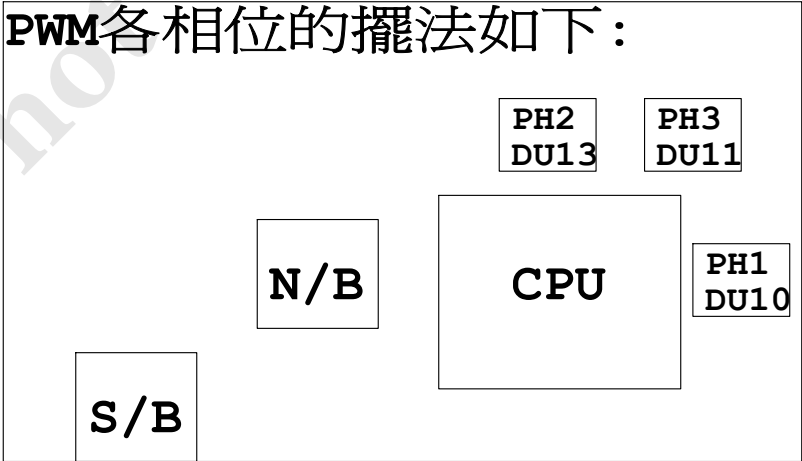


SHEET	TITLE
01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	TABLE LIST
05	P4 LGA775 A
06	P4 LGA775 B,D
07	P4 LGA775 C
08	P4 L775 E,F,G,H
09	GMCH-Eaglelake HOST
10	GMCH-Eaglelake DDRIII
11	GMCH-Eaglelake PCI E, DMI
12	GMCH-Eaglelake INT VGA
13	GMCH-Eaglelake GND
14	GMCH-Eaglelake PWR
15	DDRIII CHANNEL A 1,2
16	DDRIII CHANNEL B 1,2
17	DDRIII TERMINATION
18	PCI EXPRESS*16 SLOT
19	ICH10 DMI, PCI, USB
20	ICH10 GPIO, CTRL
21	ICH10 SATA, FAN PWM
22	ICH10 VCC, GND
23	CLOCK-REALTEK 587
24	PCI SLOT 1, 2, PCIEX1 1
25	ITE8718/GB,RESET DRIVE
26	COM LPT, -PROHOT,DYNAMIC,RUSB
27	BIOS,CI,HWM,KB/MS

SHEET	TITLE
28	AZALIA ALC888
29	AUDIO JACK
30	VCORE PWM ISL6334CRZ
31	DISCRETE1 POWER,FAN CTRL
32	ATX POWER
33	JMicron JMB368
34	LAN REALTEK RTL8111D
35	FRONT PANEL,FUSB,FDD
36	TPM I/F-1.2
37	PCI SLOT 3, 4 , 5

PWM各相位的擺法如下：



Model Name: GA-P43T-ES3G  
Rev.:1.3

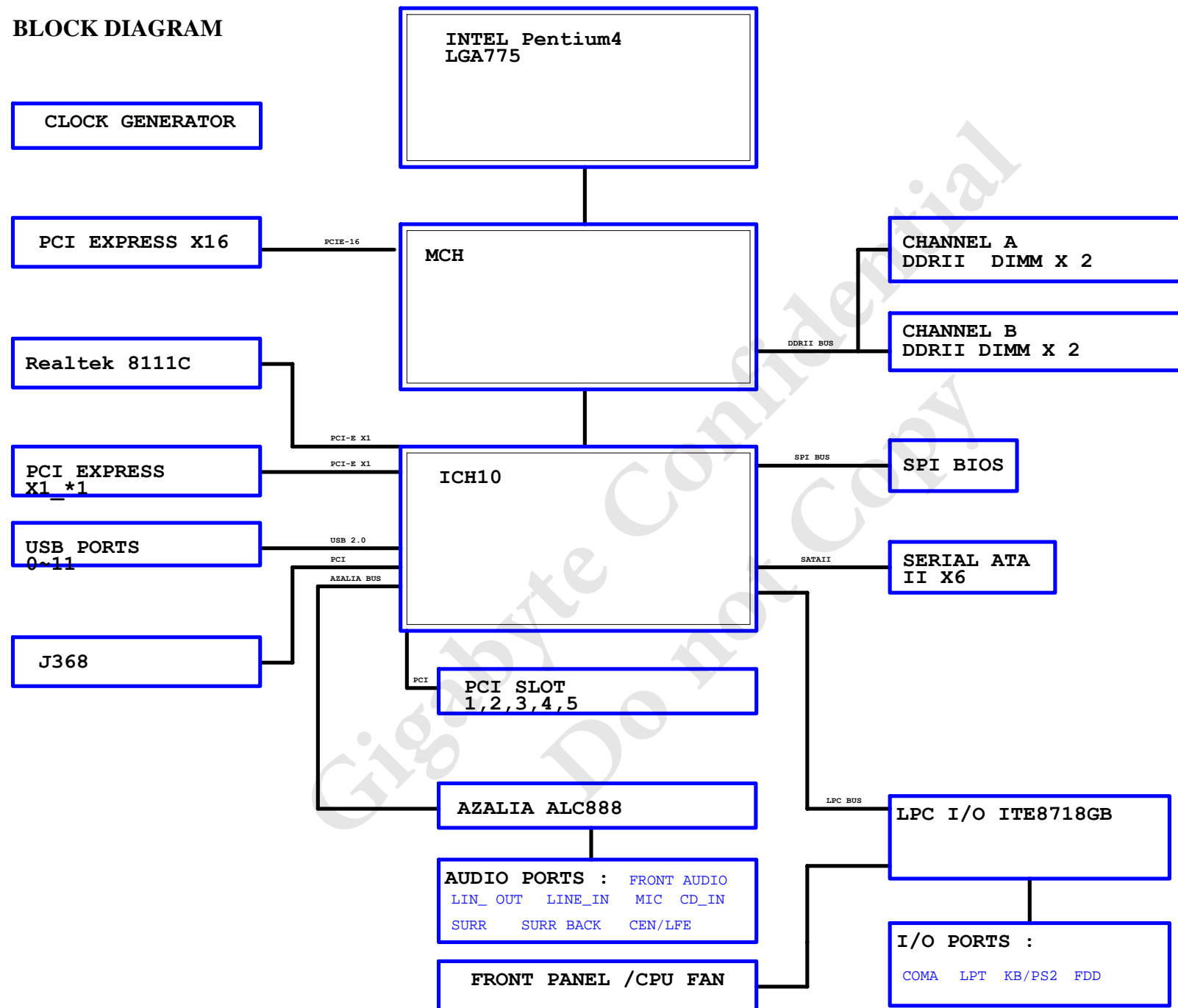
Component value change history

Data	Change Item	Reason
97/04/01 EBOM:01A	1. P43 CHIPSET E-BOM	
97/04/15 EBOM:02	1. 修改LED的OWER及阻值;DEL R484,DR78. ADD DR79,,R348	
	2. ADD DR80,R300 10-->49.9,C158,LBC43 0ohm-->100PF for EMI	
	3. del Q3,Q4,BC11,BC9,R42,R15,PCI_BT1,PCI_BT2,R166,R168	
97/04/28 EBOM:10A	1. DDR2 VOLTAGE 1.83 --> 1.9V --> 2.0V --> 2.1V ----->2.5V	
97/05/09 PBOM:10B	1. DR59,DR60 14K---->549ohm,del DR69	
	2. ADD U9(uP6262),R436,BC133 FOR CPU 超頻	
	3. CE2,CE3 EC-CAP---->FP-CON CAP FOR CPU FAN ISSUE	
97/05/13 PBOM:10C	1. ADD BACKUP BIOS AND RESISTOR	
97/05/21 PBOM:10D	1. ICH,MCH PCI-E ,JM368的RX,TX串電容BOM 0.1U/Y5V-->0.1U/X7R,RTC RTCVDD -->X7R	
	2.ADD U6 FOR DDR TURN ON 2.1V ISSUE	
97/06/04 PBOM:10E	1.Q49 BAT54C限用DII FOR STR ISSUE	
97/06/18 PBOM:10F	1.C197 0.1U/Y5V--->0.1U/X7R	
	2.ADD MB_ID R283,DEL R282,Q87,Q91,R452,R498,R499,R500 FOR VTT_GMCH 1.2V	
	3.R300 49.9--->100 ohm ,C158 Y5V--->X7R for USB	
	4.DC20 0.01u--->1nf FOR CPU PSI ISSUE	
97/07/22 PBOM:10G	1.換NEW P43 A2 CHIP	
97/08/11 PBOM:10H	1.由10E 改; RR2 68--->44.2 FOR J368 1.8V	
97/09/24 EBOM:01	1.E-BOM FOR P43-ES3G-0.1	
97/10/24 EBOM:10A	1.LBC34 100PF----->0 ohm for EMI issue	
	2.DEL R132,R133,Q1,Q2,R58,R59 FOR non CIA2 function	
97/11/07 PBOM:10B	1.FDD 改爲白色 2.改BC38,BC65 改爲1UF	
98/04/24 PBOM:10D	1.部份阻值改爲1%,	
98/05/07 PBOM:10E	1.D8 改成OLD BAT54A,R282 PULL LOW,R323,R330移除	
98/05/25 PBOM:10F	1.D7,D9,D11,D4,D6,D13改成OLD BAT54A	
	1.ADD EUP FUNCTION	
	2.CODEC CO-LAY,ADD EOS protect diode	
	3.8111C---->8111D	
P43T-ES3G-10A	1. PCB內容有誤,包材修改	
P43T-ES3G-11A	1. Add ErP Function	
P43T-ES3G-13A	1. F_USB FUSE CHANGE TO SMD1812P350SLR/S	
P43T-ES3G-13B	1. ALC888 --> ALC892R	

Circuit or PCB layout change  
for next version

DATE	Change Item	Reason
97/04/01 PCB:0.1	1.P43-DS3L	
97/04/23 PCB:1.0	1. CE3位置請移至EC24左邊	
	2. 增加 upi6262 VCC Power (R620,R621,Q107)	
	3. 增加R622,R623 FOR DDR18V_OV3	
97/08/08 PCB:1.01	1.DDR1200 OC 文字面改爲DDR 1200	
97/09/23 PCB:0.1	1.由EP43-DS3L-1.01修改成GA-P43-ES3G-0.1	
	2.CPU VCORE 改爲3相	
	3.後窗改爲 1 serial port ,parallel port,aduio 爲 analog 3 port,digital 只有同軸,USB *6,前窗USB *6	
	4.support easy saver function;PCI SLOT*5	
97/10/30 PCB:1.0	1.GA-P43-ES3G-1.0 FOR PVT	
98/04/15 PCB:1.01	1.GA-P43-ES3G-1.01 修改LL1電感位置	
2009/10/06 PCB:1.1	1.ADD EUP FUNCTION	
	2.CODEC CO-LAY,ADD EOS protect diode	
P43T-ES3G-10A	1. F_PANEL是否要改新的	

## BLOCK DIAGRAM



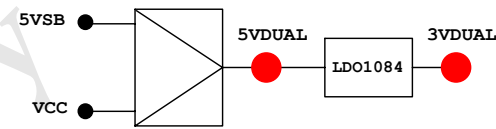
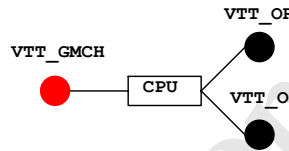
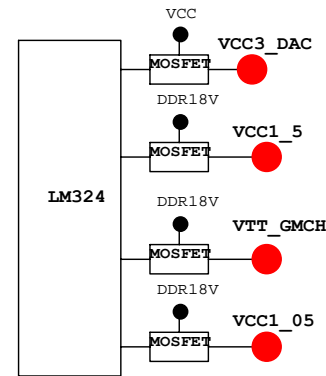
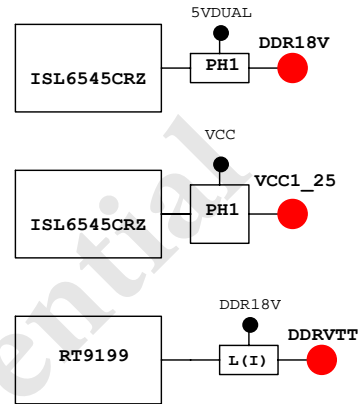
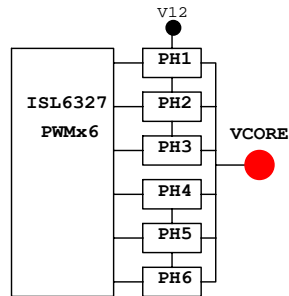
Gigabyte Technology

BLOCK DIAGRAM			
File	GA-P43T-ES3G		
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ICH8 GPIO LIST TABLE

