Model Name: GA-B85M-D3H-AE

Revision 1.2

SHEET	TITLE
01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	CPU_LGA1150-A
05	CPU_LGA1150-B
06	CPU_LGA1150-C
07	DDR III CHANNEL A 1,2
08	DDR III CHANNEL B 1,2
09	PCH_FDI,DMI,USB,PCIE,NVRAM
10	PCH_DP,CLK BUFFER
11	PCH_HOST,SATA,PCI
12	PCH_GPIO,CTRL,AUDIO
13	PCH_PWR,GND
14	PCI EXPRESS*16 SLOT
15	PCI EXPRESS*4 SLOT
16	PCI SLOT1,2
17	ITE 8728 LPC IO
18	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 , CLOCK GEN, TPM
27	VCORE ISL95820_1

SHEET	TITLE
28	VCORE ISL95820_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-AE | Rev: 1.2

Date: Tuesday, February 17, 2015 | Sheet 1 of 32

Model Name: GA-B85M-D3H-AE

Revision 1.2
P-Code U12090-0

Component value change history

Date	BOM and PCB version	Modify Items
2015.02.11	12B P-BOM release. PCB:1.2	中國區需求,由GA-B85M-D3H rev1.2 轉客戶Acer專屬BOM & BIOS

Circuit or PCB layout change

Date	PCB Version	Modify Items

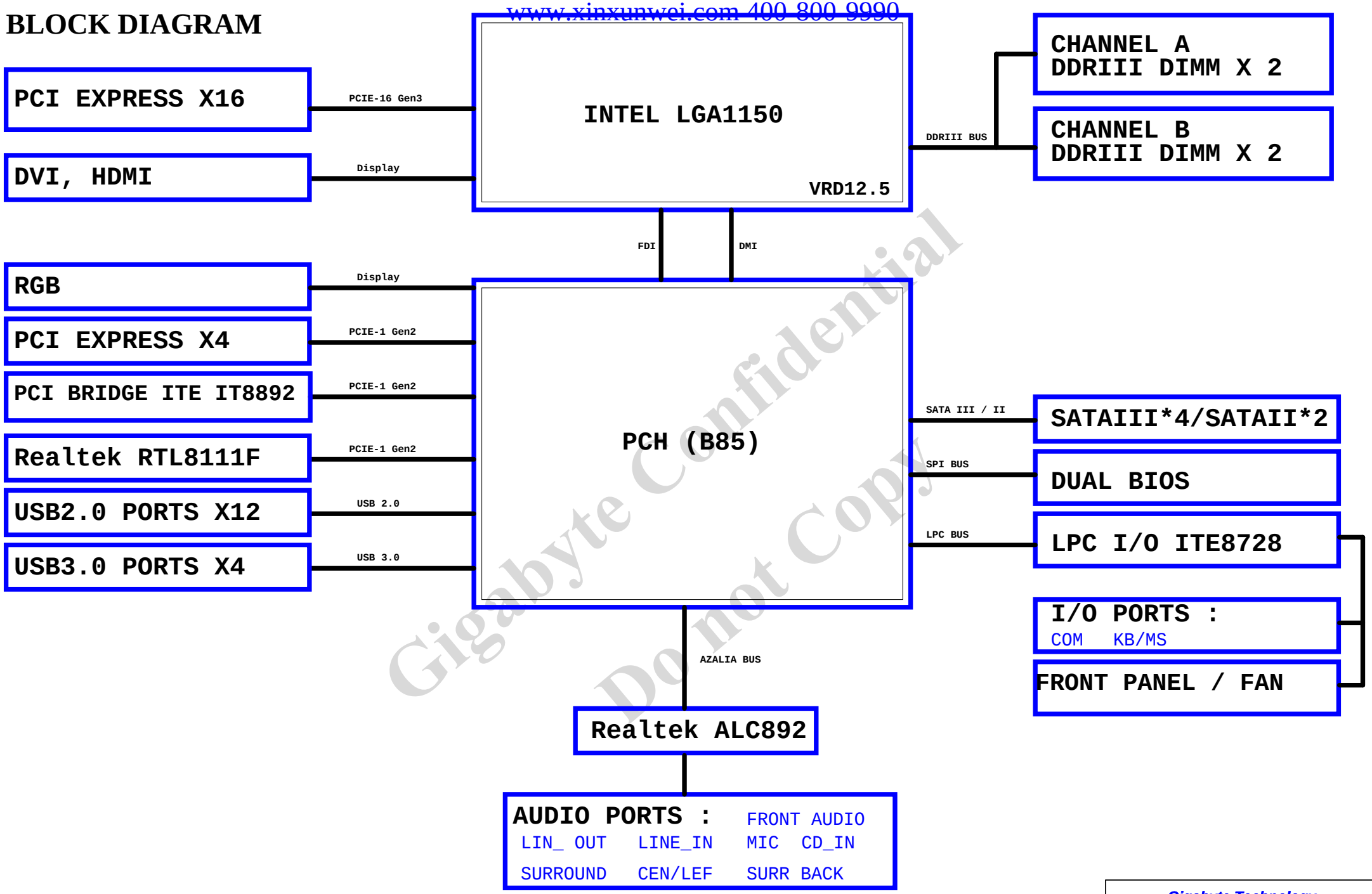
Gigabyte Technology

Title: BOM & PCB MODIFY HISTORY

Size: Custom | Document Number: GA-B85M-D3H-AE | Rev: 1.2

Date: Tuesday, February 17, 2015 | Sheet 2 of 32

BLOCK DIAGRAM



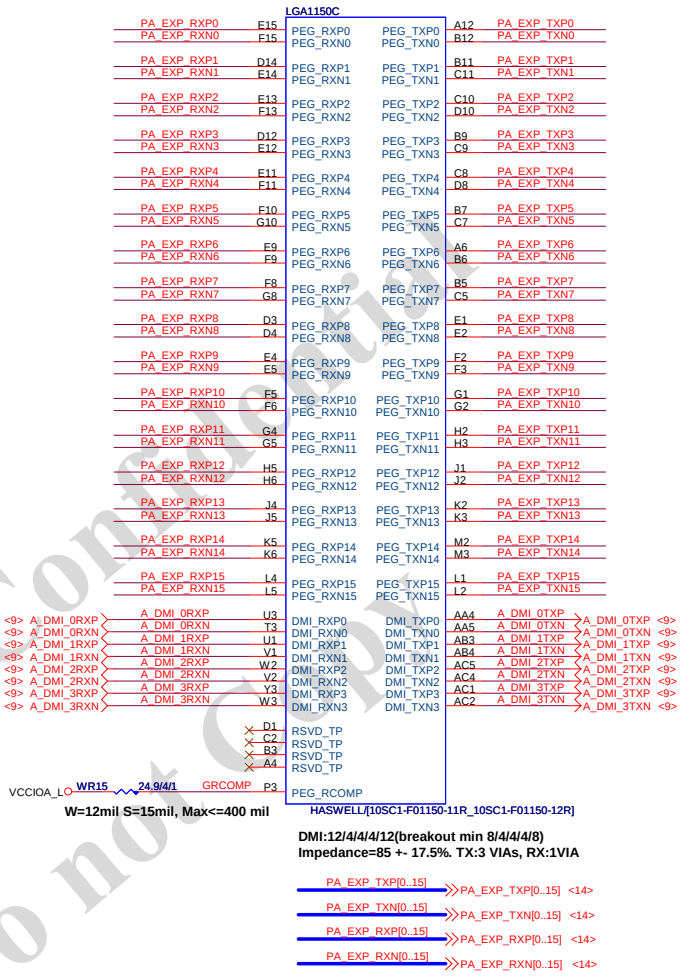
Gigabyte Technology		
Title: BLOCK DIAGRAM		
Size: Custom	Document Number: GA-B85M-D3H-AE	Rev: 1.2
Date: Tuesday, February 17, 2015	Sheet 3 of 32	

LGA1150 (E)

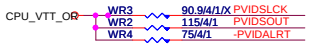
CFG	H	L	NOTE
0	RSVD	RSVD	RSVD
1	RSVD	RSVD	RSVD
2	**NORM**	**Reverse**	LANE REVERSAL[0],x16
3	RSVD	RSVD	RSVD
4	**Disable**	**Enable**	eDP Enable
7	RSVD	RSVD	RSVD
8	RSVD	RSVD	RSVD
9	RSVD	RSVD	RSVD
10	RSVD	RSVD	RSVD
11	RSVD	RSVD	RSVD
12	RSVD	RSVD	RSVD
13	RSVD	RSVD	RSVD
14	RSVD	RSVD	RSVD
15	RSVD	RSVD	RSVD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

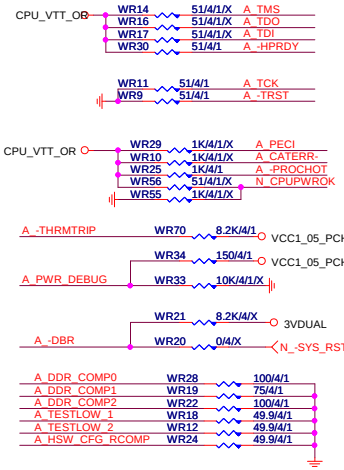
LGA1150 (C)



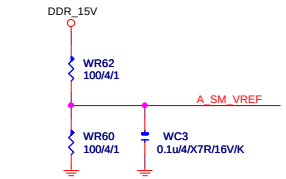
CPU SVID



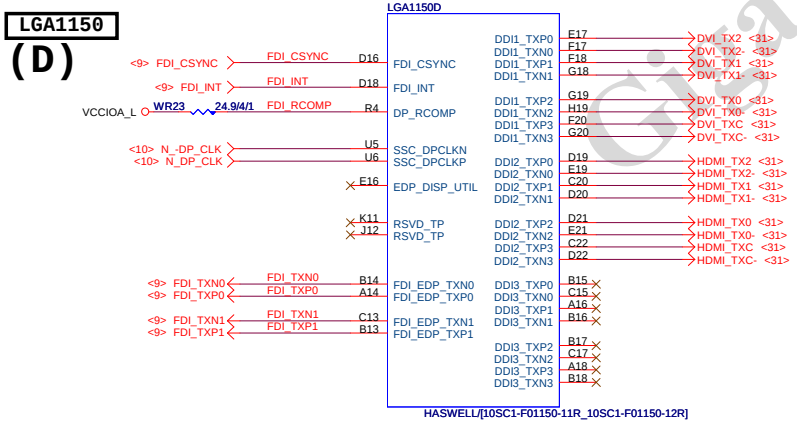
CPU PU/PD



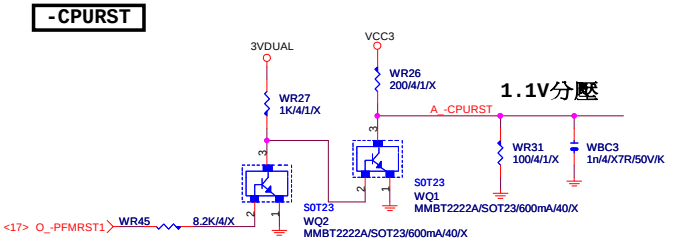
SM REF



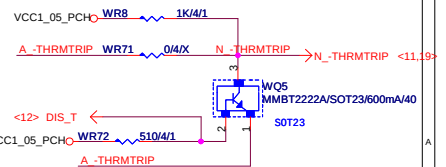
LGA1150 (D)



-CPURST



THRMTRIP DISABLE



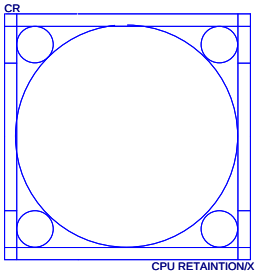
Gigabyte Technology

Title	CPU LGA1150-A		
Size: Custom	Document Number: GA-B85M-D3H-AE		Rev: 1.2
Date: Tuesday, February 17, 2015	Sheet 4 of 32		

LGA1150 (A)

LGA1150 (B)

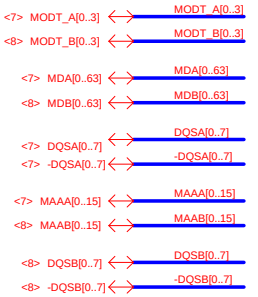
LGA1150 (CR)



LGA1150_P

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-B85M-D3H-AE		Rev: 1.2
Date: Tuesday, February 17, 2015	Sheet 5 of 32		

LGA1150 (F,J)

(1.0V)

CPU_VTT_OR

WBC1 22u/8/X5R/6.3V/M

WR65 0/4/X

VCCST

WBC23 0.1u/4/X7R/16V/K

WBC13 0.1u/4/X7R/16V/K

WR63 0/4/SHT/M/X

VCCIO2PCH

(1.07V)

WR64 0/4/SHT/M/X

VCC1_05_PCH

VCORE

LGA1150F

P8 VCC
L40 VCCIO_OUT
AB8 VCCIO2PCH
L31 L18 L17 J33 A24 A25 A26 A27 A28 A29 A30 G33 B25 B27 B29 B31 J31 B33 G31 B35 C24 C25 C26 C27 C28 C29 C30 C32 C34 C35 D25 D27 D29 D31 E33 D33 E31 D35 E24 E25 E26 E27 E28 E29 E30 E32 E34 F23 F25 F27 F29 F31 E35 F33 F35 G22 G23 G24 G25 G26 G27 G28 G29 G30 G32 G34 G35 H23 H25 H27 H29 H31 L34 VCC
C31 C33 L16 L15 J35 H33 H35 J21 J22 J23 J24 J25 J26 J27 J28 J29 J30 J32 J34 K19 K21 K23 K25 K27 K29 K31 M13 K33 K35 L19 L20 L21 L22 L23 L24 L25 L26 L27 L28 L29 L30 L32 L33 M17 M15 M19 M21 M23 M25 M27 M29 M33 VCC
AJ12 AJ13 AJ15 AJ17 AJ20 AJ21 AJ24 AJ25 AJ28 AJ29 AJ39 AT17 AT22 AU15 AU20 AU24 AV10 AV11 AV13 AV18 AV23 AV8 AW16 AY12 AY14 AY9 VDDQ
HASWELL/[10SC1-F01150-11R_10SC1-F01150-12R]

VCORE

DDR_15V

LGA1150J

RSVD_TP K12
RAVD_TP J13
RAVD_TP P37
RAVD_TP N38
RAVD_TP R36
RAVD_TP C39
VSS U35
VSS P40
VSS R38
VSS T37
VSS V34
VSS R39
VSS T38
VSS U36
VSS P39
VSS T36
VSS R37
VSS J14
RSVD_TP N36

AY18 AW24 AW23 AV29 AV24 AU39 AU27 AU1 AT40 AK20 Y7 T34 R34 J40 J17 J15 H12 RSVD

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

<11,12,17,26> O_PWROK1

WR67 6.04K/4/1

VCCST_PWRGD

For 2014 CPU, VCCST_PWRGD=1.05V

WR66 3.16K/4/1

O_PWROK1

WBC4 100p/4/NPO/50V/J FOR EMI

LGA1155 (G,H,I)

LGA1150G

A13 A15 A17 A23 A11 AA3 AA33 AA35 AA38 AA6 AA7 AA8 A5 AB34 AB37 AB5 AB7 AC3 AC33 AC34 AC35 AC36 AC37 AC38 AC39 AC40 AC6 AC7 A7 AD1 AD2 AD3 AD33 AD36 AD4 AD5 AD6 AD7 AD8 AE33 AE36 AE37 AE40 AE5 AE8 AF1 AF33 AF36 AF4 AF5 AF8 AG33 AG36 AG37 AG38 AG39 AG40 AG5 AG8 AH1 AH2 AH3 AH33 AH36 AH4 AH5 AH8 AJ11 AJ14 AJ16 AJ18 AJ19 AJ22 AJ26 AJ27 AJ30 AJ31 AJ32 AJ33 VSS
AJ34 AJ35 AJ36 AJ37 AJ40 AJ5 AJ8 AK1 AK10 AK11 AK12 AK13 AK14 AK18 AK19 AK24 AK25 AK26 AK27 AK28 AK29 AK30 AK36 AK4 AK5 AK6 AK7 AK8 AK9 AL11 AL14 AL17 AL21 AL22 AL24 AL27 AL30 AL36 AL37 AL38 AL39 AL40 AL5 AM1 AM11 AM14 AM15 AM19 AM2 AM24 AM27 AM3 AM30 AM31 AM32 AM33 AM34 AM35 AM36 AM4 AM5 AN10 AN11 AN14 AN16 AN18 AN19 AN22 AN23 AN24 AN27 AN30 AN36 AN37 AN40 AN5 AN6 AN7 AN8 AN9 AP1 VSS

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

LGA1150I

G12 G13 G14 G16 H11 G17 G21 G3 H13 H22 H32 G36 G37 G6 G7 G15 H1 H10 H17 H18 H20 H21 H24 H26 H28 H30 H34 H36 H39 H4 H7 H8 H9 J19 J20 J3 J18 K10 K14 J36 J37 J6 K1 K18 K20 K22 K24 K26 K28 K30 K34 K36 K4 K40 K7 L7 L8 L9 L11 L3 L13 L14 L35 L38 L6 M1 K17 M12 M14 M18 M16 M20 M22 M24 M26 M28 M30 M32 M34 M37 VSS
M4 M40 M5 M6 M7 K15 K16 N1 N2 N3 N7 N34 N4 N6 K32 P2 P34 P38 P5 P7 N8 R3 L36 R35 P40 R5 R6 R7 T1 T2 T33 M35 T39 T4 T5 T6 T7 R8 U2 U33 U34 U37 U4 U7 P35 V3 V33 V40 V6 V8 W1 Y33 W33 W35 W37 W4 W7 Y4 Y5 Y6 AU40 AV39 AW38 AY3 B38 B39 C40 D40 VSS_NCTF

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

LGA1150H

AP11 AP14 AP15 AP24 AP27 AP30 AP36 AP4 AP5 AR11 AR14 AR16 AR17 AR18 AR19 AR20 AR21 AR22 AR23 AR24 AR27 AR30 AR31 AR32 AR33 AR34 AR35 AR36 AR37 AR38 AR39 AR40 AR5 AT1 AT10 AT11 AT12 AT13 AT14 AT15 AT16 AT2 AT24 AT25 AT26 AT27 AT28 AT29 AT3 AT30 AT32 AT34 AT36 AT38 AT39 AT4 AT5 AT6 AT7 AT8 AT9 AU2 AU25 AU3 AU30 AU34 AU38 AU5 AU7 AV21 AV28 AV3 AV30 AV34 AV38 AV7 AW26 AW3 AW30 VSS
AW32 AW34 AW36 AW7 AY17 AY23 AY26 AY27 AY30 AY5 AY7 B24 B26 B28 B30 B34 B36 B4 B8 C4 C6 C12 C14 C16 C18 C19 C21 C23 C36 B10 B23 C3 D9 D11 D13 D15 D17 D2 D23 D24 D26 D28 D30 D34 D36 D37 D5 D6 D7 E7 E8 E36 E10 E18 E3 E20 E22 E23 E36 E38 B32 E6 F1 F32 F12 F14 F16 F19 F21 F22 F24 F26 F28 F30 F34 F36 F4 D32 F7 G9 G11 VSS

