

Model Name: GA-H61M-S2-B3

Revision 1.0

SHEET

TITLE

SHEET

TITLE

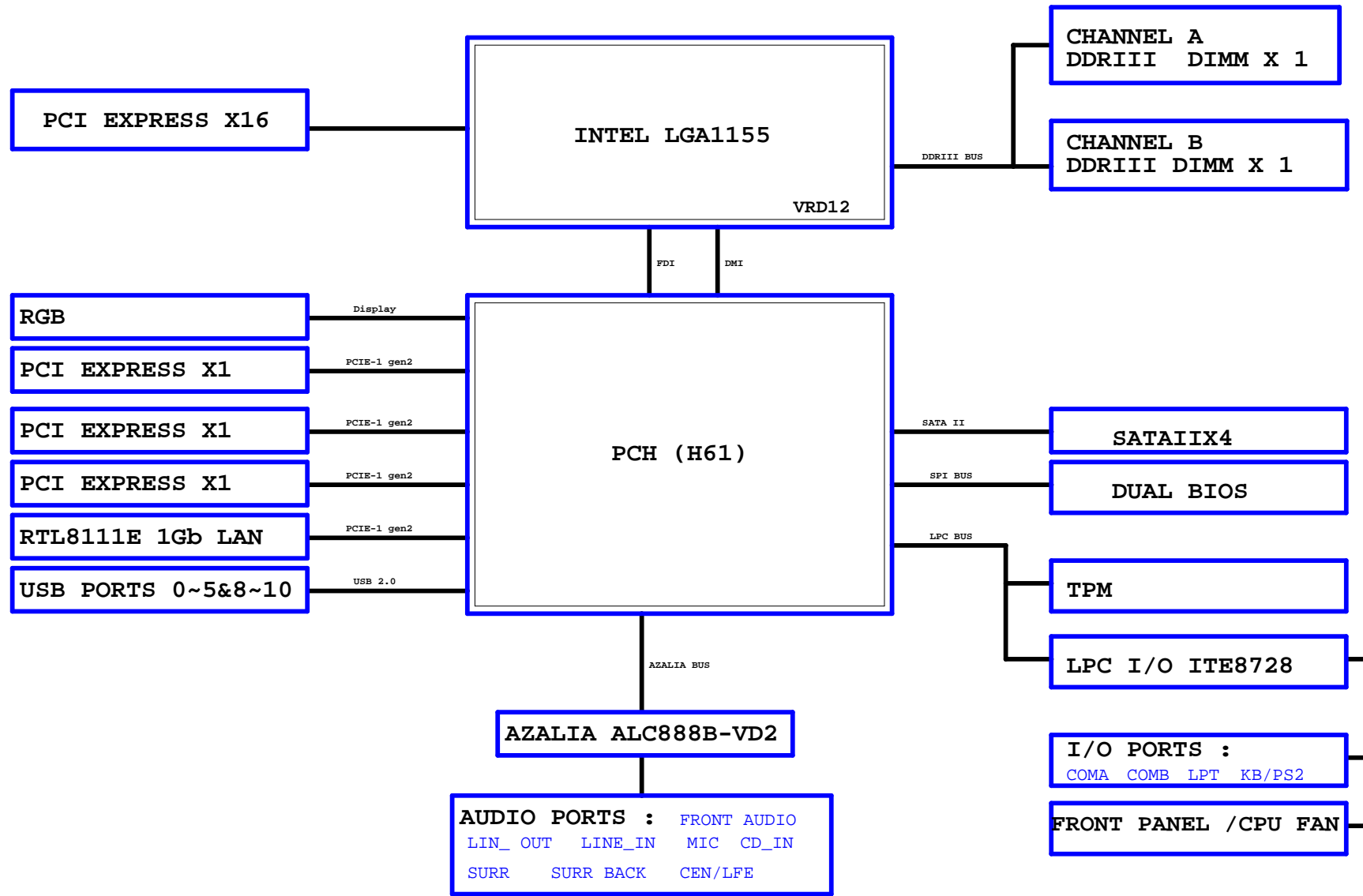
01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	CPU_LGA1155-A
05	CPU_LGA1155-B
06	CPU_LGA1155-C
07	DDR III CHANNEL A
08	DDR III CHANNEL B
09	PCH_FDI,DMI,USB,PCIE,NVRAM
10	PCH_DP,CLK BUFFER
11	PCH_HOST,SATA,PCI
12	PCH_GPIO,CTRL,AUDIO
13	PCH_PWR,GND
14	PCI EXPRESS*16 SLOT
15	PCI EXPRESS*1 SLOT
16	PCI EXPRESS*1x2 SLOT / CLOCK GEN.
17	ITE 8728 LPC IO
18	COMA,KB_MS,R_USB,-PROCHOT
19	HWM,FAN CTRL,OV
20	DUAL BIOS
21	FP,FUSB,SPK,SATALED
22	ALC888B-VD2
23	REAR AUDIO JACK
24	ATHEROS AR8151/USB_LAN
25	DISCRETE POWER
26	ATX,-S_WARN,-S_ACK,5VDUAL1
27	ISL95870_CPU_VTT

28	VCORE ISL6364_1
29	VCORE ISL6364_2
30	VCORE ISL6364_3
31	TPM
32	LPT

Gigabyte Technology

Title			Cover Sheet
Size	Document Number	GA-H61M-S2-B3	Rev
Custom			1.0
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BLOCK DIAGRAM

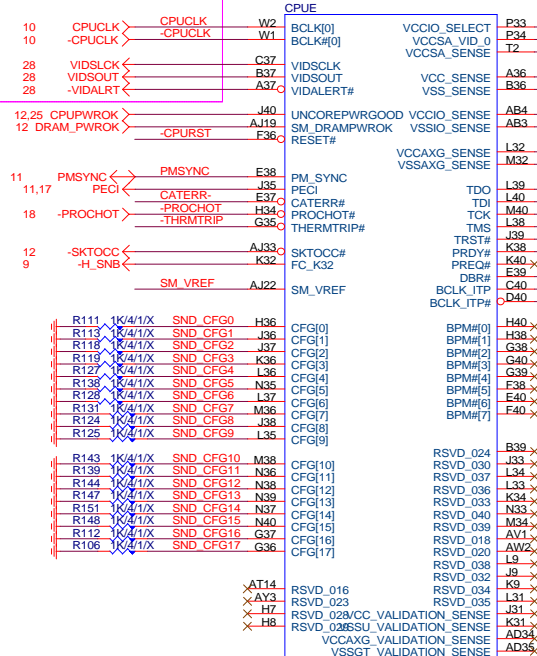


AUDIO PORTS : FRONT AUDIO
 LIN_ OUT LINE_IN MIC CD_IN
 SURR SURR BACK CEN/LFE

I/O PORTS :
 COMA COMB LPT KB/PS2
FRONT PANEL /CPU FAN

Gigabyte Technology		
Title BLOCK DIAGRAM		
Size	Document Number GA-H61M-S2-B3	Rev 1.0
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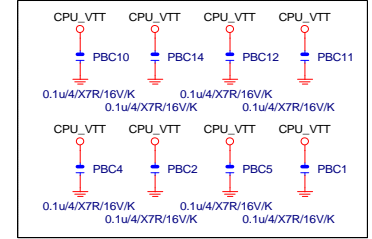
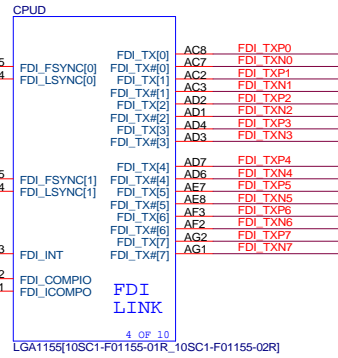
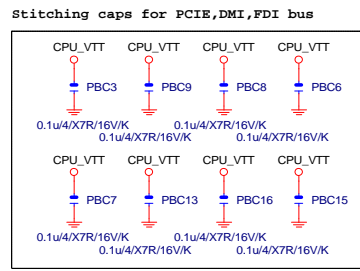
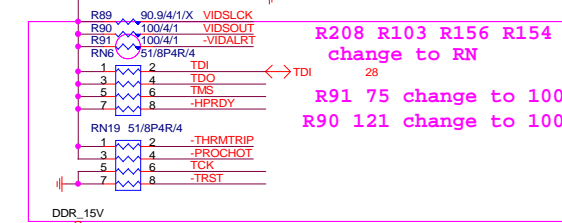
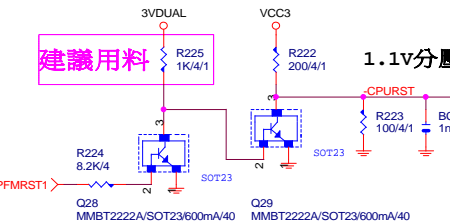
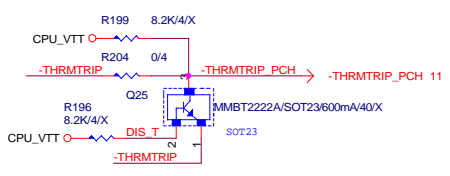
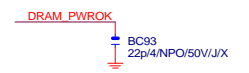
R88 R93 R92 0 change to short



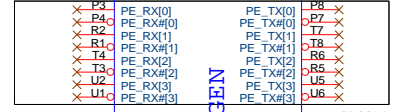
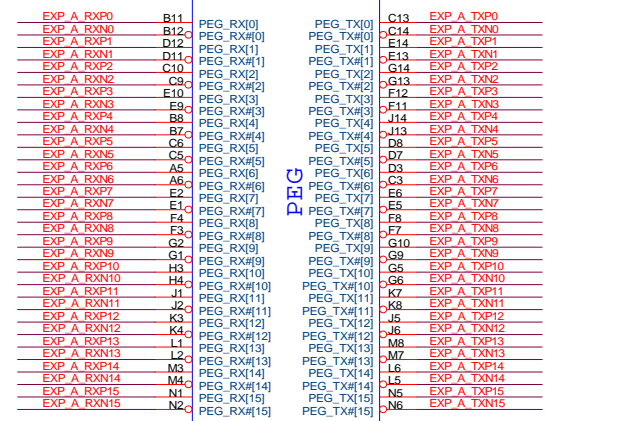
CFG	H	L	NOTE
0	RSVD	RSVD	RSVD
1	RSVD	RSVD	RSVD
2	NORM	Reverse	LANE REVERSAL[0]_x16
3	RSVD	RSVD	RSVD
4	RSVD	RSVD	RSVD
7	RSVD	RSVD	RSVD
8	RSVD	RSVD	RSVD
9	RSVD	RSVD	RSVD
10	RSVD	RSVD	RSVD
11	RSVD	RSVD	RSVD
12	RSVD	RSVD	RSVD
13	RSVD	RSVD	RSVD
14	RSVD	RSVD	RSVD
15	RSVD	RSVD	RSVD
16	RSVD	RSVD	RSVD
17	RSVD	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

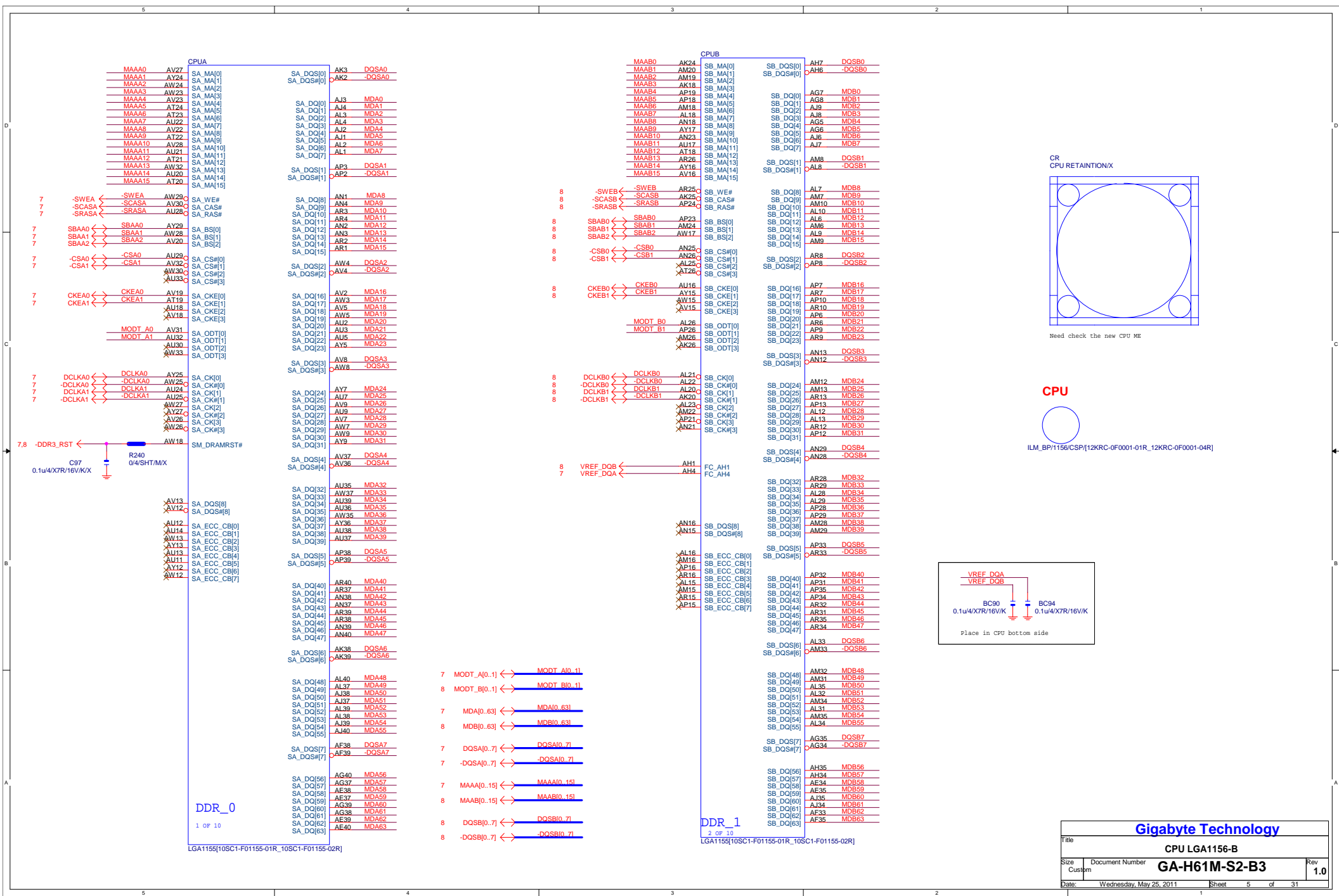


Gigabyte Technology

Title: **CPU LGA1155-A**

Size: Custom | Document Number: **GA-H61M-S2-B3** | Rev: **1.0**

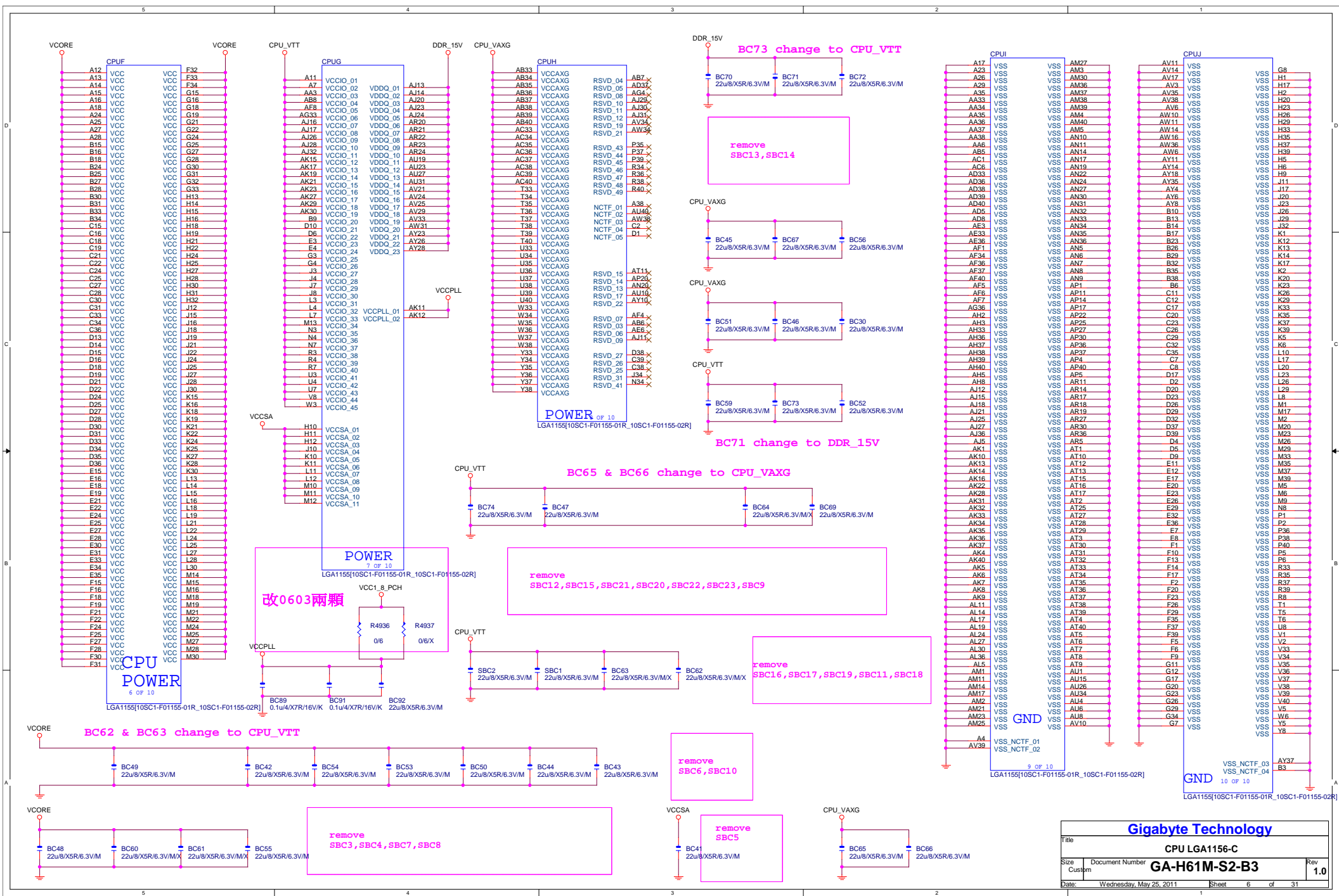
Date: Wednesday, May 25, 2011 | Sheet: 4 of 31

