

Model Name: GA-H97M-HD3

Revision 1.0

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,NVRAM
10	PCH DP,CLK BUFFER
11	PCH HOST,SATA,PCI
12	PCH GPIO,CTRL,AUDIO
13	PCH PWR,GND
14	PCI EXPRESS*16 SLOT
15	PCI EXPRESS X1 *2 SLOT
16	PCI SLOT
17	ITE 8620 LPC IO
18	COM,KB MS USB,USB30 20
19	HWM,FAN CTRL,OV,-PROCHOT
20	DUAL BIOS
21	FP,FUSB,SPK,SATALED
22	Realtek ALC887-VD2
23	REAR AUDIO JACK
24	REALTEK RTL8111F
25	DISCRETE POWER
26	ATX
27	VCORE ISL95820 1

SHEET

TITLE

28	VCORE ISL95820 2
29	RT8120 DDR POWER
30	LPT, M3 POWER
31	DVI, HDMI
32	IT8892E

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Gigabyte Technology

Cover Sheet		
Size Custom	Document Number <b>GA-H97M-HD3</b>	Rev <b>1.0</b>
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Revision 1.0

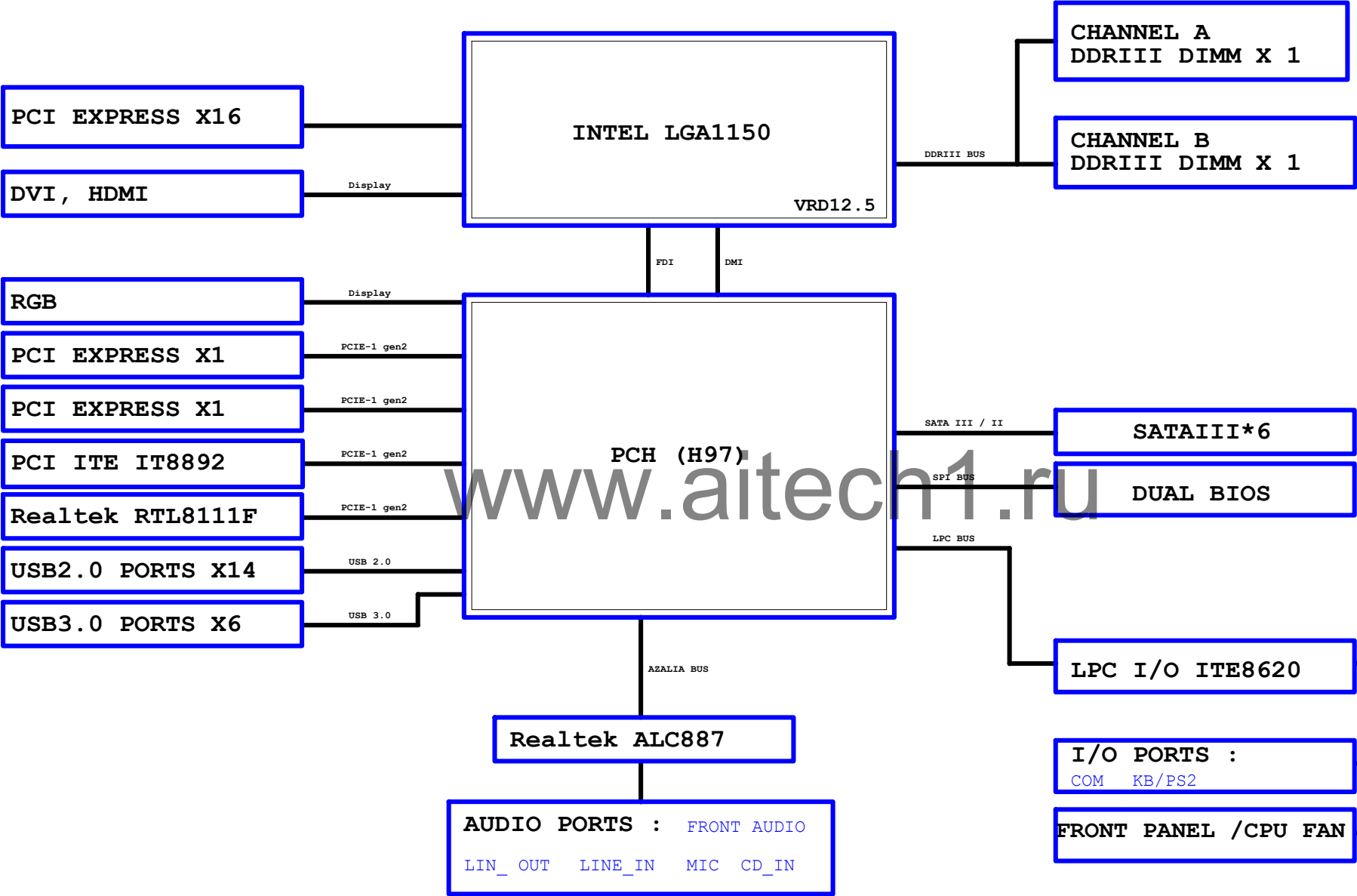
## Circuit or PCB layout change

### Component value change history

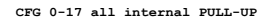
2014/03/04

[illegible][illegible]

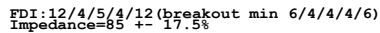
BLOCK DIAGRAM



**(E)**

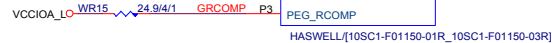


(D) LGA1150D

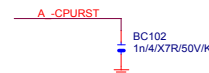


(C)

Impedance=80  $\pm$  17.5%



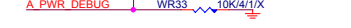
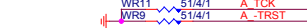
**-CPURST**



## CPU SVID



## CPU PU/PD



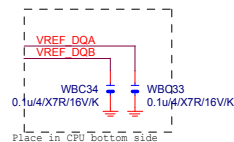
SM REF
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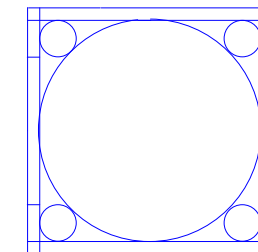
LGA1150A	
MAAA0 AU13	DDR0_MA0
MAAA1 AV16	DDR0_MA1
MAAA2 AU16	DDR0_MA2
MAAA3 AW17	DDR0_MA3
MAAA4 AU17	DDR0_MA4
MAAA5 AW18	DDR0_MA5
MAAA6 AW17	DDR0_MA6
MAAA7 AT18	DDR0_MA7
MAAA8 AU18	DDR0_MA8
MAAA9 AT19	DDR0_MA9
MAAA10 AW11	DDR0_MA10
MAAA11 AV19	DDR0_MA11
MAAA12 AU19	DDR0_MA12
MAAA13 AT20	DDR0_MA13
MAAA14 AT20	DDR0_MA14
MAAA15 AU21	DDR0_MA15
MODT_A0 AW10	DDR0_ODT0
MODT_A1 AV9	DDR0_ODT1
AW9	DDR0_ODT2
AW8	DDR0_ODT3
AW33	DDR0_ECC0
AW33	DDR0_ECC1
AU31	DDR0_ECC2
AW31	DDR0_ECC3
AT33	DDR0_ECC4
AU33	DDR0_ECC5
AT31	DDR0_ECC6
AW31	DDR0_ECC7
SBAA0 SBAA1	DDR0_BA0
SBAA2 AT21	DDR0_BA1
SBAA2	DDR0_BA2
CKEA0 CKEA1	DDR0_CKE0
CKEA1	DDR0_CKE1
CKEA1	DDR0_CKE2
CKEA1	DDR0_CKE3
CSA0 CSA1	DDR0_CS_N0
CSA1	DDR0_CS_N1
CSA1	DDR0_CS_N2
CSA1	DDR0_CS_N3
DCLKA0 DCLKA0	DDR0_CLK_P0
DCLKA0 DCLKA1	DDR0_CLK_N0
DCLKA1 DCLKA1	DDR0_CLK_P1
DCLKA1 DCLKA1	DDR0_CLK_N1
AV14	DDR0_CLK_P2
AW14	DDR0_CLK_N2
AW13	DDR0_CLK_P3
AW13	DDR0_CLK_N3
AW12	RSVD
SRASA SRASA	DDR0_RAS*
SWEA SWEA	DDR0_WE*
AV20	RSVD
AW27	RSVD
SCASA SCASA	DDR0_CAS*
WR61	DDR_RESET*
D4/SH1MX	
WC4	
0.1u4/X7R/16V/K/X	

HASWELL[10SC1-F01150-01R\_10SC1-F01150-03R]

LGA1150B	
MAAB0 AL19	DDR1_MA0
MAAB1 AK23	DDR1_MA1
MAAB2 AM22	DDR1_MA2
MAAB3 AM23	DDR1_MA3
MAAB4 AP23	DDR1_MA4
MAAB5 AL23	DDR1_MA5
MAAB6 AY24	DDR1_MA6
MAAB7 AV25	DDR1_MA7
MAAB8 AU26	DDR1_MA8
MAAB9 AV25	DDR1_MA9
MAAB10 AP18	DDR1_MA10
MAAB11 AY25	DDR1_MA11
MAAB12 AV26	DDR1_MA12
MAAB13 AR15	DDR1_MA13
MAAB14 AV27	DDR1_MA14
MAAB15 AY28	DDR1_MA15
MODT_B0 AM17	DDR1_ODT0
MODT_B1 AL18	DDR1_ODT1
AM16	DDR1_ODT2
AK15	DDR1_ODT3
AM26	DDR1_ECC0
AM25	DDR1_ECC1
AP25	DDR1_ECC2
AP26	DDR1_ECC3
AL26	DDR1_ECC4
AL25	DDR1_ECC5
AR26	DDR1_ECC6
AR25	DDR1_ECC7
SBAB0 SBAB1	DDR1_BA0
SBAB2 SBAB2	DDR1_BA1
SBAB2	DDR1_BA2
CKEB0 CKEB1	DDR1_CKE0
CKEB1	DDR1_CKE1
CKEB1	DDR1_CKE2
CKEB1	DDR1_CKE3
CSB0 CSB1	DDR1_CS_N0
CSB1	DDR1_CS_N1
CSB1	DDR1_CS_N2
CSB1	DDR1_CS_N3
DCLKB0 DCLKB0	DDR1_CLK_P0
DCLKB0 DCLKB1	DDR1_CLK_N0
DCLKB1 DCLKB1	DDR1_CLK_P1
DCLKB1 DCLKB1	DDR1_CLK_N1
AN20	DDR1_CLK_P2
AN21	DDR1_CLK_N2
AP21	DDR1_CLK_P3
AP20	DDR1_CLK_N3
SCASB SCASB	DDR1_CAS*
SRASB SRASB	RSVD
SWEB SWEB	DDR1_RAS*
SWEB	DDR1_WE*
VREF_DOA VREF_DOB	DDR_VREF_DQ0
VREF_DOB	DDR_VREF_DQ1
DQSA0 DQSA0	DDR1_DQS_P0
DQSA1 DQSA1	DDR1_DQS_P1
DQSA2 DQSA2	DDR1_DQS_P2
DQSA3 DQSA3	DDR1_DQS_P3
DQSA4 DQSA4	DDR1_DQS_P4
DQSA5 DQSA5	DDR1_DQS_P5
DQSA6 DQSA6	DDR1_DQS_P6
DQSA7 DQSA7	DDR1_DQS_P7
DQSA8 DQSA8	DDR1_DQS_P8
DQSA9 DQSA9	DDR1_DQS_N1
DQSA10 DQSA10	DDR1_DQS_N2
DQSA11 DQSA11	DDR1_DQS_N3
DQSA12 DQSA12	DDR1_DQS_N4
DQSA13 DQSA13	DDR1_DQS_N5
DQSA14 DQSA14	DDR1_DQS_N6
DQSA15 DQSA15	DDR1_DQS_N7
DQSA16 DQSA16	DDR1_DQS_N8



HASWELL[10SC1-F01150-01R\_10SC1-F01150-03R]

CR  
CPU RETENTION/X

LGA1150\_P



ILM\_BP/1156/CSP/ILM\_BP/1156/CSP[12KRC-0F0001-52R\_12KRC-0F0001-51R]

DDR BUS

[7] MODT_A[0..1]	MODT_A0..1
[8] MODT_B[0..1]	MODT_B0..1
[7] MDA[0..63]	MDA0..63
[8] MDB[0..63]	MDB0..63
[7] DQSA[0..7]	DQSA0..7
[7] DQSA[0..7]	DQSA0..7
[7] MAA[0..15]	MAA0..15
[8] MAB[0..15]	MAB0..15
[8] DQSB[0..7]	DQSB0..7
[8] -DQSB[0..7]	-DQSB0..7

Gigabyte Technology

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(F, J)



(G, H, I)



(X18)



