Model Name: GA-H81M-H

Revision 2.1

SHEET	TITLE
01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	CPU_LGA1150-A
05	CPU_LGA1150-B
06	CPU_LGA1150-C
07	DDR III CHANNEL A
08	DDR III CHANNEL B
09	PCH_FDI,DMI,USB,PCIE,NVRAM
10	PCH_DP,CLK BUFFER
11	PCH_HOST,SATA,PCI
12	PCH_GPIO,CTRL,AUDIO
13	PCH_PWR,GND
14	PCI EXPRESS*16 SLOT
15	PCI EXPRESS X1 *2 SLOT
16	ITE 8620
17	COM,KB_MS_USB,USB30_20
18	HWM,FAN CTRL,OV,-PROCHOT
19	DUAL BIOS
20	FP,FUSB,SPK,SATALED
21	Realtek ALC887-VD2
22	REAR AUDIO JACK
23	REALTEK RTL8111G
24	DISCRETE POWER
25	ATX , CLOCK GEN
26	VCORE ISL95812_1
27	VCORE ISL95812_2

SHEET	TITLE
28	RT8120_DDR POWER
29	HDMI
30	
31	
32	

Gigabyte Technology

Title: Cover Sheet

Size: Custom | Document Number: GA-H81M-H | Rev: 2.1

Date: Thursday, November 20, 2014 | Sheet 1 of 29

Model Name: GA-H81M-H

Component value change history

2013/07/04

Data	Change Item	Reason
2013/07/04	1. Change from H81M-S1 (H81M-S1-R03_2013_0626-1010.DSN)	9MH81MH-00-01
2013/08/16	1. Remove WR57	9MH81MH-00-10C
2014/05/12	1. H81 series 第1+2波cost down 2. LAN change to RTL8111G	9MH81MH-00-20A
2014/06/23	1. SATA MLCC change to short pad	9MH81MH-00-20B
2014/11/13	1. add onboard com port pin header	9MH81MH-00-21A

Circuit or PCB layout change

DATE	Change Item	Reason
2013/07/04	1. Change from H81M-S1 Rev 0.2 add HDMI	Rev 0.1
2013/07/30	1. Fix Power issue	Rev 1.0
2013/09/28	1. Add TPM	Rev 1.1
2014/05/12	1. H81 series 第1+2波cost down 2. LAN change to RTL8111G	Rev 2.0
2014/06/23	1. SATA MLCC change to short pad	Rev 2.01
2014/11/13	1. add onboard com port pin header	Rev 2.1

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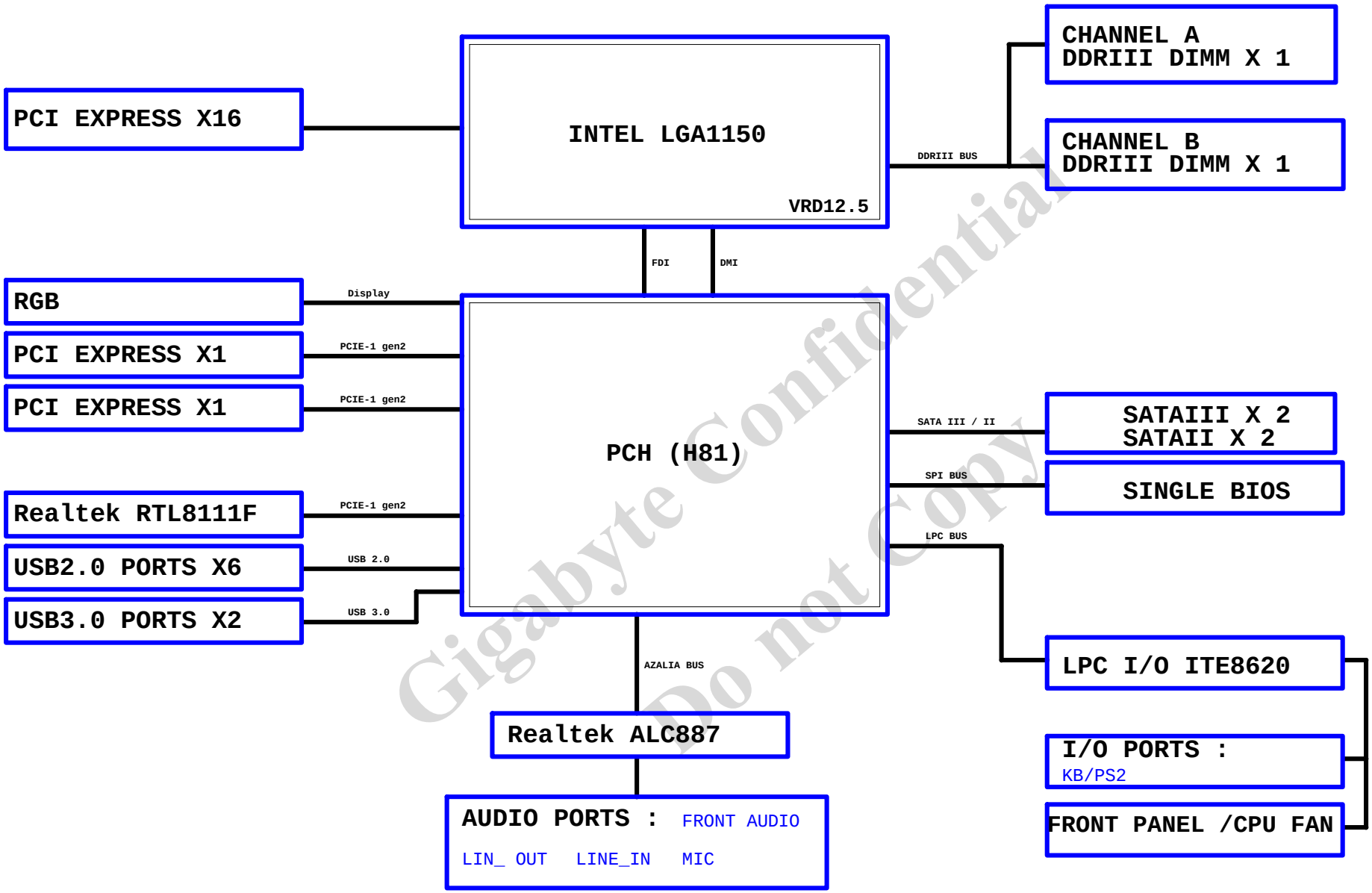
Title: BOM & PCB MODIFY HISTORY

Size: Custom | Document Number: GA-H81M-H | Rev: 2.1

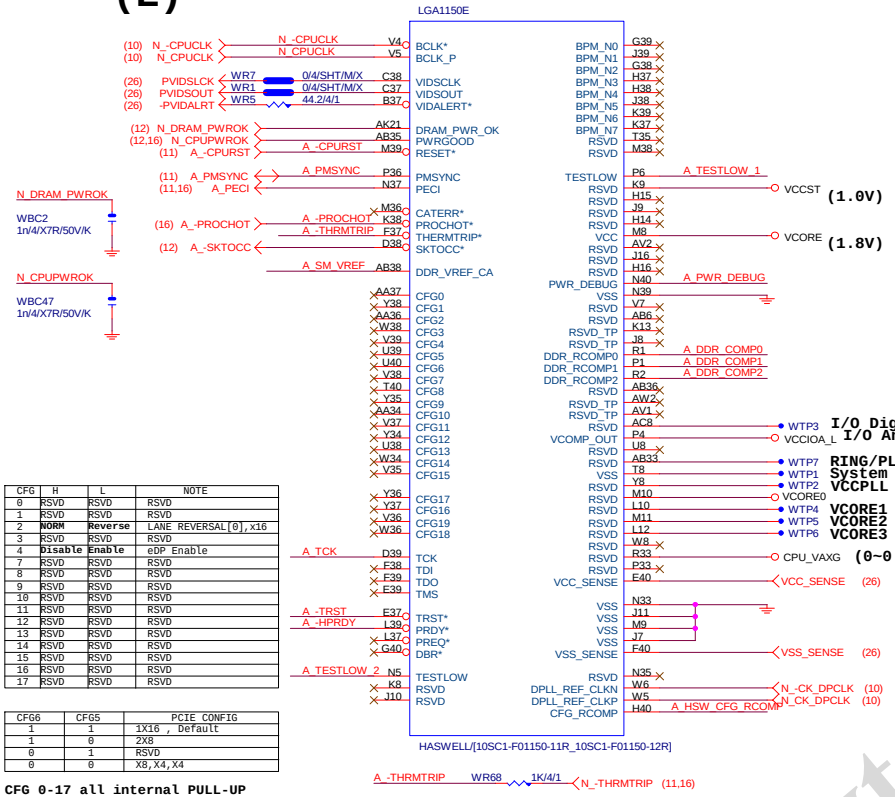
Date: Thursday, November 20, 2014 | Sheet 2 of 29

BLOCK DIAGRAM



Gigabyte Technology		
Title: BLOCK DIAGRAM		
Size: C	Document Number: GA-H81M-H	Rev: 2.1
Date: Thursday, November 20, 2014	Sheet 3 of 29	

LGA1150 (E)

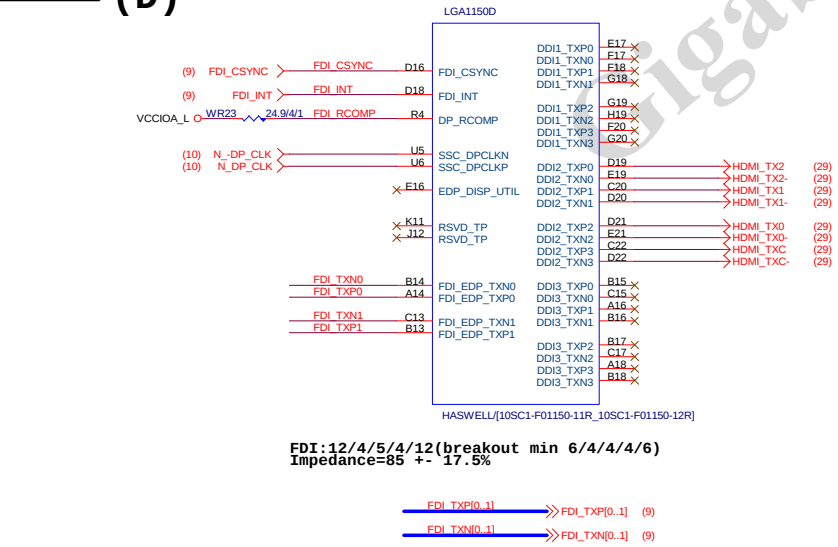


CFG	H	L	NOTE
0	RSVD	RSVD	RSVD
1	RSVD	RSVD	RSVD
2	**NORM**	**Reverse**	LANE REVERSAL[0],x16
3	RSVD	RSVD	RSVD
4	**Disable**	**Enable**	eDP Enable
7	RSVD	RSVD	RSVD
8	RSVD	RSVD	RSVD
9	RSVD	RSVD	RSVD
10	RSVD	RSVD	RSVD
11	RSVD	RSVD	RSVD
12	RSVD	RSVD	RSVD
13	RSVD	RSVD	RSVD
14	RSVD	RSVD	RSVD
15	RSVD	RSVD	RSVD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

LGA1150 (D)



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

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] (14)
PA_EXP_TXN[0..15] (14)
PA_EXP_RXP[0..15] (14)
PA_EXP_RXN[0..15] (14)

-CPURST

1.1V分壓

A_-CPURST BC102 1n/4/X7R/50V/K A_-CPURST (11)

For IT8620 Ctrl

CPU SVID

CPU_VTT_OR WR2 115/4/1 PVIDSOUT
WR4 75/4/1 -PVIDALRT

CPU PU/PD

CPU_VTT_OR WRN14 51/8P4R/4 A_-HPRDY A_-TRST A_TCK
CPU_VTT_OR WR25 1K/4/1 A_-PROCHOT
A_-THRMTRIP WR8 1K/4/1 VCC1_05_PCH
A_PWR_DEBUG WR34 150/4/1 VCC1_05_PCH
A_DDR_COMP0 WR28 100/4/1
A_DDR_COMP1 WR19 75/4/1
A_DDR_COMP2 WR22 100/4/1
A_TESTLOW_1 WR18 49.9/4/1
A_TESTLOW_2 WR12 49.9/4/1
A_HSW_CFG_RCOMP WR24 49.9/4/1

SM REF

DDR_15V
WR62 100/4/1
A_SM_VREF
WR60 100/4/1
WC3 0.1u/4/X7R/16V/K

Title	CPU LGA1150-A
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LGA1150 (A)

LGA1150A

HASWELL/[10SC1-F01150-11R_10SC1-F01150-12R]

LGA1150 (B)

LGA1150B

HASWELL/[10SC1-F01150-11R_10SC1-F01150-12R]

LGA1150 (CR)

