

Model Name: GA-Z97-HD3

1.0

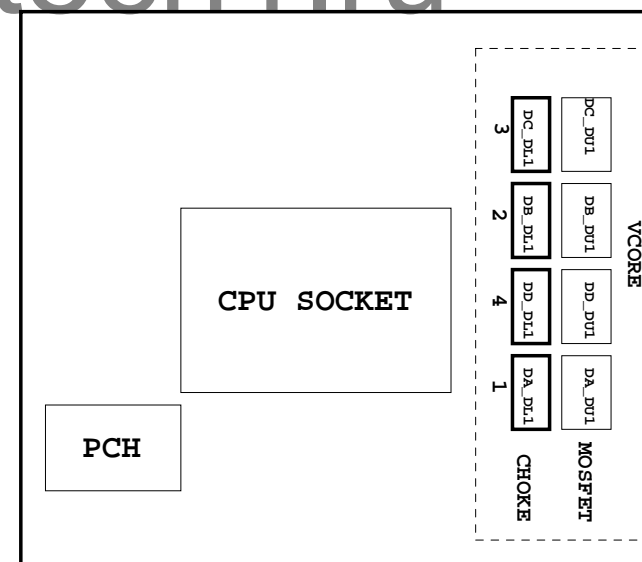
SHEET TITLE

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
10	PCH_RGB,CLK BUFFER
11	PCH_HOST,SATA,PCI
12	PCH_GPIO,CTRL,AUDIO
13	PCH_PWR,GND
14	PCI EXPRESS*16 SLOT
15	PCIEX1*2 , PCIEX4 SLOT
16	ITE8892 PCI BRIDGE
17	PCI SLOT 1&2
18	I/O ITE8620
19	COM, -PROHOT, R_USB
20	Dual BIOS / LPT
21	ALC887-VD2 CODEC
22	REAR AUDIO JACK
23	VCORE_ ISL95820_1
24	VCORE_ ISL95820_2
25	DDR15V / M3 POWER
26	NCP3933 OVER VOLTAGE
27	DISCRETE POWER

SHEET TITLE

28	F_PANEL , F_USB2.0/3.0
29	ATX POWER, CLOCK GEN
30	HWM , KB/MS , FAN CTRL
31	Realtek 8111F-VL
32	DVI
33	HDMI
34	TABLE LIST
35	
36	
37	
38	
39	
40	

www.aitech1.ru

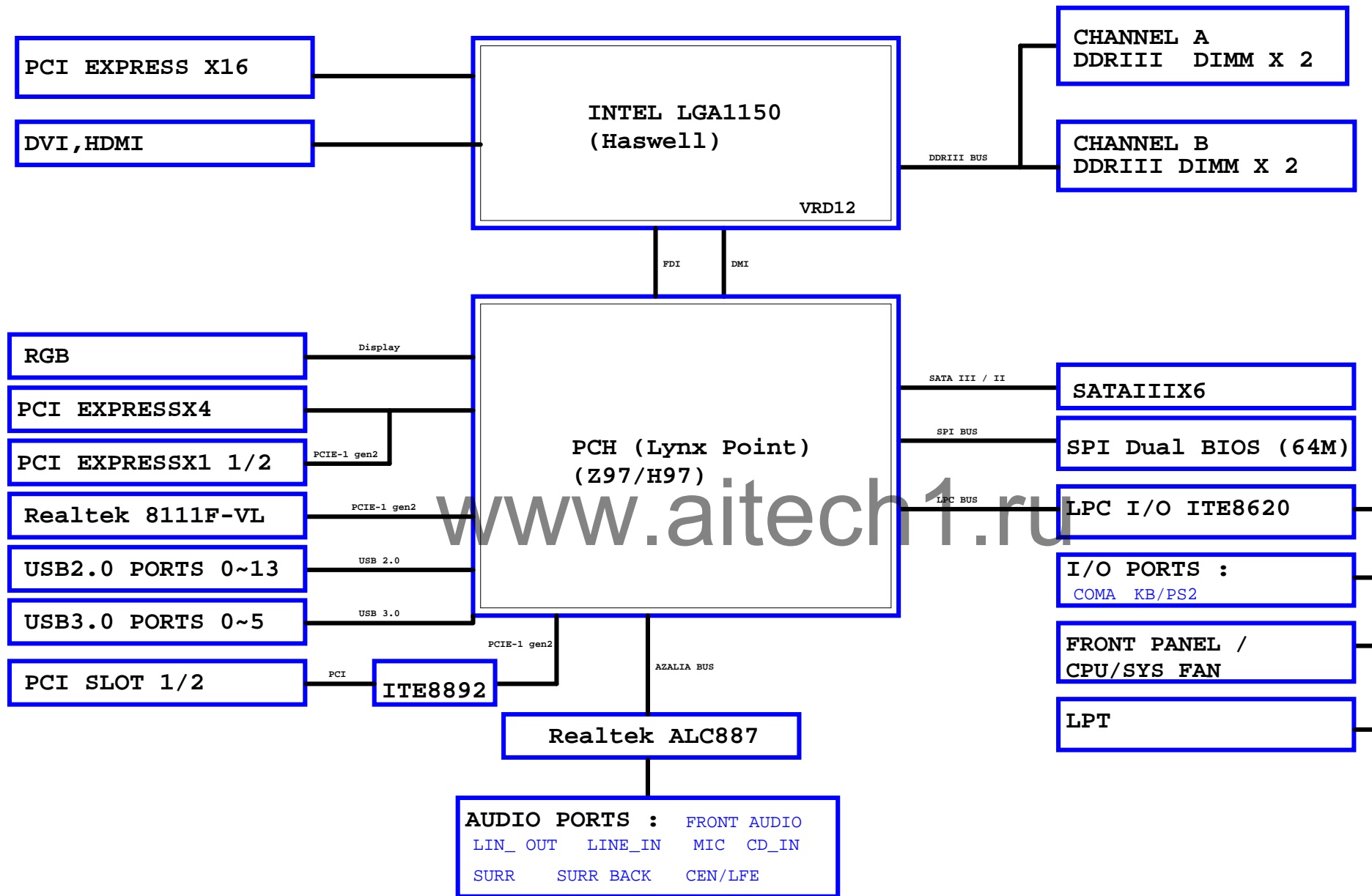


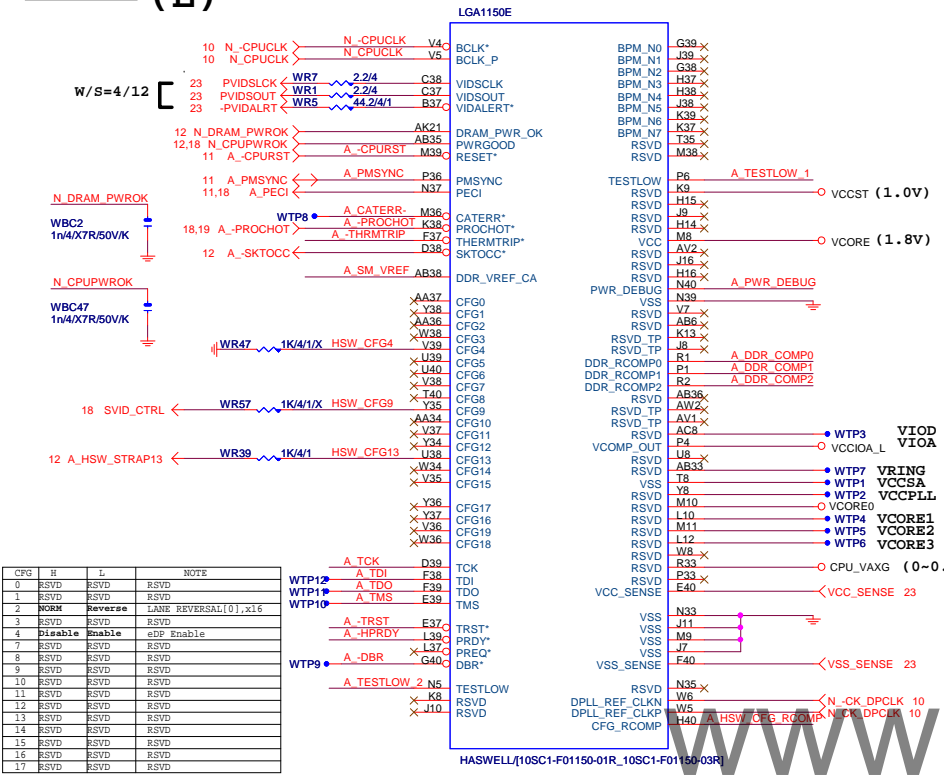
Gigabyte Technology			
Title: Cover Sheet			
Size: Custom	Document Number: GA-Z97-HD3	Rev: 1.0	
Date: Wednesday, March 05, 2014	Sheet: 1	of 34	

Component value change history

[illegible][illegible]

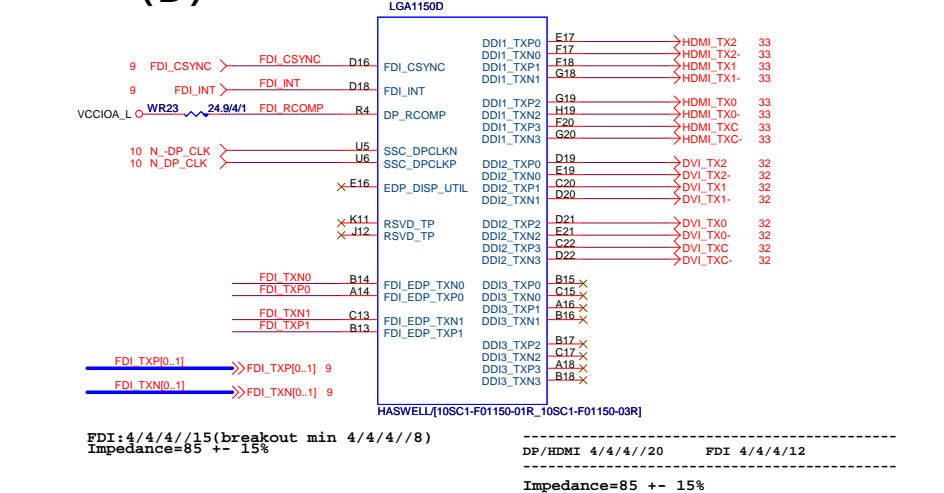
BLOCK DIAGRAM





CFG6	CFG5	PCIE CONFIG
1	1	1x16 , Default
1	0	2x8
0	1	RSVD
0	0	X8,X4,X4

CFG 0-17 all internal PULL-UP



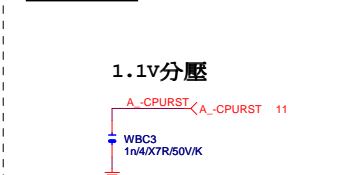
FDI:4/4/4//15(breakout min 4/4/4//8)
Impedance=85 +- 15%

DP/HDMT 4/4/4//20 EDI 4/4/4/12

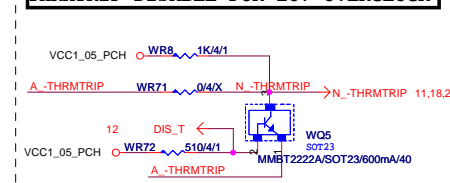
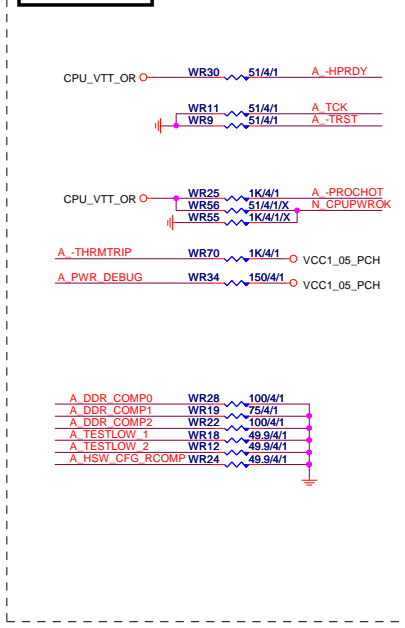
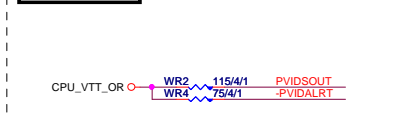
Impedance=85 +- 15%



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

DMI 4/4/4//15 Impedance=85 \pm 15%

1.1V分壓



(A)

LGA1150A

HASWELL/[10SC1-F01150-01R_10SC1-F01150-03R]

LGA1150 (B)

LGA1150B

HASWELL/10SC1-F01150-01R_10SC1-F01150-03R

LGA1150 (CR)

DDR BUS

Figure 1: Schematic representation of the 1200 bp DNA fragment. The diagram shows a horizontal line representing the DNA fragment with various restriction sites marked by arrows. The sites are labeled as follows: MODT_A[0..3], MODT_B[0..3], MDA[0..63], MDB[0..63], DQSA[0..7], -DQSA[0..7], MAAA[0..15], MAAB[0..15], DQSB[0..7], and -DQSB[0..7]. The fragment is divided into segments by these sites, with the largest segment being the MAAA[0..15] region.

(F, J)



(G,H,I)



(X30)

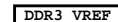
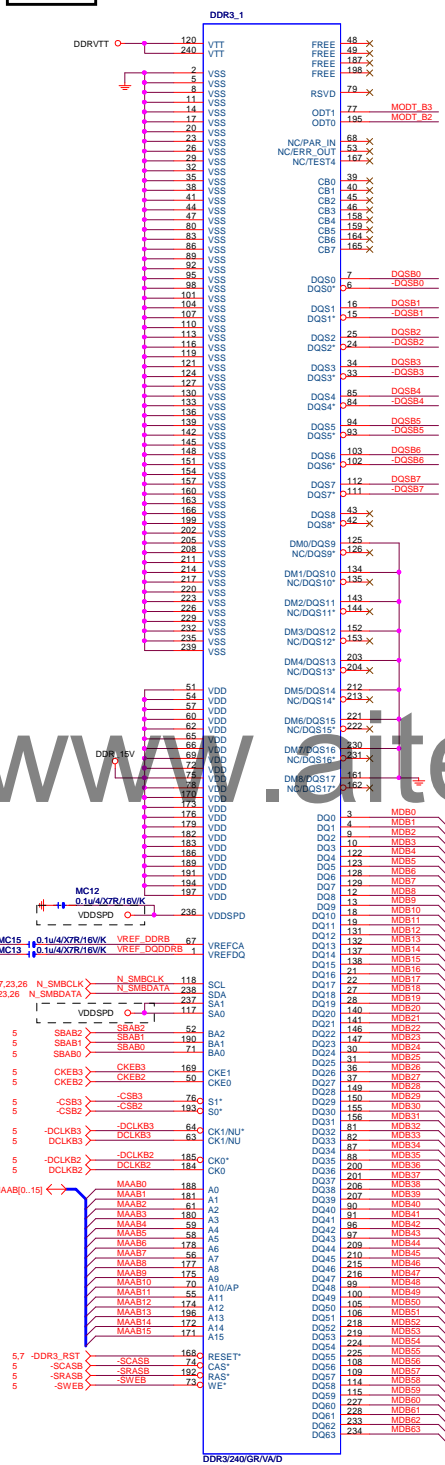
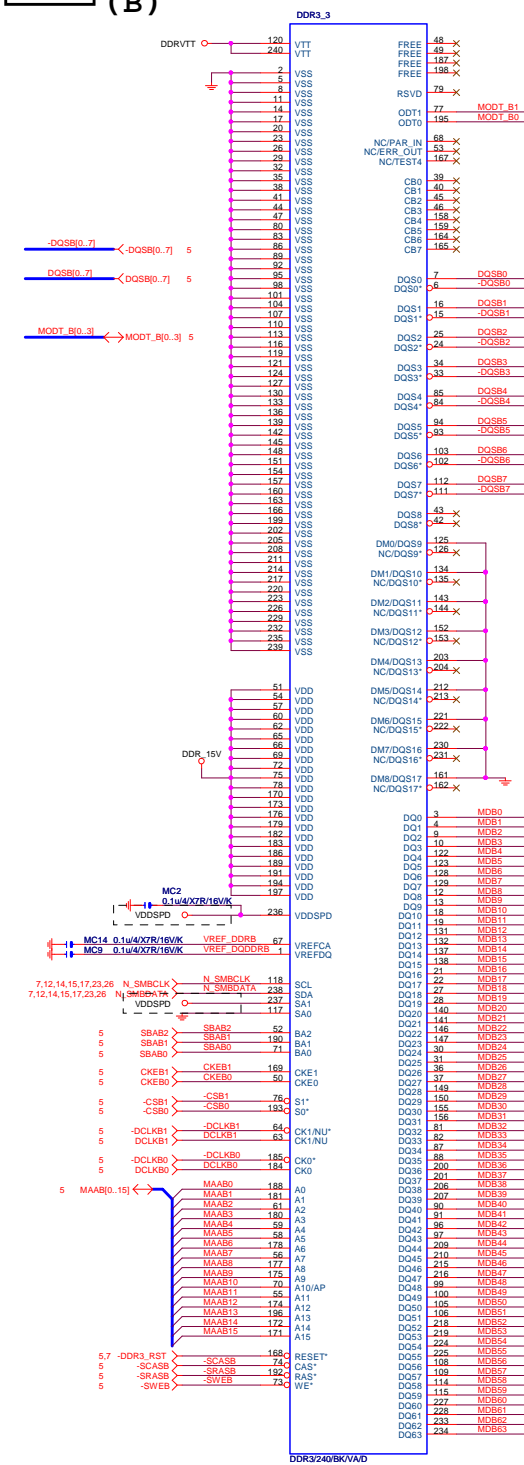


