

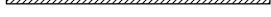




8S651MP-RZ Schematics

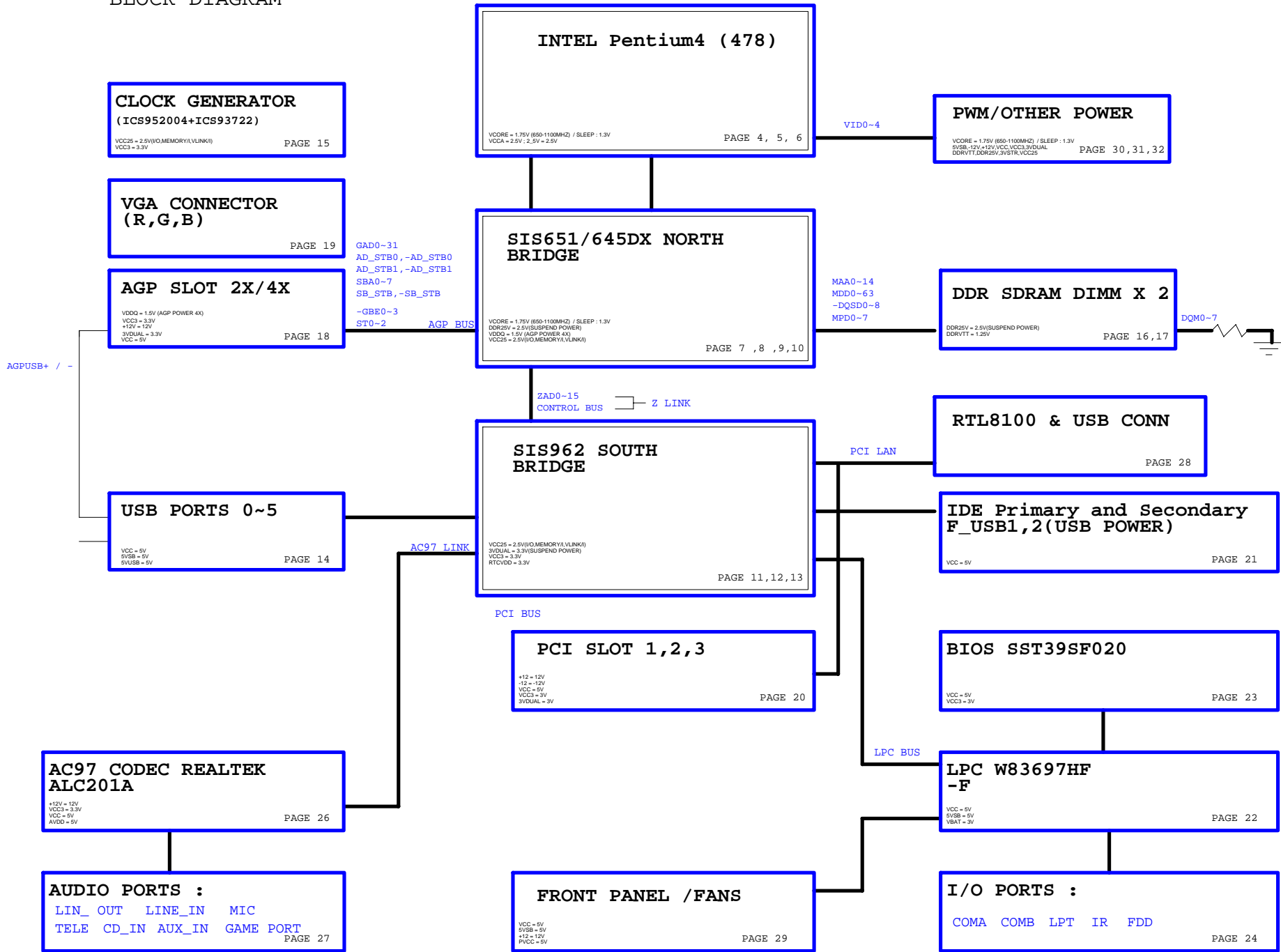
Revision 1.1

Date: 93/07/21

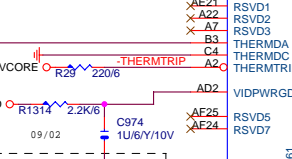
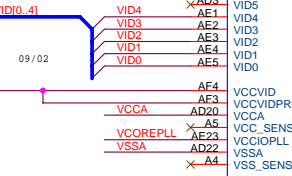
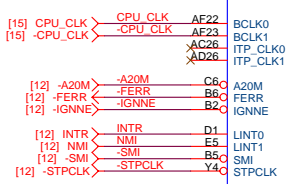
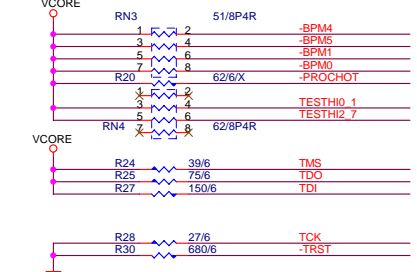
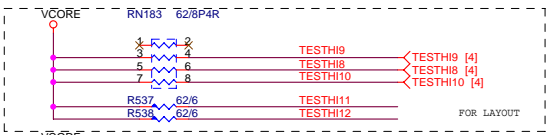
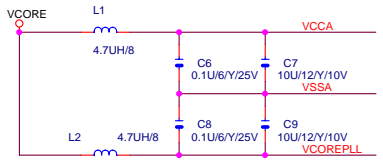
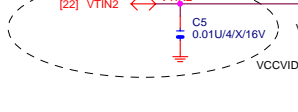
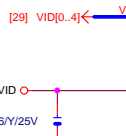
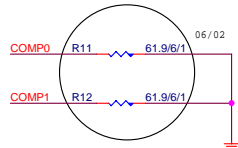
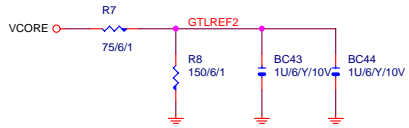
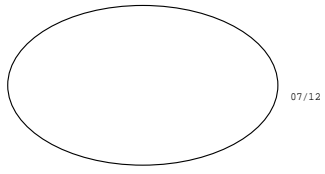
| SHEET | TITLE |
|-------|--|
| 1 | COVER SHEET |
| 2 | BOM & PCB MODIFY HISTORY |
| 3 | BLOCK DIAGRAM |
| 4,5,6 | INTEL CPU_WMT_478 |
| 7-10 | SIS651/645DX (NORTH BRIDGE) HOST; DDR; AGP,HYPER ZIP |
| 11-14 | 962 (SOUTH BIRDGE) |
| 15 | CKG(ICS952004) + CKBF (ICS93722) |
| 16,17 | DDR SDRAM DIMMS 1,2 & DDR TERMINATION |
| 18 | AGP SLOT |
| 19 | VGA Connector |
| 20 | PCI SLOT 1-3 |
| 21 | IDE,USB |
| 22 | Winbond W83697HF |
| 23 | BIOS |
| 24 | COM,PRT,FDD,KB/MS,IR |
| 25 | CNR SLOT |
| 26 | AUDIO AC 97 CODEC |
| 27 | AUDIO JACK,GAME PORT |
| 28 | RTL8100B & USB CONNECTOR |
| 29 | PANEL,STR LED,FANS ,CPU GN |
| 30 | VCORE PHASE PWM HIP 6301 + 6601 |
| 31 | ALL POWER CIRCUIT |
| 32 | ATX & ATX12V CONN |
| 33 | GPIO Connecttion |
| 34 | TEST POINT |

| | |
|---|--------------------------------------|
|  COMPONENT SIDE  GND SIDE  VCC SIDE  SOLDER SIDE  (1 oz. Copper) | |
| GIGABYTE | |
| Title COVER SHEET | |
| Size Custom | Document Number 8S651MP-RZ |
| Date Monday, August 16, 2004 | Sheet 1 of 32 |
| | Rev 1.1 |

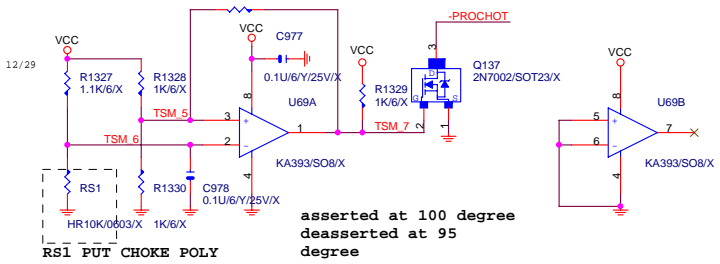
BLOCK DIAGRAM



| | | | |
|-----------------|-------------------------|-------|---------|
| GIAGBYTE | | | |
| Title | BLOCK DIAGRAM | | |
| Size | Document Number | Rev | |
| Custom | 8S651MP-RZ | 1.1 | |
| Date | Monday, August 16, 2004 | Sheet | 3 of 32 |

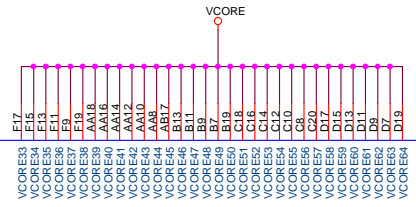


PROCESSOR HOT

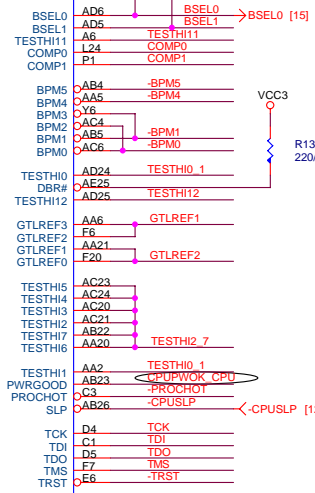
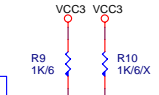
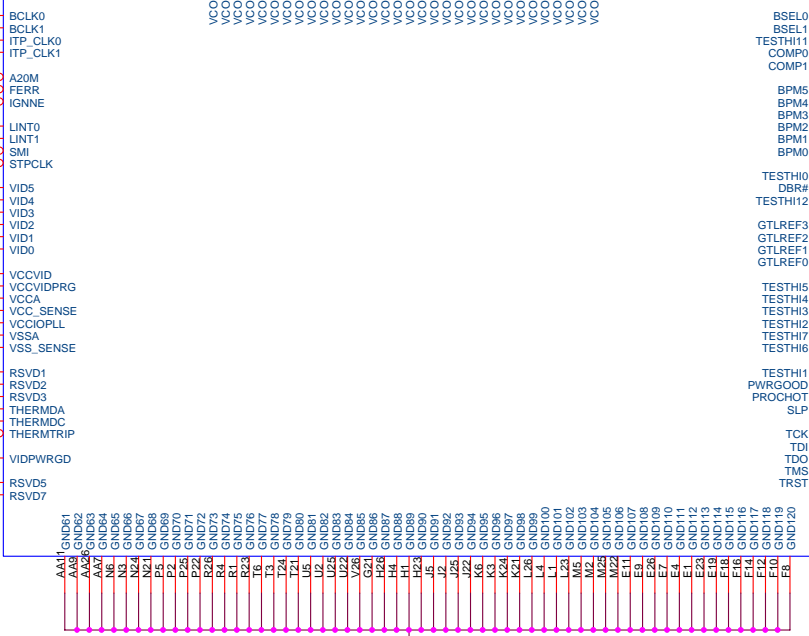


asserted at 100 degree
deasserted at 95 degree

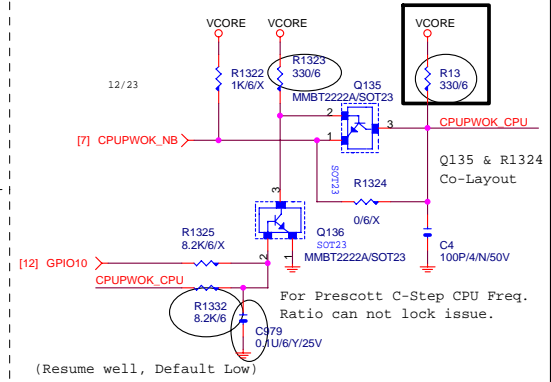
RS1 PUT CHOKE POLY



P4B

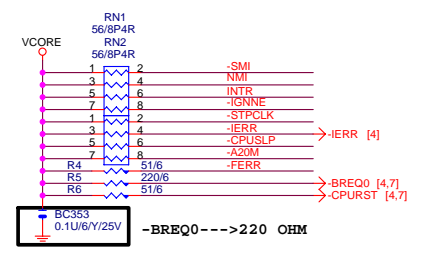


PRESCOTT RATIO



For Prescott C-Step CPU Freq. Ratio can not lock issue.
(Resume well, Default Low)

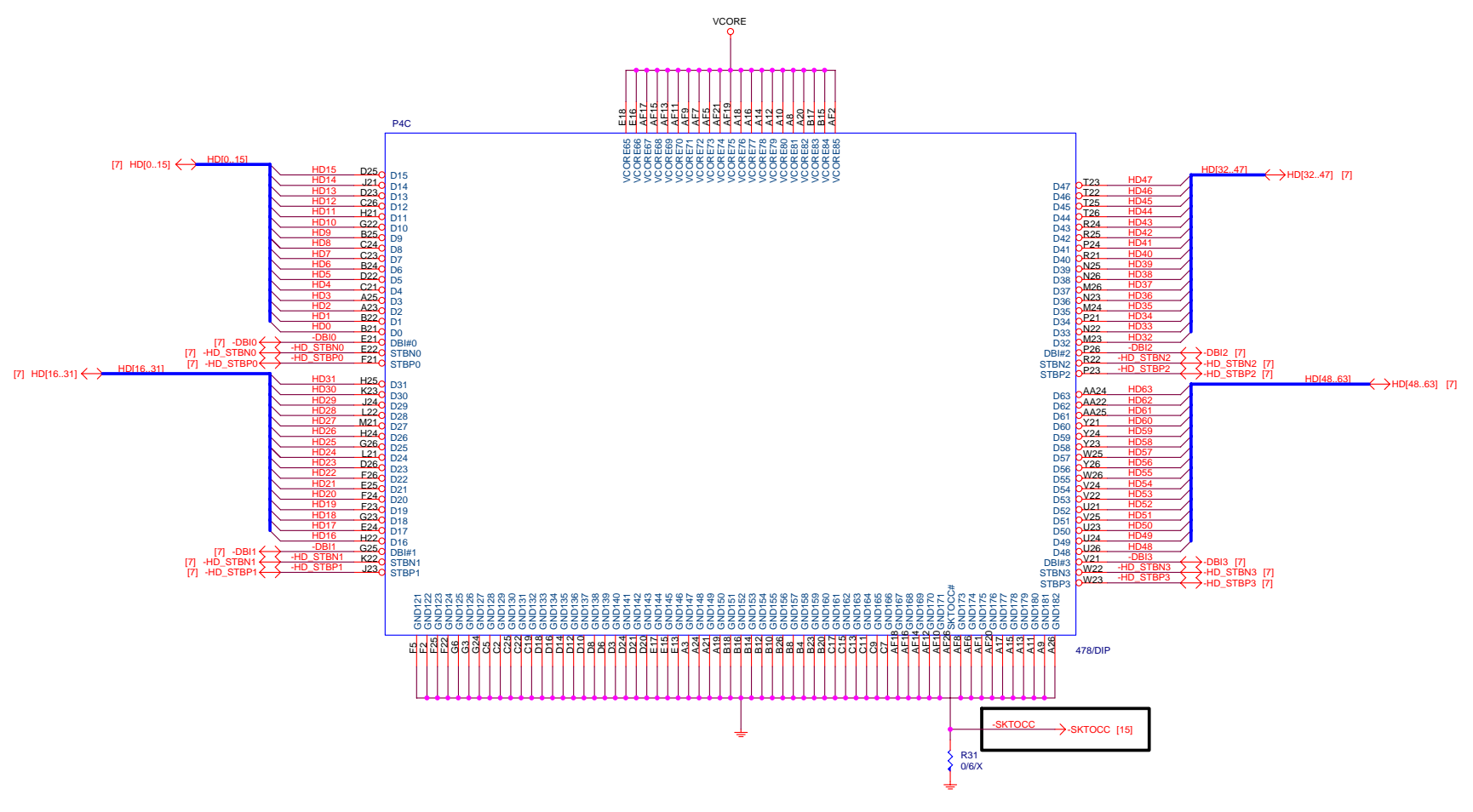
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|------------------------|-------------------------|---------------|
| GIGABYTE | | |
| WILLIAMATE 478B | | |
| Size Custom | Document Number | Rev |
| | 8S651MP-RZ | 1.1 |
| Date: | Monday, August 16, 2004 | Sheet 5 of 32 |



BSEL0 ---->100/133



478/DIP



-DBI0_31 <-> DBI[0..31] [6]
 HDI0_631 <-> HDI[0..63] [6]
 HA[3..31] <-> HA[3..31] [4]
 GD[0..31] >-> GD[0..31] [18]
 SBA[0..7] >-> SBA[0..7] [18]
 ST[0..2] >-> ST[0..2] [18]

[15] HCLK <-> HCLK AJ26
 [15] -HCLK <-> -HCLK AH28
 [4] -HLOCK <-> -HLOCK U24
 [4] -DEFER <-> -DEFER U26
 [4] -HTRDY <-> -HTRDY V26
 [4,5] -CPURST <-> -CPURST C20
 [5] CPUPWOK_NB <-> CPUPWOK TP19
 [4] -BPRI <-> -BPRI T27
 [4,5] -BREQ0 <-> -BREQ0 U25
 [4] -RS2 <-> -RS2 T24
 [4] -RS1 <-> -RS1 T26
 [4] -RS0 <-> -RS0 U29
 [4] -ADS <-> -ADS V28
 [4] -HITM <-> -HITM T28
 [4] -HIT <-> -HIT U28
 [4] -DRDY <-> -DRDY W26
 [4] -DBSY <-> -DBSY V24
 [4] -BNR <-> -BNR V27
 [4] -HREQ4 <-> -HREQ4 W28
 [4] -HREQ3 <-> -HREQ3 W29
 [4] -HREQ2 <-> -HREQ2 W24
 [4] -HREQ1 <-> -HREQ1 W25
 [4] -HREQ0 <-> -HREQ0 Y27
 [4] -HA_STB1 <-> -HA_STB1 AD24
 [4] -HA_STB0 <-> -HA_STB0 AA24

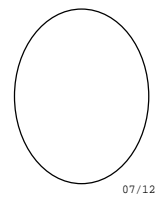
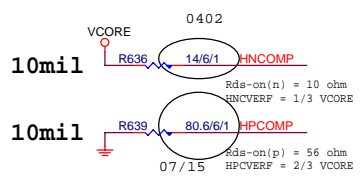
HA#31 AE26
 HA#30 AE25
 HA#29 AH28
 HA#28 AD26
 HA#27 AG29
 HA#26 AE26
 HA#25 AE28
 HA#24 AC24
 HA#23 AG28
 HA#22 AE26
 HA#21 AD28
 HA#20 AC25
 HA#19 AD27
 HA#18 AE28
 HA#17 AF27
 HA#16 AB24
 HA#15 AB26
 HA#14 AC28
 HA#13 AC26
 HA#12 AC29
 HA#11 AA26
 HA#10 AB28
 HA#9 AB27
 HA#8 AA25
 HA#7 AA29
 HA#6 AA28
 HA#5 Y26
 HA#4 Y24
 HA#3 Y28



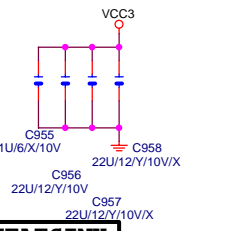
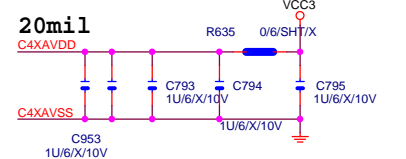
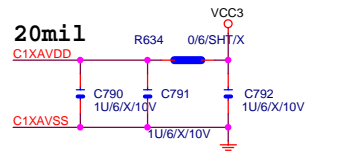
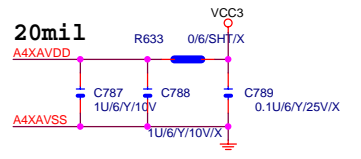
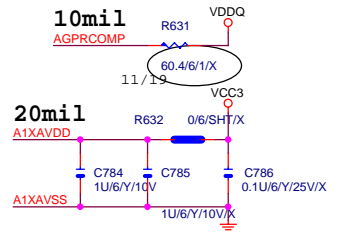
651/645DX-1

HOST

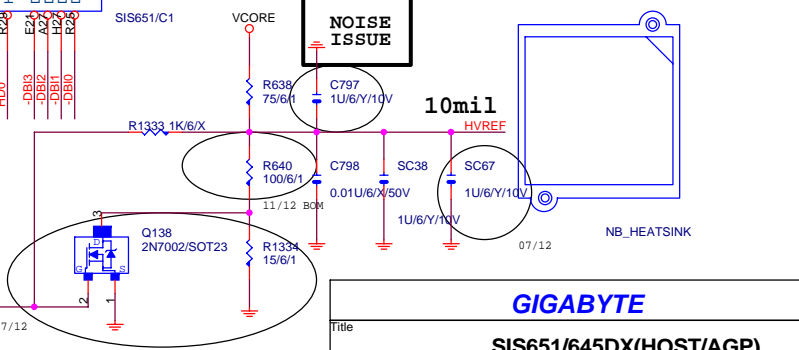
AGP



place this capacitor under 650 solder side
VREF C-CAP PULL-UP MEASURE NOISE WORST.