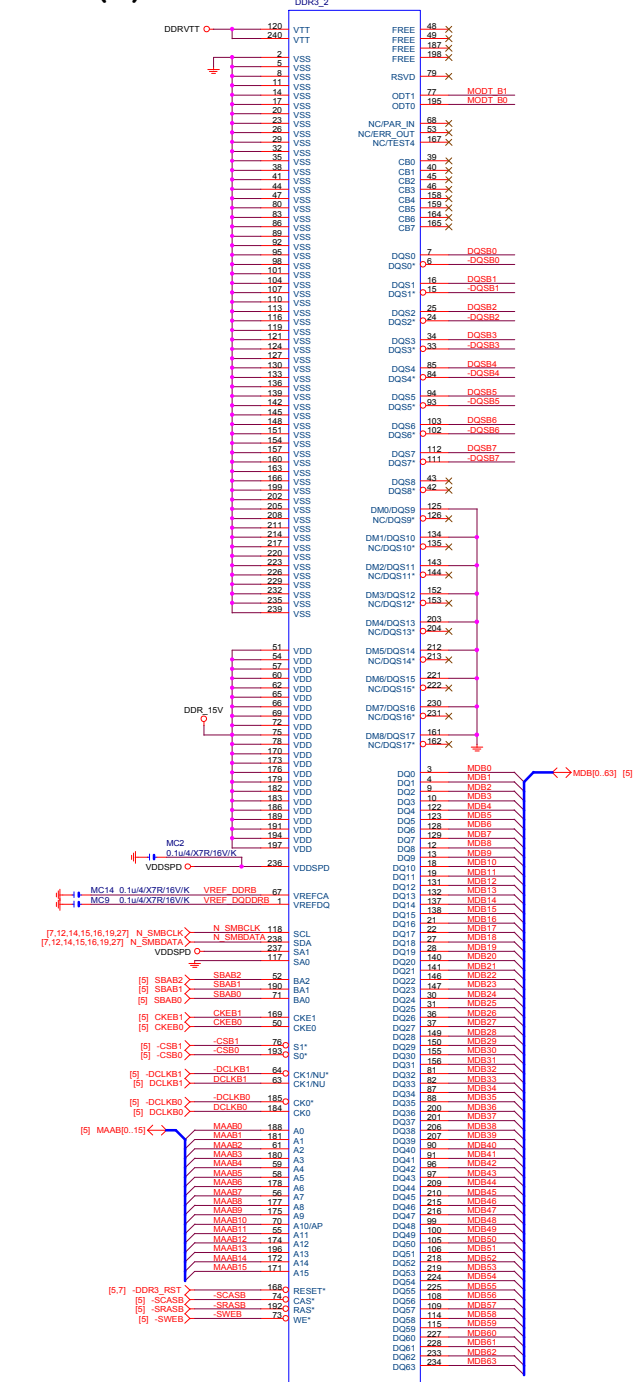
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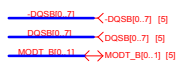


DDR3

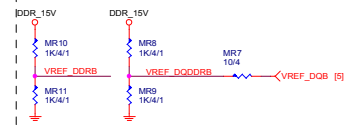
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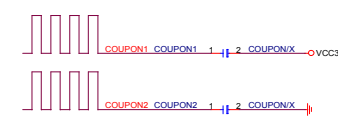
DDR3/240(BK/A/D)  
BLACK CONNECTOR



DDR3 VREF



COUPON



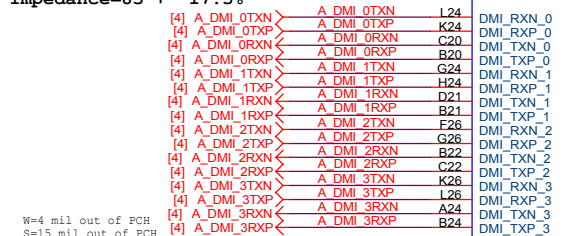
CPU

DTMM1 CHA  
DTMM2 CHB

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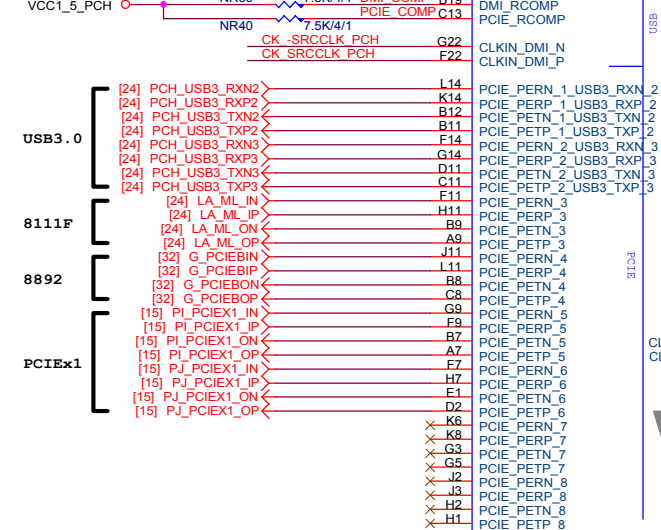


DMI:12/4/4/4/12 (breakout min 8/4/4/4/8)  
Impedance=85 +- 17.5%



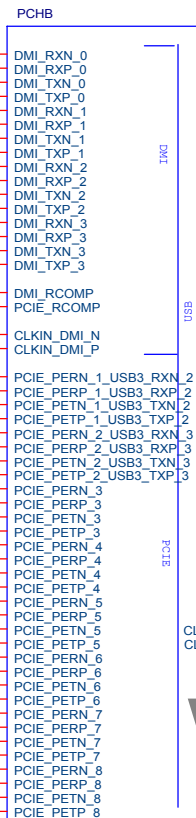
W=4 mil out of PCH  
S=15 mil out of PCH

VCC1 5 PCH 

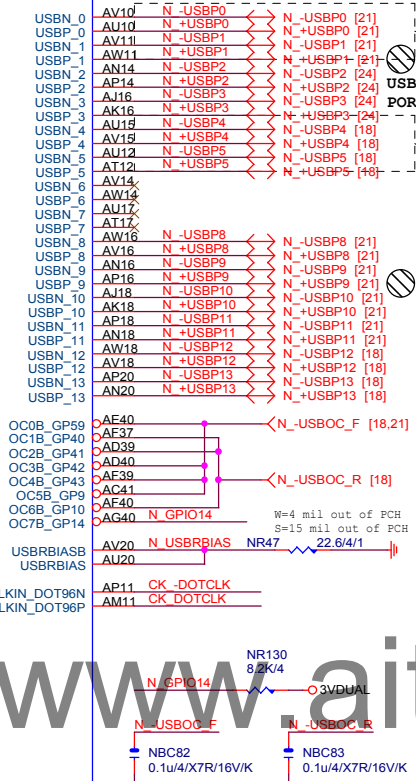


### 電容放靠近 Device & PCI-E Slot

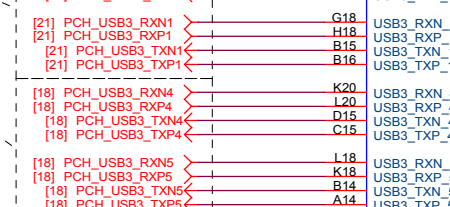
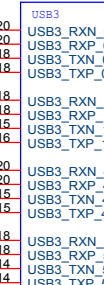
PCIEX1:16/5/5/5/16 (breakout min 8/4/4/4/8)  
Impedance=80 +- 17.5%



USB2.0 : 12/4.5/7.5/4.5/12 (breakout min 8/4/4/4/8)  
Impedance=90 +- 17.5%



```
[21] PCH_USB3_RXN0
[21] PCH_USB3_RXP0
[21] PCH_USB3_TXN0
[21] PCH_USB3_TXP0
```


$$\overline{VCC3} \quad \text{---} \quad \text{---} \quad \text{---}$$


CHIP H97 A0 INTEL/[10HB1-030H97-10R]

FDI\_TXP[0..1] >> FDI\_TXP[0..1] [4]

```
FDI_TXN[0..1]  \>> FDI_TXN[0..1] [12]
```

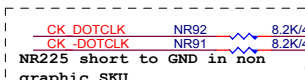
USB3.0:20/5/7/5/20 (breakout min  
8/4/4/4/8) ; ONLY 3 VIAS

Impedance=85 +- 17.5%  
Back Panel < 10000 MILS

## PCH CLK PD

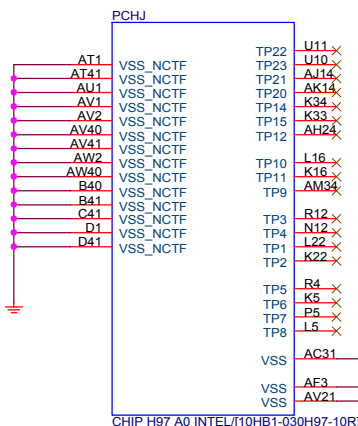


Mount for integrated clock Generation Mode



## PCH PCIE ,DMI 15/4/4/4//15

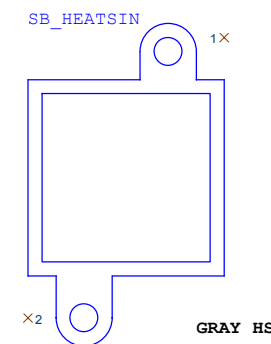
```
usb2.0 12/5/7/5//12
usb3.0 20/5/7/5//20
```



CHIP H97 A0 INTEL/I10HB1-030H97-10R

PCH H/S

LOW COST ICH7 HEATSINK

 $\times 2$ 

GRAY HS

PCH\_HS  
PCH\_HS/[12SP2-030005-43R\_12SP2-030005-41R\_12SP2-030005-42R

## USB TABLE

OC[3:0]# for Device 29 (ports 0-7)

OC[7:4]# for Device 26 (ports 8-13)

USB OC# Configure	
OC0#	F_USB30
OC1#	USB30_LAN
OC2#	R_USB30
OC3#	N/A
OC4#	F_USB1
OC5#	F_USB2
OC6#	KB_MS_USB
OC7#	Not Use

## Gigabyte Technology

Title	PCH FDI,DMI,USB ,PCIE,NVRAM
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Size Custom	Document Number <b>GA-H97M-HD3</b>	Rev 1.0
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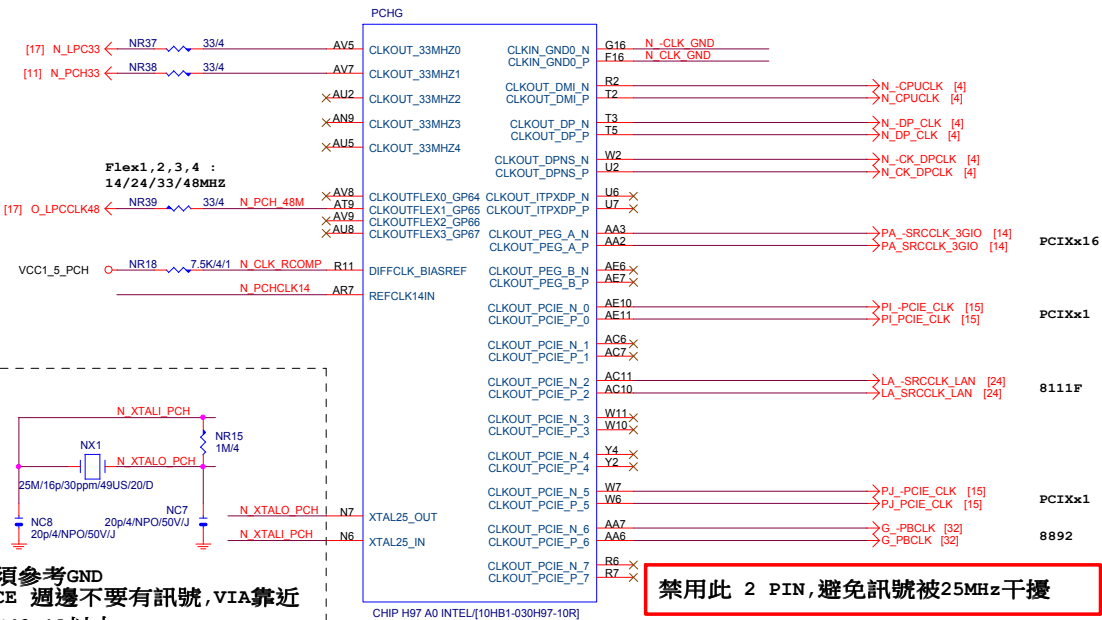
Date: Tuesday, March 11, 2014 Sheet 9 of 32

**(E)**



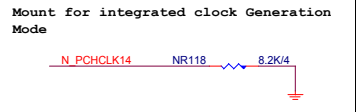
VGA DISABLE	
R,G,B	NC OR GND
IRTN / IREF GND	
VGA_HSYNC, VGA_VSYNC, DDC_CLK, DDC_DATA	NC
POWER VCCADAC (AF2) , VCCADACBG (AE1) GND	

**(G)**

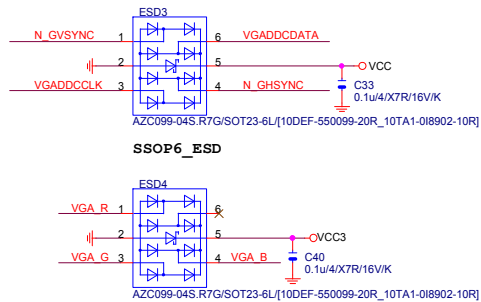


Differential Clock:18/4/6/4/18  
Impedance=90 +- 15%

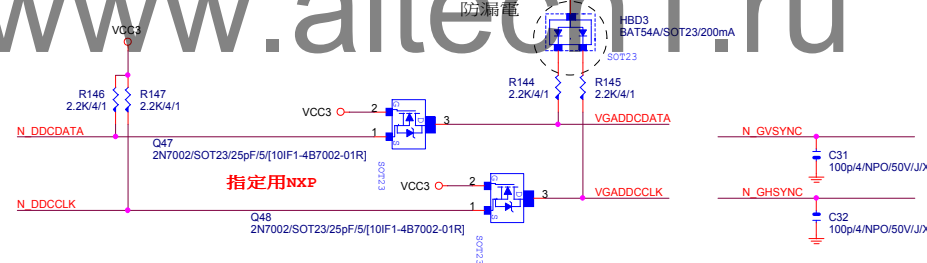
PCH	CLK	PD
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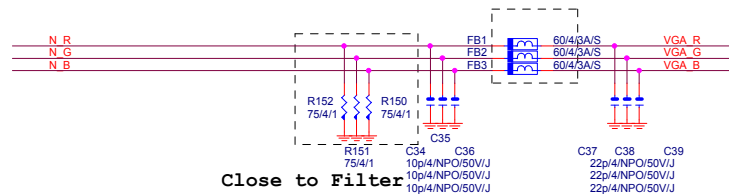
## VGA ESD



