Model Name: GA-B85M-D3H

Revision 2.01

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 8620 LPC IO
18	COM,KB_MS_USB,USB30_20
19	HWM,FAN CTRL,OV,-PROCHOT
20	DUAL BIOS
21	FP,FUSB,SPK,SATALED
22	Realtek ALC892-GR
23	REAR AUDIO JACK
24	REALTEK RTL8111F
25	DISCRETE POWER
26	ATX ,TPM
27	VCORE ISL95812_1

SHEET	TITLE
28	VCORE ISL95812_2
29	RT8120_DDR POWER
30	LPT, M3 POWER
31	DVI, HDMI
32	IT8892E

Gigabyte Technology

Title: Cover Sheet		
Size: Custom	Document Number: GA-B85M-D3H	Rev: 2.01
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Model Name: GA-B85M-D3H

Revision 2.01

Component value change history

2014/2/20

Data	Change Item		Reason
2014.02.12	20A E-BOM release.	PCB:2.0	Modify from H97M-D3H , 修改PWM(95812+6208B) , 並改為1上1下(3項)
2014.02.14	20A E-BOM release.	PCB:2.0	E-BOM 變更 1.F_AUDIO CR58/CR54 22K/4 上件 2.OC18 / OC22 1u/4/x5r/6.3v/k 上件 3.HDMI Level shift NXP change to ASMEDIA
2014.03.24	20B E-BOM release.	PCB:2.01	WBC20 上件 / 20A時的E-BOM變更 / PWM DR61 105K change to 41.2K(廠商建議) / FR1,FR2,FR3,R672,R673,R4,R403,R404,NR20,NR21,R313,R314,NR1,NR2,FR9,NR246 remove
2014.04.02	20C P-BOM release.	PCB:2.01	OR49/OC27/RS3 不上件 (TR6)

Circuit or PCB layout change

DATE	Change Item		Reason
2014.02.20	20 release.	PCB:2.0	1. modify from H97M-D3H to B85M-D3H 2. PWM change to ISL95812+ISL6208 3. FUSE change 2.6A , not support 1 port 1fuse & 3X power 4. SATA3*4 , SATA2*2 5.USB3.0*4
2014.03.24	20 release.	PCB:2.01	PCB 243.84*215

Gigabyte Technology

Title: BOM & PCB MODIFY HISTORY

Size: Custom | Document Number: GA-B85M-D3H | Rev: 2.01

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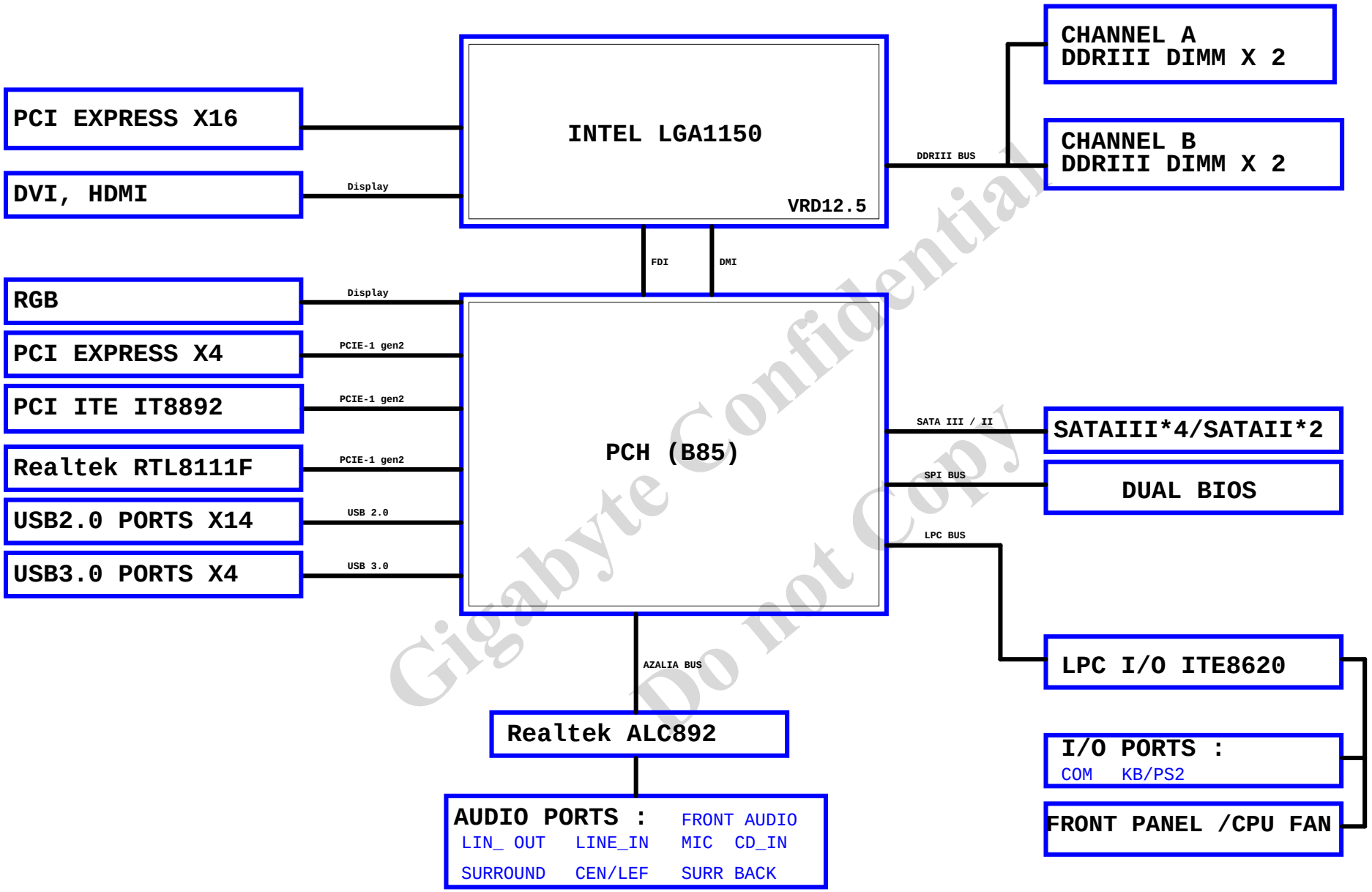
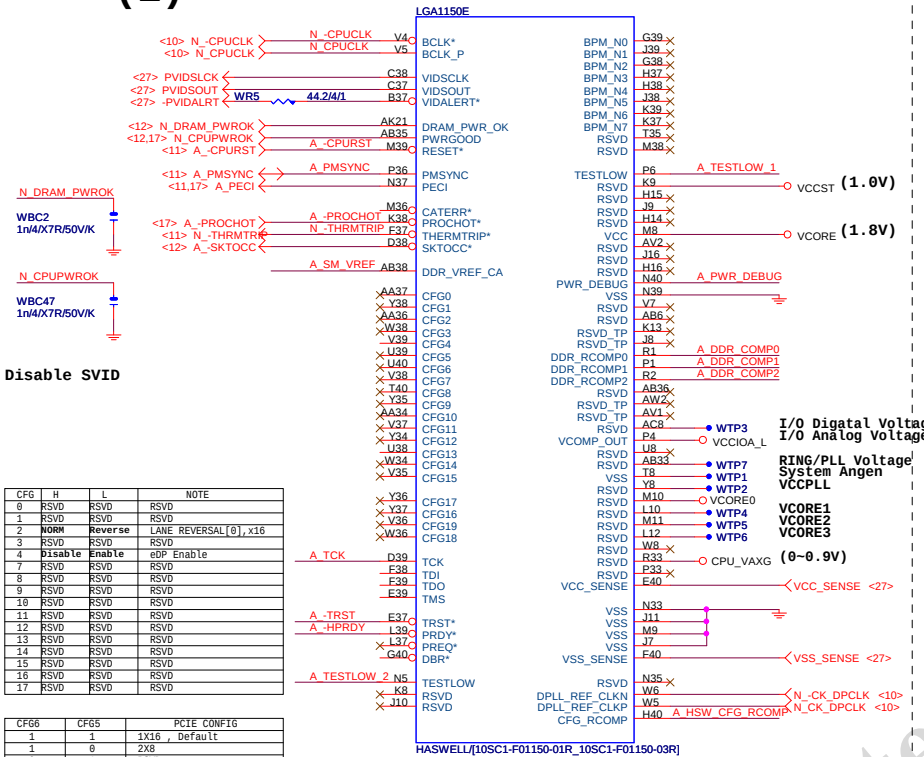
BLOCK DIAGRAM



Gigabyte Technology			
Title: BLOCK DIAGRAM			
Size: C	Document Number: GA-B85M-D3H		Rev: 2.01
Date: Thursday, April 17, 2014	Sheet 3 of 32		

LGA1150 (E)



Disable SVID

CFG	H	L	NOTE
0	RSVD	RSVD	RSVD
1	RSVD	RSVD	RSVD
2	**NORM**	**Reverse**	LANE REVERSAL[0],x16
3	RSVD	RSVD	RSVD
4	**Disable**	**Enable**	eDP Enable
7	RSVD	RSVD	RSVD
8	RSVD	RSVD	RSVD
9	RSVD	RSVD	RSVD
10	RSVD	RSVD	RSVD
11	RSVD	RSVD	RSVD
12	RSVD	RSVD	RSVD
13	RSVD	RSVD	RSVD
14	RSVD	RSVD	RSVD
15	RSVD	RSVD	RSVD
16	RSVD	RSVD	RSVD
17	RSVD	RSVD	RSVD

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

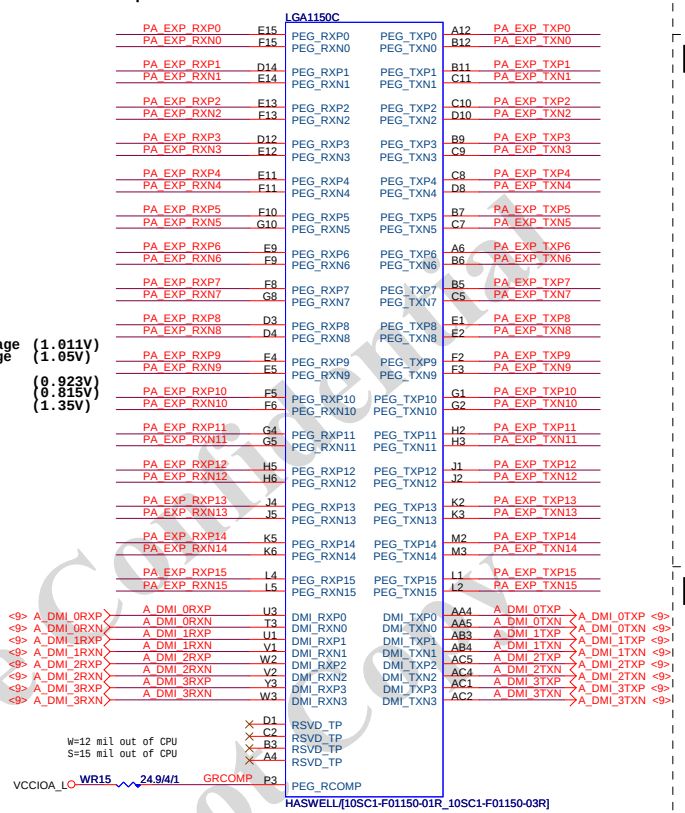
I/O Digatal Voltage (1.011V)
I/O Analog Voltage (1.05V)

RING/PLL Voltage (0.923V)
System Angen (0.815V)
VCCPLL (1.35V)

VCORE1
VCORE2
VCORE3

LGA1155 (C)

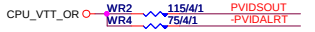
PCIEX16:16/5/5/5/16(breakout min 10/4/4/4/10)
Impedance=80 +- 17.5%



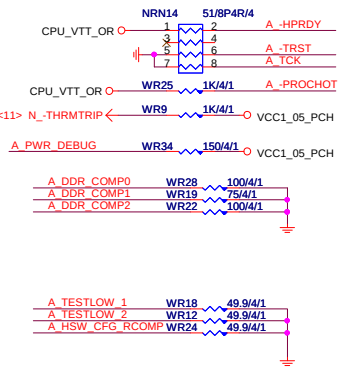
DMI:12/4/4/4/12(breakout min 8/4/4/4/8)
Impedance=85 +- 17.5%

PA_EXP_TXP[0..15] → PA_EXP_TXP[0..15] <14>
PA_EXP_TXN[0..15] → PA_EXP_TXN[0..15] <14>
PA_EXP_RXP[0..15] → PA_EXP_RXP[0..15] <14>
PA_EXP_RXN[0..15] → PA_EXP_RXN[0..15] <14>

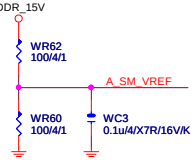
CPU SVID



CPU PU/PD

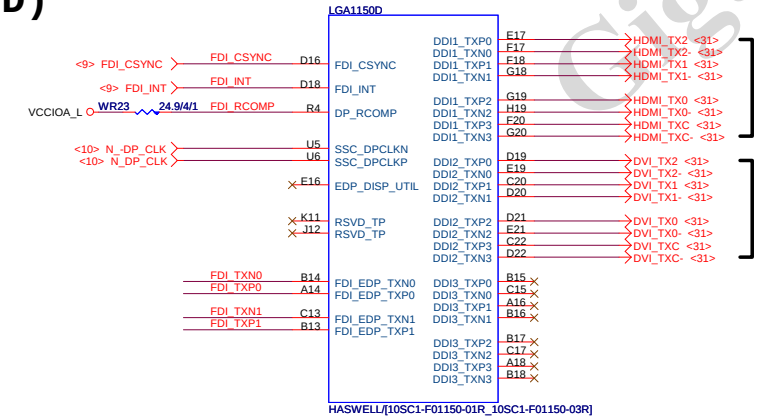


SM REF



LGA1150 (D)

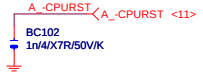
DVI-I + HDMI組態就是: DVI-I port B, HDMI port C
DVI-D + HDMI組態就是: DVI-D port C, HDMI port B



FDI:12/4/5/4/12(breakout min 6/4/4/4/6)
Impedance=85 +- 17.5%

FDI_TXP[0..1] → FDI_TXP[0..1] <9>
FDI_TXN[0..1] → FDI_TXN[0..1] <9>

-CPURST



THRMTRIP DISABLE

Gigabyte Technology		
Title: CPU LGA1150-A		
Size: Custom	Document Number: GA-B85M-D3H	Rev: 2.01
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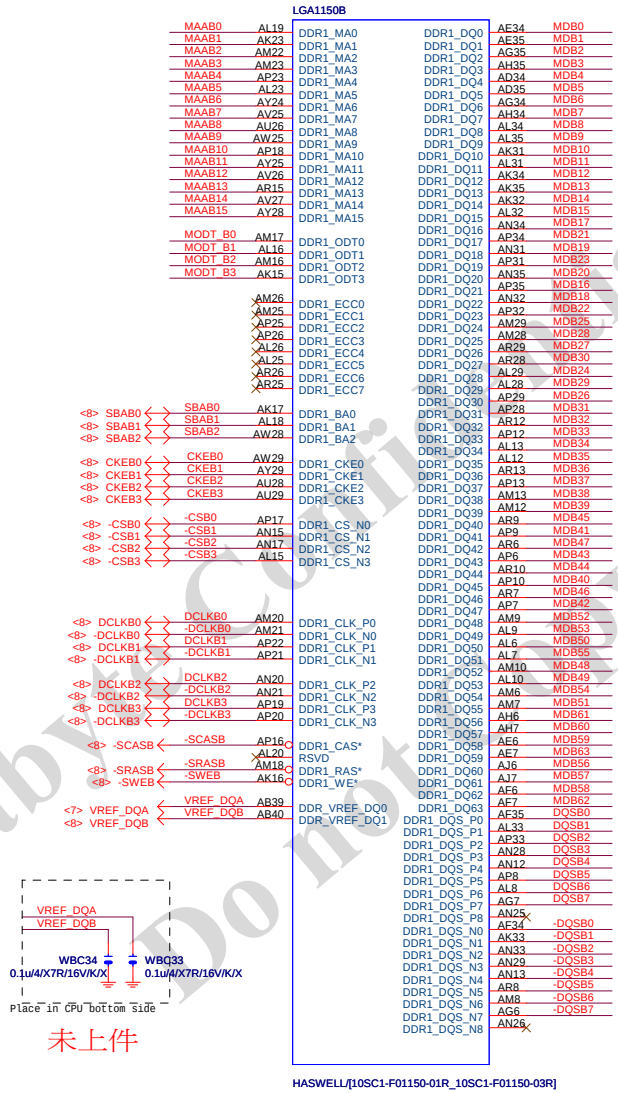
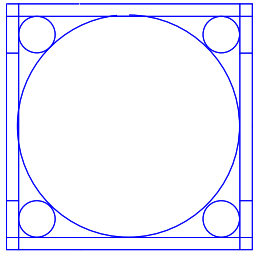
LGA1150 (A)

LGA1150 (B)



LGA1150 (CR)



LGA1150_P

ILM_BP/1156/CSP/ILM_BP/1156/CSP/[12KRC-0F0001-52R_12KRC-0F0001-51R]

DDR BUS

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]
-DQSB[0..7]

