

Model Name:GA-G41M-Combo

Revision 1.41

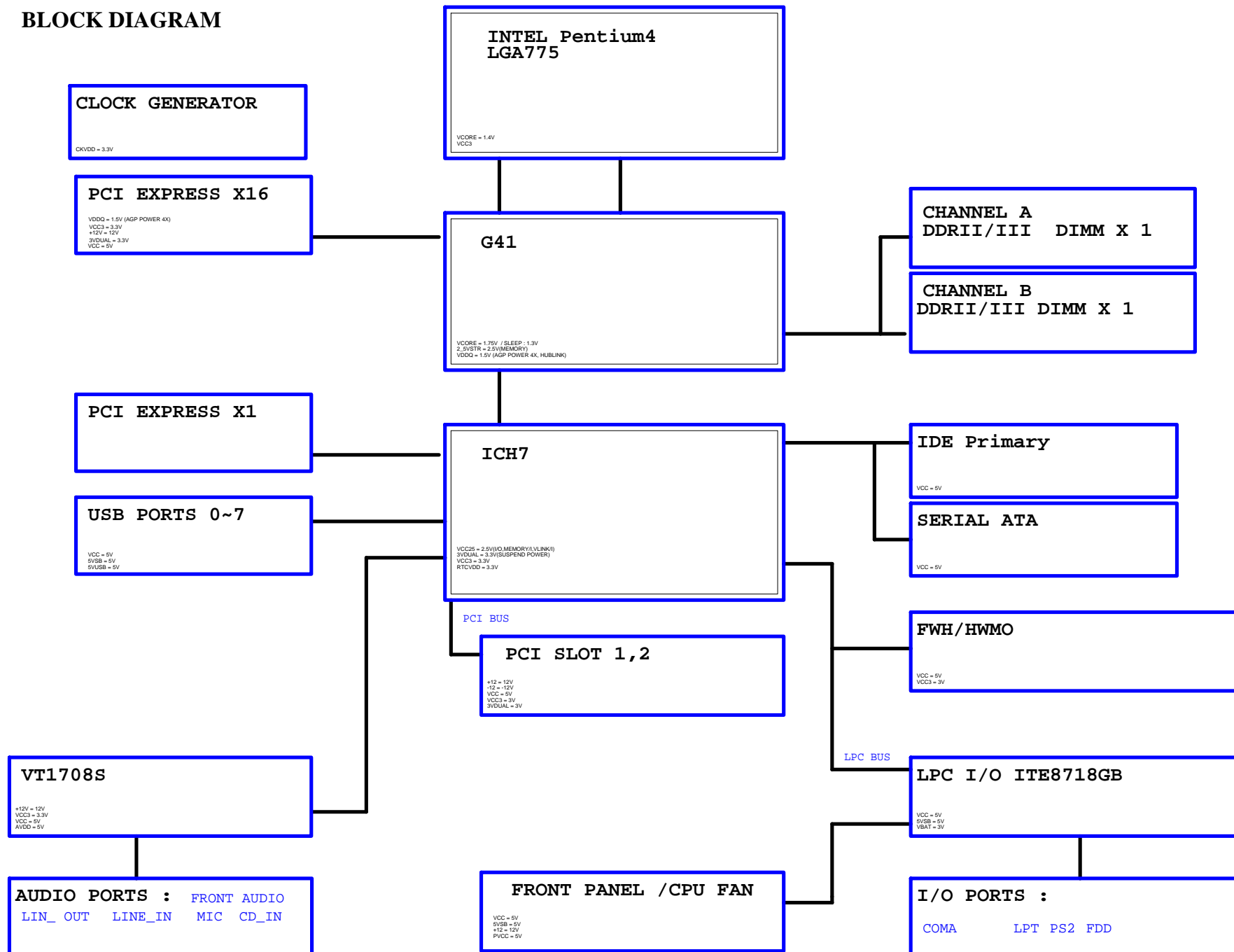
SHEET TITLE

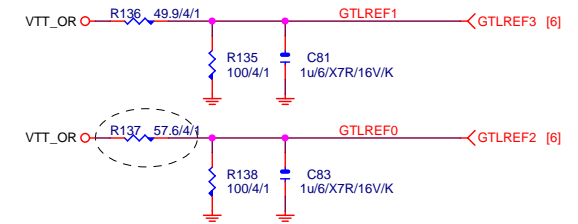
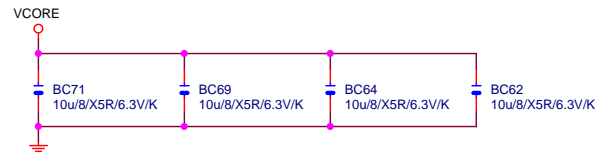
01	COVER SHEET
02	BLOCK DIAGRAM
03	BOM & PCB MODIFY HISTORY
04	P4_LGA775_A
05	P4_LGA775_B,D
06	P4_LGA775_C
07	P4_LGA775_E,F,G,H
08	G41_HOST
09	G41_DDRII/DDRIII
10	G41_PCI E, DMI
11	G41_VGA
12	G41_GND
13	G41_PWR
14	PCI EXPRESS*16 SLOT
15	DDR2/3 CHANNEL A
16	DDR2/3 CHANNEL B
17	DDR2/3 TERMINATION
18	ICH7 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
25	COM_LPT
26	CI,HWM,KB/MS,DUALBIOS
27	VT1708S

SHEET TITLE

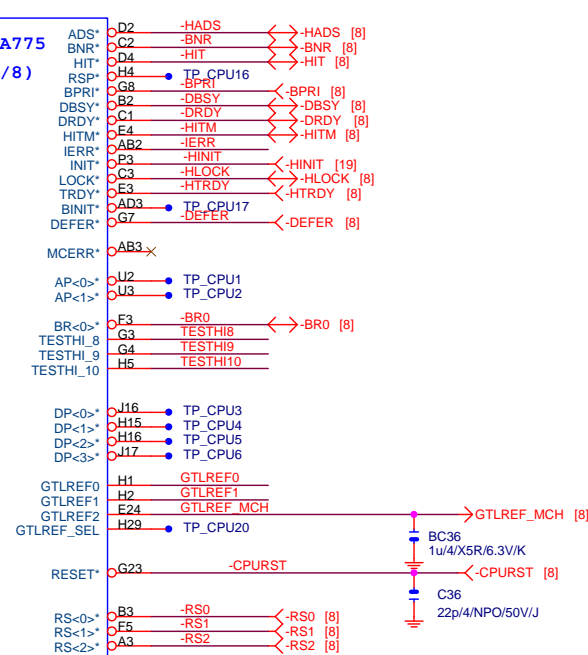
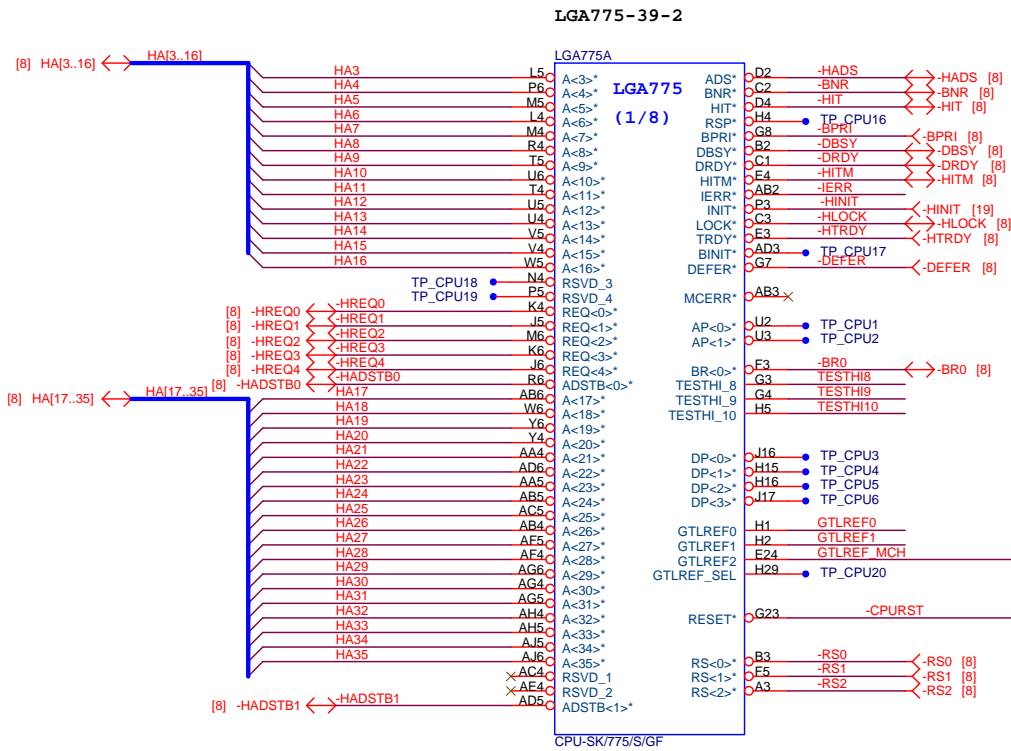
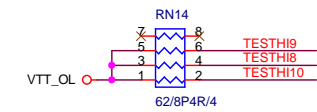
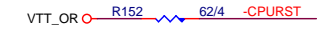
28	REAR AUDIO JACK
29	DISCRETE POWER
30	VCORE PWM_ISL6312
31	ATX, OTHERS POWER
32	FRONT PANEL
33	ATHEROS AR8151/8152

BLOCK DIAGRAM

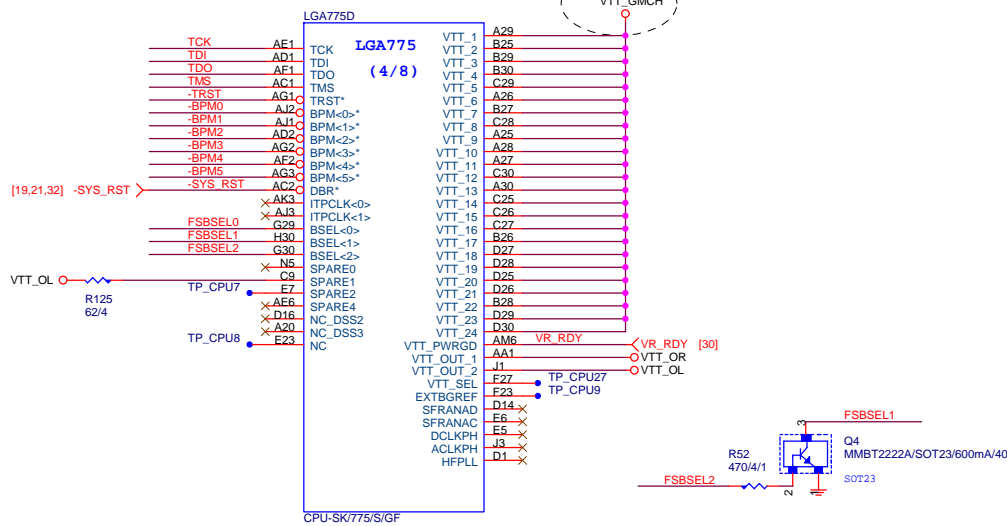
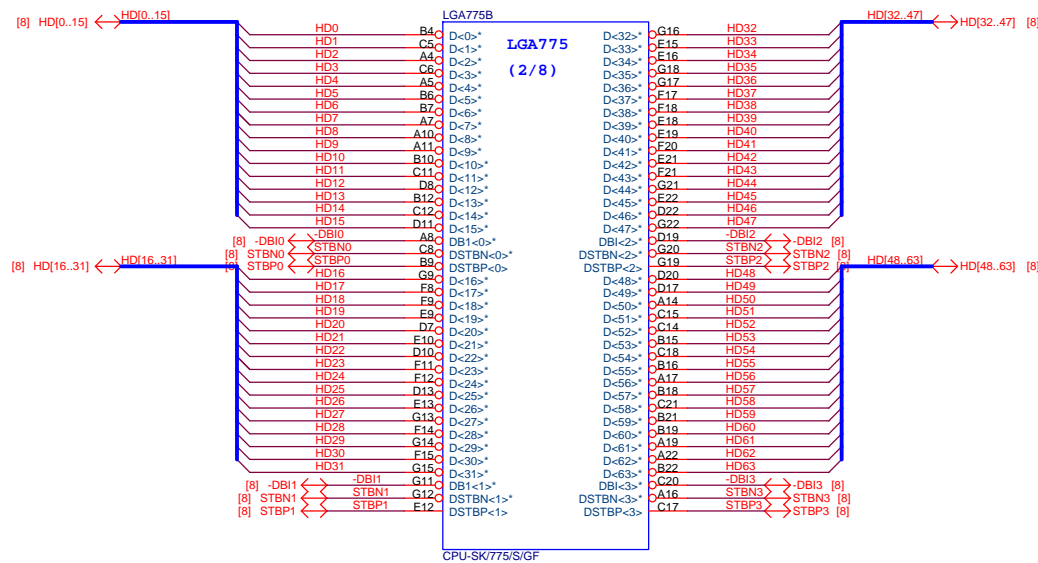




