# Model Name:7VT600P-RZ

BOM Version:9MVT600PRZ-00-10A

PCB Version:7VT600P-RZ REV:1.0

## Component value change history

2004/01/13

| Date | Change Item | Reason |
|---|---|---|
| 2004/02/24 | 9MVT600RZ-00-10A==>9MVT600PRZ-00-10A | 1.S/B from 8235CE change to 8237CD |
| 2004/03/04 | 9MVT600PRZ-00-10A==>9MVT600PRZ-00-10A | 1.Add VT8237 china package |
| 2004/03/16 | 9MVT600RZ-00-10A==>9MVT600RZ-00-10A | 1.REGULATOR AP1250M APEC |

## Circuit or PCB layout change for next version

| Date | Change Item | Reason |
|---|---|---|
| 2004/02/24 | | 7VT600-RZ REV1.0 change to 7VT600P-RZ REV1.0 |
| | | Project Code:A92185-3 |
| PCB | Blue/304.8*200.025/C製程/60ohm+-15% | 育富;智恩~~~~~~~~~~4GBC |



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Title: BOM & PCB MODIFY HISTORY

Size: Custom | Document Number: 7VT600P-RZ | Rev: 1.0

Date: 星期二, 三月 16, 2004 | Sheet 1 of 35

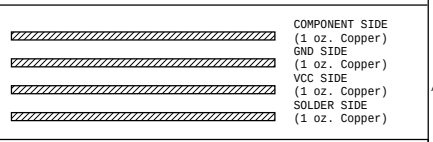
# Model Name:7VT600P-RZ

# Revision 1.0

| SHEET | TITLE |
|---|---|
| 1 | BOM & PCB MODIFY HISTORY |
| 2 | COVER SHEET |
| 3 | BLOCK DIAGRAM |
| 4,5 | AMD CPU SOCKET A |
| 6,7,8,9 | KT600 (NORTH BRIDGE) HOST; DDR; AGP,VLINK,POWER/GOUND |
| 10 | CLOCK GENERATOR (ICS94230BF, ICS93738AF) |
| 11,12,13 | VT8237 (SOUTH BIRDGE) |
| 14,15 | DDR SDRAM DIMMS 1,2,3,DDR TERMINATION |
| 16 | AGP SLOT |
| 17,18 | PCI SLOT 1,2,3,4,5 |
| 19 | IDE,USB |
| 20 | LPCIO_IT8705 |
| 21 | BIOS |
| 22 | COM,PRT,FDD,KB/MS,IR |
| 23 | AC 97 CODEC |
| 24 | AUDIO JACK,GAME PORT |
| 25 | VIA VT6122 LAN& USB CONNECTOR |
| 26 | PANEL,STR LED,FANS |
| 27 | DDR POWER |
| 28 | ATX CONN,3VDUAL,VDDQ DC POWER |
| 29 | VCORE PHASE PWM FAIRCHILD FAN5091M |
| 30 | VID,FID CONTROL |

| SHEET | TITLE |
|---|---|
| 31 | GPIO CONFIGUATION |
| 32 | VIA VT6103L PHY |
| 33 | POWER TRACE WIDTH |
| 34 | TEST POINT |
| 35 | JUMPER TABLE |



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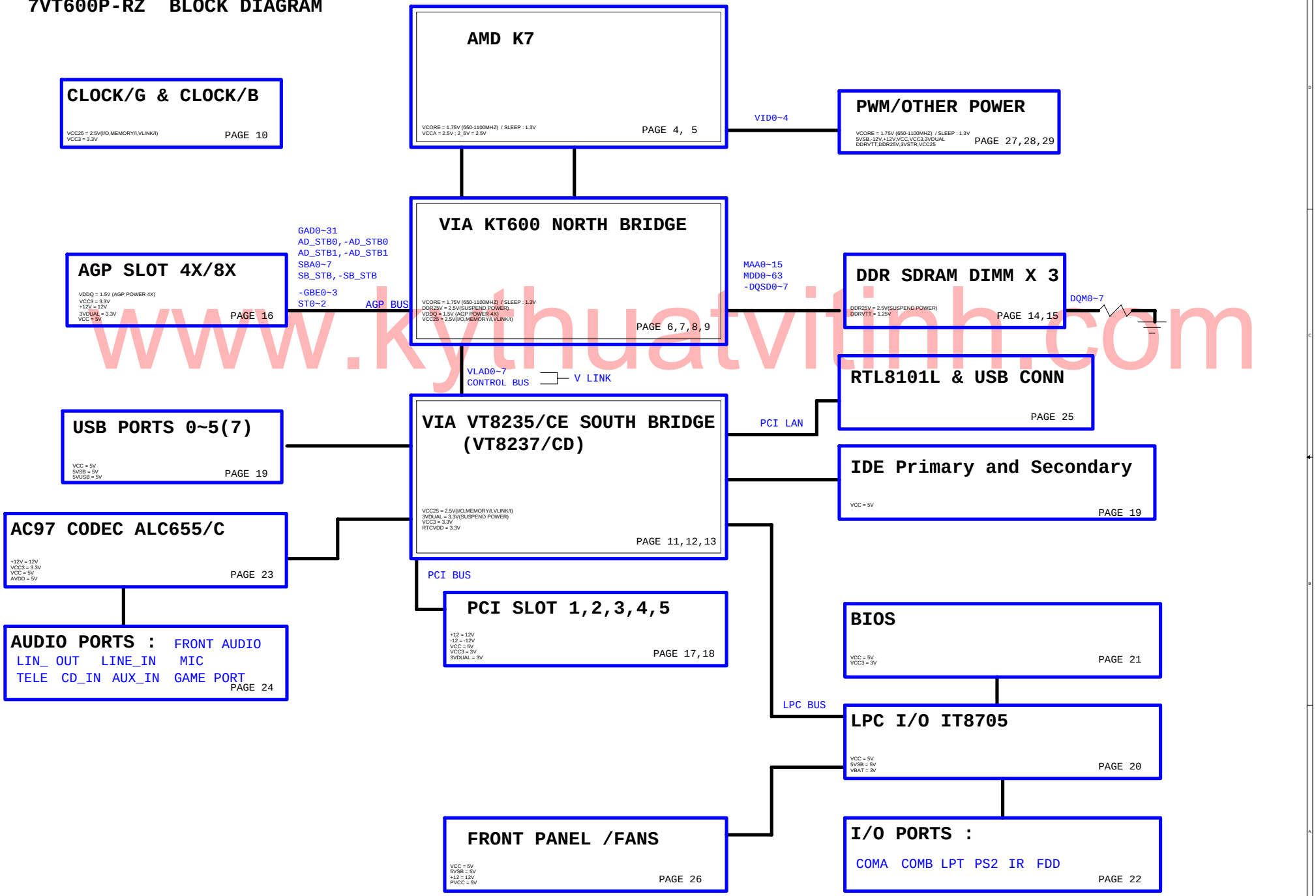
Title: COVER SHEET

Size: Custom | Document Number: 7VT600P-RZ | Rev: 1.0

Date: 星期二, 三月 16, 2004 | Sheet 2 of 35

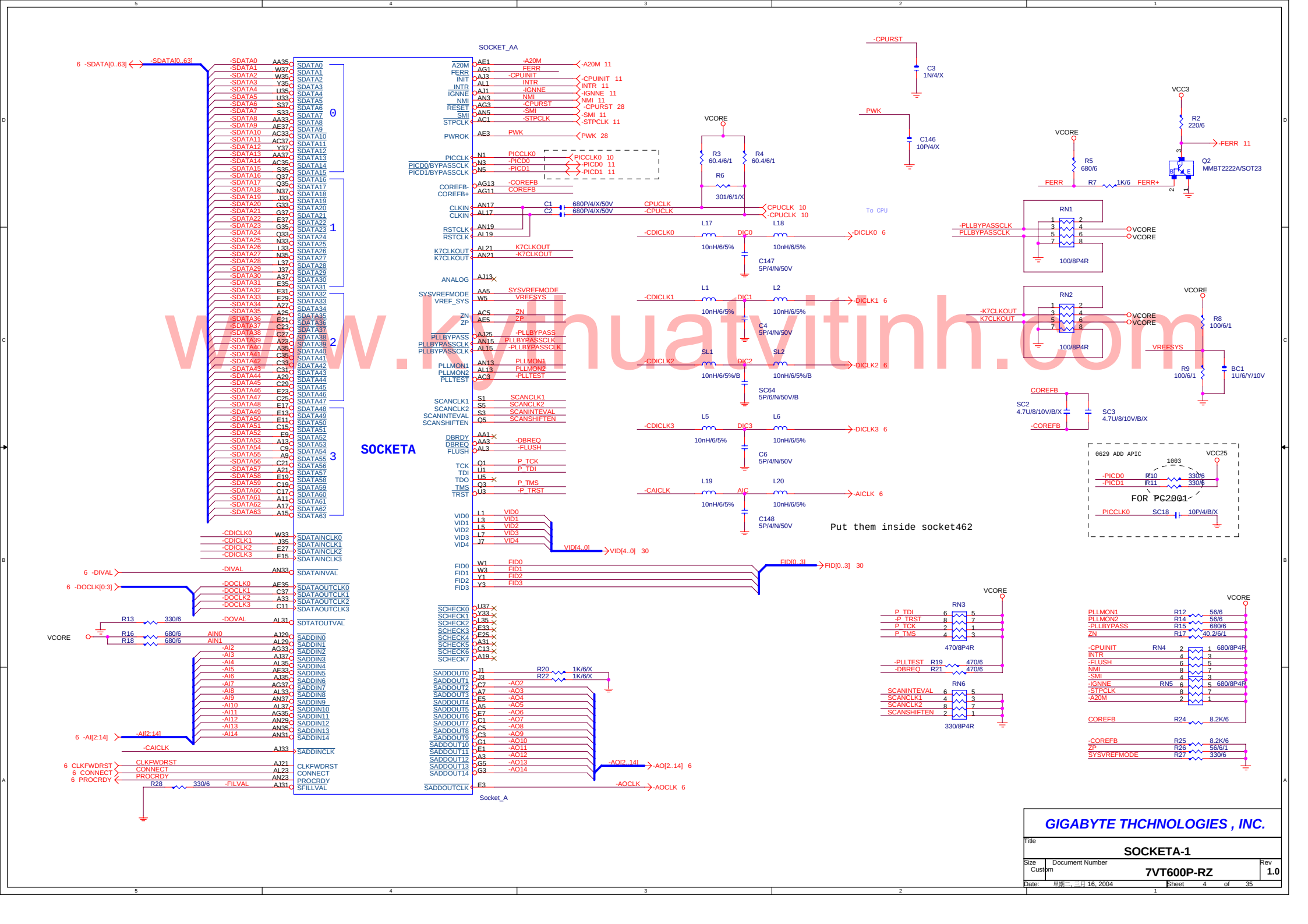
# 7VT600P-RZ BLOCK DIAGRAM

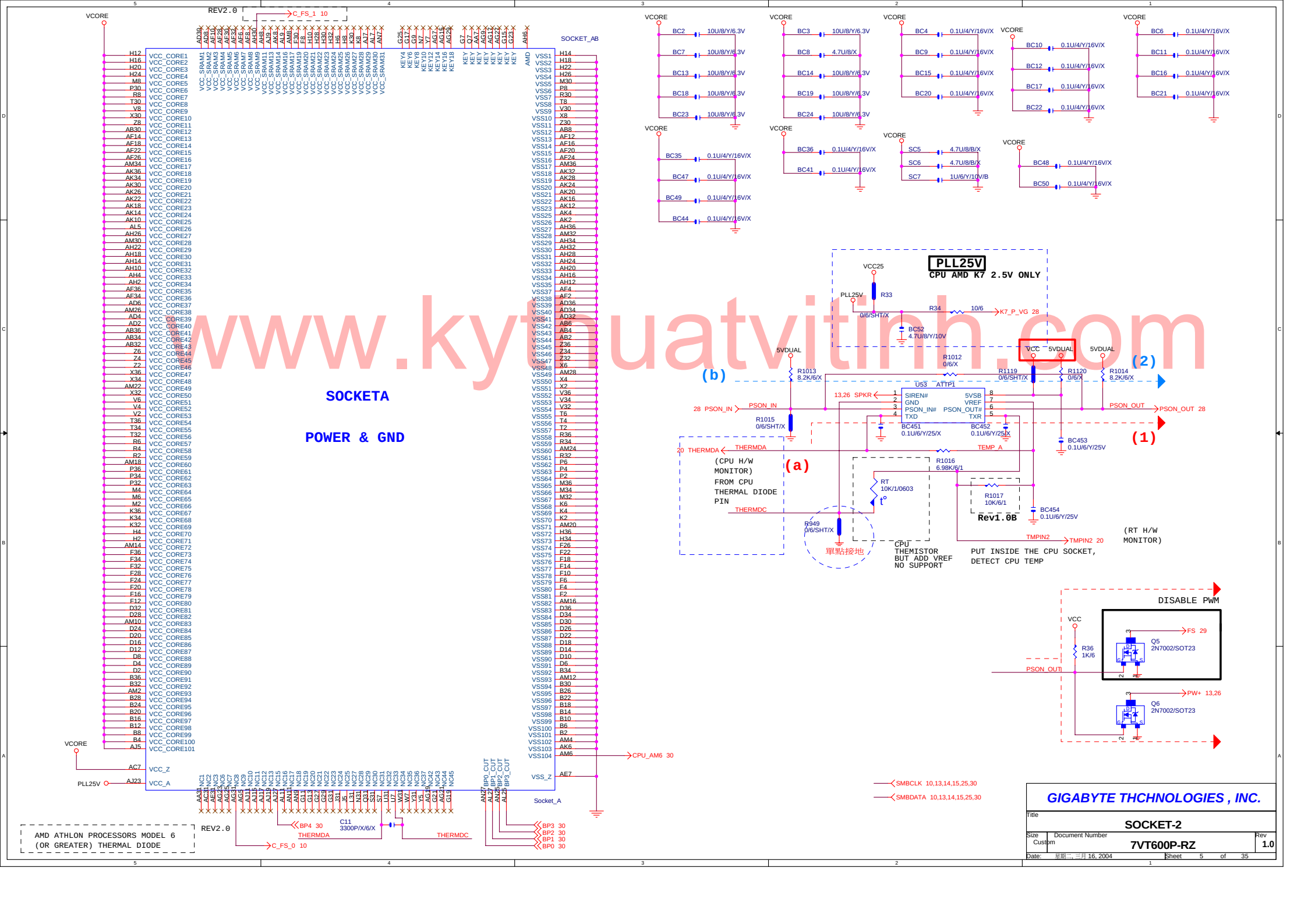




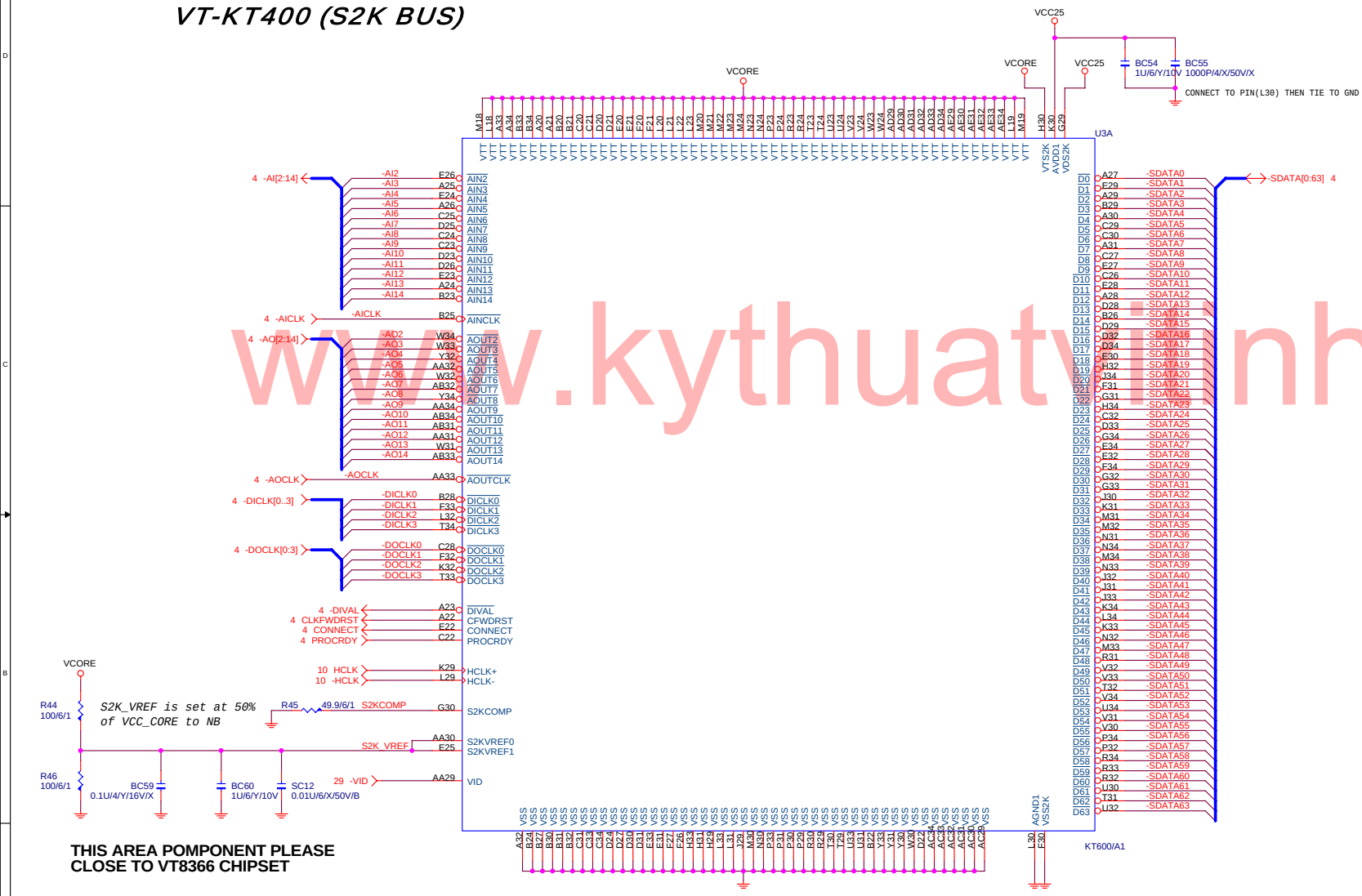

GIGABYTE

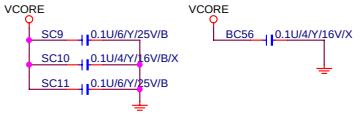
| | | |
|---|---|---|
| Title: BLOCK DIAGRAM | | |
| Size: Custom | Document Number: 7VT600P-RZ | Rev: 1.0 |
| Date: 星期二, 二月 16, 2004 | Sheet 3 of 35 | |

