

Model Name: GA-H61M-D2H

Revision 1.0

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 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*1 SLOT/CLK GEN
16	ITE 8728
17	KB_MS,R_USB,-PROCHOT,RI
18	HWM,FAN CTRL,OV,COMB,LPT
19	DUAL BIOS
20	FP,F_USB,SPKR,SATA LED
21	AUDIO ALC889
22	REAR AUDIO JACK
23	ATHEROS AR8151/USB_LAN
24	HDMI/DVI
25	DISCRETE POWER
26	ATX
27	ISL95870_CPU_VTT

SHEET

TITLE

28	VCORE ISL6364_1
29	VCORE ISL6364_2,VAXG
30	VCORE ISL6364_3,VCORE
31	Etron USB3.0
32	IT8892E
33	PCI SLOT 1.2

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Cover Sheet		
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Revision 1.0

Component value change history

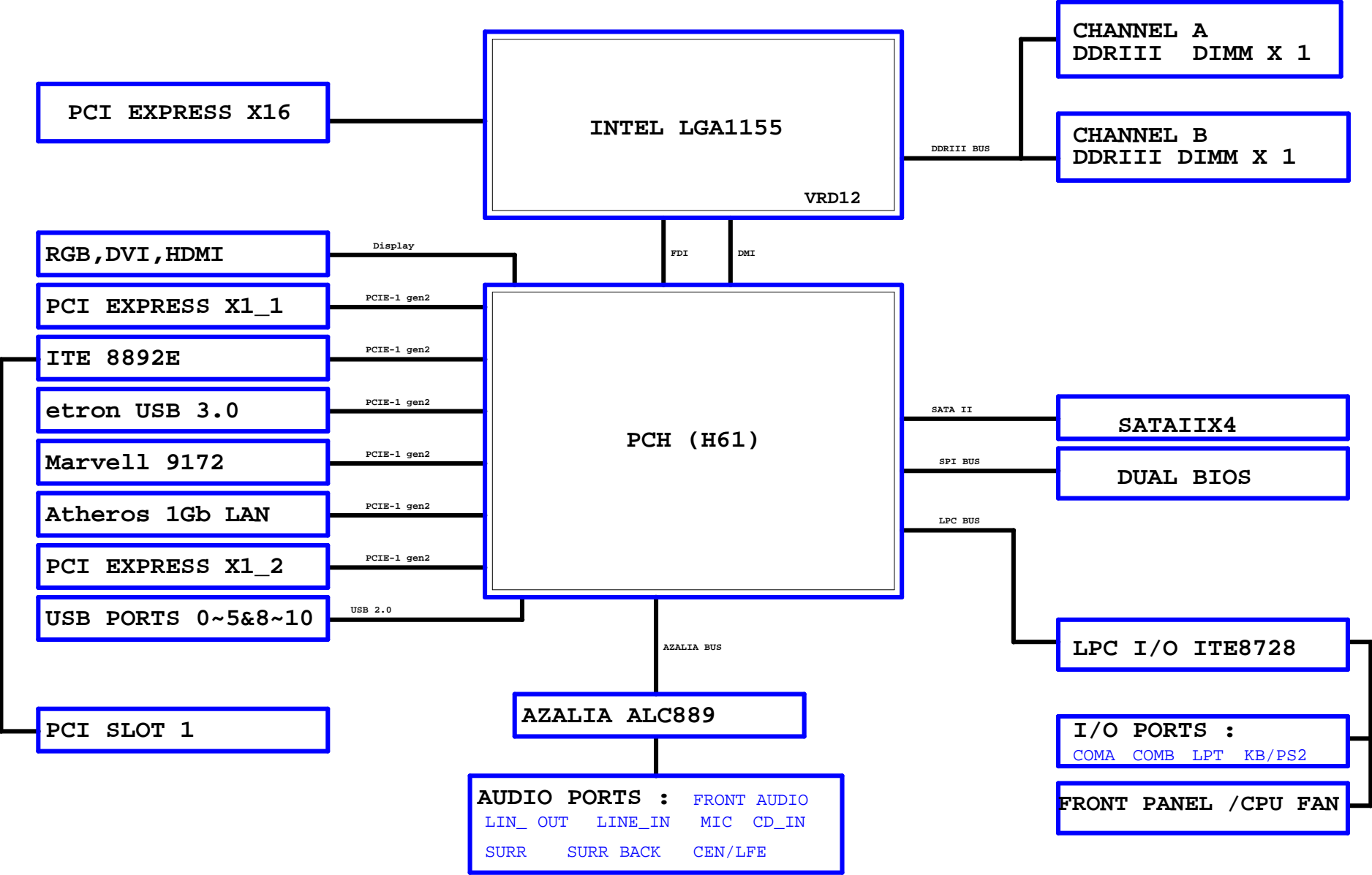
2011/03/25

[illegible]

Circuit or PCB layout change

[illegible]

BLOCK DIAGRAM

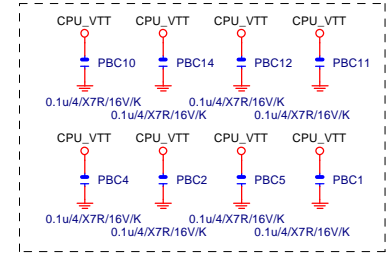
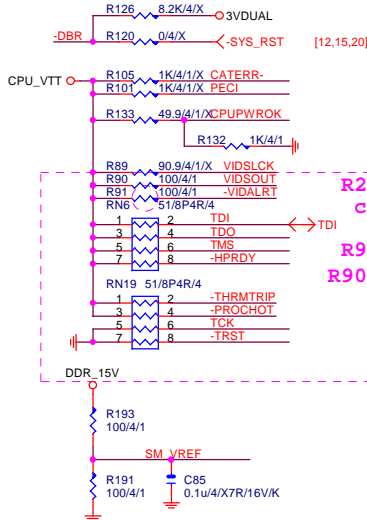
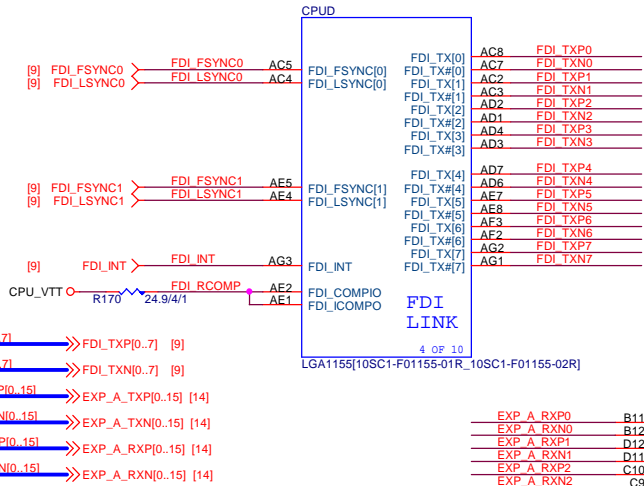
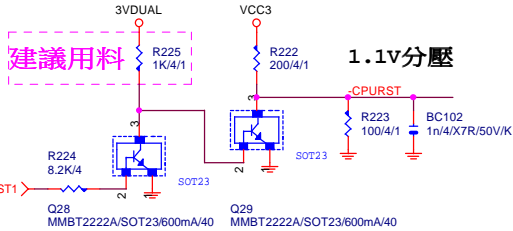
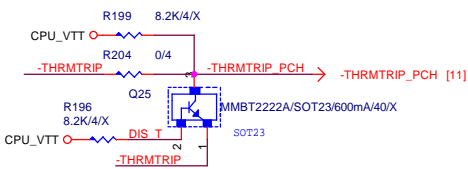
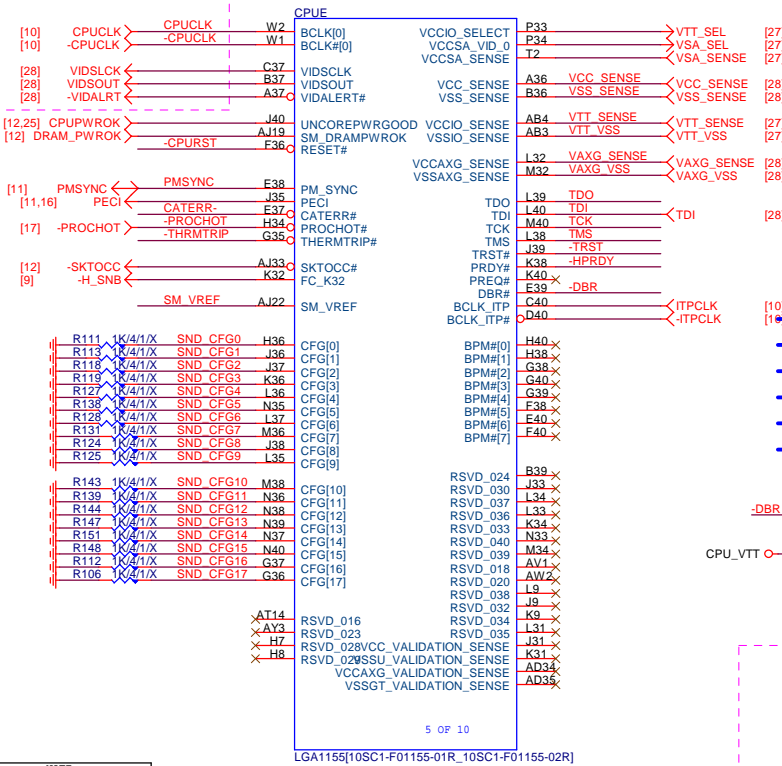


CFG	H	L	NOTE
0	RSVD	RSVD	RSVD
1	RSVD	RSVD	RSVD
2	NORM	Reverse	LANE REVERSAL[0],x16
3	RSVD	RSVD	RSVD
4	RSVD	RSVD	RSVD
7	RSVD	RSVD	RSVD
8	RSVD	RSVD	RSVD
9	RSVD	RSVD	RSVD
10	RSVD	RSVD	RSVD
11	RSVD	RSVD	RSVD
12	RSVD	RSVD	RSVD
13	RSVD	RSVD	RSVD
14	RSVD	RSVD	RSVD
15	RSVD	RSVD	RSVD
16	RSVD	RSVD	RSVD
17	RSVD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

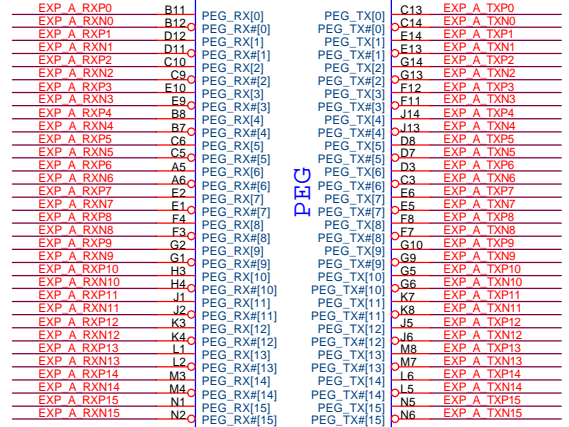
CFG6	CFG5	PCIe CONFIG
1	1	1x16 , Default
1	0	2X8
0	1	RSVD
0	0	X8,X4,X4

