

Model Name: GA-H97N-WIFI

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	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	ARTHEROS LAN AR8161B(B)
24	DISCRETE POWER
25	ATX
26	RT8120_DDR POWER,M3 POWER
27	VCORE ISL95820_1

SHEET

TITLE

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

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Cover Sheet

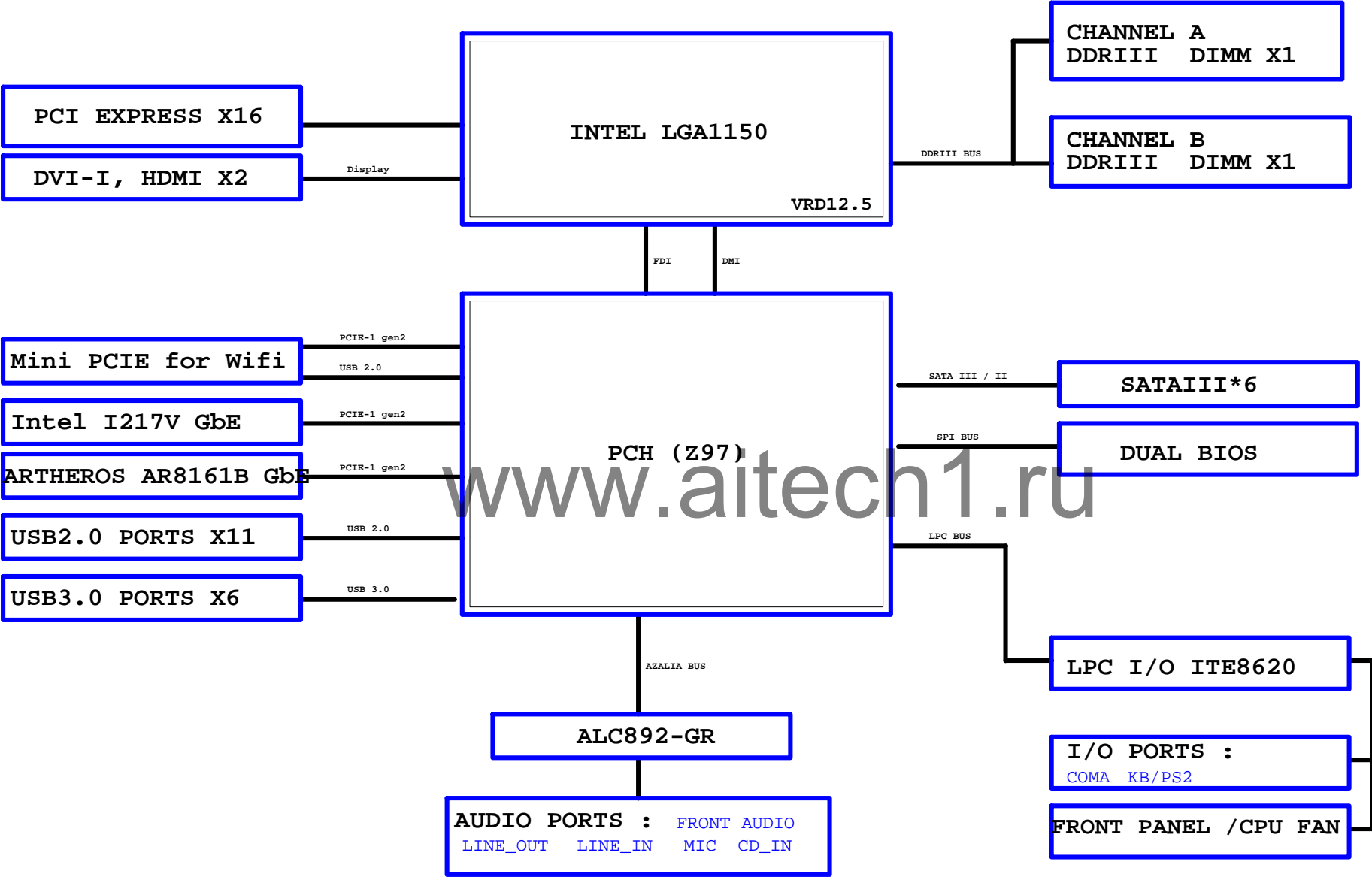
Size Custom	Document Number GA-H97N-WIFI	Rev 1.0
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Revision 1.0

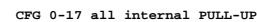
2014/04/14

[illegible][illegible]

BLOCK DIAGRAM

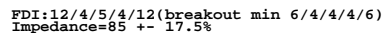


(E)



(D)

(D) LGA1150D

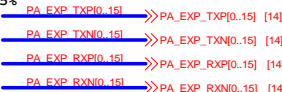


(C)

Impedance=80 +- 17.5%



Impedance=85 \pm 17.5%



C:HDMI-1

D:HDMI-2

CPU	PU/PD
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
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99	99
100	100

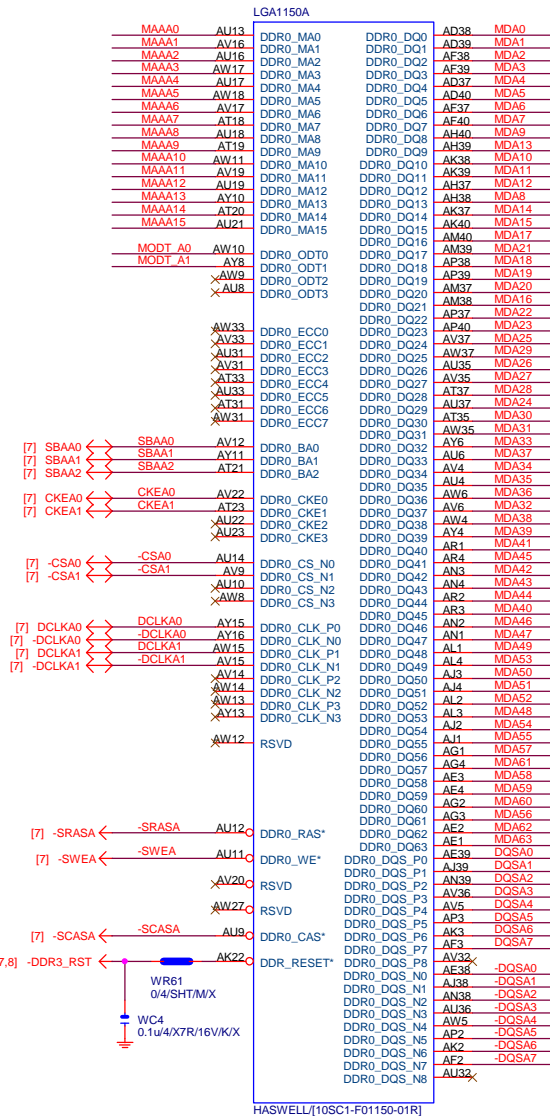


THRMTRIP DISABLE

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CPU LGA1150-A

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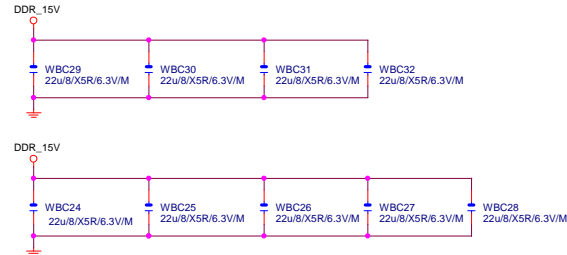


LGA1155 (G,H,I)



DDR CAP

(x9)



Title			
CPU LGA1150-C			
Size	Document Number	Rev	
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PCH

(B)

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

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

PCHB

B85: Port 6/7 N/A

H81: Port 6/7/12/13 N/A

W=4 mil out of PCH

S=15 mil out of PCH

VCC1_5_PCH NR50 7.5K/4/1 DMI_COMP B19
NR40 7.5K/4/1 PCIE_COMP C13

USB3.0

MINI AR8161B
PCI-E

PCIEX1:15/4/4/4/15 (breakout min 8/4/4/4/8)
Impedance=85 +- 17.5%

CHIP DH82H97 A0 INTEL[10HB1-030H97-20R]

PCH

(J)

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

usb2.0 12/5/7/5/12

usb3.0 20/5/7/5/20

PCHJ

AT1 VSS_NCTF TP22 U11
AT41 VSS_NCTF TP23 U10
AU1 VSS_NCTF TP21 A14
AV1 VSS_NCTF TP20 AK14
AV2 VSS_NCTF TP14 K34
AV40 VSS_NCTF TP15 K33
AV41 VSS_NCTF TP12 AH2
AW2 VSS_NCTF TP10 L16
AW40 VSS_NCTF TP11 K16
B40 VSS_NCTF TP9 AM34
B41 VSS_NCTF TP3 R12
C41 VSS_NCTF TP4 N12
D1 VSS_NCTF TP1 L22
D41 VSS_NCTF TP2 K22
VSS AC31
VSS AF3
VSS AV21

CHIP DH82H97 A0 INTEL[10HB1-030H97-20R]

PCH

(F)

USB2.0/3.0 PORT要對應

USB20 1/9 debug Capability Test 一定要拉出來

PCHF

USB3 FDI LINK
USB3 RXN_0 FDI_RXN_0 N1 FDI_TXN0
USB3 RXP_0 FDI_RXP_0 N2 FDI_TXP0
USB3 TXN_0 FDI_TXN_0 P2 FDI_TXN1
USB3 TXP_0 FDI_TXP_0 P3 FDI_TXP1
FDI_CSXNC
FDI_CSXNC L2 FDI_CSXNC [4]
FDI_INT
FDI_INT L3 FDI_INT [4]
FDI_RCOMP
FDI_RCOMP K2 NR29 7.5K/4/1 VCC1_5_PCH

CHIP DH82H97 A0 INTEL[10HB1-030H97-20R]

FDI_TXP0_11 FDI_TXP0[0..1] [4]

FDI_TXN0_11 FDI_TXN0[0..1] [4]

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

Front Panel < 6000 MILS

PCH CLK PD

Mount for integrated clock Generation Mode

CK_SRCCLK_PCH NR89 8.2K/4
CK_SRCCLK_PCH NR88 8.2K/4
CK_DOTCLK NR92 8.2K/4
CK_DOTCLK NR91 8.2K/4
NR225 short to GND in non
graphic SKU

PCH H/S

SB_HEATSIN

1X

GRAY HS

2X

PCH_HS

PCH_HS[12SP2-S03507-01R_12SP2-S03507-02R]

USB TABLE

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

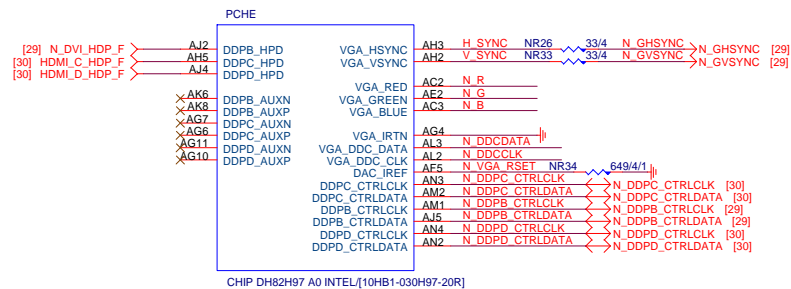
OC[7:4]# for Device 26 (ports 8-13)

USB OC#	Configure
OC0#	F_USB30
OC1#	USB30_LAN2
OC2#	USB30_LAN1
OC3#	N/A
OC4#	F_USB20
OC5#	KB_MS_USB
OC6#	MINI_PCIE
OC7#	Not Use

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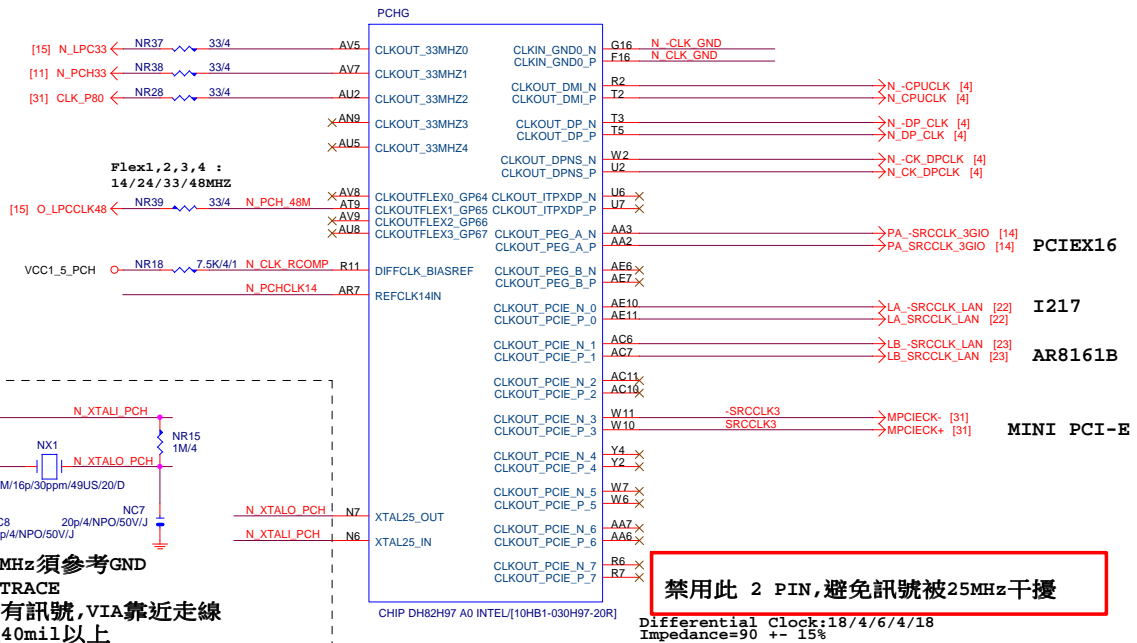
Title	PCH FDI,DMI,USB ,PCIE,NVRAM	Rev	1.0
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Custom			
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PCH (E)