Gigabyte Technology			
Title: CPU LGA1150-B			
Size: Custom	Document Number: GA-B85M-D3H		Rev: 2.01
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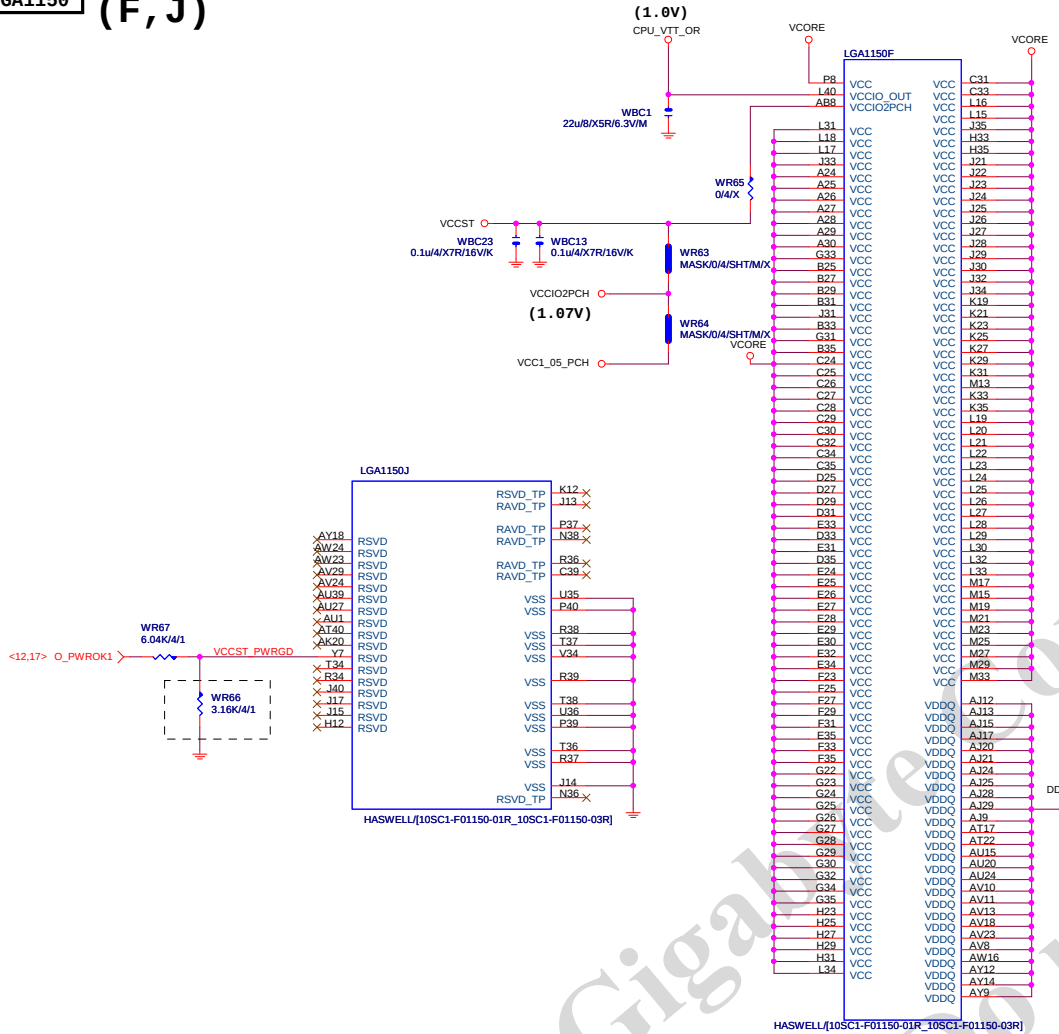
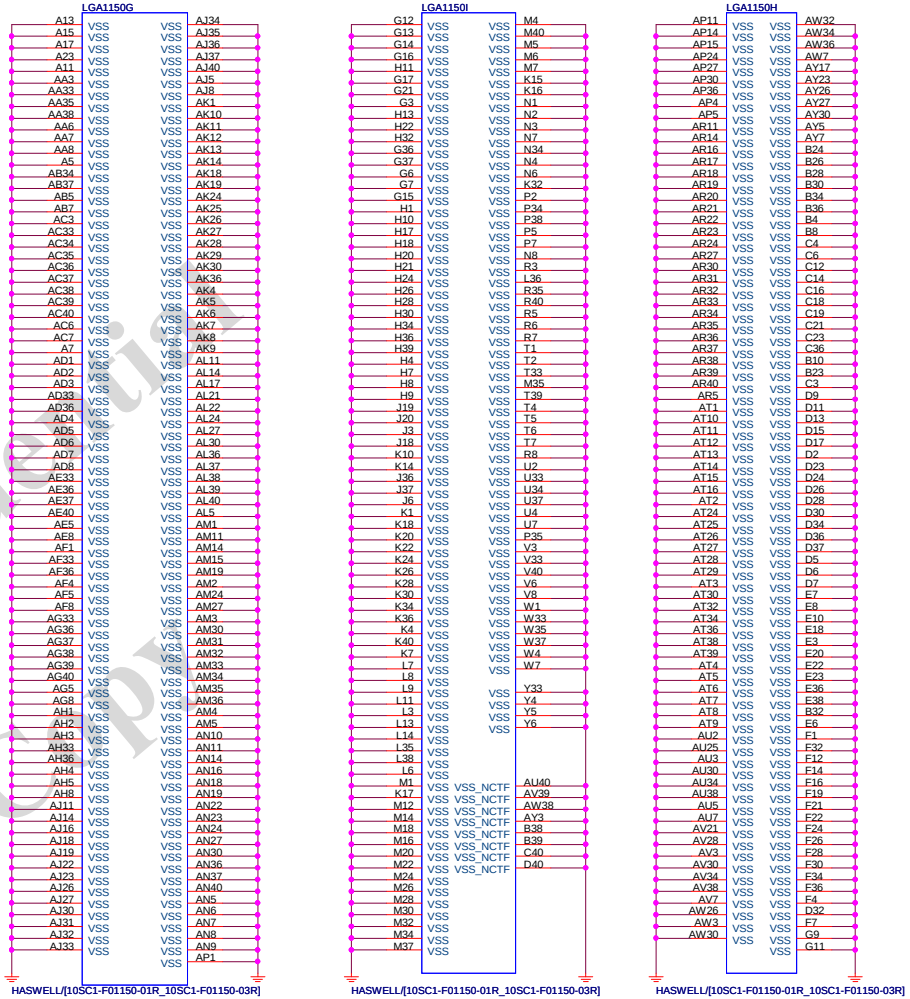
LGA1150 (F,J)

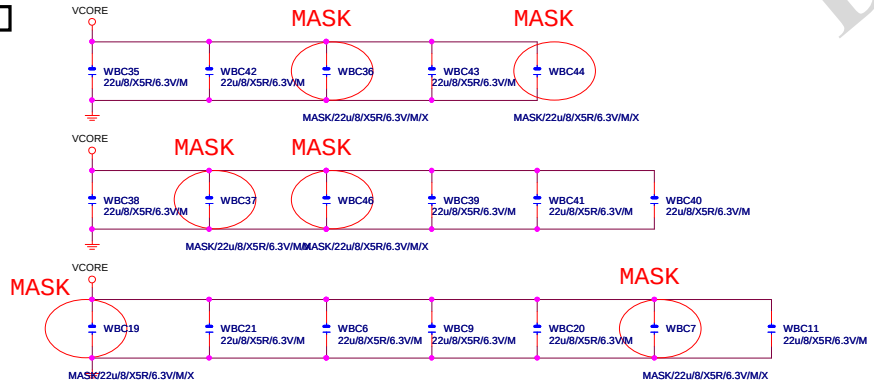


LGA1155 (G,H,I)



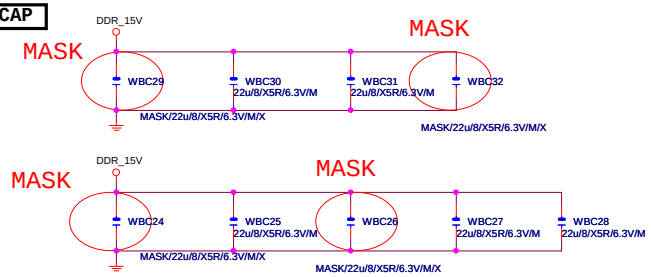
VCore CAP

(X18)



DDR CAP

(X9)



Gigabyte Technology			
Title: CPU LGA1150-C			
Size: Custom	Document Number: GA-B85M-D3H		Rev: 2.01
Date: Thursday, April 17, 2014		Sheet 6 of 32	

DDR3 (A)

DDR3_4

DDRVTT
VTT
VSS
RSVD
ODT1
ODT0
NC/PAR_IN
NC/ERR_OUT
NC/TEST4
CB0
CB1
CB2
CB3
CB4
CB5
CB6
CB7
DQS0
DQS0*
DQS1
DQS1*
DQS2
DQS2*
DQS3
DQS3*
DQS4
DQS4*
DQS5
DQS5*
DQS6
DQS6*
DQS7
DQS7*
DQS8
DQS8*
DM0/DQS9
NC/DQS9*
DM1/DQS10
NC/DQS10*
DM2/DQS11
NC/DQS11*
DM3/DQS12
NC/DQS12*
DM4/DQS13
NC/DQS13*
DM5/DQS14
NC/DQS14*
DM6/DQS15
NC/DQS15*
DM7/DQS16
NC/DQS16*
DM8/DQS17
NC/DQS17*
DDR_15V
VDD
FREE
MODT_A1
MODT_A0
DQSA0
-DQSA0
DQSA1
-DQSA1
DQSA2
-DQSA2
DQSA3
-DQSA3
DQSA4
-DQSA4
DQSA5
-DQSA5
DQSA6
-DQSA6
DQSA7
-DQSA7
MODT_A[0..3]
MODT_A[0..3] <5>
-DQSA[0..7]
-DQSA[0..7] <5>
DQSA[0..7]
DQSA[0..7] <5>
-DDR3_RST
MC6
100p/4/NPO/50V/J
N_SMBDATA
N_SMBCLK
MC10
100p/4/NPO/50V/J/X
MC11
100p/4/NPO/50V/J/X
VCC3
VDDSPD
MF1 SPR-P200T/6V/8/S
MC4
0.1u/4/X7R/16V/K/X
MC5
0.1u/4/X7R/16V/K/X
VDDSPD
VREF_DDRA
VREF_DQDDRA
VREFCA
VREFDQ
未上件
<8,12,14,15,16,19> N_SMBCLK
<8,12,14,15,16,19> N_SMBDATA
SCL
SDA
SA0
SA1
<5> SBAA2
<5> SBAA1
<5> SBAA0
BA2
BA1
BA0
<5> CKEA1
<5> CKEA0
CKE1
CKE0
<5> -CSA1
<5> -CSA0
S1*
S0*
<5> -DCLKA1
<5> DCLKA1
CK1/NU*
CK1/NU
<5> -DCLKA0
<5> DCLKA0
CK0*
CK0
<5> MAAA[0..15]
A0
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10/AP
A11
A12
A13
A14
A15
<5,8> -DDR3_RST
<5> -SCASA
<5> -SRASA
<5> -SWEA
RESET*
CAS*
RAS*
WE*
MDA0
MDA1
MDA2
MDA3
MDA4
MDA5
MDA6
MDA7
MDA8
MDA9
MDA10
MDA11
MDA12
MDA13
MDA14
MDA15
MDA16
MDA17
MDA18
MDA19
MDA20
MDA21
MDA22
MDA23
MDA24
MDA25
MDA26
MDA27
MDA28
MDA29
MDA30
MDA31
MDA32
MDA33
MDA34
MDA35
MDA36
MDA37
MDA38
MDA39
MDA40
MDA41
MDA42
MDA43
MDA44
MDA45
MDA46
MDA47
MDA48
MDA49
MDA50
MDA51
MDA52
MDA53
MDA54
MDA55
MDA56
MDA57
MDA58
MDA59
MDA60
MDA61
MDA62
MDA63
MDA[0..63] <5>
DDR3/240/BK/VA/D
BLACK CONNECTOR

DDR3

DDR3_2

DDRVTT
VTT
VSS
RSVD
ODT1
ODT0
NC/PAR_IN
NC/ERR_OUT
NC/TEST4
CB0
CB1
CB2
CB3
CB4
CB5
CB6
CB7
DQS0
DQS0*
DQS1
DQS1*
DQS2
DQS2*
DQS3
DQS3*
DQS4
DQS4*
DQS5
DQS5*
DQS6
DQS6*
DQS7
DQS7*
DQS8
DQS8*
DM0/DQS9
NC/DQS9*
DM1/DQS10
NC/DQS10*
DM2/DQS11
NC/DQS11*
DM3/DQS12
NC/DQS12*
DM4/DQS13
NC/DQS13*
DM5/DQS14
NC/DQS14*
DM6/DQS15
NC/DQS15*
DM7/DQS16
NC/DQS16*
DM8/DQS17
NC/DQS17*
DDR_15V
VDD
FREE
MODT_A3
MODT_A2
DQSA0
-DQSA0
DQSA1
-DQSA1
DQSA2
-DQSA2
DQSA3
-DQSA3
DQSA4
-DQSA4
DQSA5
-DQSA5
DQSA6
-DQSA6
DQSA7
-DQSA7
MC8
0.1u/4/X7R/16V/K/X
MC7
0.1u/4/X7R/16V/K/X
MC3
0.1u/4/X7R/16V/K/X
VDDSPD
VREF_DDRA
VREF_DQDDRA
VREFCA
VREFDQ
未上件
<8,12,14,15,16,19> N_SMBCLK
<8,12,14,15,16,19> N_SMBDATA
SCL
SDA
SA1
SA0
<5> SBAA2
<5> SBAA1
<5> SBAA0
BA2
BA1
BA0
<5> CKEA3
<5> CKEA2
CKE1
CKE0
<5> -CSA3
<5> -CSA2
S1*
S0*
<5> -DCLKA3
<5> DCLKA3
CK1/NU*
CK1/NU
<5> -DCLKA2
<5> DCLKA2
CK0*
CK0
<5> MAAA[0..15]
A0
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10/AP
A11
A12
A13
A14
A15
<5,8> -DDR3_RST
<5> -SCASA
<5> -SRASA
<5> -SWEA
RESET*
CAS*
RAS*
WE*
MDA0
MDA1
MDA2
MDA3
MDA4
MDA5
MDA6
MDA7
MDA8
MDA9
MDA10
MDA11
MDA12
MDA13
MDA14
MDA15
MDA16
MDA17
MDA18
MDA19
MDA20
MDA21
MDA22
MDA23
MDA24
MDA25
MDA26
MDA27
MDA28
MDA29
MDA30
MDA31
MDA32
MDA33
MDA34
MDA35
MDA36
MDA37
MDA38
MDA39
MDA40
MDA41
MDA42
MDA43
MDA44
MDA45
MDA46
MDA47
MDA48
MDA49
MDA50
MDA51
MDA52
MDA53
MDA54
MDA55
MDA56
MDA57
MDA58
MDA59
MDA60
MDA61
MDA62
MDA63
MDA[0..63] <5>
DDR3/240/GR/VA/D
GRAY CONNECTOR

DDR3_VREF

DDR_15V
MR15
1K/4/1
MR14
1K/4/1
MR4
1K/4/1
MR5
1K/4/1
VREF_DDRA
VREF_DQDDRA
VREF_DQA <5>

DDR15V Decouple

DDR_15V
MEC1
560u/FPD/6.3V/69/A/11m[11CO2-695600-09R]
MEC2
560u/FPD/6.3V/69/A/11m[11CO2-695600-09R]

DDR_15V
MBC1 0.1u/4/X7R/16V/K
MBC2 0.1u/4/X7R/16V/K
MBC3 0.1u/4/X7R/16V/K
MBC24 0.1u/4/X7R/16V/K/X
MBC12 0.1u/4/X7R/16V/K
MBC14 0.1u/4/X7R/16V/K

DDR_15V
MBC15 1u/4/X5R/6.3V/K
MBC17 1u/4/X5R/6.3V/K
MBC27 1u/4/X5R/6.3V/K/X
MBC29 1u/4/X5R/6.3V/K/X
MBC35 1u/4/X5R/6.3V/K/X
MBC36 1u/4/X5R/6.3V/K
MBC37 1u/4/X5R/6.3V/K/X
MBC47 1u/4/X5R/6.3V/K/X
MBC9 1u/4/X5R/6.3V/K/X
未上件

DDRVTT Decouple

DDRVTT
MBC40
10u/6/X5R/6.3V/M

DDRVTT
MBC18
1u/4/X5R/6.3V/K
MBC10
0.1u/4/X7R/16V/K

Gigabyte Technology

Title: DDRIII CHANNEL A

Size: Custom | Document Number: GA-B85M-D3H | Rev: 2.01

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DDR3 (B)

DDR3_3

DDRVTT

DDR_15V

-DQSB[0..7] <5>

DQSB[0..7] <5>

MODT_B[0..3] <5>

未上件

MC2 0.1u/4/X7R/16V/K/X

MC14 0.1u/4/X7R/16V/K/X VREF_DDRB

MC9 0.1u/4/X7R/16V/K/X VREF_DQDDRB

<7,12,14,15,16,19> N_SMBCLK

<7,12,14,15,16,19> N_SMBDATA

<5> SBAB2 <5> SBAB1 <5> SBAB0

<5> CKEB1 <5> CKEB0

<5> -CSB1 <5> -CSB0

<5> -DCLKB1 <5> DCLKB1

<5> -DCLKB0 <5> DCLKB0

<5> MAAB[0..15]

<5,7> -DDR3_RST

<5> -SCASB <5> -SRASB <5> -SWEB

MDB[0..63] <5>

DDR3/240/BK/VA/D

BLACK CONNECTOR

DDR3_1

MODT_B3 MODT_B2

DDR3/240/GR/VA/D

GRAY CONNECTOR

DDR3_VREF

DDR_15V

MR10 1K/4/1 VREF_DDRB

MR11 1K/4/1

MR8 1K/4/1 VREF_DQDDRB

MR9 1K/4/1 VREF_DQB <5>

COUPON

COUPON1 COUPON1 1 2 COUPON/X

COUPON2 COUPON2 1 2 COUPON/X

CPU

DIMM4 (黑)

DIMM2 (灰)

CHA

DIMM3 (黑)

DIMM1 (灰)

CHB

Gigabyte Technology

Title: DDRIII CHANNEL B

Size: Custom | Document Number: GA-B85M-D3H | Rev: 2.01

Date: | Sheet 8 of 32

PORT1,PORT9[DEBUG PORT]FOR WHQL 一定要拉出PORT

PCH (B)

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

B85: Port 6/7 N/A
H81: Port 6/7/12/13 N/A

PCHB

USB2.0/3.0 PORT要對應

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

8111F
8892
PCIEx4

電容放靠近 Device & PCI-E Slot

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

DH82B85/S/[10HB1-030B85-20R]

PCH (F)

PCHF

USB3 / FDILINK

未上件

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

NRN168.2K/8P4R/4

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

PCH H/S

SB_HEATSIN

PCH_HS
PCH_HS[12SP2-S04208-61R_12SP2-S04208-62R_12SP2-S04208-63R]

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#	R_USB30
OC2#	USB30_LAN
OC3#	F_USB3
OC4#	F_USB2
OC5#	KB_MS_USB
OC6#	F_USB1
OC7#	Not Use

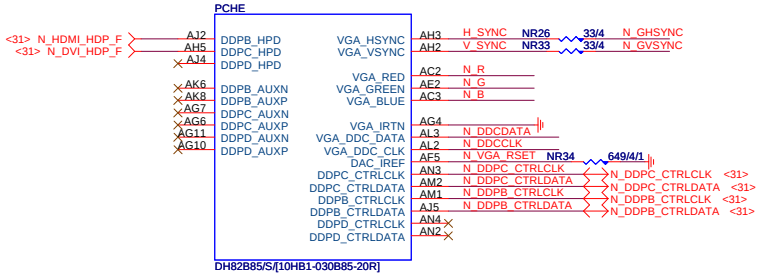
Gigabyte Technology

Title: PCH FDI,DMI,USB ,PCIE,NVRAM

Size: Custom | Document Number: GA-B85M-D3H | Rev: 2.01

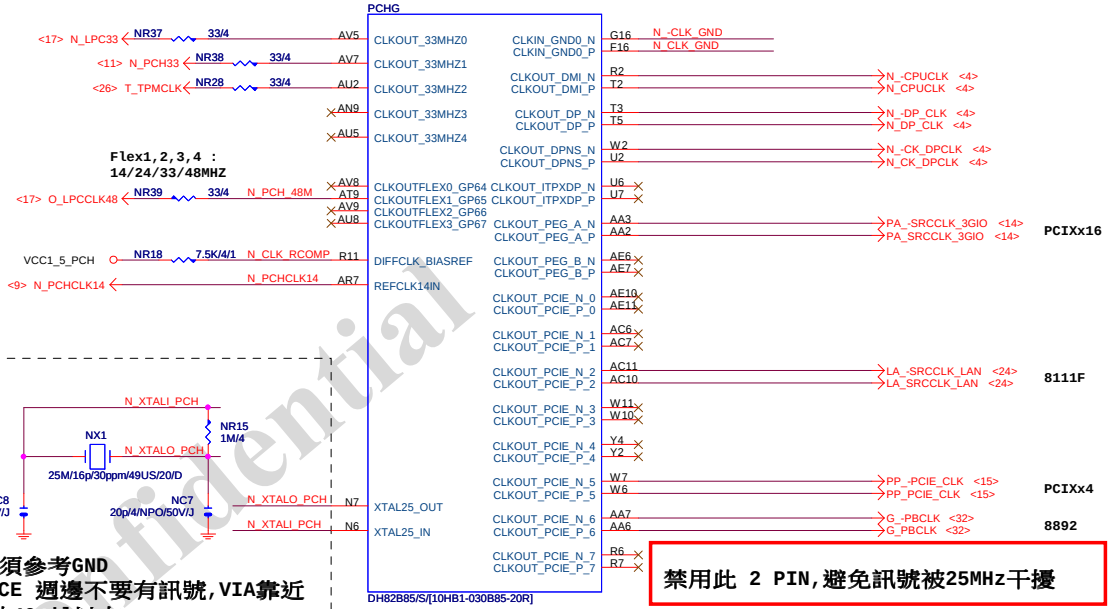
Date: Thursday, April 17, 2014 | Sheet 9 of 32

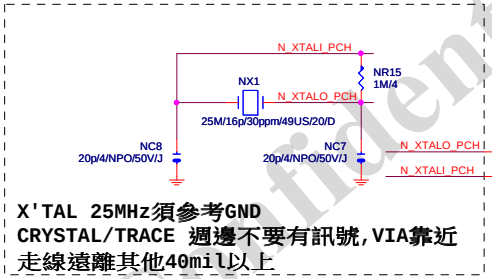
PCH (E)