PIN NAME	PWR WELL	AFTER/ PLTRST	USAGE	NOTE
GP0	MAIN	IN	-ACZ_DET	P/U 8.2K VCC3
GP1/TACH1	MAIN	IN	ICH_FAN_TACH1	P/U 8.2K VCC3
GP2/PIRQE#	MAIN	IN	-PIRQE	P/U 8.2K VCC3
GP3/PIRQF#	MAIN	IN	-PIRQF	P/U 8.2K VCC3
GP4/PIRQG#	MAIN	IN	-PIRQG	P/U 8.2K VCC3
GP5/PIRQH#	MAIN	IN	-PIRQH	P/U 8.2K VCC3
GP6/TACH2	MAIN	IN	ICH_FAN_TACH2	P/U 8.2K VCC3
GP7/TACH3	MAIN	IN	ICH_FAN_TACH3	P/U 8.2K VCC3
GP8	STBY	IN	GPIO8 (DUALBIOS_INPUT)	P/U 8.2K 3VDUAL
GP9	STBY	OUT	WOL_ONLY	P/D 100K GND
GP10	STBY	IN	CLGPIO1	P/U 8.2K 3VDUAL
GP11/SMBALERT#	STBY	OUT	-SMBALRT	P/U 8.2K 3VDUAL
GP12	STBY	IN	MB_ID0	P/U 8.2K 3VDUAL
GP13	STBY	IN	-LPCPME	P/U 8.2K 3VDUAL
GP14	STBY	IN	CLGPIO2	P/U 8.2K 3VDUAL
GP15	STBY	OUT	LAN_DISABLE (STP_PCI-)	N/A
GP16	MAIN	OUT/LOW	RESET	N/A
GP17/TACH0	MAIN	IN	ICH_FAN_TACH0	P/U 8.2K VCC3
GP18	MAIN	OUT	MB_ID1	P/U 8.2K VCC3
GP19	MAIN	IN	SATA1GP	P/U 8.2K VCC3
GP20	MAIN	OUT	-SPI_WP0	P/U 1K 3VCL
GP21	MAIN	IN	SATA0GP	P/U 8.2K VCC3
GP22	MAIN	IN	SCLOCK	P/U 8.2K VCC3
GP23	MAIN	OUT	-LDRQ1	P/U 8.2K VCC3
GP24	STBY	OUT	CLGPIO0	P/U 8.2K 3VDUAL
GP25	STBY	IN	MB_ID2 (STP_CPU-)	P/U 8.2K 3VDUAL
GP26/S4_STATE#	STBY	OUT	S4_STATE#	P/U 8.2K 3VDUAL
GP27	STBY	OUT/LOW	GPIO27 (EL_STATE0)	P/U 8.2K 3VDUAL
GP28	STBY	OUT/LOW	PWR_LED (EL_STATE1)	N/A
GP29/OC5#	STBY	IN	-USBOC_R	P/U FUSEVCC
GP30/OC6#	STBY	IN	-USBOC_R	P/U FUSEVCC
GP31/OC7#	STBY	IN	-USBOC_R	P/U FUSEVCC
GP32	MAIN	OUT	DUAL_BIOS	P/U 100K+1M VCC3
GP33	MAIN	OUT	DUAL_BIOS	P/U 8.2K VCC3
GP34	MAIN	OUT/LOW	GPIO34/SMB_RST	N/A
GP35	MAIN	OUT	SATACLKREQ#	N/A
GP36	MAIN	IN	SATA2GP	P/U 8.2K VCC3
GP37	MAIN	IN	SATA3GP	P/U 8.2K VCC3
GP38	MAIN	IN	SLOAD	P/U 8.2K VCC3
GP39	MAIN	IN	GPIO39	P/D 8.2K GND
GP48	MAIN	IN	GPIO48	P/U 8.2K VCC3
GP49	MAIN	IN	CPUPWROK	P/U 100 VTT_OL

VCORE:6 PHASE PWM--ISL6327CRZ

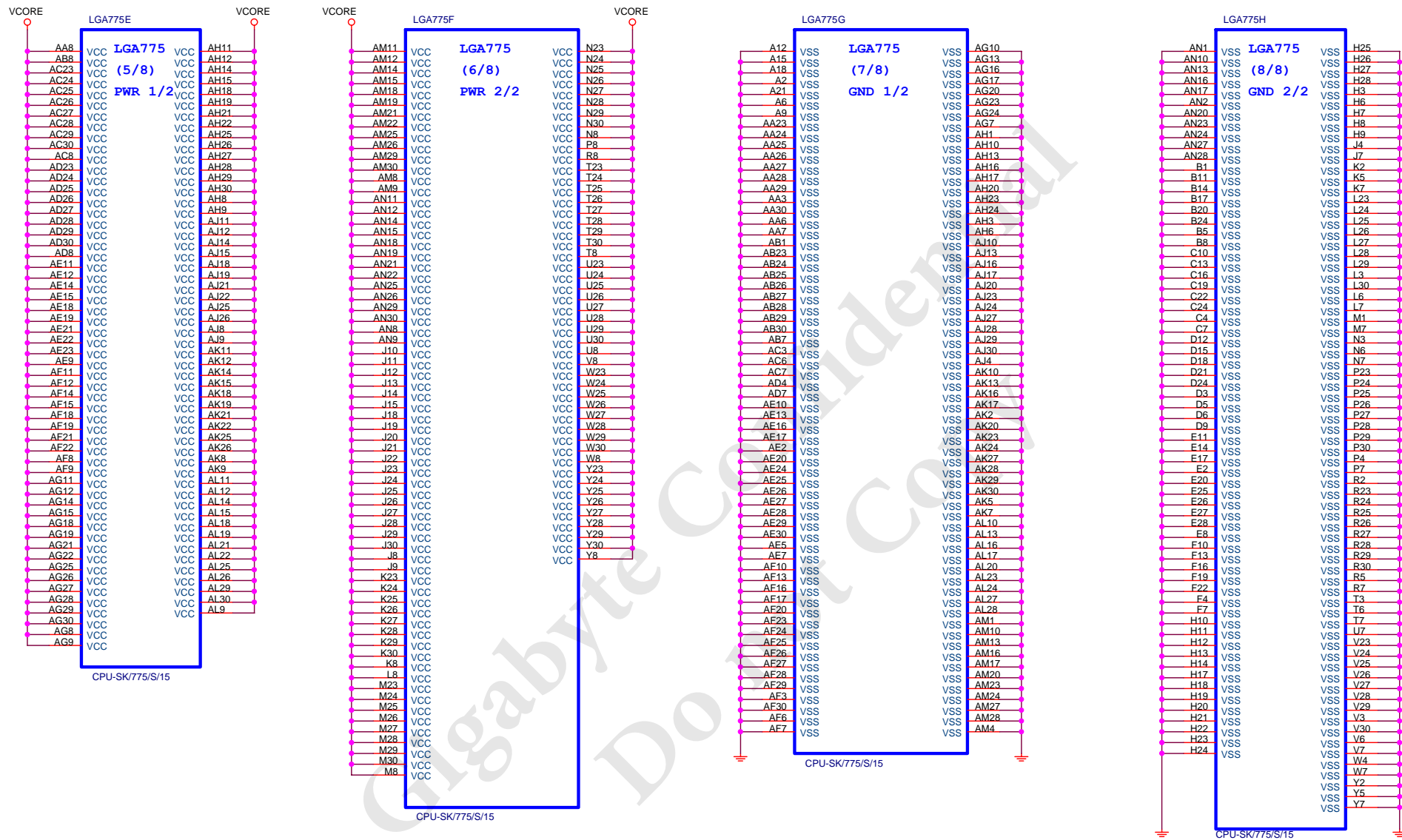


Gigabyte Technology			
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TABLE LIST			
Size B	Document Number	Rev	
	GA-P43T-ES3G	1.3	
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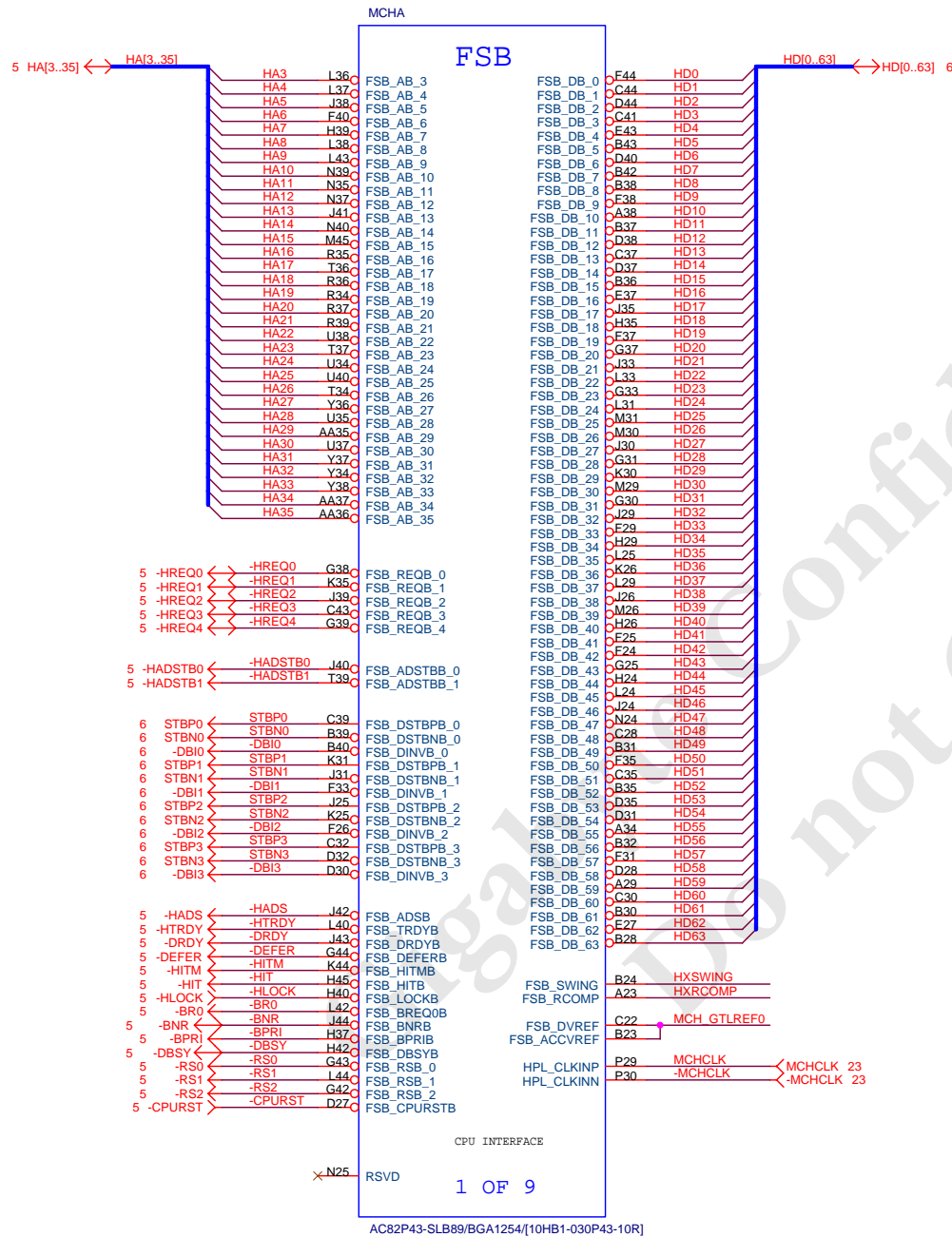




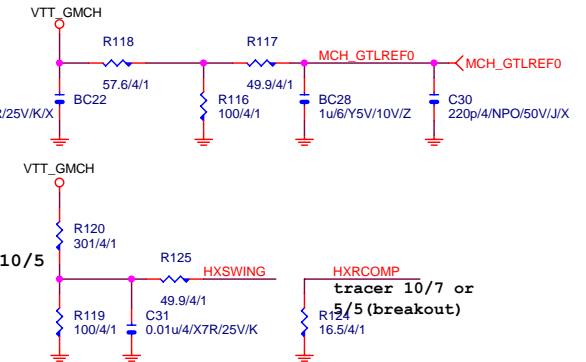


Gigabyte Technology

Title			P4_LGA775-E,F,G,H	
Size	Document Number		GA-P43T-ES3G	
	Date:		Friday, August 27, 2010	Sheet 8 of 37
Rev		1.3		



tracer min 10/10 or (10/5  
breakout), L1<3"



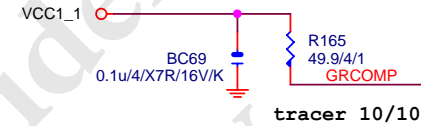
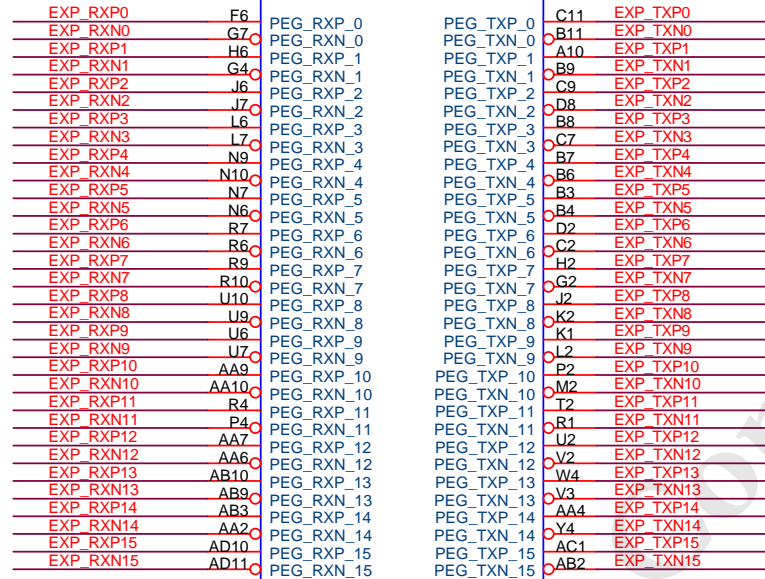
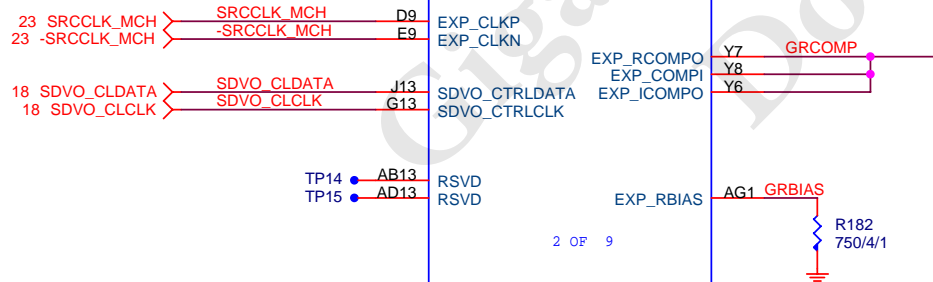
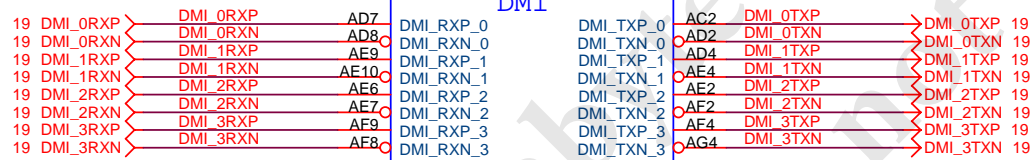
Gigabyte Technology

