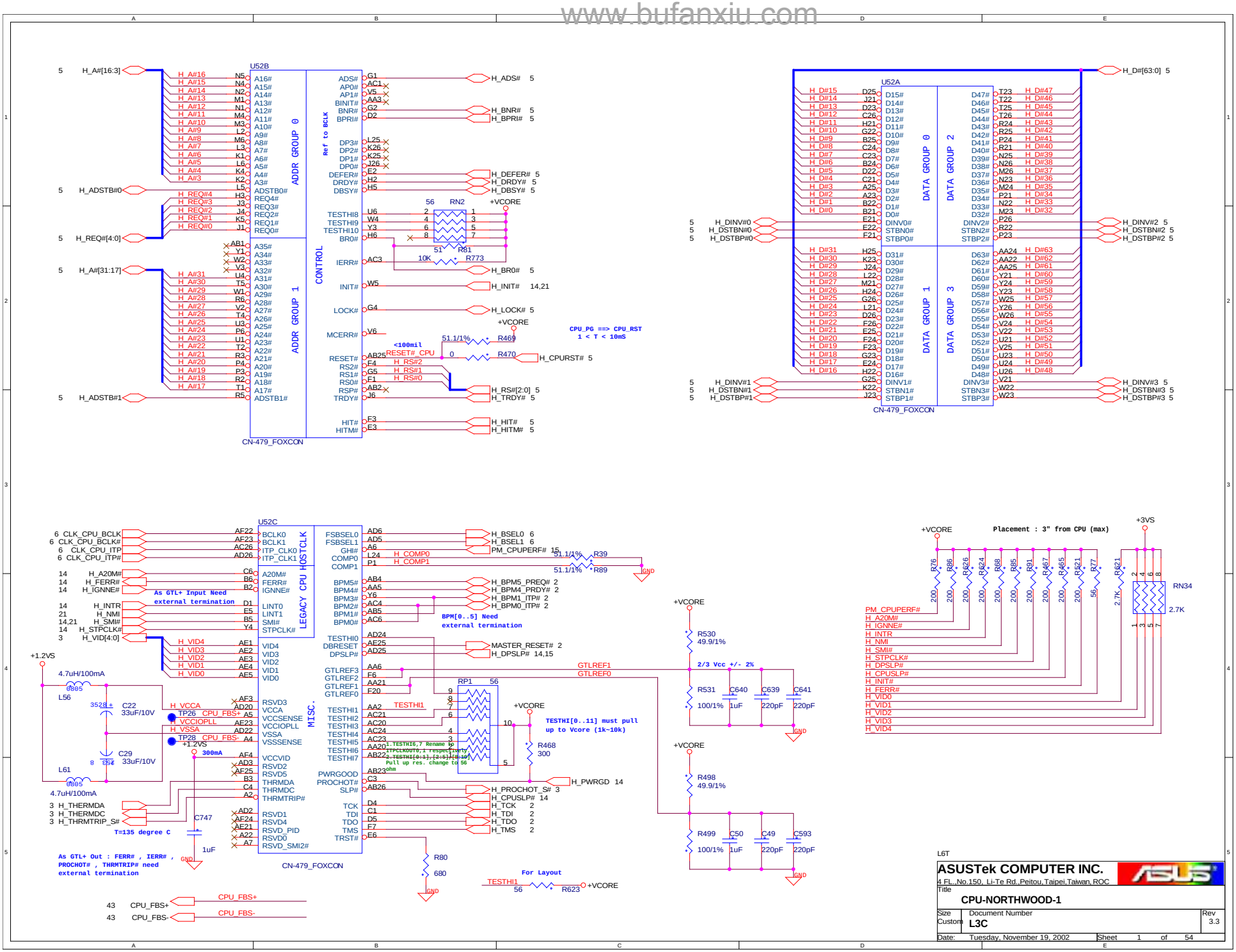
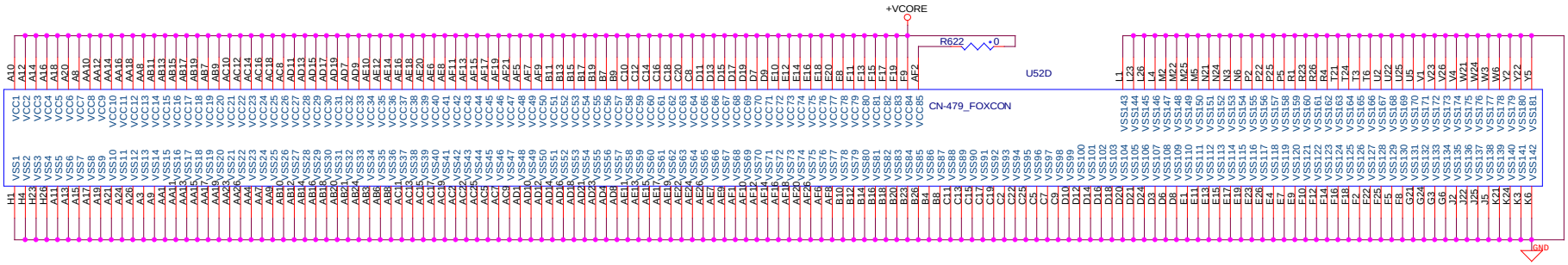
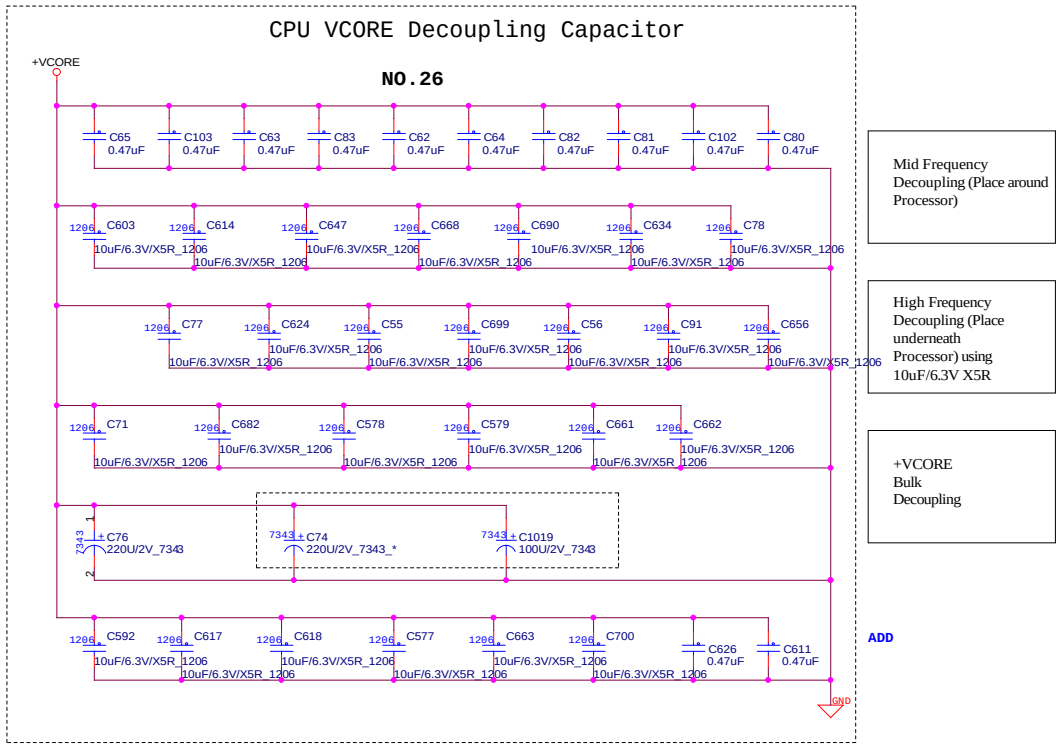




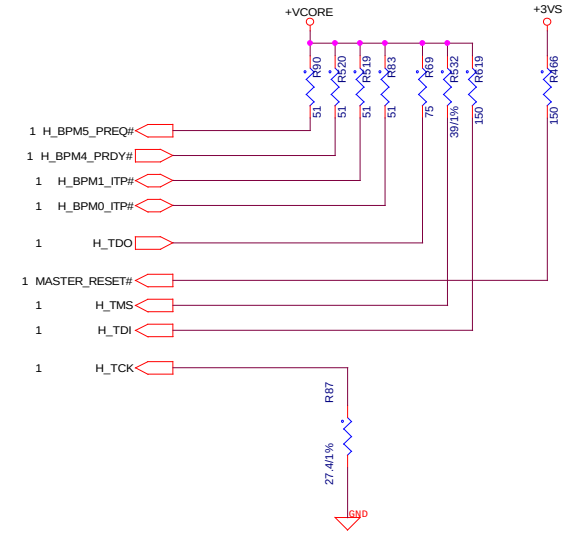


Mid Frequency Decoupling (Place around Processor)

High Frequency Decoupling (Place underneath Processor) using 10uF/6.3V X5R

+VCORE Bulk Decoupling

ADD



L6T

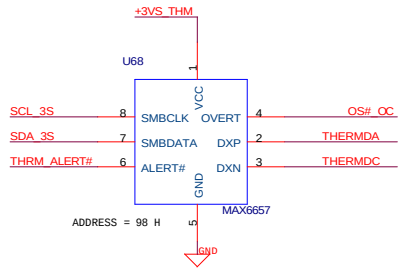
ASUSTek COMPUTER INC.

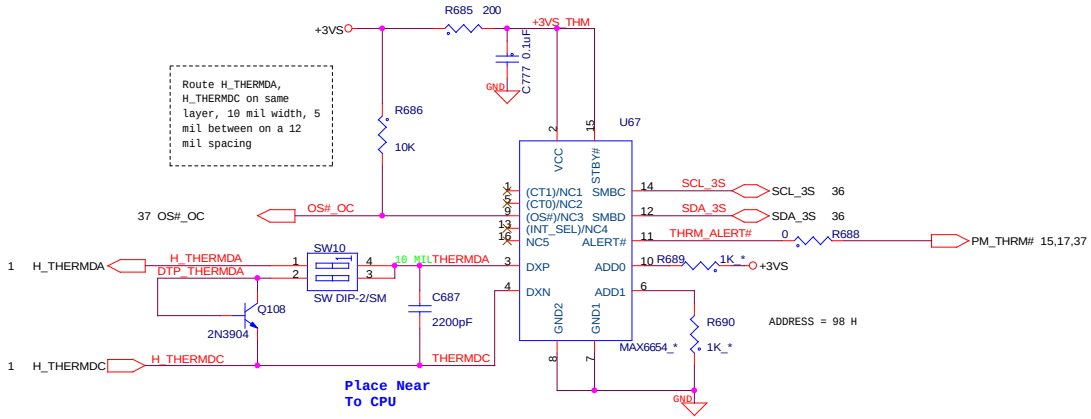
4 FL.,No.150, Li-Te Rd.,Peitou,Taipei,Taiwan, ROC

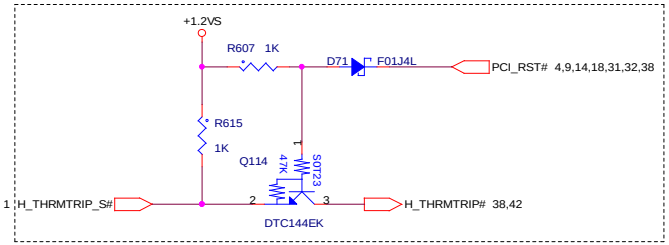
Title: **CPU-NORTHWOOD-2**

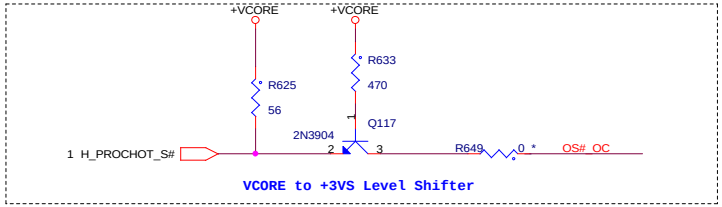
Size	Document Number	Rev
Custom	L3C	3.3

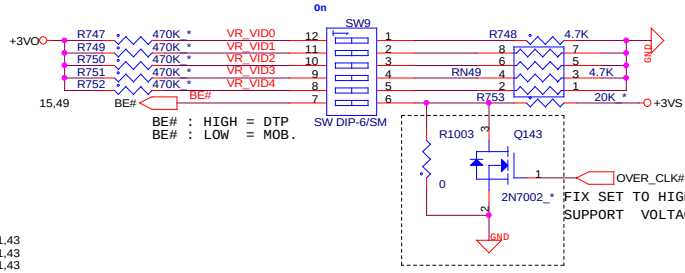
Date: Tuesday, November 19, 2002 Sheet 2 of 54



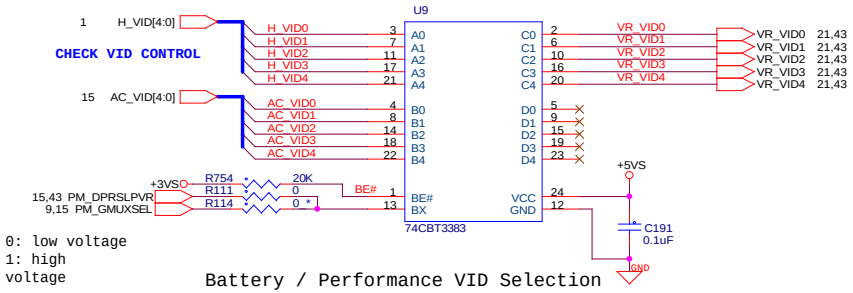








VID SELECTION



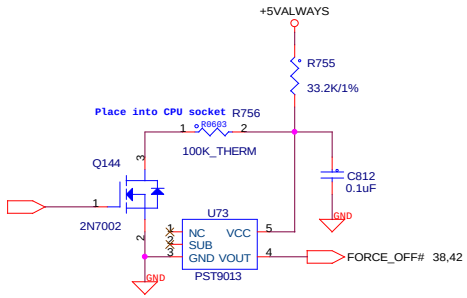
0: low voltage
1: high voltage

Battery / Performance VID Selection

VID					VCC
4	3	2	1	0	
0	0	0	0	1	1.70
0	0	1	1	1	1.40
0	0	1	0	1	1.50
0	1	0	0	0	1.35
0	1	0	0	1	1.30
0	1	1	0	0	1.15
0	1	1	0	1	1.10
1	0	1	0	1	0.85
1	1	0	1	1	0.70

DT

M



CBT3383 Bus Exchange

BX	C0-C4	D0-D4
HIGH	B0-B4	A0-A4
LOW	A0-A4	B0-B4

Performance Mode = 1.3V
Battery Mode = 1.3V
Deeper Sleep Mode = 1.1V

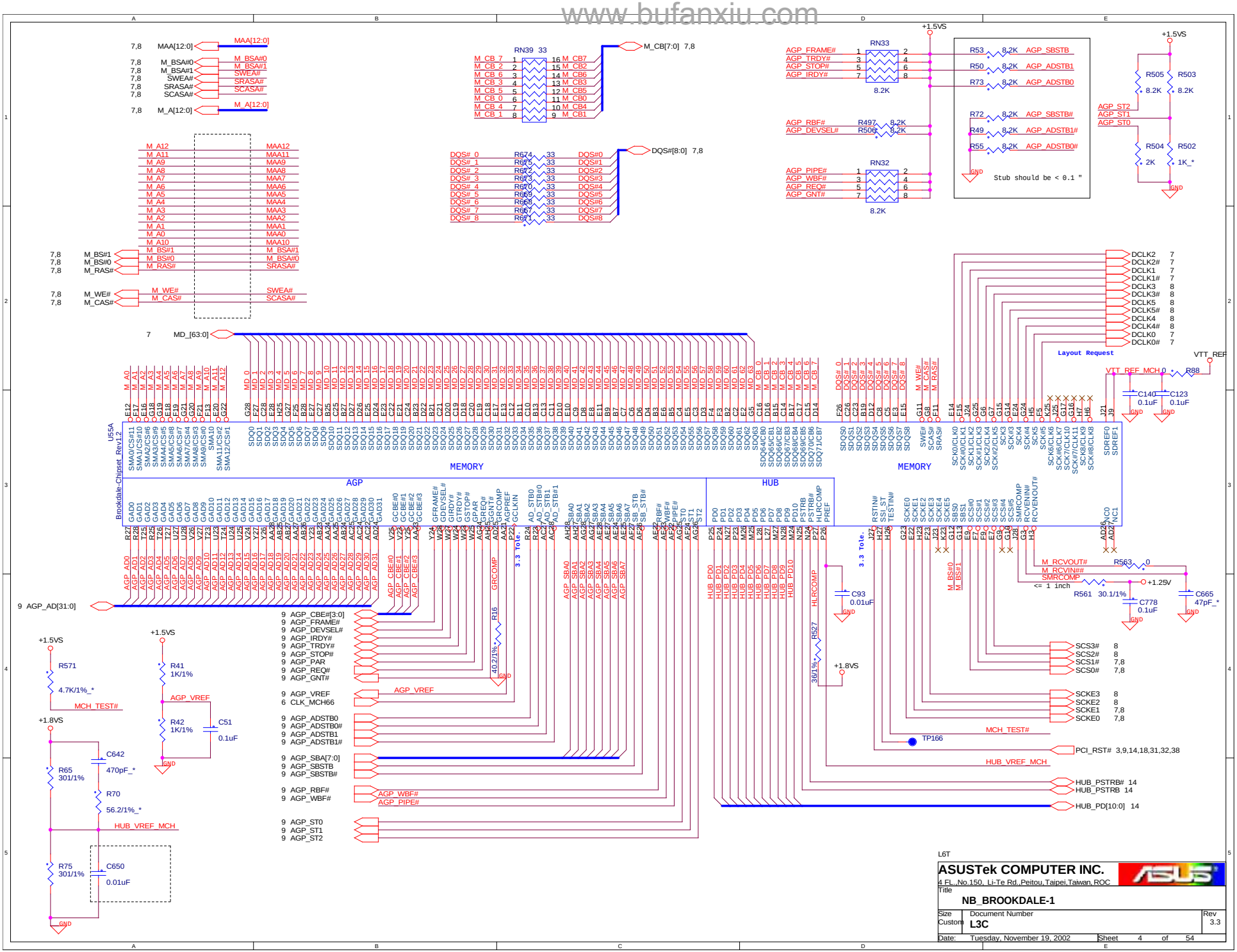
L6T

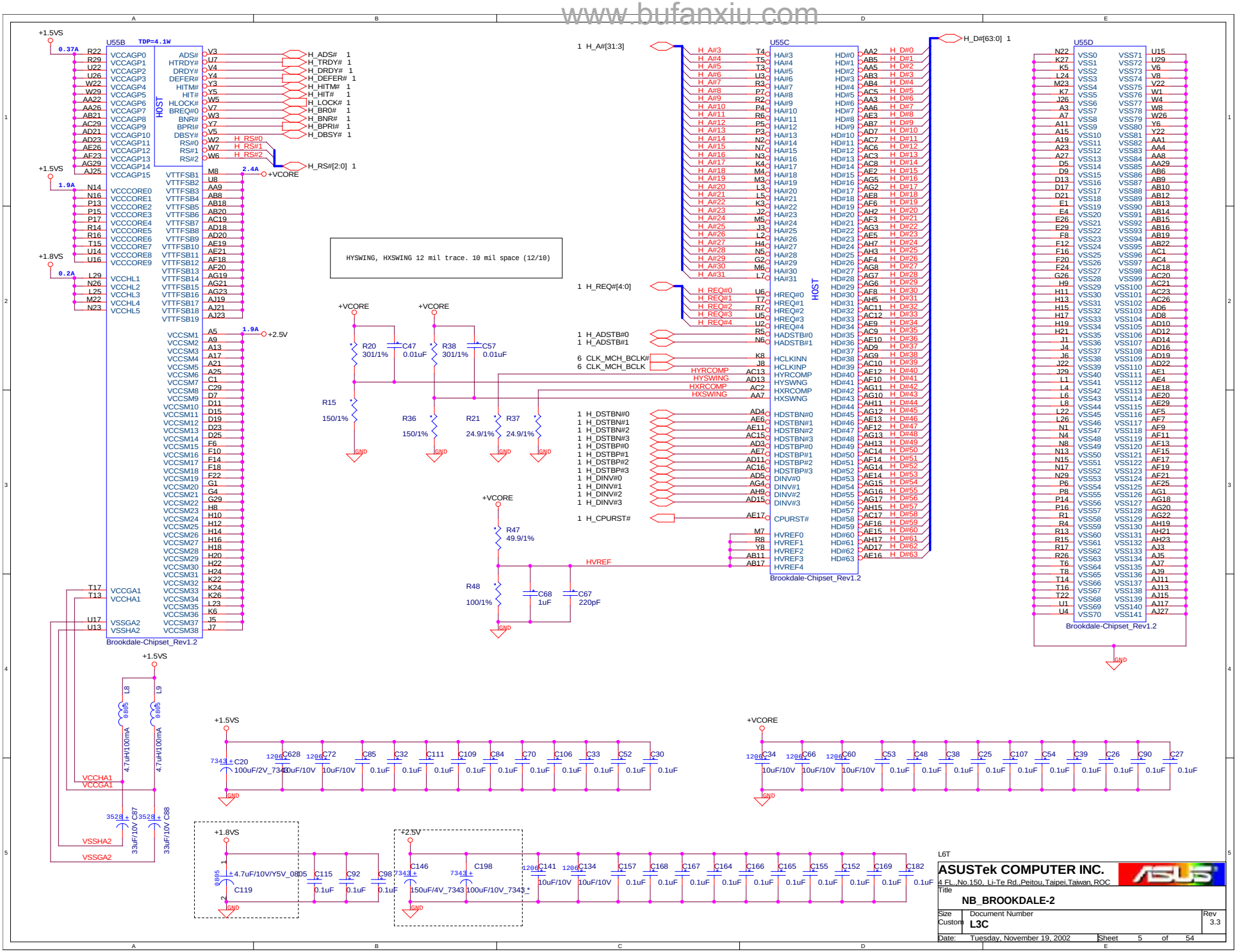
ASUSTek COMPUTER INC.
4 FL.,No.150, Li-Te Rd.,Peitou,Taipei,Taiwan, ROC

