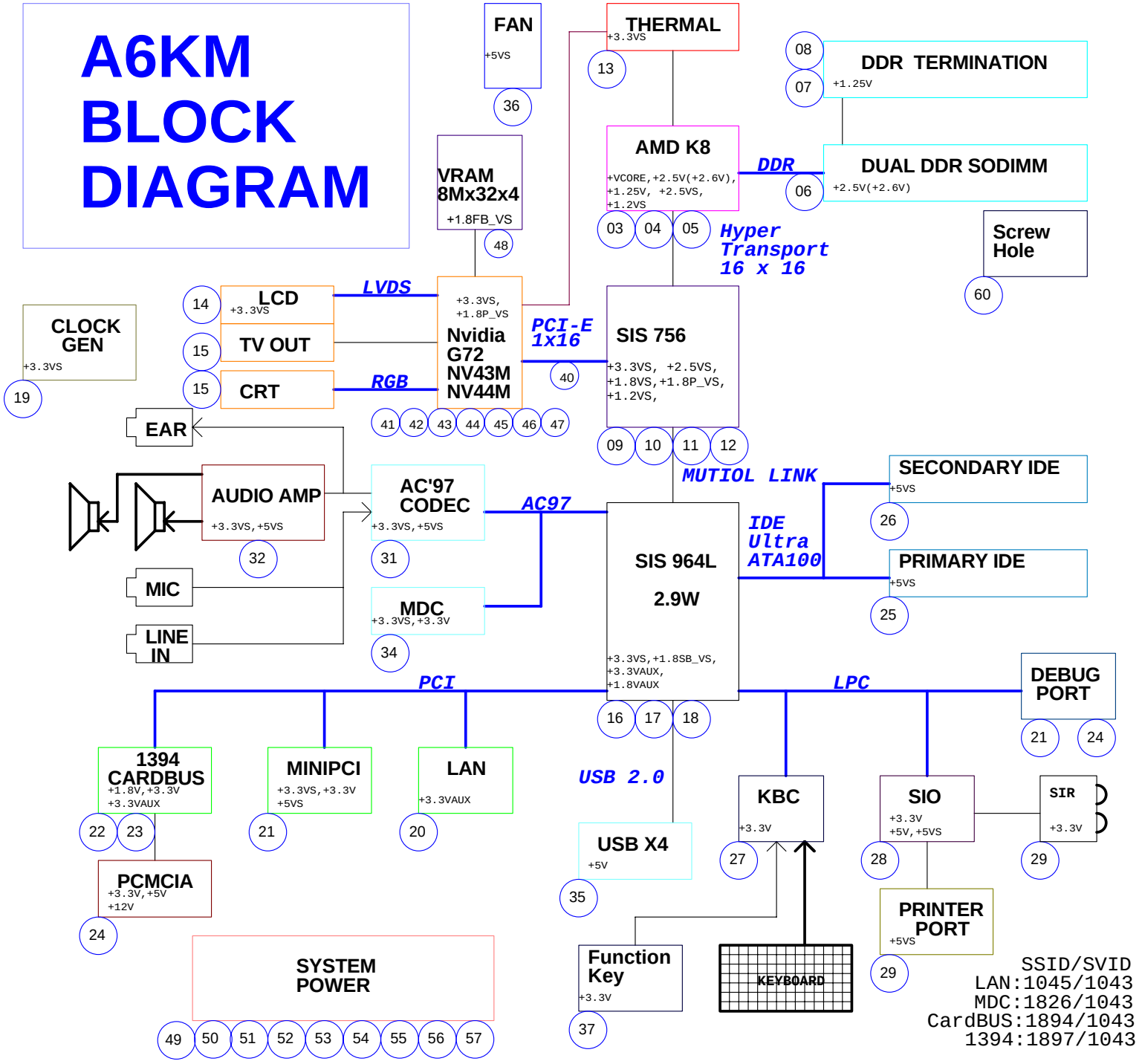
51_Vcore

A6KM BLOCK DIAGRAM



FILE LIST 01

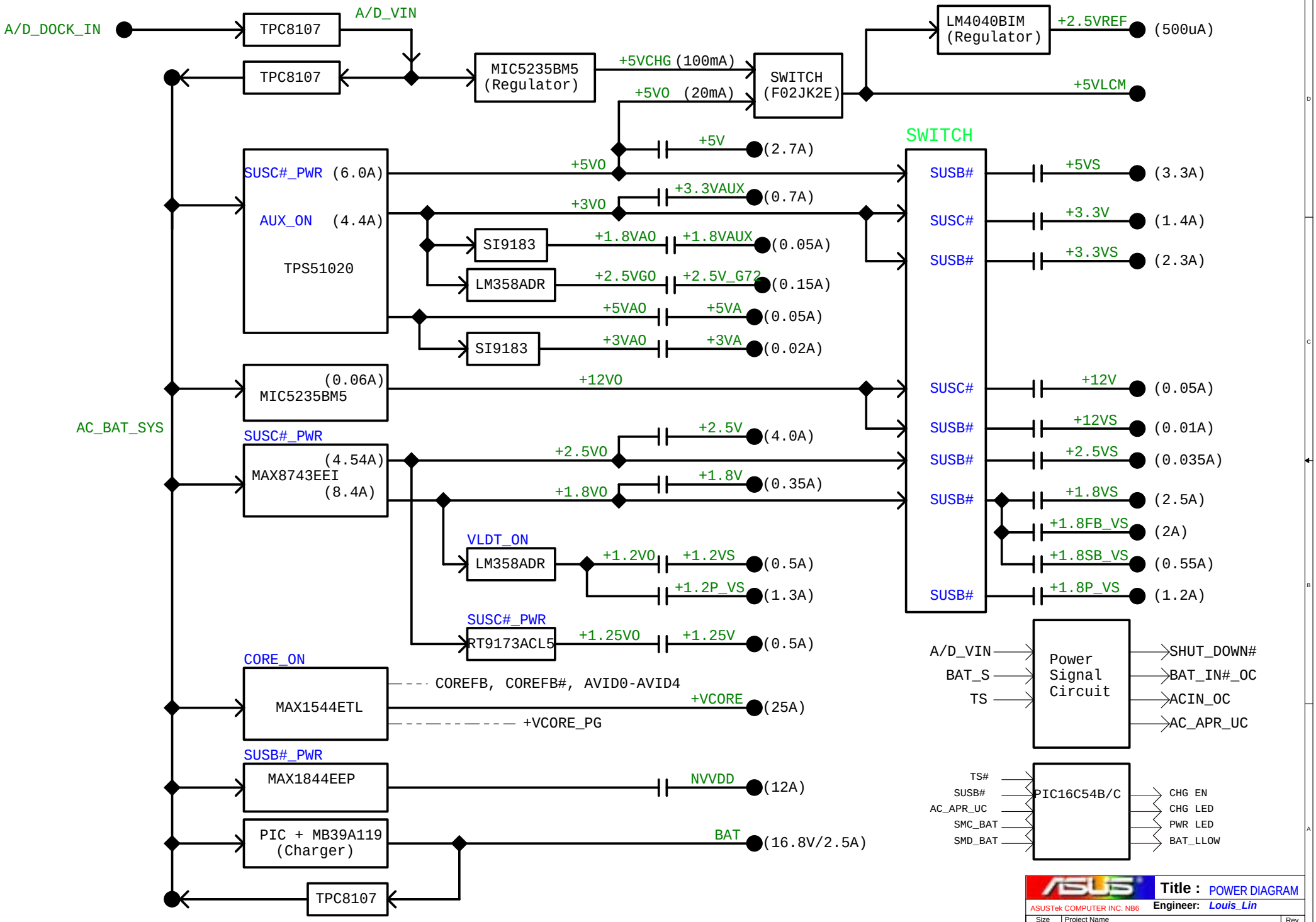
ASUSTek COMPUTER INC. NB6

Title : BLOCK DIAGRAM

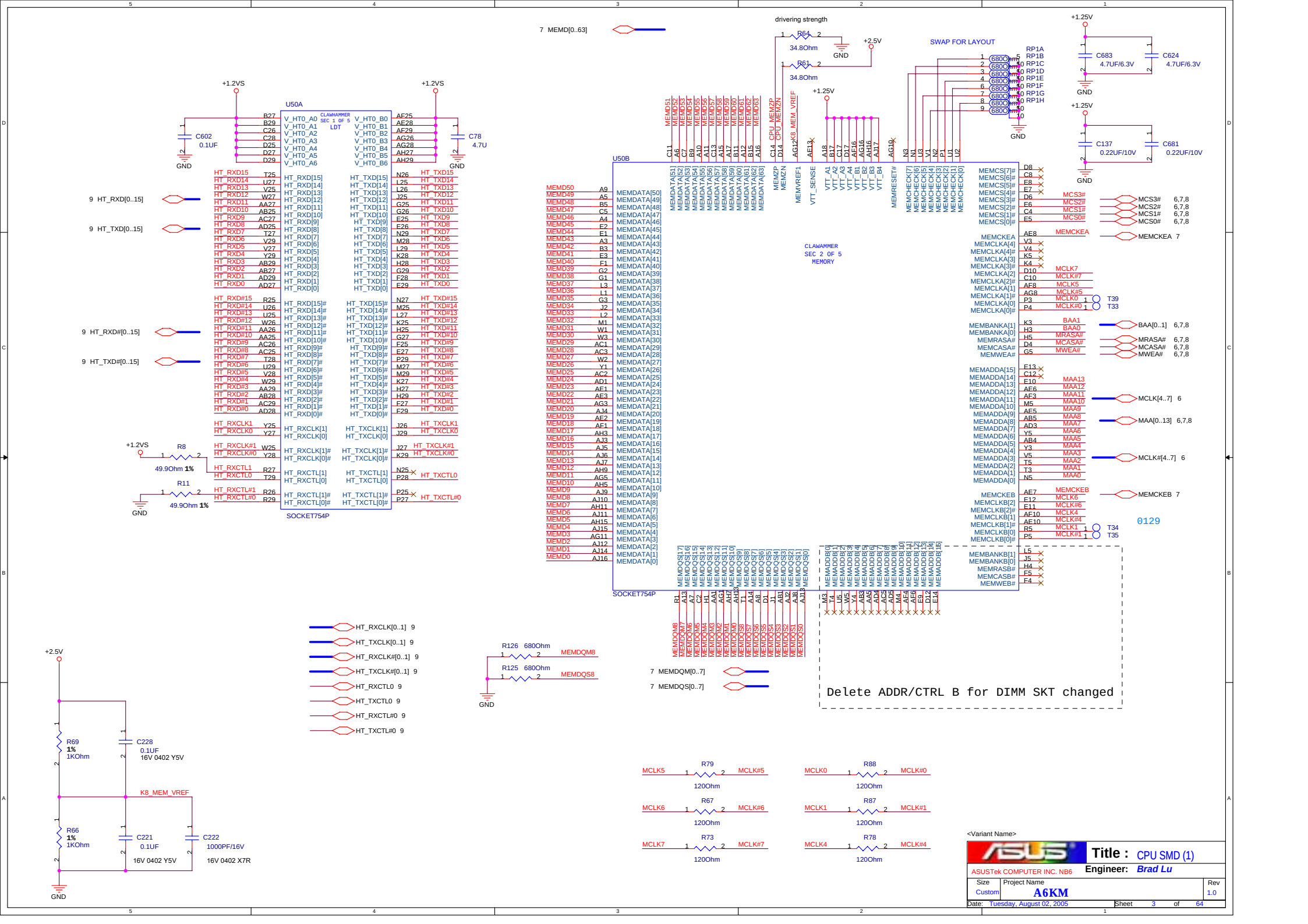
Engineer: Allen_CD_Wu

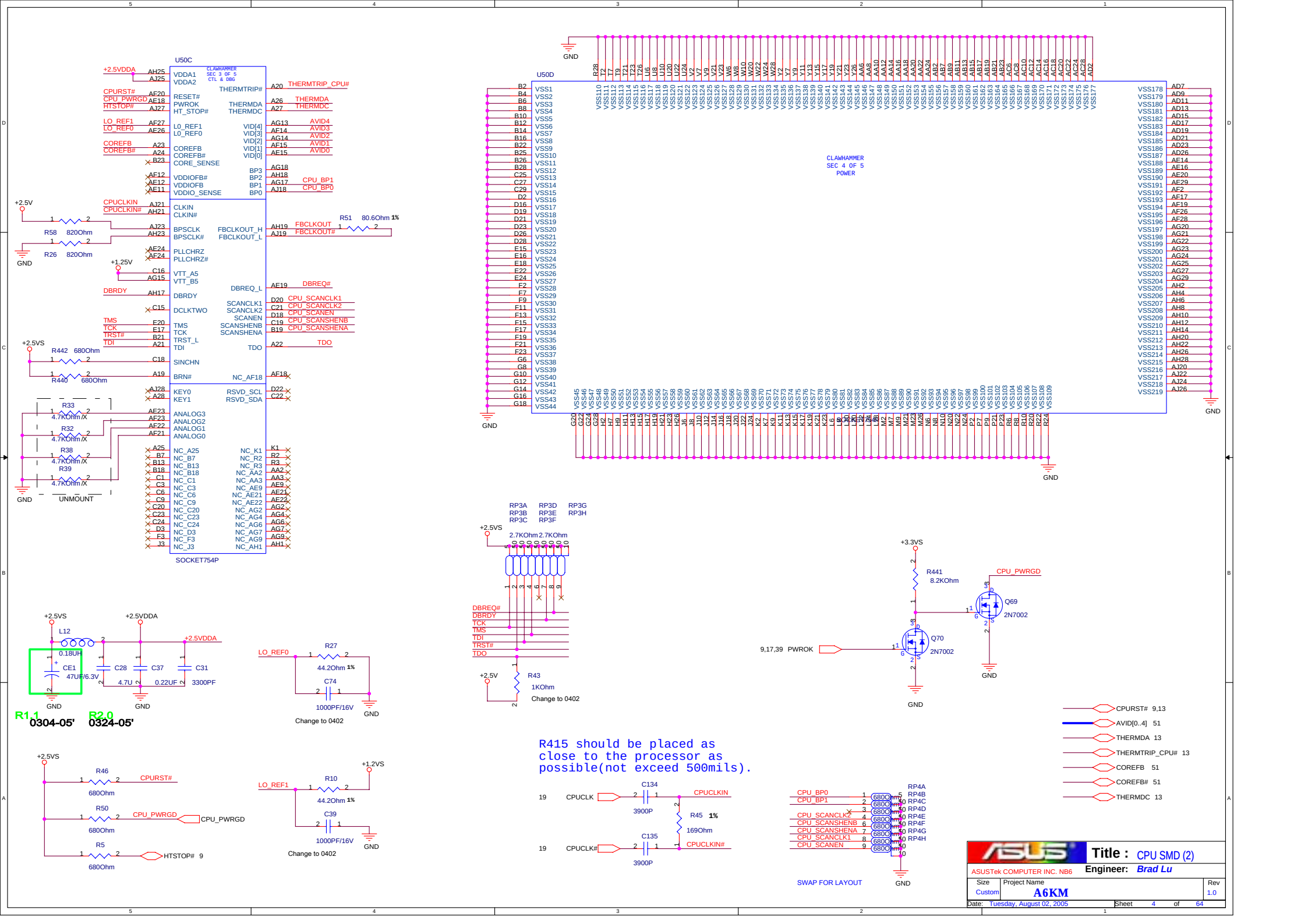
Size	Project Name	Rev
Custom	A6KM	1.0

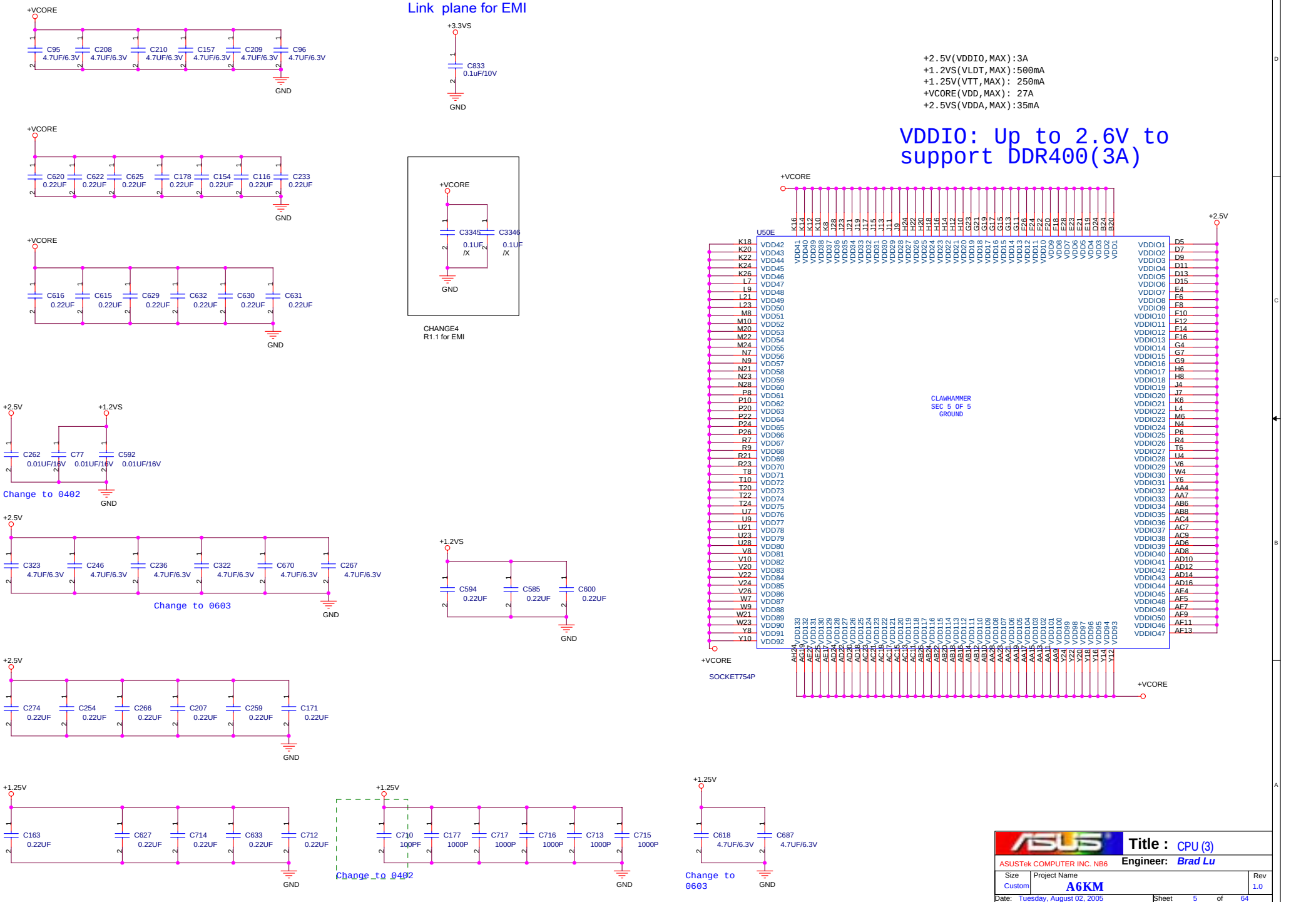
Date: Tuesday, August 02, 2005 Sheet 1 of 64



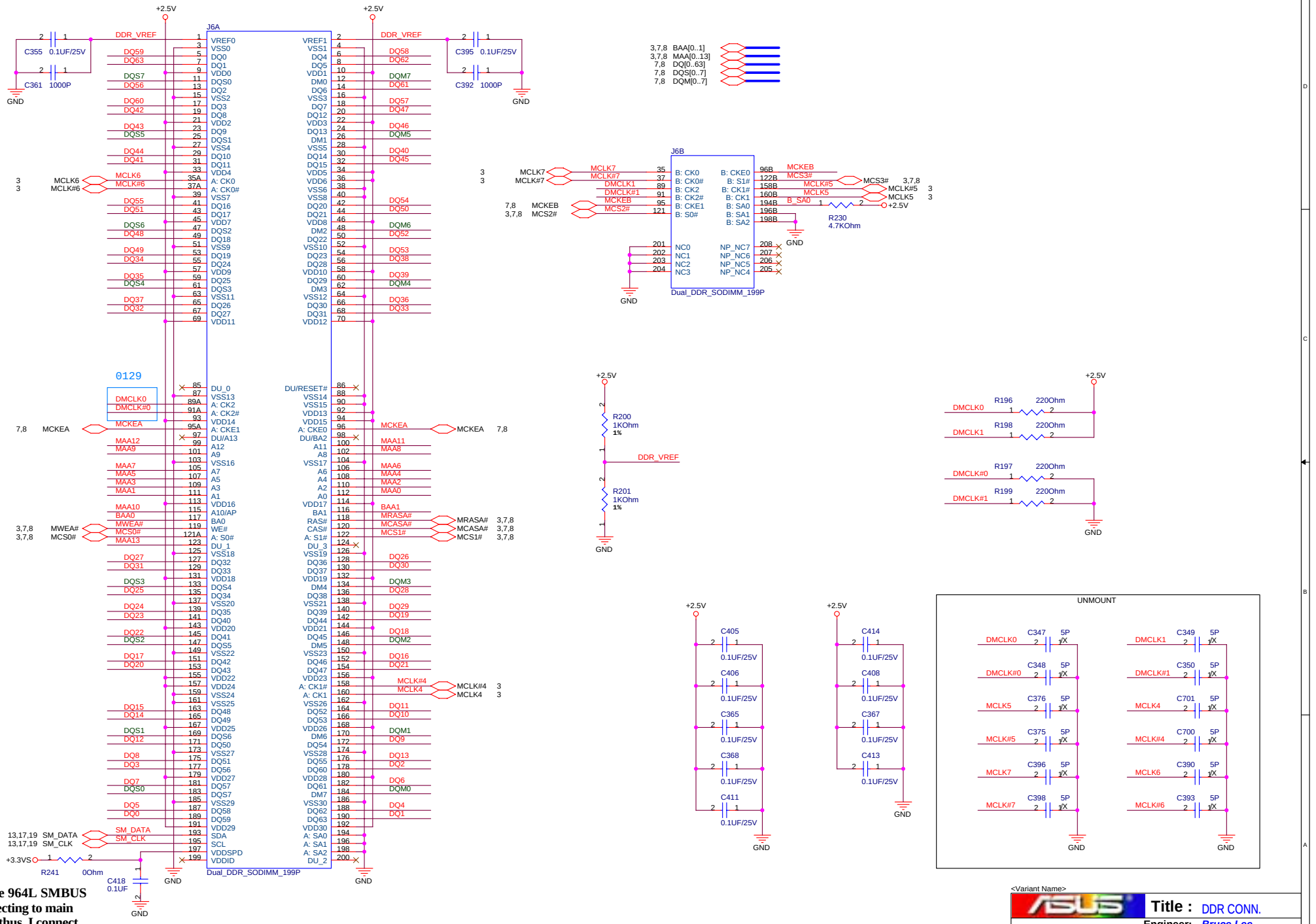
Title : POWER DIAGRAM		
ASUSTek COMPUTER INC. NB6	Engineer: Louis_Lin	
Size: Custom	Project Name: A6KM	Rev: 1.0
Date: Tuesday, August 02, 2005	Sheet 2 of 64	


U50A
CLAWHAMMER
SEC 1 OF 5
LDT
SOCKET754P
U50B
CLAWHAMMER
SEC 2 OF 5
MEMORY
SOCKET754P
SWAP FOR LAYOUT
drivering strength
Delete ADDR/CTRL B for DIMM SKT changed
0129
+1.2VS
+2.5V
+1.25V
GND
C602 0.1UF
C78 4.7U
C683 4.7UF/6.3V
C624 4.7UF/6.3V
C137 0.22UF/10V
C681 0.22UF/10V
R64 34.8Ohm
R61 34.8Ohm
R8 49.9Ohm 1%
R11 49.9Ohm 1%
R69 1% 1KOhm
R66 1% 1KOhm
C228 0.1UF 16V 0402 Y5V
C221 0.1UF 16V 0402 Y5V
C222 1000PF/16V 16V 0402 X7R
K8_MEM_VREF
R126 680Ohm
R125 680Ohm
R79 120Ohm
R67 120Ohm
R73 120Ohm
R88 120Ohm
R87 120Ohm
R78 120Ohm
RP1A RP1B RP1C RP1D RP1E RP1F RP1G RP1H 680Ohm
9 HT_RXD[0..15]
9 HT_TXD[0..15]
9 HT_RXD#[0..15]
9 HT_TXD#[0..15]
HT_RXCLK[0..1] 9
HT_TXCLK[0..1] 9
HT_RXCLK#[0..1] 9
HT_TXCLK#[0..1] 9
HT_RXCTL0 9
HT_TXCTL0 9
HT_RXCTL#0 9
HT_TXCTL#0 9
7 MEMD[0..63]
7 MEMDQM[0..7]
7 MEMDQS[0..7]
MCS3# 6,7,8
MCS2# 6,7,8
MCS1# 6,7,8
MCS0# 6,7,8
MEMCKEA 7
BAA[0..1] 6,7,8
MRASA# 6,7,8
MCASA# 6,7,8
MWEA# 6,7,8
MCLK[4..7] 6
MAA[0..13] 6,7,8
MCLK#[4..7] 6
MEMCKEB 7
T39
T33
T34
T35
<Variant Name>
Title : CPU SMD (1)
ASUSTek COMPUTER INC. NB6
Engineer: Brad Lu
Size Custom
Project Name A6KM
Rev 1.0
Date: Tuesday, August 02, 2005
Sheet 3 of 64


U50C
CLAWHAMMER
SEC 3 OF 5
CTL & DBG
SOCKET754P
UNMOUNT
U50D
CLAWHAMMER
SEC 4 OF 5
POWER
RP3A RP3B RP3C RP3D RP3E RP3F RP3G RP3H
2.7KOhm
R43 1KOhm Change to 0402
R441 8.2KOhm
Q69 2N7002
Q70 2N7002
R1.1 0304-05'
R2.0 0324-05'
R27 44.2Ohm 1%
C74 1000PF/16V
Change to 0402
R46 680Ohm
R50 680Ohm
R5 680Ohm
R10 44.2Ohm 1%
C39 1000PF/16V
Change to 0402
R415 should be placed as close to the processor as possible(not exceed 500mils).
C134 3900P
C135 3900P
R45 1% 169Ohm
SWAP FOR LAYOUT
CPURST# 9,13
AVID[0..4] 51
THERMDA 13
THERMTRIP_CPU# 13
COREFB 51
COREFB# 51
THERMDC 13
Title : CPU SMD (2)
ASUSTek COMPUTER INC. NB6
Engineer: Brad Lu
Size Custom
Project Name A6KM
Rev 1.0
Date: Tuesday, August 02, 2005
Sheet 4 of 64



ASUSTek COMPUTER INC. NB6	Title : CPU (3)	
	Engineer: Brad Lu	
Size: Custom	Project Name: A6KM	Rev: 1.0
Date: Tuesday, August 02, 2005	Sheet 5 of 64	



Because 964L SMBUS is connecting to main power, thus, I connect VDDSPD to +V3.3S

<Variant Name>

ASUSTek COMPUTER INC. NB6

Title : DDR CONN.

Engineer: Bruce Lee

Size	Project Name	Rev
Custom	A6KM	1.0

Date: Tuesday, August 02, 2005 Sheet 6 of 64

3 MEMD[0..63]
6,8 DQ[0..63]

3 MEMDQS[0..7]
6,8 DQS[0..7]
3,6,8 MAA[0..13]

3,6,8 BAA[0..1]

6,8 DQM[0..7]
3 MEMDQM[0..7]

RN17 10Ohm
MEMD59 1 2 DQ59
MEMD63 3 4 DQ63
MEMD58 5 6 DQ58
MEMD62 7 8 DQ62

RN16 10Ohm
MEMD56 1 2 DQ56
MEMD60 3 4 DQ60
MEMD61 5 6 DQ61
MEMD57 7 8 DQ57

RN12 10Ohm
MEMD32 2 1 DQ32
MEMD36 4 3 DQ36
MEMD33 6 5 DQ33
MEMD37 8 7 DQ37

RN13 10Ohm
MEMD35 1 2 DQ35
MEMD34 3 4 DQ34
MEMD39 5 6 DQ39
MEMD38 7 8 DQ38

RN14 10Ohm
MEMD44 2 1 DQ44
MEMD41 4 3 DQ41
MEMD45 6 5 DQ45
MEMD40 8 7 DQ40

RN15 10Ohm
MEMD43 1 2 DQ43
MEMD42 3 4 DQ42
MEMD47 5 6 DQ47
MEMD46 7 8 DQ46

RN54 10Ohm
MEMD51 2 1 DQ51
MEMD55 4 3 DQ55
MEMD54 6 5 DQ54
MEMD50 8 7 DQ50

RN53 10Ohm
MEMD48 1 2 DQ48
MEMD49 3 4 DQ49
MEMD53 5 6 DQ53
MEMD52 7 8 DQ52

RN60 10Ohm
MEMD18 1 2 DQ18
MEMD19 3 4 DQ19
MEMD23 5 6 DQ23
MEMD22 7 8 DQ22

RN59 10Ohm
MEMD20 1 2 DQ20
MEMD21 3 4 DQ21
MEMD16 5 6 DQ16
MEMD17 7 8 DQ17

RN20 10Ohm
MEMD10 1 2 DQ10
MEMD11 3 4 DQ11
MEMD14 5 6 DQ14
MEMD15 7 8 DQ15

RN19 10Ohm
MEMD13 1 2 DQ13
MEMD9 3 4 DQ9
MEMD12 5 6 DQ12
MEMD8 7 8 DQ8

RN56 10Ohm
MEMD30 1 2 DQ30
MEMD26 3 4 DQ26
MEMD27 5 6 DQ27
MEMD31 7 8 DQ31

RN55 10Ohm
MEMD24 1 2 DQ24
MEMD25 3 4 DQ25
MEMD29 5 6 DQ29
MEMD28 7 8 DQ28

RN58 10Ohm
MEMD6 1 2 DQ6
MEMD2 3 4 DQ2
MEMD7 5 6 DQ7
MEMD3 7 8 DQ3

RN57 10Ohm
MEMD0 1 2 DQ0
MEMD5 3 4 DQ5
MEMD1 5 6 DQ1
MEMD4 7 8 DQ4

BAA1 1 22P 2 CN10A
MAA0 3 22P 4 CN10B
MAA2 5 22P 6 CN10C
MAA3 7 22P 8 CN10D

MAA7 1 22P 2 CN9A
3,6,8 MCS0# MCS0# 3 22P 4 CN9B
3,6,8 MWEA# MWEA# 5 22P 6 CN9C
3,6,8 MCS1# MCS1# 7 22P 8 CN9D

BAA0 1 22P 2 CN13A
MAA6 3 22P 4 CN13B
6,8 MCKEB MCKEB 5 22P 6 CN13C
6,8 MCKEA MCKEA 7 22P 8 CN13D

GND

C425 MAA4 2 1 22P
C426 MAA1 2 1 22P
3,6,8 MRASA# C427 MRASA# 2 1 22P
C424 MAA10 2 1 22P
C429 MAA8 2 1 22P
3,6,8 MCS3# C428 MCS3# 2 1 22P

3,6,8 MCASA# MCASA# 1 22P 2 CN8A
3,6,8 MCS2# MCS2# 3 22P 4 CN8B
MAA13 5 22P 6 CN8C
7 22P 8 CN8D

MAA11 1 22P 2 CN12A
MAA5 3 22P 4 CN12B
MAA12 5 22P 6 CN12C
MAA9 7 22P 8 CN12D

GND

TO fine tune DQS

MEMDQM7 1 R190 2 DQM7 10Ohm
MEMDQS6 1 R498 2 DQS6 10Ohm
MEMDQS5 1 R188 2 DQS5 10Ohm
MEMDQS4 1 R186 2 DQS4 10Ohm
MEMDQS3 1 R503 2 DQS3 10Ohm
MEMDQS1 1 R194 2 DQS1 10Ohm
MEMDQS2 1 R501 2 DQS2 10Ohm
MEMDQS0 1 R505 2 DQS0 10Ohm

TO fine tune DQM

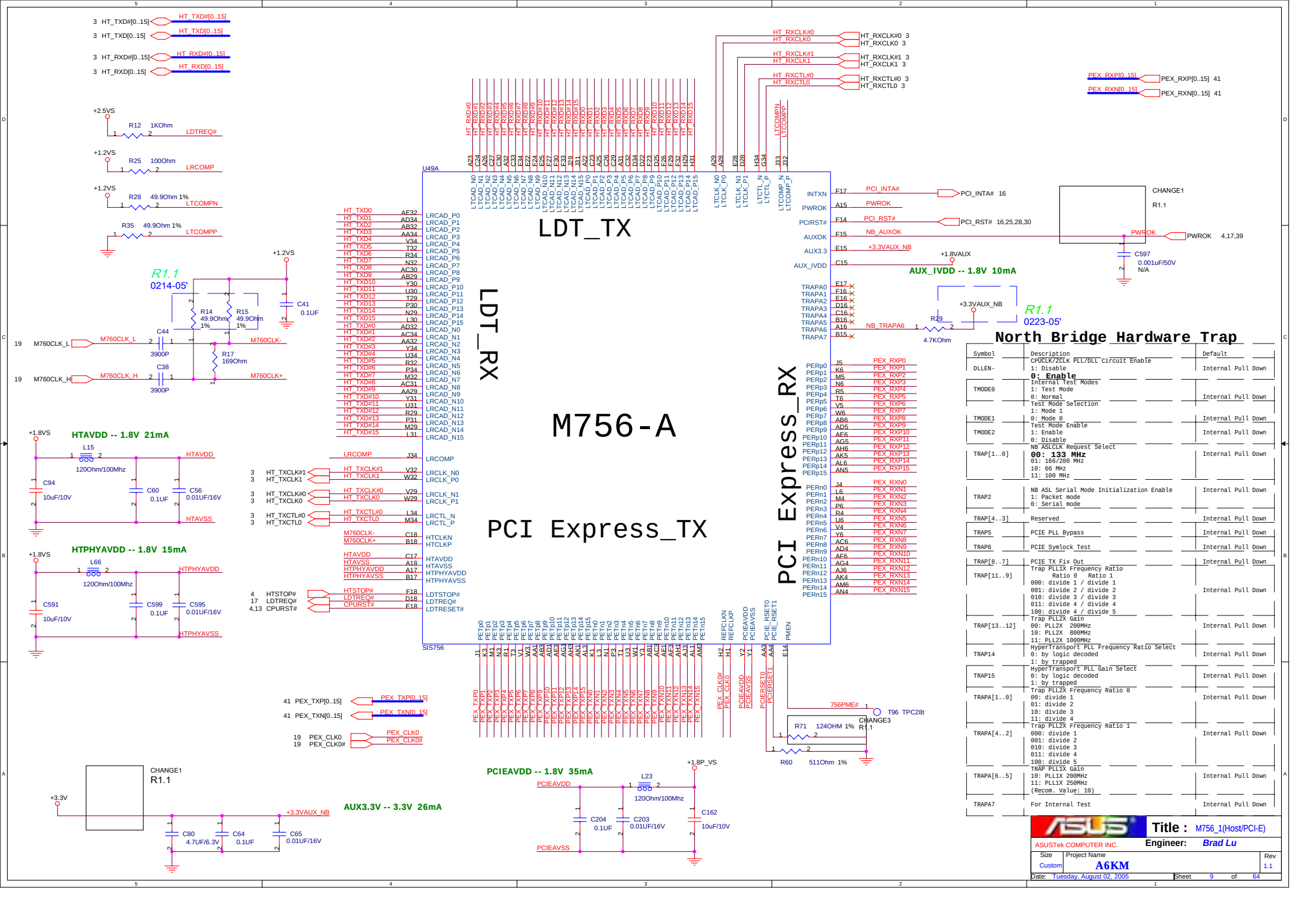
MEMDQS7 1 R191 2 DQS7 10Ohm
MEMDQM6 1 R497 2 DQM6 10Ohm
MEMDQM5 1 R189 2 DQM5 10Ohm
MEMDQM4 1 R187 2 DQM4 10Ohm
MEMDQM3 1 R504 2 DQM3 10Ohm
MEMDQM1 1 R195 2 DQM1 10Ohm
MEMDQM2 1 R502 2 DQM2 10Ohm
MEMDQM0 1 R506 2 DQM0 10Ohm

3 MEMCKEA MEMCKEA 1 R500 10Ohm 2 MCKEA
3 MEMCKEB MEMCKEB 1 R499 10Ohm 2 MCKEB

#24665 Rev. 2.17 October 2003

Title : DDR Series Term.
ASUSTek COMPUTER INC. NB6
Engineer: Bruce Lee
Size: Custom
Project Name: A6KM
Rev: 1.0
Date: Tuesday, August 02, 2005
Sheet 7 of 64


These components close to DIMM
+1.25V
DQ1 DQ4 DQ0 DQ5 DQS0 DQM0 DQ6 DQ2
DQ7 DQ3 DQ8 DQ12 DQ9 DQ13 DQS1 DQM1
DQ14 DQ15 DQ10 DQ11 DQ20 DQ17 DQ21 DQ16
DQS2 DQM2 DQ19 DQ18 DQ22 DQ23 DQ24 DQ25
DQS3 DQ28 DQ29 DQM3 DQ26 DQ30 DQ31 DQ27
DQ32 DQ37 DQ36 DQS4 DQ35 DQ34 DQM4 DQ33
DQ51 DQ55 DQ50 DQ54 DQ40 DQ45 DQ41 DQ44
DQM5 DQS5 DQ43 DQ46 DQ47 DQ42 DQ60 DQ56
DQ38 DQ39 DQ49 DQ48 DQS6 DQ53 DQ52 DQM6
DQM7 DQ61 DQ57 DQS7 DQ63 DQ59 DQ58 DQ62
47Ohm
RN66A RN66B RN66C RN66D RN66E RN66F RN66G RN66H
RN67A RN67B RN67C RN67D RN67E RN67F RN67G RN67H
RN68A RN68B RN68C RN68D RN68E RN68F RN68G RN68H
RN69A RN69B RN69C RN69D RN69E RN69F RN69G RN69H
RN70A RN70B RN70C RN70D RN70E RN70F RN70G RN70H
RN71A RN71B RN71C RN71D RN71E RN71F RN71G RN71H
RN72A RN72B RN72C RN72D RN72E RN72F RN72G RN72H
RN73A RN73B RN73C RN73D RN73E RN73F RN73G RN73H
RN65A RN65B RN65C RN65D RN65E RN65F RN65G RN65H
RN74A RN74B RN74C RN74D RN74E RN74F RN74G RN74H
These components close to DIMM
+1.25V
MAA4 MAA1 MAA3 MAA2 MAA0 BAA1 MRASA# MCS3#
MAA13 MCS2# MCS1# MCASA# MCS0# MWEA# BAA0 MAA10
MAA9 MAA12 MAA5 MAA11 MCKEB MCKEA MAA8 MAA6
MAA7
RN63A RN63B RN63C RN63D RN63E RN63F RN63G RN63H
RN62A RN62B RN62C RN62D RN62E RN62F RN62G RN62H
RN64A RN64B RN64C RN64D RN64F RN64E RN64G RN64H
R234
6,7 DQM[0..7]
6,7 DQ[0..63]
6,7 DQS[0..7]
3,6,7 MAA[0..13]
3,6,7 BAA[0..1]
6,7 MCKEA
6,7 MCKEB
3,6,7 MRASA#
3,6,7 MCASA#
3,6,7 MWEA#
3,6,7 MCS0#
3,6,7 MCS1#
3,6,7 MCS2#
3,6,7 MCS3#
CHANGE3
R1.1
+2.5V
CN6 CN5 CN2 CN7 CN3 CN4
0.1U
GND
+1.25V
CN30 CN32 CN31 CN29 CN27 CN28 CN24 CN25 CN11 CN23 CN26 CN22
CE8 220U/2.5V
C726 0.22UF
C711 0.22UF
C719 0.22UF
C718 0.22UF
C362 C363 C412 C372 C369 C374
0.01U X7R
C364 C409 C373 C366 C410
0.01U
ASUSTek COMPUTER INC. NB6
Title : DDR VTT Term.
Engineer: Bruce Lee
Size Custom
Project Name A6KM
Rev 1.0
Date: Tuesday, August 02, 2005
Sheet 8 of 64



Symbol	Description	Default
DLLEN-	CPUCLK/ZCLK PLL/DLL Circuit Enable 1: Disable **0: Enable**	Internal Pull Down
TMODE0	Internal Test Modes 1: Test Mode 0: Normal	Internal Pull Down
TMODE1	Test Mode Selection 1: Mode 1 0: Mode 0	Internal Pull Down
TMODE2	Test Mode Enable 1: Enable 0: Disable	Internal Pull Down
TRAP[1..0]	NB ASLCLK Request Select **00: 133 MHz** 01: 166/200 MHz 10: 66 MHz 11: 100 MHz	Internal Pull Down
TRAP2	NB ASL Serial Mode Initialization Enable 1: Packet mode 0: Serial mode	Internal Pull Down
TRAP[4..3]	Reserved	Internal Pull Down
TRAP5	PCIE PLL Bypass	Internal Pull Down
TRAP6	PCIE Symlock Test	Internal Pull Down
TRAP[8..7]	PCIE TX Fix Out	Internal Pull Down
TRAP[11..9]	Trap PLL1X Frequency Ratio Ratio 0 Ratio 1 000: divide 1 / divide 1 001: divide 2 / divide 2 010: divide 3 / divide 3 011: divide 4 / divide 4 100: divide 4 / divide 5	Internal Pull Down
TRAP[13..12]	Trap PL2X Gain 00: PLL2X 200MHz 10: PLL2X 800MHz 11: PLL2X 1000MHz	Internal Pull Down
TRAP14	HyperTransport PLL Frequency Ratio Select 0: by logic decoded 1: by trapped	Internal Pull Down
TRAP15	HyperTransport PLL Gain Select 0: by logic decoded 1: by trapped	Internal Pull Down
TRAPA[1..0]	Trap PLL2X Frequency Ratio 0 00: divide 1 01: divide 2 10: divide 3 11: divide 4	Internal Pull Down
TRAPA[4..2]	Trap PLL2X Frequency Ratio 1 000: divide 1 001: divide 2 010: divide 3 011: divide 4 100: divide 5	Internal Pull Down
TRAPA[6..5]	TRAP PLL1X Gain 10: PLL1X 200MHz 11: PLL1X 250MHz (Recom. Value: 10)	Internal Pull Down
TRAPA7	For Internal Test	Internal Pull Down

ASUSTek COMPUTER INC.

