrgName>
Engineer: Tanner_zhang
Size Custom
Project Name T12C
Rev 1.0
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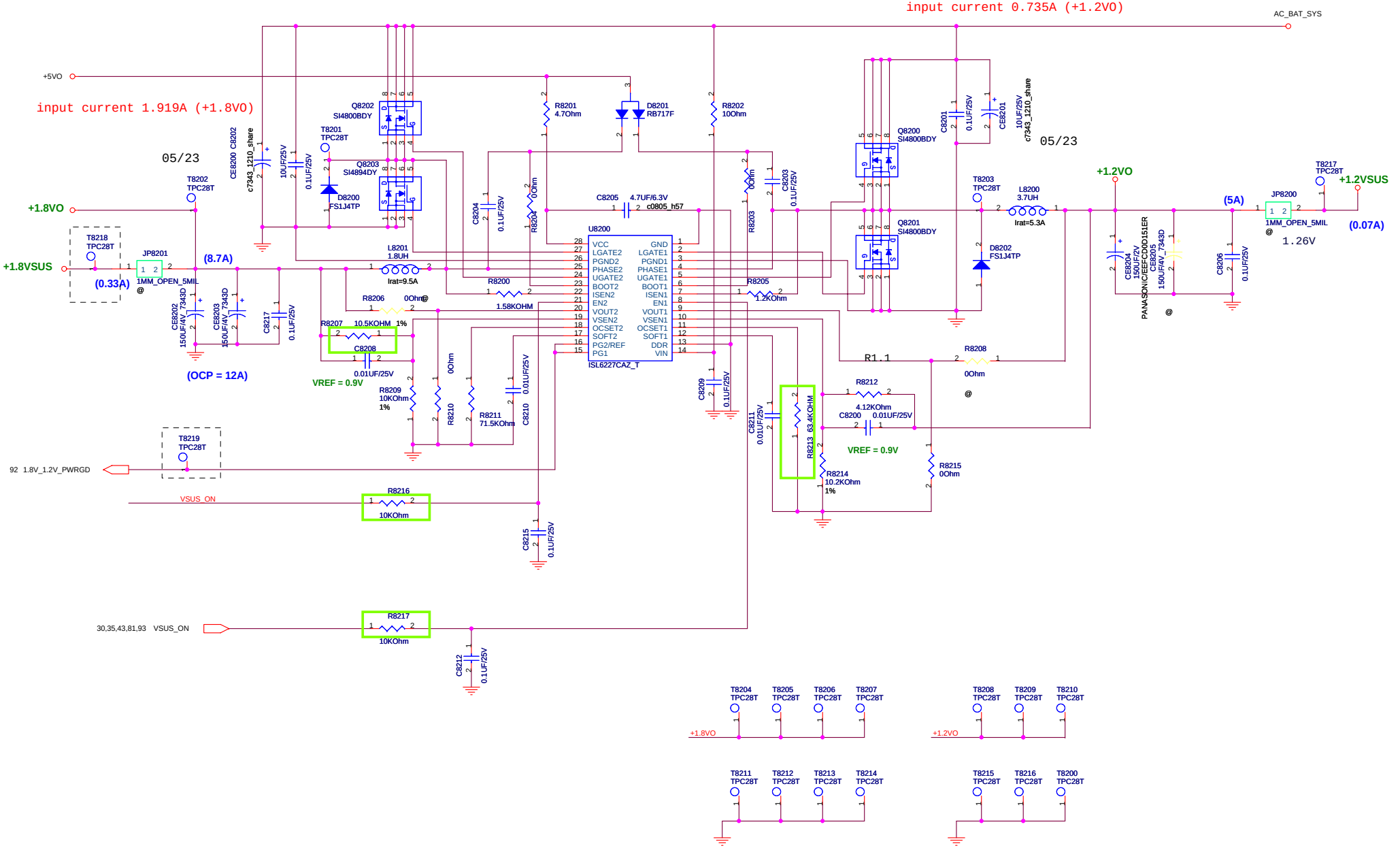
input current 0.735A (+1.2VO)
AC_BAT_SYS
+5VO
input current 1.919A (+1.8VO)
05/23
+1.8VO
+1.8VSUS
(8.7A)
(0.33A)
(OCP = 12A)
VREF = 0.9V
U8200
ISL6227CAZ_T
VCC
LGATE2
PGND2
PHASE2
UGATE2
BOOT2
ISEN2
EN2
VOUT2
VSEN2
OCSET2
SOFT2
PG2/REF
PG1
GND
LGATE1
PGND1
PHASE1
UGATE1
BOOT1
ISEN1
EN1
VOUT1
VSEN1
OCSET1
SOFT1
DDR
VIN
Q8202 SI4800BDY
Q8203 SI4894DY
D8200 FS1J4TP
D8201 RB717F
Q8200 SI4800BDY
Q8201 SI4800BDY
D8202 FS1J4TP
L8201 1.8UH
Irat=9.5A
L8200 3.7UH
Irat=5.3A
R8200 1.58KOHM
R8201 4.7Ohm
R8202 10Ohm
R8203 0Ohm
R8204 0Ohm
R8205 1.2KOhm
R8206 0Ohm@
R8207 10.5KOHM 1%
R8208 0Ohm
R8209 10KOhm 1%
R8210 0Ohm
R8211 71.5KOhm
R8212 4.12KOhm
R8213 63.4KOHM
R8214 10.2KOhm 1%
R8215 0Ohm
R8216 10KOhm
R8217 10KOhm
C8205 4.7UF/6.3V c0805_h57
C8200 0.01UF/25V
C8201 0.1UF/25V
C8202 c7343_1210_share
C8203 0.1UF/25V
C8204 0.1UF/25V
C8206 0.1UF/25V
C8207 0.1UF/25V
C8208 0.01UF/25V
C8209 0.1UF/25V
C8210 0.01UF/25V
C8211 0.01UF/25V
C8212 0.1UF/25V
C8215 0.1UF/25V
C8217 0.1UF/25V