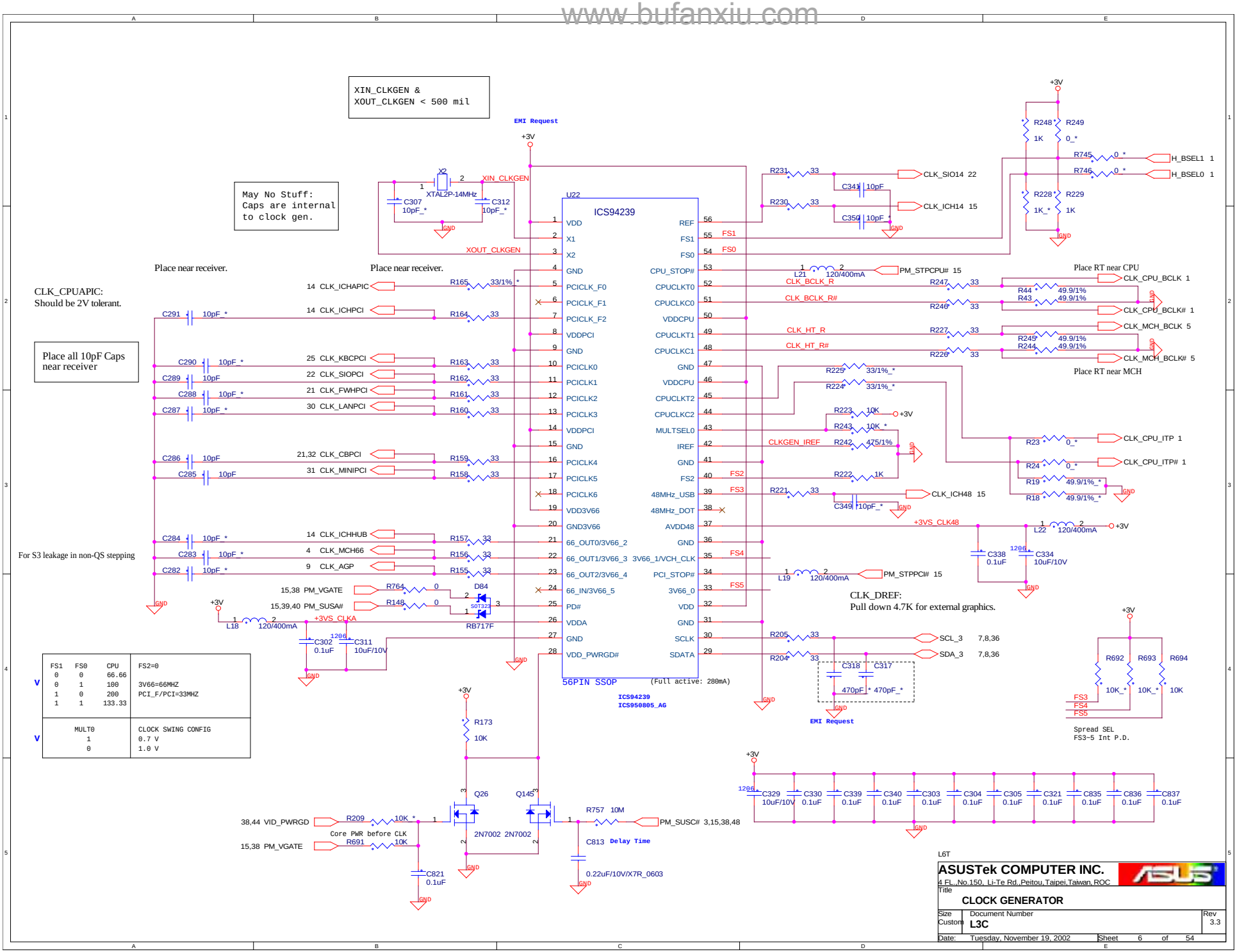
Title: **THERMAL & VID Selection**

Size	Document Number	Rev
Custom	L3C	3.3

Date: Tuesday, November 19, 2002 Sheet 3 of 54

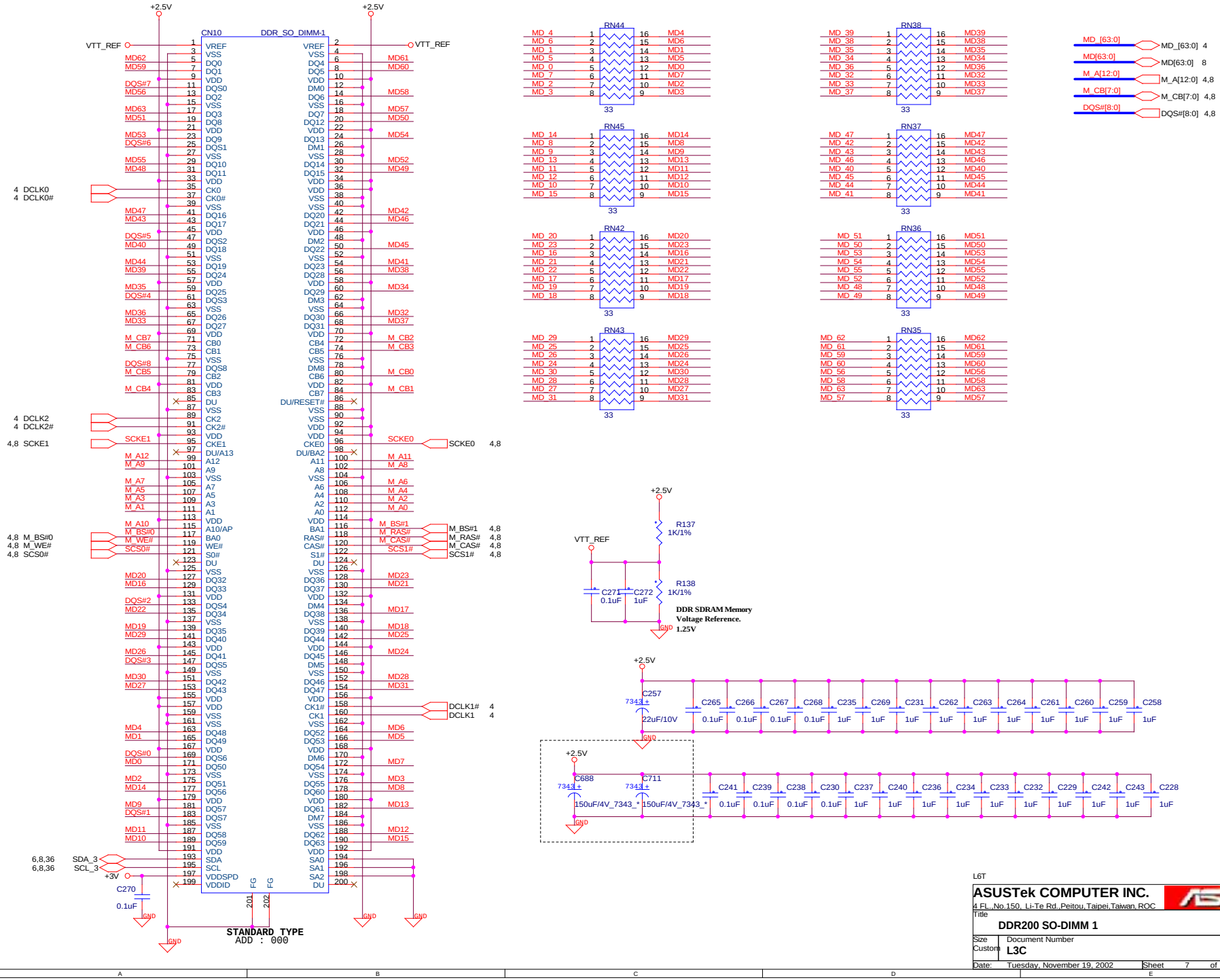


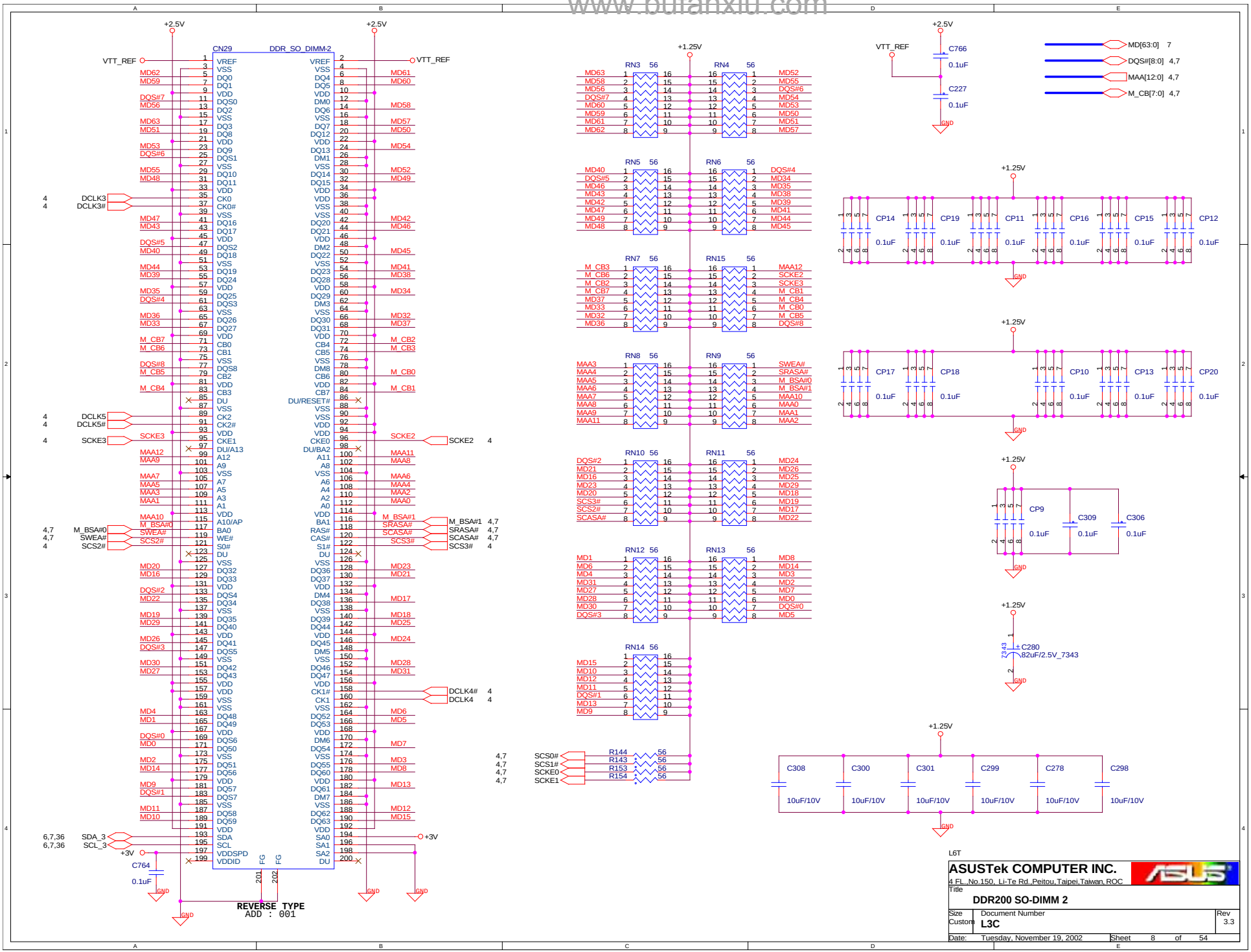




FS1	FS0	CPU	FS2=0
0	0	66.66	
0	1	100	3V66=66MHZ
1	0	200	PCI_F/PCI=33MHZ
1	1	133.33	

MULT0	CLOCK SWING CONFIG
1	0.7 V
0	1.0 V





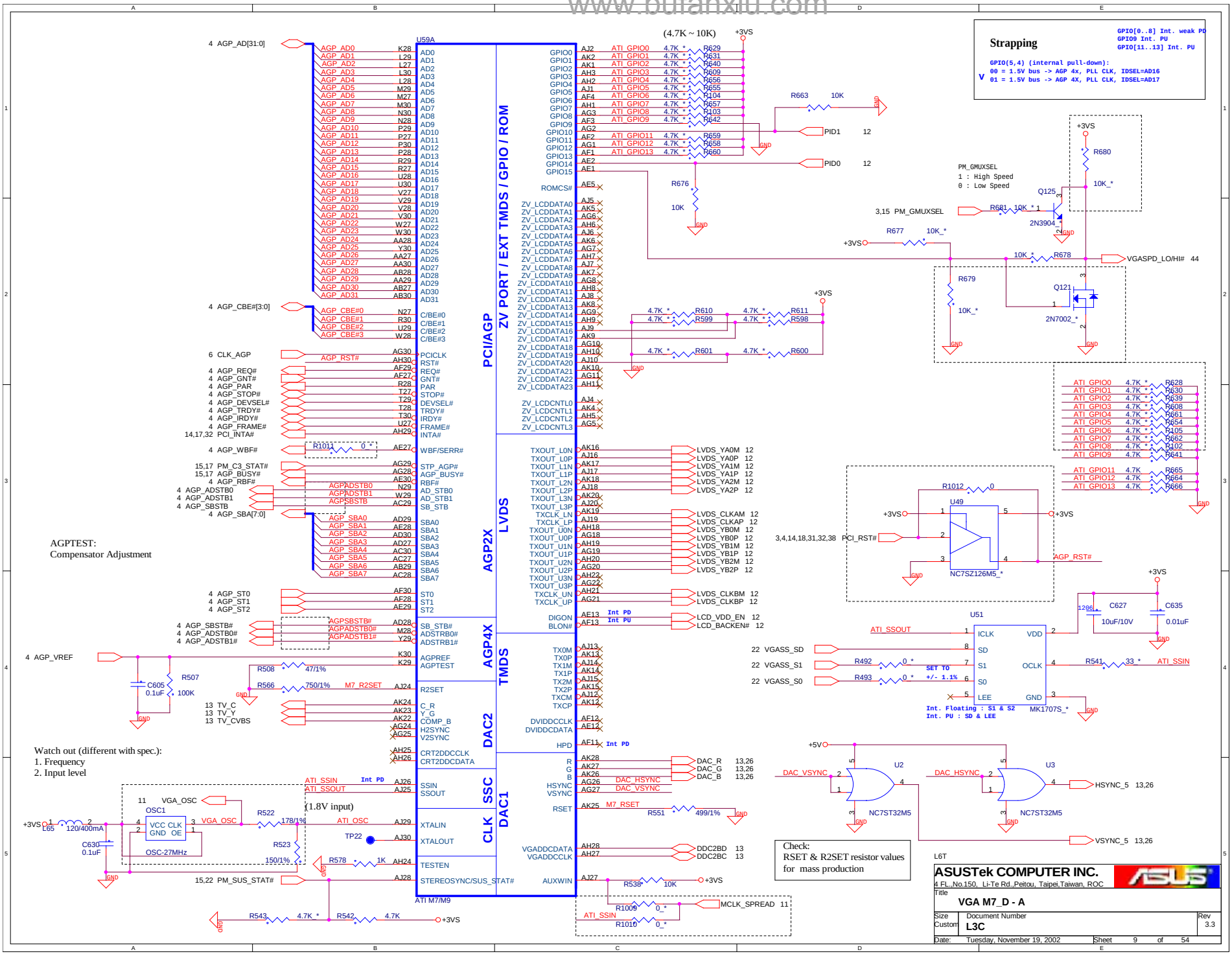
L6T

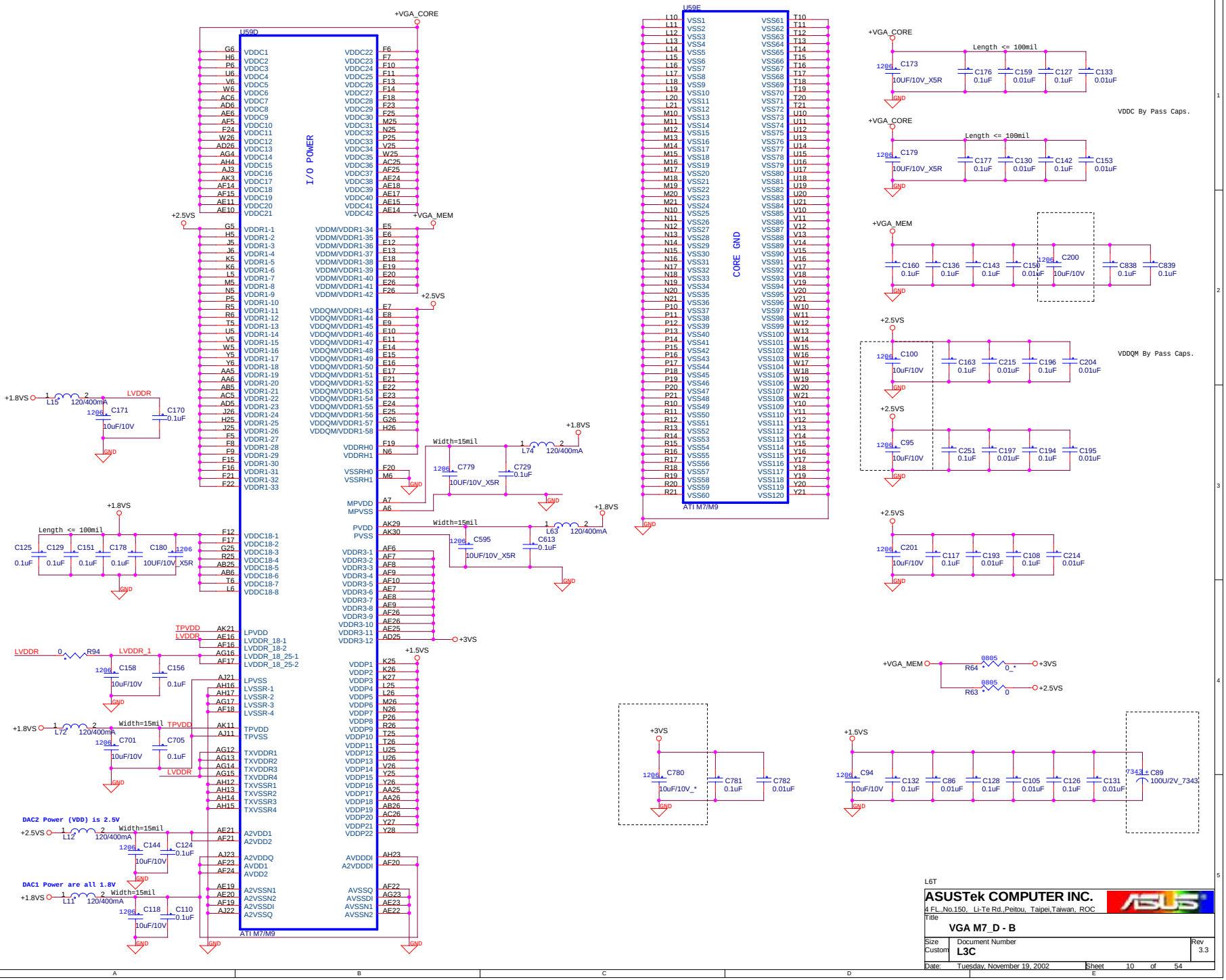
ASUSTek COMPUTER INC.
4 FL.,No.150, Li-Te Rd.,Peitou,Taipei,Taiwan, ROC

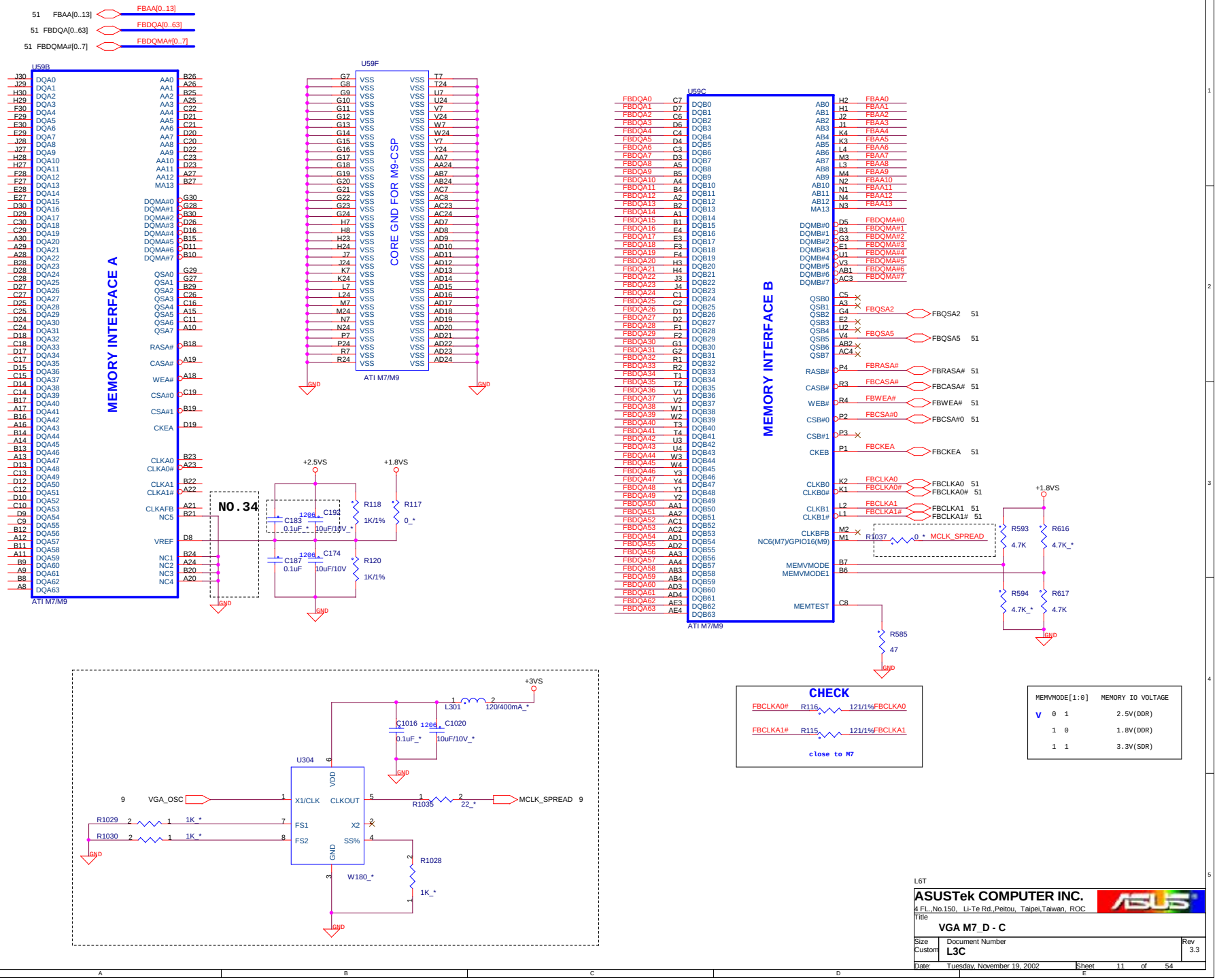
Title: **DDR200 SO-DIMM 2**

Size	Document Number	Rev
Custom	L3C	3.3

Date: Tuesday, November 19, 2002 Sheet 8 of 54







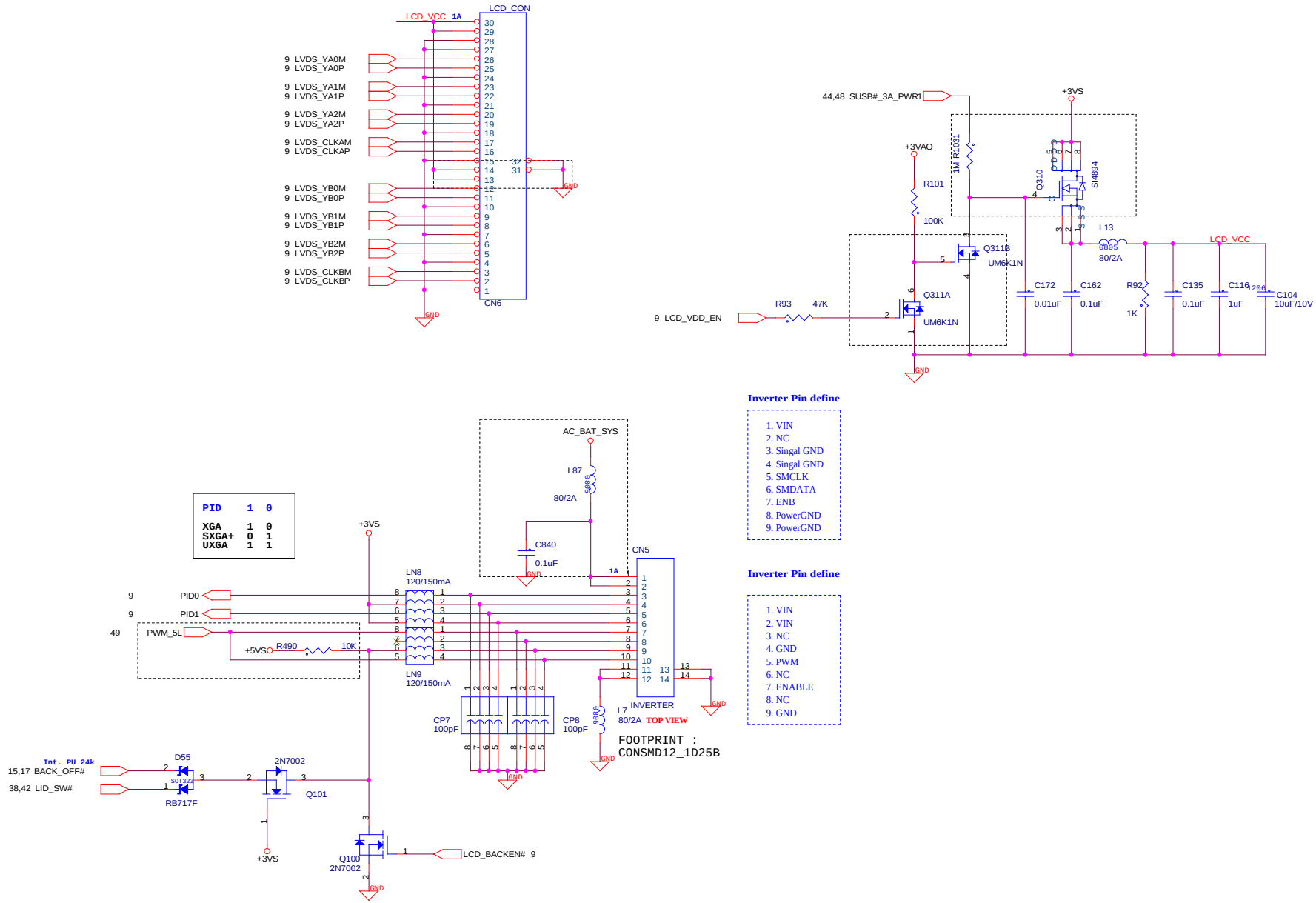
L6T

ASUSTek COMPUTER INC.
4 FL.,No.150, Li-Te Rd.,Peitou, Taipei,Taiwan, ROC

Title: **VGA M7_D - C**

Size	Document Number	Rev
Custom	L3C	3.3

Date: Tuesday, November 19, 2002 Sheet 11 of 54



L6T

ASUSTek COMPUTER INC.

4 FL.,No.150, Li-Te Rd.,Peitou,Taipei,Taiwan, ROC

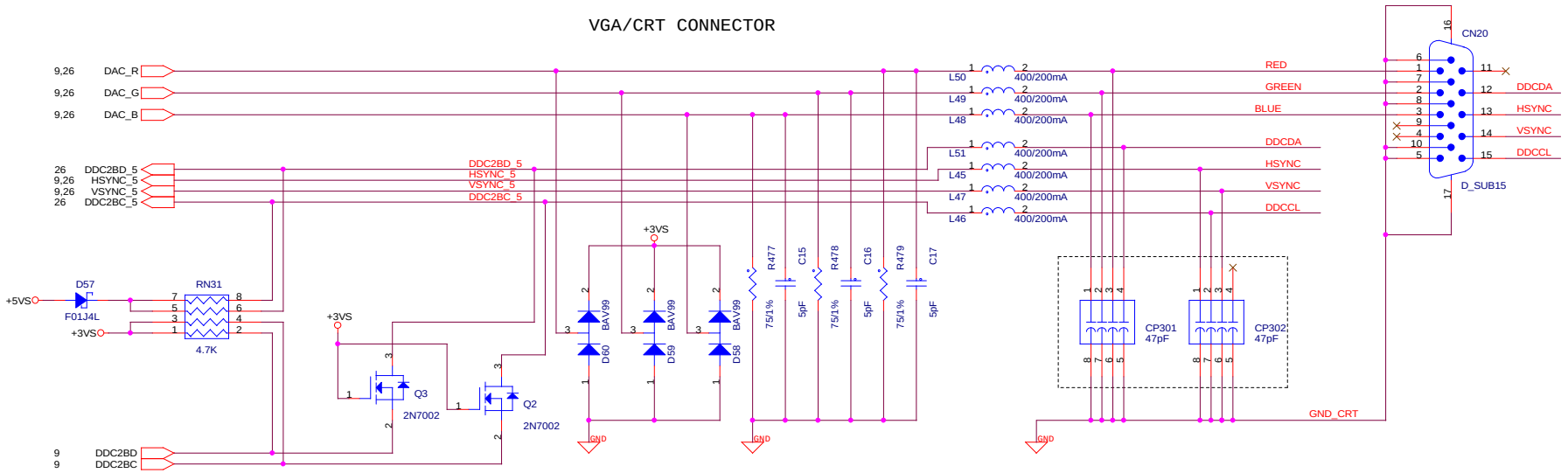
Title: **LVDS & BACKLIGHT**

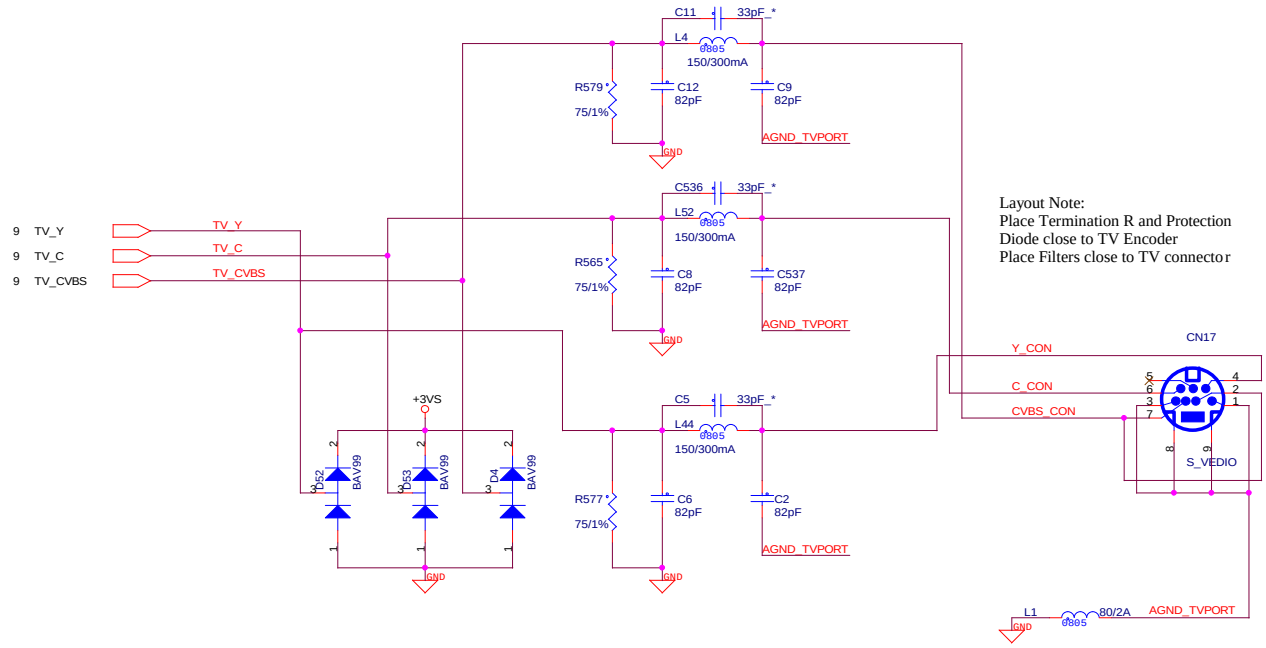
Size	Document Number	Rev
Custom	L3C	3.3

Date: Tuesday, November 19, 2002 Sheet 12 of 54

Layout:
ISET -- short and wide trace

VGA/CRT CONNECTOR





Layout Note:
Place Termination R and Protection Diode close to TV Encoder
Place Filters close to TV connector

