

## Model Name:GA-G41MT-S2

Revision 1.3

SHEET

TITLE

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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
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09	G41_DDRII
10	G41_PCI E, DMI
11	G41_VGA
12	G41_GND
13	G41_PWR
14	PCI EXPRESS*16 SLOT
15	DDR3 CHANNEL A
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17	DDR3 TERMINATION
18	ICH7 PCI, USB, DMI, LAN
19	ICH7 IDE, GPIO, SATA, CTRL
20	ICH7 VCC, GND
21	CK505 CLOCK.
22	PCI SLOT 1,PCIE*1,2
23	IDE/FLOPPY/F_USB/R_USB
24	ITE 8718 GB
25	COM_LPT
26	CI,HWM,KB/MS,DUALBIOS
27	VIA VT1708S/1705

SHEET

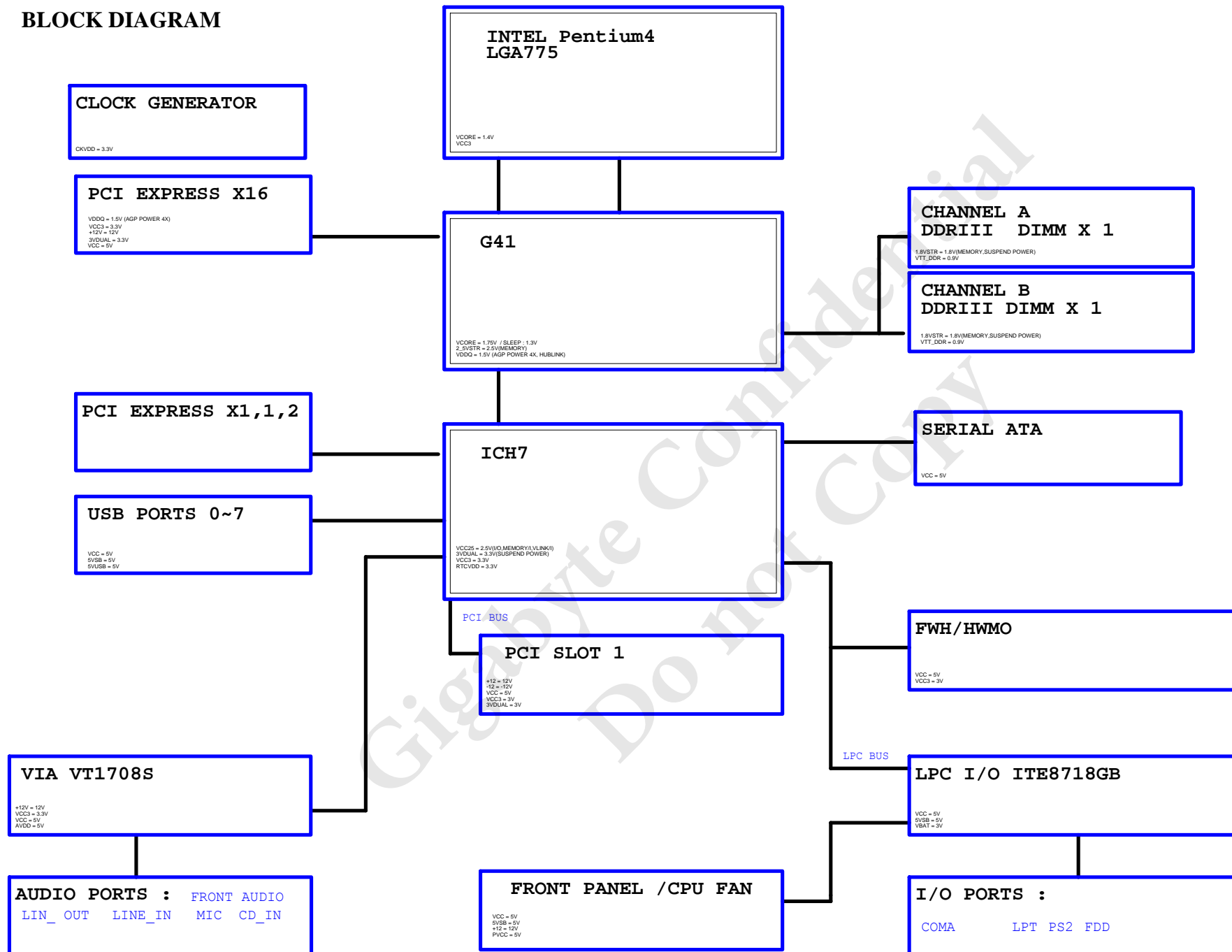
TITLE

28	REAR AUDIO JACK
29	DISCRETE POWER
30	VCORE PWM_ISL6312
31	ATX, OTHERS POWER
32	FRONT PANEL
33	ARTHEROS AR8151/AR8152

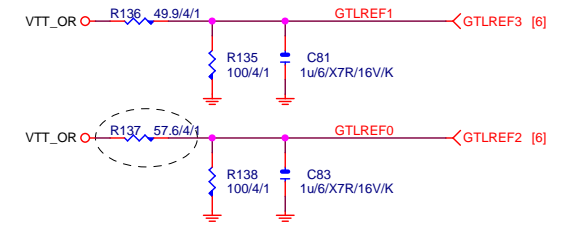
Gigabyte Technology

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Cover Sheet			
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## BLOCK DIAGRAM







VTT\_OR R108 62/4 -IERR

VTT\_OL R124 62/4 -BR0

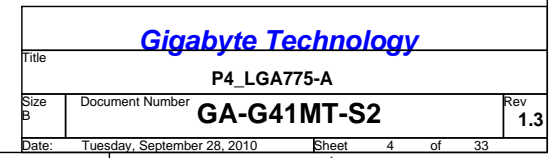
VTT\_OR R152 62/4 -CPURST

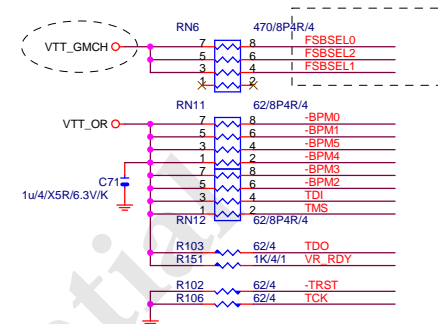
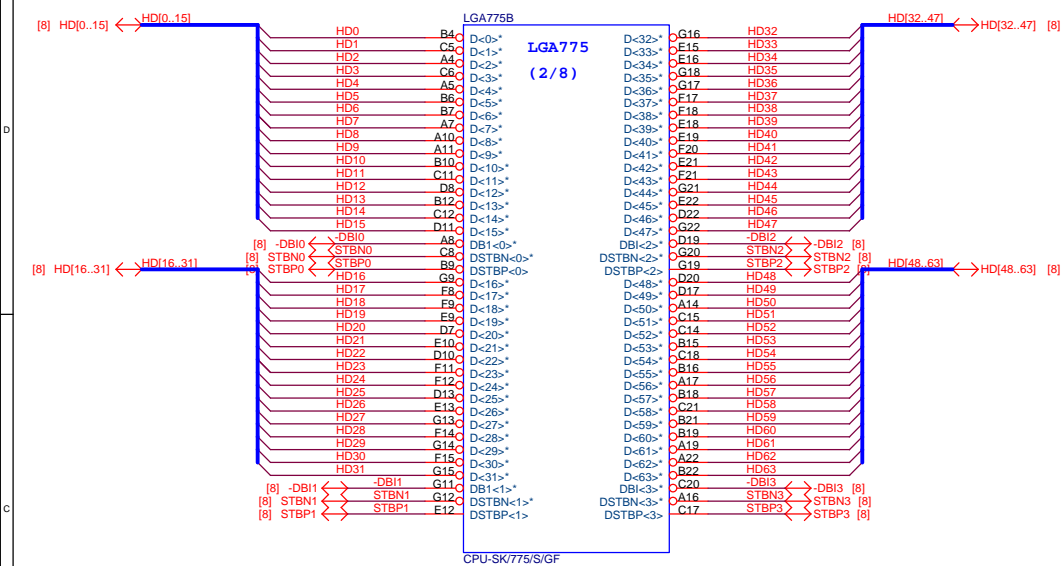
62/8P4R/4

TESTHI9

TESTHI8

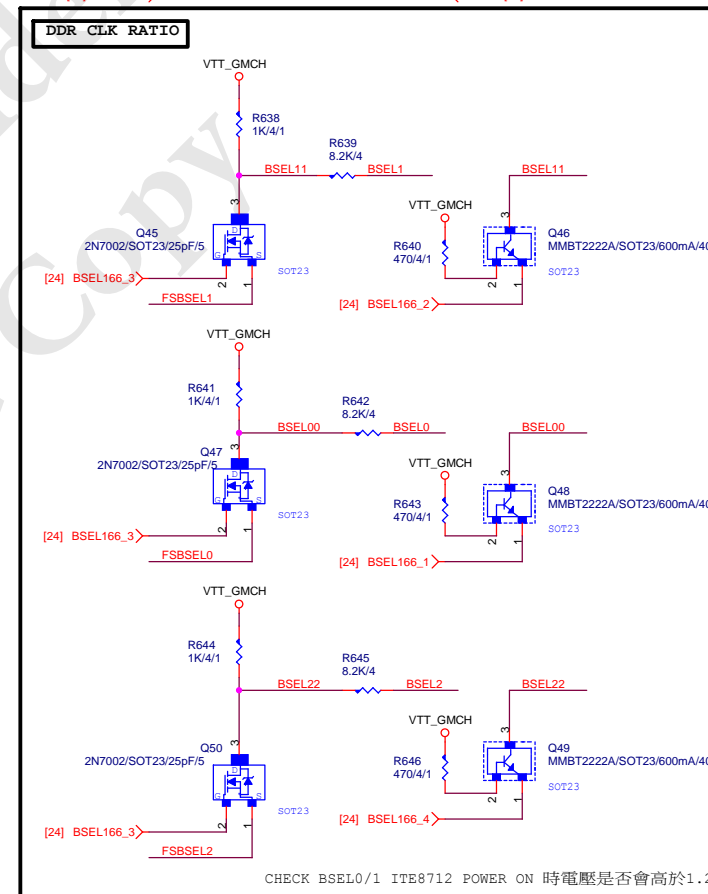
TESTHI10





TO CLK GEN

1] TO NB



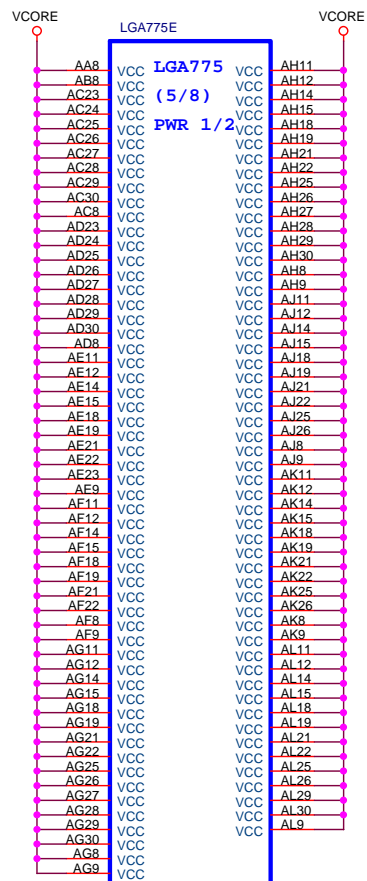
CHECK BSEL0/1 ITE8712 POWER ON 時電壓是否會高於1.2V

CPU

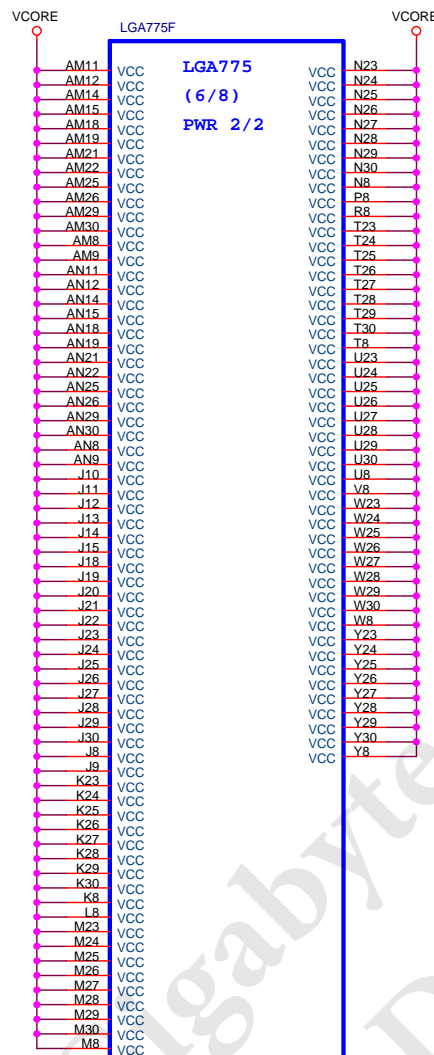
NA	FSB	FSA	
FSBSEL3	FSBSEL1	FSBSEL0	Clock
1	0	1	100MHz
0	0	1	133MHz
0	1	1	166MHz
0	1	0	200MHz
0	0	0	266MHz

