

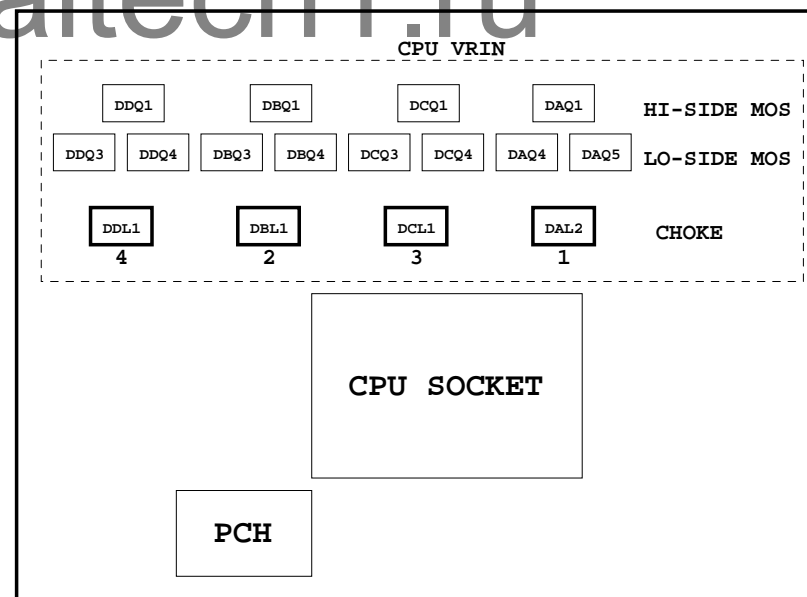
Model Name: GA-B85-D3V-SI 2.01

SHEET TITLE

01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	CPU_LGA1150-A
05	CPU_LGA1150-B
06	CPU_LGA1150-C
07	DDR III CHANNEL A
08	DDR III CHANNEL B
09	PCH_FDI,DMI,USB,PCIE
10	PCH_RGB,CLK BUFFER
11	PCH_HOST,SATA,PCI
12	PCH_GPIO,CTRL,AUDIO
13	PCH_PWR,GND
14	PCI EXPRESS*16 SLOT
15	PCIEX1*2 , PCIEX4 SLOT
16	ITE8892 PCI BRIDGE
17	PCI SLOT 1&2
18	I/O ITE8728
19	COM, -PROHOT, R_USB
20	Dual BIOS / LPT
21	ALC892 CODEC
22	REAR AUDIO JACK
23	VCORE_ ISL95820_1
24	VCORE_ ISL95820_2
25	DDR15V / M3 POWER
26	NCP3933 OVER VOLTAGE
27	DISCRETE POWER

SHEET TITLE

28	F_PANEL , F_USB2.0/3.0
29	ATX POWER, CLOCK GEN
30	HWM , KB/MS , FAN CTRL
31	Realtek RTL8111G
32	DVI
33	HDMI
34	TABLE LIST
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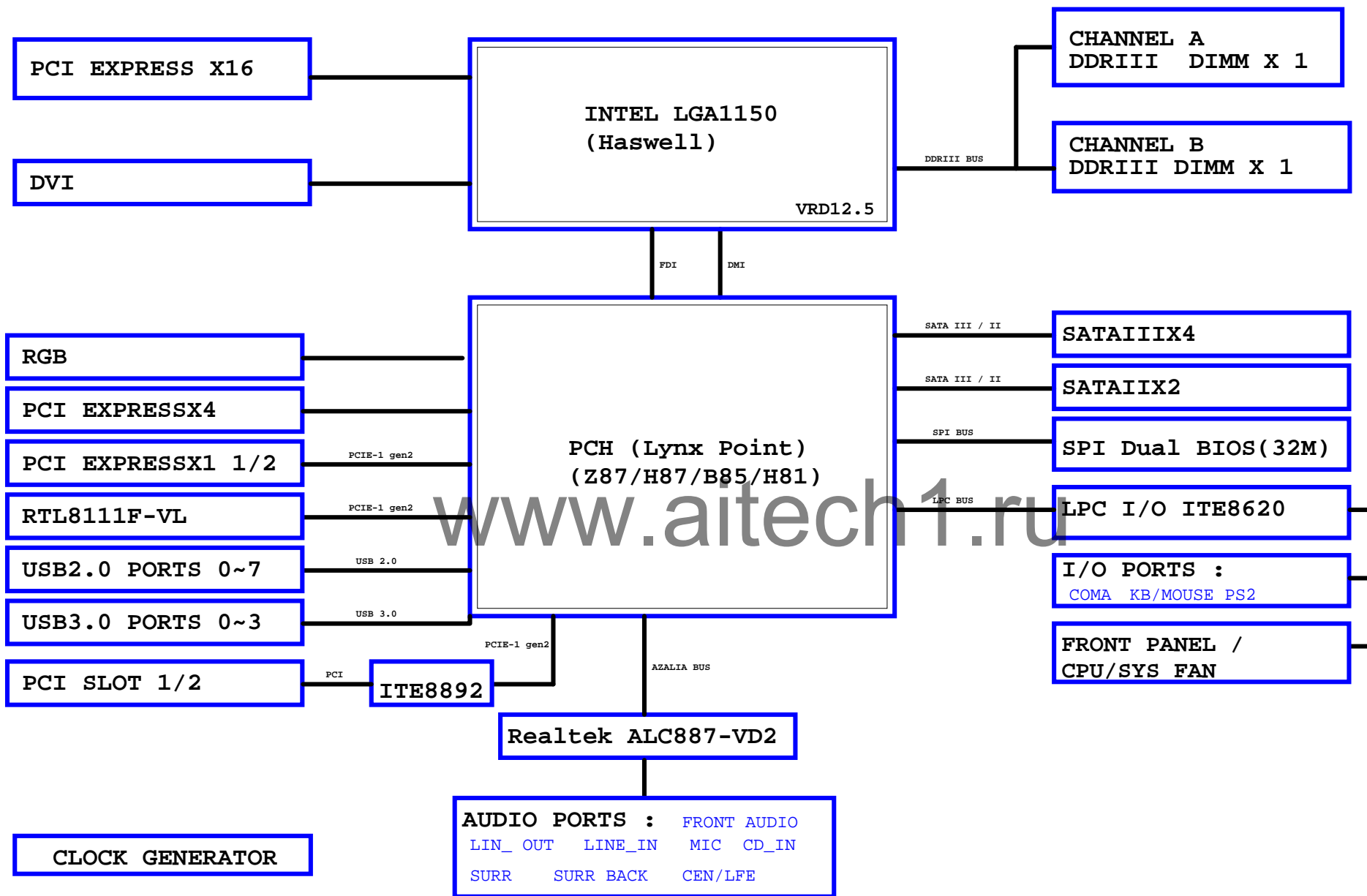
Gigabyte Technology			
Title Cover Sheet			
Size Custom	Document Number	GA-B85-D3V-SI	Rev 2.01
Date	Thursday, November 20, 2014	Sheet 1	of 34

## Component value change history

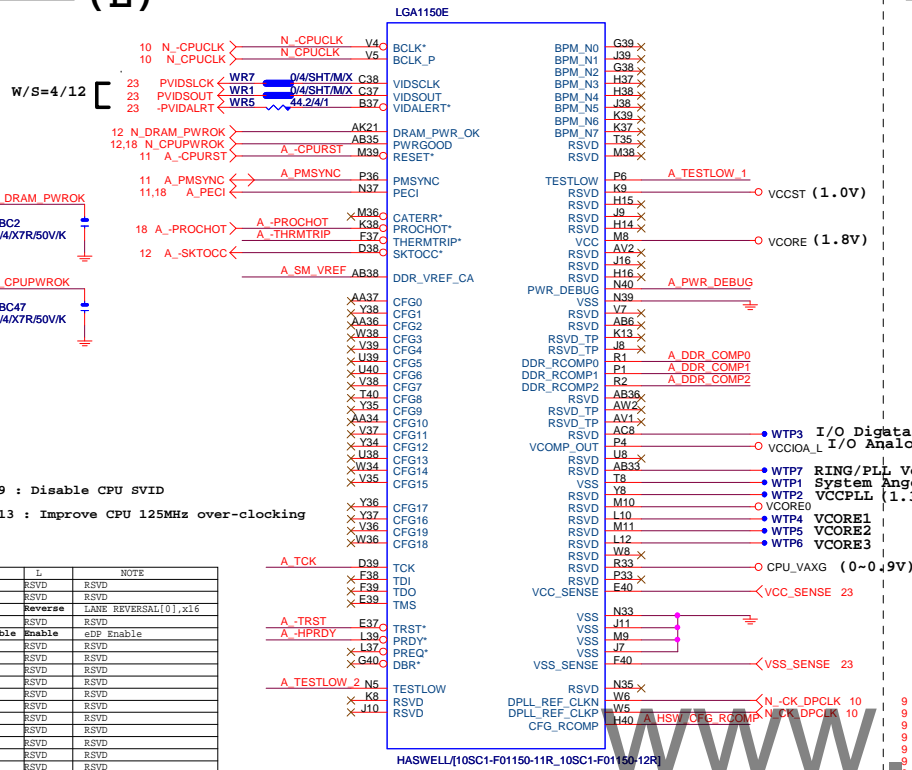
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DATE	Change Item	Reason
0.1	1. H81-HD3 Rev1.02 --> B85-D3V Rev0.1	
0.2	1. IT8892右上角的VCC3切割加大 2. VCC和+12切割加大 3. F_USB ESD change to "3VDUAL" + OP 4. 0ohm --> short pad	
0.3		
1.1	1. Update "POLYSWITCH-1206-1" 2. 所有的PPAK footprint改為Q_TDS08-GDS-T (增加NXP相容) 3. PE_SRCCLK_3GIO1/PE_SRCCLK_3GIO1 change to PCH pin W6/W7	
2014/05/12 PCB:2.0	1. LAN to RTL8111G 2. VCORE MOSFET to 1上1下 3. H81 series Cost down rule 4. K/B_MOUSE排阻0402改為0603 5. DVI remove level shift 6. Remove 短路保護 7. 1206 3.5A fuse to 0805 2.6A 8. Remove 3933	
2014/06/20 PCB:2.01	1.SATA / SATA Express remove MLCC,3.修改為short pad + Mask ; PCB跳小版本(次版次)	
2014/11/19 PCB:2.01	1.RENAME B85-D3V-SI FOR SI客戶	

# BLOCK DIAGRAM



LGA1150 (E)

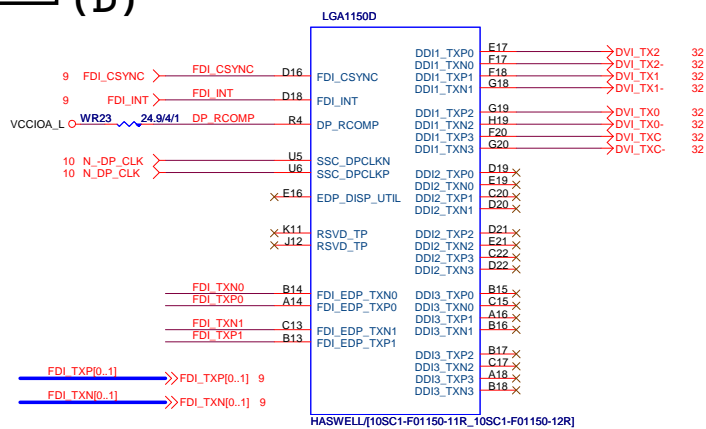


CFG	H	L	NOTE
0	RSPD	RSPD	RSPD
2	MSRM	RSPD	RSPD
3	RSPD	Reverse	LANE REVERSAL[0],x16
4	RSPD	RSPD	RSPD
4	Disable	Enable	eDP Enable
7	RSPD	RSPD	RSPD
8	RSPD	RSPD	RSPD
9	RSPD	RSPD	RSPD
10	RSPD	RSPD	RSPD
11	RSPD	RSPD	RSPD
12	RSPD	RSPD	RSPD
13	RSPD	RSPD	RSPD
14	RSPD	RSPD	RSPD
15	RSPD	RSPD	RSPD
16	RSPD	RSPD	RSPD
17	RSPD	RSPD	RSPD

CFG6	CFG5	PCIe CONFIG
1	1	1x16 , Default
1	0	2x8
0	1	RSVD
0	0	x8,x4,x4

CFG 0-17 all internal PULL-UP

**LGA1150 (D)**



FDI:15/4/4/4/15(breakout min 4/4/4//8)  
Impedance=85 +/- 15%

DD/HDMT 15/4/4/4/15      EDT 12/4/4/4/12

Impedance=85 +- 15%

LGA1155 (C)



CPU PEG 20/5/4/5/20 Impedance=80 +- 15%

DMI 12/4/4/4//12 Impedance=85 +- 15%

-CPURST

### 1.1V分壓

A -CPURST < A

BC102  
1p/4X7R/50V/K

For IT8620 Ctrl

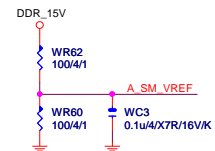
CPU SVID



CPU	PU/PD
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SM	REF
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## Gigabyte Technology

**CPU LGA1150-A**

GA-B85-D3V-SI

Rev  
2.01

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## LGA1150 (A)

LGA1150A			
MAAA0	AU13	DDR0_MA0	DDR0_D00
MAAA1	AV16	DDR0_MA1	DDR0_D01
MAAA2	AU16	DDR0_MA2	DDR0_D02
MAAA3	AW17	DDR0_MA3	DDR0_D03
MAAA4	AW18	DDR0_MA4	DDR0_D04
MAAA5	AW17	DDR0_MA5	DDR0_D05
MAAA6	AT18	DDR0_MA6	DDR0_D06
MAAA7	AU18	DDR0_MA7	DDR0_D07
MAAA8	AT19	DDR0_MA8	DDR0_D08
MAAA9	AW11	DDR0_MA9	DDR0_D09
MAAA10	AW19	DDR0_MA10	DDR0_D10
MAAA11	AU19	DDR0_MA11	DDR0_D11
MAAA12	AT20	DDR0_MA12	DDR0_D12
MAAA13	AT20	DDR0_MA13	DDR0_D13
MAAA14	AT20	DDR0_MA14	DDR0_D14
MAAA15	AU21	DDR0_MA15	DDR0_D15
MODT_A0	AW10	DDR0_ODT0	DDR0_D16
MODT_A1	AW8	DDR0_ODT1	DDR0_D17
	AW9	DDR0_ODT2	DDR0_D18
	AW8	DDR0_ODT3	DDR0_D19
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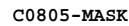
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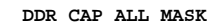
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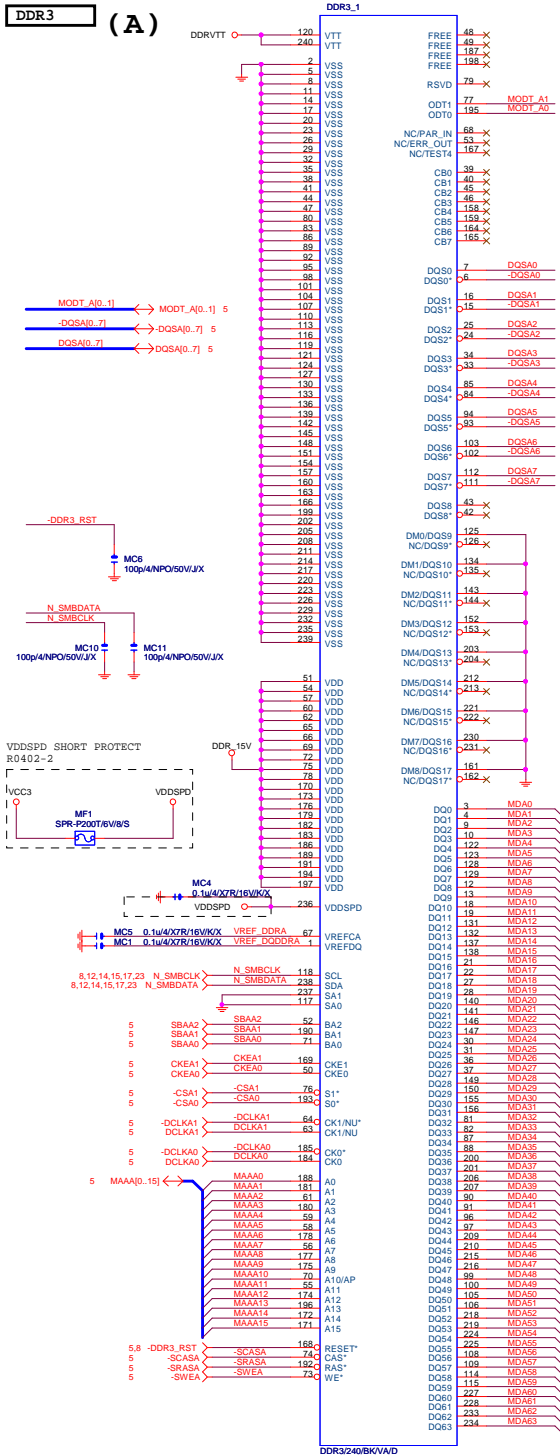
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Title			
CPU LGA1150-C			
Size	Document Number	Rev	
Custom	GA-B85-D3V-SI	2.0	
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DDR3