CE8200 C8202 c7343_1210_share
CE8201 10UF/25V c7343_1210_share
CE8202 150UF/4V_7343D
CE8203 150UF/4V_7343D
CE8204 150UF/4V PANASONIC/EEFCD0J151ER
CE8205 150UF/4V_7343D
JP8201 1MM_OPEN_5MIL @
JP8200 1MM_OPEN_5MIL @
1.26V
(5A)
(0.07A)
+1.2VO
+1.2VSUS
R1.1
T8202 TPC28T
T8203 TPC28T
T8217 TPC28T
T8218 TPC28T
T8219 TPC28T
T8201 TPC28T
T8204 TPC28T
T8205 TPC28T
T8206 TPC28T
T8207 TPC28T
T8208 TPC28T
T8209 TPC28T
T8210 TPC28T
T8211 TPC28T
T8212 TPC28T
T8213 TPC28T
T8214 TPC28T
T8215 TPC28T
T8216 TPC28T
T8200 TPC28T
92 1.8V_1.2V_PWRGD
VSUS_ON
30,35,43,81,93 VSUS_ON
Title : 1.8VO&1.2VO
<OrgName>
Engineer: Tanner
Size Custom
Project Name T12C
Rev 1.1
Date: Tuesday, March 11, 2008
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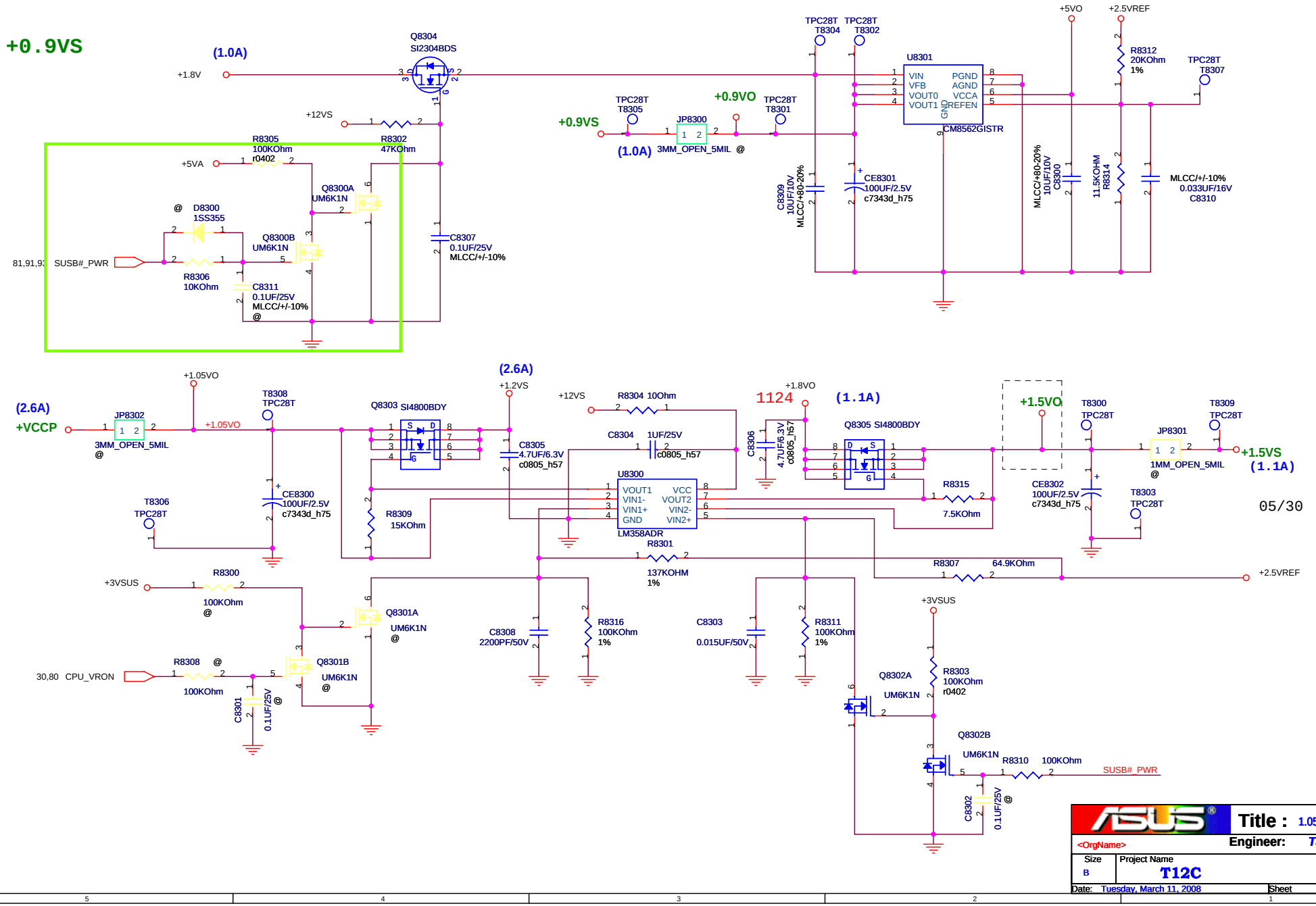
+0.9VS
(1.0A)
+1.8V
Q8304
SI2304BDS
+12VS
R8305
100KOhm
r0402
R8302
47KOhm
+5VA
Q8300A
UM6K1N
@ D8300
1SS355
Q8300B
UM6K1N
81,91,93 SUSB#_PWR
R8306
10KOhm
C8311
0.1UF/25V
MLCC/+/-10%
@
C8307
0.1UF/25V
MLCC/+/-10%
TPC28T T8304
TPC28T T8302
U8301
VIN
VFB
VOUT0
VOUT1
PGND
AGND
VCCA
GND
PREFEN
CM8562GISTR
+5VO
+2.5VREF
R8312
20KOhm
1%
TPC28T T8307
TPC28T T8305