Title : M756_1(Host/PCI-E)

Engineer: Brad Lu

Size	Project Name	Rev
Custom	A6KM	1.1

Date: Tuesday, August 02, 2005 Sheet 9 of 64

The differences between the traces of MuTIOL Strobes and Data in each group should be smaller than 0.05",and strobes need guide GND trace

U49B

M756-2

MuTIOL

Trap

0105-05'

CHANGE1
R1.1

T108 TPC28t

The differences between the traces of MuTIOL Strobes and Data should be smaller than 0.05"

Place near M756 chip.

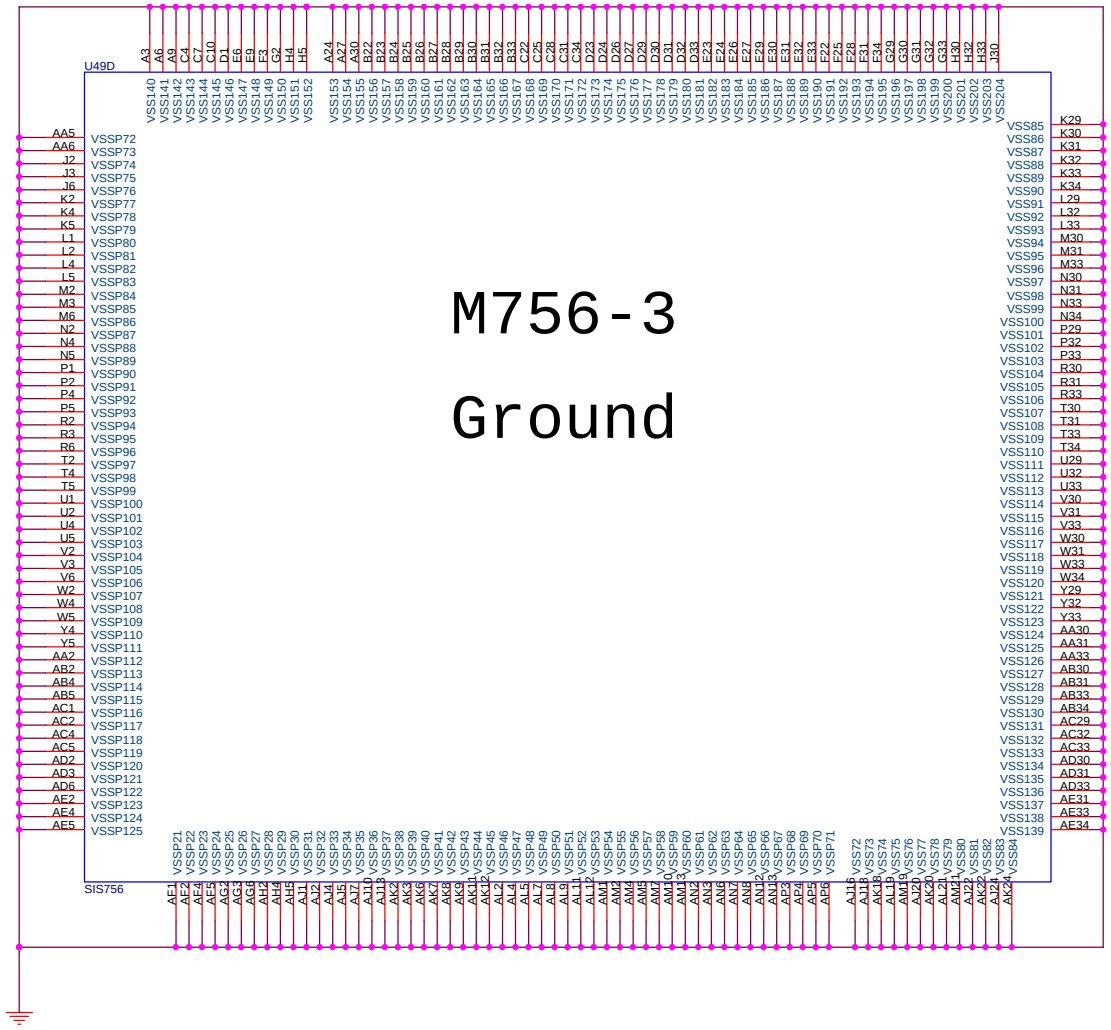
MuTIOL 1.0 Vref=0.5 *VCC1.8

MuTIOL 2.0 Vref=0.25 *VCC1.8

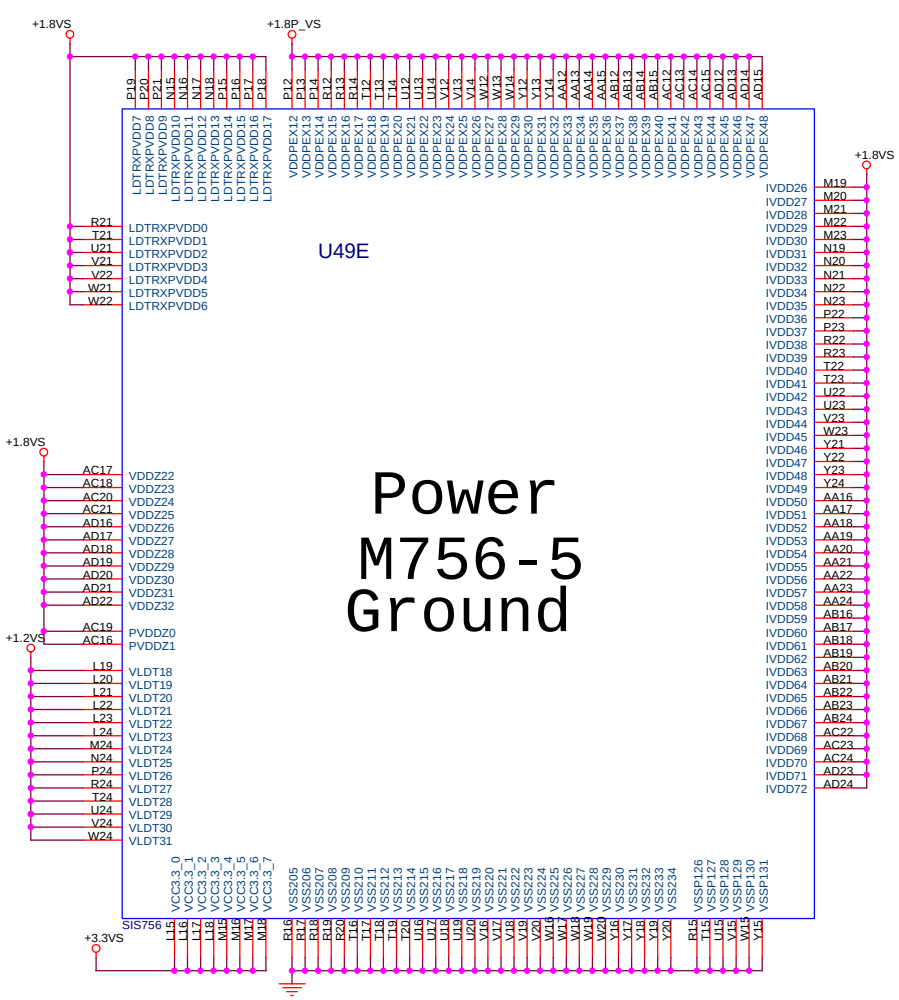
Z1XAVDD-- 1.8V 9mA

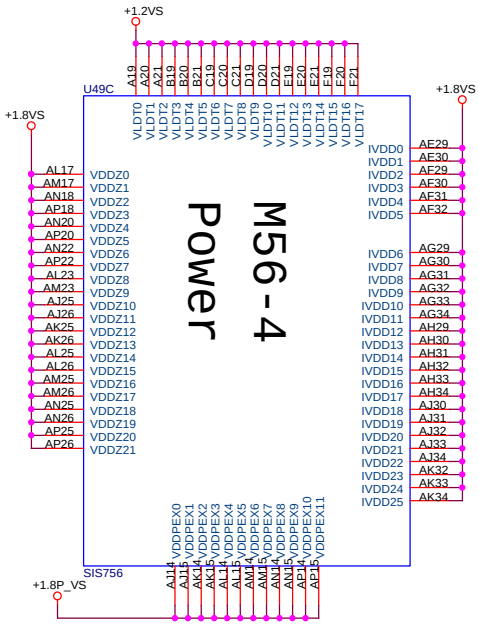
Z4XAVDD-- 1.8V 14mA

Title : SIS756-2 MuTIOL			
ASUSTek COMPUTER INC.	Engineer: Brad Lu		
Size: Custom	Project Name: A6KM		Rev: 1.1
Date: Tuesday, August 02, 2005	Sheet 10 of 64		

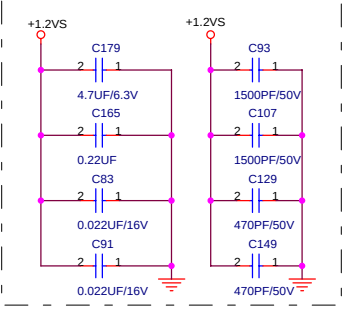


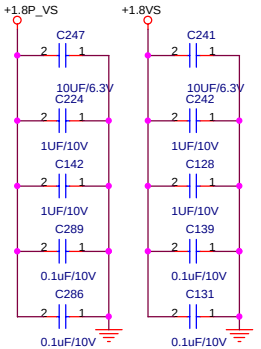
ASUSTek COMPUTER INC.	Title : M756_3	
	Engineer: Brad Lu	
Size: Custom	Project Name: A6KM	Rev: 1.00
Date: Tuesday, August 02, 2005	Sheet 11 of 64	

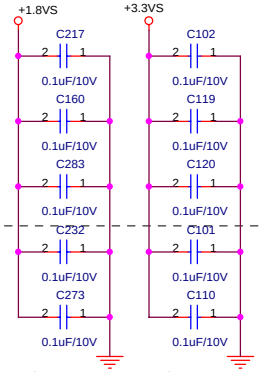




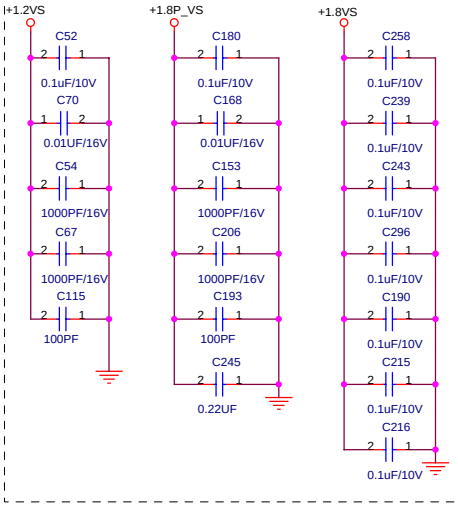
LAYOUT: Place HT bypass caps on topside near connected Lokar HT link.





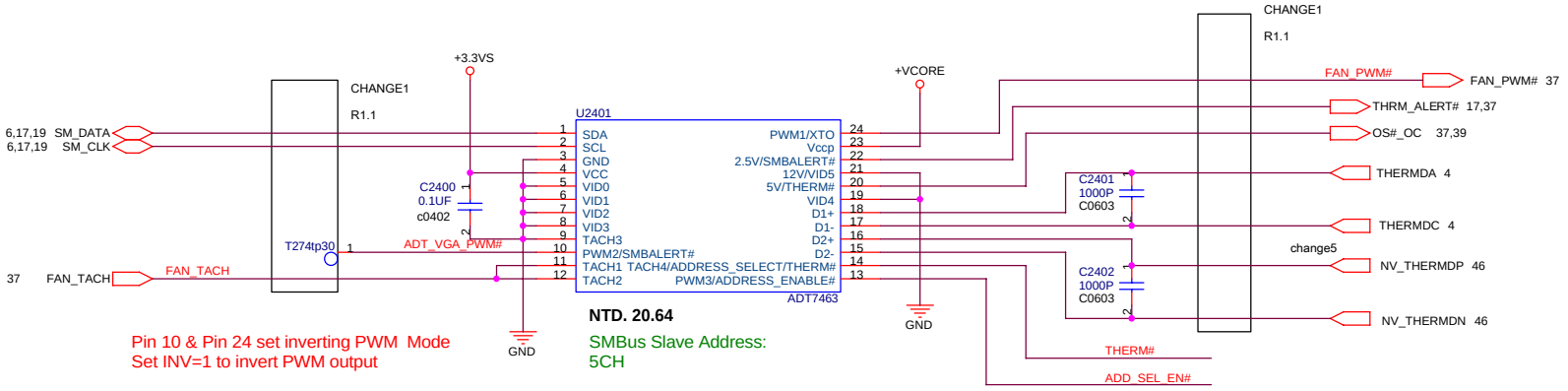


Place these capacitors under NB solder side.



+3.3VS(VCC3, MAX):29mA
+1.8VS(VDDZ, MAX):119mA
+1.8VS(IVDD, MAX):1.783A
+1.8VS(VDDPEX, MAX):1164mA
+1.2VS(VLDT, MAX):153mA

ASUSTek COMPUTER INC.	Title : M756_4(POWER)		
	Engineer: Brad Lu		
Size: Custom	Project Name: A6KM		Rev: 1.00
Date: Tuesday, August 02, 2005	Sheet 12 of 64		

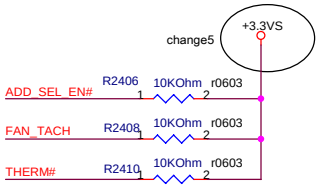


Pin 10 & Pin 24 set inverting PWM Mode
Set INV=1 to invert PWM output

NTD. 20.64

SMBus Slave Address:
5CH

THRM_ALERT#(Pull-Up 10K in Page 37)
OS#_OC(Pull-Up 10K in Page 37)



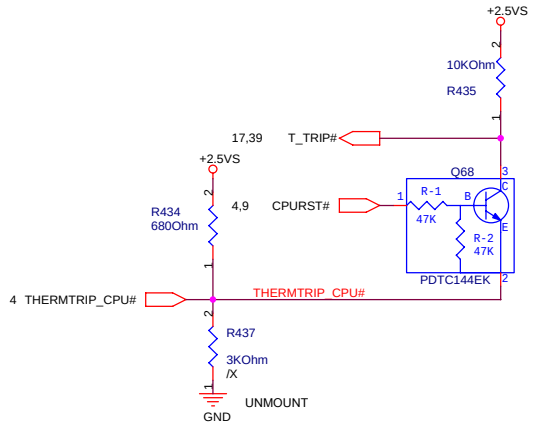
Pin 13 State	Pin 14 State	Address
0	LOW(10Kohm to GND)	0101100(58)
0	LOW(10Kohm Pull-UP)	0101101(5A)
1	Don't Care	0101110(5C) (Default)

THERMAL

Route H_THERMDA and H_THERMDC on the same layer

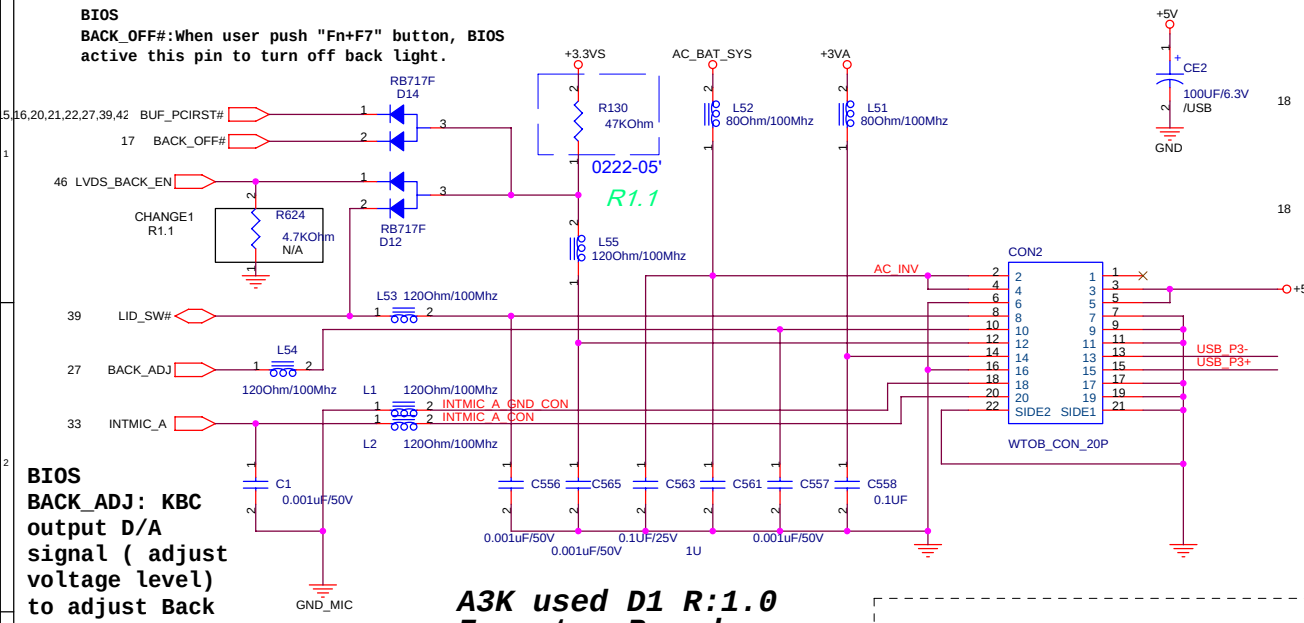
----------OTHER SIGNALS
12 mils
==========GND
10 mils
==========H_THERMDA(10 mils)
10 mils
==========H_THERMDC(10 mils)
10 mils
==========GND
12 mils
----------OTHER SIGNALS

Avoid BPSB,Power



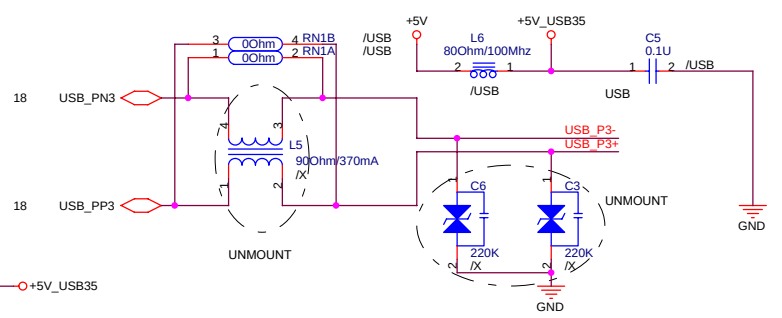
ASUSTek COMPUTER INC. NB6	Title : THERMAL	
	Engineer: Brad Lu	
Size: A3	Project Name: A6KM	Rev: 1.0
Date: Tuesday, August 02, 2005	Sheet 13 of 64	

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

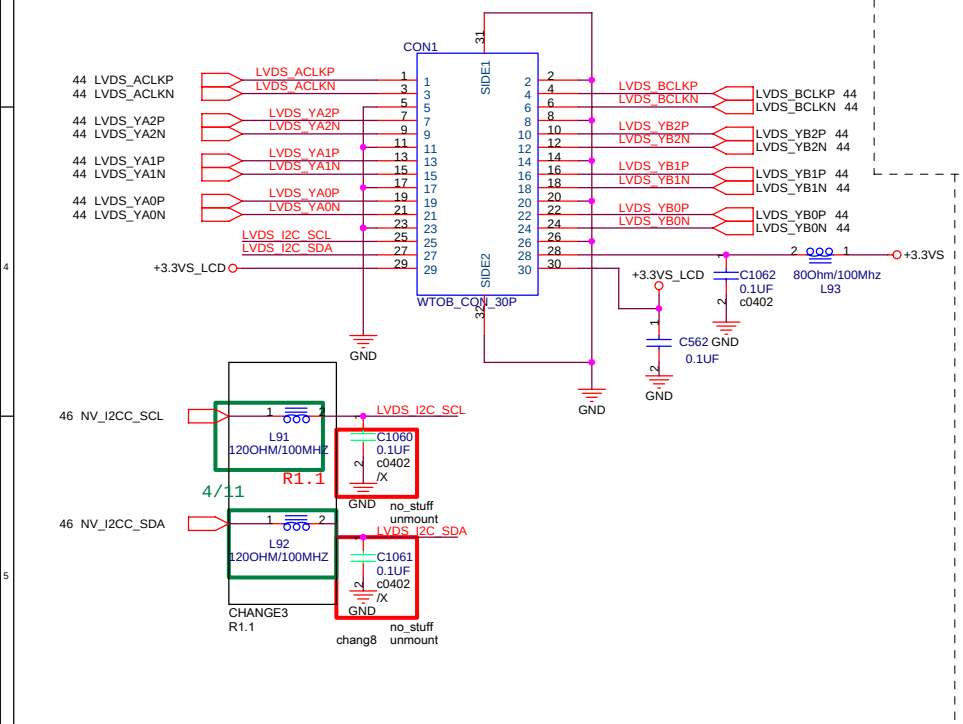


BIOS BACK_ADJ: KBC output D/A signal (adjust voltage level) to adjust Back light.

A3K used D1 R:1.0 Inverter Board

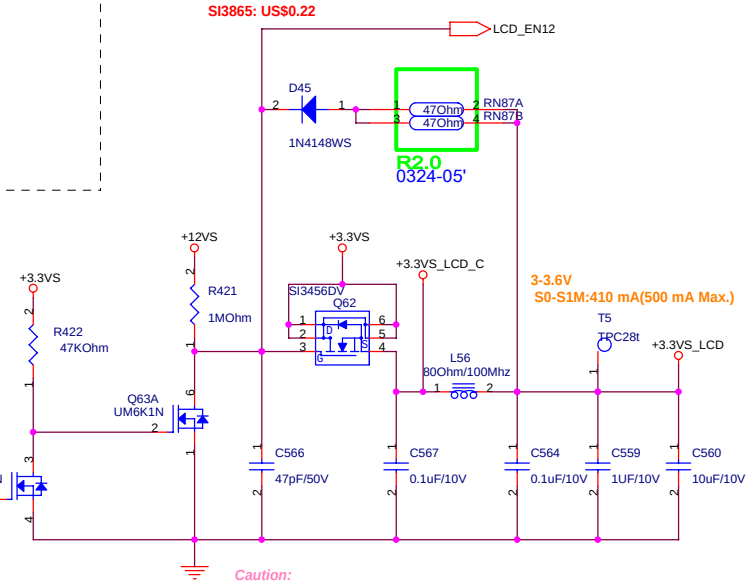


USB PORT 3 for CAMERA



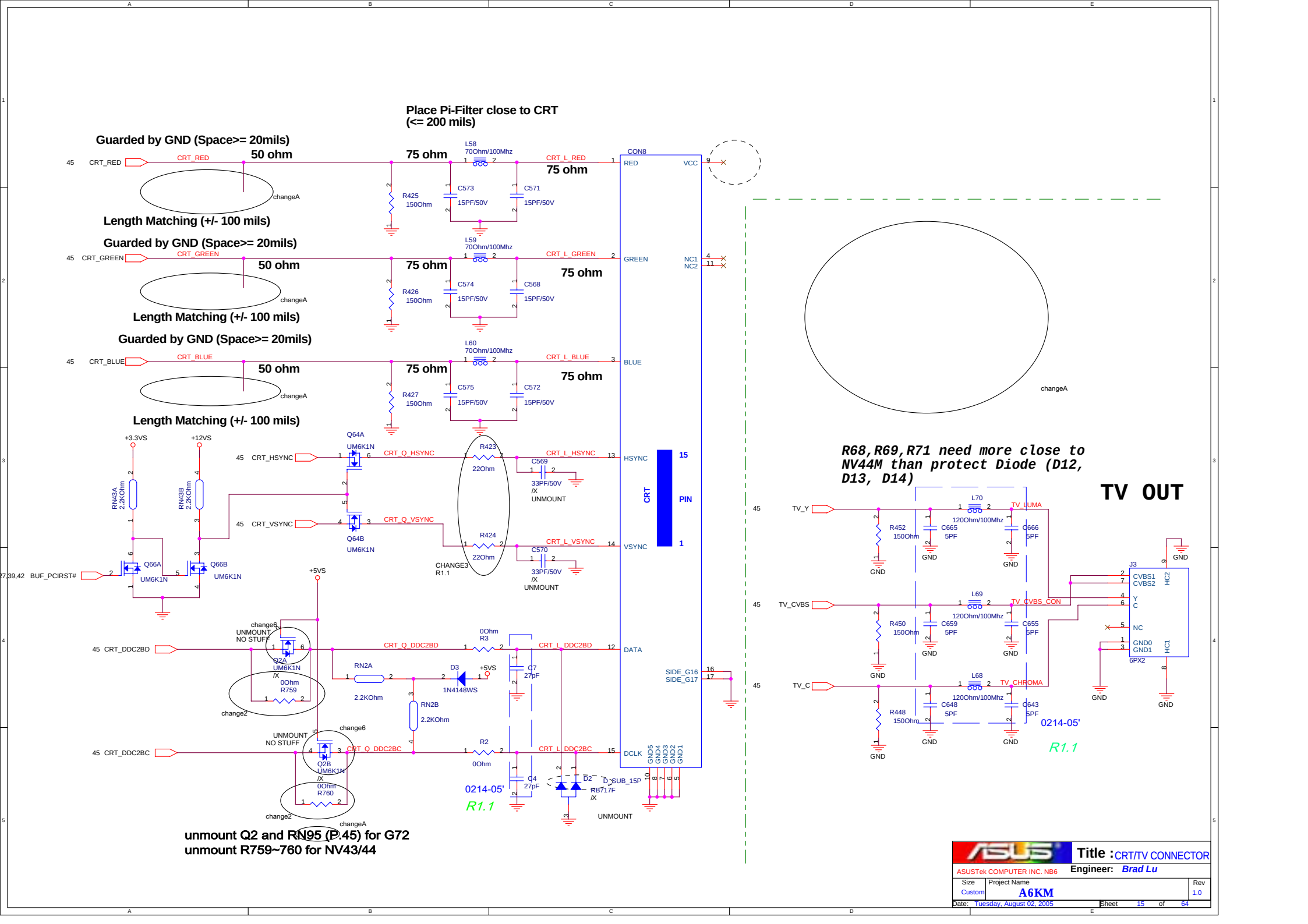
LCD Power

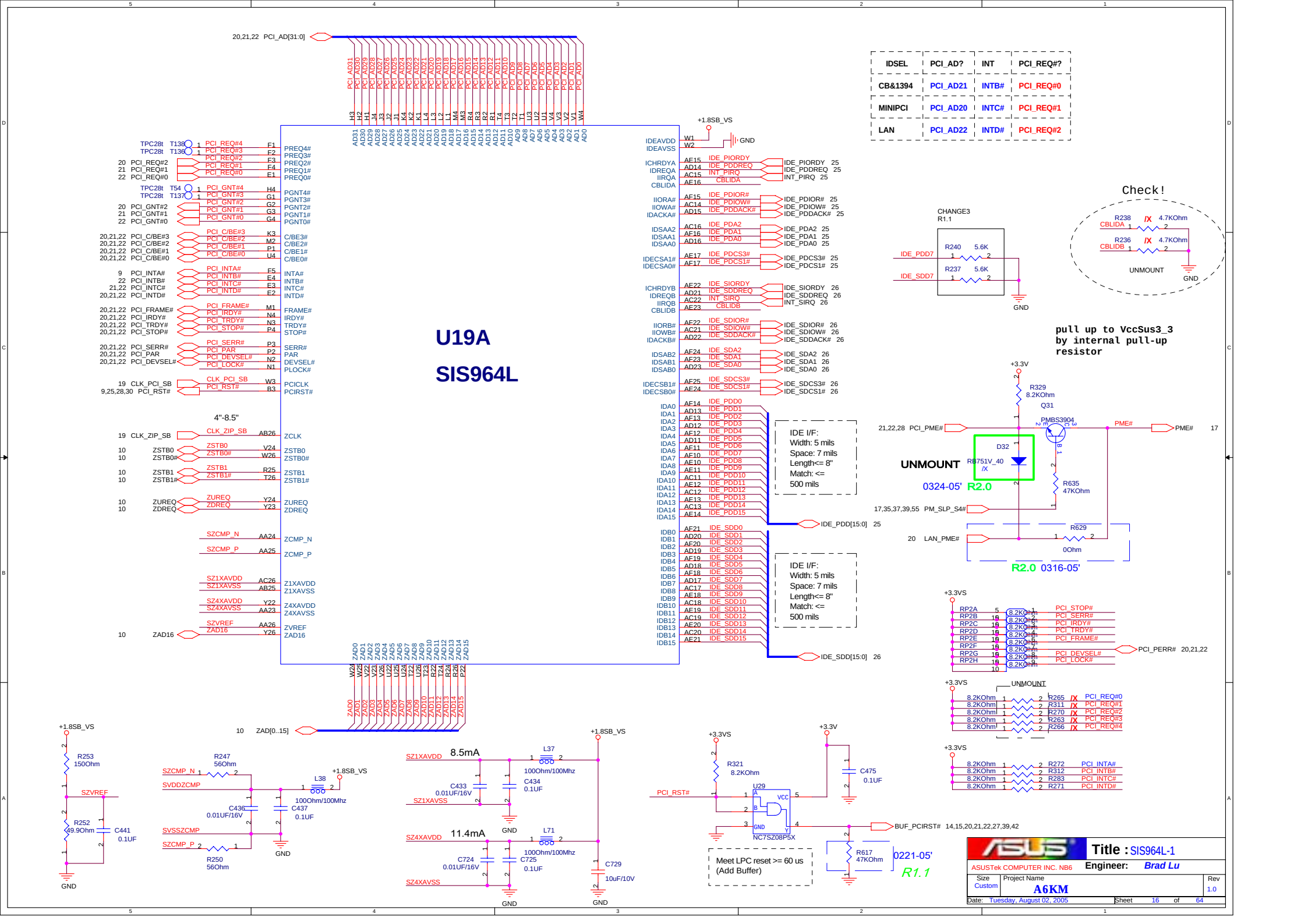
SI3865: US$0.22

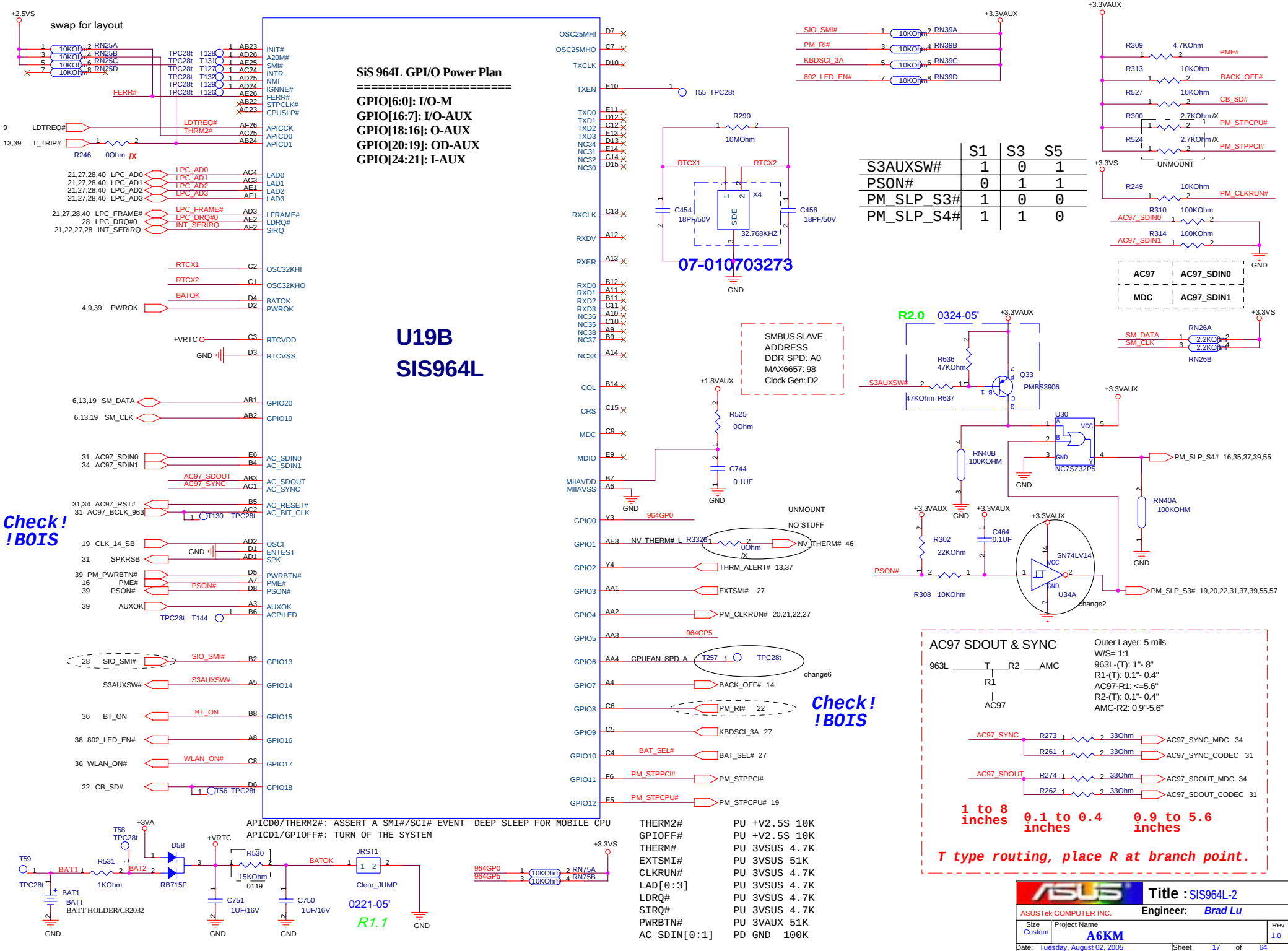


Caution: Must tune R1404 & C1415 to meet Panel Spec

ASUSTek COMPUTER INC. NB6	Title : LVDS & BACKLIGHT	
	Engineer: Brad Lu	
Size: Custom	Project Name: A6KM	Rev: 1.0
Date: Tuesday, August 02, 2005	Sheet 14 of 64	


Place Pi-Filter close to CRT
(<= 200 mils)
Guarded by GND (Space>= 20mils)
50 ohm
75 ohm
75 ohm
CRT_RED
CRT_L_RED
L58
70Ohm/100Mhz
R425
150Ohm
C573
15PF/50V
C571
15PF/50V
changeA
Length Matching (+/- 100 mils)
Guarded by GND (Space>= 20mils)
CRT_GREEN
CRT_L_GREEN
L59
70Ohm/100Mhz
R426
150Ohm
C574
15PF/50V
C568
15PF/50V
Length Matching (+/- 100 mils)
Guarded by GND (Space>= 20mils)
CRT_BLUE
CRT_L_BLUE
L60
70Ohm/100Mhz
R427
150Ohm
C575
15PF/50V
C572
15PF/50V
Length Matching (+/- 100 mils)
CON8
RED
GREEN
BLUE
VCC
NC1
NC2
HSYNC
VSYNC
DCLK
DATA
SIDE_G16
SIDE_G17
GND5
GND4
GND3
GND2
GND1
CRT
15
PIN
1
+3.3VS
+12VS
+5VS
RN43A
2.2KOhm
RN43B
2.2KOhm
Q64A
UM6K1N
Q64B
UM6K1N
CRT_HSYNC
CRT_VSYNC
CRT_Q_HSYNC
CRT_Q_VSYNC
R423
22Ohm
R424
22Ohm
C569
33PF/50V
/X
UNMOUNT
C570
33PF/50V
/X
UNMOUNT
CHANGE3
R1.1
Q66A
UM6K1N
Q66B
UM6K1N
BUF_PCIRST#
change6
UNMOUNT
NO STUFF
Q2A
UM6K1N
/X
0Ohm
R759
change2
CRT_DDC2BD
CRT_Q_DDC2BD
CRT_L_DDC2BD
0Ohm
R3
RN2A
2.2KOhm
D3
1N4148WS
C7
27pF
RN2B
2.2KOhm
change6
UNMOUNT
NO STUFF
Q2B
UM6K1N
/X
0Ohm
R760
change2
changeA
CRT_DDC2BC
CRT_Q_DDC2BC
CRT_L_DDC2BC
R2
0Ohm
C4
27pF
D2
RB717F
/X
UNMOUNT
D_SUB_15P
0214-05'
R1.1
unmount Q2 and RN95 (P.45) for G72
unmount R759~760 for NV43/44
changeA
R68,R69,R71 need more close to
NV44M than protect Diode (D12,
D13, D14)
TV OUT
TV_Y
TV_CVBS
TV_C
L70
120Ohm/100Mhz
L69
120Ohm/100Mhz
L68
120Ohm/100Mhz
R452
150Ohm
R450
150Ohm
R448
150Ohm
C665
5PF
C666
5PF
C659
5PF
C655
5PF
C648
5PF
C643
5PF
TV_LUMA
TV_CVBS_CON
TV_CHROMA
J3
CVBS1
CVBS2
Y
C
NC
GND0
GND1
6PX2
HC2
HC1
GND
0214-05'
R1.1
ASUSTek COMPUTER INC. NB6
Engineer: Brad Lu
Title : CRT/TV CONNECTOR
Size
Custom
Project Name
A6KM
Rev
1.0
Date: Tuesday, August 02, 2005
Sheet 15 of 64