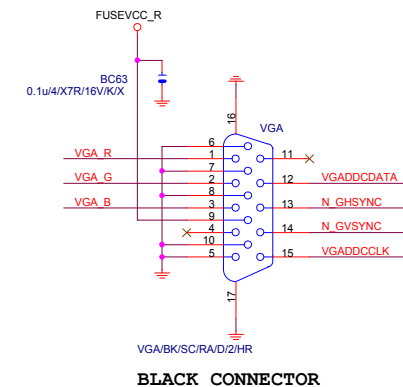
## VGA DDC



## VGA DDC



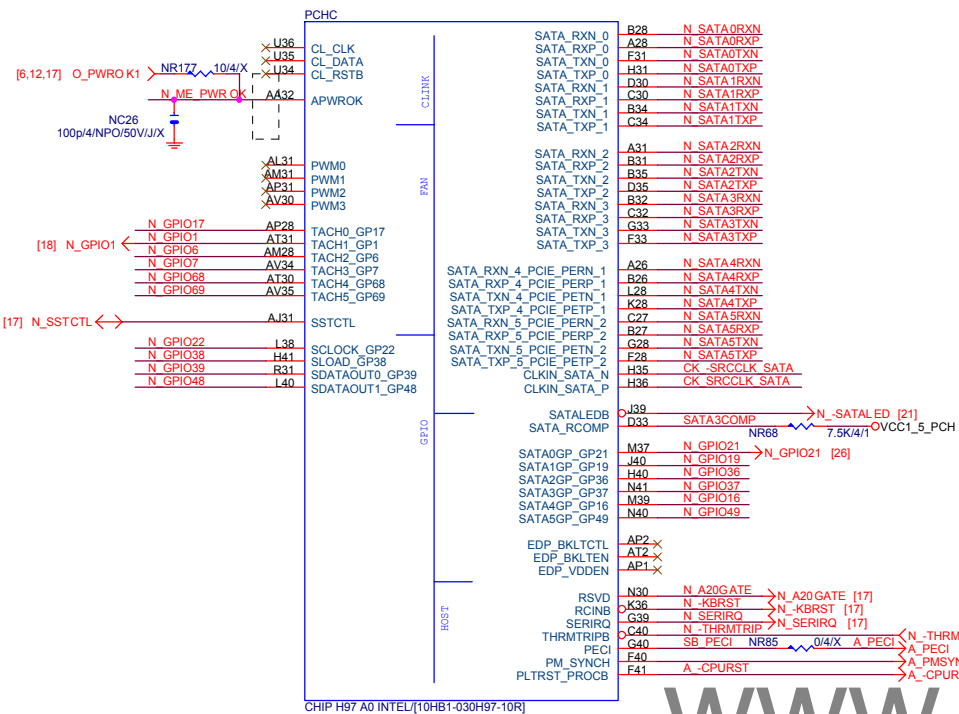
## VGA CONNECTOR



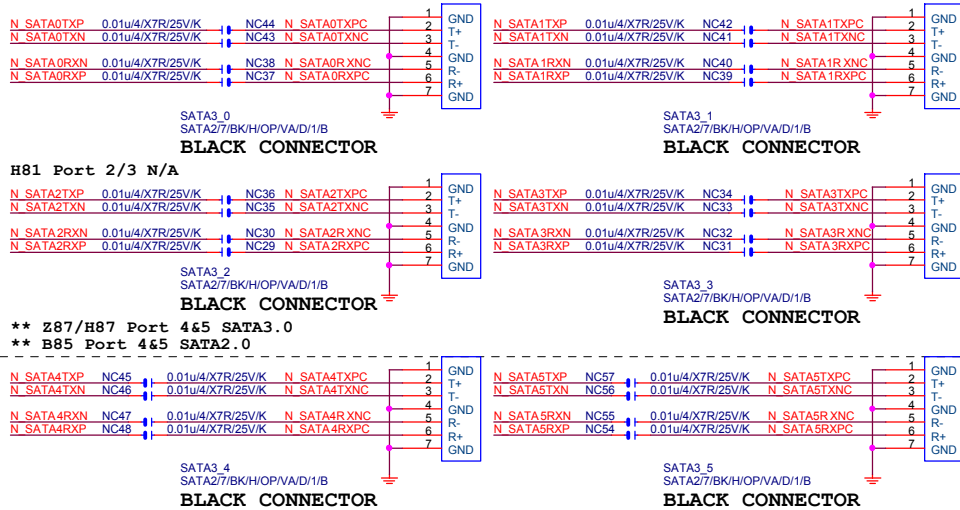
<b>Gigabyte Technology</b>			
Title <b>PCH DISPLAY ,CLK BUFFER</b>			
Size Custom	Document Number <b>GA-H97M-HD3</b>		Rev 1.1
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(C)

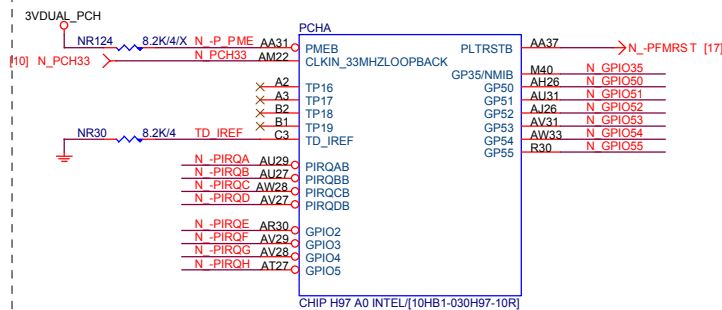
SATA3 : 20/7.5/4.5/7.5/20 (breakout min 8/4/4/4/8)  
Impedance=90 +- 17.5%  
SATA2 : 15/7.5/4.5/7.5/15 (breakout min 8/4/4/4/8)  
Impedance=90 +- 17.5%



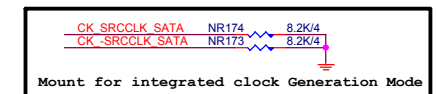
## SATA CONNECTOR



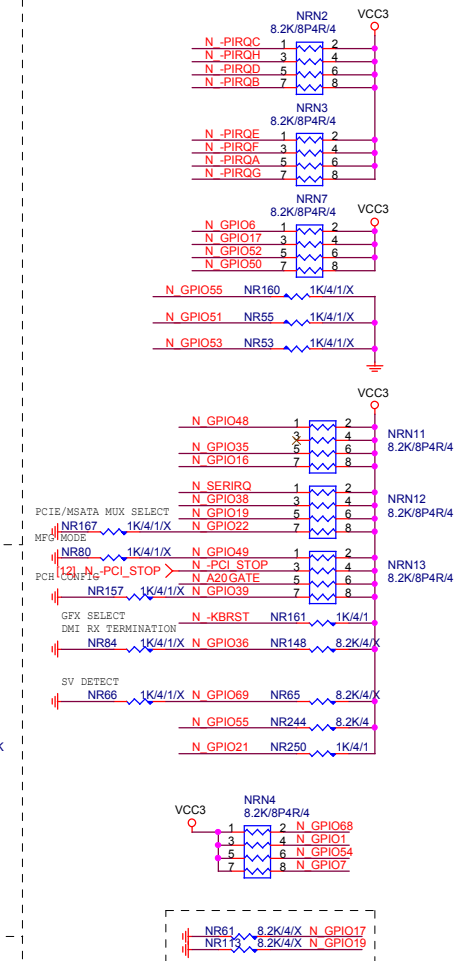
**(A)**



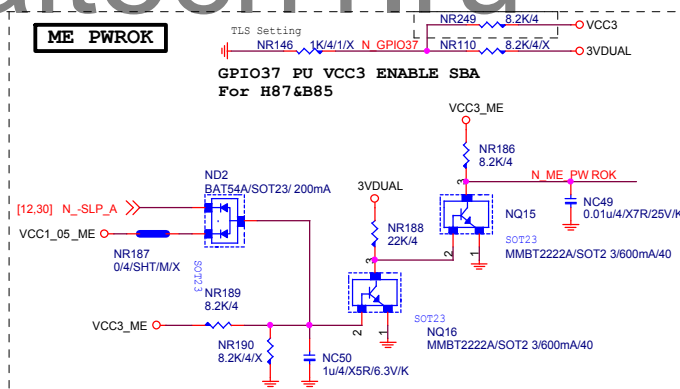
PCH	CLK	PD
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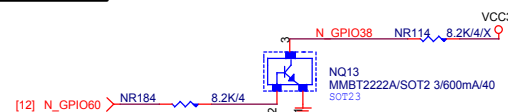
PCH	PU/PD
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## ME PWROK



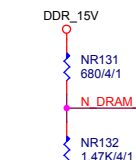
GPIO38 Ctrl



## Gigabyte Technology

Title			
PCH HOST , SATA, PCI			
Size	Document Number		Rev
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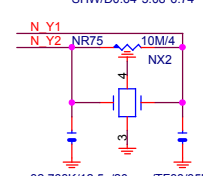
(D)



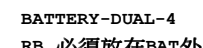
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**HSW STRAP13**

32.768KHZ



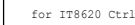
CLR	CMOS
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## ACZ SDOUT



## PCH DPWROK



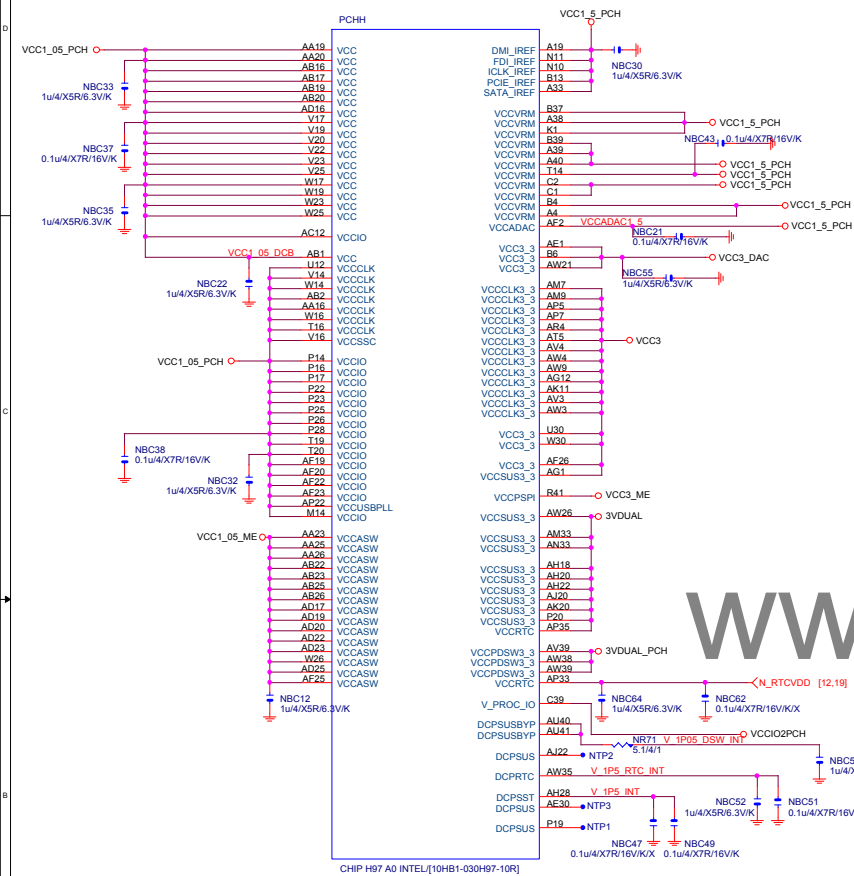
PCH	PU/PD
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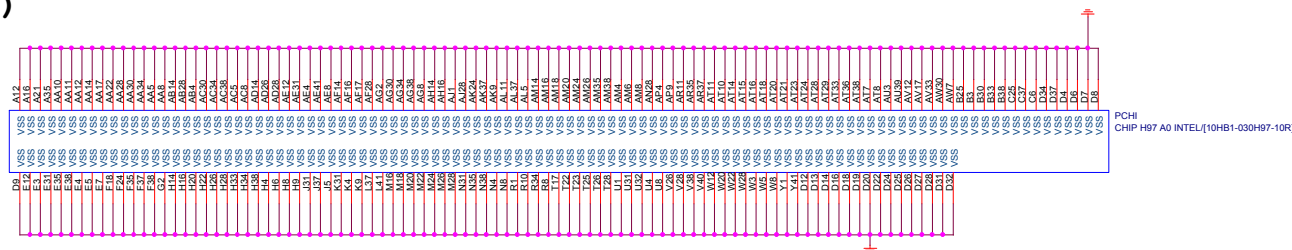
## Gigabyte Technology

Title			
PCH GPIO , CTRL , AUDIO			
Size	Document Number		Rev
Custom	GA-H97M-HD3		1.0
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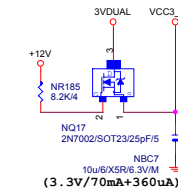
**PCH (H)**