CR
CPU RETAINTION/X

LGA1150

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

DDR BUS

Gigabyte Technology	
Title	CPU LGA1150-B
Size: Custom	Document Number: GA-H81M-H
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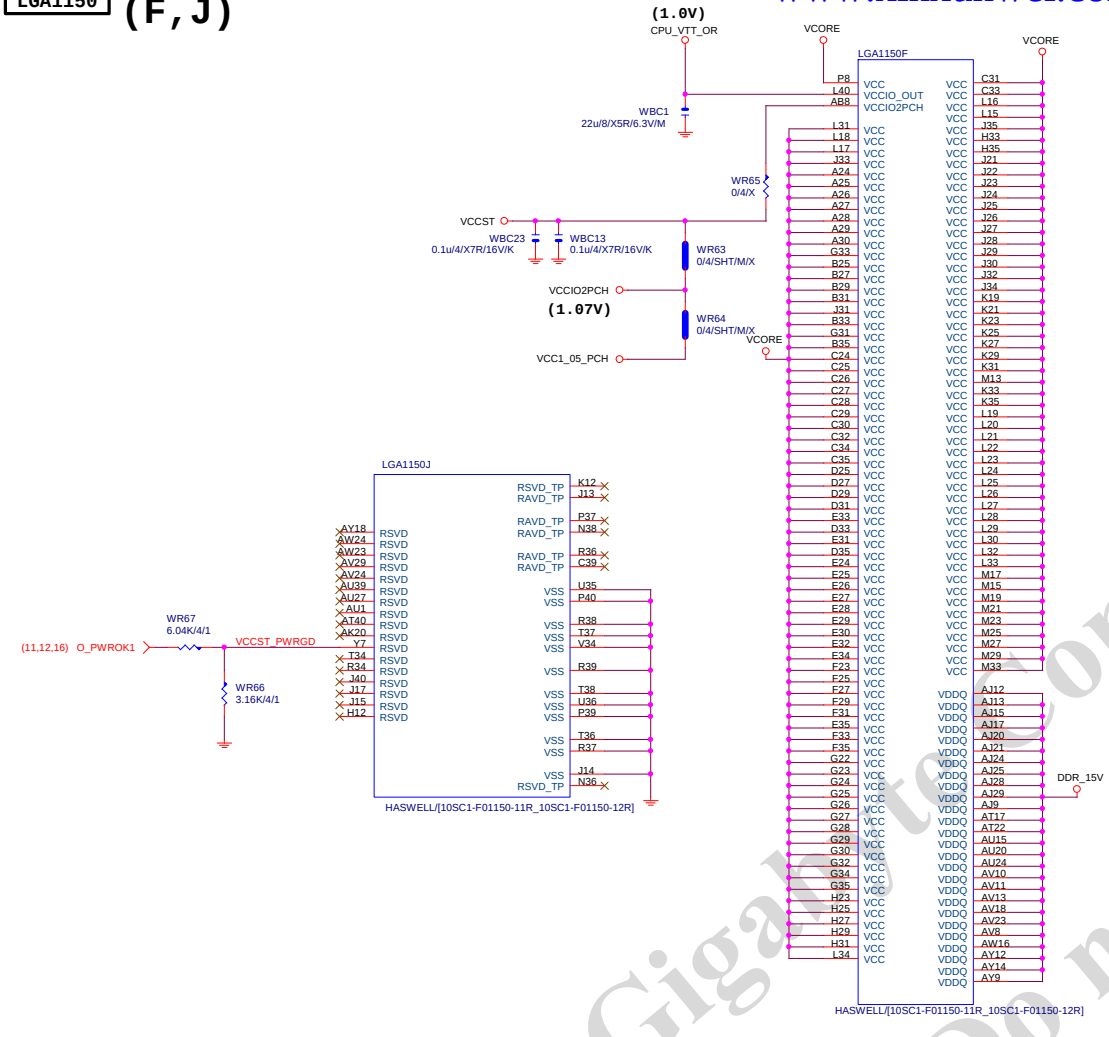
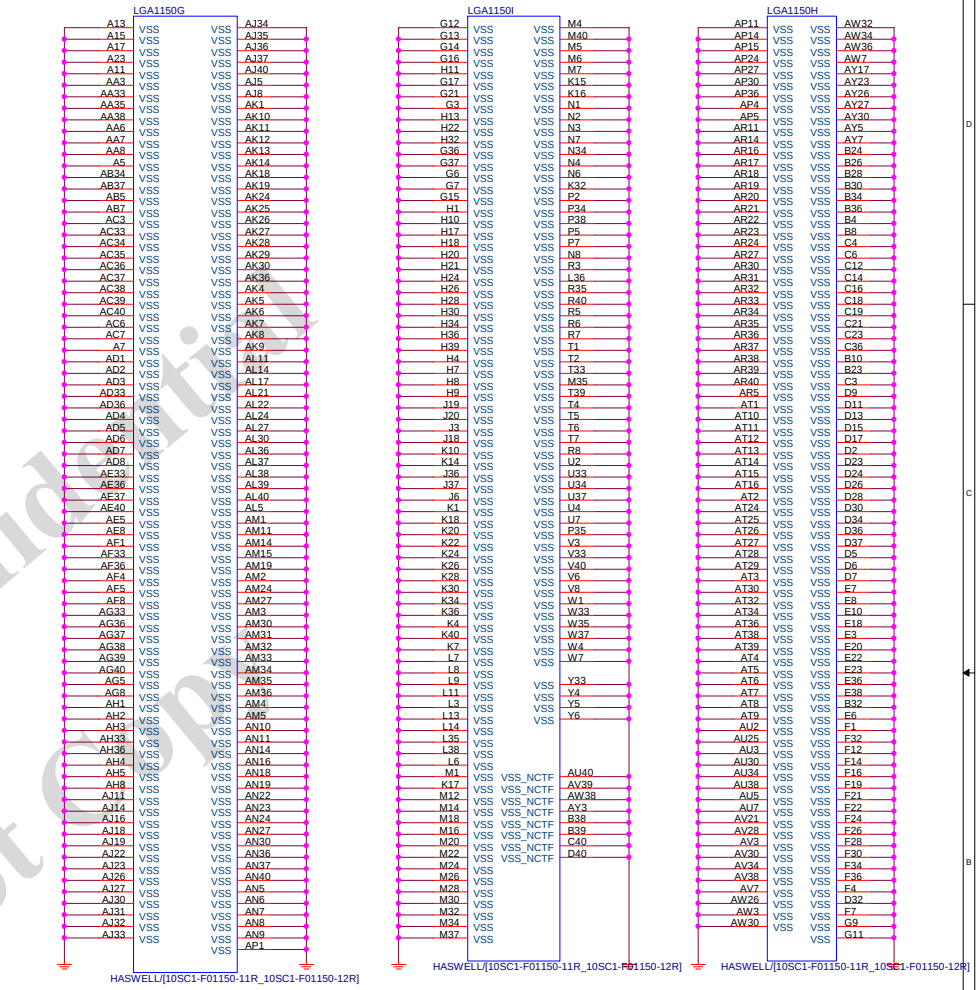
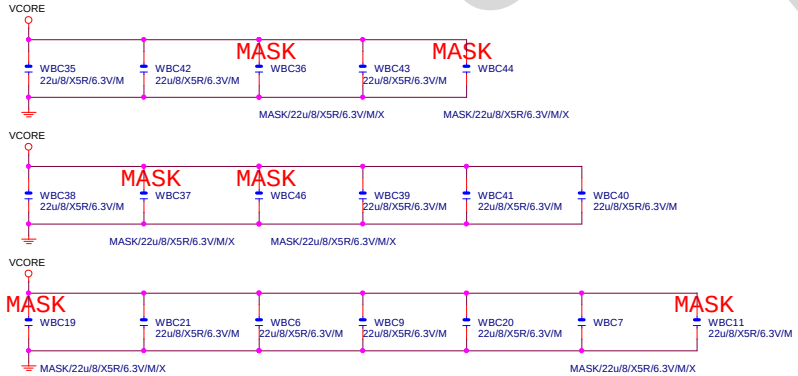
LGA1150 (F,J)



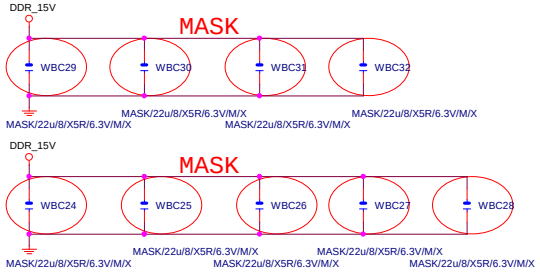
LGA1155 (G,H,I)



VCore CAP (X18)



DDR CAP (X9)



Gigabyte Technology		
Title: CPU LGA1150-C		
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DDR3 (A)

DDR3_1

DDRVTT

DDR_15V

N_SMBDATA
N_SMBCLK

MC10 100p/4/NPO/50V/J/X
MC11 100p/4/NPO/50V/J/X

MAF1 SPR-P200T/6V/8/S
VCC3
VDDSPD

MC4 0.1u/4/X7R/16V/K/X
VDDSPD

MC5 VREF_DDRA
MC1 VREF_DDDRA
0.1u/4/X7R/16V/K/X

VREFCA
VREFDQ

(8,12,14,15,20) N_SMBCLK
(8,12,14,15,20) N_SMBDATA

SBAA2
SBAA1
SBAA0

CKEA1
CKEA0

-CSA1
-CSA0

-DCLKA1
DCLKA1

-DCLKA0
DCLKA0

(5) MAAA[0..15]

(5,8) -DDR3_RST
(5) -SCASA
(5) -SRASA
(5) -SWEA

-DDR3_RST
MC6 100p/4/NPO/50V/J/X

DDR3/240/BK/VA/D

BLACK CONNECTOR

MODT_A[0..1] MODT_A[0..1] (5)
-DQSA[0..7] -DQSA[0..7] (5)
DQSA[0..7] DQSA[0..7] (5)

MDA[0..63] (5)

DDR3 VREF

DDR_15V

MR15 1K/4/1
MR14 1K/4/1
VREF_DDRA

MR4 1K/4/1
MR5 1K/4/1
VREF_DQDDRA
VREF_DQA (5)

DDR15V Decouple

DDR_15V

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

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

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DDR3 (B)

DDR3_2

DDRVTT

DDR_15V

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

VDDSPD

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

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

N_SMBCLK (7,12,14,15,20)

N_SMBDATA (7,12,14,15,20)

MAAB[0..15] (5)

-DDR3_RST (5,7)

-SCASB (5)

-SRASB (5)

-SWEB (5)

MDB[0..63] (5)

DDR3/240/BK/VA/D

BLACK CONNECTOR

-DQSB[0..7] (5)

DQSB[0..7] (5)

MODT_B[0..1] (5)

DDR3 VREF

DDR_15V

MR10 1K/4/1

MR11 1K/4/1

MR8 1K/4/1

MR9 1K/4/1

VREF_DDRB

VREF_DDDRB

VREF_DQB (5)

COUPON

COUPON1 COUPON1 1 2 COUPON/X

COUPON2 COUPON2 1 2 COUPON/X

VCC3

CPU

DIMM4

DIMM2

CHA

DIMM3

DIMM1

CHB

Gigabyte Technology

Title: DDRIII CHANNEL B

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PCH (B)

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

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

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

PCHB

DMI_RXN_0 DMI_RXP_0 DMI_TXN_0 DMI_TXP_0 DMI_RXN_1 DMI_RXP_1 DMI_TXN_1 DMI_TXP_1 DMI_RXN_2 DMI_RXP_2 DMI_TXN_2 DMI_TXP_2 DMI_RXN_3 DMI_RXP_3 DMI_TXN_3 DMI_TXP_3 — DMI

DMI_RCOMP
PCIE_RCOMP
CLKIN_DMI_N
CLKIN_DMI_P — USB

USBN_0 USBP_0 USBN_1 USBP_1 USBN_2 USBP_2 USBN_3 USBP_3 USBN_4 USBP_4 USBN_5 USBP_5 USBN_6 USBP_6 USBN_7 USBP_7 USBN_8 USBP_8 USBN_9 USBP_9 USBN_10 USBP_10 USBN_11 USBP_11 USBN_12 USBP_12 USBN_13 USBP_13

AV10 AU10 AV11 AW11 AN14 AP14 AJ16 AK16 — N_-USBP0 N_+USBP0 N_-USBP1 N_+USBP1 N_-USBP2 N_+USBP2 N_-USBP3 N_+USBP3 — N_-USBP0 (17) … N_+USBP3 (23)

AU15 AV15 AU12 AT12 AV14 AW14 AU17 AT17 — H81: Port 6/7/12/13 N/A

AW16 AV16 AN16 AP16 AJ18 AK18 AP18 AN18 — N_-USBP8 … N_+USBP11 (20)

AW18 AV18 AP20 AN20 — H81: Port 6/7/12/13 N/A

W=4 mil out of PCH
S=15 mil out of PCH
VCC1_5_PCH — NR50 7.5K/4/1 DMI_COMP B19; PCIE_COMP C13; NR40 7.5K/4/1

(10) CK_-SRCCLK_PCH — CK_-SRCCLK_PCH G22
(10) CK_SRCCLK_PCH — CK_SRCCLK_PCH F22

PCIE Only

PCIE_PERN_1_USB3_RXN_2 L14
PCIE_PERP_1_USB3_RXP_2 K14
PCIE_PETN_1_USB3_TXN_2 B12
PCIE_PETP_1_USB3_TXP_2 B11
PCIE_PERN_2_USB3_RXN_3 F14
PCIE_PERP_2_USB3_RXP_3 G14
PCIE_PETN_2_USB3_TXN_3 D11
PCIE_PETP_2_USB3_TXP_3 C11

8111G

(23) LA_ML_IN F11
(23) LA_ML_IP H11
(23) LA_ML_ON B9
(23) LA_ML_OP A9

PCIEx1

(15) PI_PCIEX1_IN J11
(15) PI_PCIEX1_IP L11
(15) PI_PCIEX1_ON B8
(15) PI_PCIEX1_OP C8
(15) PJ_PCIEX1_IN G9
(15) PJ_PCIEX1_IP F9
(15) PJ_PCIEX1_ON B7
(15) PJ_PCIEX1_OP A7

PCIE_PERN_3 E7
PCIE_PERP_3 H7
PCIE_PETN_3 E1
PCIE_PETP_3 D2
PCIE_PERN_4 K6
PCIE_PERP_4 K8
PCIE_PETN_4 G3
PCIE_PETP_4 G5
PCIE_PERN_5 J2
PCIE_PERP_5 J3
PCIE_PETN_5 H2
PCIE_PETP_5 H1
PCIE_PERN_6
PCIE_PERP_6
PCIE_PETN_6
PCIE_PETP_6
PCIE_PERN_7
PCIE_PERP_7
PCIE_PETN_7
PCIE_PETP_7
PCIE_PERN_8
PCIE_PERP_8
PCIE_PETN_8
PCIE_PETP_8 — PCIE

N/A

OC0B_GP59 AE40 — N_-USBOC_R (17)
OC1B_GP40 AF37
OC2B_GP41 AD39 — N_GPIO14
OC3B_GP42 AD40
OC4B_GP43 AF39 — N_-USBOC_F (20)
OC5B_GP9 AC41
OC6B_GP10 AF40
OC7B_GP14 AG40 — N_GPIO14

W=4 mil out of PCH
S=15 mil out of PCH
USBRBIASB AV20 — N_USBRBIAS — NR47 22.6/4/1
USBRBIAS AU20

CLKIN_DOT96N AP11 — CK_-DOTCLK
CLKIN_DOT96P AM11 — CK_DOTCLK

NR130 8.2K/4
N_GPIO14 — 3VDUAL

N_-USBOC_F — NBC82 0.1u/4/X7R/16V/K
N_-USBOC_R — NBC83 0.1u/4/X7R/16V/K

放靠近 Device & PCI-E Slot
Impedance=80 +- 17.5%
PCIEX1:16/5/5/5/16 (breakout min 8/4/4/4/8)

BD82B85/S/[10HB1-030H81-10R]

PCH (F)

PCHF

(17) PCH_USB3_RXN0 F20
(17) PCH_USB3_RXP0 G20
(17) PCH_USB3_TXN0 B18
(17) PCH_USB3_TXP0 C18
(17) PCH_USB3_RXN1 G18
(17) PCH_USB3_RXP1 H18
(17) PCH_USB3_TXN1 B15
(17) PCH_USB3_TXP1 B16

USB3: USB3_RXN_0 USB3_RXP_0 USB3_TXN_0 USB3_TXP_0 USB3_RXN_1 USB3_RXP_1 USB3_TXN_1 USB3_TXP_1 USB3_RXN_4 USB3_RXP_4 USB3_TXN_4 USB3_TXP_4 USB3_RXN_5 USB3_RXP_5 USB3_TXN_5 USB3_TXP_5

FDILINK: FDI_RXN_0 FDI_RXP_0 FDI_RXN_1 FDI_RXP_1 FDI_CSYNC FDI_INT FDI_RCOMP

N1 FDI_TXN0
N2 FDI_TXP0
P2 FDI_TXN1
P3 FDI_TXP1
L2 FDI_CSYNC — FDI_CSYNC (4)
L3 FDI_INT — FDI_INT (4)
K2 NR29 7.5K/4/1 — VCC1_5_PCH