(A)

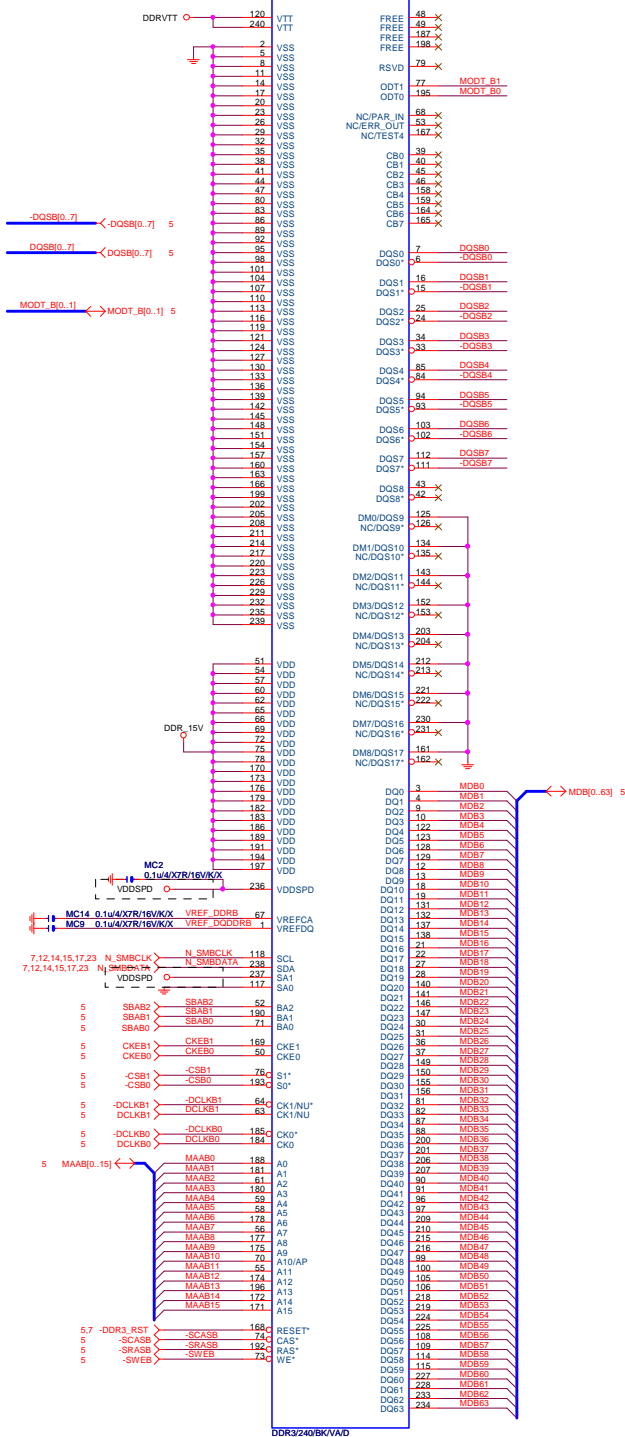




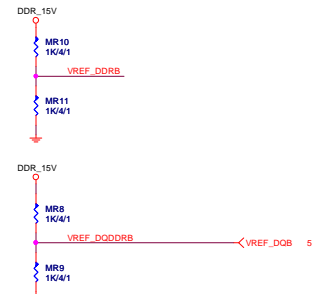
DDR3

(B)

DDR3\_2



DDR3 VREF



DDR3 1066,1333,1600MHZ BANDWIDTH

DDR3 1066MHZ  
DDR3 clock=533MHZ  
DDR3 single channel bandwidth=533x2x8Byte=8.5GB/s  
DDR3 dual channel bandwidth=533x2x2x8Byte=17GB/s

DDR3 1333MHZ  
DDR3 clock=667MHZ  
DDR3 single channel bandwidth=10.6GB/s  
DDR3 dual channel bandwidth=21GB/s

DDR3 1600MHZ  
DDR3 clock=800MHZ  
DDR3 single channel bandwidth=12.8GB/s  
DDR3 dual channel bandwidth=25.6GB/s

COUPON



CPU

DIMM1 (黑色) CHA

DIMM2 (黑色) CHB

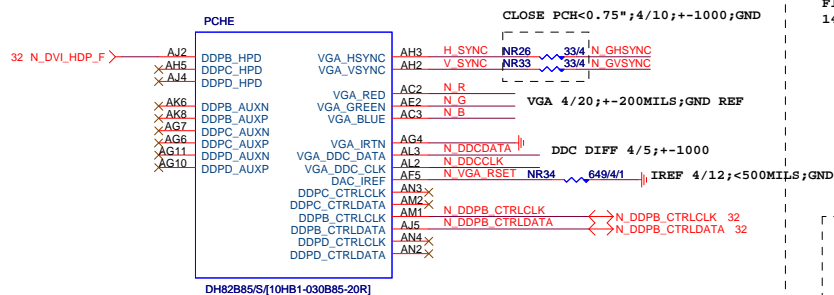
Gigabyte Technology

Title			
DDRIII CHANNEL B			
Size	Document Number		Rev
Custom	GA-B85-D3V-SI		2.0
Date:	Sheet	8	of 34



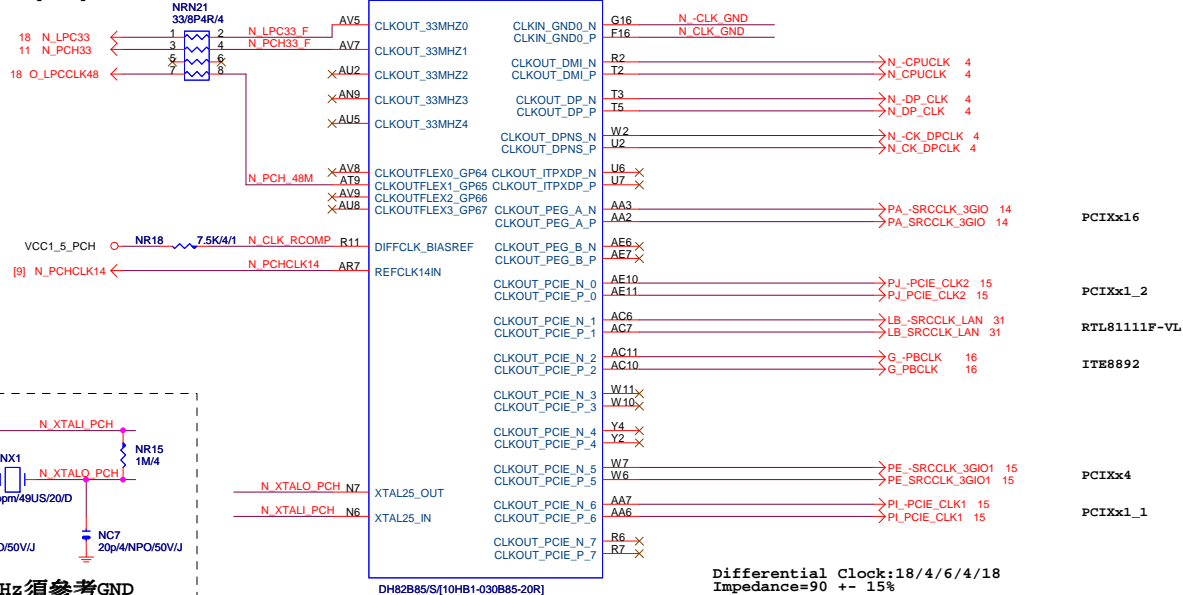


**PCH (E)**



VGA_DISABLE
R,G,B NC OR GND
IRTN / IREF GND
VGA_HSYNC, VGA_VSYNC, DDC_CLK, DDC_DATA NC
POWER VCCADAC(AF2), VCCADACBG(AE1) GND