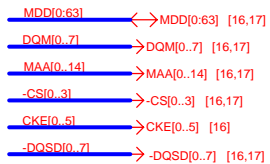


N.B HEATSINK
 NB_HEATSINK1



NOISE ISSUE

| | | |
|-------------------------------|-------------------------|---------------|
| GIGABYTE | | |
| SIS651/645DX(HOST/AGP) | | |
| Title | Document Number | Rev |
| | 8S651MP-RZ | 1.1 |
| Date: | Monday, August 16, 2004 | Sheet 7 of 32 |

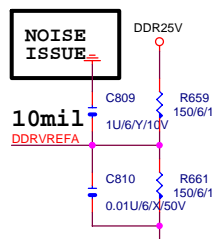
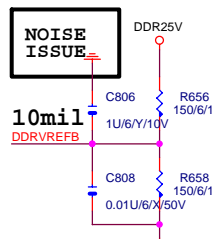
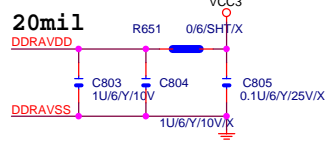
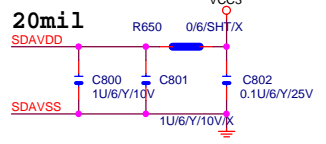
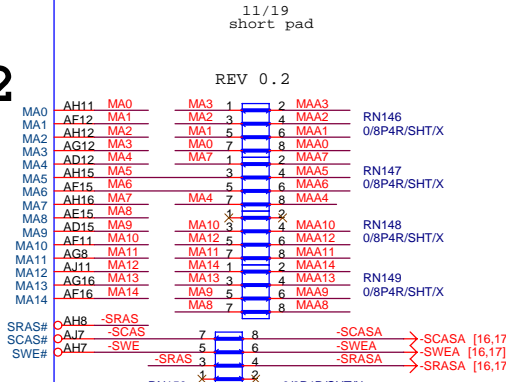
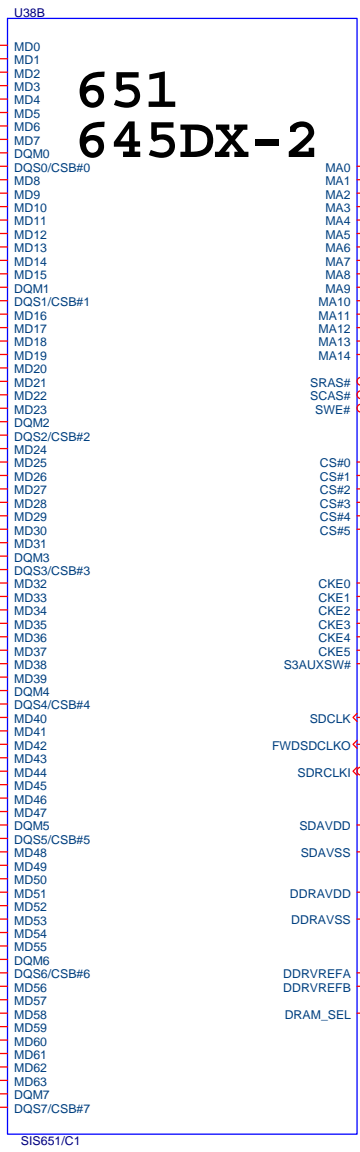
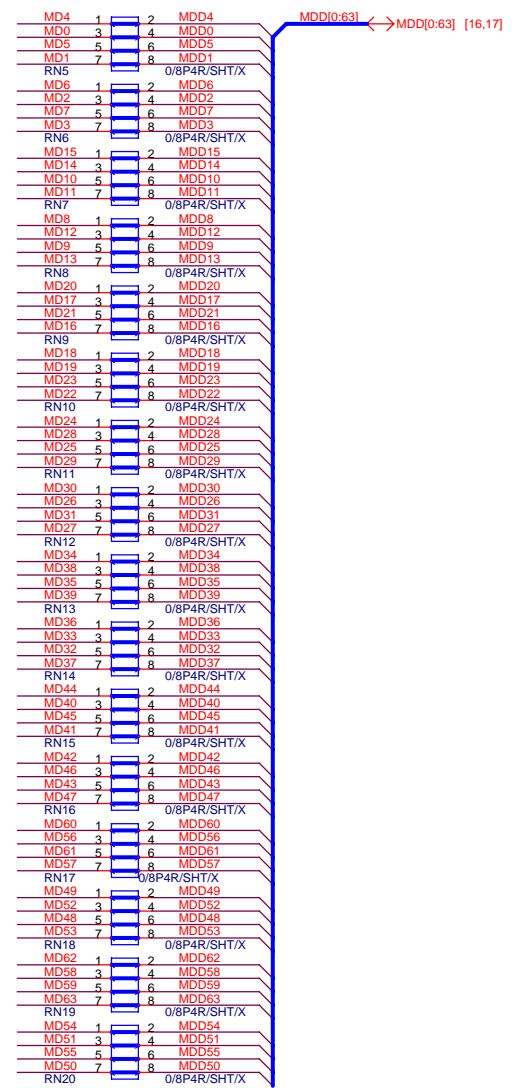
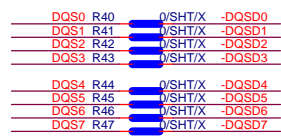


11/19 short pad

DDR MD DAMPING

Near DIMM 1

11/19 short pad

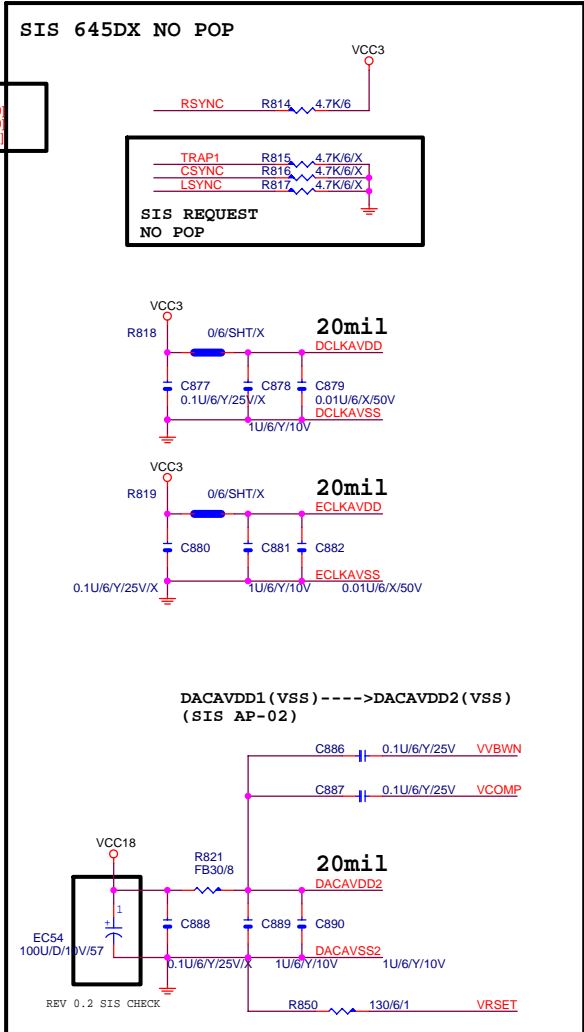
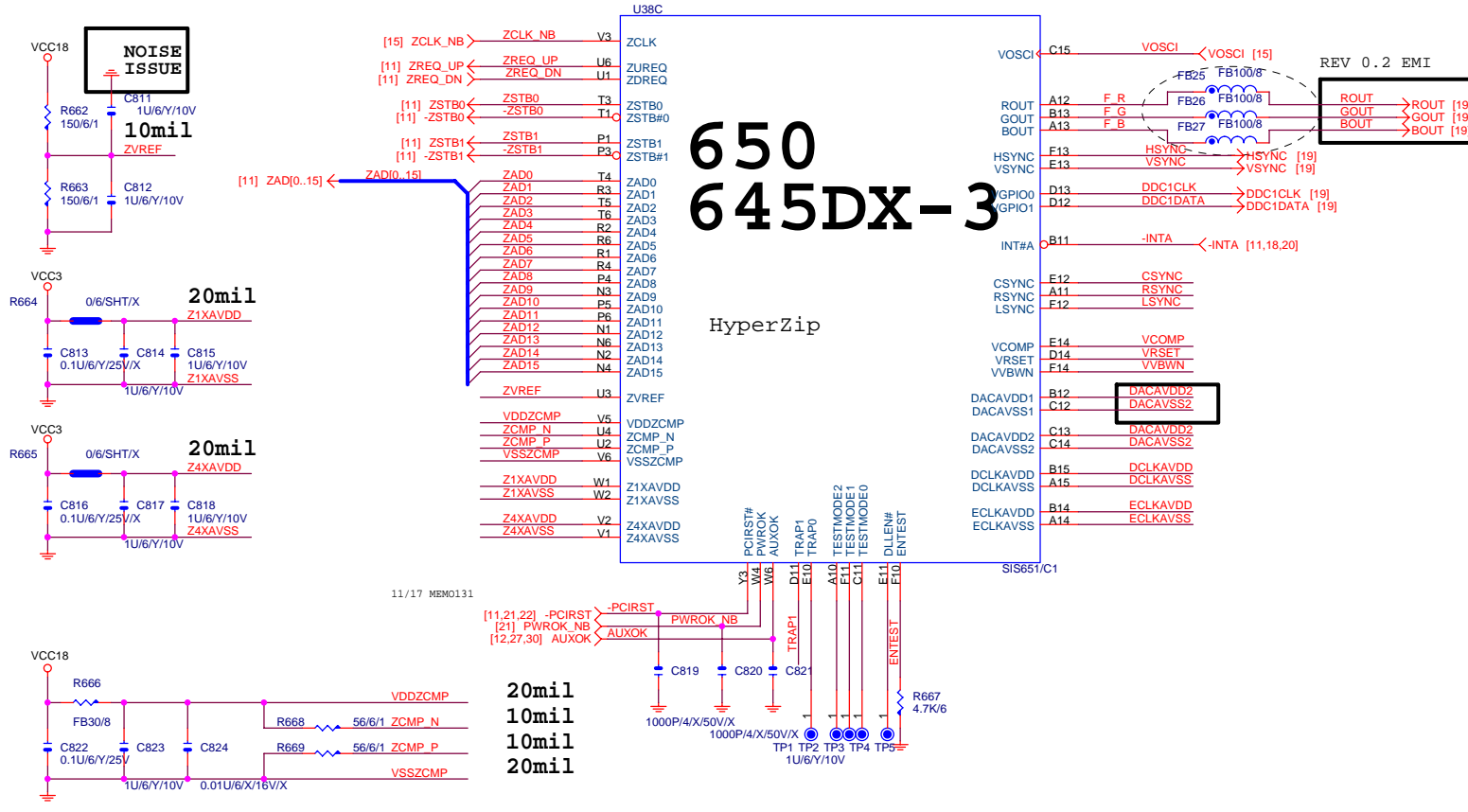


VREF C-CAP PULL-UP MEASURE NOISE WORST.

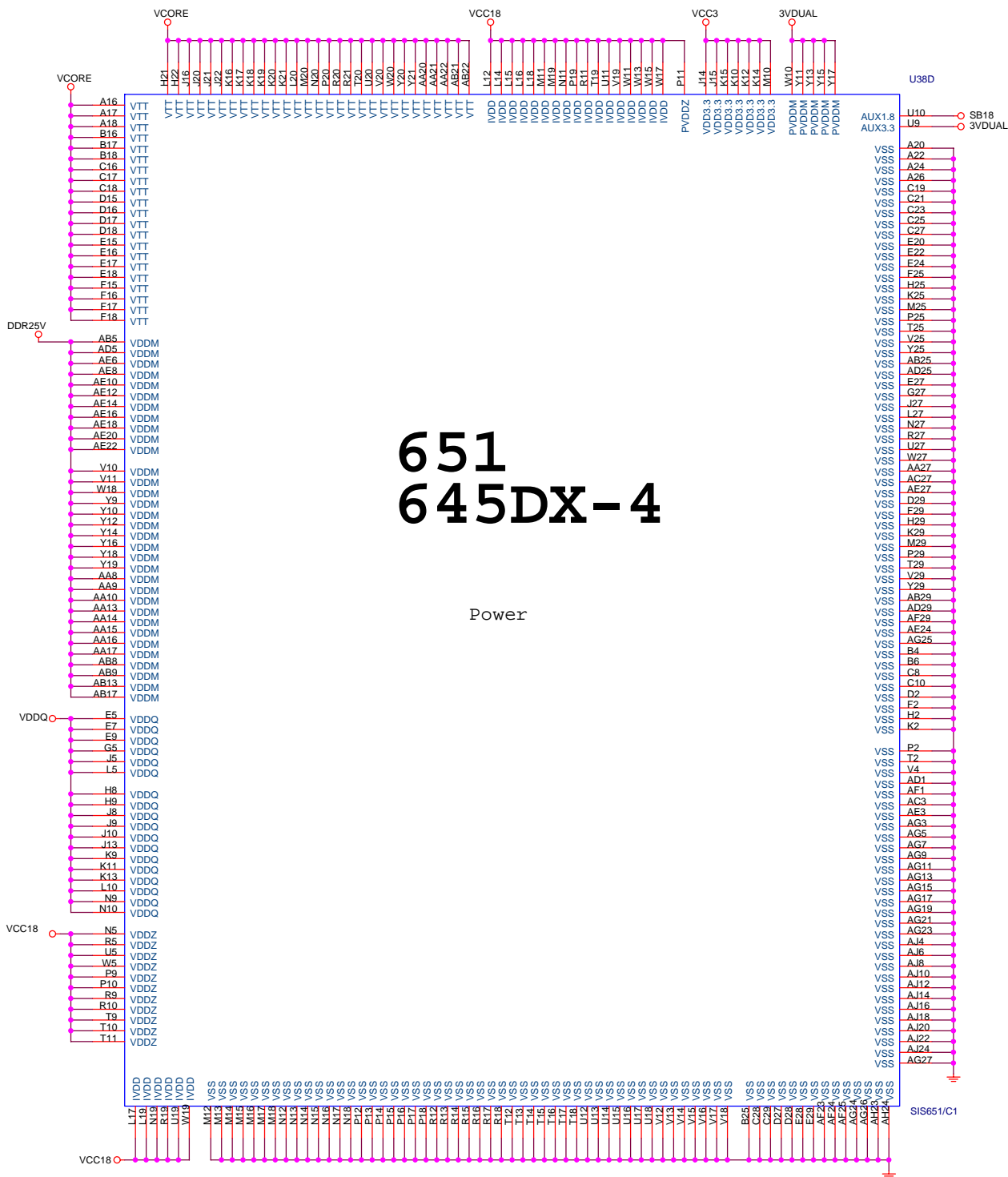
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|-----------------------------------|--------------------------------------|-------------------|
| GIGABYTE | | |
| Title SIS651/645DX(DDR) | | |
| Size Custom | Document Number 8S651MP-RZ | Rev 1.1 |
| Date: | Monday, August 16, 2004 | Sheet 8 of 32 |

NB Hardware Trap Table

| | 0 | 1 | Default | embedded pull-low (30-50k Ohm) |
|----------|-----------------------------|---------------|---------|--------------------------------|
| DLLEN# | enable PLL | disable PLL | 0 | yes |
| DRAM_SEL | SDR | DDR | 1(DDR) | yes |
| TRAP0 | normal | NB debug mode | 0 | yes |
| TRAP1 | TV selection, NTSC/PAL(0/1) | | | 0 |
| CSYNC | enable VB | | 0 | 0 |
| RSYNC | enable VGA interrupt | | 1 | 1 |
| LSYNC | enable panel link | | 0 | 0 |