x

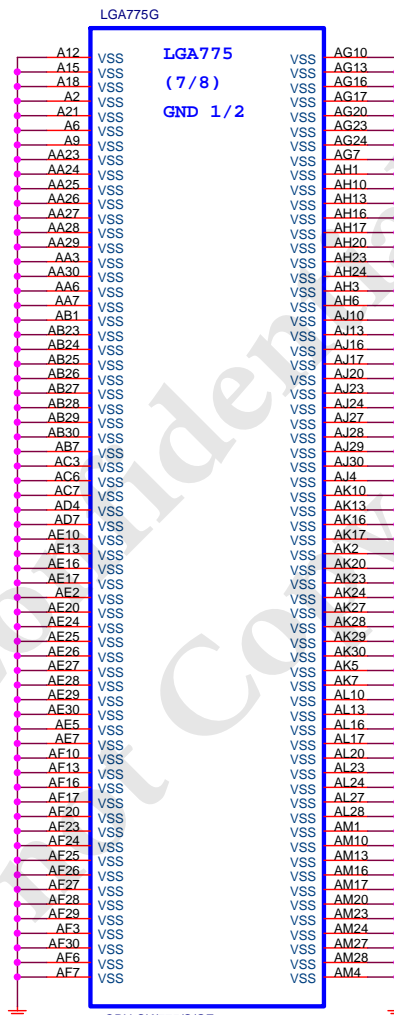




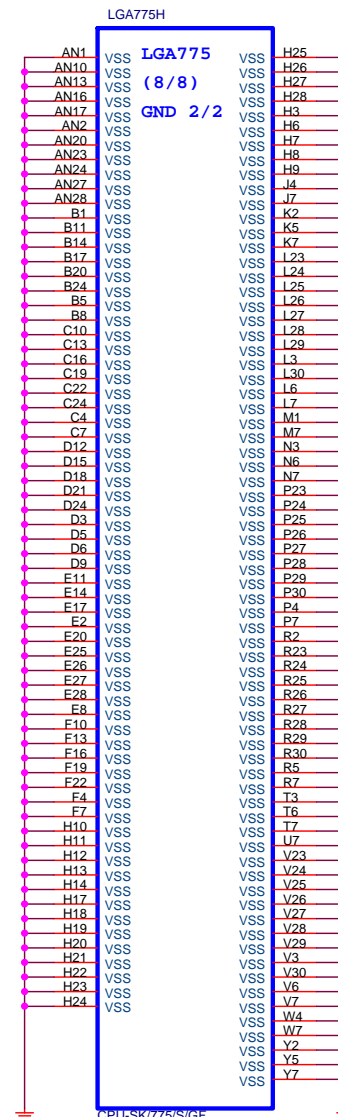
CPU-SK/775/S/GF



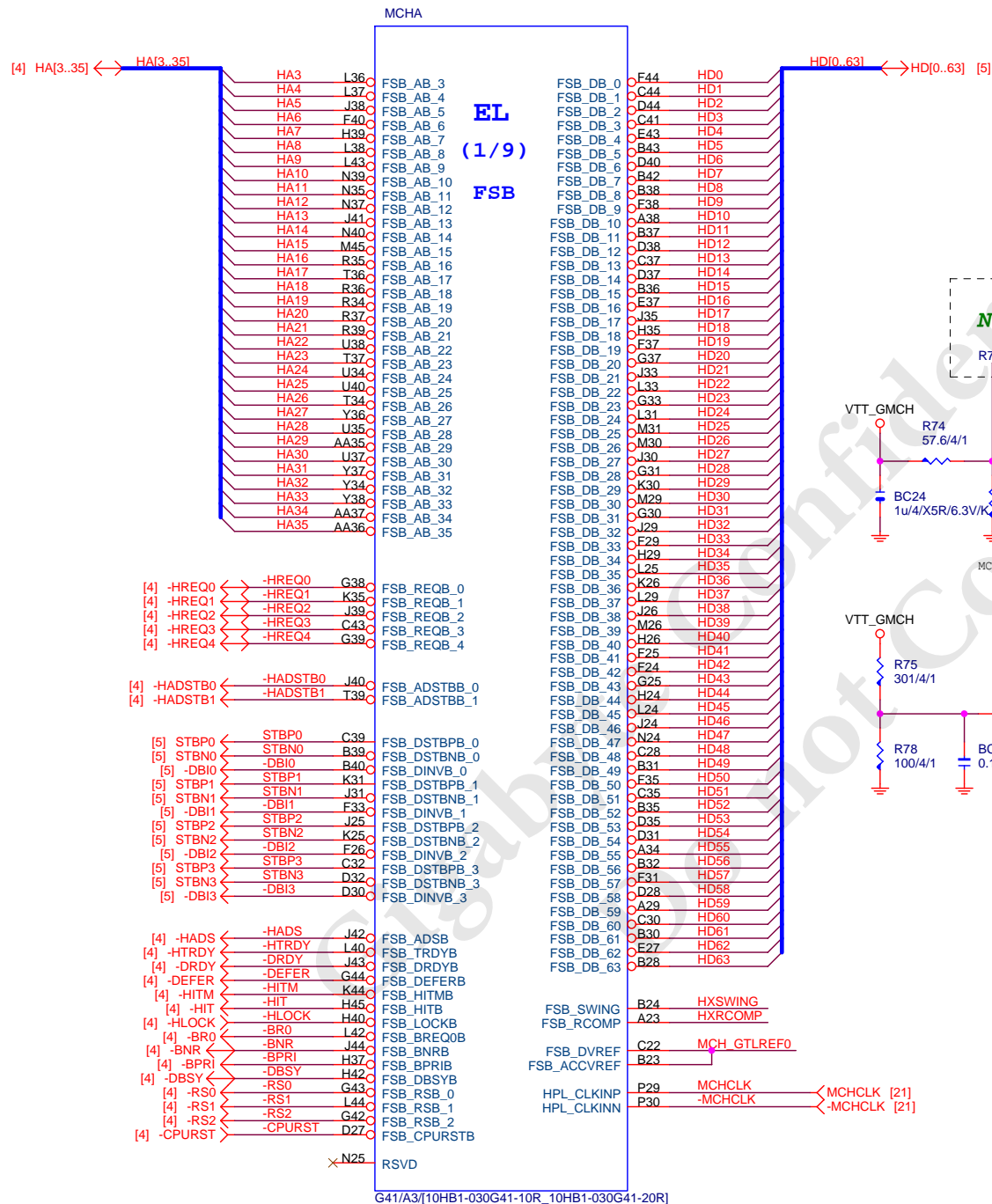
CPU-SK/775/S/GF



CPU-SK/775/S/GF

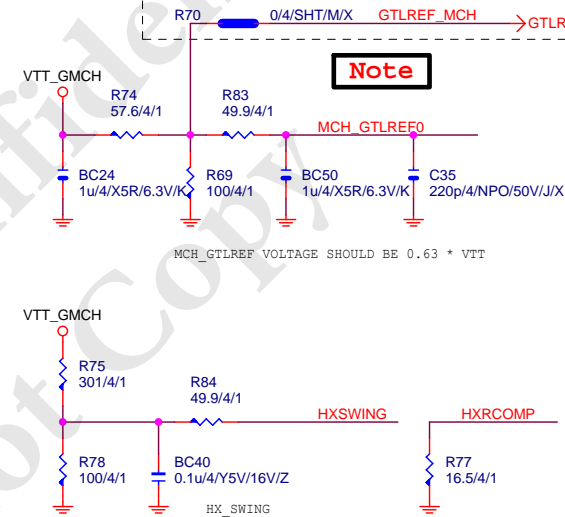


CPU-SK/775/S/GF



Not used for CoreTM2 Duo and Wolfdale

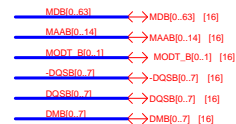
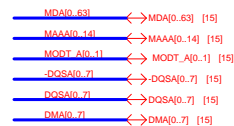
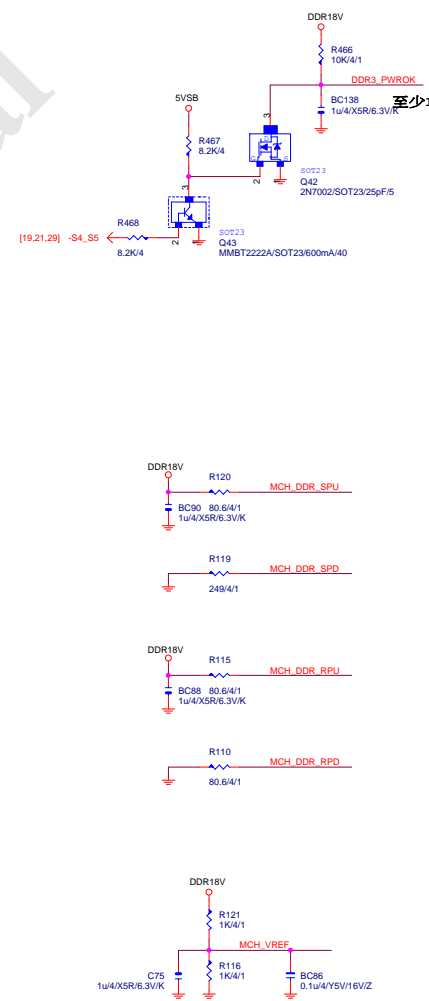
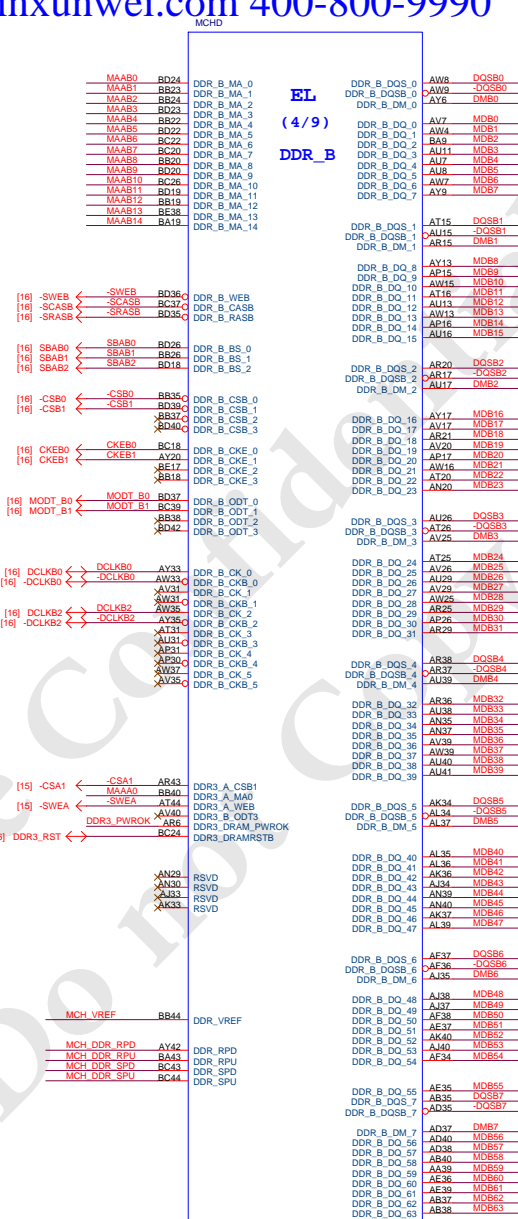
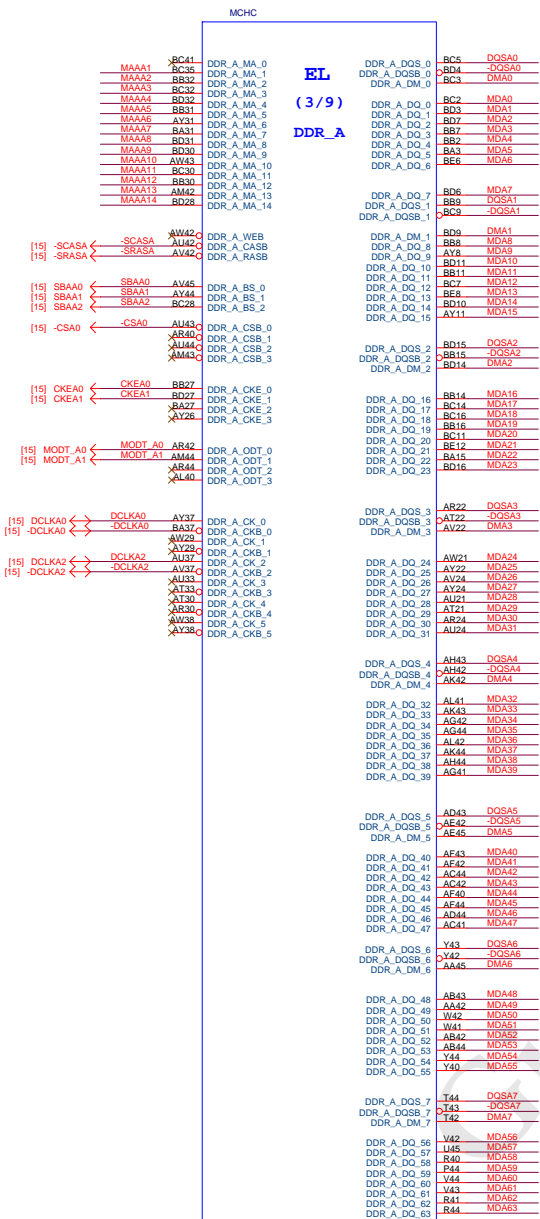
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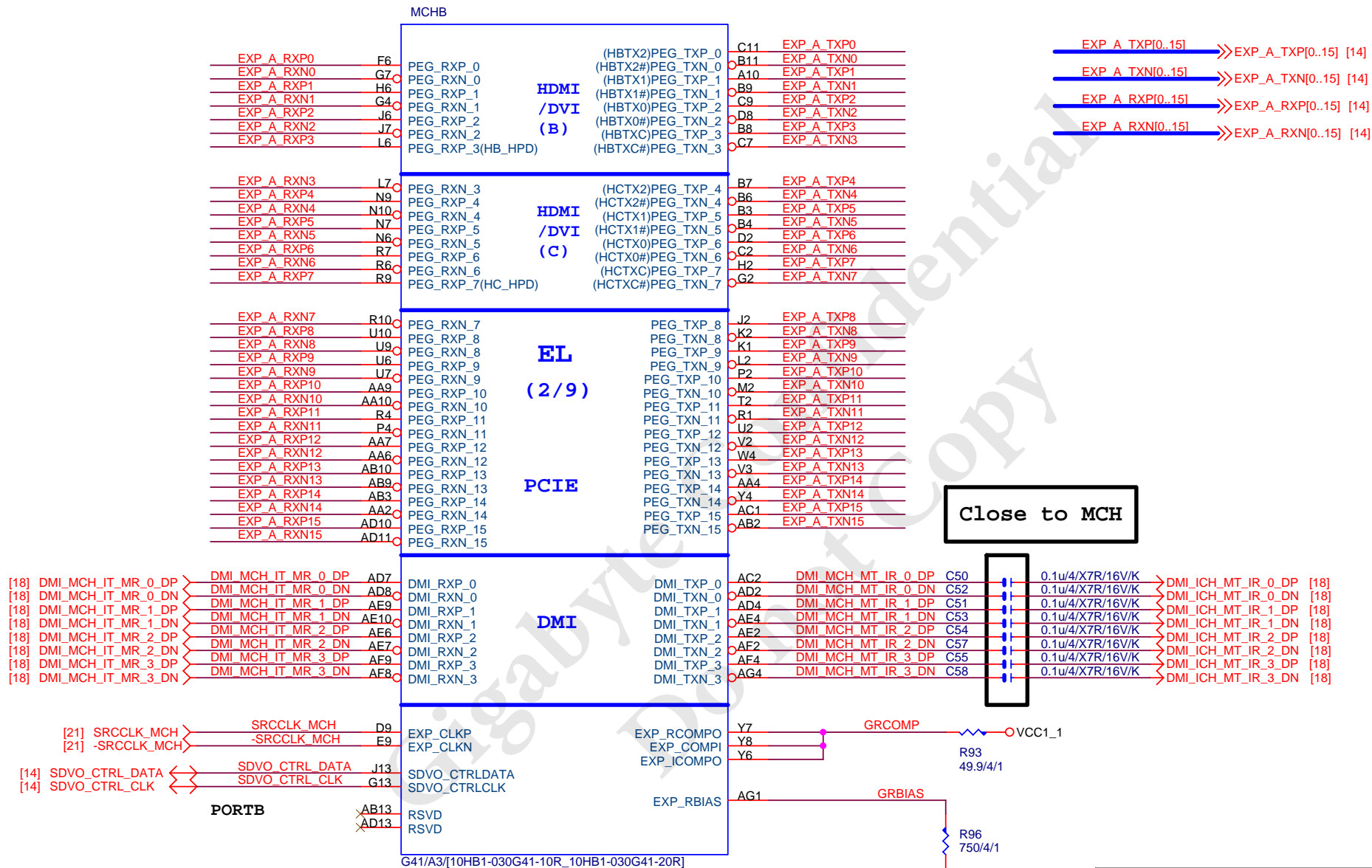


