

Model Name:GA-P41T-D3P Revision 1.4

SHEET TITLE

01	COVER SHEET
02	BLOCK DIAGRAM
03	BOM & PCB MODIFY HISTORY
04	P4_LGA775_A
05	P4_LGA775_B,D
06	P4_LGA775_C
07	P4_LGA775_E,F,G,H
08	Eaglelake HOST
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
16	DDRII CHANNEL B
17	DDRII TERMINATION
18	ICH7 PCI, USB, DMI, LAN
19	ICH7 IDE, GPIO, SATA, CTRL
20	ICH7 VCC, GND
21	CK505 CLOCK.
22	PCI SLOT 1,2,PCIE*1
23	IDE/FLOPPY
24	ITE 8718 GB/HX
25	COM_LPT
26	CI,HWM,KB/MS,DUAL BIOS
27	ALC888

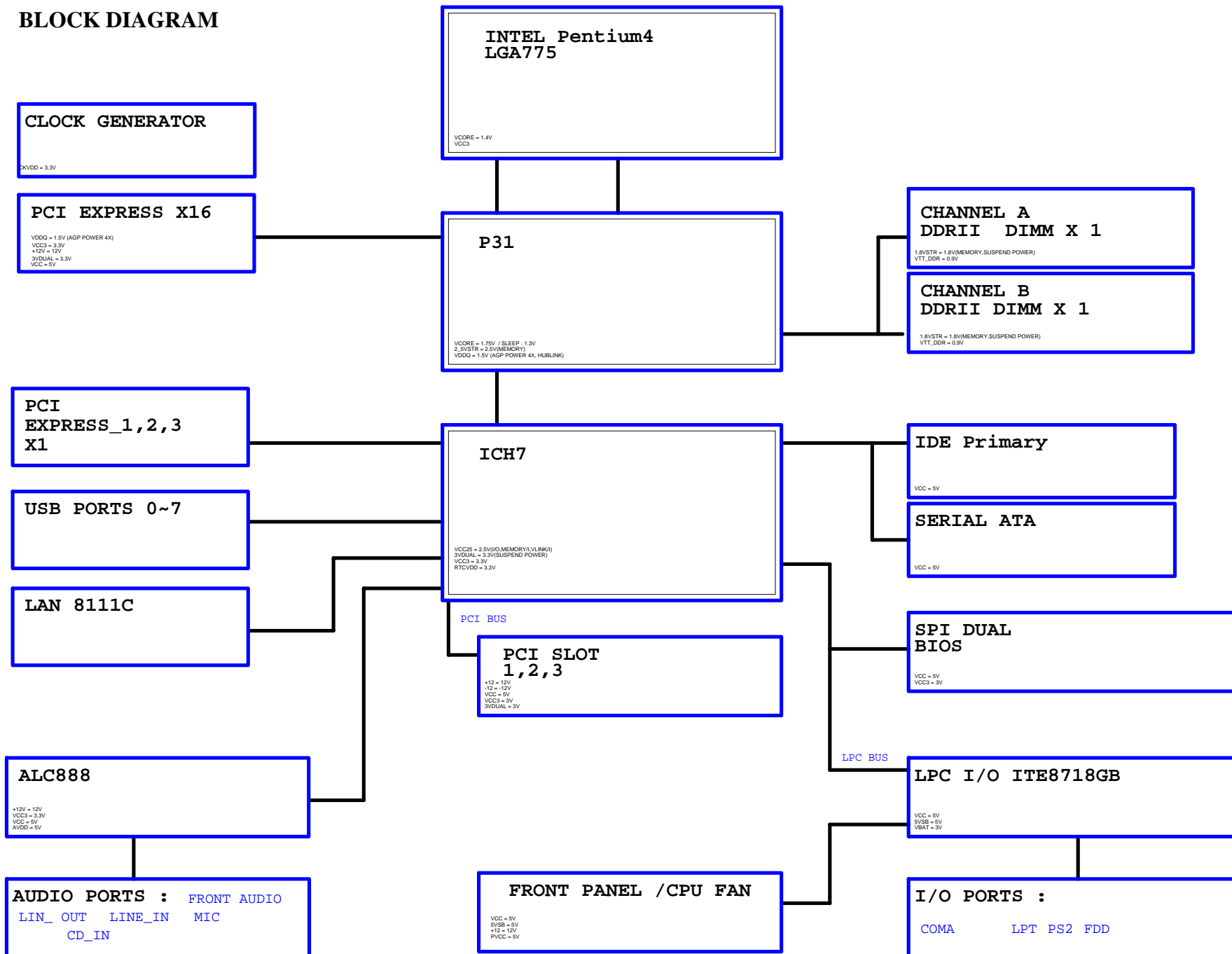
SHEET TITLE

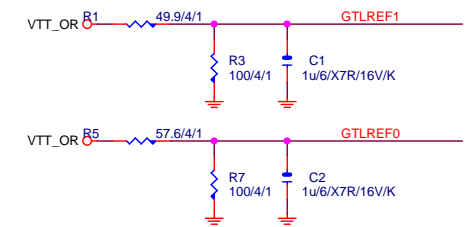
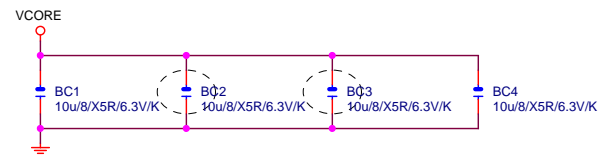
28	REAR AUDIO JACK
29	DISCRETE POWER
30	VCORE PWM_ISL6312
31	ATX, OTHERS POWER
32	FRONT PANEL
33	REALTEK RTL8111D
34	PCI SLOT3,PCIE*2,3

Gigabyte Technology

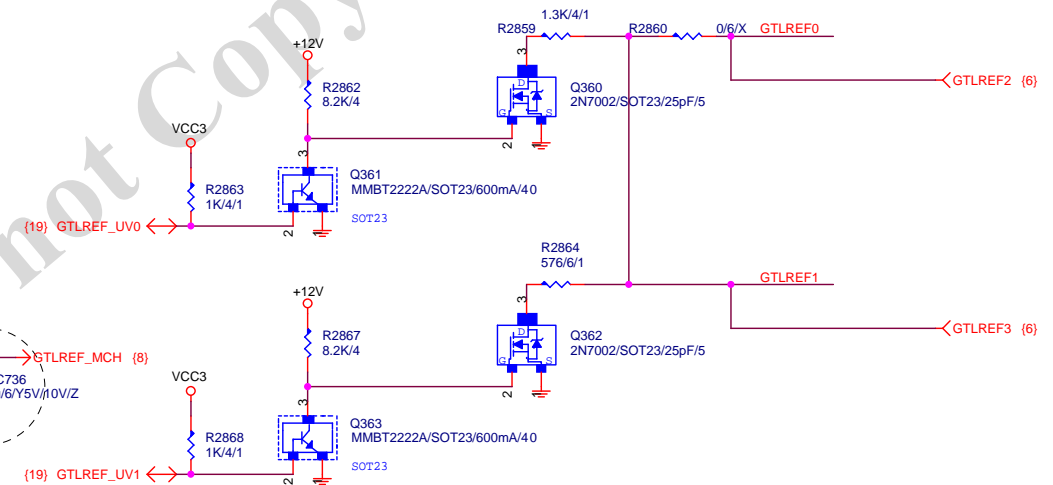
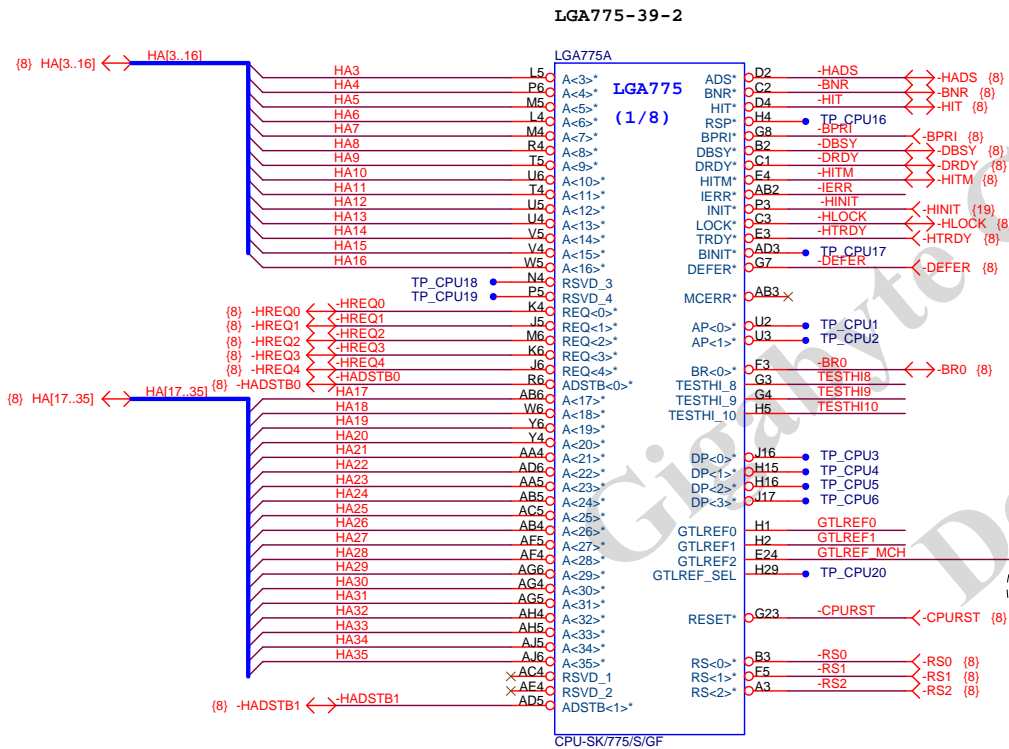
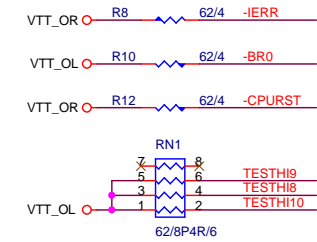
Cover Sheet		
Size	Document Number	Rev
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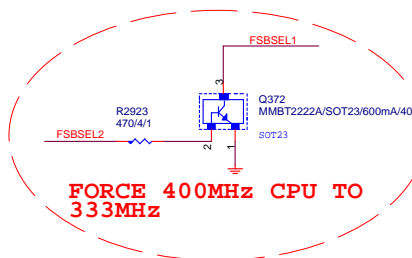
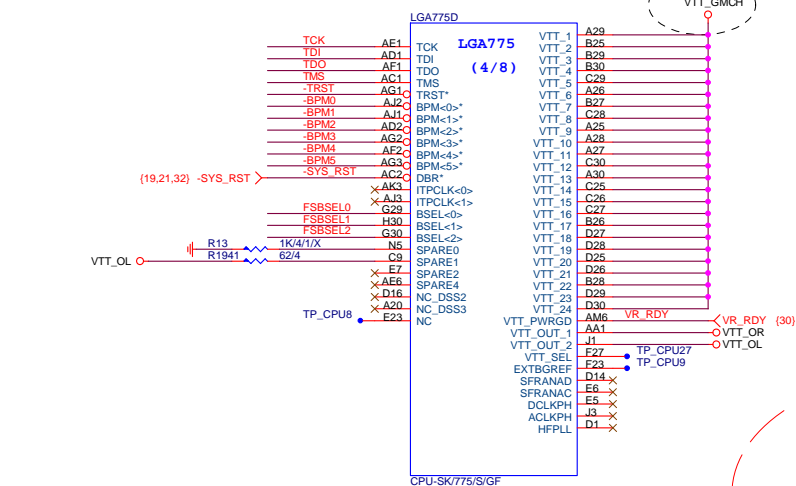
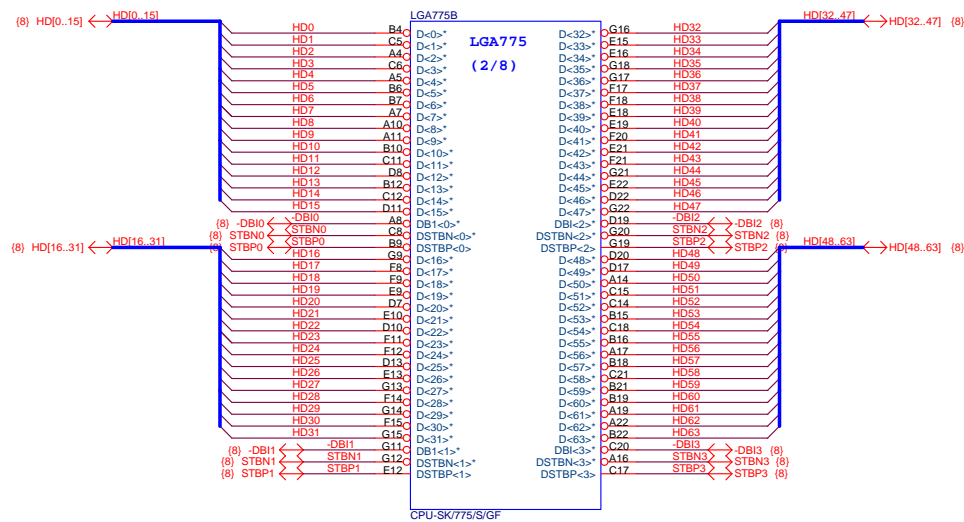
BLOCK DIAGRAM