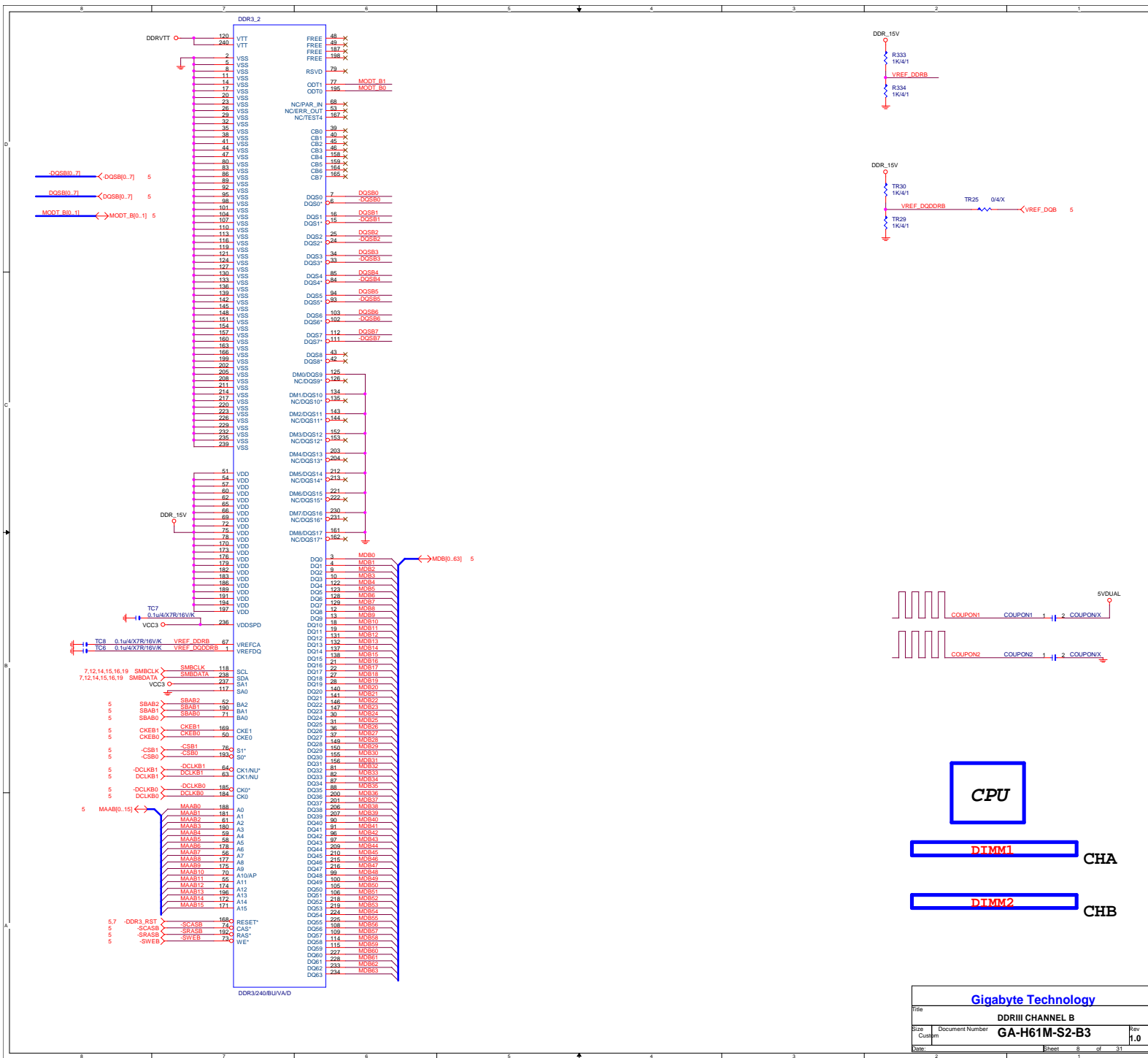


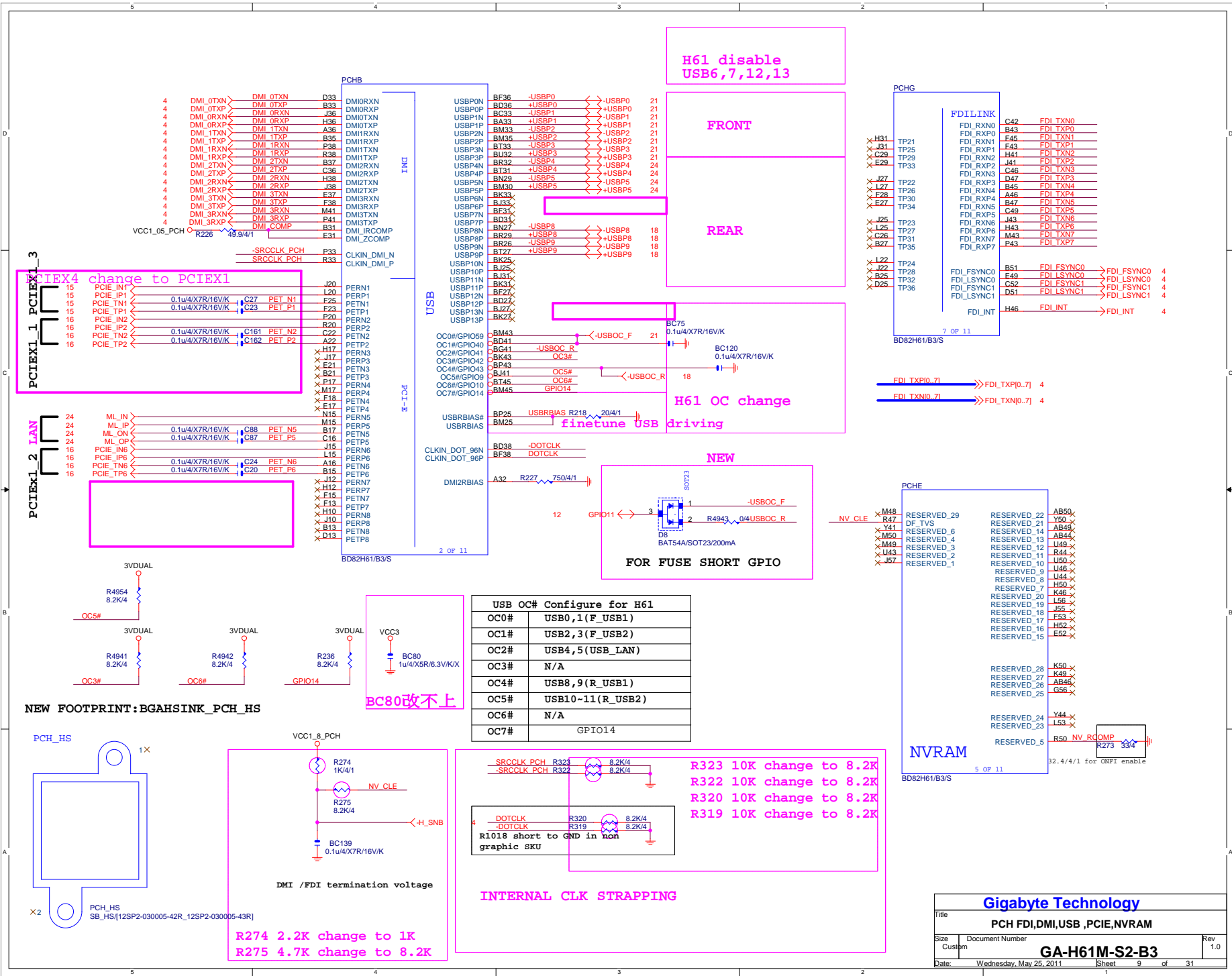
LGA1155[10SC1-F01155-01R_10SC1-F01155-02R]

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

Gigabyte Technology		
CPU LGA1155-B		
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H61 disable
USB6,7,12,13

FRONT

REAR

H61 OC change
finetune USB driving

NEW

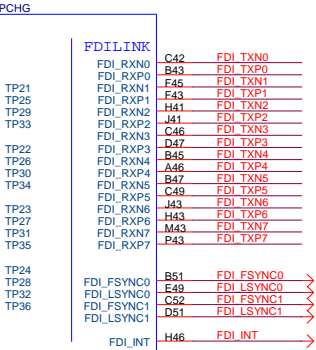
FOR FUSE SHORT GPIO

USB OC#	Configure for H61
OC0#	USB0,1(F_USB1)
OC1#	USB2,3(F_USB2)
OC2#	USB4,5(USB_LAN)
OC3#	N/A
OC4#	USB8,9(R_USB1)
OC5#	USB10-11(R_USB2)
OC6#	N/A
OC7#	GPIO14

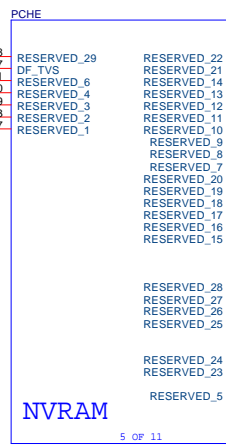
R323 10K change to 8.2K
R322 10K change to 8.2K
R320 10K change to 8.2K
R319 10K change to 8.2K

INTERNAL CLK STRAPPING

R274 2.2K change to 1K
R275 4.7K change to 8.2K

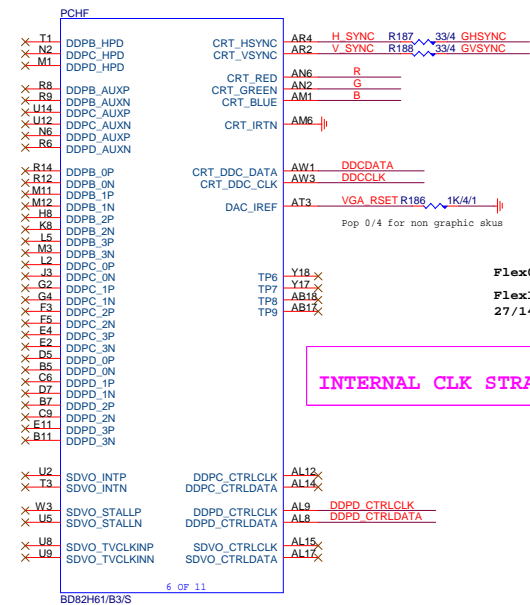


FDI_TXP0_71 >>> FDI_TXP[0..7] 4
FDI_TXN0_71 >>> FDI_TXN[0..7] 4



BD82H61/B3/S

Gigabyte Technology		
Title PCH FDI,DMI,USB ,PCIE,NVRAM		
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ADD TPM CLK

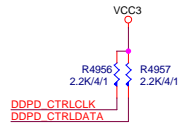
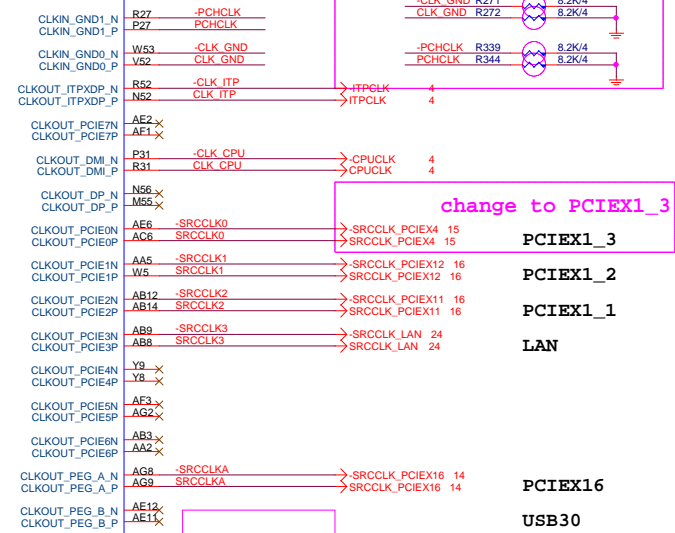
remove 33M

INTERNAL CLK STRAPPING

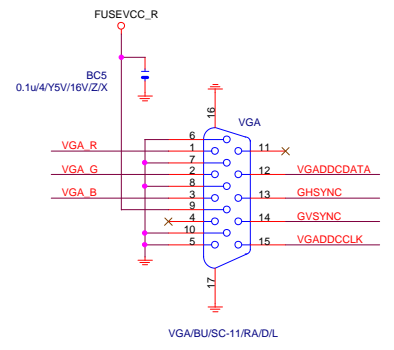
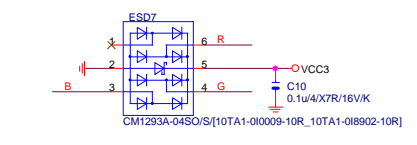
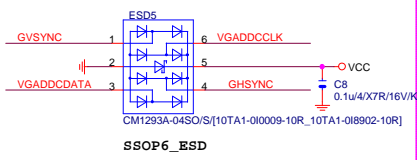
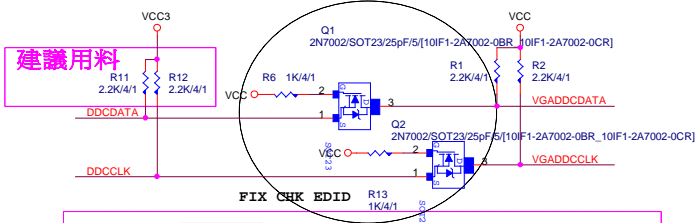
10K change to 8.2K