N/A

K20 L20 D15 C15 L18 K18 B14 A14

VCC3 — NR62 8.2K/4/X — NR63 8.2K/4/X — AK28 AT34

TACH6_GP70
TACH7_GP71

BD82B85/S/[10HB1-030H81-10R]

FDI_TXP[0..1] — FDI_TXP[0..1] (4)
FDI_TXN[0..1] — FDI_TXN[0..1] (4)

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

PCH CLK PD

Mount for integrated clock Generation Mode

(10) N_PCHCLK14 — N_PCHCLK14 — NRN16 8.2K/8P4R/4
CK_DOTCLK
CK_-DOTCLK

PCH (J)

PCHJ

VSS_NCTF: AT1 AT41 AU1 AV1 AV2 AV40 AV41 AW2 AW40 B40 B41 C41 D1 D41

TP22 TP23 TP21 TP20 TP14 TP15 TP12 — U11 U10 AJ14 AK14 K34 K33 AH24
TP10 TP11 TP9 — L16 K16 AM34
TP3 TP4 TP1 TP2 — R12 N12 L22 K22
TP5 TP6 TP7 TP8 — R4 K5 P5 L5
VSS — AC31
VSS — AF3
VSS — AV21

BD82B85/S/[10HB1-030H81-10R]

PCH H/S

LOW COST ICH7 HEATSINK

SB_HEATSIN

1 2

GRAY HS

PCH_HS
PCH_HS/[12SP2-030005-43R_12SP2-030005-41R_12SP2-030005-42R]

USB TABLE

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

USB OC#	Configure
OC0#	R_USB30
OC1#	USB_LAN
OC2#	Not Use
OC3#	N/A
OC4#	F_USB1
OC5#	F_USB2
OC6#	Not Use
OC7#	N/A

Gigabyte Technology

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

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PCH (E)

PCHE

(29) N_HDMI_HDP_F

AJ2 AH5 AJ4 — DDPB_HPD DDPC_HPD DDPD_HPD

AK6 AK8 AG7 AG6 AG11 AG10 — DDPB_AUXN DDPB_AUXP DDPC_AUXN DDPC_AUXP DDPD_AUXN DDPD_AUXP

VGA_HSYNC VGA_VSYNC

VGA_RED VGA_GREEN VGA_BLUE

VGA_IRTN VGA_DDC_DATA VGA_DDC_CLK DAC_IREF

DDPC_CTRLCLK DDPC_CTRLDATA DDPB_CTRLCLK DDPB_CTRLDATA DDPD_CTRLCLK DDPD_CTRLDATA

AH3 H_SYNC NR26 33/4 N_GHSYNC
AH2 V_SYNC NR33 33/4 N_GVSYNC

AC2 N_R
AE2 N_G
AC3 N_B

AG4
AL3 N_DDCDATA
AL2 N_DDCCLK
AE5 N_VGA_RSET NR34 649/4/1
AN3 N_DDPC_CTRLCLK
AM2 N_DDPC_CTRLDATA
AM1
AJ5
AN4
AN2

N_DDPC_CTRLCLK (29)
N_DDPC_CTRLDATA (29)

BD82B85/S/[10HB1-030H81-10R]

PCH (G)

PCHG

(16) N_LPC33 — NR37 33/4 — AV5 CLKOUT_33MHZ0
NC60 22p/4/NPO/50V/J
(11) N_PCH33 — NR38 33/4 — AV7 CLKOUT_33MHZ1
(29) T_TPMCLK — NR28 33/4 — AU2 CLKOUT_33MHZ2
AN9 CLKOUT_33MHZ3
AU5 CLKOUT_33MHZ4

CLKIN_GND0_N G16 N_CLK_GND
CLKIN_GND0_P F16 N_CLK_GND

CLKOUT_DMI_N R2 N_CPUCLK (4)
CLKOUT_DMI_P T2 N_CPUCLK (4)

CLKOUT_DP_N T3 N_DP_CLK (4)
CLKOUT_DP_P T5 N_DP_CLK (4)

CLKOUT_DPNS_N W2 N_CK_DPCLK (4)
CLKOUT_DPNS_P U2 N_CK_DPCLK (4)

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

(16) O_LPCCLK48 — NR39 33/4 N_PCH_48M — AV8 CLKOUTFLEX0_GP64
AT9 CLKOUTFLEX1_GP65
AV9 CLKOUTFLEX2_GP66
AU8 CLKOUTFLEX3_GP67

NC61 22p/4/NPO/50V/J
VCC1_5_PCH — NR18 7.5K/4/1 N_CLK_RCOMP — R11 DIFFCLK_BIASREF
(9) N_PCHCLK14 — N_PCHCLK14 — AR7 REFCLK14IN

CLKOUT_ITPXDP_N U6
CLKOUT_ITPXDP_P U7

CLKOUT_PEG_A_N AA3 PA_SRCCLK_3GIO (14)
CLKOUT_PEG_A_P AA2 PA_SRCCLK_3GIO (14)

CLKOUT_PEG_B_N AE6
CLKOUT_PEG_B_P AE7

CLKOUT_PCIE_N_0 AE10 PI_PCIE_CLK (15)
CLKOUT_PCIE_P_0 AE11 PI_PCIE_CLK (15)

CLKOUT_PCIE_N_1 AC6
CLKOUT_PCIE_P_1 AC7

CLKOUT_PCIE_N_2 AC11 LA_SRCCLK_LAN (23)
CLKOUT_PCIE_P_2 AC10 LA_SRCCLK_LAN (23)

CLKOUT_PCIE_N_3 W11
CLKOUT_PCIE_P_3 W10

CLKOUT_PCIE_N_4 Y4
CLKOUT_PCIE_P_4 Y2

CLKOUT_PCIE_N_5 W7 PJ_PCIE_CLK (15)
CLKOUT_PCIE_P_5 W6 PJ_PCIE_CLK (15)

CLKOUT_PCIE_N_6 AA7
CLKOUT_PCIE_P_6 AA6

CLKOUT_PCIE_N_7 R6
CLKOUT_PCIE_P_7 R7

PCIEx16
PCIEx1
8111F
PCIEx1
8892

N_XTALI_PCH — NR15 1M/4
NX1 — N_XTALO_PCH
25M/16p/30ppm/49US/20/D
NC8 20p/4/NPO/50V/J
NC7 20p/4/NPO/50V/J
N_XTALO_PCH — N7 XTAL25_OUT
N_XTALI_PCH — N6 XTAL25_IN

BD82B85/S/[10HB1-030H81-10R]

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

PCH CLK PD

NRN17 8.2K/8P4R/4

N_CLK_GND
N_CLK_GND
CK_SRCCLK_PCH
CK_SRCCLK_PCH

(9) CK_SRCCLK_PCH
(9) CK_SRCCLK_PCH

Mount for integrated clock Generation Mode

VGA DDC

VCC3
R146 2.2K/4/1
R147 2.2K/4/1
N_DDCDATA
N_DDCCLK

VCC
NR35 1K/4/1
Q47 2N7002/SOT23/25pF/5
NR36 1K/4/1
Q48 2N7002/SOT23/25pF/5
SOT23

VCC
R144 2.2K/4/1
R145 2.2K/4/1
VGADDCDATA
VGADDCCLK

N_GVSYNC
C31 100p/4/NPO/50V/J/X
N_GHSYNC
C32 100p/4/NPO/50V/J/X

VGA CONNECTOR

FUSEVCC_USB3_R3
BC63 0.1u/4/X7R/16V/K/X
VGA
VGA_R
VGA_G
VGA_B
VGADDCDATA
N_GHSYNC
N_GVSYNC
VGADDCCLK
VGA/BK/SC-11/RA/D/L

VGA/BK/SC-11/RA/D/L
BLACK CONNECTOR

VGA ESD

ESD3
VGADDCDATA
VGADDCCLK
N_GHSYNC
N_GVSYNC
VCC
C33 0.1u/4/X7R/16V/K/X
AZC099-04S.R7G/SOT23-6L/[10DEF-550099-20R_10TA1-0I8902-10R]

SSOP6_ESD

ESD4
VGA_R
VGA_G
VGA_B
VCC3
C40 0.1u/4/X7R/16V/K/X
AZC099-04S.R7G/SOT23-6L/[10DEF-550099-20R_10TA1-0I8902-10R]

VGA DDC

N_R
N_G
N_B
FB1 FB2 FB3 60/4/3A/S
R152 75/4/1
R150 75/4/1
R151 75/4/1
C35
C34 10p/4/NPO/50V/J/X
C36 10p/4/NPO/50V/J/X
C37 22p/4/NPO/50V/J/X
C38 22p/4/NPO/50V/J/X
C39 22p/4/NPO/50V/J/X
VGA_R
VGA_G
VGA_B

Close to Filter

Gigabyte Technology

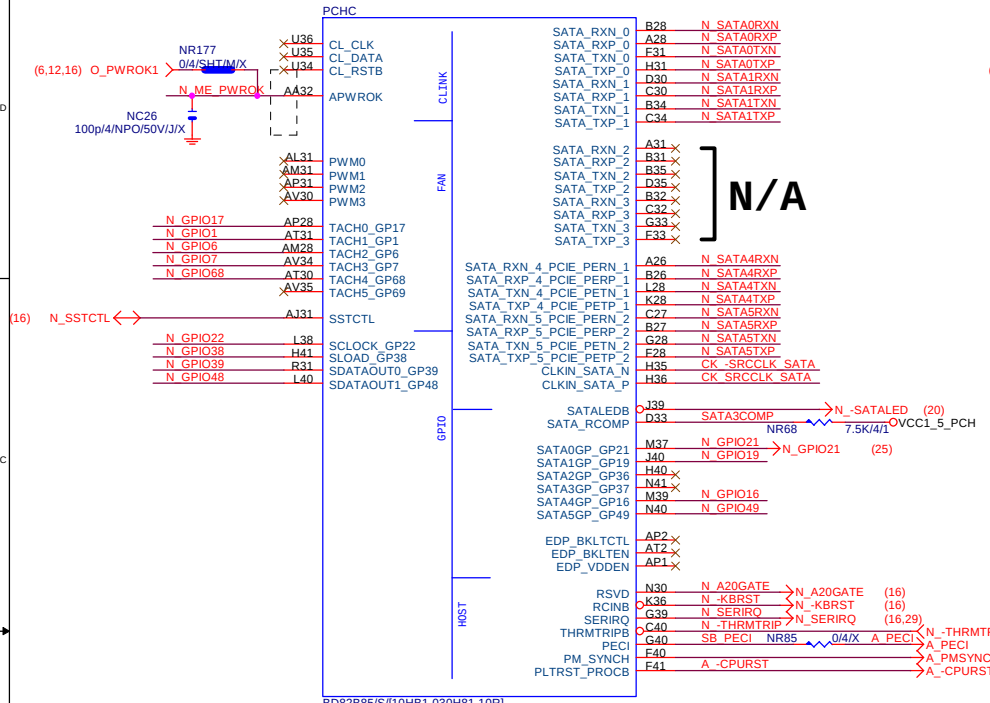
Title: PCH DISPLAY ,CLK BUFFER

Size: Custom | Document Number: GA-H81M-H | Rev: 2.1

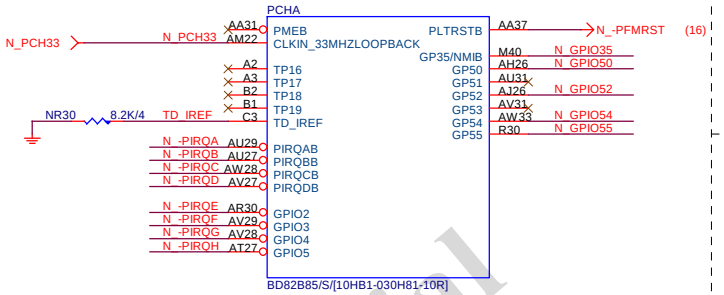
Date: Thursday, November 20, 2014 | Sheet 10 of 29

PCH (C)

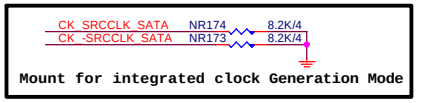
SATA3 : 20/7.5/4.5/7.5/20 (breakout min 8/4/4/4/8)
Impedance=90 +- 17.5%
SATA2 : 15/7.5/4.5/7.5/15 (breakout min 8/4/4/4/8)
Impedance=90 +- 17.5%



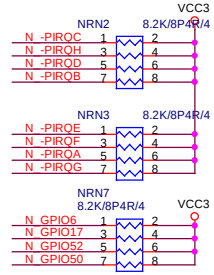
PCH (A)

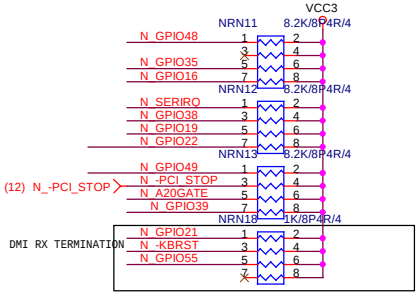


PCH CLK PD

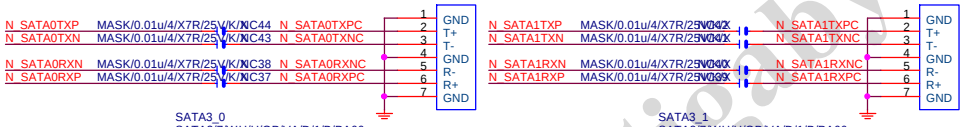


PCH PU/PD



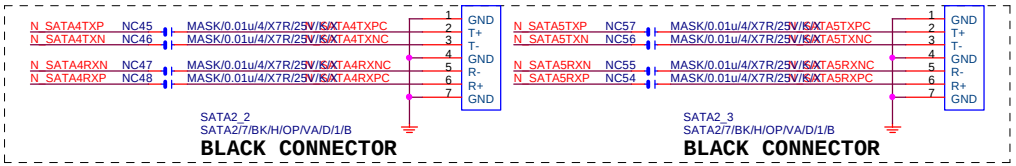


SATA CONNECTOR



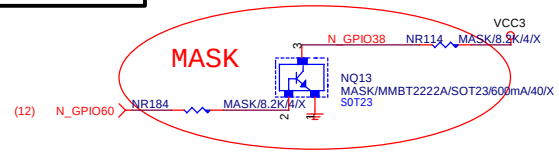
H81 Port 2/3 N/A

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



ME PWROK

GPIO38 Ctrl



Gigabyte Technology

Title: PCH HOST , SATA, PCI

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PCH (D)

PCHD

BD82B85/S/[10HB1-030H81-10R]