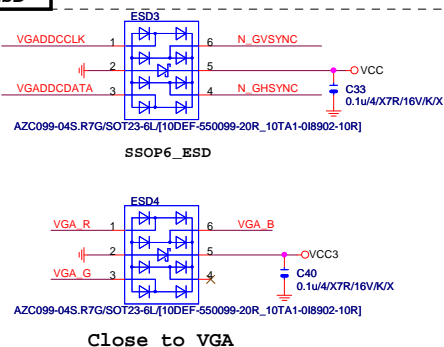
**PCH (G)**



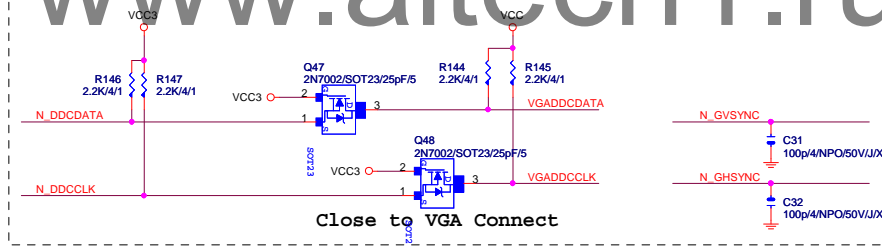
PCH CLK PD



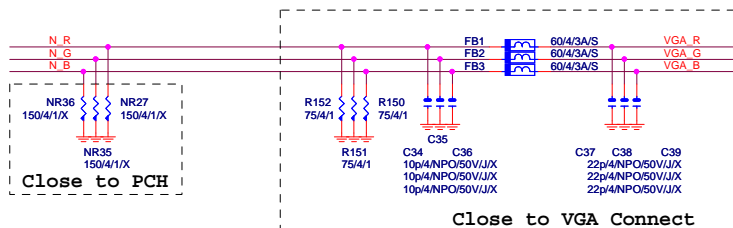
## VGA ESD



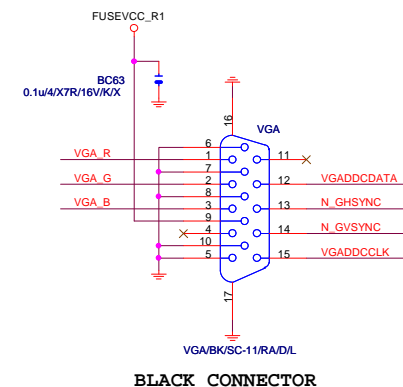
## VGA DDC



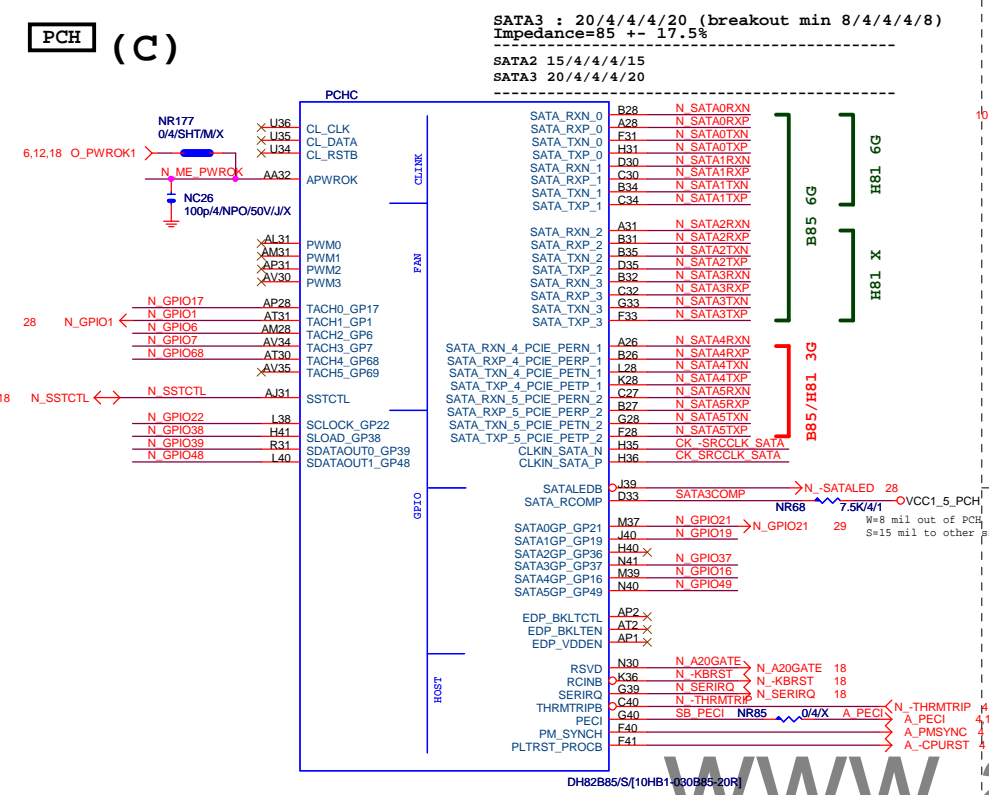
## VGA DDC



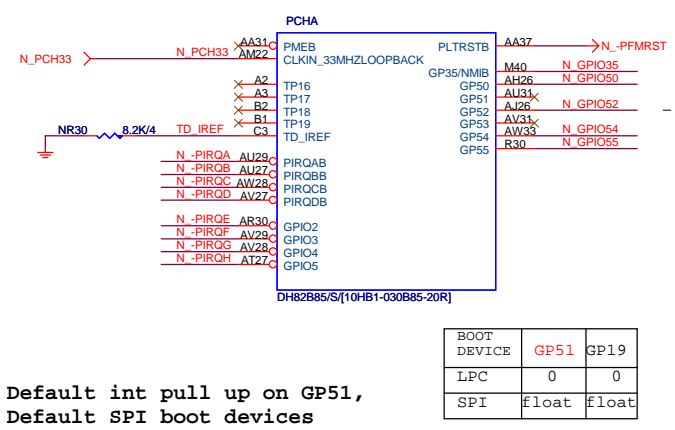
## VGA CONNECTOR



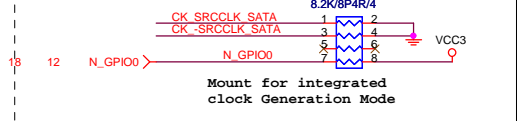
**PCH (C)**



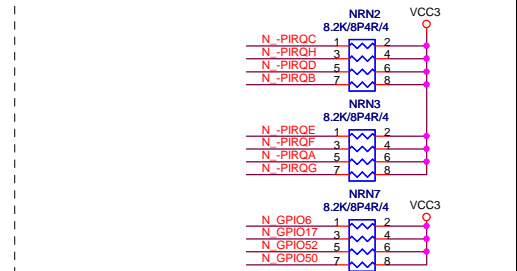
**PCH (A)**



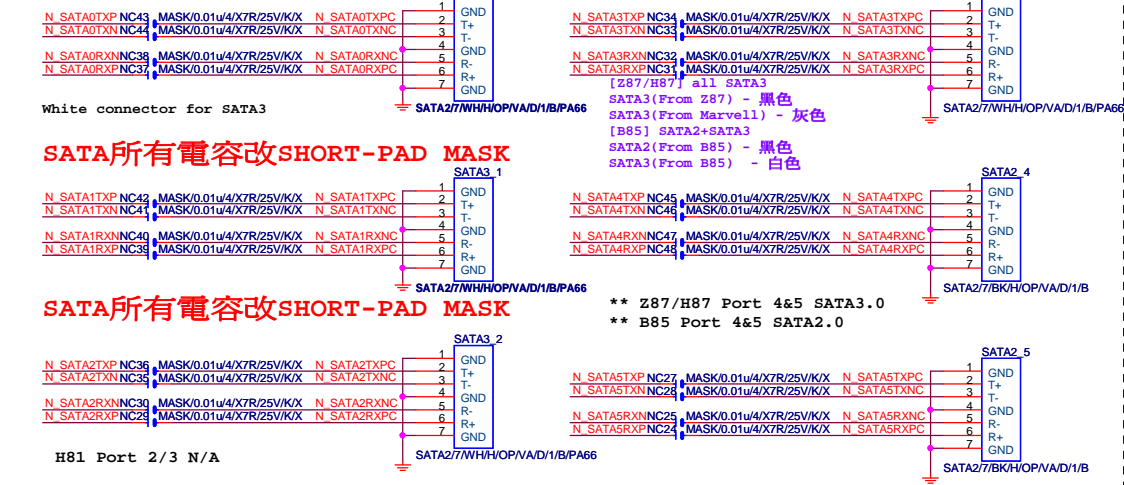
PCH CLK PD



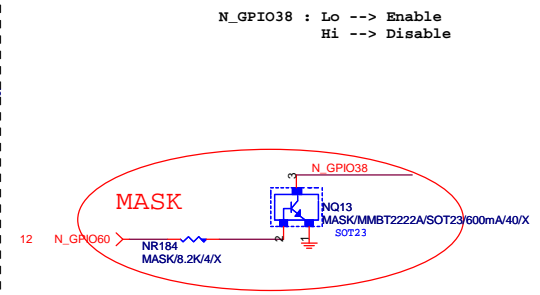
PCH PU/PD



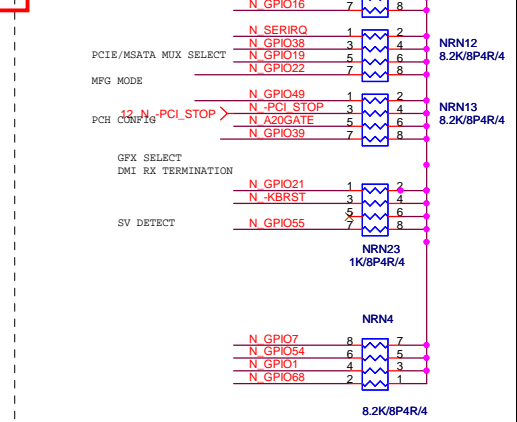
**SATA CONNECTOR**



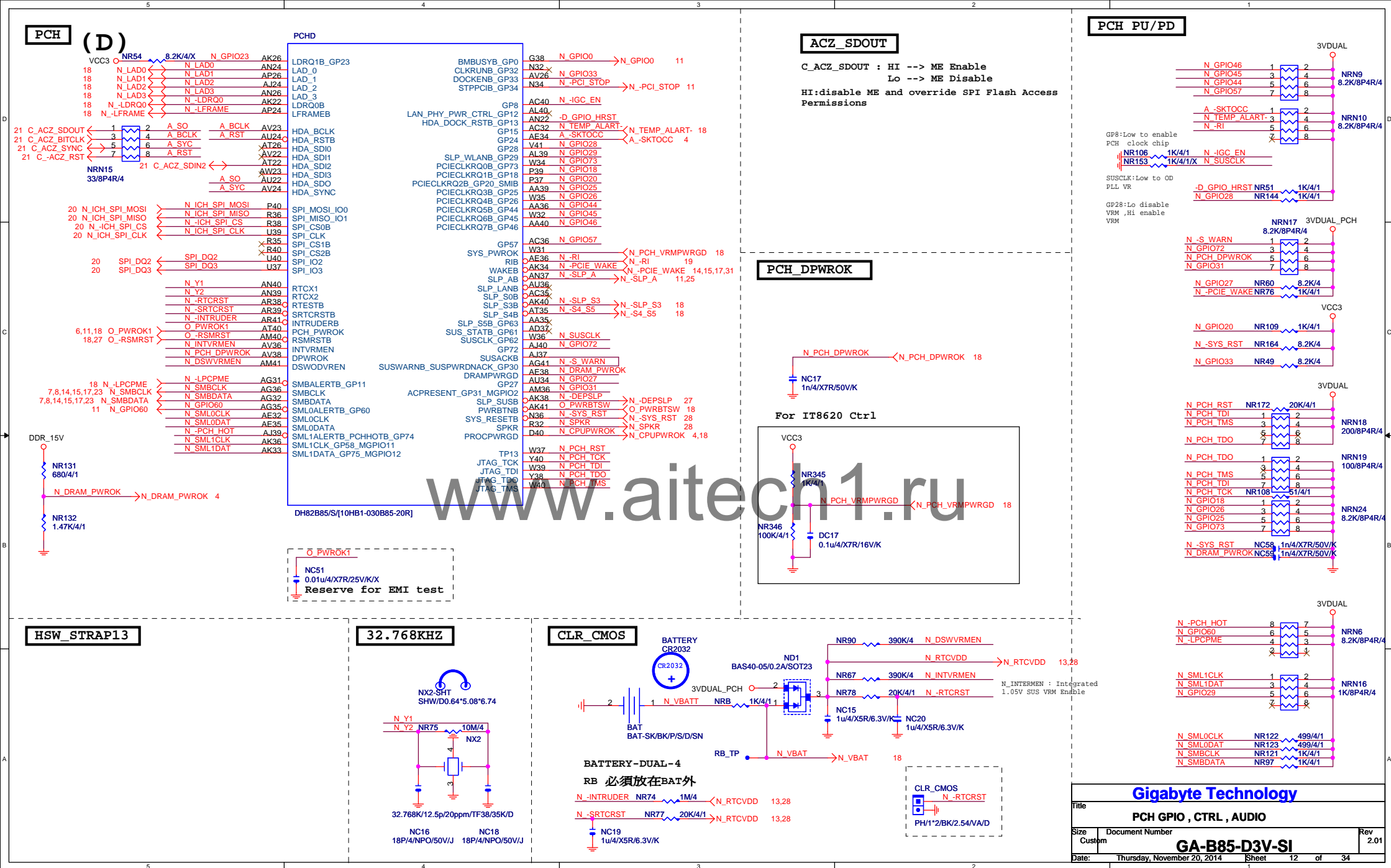
GPIO38 Ctrl



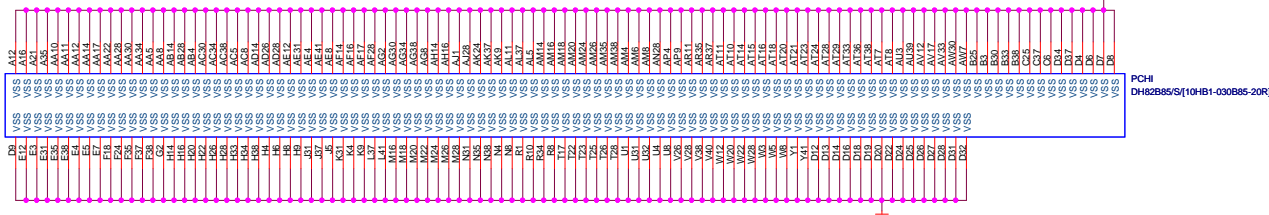
	soft strap	GP16	GP49
0	pci1	pci2	
1	sata4	sata5	



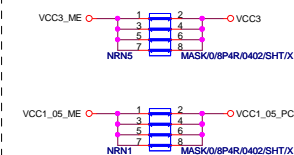
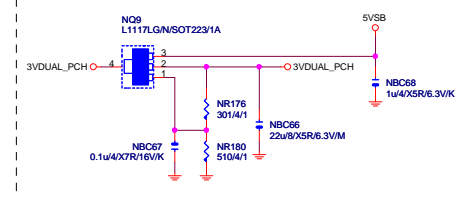
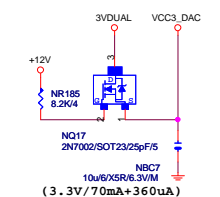
<b>Gigabyte Technology</b>			
Title			
<b>PCH HOST , SATA, PCI</b>			
Size	Document Number		Rev
Custom	<b>GA-B85-D3V-SI</b>		<b>2.01</b>
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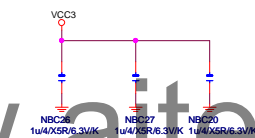
**PCH (I)**



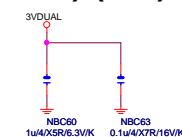
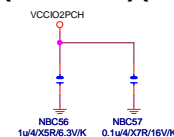
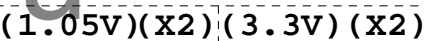
SHT PWR



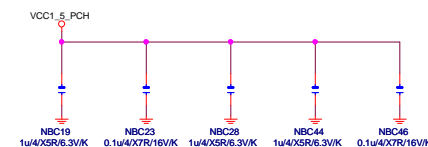
( 3.3V ) ( X6 )



(1.05V) (x5)

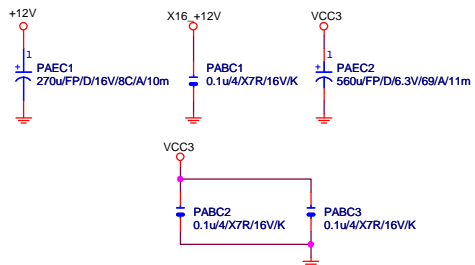


(1.5V) (x10)



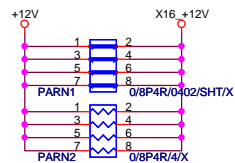


## PCIEX16 CAP



## PCIEX16 PROTECT SHT

```
+12 protect
short-wire test
```



## PCIEX16 AC CAP

PA EXP TXP0	PAC5	0.22u4/XSR/6.3VK	PA EXP TXP0 C
PA EXP TXN0	PAC4	0.22u4/XSR/6.3VK	PA EXP TXN0 C
PA EXP TXP1	PAC6	0.22u4/XSR/6.3VK	PA EXP TXP1 C
PA EXP TXN1	PAC7	0.22u4/XSR/6.3VK	PA EXP TXN1 C
PA EXP TXP2	PAC8	0.22u4/XSR/6.3VK	PA EXP TXP2 C
PA EXP TXN2	PAC9	0.22u4/XSR/6.3VK	PA EXP TXN2 C
PA EXP TXP3	PAC10	0.22u4/XSR/6.3VK	PA EXP TXP3 C
PA EXP TXN3	PAC11	0.22u4/XSR/6.3VK	PA EXP TXN3 C
PA EXP TXP4	PAC12	0.22u4/XSR/6.3VK	PA EXP TXP4 C
PA EXP TXN4	PAC13	0.22u4/XSR/6.3VK	PA EXP TXN4 C
PA EXP TXP5	PAC14	0.22u4/XSR/6.3VK	PA EXP TXP5 C
PA EXP TXN5	PAC15	0.22u4/XSR/6.3VK	PA EXP TXN5 C
PA EXP TXP6	PAC16	0.22u4/XSR/6.3VK	PA EXP TXP6 C
PA EXP TXN6	PAC17	0.22u4/XSR/6.3VK	PA EXP TXN6 C
PA EXP TXP7	PAC18	0.22u4/XSR/6.3VK	PA EXP TXP7 C
PA EXP TXN7	PAC18	0.22u4/XSR/6.3VK	PA EXP TXN7 C
PA EXP TXP8	PAC19	0.22u4/XSR/6.3VK	PA EXP TXP8 C
PA EXP TXN8	PAC21	0.22u4/XSR/6.3VK	PA EXP TXN8 C
PA EXP TXP9	PAC22	0.22u4/XSR/6.3VK	PA EXP TXP9 C
PA EXP TXN9	PAC23	0.22u4/XSR/6.3VK	PA EXP TXN9 C
PA EXP TXP10	PAC24	0.22u4/XSR/6.3VK	PA EXP TXP10 C
PA EXP TXN10	PAC25	0.22u4/XSR/6.3VK	PA EXP TXN10 C
PA EXP TXP11	PAC26	0.22u4/XSR/6.3VK	PA EXP TXP11 C
PA EXP TXN11	PAC27	0.22u4/XSR/6.3VK	PA EXP TXN11 C
PA EXP TXP12	PAC28	0.22u4/XSR/6.3VK	PA EXP TXP12 C
PA EXP TXN12	PAC29	0.22u4/XSR/6.3VK	PA EXP TXN12 C
PA EXP TXP13	PAC30	0.22u4/XSR/6.3VK	PA EXP TXP13 C
PA EXP TXN13	PAC31	0.22u4/XSR/6.3VK	PA EXP TXN13 C
PA EXP TXP14	PAC32	0.22u4/XSR/6.3VK	PA EXP TXP14 C
PA EXP TXN14	PAC33	0.22u4/XSR/6.3VK	PA EXP TXN14 C
PA EXP TXP15	PAC34	0.22u4/XSR/6.3VK	PA EXP TXP15 C
PA EXP TXN15	PAC35	0.22u4/XSR/6.3VK	PA EXP TXN15 C

PCI-E REV:1.1--&gt; 2.5GHZ

PCE-E X1(單向) BANDWIDTH=2.5GHz\*(8b/10b)=2Gb/s=250MB/s

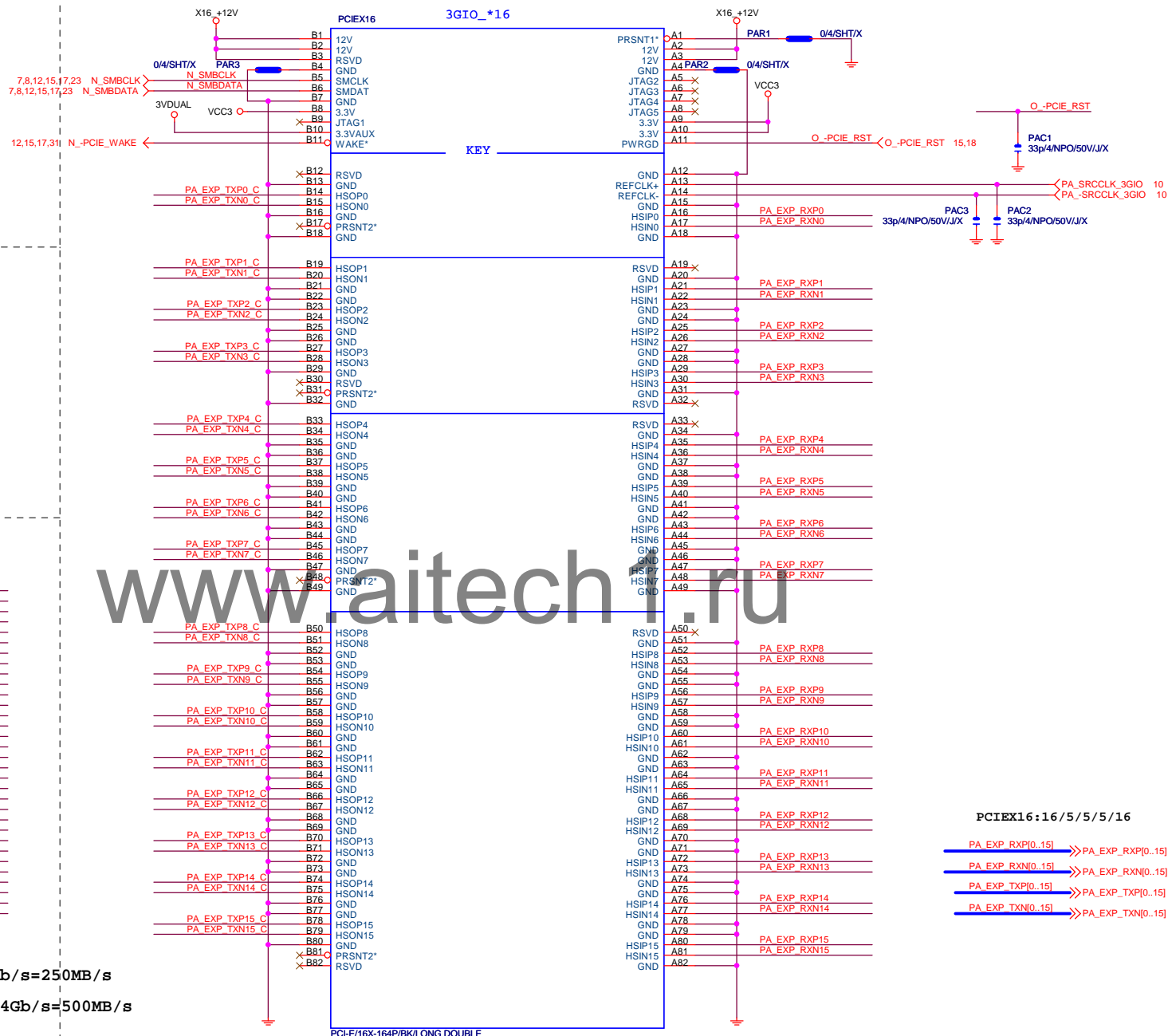
PCE-E X1(雙向) BANDWIDTH=2.5GHz\*(8b/10b)X2=4Gb/s=500MB/s