10K change to 8.2K

change to PCIe1_3



是否要上待量测决定

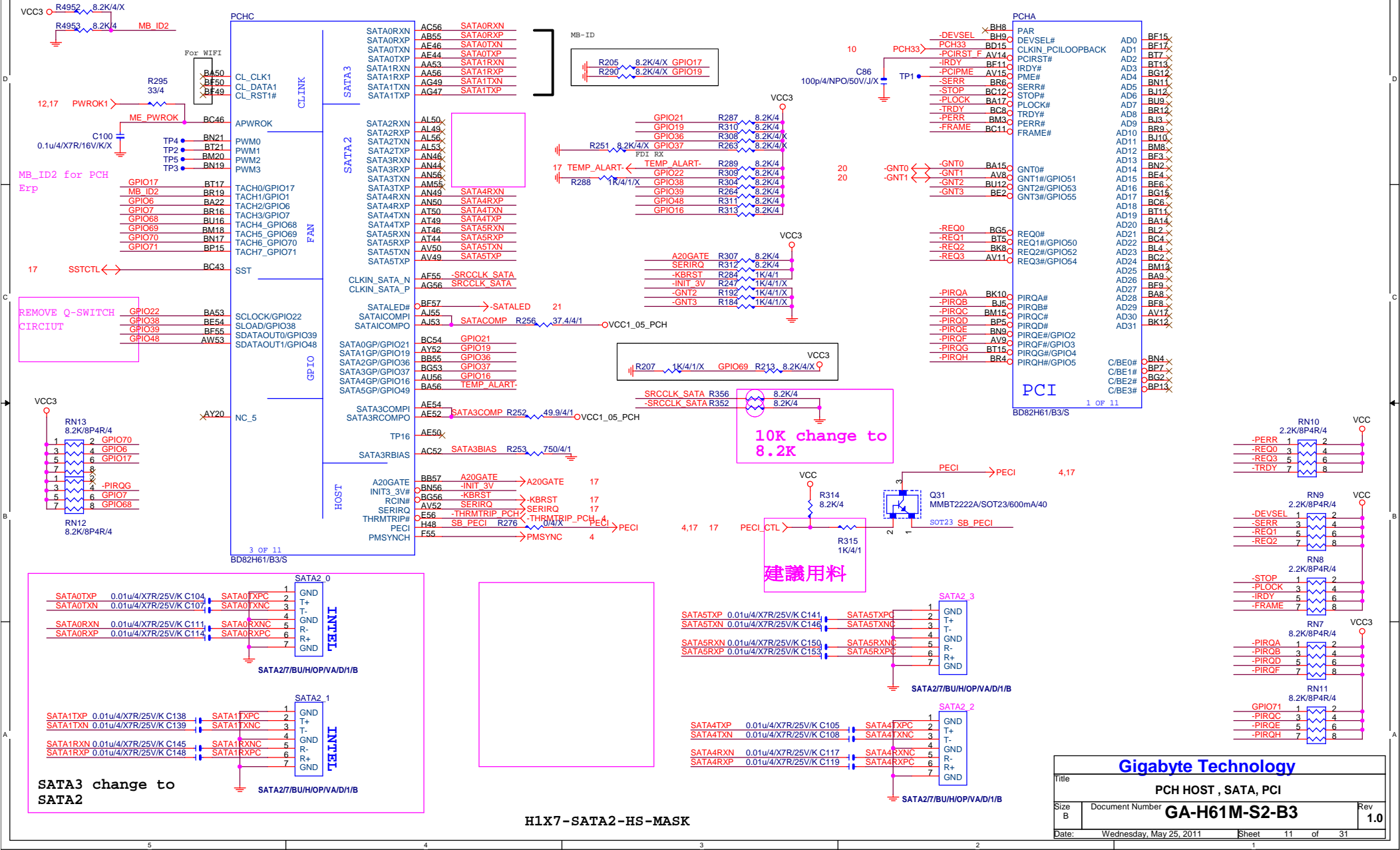


Close to Filter

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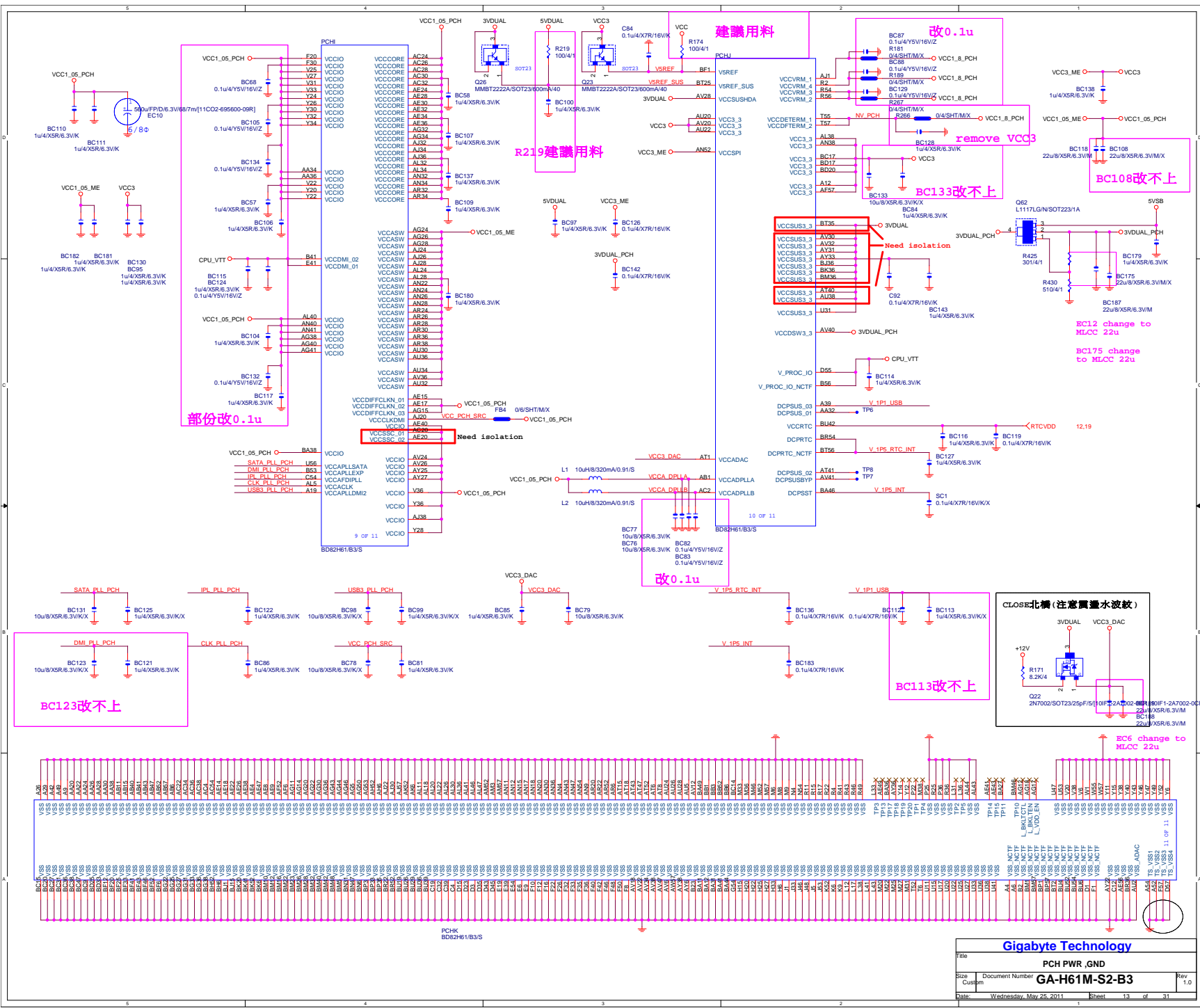
Gigabyte Technology			
PCH DISPLAY, CLK BUFFER			
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H61 SATA3.0 Disable

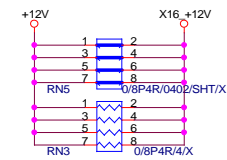
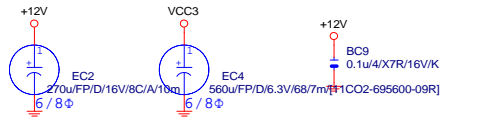


Gigabyte Technology		
Title PCH HOST , SATA , PCI		
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H1X7-SATA2-HS-MASK

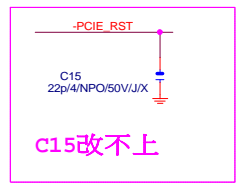
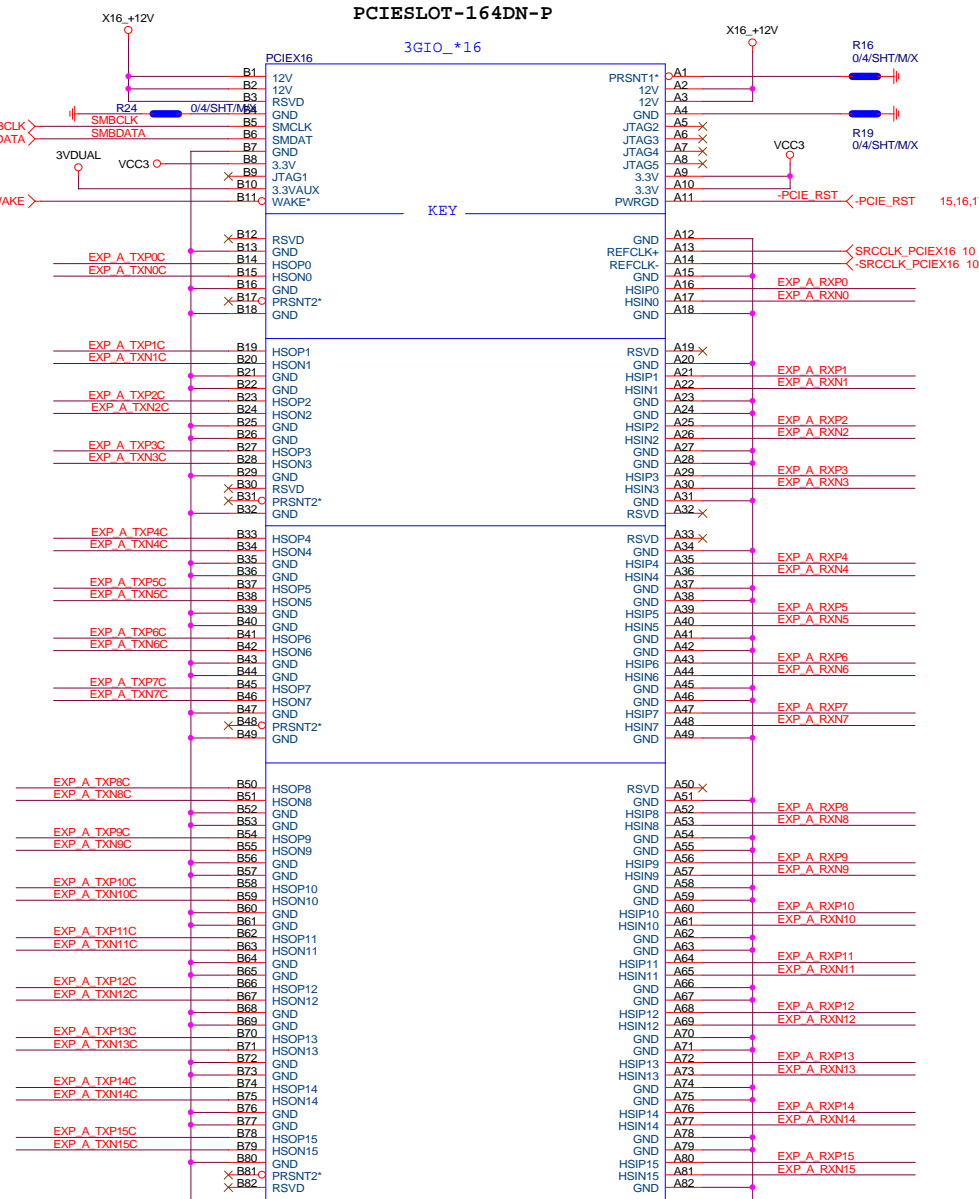


EC6D_8D10MM-RH



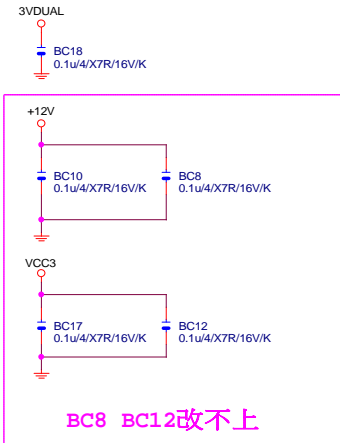
EXP_A_RXP[0..15] >>> EXP_A_RXP[0..15] 4
 EXP_A_RXN[0..15] >>> EXP_A_RXN[0..15] 4
 EXP_A_TXP[0..15] >>> EXP_A_TXP[0..15] 4
 EXP_A_TXN[0..15] >>> EXP_A_TXN[0..15] 4

EXP_A_TXP0	C22	0.22u/4/X5R/6.3V/K	EXP_A_TXP0C
EXP_A_TXN0	C26	0.22u/4/X5R/6.3V/K	EXP_A_TXN0C
EXP_A_TXP1	C29	0.22u/4/X5R/6.3V/K	EXP_A_TXP1C
EXP_A_TXN1	C31	0.22u/4/X5R/6.3V/K	EXP_A_TXN1C
EXP_A_TXP2	C33	0.22u/4/X5R/6.3V/K	EXP_A_TXP2C
EXP_A_TXN2	C35	0.22u/4/X5R/6.3V/K	EXP_A_TXN2C
EXP_A_TXP3	C37	0.22u/4/X5R/6.3V/K	EXP_A_TXP3C
EXP_A_TXN3	C40	0.22u/4/X5R/6.3V/K	EXP_A_TXN3C
EXP_A_TXP4	C48	0.22u/4/X5R/6.3V/K	EXP_A_TXP4C
EXP_A_TXN4	C49	0.22u/4/X5R/6.3V/K	EXP_A_TXN4C
EXP_A_TXP5	C52	0.22u/4/X5R/6.3V/K	EXP_A_TXP5C
EXP_A_TXN5	C54	0.22u/4/X5R/6.3V/K	EXP_A_TXN5C
EXP_A_TXP6	C56	0.22u/4/X5R/6.3V/K	EXP_A_TXP6C
EXP_A_TXN6	C58	0.22u/4/X5R/6.3V/K	EXP_A_TXN6C
EXP_A_TXP7	C60	0.22u/4/X5R/6.3V/K	EXP_A_TXP7C
EXP_A_TXN7	C61	0.22u/4/X5R/6.3V/K	EXP_A_TXN7C
EXP_A_TXP8	C63	0.22u/4/X5R/6.3V/K	EXP_A_TXP8C
EXP_A_TXN8	C64	0.22u/4/X5R/6.3V/K	EXP_A_TXN8C
EXP_A_TXP9	C66	0.22u/4/X5R/6.3V/K	EXP_A_TXP9C
EXP_A_TXN9	C67	0.22u/4/X5R/6.3V/K	EXP_A_TXN9C
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EXP_A_TXP11	C71	0.22u/4/X5R/6.3V/K	EXP_A_TXP11C
EXP_A_TXN11	C72	0.22u/4/X5R/6.3V/K	EXP_A_TXN11C
EXP_A_TXP12	C74	0.22u/4/X5R/6.3V/K	EXP_A_TXP12C
EXP_A_TXN12	C75	0.22u/4/X5R/6.3V/K	EXP_A_TXN12C
EXP_A_TXP13	C77	0.22u/4/X5R/6.3V/K	EXP_A_TXP13C
EXP_A_TXN13	C78	0.22u/4/X5R/6.3V/K	EXP_A_TXN13C
EXP_A_TXP14	C79	0.22u/4/X5R/6.3V/K	EXP_A_TXP14C
EXP_A_TXN14	C80	0.22u/4/X5R/6.3V/K	EXP_A_TXN14C
EXP_A_TXP15	C82	0.22u/4/X5R/6.3V/K	EXP_A_TXP15C
EXP_A_TXN15	C83	0.22u/4/X5R/6.3V/K	EXP_A_TXN15C

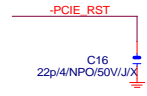
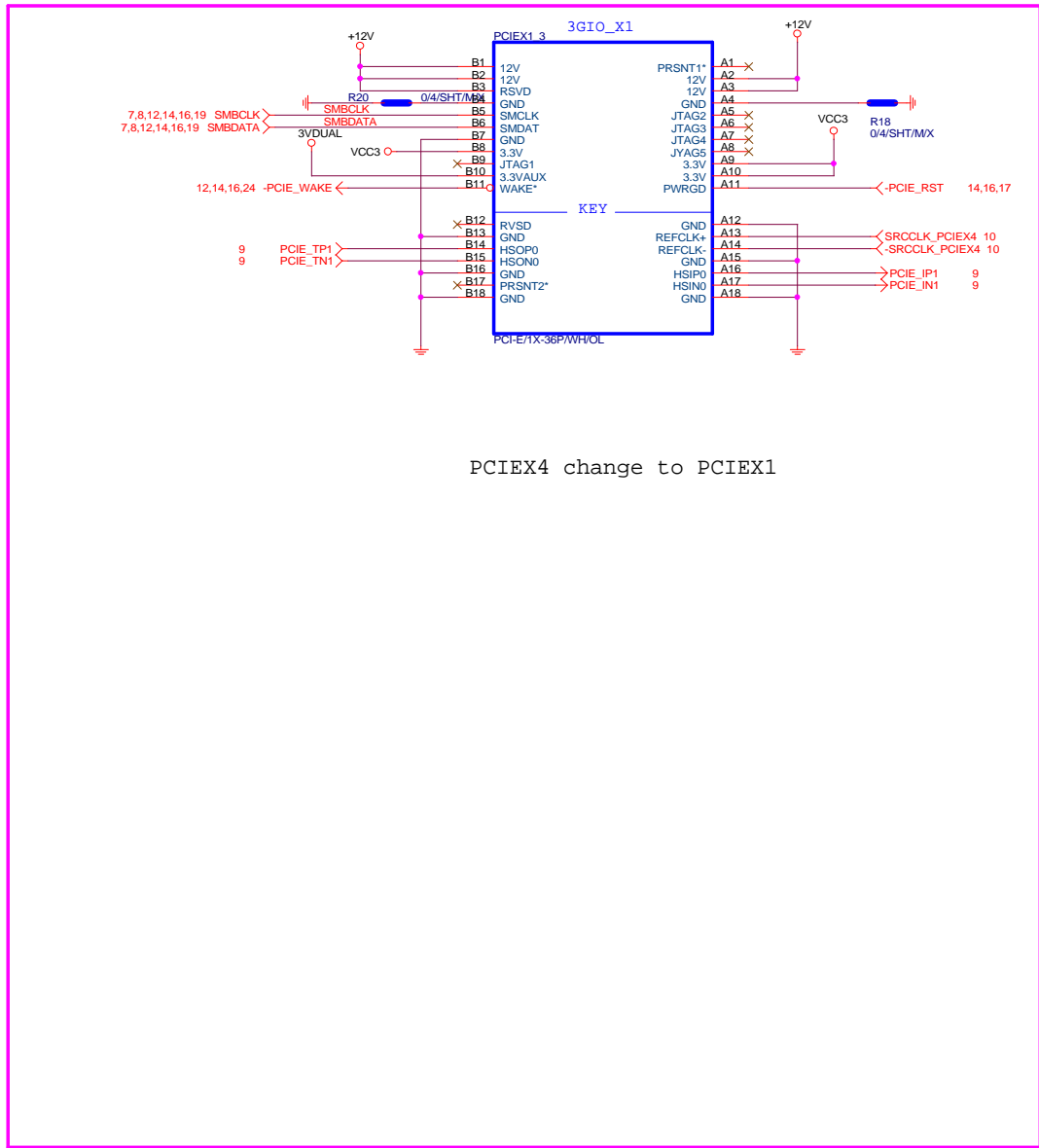