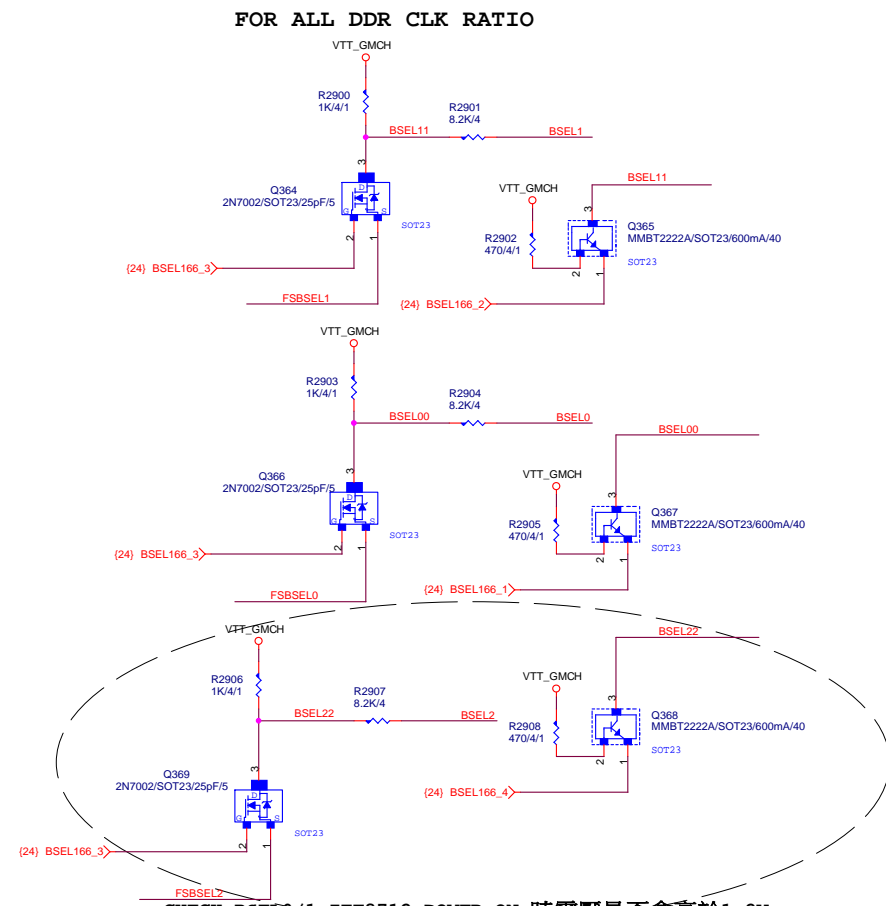
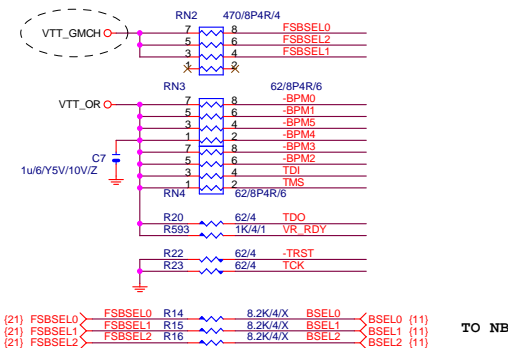


中間値0.9V



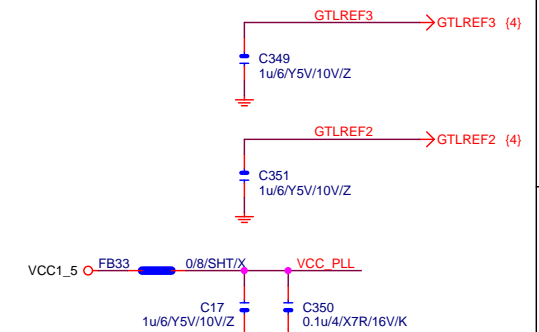


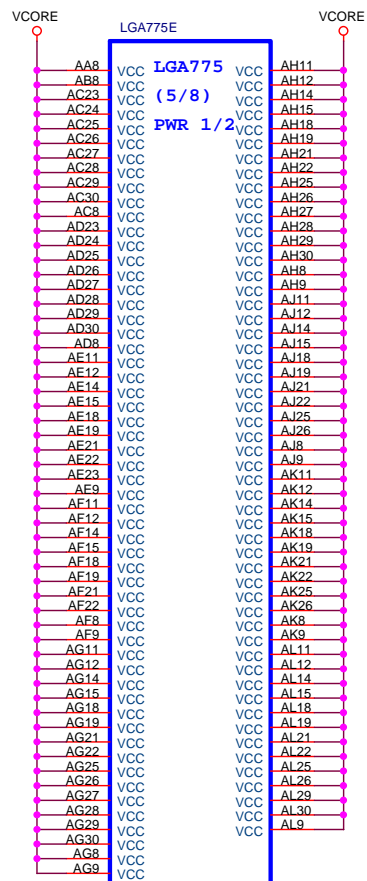
	FSA	FSB	FSC		
	FSBSEL0	FSBSEL1	FSBSEL2	Clock	
?	1	0	1	100MHz	
?	1	0	0	133MHz	3/4
G31	0	1	0	200MHz	2/2.66/3.33/4
G31	0	0	0	266MHz	2/2.5/3/4
G31	0	0	1	333MHz	2/2.4
	0	1	1	400MHz	



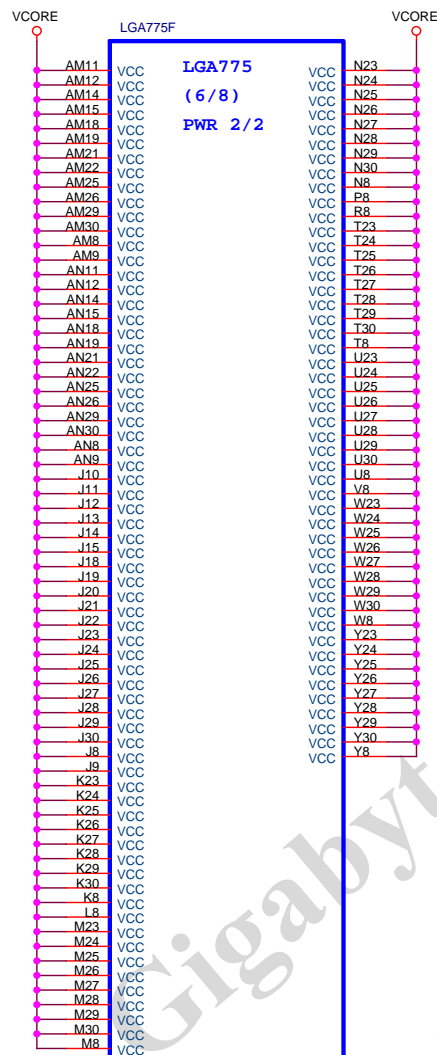
CHECK BSEL0/1 ITE8712 POWER ON 時電壓是否會高於1.2V

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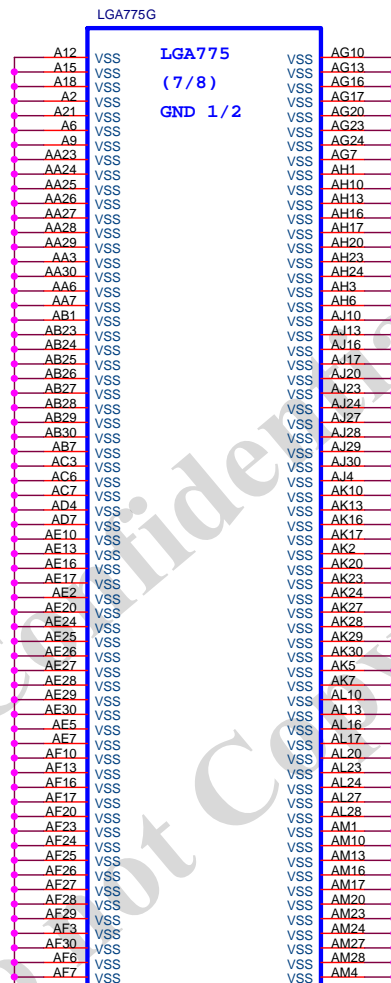