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Title			GMCH-HOST	
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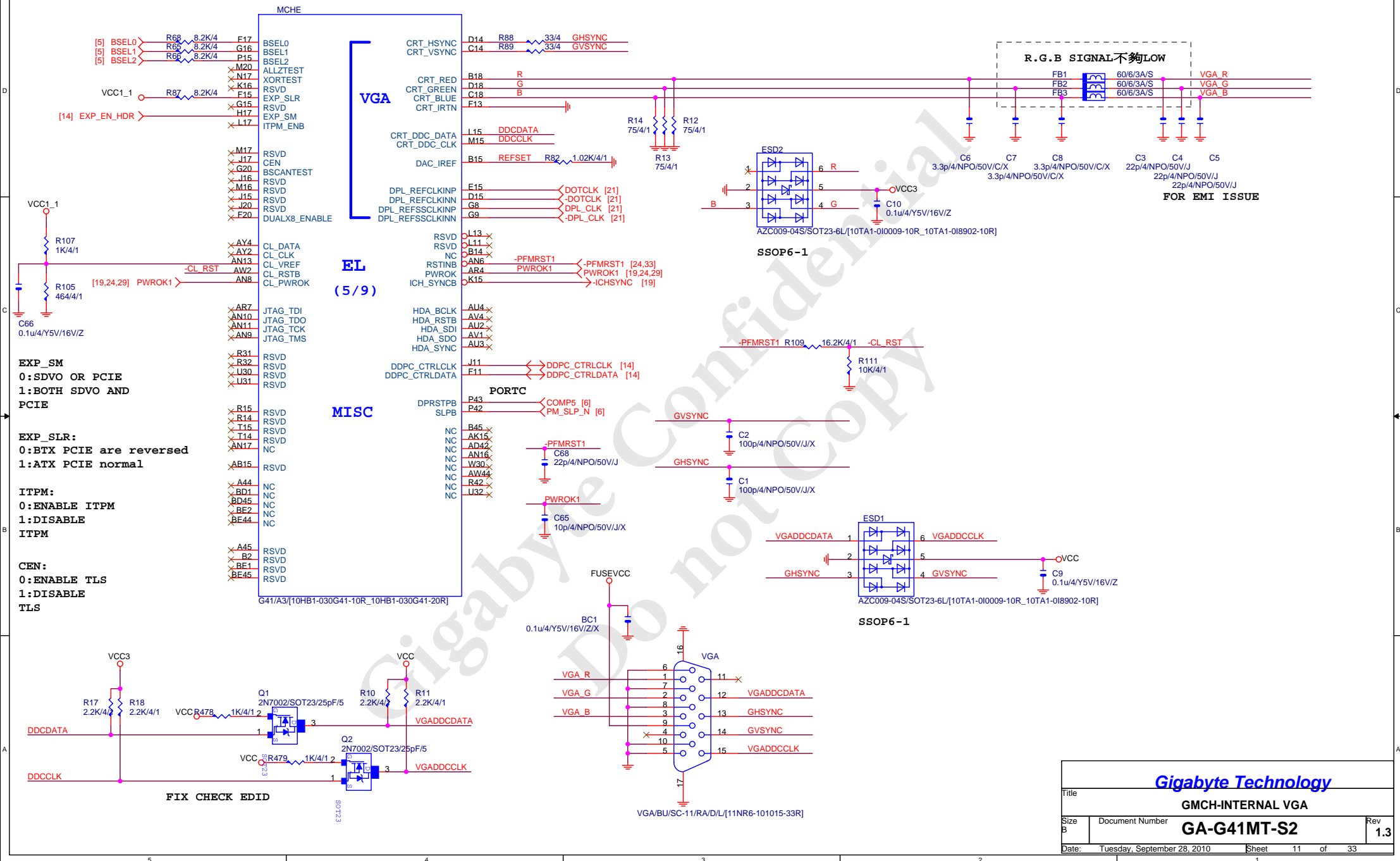






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Title		
GMCH-PCI E & DMI		
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MCHH

A12	VSS	AK35
A15	VSS	AK38
A19	VSS	AK39
A27	VSS	AL38
A31	VSS	BB6
A36	VSS	BD12
A40	VSS	BD17
AA1	VSS	BD8
AA8	VSS	BE10
AA11	VSS	BE15
AA12	VSS	BE19
AA13	VSS	BE22
AA20	VSS	BE24
AA22	VSS	BE29
AA24	VSS	BE34
AA26	VSS	BE40
AA34	VSS	AR9
AA38	VSS	AR10
AA40	VSS	AR11
AA44	VSS	AR13
AB4	VSS	AR16
AB6	VSS	AR26
AB7	VSS	AR31
AB8	VSS	AR33
AB11	VSS	AR35
AB12	VSS	AR39
AB19	VSS	AT1
AB21	VSS	AT2
AB23	VSS	AT11
AB25	VSS	AT13
AB27	VSS	AT17
AB34	VSS	AT24
AB36	VSS	AT29
AB39	VSS	AY15
AC5	VSS	AT35
AC20	VSS	AU9
AC22	VSS	AU20
AC24	VSS	AU22
AC26	VSS	AU25
AC45	VSS	AU30
AD3	VSS	AV2
AD6	VSS	AV8
AD9	VSS	AV9
AD12	VSS	AV11
AD19	VSS	AV13
AD21	VSS	AV15
AD23	VSS	AV16
AD25	VSS	AV21
AD27	VSS	AV30
AD34	VSS	AV38
AD36	VSS	H30
AD39	VSS	H31
AE1	VSS	H33
AE8	VSS	H38
AE11	VSS	H44
AE20	VSS	H7
AE22	VSS	H8
AE24	VSS	H9
AE26	VSS	J3
AE34	VSS	J37
AE38	VSS	J4
AE40	VSS	J5
AE44	VSS	J8
AF6	VSS	J9
AF7	VSS	K11
AF10	VSS	K13
AF11	VSS	K17
AF12	VSS	K20
AF13	VSS	K24
AF33	VSS	K29
AF35	VSS	K33
AF39	VSS	K45
AG5	VSS	L10
AG19	VSS	L16
AG21	VSS	L20
AG23	VSS	U11
AG25	VSS	U12
AG27	VSS	U13
AG45	VSS	U16
AH2	VSS	U17
AH3	VSS	U19
AH4	VSS	U20
AJ20	VSS	U36
AJ22	VSS	U39
AJ24	VSS	U44
AJ26	VSS	U8
AJ36	VSS	W1
AJ39	VSS	W16
AJ44	VSS	W17
AJ45	VSS	A3
		A43
		A6
		B44
		BC1

G41/A3/[10HB1-030G41-10R\_10HB1-030G41-20R]

BA5	VSS	EL
BB21	VSS	(9/9)
BB25	VSS	GND
BB28	VSS	
BB6	VSS	
BD12	VSS	
BD17	VSS	
BD8	VSS	
BE10	VSS	
BE15	VSS	
BE19	VSS	
BE22	VSS	
BE24	VSS	
BE29	VSS	
BE34	VSS	
BE40	VSS	
AR3	VSS	
AR8	VSS	
AR9	VSS	
AR10	VSS	
AR11	VSS	
AR13	VSS	
AR16	VSS	
AR26	VSS	
AR31	VSS	
AR33	VSS	
AR35	VSS	
AR39	VSS	
AT1	VSS	
AT2	VSS	
AT11	VSS	
AT13	VSS	
AT17	VSS	
AT24	VSS	
AT29	VSS	
AY15	VSS	
AT35	VSS	
AU9	VSS	
AU20	VSS	
AU22	VSS	
AU25	VSS	
AU30	VSS	
AV2	VSS	
AV8	VSS	
AV9	VSS	
AV11	VSS	
AV13	VSS	
AV15	VSS	
AV16	VSS	
AV21	VSS	
AV30	VSS	
AV38	VSS	
H30	VSS	
H31	VSS	
H33	VSS	
H38	VSS	
H44	VSS	
H7	VSS	
H8	VSS	
H9	VSS	
J3	VSS	
J37	VSS	
J4	VSS	
J5	VSS	
J8	VSS	
J9	VSS	
K11	VSS	
K13	VSS	
K17	VSS	
K20	VSS	
K24	VSS	
K29	VSS	
K33	VSS	
K45	VSS	
L10	VSS	
L16	VSS	
L20	VSS	
U11	VSS	
U12	VSS	
U13	VSS	
U16	VSS	
U17	VSS	
U19	VSS	
U20	VSS	
U36	VSS	
U39	VSS	
U44	VSS	
U8	VSS	
W1	VSS	
W16	VSS	
W17	VSS	
A3	VSS	
A43	VSS	
A6	VSS	
B44	VSS	
BC1	VSS	

G41/A3/[10HB1-030G41-10R\_10HB1-030G41-20R]

L26	VSS	
L30	VSS	
L35	VSS	
L39	VSS	
L4	VSS	
L8	VSS	
L9	VSS	
M1	VSS	
M24	VSS	
M25	VSS	
M44	VSS	
N11	VSS	
N13	VSS	
N16	VSS	
N26	VSS	
N29	VSS	
N30	VSS	
N33	VSS	
N36	VSS	
N38	VSS	
N8	VSS	
P16	VSS	
P17	VSS	
P25	VSS	
P26	VSS	
P31	VSS	
R11	VSS	
R12	VSS	
R16	VSS	
R17	VSS	
R19	VSS	
R2	VSS	
R30	VSS	
R38	VSS	
R45	VSS	
R5	VSS	
R8	VSS	
T10	VSS	
T11	VSS	
T12	VSS	
T13	VSS	
T16	VSS	
T17	VSS	
T19	VSS	
T20	VSS	
T3	VSS	
T30	VSS	
T31	VSS	
T32	VSS	
T33	VSS	
T35	VSS	
T38	VSS	
T4	VSS	
T40	VSS	
T6	VSS	
T7	VSS	
T8	VSS	
T9	VSS	
U1	VSS	
W2	VSS	
W20	VSS	
W22	VSS	
W24	VSS	
W26	VSS	
W44	VSS	
W45	VSS	
W5	VSS	
Y10	VSS	
Y11	VSS	
Y12	VSS	
Y13	VSS	
Y16	VSS	
Y17	VSS	
Y19	VSS	
Y2	VSS	
Y21	VSS	
Y23	VSS	
Y25	VSS	
Y27	VSS	
Y3	VSS	
Y35	VSS	
Y39	VSS	
Y9	VSS	
BC45	VSS	
BD2	VSS	
BD44	VSS	
BE3	VSS	
BE43	VSS	
C1	VSS	
C45	VSS	
F1	VSS	
BD43	VSS	
AD30	NC	
AC30	NC	
AE30	NC	
AE30	NC	



NB\_HEATSIN

1X

X2

NB\_HS

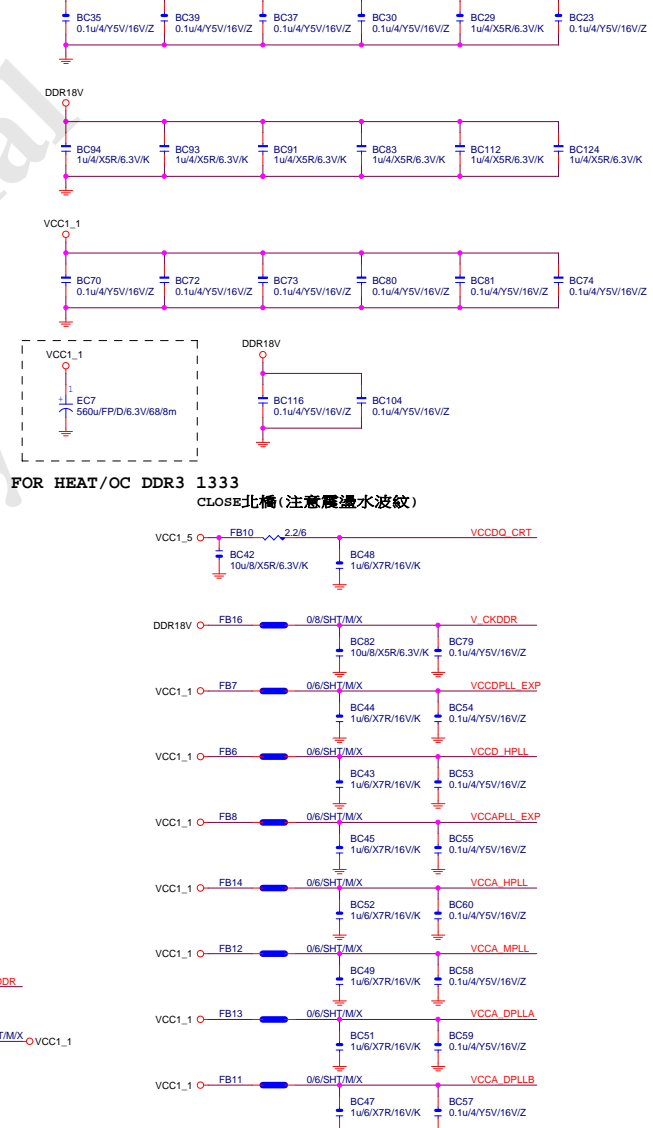
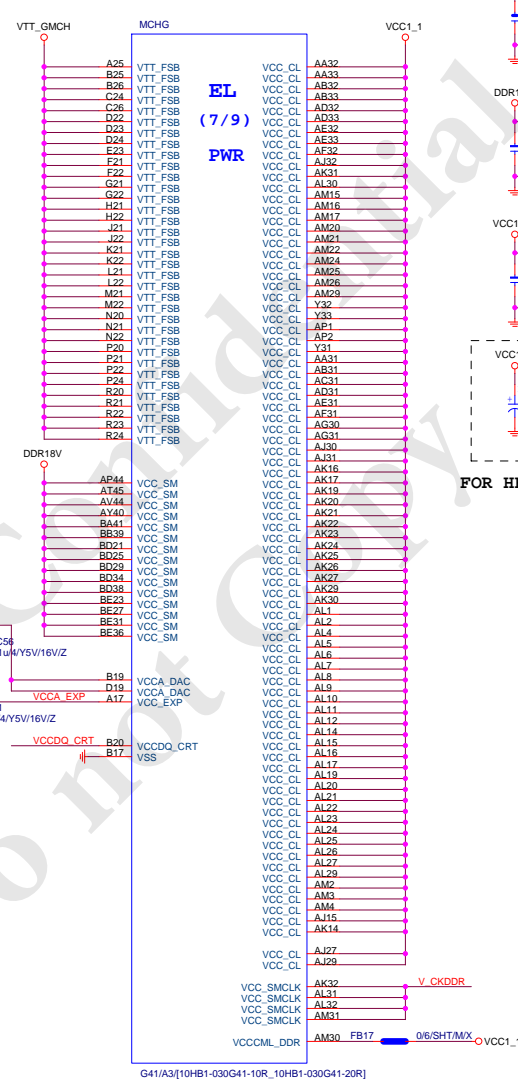
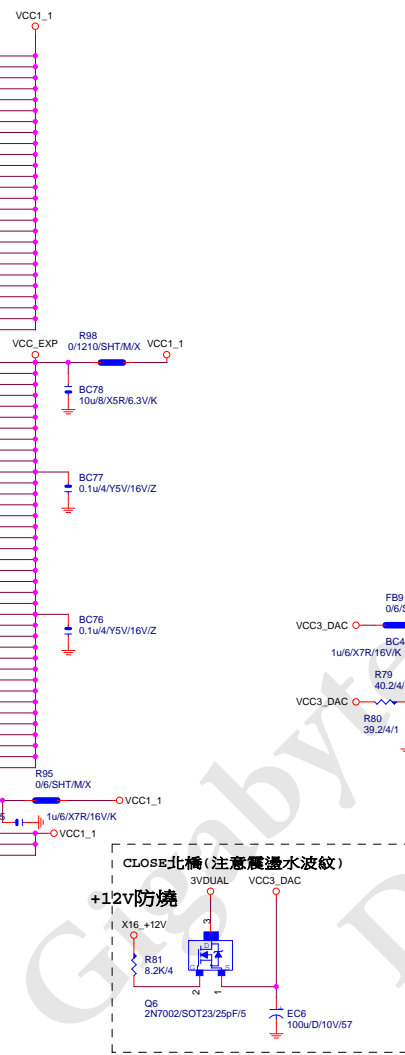
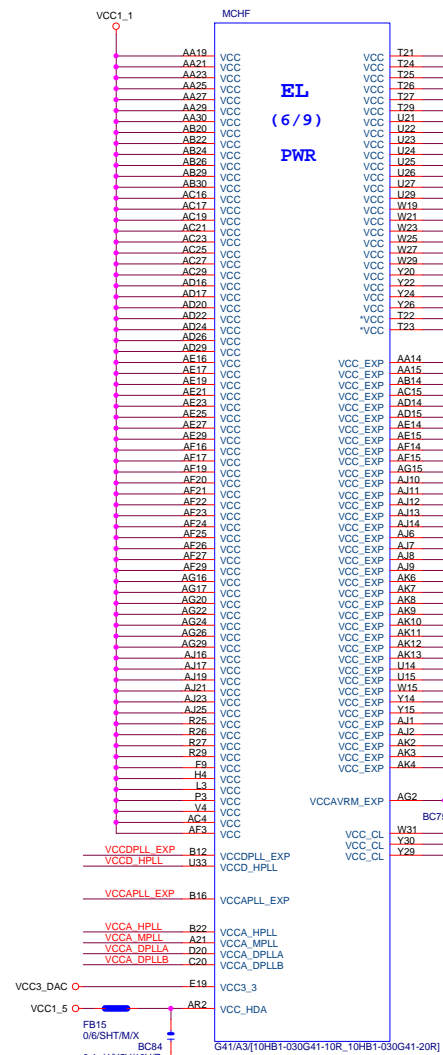
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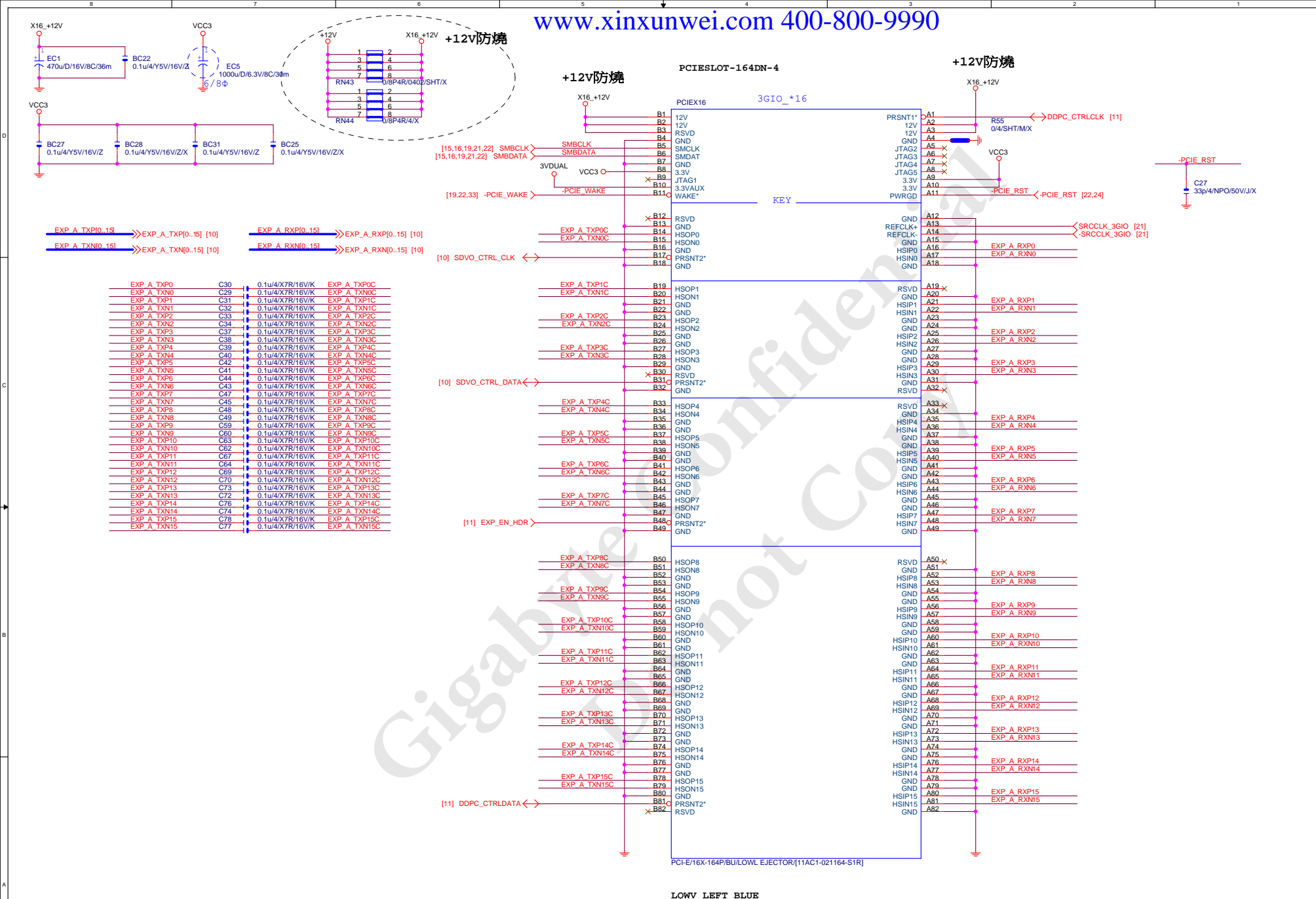
BGASINK445A-L

