

Model Name: GA-H81M-D3H

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 1,2
08	DDR III CHANNEL B 1,2
09	PCH_FDI,DMI,USB,PCIE,NVRAM
10	PCH_DP,CLK BUFFER
11	PCH_HOST,SATA,PCI
12	PCH_GPIO,CTRL,AUDIO
13	PCH_PWR,GND
14	PCI EXPRESS*16 SLOT
15	PCI EXPRESS*4 SLOT
16	PCI SLOT1,2
17	ITE 8728 LPC IO
18	KB_MS, R_USB X4
19	HWM,FAN CTRL,OV,-PROCHOT
20	DUAL BIOS (32M)
21	FP,FUSB,SPK,SATALED
22	Realtek ALC887-VD2
23	REAR AUDIO JACK
24	REALTEK RTL8111F
25	DISCRETE POWER
26	ATX
27	VCORE ISL95812_1

SHEET

TITLE

28	VCORE ISL95812_2
29	RT8120_DDR POWER
30	LPT, COM
31	DVI, HDMI
32	IT8892E

Gigabyte Technology

Cover Sheet

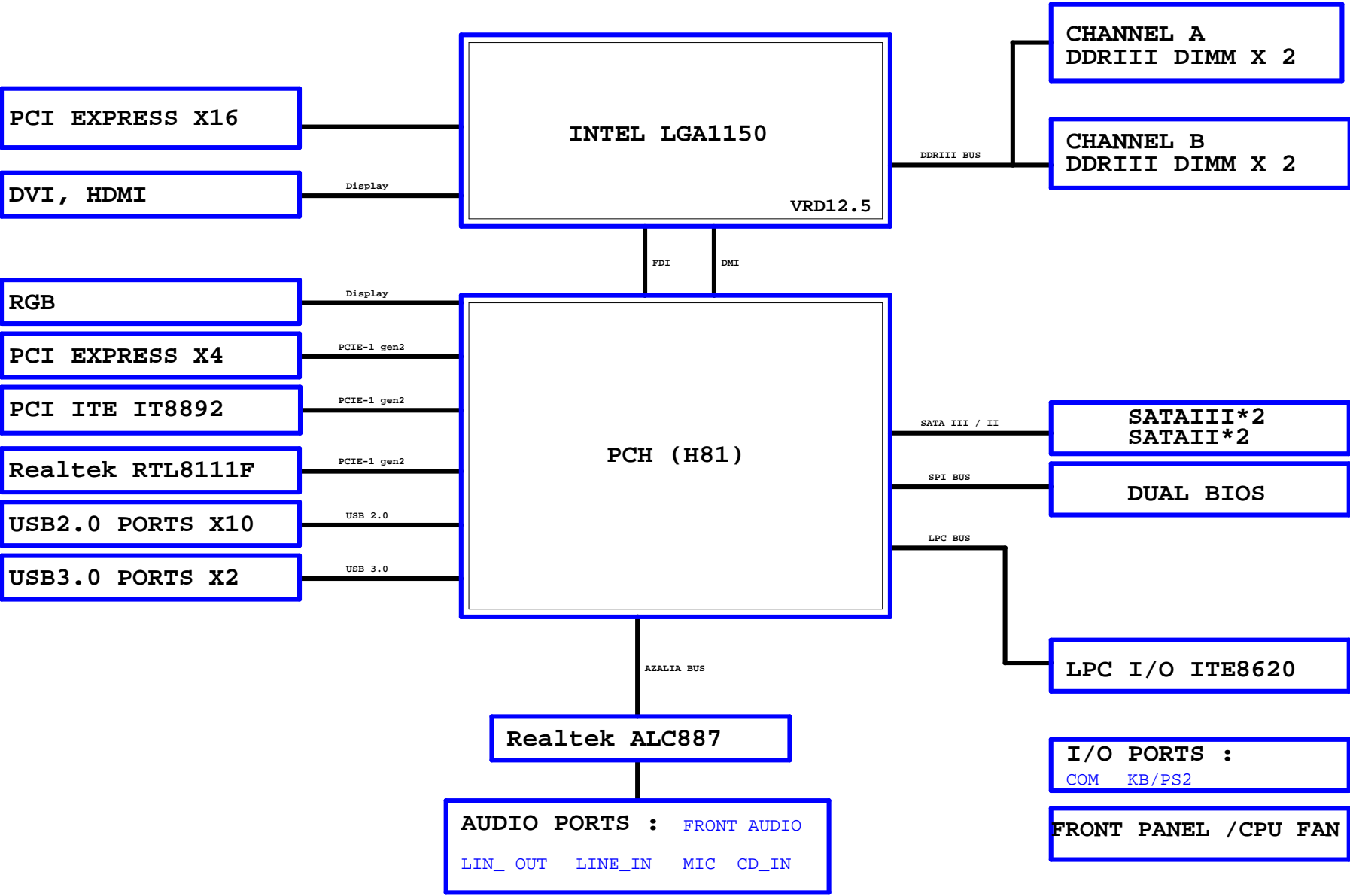
Size Custom	Document Number	GA-H81M-D3H	Rev 1.0
Date:	Friday, January 03, 2014	Sheet 1 of 32	

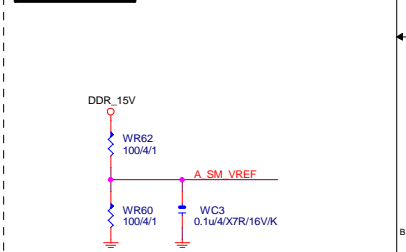
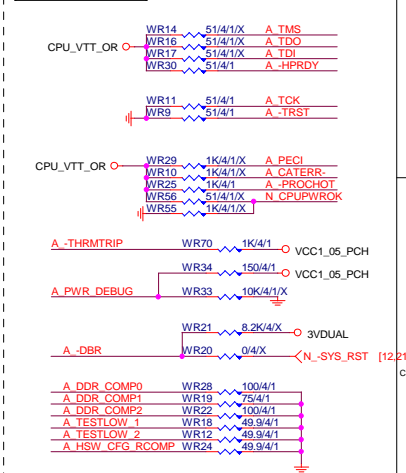
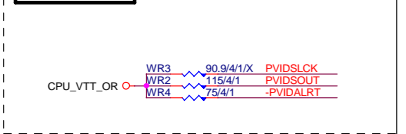
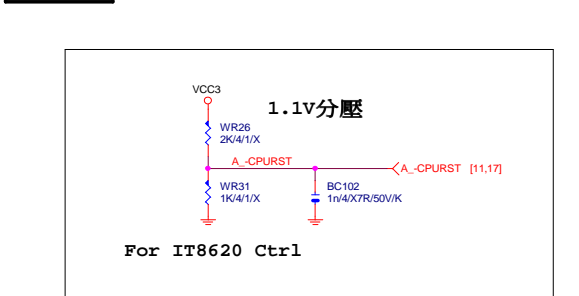
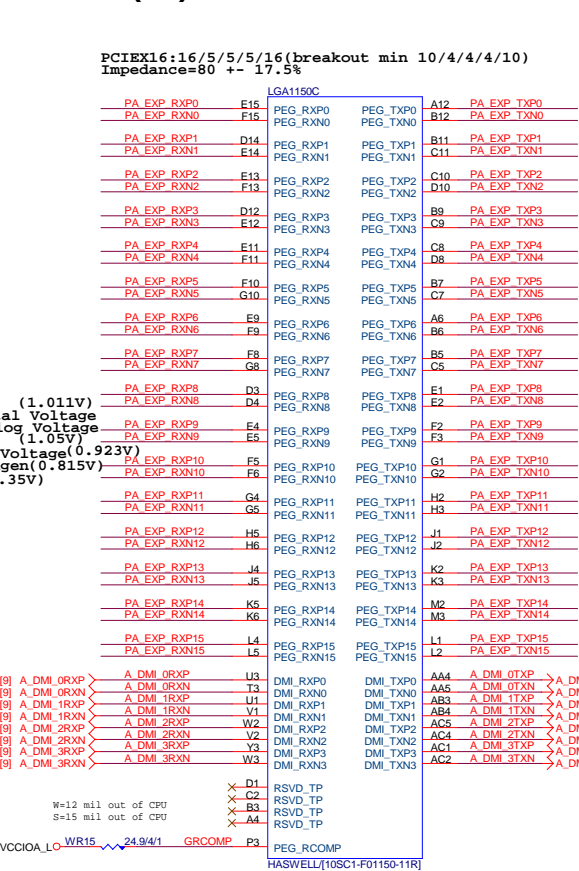
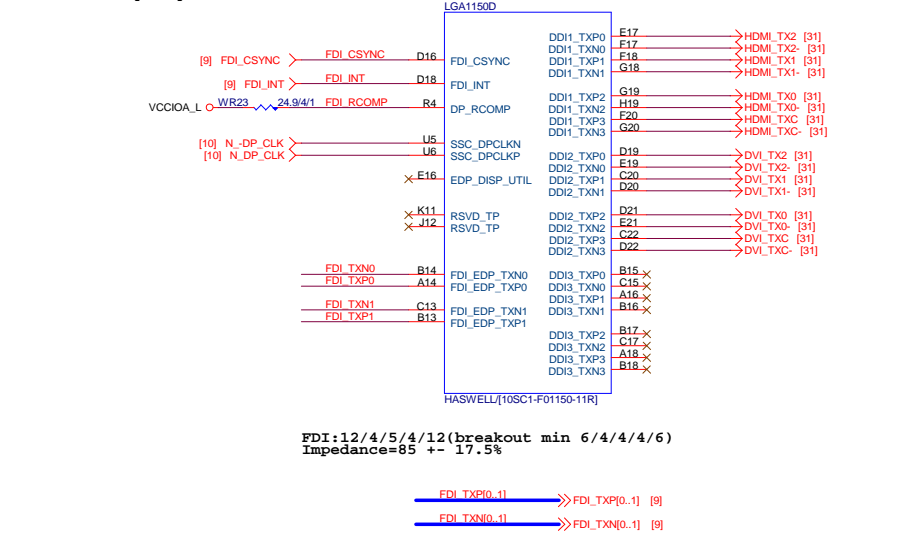
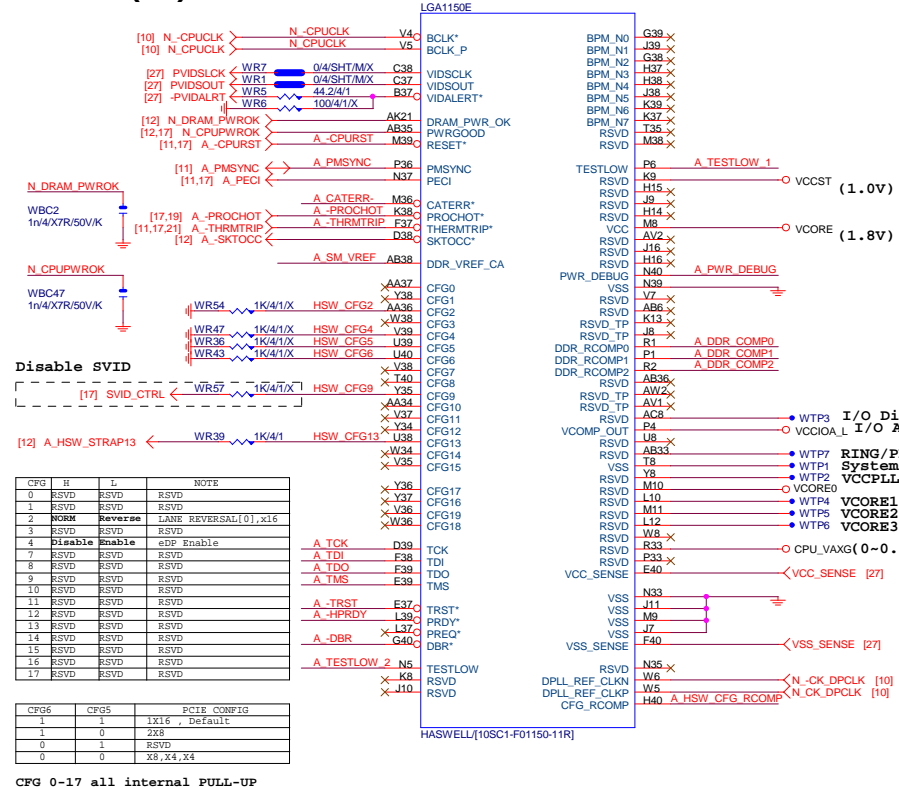
Revision 1.0

Component value change history

[illegible][illegible]

BLOCK DIAGRAM





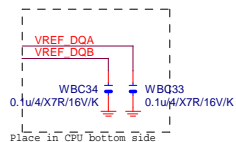
LGA1150 (A)

LGA1150A			
MAAA0	AU13	DDR0_MA0	DDR0_D00
MAAA1	AV16	DDR0_MA1	DDR0_D01
MAAA2	AU16	DDR0_MA2	DDR0_D02
MAAA3	AW17	DDR0_MA3	DDR0_D03
MAAA4	AW17	DDR0_MA4	DDR0_D04
MAAA5	AW18	DDR0_MA5	DDR0_D05
MAAA6	AW17	DDR0_MA6	DDR0_D06
MAAA7	AT18	DDR0_MA7	DDR0_D07
MAAA8	AU18	DDR0_MA8	DDR0_D08
MAAA9	AT19	DDR0_MA9	DDR0_D09
MAAA10	AW11	DDR0_MA10	DDR0_D10
MAAA11	AV19	DDR0_MA11	DDR0_D11
MAAA12	AU19	DDR0_MA12	DDR0_D12
MAAA13	AY10	DDR0_MA13	DDR0_D13
MAAA14	AT20	DDR0_MA14	DDR0_D14
MAAA15	AU21	DDR0_MA15	DDR0_D15
MODT_A0	AW10	DDR0_ODT0	DDR0_D16
MODT_A1	AY8	DDR0_ODT1	DDR0_D17
AW9	AW9	DDR0_ODT2	DDR0_D18
AW8	AW8	DDR0_ODT3	DDR0_D19
AW33	AW33	DDR0_ECC0	DDR0_D20
AW33	AW33	DDR0_ECC1	DDR0_D21
AU31	AU31	DDR0_ECC2	DDR0_D22
AW31	AW31	DDR0_ECC3	DDR0_D23
AU33	AU33	DDR0_ECC4	DDR0_D24
AT31	AT31	DDR0_ECC5	DDR0_D25
AW31	AW31	DDR0_ECC6	DDR0_D26
AW31	AW31	DDR0_ECC7	DDR0_D27
SBA00	SBA00	DDR0_BA0	DDR0_D28
SBA01	SBA01	DDR0_BA1	DDR0_D29
SBA02	SBA02	DDR0_BA2	DDR0_D30
CKEA0	CKEA0	DDR0_CKE0	DDR0_D31
CKEA1	CKEA1	DDR0_CKE1	DDR0_D32
CSA0	CSA0	DDR0_CS_N0	DDR0_D33
CSA1	CSA1	DDR0_CS_N1	DDR0_D34
DCLKA0	DCLKA0	DDR0_CLK_P0	DDR0_D35
DCLKA0	DCLKA0	DDR0_CLK_N0	DDR0_D36
DCLKA1	DCLKA1	DDR0_CLK_P1	DDR0_D37
DCLKA1	DCLKA1	DDR0_CLK_N1	DDR0_D38
DCLKA2	DCLKA2	DDR0_CLK_P2	DDR0_D39
DCLKA2	DCLKA2	DDR0_CLK_N2	DDR0_D40
DCLKA3	DCLKA3	DDR0_CLK_P3	DDR0_D41
DCLKA3	DCLKA3	DDR0_CLK_N3	DDR0_D42
RSVD	RSVD	DDR0_CS_N3	DDR0_D43
SRASA	SRASA	DDR0_RAS*	DDR0_D44
SWEA	SWEA	DDR0_WE*	DDR0_D45
SCASA	SCASA	DDR0_DOS_P0	DDR0_D46
WR61	WR61	DDR0_DOS_P1	DDR0_D47
W4	W4	DDR0_DOS_P2	DDR0_D48
AK22	AK22	DDR0_DOS_P3	DDR0_D49
AK22	AK22	DDR0_DOS_P4	DDR0_D50
AK22	AK22	DDR0_DOS_P5	DDR0_D51
AK22	AK22	DDR0_DOS_P6	DDR0_D52
AK22	AK22	DDR0_DOS_P7	DDR0_D53
AK22	AK22	DDR0_DOS_P8	DDR0_D54
AK22	AK22	DDR0_DOS_N0	DDR0_D55
AK22	AK22	DDR0_DOS_N1	DDR0_D56
AK22	AK22	DDR0_DOS_N2	DDR0_D57
AK22	AK22	DDR0_DOS_N3	DDR0_D58
AK22	AK22	DDR0_DOS_N4	DDR0_D59
AK22	AK22	DDR0_DOS_N5	DDR0_D60
AK22	AK22	DDR0_DOS_N6	DDR0_D61
AK22	AK22	DDR0_DOS_N7	DDR0_D62
AK22	AK22	DDR0_DOS_N8	DDR0_D63

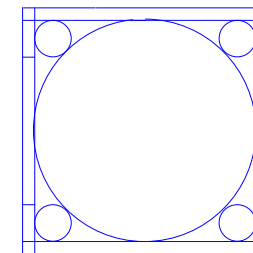
HASWELL[10SC1-F01150-11R]
[Foxconn Only]