(X15)





(B)



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

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

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

COUPON



CPU

CHA

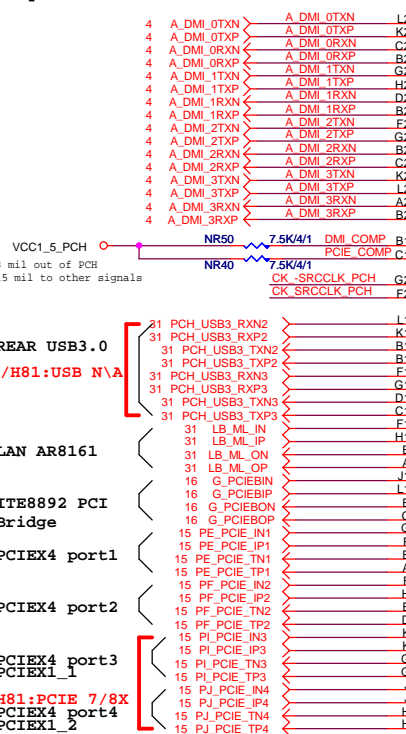
CHB

Gigabyte Technology

Title				DDRIII CHANNEL B			
Size	Document Number						Rev
Custom	GA-Z97-HD3						1.0
Date:				Sheet 8 of 34			

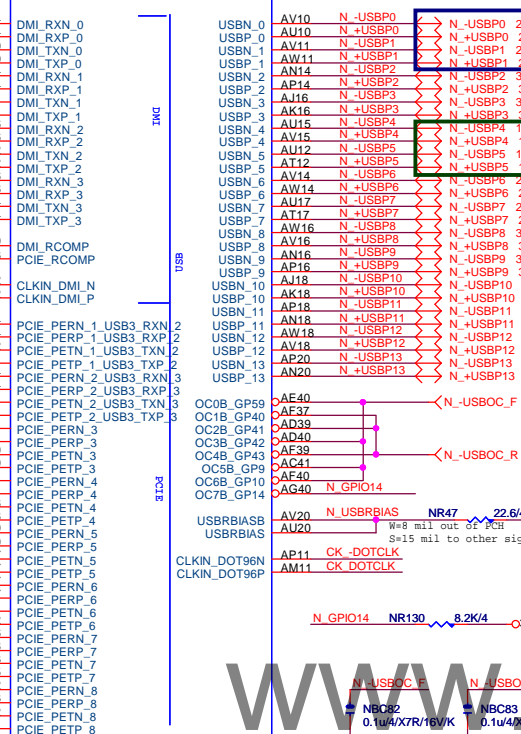
DMI:12/4/4/4/12(breakout min 8/4/4/4/8)
Impedance=85 +- 17.5%

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



放靠近 Device & PCI-E Slot

USB2.0 : 12/5/7/5/12 (breakout min 8/4/4/4/8)
PCHB Impedance=85 +/- 15%

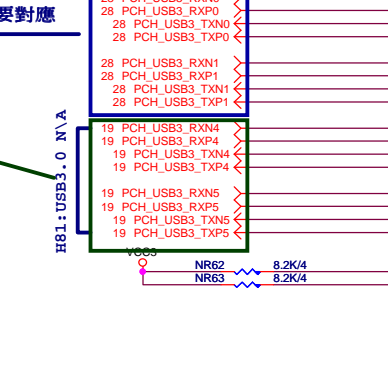


PCH PCIE ,DMI 4/4/4//15 Impedance=85 +- 15%

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

Impedance=85 +- 15%

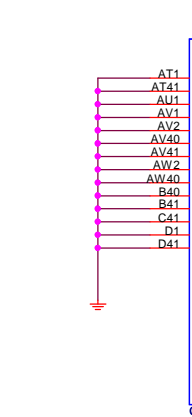
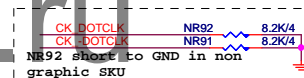
28 PCH_USB3_RXN0 >



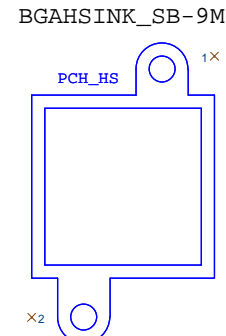
USB3.0:20/5/7/5/20 (breakout mir
8/4/4/4/8) ; ONLY 3 VIAS
Impedance=85 +- 17.5%
Back Panel < 10000 MILS
Front Panel < 6000 MILS



Mount for integrated clock Generation Mode



CHIP DH82Z97 A0 INTEL/[10HB1-030Z97-20R



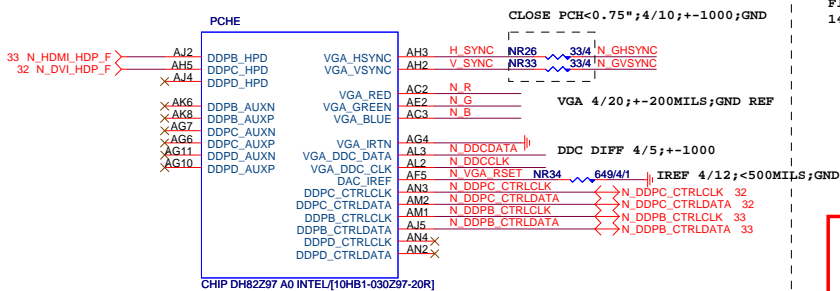
HEAT SINK/N-BG/GBT MK/Z87/KWOG/12SP2-S04208-91R_12SP2-S04208-92R_12SP2-S04208-93R

```
OC[3:0]# for Device 29 (ports 0-7)
OC[7:4]# for Device 26 (ports 8-13)
```

USB OC#	Configure
OC0#	USB0,1
OC1#	USB2,3
OC2#	USB4,5
OC3#	USB6,7
OC4#	USB8,9
OC5#	USB10,11
OC6#	USB12,13
OC7#	Not Use

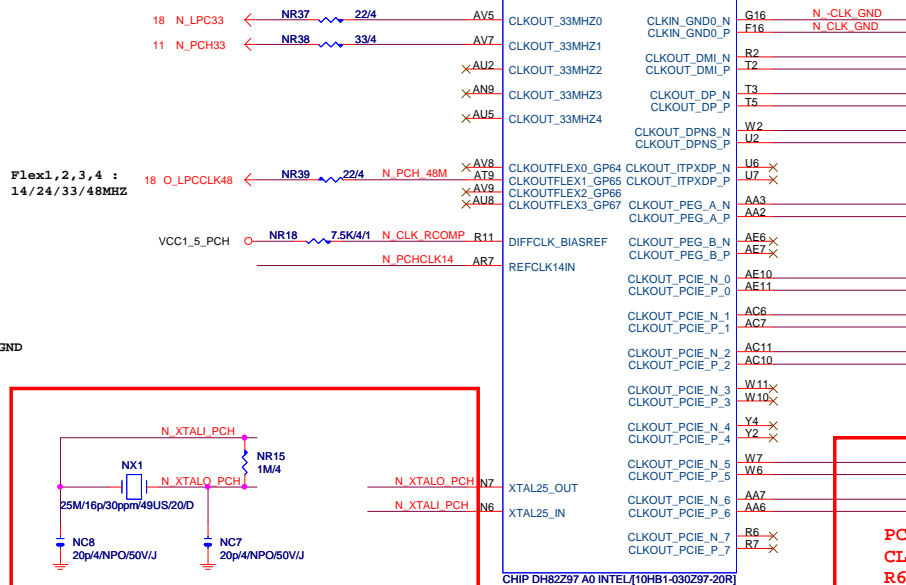
Title			
PCH FDI,DMI,USB ,PCIE			
Size	Document Number	Rev	
Custom	GA-Z97-HD3	1.0	
Date:	Tuesday, April 15, 2014	Sheet	9 of 34

PCH (E)



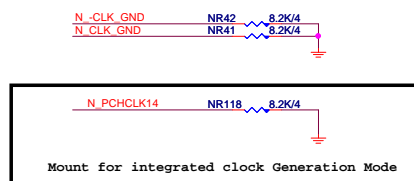
VGA_DISABLE
R,G,B NC OR GND
IRTN / IREF GND
VGA_HSYNC, VGA_VSYNC, DDC_CLK, DDC_DATA NC
POWER_VCCADAC(AF2), VCCADACBG(AE1) GND

PCH (G)

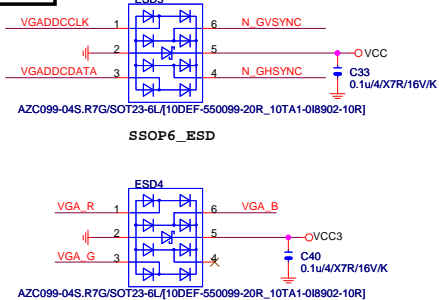


Differential Clock: 18/4/6/4/18
Impedance=90 +/- 15%

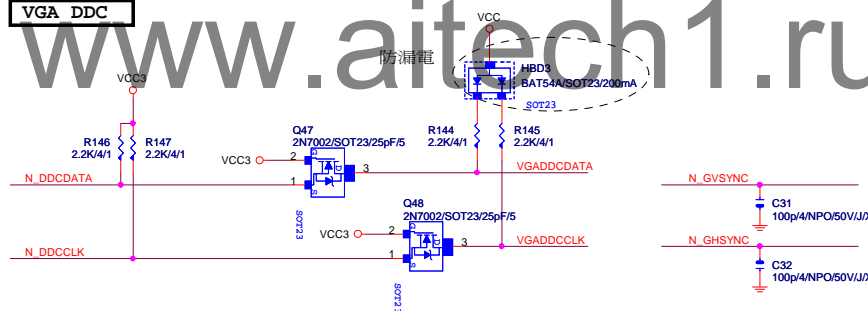
PCH CLK PD



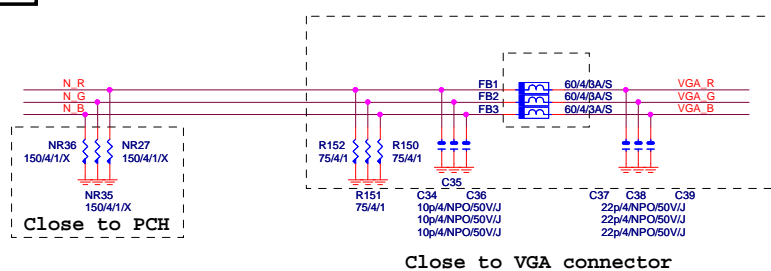
VGA ESD



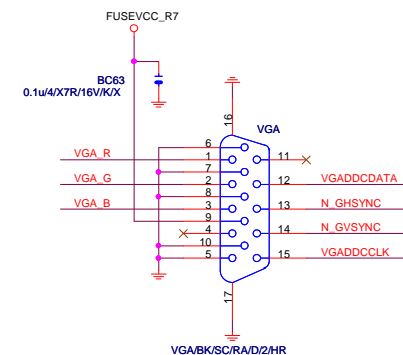
VGA DDC



VGA DDC



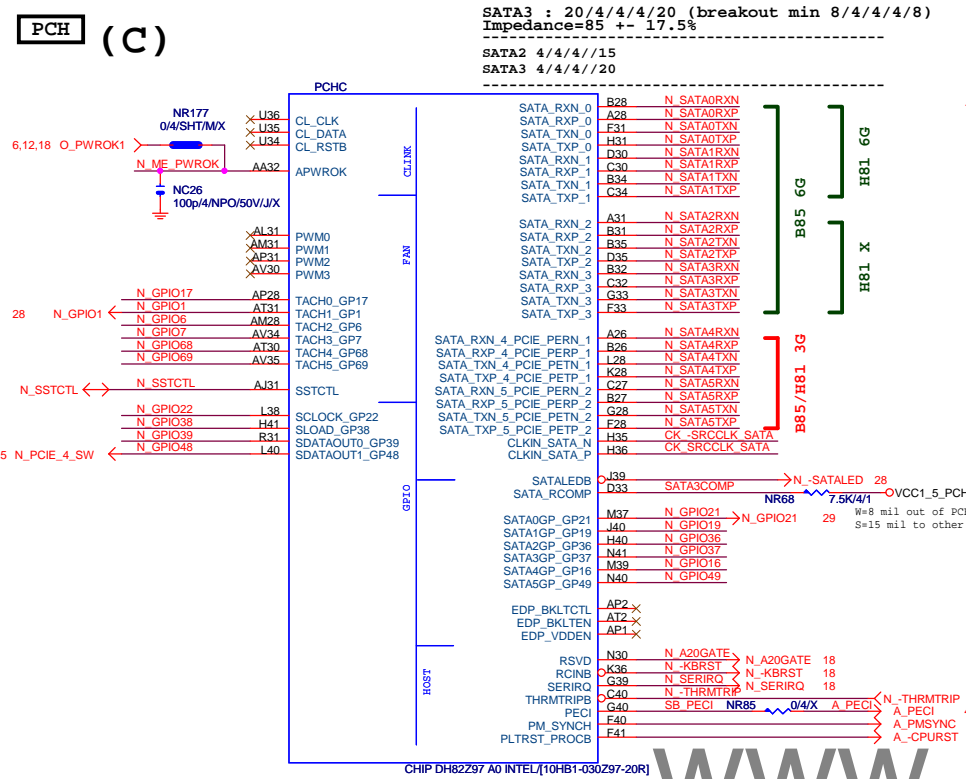
VGA CONNECTOR



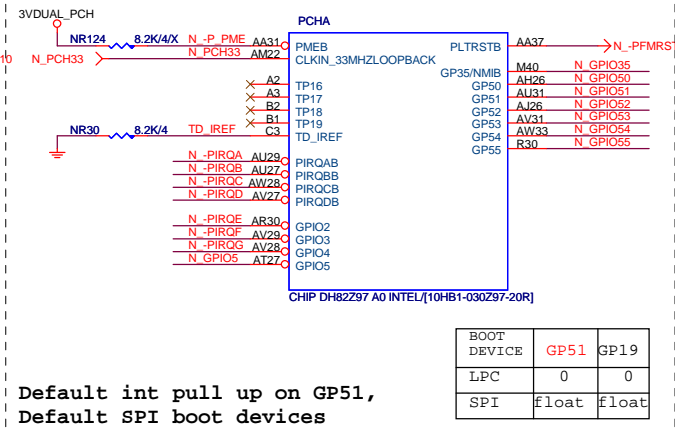
Gigabyte Technology

Title			
PCH DISPLAY ,CLK BUFFER			
Size	Document Number		Rev
Custom	GA-Z97-HD3		1.0
Date:	Tuesday, April 15, 2014	Sheet	10 of 34