Title			
GMCH-HOST			
Size	Document Number	GA-P43T-ES3G	
Custom		Rev 1.3	
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PCIEX16:16/5/5/5/16(breakout min 8/4/5/4/8)

Impedance=85 +/- 17.5%

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

AC82P43-SLB89/BGA1254/[10HB1-030P43-10R]

Gigabyte Technology

Title			GMCH-PCI E & DMI	
Size	Document Number	GA-P43T-ES3G		Rev
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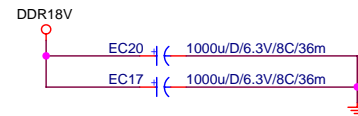
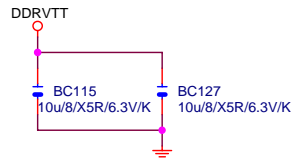




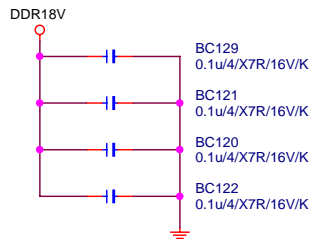


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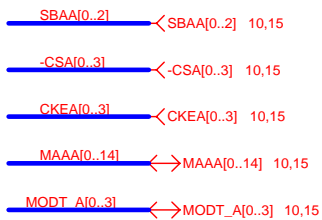
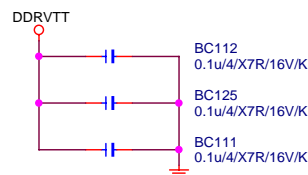
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### DDR18V Decouple

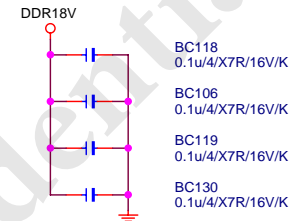


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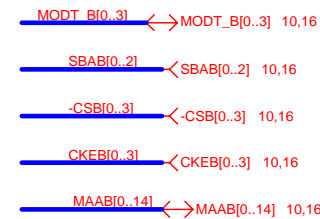
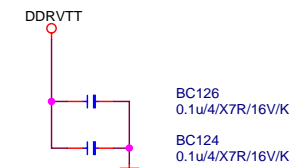


## DDR TERMINATION CHANNEL B

### DDR18V Decouple



### DDRVTT Decouple

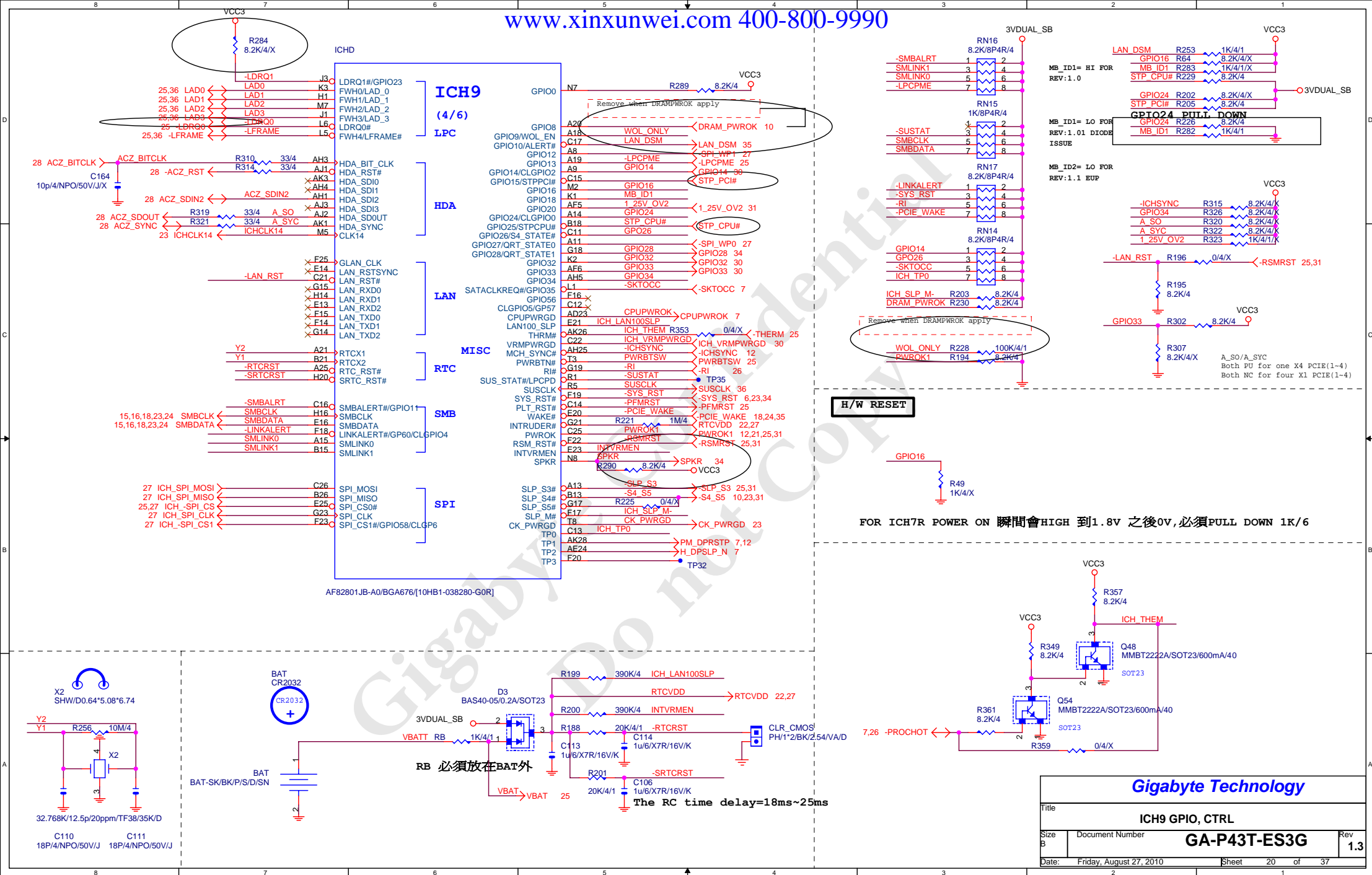


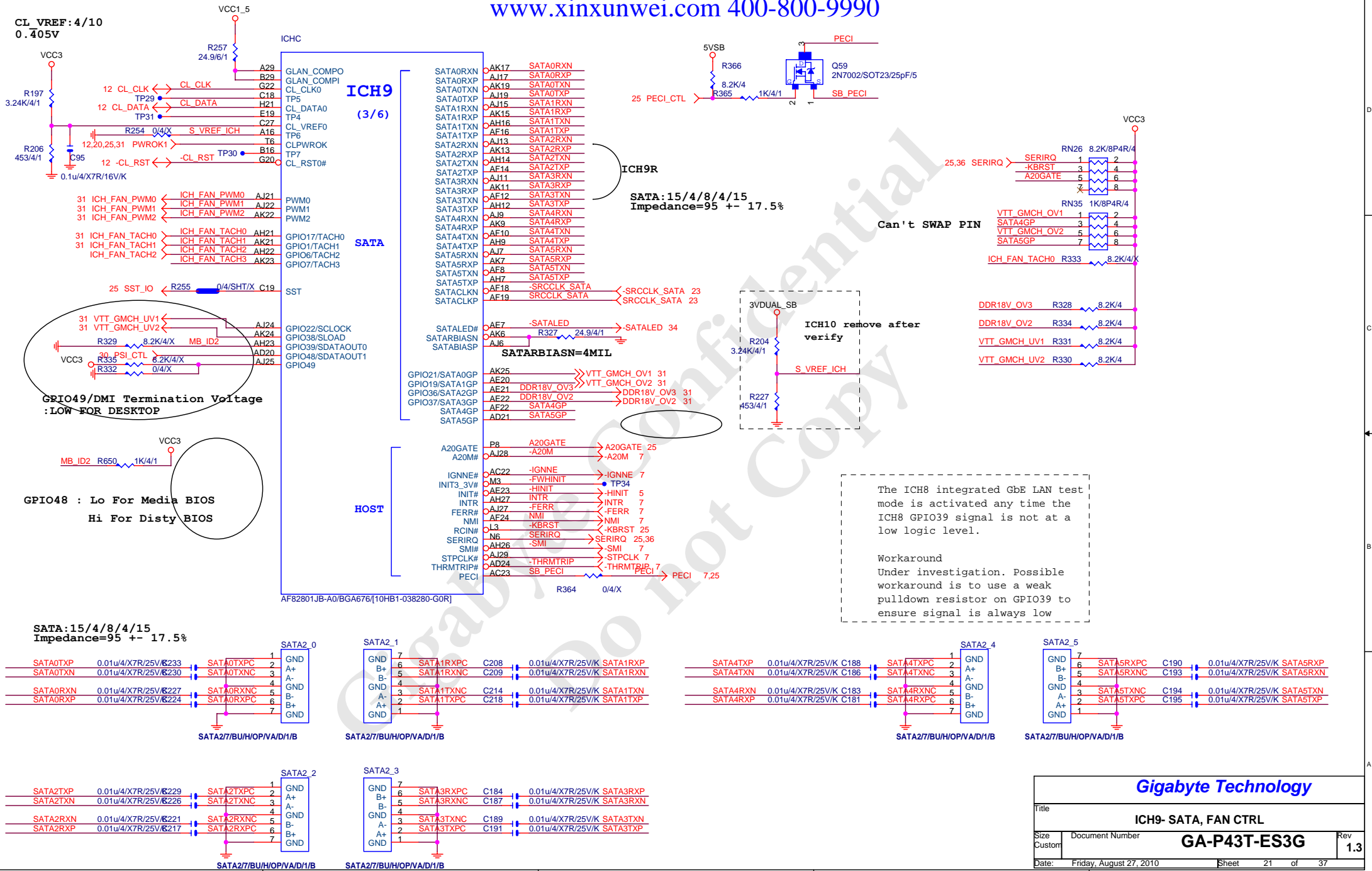
**Gigabyte Technology**

Title		
DDR3 TERMINATOR		
Size	Document Number	Rev
Custom	GA-P43T-ES3G	1.3
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CL VREF: 4/10  
0.405V



CLK GEN CK505

50歐姆: [18/4/10/4/18]

50歐姆: [18/4/10/4/18]

50歐姆: [18/4/10/4/18]

50歐姆: [4/10]

50歐姆: [4/10]

50歐姆: [4/10]

