Model Name: GA-H61M-D2H-USB3

Revision 1.11

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 ALC887
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

Gigabyte Technology

Title: Cover Sheet

Size: Custom | Document Number: GA-H61M-D2H-USB3 | Rev: 1.11

Date: Tuesday, June 04, 2013 | Sheet 1 of 33

Model Name: GA-H61M-D2H-USB3 *Revision1.11*

Component value change history

2011/03/25

Data	Change Item	Reason
2010.12.31	9MH61MUB3-00-10B	first release
	Add PCIEX1_1 , 9172 , HDMI	
	Remove PCI2 , LPT	
2011.07.26	REV0.1	
	Vcore 改3phase; 4 dimm; 2 PCI; HDMI; DVI etc;1PCIEx1	
2011.08.01	REV0.1A	
	日固 + ALC889	
2011.08.03	REV0.2	
	REMOVE DDR3 clock buffer	
	GA-H61M-D2H-USB3	
2011.08.04	REV0.2	
	BOM option from H61M-D2H REV0.2 , add USB3.0 & 改文字面	
2011.08.25	REV1.0A	
	from REV0.2 TURN 1.0A BOM	
2011.11.16	REV1.0B	
	Level Shift IC更換成Asmedia 修改BOM	
2011.12.23	REV1.0C	
	更換 IT8728E/EX(GB)	
2012.07.13	REV1.1A	
	codec 889 沒有料,改上co-lay 887	
	修改PCB1.1 for業務需求改上co-lay 887	
2013.05.31	REV1.1B	
	修改PCB1.11 for修改 PCIE 12v防燒保護線路 ; RN5 short pad 改成0ohm	

Circuit or PCB layout change

DATE	Change Item	Reason
2010.12.30	H61M-USB3 1.00 gerber out	
	GA-H61M-D2H-USB3	
2010.12.30	REV0.2	
	BOM option from H61M-D2H REV0.2 PCB , add USB3.0 & 增加USB3.0文字面	
2012.07.13	REV1.1A	
	修改PCB1.1 for業務需求改上co-lay 887	
2013.05.31	REV1.11	
	修改PCB1.11 for修改 PCIE 12v防燒保護線路	

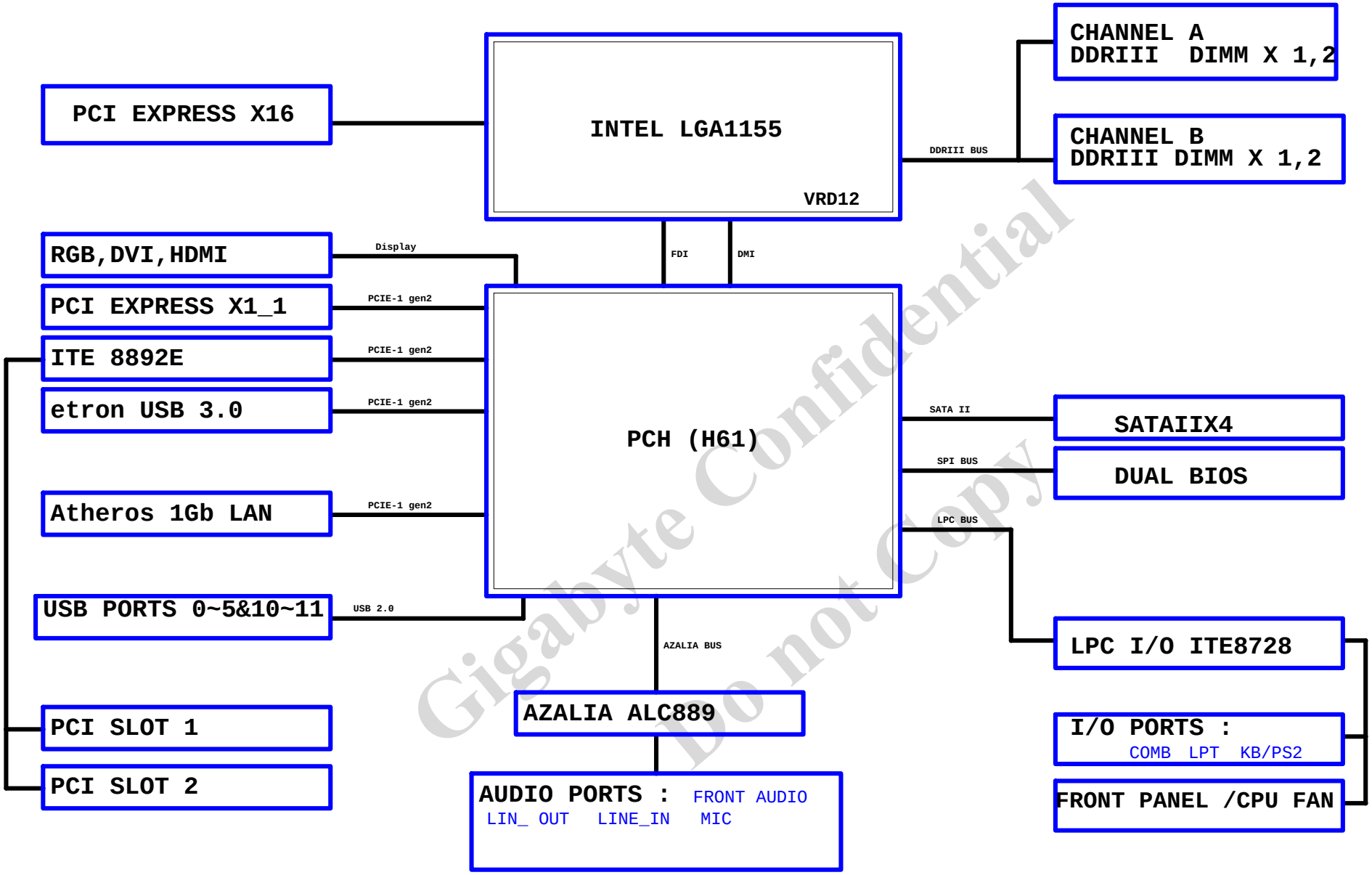
Gigabyte Technology

Title: BOM & PCB MODIFY HISTORY

Size: Custom | Document Number: GA-H61M-D2H-USB3 | Rev: 1.11

Date: Tuesday, June 04, 2013 | Sheet 2 of 33

BLOCK DIAGRAM



Gigabyte Technology		
Title: BLOCK DIAGRAM		
Size: C	Document Number: GA-H61M-D2H-USB3	Rev: 1.11
Date: Tuesday, June 04, 2013	Sheet 3 of 33	

R88 R93 R92 0 change to short

CPUE

CPUD

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

FDI LINK

4 OF 10

Stitching caps for PCIE,DMI,FDI bus

CPUC

PEG

DMI

GEN

3 OF 10

R208 R103 R156 R154 change to RN

R91 75 change to 100

R90 121 change to 100

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

建議用料

1.1V分壓

Q25 MMBT2222A/SOT23/600mA/40/X

Q28 MMBT2222A/SOT23/600mA/40

Q29 MMBT2222A/SOT23/600mA/40

Title	CPU LGA1155-A
Size	Custom
Document Number	GA-H61M-D2H-USB3
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Date:	Tuesday, June 04, 2013
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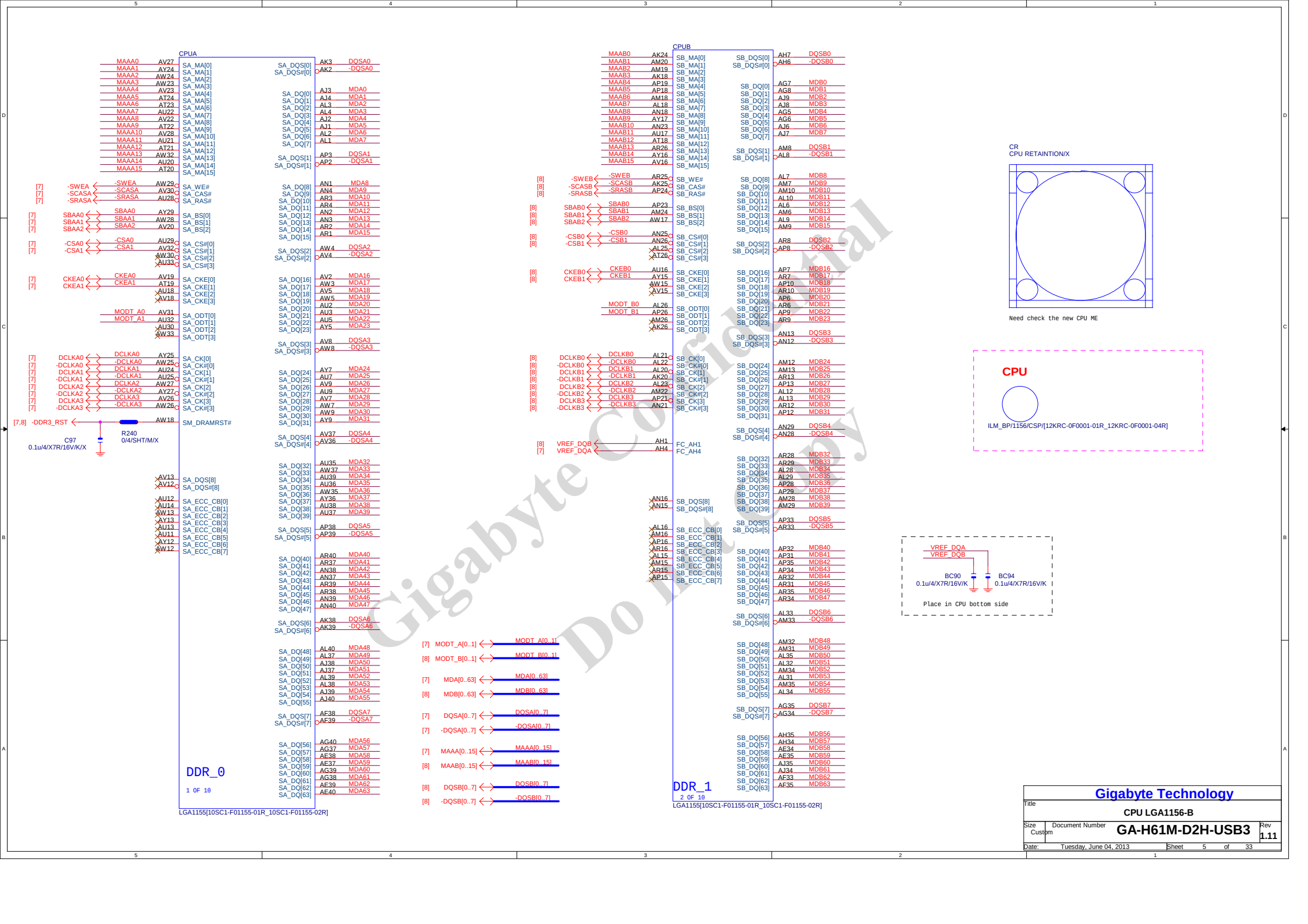
Gigabyte Technology