DRAM PWROK

BC93
22p/4/NPO/50V/J/X

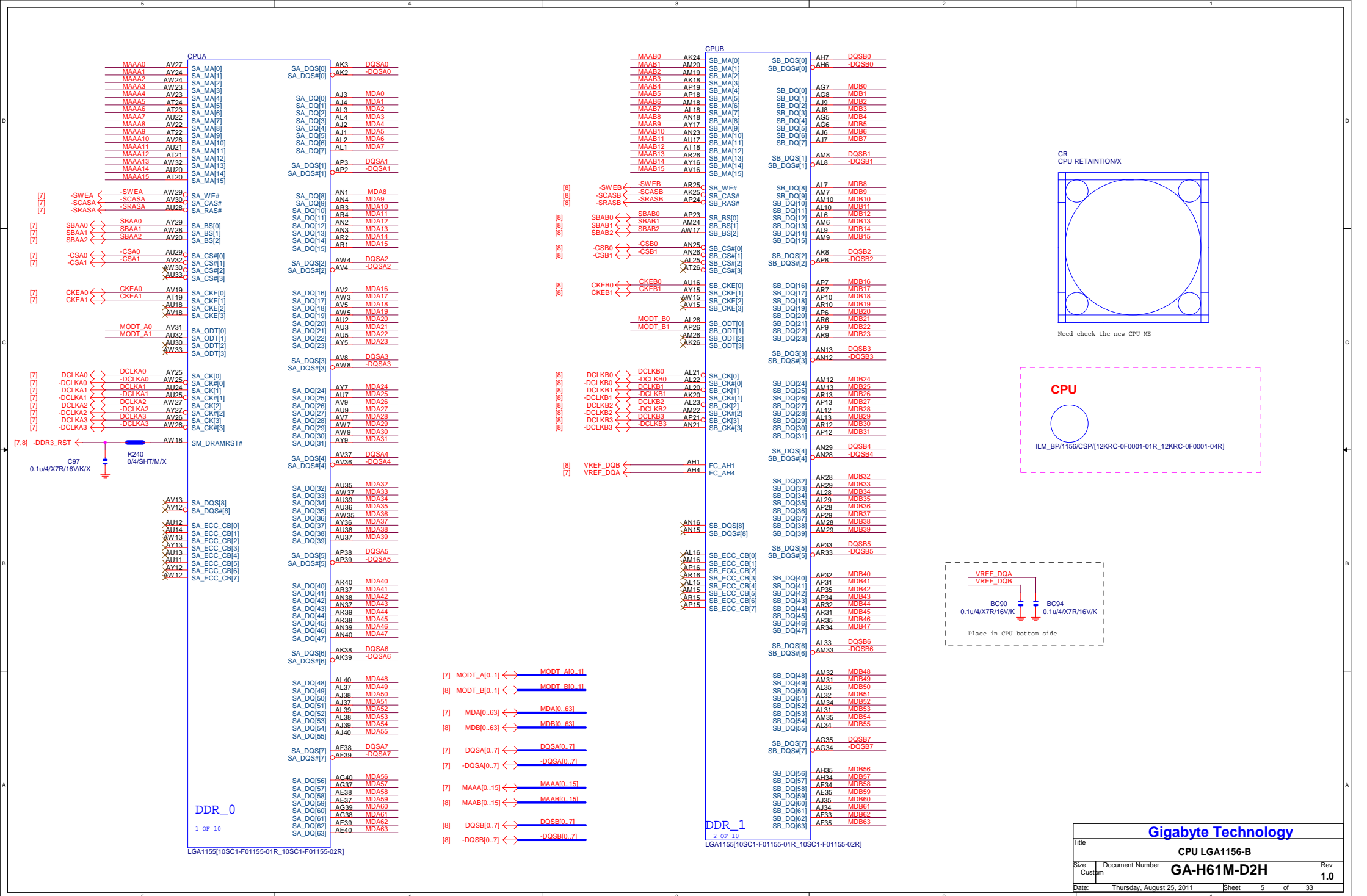


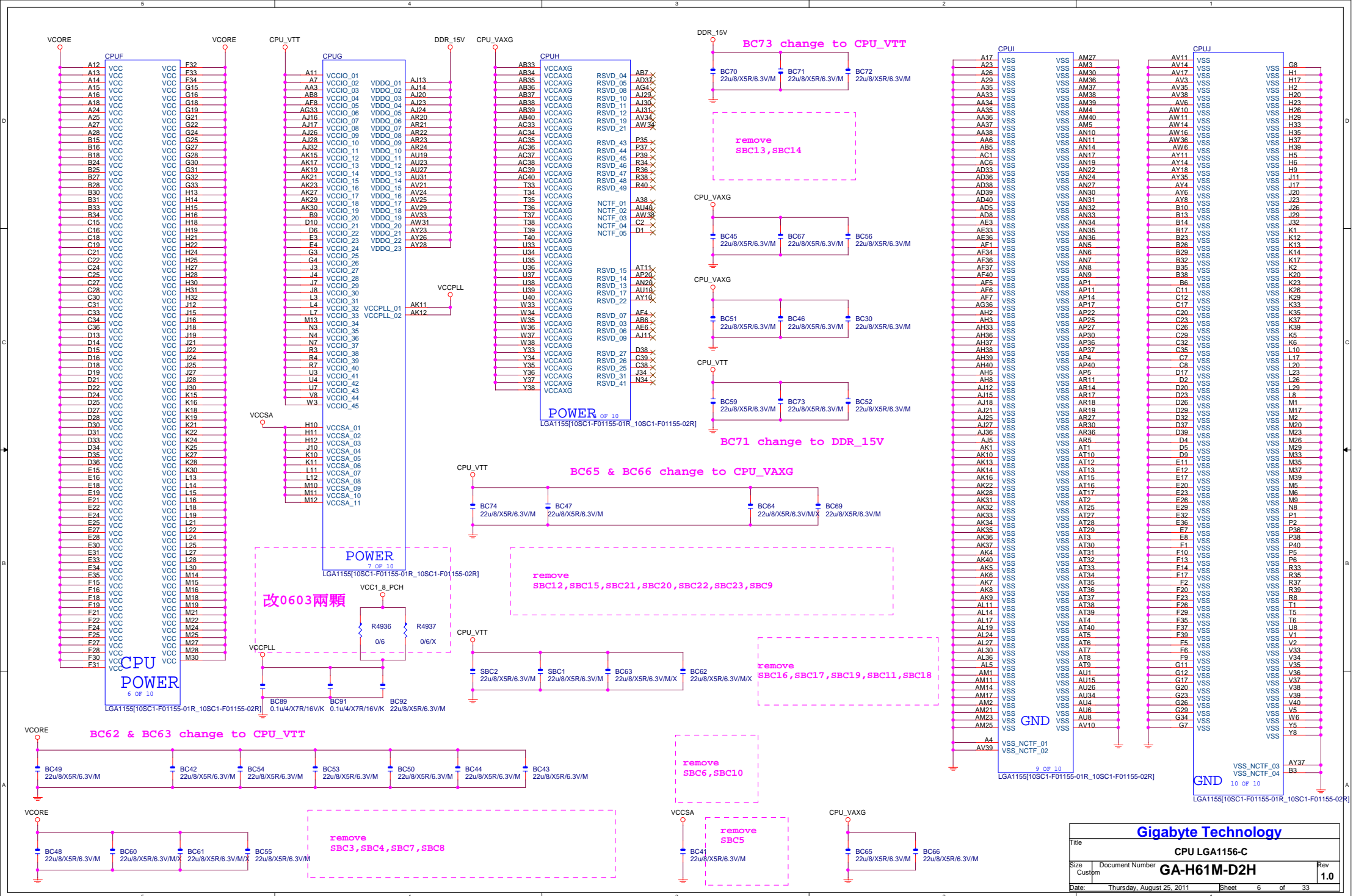
Stitching caps for PCIE,DMI,FDI bus

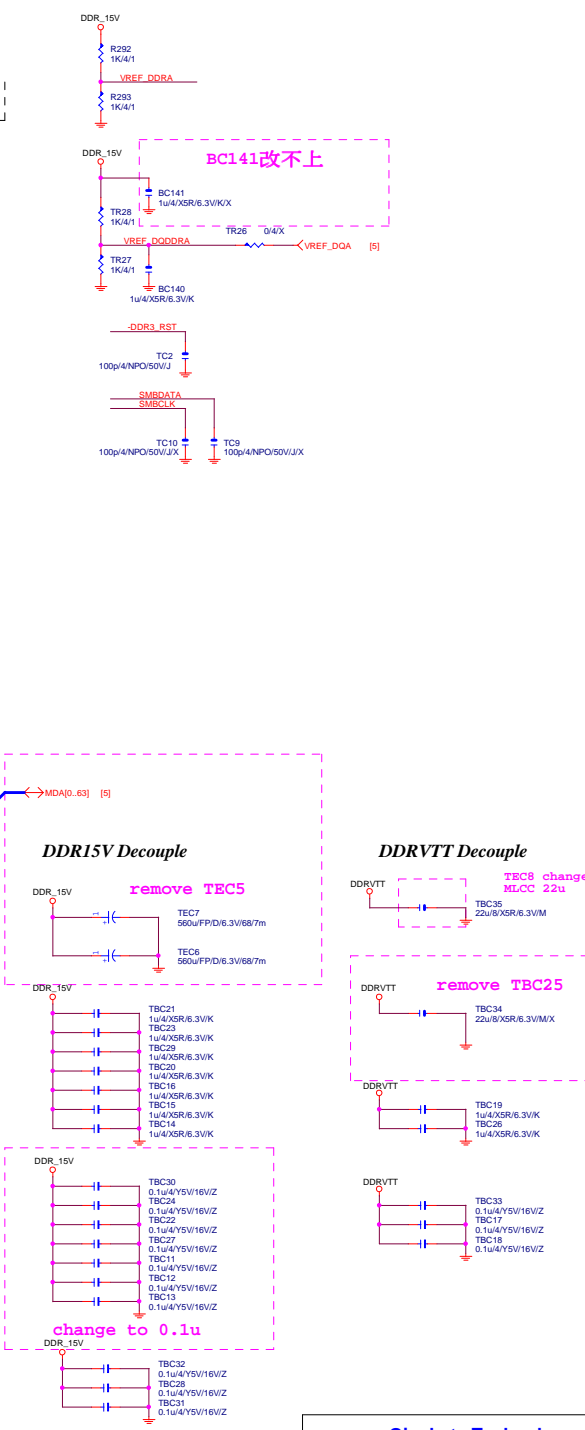
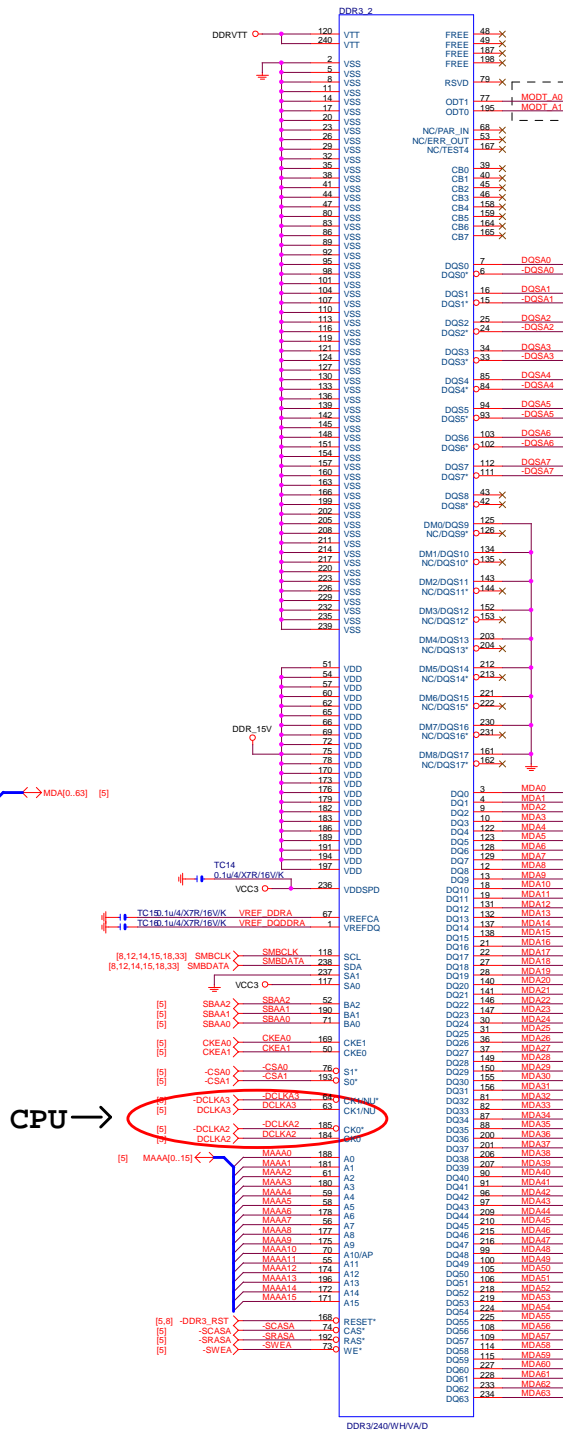
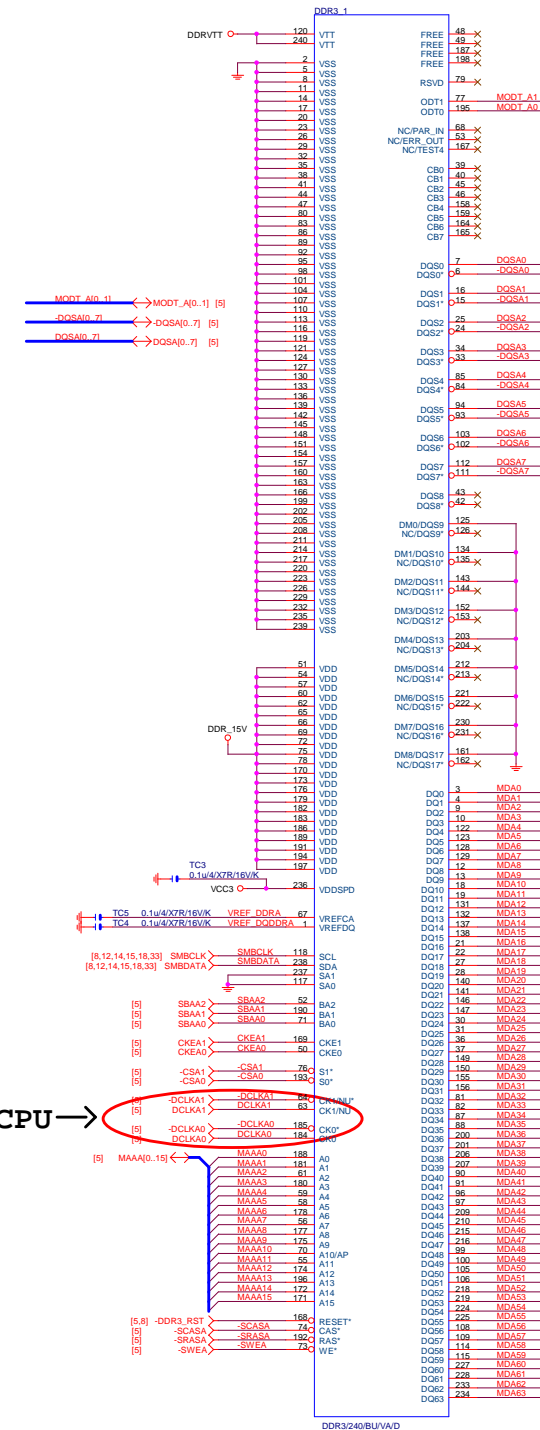