中間値0.9V

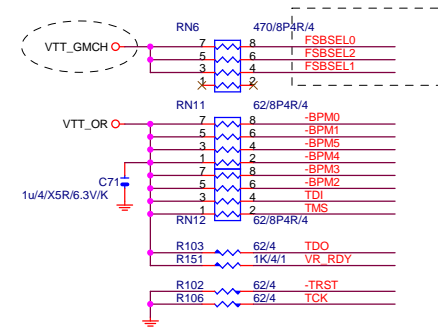


<i>Gigabyte Technology</i>				
P4_LGA775-A				
Size B	Document Number	GA-G41M-Combo		Rev 1.4
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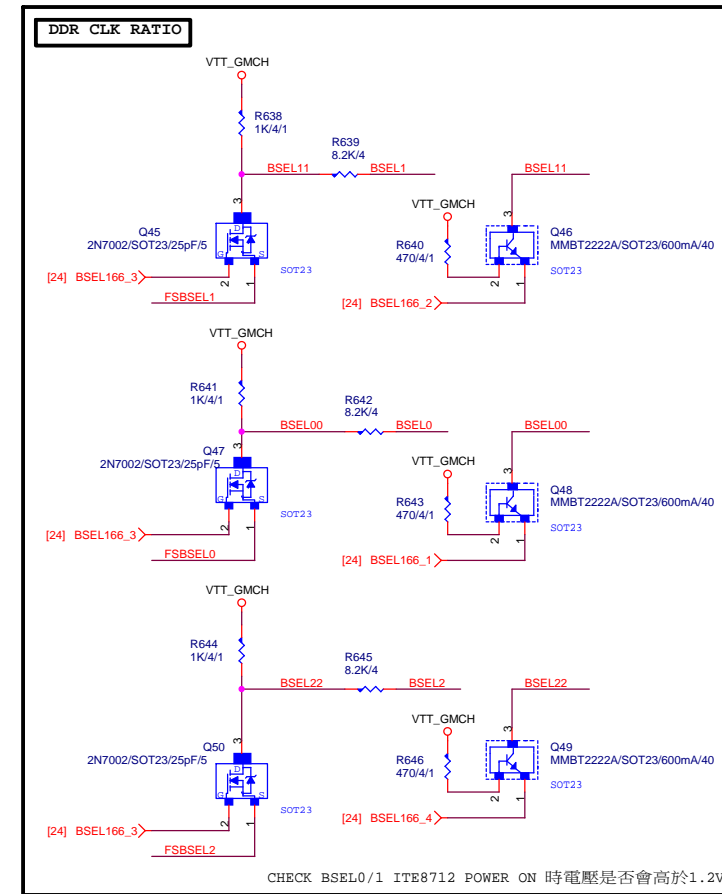


FIX FSB1600 LATCH FAIL

	FSA	FSB	FSC		
	FSBSEL0	FSBSEL1	FSBSEL2	Clock	
?	1	0	1	100MHz	
?	1	0	0	133MHz	3/4
G33	0	1	0	200MHz	400/533
G33	0	0	0	266MHz	400/533/667/800
G33	0	0	1	333MHz	533/667/800/1066
					667/800/1066/1333



TO CLK GEN [21] FSBSEL0 FSBSEL0 R54 8.2K/4X BSEL0 BSEL0 [11]
 [21] FSBSEL1 FSBSEL1 R51 8.2K/4X BSEL1 BSEL1 [11]
 [21] FSBSEL2 FSBSEL2 R53 8.2K/4X BSEL2 BSEL2 [11] TO NB



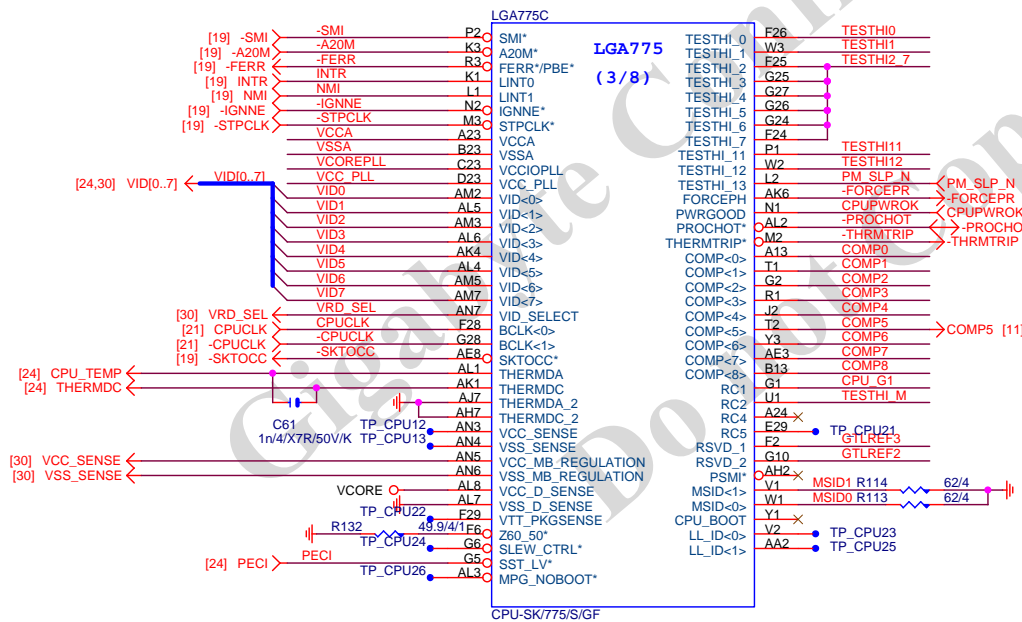
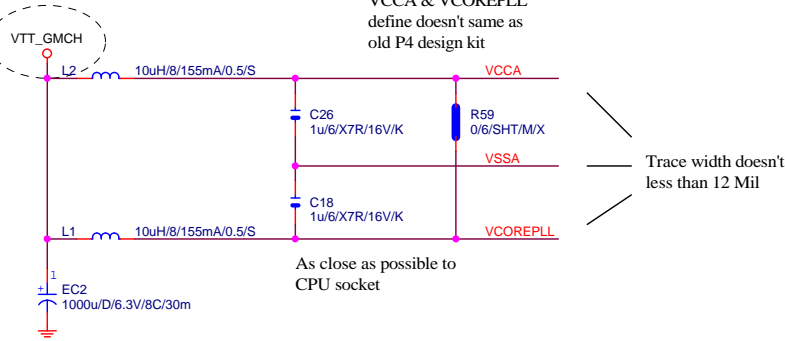
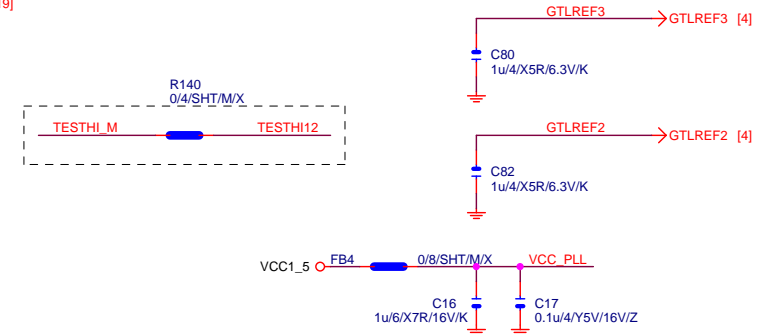
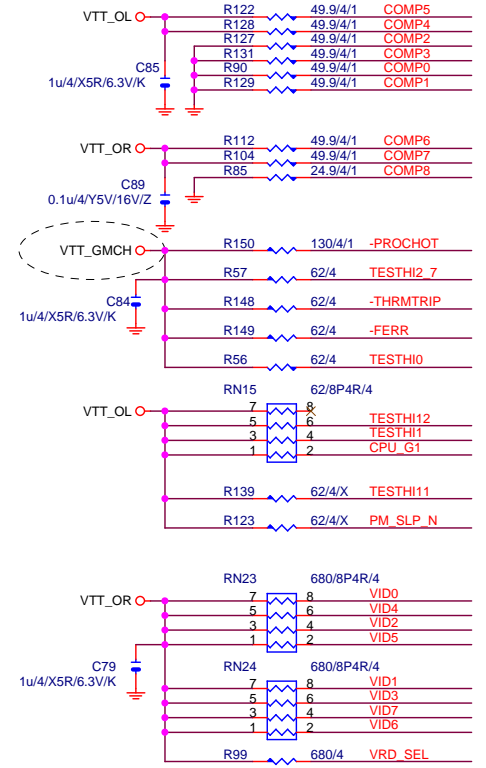
CHECK BSEL0/1 ITE8712 POWER ON 時電壓是否會高於1.2V

Gigabyte Technology

Title			P4_LGA775-B,D	
Size			GA-G41M-Combo	
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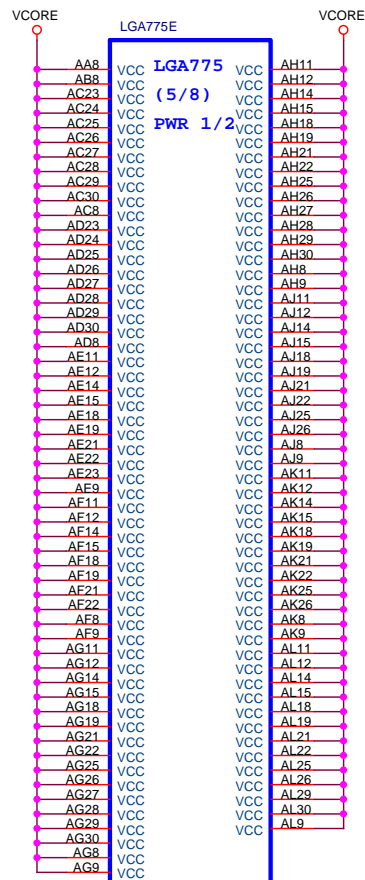
Note:

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

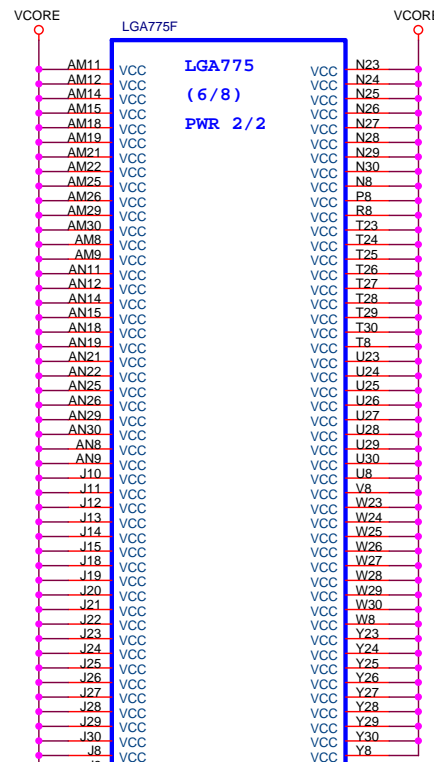
**Place outside of CPU socket****Gigabyte Technology**

Title			
P4_LGA775-C			
Size	Document Number	Rev	
B	GA-G41M-Combo	1.4	
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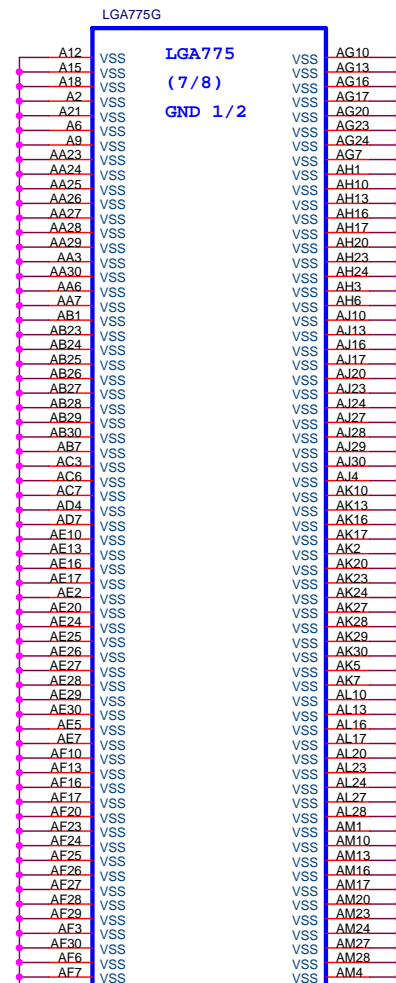
PECI:Platform Environment Control Interface