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Size Custom	Document Number GA-H61M-S2-B3	Rev 1.0
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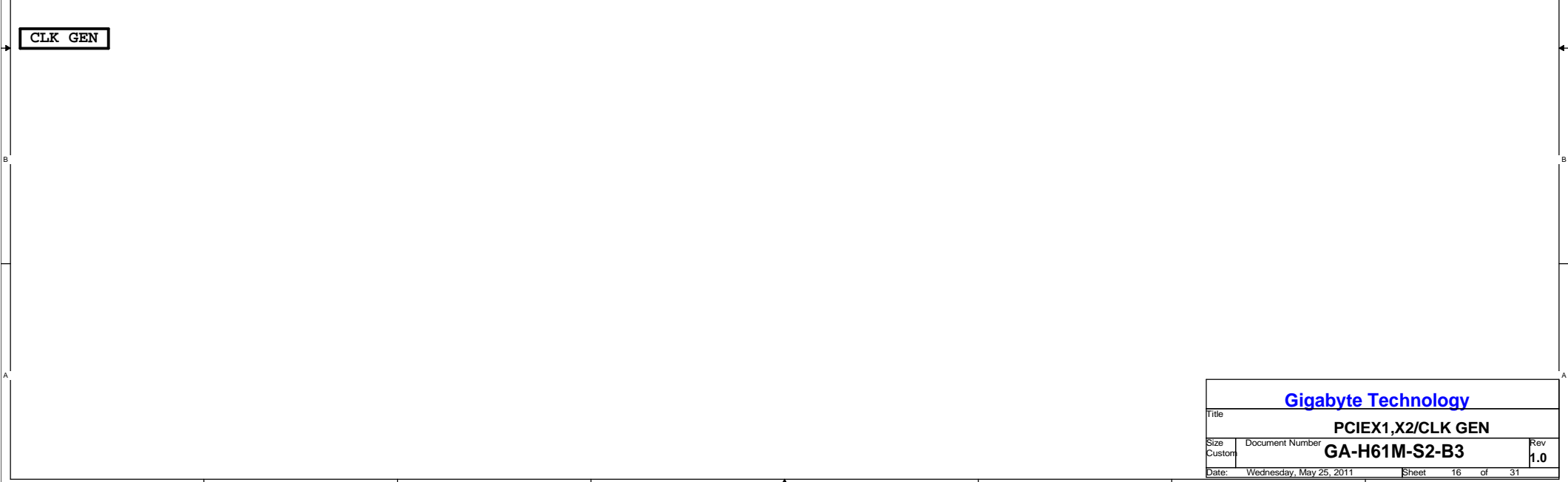
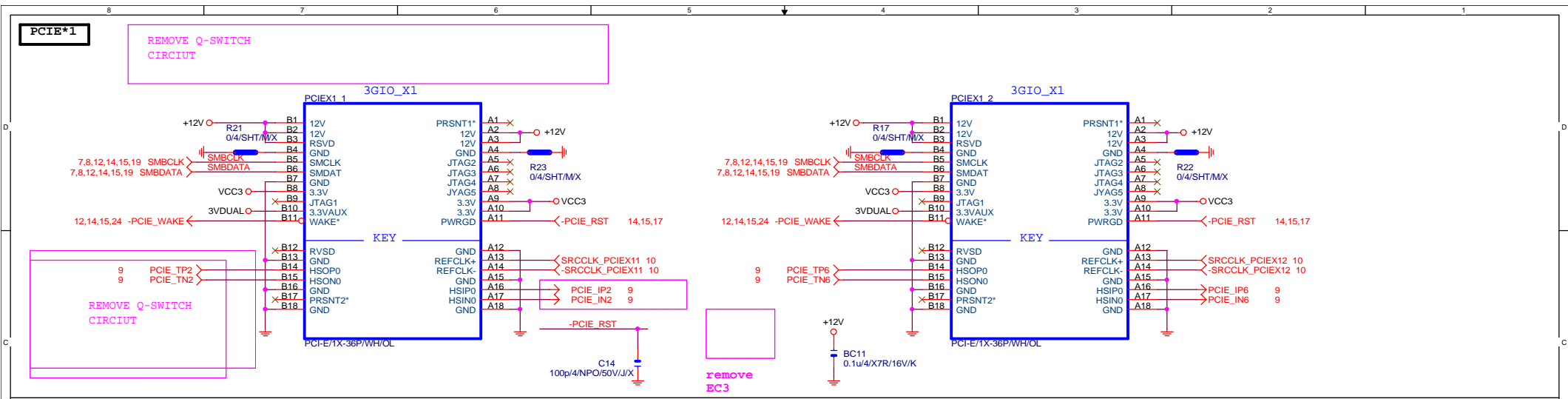
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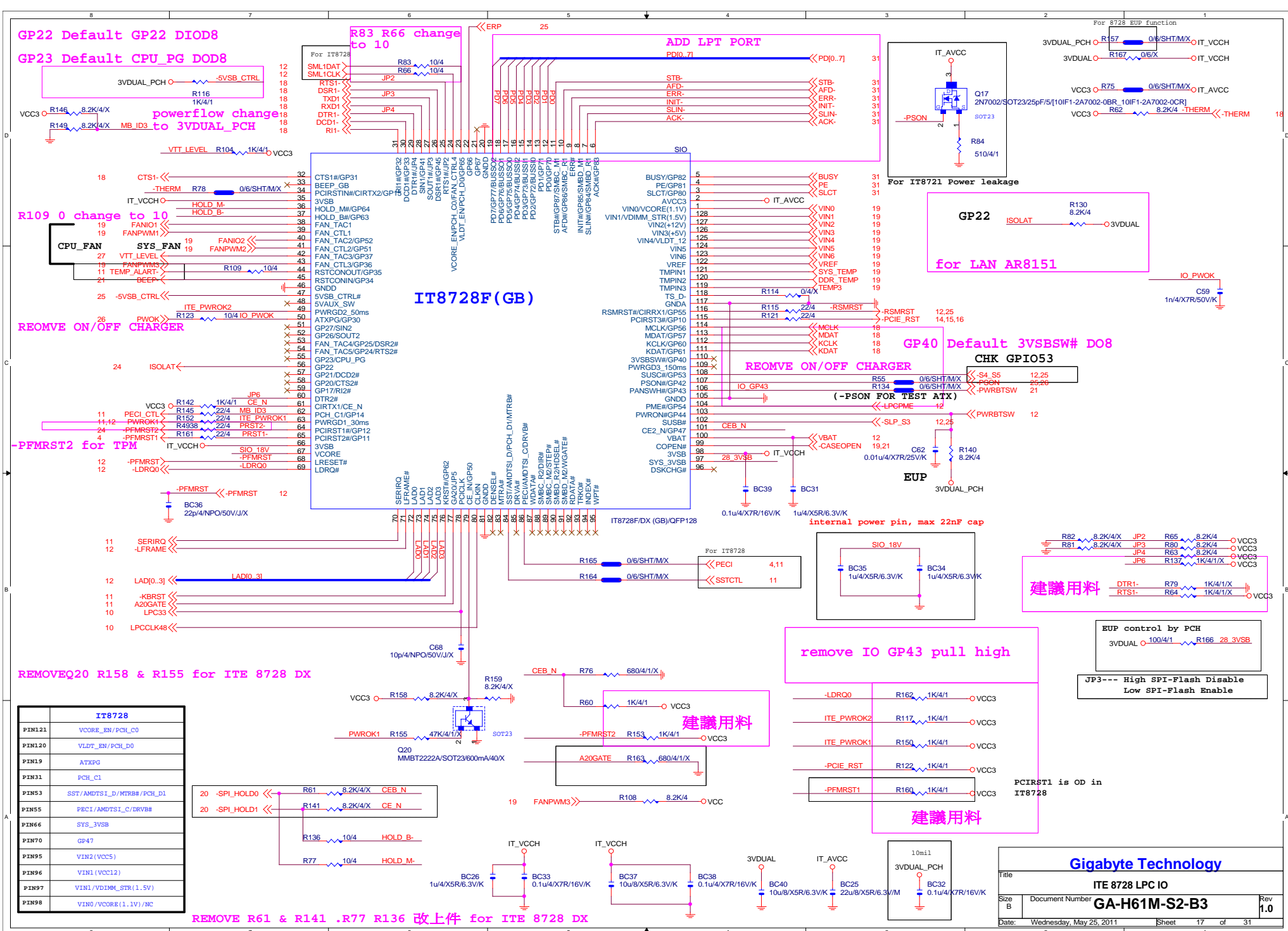
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Gigabyte Technology			
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Size Custom	Document Number	GA-H61M-S2-B3	Rev 1.0
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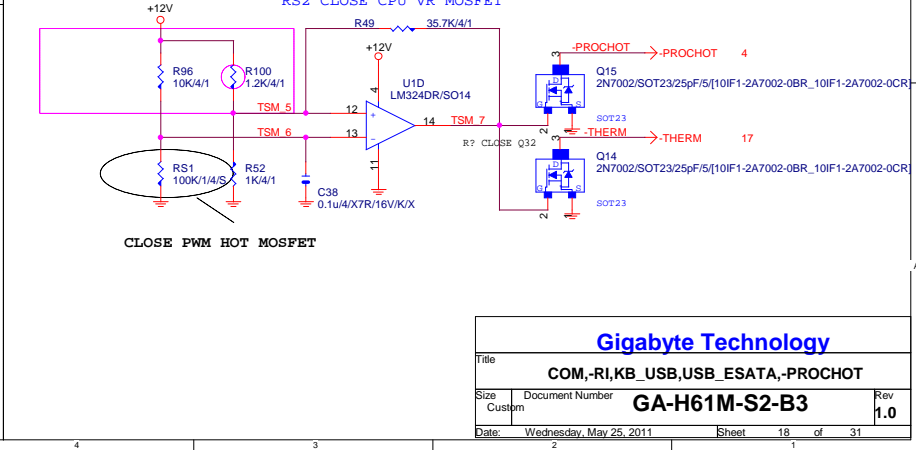
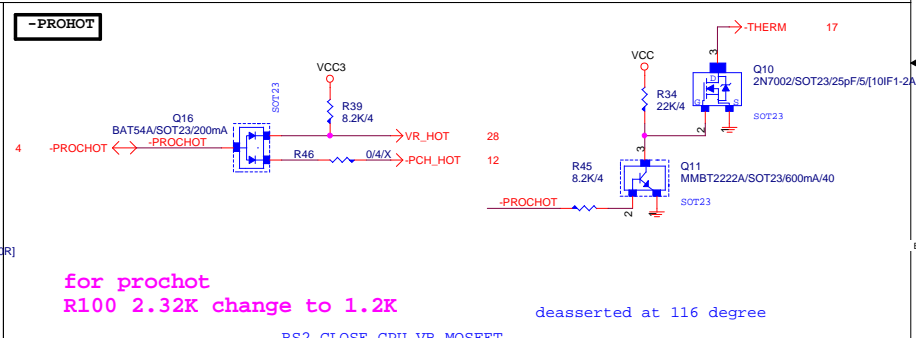
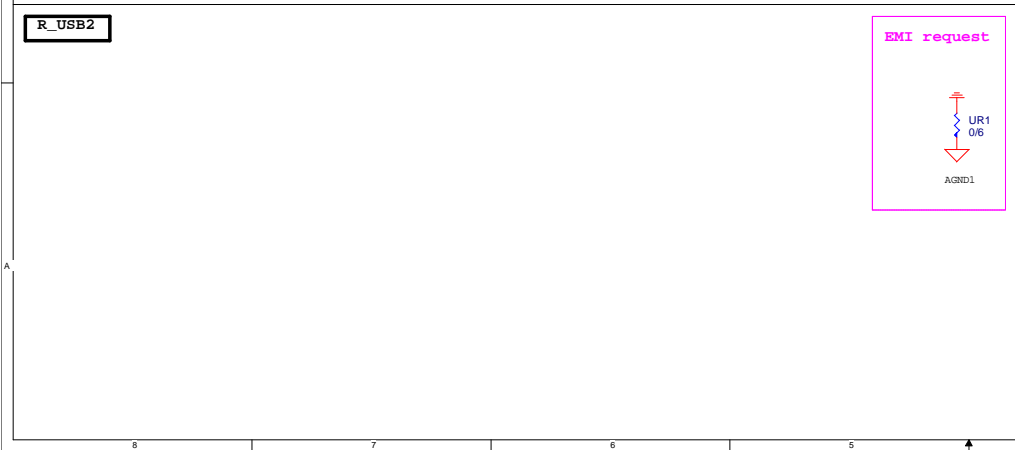
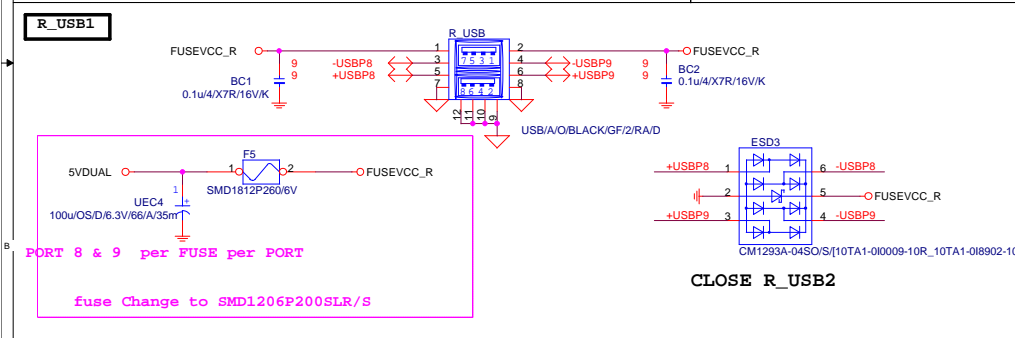
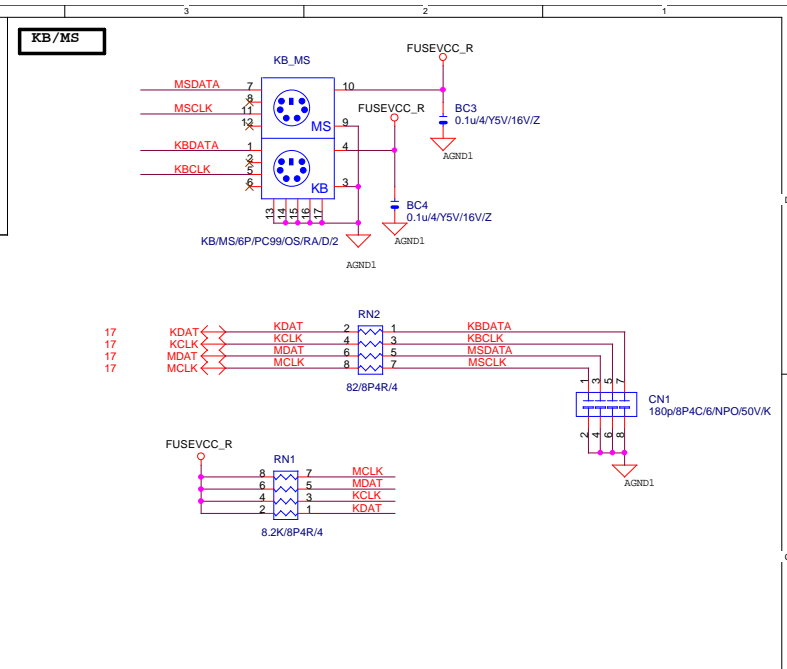
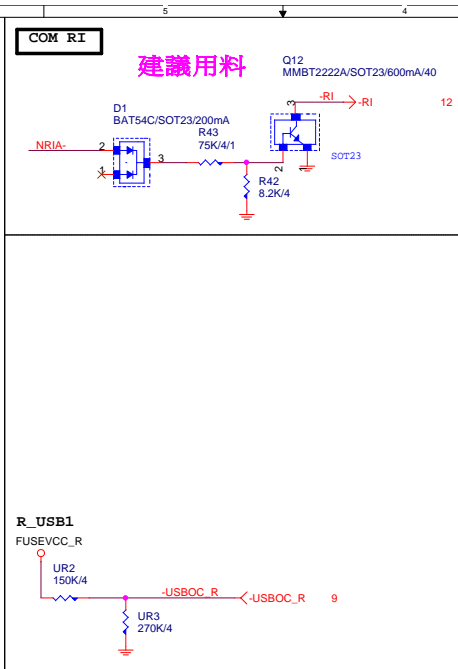
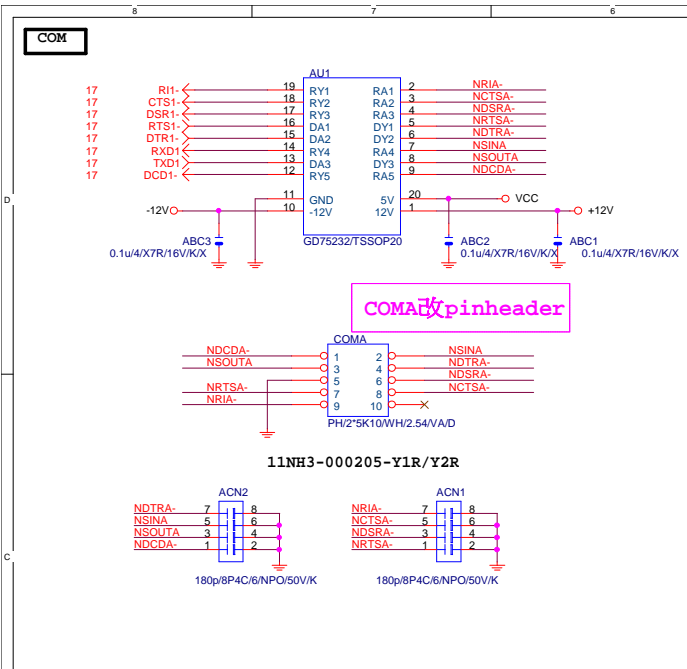
Gigabyte Technology		
PCIEX1,X2/CLK GEN		
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IT8728	
PIN121	VCORE_EN/PCH_C0
PIN120	VLDT_EN/PCH_D0
PIN19	ATXPG
PIN31	PCH_C1
PIN53	SST/AMDTSI_D/MIRB#/PCH_DI
PIN55	PECI/AMDTSI_C/DRV#
PIN66	SYS_3VSB
PIN70	GP47
PIN95	VIN2(VCC5)
PIN96	VIN1(VCC12)
PIN97	VIN1/VDIMM_STR(1.5V)
PIN98	VIN0/VCORR(1.1V)/NC