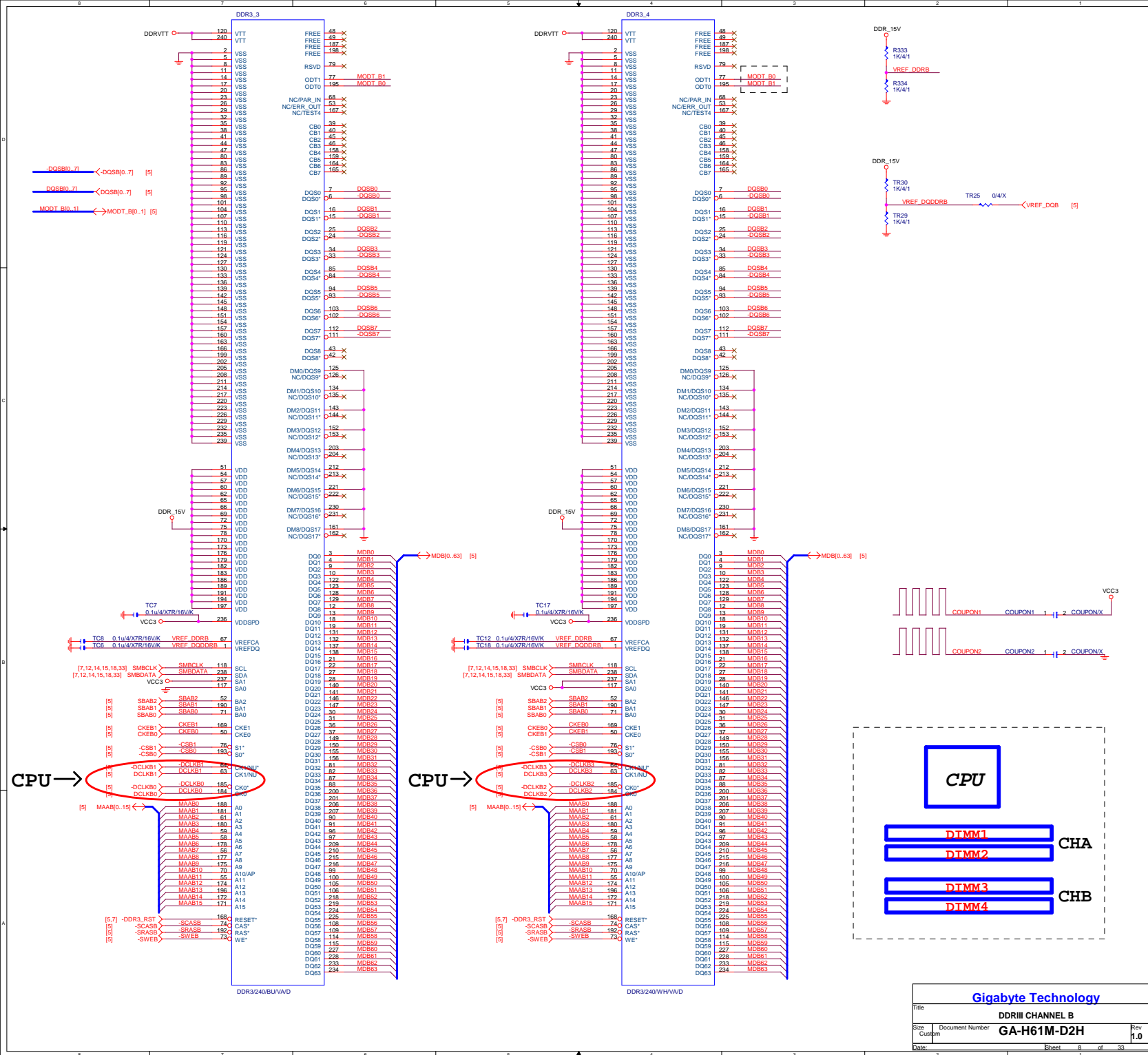
Gigabyte Technology

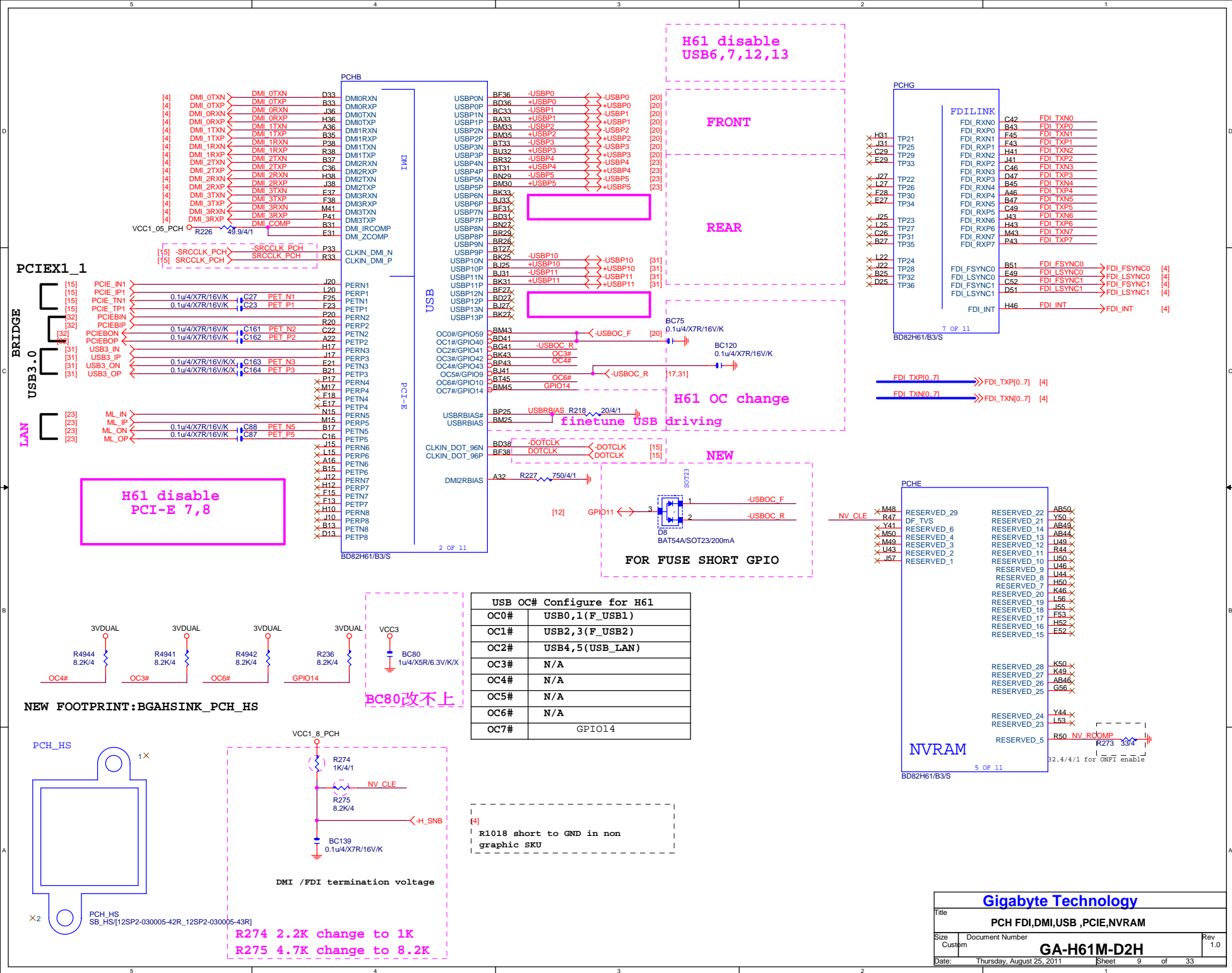
Title			
CPU LGA1155-A			
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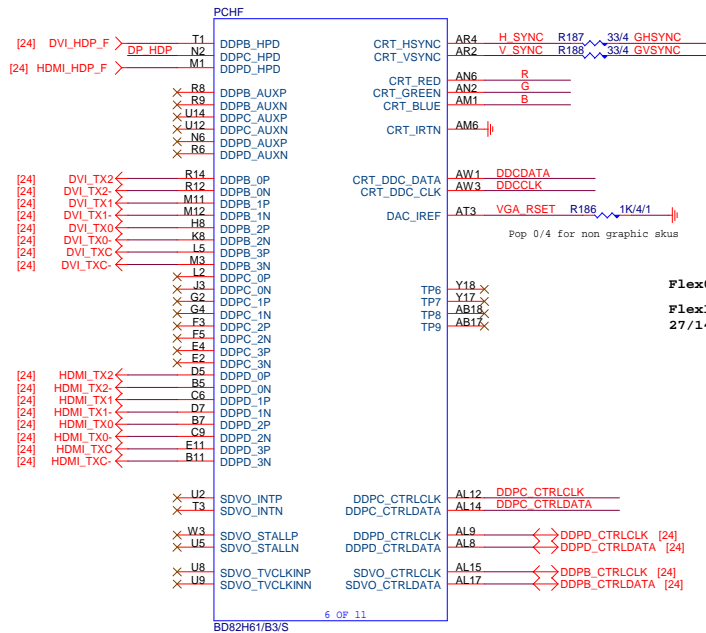






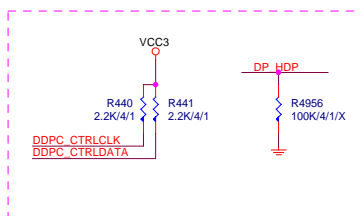
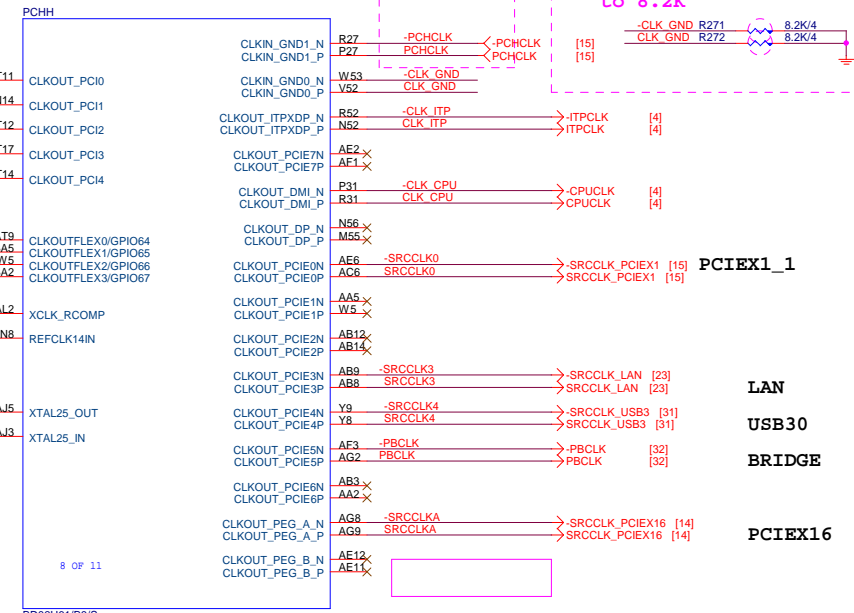
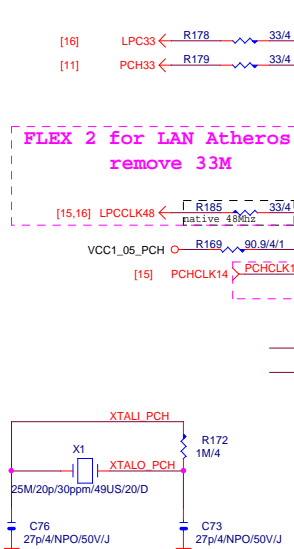




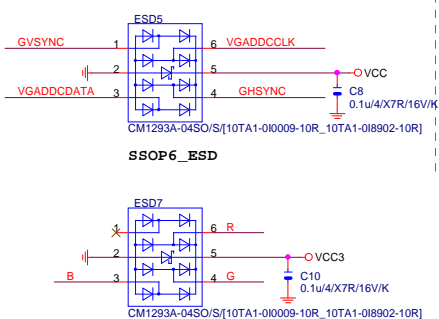


**FLEX 2 for LAN Atheros
remove 33M**

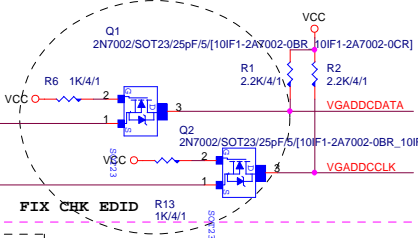
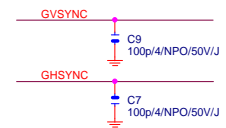
Flex0,2 : 33MHZ
Flex1,3 : 27/14/24/48/25MHZ



是否要上待量測決定

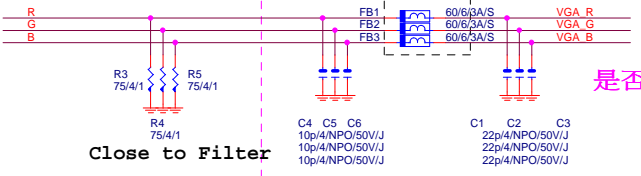


建議用料

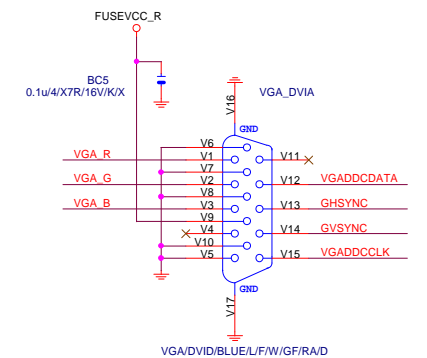


FIX CHK EDID

Close to Filter

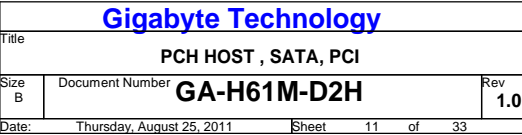


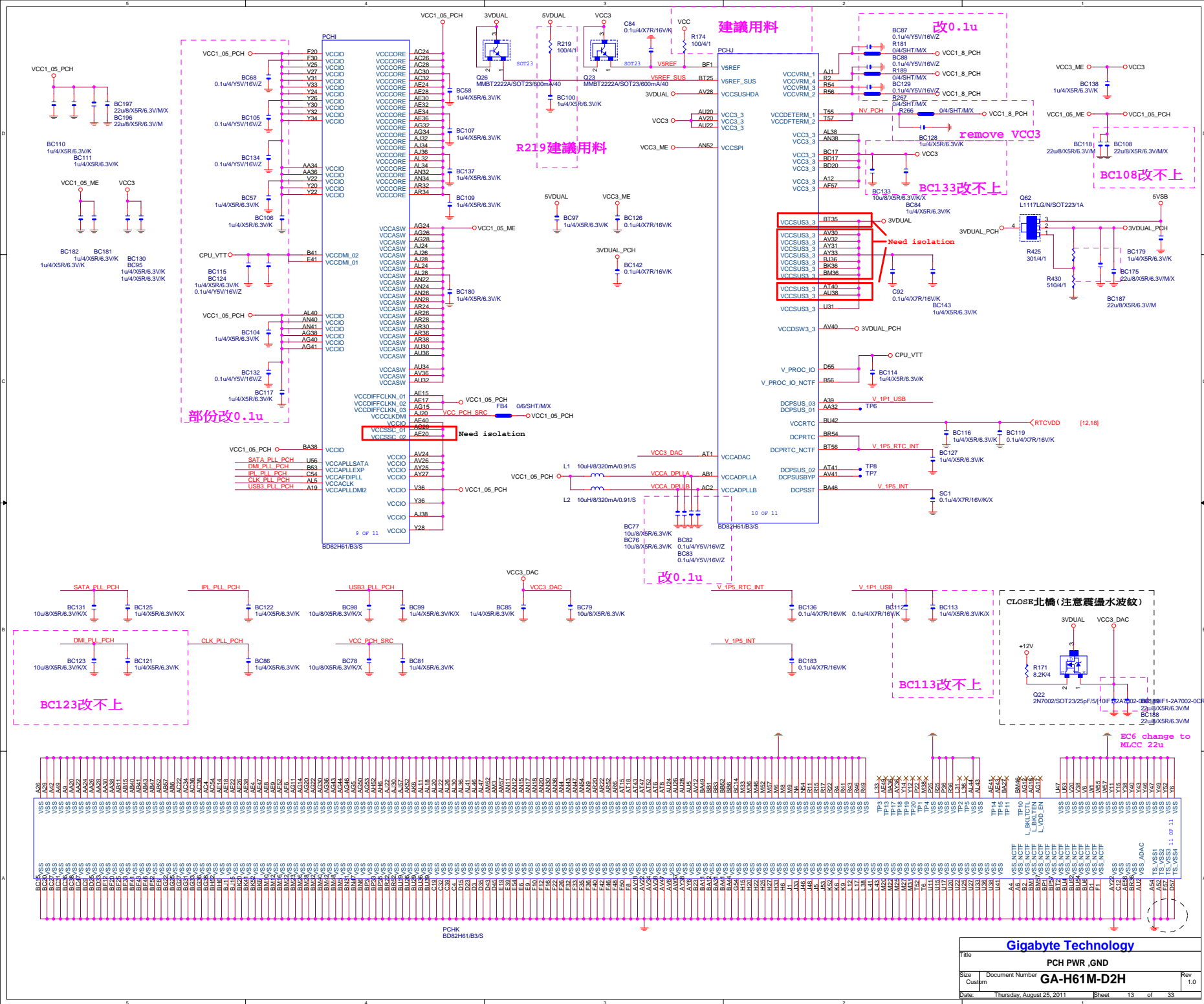
是否要上待量測決定

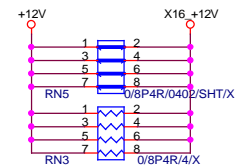
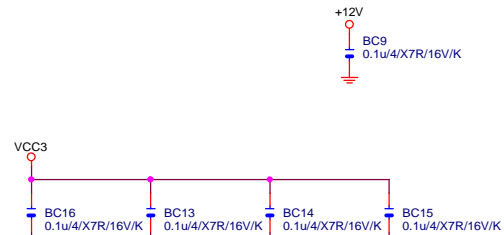