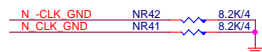


VGA_DISABLE
R,G,B NC OR GND
IRTN / IREF GND
VGA_HSYNC, VGA_VSYNC, DDC_CLK, DDC_DATA NC
POWER VCCADAC(AF2), VCCADACBG(AE1) GND

PCH (G)



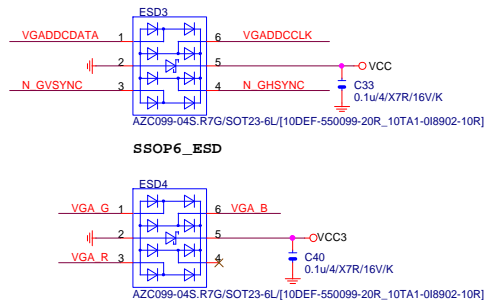
PCH CLK PD



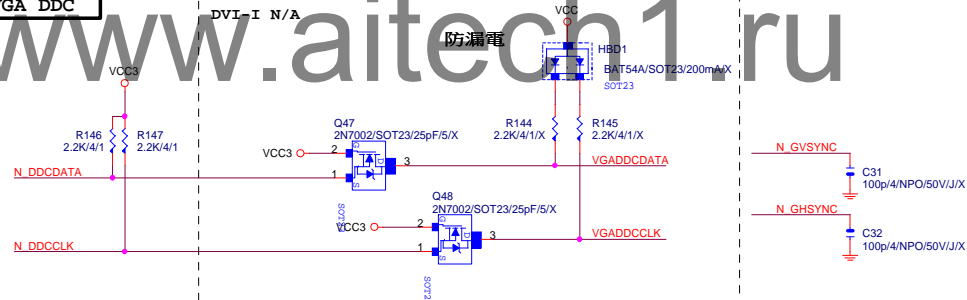
Mount for integrated clock Generation
Mode



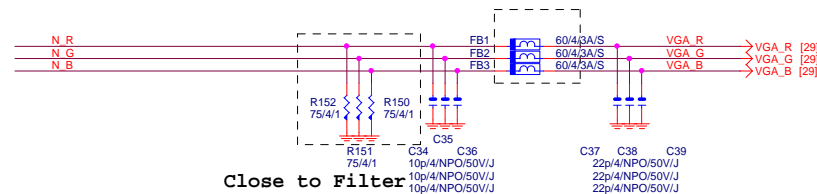
VGA ESD



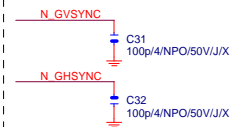
VGA DDC



VGA SIGNAL



VGA CONNECTOR



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

PCHC

CL_CLK

CL_DATA

CL_RSTB

APWROK

CLINK

FAN

PWM0

PWM1

PWM2

PWM3

TACH0_GP17

TACH1_GP1

TACH2_GP6

TACH3_GP7

TACH4_GP8

TACH5_GP9

SSTCTL

SCLOCK_GP22

SLOAD_GP38

SDATAOUT0_GP39

SDATAOUT1_GP48

GPIO

RST

SATALED

SATA_RCOMP

SATA0GP_GP21

SATA1GP_GP19

SATA2GP_GP36

SATA3GP_GP37

SATA4GP_GP16

SATA5GP_GP49

EDP_BKLTCTL

EDP_BKLTEN

EDP_VDDEN

RSVD

RCINB

SERIRQ

THRMTRIPB

PECI

PM_SYNC

PLTRST_PROCB

CHIP DH82H97 A0 INTEL[10HB1-030H97-20R]

SATA_RXN_0 B28 N SATA0RXN
 SATA_RXP_0 A28 N SATA0RXP
 SATA_TXN_0 F31 N SATA0TXN
 SATA_TXP_0 H31 N SATA0TXP
 SATA_RXN_1 D30 N SATA1RXN
 SATA_RXP_1 C30 N SATA1RXP
 SATA_TXN_1 B34 N SATA1TXN
 SATA_TXP_1 C34 N SATA1TXP

SATA_RXN_2 A31 N SATA2RXN
 SATA_RXP_2 B31 N SATA2RXP
 SATA_TXN_2 B35 N SATA2TXN
 SATA_TXP_2 D35 N SATA2TXP
 SATA_RXN_3 B32 N SATA3RXN
 SATA_RXP_3 C32 N SATA3RXP
 SATA_TXN_3 G33 N SATA3TXN
 SATA_TXP_3 F33 N SATA3TXP

SATA_RXN_4 PCIE_PERN_1
 SATA_RXP_4 PCIE_PERP_1
 SATA_TXN_4 PCIE_PETN_1
 SATA_TXP_4 PCIE_PETP_1
 SATA_RXN_5 PCIE_PERN_2
 SATA_RXP_5 PCIE_PERP_2
 SATA_TXN_5 PCIE_PETN_2
 SATA_TXP_5 PCIE_PETP_2
 CLKN_SATA_N
 CLKN_SATA_P

SATALED B39
 SATA_RCOMP D33
 SATA0GP_GP21 M37
 SATA1GP_GP19 J40
 SATA2GP_GP36 H40
 SATA3GP_GP37 H41
 SATA4GP_GP16 M39
 SATA5GP_GP49 N40

EDP_BKLTCTL AP2
 EDP_BKLTEN AT2
 EDP_VDDEN AP1

RSVD N30
 RCINB K36
 SERIRQ G39
 THRMTRIPB C40
 PECIAL SB_PECI NR85
 PM_SYNC F40
 PLTRST_PROCB F41

A20GATE N30
 KBRST N36
 SERIRQ G39
 THRMTRIPB C40
 SB_PECI NR85
 A_CPURST F41

A20GATE N30
 KBRST N36
 SERIRQ G39
 THRMTRIPB C40
 SB_PECI NR85
 A_CPURST F41

A20GATE N30
 KBRST N36
 SERIRQ G39
 THRMTRIPB C40
 SB_PECI NR85
 A_CPURST F41

A20GATE N30
 KBRST N36
 SERIRQ G39
 THRMTRIPB C40
 SB_PECI NR85
 A_CPURST F41

A20GATE N30
 KBRST N36
 SERIRQ G39
 THRMTRIPB C40
 SB_PECI NR85
 A_CPURST F41

A20GATE N30
 KBRST N36
 SERIRQ G39
 THRMTRIPB C40
 SB_PECI NR85
 A_CPURST F41

A20GATE N30
 KBRST N36
 SERIRQ G39
 THRMTRIPB C40
 SB_PECI NR85
 A_CPURST F41

A20GATE N30
 KBRST N36
 SERIRQ G39
 THRMTRIPB C40
 SB_PECI NR85
 A_CPURST F41

A20GATE N30
 KBRST N36
 SERIRQ G39
 THRMTRIPB C40
 SB_PECI NR85
 A_CPURST F41

A20GATE N30
 KBRST N36
 SERIRQ G39
 THRMTRIPB C40
 SB_PECI NR85
 A_CPURST F41

A20GATE N30
 KBRST N36
 SERIRQ G39
 THRMTRIPB C40
 SB_PECI NR85
 A_CPURST F41

A20GATE N30
 KBRST N36
 SERIRQ G39
 THRMTRIPB C40
 SB_PECI NR85
 A_CPURST F41

A20GATE N30
 KBRST N36
 SERIRQ G39
 THRMTRIPB C40
 SB_PECI NR85
 A_CPURST F41

A20GATE N30
 KBRST N36
 SERIRQ G39
 THRMTRIPB C40
 SB_PECI NR85
 A_CPURST F41

A20GATE N30
 KBRST N36
 SERIRQ G39
 THRMTRIPB C40
 SB_PECI NR85
 A_CPURST F41

A20GATE N30
 KBRST N36
 SERIRQ G39
 THRMTRIPB C40
 SB_PECI NR85
 A_CPURST F41

A20GATE N30
 KBRST N36
 SERIRQ G39
 THRMTRIPB C40
 SB_PECI NR85
 A_CPURST F41

PCH

(A)

3VDUAL_PCH

NR124

8.2K/4/X

N_P_PME

AA31

N_PCH33

AM22

NR30

8.2K/4

TD_IREF

N_PIROA

AU28

N_PIROB

AU27

N_PIROC

AW28

N_PIROD

AV27

N_PIROE

AR30

N_PIROF

AV28

N_PIROG

AV28

N_PIROH

AT27

CHIP DH82H97 A0 INTEL[10HB1-030H97-20R]

PCHA

PMEB

CLKIN_33MHZLOOPBACK

PLTRSTB

GP35/NMIB

GP50

GP51

GP52

GP53

GP54

GP55

M40

N_GPIO35

AH26

N_GPIO50

AU31

N_GPIO51

AJ26

N_GPIO52

AV31

N_GPIO53

AW33

N_GPIO54

R30

N_GPIO55

N_PFMIRST

[15]

N_PCH33

[10]

N_PCH33

N_PCH33

N_PCH33

N_PCH33

N_PCH33

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N_PCH33

N_PCH33

N_PCH33

PCH CLK PD

CK_SRCCLK SATA NR174 8.2K/4
 CK_SRCCLK SATA NR173 8.2K/4
 Mount for integrated clock Generation Mode

PCH PU/PD

NRN2 8.2K/8P4R/4
 N_PIROB 1 2
 N_PIROD 3 4
 N_PIROH 5 6
 N_PIROQ 7 8
 NRN3 8.2K/8P4R/4
 N_PIROG 1 2
 N_PIROA 3 4
 N_PIROF 5 6
 N_PIROE 7 8
 NRN7 8.2K/8P4R/4
 N_GPIO52 1 2
 N_GPIO50 3 4
 N_GPIO17 5 6
 N_GPIO6 7 8
 N_GPIO55 NR160 1K/4/1/X
 N_GPIO51 NR55 1K/4/1/X
 N_GPIO53 NR53 1K/4/1/X

NRN2 8.2K/8P4R/4
 N_PIROB 1 2
 N_PIROD 3 4
 N_PIROH 5 6
 N_PIROQ 7 8
 NRN3 8.2K/8P4R/4
 N_PIROG 1 2
 N_PIROA 3 4
 N_PIROF 5 6
 N_PIROE 7 8
 NRN7 8.2K/8P4R/4
 N_GPIO52 1 2
 N_GPIO50 3 4
 N_GPIO17 5 6
 N_GPIO6 7 8
 N_GPIO55 NR160 1K/4/1/X
 N_GPIO51 NR55 1K/4/1/X
 N_GPIO53 NR53 1K/4/1/X

NRN2 8.2K/8P4R/4
 N_PIROB 1 2
 N_PIROD 3 4
 N_PIROH 5 6
 N_PIROQ 7 8
 NRN3 8.2K/8P4R/4
 N_PIROG 1 2
 N_PIROA 3 4
 N_PIROF 5 6
 N_PIROE 7 8
 NRN7 8.2K/8P4R/4
 N_GPIO52 1 2
 N_GPIO50 3 4
 N_GPIO17 5 6
 N_GPIO6 7 8
 N_GPIO55 NR160 1K/4/1/X
 N_GPIO51 NR55 1K/4/1/X
 N_GPIO53 NR53 1K/4/1/X

NRN2 8.2K/8P4R/4
 N_PIROB 1 2
 N_PIROD 3 4
 N_PIROH 5 6
 N_PIROQ 7 8
 NRN3 8.2K/8P4R/4
 N_PIROG 1 2
 N_PIROA 3 4
 N_PIROF 5 6
 N_PIROE 7 8
 NRN7 8.2K/8P4R/4
 N_GPIO52 1 2
 N_GPIO50 3 4
 N_GPIO17 5 6
 N_GPIO6 7 8
 N_GPIO55 NR160 1K/4/1/X
 N_GPIO51 NR55 1K/4/1/X
 N_GPIO53 NR53 1K/4/1/X

NRN2 8.2K/8P4R/4
 N_PIROB 1 2
 N_PIROD 3 4
 N_PIROH 5 6
 N_PIROQ 7 8
 NRN3 8.2K/8P4R/4
 N_PIROG 1 2
 N_PIROA 3 4
 N_PIROF 5 6
 N_PIROE 7 8
 NRN7 8.2K/8P4R/4
 N_GPIO52 1 2
 N_GPIO50 3 4
 N_GPIO17 5 6
 N_GPIO6 7 8
 N_GPIO55 NR160 1K/4/1/X
 N_GPIO51 NR55 1K/4/1/X
 N_GPIO53 NR53 1K/4/1/X

NRN2 8.2K/8P4R/4
 N_PIROB 1 2
 N_PIROD 3 4
 N_PIROH 5 6
 N_PIROQ 7 8
 NRN3 8.2K/8P4R/4
 N_PIROG 1 2
 N_PIROA 3 4
 N_PIROF 5 6
 N_PIROE 7 8
 NRN7 8.2K/8P4R/4
 N_GPIO52 1 2
 N_GPIO50 3 4
 N_GPIO17 5 6
 N_GPIO6 7 8
 N_GPIO55 NR160 1K/4/1/X
 N_GPIO51 NR55 1K/4/1/X
 N_GPIO53 NR53 1K/4/1/X

NRN2 8.2K/8P4R/4
 N_PIROB 1 2
 N_PIROD 3 4
 N_PIROH 5 6
 N_PIROQ 7 8
 NRN3 8.2K/8P4R/4
 N_PIROG 1 2
 N_PIROA 3 4
 N_PIROF 5 6
 N_PIROE 7 8
 NRN7 8.2K/8P4R/4
 N_GPIO52 1 2
 N_GPIO50 3 4
 N_GPIO17 5 6
 N_GPIO6 7 8
 N_GPIO55 NR160 1K/4/1/X
 N_GPIO51 NR55 1K/4/1/X
 N_GPIO53 NR53 1K/4/1/X