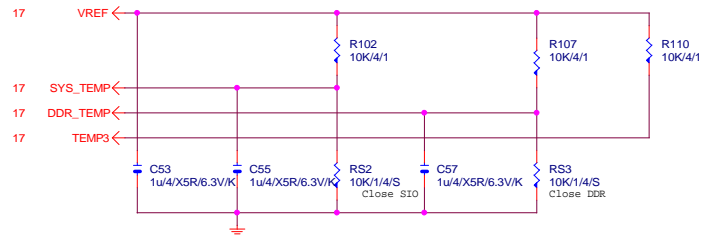
REMOVE R61 & R141 .R77 R136 改上件 for ITE 8728 DX

Gigabyte Technology		
Title ITE 8728 LPC IO		
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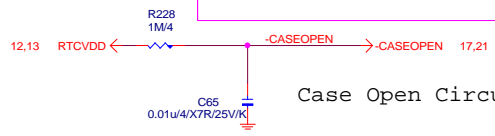
Gigabyte Technology		
Title	COM,-,KB_USB,USB_ESATA,-,PROHOT	
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TEMP H/W MONITOR

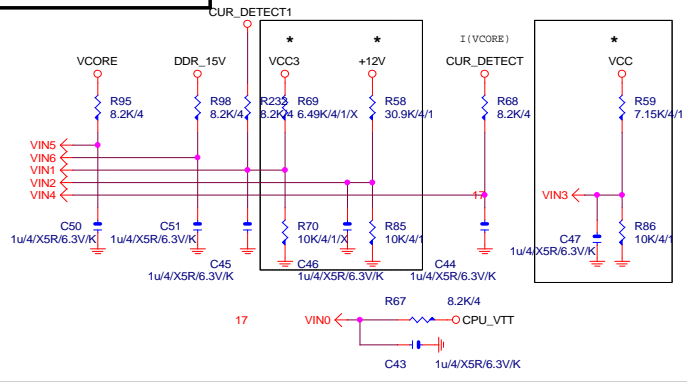


CASE OPEN

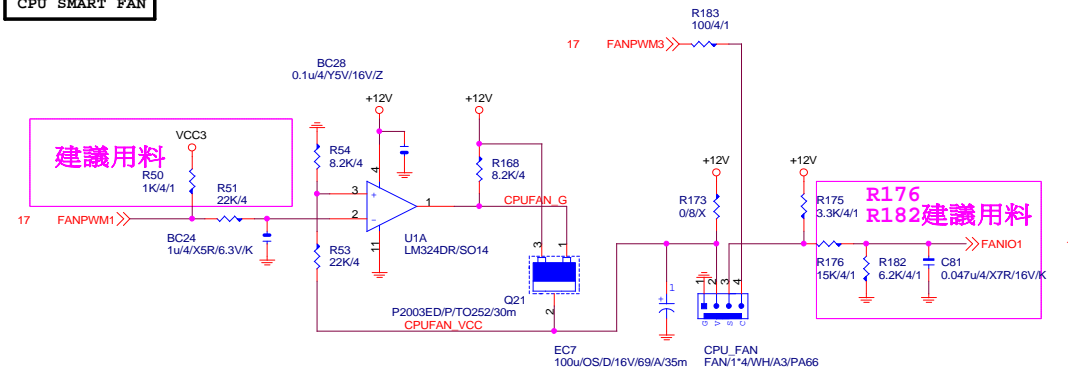
REMOVE intruder



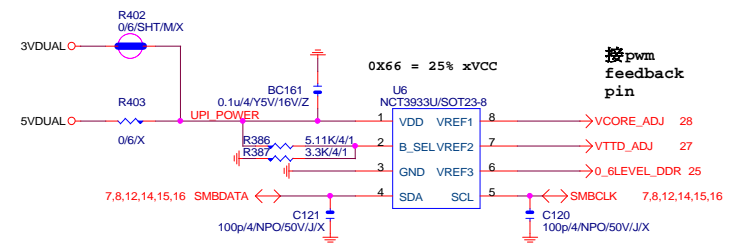
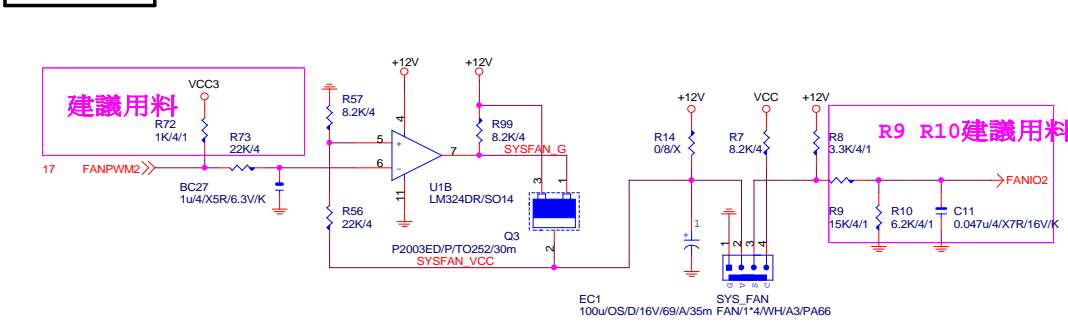
VOLTAGE-- H/W MONITOR



CPU SMART FAN



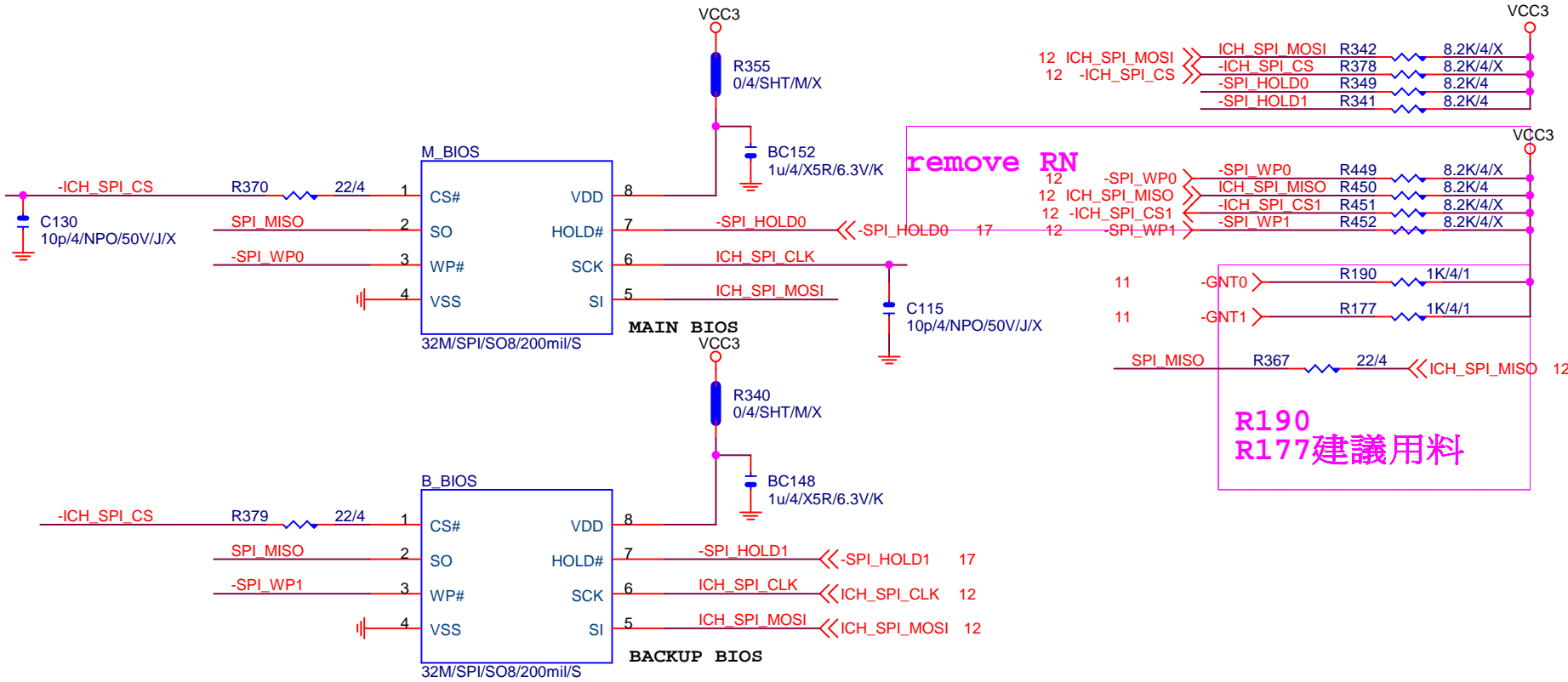
SYS SMART FAN



Gigabyte Technology			
Title: HWM,FAN CTRL,OV			
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DUAL BIOS

R349 R341 改上件 for ITE 8728 DX

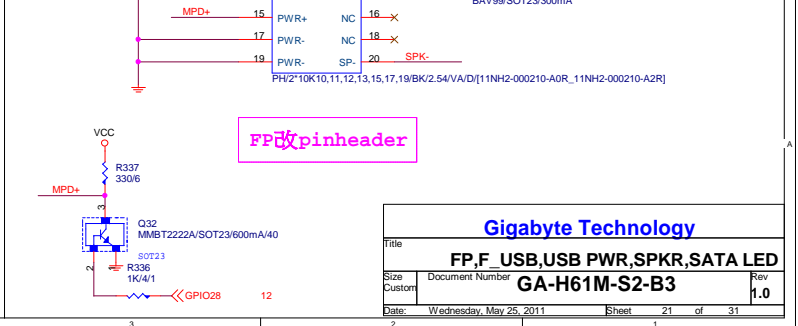
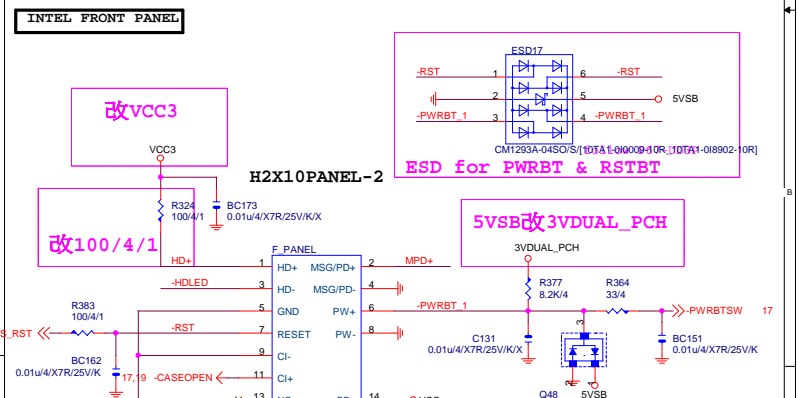
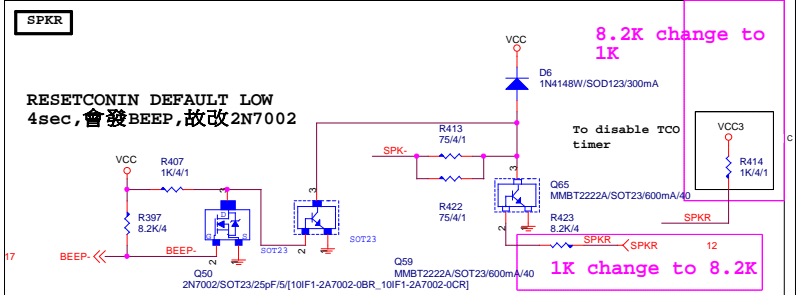
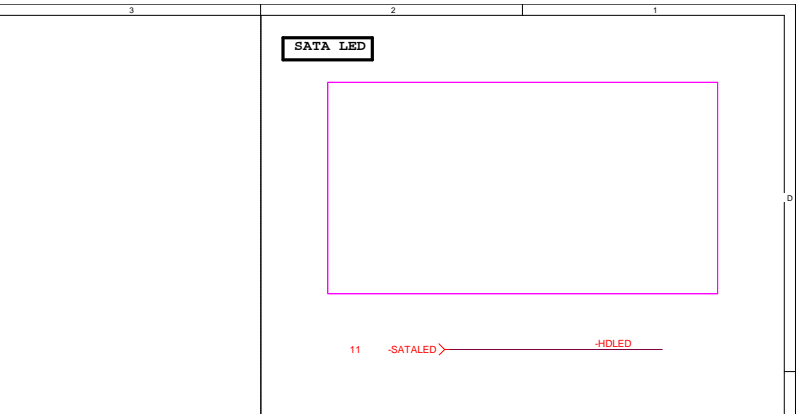
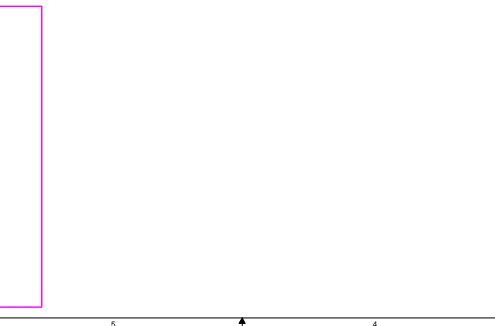
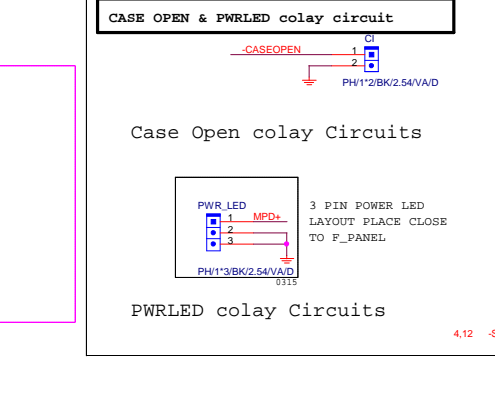
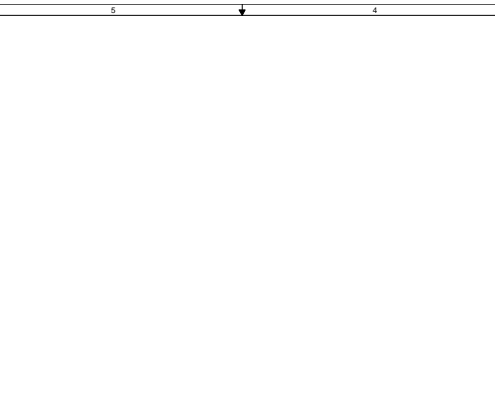
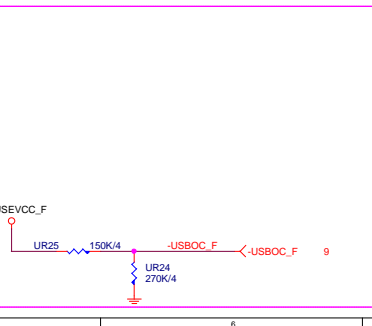
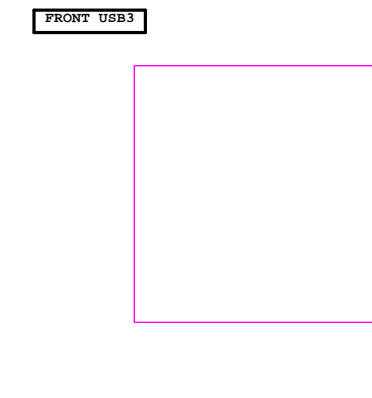
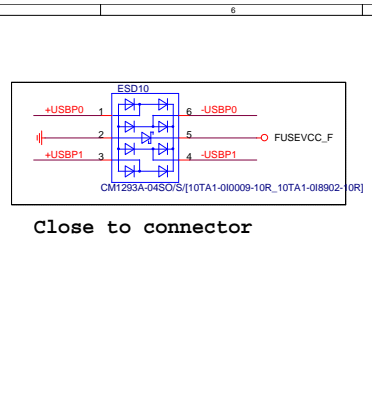
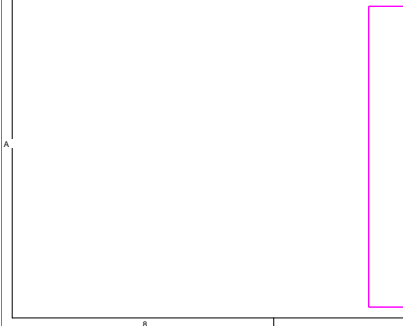
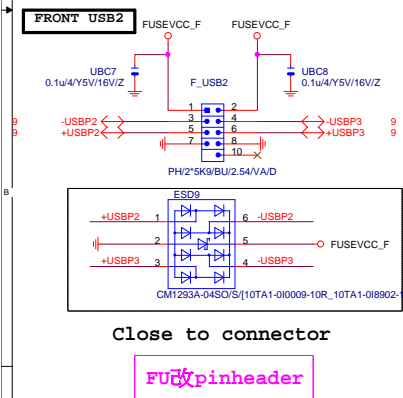
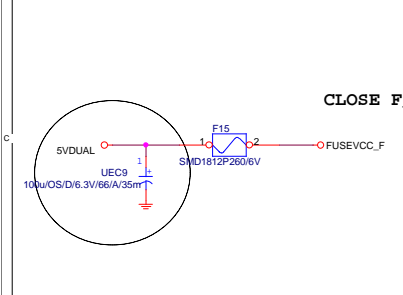
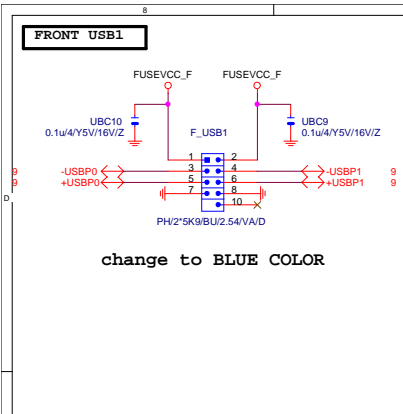