PCE-E X16(單向) BANDWIDTH=2.5GHz\*(8b/10b)X16=32Gb/s=4GB/s

PCE-E X16(雙向) BANDWIDTH=2.5GHz\*(8b/10b)X16X2=64Gb/s=8GB/s

PCI-E REV:2.0--&gt; 5GHZ

## PCIEX16 SLOT



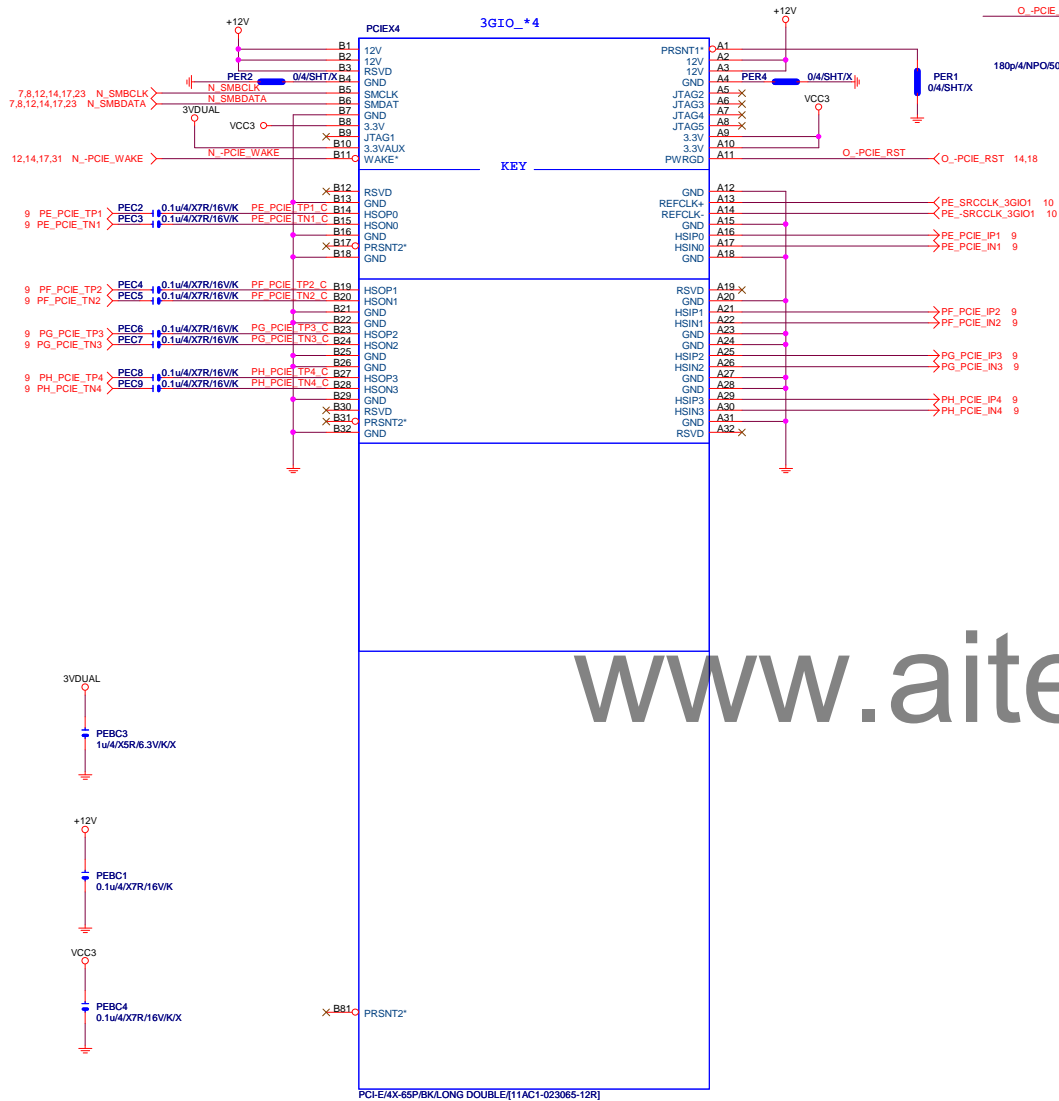
PCI-E/16X-164P/BK/1 ONG DOUBI E

PCIEX16:16/5/5/5/16

PA_EXP_RXP[0..15]	»PA_EXP_RXP[0..15]	4
PA_EXP_RXN[0..15]	»PA_EXP_RXN[0..15]	4
PA_EXP_TXP[0..15]	»PA_EXP_TXP[0..15]	4
PA_EXP_TXN[0..15]	»PA_EXP_TXN[0..15]	4

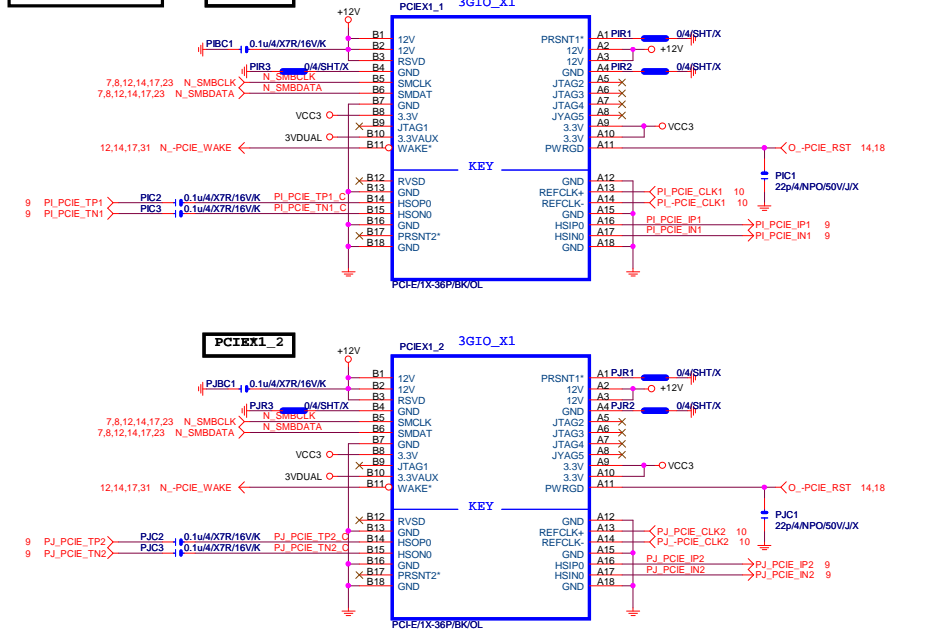
<b>Gigabyte Technology</b>			
Title			
<b>PCI EXPRESS * 16</b>			
Size Custom	Document Number	<b>GA-B85-D3V-SI</b>	Rev 2.0
Date:	Thursday, November 20, 2014	Sheet 14 of 34	

# PCIEX4 SLOT

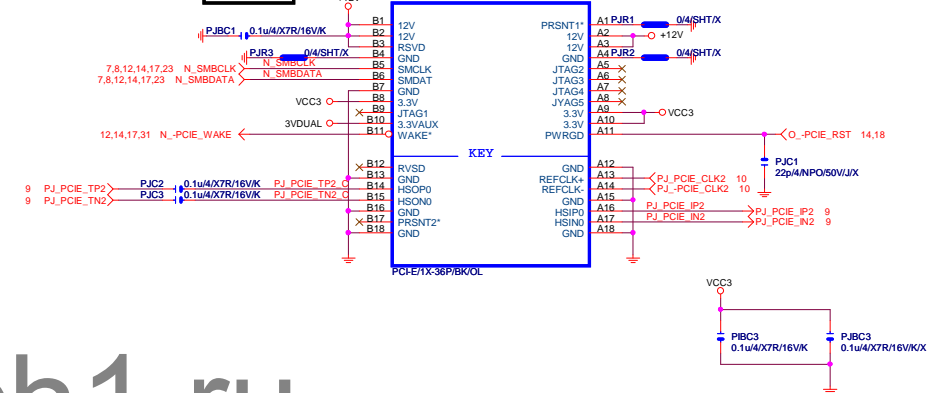


# PCIEX1 SLOT

# PCIEX1\_1



# PCIEX1\_2



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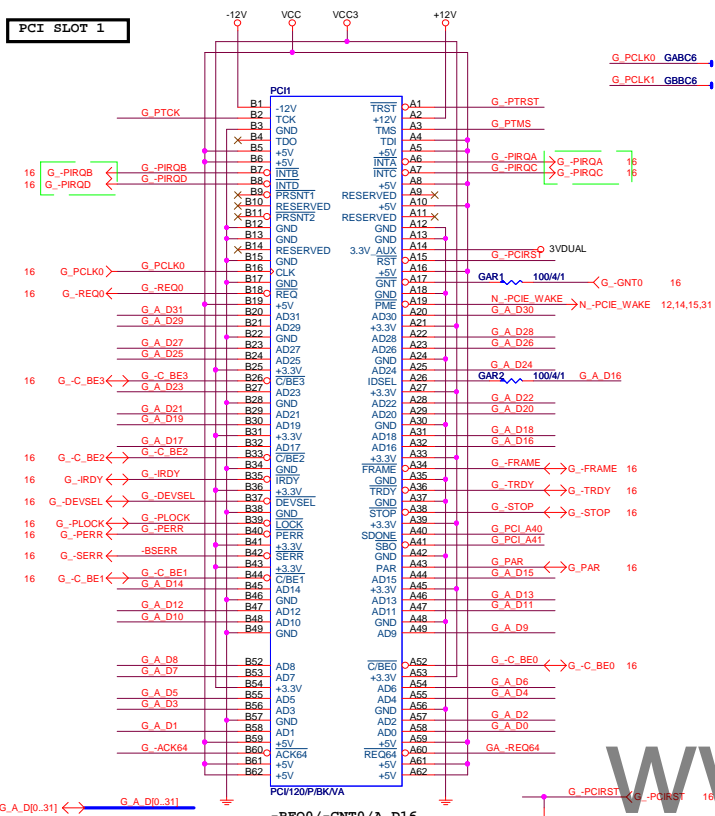
Gigabyte Technology

Title		PCIE_X1 1,2	
Size	Document Number	GA-B85-D3V-SI	
Custom		Rev 2.01	
Date:	Thursday, November 20, 2014	Sheet 15	of 34