B

A

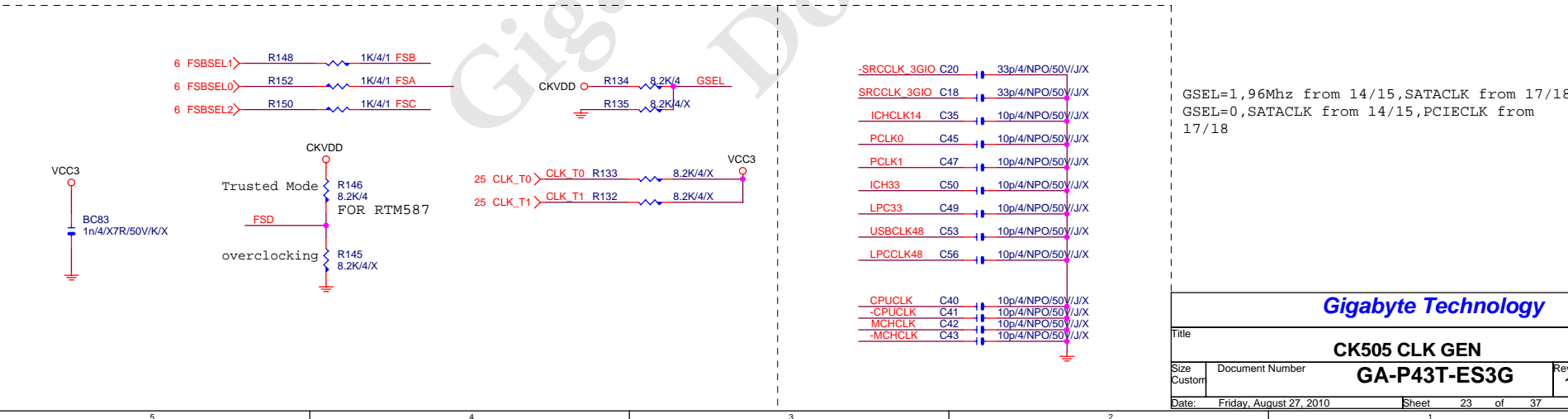
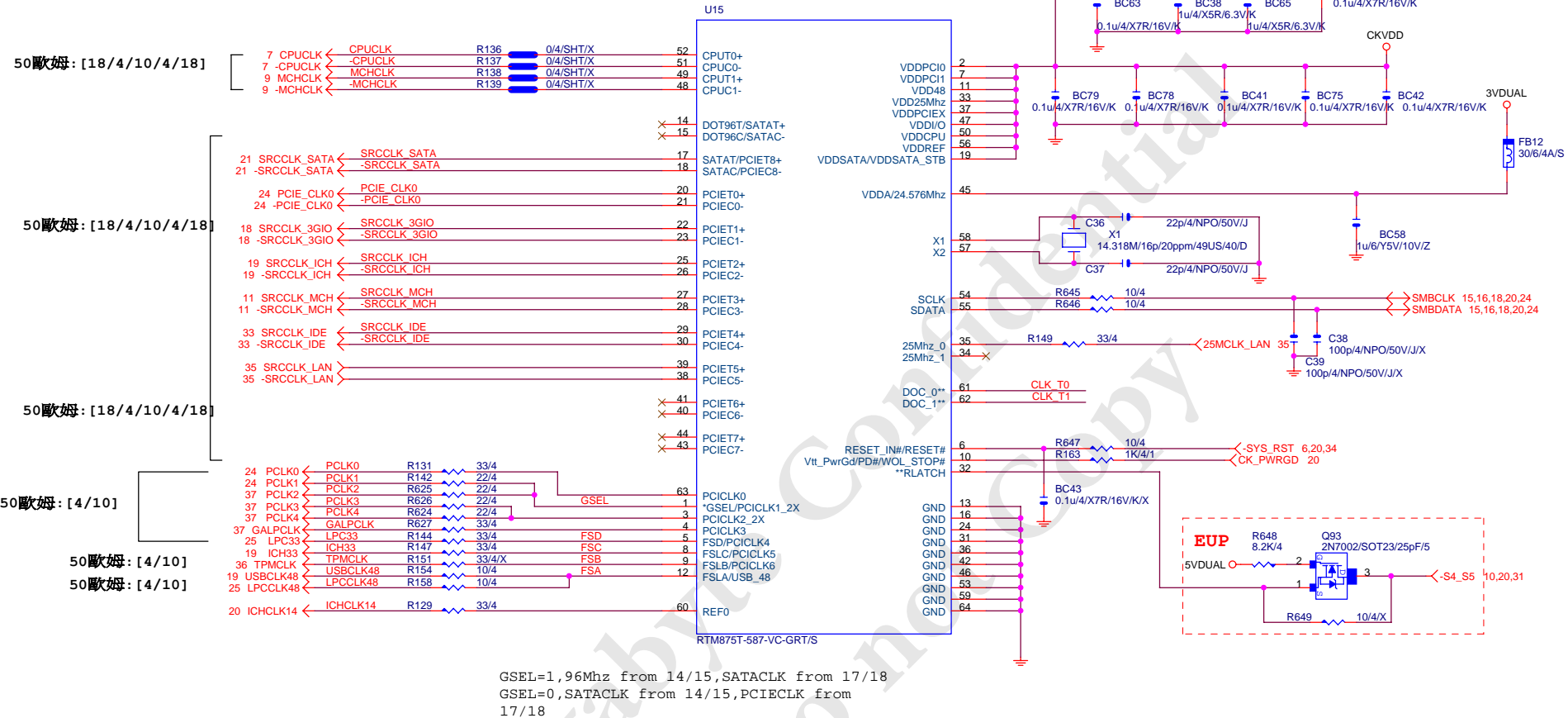
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4

3

2

1

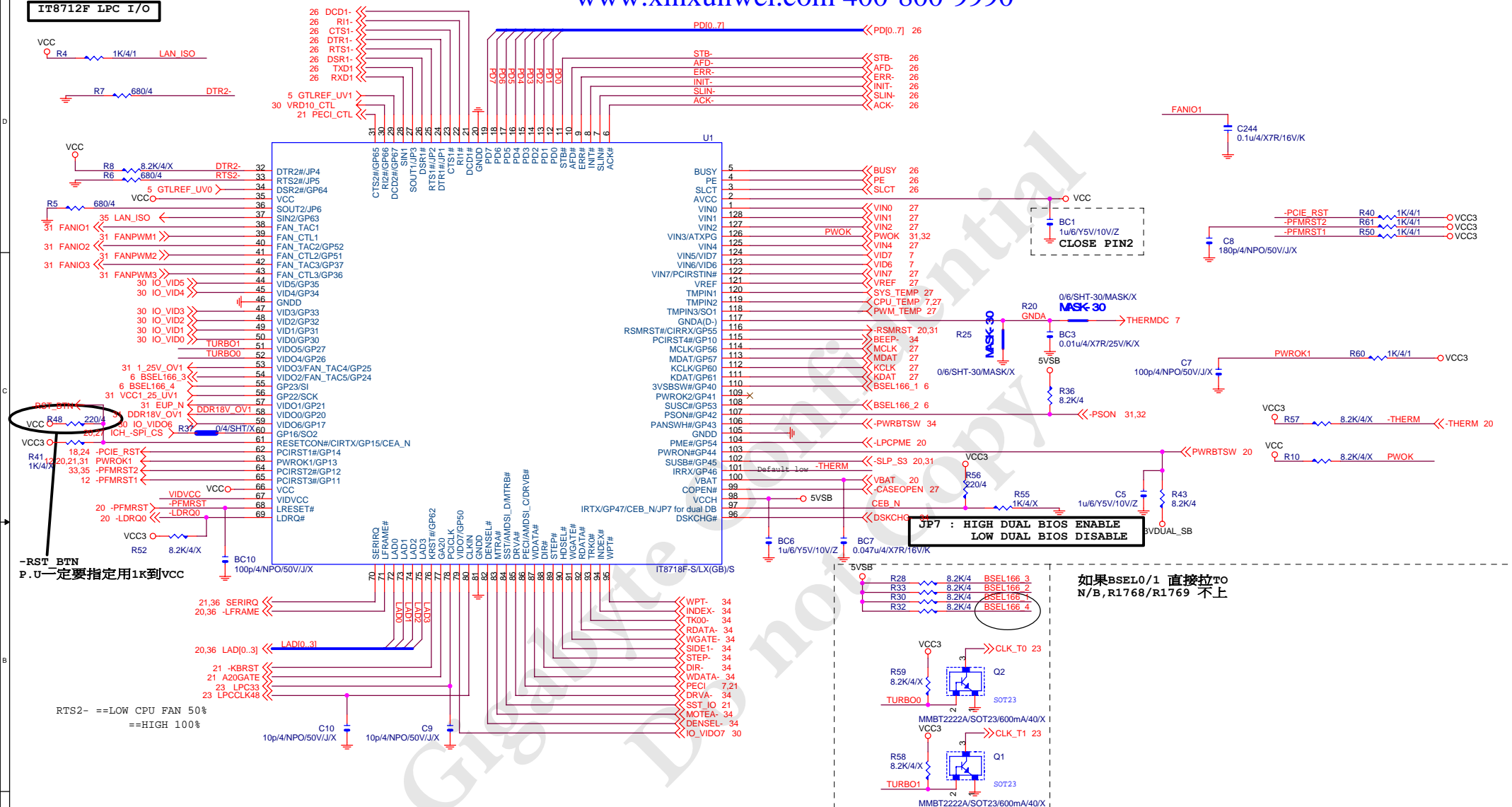


Gigabyte Technology

Title			CK505 CLK GEN
Size	Document Number	GA-P43T-ES3G	
Custom		Rev	1.3
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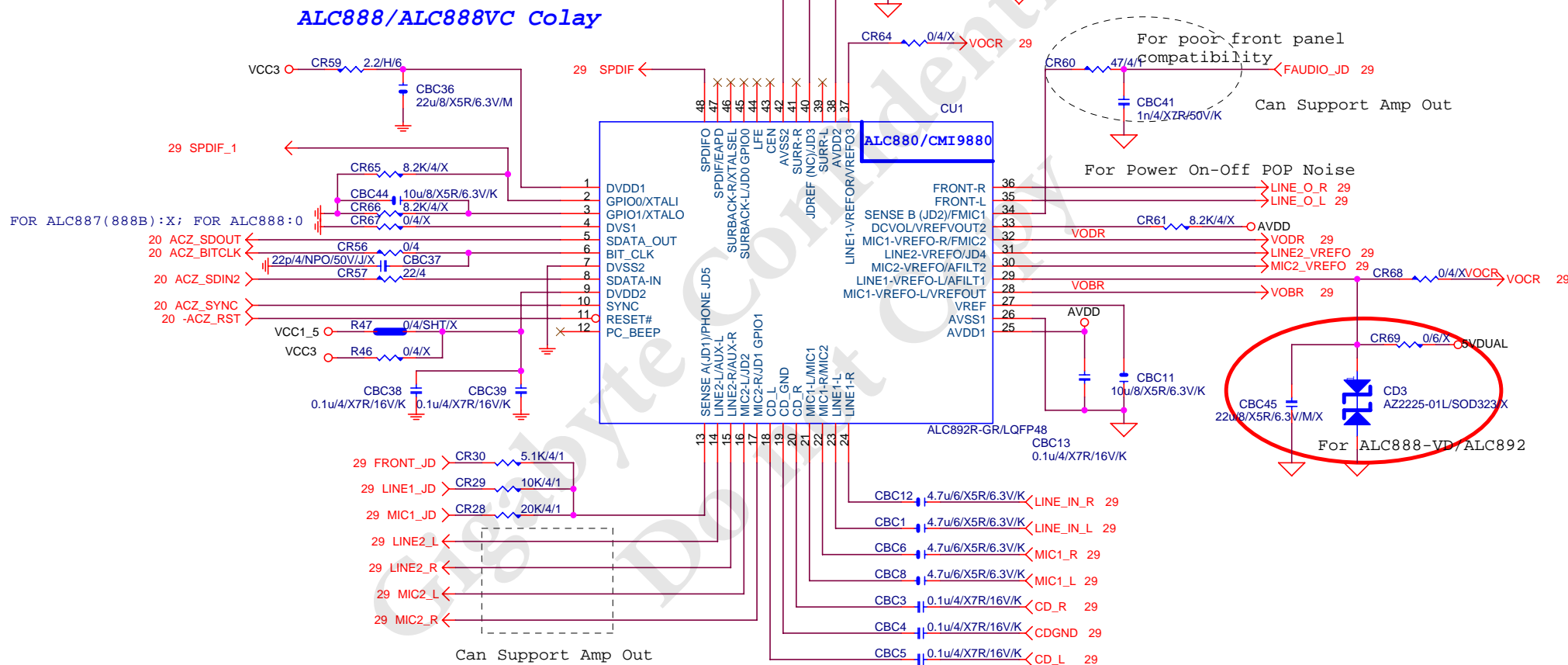


## IT8712F LPC I/O





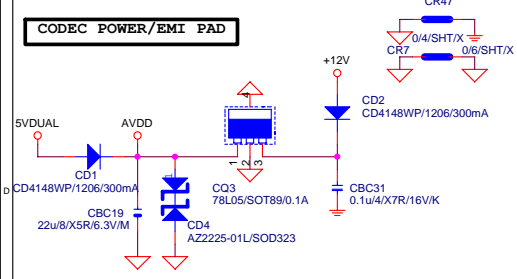




Gigabyte Technology

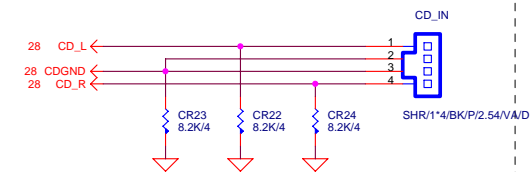
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ALC888			
Size	Document Number		Rev
Custom	GA-P43T-ES3G		1.3
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# CODEC POWER/EMI PAD

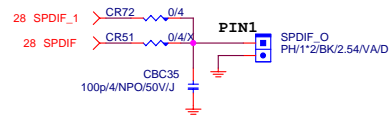


## CO-LAYOUT

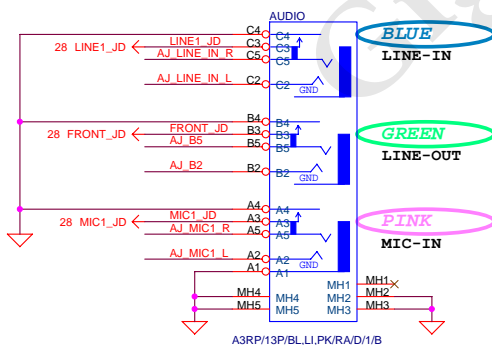
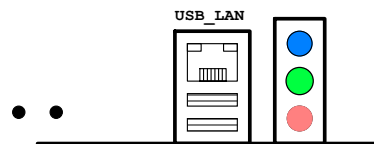
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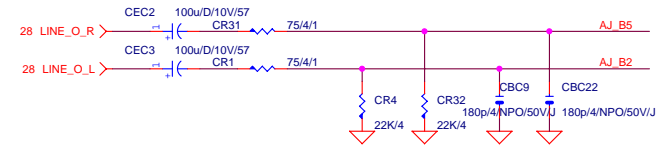
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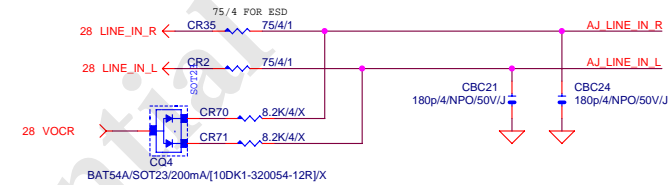
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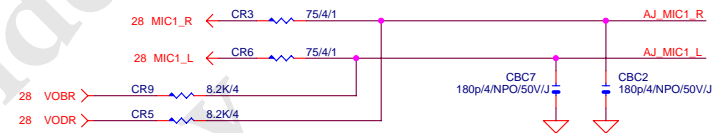
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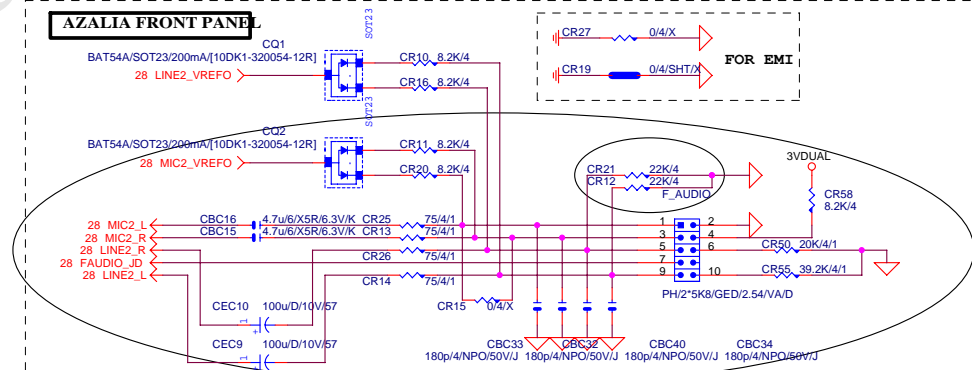
# LINE-IN