SATA CONNECTOR

H81 Port 2/3 N/A

BLACK CONNECTOR

SATA3_0

SATA27/BK/H/OP/VA/D/1/B

SATA3_1

SATA27/BK/H/OP/VA/D/1/B

SATA3_2

SATA27/BK/H/OP/VA/D/1/B

SATA3_3

SATA27/BK/H/OP/VA/D/1/B

SATA3_4

SATA27/BK/H/OP/VA/D/1/B

SATA3_5

SATA27/BK/H/OP/VA/D/1/B

SATA3_6

SATA27/BK/H/OP/VA/D/1/B

SATA3_7

SATA27/BK/H/OP/VA/D/1/B

SATA3_8

SATA27/BK/H/OP/VA/D/1/B

SATA3_9

SATA27/BK/H/OP/VA/D/1/B

SATA3_10

SATA27/BK/H/OP/VA/D/1/B

SATA3_11

SATA27/BK/H/OP/VA/D/1/B

SATA3_12

SATA27/BK/H/OP/VA/D/1/B

SATA3_13

SATA27/BK/H/OP/VA/D/1/B

SATA3_14

SATA27/BK/H/OP/VA/D/1/B

SATA3_15

SATA27/BK/H/OP/VA/D/1/B

SATA3_16

SATA27/BK/H/OP/VA/D/1/B

SATA3_17

SATA27/BK/H/OP/VA/D/1/B

SATA3_18

SATA27/BK/H/OP/VA/D/1/B

SATA3_19

SATA27/BK/H/OP/VA/D/1/B

SATA3_20

SATA27/BK/H/OP/VA/D/1/B

ME PWROK

Z97 N/A

Z97+I217V STUFF

GPIO37 PU VCC3 ENABLE SBA

For H87&B85

VCC3_ME

NR187

0/4/SHT/M/X

NR189

8.2K/4

NR190

8.2K/4/X

NR188

22K/4

NR186

8.2K/4

NR157

1K/4/1/X

NR110

8.2K/4/X

NR245

8.2K/4

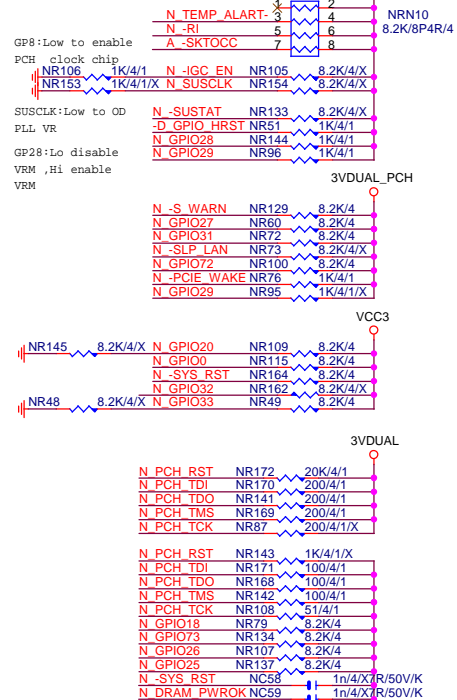
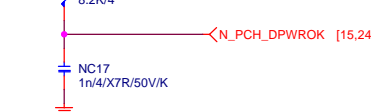
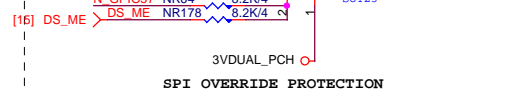
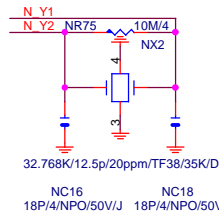
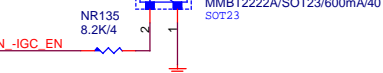
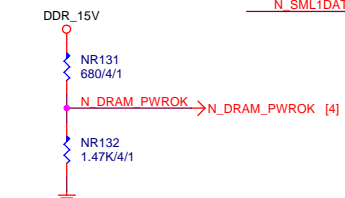
NR146

1K/4/1/X

NR117

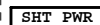
1K/4/1/X

(D)



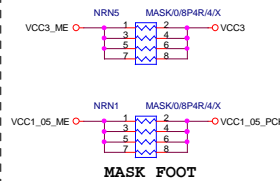
Size Custom	Document Number GA-Z97N-WIFI	Rev 1.
Date: Monday, April 14, 2014	Sheet 12 of 31	

(H)



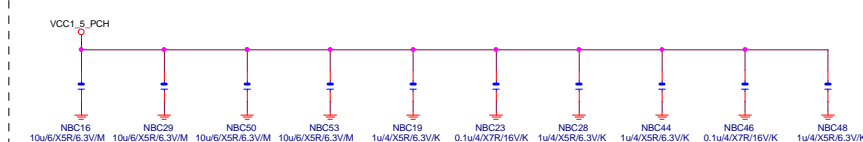
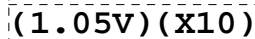
H97 N/A

Z97+I217 N/A



CAP

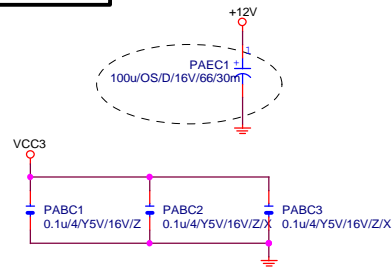
(3.3V) (X6)



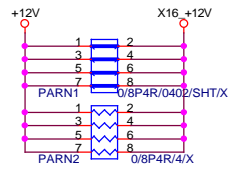
(I)



PCIEX16 CAP



PCIEX16 PROTECT SHT



PCIEX16 AC CAP

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

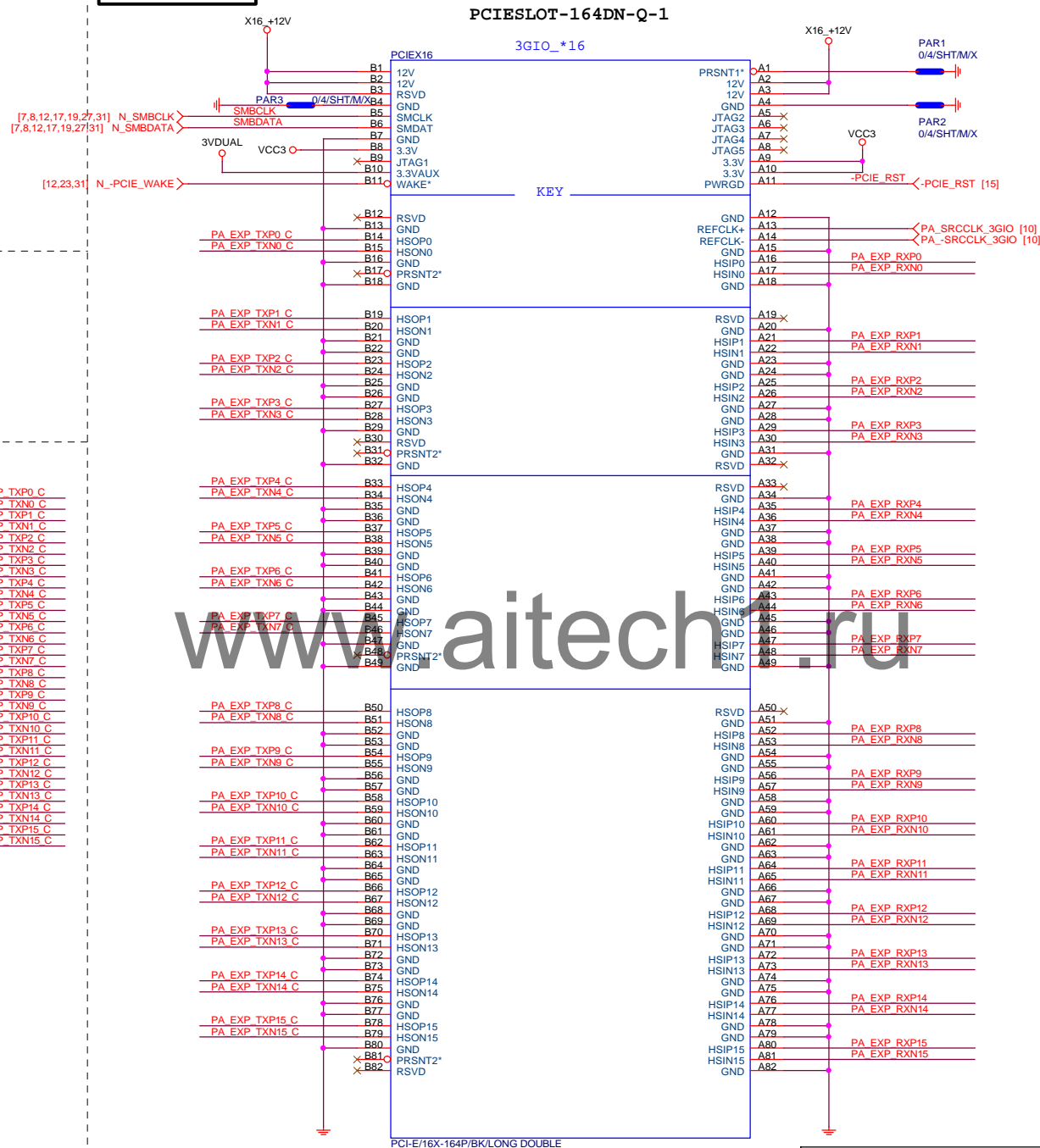
PA EXP RXP0.15] >>> PA_EXP_RXP[0.15] [4]

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

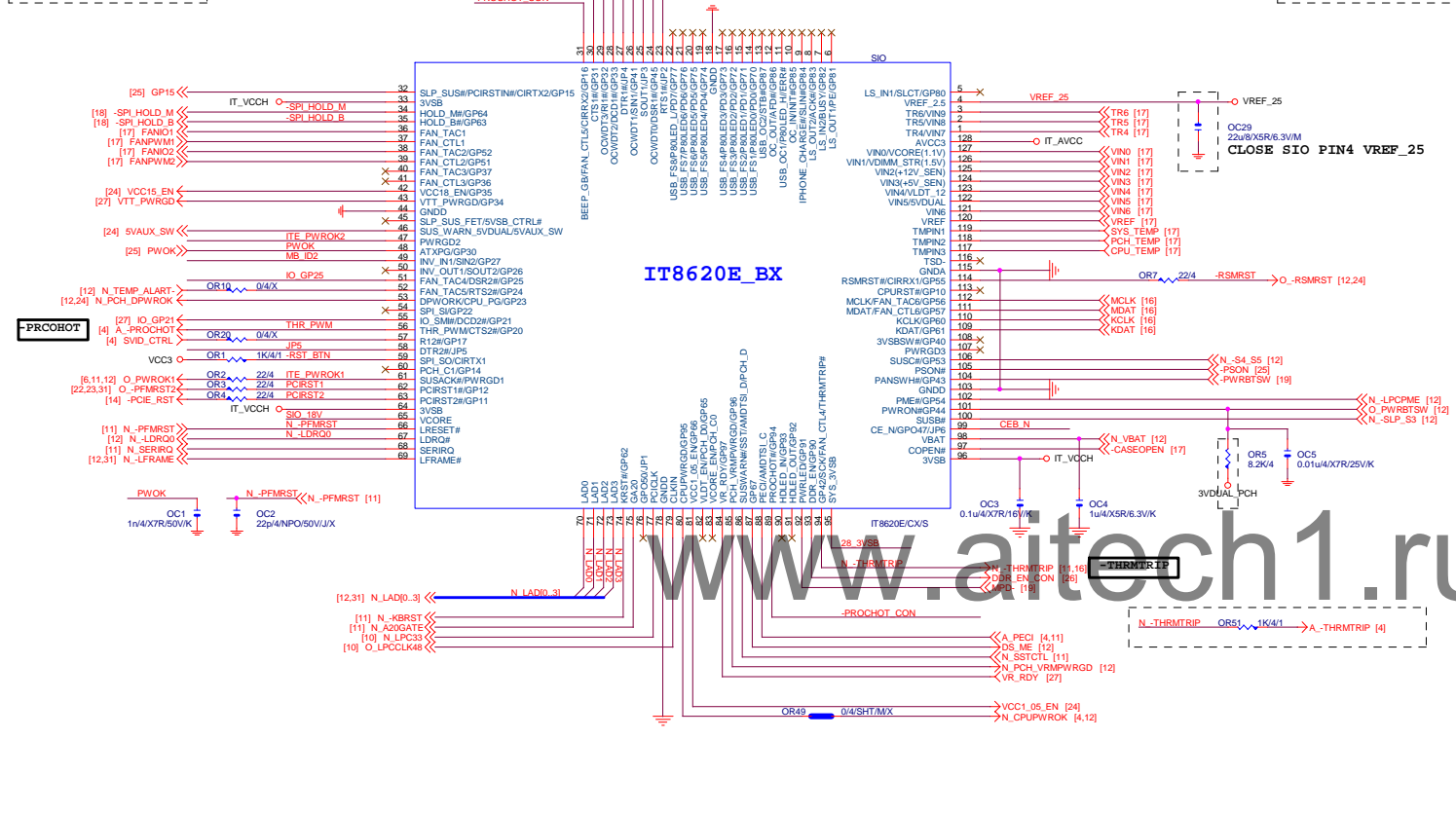
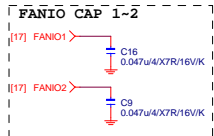


BLACK CONNECTOR

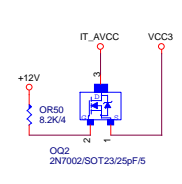
Gigabyte Technology

Title			PCI EXPRESS * 16	
Size			GA-Z97N-WIFI	
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Date: Monday, April 14, 2014			Sheet 14 of 31	

SIO IT8620



FIX ATX 插拔漏電



PWR SHT



SIO PU



SIO STRAP



Power leakage

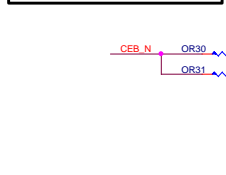


IT8620E GPIO問題匯整	
PIN 50	GP26--- 第一次接上POWER時會拉 LO
PIN 90/91	DEFAULT為HDLED FUNCTION, GP93 BYPASS TO GP92
PIN 108	高溫時 GP92 會被拉Lo(ITE)
PIN 111/112	SP48--- POWER ON 時會拉 LO
PIN 111/112	MOUSE 跟FAN6 FUNCTION 擇一使用,不然會互相干擾