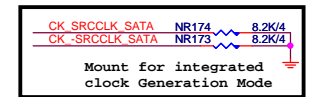
PCH (C)



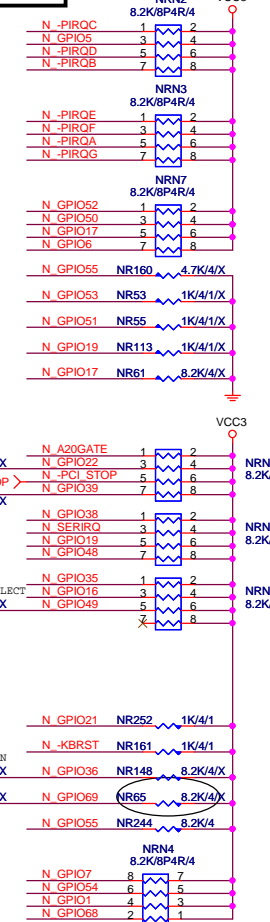
PCH (A)



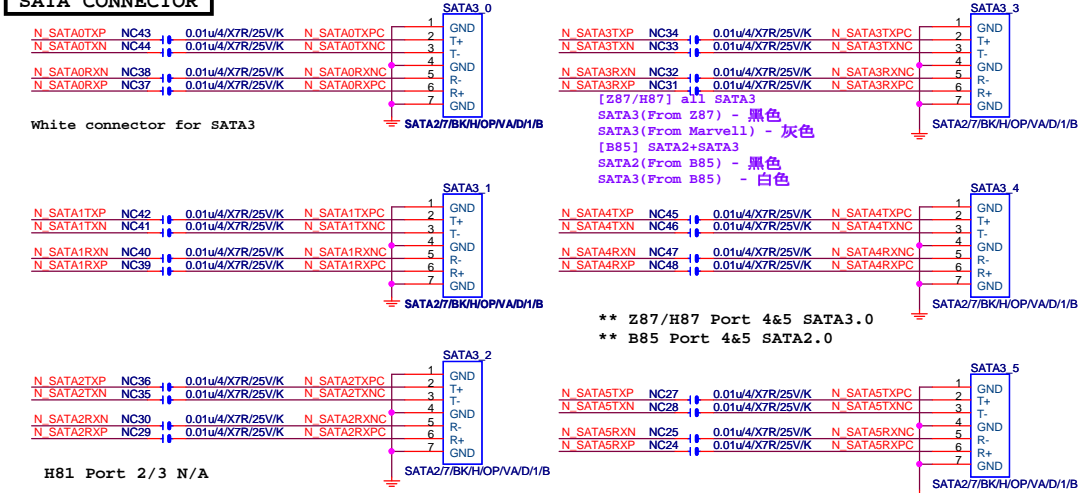
PCH CLK PD



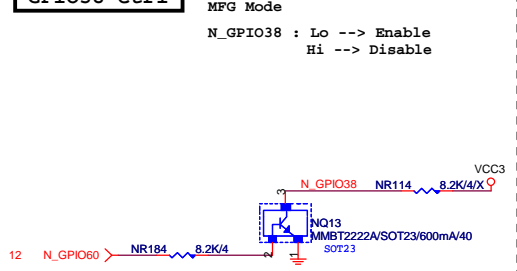
PCH PU/PD



SATA CONNECTOR



GPIO38 Ctrl



soft strap	GP16	GP49
0	pcie1	pcie2
1	sata4	sata5

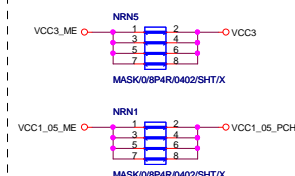
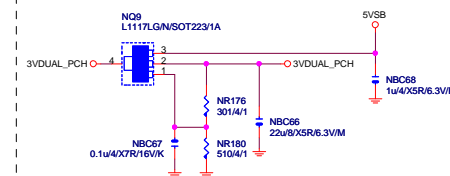
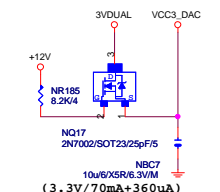
Gigabyte Technology

Title			
PCH HOST , SATA, PCI			
Size	Document Number	Rev	
Custom	GA-Z97-HD3	1.0	
Date:	Monday, May 05, 2014	Sheet	11 of 34

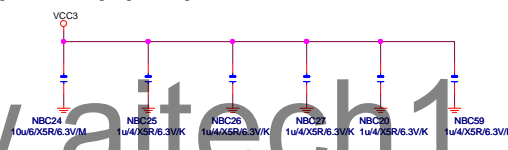
PCH (I)



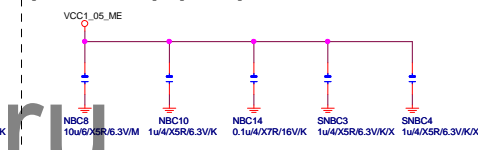
SHT PWR



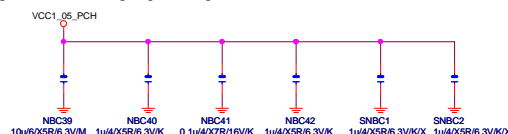
(3.3V) (X6)



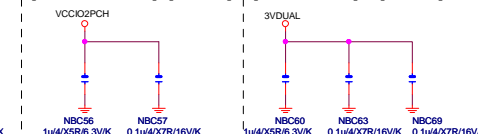
(1.05V) (x5)



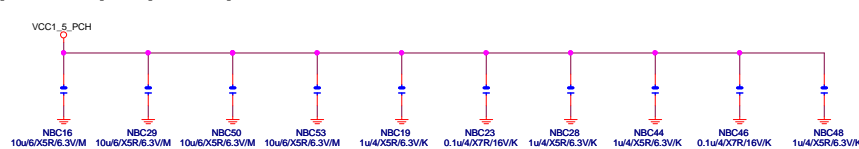
(1.05V) (x6)



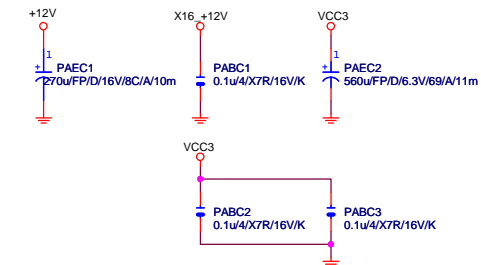
(1.05V)(x2) (3.3V) (x2)



(1.5V) (x10)

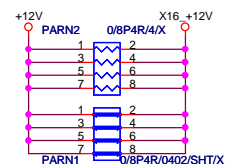


PCIEX16 CAP



PCIEX16 PROTECT SHT

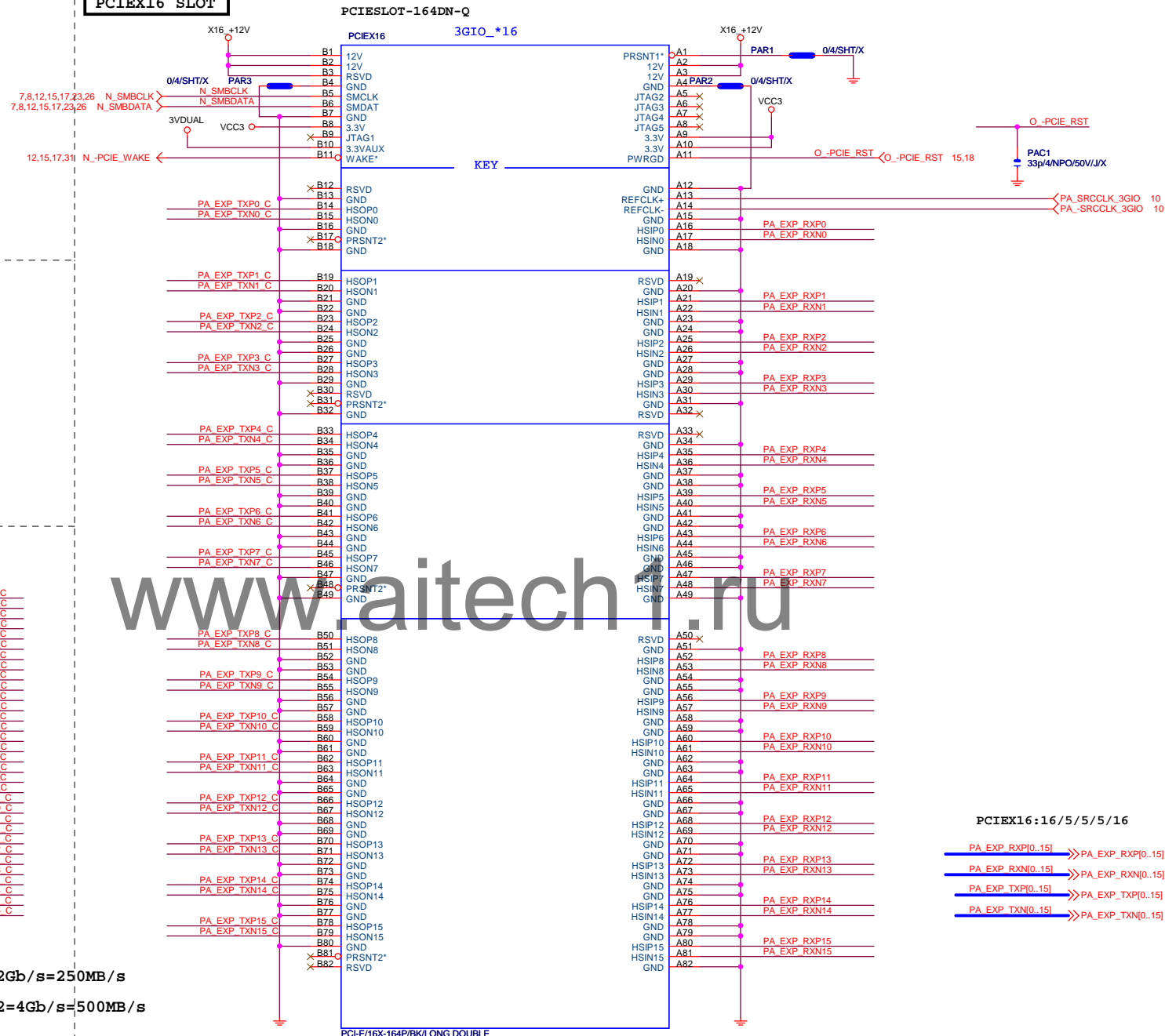
+12 protect short-wire test



PCIEX16 AC CAP

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

PCIEX16 SLOT



PCIEX16:16/5/5/5/16

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

PCI-E REV:1.1--> 2.5GHZ

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

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

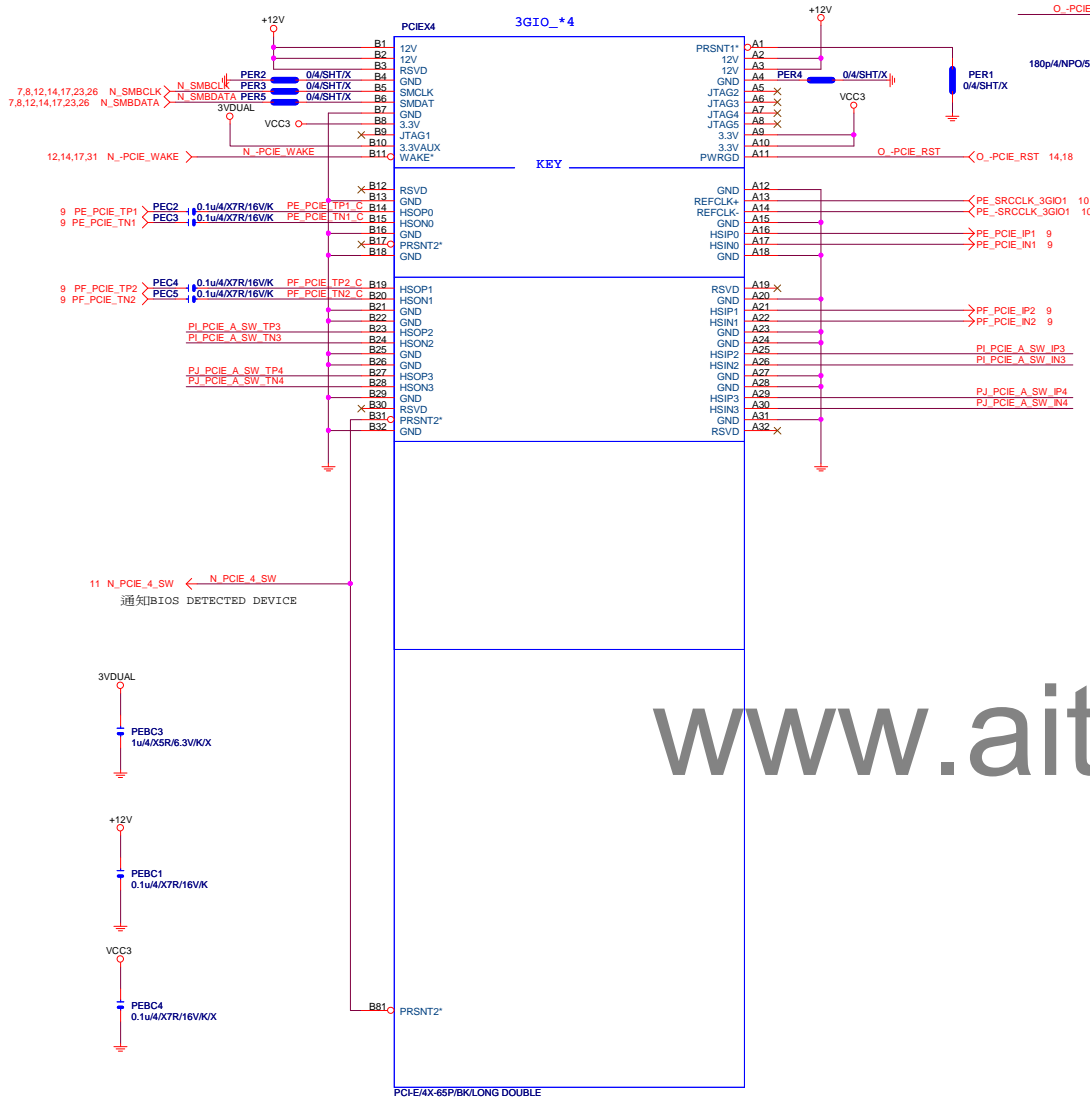
PCE-E X16(單向) BANDWITH=2.5GHz*(8b/10b)X16=32Gb/s=4GB/s