# MIC-IN

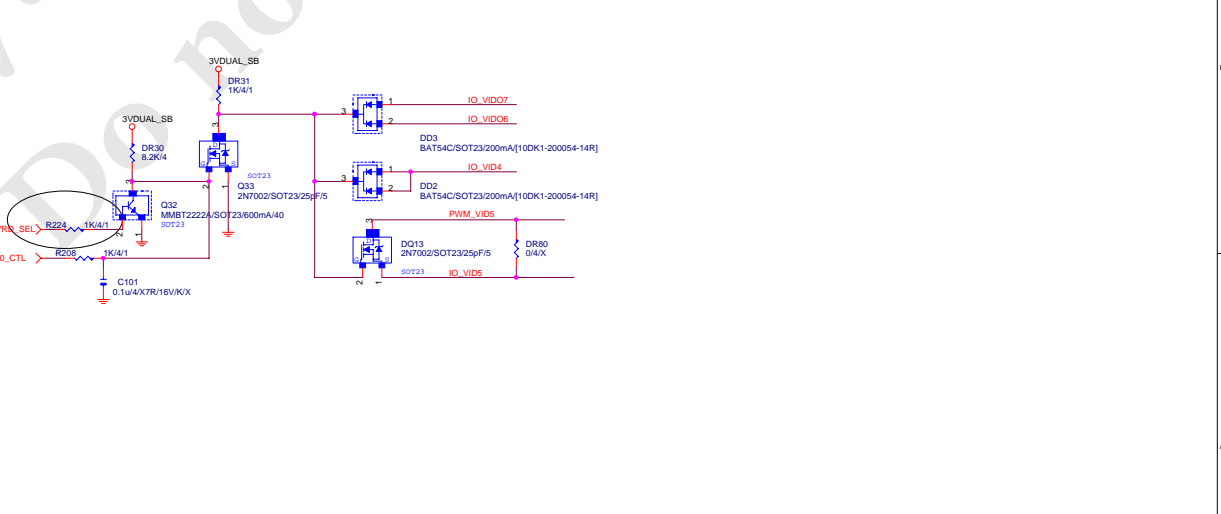
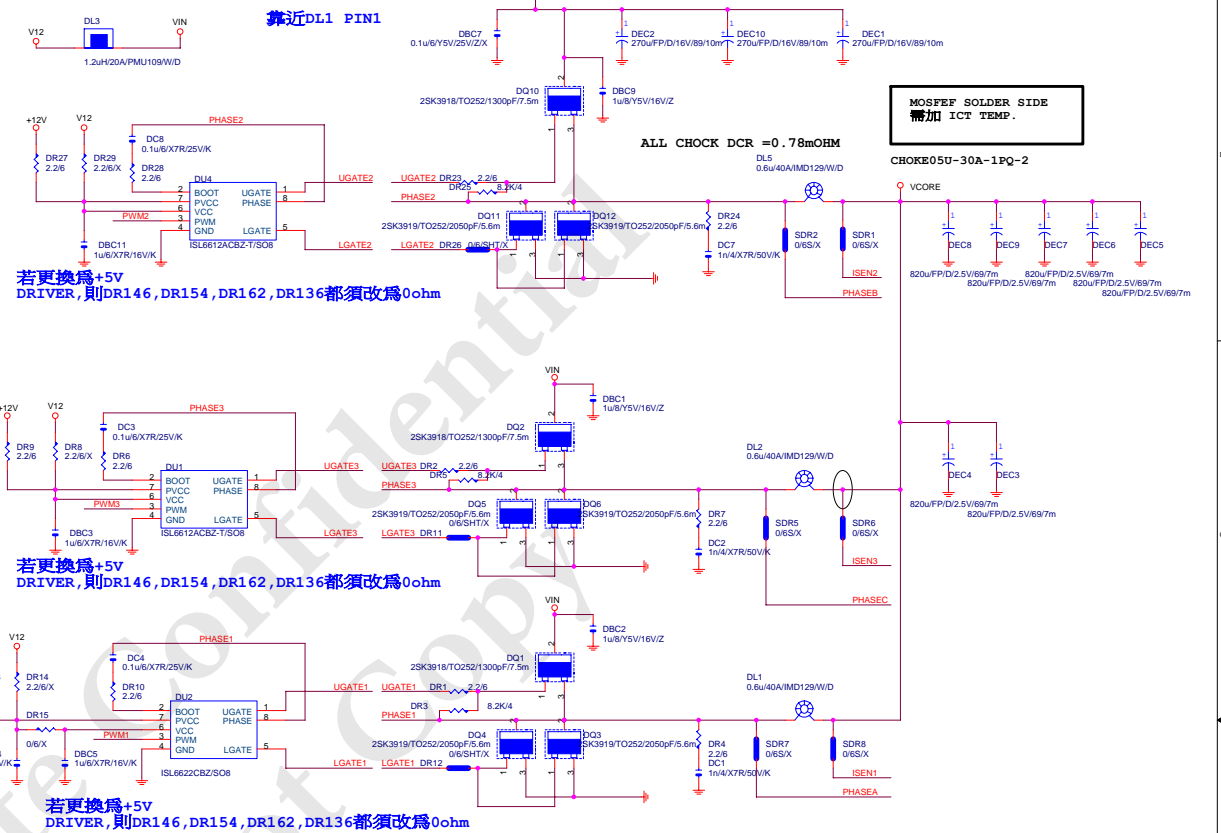
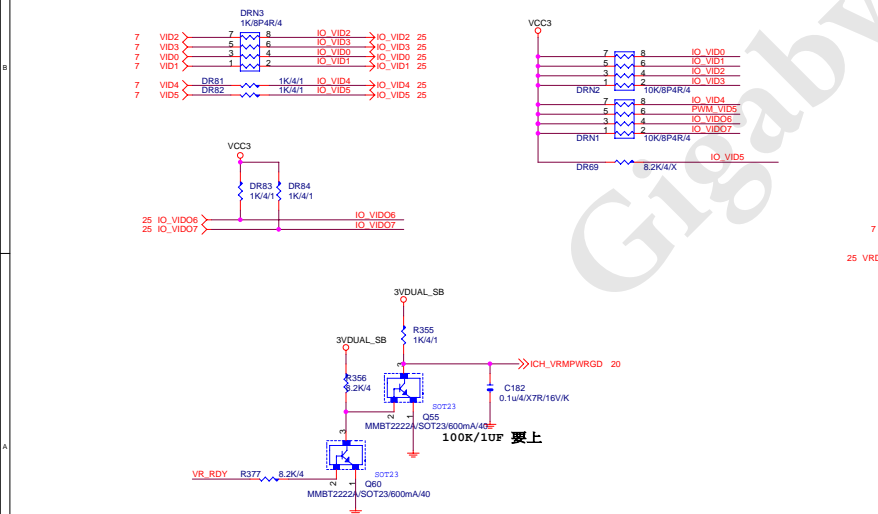
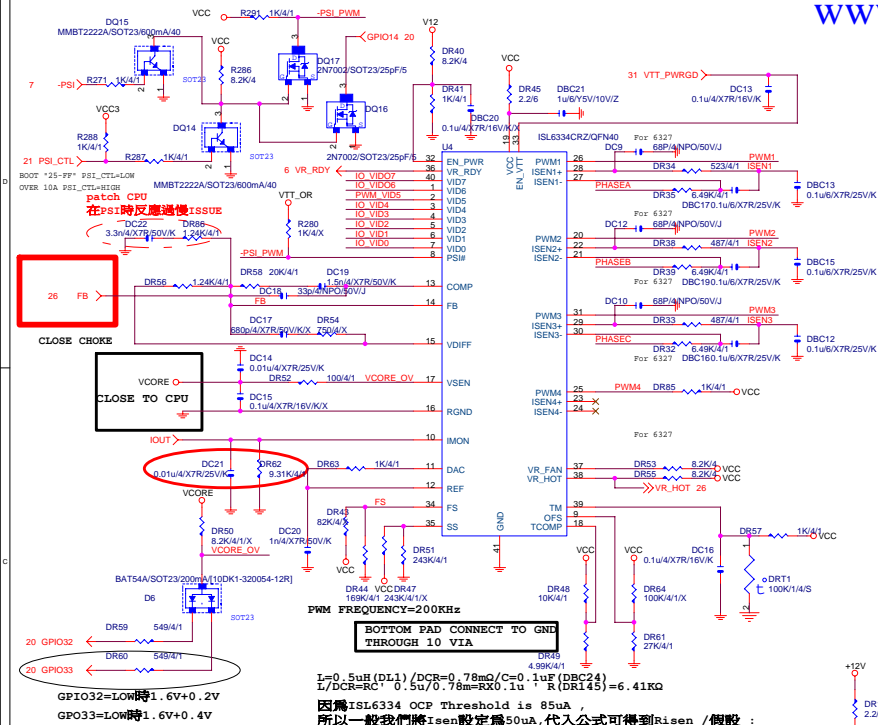