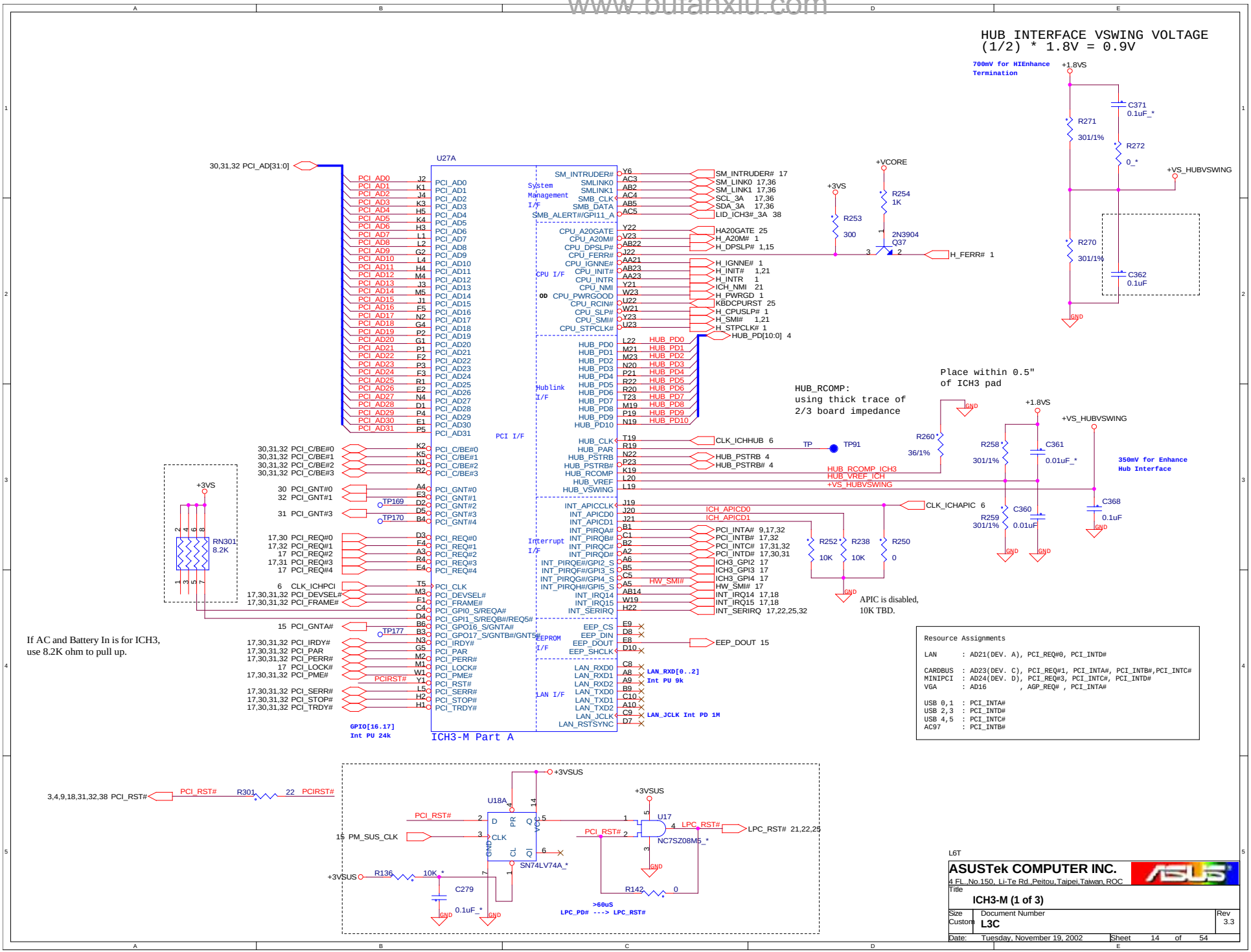
L6T

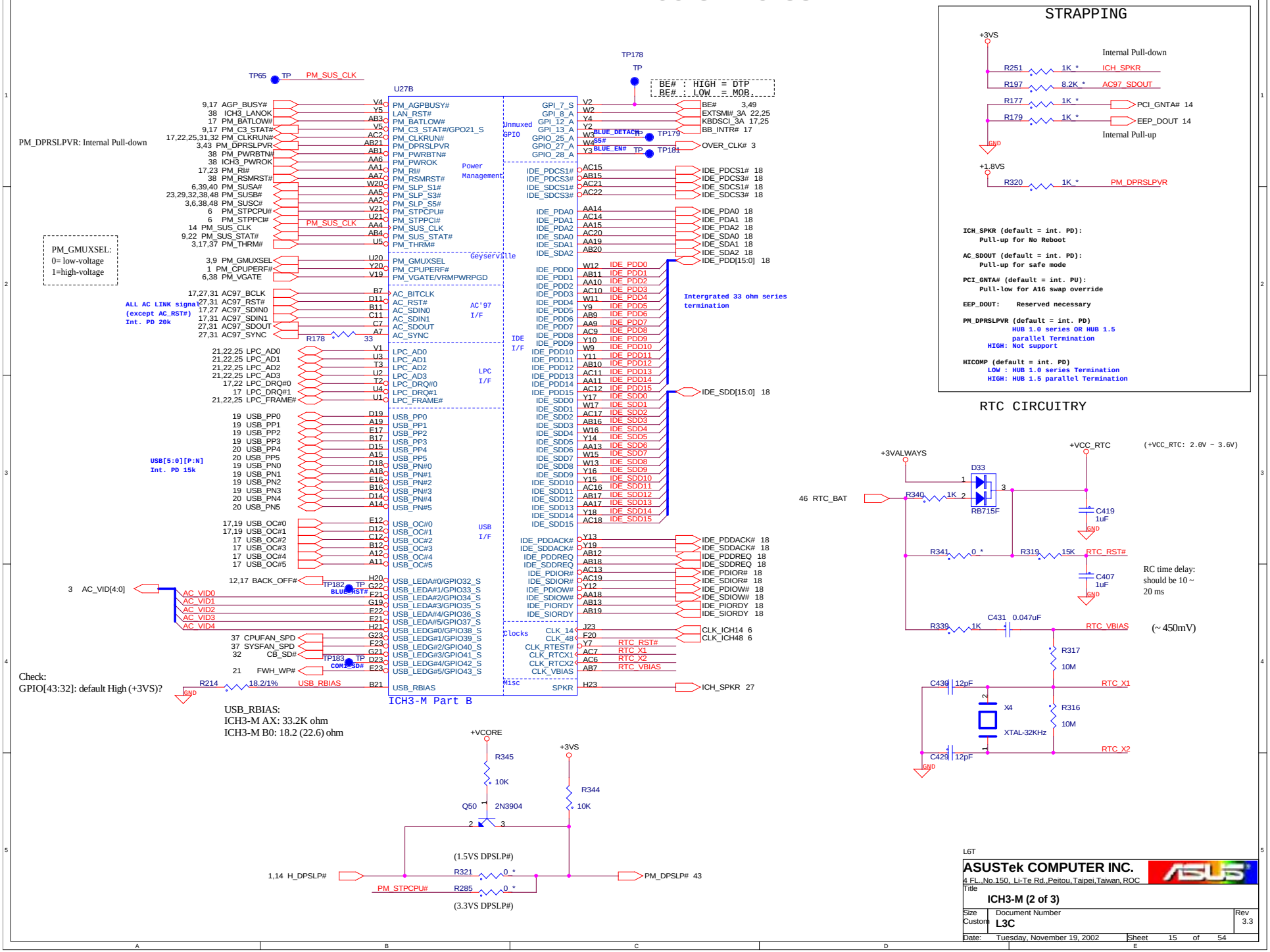
ASUSTek COMPUTER INC.
4 FL.,No.150, Li-Te Rd.,Peitou,Taipei,Taiwan, ROC

Title: **TV & CRT CONNECTOR**

Size	Document Number	Rev
Custom	L3C	3.3

Date: Tuesday, November 19, 2002 Sheet 13 of 54





L6T

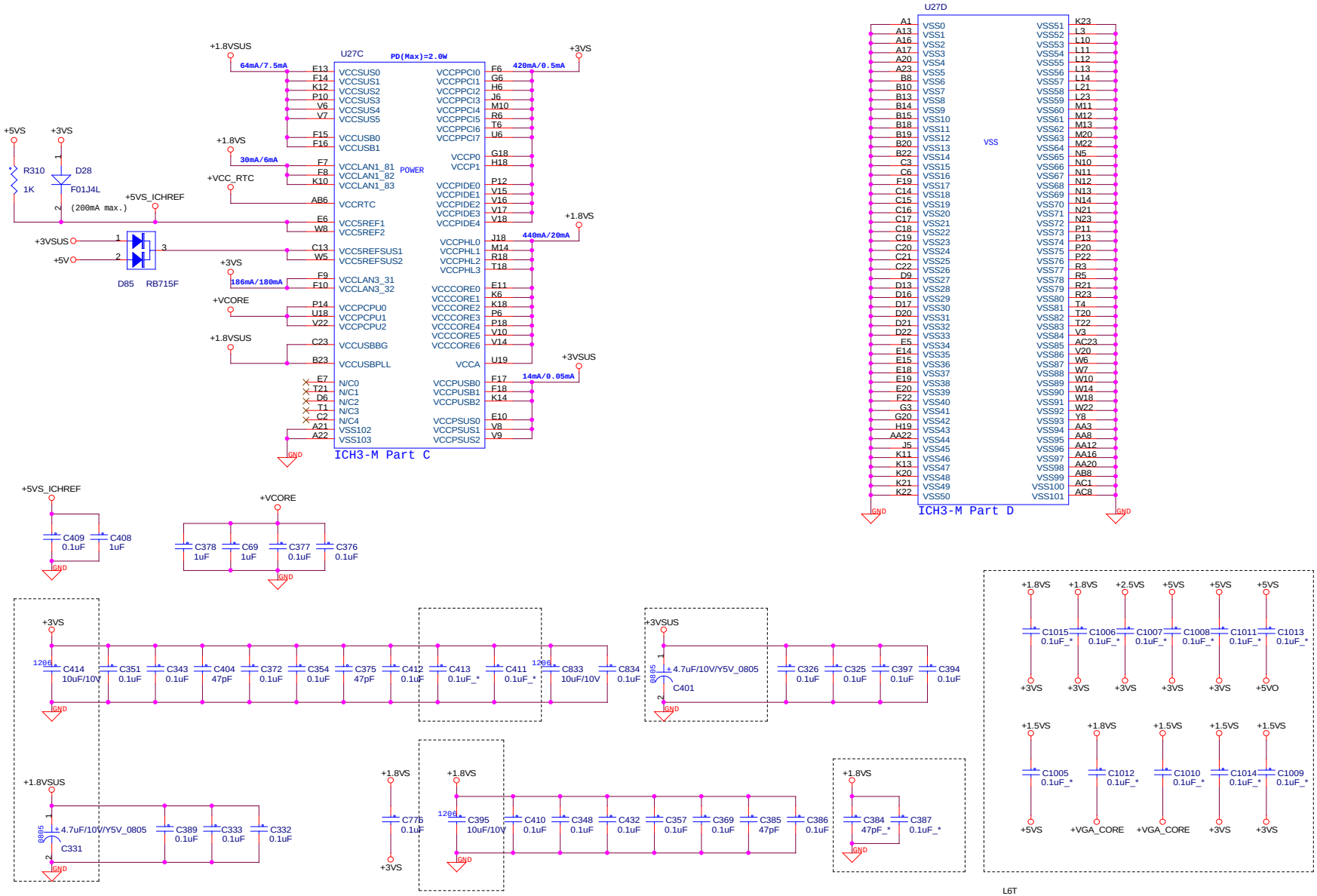
ASUSTek COMPUTER INC.

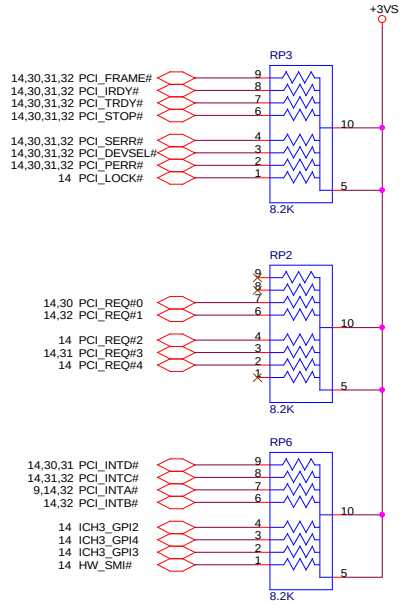
4 FL.,No.150, Li-Te Rd.,Peitou,Taipei,Taiwan, ROC

Title: **ICH3-M (2 of 3)**

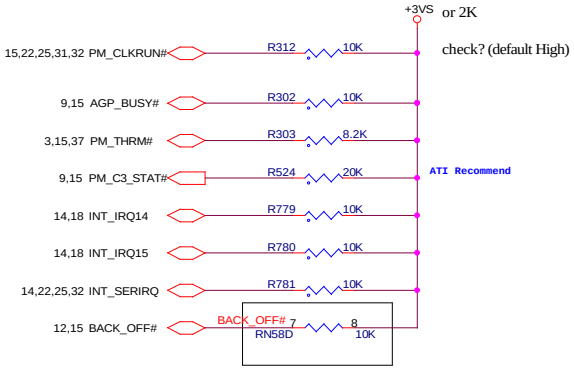
Size	Document Number	Rev
Custom	L3C	3.3

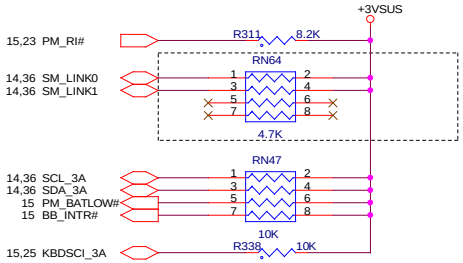
Date: Tuesday, November 19, 2002 Sheet 15 of 54





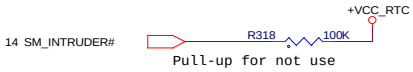
PCI_GNT#[4:0]:
ICH3 active driven, pull up may be not need.

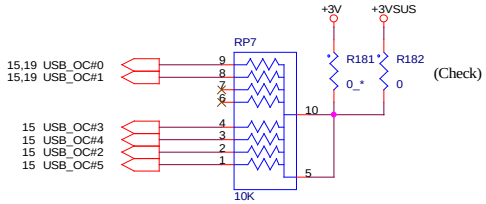




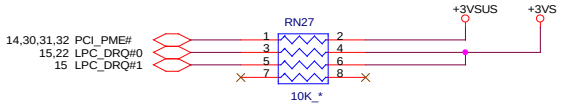
May need to be pulled up to +3VS

GPIO[25,27,28]:
Pull up may not needed, if not configure as input.





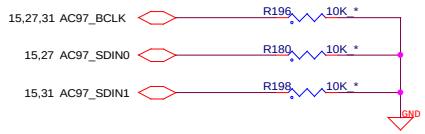
PME#, DRQ0# & DRQ1# have week internal pullups



If No External CODEC used, pull down AC97_SDIN0, AC97_SDIN1, Keep from floating.

Maybe not needed for ICH3 A1 or later stepping.

Duplicated in p.17



Check?
Has internal pull-down

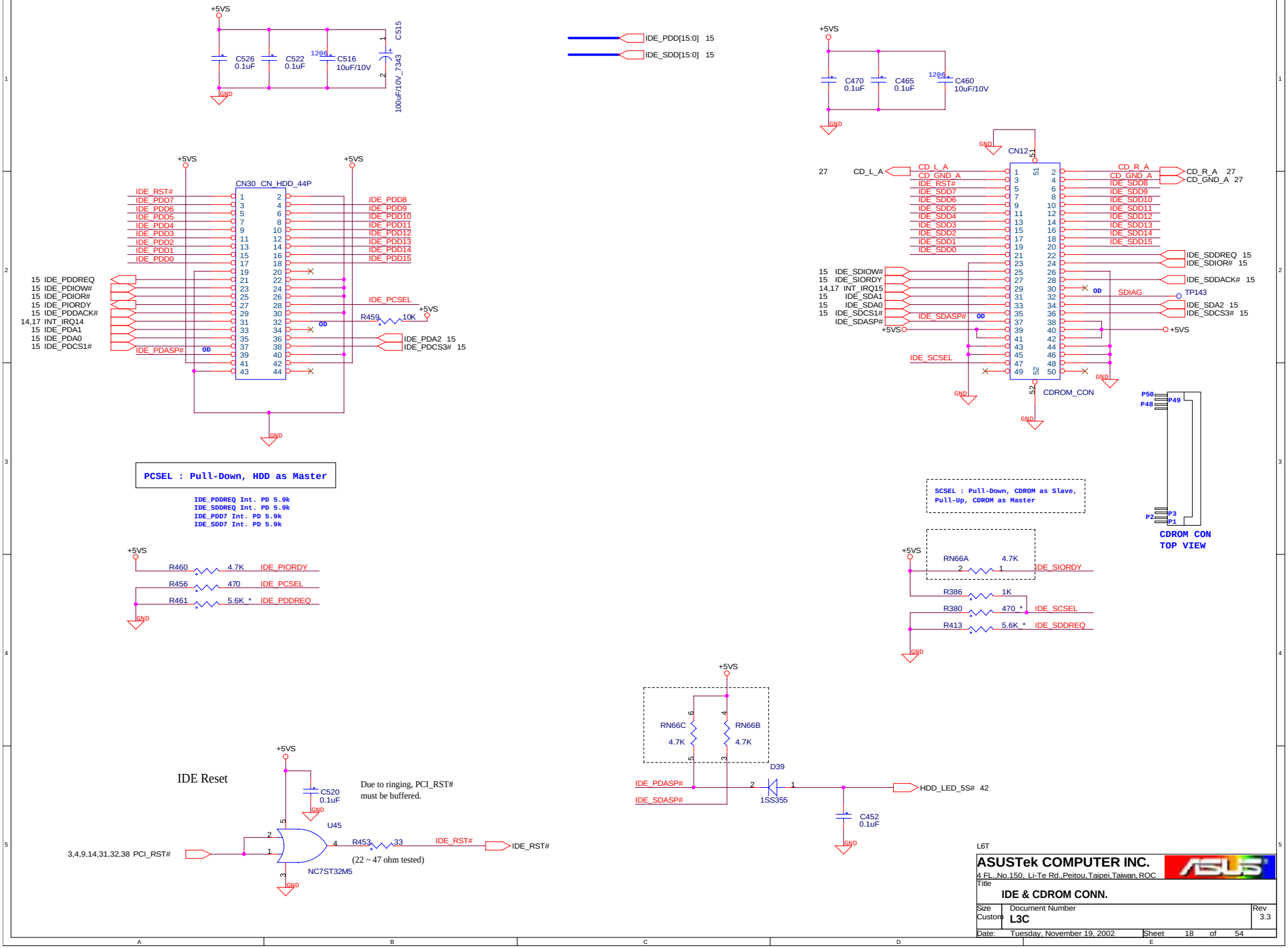
L6T

ASUSTek COMPUTER INC.
4 FL.,No.150, Li-Te Rd.,Peitou,Taipei,Taiwan, ROC

Title: **ICH3-M PULLUPS**

Size	Document Number	Rev
Custom	L3C	3.3

Date: Tuesday, November 19, 2002 Sheet 17 of 54



L6T

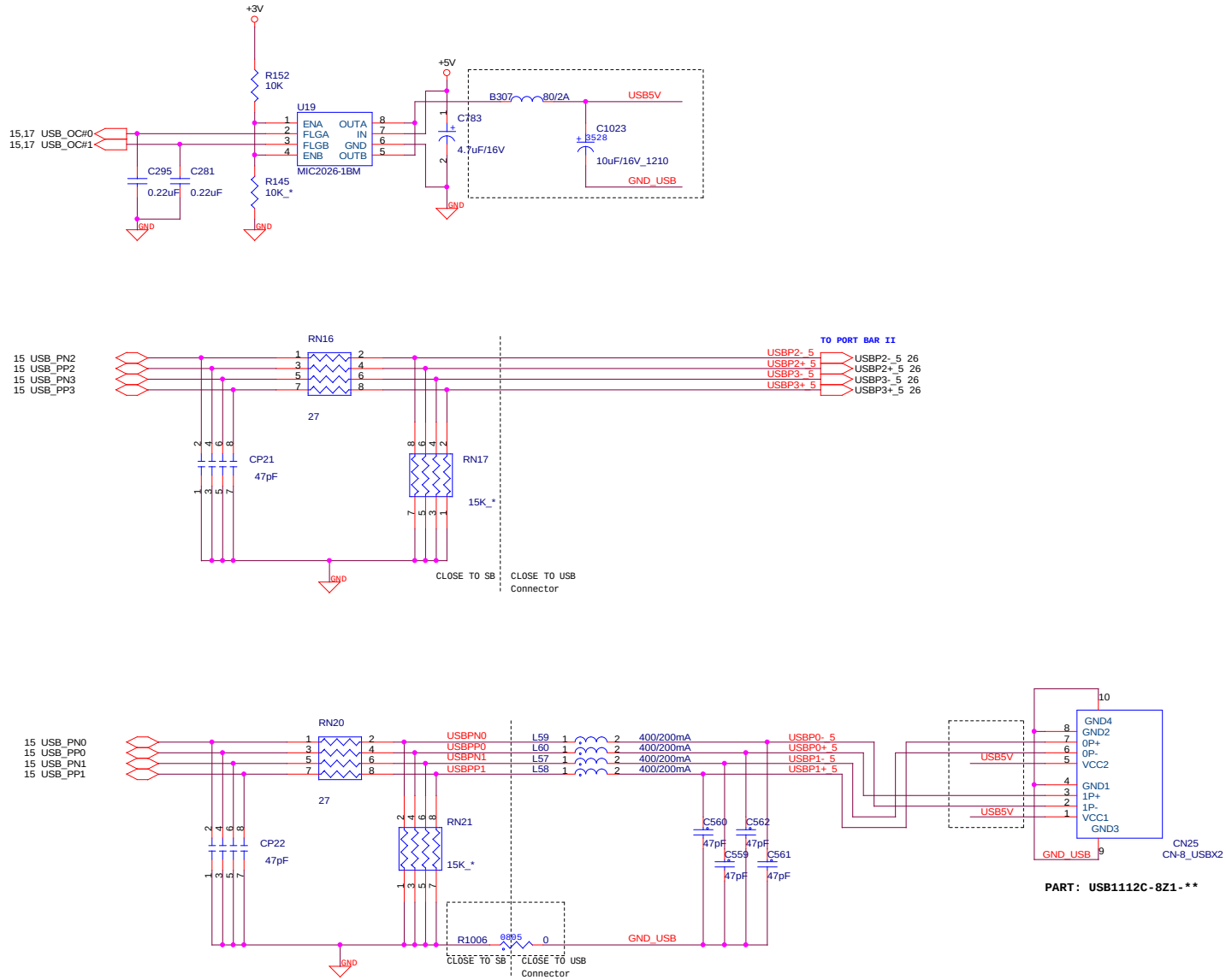
ASUSTek COMPUTER INC.

4 FL.,No.150, Li-Te Rd.,Peitou,Taipei,Taiwan, ROC

Title: **IDE & CDROM CONN.**

Size	Document Number	Rev
Custom	L3C	3.3

Date: Tuesday, November 19, 2002 Sheet 18 of 54



L6T

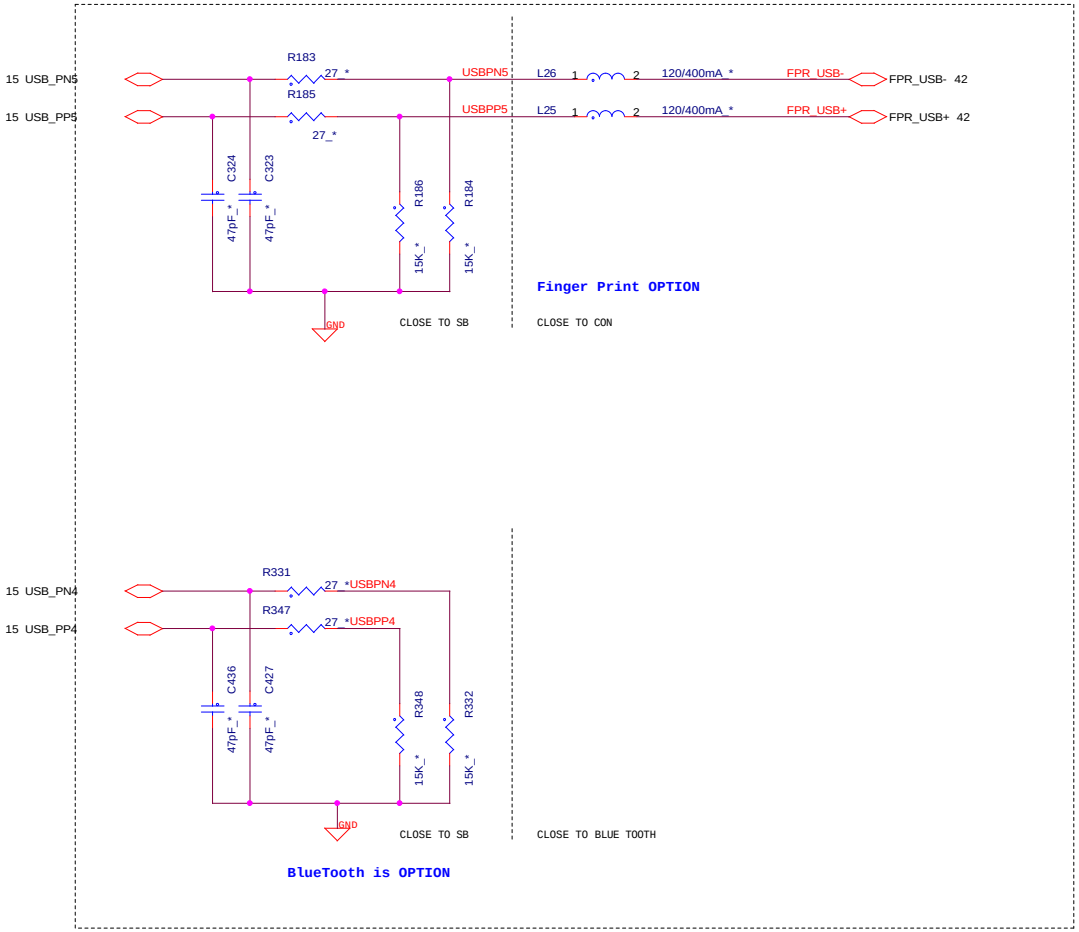
ASUSTek COMPUTER INC.