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

PCI-E REV:2.0--> 5GHZ

Gigabyte Technology			
PCI EXPRESS * 16			
Title	Document Number	GA-Z97-HD3	
Size	Custom	Rev	1.0
Date:	Wednesday, March 05, 2014	Sheet	14 of 34

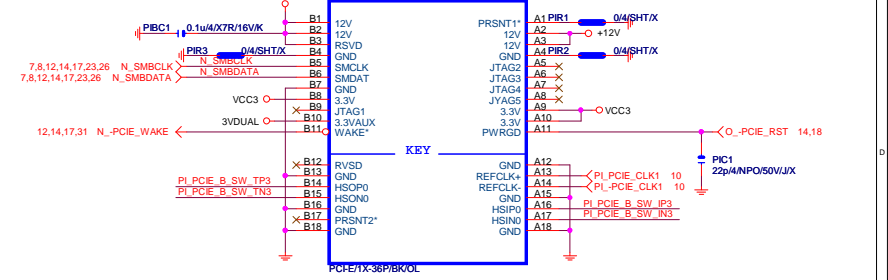
PCIEX4 SLOT



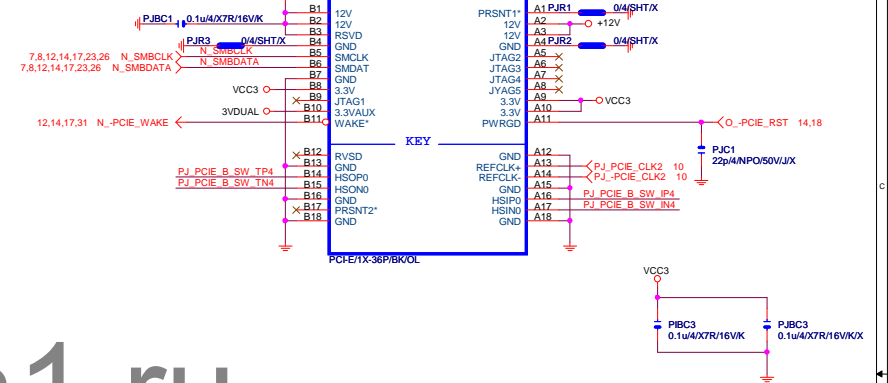
	N_PCIE_4_SW (PCH GPIO48)	PCIEX4_X1 (SIO_GPIO26)
P	H	H
C		
PCIEX4 No devices	H	H
PCIEX4 -> X1		
PCIEX4 Have devices		
PCIEX4 -> X4	L	L
PCIEX1_1/2 --> N/A		

PCIEX1 SLOT

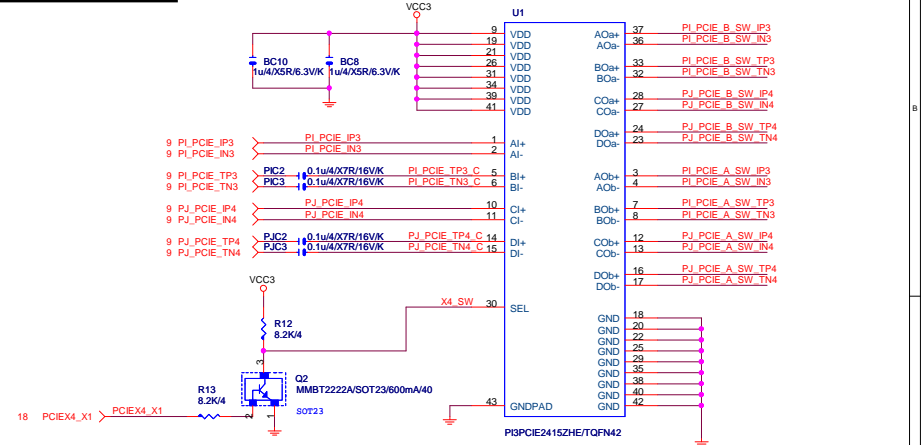
PCIEX1_1



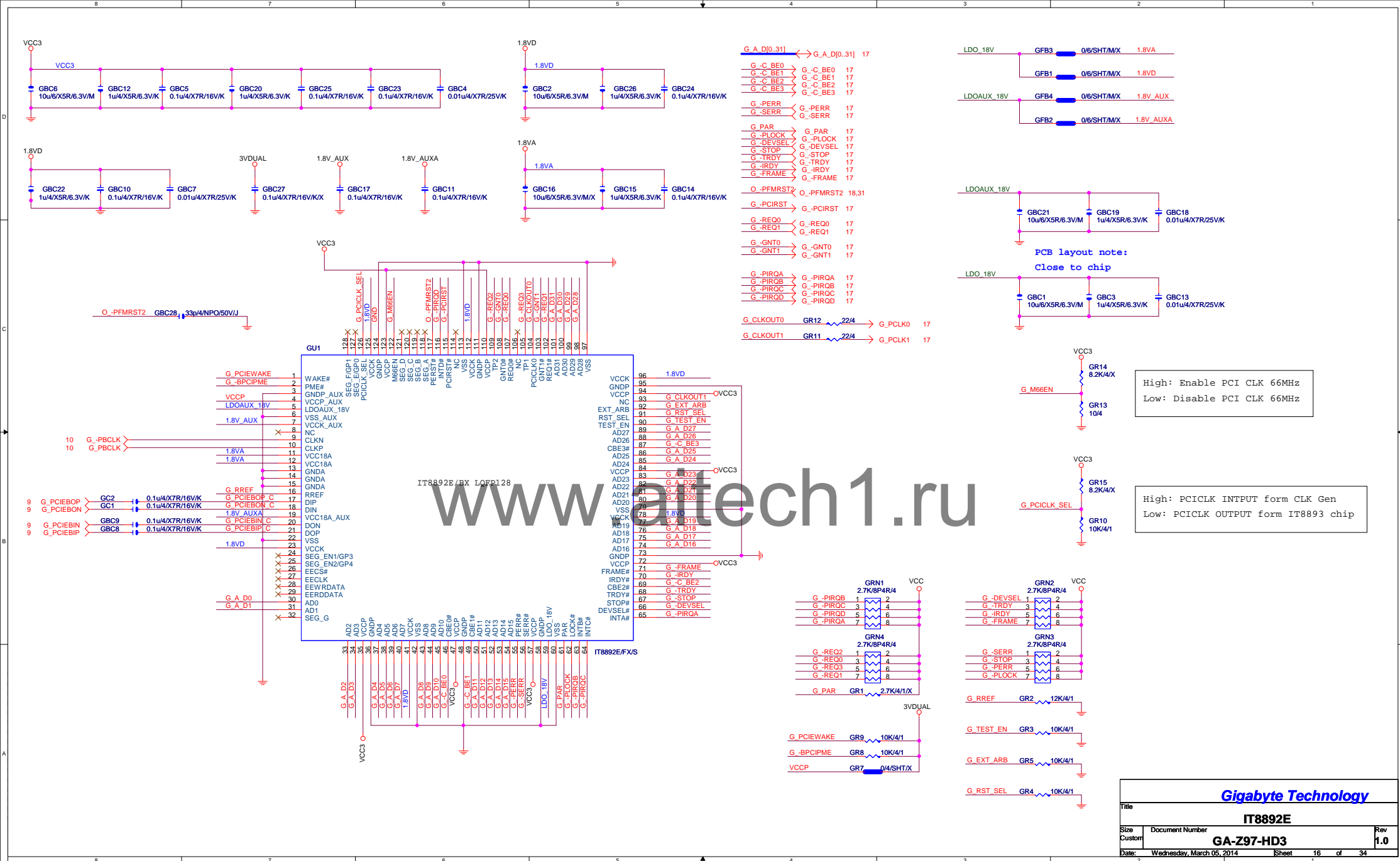
PCIEX1_2

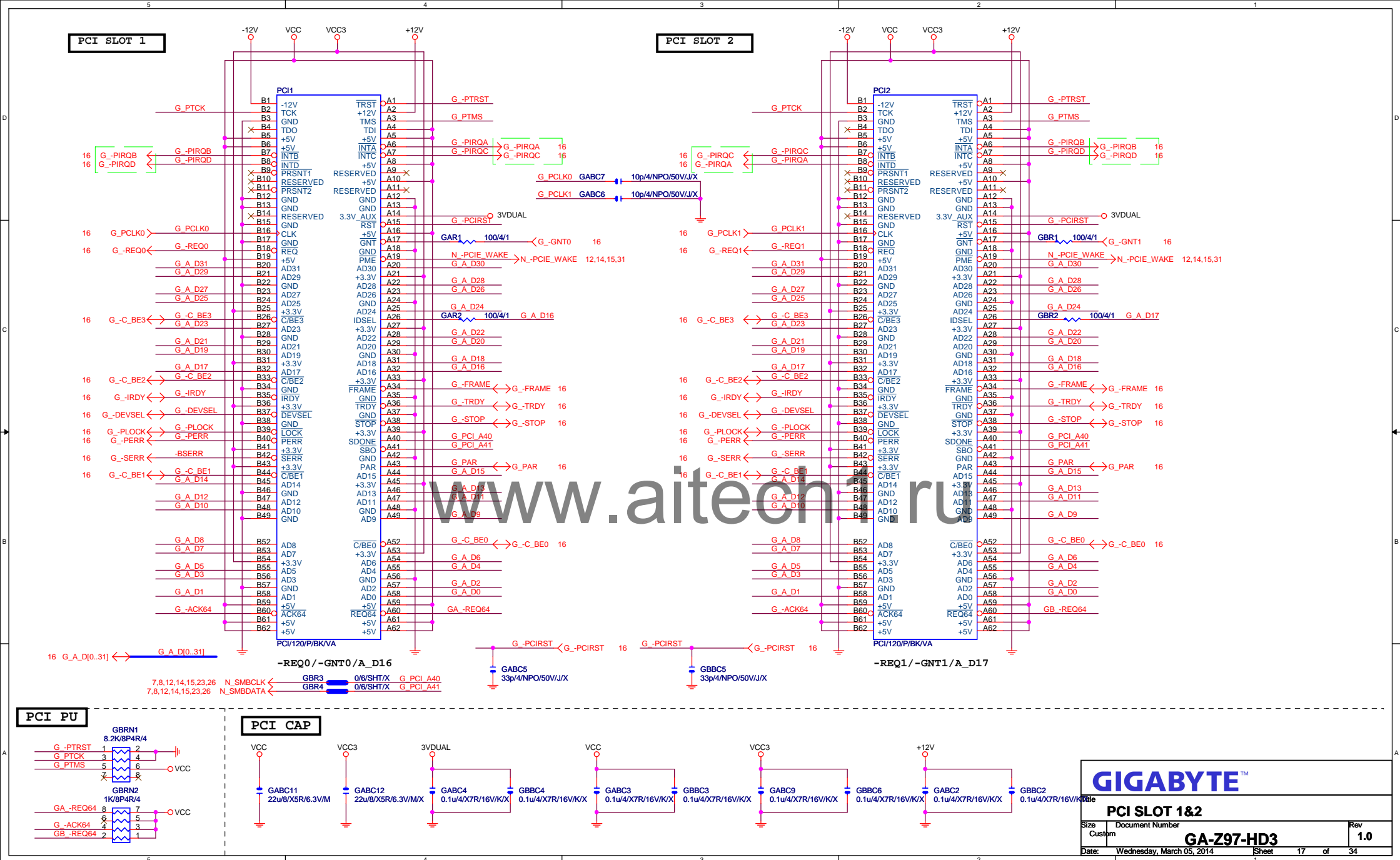


PCIEX4/X1 SWITCH

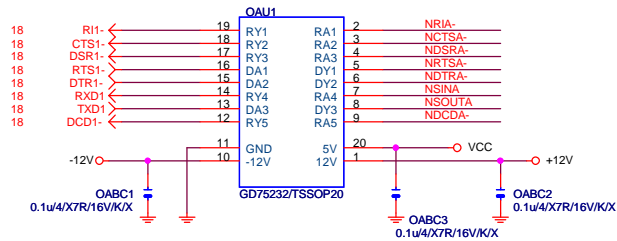


Function	SEL
xI--> x0a	L;PCIEX4 SLOT-->X1
xI--> x0b	H;PCIEX4 SLOT-->X4





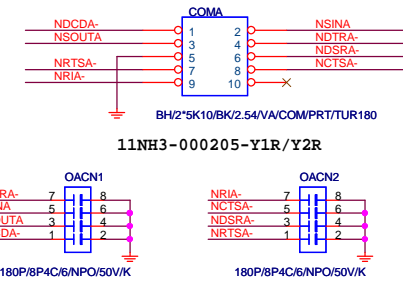
COMA



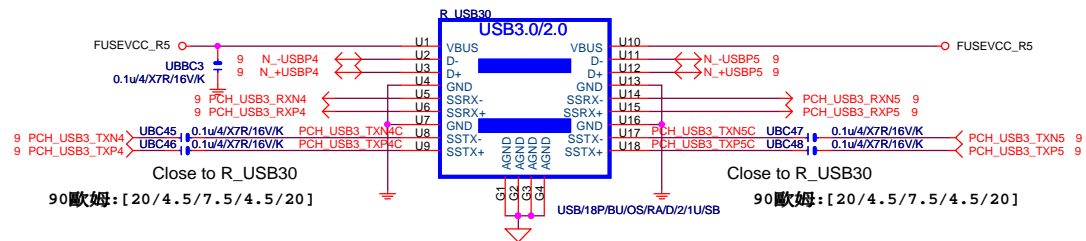
COM RI



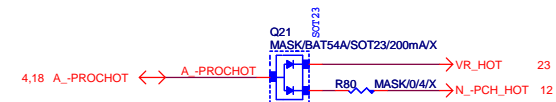
COM BUFFER



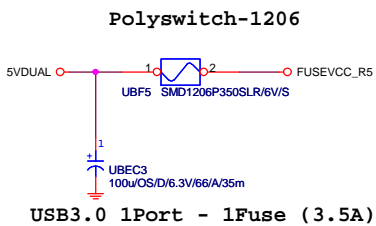
USB30_20 CONNECT



-PROHOT

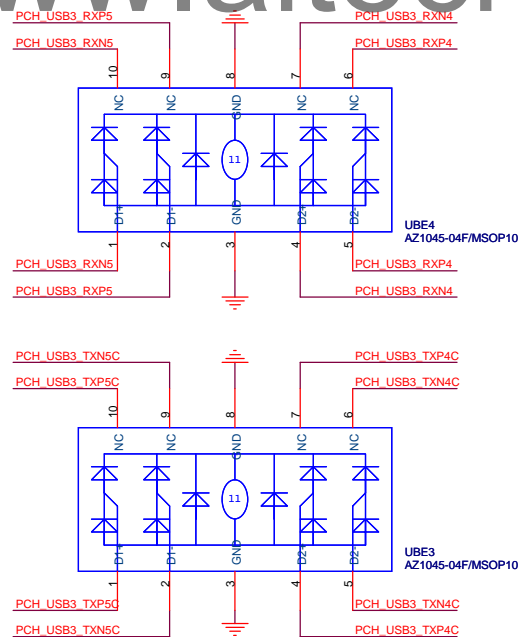


USB30_PWR



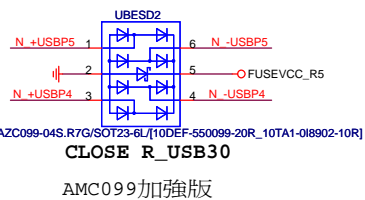
USB3.0 1Port - 1Fuse (3.5A)