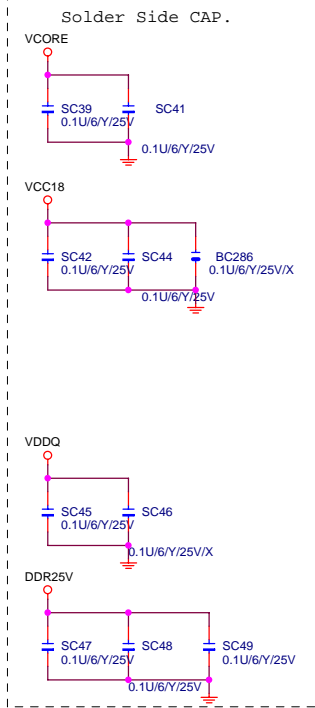
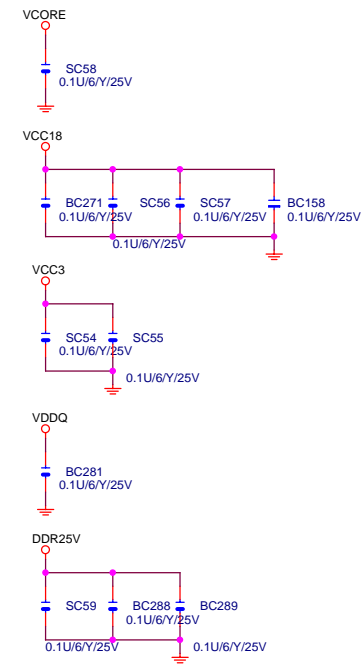


| | | | |
|---|-------------------------|-------------------|---------|
| GIGABYTE | | | |
| Title SIS651/645DX(HYPER ZIP) | | | |
| Size | Document Number | | Rev |
| Custom | | 8S651MP-RZ | 1.1 |
| Date: | Monday, August 16, 2004 | Sheet | 9 of 32 |



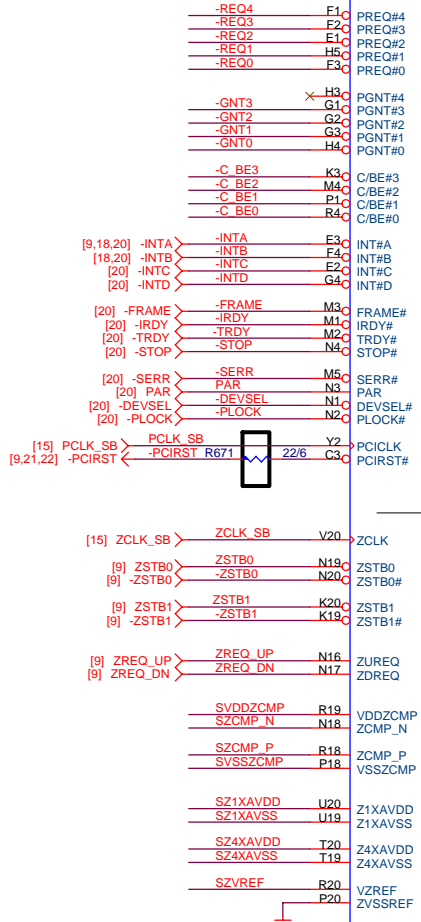
651 645DX-4

Power



| | | |
|-------------------------------|-------------------|---------|
| GIGABYTE | | |
| SIS651/645DX(PWR) | | |
| Title | 8S651MP-RZ | |
| Size Custom | Document Number | Rev 1.1 |
| Date: Monday, August 16, 2004 | Sheet 10 of 32 | |

- PDD[0..15] ↔ PDD[0..15] [21]
- SDD[0..15] ↔ SDD[0..15] [21]
- REQ[0..4] ↔ -REQ[0..4] [20]
- GNT[0..3] ↔ GNT[0..3] [20]
- C_BE[0..3] ↔ C_BE[0..3] [20]
- AD[0..31] ↔ AD[0..31] [20]

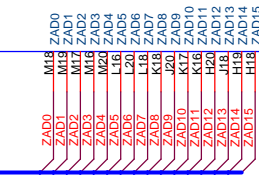


PCI

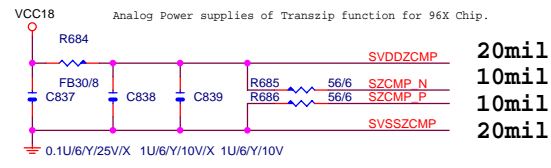
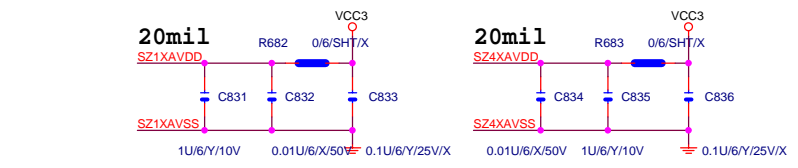
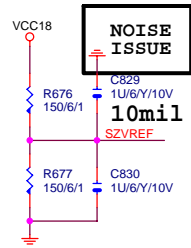
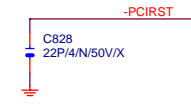
IDE

962/961B

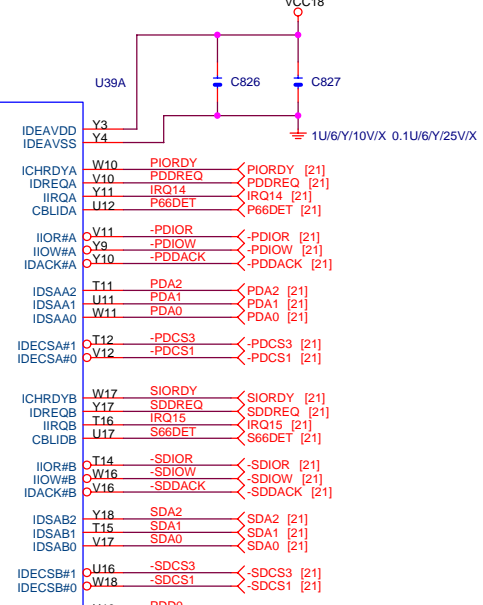
HyperZip



[9] ZAD[0..15] ↔ ZAD[0..15]

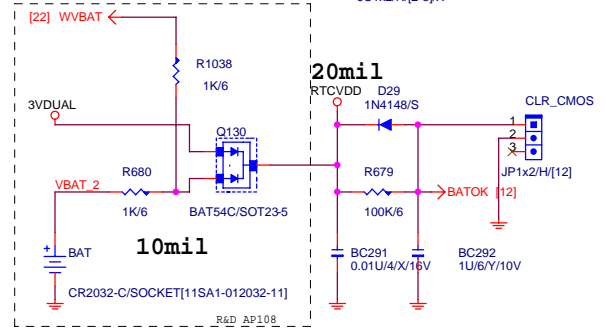


20mil



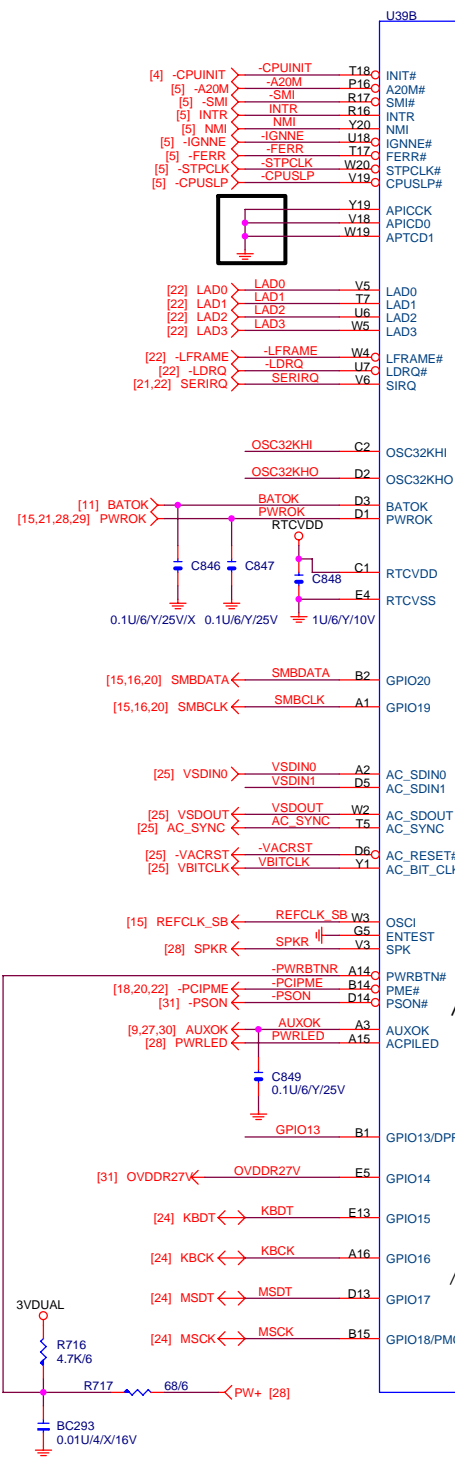
| CLR_CMOS | CLEAR COMS JUMPER |
|----------|-------------------|
| 1-2 | Enable |
| 2-3 | Normal (Default) |

CLR_CMOS_S1



NF REQUEST CLR_CMOS

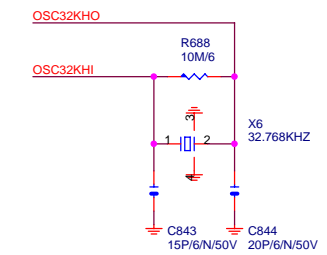
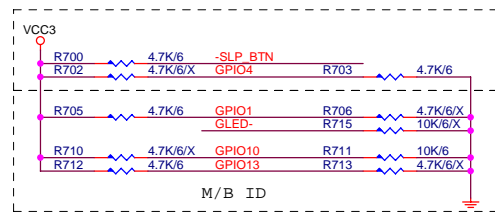
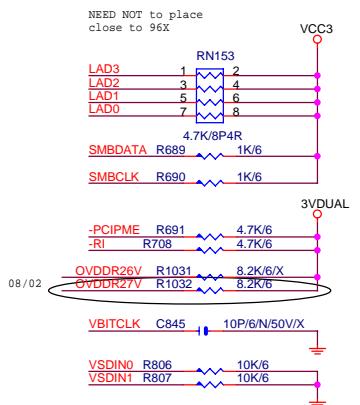
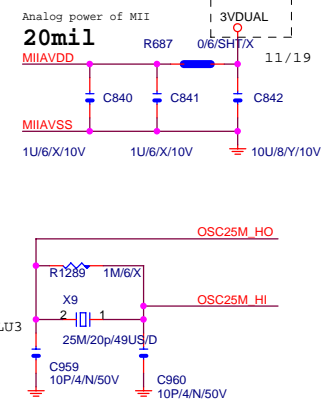
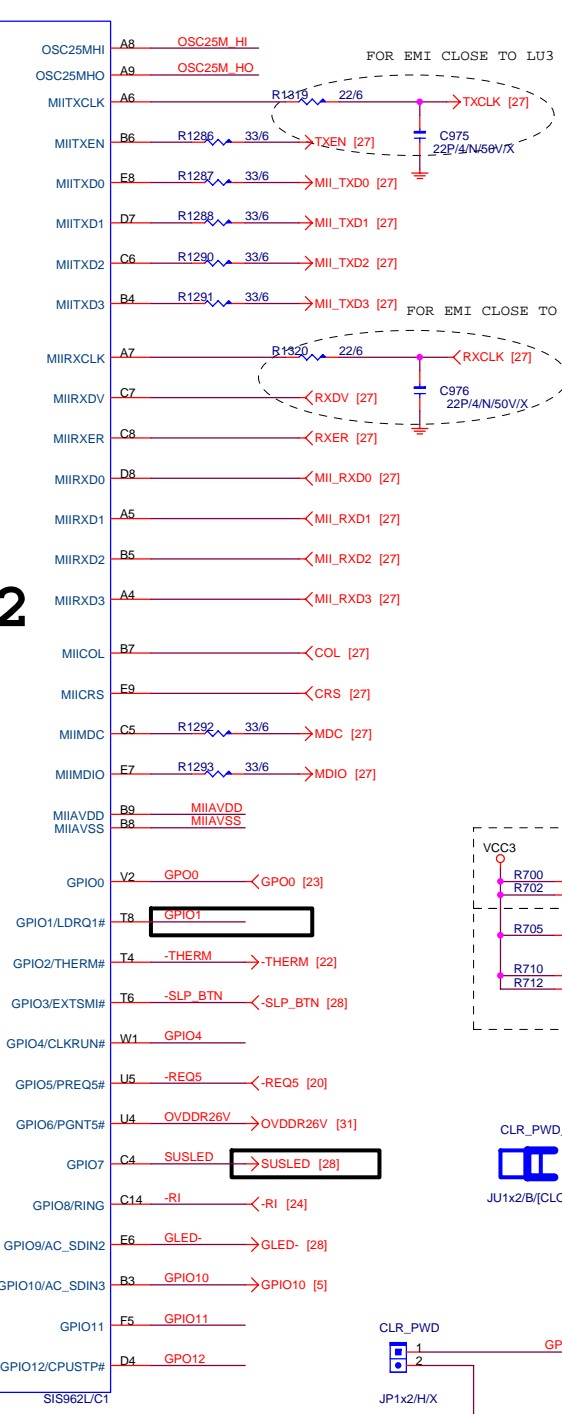
| | | |
|--|--------------------------------------|-------------------|
| GIGABYTE | | |
| Title SIS962(HP ZIP,PCI,IDE) | | |
| Size Custom | Document Number 8S651MP-RZ | Rev 1.1 |
| Date: Monday, August 16, 2004 | Sheet 11 | of 32 |



CPU_S
APIC
LPC
RTC
962/961B-2
GPIO
AC97
ACPI
/others
KBC
/geyserville

MII

GPIO



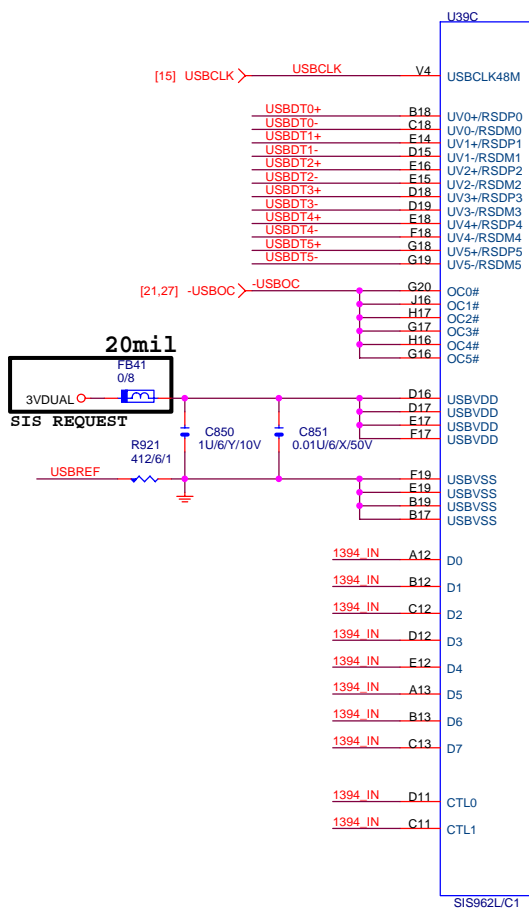
| INPUT | REV : 2.0 / 2.1 | REV : 3.0 | |
|--------|-----------------|-----------|--|
| GPIO1 | HI | HI | |
| GPIO4 | LOW | LOW | |
| GPIO13 | LOW | HI | |

GIGABYTE

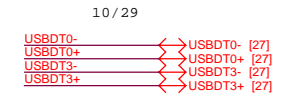
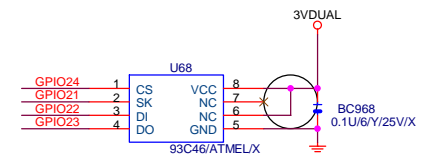
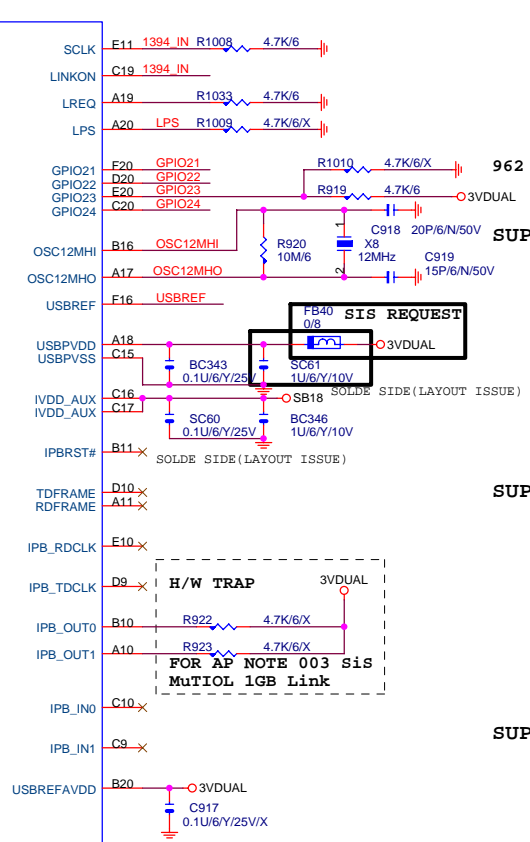
Title: **SIS962/961B(CPU,LPC,RTC,AC97,GPIO,ACPI,others)**

Size Custom: **8S651MP-RZ** Rev **1.1**

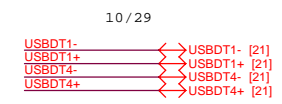
Date: Monday, August 16, 2004 Sheet 12 of 32



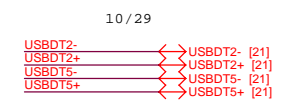
962 961B-3



962 (EEDO) SUPPORT SIS962 ONLY POP 0/8P4R(USB2.0)



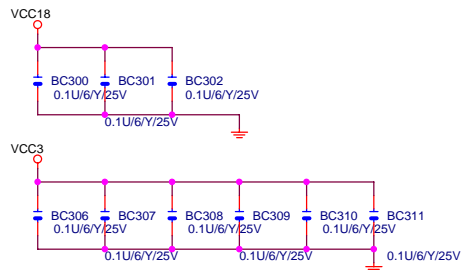
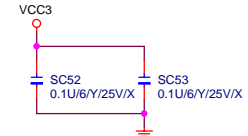
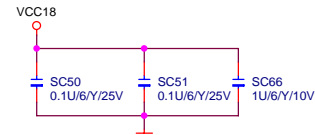
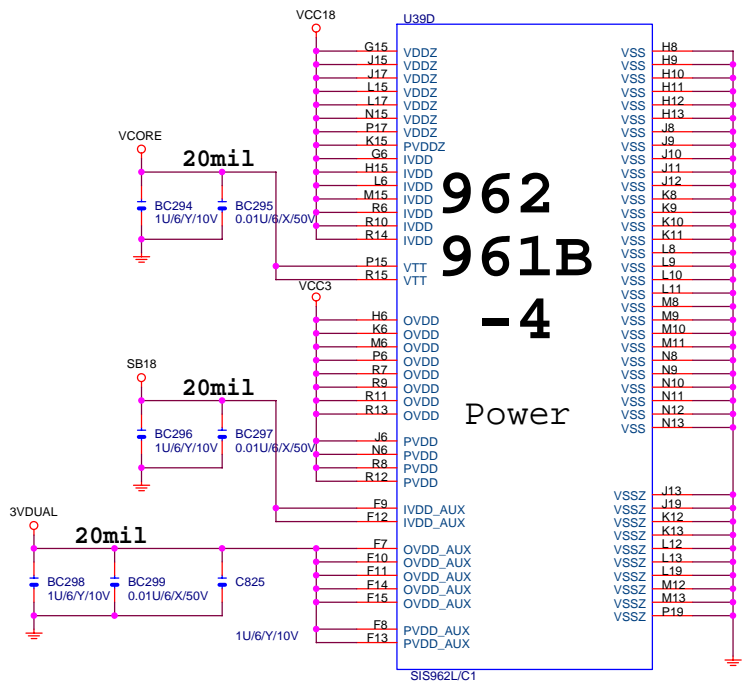
SUPPORT SIS962 ONLY POP 0/8P4R(USB2.0)



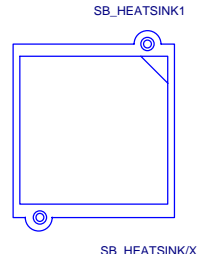
SUPPORT SIS962 ONLY POP 0/8P4R(USB2.0)

AGPUSB,CNUSB DEFAULT NO POP
NOTE: POP CN3 15K/8P4R---->USB PULL DOWN
USB CONTROLLER MUST NOT BEEN FLOATING.