4 FL.,No.150, Li-Te Rd.,Peitou,Taipei,Taiwan, ROC

Title: **USB X 2**

Size	Document Number	Rev
Custom	L3C	3.3

Date: Tuesday, November 19, 2002 Sheet 19 of 54



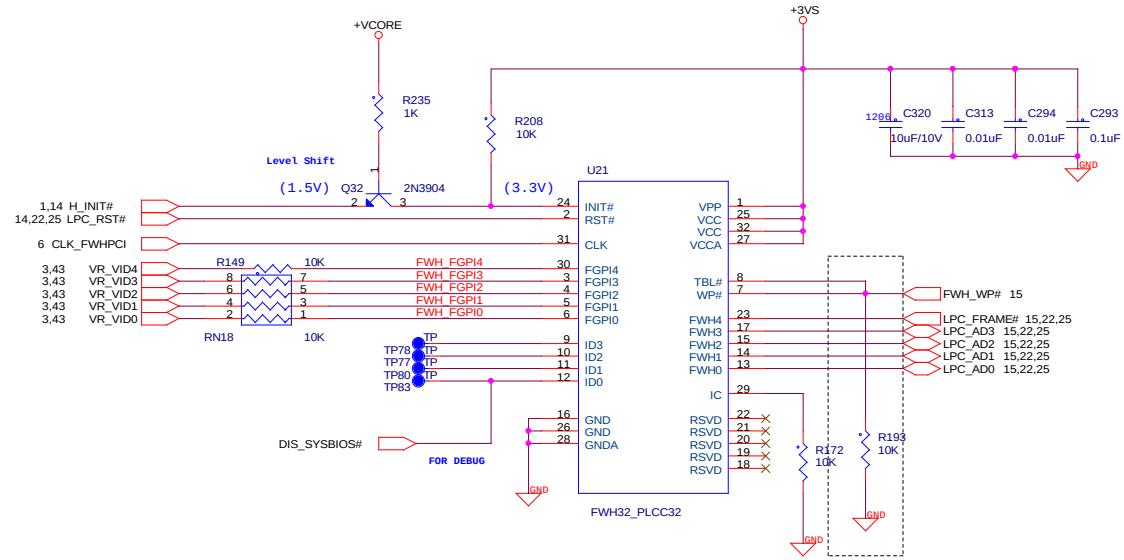
L6T

ASUSTek COMPUTER INC.
4 FL.,No.150, Li-Te Rd.,Peitou,Taipei,Taiwan, ROC

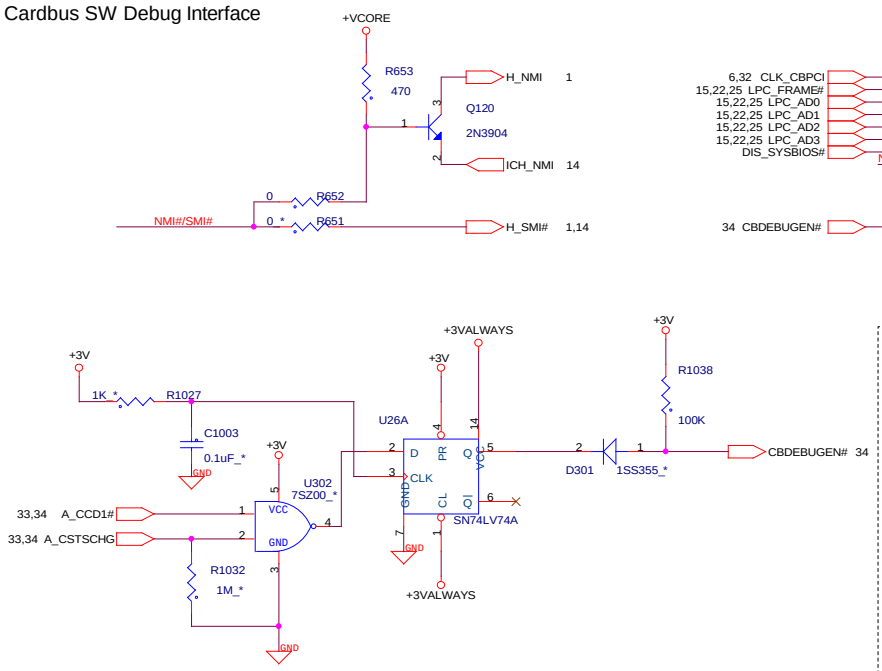
Title: **BlueTooth & Finger Print**

Size	Document Number	Rev
Custom	L3C	3.3

Date: Tuesday, November 19, 2002 Sheet 20 of 54



Cardbus SW Debug Interface



L6T

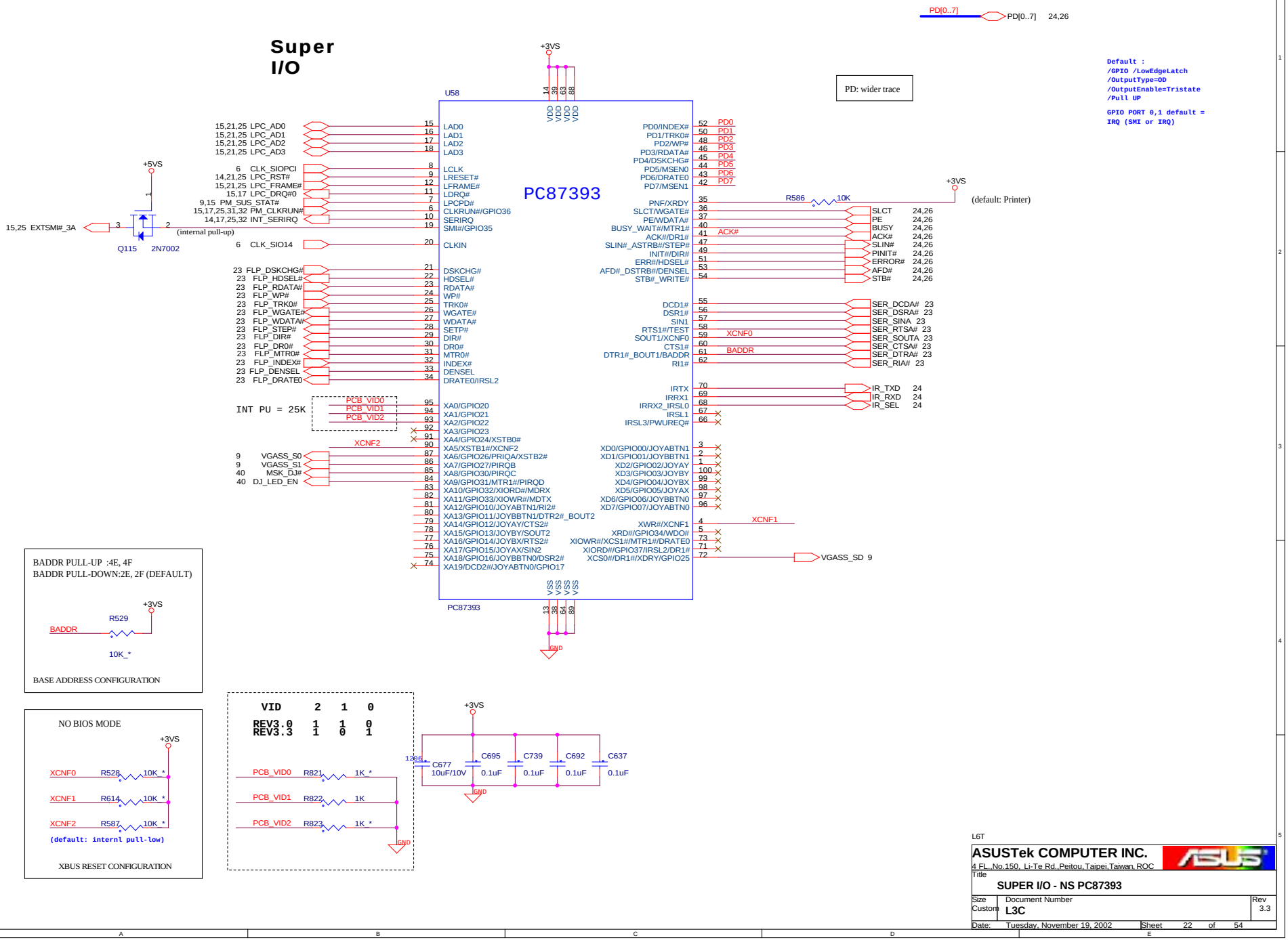
ASUSTek COMPUTER INC.

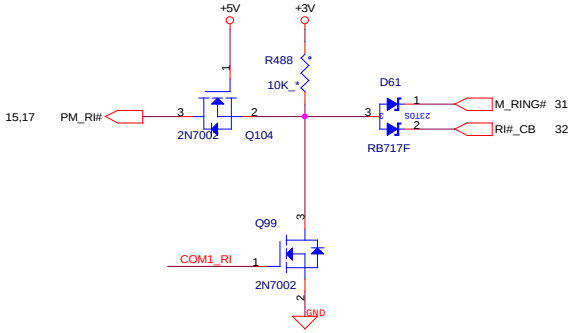
4 FL.,No.150, Li-Te Rd.,Peitou,Taipei,Taiwan, ROC

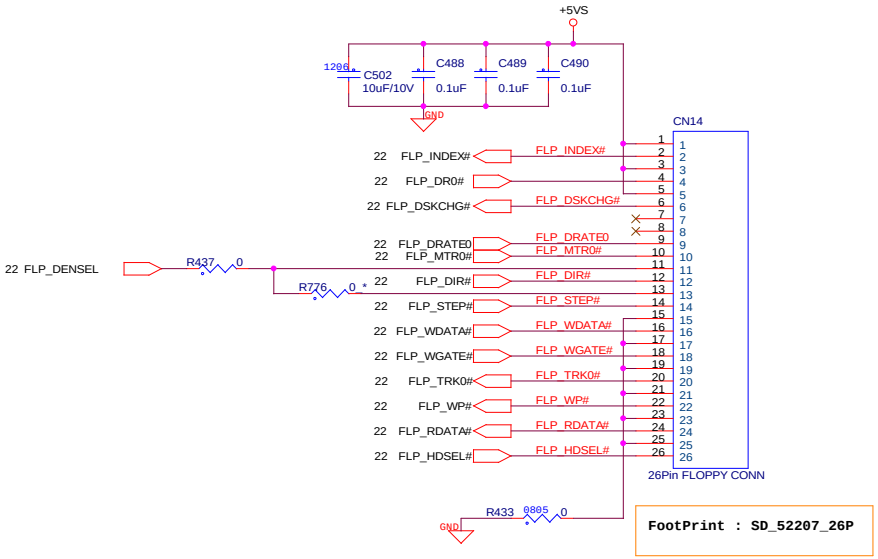
Title: **FWH & TEST CONNECTOR**

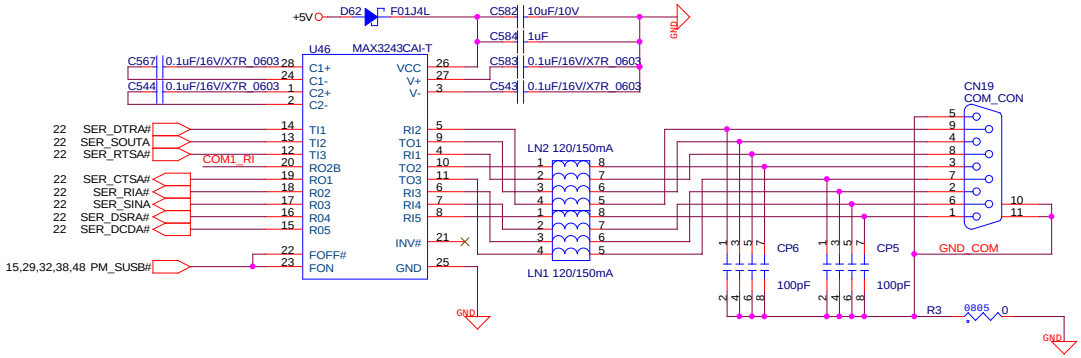
Size	Document Number	Rev
Custom	L3C	3.3

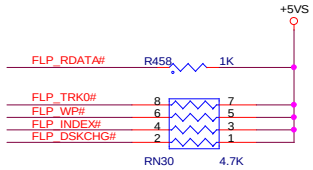
Date: Tuesday, November 19, 2002 Sheet 21 of 54











L6T

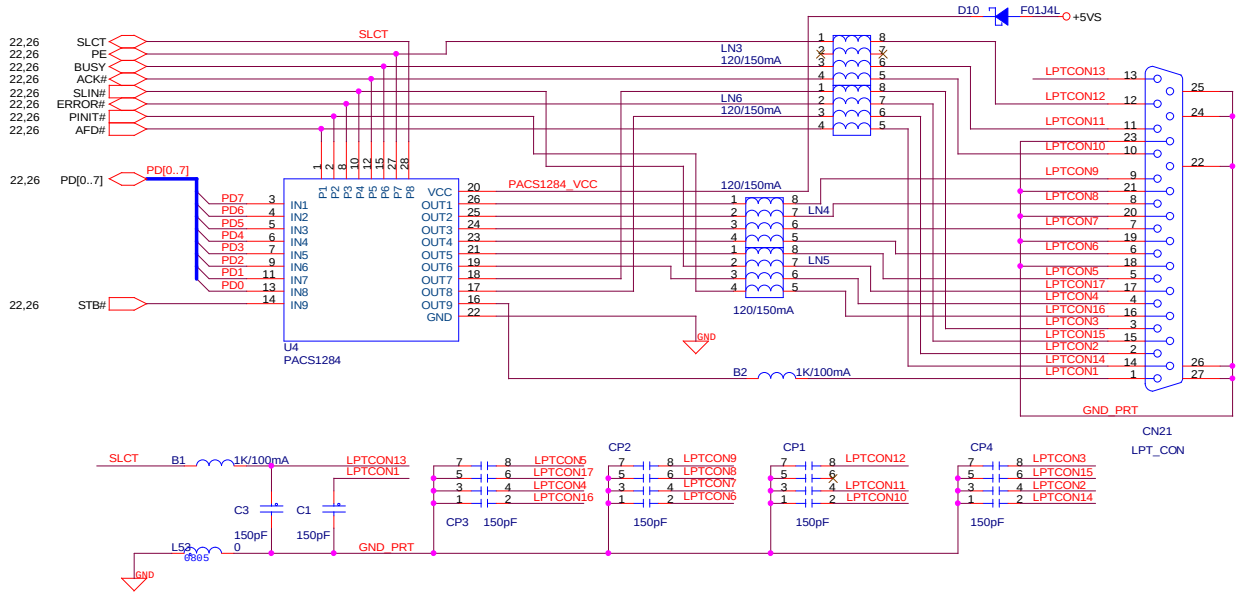
ASUSTek COMPUTER INC.

4 FL.,No.150, Li-Te Rd.,Peitou,Taipei,Taiwan, ROC

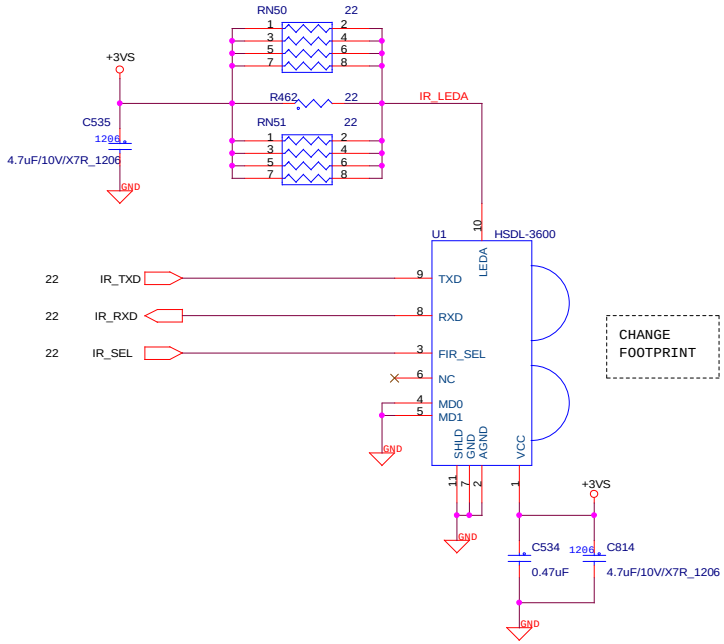
Title: **COM PORT & FDD**

Size	Document Number	Rev
Custom	L3C	3.3

Date: Tuesday, November 19, 2002 Sheet 23 of 54



Effective resistance: 2.7 OHM



L6T

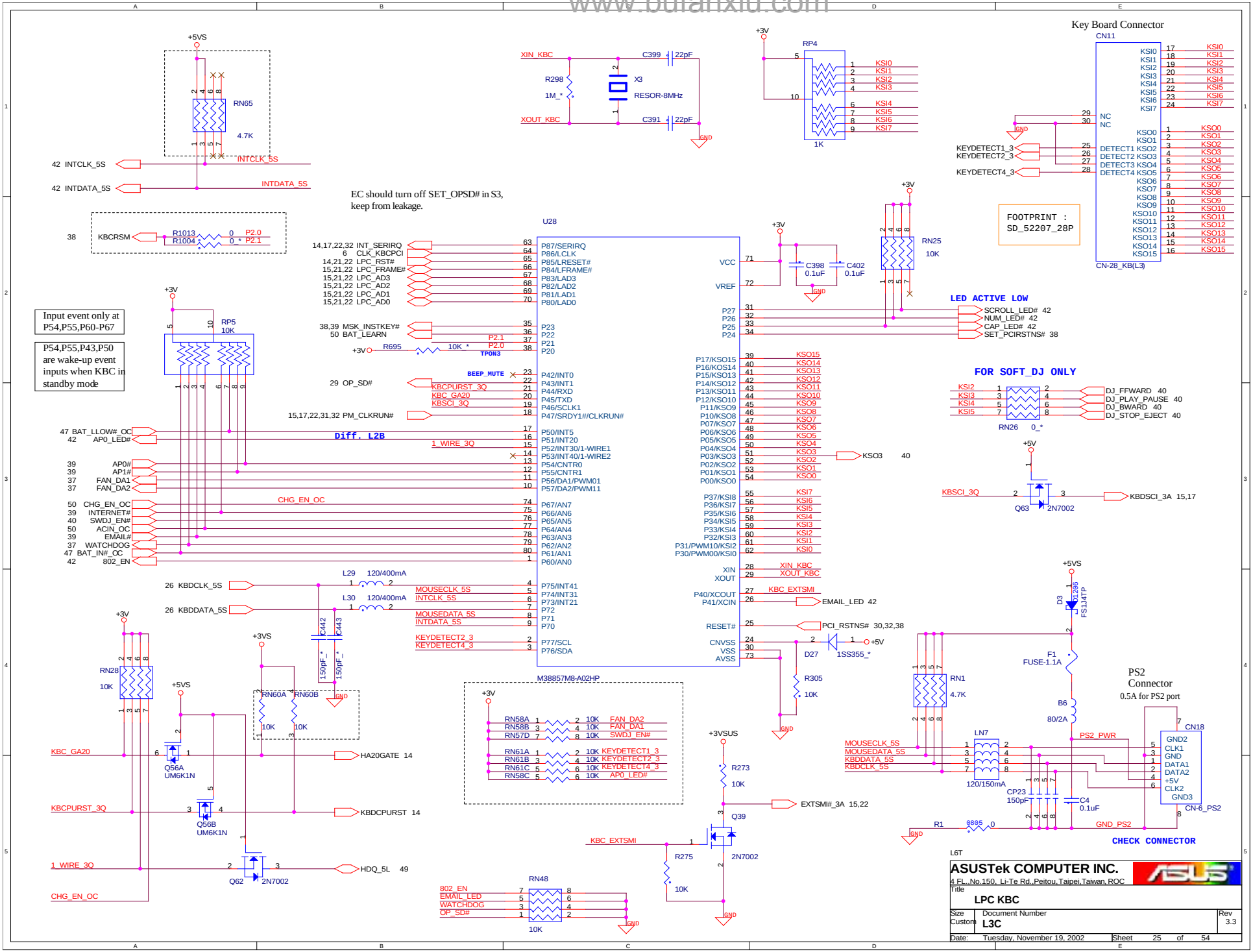
ASUSTek COMPUTER INC.

4 FL.,No.150, Li-Te Rd.,Peitou,Taipei,Taiwan,ROC

Title: **IR & LPT PORT**

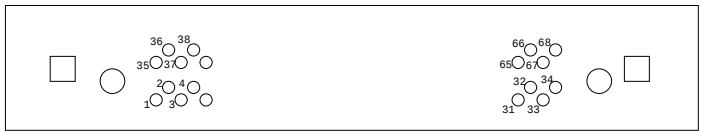
Size	Document Number	Rev
Custom	L3C	3.3

Date: Tuesday, November 19, 2002 Sheet 24 of 54

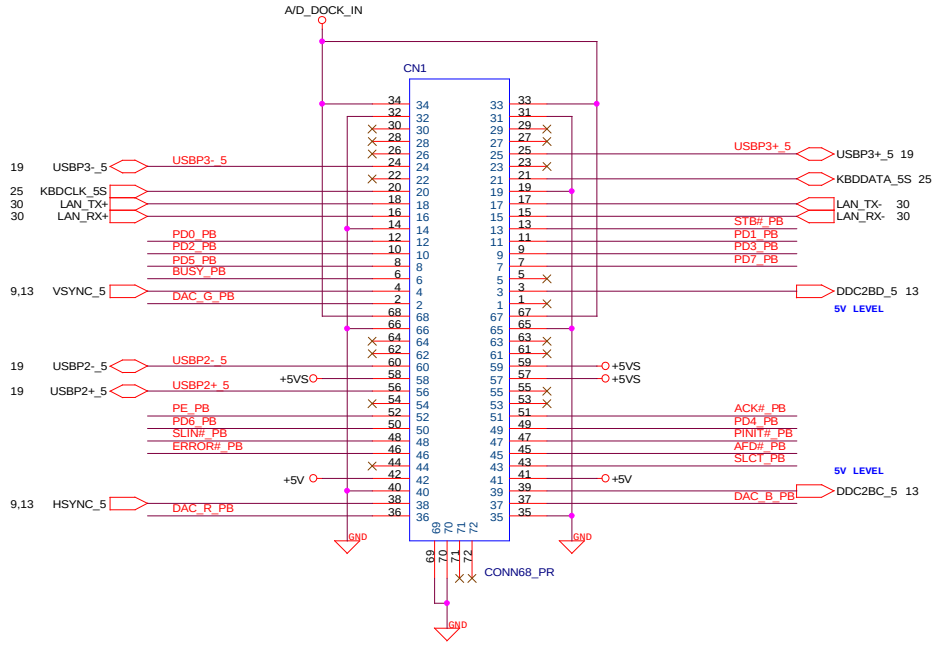


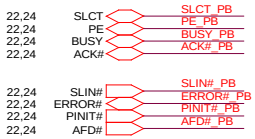
The funtion difference between
Port-DockI / Port Dock II:
1. PDI w/ COM, 2xPS2, wo/ Lan
2. PDII w/ 2xUSB, Lan, 1xPS2

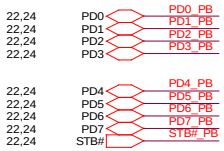
The Pinout difference between PD1/PD2
1. Remove PD1 Pin:12,13,16-20,30,34,42,59,61-63,68
2. PD1: +19V:35,36,37 / GND:1,2,3,21,38
   PD2: +19V:1,2,35,36 / GND:3,4,16,21,37,38