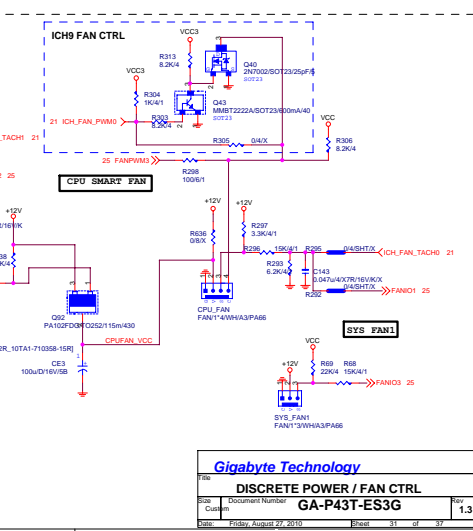
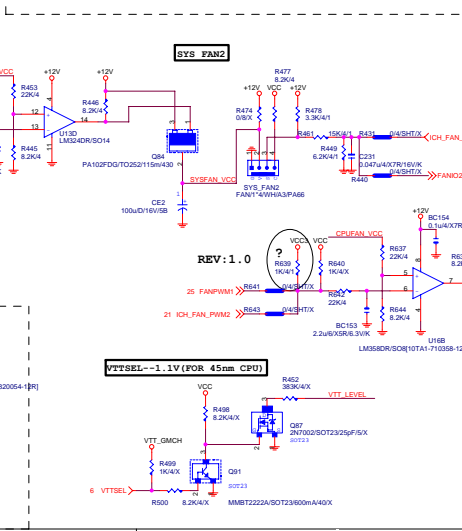
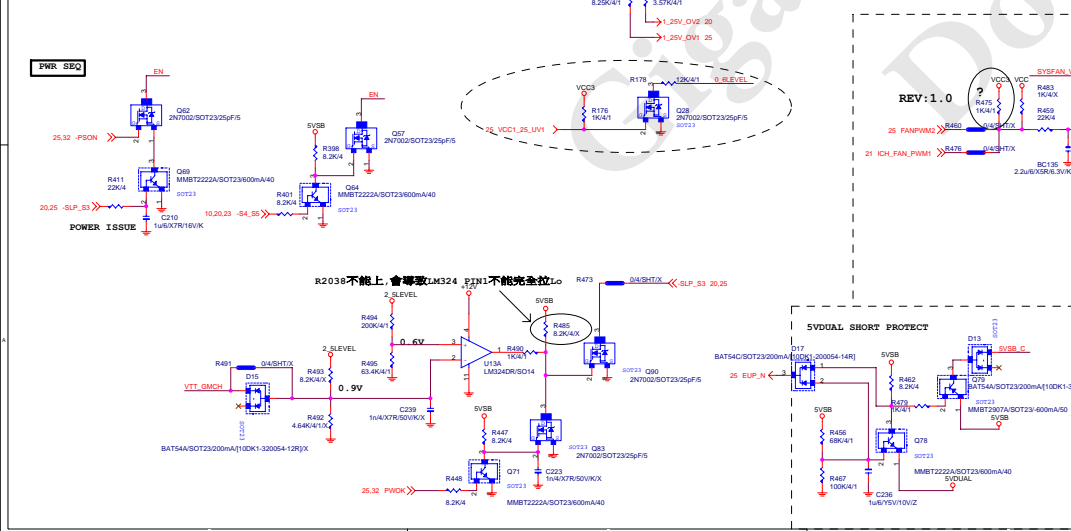
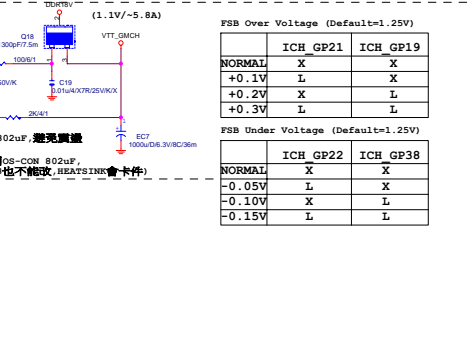
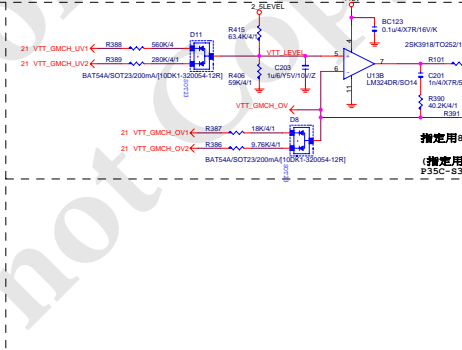
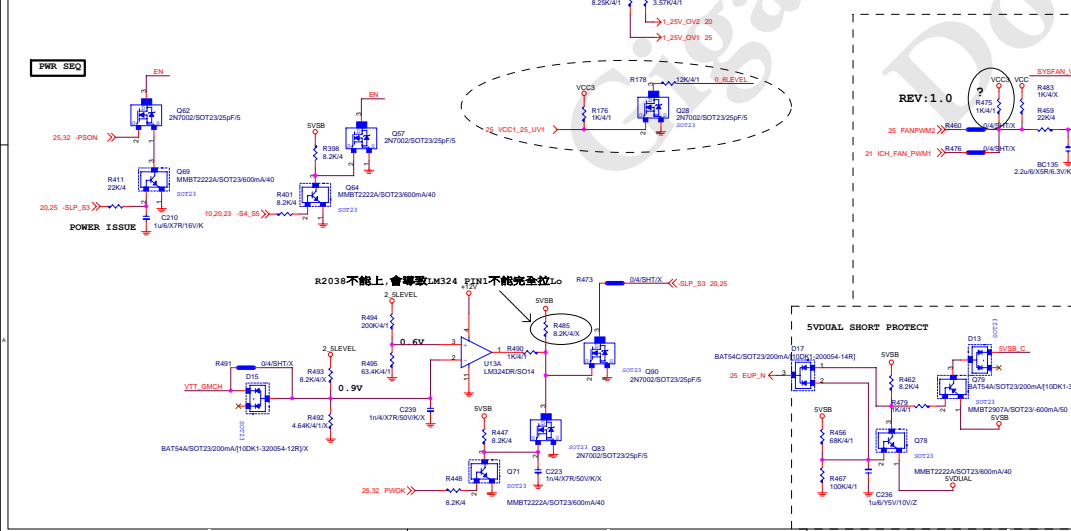
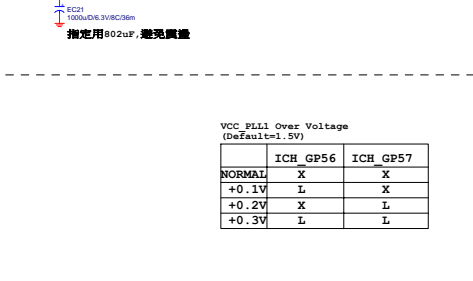
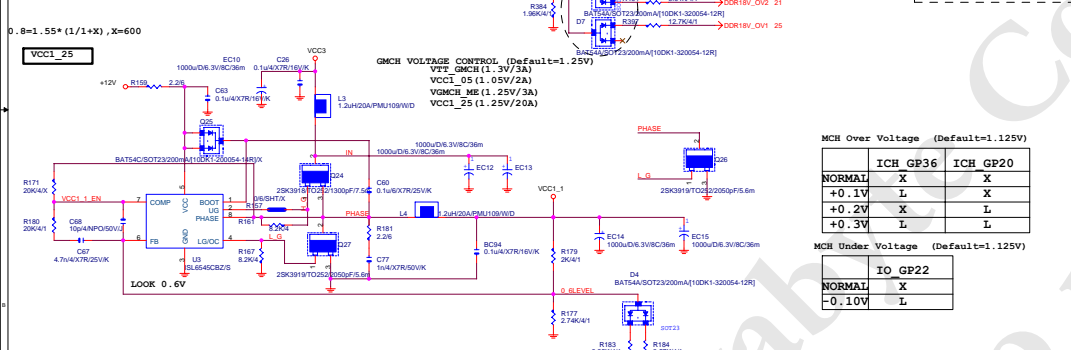
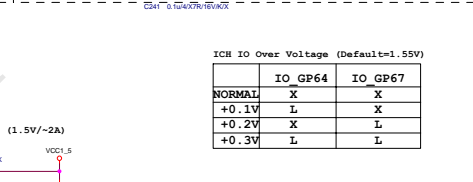
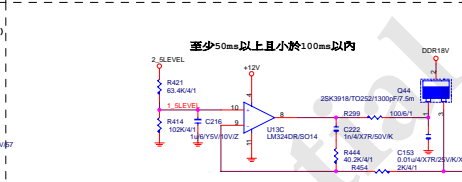
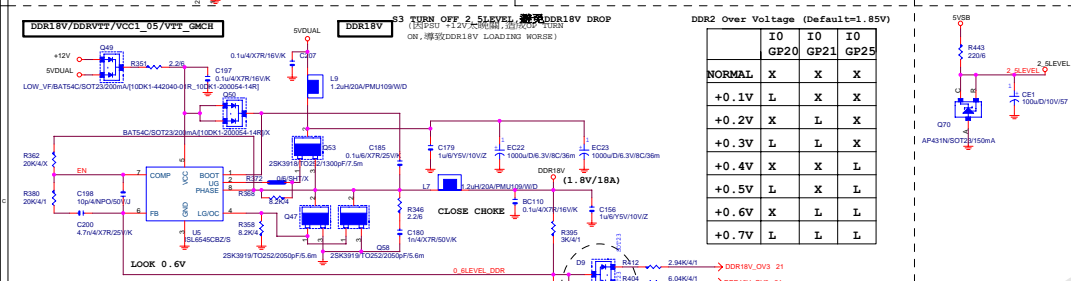
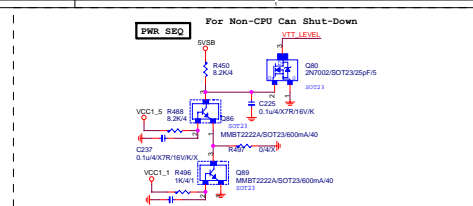
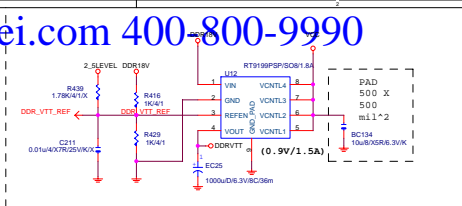
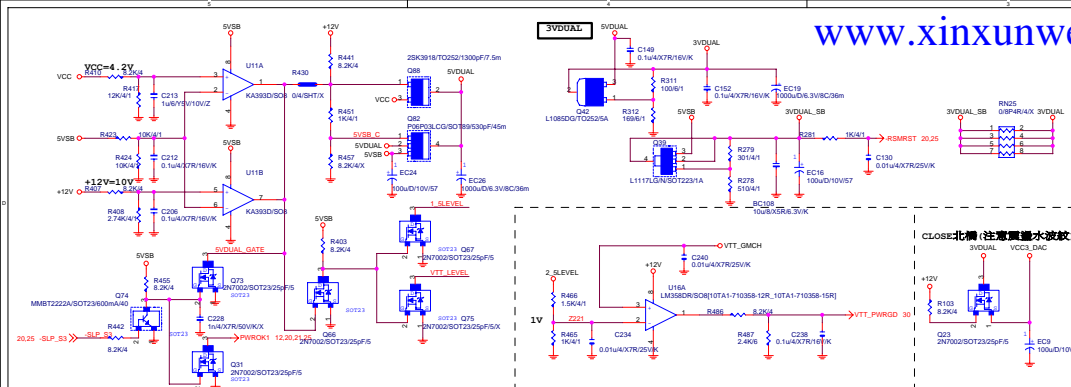
# AZALIA FRONT PANEL



Gigabyte Technology

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Size			GA-P43T-ES3G	
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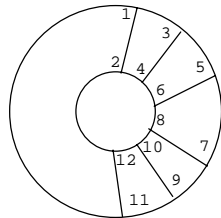
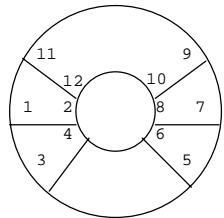
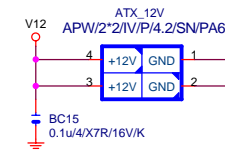
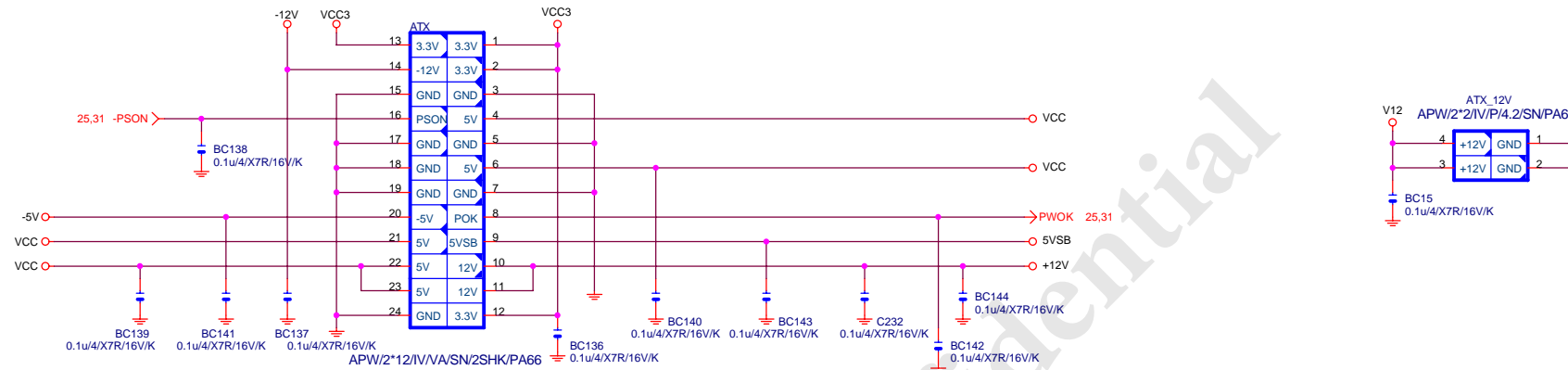
Gigabyte Technology

DISCRETE POWER / FAN CTRL

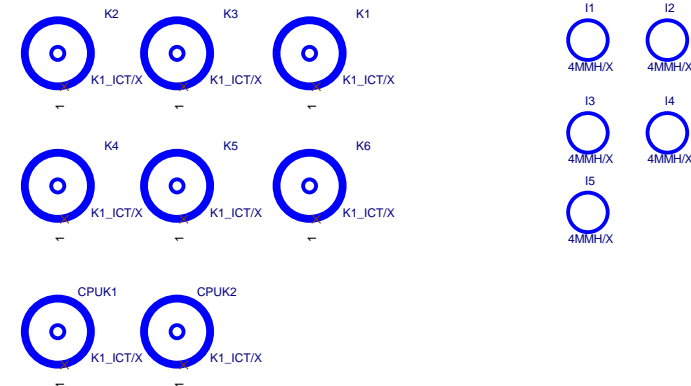
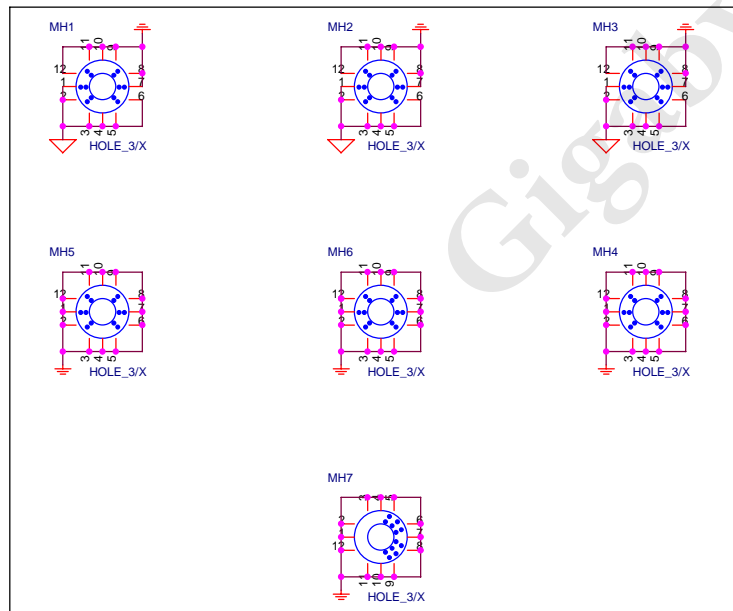
GA-P43T-E3G

Rev. 1.3

## ATX POWER CONNECTOR



螺絲孔位置圖 (注意Footprint不同)