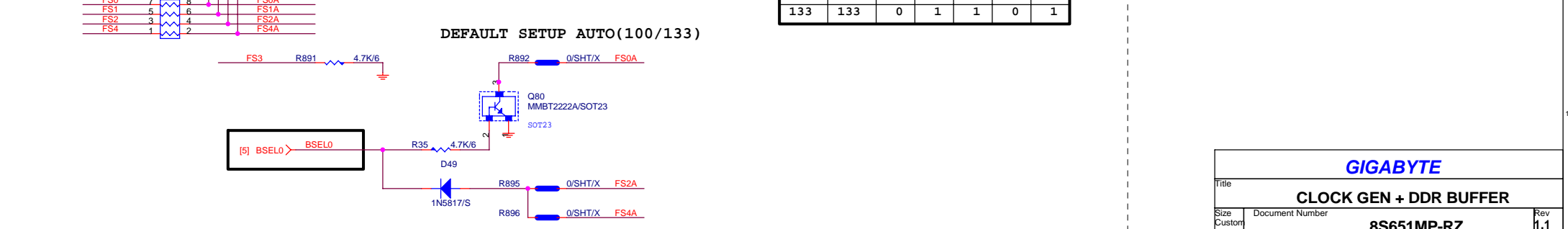
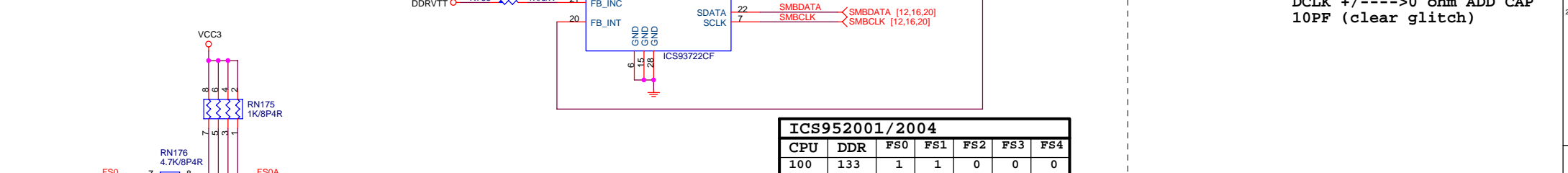
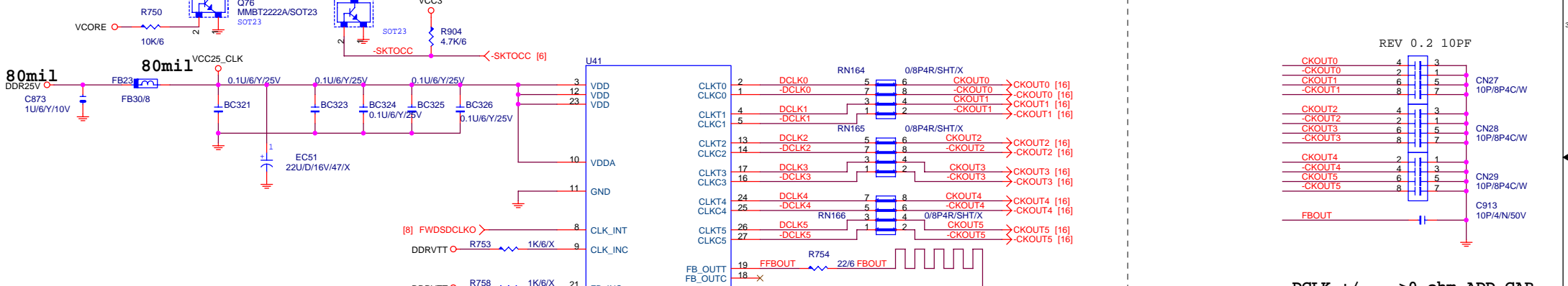
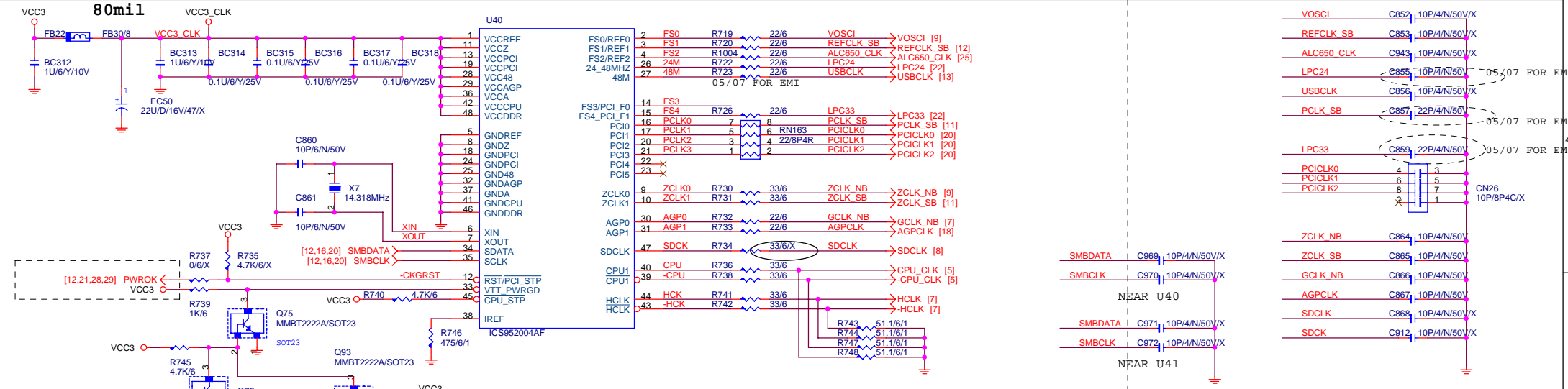
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|--------------------------------|-------------------------|------------|----------|
| GIGABYTE | | | |
| Title | | | |
| SIS962/961B(USB20,1394) | | | |
| Size | Document Number | Rev | |
| Custom | 8S651MP-RZ | 1.1 | |
| Date: | Monday, August 16, 2004 | Sheet | 13 of 32 |



S.B HEATSINK



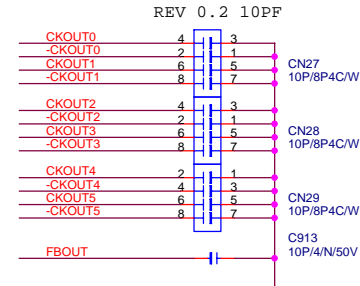
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|----------------------------------|--------------------------------------|-------------------|
| GIGABYTE | | |
| Title SIS962/961B(PWR) | | |
| Size Custom | Document Number 8S651MP-RZ | Rev 1.1 |
| Date: | Monday, August 16, 2004 | Sheet 14 of 32 |



ICS952001/2004

| CPU | DDR | FS0 | FS1 | FS2 | FS3 | FS4 |
|-----|-----|-----|-----|-----|-----|-----|
| 100 | 133 | 1 | 1 | 0 | 0 | 0 |
| 133 | 133 | 0 | 1 | 1 | 0 | 1 |

DEFAULT SETUP AUTO(100/133)



DCLK +/----->0 ohm ADD CAP 10PF (clear glitch)

GIGABYTE

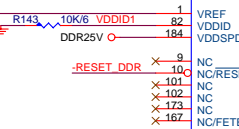
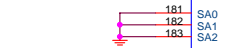
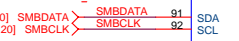
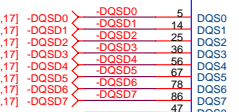
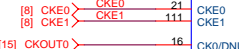
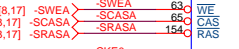
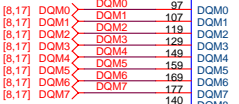
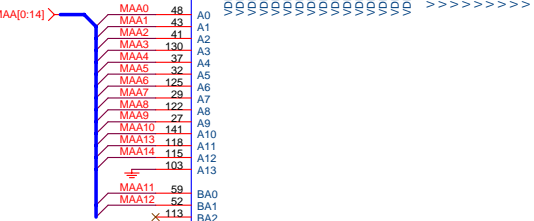
CLOCK GEN + DDR BUFFER

| | | | | |
|--------|-------------------------|------------|-----|-------|
| Title | CLOCK GEN + DDR BUFFER | | Rev | 1.1 |
| Size | Document Number | 8S651MP-RZ | | Sheet |
| Custom | Monday, August 16, 2004 | | 15 | of 32 |

DDR SDRAM 1,2

SIS ONLY MAA

[8,17] MAA[0:14]



DDR MD GROUP SWAP

MDD[0:63] [8,17]

MD 0---7

MD 8---15

MD 16---23

MD 24---31

MD 32---39

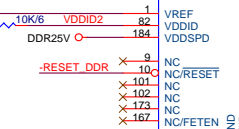
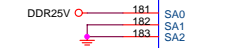
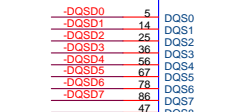
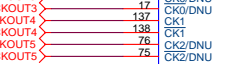
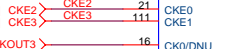
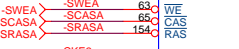
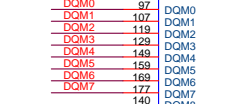
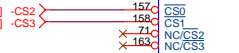
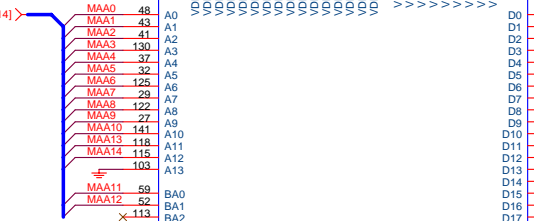
MD 40---47

MD 48---55

MD 56---63

SIS ONLY MAA

[8,17] MAA[0:14]



DDR MD GROUP SWAP

MDD[0:63] [8,17]

MD 0---7

MD 8---15

MD 16---23

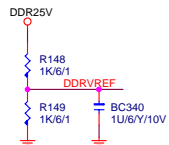
MD 24---31

MD 32---39

MD 40---47

MD 48---55

MD 56---63



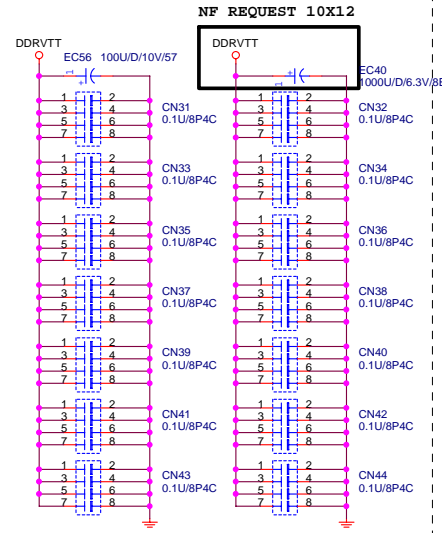
For Register DDR Support



GIGABYTE

| | | |
|--------------------|-------------------------|----------------|
| Title | | |
| DDR UNBUFFERED 1,2 | | |
| Size Custom | Document Number | Rev |
| | 8S651MP-RZ | 1.1 |
| Date: | Monday, August 16, 2004 | Sheet 16 of 32 |

DDRVTT Decouple

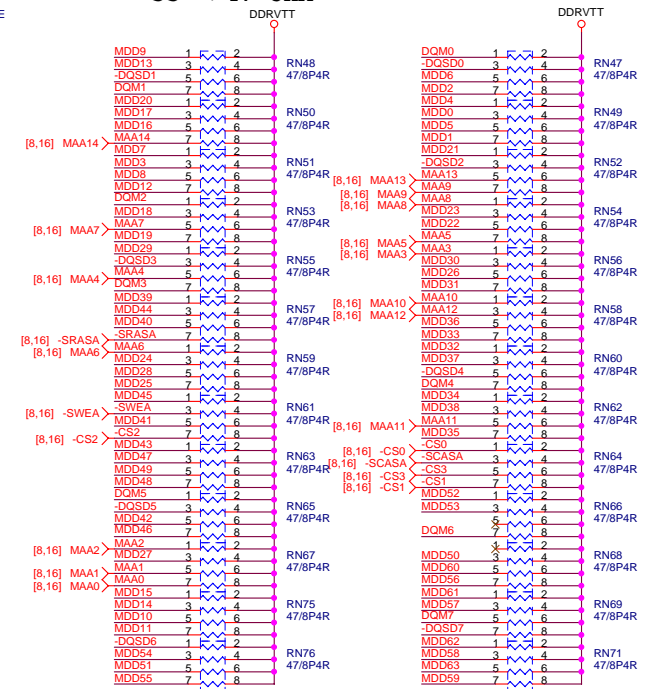


R&D NOTE 109 (0.1U/8P4C X9PCS)

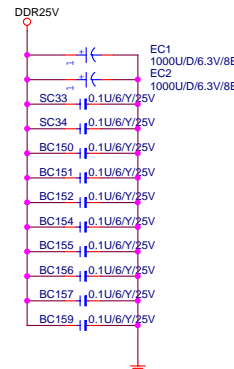
NOTE: Place these decoupling capacitors close to VTT_MEM termination resistors. (one decoupling capacitor for each two R-packs)

DDR TERMINATION

REV 0.2 DDR DIMM ISSUE
33-->47 OHM

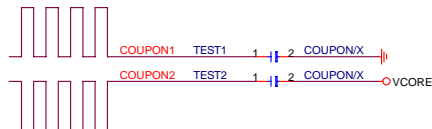


DDR25V Decouple



NOTE: Place Dribute 4 pcs per DDR module.

IMPEDENCE TESTING COUPON



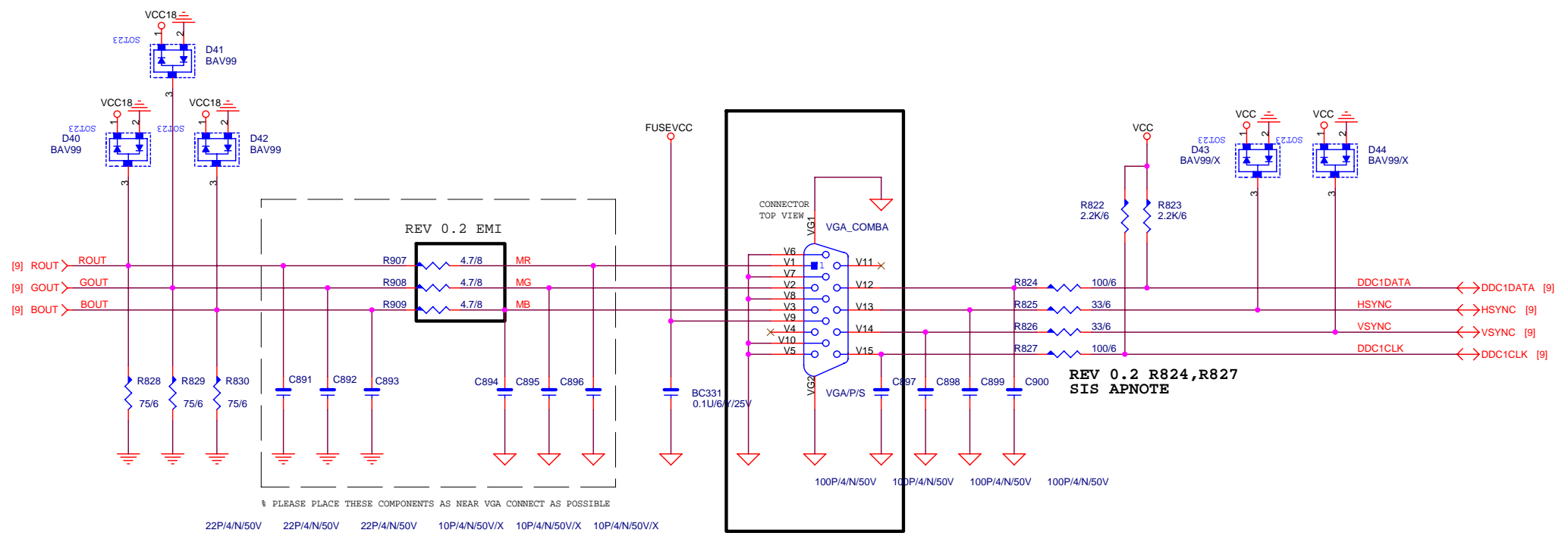
GIGABYTE

DDR UNBUFFERED 3

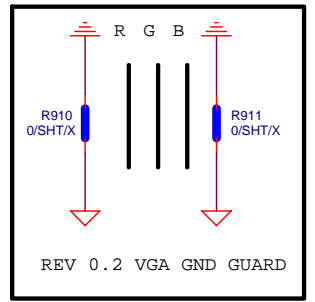
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|--------|-------------------------|-------|-----|-------|
| Title | 8S651MP-RZ | | Rev | 1.1 |
| Size | Document Number | | | |
| Custom | | | | |
| Date: | Monday, August 16, 2004 | Sheet | 17 | of 32 |