+0.9VO
TPC28T T8301
+0.9VS
JP8300
(1.0A)
3MM_OPEN_5MIL @
C8309
10UF/10V
MLCC/+80-20%
CE8301
100UF/2.5V
c7343d_h75
MLCC/+80-20%
10UF/10V
C8300
11.5KOHM
R8314
MLCC/+/-10%
0.033UF/16V
C8310
(2.6A)
+1.05VO
(2.6A)
+VCCP
JP8302
3MM_OPEN_5MIL
@
T8308
TPC28T
Q8303 SI4800BDY
+1.2VS
+12VS
R8304 10Ohm
C8305
4.7UF/6.3V
c0805_h57
C8304
1UF/25V
c0805_h57
U8300
VOUT1
VIN1-
VIN1+
GND
VCC
VOUT2
VIN2-
VIN2+
LM358ADR
CE8300
100UF/2.5V
c7343d_h75
T8306
TPC28T
R8309
15KOhm
1124
+1.8VO
(1.1A)
C8306
4.7UF/6.3V
c0805_h57
Q8305 SI4800BDY
R8315
7.5KOhm
+1.5VO
T8300
TPC28T
CE8302
100UF/2.5V
c7343d_h75
T8309
TPC28T
JP8301
1MM_OPEN_5MIL
@
+1.5VS
(1.1A)
T8303
TPC28T
05/30
R8301
137KOHM
1%
R8307
64.9KOhm
+2.5VREF
+3VSUS
R8300
100KOhm
@
Q8301A
UM6K1N
@
C8308
2200PF/50V
R8316
100KOhm
1%
C8303
0.015UF/50V
R8311
100KOhm
1%
+3VSUS
Q8302A
UM6K1N
R8303
100KOhm
r0402
Q8302B
UM6K1N
R8310
100KOhm
SUSB#_PWR
30,80 CPU_VRON
R8308
@
100KOhm
C8301
0.1UF/25V
@
C8302
0.1UF/25V
@
Title : 1.05V & +0.9VS
<OrgName>
Engineer: Tanner_zhang
Size
B
Project Name
T12C
Rev
1.1
Date: Tuesday, March 11, 2008
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<Variant Name>