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)

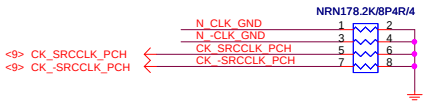




禁用此 2 PIN,避免訊號被25MHz干擾

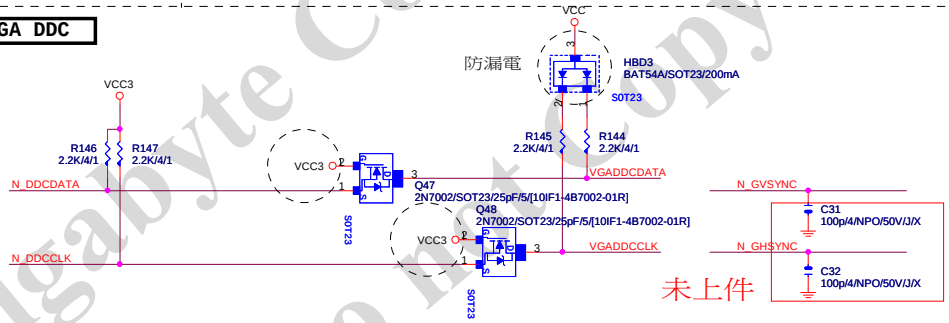
Differential Clock:18/4/6/4/18
Impedance=90 +- 15%

PCH CLK PD

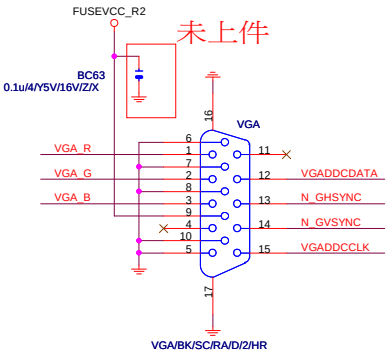


Mount for integrated clock Generation Mode

VGA DDC

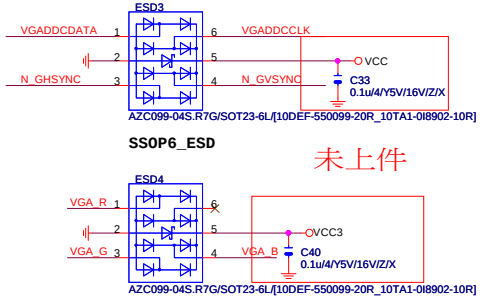


VGA CONNECTOR

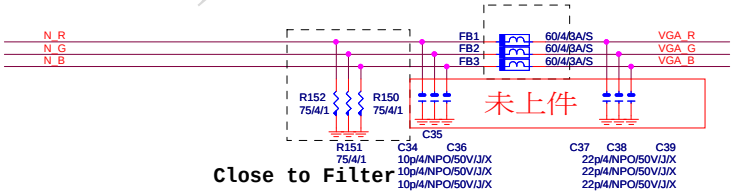


BLACK CONNECTOR

VGA ESD



VGA DDC



Close to Filter

Gigabyte Technology			
Title: PCH DISPLAY ,CLK BUFFER			
Size: Custom	Document Number: GA-B85M-D3H		Rev: 2.01
Date: Thursday, April 17, 2014	Sheet 10 of 32		

PCH (C)

H97 N/A

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%

PCHC

DH82B85/S/[10HB1-030B85-20R]

GPIO37 PU VCC3 ENABLE SBA
For H87&B85

PCH (A)

PCHA

DH82B85/S/[10HB1-030B85-20R]

PCH CLK PD

Mount for integrated clock Generation Mode

PCH PU/PD

SATA CONNECTOR

SATA3_0_1
SATA/14/WH/H/OP/RA/D/2

H81 Port 2/3 N/A

SATA3_2
SATA2/7/WH/H/OP/VA/D/1/B/PA66

SATA3_3
SATA2/7/WH/H/OP/VA/D/1/B/PA66

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

SATA2_0

SATA2/7/BK/H/OP/VA/D/1/B

SATA2_1

SATA2/7/BK/H/OP/VA/D/1/B

ME PWROK

Z97 N/A

GPIO38 Ctrl

PCIE/MSATA MUX SELECT
MFG MODE
PCH CONFIG
GFX SELECT
DMI RX TERMINATION
GFX SELECT
DMI RX TERMINATION
SV DETECT

Title	PCH HOST , SATA, PCI
Size	Custom
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Gigabyte Technology

PCH (D)

<17,26> N_LAD[0..3] N_LAD[0..3]

NR54 8.2K/4/X

PCHD

VCC3 N_GPIO23 AK26
<17,26> N_LAD0 N_LAD0 AN24
<17,26> N_LAD1 N_LAD1 AP26
<17,26> N_LAD2 N_LAD2 AJ24
<17,26> N_LAD3 N_LAD3 AN26
<17> N_-LDRQ0 N_-LDRQ0 AK22
<17,26> N_-LFRAME N_-LFRAME AP24
<22> C_ACZ_SDOUT A_SO AV23
<22> C_ACZ_BITCLK AV24
<22> C_ACZ_SYNC A_SYC AT26
<22> C_-ACZ_RST AV22
NRN29 33/8P4R/4
<22> C_ACZ_SDIN2 AT22
A_SO AW23
A_SYC AU22
AV24

LDRQ1B_GP23
LAD_0
LAD_1
LAD_2
LAD_3
LDRQ0B
LFRAMEB
HDA_BCLK
HDA_RSTB
HDA_SDI0
HDA_SDI1
HDA_SDI2
HDA_SDI3
HDA_SDO
HDA_SYNC

<20> N_ICH_SPI_MOSI P40 SPI_MOSI_IO0
<20> N_ICH_SPI_MISO R36 SPI_MISO_IO1
<20> N_-ICH_SPI_CS R38 SPI_CS0B
<20> N_ICH_SPI_CLK U39 SPI_CLK
R35 SPI_CS1B
R40 SPI_CS2B
<20> SPI_DQ2 U40 SPI_IO2
<20> SPI_DQ3 U37 SPI_IO3

N_Y1 AN40 RTCX1
N_Y2 AN39 RTCX2
N_-RTCRST AR38 RTESTB
N_-SRTCRST AR39 SRTCRSTB
N_-INTRUDER AR41 INTRUDERB
<6,17> O_PWROK1 AT40 PCH_PWROK
<17,25> O_-RSMRST AM40 RSMRSTB
N_INTVRMEN AV36 INTVRMEN
N_PCH_DPWROK AV38 DPWROK
N_DSWVRMEN AM41 DSWODVREN

<17> N_-LPCPME AG31 SMBALERTB_GP11
<7,8,14,15,16,19> N_SMBCLK AG36 SMBCLK
<7,8,14,15,16,19> N_SMBDATA AG32 SMBDATA
N_GPIO60 AG35 SML0ALERTB_GP60
N_SML0CLK AE32 SML0CLK
N_SML0DAT AE35 SML0DATA
N_-PCH_HOT AJ39 SML1ALERTB_PCHHOTB_GP74
N_SML1CLK AK36 SML1CLK_GP58_MGPIO11
N_SML1DAT AK33 SML1DATA_GP75_MGPIO12

BMBUSYB_GP0
CLKRUNB_GP32
DOCKENB_GP33
STPPCIB_GP34
GP8
LAN_PHY_PWR_CTRL_GP12
HDA_DOCK_RSTB_GP13
GP15
GP24
GP28
SLP_WLANB_GP29
PCIECLKRQ0B_GP73
PCIECLKRQ1B_GP18
PCIECLKRQ2B_GP20_SMIB
PCIECLKRQ3B_GP25
PCIECLKRQ4B_GP26
PCIECLKRQ5B_GP44
PCIECLKRQ6B_GP45
PCIECLKRQ7B_GP46
GP57
SYS_PWROK
RIB
WAKEB
SLP_AB
SLP_LANB
SLP_S0B
SLP_S3B
SLP_S4B
SLP_S5B_GP63
SUS_STATB_GP61
SUSCLK_GP62
GP72
SUSACKB
SUSWARNB_SUSPWRDNACK_GP30
DRAMPWRGD
GP27
ACPRESENT_GP31_MGPIO2
SLP_SUSB
PWRBTNB
SYS_RESETB
SPKR
PROCPWRGD
TP13
JTAG_TCK
JTAG_TDI
JTAG_TDO
JTAG_TMS

G38 N_GPIO0 N_GPIO0 <11>
N32
AV26 N_GPIO33
N34 N_-PCI_STOP N_-PCI_STOP <11>
AC40 N_-IGC_EN
AL40
AN22 -D_GPIO_HRST
AC32 N_TEMP_ALART-
AE34 A_-SKTOCC N_TEMP_ALART- <17>
V41 N_GPIO28 A_-SKTOCC <4>
AL39 N_GPIO29
W34 N_GPIO73
P39 N_GPIO18
P37 N_GPIO20
AA39 N_GPIO25
W35 N_GPIO26
AA36 N_GPIO44
W32 N_GPIO45
AA40 N_GPIO46
AC36 N_GPIO57
W31 N_PCH_VRMPWRGD <17>
AE36 N_-RI <18>
AK34 N_-PCIE_WAKE <14,15,24,32>
AN37 N_-SLP_A <11,30>
AU36
AC35
AK40 N_-SLP_S3 <17>
AT35 N_-S4_S5 <17>
AA35
AD37
W36 N_SUSCLK N_SUSCLK <26>
AJ40 N_GPIO72
AJ37
AG41 N_-S_WARN
AE38 N_DRAM_PWROK
AU34 N_GPIO27
AM36 N_GPIO31
AK38 N_-DEPSLP <25>
AK41 O_PWRBTSW <17>
N36 N_-SYS_RST N_-SYS_RST <21>
R32 N_SPKR N_SPKR <21>
D40 N_CPUPWROK N_CPUPWROK <4,17>
W37 N_PCH_RST
Y40 N_PCH_TCK
W39 N_PCH_TDI
Y38 N_PCH_TDO
W40 N_PCH_TMS

DDR_15V
NR131 680/4/1
N_DRAM_PWROK N_DRAM_PWROK <4>
NR132 1.47K/4/1

DH82B85/S/[10HB1-030B85-20R]

O_PWROK1
NC51 0.01u/4/X7R/25V/K/X
Reserve for EMI test

N_CPUPWROK
PEMC3 1n/4/X7R/50V/K/X
EMI REQUEST

N_-SLP_S3
PEMC4 1n/4/X7R/50V/K/X
EMI REQUEST

ACZ_SDOUT

PCH_DPWROK

3VDUAL_PCH
NR69 8.2K/4
N_PCH_DPWROK N_PCH_DPWROK <17,25>
NC17 1n/4/X7R/50V/K
for IT8620 Ctrl

VCC3
NR345 1K/4/1
N_PCH_VRMPWRGD N_PCH_VRMPWRGD <17>
NR346 100K/4/1
DC17 0.1u/4/X7R/16V/K

PCH_PU/PD

GP8:Low to enable PCH clock chip
NR106 1K/4/1 N_-IGC_EN

3VDUAL
N_GPIO46 N_GPIO45 N_GPIO44 N_GPIO57 NRN9 8.2K/8P4R/4
A_-SKTOCC N_TEMP_ALART- N_-RI NRN10 8.2K/8P4R/4
SUSCLK:Low to OD PLL VR
-D_GPIO_HRST NR51 1K/4/1
N_GPIO28 NR144 1K/4/1
N_GPIO29 NR96 1K/4/1
GP28:Lo disable VRM ,Hi enable VRM

3VDUAL_PCH
N_-S_WARN N_GPIO72 N_GPIO31 N_GPIO27 NRN20 8.2K/8P4R/4
N_-PCIE_WAKE NR76 1K/4/1

VCC3
<11> N_GPIO33 N_GPIO37 N_-SYS_RST N_GPIO20 N_GPIO39 NR49 8.2K/4 NRN21 8.2K/8P4R/4
<11> N_GPIO37
<11> N_GPIO39

3VDUAL
N_PCH_RST N_PCH_TDI N_PCH_TMS N_PCH_TDO NR172 20K/4/1 NRN22 200/8P4R/4

N_PCH_TDI N_PCH_TMS N_PCH_TDO N_PCH_TCK N_GPIO18 N_GPIO26 N_GPIO73 N_GPIO25 N_-SYS_RST N_DRAM_PWROK NRN23 100/8P4R/4 NRN24 8.2K/8P4R/4
NR108 51/4/1
NC58 1n/4/X7R/50V/K
NC59 1n/4/X7R/50V/K

HSW_STRAP13

32.768KHZ

NX2-SHT SHW/D0.64*5.08*6.74
N_Y1
N_Y2 NR75 10M/4
NX2
32.768K/12.5p/20ppm/TF38/35K/D
NC16 18P/4/NPO/50V/J
NC18 18P/4/NPO/50V/J

CLR_CMOS

BATTERY CR2032
NX2-SHT SHW/D0.64*5.08*6.74
NR340 MASK/0/6/SHT/M/X
BAT BAT-SK/BK/P/S/D/SN
3VDUAL_PCH
N_VBATT NRB 1K/4/1
ND1 BAS40-05/0.2A/SOT23
RB_TP N_VBAT N_VBAT <17>

BATTERY-DUAL-4
RB 必须放在BAT外

NR90 390K/4 N_DSWVRMEN
N_RTCVDD N_RTCVDD <13,19>
NR67 390K/4 N_INTVRMEN
NR78 20K/4/1 N_-RTCRST
NC15 1u/4/X5R/6.3V/K
NC20 1u/4/X5R/6.3V/K

N_-INTRUDER NR74 1M/4 N_RTCVDD <13,19>
N_-SRTCRST NR77 20K/4/1 N_RTCVDD <13,19>
NC19 1u/4/X5R/6.3V/K

CLR_CMOS
N_-RTCRST
PH/1*2/BK/2.54/VA/D

NRN6 8.2K/8P4R/4
3VDUAL
N_-LPCPME N_GPIO60 N_-PCH_HOT
NRN25 1K/8P4R/4
N_SML1CLK N_SML1DAT N_SMBCLK N_SMBDATA
NR122 499/4/1 N_SML0CLK
NR123 499/4/1 N_SML0DAT

Gigabyte Technology

Title	PCH GPIO , CTRL , AUDIO		
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PCH (H)

VCC3_DAC

CLOSE北橋(注意震盪水波紋)

3VDUAL_PCH

SHT PWR

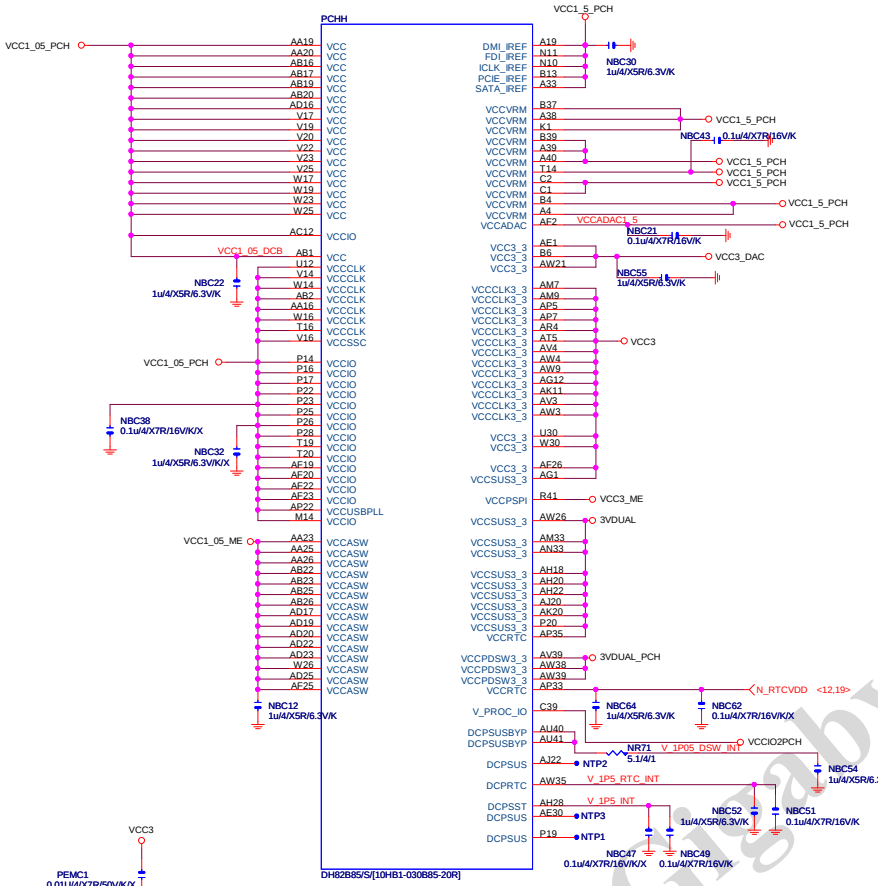
H97 N/A

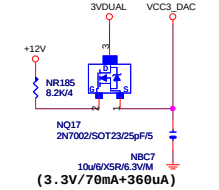
MASK

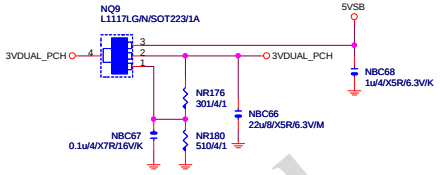
R1.0

SHORT WIRE

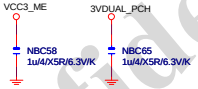
[Z97]



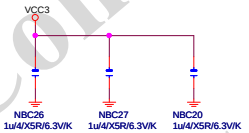




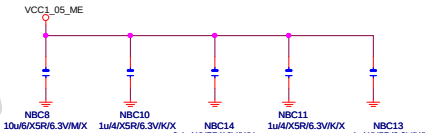
CAP



(3.3V)(X6)

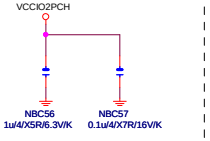


(1.05V)(X5)

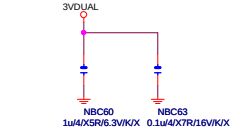


(1.05V)(X6)

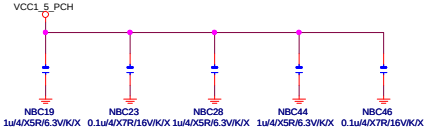
(1.05V)(X2)



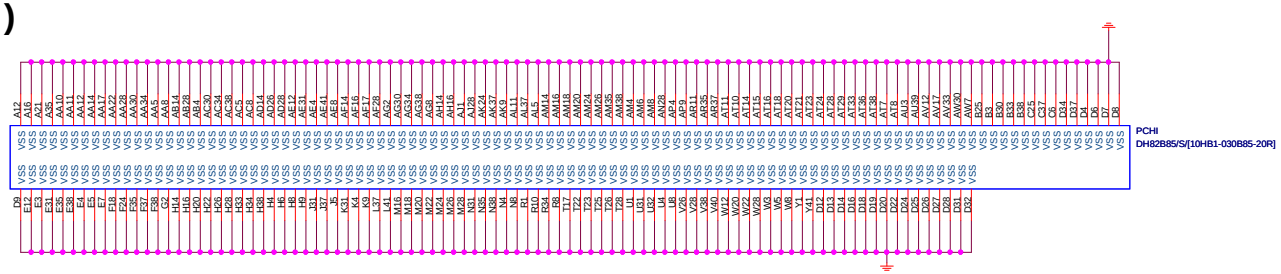
(3.3V)(X2)



(1.05V)(X10)



PCH (I)



Gigabyte Technology			
Title: PCH PWR ,GND			
Size: Custom	Document Number: GA-B85M-D3H		Rev: 2.01
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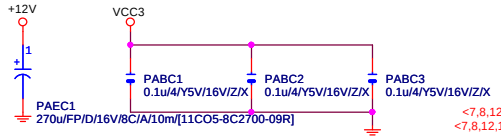
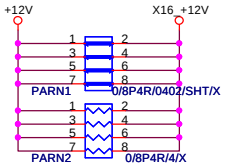
PCIEX16 CAP



