

Model Name: GA-Z68MA-D2H-B3

Revision 1.0

SHEET

TITLE

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05	CPU_LGA1155-B
06	CPU_LGA1155-C
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08	DDR III CHANNEL B 1,2
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SHEET

TITLE

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Gigabyte Technology

Cover Sheet

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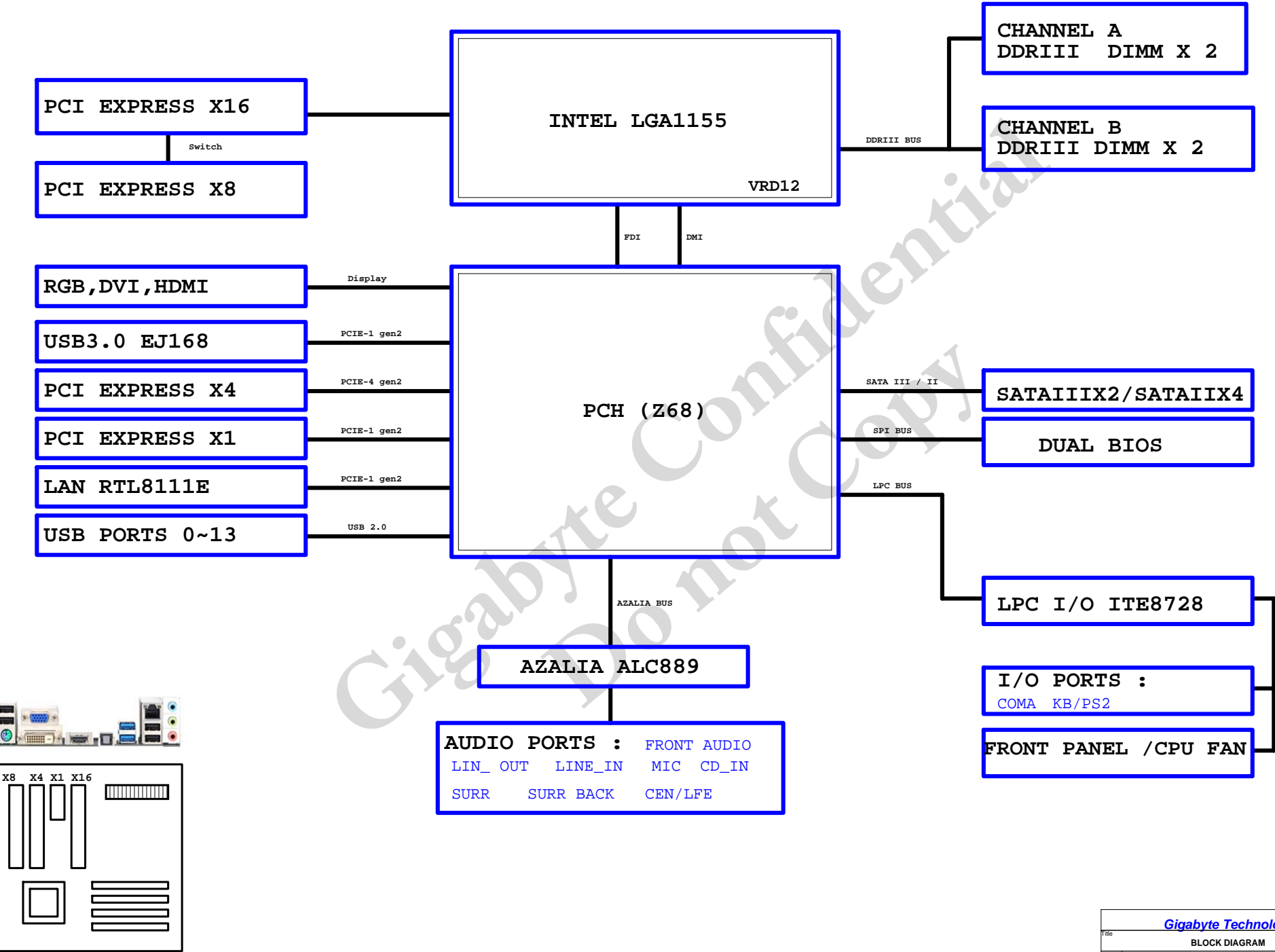
Circuit or PCB layout change

Component value change history

2011/04/11

[illegible][illegible]

BLOCK DIAGRAM



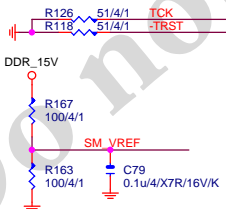
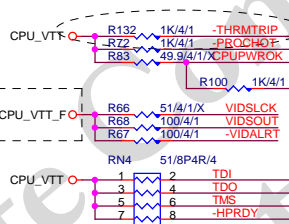
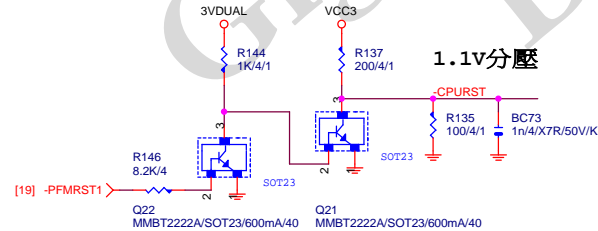
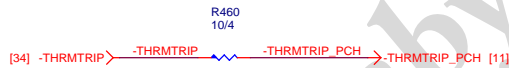
CFG5:1: 1X16 PEG
CFG5:0: 2X8 PEG

[16] -8X_EN

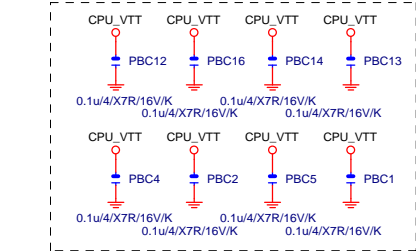
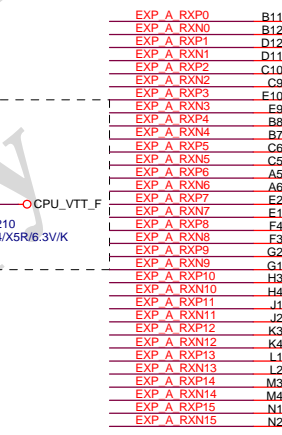
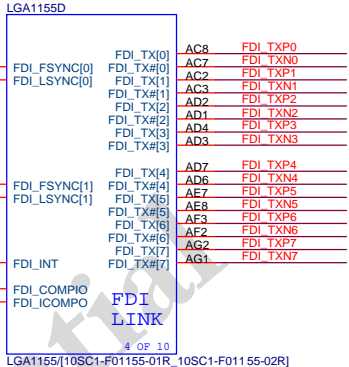
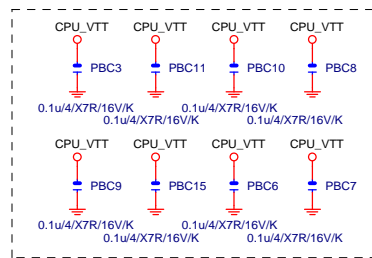
CFG	H	L	NOTE
0	RSVD	RSVD	RSVD
1	RSVD	RSVD	RSVD
2	NORM	Reverse	LANE REVERSAL[0], x16
3	RSVD	RSVD	RSVD
4	RSVD	RSVD	RSVD
7	RSVD	RSVD	RSVD
8	RSVD	RSVD	RSVD
9	RSVD	RSVD	RSVD
10	RSVD	RSVD	RSVD
11	RSVD	RSVD	RSVD
12	RSVD	RSVD	RSVD
13	RSVD	RSVD	RSVD
14	RSVD	RSVD	RSVD
15	RSVD	RSVD	RSVD
16	RSVD	RSVD	RSVD
17	RSVD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

CFG6	CFG5	PCIE CONFIG
1	1	1X16, Default
1	0	2X8
0	1	RSVD
0	0	X8, X4, X4

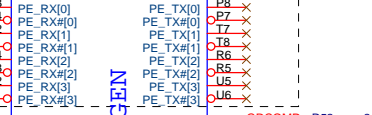
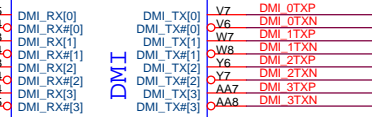
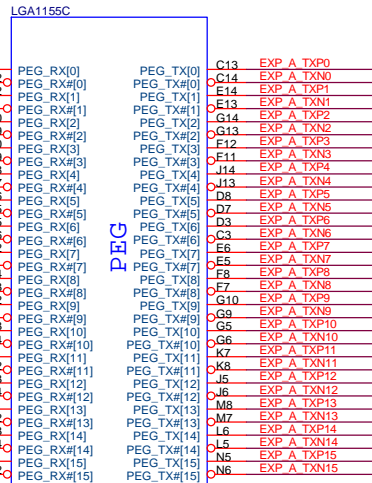
CFG 0-17 all internal PULL-UP