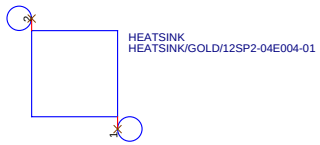




# VT-KT400 (S2K BUS)



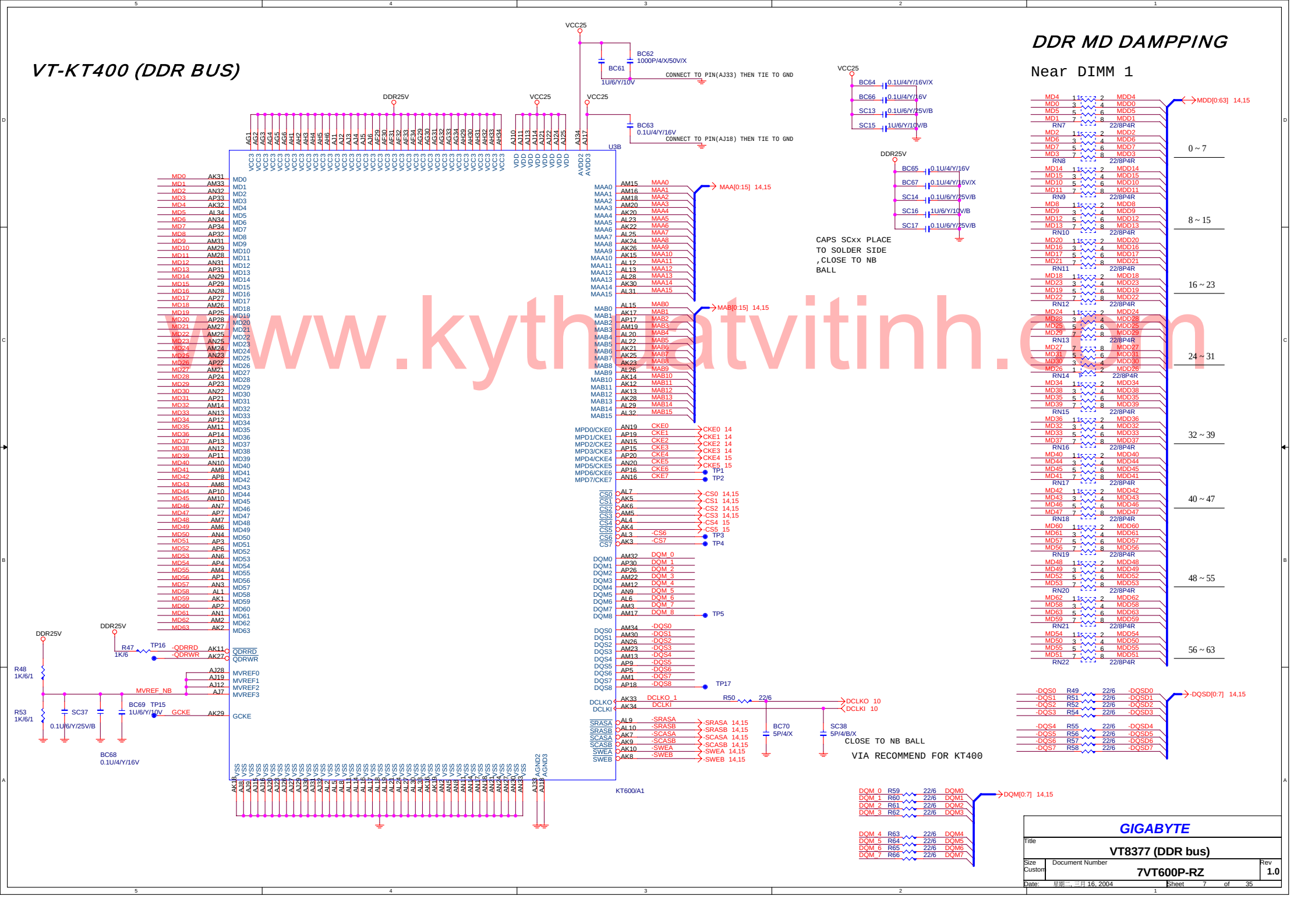



| | | |
|---|---|---|
| GIGABYTE | | |
| Title | VT8377 (S2K BUS) | |
| Size: Custom | Document Number: 7VT600P-RZ | Rev: 1.0 |
| Date: 星期三, 三月 16, 2004 | Sheet 6 of 35 | |

# VT-KT400 (DDR BUS)

## DDR MD DAMPPING

Near DIMM 1

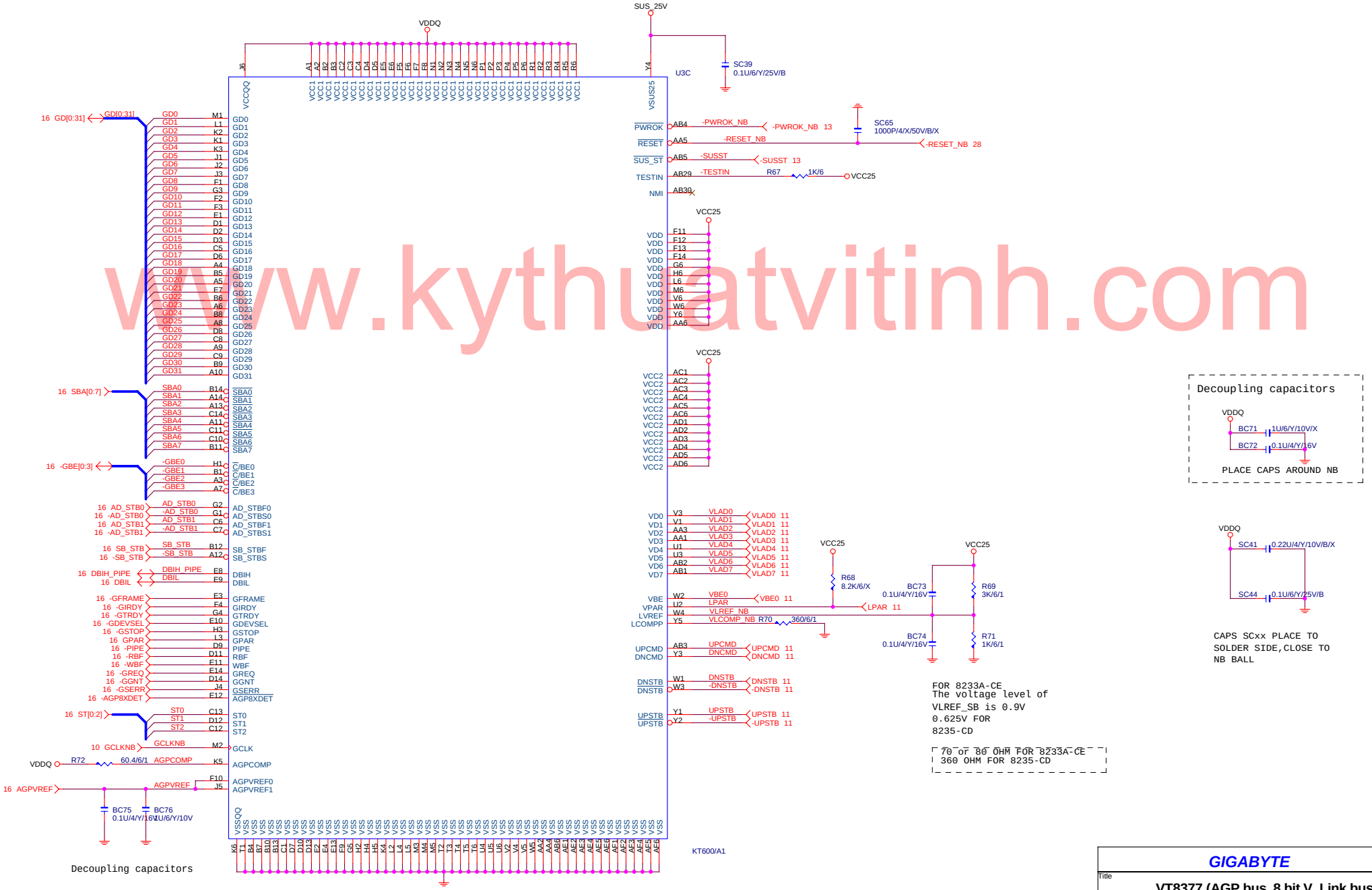





GIGABYTE

| | | |
|---|---|---|
| Title | VT8377 (DDR bus) | |
| Size: Custom | Document Number: 7VT600P-RZ | Rev: 1.0 |
| Date: 星期三, 三月 16, 2004 | Sheet 7 of 35 | |

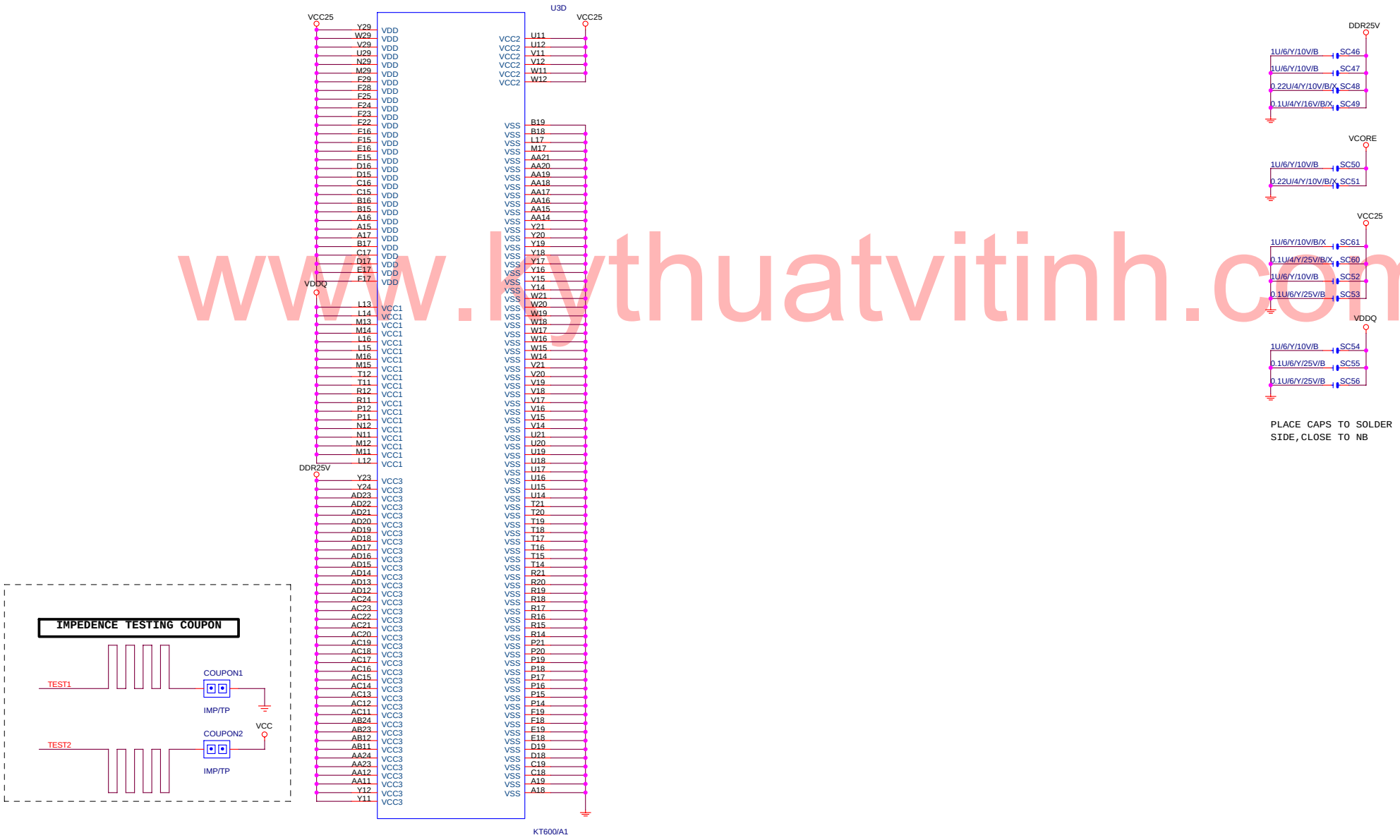
# VT8377 (AGP bus, 8 bit V_Link bus)






GIGABYTE

| | | |
|---|---|---|
| Title | VT8377 (AGP bus, 8 bit V_Link bus) | |
| Size: Custom | Document Number: 7VT600P-RZ | Rev: 1.0 |
| Date: 星期二, 三月 16, 2004 | Sheet 8 of 35 | |



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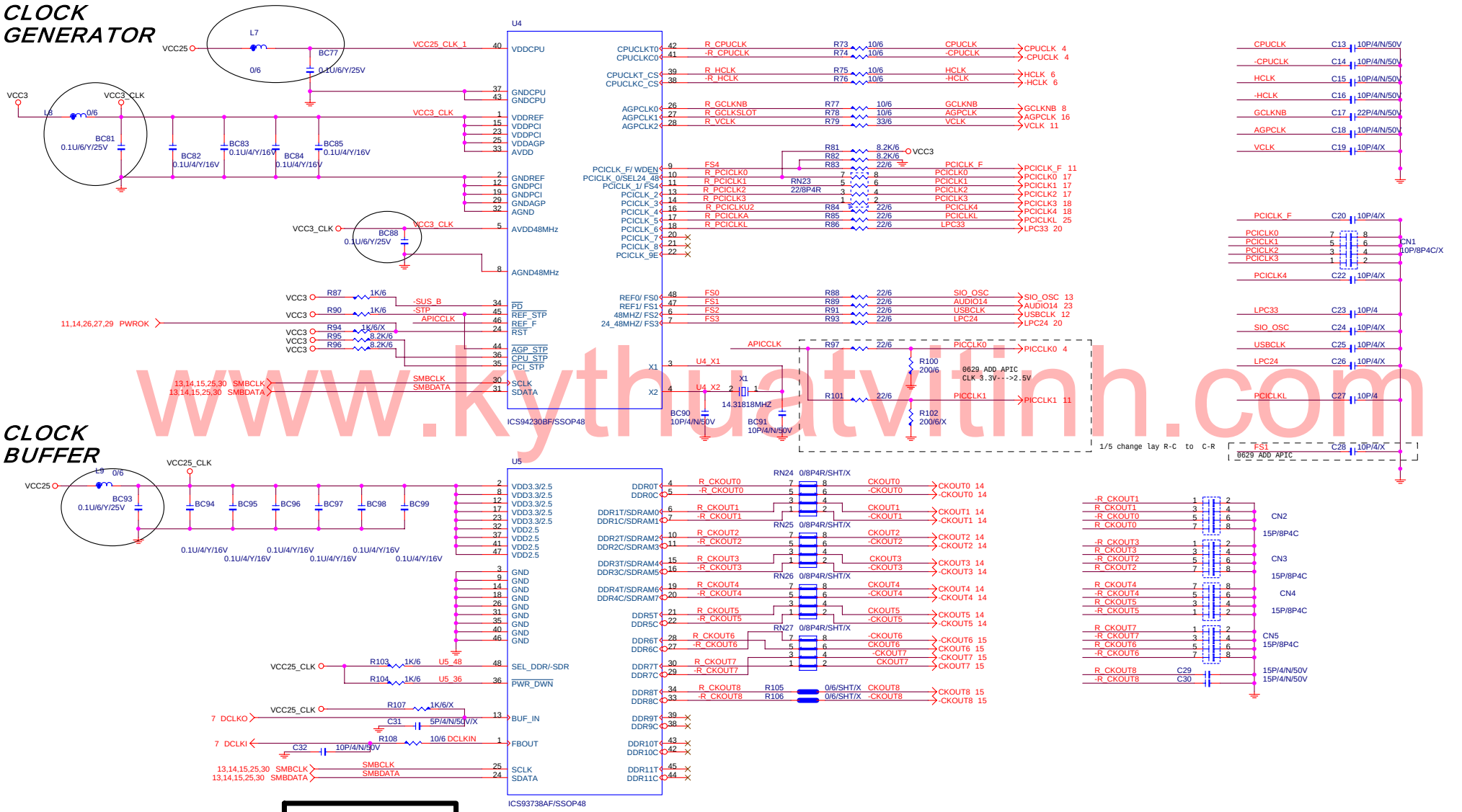
Title: VT8377 (POWER/GOUND)

Size: Custom | Document Number: 7VT600P-RZ | Rev: 1.0

Date: 星期二, 三月 16, 2004 | Sheet 9 of 35






**KT400 / KT400A/CE STRAPPING FSB100/133/166MHZ**

| | CPU/CLK GEN. | | 8235CD/CE | | 8237 CD | |
|---|---|---|---|---|---|---|
| | FS1 | FS0 | SDA2 | SDA0 | PDA2 | PDA0 |
| 100MHZ | 1 | 0 | 0 | 0 | 0 | 0 |
| 133MHZ | 1 | 1 | 0 | 1 | 0 | 1 |
| 166MHZ | 0 | 1 | 1 | X | 1 | X |
| 200MHZ | 0 | 0 | NO SUPPORT | | NO SUPPORT | |

**KT400A/CE STRAPPING FSB100/133/166/200MHZ**

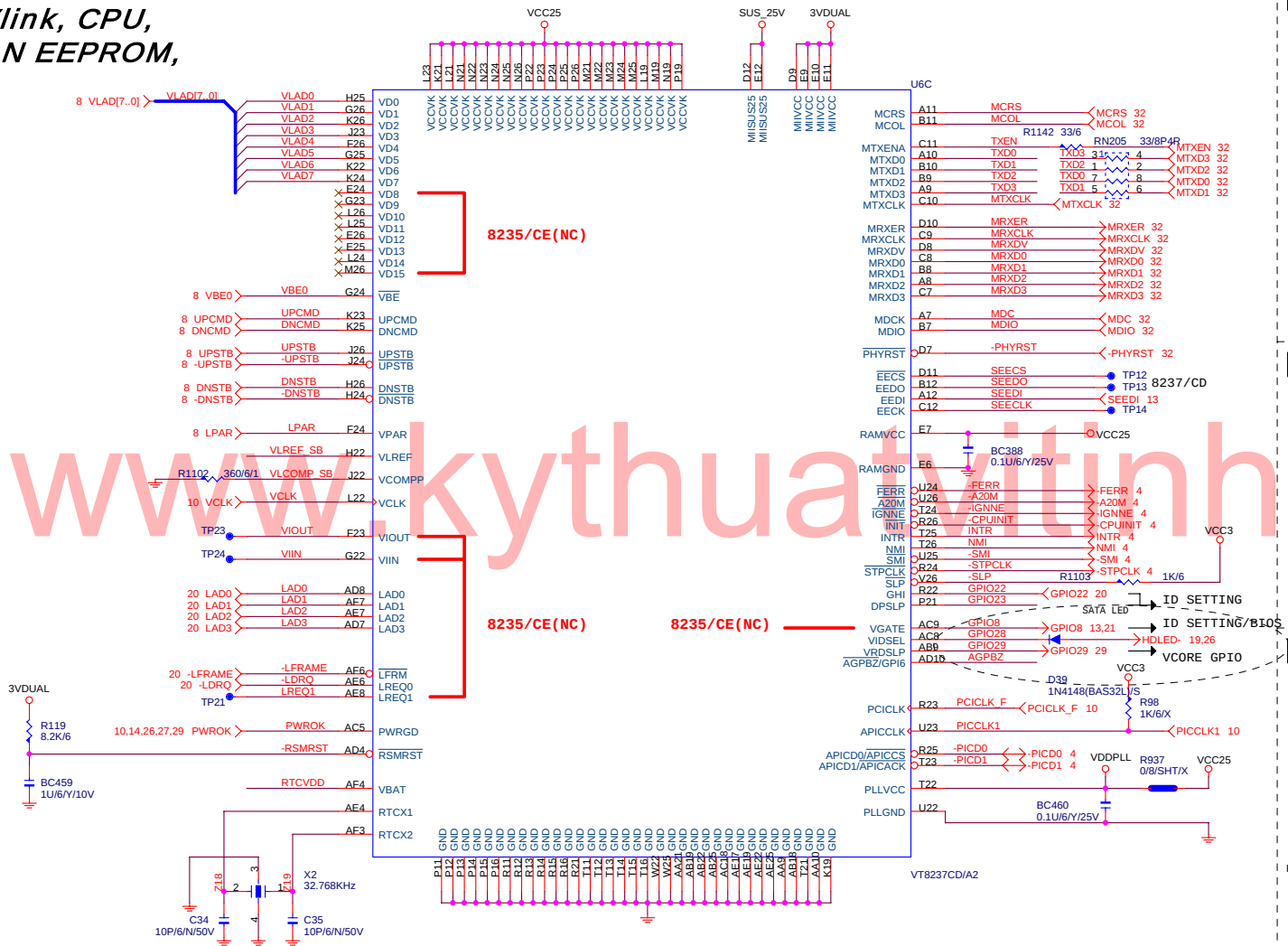
| | CPU/CLK GEN. | | 8235CD/CE | | 8237 CD | |
|---|---|---|---|---|---|---|
| | FS1 | FS0 | SDA2 | SDA0 | PDA2 | PDA0 |
| 100MHZ | 1 | 0 | 0 | 0 | 0 | 0 |
| 133MHZ | 1 | 1 | 0 | 1 | 0 | 1 |
| 166MHZ | 0 | 1 | 1 | 1 | 1 | 1 |
| 200MHZ | 0 | 0 | 1 | 0 | 1 | 0 |

| JP1 | CPU CLOCK | |
|---|---|---|
| | 100MHZ | AUTO |
| 1-2 | CLOSE | OPEN |

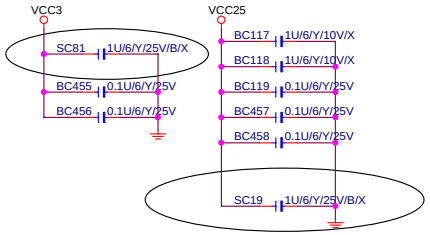
JP1
JU1x2/R/[1-2CLOSE]/11NH1-000102-16BLACK

| | | | |
|---|---|---|---|
| GIGABYTE | | | |
| Title | CLOCK GENERATOR | | |
| Size: Custom | Document Number: 7VT600P-RZ | | Rev: 1.0 |
| Date: 星期二, 三月 16, 2004 | Sheet 10 of 35 | | |