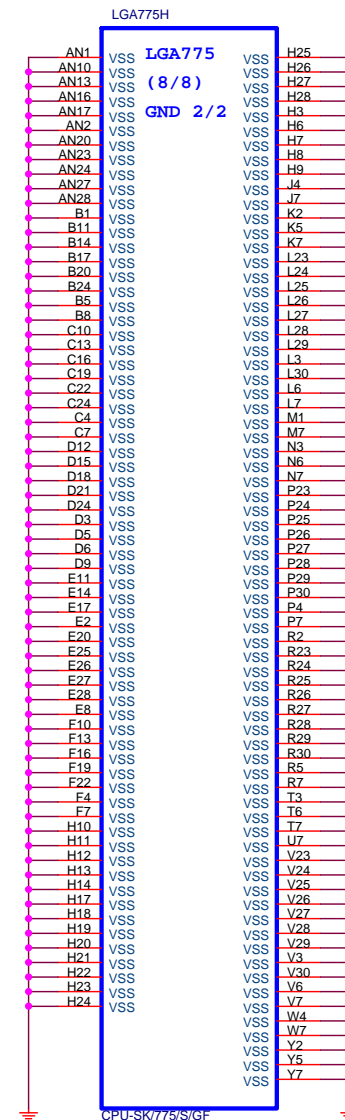
CPU-SK/775/S/GF



CPU-SK/775/S/GF



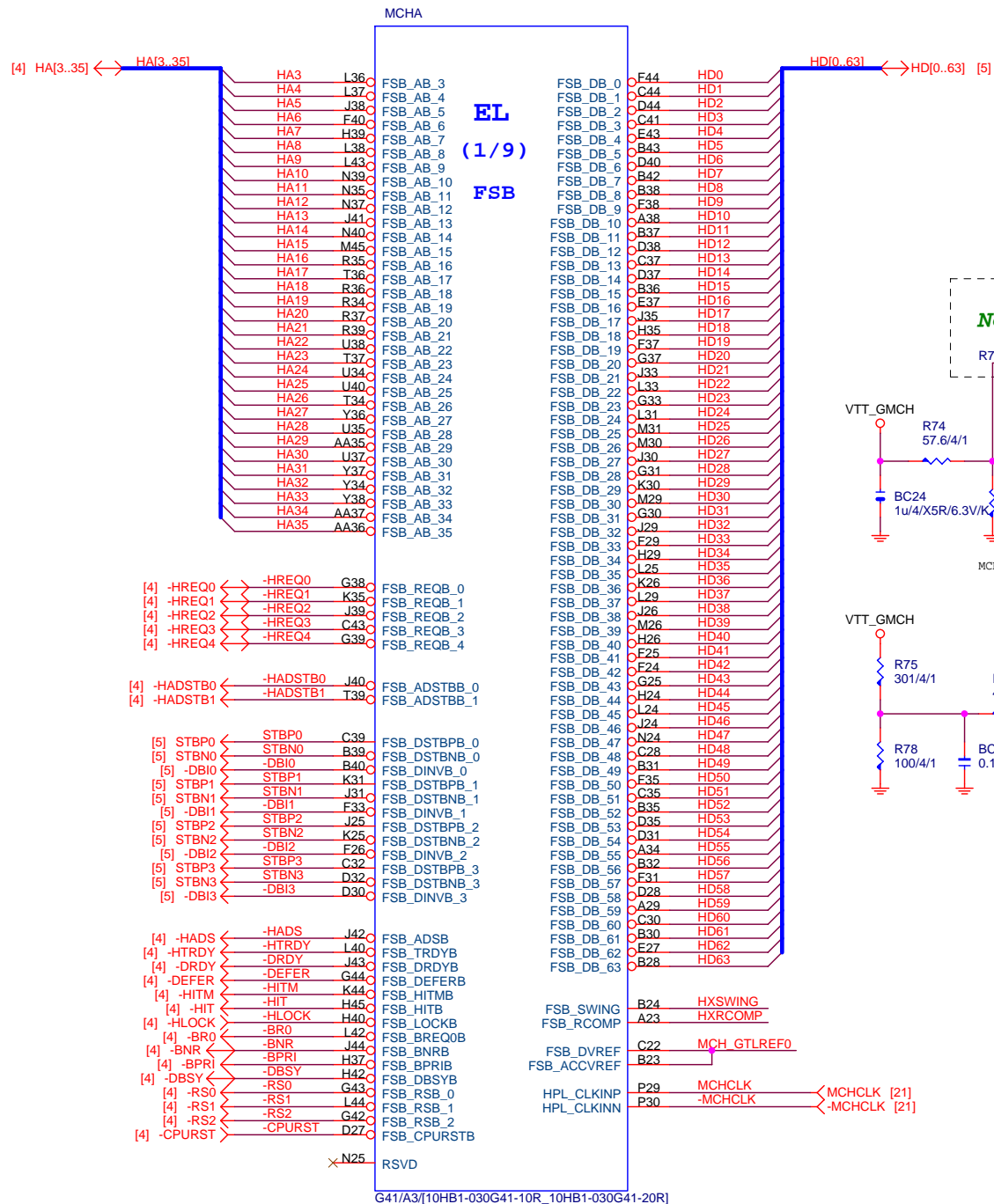
CPU-SK/775/S/GF



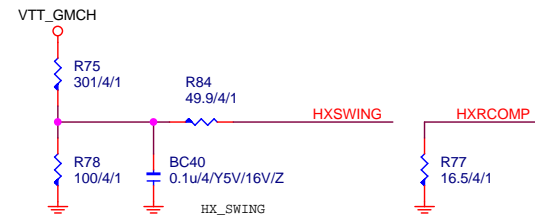
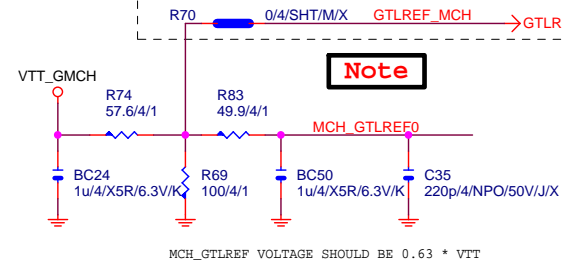
CPU-SK/775/S/GF

Gigabyte Technology

Title			P4_LGA775-E,F,G,H	
Size	Document Number		GA-G41M-Combo	
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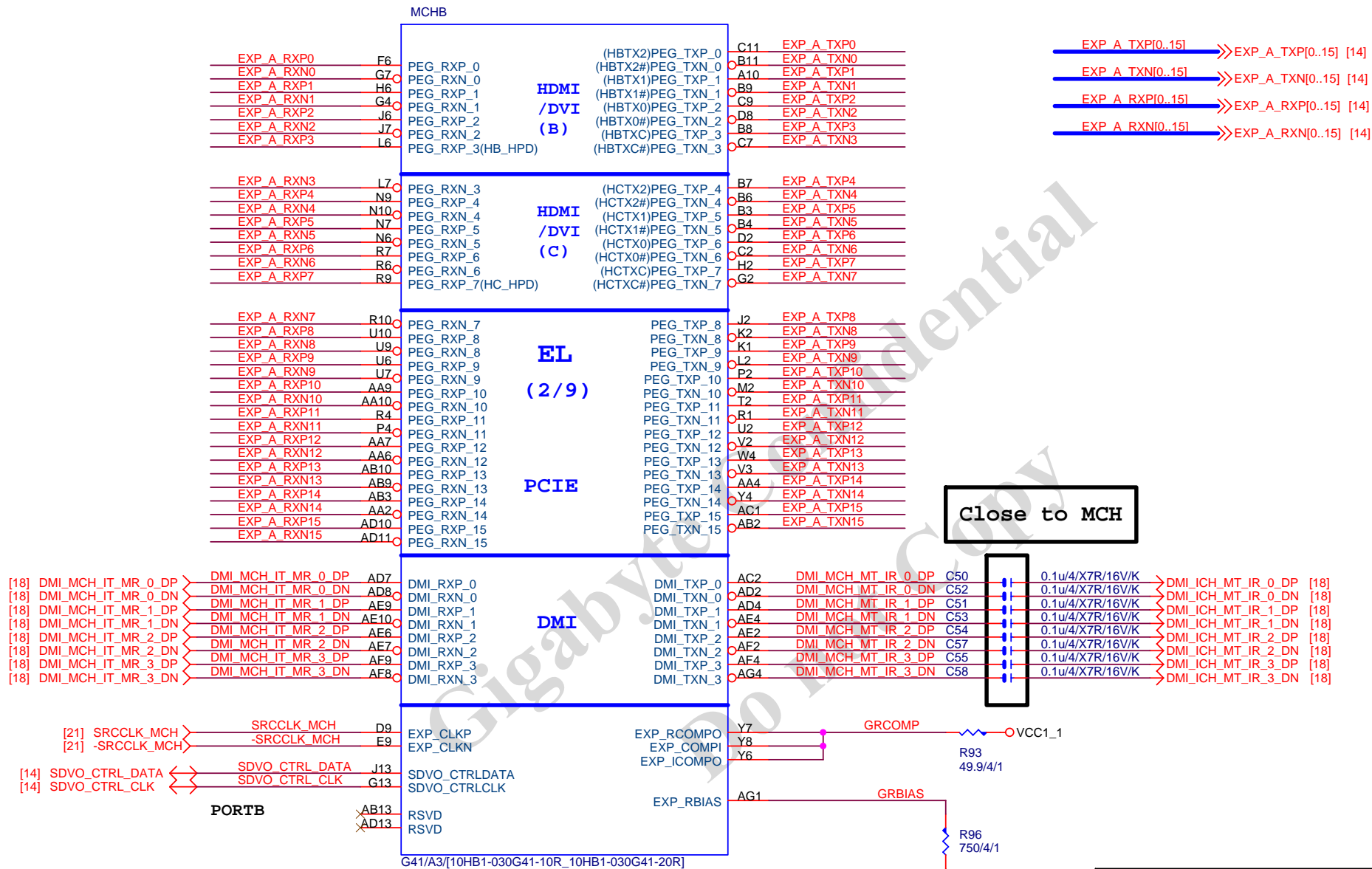


Not used for CoreTM2 Duo and Wolfdale



Gigabyte Technology

Title			
GMCH-HOST			
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Close to MCH

Gigabyte Technology

Title		
GMCH-PCI E & DMI		
Size	Document Number	Rev
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MCHH

A12	VSS	AK35
A15	VSS	AK38
A19	VSS	AK39
A27	VSS	AL38
A31	VSS	BB8
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	C16
AA38	VSS	C3
AA40	VSS	C5
AA44	VSS	D11
AB4	VSS	D16
AB6	VSS	D21
AB7	VSS	D25
AB8	VSS	D26
AB11	VSS	D38
AB12	VSS	D6
AB19	VSS	D7
AB21	VSS	E3
AB23	VSS	E31
AB25	VSS	E41
AB27	VSS	E5
AB34	VSS	F16
AB36	VSS	F2
AB39	VSS	F30
AC5	VSS	F4
AC20	VSS	F42
AC22	VSS	F45
AC24	VSS	F49
AC26	VSS	G11
AC45	VSS	G17
AD3	VSS	G24
AD6	VSS	G26
AD9	VSS	G29
AD12	VSS	G3
AD19	VSS	G35
AD21	VSS	H1
AD23	VSS	H11
AD25	VSS	H13
AD27	VSS	H15
AD34	VSS	H16
AD36	VSS	H20
AD39	VSS	H25
AE1	VSS	H30
AE8	VSS	H31
AE11	VSS	H33
AE20	VSS	H38
AE22	VSS	H44
AE24	VSS	H7
AE26	VSS	H8
AE34	VSS	H9
AE38	VSS	J3
AE40	VSS	J37
AE44	VSS	J4
AF6	VSS	J5
AF7	VSS	J8
AF10	VSS	J9
AF11	VSS	K11
AF12	VSS	K13
AF13	VSS	K17
AF33	VSS	K20
AF36	VSS	K24
AF39	VSS	K29
AG5	VSS	K33
AG19	VSS	K45
AG21	VSS	L10
AG23	VSS	L16
AG25	VSS	L20
AG27	VSS	U11
AG45	VSS	U12
AH2	VSS	U13
AH3	VSS	U16
AH4	VSS	U17
AJ20	VSS	U19
AJ22	VSS	U20
AJ24	VSS	U36
AJ26	VSS	U39
AJ36	VSS	U44
AJ39	VSS	U8
AJ44	VSS	W1
AJ45	VSS	W16
	VSS	W17
	VSS	A3
	VSS	A43
	VSS	A6
	VSS	B44
	VSS	BC1

G41/A3/[10HB1-030G41-10R_10HB1-030G41-20R]

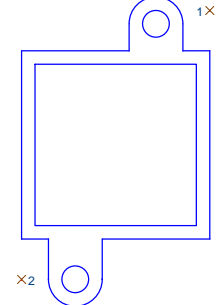
EL
(9/9)
GND

BA5	VSS	L26
BB21	VSS	L30
BB25	VSS	L35
BB28	VSS	L39
BB8	VSS	L4
BD12	VSS	L8
BD17	VSS	L9
BD8	VSS	M1
BE10	VSS	M24
BE15	VSS	M25
BE19	VSS	M44
BE22	VSS	N11
BE24	VSS	N13
BE29	VSS	N16
BE34	VSS	N26
BE40	VSS	N29
C16	VSS	N30
C3	VSS	N33
C5	VSS	N36
D11	VSS	N38
D16	VSS	N8
D21	VSS	P16
D25	VSS	P17
D26	VSS	P25
D38	VSS	P26
D6	VSS	P31
D7	VSS	R11
E3	VSS	R12
E31	VSS	R16
E41	VSS	R17
E5	VSS	R19
F16	VSS	R2
F2	VSS	R30
F30	VSS	R38
F4	VSS	R45
F42	VSS	R5
F45	VSS	R8
F49	VSS	T10
G11	VSS	T11
G17	VSS	T12
G24	VSS	T13
G26	VSS	T16
G29	VSS	T17
G3	VSS	T19
G35	VSS	T20
H1	VSS	T3
H11	VSS	T30
H13	VSS	T31
H15	VSS	T32
H16	VSS	T33
H20	VSS	T35
H25	VSS	T38
H30	VSS	T4
H31	VSS	T40
H33	VSS	T6
H38	VSS	T7
H44	VSS	T8
H7	VSS	T9
H8	VSS	U1
H9	VSS	W2
J3	VSS	W20
J37	VSS	W22
J4	VSS	W24
J5	VSS	W26
J8	VSS	W44
J9	VSS	W45
K11	VSS	W5
K13	VSS	Y10
K17	VSS	Y11
K20	VSS	Y12
K24	VSS	Y13
K29	VSS	Y16
K33	VSS	Y17
K45	VSS	Y19
L10	VSS	Y2
L16	VSS	Y21
L20	VSS	Y23
U11	VSS	Y26
U12	VSS	Y27
U13	VSS	Y3
U16	VSS	Y35
U17	VSS	Y39
U19	VSS	Y9
U20	VSS	BC45
U36	VSS	BD2
U39	VSS	BD44
U44	VSS	BE3
U8	VSS	BE43
W1	VSS	C1
W16	VSS	C45
W17	VSS	BD43
A3	VSS	
A43	VSS	
A6	VSS	
B44	VSS	
BC1	VSS	

G41/A3/[10HB1-030G41-10R_10HB1-030G41-20R]