ACZ_SDOUT

PCH_DPWROK

PCH PU/PD

HSW_STRAP13

32.768KHZ

CLR_CMOS

BATTERY-DUAL-4

RB 必须放在BAT外

At least 40ns lead fall to 0V before 3VDUAL_PCH fall to 2V

At least 10ms delay after 3VDUAL_PCH stabel

Reserve for EMI test

Gigabyte Technology	
Title	PCH GPIO , CTRL , AUDIO
Size	Custom
Document Number	GA-H81M-H
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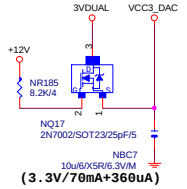
PCH (H)

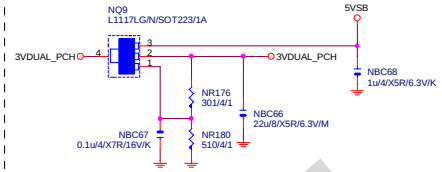
VCC3_DAC

CLOSE北橋(注意震盪水波紋)



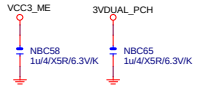
(3.3V/70mA+360uA)

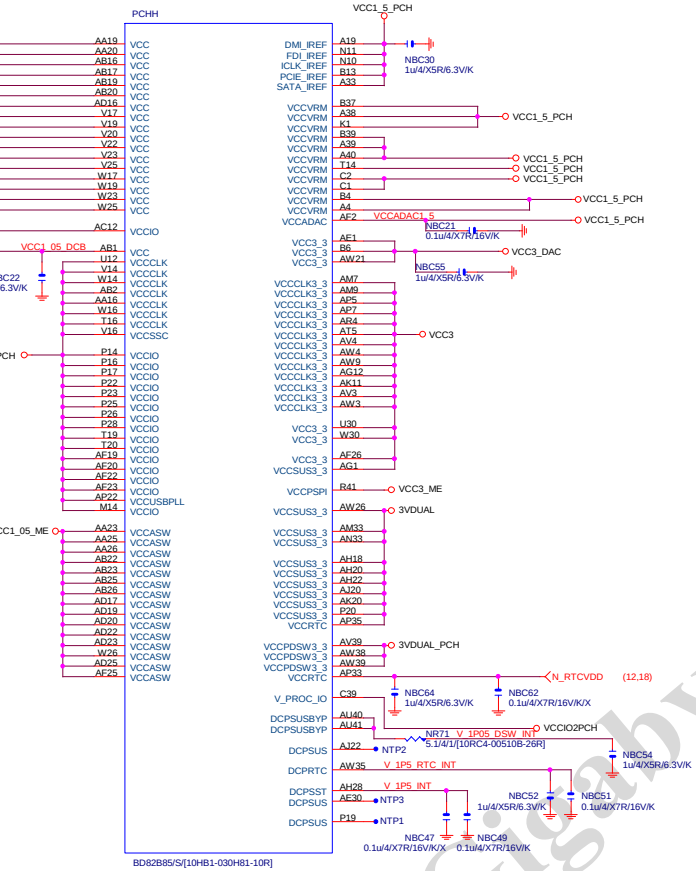
3VDUAL_PCH



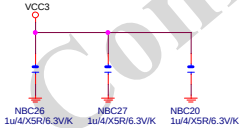
SHT PWR

CAP





(3.3V)(X6)

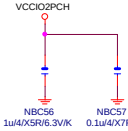


Remove

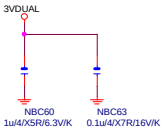
(1.05V)(X5)

(1.05V)(X6)

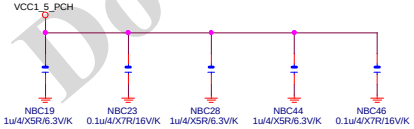
(1.05V)(X2)



(3.3V)(X2)

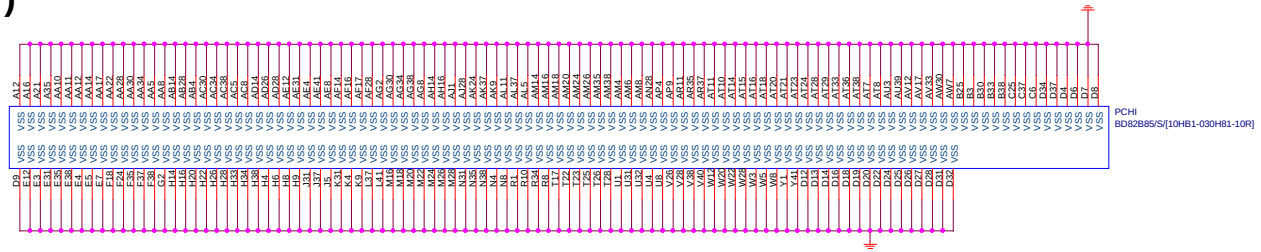


(1.05V)(X10)



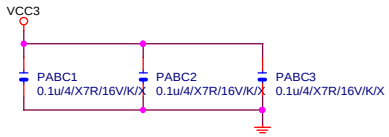
Remove

PCH (I)

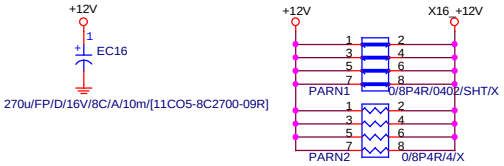


Gigabyte Technology		
Title: PCH PWR ,GND		
Size: Custom	Document Number: GA-H81M-H	Rev: 2.1
Date: Thursday, November 20, 2014	Sheet 13 of 29	

PCIEX16 CAP



PCIEX16 PROTECT SHT



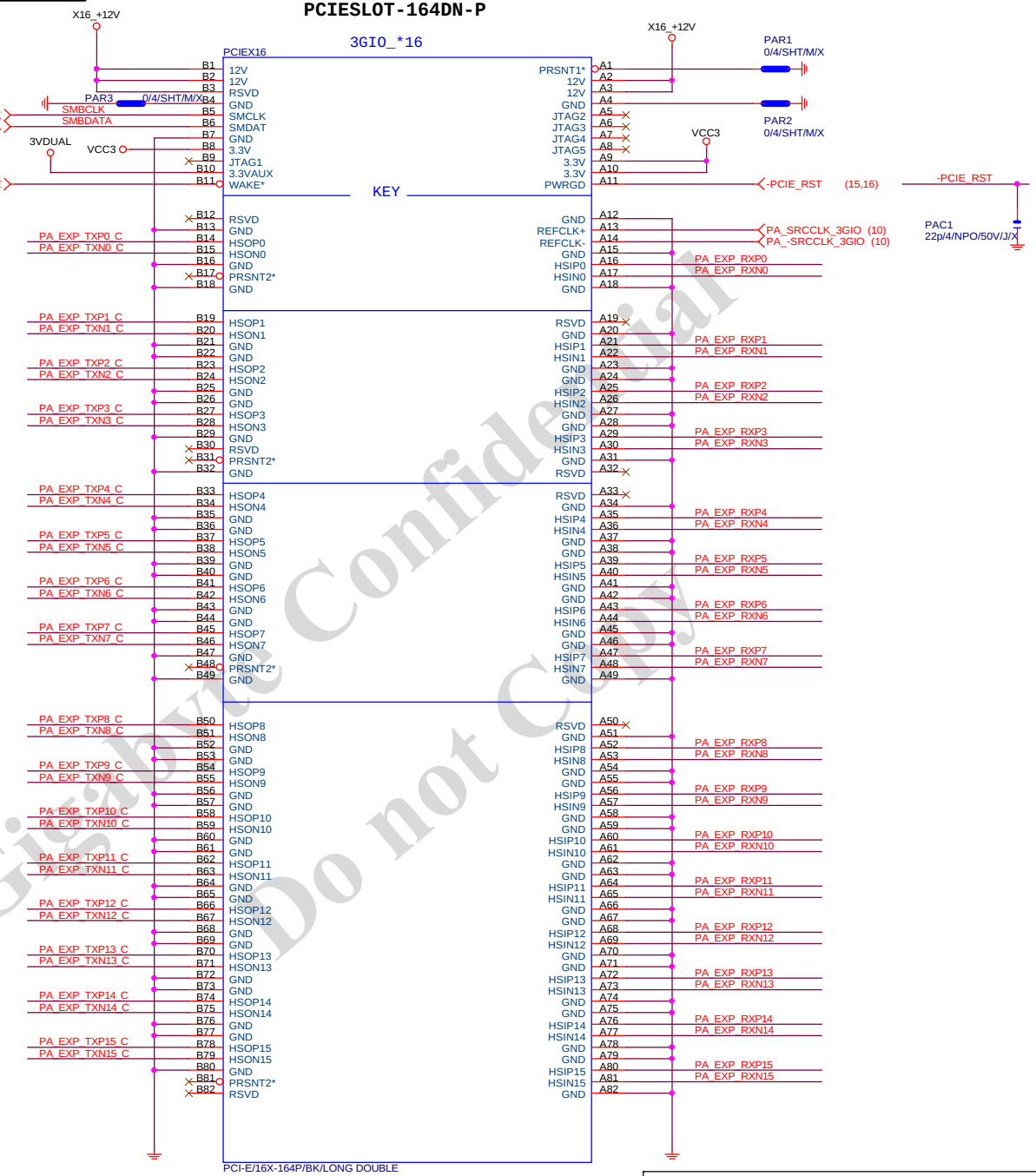
PCIEX16 AC CAP

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-P

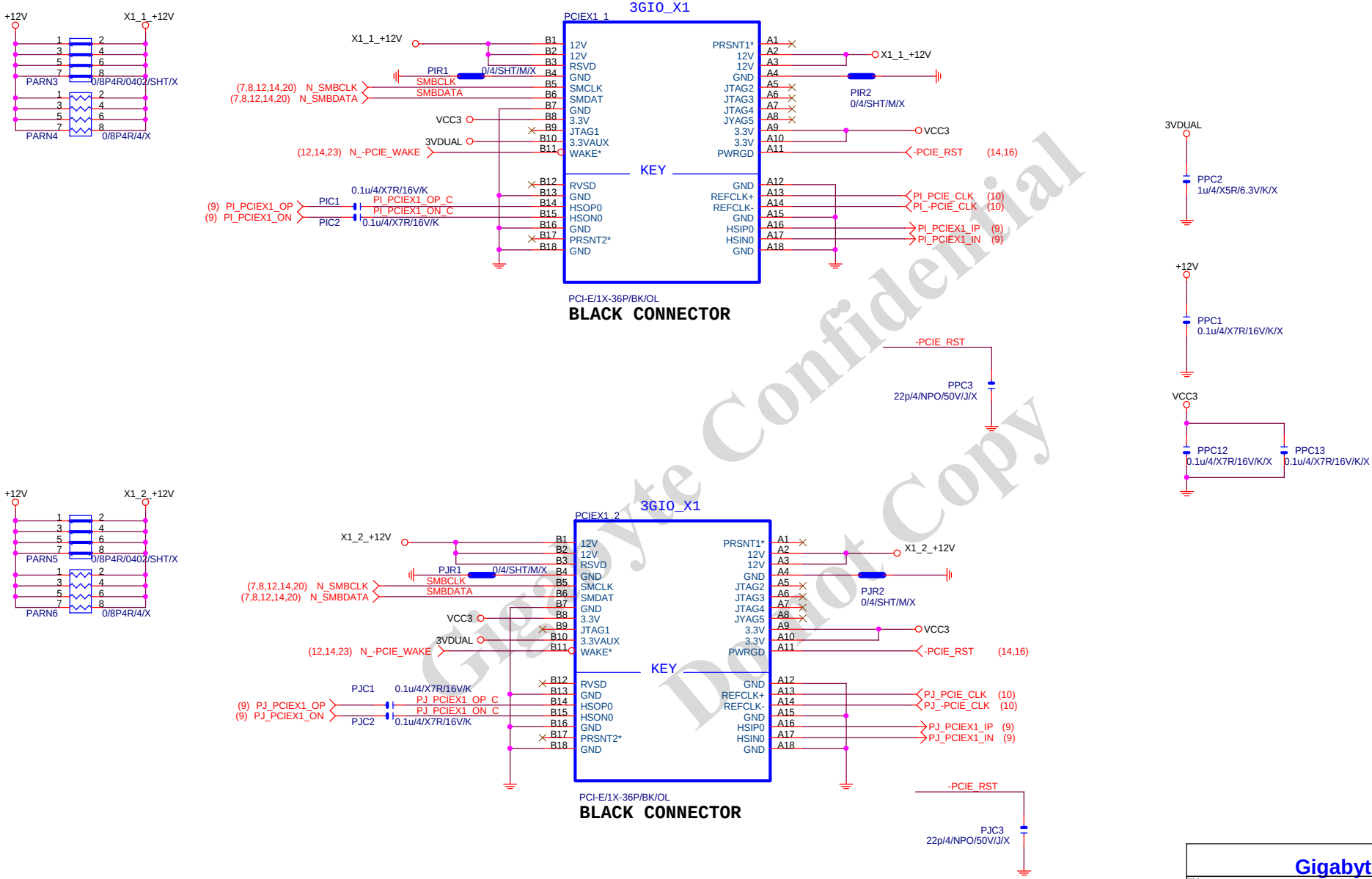


BLACK CONNECTOR

Gigabyte Technology			
Title: PCI EXPRESS * 16			
Size: Custom	Document Number: GA-H81M-H		Rev: 2.1
Date: Thursday, November 20, 2014	Sheet 14 of 29		

PCIEX1 SLOT

PCIEX1 PROTECT SHT



Gigabyte Technology		
Title: PCI EXPRESS X 1 PORT		
Size: Custom	Document Number: GA-H81M-H	Rev: 2.1
Date: Thursday, November 20, 2014	Sheet 15 of 29	

SIO IT8620

IT8620E_BX

SIO

SLP_SUS#/PCIRSTIN#/CIRTX2/GP15
3VSB
HOLD_B#/GP64
HOLD_B#/GP63
FAN_TAC1
FAN_CTL1
FAN_TAC2/GP52
FAN_CTL2/GP51
FAN_TAC3/GP37
FAN_CTL3/GP36
VCC18_EN/GP35
VTT_PWRGD/GP34
GNDD
SLP_SUS_FET/5VSB_CTRL#
SUS_WARN_5VDUAL/5VAUX_SW
PWRGD2
ATXPG/GP30
INV_IN1/SIN2/GP27
INV_OUT1/SOUT2/GP26
FAN_TAC4/DSR2#/GP25
FAN_TAC5/RTS2#/GP24
DPWORK/CPU_PG/GP23
SPI_SI/GP22
IO_SMI#/DCD2#/GP21
THR_PWM/CTS2#/GP20
R12#/GP17
DTR2#/JP5
SPI_SO/CIRTX1
PCH_C1/GP14
SUSACK#/PWRGD1
PCIRST1#/GP12
PCIRST2#/GP11
3VSB
VCORE
LRESET#
LDRQ#
SERIRQ
LFRAME#

