

Model Name:GA-P41T-D3

Revision 1.3

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03	BOM & PCB MODIFY HISTORY
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05	P4_LGA775_B,D
06	P4_LGA775_C
07	P4_LGA775_E,F,G,H
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09	Eaglelake DDR
10	Eaglelake PCI_EXP_16,DMI
11	Eaglelake VGA
12	Eaglelake GND
13	Eaglelake PWR
14	PCI EXPRESS*16 SLOT
15	DDRII CHANNEL A
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17	DDRII TERMINATION
18	ICH7 PCI, USB, DMI, LAN
19	ICH7 IDE, GPIO, SATA, CTRL
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24	ITE 8718 GB/HX
25	COM_LPT
26	CI,HWM,KB/MS,DUAL BIOS
27	ALC888

SHEET

TITLE

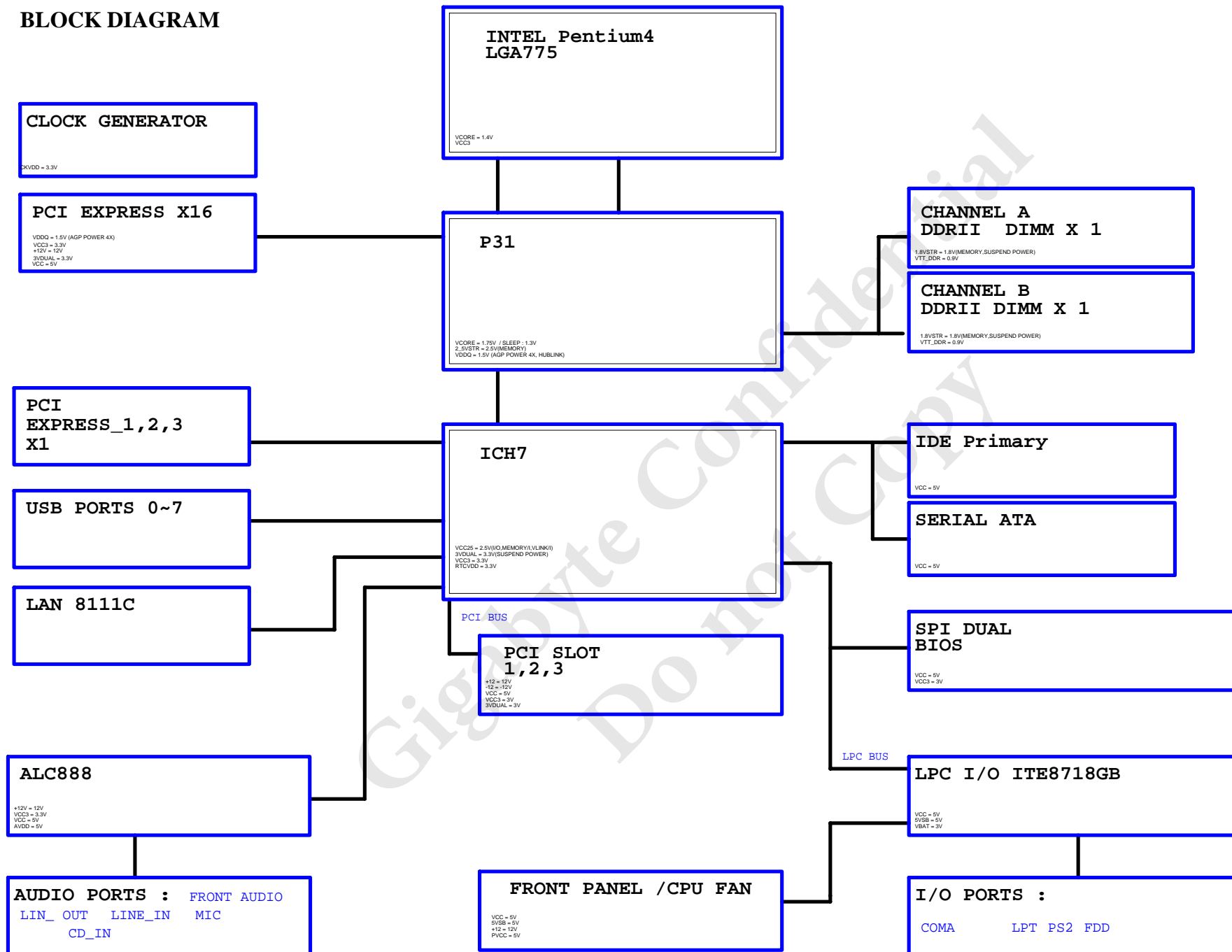
28	REAR AUDIO JACK
29	DISCRETE POWER
30	VCORE PWM_ISL6312
31	ATX, OTHERS POWER
32	FRONT PANEL
33	REALTEK RTL8111D
34	PCI SLOT3,PCIE*2,3

Gigabyte Technology

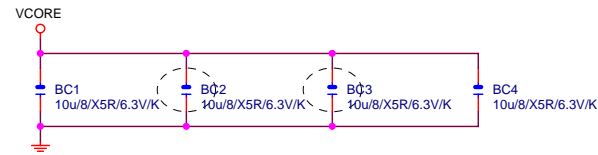
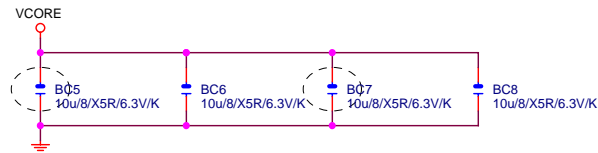
Cover Sheet

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## BLOCK DIAGRAM

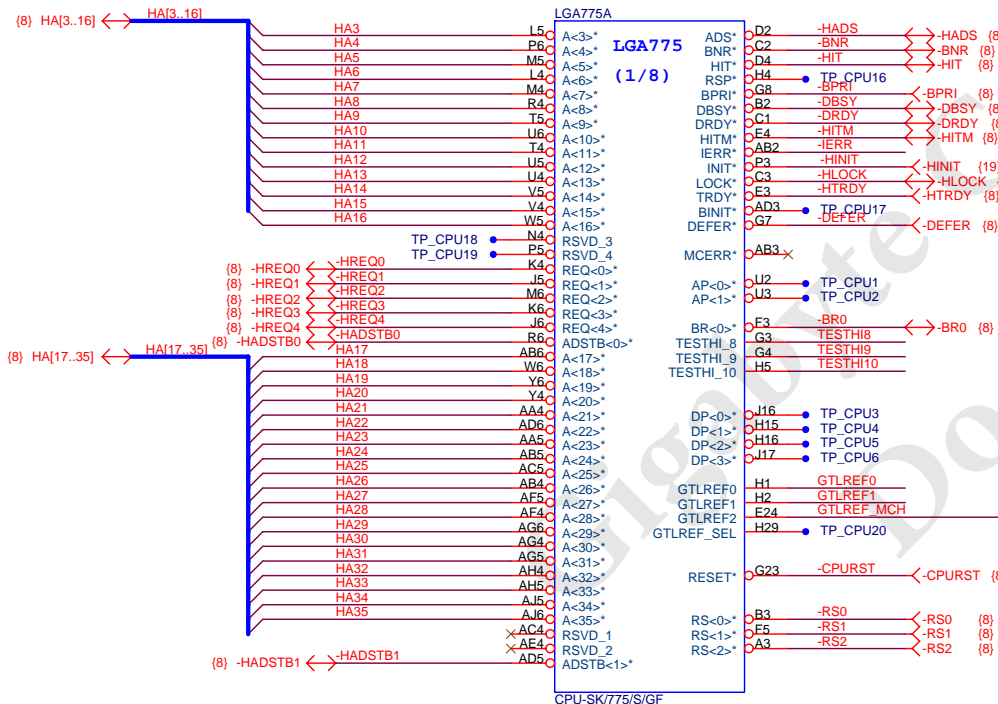


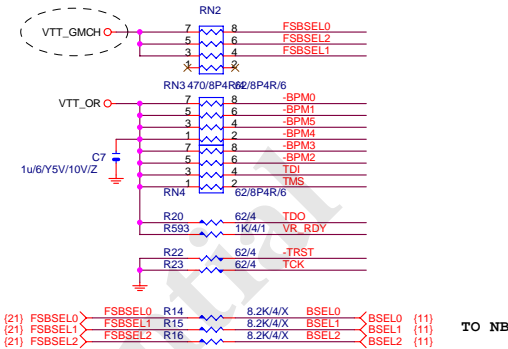
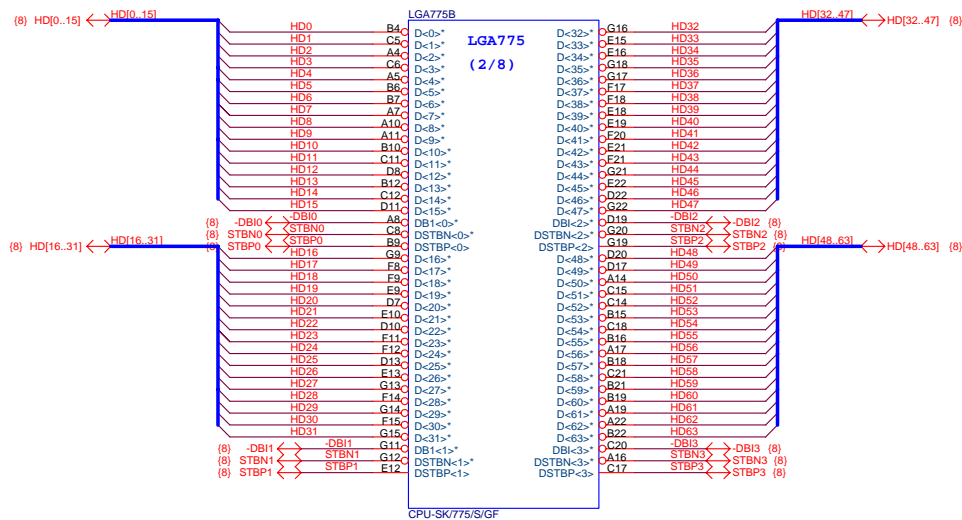




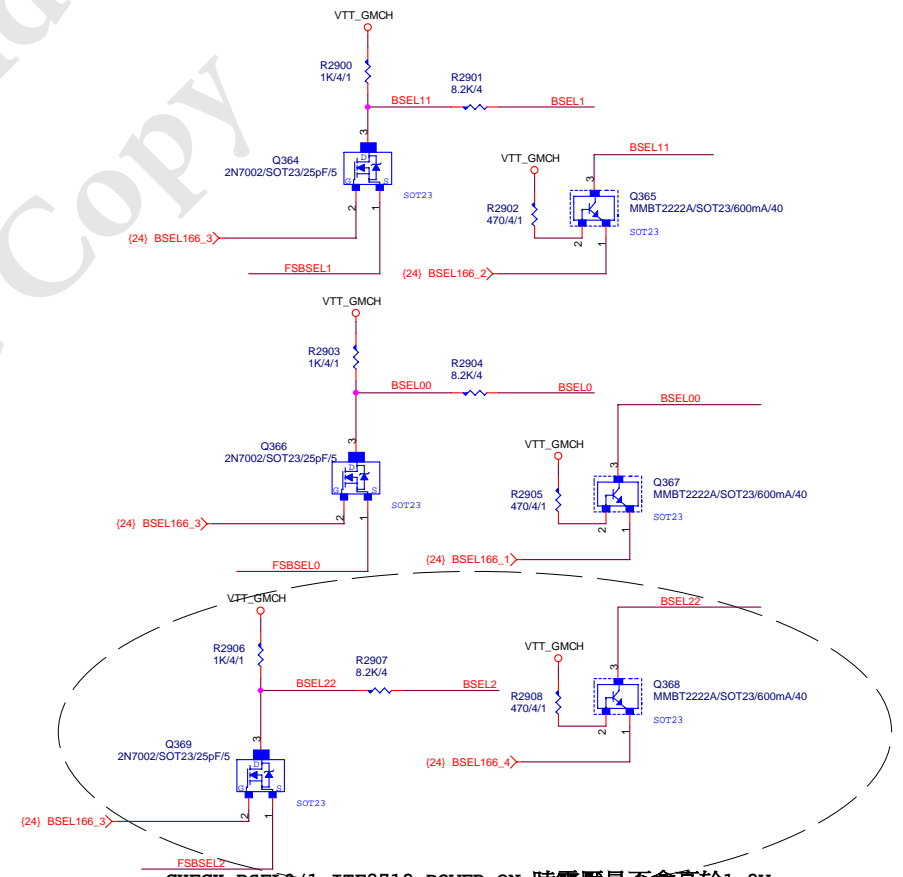
## LGA775-39-2

LGA775A

LGA775  
(1/8)