U19A
SIS964L
20,21,22 PCI_AD[31:0]
10 ZAD[0..15]
IDSEL | PCI_AD? | INT | PCI_REQ#?
CB&1394 | PCI_AD21 | INTB# | PCI_REQ#0
MINIPCI | PCI_AD20 | INTC# | PCI_REQ#1
LAN | PCI_AD22 | INTD# | PCI_REQ#2
+1.8SB_VS
GND
IDE_PDD[15:0] 25
IDE_SDD[15:0] 26
IDE I/F:
Width: 5 mils
Space: 7 mils
Length<= 8"
Match: <=
500 mils
CHANGE3
R1.1
R240 5.6K
R237 5.6K
IDE_PDD7
IDE_SDD7
Check!
R238 /X 4.7KOhm
R236 /X 4.7KOhm
CBLIDA
CBLIDB
UNMOUNT
pull up to VccSus3_3
by internal pull-up
resistor
+3.3V
R329 8.2KOhm
Q31
PMBS3904
21,22,28 PCI_PME#
PME#
PME# 17
D32
UNMOUNT
RB751V_40
/X
0324-05' R2.0
R635 47KOhm
17,35,37,39,55 PM_SLP_S4#
20 LAN_PME#
R629
0Ohm
R2.0 0316-05'
RP2A RP2B RP2C RP2D RP2E RP2F RP2G RP2H
8.2KOhm
PCI_STOP#
PCI_SERR#
PCI_IRDY#
PCI_TRDY#
PCI_FRAME#
PCI_DEVSEL#
PCI_LOCK#
PCI_PERR# 20,21,22
R265 /X PCI_REQ#0
R311 /X PCI_REQ#1
R270 /X PCI_REQ#2
R263 /X PCI_REQ#3
R266 /X PCI_REQ#4
R272 PCI_INTA#
R312 PCI_INTB#
R283 PCI_INTC#
R271 PCI_INTD#
4"-8.5"
R253 150Ohm
R252 49.9Ohm
C441 0.1UF
SZVREF
R247 56Ohm
R250 56Ohm
C436 0.01UF/16V
C437 0.1UF
L38 100Ohm/100Mhz
SZCMP_N
SZCMP_P
SVDDZCMP
SVSSZCMP
8.5mA
11.4mA
L37 100Ohm/100Mhz
L71 100Ohm/100Mhz
C433 0.01UF/16V
C434 0.1UF
C724 0.01UF/16V
C725 0.1UF
C729 10uF/10V
SZ1XAVDD
SZ1XAVSS
SZ4XAVDD
SZ4XAVSS
R321 8.2KOhm
U29
NC7SZ08P5X
C475 0.1UF
PCI_RST#
BUF_PCIRST# 14,15,20,21,22,27,39,42
Meet LPC reset >= 60 us
(Add Buffer)
R617 47KOhm
0221-05'
R1.1
Title : SIS964L-1
ASUSTek COMPUTER INC. NB6
Engineer: Brad Lu
Size Custom
Project Name A6KM
Rev 1.0
Date: Tuesday, August 02, 2005
Sheet 16 of 64


swap for layout
SiS 964L GPI/O Power Plan
GPIO[6:0]: I/O-M
GPIO[16:7]: I/O-AUX
GPIO[18:16]: O-AUX
GPIO[20:19]: OD-AUX
GPIO[24:21]: I-AUX
U19B
SIS964L
SMBUS SLAVE ADDRESS
DDR SPD: A0
MAX6657: 98
Clock Gen: D2
07-010703273
Check! !BOIS
Check! !BOIS
R2.0 0324-05'
AC97 SDOUT & SYNC
Outer Layer: 5 mils
W/S= 1:1
963L-(T): 1"- 8"
R1-(T): 0.1"- 0.4"
AC97-R1: <=5.6"
R2-(T): 0.1"- 0.4"
AMC-R2: 0.9"-5.6"
1 to 8 inches
0.1 to 0.4 inches
0.9 to 5.6 inches
T type routing, place R at branch point.
APICD0/THERM2#: ASSERT A SMI#/SCI# EVENT DEEP SLEEP FOR MOBILE CPU
APICD1/GPIOFF#: TURN OF THE SYSTEM
THERM2# PU +V2.5S 10K
GPIOFF# PU +V2.5S 10K
THERM# PU 3VSUS 4.7K
EXTSMI# PU 3VSUS 51K
CLKRUN# PU 3VSUS 4.7K
LAD[0:3] PU 3VSUS 4.7K
LDRQ# PU 3VSUS 4.7K
SIRQ# PU 3VSUS 4.7K
PWRBTN# PU 3VAUX 51K
AC_SDIN[0:1] PD GND 100K
S1 S3 S5
S3AUXSW# 1 0 1
PSON# 0 1 1
PM_SLP_S3# 1 0 0
PM_SLP_S4# 1 1 0
0221-05'
R1.1
Title : SIS964L-2
ASUSTek COMPUTER INC.
Engineer: Brad Lu
Size Custom
Project Name A6KM
Rev 1.0
Date: Tuesday, August 02, 2005
Sheet 17 of 64

+3.3VS
OVDD/PVDD: 55 mA

+1.8SB_VS
IVDD: 517.4 mA
VDDZ : 19.9 mA
IDEAVDD: 6.9 mA

+1.8VAUX
IVDDAUX: 31.1 mA
MIIAVDD: 2.3 mA
USBPVDD: 7.9 mA
USBCMPAVDD18: 8.5 mA

+3.3VAUX
OVDD_AUX/PVDD_AUX: 52 mA
MIIAVDD: 10 mA
USBVDD33: 1 mA
USBCMPAVDD33: 3.6 mA

+1.8V
USBVDD18: 274.1 mA

UNMOUNT
R526 10MOhm /X
X8
12MHZ
OSC12MOUT
OSC12MIN
CHANGE TO 30PPM
C749 15PF/50V
C733 15PF/50V
GND

U19C
SIS964L

OSC12MIN
OSC12MOUT
OSC12MHI
OSC12MHO

USB_PP0 USB_PN0 USB_PP1 USB_PN1 USB_PP2 USB_PN2 USB_PP3 USB_PN3 USB_PP4 USB_PN4 USB_PP5 USB_PN5
UV0+ UV0- UV1+ UV1- UV2+ UV2- UV3+ UV3- UV4+ UV4- UV5+ UV5- UV6+ UV6- UV7+ UV7-

USBOC#0 USBOC#1 USBOC#2 USBOC#3 USBOC#4 USBOC#5 USBOC#6 USBOC#7
OC0# OC1# OC2# OC3# OC4# OC5# OC6# OC7#

SL6 SL8 SL4 SL5 SL7 SL3 SL2 SL1

USBREF
R305 127Ohm

+3.3V L73 120Ohm/100Mhz +3.3V_UVDD
C746 0.1UF C739 0.1UF
UVDD33_1 UVDD33_2 UVDD33_3
UVDD18_1 UVDD18_2 UVDD18_3 UVDD18_4 UVDD18_5 UVDD18_6 UVDD18_7 UVDD18_8 UVDD18_9 UVDD18_10

+1.8V L74 120Ohm/100Mhz +1.8V_UVDD
C737 0.1UF C735 0.1UF C732 10uF/10V

+IVDD_AUX
C738 0.1UF
C742 0.1UF
+3.3V_UVDD
C740 0.1UF
USBVPVDD18 USBPVSS18
USBCMPAVDD18 USBCMPAVSS18
USBCMPAVDD33 USBCMPAVSS33
IVDD_AUX4 IVDD_AUX5

+1.8VAUX L72 120Ohm/100Mhz +IVDD_AUX
C736 0.1UF

NC47 NC48 NC42 NC43 NC41 NC49 NC46 NC44 NC40 NC50 NC45 NC39
IVDD3 IVDD4 IVDD5 IVDD6 IVDD1 IVDD12 IVDD22 VSS55 IVDD13 VSS8 IVDD11 VSS9
+1.8SB_VS

EESK/GPIO21 EEDI/GPIO22 EEDO/GPIO23 EECS/GPIO24
EEDO_964 EECS_964 RN97A RN97B 4.7KOhm 4.7KOhm changeD +3.3VAUX

IPB_OUT0 IPB_OUT1 TRAP0 TRAP1
IPB_OUT0 IPB_OUT1 T146 T145 TPC28t
R304 22Ohm R303 22Ohm

Connect to +V1.8AUX if USB wakeup has supported in S3 & S5

964L Strap Pin

SiS 964L Strap Pin	0	1	Default
IPB_OUT0(MuTIOL 1G Clock PLL)	enable	disable	0
IPB_OUT1(MuTIOL Operation Mode Select)	Partial-Swin	Full-Swin	0
AC_SYNC(PCI Clock PLL)	enable	disable	0
Trap [1:0] (MuTIOL Operation Frequency Select)	133MHz	66MHz	0
OC4-(SB debug mode)	enable	disable	1

USB SIGNALS
X Clock Signals
| USB+ - USB-|<= 150 mils
Impedence: 90 ohm(differential)
Other Signals Space: >= 20 mils
Clock Signals Sapce:>= 50 mils

+3.3VAUX
RN34A RN34B RN34C RN34D RN37A RN37B RN37C RN37D
10KOhm

+3.3VAUX C748 0.1UF C741 0.1UF
+2.5VS C721 0.1UF
+3.3VS C723 0.1UF C731 0.1UF
+1.8VAUX C734 0.1UF
+1.8SB_VS C728 0.1UF C720 0.1UF C438 0.1UF C445 0.1UF
Placed under 964

U19D
SIS964L

+1.8SB_VS
VDDZ2 VDDZ1 VDDZ3 VDDZ4 VDDZ6 VDDZ5 VDDZ7 VDDZ9 VDDZ8
IVDD16 IVDD17 IVDD19 IVDD21 IVDD10 IVDD9 IVDD8 IVDD7 IVDD2 IVDD23 IVDD20 IVDD18 IVDD15 IVDD14
PVDD5 PVDD1 PVDD3 PVDD2 PVDD7 PVDD6 PVDD4
+3.3VS
OVDD8 OVDD6 OVDD5 OVDD4 OVDD3 OVDD2 OVDD1 OVDD13 OVDD12 OVDD11 OVDD10 OVDD9 OVDD7
+2.5VS
VTT1 VTT2
+1.8VAUX
IVDD_AUX3 IVDD_AUX1 IVDD_AUX2
OVDD_AUX1 OVDD_AUX2 OVDD_AUX5 OVDD_AUX3 OVDD_AUX4 OVDD_AUX6 OVDD_AUX7 OVDD_AUX8 OVDD_AUX9 OVDD_AUX10 PVDD_AUX1 PVDD_AUX2
+3.3VAUX
NC1 NC2 NC3 NC4 NC5 NC6 NC7 NC8 NC9 NC10 NC11 NC12 NC13 NC14 NC15 NC16 NC17 NC18 NC19
NC20 NC21 NC22 NC23 NC24 NC25 NC26 NC27 NC28 NC29
VSS20 VSS18 VSS19 VSS25 VSS29 VSS210
VSS21 VSS22 VSS23 VSS24 VSS25 VSS26 VSS27 VSS28 VSS29 VSS30 VSS31 VSS32 VSS33 VSS34 VSS35 VSS36 VSS37 VSS38 VSS39 VSS40 VSS41 VSS42 VSS43 VSS44 VSS47 VSS48 VSS49 VSS52 VSS53 VSS54 VSSZ1 VSSZ2 VSSZ3 VSSZ4 VSSZ6 VSSZ7 VSSZ8
USBVSS20 USBVSS21 USBVSS22 USBVSS23 USBVSS24 USBVSS25 USBVSS26 USBVSS27 USBVSS4 USBVSS8 USBVSS12 USBVSS16 USBVSS3 USBVSS7 USBVSS19 USBVSS11 USBVSS15 USBVSS2 USBVSS6 USBVSS18 USBVSS10 USBVSS14 USBVSS1 USBVSS5 USBVSS17 USBVSS9 USBVSS13 USBVSS28 USBVSS29 USBVSS30 USBVSS31 USBVSS32 USBVSS33 USBVSS34 USBVSS35
VSS7 VSS4 VSS17 VSS14 VSS3 VSS11 VSS6 VSS2 VSS16 VSS13 VSS1 VSS10 VSS5 VSS15 VSS12 VSS45 VSS46 VSS50 VSS51
GND

Title : SIS964L-3			
ASUSTek COMPUTER INC.	Engineer: Brad Lu		
Size: Custom	Project Name: A6KM		Rev: 1.0
Date: Tuesday, August 02, 2005	Sheet 18 of 64		

Main Clock Generator

CLK33 GROUP:
In L3
Breakout:
Group Space >= 25 mils
Length Match: same as CLK66

CLK66 GROUP:
In L3
Breakout:
(<=0.3")
Group Space >= 25 mils
Length Match: +/- 100 mils

Check A6G RD BOM

Damping Resistors Place near to the Clock Outputs.

+3.3VS — L36 120Ohm/100Mhz — 350mA MAX — VCC3_CLKGN

C343 10uF/10V; C336 0.1U; C335 0.1U; C334 0.1U; C333 0.1U; C357 0.1U; C356 0.1U; C360 0.1U; C359 0.1U

ECERA 20PF/30PPM (TYPE GF): CLK_X1 — C352 22P — X2 14.318Mhz — C344 22P — CLK_X2 (<=0.5" each)

U12 ICS953805

1	VDDREF	VDDCPU	56
2	FS0/REF0	CPUCLKT	55
3	FS1/REF1	CPUCLKC	54
4	PD#/CLKSTOP#	GNDCPU	53
5	GNDREF	VDDA	52
6	X1	NBCLKT	51
7	X2	NBCLKC	50
8	GNDZ	GNDA	49
9	ZCLK0	IREF	48
10	ZCLK1	VDDSRC	47
11	VDDZ	SRCCLKT	46
12	VDDPCI1	SRCCLKC	45
13	(Reset_IN#)/Reset#	GNDSRC	44
14	PCICLK0	SCLK	43
15	PCICLK1	PCIEXT0	42
16	(PECLKREQ#)/PCICLK2	PCIEXC0	41
17	Mode/PCICLK3	VDDPCIEX2	40
18	GNDPCI1	PCIEXT1	39
19	VDDPCI2	PCIEXC1	38
20	(CPU_STOP#)PCICLK4	GNDPCIEX	37
21	FS2/PCICLK5	PCIEXT2	36
22	FS3/PCICLK6	PCIEXC2	35
23	PCICLK7	VDDPCIEX1	34
24	GNDPCI2	PCIEXT3_F	33
25	VDD48	PCIEXC3_F	32
26	12_48MHz/SEL12#_48MHz	PCIEXT4_F	31
27	24_48MHz/SEL24_48#MHz	PCIEXC4_F	30
28	GND48	SDATA	29

CLK_14_SB / CLK_14_SIO — 33Ohm R204 FS0; 22Ohm R205 FS1; MGN_PD#

CHANGE3 R1.1: CLK_ZIP_NB / CLK_ZIP_SB — 10Ohm R206 MGN_ZCLK0; 15Ohm R207 MGN_ZCLK1

UNMOUNT: ICS_RESET# — 0Ohm /X R208 CG_RESET#; CLK_PCI_SB — 22Ohm R209 CLK_PCI0; CLK_PCI_CB — 33Ohm R210 CLK_PCI1; CLK_MINIPCI — 33Ohm R211 CLK_LANPCI; CLK_LAN_PCI — 15Ohm R213 MODE; CLK_PCI_SIO — 15Ohm R212 MGN_CPUSTOP#; CLK_PCI_KBC — 33Ohm R214 FS2; CLK_PCI_BIOS — 33Ohm R215 FS3; CLK_PCI6

Watch out length mismatch! 0324-05'

BIOS need to disable PIN 26,27,SRCCLK, PCIE2-4

CPUCLK 4 / CPUCLK# 4 — MGN_CPU0T R176 15Ohm; MGN_CPU0C R177 15Ohm — VCC3_CLKGN_AVDD

M760CLK_H 9 / M760CLK_L 9 — MGN_CPU1T R178 15Ohm; MGN_CPU1C R179 15Ohm

IREF

SM_CLK 6,13,17 / PEX_CLK0 9 / PEX_CLK0# 9 — CLKPE0 R174 33Ohm; CLKPE0# R175 33Ohm

PEX_CLK1 42 / PEX_CLK1# 42 — CLKPE1 R180 33Ohm; CLKPE1# R181 33Ohm

SM_DATA 6,13,17

VCC3_CLKGN — R2.0 0324-05' — RN18A 1KOhm; RN18B 1KOhm

17 PM_STPCPU# — D19 RB751V_40 — MGN_CPUSTOP#

17,20,22,31,37,39,55,57 PM_SLP_S3# — D18 RB751V_40 — MGN_PD#

10PF/50V C385 /X CLK_ZIP_NB; 10PF/50V C386 /X CLK_ZIP_SB

UNMOUNT: 22PF C384 /X CLK_14_SIO; 22PF C381 /X CLK_LAN_PCI; 22PF C377 /X CLK_PCI_SB; 22PF C378 /X CLK_PCI_CB; 22PF C379 /X CLK_MINIPCI; 22PF C380 /X CLK_PCI_SIO; 22PF C382 /X CLK_PCI_KBC; 22PF C387 /X CLK_PCI_BIOS

CHANGE3 R1.1

IREF — R164 475Ohm 1%

UNMOUNT: 22PF C383 /X CLK_14_SB

CHANGE3 R1.1

49.9Ohm R166 PEX_CLK0; 49.9Ohm R167 PEX_CLK0#; 49.9Ohm R168 PEX_CLK1; 49.9Ohm R169 PEX_CLK1#

VCC3_CLKGN — L35 120Ohm/100Mhz — VCC3_CLKGN_AVDD

C318 10uF/10V; C327 0.1U; C337 0.01UF/16V

Near CLK-Gen's Pin 52 & 49.

C339 10uF/10V

Frequency Selection

VCC3_CLKGN — R510 10KOhm /X; R513 10KOhm /X; R509 10KOhm; R508 10KOhm

FS0 FS1 FS2 FS3

R223 10KOhm; R512 10KOhm; R221 10KOhm /X; R220 10KOhm /X

VCC3_CLKGN — R507 1KOhm 0324-05' — CLK_LANPCI

VCC3_CLKGN — R222 1KOhm 0324-05' — CG_RESET#

VCC3_CLKGN — R511 10KOhm — MODE

CLK Table for SiS M756 (ICS-953805)

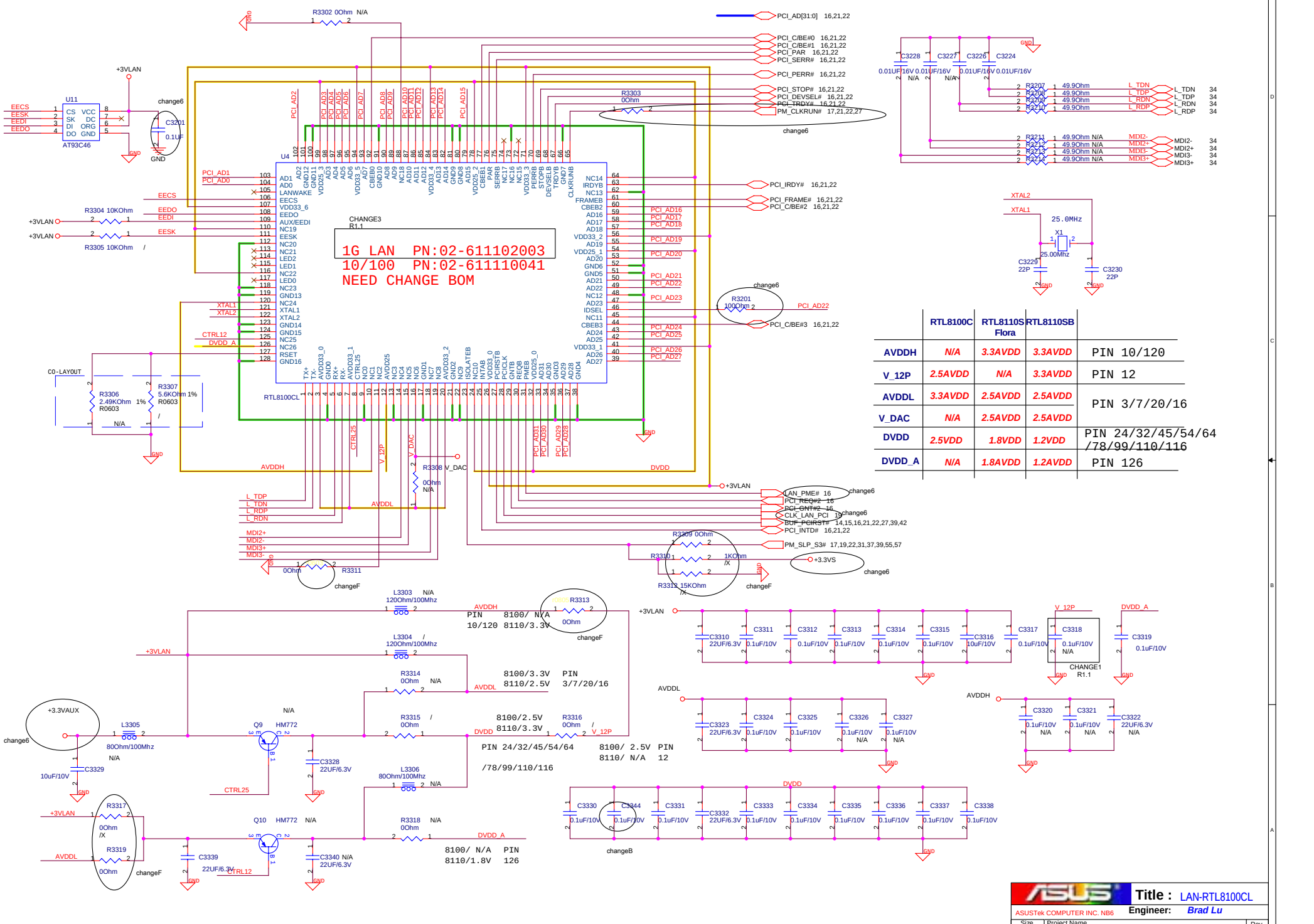
SiS M760 CLOCK

(FS3)	(FS2)	(FS1)	(FS0)	CPU (MHz)	NB_CLK (MHz)	ZCLK (MHz)	PCIEX (MHz)	PCI (MHz)	
0	0	0	0	100	100	133.33	100.00	33.33	
0	0	0	1	133.33	133.33	133.33	100.00	33.33	
0	0	1	0	166.66	166.66	133.33	100.00	33.33	
0	**0**	**1**	**1**	**200.00**	**200.00**	**133.33**	**100.00**	**33.33**	***Trap Default***
0	1	0	0	250.00	250.00	133.33	100.00	33.33	
0	1	0	1	266.66	266.66	133.33	100.00	33.33	
0	1	1	0	100.00	125.00	133.33	100.00	33.33	
0	1	1	1	133.33	166.66	133.33	100.00	33.33	
1	0	0	0	166.66	222.22	133.33	100.00	33.33	
1	0	0	1	200.00	250.00	133.33	100.00	33.33	
1	0	1	0	250.00	333.33	133.33	100.00	33.33	
1	0	1	1	266.66	400.00	133.33	100.00	33.33	
1	1	0	0	202.00	202.00	134.66	100.00	33.66	
1	1	0	1	204.00	204.00	136.00	100.00	34.00	
1	1	1	0	206.00	206.00	137.33	100.00	34.33	
1	1	1	1	208.00	208.00	138.66	100.00	34.66	

ASUSTek COMPUTER INC. NB6 — Title : CLOCK-ICS953805 — Engineer: Brad Lu

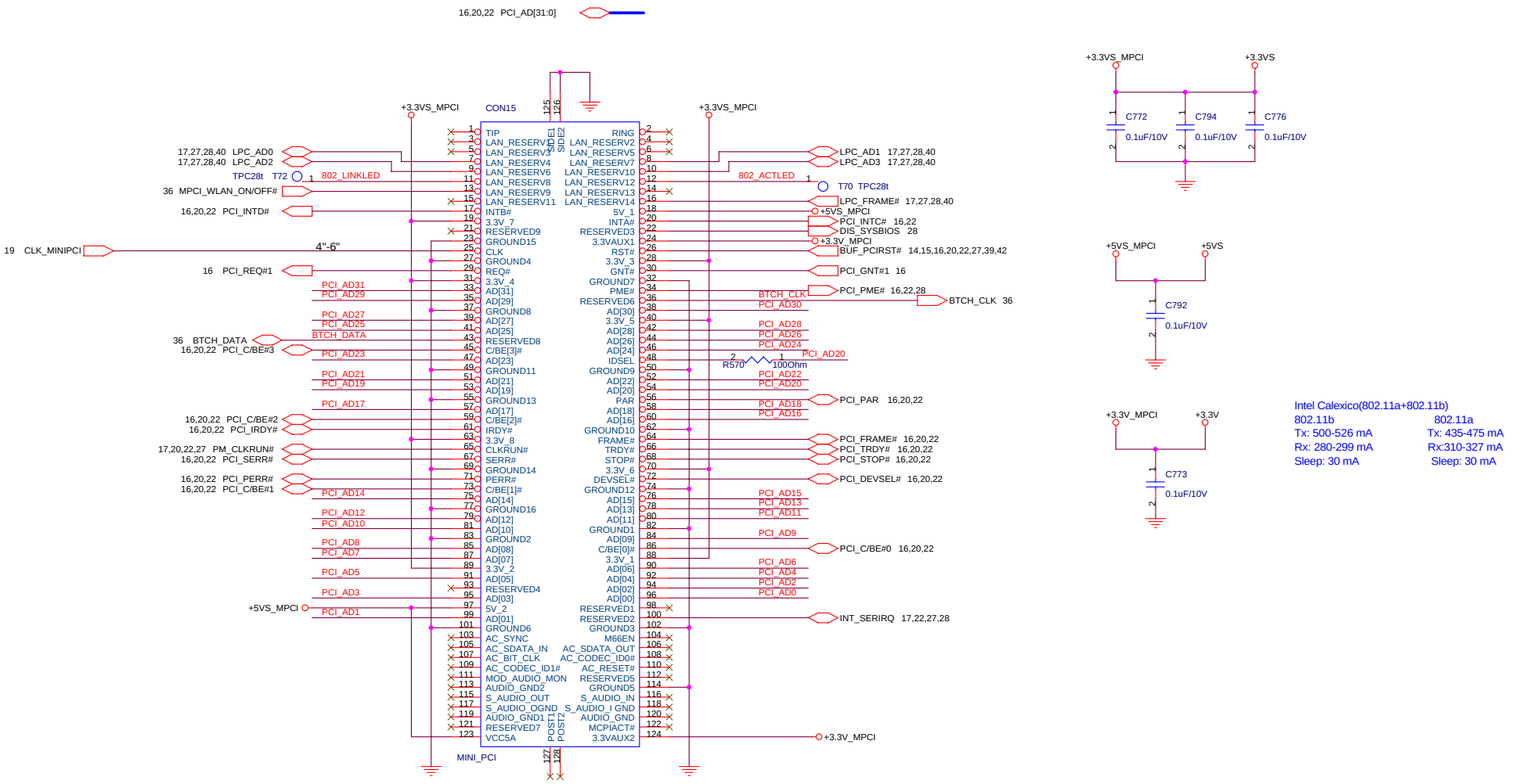
Size: Custom — Project Name: A6KM — Rev: 1.0

Date: Tuesday, August 02, 2005 — Sheet 19 of 64



	RTL8100C	RTL8110S Flora	RTL8110SB	
AVDDH	N/A	3.3AVDD	3.3AVDD	PIN 10/120
V_12P	2.5AVDD	N/A	3.3AVDD	PIN 12
AVDDL	3.3AVDD	2.5AVDD	2.5AVDD	PIN 3/7/20/16
V_DAC	N/A	2.5AVDD	2.5AVDD	
DVDD	2.5VDD	1.8VDD	1.2VDD	PIN 24/32/45/54/64 /78/99/110/116
DVDD_A	N/A	1.8AVDD	1.2AVDD	PIN 126

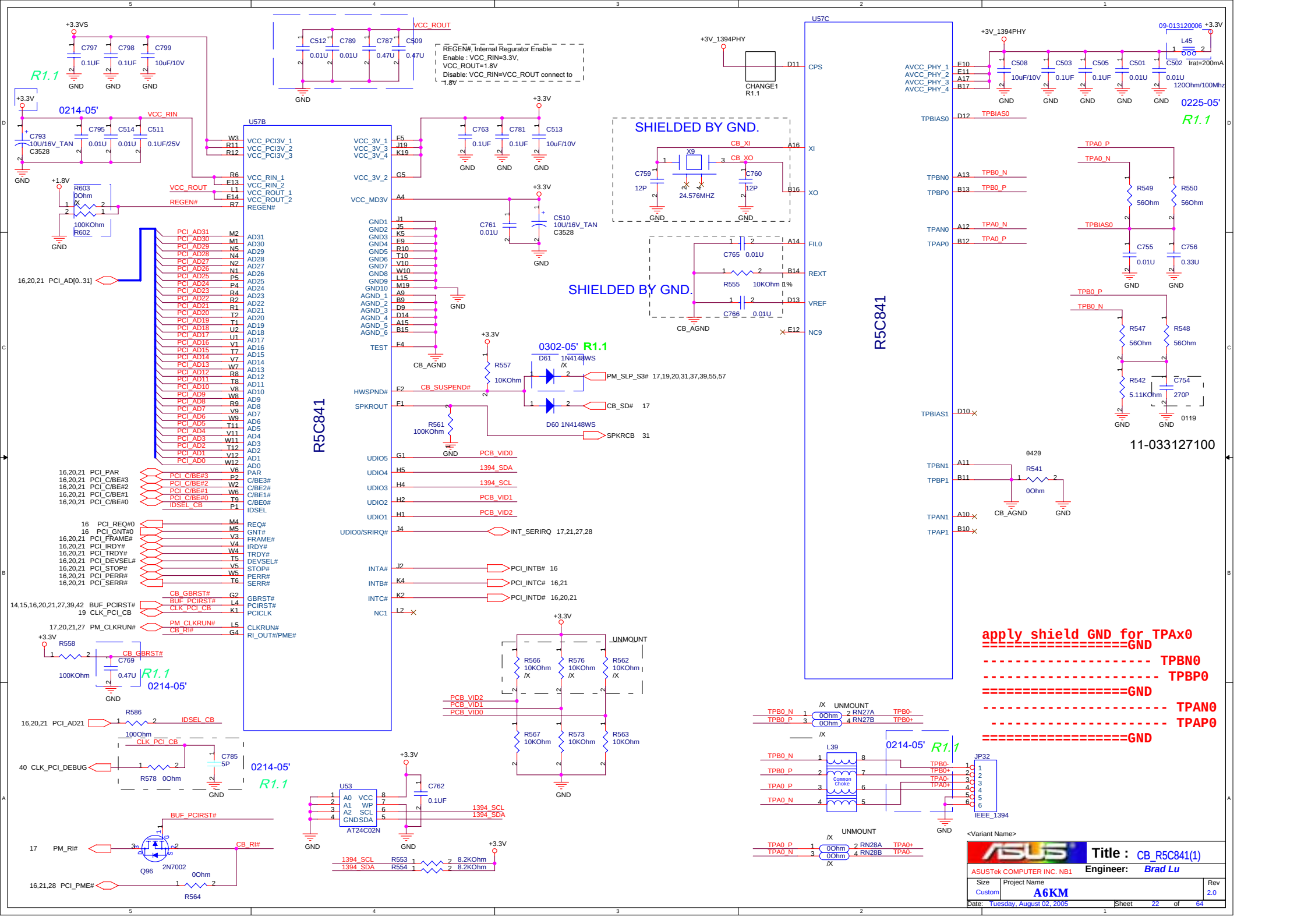
ASUSTek COMPUTER INC. NB6	Title : LAN-RTL8100CL		
	Engineer: Brad Lu		
Size: Custom	Project Name: A6KM	Rev: 1.0	
Date: Tuesday, August 02, 2005	Sheet 20 of 64		



Intel Calexico(802.11a+802.11b)

802.11b	802.11a
Tx: 500-526 mA	Tx: 435-475 mA
Rx: 280-299 mA	Rx:310-327 mA
Sleep: 30 mA	Sleep: 30 mA

ASUSTek COMPUTER INC. NB6	Title : MINIPCI	
	Engineer: Brad Lu	
Size: Custom	Project Name: A6KM	Rev: 1.0
Date: Tuesday, August 02, 2005	Sheet 21 of 64	


U57B
R5C841
U57C
R5C841
REGEN#, Internal Regurator Enable
Enable : VCC_RIN=3.3V,
VCC_ROUT=1.8V
Disable: VCC_RIN=VCC_ROUT connect to 1.8V
SHIELDED BY GND.
SHIELDED BY GND.
0214-05' R1.1
0302-05' R1.1
0225-05' R1.1
0214-05' R1.1
0214-05' R1.1
11-033127100
apply shield GND for TPAx0
==========GND
---------- TPBN0
---------- TPBP0
==========GND
---------- TPAN0
---------- TPAP0
==========GND
Title : CB_R5C841(1)
ASUSTek COMPUTER INC. NB1
Engineer: Brad Lu
Size: Custom
Project Name: A6KM
Rev: 2.0
Date: Tuesday, August 02, 2005
Sheet 22 of 64

MDIO01--> MS Card Detect
MDIO03--> SD Write Protect
MDIO04--> SD Card Power0 Control/
MS Power Control
MDIO07--> SD External Clock/
MS External Clock
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

[2] AS CLOSE AS POSSIBLE TO DEVICE TERMINALS.

藍色pin腳名稱的訊號
是要經由MUX分離的訊號
以避免841的假的LPC訊號
跟SYSTEM的LPC訊號相衝突

U57A

C1 NC2
D1 NC3
E1 NC4
C2 NC5
D2 NC6
E2 NC7
E4 NC8

CADR25 J18 AD19/A25 24
CADR24 J15 AD17/A24 24
CADR23 K16 CFRAME#/A23 24
CADR22 L16 CTRDY#/A22 24
CADR21 L18 CDEVSEL#/A21 24
CADR20 M16 CSTOP#/A20 24
CADR19 N19 CBLOCK#/A19 24,40
CADR18 N16 C_RFU/A18 40
CADR17 P16 AD16/A17 24
CADR16 L19 R_CCLK/A16_D3
R581 22Ohm
CCLK/A16_D3 24
C780 5P

CADR15 K15 CIRDY#/A15 24
CADR14 N18 C_CPERR#/A14 40
CADR13 N15 CPAR/A13 24
CADR12 K18 CBE2#/A12 24
CADR11 R18 AD12/A11 24
CADR10 U19 AD9/A10 24
CADR9 R19 AD14/A9 24
CADR8 P15 CBE1#/A8 24
CADR7 J16 AD18/A7 24
CADR6 H15 AD20/A6 24
CADR5 H18 AD21/A5 24
CADR4 G15 AD22/A4 24
CADR3 G18 AD23/A3 24
CADR2 F15 AD24/A2 24
CADR1 F18 AD25/A1 24
CADR0 E16 AD26/A0 24

CDATA15 U18 AD8/D15 24
CDATA14 W18 C_RFU/D14 40
CDATA13 V17 AD6/D13 24
CDATA12 V16 AD4/D12 24
CDATA11 V15 AD2/D11 24
CDATA10 B19 AD31/D10 24
CDATA9 C18 AD30/D9 24
CDATA8 D18 AD28/D8 24
CDATA7 W17 AD7/D7 24
CDATA6 W16 AD5/D6 24
CDATA5 W15 AD3/D5 24
CDATA4 T15 AD1/D4 24
CDATA3 R14 AD0/D3 24
CDATA2 C19 C_RFU/D2 40
CDATA1 D19 AD29/D1 24
CDATA0 E19 AD27/D0 24

+VCCCB
R556 100KOhm

OE# T19 AD11/OE# 24
WE# M15 CGNT#/WE# 24
CE2# T18 AD10/CE2# 24
CE1# V19 CBE0#/CE1# 24
REG# F16 CBE3#/REG# 24
RESET H19 CRST#/RESET 24
WAIT# G16 C_CSERR#/WAIT# 40
WP/IOIS16# A18 C_CCLKRUN#/IOIS16# 40
RDY/IREQ# M18 CINT#/IREQ# 24
BVD2 F19 C_CAUDIO/SPKR_IN#/BVD2 40
BVD1 E18 C_STSCHG/STSCHG#/BVD1 40
VS2# R16 CVS2 24
VS1# R15 CVS1 24
CD2# D15 CCD2# 24
CD1# T14 CCD1# 24,40
INPACK# G19 CREQ#/INPACK# 24

IORD# P18 AD13/IORD# 24
IOWR# P19 AD15/IOWR# 24

USBDP V14
USBDM W14

+3.3V
R599 100KOhm
VPPEN1 W13 VPP_EN1 24
VPPEN0 V13 VPP_EN0 24
VCC3EN# T13 VCC3_EN# 24
VCC5EN# R13 VCC5_EN# 24

MDIO19 E8
MDIO18 D8
MDIO17 B8
MDIO16 A8
MDIO15 E7
MDIO14 D7
MDIO13 B7
MDIO12 A7
MDIO11 E6
MDIO10 D6
MDIO09 B6
MDIO08 A6
MDIO07 D5
MDIO06 B5
MDIO05 A5
MDIO04 B4
MDIO03 B3
MDIO02 A3
MDIO01 A2
MDIO00 B1

SD_D3/MSCD3
SD_D2/MSCD2
SD_D1/MSCD1
SD_D0/MSCD0
SD/MS_CLK [2] R551 22Ohm
SD_CMD/MS_BS
GND
CHANGE1 R1.1
SD/MS_PWR_EN#
SD_WP#
MS_CD#
SD_CD#

R5C841

0324-05' R2.0

R2.0 0324-05'

Q98 SI2301BDS
+3.3V
+3.3V_MC_VCC
+12V
R579 100KOhm
C782 0.1UF
C783 0.1UF
R634 150KOhm
GND

R2.0 0324-05'

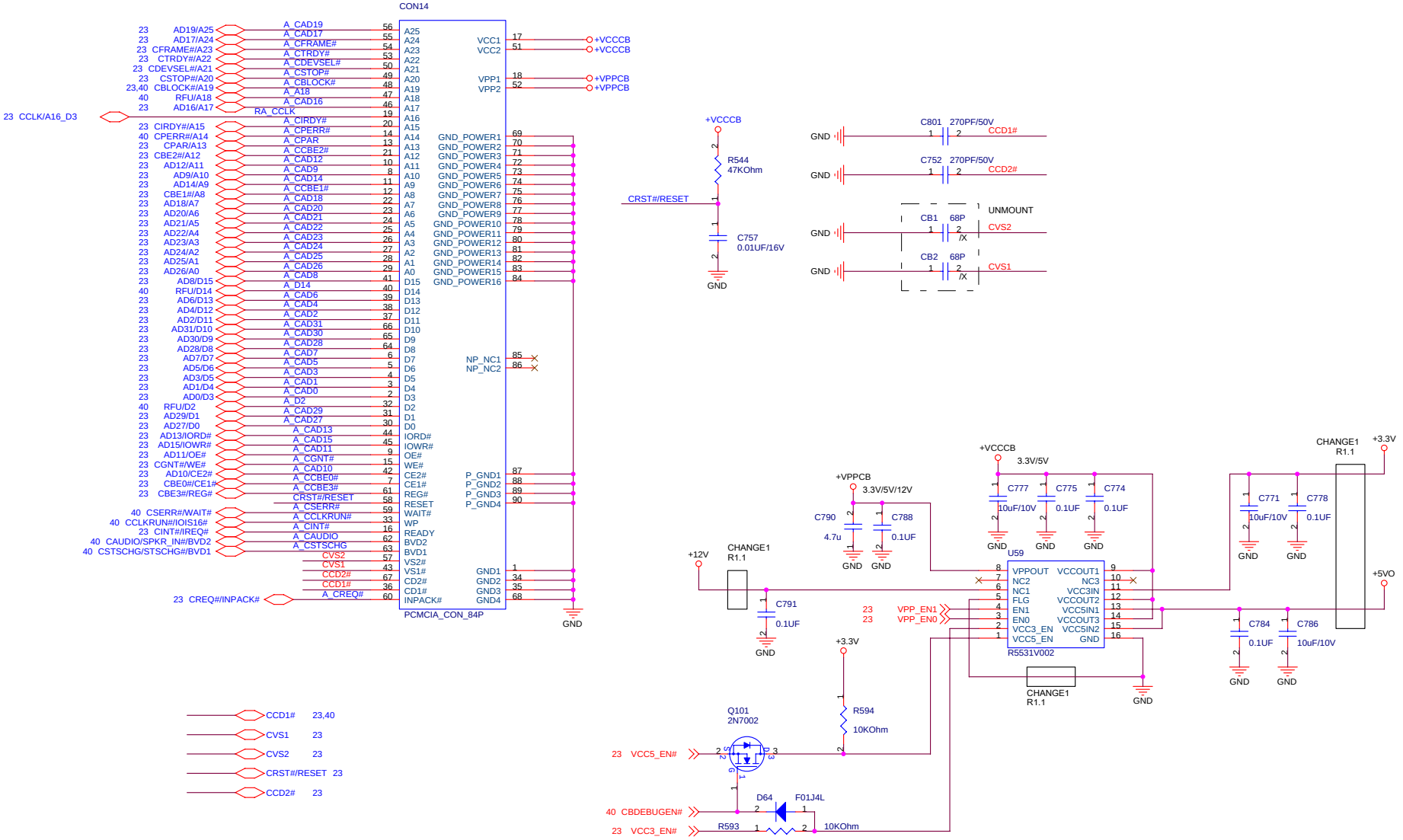
Q99 PDTC144EK
SD/MS_PWR_EN# 1
R-1 47K
R-2 47K
GND

SD_WP#
SD_CD#
+3.3V_MC_VCC
GND
CON6
SD_D1/MSCD1
SD_D0/MSCD0
SD/MS_CLK
SD_CMD/MS_BS
SD_D3/MSCD3
SD_D2/MSCD2
SD_DAT1
SD_DAT0
SD_VSS1
SD_CLK
SD_VCC
SD_VSS2
SD_CMD
SD_DAT3
SD_DAT2
SD_WP_PROTECT
SD_CD_DETECT
NP_NC1
MS_VSS1
MS_BS
MS_VCC1
MS_SDIO
MS_RESERVED1
MS_INS
MS_RESERVED2
MS_SCLK
MS_VCC2
MS_VSS2
NP_NC2
SD_CMD/MS_BS
SD_D1/MSCD1
SD_D0/MSCD0
SD_D2/MSCD2
MS_CD#
SD_D3/MSCD3
SD/MS_CLK
CHANGE3 R1.1 C767 33P N/A
SD_CARD_19P

<Variant Name>

Title : CB_R5C841 (2)
ASUSTek COMPUTER INC. NB1
Engineer: Brad Lu
Size: Custom
Project Name: A6KM
Rev: 2.0
Date: Tuesday, August 02, 2005
Sheet 23 of 64