CPUA
DDR_0
1 OF 10
LGA1155[10SC1-F01155-01R_10SC1-F01155-02R]
CPUB
DDR_1
2 OF 10
LGA1155[10SC1-F01155-01R_10SC1-F01155-02R]
CR
CPU RETAINTION/X
Need check the new CPU ME
CPU
ILM_BP/1156/CSP/[12KRC-0F0001-01R_12KRC-0F0001-04R]
VREF_DQA
VREF_DQB
BC90
0.1u/4/X7R/16V/K
BC94
0.1u/4/X7R/16V/K
Place in CPU bottom side
C97
0.1u/4/X7R/16V/K/X
R240
0/4/SHT/M/X
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Do Not Copy
Gigabyte Technology
CPU LGA1156-B
GA-H61M-D2H-USB3
Rev 1.11
Date: Tuesday, June 04, 2013
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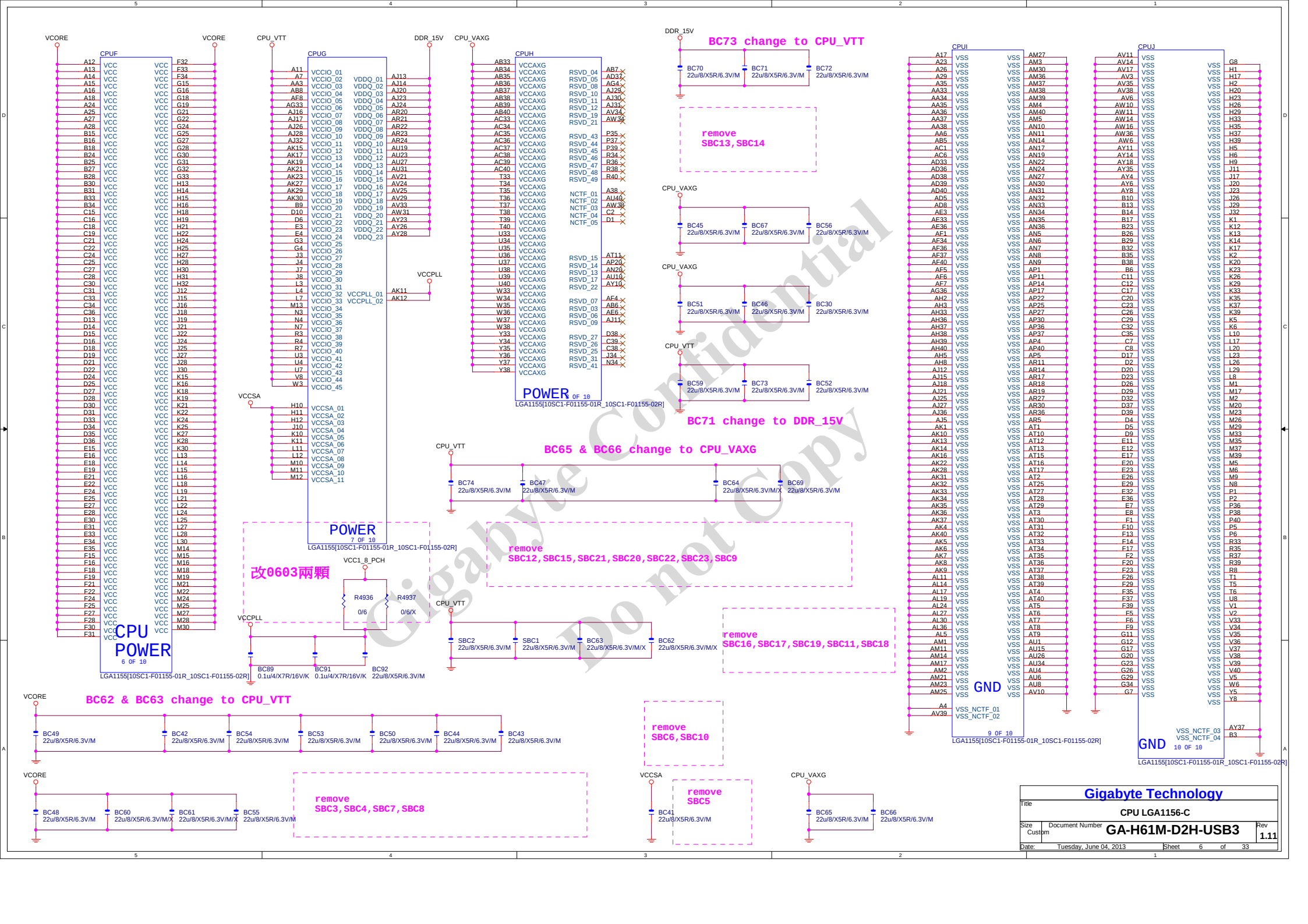
CPU POWER
6 OF 10
LGA1155[10SC1-F01155-01R_10SC1-F01155-02R]
POWER
7 OF 10
LGA1155[10SC1-F01155-01R_10SC1-F01155-02R]
POWER
9 OF 10
LGA1155[10SC1-F01155-01R_10SC1-F01155-02R]
GND
9 OF 10
LGA1155[10SC1-F01155-01R_10SC1-F01155-02R]
GND
10 OF 10
LGA1155[10SC1-F01155-01R_10SC1-F01155-02R]
BC73 change to CPU_VTT
remove SBC13,SBC14
BC71 change to DDR_15V
BC65 & BC66 change to CPU_VAXG
改0603兩顆
remove SBC12,SBC15,SBC21,SBC20,SBC22,SBC23,SBC9
remove SBC16,SBC17,SBC19,SBC11,SBC18
BC62 & BC63 change to CPU_VTT
remove SBC6,SBC10
remove SBC3,SBC4,SBC7,SBC8
remove SBC5
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CPU LGA1156-C
GA-H61M-D2H-USB3
1.11
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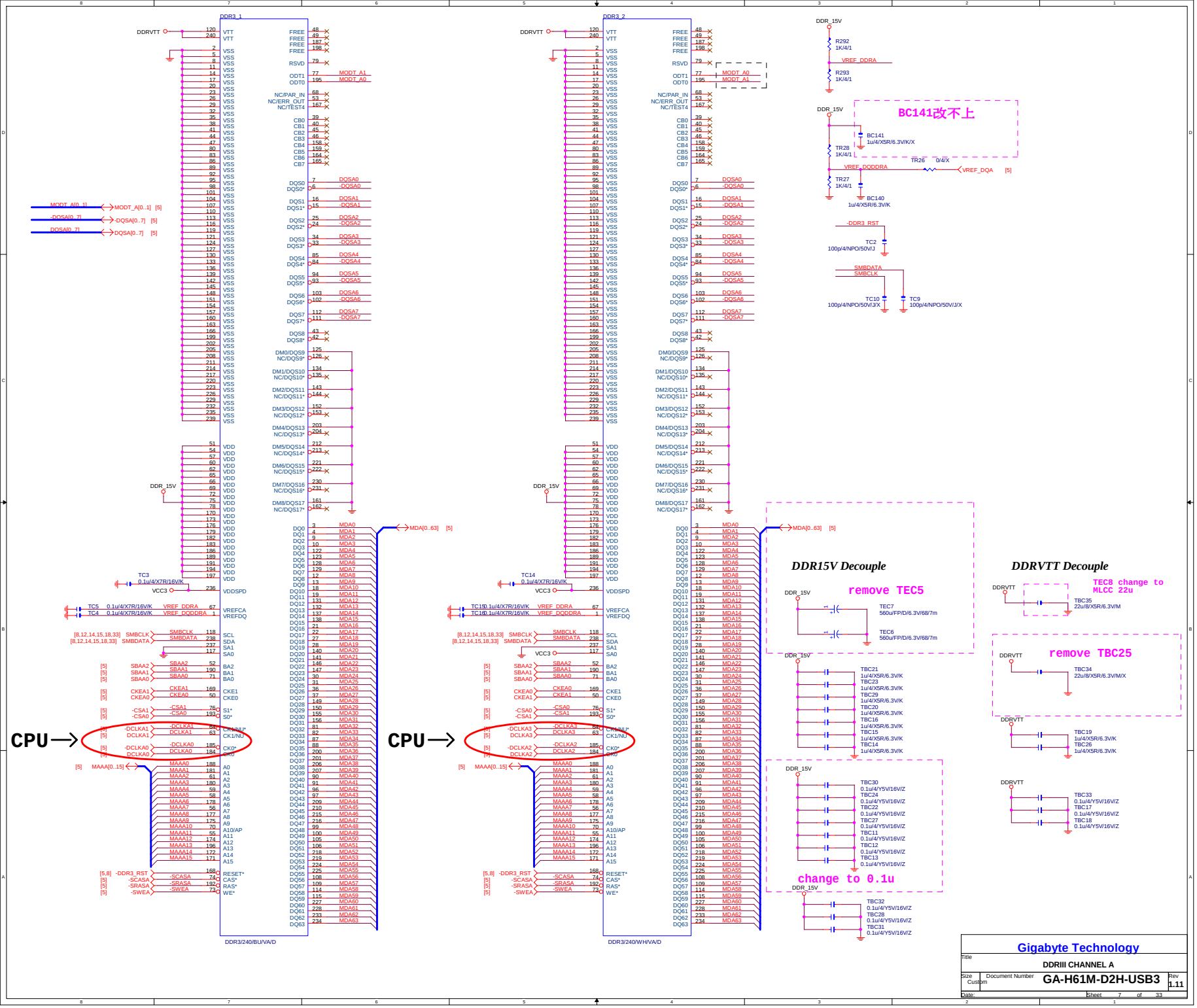
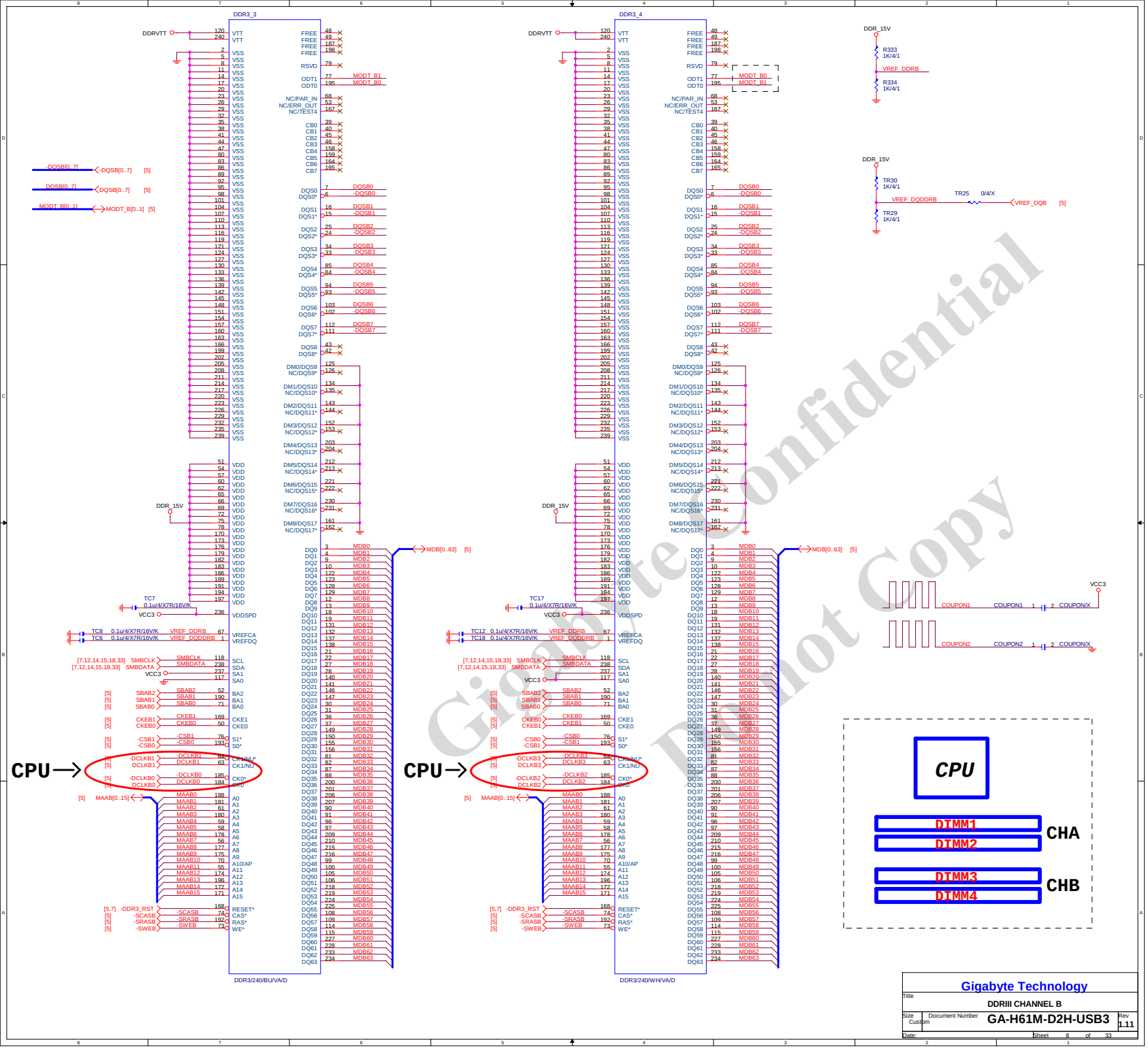