Title : POWER_I/O_+3VA & +2.5V

<OrgName>

Engineer: *Tanner_Zhang*

Size	Project Name	Rev
Custom	T12C	1.0

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<Variant Name>

Title : POWER_VGA_CORE & RAM

<OrgName>

Engineer: Tanner_zhang

Size	Project Name	Rev
C	T12C	1.0

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<Variant Name>

Title : N/A

<OrgName>

Engineer: Tanner_zhang

Size	Project Name	Rev
B	T12C	1.0

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<Variant Name>

Title : N/A

<OrgName>

Engineer: *Tanner_zhang*

Size	Project Name	Rev
Custom	T12C	1.0

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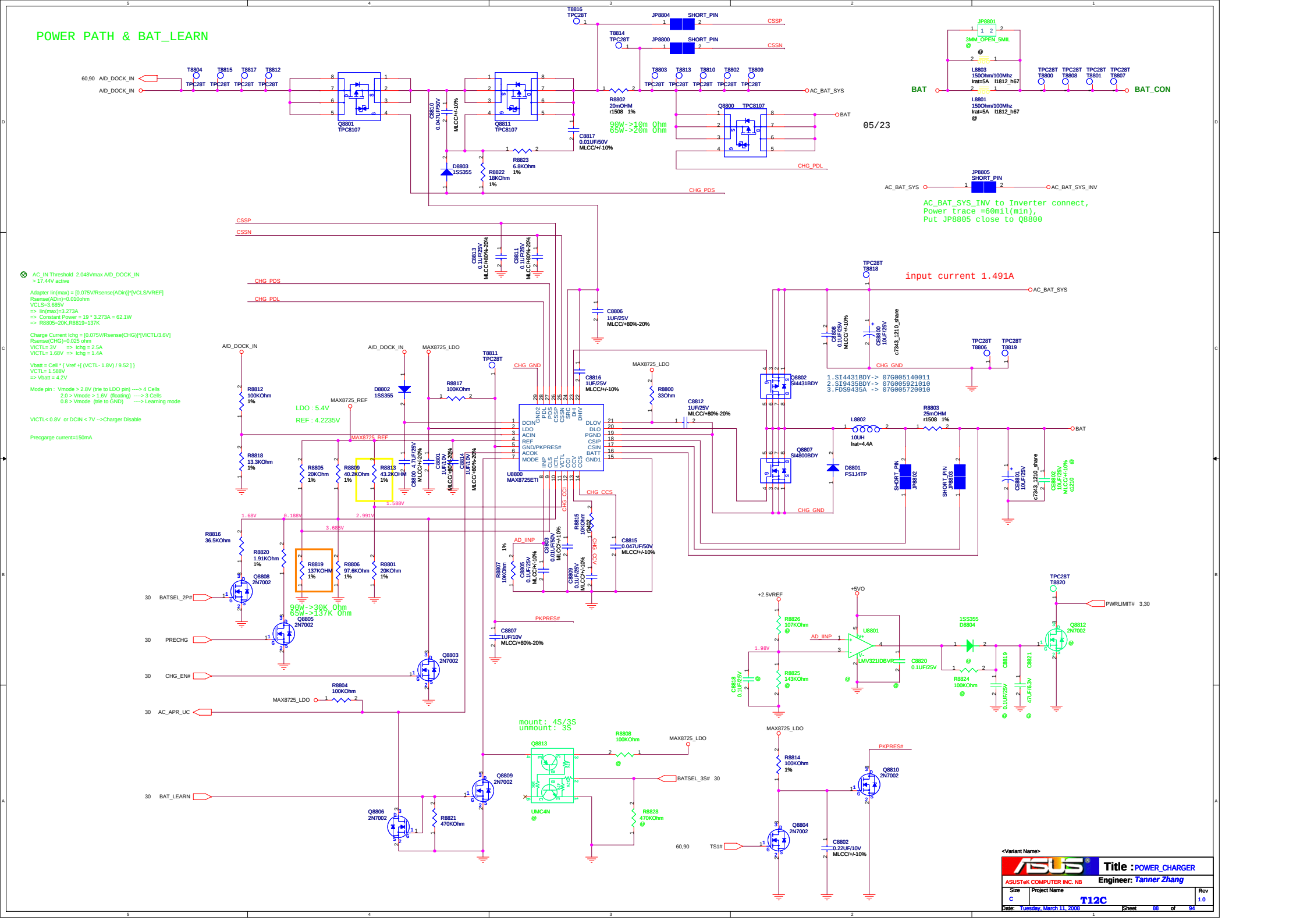
POWER PATH & BAT_LEARN