SIO CAP



DUAL BIOS OPT STRAP



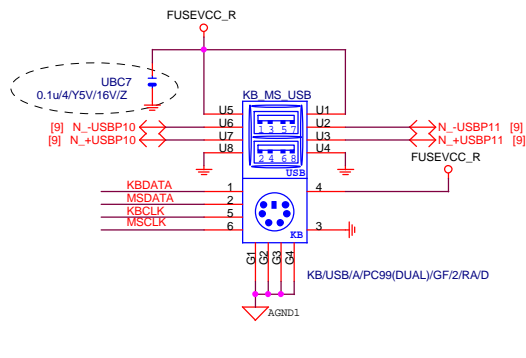
SIO_18V



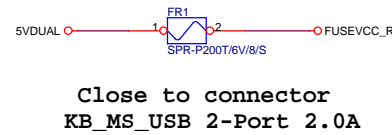
MB ID



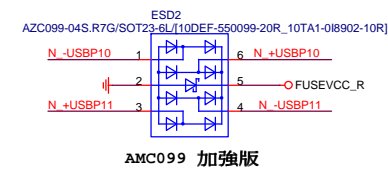
KB/MS



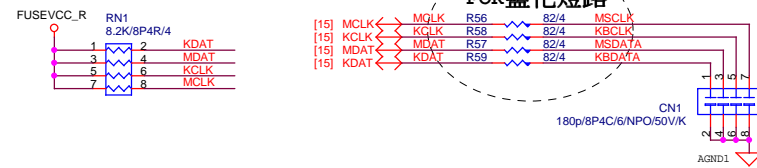
USB2.0 PWR



USB2.0 ESD

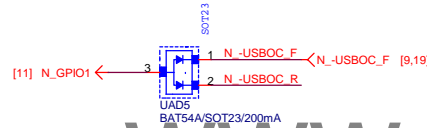
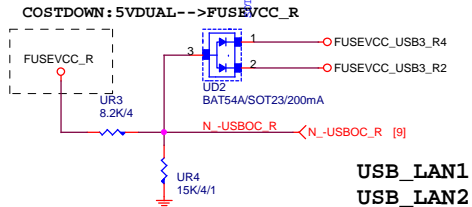


KB_MS



-USBOC_R

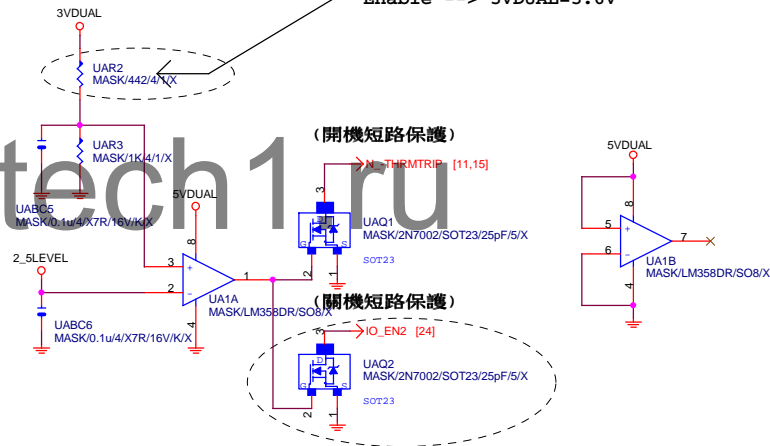
USB POWER PROTECT



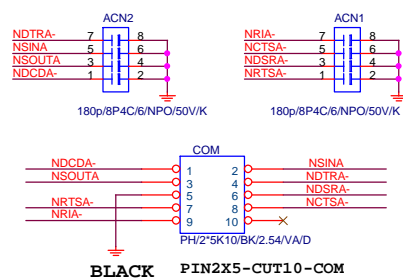
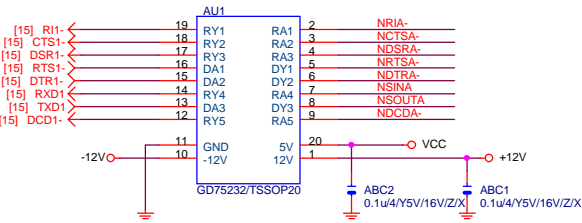
USB2.0 Short Power Protection

N/A

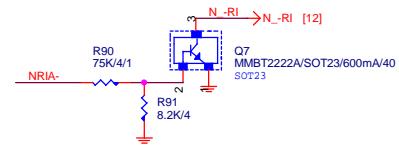
USB2.0 Signal & power short protection
USB2.0 Signal > 4.85V
Enable --> 3VDUAL=3.6V



COM

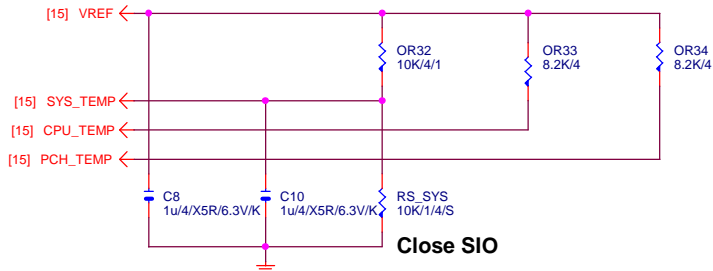


COM RI

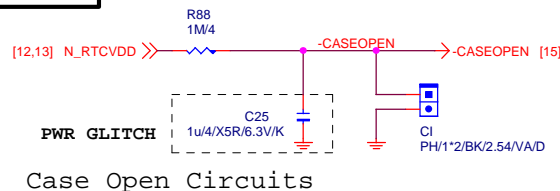


Gigabyte Technology			
Title			
COM-RI,KB_USB,USB_ESATA-PROCHOT			
Size	Document Number	Rev	
Custom	GA-Z97N-WIFI	1.0	
Date:	Monday, April 14, 2014	Sheet	1 of 31

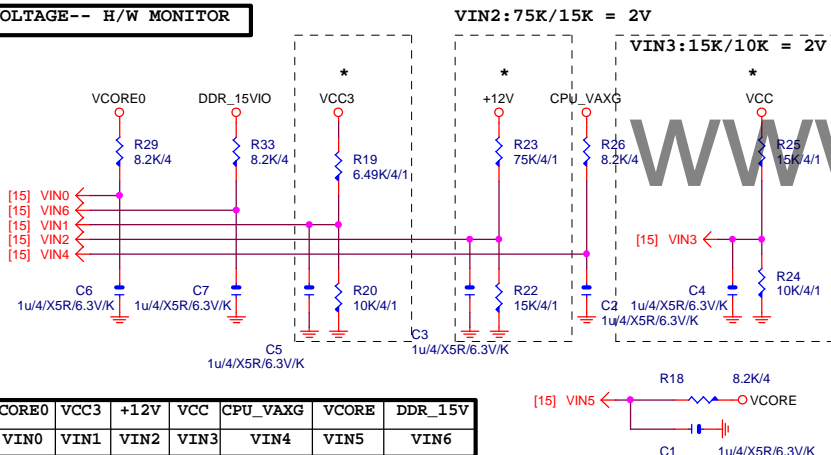
TEMP H/W MONITOR



CASE OPEN

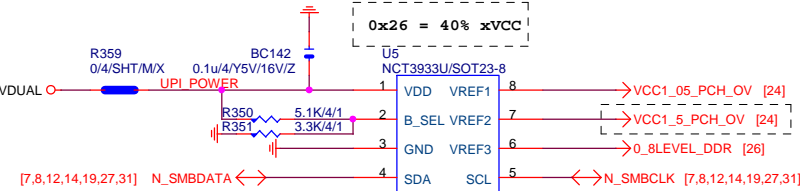


VOLTAGE-- H/W MONITOR

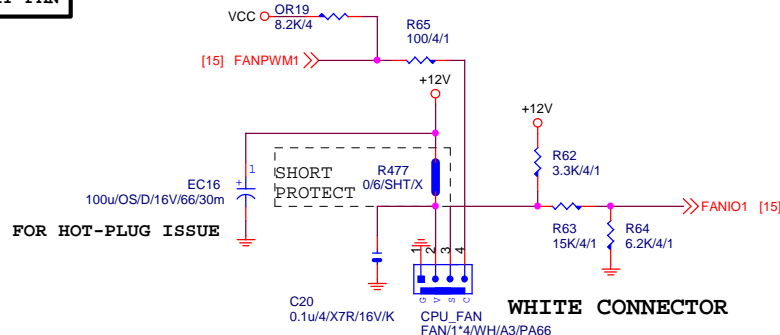


OV NCT3933

接pwm feedback pin

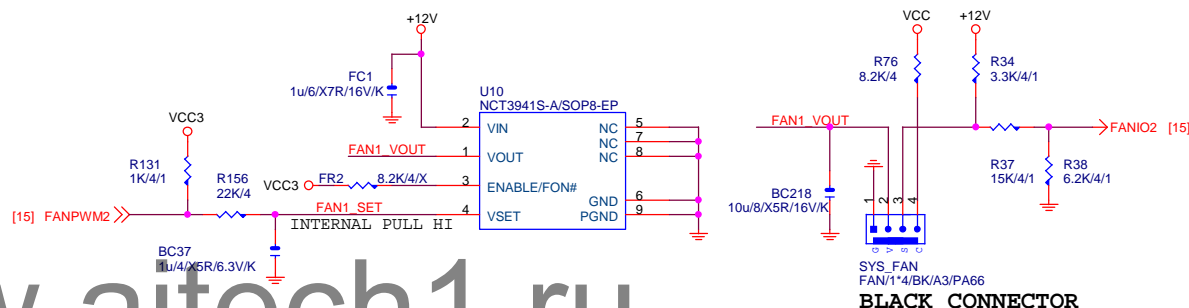


CPU SMART FAN

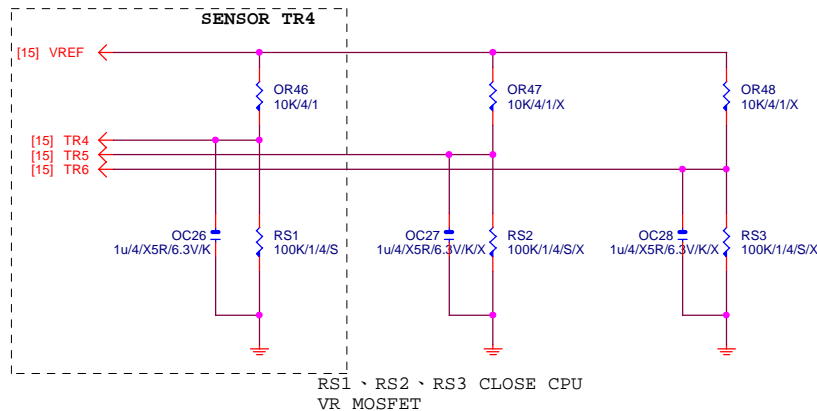


SYS SMART FAN

Linear SYS_FAN

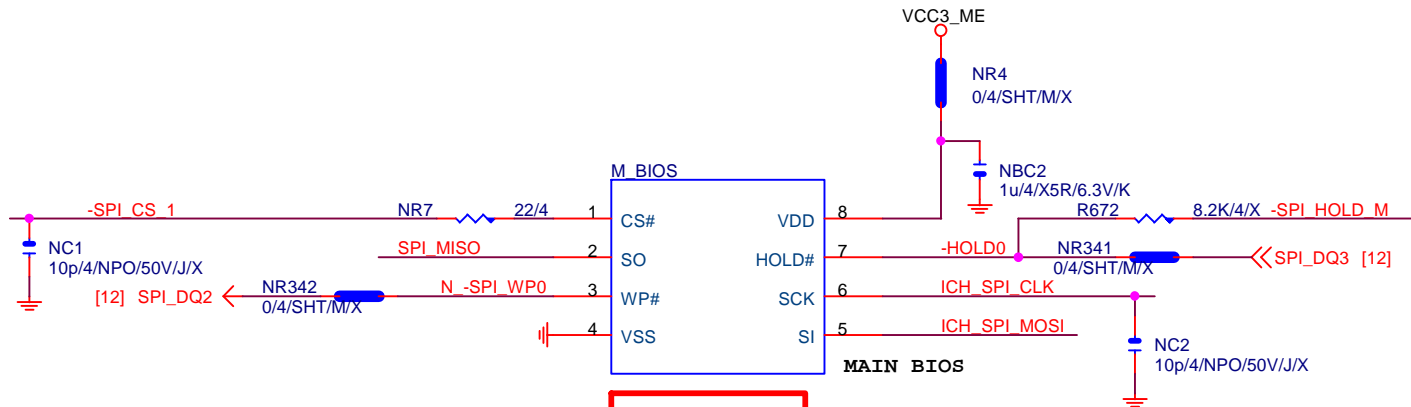


-PROHOT



Gigabyte Technology

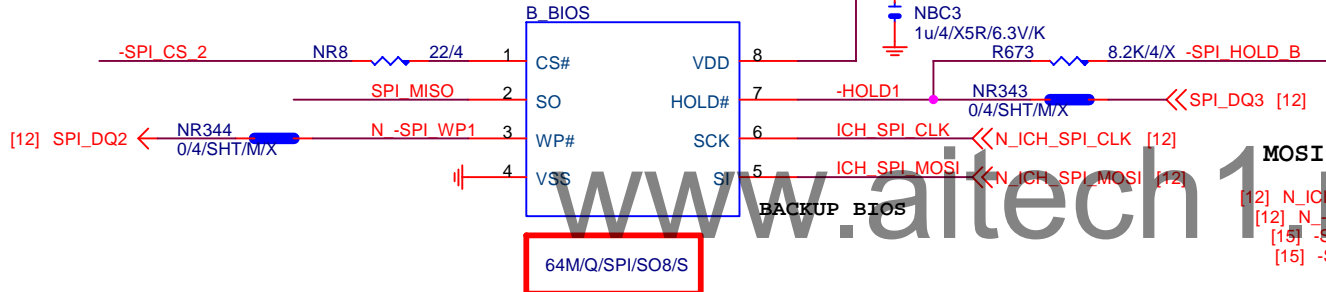
Title			HWM,FAN CTRL,OV	
Size	Document Number	GA-Z97N-WIFI		Rev
Custom				1.0
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64M/Q/SPI/SO8/S