# SB VT8235(Vlink, CPU, LPC, LAN, LAN EEPROM, I2C BUS)

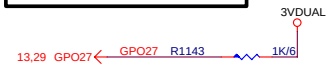



## Decoupling capacitors

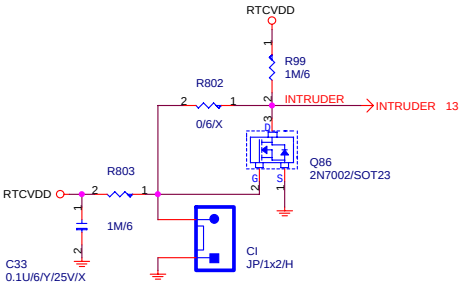



CLOSE VT8235 SOLDER

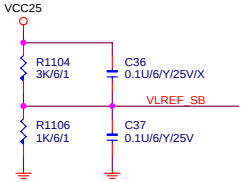
## Internal MAC P.U

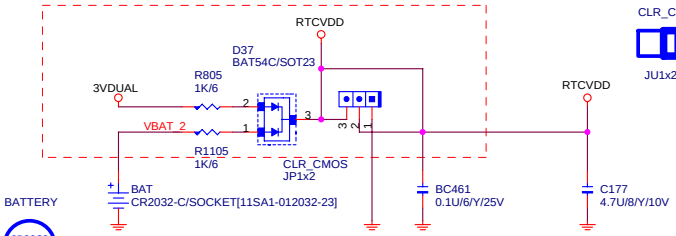



## Case Open Circuits




FOR 8233A-CE
The voltage level of VLREF_SB is 0.9V
0.625V FOR 8235-CD

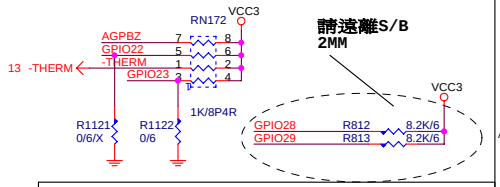



2.11BL1-032032-03
3.11BL1-032032-02


**GPIO23**
**High:Disable MAC**
**Low:Enable MAC**

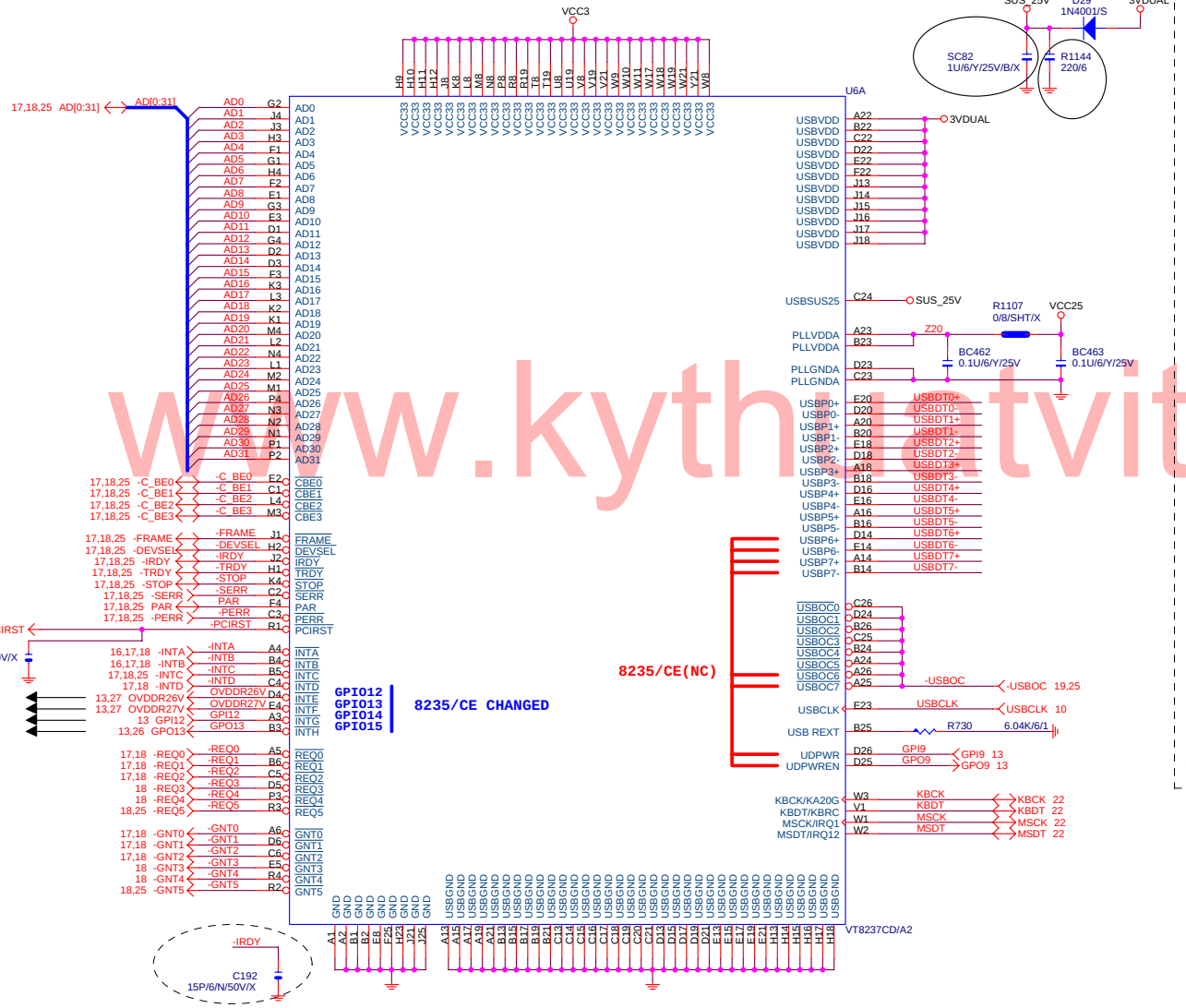
| CLR_CMOS | CLEAR COMS JUMPER |
|---|---|
| 1-2 | CLEAR CMOS |
| 2-3 | NORMAL (Default) |

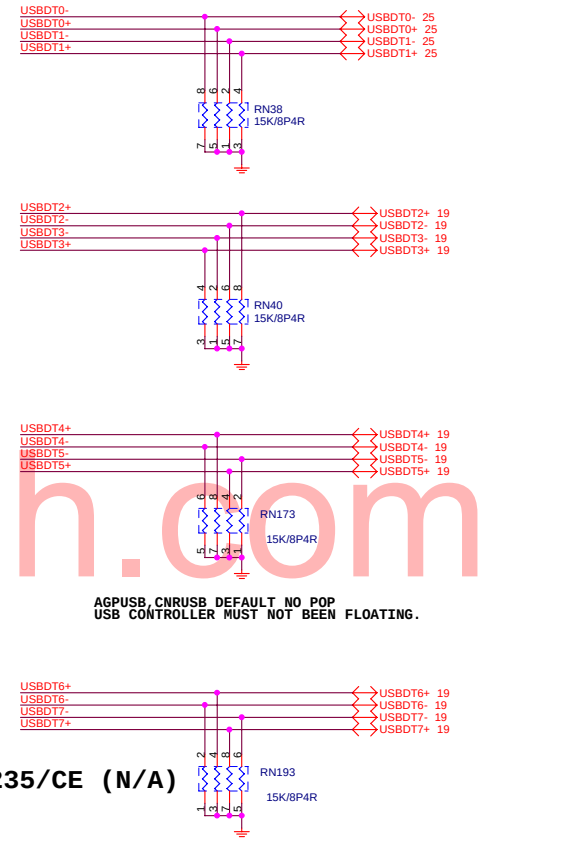


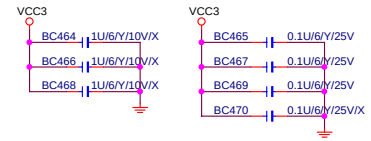

**GIGABYTE**

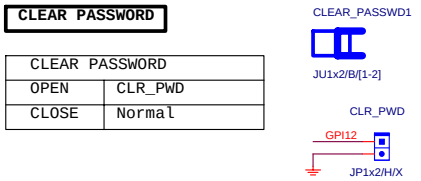
| | | |
|---|---|---|
| Title | SB VT8233A (Vlink, CPU, LPC, LAN, I2C) | |
| Size: Custom | Document Number: 7VT600P-RZ | Rev: 1.0 |
| Date: 星期二, 三月 16, 2004 | Sheet 11 of 35 | |

# SB VT8235 (PCI, USB BUS, KB/MS)



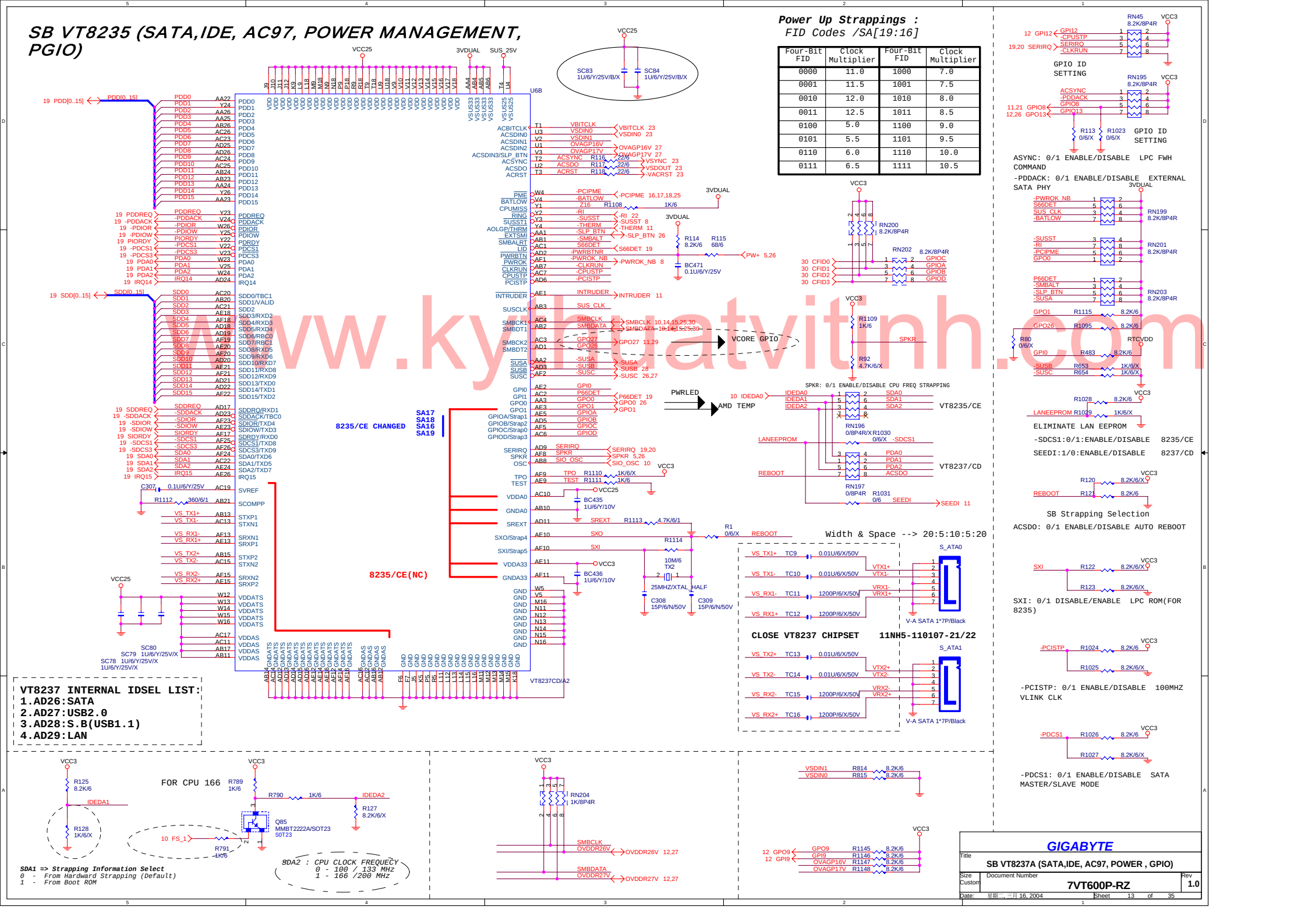

| CLEAR PASSWORD | |
|---|---|
| OPEN | CLR_PWD |
| CLOSE | Normal |



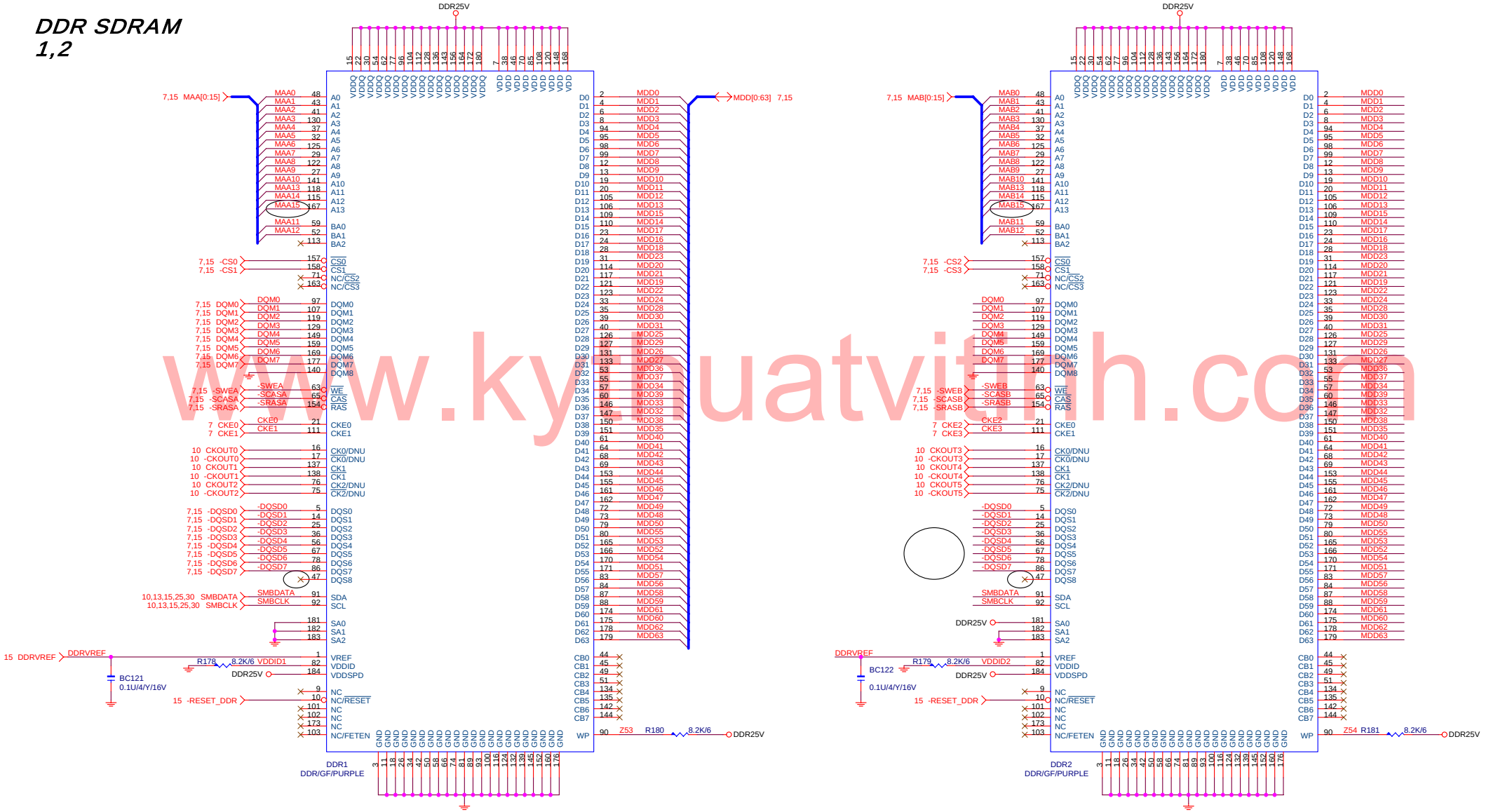
GIGABYTE

| | | |
|---|---|---|
| Title | SB VT8233A (PCI, USB BUS, KB/MS) | |
| Size: Custom | Document Number: 7VT600P-RZ | Rev: 1.0 |
| Date: 星期二, 三月 16, 2004 | Sheet 12 of 35 | |

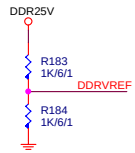
# SB VT8235 (SATA,IDE, AC97, POWER MANAGEMENT, PGIO)