USB30 ESD PROTECT



Thunderbolt pin header

USB20 ESD PROTECT



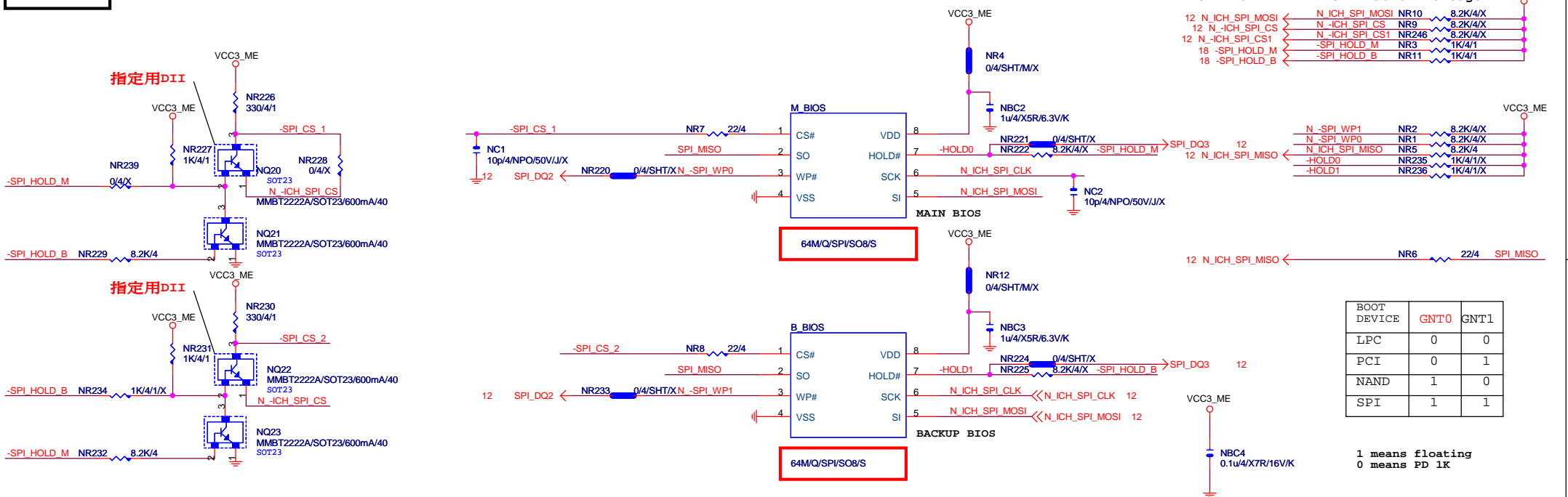
CLOSE R_USB30

AMC099加强版

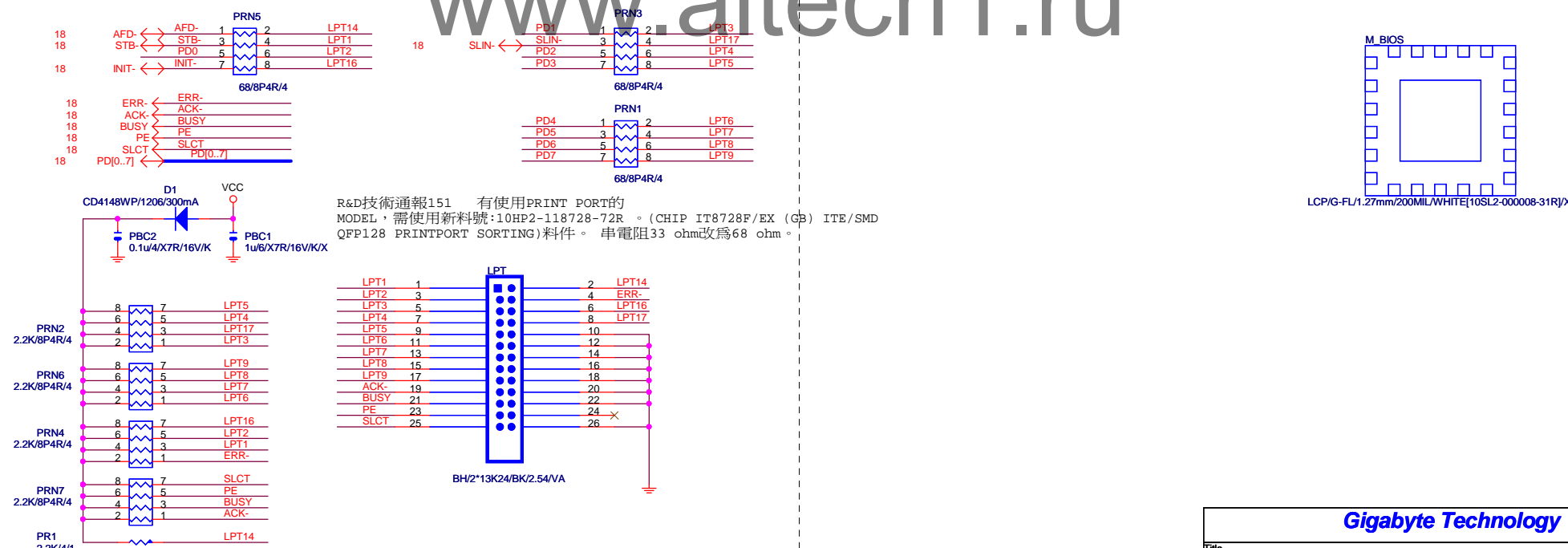
Gigabyte Technology

Title		COM/ PROHOT/ R_USB	
Size	Document Number	GA-Z97-HD3	
Custom		Rev 1.0	
Date:	Wednesday, March 05, 2014	Sheet	19 of 34

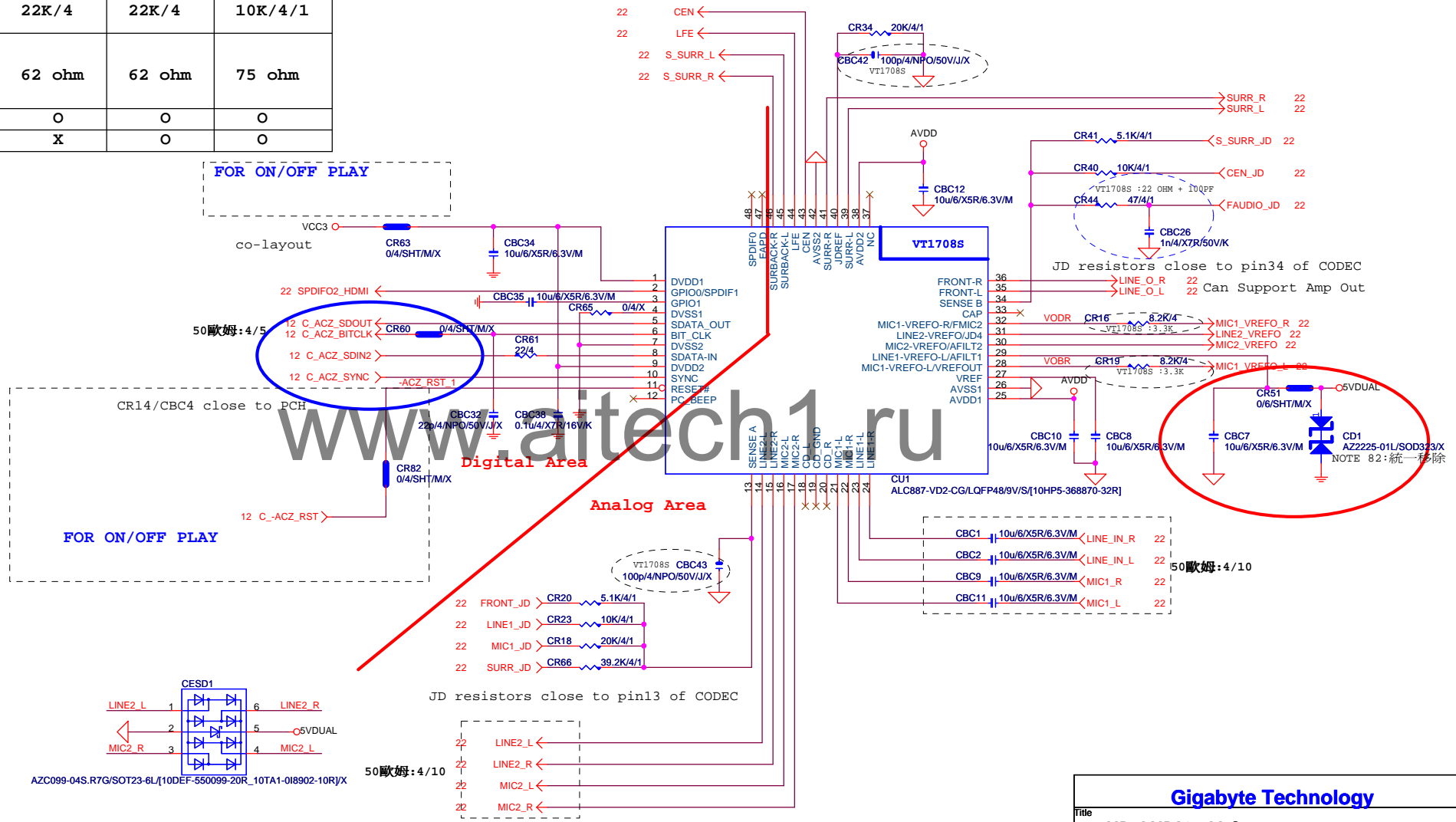
DUAL BIOS



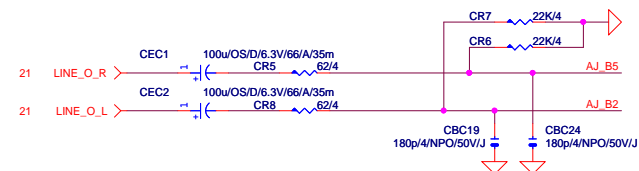
LPT PORT



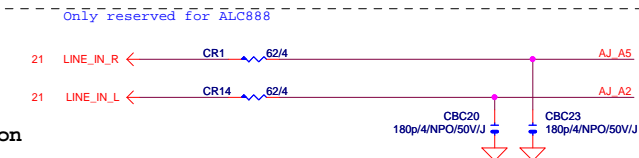
	ALC892	ALC887-VD2	VT1708S-CE
CR44/CBC26	47ohm+1nF	47ohm+1nF	22ohm+100P
CBC42/CBC43	X	X	100P/4
CR16/CR19 CR52/CR56/CR10/CR9	8.2K/4	8.2K/4	3.3K/4/1
CR6/CR7/CR58/CR54/ CR67/CR68/CR69/CR70	22K/4	22K/4	10K/4/1
CR5/CR8/CR1/CR14/ CR17/CR22/CR73/CR74/ CR13/CR11/CR57/CR53/ CR75/CR76	62 ohm	62 ohm	75 ohm
CR51/CD1/CBC7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



LINE-OUT



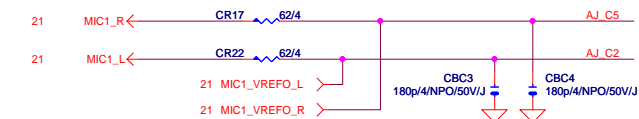
LINE-IN



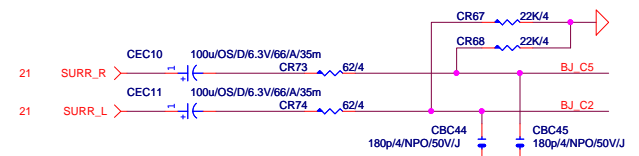
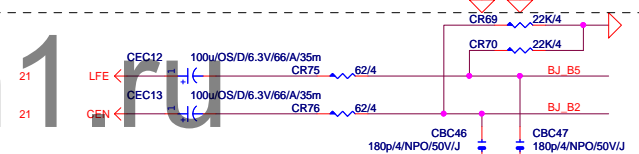
Verify MIC function
in LINE-in

