

Model Name: GA-H97N-WIFI

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	ITE 8620 LPC IO
16	COM,KB_USB20
17	HWM,FAN CTRL,OV,-PROCHOT
18	DUAL BIOS
19	FP,FUSB,SPK,SATALED
20	Realtek ALC892-GR
21	REAR AUDIO JACK
22	INTEL LAN I217V(A)
23	REALTEK LAN RTL8111G(B)
24	DISCRETE POWER
25	ATX
26	RT8120_DDR POWER,M3 POWER
27	VCORE ISL95820_1

www.xinxunwei.com 400-800-9990

Revision 1.1

SHEET

TITLE

28	VCORE ISL95820_2
29	DVI-I
30	HDMI*2
31	mSATA, Mini-PCie

Gigabyte Technology

Cover Sheet

Size Custom	Document Number	Rev 1.1
Date: Thursday, October 23, 2014	GA-H97N-WIFI	
Sheet 1 of 31		

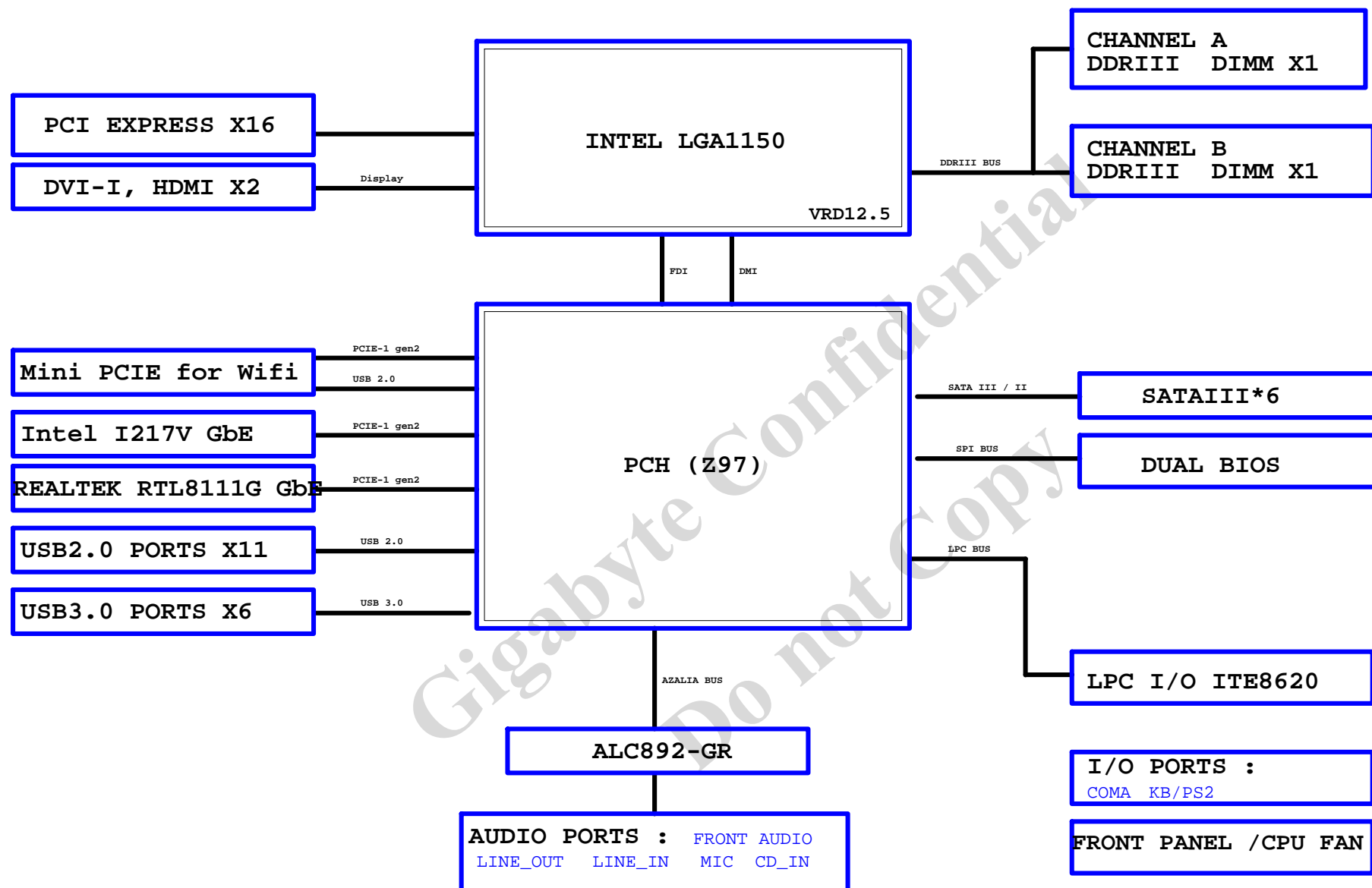
2014/10/22

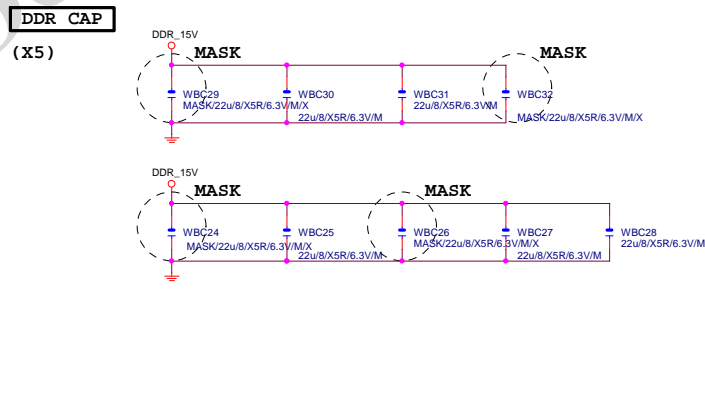
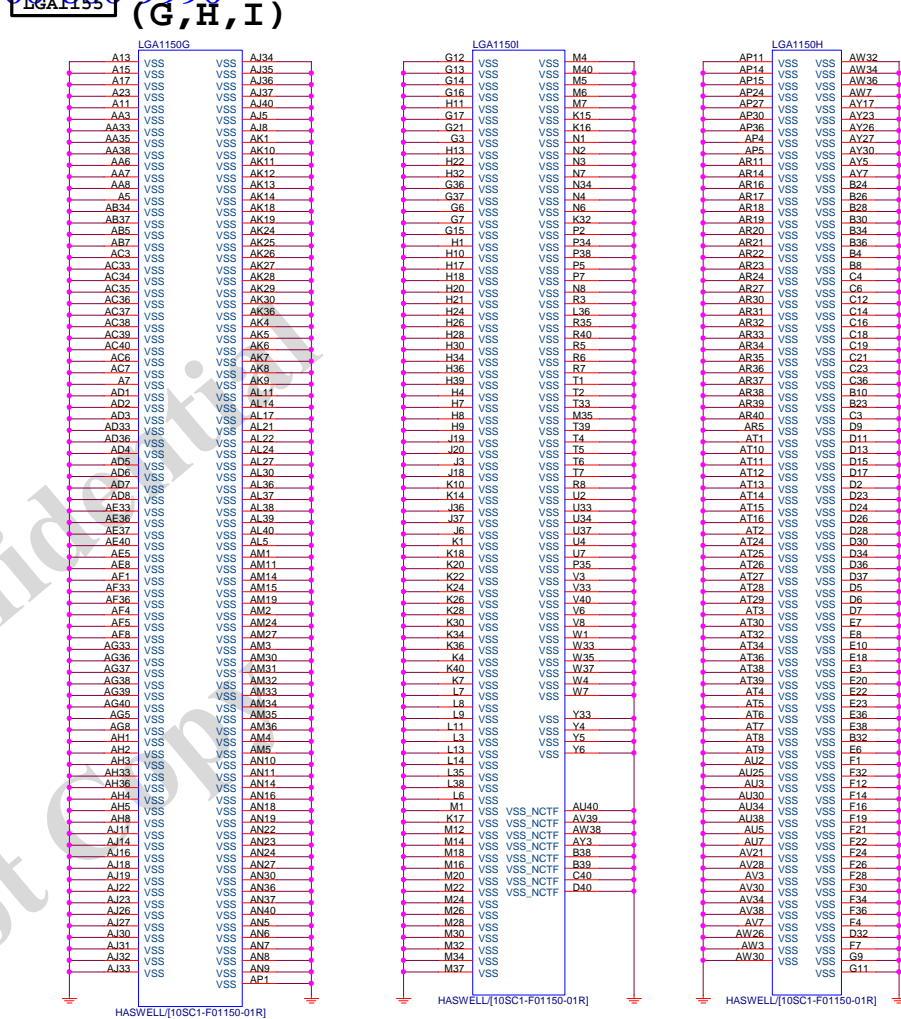
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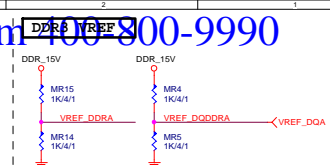
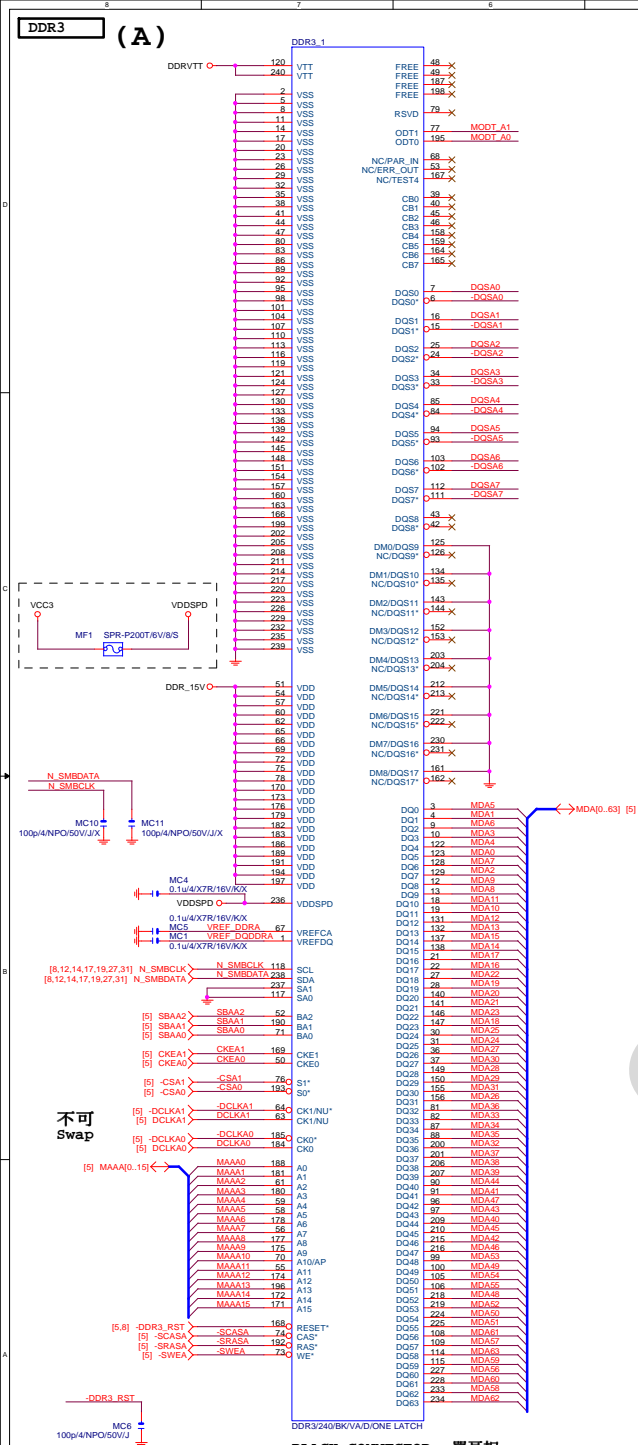
Circuit or PCB layout change