PCIEX16 PROTECT SHT



PCIEX16 AC CAP

PA_EXP_TXP0	PAC5	0.22u/4/X5R/6.3V/K	PA_EXP_TXP0_C
PA_EXP_TXN0	PAC4	0.22u/4/X5R/6.3V/K	PA_EXP_TXN0_C
PA_EXP_TXP1	PAC6	0.22u/4/X5R/6.3V/K	PA_EXP_TXP1_C
PA_EXP_TXN1	PAC7	0.22u/4/X5R/6.3V/K	PA_EXP_TXN1_C
PA_EXP_TXP2	PAC8	0.22u/4/X5R/6.3V/K	PA_EXP_TXP2_C
PA_EXP_TXN2	PAC9	0.22u/4/X5R/6.3V/K	PA_EXP_TXN2_C
PA_EXP_TXP3	PAC10	0.22u/4/X5R/6.3V/K	PA_EXP_TXP3_C
PA_EXP_TXN3	PAC11	0.22u/4/X5R/6.3V/K	PA_EXP_TXN3_C
PA_EXP_TXP4	PAC12	0.22u/4/X5R/6.3V/K	PA_EXP_TXP4_C
PA_EXP_TXN4	PAC13	0.22u/4/X5R/6.3V/K	PA_EXP_TXN4_C
PA_EXP_TXP5	PAC14	0.22u/4/X5R/6.3V/K	PA_EXP_TXP5_C
PA_EXP_TXN5	PAC15	0.22u/4/X5R/6.3V/K	PA_EXP_TXN5_C
PA_EXP_TXP6	PAC16	0.22u/4/X5R/6.3V/K	PA_EXP_TXP6_C
PA_EXP_TXN6	PAC17	0.22u/4/X5R/6.3V/K	PA_EXP_TXN6_C
PA_EXP_TXP7	PAC19	0.22u/4/X5R/6.3V/K	PA_EXP_TXP7_C
PA_EXP_TXN7	PAC18	0.22u/4/X5R/6.3V/K	PA_EXP_TXN7_C
PA_EXP_TXP8	PAC20	0.22u/4/X5R/6.3V/K	PA_EXP_TXP8_C
PA_EXP_TXN8	PAC21	0.22u/4/X5R/6.3V/K	PA_EXP_TXN8_C
PA_EXP_TXP9	PAC22	0.22u/4/X5R/6.3V/K	PA_EXP_TXP9_C
PA_EXP_TXN9	PAC23	0.22u/4/X5R/6.3V/K	PA_EXP_TXN9_C
PA_EXP_TXP10	PAC24	0.22u/4/X5R/6.3V/K	PA_EXP_TXP10_C
PA_EXP_TXN10	PAC25	0.22u/4/X5R/6.3V/K	PA_EXP_TXN10_C
PA_EXP_TXP11	PAC26	0.22u/4/X5R/6.3V/K	PA_EXP_TXP11_C
PA_EXP_TXN11	PAC27	0.22u/4/X5R/6.3V/K	PA_EXP_TXN11_C
PA_EXP_TXP12	PAC28	0.22u/4/X5R/6.3V/K	PA_EXP_TXP12_C
PA_EXP_TXN12	PAC29	0.22u/4/X5R/6.3V/K	PA_EXP_TXN12_C
PA_EXP_TXP13	PAC30	0.22u/4/X5R/6.3V/K	PA_EXP_TXP13_C
PA_EXP_TXN13	PAC31	0.22u/4/X5R/6.3V/K	PA_EXP_TXN13_C
PA_EXP_TXP14	PAC32	0.22u/4/X5R/6.3V/K	PA_EXP_TXP14_C
PA_EXP_TXN14	PAC33	0.22u/4/X5R/6.3V/K	PA_EXP_TXN14_C
PA_EXP_TXP15	PAC34	0.22u/4/X5R/6.3V/K	PA_EXP_TXP15_C
PA_EXP_TXN15	PAC35	0.22u/4/X5R/6.3V/K	PA_EXP_TXN15_C

PA_EXP_RXP[0..15] → PA_EXP_RXP[0..15] <4>
PA_EXP_RXN[0..15] → PA_EXP_RXN[0..15] <4>
PA_EXP_TXP[0..15] → PA_EXP_TXP[0..15] <4>
PA_EXP_TXN[0..15] → PA_EXP_TXN[0..15] <4>

PCIEX16 SLOT

PCIESLOT-164DN-Q-1

3GIO_*16

PCIEX16

		B1	12V
		B2	12V
		B3	RSVD
PAR3	MASK/0/4/SHT/M/X	B4	GND
<7,8,12,15,16,19> N_SMBCLK		B5	SMCLK
<7,8,12,15,16,19> N_SMBDATA		B6	SMDAT
		B7	GND
3VDUAL	VCC3	B8	3.3V
		B9	JTAG1
		B10	3.3VAUX
<12,15,24,32> N_-PCIE_WAKE		B11	WAKE*
			KEY
		B12	RSVD
		B13	GND
PA_EXP_TXP0_C		B14	HSOP0
PA_EXP_TXN0_C		B15	HSON0
		B16	GND
		B17	PRSNT2*
		B18	GND
PA_EXP_TXP1_C		B19	HSOP1
PA_EXP_TXN1_C		B20	HSON1
		B21	GND
		B22	GND
PA_EXP_TXP2_C		B23	HSOP2
PA_EXP_TXN2_C		B24	HSON2
		B25	GND
		B26	GND
PA_EXP_TXP3_C		B27	HSOP3
PA_EXP_TXN3_C		B28	HSON3
		B29	GND
		B30	RSVD
		B31	PRSNT2*
		B32	GND
PA_EXP_TXP4_C		B33	HSOP4
PA_EXP_TXN4_C		B34	HSON4
		B35	GND
		B36	GND
PA_EXP_TXP5_C		B37	HSOP5
PA_EXP_TXN5_C		B38	HSON5
		B39	GND
		B40	GND
PA_EXP_TXP6_C		B41	HSOP6
PA_EXP_TXN6_C		B42	HSON6
		B43	GND
		B44	GND
PA_EXP_TXP7_C		B45	HSOP7
PA_EXP_TXN7_C		B46	HSON7
		B47	GND
		B48	PRSNT2*
		B49	GND
PA_EXP_TXP8_C		B50	HSOP8
PA_EXP_TXN8_C		B51	HSON8
		B52	GND
		B53	GND
PA_EXP_TXP9_C		B54	HSOP9
PA_EXP_TXN9_C		B55	HSON9
		B56	GND
		B57	GND
PA_EXP_TXP10_C		B58	HSOP10
PA_EXP_TXN10_C		B59	HSON10
		B60	GND
		B61	GND
PA_EXP_TXP11_C		B62	HSOP11
PA_EXP_TXN11_C		B63	HSON11
		B64	GND
		B65	GND
PA_EXP_TXP12_C		B66	HSOP12
PA_EXP_TXN12_C		B67	HSON12
		B68	GND
		B69	GND
PA_EXP_TXP13_C		B70	HSOP13
PA_EXP_TXN13_C		B71	HSON13
		B72	GND
		B73	GND
PA_EXP_TXP14_C		B74	HSOP14
PA_EXP_TXN14_C		B75	HSON14
		B76	GND
		B77	GND
PA_EXP_TXP15_C		B78	HSOP15
PA_EXP_TXN15_C		B79	HSON15
		B80	GND
		B81	PRSNT2*
		B82	RSVD

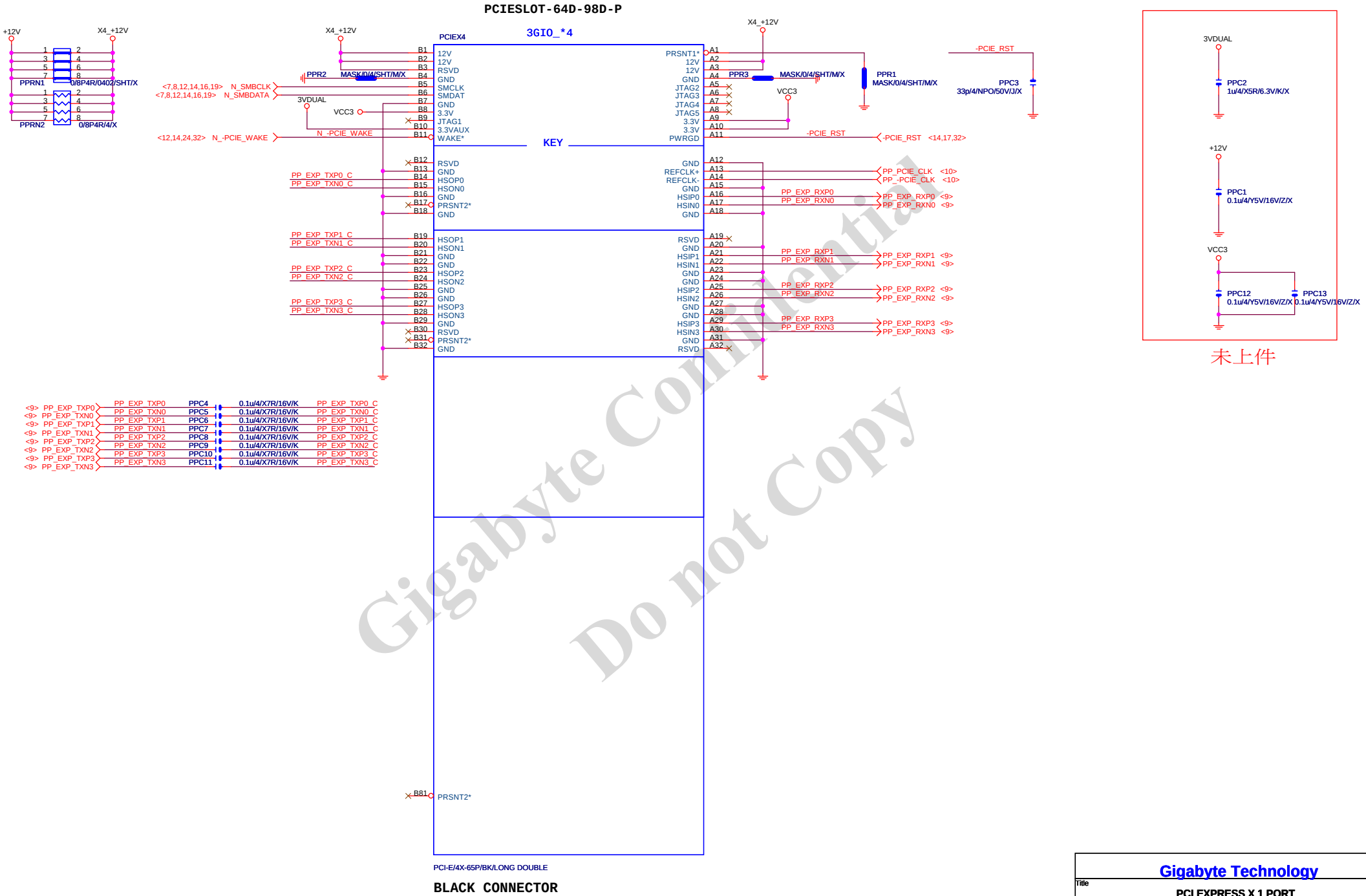
X16_+12V		A1	PRSNT1*
		A2	12V
		A3	12V
PAR1	MASK/0/4/SHT/M/X	A4	GND
		A5	JTAG2
		A6	JTAG3
		A7	JTAG4
VCC3		A8	JTAG5
		A9	3.3V
		A10	3.3V
-PCIE_RST	-PCIE_RST <15,17,32>	A11	PWRGD
		A12	GND
PA_SRCCLK_3GIO <10>		A13	REFCLK+
PA_-SRCCLK_3GIO <10>		A14	REFCLK-
		A15	GND
PA_EXP_RXP0		A16	HSIP0
PA_EXP_RXN0		A17	HSIN0
		A18	GND
		A19	RSVD
PA_EXP_RXP1		A20	GND
PA_EXP_RXN1		A21	HSIP1
		A22	HSIN1
		A23	GND
PA_EXP_RXP2		A24	GND
PA_EXP_RXN2		A25	HSIP2
		A26	HSIN2
		A27	GND
PA_EXP_RXP3		A28	GND
PA_EXP_RXN3		A29	HSIP3
		A30	HSIN3
		A31	GND
		A32	RSVD
PA_EXP_RXP4		A33	RSVD
PA_EXP_RXN4		A34	GND
		A35	HSIP4
		A36	HSIN4
PA_EXP_RXP5		A37	GND
PA_EXP_RXN5		A38	GND
		A39	HSIP5
		A40	HSIN5
PA_EXP_RXP6		A41	GND
PA_EXP_RXN6		A42	GND
		A43	HSIP6
		A44	HSIN6
PA_EXP_RXP7		A45	GND
PA_EXP_RXN7		A46	GND
		A47	HSIP7
		A48	HSIN7
		A49	GND
PA_EXP_RXP8		A50	RSVD
PA_EXP_RXN8		A51	GND
		A52	HSIP8
		A53	HSIN8
PA_EXP_RXP9		A54	GND
PA_EXP_RXN9		A55	GND
		A56	HSIP9
		A57	HSIN9
PA_EXP_RXP10		A58	GND
PA_EXP_RXN10		A59	GND
		A60	HSIP10
		A61	HSIN10
PA_EXP_RXP11		A62	GND
PA_EXP_RXN11		A63	GND
		A64	HSIP11
		A65	HSIN11
PA_EXP_RXP12		A66	GND
PA_EXP_RXN12		A67	GND
		A68	HSIP12
		A69	HSIN12
PA_EXP_RXP13		A70	GND
PA_EXP_RXN13		A71	GND
		A72	HSIP13
		A73	HSIN13
PA_EXP_RXP14		A74	GND
PA_EXP_RXN14		A75	GND
		A76	HSIP14
		A77	HSIN14
PA_EXP_RXP15		A78	GND
PA_EXP_RXN15		A79	GND
		A80	HSIP15
		A81	HSIN15
		A82	GND

-PCIE_RST → PAC1 33p/4/NPO/50V/J/X

PCI-E/16X-164P/BK/LONG DOUBLE

BLACK CONNECTOR

Gigabyte Technology			
Title: PCI EXPRESS * 16			
Size: Custom	Document Number: GA-B85M-D3H		Rev: 2.01
Date: Thursday, April 17, 2014	Sheet 14 of 32		



未上件

Gigabyte Technology		
Title	PCI EXPRESS X 1 PORT	
Size: Custom	Document Number: GA-B85M-D3H	Rev: 2.01
Date: Thursday, April 17, 2014	Sheet 15 of 32	

PCI SLOT 1

PCI1

-REQ0/-GNT0/A_D16

BLACK CONNECTOR

PCI SLOT 2

PCI2

-REQ1/-GNT1/A_D17

BLACK CONNECTOR

PCI PU

PRN3 8.2K/8P4R/4

PRN13 1K/8P4R/4

PCI CAP

BBC33 0.1u/4/Y5V/16V/Z/X

BBC43 0.1u/4/Y5V/16V/Z/X

BBC18 0.1u/4/Y5V/16V/Z/X

BBC45 0.1u/4/Y5V/16V/Z/X

BBC23 0.1u/4/Y5V/16V/Z/X

BBC32 0.1u/4/Y5V/16V/Z/X

BBC40 0.1u/4/Y5V/16V/Z/X

BBC17 0.1u/4/Y5V/16V/Z/X

BBC44 0.1u/4/Y5V/16V/Z/X

BBC22 0.1u/4/Y5V/16V/Z/X

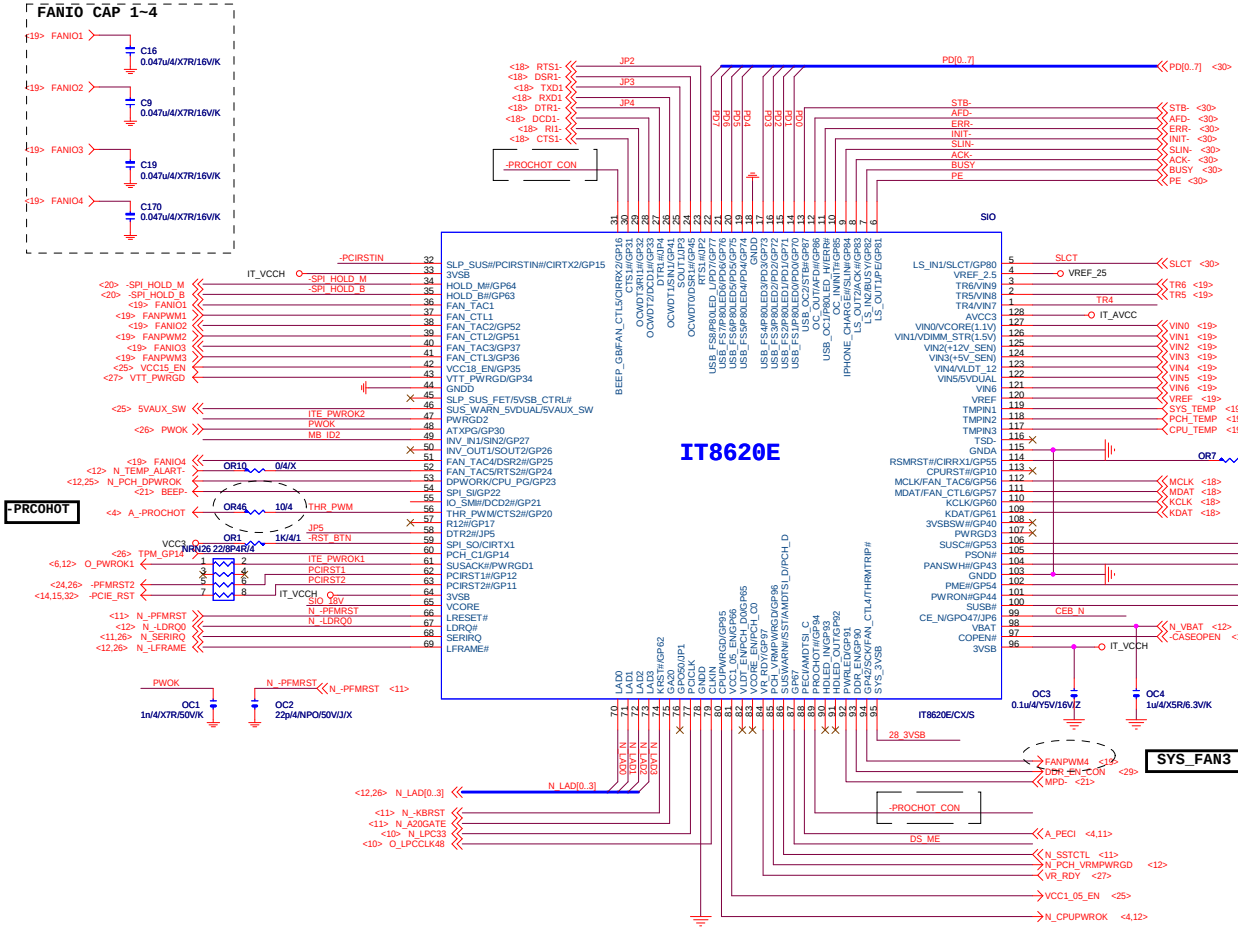
BBC37 33p/4/NPO/50V/J/X

BBC36 33p/4/NPO/50V/J/X

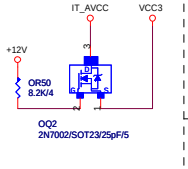
Gigabyte Technology			
Title: PCI SLOT 1&2			
Size: Custom	Document Number: GA-B85M-D3H		Rev: 2.01
Date: Thursday, April 17, 2014	Sheet 16 of 32		

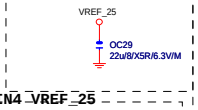
SIO IT8620

FANIO CAP 1~4

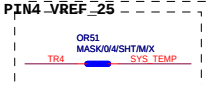


PIX ATX 插拔漏電



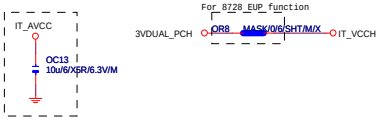


CLOSE SIO PIN4 VREF_25



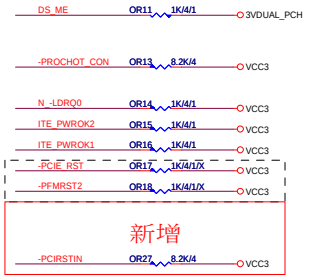
FOR SYS_FAN3確認SYS_TEMP

PWR SHT

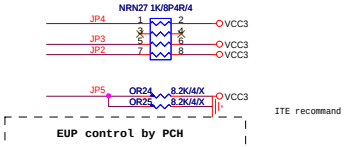


SIO PU

DO8:N/A



SIO STRAP



JP4	1	k8 power sequency function is Disable
	0	k8 power sequency function is Enable
JP3 JP5	1 1	The default value of EC Index 63h/6Bh/73h is 80h.
	1 0	The default value of EC Index 63h/6Bh/73h is FFh.
	0 1	The default value of EC Index 63h/6Bh/73h is 00h.
	0 0	The default value of EC Index 63h/6Bh/73h is 40h.