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

VCore CAP (X18)

VCORE

WBC35 22u/8/X5R/6.3V/M
WBC42 22u/8/X5R/6.3V/M
WBC36 22u/8/X5R/6.3V/M
WBC43 22u/8/X5R/6.3V/M
WBC44 22u/8/X5R/6.3V/M
WBC38 22u/8/X5R/6.3V/M
WBC37 22u/8/X5R/6.3V/M
WBC46 22u/8/X5R/6.3V/M
WBC40 22u/8/X5R/6.3V/M

VCORE

WBC19 22u/8/X5R/6.3V/M
WBC21 22u/8/X5R/6.3V/M
WBC6 22u/8/X5R/6.3V/M
WBC9 22u/8/X5R/6.3V/M
WBC20 22u/8/X5R/6.3V/M
WBC7 22u/8/X5R/6.3V/M
WBC11 22u/8/X5R/6.3V/M
WBC39 22u/8/X5R/6.3V/M
WBC41 22u/8/X5R/6.3V/M

DDR CAP (X9)

DDR_15V

WBC29 22u/8/X5R/6.3V/M
WBC30 22u/8/X5R/6.3V/M
WBC31 22u/8/X5R/6.3V/M
WBC32 22u/8/X5R/6.3V/M

DDR_15V

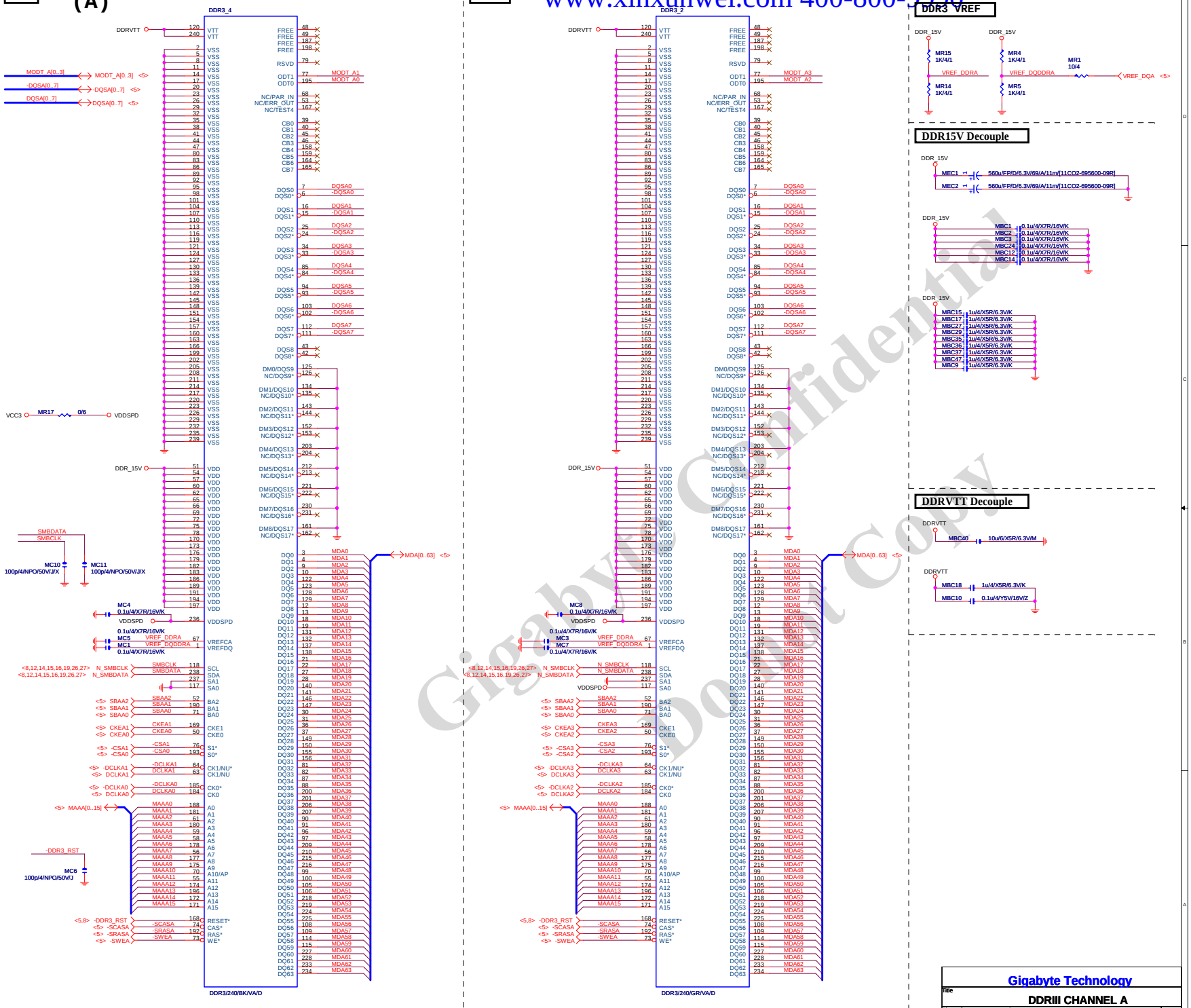
WBC24 22u/8/X5R/6.3V/M
WBC25 22u/8/X5R/6.3V/M
WBC26 22u/8/X5R/6.3V/M
WBC27 22u/8/X5R/6.3V/M
WBC28 22u/8/X5R/6.3V/M

Gigabyte Technology

Title: CPU LGA1150-C

Size: Custom | Document Number: GA-B85M-D3H-AE | Rev: 1.2

Date: Tuesday, February 17, 2015 | Sheet 6 of 32



Gigabyte Technology		
Title: DDRIII CHANNEL A		
Size: Custom	Document Number: GA-B85M-D3H-AE	Rev: 1.2
Date:	Sheet 7 of 32	

DDR3

(B)

DDR3_3

DDR3_1

DDR3 VREF

COUPON

CPU

DIMM4

DIMM2

CHA

DIMM3

DIMM1

CHB

DDR3/240/BK/VA/D

DDR3/240/GR/VA/D

Gigabyte Technology	
Title	DDRIII CHANNEL B
Size: Custom	Document Number: GA-B85M-D3H-AE
Rev: 1.2	
Date:	Sheet 8 of 32

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:
A_DMI_0TXN L24, A_DMI_0TXP K24, A_DMI_0RXN C20, A_DMI_0RXP B20, A_DMI_1TXN G24, A_DMI_1TXP H24, A_DMI_1RXN D21, A_DMI_1RXP B21, A_DMI_2TXN F26, A_DMI_2TXP G26, A_DMI_2RXN B22, A_DMI_2RXP C22, A_DMI_3TXN K26, A_DMI_3TXP L26, A_DMI_3RXN A24, A_DMI_3RXP B24
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

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

<26> CK_-SRCCLK_PCH — CK_-SRCCLK_PCH G22
<26> CK_SRCCLK_PCH — CK_SRCCLK_PCH F22
CLKIN_DMI_N, CLKIN_DMI_P

PCIE:
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:
<24> LA_ML_IN F11, <24> LA_ML_IP H11, <24> LA_ML_ON B9, <24> LA_ML_OP A9

8892:
<32> G_PCIEBIN J11, <32> G_PCIEBIP L11, <32> G_PCIEBON B8, <32> G_PCIEBOP C8

PCIEx4:
<15> PP_EXP_RXN0 G9, <15> PP_EXP_RXP0 F9, <15> PP_EXP_TXN0 B7, <15> PP_EXP_TXP0 A7
<15> PP_EXP_RXN1 F7, <15> PP_EXP_RXP1 H7, <15> PP_EXP_TXN1 E1, <15> PP_EXP_TXP1 D2
<15> PP_EXP_RXN2 K8, <15> PP_EXP_RXP2 K6, <15> PP_EXP_TXN2 G3, <15> PP_EXP_TXP2 G5
<15> PP_EXP_RXN3 J2, <15> PP_EXP_RXP3 J3, <15> PP_EXP_TXN3 H2, <15> PP_EXP_TXP3 H1
PCIE_PERN_3, PCIE_PERP_3, PCIE_PETN_3, PCIE_PETP_3, PCIE_PERN_4, PCIE_PERP_4, PCIE_PETN_4, PCIE_PETP_4, PCIE_PERN_5, PCIE_PERP_5, PCIE_PETN_5, PCIE_PETP_5, 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

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

USB:
USBN_0 AV10 N_-USBP0 — N_-USBP0 <21>
USBP_0 AU10 N_+USBP0 — N_+USBP0 <21>
USBN_1 AV11 N_-USBP1 — N_-USBP1 <21>
USBP_1 AW11 N_+USBP1 — N_+USBP1 <21>
USBN_2 AN14 N_-USBP2 — N_-USBP2 <24>
USBP_2 AP14 N_+USBP2 — N_+USBP2 <24>
USBN_3 AJ16 N_-USBP3 — N_-USBP3 <24>
USBP_3 AK16 N_+USBP3 — N_+USBP3 <24>
USBN_4 AU15 N_-USBP4 — N_-USBP4 <18>
USBP_4 AV15 N_+USBP4 — N_+USBP4 <18>
USBN_5 AU12 N_-USBP5 — N_-USBP5 <18>
USBP_5 AT12 N_+USBP5 — N_+USBP5 <18>
USBN_6 AV14
USBP_6 AW14
USBN_7 AU17
USBP_7 AT17
USBN_8 AW16 N_-USBP8 — N_-USBP8 <21>
USBP_8 AV16 N_+USBP8 — N_+USBP8 <21>
USBN_9 AN16 N_-USBP9 — N_-USBP9 <21>
USBP_9 AP16 N_+USBP9 — N_+USBP9 <21>
USBN_10 AJ18 N_-USBP10 — N_-USBP10 <18>
USBP_10 AK18 N_+USBP10 — N_+USBP10 <18>
USBN_11 AP18 N_-USBP11 — N_-USBP11 <18>
USBP_11 AN18 N_+USBP11 — N_+USBP11 <18>
USBN_12 AW18 N_-USBP12 — N_-USBP12 <21>
USBP_12 AN18 N_+USBP12 — N_+USBP12 <21>
USBN_13 AP20 N_-USBP13 — N_-USBP13 <21>
USBP_13 AN20 N_+USBP13 — N_+USBP13 <21>

OC0B_GP59 AE40 — N_-USBOC_F <18,21>
OC1B_GP40 AF37
OC2B_GP41 AD39
OC3B_GP42 AD40
OC4B_GP43 AF39 — N_-USBOC_R <18>
OC5B_GP9 AC41
OC6B_GP10 AF40
OC7B_GP14 AG40 N_GPIO14 — NR130 8.2K/4 — 3VDUAL

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

CLKIN_DOT96N AP11 CK_-DOTCLK — CK_-DOTCLK <26>
CLKIN_DOT96P AM11 CK_DOTCLK — CK_DOTCLK <26>

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

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

PCH (F)

PCHF

USB3:
<21> PCH_USB3_RXN0 F20, <21> PCH_USB3_RXP0 G20, <21> PCH_USB3_TXN0 B18, <21> PCH_USB3_TXP0 C18
<21> PCH_USB3_RXN1 G18, <21> PCH_USB3_RXP1 H18, <21> PCH_USB3_TXN1 B15, <21> PCH_USB3_TXP1 B16
<18> PCH_USB3_RXN4 K20, <18> PCH_USB3_RXP4 L20, <18> PCH_USB3_TXN4 D15, <18> PCH_USB3_TXP4 C15
<18> PCH_USB3_RXN5 L18, <18> PCH_USB3_RXP5 K18, <18> PCH_USB3_TXN5 B14, <18> PCH_USB3_TXP5 A14
VCC3 — NR62 8.2K/4 — NR63 8.2K/4
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
TACH6_GP70 AK28
TACH7_GP71 AT34

FDILINK:
FDI_RXN_0 N1 — FDI_TXN0
FDI_RXP_0 N2 — FDI_TXP0
FDI_RXN_1 P2 — FDI_TXN1
FDI_RXP_1 P3 — FDI_TXP1
FDI_CSYNC L2 — FDI_CSYNC — FDI_CSYNC <4>
FDI_INT L3 — FDI_INT — FDI_INT <4>
FDI_RCOMP K2 — NR29 7.5K/4/1 — VCC1_5_PCH

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

CK_SRCCLK_PCH NR89 8.2K/4
CK_-SRCCLK_PCH NR88 8.2K/4
Mount for integrated clock Generation Mode

CK_DOTCLK NR92 8.2K/4
CK_-DOTCLK NR91 8.2K/4
NR225 short to GND in non graphic SKU

PCH (J)

PCHJ

VSS_NCTF: AT1, AT41, AU1, AV1, AV2, AV40, AV41, AW2, AW40, B40, B41, C41, D1, D41
TP22 U11, TP23 U10, TP21 AJ14, TP20 AK14, TP14 K34, TP15 K33, TP12 AH24
TP10 L16, TP11 K16, TP9 AM34
TP3 R12, TP4 N12, TP1 L22, TP2 K22
TP5 R4, TP6 K5, TP7 P5, TP8 L5
VSS AC31, VSS AF3, VSS AV21

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

PCH H/S

SB_HEATSIN
1
2
PCH_HS
PCH_HS[12SP2-S04209-01R_12SP2-S04209-02R_12SP2-S04209-03R]

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

Gigabyte Technology
Title: PCH FDI,DMI,USB ,PCIE,NVRAM
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PCH (E)

PCHE

<31> N_DVI_HDP_F
<31> N_HDMI_HDP_F
AJ2 DDPB_HPD
AH5 DDPC_HPD
AJ4 DDPD_HPD
AK6 DDPB_AUXN
AK8 DDPB_AUXP
AG7 DDPC_AUXN
AG6 DDPC_AUXP
AG11 DDPD_AUXN
AG10 DDPD_AUXP

VGA_HSYNC AH3 H_SYNC NR26 33/4 N_GHSYNC
VGA_VSYNC AH2 V_SYNC NR33 33/4 N_GVSYNC
VGA_RED AC2 N_R
VGA_GREEN AE2 N_G
VGA_BLUE AC3 N_B
VGA_IRTN AG4
VGA_DDC_DATA AL3 N_DDCDATA
VGA_DDC_CLK AL2 N_DDCCLK
DAC_IREF AF5 N_VGA_RSET NR34 649/4/1
DDPC_CTRLCLK AN3 N_DDPC_CTRLCLK N_DDPC_CTRLCLK <31>
DDPC_CTRLDATA AM2 N_DDPC_CTRLDATA N_DDPC_CTRLDATA <31>
DDPB_CTRLCLK AM1 N_DDPB_CTRLCLK N_DDPB_CTRLCLK <31>
DDPB_CTRLDATA AJ5 N_DDPB_CTRLDATA N_DDPB_CTRLDATA <31>
DDPD_CTRLCLK AN4
DDPD_CTRLDATA AN2

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

PCH (G)

PCHG

<17> N_LPC33 NR37 33/4 PCH33M0 AV5 CLKOUT_33MHZ0
<11> N_PCH33 NR38 33/4 PCH33M1 AV7 CLKOUT_33MHZ1
<26> T_TPMCLK NR28 33/4 PCH33M2 AU2 CLKOUT_33MHZ2
AN9 CLKOUT_33MHZ3
AU5 CLKOUT_33MHZ4

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

<17> O_LPCCLK48 NR39 33/4 N_PCH_48M AV8 CLKOUTFLEX0_GP64
AT9 CLKOUTFLEX1_GP65
AV9 CLKOUTFLEX2_GP66
AU8 CLKOUTFLEX3_GP67

VCC1_5_PCH NR18 7.5K/4/1 N_CLK_RCOMP R11 DIFFCLK_BIASREF
<26> N_PCHCLK14 N_PCHCLK14 AR7 REFCLK14IN

N_XTALI_PCH NR15 1M/4
NX1
N_XTALO_PCH
25M/12p/30ppm/49US/20/D
NC8 10p/4/NPO/50V/J
NC7 10p/4/NPO/50V/J

N_XTALO_PCH N7 XTAL25_OUT
N_XTALI_PCH N6 XTAL25_IN

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>
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> PCIXx16
CLKOUT_PEG_B_N AE6
CLKOUT_PEG_B_P AE7
CLKOUT_PCIE_N_0 AE10
CLKOUT_PCIE_P_0 AE11
CLKOUT_PCIE_N_1 AC6
CLKOUT_PCIE_P_1 AC7
CLKOUT_PCIE_N_2 AC11 LA_-SRCCLK_LAN <24>
CLKOUT_PCIE_P_2 AC10 LA_SRCCLK_LAN <24> 8111F
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 PP_-PCIE_CLK <15>
CLKOUT_PCIE_P_5 W6 PP_PCIE_CLK <15> PCIXx4
CLKOUT_PCIE_N_6 AA7 G_-PBCLK <32>
CLKOUT_PCIE_P_6 AA6 G_PBCLK <32> 8892
CLKOUT_PCIE_N_7 R6
CLKOUT_PCIE_P_7 R7

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

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

PCH CLK PD

N_-CLK_GND NR42 8.2K/4
N_CLK_GND NR41 8.2K/4

Mount for integrated clock Generation Mode
N_PCHCLK14 NR118 8.2K/4

VGA DDC

VCC3 VCC

R146 2.2K/4/1
R147 2.2K/4/1
R144 2.2K/4/1
R145 2.2K/4/1

N_DDCDATA
VCC NR35 1K/4/1
Q47 2N7002/SOT23/25pF/5
VGADDCDATA

N_DDCCLK
VCC NR36 1K/4/1
Q48 2N7002/SOT23/25pF/5
VGADDCCLK

SOT23

VGA CONNECTOR

VGA
VGA_R
VGA_G
VGA_B
FUSEVCC_R2
BC63 0.1u/4/X7R/16V/K/X
VGADDCDATA
N_GHSYNC
N_GVSYNC
VGADDCCLK
VGA/BK/SC/RA/D/2/HR

VGA ESD

ESD3
VGADDCDATA
N_GHSYNC
VGADDCCLK
N_GVSYNC
VCC
C33 0.1u/4/X7R/16V/K
AZC099-04S/SOT23-6L

SS0P6_ESD

ESD4
VGA_R
VGA_G
VGA_B
VCC3
C40 0.1u/4/X7R/16V/K
AZC099-04S/SOT23-6L

VGA DDC

N_R
N_G
N_B
FB1 60/4/3A/S
FB2 60/4/3A/S
FB3 60/4/3A/S
VGA_R
VGA_G
VGA_B

R152 75/4/1
R151 75/4/1
R150 75/4/1
C34 10p/4/NPO/50V/J
C35 10p/4/NPO/50V/J
C36 10p/4/NPO/50V/J
C37 C38 C39 22p/4/NPO/50V/J