## FOR ALL DDR CLK RATIO



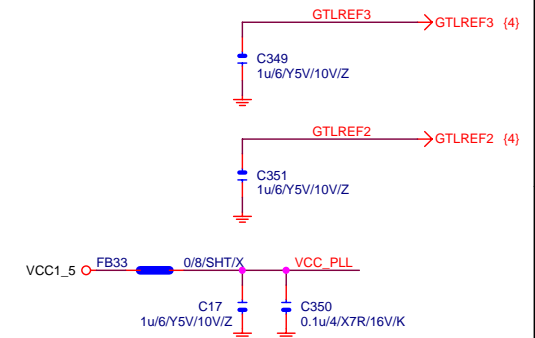
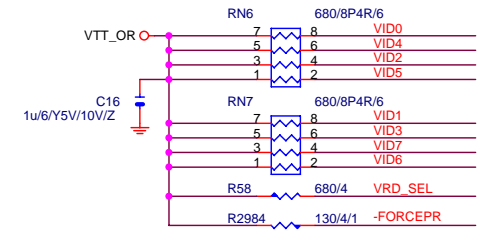
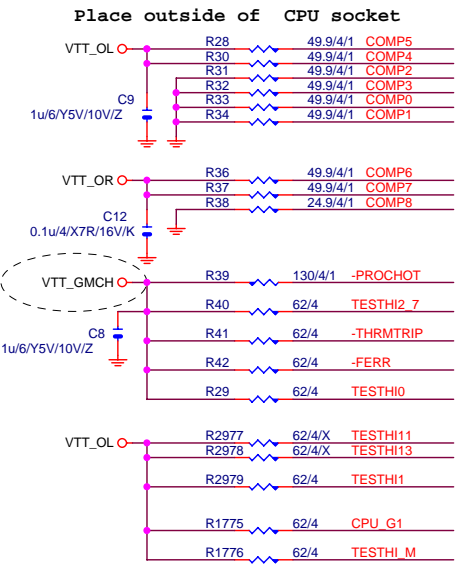
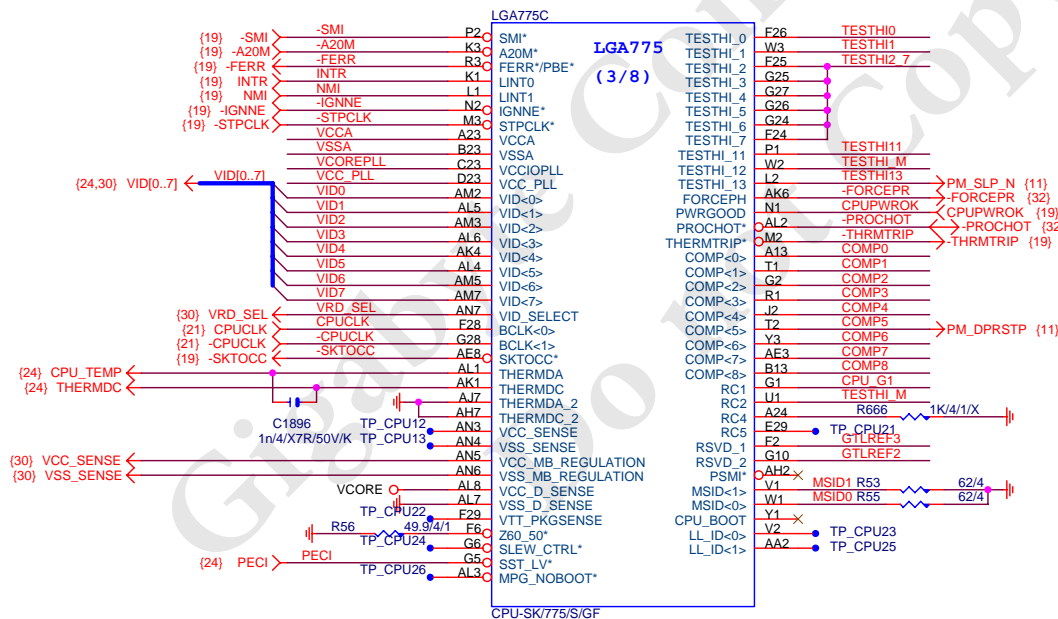
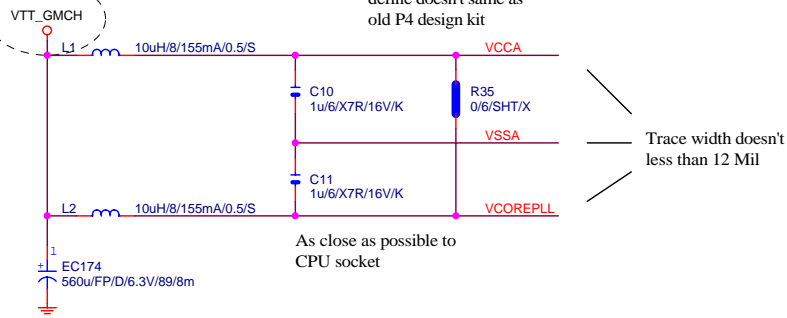
FORCE 400MHz CPU TO 333MHz

	FSA	FSB	FSC		
FSBSEL0	FSBSEL1	FSBSEL2	Clock		
?	1	0	1	100MHz	
?	1	0	0	133MHz	3/4
G31	0	1	0	200MHz	400/533
G31	0	0	0	266MHz	400/533/667/800
G31	0	0	1	333MHz	533/667/800/1066
	0	1	1	400MHz	667/800

CHECK BSEL0/1- ITE8712 POWER ON 時電壓是否會高於1.2V

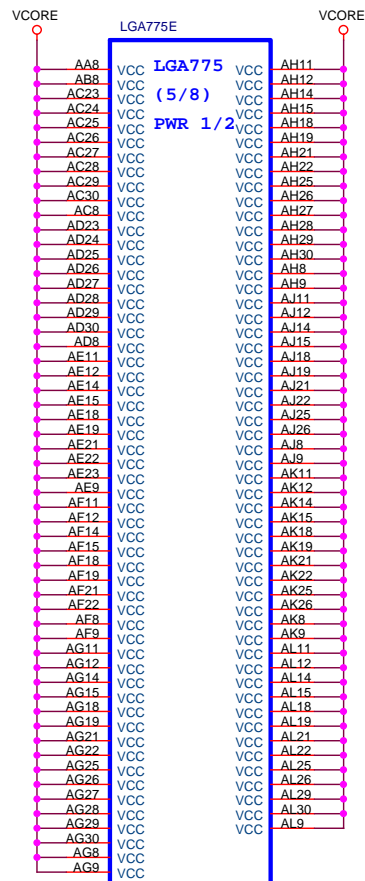
**Note:**

VCCA & VCOREPLL  
define doesn't same as  
old P4 design kit

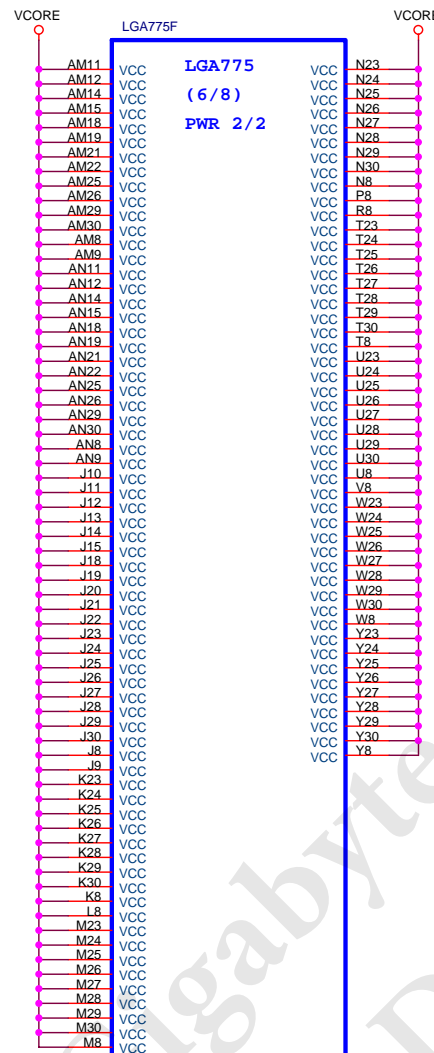
**Gigabyte Technology**

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P4_LGA775-C			
Size	Document Number	Rev	
B	GA-P41T-D3	1.3	
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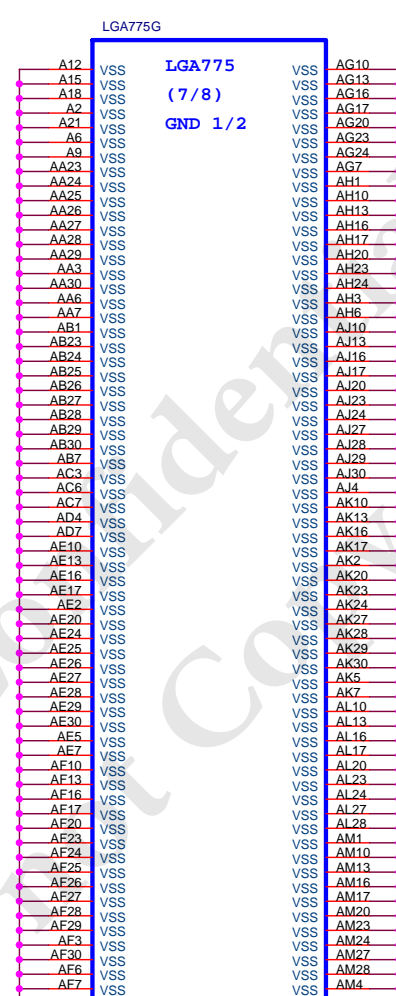
PECI:Platform Environment Control Interface



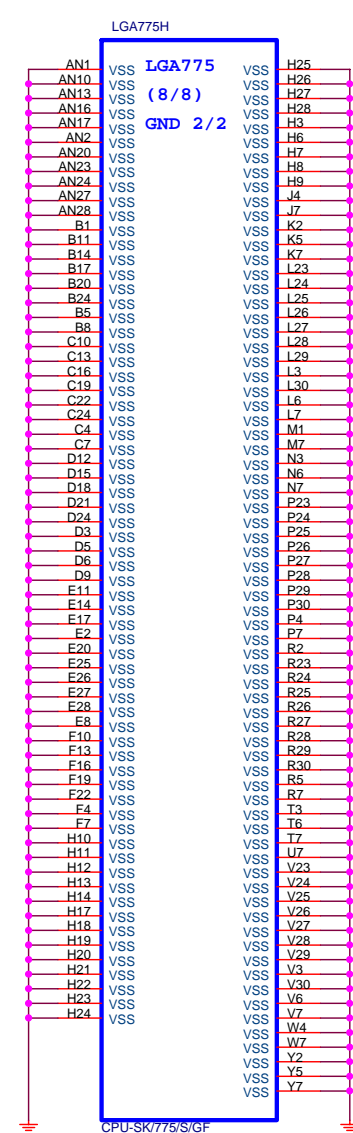
CPU-SK/775/S/GF



CPU-SK/775/S/GF



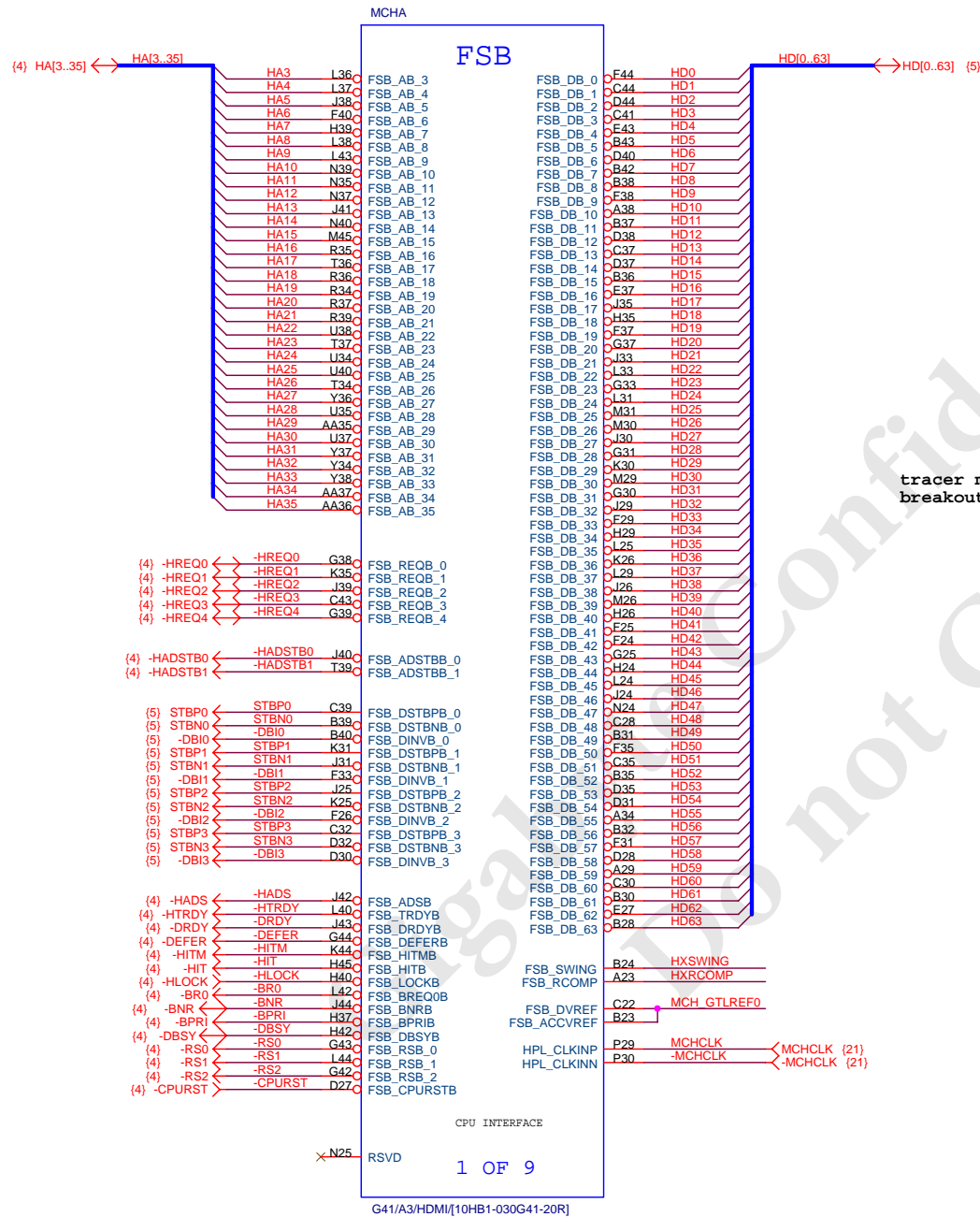
CPU-SK/775/S/GF



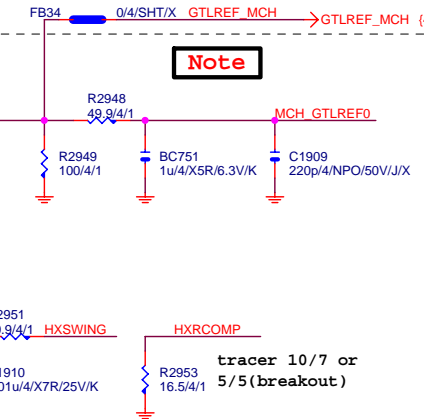
CPU-SK/775/S/GF

Gigabyte Technology

Title		P4_LGA775-E,F,G,H	
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Not used for CoreTM2 Duo and Wolfdale



Gigabyte Technology

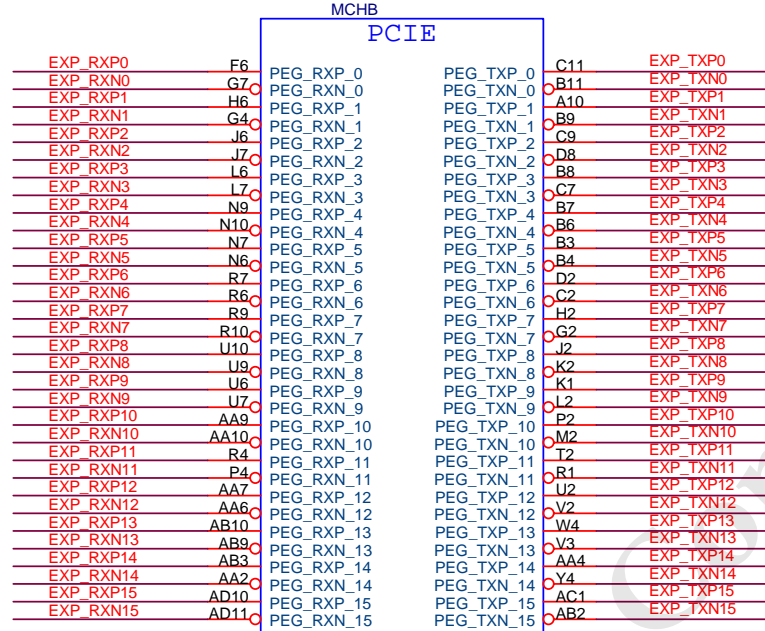
Title		GMCH-HOST	
Size	Document Number	GA-P41T-D3	
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PCIEX16:16/5/5/5/16(breakout min 8/4/5/4/8)