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PCH DISPLAY, CLK BUFFER			
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X7-SATA2-HS-MASK

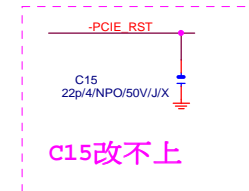
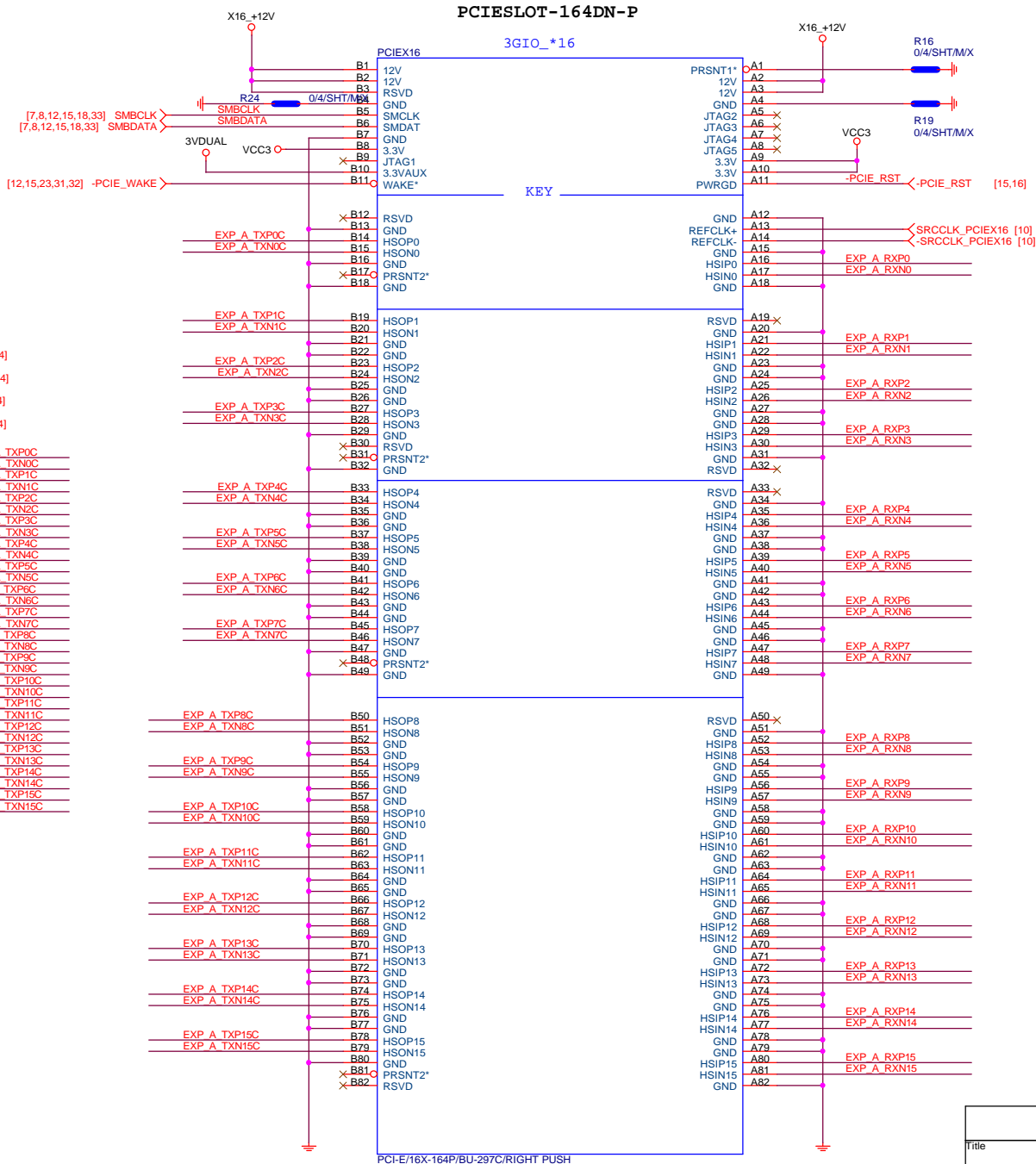






EXP A RXP0...15] >> EXP_A_RXP[0..15] [4]
EXP A RXN0...15] >> EXP_A_RXN[0..15] [4]
EXP A TXP0...15] >> EXP_A_TXP[0..15] [4]
EXP A TXN0...15] >> EXP_A_TXN[0..15] [4]

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
EXP A TXP10	C69	0.22u/4/X5R/6.3V/K	EXP A TXP10C
EXP A TXN10	C70	0.22u/4/X5R/6.3V/K	EXP A TXN10C
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

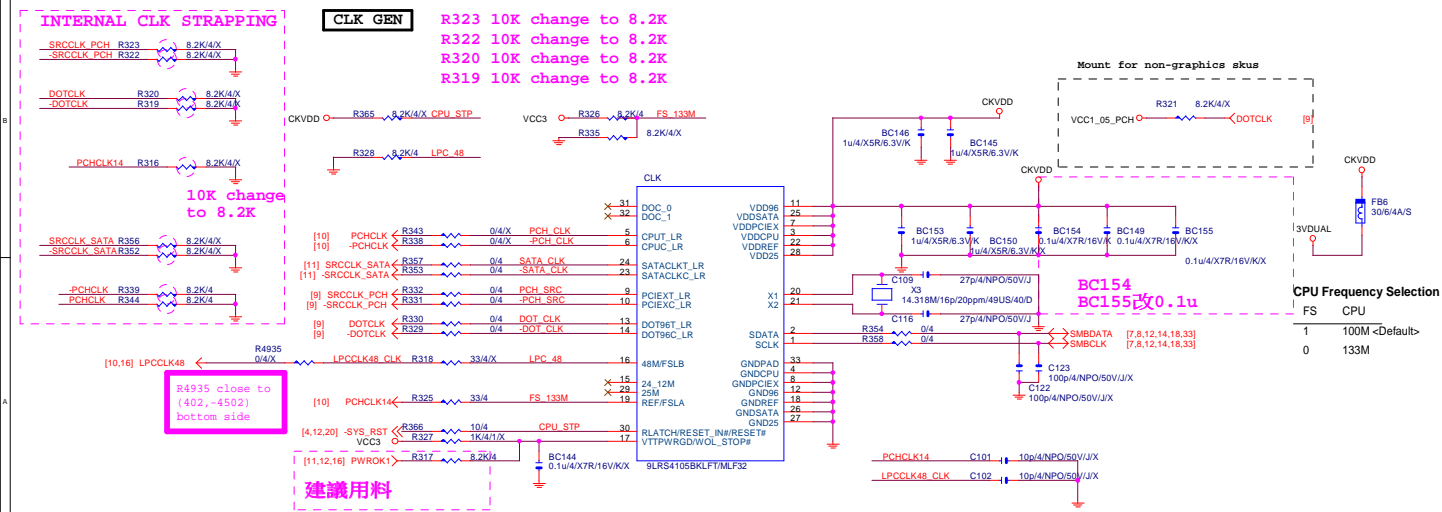
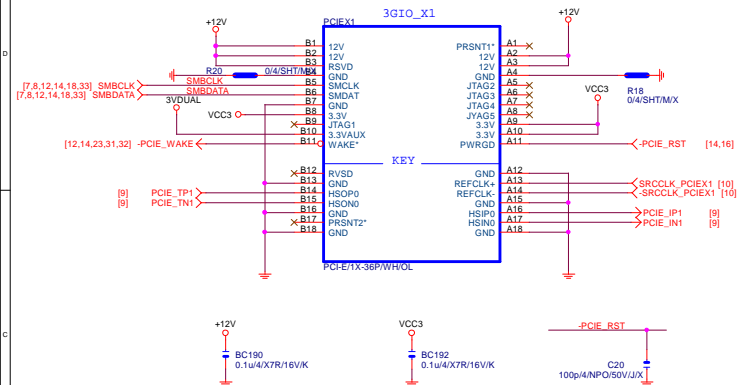


C15改不上

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Title			
PCI EXPRESS * 16			
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PCIEX1



<p style="text-align: center;">Gigabyte Technology</p>			
<p style="text-align: center;">PCIe X 1/CLK GEN</p>			
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GP22 Default GP22 DIODS

GP23 Default CPU_PG DOD8

REMOVE R146,R149

powerflow change to 3VDUAL_PCH

R109 0 change to 10

FOR AR8161

-PFMRST2 for TPM

REMOVEQ20 R158 & R155 for ITE 8728 DX

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

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

R83 R66 change to 10

IT8728F(GB)

ADD LPT PORT

REMOVE ON/OFF CHARGER

GP22 for LAN AR8151

GP40 Default 3VBSW# DO8

CHK GPIO53

remove DTR1- & RTS1-

remove IO GP43 pull high

建議用料

建議用料

EUP control by PCH
3VDUAL 0-100/4/1 R166 28_3VSB

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

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ITE 8728 LPC IO

GA-H61M-D2H

Rev 1.0

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REMOVE NR1A- in R1.1

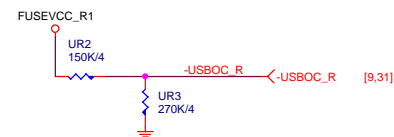
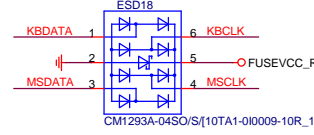
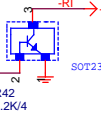
建議用料

[18]

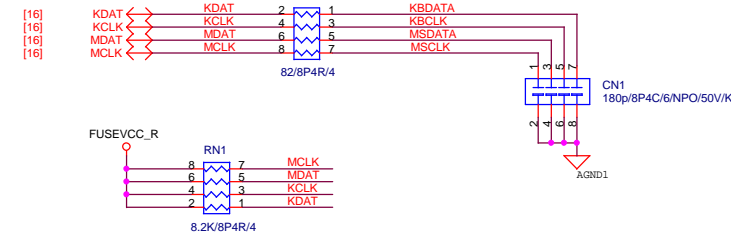
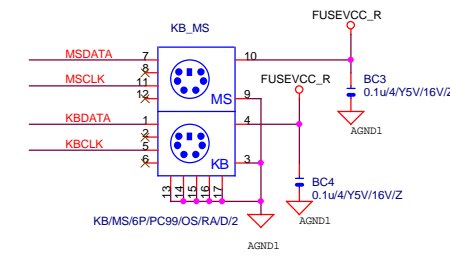
NR1B



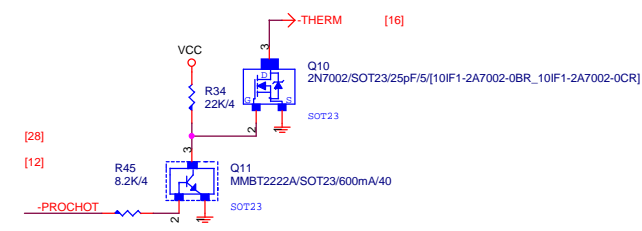
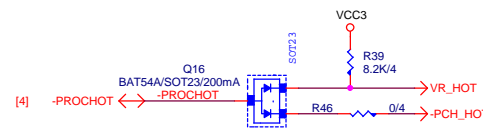
Q12 MMBT2222A/SOT23/600mA/40



KB/MS

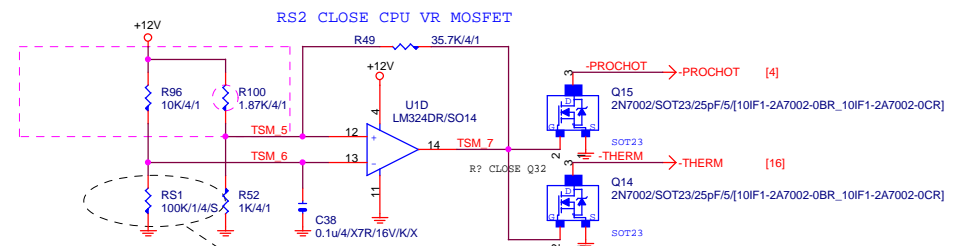


-PROHOT



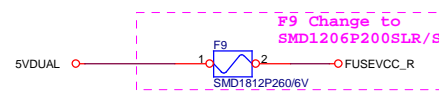
for proshot
R100 1.2K change to 1.87K

deasserted at 116 degree



CLOSE PWM HOT MOSFET

R_USB



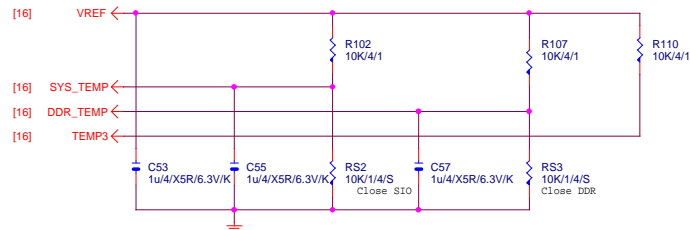
EMI request



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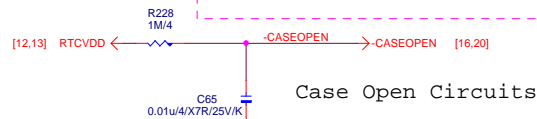
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KB_MS,R_USB,-PROHOT,RI			
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TEMP H/W MONITOR