NB_HEATSIN



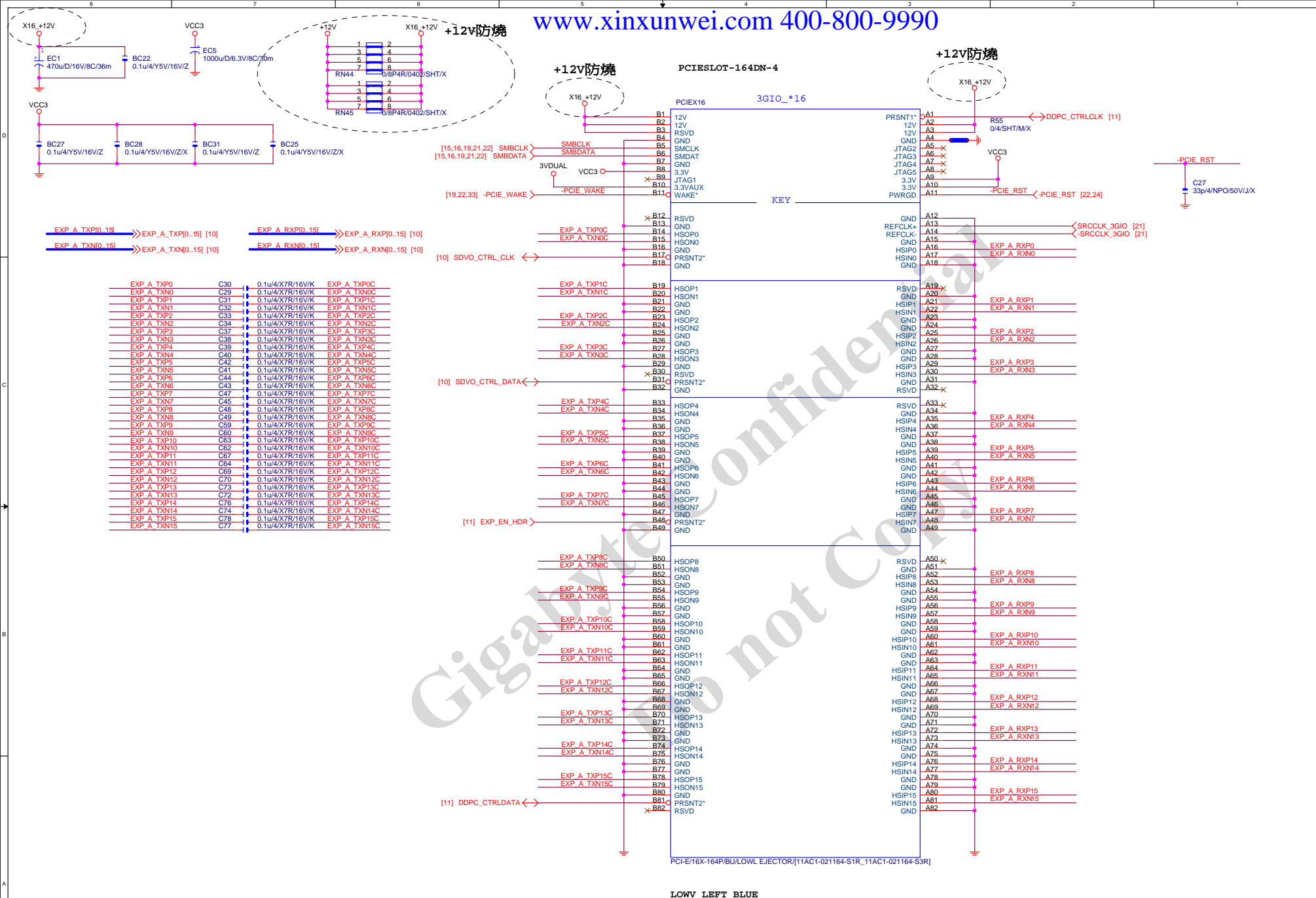
NB_HS

NB_HEATSINK[12SP2-04A004-42R_12SP2-04A004-43R]

BGASINK445A-L GRAY 20MM

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Title			GMCH-GND
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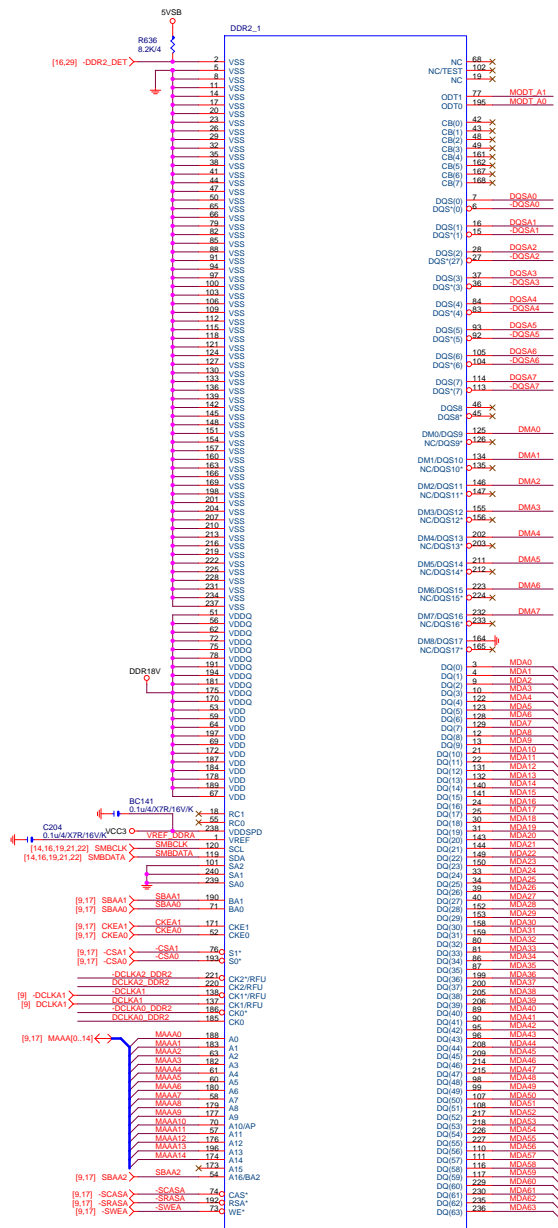
LOWV LEFT BLUE

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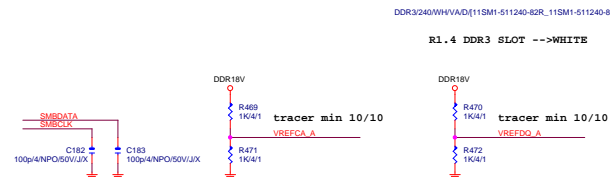
PCI EXPRESS * 16

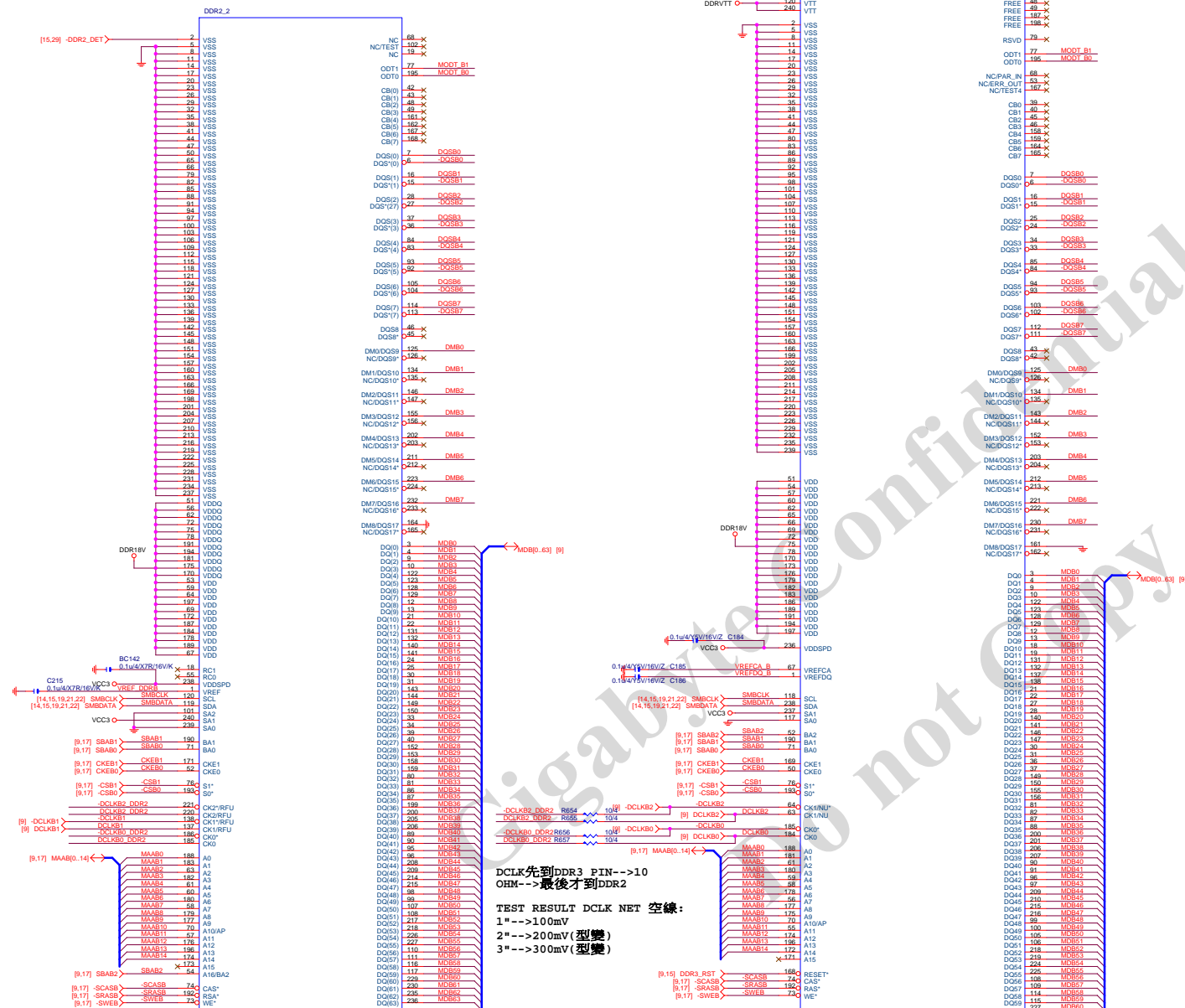
Size Custom Document Number **GA-G41M-Combo** Rev 1.41

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DR2/240/BL/VA/D/[11SM1-510240-P2R_11SM1-510240-P4R]





DCLK先到DDR3 PIN-->10

OHM-->最後才到DDR2

TEST RESULT DCLK NET 空線:

1" --> 100mV

2"--->200mV(型變)

3" --> 300mV (型變)

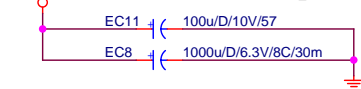
TEST RESULT DCLK NET 空線ADD 10 OHM:

3"--->100mV(未型)

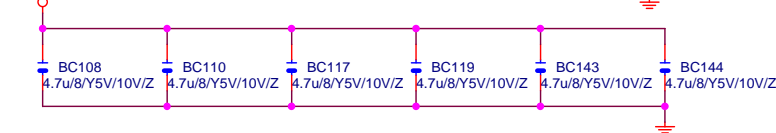


DDR TERMINATION CHANNEL A

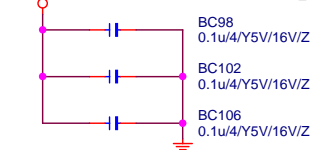
DDR18V Decouple



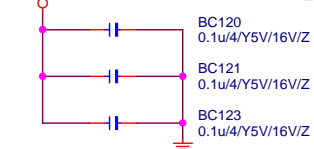
DDRVTT Decouple



DDR18V Decouple



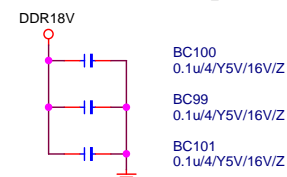
DDRVTT Decouple



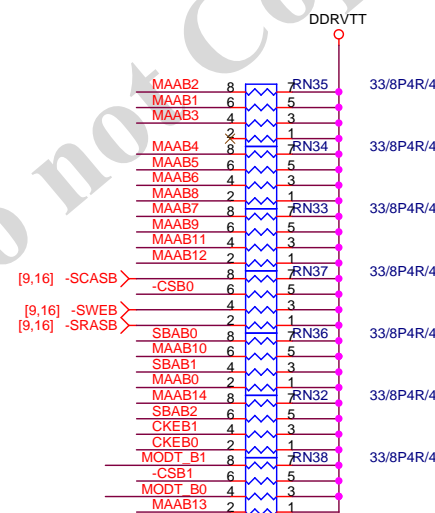
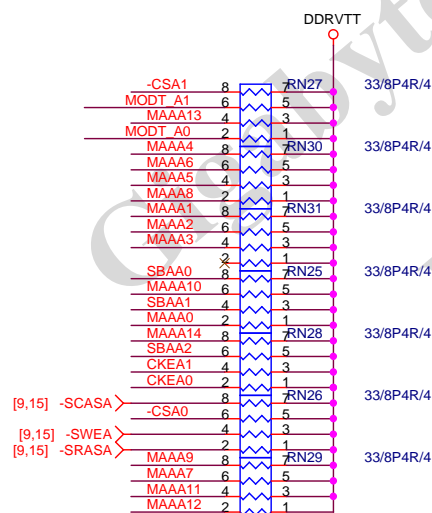
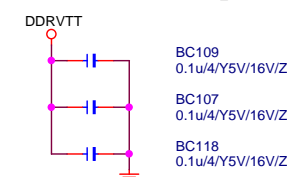
SBAA[0..2] < SBAA[0..2] [9,15]
 -CSA[0..1] < -CSA[0..1] [9,15]
 CKEA[0..1] < CKEA[0..1] [9,15]
 MAAA[0..14] < MAAA[0..14] [9,15]
 MODT_A[0..1] < MODT_A[0..1] [9,15]
 MODT_B[0..1] < MODT_B[0..1] [9,16]
 SBAB[0..2] < SBAB[0..2] [9,16]
 -CSB[0..1] < -CSB[0..1] [9,16]
 CKEB[0..1] < CKEB[0..1] [9,16]
 MAAB[0..14] < MAAB[0..14] [9,16]