Impedance=85 +/- 17.5%

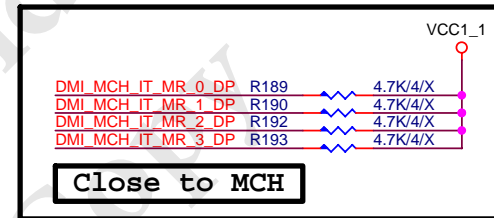
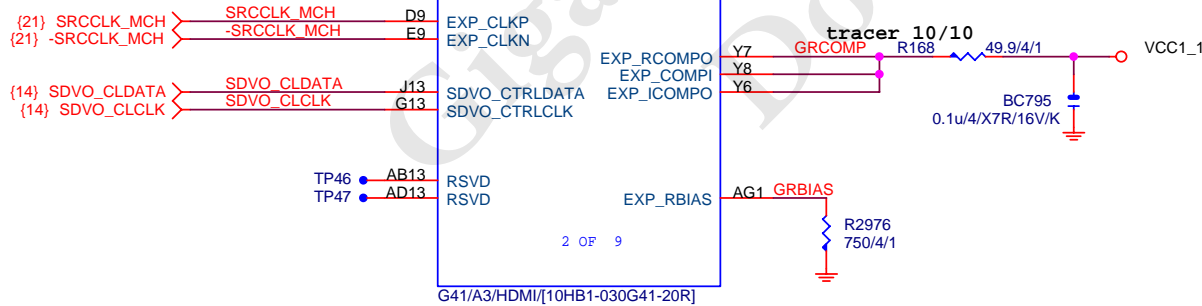
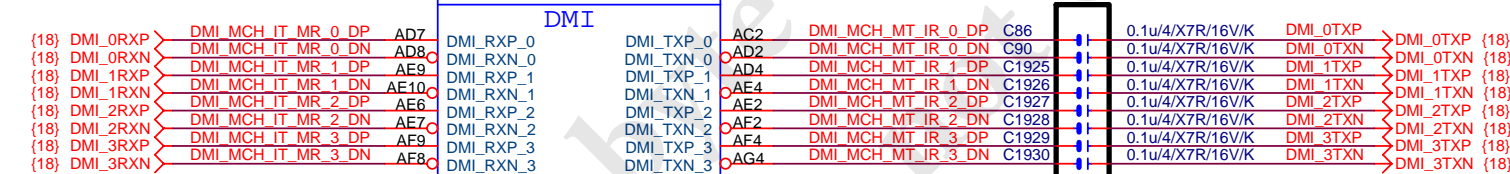


EXP\_TXP[0..15] >> EXP\_TXP[0..15] {14}

EXP\_TXN[0..15] >> EXP\_TXN[0..15] {14}

EXP\_RXP[0..15] >> EXP\_RXP[0..15] {14}

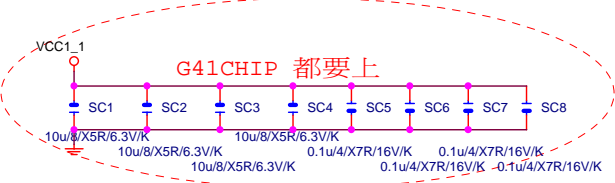
EXP\_RXN[0..15] >> EXP\_RXN[0..15] {14}

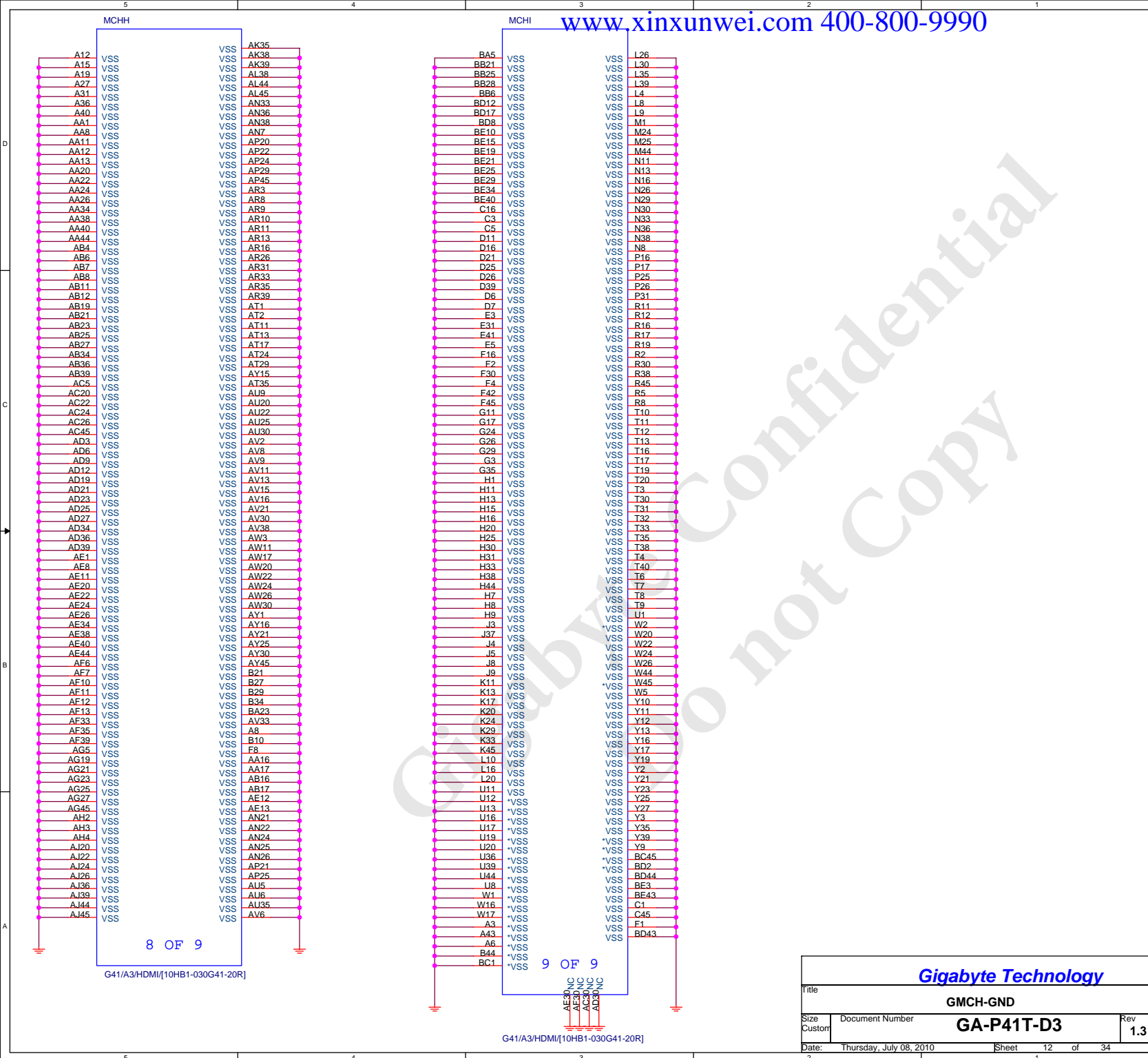
DMI:12/4/8/4/12  
Impedance=95 +/- 17.5%