<Variant Name>

Title : N/A

<OrgName>

Engineer: Tanner

Size	Project Name	Rev
Custom	T12C	1.0

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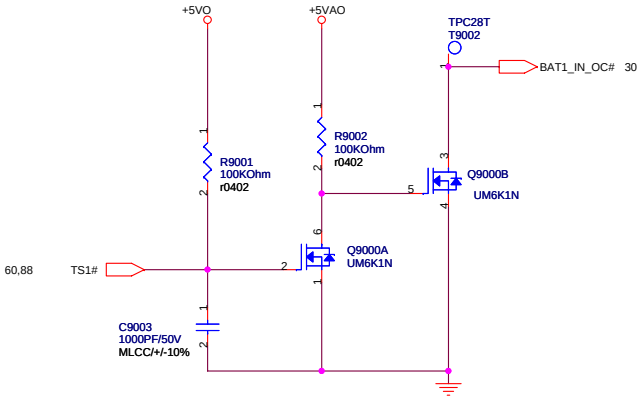
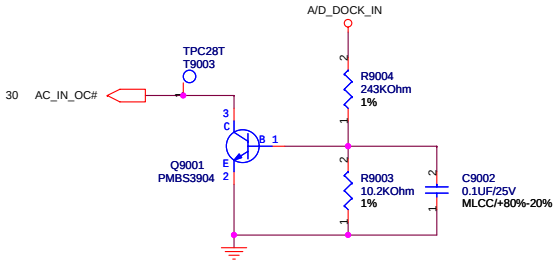
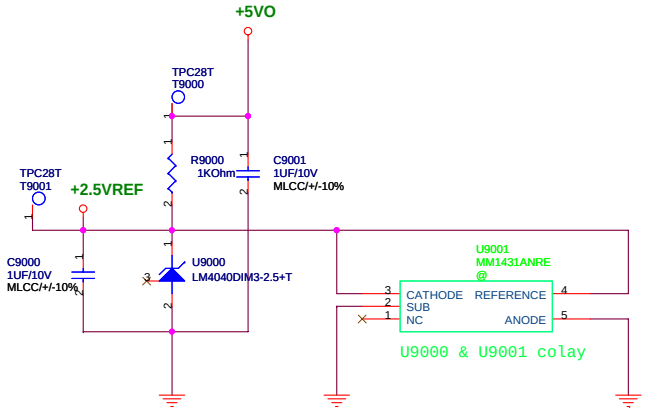
BATTERY IN DETECT



ADAPTER IN DETECT



+2.5VREF



U9000 Main source change to 06G006002414(tolerence:1%).
Add second source 06G006002610 (tolerence:1%),
06G006002412 (tolerence:0.2%) and
06G006002020(tolerence:0.2%)