Close to Filter

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

Gigabyte Technology

Title	PCH DISPLAY ,CLK BUFFER		
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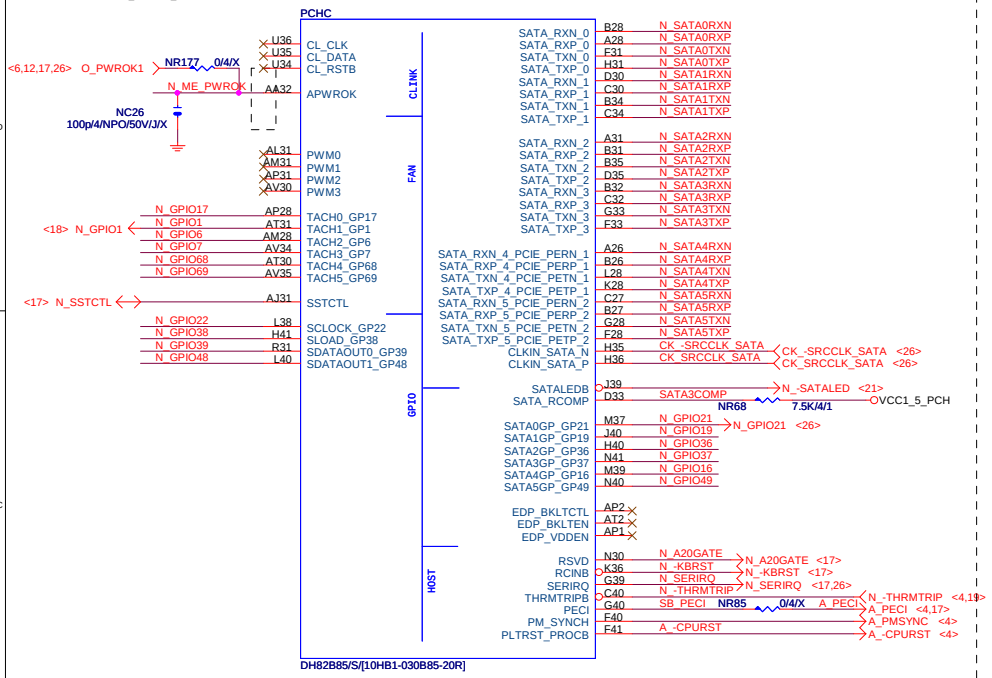
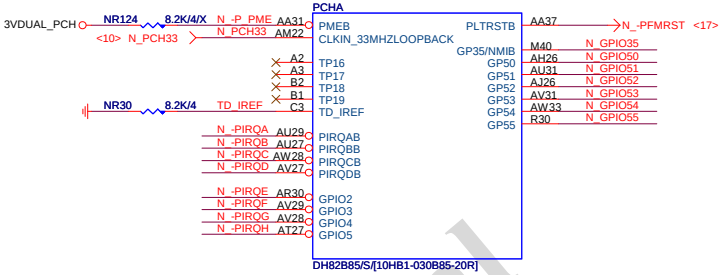
PCH (C)

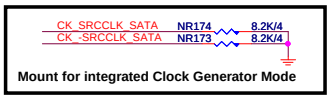
SATA3 : 20/7.5/4.5/7.5/20 (breakout min 8/4/4/4/8)
Impedance=90 +- 17.5%
SATA2 : 15/7.5/4.5/7.5/15 (breakout min 8/4/4/4/8)
Impedance=90 +- 17.5%



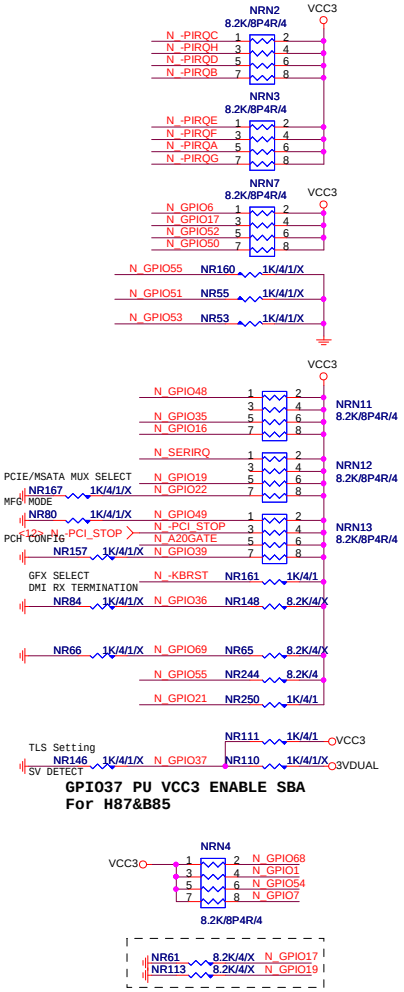
PCH (A)



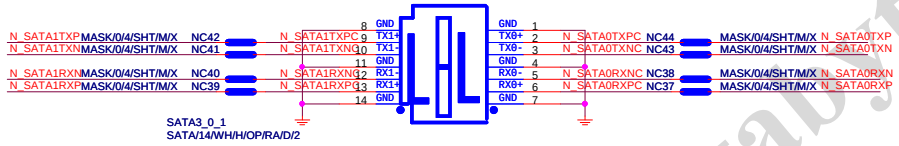
PCH CLK PD



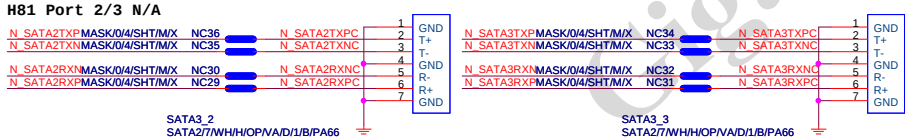
PCH PU/PD



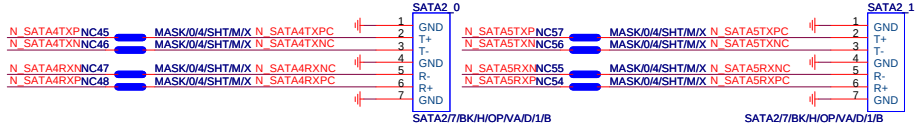
SATA CONNECTOR



H81 Port 2/3 N/A

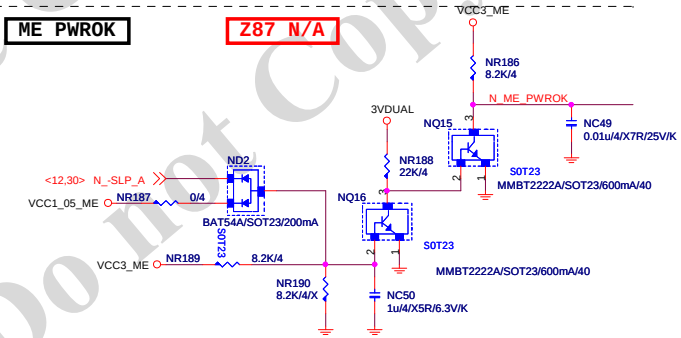


** Z87/H87 Port 4&5 SATA3.0
** B85 Port 4&5 SATA2.0

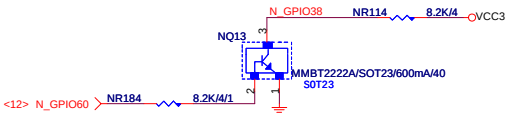


ME PWROK

Z87 N/A



GPIO38 Ctrl



Gigabyte Technology		
Title: PCH HOST , SATA, PCI		
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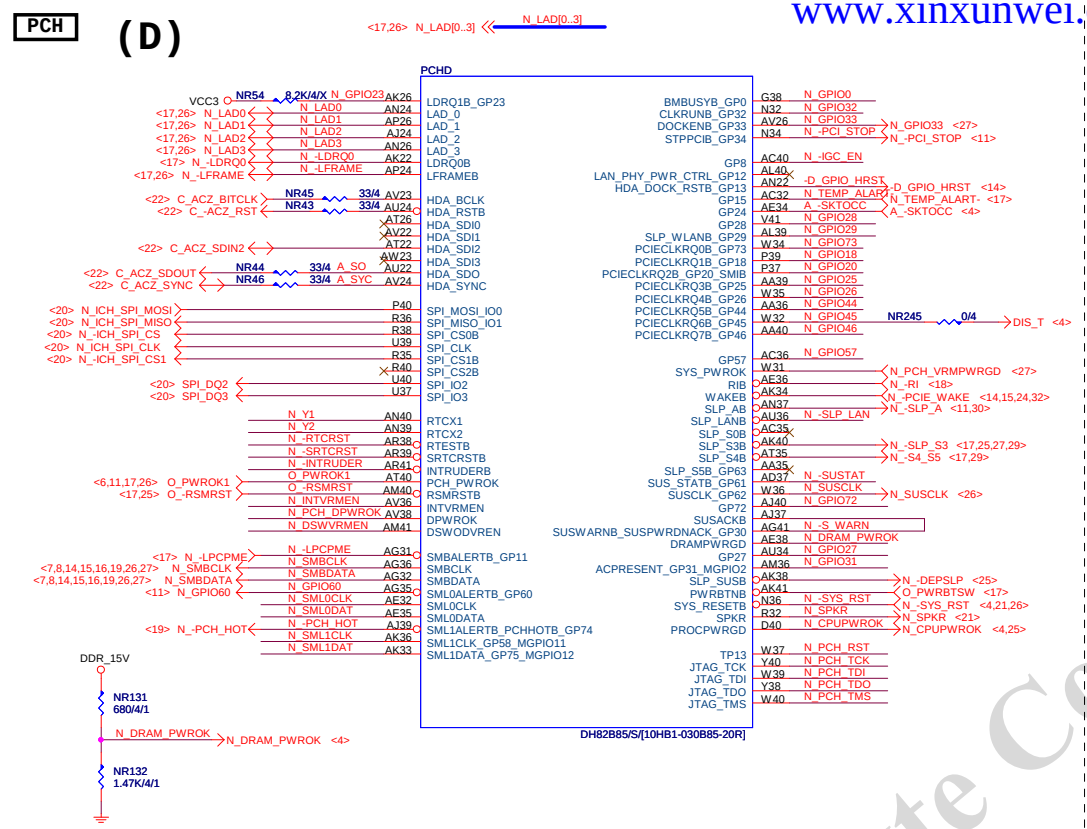
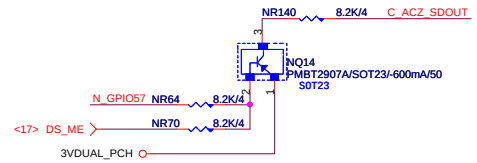
PCH (D)



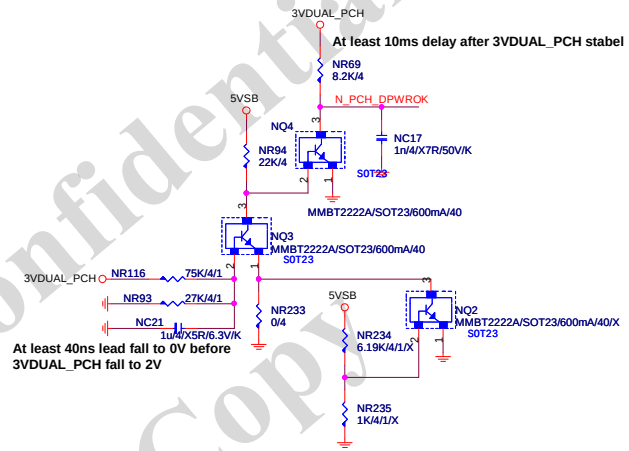
ACZ_SDOUT

C_ACZ_SDOUT : HI --> ME Enable
Lo --> ME Disable
HI:disable ME and override SOI Flash Access Permissions

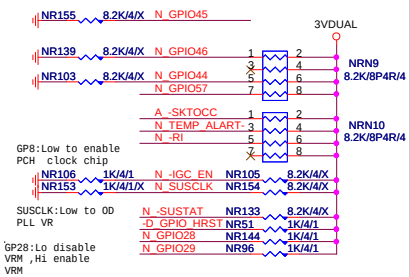


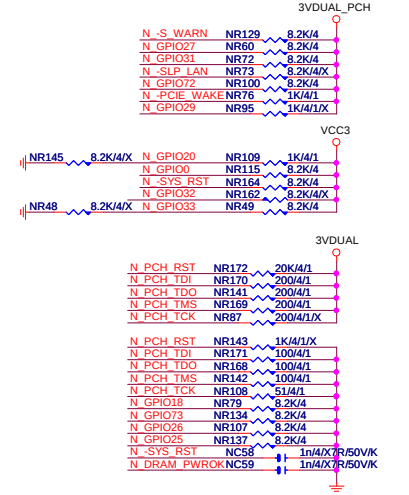
SPI OVERRIDE PROTECTION

PCH_DPWROK

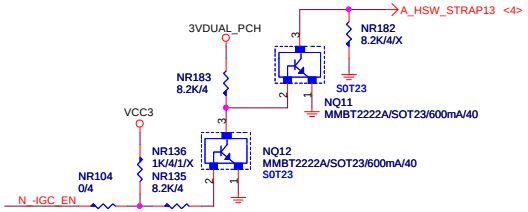


PCH PU/PD

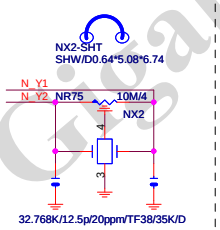




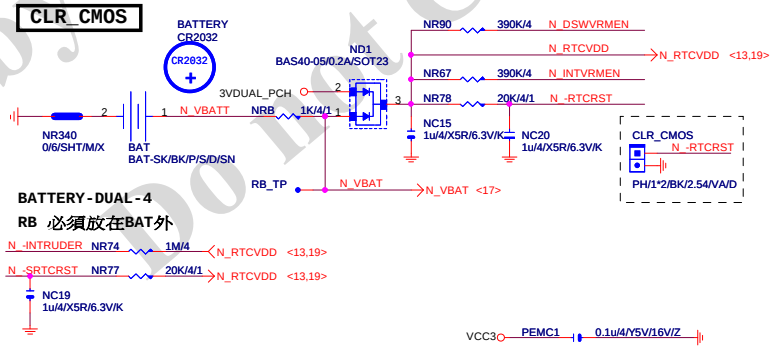
HSW_STRAP13



32.768KHZ



CLR_CMOS



Gigabyte Technology		
Title	PCH GPIO , CTRL , AUDIO	
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PCH (H)

PCHH

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

VCC3_DAC

CLOSE北橋(注意震盪水波紋)

3VDUAL

+12V

NQ17

NR185 8.2K/4

2N7002/SOT23/25pF/5

VCC3_DAC

NBC7 10u/6/X5R/6.3V/M

(3.3V/70mA+360uA)

VCC3_DAC NR13 0/6/X VCC3

3VDUAL_PCH

NQ9

L1117LG/N/SOT223/1A

5VSB

NR176 301/4/1

NBC66 22u/8/X5R/6.3V/M

NBC68 1u/4/X5R/6.3V/K

NBC67 0.1u/4/X7R/16V/K

NR180 510/4/1

SHT PWR

NRN5 0/8P4R/4/X

NRN1 0/8P4R/4/X

CAP

NBC58 1u/4/X5R/6.3V/K

NBC65 1u/4/X5R/6.3V/K

(3.3V)(X6)

NBC24 10u/6/X5R/6.3V/M

NBC25 1u/4/X5R/6.3V/K

NBC26 1u/4/X5R/6.3V/K

NBC27 1u/4/X5R/6.3V/K

NBC20 1u/4/X5R/6.3V/K

NBC59 1u/4/X5R/6.3V/K

(1.05V)(X5)

NBC8 10u/6/X5R/6.3V/M

NBC10 1u/4/X5R/6.3V/K

NBC14 0.1u/4/X7R/16V/K

NBC11 1u/4/X5R/6.3V/K

NBC13 1u/4/X5R/6.3V/K

(1.05V)(X6)

NBC39 10u/6/X5R/6.3V/M

NBC40 1u/4/X5R/6.3V/K

NBC41 0.1u/4/X7R/16V/K

NBC42 1u/4/X5R/6.3V/K

SNBC1 1u/4/X5R/6.3V/K

SNBC2 1u/4/X5R/6.3V/K

(1.05V)(X2)

NBC56 1u/4/X5R/6.3V/K

NBC57 0.1u/4/X7R/16V/K

(3.3V)(X2)

NBC60 1u/4/X5R/6.3V/K

NBC63 0.1u/4/X7R/16V/K

(1.05V)(X10)

NBC16 10u/6/X5R/6.3V/M

NBC29 10u/6/X5R/6.3V/M

NBC50 10u/6/X5R/6.3V/M

NBC53 10u/6/X5R/6.3V/M

NBC19 1u/4/X5R/6.3V/K

NBC23 0.1u/4/X7R/16V/K

NBC28 1u/4/X5R/6.3V/K

NBC44 1u/4/X5R/6.3V/K

NBC46 0.1u/4/X7R/16V/K

NBC48 1u/4/X5R/6.3V/K

PCH (I)

PCHI

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

Gigabyte Technology	
Title	PCH PWR ,GND
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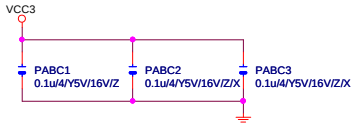
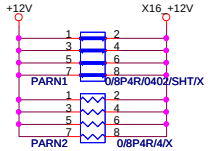
PCIEX16 CAP