NEW COST DOWN

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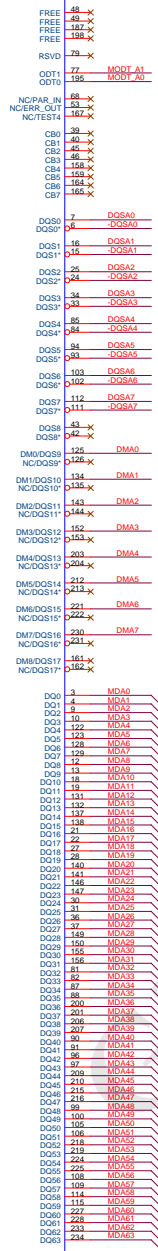
Title		GMCH-GND	
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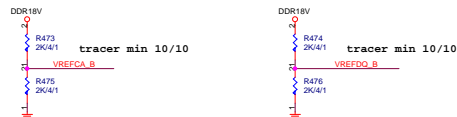


LOWV LEFT BLUE



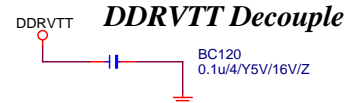
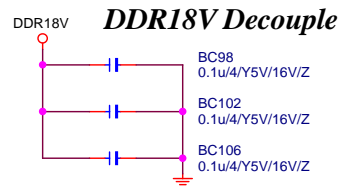
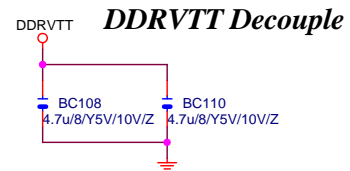
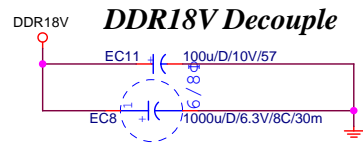


Gigabyte Technology			
Title DDR3 CHANNEL A			
Size Custom	Document Number GA-G41MT-S2		Rev
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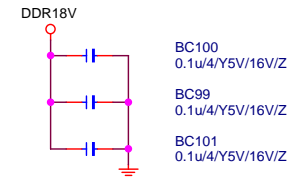


## DDR TERMINATION CHANNEL A

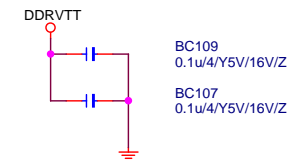


## DDR TERMINATION CHANNEL B

### DDR18V Decouple

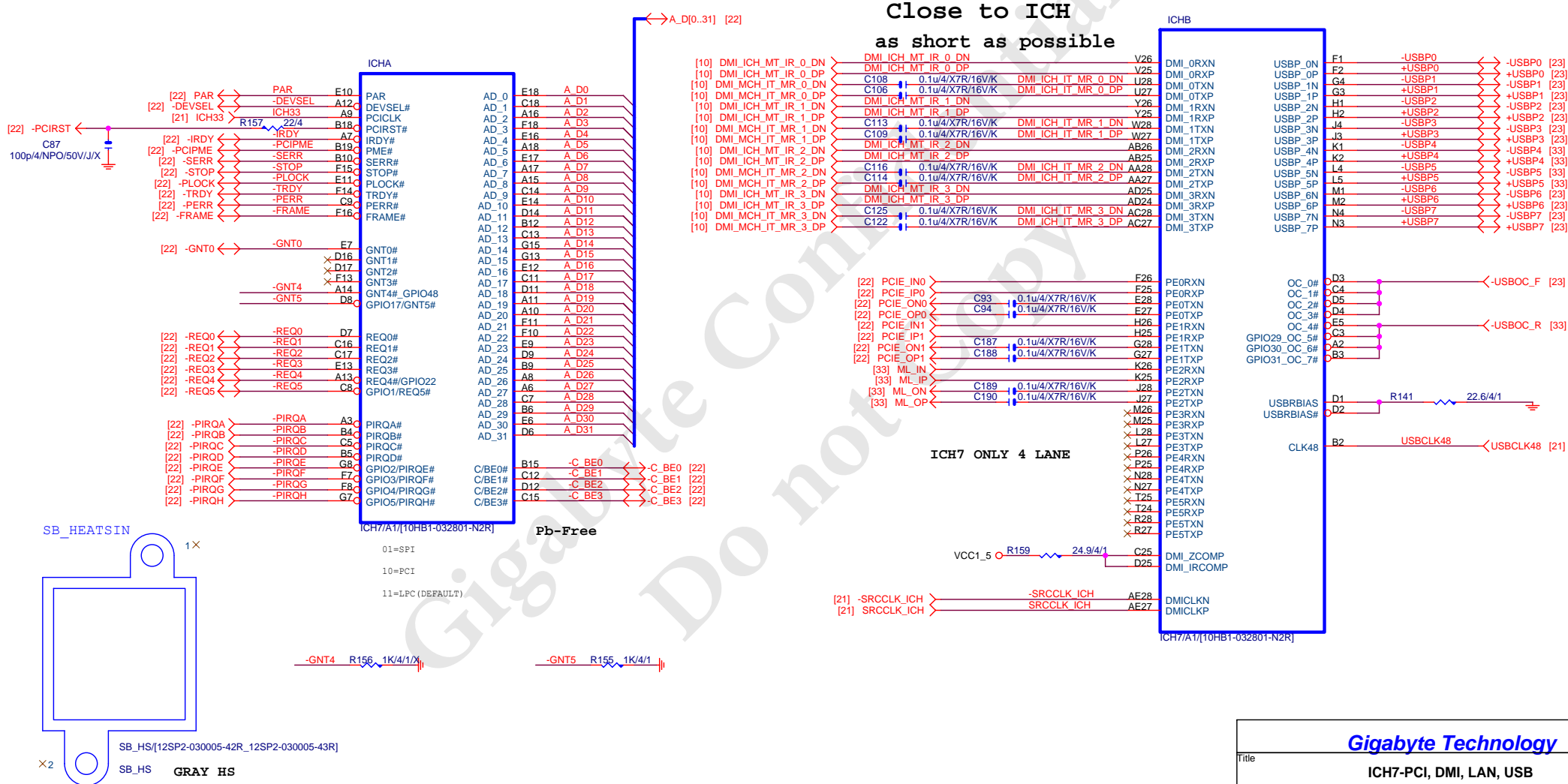


### DDRVTT Decouple



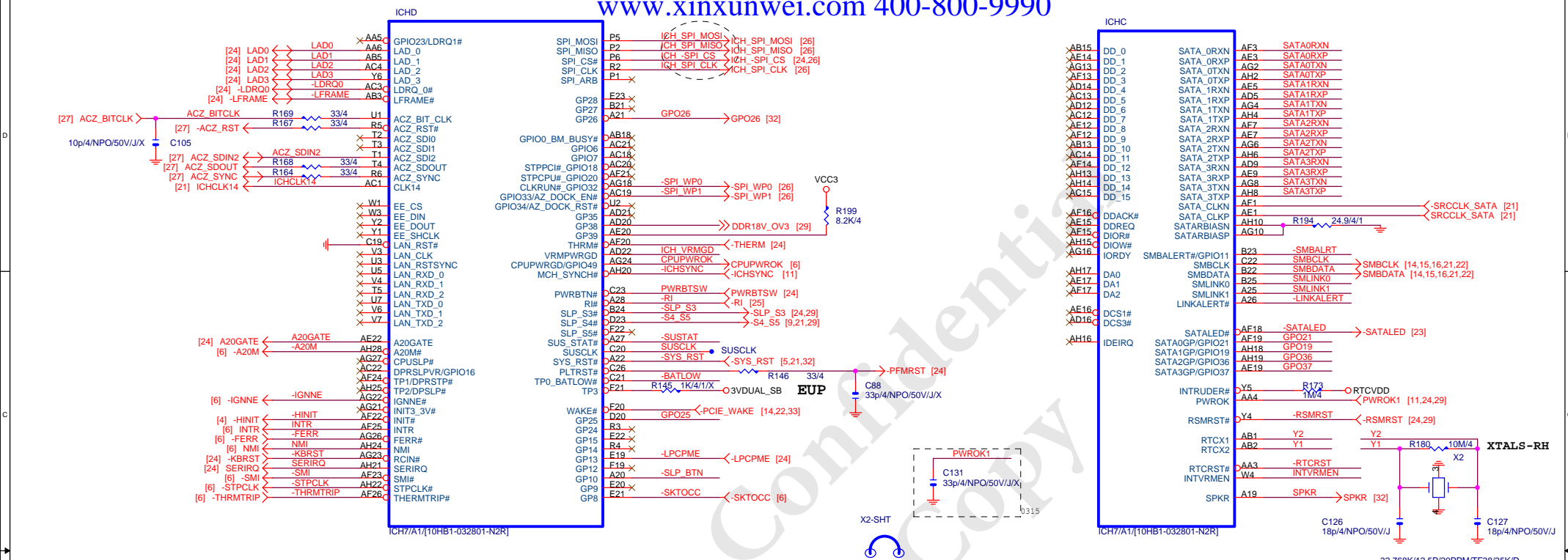
**Gigabyte Technology**

Title			DDRII TERMINATOR
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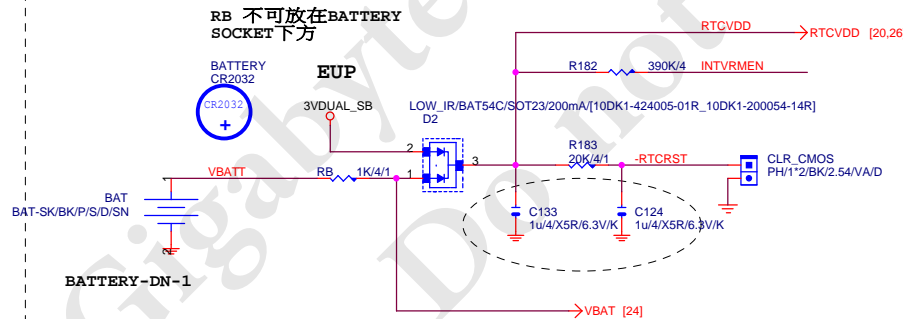
Title		ICH7-PCI, DMI, LAN, USB	
Size	Document Number	GA-G41MT-S2	
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## NEW TYPE:BATTERY-DUAL-4