Gigabyte Technology

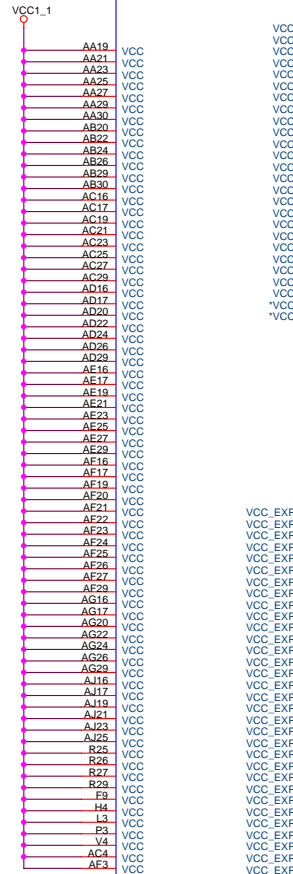
Title			GMCH-PCI E & DMI	
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```
0:SDVO OR PCIE
1:BOTH SDVO AND
PCIE
EXP_SLR:
0:BTX PCIE are reversed
1:ATX PCIE normal
```

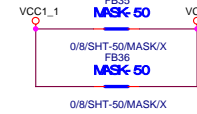




## POWER

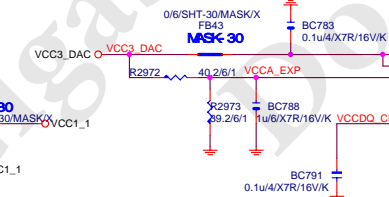
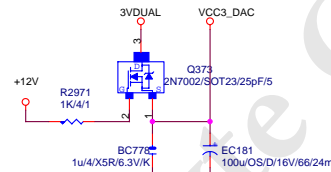


G41/A3/HDMI[10HB1-030G41-20R]

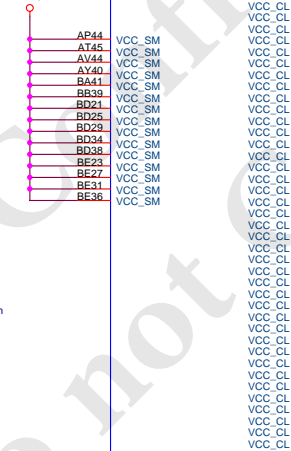


CLOSE北橋 (注意震盪水波紋)

VCC3\_DAC



## POWER



G41/A3/HDMI[10HB1-030G41-20R]

VCC1\_1

VCC1\_1

VCC1\_1

VCC1\_1

VCC1\_1

VCC1\_1

VCC1\_1

VCC1\_1

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VCC1\_1

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VCC1\_1

VCC1\_1

請考慮是否將短路移除

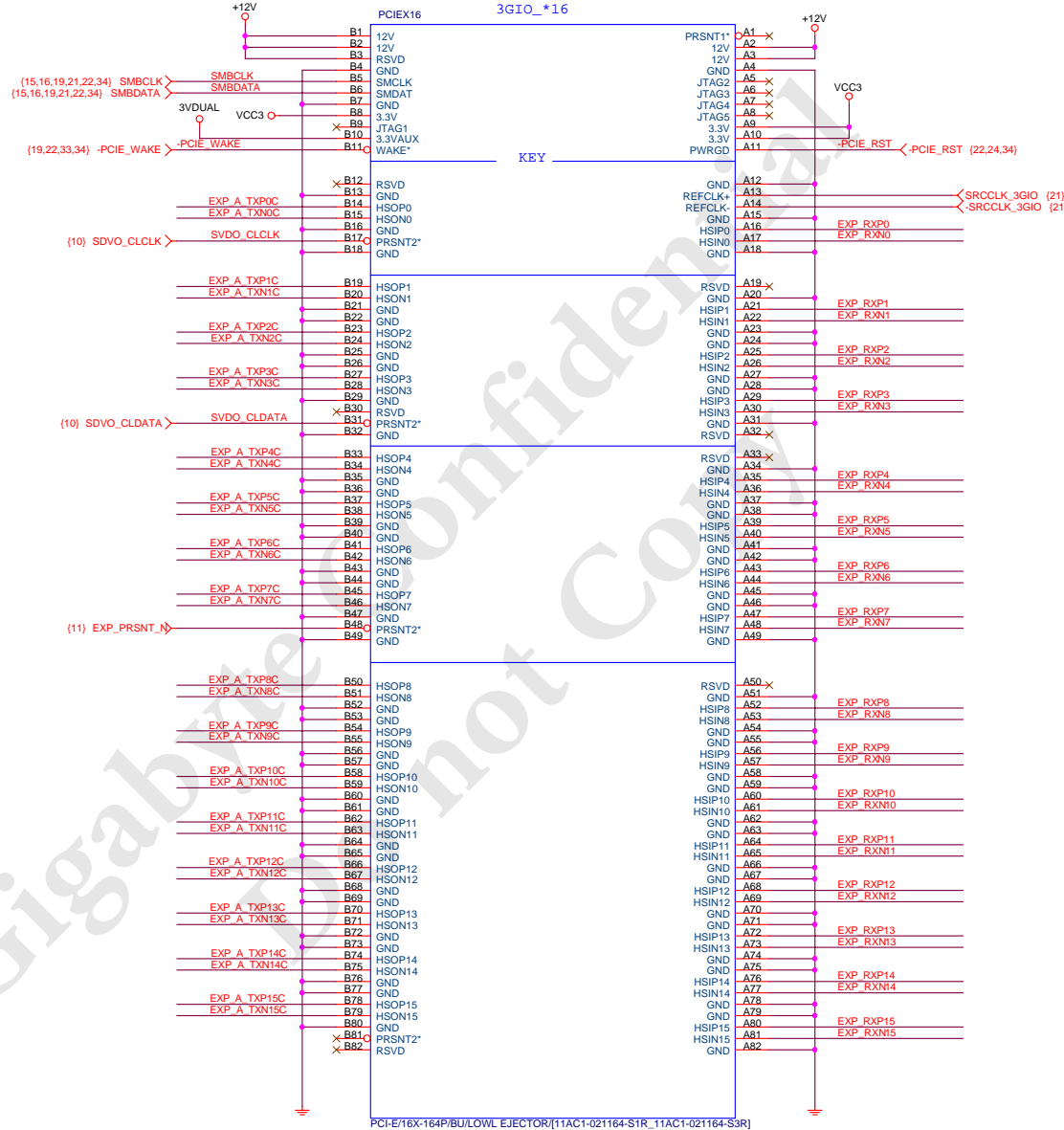
Gigabyte Technology

GMCH-PWR

GA-P41T-D3

Rev 1.3

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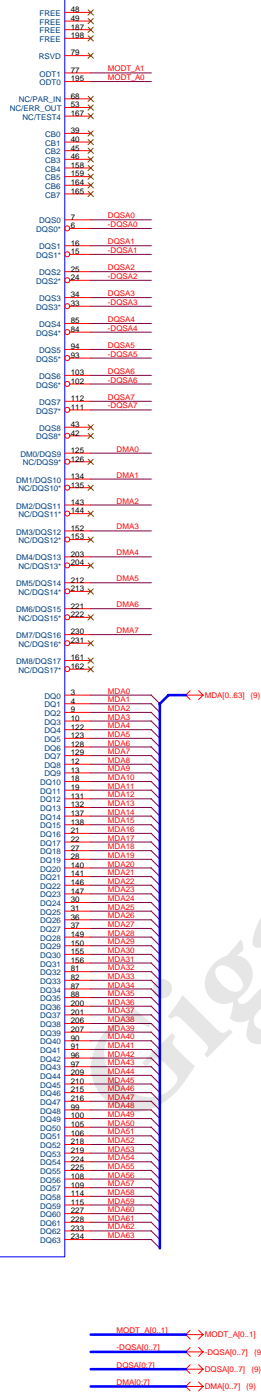


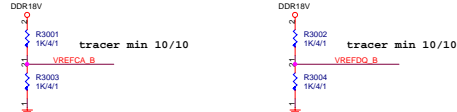
## Gigabyte Technology

Size Custom	Document Number <b>GA-P41T-D3</b>
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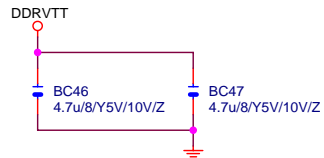




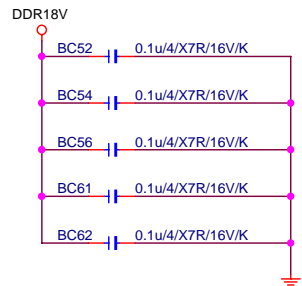


## DDR TERMINATION CHANNEL A

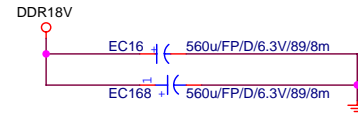
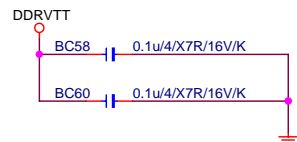
### DDRVTT Decouple



### DDR18V Decouple

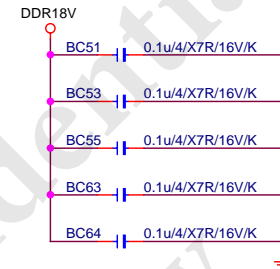


### DDRVTT Decouple

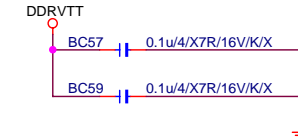


## DDR TERMINATION CHANNEL B

### DDR18V Decouple



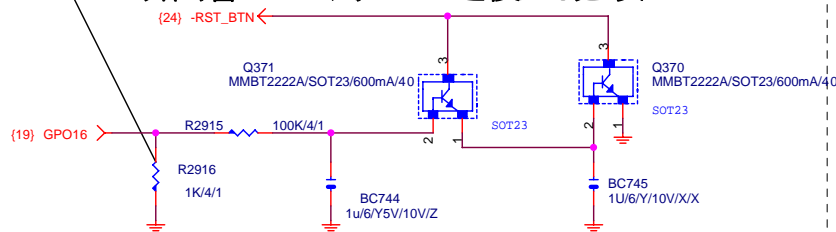
### DDRVTT Decouple



**Gigabyte Technology**

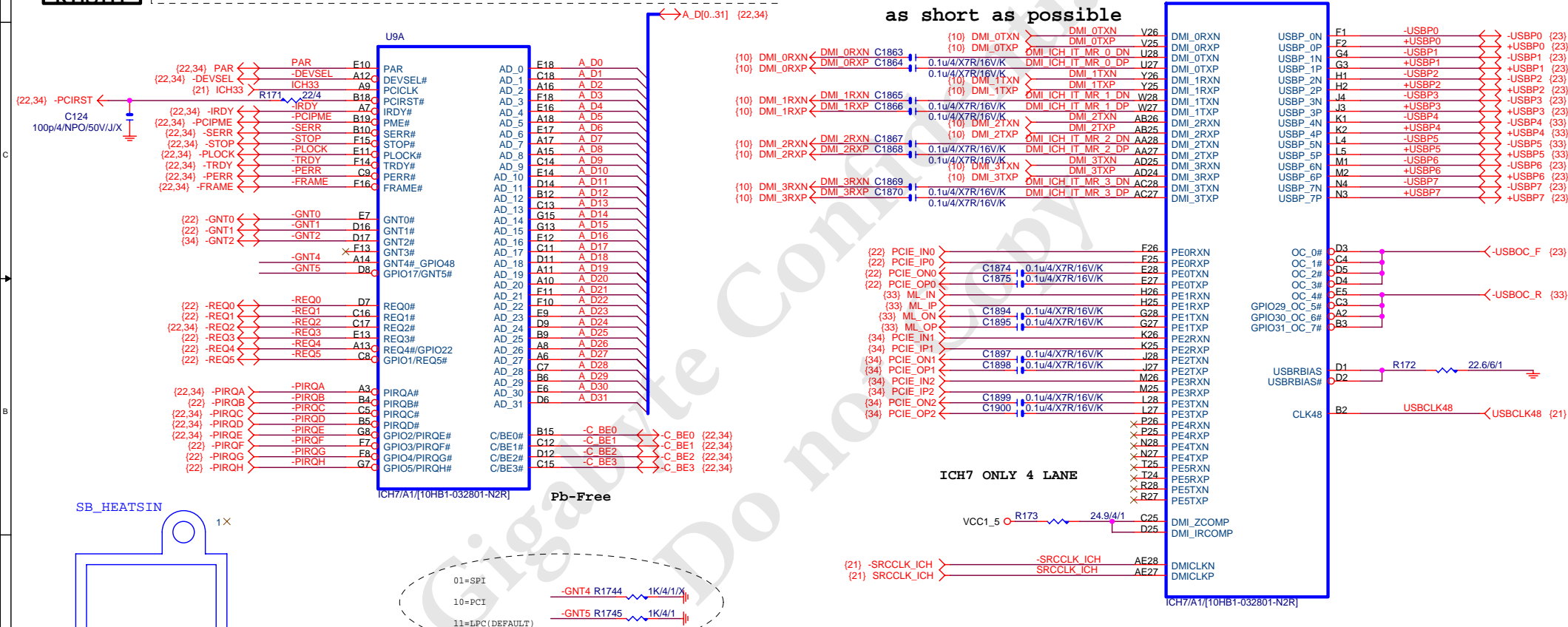
Title			DDR II TERMINATOR
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FOR ICH7R POWER ON 瞬間會HIGH 到1.8V 之後0V,必須PULL DOWN 1K/6