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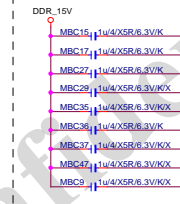
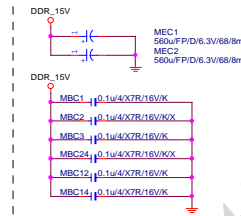
BLOCK DIAGRAM



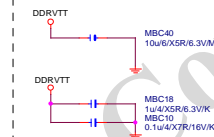




DDR15V Decouple

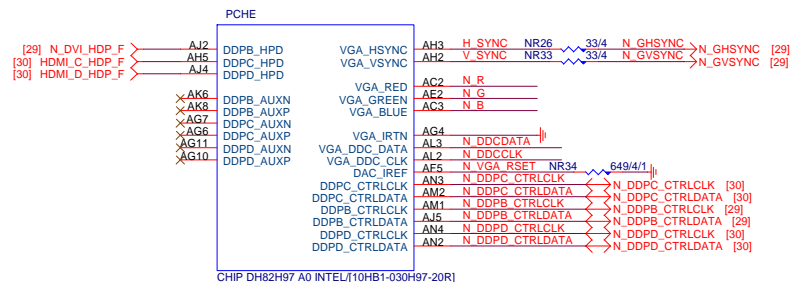


DDRVTT Decouple



PCH

(E)



VGA DISABLE

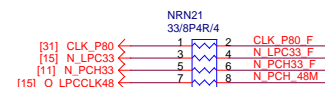
R,G,B NC OR GND

IRTN / IREF GND

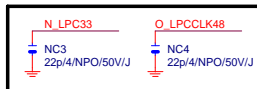
VGA_HSYNC, VGA_VSYNC,DDC_CLK,
DDC_DATA NCPOWER VCCADAC(AF2),
VCCADACBG(AE1) GND

PCH

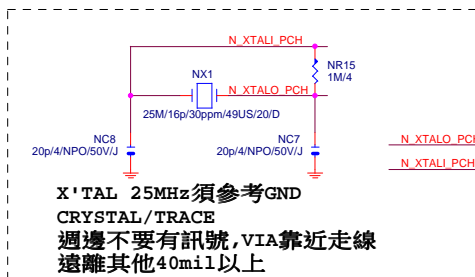
(G)



FOR ESD

Flex1,2,3,4 :
14/24/33/48MHZ

VCC1_5_PCH



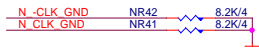
PCHG



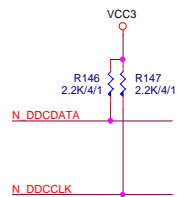
禁用此 2 PIN,避免訊號被25MHz干擾

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

PCH CLK PD

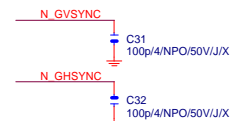
Mount for integrated clock Generation
Mode

VGA DDC

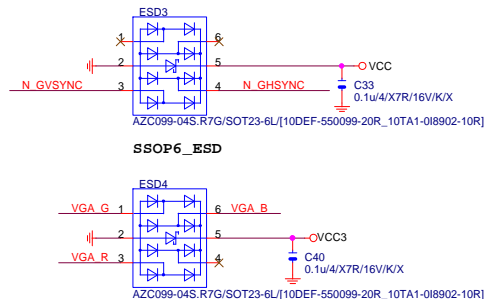


DVI-I N/A

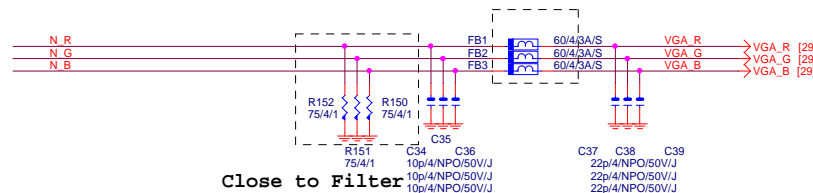
VGA CONNECTOR



VGA ESD



VGA SIGNAL



Gigabyte Technology

Title			
PCH DISPLAY,CLK BUFFER			
GA-H97N-WIFI			
Size	Document Number	Rev	1.1
Custom			
Date:	Thursday, October 23, 2014	Sheet	10 of 31