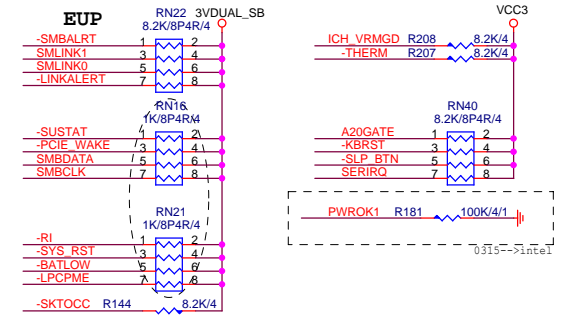
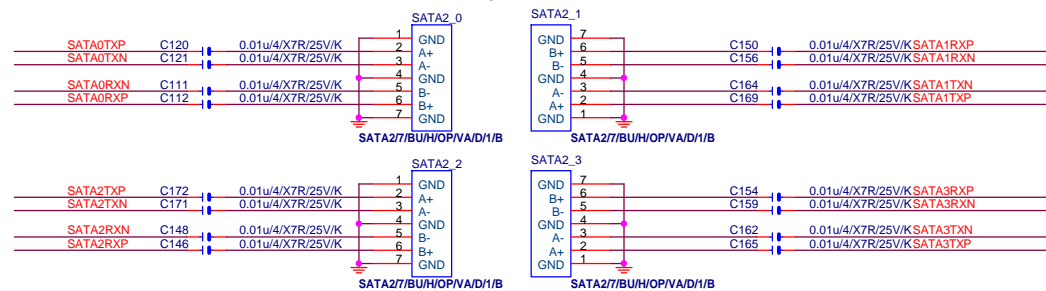
SHW/D0.64\*5.08\*6.74

RB 不可放在BATTERY  
SOCKET下方



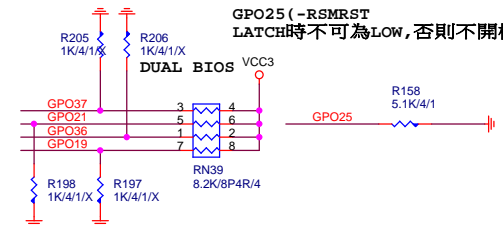
## H1X7-SATA2-HS-MASK

BLUE



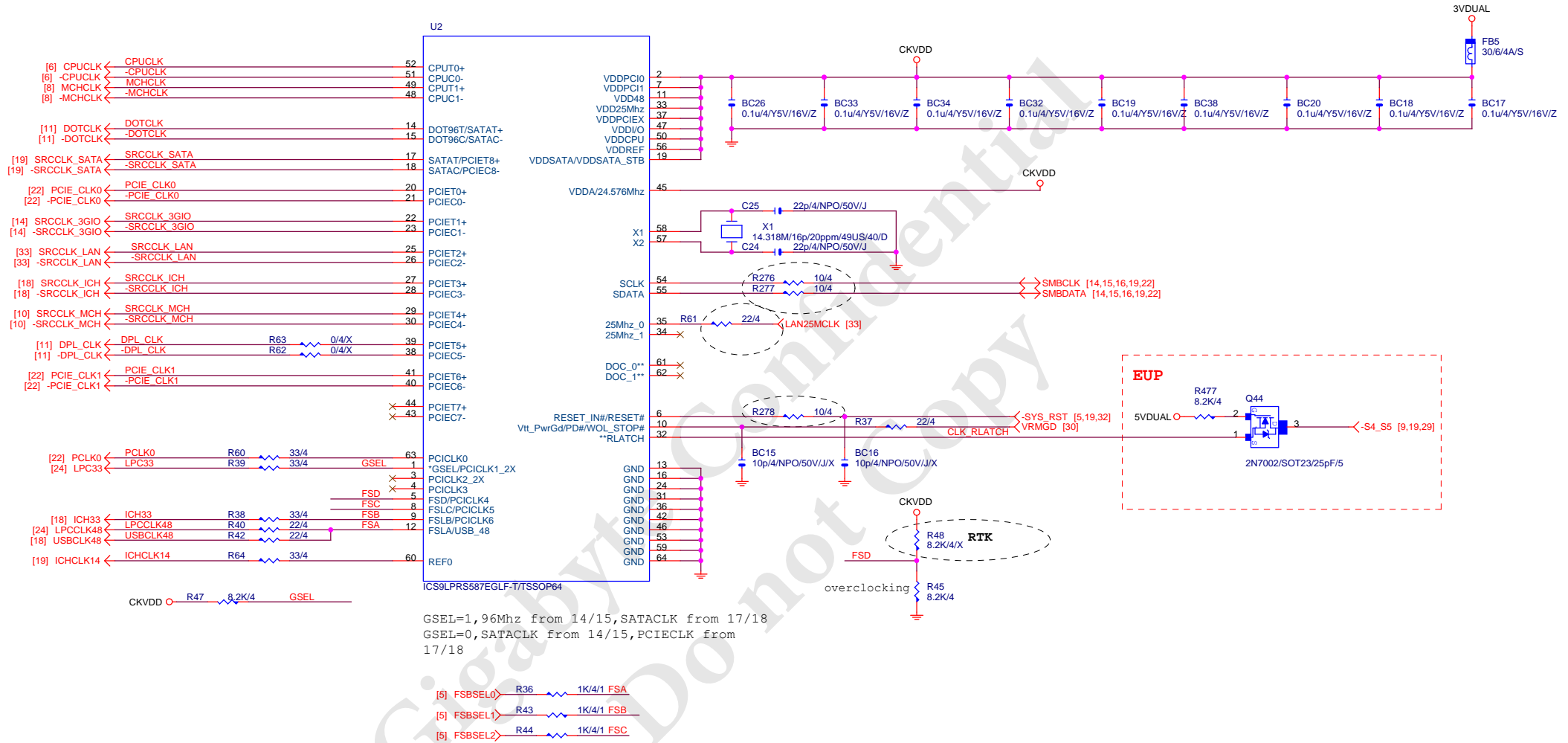
GPO25 PULL-DOWN CHECK

GPO25 (-RSMRST  
LATCH時不可為LOW,否則不開機)



**GA-G41MT-S2**

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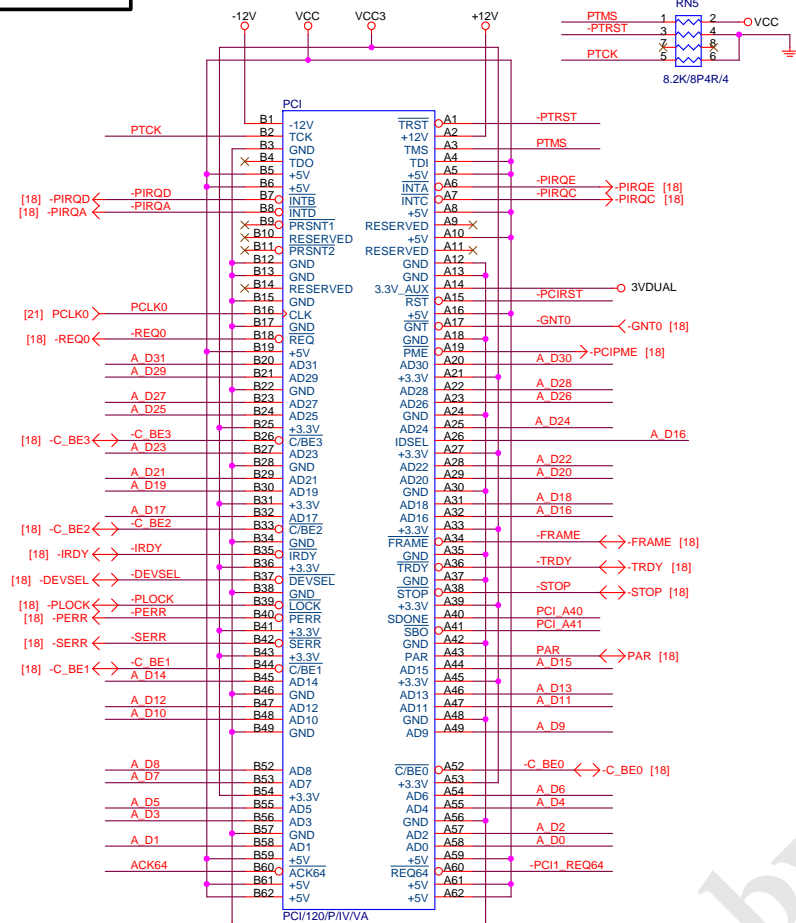


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Title				
CK505 CLK GEN				
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PCI1, 2 SLOT

PCI1, 2

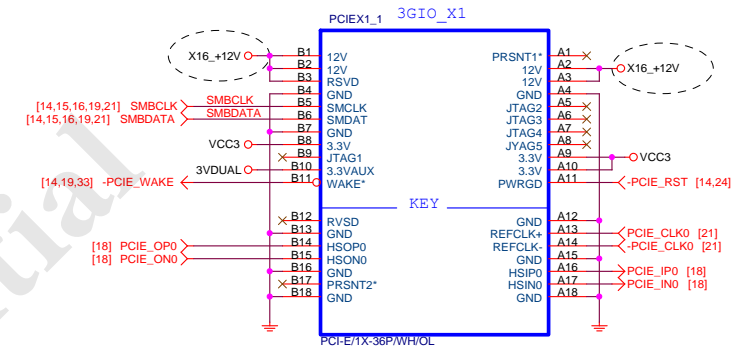
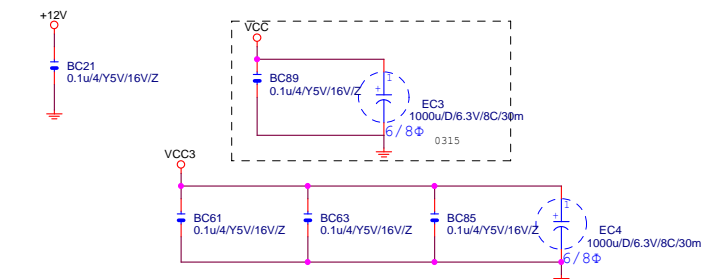
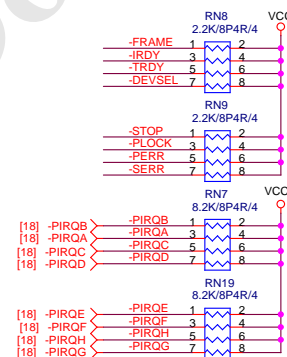
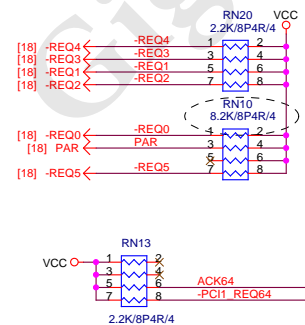


AD\_16/-PIRQ (E-D-C-A)/-REQ0/-GNT0

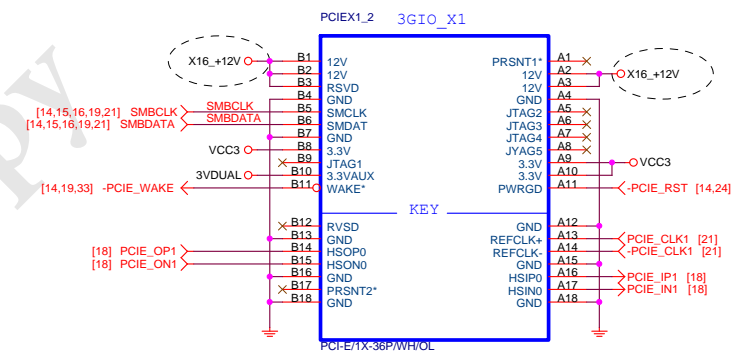
[18] A\_D[0..31] ↔ A\_D[0..31]

-PCIRST ↔ -PCIRST [18]

Place close to PCI1

[14,15,16,19,21] SMBCLK ↔ PCI\_A40  
[14,15,16,19,21] SMBDATA ↔ PCI\_A41

WHITE

-PCIE\_RST  
C191  
100p/4/NPO/50V/J/X

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Title			
PCI SLOT 1, 2/PCIEX1			
Size			
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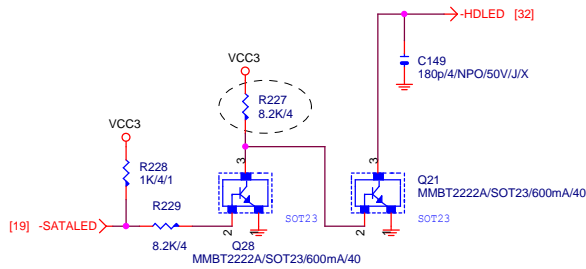
IDE/SATA LED

IDE RESET

N/A

FLOPPY

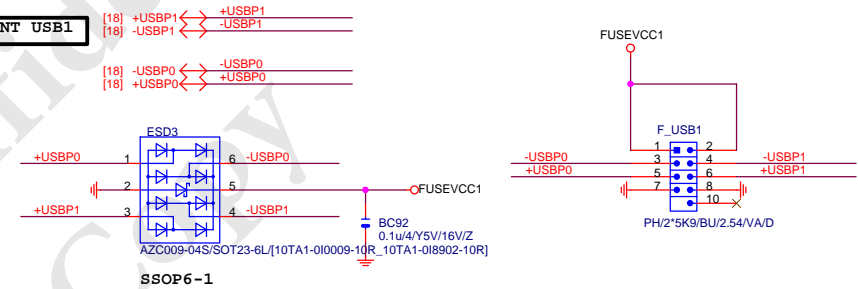
N/A



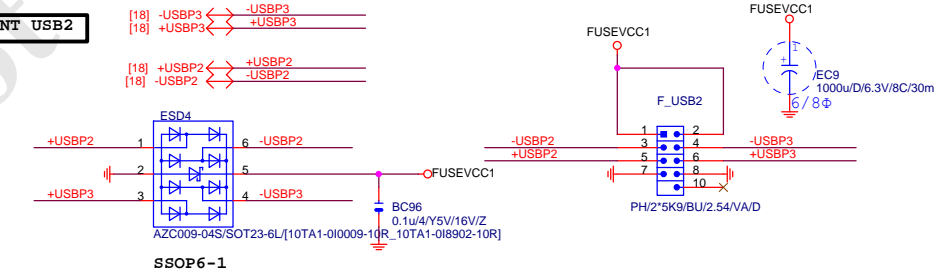
IDE

N/A

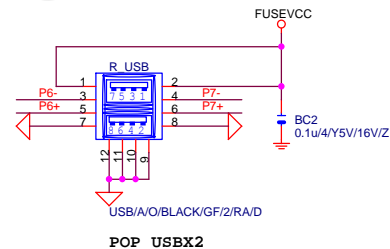
FRONT USB1



FRONT USB2

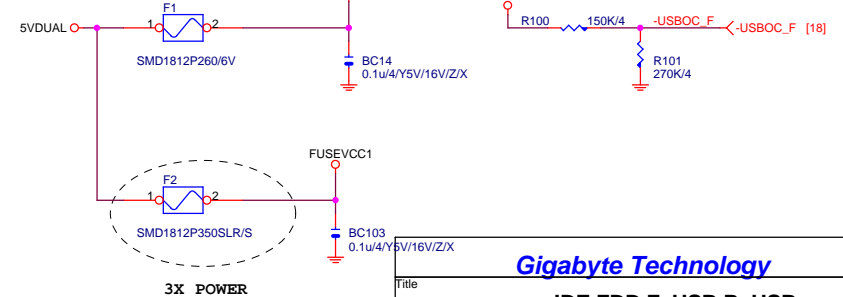


[18] -USBP7 ↔ -USBP7 P7-  
 [18] +USBP7 ↔ +USBP7 P7+  
 [18] -USBP6 ↔ -USBP6 P6-  
 [18] +USBP6 ↔ +USBP6 P6+



240MILS

160MILS



Gigabyte Technology

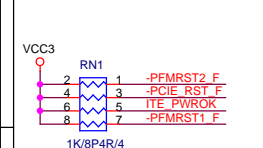
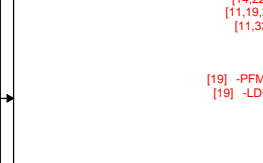
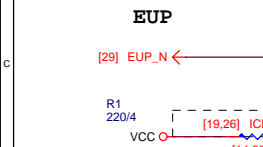
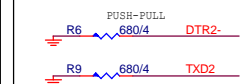
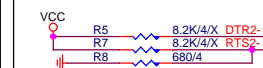
Title		
IDE,FDD,F_USB,R_USB		
Size	Document Number	Rev
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RTS2- ==LOW CPU FAN 50%