For 889A/888

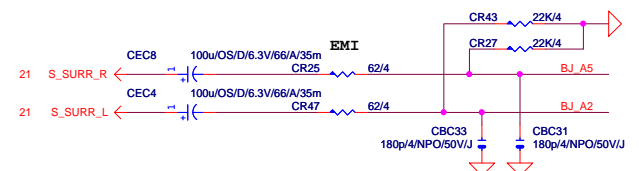
MIC-IN



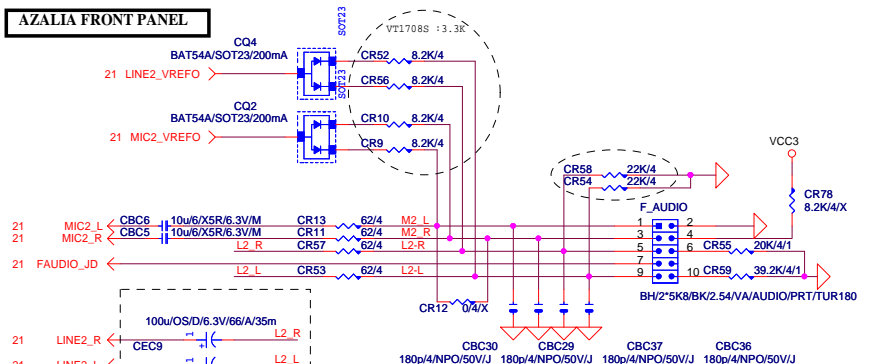
SURROUND

**CEN/LFE**

SURR BACK



AZALIA FRONT PANEL



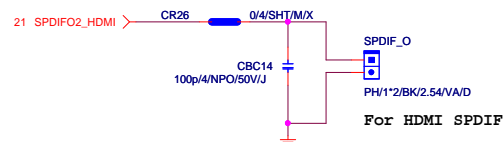
Gigabyte Technology

AUDIO JACK

GA-Z97-HD3

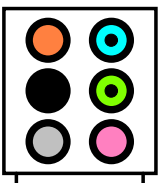
Rev
1.0

SPDIF_OUT

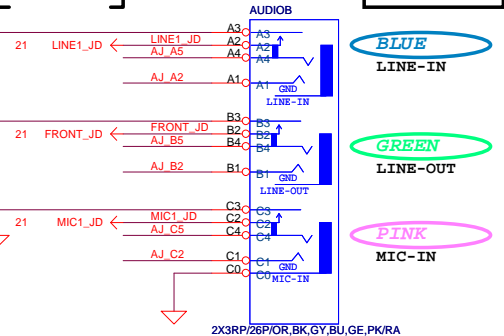


SPDIF_IN

AZALIA JACK



AZALIA JACK

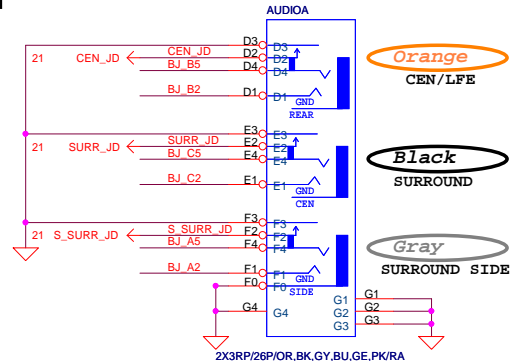


BLUE
LINE-IN

GREEN
LINE-OUT

PINK

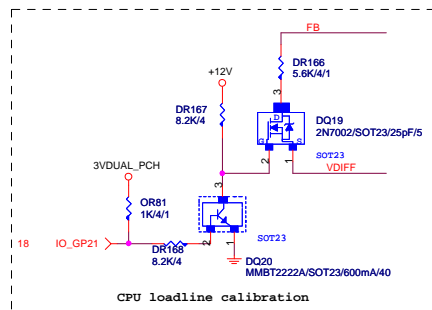
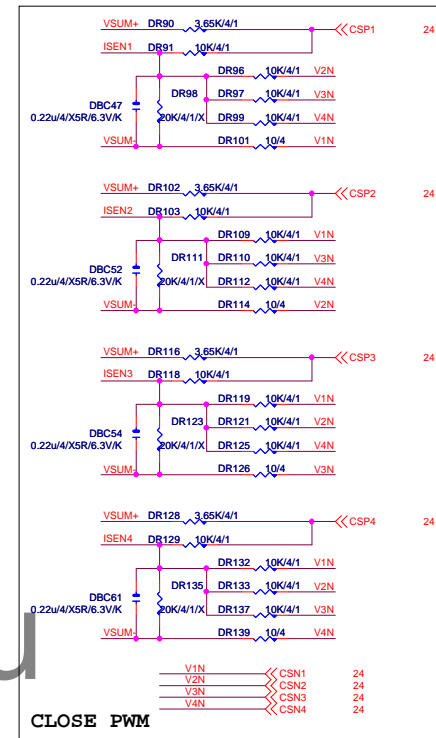
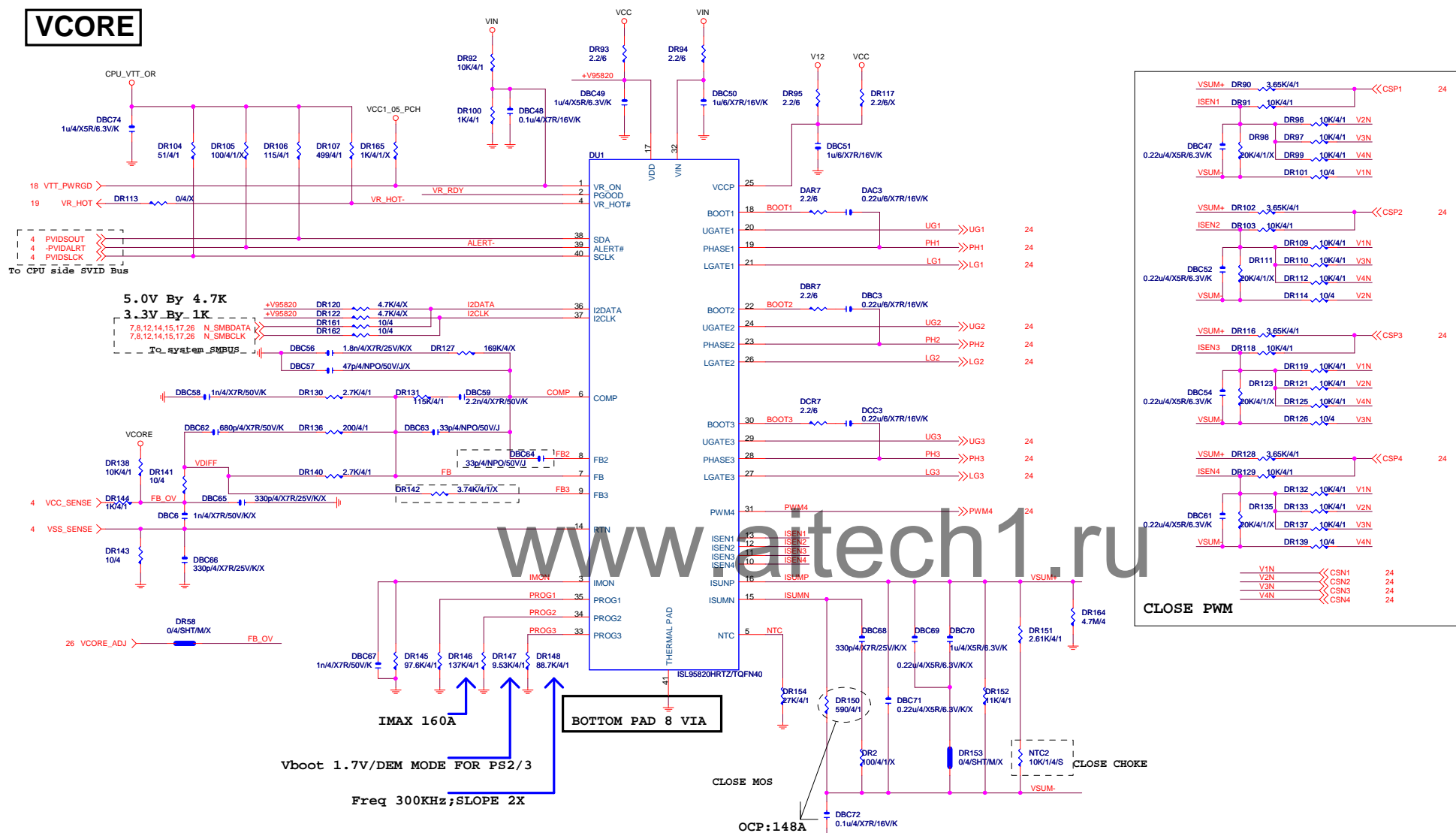
E,PK/RA



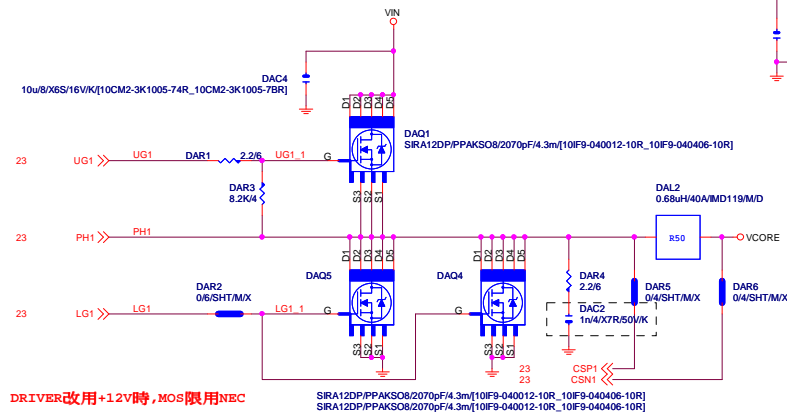
Orange

Black

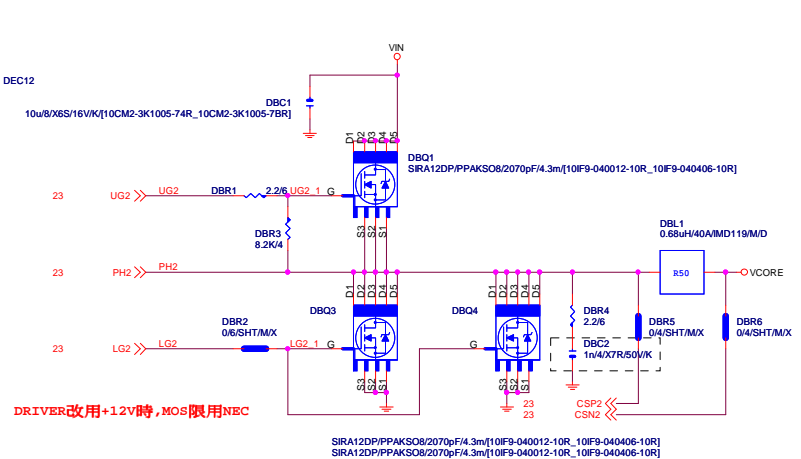
Gray

VCORE

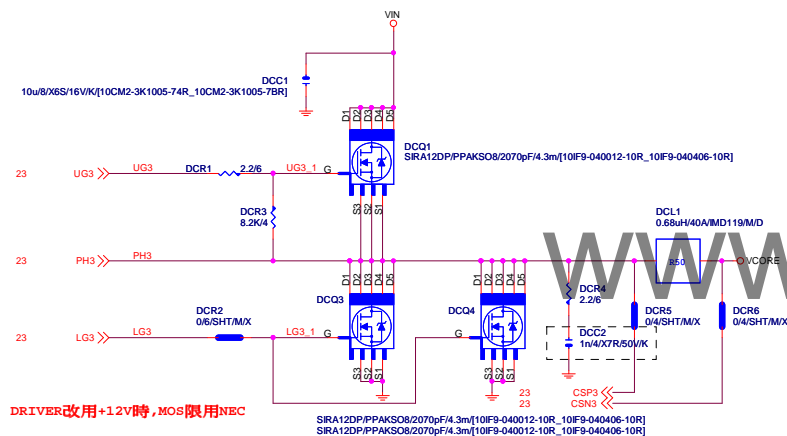
[1]



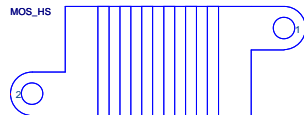
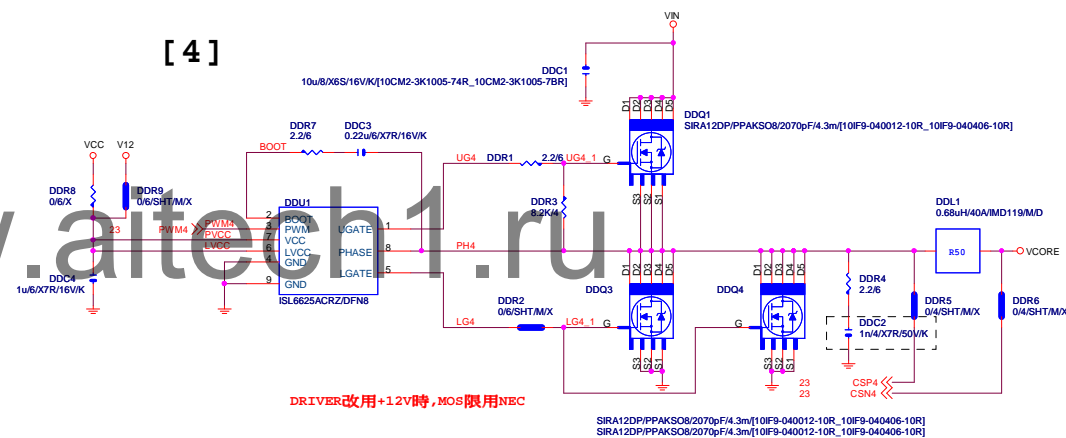
DRIVER改用+12V時,MOS限用NEC



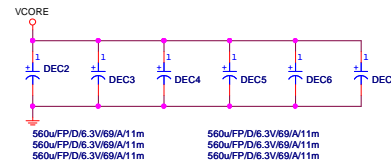
[3]



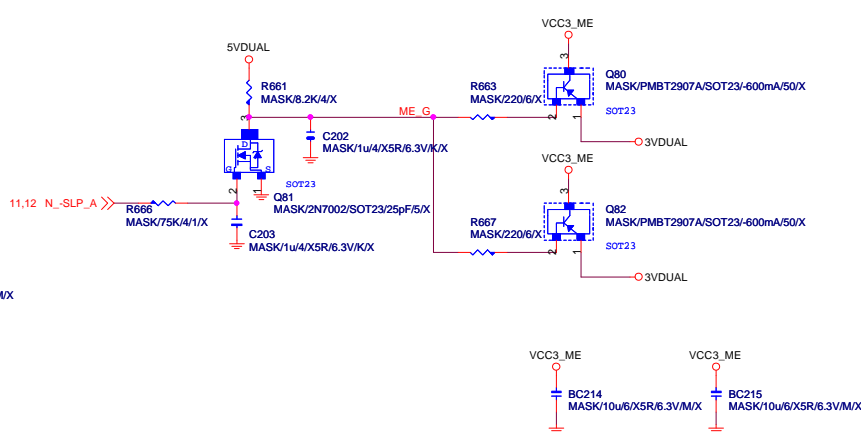
[4]



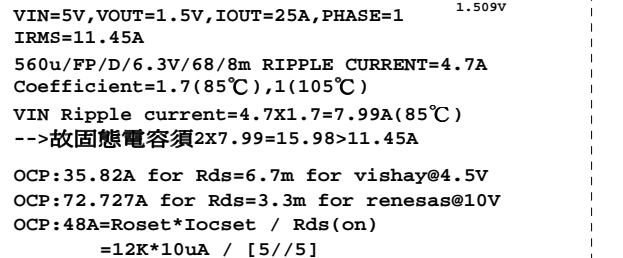
MOS_HeatSink[12SP2-S07517-11R_12SP2-S07517-12R_12SP2-S07517-13R]




VCC3_ME

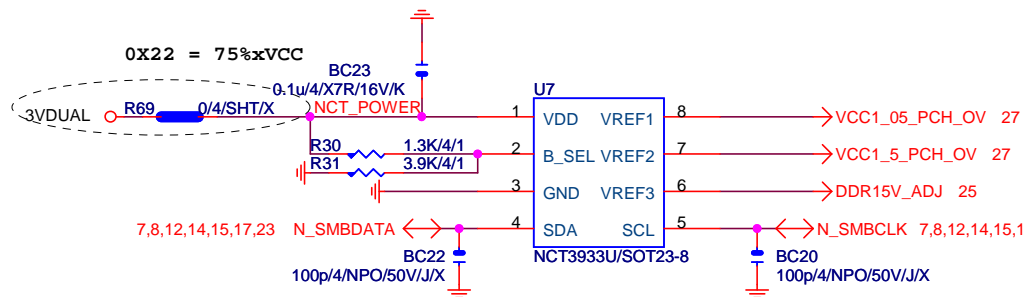


DDRVTT

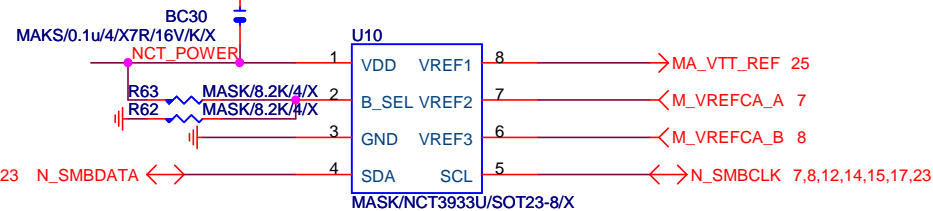


			
Title			
DDR15V / M3 POWER			
Size	Document Number		Rev
Custom	GA-Z97-HD3		1.0
Date:	Monday, May 05, 2014	Sheet	25 of 34