PCMCIA SOCKET



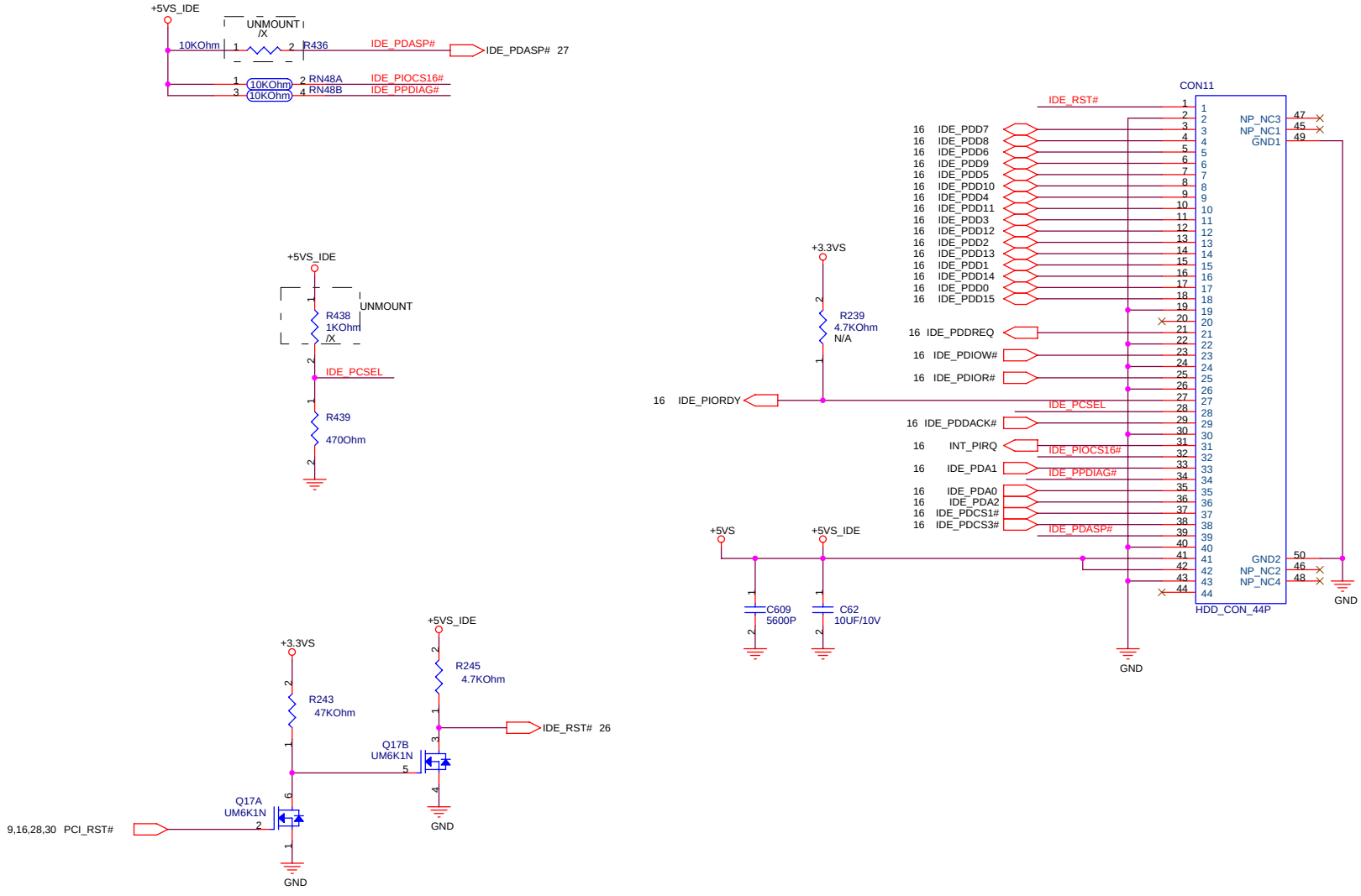
<Variant Name>

Title : PCMCIA

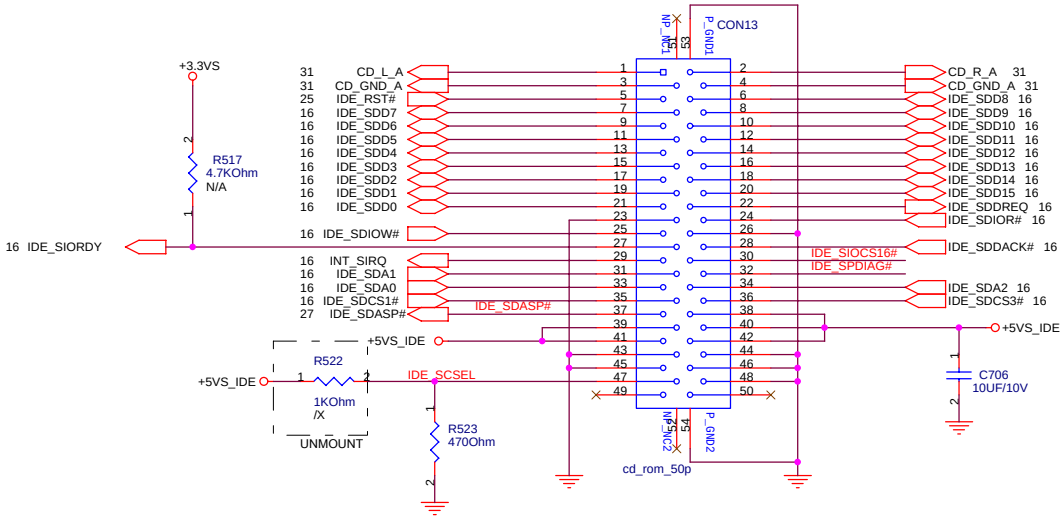
ASUSTek COMPUTER INC. NB1 Engineer: Brad Lu

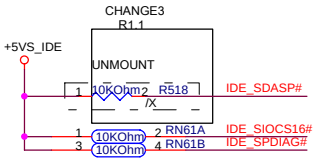
Size	Project Name	Rev
Custom	A6KM	2.0

Date: Tuesday, August 02, 2005 Sheet 24 of 64



ASUSTek COMPUTER INC. NB6	Title : HDD Connector	
	Engineer: Brad Lu	
Size: Custom	Project Name: A6KM	Rev: 1.0
Date: Tuesday, August 02, 2005	Sheet 25 of 64	





ASUSTek COMPUTER INC. NB6	Title : ODD Connector	
	Engineer: *Brad Lu*	
Size: Custom	Project Name: A6KM	Rev: 1.0
Date: Tuesday, August 02, 2005	Sheet 26 of 64	

P23,P43 excahnged by BIOS's request

Daisy-Chain in layout

S0-S3: (2.5 mA Typ, 7 mA Max.)

LxWxH=14x14x1.7

U22

M38857

P54,P55,P43,P50 are wake-up event inputs when KBC in standby mode

Audio DJ pin depends on Keyboard Matrix.

Follow M6N

A3N follow M6N Keyboard Matrix

P21: Power button overwrite disable. Only can be pulled down as default value than can be used as a input.

P54,P55,P43,P50 are wake-up event inputs when KBC in standby mode

BAT_SEL#:
Hi : 8 Cell
Low: 4 Cell

4 Cell battery mode:
1.Banias CPU run 600MHz
2.Celeron CPU throttling 50%

OC MEAN OPEN DRAIN

changeD

change2

ZIF_CON_28P

K/B	US	UK	JP
KEYDETECT1	H	L	L
KEYDETECT2	H	H	L

IDE

NUM CAP SCR

R1.1

ASUSTek COMPUTER INC. NB6

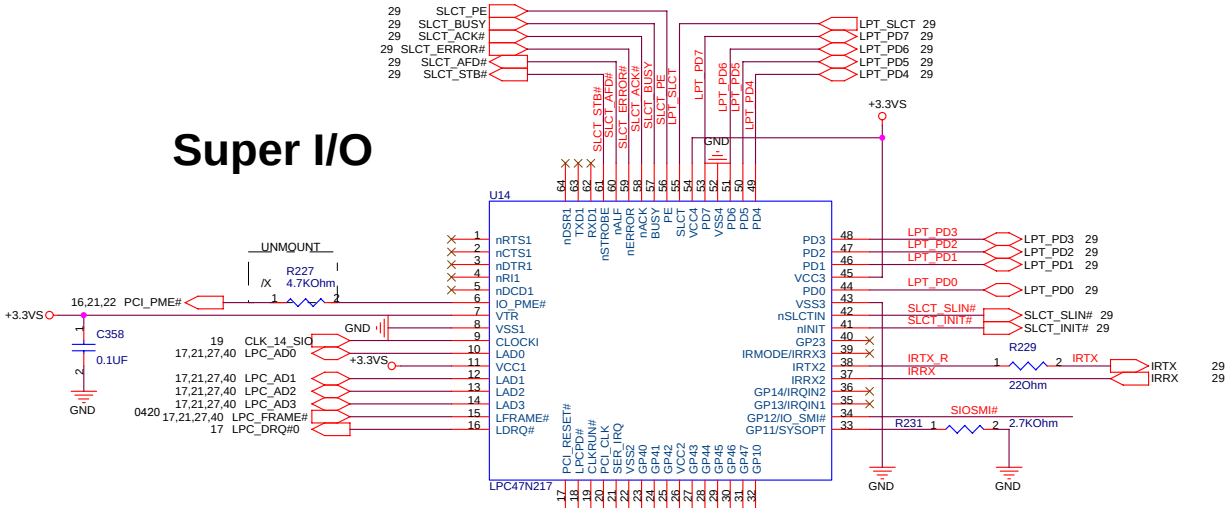
Title : KBC-M38857

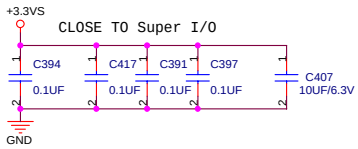
Engineer: Brad Lu

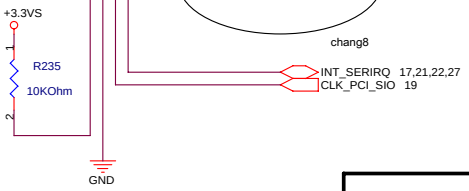
Size	Project Name	Rev
Custom	A6KM	1.0

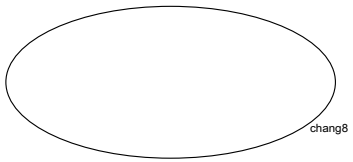
Date: Tuesday, August 02, 2005 Sheet 27 of 64

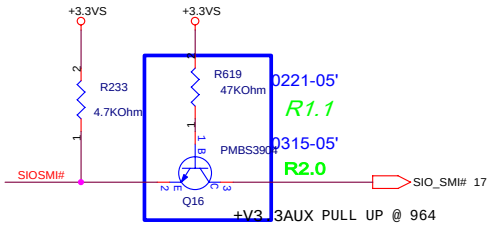
Super I/O

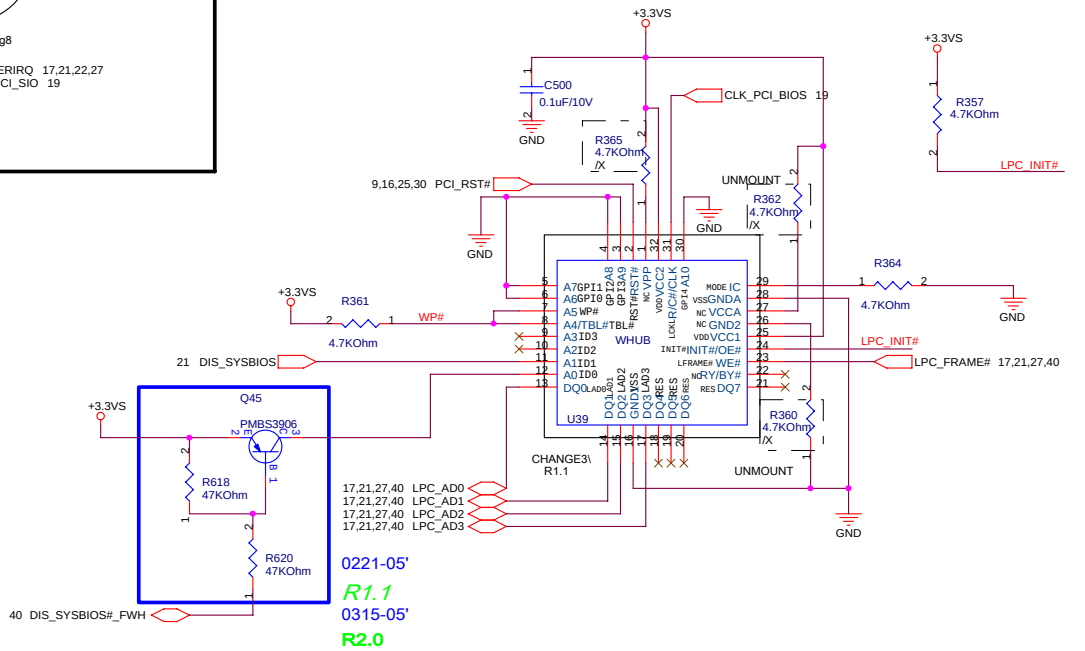








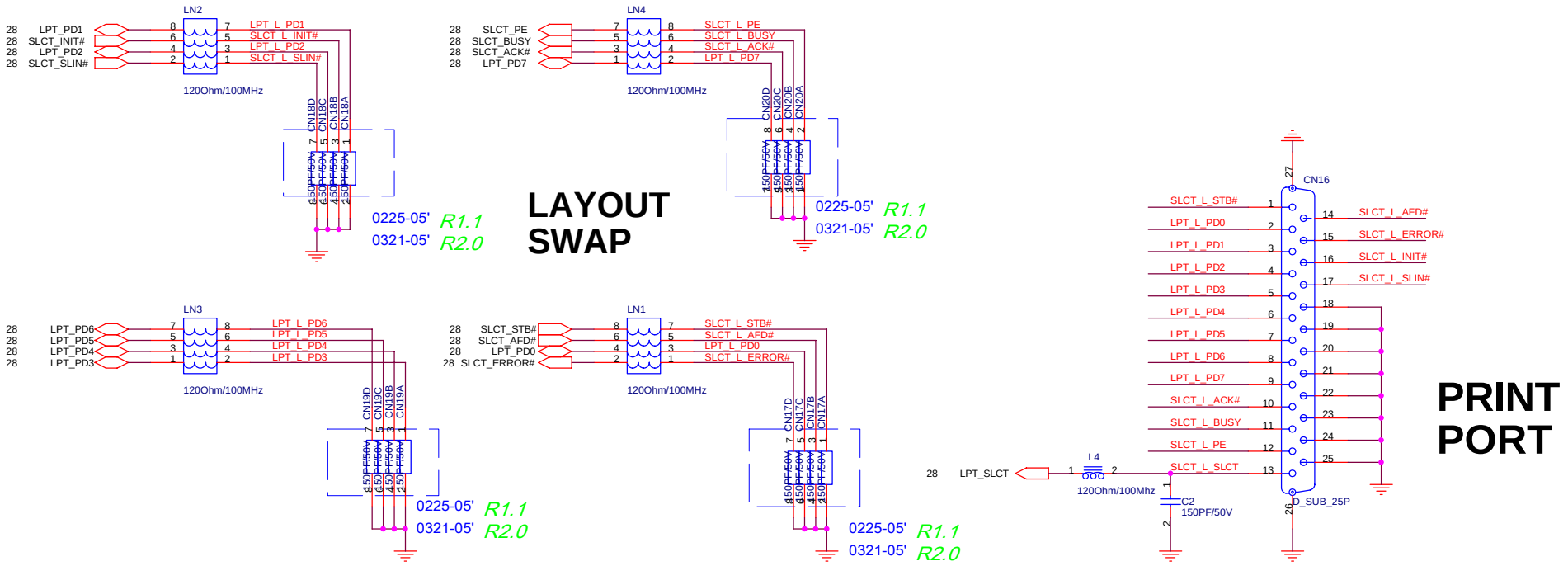


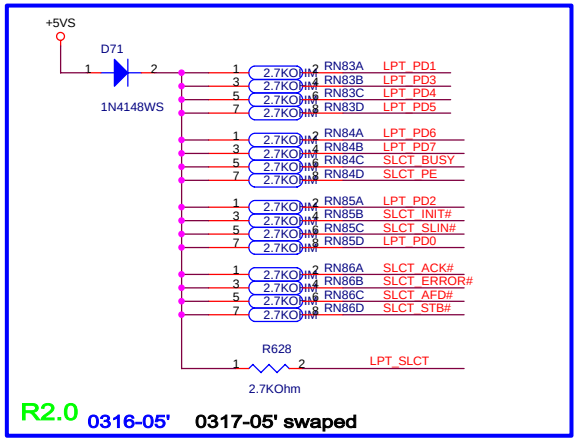


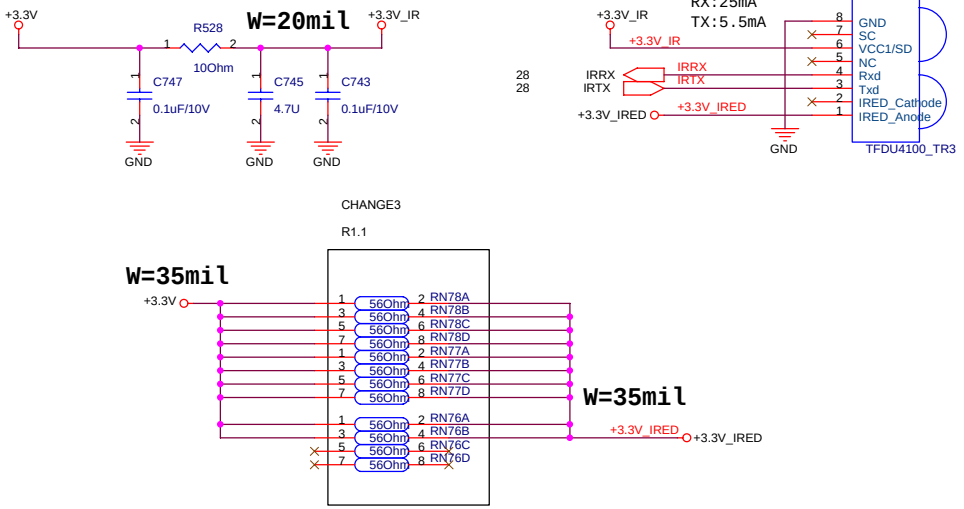
Nomal : OPEN
DB Card Disable MB BIOS : LOW
DB Card Enable MB BIOS : HI

ID[0:3] : internal Pull-down 20K~100K

ASUSTek COMPUTER INC. NB6	Title : LPC47N217 & BIOS	
	Engineer: Brad Lu	
Size: Custom	Project Name: A6KM	Rev: 1.1
Date: Tuesday, August 02, 2005	Sheet 28 of 64	





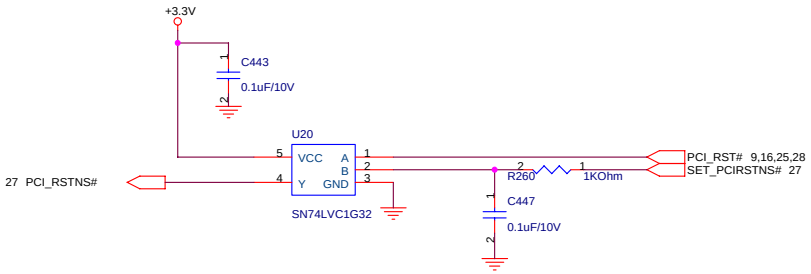


ASUSTek COMPUTER INC. NB6	Title : IR & LPT PORT		
	Engineer: Brad Lu		
Size: Custom	Project Name: A6KM		Rev: 1.0
Date: Tuesday, August 02, 2005	Sheet 29 of 64		

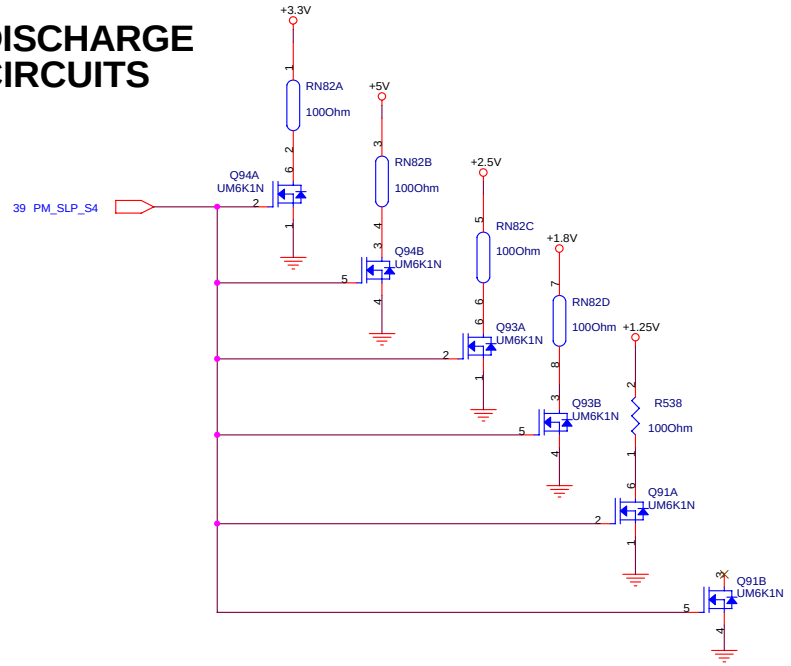
PCMCIA DEBUG Card

1105

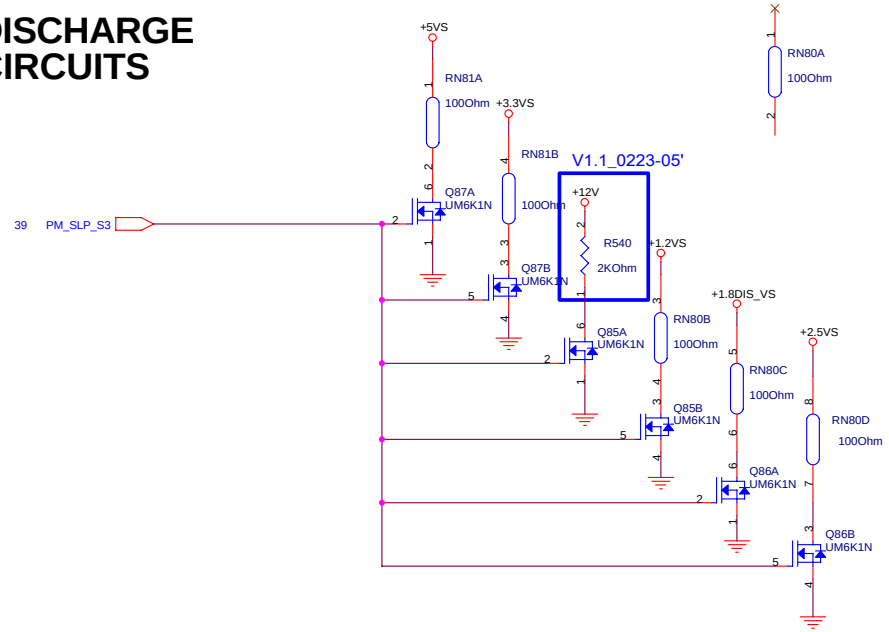
PCI_RSTNS# Gen Circuit



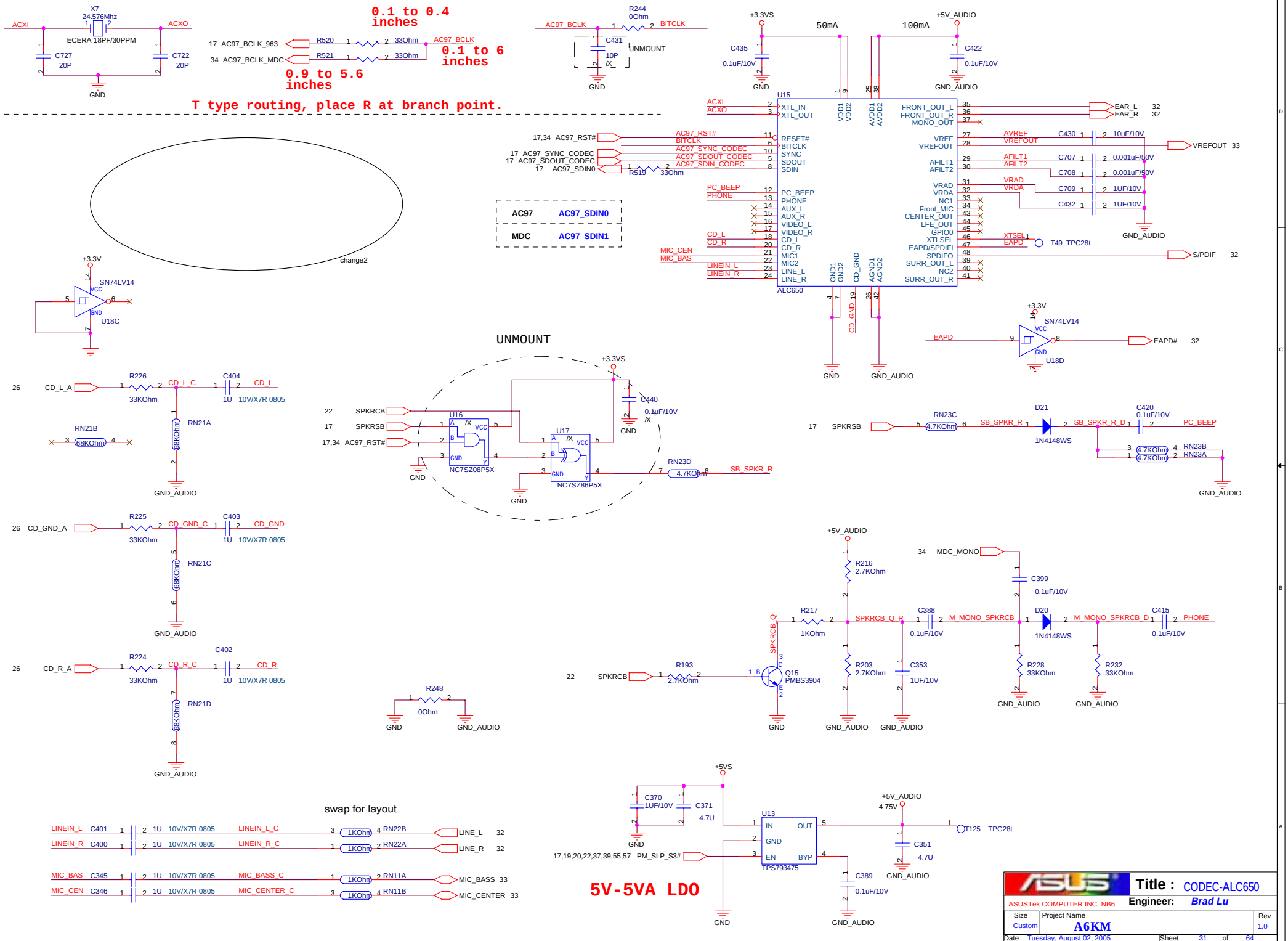
DISCHARGE CIRCUITS

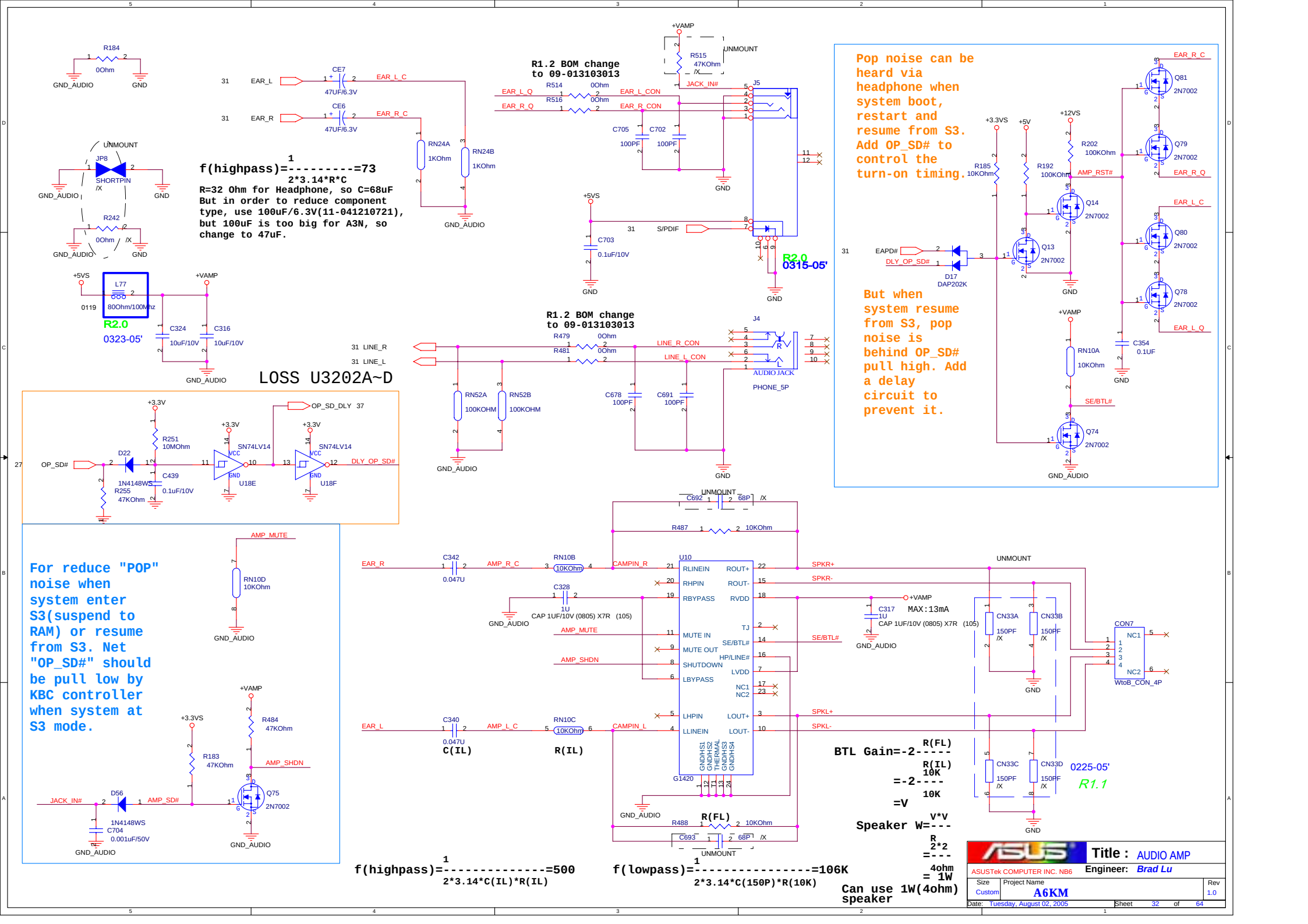


DISCHARGE CIRCUITS



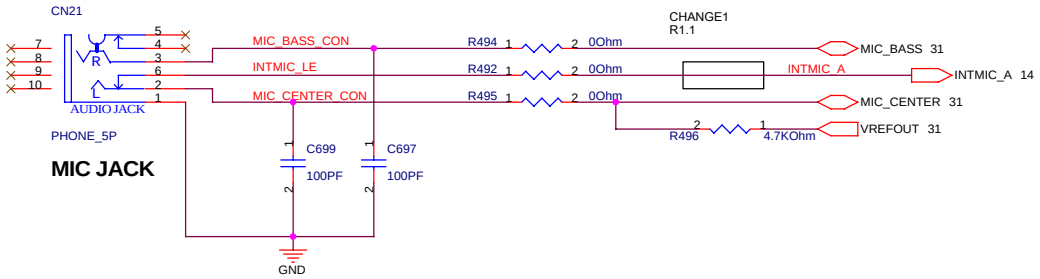
ASUSTek COMPUTER INC. NB6	Title : Discharge circuit	
	Engineer: Brad Lu	
Size: Custom	Project Name: A6KM	Rev: 1.0
Date: Tuesday, August 02, 2005	Sheet 30 of 64	

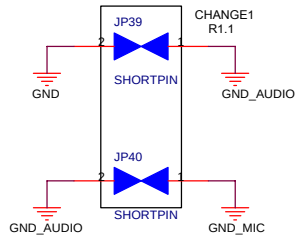

X7
24.576Mhz
ECERA 18PF/30PPM
ACXI
ACXO
C727 20P
C722 20P
GND
0.1 to 0.4 inches
0.1 to 6 inches
0.9 to 5.6 inches
17 AC97_BCLK_963
34 AC97_BCLK_MDC
R520 33Ohm
R521 33Ohm
AC97_BCLK
T type routing, place R at branch point.
R244 0Ohm
C431 10P /X UNMOUNT
+3.3VS
50mA
100mA
+5V_AUDIO
C435 0.1uF/10V
C422 0.1uF/10V
GND_AUDIO
U15
ALC650
XTL_IN
XTL_OUT
RESET#
BITCLK
SYNC
SDOUT
SDIN
PC_BEEP
PHONE
AUX_L
AUX_R
VIDEO_L
VIDEO_R
CD_L
CD_R
MIC1
MIC2
LINE_L
LINE_R
FRONT_OUT_L
FRONT_OUT_R
MONO_OUT
VREF
VREFOUT
AFILT1
AFILT2
VRAD
VRDA
NC1
Front_MIC
CENTER_OUT
LFE_OUT
GPIO0
XTSEL
EAPD/SPDIFI
SPDIFO
SURR_OUT_L
NC2
SURR_OUT_R
AVREF
C430 10uF/10V
C707 0.001uF/50V
C708 0.001uF/50V
C709 1UF/10V
C432 1UF/10V
EAR_L 32
EAR_R 32
VREFOUT 33
S/PDIF 32
T49 TPC28t
17,34 AC97_RST#
17 AC97_SYNC_CODEC
17 AC97_SDOUT_CODEC
17 AC97_SDIN0
R519 33Ohm
AC97_RST#
AC97_SYNC_CODEC
AC97_SDOUT_CODEC
AC97_SDIN_CODEC
AC97 AC97_SDIN0
MDC AC97_SDIN1
change2
+3.3V
SN74LV14
U18C
U18D
EAPD
EAPD# 32
UNMOUNT
26 CD_L_A
R226 33KOhm
C404 1U 10V/X7R 0805
CD_L_C
CD_L
RN21A 68KOhm
RN21B 68KOhm
GND_AUDIO
26 CD_GND_A
R225 33KOhm
C403 1U 10V/X7R 0805
CD_GND_C
CD_GND
RN21C 68KOhm
26 CD_R_A
R224 33KOhm
C402 1U 10V/X7R 0805
CD_R_C
CD_R
RN21D 68KOhm
22 SPKRCB
17 SPKRSB
17,34 AC97_RST#
U16 NC7SZ08P5X
U17 NC7SZ86P5X
C440 0.1uF/10V /X
RN23D 4.7KOhm
SB_SPKR_R
17 SPKRSB
RN23C 4.7KOhm
SB_SPKR_R_D
D21 1N4148WS
C420 0.1uF/10V
PC_BEEP
RN23B 4.7KOhm
RN23A 4.7KOhm
R248 0Ohm
+5V_AUDIO
34 MDC_MONO
R216 2.7KOhm
C399 0.1uF/10V
R217 1KOhm
SPKRCB_Q_R
C388 0.1uF/10V
M_MONO_SPKRCB
D20 1N4148WS
M_MONO_SPKRCB_D
C415 0.1uF/10V
PHONE
22 SPKRCB
R193 2.7KOhm
Q15 PMBS3904
R203 2.7KOhm
C353 1UF/10V
R228 33KOhm
R232 33KOhm
swap for layout
LINEIN_L C401 1U 10V/X7R 0805
LINEIN_R C400 1U 10V/X7R 0805
LINEIN_L_C
LINEIN_R_C
RN22B 1KOhm
RN22A 1KOhm
LINE_L 32
LINE_R 32
MIC_BAS C345 1U 10V/X7R 0805
MIC_CEN C346 1U 10V/X7R 0805
MIC_BASS_C
MIC_CENTER_C
RN11A 1KOhm
RN11B 1KOhm
MIC_BASS 33
MIC_CENTER 33
+5VS
C370 1UF/10V
C371 4.7U
U13 TPS793475
IN
OUT
GND
EN
BYP
17,19,20,22,37,39,55,57 PM_SLP_S3#
4.75V
T125 TPC28t
C351 4.7U
C389 0.1uF/10V
5V-5VA LDO
Title : CODEC-ALC650
ASUSTek COMPUTER INC. NB6
Engineer: Brad Lu
Size Custom
Project Name A6KM
Rev 1.0
Date: Tuesday, August 02, 2005
Sheet 31 of 64


R184
0Ohm
GND_AUDIO
GND
CE7
47UF/6.3V
EAR_L_C
EAR_L
CE6
47UF/6.3V
EAR_R_C
EAR_R
RN24A
1KOhm
RN24B
1KOhm
UNMOUNT
JP8
SHORTPIN
/X
R242
0Ohm
+5VS
L77
80Ohm/100Mhz
0119
R2.0
0323-05'
+VAMP
C324
10uF/10V
C316
10uF/10V
LOSS U3202A~D
R1.2 BOM change
to 09-013103013
R515
47KOhm
JACK_IN#
R514
0Ohm
R516
0Ohm
EAR_L_Q
EAR_R_Q
EAR_L_CON
EAR_R_CON
C705
100PF
C702
100PF
J5
C703
0.1uF/10V
S/PDIF
R2.0
0315-05'
Pop noise can be heard via headphone when system boot, restart and resume from S3. Add OP_SD# to control the turn-on timing.
But when system resume from S3, pop noise is behind OP_SD# pull high. Add a delay circuit to prevent it.
+3.3VS
+5V
+12VS
R185
10KOhm
R192
100KOhm
R202
100KOhm
AMP_RST#
EAPD#
DLY_OP_SD#
D17
DAP202K
Q13
Q14
Q74
Q78
Q79
Q80
Q81
2N7002
EAR_R_C
EAR_R_Q
EAR_L_C
EAR_L_Q
C354
0.1UF
RN10A
10KOhm
SE/BTL#
R1.2 BOM change
to 09-013103013
J4
R479
0Ohm
R481
0Ohm
LINE_R_CON
LINE_L_CON
AUDIO JACK
PHONE_5P
LINE_R
LINE_L
RN52A
100KOHM
RN52B
100KOHM
C678
100PF
C691
100PF
OP_SD_DLY
SN74LV14
U18E
U18F
R251
10MOhm
D22
1N4148WS
R255
47KOhm
C439
0.1uF/10V
OP_SD#
DLY_OP_SD#
For reduce "POP" noise when system enter S3(suspend to RAM) or resume from S3. Net "OP_SD#" should be pull low by KBC controller when system at S3 mode.
AMP_MUTE
RN10D
10KOhm
R484
47KOhm
R183
47KOhm
AMP_SHDN
D56
1N4148WS
C704
0.001uF/50V
JACK_IN#
AMP_SD#
Q75
2N7002
C692
68P
/X
R487
10KOhm
EAR_R
C342
0.047U
AMP_R_C
RN10B
10KOhm
CAMPIN_R
C328
1U
CAP 1UF/10V (0805) X7R (105)
EAR_L
C340
0.047U
AMP_L_C
RN10C
10KOhm
CAMPIN_L
C(IL)
R(IL)
U10
RLINEIN
RHPIN
RBYPASS
MUTE IN
MUTE OUT
SHUTDOWN
LBYPASS
LHPIN
LLINEIN
ROUT+
ROUT-
RVDD
TJ
SE/BTL#
HP/LINE#
LVDD
NC1
NC2
LOUT+
LOUT-
GND/HSL
GND/HSR
THERMAL
GND/HS3
GND/HS4
G1420
SPKR+
SPKR-
SPKL+
SPKL-
C317
1U
CAP 1UF/10V (0805) X7R (105)
MAX:13mA
CN33A
150PF
/X
CN33B
150PF
/X
CN33C
150PF
/X
CN33D
150PF
/X
CON7
NC1
NC2
WtoB_CON_4P
R488
10KOhm
C693
68P
/X
R(FL)
BTL Gain=-2-----
R(FL)
R(IL)
=-2----
10K
=V
Speaker W=---
V*V
R
=---
2*2
4ohm
= 1W
Can use 1W(4ohm) speaker
0225-05'
R1.1
f(highpass)=---------=73
1
2*3.14*R*C
R=32 Ohm for Headphone, so C=68uF
But in order to reduce component type, use 100uF/6.3V(11-041210721), but 100uF is too big for A3N, so change to 47uF.
f(highpass)=----------=500
1
2*3.14*C(IL)*R(IL)
f(lowpass)=----------=106K
1
2*3.14*C(150P)*R(10K)
Title : AUDIO AMP
ASUSTek COMPUTER INC. NB6
Engineer: Brad Lu
Size
Custom
Project Name
A6KM
Rev
1.0
Date: Tuesday, August 02, 2005
Sheet 32 of 64