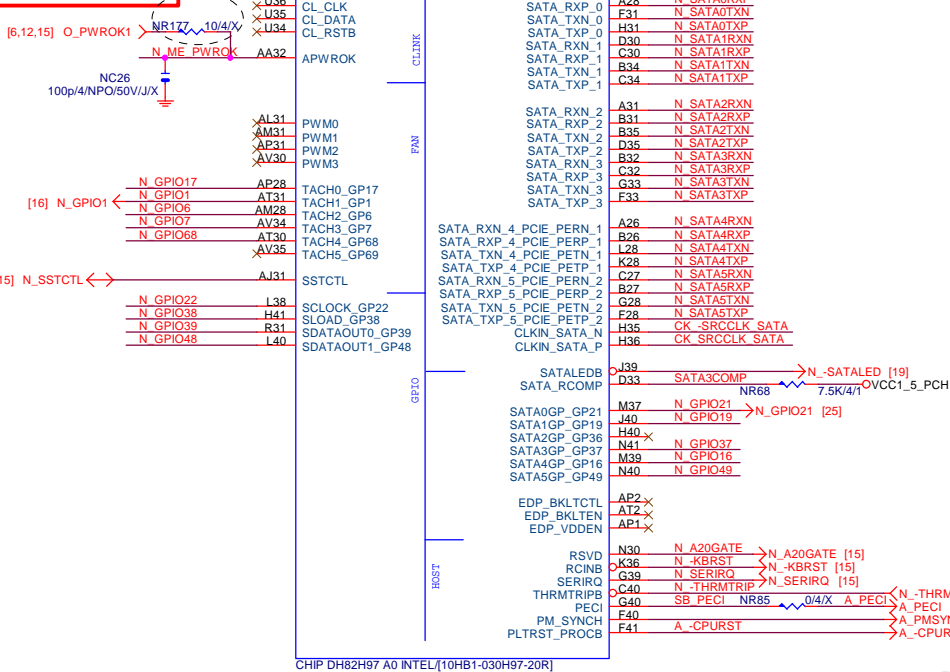
PCH

(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%

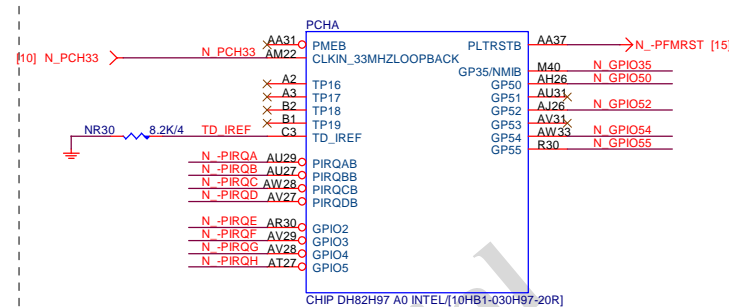
H97 N/A

Z97+I217V N/A

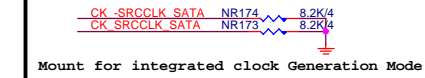


PCH

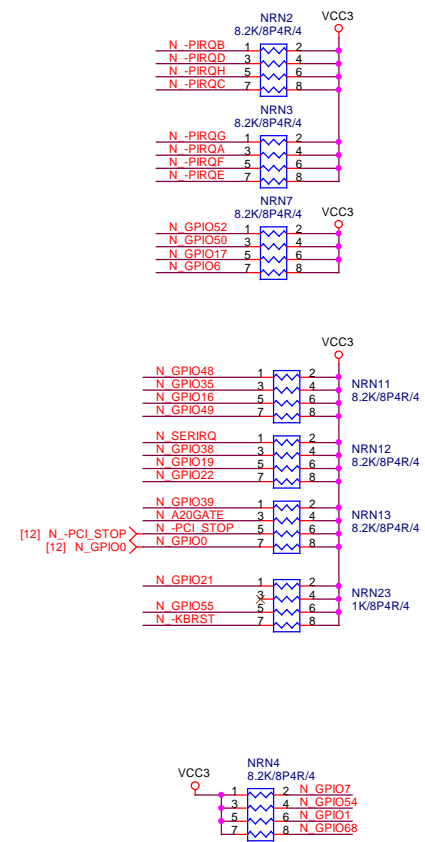
(A)



PCH CLK PD



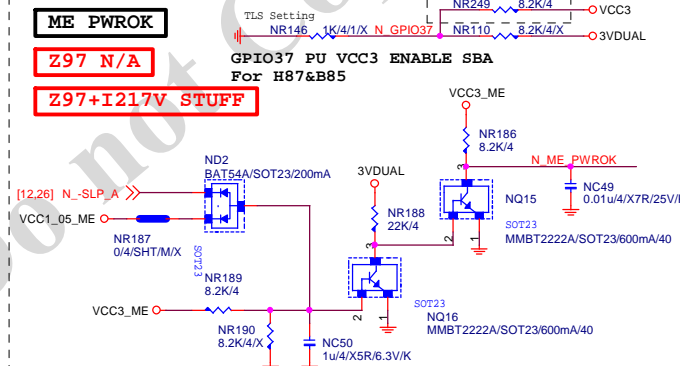
PCH PU/PD



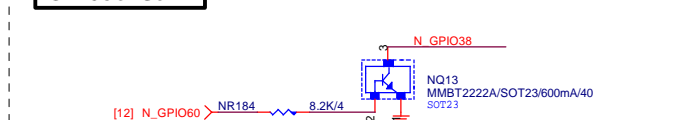
ME PWROK

Z97 N/A

Z97+I217V STUFF



GPIO38 Ctrl



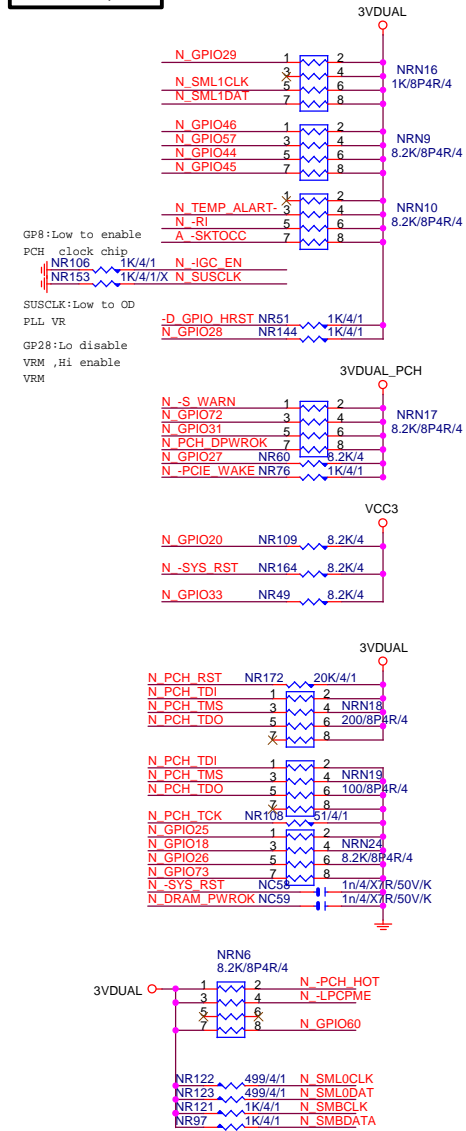
Gigabyte Technology

Title					PCH HOST , SATA, PCI					Rev 1.1	
Size	Custom	Document Number			GA-H97N-WIFI						
Date:		Thursday, October 23, 2014			Sheet		11 of 31				

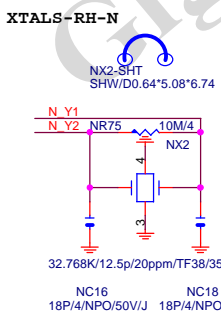
PCHD



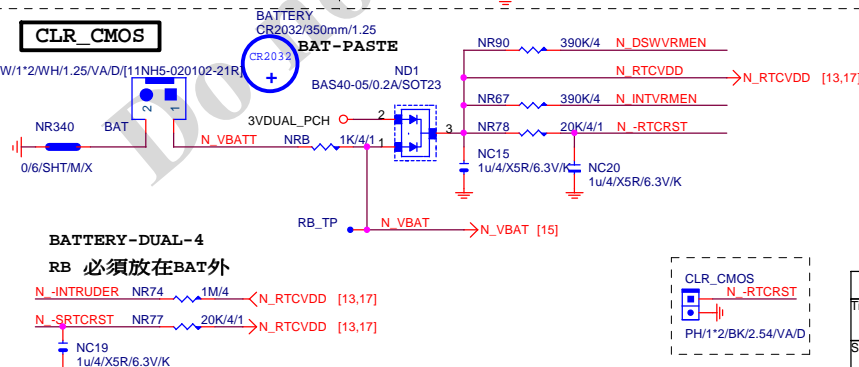
CPU VRMPWRGD



32.768KHZ



CLR CMOS

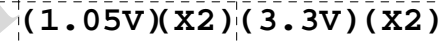
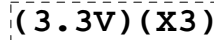
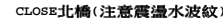


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PCH GPIO , CTRL , AUDIO

GA-H97N-WIFI

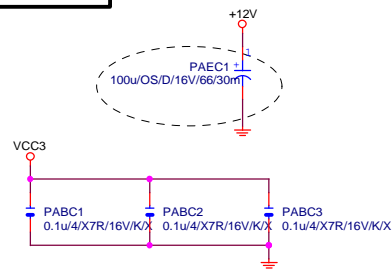
Rev	1 1
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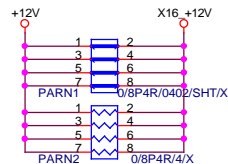
(1.5V) (x5)