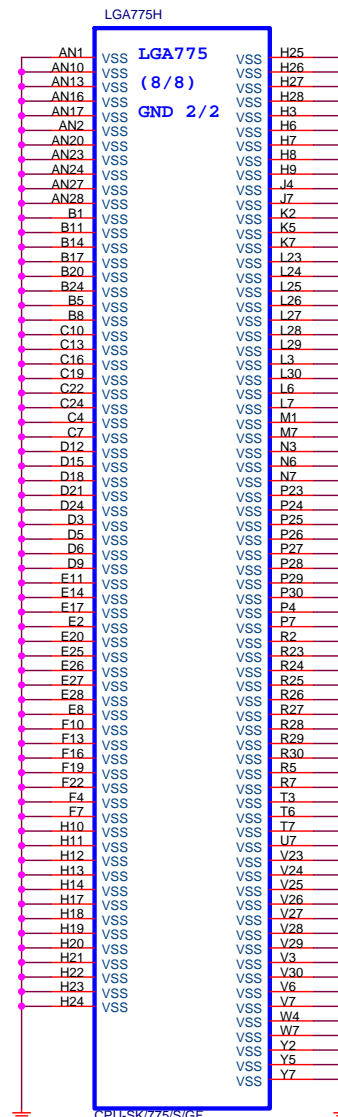
CPU-SK/775/S/GF



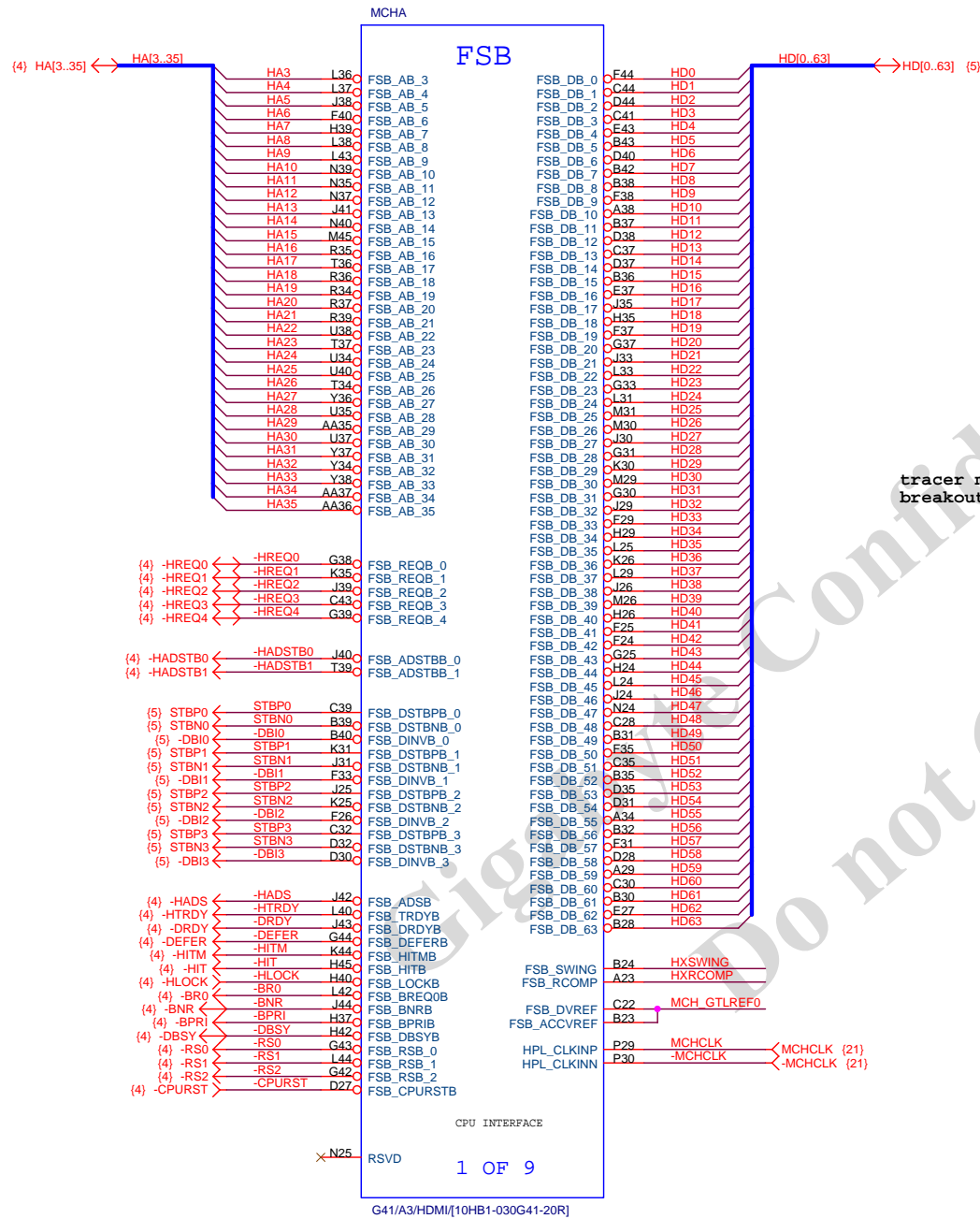
CPU-SK/775/S/GF



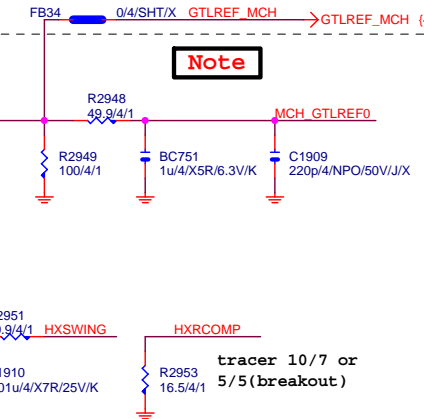
CPU-SK/775/S/GF



CPU-SK/775/S/GF



Not used for CoreTM2 Duo and Wolfdale



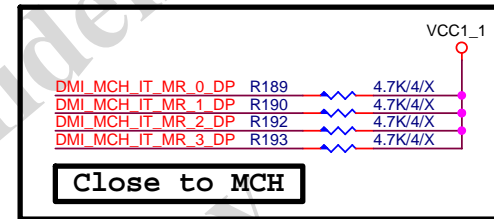
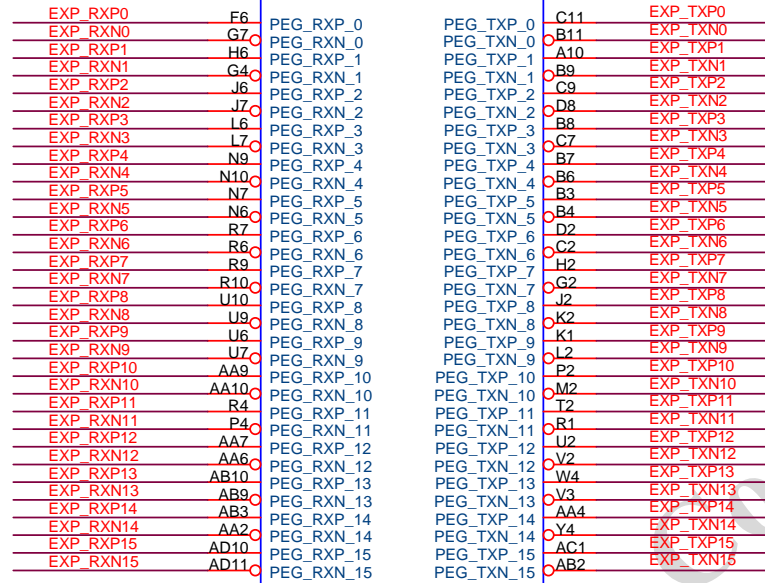
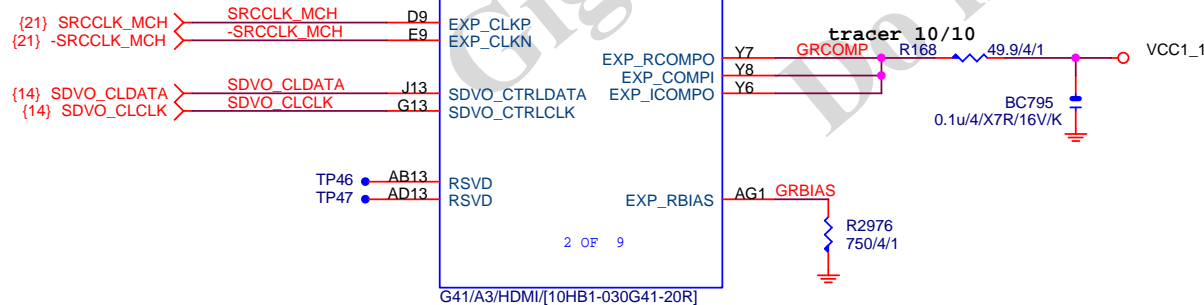
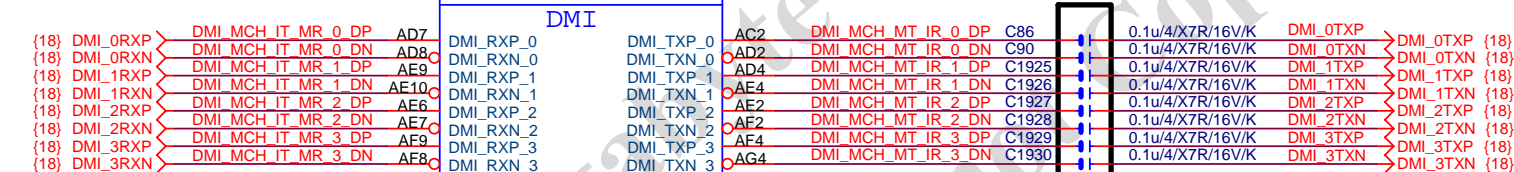
Gigabyte Technology

Title			
GMCH-HOST			
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PCIE16:16/5/5/5/16(breakout min 8/4/5/4/8)

Impedance=85 +/- 17.5%

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

Title			
GMCH-PCI E & DMI			
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EXP_SM

0:SDVO OR PCIE

1:BOTH SDVO AND

PCIE

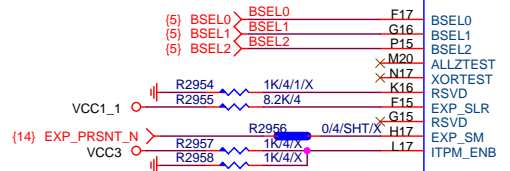
EXP_SLR:

0:BTX PCIE are reversed

1:ATX PCIE normal

MCHE

4/10//15<500 MILS



VGA

MISC

5 OF 9

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

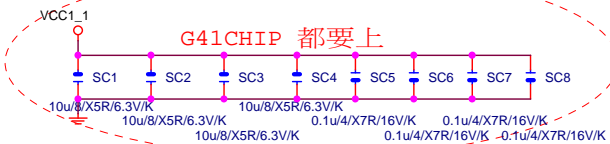
CRT_HSYNC
CRT_VSYNCCRT_RED
CRT_GREEN
CRT_BLUE
CRT_IRTNCRT_DDC_DATA
CRT_DDC_CLK

DAC_IREF

DPL_REFCLKINP
DPL_REFCLKINN
DPL_REFSSCLKINP
DPL_REFSSCLKINNRSVD
RSVD
CL_DATA
CL_CLKCL_VREF
CL_RSTB
CL_PWROKJTAG_TDI
JTAG_TDO
JTAG_TCK
JTAG_TMSRSVD
RSVD
RSVD
RSVDRSVD
RSVD
RSVD
RSVDDDPC_CTRLCLK
DDPC_CTRLDATADPRSTPB
SLPBPM_DPRSTP (6)
PM_SLP_N (6)B45
AK15
AD42
AN16
W30
AW44
R42
U32NC
NC
NC
NC
NC
NC
NCNC
NC
NC
NC
NC
NC
NCNC
NC
NC
NC
NC
NC
NC

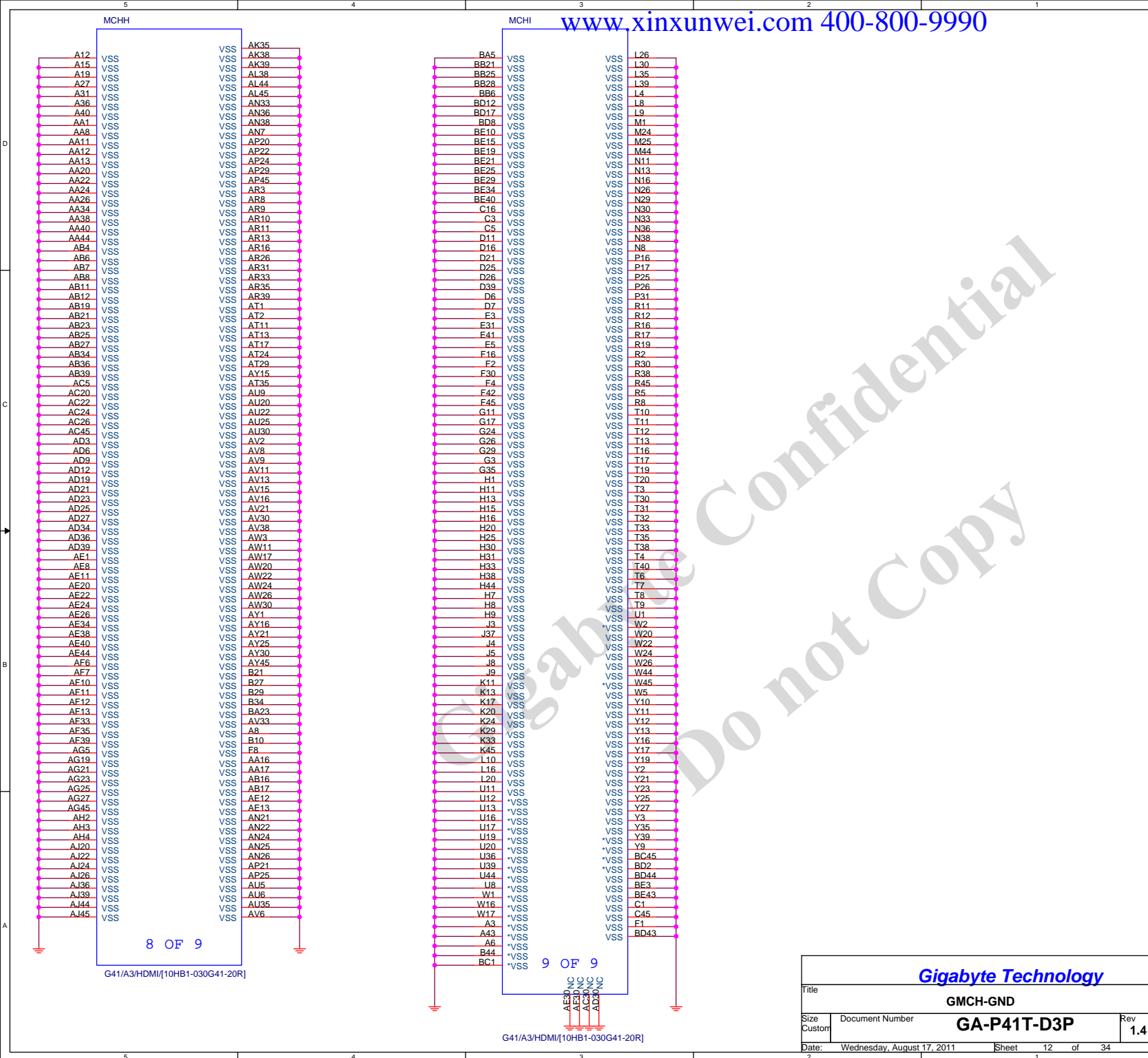
1th RGB:7.5/6 < 300 MILS

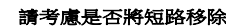
2th RGB:4/20 <5"~8" inch

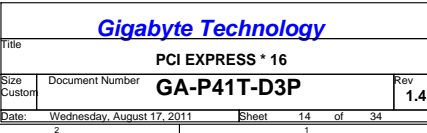
ON-BOARD VGA 75ohm
non-ON-BOARD VGA 0ohmON-BOARD VGA 1.02k
non-ON-BOARD VGA 0ohmBW+ICH8 不要上(SAMPLE)
BW+ICH7 要上