BOOT DEVICE	GNT1	GNT0
LPC	0	0
PCI	0	1
SPI	1	1

1 means floating
0 means PD 1K

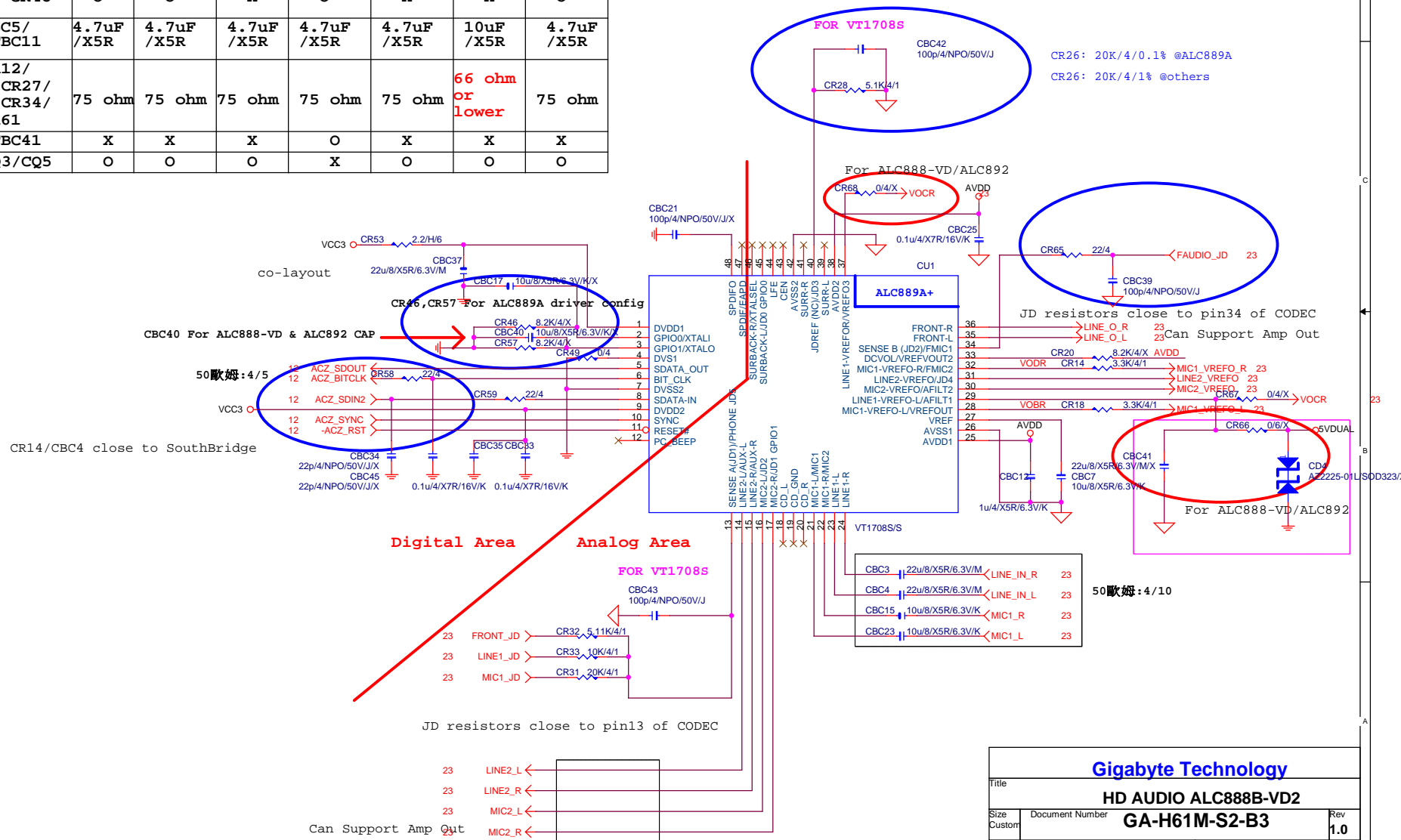
Gigabyte Technology

Title		
DUAL BIOS		
Size A	Document Number	Rev
	GA-H61M-USB3-B3	1.0
Date:	Wednesday, May 25, 2011	Sheet 20 of 31



Gigabyte Technology		
File: FP,F_USB,USB PWR,SPKR,SATA LED		
Custort Document Number: GA-H61M-S2-B3		
Date: Wednesday, May 25, 2011	Sheet: 21 of 31	Rev: 1.0

	ALC883	ALC888-VA	ALC888B	ALC888-VD	ALC892R	ALC889	ALC889A
CR46	X	X	X	X	X	X	O
CR57	X	X	X	X	X	X	O
CR49	O	O	X	X	X	O	O
CBC40	X	X	X	10uF/X5R	10uF/X5R	X	X
CR20	O	X	X	X	X	X	X
CR26	20K/1%	20K/1%	20K/1%	20K/1%	20K/1%	20K/1%	20K/0.1%
CR47	X	X	O	X	O	O	X
CR48	O	O	X	O	X	X	O
CBC2/CBC4/CBC5/CBC6/CBC10/CBC11	4.7uF/X5R	4.7uF/X5R	4.7uF/X5R	4.7uF/X5R	4.7uF/X5R	10uF/X5R	4.7uF/X5R
CR1/CR3/CR10/CR12/CR15/CR19/CR56/CR27/CR55/CR37/CR28/CR34/CR6/CR9/CR51/CR61	75 ohm	75 ohm	75 ohm	75 ohm	75 ohm	66 ohm or lower	75 ohm
CR66/CR68/CD3/CBC41	X	X	X	O	X	X	X
CR67/CD1/CD2/CQ3/CQ5	O	O	O	X	O	O	O



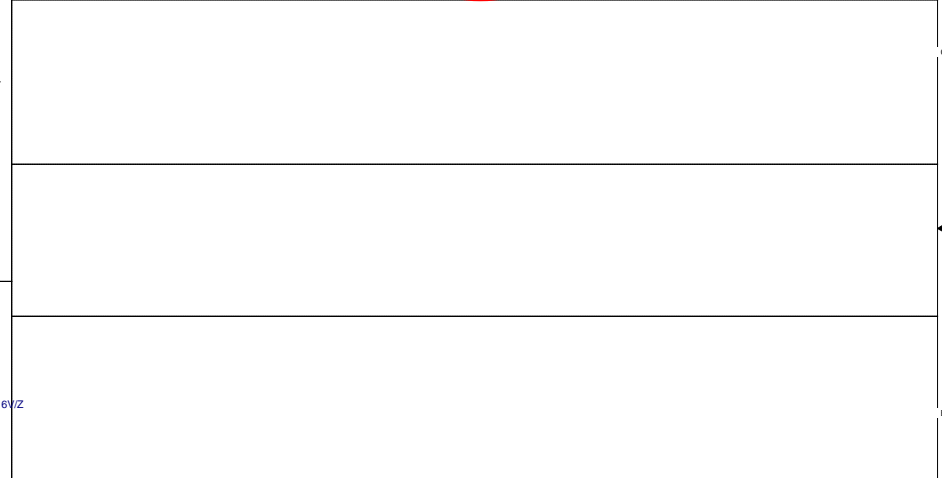
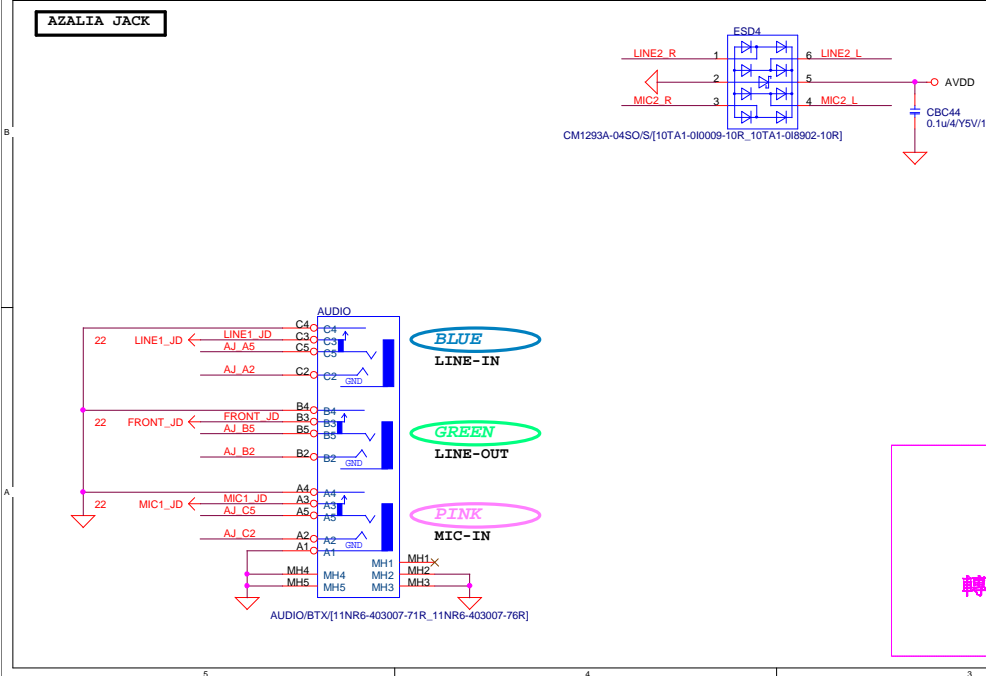
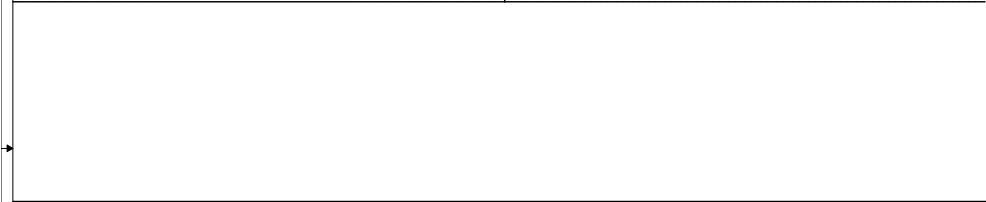
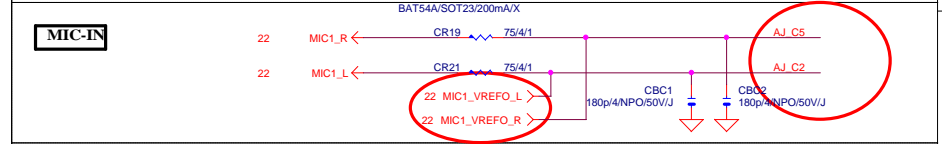
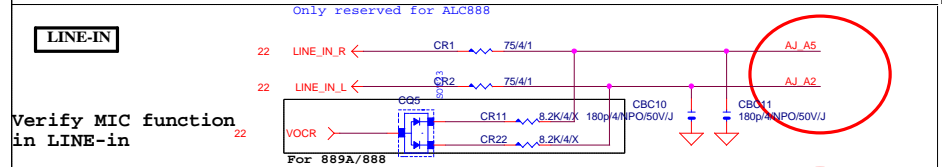
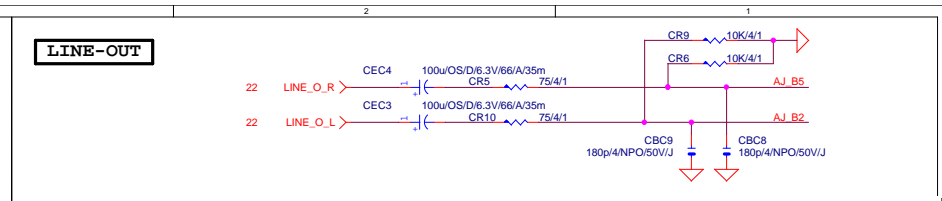
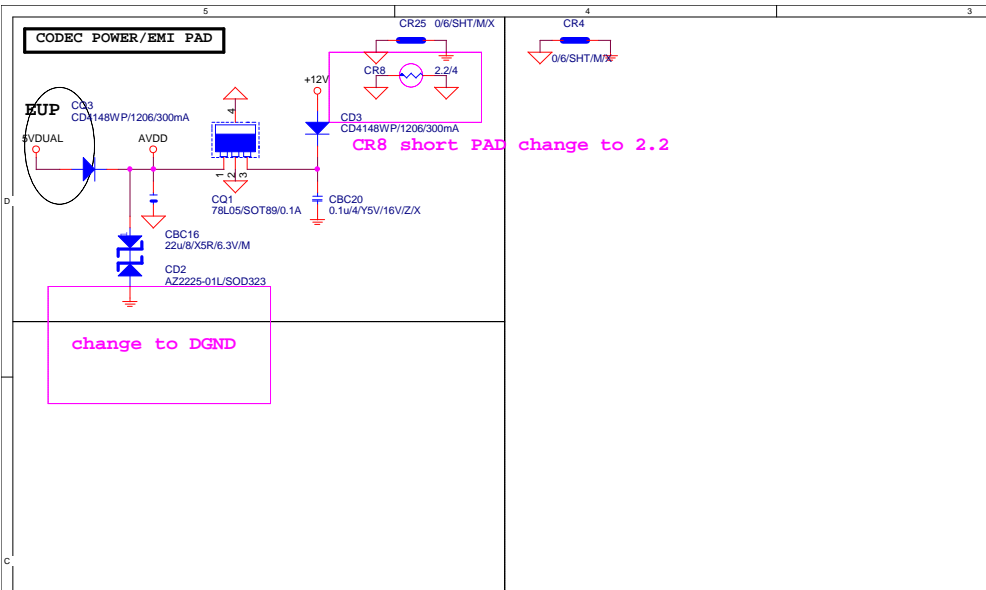
Gigabyte Technology