<Variant Name>

<OrgName>	Title : POWER_DETECT	
	Engineer: *tanner*	
Size: Custom	Project Name: T12C	Rev: 1.0
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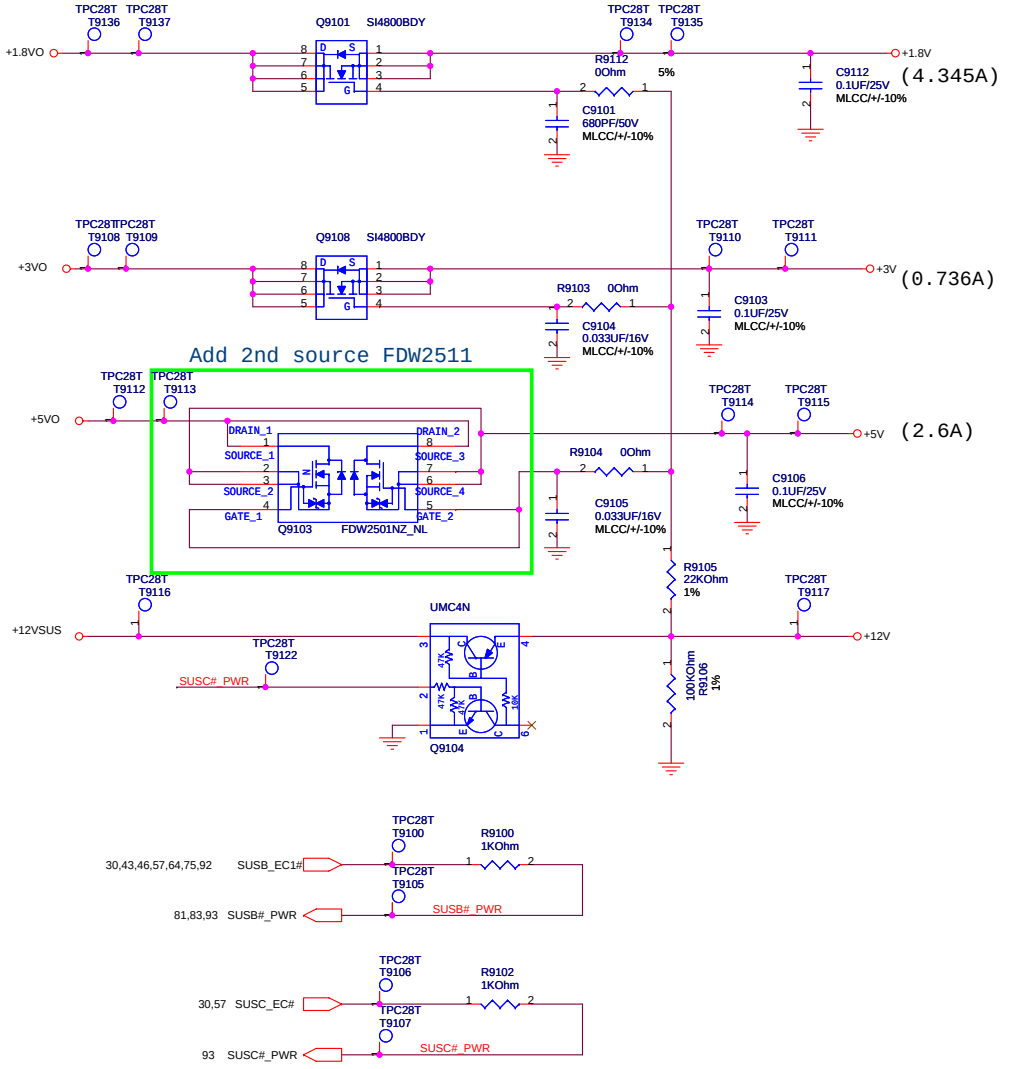
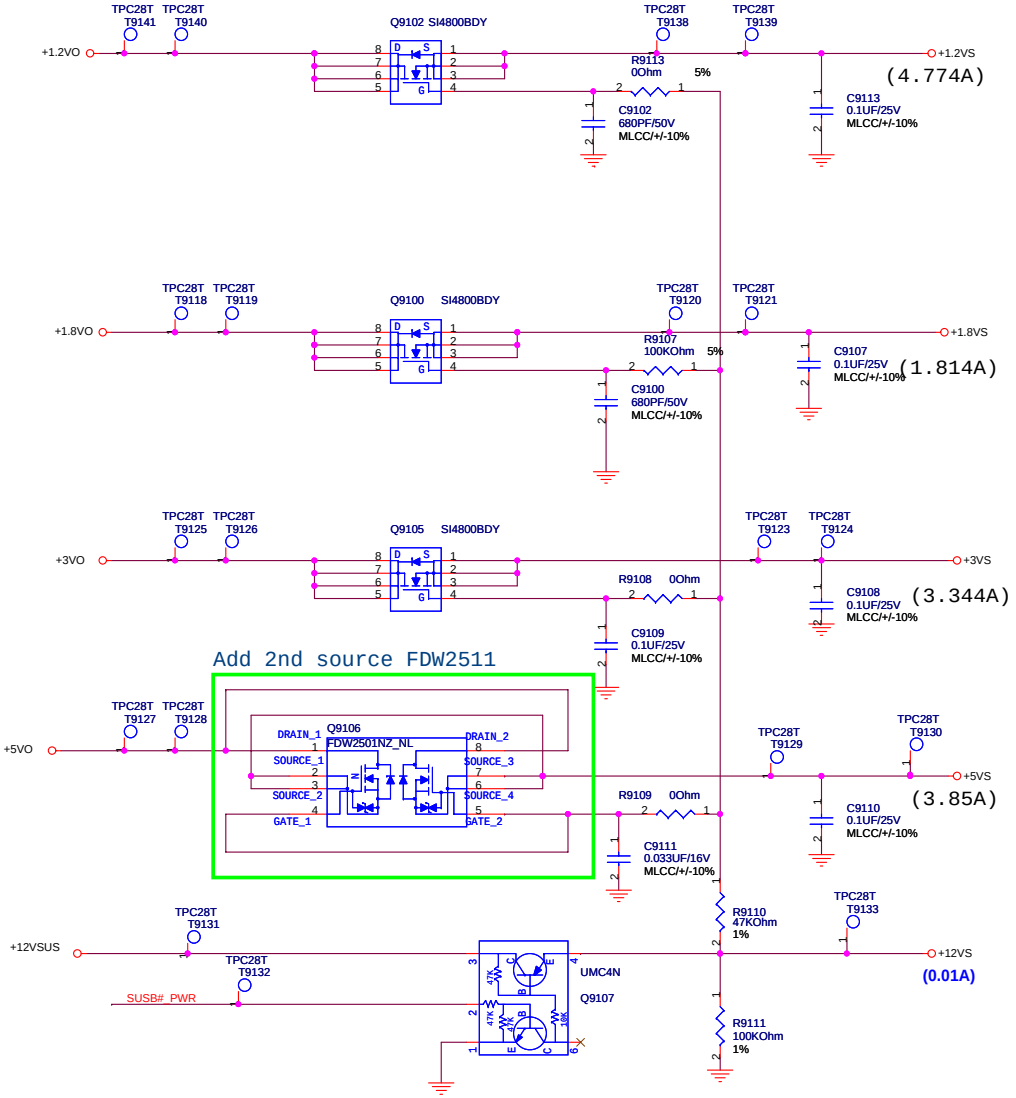
SUSC#_STAGE POWER