Stitching caps for PCIE, DMI, FDI bus

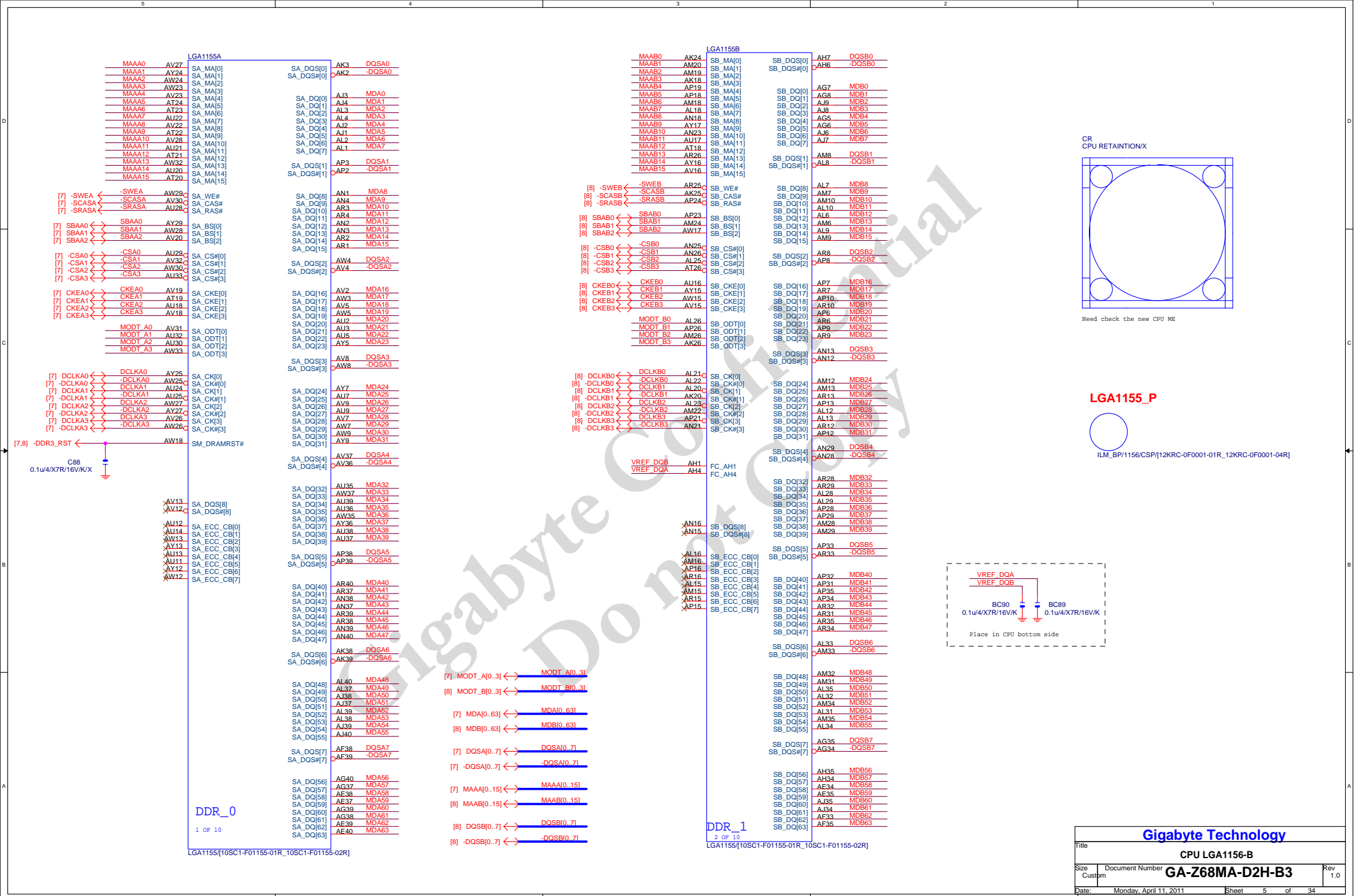


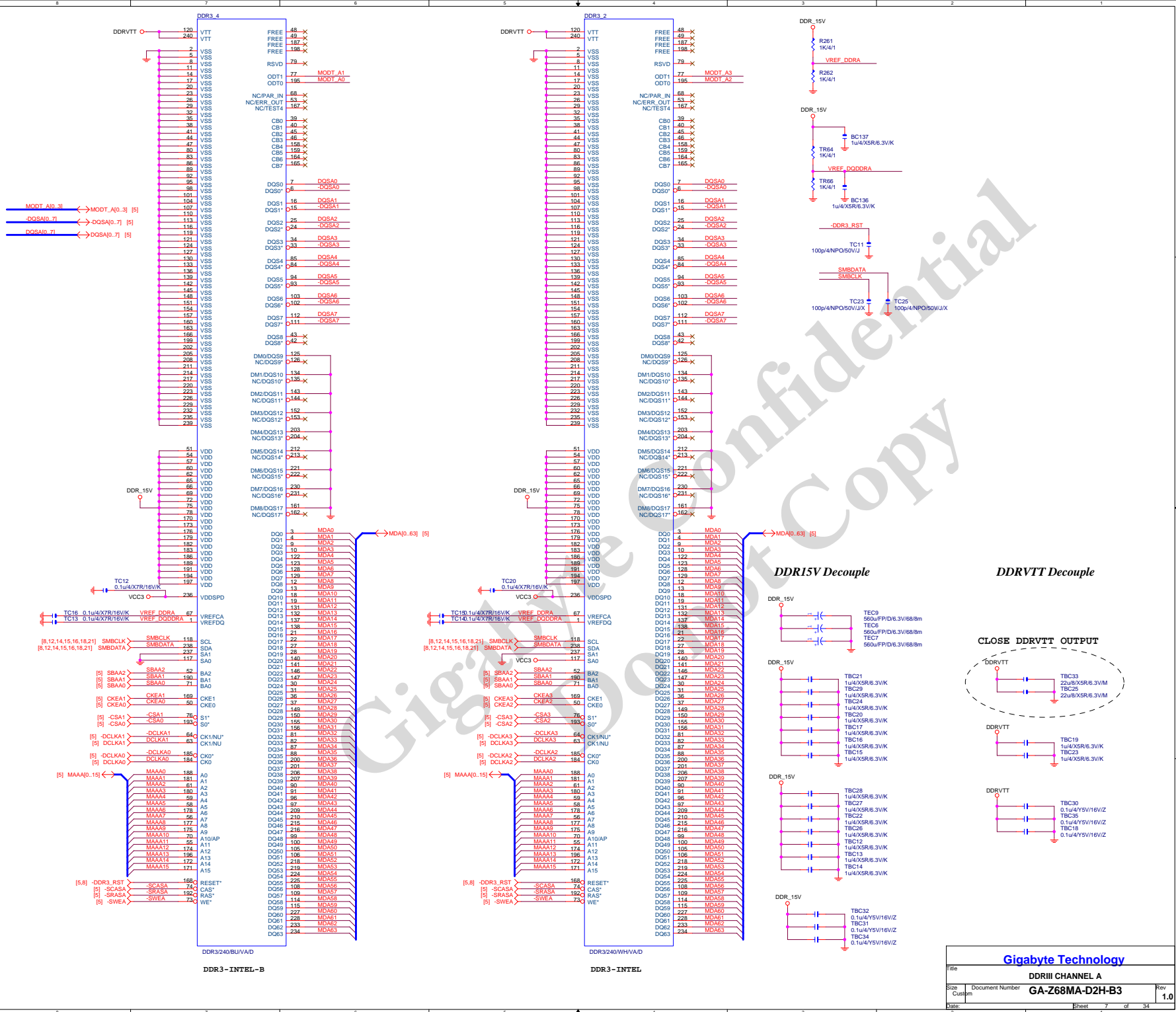
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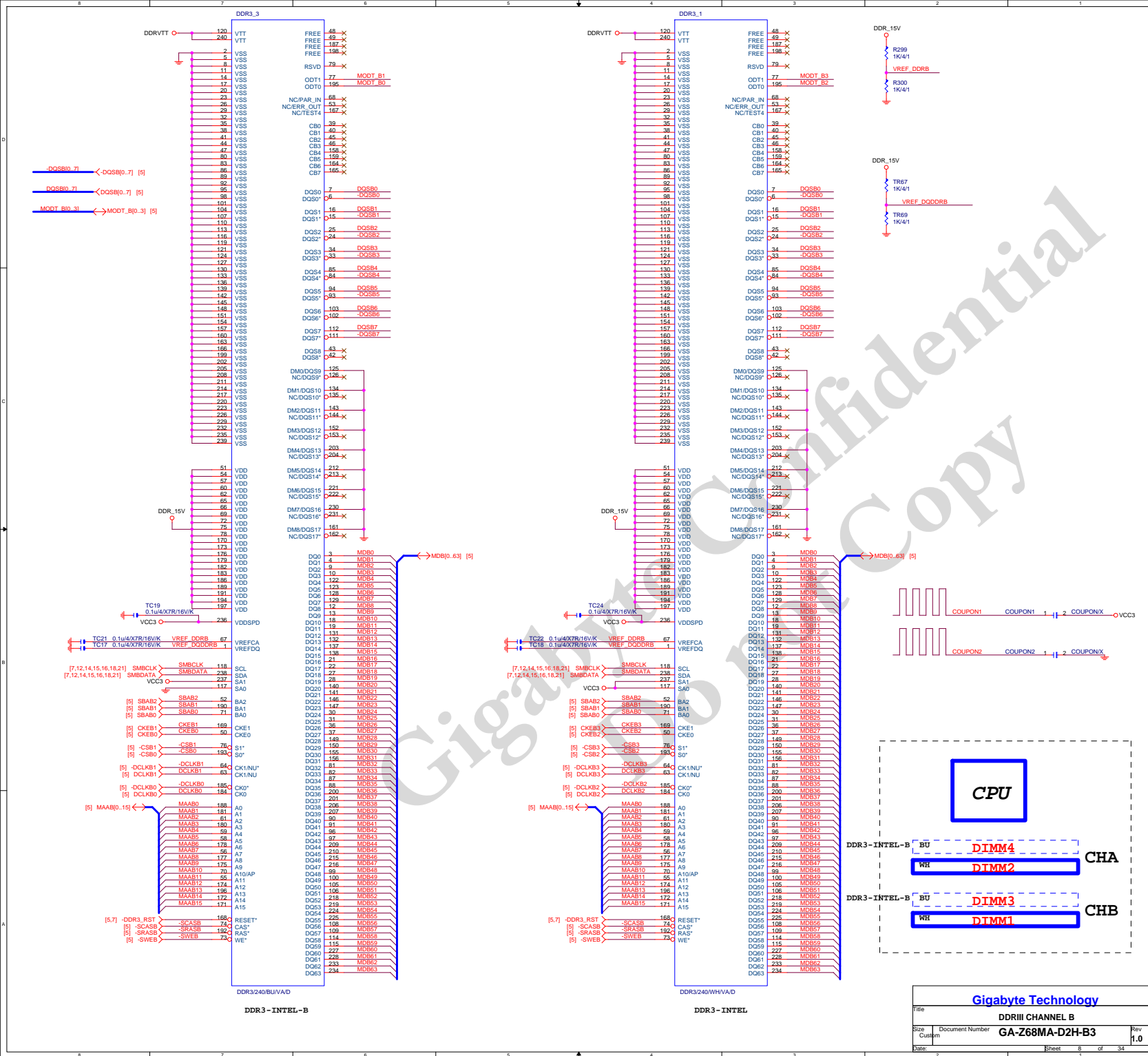


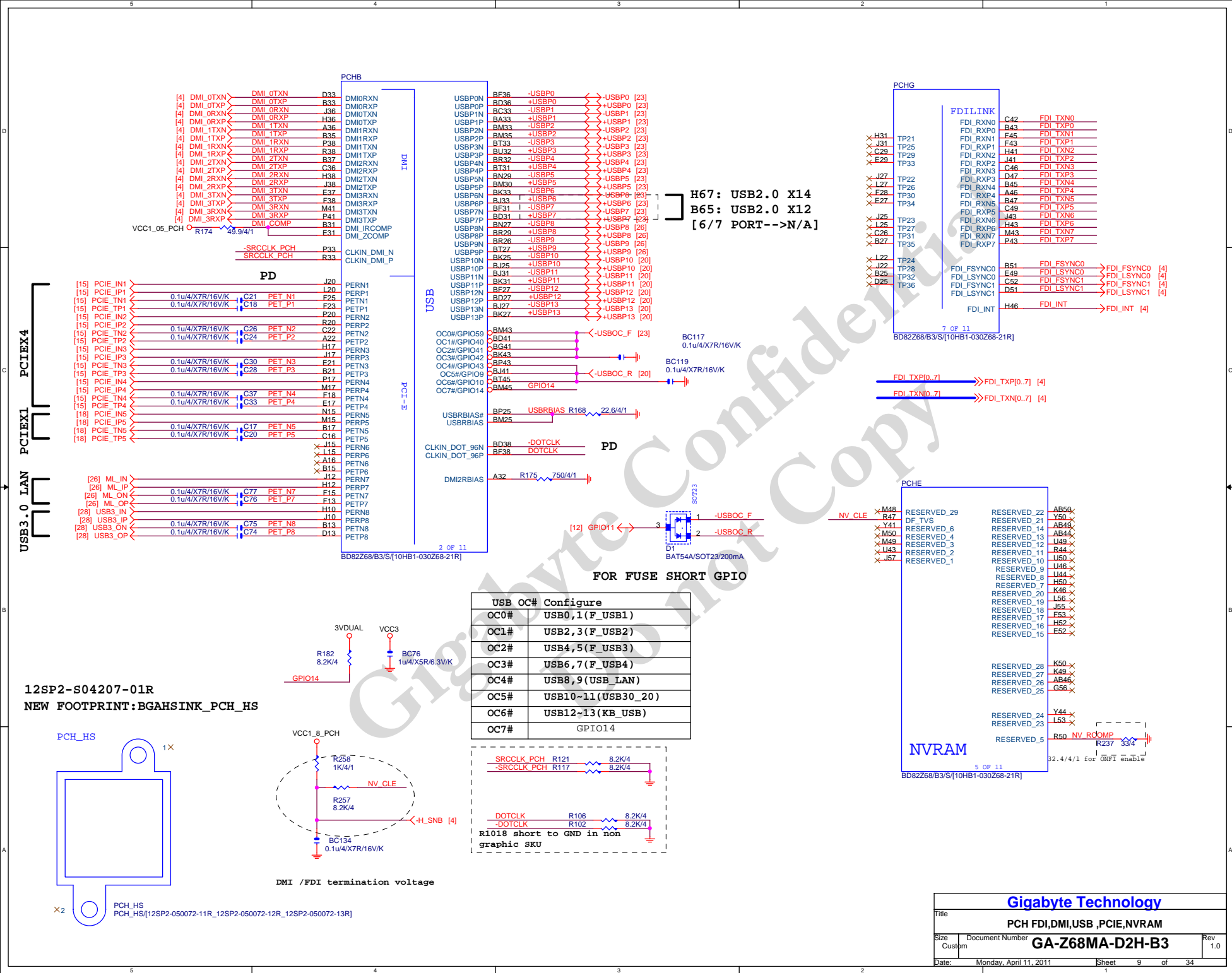
3 OP 10
LGA1155[10SC1-F01155-01R_10SC1-F01155-02R]