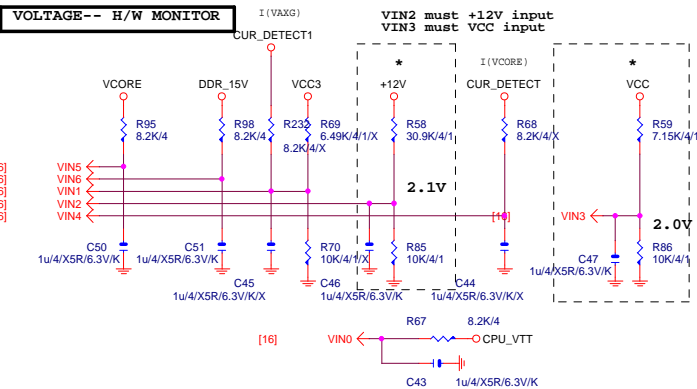


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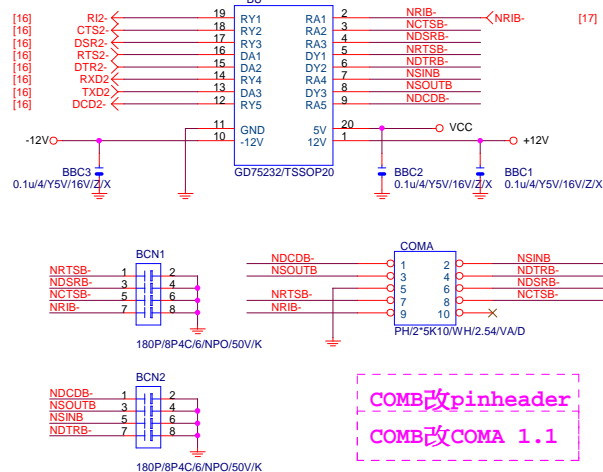
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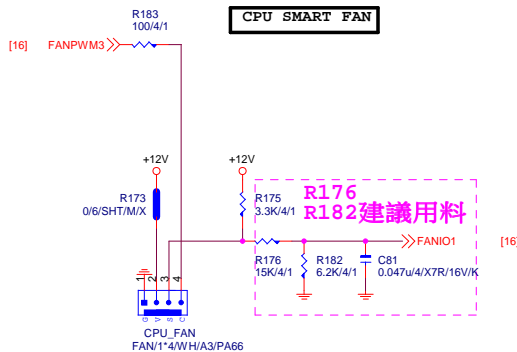
VOLTAGE-- H/W MONITOR



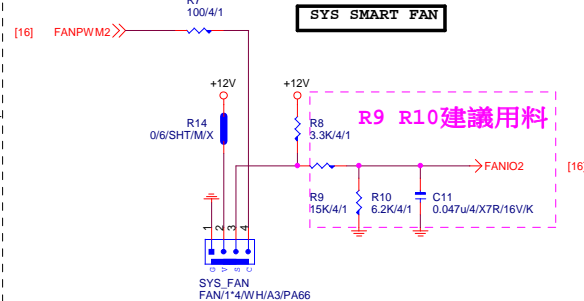
COMB



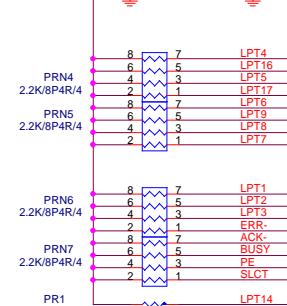
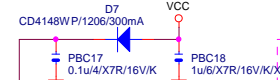
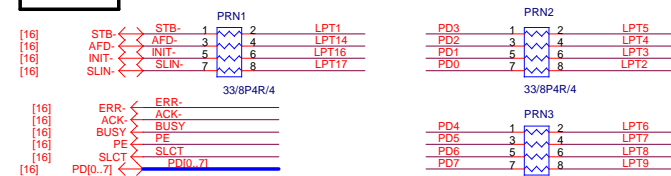
CPU SMART FAN