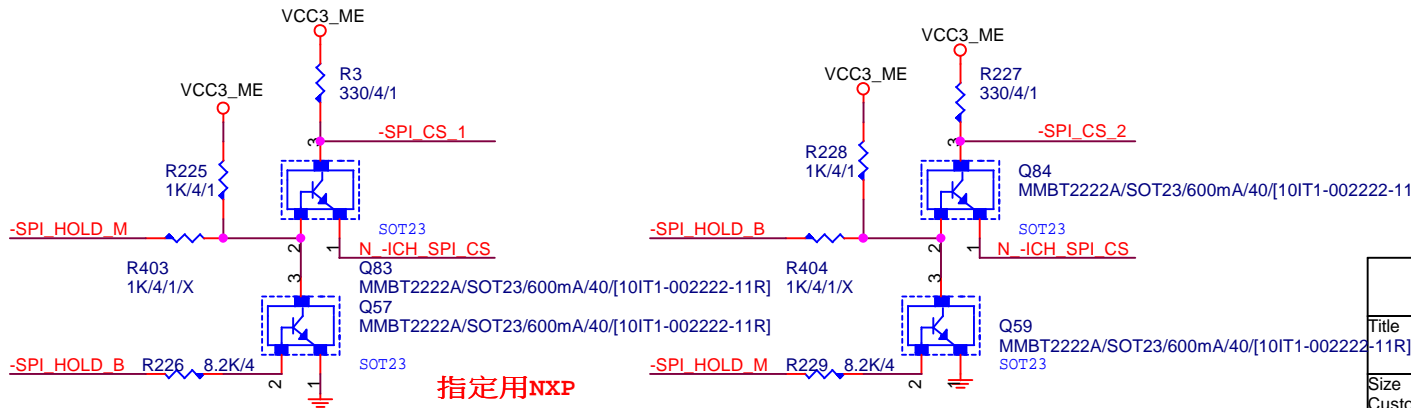
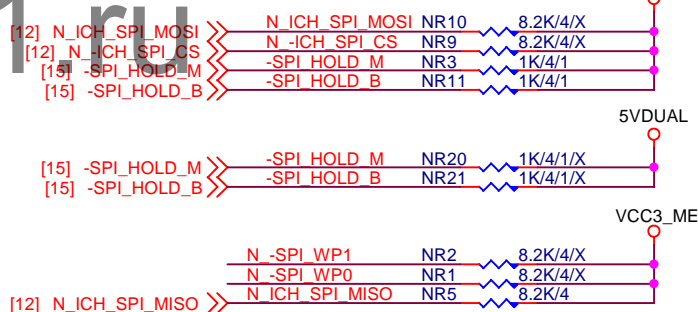
BOOT DEVICE	GNT0	GNT1
LPC	0	0
PCI	0	1
NAND	1	0
SPI	1	1

1 means floating
0 means PD 1K



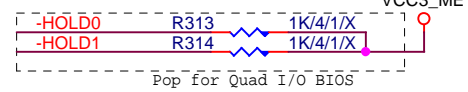
64M/Q/SPI/SO8/S

MOSI For DMI RX Termination Voltage



指定用NXP

CHECK



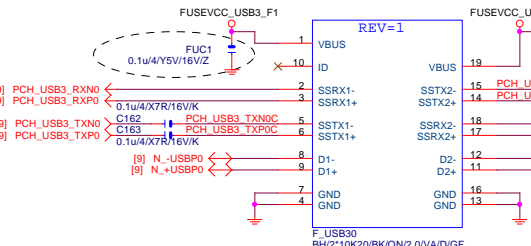
Gigabyte Technology

DUAL BIOS

GA-Z97N-WIFI

Title	Document Number	Rev
Size Custom	Monday, April 14, 2014	1.0
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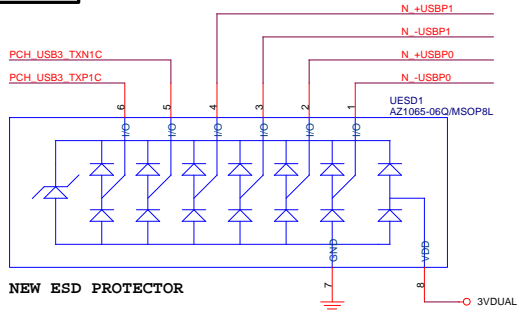
F_USB30



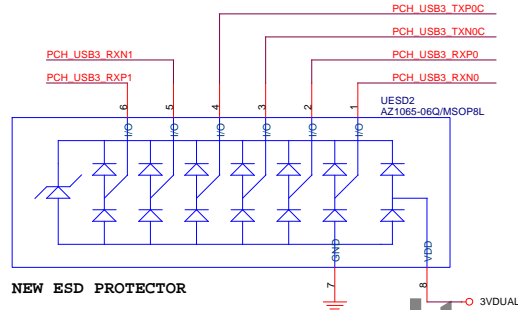
BLACK CONNECTOR

F_USB30-CUT20-1

F_USB30 ESD PROTECTOR

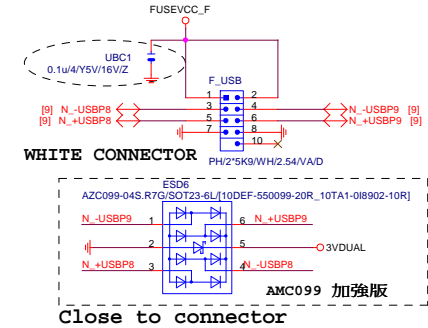


NEW ESD PROTECTOR

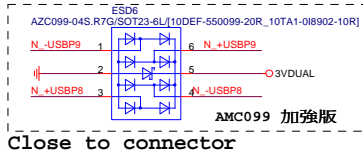


NEW ESD PROTECTOR

FRONT USB20

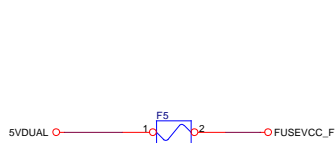


WHITE CONNECTOR

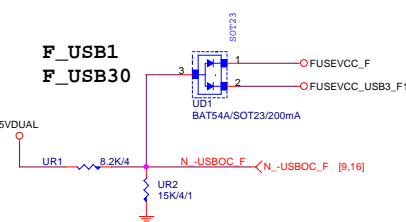


AMC099 加强版
Close to connector

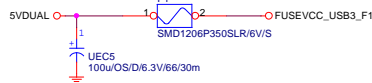
FUSEVCC_F



F_USB30 PWR

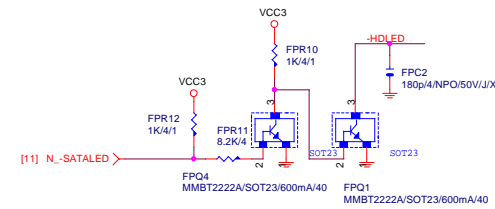


Polyswitch-1206-1

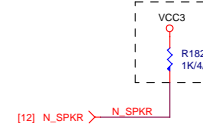


USB3.0 2Port - 1Fuse (3.5A)

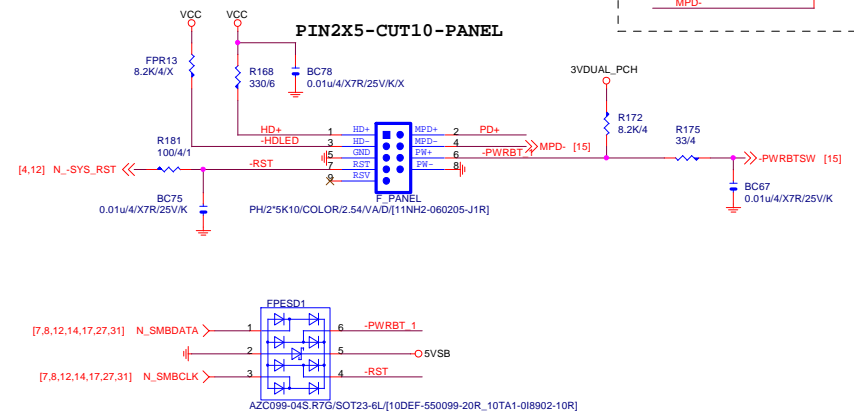
SATA LED



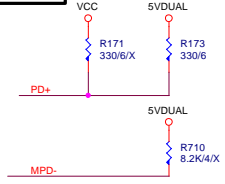
SPKR



INTEL FRONT PANEL

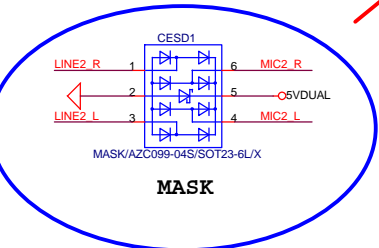


PWR LED

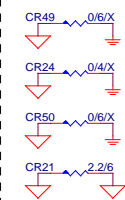


Gigabyte Technology			
Title	FP,F_USB,USB PWR,SPKR,SATA LED		
Size	Custom	Document Number	GA-Z97N-WIFI
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Rev	1.0		

CR5/CR8/CR11/CR4/ CR17/CR22/CR45/CR33/ CR47/CR40/CR26/CR37/ CR13/CR11/CR57/CR53	62 ohm	62 ohm	62 ohm	75 ohm	75 ohm
CR51/CD1/CBC7	O	O	X	X	O
CD2/CD3/CQ3/CQ5	X	X	O	O	X
CR1/CR14/CR17/CR22	62 ohm	62 ohm	62 ohm	75 ohm	1K ohm