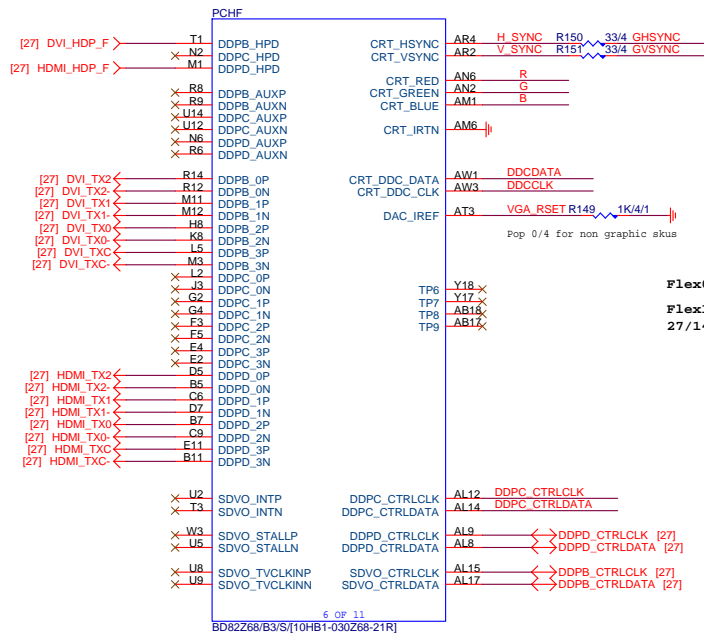
Gigabyte Technology			
Title CPU LGA1155-A			
Size	Document Number	Rev	
Cuspm	GA-Z68MA-D2H-B3	1.0	
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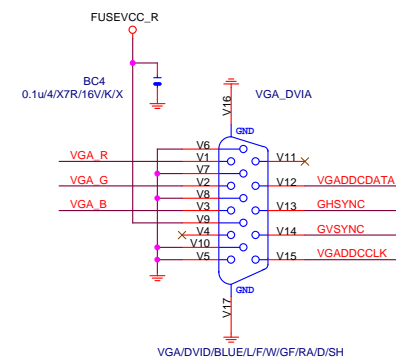
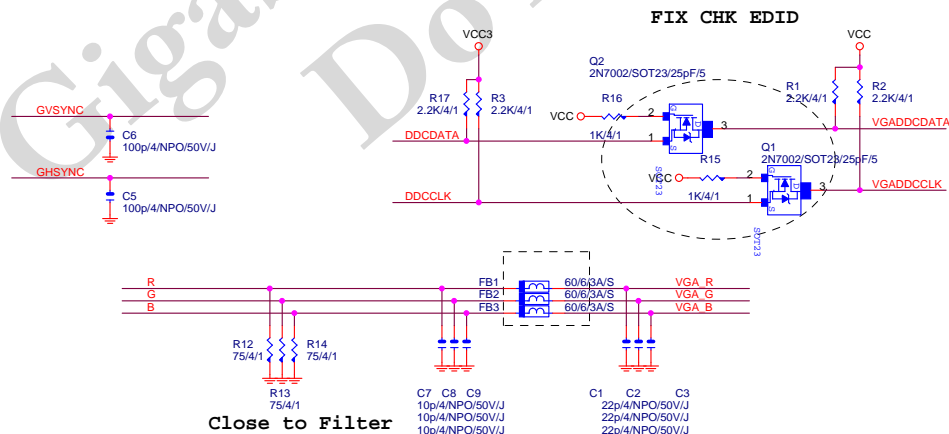
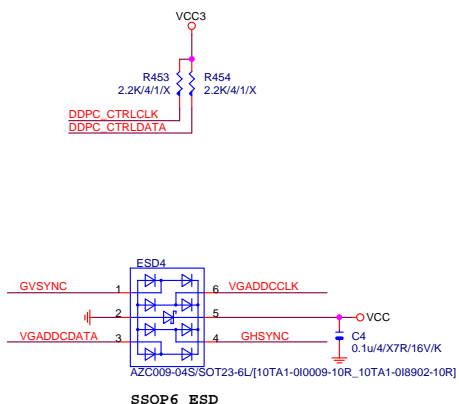
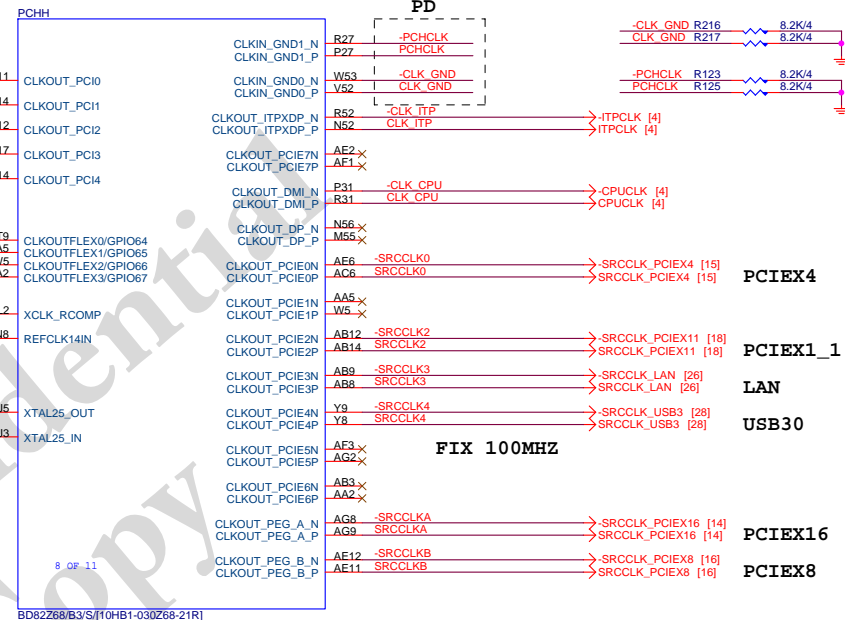
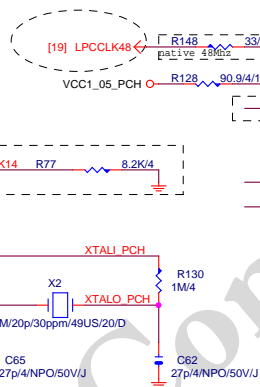






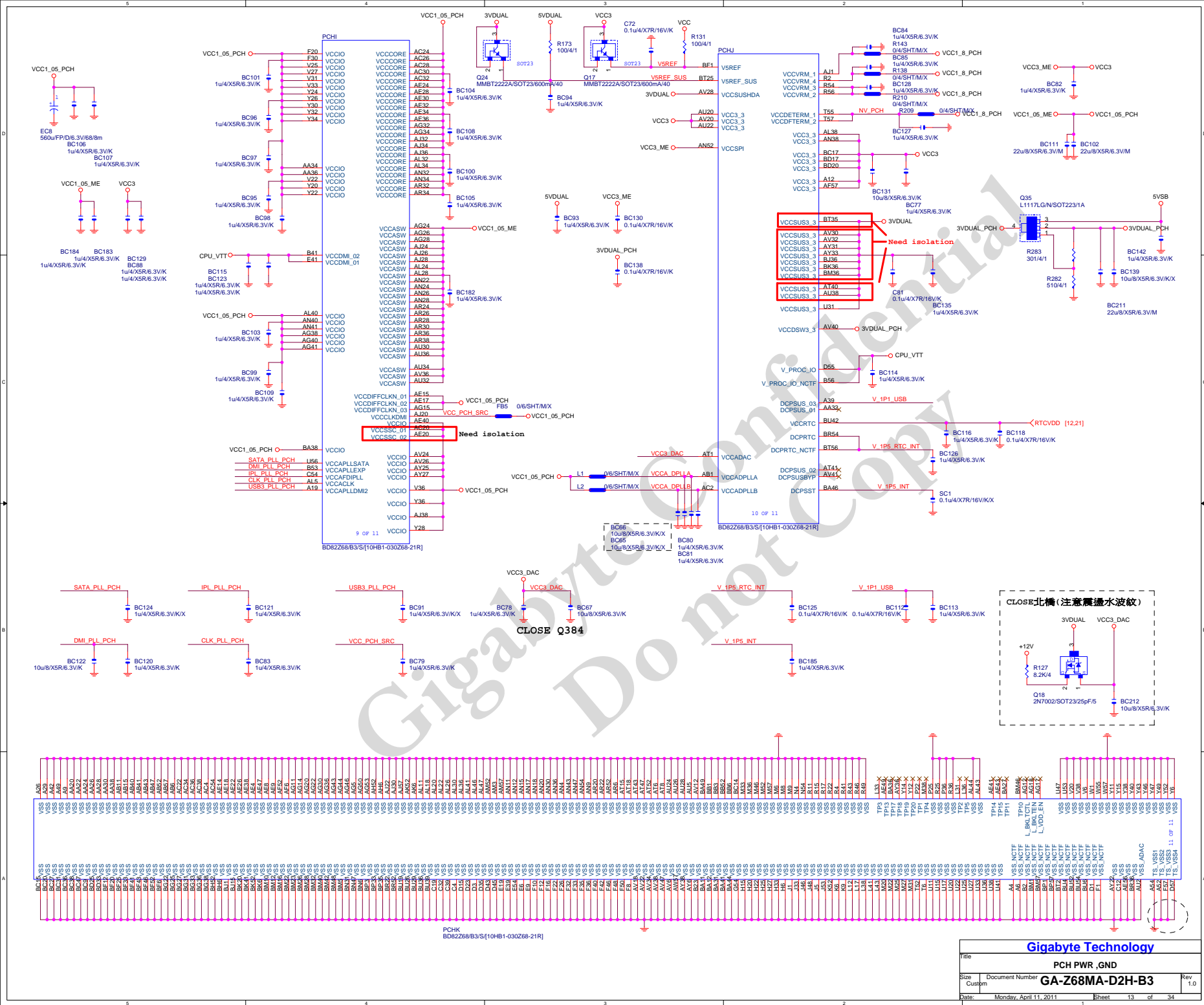


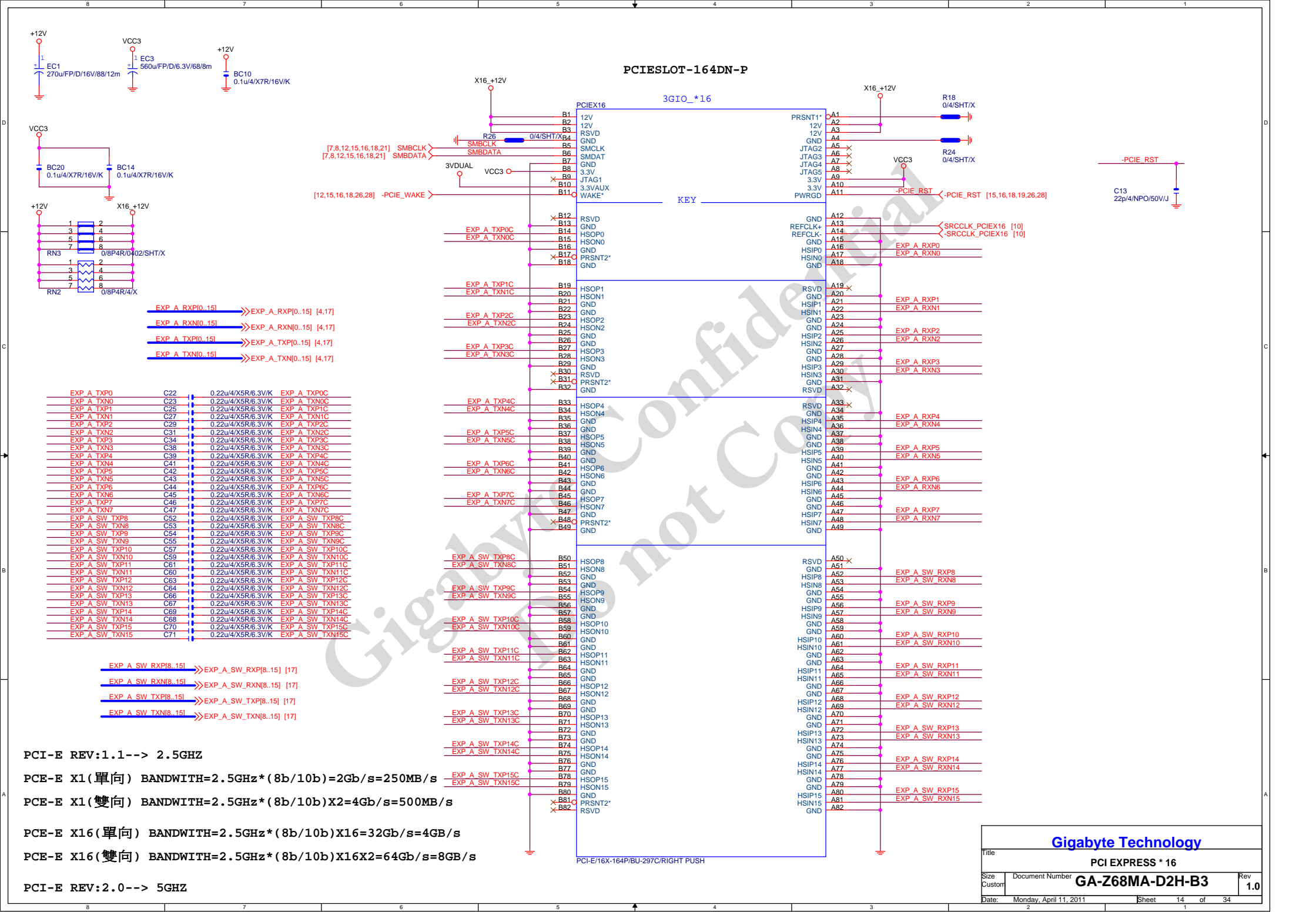
Flex0,2 : 33MHZ
Flex1,3 : 27/14/24/48/25MHZ