DDR TERMINATION CHANNEL B

DDR18V Decouple



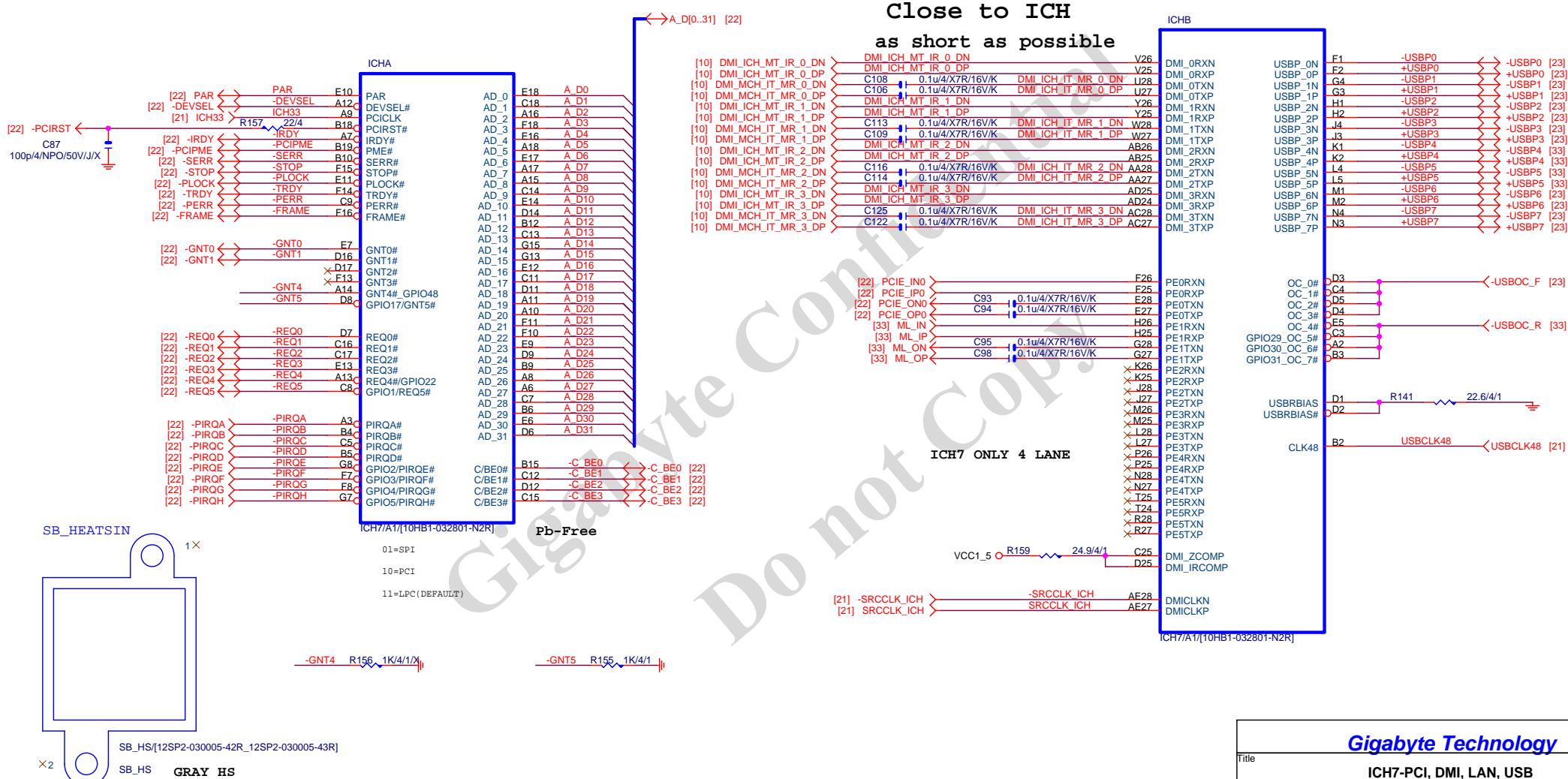
DDRVTT Decouple

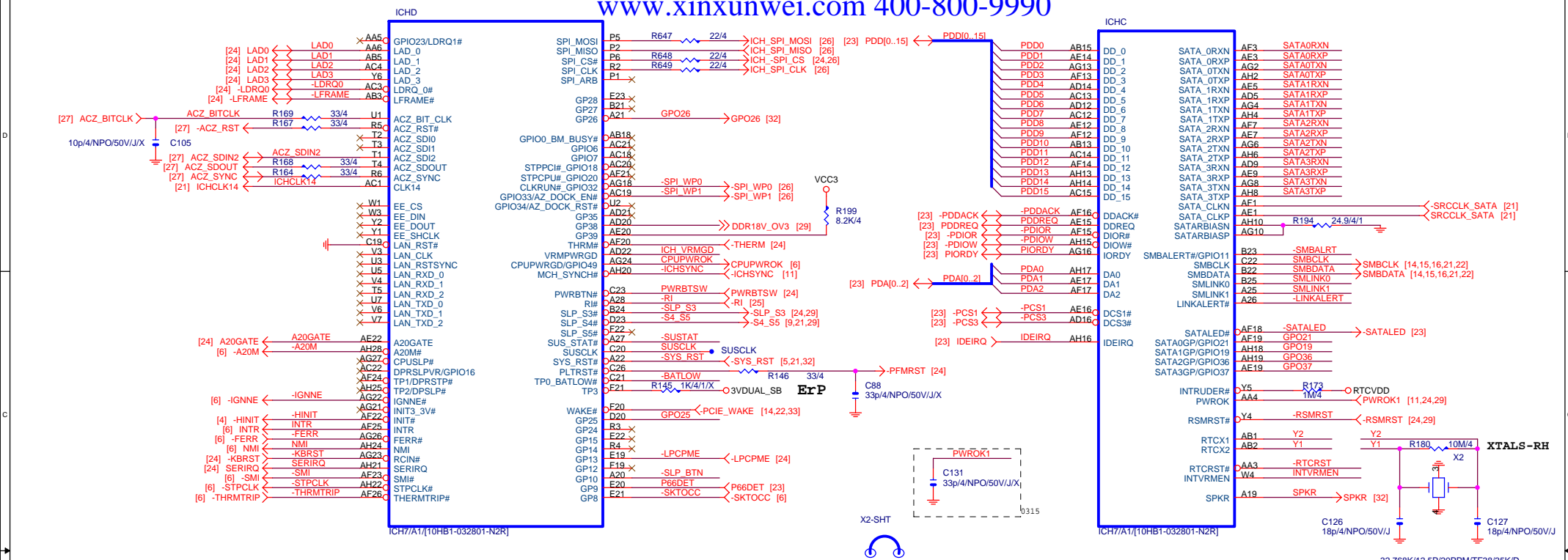


[9,15] -SCASA < -SCASA[0..1] [9,15]
 [9,15] -SWEA < -SWEA[0..1] [9,15]
 [9,15] -SRASA < -SRASA[0..1] [9,15]

Gigabyte Technology

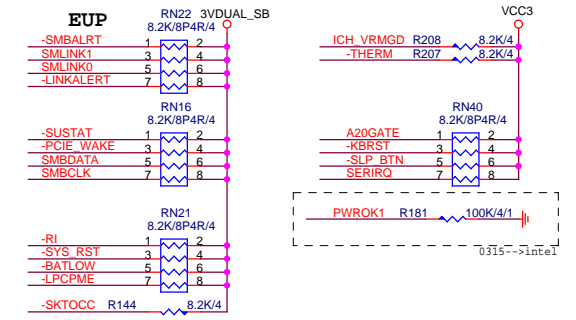
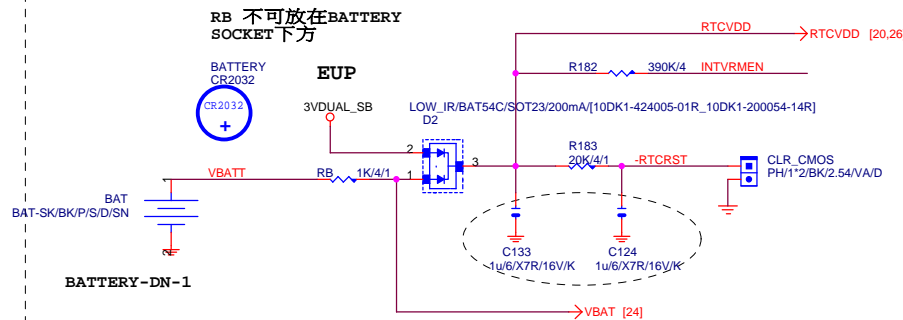
Title			DDRII TERMINATOR
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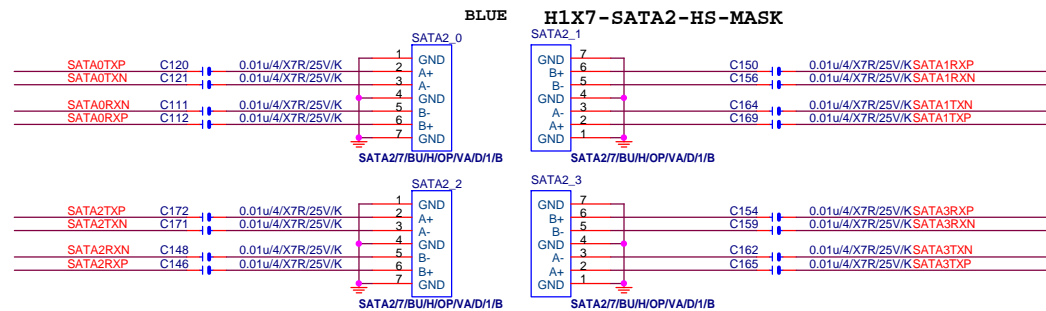
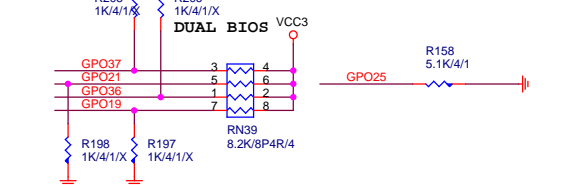