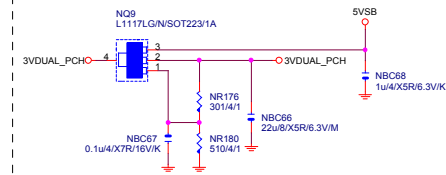
**PCH (I)**



## VCC3\_DAC



## 3VDUAL\_PCH

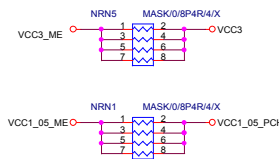


SHT PWR

H97 N/A

MASK FOOT

**MASK**



## CAP

(3.3V) (x6)

(1.05V) (x5)

(1.05V) (x6)

(1.05V)(x2) (3.3V) (x2)

(1.05V) (x10)

VCC1\_5\_PCH

NBC26 10u4X5R6, 3V

NBC29 10u4X5R6, 3V

NBC30 10u4X5R6, 3V

NBC33 10u4X5R6, 3V

NBC19 1u4X5R6, 3V

NBC23 0.1u4X7B16V

NBC28 1u4X5R6, 3V

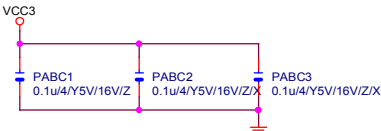
NBC44 1u4X5R6, 3V

NBC46 0.1u4X7B16V

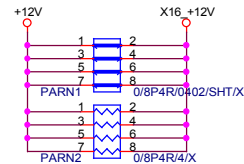
NBC18 1u4X5R6, 3V



# PCIEX16 CAP



# PCIEX16 PROTECT SHT



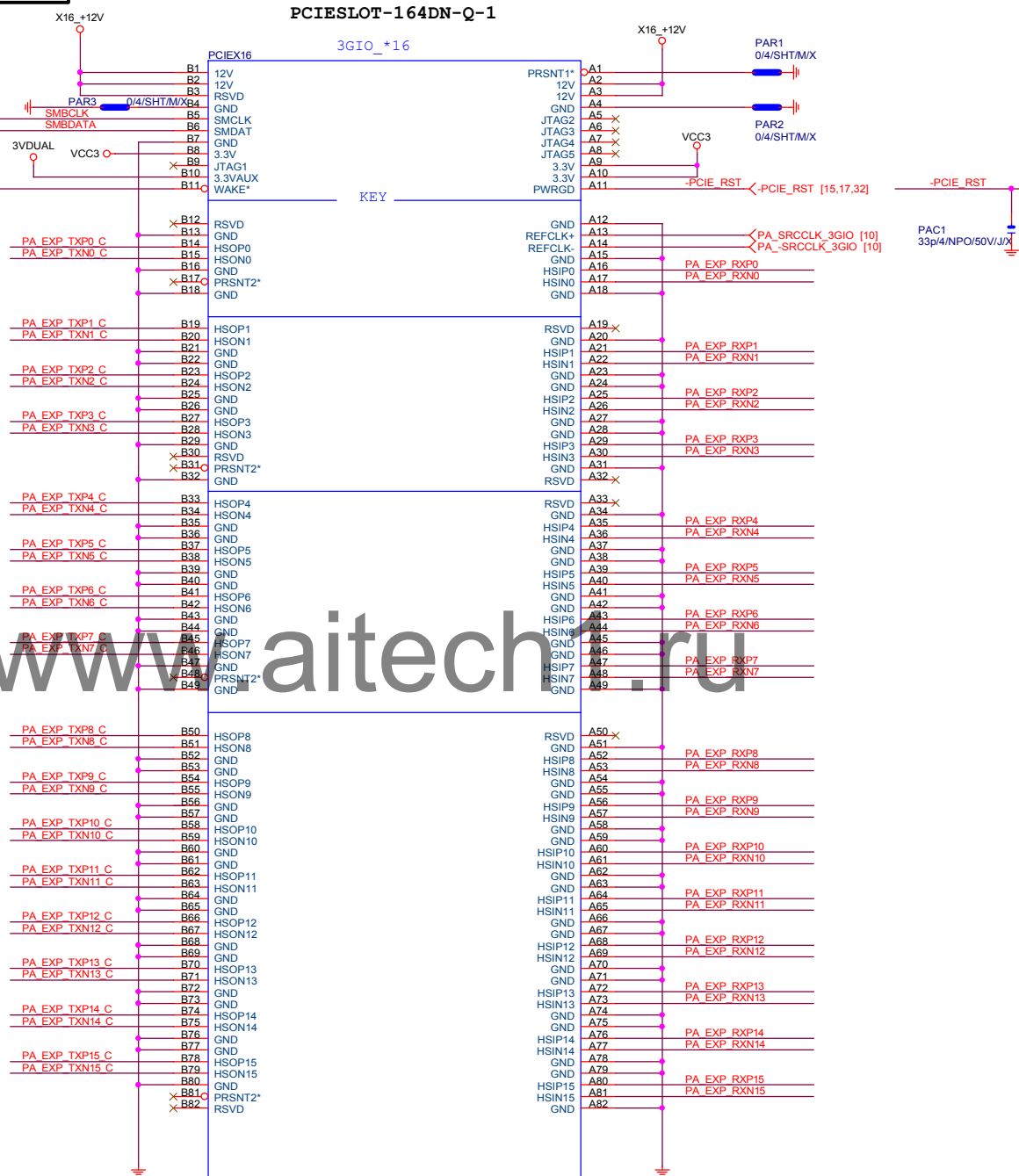
# PCIEX16 AC CAP

PA EXP TXP0	PAC5	0.22u4/X5R/6.3V/K	PA EXP TXP0 C
PA EXP TXN0	PAC4	0.22u4/X5R/6.3V/K	PA EXP TXN0 C
PA EXP TXP1	PAC6	0.22u4/X5R/6.3V/K	PA EXP TXP1 C
PA EXP TXN1	PAC7	0.22u4/X5R/6.3V/K	PA EXP TXN1 C
PA EXP TXP2	PAC8	0.22u4/X5R/6.3V/K	PA EXP TXP2 C
PA EXP TXN2	PAC9	0.22u4/X5R/6.3V/K	PA EXP TXN2 C
PA EXP TXP3	PAC10	0.22u4/X5R/6.3V/K	PA EXP TXP3 C
PA EXP TXN3	PAC11	0.22u4/X5R/6.3V/K	PA EXP TXN3 C
PA EXP TXP4	PAC12	0.22u4/X5R/6.3V/K	PA EXP TXP4 C
PA EXP TXN4	PAC13	0.22u4/X5R/6.3V/K	PA EXP TXN4 C
PA EXP TXP5	PAC14	0.22u4/X5R/6.3V/K	PA EXP TXP5 C
PA EXP TXN5	PAC15	0.22u4/X5R/6.3V/K	PA EXP TXN5 C
PA EXP TXP6	PAC16	0.22u4/X5R/6.3V/K	PA EXP TXP6 C
PA EXP TXN6	PAC17	0.22u4/X5R/6.3V/K	PA EXP TXN6 C
PA EXP TXP7	PAC18	0.22u4/X5R/6.3V/K	PA EXP TXP7 C
PA EXP TXN7	PAC19	0.22u4/X5R/6.3V/K	PA EXP TXN7 C
PA EXP TXP8	PAC20	0.22u4/X5R/6.3V/K	PA EXP TXP8 C
PA EXP TXN8	PAC21	0.22u4/X5R/6.3V/K	PA EXP TXN8 C
PA EXP TXP9	PAC22	0.22u4/X5R/6.3V/K	PA EXP TXP9 C
PA EXP TXN9	PAC23	0.22u4/X5R/6.3V/K	PA EXP TXN9 C
PA EXP TXP10	PAC24	0.22u4/X5R/6.3V/K	PA EXP TXP10 C
PA EXP TXN10	PAC25	0.22u4/X5R/6.3V/K	PA EXP TXN10 C
PA EXP TXP11	PAC26	0.22u4/X5R/6.3V/K	PA EXP TXP11 C
PA EXP TXN11	PAC27	0.22u4/X5R/6.3V/K	PA EXP TXN11 C
PA EXP TXP12	PAC28	0.22u4/X5R/6.3V/K	PA EXP TXP12 C
PA EXP TXN12	PAC29	0.22u4/X5R/6.3V/K	PA EXP TXN12 C
PA EXP TXP13	PAC30	0.22u4/X5R/6.3V/K	PA EXP TXP13 C
PA EXP TXN13	PAC31	0.22u4/X5R/6.3V/K	PA EXP TXN13 C
PA EXP TXP14	PAC32	0.22u4/X5R/6.3V/K	PA EXP TXP14 C
PA EXP TXN14	PAC33	0.22u4/X5R/6.3V/K	PA EXP TXN14 C
PA EXP TXP15	PAC34	0.22u4/X5R/6.3V/K	PA EXP TXP15 C
PA EXP TXN15	PAC35	0.22u4/X5R/6.3V/K	PA EXP TXN15 C

PA EXP RXP0 [15] >>> PA\_EXP\_RXP[0..15] [4]  
 PA EXP RXN0 [15] >>> PA\_EXP\_RXN[0..15] [4]  
 PA EXP TXP0 [15] >>> PA\_EXP\_TXP[0..15] [4]  
 PA EXP TXN0 [15] >>> PA\_EXP\_TXN[0..15] [4]

# PCIEX16 SLOT

[7,8,12,15,16,19,27] N\_SMBCLK  
 [7,8,12,15,16,19,27] N\_SMBDATA  
 [12,15,24,32] N\_-PCIE\_WAKE

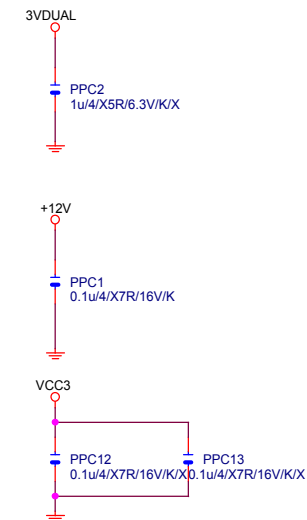
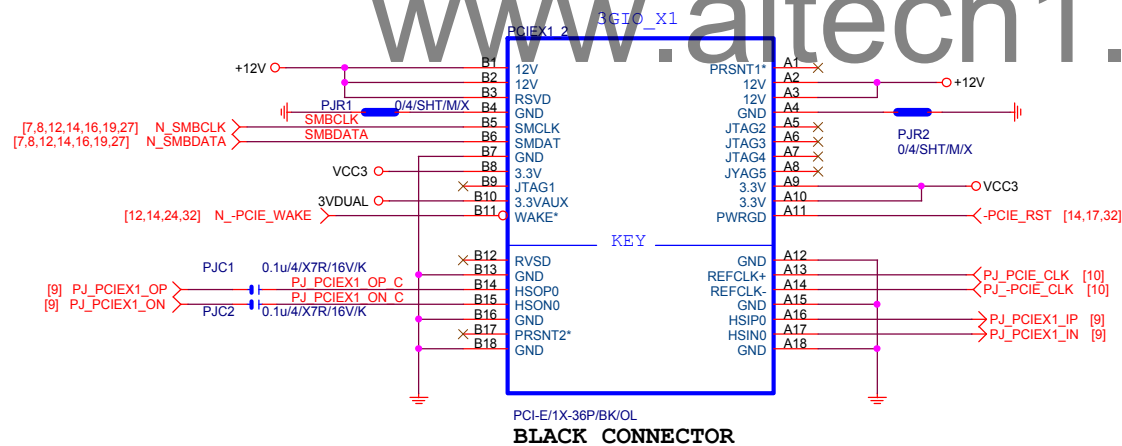
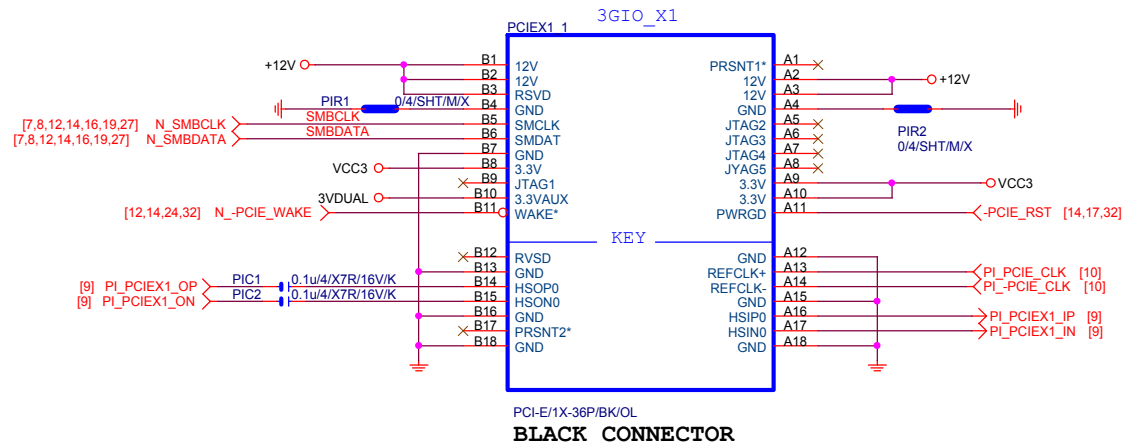


BLACK CONNECTOR

Gigabyte Technology

Title			PCI EXPRESS * 16	
Size			Document Number	
Custom			GA-H97M-HD3	
Date:			Tuesday, March 11, 2014	Rev 1.0
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# PCIEX1 SLOT