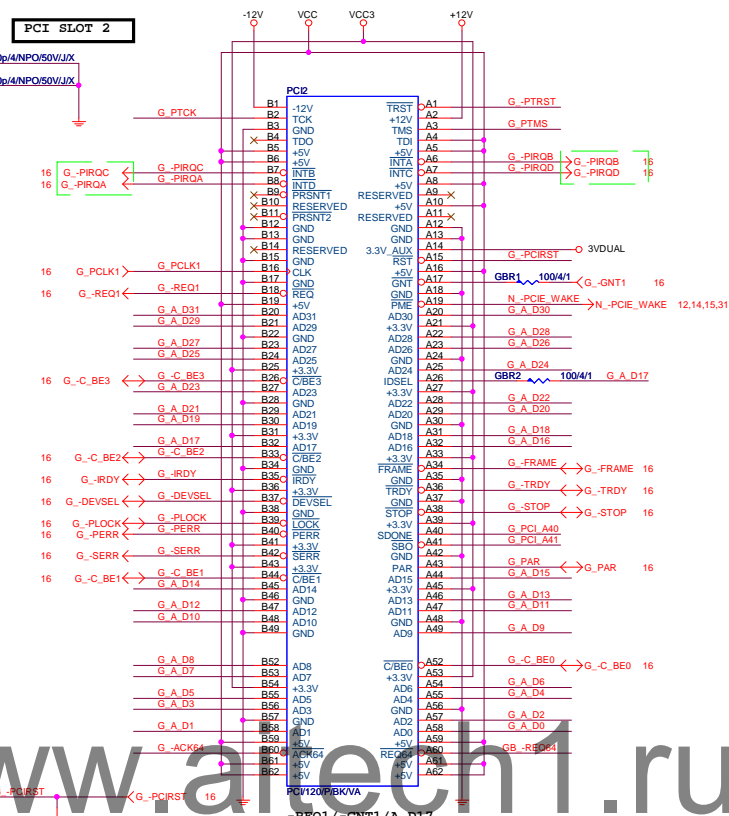




# PCI SLOT 1

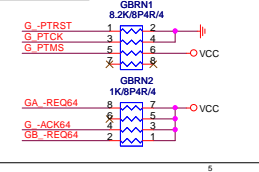


# PCI SLOT 2

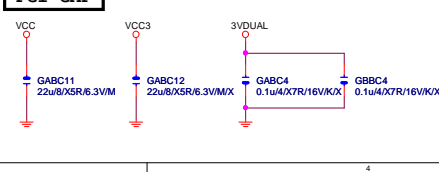


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# PCI PU

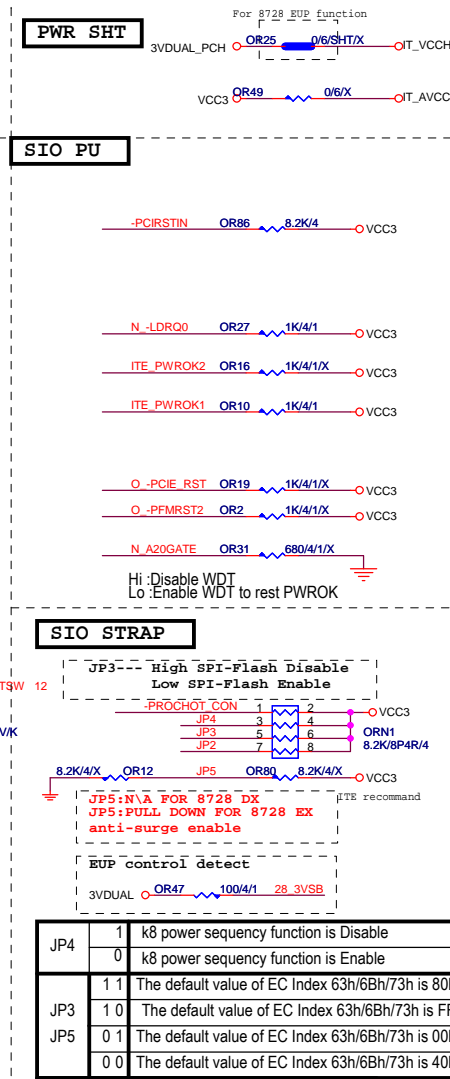
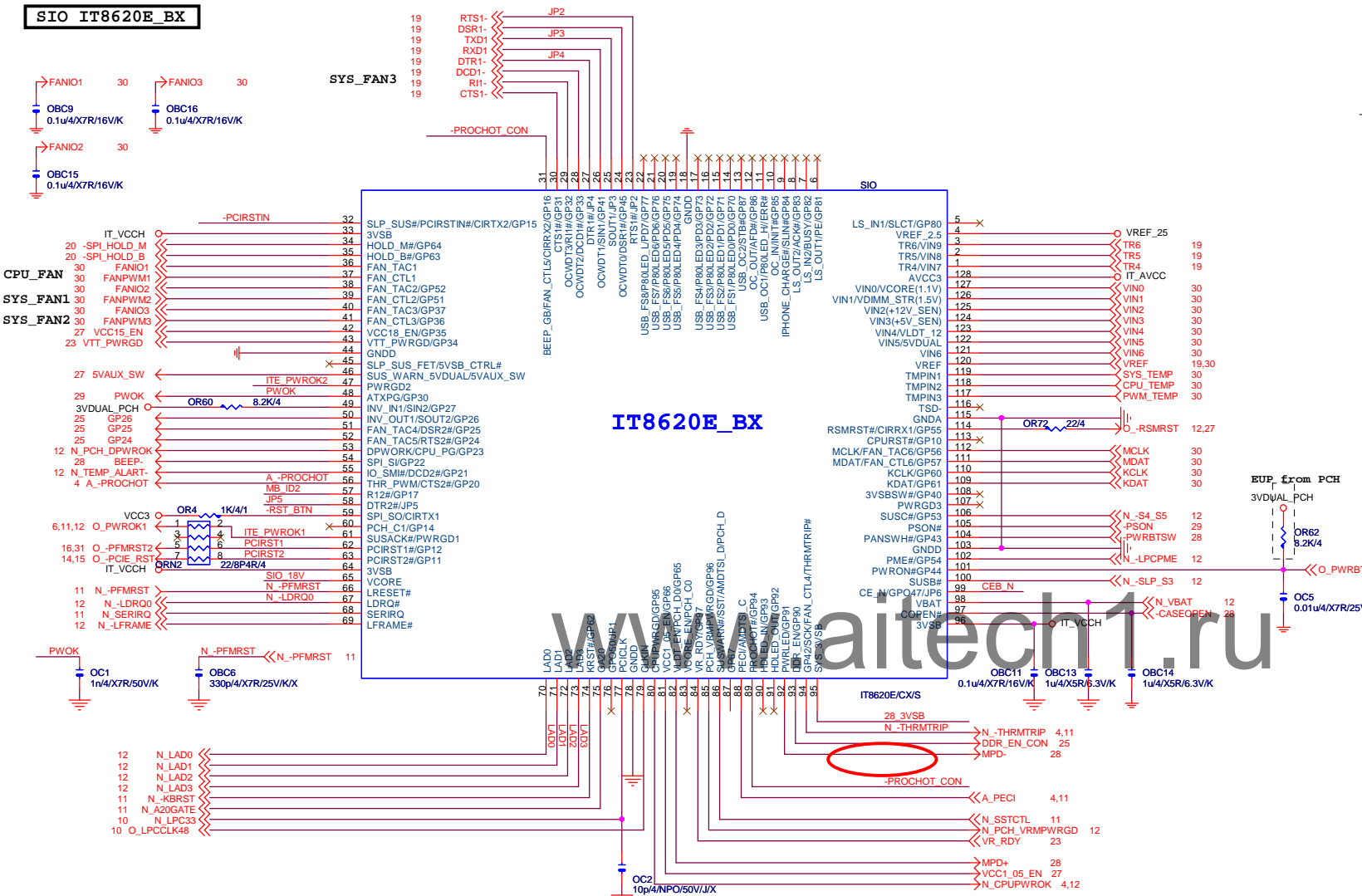


# PCI CAP



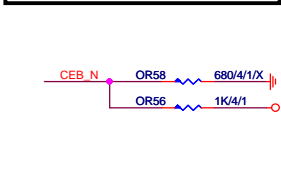
GIGABYTE™			
PCI SLOT 1&2			
Title	Document Number	Rev	
Size	Custom	GA-B85-D3V-SI	2.01
Date	Thursday, November 20, 2014	Sheet	17 of 34

# SIO IT8620E\_BX

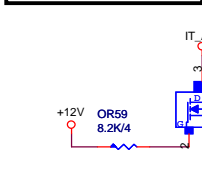


IT8620E GPIO問題調整	
PIN 50	第一次接上POWER時會拉 LO
PIN 90/91	DEFAULT為HIDLED FUNCTION, GP93 BYPASS TO GP92
PIN 108	GP40---- POWER ON 時會拉 LO
PIN 111/112	MOUSE 跟PAN6 FUNCTION 擇一使用,不然會互相干擾

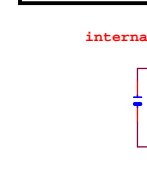
## DUAL BIOS OPT STRAP



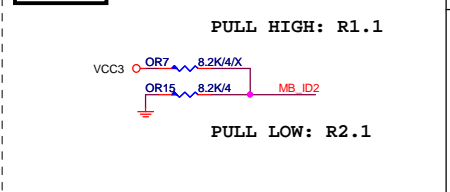
## Power leakage



## SIO\_18V



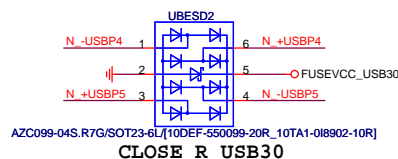
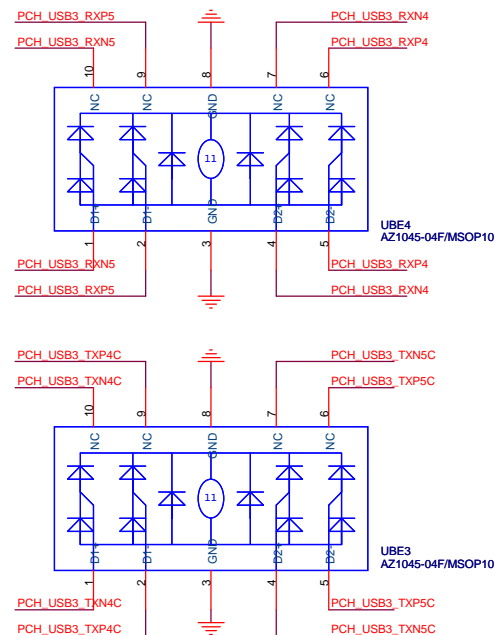
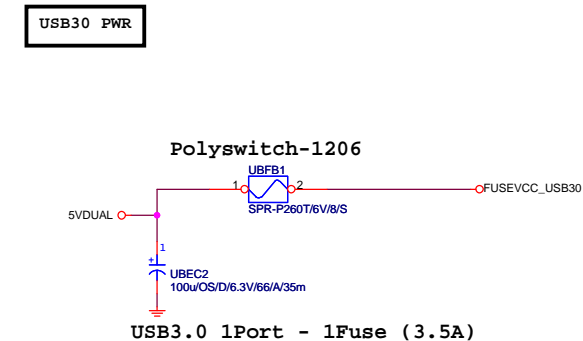
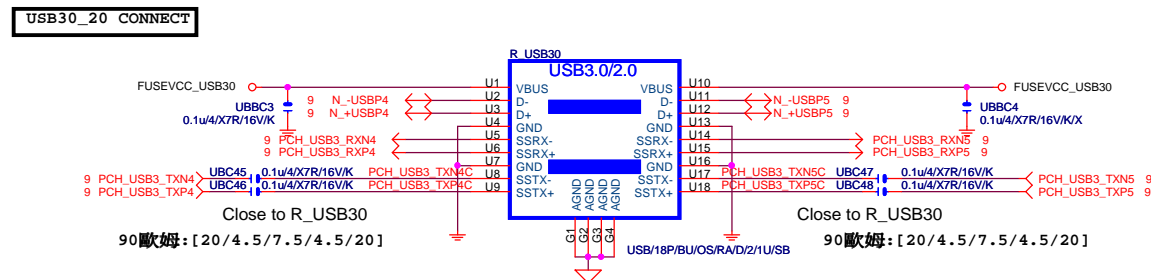
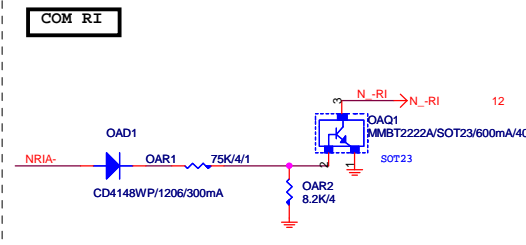
## MB ID



## SIO CAP

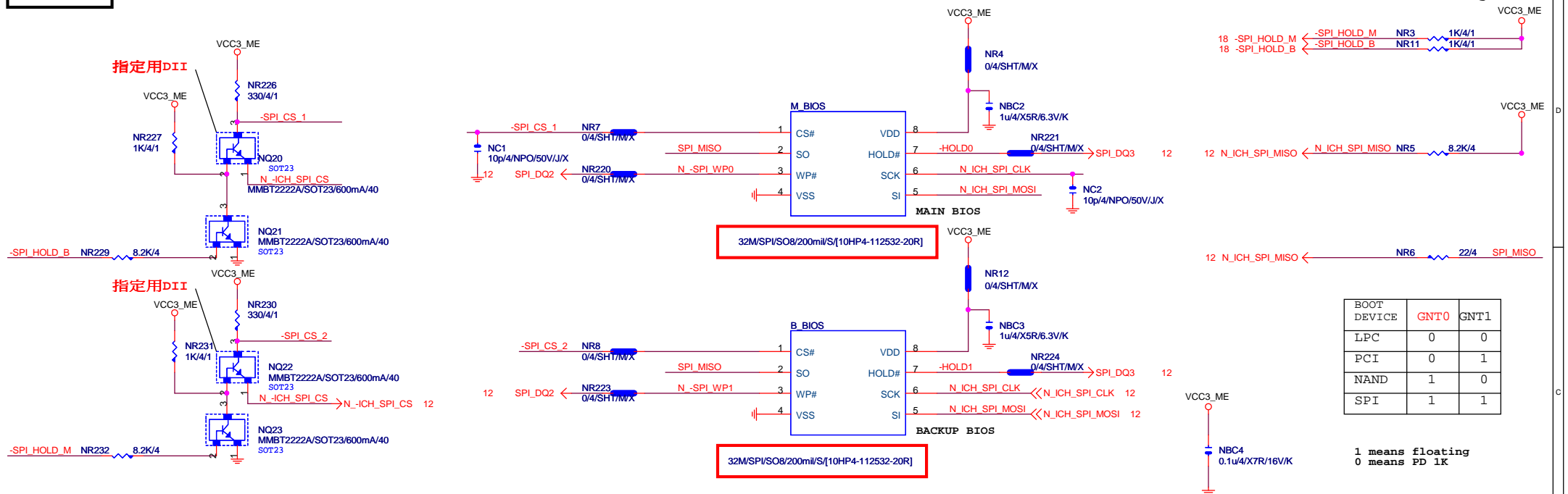


Gigabyte Technology			
Title	ITE 8728 LPC IO		
Size	Document Number	GA-B85-D3V-SI	
Custom		Rev 2.01	
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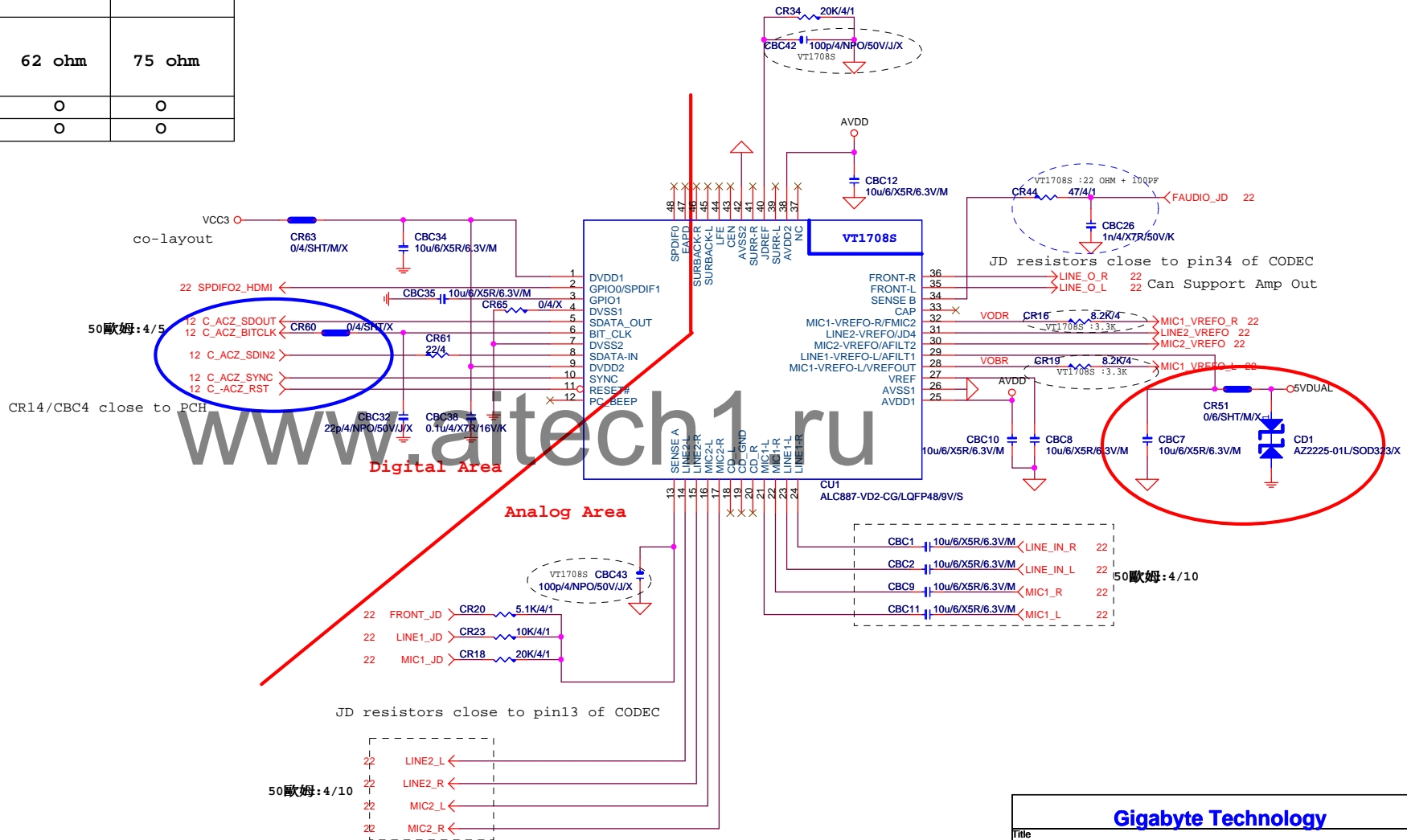
Title				<b>COM &amp; PROHOT/Dynamic O.C.</b>			
Size	Document Number						Rev
Custom	<b>GA-B85-D3V-SI</b>						<b>2.01</b>
Date:	Thursday, November 20, 2014			Sheet	19	of	34