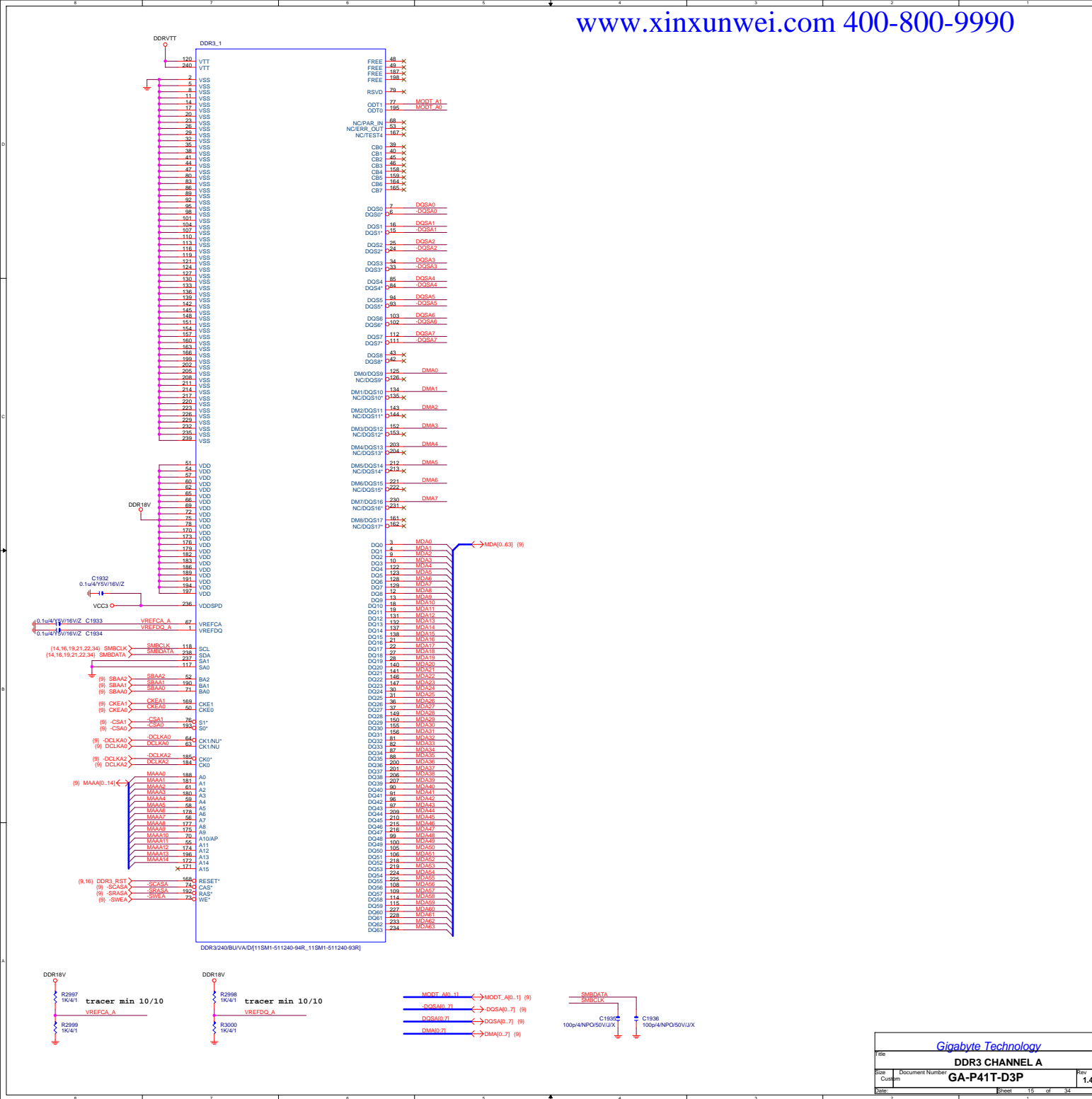
Gigabyte Technology

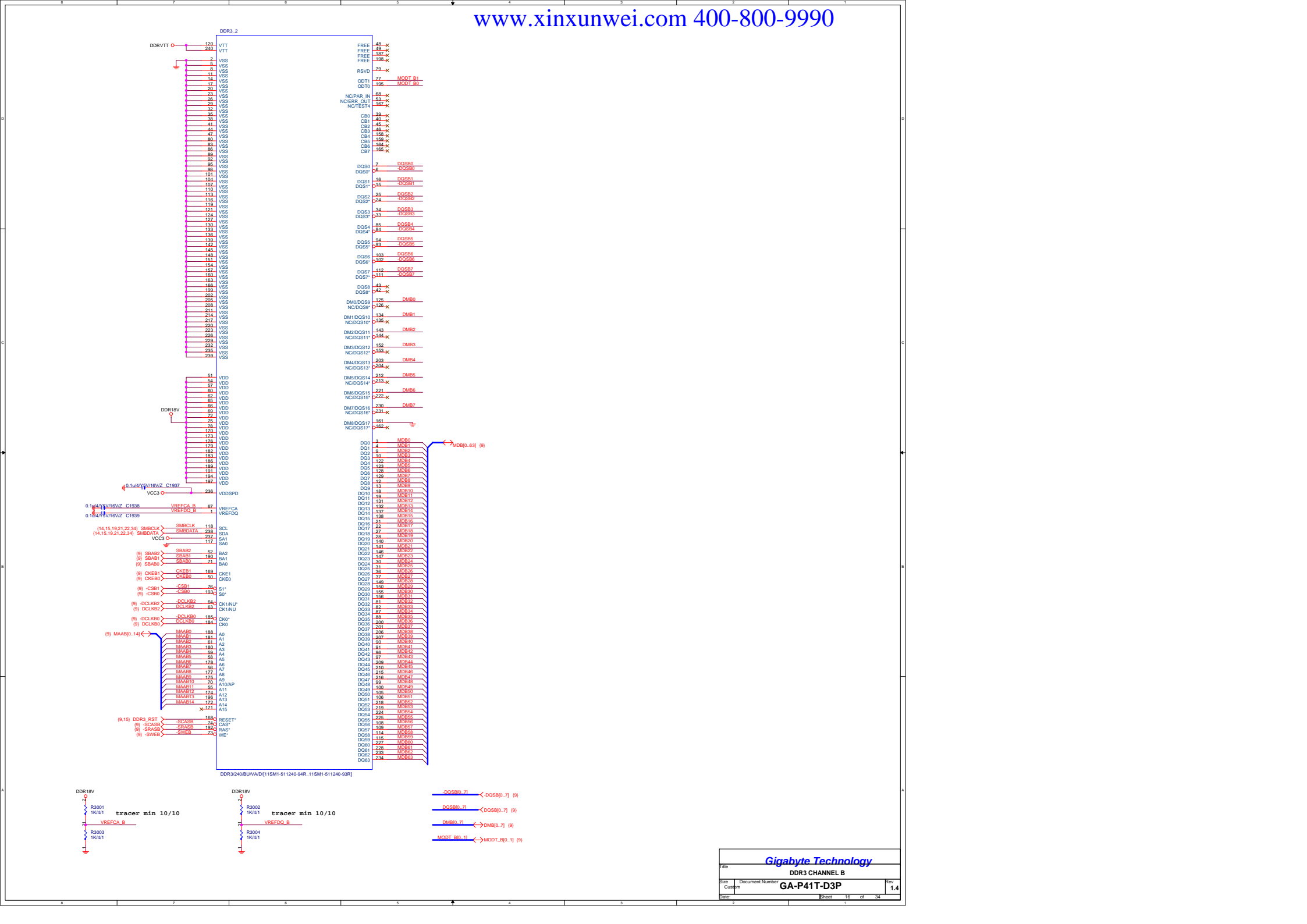
Title		
GMCH-INTERNAL VGA		
Size	Document Number	Rev
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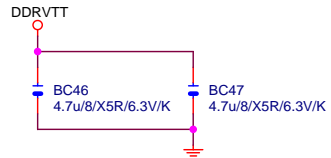




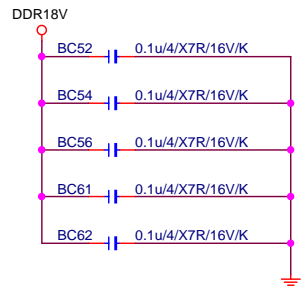


DDR TERMINATION CHANNEL A

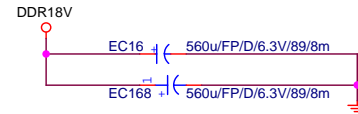
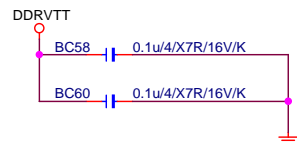
DDRVTT Decouple



DDR18V Decouple

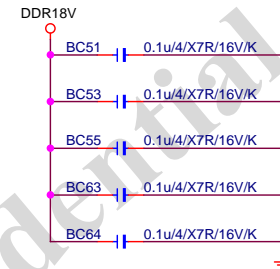


DDRVTT Decouple

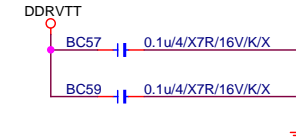


DDR TERMINATION CHANNEL B

DDR18V Decouple



DDRVTT Decouple



Gigabyte Technology

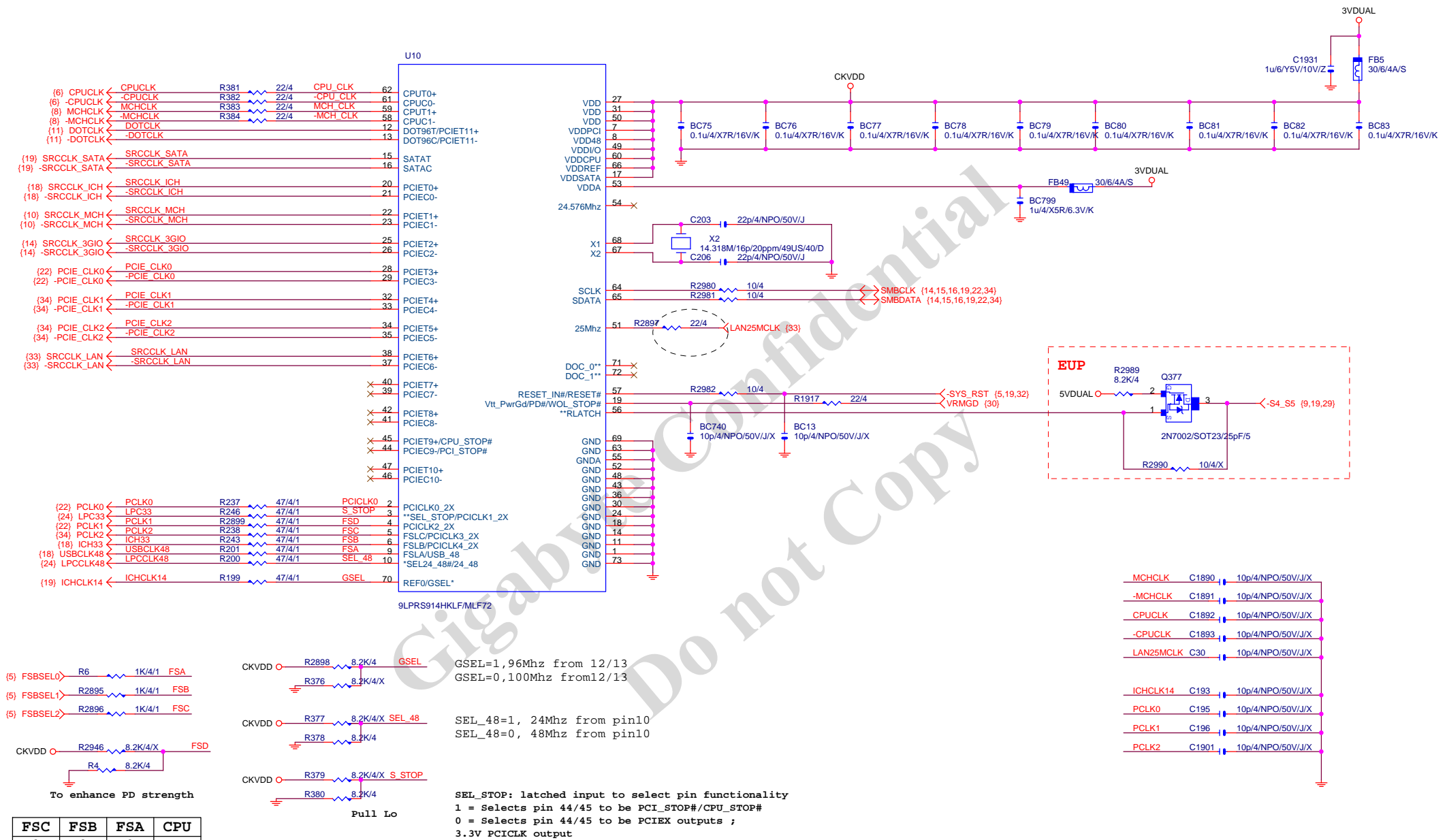
Title			DDRII TERMINATOR
Size	Document Number	GA-P41T-D3P	
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ICH7-PWR & GND

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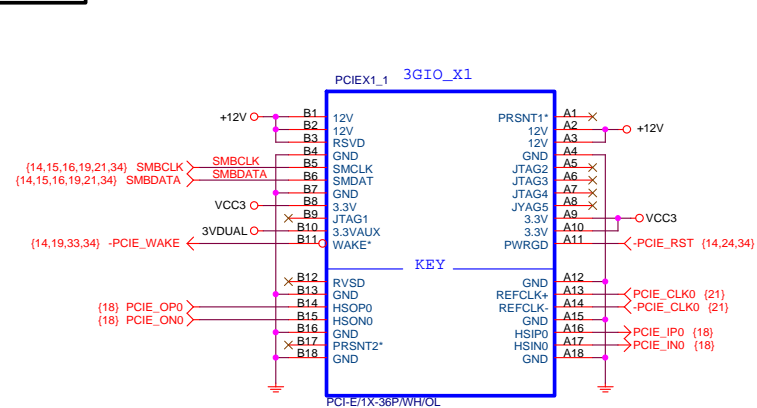
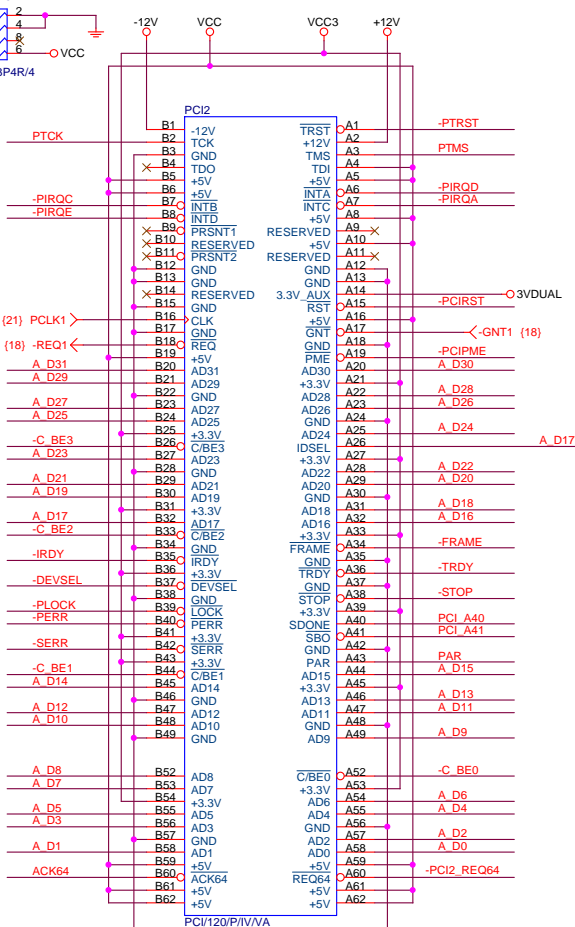
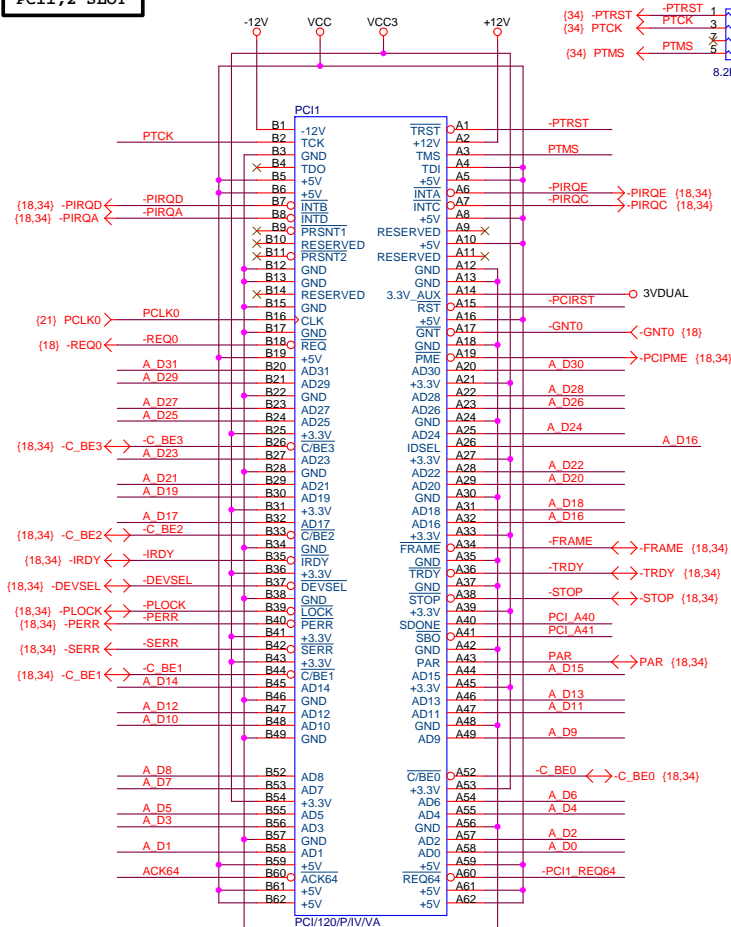


Gigabyte Technology

Title			CK505 CLK GEN	
Size			GA-P41T-D3P	
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PCI1,2 SLOT

P41T*1



(18,34) A_D[0..31] ↔ A_D[0..31]

-PCIRST ↔ -PCIRST (18,34)