MIC OP CIRCUIT

MIC JACK

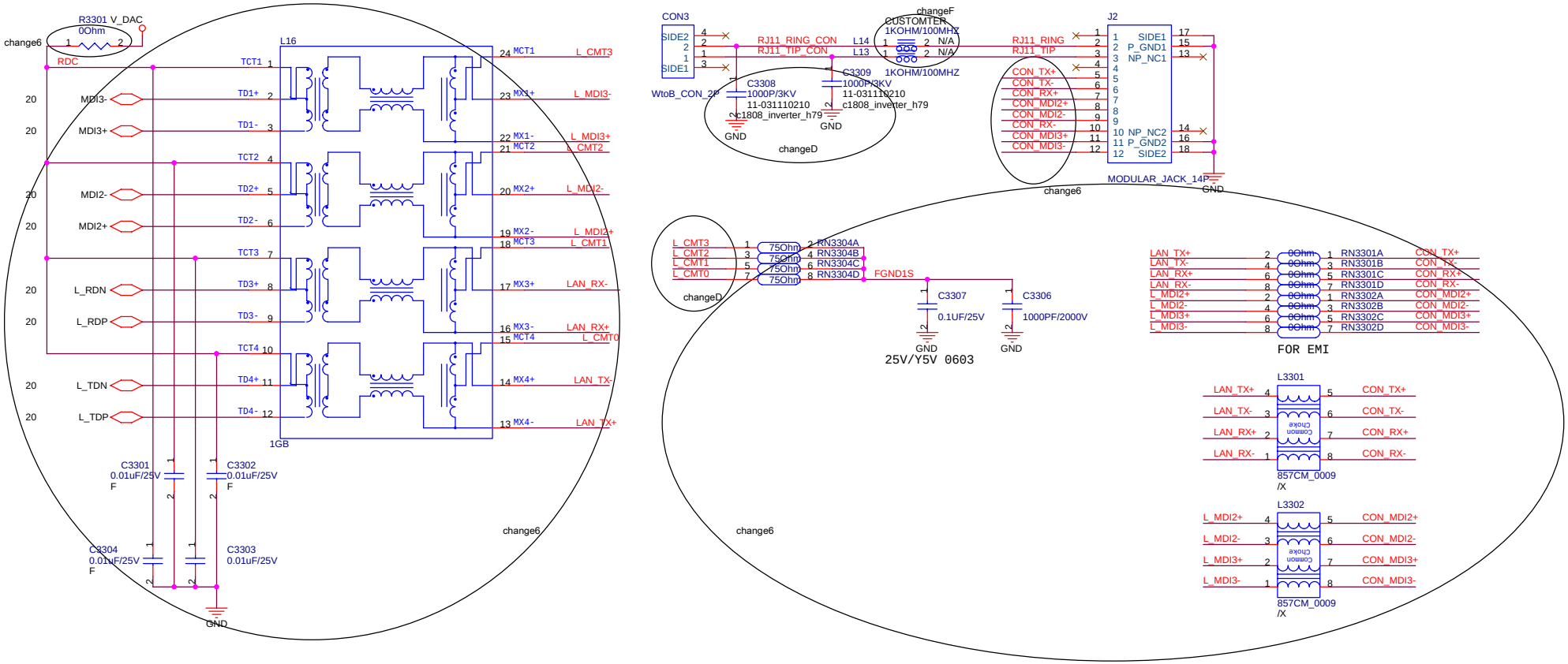




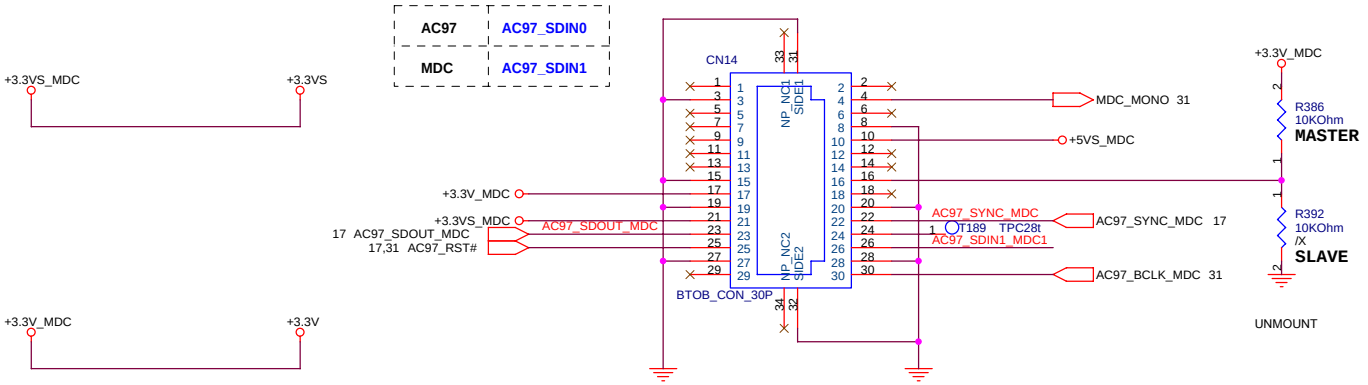
INTMIC_A:GND_AUDIO : W/P/X = 12/5/15mils

R111 & R112 change to 09-013103013 in R1.2 BOM

ASUSTek COMPUTER INC. NB6	Title : MIC	
	Engineer: Brad Lu	
Size: Custom	Project Name: A6KM	Rev: 1.0
Date: Tuesday, August 02, 2005	Sheet 33 of 64	



MDC



ASUSTek COMPUTER INC. NB6

Title : MDC & RJ45 & RJ11

Engineer: Brad Lu

Size	Project Name	Rev
Custom	A6KM	1.0

Date: Tuesday, August 02, 2005 Sheet 34 of 64

R2.0 UNMOUNT
0324-05'
0Ohm R645 /X
D72 1N4148WS
0315-05'
R2.0
16,17,37,39,55 PM_SLP_S4#
IC2
18 USBOC#0
18 USBOC#1
ENA OUTA
FLAGA IN
FLAGB GND
ENB OUTB
LM3526MX_H
+5V_USB0_L
+5V_USB1_L
+5V
C593 0.1U
+5V_USB2_L
+5V_USB4_L
IC1
18 USBOC#2
18 USBOC#4
R630 100KOhm
C601 0.1U N/A

18 USB_PP0 USB_PP0 USB_P0+
18 USB_PN0 USB_PN0 USB_P0-
RN46B 0Ohm
RN46A 0Ohm
L64 90Ohm/370mA /X
18 USB_PP1 USB_PP1 USB_P1+
18 USB_PN1 USB_PN1 USB_P1-
RN47B 0Ohm
RN47A 0Ohm
L65 90Ohm/370mA /X
UNMOUNT

+5V_USB0_L C21 47UF/6.3V GND
+5V_USB1_L C51 47UF/6.3V GND
CHANGE3 R1.1
L9 120Ohm/100Mhz
L8 120Ohm/100Mhz
+5V_USB0 C18 1000PF/25V GND
+5V_USB1 C16 1000PF/25V GND
CON10
GND3 VCC1 1P- 1P+ GND1 VCC2 0P- 0P+ GND2 GND4
USB_CON_2X4P
USB_P0- USB_P0+ USB_P1- USB_P1+
UNMOUNT
C577 C576 C579 C578 220K /X
GND

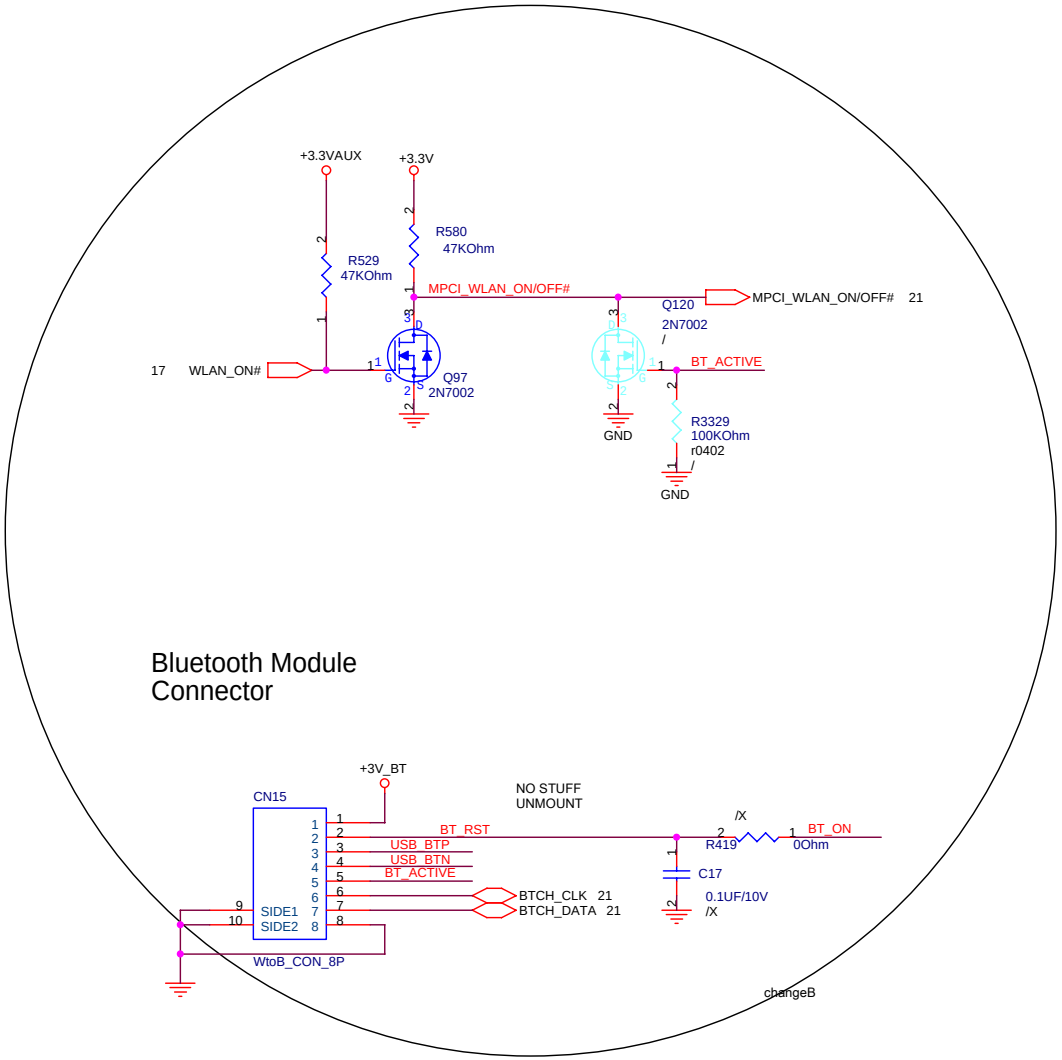
USB PORT 0 & PORT 1

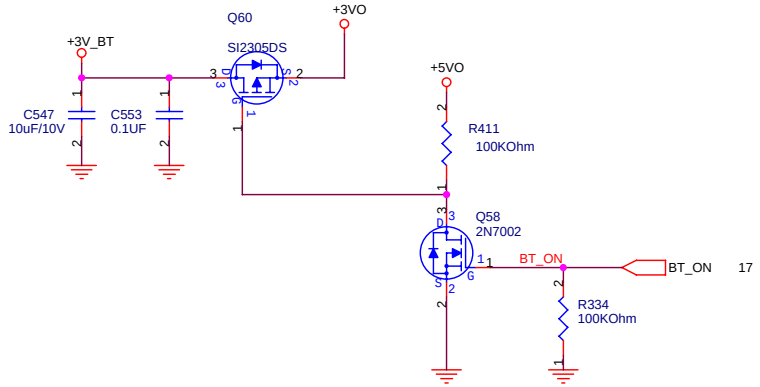
+5V_USB2_L C29 47UF/6.3V GND
+5V_USB4_L C30 47UF/6.3V GND
CHANGE3 R1.1
L10 120Ohm/100Mhz
L11 120Ohm/100Mhz
+5V_USB2 C19 1000PF/25V GND
+5V_USB4 C20 1000PF/25V GND
CON9
GND3 VCC1 1P- 1P+ GND1 VCC2 0P- 0P+ GND2 GND4
USB_CON_2X4P
USB_P2- USB_P2+ USB_P4- USB_P4+
UNMOUNT
C584 C583 C582 C581 220K /X
GND

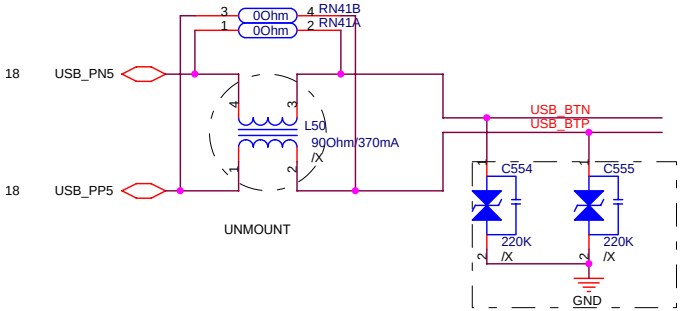
18 USB_PP2 USB_PP2 USB_P2+
18 USB_PN2 USB_PN2 USB_P2-
RN45B 0Ohm
RN45A 0Ohm
L63 90Ohm/370mA /X
18 USB_PP4 USB_PP4 USB_P4+
18 USB_PN4 USB_PN4 USB_P4-
RN44B 0Ohm
RN44A 0Ohm
L62 90Ohm/370mA /X
UNMOUNT

USB PORT 2 & PORT 4

ASUSTek COMPUTER INC. NB6
Title : USB
Engineer: Brad Lu
Size: Custom
Project Name: A6KM
Rev: 1.0
Date: Tuesday, August 02, 2005
Sheet 35 of 64







USB PORT 5 for Bluetooth Module

ASUSTek COMPUTER INC. NB6	Title : BT_UGPZ5	
	Engineer: *Bruce Lee*	
Size: B	Project Name: A6KM	Rev: 1.0
Date: Tuesday, August 02, 2005	Sheet 36 of 64	

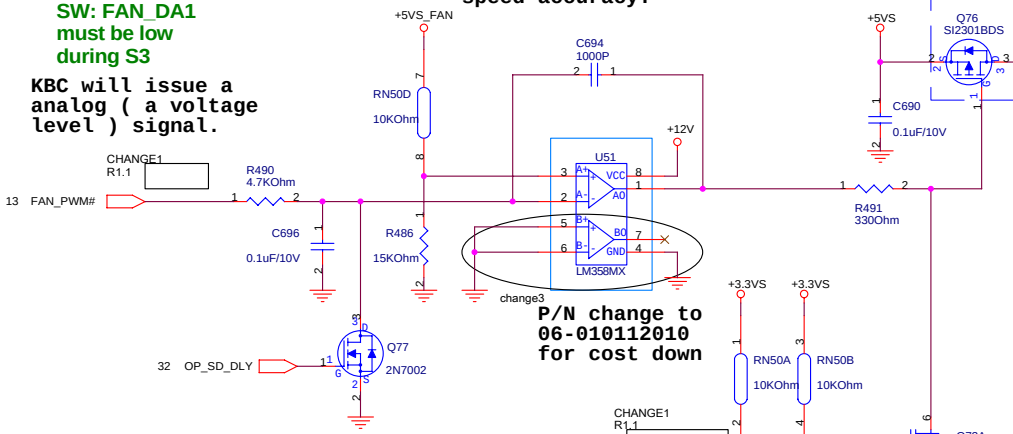
Fan Speed Control

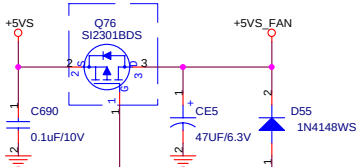
Using a OP AMP and fine-tuning the level, we can improve the fan speed accuracy.

SW: FAN_DA1 must be low during S3

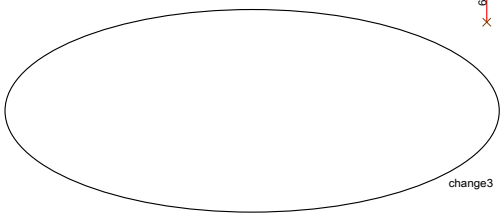
KBC will issue a analog (a voltage level) signal.

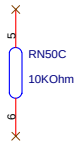
R2.0 0324-05'

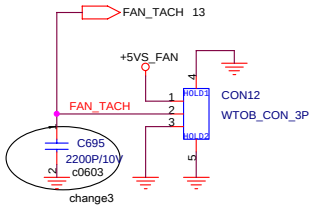




When fan speed is very slow, after RC integrator the level of FANSP1 will be very low that may make south bridge do the wrong detection.

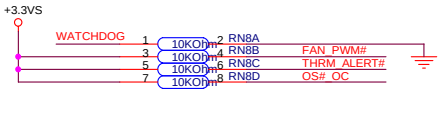






CPU FAN

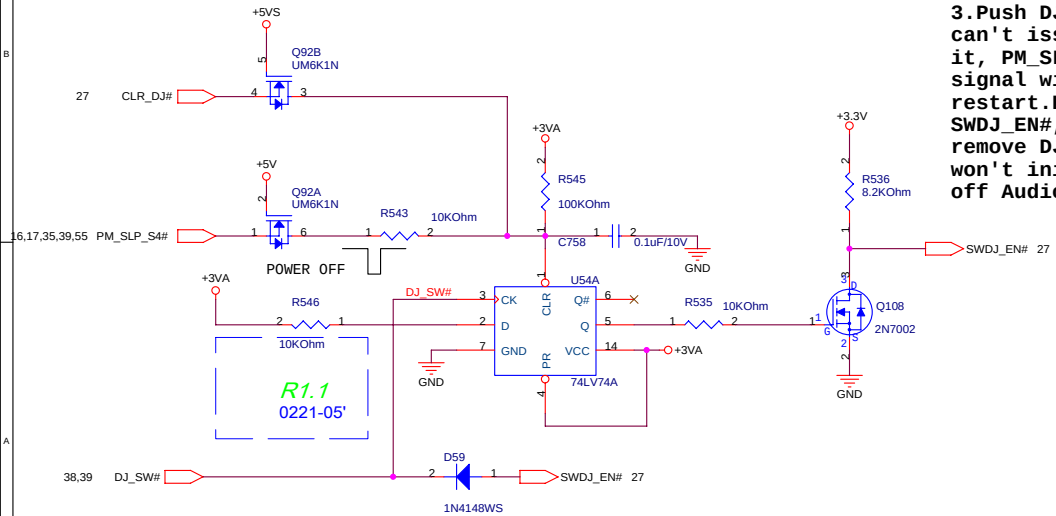
CPU FAN will be forced on:
1) Thermal Sensor Over-temperture
2) PROCHOT asserted(CPU)
3) WATCHDOG asserted(KBC)

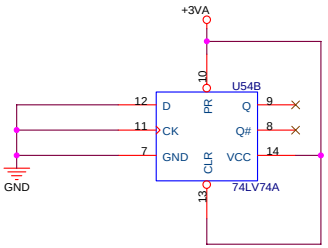


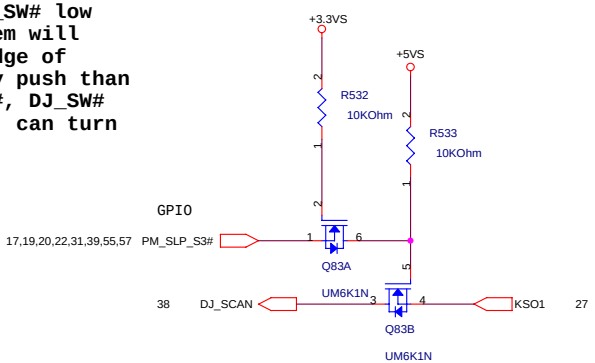
SWAP FOR LAYOUT

Audio DJ

SWDJ_EN# function :
1.Push DJ_SW#, turn on Audio DJ.
2.PM_SLP_S4# will keep high.
3.Push DJ_SW# again, KBC will receive SWDJ_EN#. KBC can't issue SUSC#(PM_SLP_S4#) immediately. If KBC do it, PM_SLP_S4#(page 37) will go low, DJ_SW# low signal will go to PM_PWRBTN#, then system will restart.KBC need trigger the righting edge of SWDJ_EN#, for make sure end user already push than remove DJ Switch button than issue SUSC#, DJ_SW# won't initial low to page37 PM_PWRBTN# , can turn off Audio DJ and won't restart.

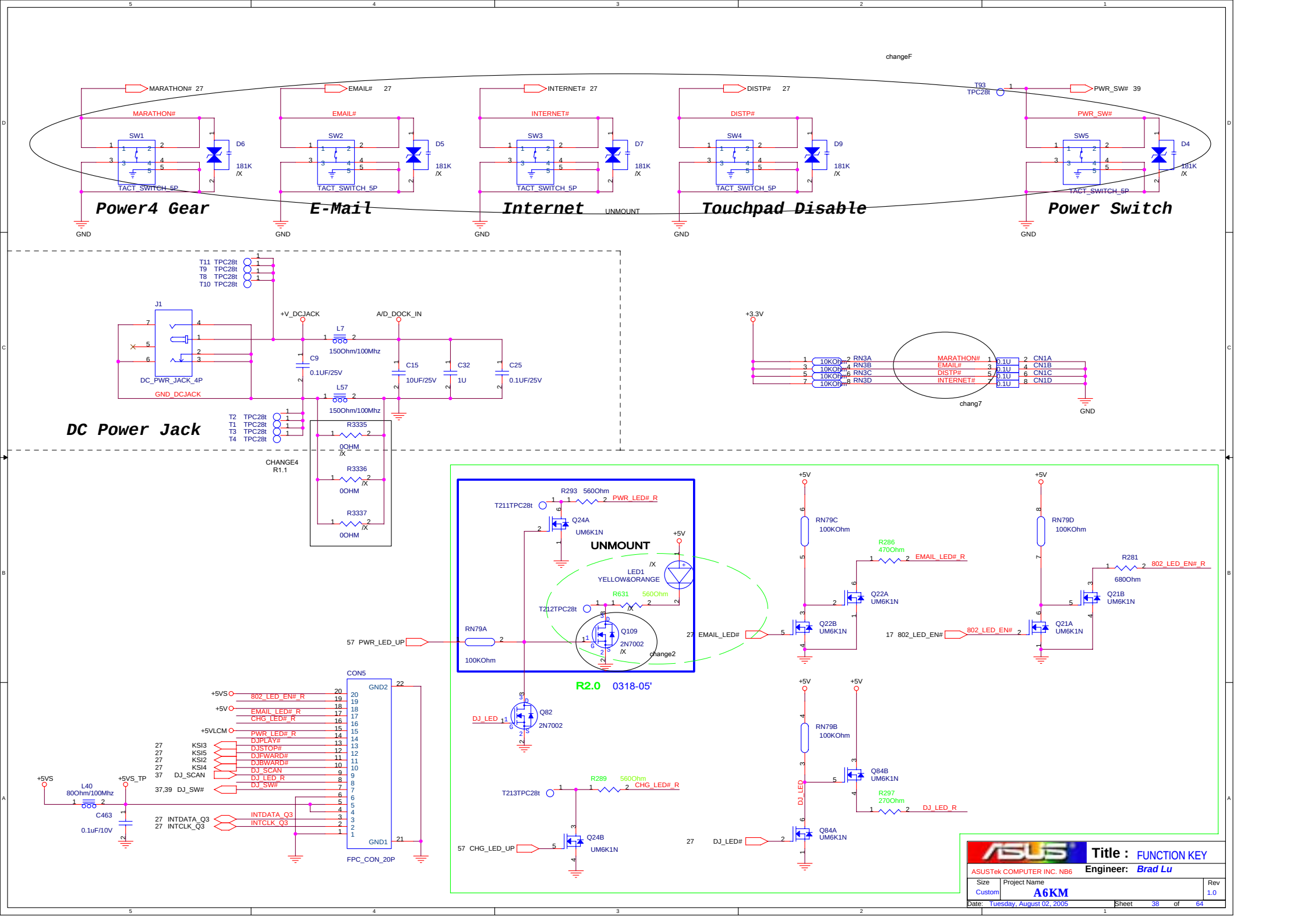


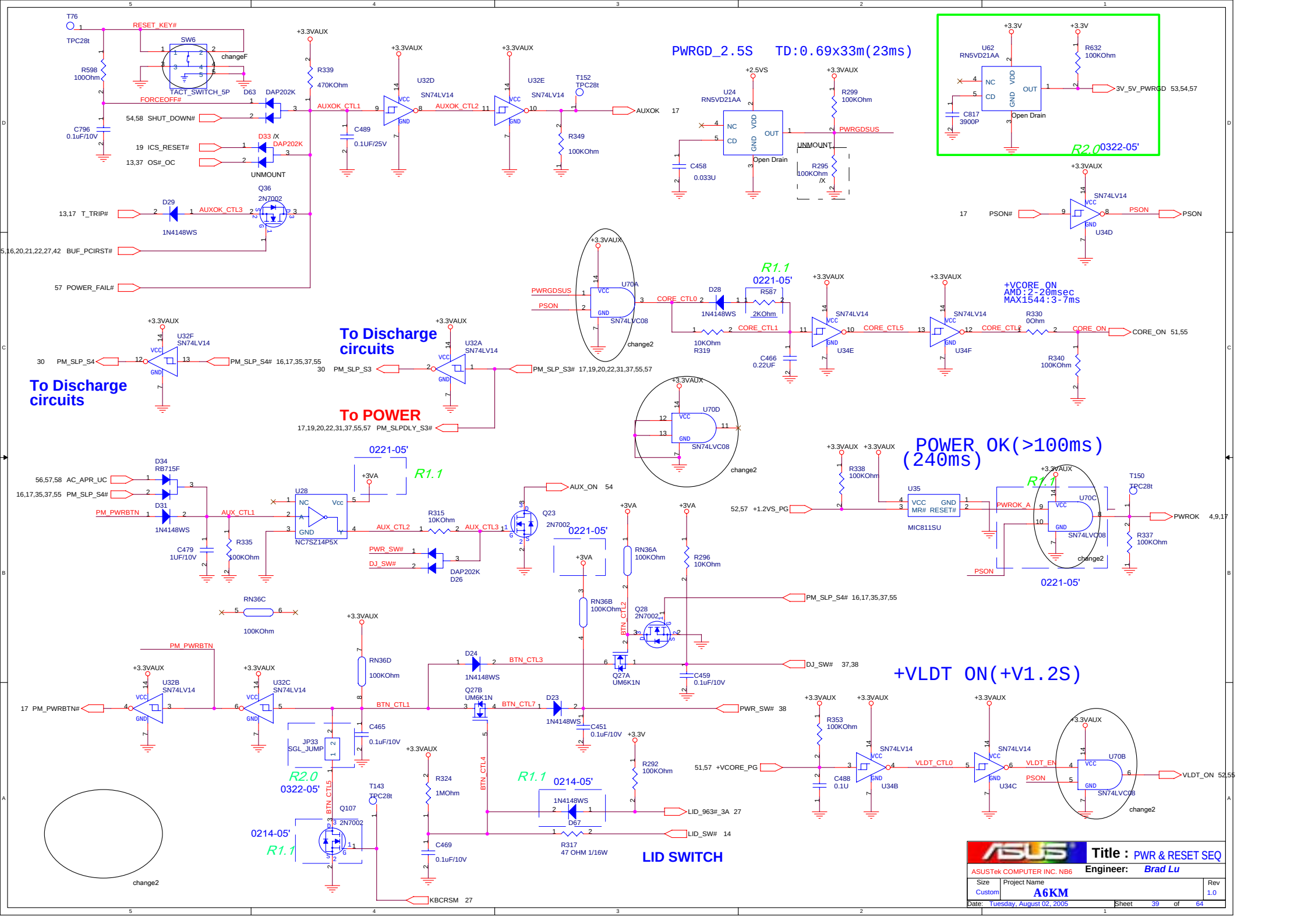




When power on, BIOS will set CLR_DJ# low.
74LV74 will be cleared always.
Use D34 to Enable AudioDJ in OS.
Use D34 to Turn off AudioDJ when system be turned on in DJ mode.

ASUSTek COMPUTER INC. NB6	Title : FAN&Audio DJ	
	Engineer: Brad Lu	
Size: Custom	Project Name: A6KM	Rev: 1.0
Date: Tuesday, August 02, 2005	Sheet 37 of 64	


changeF
MARATHON# 27
EMAIL# 27
INTERNET# 27
DISTP# 27
T93 TPC28t
PWR_SW# 39
SW1
SW2
SW3
SW4
SW5
D6
D5
D7
D9
D4
181K
/X
TACT_SWITCH_5P
GND
Power4 Gear
E-Mail
Internet
UNMOUNT
Touchpad Disable
Power Switch
T11 TPC28t
T9 TPC28t
T8 TPC28t
T10 TPC28t
J1
DC_PWR_JACK_4P
GND_DCJACK
+V_DCJACK
A/D_DOCK_IN
L7
150Ohm/100Mhz
C9
0.1UF/25V
C15
10UF/25V
C32
1U
C25
0.1UF/25V
L57
T2 TPC28t
T1 TPC28t
T3 TPC28t
T4 TPC28t
DC Power Jack
R3335
0OHM
R3336
R3337
CHANGE4
R1.1
+3.3V
10KOhm
RN3A
RN3B
RN3C
RN3D
MARATHON#
EMAIL#
DISTP#
INTERNET#
0.1U
CN1A
CN1B
CN1C
CN1D
chang7
R293 560Ohm
T211TPC28t
PWR_LED#_R
Q24A
UM6K1N
UNMOUNT
LED1
YELLOW&ORANGE
R631 560Ohm
T212TPC28t
Q109
2N7002
change2
RN79A
100KOhm
57 PWR_LED_UP
27 EMAIL_LED#
R2.0 0318-05'
RN79C
100KOhm
R286
470Ohm
EMAIL_LED#_R
Q22A
UM6K1N
Q22B
UM6K1N
RN79D
100KOhm
R281
680Ohm
802_LED_EN#_R
Q21B
UM6K1N
Q21A
UM6K1N
17 802_LED_EN#
802_LED_EN#
Q82
2N7002
DJ_LED
R289 560Ohm
T213TPC28t
CHG_LED#_R
Q24B
UM6K1N
57 CHG_LED_UP
RN79B
100KOhm
Q84B
UM6K1N
R297
270Ohm
DJ_LED_R
Q84A
UM6K1N
27 DJ_LED#
DJ_LED
CON5
GND2
GND1
FPC_CON_20P
+5VS
+5V
+5VLCM
802_LED_EN#_R
EMAIL_LED#_R
CHG_LED#_R
PWR_LED#_R
DJPLAY#
DJSTOP#
DJFWARD#
DJBWARD#
DJ_SCAN
DJ_LED_R
DJ_SW#
KSI3
KSI5
KSI2
KSI4
DJ_SCAN
37,39 DJ_SW#
INTDATA_Q3
INTCLK_Q3
+5VS_TP
L40
80Ohm/100Mhz
C463
0.1uF/10V
ASUSTek COMPUTER INC. NB6
Title : FUNCTION KEY
Engineer: Brad Lu
Size Custom
Project Name A6KM
Rev 1.0
Date: Tuesday, August 02, 2005
Sheet 38 of 64


PWRGD_2.5S TD:0.69x33m(23ms)
To Discharge circuits
To Discharge circuits
To POWER
POWER OK(>100ms) (240ms)
+VLDT ON(+V1.2S)
LID SWITCH
+VCORE_ON AMD:2-20msec MAX1544:3-7ms
R1.1 0221-05'
R2.0 0322-05'
0214-05'
Title : PWR & RESET SEQ
ASUSTek COMPUTER INC. NB6
Engineer: Brad Lu
Size Custom
Project Name A6KM
Rev 1.0
Date: Tuesday, August 02, 2005
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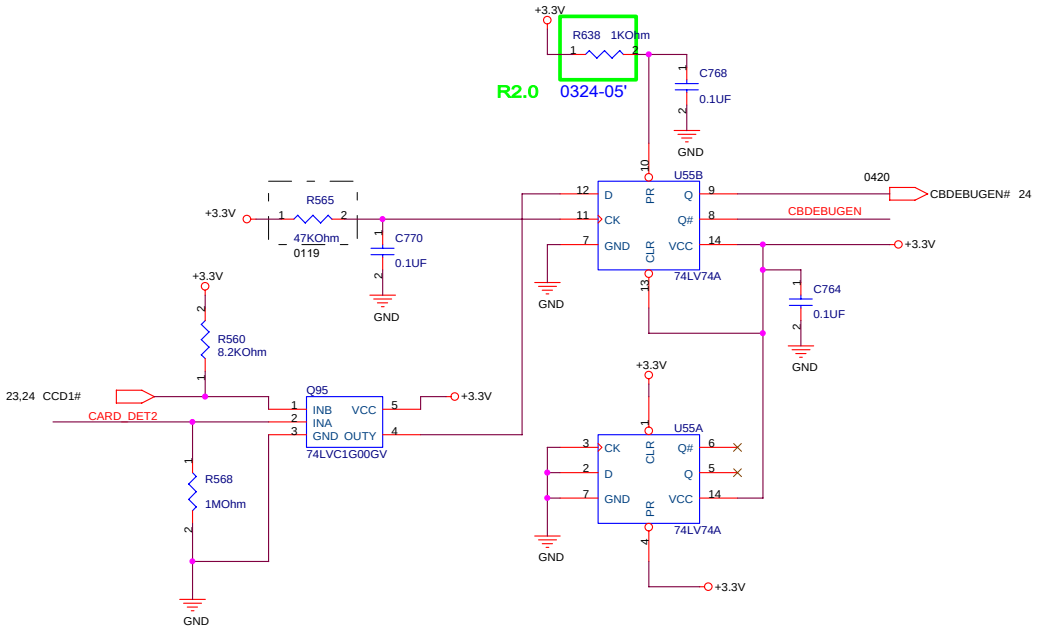
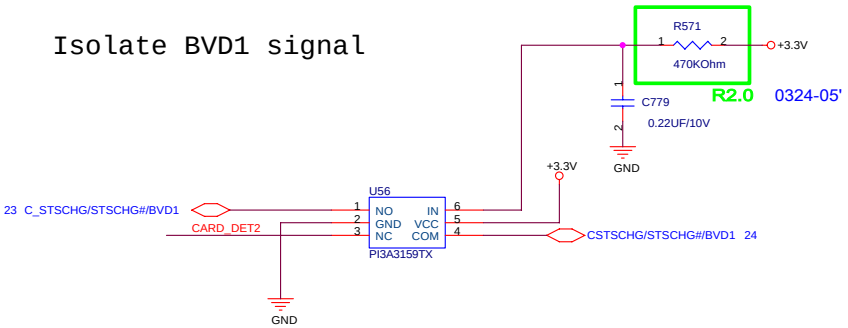
PCMCIA DEBUG PORT



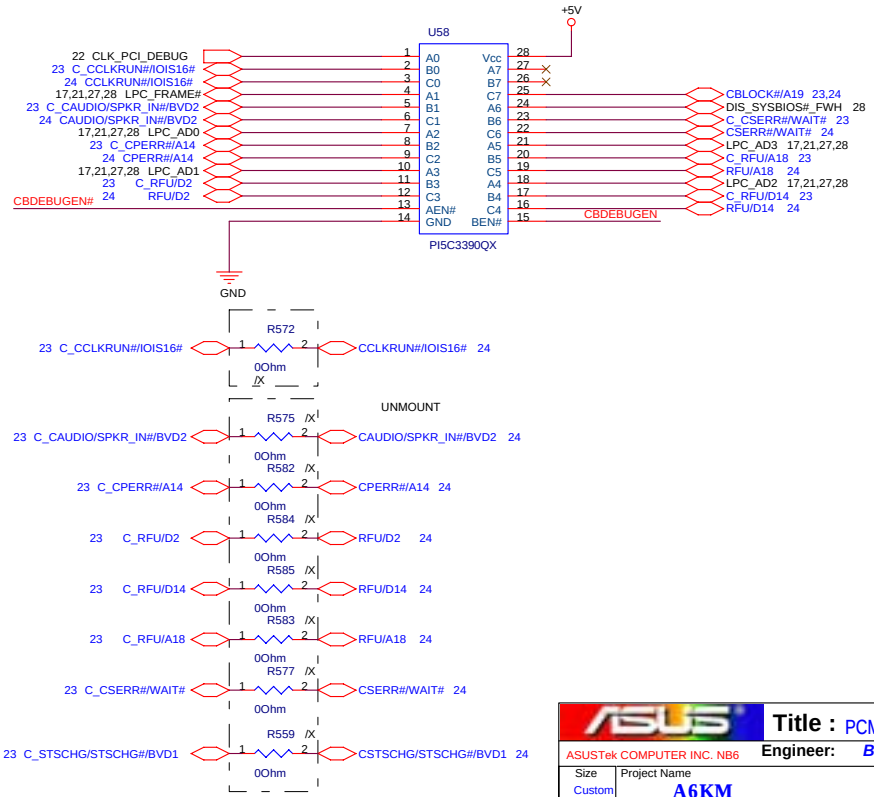
RC value may need to tuned for each product.

Isolate BVD1 signal



When +3V on, select BVD1 to CARD_DET2 for RC delay time

Isolate card bus control and slot signal when debug card plug in



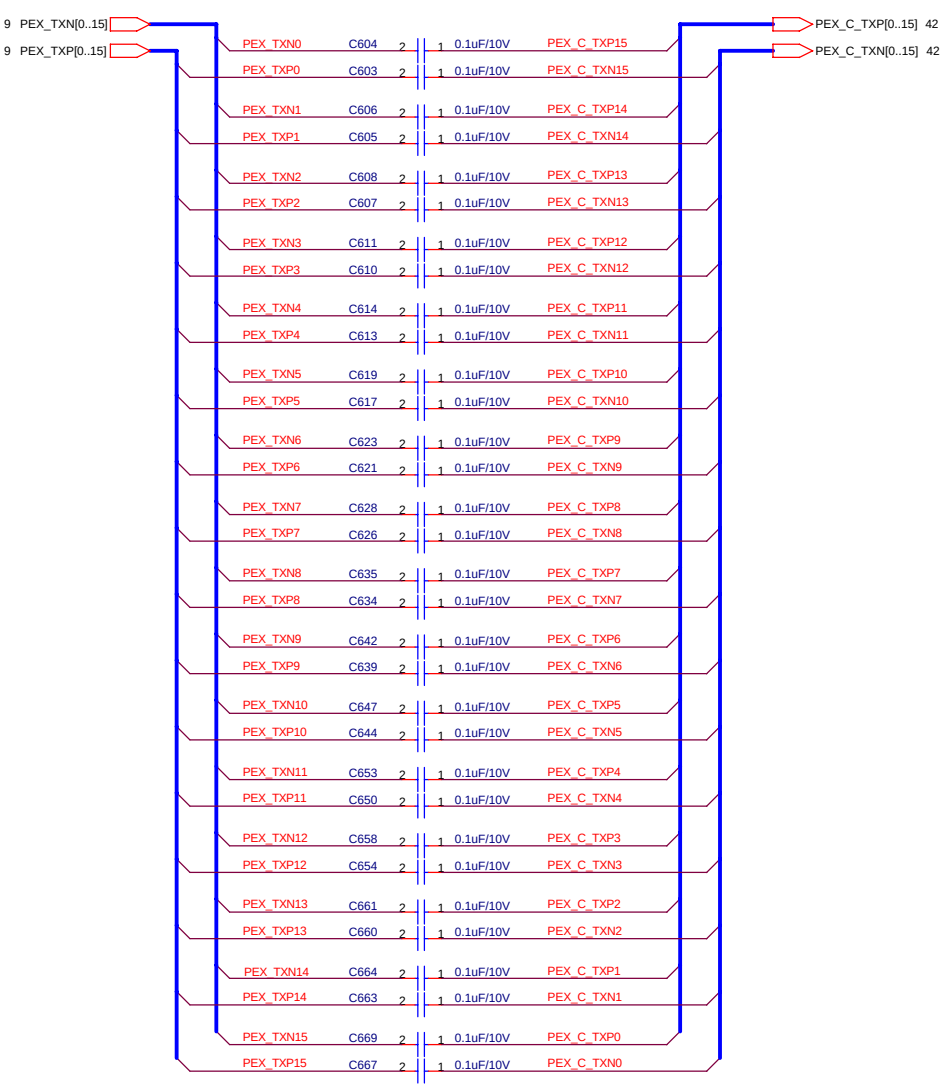
ASUSTek COMPUTER INC. NB6

Title : PCMCIA DEBUG

Engineer: Brad Lu

Size	Project Name	Rev
Custom	A6KM	1.0

Date: Tuesday, August 02, 2005 Sheet 40 of 64



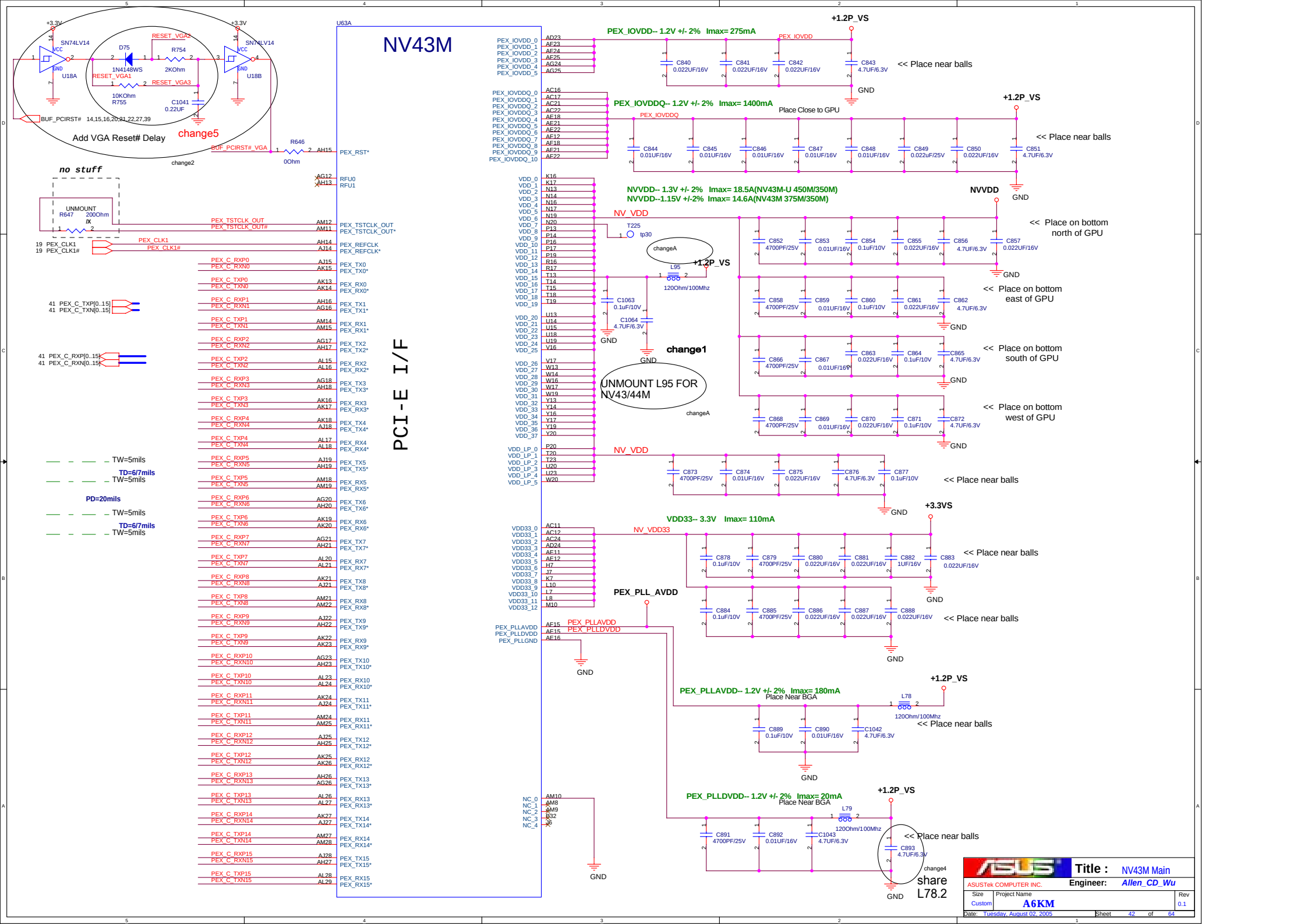
PLACE these 0402 AC coupling caps close to sis756.