Top View







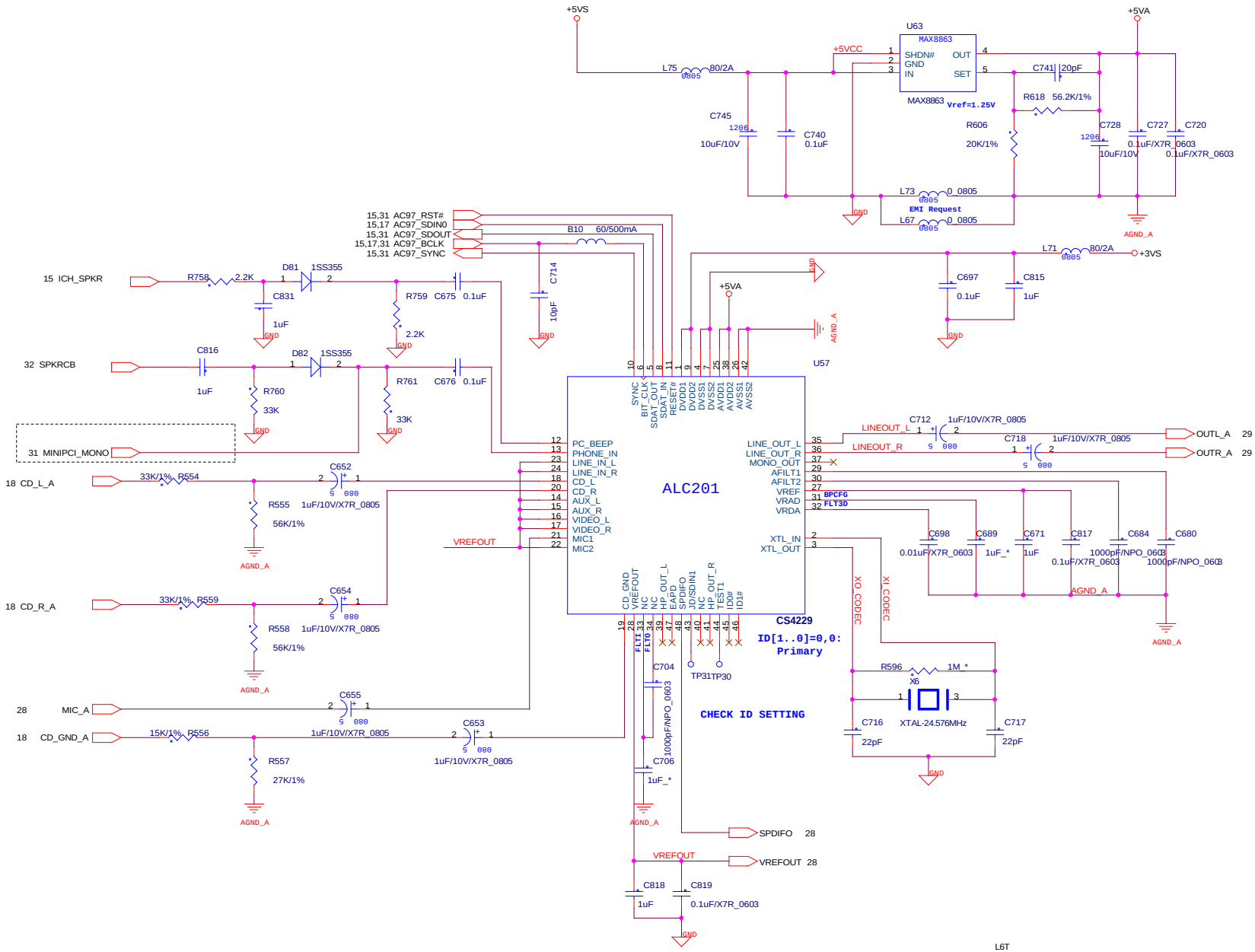
L6T

ASUSTek COMPUTER INC.
4 FL.,No.150, Li-Te Rd.,Peitou,Taipei,Taiwan, ROC

Title: **PORT BAR II**

Size	Document Number	Rev
Custom	L3C	3.3

Date: Tuesday, November 19, 2002 Sheet 26 of 54



L6T

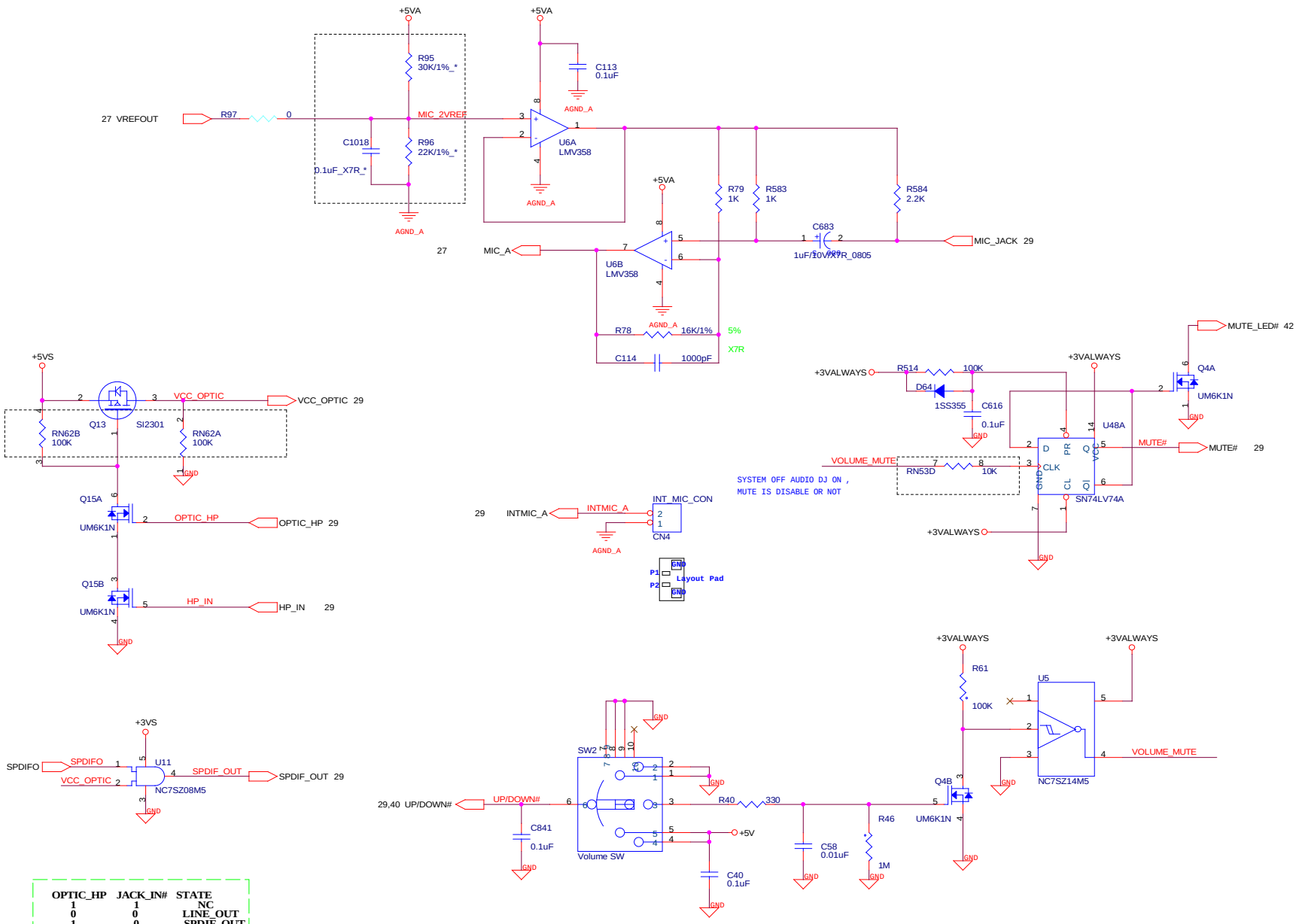
ASUSTek COMPUTER INC.

4 FL.,No.150, Li-Te Rd.,Peitou,Taipei,Taiwan, ROC

Title: **AC97 & MDC**

Size	Document Number	Rev
Custom	L3C	3.3

Date: Tuesday, November 19, 2002 Sheet 27 of 54



OPTIC_HP	JACK_IN#	STATE
1	1	NC
0	0	LINE_OUT
1	0	SPDIF_OUT

L6T

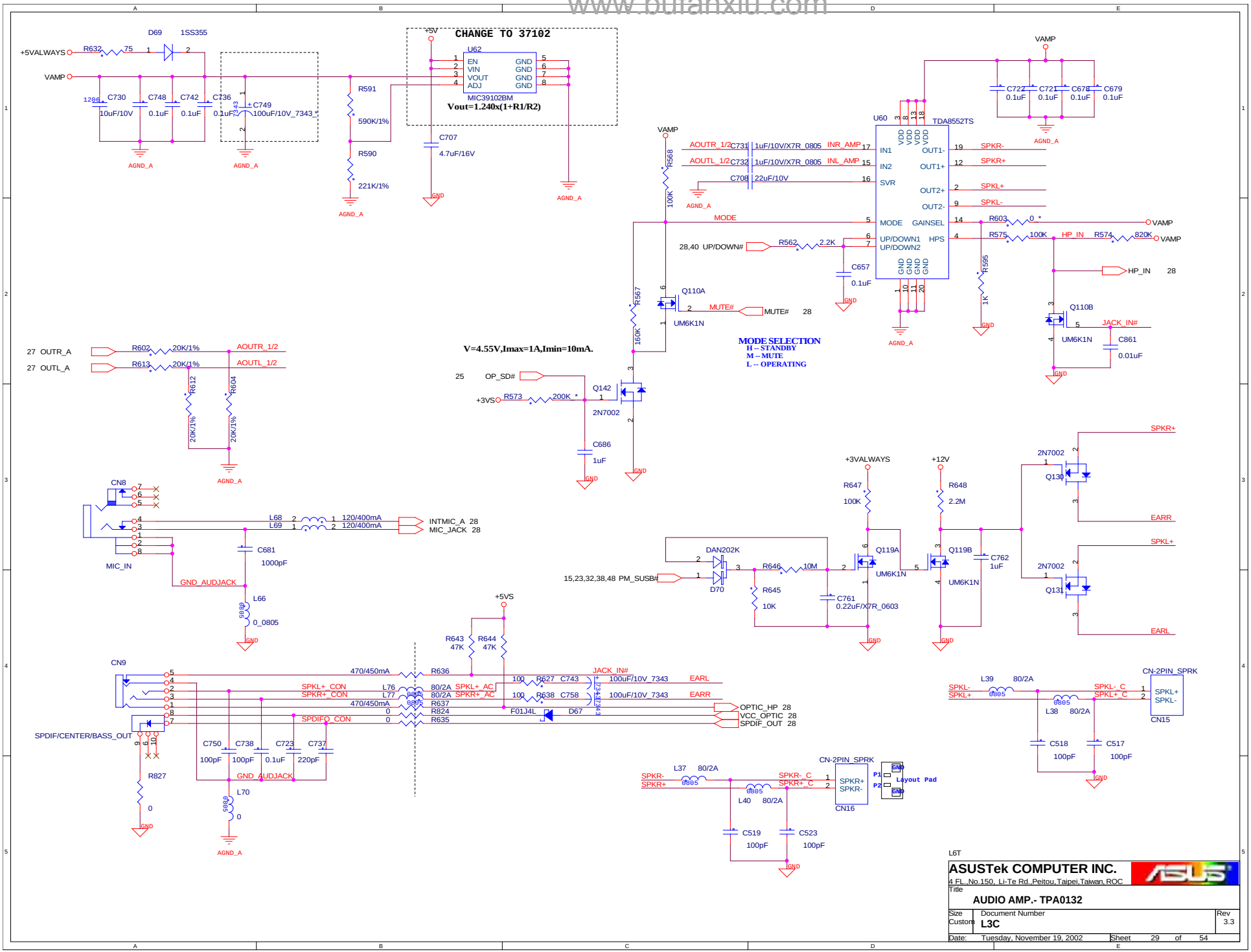
ASUSTek COMPUTER INC.

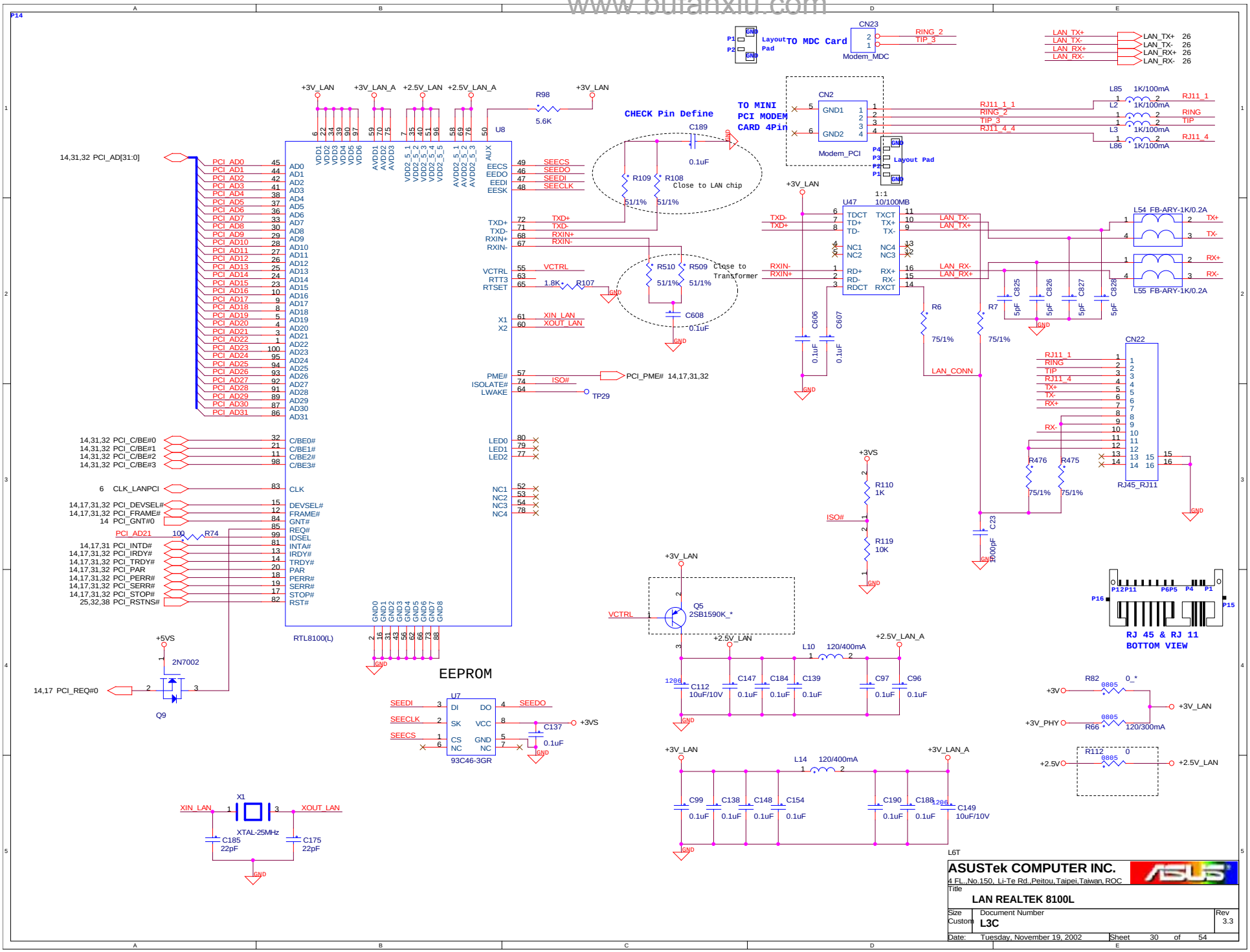
4 FL.,No.150, Li-Te Rd.,Peitou,Taipei,Taiwan, ROC

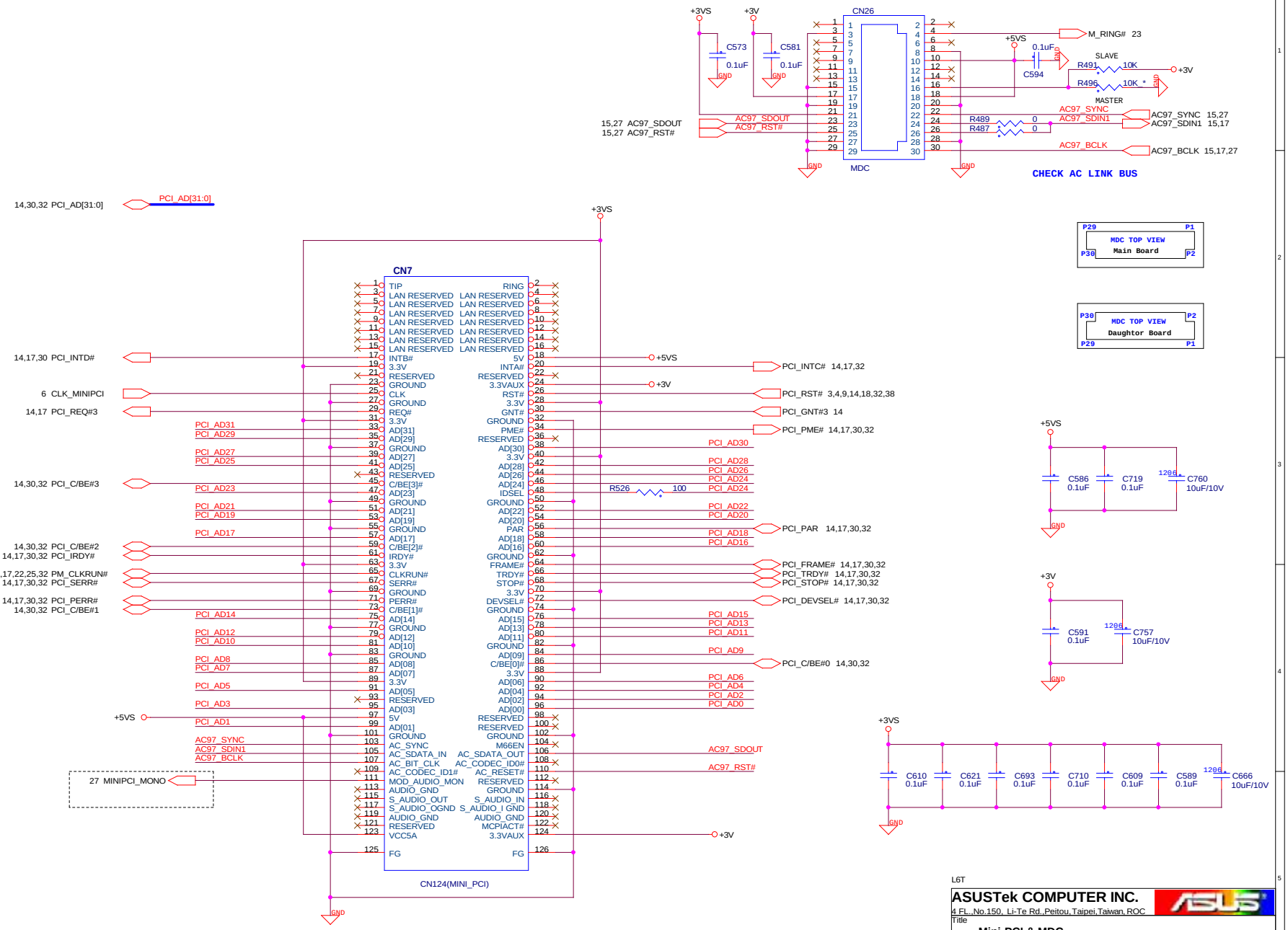
Title: **MIC AMP. & BEEP GEN.**

Size	Document Number	Rev
Custom	L3C	3.3

Date: Tuesday, November 19, 2002 Sheet 28 of 54







L6T

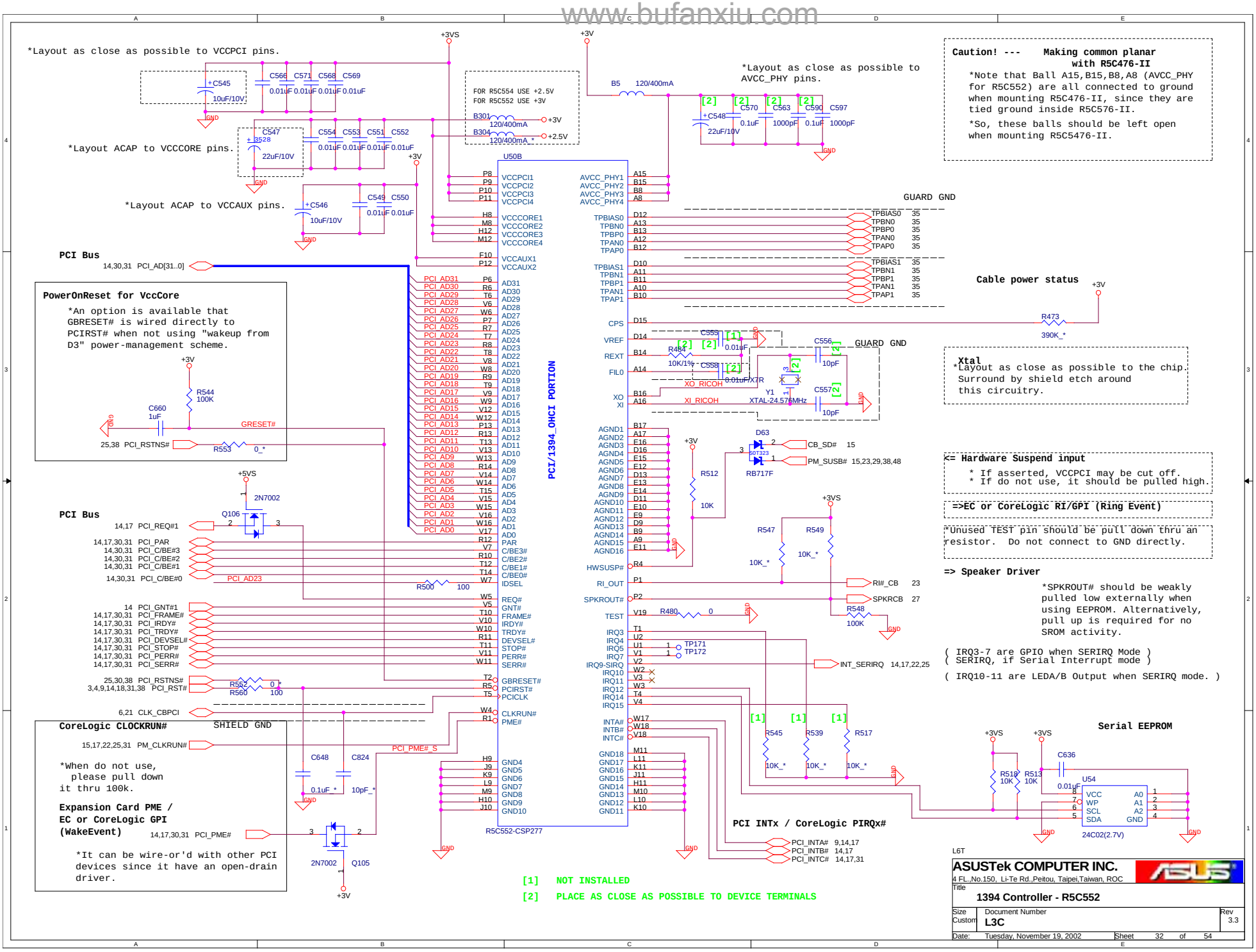
ASUSTek COMPUTER INC.

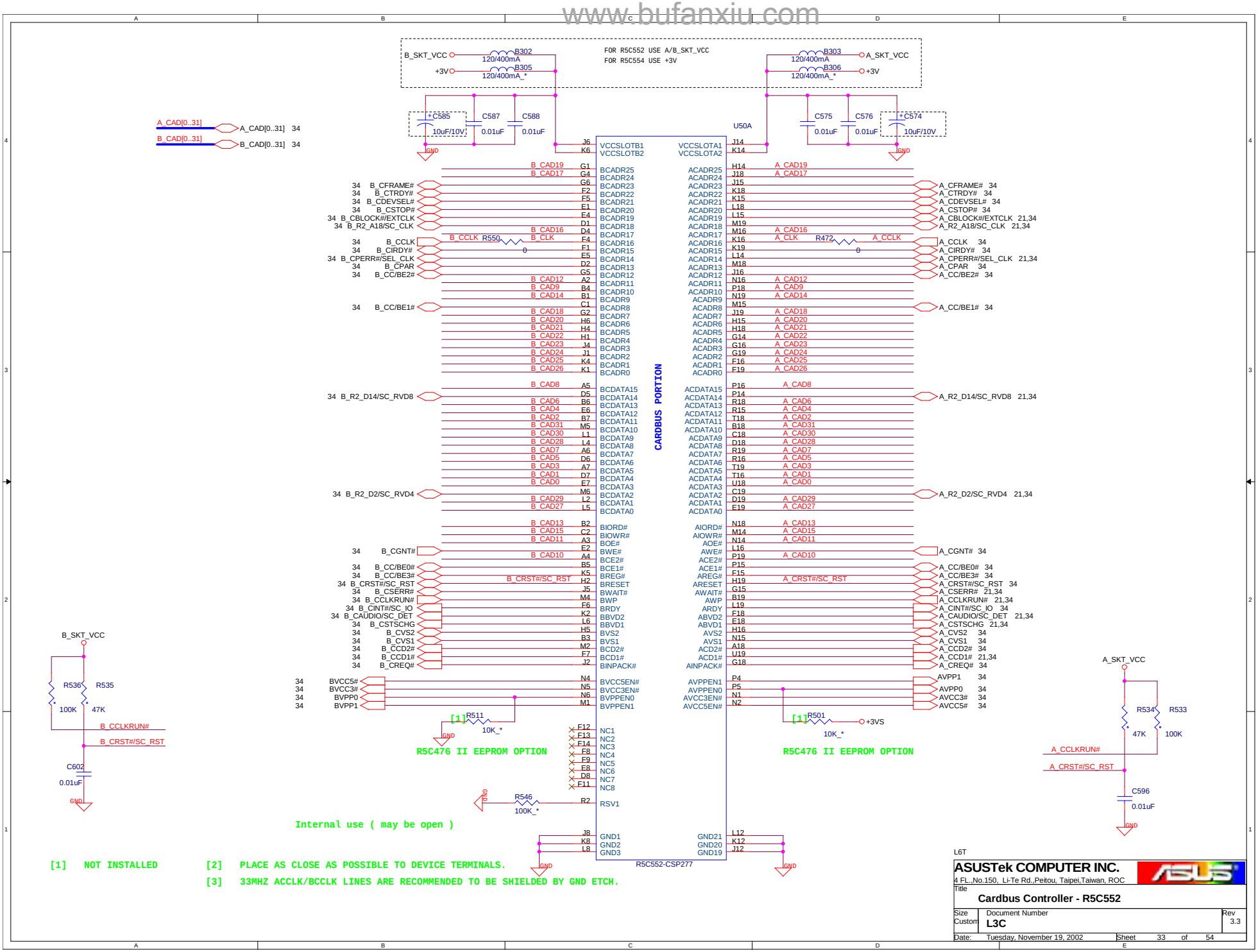
4 FL.,No.150, Li-Te Rd.,Peitou,Taipei,Taiwan, ROC