VGA CONNECTOR 1

SIS 645DX NO POP



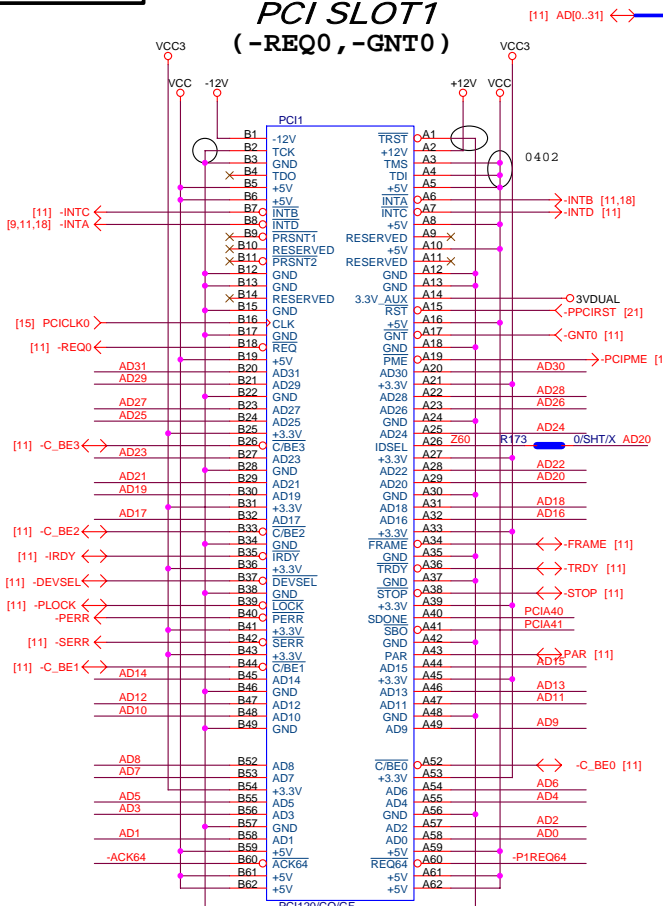
DUAL LAYOUT (VGA/COM)



REV 0.2 R824, R827
SIS APNOTE

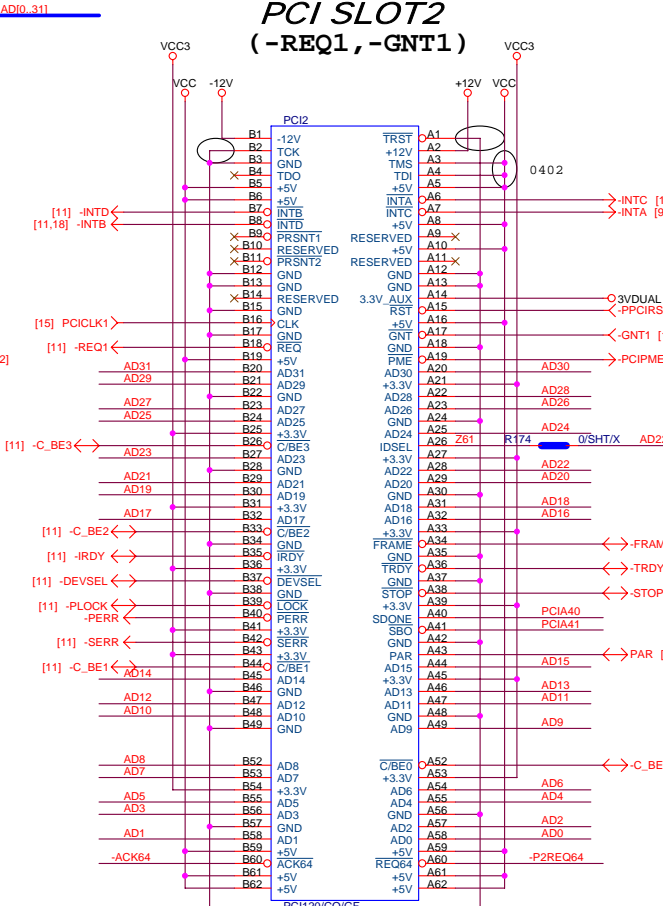
| | | |
|----------------------|-------------------------|----------------|
| GIGABYTE | | |
| Title | | |
| VGA CONNECTOR | | |
| Size B | Document Number | Rev |
| | 8S651MP-RZ | 1.1 |
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PCI SLOT1 (-REQ0, -GNT0)



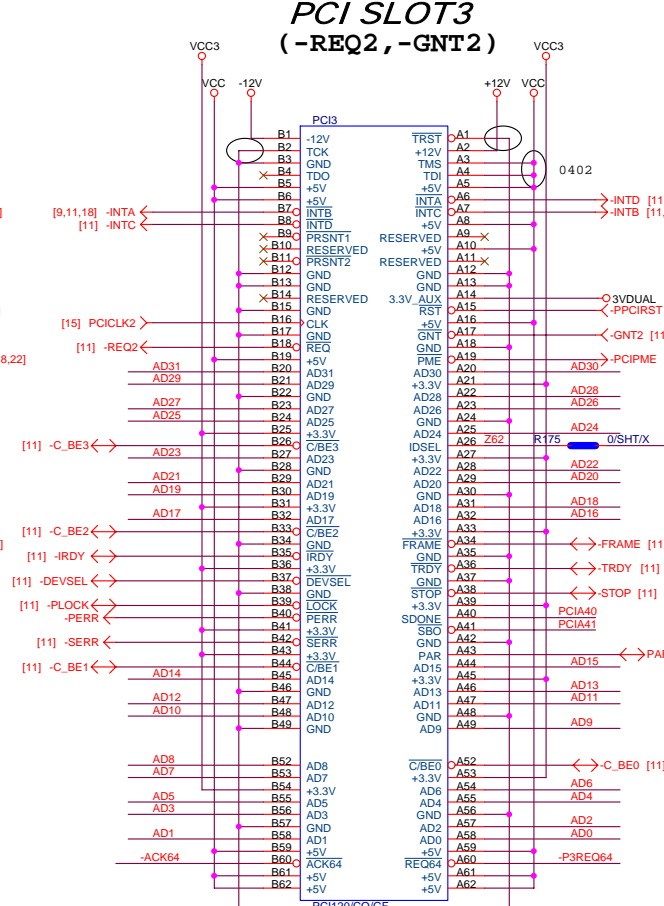
SIS--IDSEL(A20)
(B)

PCI SLOT2 (-REQ1, -GNT1)

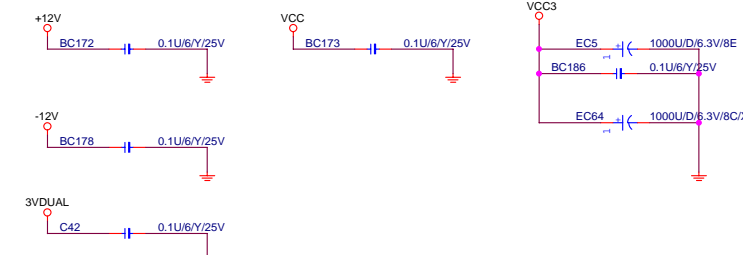
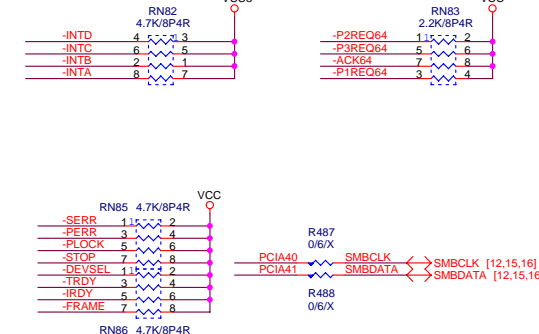
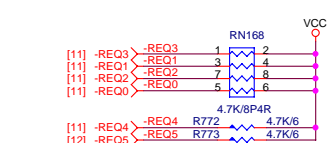


SIS--IDSEL(A22)
(C)

PCI SLOT3 (-REQ2, -GNT2)



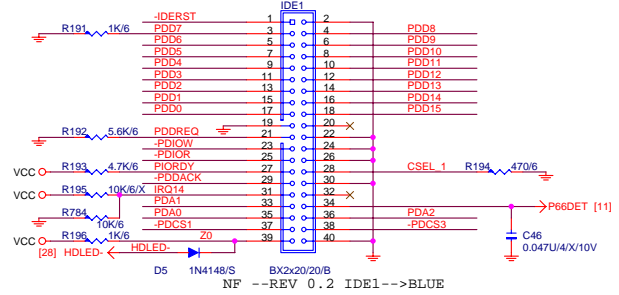
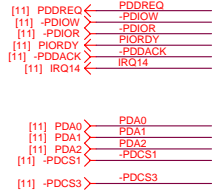
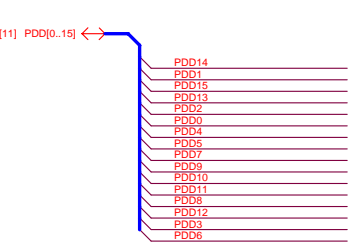
SIS--IDSEL(A24)
(D)



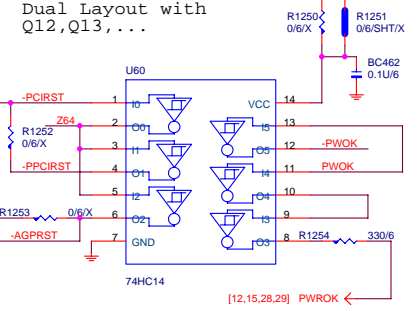
| | | |
|-----------------------|-------------------------|----------------|
| GIGABYTE | | |
| PCI SLOT 1,2,3 | | |
| Title | Document Number | Rev |
| | 8S651MP-RZ | 1.1 |
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PRIMARY IDE

10/29

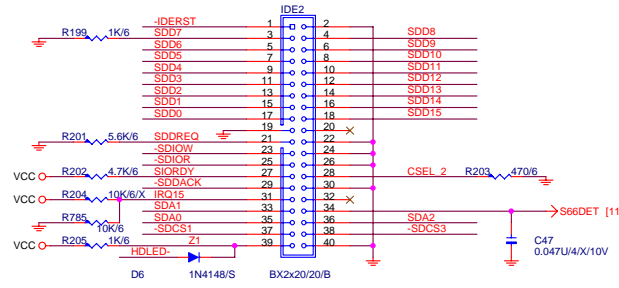
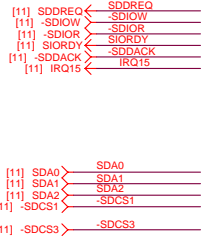
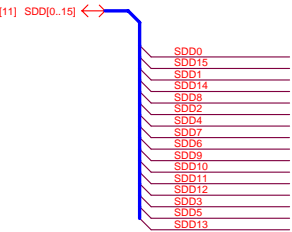


11/17 MEMO131

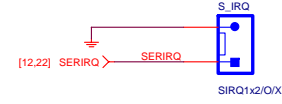


SECONDARY IDE

10/29



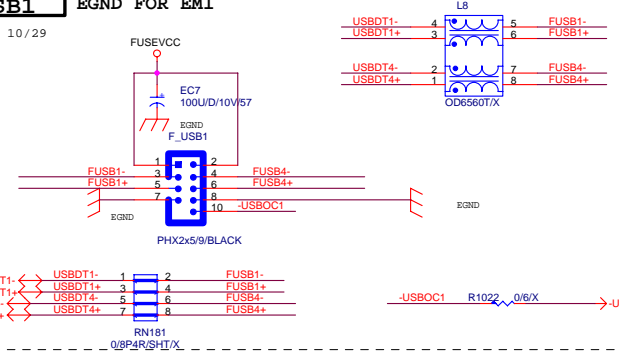
SIRQ



FRONT SIDE USB1

10/29

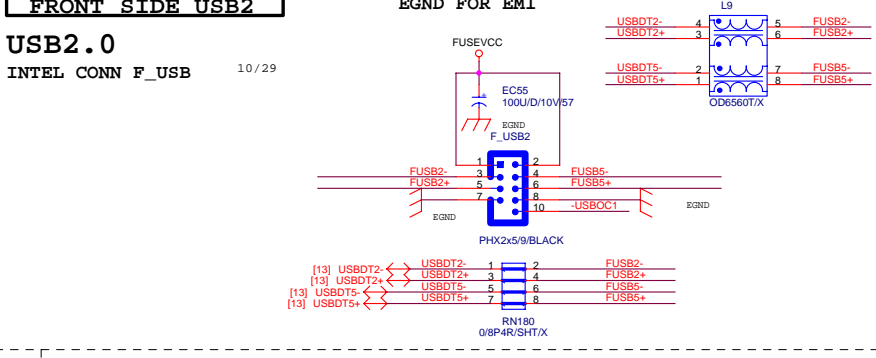
INTEL CONN F_USB



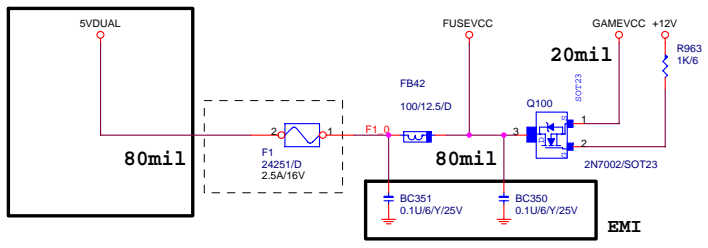
FRONT SIDE USB2

10/29

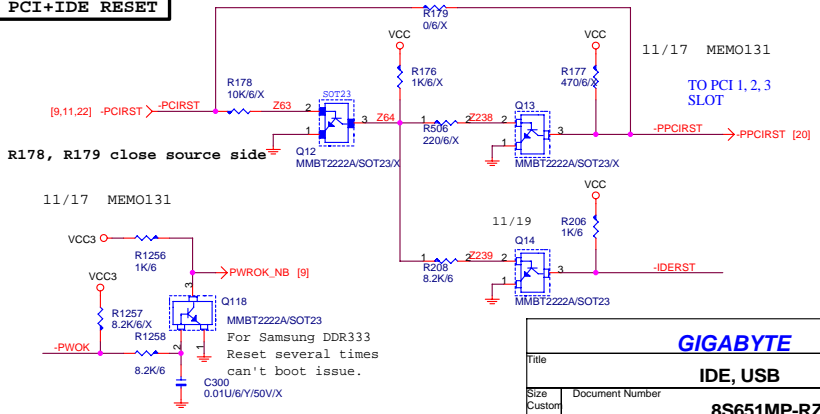
INTEL CONN F_USB



FUSEVCC, GAMEVCC

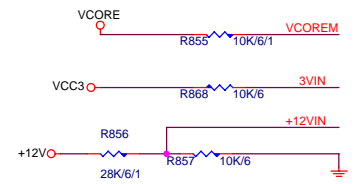
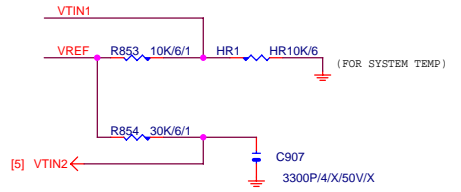
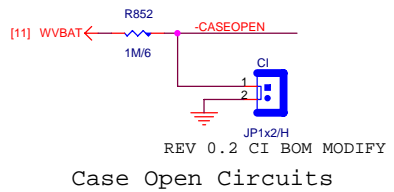
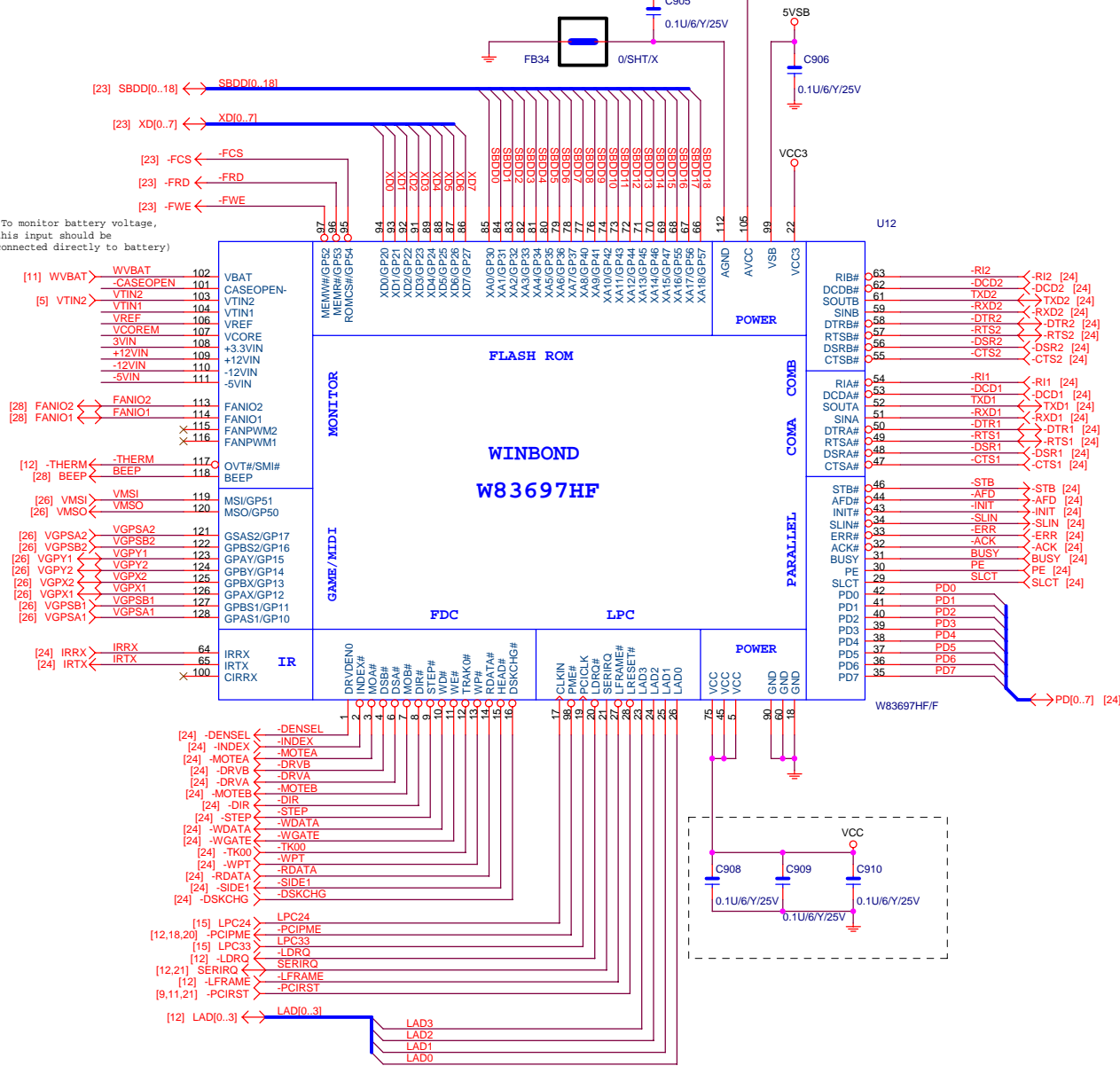