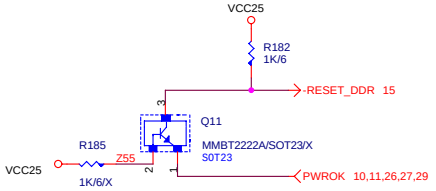
# DDR SDRAM 1,2






**For Register DDR Support**

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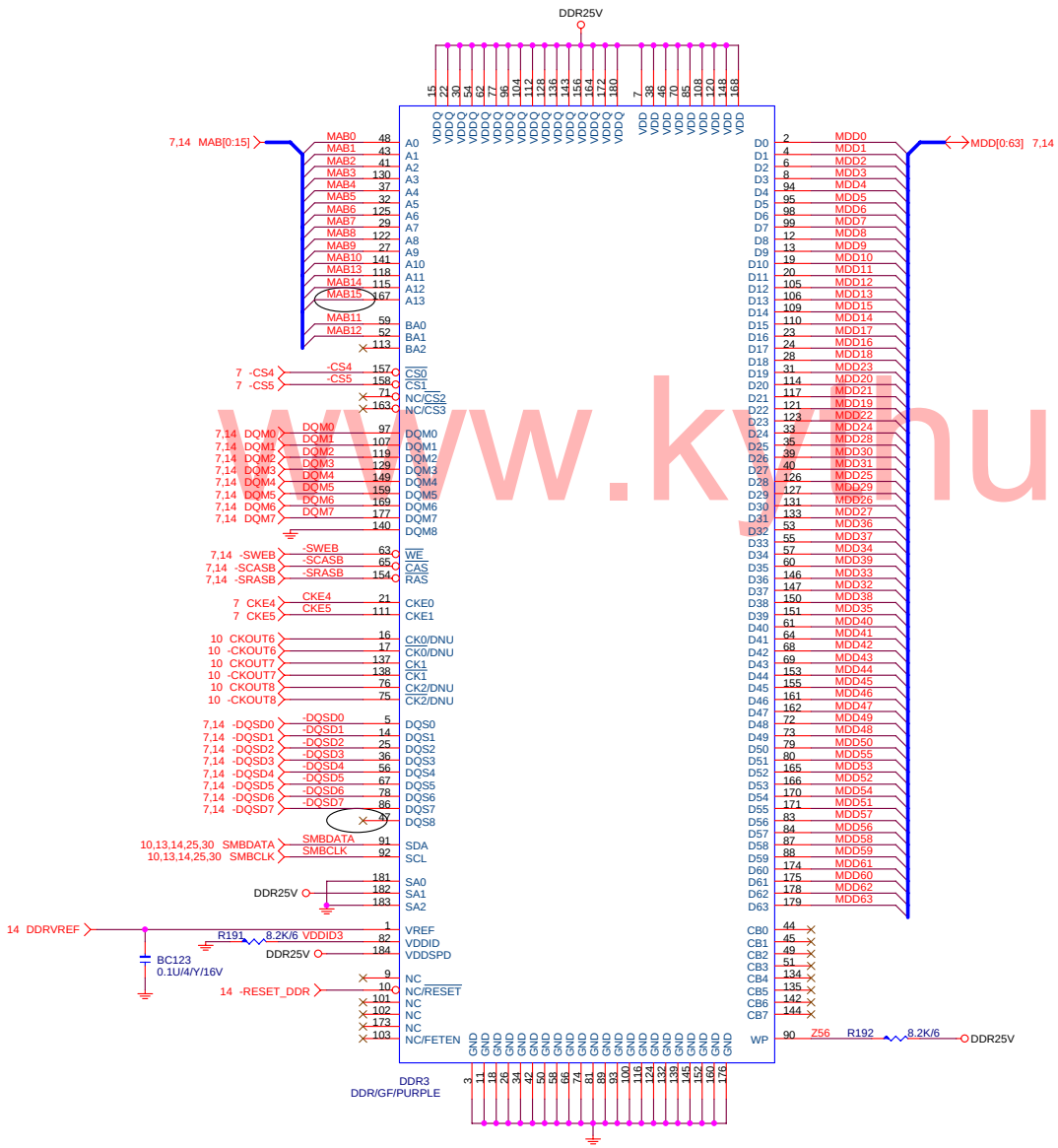
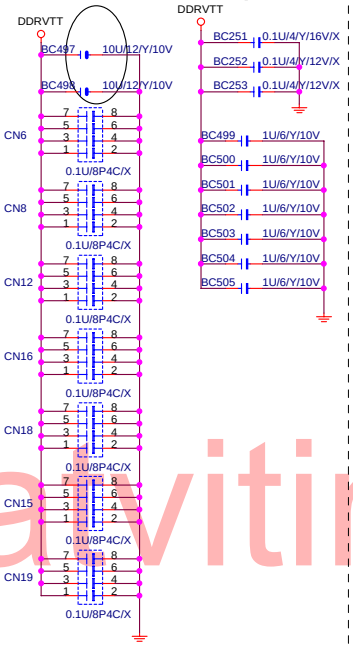
| | | |
|---|---|---|
| Title | DDR UNBUFFERED 1,2 | |
| Size: Custom | Document Number: 7VT600P-RZ | Rev: 1.0 |
| Date: 星期二, 三月 16, 2004 | Sheet 14 of 35 | |

# DDR SDRAM 3

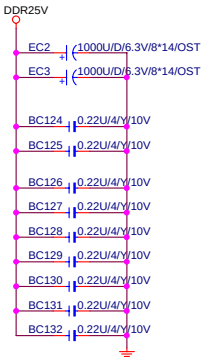



# DDRVTT Decouple



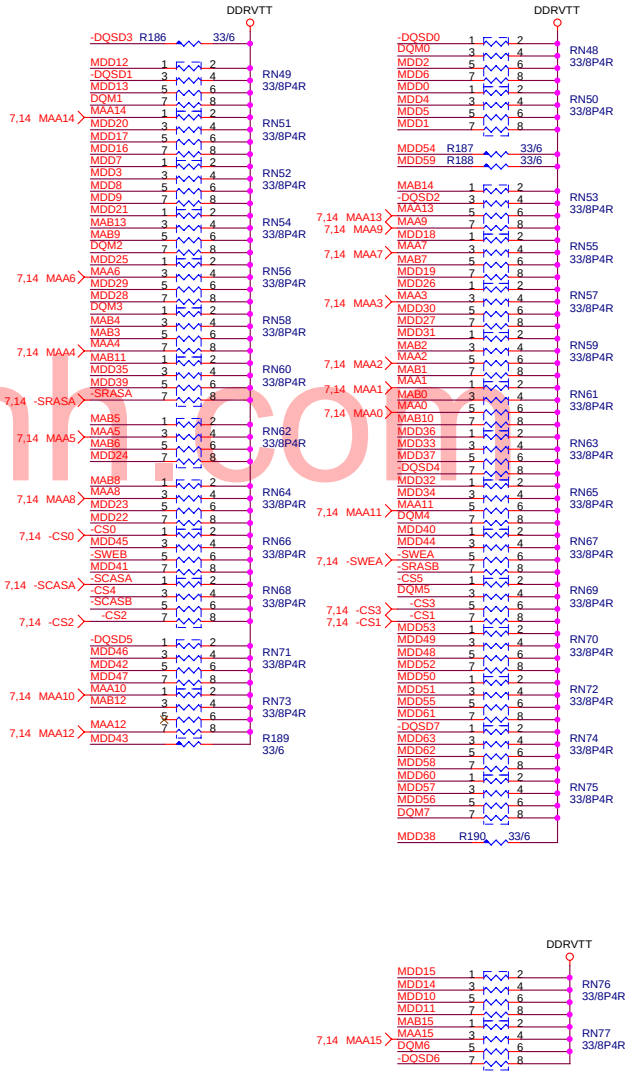

NOTE: Place these decoupling capacitors close to VTT_MEM termination resistors. (one decoupling coapcitor for each two R-packs)

# DDR25V Decouple




NOTE: Place Detribute 4 pcs per DDR module.

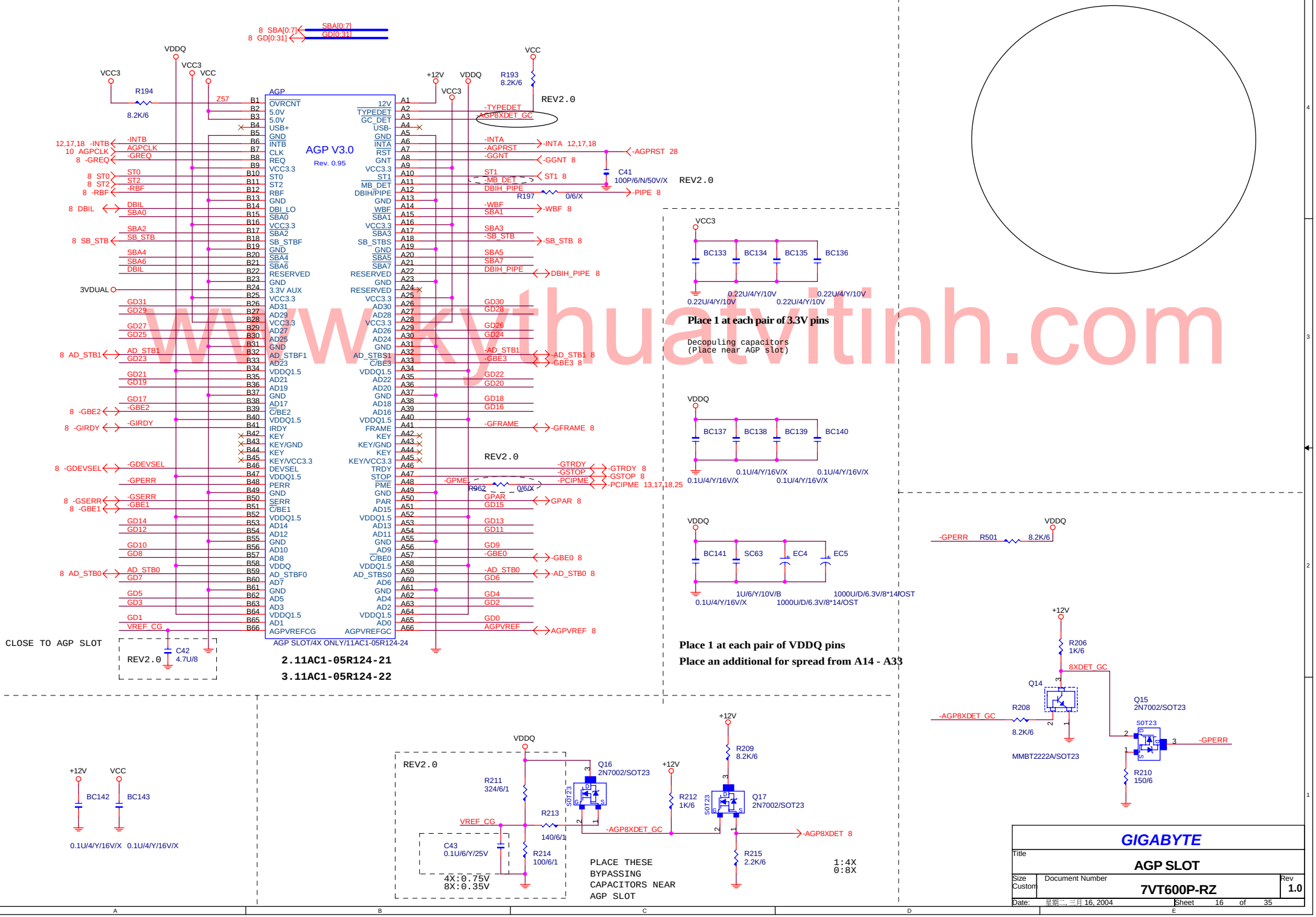
# DDR TERMINATION



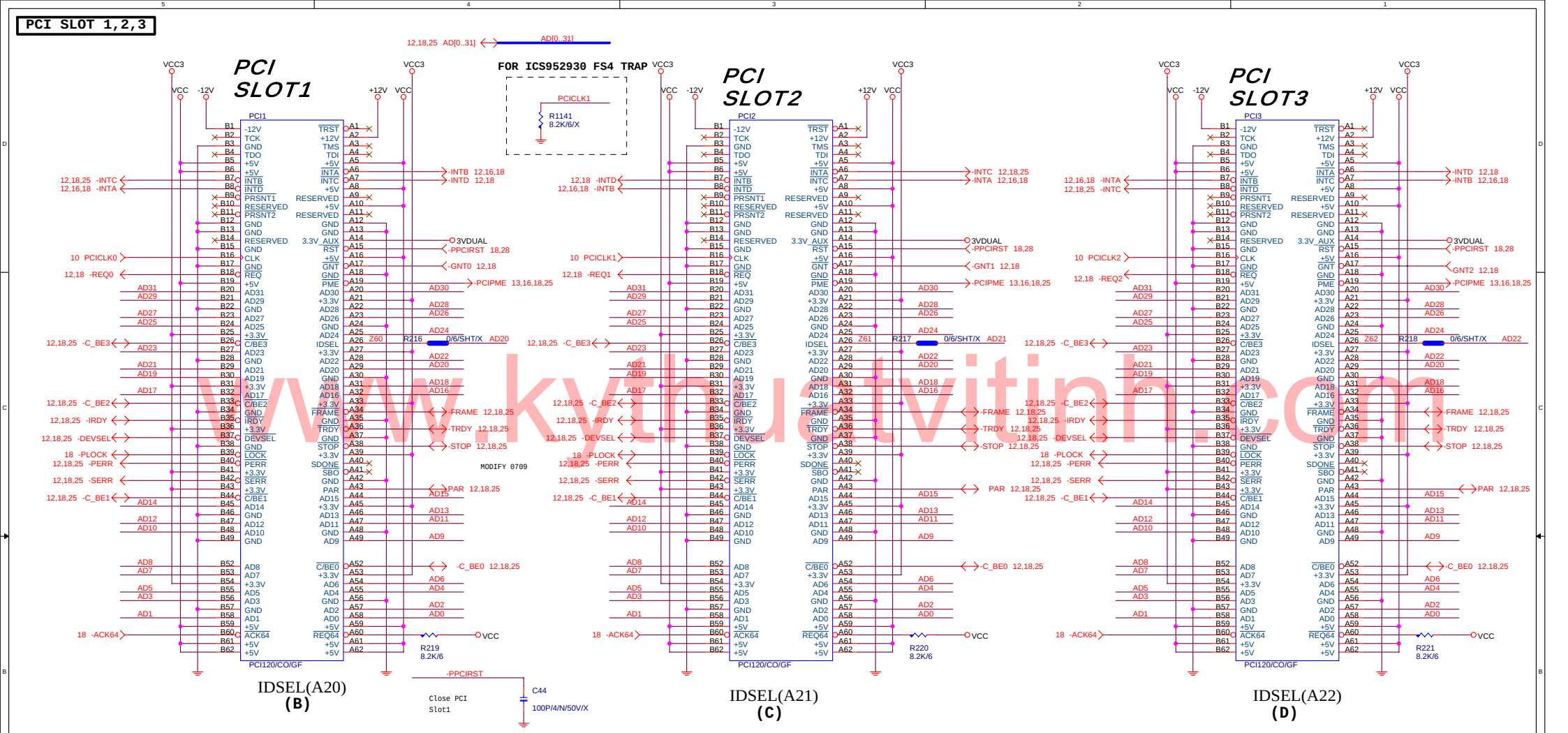


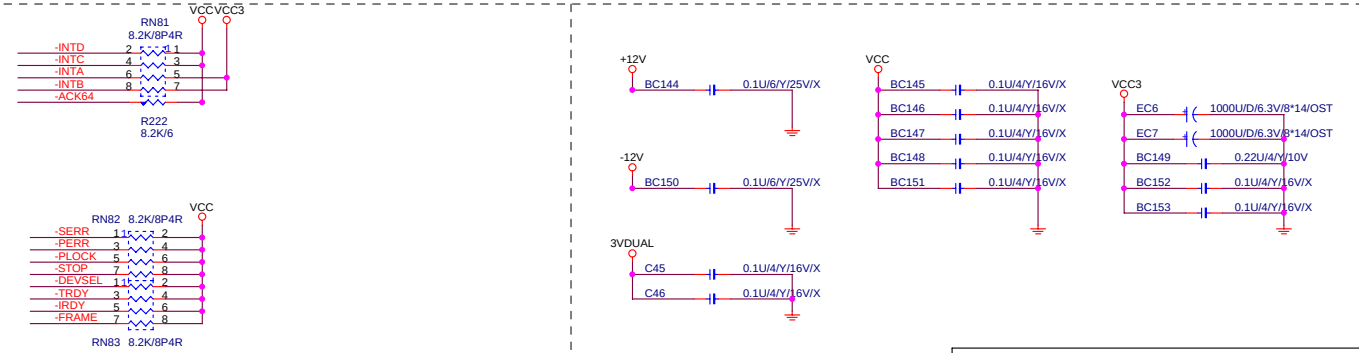

GIGABYTE

| | | |
|---|---|---|
| Title | DDR UNBUFFERED 3 | |
| Size: Custom | Document Number: 7VT600P-RZ | Rev: 1.0 |
| Date: 星期二, 三月 16, 2004 | Sheet 15 of 35 | |



# PCI SLOT 1,2,3



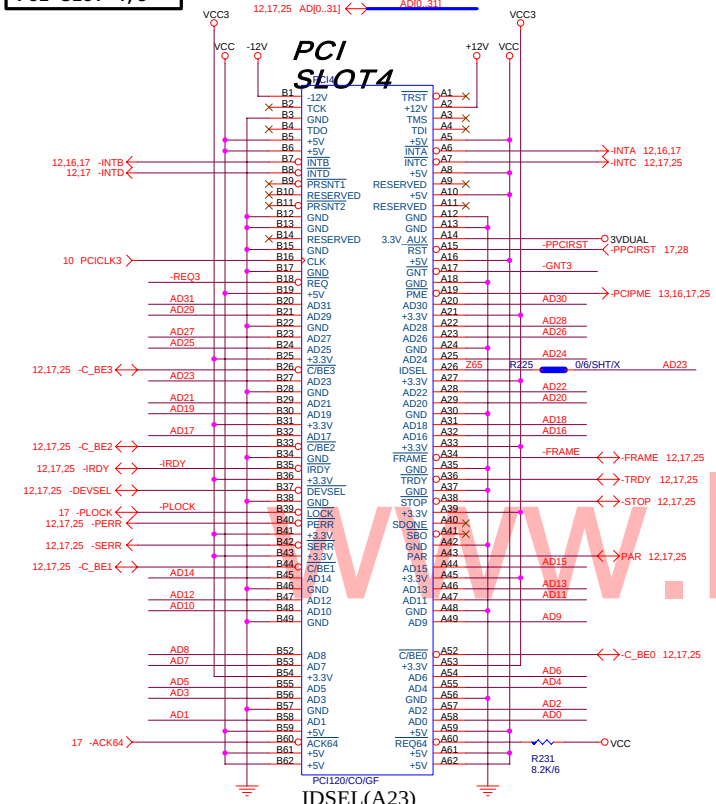



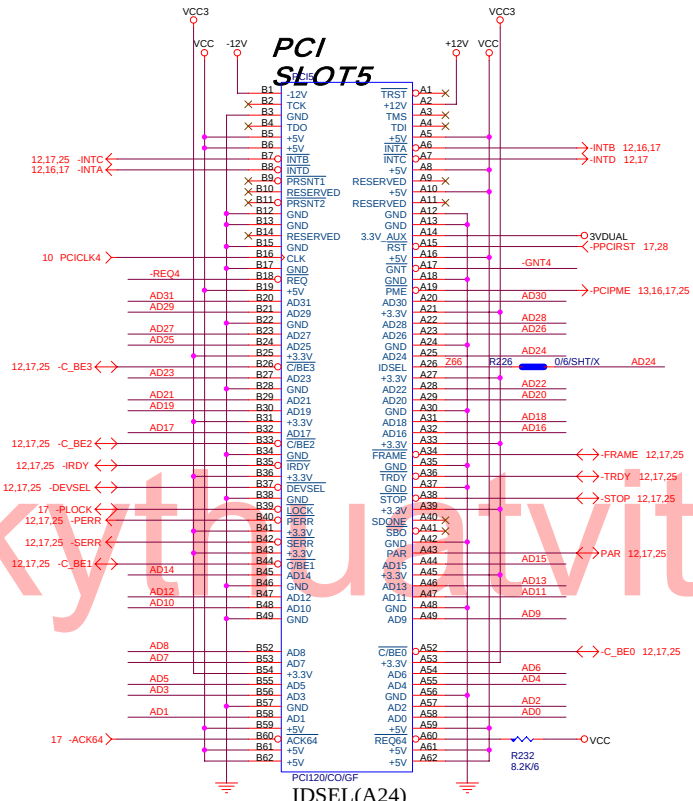


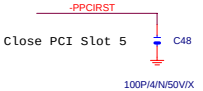

GIGABYTE

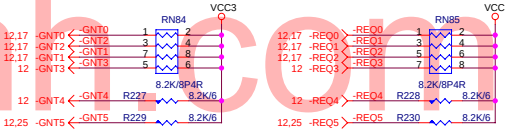
| | | |
|---|---|---|
| Title | PCI SLOT 1,2,3 | |
| Size: Custom | Document Number: 7VT600P-RZ | Rev: 1.0 |
| Date: 星期三, 三月 16, 2004 | Sheet 17 of 35 | |