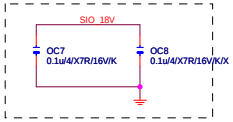
IT8620E GPIO問題匯整	
PIN 50	GP26--- 第一次接上POWER時會拉 LO
PIN 90/91	DEFAULT為HDLED FUNCTION, GP93 BYPASS TO GP92
	高溫時 GP92 會被拉Lo(ITE BUG)
PIN 108	GP40--- POWER ON 時會拉 LO
PIN 111/112	MOUSE 跟FANG FUNCTION 擇一使用,不然會互相干擾

DUAL BIOS OPT STRAP

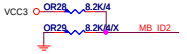
Power leakage N/A

SIO_18V

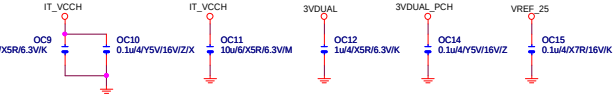
internal power pin, max 22nF cap

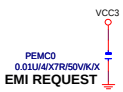


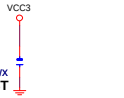
MB ID



SIO CAP







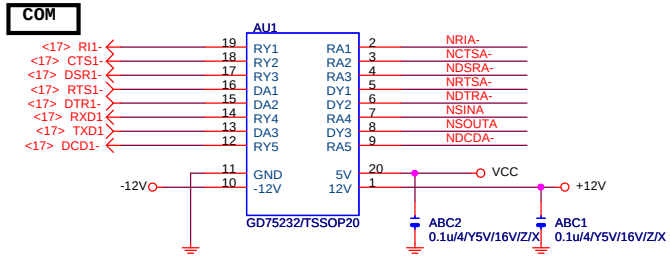
Gigabyte Technology

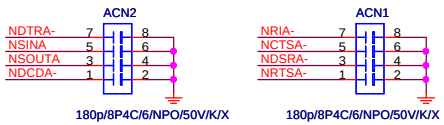
Title: ITE 8728 LPC IO

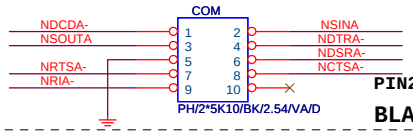
Size: C | Document Number: GA-B85M-D3H | Rev: 2.01

Date: Thursday, April 17, 2014 | Sheet 17 of 32

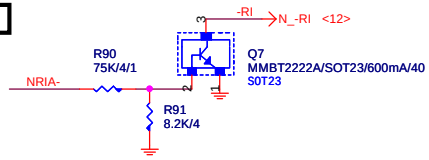
COM



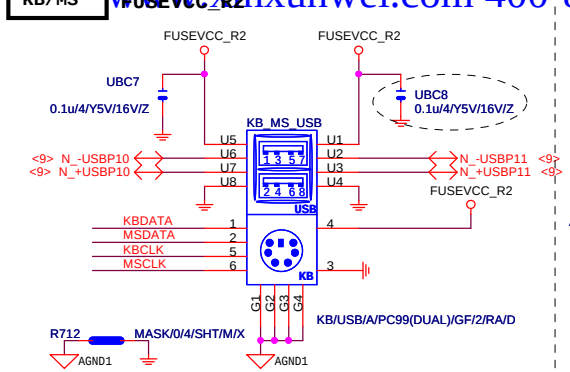


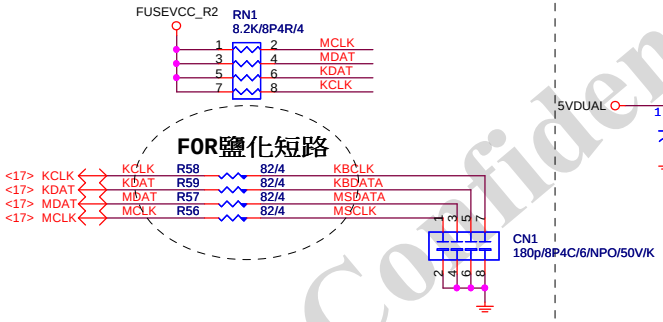


COM RI

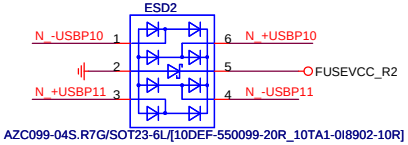


KB/MS



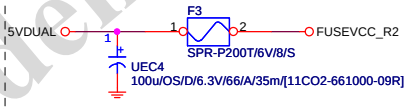


USB2.0 ESD



USB2.0 PWR

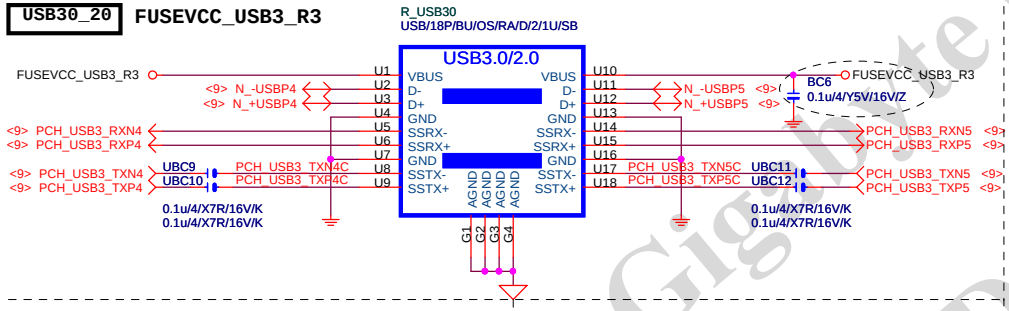
FUSE-0805



Close to connector

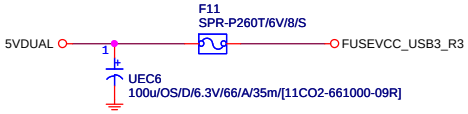
USB30_20

FUSEVCC_USB3_R3



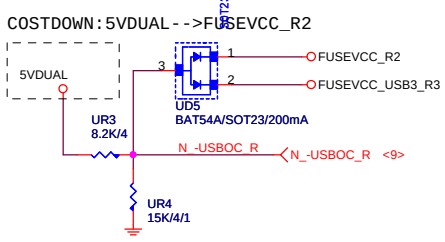
USB30_20 PWR

Polyswitch-1206



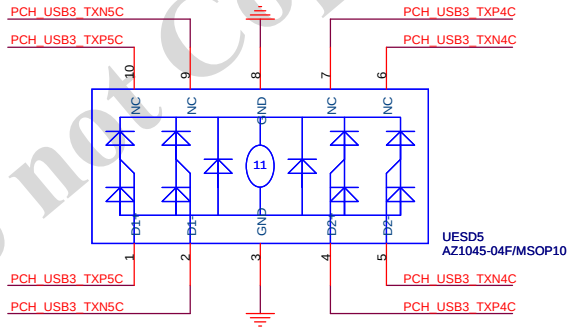
USB3.0 1Port - 1Fuse (3.5A)

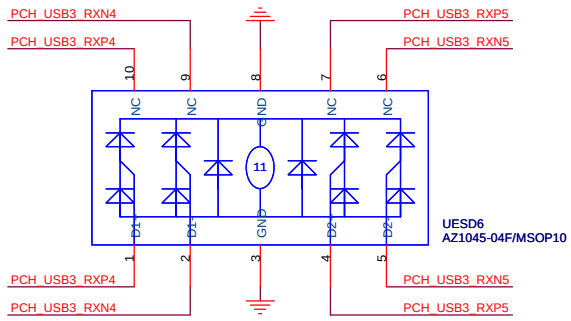
-USBOC_R



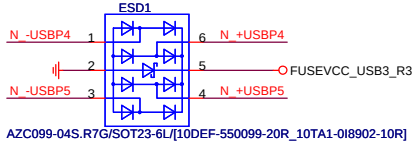
USB30_20 ESD PROCTECT

USB3.0 ESD

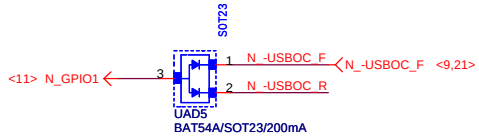




USB2.0 ESD



USB POWER PROTECT



Gigabyte Technology

Title	COM,-RI,KB_USB,USB_ESATA,-PROCHOT	
Size: Custom	Document Number: GA-B85M-D3H	Rev: 2.0
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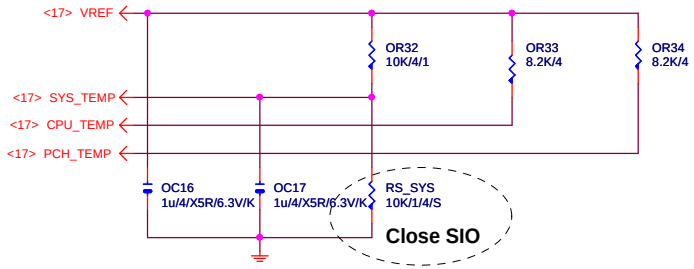
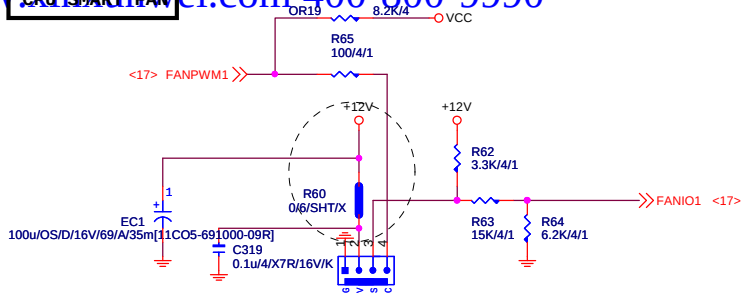
TEMP H/W MONITOR



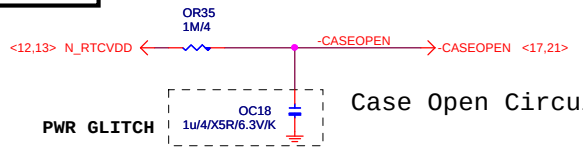
CPU SMART FAN



FOR HOT-PLUG ISSUE

WHITE CONNECTOR

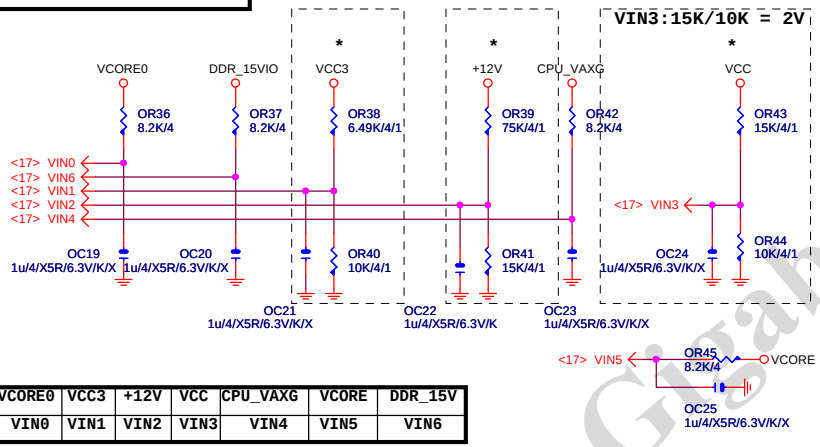
CASE OPEN



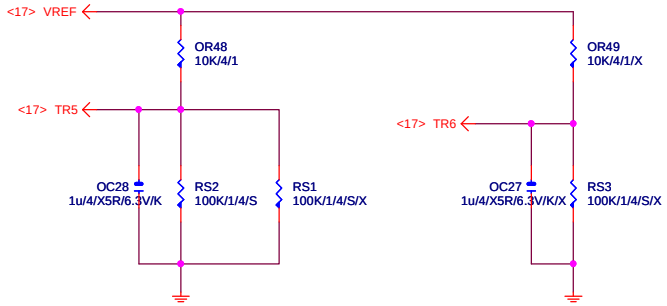
VOLTAGE-- H/W MONITOR

VIN2:75K/15K = 2V

VIN3:15K/10K = 2V

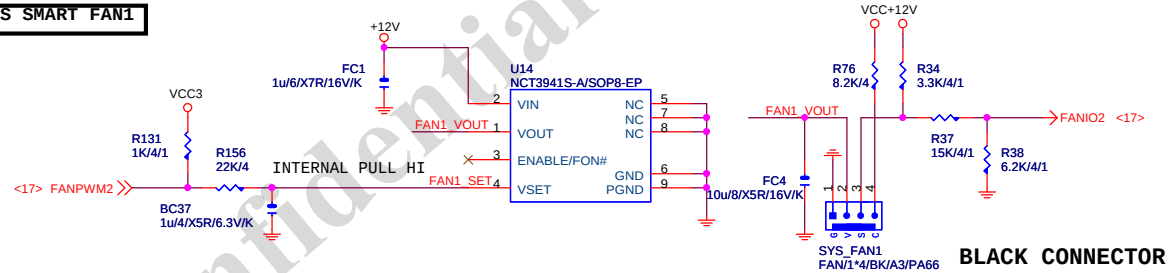


VCORE0	VCC3	+12V	VCC	CPU_VAXG	VCORE	DDR_15V
VIN0	VIN1	VIN2	VIN3	VIN4	VIN5	VIN6



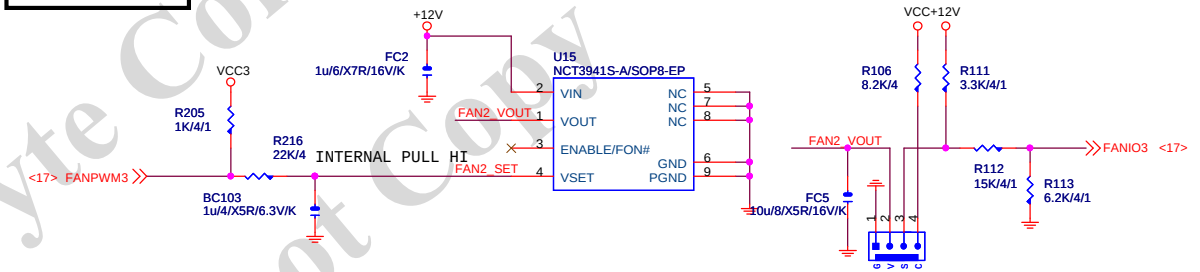
RS1、RS2、RS3 CLOSE CPU VR MOSFET

SYS SMART FAN1



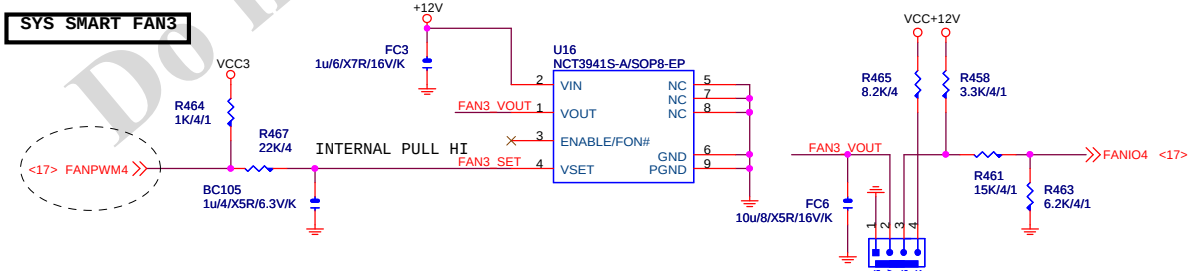
BLACK CONNECTOR

SYS SMART FAN2



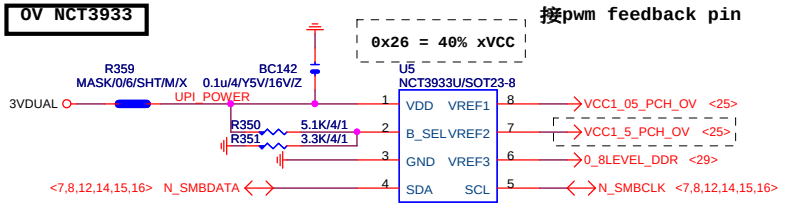
BLACK CONNECTOR

SYS SMART FAN3



BLACK CONNECTOR

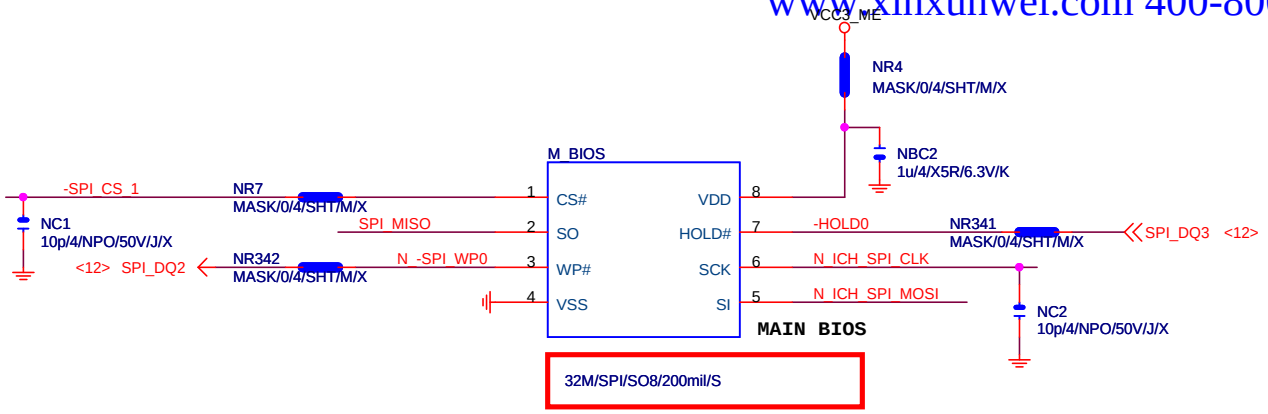
OV NCT3933

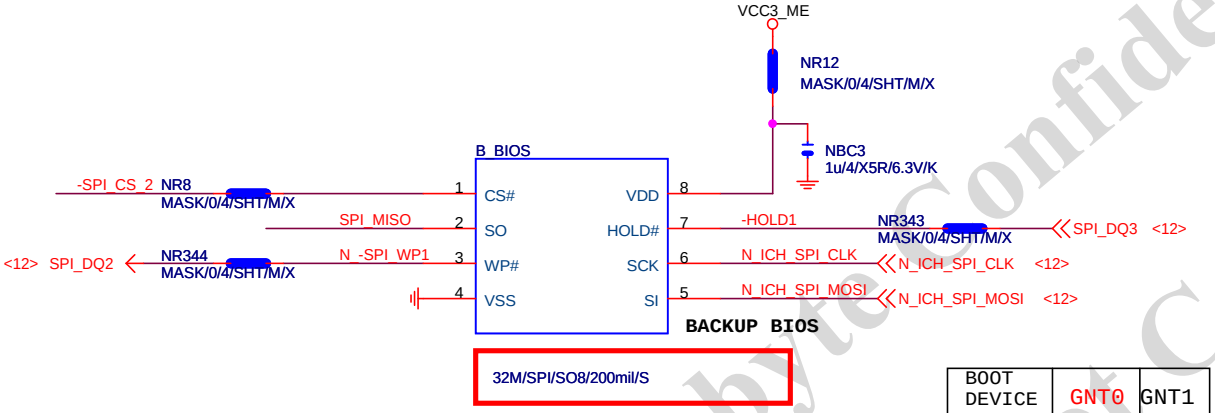


Gigabyte Technology			
Title: HWM,FAN CTRL,OV			
Size: Custom	Document Number: GA-B85M-D3H		Rev: 2.01
Date: Thursday, April 17, 2014	Sheet 19 of 32		