PCI+IDE RESET

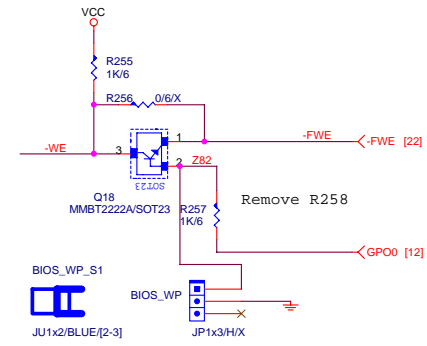
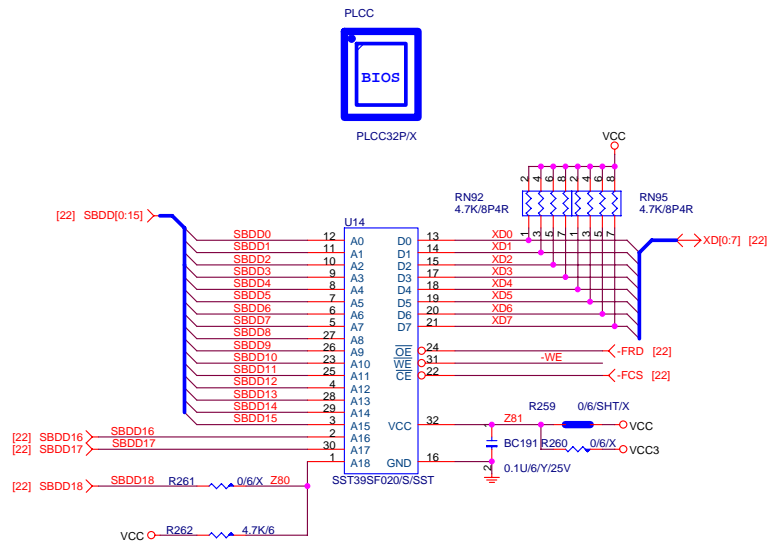


| | | |
|-----------------|-------------------------|----------------|
| GIGABYTE | | |
| IDE, USB | | |
| Title | Document Number | Rev |
| | 8S651MP-RZ | 1.1 |
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WINBOND LPC I/O



| | | |
|-------------------------------|-------------------|------------|
| GIGABYTE | | |
| LPC W83697 | | |
| Title | Document Number | Rev |
| | 8S651MP-RZ | 1.1 |
| Date: Monday, August 16, 2004 | Sheet 22 of 32 | |

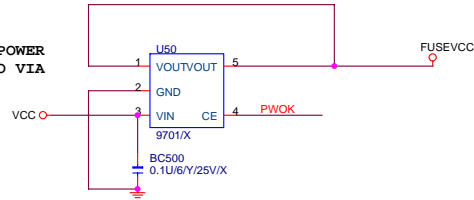


BIOS_WP: BIOS WRITE PROTECT

| PIN | BIOS_WP |
|-----|------------------------|
| 1-2 | WRITE PROTECT |
| 2-3 | WRITE ENABLE (default) |

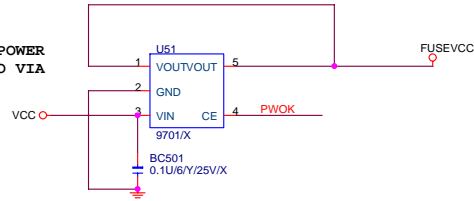
NEAR F_USB1 CONNECTOR

NEED DOWN TO VCC POWER PLANE AND NEED TWO VIA OR MORE



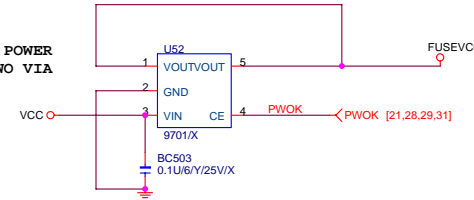
NEAR F_USB2 CONNECTOR

NEED DOWN TO VCC POWER PLANE AND NEED TWO VIA OR MORE



NEAR USB_LAN CONNECTOR

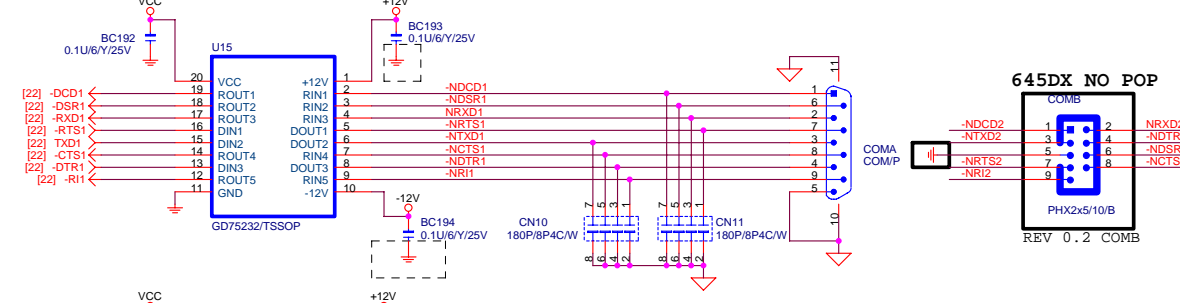
NEED DOWN TO VCC POWER PLANE AND NEED TWO VIA OR MORE



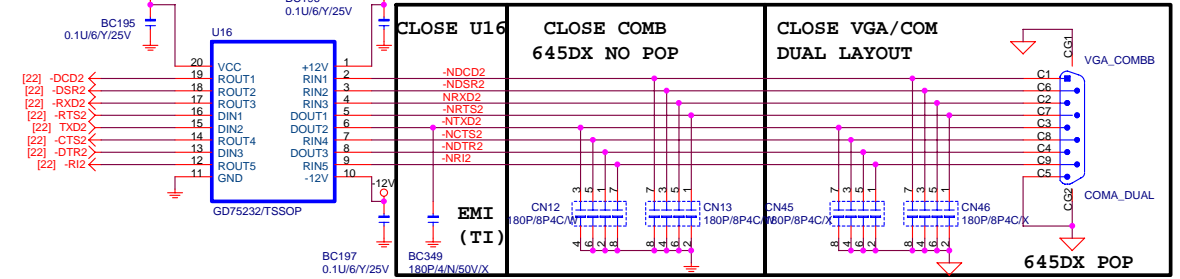
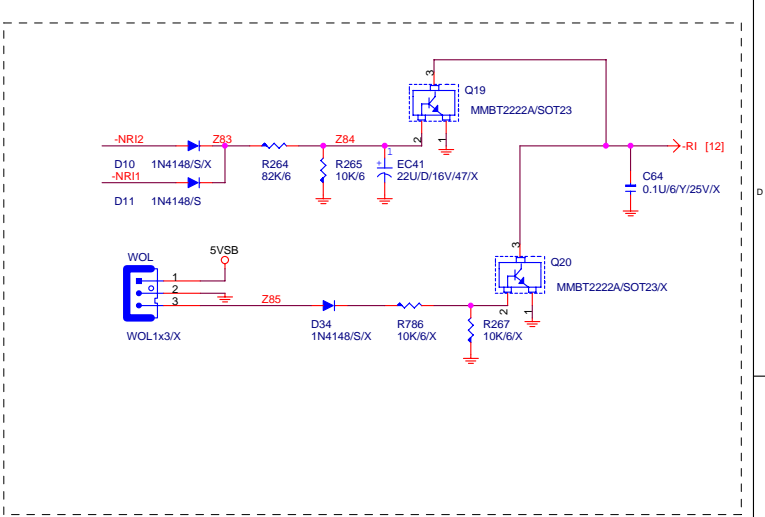
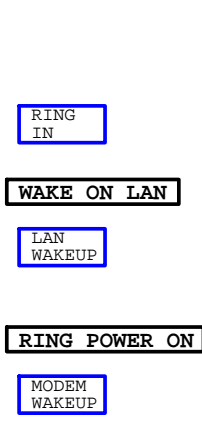
GIGABYTE

| | | |
|-----------|-------------------------|----------------|
| Title | | |
| Flash ROM | | |
| Size | Document Number | Rev |
| Custom | 8S651MP-RZ | 1.1 |
| Date: | Monday, August 16, 2004 | Sheet 23 of 32 |