HD AUDIO ALC888B-VD2

GA-H61M-S2-B3

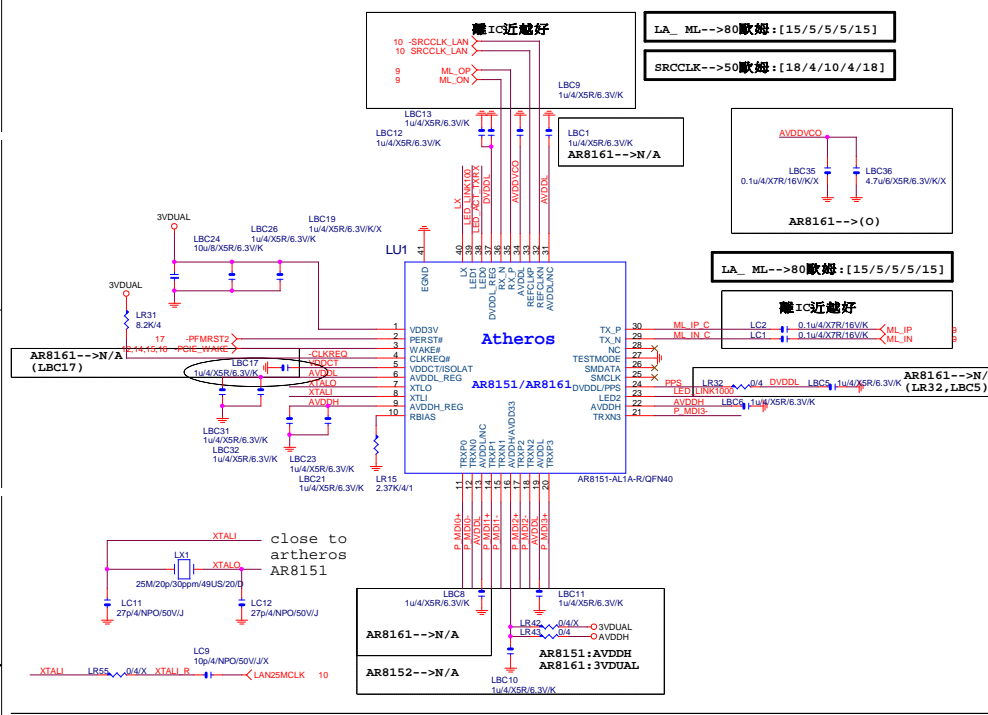
Rev 1.0

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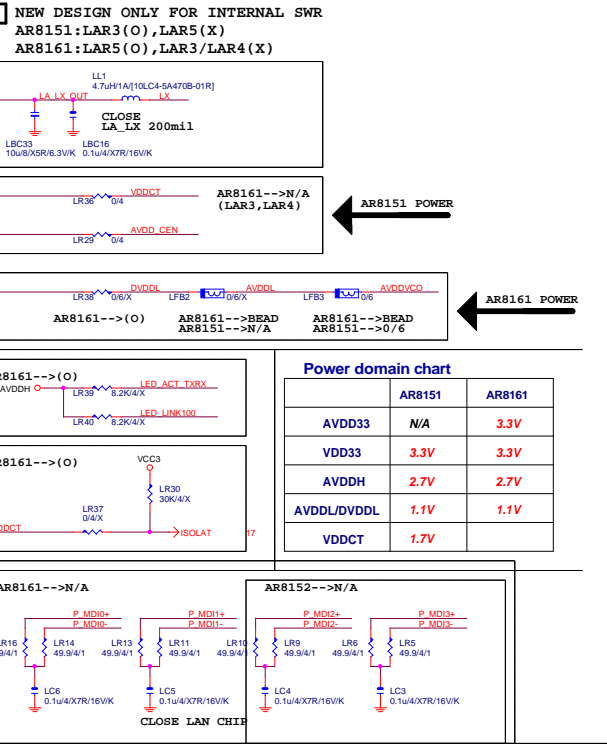


Gigabyte Technology		
AUDIO JACK		
GA-H61M-S2-B3		
Title	Document Number	Rev
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Date:		

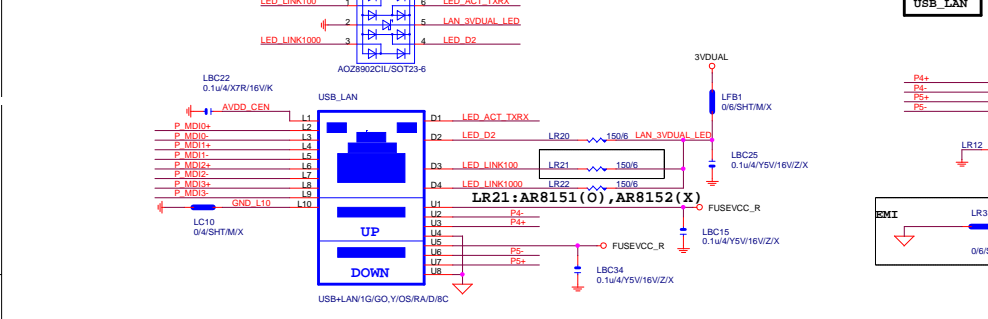
LAN:AR8151/AR8161



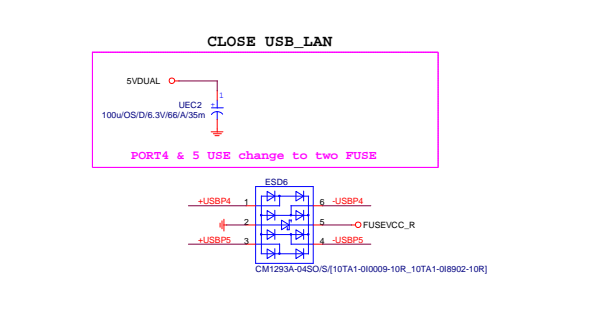
LAN POWER



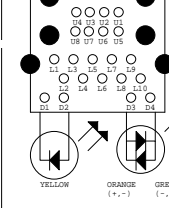
USB_LAN CONNECTOR



USB LAN



注意:LAN LED PROTECT:(CO-LAYOUT)
1.ESD (6PIN):AOZ8902CCL/SOT23-6 (DEFAULT)
2.SURGE (5PIN):AZ2025-04S/SOT23-5L

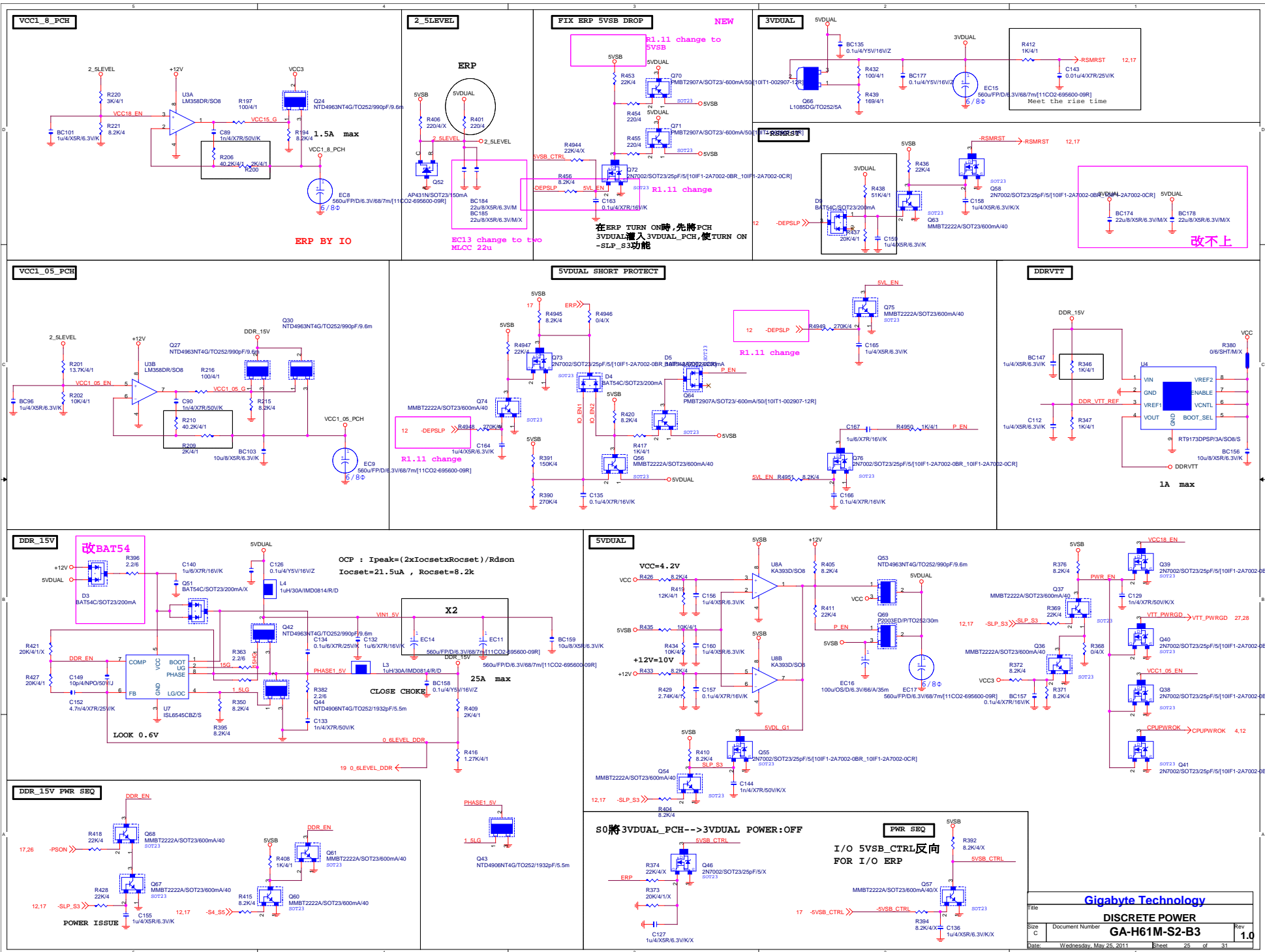


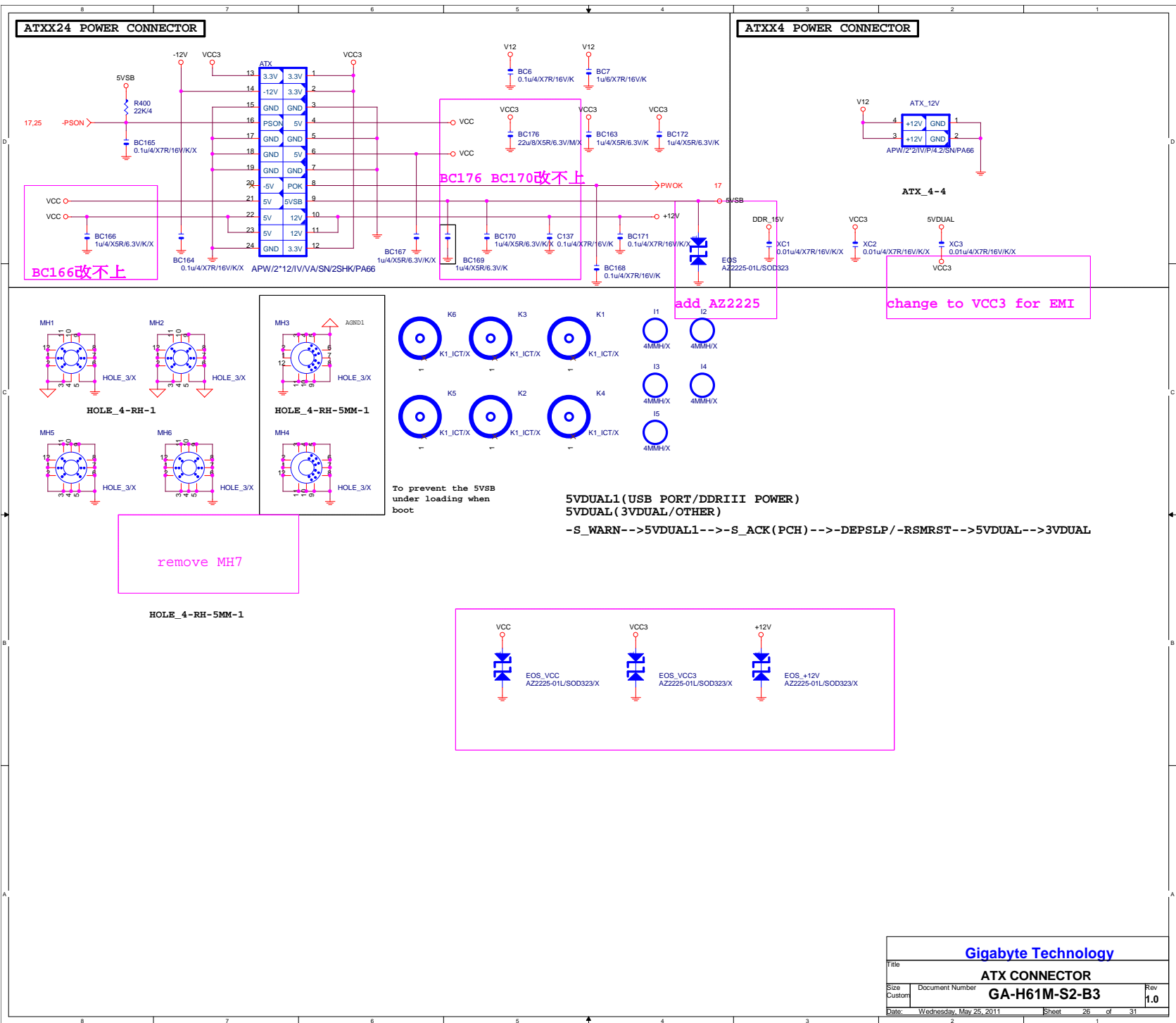
料號	規格	廠商
11NR6-702009-0ER	1G LAN (12core)	UDE
11NR6-702009-91R	1G LAN (8 core)	FOXCONN
11NR6-702009-92R	1G LAN (8 core)	UDE
11NR6-702009-11R	1G LAN (12core/RED)	UDE
11NR6-702009-12R	1G LAN (8 core/RED)	FOXCONN

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

File: ARTHEROS AR8151/AR8161
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ATXX24 POWER CONNECTOR