Title: **Mini-PCI & MDC**

Size	Document Number	Rev
Custom	L3C	3.3

Date: Tuesday, November 19, 2002 Sheet 31 of 54





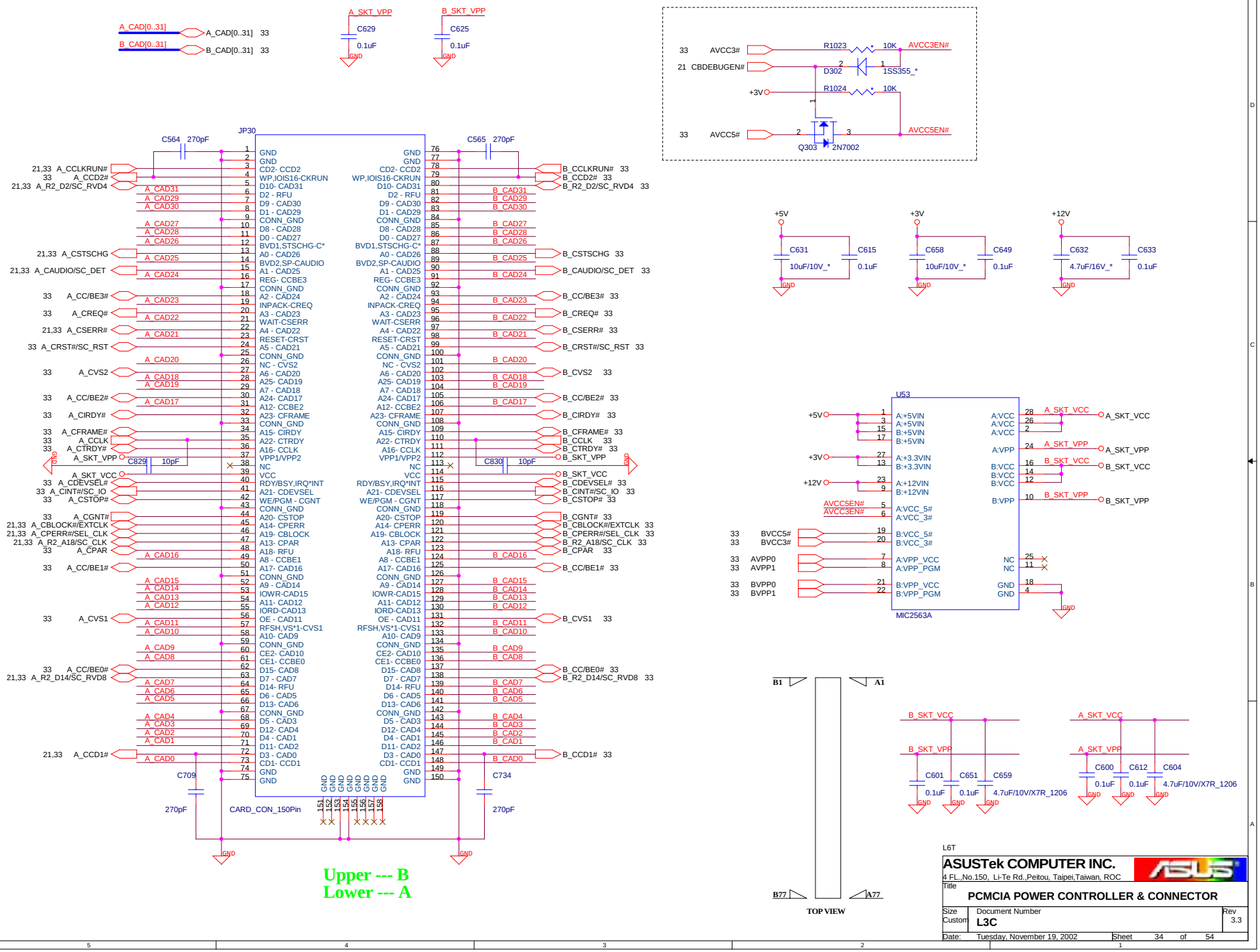
L6T

ASUSTek COMPUTER INC.
4 FL.,No.150, Li-Te Rd.,Peitou, Taipei,Taiwan, ROC

Title: **Cardbus Controller - R5C552**

Size	Document Number	Rev
Custom	L3C	3.3

Date: Tuesday, November 19, 2002 Sheet 33 of 54



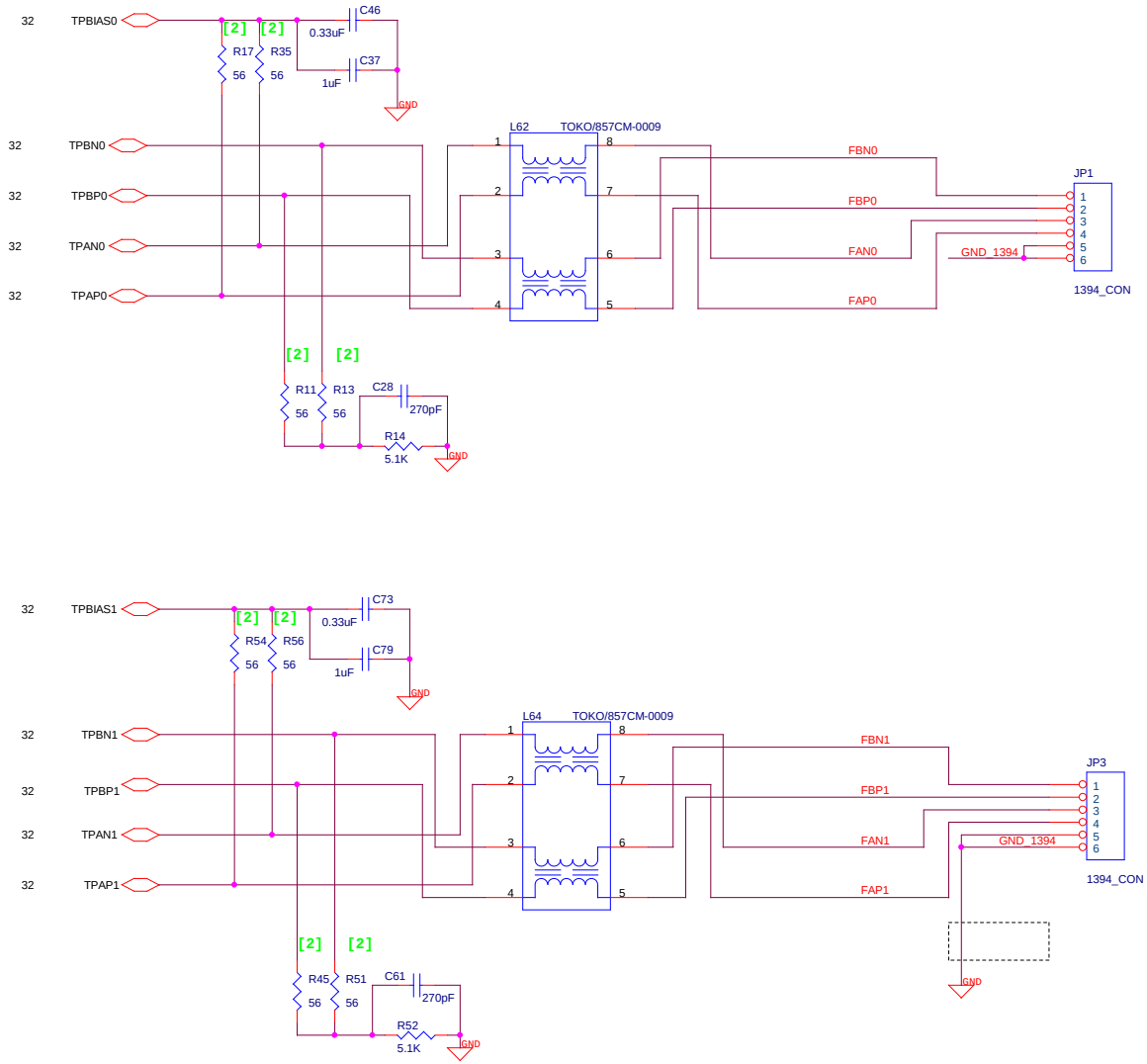
L6T

ASUSTek COMPUTER INC.
4 FL.,No.150, Li-Te Rd.,Peitou, Taipei,Taiwan, ROC

Title: **PCMCIA POWER CONTROLLER & CONNECTOR**

Size	Document Number	Rev
Custom	L3C	3.3

Date: Tuesday, November 19, 2002 Sheet 34 of 54



*TPA/TPA#,TPB/TPB# pair trace closely as possible
*TPA/TPA#,TPB/TPB# pair trace must be the same length electrically
*TPBIAS traces from pin to the filiter capacitors short and wide.
*Termination resistor for TPA+/- TPB+/- must be located as close as possible to its cable driver (device pin out).

[1] NOT INSTALLED
[2] PLACE AS CLOSE AS POSSIBLE TO DEVICE TERMINALS.
[3] SOLDER MASK.

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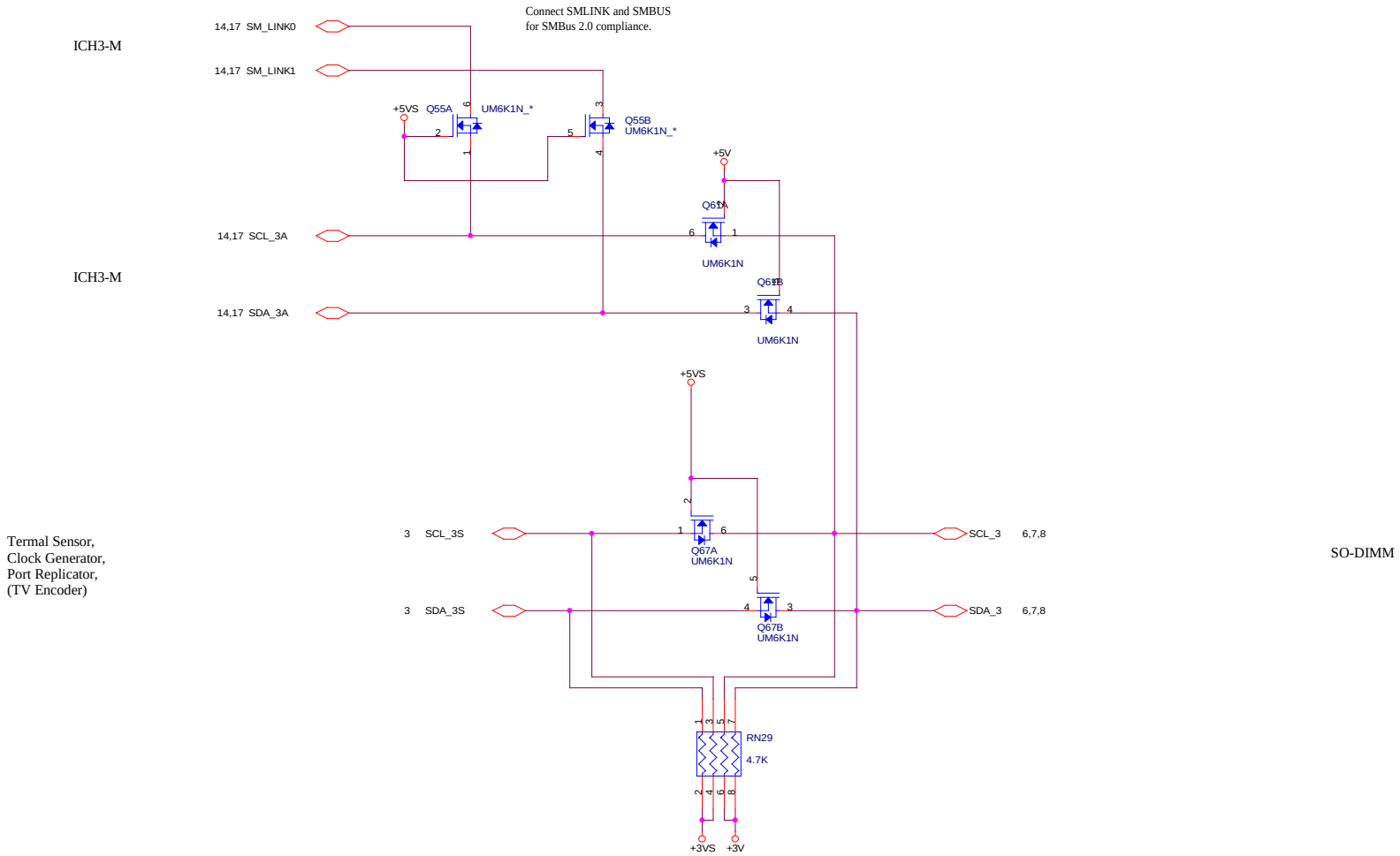
ASUSTek COMPUTER INC.
4 FL.,No.150, Li-Te Rd.,Peitou, Taipei,Taiwan, ROC

Title: 1394 Port

Size	Document Number	Rev
Custom	L3C	3.3

Date: Tuesday, November 19, 2002 Sheet 35 of 54



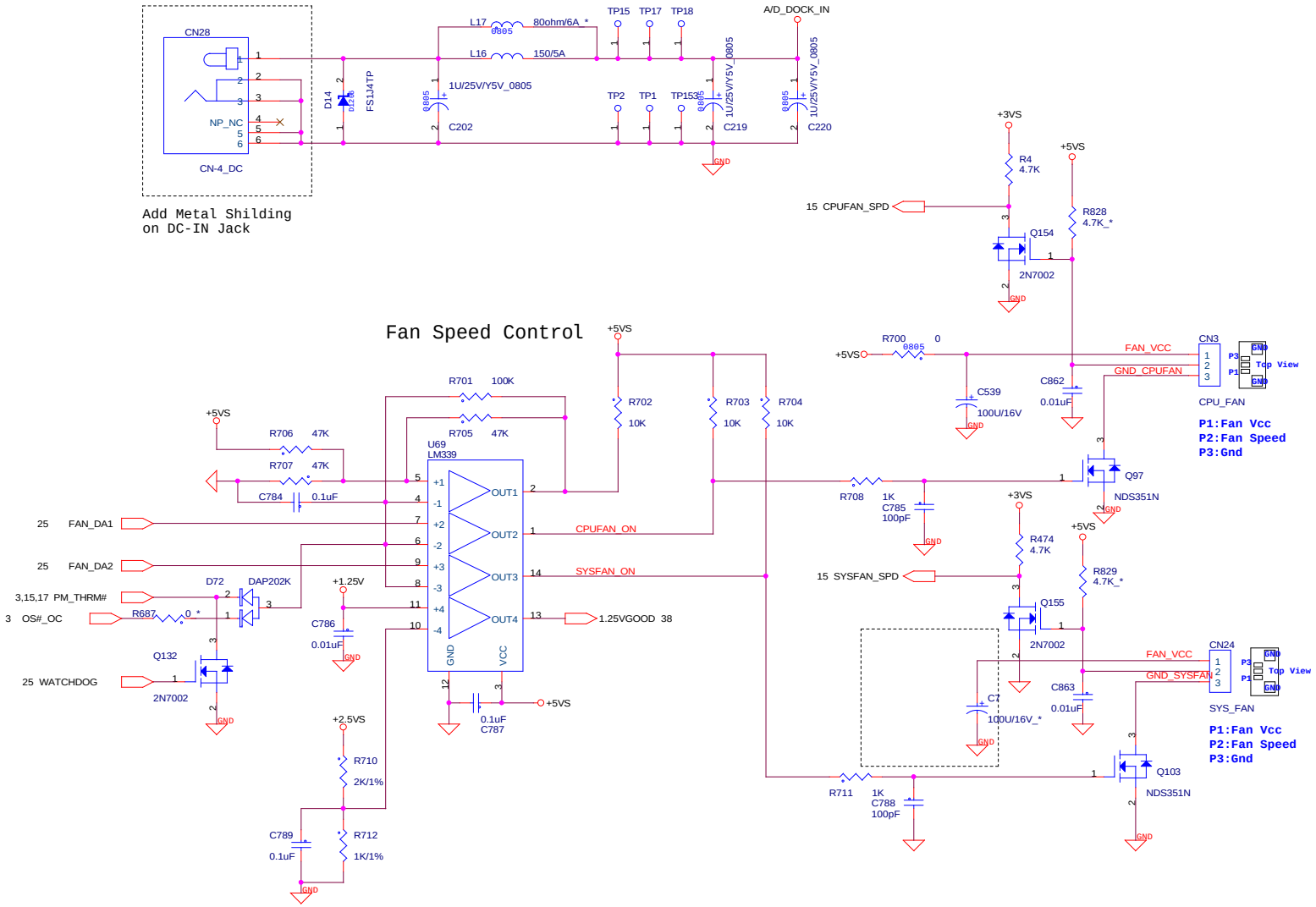
L6T

ASUSTek COMPUTER INC.
4 FL.,No.150, Li-Te Rd.,Peitou,Taipei,Taiwan, ROC

Title: **SM BUS**

Size	Document Number	Rev
Custom	L3C	3.3

Date: Tuesday, November 19, 2002 Sheet 36 of 54



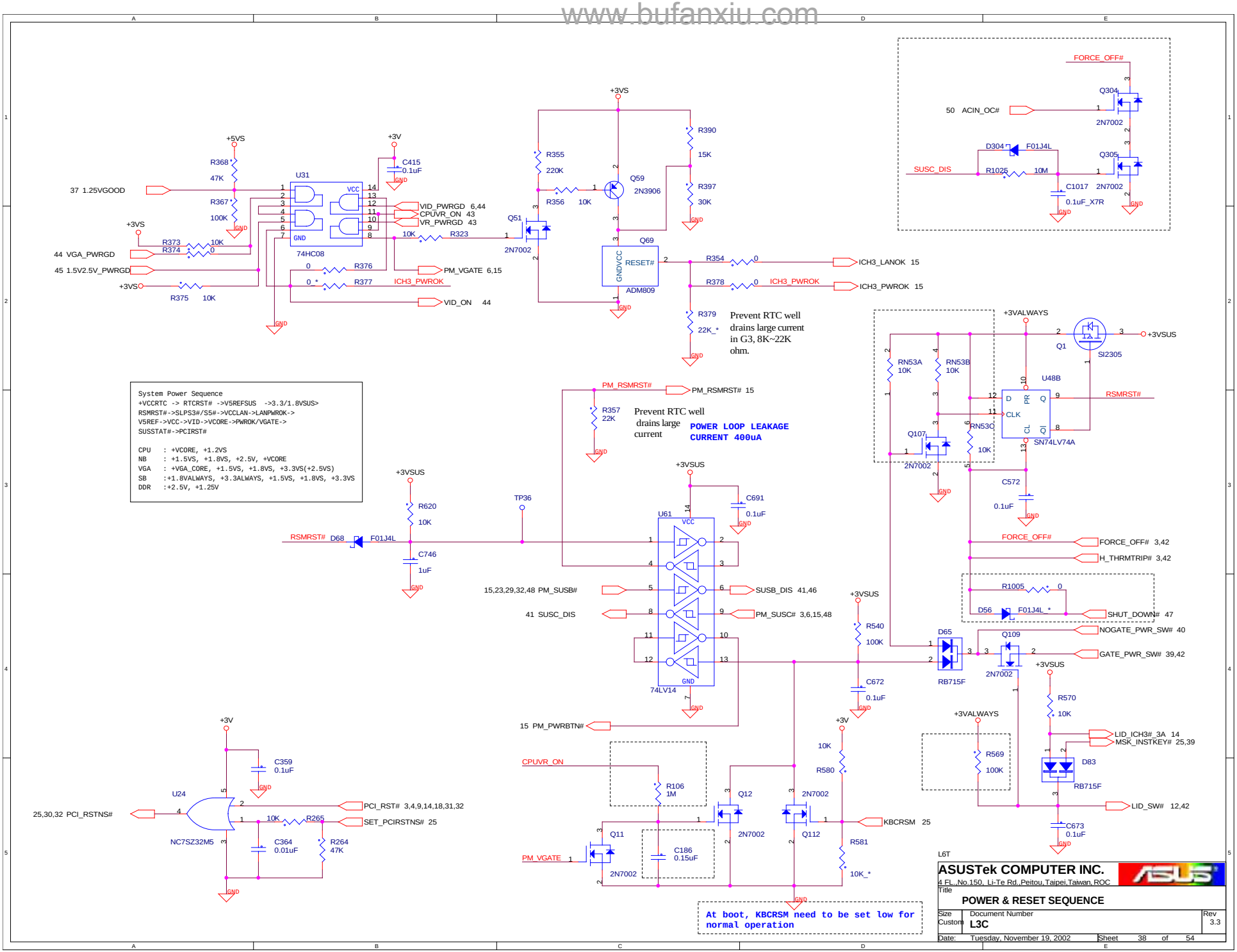
L6T

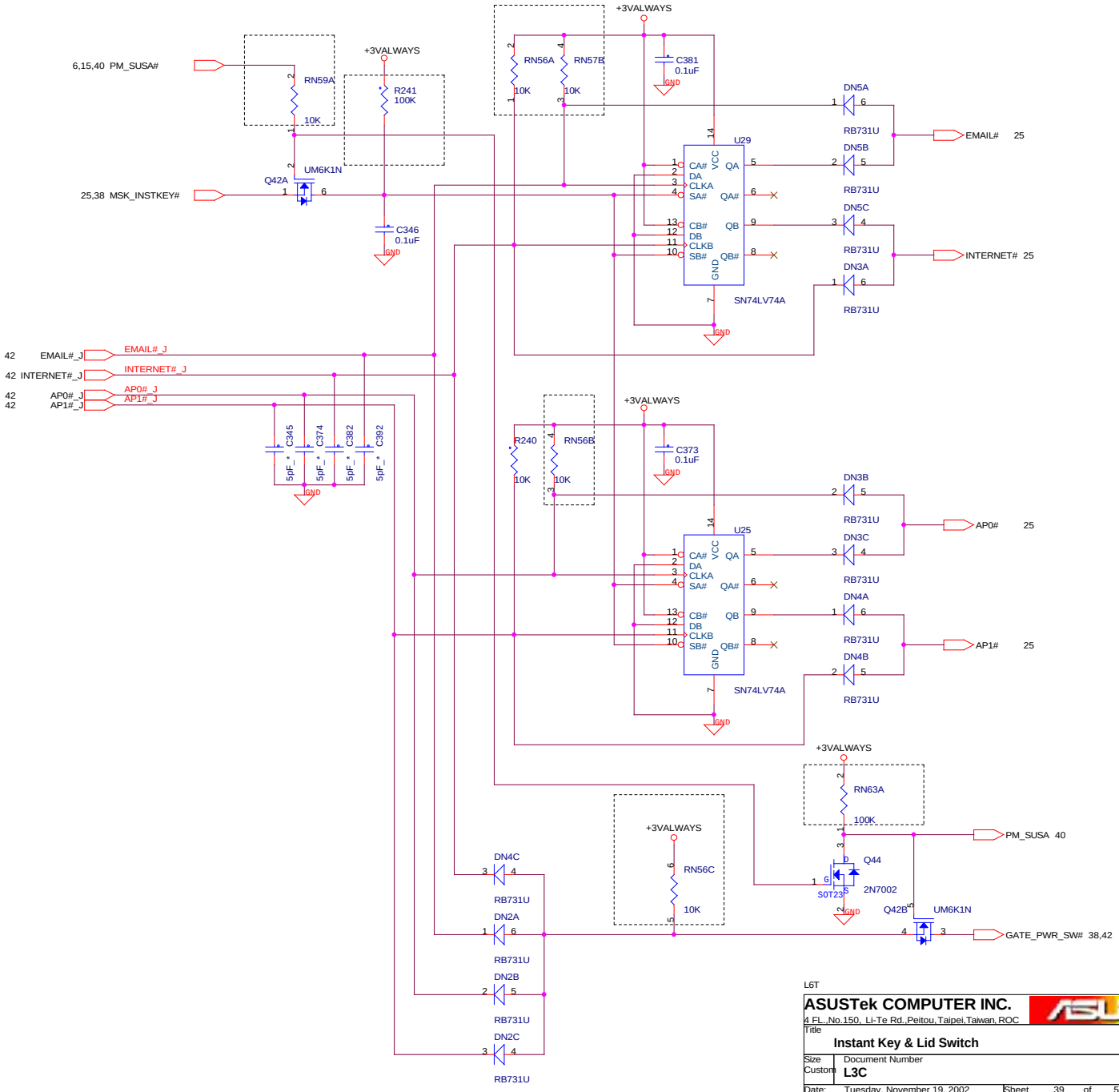
ASUSTek COMPUTER INC.
4 FL.,No.150, Li-Te Rd.,Peitou,Taipei,Taiwan, ROC

Title: **FAN & AC-IN**

Size	Document Number	Rev
Custom	L3C	3.3

Date: Tuesday, November 19, 2002 Sheet 37 of 54





L6T

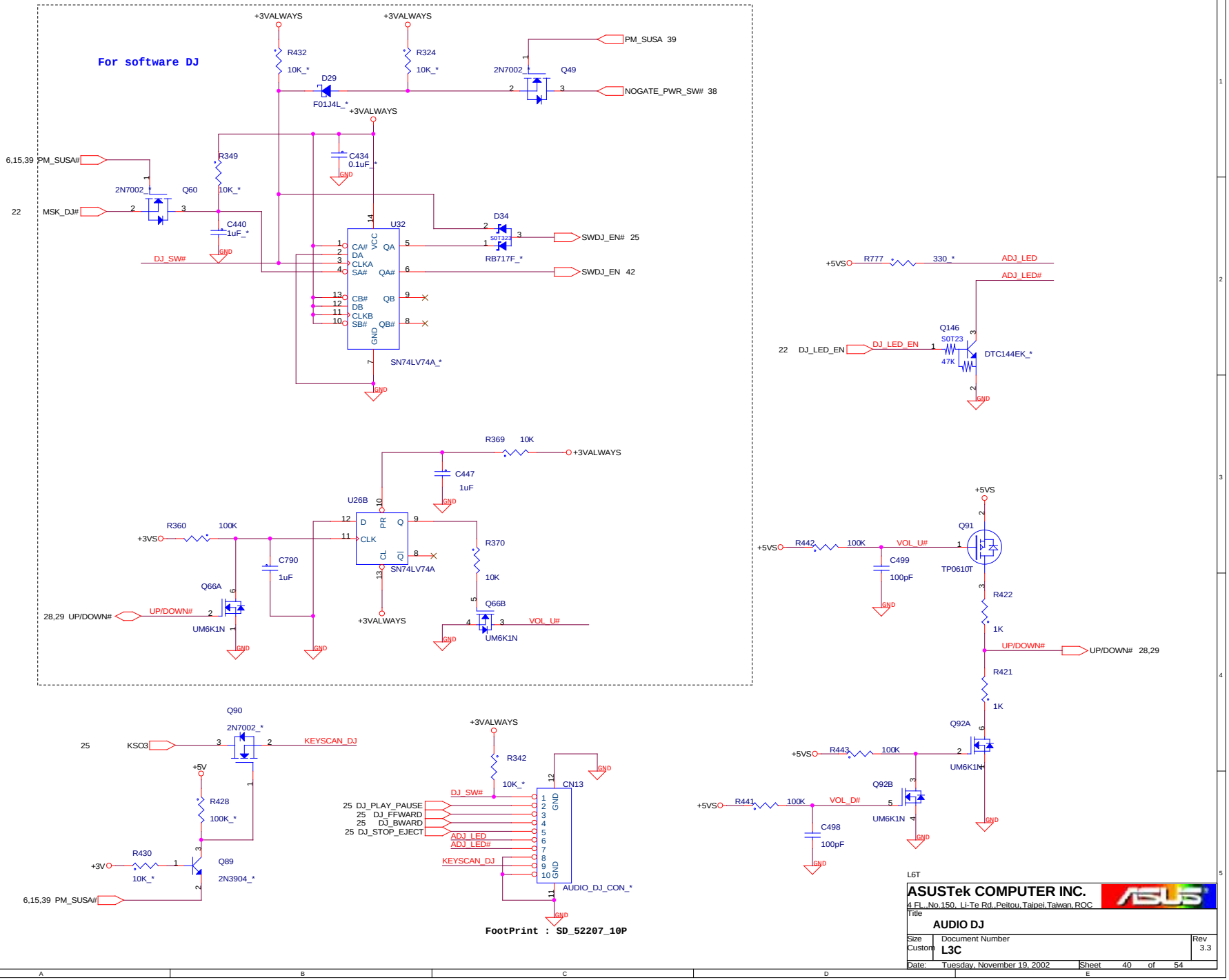
ASUSTek COMPUTER INC.