DDR3_1
DDR3_2
DDR3/240/BU/VA/D
DDR3/240/WH/VA/D
CPU
DDR15V Decouple
remove TEC5
DDRVTT Decouple
TEC8 change to MLCC 22u
remove TBC25
change to 0.1u
BC141改不上
Gigabyte Technology
DDRIII CHANNEL A
GA-H61M-D2H-USB3
Rev 1.11



Gigabyte Technology	
Title	DDRIII CHANNEL B
Size: Custom	Document Number: GA-H61M-D2H-USB3
Rev: 1.11	
Date:	Sheet 8 of 33

H61 disable
USB6,7,12,13

FRONT

REAR

PCIEX1_1

BRIDGE

USB3.0

LAN

H61 disable
PCI-E 7,8

H61 OC change

finetune USB driving

NEW

FOR FUSE SHORT GPIO

NEW FOOTPRINT:BGAHSINK_PCH_HS

BC80改不上

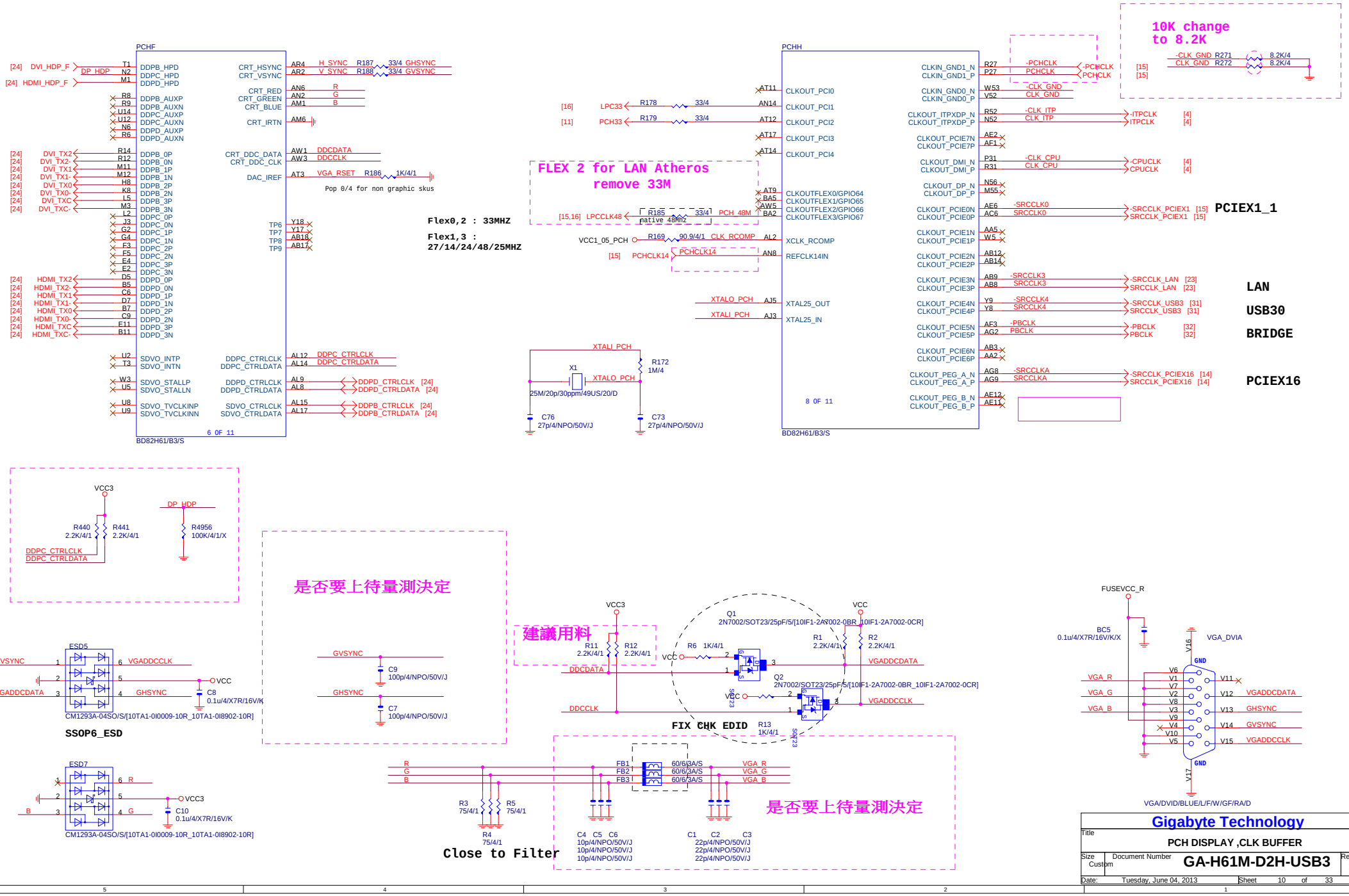
USB OC#	Configure for H61
OC0#	USB0,1(F_USB1)
OC1#	USB2,3(F_USB2)
OC2#	USB4,5(USB_LAN)
OC3#	N/A
OC4#	N/A
OC5#	N/A
OC6#	N/A
OC7#	GPIO14

R1018 short to GND in non graphic SKU

DMI /FDI termination voltage

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

Gigabyte Technology			
Title: PCH FDI,DMI,USB ,PCIE,NVRAM			
Size: Custom	Document Number: GA-H61M-D2H-USB3		Rev: 1.11
Date: Tuesday, June 04, 2013		Sheet 9 of 33	