PCIEX16 CAP



PCIEX16 PROTECT SHT

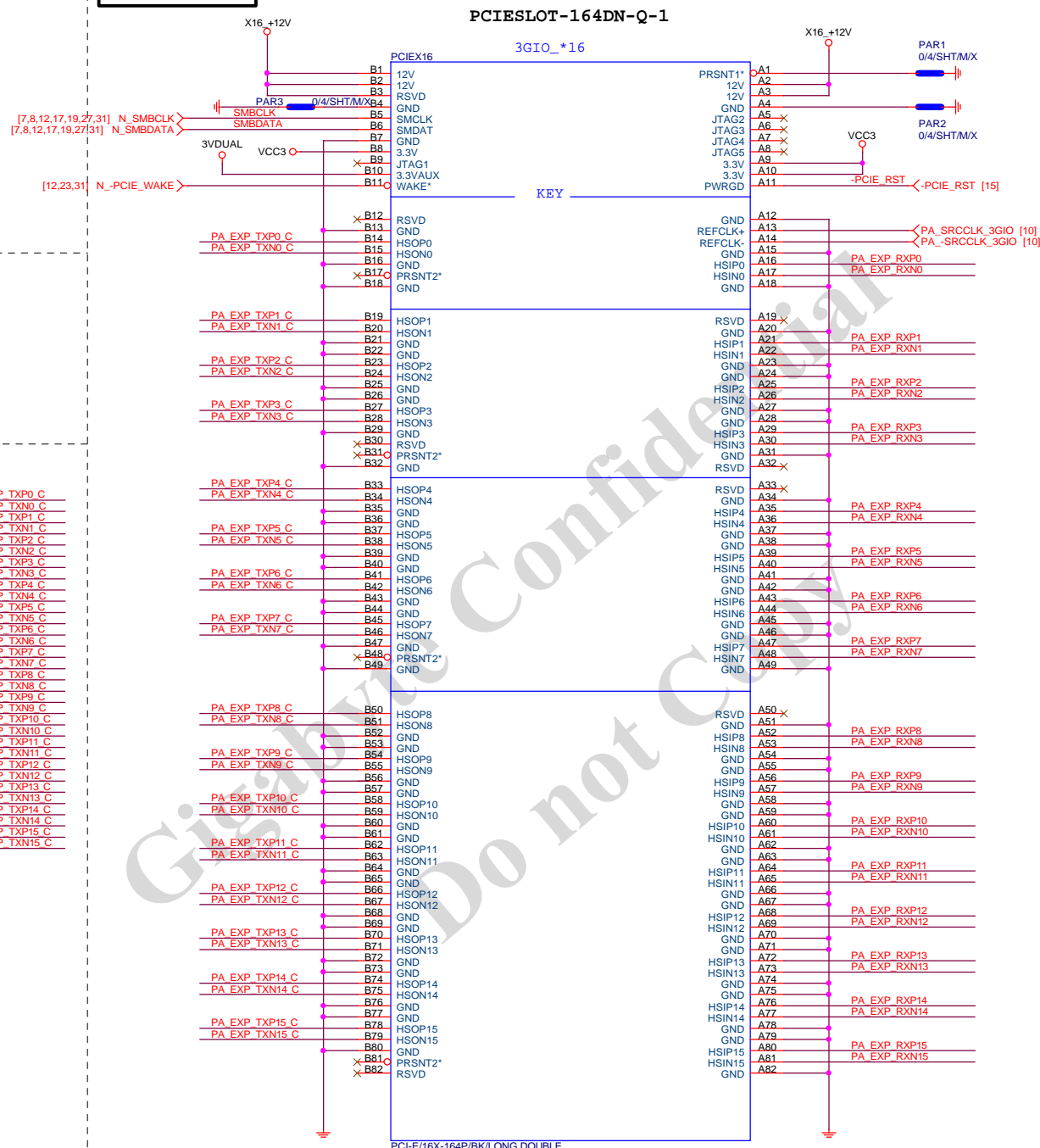


PCIEX16 AC CAP

PA EXP TXP0	PAC5	0.22u/4/X5R/6.3V/K	PA EXP TXP0 C
PA EXP TXN0	PAC4	0.22u/4/X5R/6.3V/K	PA EXP TXN0 C
PA EXP TXP1	PAC6	0.22u/4/X5R/6.3V/K	PA EXP TXP1 C
PA EXP TXN1	PAC7	0.22u/4/X5R/6.3V/K	PA EXP TXN1 C
PA EXP TXP2	PAC8	0.22u/4/X5R/6.3V/K	PA EXP TXP2 C
PA EXP TXN2	PAC9	0.22u/4/X5R/6.3V/K	PA EXP TXN2 C
PA EXP TXP3	PAC10	0.22u/4/X5R/6.3V/K	PA EXP TXP3 C
PA EXP TXN3	PAC11	0.22u/4/X5R/6.3V/K	PA EXP TXN3 C
PA EXP TXP4	PAC12	0.22u/4/X5R/6.3V/K	PA EXP TXP4 C
PA EXP TXN4	PAC13	0.22u/4/X5R/6.3V/K	PA EXP TXN4 C
PA EXP TXP5	PAC14	0.22u/4/X5R/6.3V/K	PA EXP TXP5 C
PA EXP TXN5	PAC15	0.22u/4/X5R/6.3V/K	PA EXP TXN5 C
PA EXP TXP6	PAC16	0.22u/4/X5R/6.3V/K	PA EXP TXP6 C
PA EXP TXN6	PAC17	0.22u/4/X5R/6.3V/K	PA EXP TXN6 C
PA EXP TXP7	PAC18	0.22u/4/X5R/6.3V/K	PA EXP TXP7 C
PA EXP TXN7	PAC19	0.22u/4/X5R/6.3V/K	PA EXP TXN7 C
PA EXP TXP8	PAC20	0.22u/4/X5R/6.3V/K	PA EXP TXP8 C
PA EXP TXN8	PAC21	0.22u/4/X5R/6.3V/K	PA EXP TXN8 C
PA EXP TXP9	PAC22	0.22u/4/X5R/6.3V/K	PA EXP TXP9 C
PA EXP TXN9	PAC23	0.22u/4/X5R/6.3V/K	PA EXP TXN9 C
PA EXP TXP10	PAC24	0.22u/4/X5R/6.3V/K	PA EXP TXP10 C
PA EXP TXN10	PAC25	0.22u/4/X5R/6.3V/K	PA EXP TXN10 C
PA EXP TXP11	PAC26	0.22u/4/X5R/6.3V/K	PA EXP TXP11 C
PA EXP TXN11	PAC27	0.22u/4/X5R/6.3V/K	PA EXP TXN11 C
PA EXP TXP12	PAC28	0.22u/4/X5R/6.3V/K	PA EXP TXP12 C
PA EXP TXN12	PAC29	0.22u/4/X5R/6.3V/K	PA EXP TXN12 C
PA EXP TXP13	PAC30	0.22u/4/X5R/6.3V/K	PA EXP TXP13 C
PA EXP TXN13	PAC31	0.22u/4/X5R/6.3V/K	PA EXP TXN13 C
PA EXP TXP14	PAC32	0.22u/4/X5R/6.3V/K	PA EXP TXP14 C
PA EXP TXN14	PAC33	0.22u/4/X5R/6.3V/K	PA EXP TXN14 C
PA EXP TXP15	PAC34	0.22u/4/X5R/6.3V/K	PA EXP TXP15 C
PA EXP TXN15	PAC35	0.22u/4/X5R/6.3V/K	PA EXP TXN15 C

PA EXP RXP0[0..15] >>> PA_EXP_RXP[0..15] [4]
PA EXP RXN0[0..15] >>> PA_EXP_RXN[0..15] [4]
PA EXP TXP0[0..15] >>> PA_EXP_TXP[0..15] [4]
PA EXP TXN0[0..15] >>> PA_EXP_TXN[0..15] [4]

PCIEX16 SLOT

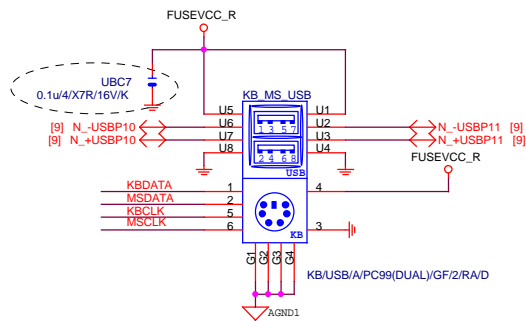


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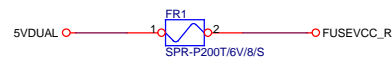
Gigabyte Technology

Title			PCI EXPRESS * 16		
Size			GA-H97N-WIFI		
Custom			Rev 1.1		
Date: Thursday, October 23, 2014			Sheet 14 of 31		

KB/MS

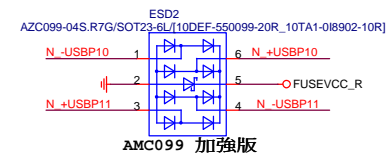


USB2.0 PWR

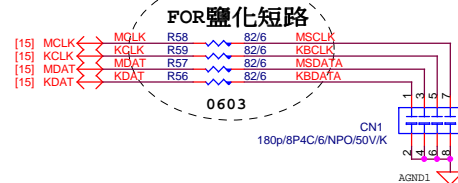
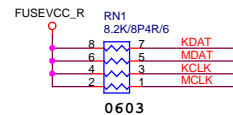


Close to connector
KB_MS_USB 2-Port 2.0A

USB2.0 ESD

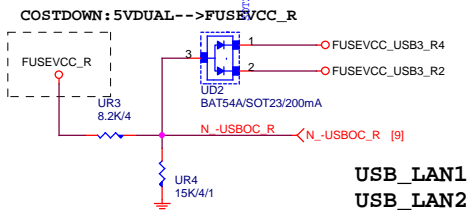


KB_MS

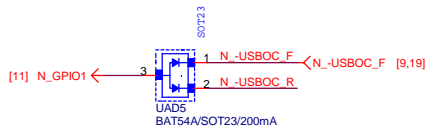


-USBOC_R

USB POWER PROTECT



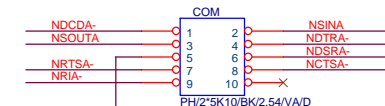
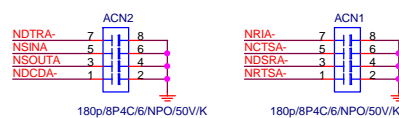
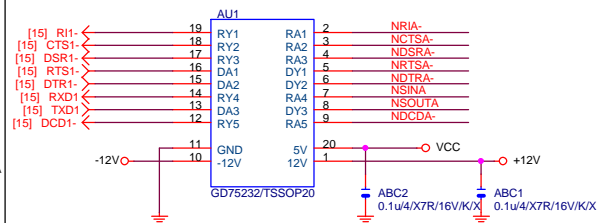
USB_LAN1
USB_LAN2