C208
33pF/4NPO/50V/J/X

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

ACK64
-PC13 REQ64
-PC12 REQ64
-PC11 REQ64

2.2K/8P4R/4
-FRAME
-TRDY
-DEVSEL

2.2K/8P4R/4
-STOP
-PLOCK
-PERR
-SERR

8.2K/8P4R/4
(18,34) -PIRQC ↔ -PIRQC
(18,34) -PIRQD ↔ -PIRQD
(18,34) -PIRQA ↔ -PIRQA
(18) -PIRQB ↔ -PIRQB

8.2K/8P4R/4
(18,34) -PIRQE ↔ -PIRQE
(18) -PIRQF ↔ -PIRQF
(18) -PIRQH ↔ -PIRQH
(18) -PIRQG ↔ -PIRQG

+12V
BC91
0.1uF/4X7R/16V/K

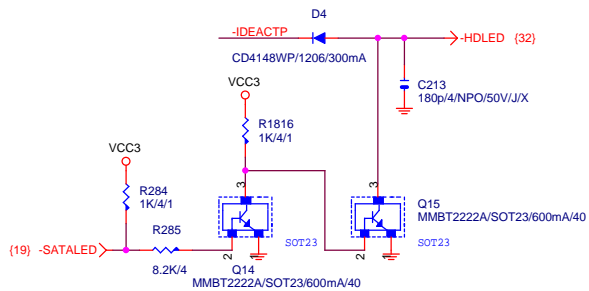
VCC
BC93
0.1uF/4X7R/16V/K

VCC3
BC95 0.1uF/4X7R/16V/K
BC96 0.1uF/4X7R/16V/K
BC97 0.1uF/4X7R/16V/K
EC29 560uF/FP/D6.3V/89/8m

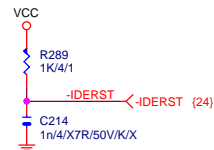
Gigabyte Technology

Title					Rev 1.4
PCI SLOT 1, 2/PCIEX1					
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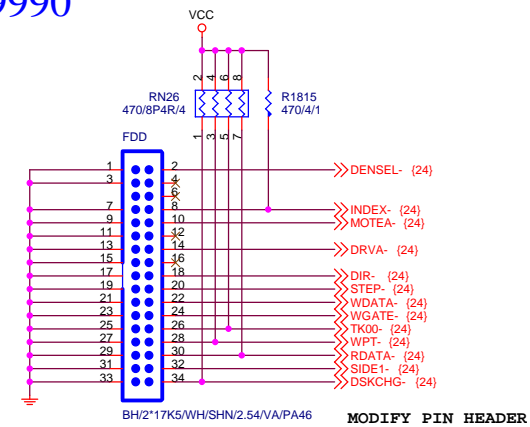
IDE/SATA LED



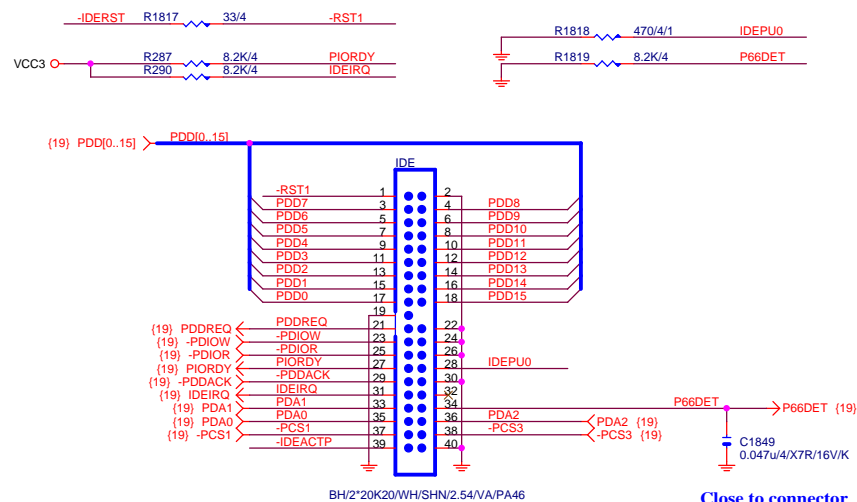
IDE RESET



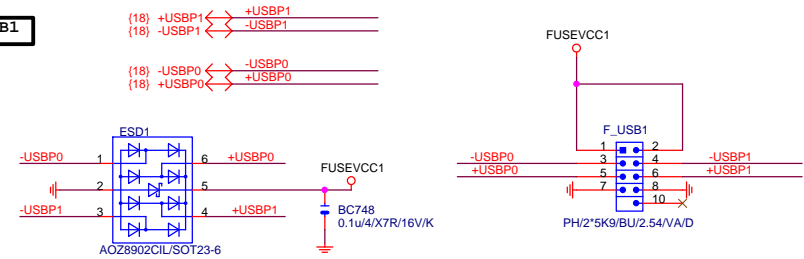
FLOPPY



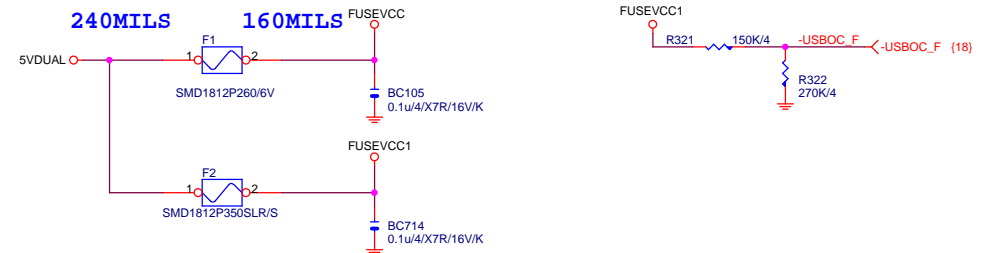
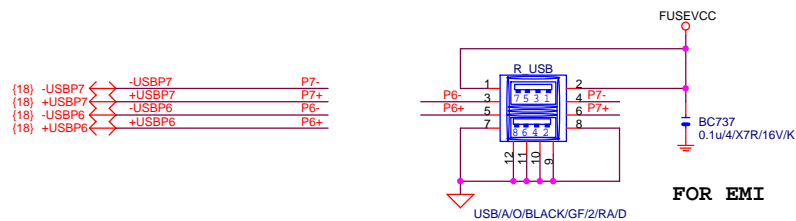
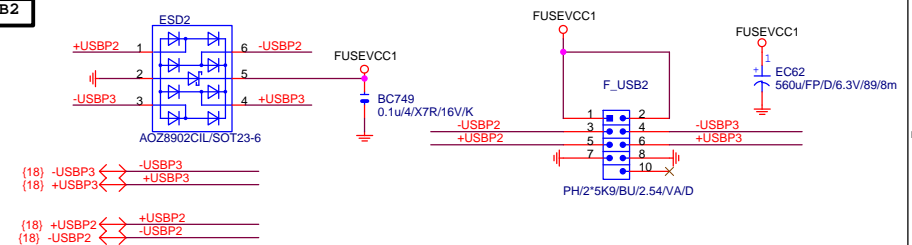
IDE



FRONT USB1

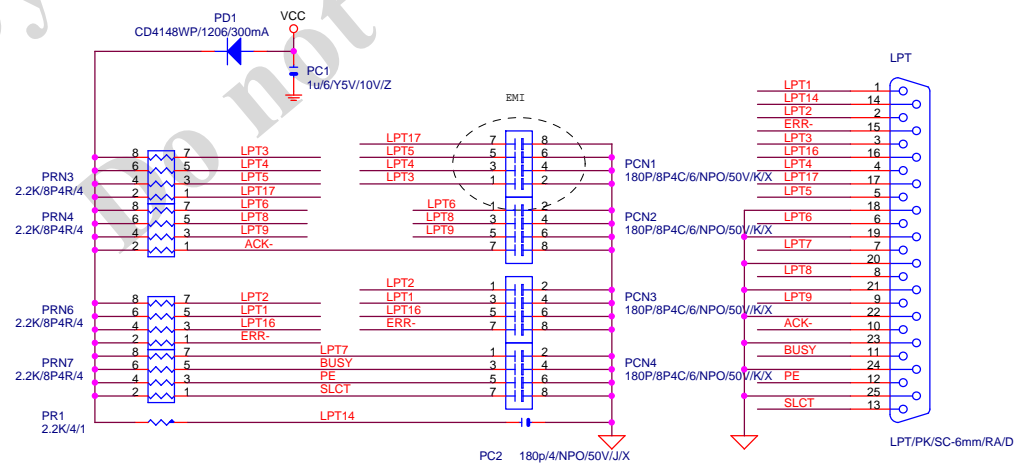
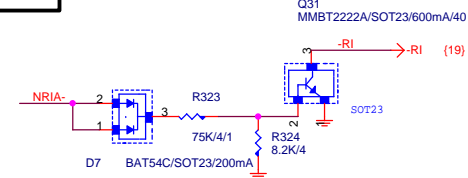


FRONT USB2

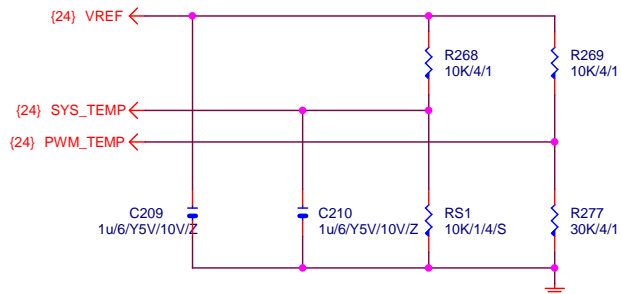


Gigabyte Technology

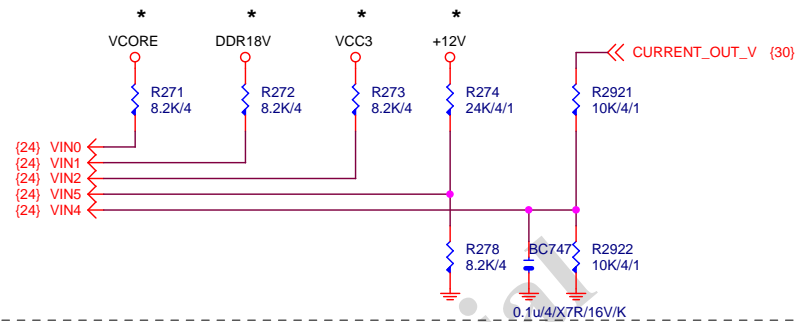
Title			
IDE,FDD,F_USB			
Size B	Document Number	GA-P41T-D3P	Rev 1.4
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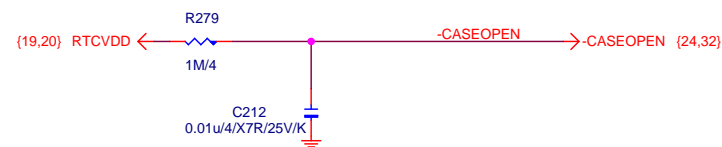
TEMP H/W MONITOR