NEW TYPE:BATTERY-DUAL-4

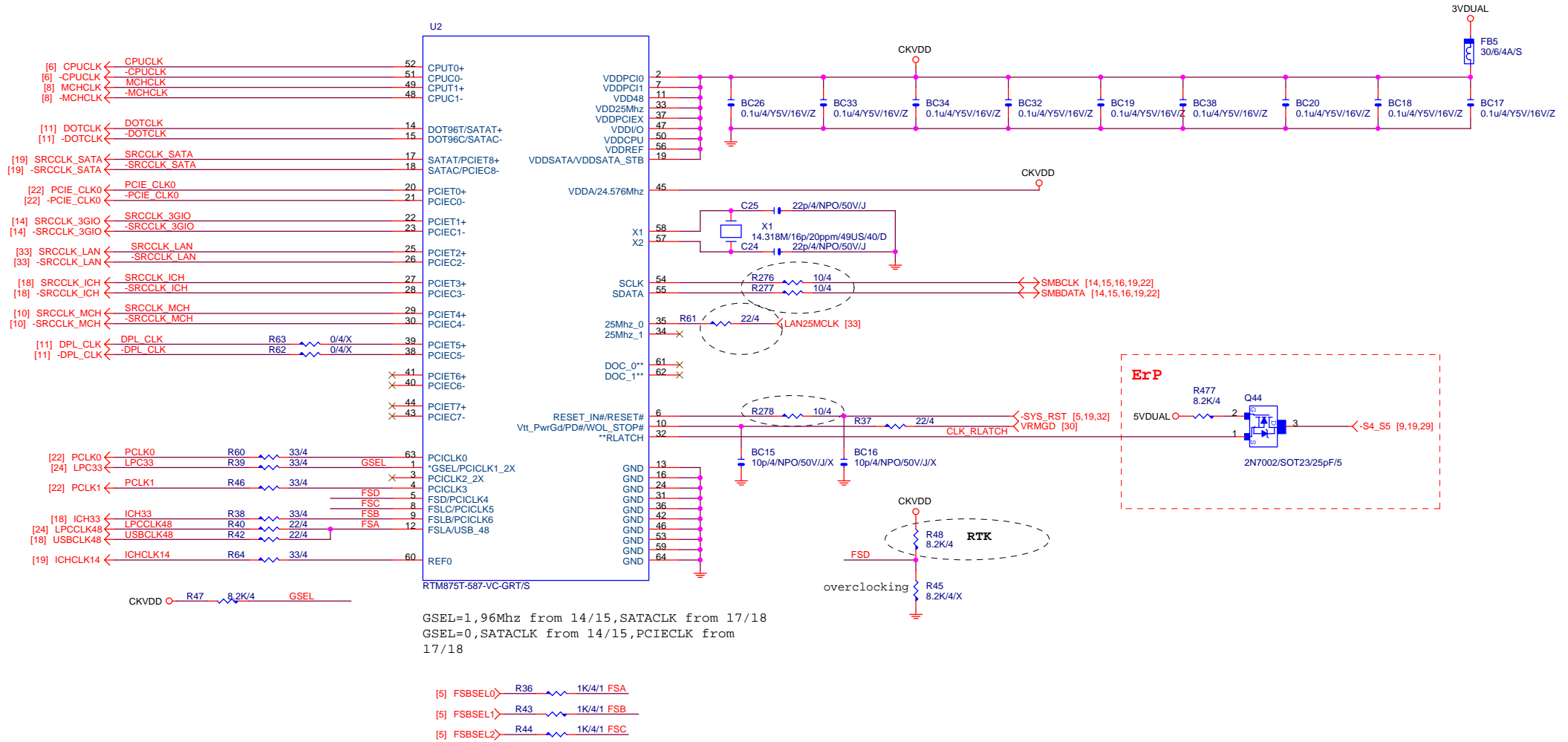
SHW/D0.64*5.08*6.74



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

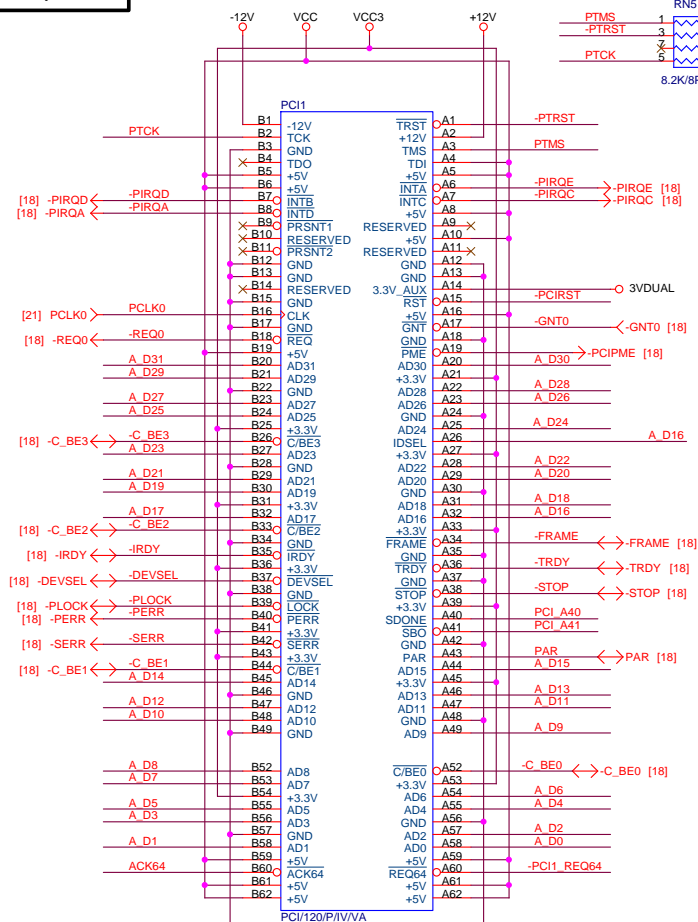




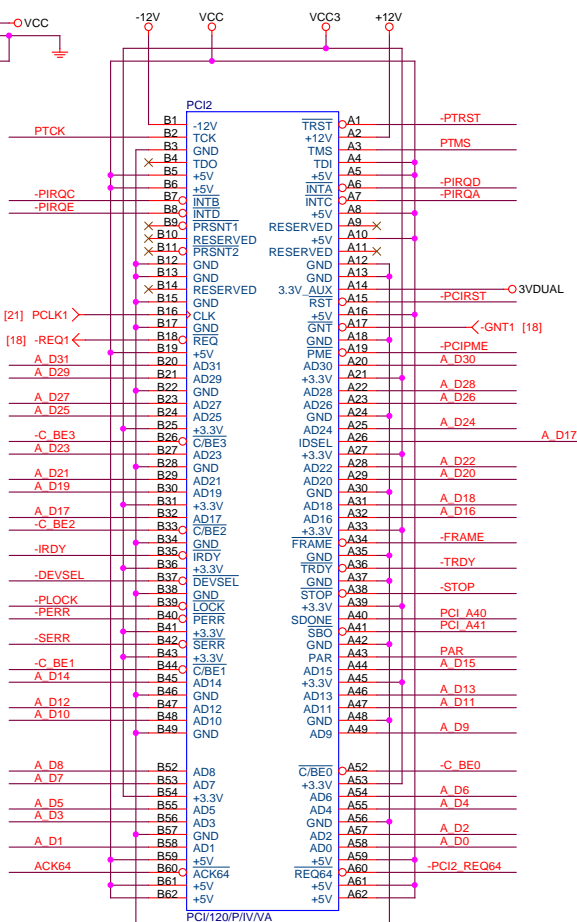


PCI1,2 SLOT

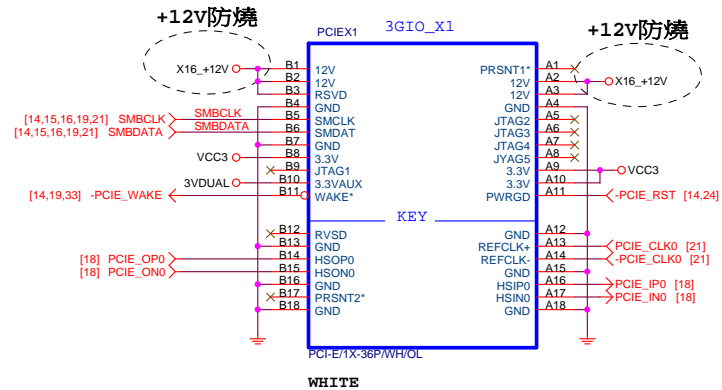
PCI1*1



AD_16/-PIRQ(E-D-C-A)/-REQ0/-GNT0



AD_17/-PIRQ(D-C-A-E)/-REQ1/-GNT1



[18] A_D[0..31] ↔ A_D[0..31]

-PCIRST ↔ -PCIRST [18]

Place close to PCI1

[18] -REQ4 ↔ -REQ4
[18] -REQ3 ↔ -REQ3
[18] -REQ1 ↔ -REQ1
[18] -REQ2 ↔ -REQ2

[18] -REQ0 ↔ -REQ0
[18] PAR ↔ PAR
[18] -REQ5 ↔ -REQ5

VCC ↔ VCC
-PC12 REQ64
-PC11 REQ64

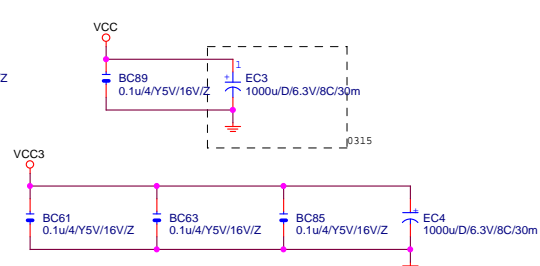
-DEVSEL ↔ -DEVSEL
-TRDY ↔ -TRDY
-FRAME ↔ -FRAME

-SERR ↔ -SERR
-PERR ↔ -PERR
-PLOCK ↔ -PLOCK
-STOP ↔ -STOP

[18] -PIRQA ↔ -PIRQA
[18] -PIRQD ↔ -PIRQD
[18] -PIRQC ↔ -PIRQC
[18] -PIRQB ↔ -PIRQB

[18] -PIRQE ↔ -PIRQE
[18] -PIRQF ↔ -PIRQF
[18] -PIRQH ↔ -PIRQH
[18] -PIRQG ↔ -PIRQG

+12V
BC21
0.1u/4/Y5V/16V/Z



Gigabyte Technology

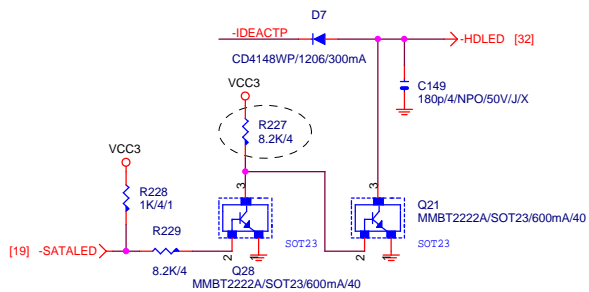
PCI SLOT 1, 2/PCIEX1

GA-G41M-Combo

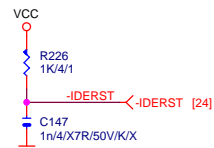
Rev 1.41

Title				PCI SLOT 1, 2/PCIEX1			
Size	Custom	Document Number				Rev	
		GA-G41M-Combo				1.4	
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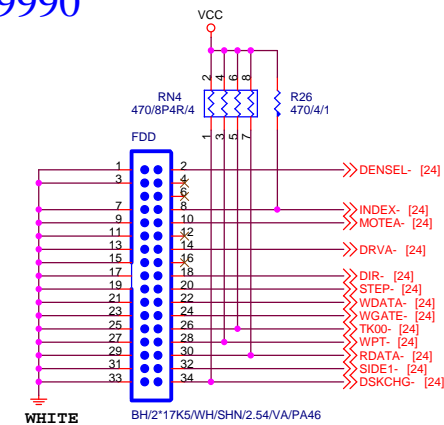
IDE/SATA LED



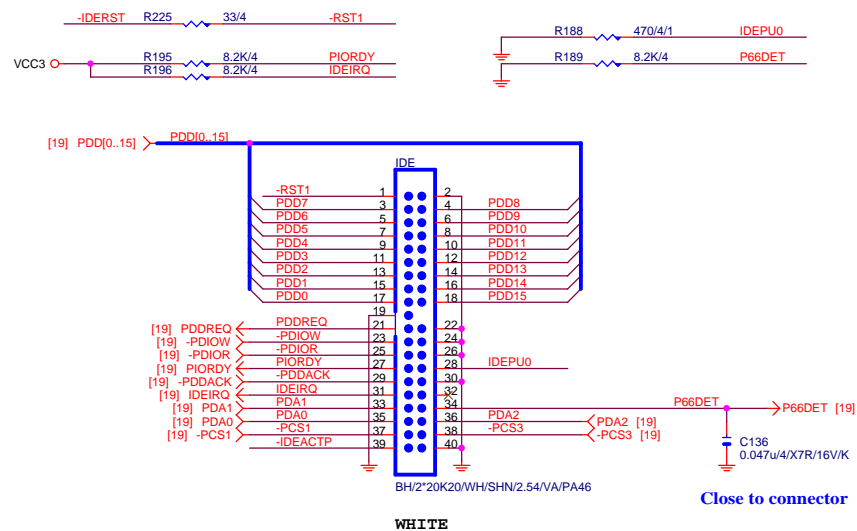
IDE RESET



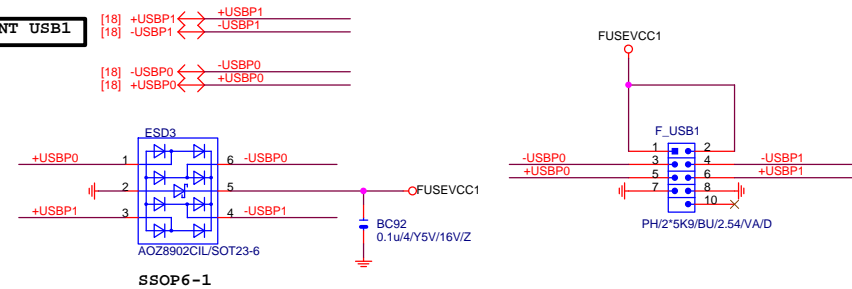
FLOPPY



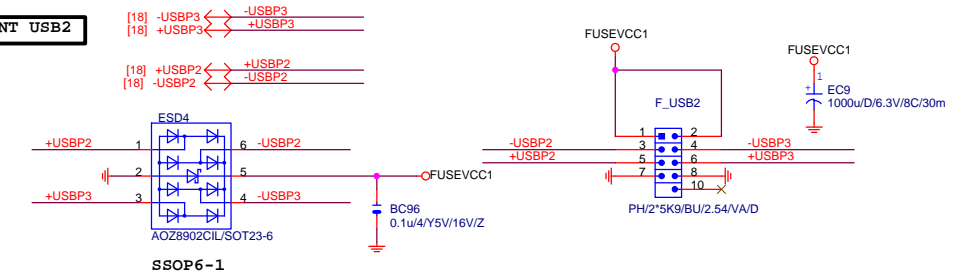
IDE



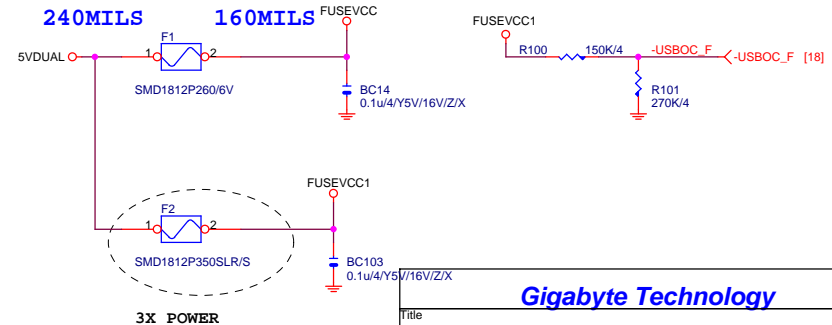
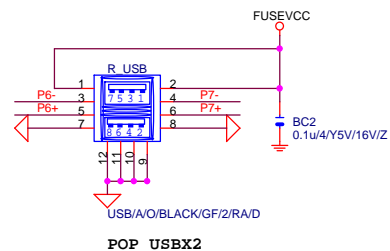
FRONT USB1



FRONT USB2



[18] -USBP7 <- -USBP7
 [18] +USBP7 <- +USBP7
 [18] -USBP6 <- -USBP6
 [18] +USBP6 <- +USBP6



Gigabyte Technology

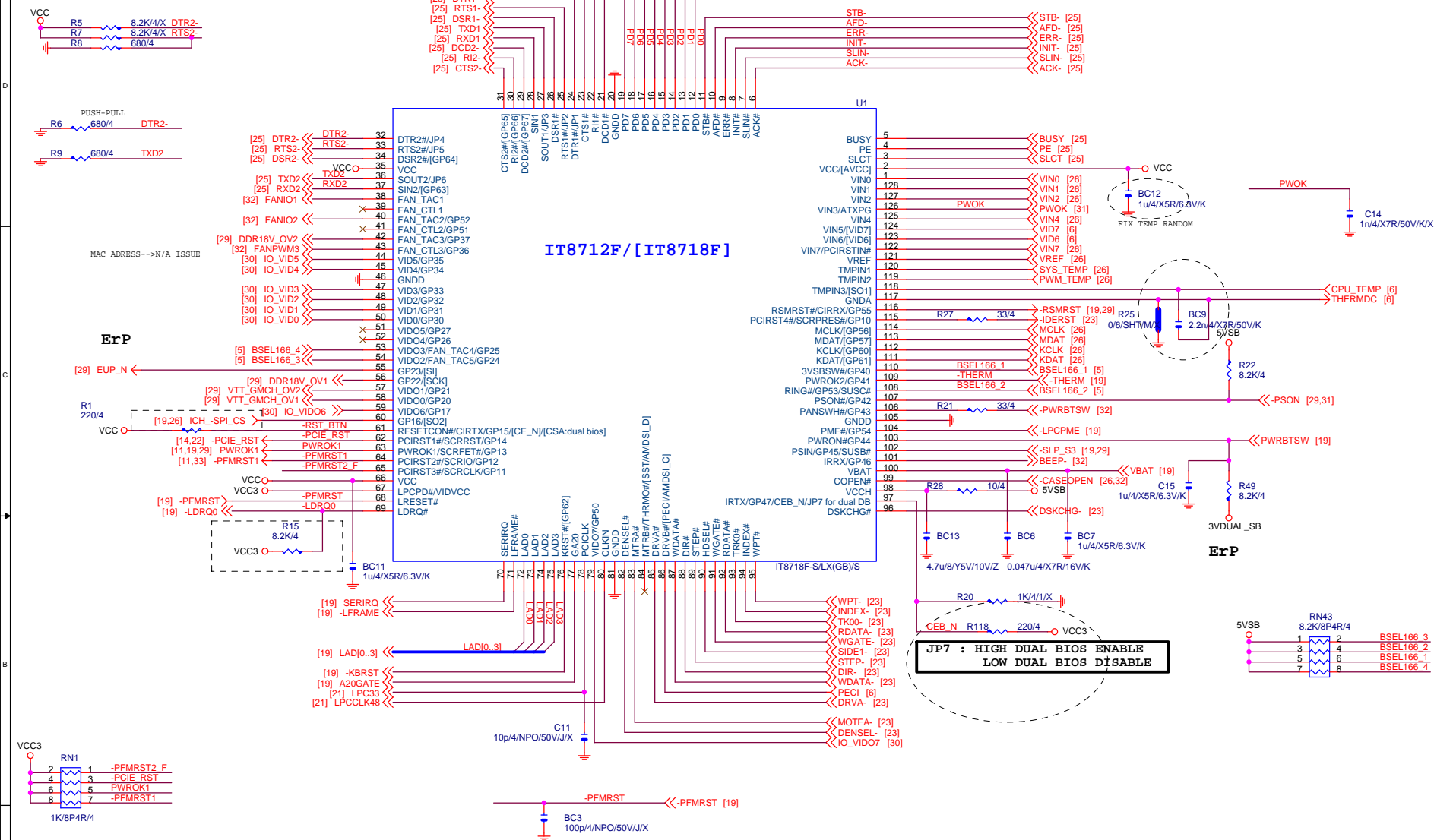
IDE,FDD,F_USB,R_USB

GA-G41M-Combo

Rev 1.41

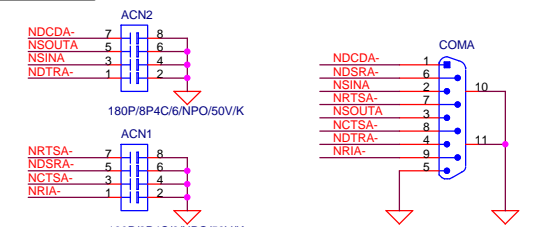
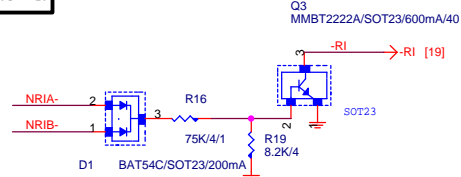
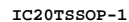
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RTS2- ==LOW CPU FAN 50%
 ==HIGH 100%
DEFAULT 50%