**DUAL BIOS**



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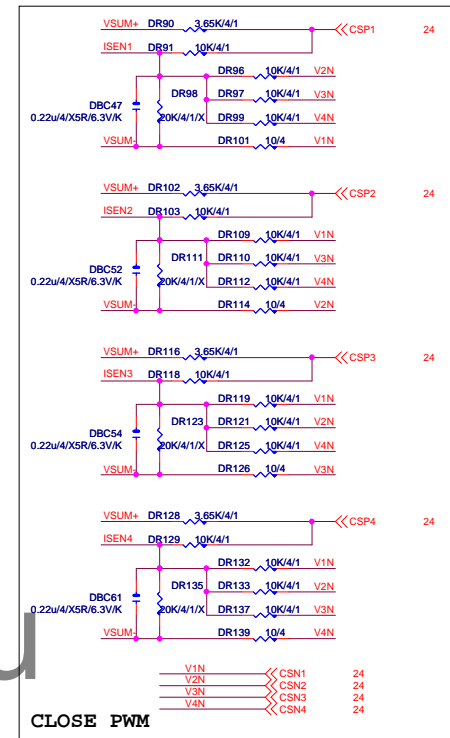
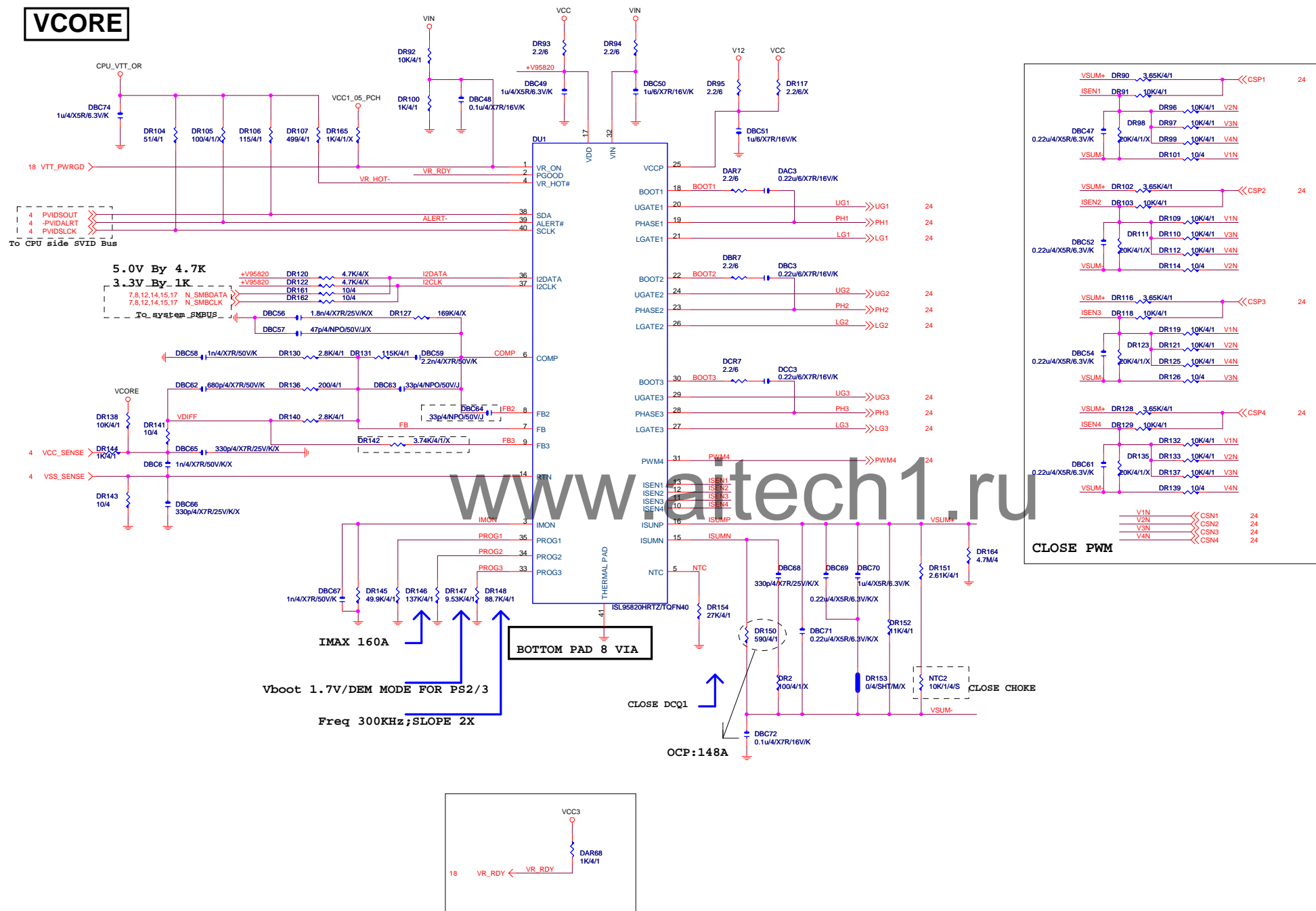
	ALC892	ALC887-VD2	VT1708S-CE
CR44/CBC26	47ohm+1nF	47ohm+1nF	22ohm+100P
CBC42/CBC43	X	X	100P/4
CR16/CR19 CR52/CR56/CR10/CR9	8.2K/4	8.2K/4	3.3K/4/1
CR6/CR7/CR58/CR54/ CR67/CR68/CR69/CR70	22K/4	22K/4	10K/4/1
CR5/CR8/CR1/CR14/ CR17/CR22/CR73/CR74/ CR13/CR11/CR57/CR53/ CR75/CR76	62 ohm	62 ohm	75 ohm
CR51/CD1/CBC7	O	O	O
CESD1	X	O	O





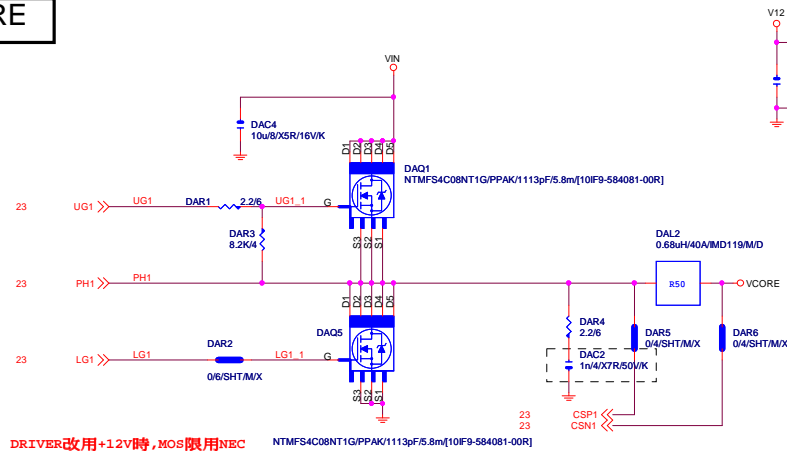


# VCORE

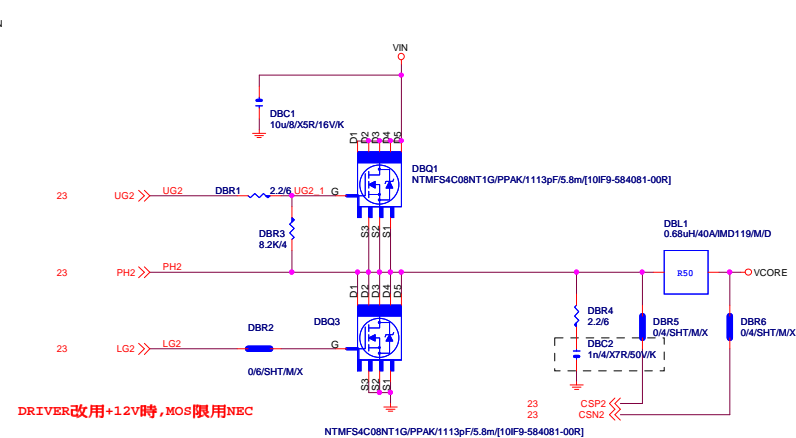


# VCORE

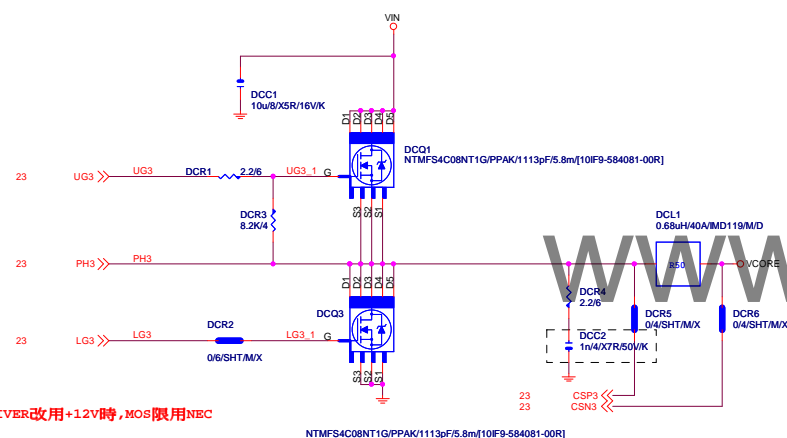
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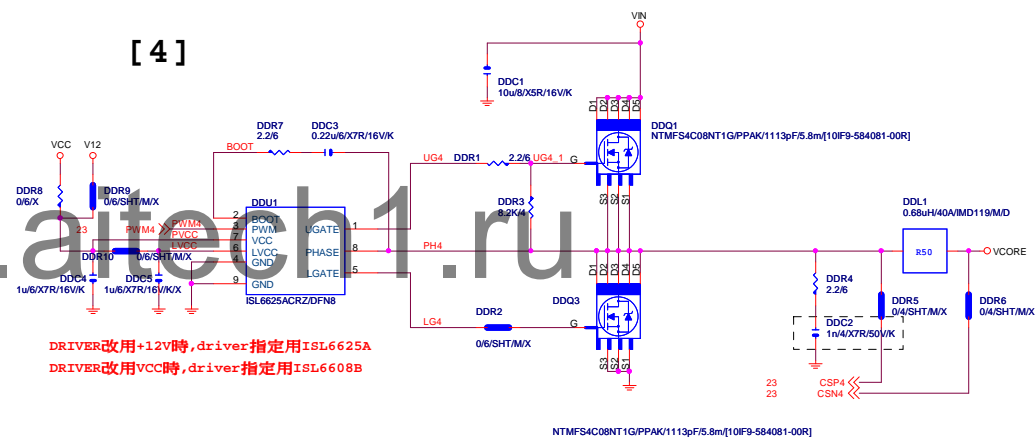
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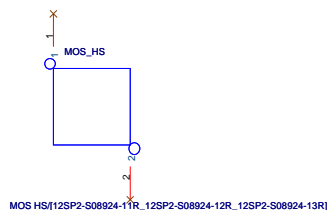
[ 3 ]



[ 4 ]

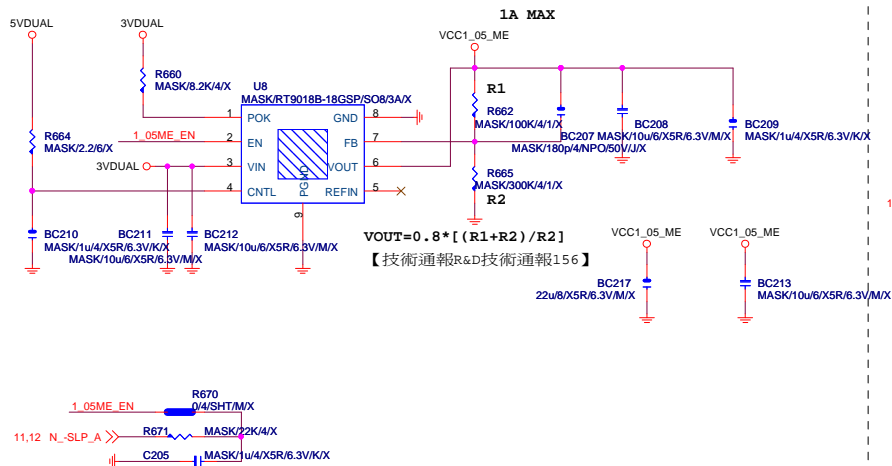


# MOSFET HEATSINK



Gigabyte Technology			
Title	ISL95820_2		
Size	Document Number	GA-B85-D3V-SI	Rev
Custom			2.01
Date	Thursday, November 20, 2014	Sheet	24 of 34

【技術通報R&D技術通報156】  
(RICHTER), (NUVOTON), (EMC)做共用  
PIN7分壓阻值須做修改為100K以上電阻值

[illegible]

放靠近IC pin4

VIN=5V,VOUT=1.5V,IOUT=25A,PHASE=1  
IRMS=11.45A

560u/FP/D/6.3V/68/8m RIPPLE CURRENT=4.7A  
Coefficient=1.7(85°C),1(105°C)

VIN Ripple current=4.7X1.7=7.99A(85°C)  
-->故固態電容須2X7.99=15.98>11.45A

OCP:25A for Rds=8.9~10.8m for on@4.5V  
OCP:25A for Rds=5.8~6.95m for on@10V  
OCP:46.55~25A=Roset\*Iocset / Rds(on)  
=27K\*10uA / 5.8~10.8

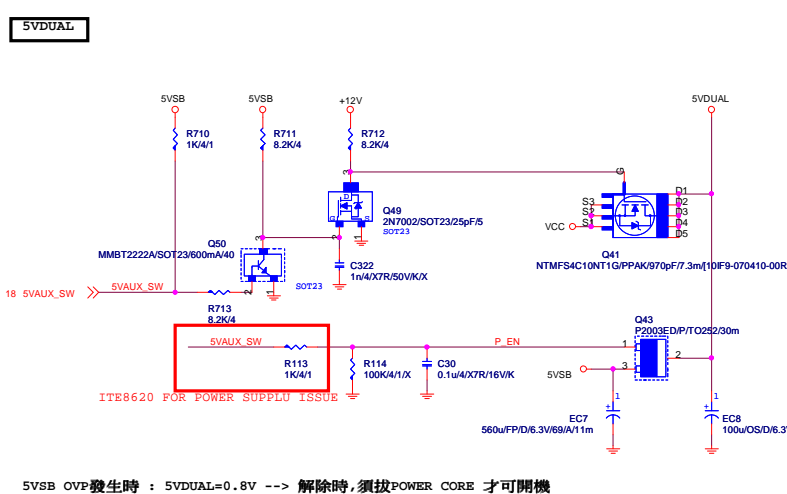
Remote sense請從最重的負載端點拉回

$$\begin{aligned} 0.8 \cdot (1 + R_S/R_O) &= V_{out} \\ 0.8 \cdot [1 + 2K/2.2K] &= \\ 1.527V \end{aligned}$$

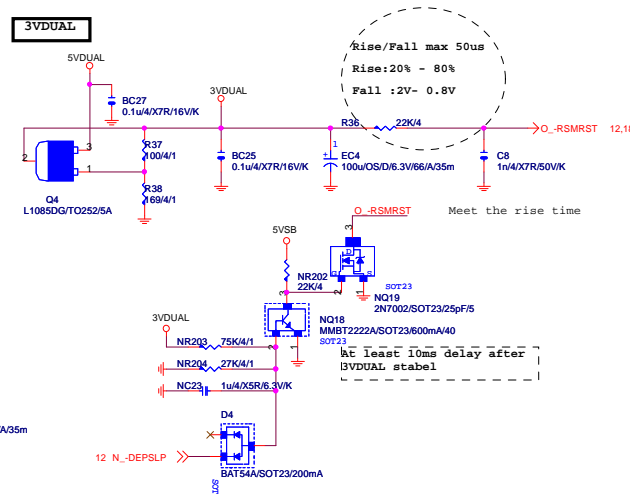
OVER VOLTAGE

NCT3933	0X2A	0X20	0X22
VREF1	DDRVTT	VREF_DDRA_DQ	PCH Core
VREF2	VREF_DDRA_CA	N/A	VCC1_5_PCH
VREF3	VREF_DDRA_CA	VREF_DDRB_DQ	SMREF

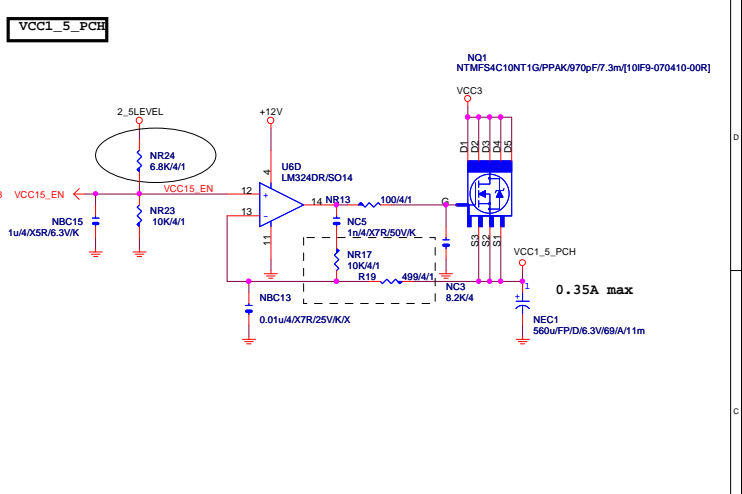
Gigabyte Technology		
Title CPU CORE VR-2		
Size Custom	Document Number GA-B85-D3V-SI	Rev 2.01
Date:	Thursday, November 20, 2014	Sheet 26 of 34