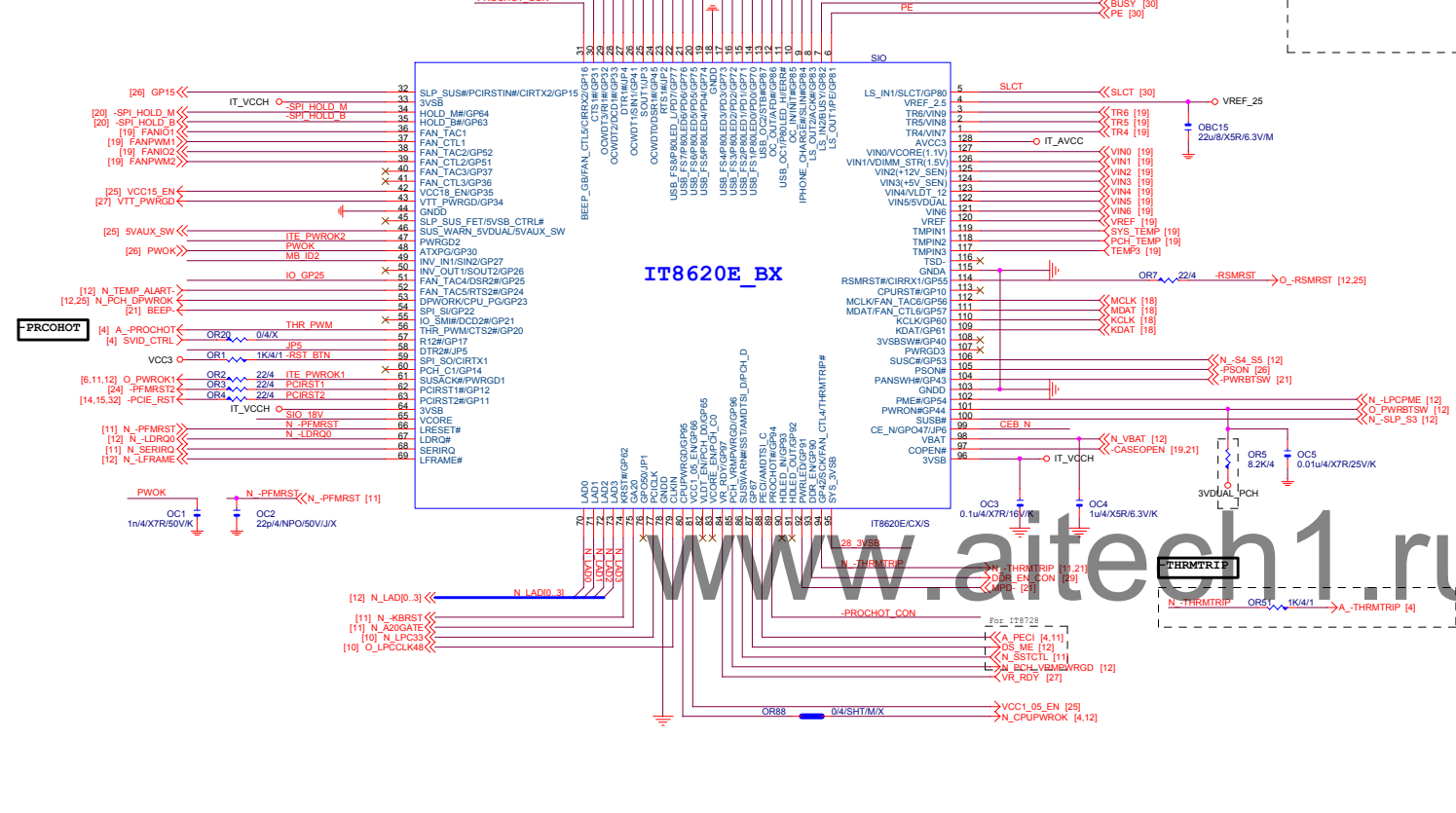
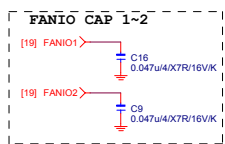
Gigabyte Technology

Title			PCI EXPRESS X 1 PORT
Size	Document Number	GA-H97M-HD3	
Custom			Rev 1.0
Date:	Tuesday, March 11, 2014	Sheet	15 of 32

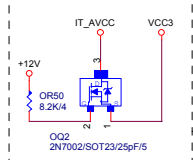




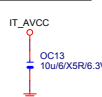
SIO IT8620



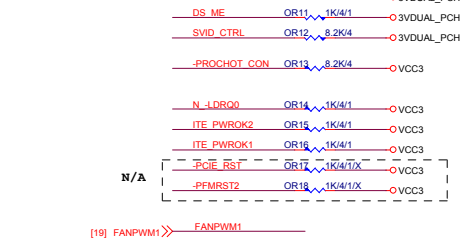
FIX ATX 插拔漏電



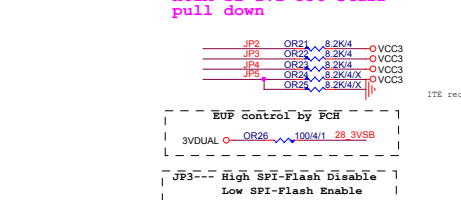
PWR SHT



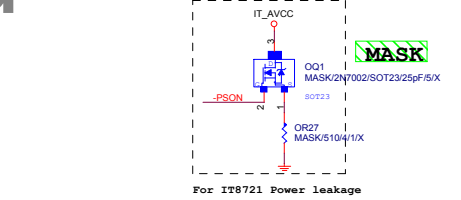
SIO PU



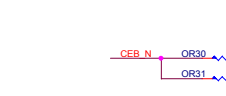
SIO STRAP



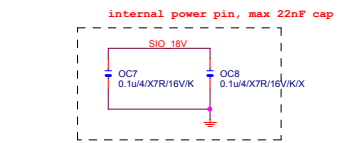
Power leakage



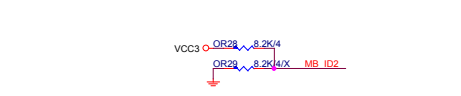
DUAL BIOS OPT STRAP



SIO 18V



MB ID



IT8620E GPIO問題調整

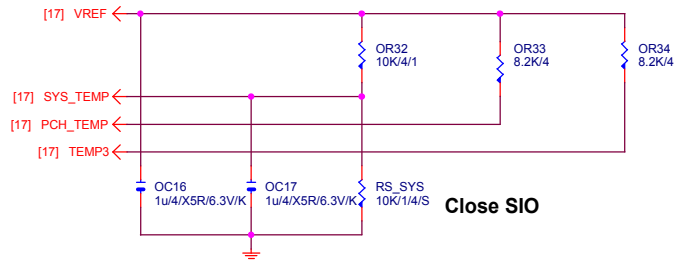
PIN 50	GP26---
PIN 90/91	第一次接上POWER時會拉 LO DEFAULT為HIDLED FUNCTION, GP93 8V93SS TO GP92
PIN 108	高溫時 GP92 會拉LO (ITE BUG)
PIN 111/112	GP40--- POWER ON 時會拉 LO MOUSE 兩FAN6 FUNCTION 擇一使用, 不然會互相干擾