H/W  
RESET

Close to ICH  
as short as possible



SB\_HEATSIN

## Pb-Free

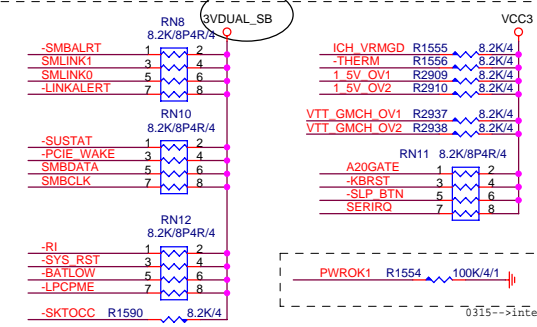
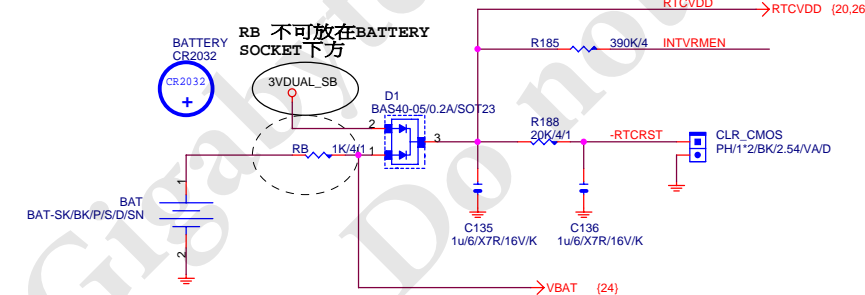
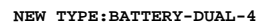
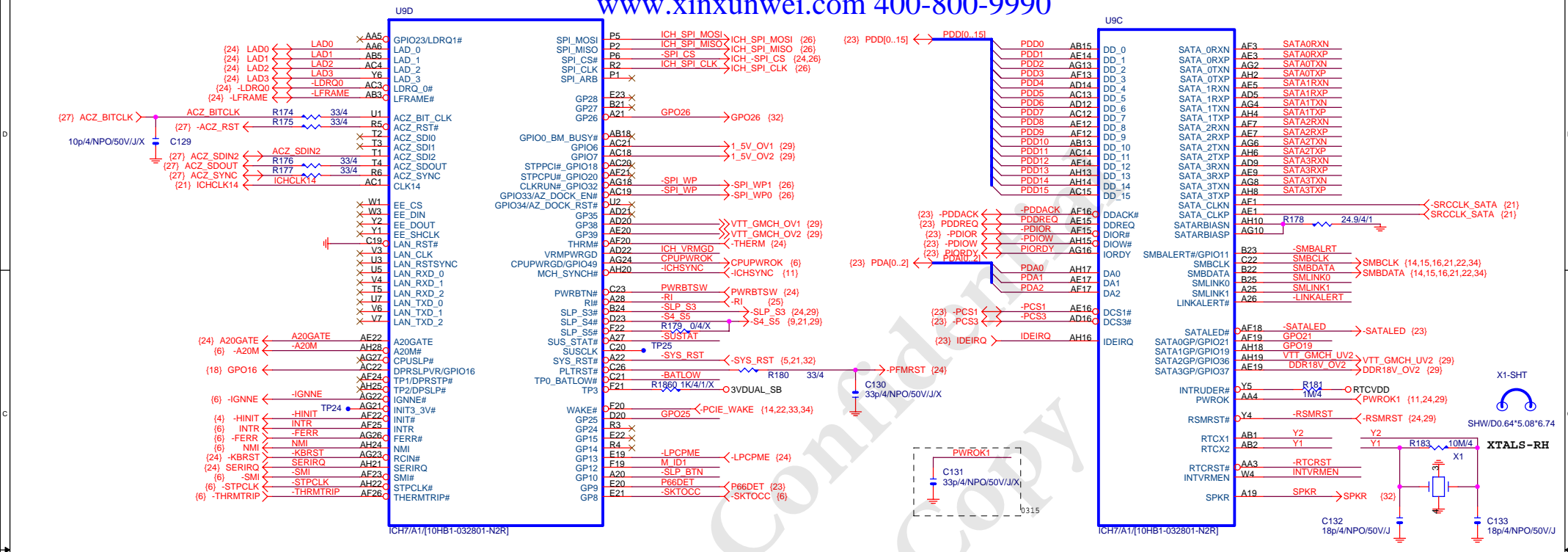
ICH7 ONLY 4 LANE

**Gigabyte Technology**

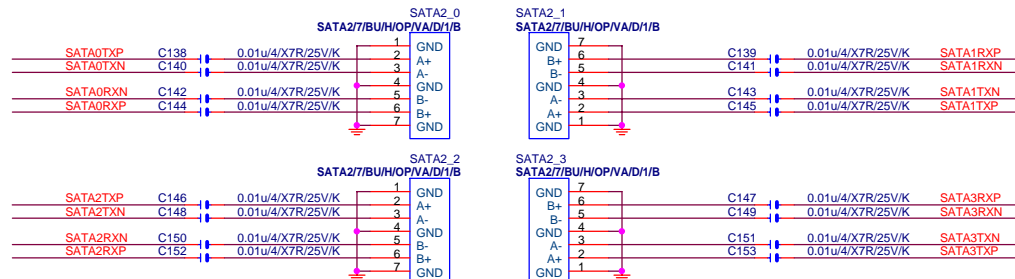
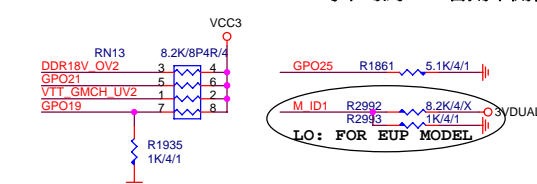
## ICH7-PCI, DMI, LAN, USB

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GPO25 PULL-DOWN CHECK  
GPO25 (-RSMRST  
LATCH時不可爲LOW,否則不開機)



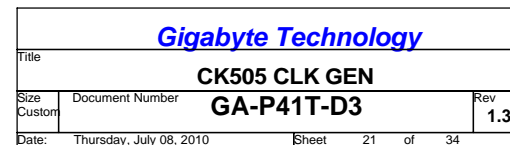


## ICH7-PWR & GND

Size B	Document Number <b>GA-P41T-D3</b>
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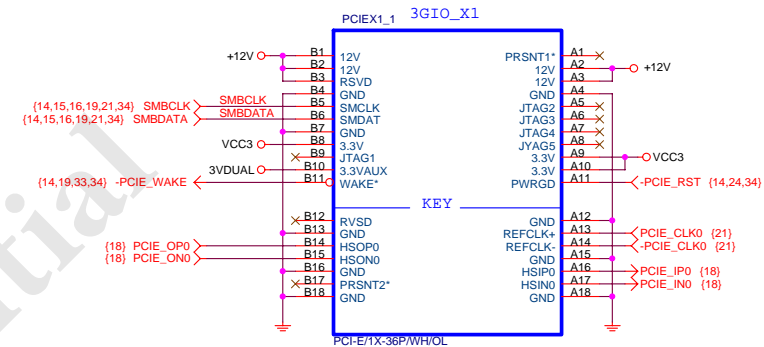
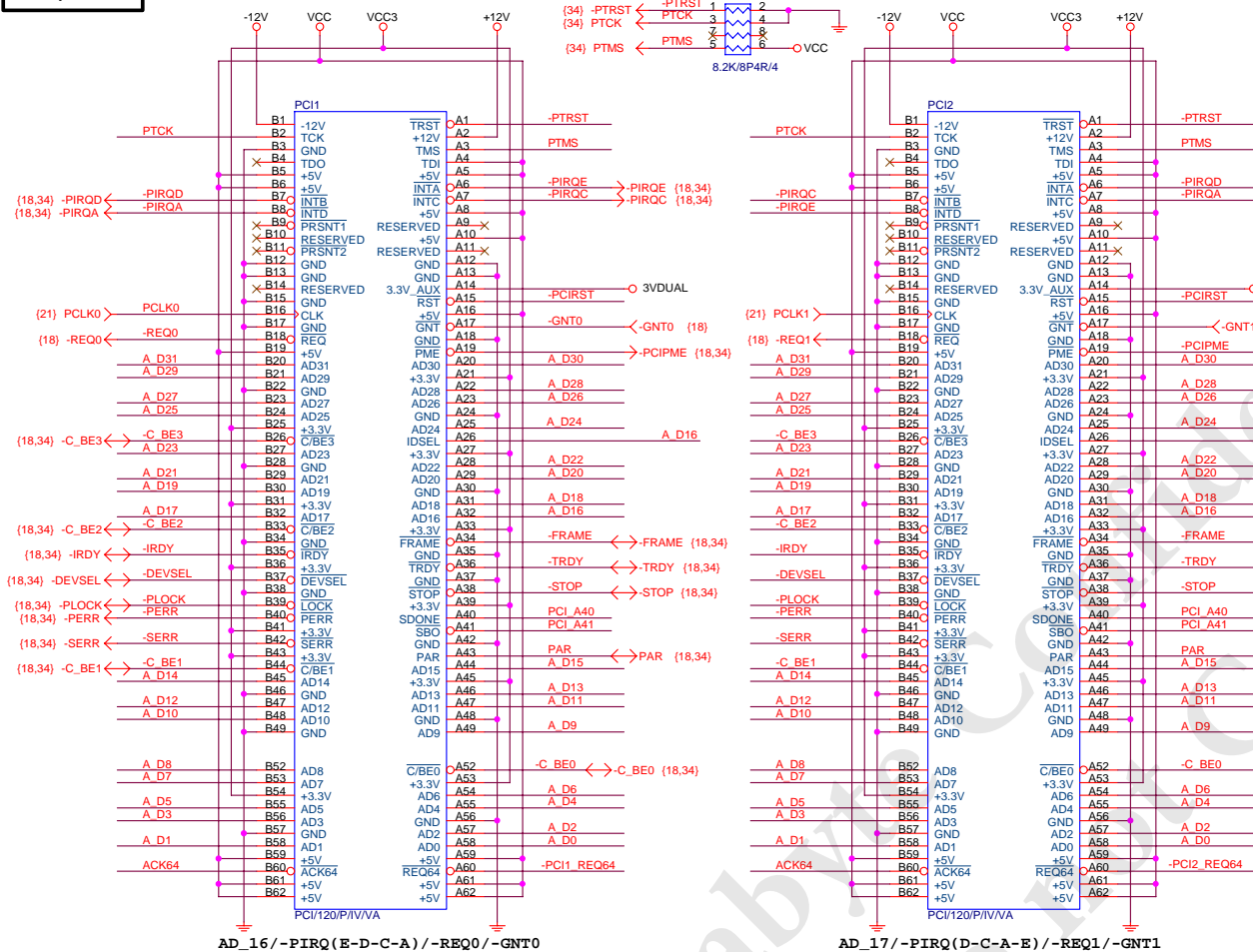
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1.3



PCI1,2 SLOT

PCI1\*1



(18,34) A\_D[0..31] ↔ A\_D[0..31]

-PCIRST ↔ -PCIRST (18,34)

Place close to PCI1

(18) -REQ4 ↔ REQ4

(18) -REQ3 ↔ REQ3

(18) -REQ1 ↔ REQ1

(18,34) -REQ2 ↔ REQ2

(18) -REQ0 ↔ REQ0

(18,34) PAR ↔ PAR

(18) -REQ5 ↔ REQ5

(18,34) -PIRQ ↔ -PIRQ

(18,34) -PIRQ ↔ -PIRQ

(18,34) -PIRQ ↔ -PIRQ

(18) -PIRQ ↔ -PIRQ

-FRAME ↔ -FRAME

-TRDY ↔ -TRDY

-DEVSEL ↔ -DEVSEL

-STOP ↔ -STOP

-PLOCK ↔ -PLOCK

-PERR ↔ -PERR

-SERR ↔ -SERR

(18,34) -PIRQ ↔ -PIRQ

(18,34) -PIRQ ↔ -PIRQ

(18,34) -PIRQ ↔ -PIRQ

(18) -PIRQ ↔ -PIRQ

(18,34) -PIRQ ↔ -PIRQ

(18,34) -PIRQ ↔ -PIRQ

(18,34) -PIRQ ↔ -PIRQ

(18) -PIRQ ↔ -PIRQ

+12V

BC91 0.1u4/X7R/16V/K

VCC

BC93 0.1u4/X7R/16V/K

VCC3

BC95 0.1u4/X7R/16V/K

BC96 0.1u4/X7R/16V/K

BC97 0.1u4/X7R/16V/K

EC29 560u/FP/6.3V/89/8m

Gigabyte Technology

Title: PCI SLOT 1, 2/PCIEX1

Size: Custom

Document Number: GA-P41T-D3

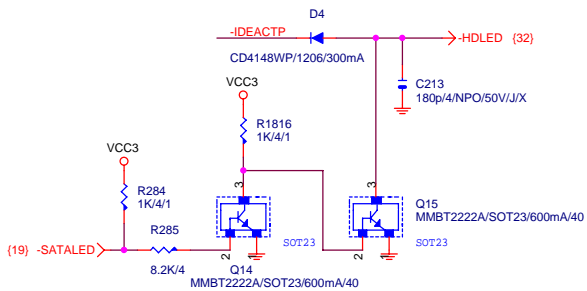