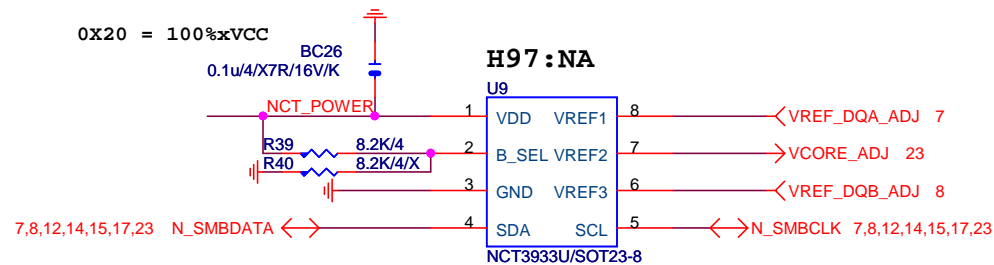
OVER VOLTAGE



0X2A = 0%xVCC



0X20 = 100%xVCC



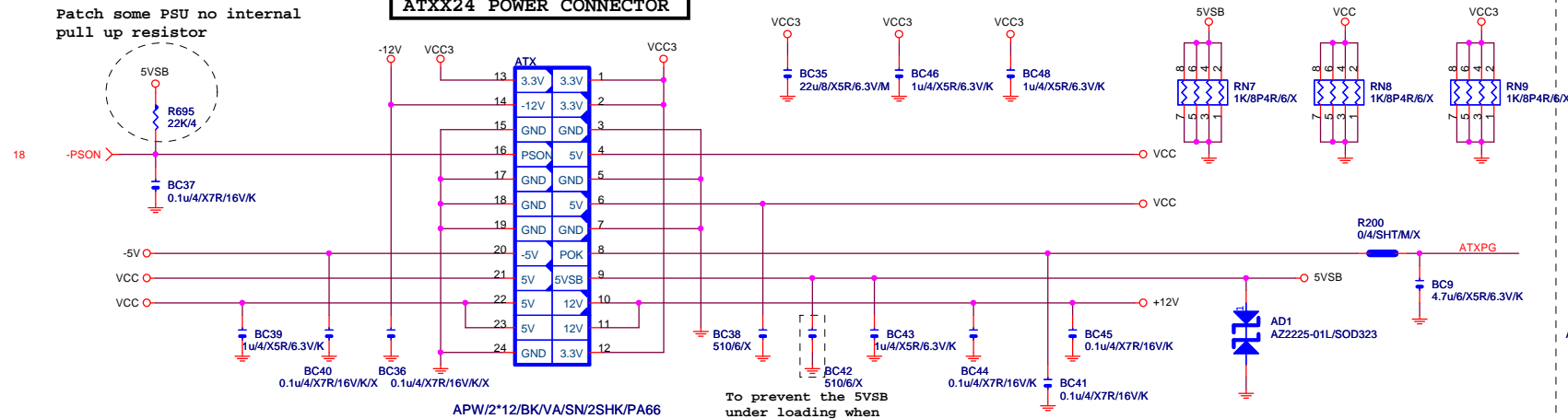
NCT3933	0X2A	0X20	0X22
VREF1	DDRVTT	VREF_DDRA_DQ	PCH Core
VREF2	VREF_DDRA_CA	N/A	VCC1_5_PCH
VREF3	VREF_DDRA_CA	VREF_DDRB_DQ	SMREF

Gigabyte Technology

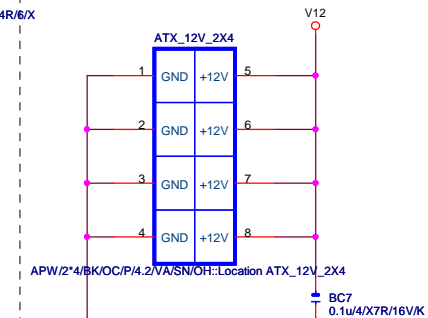
Title		
CPU CORE VR-2		
Size	Document Number	Rev
Custom	GA-Z97-HD3	1.0
Date:	Wednesday, March 05, 2014	Sheet 26 of 34

Patch some PSU no internal pull up resistor

ATXX24 POWER CONNECTOR



ATXX4 POWER CONNECTOR

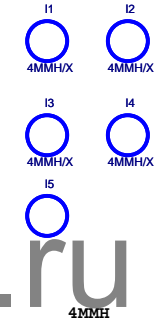
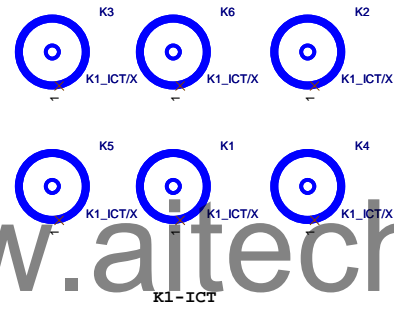
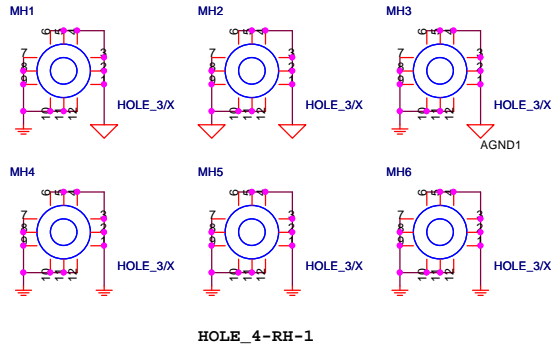
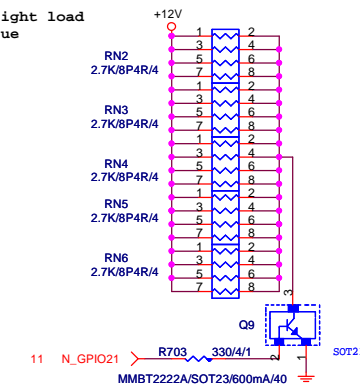


APW/2*12/BK/VA/SN/2SHK/PA66

To prevent the 5VSB under loading when boot

【技術通報R&D技術通報153】

To fix 12V light load abnormal issue



www.aitech1.ru

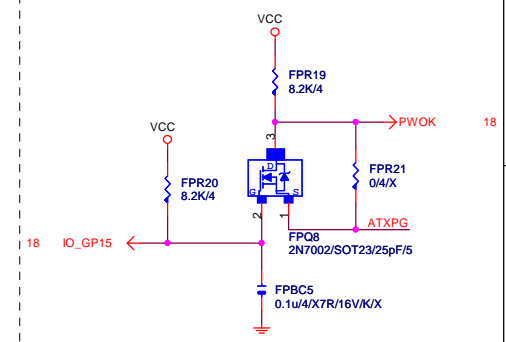
CLK GEN

CPU Frequency Selection

FSLB	FSLA	CPU
0	0	100M <Default>
0	1	133M
1	0	200M
1	1	166M

PWOK PATCH

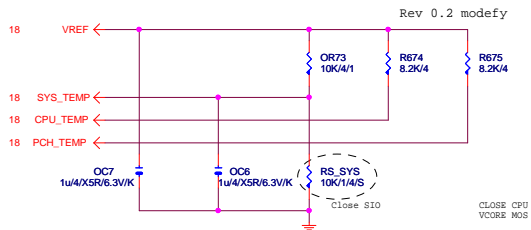
【技術通報R&D技術通報154】



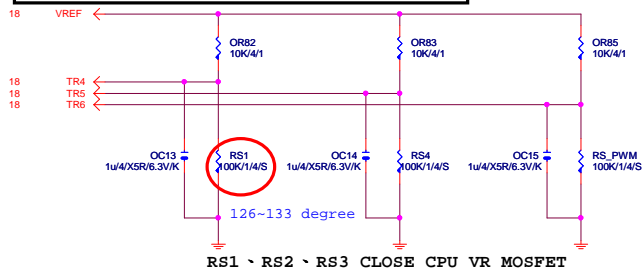
Gigabyte Technology

Title		
ATX POWER CONNECTOR		
Size	Document Number	Rev
Custom	GA-Z97-HD3	1.0
Date:	Wednesday, March 05, 2014	Sheet 29 of 34

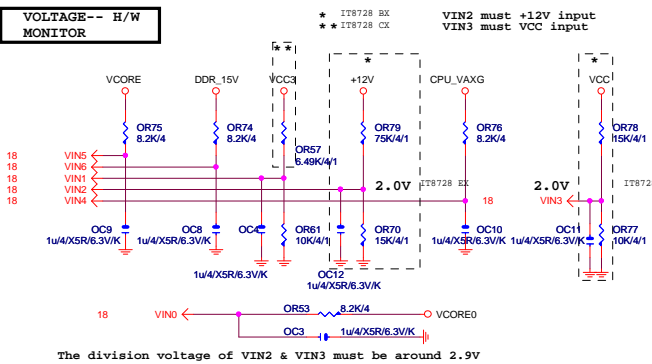
TEMP H/W MONITOR



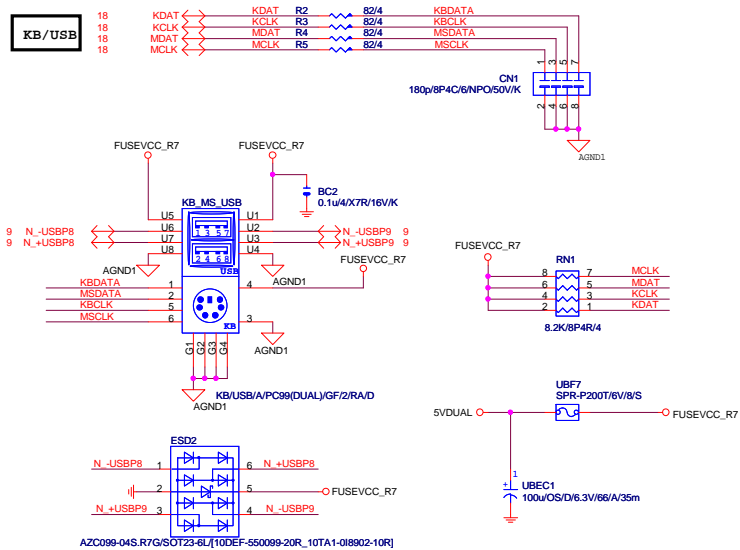
-PROCHOT:有mos heartsink不用prochot function



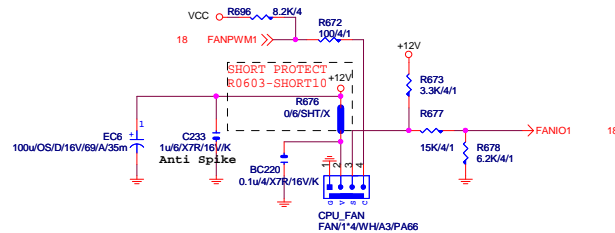
VOLTAGE-- H/W
MONITOR



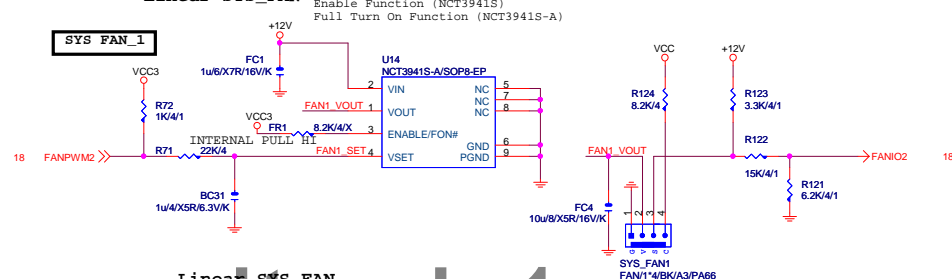
KB/USB



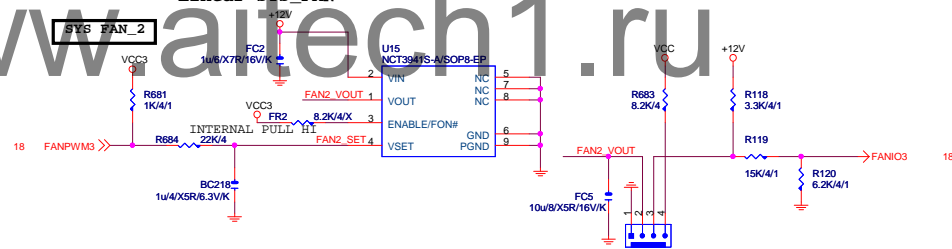
CPU SMART FAN



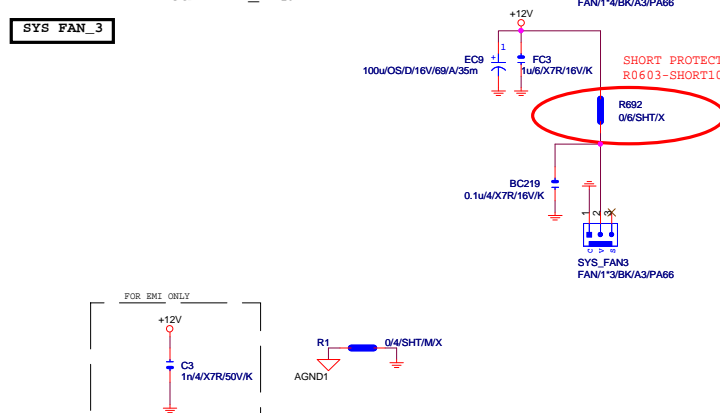
Linear SYS_FAN



Linear SYS_FAN



Linear SYS_FAN



Gigabyte Technology

Title				HWM,KB/MS, FAN CTRL			
Size	Document Number						Rev
Custom	GA-Z97-HD3						1.0
Date:	Wednesday, March 05, 2014			Sheet	30	of	34

LAN:INTEL I217

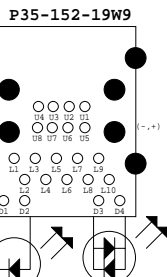
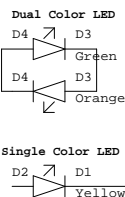
100歐姆:[20/4/8/4/20]

80歐姆:[15/5/5/15]

SRCCLK 50歐姆:[18/4/10/4/18]

離IC近越好

FOR DSM MODE
(DEEP SLEEP MODE)



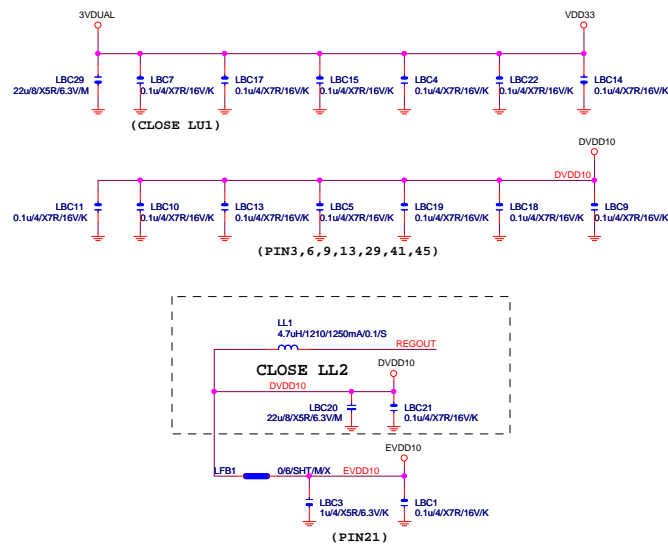
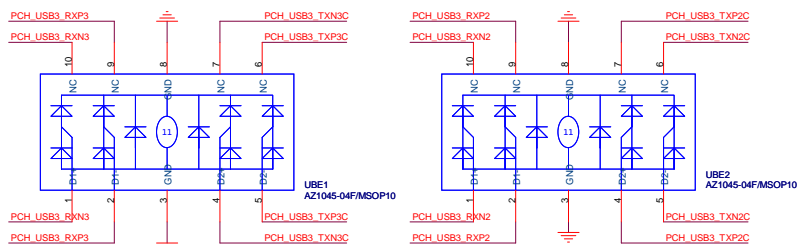
USB30_LAN CONNECTOR

100歐姆:[20/4/8/4/20]

USB30_LAN
USB3-LAN1GGO,YOSRA/DG30[11NR6-702009-K1R_11NR6-702009-K4R]