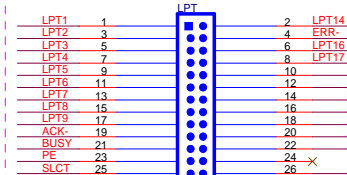
SYS SMART FAN



LPT PORT

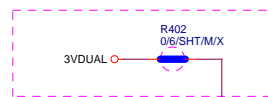


```
change
pinheader
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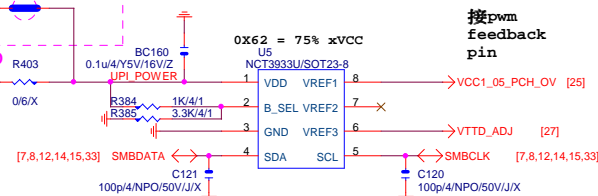


PH/2*13K24/BK/2.54/VA/

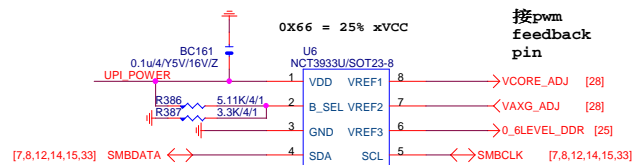
R402 change to SHORT PAD



接pwm
feedback
pin



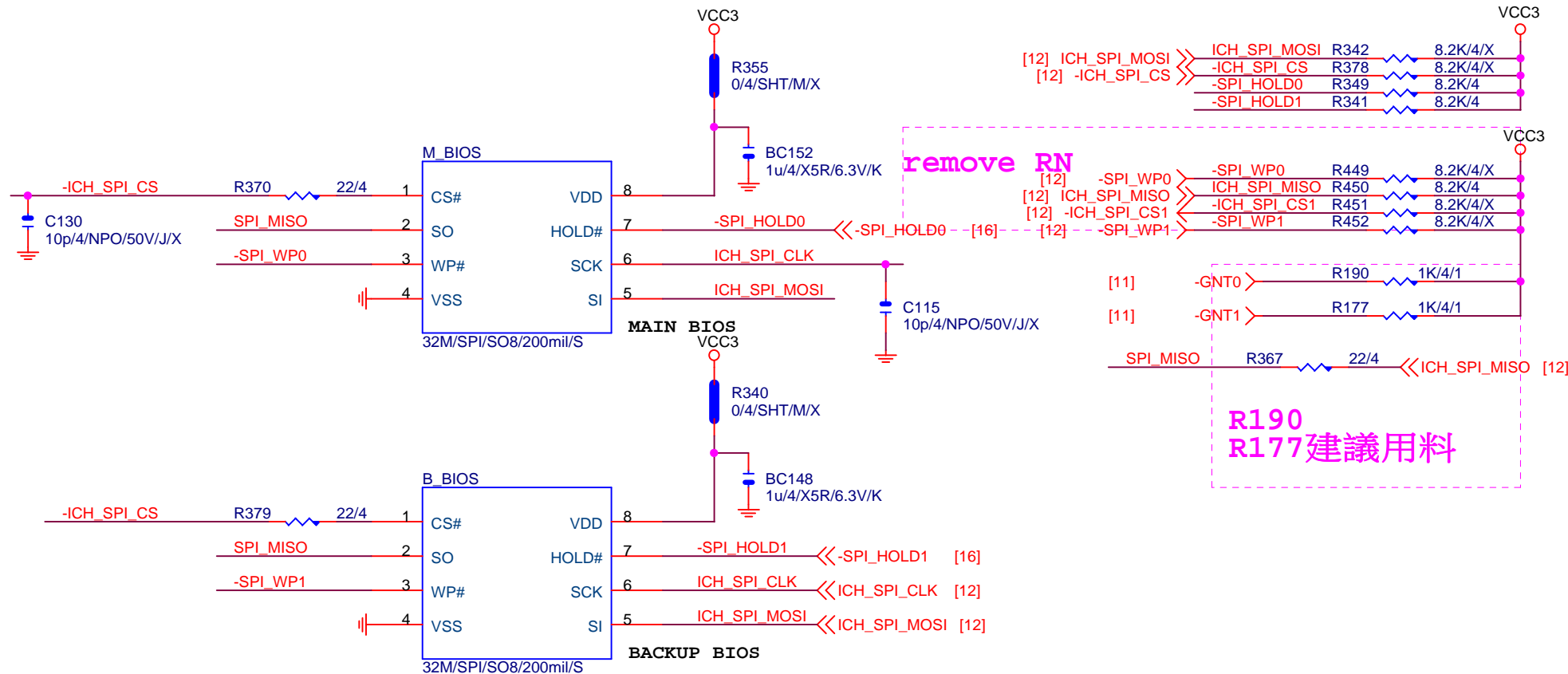
接pwm
feedback
pin



COMB改pinheader
COMB改COMA 1.1

DUAL BIOS

R349 R341 改上件 for ITE 8728 DX



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

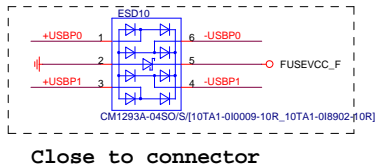
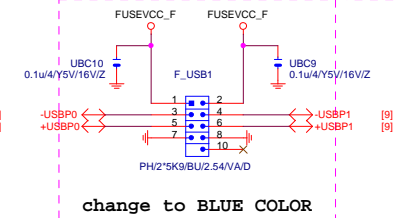
1 means floating
0 means PD 1K

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DUAL BIOS		
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FRONT USB1

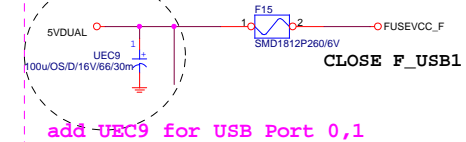
FU改pinheader



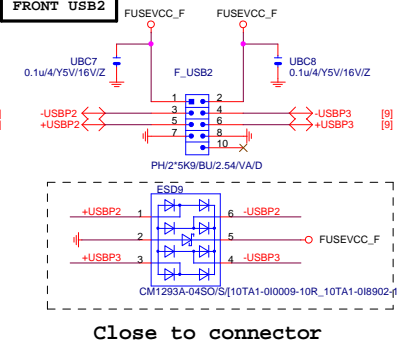
SATA LED

[11] -SATALED -HDLED

CLOSE R_USB

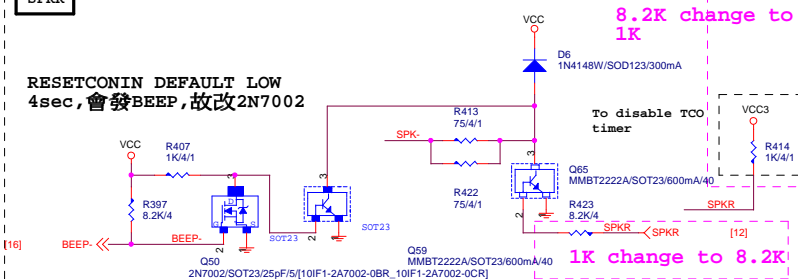


FRONT USB2

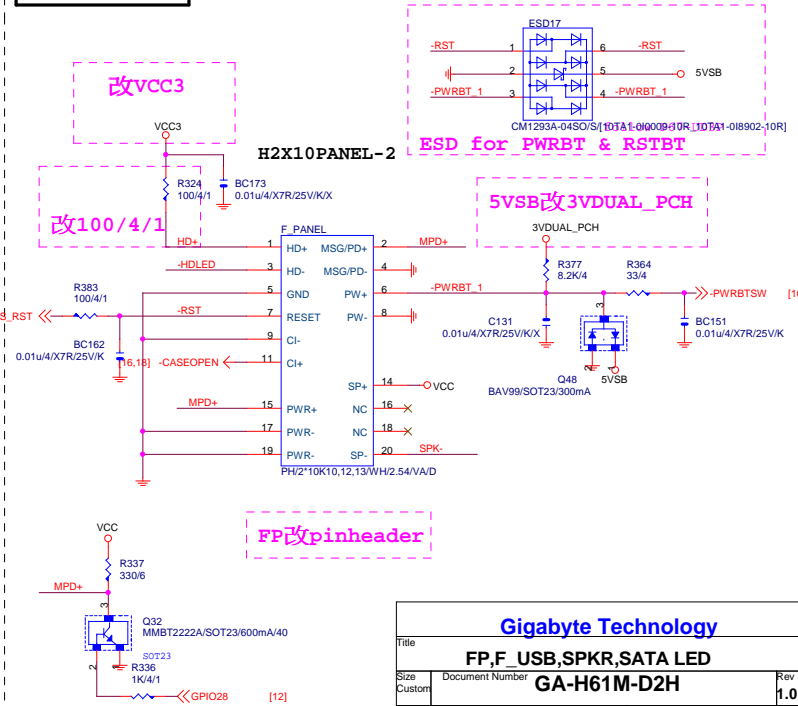


SPKR

RESETCONIN DEFAULT LOW
4sec, 會發BEEP, 故改2N7002

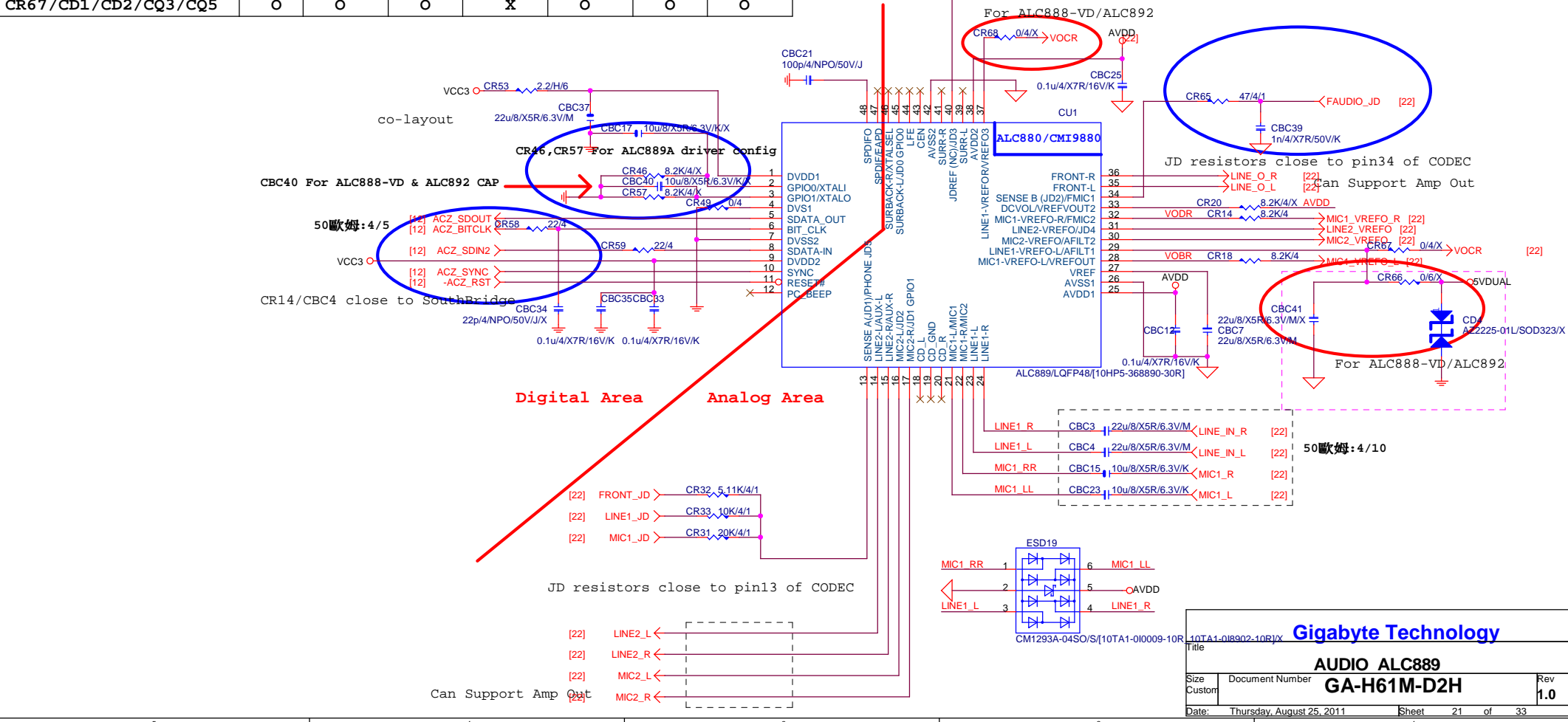


INTEL FRONT PANEL

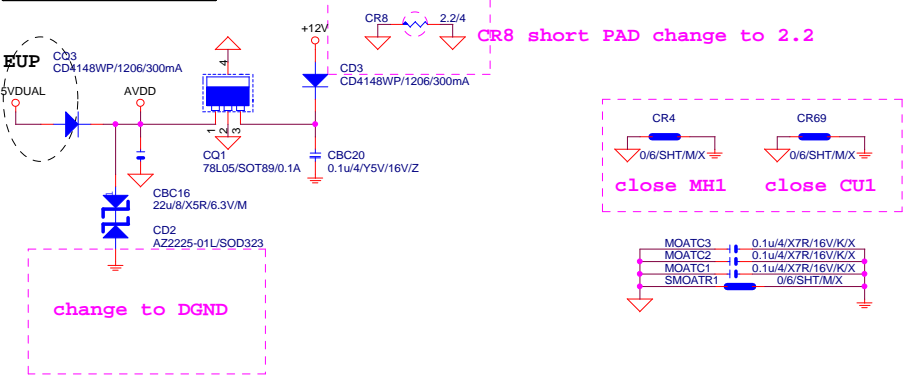


Gigabyte Technology			
Title	FP,F_USB,SPKR,SATA LED		
Size	Document Number		
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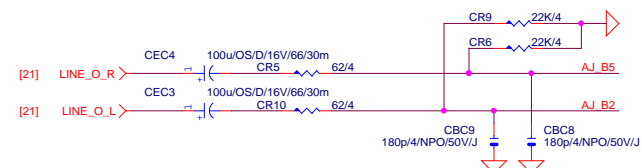
	ALC883	ALC888-VA	ALC888B	ALC888-VD	ALC892R	ALC889	ALC889A
CR46	X	X	X	X	X	X	O
CR57	X	X	X	X	X	X	O
CR49	O	O	X	X	X	O	O
CBC40	X	X	X	10uF/X5R	10uF/X5R	X	X
CR20	O	X	X	X	X	X	X
CR28	20K/1%	20K/1%	20K/1%	20K/1%	20K/1%	20K/1%	20K/0.1%
CR47	X	X	O	X	O	O	X
CR48	O	O	X	O	X	X	O
CBC2/CBC4/CBC5/ CBC6/CBC10/CBC11	4.7uF /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



CODEC POWER/EMI PAD

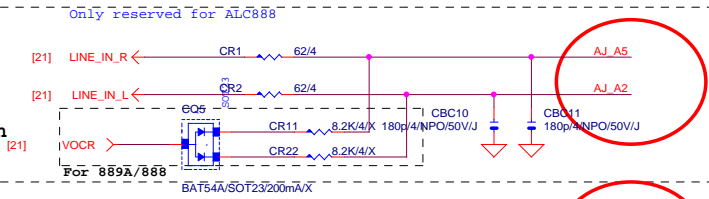


LINE-OUT

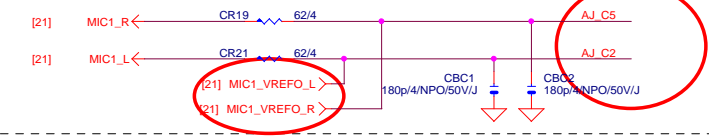


LINE-IN

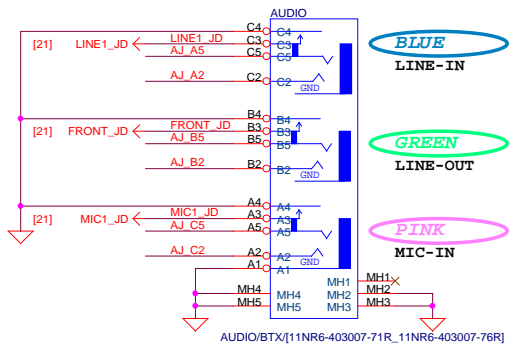
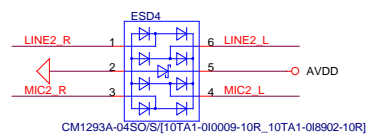
Verify MIC function in LINE-in



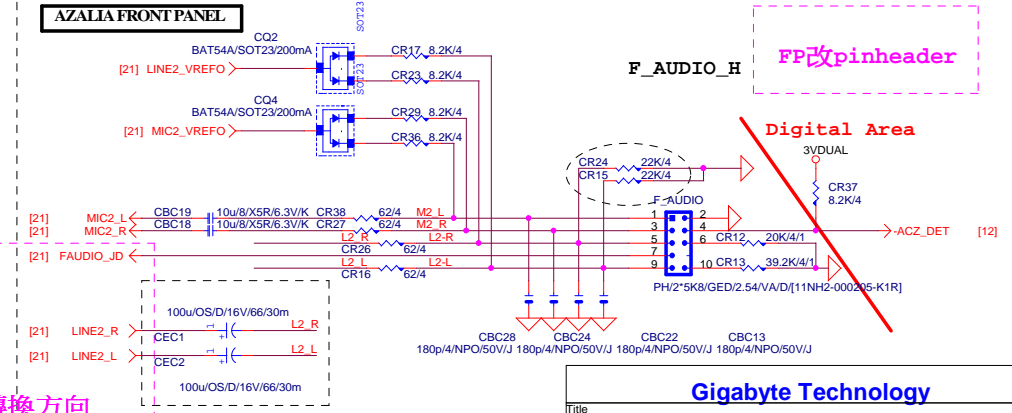
MIC-IN



AZALIA JACK



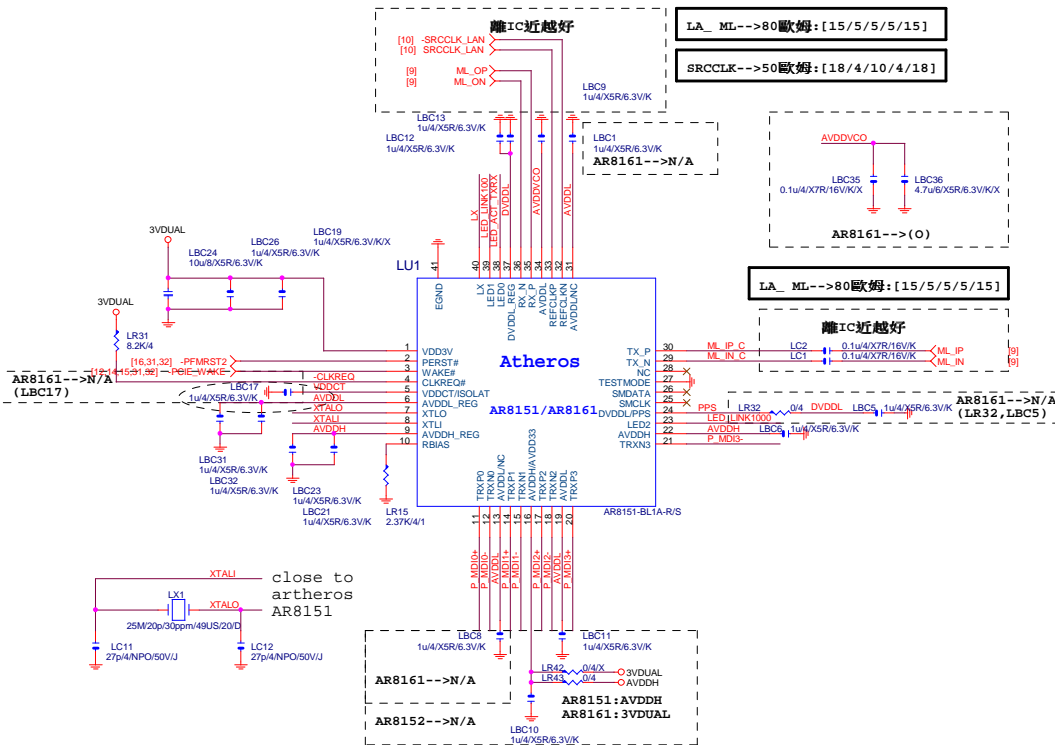
AZALIA FRONT PANEL



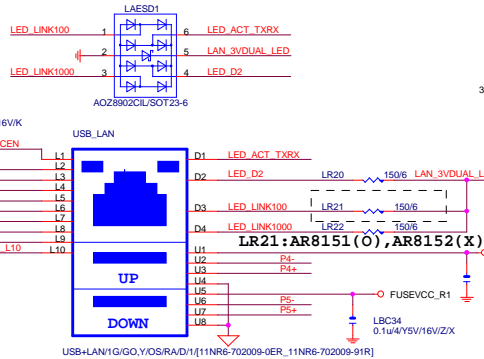
轉換方向

Gigabyte Technology			
Title			
AUDIO JACK			
GA-H61M-D2H			
Size	Document Number	Rev	
Custom		1.0	
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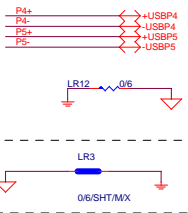
LAN:AR8151/AR8161



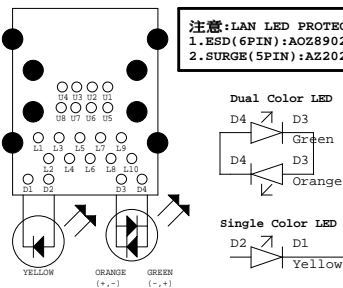
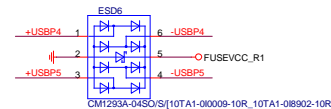
USB_LAN CONNECTOR



USB_LAN



CLOSE USB_LAN



注意:LAN LED PROTECT:(CO-LAYOUT)
1.ESD(6PIN):AOZ8902CIL/SOT23-6(DEFAULT)

USB-->90歐姆:[15/4.5/7.5/4.5/15]

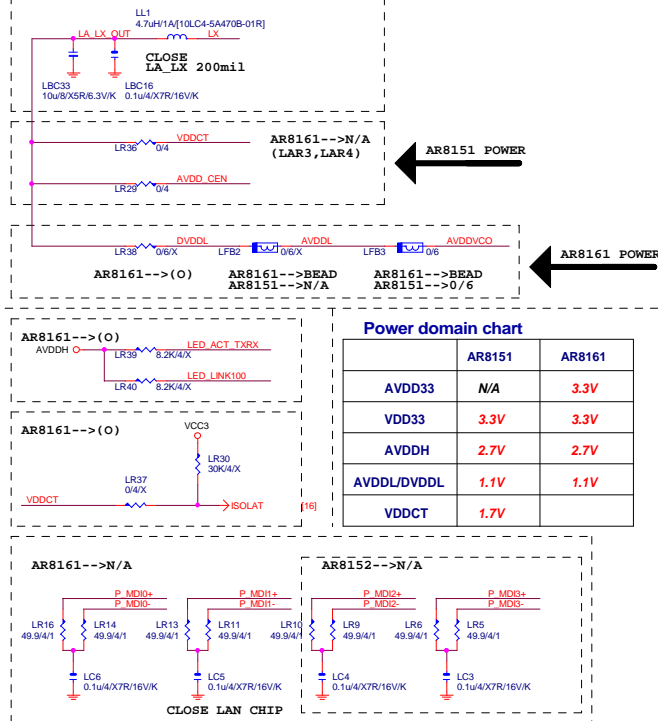
料號	規格	廠商
11NR6-702009-0ER	1G LAN (12core)	UDE
11NR6-702009-91R	1G LAN (8 core)	FOXCONN
11NR6-702009-92R	1G LAN (8 core)	UDE
11NR6-702009-11R	1G LAN (12core/RED)	UDE
11NR6-702009-12R	1G LAN (8 core/RED)	FOXCONN

USB_LAN BOM區分:

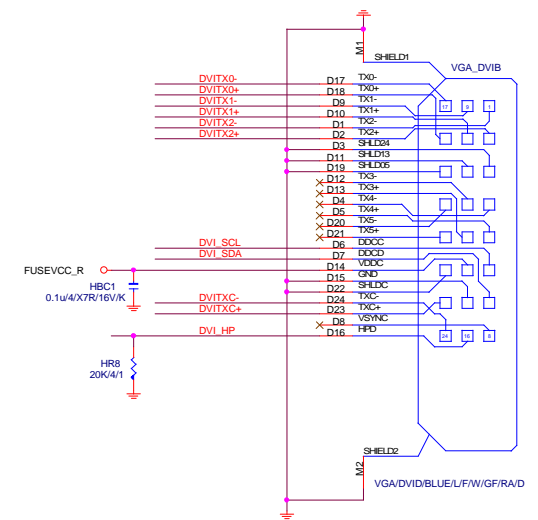
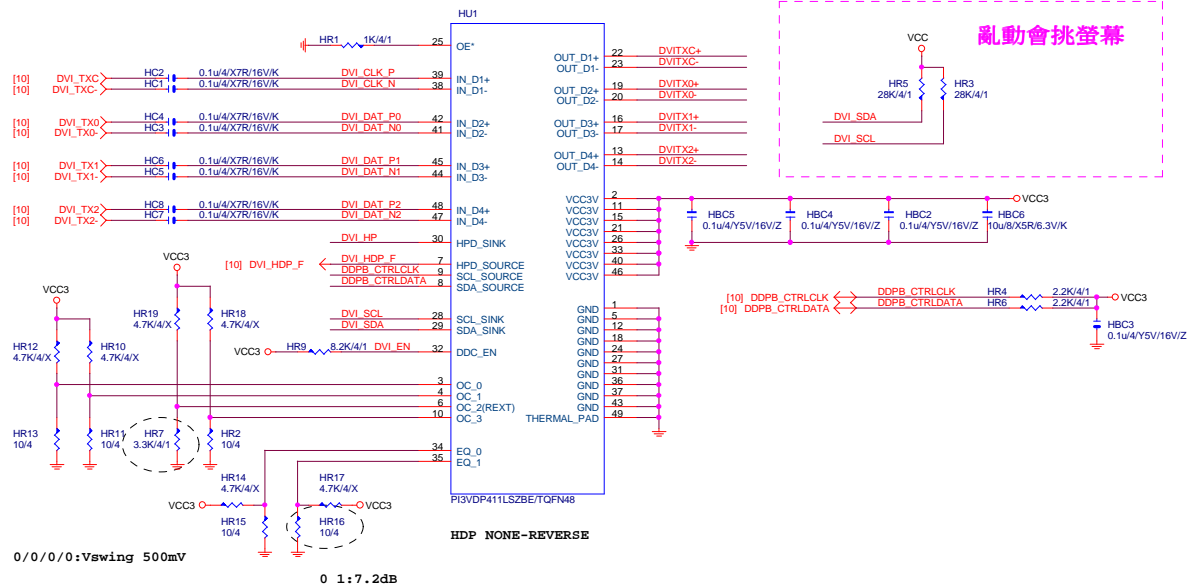
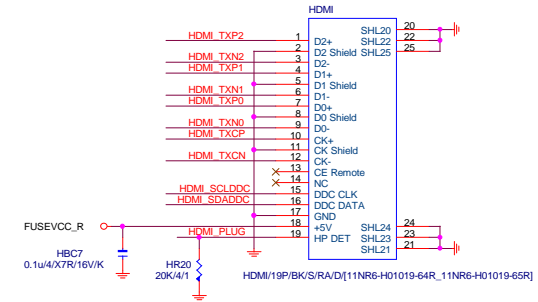
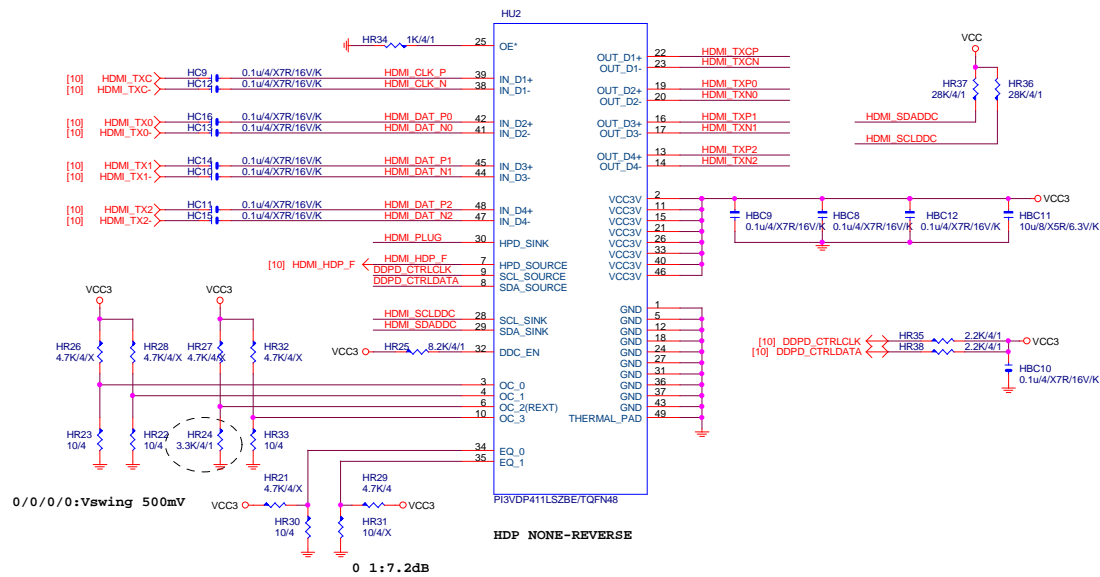
1. (紅色/12CORE/三倍):USB+LAN/1G/GO,Y/OS/RA/D/1/RED
2. (黑色/12CORE):USB+LAN/1G/GO,Y/OS/RA/D/1
3. (黑色/8CORE):USB+LAN/1G/GO,Y/OS/RA/D/8C

LAN POWER