Gigabyte Technology	
Title	PCH DISPLAY ,CLK BUFFER
Size: Custom	Document Number: GA-H61M-D2H-USB3
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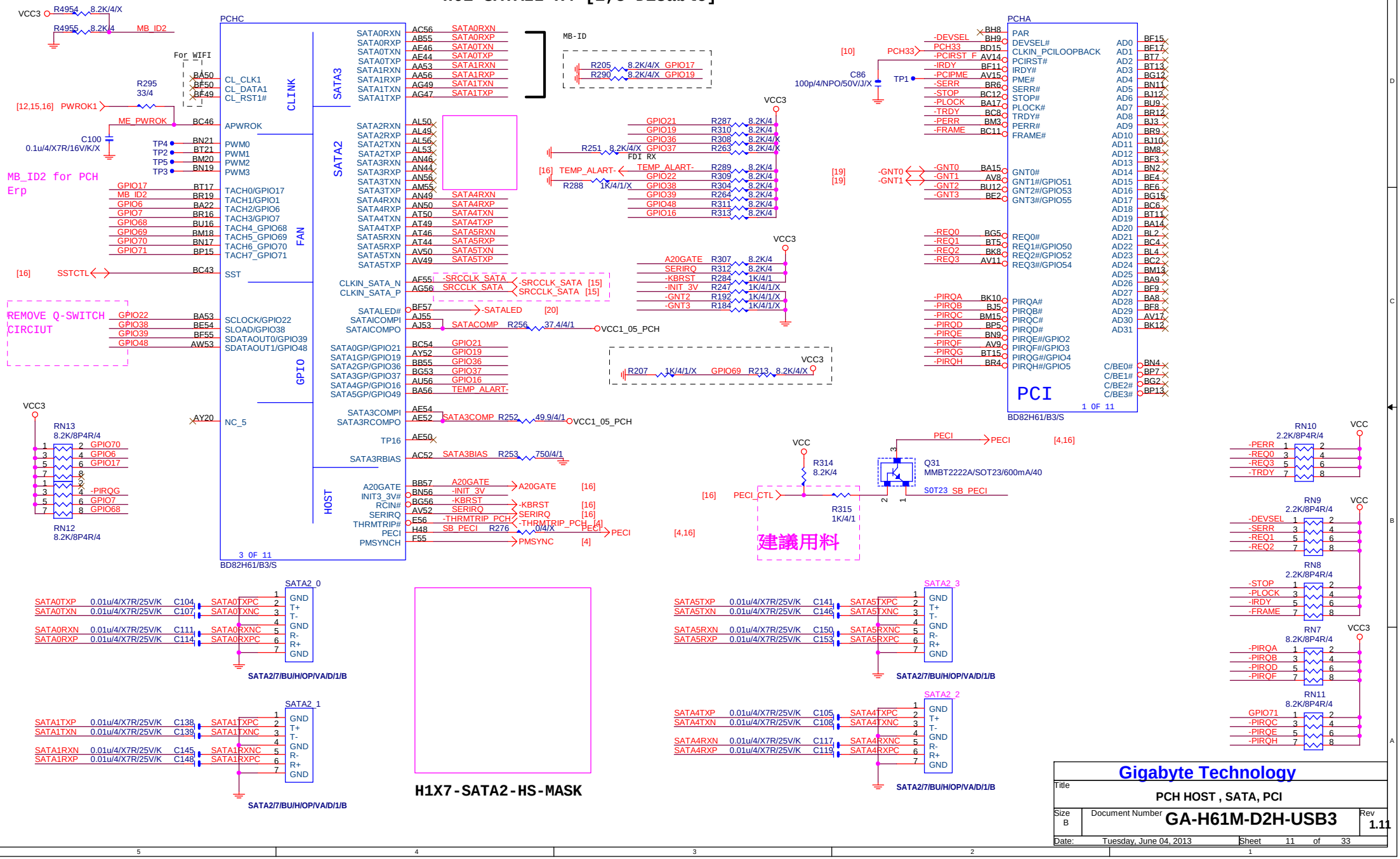
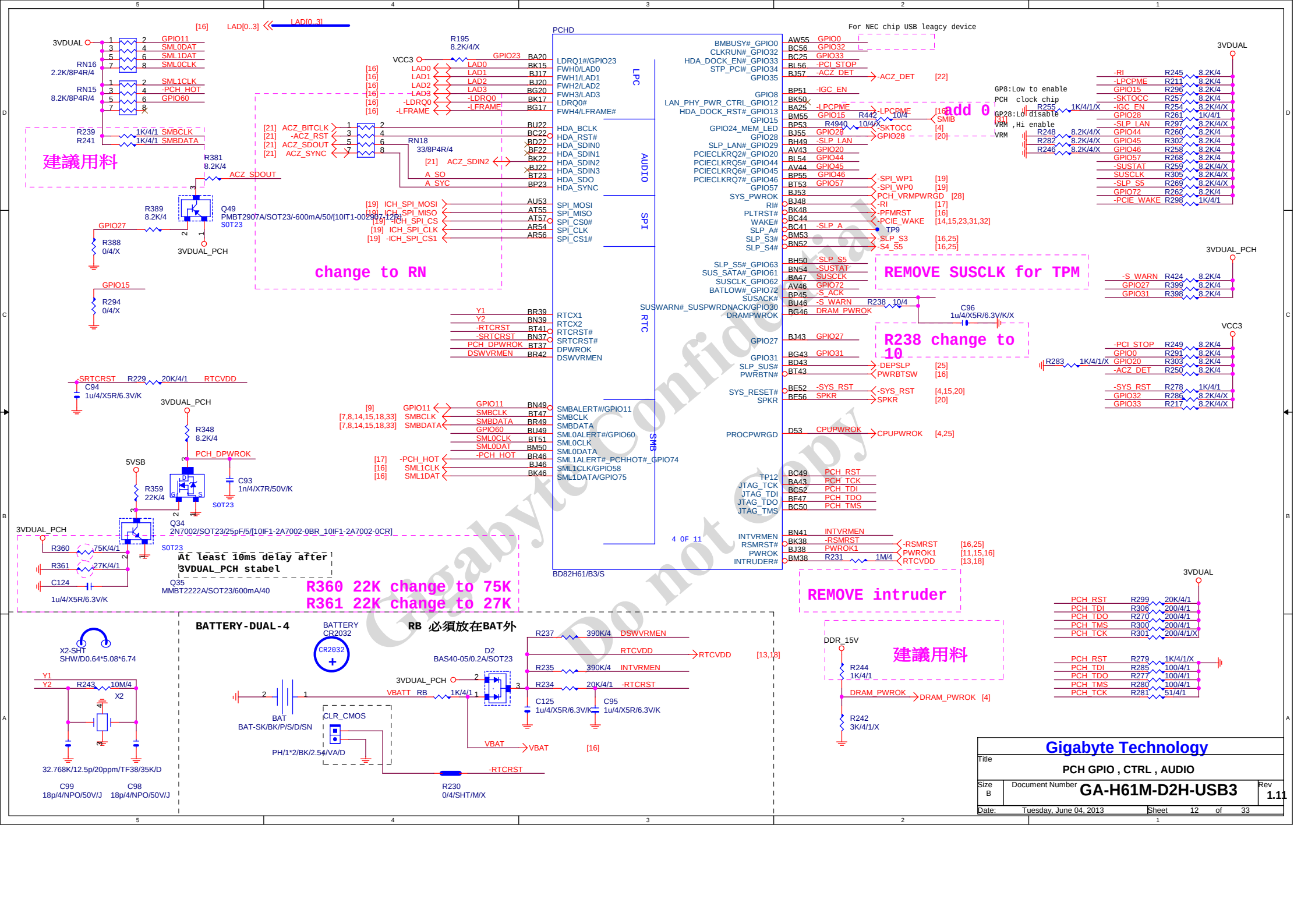
Date: Tuesday, June 04, 2013	Sheet 10 of 33

H61 SATAII x4 [2,3 Disable]