VOLTAGE-- H/W MONITOR

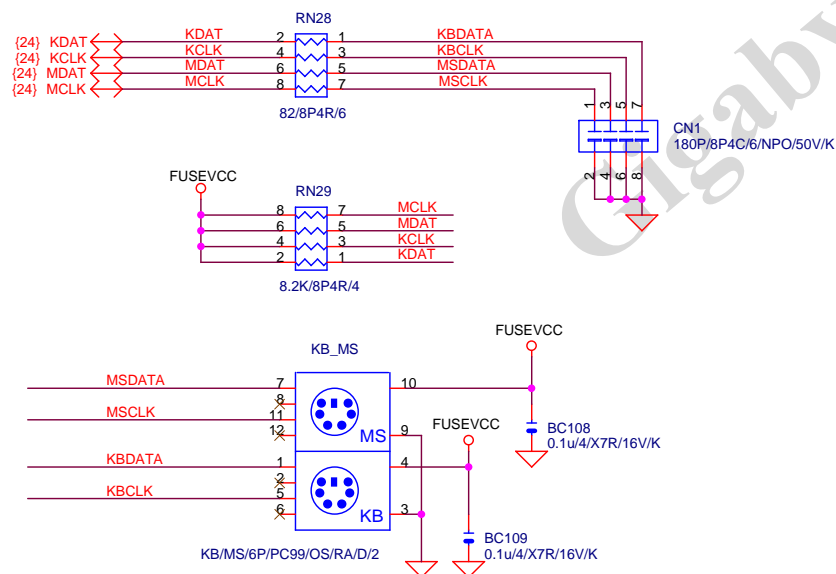


CASE OPEN



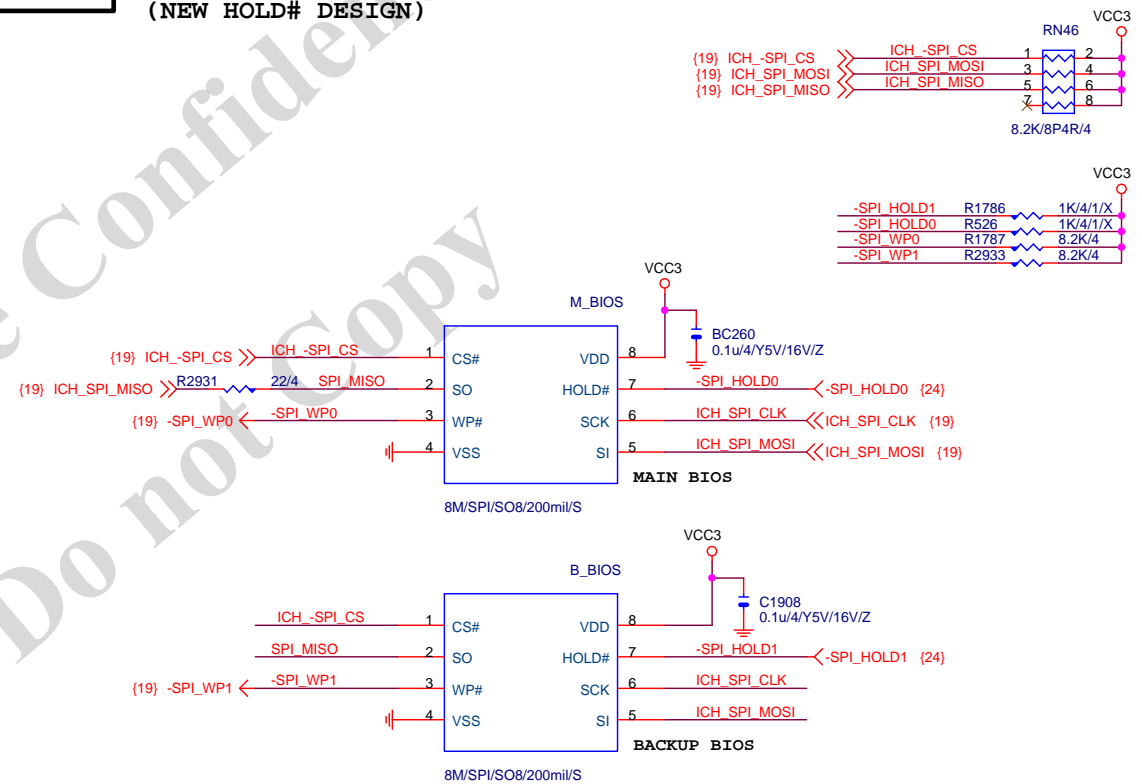
Case Open Circuits

KB/MS



DUAL BIOS

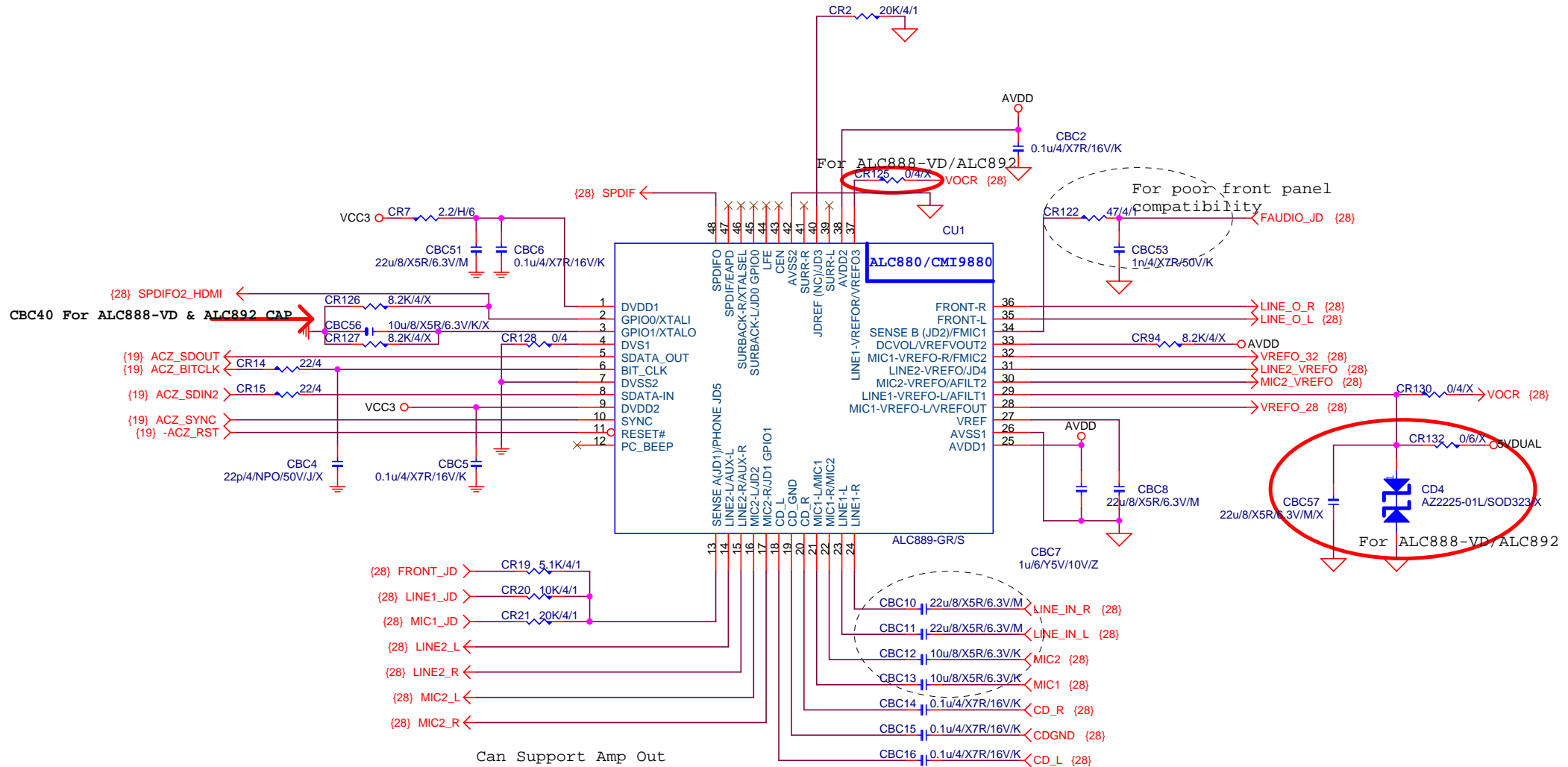
(NEW HOLD# DESIGN)



Gigabyte Technology

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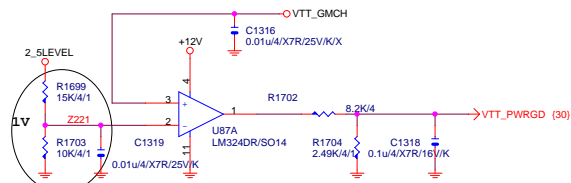
AZALIA CODEC



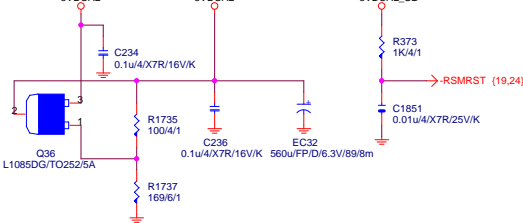
Gigabyte Technology

Title			AZALIA ALC888	
Size	Document Number	GA-P41T-D3P		Rev
Custom				1.4
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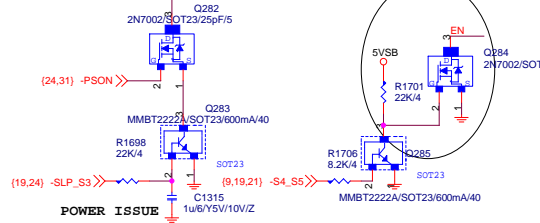
VTT_PWRGD



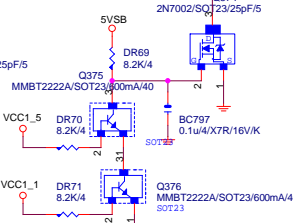
3VDUAL



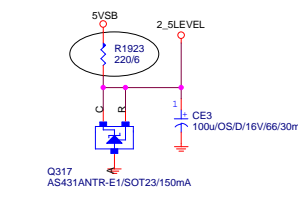
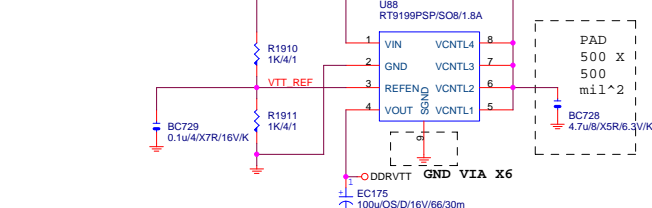
PWR_GOOD



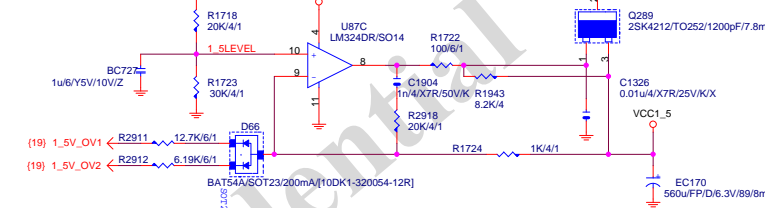
FOR NON-CPU CAN SHUT-DOWN



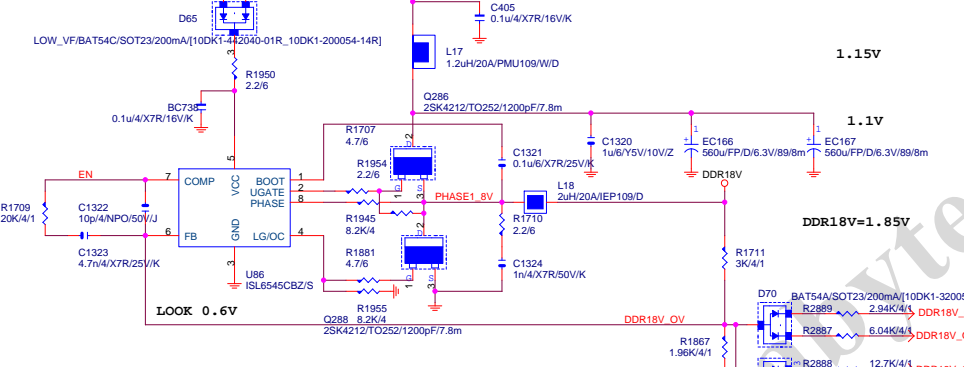
DDR_VTT



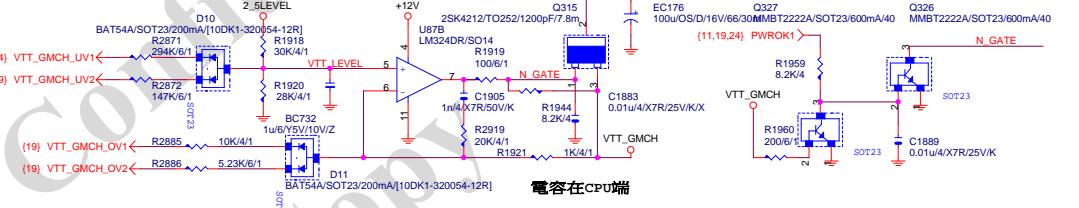
VCC1_5



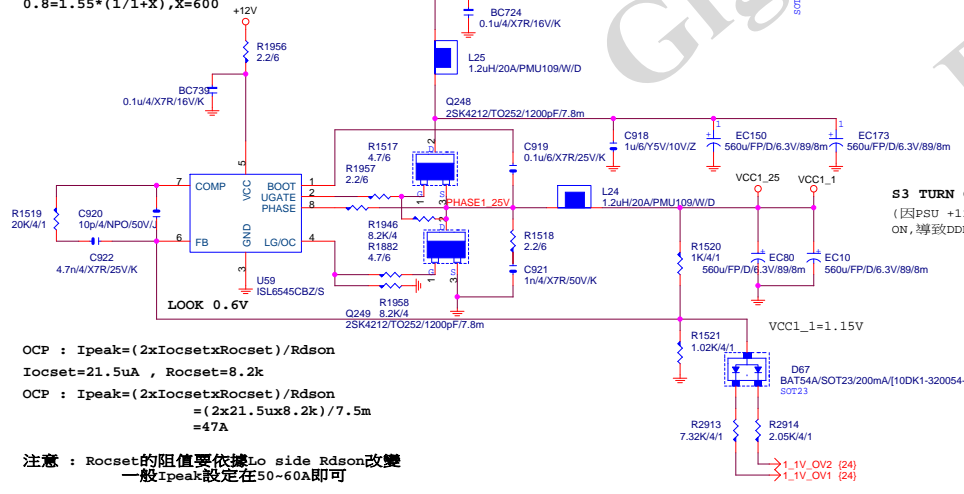
DDR18V



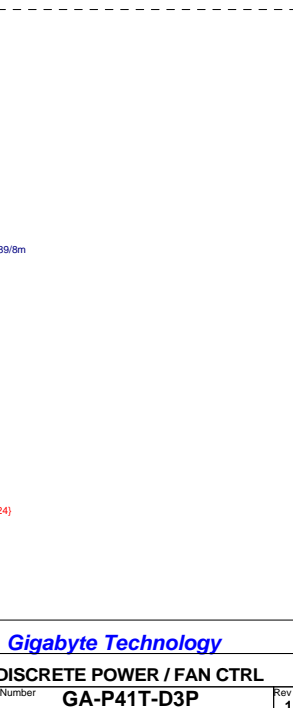
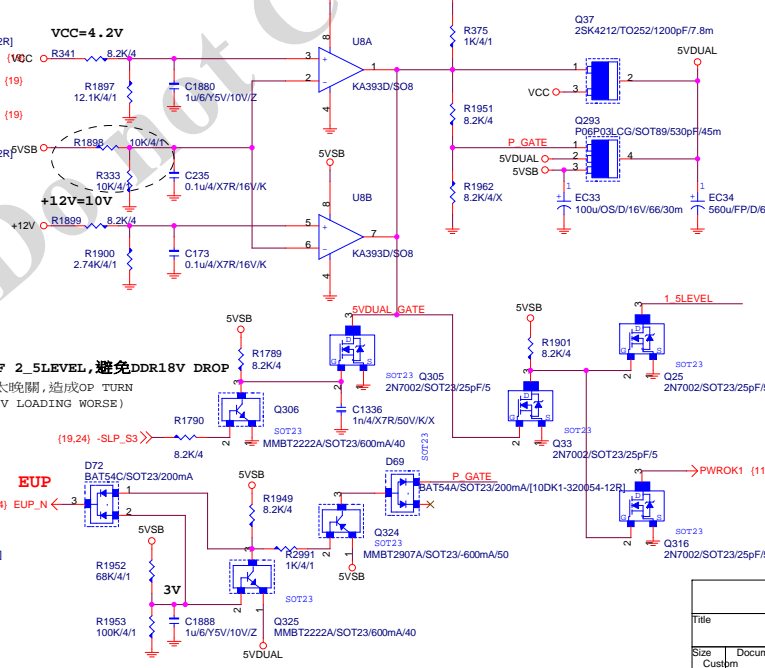
VTT_GMCH