LGA1150 (B)

LGA1150B			
MAAB0	AL19	DDR1_MA0	DDR1_D00
MAAB1	AK23	DDR1_MA1	DDR1_D01
MAAB2	AM22	DDR1_MA2	DDR1_D02
MAAB3	AM23	DDR1_MA3	DDR1_D03
MAAB4	AP23	DDR1_MA4	DDR1_D04
MAAB5	AL23	DDR1_MA5	DDR1_D05
MAAB6	AY24	DDR1_MA6	DDR1_D06
MAAB7	AY25	DDR1_MA7	DDR1_D07
MAAB8	AU26	DDR1_MA8	DDR1_D08
MAAB9	AW25	DDR1_MA9	DDR1_D09
MAAB10	AP18	DDR1_MA10	DDR1_D10
MAAB11	AL31	DDR1_MA11	DDR1_D11
MAAB12	AV26	DDR1_MA12	DDR1_D12
MAAB13	AR15	DDR1_MA13	DDR1_D13
MAAB14	AV27	DDR1_MA14	DDR1_D14
MAAB15	AY28	DDR1_MA15	DDR1_D15
MODT_B0	AM17	DDR1_ODT0	DDR1_D16
MODT_B1	AL16	DDR1_ODT1	DDR1_D17
AM16	AM16	DDR1_ODT2	DDR1_D18
AK15	AK15	DDR1_ODT3	DDR1_D19
AM26	AM26	DDR1_ECC0	DDR1_D20
AM25	AM25	DDR1_ECC1	DDR1_D21
AP25	AP25	DDR1_ECC2	DDR1_D22
AL26	AL26	DDR1_ECC3	DDR1_D23
AL25	AL25	DDR1_ECC4	DDR1_D24
AR26	AR26	DDR1_ECC5	DDR1_D25
AR26	AR26	DDR1_ECC6	DDR1_D26
AR26	AR26	DDR1_ECC7	DDR1_D27
SBA00	SBA00	DDR1_BA0	DDR1_D28
SBA01	SBA01	DDR1_BA1	DDR1_D29
SBA02	SBA02	DDR1_BA2	DDR1_D30
CKEB0	CKEB0	DDR1_CKE0	DDR1_D31
CKEB1	CKEB1	DDR1_CKE1	DDR1_D32
CSB0	CSB0	DDR1_CS_N0	DDR1_D33
CSB1	CSB1	DDR1_CS_N1	DDR1_D34
DCLKB0	DCLKB0	DDR1_CLK_P0	DDR1_D35
DCLKB0	DCLKB0	DDR1_CLK_N0	DDR1_D36
DCLKB1	DCLKB1	DDR1_CLK_P1	DDR1_D37
DCLKB1	DCLKB1	DDR1_CLK_N1	DDR1_D38
DCLKB2	DCLKB2	DDR1_CLK_P2	DDR1_D39
DCLKB2	DCLKB2	DDR1_CLK_N2	DDR1_D40
DCLKB3	DCLKB3	DDR1_CLK_P3	DDR1_D41
DCLKB3	DCLKB3	DDR1_CLK_N3	DDR1_D42
SCASB	SCASB	DDR1_CAS*	DDR1_D43
SRASB	SRASB	DDR1_RAS*	DDR1_D44
SWEB	SWEB	DDR1_WE*	DDR1_D45
VREF_DOA	VREF_DOA	DDR_VREF_D00	DDR1_D46
VREF_D0B	VREF_D0B	DDR_VREF_D01	DDR1_D47

HASWELL[10SC1-F01150-11R]
[Foxconn Only]

LGA1150 (CR)

CR
CPU RETAINION/X

LGA1150_P

ILM_BP/1156/CSP/ILM_BP/1156/CSP/[12KRC-0F0001-52R]
[Foxconn Only]

DDR BUS

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

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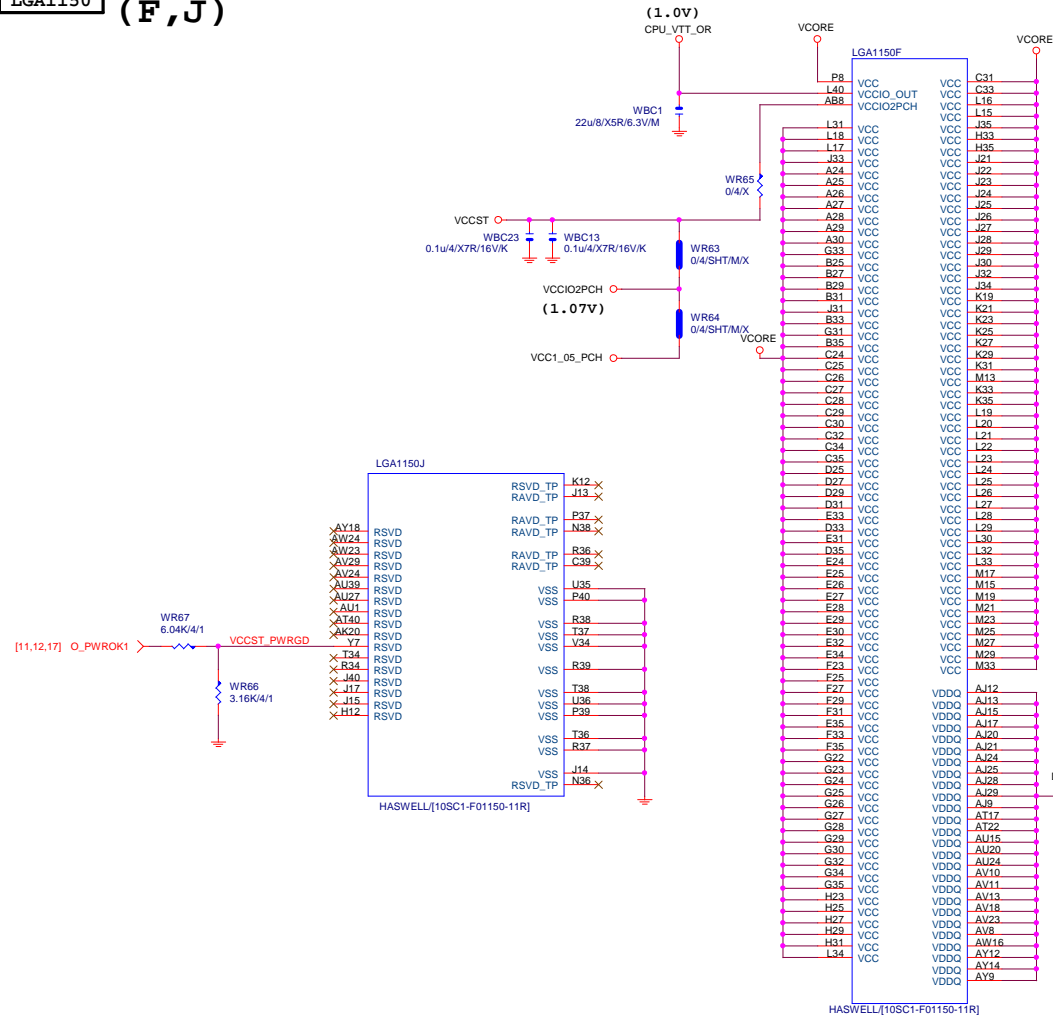
CPU LGA1150-B

GA-H81M-D3H

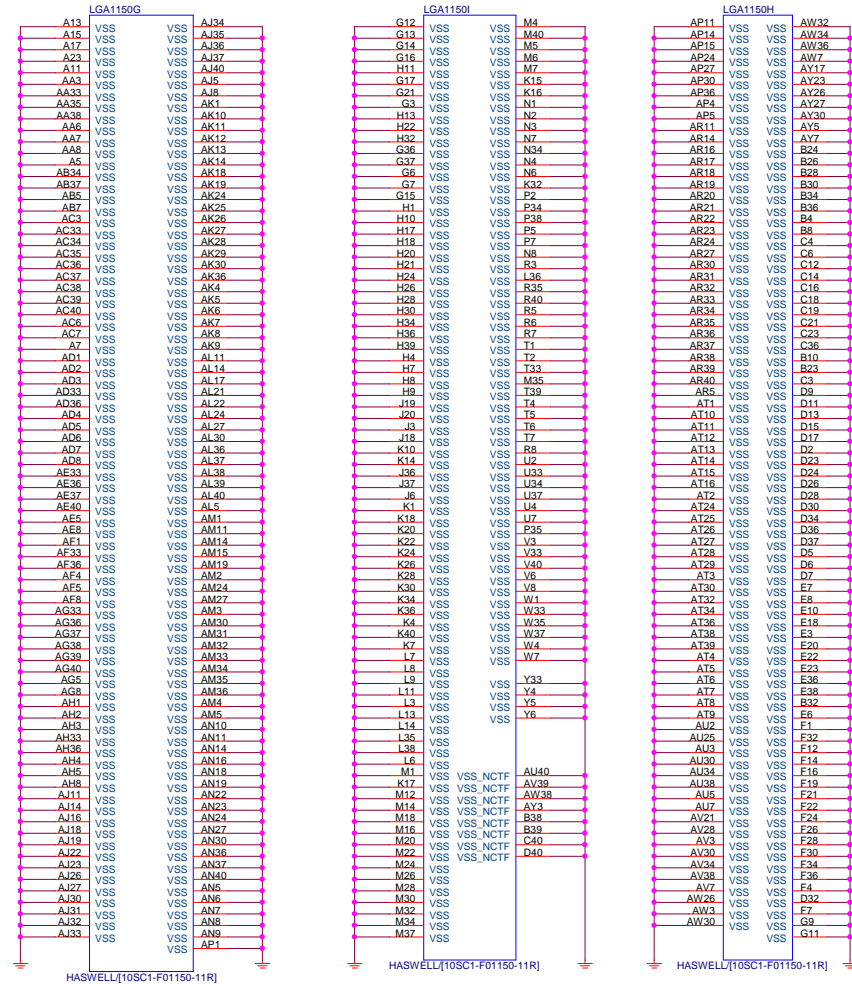
Rev
1.0

Date: Friday, January 03, 2014 Sheet 5 of 32

LGA1150 (F,J)

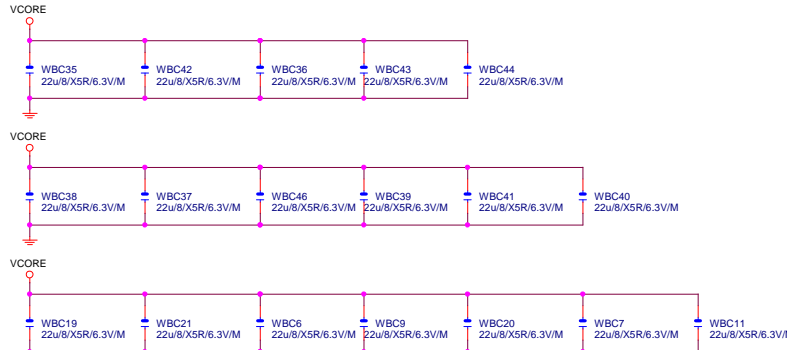


LGA1155 (G,H,I)



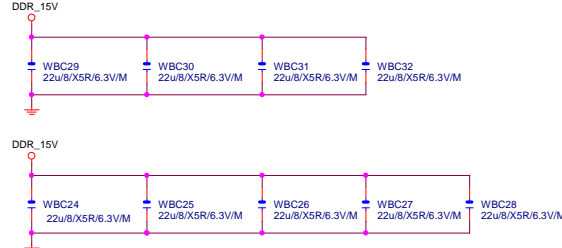
VCore CAP

(X18)



DDR CAP

(X9)



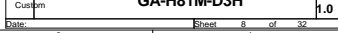
Gigabyte Technology

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Size	Custom	Document Number	GA-H81M-D3H
Date:	Friday, January 03, 2014	Sheet	6 of 32
Rev	1.0		

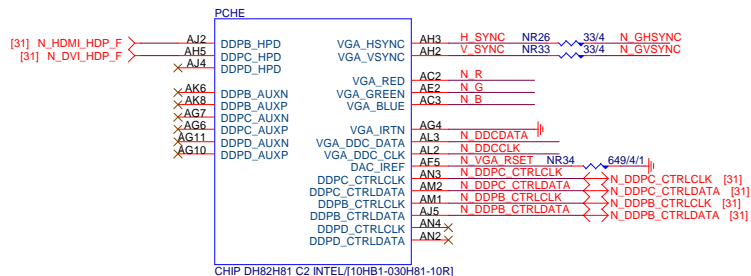
(B)



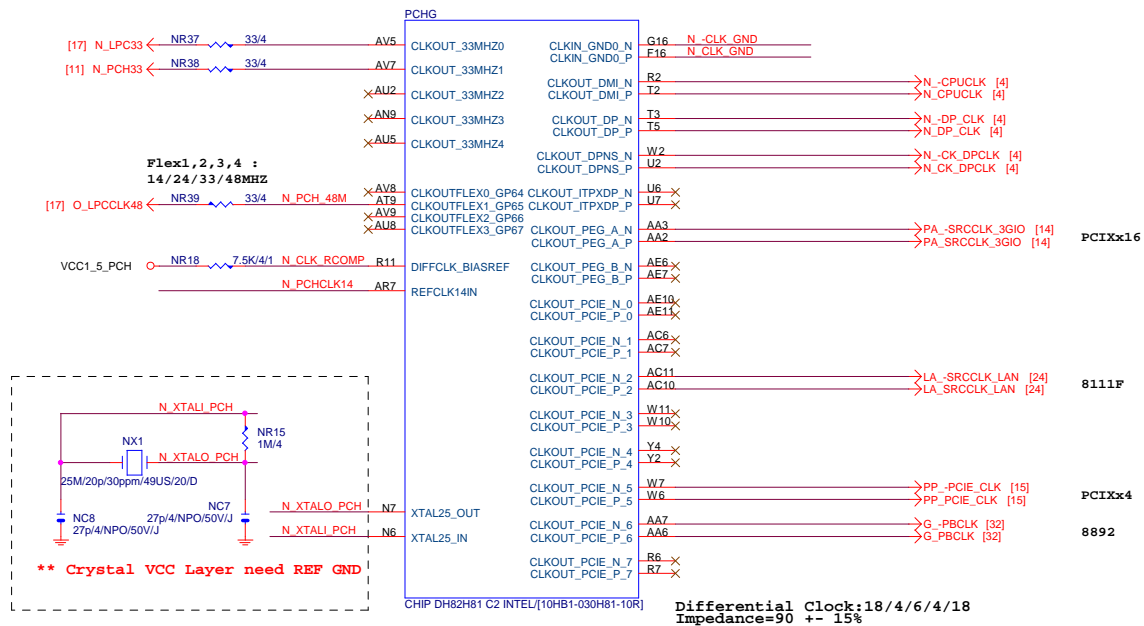
MODT_B[0..11] ↔ MODT_B[0..1] [5]



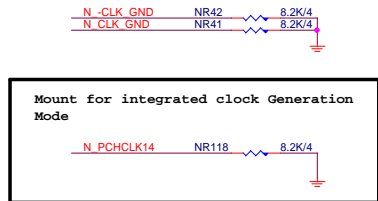
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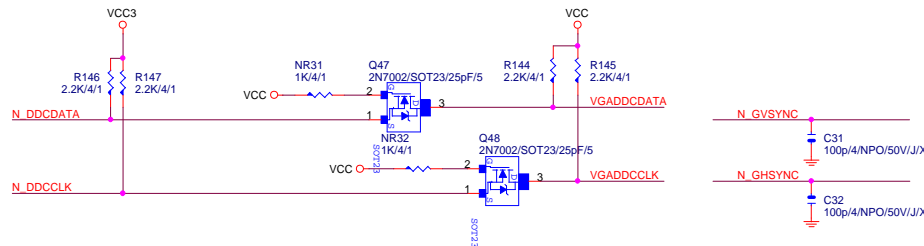
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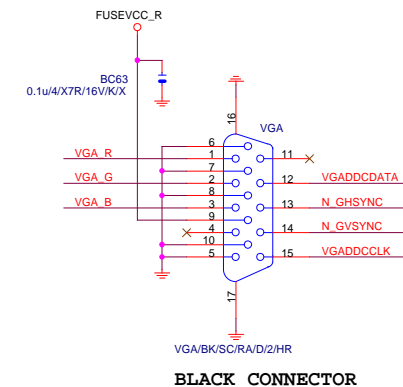
PCH CLK PD