PCIEX16 PROTECT SHT



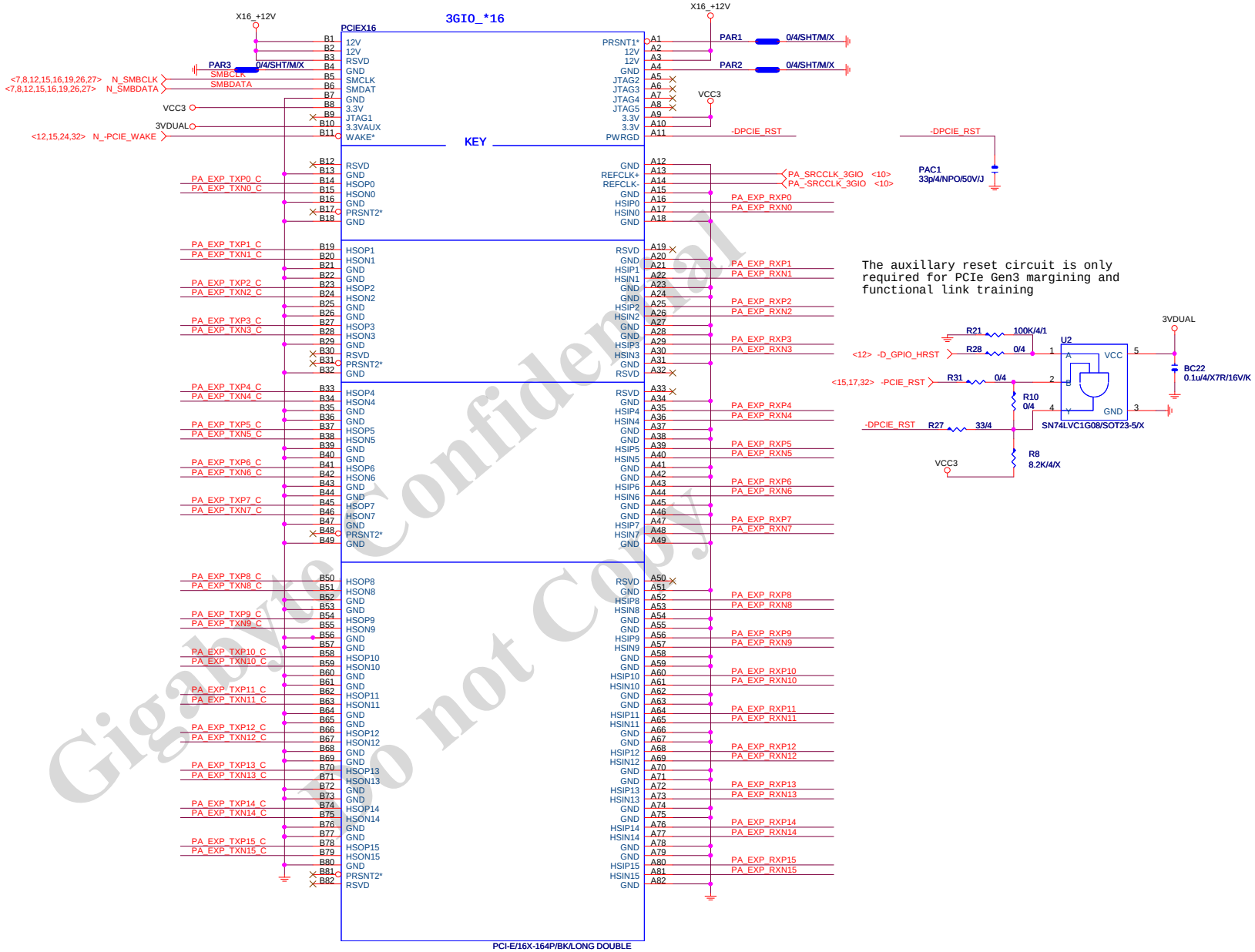
PCIEX16 AC CAP

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-P



The auxillary reset circuit is only required for PCIe Gen3 margining and functional link training

Gigabyte Technology		
Title: PCI EXPRESS * 16		
Size: Custom	Document Number: GA-B85M-D3H-AE	Rev: 1.2
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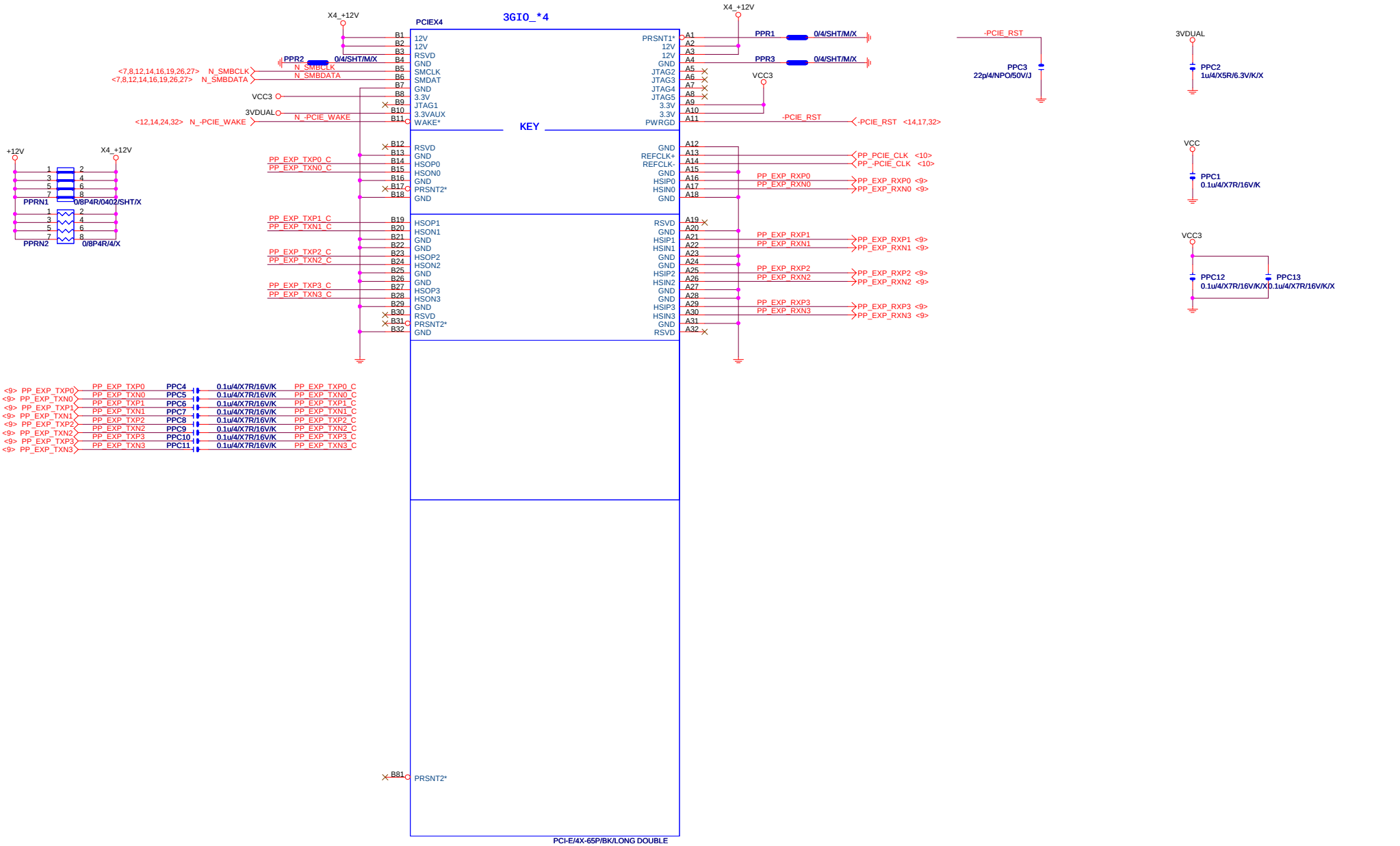
PCIEX4 SLOT



Gigabyte Technology

Title: PCI EXPRESS X 1 PORT

Size: Custom | Document Number: GA-B85M-D3H-AE | Rev: 1.2

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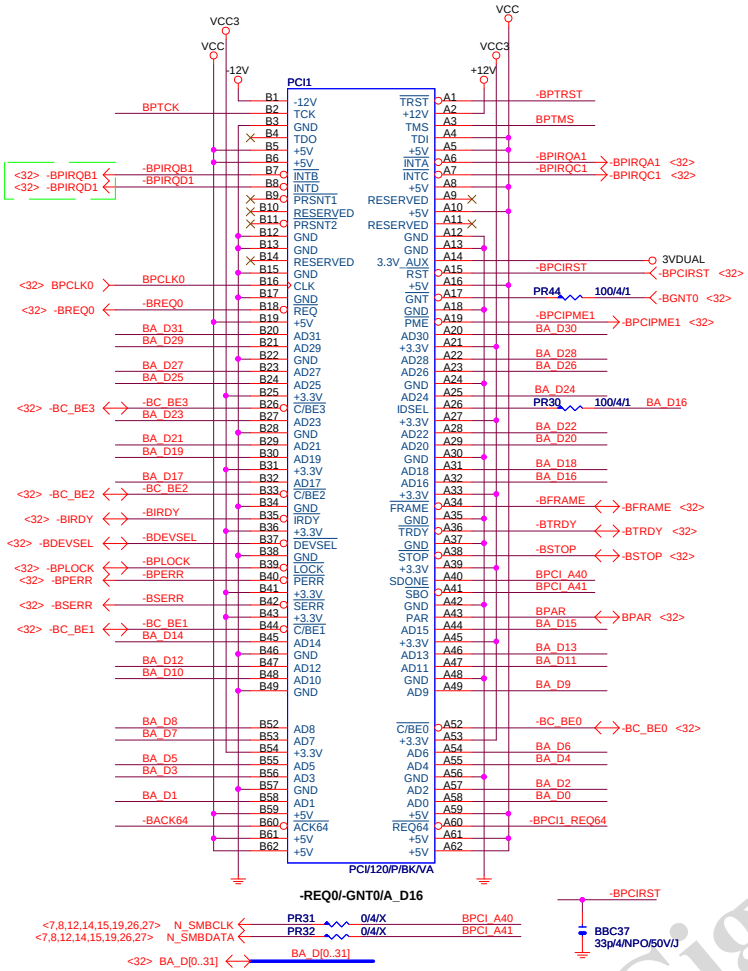
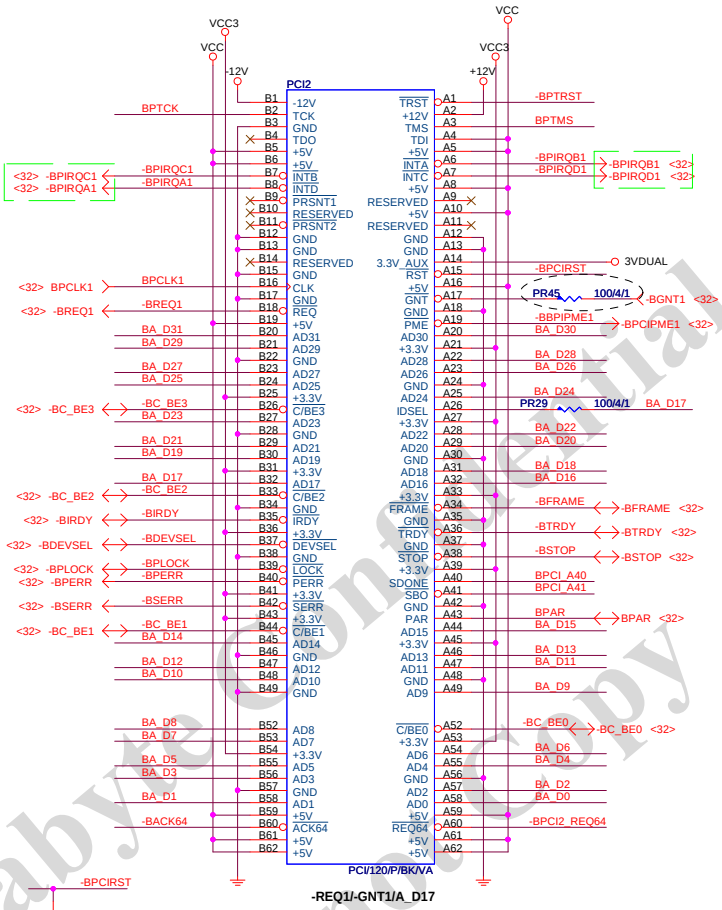
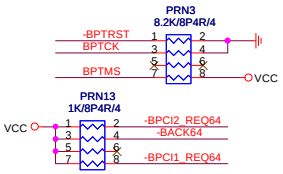
PCI SLOT 1



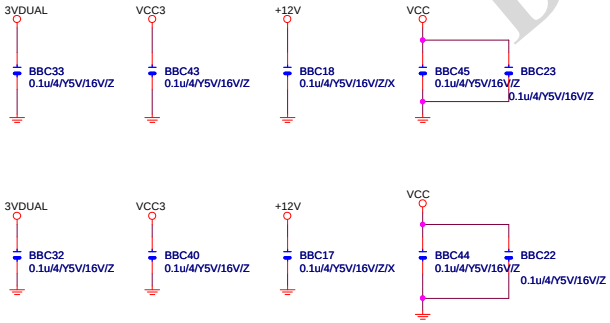
PCI SLOT 2



PCI PU



PCI CAP



Gigabyte Technology			
Title: PCI SLOT 1&2			
Size: Custom	Document Number: GA-B85M-D3H-AE		Rev: 1.2
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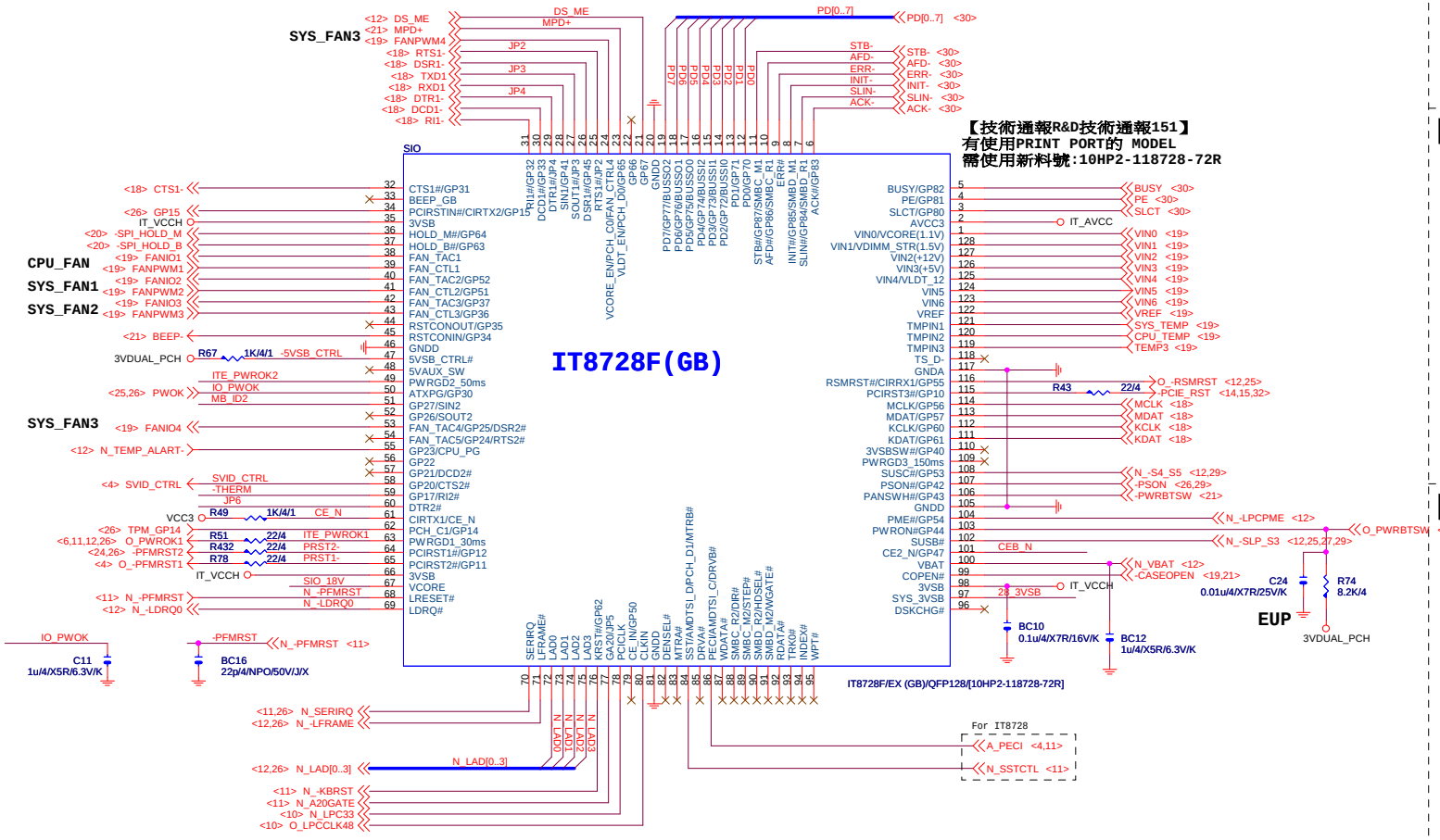
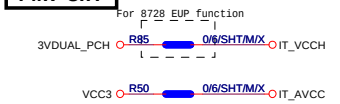
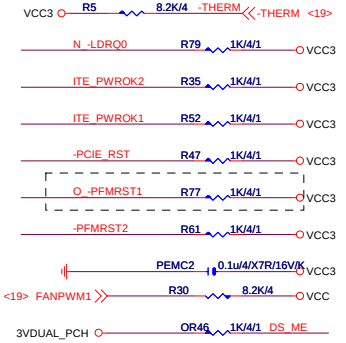
SIO IT8728F



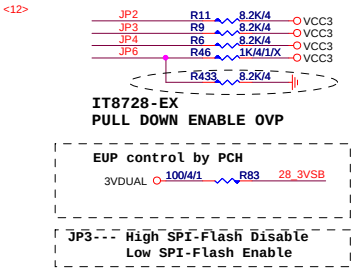
PWR SHT



SIO PU



SIO STRAP

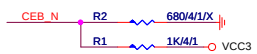


MB ID

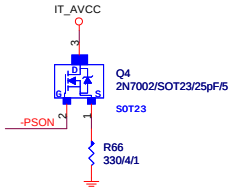
IT8728F NOTE

	IT8728
PIN121	VCORE_EN/PCH_C0
PIN120	VLDT_EN/PCH_D0
PIN19	ATXPG
PIN31	PCH_C1
PIN53	SST/AMDTSI_D/MTRB#/PCH_D1
PIN55	PECI/AMDTSI_C/DRVB#
PIN66	SYS_3VSB
PIN70	GP47
PIN95	VIN2(VCC5)
PIN96	VIN1(VCC12)
PIN97	VIN1/VDIMM_STR(1.5V)
PIN98	VIN0/VCORE(1.1V)/NC