```
NEW DESIGN ONLY FOR INTERNAL SWR
AR8151: LAR3(O), LAR5(X)
AR8161: LAR5(O), LAR3/LAR4(X)
```

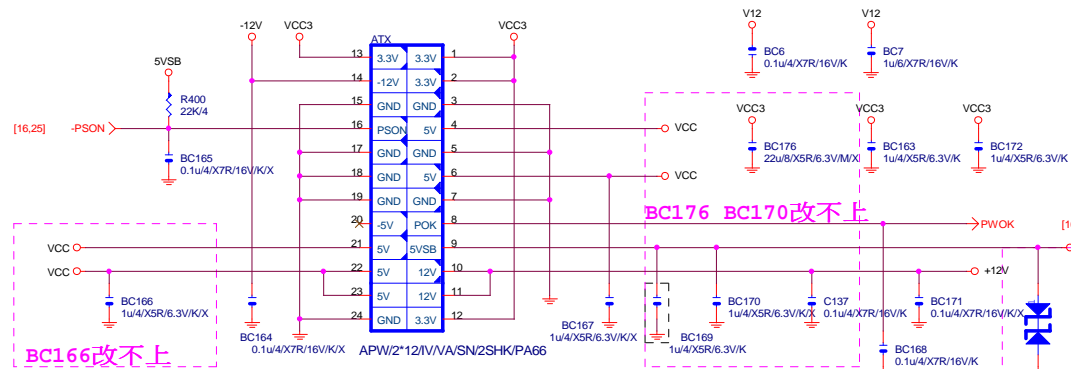


	AR8151	AR8161
AVDD33	N/A	3.3V
VDD33	3.3V	3.3V
AVDDH	2.7V	2.7V
AVDDL/DVDDL	1.1V	1.1V
VDDCT	1.7V	

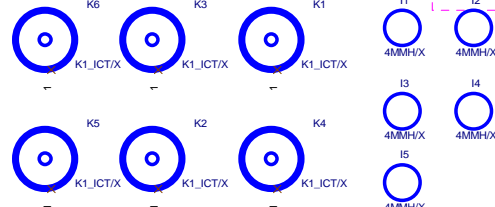
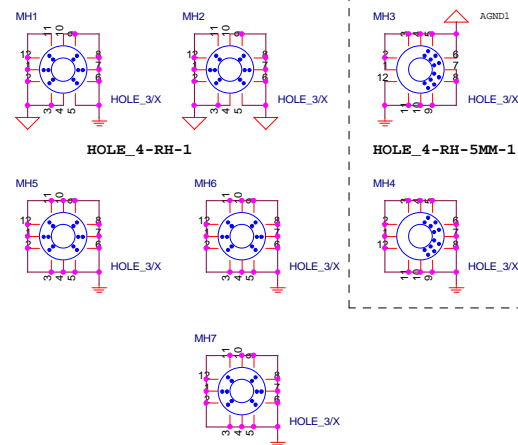
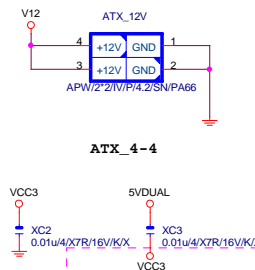


Gigabyte Technology			
Title			
HDMI / DVI			
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ATXX24 POWER CONNECTOR



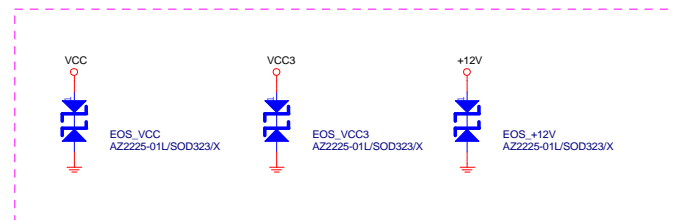
ATXX4 POWER CONNECTOR



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
```

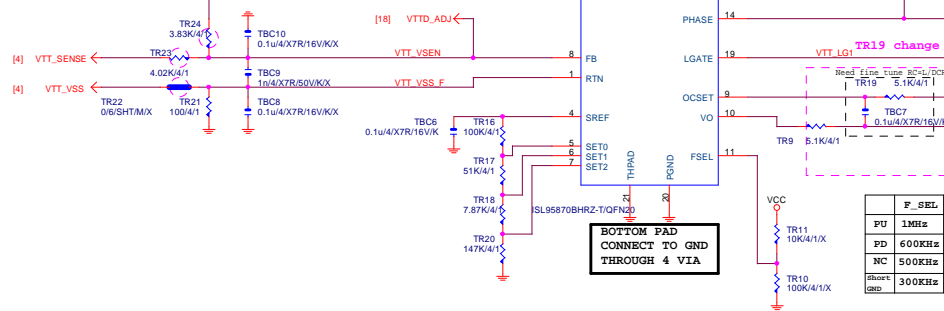
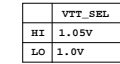


CPU_VTT

TR23 2K change to 3.83K

TR23 0 change to 4.02K

TR22 change to short pad

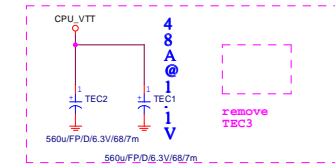
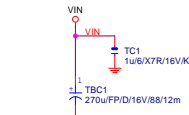


TR8 0 change to 1

TR2 0 change to 1

TR7 0 change to 1

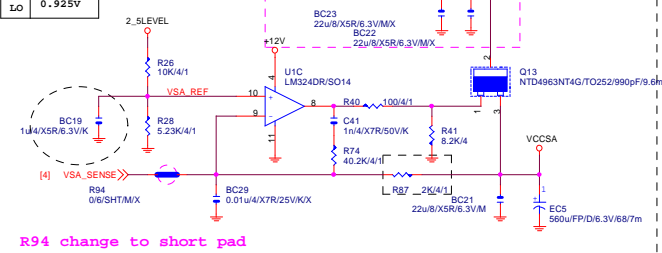
改PPAK & Ferrite Core



VCCSA

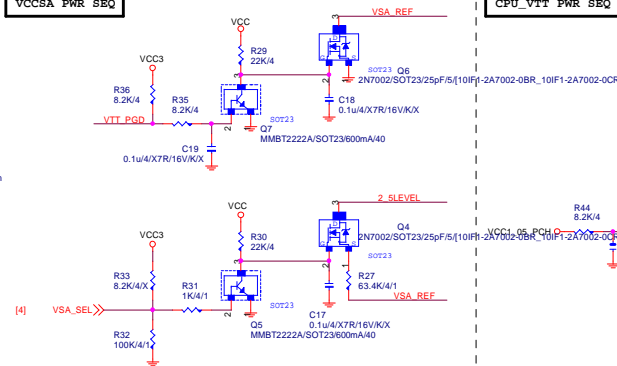
PDG 0.8

	VSA_SEL
HI	0.85V
LO	0.925V

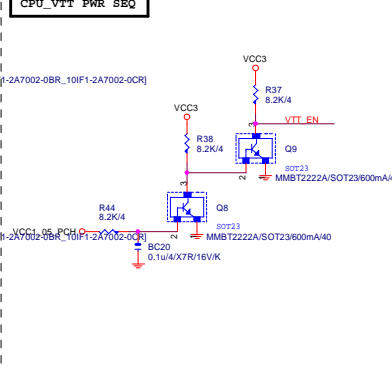


R94 change to short pad

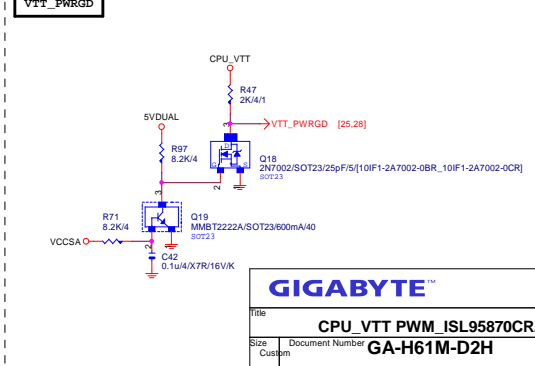
VCCSA PWR SEQ



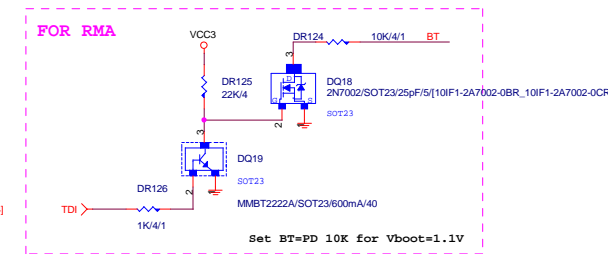
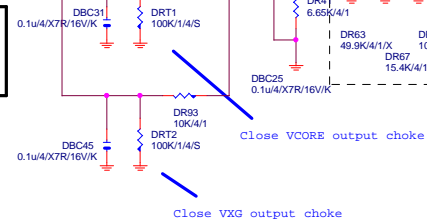
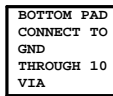
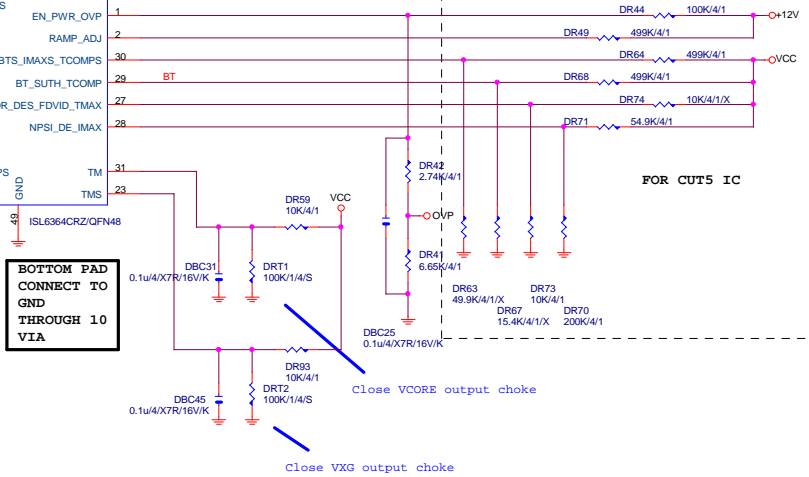
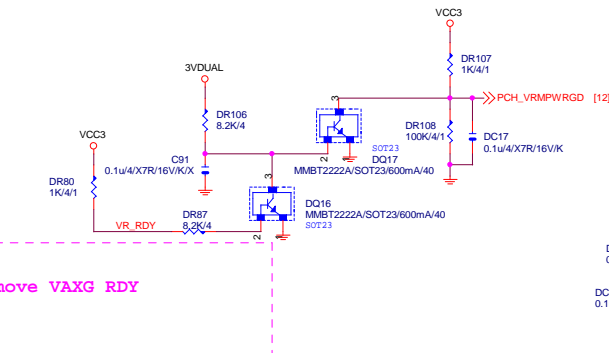
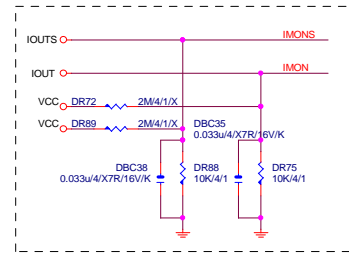
CPU_VTT	PWR	SEQ
---------	-----	-----