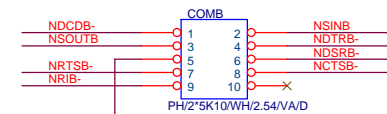
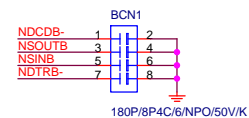
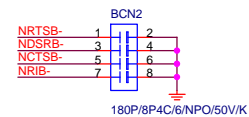
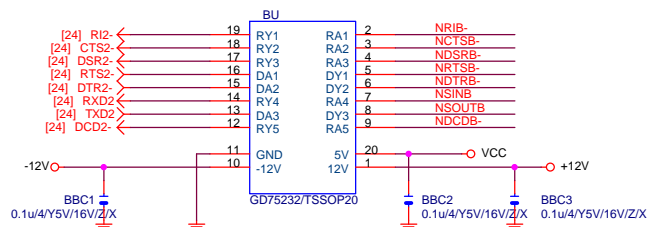
Gigabyte Technology

Title				ITE 8712/18 LPC IO		Rev
Size B		Document Number GA-G41M-Combo				
Date:		Tuesday, September 13, 2011		Sheet 24 of 33		1.4

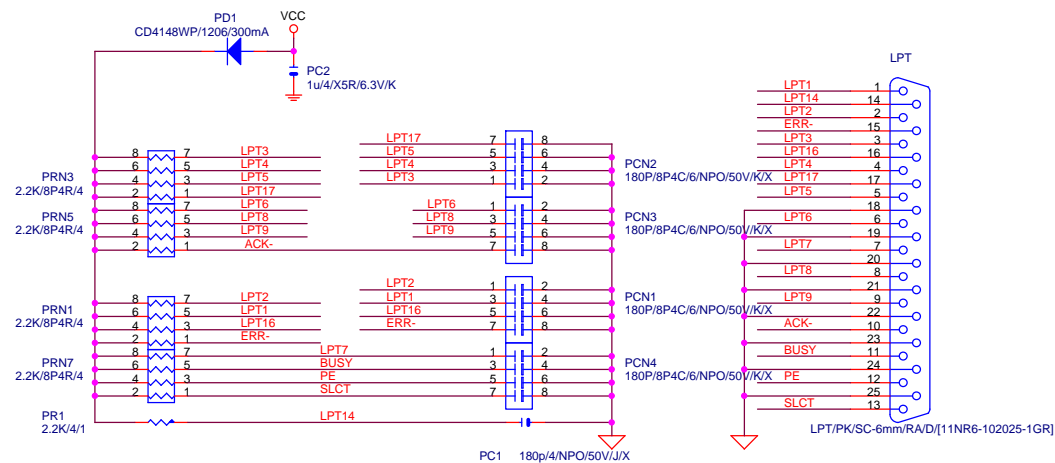
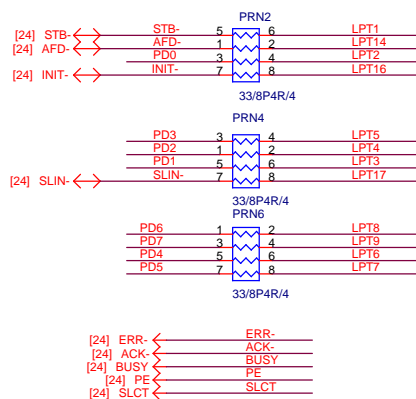


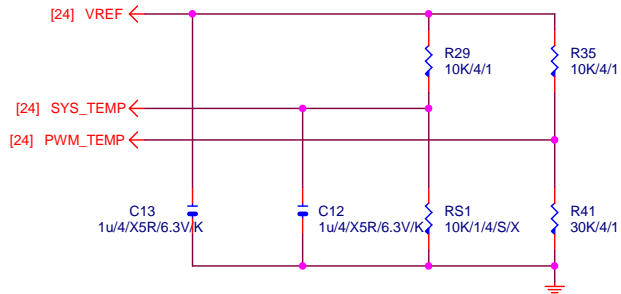
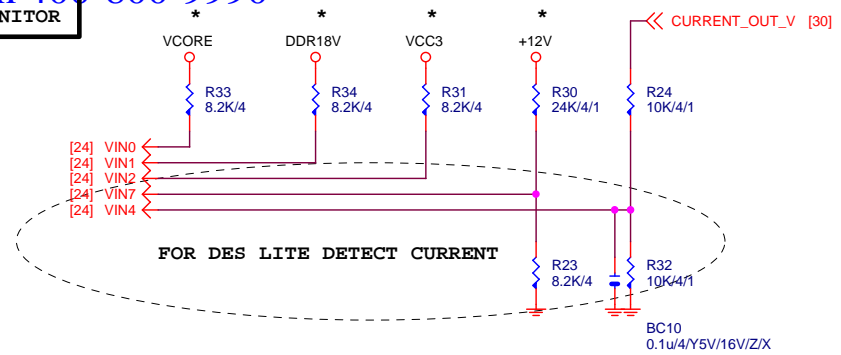
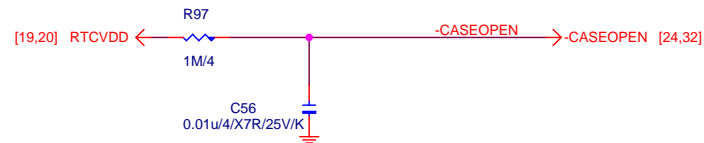
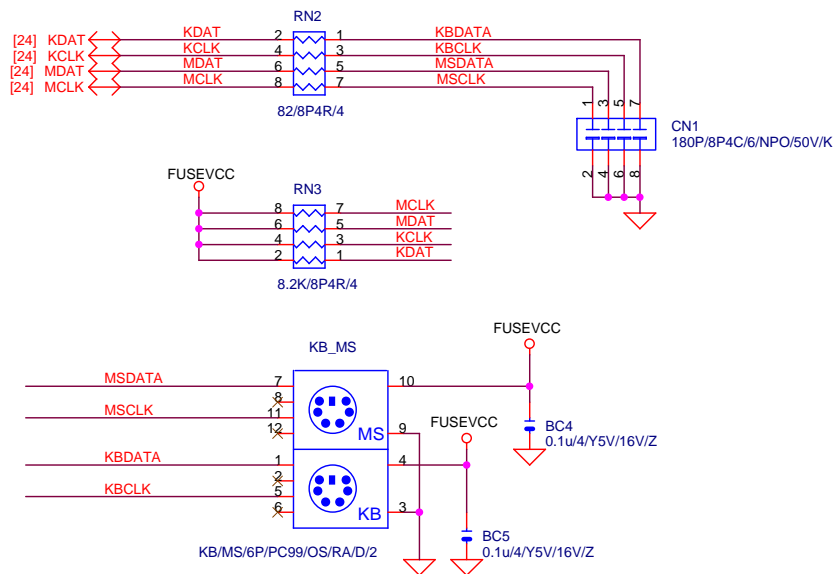
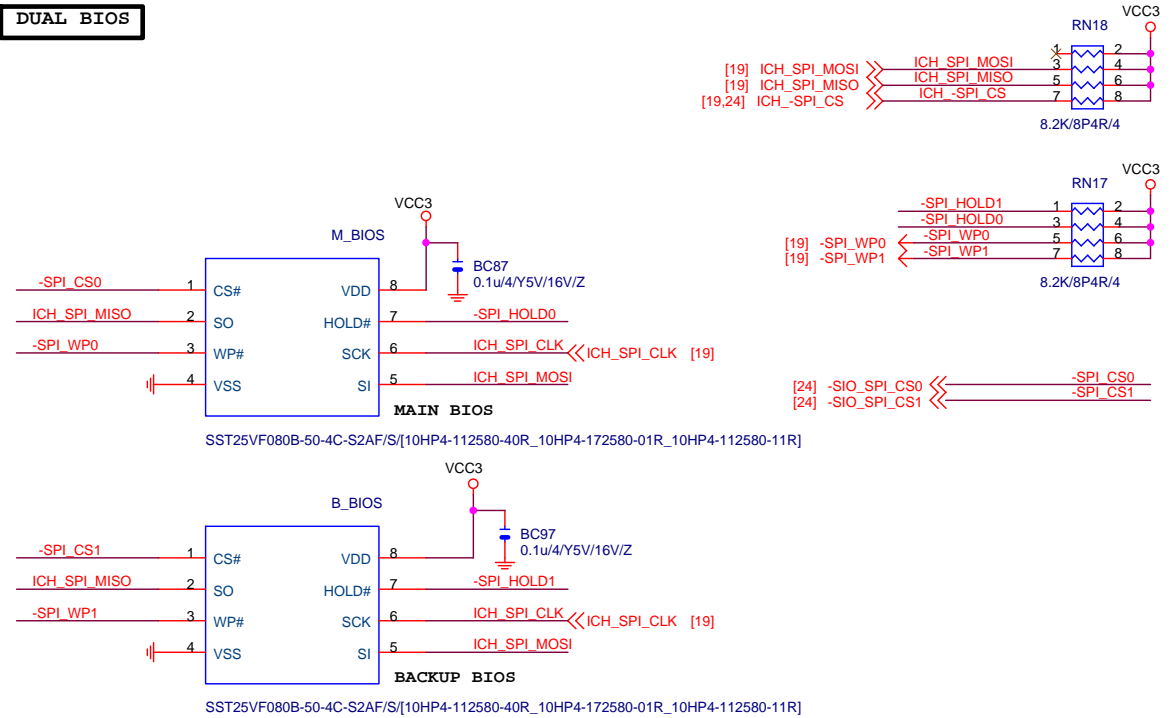
PLACE NEAR COM CONNECTOR

COM/GE/SC-6mm/RA/1/D/[11NR6-111009-1JR]



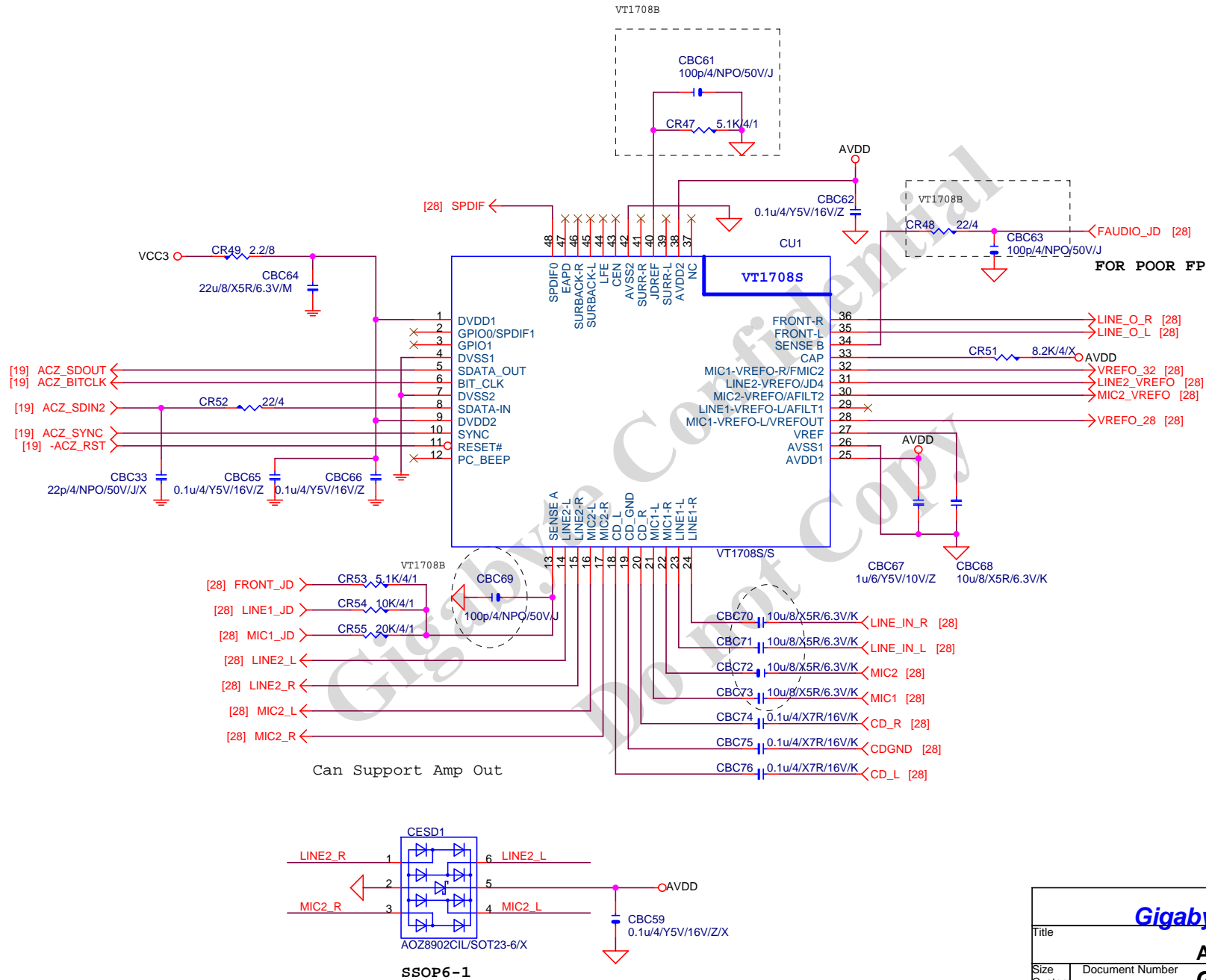
[24] PD[0..7] \longleftrightarrow PD[0..7]