5VSB OVP發生時 : 5VDUAL=0.8V --> 解除時,須拔POWER CORE 才可開機

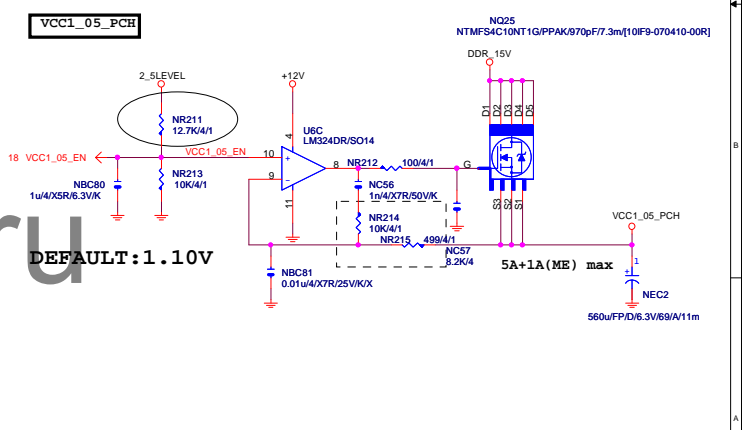


rise/Fall max 50us  
Rise: 20% ~ 80%  
Fall : 2V- 0.8V

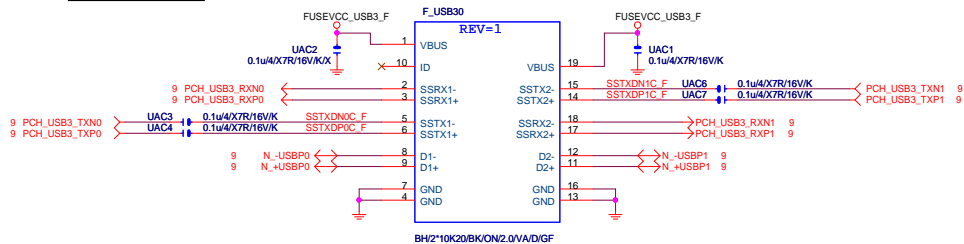


0.35A max

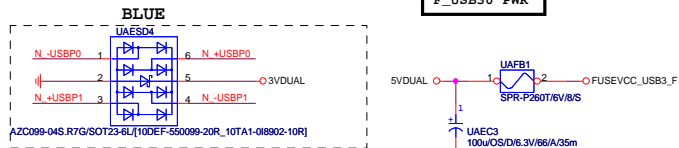
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## Front USB3.0

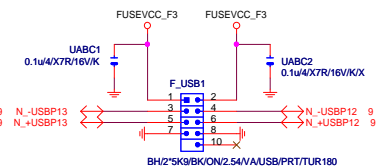


## F\_USB30 PWR

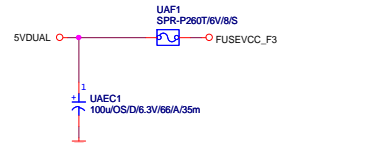


Close to connector

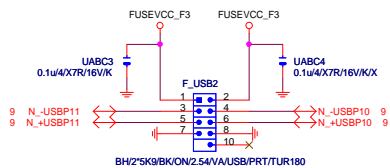
FRONT USB1



Close to connector



FRONT USB2



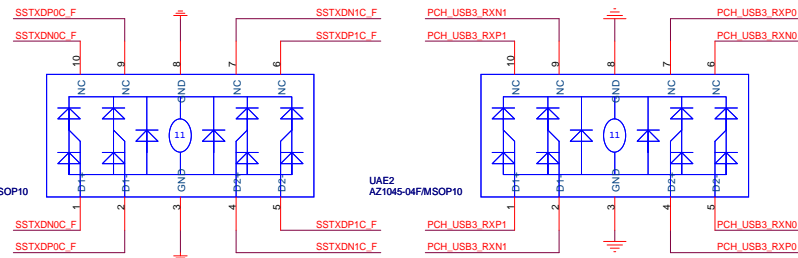
Close to connector

```

USB2.0 Signal & power short protection      |-----
USB2.0 Signal set 4.8V (If bigger than 4.95V , chip maybe fail)
Protection set --> 3VUUAL=3.6V              |_____

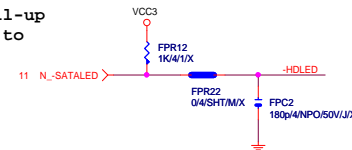
```

F\_USB30 ESD PROTECT

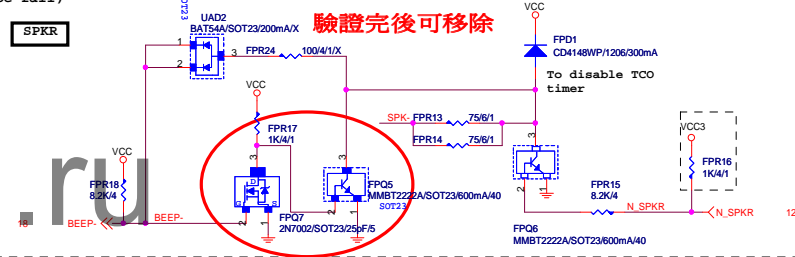


SATA LED
----------

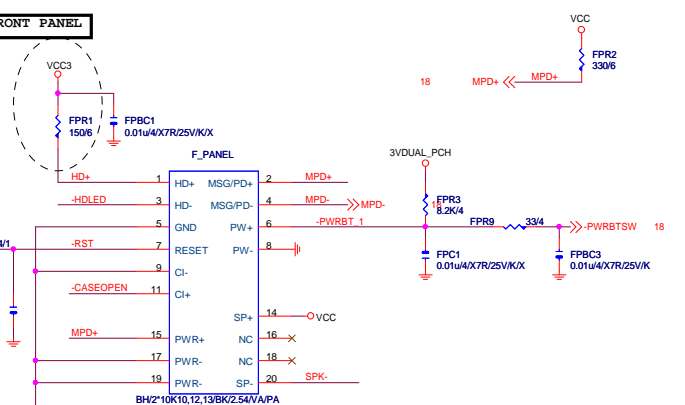
SATALED# signal  
open-collector, pull-up  
(8.2 kΩ to 10 kΩ) to  
Vcc3 3



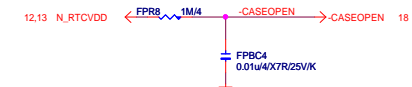
## SPKR



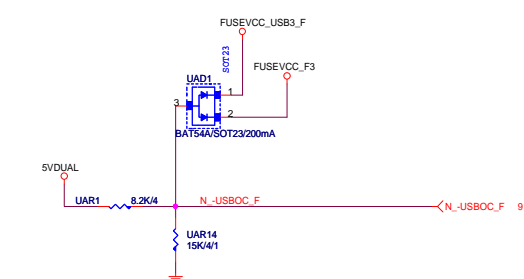
## INTEL FRONT PANEL



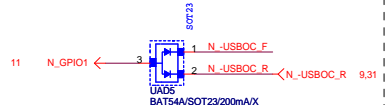
## CASE OPEN



## -USB0C\_F

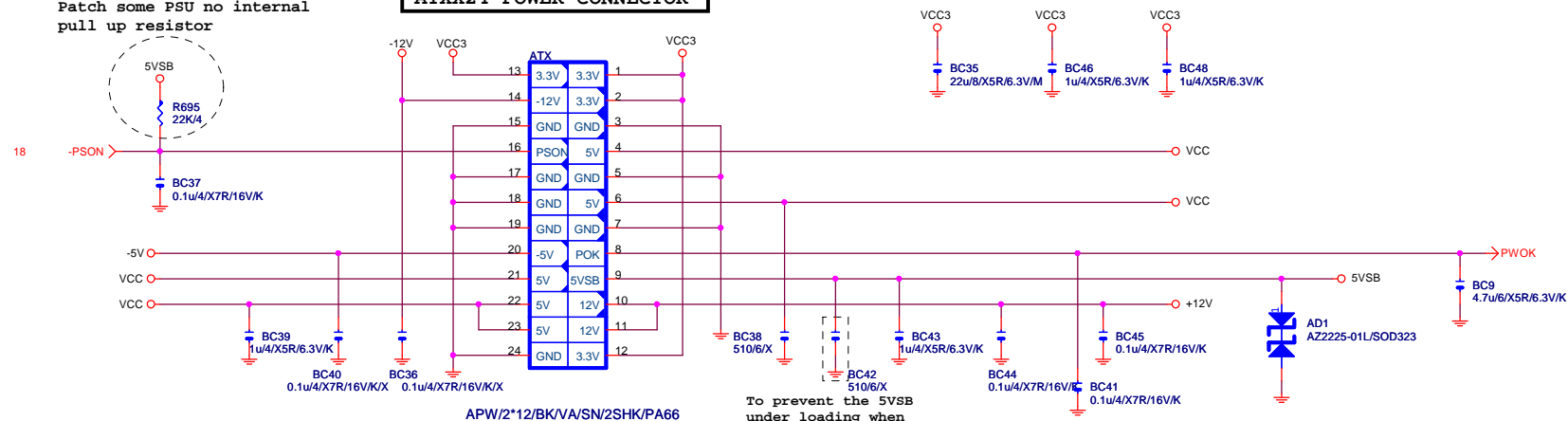


## F\_USB POWER PROTECT

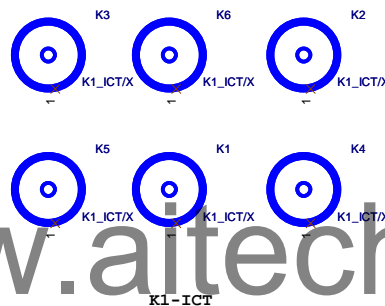
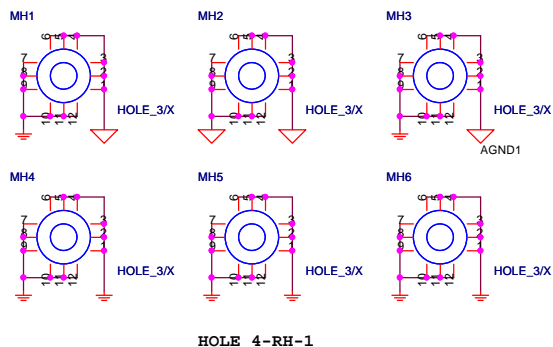
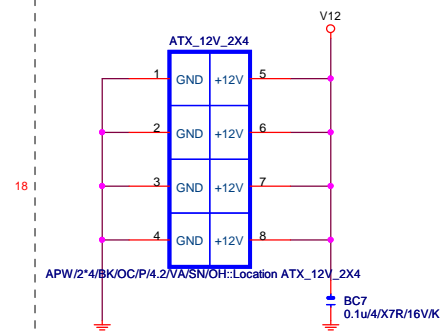


Patch some PSU no internal pull up resistor

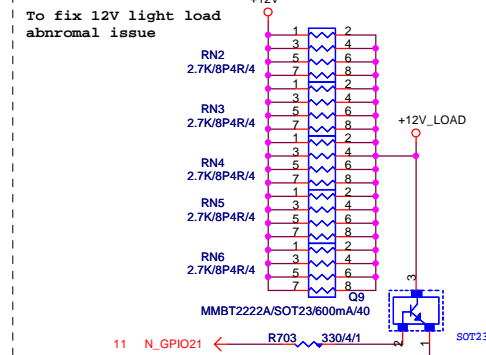
# ATXX24 POWER CONNECTOR



# ATXX4 POWER CONNECTOR

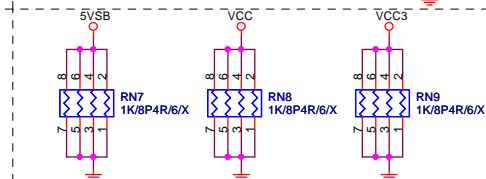


# 【技術通報R&D技術通報153】



# PWOK PATCH

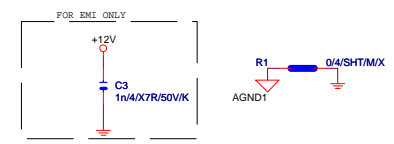
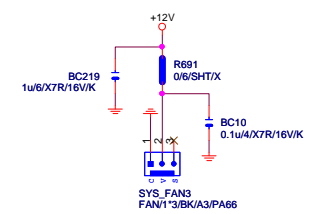
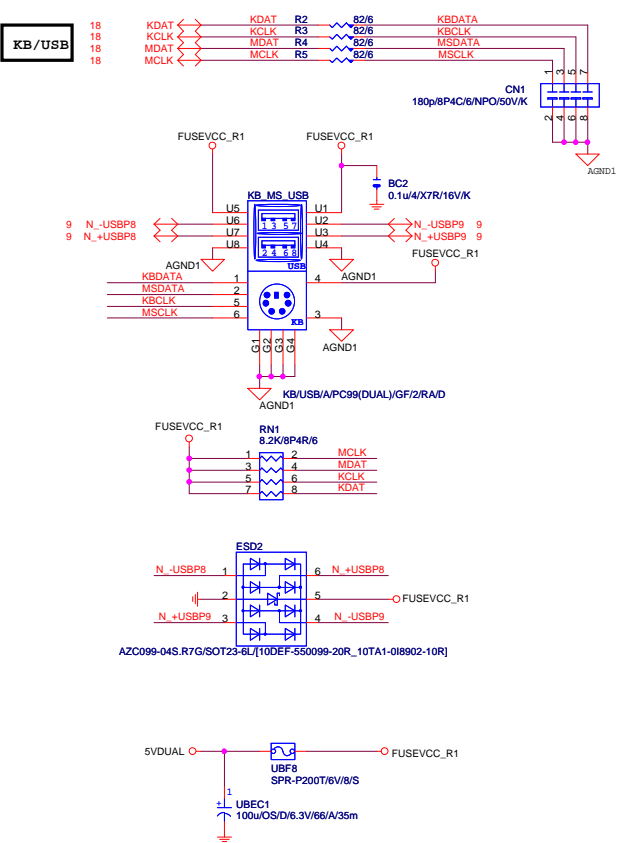
# 【技術通報R&D技術通報154】



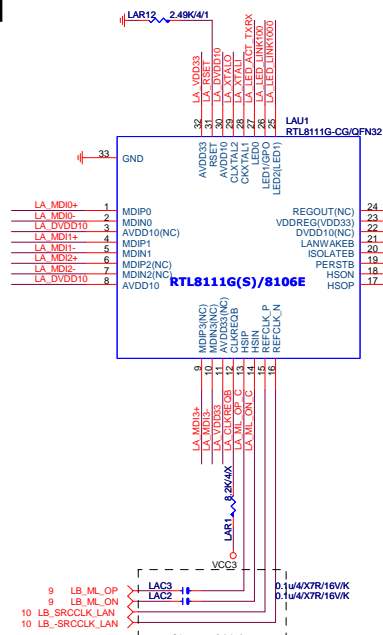
Gigabyte Technology

Title		
ATX POWER CONNECTOR		
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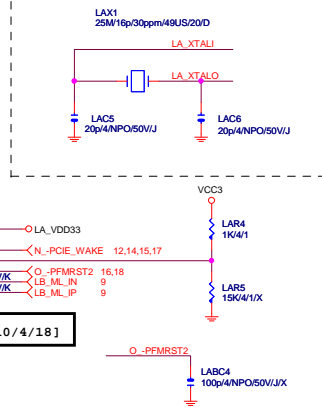




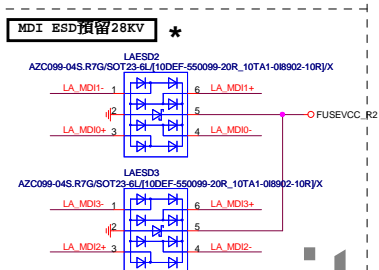
## LAN



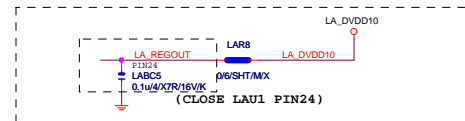
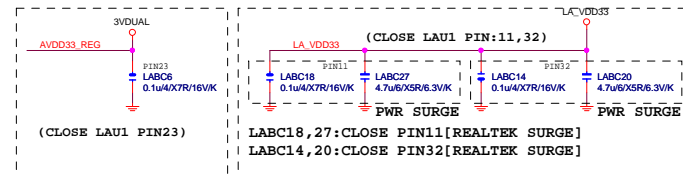
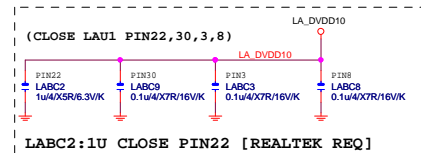
LA\_ ML-->80歐姆:[15/5/5/5/15]