建議用料
change to RN
PCHD
LPC
AUDIO
SPI
RTC
SMB
BD82H61/B3/S
For NEC chip USB leagcy device
add 0
REMOVE SUSCLK for TPM
R238 change to 10
REMOVE intruder
建議用料
R360 22K change to 75K
R361 22K change to 27K
At least 10ms delay after 3VDUAL_PCH stabel
BATTERY-DUAL-4
RB 必須放在BAT外
Gigabyte Technology
PCH GPIO , CTRL , AUDIO
GA-H61M-D2H-USB3
Rev 1.11
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Sheet 12 of 33
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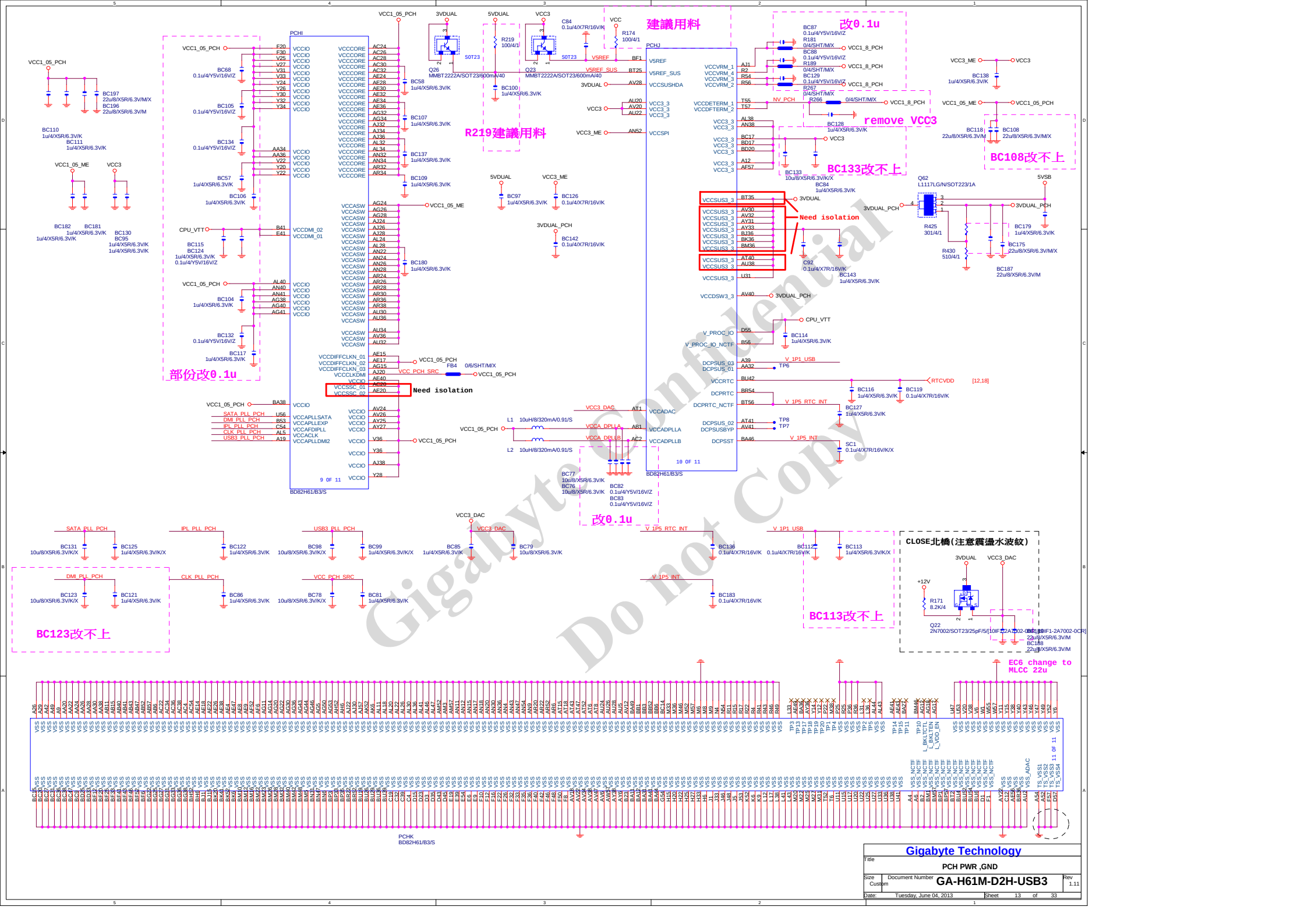
Do not copy


建議用料
改0.1u
remove VCC3
BC108改不上
BC133改不上
R219建議用料
部份改0.1u
Need isolation
Need isolation
BC123改不上
改0.1u
BC113改不上
CLOSE北橋(注意震盪水波紋)
EC6 change to MLCC 22u
PCHI
PCHJ
PCHK
BD82H61/B3/S
Gigabyte Technology
PCH PWR ,GND
GA-H61M-D2H-USB3
Rev 1.11
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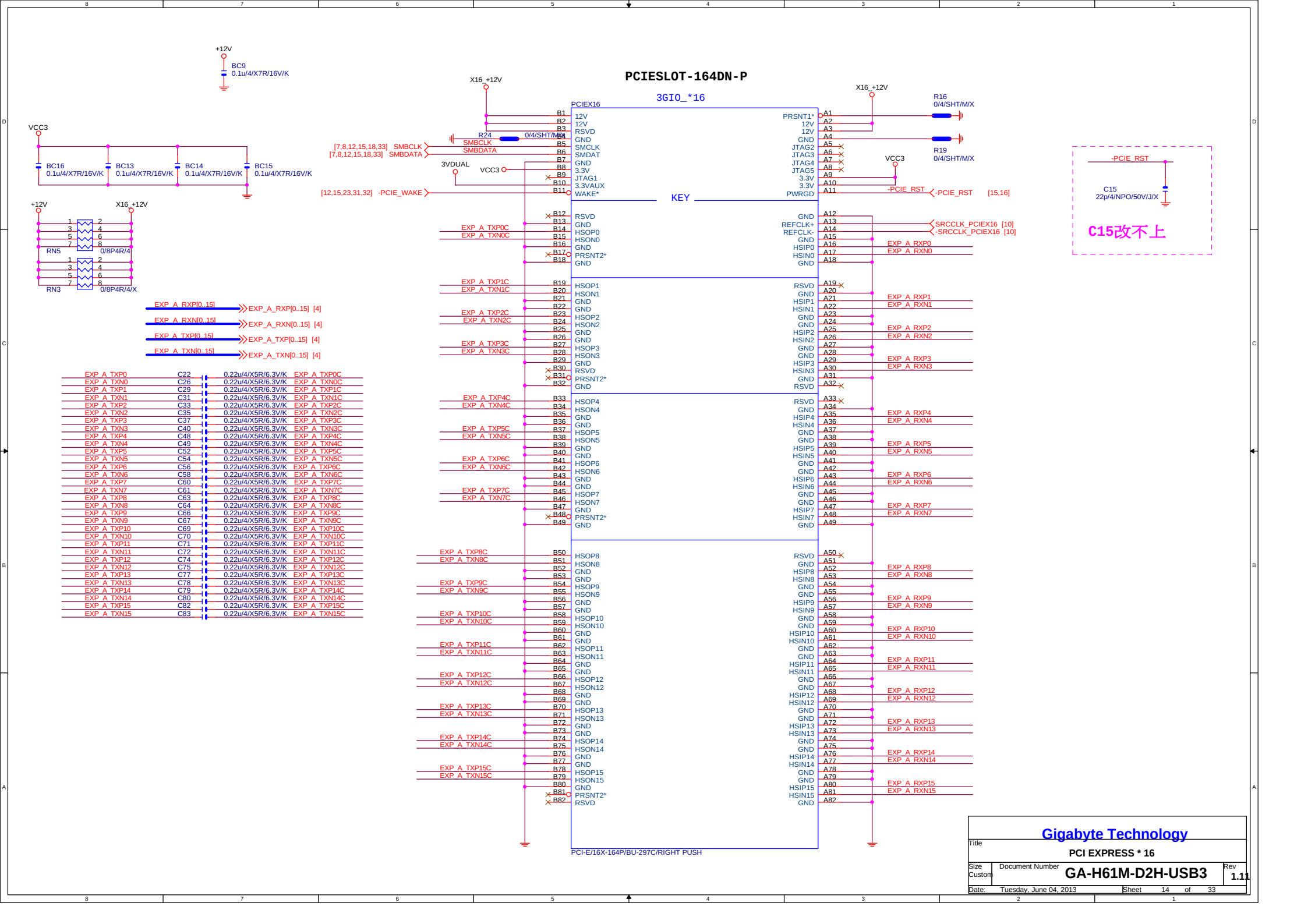
PCIESLOT-164DN-P
3GIO_*16
PCIEX16
KEY
PCI-E/16X-164P/BU-297C/RIGHT PUSH
+12V
BC9
0.1u/4/X7R/16V/K
VCC3
BC16
BC13
BC14
BC15
0.1u/4/X7R/16V/K
X16_+12V
RN5
RN3
0/8P4R/4/X
EXP_A_RXP[0..15]
EXP_A_RXN[0..15]
EXP_A_TXP[0..15]
EXP_A_TXN[0..15]
R24
0/4/SHT/M/X
R16
R19
3VDUAL
SMBCLK
SMBDATA
-PCIE_WAKE
-PCIE_RST
SRCCLK_PCIEX16
-SRCCLK_PCIEX16
C15
22p/4/NPO/50V/J/X
C15改不上
Gigabyte Technology
PCI EXPRESS * 16
GA-H61M-D2H-USB3
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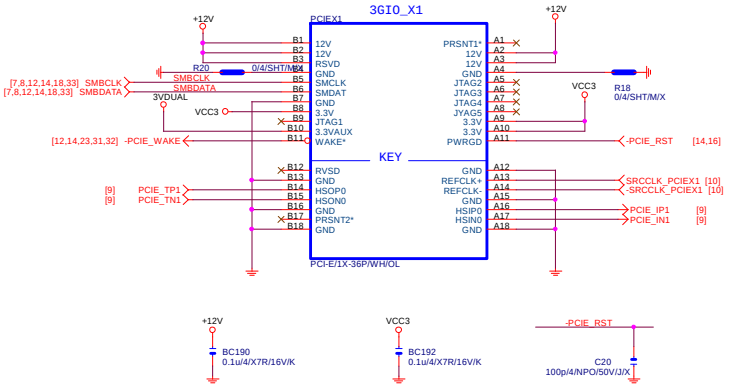
Rev 1.11

PCIEX1

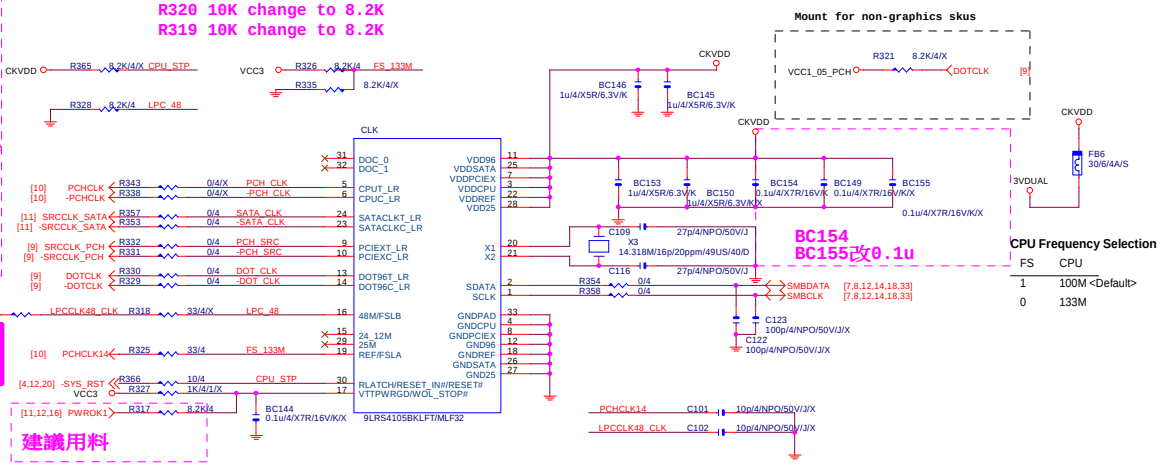


INTERNAL CLK STRAPPING

SRCCLK_PCH R323 8.2K/4/X
-SRCCLK_PCH R322 8.2K/4/X
DOTCLK R320 8.2K/4/X
-DOTCLK R319 8.2K/4/X
PCHCLK14 R316 8.2K/4/X
10K change to 8.2K
SRCCLK_SATA R356 8.2K/4/X
-SRCCLK_SATA R352 8.2K/4/X
-PCHCLK R339 8.2K/4
PCHCLK R344 8.2K/4