VCC1_25



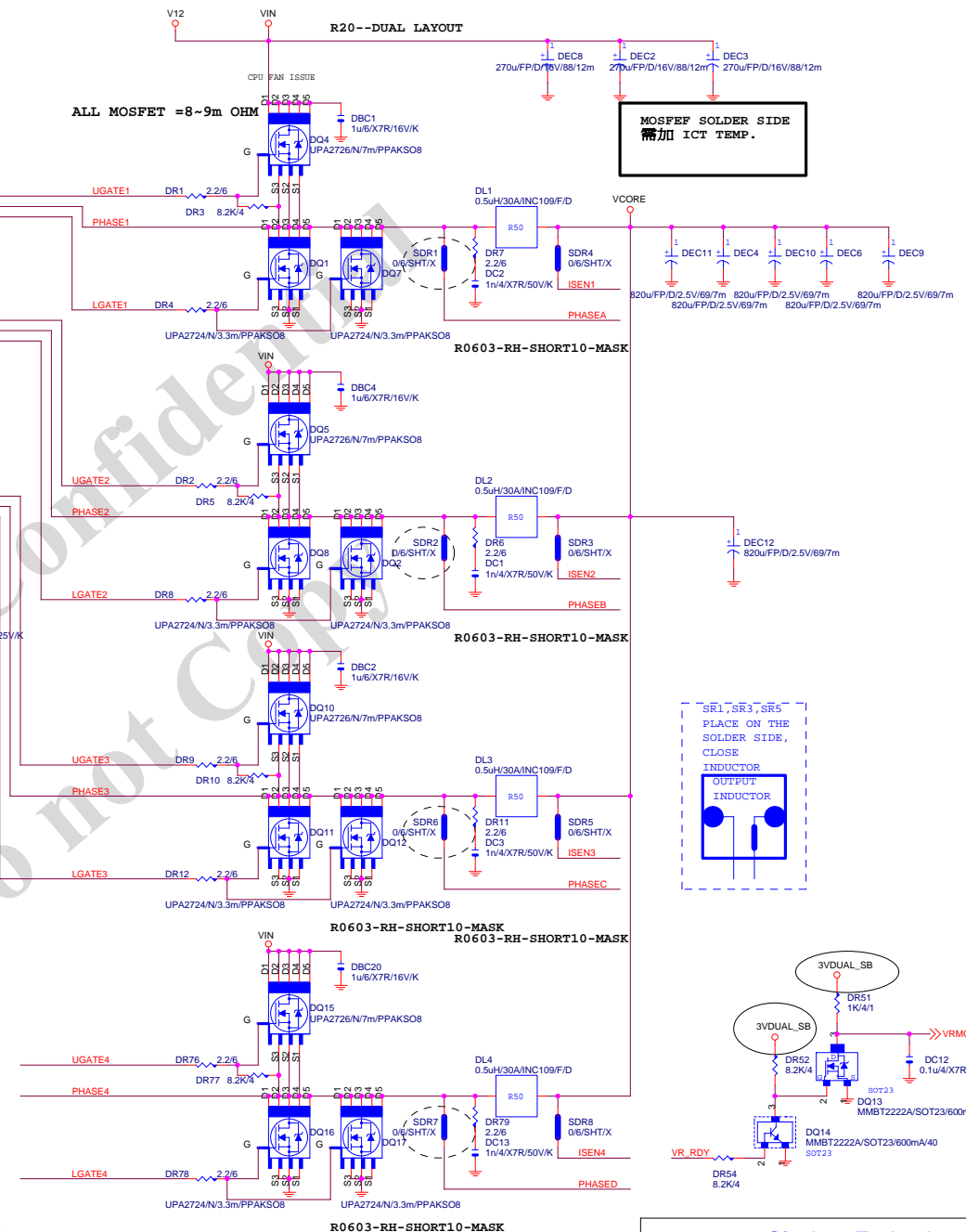
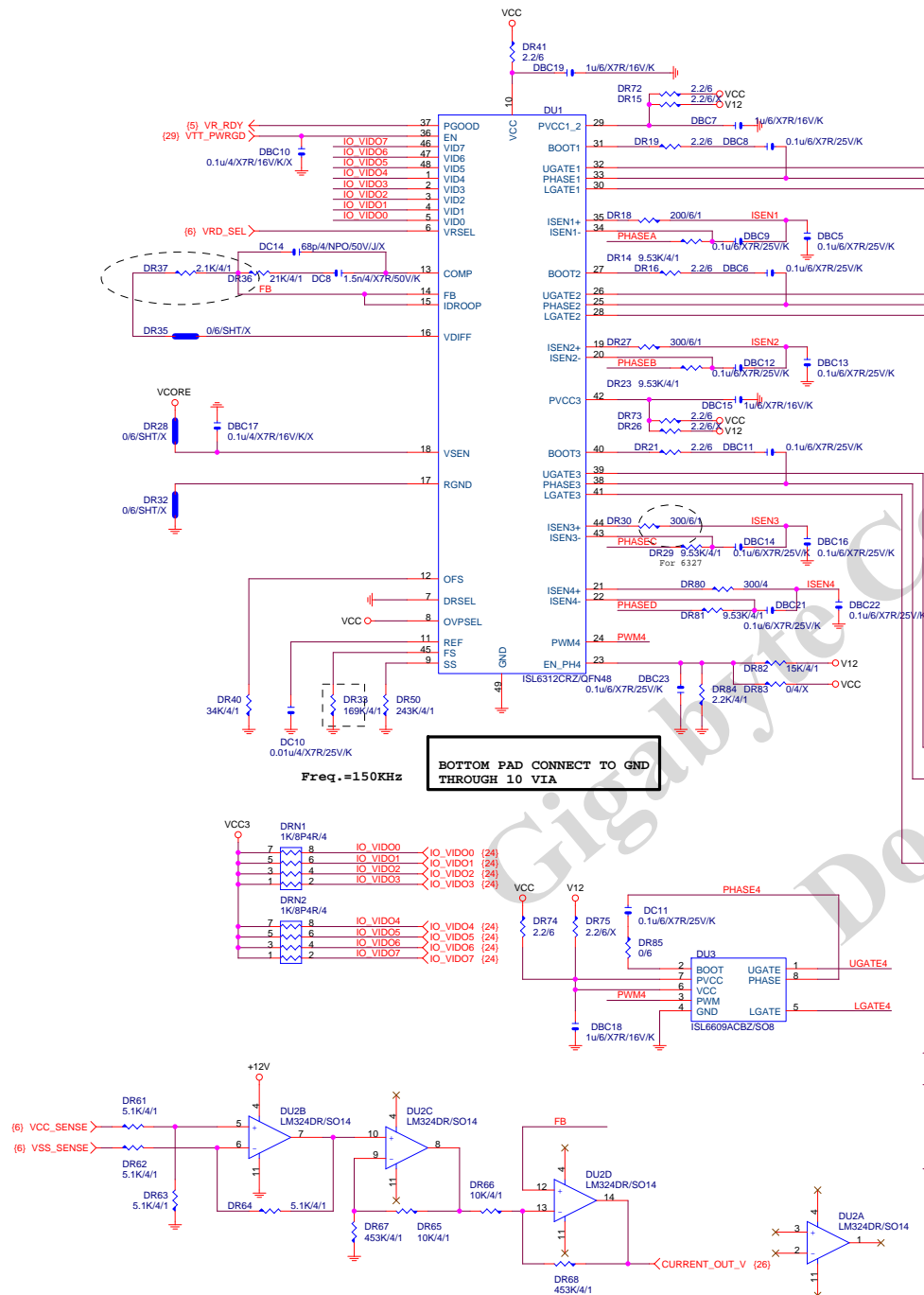
5VDUAL



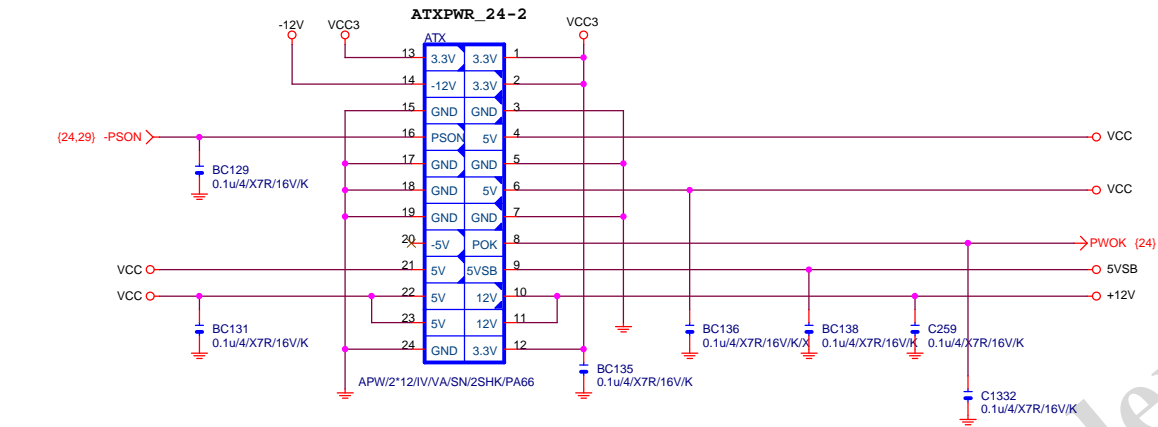
OCp : $I_{peak} = (2 \times I_{ocset} \times R_{ocset}) / R_{dson}$
 $I_{ocset} = 21.5 \mu A$, $R_{ocset} = 8.2k$
 OCp : $I_{peak} = (2 \times I_{ocset} \times R_{ocset}) / R_{dson}$
 $= (2 \times 21.5 \mu A \times 8.2k) / 7.5m$
 $= 47A$

注意 : Rocset的阻值要依據Lo side Rdson改變
 一般Ipeak設定在50~60A即可

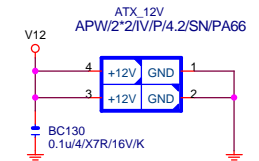
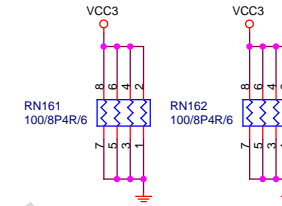
S3 TURN OFF 2_5LEVEL, 避免DDR18V DROP
 (因PSU +12V太晚關, 造成OP TURN ON, 導致DDR18V LOADING WORSE)



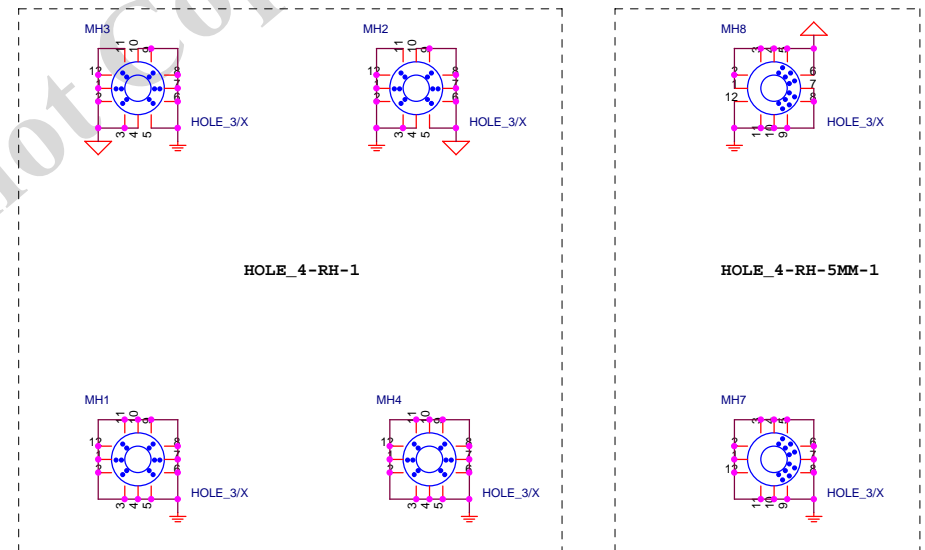
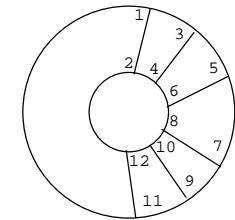
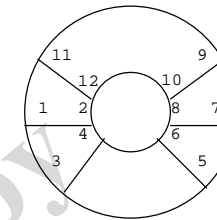
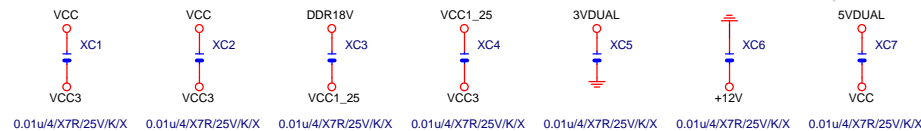
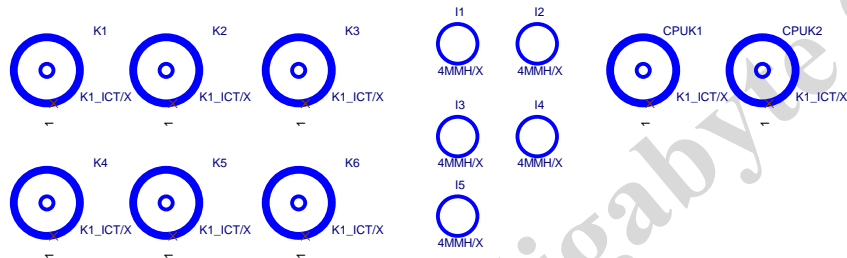
ATX POWER CONNECTOR



FIX PWR AcBel(ATX-400C-A2ADB)



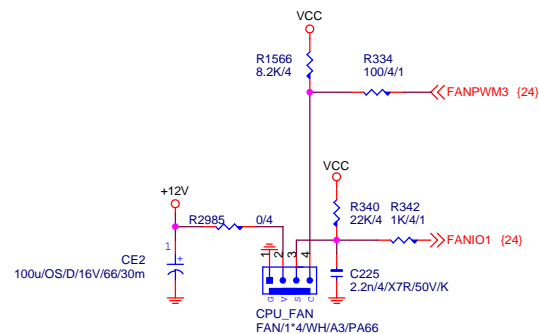
ATX_4-1



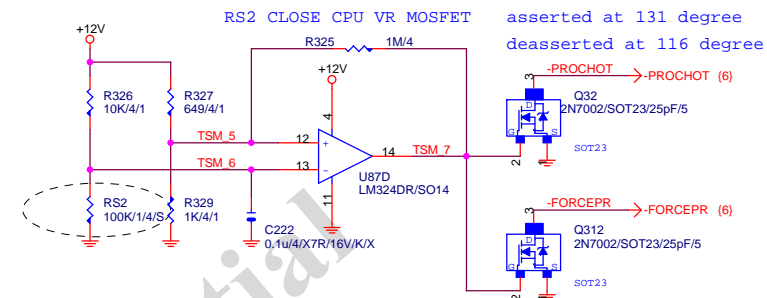
Gigabyte Technology

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ATX POWER CONNECTOR		
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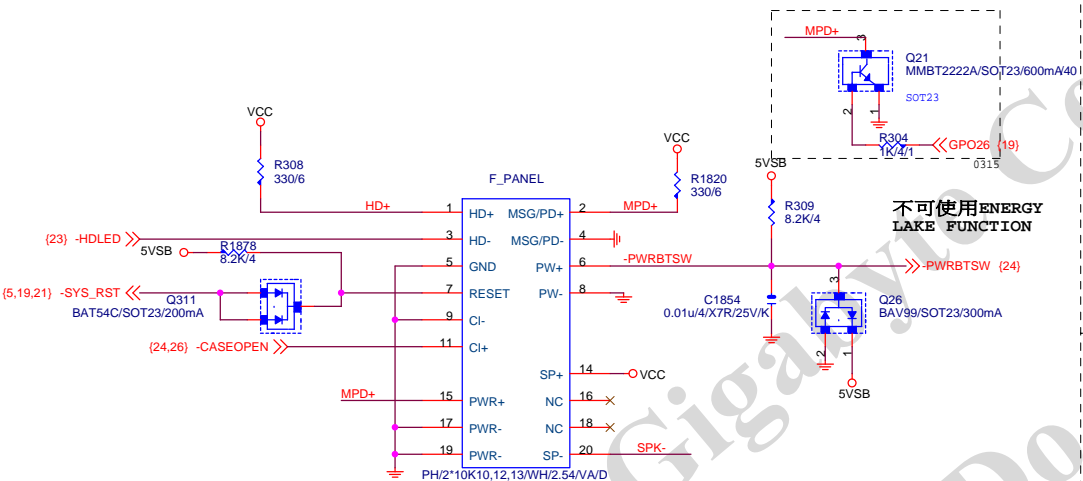
CPU SMART FAN SMART FAN