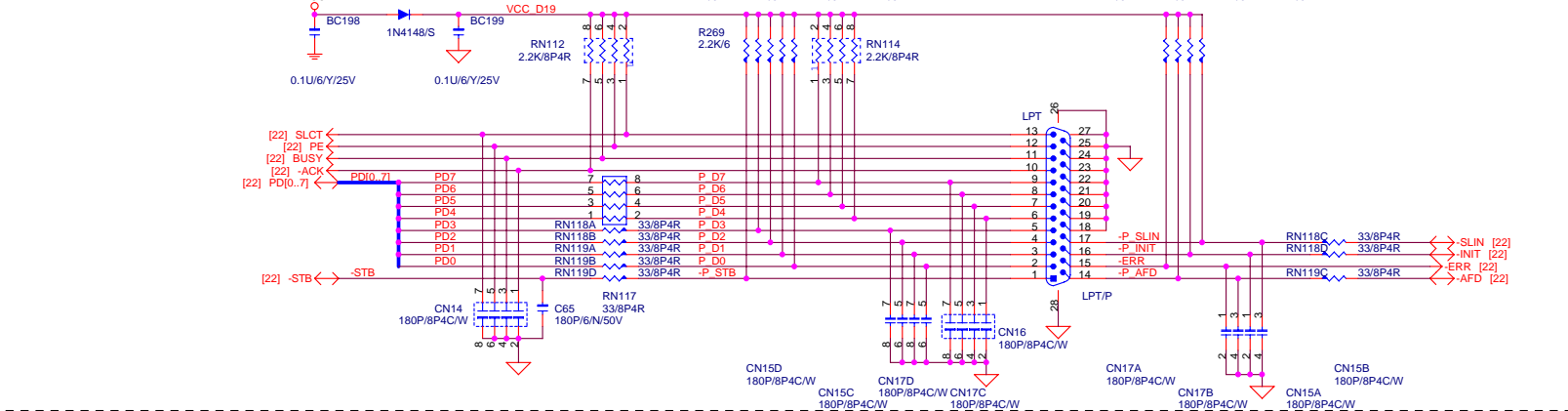
COM A, B



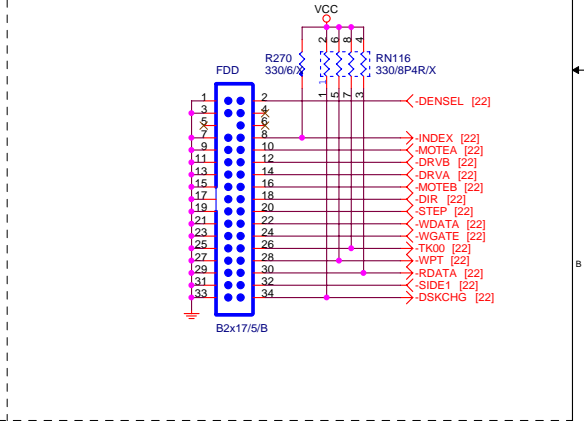
WAKE UP



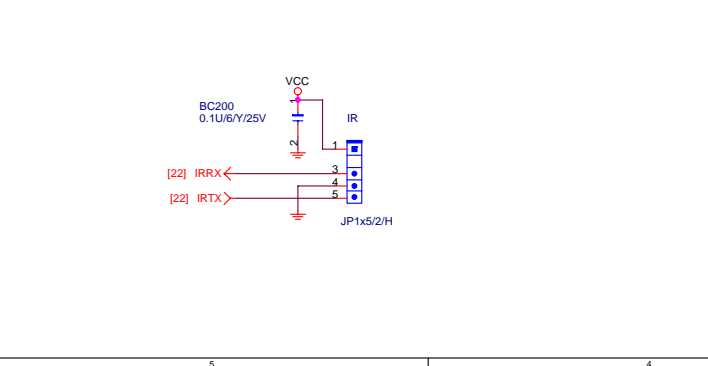
LPT



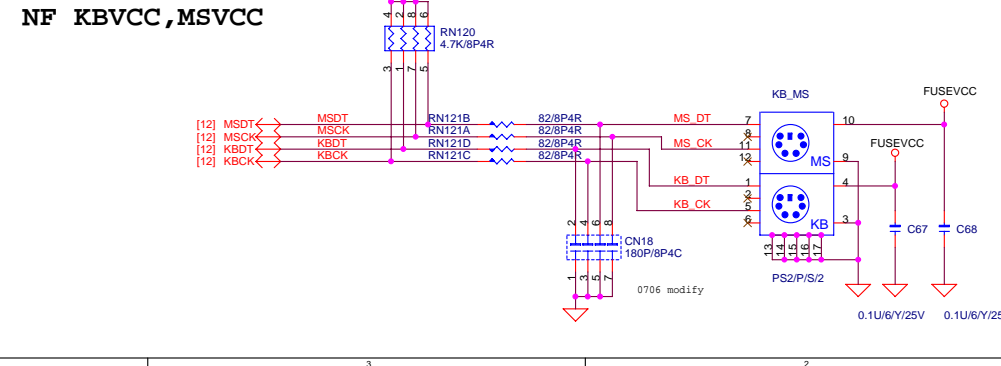
FDD



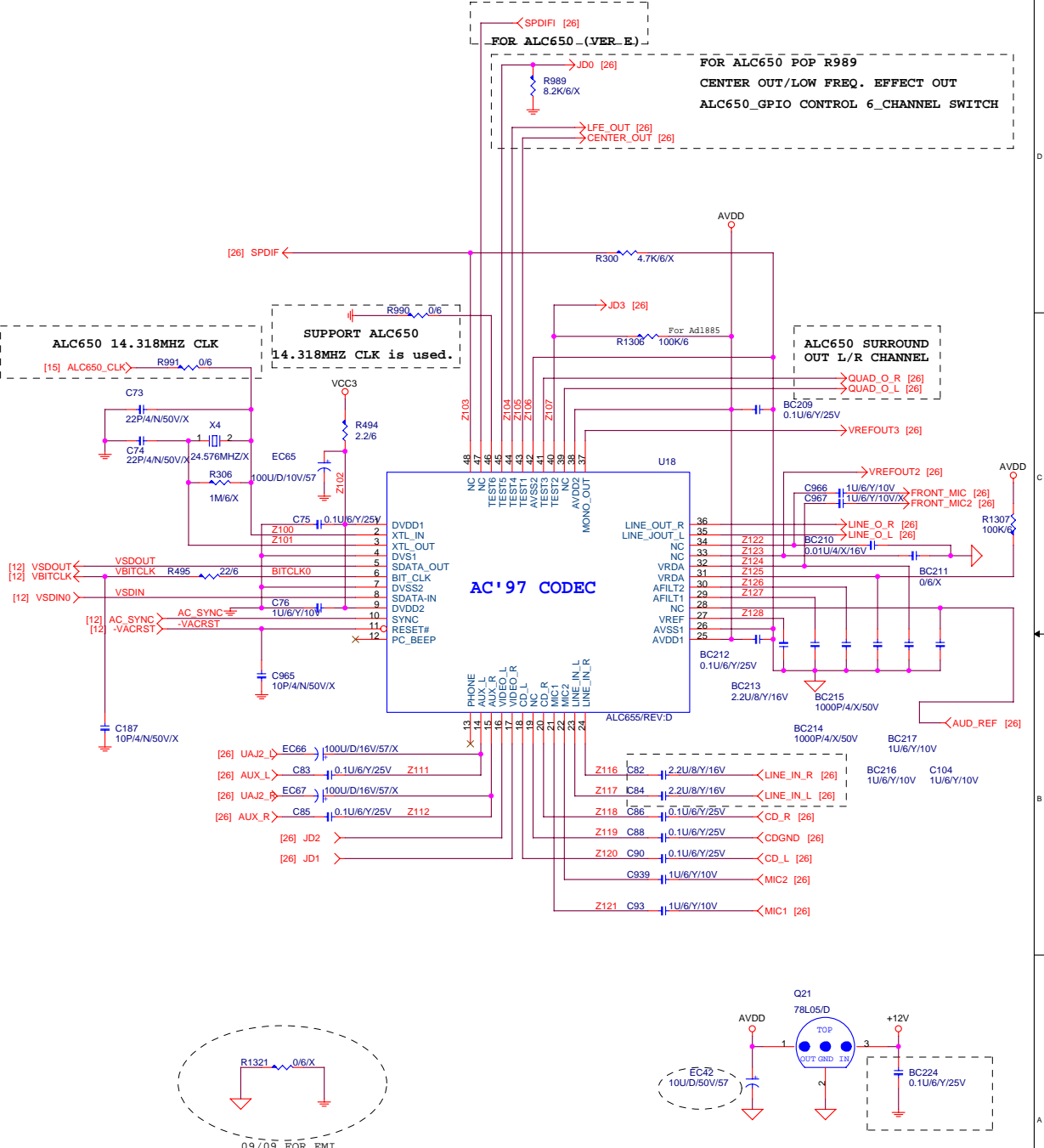
IR CONNECTOR



KBC/PS2



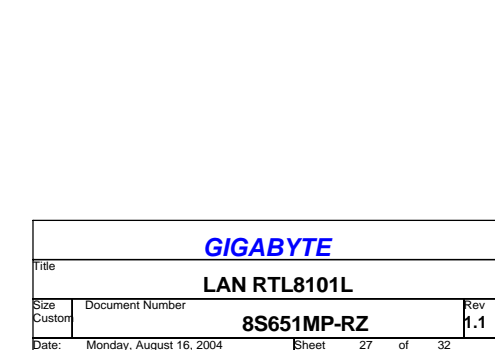
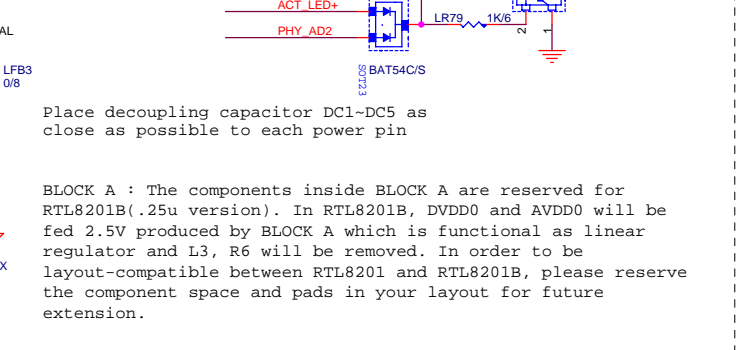
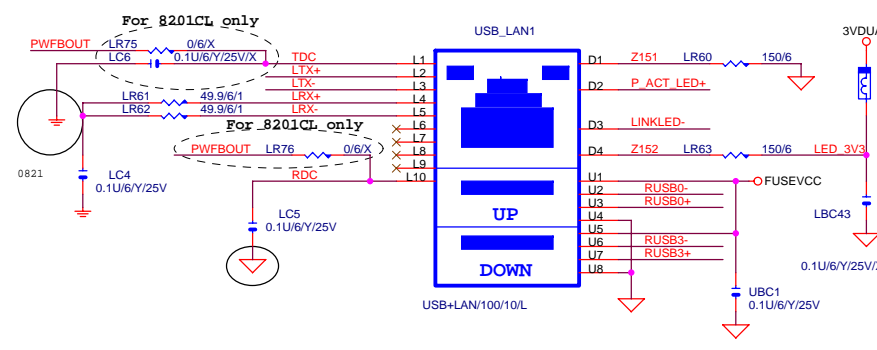
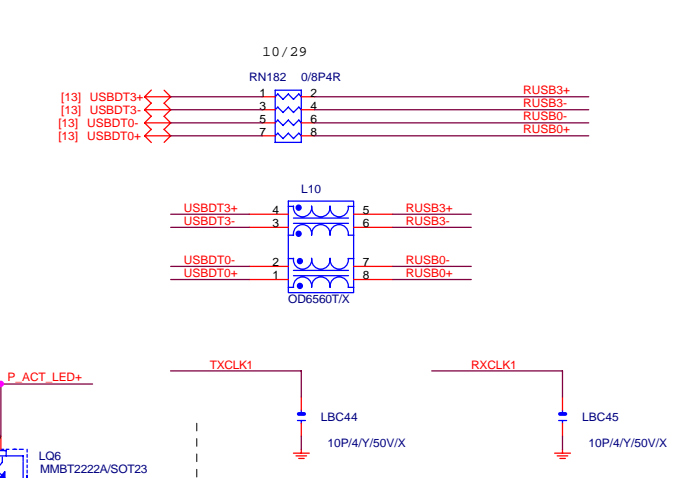
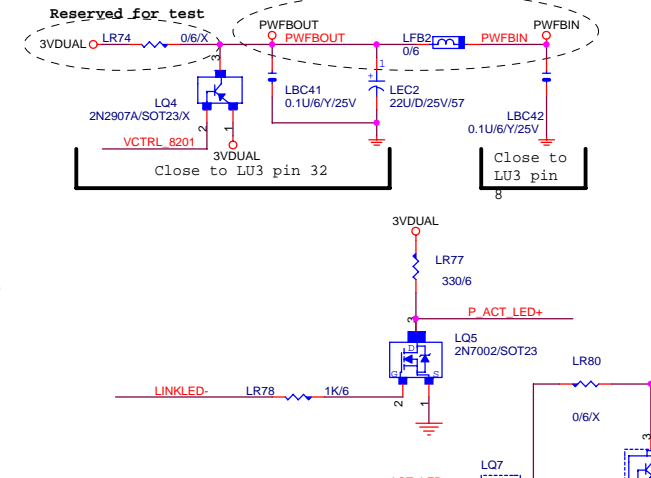
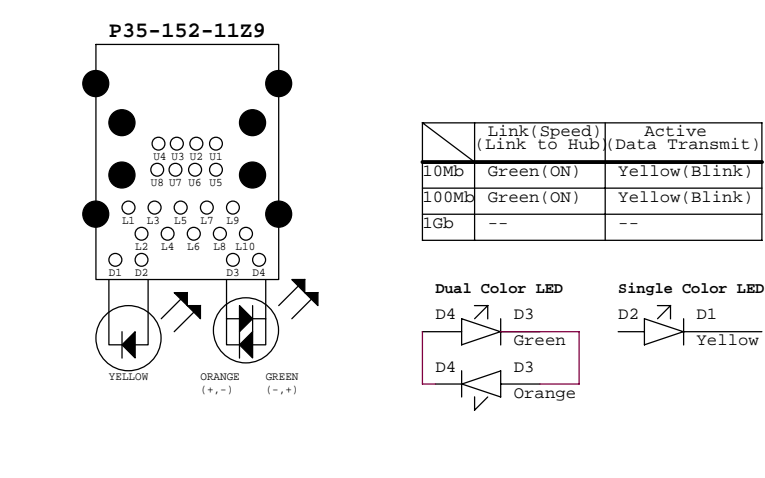
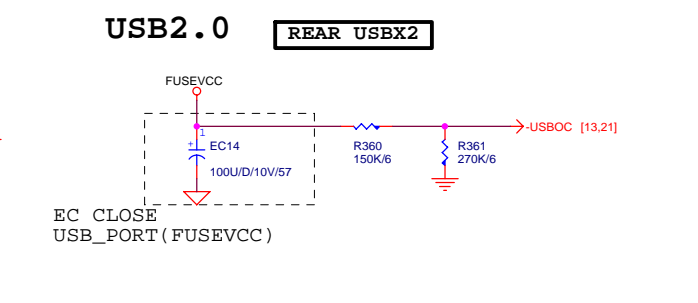
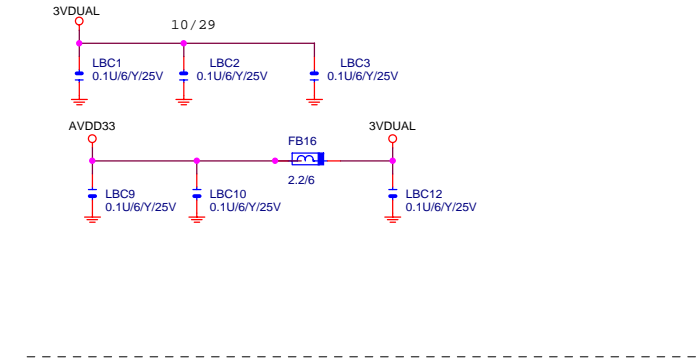
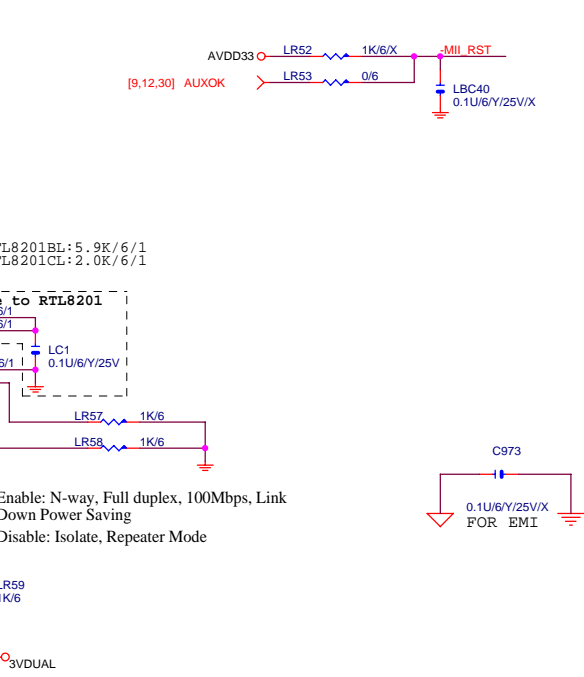
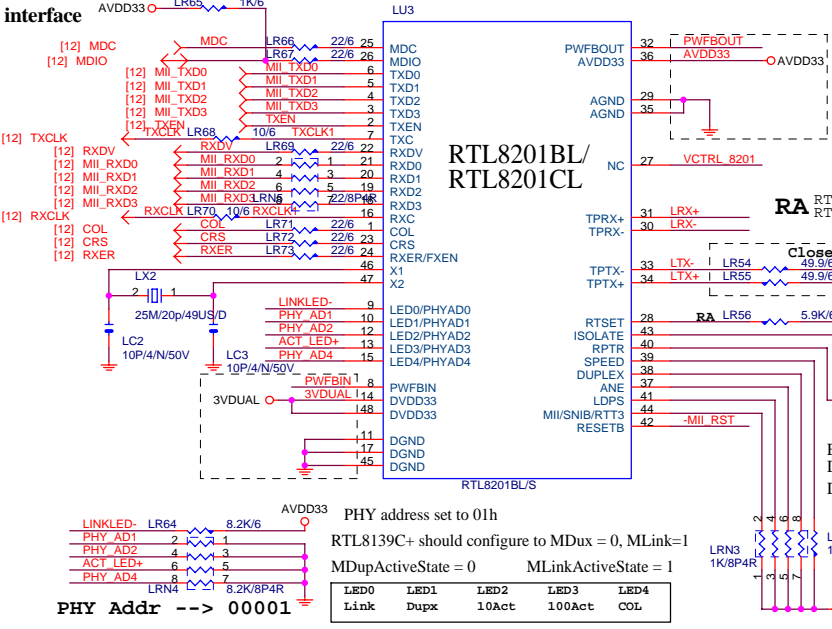
| | | |
|--------------------------|-------------------------------|----------------|
| GIGABYTE | | |
| COM,PRT,FDD,KB,IR | | |
| Title | Document Number | Rev |
| | 8S651MP-RZ | 1.1 |
| Size Custom | Date: Monday, August 16, 2004 | Sheet 24 of 32 |



| | |
|-------|--------------|
| NF | SIGMATEL9756 |
| Disti | ALC201A |

| | | |
|---------------------------------|-----------------------------------|----------------|
| GIGABYTE | | |
| Title AUDIO (AC97 CODEC) | | |
| Size Custom | Document Number 8S651MP-RZ | Rev 1.1 |
| Date: Monday, August 16, 2004 | Sheet 25 of 32 | |

Connect to MII interface

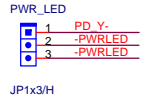
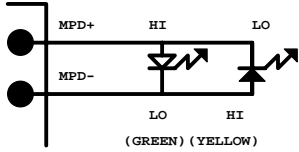


BLOCK A : The components inside BLOCK A are reserved for RTL8201B(.25u version). In RTL8201B, DVDD0 and AVDD0 will be fed 2.5V produced by BLOCK A which is functional as linear regulator and L3, R6 will be removed. In order to be layout-compatible between RTL8201 and RTL8201B, please reserve the component space and pads in your layout for future extension.

| | | |
|---------------------|-------------------------|----------------|
| GIGABYTE | | |
| LAN RTL8101L | | |
| Title | Document Number | Rev |
| | 8S651MP-RZ | 1.1 |
| Date: | Monday, August 16, 2004 | Sheet 27 of 32 |

FRONT PANEL

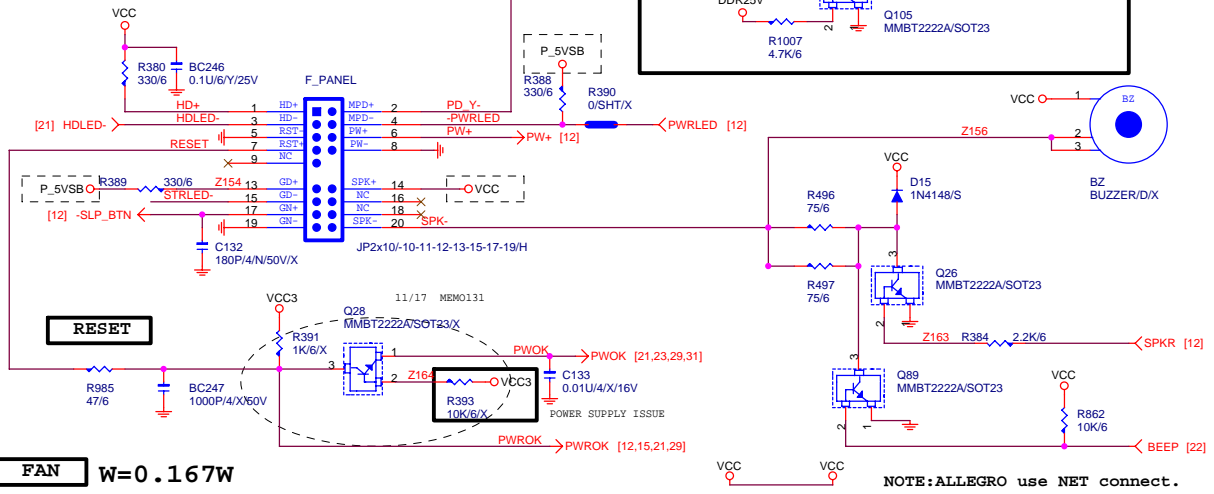
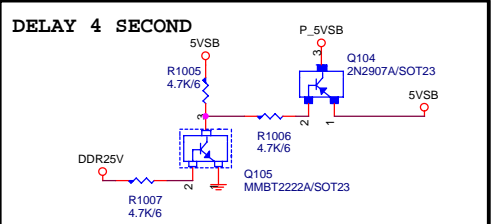
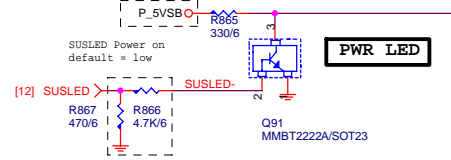
**PWR_LED FOR DISTI PIN 1X3
LED USED**



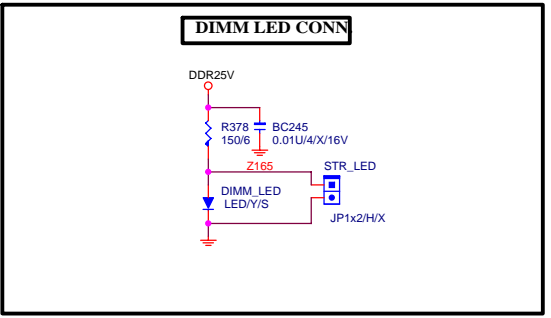
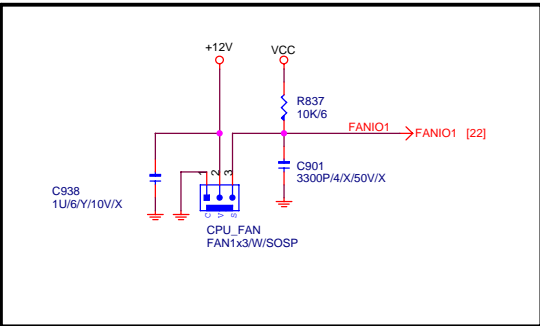
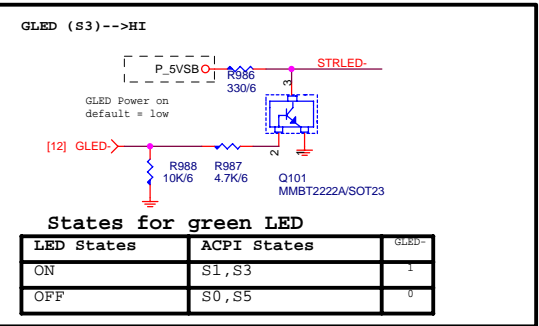
| LED States | ACPI States | MPD+ | MPD- |
|----------------|---------------------|------|----------|
| OFF | S1,S3,S5 | HI | HI |
| Steady Green | S0 | HI | LO |
| Blinking Green | S0(message waiting) | HI | BLINKING |

States for a dual-color power LED

| LED States | ACPI States | MPD+ | MPD- |
|-----------------|------------------------|------|----------|
| OFF | S5 | HI | HI |
| Steady Green | S0 | HI | LO |
| Blinking Green | S0(message waiting) | HI | BLINKING |
| Steady Yellow | S1,S3 | LO | HI |
| Blinking Yellow | S1,S3(message waiting) | LO | BLINKING |



CPU FAN W=0.167W

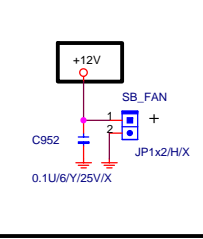
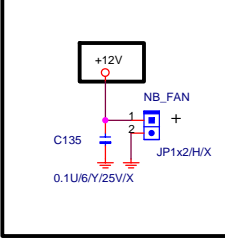
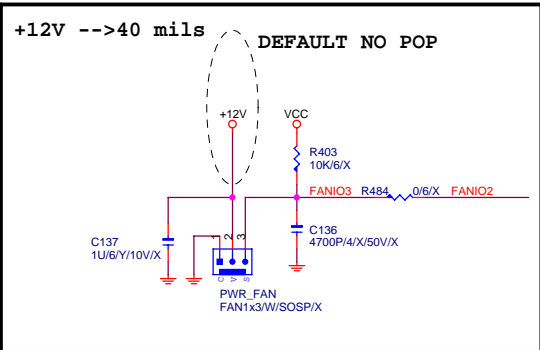
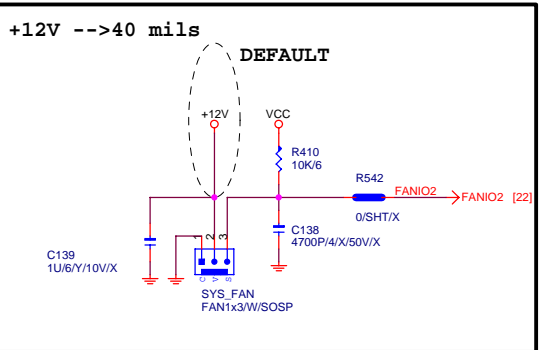