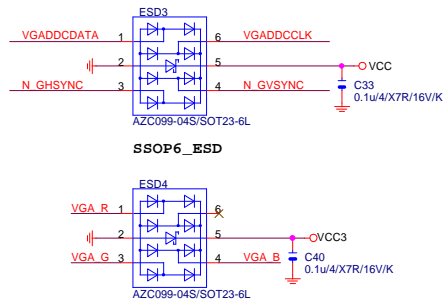
VGA DDC



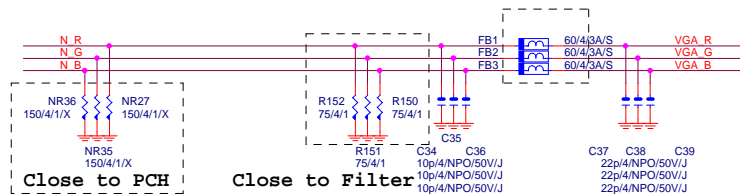
VGA CONNECTOR



VGA ESD



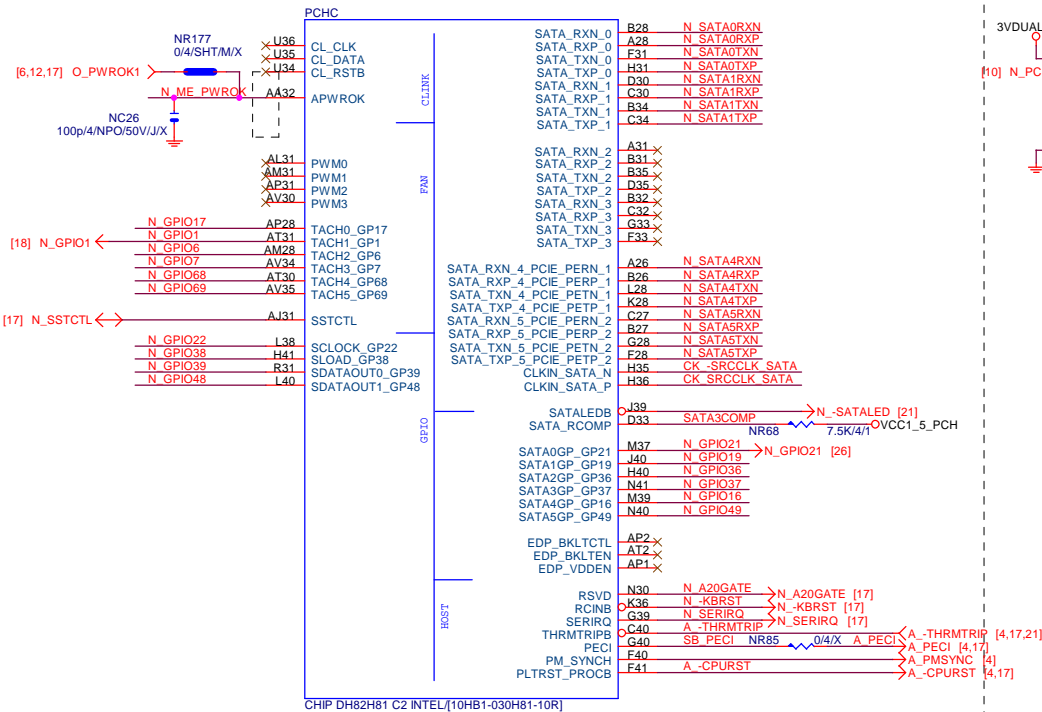
VGA DDC



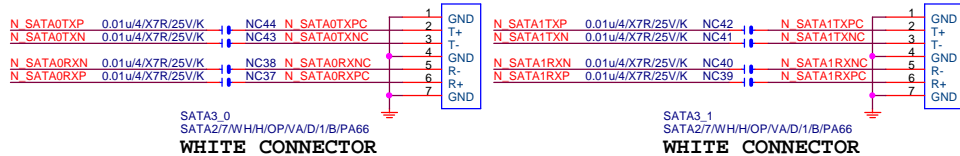
Gigabyte Technology			
PCH DISPLAY, CLK BUFFER			
GA-H81M-D3H			
Size	Document Number	Rev	
Custom		1.0	
Date:	Friday, January 03, 2014	Sheet	10 of 32

(C)

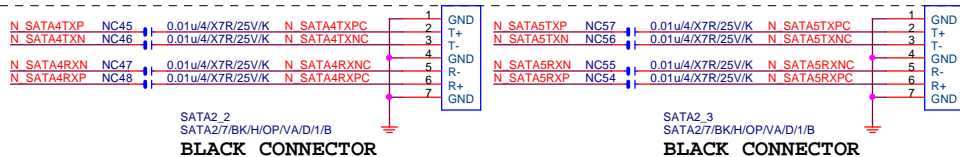
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Impedance=90 +- 17.5%
SATA2 : 15/7.5/4.5/7.5/15 (breakout min 8/4/4/4/8)
Impedance=90 +- 17.5%



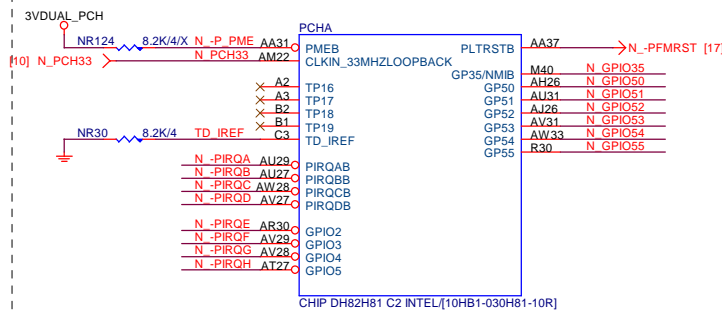
SATA CONNECTOR



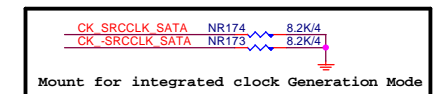
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** Z87/H87 Port 4&5 SATA3.0
** B85 Port 4&5 SATA2.0
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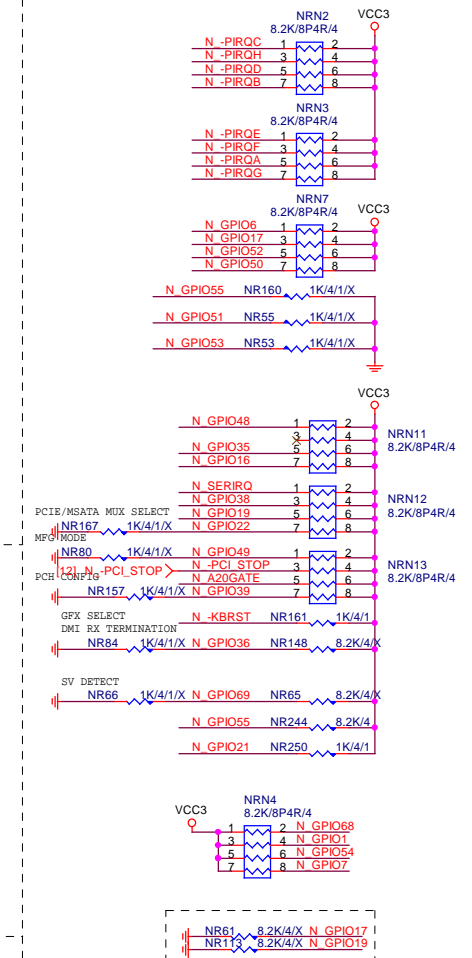
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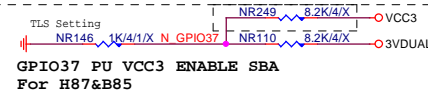
PCH CLK PD



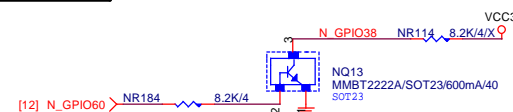
PCH	PU/PD
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ME PWROK



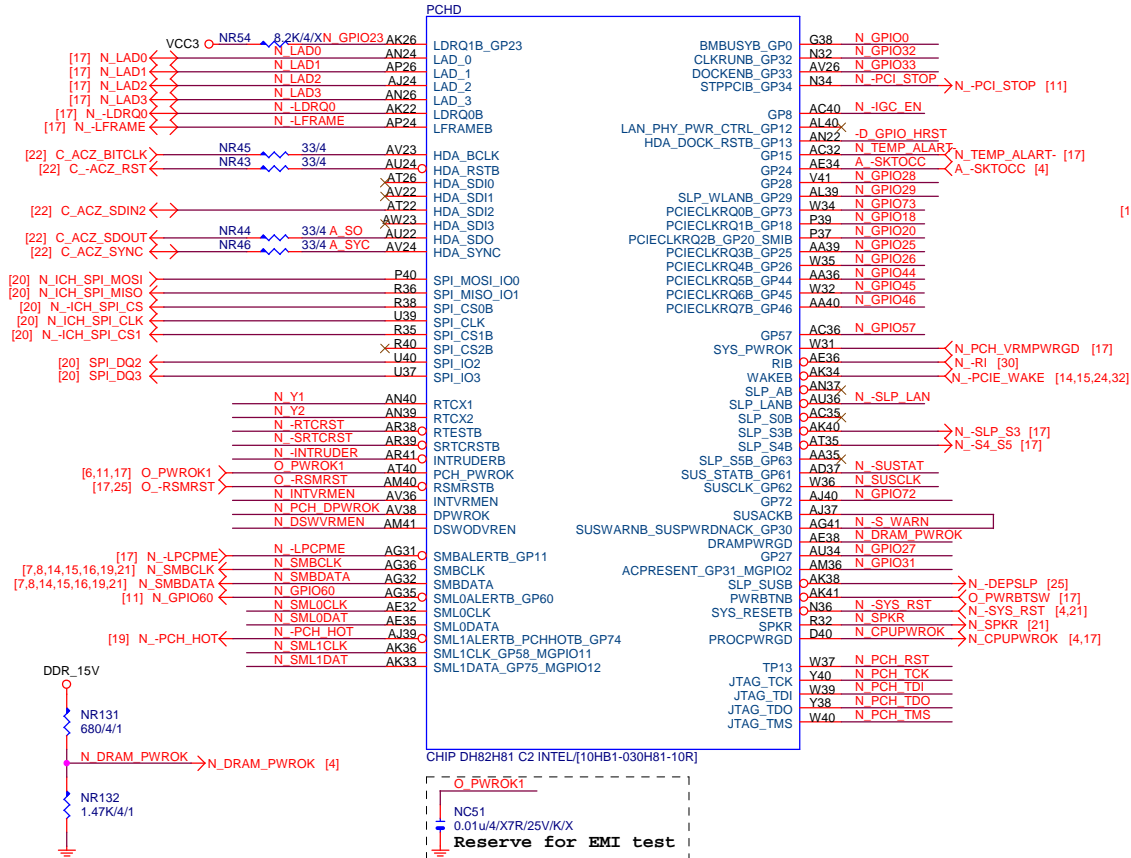
GPIO38 Ctrl



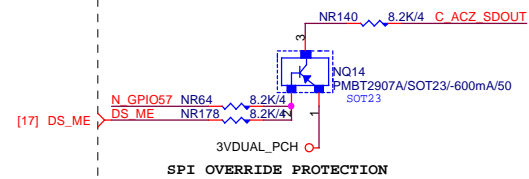
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Title			
PCH HOST , SATA, PCI			
Size	Document Number		Rev
Custom	GA-H81M-D3H		1.0
Date:	Friday, January 03, 2014	Sheet	11 of 32

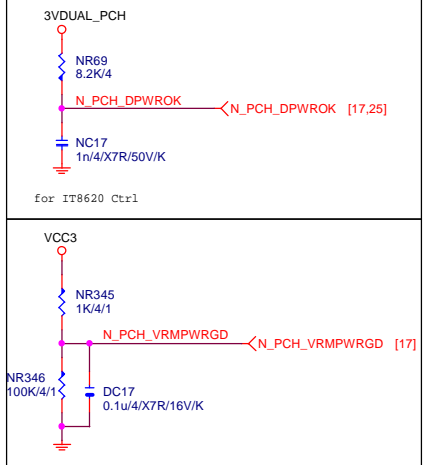
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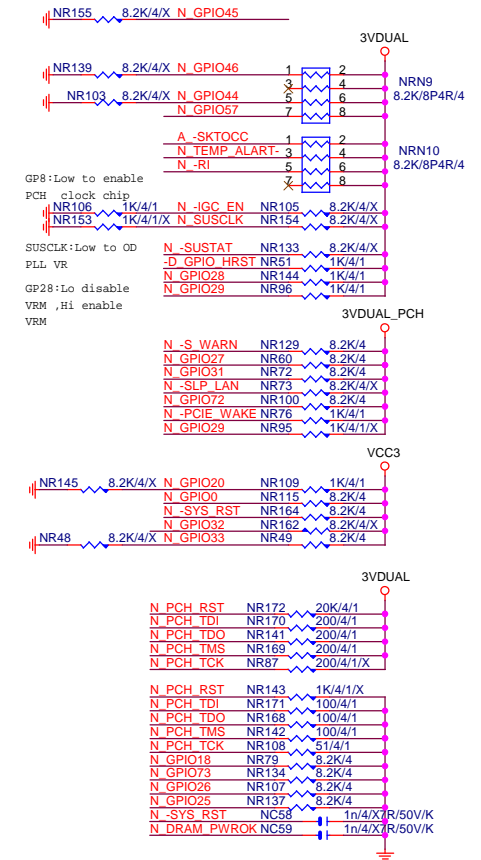
ACZ_SDOUT



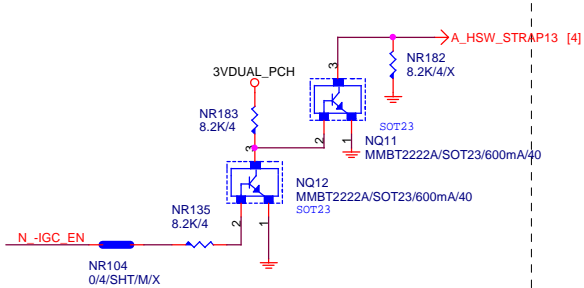
PCH_DPWROK



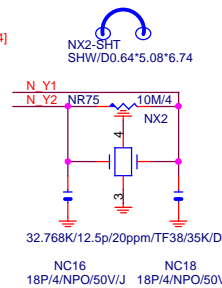
PCH	PU/PD
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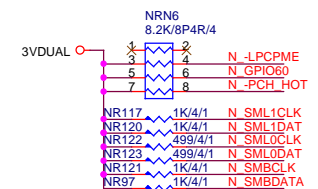
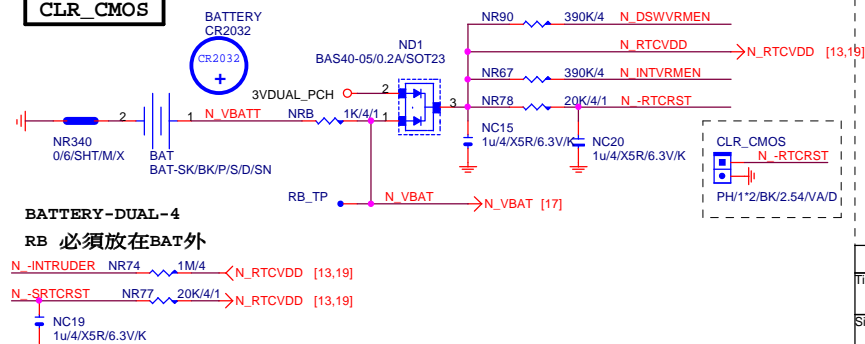
HSW_STRAP13



32.768KHZ



CLR_CMOS



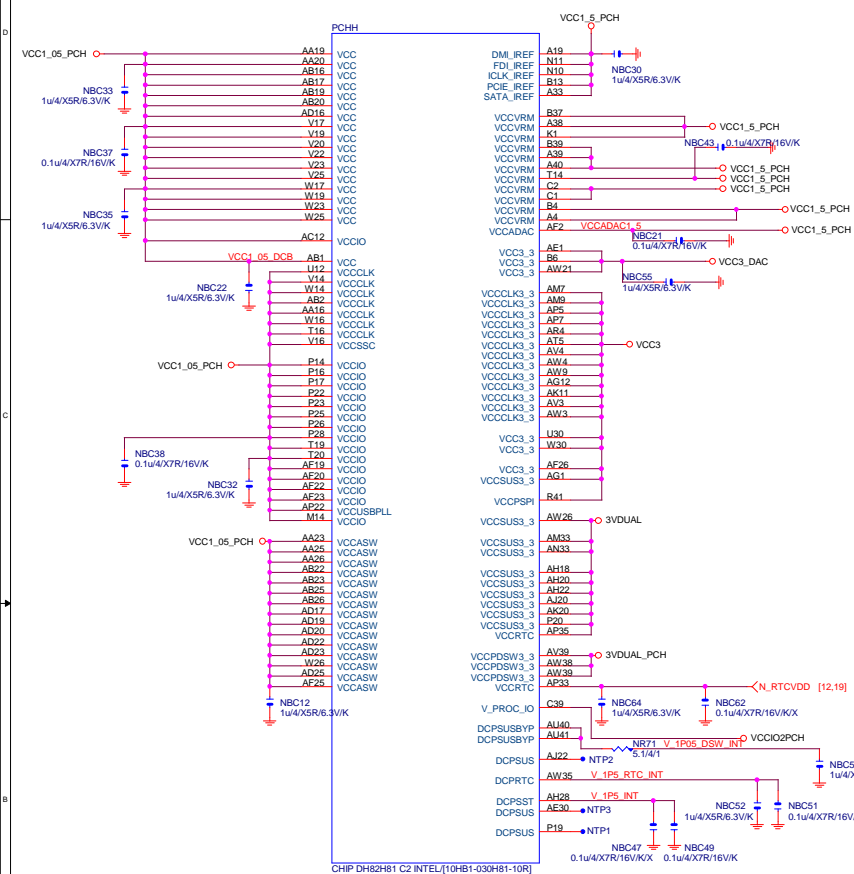
Gigabyte Technology

PCH GPIO , CTRL , AUDIO

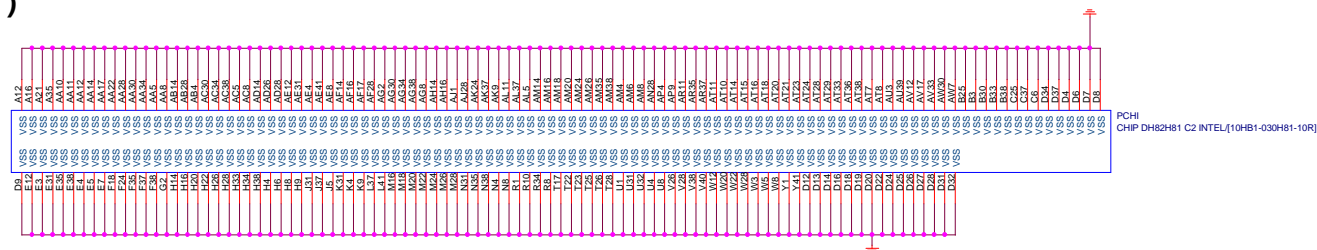
GA-H81M-D3H

Rev
1.0

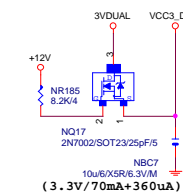
PCH (H)