SUSB#_STAGE POWER



<Variant Name>

ASUS

Title : POWER_LOAD SWITCH

<OrgName>

Engineer: Tanner

Size	Project Name	Rev
Custom	T12C	1.0

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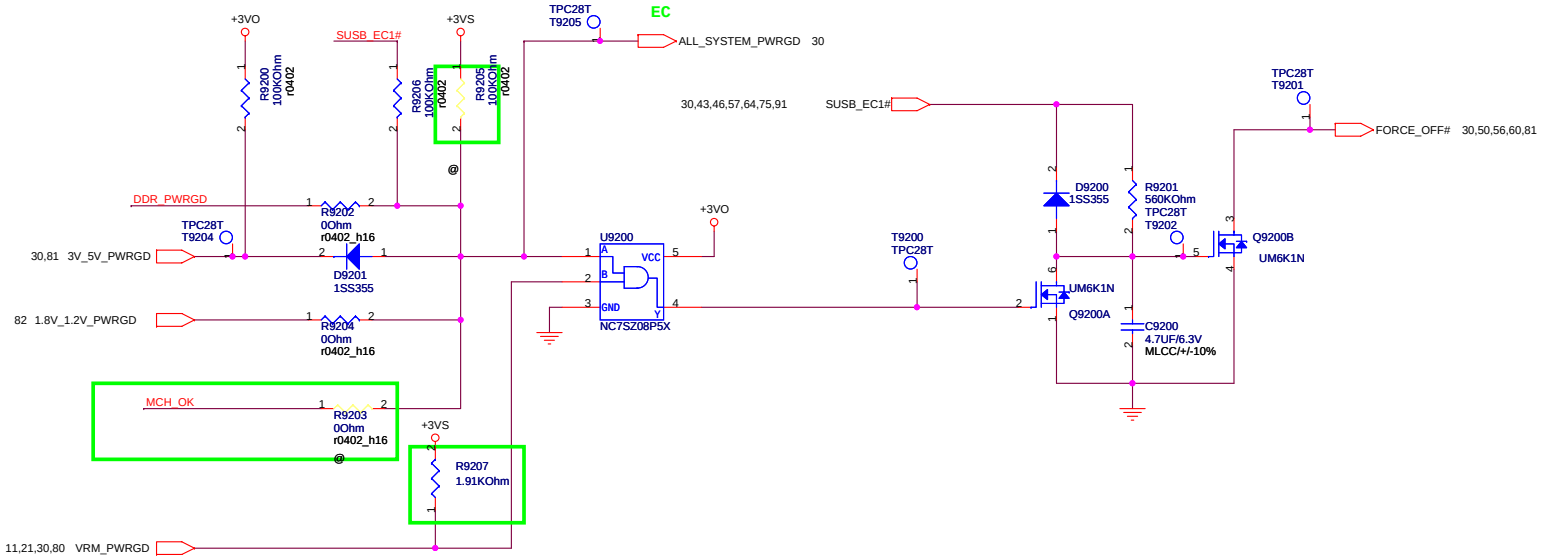
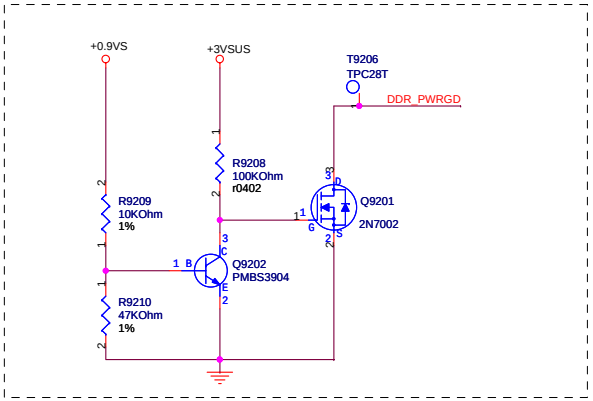
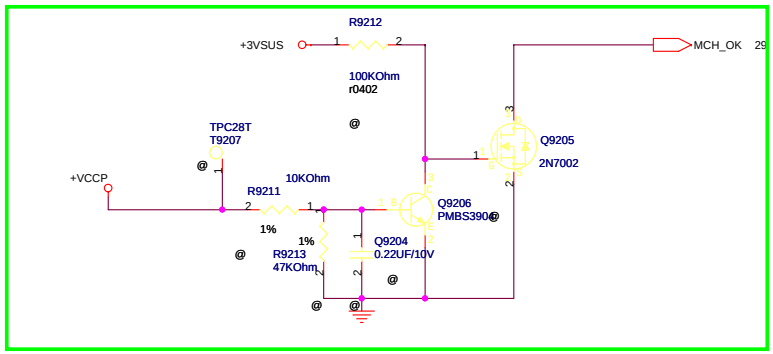
POWER GOOD DETECTER







<Variant Name>

ASUS	Title : POWER_PROTECT	
<OrgName>	Engineer: Tanner	
Size: Custom	Project Name: T12C	Rev: 1.0
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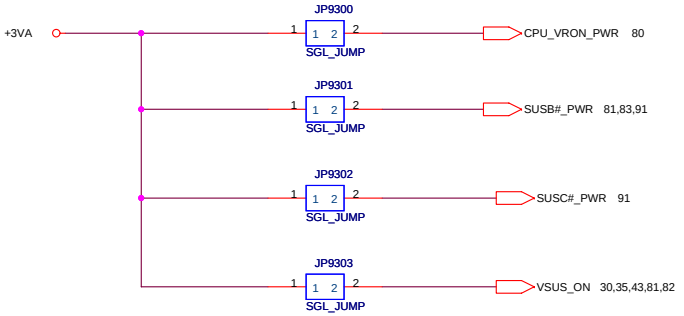
FOR POWER TEST