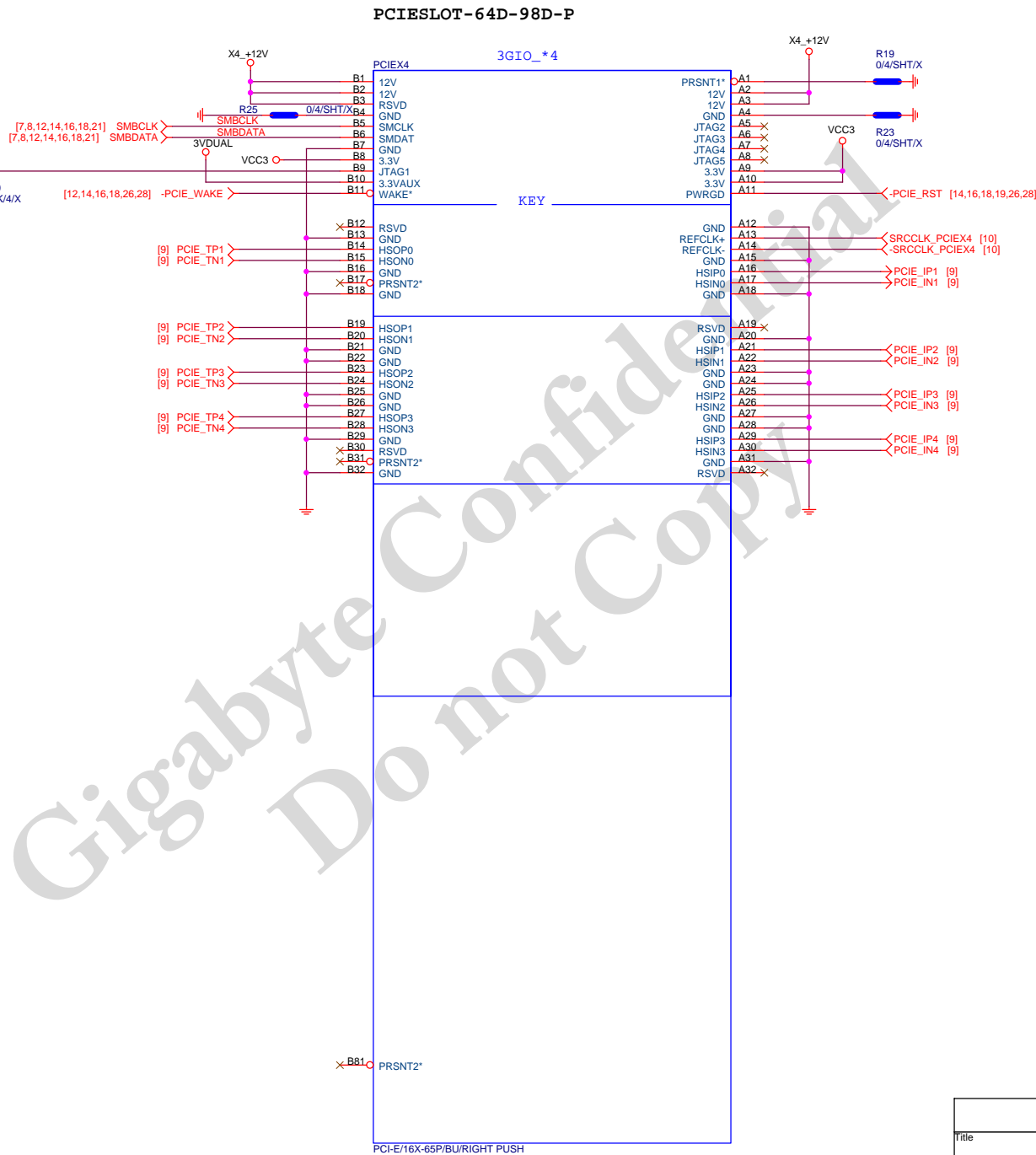
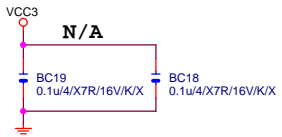
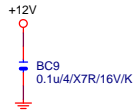
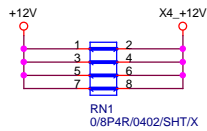


Gigabyte Technology			
PCH DISPLAY, CLK BUFFER			
GA-Z68MA-D2H-B3			
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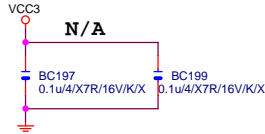
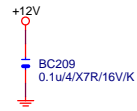
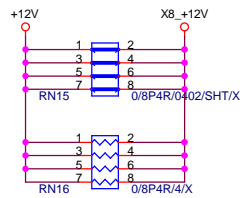




PCIESLOT-64D-98D-P

PCI-E/16X-65P/BU/RIGHT PUSH

Gigabyte Technology			
Title			
PCI EXPRESS X 4 PORT			
Size	Document Number	GA-Z68MA-D2H-B3	
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[7,8,12,14,15,18,21] SMBCLK > SMBCLK R464 10/4
[7,8,12,14,15,18,21] SMBDATA > SMBDATA R465 10/4

[12,14,15,18,26,28] -PCIE_WAKE >

EXP B_SW_TXP8C
EXP B_SW_TXN8C

EXP B_SW_TXP9C
EXP B_SW_TXN9C

EXP B_SW_TXP10C
EXP B_SW_TXN10C

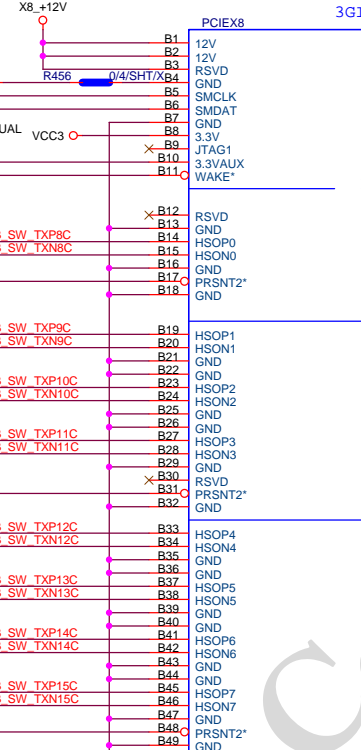
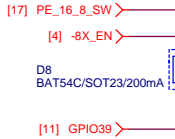
EXP B_SW_TXP11C
EXP B_SW_TXN11C

EXP B_SW_TXP12C
EXP B_SW_TXN12C

EXP B_SW_TXP13C
EXP B_SW_TXN13C

EXP B_SW_TXP14C
EXP B_SW_TXN14C

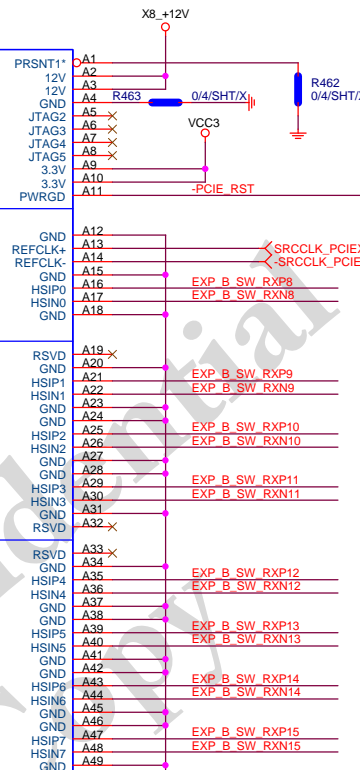
EXP B_SW_TXP15C
EXP B_SW_TXN15C



3GIO_*8

KEY

PCI-E/16X-99P/BU/RIGHT PUSH



EXP B_SW_RXP8_15] >> EXP_B_SW_RXP[8..15] [17]
EXP B_SW_RXN8_15] >> EXP_B_SW_RXN[8..15] [17]
EXP B_SW_TXP8_15] >> EXP_B_SW_TXP[8..15] [17]
EXP B_SW_TXN8_15] >> EXP_B_SW_TXN[8..15] [17]

EXP B_SW_TXP8	C161	0.22u/4/X5R/6.3V/K	EXP B_SW_TXP8C
EXP B_SW_TXN8	C162	0.22u/4/X5R/6.3V/K	EXP B_SW_TXN8C
EXP B_SW_TXP9	C163	0.22u/4/X5R/6.3V/K	EXP B_SW_TXP9C
EXP B_SW_TXN9	C164	0.22u/4/X5R/6.3V/K	EXP B_SW_TXN9C
EXP B_SW_TXP10	C165	0.22u/4/X5R/6.3V/K	EXP B_SW_TXP10C
EXP B_SW_TXN10	C166	0.22u/4/X5R/6.3V/K	EXP B_SW_TXN10C
EXP B_SW_TXP11	C167	0.22u/4/X5R/6.3V/K	EXP B_SW_TXP11C
EXP B_SW_TXN11	C168	0.22u/4/X5R/6.3V/K	EXP B_SW_TXN11C
EXP B_SW_TXP12	C169	0.22u/4/X5R/6.3V/K	EXP B_SW_TXP12C
EXP B_SW_TXN12	C170	0.22u/4/X5R/6.3V/K	EXP B_SW_TXN12C
EXP B_SW_TXP13	C171	0.22u/4/X5R/6.3V/K	EXP B_SW_TXP13C
EXP B_SW_TXN13	C172	0.22u/4/X5R/6.3V/K	EXP B_SW_TXN13C
EXP B_SW_TXP14	C173	0.22u/4/X5R/6.3V/K	EXP B_SW_TXP14C
EXP B_SW_TXN14	C174	0.22u/4/X5R/6.3V/K	EXP B_SW_TXN14C
EXP B_SW_TXP15	C175	0.22u/4/X5R/6.3V/K	EXP B_SW_TXP15C
EXP B_SW_TXN15	C176	0.22u/4/X5R/6.3V/K	EXP B_SW_TXN15C

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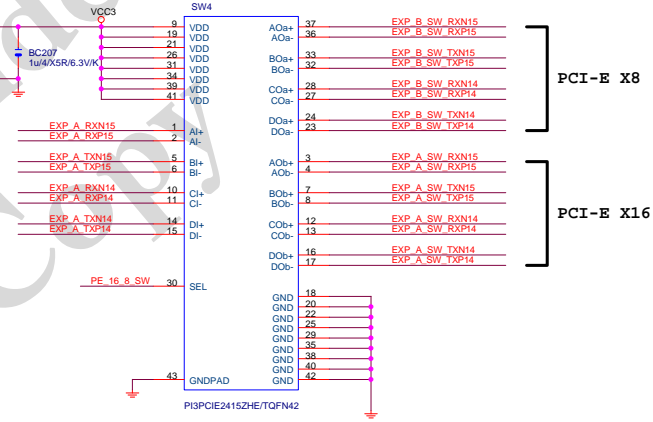
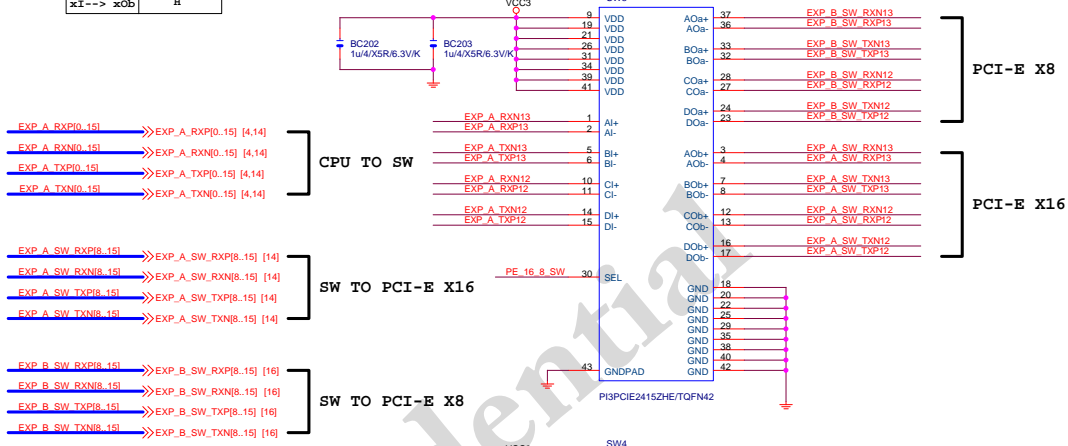
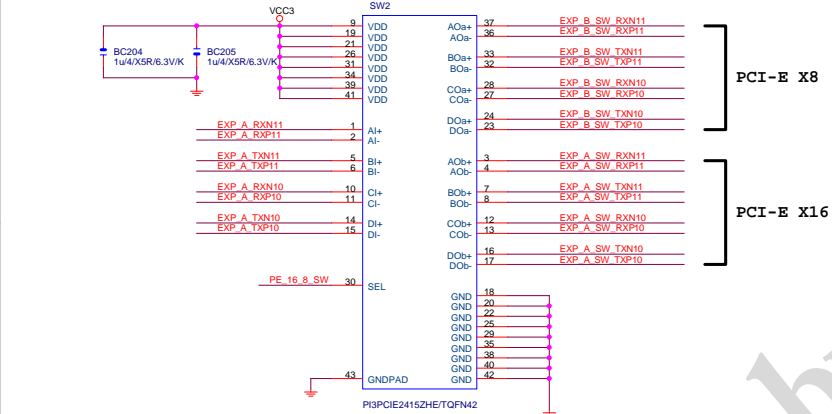
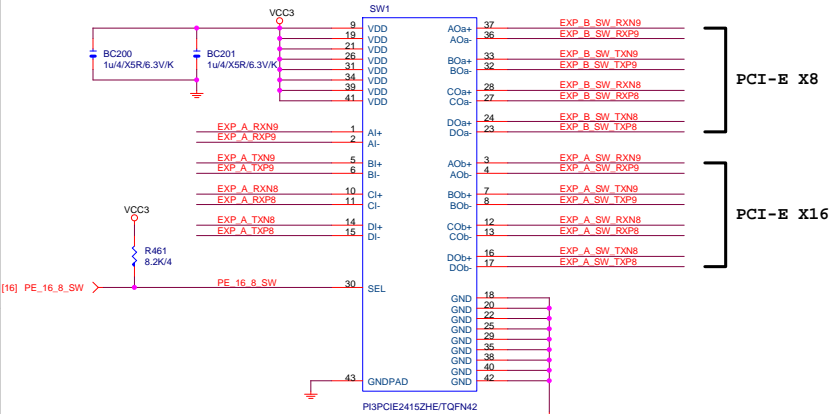
PCI EXPRESS X 8 PORT