Date: Thursday, July 08, 2010

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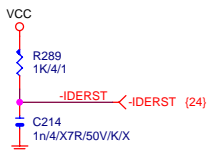
Rev: 1.3



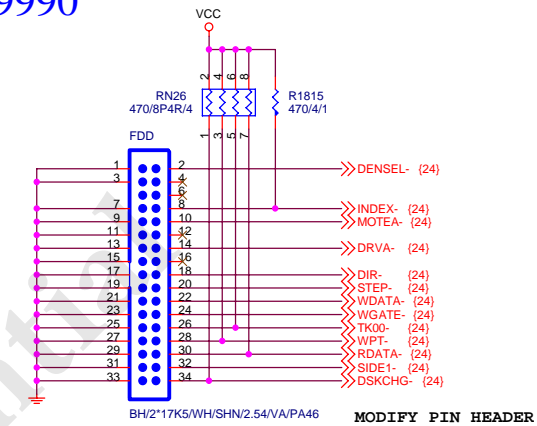
# IDE/SATA LED



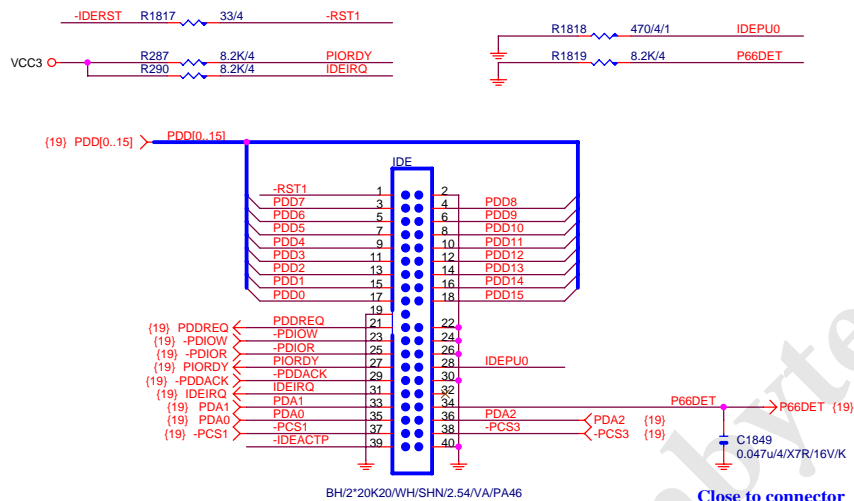
# IDE RESET



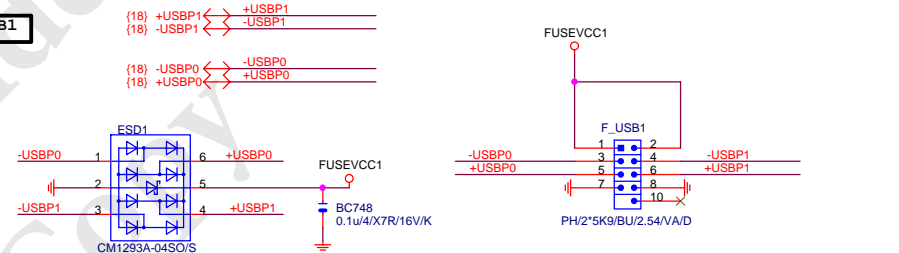
# FLOPPY



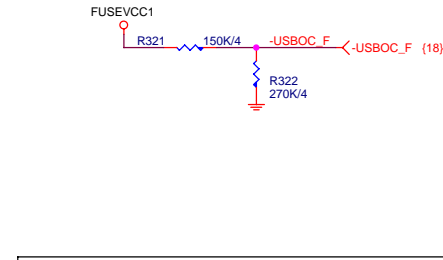
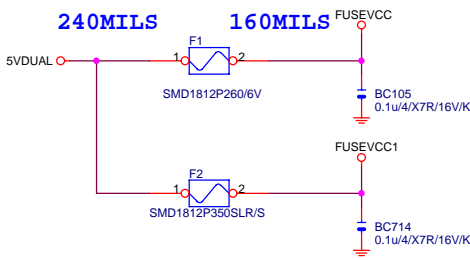
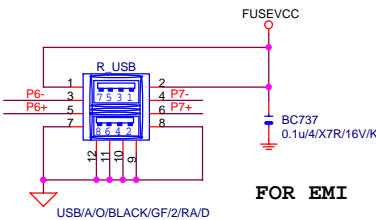
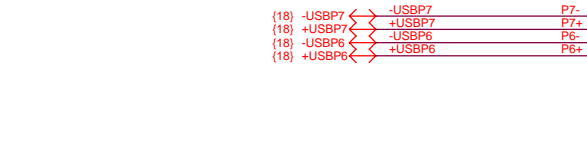
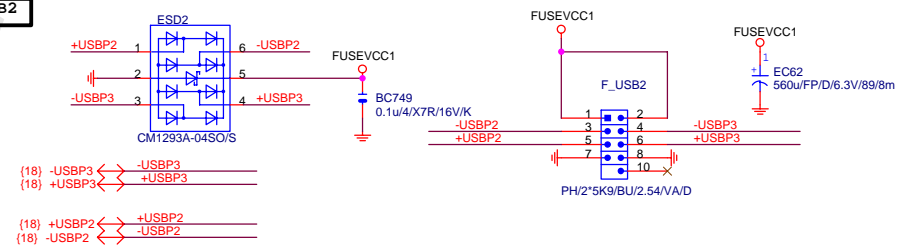
# IDE



# FRONT USB1



# FRONT USB2



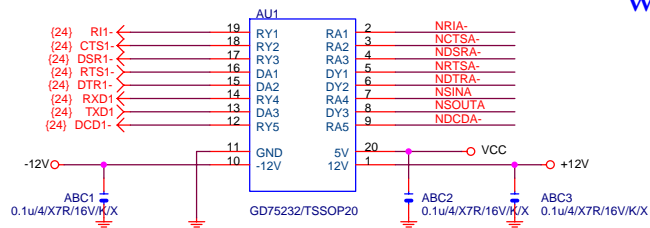
Gigabyte Technology

Title		
IDE,FDD,F_USB		
GA-P41T-D3		
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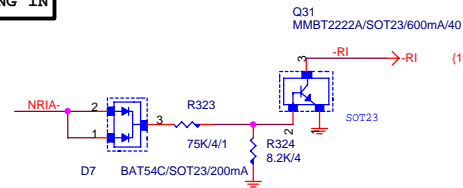




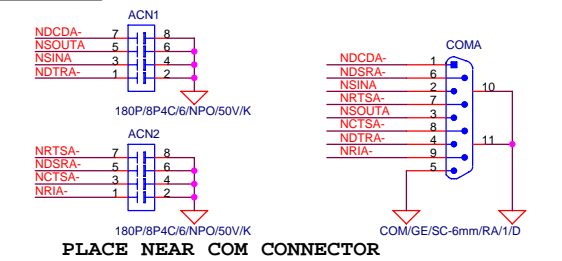
## COMA



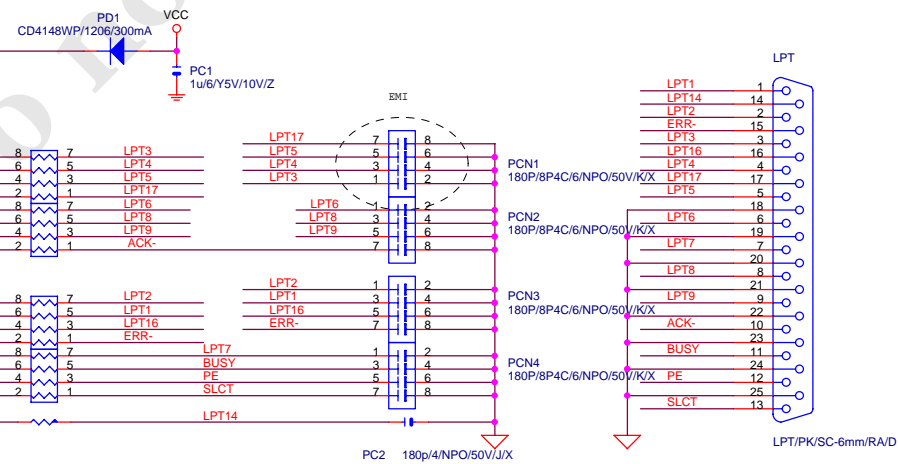
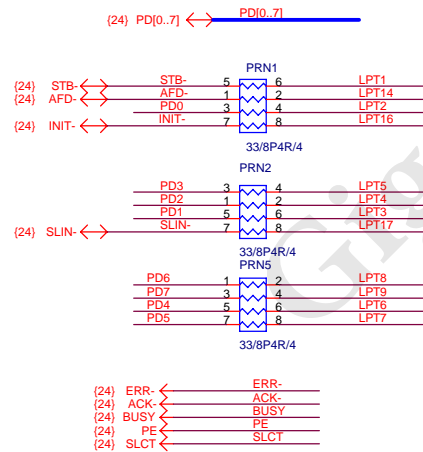
## RING IN



## EXTERNAL COMA



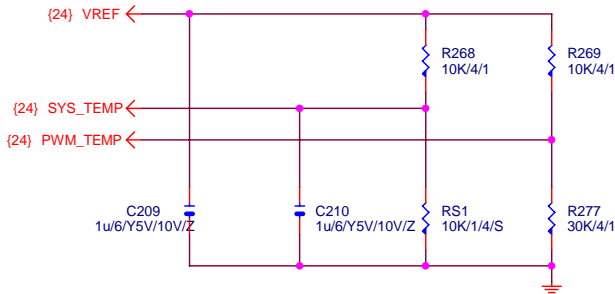
## LPT PORT



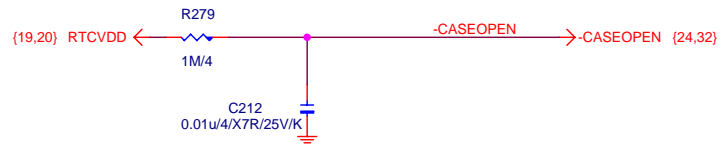
Gigabyte Technology

Title		
COM & LPT PORT		
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## TEMP H/W MONITOR

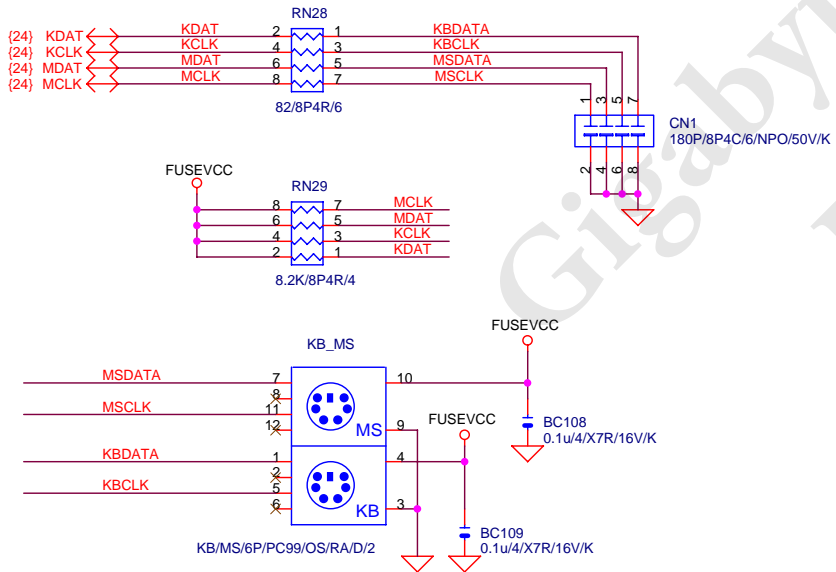


## CASE OPEN

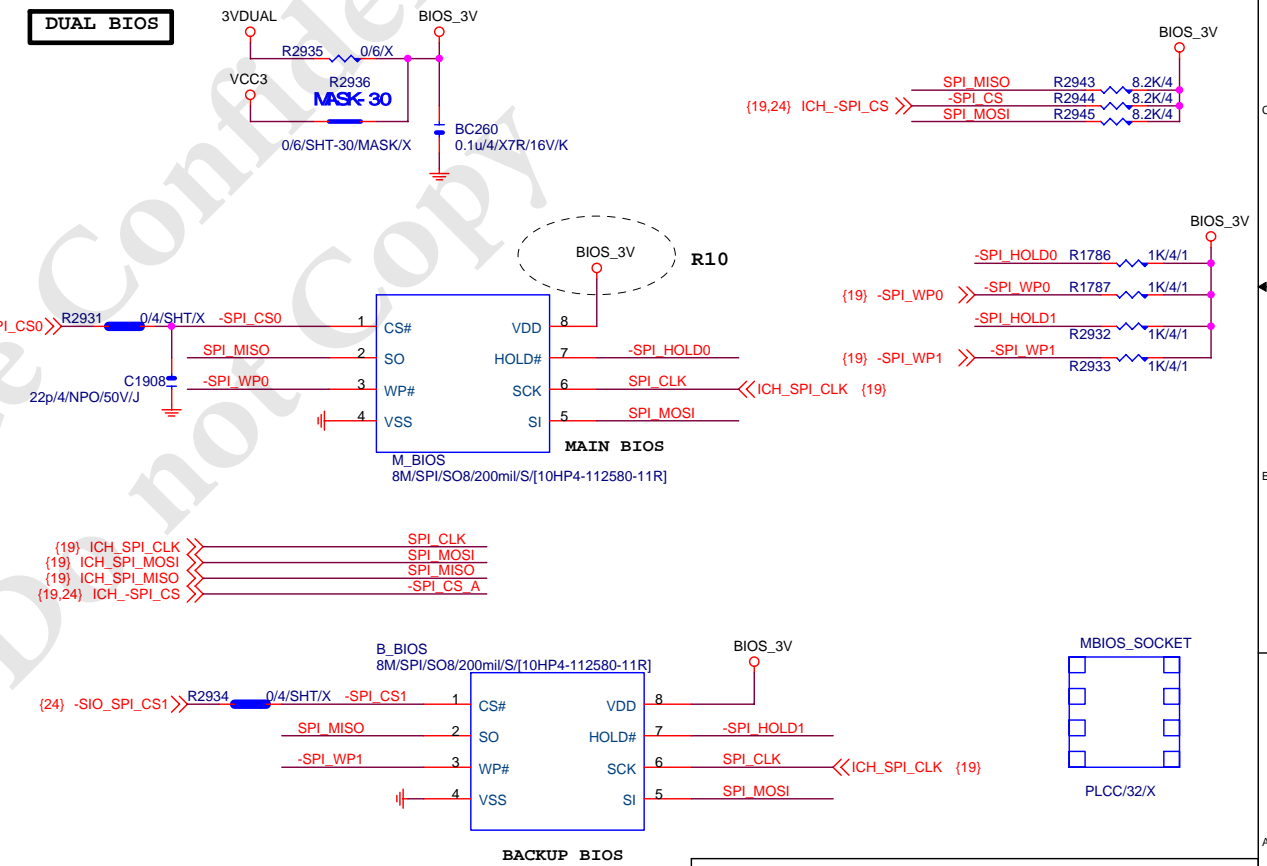
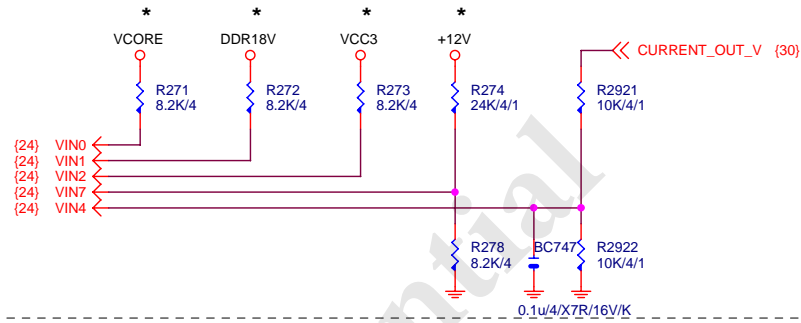


## Case Open Circuits

## KB/MS



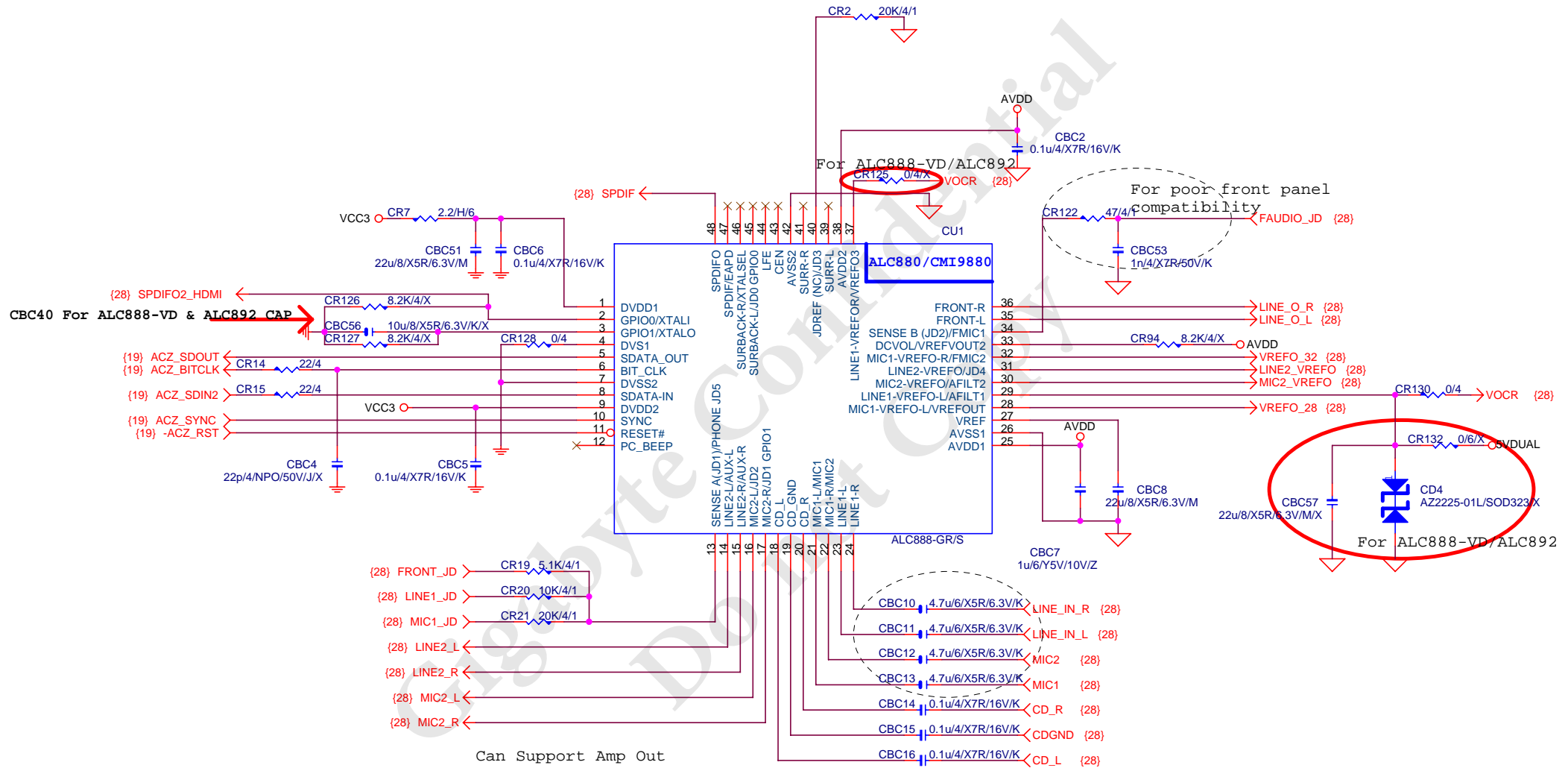
## DUAL BIOS



## Gigabyte Technology

Title			
HW-MONITOR/CI/KB/MS/BIOS			
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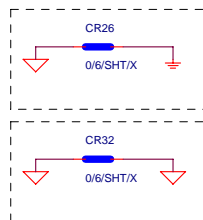
## AZALIA CODEC



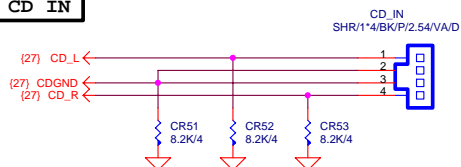
Gigabyte Technology

Title			AZALIA ALC888	
Size	Document Number	GA-P41T-D3		Rev
Custom				1.3