==HIGH 100%

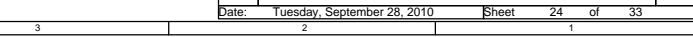
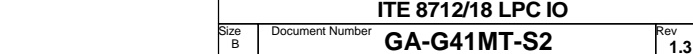
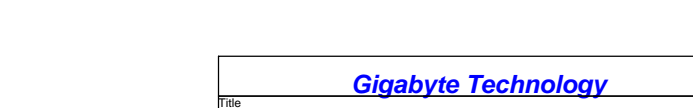
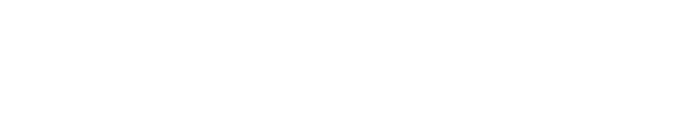
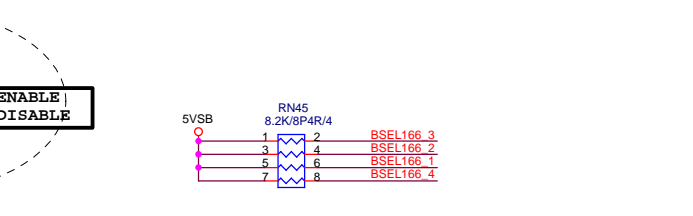
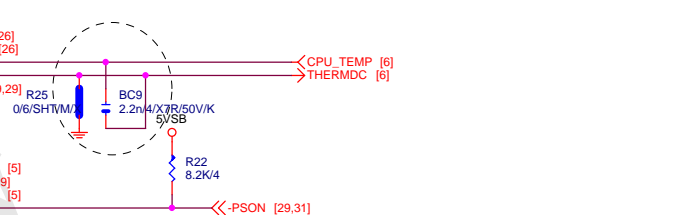
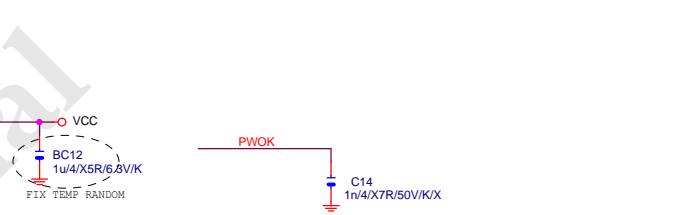
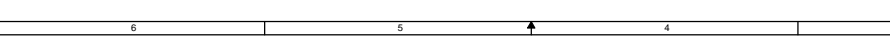
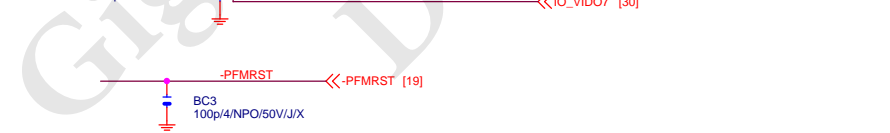
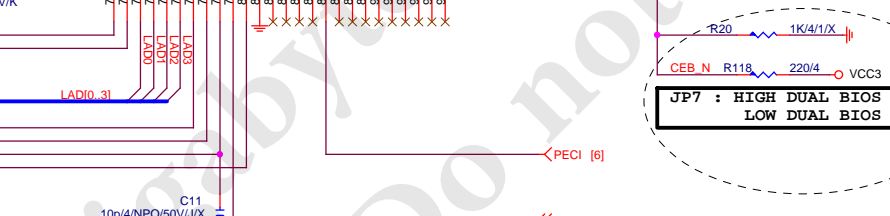
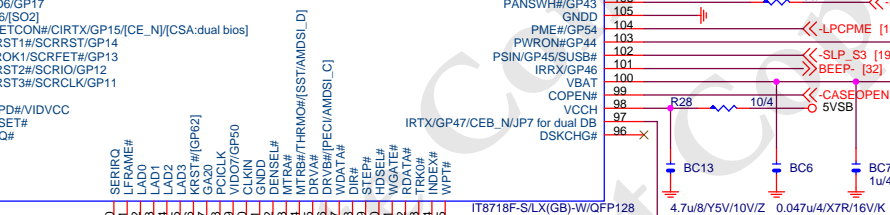
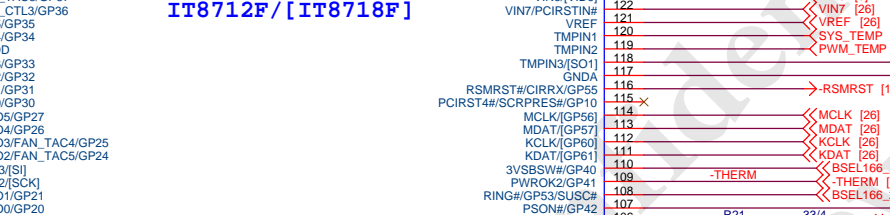
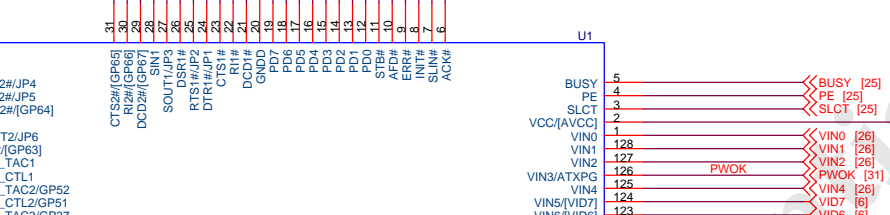
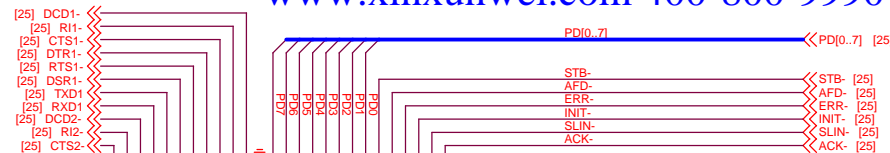
DEFAULT 50%



Dual BIOS:  
GB logo :Pin 61 (GP15/CSA)  
GB logo :Pin 59 (GP17/CSB)

Pin 59 Dual BIOS ,Power On Strapping:  
H ==>Dual BIOS function Enable  
L ==>Dual BIOS function Disable

1.2V or 3.3V tolerance select.  
1.2V OUTPUT 接 VTT\_GMCH  
3.3V OUTPUT 接3.3V  
LPCPD#=VIDVCC

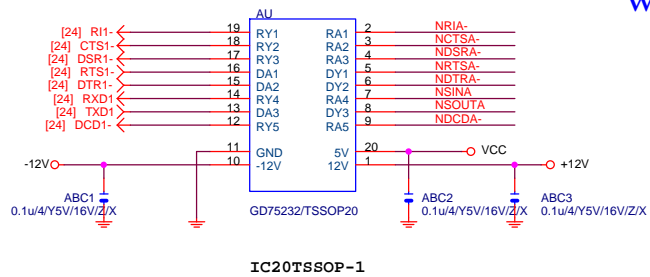


Gigabyte Technology

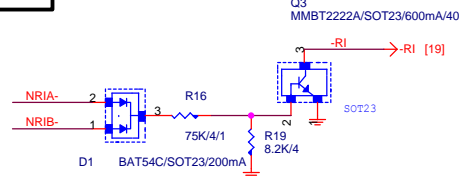
Title			ITE 8712/18 LPC IO
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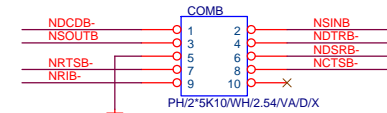
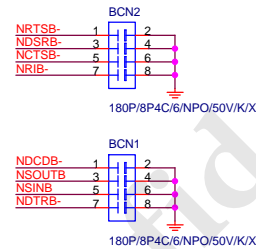
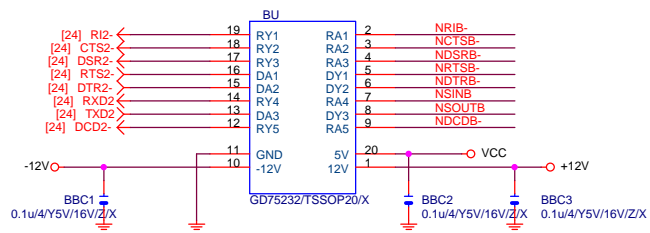
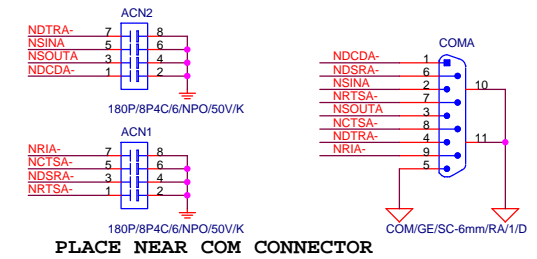
## COMA



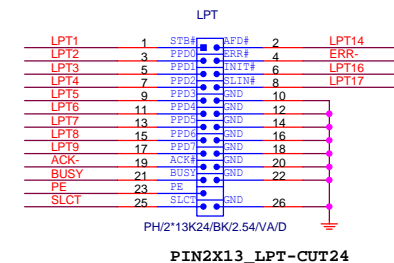
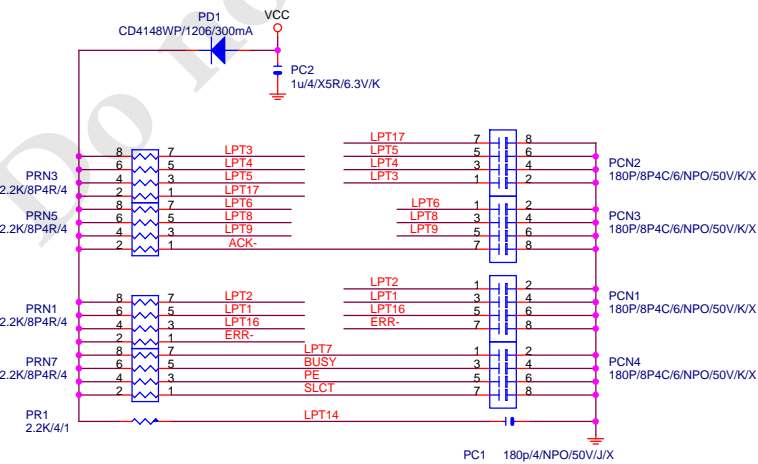
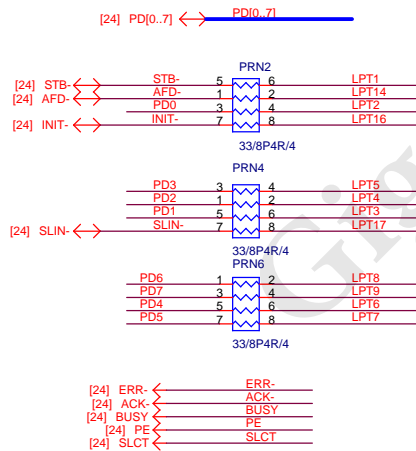
## RING IN



## EXTERNAL COMA

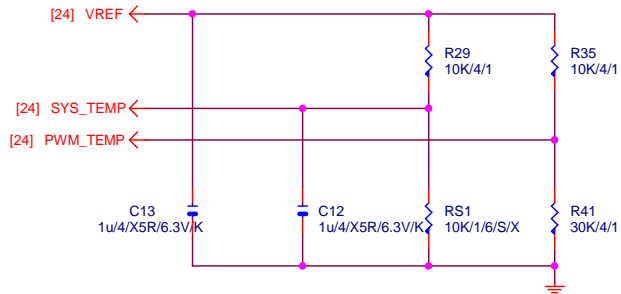
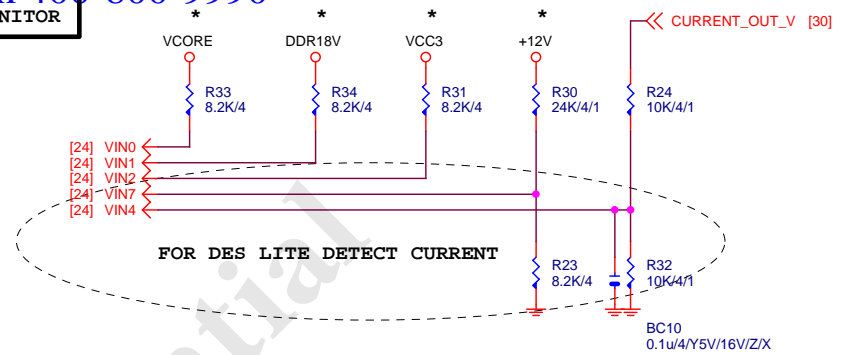
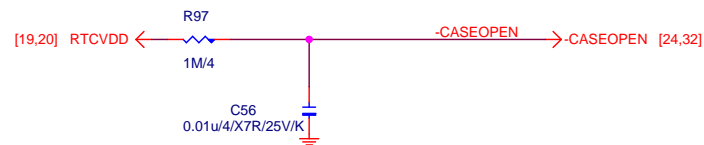