GA-Z68MA-D2H-B3

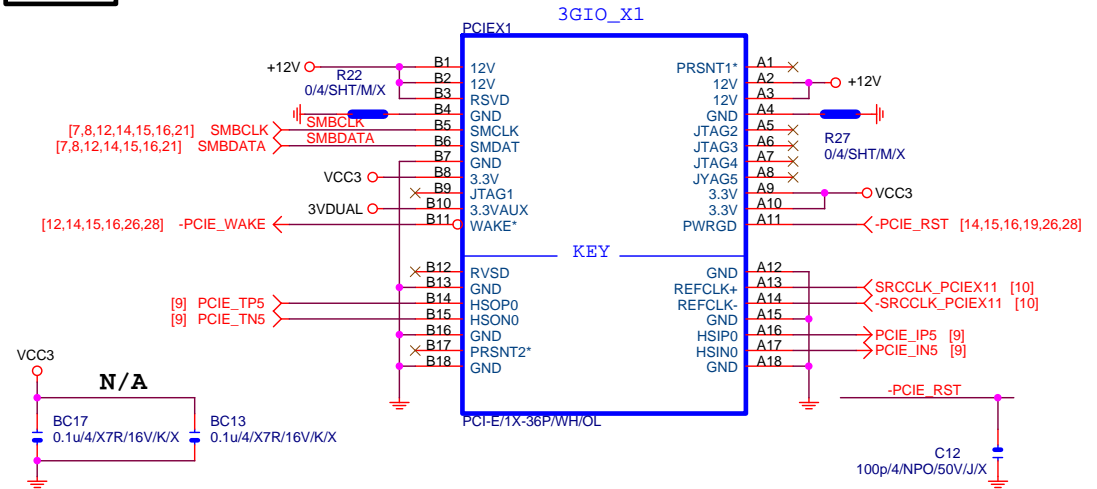
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Function	SEL
xi--> x0a	L
xi--> x0b	H

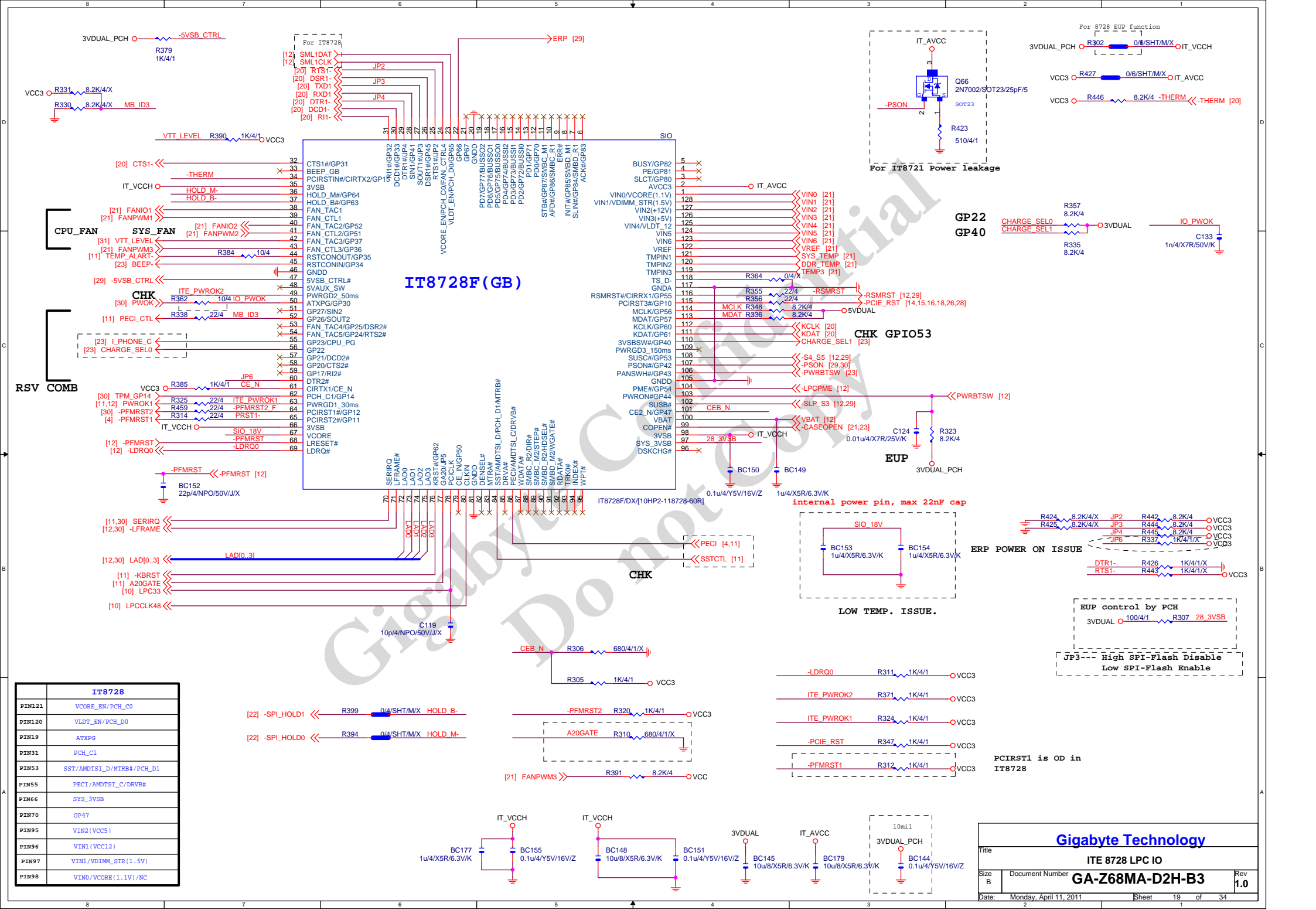


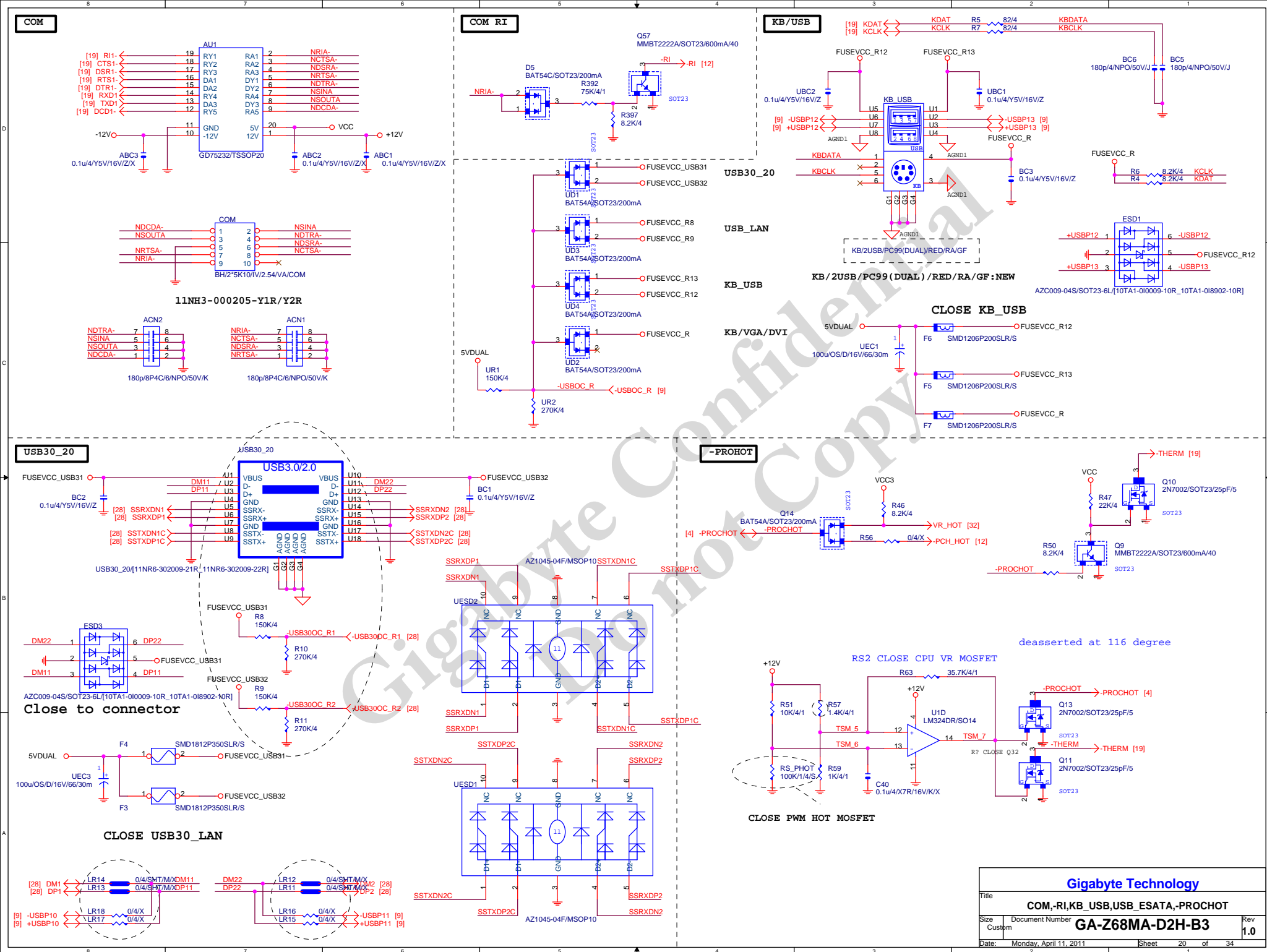
PCIEX*1



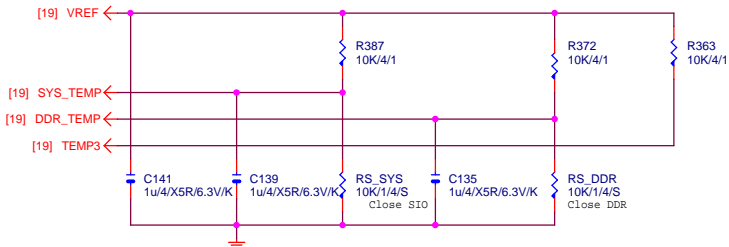
CLK GEN CK505

Gigabyte Technology		
Title		
PCIEX1		
Size	Document Number	Rev
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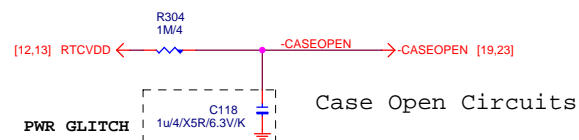




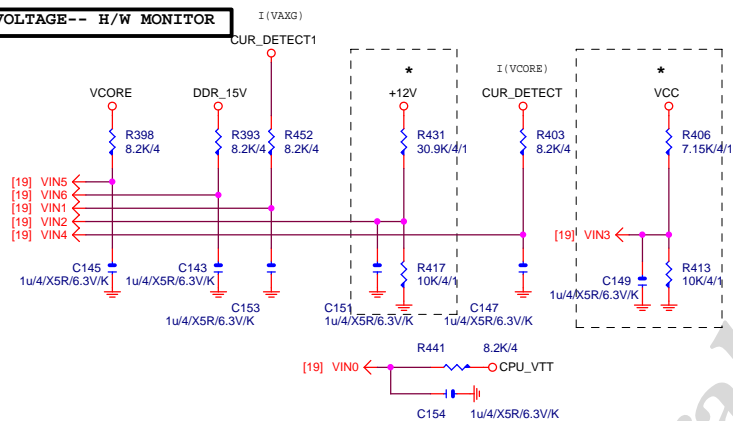
TEMP H/W MONITOR



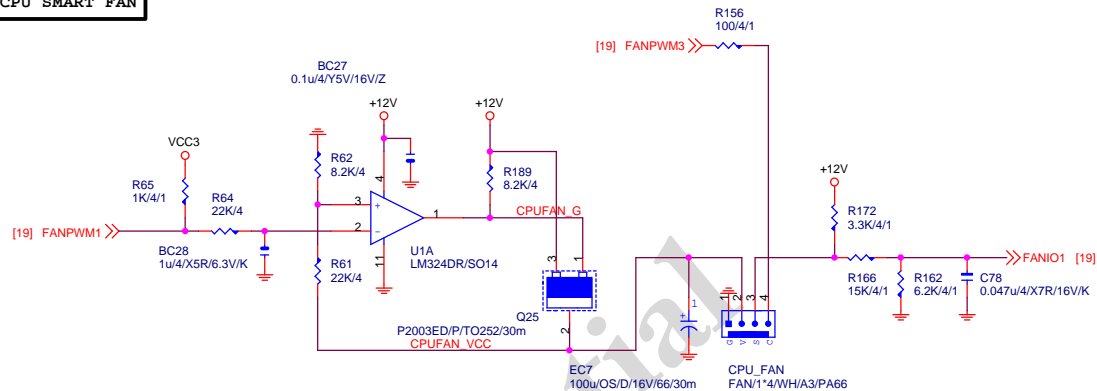
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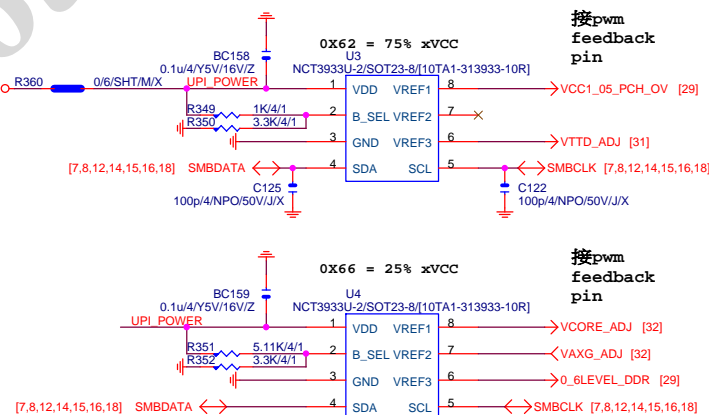
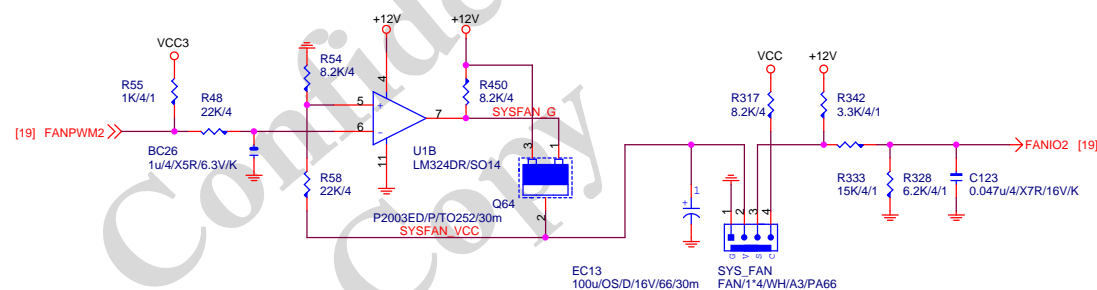
VOLTAGE-- H/W MONITOR



CPU SMART FAN



SYS SMART FAN



Gigabyte Technology

Title			HWM,FAN CTRL,OV
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DUAL BIOS

The diagram illustrates the electrical connections for a Dual BIOS system. It features two BIOS chips, M_BIOS and B_BIOS, both operating at 32M/SPI/SO8/200mil/S.