DUAL BIOS OPT STRAP



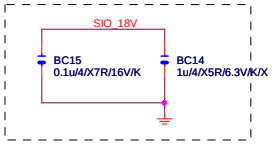
Power leakage



For IT8721 Power leakage

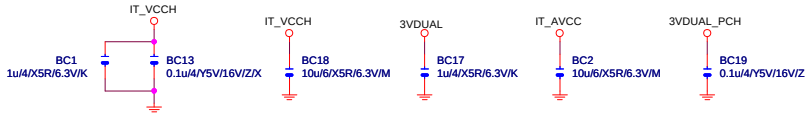
SIO_18V

internal power pin, max 22nF cap



FOR LOW TEMP POWER ON INTO TEST MODE ISSUE

SIO CAP



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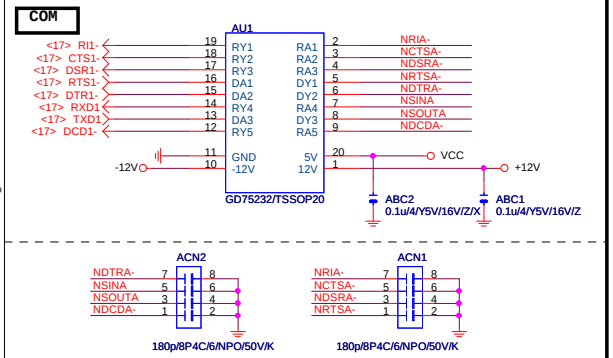
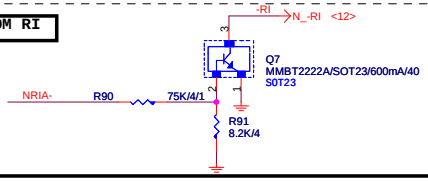
Gigabyte Technology

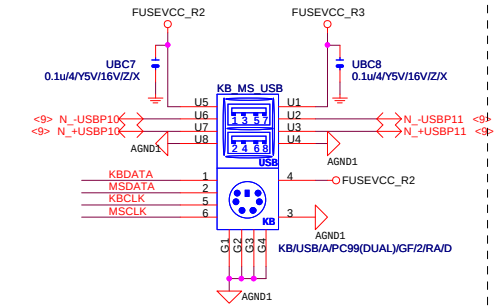
COM

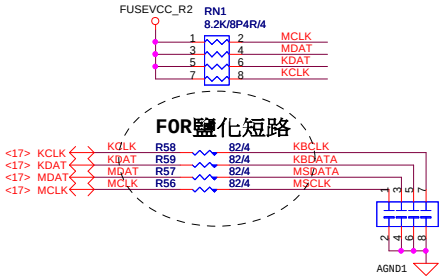


COM RI

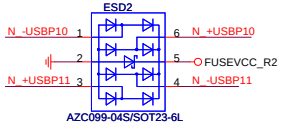


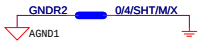
KB/MS





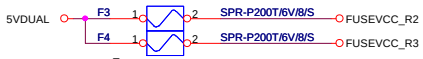
USB2.0 ESD





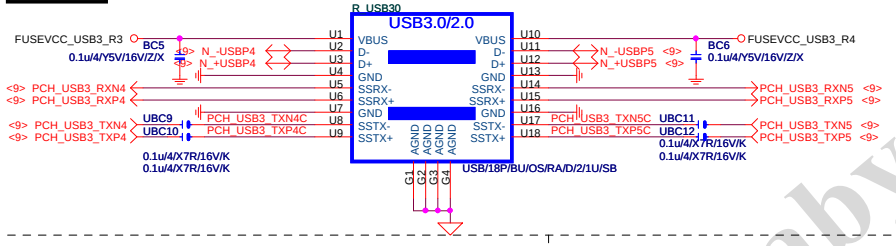
USB2.0 PWR

FUSE-0805



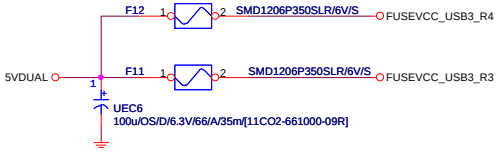
Close to connector

USB30_20



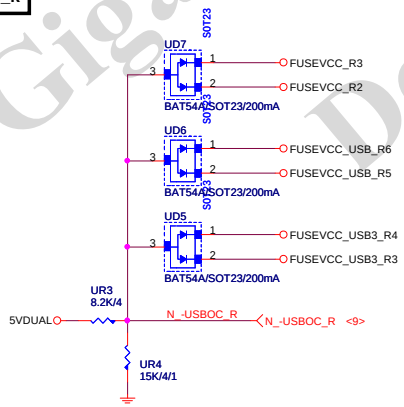
USB30_20 PWR

Polyswitch-1206



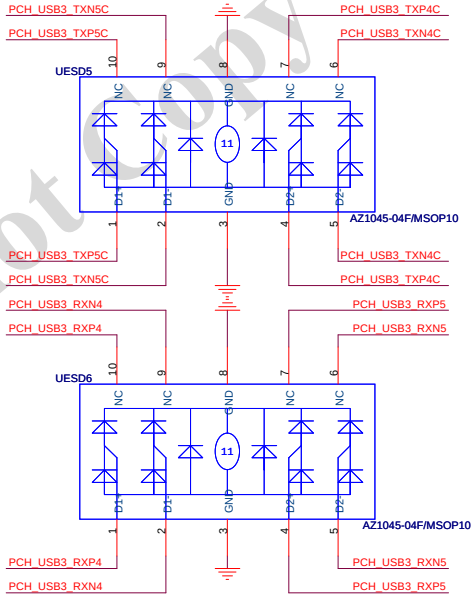
USB3.0 1Port - 1Fuse (3.5A)

-USBOC_R

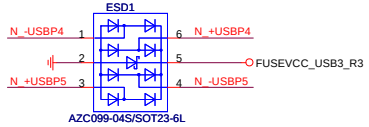


USB30_20 ESD PROCTECT

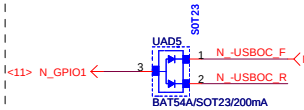
USB3.0 ESD



USB2.0 ESD



USB POWER PROTECT



Gigabyte Technology	
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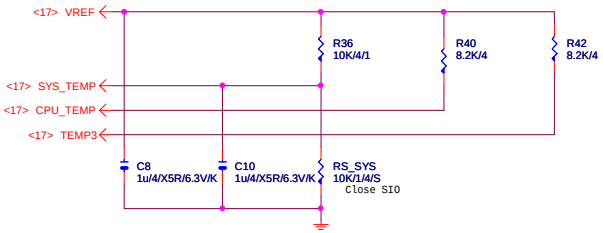
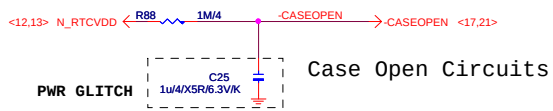
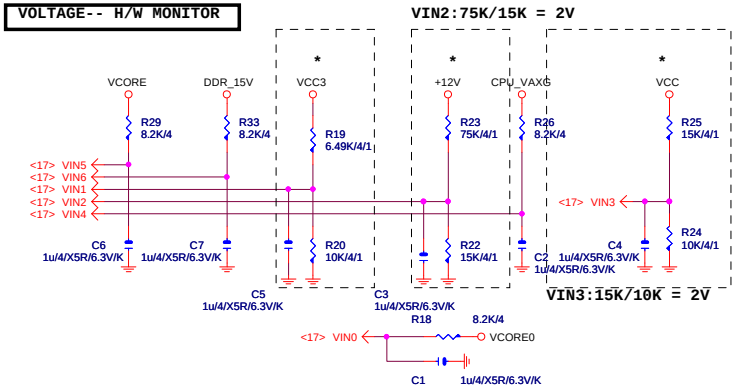
TEMP H/W MONITOR



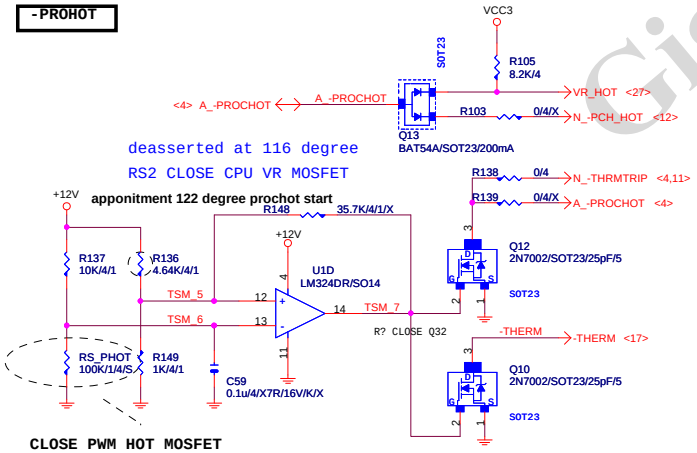
CASE OPEN



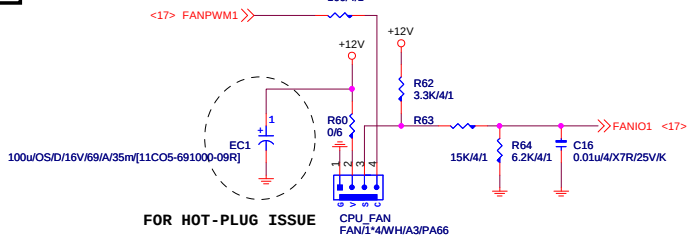
VOLTAGE-- H/W MONITOR



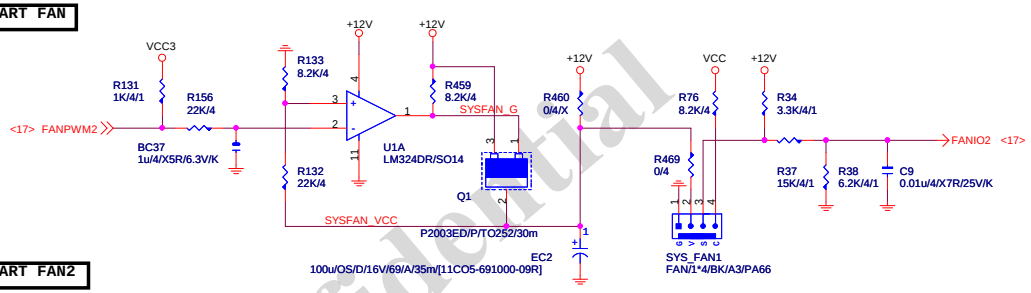
-PROHOT



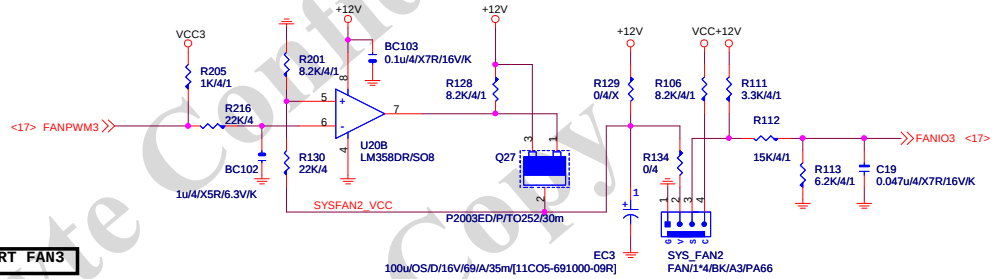
CPU SMART FAN



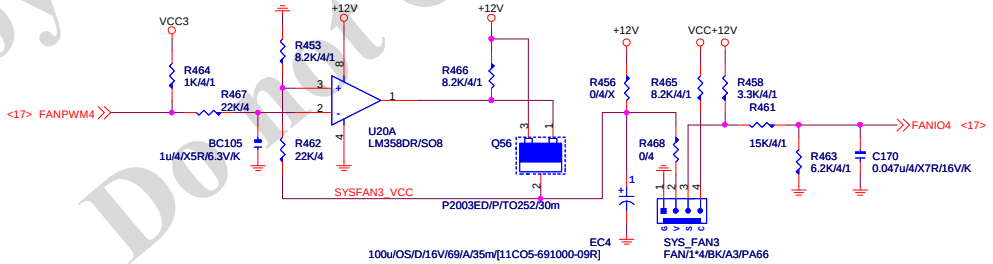
SYS SMART FAN



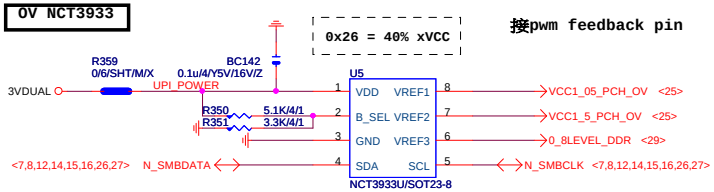
SYS SMART FAN2



SYS SMART FAN3



OV NCT3933



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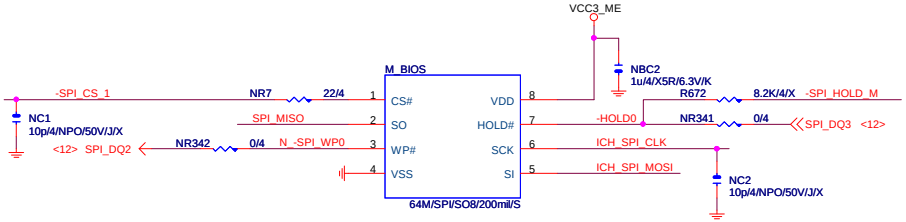
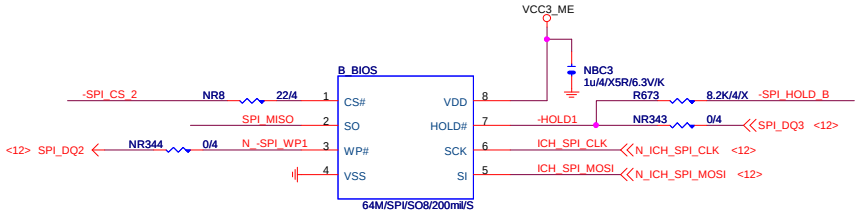
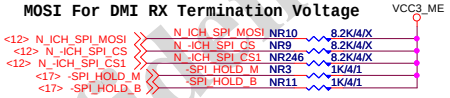


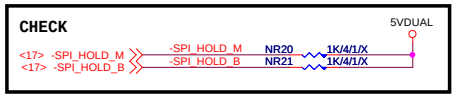


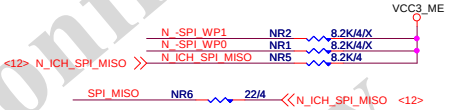
BOOT DEVICE	GNT0	GNT1
LPC	0	0
PCI	0	1
NAND	1	0
SPI	1	1

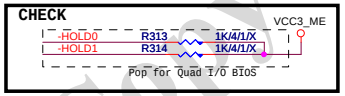
1 means floating
0 means PD 1K

MOSI For DMI RX Termination Voltage

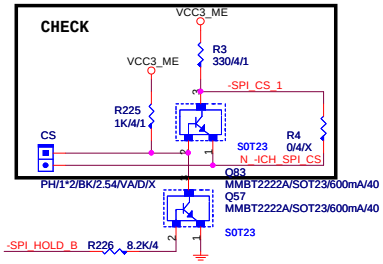


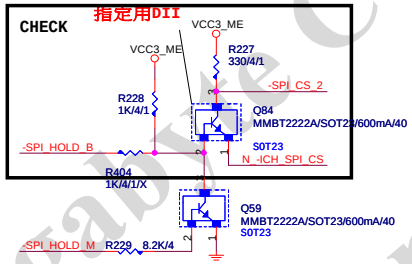






Dual BIOS CS connect circuit update





Gigabyte Technology			
Title: DUAL BIOS			
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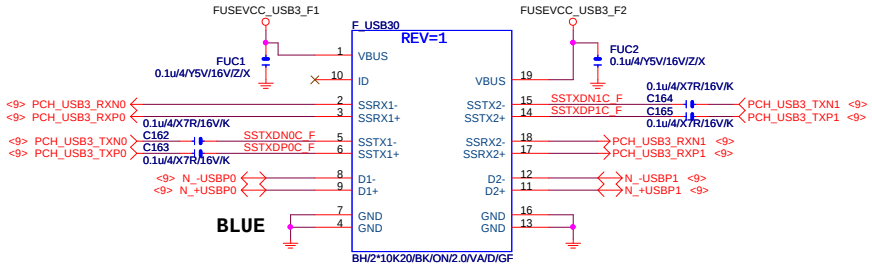
F_USB30

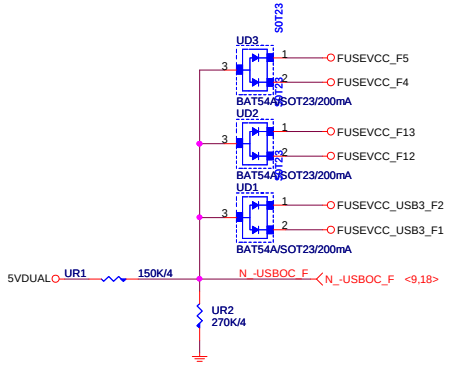


F_USB30 PWR

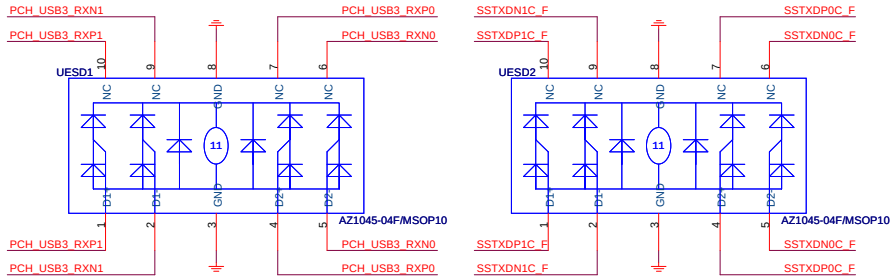
Polyswitch-1206

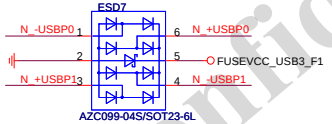
USB3.0 1Port - 1Fuse (3.5A)