SRCCLK-->50歐姆:[18/4/10/4/18]



## LAN POWER



NOTE:  
RT8106E:PIN3,11,22,24-->NC  
LABC2LABC3,LABC5,LABC18,LABC27-->N/A

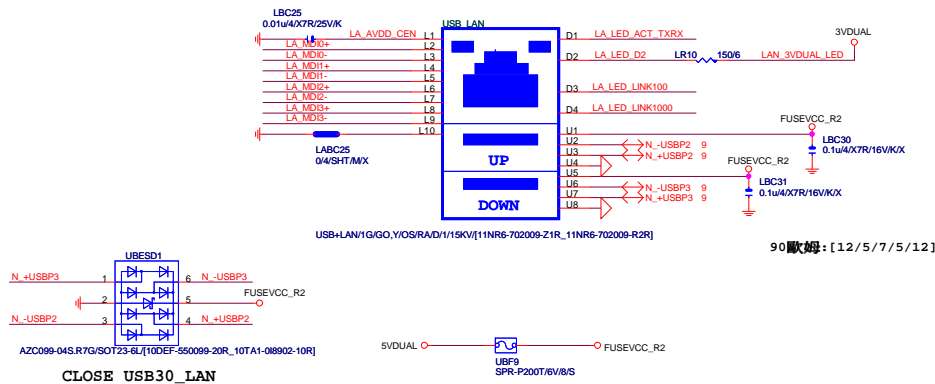
**BOM NOTICE \***

料號	規格	廠商
11NR6-702009-96R 1G LAN (12core)		UDE(RU9 ESD+)
[LED獨立走線,可省略外加AZC099料件LAESD1]		

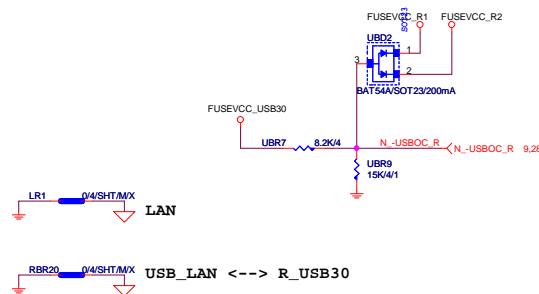
1. 9KV ESD BOM:  
USB\_LAN (RU9):11NR6-702009-96R
2. 28KV ESD BOM:  
USB\_LAN (RU9):11NR6-702009-96R  
LAESD2, LAESD3: 1-14-AZC398-04S

## USB30\_LAN CONNECTOR

100歐姆:[20/4/10/4/20]

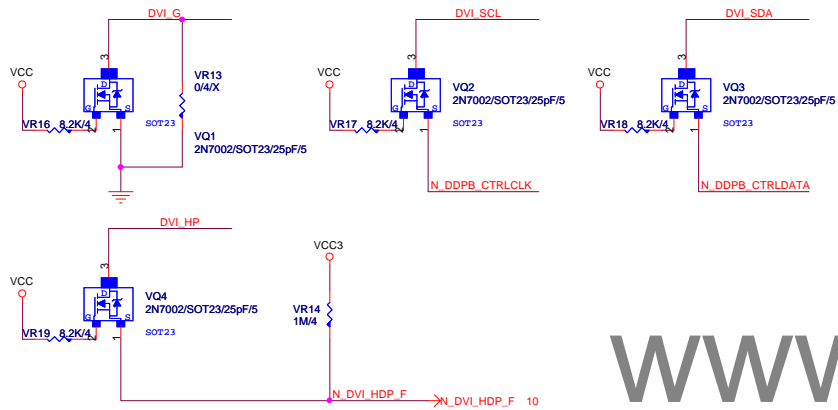
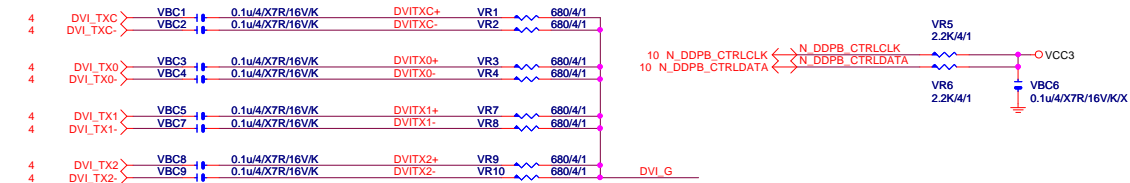


## -USB0C\_R

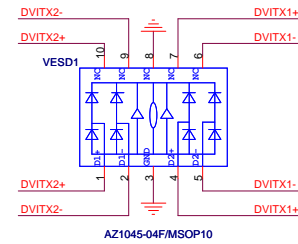
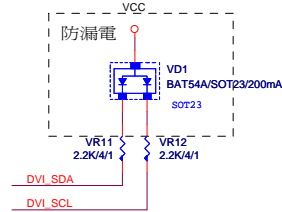


DVI:20/4/6/4/0 Impedance=85 +- 17.5%

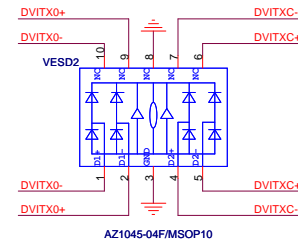
# DVI NON LEVEL SHIFT



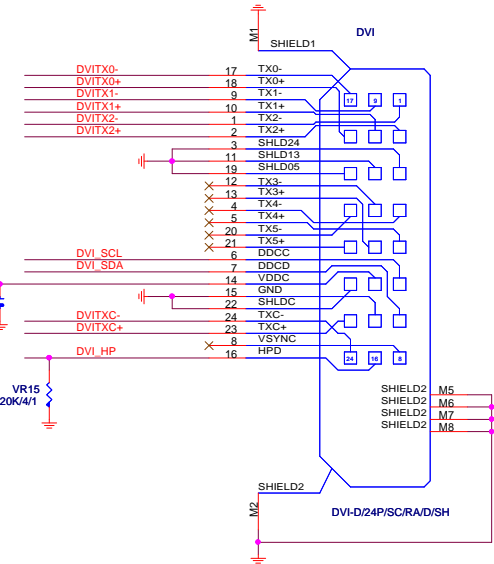
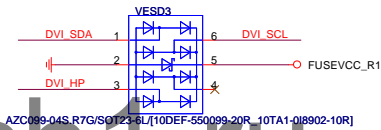
## R&D技術通報 162



## Close to connector



## Close to connector



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DVI			
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Date:	Thursday, November 20, 2014	Sheet	32 of 34

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Gigabyte Technology		
Title		
VL805 USB3.0		
Size	Document Number	Rev
Custom	GA-B85-D3V-SI	2.01
Date:	Thursday, November 20, 2014	Sheet 33 of 34

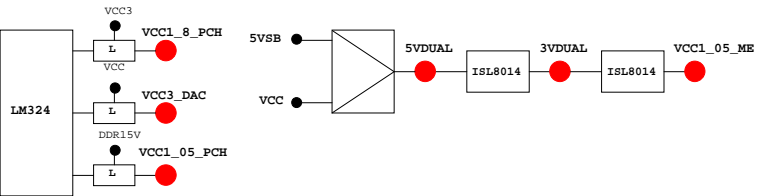
PCB GPIO LIST TABLE

PIN NAME	PWR	Default	USAGE	NOTE
GP0	MAIN	H-Z	GPIO0	N/A
GP1/TACH1	MAIN	GPI	GPIO1	N/A
GP2/PIRQE#	MAIN	GPI	~PIRQE	P/U 8.2K VCC3
GP3/PIRQF#	MAIN	GPI	~PIRQF	P/U 8.2K VCC3
GP4/PIRQG#	MAIN	GPI	~PIRQG	P/U 8.2K VCC3
GP5/PIRQH#	MAIN	GPI	~PIRQH	P/U 8.2K VCC3
GP6/TACH2	MAIN	GPI	PCIEX1 Detect	P/U 8.2K VCC3
GP7/TACH3	MAIN	MAIN	GPIO7	P/U 8.2K VCC3
GP8	STBY	H	GPIO8	N/A
GP9/OC5#	STBY	NATIVE	USB OC5#	N/A
GP10/OC6#	STBY	NATIVE	USB OC6#	N/A
GP11/SMBALERT#	STBY	NATIVE	USB PWR protect	P/U 8.2K 3VDUAL
GP12	STBY	L	GPIO12	N/A
GP13	STBY	L	LPCPME#	P/U 8.2K 3VDUAL
GP14/OC7#	STBY	NATIVE	USB OC7#	N/A
GP15	STBY	L	GPIO15(TL8 Enable)	P/U 8.2K 3VDUAL
GP16	MAIN	GPI	GPIO16	P/U 8.2K VCC3
GP17/TACH0	MAIN	GPI	GPIO17	P/U 8.2K VCC3
GP18	MAIN	GPI	Mobile Only	N/A
GP19	MAIN	GPI	GPIO19	P/U 8.2K VCC3
GP20	MAIN	GPI	GPIO20	P/U 8.2K VCC3
GP21	MAIN	GPI	GPIO21	P/U 8.2K VCC3
GP22	MAIN	H-Z	GPIO22	P/U 8.2K VCC3
GP23	MAIN	GPI	GPIO23	N/A
GP24	STBY	L	SKTOCC#	N/A
GP25	STBY		Mobile Only	N/A
GP26	STBY		Mobile Only	N/A
GP27	STBY	H	GPO	GPIO27
GP28	STBY	H	GPO	PWR LED
GP29	STBY	L	GPI	GPIO29
GP30	STBY	H-Z	GPI	Mobile Only
GP31	STBY	H-Z	GPI	Mobile Only
GP32	MAIN	H	GPO	N/A
GP33	MAIN	H	GPO	N/A
GP34	MAIN	H-Z	GPI	~PCI_STOP
GP35	MAIN	L	GPO	~ACZ_DET
GP36	MAIN	GPI	N/A	N/A
GP37	MAIN	GPI	N/A	N/A
GP38	MAIN	H-Z	GPI	PCIEX4 Detect
GP39	MAIN	H-Z	GPI	GPIO39
GP40	STBY	NATIVE	USB OC1#	N/A
GP41	STBY	NATIVE	USB OC2#	N/A
GP42	STBY	NATIVE	USB OC3#	N/A
GP43	STBY	NATIVE	USB OC4#	N/A
GP44	STBY	L	NATIVE	GPIO44
GP45	STBY	NATIVE	GPIO45	P/U 8.2K 3VDUAL
GP46	STBY	L	NATIVE	GPIO46
GP47	STBY		Mobile Only	N/A
GP48	MAIN	H-Z	IN	GPIO48
GP49	MAIN	H-Z	IN	GPIO49
GP50	MAIN	NATIVE	~REQ1	P/U 2.2K VCC
GP51	MAIN	H	NATIVE	~GNT1
GP52	MAIN	NATIVE	~REQ2	P/U 2.2K VCC
GP53	MAIN	H	NATIVE	~GNT2
GP54	MAIN	NATIVE	~REQ3	P/U 2.2K VCC
GP55	MAIN	H	NATIVE	~GNT3
GP56	STBY	NATIVE	Mobile Only	N/A
GP57	STBY	H-Z	IN	VCORE_OV1
GP58	STBY	H-Z	NATIVE	F_USB_OC
GP59	STBY	NATIVE	USB_OC0#	N/A
GP60	STBY	H-Z	NATIVE	N/A(Reverse)
GP61	STBY	L	NATIVE	~SUSTAT
GP62	STBY	L	NATIVE	SUSCLK
GP63	STBY	L	NATIVE	GPIO63
GP64	MAIN	L	NATIVE	CLKOUTFLEX0
GP65	MAIN	L	NATIVE	CLKOUTFLEX1
GP66	MAIN	L	NATIVE	CLKOUTFLEX2
GP67	MAIN	L	NATIVE	CLKOUTFLEX3
GP72	STBY	H-Z	NATIVE	VCORE_OV4
GP73	STBY		Mobile Only	N/A
GP74	STBY	H-Z	NATIVE	1_05V_OV2
GP75	STBY	H-Z	NATIVE	N/A(Reverse)

Super I/O ITE8720 GPIO Table

PIN NAME	USAGE	NOTE
SVC/PECI_RQT/GP14	-PECI_REQ	
PWROK1/GP13	PWROK1/ITE_PWROK	
KRST#/GP62	-KBRST	
SO/GP50	-ICH_SPI_CS	
IRTX/GP47/CE2_N/JP7	CEB_N	
GP46/IRRX	-LAN2_DSM	
PSION#/GP42	-PSON	
PWROK2#/GP41	PECI_CTL	
PCIRST3#/GP10/VDIMM_STR_EN	-PCIE_RST	
RSMRST#CIRRX1/GP55	-RSMRST	
PME#/GP54	-LPCPME	
PD5/GP75/BUSS00	N/A	

PIN NAME	USAGE	NOTE
FAN_TAC2/GP52	FANIO2	
FAN_TAC3/GP37	FANIO3	
VIDO3/FAN_TAC4/GP25/DSR2#	FANIO4	
FAN_CTL2/GP51	FANPWM2	
FAN_CTL3/GP36	FANPWM3	
VID4/GP34	BEEP-	
VID3/GP33	TURBO1	
VID2/GP32	TURBO0	
VCORE_GOOD/VID6/GP63	CPUT_LED1_C	
VID5/GP35	CPUT_LED2_C	
VID1/GP31	CPUT_LED3_C	
VID0/GP30	-LAN1_DSM	NBT_LED1_C
SLCT/GP80	CPU_LED1_C	
PE/GP81	CPU_LED2_C	
BUSY/GP82	CPU_LED3_C	
PD3/GP73/BUSS11	SB_LED1_C	
PD4/GP74/BUSS12	SB_LED2_C	
VCORE_EN/VID7/GP64	IT_GP64	SB_LED3_C
PD0/GP70	NB_LED1_C	
PD1/GP71	NB_LED2_C	
PD2/GP72/BUSS10	NB_LED3_C	
GP22/SEN	LOW_PWR_1	
VID05/GP27/SEN2	LOW_PWR_2	
PCIRST2#/GP11	-PFMRST1	
PCIRST1#/GP12	-PFMRST2	
3VSB5W#/GP40	CSI_F0	BSEL166_1
SUSCH#/GP53	CSI_F1	BSEL166_2
GP23/SI	BSEL166_3/CSISBSL	
VID00/GP20/CTS2#	CPUT_LED1_C	BSEL166_4
GP65/VDDA_EN/GB_01	MB_ID2	
PD6/GP76/BUSS01	MB_ID3	
PD7/GP77/BUSS02	MB_ID4	
AFD#/GP86/SMBC_R	2X PIN	FST_2X8
INIT#/GP85/SMBC_M	SEC_2x8	GTLREF_AD2
ACK#/GP83	DDR_LED1_C	
VID01/GP21/DCD2#	DDR_LED2_C	
STB#/GP87/SMBC_M	DDR_LED3_C	
PWRON#/GP44	VCORE_OV1	
PANSWH#/GP43	PWRBTSW	
KDAT/GP61	-PWRBTSW	
KCLK/GP60	KDAT	
MDAT/GP57	KCLK	
MACL/GP56	MDAT	
GP66/VLDT_EN/GB_02	NBT_LED1_C	MCLK
SVD/PCIRSTIN#/CIRTX/GP15	PWM2_CR	
KDAT/GP61	PWM2_CR	
GP67/CPU_PG/GB_03	EN_LOADLINE	IT_GP67/-EN_PWM2
SLIN#/GP84/SMBC_R	-EN_PWM2	
PSI_L/FAN_CLT5/CIRRX2/GP16	-THERM	
VID04/GP26/SOUT2	DDR18V_PH2_EN	
VID02/FAN_TAC5/GP24/DSR2#	DDR18V_LED	
VID06/GP17/RI2#	1_1V_PH_EN	
VID07/JP6/DTR2#	JP6	
PD5/GP75/BUSS00	SB_LED3_C	



PWM各相位的擺法如下：