USB2.0 Short Power Protection

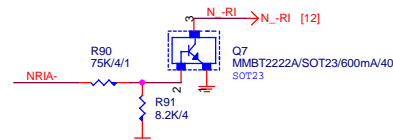
N/A

COM



BLACK PIN2X5-CUT10-COM

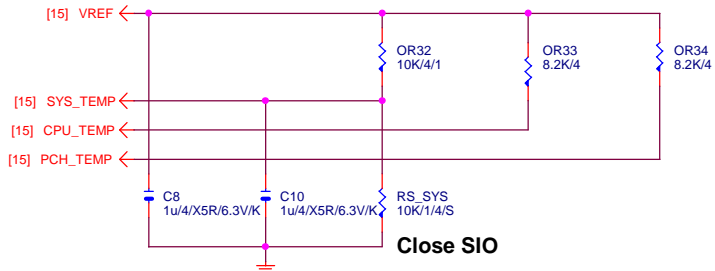
COM RI



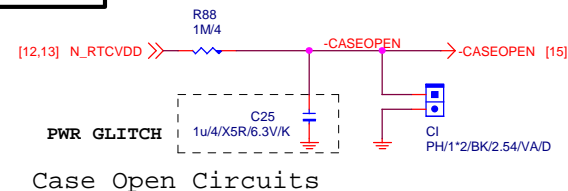
Gigabyte Technology

Title			COM-RI,KB_USB,USB_ESATA,-PROCHOT
Size	Document Number	GA-H97N-WIFI	
Custom		Rev	1.1
Date:	Thursday, October 23, 2014	Sheet	16 of 31