## LPT PORT

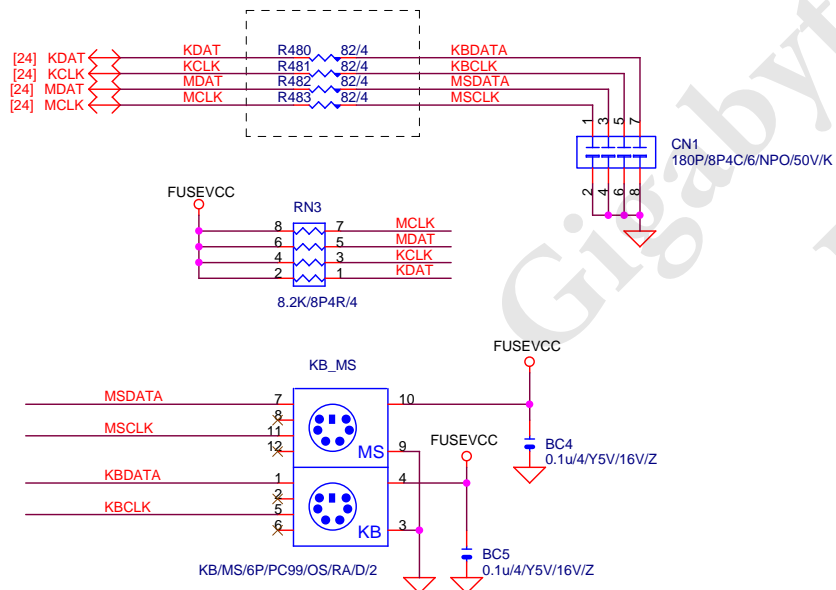
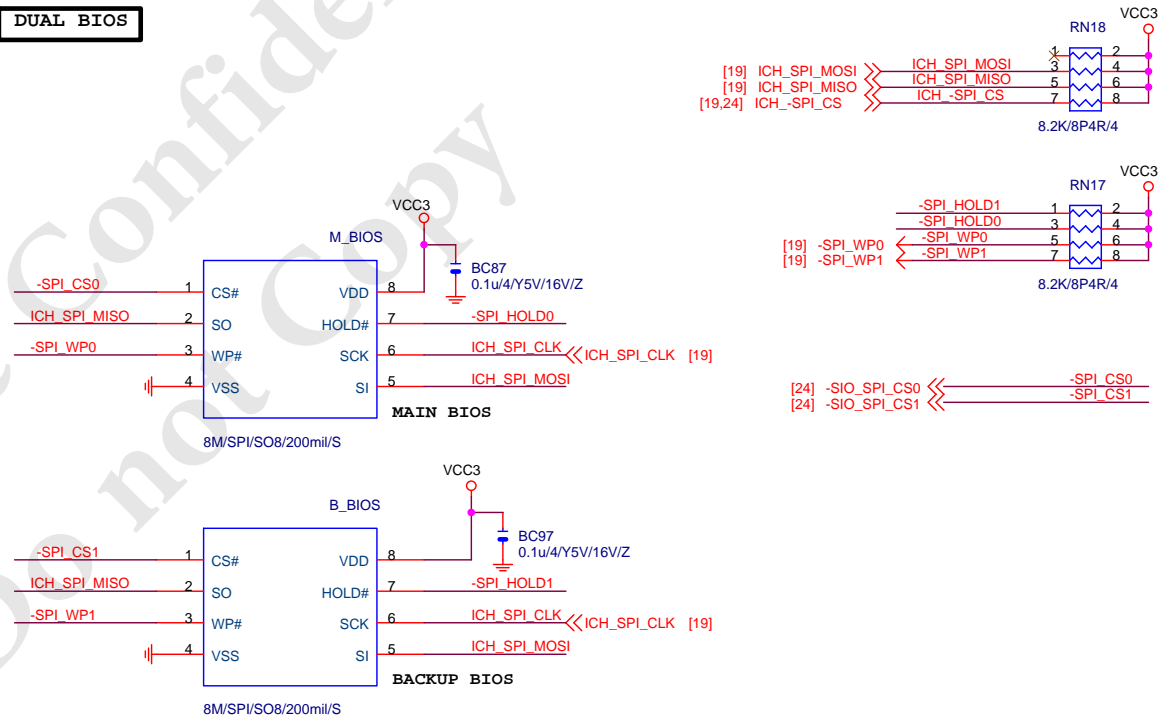


Gigabyte Technology

COM & LPT PORT			
Title	Document Number	GA-G41MT-S2	Rev 1.3
Size B			
Date:	Tuesday, September 28, 2010	Sheet 25	of 33

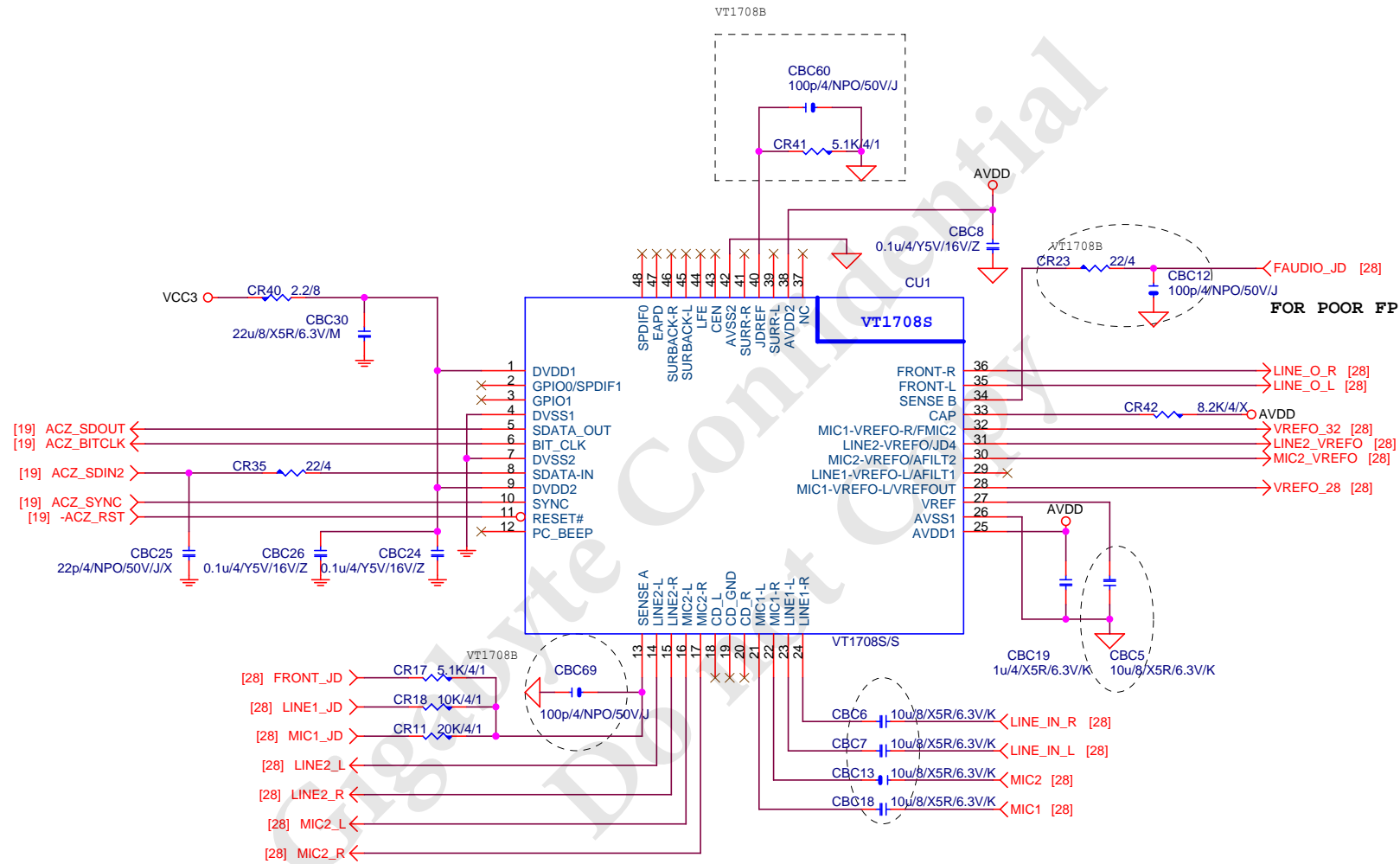
**TEMP H/W MONITOR****VOLTAGE-- H/W MONITOR****CASE OPEN**

Case Open Circuits

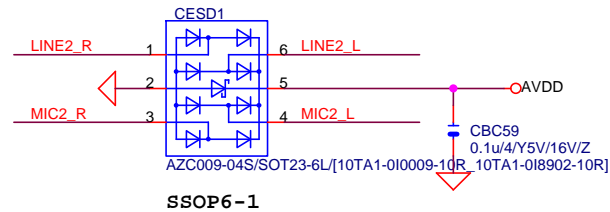
**KB/MS****DUAL BIOS****Gigabyte Technology**

Title			HW-MONITOR/CI/KB/MS/BIOS	
Size	Document Number	GA-G41MT-S2		Rev
Custom				1.3
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AZALIA CODEC



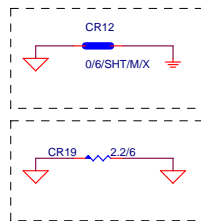
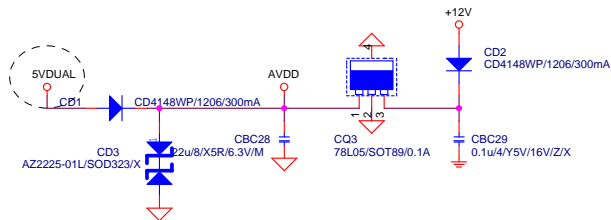
Can Support Amp Out



Gigabyte Technology

Title		
VIA VT1708S		
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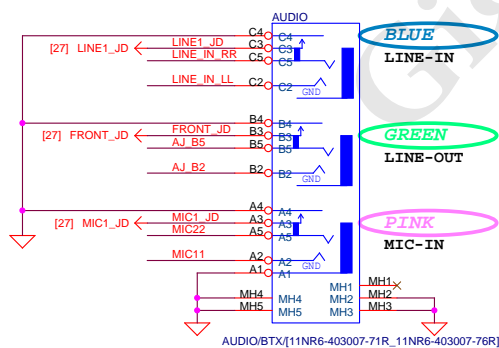
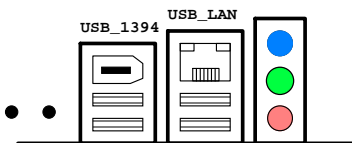
## CODEC POWER/EMI PAD



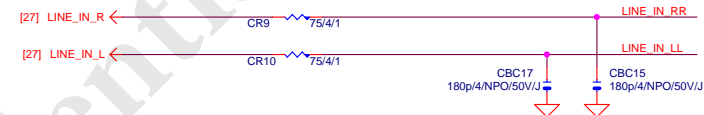
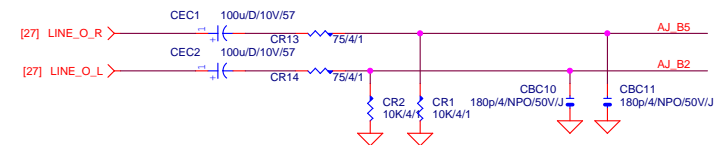
## CD IN N/A