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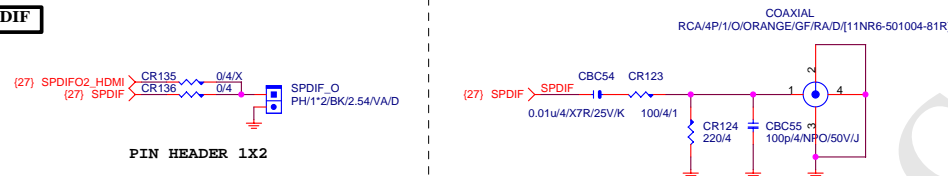
CD IN



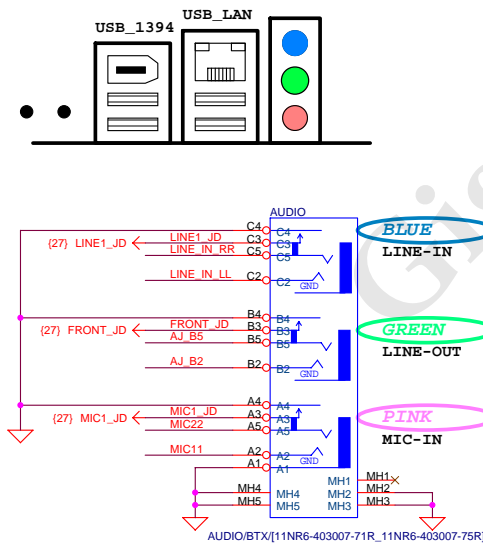
CD IN



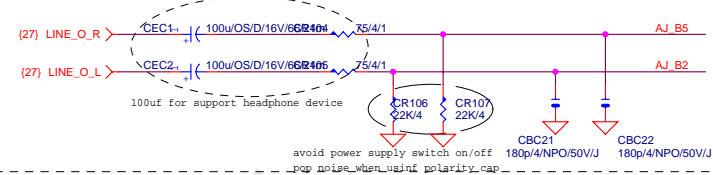
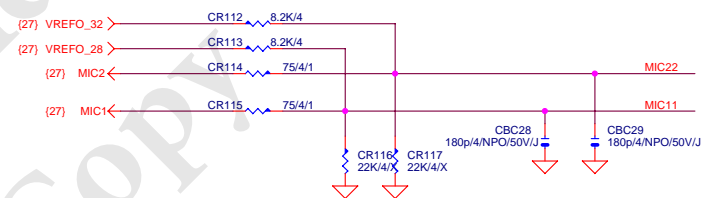
## SPDIF



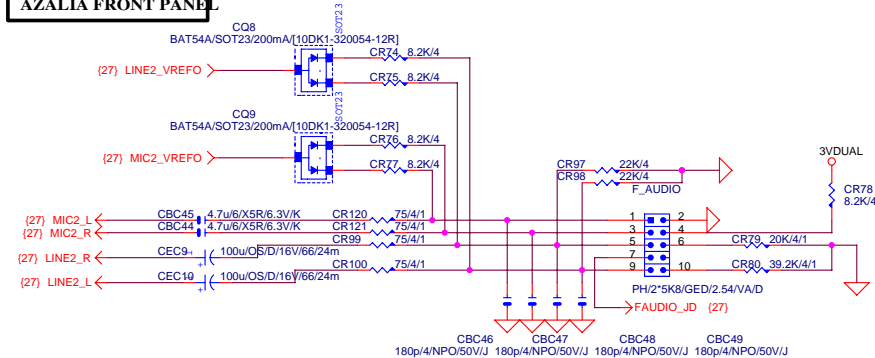
AZALIA JACK



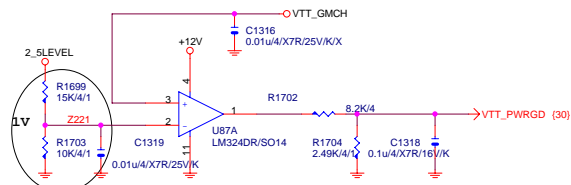
## LINE-IN

**MIC-IN**

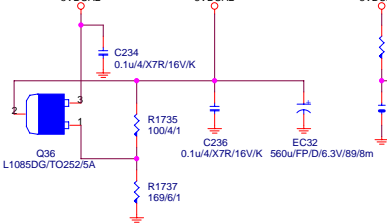
**AZALIA FRONT PANEL**



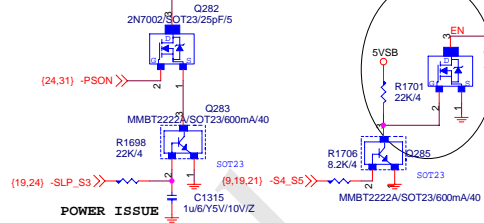
## VTT\_PWRGD



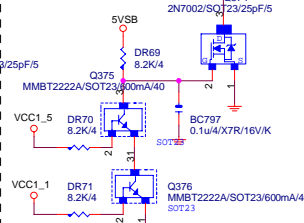
## 3VDUAL



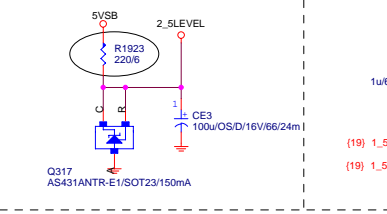
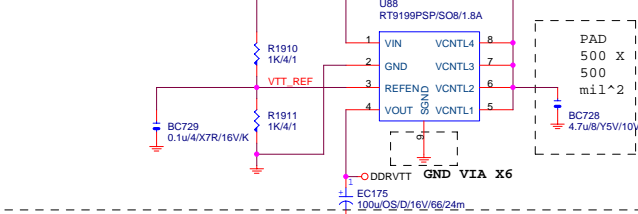
## VTT\_LEVEL



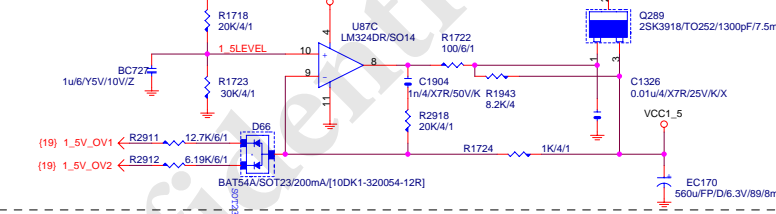
## FOR NON-CPU CAN SHUT-DOWN



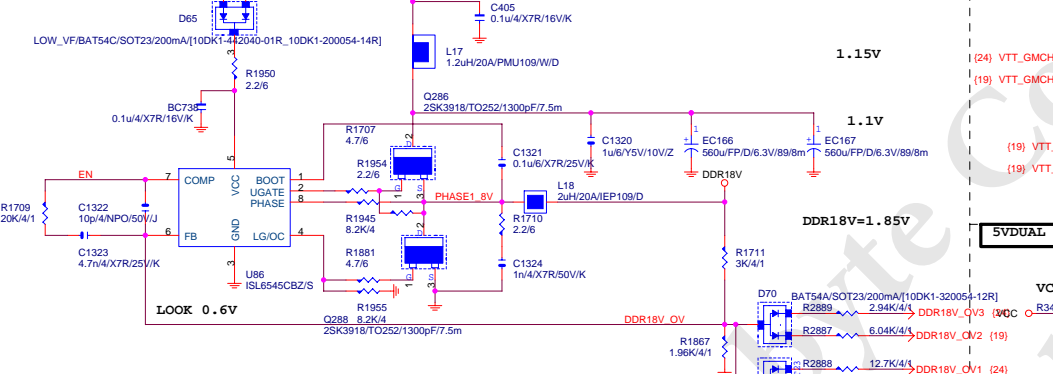
## DDR\_VTT



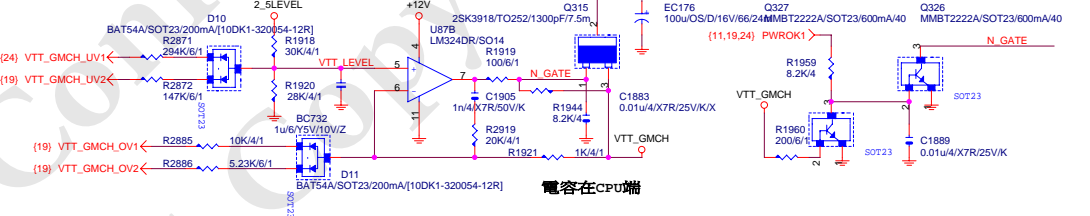
## VCC1\_5



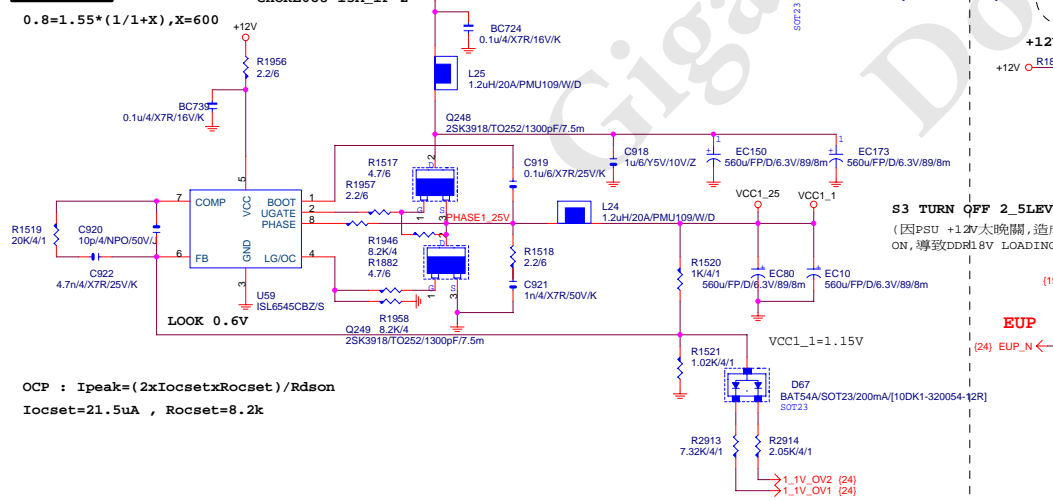
## DDR18V



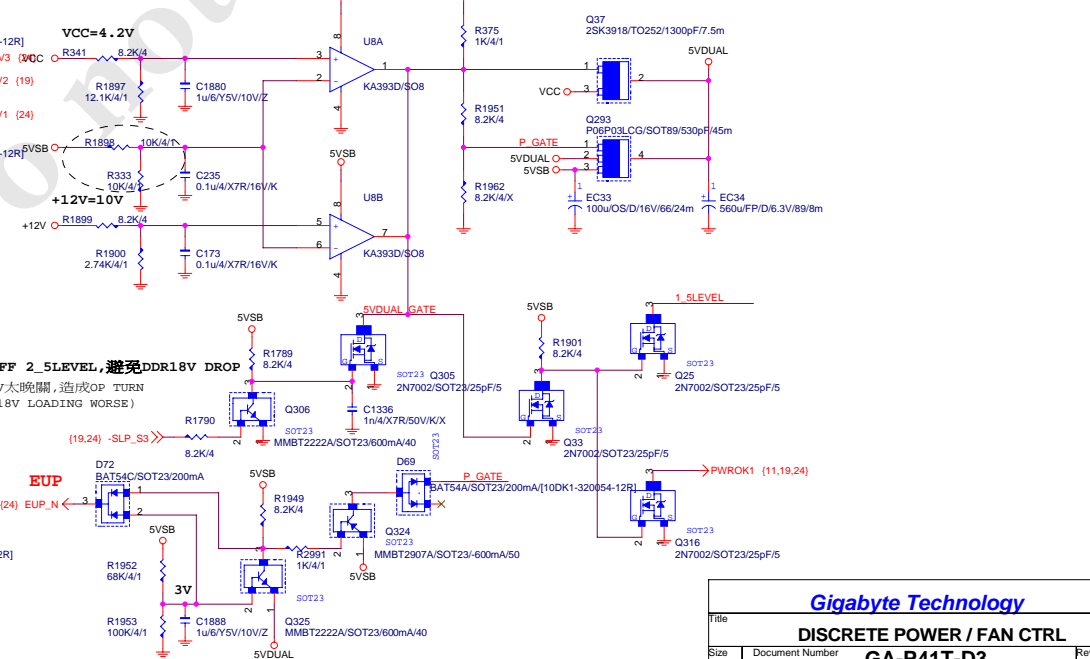
## VTT\_GMCH



## VCC1\_25



## 5VDUAL



OCF :  $I_{peak} = (2 \times I_{ocset} \times R_{ocset}) / R_{dson}$   
 $I_{ocset} = 21.5\mu A$  ,  $R_{ocset} = 8.2k$

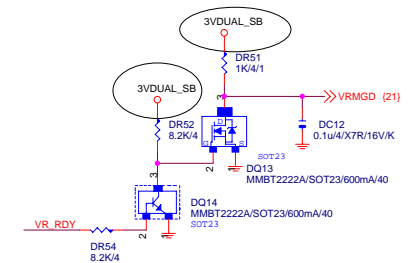
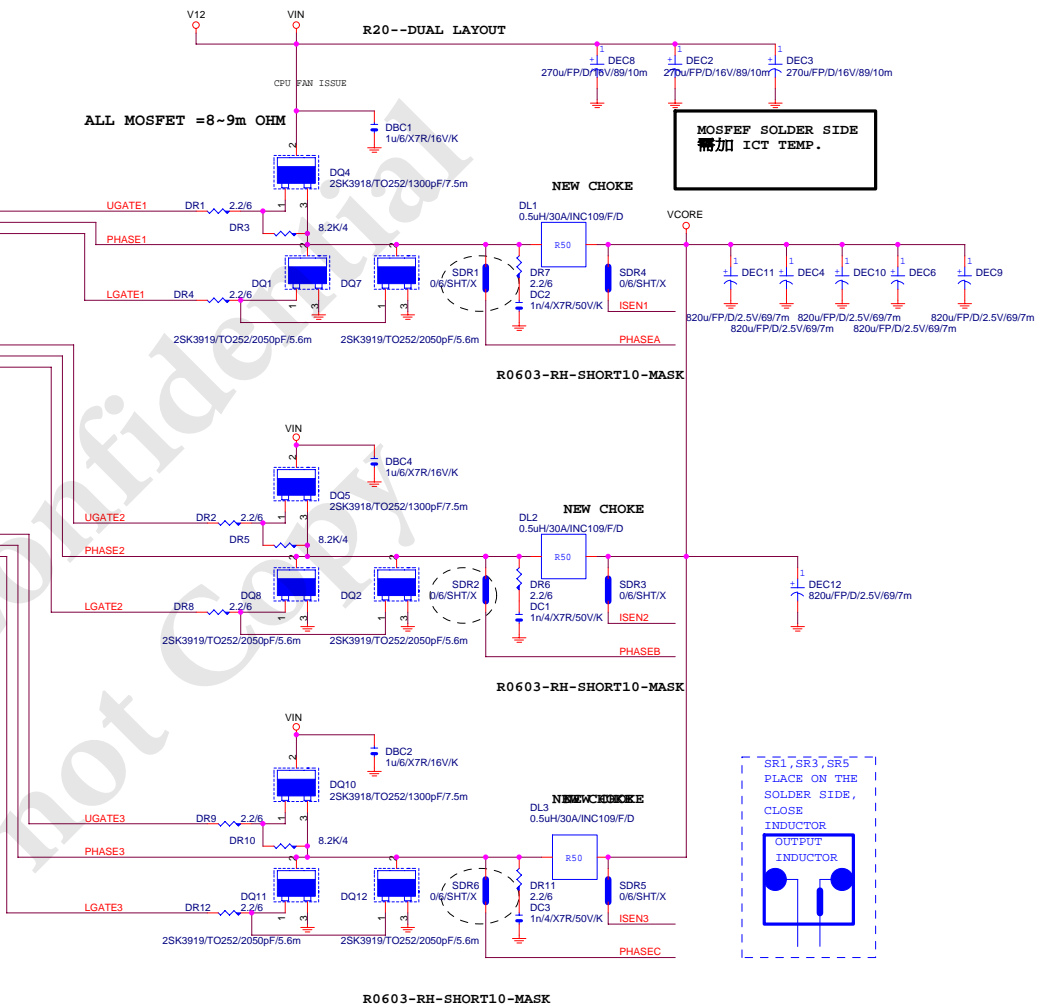
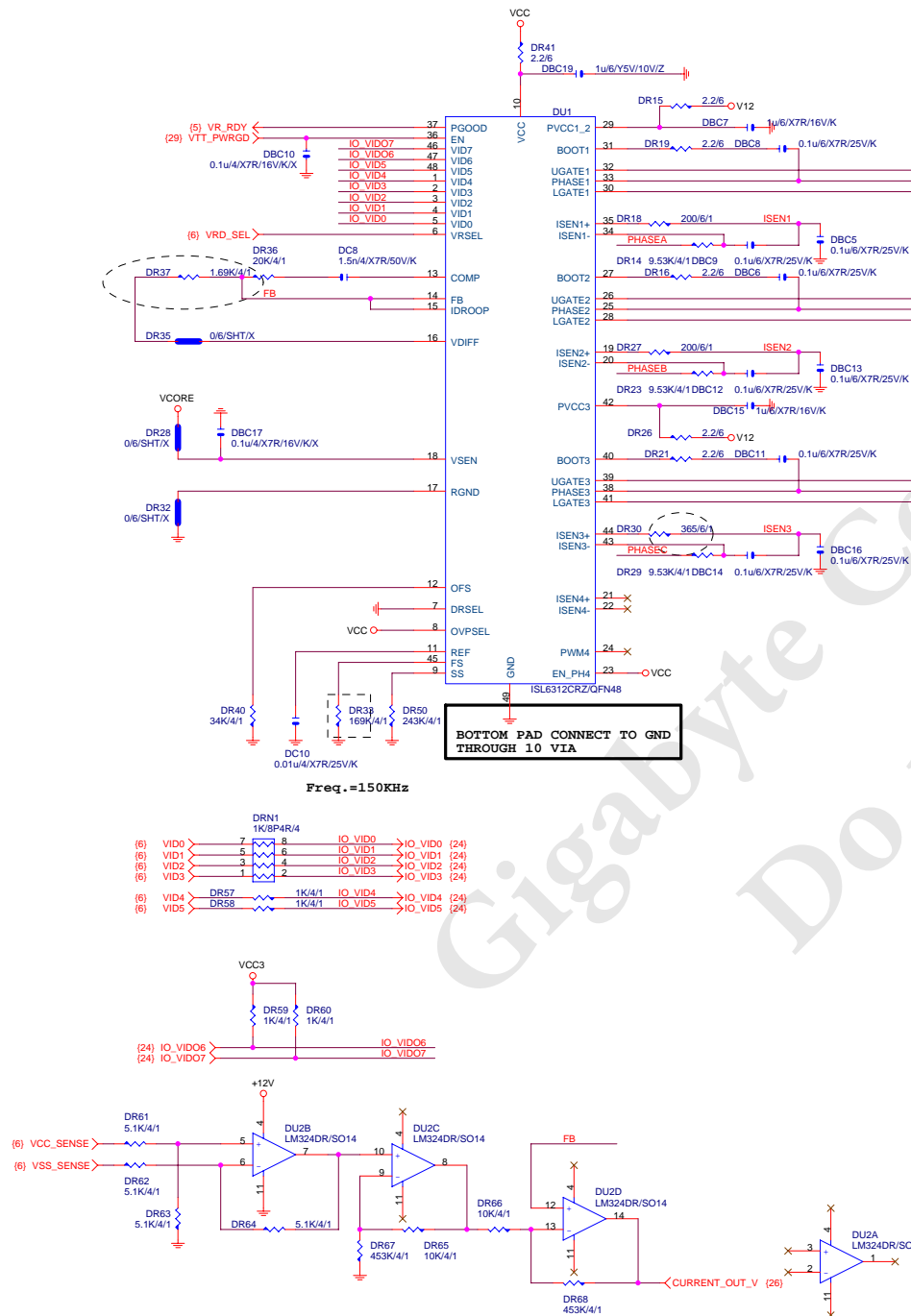
Gigabyte Technology

DISCRETE POWER / FAN CTRL

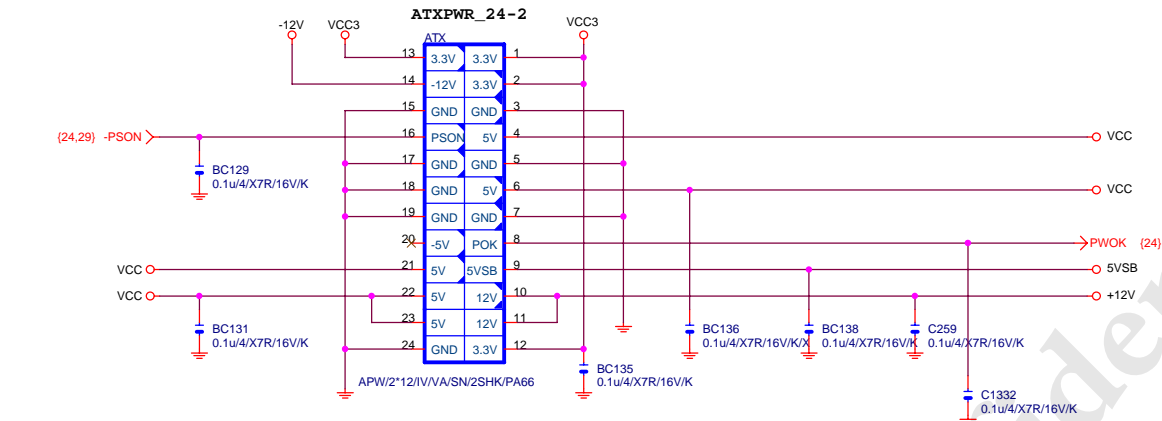
GA-P41T-D3

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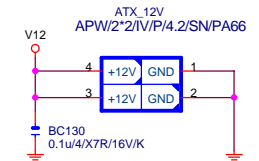
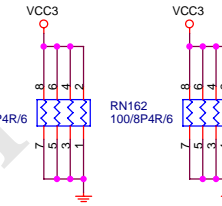
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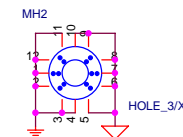
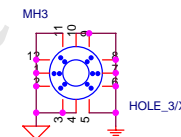
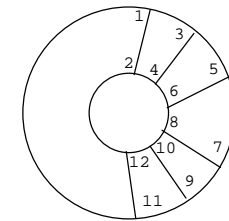
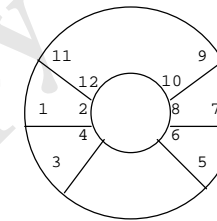
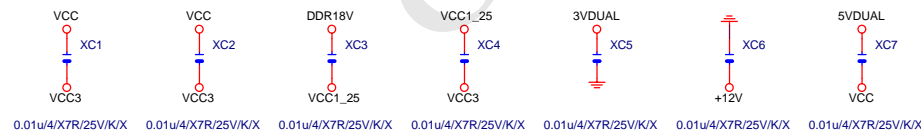
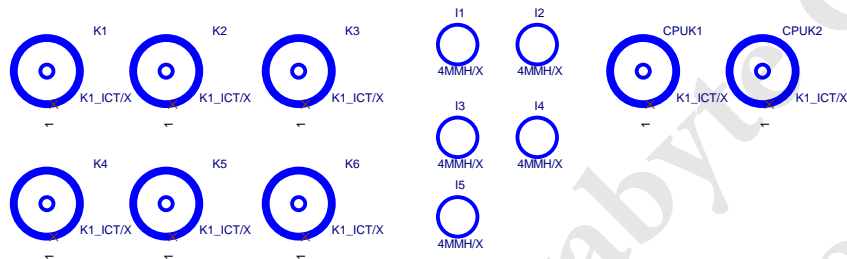