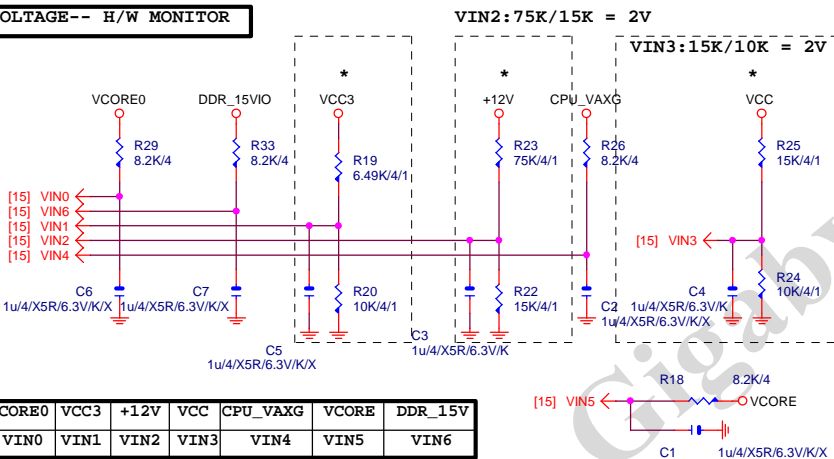
TEMP H/W MONITOR



CASE OPEN

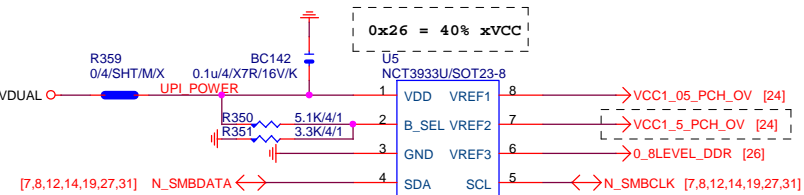


VOLTAGE-- H/W MONITOR



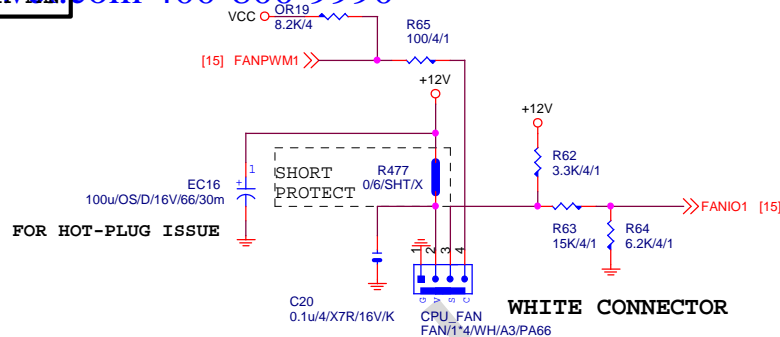
OV NCT3933

接pwm feedback pin



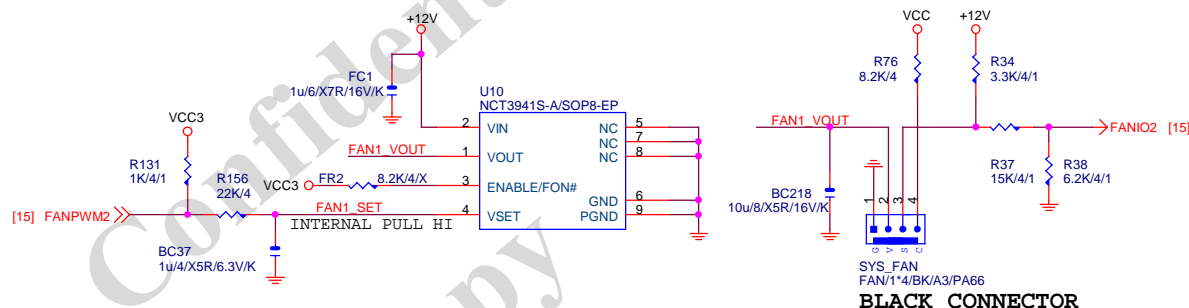
www.xinxiang.com 400-800-9990

CPU SMART FAN

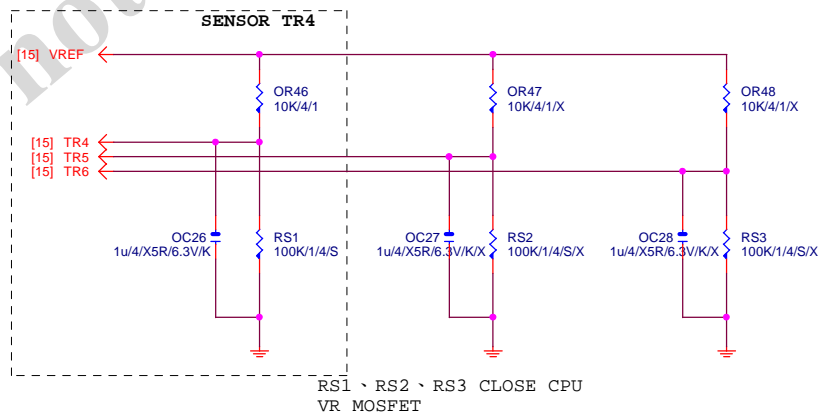


SYS SMART FAN

Linear SYS_FAN

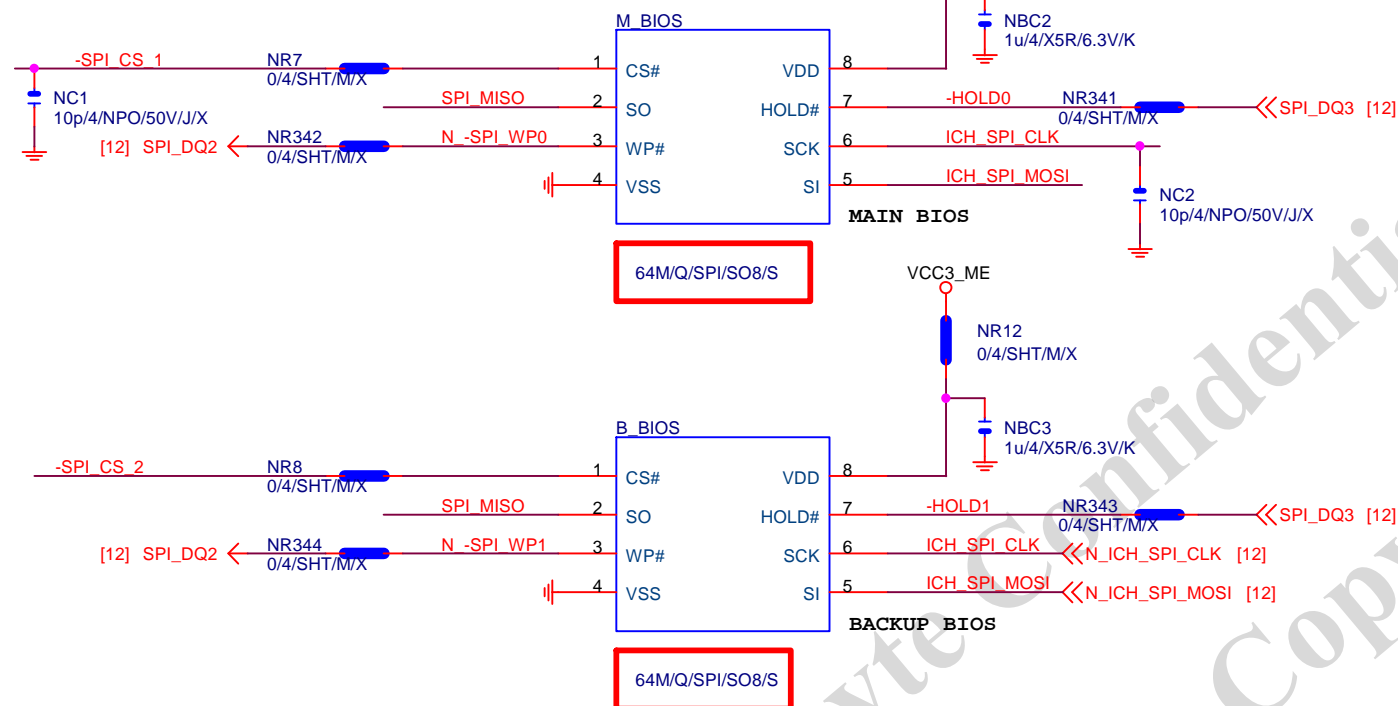


-PROHOT



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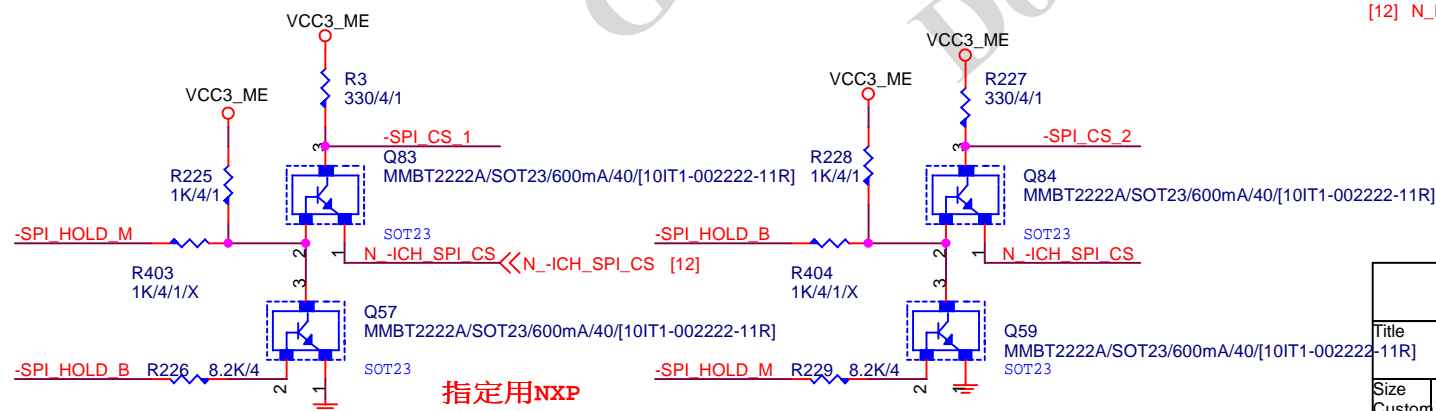
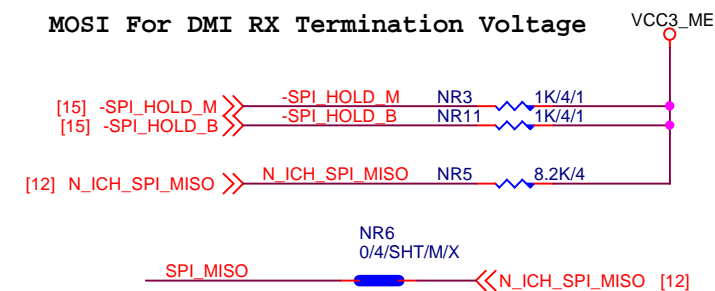
Title			
HWM,FAN CTRL,OV			
Size	Document Number	Rev	
Custom	GA-H97N-WIFI	1.1	
Date:	Thursday, October 23, 2014	Sheet	17 of 31



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



Gigabyte Technology

DUAL BIOS

GA-H97N-WIFI

Title

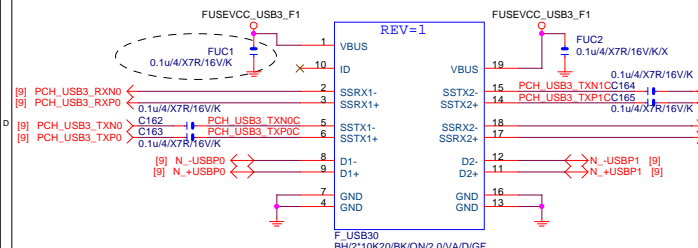
Size Custom

Document Number

Rev 1.1

Date: Thursday, October 23, 2014 Sheet 18 of 31

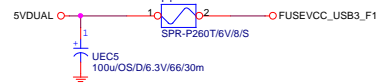
F_USB30



BLACK CONNECTOR

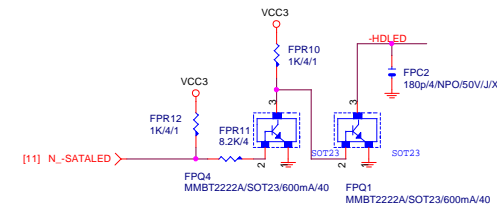
F_USB30-CUT20-1

FUSE-0805

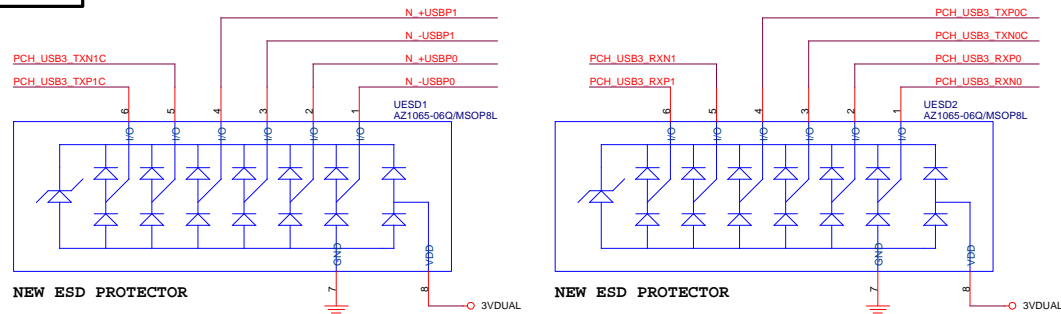


USB3.0 2Port - 1Fuse (2.6A)

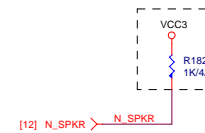
SATA LED	
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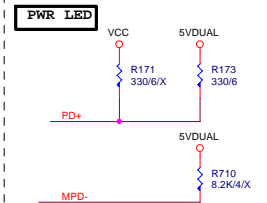
F_USB30 ESD PROTECT



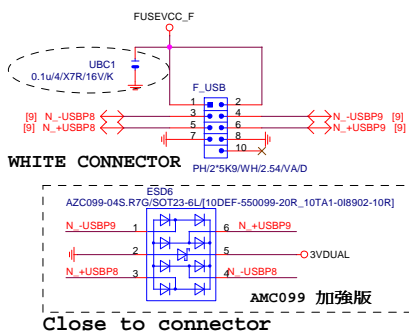
SPKR



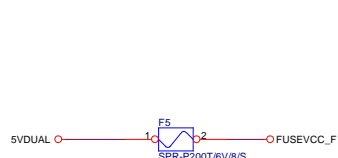
INTEL FRONT PANEL



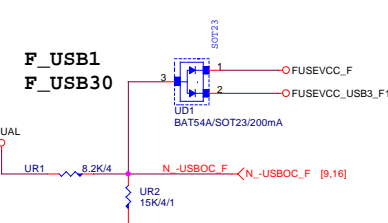
FRONT USB20



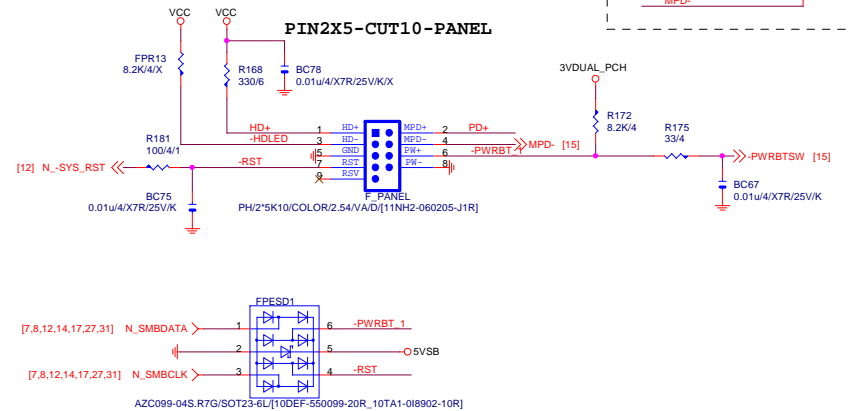
FUSEVCC_F



-USBOC_F



PIN2X5-CUT10-PANEL





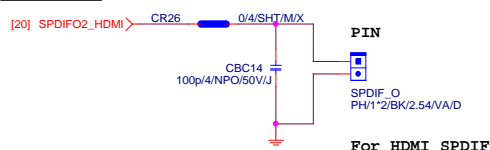
For 889A/888



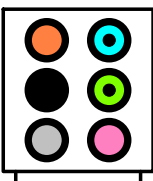
Title				AUDIO JACK				Revision	
Size Custom		Document Number				GA-H97N-WIFI		Rev 1.	
Date: Thursday, October 23, 2014				Sheet 21		of 31			

ADD CD2 For ESD PROTECT DIODE

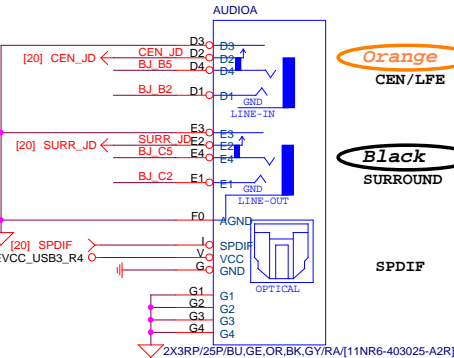
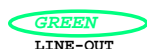
SPDIF_OUT