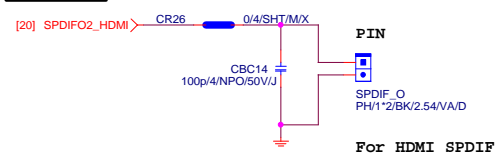


CODEC POWER/EMI PAD

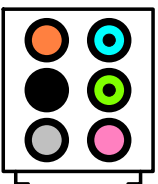


ADD CD2 For ESD PROTECT DIODE

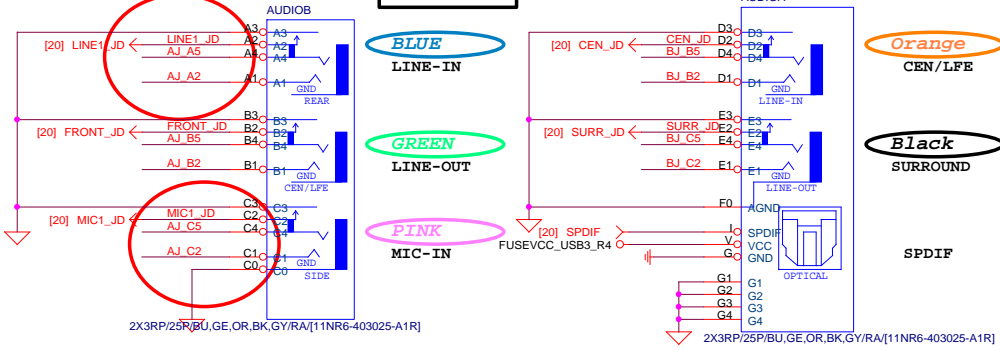
SPDIF_OUT



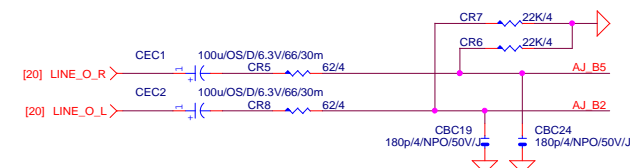
AZALIA JACK



AZALIA JACK

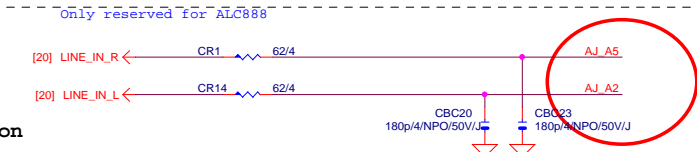


LINE-OUT

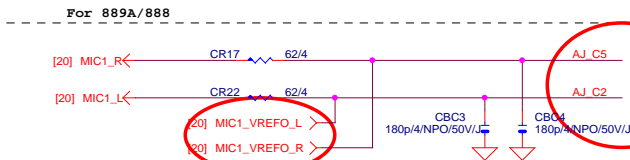


LINE-IN

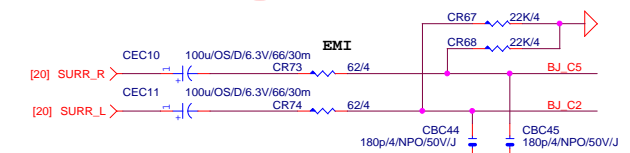
Verify MIC function in LINE-in



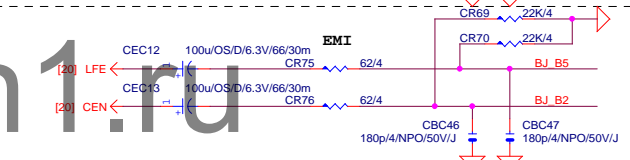
MIC-IN



SURROUND

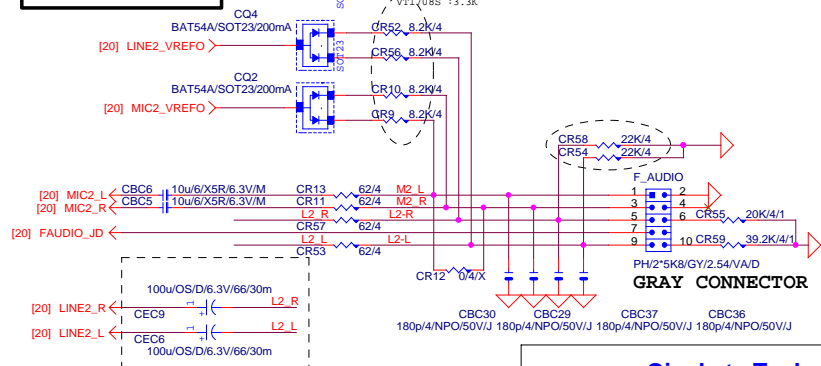


CEN/LFE



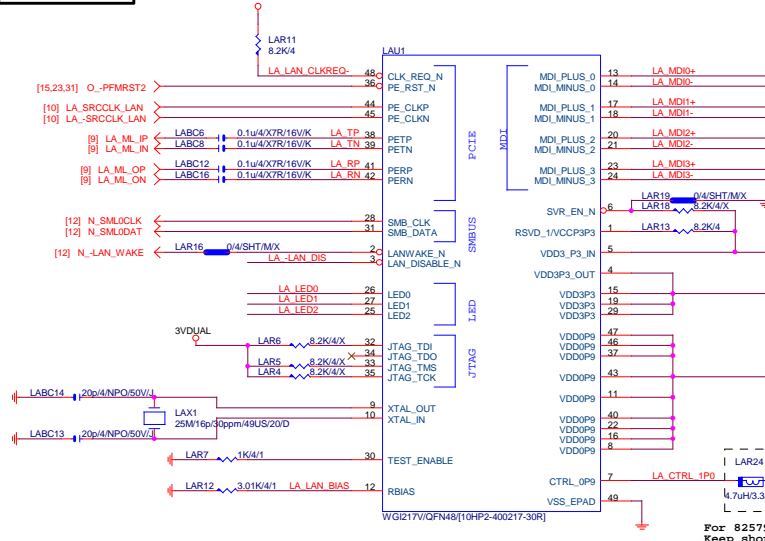
SURRBACK

AZALIA FRONT PANEL

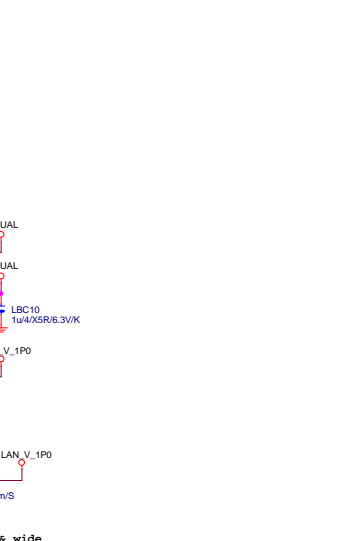


Gigabyte Technology			
Title			
AUDIO JACK			
Size	Document Number	Rev	
Custom	GA-Z97N-WIFI	1.0	
Date:	Monday, April 14, 2014	Sheet	21 of 31

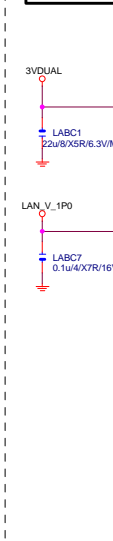
LAN INTEL I217



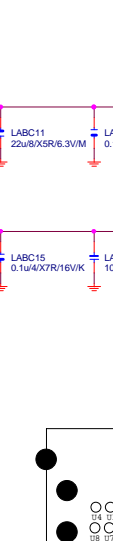
LAN POWER



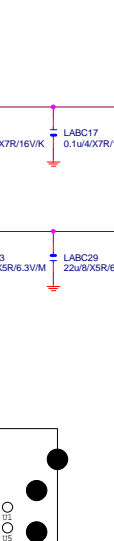
LAN V_1P0



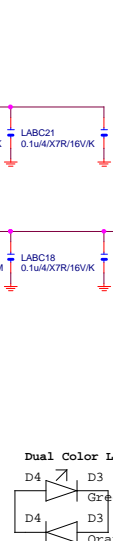
LAN V_1P0



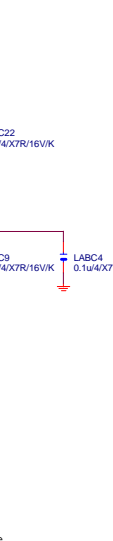
LAN V_1P0



LAN V_1P0



LAN V_1P0



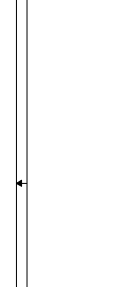
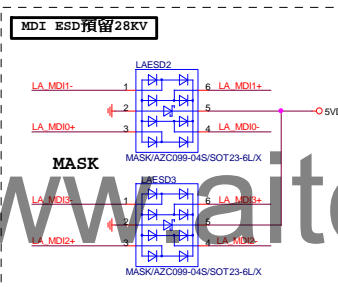
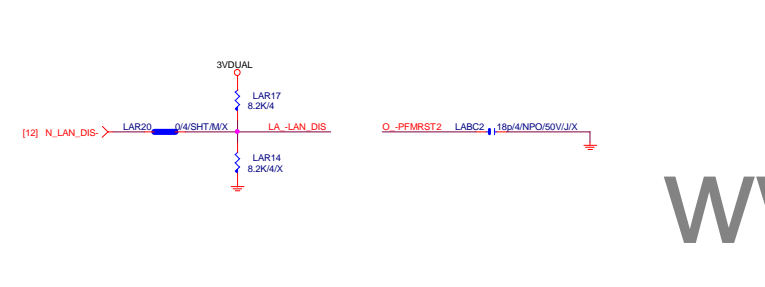
LAN V_1P0



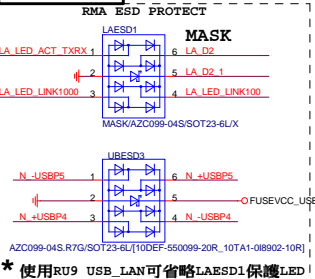
LAN V_1P0



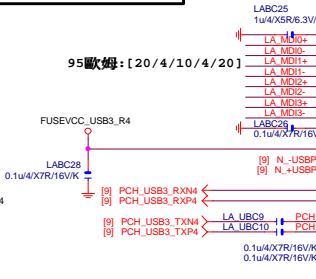
LAN V_1P0



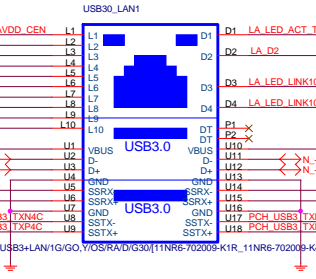
USB30 LAN ESD



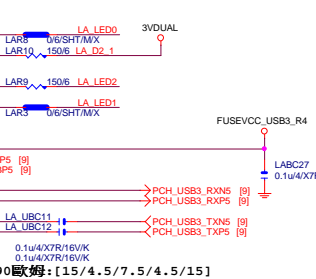
USB30 LAN CONNECTOR



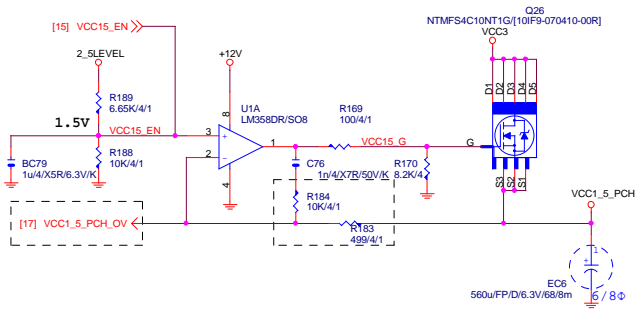
USB30 LAN1



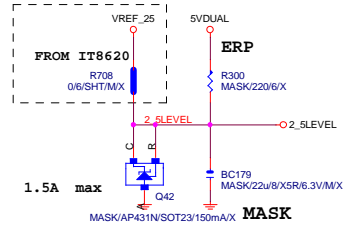
USB30 LAN2



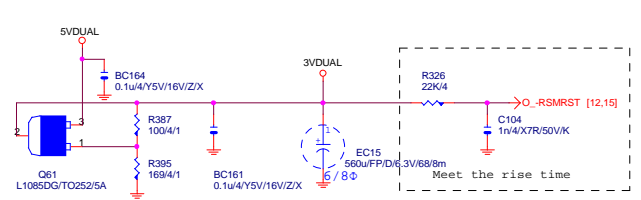
VCC1_5_PCH



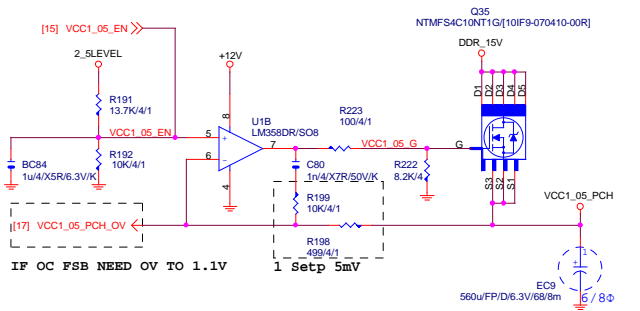
2_SLEVEL



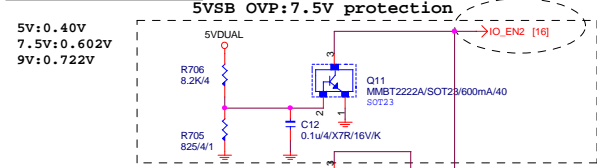
3VDUAL



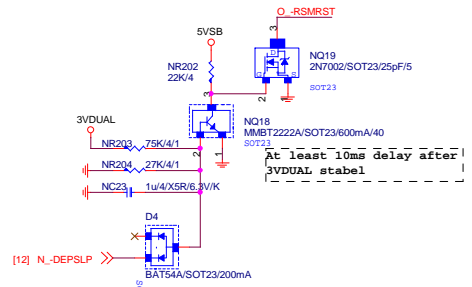
VCC1_05_PCH



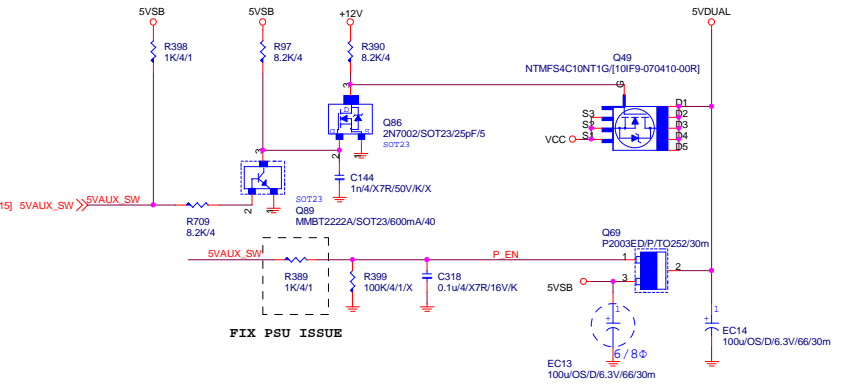
5VDUAL SHORT PROTECT



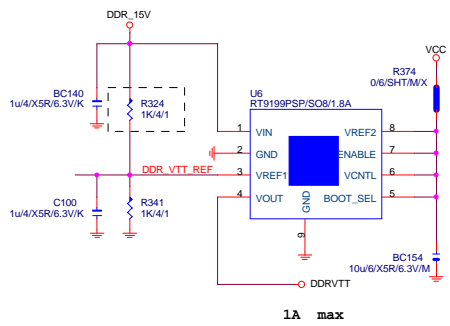
-RSMRST



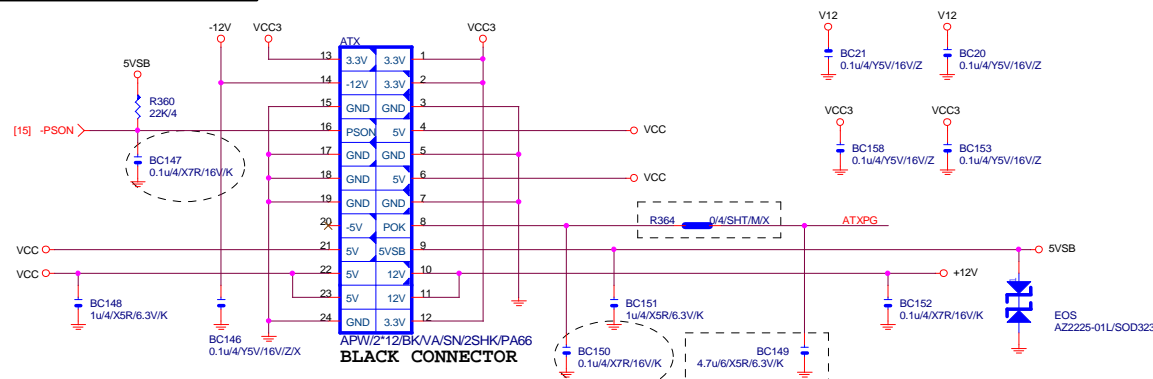
5VDUAL



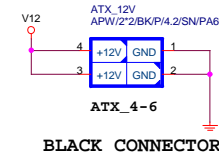
DDR_VTT



ATXX24 POWER CONNECTOR

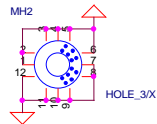


ATXX4 POWER CONNECTOR

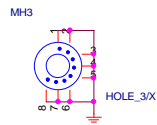


BLACK CONNECTOR

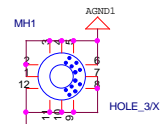
MB LOCATION



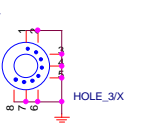
HOLE_4-RH-5MM-1



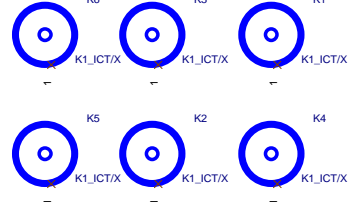
HOLE_4-RH-5MM-5PIN-1



HOLE_4-RH-5MM-1

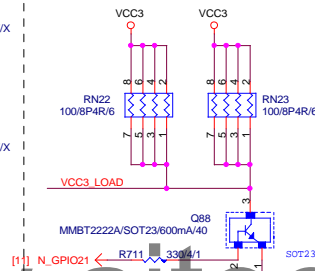


HOLE_4-RH-5MM-5PIN-1



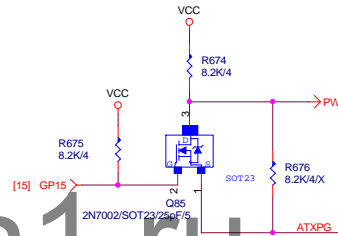
To prevent the 5VSB under loading when boot