CLK GEN

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



Gigabyte Technology			
Title: PCIE X 1/CLK GEN			
Size: Custom	Document Number: GA-H61M-D2H-USB3		Rev: 1.11
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GP22 Default GP22 DIOD8

GP23 Default CPU_PG DOD8

REMOVE R146,R149

powerflow change to 3VDUAL_PCH

R83 R66 change to 10

R109 0 change to 10

ADD LPT PORT

IT8728F(GB)

CHIP IT8728F/EX (GB) ITE

CPU_FAN

SYS_FAN

FOR AR8161

COMB

-PFMRST2 for TPM

For IT8728

For IT8721 Power leakage

For 8728 EUP function

GP22 for LAN AR8151

GP40 Default 3VSBSW# DO8

CHK GPIO53

REMOVE ON/OFF CHARGER

(-PSON FOR TEST ATX)

EUP

internal power pin, max 22nF cap

remove DTR1- & RTS1-

EUP control by PCH

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

remove IO GP43 pull high

REMOVEQ20 R158 & R155 for ITE 8728 DX

建議用料

建議用料

PCIRST1 is OD in IT8728

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

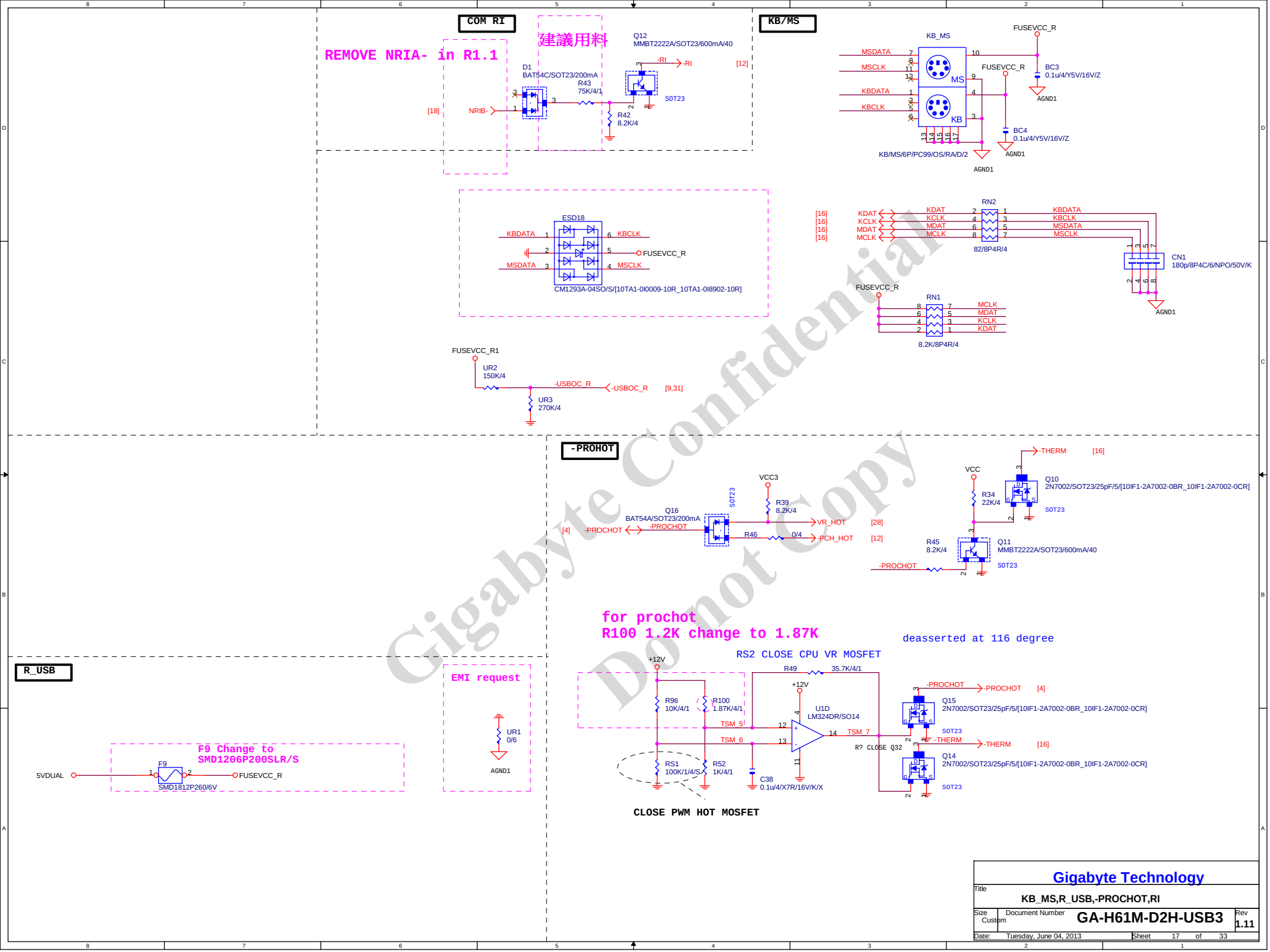
	IT8728
PIN121	VCORE_EN/PCH_C0
PIN120	VLDT_EN/PCH_D0
PIN19	ATXPG
PIN31	PCH_C1
PIN53	SST/AMDTSI_D/MTRB#/PCH_D1
PIN55	PECI/AMDTSI_C/DRVB#
PIN66	SYS_3VSB
PIN70	GP47
PIN95	VIN2(VCC5)
PIN96	VIN1(VCC12)
PIN97	VIN1/VDIMM_STR(1.5V)
PIN98	VIN0/VCORE(1.1V)/NC

Gigabyte Technology

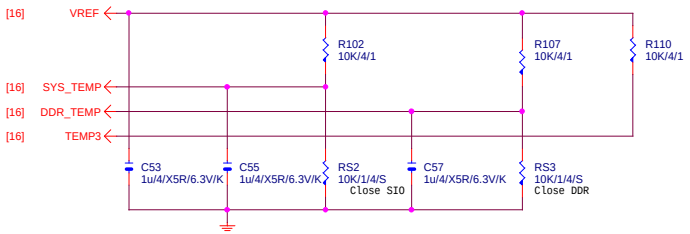
Title: ITE 8728 LPC IO

Size: B | Document Number: GA-H61M-D2H-USB3 | Rev: 1.11

Date: Tuesday, June 04, 2013 | Sheet 16 of 33

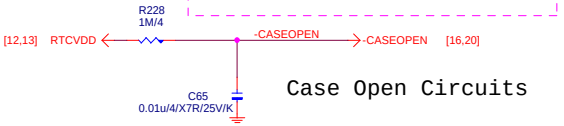


TEMP H/W MONITOR



CASE OPEN

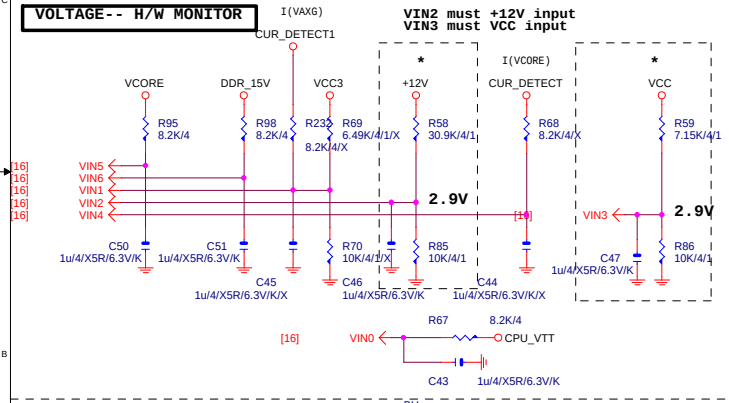
REMOVE intruder



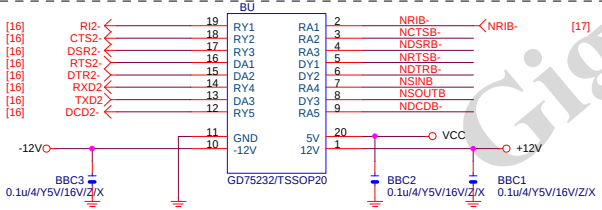
Case Open Circuits

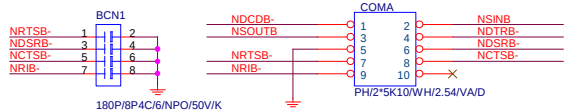
VOLTAGE-- H/W MONITOR

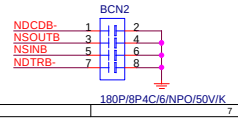
VIN2 must +12V input
VIN3 must VCC input