-USBOC_F



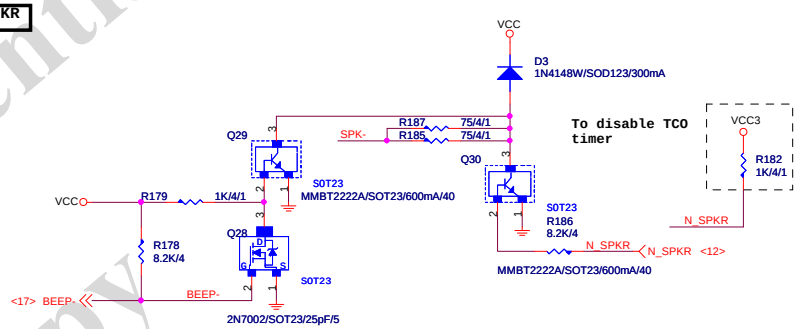
F_USB30 ESD PROTECT



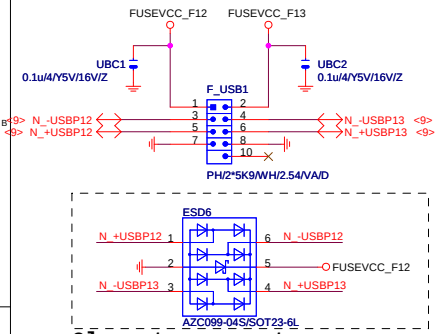


Close to connector

SPKR

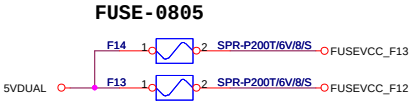


FRONT USB1

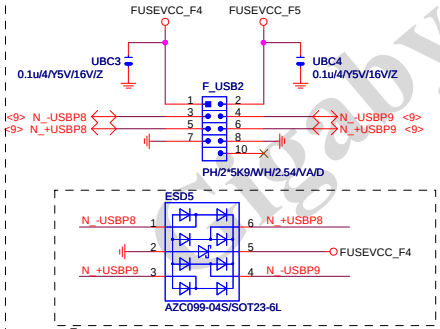


Close to connector

FUSE-0805

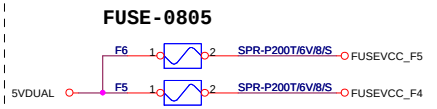


FRONT USB2

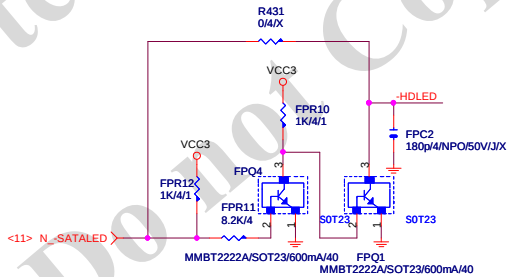


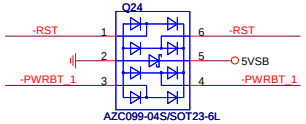
Close to connector

FUSE-0805

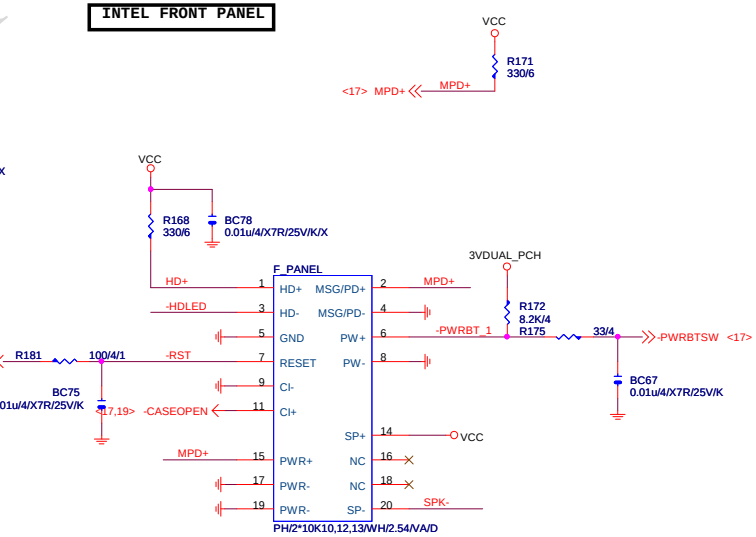


SATA LED





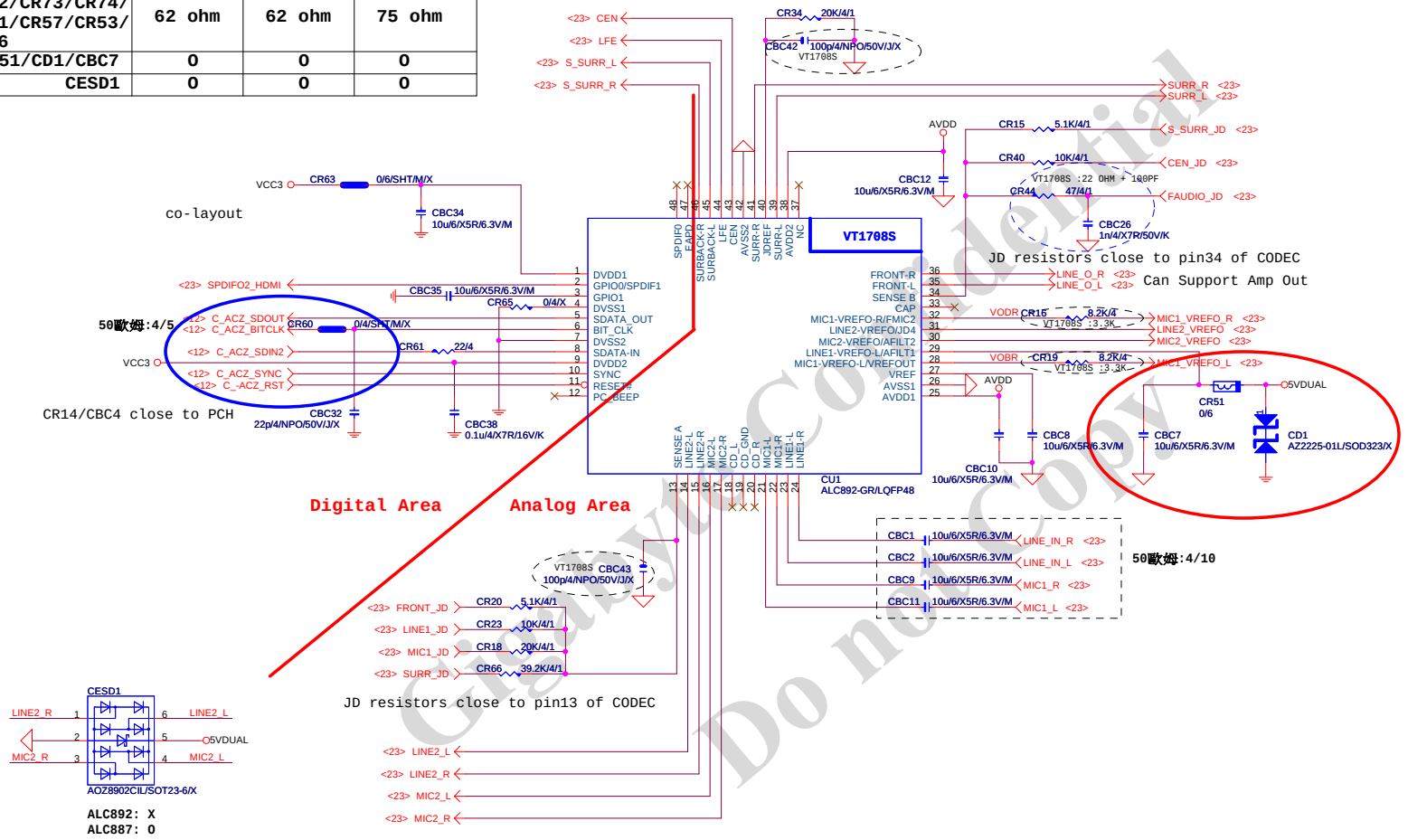
INTEL FRONT PANEL



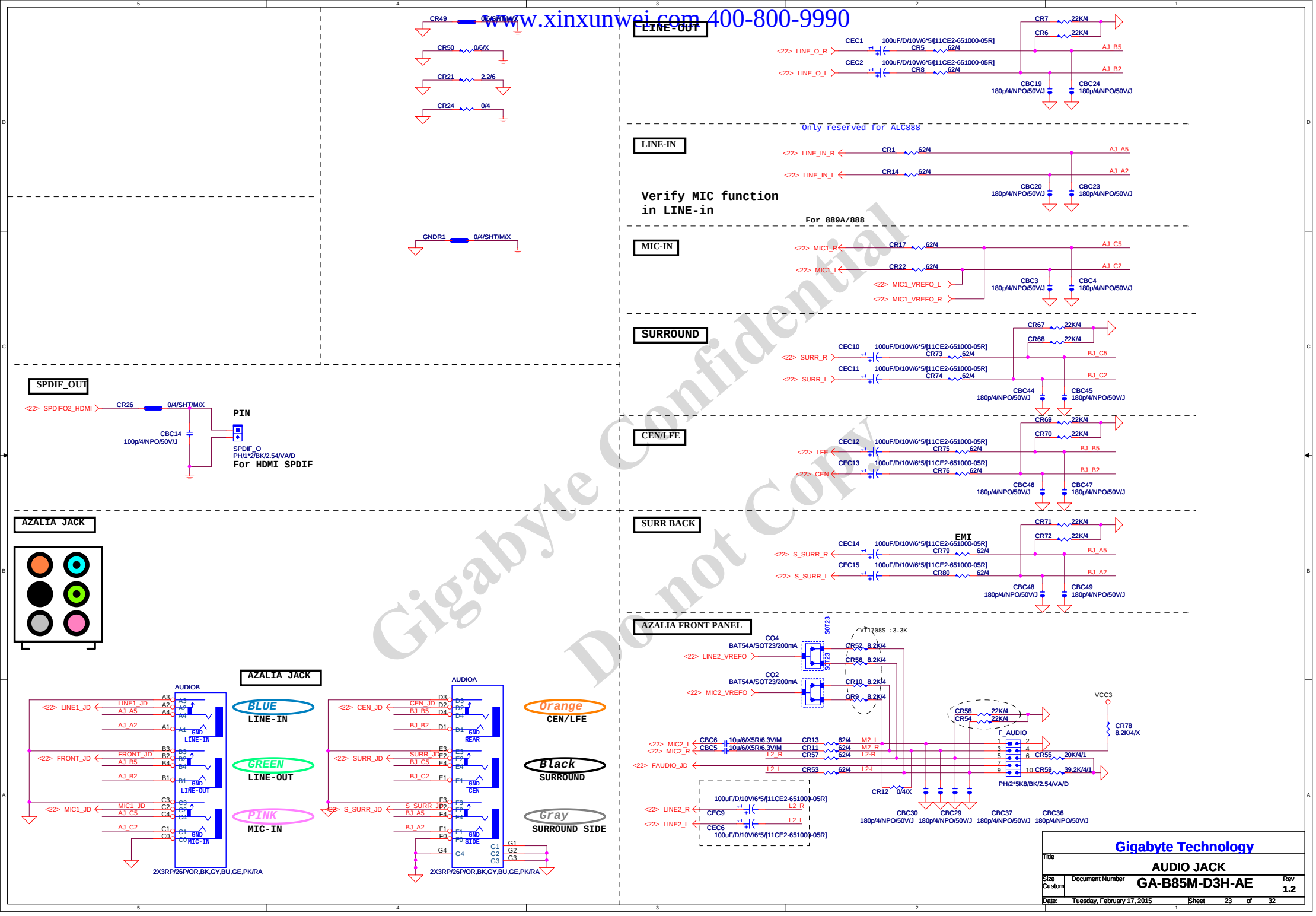
Gigabyte Technology		
Title	FP,F_USB,USB PWR,SPKR,SATA LED	
Size: Custom	Document Number: GA-B85M-D3H-AE	Rev: 1.2
Date: Tuesday, February 17, 2015	Sheet 21 of 32	

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-AE		Rev: 1.2
Date: Tuesday, February 17, 2015		Sheet 22 of 32	



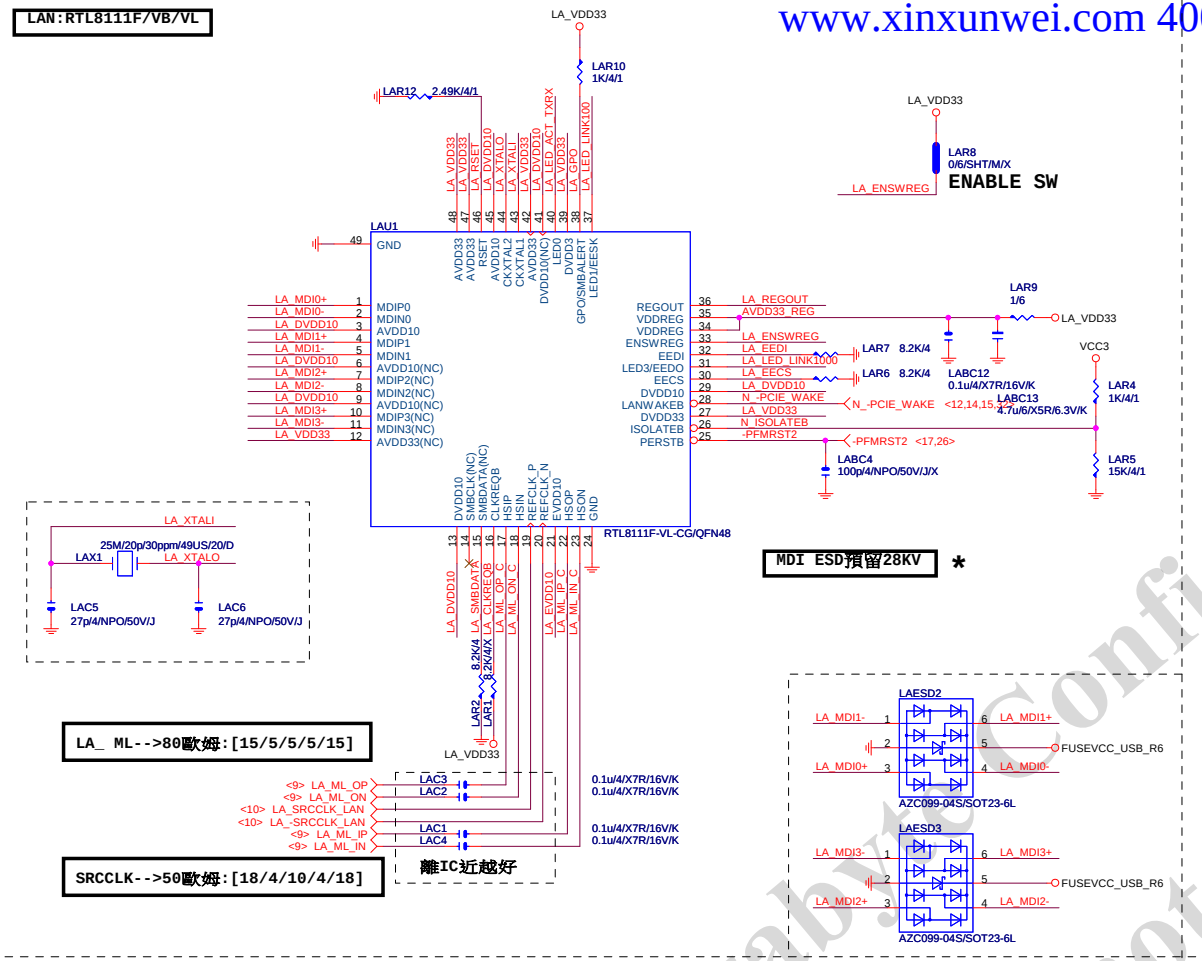
Gigabyte Technology

Title: AUDIO JACK

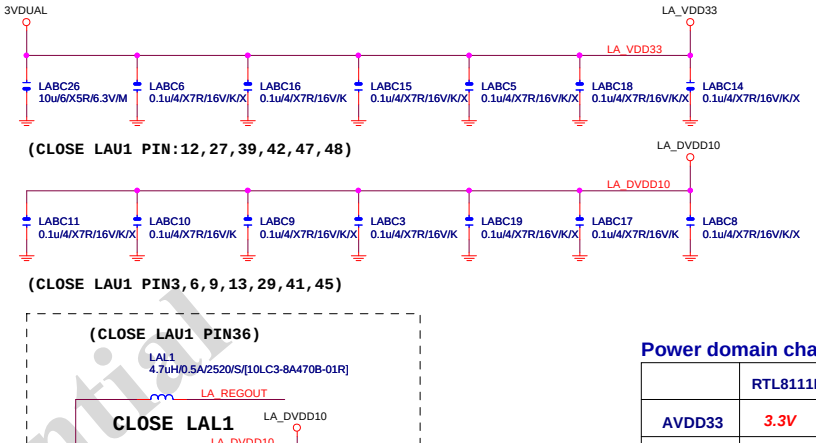
Size: Custom | Document Number: GA-B85M-D3H-AE | Rev: 1.2

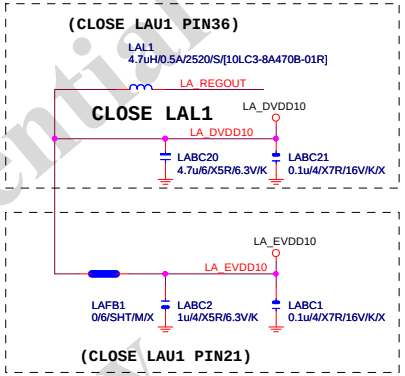
Date: Tuesday, February 17, 2015 | Sheet 23 of 32

LAN:RTL8111F/VB/VL



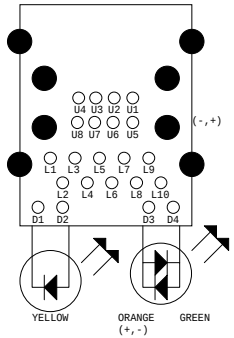
LAN POWER



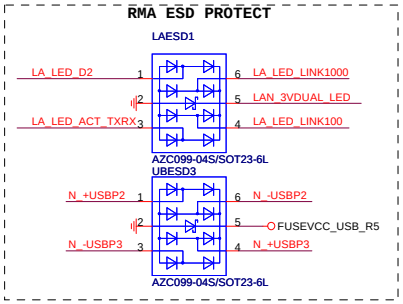


Power domain chart

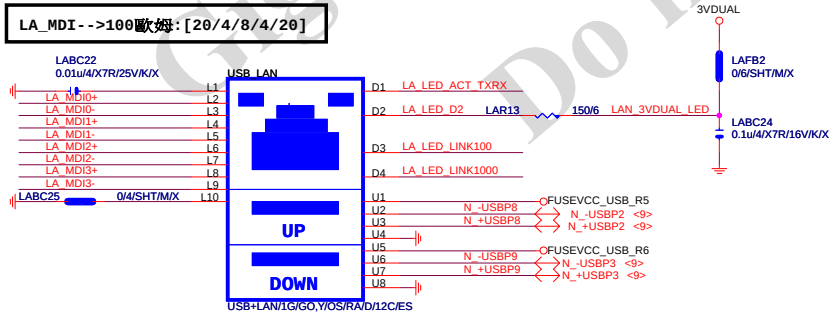
	RTL8111E
AVDD33	3.3V
DVDD33	3.3V
VDDREG	3.3V
DVDD10	1.05V



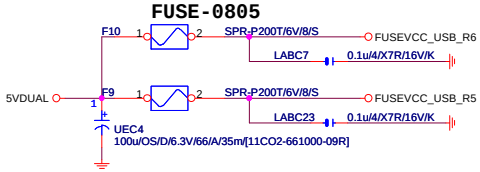
USB_LAN CONNECTOR



LA_MDI-->100歐姆:[20/4/8/4/20]