CHANGE LIST

06/28 SR	change R8133 to 21Kohm, set +5VO ocp at 8.5A
	Change R8216, R8217 to 10Kohm. VSUS_ON soft start.
	change R8213 to 63.4K. set 1.2VO OCP.
	delete R8306,Q8300,R8305.
	Add 2P/1P select circuit in charger
	for power squence, change R9207 to 1.91K
	for BOM cost, change the VCORE output capcitor
07/13 SR	change R8207 to 10.5K, set 1.8vo up tp 1.845V
	change CE8202 to 100uf/2.5v for layout

<Variant Name>

Title : POWER_SIGNAL

<OrgName>

Engineer: Tanner

Size	Project Name	Rev
Custom	T12C	1.0

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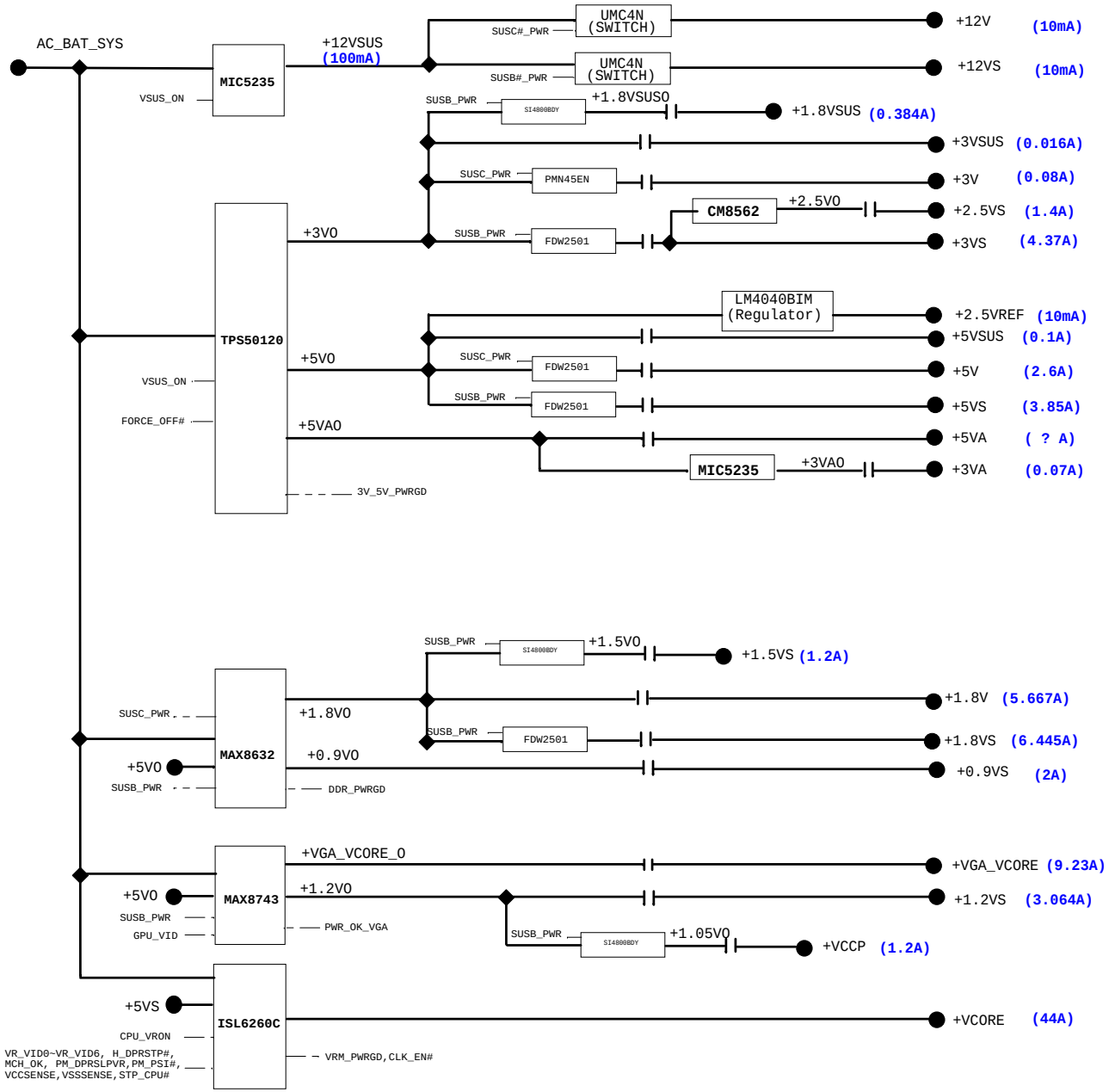

<Variant Name>

ASUS

Title : POWER_FLOWCHART

<OrgName>

Engineer: Tanner

Size	Project Name	Rev
Custom	T12C	1.0

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