BIOS DEBUG PORT

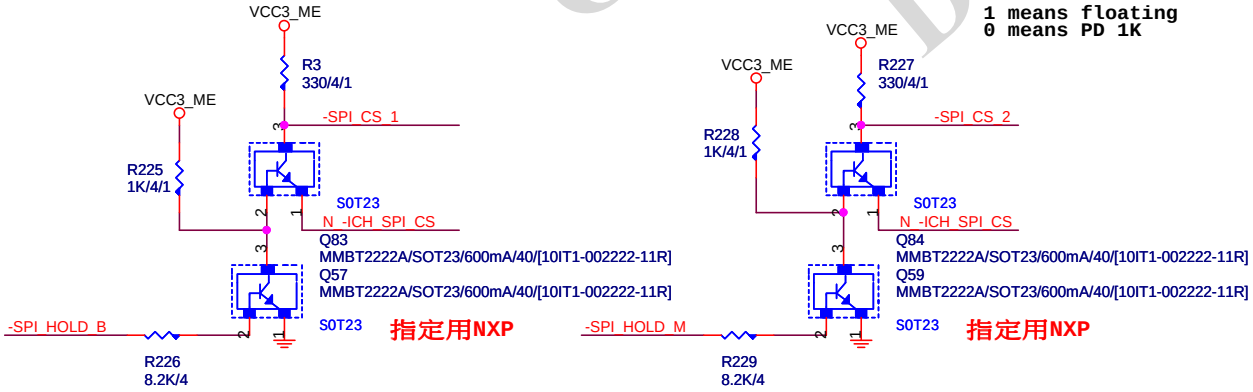
BIOS_PH R1.0 移除



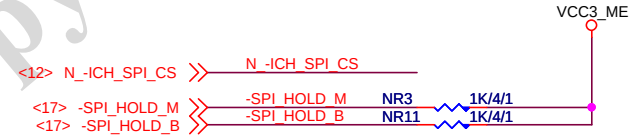


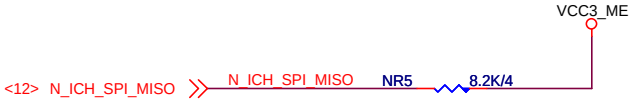
BOOT DEVICE	GNT0	GNT1
LPC	0	0
PCI	0	1
NAND	1	0
SPI	1	1

1 means floating
0 means PD 1K



MOSI For DMI RX Termination Voltage





Gigabyte Technology

Title: DUAL BIOS

Size: Custom | Document Number: GA-B85M-D3H | Rev: 2.01

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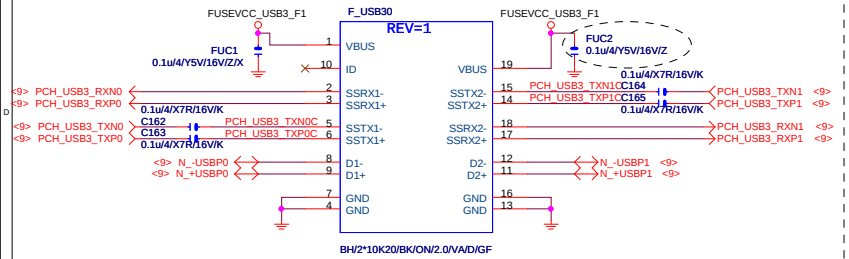
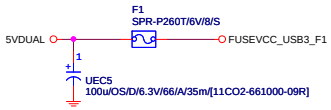
F_USB30 FUSEVCC_USB3_F1



BLACK CONNECTOR

F_USB30 PWR

Polyswitch-1206

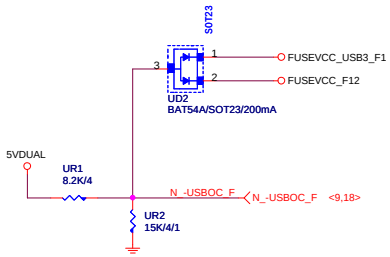


USB3.0 1Port - 1Fuse (3.5A)

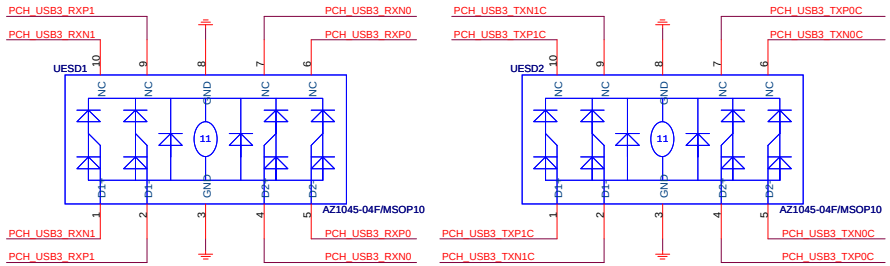
Close to connector

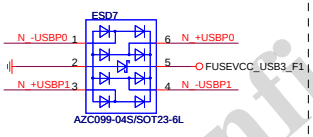
SATA LED

-USBOC_F



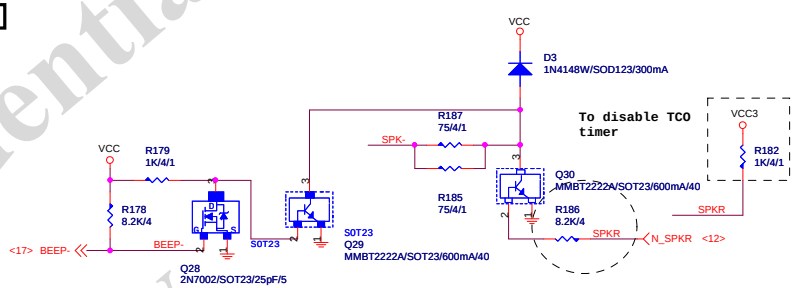
F_USB30 ESD PROTECT



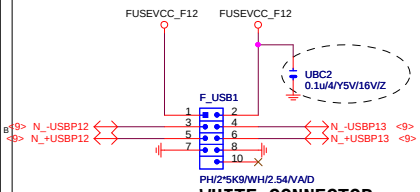


Close to connector

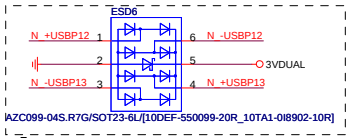
SPKR



FRONT USB1 FUSEVCC_F12



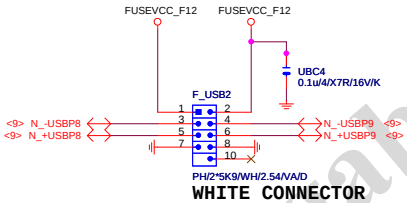
WHITE CONNECTOR



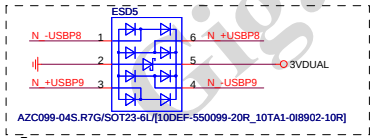
Close to connector

FUSE-0805

FRONT USB2 FUSEVCC_F4



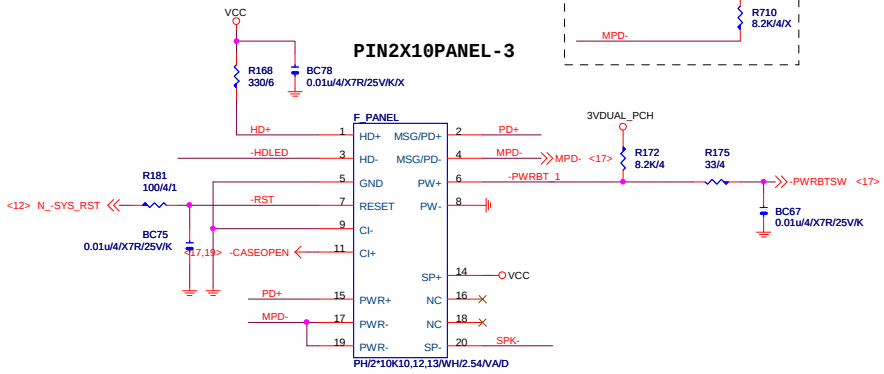
WHITE CONNECTOR

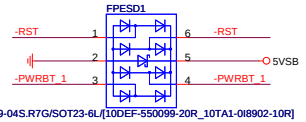


Close to connector

FUSE-0805

INTEL FRONT PANEL





Gigabyte Technology			
Title: FP,F_USB,USB PWR,SPKR,SATA LED			
Size: Custom	Document Number: GA-B85M-D3H		Rev: 2.01
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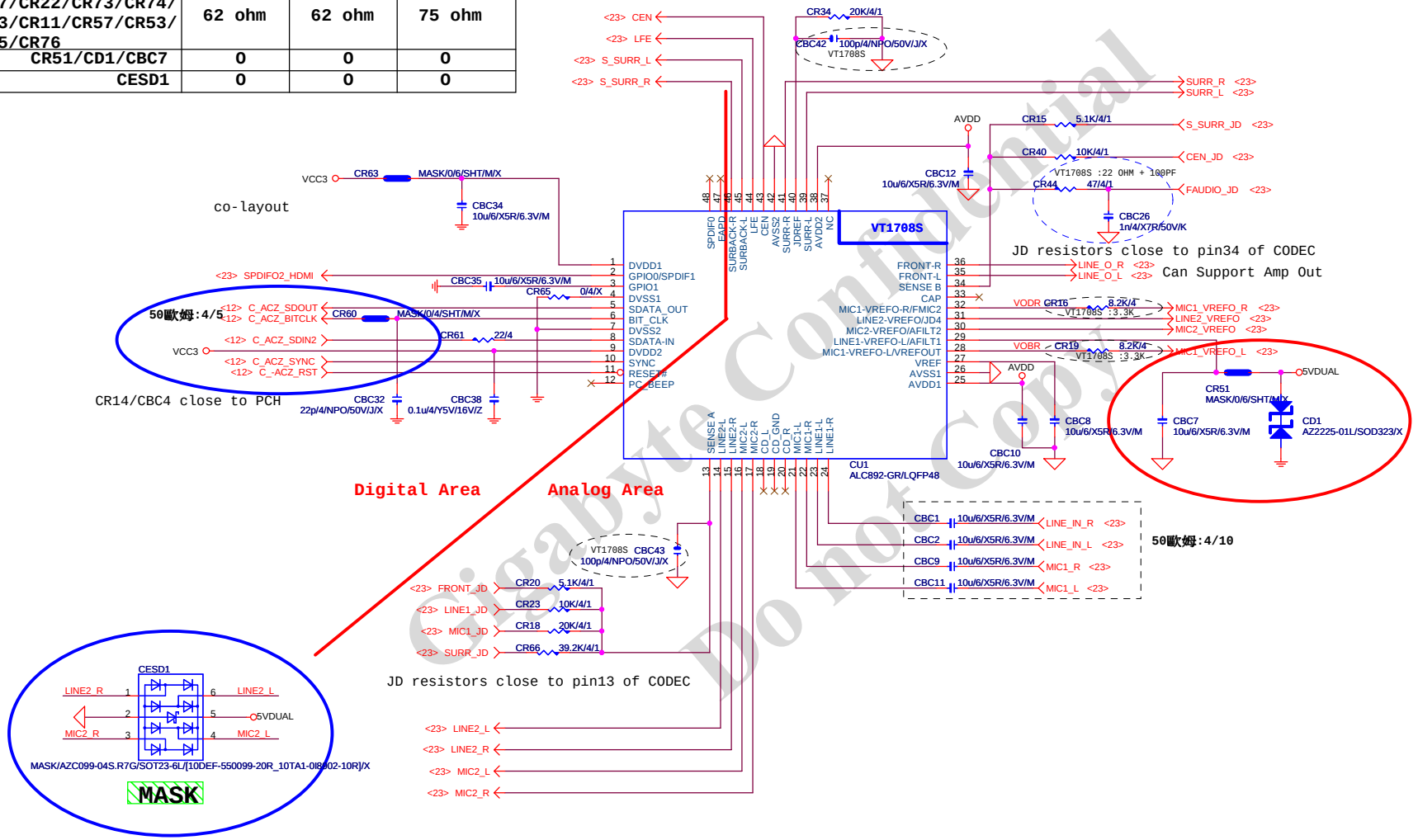
AZALIA CODEC *ALC892/ALC887-VD2/VT1708-CE Colay*

	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	0	0	0
CESD1	0	0	0



Gigabyte Technology	
Title	HD AUDIO ALC887B-VD2/VT1708S/VT2021
Size: Custom	Document Number: GA-B85M-D3H
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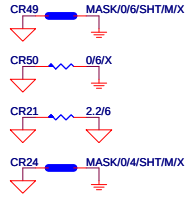
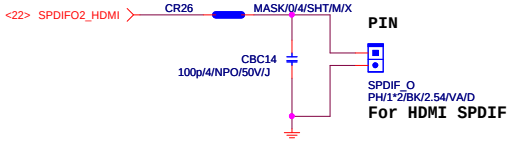
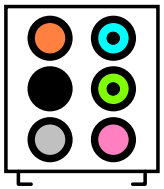
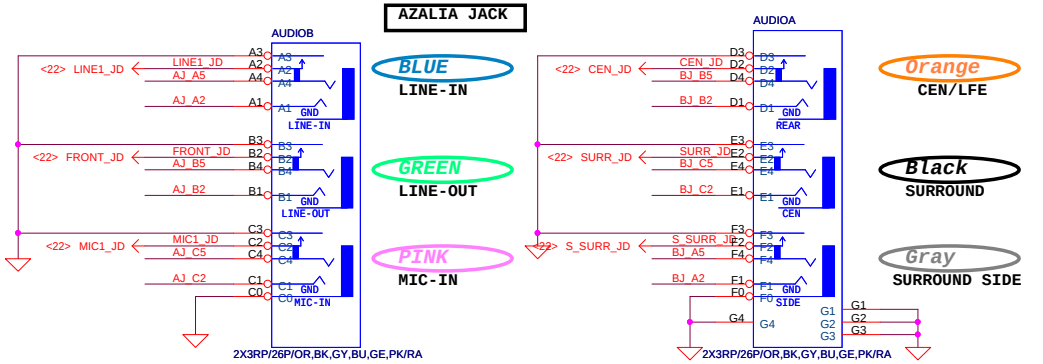


SPDIF_OUT

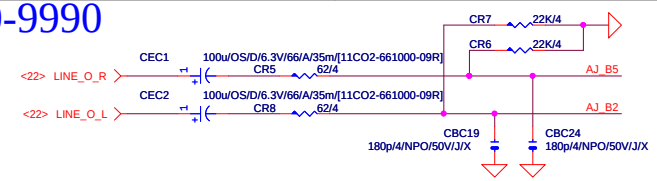


AZALIA JACK



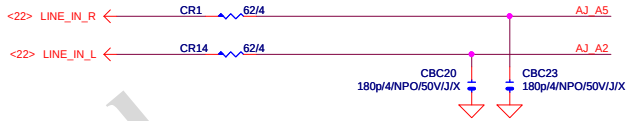


LINE-OUT



Only reserved for ALC888

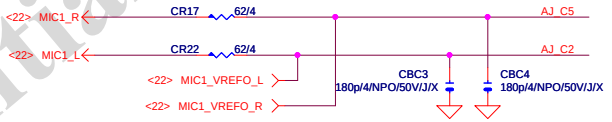
LINE-IN



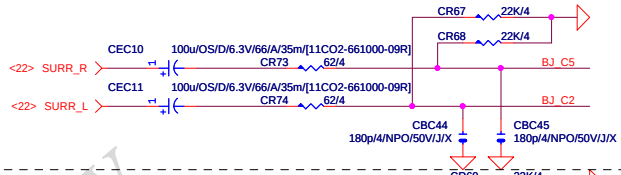
Verify MIC function in LINE-in

For 889A/888

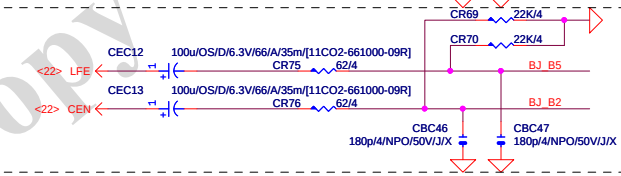
MIC-IN



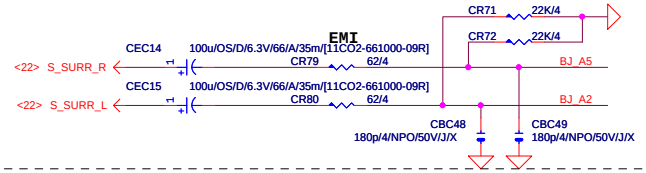
SURROUND



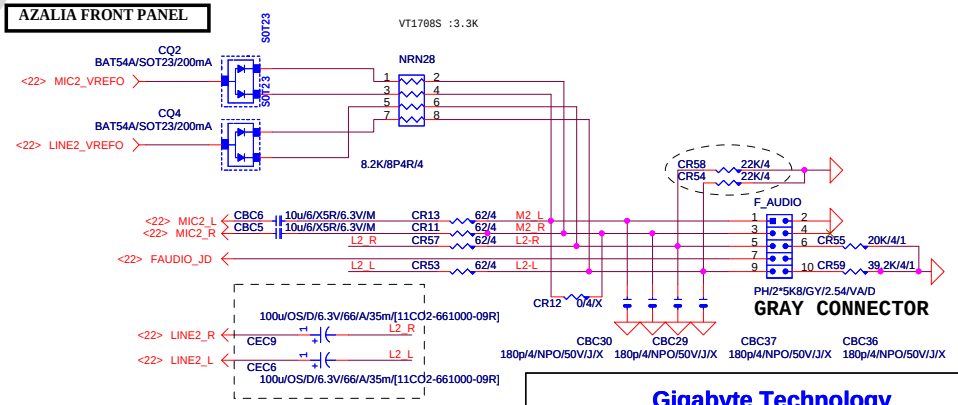
CEN/LFE



SURR BACK



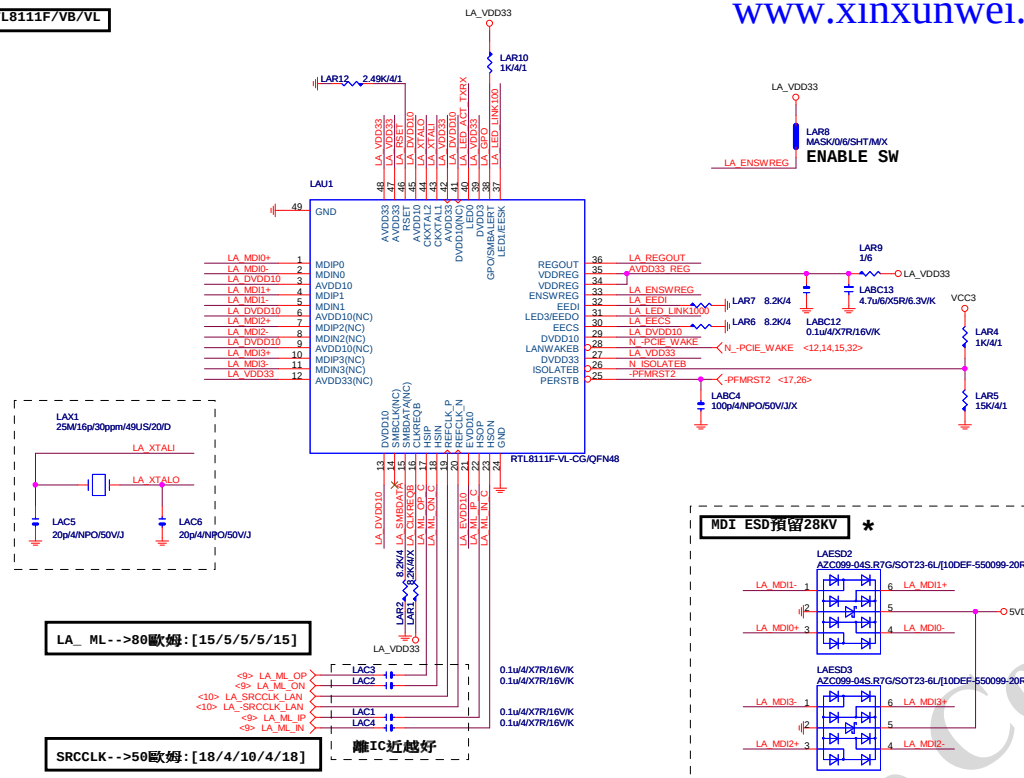
AZALIA FRONT PANEL



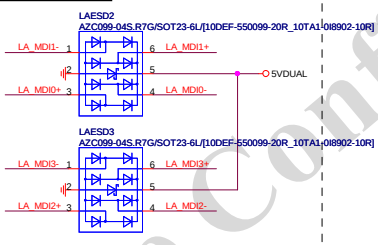
Gigabyte Technology

Title	AUDIO JACK		
Size: Custom	Document Number: GA-B85M-D3H		Rev: 2.01
Date: Thursday, April 17, 2014	Sheet 23 of 32		