## SPDIF IN N/A

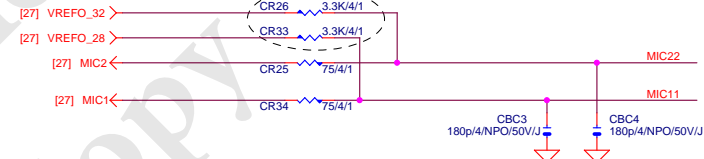
## AZALIA JACK



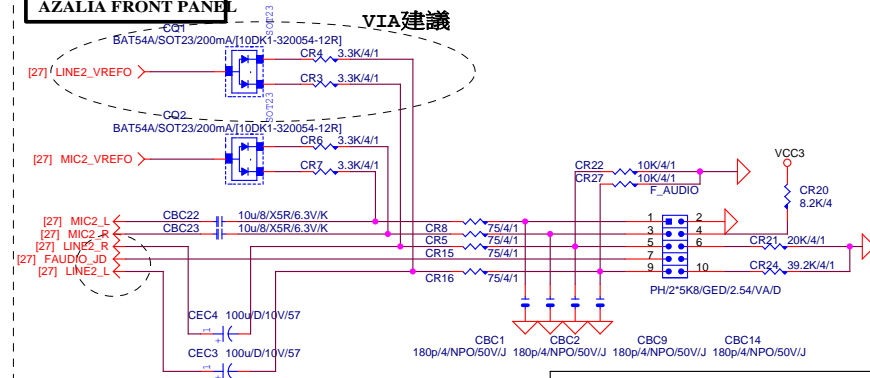
## LINE-IN



## MIC-IN

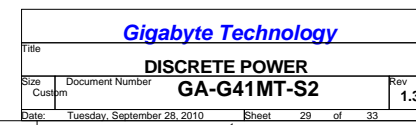


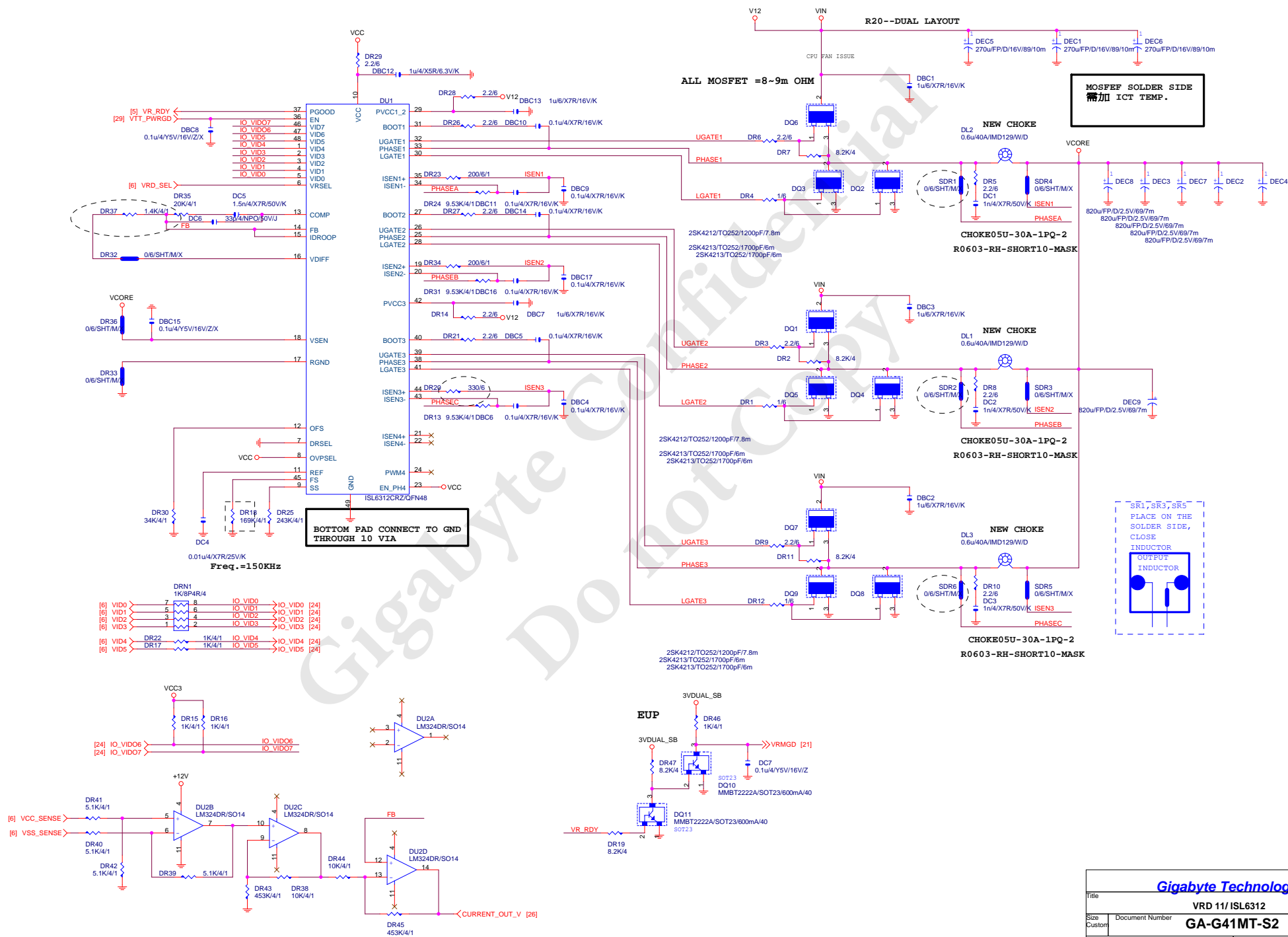
## AZALIA FRONT PANEL



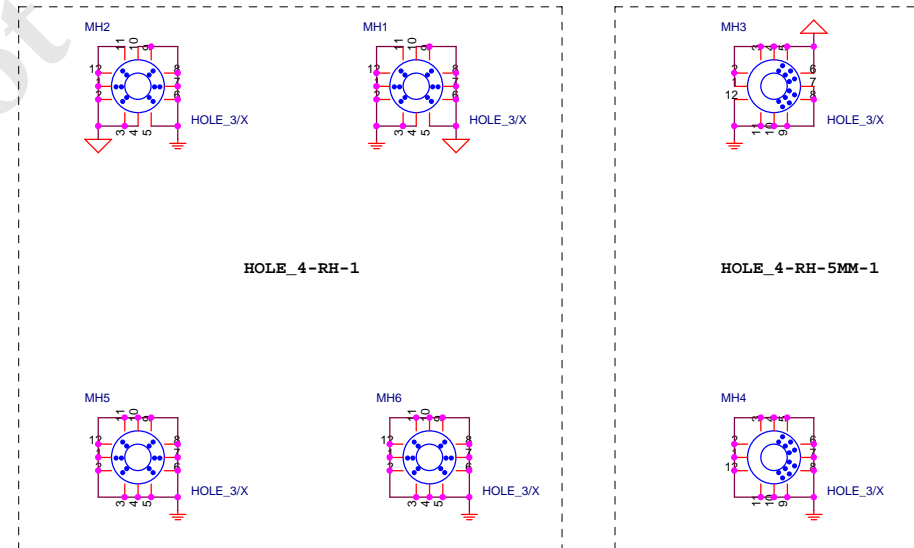
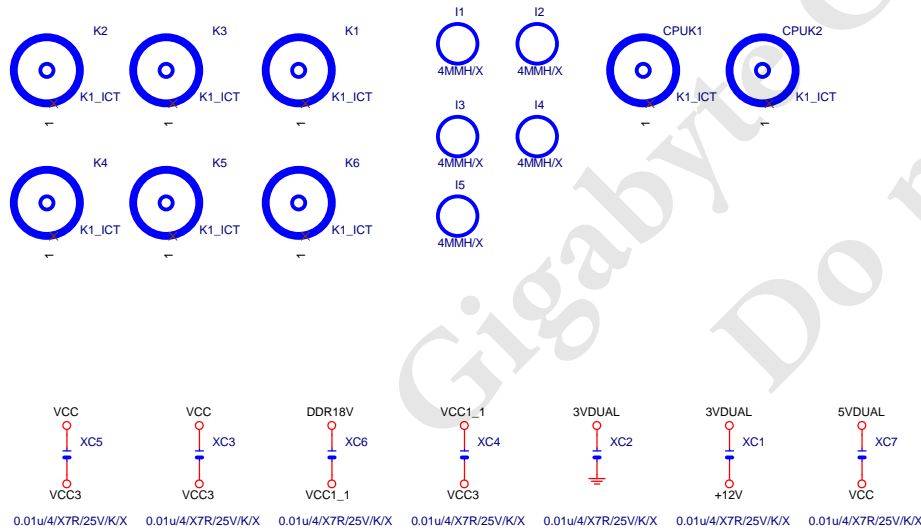
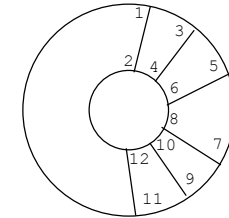
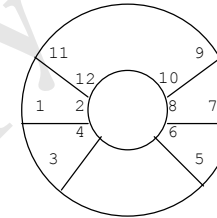
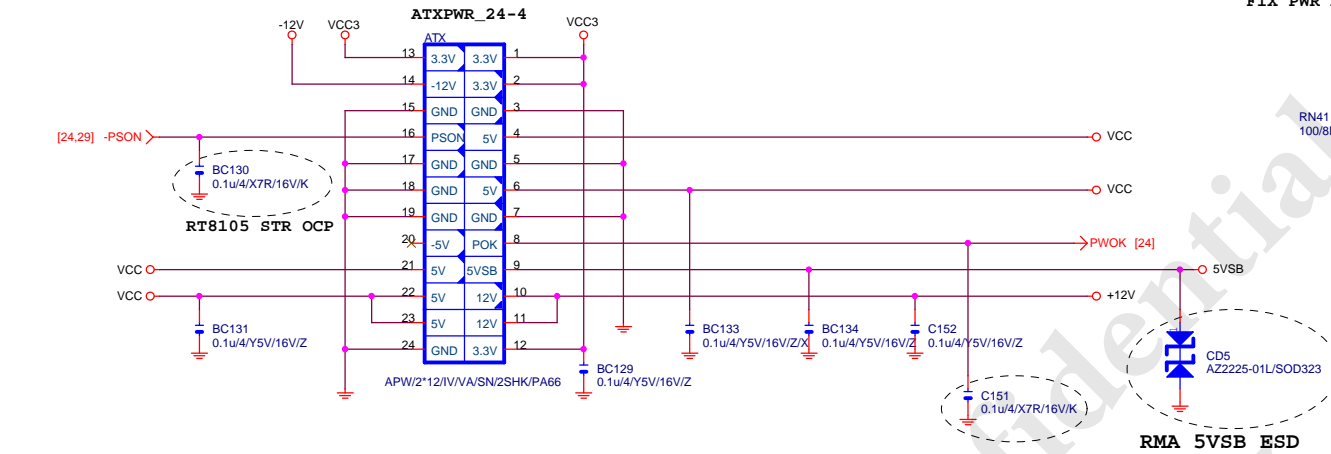
Gigabyte Technology

Title		
AUDIO JACK		
Size	Document Number	Rev
Custom	GA-G41MT-S2	1.3
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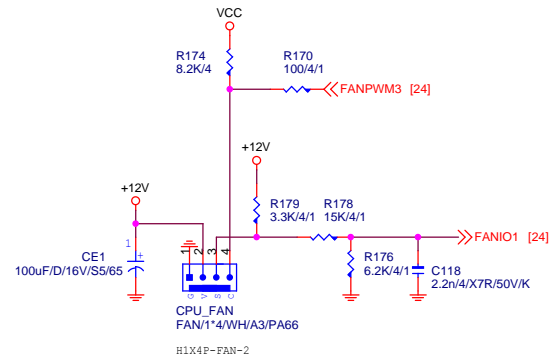
## ATX POWER CONNECTOR



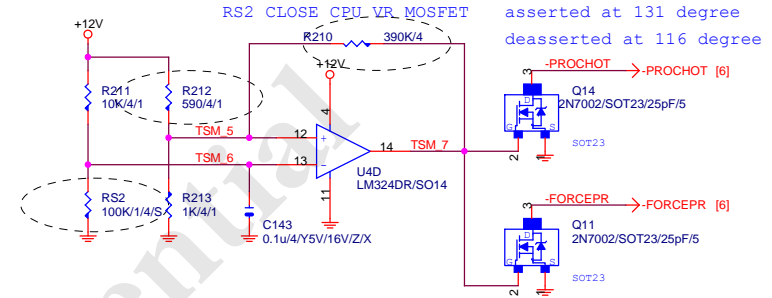
Gigabyte Technology

Title		
ATX POWER CONNECTOR		
Size	Document Number	Rev
B	GA-G41MT-S2	1.3
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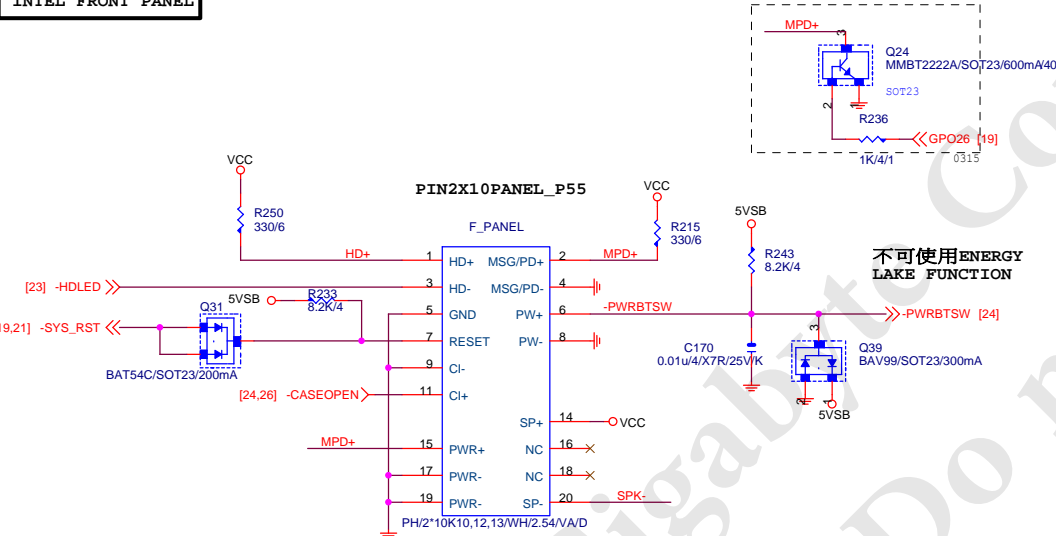
CPU SMART FAN SMART FAN



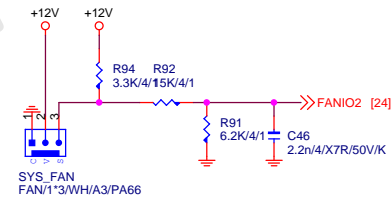
PROCESSOR HOT



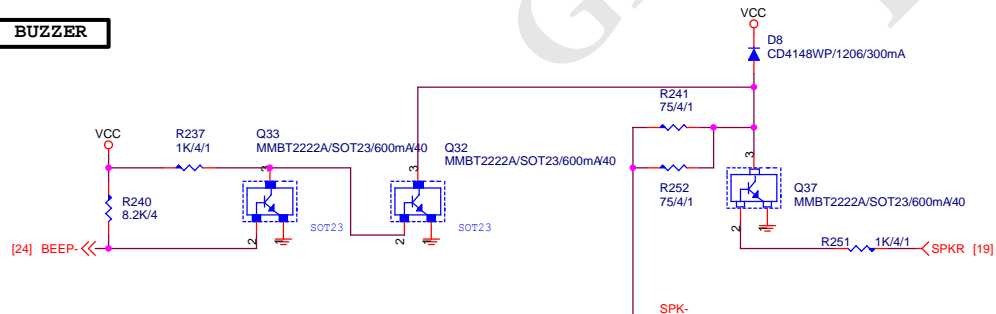
INTEL FRONT PANEL



SYS\_FAN



BUZZER



Gigabyte Technology

Title		
FRONT PANEL		
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## PCIE-1G LAN

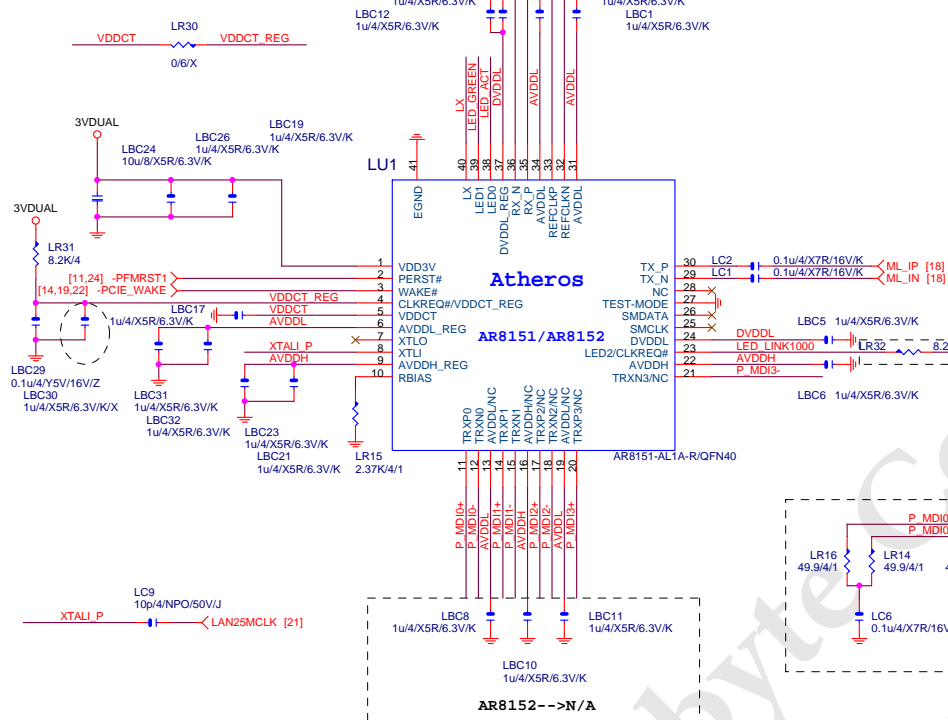
AR8131/AR8132 SWR:

LL1, LBC27, LBC16(O), LR30(X)

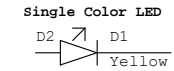
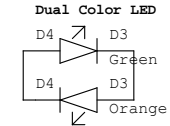
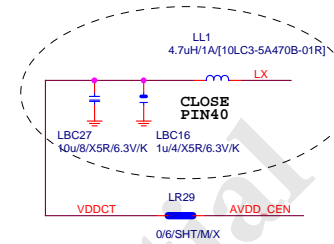
AR8152 LDO OUTPUT(PIN4):LL1(X)

1.AL1A:LR30(O), LBC27, 26(O)

2.BL1A:LR30(O), LBC27, 26(X)



CHOKE4U7-500MA-1



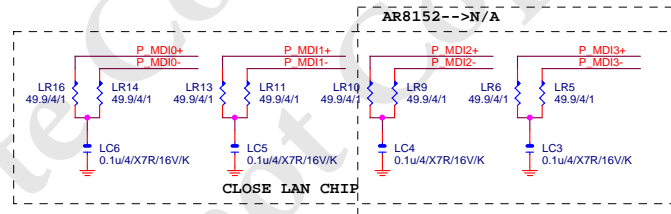
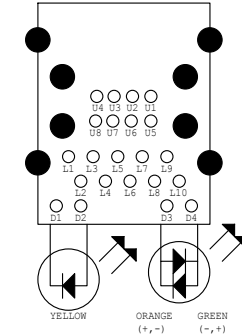
LED0(ACT) LED1(LINK) LED2(LINK1G)

CLKREQ# PULL-UP FOR EFUSE:

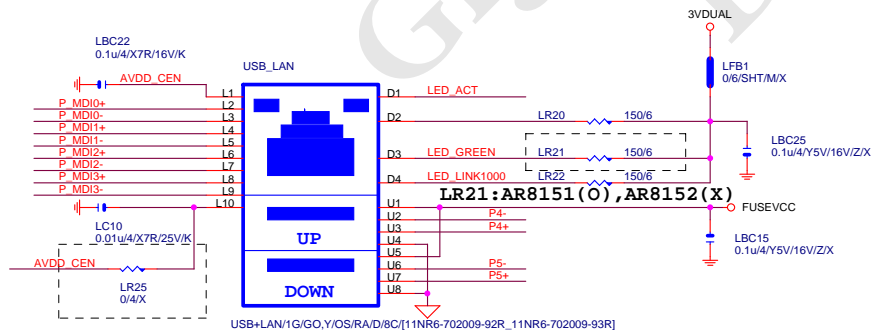
1.AR8151:LR31(O), LR32(X)

2.AR8152:LR31(X), LR32(O)

P35-152-19W9



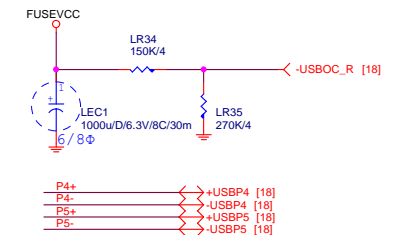
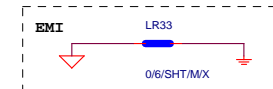
## USB\_LAN CONNECTOR

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

LR25:AR8151(X), AR8152(O)

因100M LAN  
CONNECTOR差異

## USB\_LAN



Gigabyte Technology

Title			
ARTHEROS AR8151/AR8152			
Size	Document Number	Rev	
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