SIO CAP

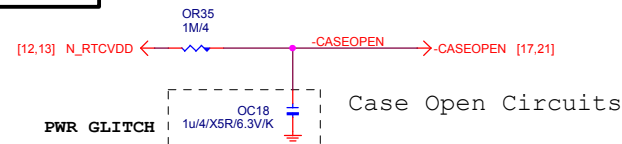




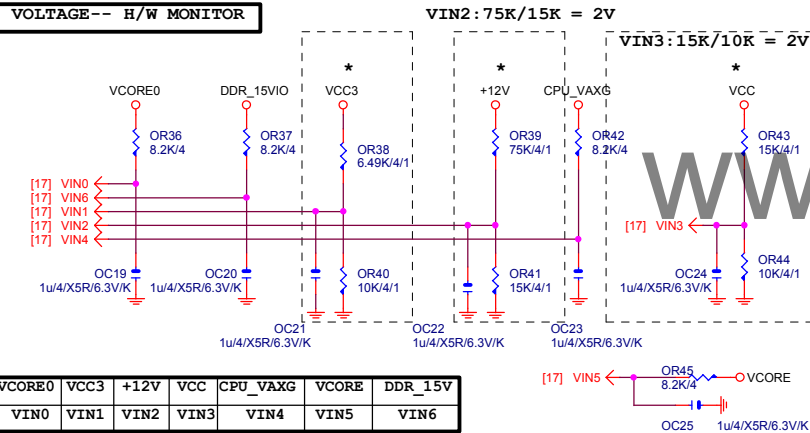
## TEMP H/W MONITOR



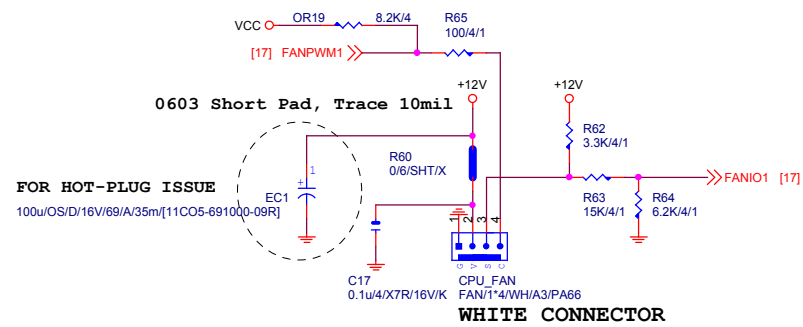
## CASE OPEN



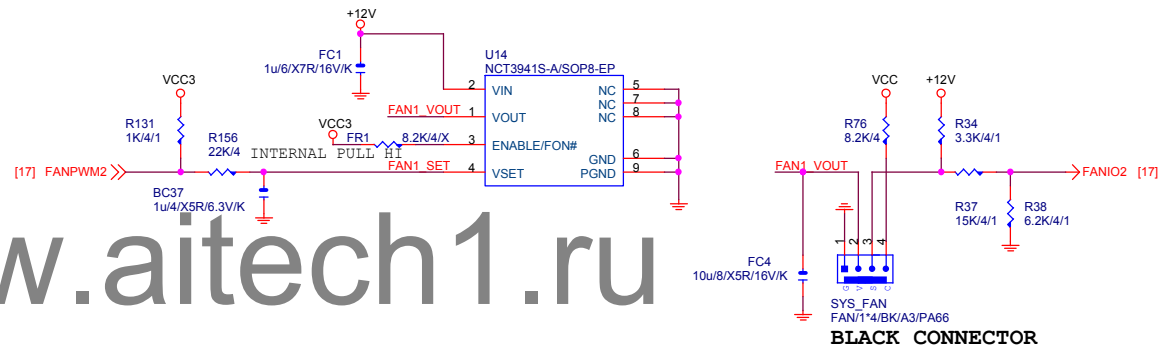
## VOLTAGE-- H/W MONITOR



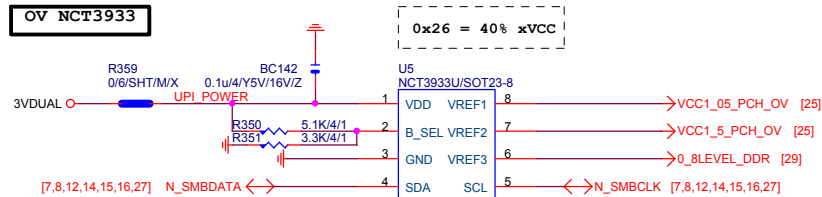
## CPU SMART FAN



## SYS SMART FAN

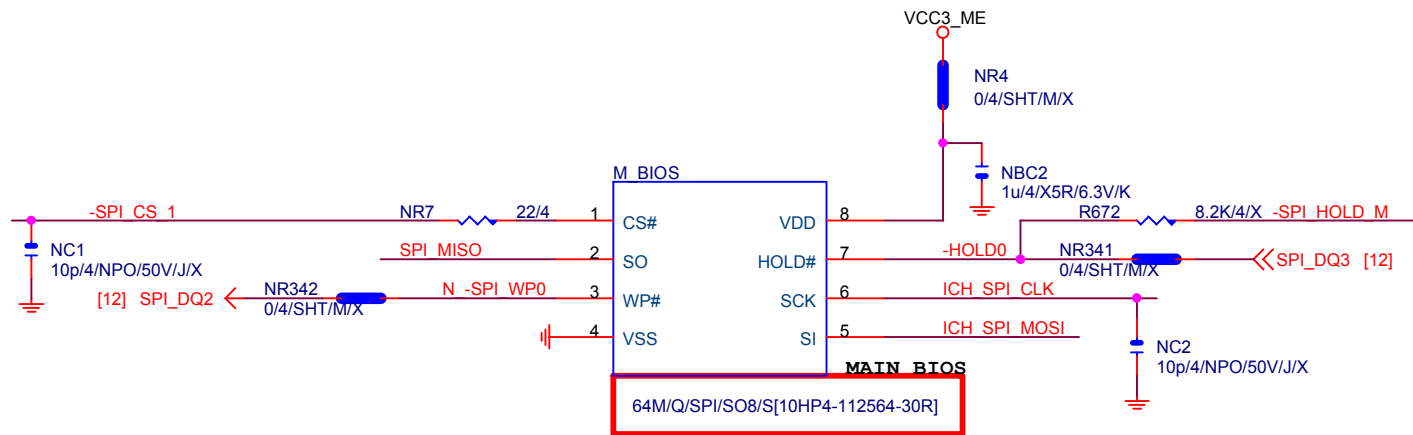


## OV NCT3933



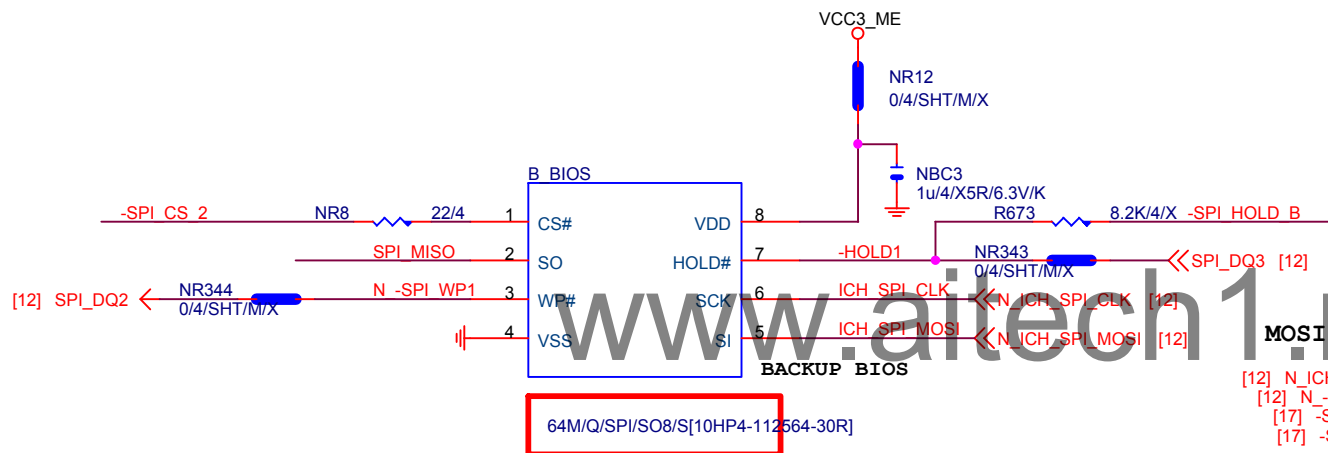
Gigabyte Technology

Title				
HWM,FAN CTRL,OV				
Size	Document Number			Rev
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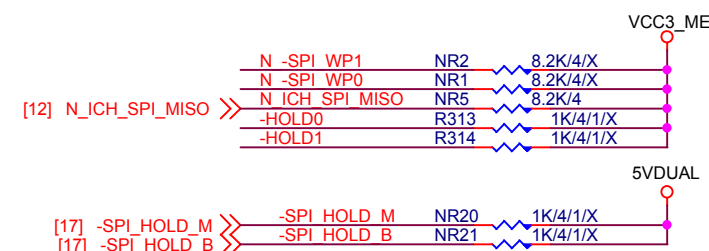
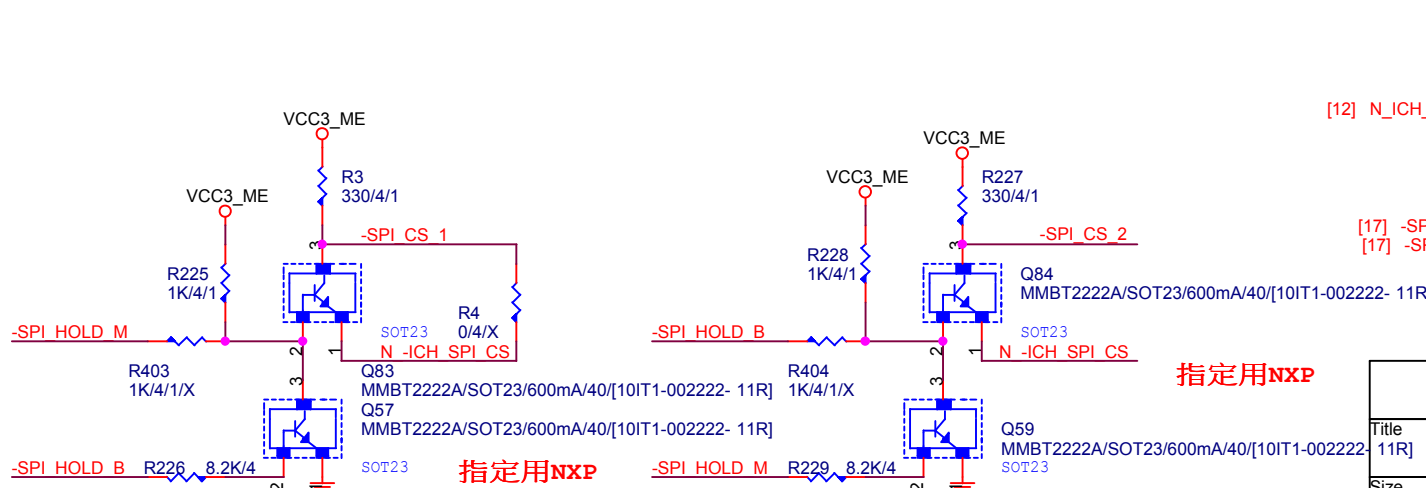
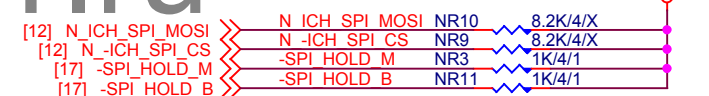


BOOT DEVICE	GNT0	GNT1
LPC	0	0
PCI	0	1
NAND	1	0
SPI	1	1

1 means floating  
0 means PD 1K



#### MOSI For DMI RX Termination Voltage



指定用NXP

Gigabyte Technology

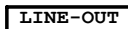
DUAL BIOS

GA-H97M-HD3

Title	11R]	Rev	1.0
Size	Custom	Document Number	
Date:	Tuesday, March 11, 2014	Sheet	20 of 32







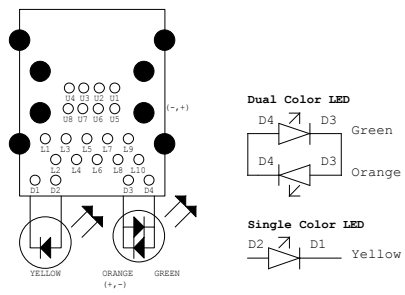
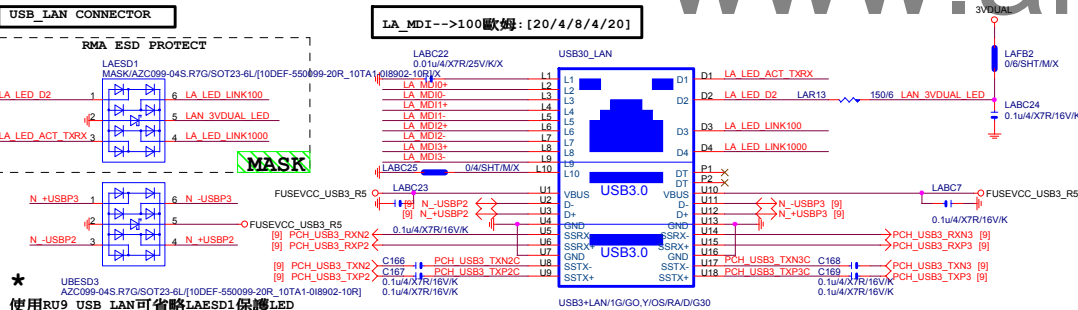
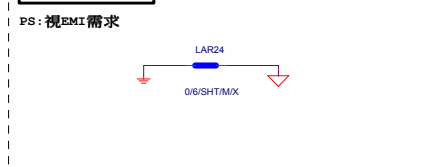
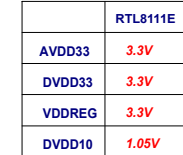
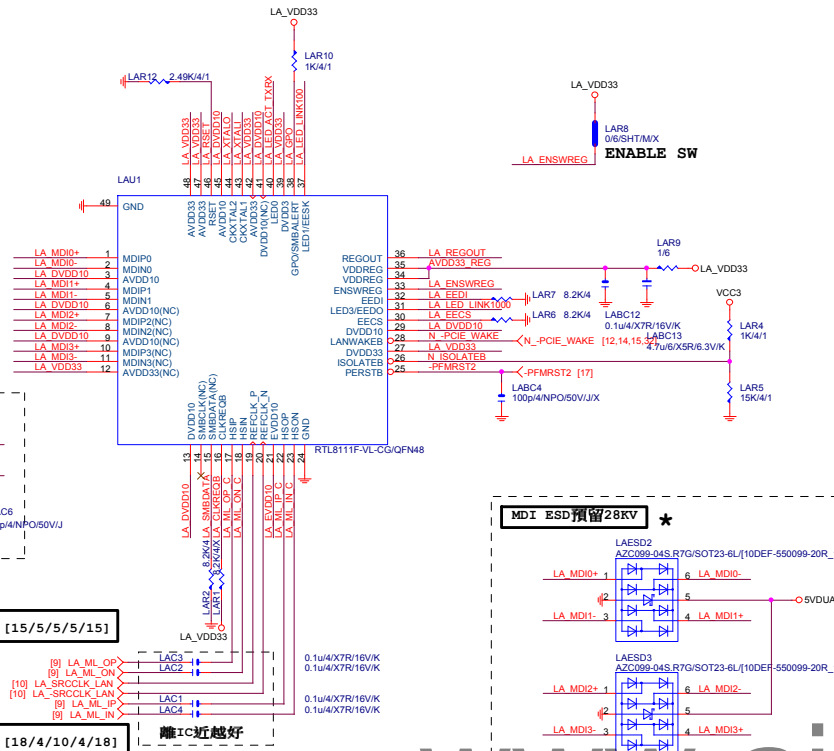
For 889A/888



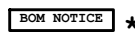
## AZALIA FRONT PANEL



Title			
AUDIO JACK			
Size Custom	Document Number	GA-H97M-HD3	Rev 1.0
Date:	Tuesday, March 11, 2014	Sheet 23 of 32	

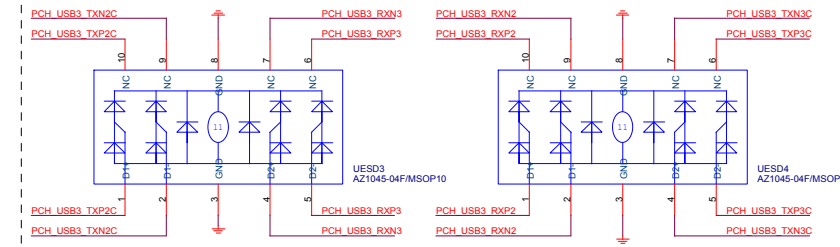


注意:USB PORT(目前:暫代6,7PORT)  
USB-->90歐姆:[15/4.5/7.5/4.5/15]



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]		

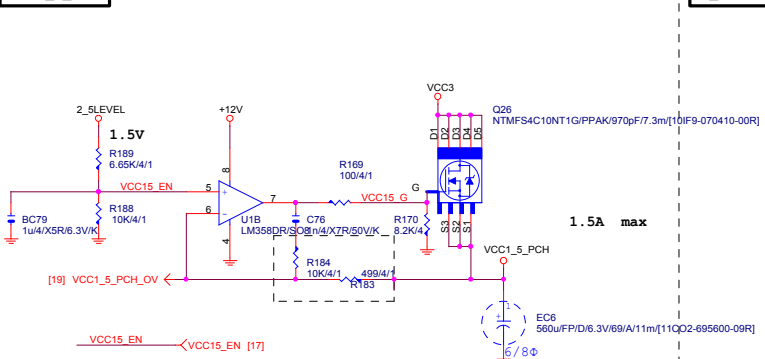
1. 9KV ESD BOM:  
USB\_LAN (RU9):11NR6-702009-96R
2. 28KV ESD BOM:  
USB\_LAN (RU9):11NR6-702009-96R  
LAESD2, LAESD3: 上件AZC398-04S



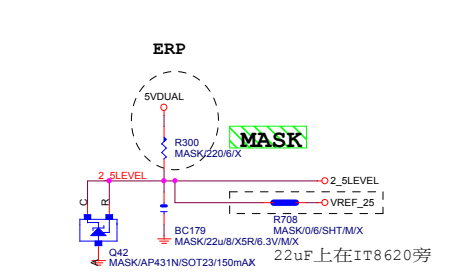
<b>Gigabyte Technology</b>			
<b>Realtek RTL8111G</b>			
Size Custom	Document Number	<b>GA-H97M-HD3</b>	Rev 1.
Date:	Tuesday, March 11, 2014	Sheet 24	of 32



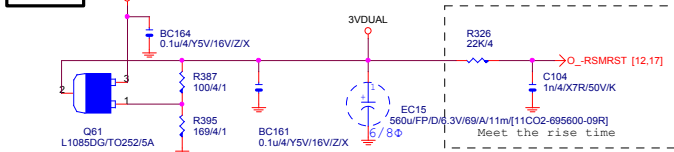
## VCC1\_5\_PCH



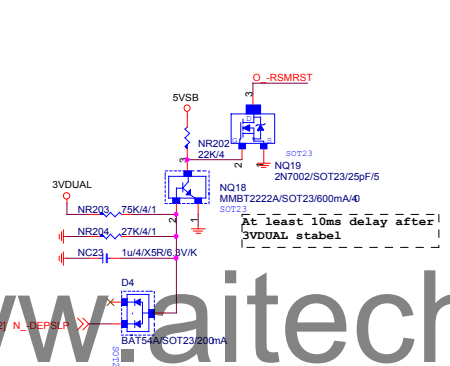
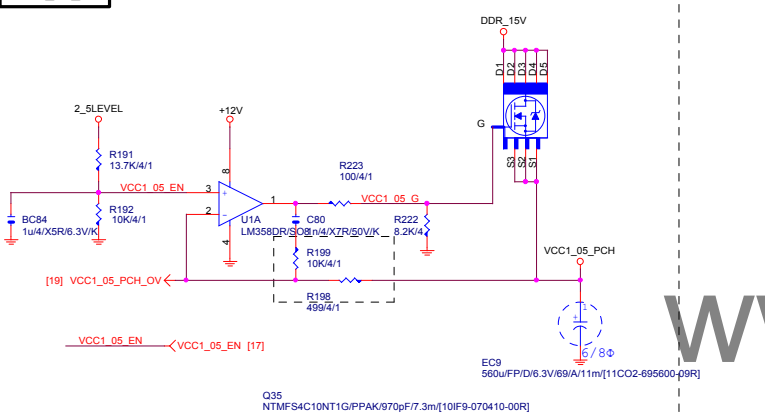
2\_5LEVEL