TX P&N [0..15] PIN SWAP FOR LAYOUT

PLACE these 0402 AC coupling caps close to nv44m

RX P&N 0.2.7.9.11.13.14.15 PIN SWAP FOR LAYOUT

ASUSTeK COMPUTER INC	Title : PCIE AC COUPLE	
	Engineer: *Brad Lu*	
Size: Custom	Project Name: A6KM	Rev: 1.0
Date: Tuesday, August 02, 2005	Sheet 41 of 64	


NV43M
PCI-E I/F
U63A
Add VGA Reset# Delay
change5
change2
no stuff
UNMOUNT
R647 200Ohm
IX
UNMOUNT L95 FOR NV43/44M
changeA
change1
PEX_IOVDD-- 1.2V +/- 2% Imax= 275mA
PEX_IOVDDQ-- 1.2V +/- 2% Imax= 1400mA
Place Close to GPU
NVVDD-- 1.3V +/- 2% Imax= 18.5A(NV43M-U 450M/350M)
NVVDD--1.15V +/-2% Imax= 14.6A(NV43M 375M/350M)
VDD33-- 3.3V Imax= 110mA
PEX_PLLAVDD-- 1.2V +/- 2% Imax= 180mA
Place Near BGA
PEX_PLLDVDD-- 1.2V +/- 2% Imax= 20mA
Place Near BGA
<< Place near balls
<< Place on bottom north of GPU
<< Place on bottom east of GPU
<< Place on bottom south of GPU
<< Place on bottom west of GPU
+1.2P_VS
+3.3VS
NVVDD
NV_VDD
NV_VDD33
PEX_PLL_AVDD
GND
TW=5mils
TD=6/7mils
PD=20mils
share L78.2
Title : NV43M Main
ASUSTek COMPUTER INC.
Engineer: Allen_CD_Wu
Project Name A6KM
Rev 0.1
Date: Tuesday, August 02, 2005
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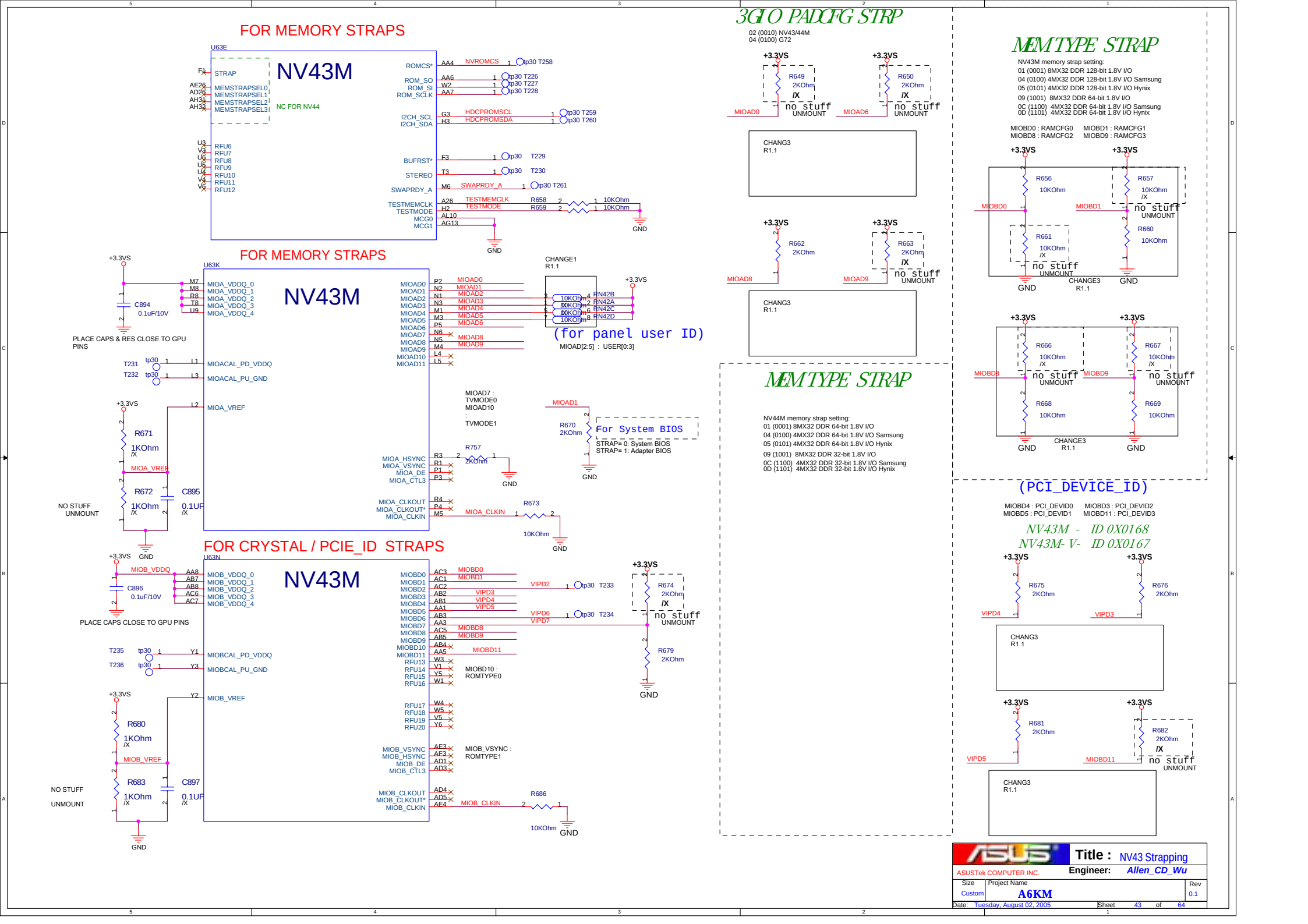
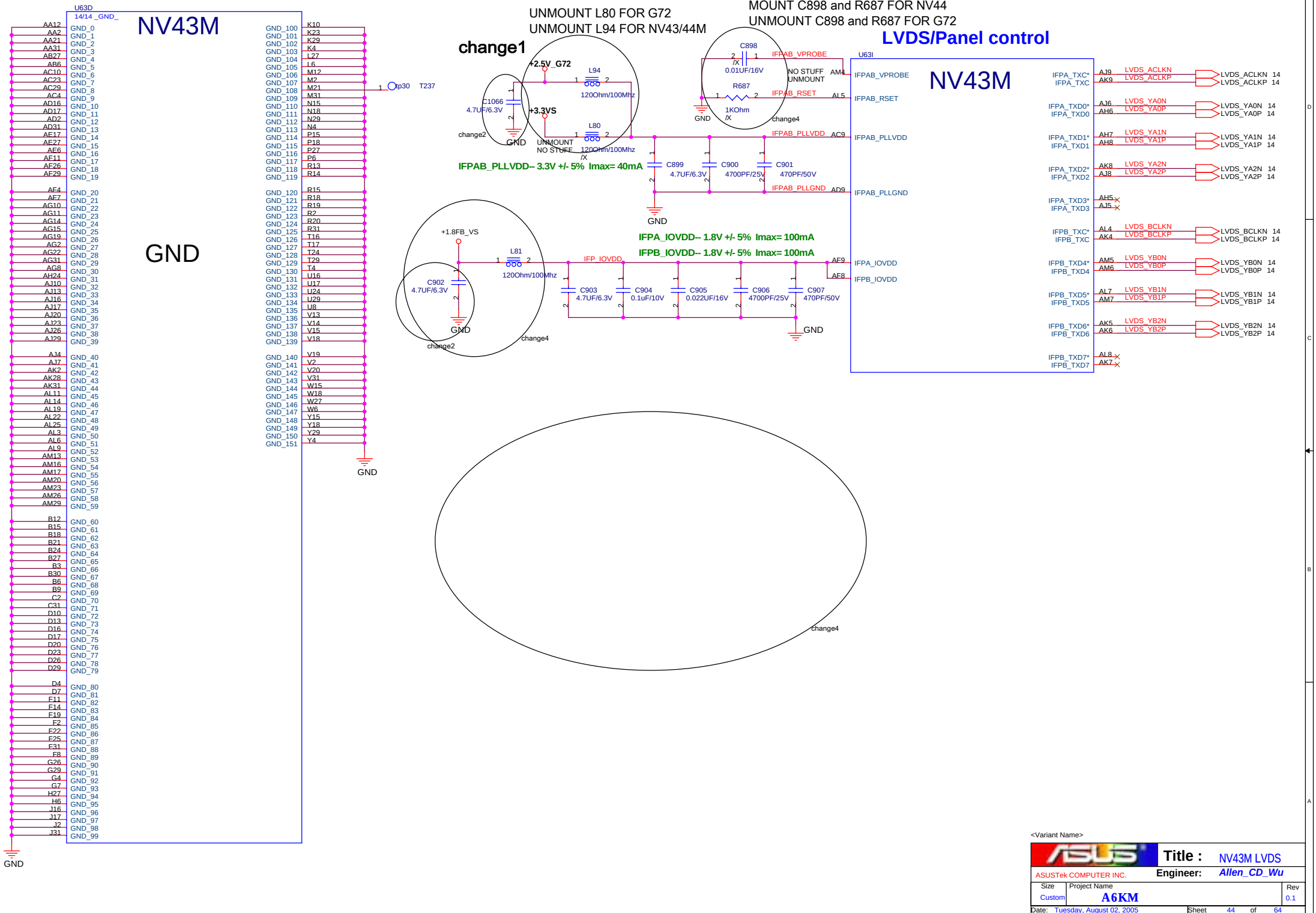
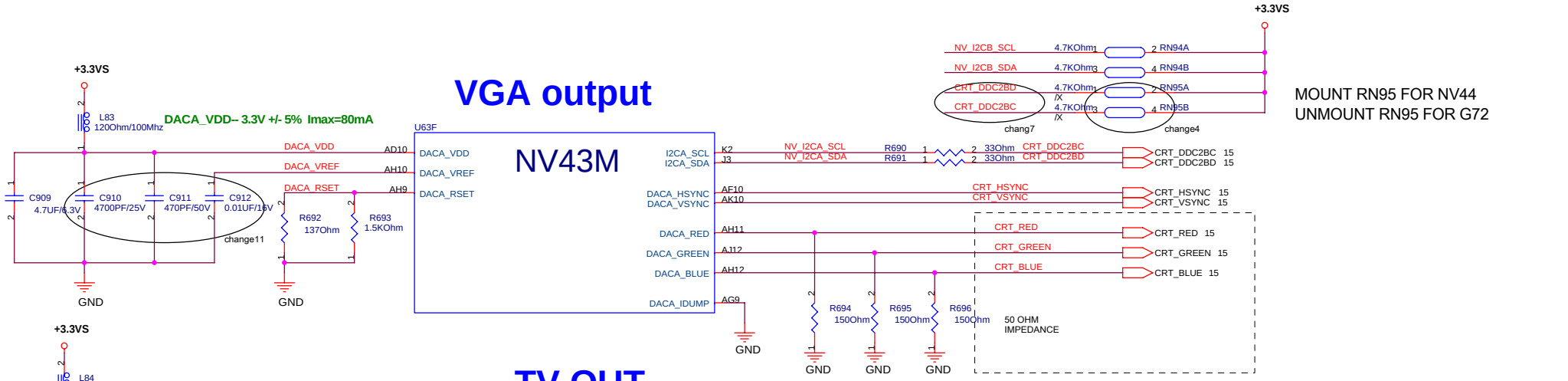

FOR MEMORY STRAPS
U63E
NV43M
STRAP
MEMSTRAPSEL0
MEMSTRAPSEL1
MEMSTRAPSEL2
MEMSTRAPSEL3
NC FOR NV44
RFU6
RFU7
RFU8
RFU9
RFU10
RFU11
RFU12
ROMCS*
ROM_SO
ROM_SI
ROM_SCLK
I2CH_SCL
I2CH_SDA
BUFRST*
STEREO
SWAPRDY_A
TESTMEMCLK
TESTMODE
MCG0
MCG1
NVROMCS
HDCPROMSCL
HDCPROMSDA
SWAPRDY_A
TESTMEMCLK
TESTMODE
R658
R659
10KOhm
GND
FOR MEMORY STRAPS
U63K
NV43M
MIOA_VDDQ_0
MIOA_VDDQ_1
MIOA_VDDQ_2
MIOA_VDDQ_3
MIOA_VDDQ_4
C894
0.1uF/10V
PLACE CAPS & RES CLOSE TO GPU PINS
MIOACAL_PD_VDDQ
MIOACAL_PU_GND
MIOA_VREF
MIOAD0
MIOAD1
MIOAD2
MIOAD3
MIOAD4
MIOAD5
MIOAD6
MIOAD7
MIOAD8
MIOAD9
MIOAD10
MIOAD11
CHANGE1
R1.1
RN42B
RN42A
RN42C
RN42D
(for panel user ID)
MIOAD[2:5] : USER[0:3]
MIOAD7 :
TVMODE0
MIOAD10
:
TVMODE1
R671
1KOhm
/X
R672
1KOhm
/X
C895
0.1UF
/X
NO STUFF
UNMOUNT
R757
2KOhm
MIOA_HSYNC
MIOA_VSYNC
MIOA_DE
MIOA_CTL3
R670
2KOhm
For System BIOS
STRAP= 0: System BIOS
STRAP= 1: Adapter BIOS
MIOA_CLKOUT
MIOA_CLKOUT*
MIOA_CLKIN
R673
10KOhm
FOR CRYSTAL / PCIE_ID STRAPS
U63N
NV43M
MIOB_VDDQ_0
MIOB_VDDQ_1
MIOB_VDDQ_2
MIOB_VDDQ_3
MIOB_VDDQ_4
C896
0.1uF/10V
PLACE CAPS CLOSE TO GPU PINS
MIOBCAL_PD_VDDQ
MIOBCAL_PU_GND
MIOB_VREF
MIOBD0
MIOBD1
MIOBD2
MIOBD3
MIOBD4
MIOBD5
MIOBD6
MIOBD7
MIOBD8
MIOBD9
MIOBD10
MIOBD11
RFU13
RFU14
RFU15
RFU16
RFU17
RFU18
RFU19
RFU20
VIPD2
VIPD3
VIPD4
VIPD5
VIPD6
VIPD7
R674
2KOhm
/X
no stuff
UNMOUNT
R679
2KOhm
MIOBD10 :
ROMTYPE0
MIOB_VSYNC
MIOB_HSYNC
MIOB_DE
MIOB_CTL3
MIOB_VSYNC :
ROMTYPE1
MIOB_CLKOUT
MIOB_CLKOUT*
MIOB_CLKIN
R680
1KOhm
/X
R683
1KOhm
/X
C897
0.1UF
/X
NO STUFF
UNMOUNT
R686
10KOhm
GND
3GIO PADCFG STRP
02 (0010) NV43/44M
04 (0100) G72
R649
2KOhm
/X
no stuff
UNMOUNT
R650
2KOhm
/X
no stuff
UNMOUNT
MIOAD0
MIOAD6
CHANG3
R1.1
R662
2KOhm
R663
2KOhm
/X
no stuff
UNMOUNT
MIOAD8
MIOAD9
CHANG3
R1.1
MEM TYPE STRAP
NV44M memory strap setting:
01 (0001) 8MX32 DDR 64-bit 1.8V I/O
04 (0100) 4MX32 DDR 64-bit 1.8V I/O Samsung
05 (0101) 4MX32 DDR 64-bit 1.8V I/O Hynix
09 (1001) 8MX32 DDR 32-bit 1.8V I/O
0C (1100) 4MX32 DDR 32-bit 1.8V I/O Samsung
0D (1101) 4MX32 DDR 32-bit 1.8V I/O Hynix
MEM TYPE STRAP
NV43M memory strap setting:
01 (0001) 8MX32 DDR 128-bit 1.8V I/O
04 (0100) 4MX32 DDR 128-bit 1.8V I/O Samsung
05 (0101) 4MX32 DDR 128-bit 1.8V I/O Hynix
09 (1001) 8MX32 DDR 64-bit 1.8V I/O
0C (1100) 4MX32 DDR 64-bit 1.8V I/O Samsung
0D (1101) 4MX32 DDR 64-bit 1.8V I/O Hynix
MIOBD0 : RAMCFG0
MIOBD1 : RAMCFG1
MIOBD8 : RAMCFG2
MIOBD9 : RAMCFG3
R656
10KOhm
R657
10KOhm
/X
no stuff
UNMOUNT
R660
10KOhm
R661
10KOhm
/X
no stuff
UNMOUNT
CHANGE3
R1.1
R666
10KOhm
/X
R667
10KOhm
/X
no stuff
UNMOUNT
R668
10KOhm
R669
10KOhm
CHANGE3
R1.1
(PCI_DEVICE_ID)
MIOBD4 : PCI_DEVID0
MIOBD3 : PCI_DEVID2
MIOBD5 : PCI_DEVID1
MIOBD11 : PCI_DEVID3
NV43M - ID 0X0168
NV43M- V- ID 0X0167
R675
2KOhm
R676
2KOhm
CHANG3
R1.1
R681
2KOhm
R682
2KOhm
/X
no stuff
UNMOUNT
CHANG3
R1.1
Title : NV43 Strapping
ASUSTek COMPUTER INC.
Engineer: Allen_CD_Wu
Size
Custom
Project Name
A6KM
Rev
0.1
Date: Tuesday, August 02, 2005
Sheet 43 of 64



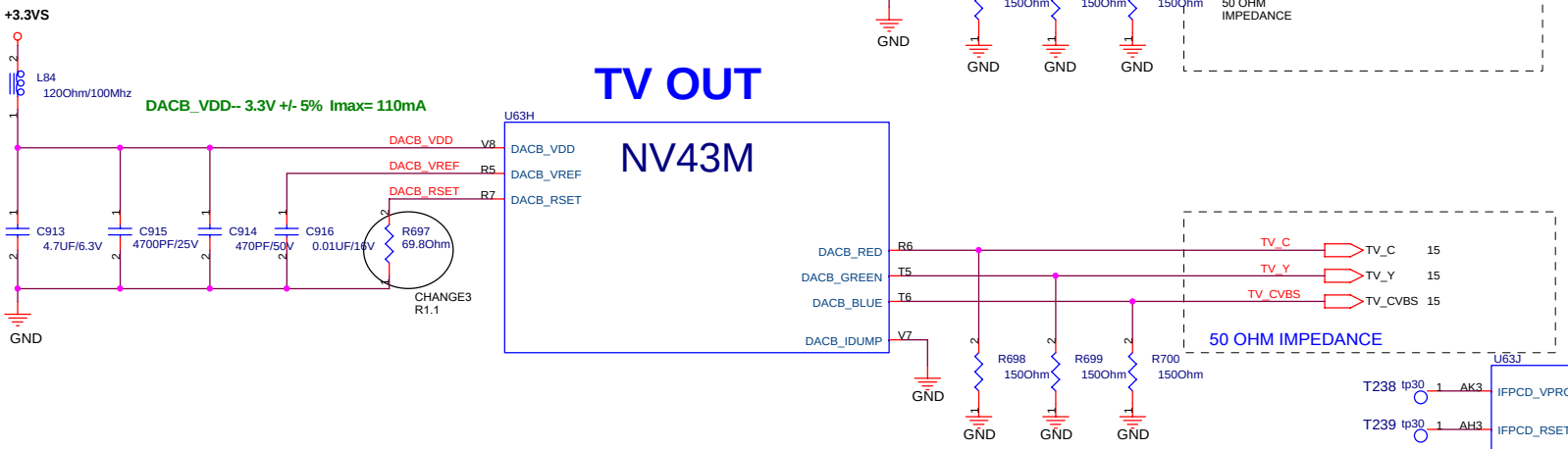
<Variant Name>

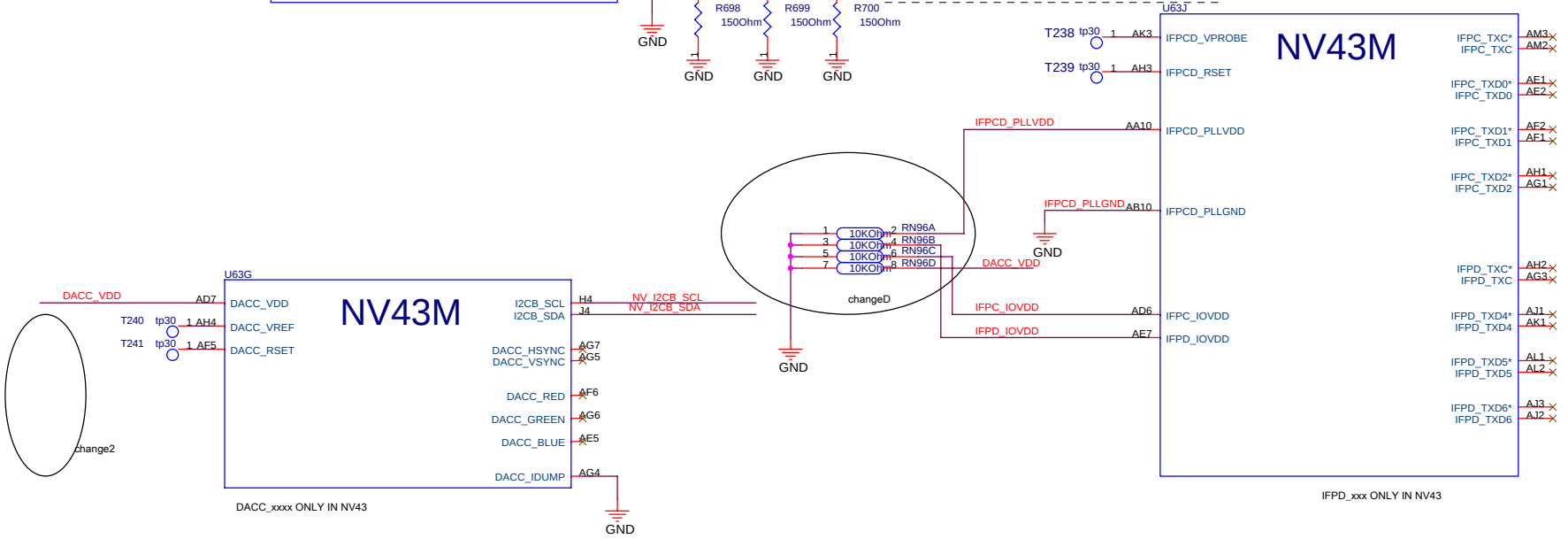
ASUSTek COMPUTER INC.	Title :	NV43M LVDS
	Engineer:	Allen_CD_Wu
Size: Custom	Project Name: A6KM	Rev: 0.1
Date: Tuesday, August 02, 2005	Sheet 44 of 64	

VGA output



TV OUT

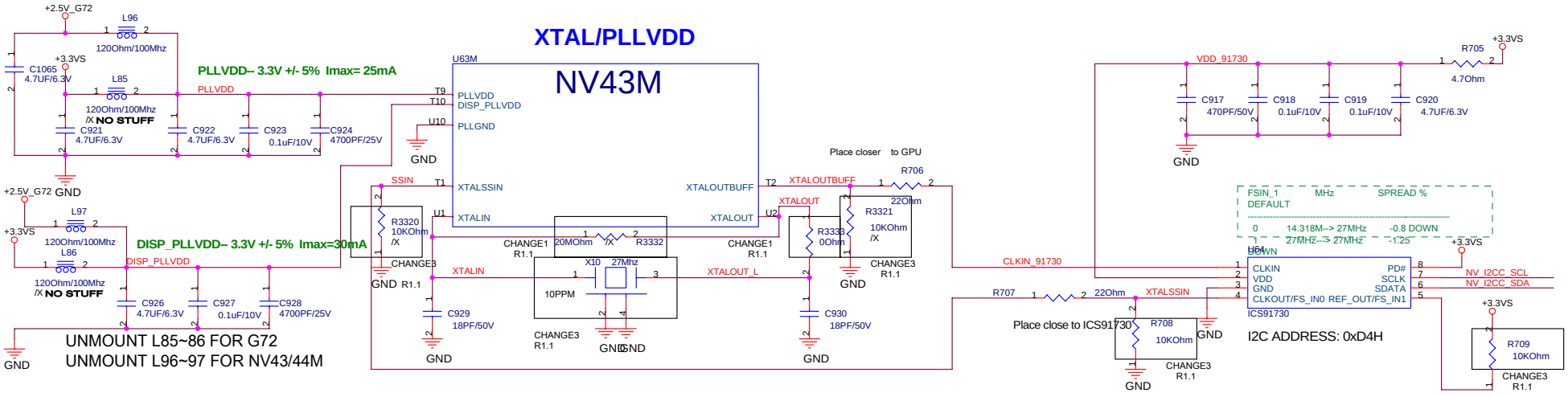




<Variant Name>

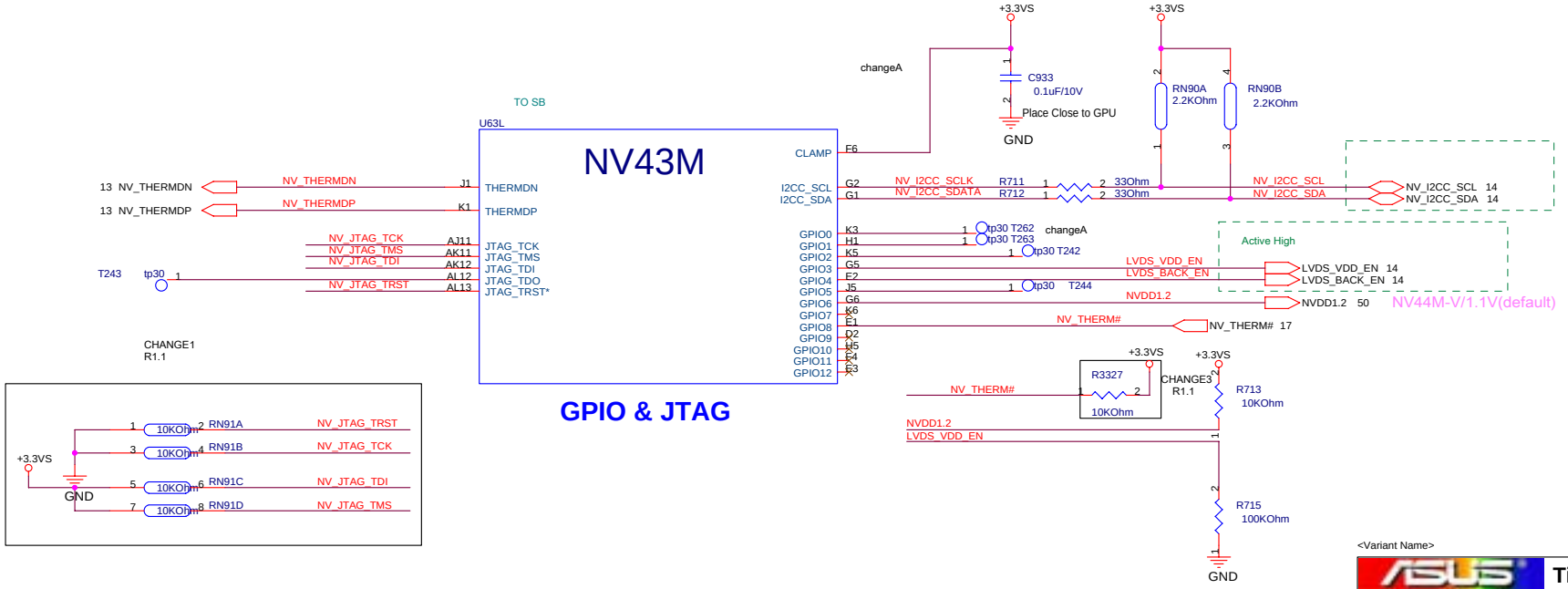
ASUSTek COMPUTER INC.	Title : MV43 VGA/TV Out	
	Engineer: Allen_CD_Wu	
Size: Custom	Project Name: A6KM	Rev: 0.1
Date: Tuesday, August 02, 2005	Sheet 45 of 64	

XTAL/PLLVDD



GPIO	I/O	ACTIVE	USAGE
0	IN	N/A	PRIMARY DVI HOT PLUG
1	IN	N/A	2ND DVI HOT PLUG
2	OUT	HIGH	BACKLIGHT BRIGHTNESS
3	OUT	HIGH	PANEL POWER ENABLE
4	OUT	HIGH	PANEL BACKLIGHT ENABLE
5	OUT	HIGH	NVVDD VID0
6	OUT	HIGH	NVVDD VID1
7	OUT	HIGH	FBVDD VID0
8	IN	LOW	THERMAL SHUTDOWN
9	OUT	LOW	FAN PWM

GPIO & JTAG



<Variant Name>

ASUSTek COMPUTER INC.

Title : NV Spread Spectrum

Engineer: Allen_CD_Wu

Size	Project Name	Rev
Custom	A6KM	0.1

Date: Tuesday, August 02, 2005 Sheet 46 of 64

NV43M

VRAM I/F Channel A

U63B

49 NVFBA_D[0..31]

NVFBA_D0 N27 FBAD0
NVFBA_D1 M27 FBAD1
NVFBA_D2 N28 FBAD2
NVFBA_D3 L29 FBAD3
NVFBA_D4 K27 FBAD4
NVFBA_D5 K28 FBAD5
NVFBA_D6 J29 FBAD6
NVFBA_D7 J28 FBAD7
NVFBA_D8 P30 FBAD8
NVFBA_D9 N31 FBAD9
NVFBA_D10 N30 FBAD10
NVFBA_D11 N32 FBAD11
NVFBA_D12 L31 FBAD12
NVFBA_D13 L30 FBAD13
NVFBA_D14 J30 FBAD14
NVFBA_D15 L32 FBAD15
NVFBA_D16 H30 FBAD16
NVFBA_D17 K30 FBAD17
NVFBA_D18 H31 FBAD18
NVFBA_D19 F30 FBAD19
NVFBA_D20 H32 FBAD20
NVFBA_D21 E31 FBAD21
NVFBA_D22 D30 FBAD22
NVFBA_D23 E30 FBAD23
NVFBA_D24 H28 FBAD24
NVFBA_D25 H29 FBAD25
NVFBA_D26 E29 FBAD26
NVFBA_D27 J27 FBAD27
NVFBA_D28 E27 FBAD28
NVFBA_D29 E27 FBAD29
NVFBA_D30 E28 FBAD30
NVFBA_D31 E28 FBAD31

49 NVFBA_D[32..63]

NVFBA_D32 AD29 FBAD32
NVFBA_D33 AE29 FBAD33
NVFBA_D34 AD28 FBAD34
NVFBA_D35 AC28 FBAD35
NVFBA_D36 AB29 FBAD36
NVFBA_D37 AA30 FBAD37
NVFBA_D38 Y28 FBAD38
NVFBA_D39 AB30 FBAD39
NVFBA_D40 AM30 FBAD40
NVFBA_D41 AE30 FBAD41
NVFBA_D42 AJ31 FBAD42
NVFBA_D43 AJ30 FBAD43
NVFBA_D44 AJ32 FBAD44
NVFBA_D45 AK29 FBAD45
NVFBA_D46 AM31 FBAD46
NVFBA_D47 AL30 FBAD47
NVFBA_D48 AE32 FBAD48
NVFBA_D49 AE30 FBAD49
NVFBA_D50 AF31 FBAD50
NVFBA_D51 AD30 FBAD51
NVFBA_D52 AC31 FBAD52
NVFBA_D53 AC32 FBAD53
NVFBA_D54 AB32 FBAD54
NVFBA_D55 AB31 FBAD55
NVFBA_D56 AG27 FBAD56
NVFBA_D57 AF28 FBAD57
NVFBA_D58 AH28 FBAD58
NVFBA_D59 AG28 FBAD59
NVFBA_D60 AG29 FBAD60
NVFBA_D61 AD27 FBAD61
NVFBA_D62 AF27 FBAD62
NVFBA_D63 AE28 FBAD63

49 NVFBA_DQM0 NVFBA_DQM0 M29 FBADQM0
49 NVFBA_DQM1 NVFBA_DQM1 M30 FBADQM1
49 NVFBA_DQM2 NVFBA_DQM2 G30 FBADQM2
49 NVFBA_DQM3 NVFBA_DQM3 F29 FBADQM3
49 NVFBA_DQM4 NVFBA_DQM4 AA29 FBADQM4
49 NVFBA_DQM5 NVFBA_DQM5 AK30 FBADQM5
49 NVFBA_DQM6 NVFBA_DQM6 AC30 FBADQM6
49 NVFBA_DQM7 NVFBA_DQM7 AG30 FBADQM7

49 NVFBA_DQS0 NVFBA_DQS0 L28 FBADQS_WP0
49 NVFBA_DQS1 NVFBA_DQS1 K31 FBADQS_WP1
49 NVFBA_DQS2 NVFBA_DQS2 G32 FBADQS_WP2
49 NVFBA_DQS3 NVFBA_DQS3 G28 FBADQS_WP3
49 NVFBA_DQS4 NVFBA_DQS4 AB28 FBADQS_WP4
49 NVFBA_DQS5 NVFBA_DQS5 AL32 FBADQS_WP5
49 NVFBA_DQS6 NVFBA_DQS6 AE32 FBADQS_WP6
49 NVFBA_DQS7 NVFBA_DQS7 AH30 FBADQS_WP7

M28 FBADQS_RN0
K32 FBADQS_RN1
G31 FBADQS_RN2
G27 FBADQS_RN3
AA28 FBADQS_RN4
AL31 FBADQS_RN5
AF32 FBADQS_RN6
AH29 FBADQS_RN7

+1.8FB_VS

UNMOUNT

R716 10KOhm 1% /X C970 0.022uF/25V
R717 10KOhm 1% C971 0.022uF/25V

NVFBA_VREF

NVFBA_VREF E32 FB_VREF1

changeA

FBVDD_0 A12
FBVDD_1 A15
FBVDD_2 A18
FBVDD_3 A21
FBVDD_4 A24
FBVDD_5 A27
FBVDD_6 A3
FBVDD_7 A30
FBVDD_8 A6
FBVDD_9 A9
FBVDD_10 AA32
FBVDD_11 AD32
FBVDD_12 AG32
FBVDD_13 AK32
FBVDD_14 C32
FBVDD_15 F32
FBVDD_16 J32
FBVDD_17 M32
FBVDD_18 R32
FBVDD_19 V32

+1.8FB_VS

changeA

VDD--1.8V +/-2% Imax= 1.4A(NV43M-U 400M/350M)
VDD--1.8V +/-2% Imax= 1.3A(NV43M 375M/300M)

+1.8FB_VS

changeA

FBVDDQ_0 AA25
FBVDDQ_1 AA26
FBVDDQ_2 AB25
FBVDDQ_3 AB26
FBVDDQ_4 G11
FBVDDQ_5 G12
FBVDDQ_6 G15
FBVDDQ_7 G18
FBVDDQ_8 G21
FBVDDQ_9 G22
FBVDDQ_10 H11
FBVDDQ_11 H12
FBVDDQ_12 H15
FBVDDQ_13 H18
FBVDDQ_14 H21
FBVDDQ_15 H22
FBVDDQ_16 L25
FBVDDQ_17 L26
FBVDDQ_18 M25
FBVDDQ_19 M26
FBVDDQ_20 R25
FBVDDQ_21 R26
FBVDDQ_22 V25
FBVDDQ_23 V26

+1.8FB_VS

C950 4700PF/25V
C951 0.022uF/25V
C952 0.1uF/10V
C953 0.1uF/10V
C954 4700PF/25V
C955 0.1uF/10V
C956 4.7UF/6.3V
C957 4.7UF/6.3V

GND

VDDQ--1.8V +/-2% Imax= 1.1A(NV43M-U 400M/350M)
VDDQ--1.8V +/-2% Imax= 1.0A(NV43M 375M/300M)

+1.8FB_VS

C958 0.022uF/25V
C959 0.1uF/10V
C960 4700PF/25V
C961 0.022uF/25V
C962 0.1uF/10V
C963 0.1uF/10V
C964 0.022uF/25V
C965 0.1uF/10V
C966 0.022uF/25V

GND

NVFBA_A[0..11] 49

FBA_CMD0 P32 NVFBA_A3
FBA_CMD1 U27 NVFBA_A0
FBA_CMD2 P31 NVFBA_A2
FBA_CMD3 U30 NVFBA_A1
FBA_CMD4 Y31 NVFBB_A3 NVFBB_A3 49
FBA_CMD5 W32 NVFBB_A4 NVFBB_A4 49
FBA_CMD6 W31 NVFBB_A5 NVFBB_A5 49
FBA_CMD7 T32 NVFBA_CS#1 NVFBA_CS#1 49
FBA_CMD8 V27 NVFBA_CS#0 NVFBA_CS#0 49
FBA_CMD9 T28 NVFBA_WE# NVFBA_WE# 49
FBA_CMD10 T31 NVFBA_BA0 NVFBA_BA0 49
FBA_CMD11 U32 NVFBA_CKE NVFBA_CKE 49
FBA_CMD12 W29 1 tp30 T245
FBA_CMD13 W30 NVFBB_A2 NVFBB_A2 49
FBA_CMD14 T27 NVFBA_A12 NVFBA_A12 49
FBA_CMD15 V28 NVFBA_RAS# NVFBA_RAS# 49
FBA_CMD16 V30 NVFBA_A11
FBA_CMD17 U31 NVFBA_A10
FBA_CMD18 R27 NVFBA_BA1 NVFBA_BA1 49
FBA_CMD19 V29 NVFBA_A8
FBA_CMD20 T30 NVFBA_A9
FBA_CMD21 W28 NVFBA_A6
FBA_CMD22 R29 NVFBA_A5
FBA_CMD23 R30 NVFBA_A7
FBA_CMD24 P29 NVFBA_A4
FBA_CMD25 U28 NVFBA_CAS# NVFBA_CAS# 49
FBA_CMD26 Y32 NVFBA_A13 1 T246tp30

(FBA_CMD26 ONLY IN NV44)

FBA_CLK0 P28 NVFBA_CLK0 NVFBA_CLK0 49
FBA_CLK0* R28 NVFBA_CLK0# NVFBA_CLK0# 49
FBA_CLK1 Y27 NVFBA_CLK1 NVFBA_CLK1 49
FBA_CLK1* AA27 NVFBA_CLK1# NVFBA_CLK1# 49