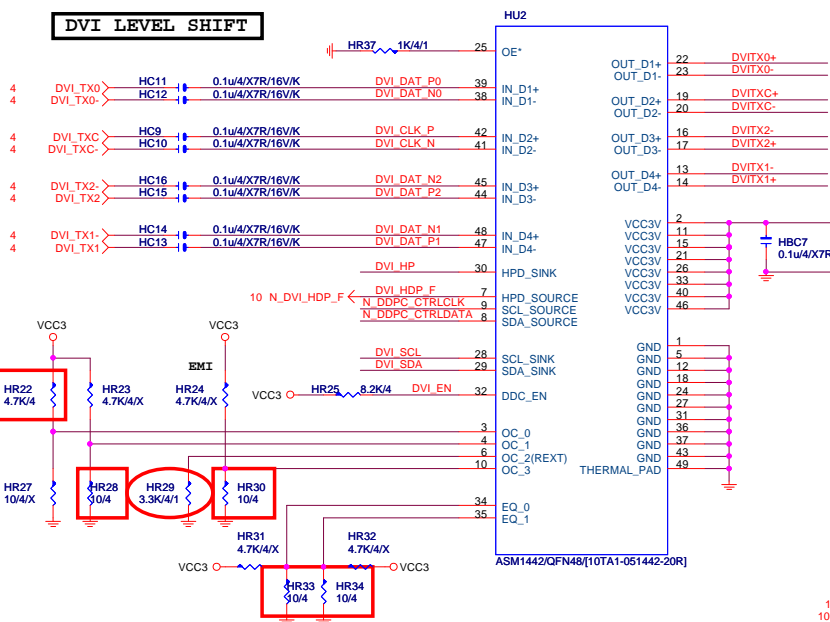
90歐姆:[15/4.5/7.5/4.5/15]

CLOSE USB30_LAN

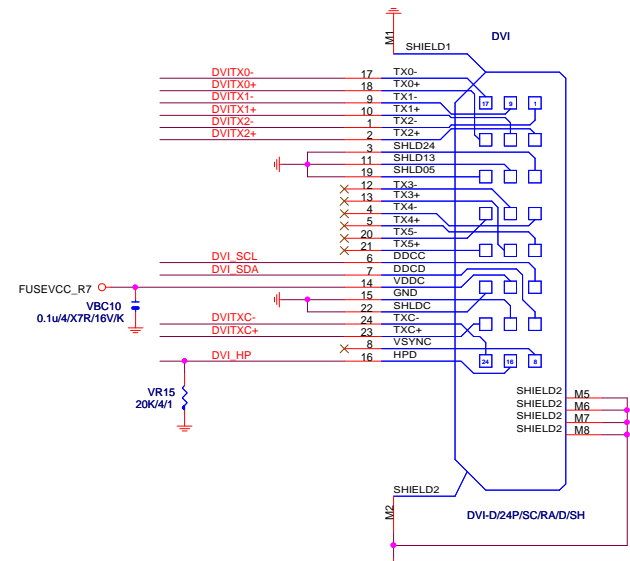
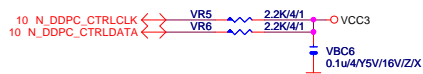
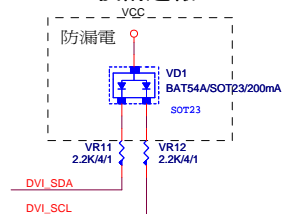


DVI:20/4/6/4/20
Impedance=85 +- 17.5%

DVI LEVEL SHIFT



R&D技術通報 162



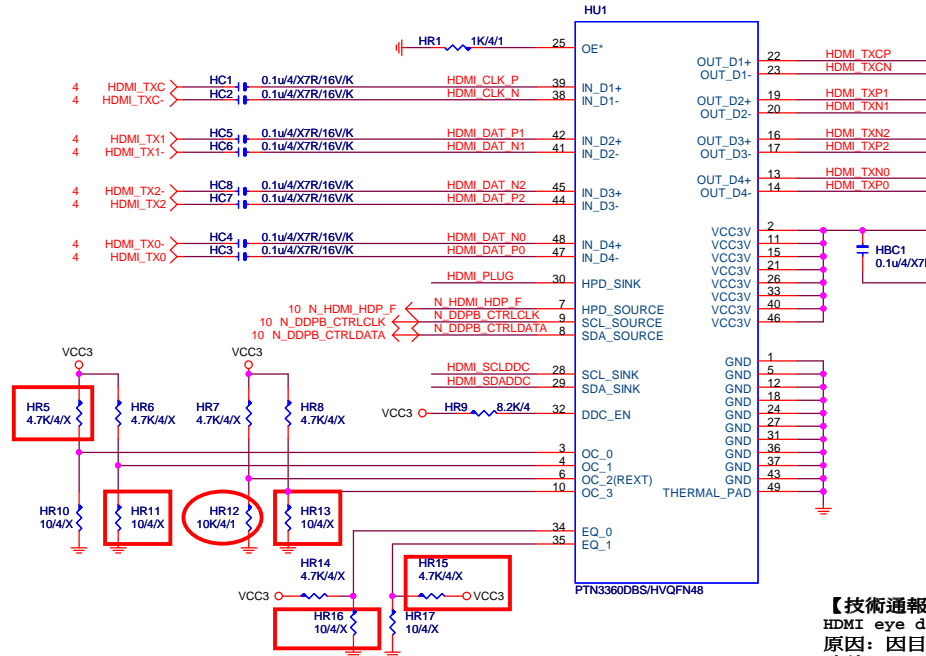
www.aitech1.ru

Gigabyte Technology

Title		
DVI		
Size	Document Number	Rev
Custom	GA-Z97-HD3	1.0
Date:	Wednesday, March 05, 2014	Sheet 32 of 34

HDMI LEVEL SHIFT

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



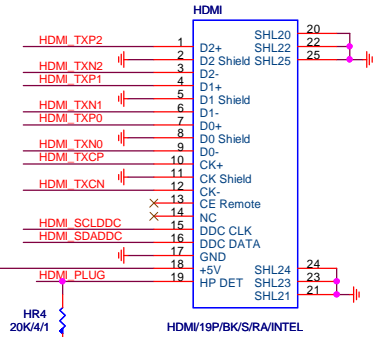
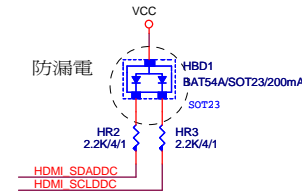
PTN3360:PIN 4/10/34/35 NC PIN,都不上值;只上HR12:10K
ASM1442:紅色框要上,HR12:3.16K

【技術通報R&D技術通報150】

HDMI eye diagram1.4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)



FUSEVCC_R7

HBC5

1u/4/X5R/6.3V/K

HR4

20K/4/1

HDMI PLUG

SHL20

SHL22

SHL25

SHL20

SHL22

SHL25

SHL20

SHL22

SHL25

SHL20

SHL22

SHL25

SHL20

SHL22

SHL25

SHL20

SHL22

SHL25

SHL20

SHL22

SHL25

SHL20

SHL22

SHL25

SHL20

SHL22

SHL25

SHL20

SHL22

SHL25

SHL20

SHL22

SHL25

SHL20

SHL22

SHL25

SHL20

SHL22

SHL25

SHL20

SHL22

SHL25

SHL20

SHL22

SHL25

SHL20

SHL22

SHL25

SHL20

SHL22

SHL25

SHL20

SHL22

SHL25

SHL20

SHL22

SHL25

SHL20

SHL22

SHL25

SHL20

SHL22

SHL25

GIGABYTE™

Title		
HDMI		
Size	Document Number	Rev
Custom	GA-Z97-HD3	1.0
Date:	Wednesday, March 05, 2014	Sheet 33 of 34

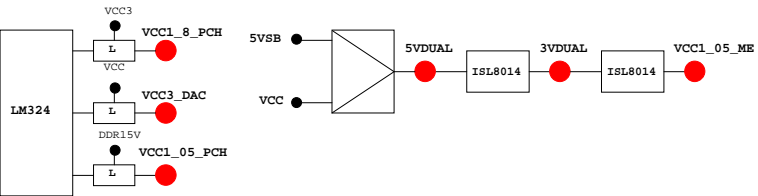
PCB GPIO LIST TABLE

PIN NAME	PWR	Default	USAGE	NOTE
GP0	MAIN	H-Z	GPIO0	N/A
GP1/TACH1	MAIN	GPI	GPIO1	N/A
GP2/PIRQE#	MAIN	GPI	~PIRQE	P/U 8.2K VCC3
GP3/PIRQF#	MAIN	GPI	~PIRQF	P/U 8.2K VCC3
GP4/PIRQG#	MAIN	GPI	~PIRQG	P/U 8.2K VCC3
GP5/PIRQH#	MAIN	GPI	~PIRQH	P/U 8.2K VCC3
GP6/TACH2	MAIN	GPI	PCIE1 Detect	P/U 8.2K VCC3
GP7/TACH3	MAIN	MAIN	GPIO7	P/U 8.2K VCC3
GP8	STBY	H	GPIO8	N/A
GP9/OC5#	STBY	NATIVE	USB OC5#	N/A
GP10/OC6#	STBY	NATIVE	USB OC6#	N/A
GP11/SMBALERT#	STBY	NATIVE	USB PWR protect	P/U 8.2K 3VDUAL
GP12	STBY	L	GPI	GPIO12
GP13	STBY	L	GPI	LPCPME#
GP14/OC7#	STBY	NATIVE	USB OC7#	N/A
GP15	STBY	L	GPI	GPIO15(TLS Enable)
GP16	MAIN	MAIN	GPIO16	P/U 8.2K VCC3
GP17/TACH0	MAIN	MAIN	GPIO17	P/U 8.2K VCC3
GP18	MAIN	MAIN	GPIO18	Mobile Only
GP19	MAIN	MAIN	GPIO19	P/U 8.2K VCC3
GP20	MAIN	MAIN	GPIO20	P/U 8.2K VCC3
GP21	MAIN	MAIN	GPIO21	P/U 8.2K VCC3
GP22	MAIN	H-Z	GPIO22	P/U 8.2K VCC3
GP23	MAIN	MAIN	GPIO23	N/A
GP24	STBY	L	GPI	SKTOCC#
GP25	STBY		Mobile Only	N/A
GP26	STBY		Mobile Only	N/A
GP27	STBY	H	GPO	GPIO27
GP28	STBY	H	GPO	PWR LED
GP29	STBY	L	GPI	GPIO29
GP30	STBY	H-Z	GPI	Mobile Only
GP31	STBY	H-Z	GPI	Mobile Only
GP32	MAIN	H	GPO	N/A
GP33	MAIN	H	GPO	N/A
GP34	MAIN	H-Z	GPI	~PCI_STOP
GP35	MAIN	L	GPO	~ACZ_DET
GP36	MAIN	MAIN	GPI	N/A
GP37	MAIN	MAIN	GPI	N/A
GP38	MAIN	H-Z	GPI	PCIE4 Detect
GP39	MAIN	H-Z	GPI	GPIO39
GP40	STBY	NATIVE	USB OC1#	N/A
GP41	STBY	NATIVE	USB OC2#	N/A
GP42	STBY	NATIVE	USB OC3#	N/A
GP43	STBY	NATIVE	USB OC4#	N/A
GP44	STBY	L	NATIVE	GPIO44
GP45	STBY	NATIVE	GPIO45	P/U 8.2K 3VDUAL
GP46	STBY	L	NATIVE	GPIO46
GP47	STBY		Mobile Only	N/A
GP48	MAIN	H-Z	IN	GPIO48
GP49	MAIN	H-Z	IN	GPIO49
GP50	MAIN	NATIVE	~REQ1	P/U 2.2K VCC
GP51	MAIN	H	NATIVE	~GNT1
GP52	MAIN	NATIVE	~REQ2	P/U 2.2K VCC
GP53	MAIN	H	NATIVE	~GNT2
GP54	MAIN	NATIVE	~REQ3	P/U 2.2K VCC
GP55	MAIN	H	NATIVE	~GNT3
GP56	STBY	NATIVE	Mobile Only	N/A
GP57	STBY	H-Z	IN	VCORE_OV1
GP58	STBY	H-Z	NATIVE	F_USB_OC
GP59	STBY	NATIVE	USB_OC0#	N/A
GP60	STBY	H-Z	NATIVE	N/A(Reverse)
GP61	STBY	L	NATIVE	~SUSTAT
GP62	STBY	L	NATIVE	SUSCLK
GP63	STBY	L	NATIVE	GPIO63
GP64	MAIN	L	NATIVE	CLKOUTFLEX0
GP65	MAIN	L	NATIVE	CLKOUTFLEX1
GP66	MAIN	L	NATIVE	CLKOUTFLEX2
GP67	MAIN	L	NATIVE	CLKOUTFLEX3
GP72	STBY	H-Z	NATIVE	VCORE_OV4
GP73	STBY		Mobile Only	N/A
GP74	STBY	H-Z	NATIVE	1_05V_OV2
GP75	STBY	H-Z	NATIVE	N/A(Reverse)

Super I/O ITE8720 GPIO Table

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

PIN NAME	USAGE	NOTE
FAN_TAC2/GP52	FANIO2	
FAN_TAC3/GP37	FANIO3	
VIDO3/FAN_TAC4/GP25/DSR2#	FANIO4	
FAN_CTL2/GP51	FANPWM2	
FAN_CTL3/GP36	FANPWM3	
VID4/GP34	BEEP-	
VID3/GP33	TURBO1	
VID2/GP32	TURBO0	
VCORE_GOOD/VID6/GP63	CPUT_LED1_C	
VID5/GP35	CPUT_LED2_C	
VID1/GP31	CPUT_LED3_C	
VID0/GP30	-LAN1_DSM	NBT_LED1_C
SLCT/GP80	CPU_LED1_C	
PE/GP81	CPU_LED2_C	
BUSY/GP82	CPU_LED3_C	
PD3/GP73/BUSS11	SB_LED1_C	
PD4/GP74/BUSS12	SB_LED2_C	
VCORE_EN/VID7/GP64	IT_GP64	SB_LED3_C
PD0/GP70	NB_LED1_C	
PD1/GP71	NB_LED2_C	
PD2/GP72/BUSS10	NB_LED3_C	
GP22/SEN	LOW_PWR_1	
VID05/GP27/SEN2	LOW_PWR_2	
PCIRST2#/GP11	-PFMRST1	
PCIRST1#/GP12	-PFMRST2	
3VSB5W#/GP40	CSI_F0	BSEL166_1
SUSCH#/GP53	CSI_F1	BSEL166_2
GP23/SI	BSEL166_3/CSISBSL	
VID00/GP20/CTS2#	CPUT_LED1_C	BSEL166_4
GP65/VDDA_EN/GB_01	MB_ID2	
PD6/GP76/BUSS01	MB_ID3	
PD7/GP77/BUSS02	MB_ID4	
AFD#/GP86/SMBC_R	2X PIN	FST_2X8
INIT#/GP85/SMBC_M	SEC_2x8	GTLREF_AD2
ACK#/GP83	DDR_LED1_C	
VID01/GP21/DCD2#	DDR_LED2_C	
STB#/GP87/SMBC_M	DDR_LED3_C	
PWRON#/GP44	VCORE_OV1	
PANSWH#/GP43	PWRBTSW	
KDAT/GP61	-PWRBTSW	
KCLK/GP60	KDAT	
MDAT/GP57	KCLK	
MACL/GP56	MDAT	
GP66/VLDT_EN/GB_02	NBT_LED1_C	MCLK
SVD/PCIRSTIN#/CIRT2/GP15	PWM2_CR	
KDAT/GP61	PWM2_CR	
GP67/CPU_PG/GB_03	EN_LOADLINE	IT_GP67/-EN_PWM2
SLIN#/GP84/SMBC_R	-EN_PWM2	
PSI_L/FAN_CLT5/CIRRX2/GP16	-THERM	
VID04/GP26/SOUT2	DDR18V_PH2_EN	
VID02/FAN_TAC5/GP24/DSR2#	DDR18V_LED	
VID06/GP17/RI2#	1_1V_PH_EN	
VID07/JP6/DTR2#	JP6	
PD5/GP75/BUSS00	SB_LED3_C	



PWM各相位的擺法如下：