FIX PWR MINMUN LOAD



PWOK PATCH

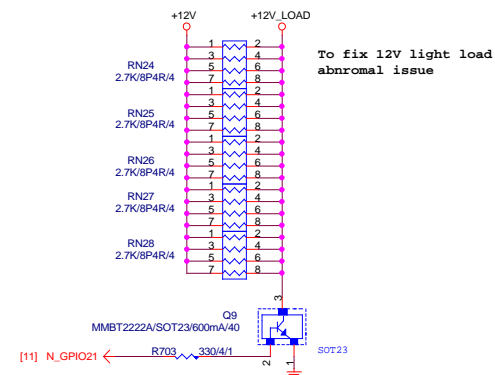
【技術通報R&D技術通報154】



CLK GEN

N/A

【技術通報R&D技術通報153】



To fix 12V light load abnormal issue

Gigabyte Technology

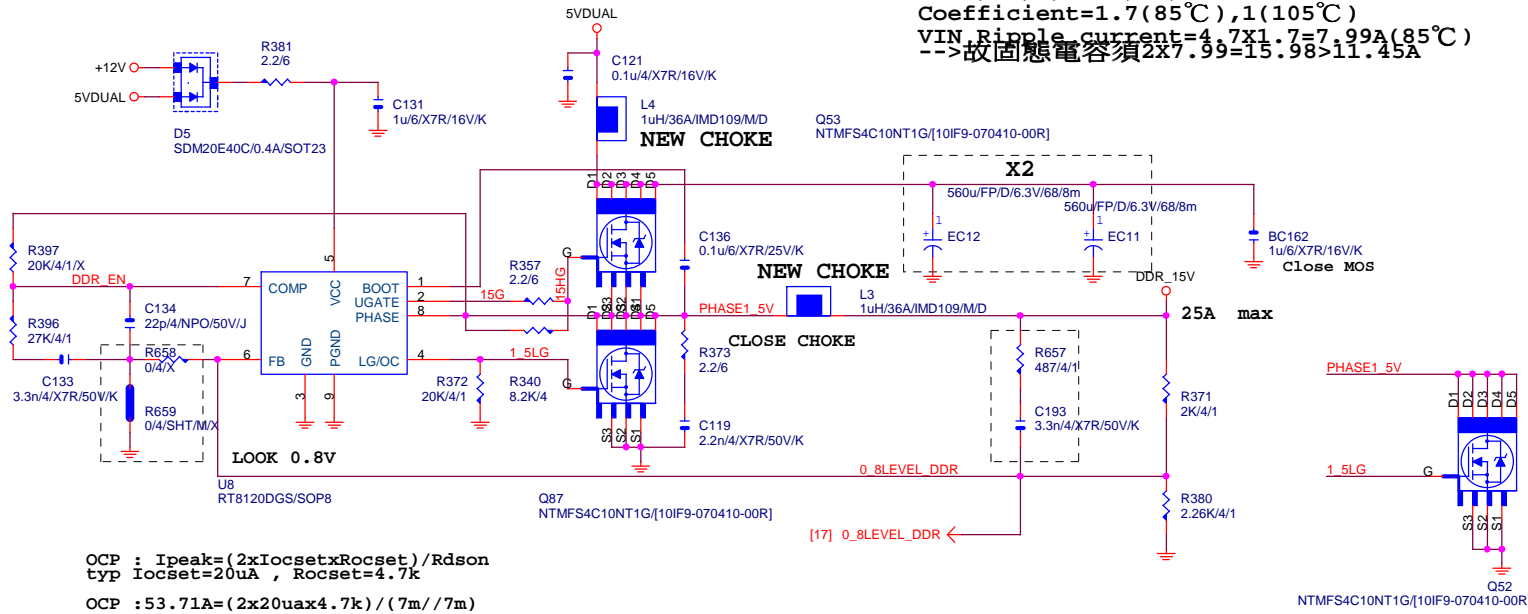
ATX CONNECTOR

GA-Z97N-WIFI

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DDR15V



PWR SEQ

[15] DDR_EN_CON >> DDR_EN

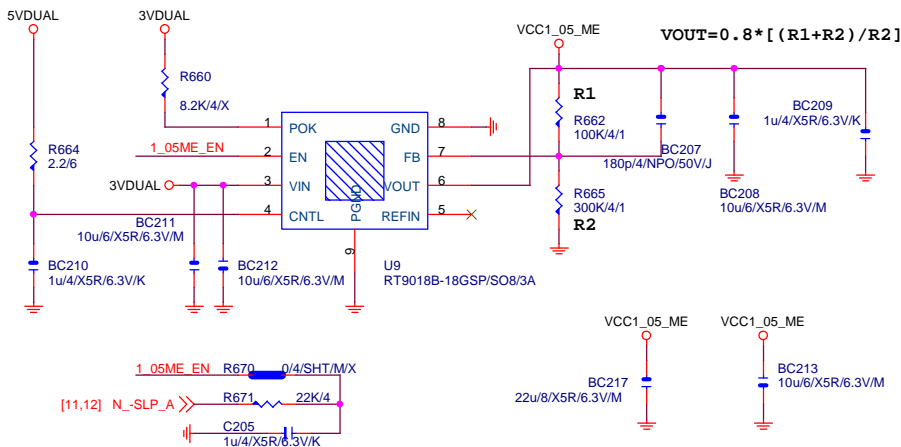
From DDR_15V source
 10 mils trace to SIO

VCC1_05_ME

Z97 N/A

Z97+I217V STUFF

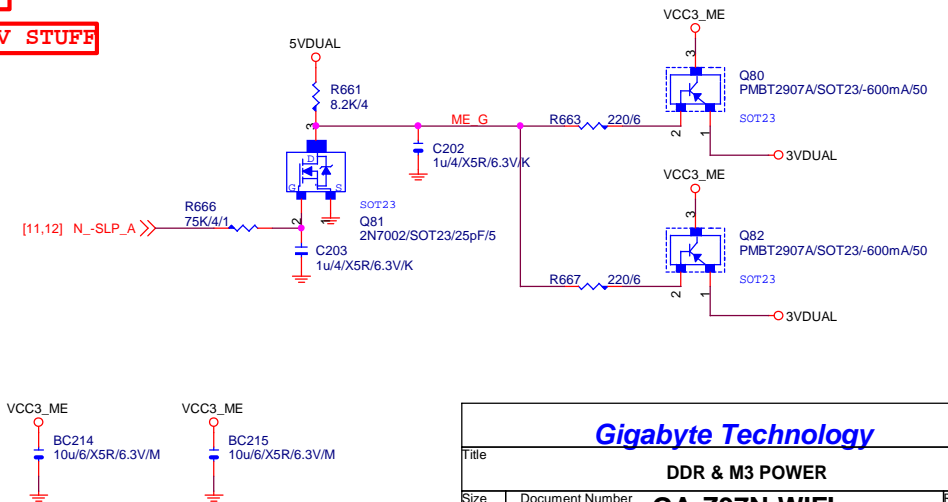
【技術通報R&D技術通報156】
 (RICHTEK), (NUVOTON), (EMC)做共用
 PIN7分壓阻值須做修改為100K以上電阻值



VCC3_ME

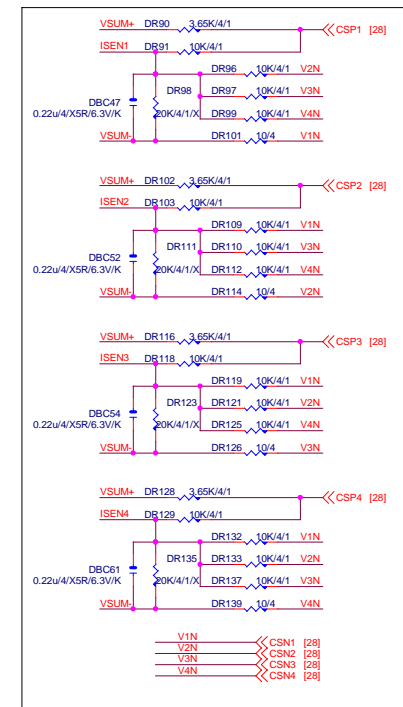
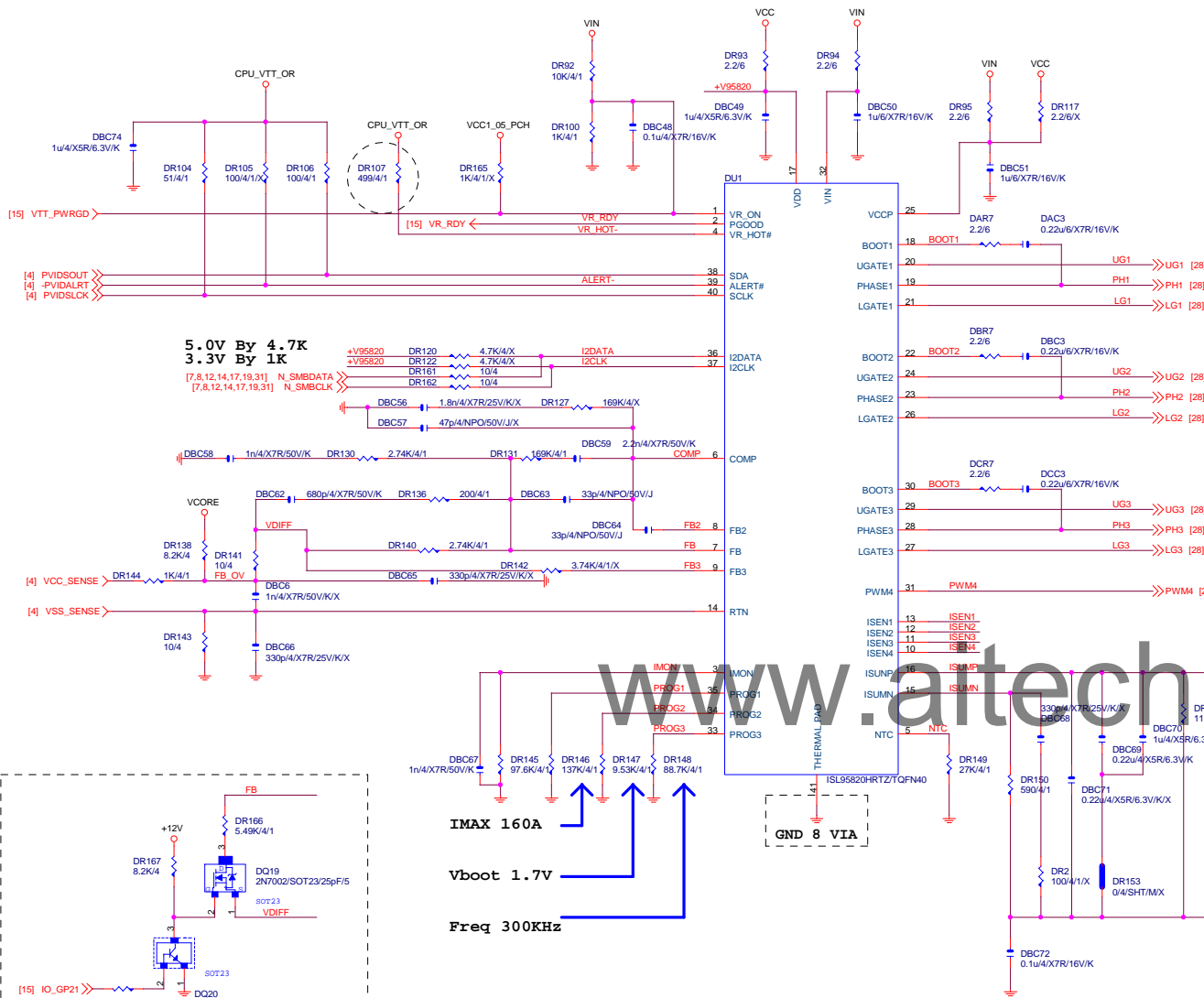
Z97 N/A

Z97+I217V STUFF



Gigabyte Technology

Title		
DDR & M3 POWER		
Size	Document Number	Rev
B	GA-Z97N-WIFI	1.0
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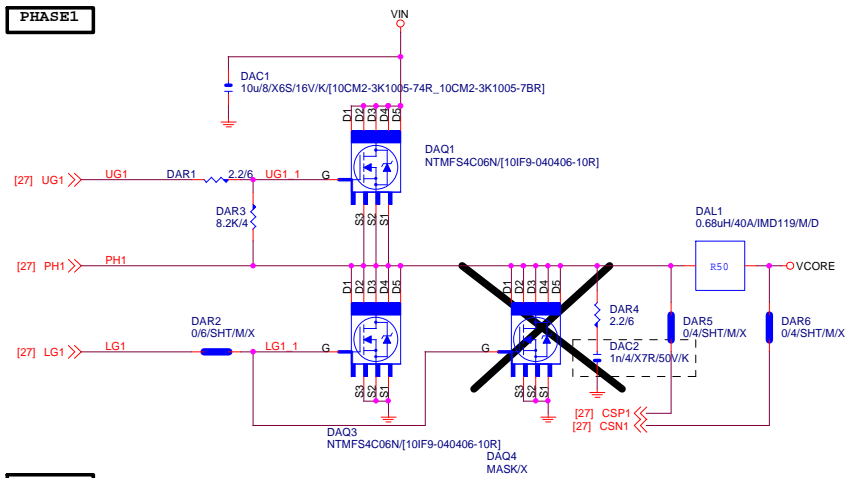
CLOSE PWR