USB X3 POWER



EMI SHORT PAD

PS:視EMI需求

料號	規格	廠商
11NR6-702009-0ER 1G	LAN (12core)	UDE
11NR6-702009-91R 1G	LAN(8 core)	FOXCONN
11NR6-702009-92R 1G	LAN(8 core)	UDE
11NR6-702009-11R 1G	LAN(12core/RED)	UDE
11NR6-702009-12R 1G	LAN(8 core/RED)	FOXCONN

注意:LAN LED PROTECT:(CO-LAYOUT)
1.ESD(6PIN):AOZ8902CIL/SOT23-6(DEFAULT)
2.SURGE(5PIN):AZ2025-04S/SOT23-5L

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

USB_LAN BOM區分:

1.(紅色/12CORE/三倍):USB+LAN/1G/GO,Y/OS/RA/D/1/RED
2.(黑色/12CORE):USB+LAN/1G/GO,Y/OS/RA/D/1
3.(黑色/8CORE):USB+LAN/1G/GO,Y/OS/RA/D/8C

Gigabyte Technology

Title: Realtek RTL8111G

Size: Custom | Document Number: GA-B85M-D3H-AE | Rev: 1.2

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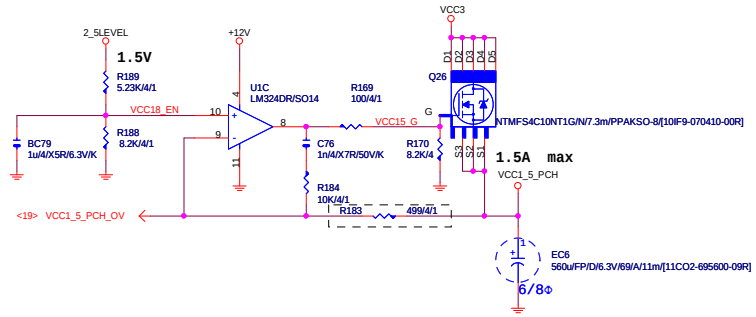
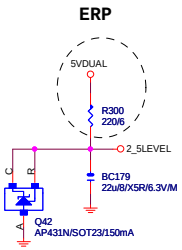
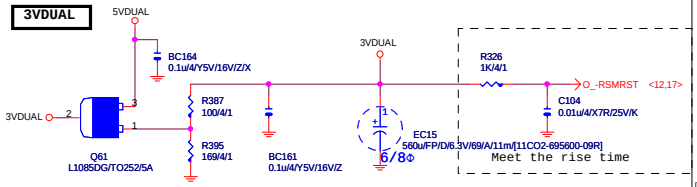
VCC1_8_PCH



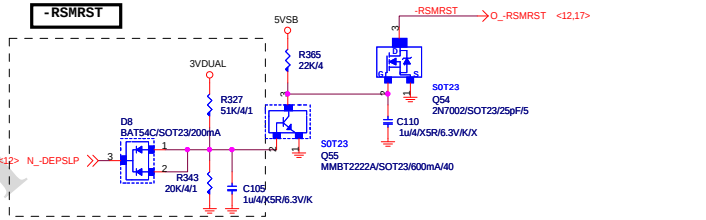
2_5LEVEL



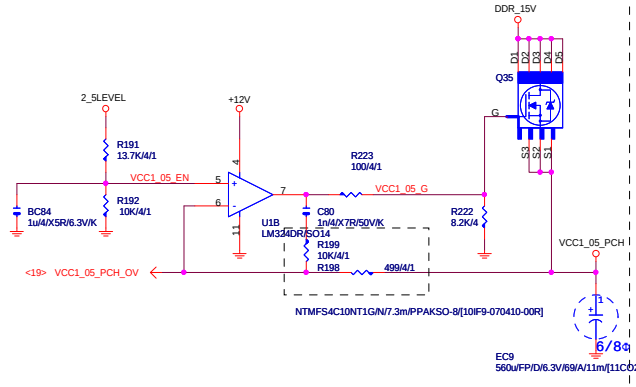
3VDUAL



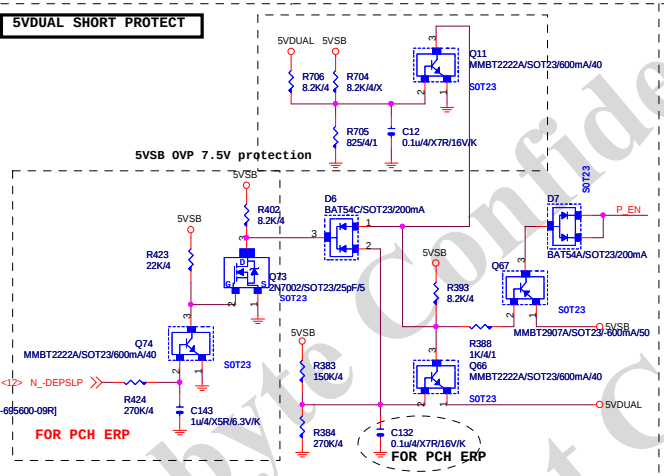
-RSMRST



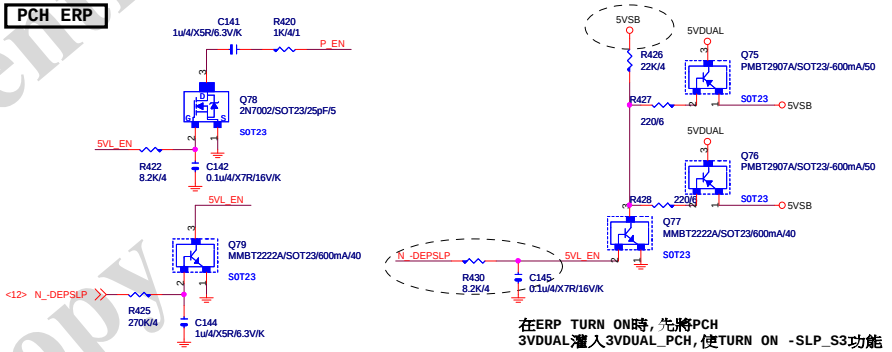
VCC1_05_PCH



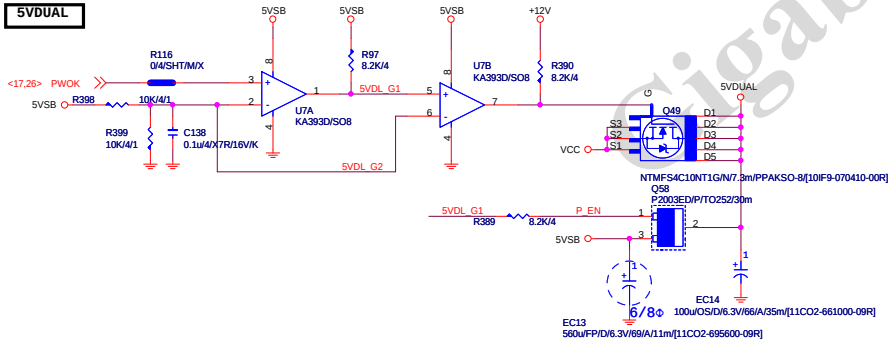
5VDUAL SHORT PROTECT



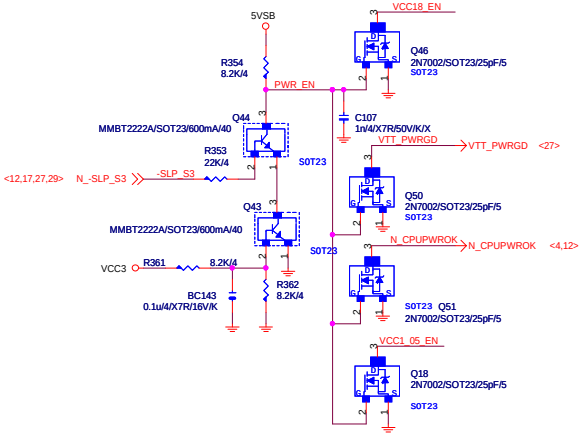
PCH ERP



5VDUAL



PWR SEQ



Gigabyte Technology		
Title: DISCRETE POWER		
Size: Custom	Document Number: GA-B85M-D3H-AE	Rev: 1.2
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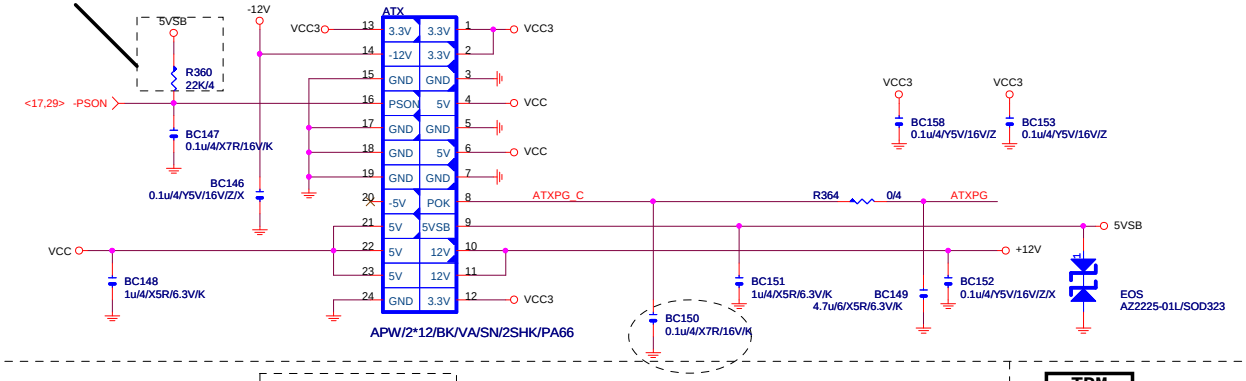
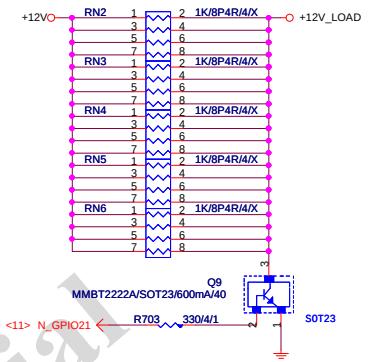
ATXX24 POWER CONNECTOR

【技術通報R&D技術通報155】

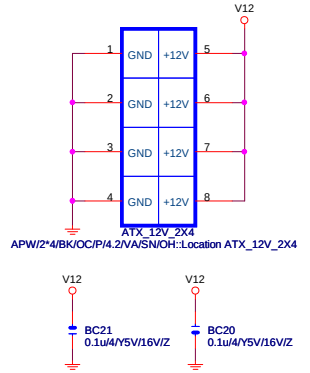


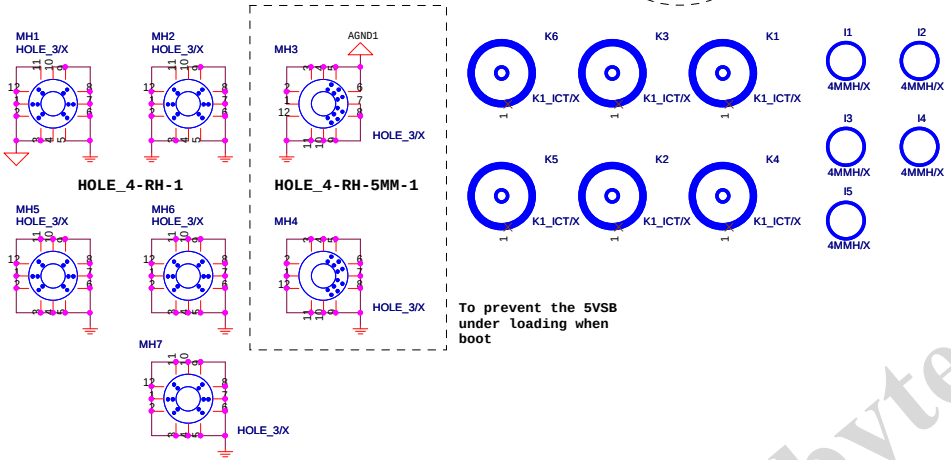
【技術通報R&D技術通報153】

To fix 12V light load abnromal issue



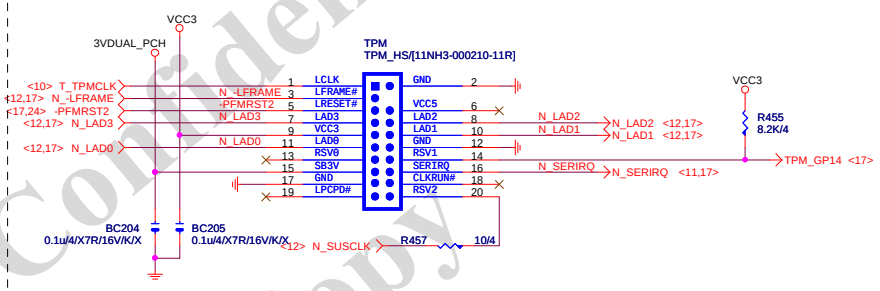
ATXX4 POWER CONNECTOR





To prevent the 5VSB under loading when boot

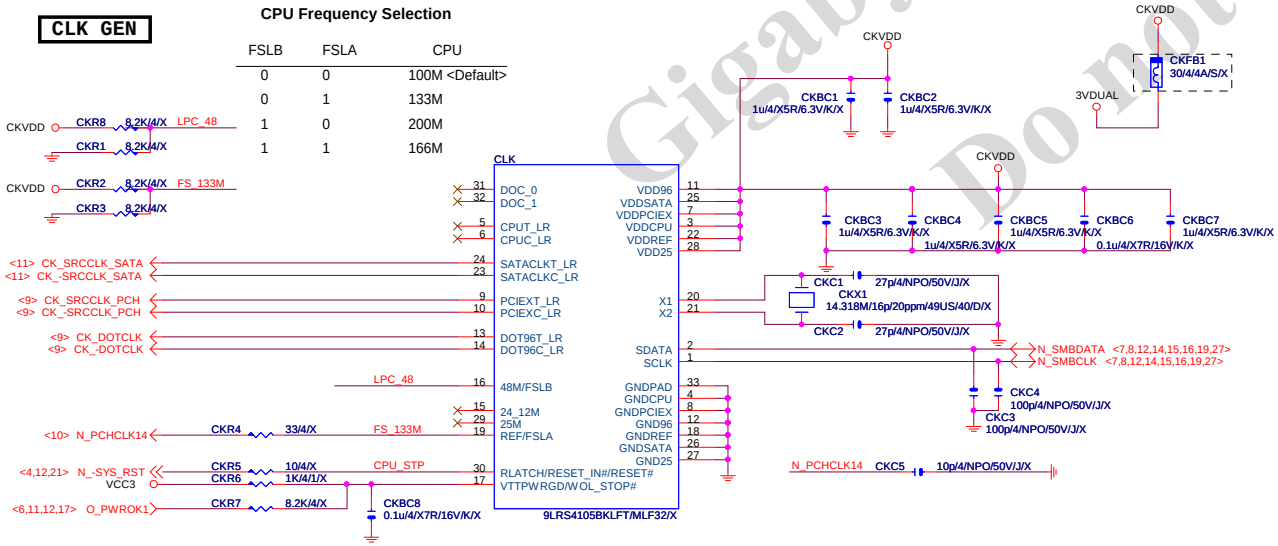
TPM



CLK GEN

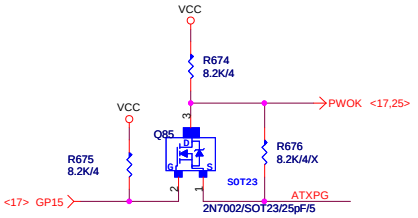
CPU Frequency Selection

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



PWOK PATCH

【技術通報R&D技術通報154】



Gigabyte Technology		
Title	ATX CONNECTOR	
Size: Custom	Document Number: GA-B85M-D3H-AE	Rev: 1.2
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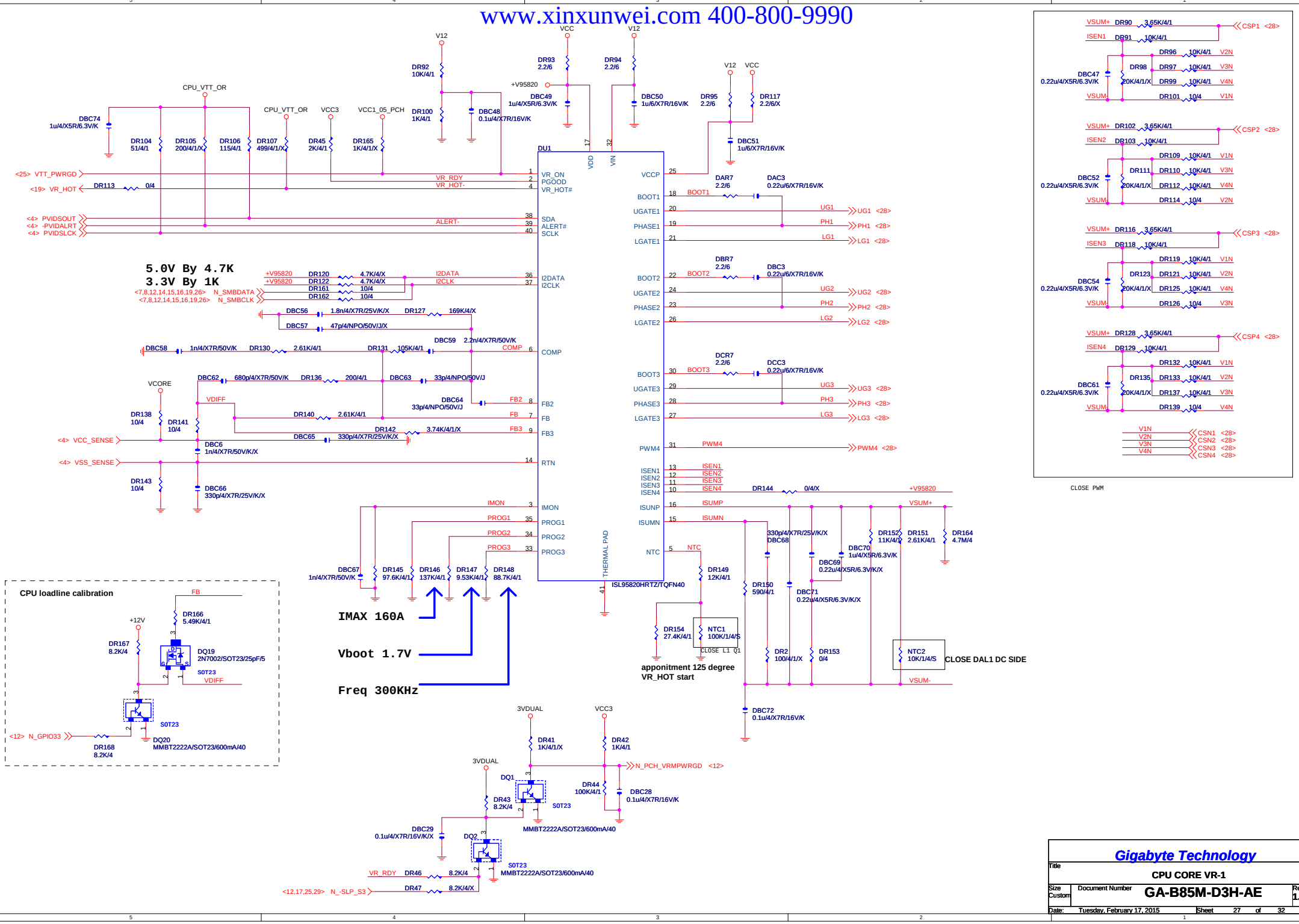