COMB



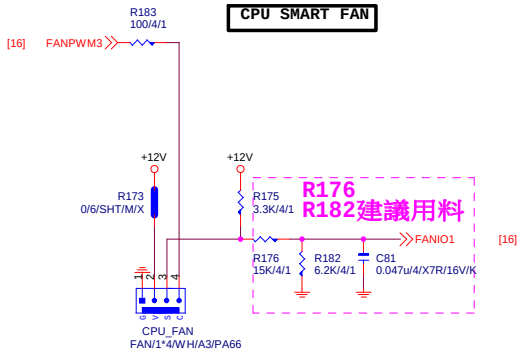




COMB改pinheader

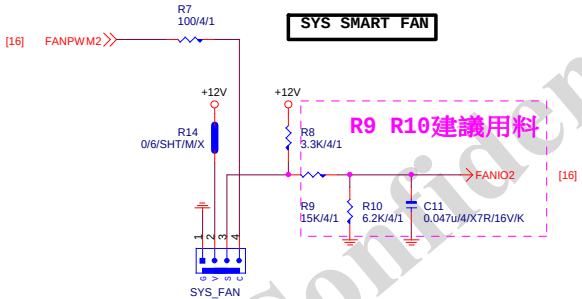
COMB改COMA 1.1

CPU SMART FAN



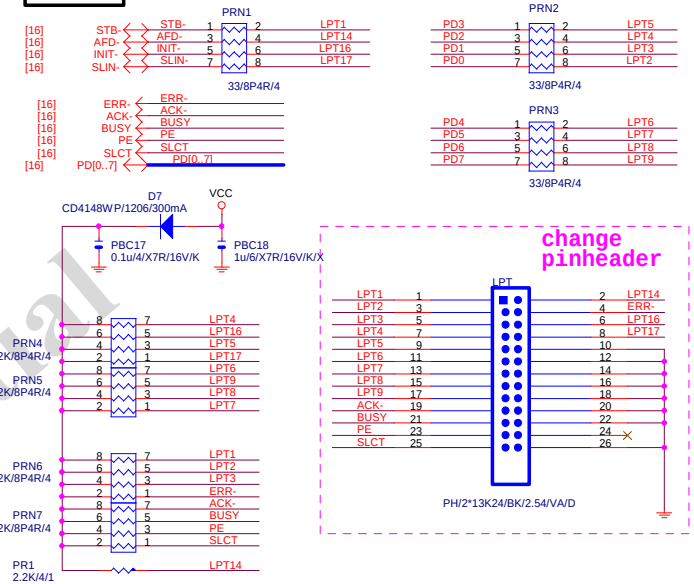
R176
R182建議用料

SYS SMART FAN



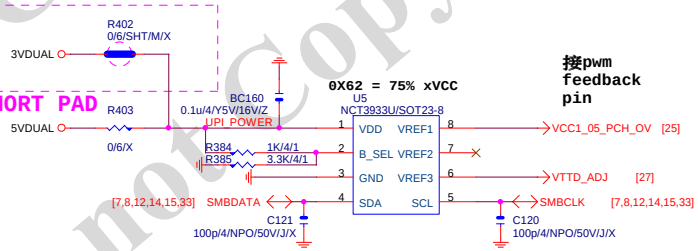
R9 R10建議用料

LPT PORT

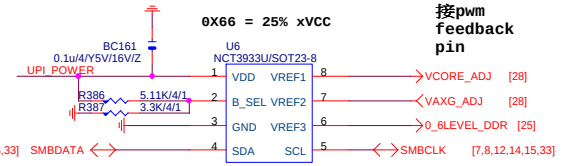


change pinheader

R402 change to SHORT PAD



接pwm feedback pin

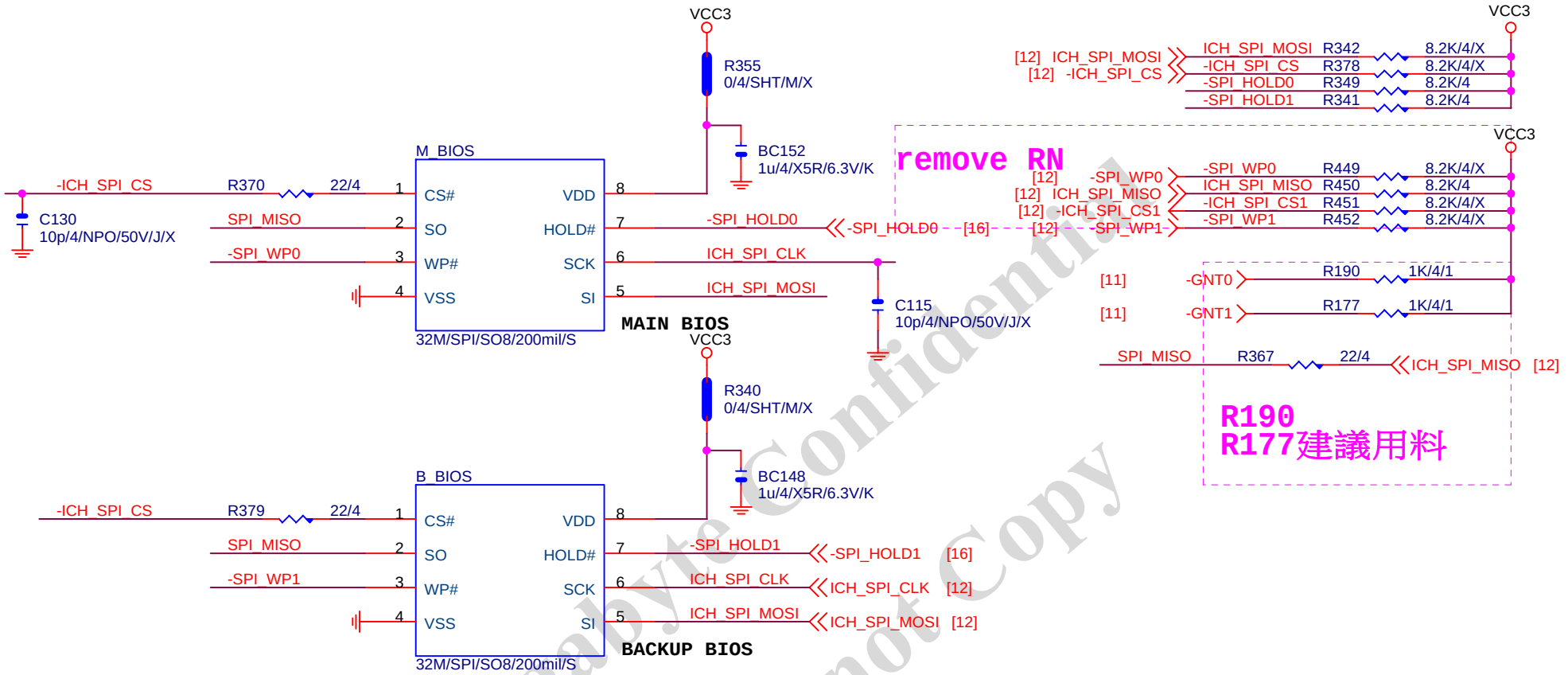


接pwm feedback pin

Gigabyte Technology			
Title: HWM,FAN CTRL,OV,COMB,LPT			
Size: Custom	Document Number: GA-H61M-D2H-USB3		Rev: 1.11
Date: Tuesday, June 04, 2013		Sheet 18 of 33	

DUAL BIOS

R349 R341 改上件 for ITE 8728 DX



remove RN

R190
R177建議用料

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: GA-H61M-D2H-USB3 | Rev: 1.11