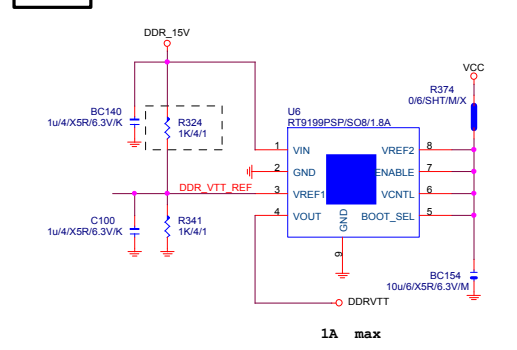
## 3VDUAL



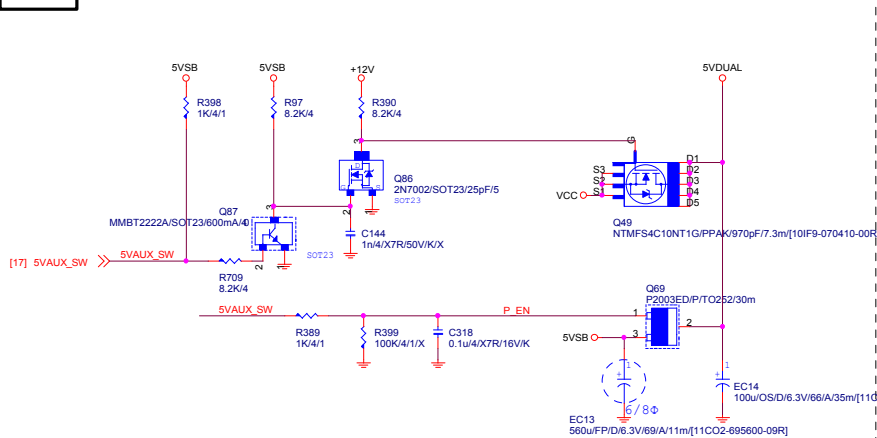
VCC1\_05\_PCH



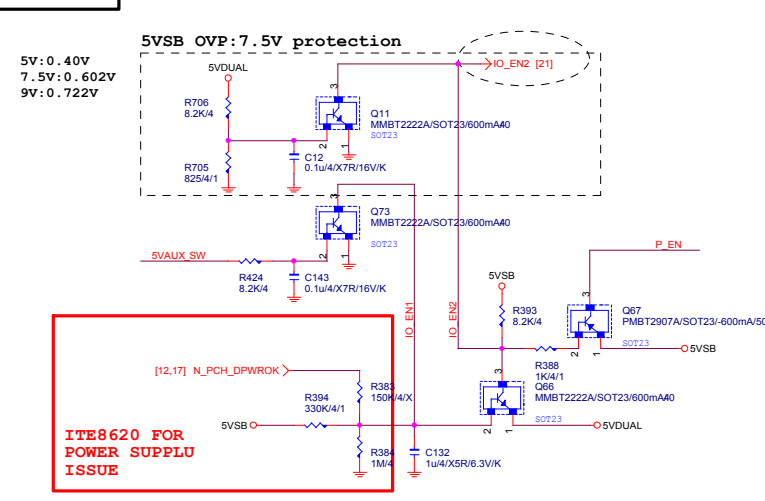
DDRVTT



## 5VDUAL

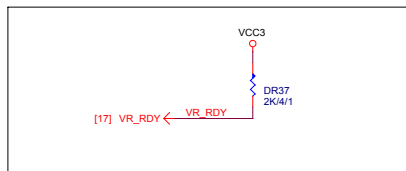
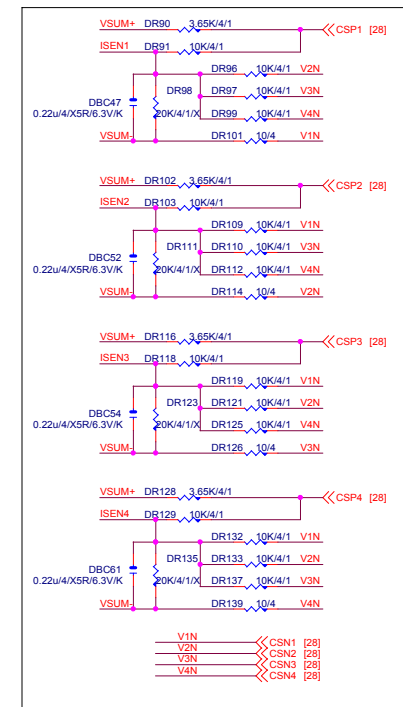


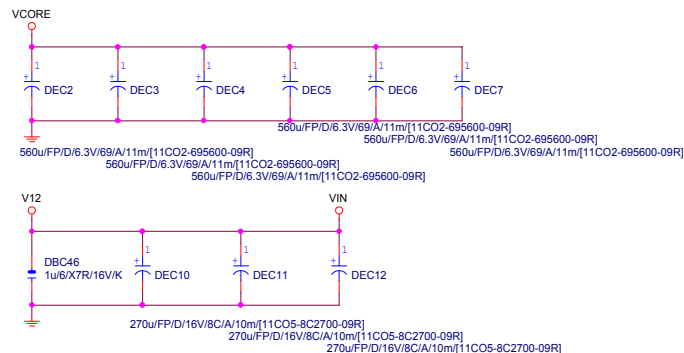
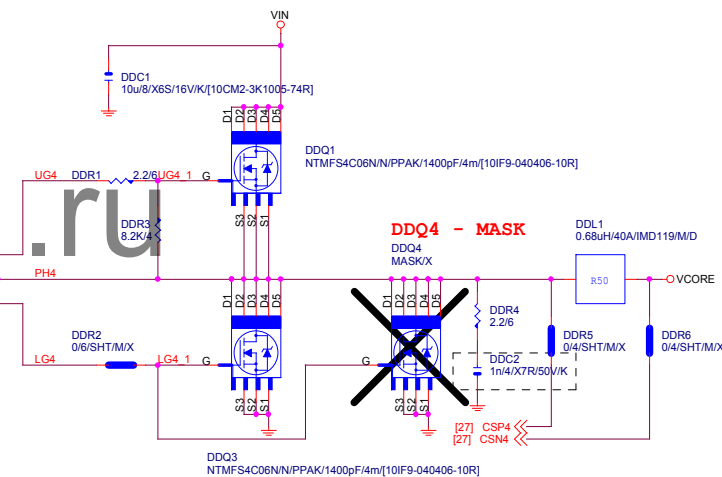
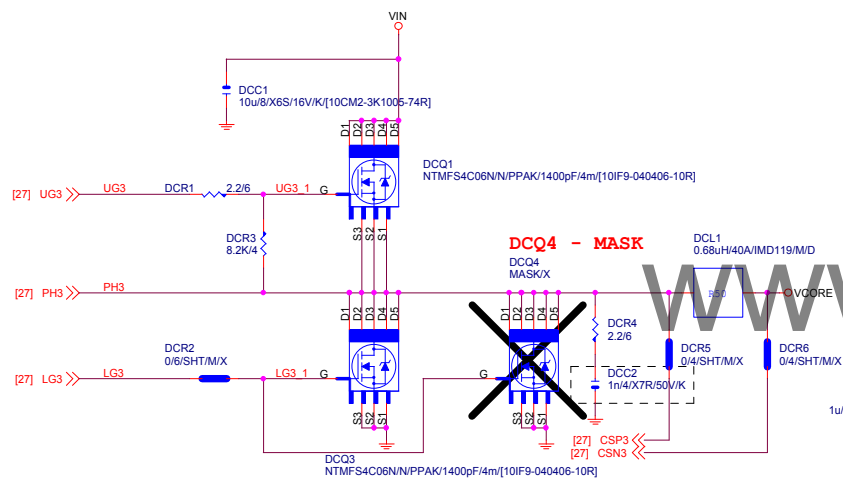
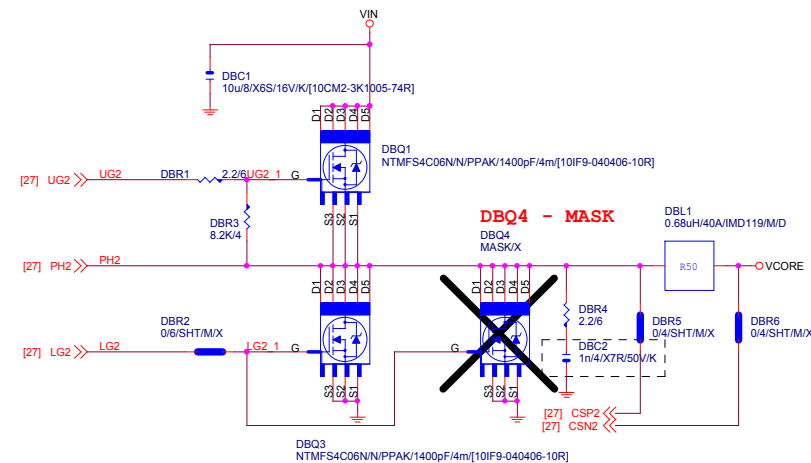
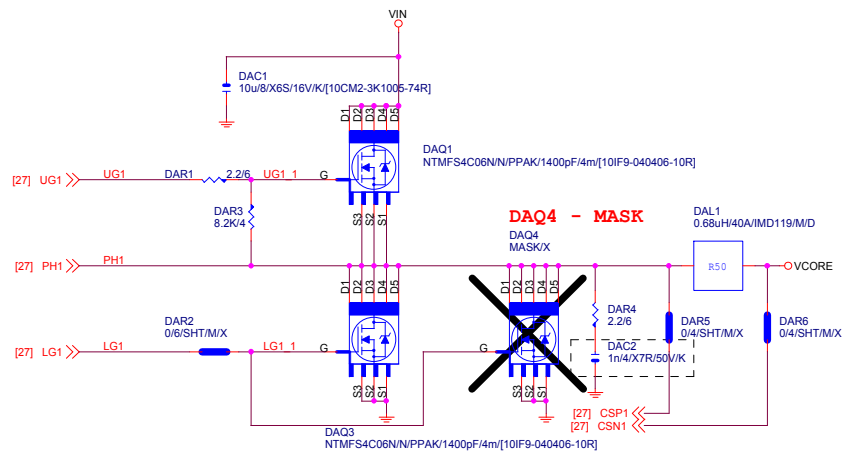
5VDUAL SHORT PROTECT



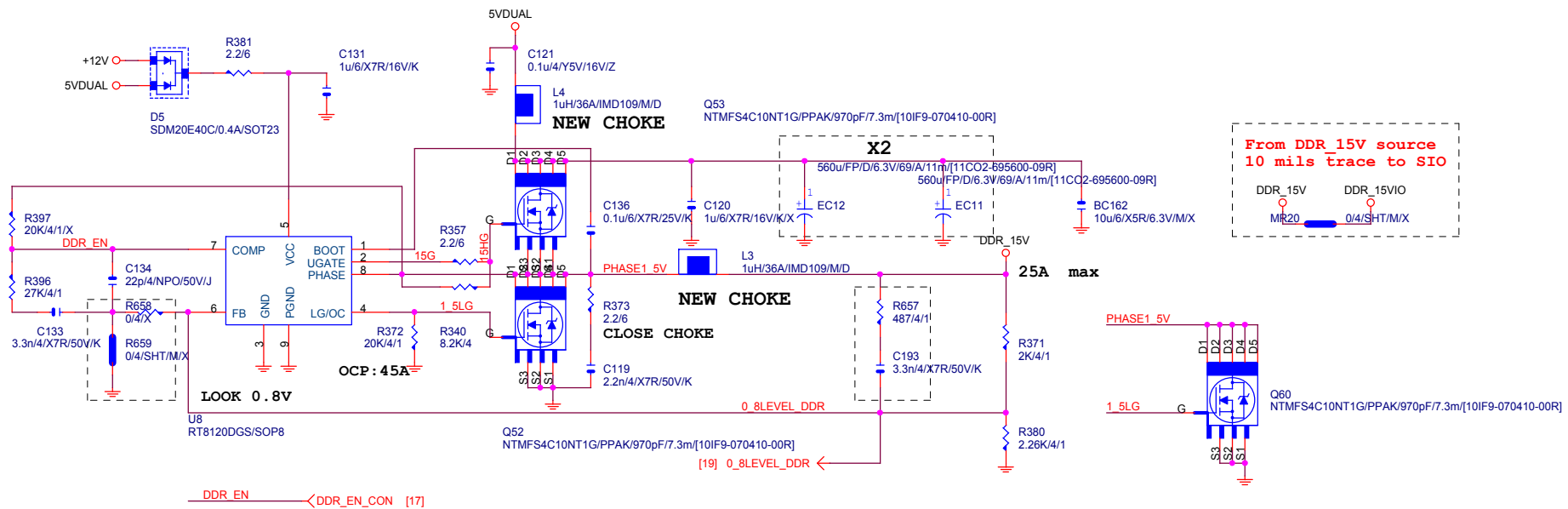
<b>Gigabyte Technology</b>			
Title			
<b>DISCRETE POWER</b>			
Size	Document Number	Rev	
Custom	<b>GA-H97M-HD3</b>	<b>1.0</b>	
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DDR15V