PCI SLOT 4,5



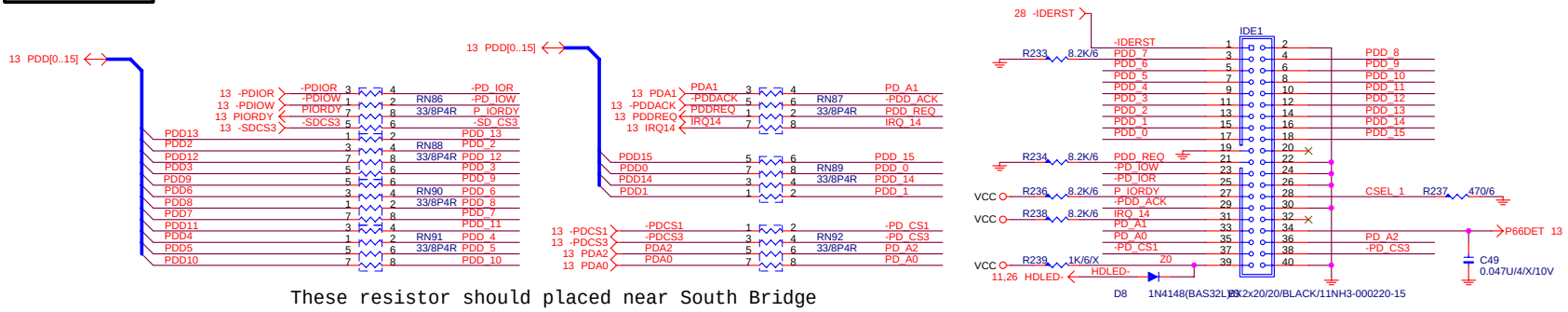



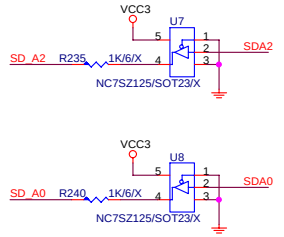



| | | |
|---|---|---|
| GIGABYTE | | |
| Title | PCI SLOT 4, 5 | |
| Size: Custom | Document Number: 7VT600P-RZ | Rev: 1.0 |
| Date: 星期二, 三月 16, 2004 | Sheet 18 of 35 | |

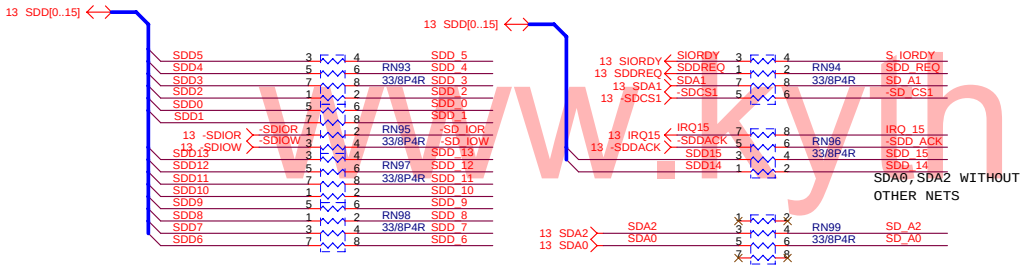
## PRIMARY IDE




## CD,DVD ROM STRAPPING ISSUE

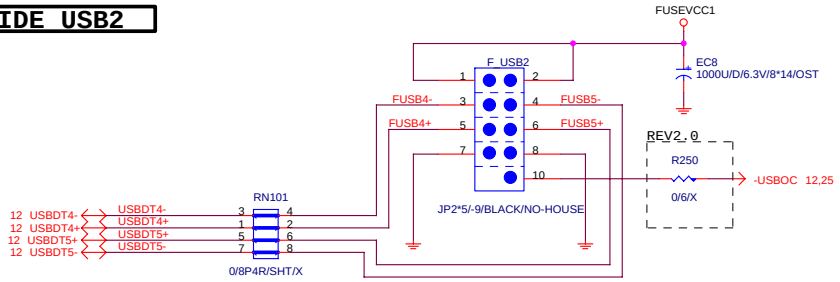



## SECONDARY IDE

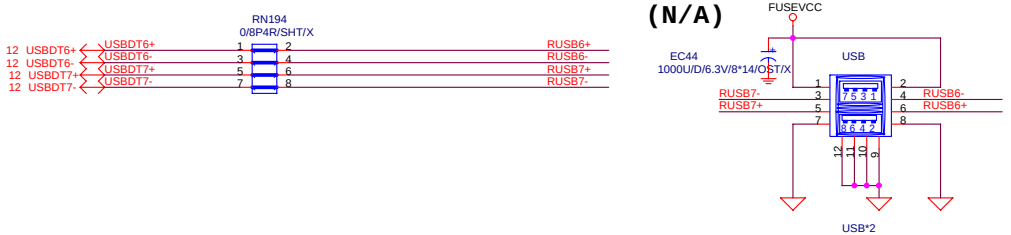



## SIRQ

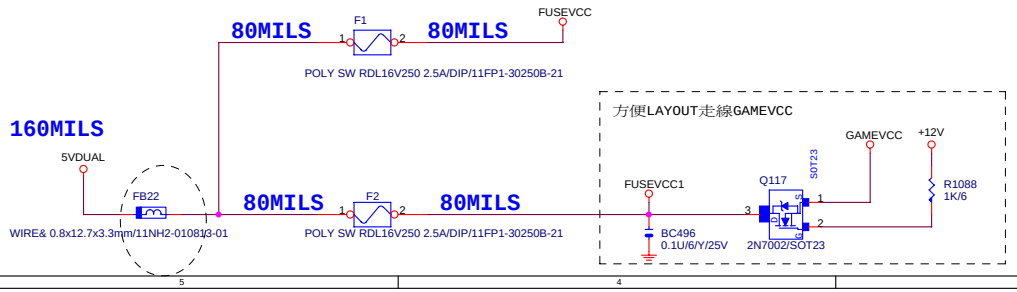

## FRONT SIDE USB2




## (N/A)

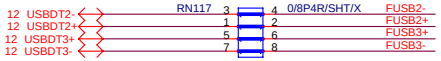


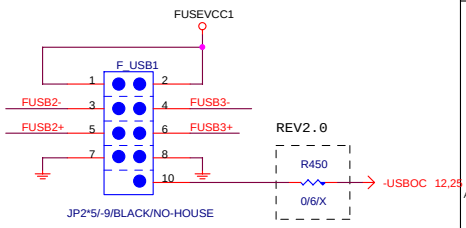

## FUSEVCC,GAMEVCC




## FRONT SIDE USB1

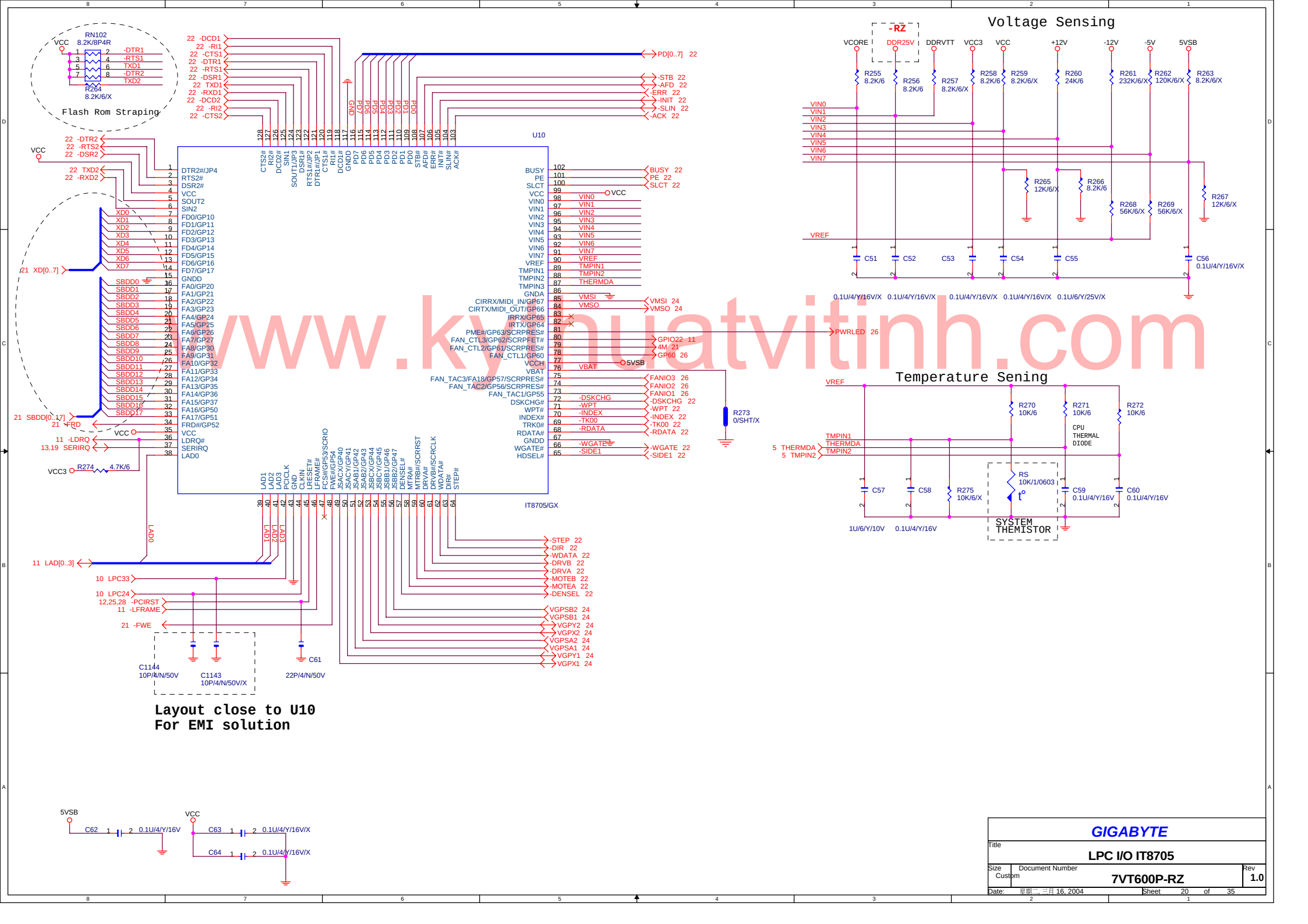
RN & COIL CO-LAYOUT



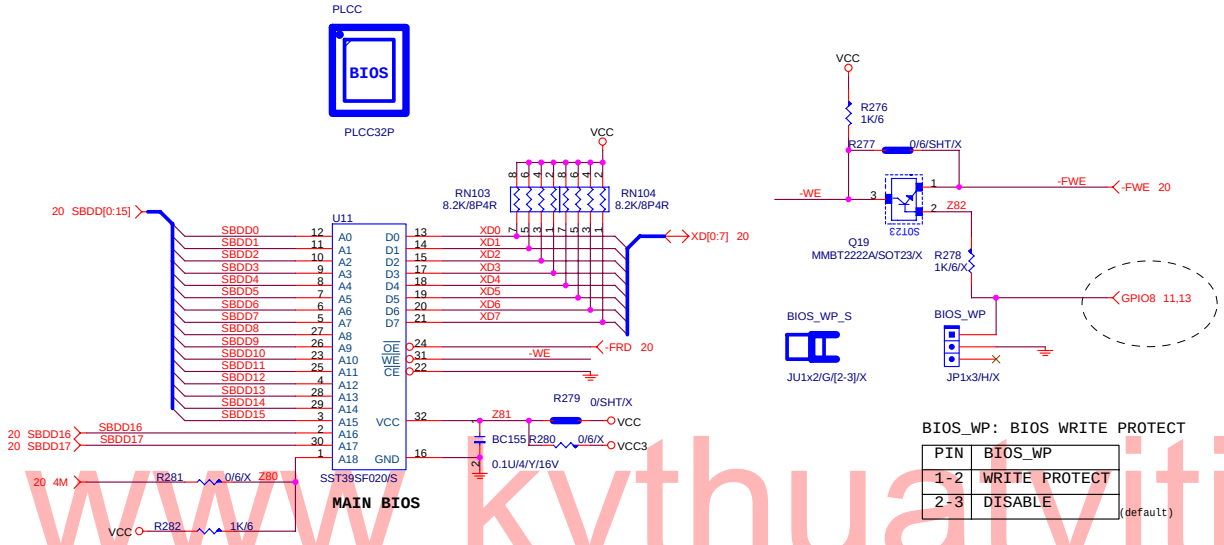




**GIGABYTE**

| | | |
|---|---|---|
| Title | IDE, USB | |
| Size: Custom | Document Number: 7VT600P-RZ | Rev: 1.0 |
| Date: 星期二, 三月 16, 2004 | Sheet 19 of 35 | |




| | |
|---|---|
| Title | LPC I/O IT8705 |
| Size | Custom |
| Document Number | 7VT600P-RZ |
| Rev | 1.0 |
| Date: | 星期二, 三月 16, 2004 |
| Sheet | 20 of 35 |







BIOS_WP: BIOS WRITE PROTECT

| PIN | BIOS_WP |
|---|---|
| 1-2 | WRITE PROTECT |
| 2-3 | DISABLE |

(default)

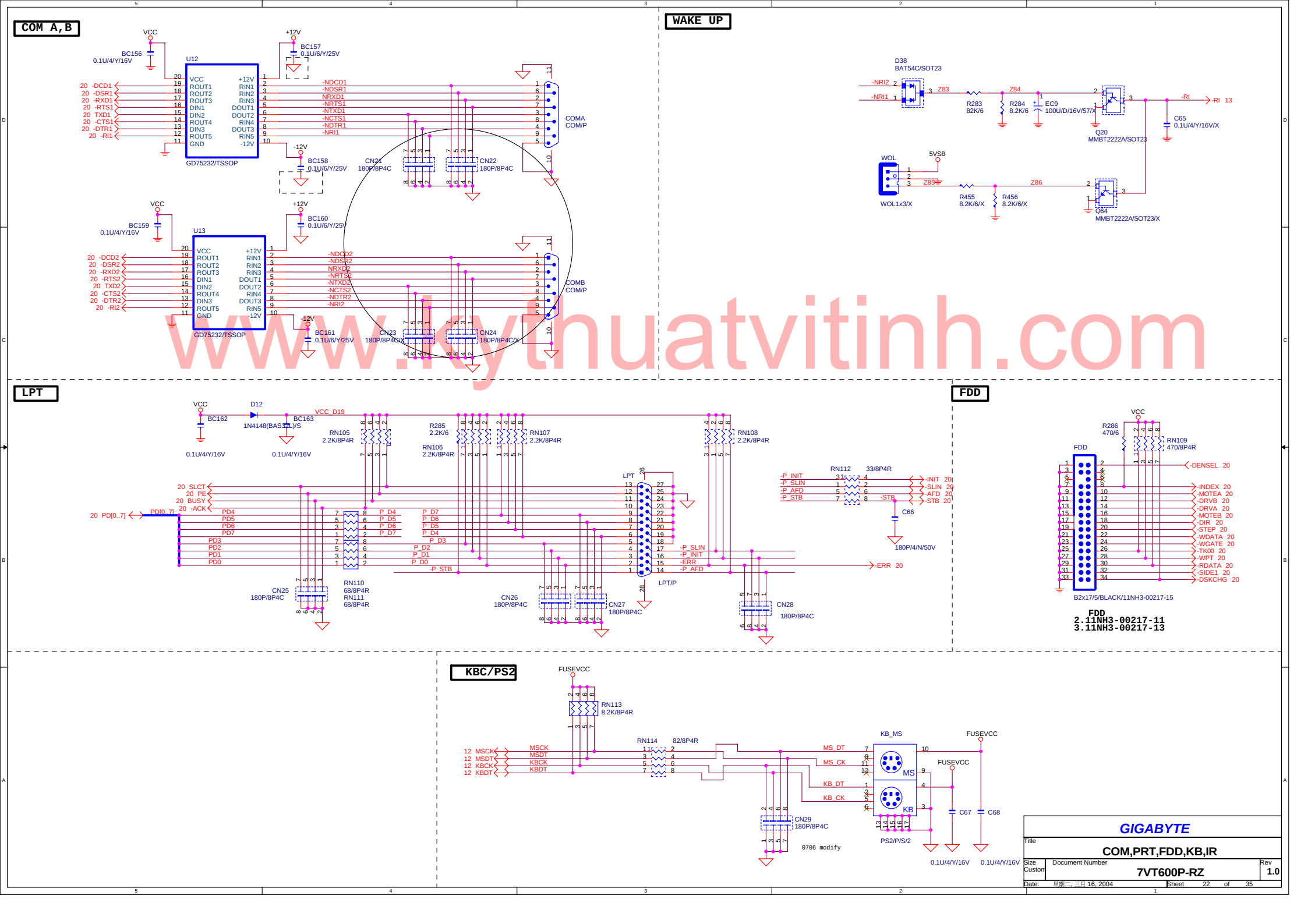


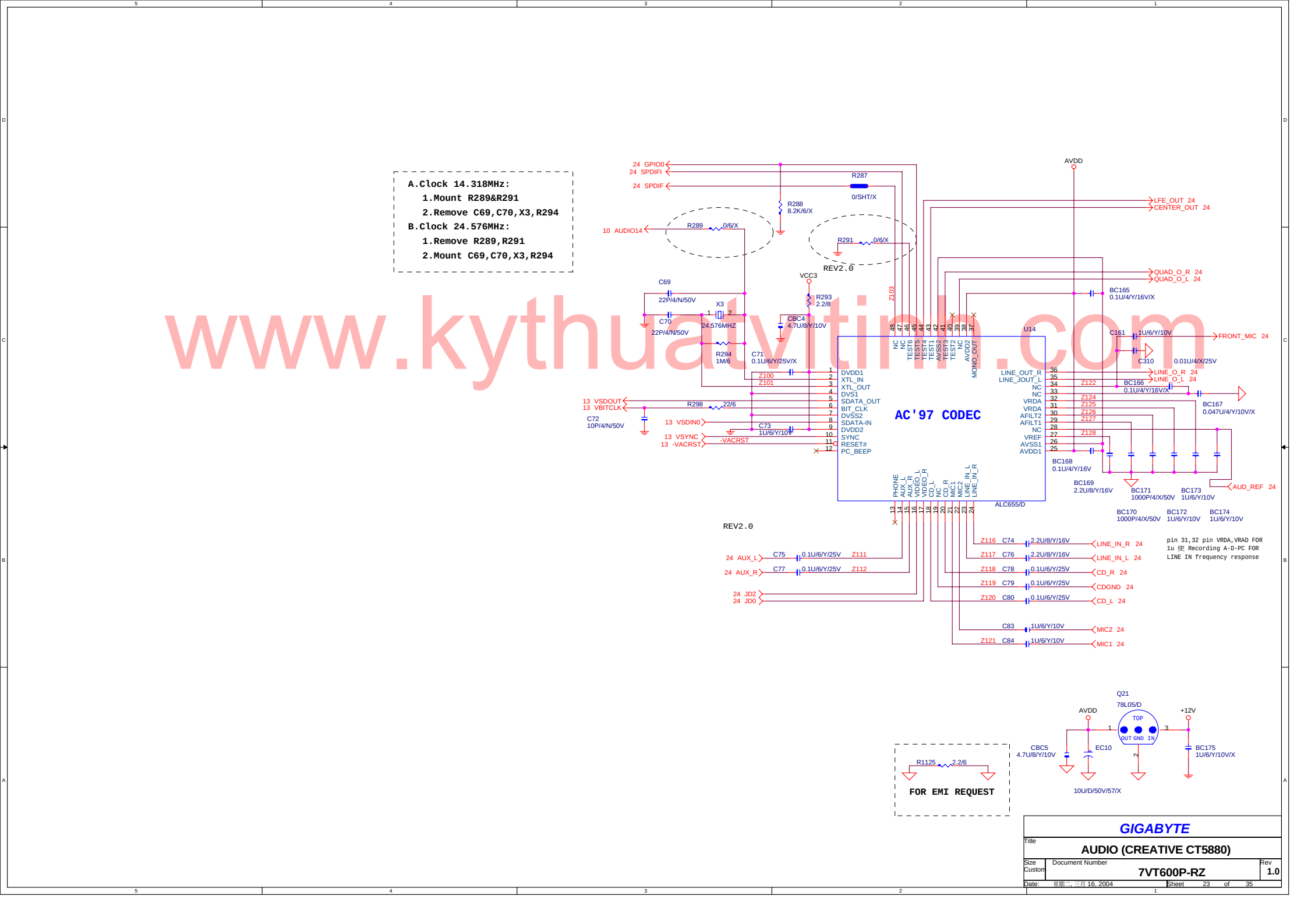
GIGABYTE

Title: Flash ROM

Size: Custom | Document Number: 7VT600P-RZ | Rev: 1.0

Date: 星期二, 三月 16, 2004 | Sheet 21 of 35





## SPDIF

VCC
SPDIF_IO
23 SPDIF
SPDIFI 23
H2X3/-2/BLACK

## LINE OUT

SUR_OUTR
FLOR
23 QUAD_O_R
CBC6 2.2U/8/Y/16V
CBC7 10U/8/Y/10V
EC12 100U/D/10V/57/X
23 LINE_O_R
R305 22/6
R306 0/6/X LNR
EC13 100U/D/10V/57/X
23 LINE_O_L
R307 22/6
R308 0/6/X LNL
CBC8 10U/8/Y/10V
23 QUAD_O_L
CBC9 2.2U/8/Y/16V
SUR_OUTL
FLOL
23 JD0
CR1 8.2K/6
CBC1 4.7U/8/Y/10V
AUDIOB
B5
B4
B3
B2
3RJ+15F/[11NR6-403004-11]
R1132 22K/6
R1133 22K/6
C86 180P/4/N/50V
C87 180P/4/N/50V