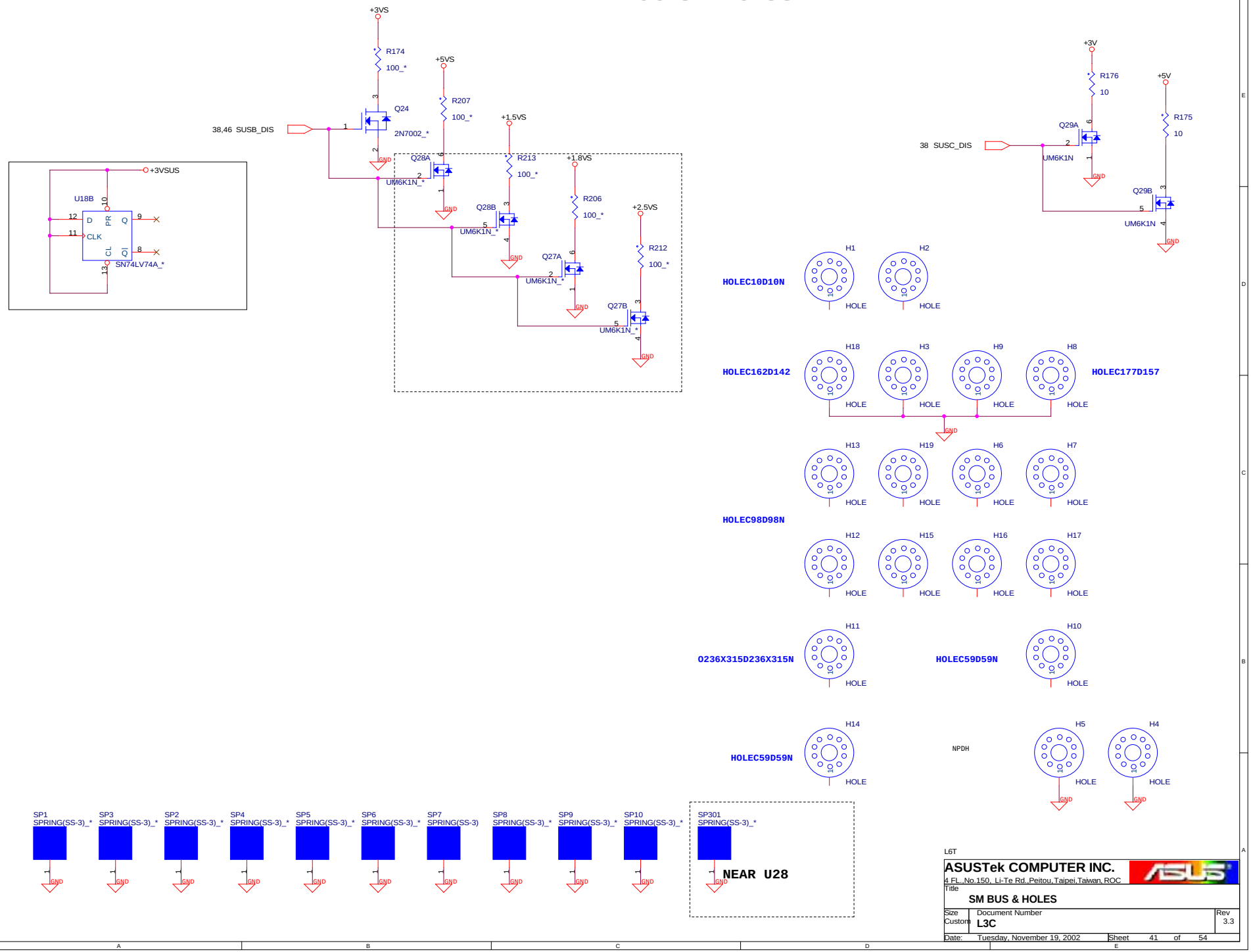
4 FL.,No.150, Li-Te Rd.,Peitou,Taipei,Taiwan, ROC

Title: **Instant Key & Lid Switch**

Size	Document Number	Rev
Custom	L3C	3.3

Date: Tuesday, November 19, 2002 Sheet 39 of 54





L6T

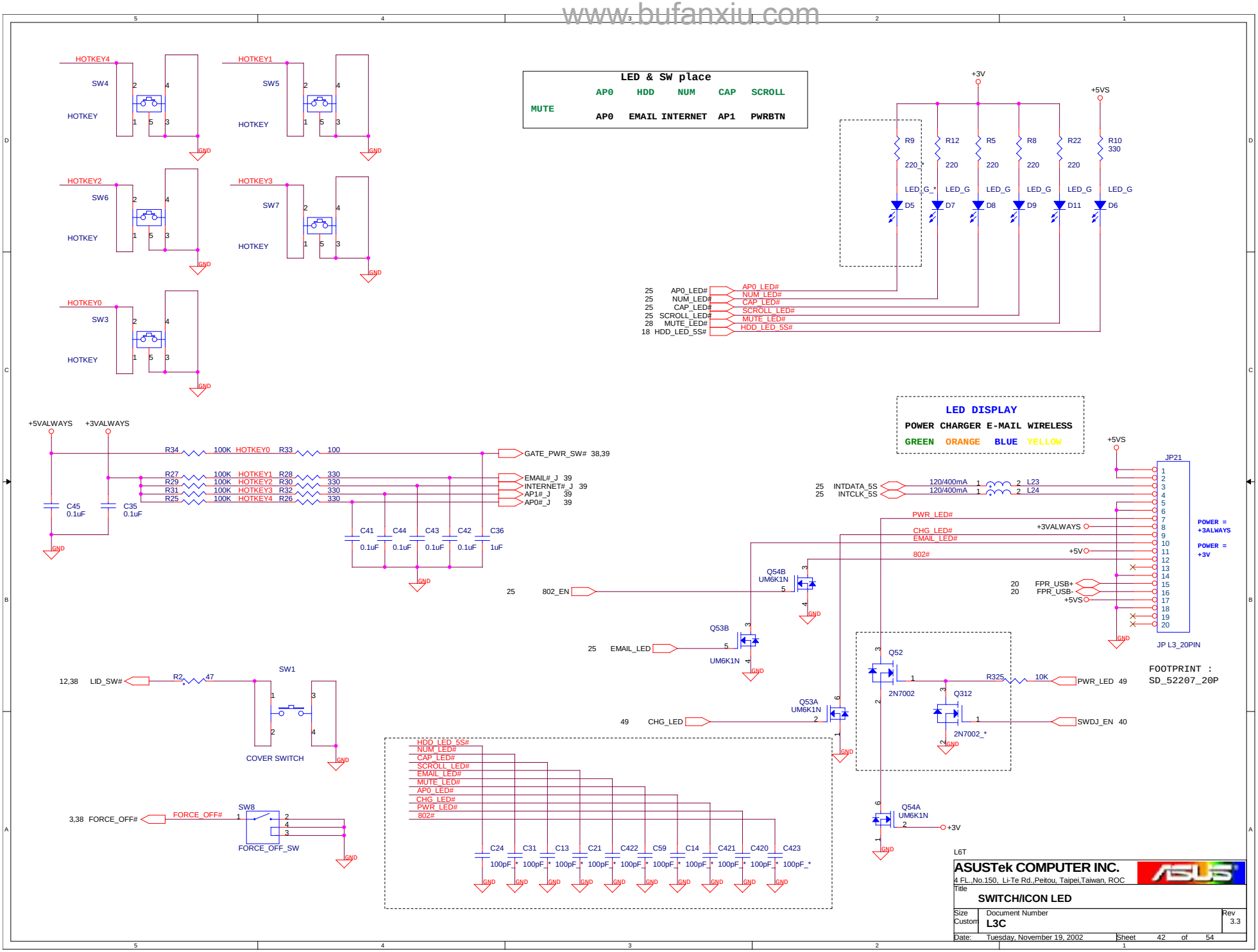
ASUSTek COMPUTER INC.

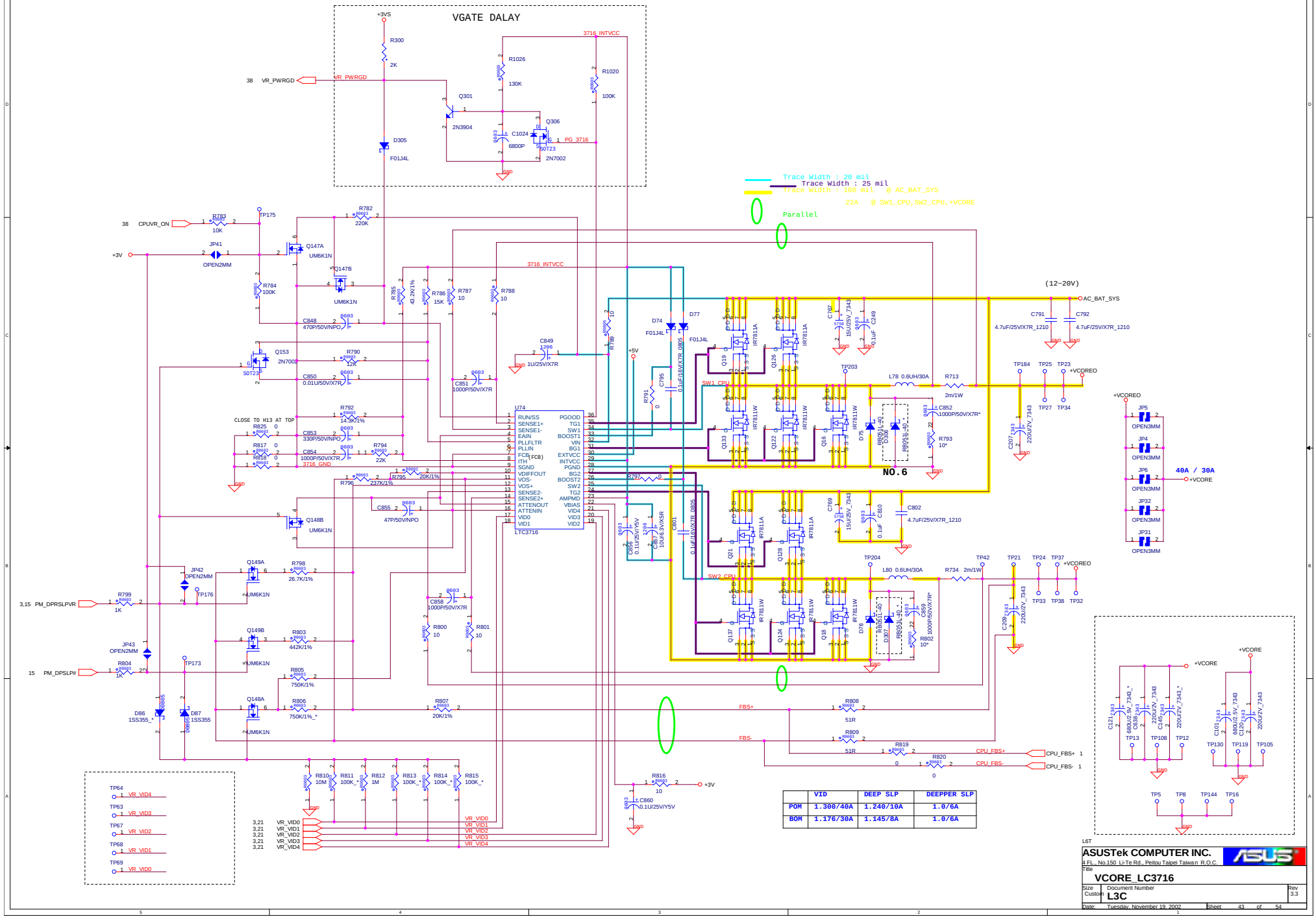
4 FL.,No.150, Li-Te Rd.,Peitou,Taipei,Taiwan,ROC

Title: **SM BUS & HOLES**

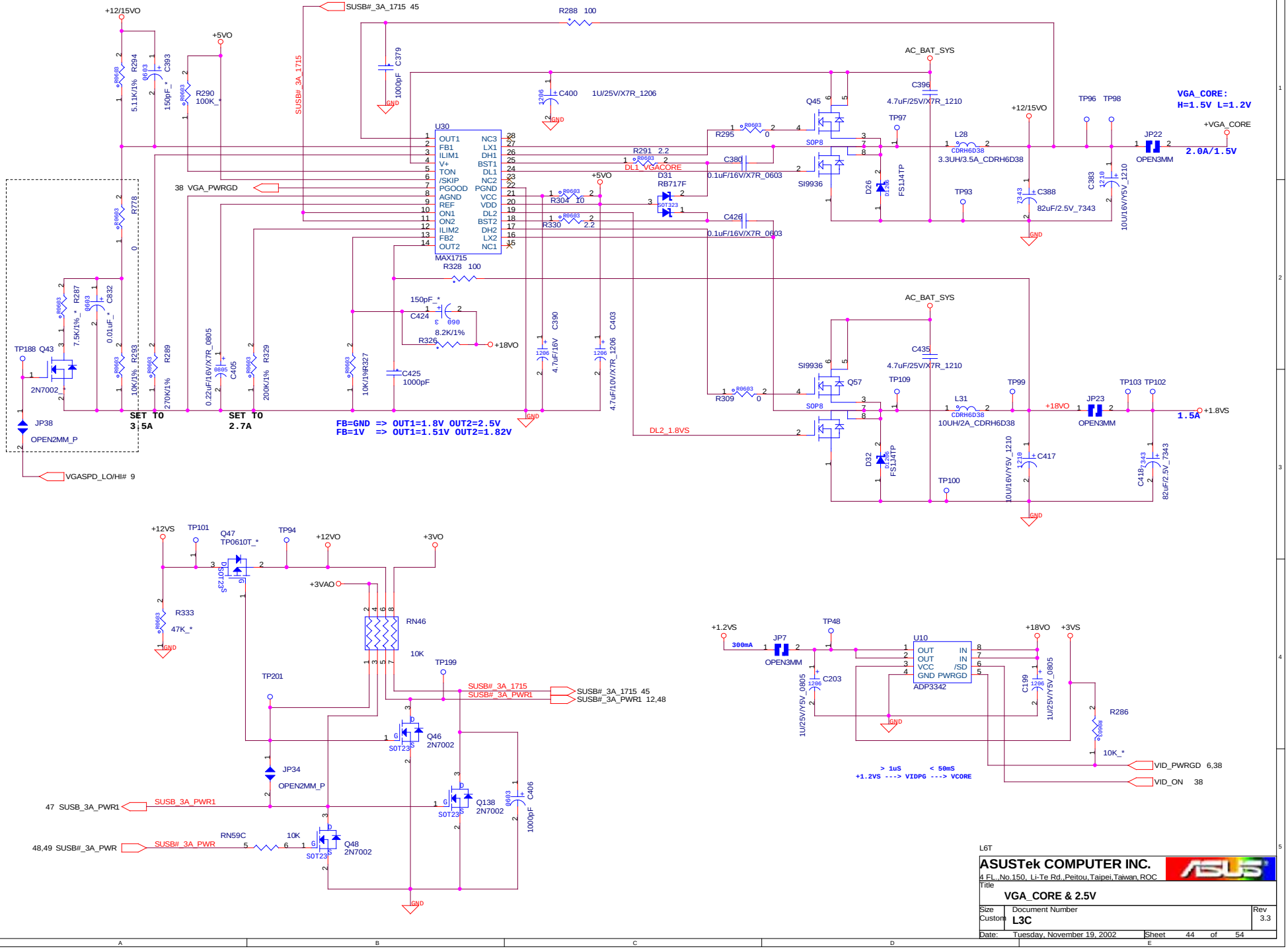
Size	Document Number	Rev
Custom	L3C	3.3

Date: Tuesday, November 19, 2002 Sheet 41 of 54





	VID	DEEP SLP	DEEPPER SLP
POM	1.300/40A	1.240/10A	1.0/6A
BOM	1.176/30A	1.145/8A	1.0/6A



L6T

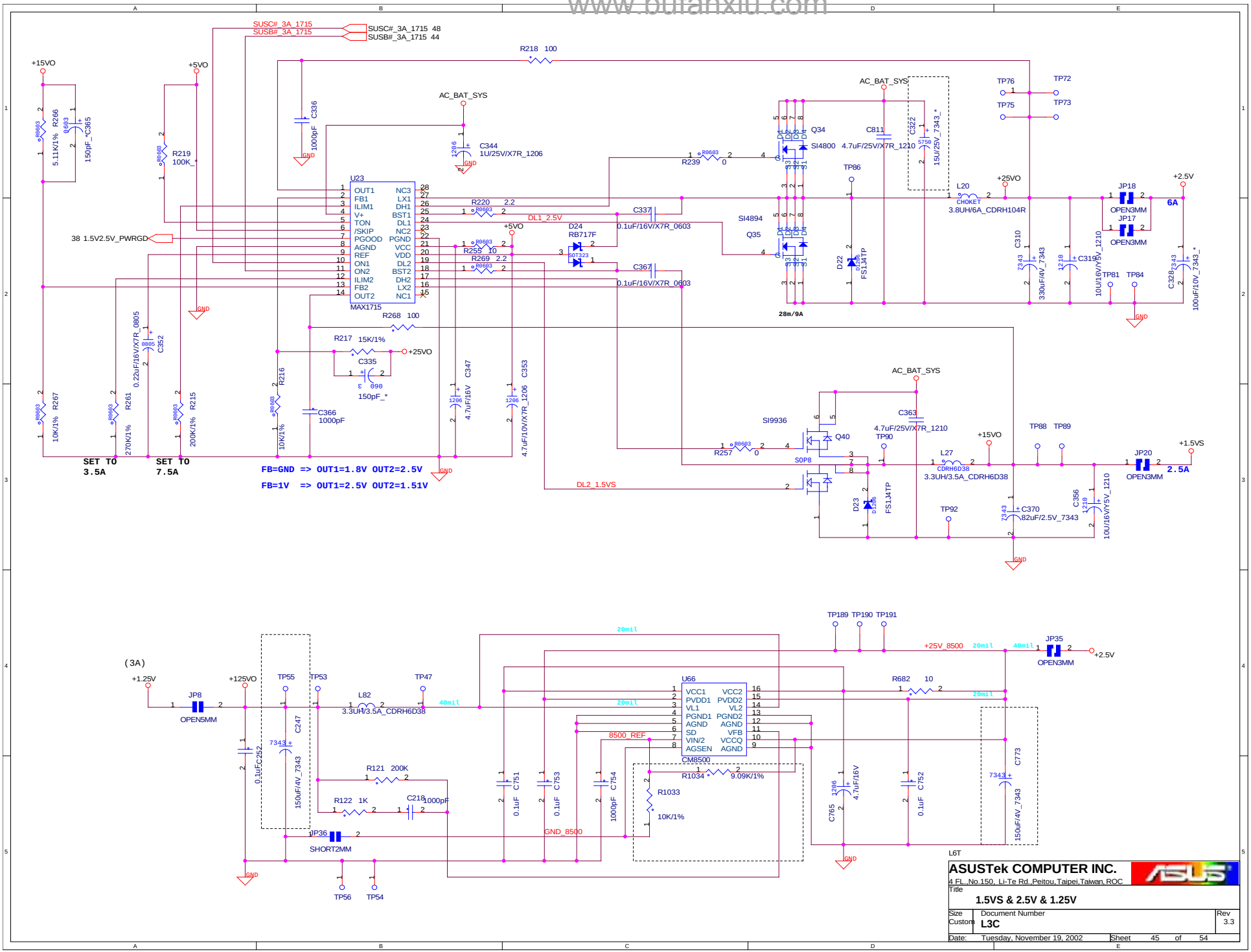
ASUSTek COMPUTER INC.

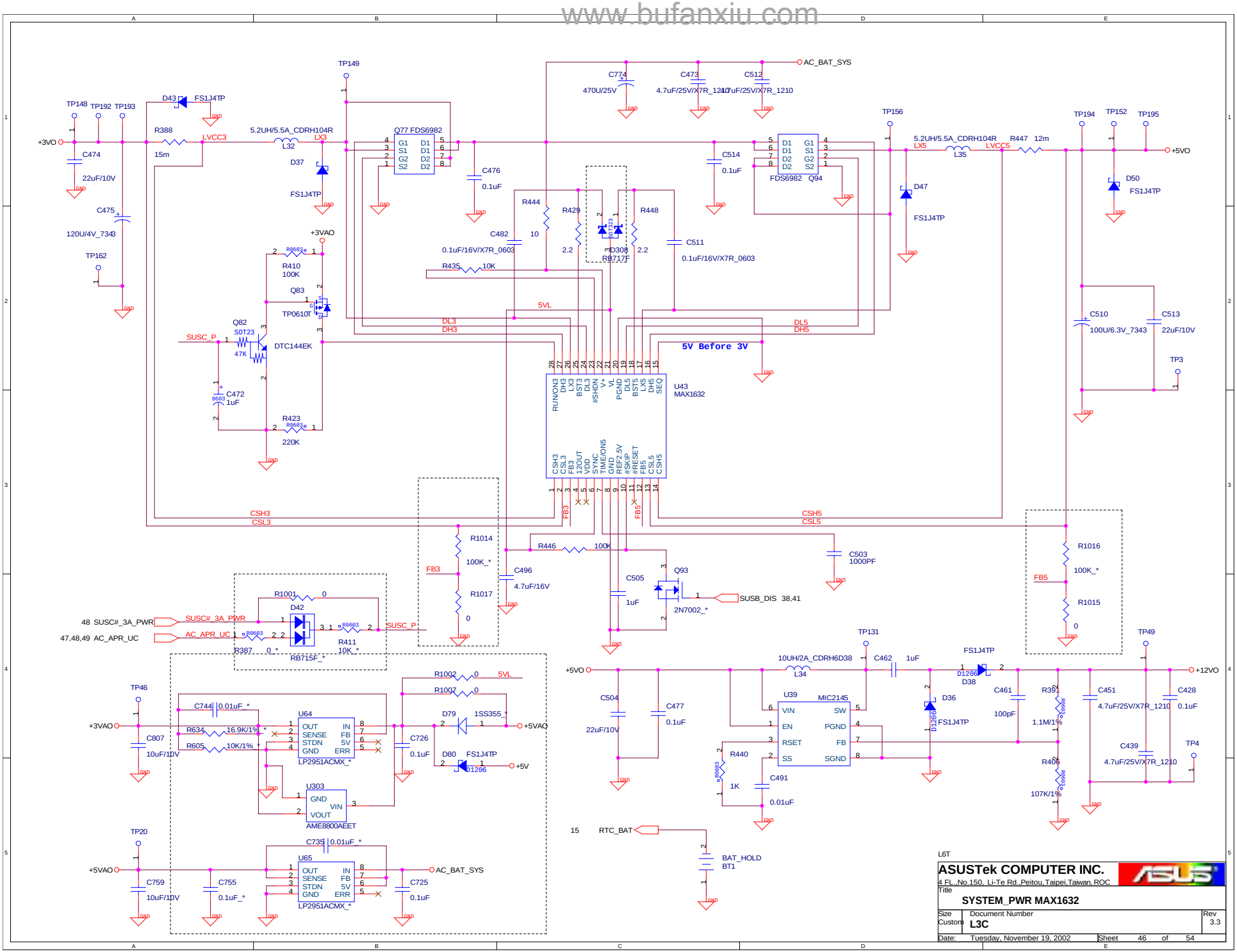
4 FL.,No.150, Li-Te Rd.,Peitou, Taipei, Taiwan, ROC

Title: **VGA_CORE & 2.5V**

Size	Document Number	Rev
Custom	L3C	3.3

Date: Tuesday, November 19, 2002 Sheet 44 of 54





L6T

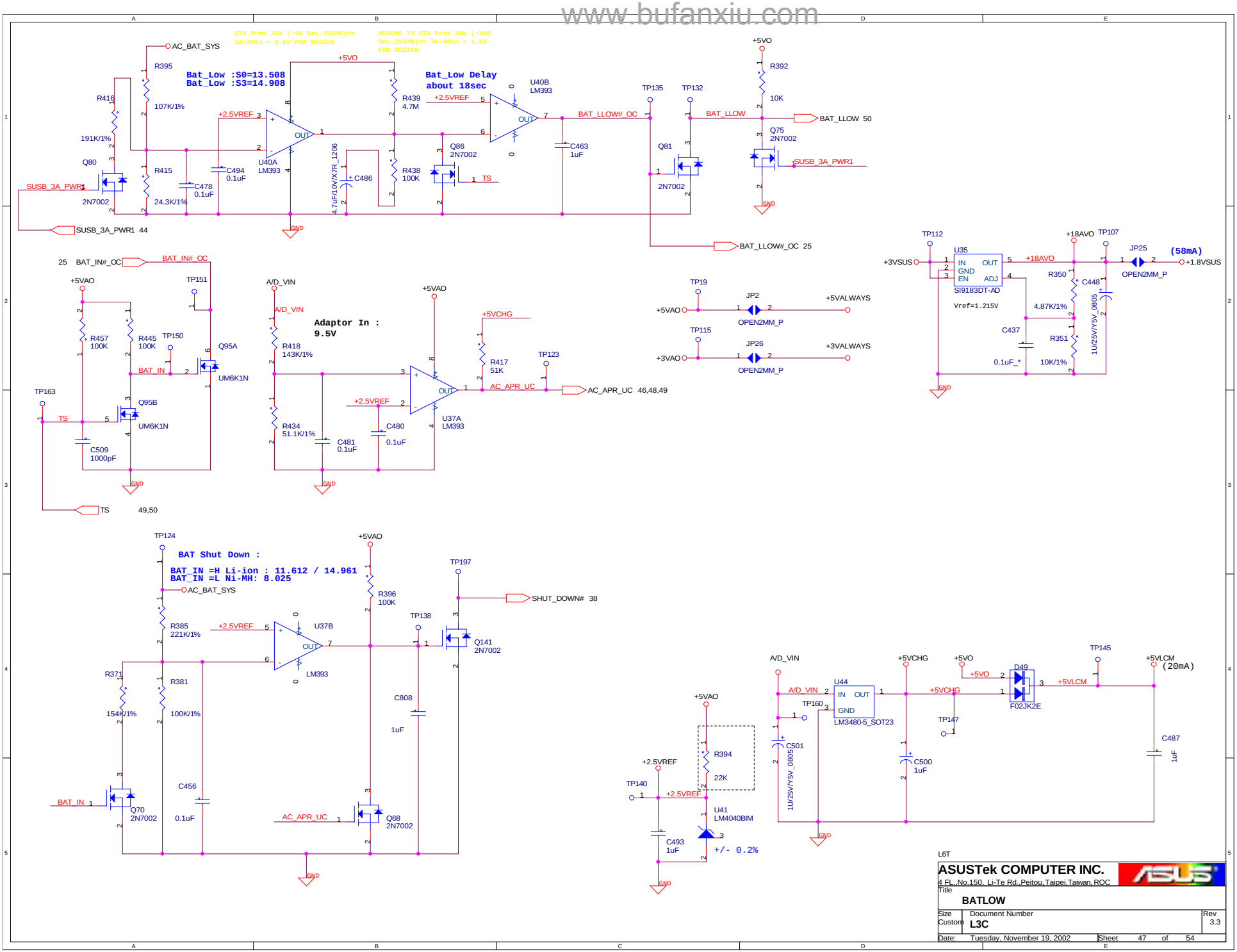
ASUSTek COMPUTER INC.