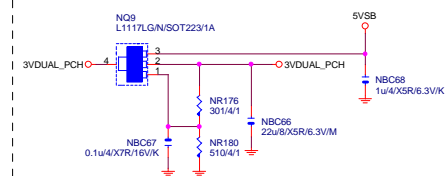
PCH (I)



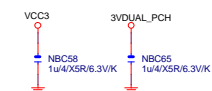
VCC3_DAC



3VDUAL_PCH

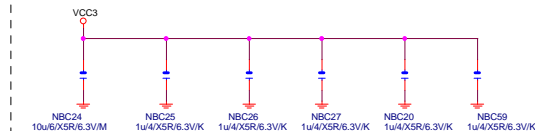


SHT PWR

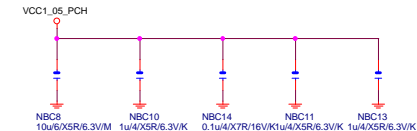


CAP

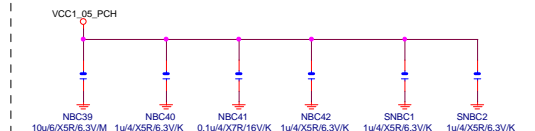
(3.3V) (X6)



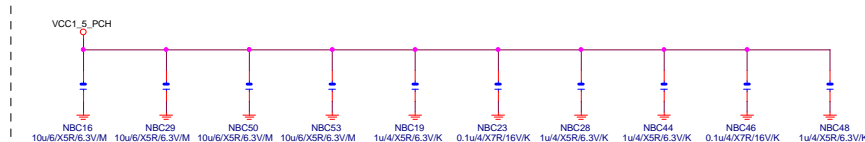
(1.05V) (x5)



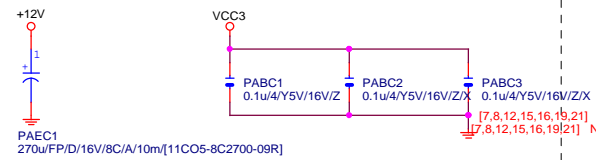
(1.05V) (x6)


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

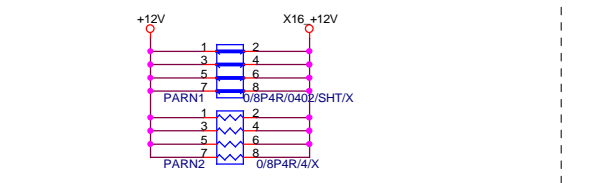

(1.05V) (x10)



PCIEX16 CAP



PCIEX16 PROTECT SHT

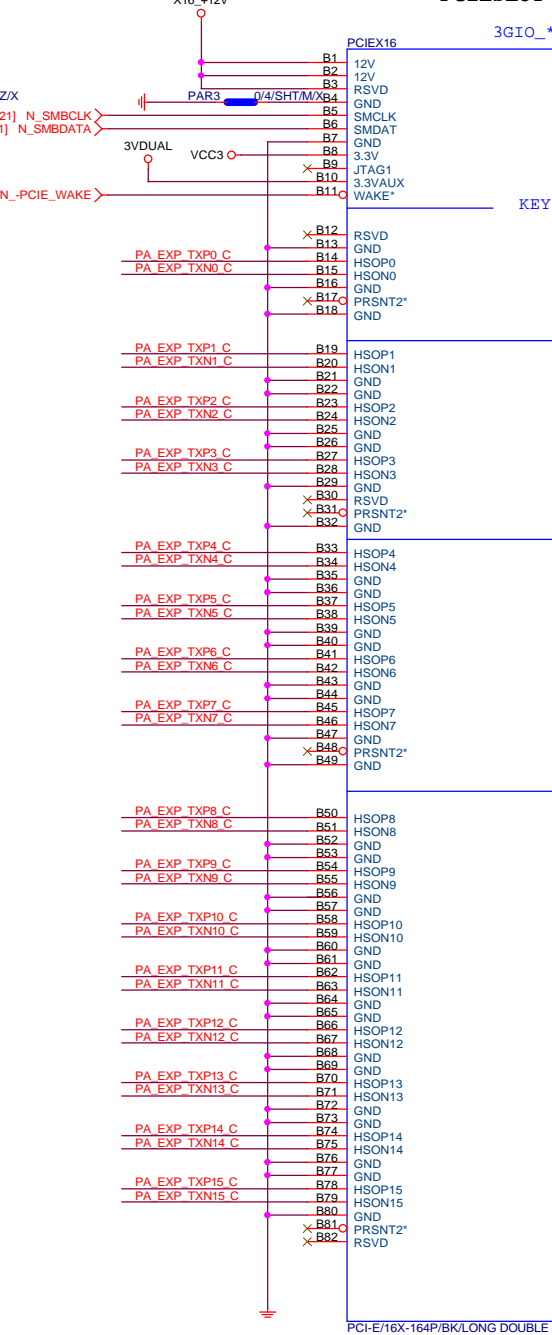


PCIEX16 AC CAP

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

PA EXP RXP0.15] >>> PA_EXP_RXP0.15] [4]
 PA EXP RXN0.15] >>> PA_EXP_RXN0.15] [4]
 PA EXP TXP0.15] >>> PA_EXP_TXP0.15] [4]
 PA EXP TXN0.15] >>> PA_EXP_TXN0.15] [4]

PCIEX16 SLOT



PCIESLOT-164DN-Q-1

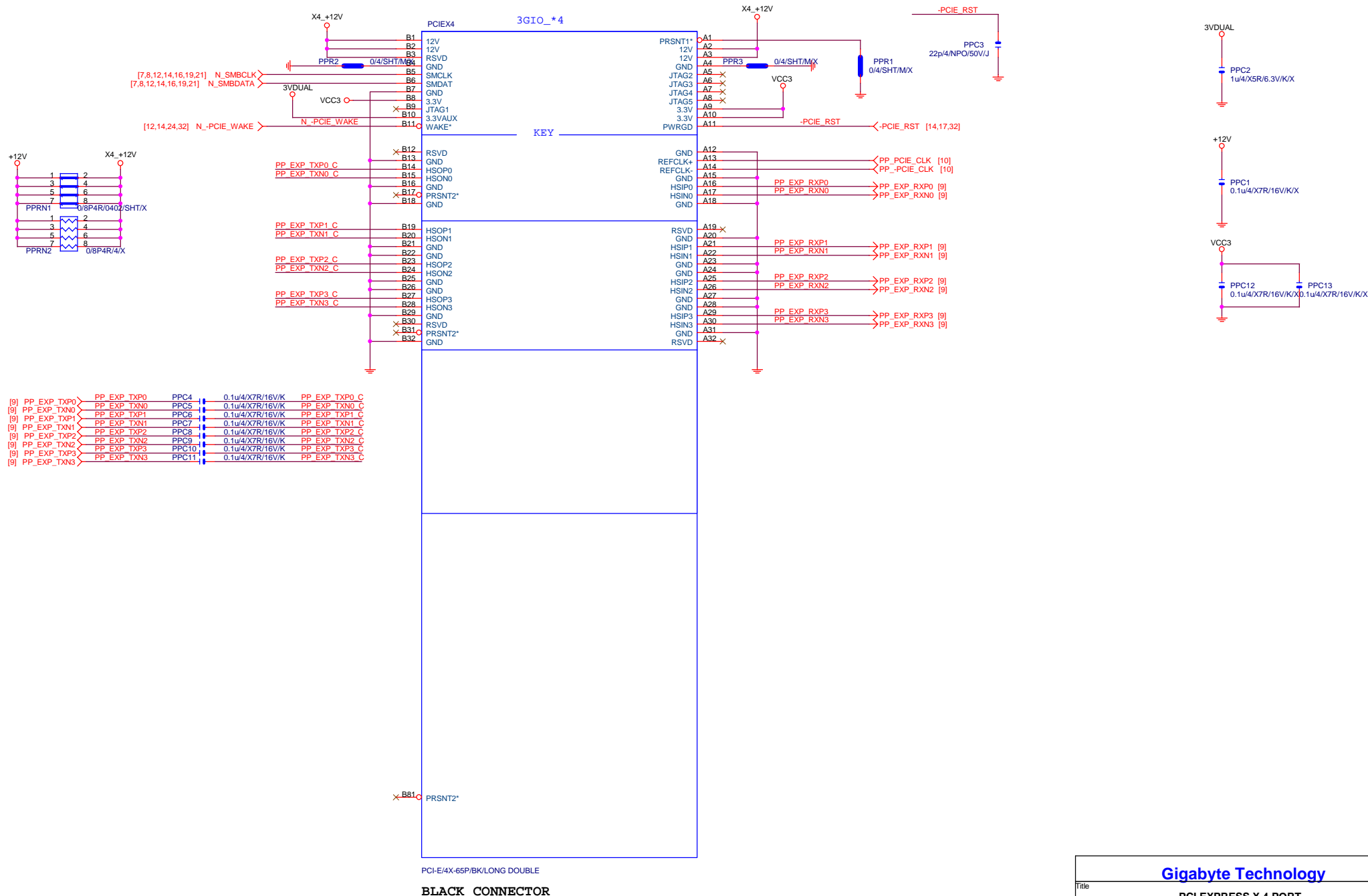


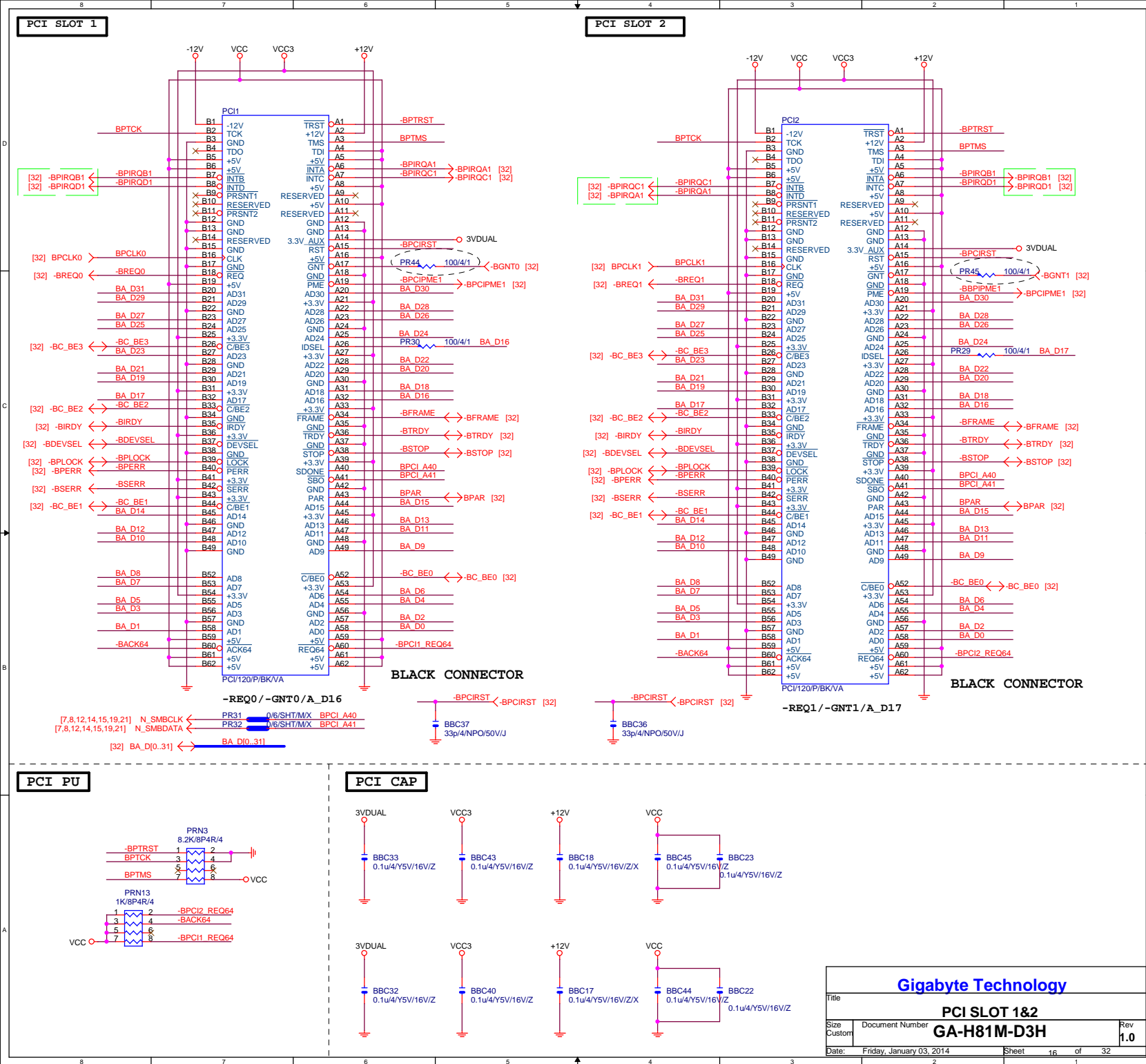
PCI-E16X-164P/BK/LONG DOUBLE

BLACK CONNECTOR

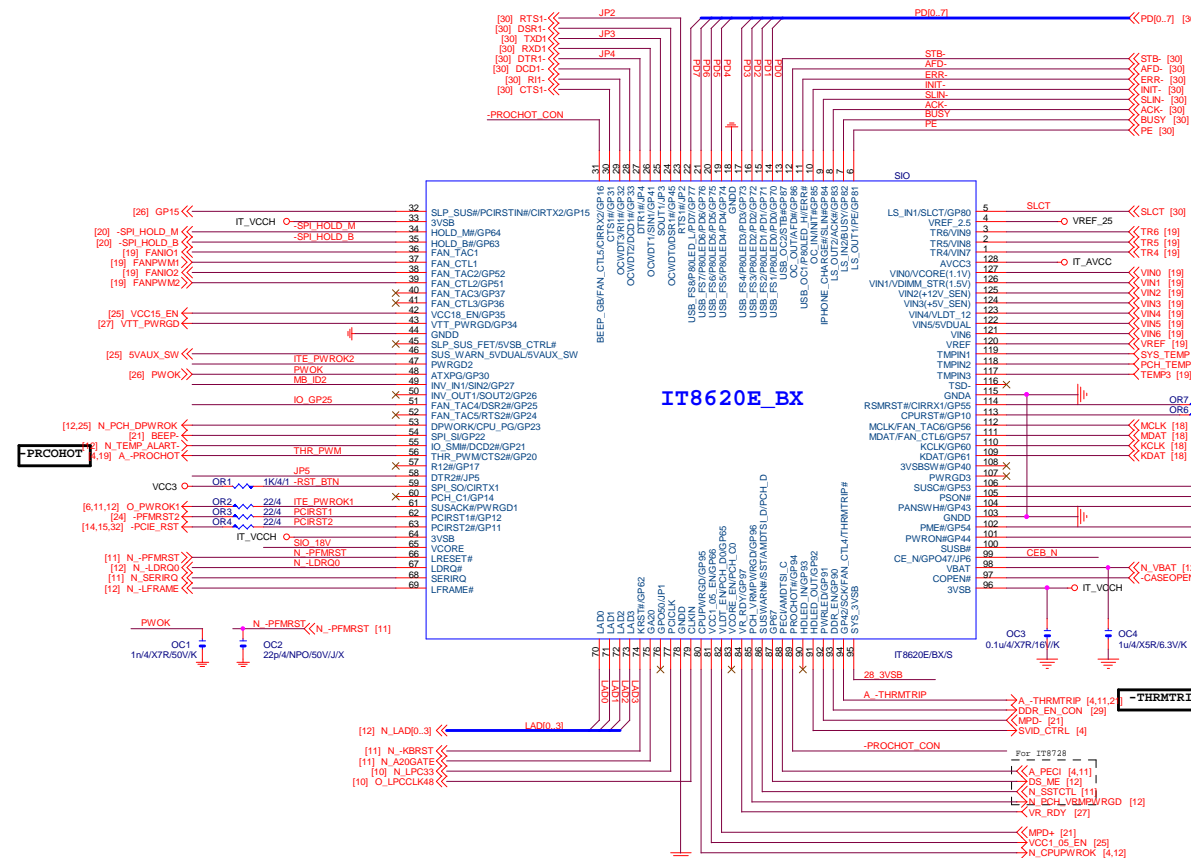
Gigabyte Technology		
PCI EXPRESS * 16		
Title		
Size	Document Number	Rev
Custom	GA-H81M-D3H	1.0
Date: Friday, January 03, 2014		Sheet 14 of 32