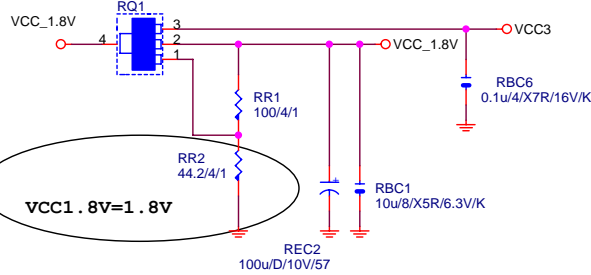


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ATX POWER CONNECTOR			
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## 3.3V to 1.8V Voltage Regulator

L1117LG/N/SOT23/1A



25,35 -PFMRST2

-PFMRST2

RC1  
100p/4/NPO/50V/J/X

DMARQA 37  
DD15A 38  
VCC3 39  
GND 40  
GND 41  
-PFMRST2 42  
DD0A 43  
DD14A 44  
DD1A 45  
DD13A 46  
DD2A 47  
DD12A 48

XIDMRAQA  
ZIDD15A  
DV33  
XSMBCLK  
XRSTn  
ZIDD0A  
ZIDD14A  
ZIDD1A  
ZIDD13A  
ZIDD2A  
ZIDD12A

JMB368

JM368/LQFP40

DMACKnA 36  
XIDORDYA 35  
XIDORDYA 34  
XIDORDYA 33  
XIDORDYA 32  
XIDORDYA 31  
XIDORDYA 30  
XIDORDYA 29  
XIDORDYA 28  
XIDORDYA 27  
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XIDORDYA 8  
XIDORDYA 7  
XIDORDYA 6  
XIDORDYA 5  
XIDORDYA 4  
XIDORDYA 3  
XIDORDYA 2  
XIDORDYA 1

ZIDD3A 24  
ZIDD11A 23  
DV33 22  
ZIDD4A 21  
ZIDD10A 20  
ZIDD5A 19  
ZIDD9A 18  
ZIDD6A 17  
ZIDD8A 16  
ZIDD7A 15  
YROMCSn 14  
XTEST 13

RC2 0.1u/4/X7R/16V/K  
RC3 0.1u/4/X7R/16V/K

MIDE\_IP 19  
MIDE\_IN 19  
MIDE\_ON 19  
MIDE\_OP 19  
SRCCLK\_IDE 23  
-SRCCLK\_IDE 23

OLNY FOR JMB368

PH\_IORDY RR4 1K/4/1  
CSELA RR10 0/4/SHT/X  
PH\_DMARQ RR6 8.2K/4  
PH\_INTRQ RR5 8.2K/4  
DD7A RR8 8.2K/4

PH\_DD7 DD7A  
PH\_DD8 DD8A  
PH\_DD6 DD6A  
PH\_DD9 DD9A

PH\_DD5 DD5A  
PH\_DD4 DD4A  
PH\_DD10 DD10A  
PH\_DD11 DD11A

PH\_DD3 DD3A  
PH\_DD12 DD12A  
PH\_DD2 DD2A  
PH\_DD13 DD13A

PH\_DD1 DD1A  
PH\_DD0 DD0A  
PH\_DD14 DD14A  
PH\_DD15 DD15A

PH\_DIOW\_N DIOWnA

PH\_DIOR\_N DIORnA

PH\_DMACK\_N DMACKnA

PH\_DA1 DA1A

PH\_DA0 DA0A

PH\_CS0\_N CS0nA

PH\_DA2 DA2A

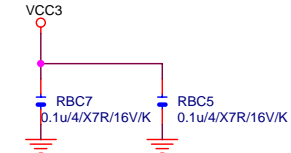
PH\_CS1\_N CS1nA

PH\_IORDY IORDYA

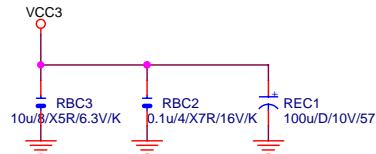
PH\_DMARQ DMARQA

PH\_INTRQ INTRQA

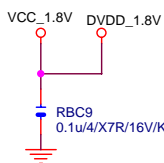
PH\_CBLID\_N PDIAgNA



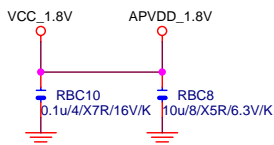
close to IC



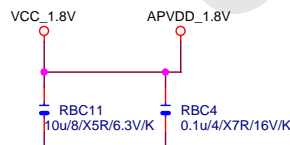
Close to pin22 and pin39



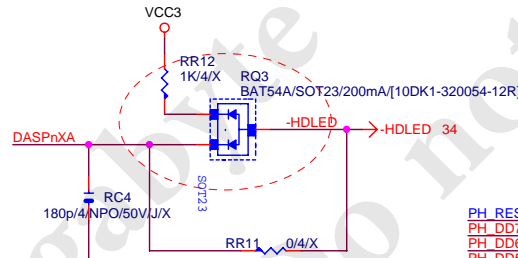
Near to PIN



CLOSE TO pin22



close to pin17



DASPnXA

RC4 180p/4/NPO/50V/J/X

RR11 0/4/X

## IDE Connector

PH\_RESETnA 1  
PH\_DD7 3  
PH\_DD6 5  
PH\_DD5 7  
PH\_DD4 9  
PH\_DD3 11  
PH\_DD2 13  
PH\_DD1 15  
PH\_DD0 17  
PH\_DMARQ 21  
PH\_DIOW\_N 23  
PH\_DIOR\_N 25  
PH\_IORDY 27  
PH\_DMACK\_N 29  
PH\_INTRQ 31  
PH\_DA1 33  
PH\_DA0 35  
PH\_CS0\_N 37  
DASPnXA 39

PH\_DD8 4  
PH\_DD9 6  
PH\_DD10 8  
PH\_DD11 10  
PH\_DD12 12  
PH\_DD13 14  
PH\_DD14 16  
PH\_DD15 18  
CSELA 22  
CSELA 24  
CSELA 26  
CSELA 28  
CSELA 30  
CSELA 32  
CSELA 34  
CSELA 36  
CSELA 38

BH/2\*20K20/WH/SHN/2.54/V/A/PA46

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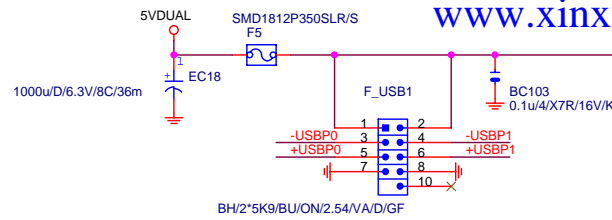
JMR368

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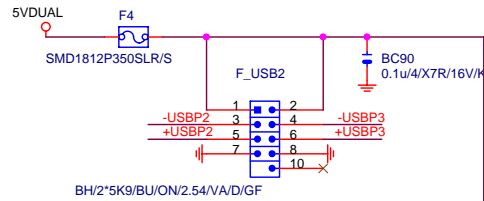
## FRONT USB1

19 +USBP0 <-> +USBP0  
19 -USBP0 <-> -USBP0  
19 +USBP1 <-> +USBP1  
19 -USBP1 <-> -USBP1

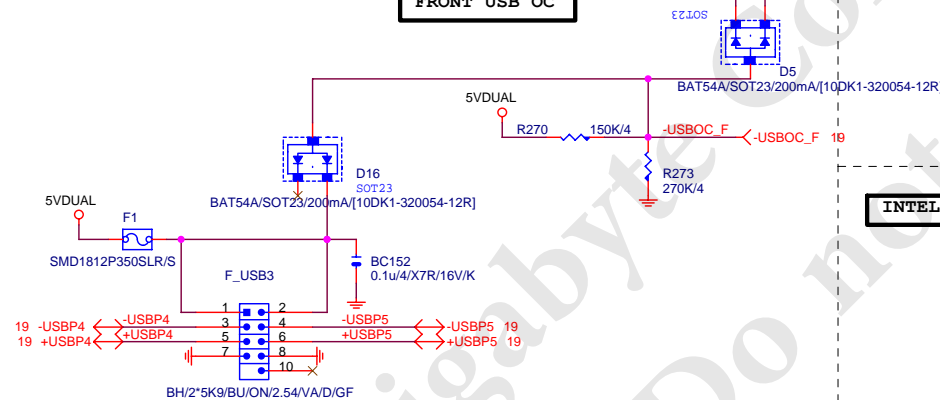


## FRONT USB2

19 +USBP2 <-> +USBP2  
19 -USBP2 <-> -USBP2  
19 +USBP3 <-> +USBP3  
19 -USBP3 <-> -USBP3



## FRONT USB3

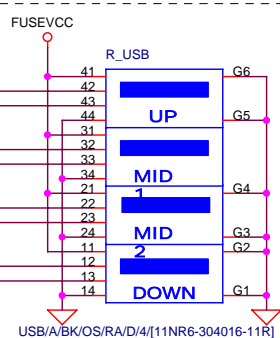


## FRONT USB OC

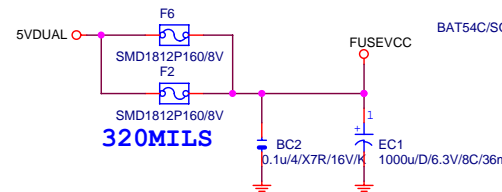


## REAR USB

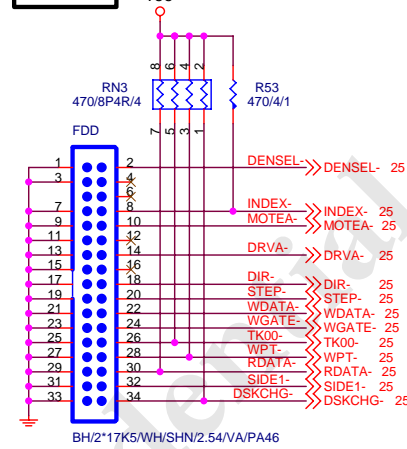
19 -USBP8 <-> -USBP8  
19 +USBP8 <-> +USBP8  
19 -USBP9 <-> -USBP9  
19 +USBP9 <-> +USBP9  
19 -USBP10 <-> -USBP10  
19 +USBP10 <-> +USBP10  
19 -USBP11 <-> -USBP11  
19 +USBP11 <-> +USBP11