PWR SEQ

VIN=5V, VOUT=1.5V, IOUT=25A, P  
IRMS=11.45A  
560u/F/P/D/6.3V/68mm RIPPLE

VIN=5V, VOUT=1.5V, IOUT=25A, PHASE=1  
IRMS=11.45A  
560u/F/16V/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

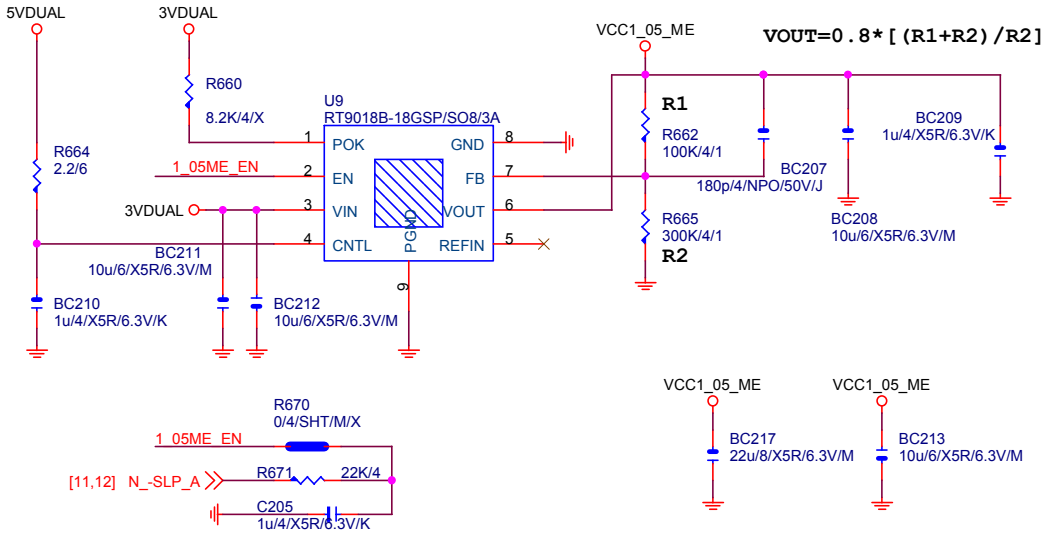
```
Rocset=(Iocp*Lgate,rdson)/Iocset
Rocset=(45A*6.7mOhm)/10uA = 30K
Iocset=10uA
```

<p align="center"><b><i>Gigabyte Technology</i></b></p>			
<p>Title</p> <p align="center"><b>DDR POWER</b></p>			
Size	Document Number		Rev
Custom	<b>GA-H97M-HD3</b>		<b>1.0</b>
Date:	Tuesday, March 11, 2014	Sheet	29 of 32

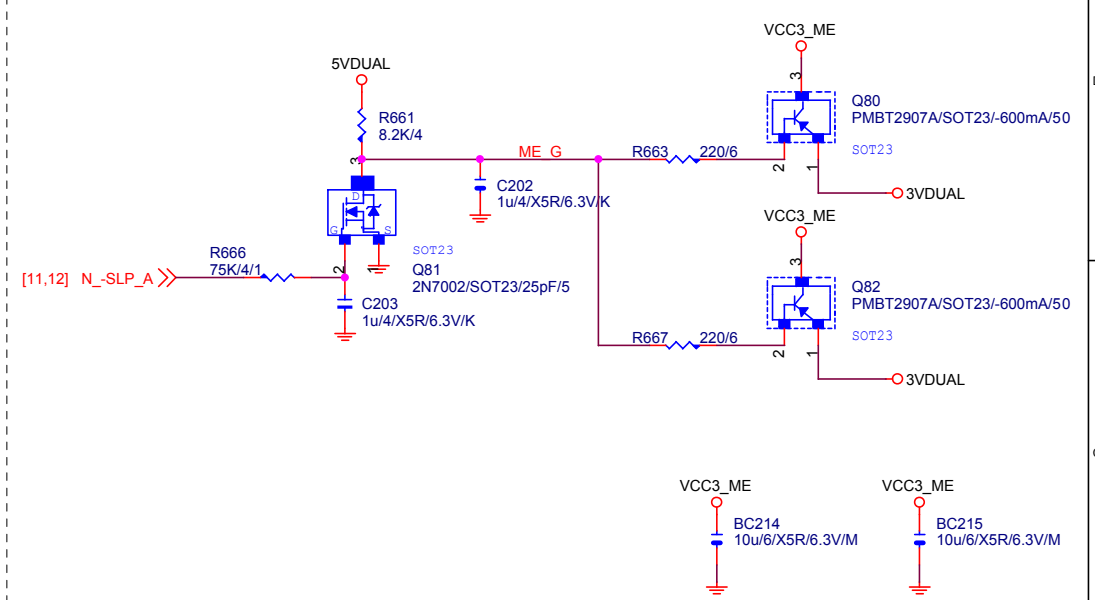
# VCC1\_05\_ME

## 【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

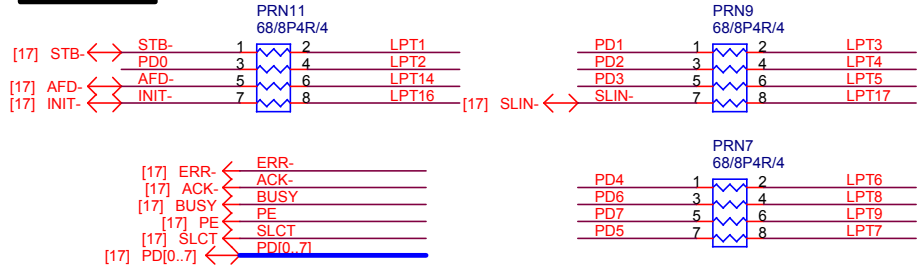


# VCC3\_ME



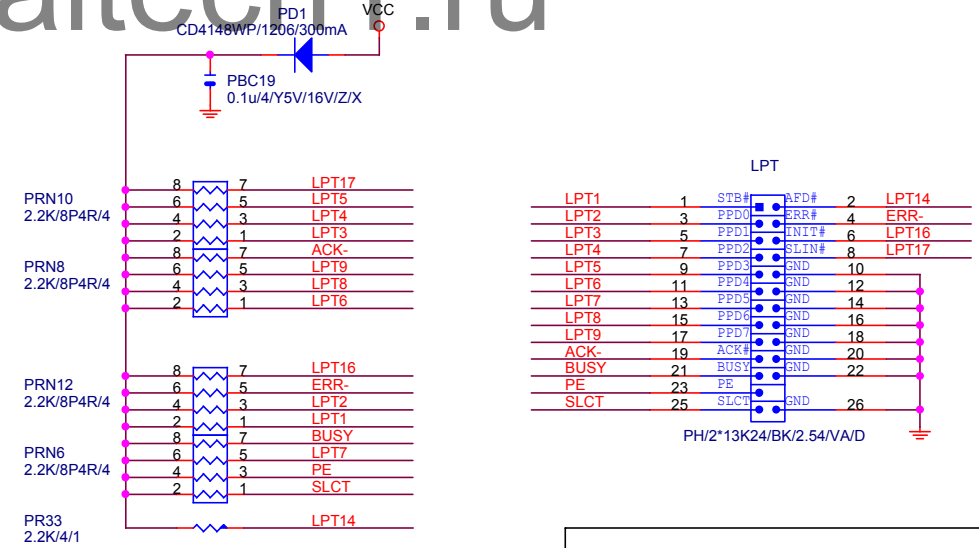
www.aitech1.ru

# LPT PORT



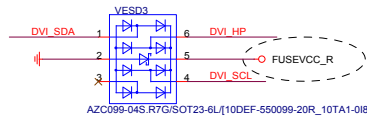
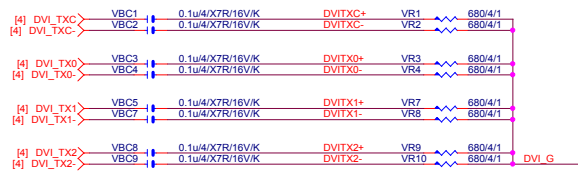
## 【技術通報R&D技術通報151】

33ohm Change to 68ohm

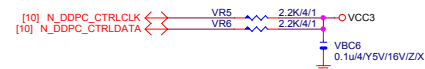


Gigabyte Technology		
Title		
LPT		
Size Custom	Document Number	Rev
	GA-H97M-HD3	1.0
Date:	Tuesday, March 11, 2014	Sheet 30 of 32

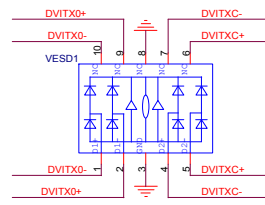
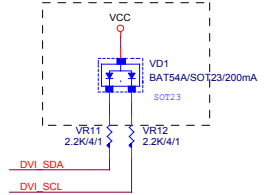
# DVI



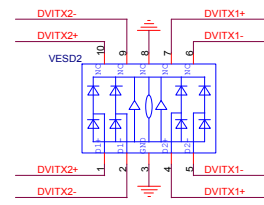
Close to connector



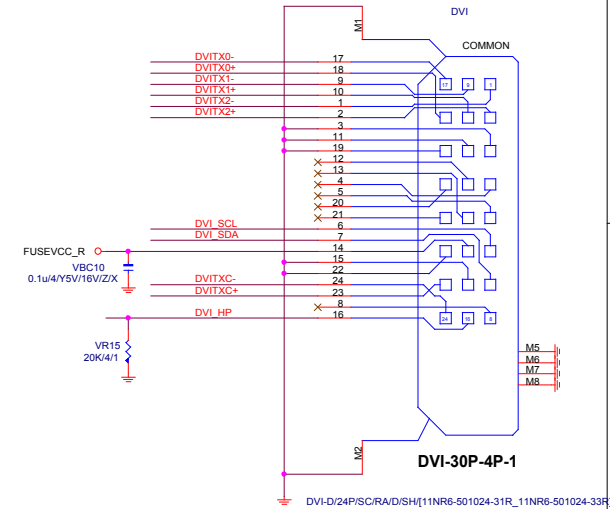
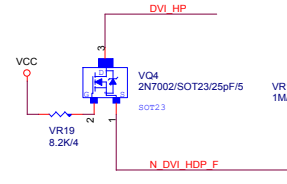
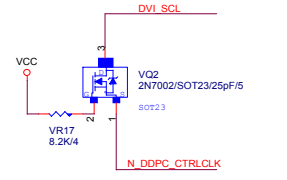
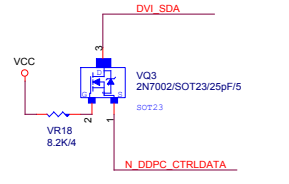
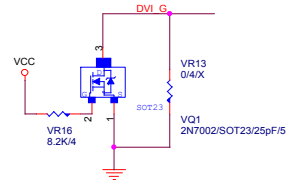
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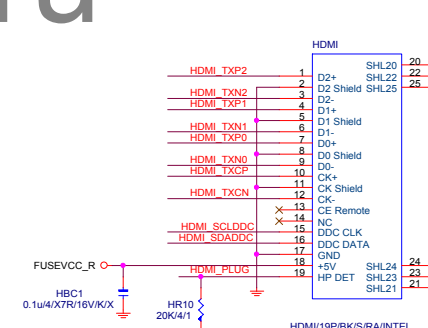
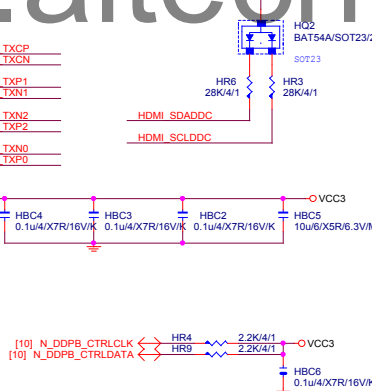
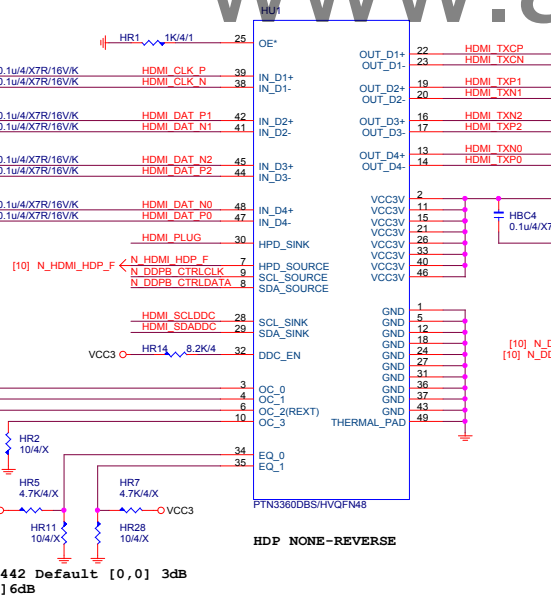
Close to connector



Close to connector



# HDMI LEVEL SHIFT



【技術通報R&D技術通報150】  
HDMI eye diagram 1.4版(deep color)會fail  
原因: 因目前的HDMI訊號過長,造成RISING TIME過慢,而會壓到eye diagram  
改善: ASMEDIA ASM1442 : 3.16K(PIN6 PULL DOWN電阻) 10ohm(PIN4 PULL DOWN電阻)

Gigabyte Technology		
DVI		
File	GA-H97M-HD3	Rev 1.0
Size	Document Number	
Custom		
Date:	Tuesday, March 11, 2014	Sheet 31 of 32