PCIE4 SLOT

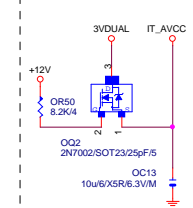




SIO IT8620



FIX ATX 插拔漏電



PWR SHT



SIO PU



SIO STRAP



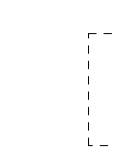
Power leakage



DUAL BIOS OPT STRAP



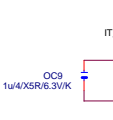
SIO 18V



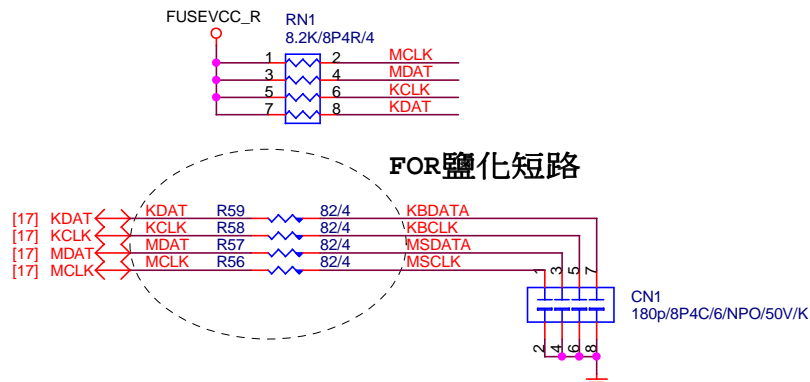
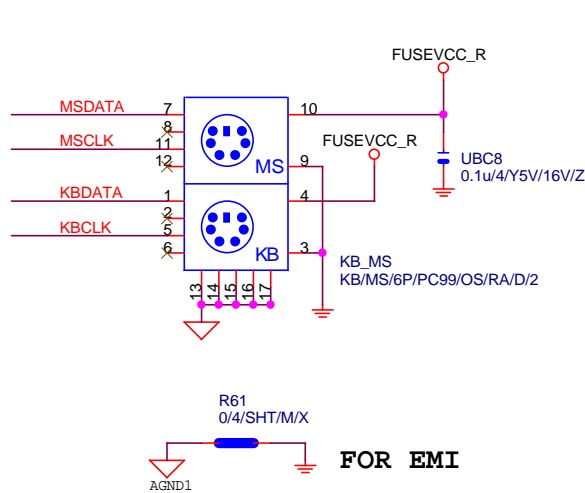
MB ID



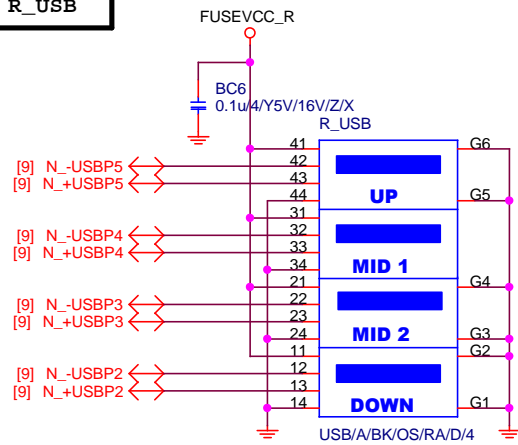
SIO CAP



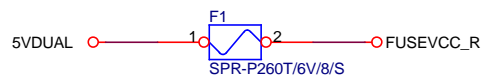
KB/MS



R_USB

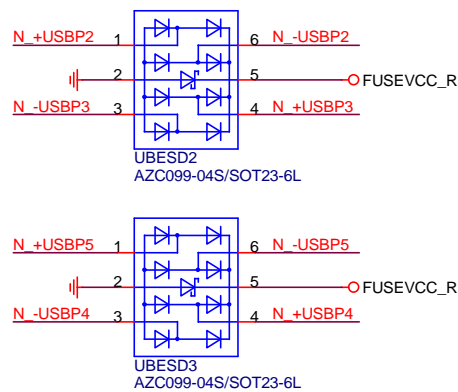


USB2.0 PWR
FUSE-0805

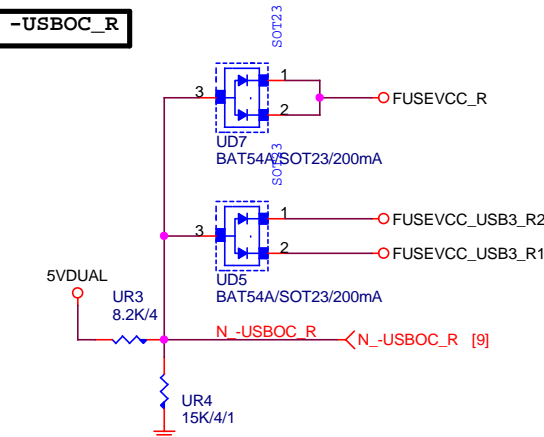


Close to connector

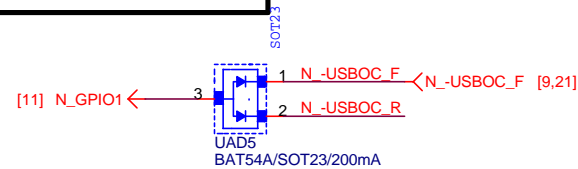
USB2.0 ESD



-USBOC_R



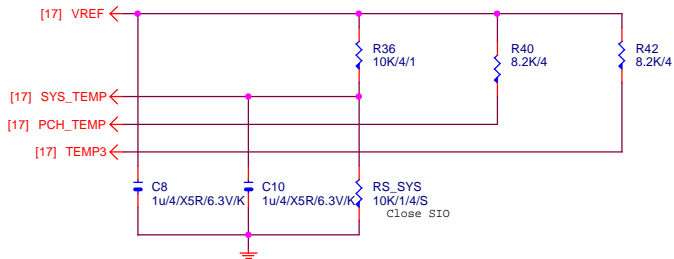
USB POWER PROTECT



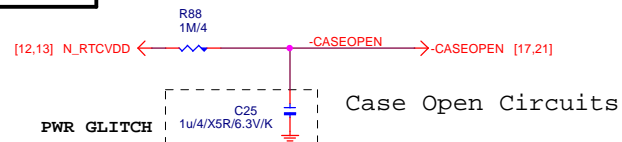
Gigabyte Technology

Title			COM,-RI,KB_USB,USB_ESATA,-PROCHOT		
Size	Document Number	GA-H81M-D3H		Rev	1.0
Custpm					
Date:	Friday, January 03, 2014	Sheet	18	of	32

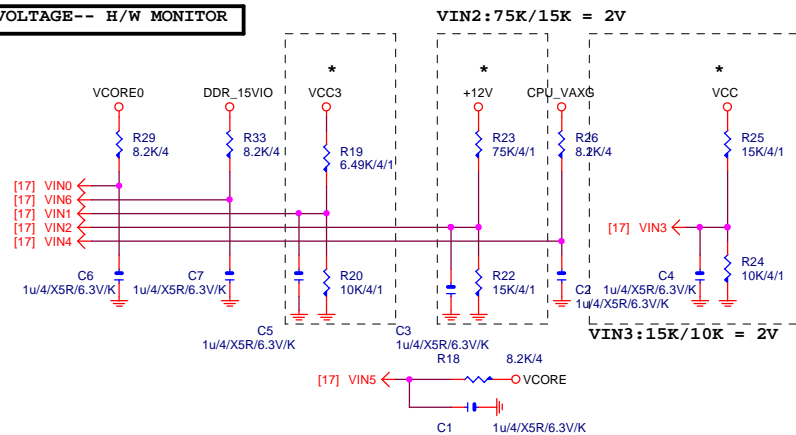
TEMP H/W MONITOR



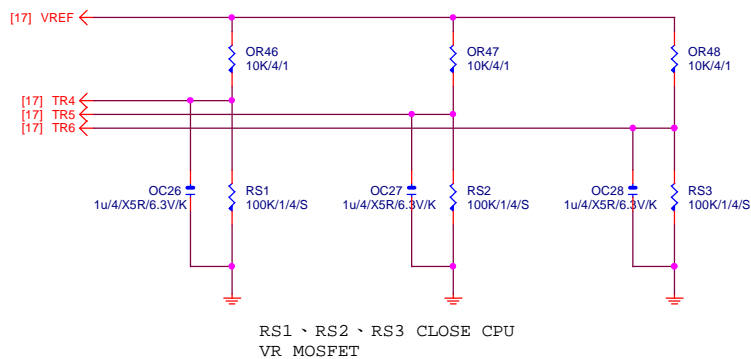
CASE OPEN



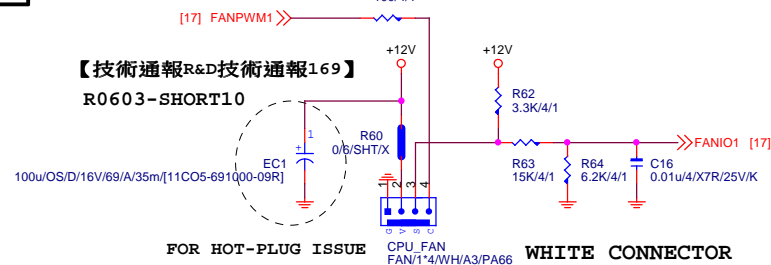
VOLTAGE-- H/W MONITOR



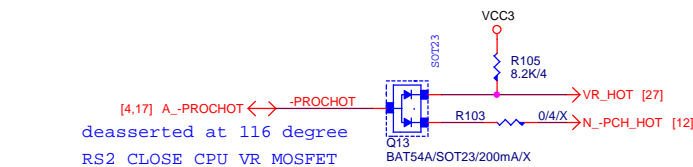
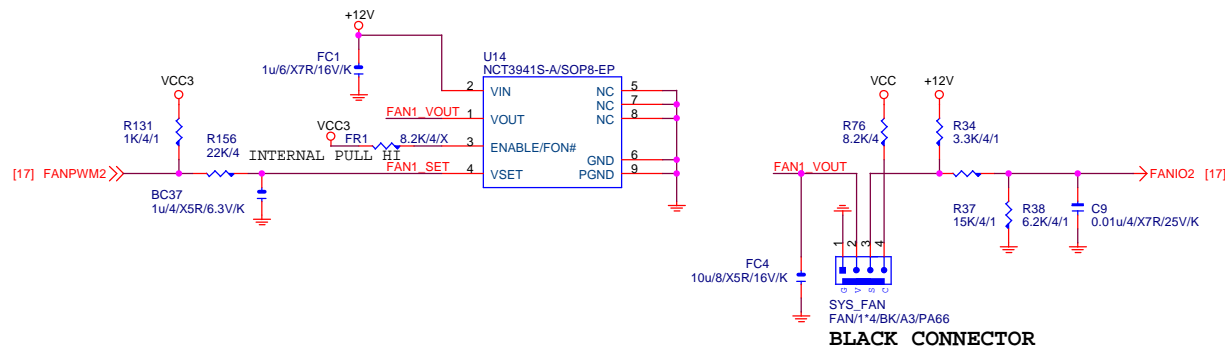
-PROHOT



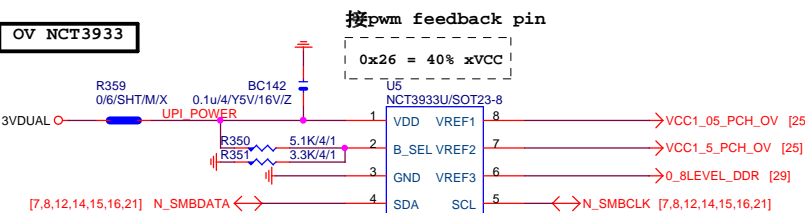
CPU SMART FAN



SYS SMART FAN

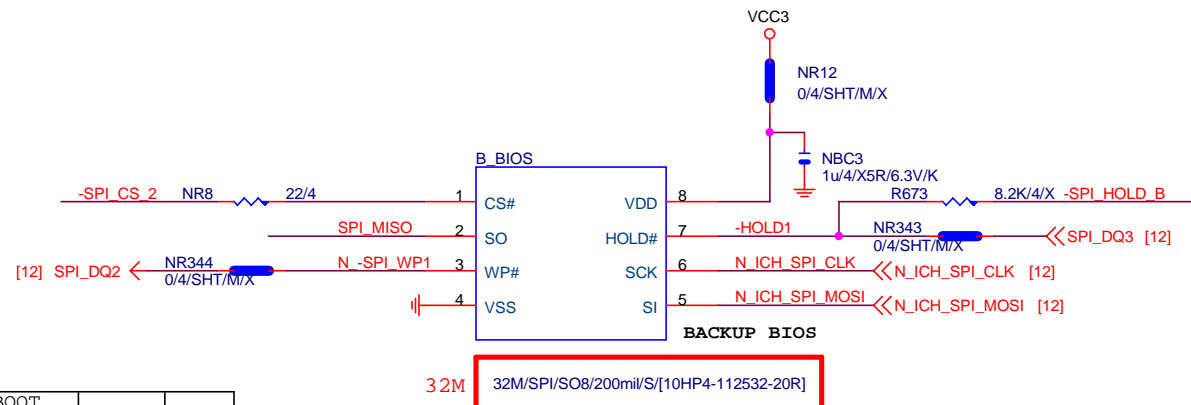
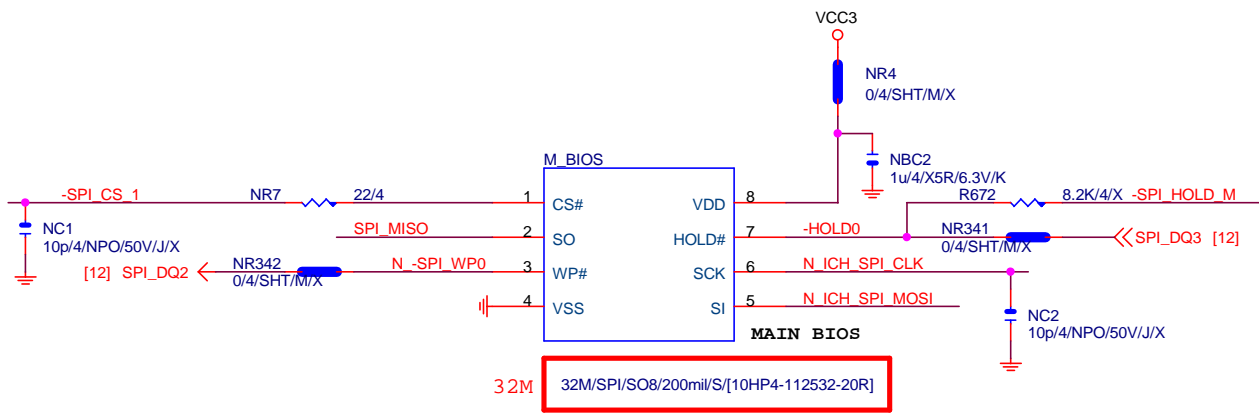


OV NCT3933



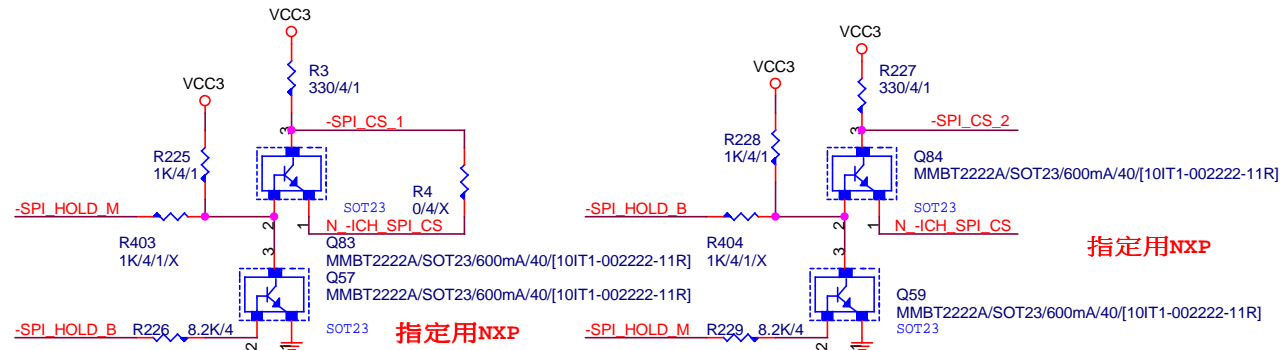
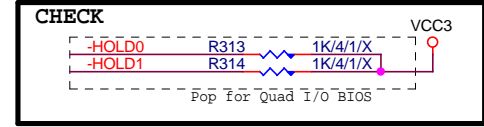
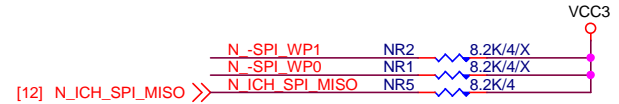
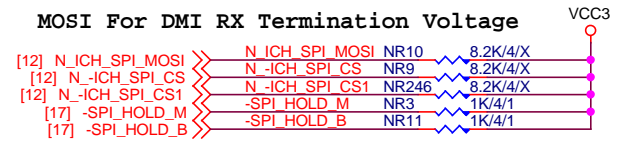
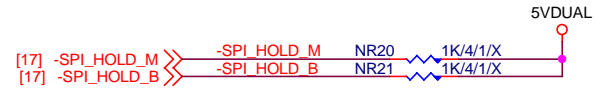
Gigabyte Technology