## INTEL FRONT AUDIO

REV2.0

C165 180P/6/N/50V
23 FRONT_MIC
R966 0/6/SHT/X
F_AUDIO
AVDD
R313 8.2K/6
BC183 0.1U/6/Y/25V/X
FLOR
FLOL
LNR
LNL
JP2X5/8/H
BC182 1K/6

FLOR C90 180P/6/X/50V/X
FLOL C91 180P/6/X/50V/X
FOR EMI

F_AUDIO_S1
JU1x2/G/[5-6]/11NH1-000102-16BLACK
F_AUDIO_S2
JU1x2/G/[9-10]/11NH1-000102-16BLACK

## LINE-IN

23 JD2
CR2 8.2K/6
CBC2 4.7U/8/Y/10V
AUDIOC
C5
C4
C3
C2
23 LINE_IN_R
R311 0/6/SHT/X
23 LINE_IN_L
R312 0/6/SHT/X
3RJ+15F/[11NR6-403004-11]
R314 22K/6
R315 22K/6
C88 180P/4/N/50V
C89 180P/4/N/50V

## CENTER & SURROUND

SUR_OUTL
SUR_CEN
SUR_OUTR
PIN 4 NOT DRILL
23 CENTER_OUT
LFE_OUT 23
C95 1U/6/Y/10V
H2*3/-4
C96 1U/6/Y/10V

## MIC

23 GPIO0
CR5 8.2K/6
CBC3 4.7U/8/Y/10V
23 AUD_REF
AUD_REF
C94 0.1U/6/Y/25V
R319 2.2K/6
23 MIC2
23 MIC1
AUDIOA
A5
A4
A3
A2
A1
MH1
C97 1000P/4/X/50V
C93 180P/4/N/50V
R1135 22K/6
R1137 8.2K/6/X
C149 180P/4/N/50V/X
3RJ+15F/[11NR6-403004-11]

## AUX IN

AUX_IN
23 AUX_L
23 AUX_R
C98 1000P/4/X/50V/X
C99 1000P/4/X/50V/X
WF1x4/W

## CD IN

CD_IN
23 CD_L
23 CD_R
23 CDGND
C100
C101
C102
WF1x4/B
1000P/4/X/50V/X
1000P/4/X/50V/X
1000P/4/X/50V/X

## FOR ITE GAME PORT

GAMEVCC
R451 4.7K/6/X
R452 4.7K/6
RN127 4.7K/8P4R
BC243 0.1U/4/Y/16V
20 VGPSA1
20 VGPSB1
20 VGPX1
20 VGPX2
20 VMSO
20 VGPY2
20 VGPY1
20 VGPSB2
20 VGPSA2
20 VMSI
RN128D 2.2K/8P4R
RN128C 2.2K/8P4R
R453 470/6
RN128B 2.2K/8P4R
RN128A 2.2K/8P4R
R454 470/6
VGPSA1
VGPSB1
GP_X1
GP_X2
MS_0
GP_Y2
GP_Y1
VGPSB2
VGPSA2
MS_I
0705 modify
C150 0.01U/4/X/25V
C151 0.01U/4/X/25V
C152 100P/4/N/50V/X
C153 0.01U/4/X/25V
C154 0.01U/4/X/25V
C155 100P/4/N/50V/X
C156 1000P/4/X/50V
C157 1000P/4/X/50V
CN33
100P/8P4C/X
CN34
1000P/8P4C

GAMEVCC
GAME
VCC
GND
VCC
GPY2
GPSA1
GPY1
GPSB1
GPSB2
GPX1
GPSA2
GPX2
MSI
GND
VCC
MSO
KEY
GP_X1
VGPSA2
GP_X2
MS_I
GAMEVCC
MS_0
GP_Y2
VGPSA1
GP_Y1
VGPSB1
VGPSB2
H2X8 PIN - 16
GC2 0.1U/6/Y/25V
GC3 0.1U/6/Y/25V
GC4 0.1U/6/Y/25V

Rev1.0 change to short pad
R1126
0/6/SHT/X
FOR EMI REQUEST

GIGABYTE

| | |
|---|---|
| Title | AUDIO OUTPUT,GAME PORT |
| Size: Custom | Document Number: 7VT600P-RZ |
| Rev | 1.0 |
| Date: | 星期二, 三月 16, 2004 |
| Sheet | 24 of 35 |

全部上 FOR VT6103L
全不上 FOR VT6122

LR6(6.49K/6/1) FOR VT6103L
LR19 (2.26K/6/1) FOR VT6122

LR9-LR12(49.9/6/1) FOR VT6103L
LR9-LR12(47.5/6/1) FOR VT6122

VT6103L:LC1,LC2=18PF
VT6122 :LC1,LC2=33PF

上6103L，不上CAP

VDDC(3VDUAL) FOR VT6103L
VDDC(1.5V) FOR VT6122

上6103L，只上3CAP

| | 6122(1G) | 6103L(10/100M) |
|---|---|---|
| VDDC | 8PIN | 3PIN |
| 3VDUAL | 10PIN | NA |
| VDDTXRX | 6PIN | 4PIN |

YELLOW (ACT_LED-) ORANGE (+,-) (VDD) GREEN (-,+) (100M_LED-)

LR19(NA) FOR VT6122
LR19=0,LBC20=0.1U for VT6103L

Spacing : at least 50 mils between each differential pair

USB_LAN

LBC24 FOR VT6103L
LR21 FOR VT6122

FOR 1G:P35-152-19W9
FOR 100M:P35-152-11Z9

LR20(0/6) FOR VT6103L
LR20(NA) FOR VT6122

FOR EMI

LAN EEPROM

93C46/SO8/X

EC要靠近USB_PORT的FUSEVCC

RN & COIL CO-LAYOUT

RN119 0/8P4R/SHT/X

L12 OD6560T/X

| | |
|---|---|
| Title | VIA6103L/VT6122 |
| Size | Custom |
| Document Number | 7VT600P-RZ |
| Rev | 1.0 |
| Date: | 星期二, 三月 16, 2004 |
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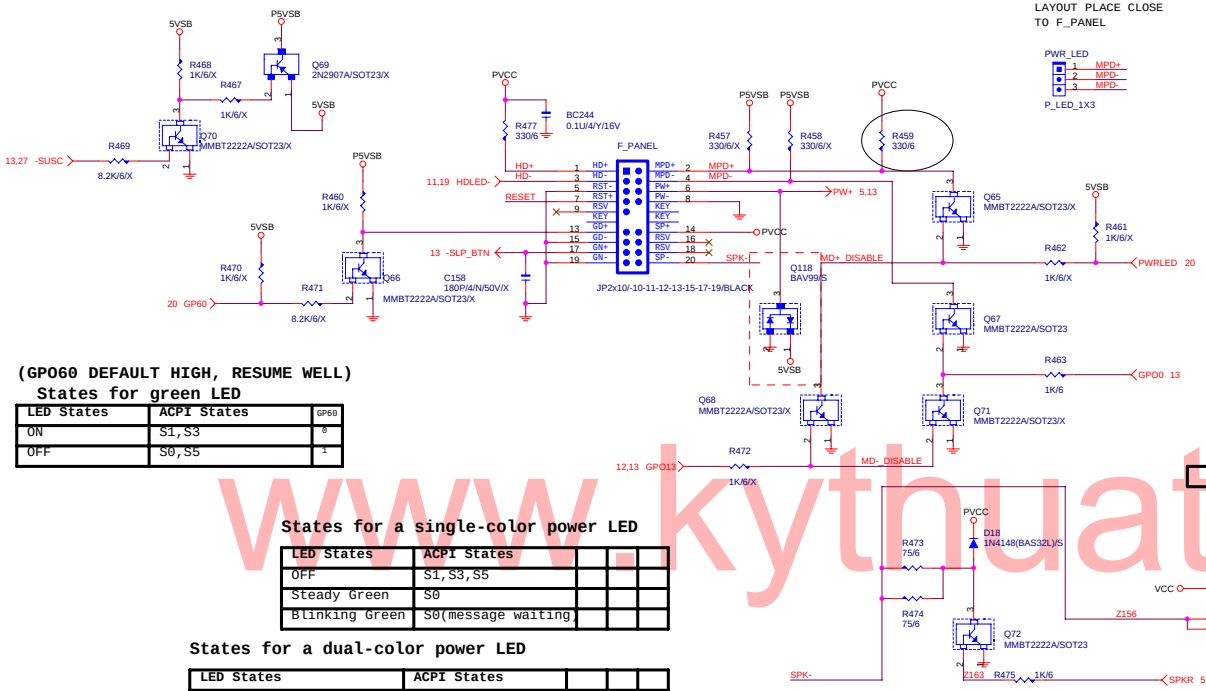



(GPO60 DEFAULT HIGH, RESUME WELL)

States for green LED

| LED States | ACPI States | GP60 |
|---|---|---|
| ON | S1,S3 | 0 |
| OFF | S0,S5 | 1 |

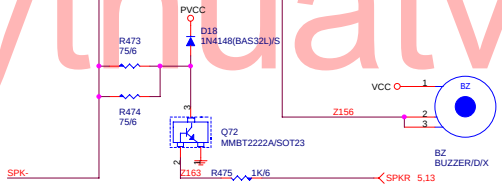
States for a single-color power LED

| LED States | ACPI States | | | |
|---|---|---|---|---|
| OFF | S1,S3,S5 | | | |
| Steady Green | S0 | | | |
| Blinking Green | S0(message waiting) | | | |

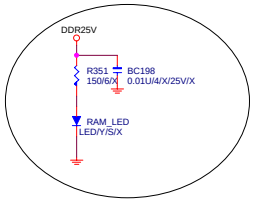
States for a dual-color power LED

| LED States | ACPI States | | | |
|---|---|---|---|---|
| OFF | S5 | | | |
| Steady Green | S0 | | | |
| Blinking Green | S0(message waiting) | | | |
| Steady Yellow | S1,S3 | | | |
| Blinking Yellow | S1,S3(message waiting) | | | |

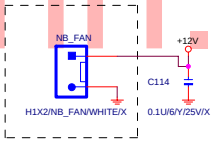
**BUZZER**




**DIMM LED CONN**

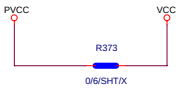



**NB HEAT SINK FAN**



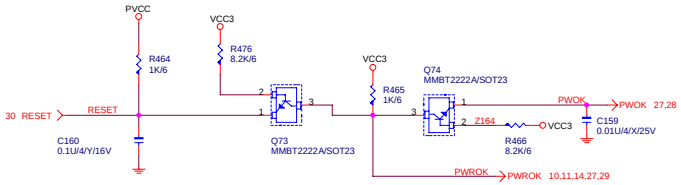

**PVCC 在VCC PLANE 切割互連**

NOTE:ALLEGRO use NET connect.

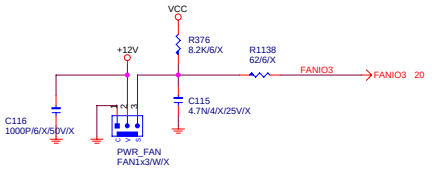



Note 115

**RESET**

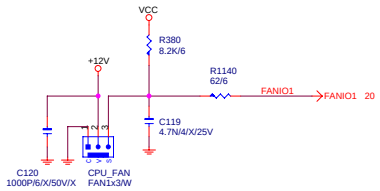



Connect to 8233 GPO pin



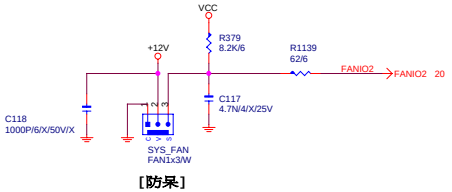

[防呆]

**CPU FAN**




[防呆]

**SYSTEM FAN** W=0.167W




[防呆]