TEMP H/W MONITOR**VOLTAGE-- H/W MONITOR****CASE OPEN****Case Open Circuits****KB/MS****DUAL BIOS****Gigabyte Technology**

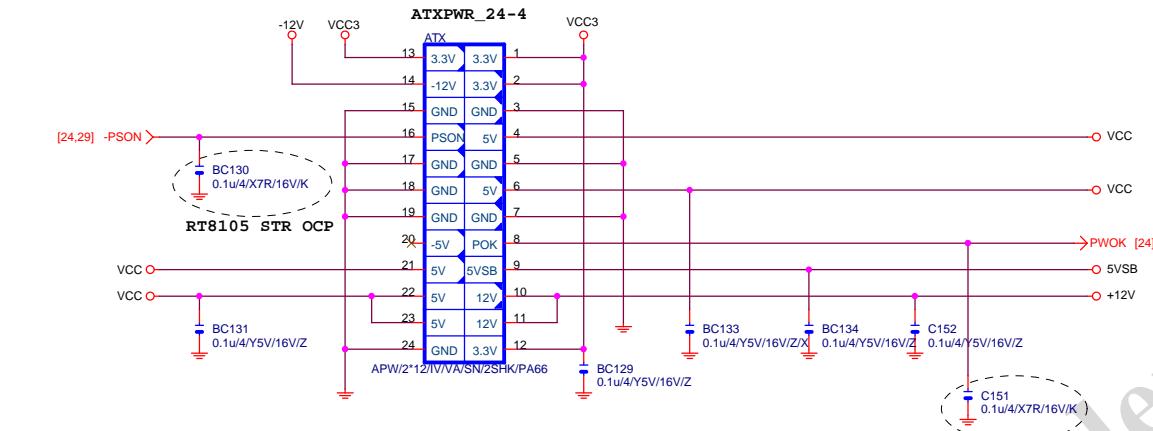
Title			HW-MONITOR/CI/KB/MS/BIOS	
Size	Document Number	GA-G41M-Combo		Rev
Custom				1.41
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AZALIA CODEC

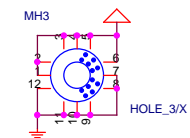
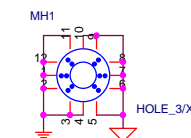
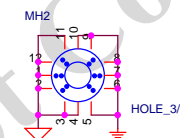
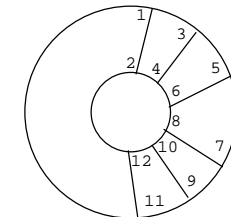
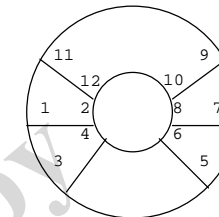
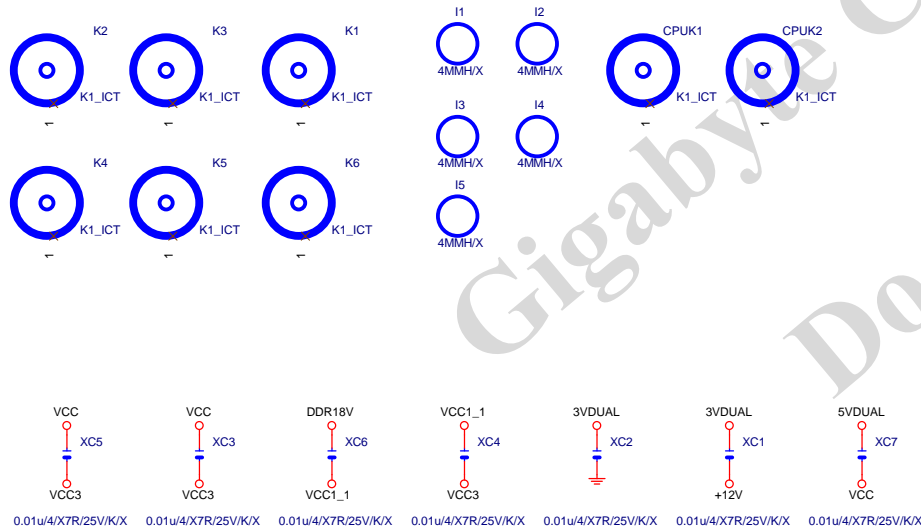
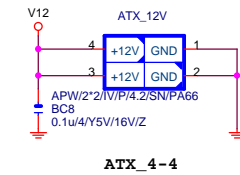
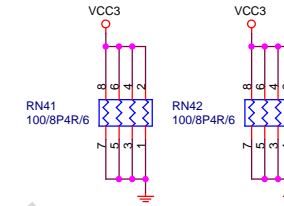


Gigabyte Technology			
Title			
AZALIA VT1708S			
Size	Document Number	Rev	
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ATX POWER CONNECTOR

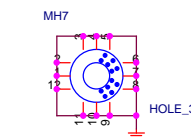
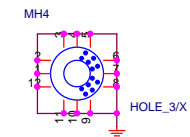
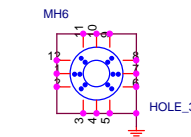
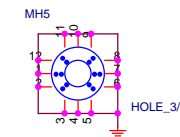


FIX PWR AcBel(ATX-400C-A2ADB)



HOLE_4-RH-1

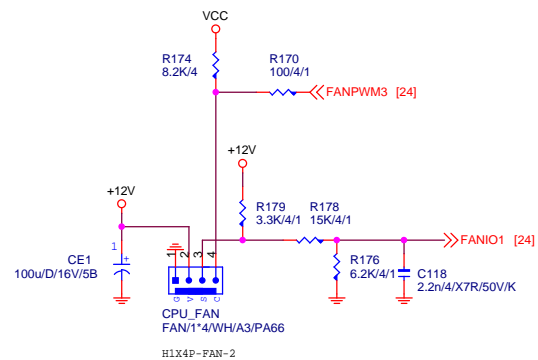
HOLE_4-RH-5MM-1



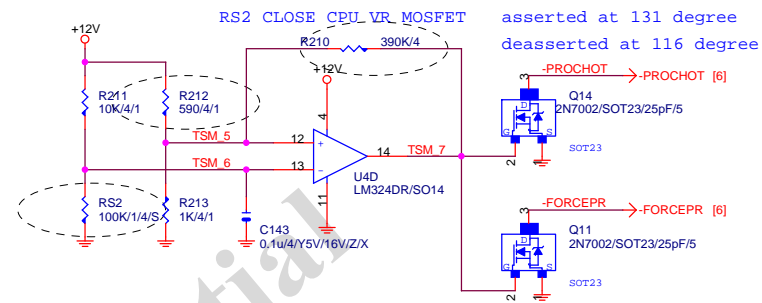
HOLE_4-RH-5MM-1

Gigabyte Technology			
Title			
ATX POWER CONNECTOR			
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	2	1	

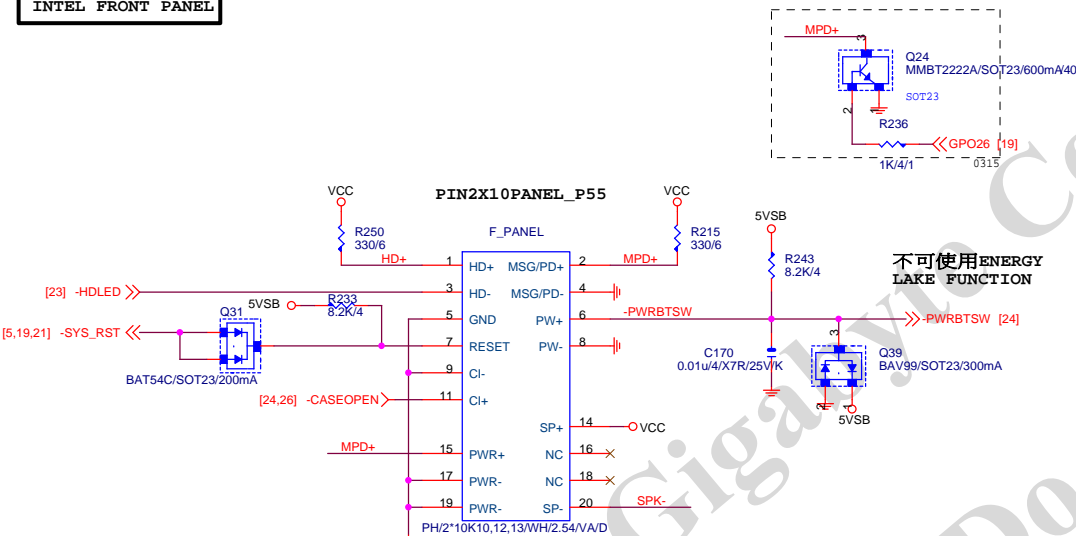
CPU SMART FAN SMART FAN



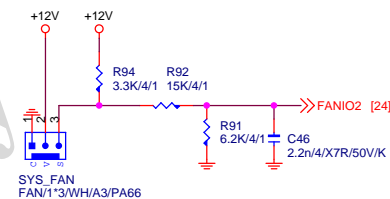
PROCESSOR HOT



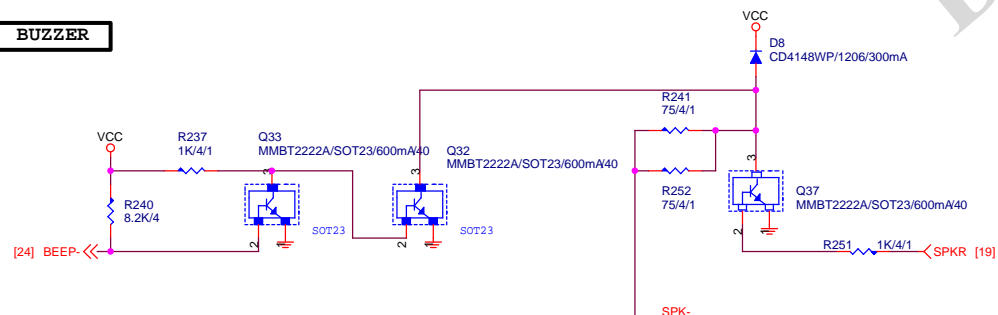
INTEL FRONT PANEL



SYS_FAN



BUZZER

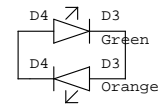


Gigabyte Technology

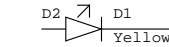
Title			FRONT PANEL
Size	Document Number		GA-G41M-Combo
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CHOK4U7-500MA-1

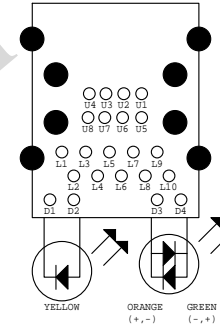
Dual Color LED



Single Color LED



P35-152-19W9

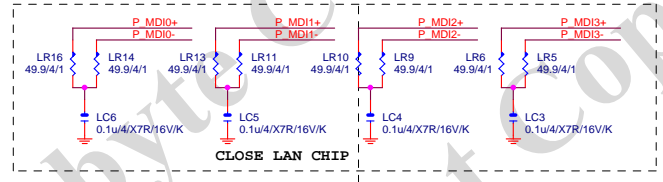


LED0(ACT) LED1(LINK) LED2(LINK1G)

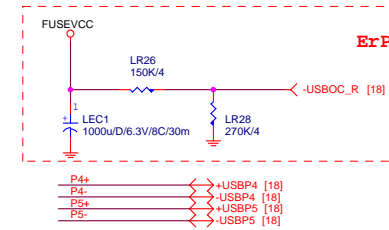
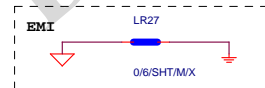
CLKREQ# PULL-UP FOR EFUSE:

- 1.AR8151:LR31(O),LR32(X)
- 2.AR8152:LR31(X),LR32(O)

AR8152-->N/A

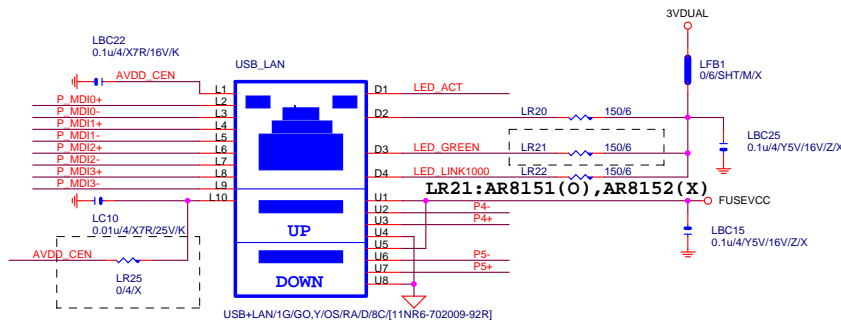


USB_LAN



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差异

Gigabyte Technology

ATHEROS AR8151M/AR8152M

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