Title			HWM,FAN CTRL,OV
Size			GA-H81M-D3H
Document Number			Rev 1.0
Date:	Friday, January 03, 2014	Sheet	19 of 32



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

1 means floating
0 means PD 1K



指定用NXP

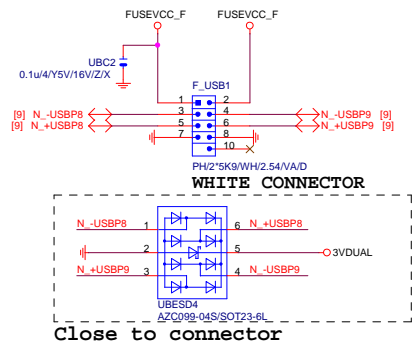
Gigabyte Technology

DUAL BIOS

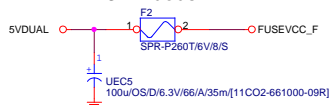
GA-H81M-D3H

Size Custom	Document Number	Rev 1.0
Date: Friday, January 03, 2014		Sheet 20 of 32

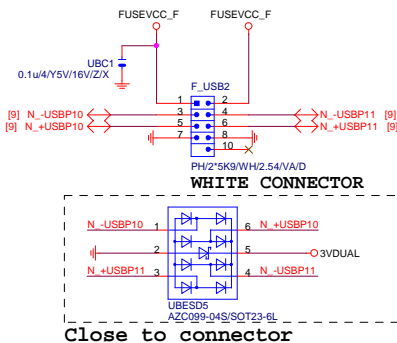
FRONT USB1



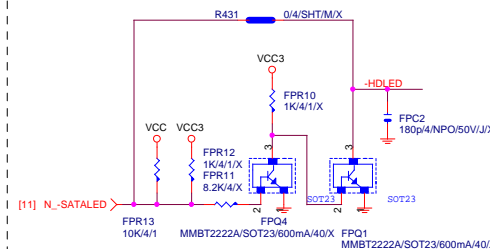
FUSE-0805



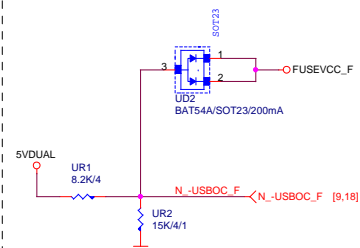
FRONT USB2



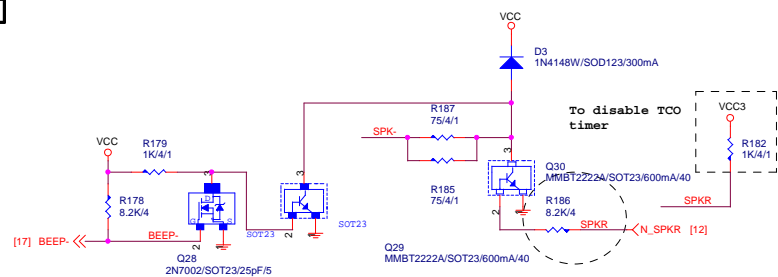
SATA LED



-USBOC_F

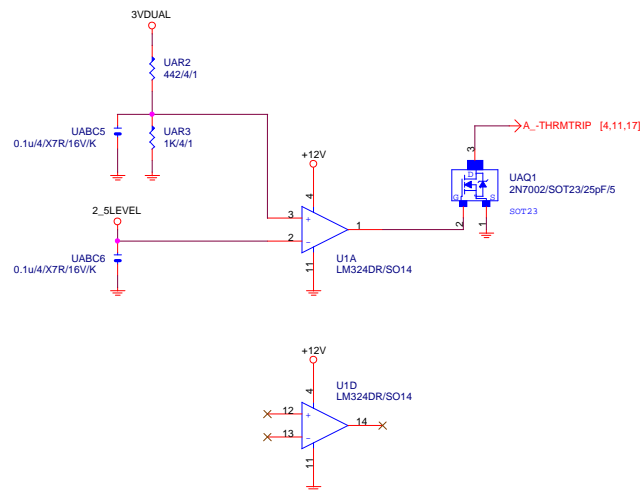


SPKR

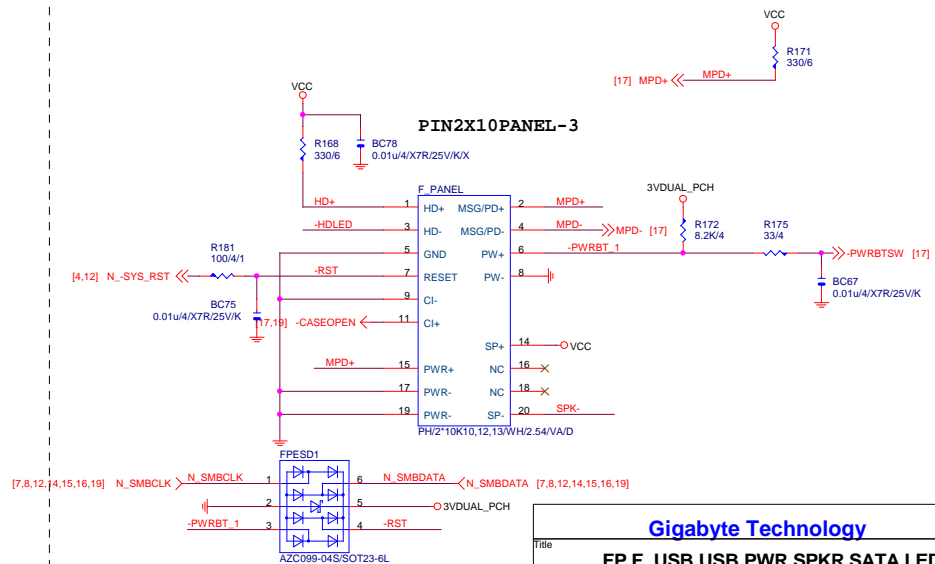


USB2.0 Signal & power short protection

USB2.0 Signal set 4.85V (If bigger than 4.95V , chip maybe fail)
Protection set --> 3VUUAL=3.6V

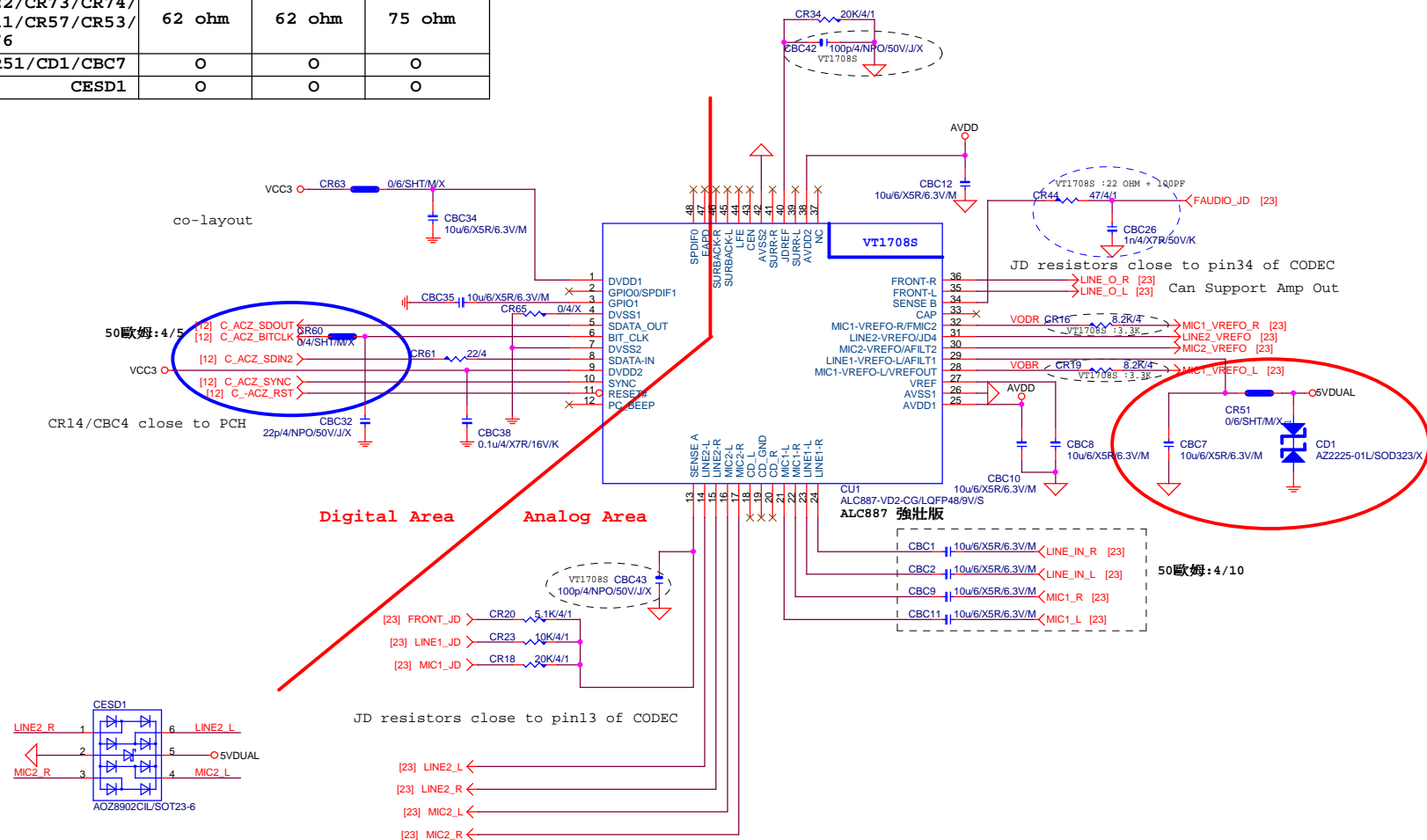


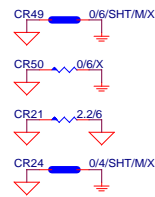
INTEL FRONT PANEL



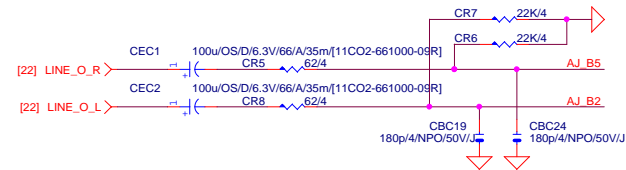
Gigabyte Technology			
Title			
FP,F_USB,USB PWR,SPKR,SATA LED			
Size			
Custom			
Date			
Friday, January 03, 2014			
Sheet			
21 of 32			
Rev			
1.0			

	ALC892	ALC887-VD2	VT1708S-CE
CR44/CBC26	47ohm+1nF	47ohm+1nF	22ohm+100P
CBC42/CBC43	X	X	100P/4
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	O	O	O





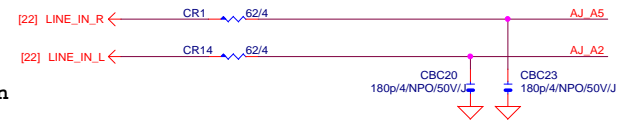
LINE-OUT



Only reserved for ALC888

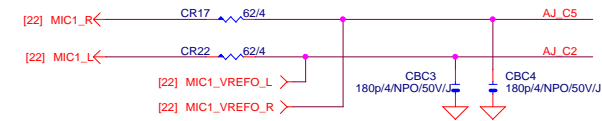
LINE-IN

Verify MIC function
in LINE-in

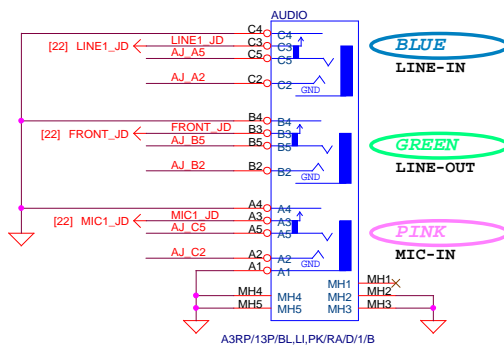


For 889A/888

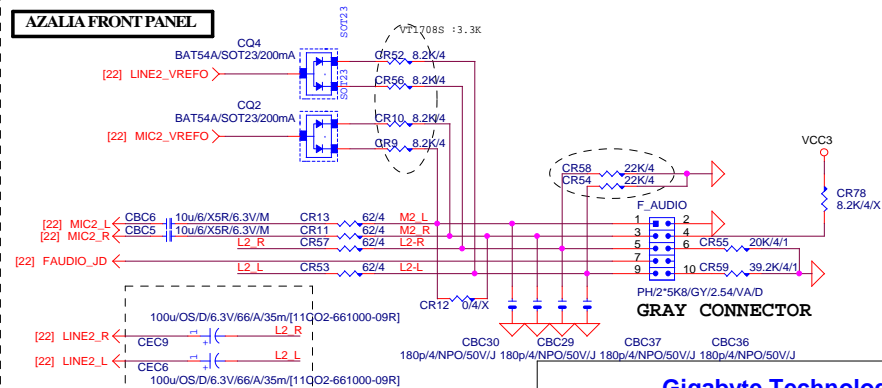
MIC-IN



SPDIF_OUT



AZALIA FRONT PANEL



Gigabyte Technology

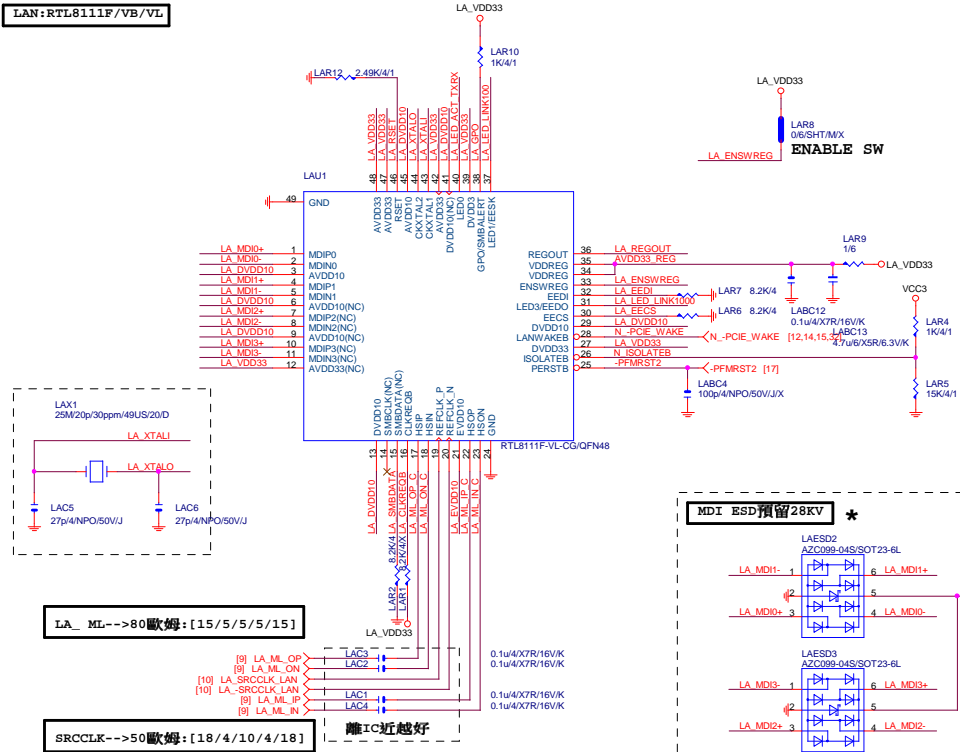
AUDIO JACK

GA-H81M-D3H

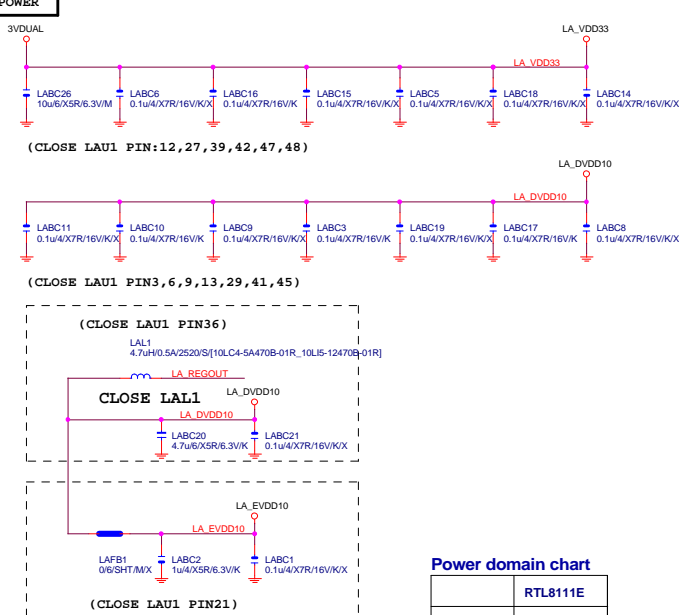
Rev
1.0

Title		Document Number	Rev
Size		GA-H81M-D3H	1.0
Date:		Friday, January 03, 2014	Sheet 23 of 32