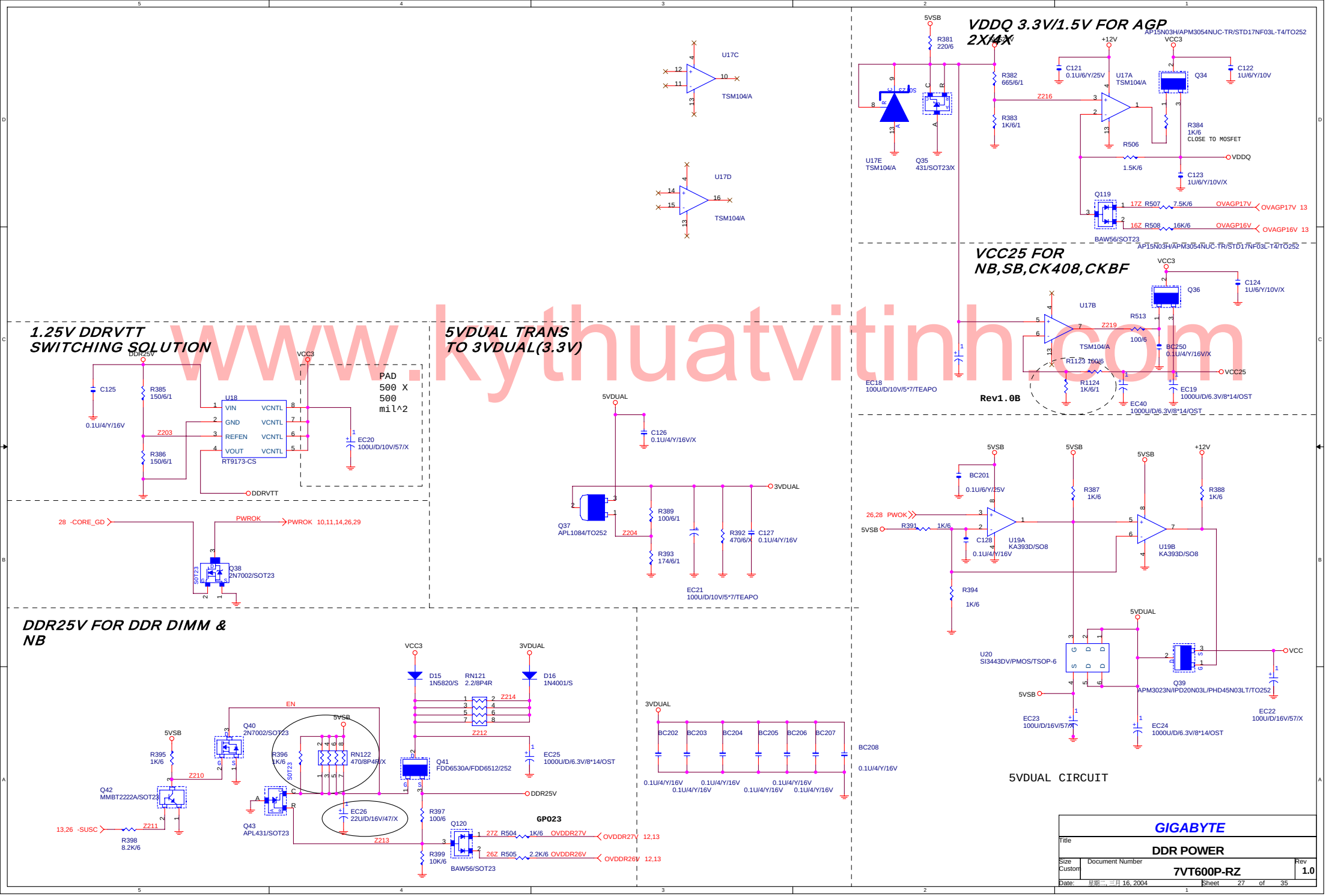


GIGABYTE

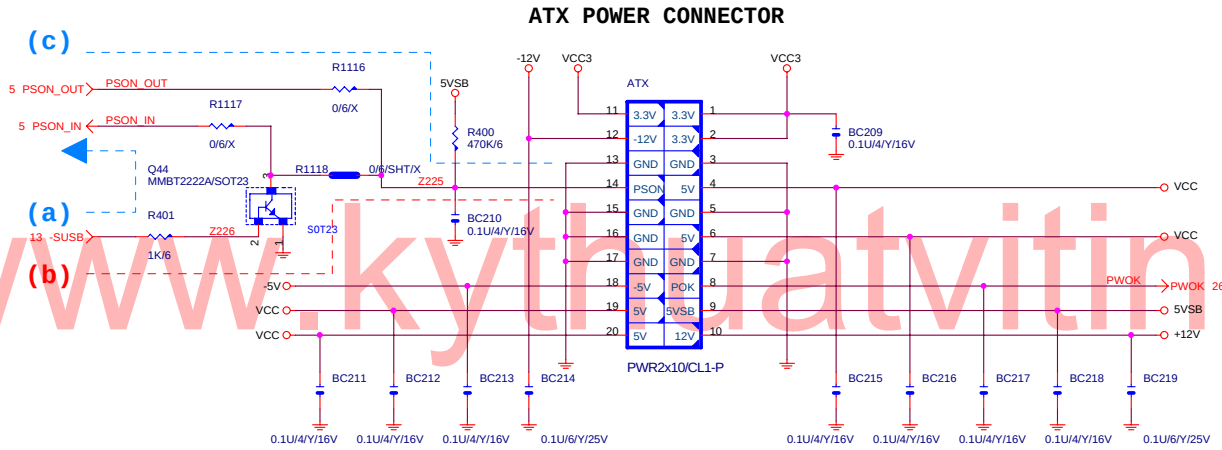
Title: PANEL, STR LED & FANS

Size: Custom | Document Number: 7VT600P-RZ | Rev: 1.0

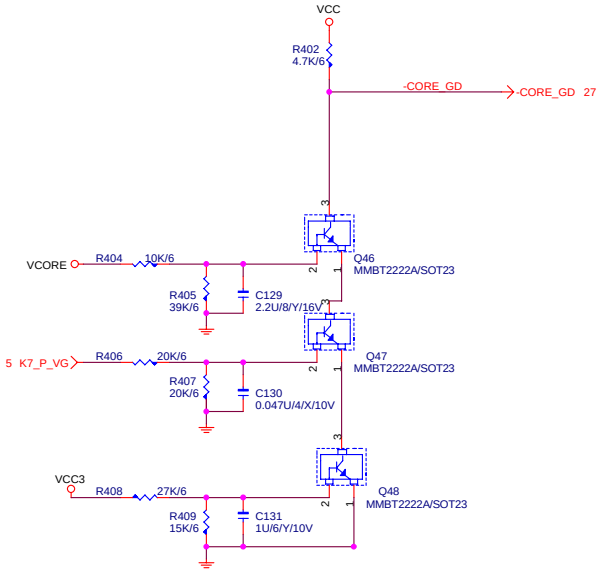
Date: 星期二, 三月 16, 2004 | Sheet 26 of 35

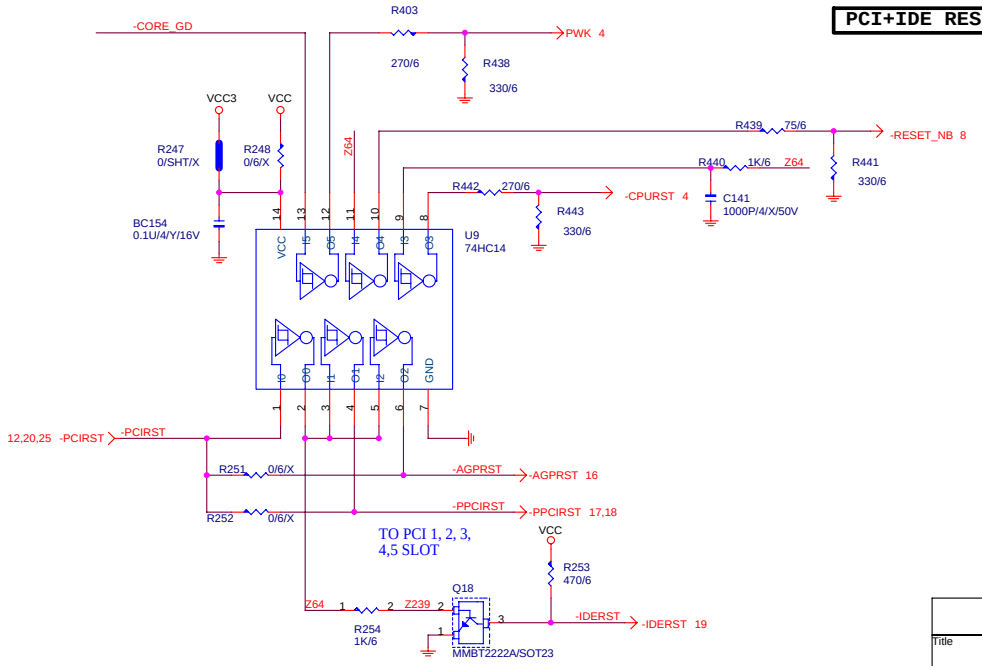


# ATX CONN, DC POWER

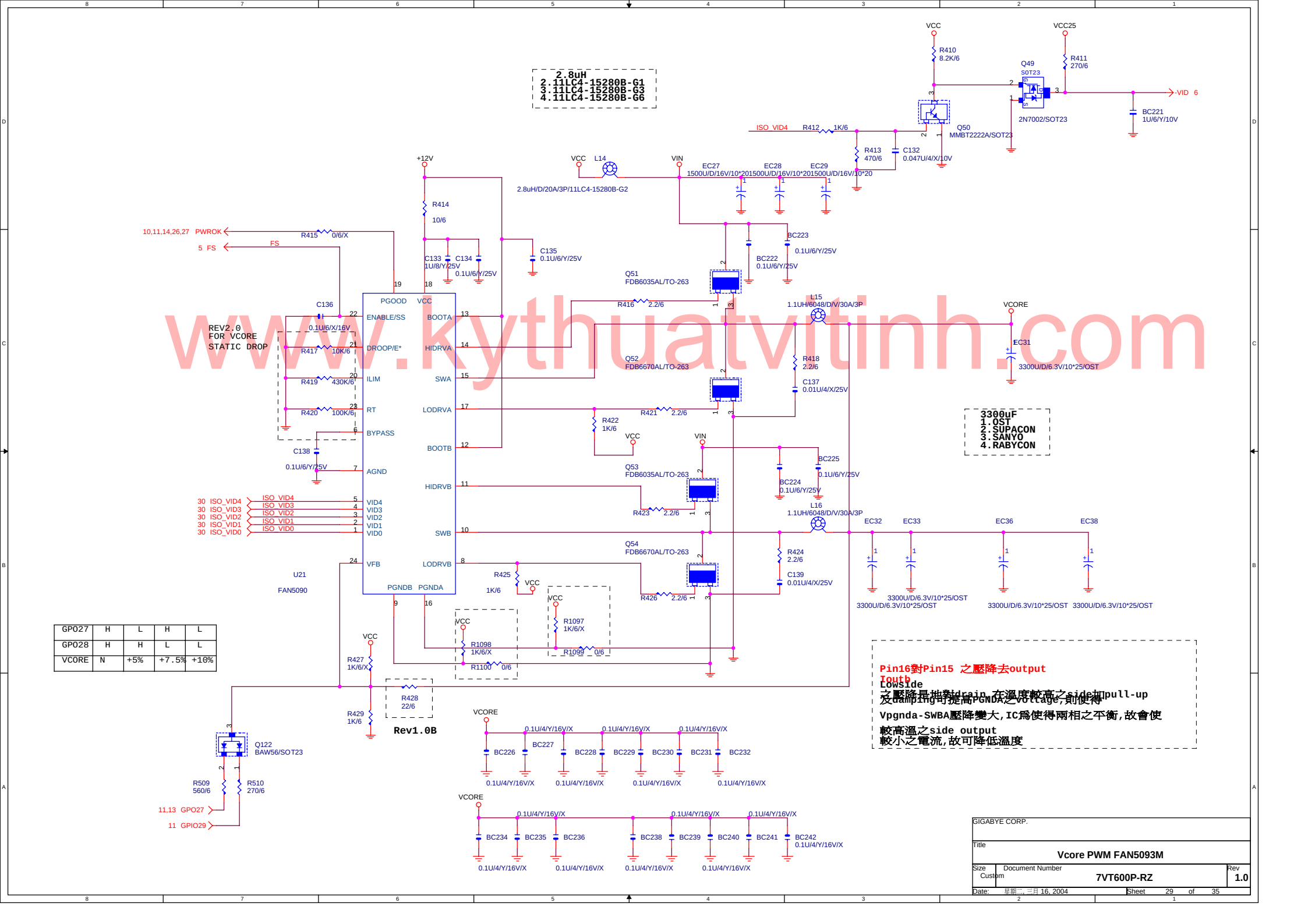




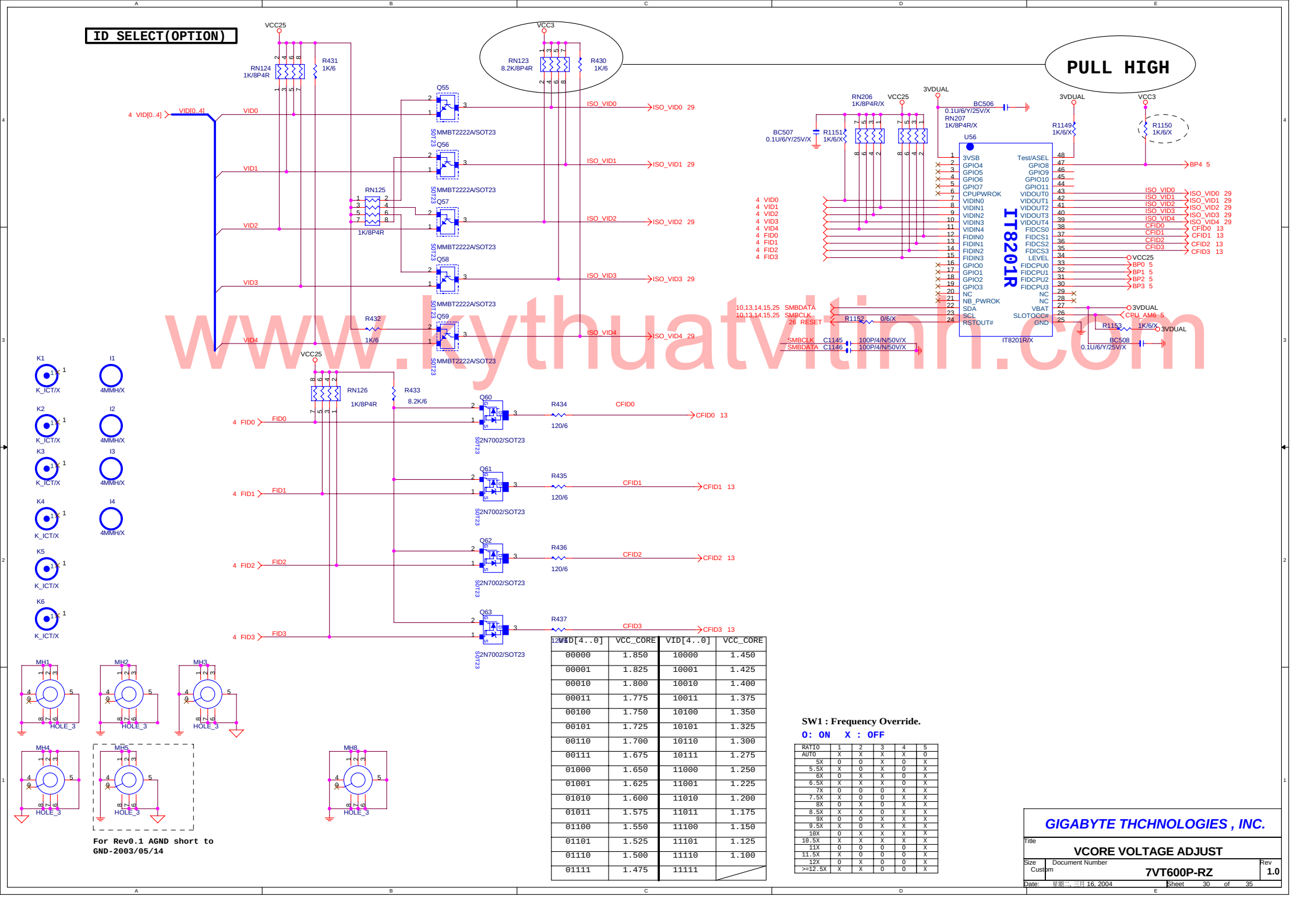




| | | |
|---|---|---|
| GIGABYTE | | |
| Title | ATX, DC POWER | |
| Size: Custom | Document Number: 7VT600P-RZ | Rev: 1.0 |
| Date: 星期二, 三月 16, 2004 | Sheet 28 of 35 | |




| | | | | |
|---|---|---|---|---|
| GPO27 | H | L | H | L |
| GPO28 | H | H | L | L |
| VCORE | N | +5% | +7.5% | +10% |




| VID[4..0] | VCC_CORE | VID[4..0] | VCC_CORE |
|---|---|---|---|
| 00000 | 1.850 | 10000 | 1.450 |
| 00001 | 1.825 | 10001 | 1.425 |
| 00010 | 1.800 | 10010 | 1.400 |
| 00011 | 1.775 | 10011 | 1.375 |
| 00100 | 1.750 | 10100 | 1.350 |
| 00101 | 1.725 | 10101 | 1.325 |
| 00110 | 1.700 | 10110 | 1.300 |
| 00111 | 1.675 | 10111 | 1.275 |
| 01000 | 1.650 | 11000 | 1.250 |
| 01001 | 1.625 | 11001 | 1.225 |
| 01010 | 1.600 | 11010 | 1.200 |
| 01011 | 1.575 | 11011 | 1.175 |
| 01100 | 1.550 | 11100 | 1.150 |
| 01101 | 1.525 | 11101 | 1.125 |
| 01110 | 1.500 | 11110 | 1.100 |
| 01111 | 1.475 | 11111 | |

**SW1 : Frequency Override.**

**O: ON X : OFF**

| RATIO | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| AUTO | X | X | X | X | O |
| 5X | O | O | X | O | X |
| 5.5X | X | O | X | O | X |
| 6X | O | X | X | O | X |
| 6.5X | X | X | X | O | X |
| 7X | O | O | O | X | X |
| 7.5X | X | O | O | X | X |
| 8X | O | X | O | X | X |
| 8.5X | X | X | O | X | X |
| 9X | O | O | X | X | X |
| 9.5X | X | O | X | X | X |
| 10X | O | X | X | X | X |
| 10.5X | X | X | X | X | X |
| 11X | O | O | O | O | X |
| 11.5X | X | O | O | O | X |
| 12X | O | X | O | O | X |
| >=12.5X | X | X | O | O | X |



GIGABYTE THCHNOLOGIES , INC.

Title: VCORE VOLTAGE ADJUST

Size: Custom | Document Number: 7VT600P-RZ | Rev: 1.0

Date: 星期二, 三月 16, 2004 | Sheet 30 of 35

# VIA 8233 GPIO Implementation

| Pin Number | Pin Name | Power Well | Power On Default | Pin Type | Mux Pin | GPIO Application |
|---|---|---|---|---|---|---|
| S/B --- Y2 | GPI0 | RTC | | Input | N/A | Reserved (P.U) |
| S/B --- U1 | GPI1 | RESUME | | Input | N/A | 1st ATA66 Detect |
| S/B --- T1 | GPI2 | RESUME | | Input | EXTSMI# | Green Button |
| S/B --- N4 | GPI3 | RESUME | | Input | RING# | WOR / WOL |
| S/B --- P4 | GPI4 | RESUME | | Input | LID# | 2nd ATA66 Detect |
| S/B --- R1 | GPI5 | RESUME | | Input | BATLOW# | Reserved (P.U) |
| S/B --- P2 | GPI6 | RESUME | | Input | PCIPME# | PME Wakeup |
| S/B --- U2 | GPI7 | RESUME | | Input | SMBALT# | Reserved (P.U) |
| S/B --- B7 | GPIO10 | MAIN | | BI-Dir | IPBRDFR | System Config ID1 |
| S/B --- A9 | GPIO11 | MAIN | | BI-Dir | GPI11 | System Config ID2 |
| S/B --- C9 | GPIO12 | MAIN | | BI-Dir | IPBOUT0 | Reserved (P.U) |
| S/B --- B9 | GPIO13 | MAIN | | BI-Dir | IPBOUT1 | Reserved (P.U) |
| S/B --- A8 | GPIO14 | MAIN | | BI-Dir | IBPTDFR | System Config ID3 |
| S/B --- B8 | GPIO15 | MAIN | | BI-Dir | IPBTDCK | System Config ID4 |
| S/B --- W3 | GPI16 | RTC | | Input | INTRUDER# | Case Intrution |
| S/B --- P3 | GPI17 | MAIN | | Input | CPUMISS | Reserved (P.U) |
| S/B --- R2 | GPI18 | MAIN | | Input | THERMAL# | Reserved (P.U) |
| S/B --- P8 | GPI19 | MAIN | | Input | IORDY# | Pri/Sec CNR Detect |
| S/B --- M1 | GPIO20 | MAIN | Hi-Z | OD | GPO20 | OVAGP16V (P.U) |
| S/B --- L3 | GPIO21 | MAIN | Hi-Z | OD | GPO21 | OVAGP17V (P.U) |
| S/B --- P9 | GPIO22 | MAIN | Hi-Z | OD | GPO22 | OVDDR26V (P.U) |
| S/B --- T7 | GPIO23 | MAIN | Hi-Z | OD | GPO23 | OVDDR27V (P.U) |
| S/B --- V4 | GPIO24 | MAIN | Hi-Z | OD/TTL | GPIOA | Reserved (P.U) |
| S/B --- T6 | GPIO25 | MAIN | Hi-Z | OD/TTL | GPIOC | Reserved (P.U) |
| S/B --- W5 | GPIO30 | MAIN | Hi-Z | OD/TTL | GPIOD | Reserved (P.U) |
| S/B --- U6 | GPIO31 | MAIN | Hi-Z | OD/TTL | GPIOE | Reserved (P.U) |

| Pin Number | Pin Name | Power Well | Power On Default | Pin Type | Mux Pin | GPIO Application |
|---|---|---|---|---|---|---|
| S/B --- P4 | GPO0 | RESUME | Hi | OD | N/A | BIOS Write Protect |
| S/B --- U3 | GPO1 | RESUME | | Output | SUSA# | Reserved (P.U) |
| S/B --- W2 | GPO2 | RESUME | | Output | SUSB# | Sleep S3# |
| S/B --- P1 | GPO3 | RESUME | | Output | SUSSAT# | Suspend State N/B |
| S/B --- P3 | GPO4 | RESUME | | Output | SUSCLK | Reserved (P.U) |
| S/B --- Y5 | GPO5 | MAIN | | Output | CPUSTP# | Reserved |
| S/B --- V6 | GPO6 | MAIN | | Output | PCISTP# | Reserved |
| S/B --- K19 | GPO7 | MAIN | | Output | CPUSLP# | CPU Sleep P4 |
| S/B --- A7 | GPIO8 | MAIN | | BI-Dir | IPBIN0 | SCR & FDD2 Sel |
| S/B --- C8 | GPIO9 | MAIN | | BI-Dir | IPBIN1 | FM3570 VID Sel |
| S/B --- W9 | GPIO16 | MAIN | | BI-Dir | ROM SA16 | Strap P4 BSEL0 |
| S/B --- Y9 | GPIO17 | MAIN | | BI-Dir | ROM SA17 | Strap P4 BSEL1 |
| S/B --- U8 | GPIO18 | MAIN | | Output | ROM SA18 | ROM Address 18 |
| S/B --- R10 | GPIO19 | MAIN | | Output | ROM SA19 | ROM Address 19 |
| S/B --- V1 | GPIO26 | RESUME | Hi-Z | OD | SMBDAT2 | Slave SMBDATA |
| S/B --- V2 | GPIO27 | RESUME | Hi-Z | OD | SMBCLK2 | Slave SMBCLK |
| S/B --- M17 | GPIO28 | MAIN | Hi-Z | OD | APICD0 | APICIO Data0 |
| S/B --- N17 | GPIO29 | MAIN | Hi-Z | OD | APICD1 | APICIO Data1 |