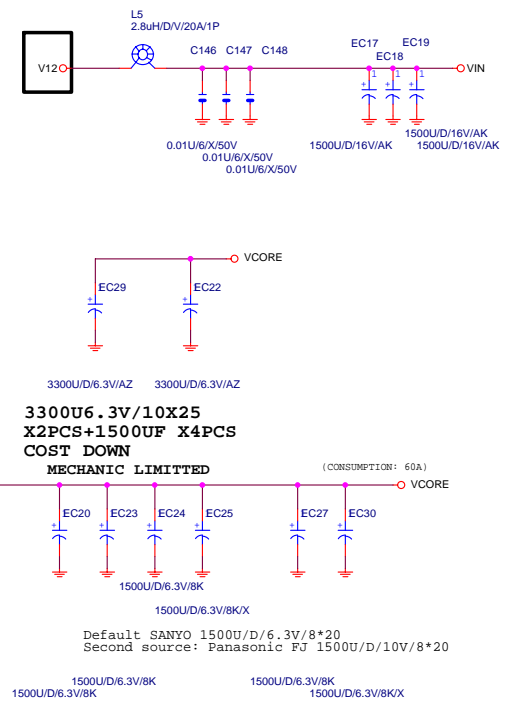
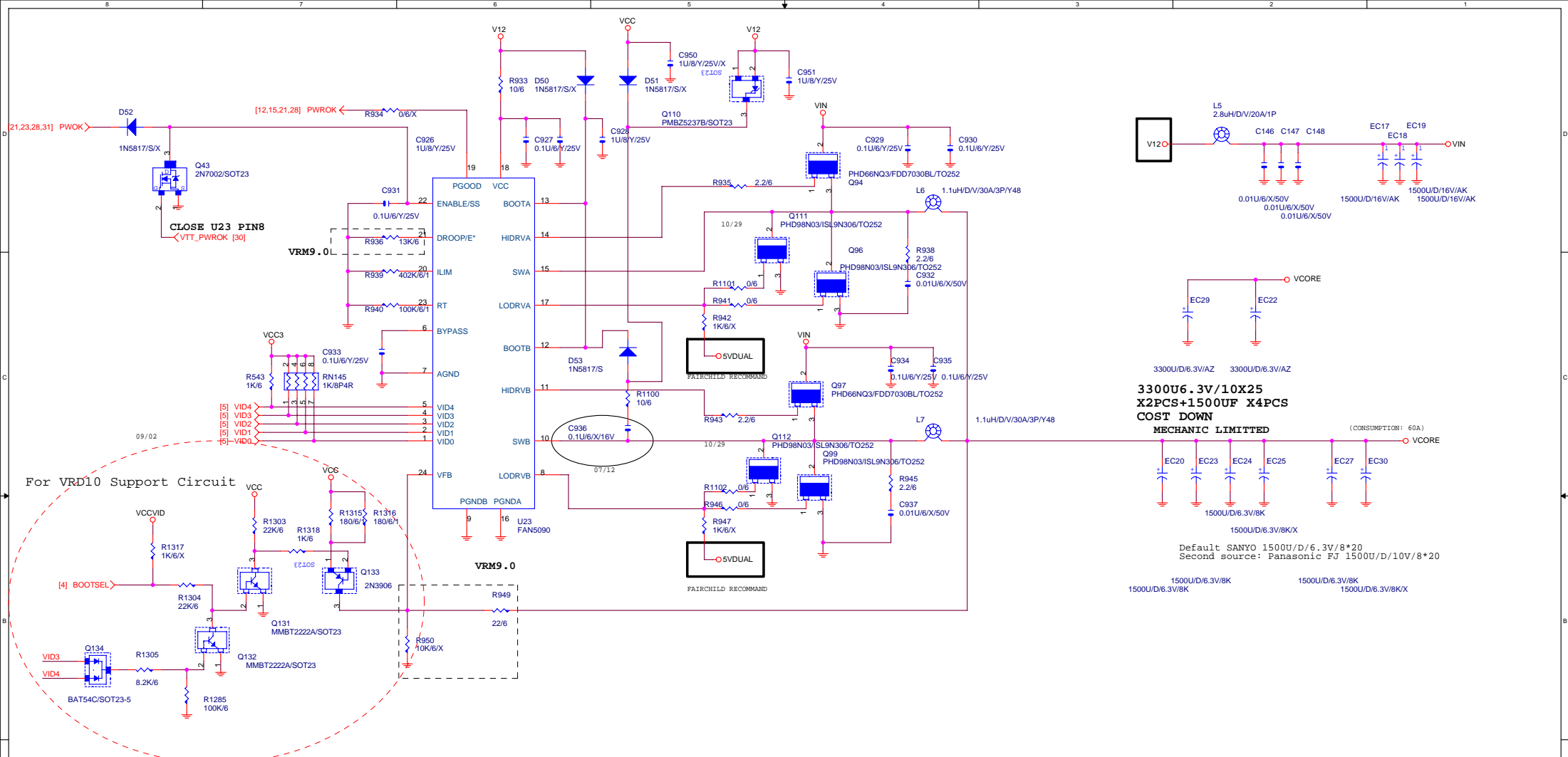
SYSTEM FAN W=0.167W

POWER FAN W=0.167W

NB HEAT SINK FAN

SB HEAT SINK FAN

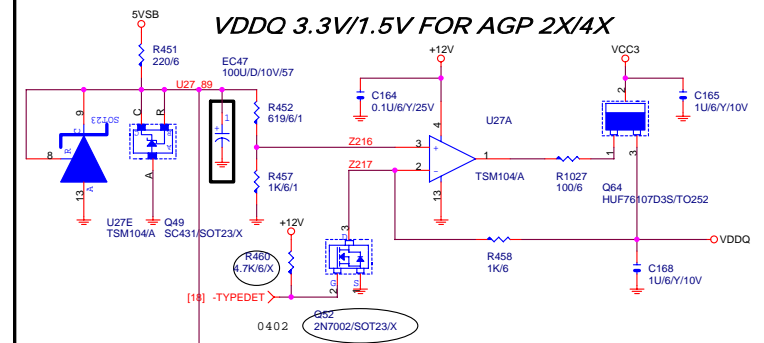




**3300U6.3V/10X25
X2PCS+1500UF X4PCS
COST DOWN
MECHANIC LIMITED**

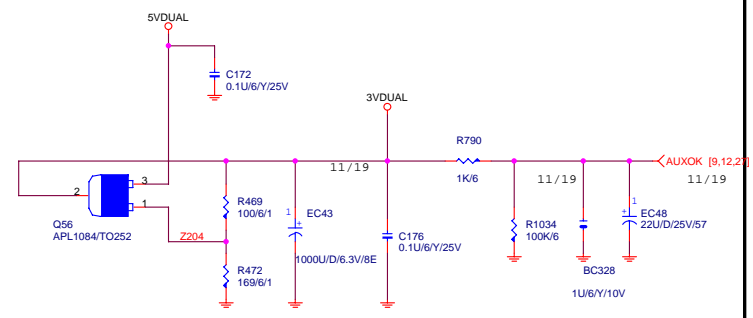
Default SANYO 1500U/D/6.3V/8*20
Second source: Panasonic FJ 1500U/D/10V/8*20

| | | |
|-----------------------------------|-----------------------------------|----------------|
| GIGABYTE | | |
| Title VCORE (PWM FAN5093M) | | |
| Size Custom | Document Number 8S651MP-RZ | Rev 1.1 |
| Date: Monday, August 16, 2004 | Sheet 29 | of 32 |

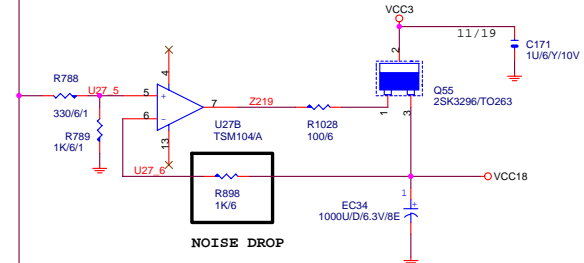


5VDUAL TRANS TO 3VDUAL(3.3V)

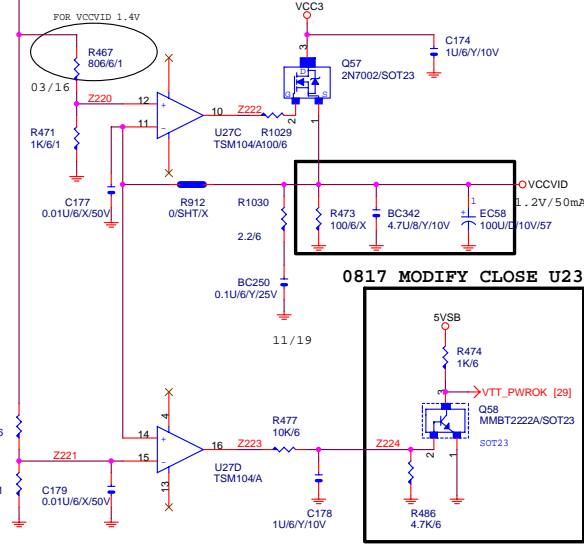
5VDUAL 80 mils ABOVE



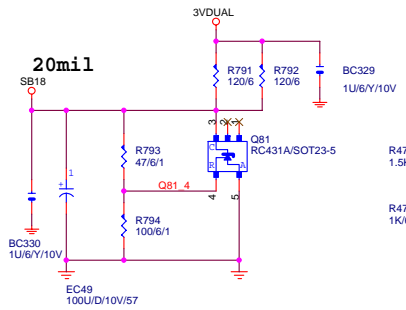
VCC18 FOR NB,SB



VCCVID FOR NORTHWOOD CPU

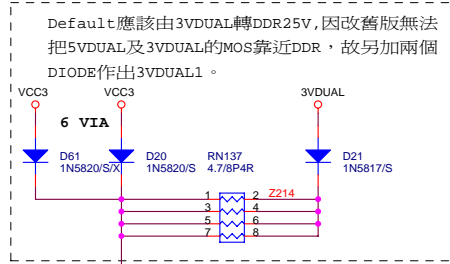


SB18 FOR SB

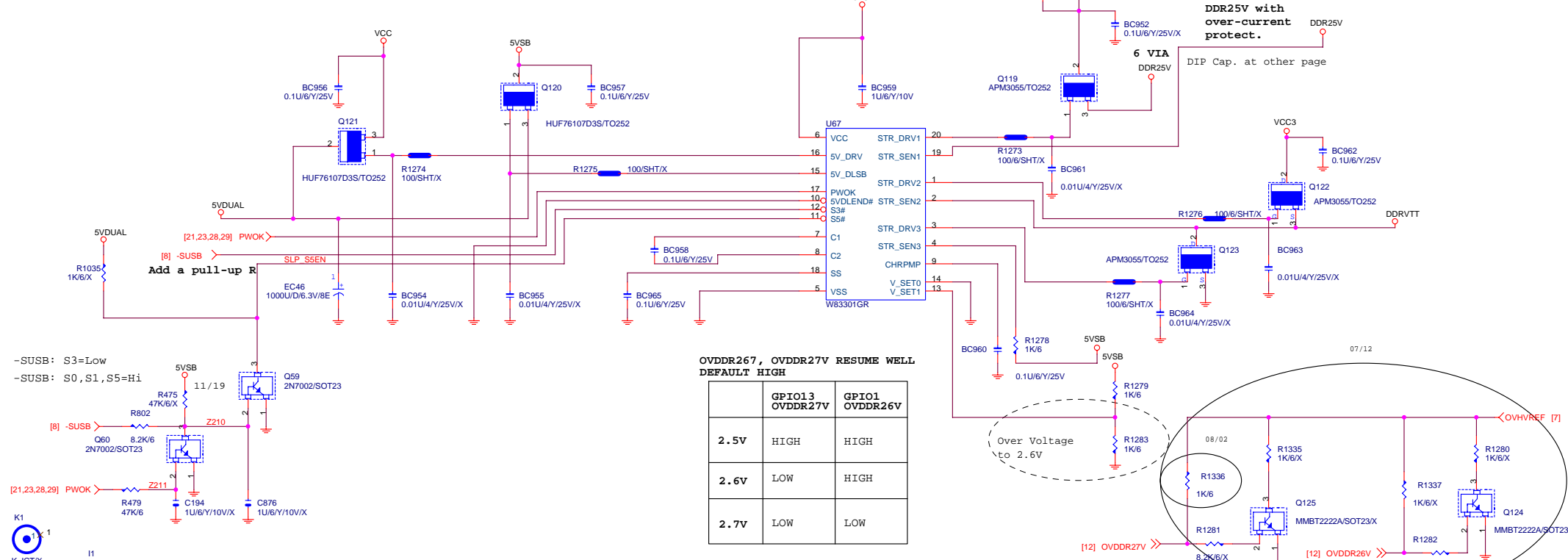


| | | |
|-------------------------------|-----------------|-------|
| GIGABYTE | | |
| DC POWER | | |
| Title | Document Number | Rev |
| Size | 8S651MP-RZ | 1.1 |
| Custom | | |
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ATX CON, DDR POWER



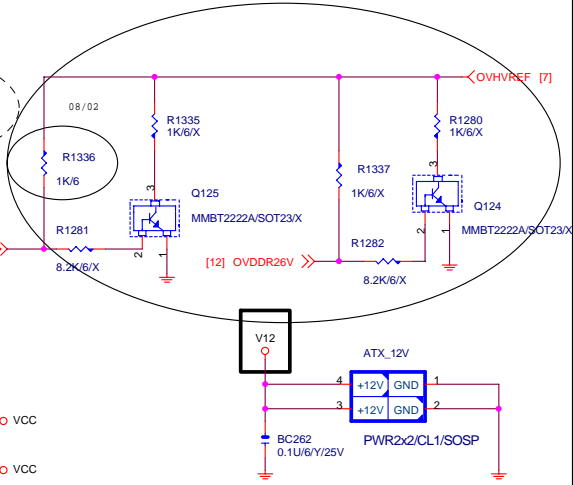
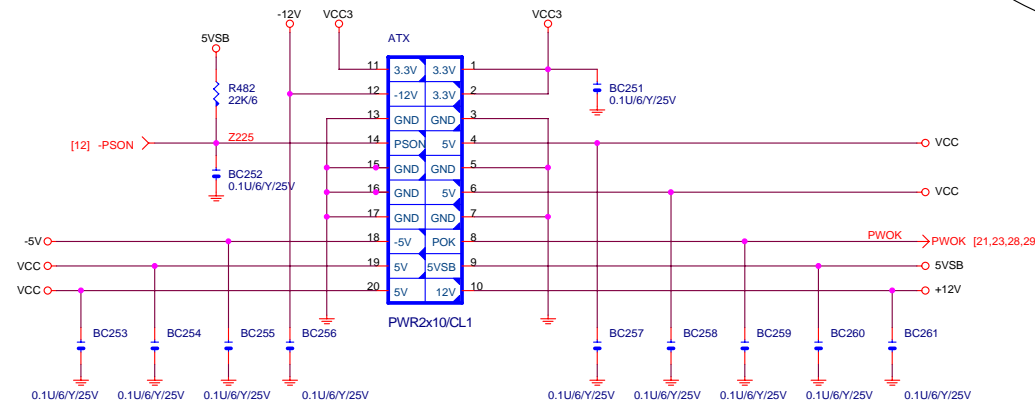
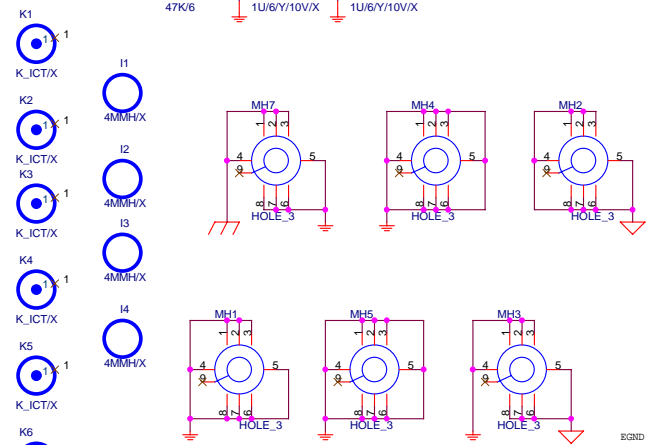
10/29



OVDDR267, OVDDR27V RESUME WELL DEFAULT HIGH

| | GPIO13 OVDDR27V | GPIO1 OVDDR26V |
|------|-----------------|----------------|
| 2.5V | HIGH | HIGH |
| 2.6V | LOW | HIGH |
| 2.7V | LOW | LOW |

Over Voltage to 2.6V



PB REQUEST V12
+12V TRACE
250MIL

GIGABYTE

ATX, DDR POWER

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ATX POWER CONNECTOR

5

4

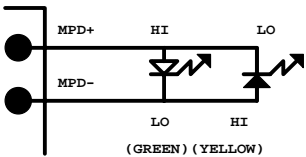
3

2

1

| RTL8100L ON-BOARD | | | |
|-------------------|-------|----------|---------------|
| | -REQ0 | PCI1 | IDSEL(A20)--B |
| | -REQ1 | PCI2 | IDSEL(A22)--C |
| | -REQ2 | PCI3 | IDSEL(A24)--D |
| | | | |
| | | | |
| | | | |
| | -REQ3 | RTL8100L | IDSEL(A27)--B |

| 8SRXL South Bridge GPIO LIST | | | | | |
|------------------------------|--------------------|------|-----------------------------------|---------|--|
| ITEM | DESCRIPTION | I/O | STATUS | Default | |
| GPIO0 | Bios Write Protect | O | Hi:Write Enable, Lo:Write Protect | Hi | |
| GPIO1 | N/A | | PULL-UP | Hi | |
| GPIO2 | THERM# | | | Hi | |
| GPIO3 | Green Button | O | Hi:Normal, Lo:Into Green mode | Hi | |
| GPIO4 | CLKRUN# | | PULL-DOWN | Lo | |
| GPIO5 | N/A | | PULL-UP | Hi | |
| GPIO6 | DDR OVER VOLTAGE | O | | Hi | |
| GPIO7 | SUSLED | O | AS LIKE DEFINED... | Lo | |
| GPIO8 | Wake On Ring | I | Hi:Normal, Lo:Ring Power On | Hi | |
| GPIO9 | GLED | I | AS LIKE DEFINED... | Lo | |
| GPIO10 | Mother Board ID | I | SIS DEMO B/D PULL-DOWN | Lo | |
| GPIO11 | N/A | | PULL-UP | Hi | |
| GPIO12 | N/A | | PULL-UP | Hi | |
| GPIO13 | Mother Board ID | I | SIS DEMO B/D PULL-DOWN | Lo | |
| GPIO14 | DDR OVER VOLTAGE | I | | Lo | |
| GPIO15 | KB Data | I/OD | | | |
| GPIO16 | KB Clk | I/OD | | | |
| GPIO17 | MS Data | I/OD | | | |
| GPIO18 | MS Clk | I/OD | | | |



States for a single-color power LED

| LED States | ACPI States | BIOS | | | |
|----------------|---------------------|------|----------|-------|----------|
| | | MPD+ | MPD- | GPIO7 | ACPILED |
| OFF | S5 | HI | HI | LO | HI/NC |
| Steady Green | S0 | HI | LO | LO | LO |
| Blinking Green | S0(message waiting) | HI | BLINKING | LO | BLINKING |

States for a dual-color power LED

| LED States | ACPI States | BIOS | | | |
|-----------------|------------------------|------|----------|-------|----------|
| | | MPD+ | MPD- | GPIO7 | ACPILED |
| OFF | S5 | HI | HI | LO | HI/NC |
| Steady Green | S0 | HI | LO | LO | LO |
| Blinking Green | S0(message waiting) | HI | BLINKING | LO | BLINKING |
| Steady Yellow | S1,S3 | LO | HI | HI | HI |
| Blinking Yellow | S1,S3(message waiting) | LO | BLINKING | HI | BLINKING |

States for green LED

| LED States | ACPI States | BIOS | |
|------------|-------------|-------|-------|
| | | GLED- | GPIO9 |
| ON | S1,S3 | HI | HI |
| OFF | S0,S5 | LO | LO |

BIOS REQUEST

| SINGLE | DUAL | INTEL LED DEFINED | | | | GIGABYTE LED DEFINED | | | | SINGLE | DUAL |
|--------|--------|-------------------|-------|---------|-------|----------------------|-------|----------|-------|----------|----------|
| | | | GPIO7 | ACPILED | GPIO9 | | GPIO7 | ACPILED | GPIO9 | | |
| GREEN | GREEN | S0 | LO | LO | LO | S0 | LO | LO | LO | GREEN | GREEN |
| OFF | YELLOW | S1 | HI | HI | HI | S1 | LO | BLINKING | HI | G(BLINK) | G(BLINK) |
| OFF | YELLOW | S3 | HI | HI | HI | S3 | HI | HI | HI | OFF | YELLOW |
| OFF | OFF | S4/S5 | LO | HI/NC | LO | S4/S5 | LO | HI/NC | LO | OFF | OFF |

GIGABYTE

| | | | | | |
|--------|-------------------------|-------|---------------------|----|----|
| Title | | | GPIO, REQ/GNT Table | | |
| Size | Document Number | Rev | | | |
| Custom | 8S651MP-RZ | 1.1 | | | |
| Date: | Monday, August 16, 2004 | Sheet | 32 | of | 32 |