M_BIOS Connections:

- CS#: -ICH_SPI_CS (via R291, 22/4)
- SPI_MISO: SPI_MISO
- SPI_WP0: -SPI_WP0
- VSS: Ground
- VDD: VCC3 (via R289, 0/4/SHT/M/X; BC143, 0.1u/4/Y5V/16V/Z)
- HOLD#: -SPI_HOLD0 <<-SPI_HOLD0 [19]
- SCK: ICH_SPI_CLK
- SI: ICH_SPI_MOSI (via C102, 10p/4/NPO/50V/J/X)

B_BIOS Connections:

- CS#: -ICH_SPI_CS (via R292, 22/4)
- SPI_MISO: SPI_MISO
- SPI_WP1: -SPI_WP1
- VSS: Ground
- VDD: VCC3 (via R273, 0/4/SHT/M/X; BC140, 0.1u/4/Y5V/16V/Z)
- HOLD#: -SPI_HOLD1 <<-SPI_HOLD1 [19]
- SCK: ICH_SPI_CLK <<ICH_SPI_CLK [12]
- SI: ICH_SPI_MOSI <<ICH_SPI_MOSI [12]

Signal Connections:

- [12] ICH_SPI_MOSI >> ICH_SPI_MOSI (via R275, 8.2K/4/X)
- [12] -ICH_SPI_CS >> -ICH_SPI_CS (via R290, 8.2K/4/X)
- SPI_HOLD0 >> -SPI_HOLD0 (via R287, 8.2K/4)
- SPI_HOLD1 >> -SPI_HOLD1 (via R274, 8.2K/4)
- [12] -ICH_SPI_CS1 <<-ICH_SPI_CS1 (via R297, 8.2K/4/X)
- [12] -SPI_WP1 <<-SPI_WP1 (via R296, 1K/4/1/X)
- [12] -SPI_WP0 <<-SPI_WP0 (via R295, 1K/4/1/X)
- [12] ICH_SPI_MISO >> ICH_SPI_MISO (via R293, 8.2K/4)
- [11] -GNT0 >>-GNT0 (via R153, 1K/4/1)
- [11] -GNT1 >>-GNT1 (via R140, 1K/4/1)
- SPI_MISO >> ICH_SPI_MISO [12] (via R294, 22/4)

Legend:

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

1 means floating
0 means PD 1K

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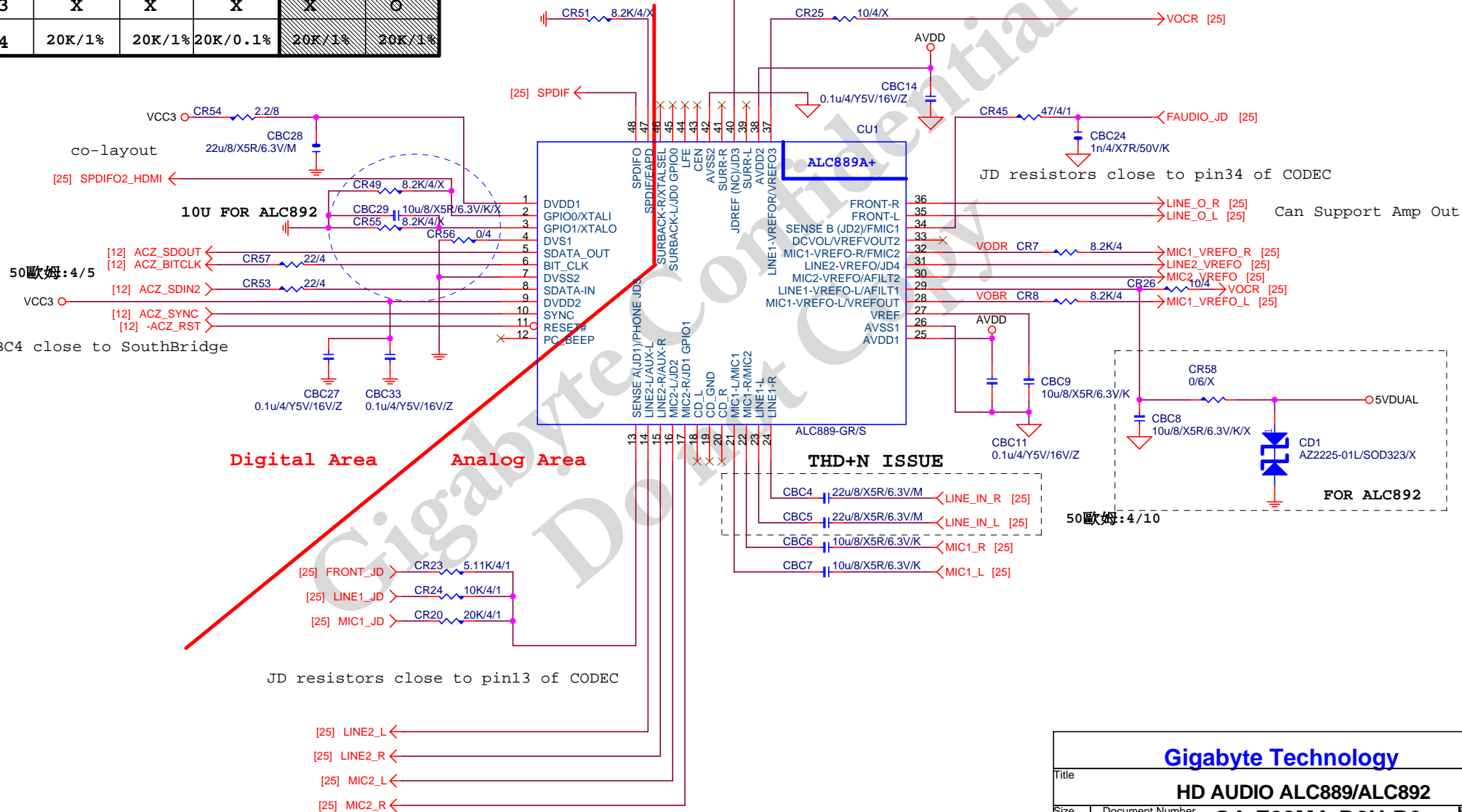
Title: DUAL BIOS

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[illegible][illegible]

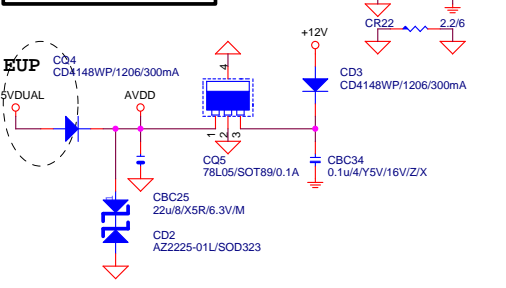
	ALC888B	ALC888-VA	ALC889A	ALC888-VD	ALC892
CR59	X	O	O	O	O
CR53,58	X	X	O	X	X
CR56	O	O	O	O	X
CR63	X	X	X	X	O
CR34	20K/1%	20K/1%	20K/0.1%	20K/1%	20K/1%



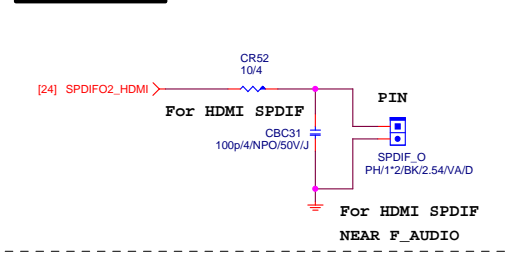
Gigabyte Technology

Title		HD AUDIO ALC889/ALC892	
Size	Document Number	GA-Z68MA-D2H-B3	
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CODEC POWER/EMI PAD