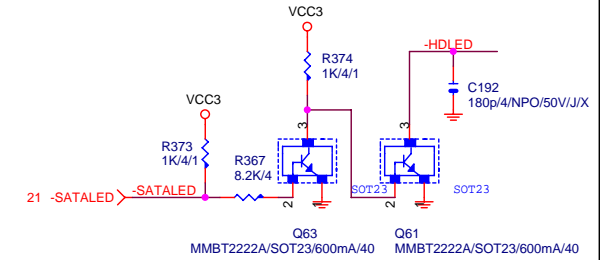
## USB POWER



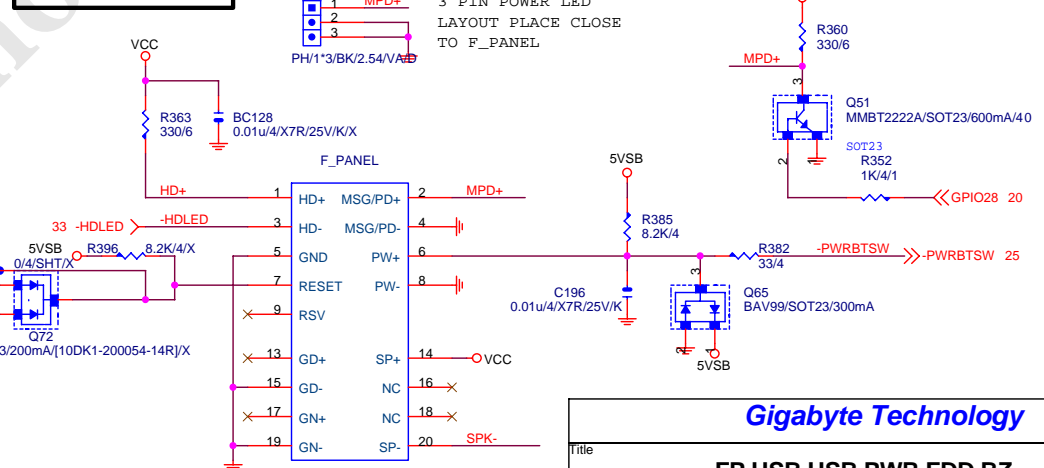
## FLOPPY



## SATA LED



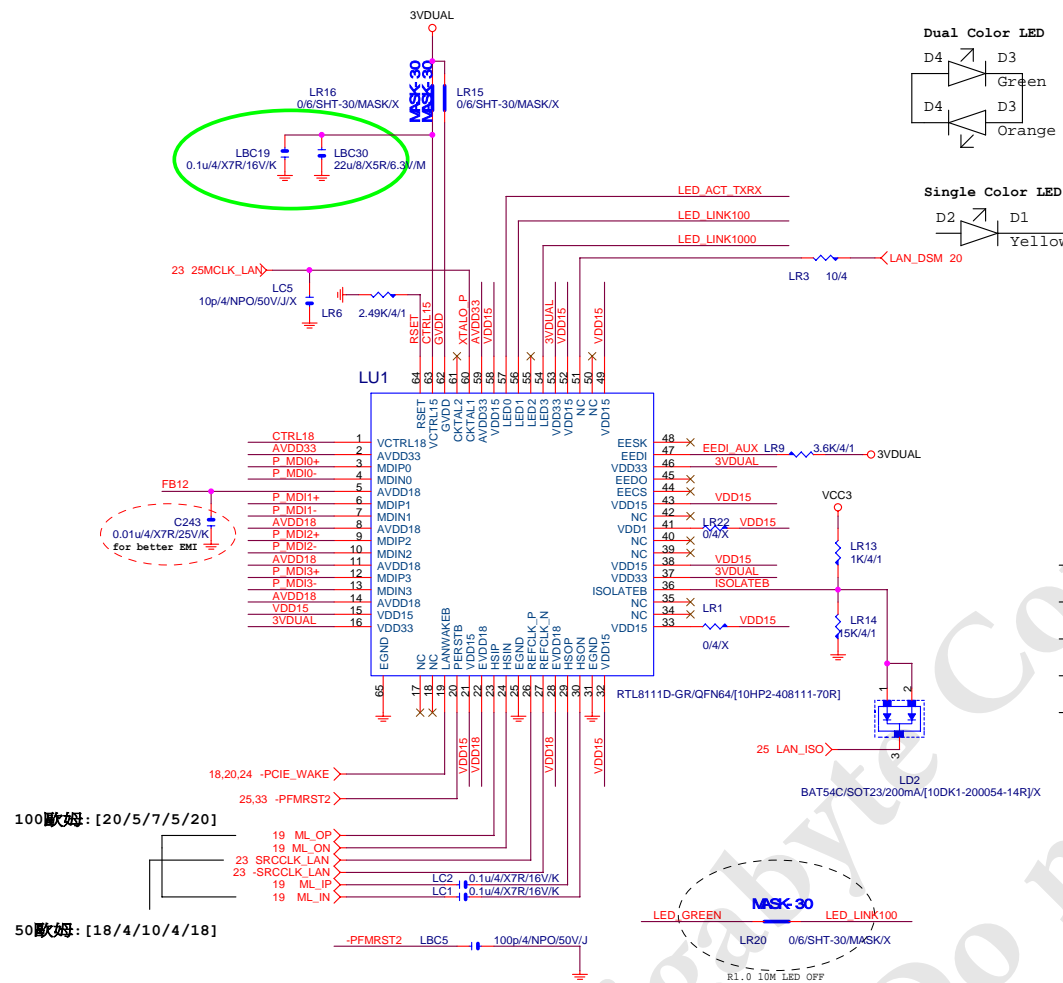
## INTEL FRONT PANEL



Gigabyte Technology

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FP,USB,USB PWR,FDD,BZ			
GA-P43T-ES3G			
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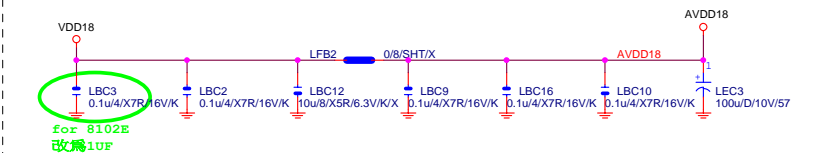
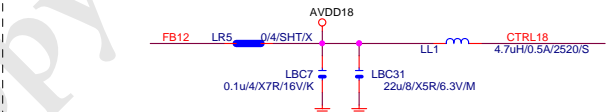
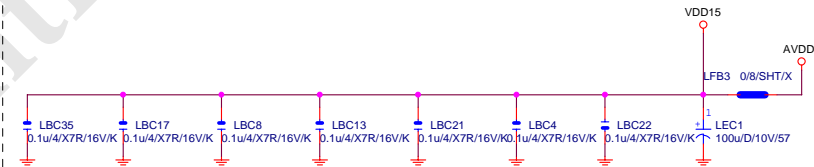
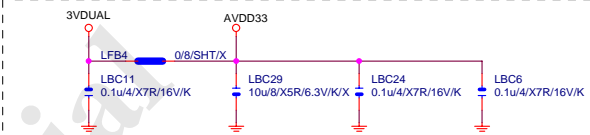
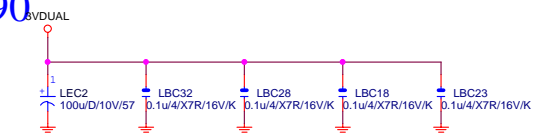
## PCIE-1G LAN



Power domain chart

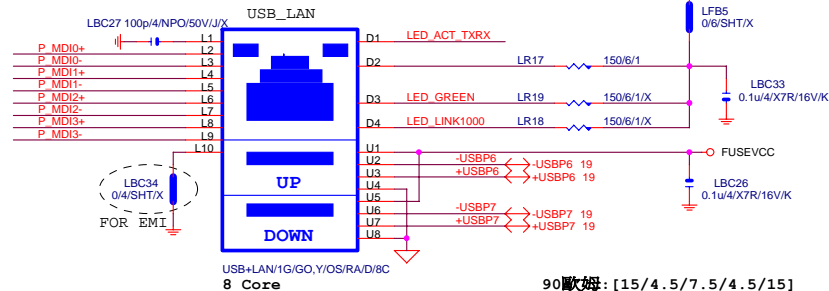
RTL8111C/D/8102E

AVDD33	3.3V
AVDD18	1.2V
EVDD18	1.2V
DVDD15	1.2V



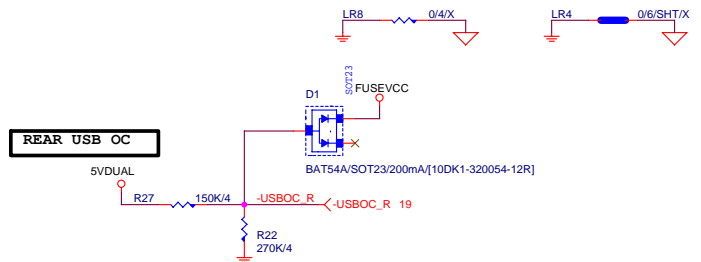
## USB LAN CONNECTOR

LAN 100欧姆: [30/4/8/4/30] FOR B 製程



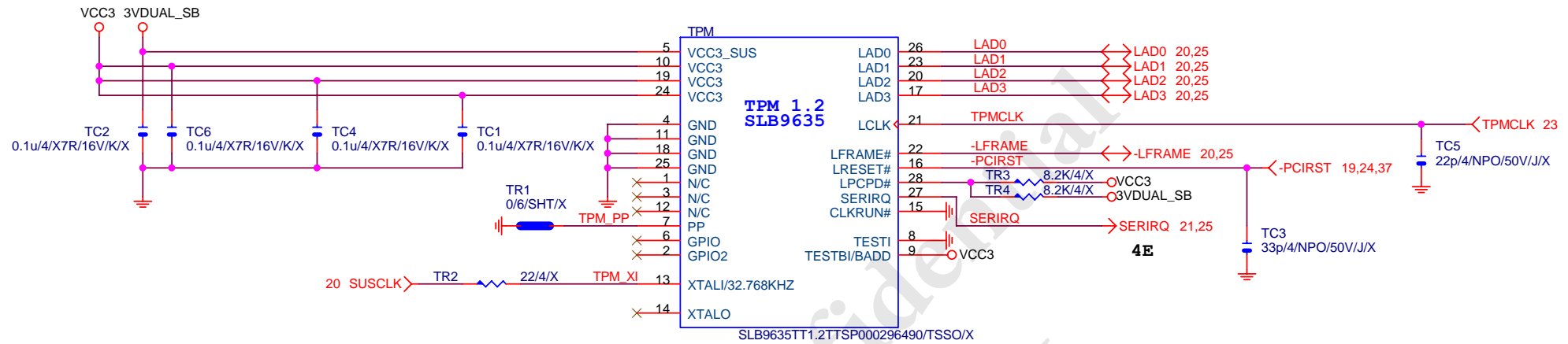
## USB POWER

## REAR USB OC



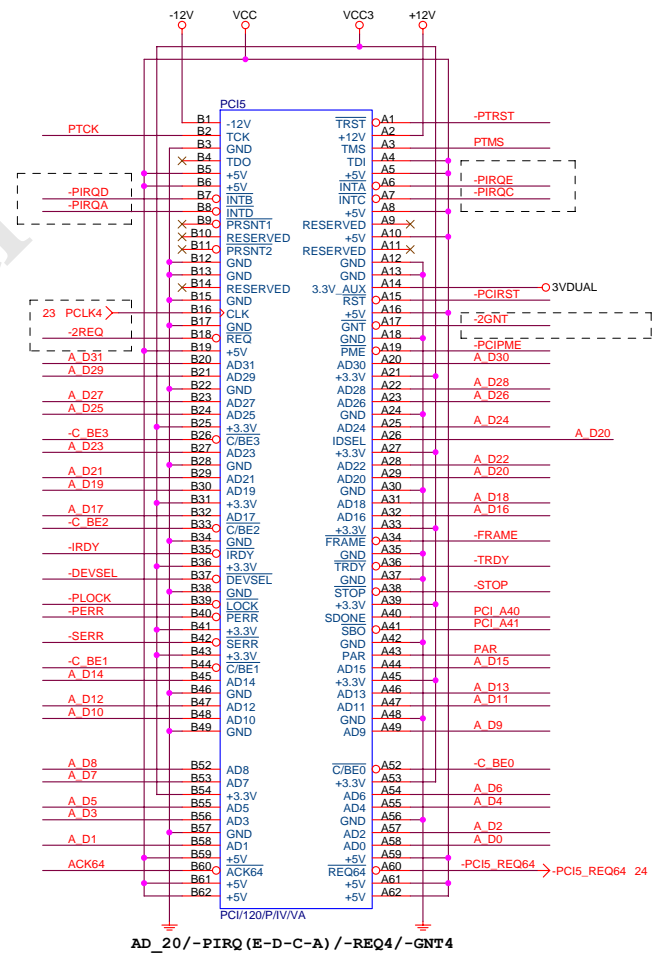
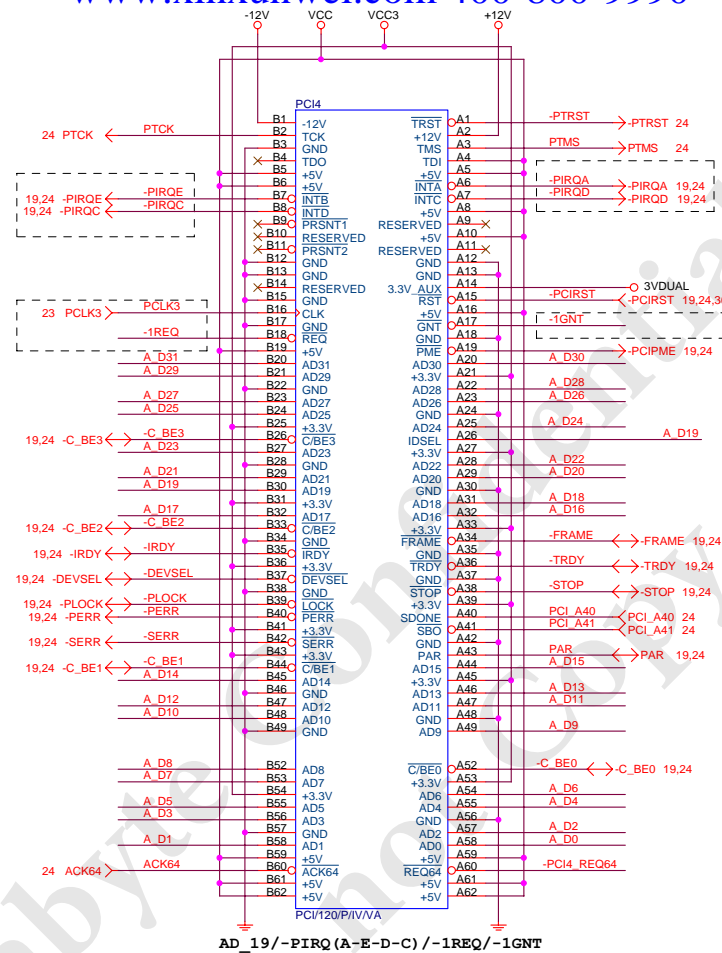
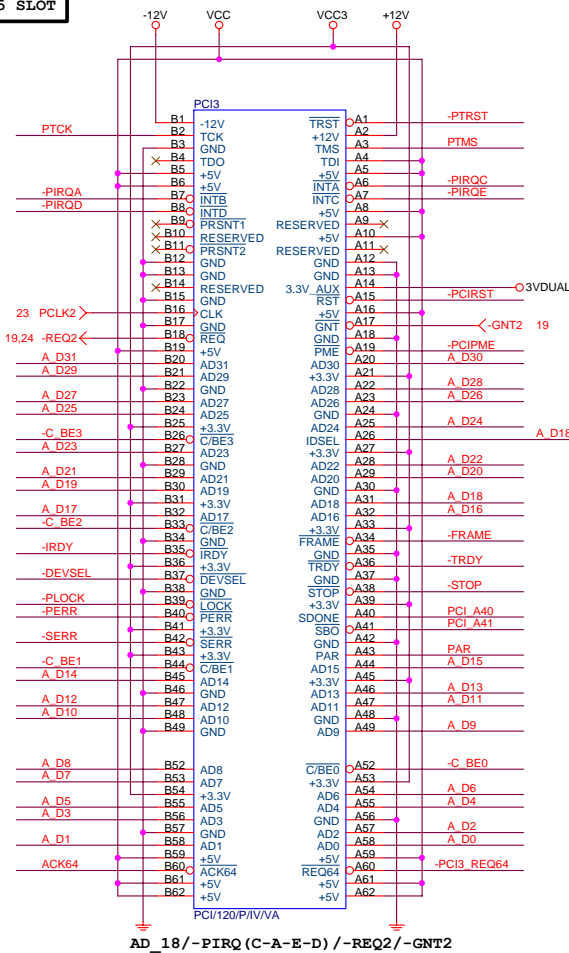
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PCI 3,4,5 SLOT



19,24 A\_D[0..31] ↔ A\_D10..31