BEEP_GB/FAN_CTL5/CIRRX2/GP16
CTS1#/GP31
DSR1#/GP32
OCWDT2/DCD1#/GP33
DTR1#/JP4
OCWDT1/SOUT1/GP43
RI1#/GP44
OCWDT0/DSR1#/GP45
RTS1#/JP2
USB_FS8/P90LED_A/GP77
USB_FS7/P80LED_B/GP76
USB_FS6/P80LED_D/GP75
USB_FS5/P80LED_A/PDAGP74
USB_FS4/P80LED_B/GP73
USB_FS3/P80LED_D/GP72
USB_FS2/P80LED_A/GP71
USB_FS1/P80LED_B/GP70
USB_OC_OUT/AFD#/GP86
OC_IN/INIT#/GP85
IPHONE_CHARGE/SLIN#/GP84
LS_OUT2/ACK#/GP83
LS_IN2/STB#/GP82
LS_OUT1/PE/GP81

LS_IN1/SLCT/GP80
VREF_2.5
TR6/VIN9
TR5/VIN8
TR4/VIN7
AVCC3
VIN0/VCORE(1.1V)
VIN1/VDIMM_STR(1.5V)
VIN2(+12V_SEN)
VIN3(+5V_SEN)
VIN4/VLDT_12
VIN5/5VDUAL
VIN6
VREF
TMPIN1
TMPIN2
TMPIN3
TSD-
GNDA
RSMRST#/CIRRX1/GP55
CPURST#/GP10
MCLK/FAN_TAC6/GP56
MDAT/FAN_CTL6/GP57
KCLK/GP60
KDAT/GP61
3VSBSW#/GP40
PWRGD3
SUSC#/GP53
PSON#
PANSWH#/GP43
GNDD
PME#/GP54
PWRON#/GP44
SUSB#
CE_N/GPO47/JP6
VBAT
COPEN#
3VSB

LAD0
LAD1
LAD2
LAD3
KRST#/GP62
GA20/JP1
PCICLK
GNDD
CPUPWRGD/GP95
VCC1_05_EN/GP66
VLDT_EN/PCH_D0/GP65
PCH_D1/GP63
VR_RDY/GP97
POI_VRMPWRGD/GP96
SUSWARN#/SST/AMDTSI_D/PCH_D
PECI/AMDTSI_C
PROCHOT#/GP94
PECI_EN/GP87
HDLED_OUT/GP92
PWRLED/GP91
DDR_EN/GP90
OCB#/FAN_CTL4/THRMTRIP#
SYS_3VSB

H61M-S2 1.1 JP6 stuff pull down

ORN2 1K/8P4R/4
JP4 JP3 JP2 JP5
OR24 8.2K/4/X
OR25 8.2K/4/X
ITE recommand

EUP control by PCH

3VDUAL OR26 100/4/1 28_3VSB

JP3--- High SPI-Flash Disable / Low SPI-Flash Enable

PWR SHT

For 8728 EUP function
3VDUAL_PCH OR8 0/4/SHT/M/X IT_VCCH

SIO PU

新增
-PCIRSTIN OR2 8.2K/4 VCC3
IO_GP25 OR10 1K/4/1/X 3VDUAL_PCH
-PROCHOT_CON OR13 8.2K/4 VCC3
N_-LDRQ0 OR14 1K/4/1 VCC3
ITE_PWROK1 OR16 1K/4/1 VCC3
-PCIE_RST OR17 1K/4/1 VCC3
-PFMRST2 OR18 1K/4/1 VCC3
(18) FANPWM1 FANPWM1 OR19 8.2K/4 VCC

SIO STRAP

Power leakage

Fix Power issue
IT_AVCC
OQ1 2N7002/SOT23/25pF/5
OR9 0/6/X
+12V OR27 8.2K/4 VCC3
For IT8721 Power leakage

DUAL BIOS OPT STRAP

H81M-DS1 Single BIOS
-CASEOPEN
OC6 1u/4/X5R/6.3V/K
CEB_N OR30 680/4/1
OR31 1K/4/1/X VCC3

SIO_18V

internal power pin, max 22nF cap
SIO_18V
OC7 0.1u/4/X7R/16V/K
OC8 0.1u/4/X7R/16V/K/X

MB ID

VCC3 OR28 8.2K/4
OR29 8.2K/4/X MB_ID2

SIO CAP

IT_VCCH
OC9 1u/4/X5R/6.3V/K/X
OC10 0.1u/4/X7R/16V/K/X
IT_VCCH OC11 10u/6/X5R/6.3V/M
3VDUAL OC12 1u/4/X5R/6.3V/K/X
IT_AVCC OC13 10u/6/X5R/6.3V/M
3VDUAL_PCH OC14 0.1u/4/X7R/16V/K/X
VREF_25 OC15 0.1u/4/X7R/16V/K

Gigabyte Technology		
Title	PCH GPIO , CTRL , AUDIO	
Size C	Document Number GA-H81M-H	Rev 2.1
Date: Thursday, November 20, 2014	Sheet 16 of 29	

COM

AU1
GD75232/TSSOP20

KB/MS

KB_MS
MS
KB
KB/MS/6P/PC99/OS/RA/D/2

KB_MS ESD

H61M-DS2 R0.2

ESD18
AZC099-04S.R7G/SOT23-6L/[10DEF-550099-20R_10TA1-0I8902-10R]

For EMI

R707
0/6/X

FOR鹽化短路

COM RI

Q7
MMBT2222A/SOT23/600mA/40
SOT23

USB30_20

R_USB30
USB/18P/BU/OS/RA/D/2/1U/SB
USB3.0/2.0

USB30_20 ESD PROCTECT

USB3.0 ESD

UESD5
AZ1045-04F/MSOP10

UESD6
AZ1045-04F/MSOP10

USB POWER PROTECT

ESD1
AZC099-04S.R7G/SOT23-6L/[10DEF-550099-20R_10TA1-0I8902-10I

USB30_20 PWR

Polyswitch-1206

-USBOC_R

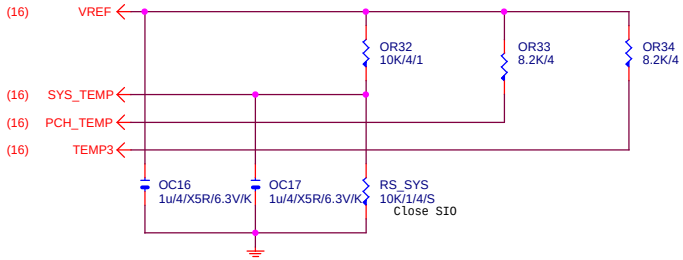
UD7
BAT54A/SOT23/200mA

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

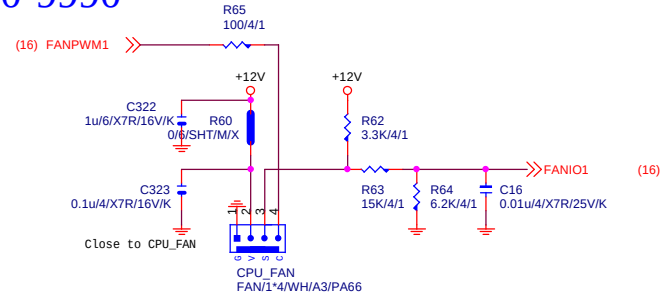
Title	COM,-RI,KB_USB,USB_ESATA,-PROCHOT
Size	Custom
Document Number	GA-H81M-H
Rev	2.1
Date:	Thursday, November 20, 2014
Sheet	17 of 29

Gigabyte Technology

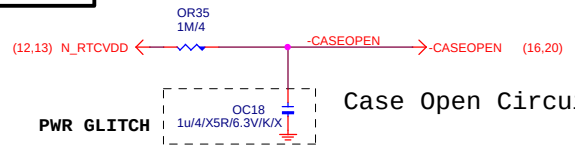
TEMP H/W MONITOR



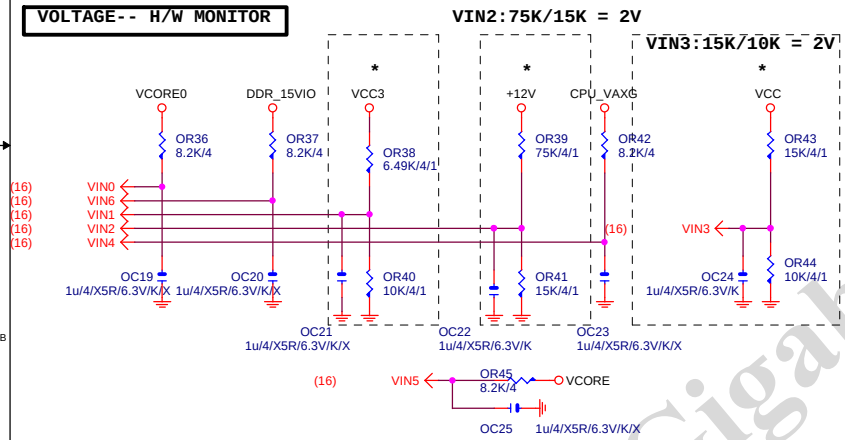
CPU SMART FAN



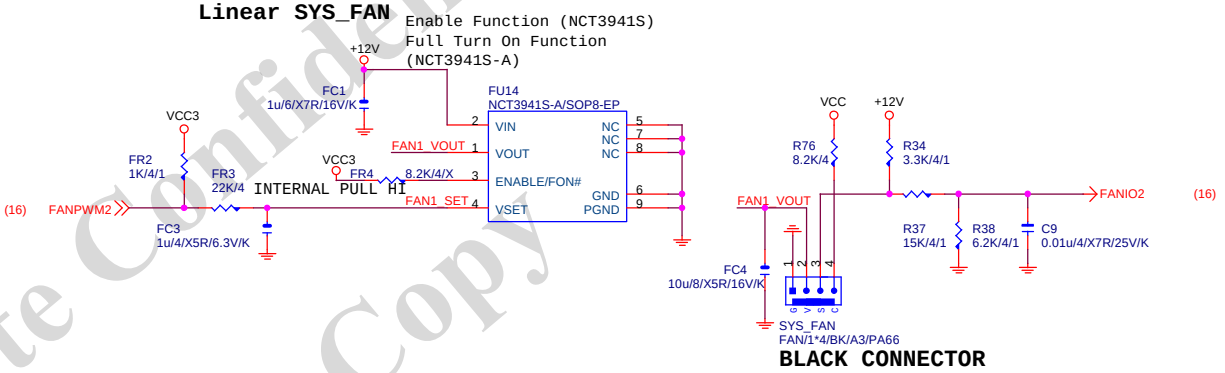
CASE OPEN

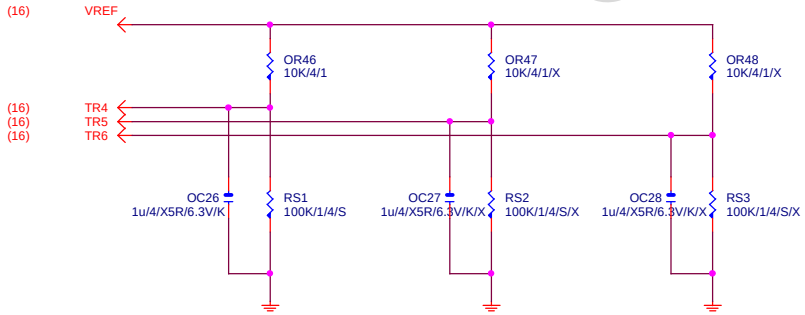


VOLTAGE-- H/W MONITOR



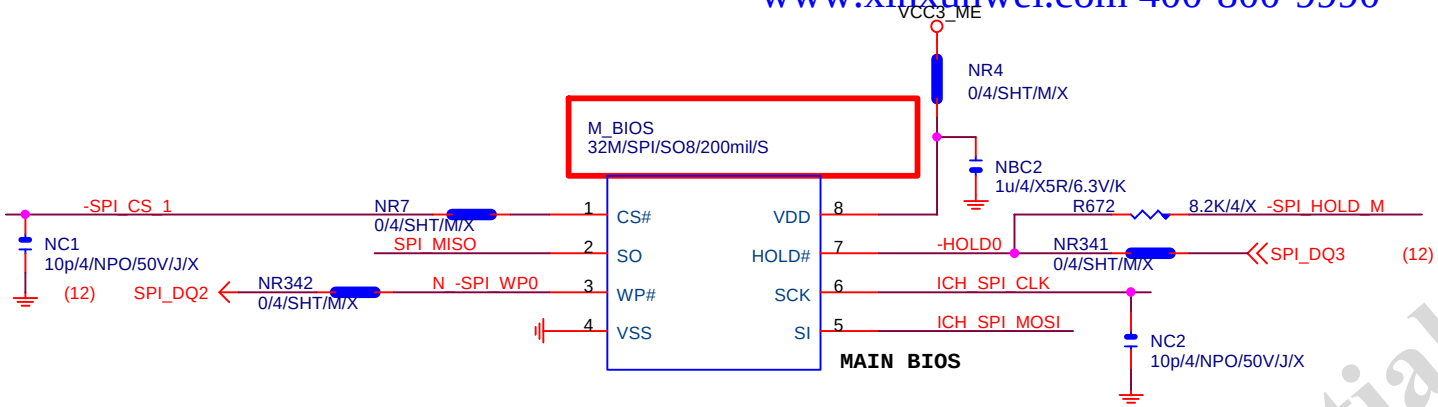
SYS SMART FAN

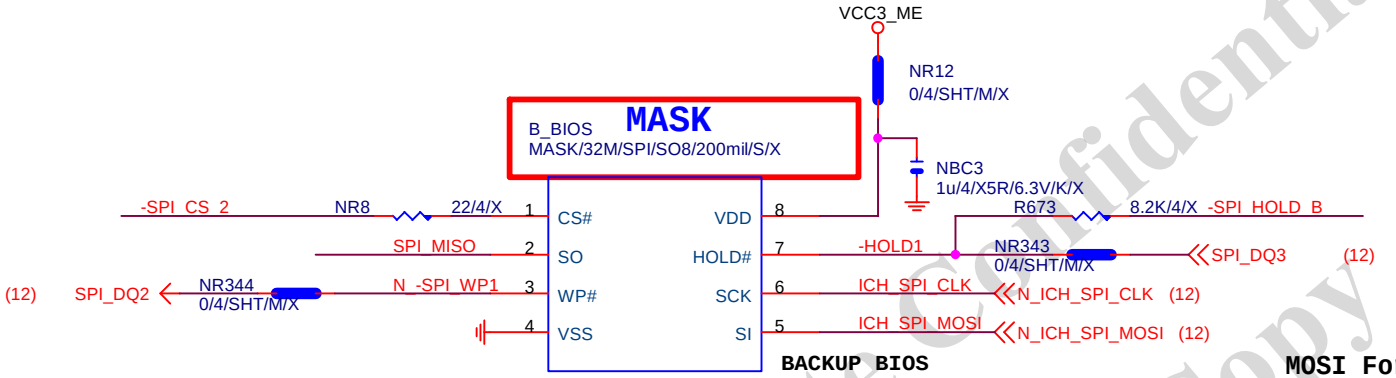




RS1、RS2、RS3 CLOSE CPU
VR MOSFET

Gigabyte Technology		
Title: HWM,FAN CTRL,OV		
Size: Custom	Document Number: GA-H81M-H	Rev: 2.1
Date: Thursday, November 20, 2014	Sheet 18 of 29	