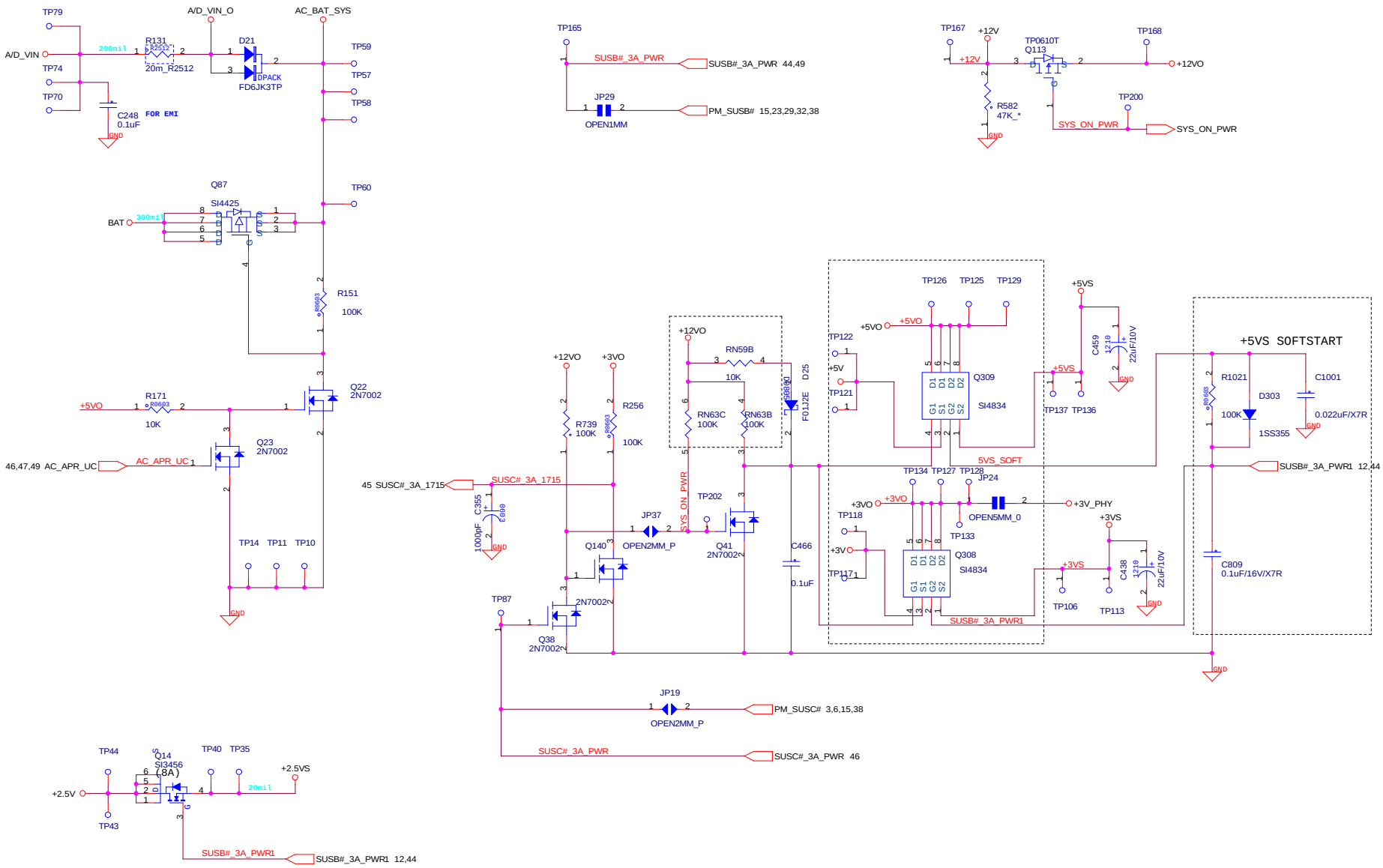
4 FL.,No.150, Li-Te Rd.,Peitou,Taipei,Taiwan, ROC

Title: **SYSTEM_PWR MAX1632**

Size	Document Number	Rev
Custom	L3C	3.3

Date: Tuesday, November 19, 2002 Sheet 46 of 54





L6T

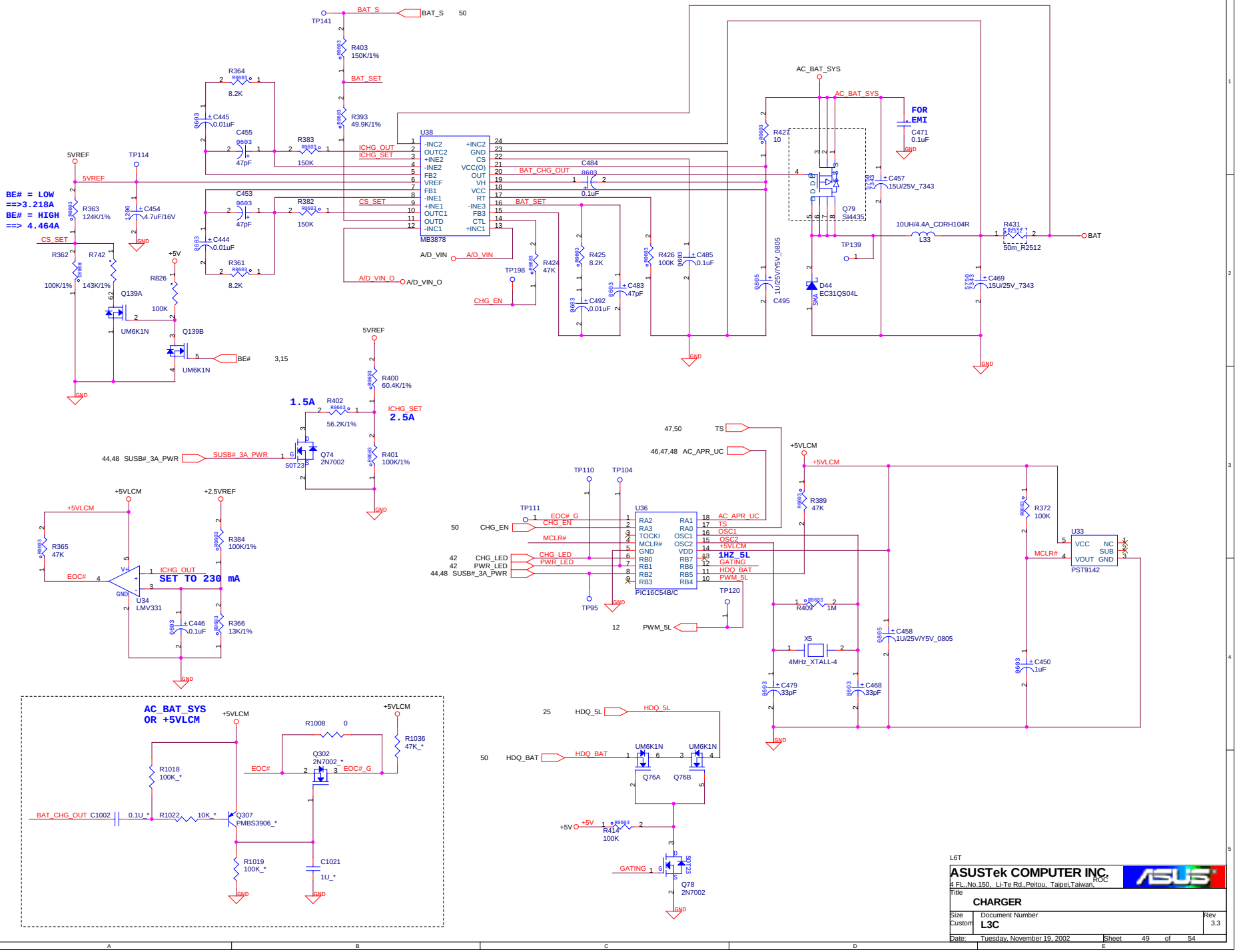
ASUSTek COMPUTER INC.

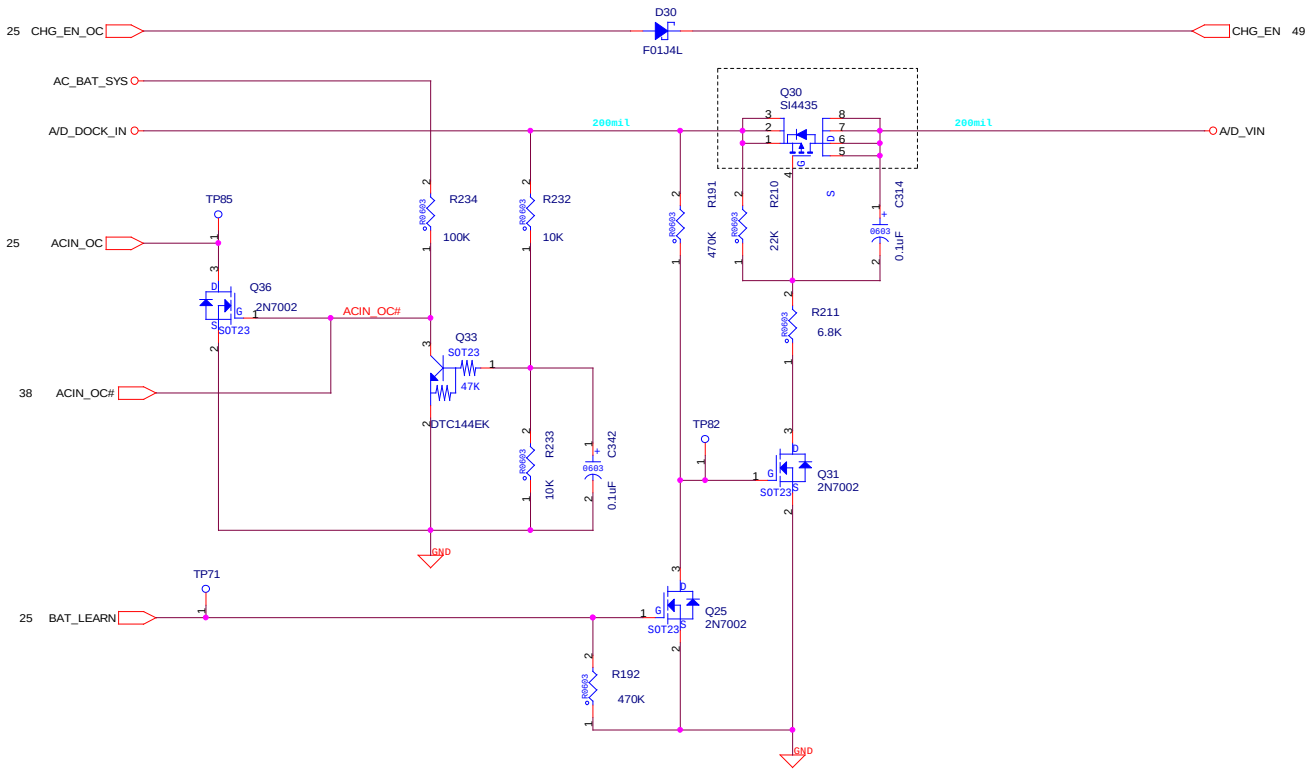
4 FL.,No.150, Li-Te Rd.,Peitou,Taipei,Taiwan, ROC

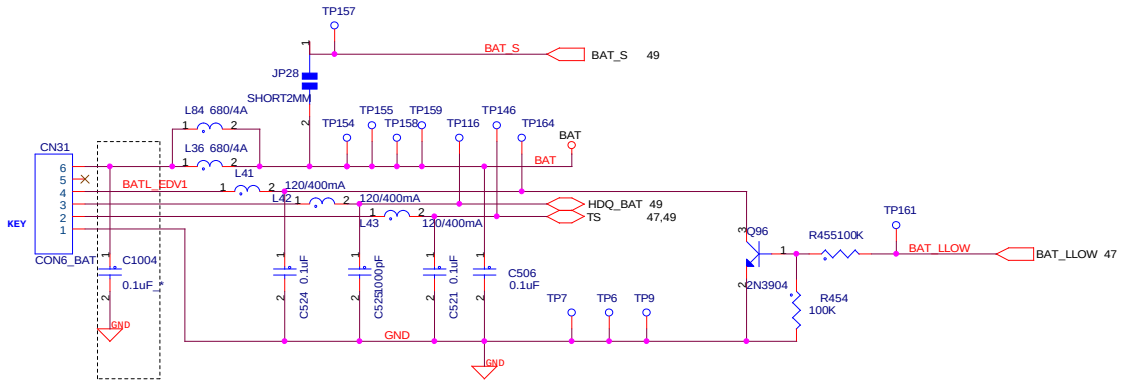
Title: **DC SWITCH**

Size	Document Number	Rev
Custom	L3C	3.3

Date: Tuesday, November 19, 2002 Sheet 48 of 54







L6T

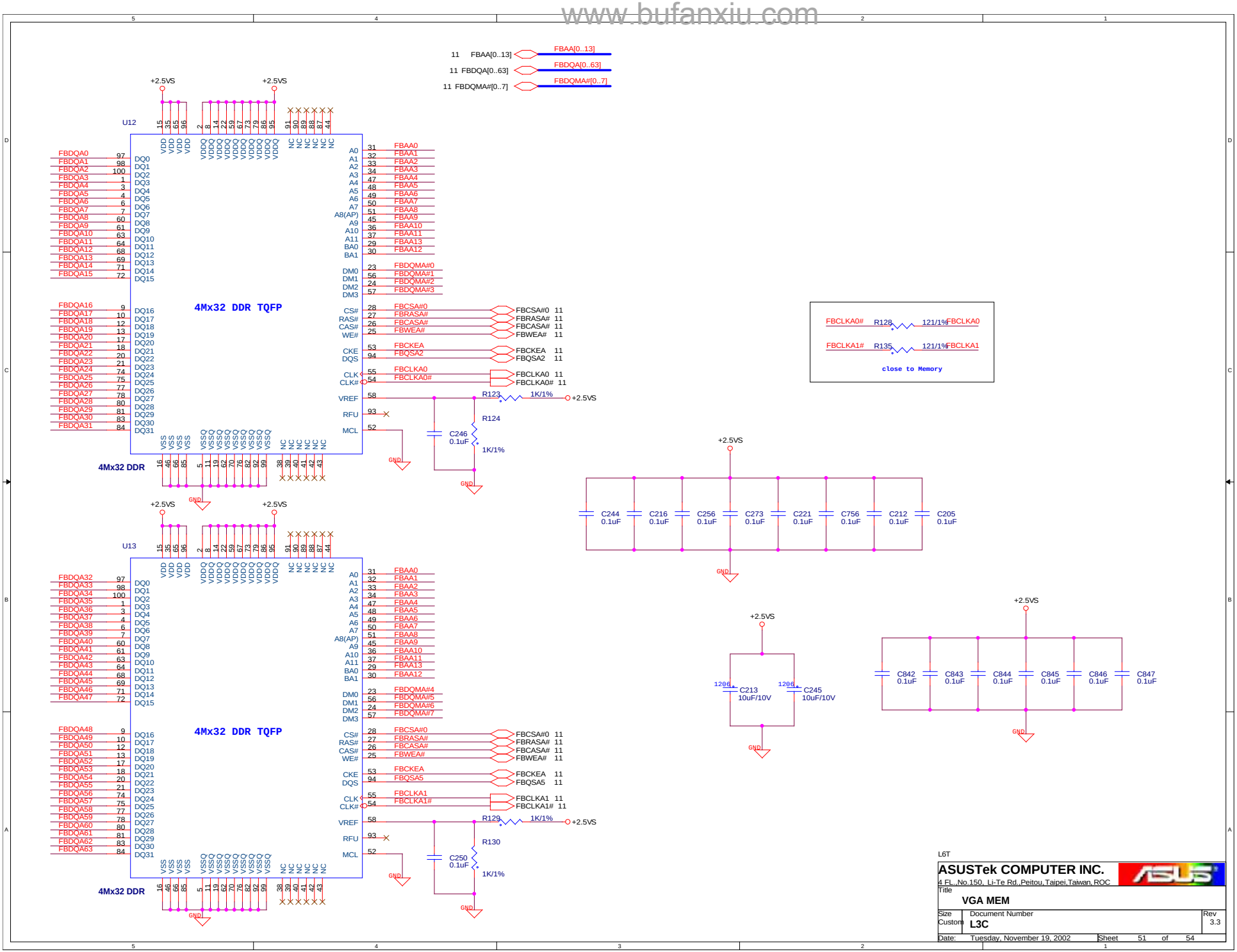
ASUSTek COMPUTER INC.

4 FL.,No.150, Li-Te Rd.,Peitou,Taipei,Taiwan, ROC

Title: **CHARGER**

Size	Document Number	Rev
Custom	L3C	3.3

Date: Tuesday, November 19, 2002 Sheet 50 of 54



L6T

ASUSTek COMPUTER INC.

4 FL.,No.150, Li-Te Rd.,Peitou,Taipei,Taiwan,ROC

Title: **VGA MEM**

Size	Document Number	Rev
Custom	L3C	3.3

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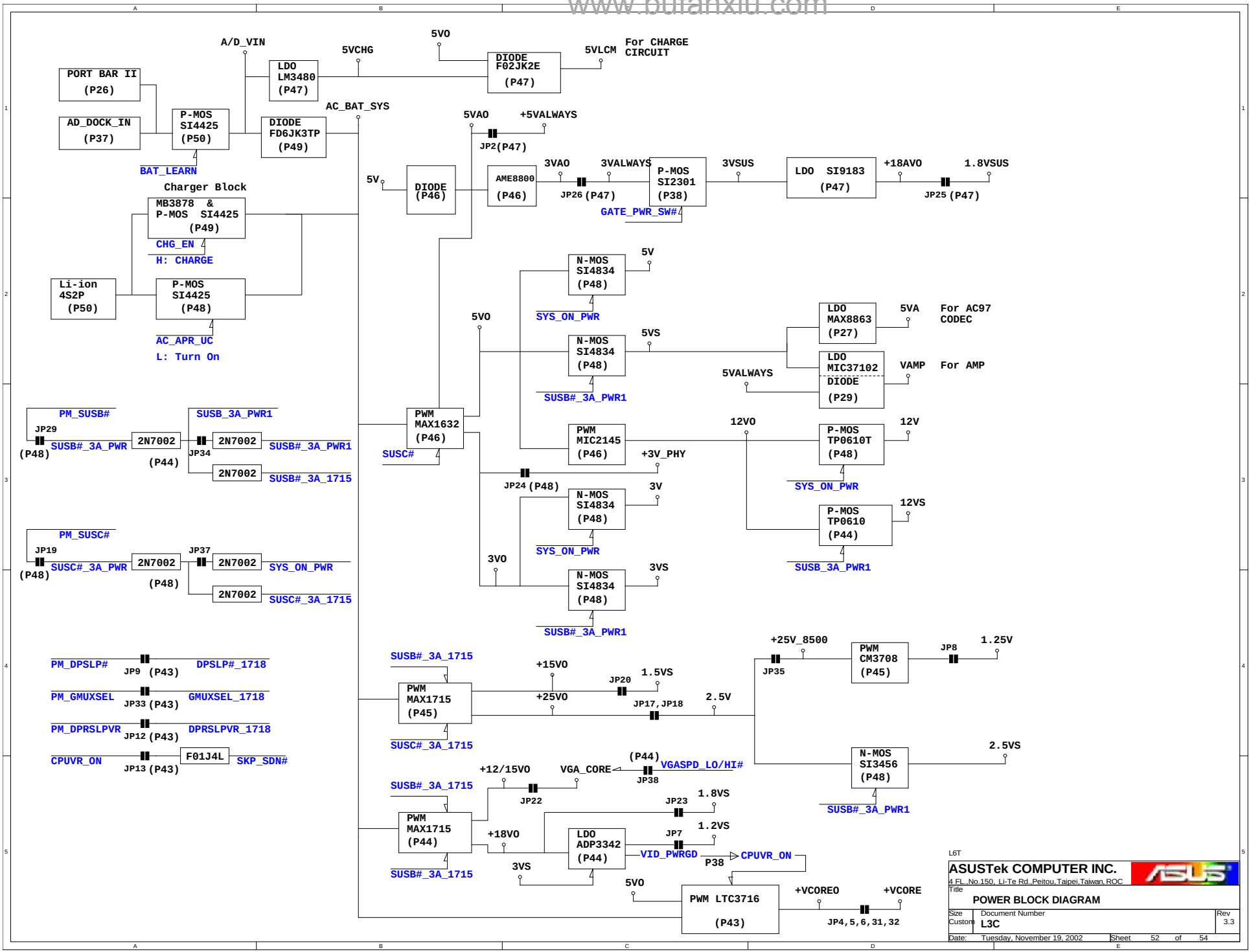
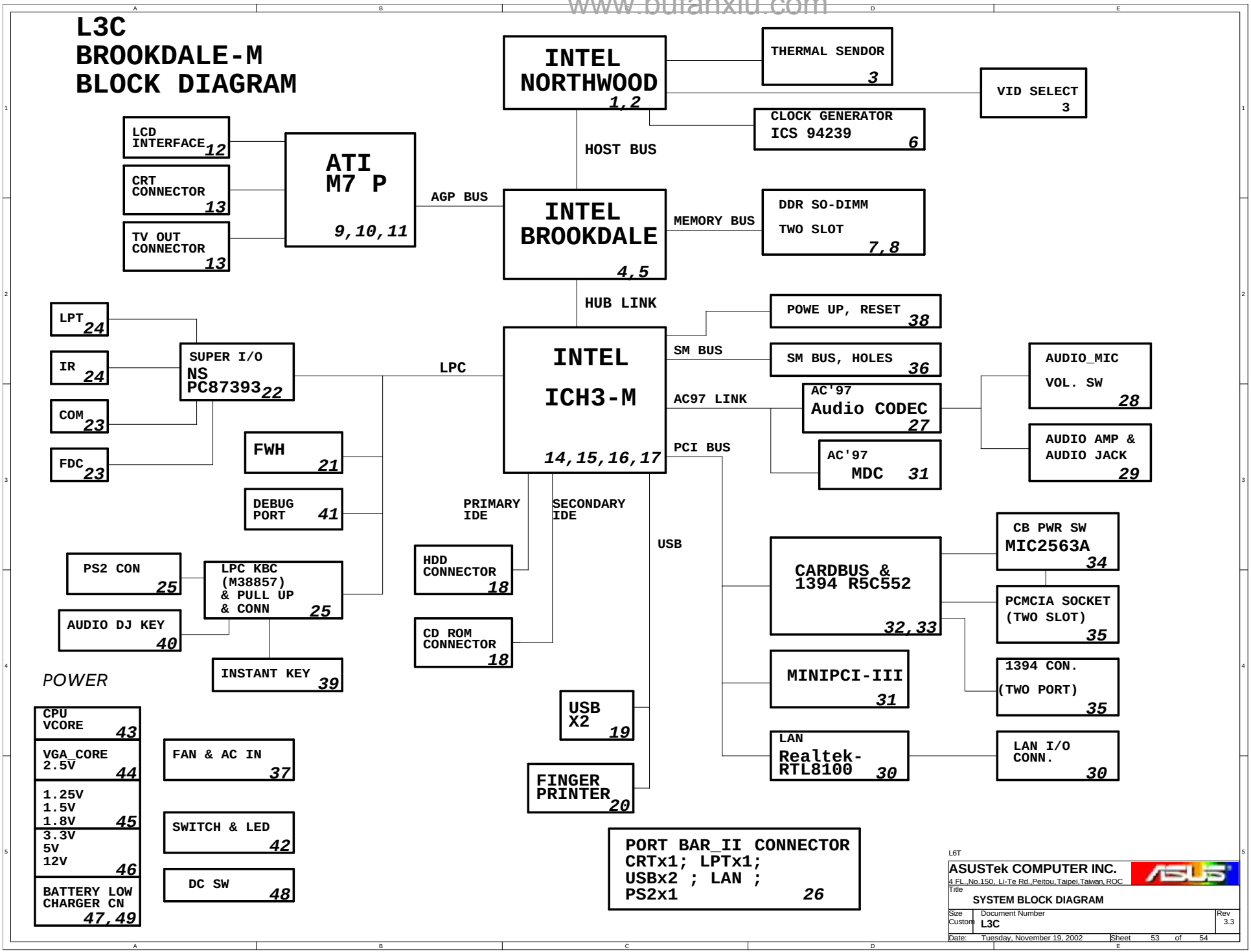


L3C BROOKDALE-M BLOCK DIAGRAM



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4 FL.,No.150, Li-Te Rd.,Peitou,Taipei,Taiwan, ROC

Title: SYSTEM BLOCK DIAGRAM

Size	Document Number	Rev
Custom	L3C	3.3

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P.1--CPU NORTHWOOD - 1
P.2--CPU NORTHWOOD - 2
P.3--HERMAL & HW_MON
P.4--NB BROOKDALE - 1
P.5--NB BROOKDALE - 2
P.6--CLOCK ICS94239
P.7--DDR SODIMM - 1
P.8--DDR SODIMM - 2
P.9--ATI M7-D - 1
P.10-ATI M7-D - 2
P.11-ATI M7-D - 3
P.12-LVDS & BACKLIGHT
P.13-TV & CRT
P.14-ICH3 - M - I/F 1
P.15-ICH3 - M - I/F 2
P.16-ICH3 - M - DECOUPING
P.17-ICH3 - M - PULLUP
P.18-IDE & CD-ROM
P.19-USBx2
P.20-Finger Print _OP
P.21-FWH
P.22-SUPER_I/O_87393
P.23-FDD & COM1
P.24-IR & LPT
P.25-KBC & PS2
P.26-PORT BAR II
P.27-AC97 & MDC
P.28-MIC , VOL SW
P.29-AUDIO AMP.
P.30-LAN-RT8100L
P.31-MiniPCI
P.32-R5C552/1394OHCI
P.33-R5C552/CARDBUS
P.34-PCMCIA PWR(2563A) & CON
P.35-PHY CONNECTORS (2PORT)
P.36-SM BUS
P.37-FAN & AC-IN
P.38-PWR & RESET_SEQ
P.39-INSTANT KEY
P.40-Audio DJ - KEY
P.41-DISCHARGE, DEBUG PORT, HOLE
P.42-SWITCH,ICON LED
P.43-VCORE INTERSIL 6215
P.44-VGA_CORE & 1.8V
P.45-1.5VS & 2.5V & 1.25V
P.46-SYSTEM POWER MAX1632
P.47-BATLOW
P.48-DC SWITCH
P.49-CHARGE
P.50-BAT LEARNING
P.51-VGA-MEM

P.52-POWER BLOCK DIAGRAM
P.53-SYSTEM BLOCK DIAGRAM
P.54-FILE LIST

Resource Assignments

```
    LAN      : AD21(DEV. A), PCI_REQ#0, PCI_INTD#
CARDBUS 1394: AD23(DEV. C), PCI_REQ#1, PCI_INTA#, PCI_INTB#,PCI_INTC#
    MINIPCI  : AD24(DEV. D), PCI_REQ#3, PCI_INTC#, PCI_INTD#
    VGA      : PCI_INTA#

    AC97     : PCI_INTB#
    USB 0,1  : PCI_INTA#
    USB 2,3  : PCI_INTD#
    USB 4,5  : PCI_INTC#
```

```
SMBUS (ICH3) :          HW Moniter,CLK,Inverter ( Pull up = +3VS )
(PullUp= +3VSUS)        DDR_SODIMM ( Pull up = +3V )
```

```
SMBUS ADDRESS :                    CLK = 1101001x   ( D2 )
                HW Moniter (CPUT1) = 1001001 (Default)
                HW Moniter (CPUT2) = 1001000 (Default)
                HW Moniter (OTHER) = 0101101x (Default)
                       DDR_SODIMM1 = 000
                       DDR_SODIMM2 = 001
                          INVERTER = 0101000x
```

DQ BUS : M38859 , PIC16C54 , BQ2050 (BATTERY)

	S1	S3	S4	S5
RTCVCC	ON	ON	ON	ON
+5VALWAYS	ON	ON	ON	ON
+3VALWAYS	ON	ON	ON	ON
+3VSUS	ON	ON	ON	ON
+1.8VSUS	ON	ON	ON	ON
+12V	ON	ON	OFF	OFF
+5V	ON	ON	OFF	OFF
+3V	ON	ON	OFF	OFF
+2.5V	ON	ON	OFF	OFF
+1.25V	ON	ON	OFF	OFF
+VCORE	ON	OFF	OFF	OFF
+1.2VS	ON	OFF	OFF	OFF
+5VS	ON	OFF	OFF	OFF
+3VS	ON	OFF	OFF	OFF
+12VS	ON	OFF	OFF	OFF
+2.5S	ON	OFF	OFF	OFF
+VGA_CORE	ON	OFF	OFF	OFF
+1.5VS	ON	OFF	OFF	OFF
+1.8VS	ON	OFF	OFF	OFF
CLOCK	ON	OFF	OFF	OFF

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ASUSTek COMPUTER INC.
4 FL.,No.150, Li-Te Rd.,Peitou,Taipei,Taiwan, ROC

Title: FILE LIST

Size: Custom | Document Number: L3C | Rev: 3.3

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