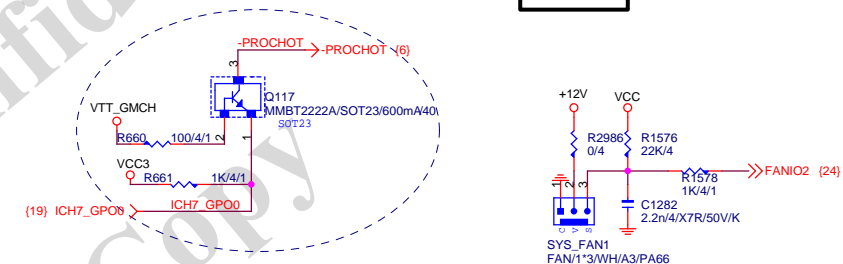
PROCESSOR HOT



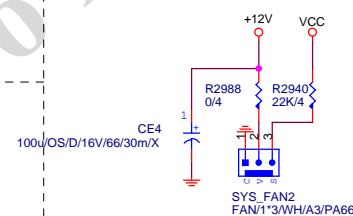
INTEL FRONT PANEL



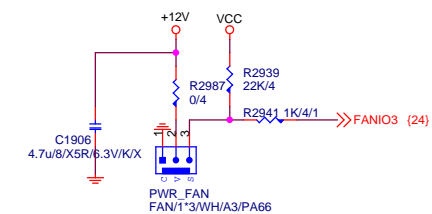
SYS_FAN1



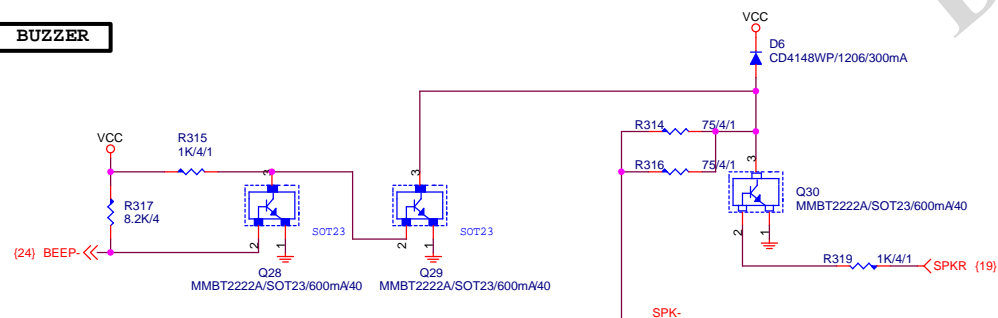
SYS_FAN2



PWR_FAN



BUZZER

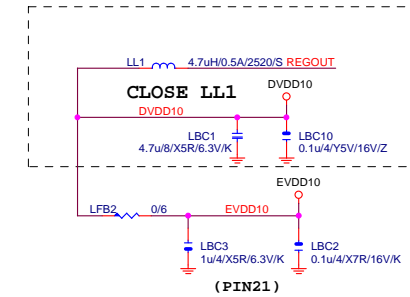
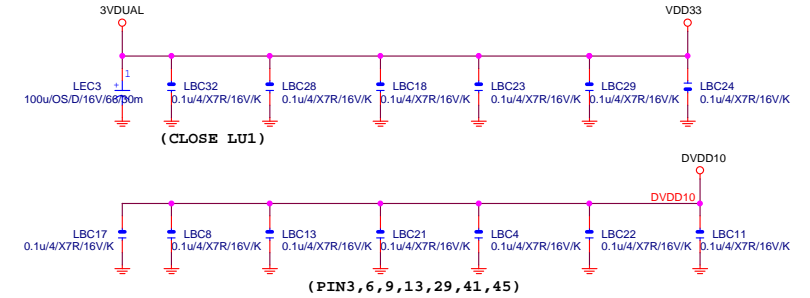
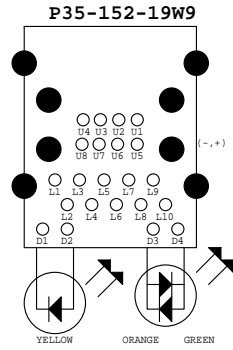
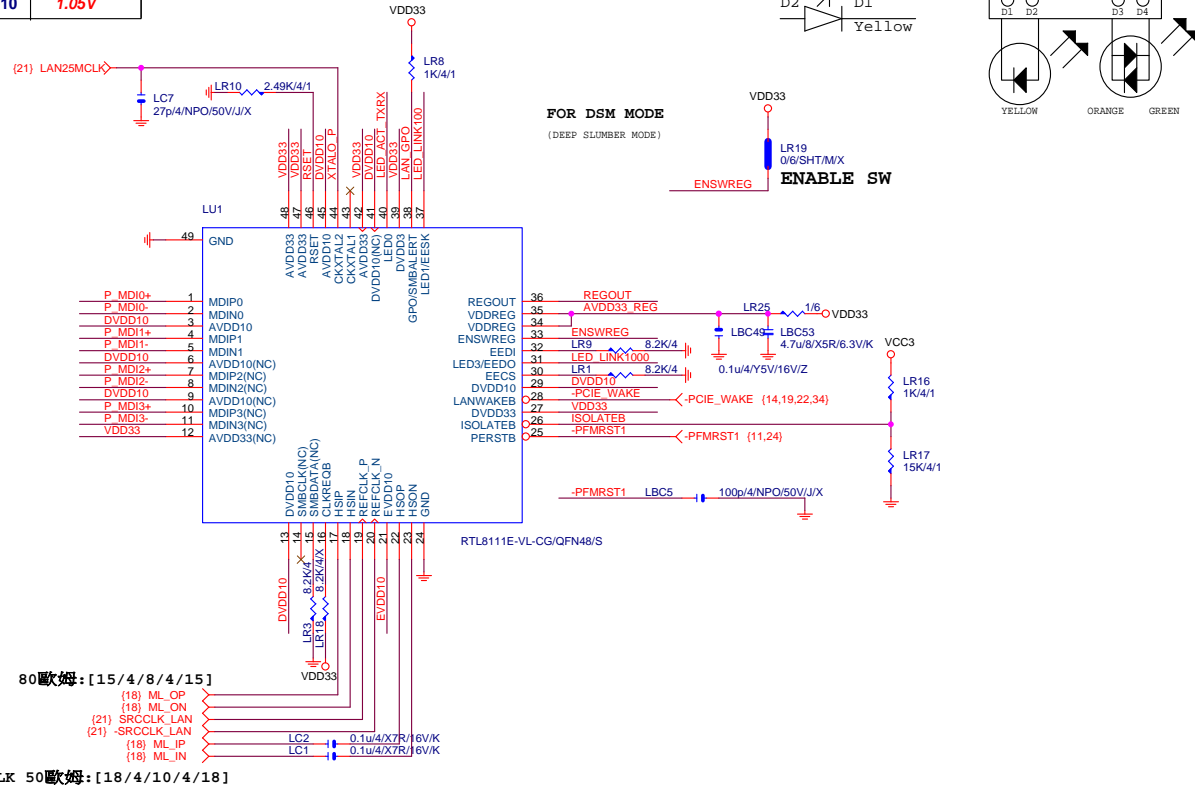


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FRONT PANEL / FAN CTRL			
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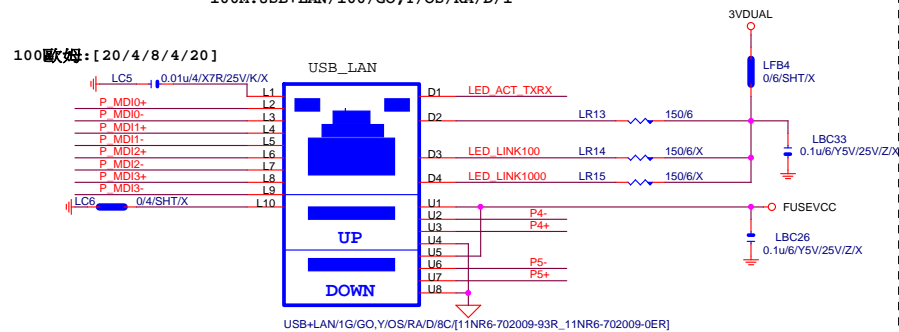
PCIE-1G LAN

	RTL8111E
AVDD33	3.3V
DVDD33	3.3V
VDDREG	3.3V
DVDD10	1.05V

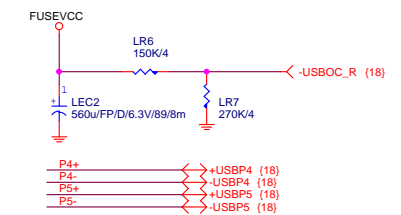
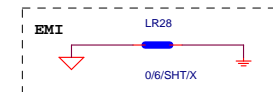


USB_LAN CONNECTOR

```
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
```



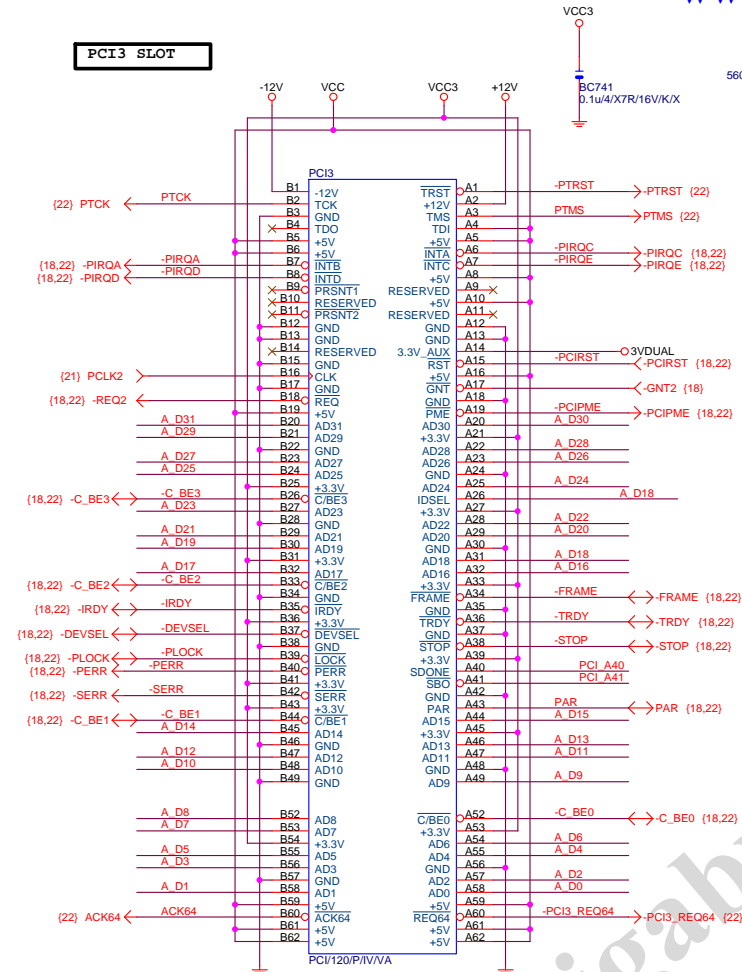
USB_LAN



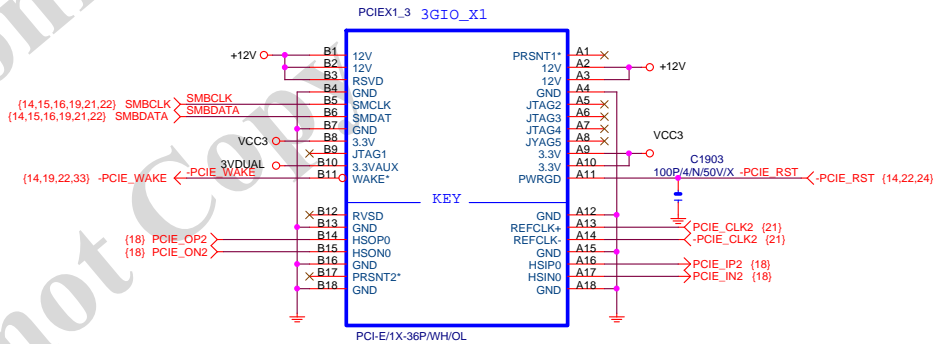
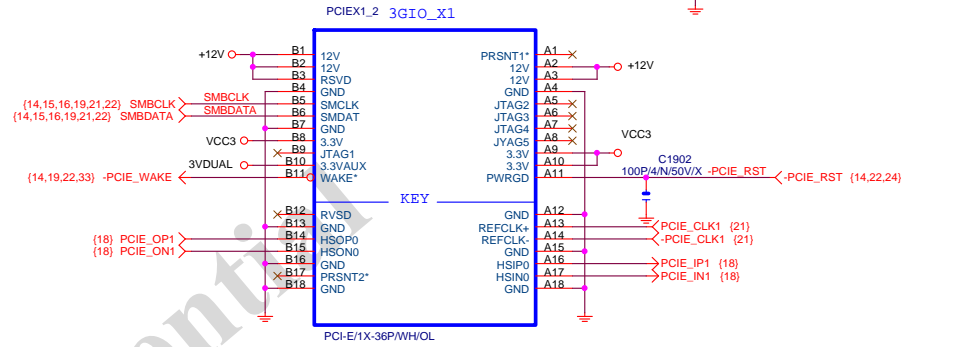
Gigabyte Technology

Title			
REALTEK RTL8111E			
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PCI3 SLOT



PCIE_2/3



(18,22) A_D[0..31] → A_D[0..31]

(14,15,16,19,21,22) SMBCLK → PCI_A40

(14,15,16,19,21,22) SMBDATA → PCI_A41

Intel Confidential

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PCI SLOT 3,PCIE2,3			
GA-P41T-D3P			
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Custom			
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