VTT_PWRGD

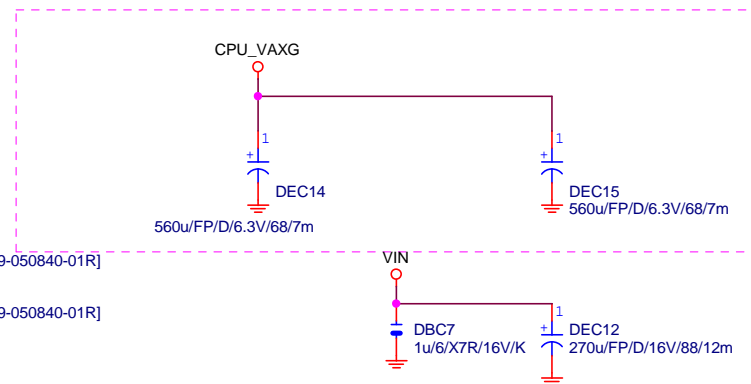
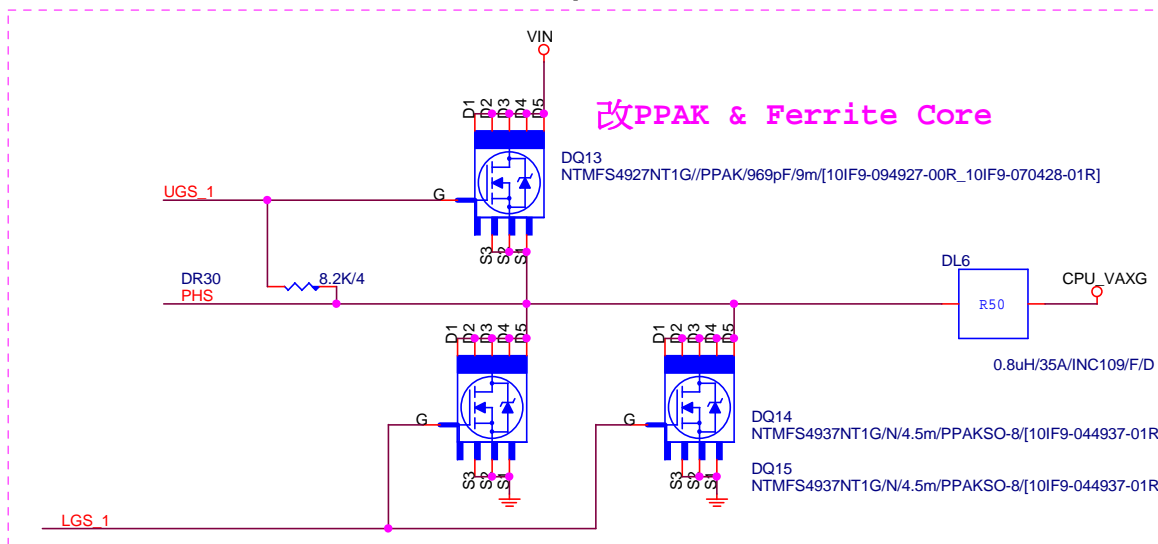
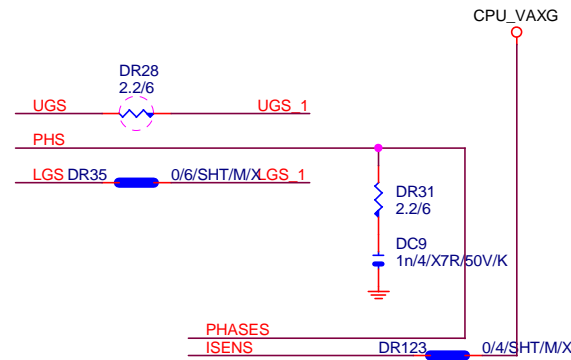
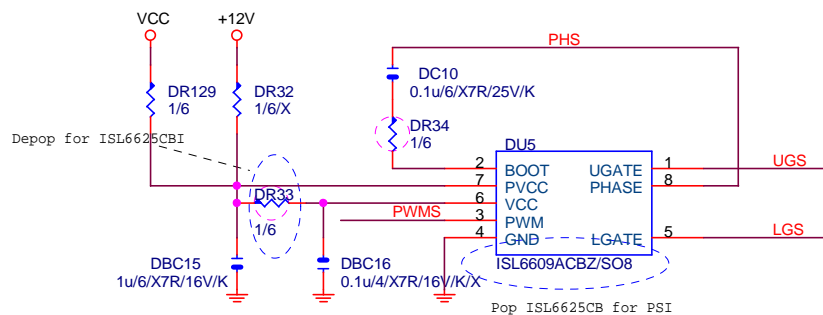


```
remove VAXG RDY
```



VAXG

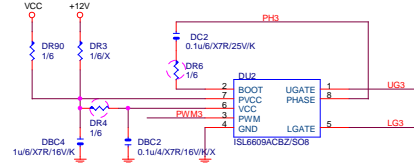
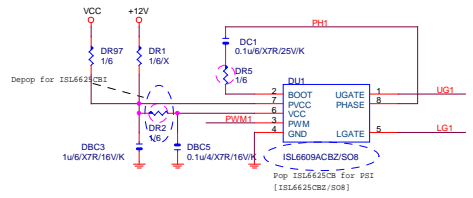
DR33 0 change to 1
DR34 0 change to 1
DR28 0 change to 2.2



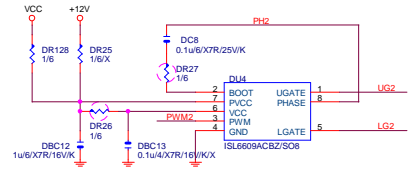
Gigabyte Technology

Title			CPU CORE VR-2
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DR5 0 change to 1
 DR2 0 change to 1
 DR4 0 change to 1
 DR6 0 change to 1



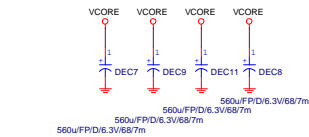
DR20 0 change to 1
 DR19 0 change to 1
 DR26 0 change to 1
 DR27 0 change to 1



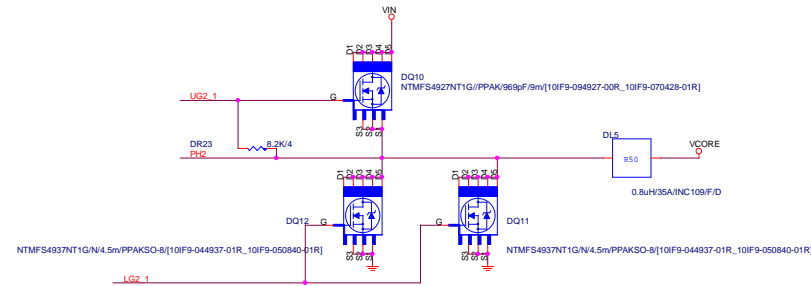
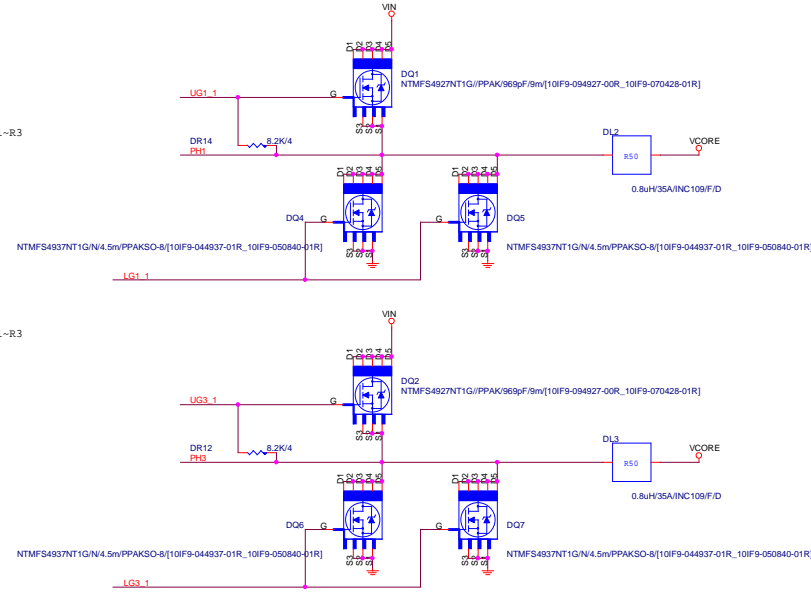
[1]

[3]

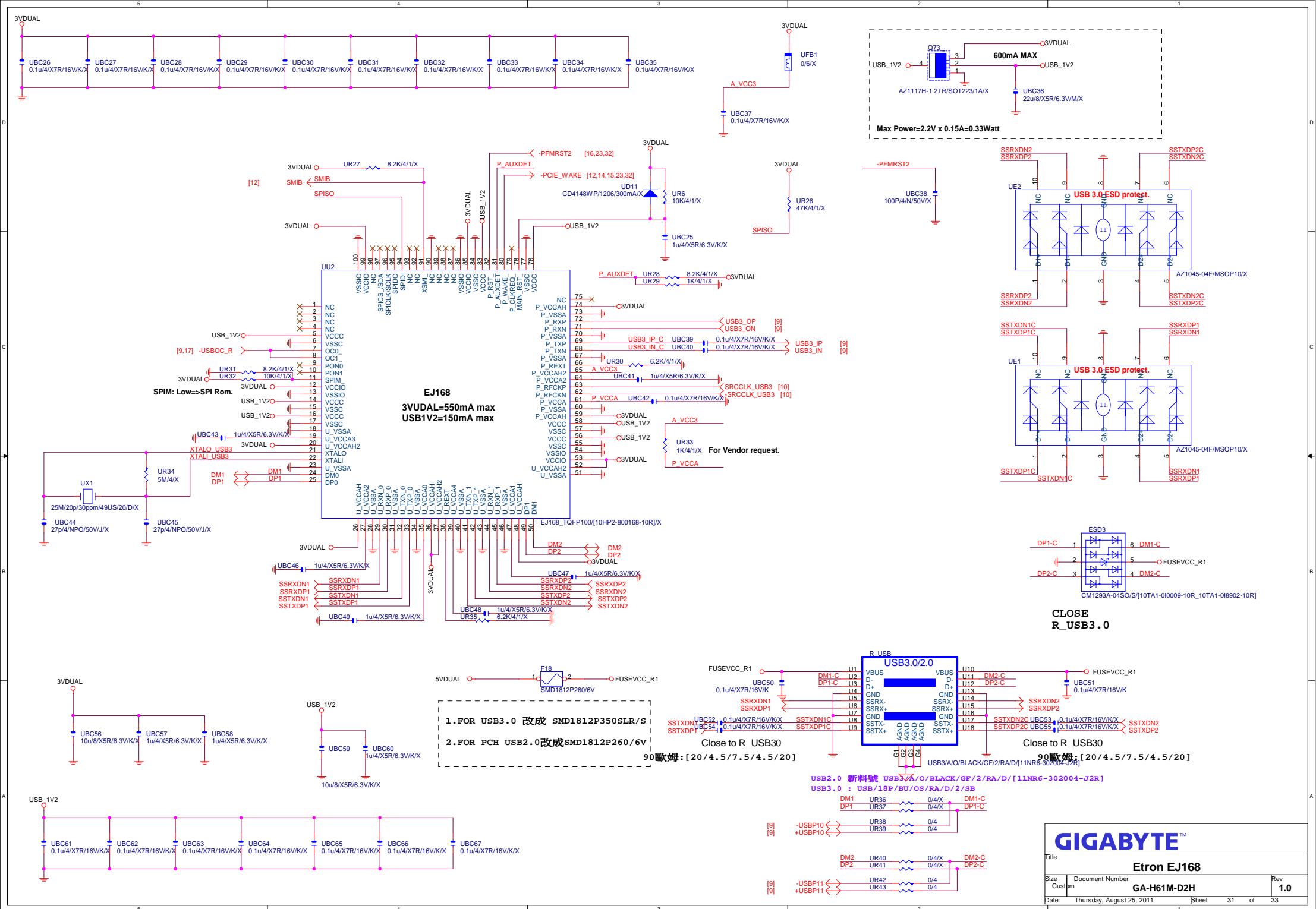
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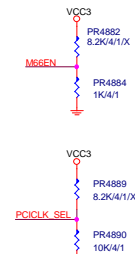
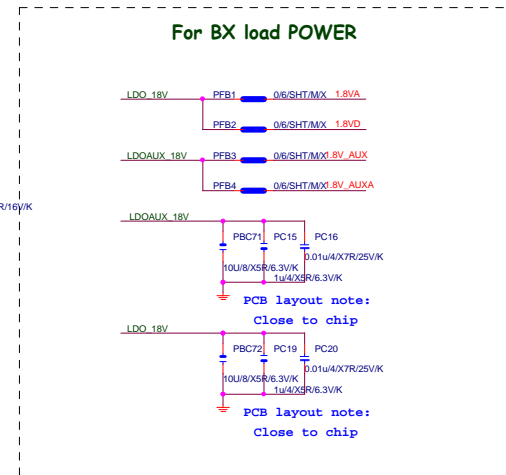


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Gigabyte Technology			
CPU CORE VR-3			
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High: PCICLK INPUT form CLK Gen
Low: PCICLK OUTPUT form IT8893 chip