LAN:RTL8111F/VB/VL

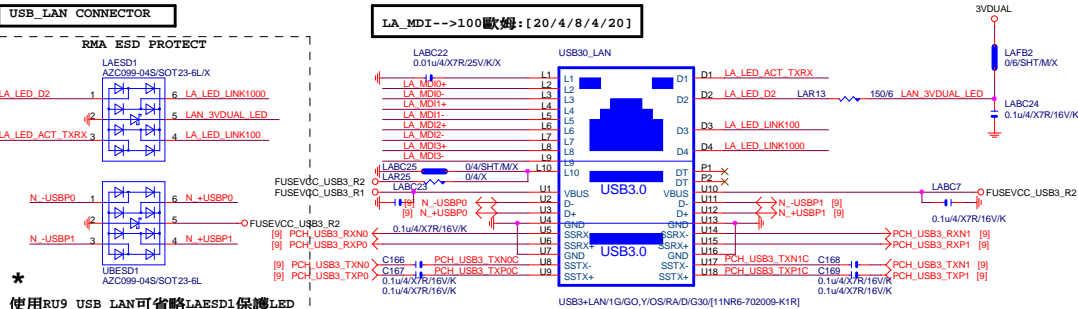


POWER

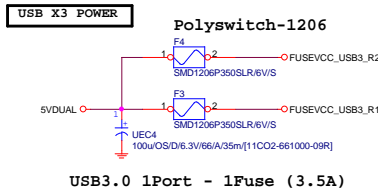


Power domain chart	
	RTL8111E
AVDD33	3.3V
DVDD33	3.3V
VDDREG	3.3V
DVDD10	1.05V

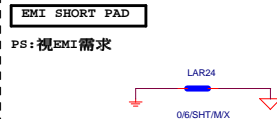
USB_LAN CONNECTOR



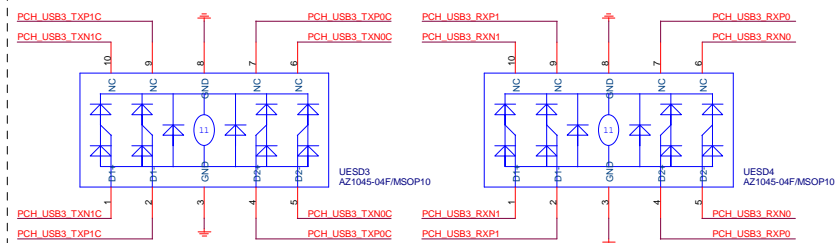
USB X3 POWER



EMI SHORT PAD



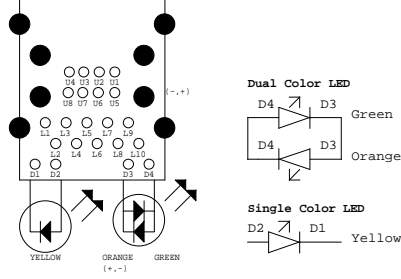
USB3.0 1Port - 1Fuse (3.5A)



BOM NOTICE *

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

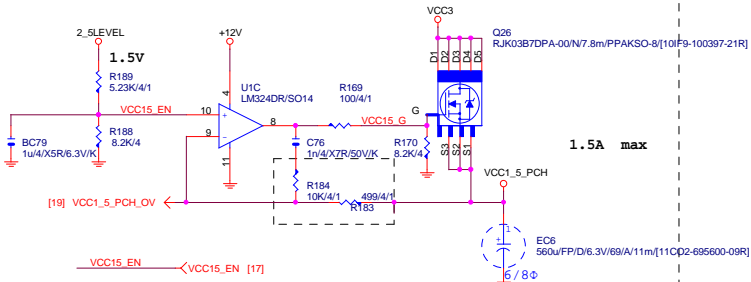
1. 9KV ESD BOM:
USB_LAN (RU9):11NR6-702009-96R
2. 28KV ESD BOM:
USB_LAN (RU9):11NR6-702009-96R
LAESD2,LAESD3:上件AZC398-04S



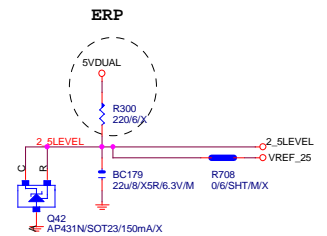
Gigabyte Technology

Gigabyte Technology			
Realtek RTL8111G			
Size	Document Number	GA-H81M-D3H	Rev
Custom			1.0
Date:	Friday, January 03, 2014	Sheet	24 of 32

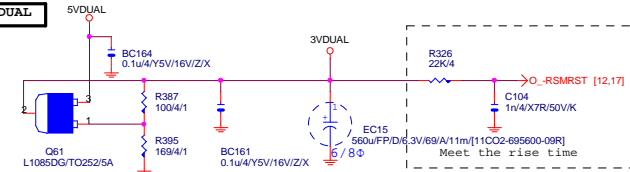
VCC1_5_PCH



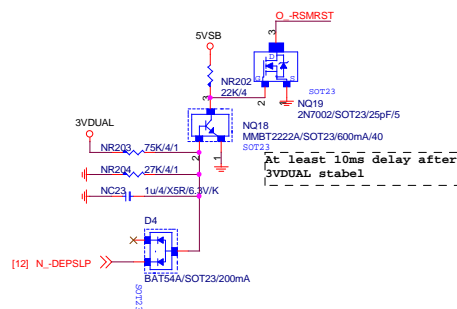
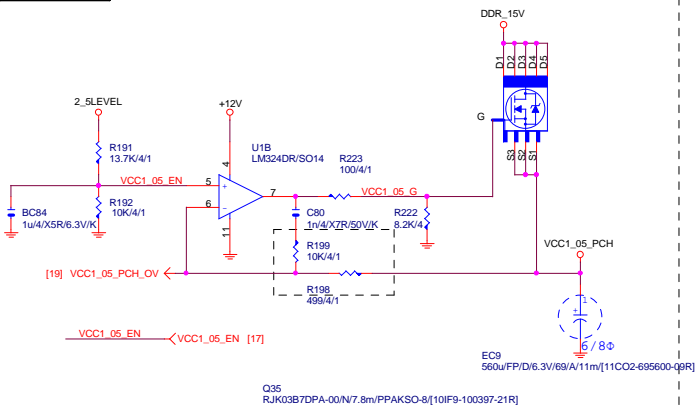
2_5LEVEL



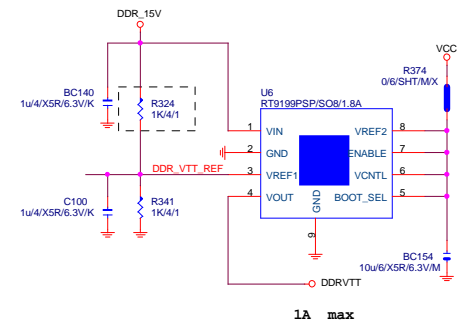
3VDUAL



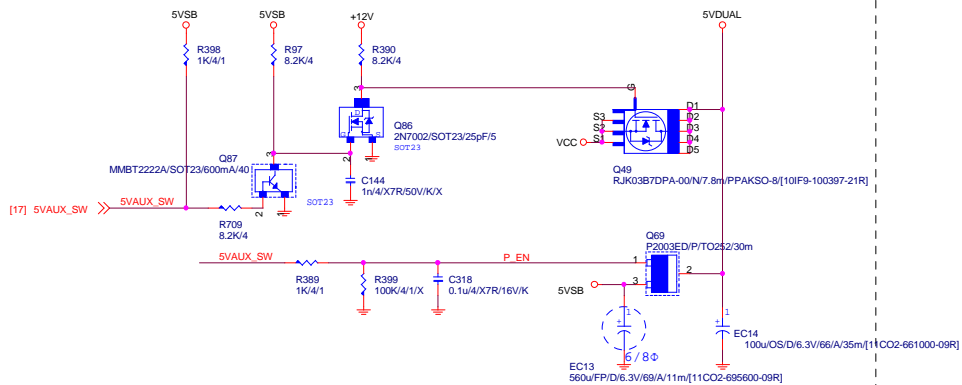
VCC1_05_PCH



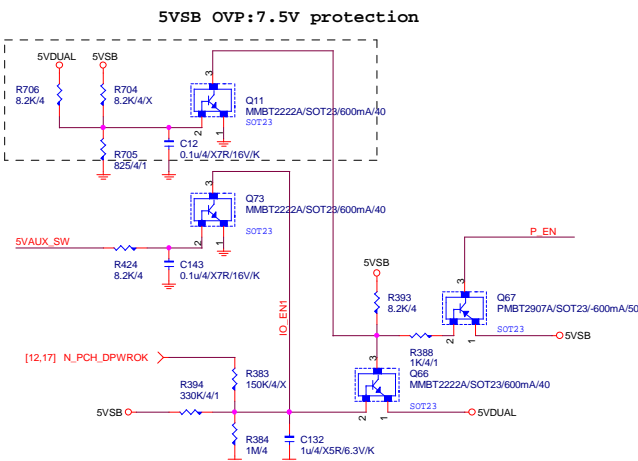
DDRVTT



5VDUAL

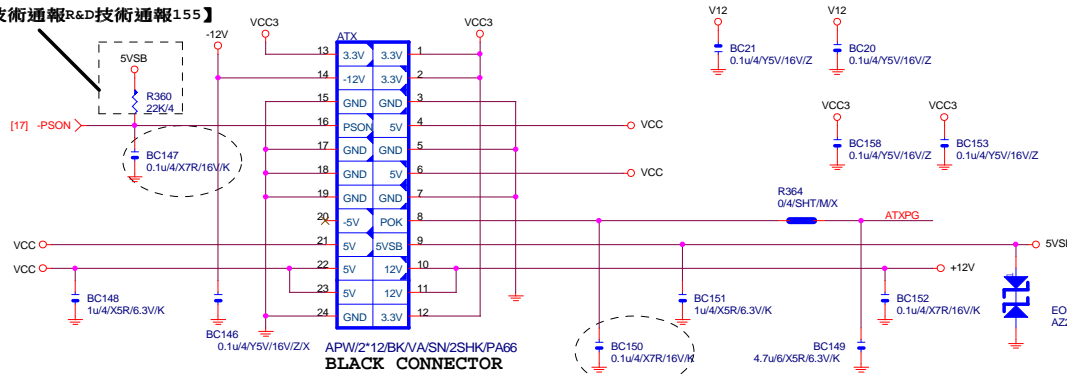


5VDUAL SHORT PROTECT

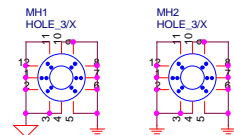


ATXX24 POWER CONNECTOR

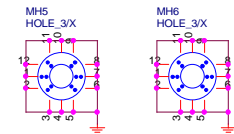
【技術通報R&D技術通報155】



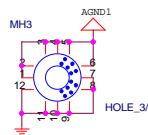
BLACK CONNECTOR



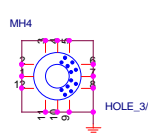
HOLE_4-RH-1



HOLE_4-RH-5MM-1



HOLE_4-RH-5MM-1



HOLE_4-RH-5MM-1



HOLE_4-RH-5MM-1



HOLE_4-RH-5MM-1



HOLE_4-RH-5MM-1



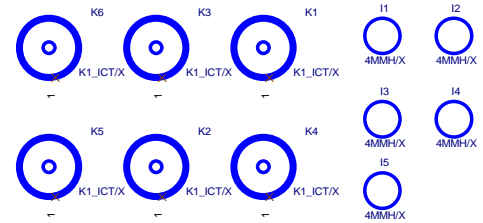
HOLE_4-RH-5MM-1



HOLE_4-RH-5MM-1



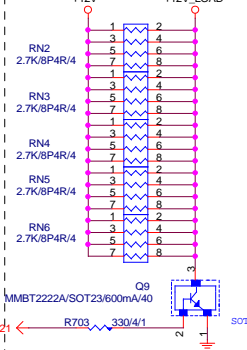
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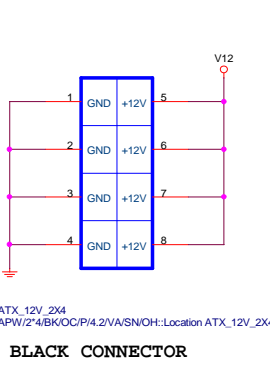
To prevent the 5VSB under loading when boot

【技術通報R&D技術通報153】

To fix 12V light load abnormality issue



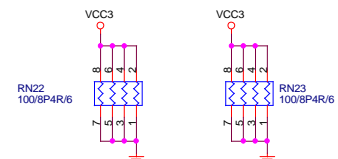
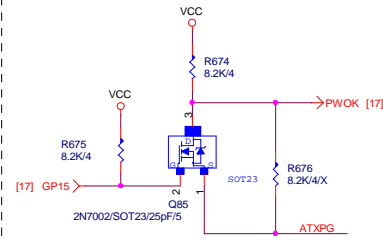
ATXX4 POWER CONNECTOR



BLACK CONNECTOR

PWOK PATCH

【技術通報R&D技術通報154】



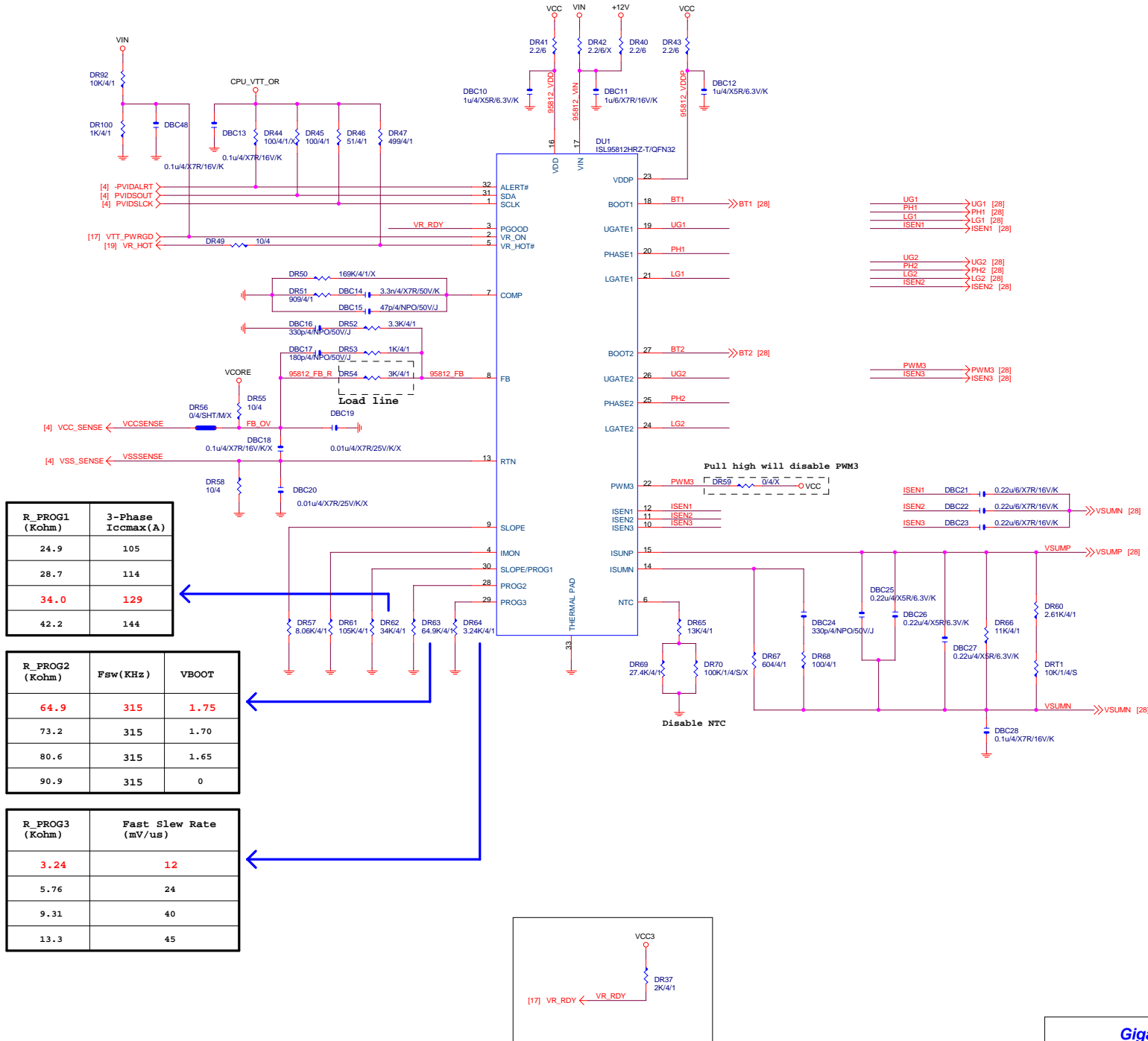
FIX PWR MINMUN LOAD

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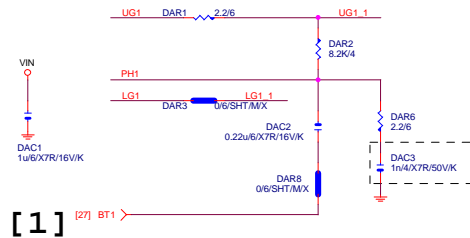
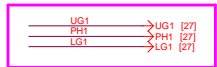
ATX CONNECTOR