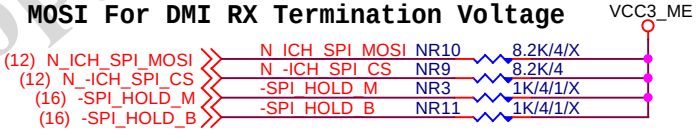


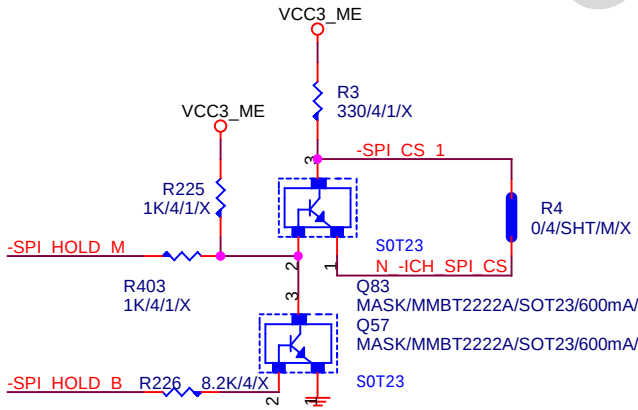


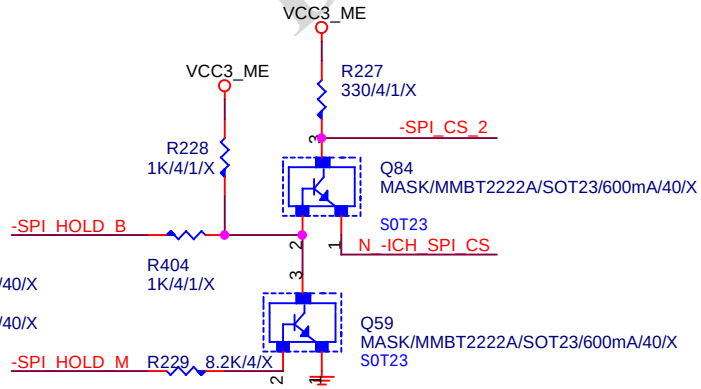
BOOT DEVICE	GNT0	GNT1
LPC	0	0
PCI	0	1
NAND	1	0
SPI	1	1

1 means floating
0 means PD 1K

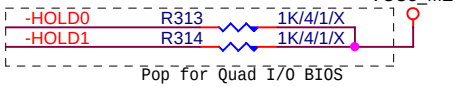
MOSI For DMI RX Termination Voltage







CHECK



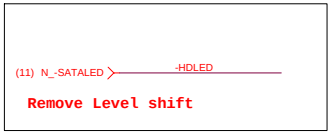
Gigabyte Technology

Title: **DUAL BIOS**

Size: Custom | Document Number: **GA-H81M-H** | Rev: **2.1**

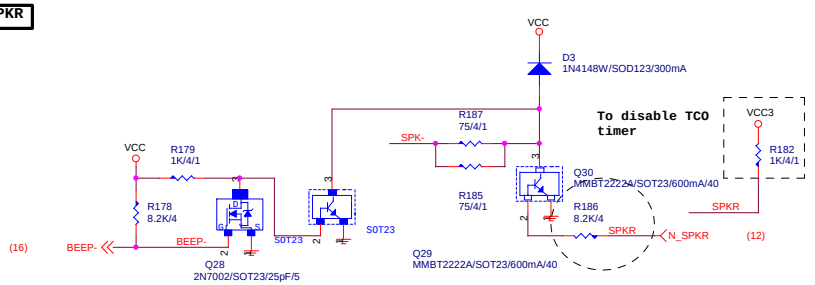
Date: Thursday, November 20, 2014 | Sheet 19 of 29

SATA LED

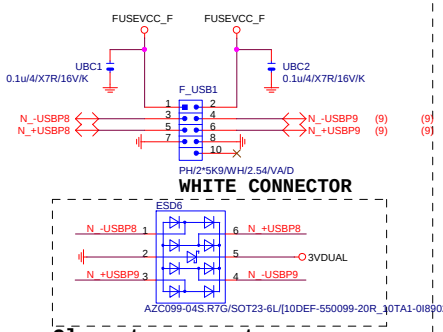


-USBOC_F

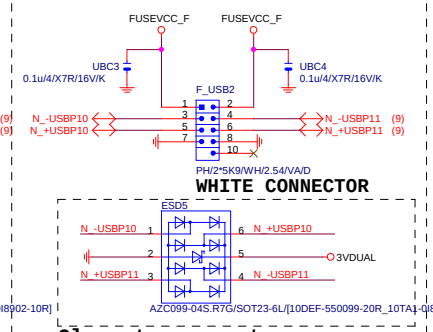
SPKR



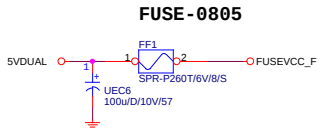
FRONT USB1

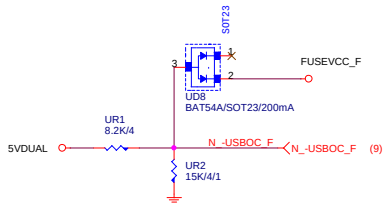


FRONT USB2



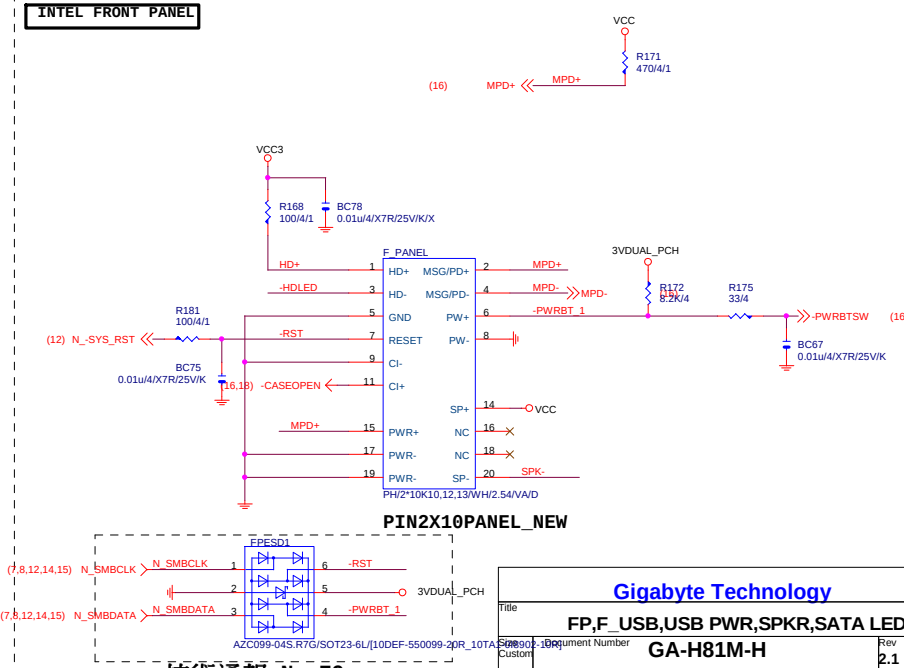
FUSE-0805





F_USB1, F_USB2 4-Port 2.6A

INTEL FRONT PANEL

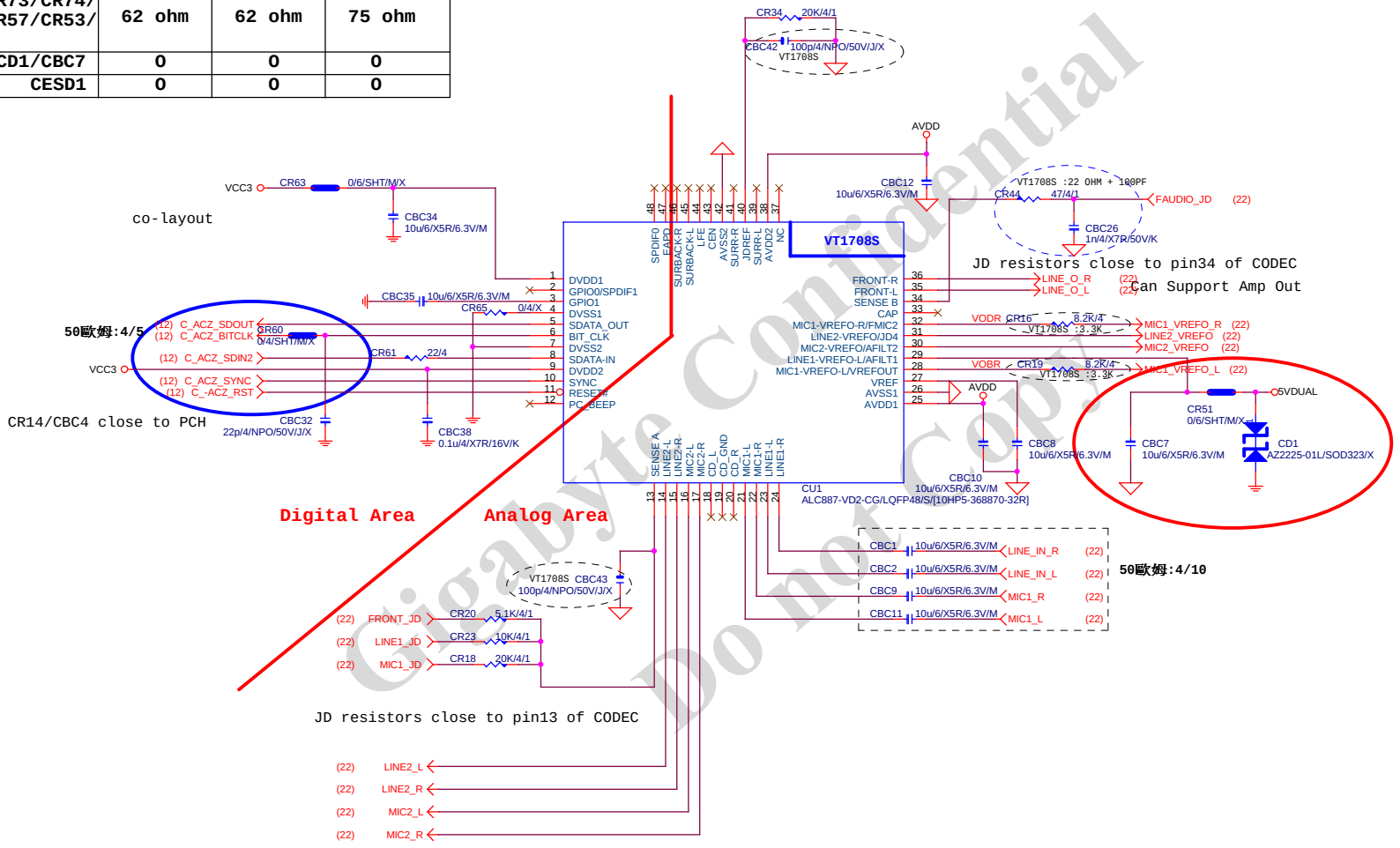


技術通報 No.79

Gigabyte Technology			
Title: FP,F_USB,USB PWR,SPKR,SATA LED			
Size: Custom	Document Number: GA-H81M-H		Rev: 2.1
Date: Thursday, November 20, 2014	Sheet 20 of 29		

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

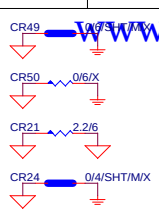


Gigabyte Technology

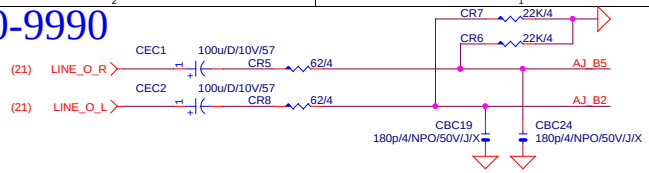
Title: HD AUDIO ALC887B-VD2/VT1708S/VT2021

Size: Custom | Document Number: GA-H81M-H | Rev: 2.1

Date: Thursday, November 20, 2014 | Sheet 21 of 29

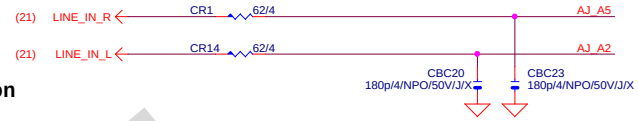


LINE-OUT



Only reserved for ALC888

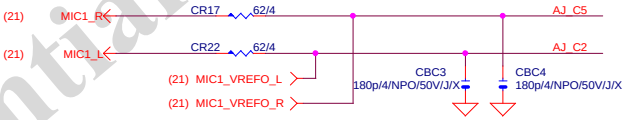
LINE-IN



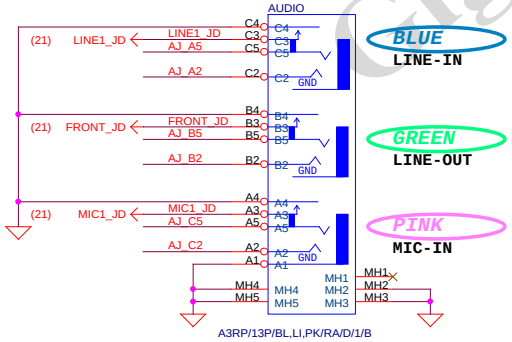
Verify MIC function in LINE-in

For 889A/888

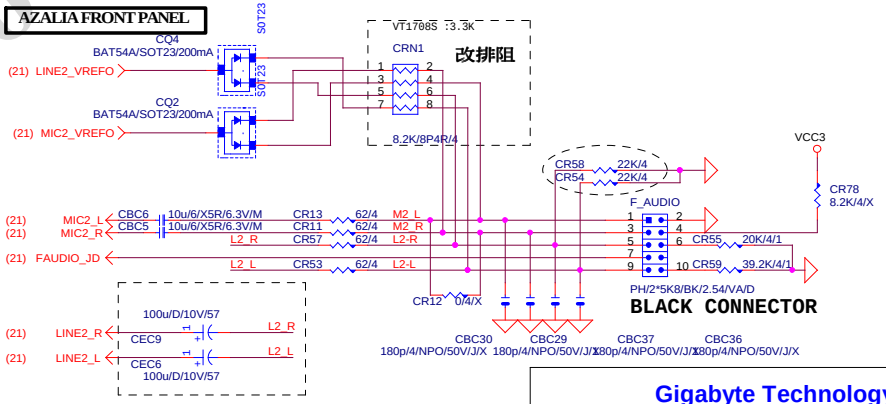
MIC-IN



SPDIF_OUT

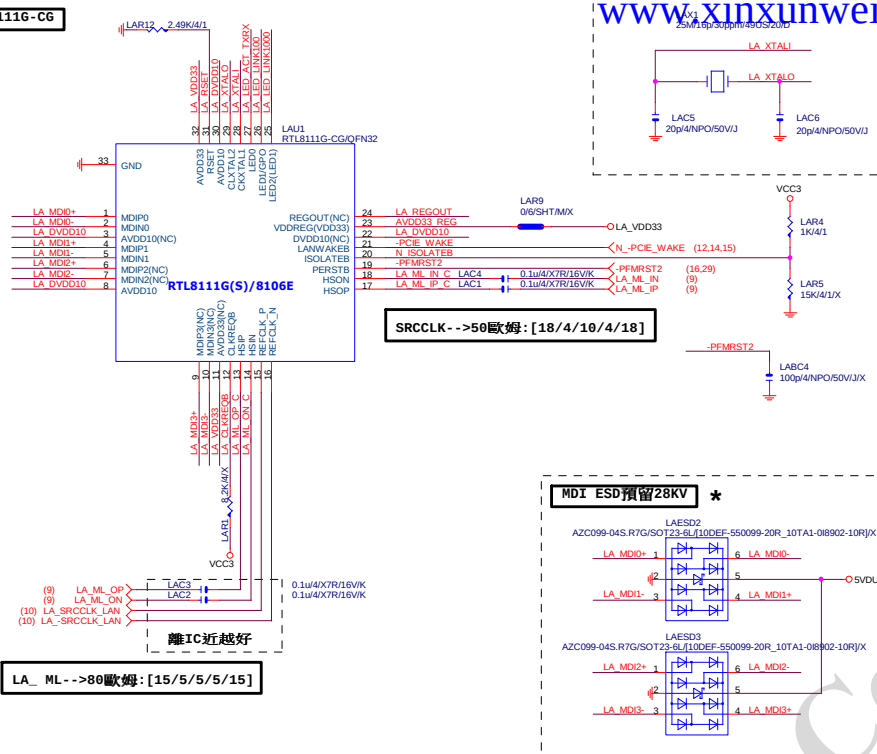


AZALIA FRONT PANEL



Gigabyte Technology		
Title: AUDIO JACK		
Size: Custom	Document Number: GA-H81M-H	Rev: 2.1
Date: Thursday, November 20, 2014	Sheet 22 of 29	