RFU2 Y30
RFU3 AC26
CHANG3 R1.1

FBA_DEBUG AC27 NVFBA_DEBUG 1 T247 tp30

FBA_REFCLK D32 NVFBA_REFCLK 1 T248 tp30
FBA_REFCLKN D31 NVFBA_REFCLK# 1 T249 tp30

FBA_PLLVDD G23 FBA_PLLVDD
FBA_PLLAVDD G25 FBA_PLLAVDD
FBA_PLLGND G24

GND

FBA_PLLVDD 3.3V Imax= 15mA
place close to balls

+3.3VS

L87 120Ohm/100Mhz /X NO STUFF

C967 470PF/50V /X NO STUFF
C968 4700PF/25V /X NO STUFF
C969 4.7UF/6.3V /X NO STUFF

change1

L87, C967~969 UNMOUNT FOR G72 MOUNT FOR NV43/44M

GND

FBA_PLLAVDD 1.2V Imax= 15mA

+1.2P_VS

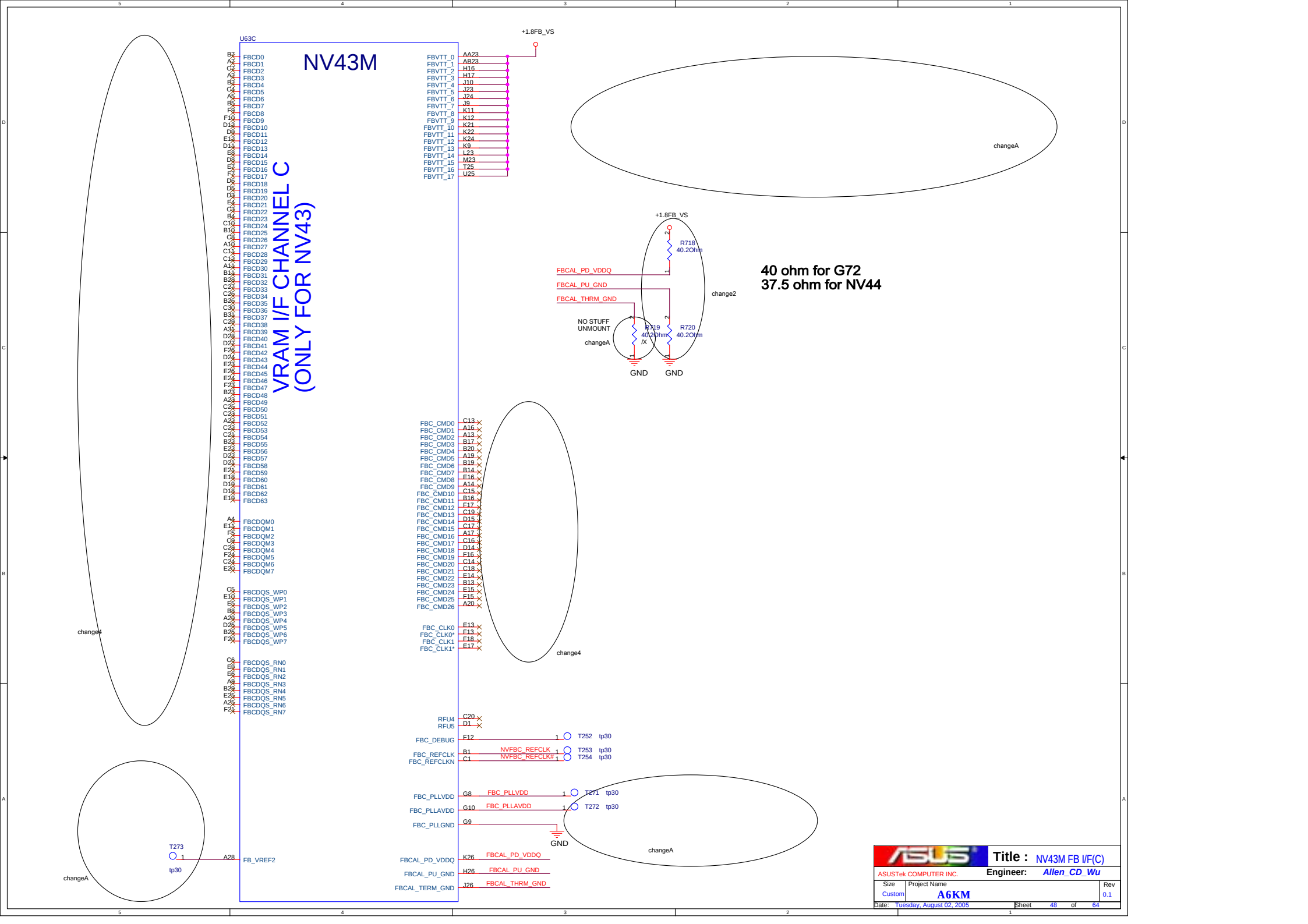
L98 120Ohm/100Mhz

changeA

C972 470PF/50V
C973 4700PF/25V
C974 4.7UF/6.3V

GND

Title : NV43M FB I/F(A)			
ASUSTek COMPUTER INC.	Engineer: Allen_CD_Wu		
Size: Custom	Project Name: A6KM		Rev: 0.1
Date: Tuesday, August 02, 2005	Sheet 47 of 64		


U63C
NV43M
VRAM I/F CHANNEL C
(ONLY FOR NV43)
FBCD0
FBCD1
FBCD2
FBCD3
FBCD4
FBCD5
FBCD6
FBCD7
FBCD8
FBCD9
FBCD10
FBCD11
FBCD12
FBCD13
FBCD14
FBCD15
FBCD16
FBCD17
FBCD18
FBCD19
FBCD20
FBCD21
FBCD22
FBCD23
FBCD24
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FBCD27
FBCD28
FBCD29
FBCD30
FBCD31
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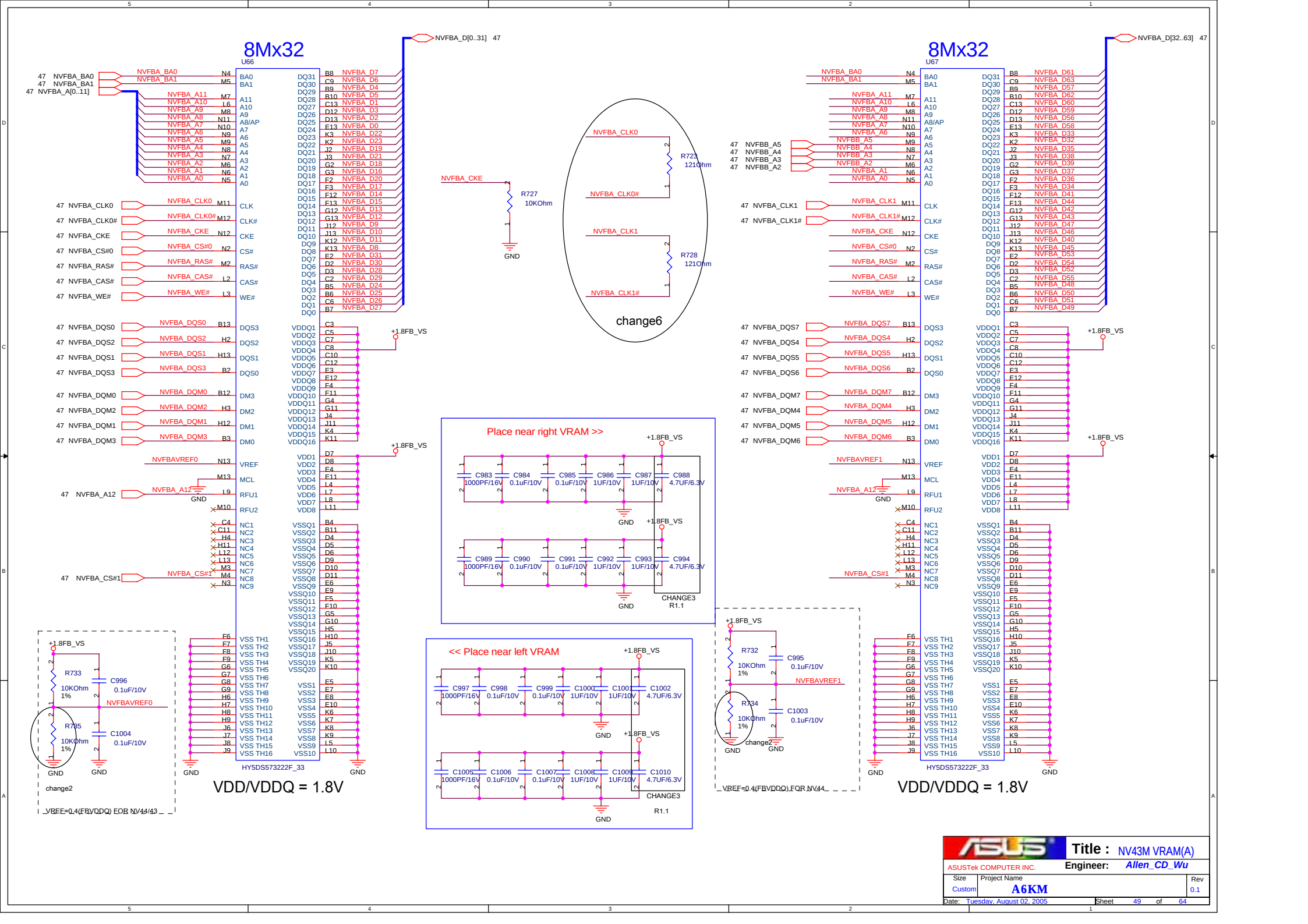
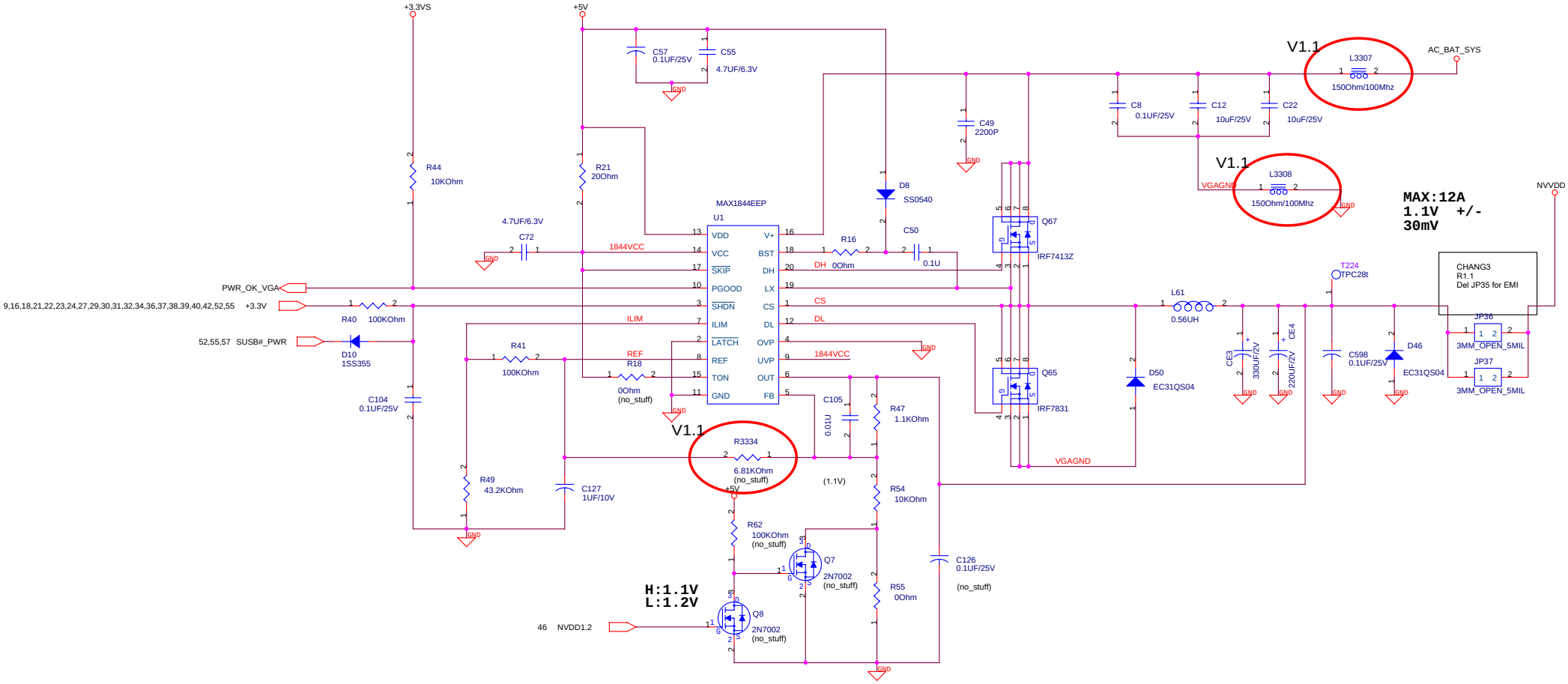
FBCD60
FBCD61
FBCD62
FBCD63
FBCDQM0
FBCDQM1
FBCDQM2
FBCDQM3
FBCDQM4
FBCDQM5
FBCDQM6
FBCDQM7
FBCDQS_WP0
FBCDQS_WP1
FBCDQS_WP2
FBCDQS_WP3
FBCDQS_WP4
FBCDQS_WP5
FBCDQS_WP6
FBCDQS_WP7
FBCDQS_RN0
FBCDQS_RN1
FBCDQS_RN2
FBCDQS_RN3
FBCDQS_RN4
FBCDQS_RN5
FBCDQS_RN6
FBCDQS_RN7
change4
T273
tp30
FB_VREF2
changeA
+1.8FB_VS
FBVTT_0
FBVTT_1
FBVTT_2
FBVTT_3
FBVTT_4
FBVTT_5
FBVTT_6
FBVTT_7
FBVTT_8
FBVTT_9
FBVTT_10
FBVTT_11
FBVTT_12
FBVTT_13
FBVTT_14
FBVTT_15
FBVTT_16
FBVTT_17
changeA
+1.8FB_VS
R718
40.2Ohm
FBCAL_PD_VDDQ
FBCAL_PU_GND
FBCAL_THRM_GND
change2
NO STUFF
UNMOUNT
changeA
R719
40.2Ohm
/X
R720
40.2Ohm
GND
GND
40 ohm for G72
37.5 ohm for NV44
FBC_CMD0
FBC_CMD1
FBC_CMD2
FBC_CMD3
FBC_CMD4
FBC_CMD5
FBC_CMD6
FBC_CMD7
FBC_CMD8
FBC_CMD9
FBC_CMD10
FBC_CMD11
FBC_CMD12
FBC_CMD13
FBC_CMD14
FBC_CMD15
FBC_CMD16
FBC_CMD17
FBC_CMD18
FBC_CMD19
FBC_CMD20
FBC_CMD21
FBC_CMD22
FBC_CMD23
FBC_CMD24
FBC_CMD25
FBC_CMD26
FBC_CLK0
FBC_CLK0*
FBC_CLK1
FBC_CLK1*
change4
RFU4
RFU5
FBC_DEBUG
T252
tp30
FBC_REFCLK
FBC_REFCLKN
NVFBC_REFCLK
NVFBC_REFCLK#
T253
T254
FBC_PLLVDD
FBC_PLLAVDD
FBC_PLLGND
T271
T272
GND
changeA
FBCAL_PD_VDDQ
FBCAL_PU_GND
FBCAL_TERM_GND
FBCAL_THRM_GND
Title : NV43M FB I/F(C)
ASUSTek COMPUTER INC.
Engineer: Allen_CD_Wu
Size
Custom
Project Name
A6KM
Rev
0.1
Date: Tuesday, August 02, 2005
Sheet 48 of 64

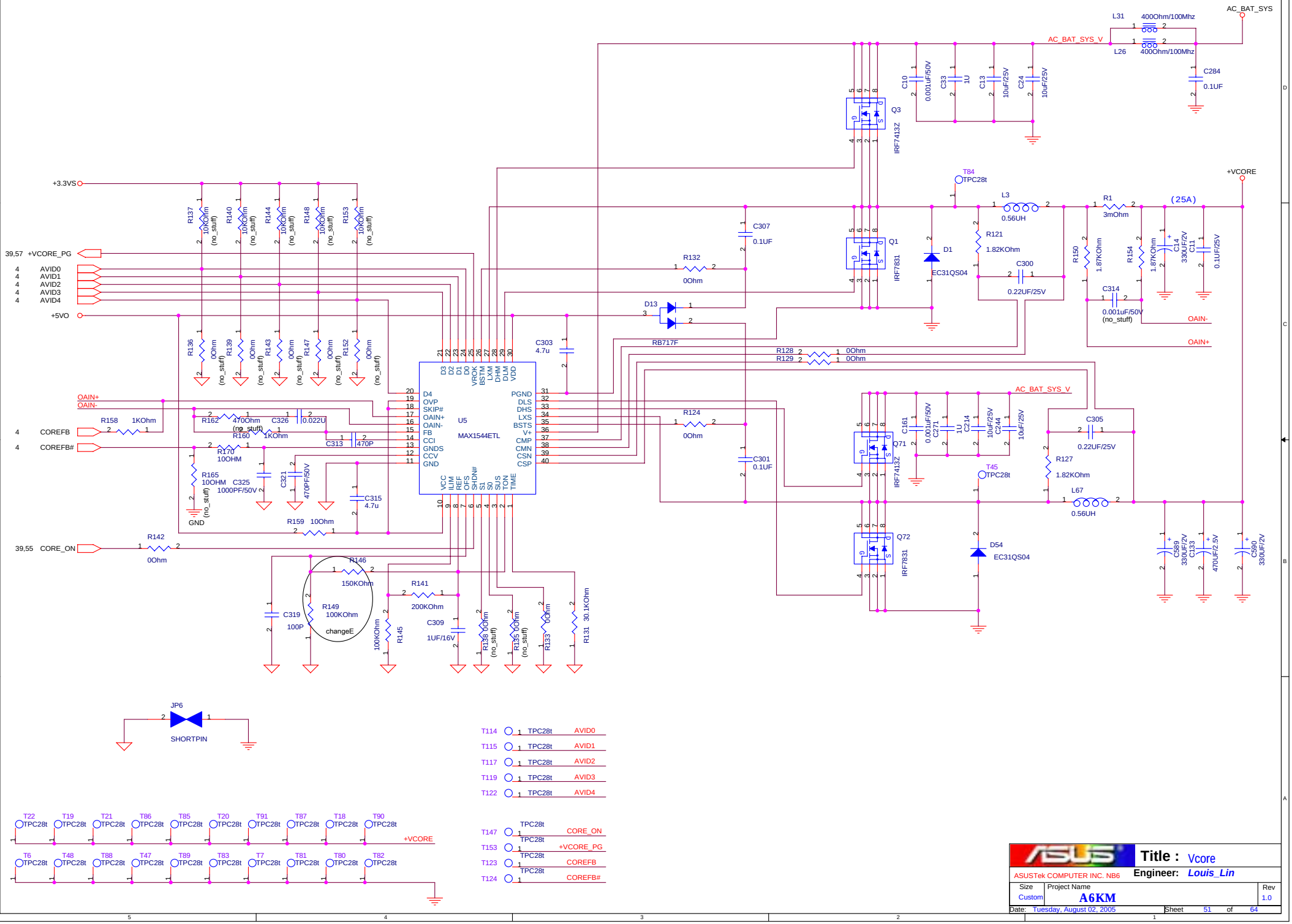


Title :	NV43M VRAM(A)
ASUSTek COMPUTER INC.	Engineer: Allen_CD_Wu
Size: Custom	Project Name: A6KM
Rev: 0.1	
Date: Tuesday, August 02, 2005	Sheet 49 of 64



<Variant Name>

ASUSTek COMPUTER INC. NB6	Title : VGACORE	
	Engineer: Louis_Lin	
Size: Custom	Project Name: A6KM	Rev: 1.0
Date: Tuesday, August 02, 2005	Sheet 50 of 64	


AC_BAT_SYS
AC_BAT_SYS_V
L31 400Ohm/100Mhz
L26 400Ohm/100Mhz
C284 0.1UF
C10 0.001uF/50V
C33 1U
C13 10uF/25V
C24 10uF/25V
Q3 IRF7413Z
+VCORE
T84 TPC28t
L3 0.56UH
R1 3mOhm
(25A)
Q1 IRF7831
D1 EC31QS04
R121 1.82KOhm
C300 0.22UF/25V
R150 1.87KOhm
R154 1.87KOhm
C14 330UF/2V
C11 0.1UF/25V
C314 0.001uF/50V (no_stuff)
OAIN-
OAIN+
C307 0.1UF
R132 0Ohm
D13 RB717F
R128 0Ohm
R129 0Ohm
C303 4.7u
+3.3VS
39,57 +VCORE_PG
4 AVID0
4 AVID1
4 AVID2
4 AVID3
4 AVID4
+5VO
R137 10KOhm (no_stuff)
R140 10KOhm (no_stuff)
R144 10KOhm (no_stuff)
R148 10KOhm (no_stuff)
R153 10KOhm (no_stuff)
R136 0Ohm (no_stuff)
R139 0Ohm (no_stuff)
R143 0Ohm (no_stuff)
R147 0Ohm (no_stuff)
R152 0Ohm (no_stuff)
U5 MAX1544ETL
D3 D2 D1 D0 VROK BSTM LXM DHM DLM VDD
D4 OVP SKIP# OAIN+ OAIN- FB CCI GNDS CCV GND
PGND DLS DHS LXS BSTS V+ CMP CMN CSN CSP
VCC ILIM REF OFS SHDN# SI SO SUS TON TIME
OAIN+
OAIN-
4 COREFB
4 COREFB#
R158 1KOhm
R162 470Ohm (no_stuff)
C326 0.022U
R160 1KOhm
C313 470P
R170 10OHM
R165 10OHM (no_stuff)
C325 1000PF/50V
C321 470PF/50V
C315 4.7u
GND
R159 10Ohm
R124 0Ohm
C301 0.1UF
Q71 IRF7413Z
C161 0.001uF/50V
C271 1U
C214 10uF/25V
C244 10uF/25V
C305 0.22UF/25V
R127 1.82KOhm
L67 0.56UH
T45 TPC28t
D54 EC31QS04
Q72 IRF7831
C89 330UF/2V
C53 470UF/2.5V
C90 330UF/2V
39,55 CORE_ON
R142 0Ohm
R146 150KOhm
R149 100KOhm changeE
R141 200KOhm
C319 100P
C309 1UF/16V
R145 100KOhm
R138 0Ohm (no_stuff)
R135 0Ohm (no_stuff)
R133 0Ohm
R131 30.1KOhm
JP6 SHORTPIN
T114 TPC28t AVID0
T115 TPC28t AVID1
T117 TPC28t AVID2
T119 TPC28t AVID3
T122 TPC28t AVID4
T147 TPC28t CORE_ON
T153 TPC28t +VCORE_PG
T123 TPC28t COREFB
T124 TPC28t COREFB#
T22 T19 T21 T86 T85 T20 T91 T87 T18 T90 TPC28t
T6 T48 T88 T47 T89 T83 T7 T81 T80 T82 TPC28t
+VCORE
Title : Vcore
ASUSTek COMPUTER INC. NB6
Engineer: Louis_Lin
Size Custom
Project Name A6KM
Rev 1.0
Date: Tuesday, August 02, 2005
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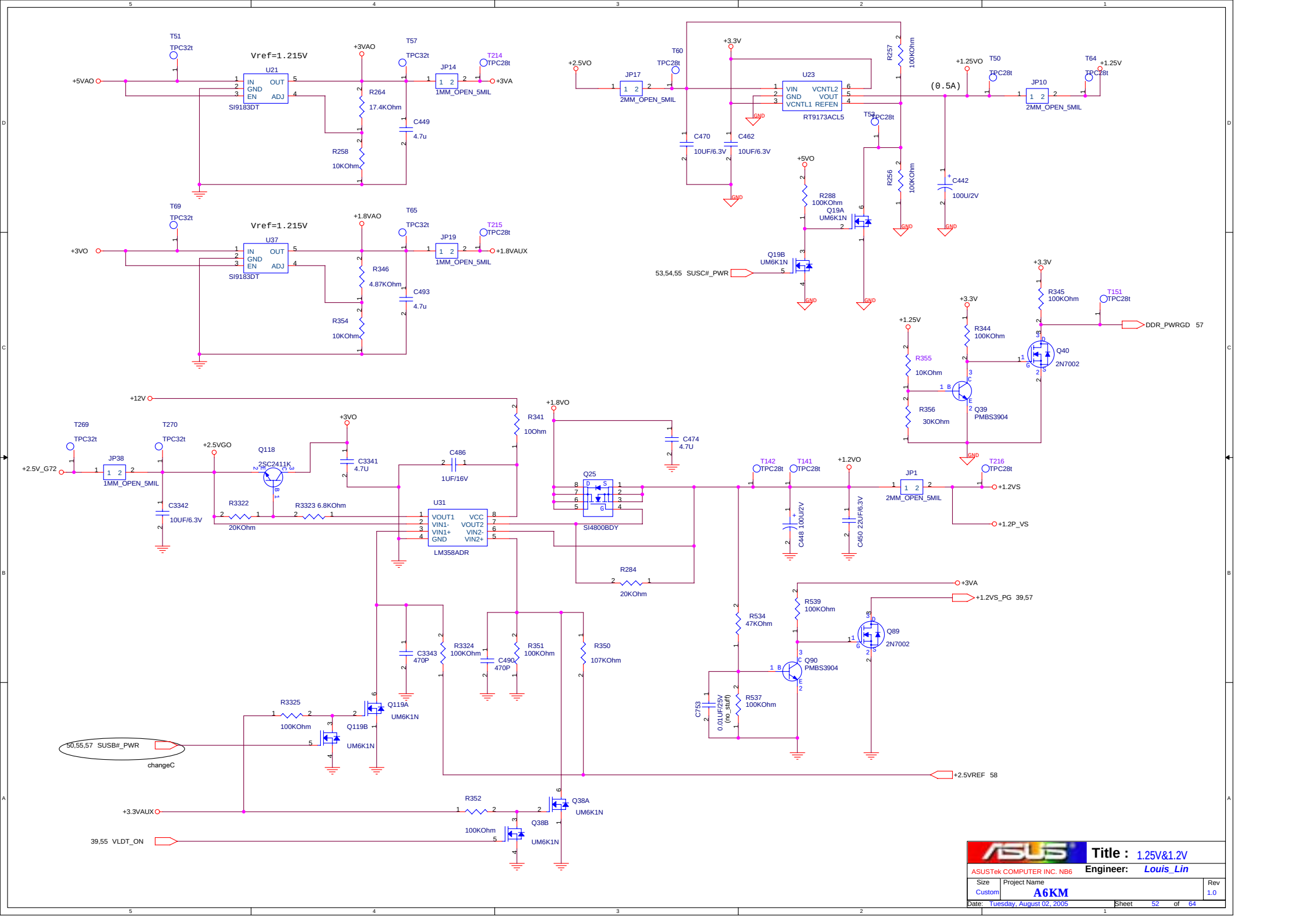
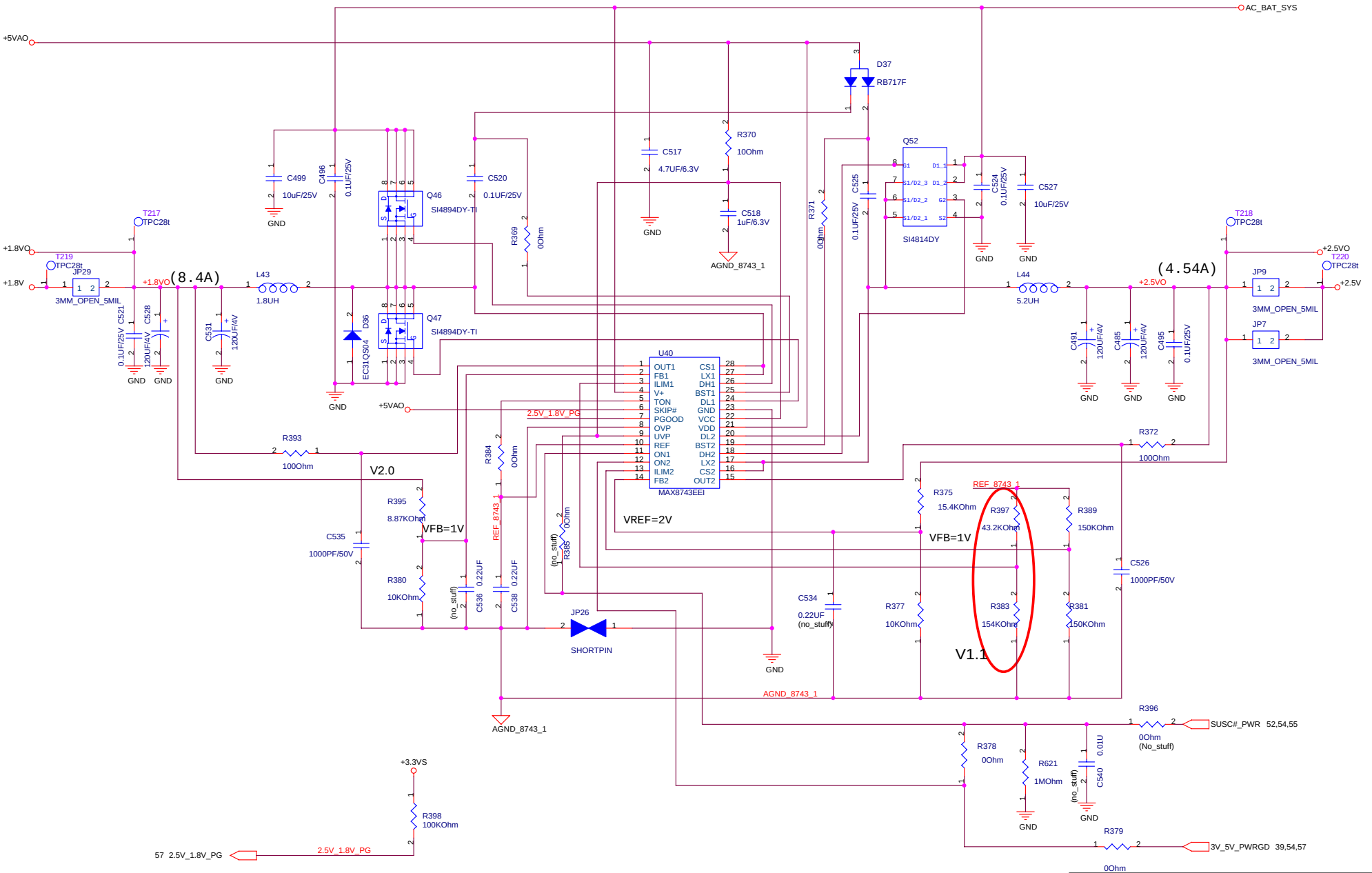
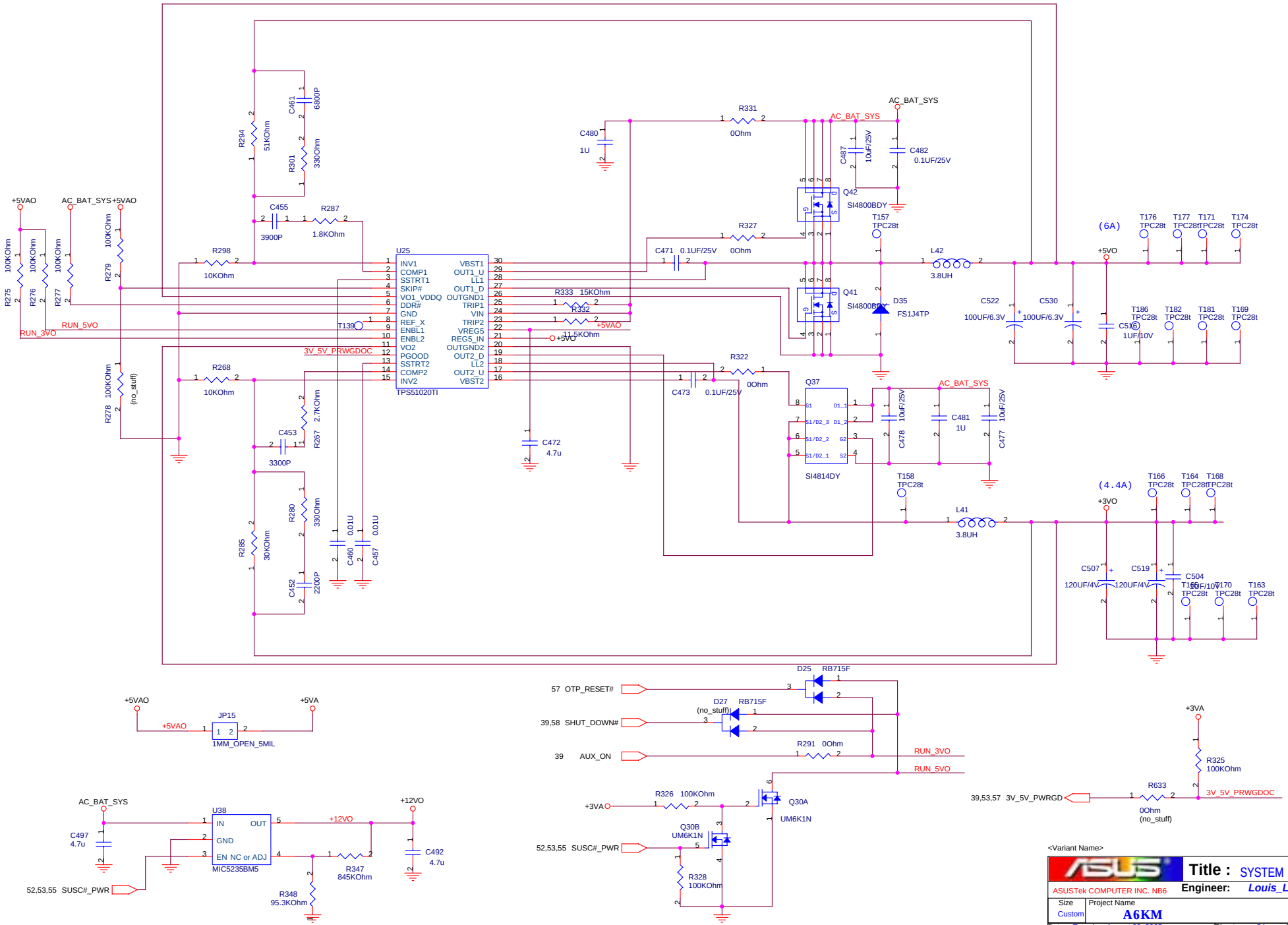


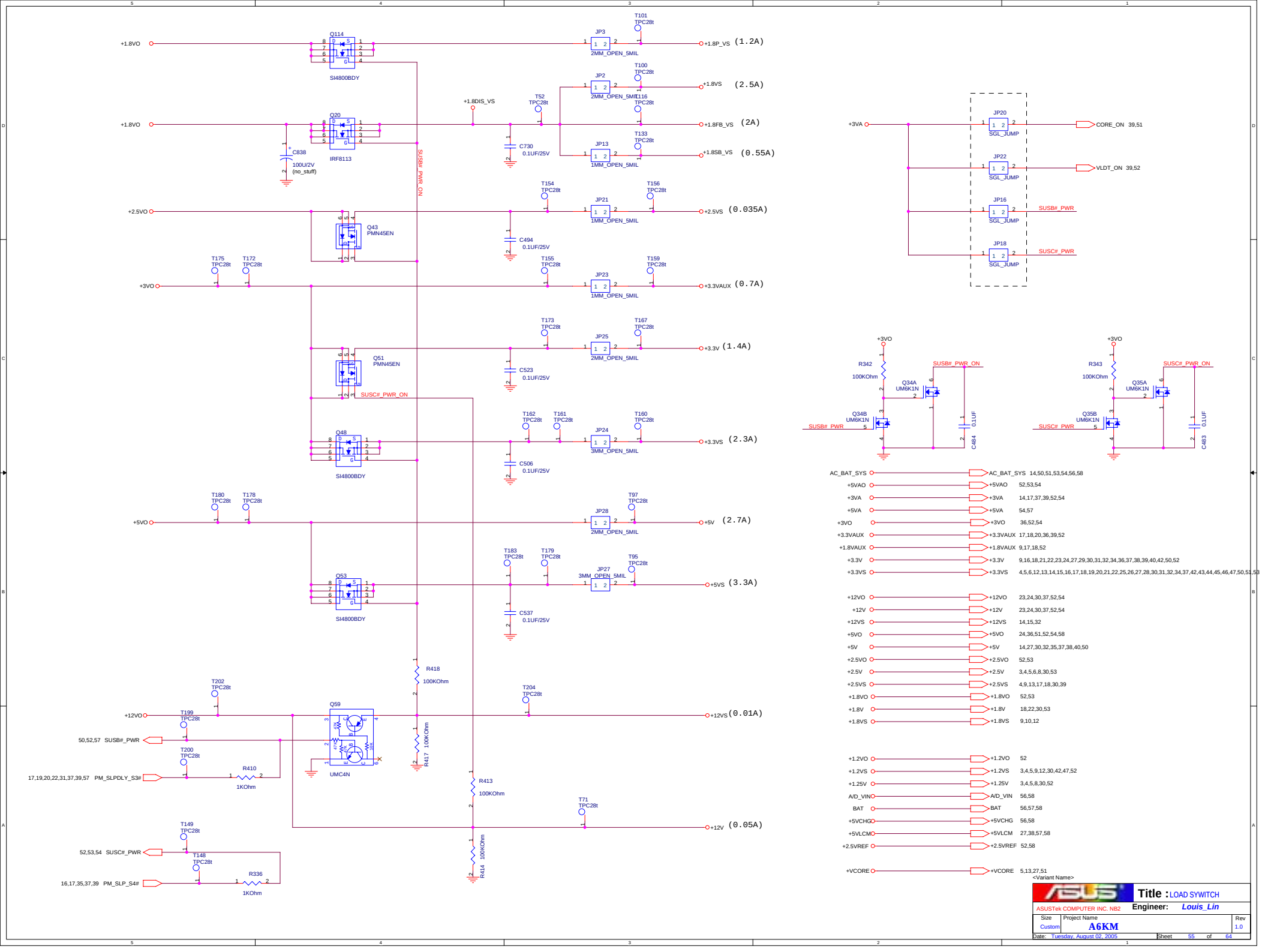
ASUSTek COMPUTER INC. NB6	Title : 1.25V&1.2V	
	Engineer: Louis_Lin	
Size: Custom	Project Name: A6KM	Rev: 1.0
Date: Tuesday, August 02, 2005	Sheet 52 of 64	


+5VAO
AC_BAT_SYS
D37
RB717F
C517
4.7UF/6.3V
R370
10Ohm
C518
1uF/6.3V
AGND_8743_1
Q52
SI4814DY
C525
0.1UF/25V
C524
0.1UF/25V
C527
10uF/25V
R371
0Ohm
C499
10uF/25V
C496
0.1UF/25V
Q46
SI4894DY-TI
C520
0.1UF/25V
R369
0Ohm
Q47
SI4894DY-TI
D36
EC31QS04
T217
TPC28t
T219
TPC28t
+1.8VO
+1.8V
JP29
3MM_OPEN_5MIL
(8.4A)
L43
1.8UH
C521
0.1UF/25V
C528
120UF/4V
C531
120UF/4V
GND
+1.8VO
L44
5.2UH
(4.54A)
T218
TPC28t
T220
TPC28t
+2.5VO
+2.5V
JP9
3MM_OPEN_5MIL
JP7
3MM_OPEN_5MIL
C491
120UF/4V
C485
120UF/4V
C495
0.1UF/25V
U40
MAX8743EEI
OUT1
FB1
ILIM1
V+
TON
SKIP#
PGOOD
OVP
UVP
REF
ON1
ON2
ILIM2
FB2
CS1
LX1
DH1
BST1
DL1
GND
VCC
VDD
DL2
BST2
DH2
LX2
CS2
OUT2
2.5V_1.8V_PG
R393
100Ohm
V2.0
R395
8.87KOhm
VFB=1V
R380
10KOhm
C535
1000PF/50V
C536
0.22UF
(no_stuff)
C538
0.22UF
R384
0Ohm
REF_8743_1
R385
0Ohm
(no_stuff)
VREF=2V
JP26
SHORTPIN
C534
0.22UF
(no_stuff)
R375
15.4KOhm
R397
43.2KOhm
VFB=1V
R377
10KOhm
R383
154KOhm
V1.1
R389
150KOhm
R381
150KOhm
R372
100Ohm
C526
1000PF/50V
REF_8743_1
AGND_8743_1
R396
0Ohm
(No_stuff)
SUSC#_PWR 52,54,55
R378
0Ohm
R621
1MOhm
C540
0.01U
(no_stuff)
R379
3V_5V_PWRGD 39,54,57
+3.3VS
R398
100KOhm
57 2.5V_1.8V_PG
2.5V_1.8V_PG
0Ohm
Title : 1.8V & 2.5V
ASUSTek COMPUTER INC. NB6
Engineer: Louis_Lin
Size
Custom
Project Name
A6KM
Rev
1.0
Date: Tuesday, August 02, 2005
Sheet 53 of 64