CLOSE L1 DC SIDE

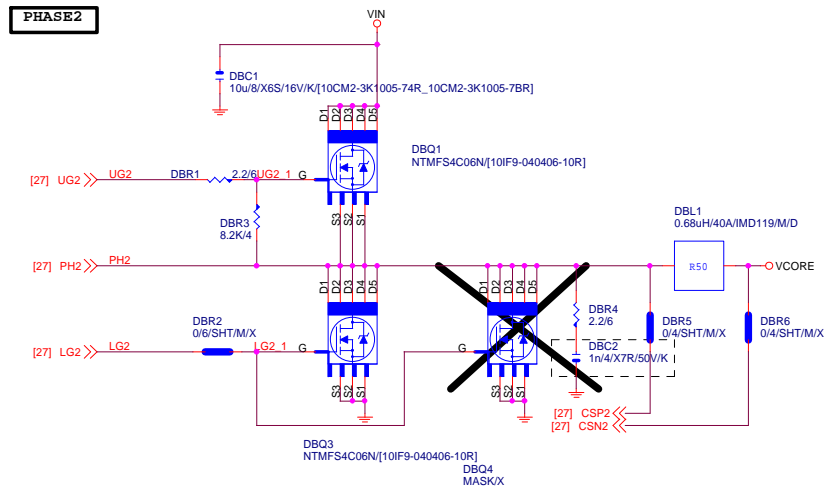
Gigabyte Technology

File			CPU CORE VR-1
Size			Document Number
Custom			GA-Z97N-WIFI
Date			Monday, April 14, 2014
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Rev			1.0

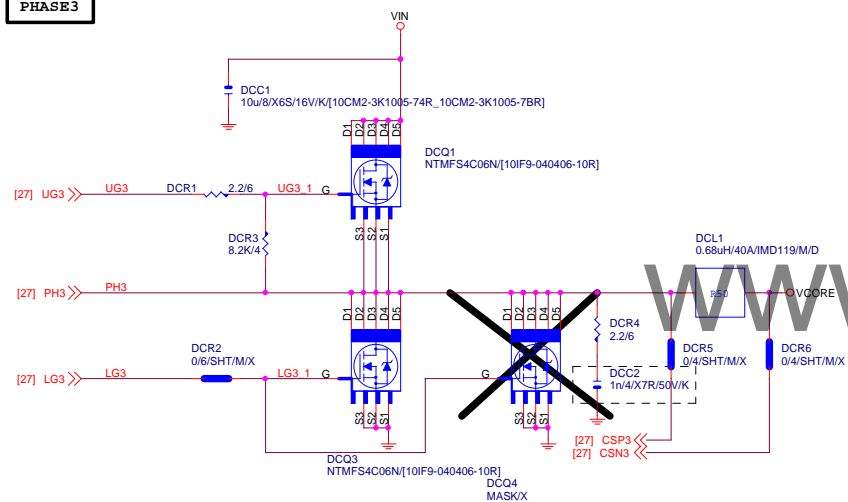
PHASE1



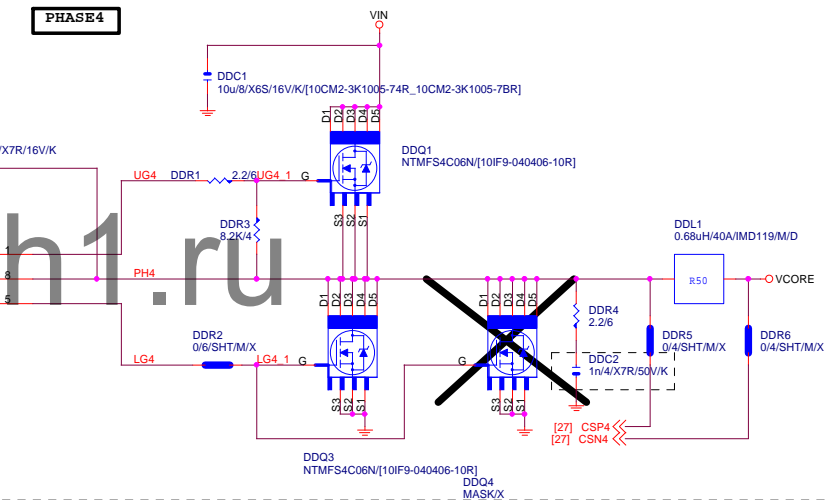
PHASE2



PHASE3

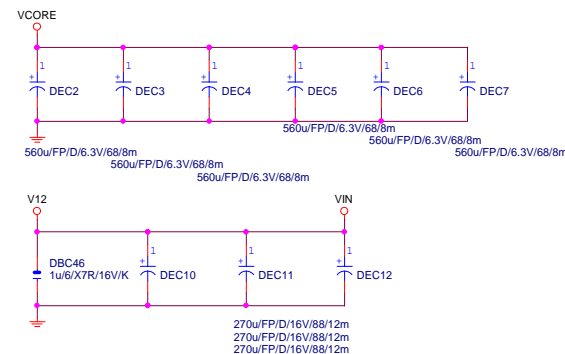


PHASE4



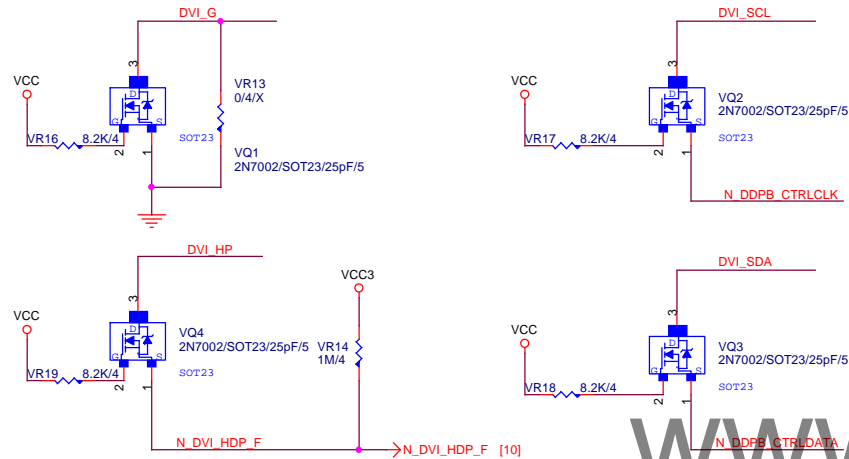
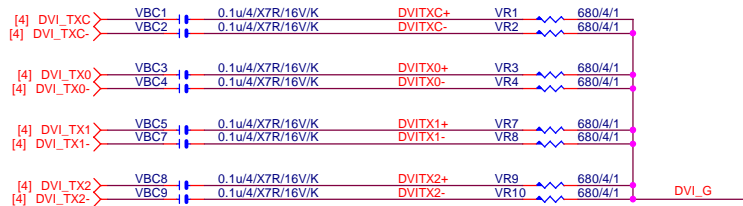
MOS HEATSINK

N/A

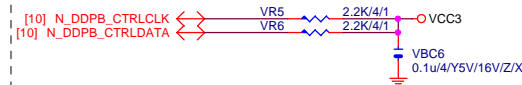


Gigabyte Technology			
Title			
CPU CORE VR-2			
Size			
Custom			
Document Number			
GA-Z97N-WIFI			
Date:			
Monday, April 14, 2014			
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Rev			
1.0			

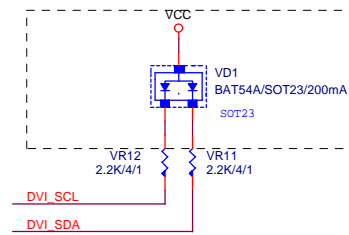
DVI NON LEVEL SHIFT



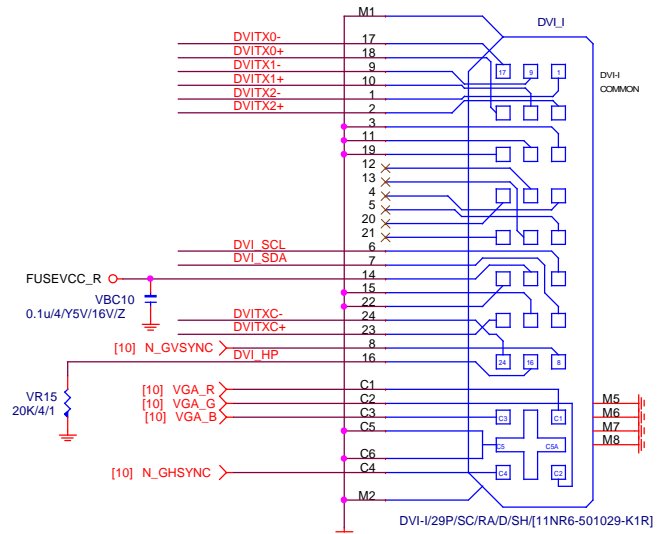
DVI-I PH/PD



R&D技術通報 162

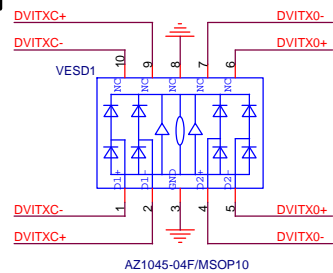


DVI-I CONNECTOR

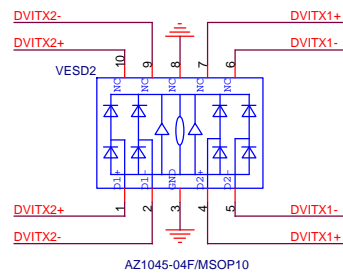


INSERT TRANSFER CONNECTOR
TO DISABLE DDC_EN FOR VGA
CSM FAIL.

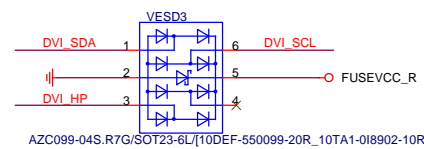
DVI ESD



Close to connector



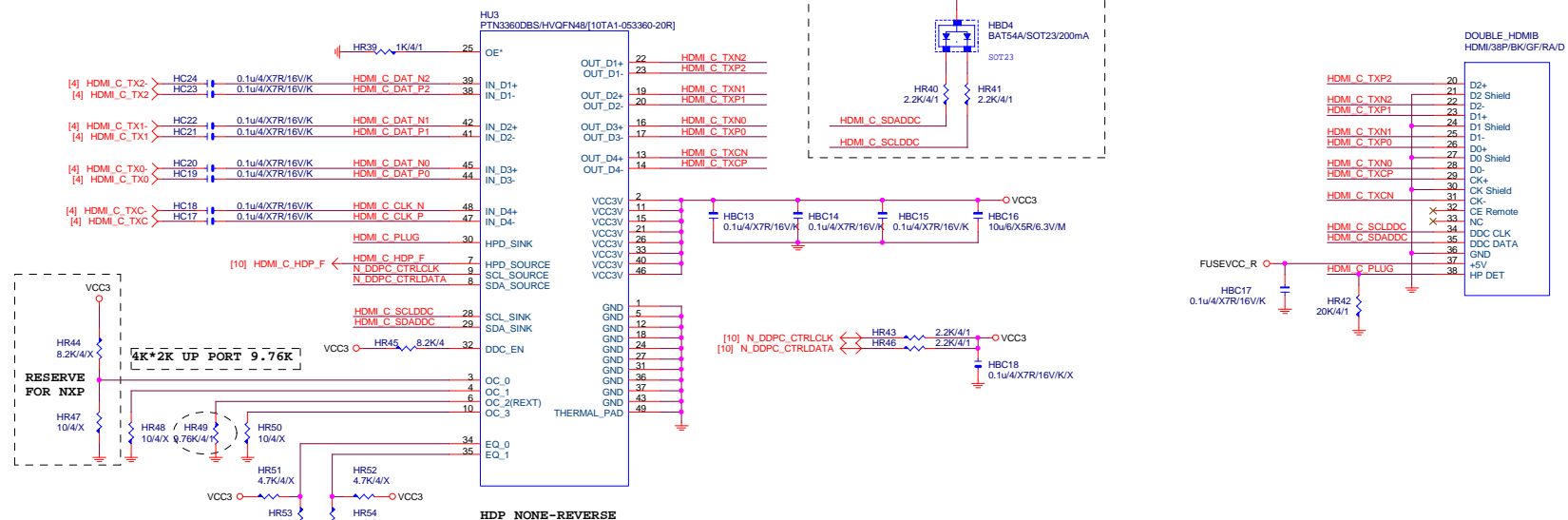
Close to connector



Gigabyte Technology

Title		
DVI-I		
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HDMI LEVEL SHIFT

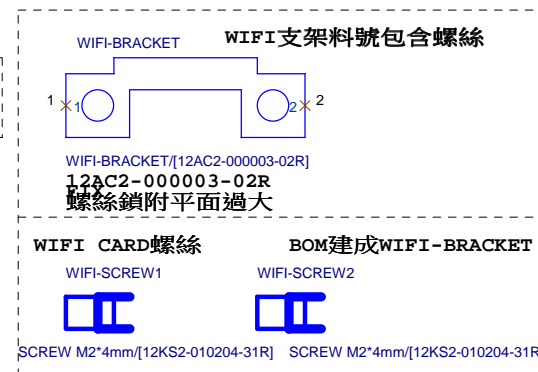


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mSATA Slot

需改為直立式的slot



WIFI_MODULE
WIFI WITH BT MINI CARD INTEL[20CB1-027260-00R]
Intel 7260 - 2x2 11ac combo