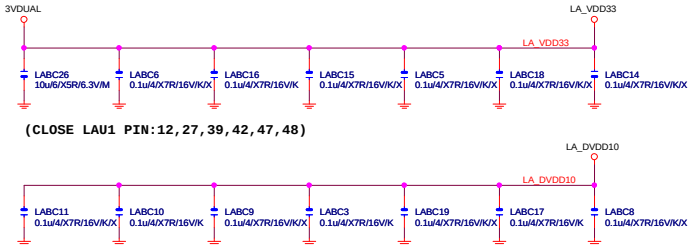
LAN:RTL8111F/VB/VL

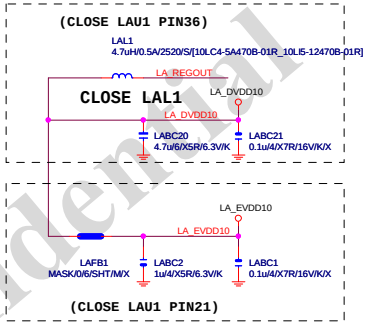


MDI ESD預留28KV *



LAN_POWER





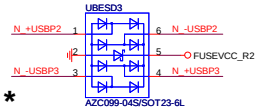
Power domain chart

	RTL8111E
AVDD33	3.3V
DVDD33	3.3V
VDDREG	3.3V
DVDD10	1.05V

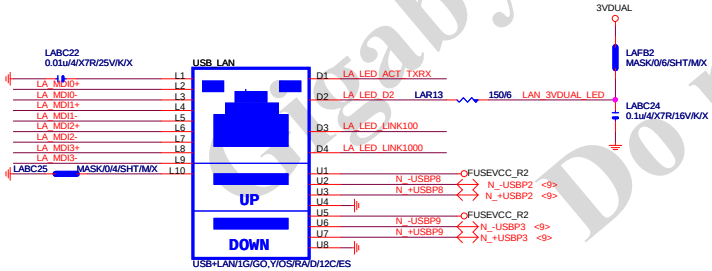
USB_LAN CONNECTOR

FUSEVCC_USB3_R5

LA_MDI-->100歐姆:[20/4/8/4/20]



* 使用RU9 USB_LAN可省略LAESD1保護LED



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

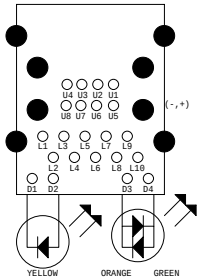
USB X3 POWER

Polyswitch-1206

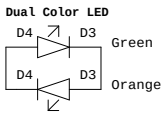
USB3.0 1Port - 1Fuse (3.5A)

EMI SHORT PAD

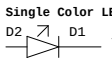
PS:視EMI需求



Dual Color LED



Single Color LED



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

Title	Gigabyte Technology Realtek RTL8111G
Size / Custom	Document Number: GA-B85M-D3H
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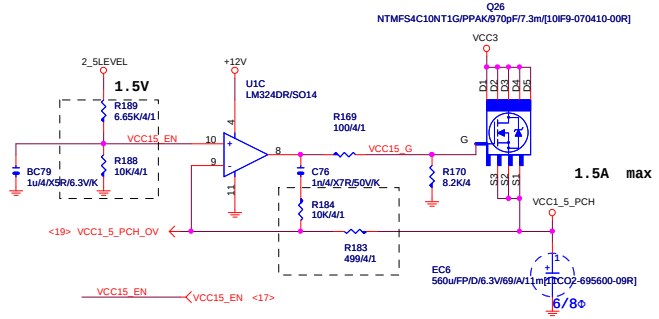
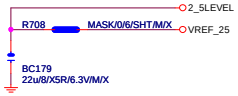
VCC1_5_PCH



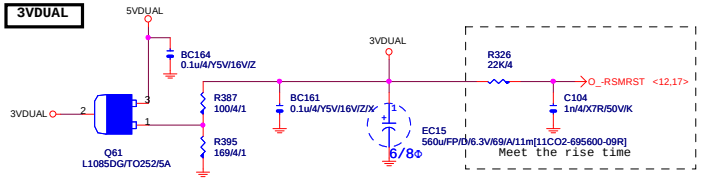
2_5LEVEL

FOOT MASK

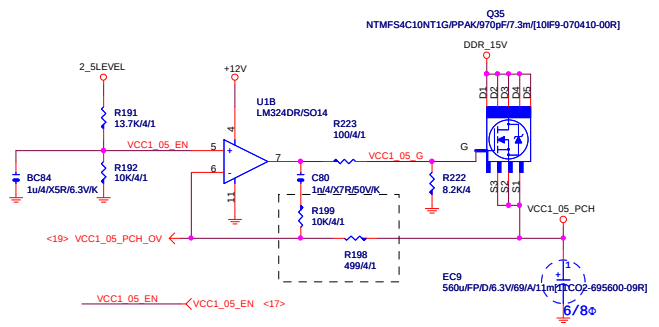
MASK

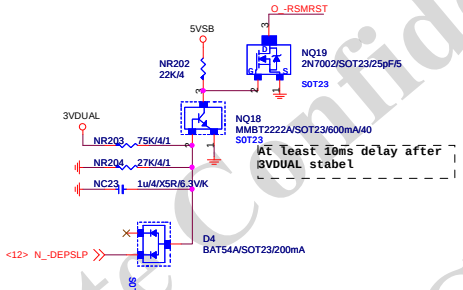


3VDUAL

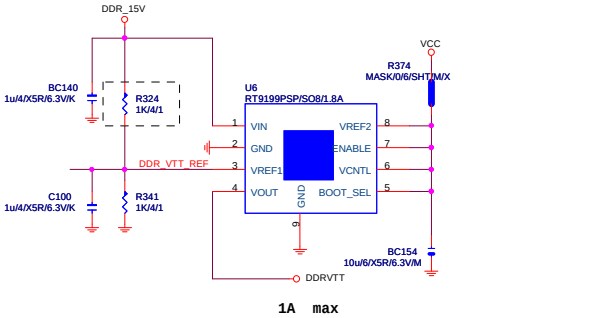


VCC1_05_PCH

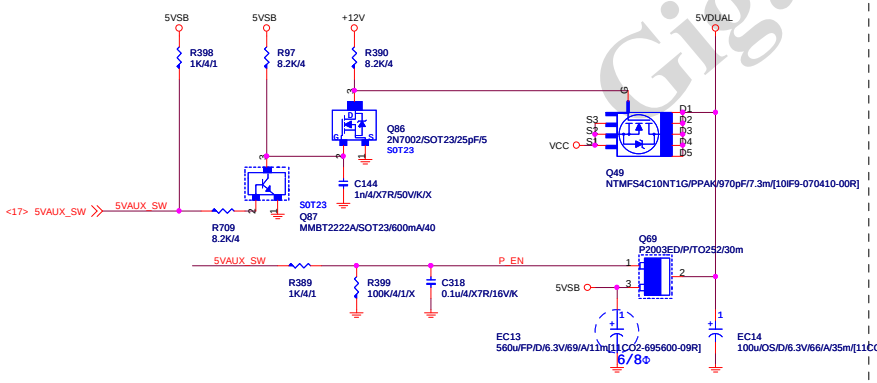




DDRVTT

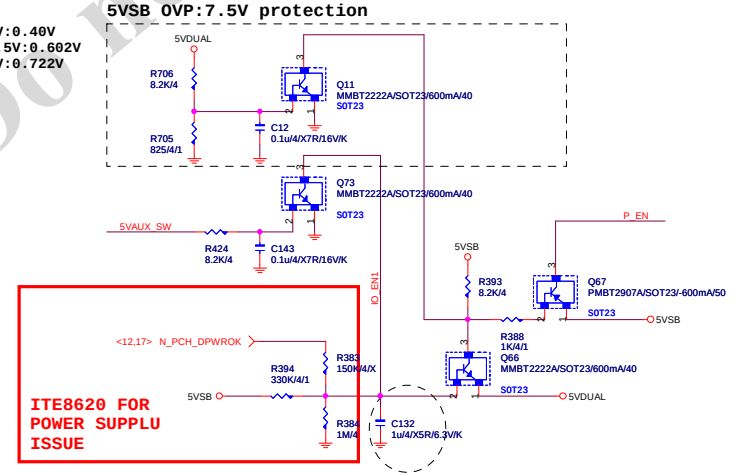


5VDUAL



5VDUAL SHORT PROTECT

5V:0.40V
7.5V:0.602V
9V:0.722V



Gigabyte Technology		
Title: DISCRETE POWER		
Size: Custom	Document Number: GA-B85M-D3H	Rev: 2.01
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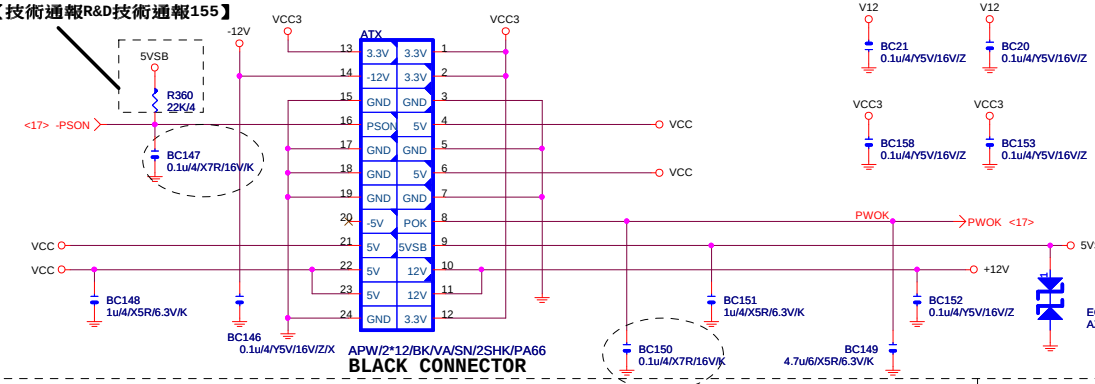
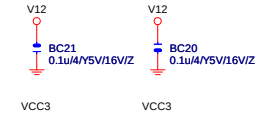
ATXX24 POWER CONNECTOR

【技術通報R&D技術通報155】



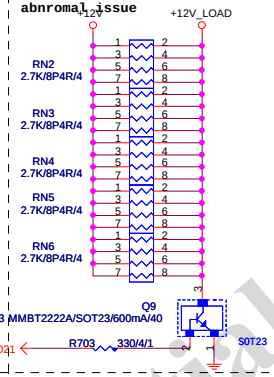
APW/2*12/BK/VA/SN/2SHK/PA66

BLACK CONNECTOR

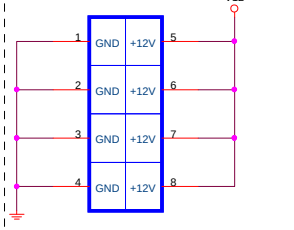


【技術通報R&D技術通報153】

To fix 12V light load abnormal issue



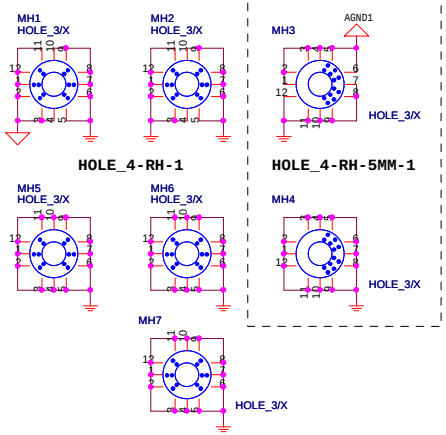
ATXX4 POWER CONNECTOR

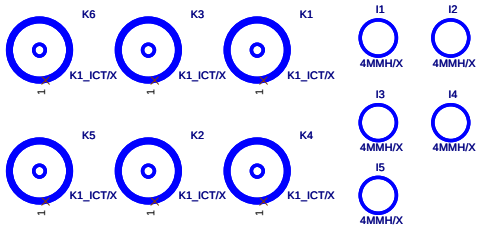


ATX_12V_2X4

APW/2*4/BK/OC/P/4.2/VA/SN/OH::Location ATX_12V_2X4

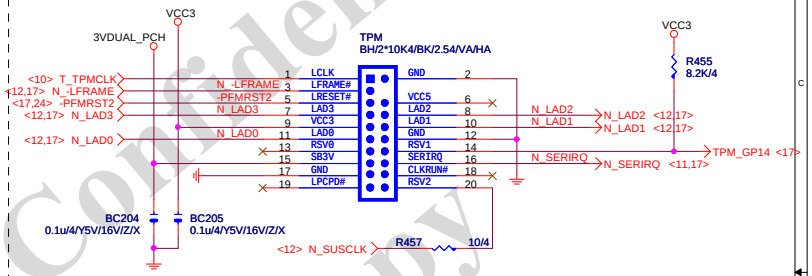
BLACK CONNECTOR



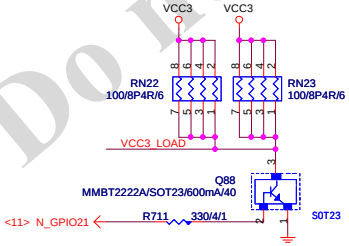


To prevent the 5VSB under loading when boot

TPM



FIX PWR MINMUN LOAD



PWOK PATCH

【技術通報R&D技術通報154】

Gigabyte Technology		
Title: ATX CONNECTOR		
Size: Custom	Document Number: GA-B85M-D3H	Rev: 2.01
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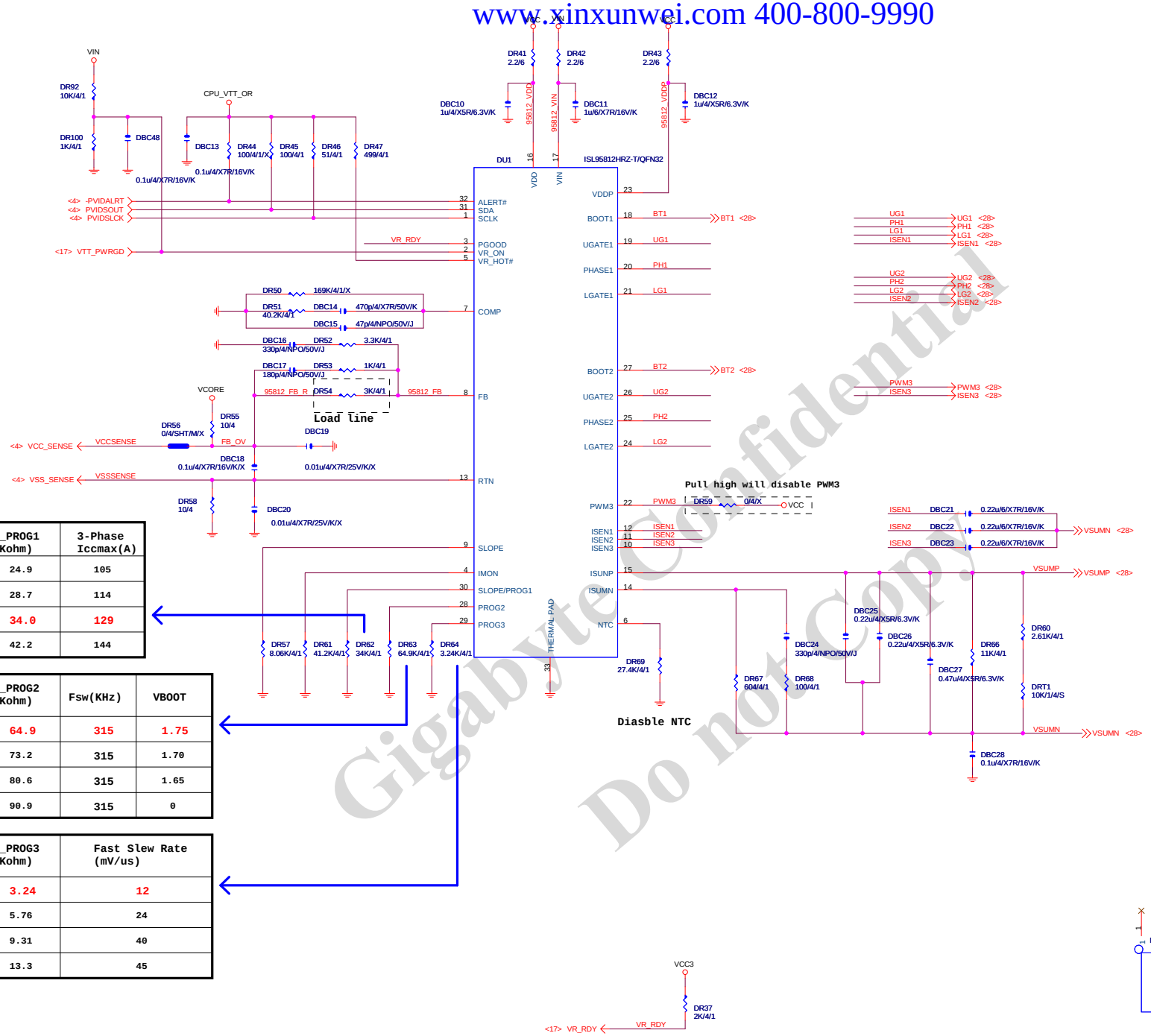

R_PROG1 (Kohm)	3-Phase Iccmax(A)
24.9	105
28.7	114
34.0	129
42.2	144

R_PROG2 (Kohm)	Fsw(KHz)	VBOOT
64.9	315	1.75
73.2	315	1.70
80.6	315	1.65
90.9	315	0