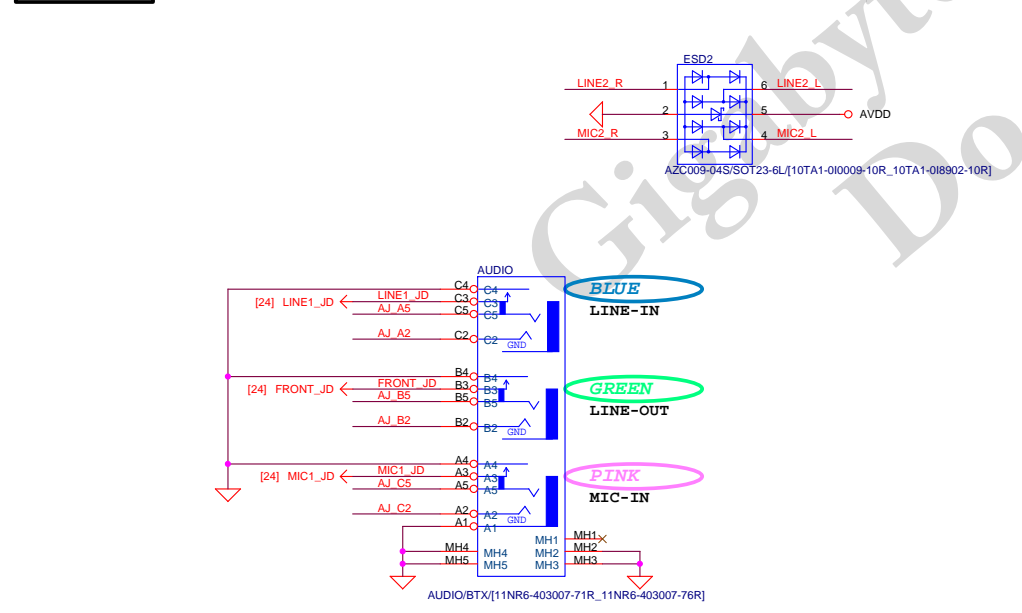
HDMI SPDIF



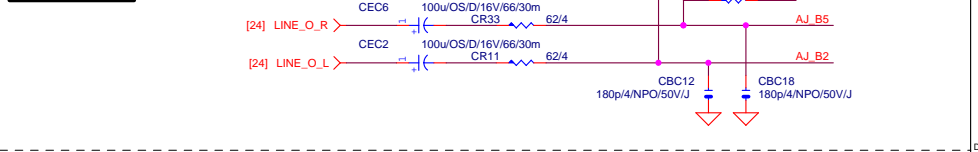
SPDIF_IN



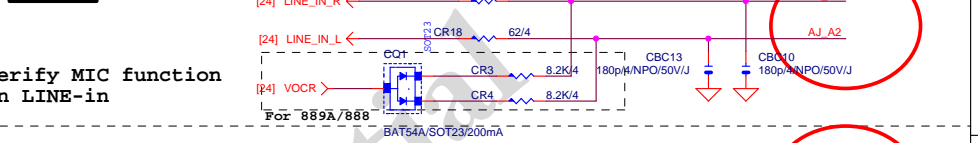
AZALIA JACK



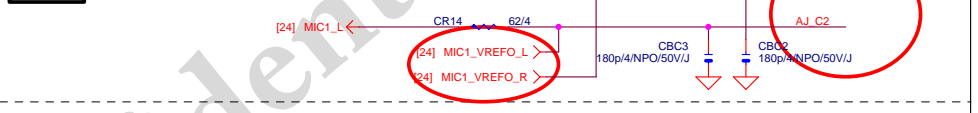
LINE-OUT



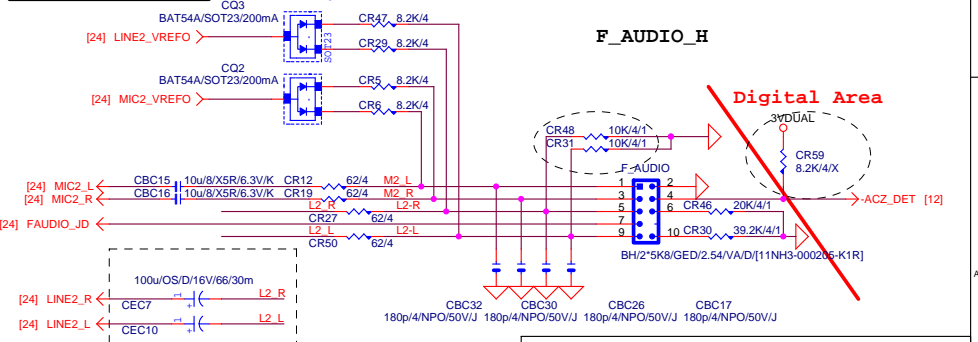
LINE-IN



MIC-IN

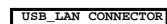
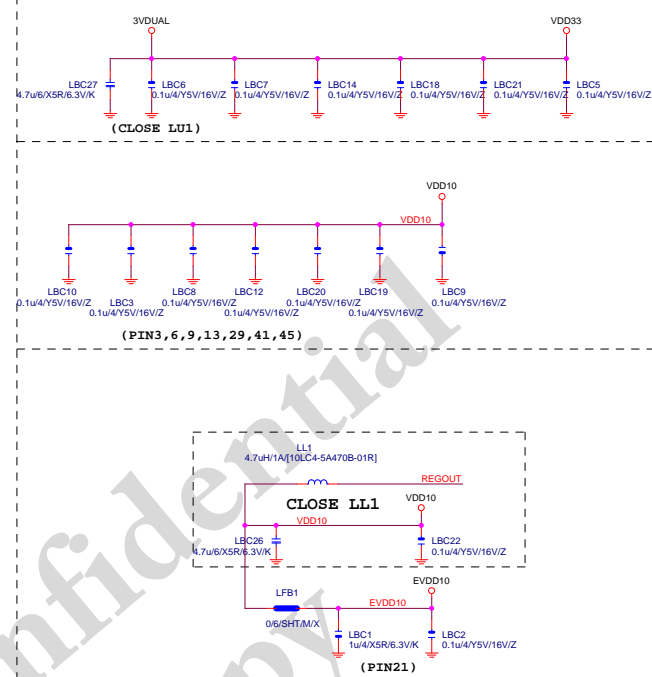
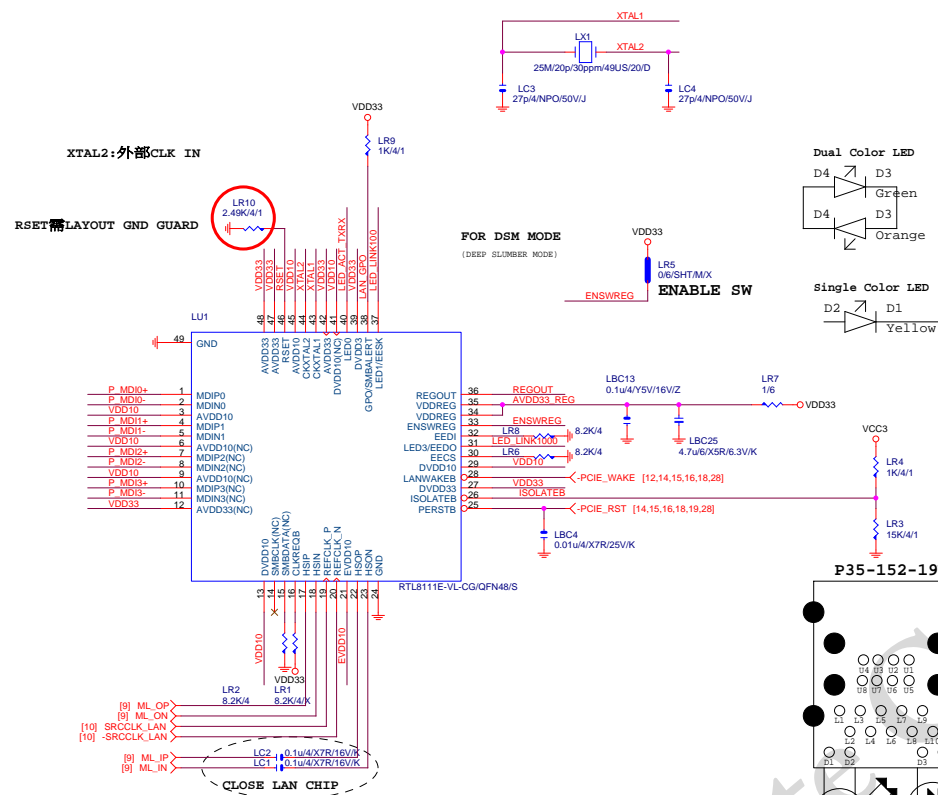


AZALIA FRONT PANEL

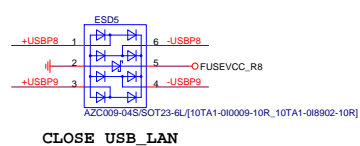


Gigabyte Technology			
AUDIO JACK			
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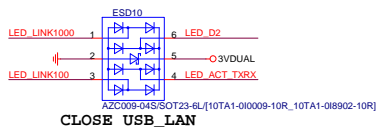
PCIE-1G LAN



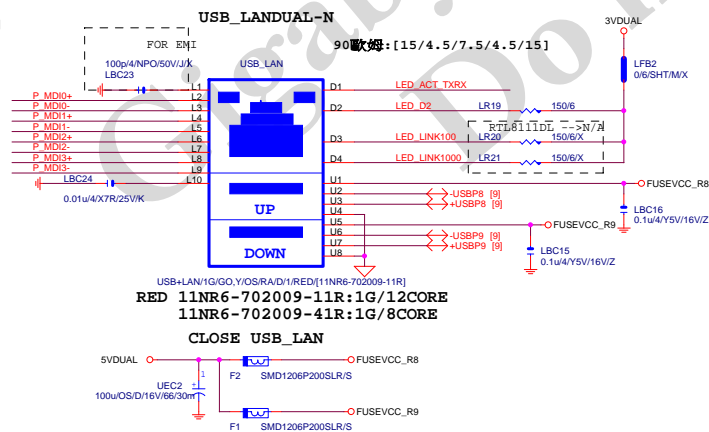
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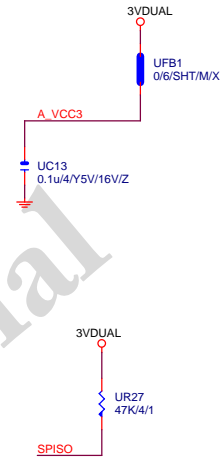
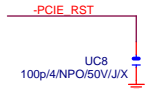
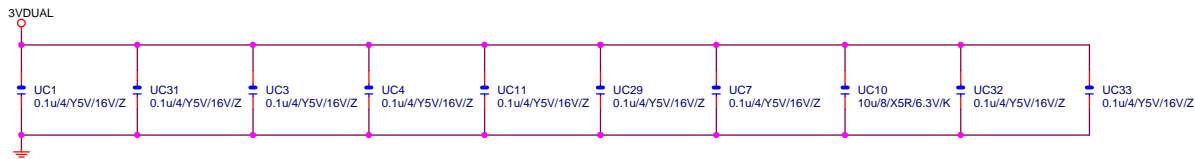


CLOSE USB_LAN

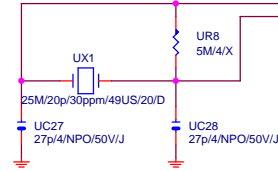
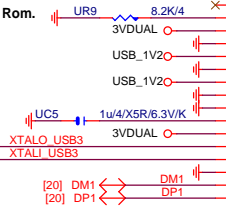


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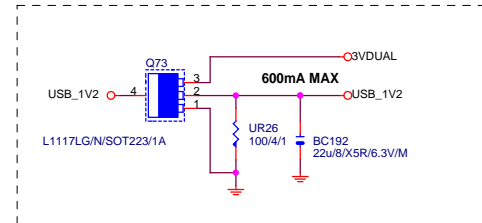
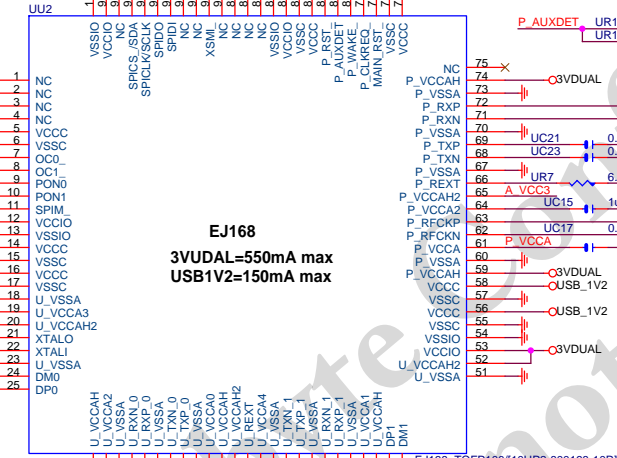




SPIM: Low=>SPI Rom.



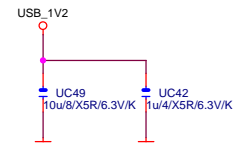
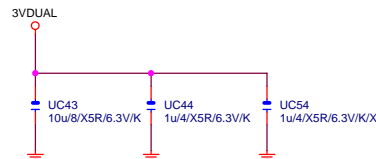
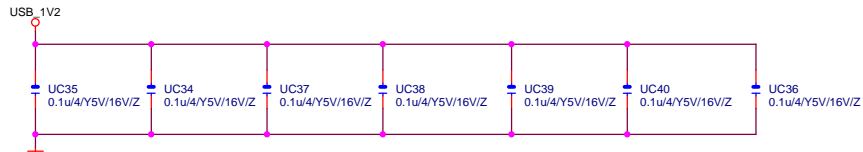
EJ168
3VUDAL=550mA max
USB1V2=150mA max



Max Power=2.2V x 0.15A=0.33Watt

AZ1117H-1.2TR/SOT223/1A-->UR17:0/4,UR16:N/A [1.2V]

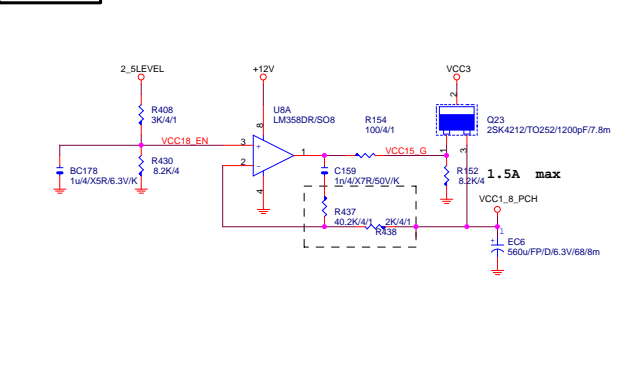
L1117LG/N/SOT223/1A-->UR17:0/4 ,UR16:100/4/1 [1.25V]



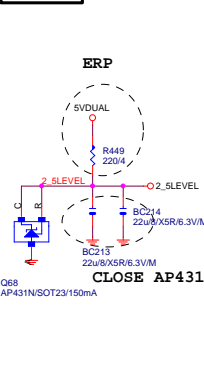
GIGABYTE

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USB3.0 EJ168			
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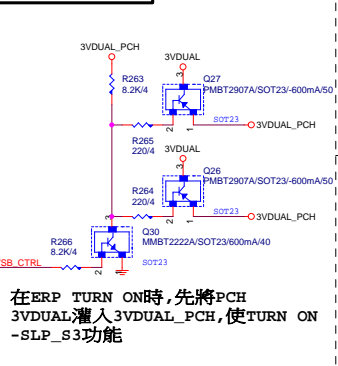
VCC1_8_PCH