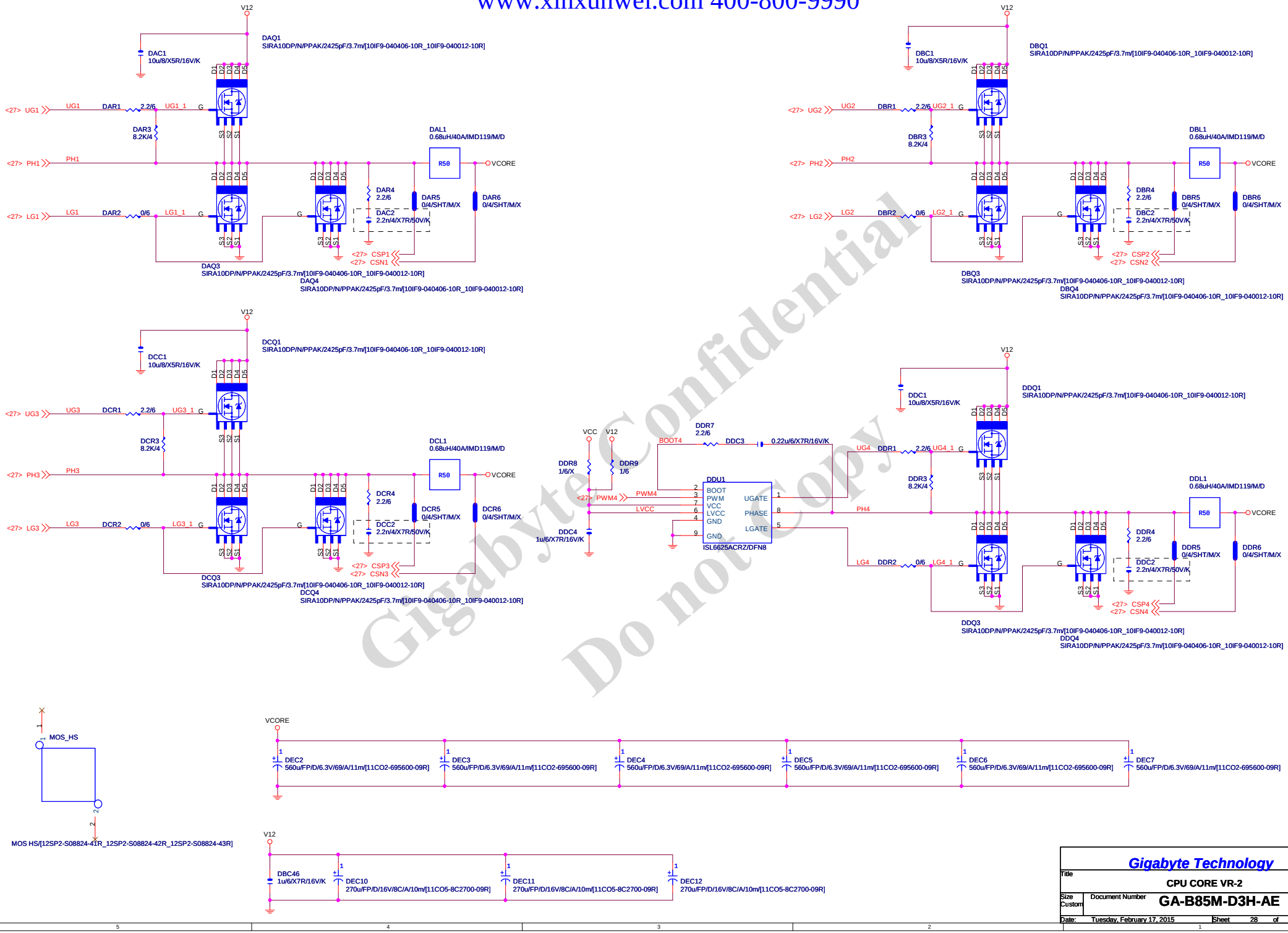

Gigabyte Technology		
Title	CPU CORE VR-2	
Size: Custom	Document Number: GA-B85M-D3H-AE	Rev: 1.2
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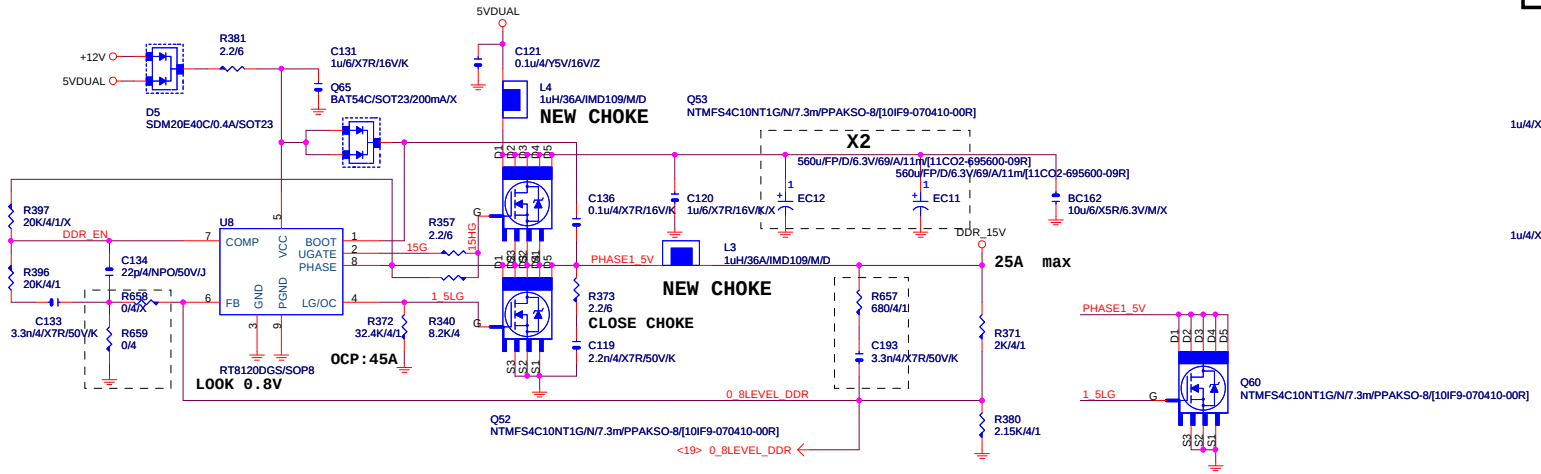
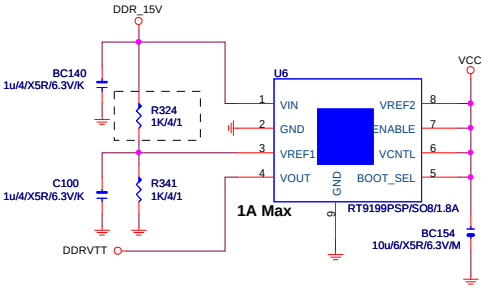
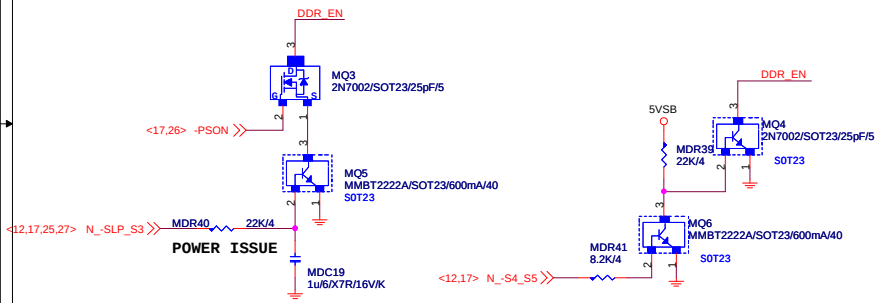
DDR15V



DDRVTT



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			
Size: Custom	Document Number: GA-B85M-D3H-AE		Rev: 1.2
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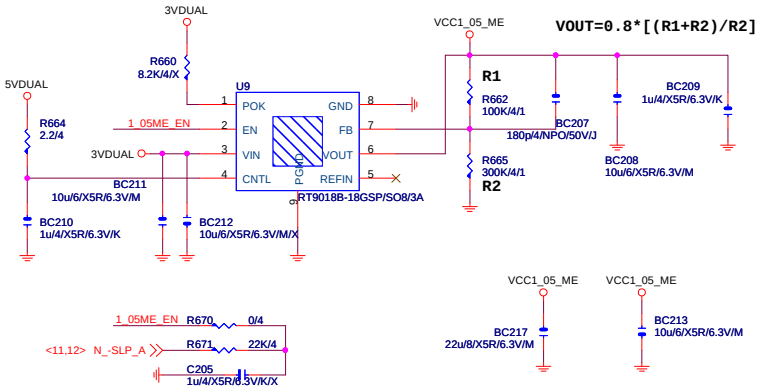
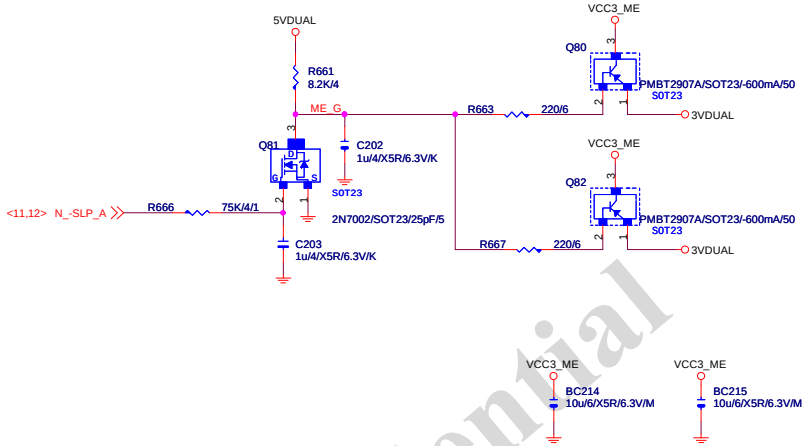
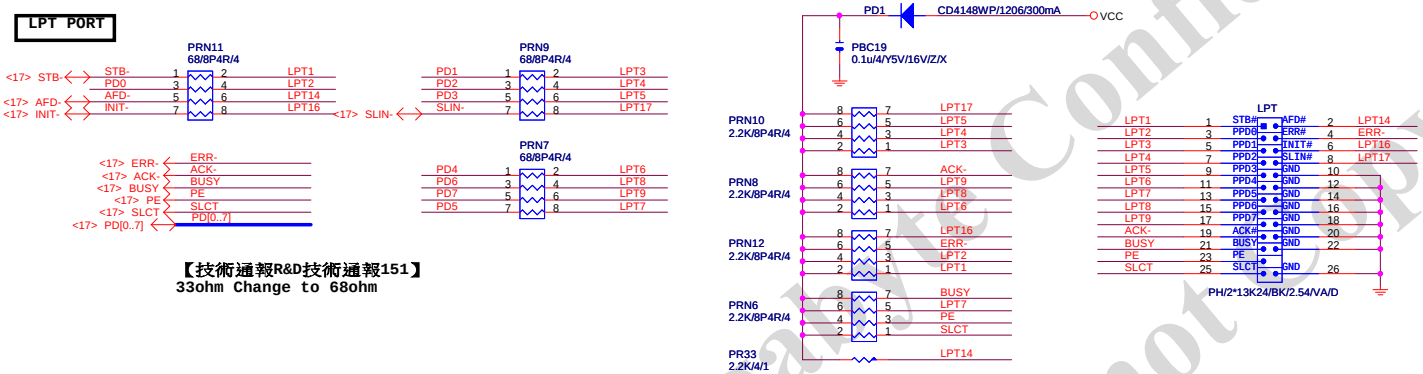
VCC1_05_ME



VCC3_ME



LPT PORT



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

Gigabyte Technology		
Title: LPT		
Size: Custom	Document Number: GA-B85M-D3H-AE	Rev: 1.2
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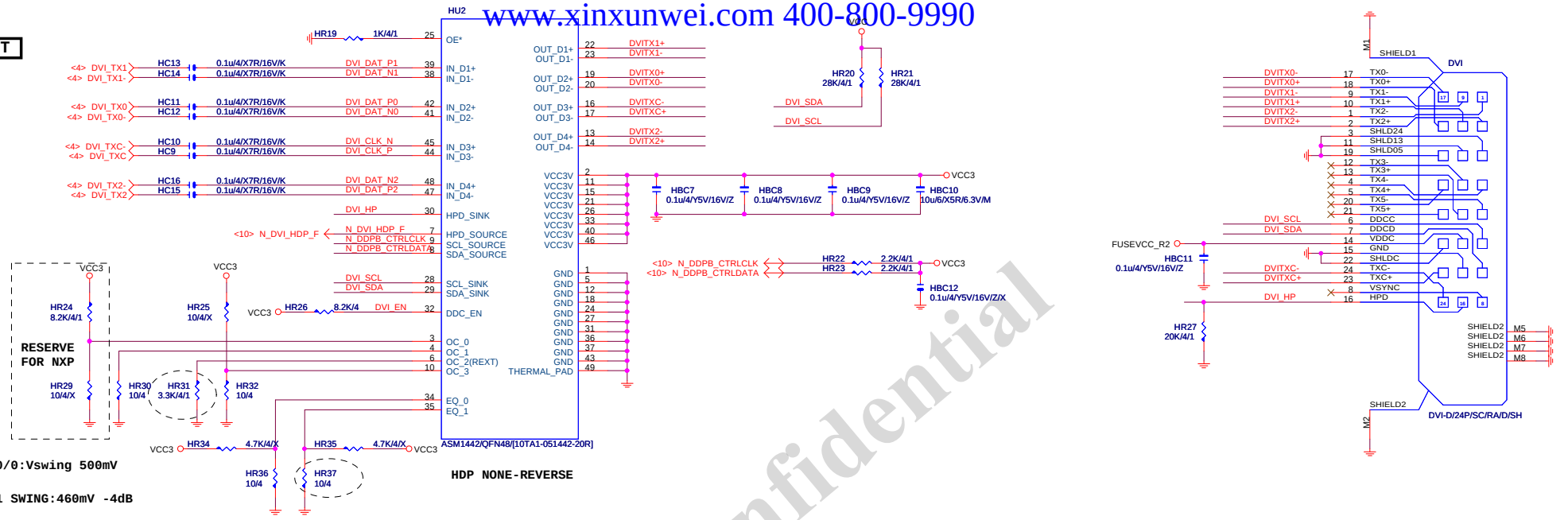
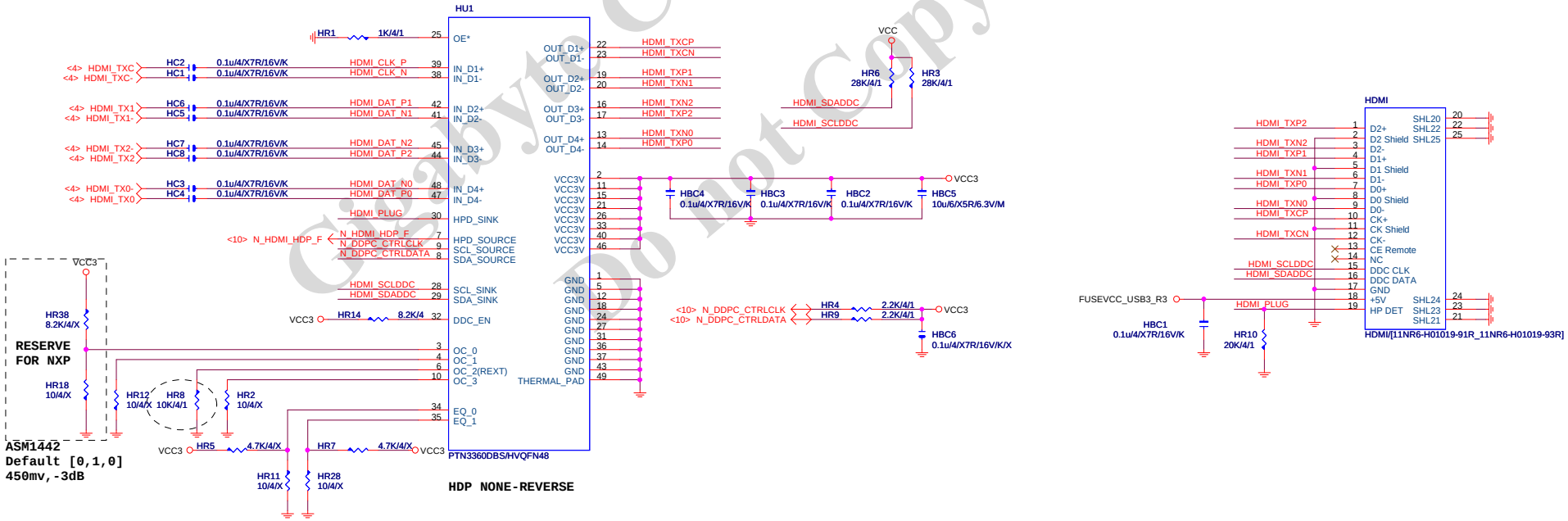
DVI LEVEL SHIFT



PERICOM 0/0/0/0:Vswing 500mV
ASM1442
DEFAULT 0/1/1 SWING:460mV -4dB

PI3DV411 0 0:12dB
ASM1442 1 1:3dB

HDMI LEVEL SHIFT



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: DVI		
Size: Custom	Document Number: GA-B85M-D3H-AE	Rev: 1.2
Date: Tuesday, February 17, 2015	Sheet 31 of 32	

PCIE TO PCI

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

Co-Lay IT8893 (IT8893 CLKOUT1 N/A)

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

PCB layout note: Close to chip

PCB layout note: Close to chip

Close to chip

Title	ITE IT8892E
Size / Document Number	Custom / GA-B85M-D3H-AE
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Date:	Tuesday, February 17, 2015
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Gigabyte Technology