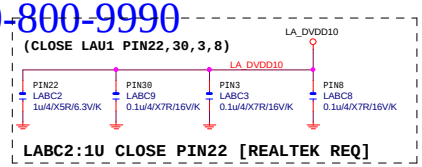
LAN RTL8111G-CG



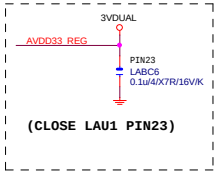
SRCCLK-->50歐姆:[18/4/10/4/18]

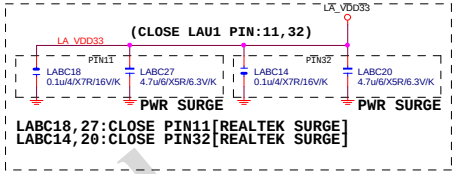
LA_ ML-->80歐姆:[15/5/5/5/15]

LAN POWER

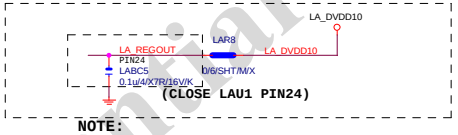


LABC2:1U CLOSE PIN22 [REALTEK REQ]





LABC18,27:CLOSE PIN11[REALTEK SURGE]
LABC14,20:CLOSE PIN32[REALTEK SURGE]



NOTE:
RT8106E:PIN3,11,22,24-->NC
LABC2LABC3,LABC5,LABC18,LABC27-->N/A

MDI ESD預留28KV *

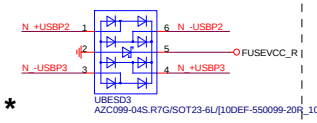
BOM NOTICE *

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

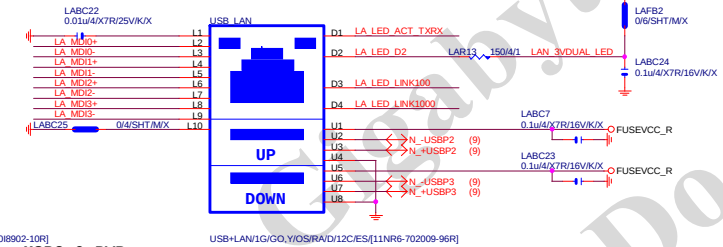
USB_LAN CONNECTOR

RMA ESD PROTECT



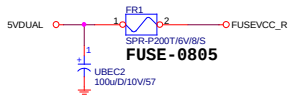
* 使用RU9 USB_LAN可省略LAESD1保護LED

LA_MDI-->100歐姆:[20/4/8/4/20]



USB2.0 PWR

FR1 CLOSE TO USB_LAN



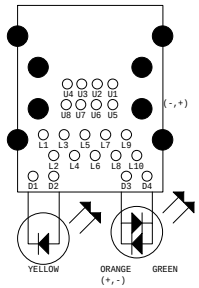
Close to connector

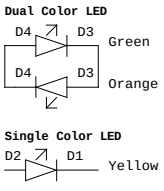
注意:USB PORT(目前:暫代6,7PORT)
USB-->90歐姆:[15/4.5/7.5/4.5/15]

USB X3 POWER

EMI SHORT PAD

PS:視EMI需求





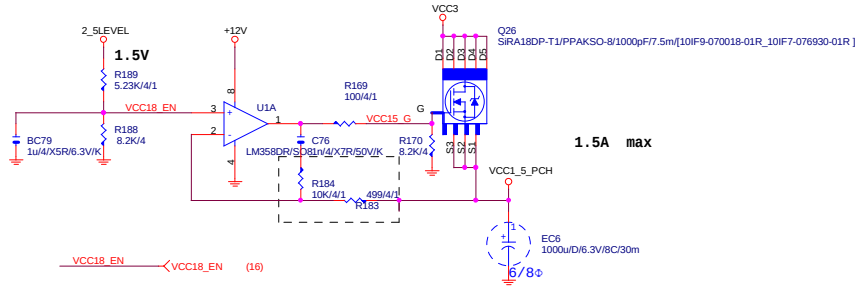
BOM NOTICE *

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]		

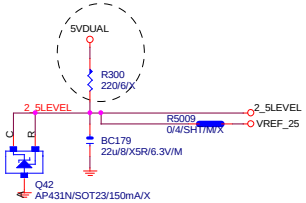
1. 9KV ESD BOM:
USB_LAN (RU9):11NR6-702009-96R
2. 28KV ESD BOM:
USB_LAN (RU9):11NR6-702009-96R
LAESD2,LAESD3:上件AZC398-04S

Gigabyte Technology		
Title: Realtek RTL8111G		
Size: Custom	Document Number: GA-H81M-H	Rev: 2.1
Date: Thursday, November 20, 2014	Sheet 23 of 29	

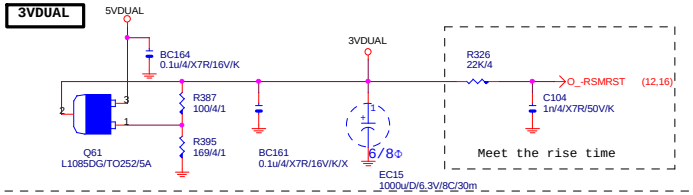
VCC1_8_PCH



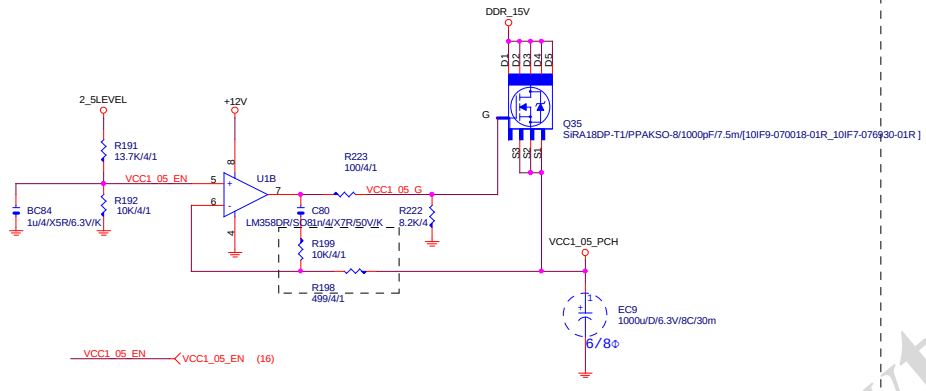
2_5LEVEL

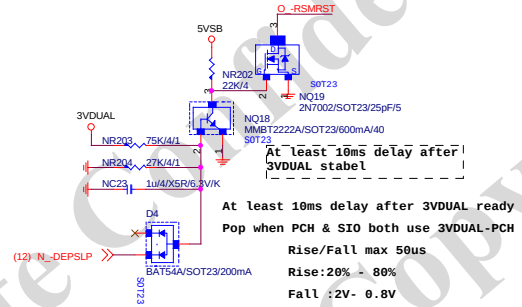


3VDUAL

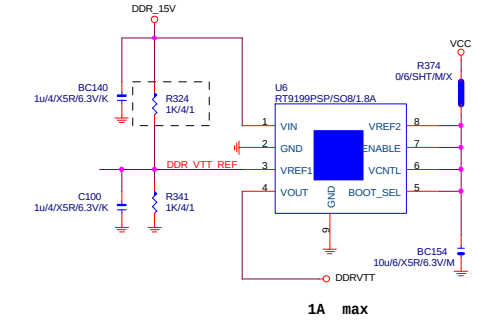


VCC1_05_PCH

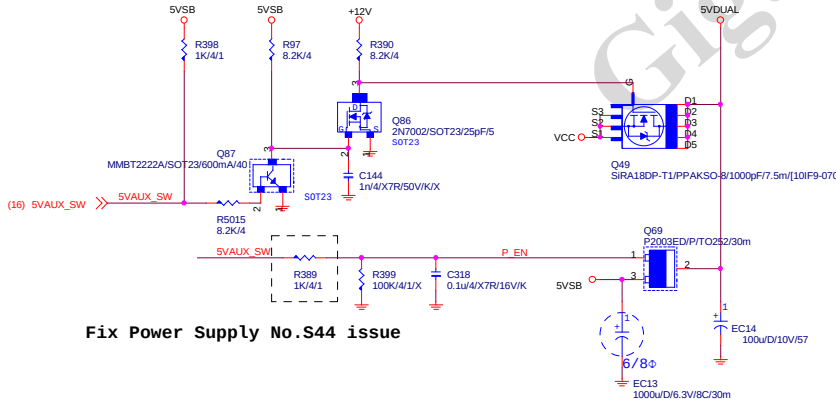




DDRVTT



5VDUAL

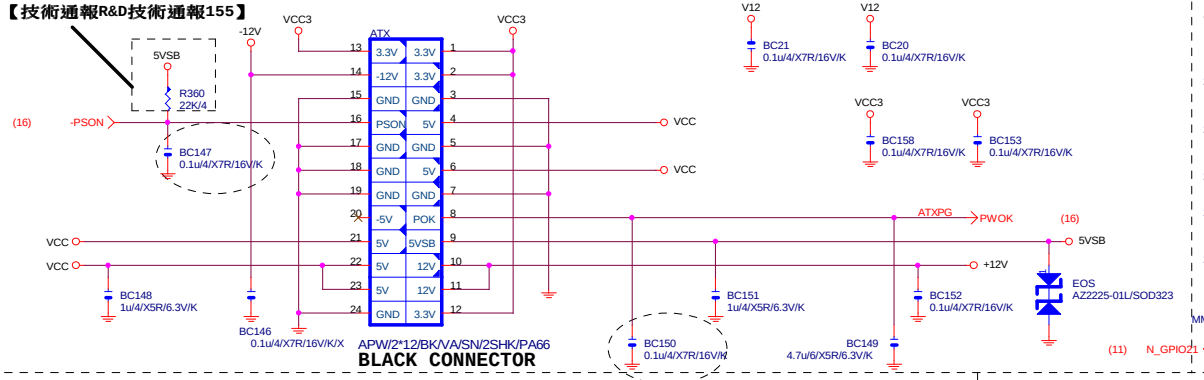


5VDUAL SHORT PROTECT

Gigabyte Technology		
Title: DISCRETE POWER		
Size: Custom	Document Number: GA-H81M-H	Rev: 2.1
Date: Thursday, November 20, 2014	Sheet 24 of 29	

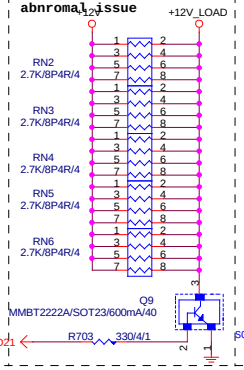
ATXX24 POWER CONNECTOR

【技術通報R&D技術通報155】



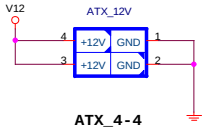
【技術通報R&D技術通報158】

To fix 12V light load abnroma l issue

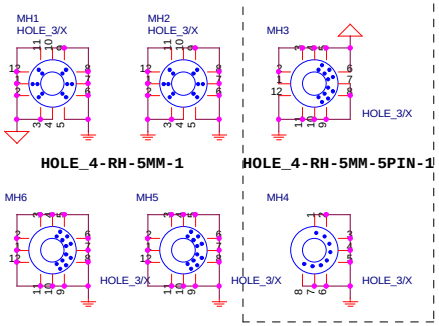


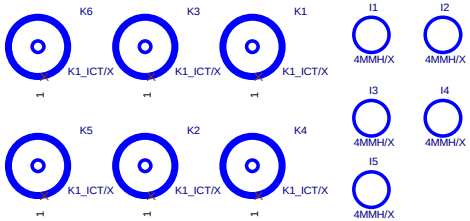
ATXX4 POWER CONNECTOR

APW/2*2/BK/P/4.2/SN/PA66/[11NH4-020004-G2R]