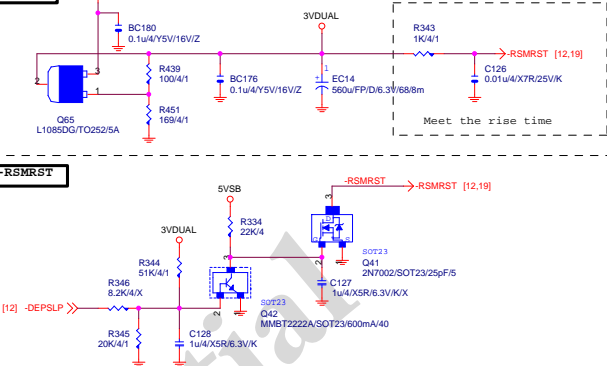
2_5LEVEL



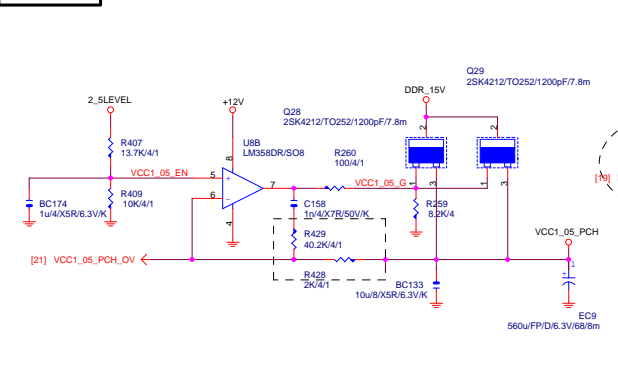
FIX ERP 5VSB DROP



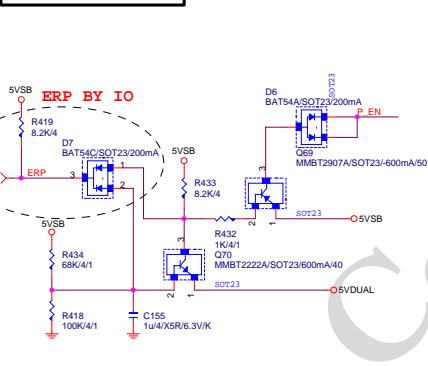
3VDUAL



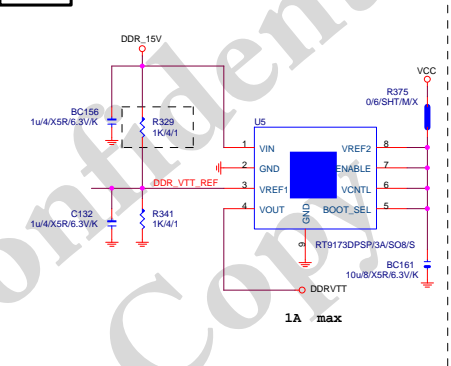
VCC1_05_PCH



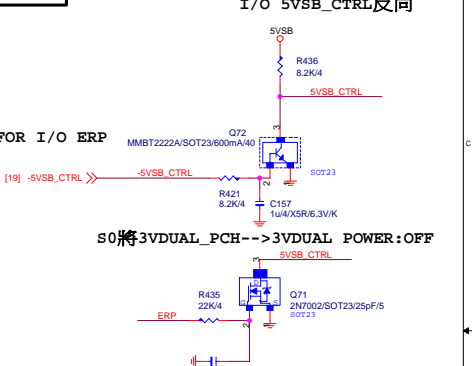
5VDUAL SHORT PROTECT



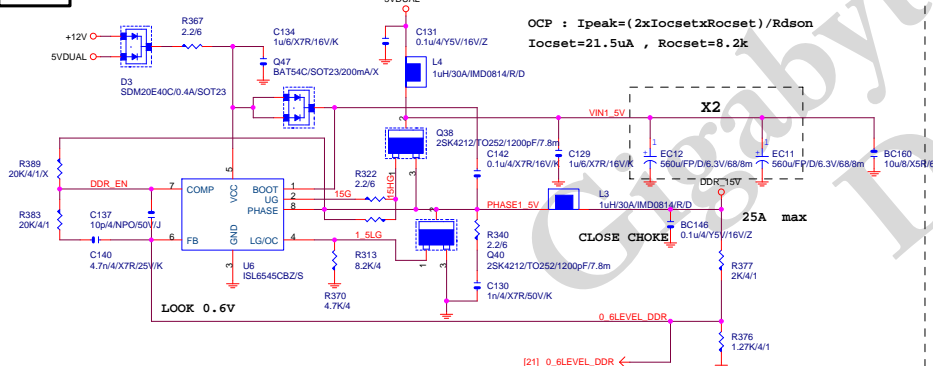
DDRVTT



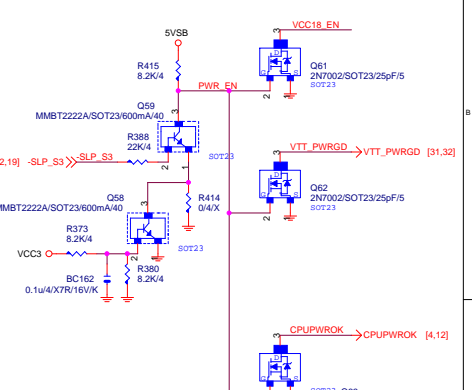
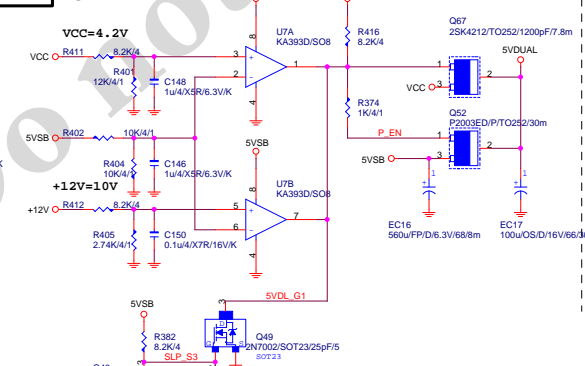
PWR SEQ



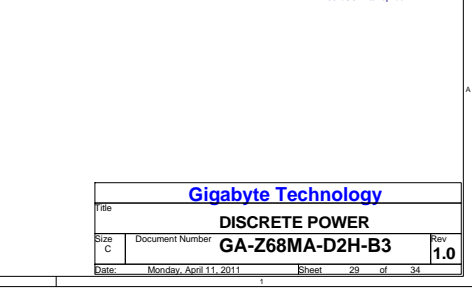
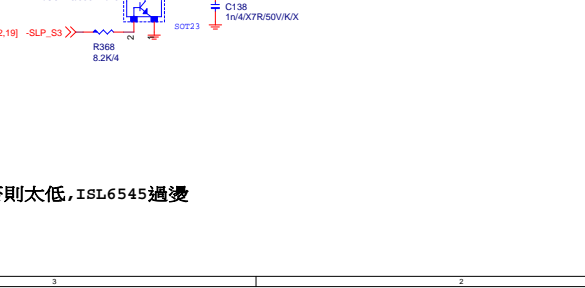
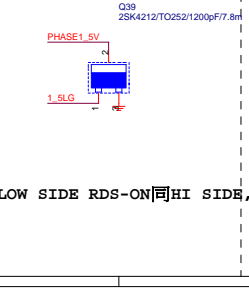
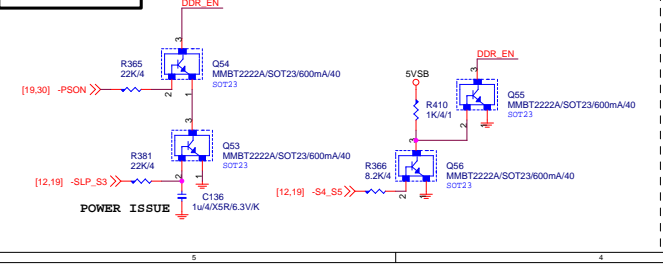
DDR_15V



5VDUAL CHK

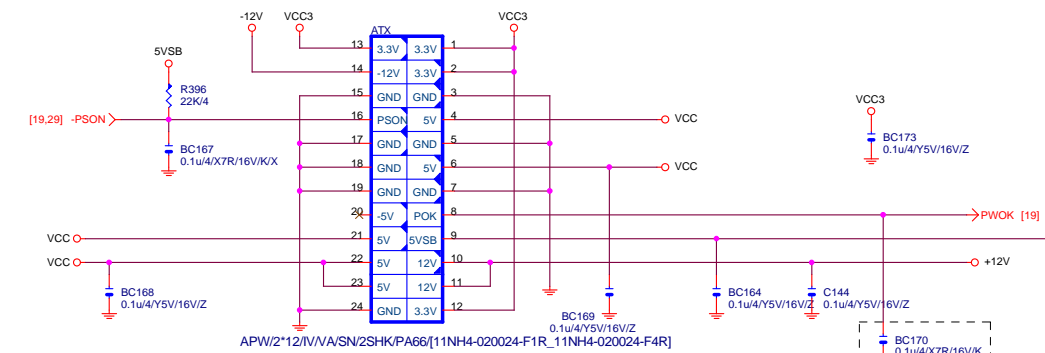


DDR_15V PWR SEQ

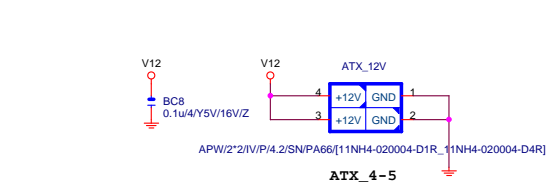


LOW SIDE RDS-ON同HI SIDE, 否則太低, ISL6545過燙

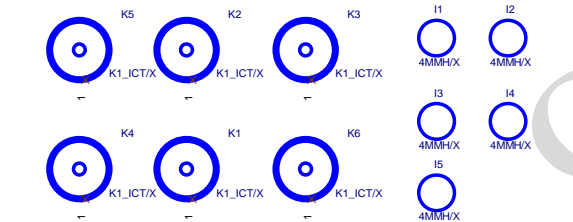
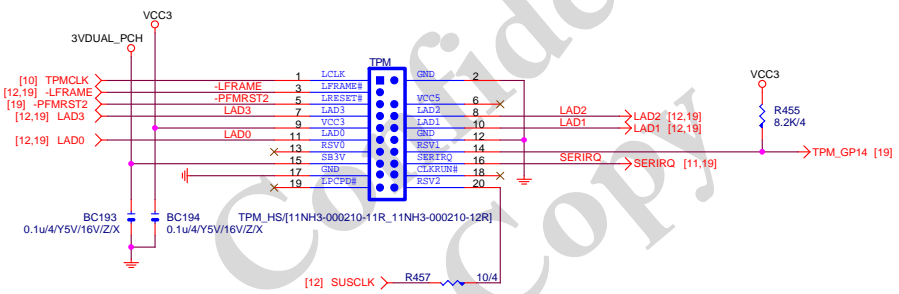
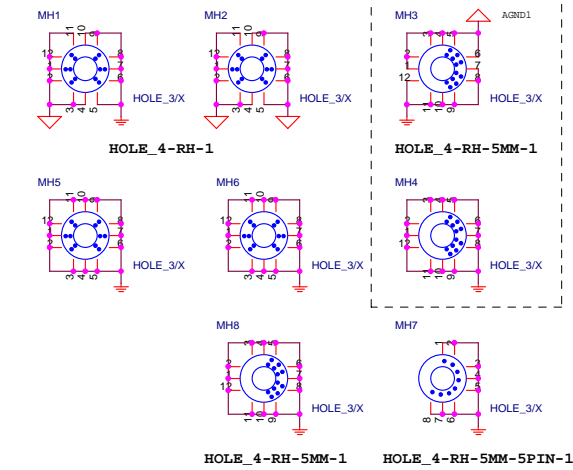
ATXX24 POWER CONNECTOR



ATXX4 POWER CONNECTOR

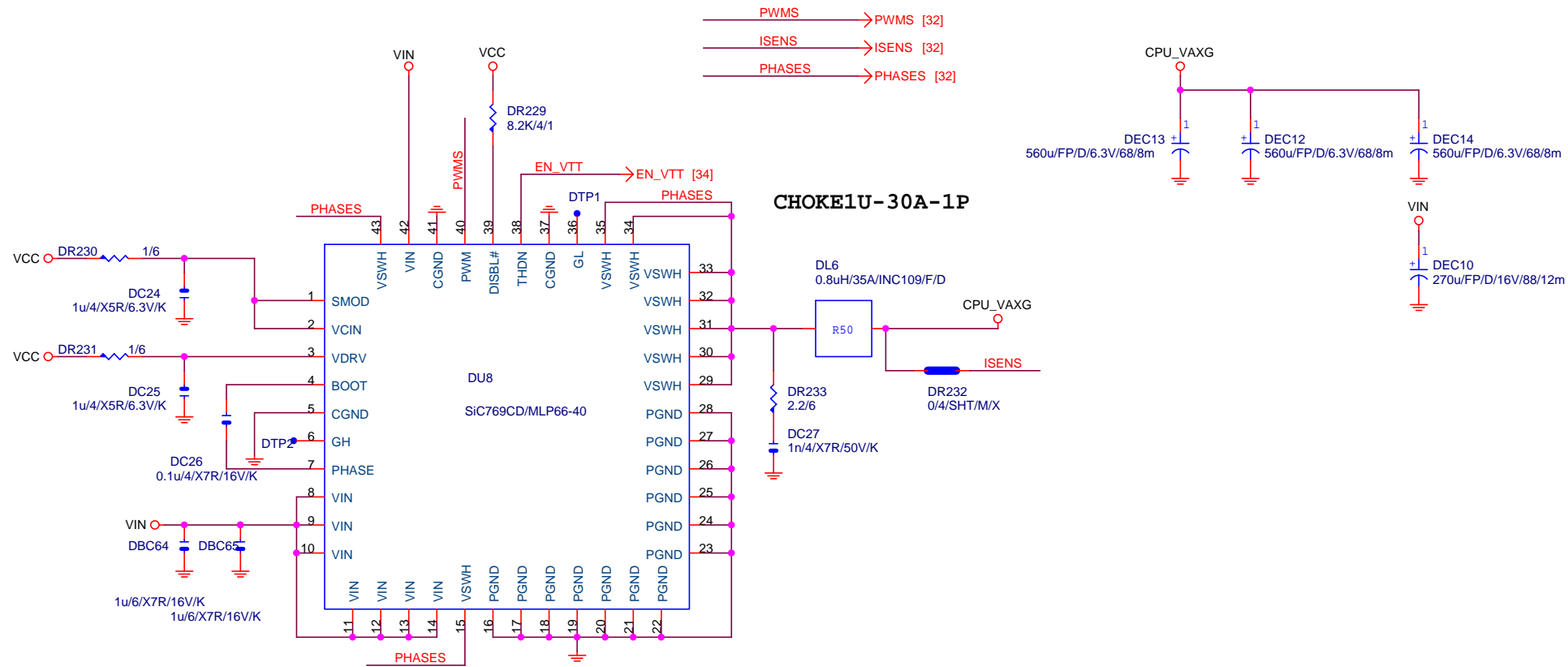


TPM



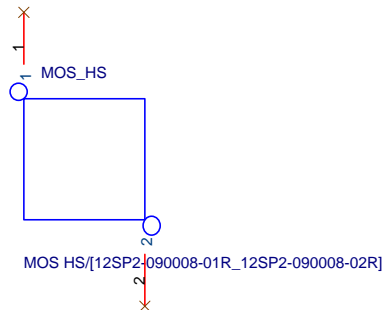
To prevent the 5VSB under loading when boot

VAXG



MOS HEATSINK

MOSHSINK-P67A-D3



Gigabyte Technology			
CPU CORE VR-2			
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