AZALIA JACK



AZALIA JACK

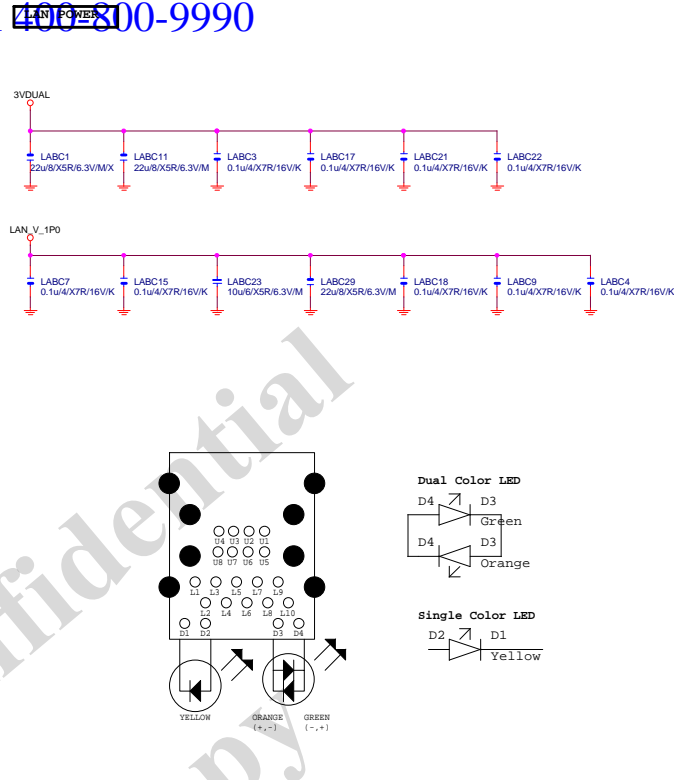


Orange
CEN/LFE

Black
SURROUND

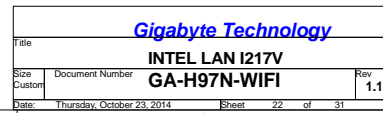
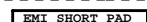
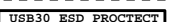
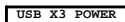
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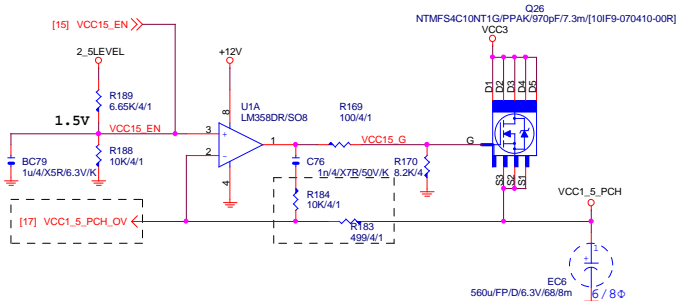
LAN INTEL I217



USB30_LAN ESD

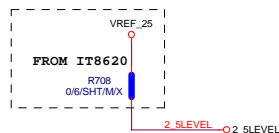
USB30_LAN CONNECTOR



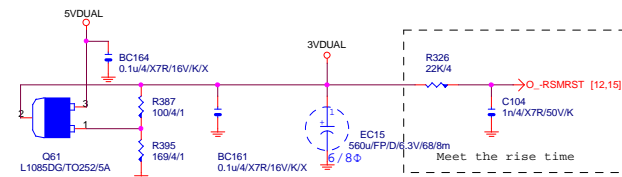


2_5LEVEL

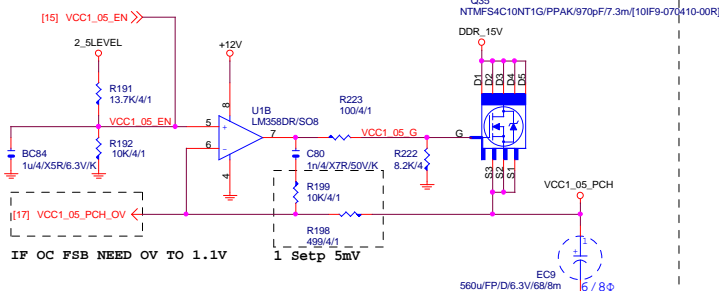
www.xinxunwei.com 400-800-9990



3VDUAL



VCC1_05_PCH



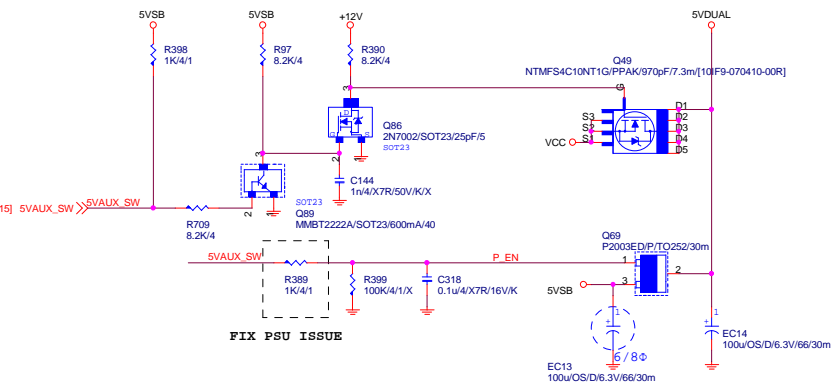
5VDUAL SHORT PROTECT

N/A

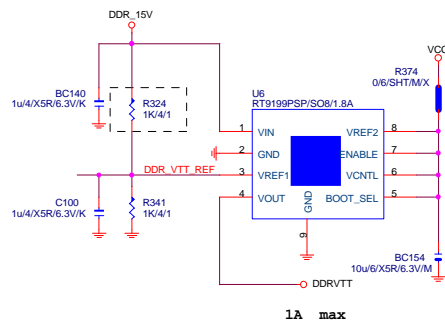
- RSMRST

N/A

5VDUAL



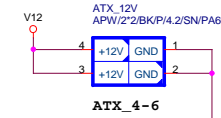
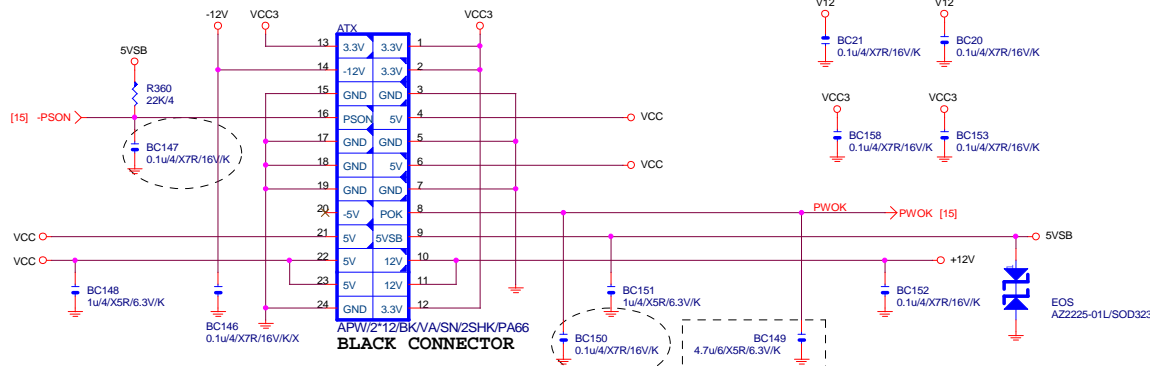
DDRVTT