GIGABYTE

Title: GPIO TABLE

Size: Custom | Document Number: 7VT600P-RZ | Rev: 1.0

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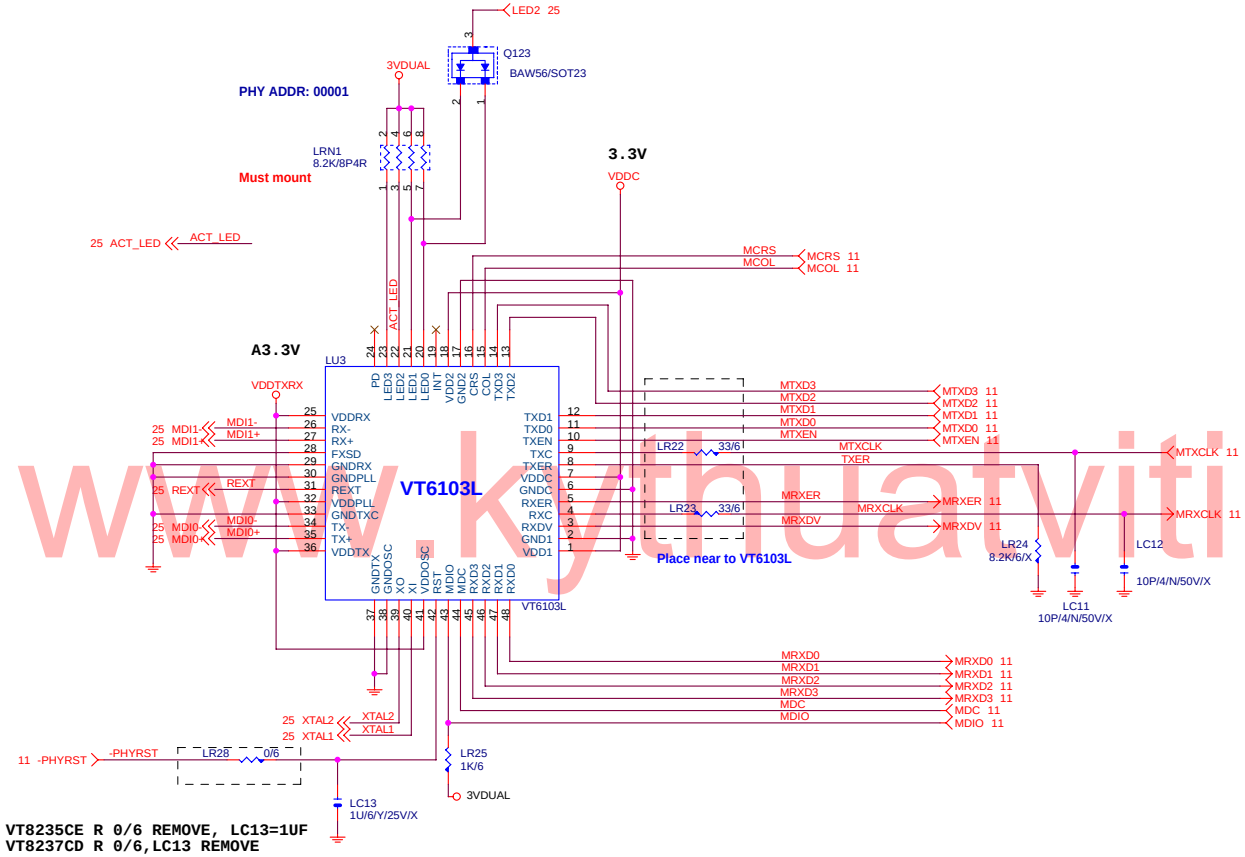


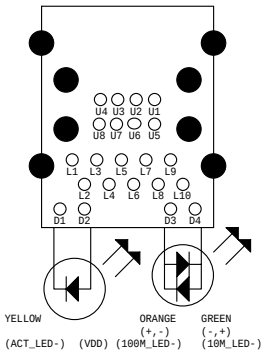


**FOR 6103L(10/100)**

| | LINK_LED | | ACT_LED |
|---|---|---|---|
| | LED0 | LED1 | LED2 |
| 10M | (G) HIGH | LOW | (Y) BLINKING |
| 100M | (G) LOW | HIGH | (Y) BLINKING |

**FOR 6122(10/100/1000)**

| | ACT_LED | LINK_LED | |
|---|---|---|---|
| | LED0 | LED1 | LED2 |
| 10M | (Y) BLINK | ( ) HIGH | HIGH |
| 100M | (Y) BLINK | (G) HIGH | LOW |
| 1000M | (Y) BLINK | (O) LOW | HIGH |

| | | |
|---|---|---|
| GIGABYTE | | |
| Title: VT6103L | | |
| Size: Custom | Document Number: 7VT600P-RZ | Rev: 1.0 |
| Date: 星期二, 三月 16, 2004 | Sheet 32 of 35 | |

| Power Nets | Current Consumption | Trace Width | Devive Load |
|---|---|---|---|
| +12V | 12Amp | 480 mils | ATX_12 to L5 |
| Vin | 12Amp | 480 mils | L5 to Q40, Q42, Q45 pin2 |
| VCC3 | 15Amp | Power Plane | |
| VCC | 8Amp | Power Plane | |
| 5VSB | 1Amp | 40 mils | |
| 5VDUAL | 3Amp | 80 mils | |
| 3VDUAL | 1.5Amp | 60 mils | |
| DDRVTT | 5Amp | 150 mils | |
| DDR25V | 7Amp | Power Plane | |
| AVDD | 0.5mA | 20 mils above | |
| FUSEVCC | 3Amp | 80 mils | |
| GAMEVCC | 0.5Amp | 20 mils above | |
| VCC25 | 3Amp | Power Plane | |
| VDDQ | 5Amp | Power Plane | |
| VCCVID | 100mA | 20 mils above | |
| VCORE | 60Amp | Power Plane | |
| PVCC | 500mA | 30 mils above | |
| VDD33 | TBD | 20 mils above | |
| AVDD33 | TBD | 20 mils above | |
| VDD25 | TBD | 20 mils above | |
| AVDD25 | TBD | 20 mils above | |
| VBAT | TBD | 20 mils above | |
| RTCVDD | TBD | 20 mils above | |
| BATVDD | TBD | 20 mils above | |
| AVDD1/2/3 | TBD | 20 mils above | |
| VCCA | TBD | 20 mils above | |
| VCOREPLL | TBD | 20 mils above | |
| VCC25_CLK_1 | 600mA | 30 mils above | |
| VCC3_CLK | 600mA | 30 mils above | |
| VCC25_CLK | 300mA | 30 mils above | |

| Power Nets | Current Consumption | Trace Width | Devive Load |
|---|---|---|---|
| Z20 | TBD | 20 mils | S/B USBVCC |
| Z102 | 500 mA | 20 mils | Codec digital |
| Z81 | TBD | 20 mils | Flash ROM VCC |
| VCC_D19 | TBD | 20 mils | LPT pull up |
| -12V | TBD | 40 mils | Add on slot & COM port |
| -5V | TBD | 40 mils | Add on slot & 4 channel |
| Z162 | 800mA | 30 mils | Fan 12V |
| Z169 | 800mA | 30 mils | Fan 12V |
| Z172 | 800mA | 30 mils | Fan 12V |
| Z212 | 5Amp | 200 mils | For DDR25V 3.3V input |
| EN | TBD | 20 mils | DDR25V & TL431 |
| Z205 | TBD | 80 mils above | For 3VDUAL |
| Z156 | TBD | 20 mils | BZ cathode pin |
| Z214 | 1Amp | 60 mils | For DDR25 3VDUAL input |
| TDC | TBD | 20 mils | Transfomer VCC |
| Z68 | 1Amp | 40 mils | FuseVcc standby input |
| Z69 | 3Amp | 80 mils | For FuseVcc |
| Z70 | 3Amp | 80 mils | For FuseVcc |
| VSSA | TBD | 20 mils above | For CPU PLL |



GIGABYTE

Title: POWER TRACE

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1.CPU: PICCLK0,PWK,-CPURST,CLKFWDRST,CONNECT,PROCRDY,-SDATA0,63 (ADD--- GND--- BYSIDE)
**PIN AN17,AL17(CPUCLK+-)**

2.KT266: -SDATA0,63,S2K_VREF,AVDD1,VCC25*4,VCORE*4 (ADD--- GND--- BYSIDE)

,AVDD2,AVDD3,MD0,MD63DCLKI,MVREF_NB
VLAD0,7VDDQ*4,AVDD4,GD0,31,VLREF_NB
AGPVREF,GCLKNB,-PWROK_NB,-RESET_NB,SUS25V
-GFRAME,-GIRDY,-GTRDT,-GREQ,-GGNT,-PIPE,,-GSTOP

**3.VT8233:** LAD0-3,-LDRQ.-LFRAME,VCC25*3,VCC3*3,3VDUAL,VDDPLL
PICCLK1,-PICD0,1,SERIRQ,SPKR,SIO_OSC,VLREF_NB,BATVDD
PCICLK_F,-PCIRST,VBITCLK,-PWROK_NB,PWROK,-RSMRST,PDD0,15,SDD0,15
-FRAME,-IRDY,-TRDY,-DEVSEL

(ADD--- GND--- BYSIDE)

4.DDR SDRAM: (ADD--- GND--- BYSIDE)
DDR1:-SWEA,-SCASA,-SRASA,CKOUT0,-CKOUT0,CKOUT1,-CKOUT1,CKOUT2,-CKOUT2
-DQSD0,1,2,3,4,5,6,7,8
-RESET_DDR,
DDR2:-SWEB,-SCASB,-SRASB,CKOUT3,-CKOUT3,CKOUT4,-CKOUT4,CKOUT5,-CKOUT5
-DQSD0,1,2,3,4,5,6,7,8
-RESET_DDR,
DDR3:-SWEB,-SCASB,-SRASB,CKOUT6,-CKOUT6,CKOUT7,-CKOUT7,CKOUT8,-CKOUT8
-DQSD0,1,2,3,4,5,6,7,8
-RESET_DDR,

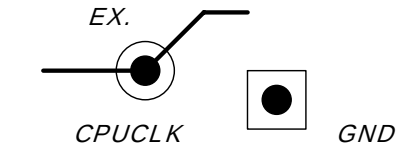
5.AGP: AGPCLK,-PCIRST,SB_STB,-SB_STB,AD_STB1,-AD_STB1,AD_STB0,-AD_STB0 (ADD--- GND--- BYSIDE)
-GIRDY,-GFRAME,-GTRDY,-GSTOP,-GDEVSEL,-GREQ,-GGNT,-PIPE,AGPREF,VREF_CG

6.PCI:PCICLK0,1,2,3,4 (ANY PCI SLOT INCLUDED ) (ADD--- GND--- BYSIDE)
-FRAME,-TRDY,-IRDY,-DEVSEL,-PPCIRST

7.GAL(U5,U6,U25): GALPCLK,-PCIRST (ADD--- GND--- BYSIDE)

8.IDE: -PD_IOW,-PD_IOR,P_IORDY,-SD_IOW,-SD_IOR,S_IORDY (ADD--- GND--- BYSIDE)

9.CLOCK: KT266,8233
HCLK,-HCLK,AGPCLK,PCICLKA,PCICLKL,LPC33,AUDIO14,USBCLK,LPC24




不要刻意打VIA接TEST
PIN,盡可能找順方向之TRACE擺置



| | | |
|---|---|---|
| GIGABYTE | | |
| Title: VER0.1 TEST POINT NET | | |
| Size: B | Document Number: 7VT600P-RZ | Rev: 1.0 |
| Date: 星期二, 三月 16, 2004 | Sheet 34 of 35 | |

## 1.CLEAR CMOS JUMPER TABLE:

| CLR_CMOS : | |
|---|---|
| 1-2 | Enable |
| 2-3 | Disable (Default) |

## 3.BIOS WRITE PROTECT:

| BIOS_WP | |
|---|---|
| 1-2 | Protect |
| 2-3 | Normal (Default) |

## 2.CLK GEN (ICS) TABLE:

| SW1 | CPU CLOCK | |
|---|---|---|
| | 100MHZ | AUTO |
| 1 | ON | OFF |

## 5.CLK GEN (ICS) TABLE:

### CLOCK FREQUENCY TABLE

| CLK_SW | | | O :ON X:OFF | | | | |
|---|---|---|---|---|---|---|---|
| CPU | AGP | PCI | 5 | 4 | 3 | 2 | 1 |
| 133.3 | 66.6 | 33.3 | X | X | X | X | X |
| 100 | 66.6 | 33.3 | 0 | X | X | X | 0 |
| 166.6 | 66.6 | 33.3 | X | X | X | 0 | X |
| 200 | 66.6 | 33.3 | X | X | X | 0 | 0 |
| 66.6 | 66.6 | 33.3 | 0 | X | 0 | X | X |
| 110 | 66.6 | 33.3 | 0 | X | 0 | X | 0 |
| 120 | 60 | 30 | 0 | X | 0 | 0 | X |
| 140 | 70 | 35 | X | X | 0 | 0 | 0 |
| 150 | 75 | 37.5 | X | 0 | X | X | X |
| 170 | 68 | 34 | X | 0 | X | X | 0 |
| 180 | 72 | 36 | X | 0 | X | 0 | X |
| 190 | 76 | 38 | X | 0 | X | 0 | 0 |
| 200 | 66.6 | 33.3 | X | 0 | 0 | X | X |
| 210 | 70 | 35 | X | 0 | 0 | X | 0 |
| 220 | 73.3 | 36.6 | X | 0 | 0 | 0 | X |
| 233.3 | 66.6 | 33.3 | X | 0 | 0 | 0 | 0 |

**CK_RATIO : Frequency Override.**

**O: ON X : OFF**

| RATIO | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| AUTO | X | X | X | X | 0 |
| 5X | 0 | 0 | X | 0 | X |
| 5.5X | X | 0 | X | 0 | X |
| 6X | 0 | X | X | 0 | X |
| 6.5X | X | X | X | 0 | X |
| 7X | 0 | 0 | 0 | X | X |
| 7.5X | X | 0 | 0 | X | X |
| 8X | 0 | X | 0 | X | X |
| 8.5X | X | X | 0 | X | X |
| 9X | 0 | 0 | X | X | X |
| 9.5X | X | 0 | X | X | X |
| 10X | 0 | X | X | X | X |
| 10.5X | X | X | X | X | X |
| 11X | 0 | 0 | 0 | 0 | X |
| 11.5X | X | 0 | 0 | 0 | X |
| 12X | 0 | X | 0 | 0 | X |
| >=12.5X | X | X | 0 | 0 | X |



| | 5PCI | CT5880 | RAID | RTL8100 | USB 2.0 | USB 2.0 RAID | USB 2.0 CT5880 | USB 2.0 RTL8100 | RAID CT5880 | RAID RTL8100 | CT5880 RTL8100 | USB 2.0 RAID CT5880 | USB 2.0 RAID RTL8100 | USB 2.0 CT5880 RTL8100 | RAID CT5880 RTL8100 | USB 2.0 RAID CT5880 RTL8100 | NOTE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCI1 | -REQ0 (-0REQ) | -REQ0 (-0REQ) | -REQ0 (-0REQ) | -REQ0 (-0REQ) | -REQ0 (-0REQ) | -REQ0 (-0REQ) | -REQ0 (-0REQ) | -REQ0 (-0REQ) | -REQ0 (-0REQ) | -REQ0 (-0REQ) | -REQ0 (-0REQ) | -REQ0 (-0REQ) | -REQ0 (-0REQ) | -REQ0 (-0REQ) | -REQ0 (-0REQ) | -REQ0 (-0REQ) | |
| PCI2 | -REQ1 (-1REQ) | -REQ1 (-1REQ) | -REQ1 (-1REQ) | -REQ1 (-1REQ) | -REQ2 (-1REQ) | -REQ2 (-1REQ) | -REQ2 (-1REQ) | -REQ3 (-1REQ) | -REQ2 (-1REQ) | -REQ1 (-1REQ) | -REQ1 (-1REQ) | -REQ0 (-1REQ) | -REQ0 (-1REQ) | -REQ0 (-1REQ) | -REQ0 (-1REQ) | -REQ0 (-1REQ) | |
| PCI3 | -REQ2 (-2REQ) | -REQ2 (-2REQ) | -REQ2 (-2REQ) | -REQ1 (-2REQ) | -REQ2 (-2REQ) | -REQ2 (-2REQ) | -REQ2 (-2REQ) | -REQ3 (-2REQ) | -REQ2 (-2REQ) | -REQ1 (-2REQ) | -REQ1 (-2REQ) | -REQ2 (-2REQ) | -REQ4 (-2REQ) | -REQ3 (-2REQ) | -REQ1 (-2REQ) | -REQ2 (-2REQ) | |
| PCI4 | -REQ3 (-3REQ) | -REQ3 (-3REQ) | -REQ4 (-3REQ) | -REQ3 (-3REQ) | -REQ3 (-3REQ) | -REQ4 (-3REQ) | -REQ3 (-3REQ) | -REQ4 (-3REQ) | -REQ1 (-3REQ) | -REQ4 (-3REQ) | -REQ3 (-3REQ) | -REQ2 (-3REQ) | -REQ4 (-3REQ) | -REQ3 (-3REQ) | -REQ1 (-3REQ) | -REQ2 (-3REQ) | |
| PCI5 | -REQ4 (-4REQ) | -REQ3 (-4REQ) | -REQ4 (-4REQ) | -REQ4 (-4REQ) | -REQ4 (-4REQ) | -REQ4 (-4REQ) | -REQ3 (-4REQ) | -REQ4 (-4REQ) | -REQ1 (-4REQ) | -REQ4 (-4REQ) | -REQ3 (-4REQ) | -REQ2 (-4REQ) | -REQ4 (-4REQ) | -REQ3 (-4REQ) | -REQ1 (-4REQ) | -REQ2 (-4REQ) | |
| LAN | N/A | N/A | N/A | -REQ2 (-LREQ) | N/A | N/A | N/A | -REQ2 (-LREQ) | N/A | -REQ2 (-LREQ) | -REQ2 (-LREQ) | N/A | -REQ2 (-LREQ) | -REQ2 (-LREQ) | -REQ2 (-LREQ) | -REQ0 (-LREQ) | |
| RAID | N/A | N/A | -REQ3 | N/A | N/A | -REQ3 | N/A | N/A | -REQ3 | -REQ3 | N/A | -REQ3 | -REQ3 | N/A | -REQ3 | -REQ3 | |
| SOUND | N/A | -REQ4 (-AREQ) | N/A | N/A | N/A | N/A | -REQ4 (-AREQ) | N/A | -REQ4 (-AREQ) | N/A | -REQ4 (-AREQ) | -REQ4 (-AREQ) | N/A | -REQ4 (-AREQ) | -REQ4 (-AREQ) | -REQ4 (-AREQ) | 8233A-CE8235 R785 R783 R786 R784 |
| USB 2.0 | N/A | N/A | N/A | N/A | -REQ1 | -REQ1 | -REQ1 | -REQ1 | N/A | N/A | N/A | -REQ1 | -REQ1 | -REQ1 | N/A | -REQ1 | |
| PARTS | R772R776 R773R778 R775R779 R781R777 R782R780 | R772R781 R775R773 R778R779 U35 RN153 | R772R781 R775R776 R778R782 R767U35 R761RN153 | R772R779 R775R777 R773R780 R768U6 R765RN152 R664 | R772R781 R775R773 R778R779 R756U6 R753RN152 R665 | U6 R760 U35 R754 R760 RN153 | U6 R760 U35 R754 RN152 RN153 | U6 R763 U35 R757 R768R765 RN152 RN153 | U6 R760 U35 R754 R764R758 RN152 RN153 | U6 R756 U35 R753 R768R765 RN152 RN153 | U6 R756 U35 R753 R767R761 RN152 RN153 | U5 R759 U25 R770 RN151 | U5 R766 U25 R774 RN151 | U5 R762 U25 R771 RN151 | U5 R755 U25 R769 RN151 | U25 R759 U39 R770 | |

## PCI GAL ROUTING AND PARTS

**GIGABYTE**

Title: **TABLE**

| Size | Document Number | Rev |
|---|---|---|
| Custom | 7VT600P-RZ | 1.0 |

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