TPM

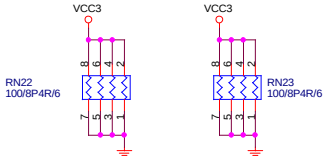




To prevent the 5VSB under loading when boot

PWOK PATCH

【技術通報R&D技術通報154】



FIX PWR MINMUN LOAD

Gigabyte Technology

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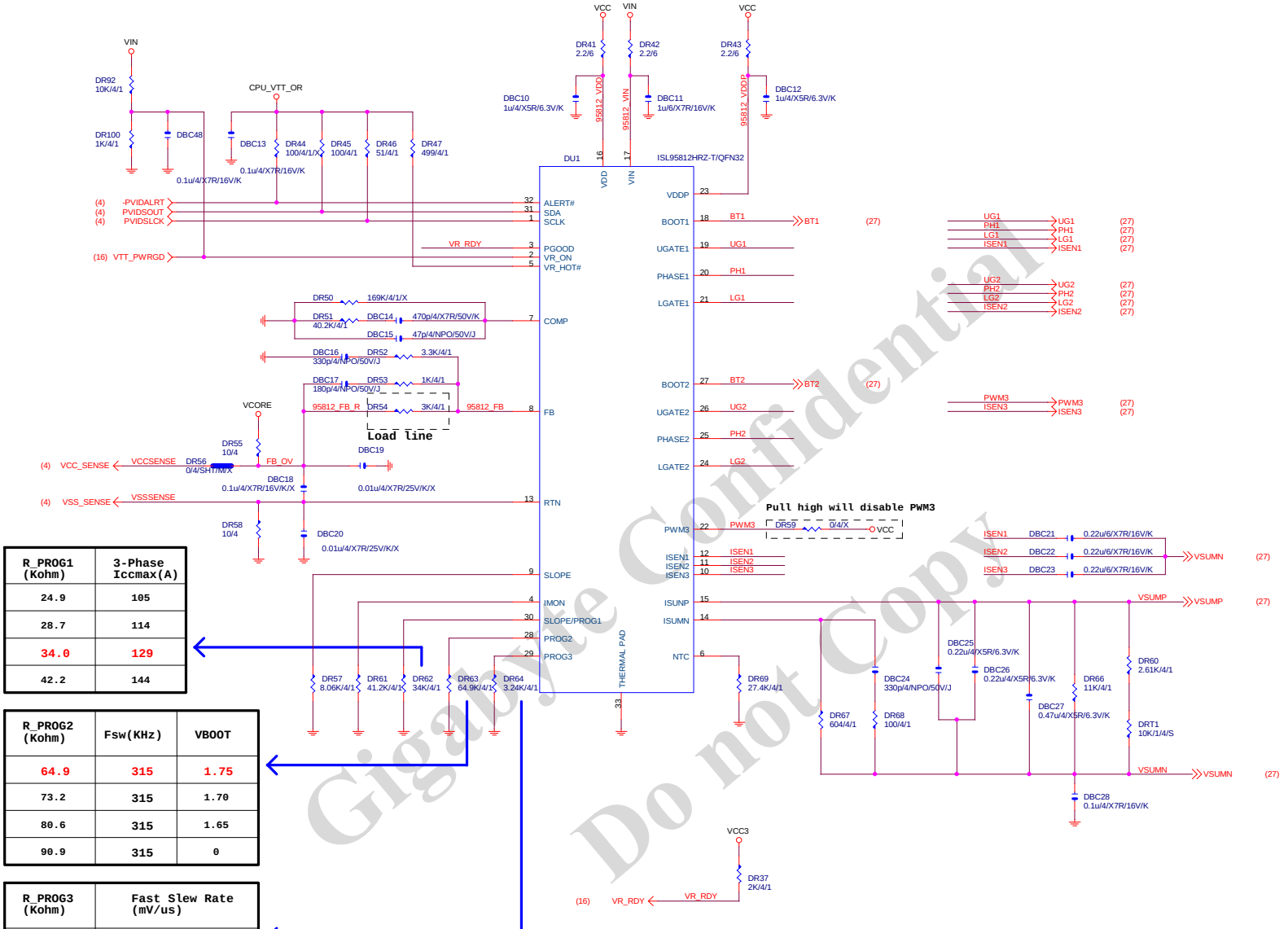

R_PROG1 (Kohm)	3-Phase Iccmax(A)
24.9	105
28.7	114
34.0	129
42.2	144

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			
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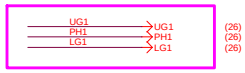
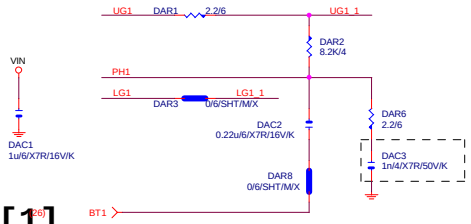
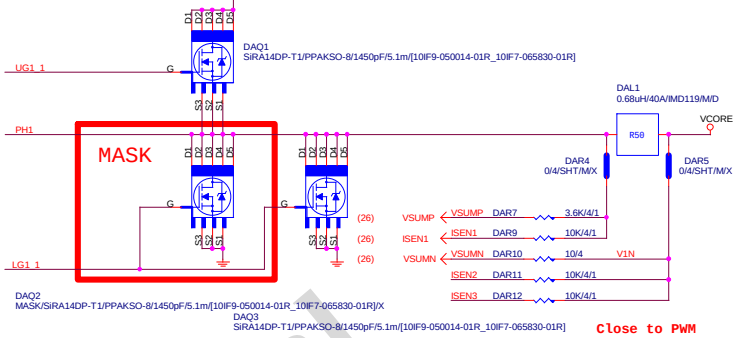
PHASE 1

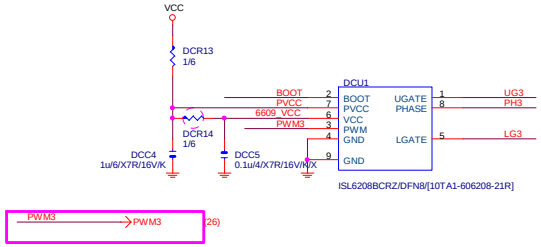


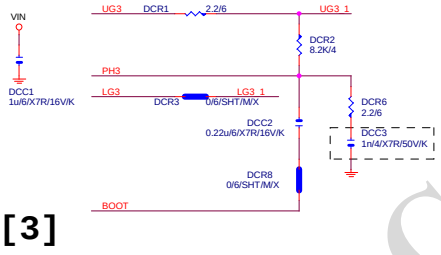


[1]



PHASE 3





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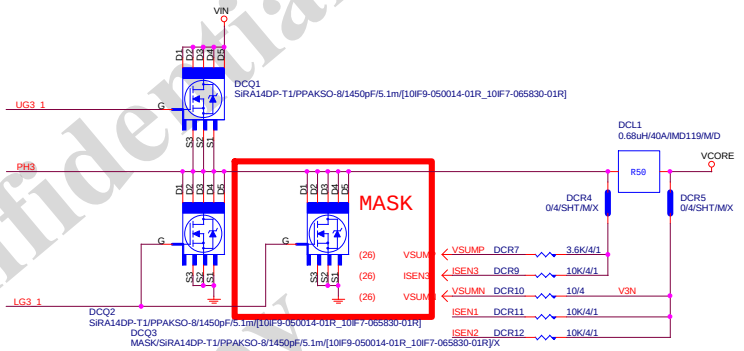
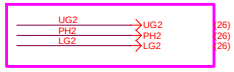
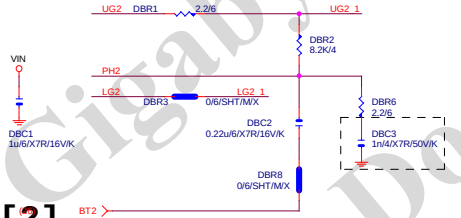


PHASE 2





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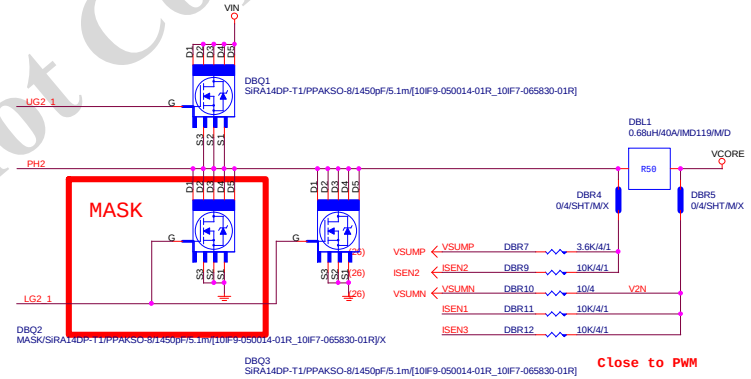

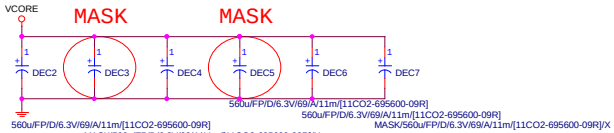

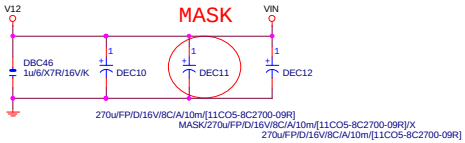

Gigabyte Technology		
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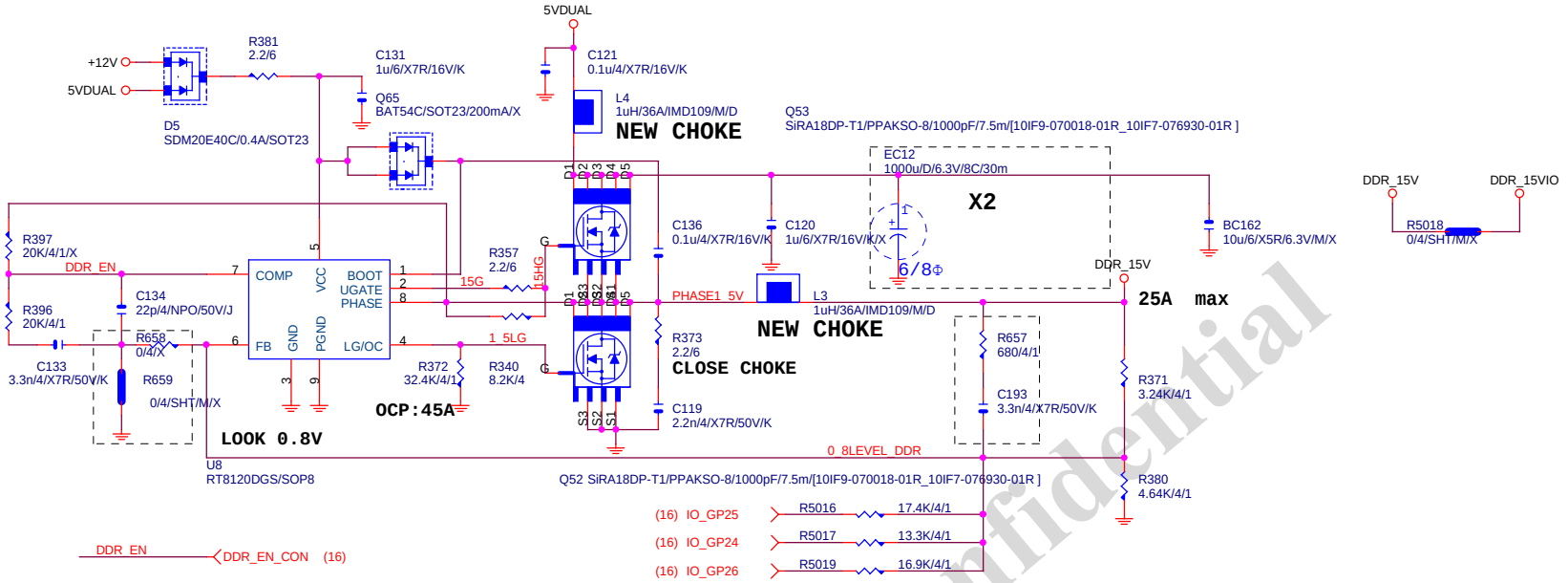
DDR15V



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		
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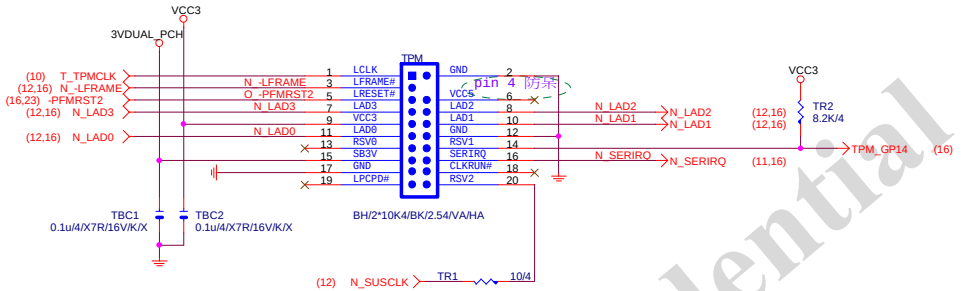
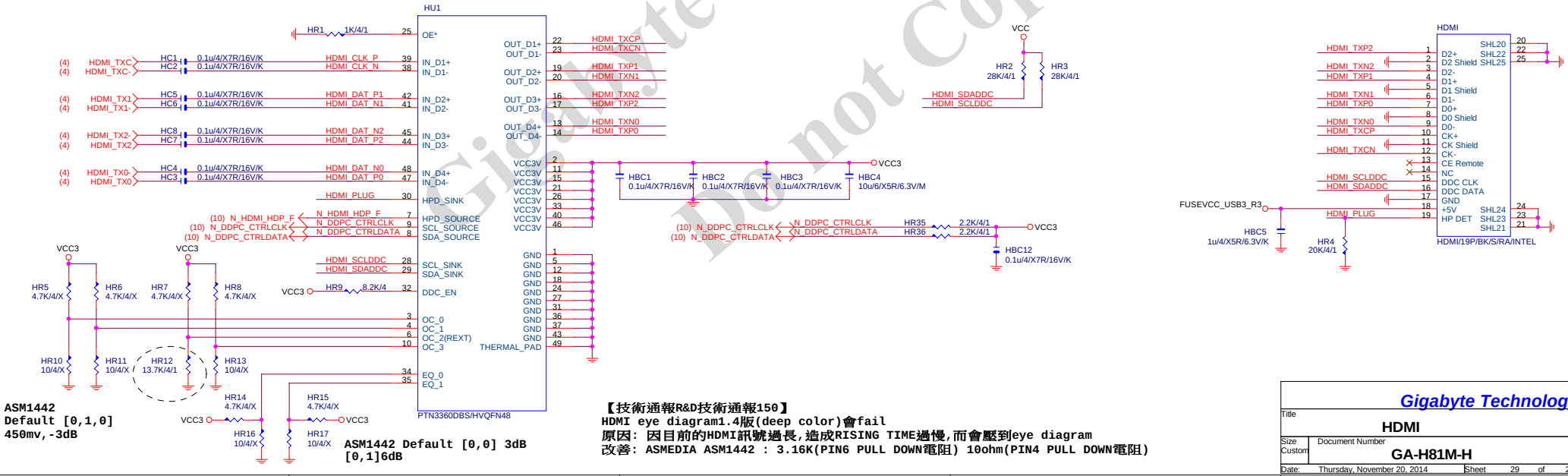
TPM CONNECT



HDMI LEVEL SHIFT

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



ASM1442
Default [0,1,0]
450mv,-3dB

ASM1442 Default [0,0] 3dB
[0,1]6dB

【技術通報R&D技術通報150】
HDMI eye diagram1.4版(deep color)會fail
原因: 因目前的HDMI訊號過長,造成RISING TIME過慢,而會壓到eye diagram
改善: ASMEDIA ASM1442 : 3.16K(PIN6 PULL DOWN電阻) 10ohm(PIN4 PULL DOWN電阻)

Gigabyte Technology

Title	HDMI	
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