ATXX24 POWER CONNECTOR

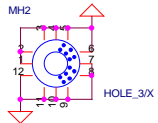
www.xinxunwei.com 400-800-9900

ATXX24 POWER CONNECTOR

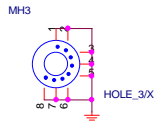


BLACK CONNECTOR

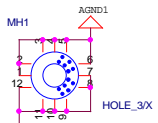
MB LOCATION



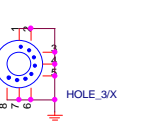
HOLE_4-RH-5MM-1



HOLE_4-RH-5MM-5PIN-1

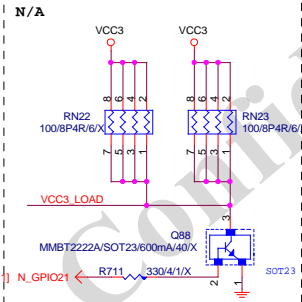


HOLE_4-RH-5MM-1



HOLE_4-RH-5MM-5PIN-1

FIX PWR MINMUN LOAD



PWOK PATCH

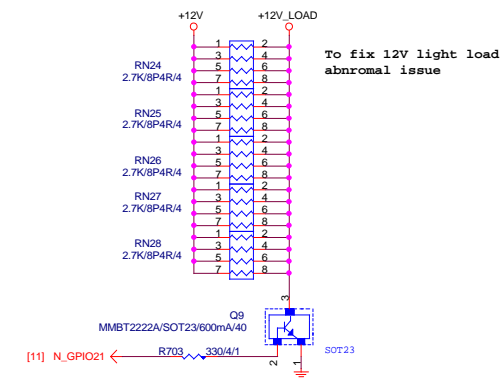
【技術通報R&D技術通報154】

N/A

CLK GEN

N/A

【技術通報R&D技術通報153】



To fix 12V light load abnormal issue

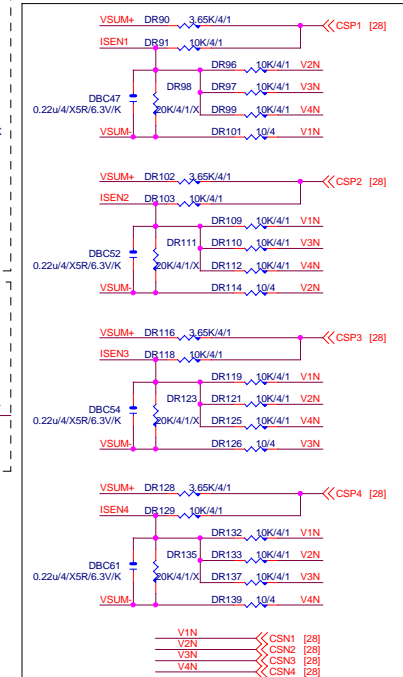
Gigabyte Technology

ATX CONNECTOR

GA-H97N-WIFI

Rev 1.1

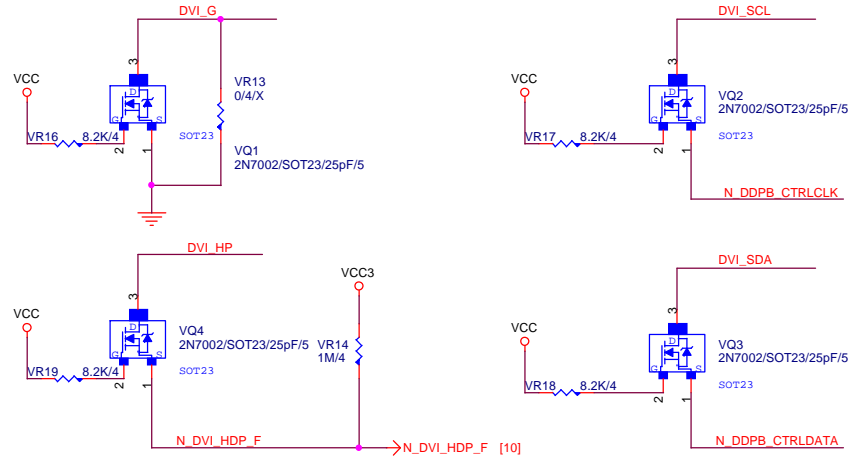
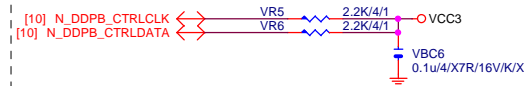
Date: Thursday, October 23, 2014 Sheet 25 of 31



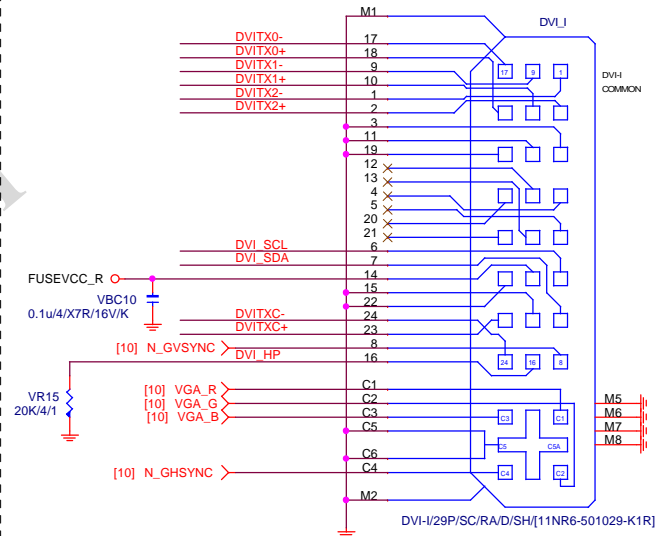
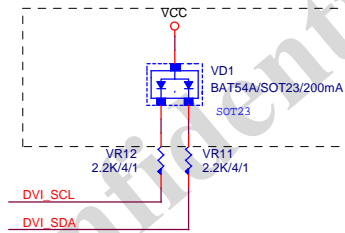
CLOSE PWM

CLOSE L1 DC SIDE

Title				CPU CORE VR-1			
Size	Document Number			GA-H97N-WIFI			Rev
Custom							1.1
Date:	Thursday, October 23, 2014			Sheet	27	of	31



R&D技術通報 162

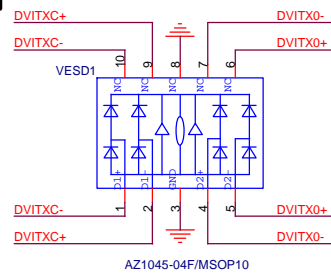


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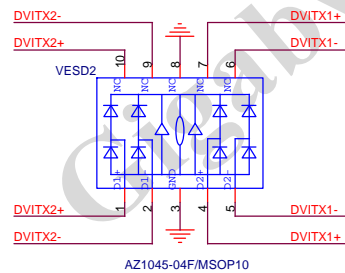
| INSERT TRANSFER CONNECTOR |
| TO DISABLE DDC_EN FOR VGA |
| CSM FAIL.                 |

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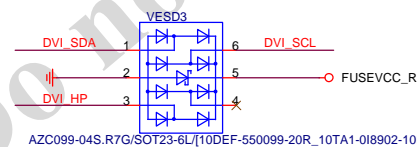
DVI ESD



Close to connector

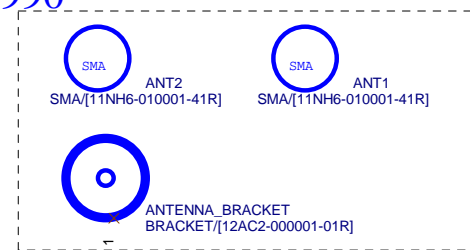
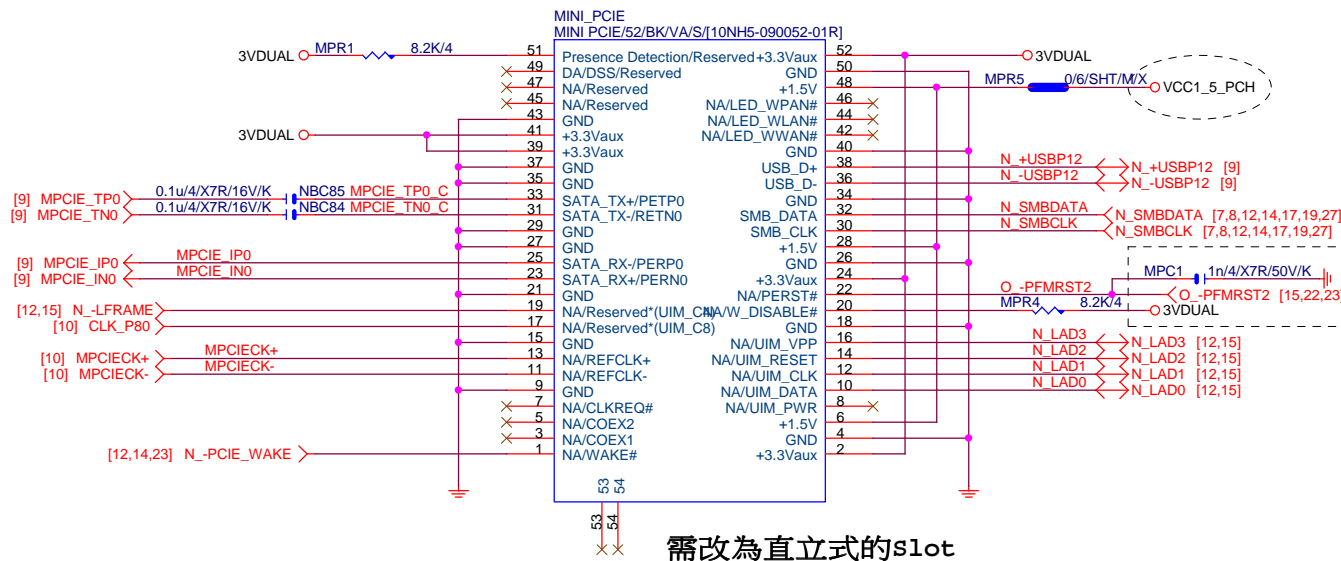


Close to connector

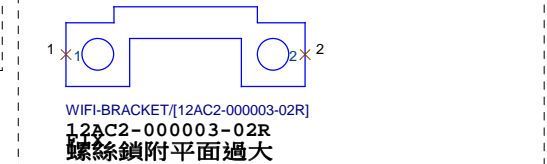




Mini PCIE



WIFI-BRACKET WIFI 支架料號包含螺絲



WIFI CARD 螺絲



BOM 建成 WIFI-BRACKET



WIFI_MODULE
WI-FI WITH BT MINI CARD INTEL/[20CB1-027260-30R]

NEW Intel 7260 - 2x2 11ac combo

mSATA slot

N/A

Gigabyte Technology

Title		
MINI PCIE		
Size	Document Number	Rev
Custom	GA-H97N-WIFI	1.1
Date:	Thursday, October 23, 2014	Sheet 31 of 31