## ATX POWER CONNECTOR



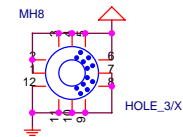
## FIX PWR AcBel(ATX-400C-A2ADB)



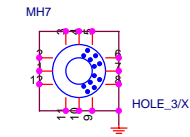
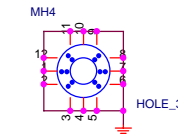
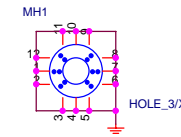
ATX\_4-1



HOLE\_4-RH-1



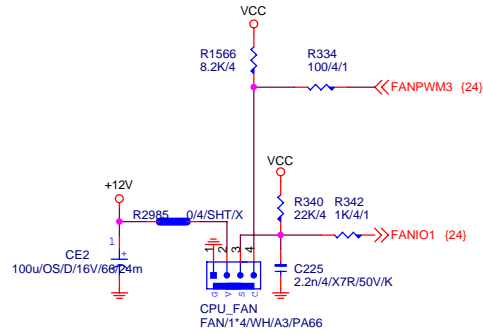
HOLE\_4-RH-5MM-1



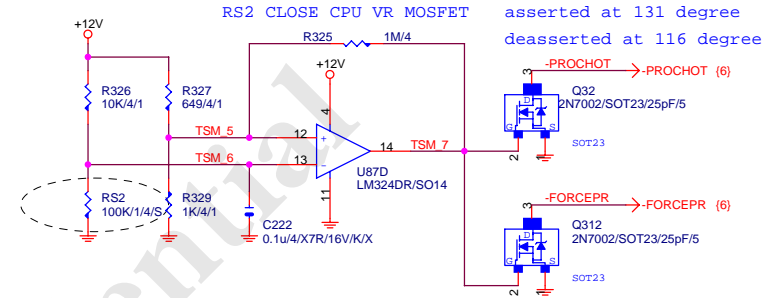
Gigabyte Technology

Title		
ATX POWER CONNECTOR		
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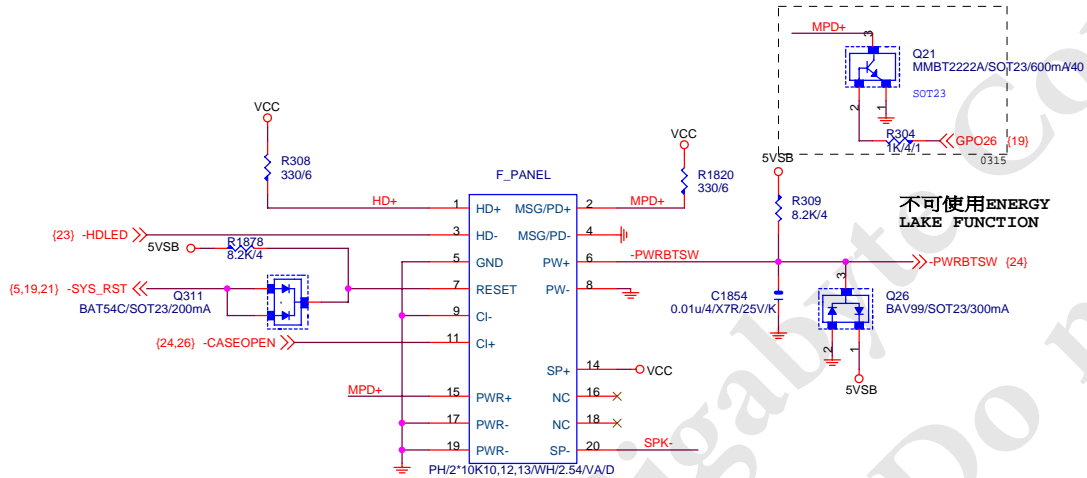
CPU SMART FAN SMART FAN



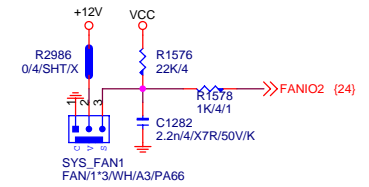
PROCESSOR HOT



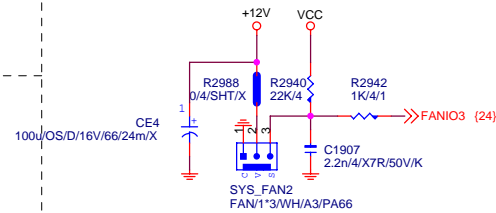
INTEL FRONT PANEL



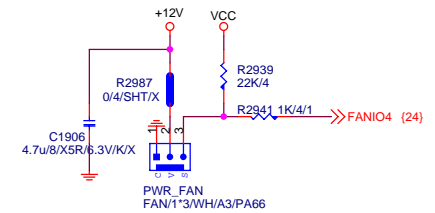
SYS\_FAN1



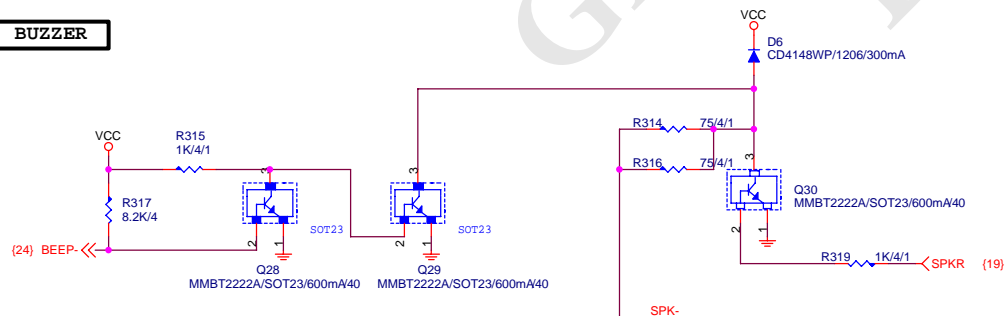
SYS\_FAN2



PWR\_FAN



BUZZER

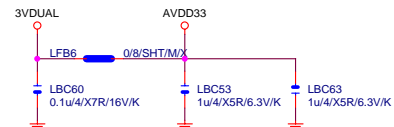
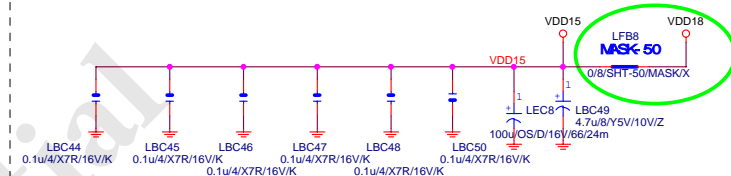
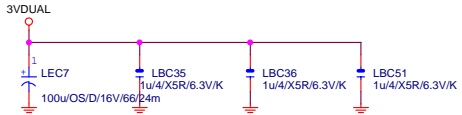
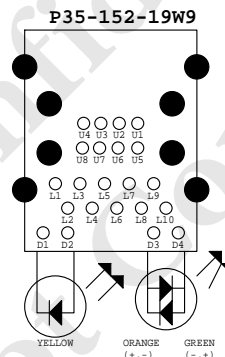
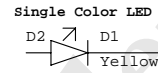
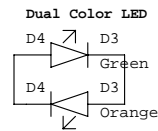
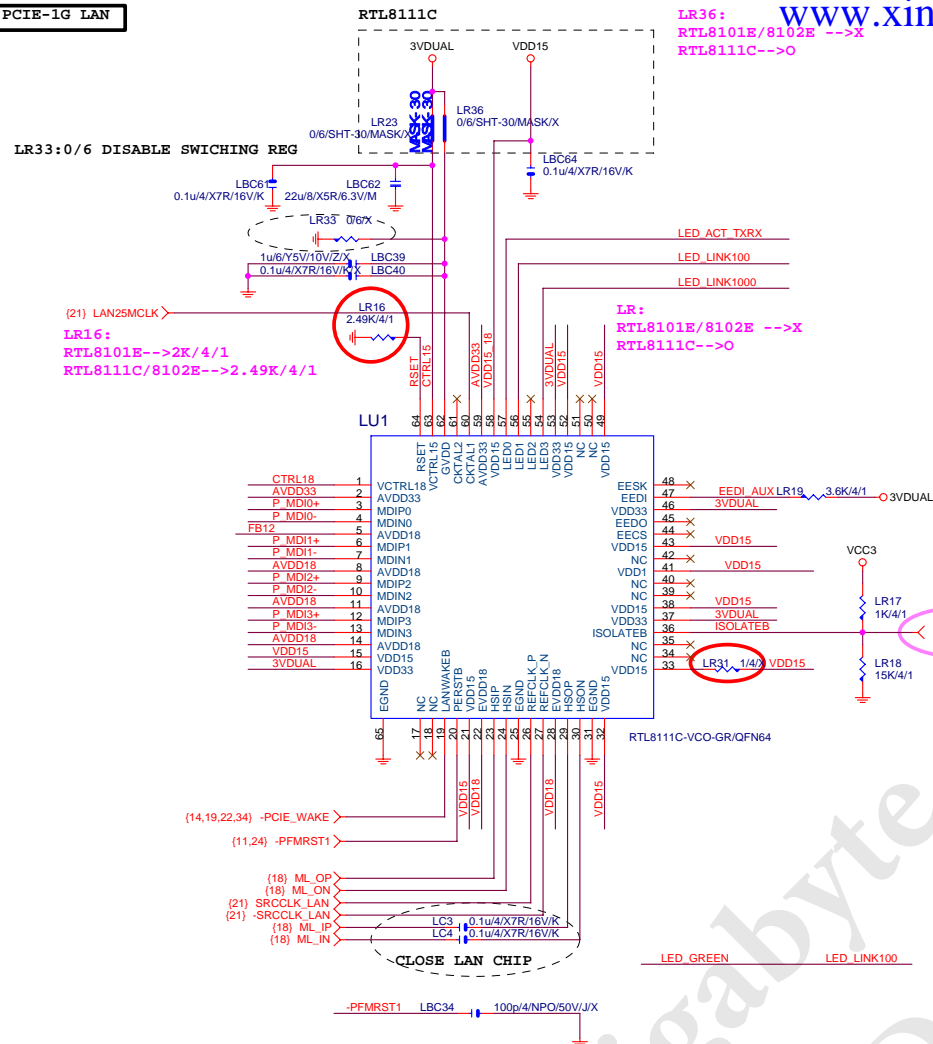


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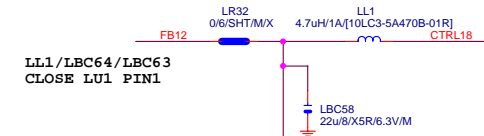
Title		
FRONT PANEL / FAN CTRL		
Size	Document Number	Rev
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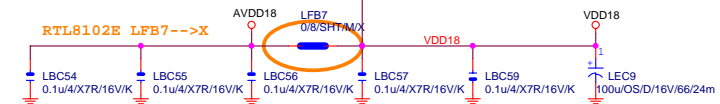
## PCIE-1G LAN



CHOK4U7-500MA



LL1/LBC64/LBC63  
CLOSE LU1 PIN1



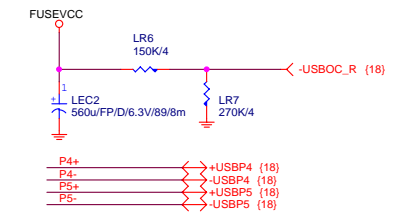
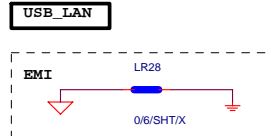
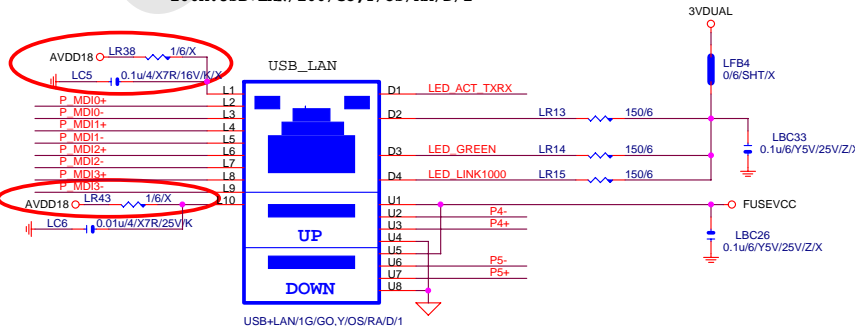
## USB\_LAN CONNECTOR

```
RTL8111C:LC6-->0
```

```
RTL8101E :L1+L10-->AVDD18+0.1U(BIOS DISABLE MDI-X FUNCTION)
```

1G :USB+LAN/1G/GO.Y/OS/RA/D/1

100M:USB+LAN/100/GO,Y/OS/RA/D/1



**Gigabyte Technology**

REALTEK RTL8111B/C

GA-P41T-D3

### 1.3