ATXX4 POWER CONNECTOR

BC166改不上

BC176 BC170改不上

add AZ2225

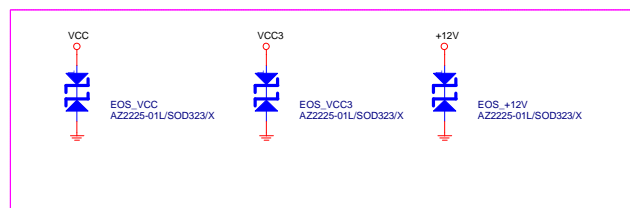
change to VCC3 for EMI

remove MH7

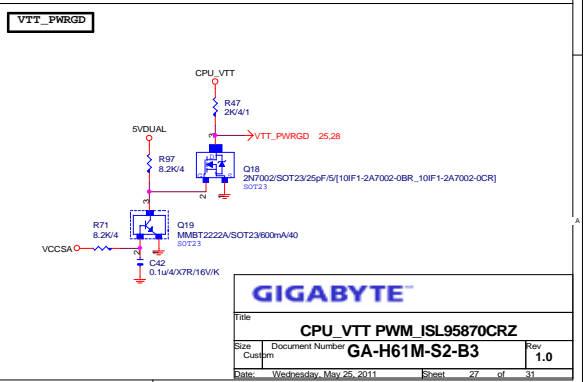
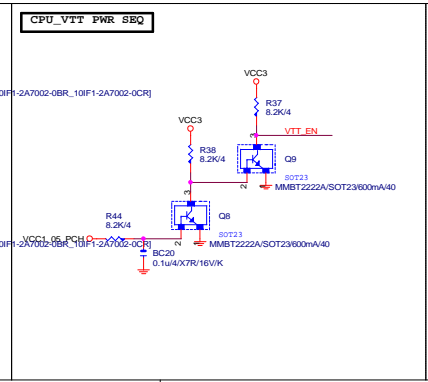
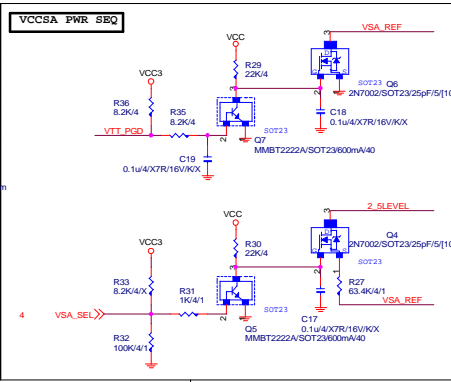
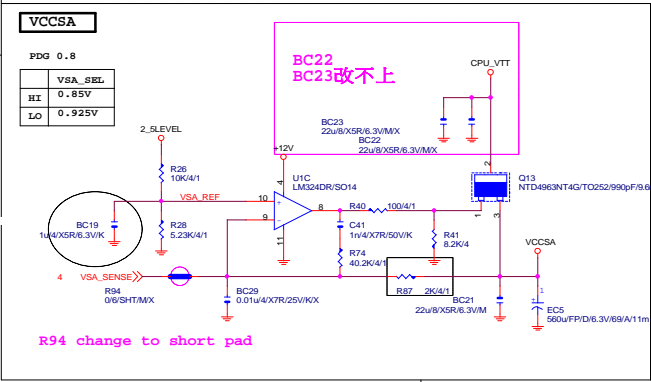
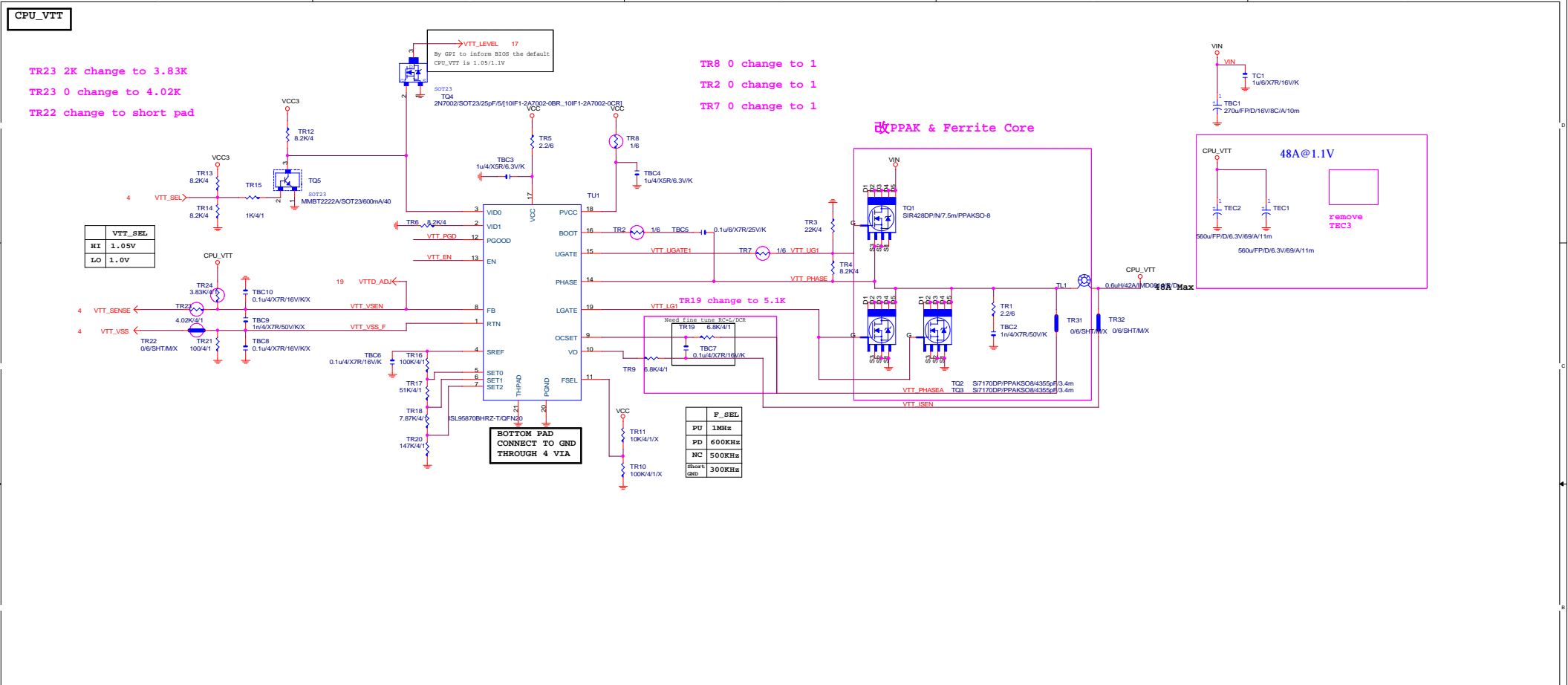
To prevent the 5VSB under loading when boot

5VDUAL1(USB PORT/DDRIII POWER)
5VDUAL(3VDUAL/OTHER)

-S_WARN-->5VDUAL1-->-S_ACK(PCH)-->-DEPSLP/-RSMRST-->5VDUAL-->3VDUAL



Gigabyte Technology		
File: ATX CONNECTOR		
Size Custom:	Document Number: GA-H61M-S2-B3	Rev: 1.0
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GIGABYTE

Title: CPU_VTT PWM_ISL95870CRZ

Size: Document Number: GA-H61M-S2-B3

Rev: 1.0

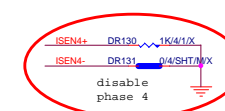
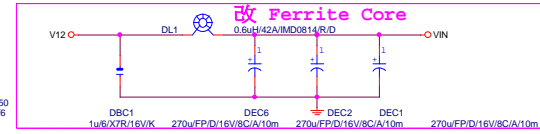
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DR85 150 change to 51
 DR69 6.8K change to 11K
 DR82 0 change to 10
 DR62 2.1K change to 1.1K
 DR65 1.6K change to 1.1K
 DR57 100 change to 8.2K
 DR102 100 change to 8.2K
 DR54 short change to 750
 DR103 short change to 1K
 DR91 6.8K change to 10K
 DR100 3.3K change to 1K
 DR69 11K change to 20K
 DR54 change to 1.2K

DR84 56.2 change to 51
 DR92 2.1K change to 1K

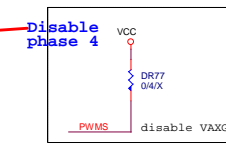
DR52 16.2K change to 24.9K

remove VAXG RDY



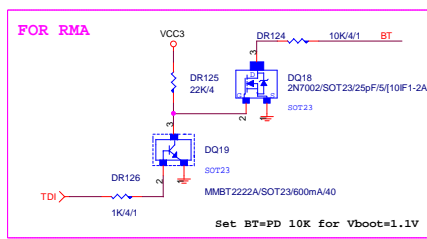
DR46 DR48 DR45 DR47 change to 10
 DR86 change to 750

PWM1	→	PWM1	30
PWM2	→	PWM2	30
PWM3	→	PWM3	30
PWMS	→	PWMS	29
ISEN1	→	ISEN1	30
ISEN2	→	ISEN2	30
ISEN3	→	ISEN3	30
ISENS	→	ISENS	29
PHASE1	→	PHASE1	30
PHASE2	→	PHASE2	30
PHASE3	→	PHASE3	30
PHASES	→	PHASES	29



BOTTOM PAD CONNECT TO GND THROUGH 10 VIA

Close VCORE output choke
 Close VIXG output choke

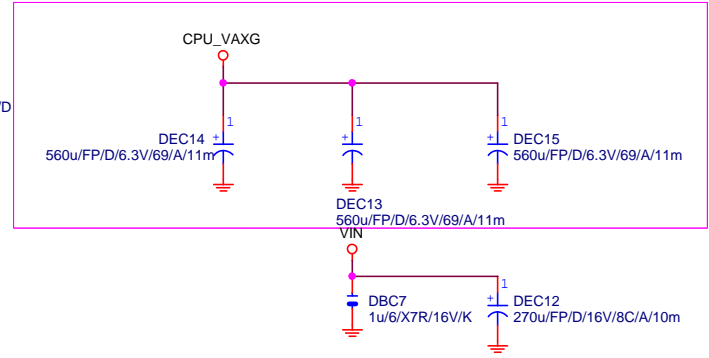
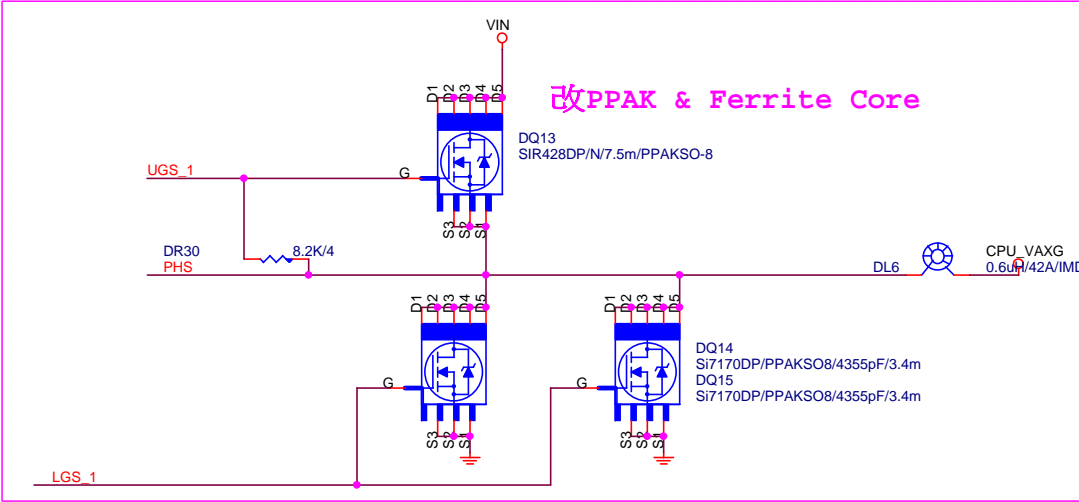
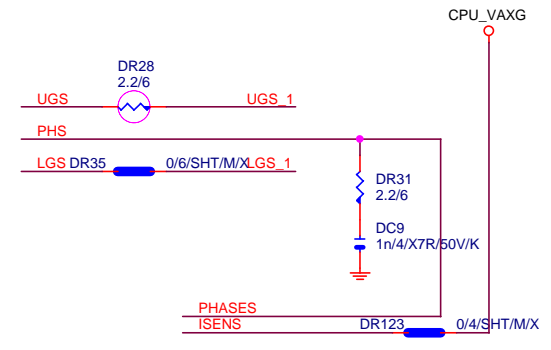
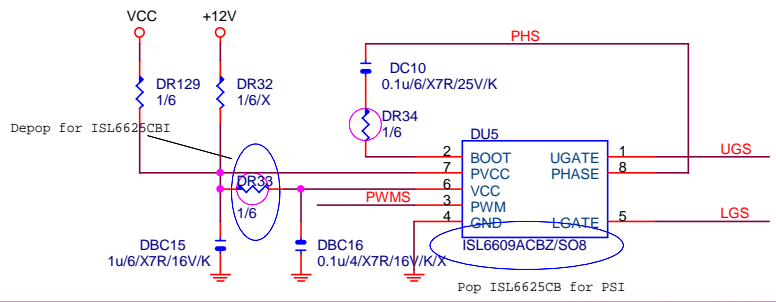


Gigabyte Technology

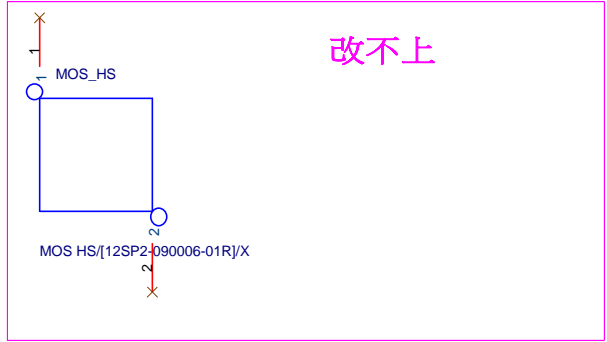
CPU CORE VR-1		
GA-H61M-S2-B3		
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VAXG

DR33 0 change to 1
 DR34 0 change to 1
 DR28 0 change to 2.2

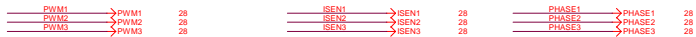


MOS HEATSINK

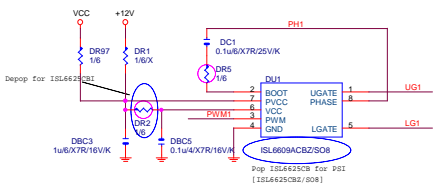


Gigabyte Technology		
Title CPU CORE VR-2		
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PPAK & Ferrite Core



DR5 0 change to 1
 DR2 0 change to 1
 DR4 0 change to 1
 DR6 0 change to 1



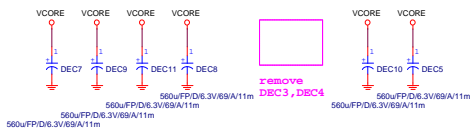
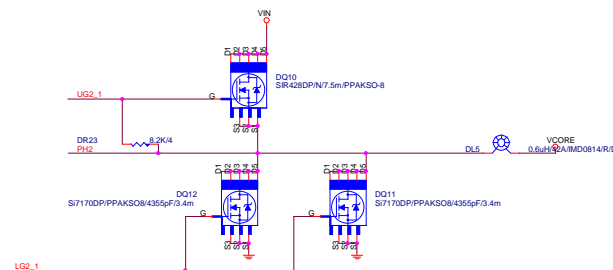
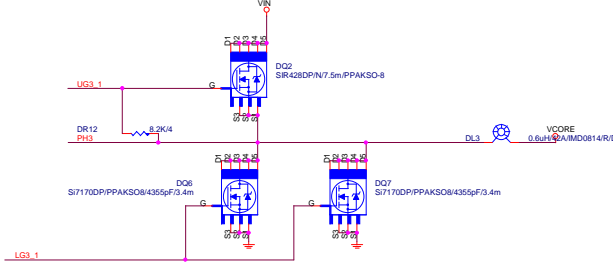
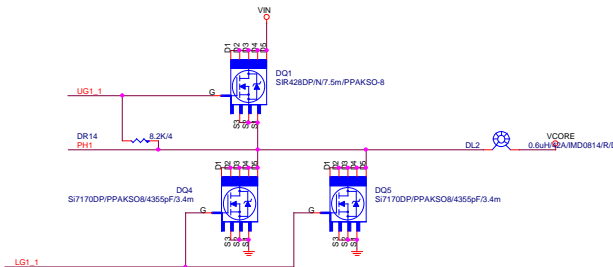
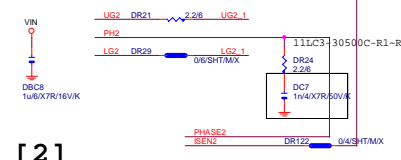
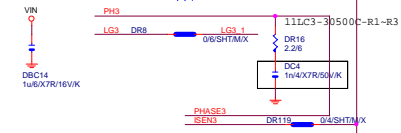
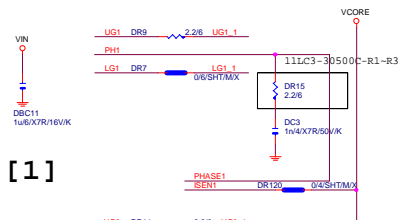
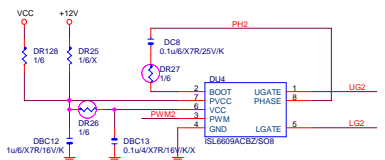
[1]

[3]

[4]

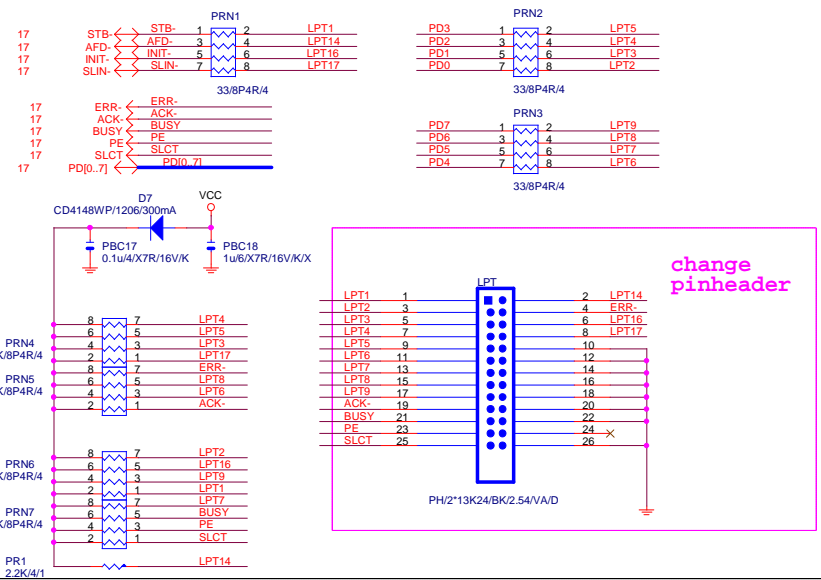
[2]

DR20 0 change to 1
 DR26 0 change to 1
 DR27 0 change to 1



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CPU CORE VR-3		
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LPT PORT



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Size: Custom	Document Number: GA-H61M-S2-B3	Rev: 1.0	
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