GA-H81M-D3H

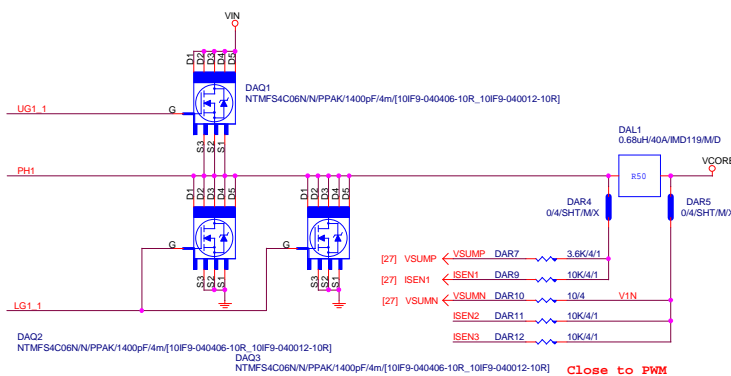
Title	Document Number	Rev
Size	Custom	1.0
Date: Friday, January 03, 2014	Sheet 26 of 32	



PHASE 1

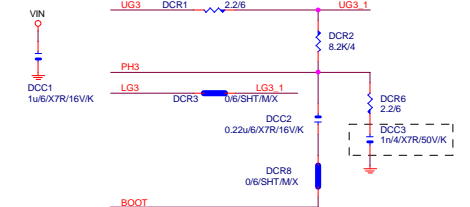
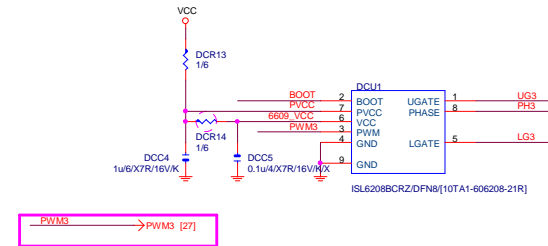


[1] [27] BT1

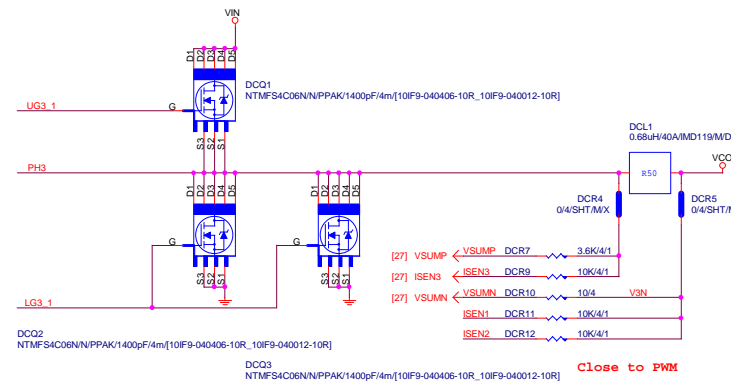


Close to PWM

PHASE 3

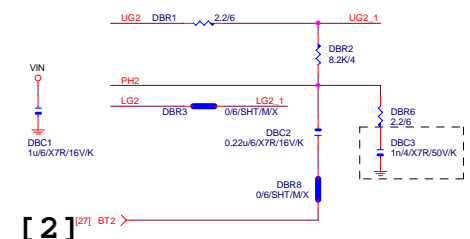


[3]

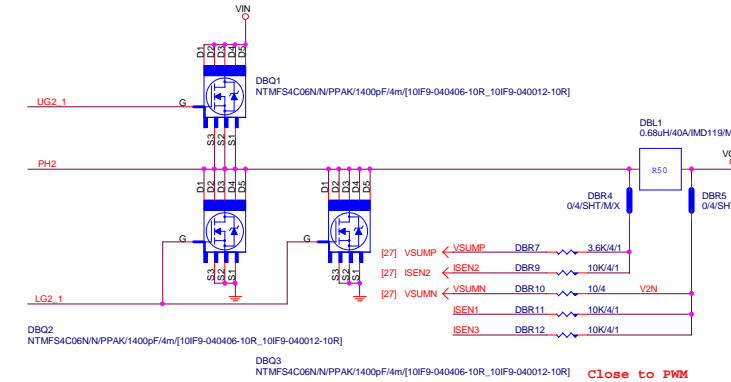


Close to PWM

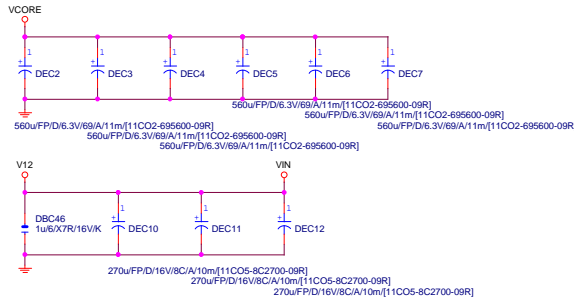
PHASE 2



[2] [27] BT2



Close to PWM



Gigabyte Technology			
Title		CPU CORE VR-2	
Size	Document Number	GA-H81M-D3H	
Custom			Rev 1.0
Date	Friday, January 03, 2014	Sheet	28 of 32

DDR15V

From DDR_15V source
10 mils trace to SIO

DDR_15V DDR_15VIO
MR20 0/4/SHT/M/X

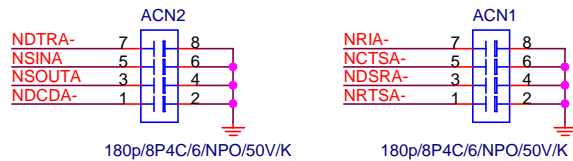
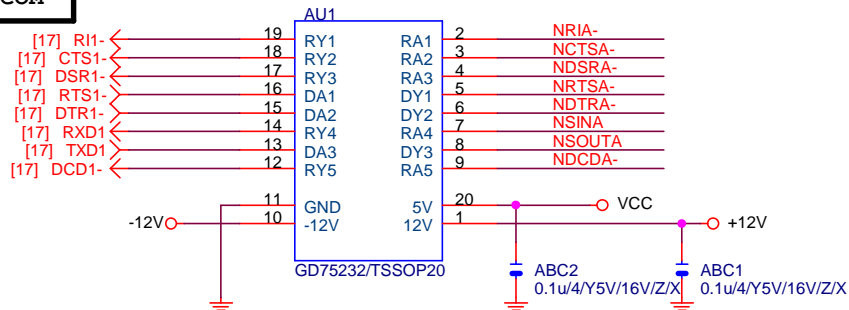
VIN=5V, VOUT=1.5V, IOUT=25A, PHASE=1
IRMS=11.45A
560u/FP/D/6.3V/68/8m RIPPLE CURRENT=4.7A
Coefficient=1.7(85°C), 1(105°C)
VIN Ripple current=4.7X1.7=7.99A(85°C)
-->故固態電容須2X7.99=15.98>11.45A
Rocset=(Iocp*Lgate,rdson)/Iocset
Rocset=(45A*6.7mOhm)/10uA = 30K
Iocset=10uA

Gigabyte Technology		
Title		
DDR POWER		
Size	Document Number	Rev
Custom	GA-H81M-D3H	1.0
Date:	Friday, January 03, 2014	Sheet 29 of 32

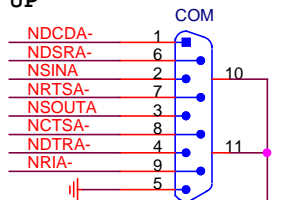
```
Rocset=(Iocp*Lgate,rdson)/Iocset
Rocset=(45A*6.7mOhm)/10uA = 30K
Iocset=10uA
```

<i>Gigabyte Technology</i>				A
Title				
DDR POWER				
Size Custom	Document Number GA-H81M-D3H			Rev 1.0
Date:	Friday, January 03, 2014		Sheet 29 of 32	
			1	

COM



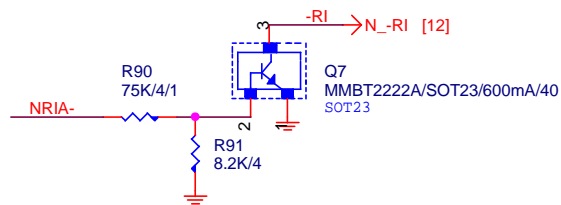
REAR UP



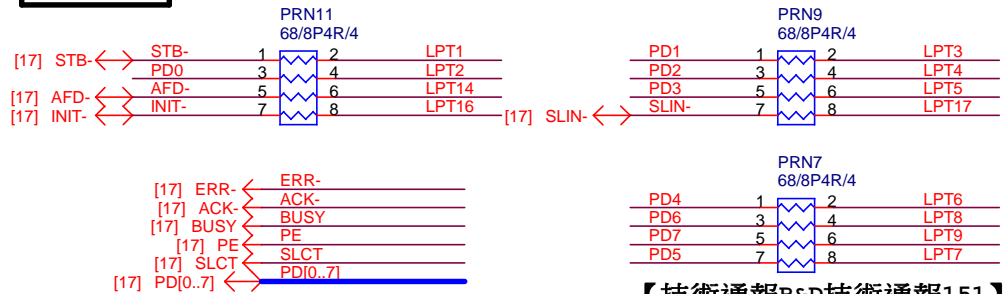
HIGH CONNECTOR

COM/GE/SC-6mm/RA/1/D/[11NR6-111009-T1R]

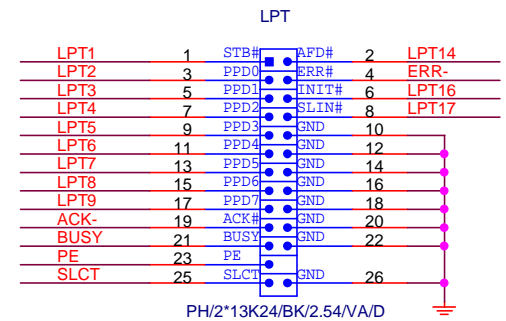
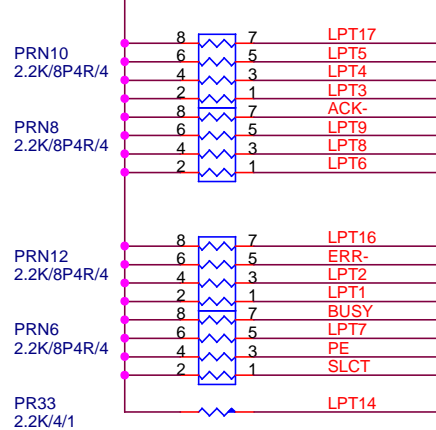
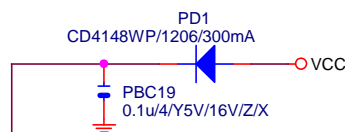
COM RI



LPT PORT



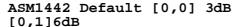
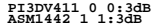
【技術通報R&D技術通報151】
33ohm Change to 68ohm



Gigabyte Technology

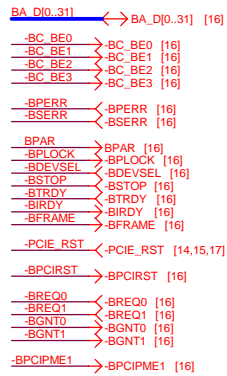
Title			LPT
Size	Document Number	GA-H81M-D3H	
Custom			Rev 1.0
Date:	Friday, January 03, 2014	Sheet	30 of 32

HDMI LEVEL SHIFT



PCIE TO PCI

PCI:5/4/5 Impedance=50 +- 15%

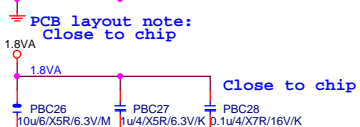
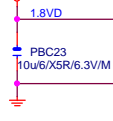
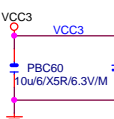
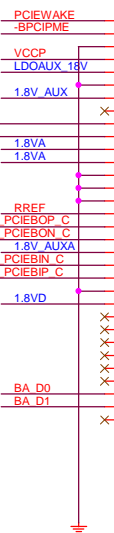
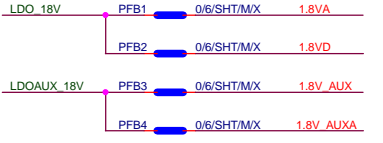
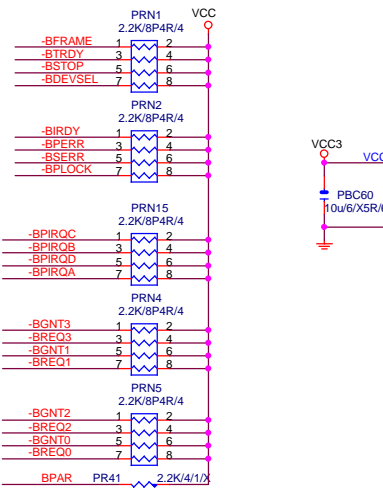
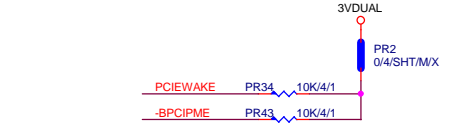
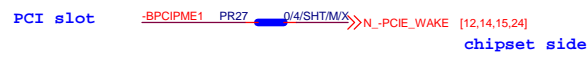
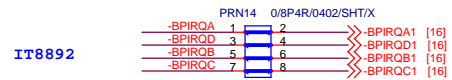
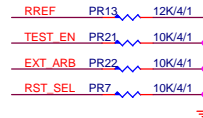
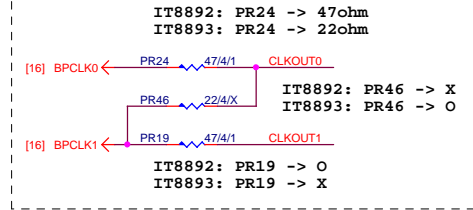


High: Enable PCI CLK 66MHz
Low: Disable PCI CLK 66MHz



High: PCICLK INPUT form CLK Gen
Low: PCICLK OUTPUT form IT8893 chip

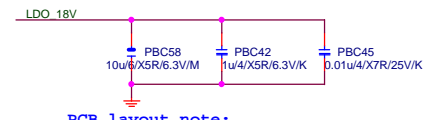
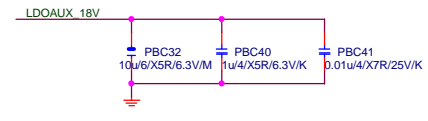
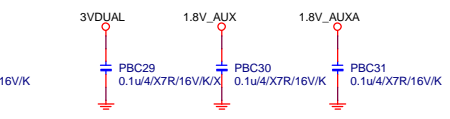
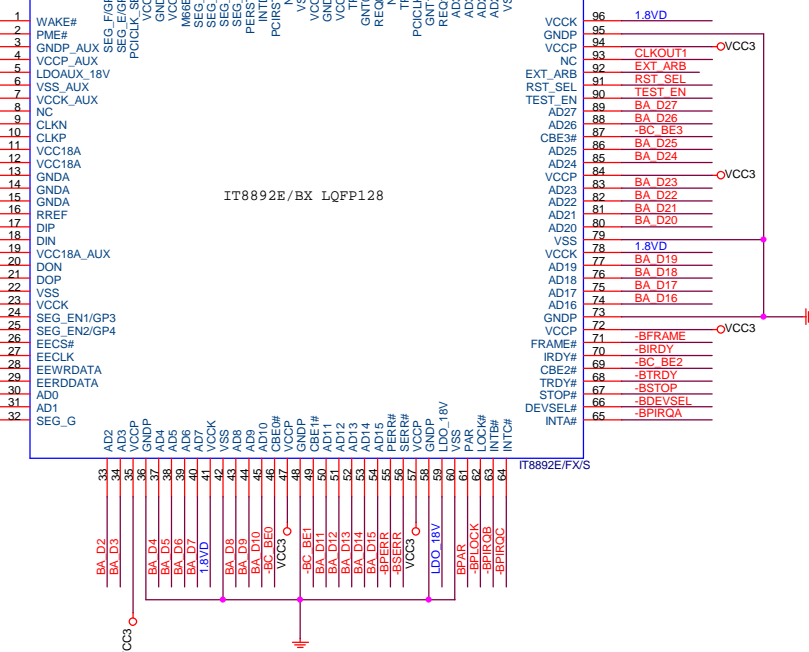
Co-Lay IT8893 (IT8893 CLKOUT1 N/A)



PCB layout note:
Close to chip



Close to chip



PCB layout note:
Close to chip

Gigabyte Technology			
Title			
ITE IT8892E			
GA-H81M-D3H			
Size	Document Number	Rev	
Custom		1.0	
Date:	Friday, January 03, 2014	Sheet	32 of 32