R_PROG3 (Kohm)	Fast Slew Rate (mV/us)
3.24	12
5.76	24
9.31	40
13.3	45

Gigabyte Technology			
Title: CPU CORE VR-1			
Size: Custom	Document Number: GA-B85M-D3H		Rev: 2.01
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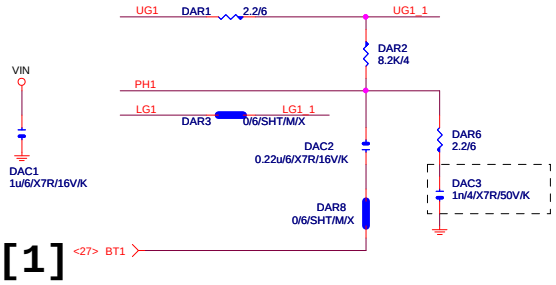
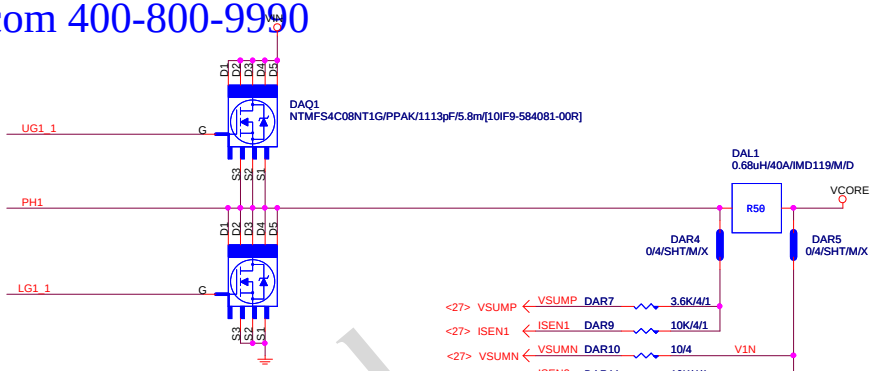
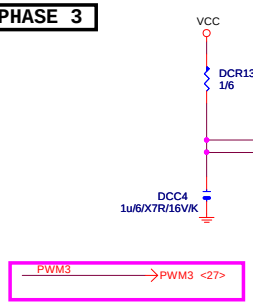
PHASE 1

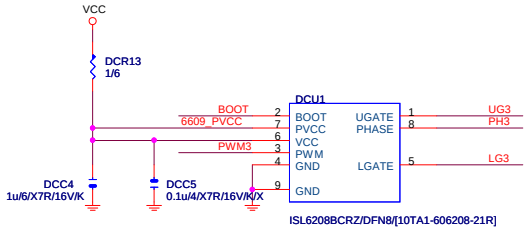


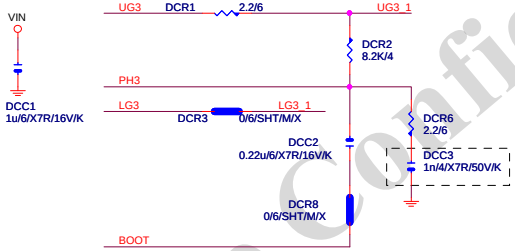


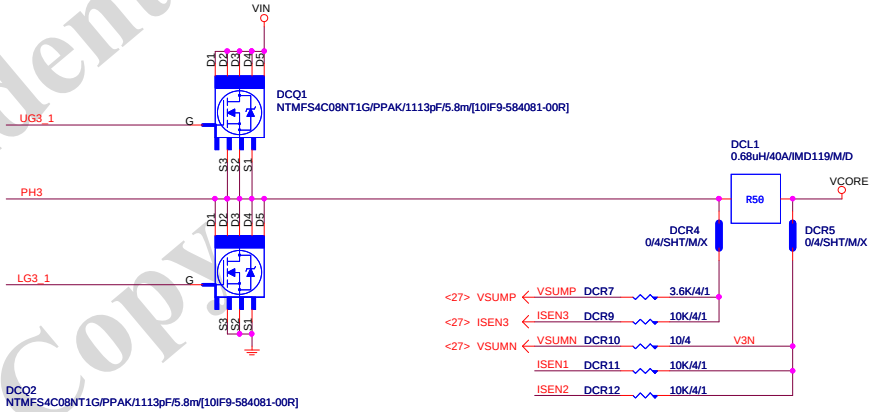
Close to PWM

PHASE 3



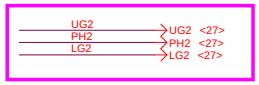


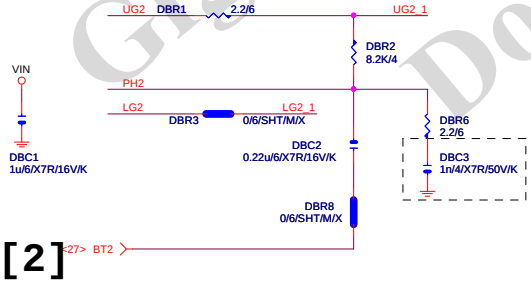


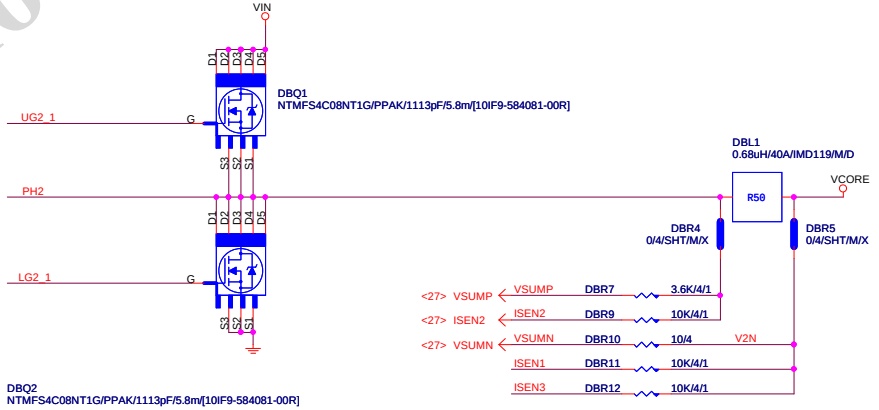


Close to PWM

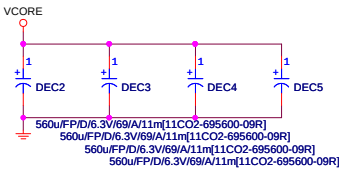
PHASE 2

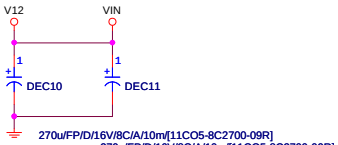






Close to PWM





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Title	CPU CORE VR-2	
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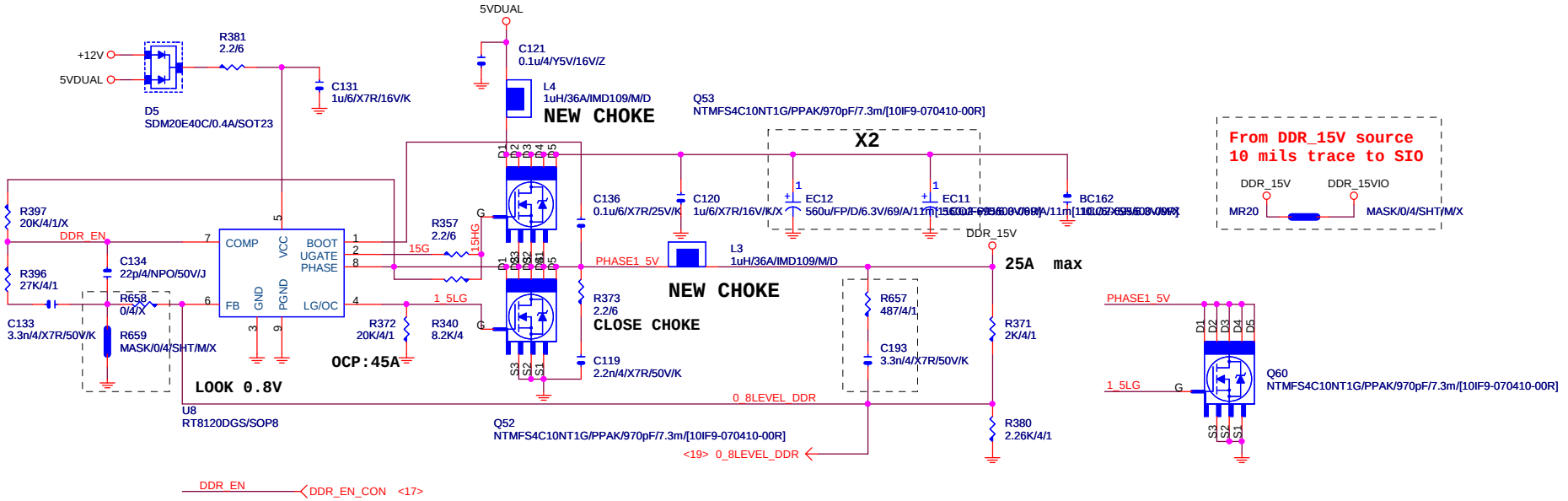
DDR15V



PWR SEQ

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℃),1(105℃)
VIN Ripple current=4.7X1.7=7.99A(85℃)
-->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			
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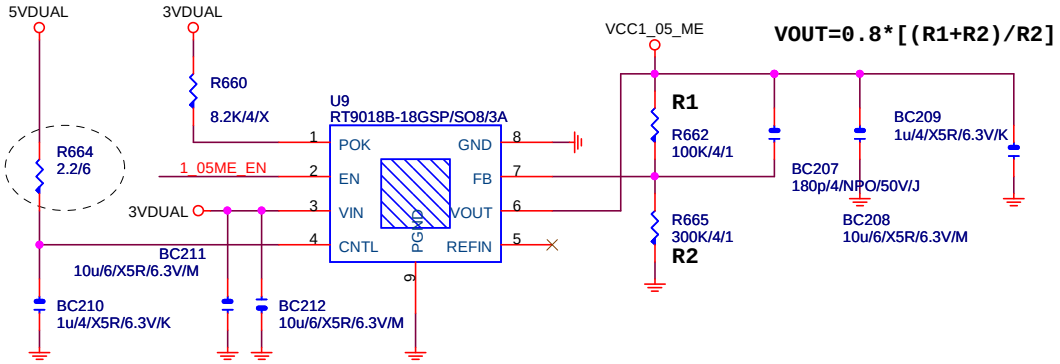
VCC1_05_ME FOOT MASK

Z97 N/A

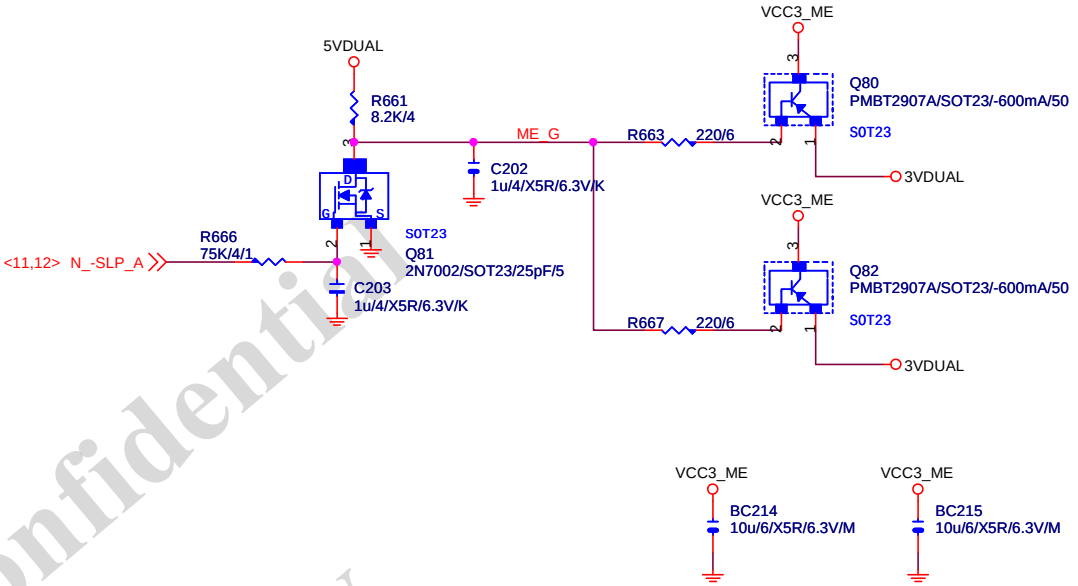
【技術通報R&D技術通報156】
(RICHTEK), (NUVOTON), (EMC)做共用
PIN7分壓阻值須做修改為100K以上電阻值



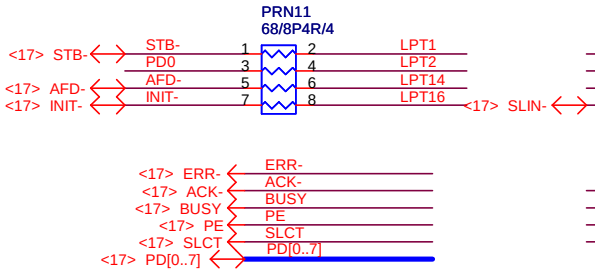
Second source
EM5103 - 10GL2-305103-01R
NCT3730S -
10GL2-303730-01R

VCC3_ME FOOT MASK

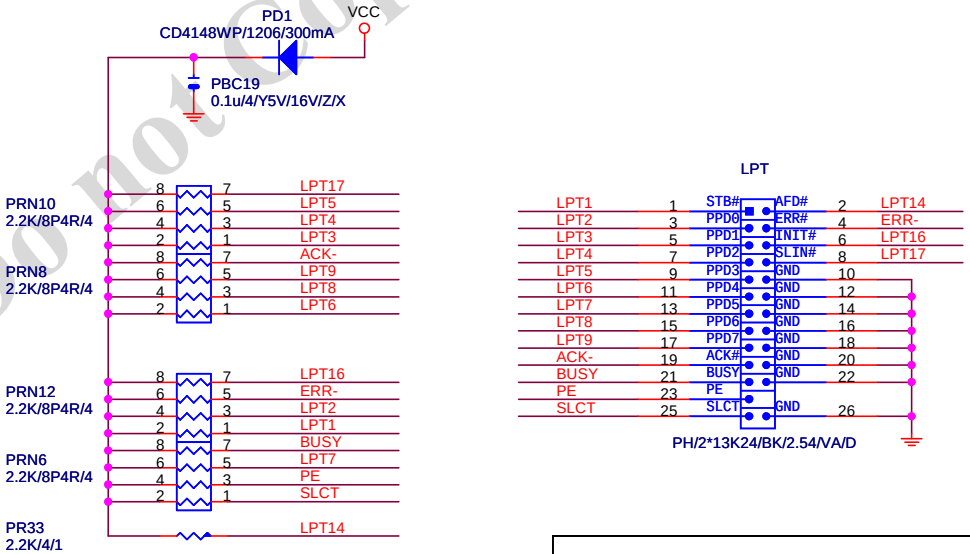
Z97 N/A



LPT PORT



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



Gigabyte Technology

Title	LPT	
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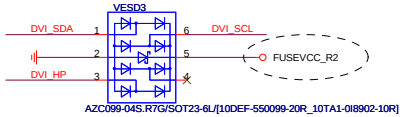
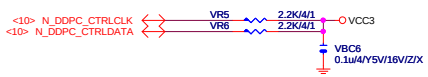
DVI LEVEL SHIFT



Close to connector



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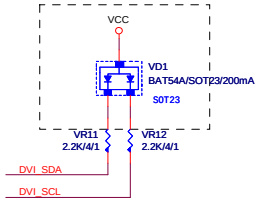
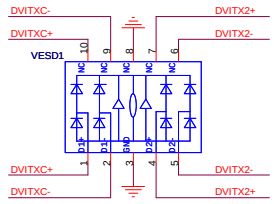
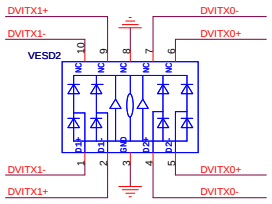
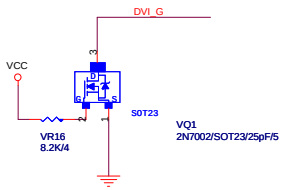


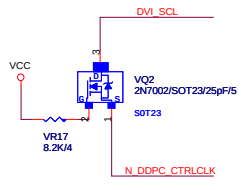


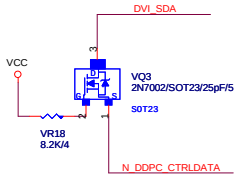
Close to connector

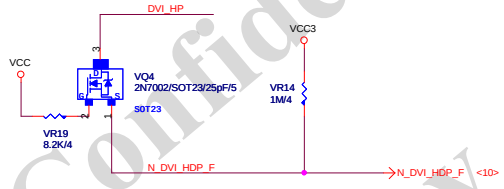


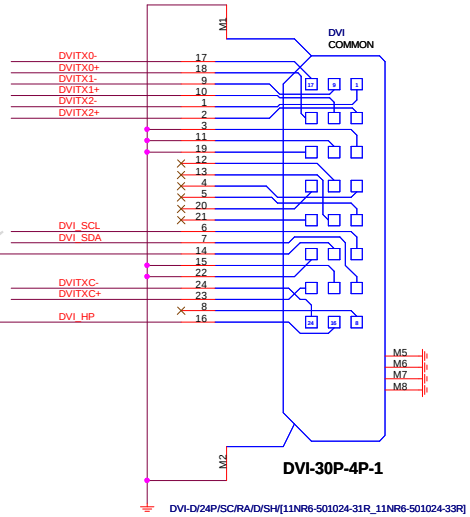
Close to connector



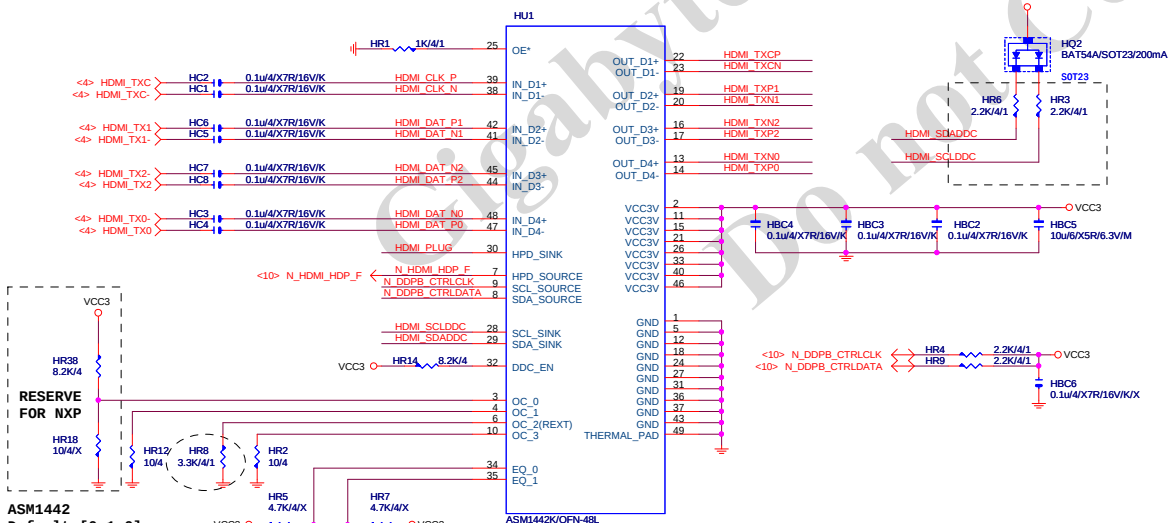


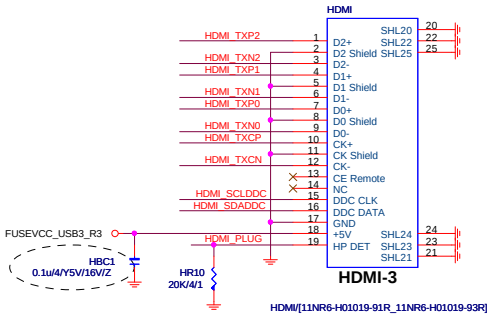






HDMI LEVEL SHIFT





Gigabyte Technology			
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PCIE TO PCI

Co-Lay IT8893 (IT8893 CLKOUT1 N/A)

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

IT8892: PR24 -> 47ohm
IT8893: PR24 -> 22ohm

IT8892: PR46 -> X
IT8893: PR46 -> 0

IT8892: PR19 -> 0
IT8893: PR19 -> X

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

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

IT8892E/BX LQFP128

IT8892E/FX/S

IT8892

PCI slot

PCI slot

chipset side

PCB layout note:
Close to chip

PCB layout note:
Close to chip

Close to chip

Gigabyte Technology		
Title: ITE IT8892E		
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