<Variant Name>

ASUSTek COMPUTER INC. NB6	Title : SYSTEM	
	Engineer: Louis_Lin	
Size: Custom	Project Name: A6KM	Rev: 1.0
Date: Tuesday, August 02, 2005	Sheet 54 of 64	


+1.8VO
Q114
SI4800BDY
JP3
2MM_OPEN_5MIL
T101 TPC28t
+1.8P_VS (1.2A)
JP2
2MM_OPEN_5MIL
T100 TPC28t
+1.8VS (2.5A)
T116 TPC28t
+1.8DIS_VS
T52 TPC28t
Q20
IRF8113
C838
100U/2V
(no_stuff)
C730
0.1UF/25V
+1.8FB_VS (2A)
JP13
1MM_OPEN_5MIL
T133 TPC28t
+1.8SB_VS (0.55A)
SUSB#_PWR_ON
+2.5VO
Q43
PMN45EN
T154 TPC28t
T156 TPC28t
JP21
1MM_OPEN_5MIL
+2.5VS (0.035A)
C494
0.1UF/25V
+3VO
T175 TPC28t
T172 TPC28t
T155 TPC28t
T159 TPC28t
JP23
1MM_OPEN_5MIL
+3.3VAUX (0.7A)
T173 TPC28t
T167 TPC28t
JP25
2MM_OPEN_5MIL
+3.3V (1.4A)
Q51
PMN45EN
C523
0.1UF/25V
SUSC#_PWR_ON
T162 TPC28t
T161 TPC28t
T160 TPC28t
Q48
SI4800BDY
JP24
3MM_OPEN_5MIL
+3.3VS (2.3A)
C506
0.1UF/25V
+5VO
T180 TPC28t
T178 TPC28t
JP28
2MM_OPEN_5MIL
T97 TPC28t
+5V (2.7A)
T183 TPC28t
T179 TPC28t
JP27
3MM_OPEN_5MIL
T95 TPC28t
+5VS (3.3A)
Q53
SI4800BDY
C537
0.1UF/25V
R418
100KOhm
T202 TPC28t
T204 TPC28t
+12VO
T199 TPC28t
Q59
UMC4N
R417 100KOhm
+12VS (0.01A)
50,52,57 SUSB#_PWR
T200 TPC28t
17,19,20,22,31,37,39,57 PM_SLPDLY_S3#
R410
1KOhm
R413
100KOhm
T71 TPC28t
+12V (0.05A)
T149 TPC28t
52,53,54 SUSC#_PWR
T148 TPC28t
16,17,35,37,39 PM_SLP_S4#
R336
1KOhm
R414 100KOhm
SUSB#_PWR_ON
+3VA
JP20
SGL_JUMP
CORE_ON 39,51
JP22
SGL_JUMP
VLDT_ON 39,52
JP16
SGL_JUMP
SUSB#_PWR
JP18
SGL_JUMP
SUSC#_PWR
+3VO
R342
100KOhm
Q34A
UM6K1N
Q34B
UM6K1N
SUSB#_PWR
SUSB#_PWR_ON
C484
0.1UF
R343
100KOhm
Q35A
UM6K1N
Q35B
UM6K1N
SUSC#_PWR
SUSC#_PWR_ON
C483
0.1UF
AC_BAT_SYS
+5VAO
+3VA
+5VA
+3VO
+3.3VAUX
+1.8VAUX
+3.3V
+3.3VS
+12VO
+12V
+12VS
+5VO
+5V
+2.5VO
+2.5V
+2.5VS
+1.8VO
+1.8V
+1.8VS
+1.2VO
+1.2VS
+1.25V
A/D_VIN
BAT
+5VCHG
+5VLCM
+2.5VREF
+VCORE
<Variant Name>
Title : LOAD SYWITCH
ASUSTek COMPUTER INC. NB2
Engineer: Louis_Lin
Size Custom
Project Name A6KM
Rev 1.0
Date: Tuesday, August 02, 2005
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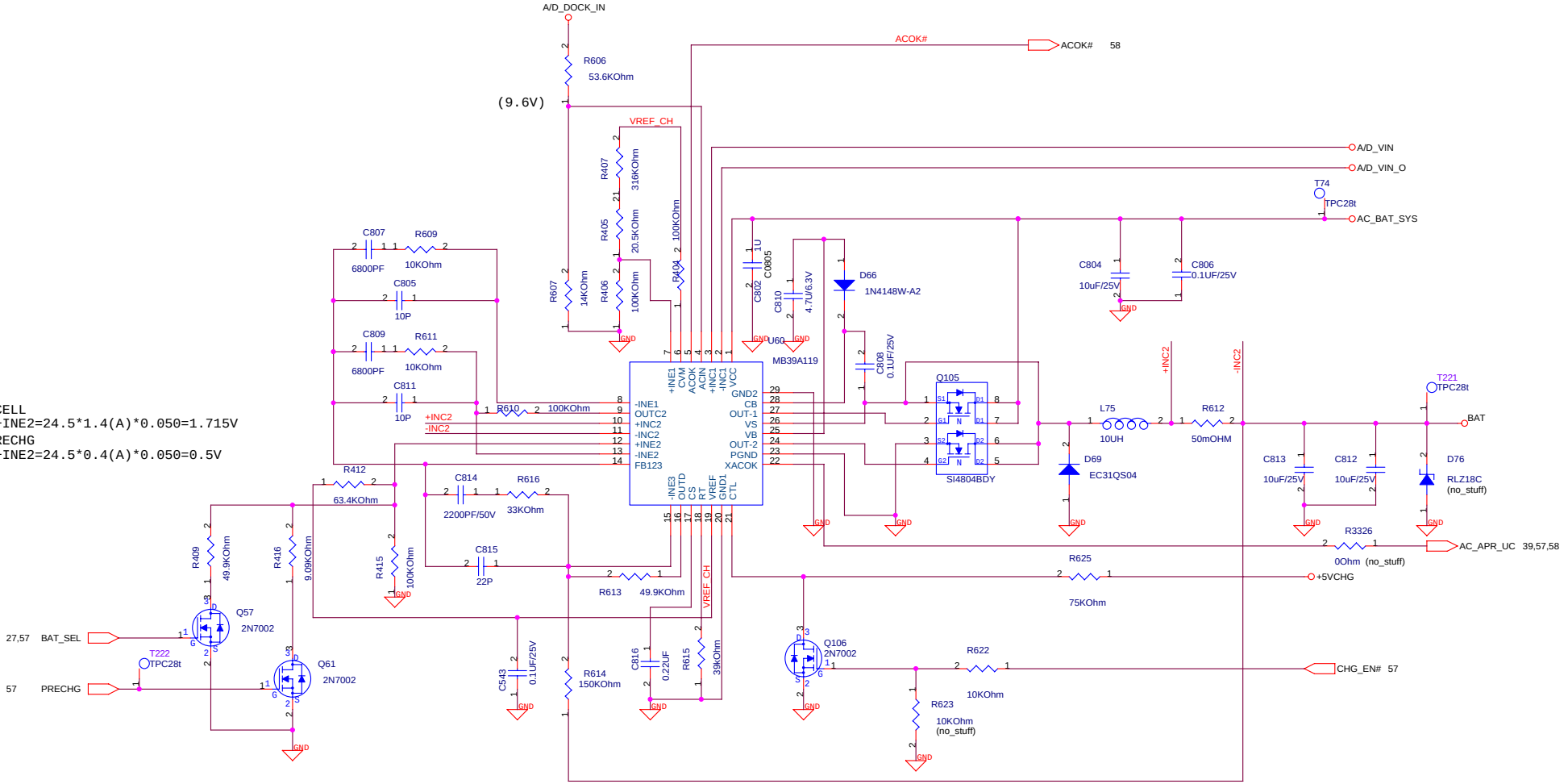
+Vbat=(R1+R2)/R2*4.2
+Vbat=(30k+10k)/10k*4.2=16.8V

V+INE2=24.5*Ichg(A)*Rs1
V+INE2=24.5*2.5(A)*0.050=3.062V Vref=5.000V
DEFAULT R(low)=100K
R(hi)=(5/3.062-1)*100K=63.3K

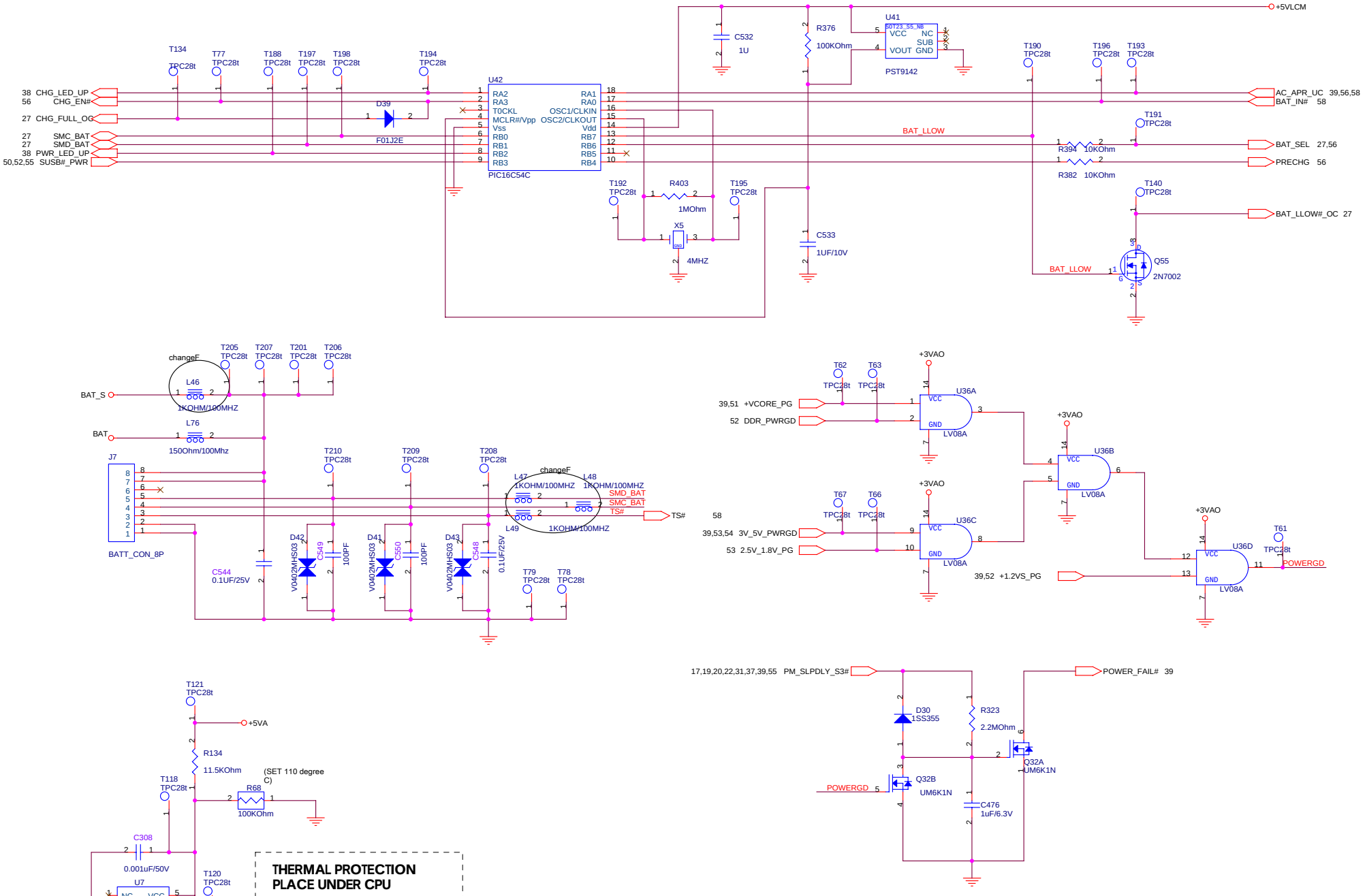
V+INE1=25*Iin(A)*Rs2
V+INE1=25*4.58(A)*0.010=1.145V
DEFAULT R(low)=100K
R(hi)=(5/1.145-1)*10K=336.68K

4CELL
V+INE2=24.5*1.4(A)*0.050=1.715V
PRECHG
V+INE2=24.5*0.4(A)*0.050=0.5V



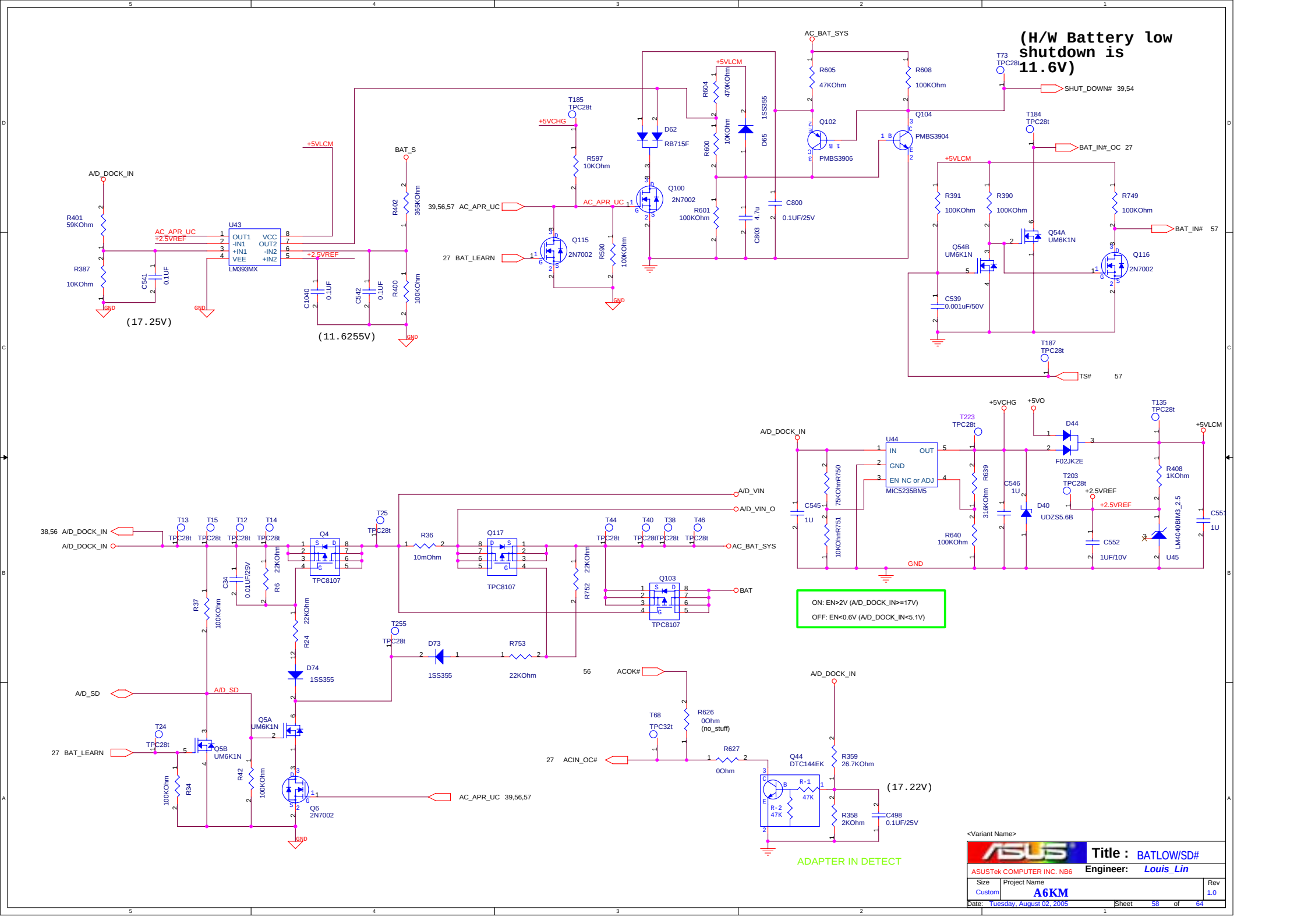
<Variant Name>

ASUSTek COMPUTER INC. NB6	Title : CHARGER	
	Engineer: Louis_Lin	
Size: Custom	Project Name: A6KM	Rev: 1.0
Date: Tuesday, August 02, 2005	Sheet 56 of 64	



<Variant Name>

ASUSTek COMPUTER INC. NB6	Title : PIC16C54	
	Engineer: Louis_Lin	
Size: Custom	Project Name: A6KM	Rev: 1.0
Date: Tuesday, August 02, 2005	Sheet 57 of 64	


(H/W Battery low shutdown is 11.6V)
AC_BAT_SYS
A/D_DOCK_IN
R401 59KOhm
R387 10KOhm
AC_APR_UC
+2.5VREF
U43
LM393MX
C541 0.1UF
C1040 0.1UF
C542 0.1UF
+5VLCM
BAT_S
R402 365KOhm
R400 100KOhm
(17.25V)
(11.6255V)
T185 TPC28t
+5VCHG
R597 10KOhm
39,56,57 AC_APR_UC
27 BAT_LEARN
Q115 2N7002
R590 100KOhm
D62 RB715F
Q100 2N7002
R604 470KOhm
R600 10KOhm
R601 100KOhm
D65 1SS355
C803 4.7u
C800 0.1UF/25V
R605 47KOhm
R608 100KOhm
Q102 PMBS3906
Q104 PMBS3904
T73 TPC28t
SHUT_DOWN# 39,54
T184 TPC28t
BAT_IN#_OC 27
R391 100KOhm
R390 100KOhm
R749 100KOhm
Q54B UM6K1N
Q54A UM6K1N
Q116 2N7002
BAT_IN# 57
C539 0.001uF/50V
T187 TPC28t
TS# 57
A/D_DOCK_IN
38,56 A/D_DOCK_IN
T13 T15 T12 T14 TPC28t
Q4 TPC8107
R6 22KOhm
C34 0.01UF/25V
R37 100KOhm
R24 22KOhm
T25 TPC28t
R36 10mOhm
Q117 TPC8107
A/D_VIN
A/D_VIN_O
AC_BAT_SYS
BAT
T44 T40 T38 T46 TPC28t
R752 22KOhm
Q103 TPC8107
T255 TPC28t
D73 1SS355
R753 22KOhm
D74 1SS355
A/D_SD
T24 TPC28t
27 BAT_LEARN
Q5B UM6K1N
Q5A UM6K1N
R34 100KOhm
R42 100KOhm
Q6 2N7002
AC_APR_UC 39,56,57
56 ACOK#
T68 TPC32t
R626 0Ohm (no_stuff)
27 ACIN_OC#
R627 0Ohm
Q44 DTC144EK
R359 26.7KOhm
R358 2KOhm
C498 0.1UF/25V
(17.22V)
ADAPTER IN DETECT
A/D_DOCK_IN
U44 MIC5235BM5
IN OUT GND EN NC or ADJ
T223 TPC28t
+5VCHG
+5VO
D44 F02JK2E
T135 TPC28t
+5VLCM
R408 1KOhm
C545 1U
75KOhmR750
10KOhmR751
R639 316KOhm
R640 100KOhm
C546 1U
T203 TPC28t
+2.5VREF
D40 UDZS5.6B
C552 1UF/10V
LM4040BIM3_2.5
U45
C551 1U
GND
ON: EN>2V (A/D_DOCK_IN>=17V)
OFF: EN<0.6V (A/D_DOCK_IN<5.1V)
<Variant Name>
Title : BATLOW/SD#
ASUSTek COMPUTER INC. NB6
Engineer: Louis_Lin
Size Custom
Project Name A6KM
Rev 1.0
Date: Tuesday, August 02, 2005
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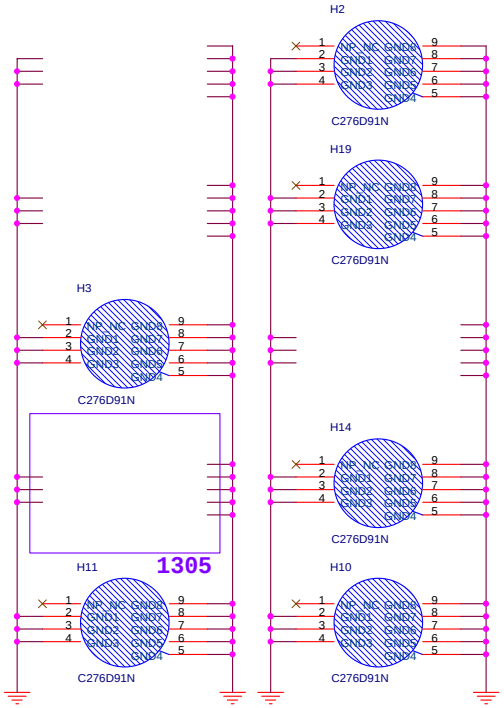
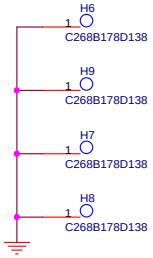
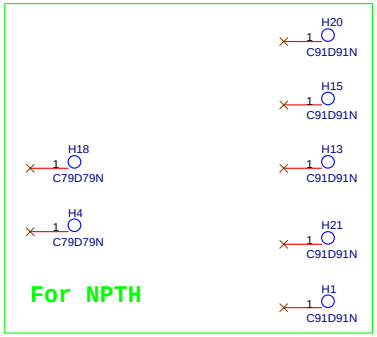
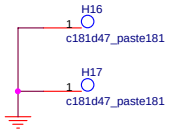
SCREW HOLE





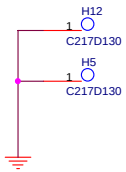


For MDC module



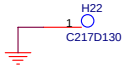
P/N 13-N7510M270

For NB fix sink

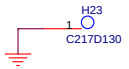


P/N 13-NCF10M010

For NV44M-V fix sink



Heat sink



CPU Throttling(BIOS setting): 90 degree C.
System shutdown(BIOS setting) : 100 degree C.
H/W shutdown(page 44, U47 , no load) : 105 degree C.

Short Pad location:
Page39: JP4,5,15,16,19,26,27
Page40: JP6,7,9,22,24
Page42: JP13,14,17,18,28,29

Don't Short Pad: JP26

JP4:+V2.5 --Power In
JP5:+V1.25S
JP6:+V2.5
JP7:+V1.2S
JP9:+VCCP
JP13:+V5S
JP14:+V5
JP15:+V1.5SUS
JP16:+V2.5 --Power IN
JP17:+V1.8S
JP18:+V12
JP19:+V1.8
JP22:+V1.5S
JP24: VREF5-->+V5A
JP26:+3VALWAYS_T-->+V3.3A(open)
JP27:+3VALWAYS_M-->+V3.3A(short)
JP28:+V3.3S
JP29:+V3.3

PCB STACK-UP

PCB THICKNESS: 1.6 mm

L1 TOP
L2 VCC
L3 GND
L4 BOT

IMPEDENCE

Single-Ended

27.4 OHM	WIDTH
TOP/BOT	20 mils

37.5 OHM	WIDTH
TOP/BOT	12 mils

42 OHM	WIDTH
TOP/BOT	10 mils

55 OHM	WIDTH
TOP/BOT	5 mils

Differential

70 OHM	WIDTH/SPACE
TOP/BOT	9 mils/ 5 mils

90 OHM	WIDTH/SPACE
TOP/BOT	7 mils/ 10 mils

100 OHM	WIDTH/SPACE
TOP/BOT	5 mils/ 7 mils

PCI INTERFACE

PCI_REQ#

CB&1394	PCI_REQ#0
MINIPCI	PCI_REQ#1
LAN	PCI_REQ#2

PCI_GNT#

CB&1394	PCI_REQ#0
MINIPCI	PCI_REQ#1
LAN	PCI_REQ#2

IDSEL

CB&1394	PCI_AD21
MINIPCI	PCI_AD20
LAN	PCI_AD16

PCI_INT#

CB&1394	PCI_INTB/A/D#
MINIPCI	PCI_INTC/D#
LAN	PCI_INTC#

POWER INTERFACE

SIGNALS	TYPE	POWER
CLK_EN#	I	+V3.3S_CLK
PM_PSI#	O	+VCCP
VR_VID[5:0]	O	+VCCP
CPU_VRON	O	+V3.3SUS
VRM_PWRGD	I	+V3.3S
PM_STPCPU#	O	+V3.3S
CHG_LED	I	+5VLCM
RST_BTN#	O	OD
OTP_RESET#	I	+V5
SHUT_DOWN#	I	AC_BAT_SYS
+5VLCM	PWR	+V5
PM_SLPDLY_S3#	O	+V3.3
PM_SLP_S4#	O	+V3.3SUS
BAT_LEARN	I	+V3.3
BAT_LLOW#_OC	I	+V3.3
BAT_IN#_OC	I	+V3.3
ACIN_OC	I	+V3.3
CHG_FULL_OC	I	+V3.3
PM_DPRSLPVR	O	+V3.3S
AC_APR_UC	I	+V5A
+V5A	PWR	VREF5
3V_ON	O	OD
AC_BAT_SYS	PWR	DC
A/D_DOCK_IN	PWR	DC
SMC_BAT	IO	+V3.3
SMD_BAT	IO	+V3.3

POWER PLANE

POWER	VOLTAGE	CURRENT
+VCORE	1.46V	25A
+VCCP	1.05V	2.4A(Max),1A(Real)
+V1.2S	1.2V	2.5A
+V1.25S	1.25V	0.5A
+V1.5S	1.5V	1.32A
+V1.5SUS	1.5V	64 mA
+V1.8	1.8V	0.14A
+V1.8S	1.8V	0.3 A
+V2.5	2.5V	6.68A
+V3.3S	3.3V	1.732A
+V3.3	3.3V	1.515A
+V3.3SUS	3.3V	14 mA
+V5S	5V	2.5A
+V5	5V	3.75A
+V5SUS	5V	0.5A
+V12	12V	0.25A
+V12S	12V	0.25A

<Variant Name>

Title : SCREW HOLE

ASUSTek COMPUTER INC. NB6 Engineer:

Size	Project Name	Rev
Custom	A6KM	1.0

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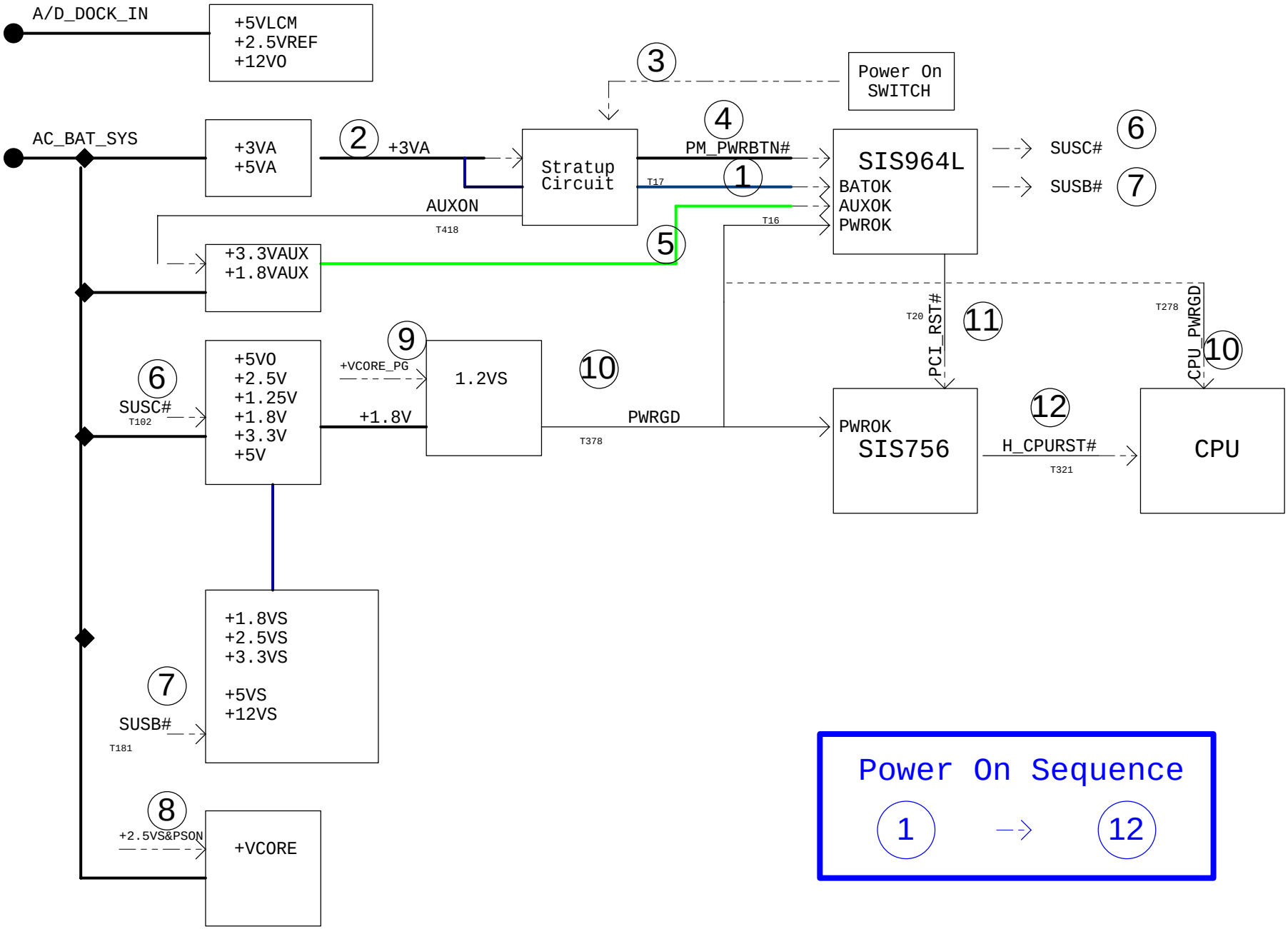

T195

ASUSTeK COMPUTER INC	Title : Power On Sequence	
	Engineer:	
Size: Custom	Project Name: A6KM	Rev: 1.0
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PCI Device	IDSEL#	REQ/GNT#	Interrupts
LAN_RTL8100CL	AD22	2	D
CARD READER	AD21	0	B
CARDBUS	AD21	0	C
1394	AD21	0	D
MINIPCI (802.11a/b/g)	AD20	1	C,D

SM-Bus Device	SM-Bus Address
Clock Generator	1101001x (D2)
SO-DIMM 0	1010000x (A0)
SO-DIMM 1	1010010x (A4)
Thermal Sensor (SA56004)	0101110x (5C)
PIC	1001001x (92)

SiS964L GPIO	SIGNAL NAME	I/O	Volt
GPIO 0		P-U	+3.3VS
GPIO 1	NV_THERM#	INPUT	+3.3VS
GPIO 2	THRM_ALERT#	INPUT	+3.3VS
GPIO 3	EXTSMI#	INPUT	+3.3VS
GPIO 4	PM_CLKRUN#	OUTPUT	+3.3VS
GPIO 5		P-U	+3.3VS
GPIO 6	CPUFAN_SPD_A	INPUT	+3.3VS
GPIO 7	BACK_OFF#	OUTPUT	+3.3VAUX
GPIO 8	PM_RI#	INPUT	+3.3VAUX
GPIO 9	KBDSCI_3A	INPUT	+3.3VAUX
GPIO 10	LID_963#_3A	INPUT	+3.3VAUX
GPIO 11	PM_STPPCI#	OUTPUT	+3.3VAUX
GPIO 12	PM_STPCPU#	OUTPUT	+3.3VAUX
GPIO 13	SIO_SMI#	INPUT	+3.3VAUX
GPIO 14	S3AUXSW#	OUTPUT	+3.3VAUX
GPIO 15	BT_ON	P-L	+3.3VAUX
GPIO 16	802_LED_EN#	OUTPUT	+3.3VAUX
GPIO 17	WLAN_ON#	OUTPUT	+3.3VAUX
GPIO 18	CB_SD#	OUTPUT	+3.3VAUX
GPIO 19	SM_CLK	OUTPUT	+3.3VS
GPIO 20	SM_DATA	I/O	+3.3VS
GPIO 21		NC	+3.3VAUX
GPIO 22		NC	+3.3VAUX
GPIO 23		P-L	+3.3VAUX
GPIO 24		P-U	+3.3VAUX

KBC GPIO	A6K	
P23	OP_SD#	
P22	BAT_LEARN	
P21	(KB_P21)	
P20	KBCRSM	
P42	(WATCHDOG)	
P43	CHG_FULL_OC	
P44	KB_CPURST	
P45	KB_GATEA20	
P46	KBCSCI	
P47	PM_CLKRUN#	
P50	KBC_BAT_LLOW#	
P51	KEYDETECT1	
P52	KEYDETECT2	
P53	CLR_DJ#	
P54	BAT_SEL	
P55	BAT1_IN#_OC	
P56	(FAN_DA1)	
P57	ADJ_BL	
P67	DJ_LED#	
P66	SWDJ_EN#	
P65	+VCORE	
P64	ACIN_OC	
P63	DISTP	
P62	MARATHON#	
P61	INTERNET#	
P60	EMAIL#	
P75	(KB_CLK)	
P74	(MS_CLK)	
P73	TPAD_CLK	
P72	(KB_DAT)	
P71	(MS_DAT)	
P70	TPAD_DAT	
P77	BAT_SMC	
P76	BAT_SMD	
P27	SCROLLLOCK#	
P26	NUM_LED#	
P25	CAP_LED#	
P24	SET_PLTRSTNS#	
P40	EXT_SMI	
P41	EMAIL_LED#	

ASUSTeK COMPUTER INC

Title : System Resource

Engineer: Brad Lu

Size	Project Name	Rev
Custom	A6KM	1.0

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FIRST SOURCE	SECOND SOURCE	NOTE
05-001005111	05-001017122	L5 NA10643
	05-001005310	
06-006002411	06-006002001	
06-010008000	06-010008100	L5 NA10601
06-017001000	06-017001200	
07-005000010	07-005000210	L5 NA10473
	07-005000410	
07-005261010	07-005357010	Power RD Request
07-010303271	07-010303273	L5 NA10603
07-010Q02501	07-010812500	
07-014150220	07-014150120	
07-016202032	07-016402032	
	07-016102032	
09-013103013	09-013103010	L5 NA10512
09-091090000	09-091090001	L5 NA10512
	09-091090005	
10-093111041	10-093111040	L5 NA10334
10-124901000	10-12490100A	L5 NA10298
10-12490560A	10-124905600	
11-032310661	11-032310662	For MC request
	11-032310663	
11-033410400	11-033410401	Follow L5G R2.0 2nd source
	11-033410405	
	11-033410406	
11-033410500	11-033410502	
11-03B210620	11-031110621	L5 NA10407
	11-031210621	*11-03B110623 for Power RD Request
	11-03B110621	
	11-03B110622	
	11-03B210621	
	11-03B110623	

ASUSTek COMPUTER INC. NB6

Title : SECOND SOURCE

Engineer:

Size	Project Name	Rev
Custom	A6KM	1.0

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REVISION LIST

POWER INTERFACE

SIGNALS	TYPE	POWER

POWER PLANE

POWER	VOLTAGE	CURRENT
+VCORE	0.7 - 1.55V	27.3A
+1.25V	1.25V	0.725A
NVVDD	1.1/1.2V	8.62A
+2.5V	2.5V	5.55A
+1.8VAUX	1.8V	50mA
+1.2P_VS	1.2V	1.875A
+1.2VS	1.2V	635mA
+1.8VS	1.8V	2.521A
+1.8V	1.8V	415 mA
+1.8FB_VS	1.8V	2A
+2.5VS	2.5V	0.035A
+3.3V	3.3V	1.925A
+3.3VS	3.3V	2.955A
+5VS	5V	4.7A
+5V	5V	3.865A
+5VA	5V	0.05A
+12V	12V	0.05A
+12VS	12V	0.01A
+3.3VAUX	3.3V	0.417A
+3VA	3.3V	0.02A

IMPEDENCE

Single-Ended

27.4 OHM	WIDTH
TOP/BOT	22 mils
IN1/IN3	16 mils

37.5 OHM	WIDTH
TOP/BOT	13.5 mils
IN1/IN3	10 mils

42 OHM	WIDTH
TOP/BOT	11 mils
IN1/IN3	8.5 mils

55 OHM	WIDTH
TOP/BOT	6 mils
IN1/IN3	5 mils

75 OHM	WIDTH
TOP/BOT	2.5 mils
IN1/IN3	2 mils

Differential

70 OHM	WIDTH/SPACE
TOP/BOT	8 mils/ 4 mils
IN1/IN3	8 mils/ 3.5 mils

90 OHM	WIDTH/SPACE
TOP/BOT	5 mils/ 5 mils
IN1/IN3	5 mils/ 5 mils

100 OHM	WIDTH/SPACE
TOP/BOT	4 mils/ 6 mils
IN1/IN3	4.25 mils/ 5.75 mils

PCI INTERFACE

PCI_REQ#

CB&1394	PCI_REQ#0
MINIPCI	PCI_REQ#1
LAN	PCI_REQ#2

IDSEL

CB&1394	PCI_AD21
MINIPCI	PCI_AD20
LAN	PCI_AD22

PCIE Device

PEG

NVIDIA NV44M

PCIE Giga NIC

N/A

PCB STACK-UP

PCB THICKNESS: 1.6 mm

L1 TOP
L2 VCC
L3 IN1
L4 IN2
L5 GND
L6 BOT

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SIGNAL	IN:	AVID[0:4]
		CORE_ON
		COREFB
		COREFB#
	OUT:	+VCORE_PG
POWER	IN:	AC_BAT_SYS
		+5VO
		+3.3VS
	OUT:	+VCORE

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SIGNAL	IN:	VLDT_ON
		+2.5VREF
		SUSC#_PWR
	OUT:	DDR_PWRGD
		+1.2VS_PG
POWER	IN:	+5VAO
		+12V
		+3VO
		+3VAUX
		+2.5VO
		+1.25V
		+3.3V
		+5VO
		+1.8VO
	OUT:	+3VA
		+1.8VAUX
		+1.25V
		+1.2VS
		+1.2P_VS

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SIGNAL	IN:	SUSC#_PWR
	OUT:	2.5V_1.8V_PG
POWER	IN:	AC_BAT_SYS
		+3.3VS
		+5VAO
	OUT:	+2.5V
		+1.8V

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SIGNAL	IN:	SUSC#_PWR
		OTP_RESET#
		SHUT_DOWN#
		AUX_ON
	OUT:	3V_5V_PWRGD
POWER	IN:	AC_BAT_SYS
		+3VA
		+3.3VS
		+VCC_GMCH_CORE
		+5VAO
	OUT:	+5VA
		+5VO
		+12VO
		+3VO

ASUSTeK COMPUTER INC

Title : REVISION LIST

Engineer: Brad Lu

Size	Project Name	Rev
Custom	A6KM	1.0

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Reversion from A6KM R1.0

change1: P.9 Del R30, R431 Change R71->125 for SPEC
P.10 Del R101
P.13 Del R218, R219, R2400~R2405, R2407, R2409, R2411
P.14 Del D45, RN87 Mount R624 Change C566->1uF Add R3330, R3331, Q121
P.20 Mount C3318
P.22 Del R363
P.23 Del R552 Mount C767-> 33pF
P.24 Del R569, R574, R591, R592
P.29 Change RN78, RN77, RN76->
P.33 Change R476, R478-> SHORTPIN JP39, JP40
P.35 Change L8, L9, L10, L11->
P.37 Del R2418 D16->D77, D78
P.43 Unmount RN42
P.46 Add RN91, R3332, R3333

P.9 Del R31, R433
P.33 Del R477
P.46 Change R3332->20MOhm
P.14 Add C3345, R3334

P.14 Del C3345, R3334
P.14 Add D45, RN87 Del R3330, R3331, Q121 Add L3307 for EMI.

CHANG2 0728-05
P.56 Change L75 symbol for factory.
P.50 Add L3308 for EMI.
P.43 Add R3335~R3342 for G72 insurance.
P.47 Del T247 for EMI layout change

CHANG3 0801-05
P.50 Del JP35 for EMI layout change
P.43 Del R3335~R3342.
P.47 Add T247 for VGA debug

CHANG3 0801-05
P.59 H16, H17, H12, H5, H22, H23 -> SMD
P.8 CHANGE RN62~74-> 10-312470004030
P.9 R71->124 Ohm
P.23 C767-> 33pF
P.29 RN76~RN78-> 10-064805600
P.35 L8~L11-> 09-013120102
P.19 R206-> 10-003401000 R207->10-003401500
P.20 U4 Giga LAN description -> 02-611102003
P.16 R237, R240 ->10-004405626
P.46 X10->07-010222706
P.14 L91,L92->09-013120006
P.45 R697->10-003416908
P.26 R518->10-004401030
P.46 R3320, R3321, R708, R709 and R3327->10-004401030
P.43 R666~R669, R656, R657, R660, R661->10-004401030
P.49 C988, C994, C1002, C1010->11-032147550
P.15 R423, R424->10-003402200
P.28 U39->12-043000323
P.19 UNMOUNT C377~384, C387

CHANG4 0802-05
P.38 Add R3335~R3337 for EMI
P.5 Add C3345~C3346 for EMI

Title: A6KM
Size: D Document Number: <Doc> Rev: <RevCode>
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