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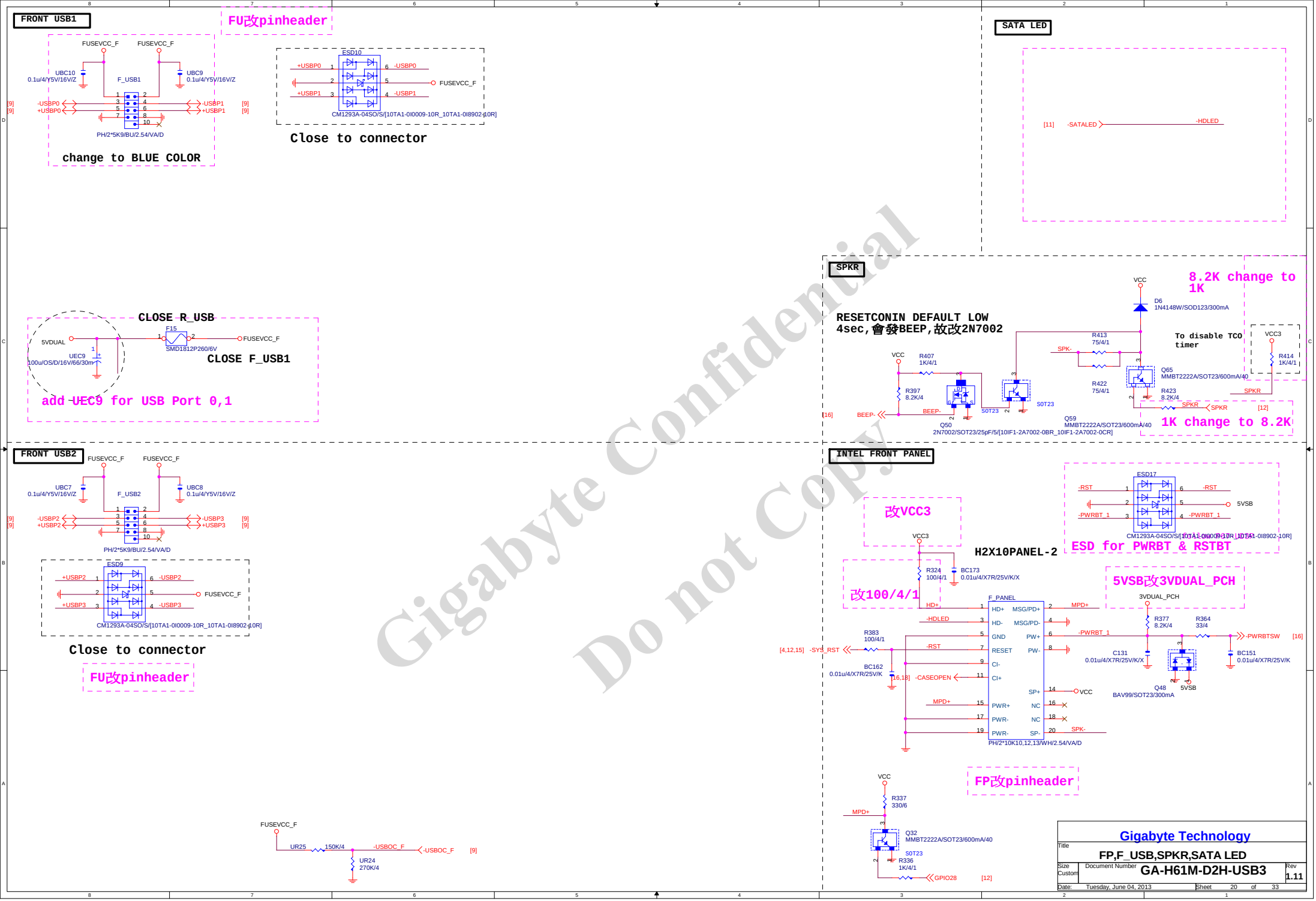
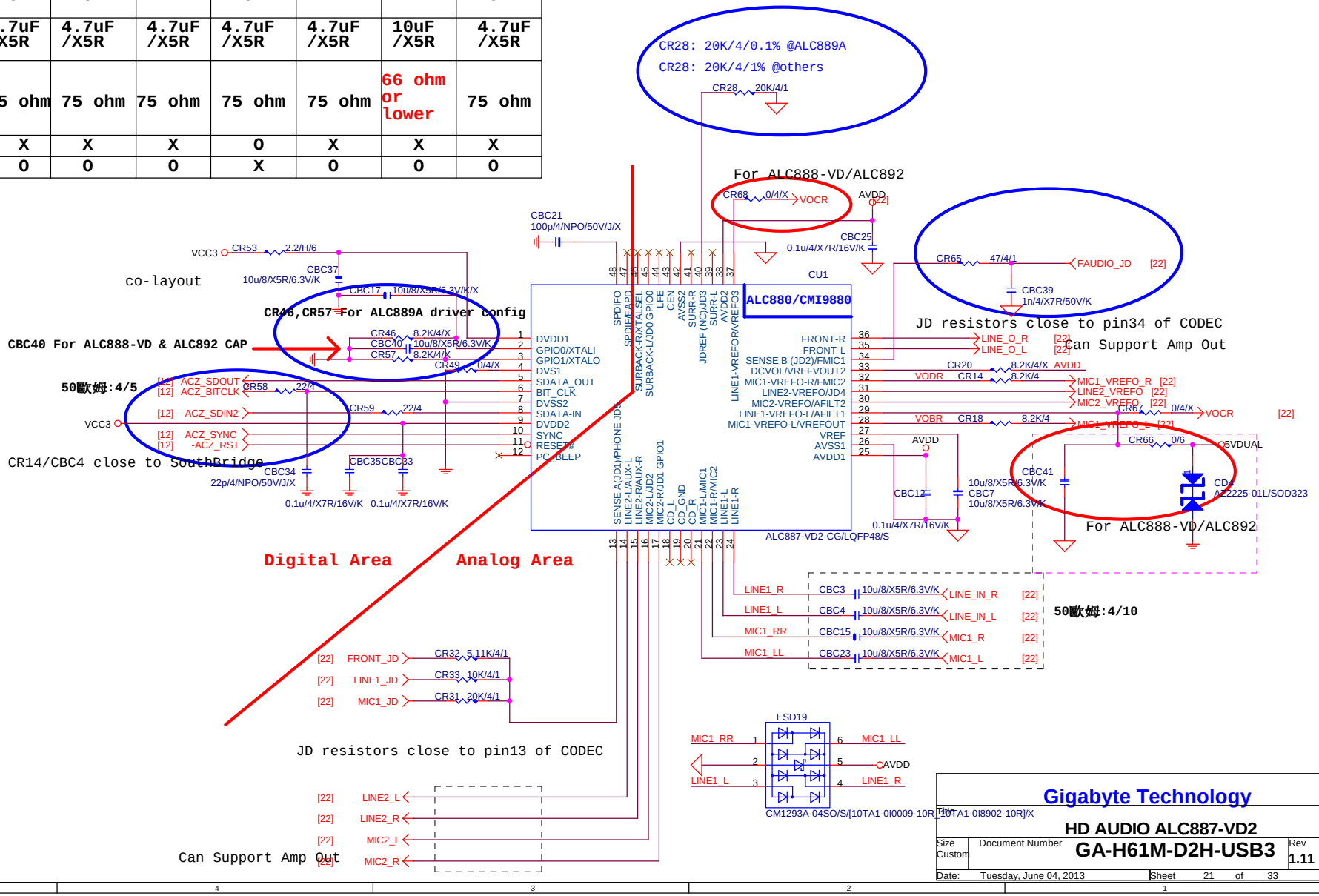


AZALIA CODEC

ALC883/ALC888-A/ALC888B/ALC888-VD/ALC892R/ALC889/ALC889A Colay

	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



Gigabyte Technology

Title: HD AUDIO ALC887-VD2

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CODEC POWER/EMI PAD

EUP
CD3
CD4148WP/1206/300mA/X
5VDUAL
AVDD
+12V
CR8 2.2/4
CR8 short PAD change to 2.2
CD3
CD4148WP/1206/300mA/X
CQ1
78L05/SOT89/0.1A/X
CBC20
0.1u/4/Y5V/16V/Z/X
CBC16
22u/8/X5R/6.3V/M
CD2
AZ2225-01L/SOD323/X
change to DGND

CR4 0/6/SHT/M/X
CR69 0/6/SHT/M/X
close MH1
close CU1

MOATC3 0.1u/4/X7R/16V/K/X
MOATC2 0.1u/4/X7R/16V/K/X
MOATC1 0.1u/4/X7R/16V/K/X
SMOATR1 0/6/SHT/M/X

LINE-OUT

[21] LINE_O_R
CEC4 100u/OS/D/16V/66/30m
CR5 62/4
[21] LINE_O_L
CEC3 100u/OS/D/16V/66/30m
CR10 62/4
CR9 10K/4/1
CR6 10K/4/1
AJ_B5
AJ_B2
CBC9 180p/4/NPO/50V/J
CBC8 180p/4/NPO/50V/J

Only reserved for ALC888

LINE-IN

Verify MIC function in LINE-in

[21] LINE_IN_R
CR1 62/4
AJ_A5
[21] LINE_IN_L
CR2 62/4
AJ_A2
CQ5
SOT23
[21] VOCR
CR11 8.2K/4/X
CR22 8.2K/4/X
For 889A/888
BAT54A/SOT23/200mA/X
CBC10 180p/4/NPO/50V/J
CBC11 180p/4/NPO/50V/J

MIC-IN

[21] MIC1_R
CR19 62/4
AJ_C5
[21] MIC1_L
CR21 62/4
AJ_C2
[21] MIC1_VREFO_L
[21] MIC1_VREFO_R
CBC1 180p/4/NPO/50V/J
CBC2 180p/4/NPO/50V/J

AZALIA JACK

ESD4
LINE2_R 1
2
MIC2_R 3
6 LINE2_L
5 AVDD
4 MIC2_L
CM1293A-04SO/S/[10TA1-0I0009-10R_10TA1-0I8902-10R]

AUDIO
[21] LINE1_JD
LINE1_JD
AJ_A5
AJ_A2
C4 C3 C5 C2 GND
BLUE
LINE-IN
[21] FRONT_JD
FRONT_JD
AJ_B5
AJ_B2
B4 B3 B5 B2 GND
GREEN
LINE-OUT
[21] MIC1_JD
MIC1_JD
AJ_C5
AJ_C2
A4 A3 A5 A2 A1 GND
PINK
MIC-IN
MH1 MH2 MH3 MH4 MH5
AUDIO/BTX/[11NR6-403007-71R_11NR6-403007-76R]

AZALIA FRONT PANEL

CQ2
BAT54A/SOT23/200mA
SOT23
[21] LINE2_VREFO
CR17 8.2K/4
CR23 8.2K/4
CQ4
BAT54A/SOT23/200mA
[21] MIC2_VREFO
CR29 8.2K/4
CR36 8.2K/4

F_AUDIO_H
FP改pinheader

[21] MIC2_L
[21] MIC2_R
CBC19 10u/8/X5R/6.3V/K
CBC18 10u/8/X5R/6.3V/K
CR38 62/4 M2_L
CR27 62/4 M2_R
L2_R
L2-R
[21] FAUDIO_JD
CR26 62/4
L2_L
L2-L
CR16 62/4

Digital Area
3VDUAL
CR37 8.2K/4/X
CR24 10K/4/1
CR15 10K/4/1
F_AUDIO
1 2 3 4 5 6 7 9 10
CR12 20K/4/1
CR13 39.2K/4/1
ACZ_DET [12]
PH/2*5K8/GED/2.54/VA/D/[11NH2-000205-K1R]

[21] LINE2_R
[21] LINE2_L
CEC1
CEC2
100u/OS/D/16V/66/30m
L2_R
L2_L
100u/OS/D/16V/66/30m

CBC28 180p/4/NPO/50V/J
CBC24 180p/4/NPO/50V/J
CBC22 180p/4/NPO/50V/J
CBC13 180p/4/NPO/50V/J

轉換方向

Gigabyte Technology

Title: AUDIO JACK

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LAN:AR8151/AR8161

LAN POWER

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

離IC近越好

LA_ ML-->80歐姆:[15/5/5/5/15]

SRCCLK-->50歐姆:[18/4/10/4/18]

AR8161-->N/A

AR8161-->(O)

AR8151 POWER

AR8161 POWER

AR8161-->N/A
(LAR3,LAR4)

AR8161-->(O)

AR8161-->BEAD
AR8151-->N/A

AR8161-->BEAD
AR8151-->0/6

CLOSE
LA_LX 200mil

AR8161-->N/A
(LBC17)

AR8161-->N/A
(LR32,LBC5)

close to
artheros
AR8151

AR8161-->N/A

AR8152-->N/A

AR8151:AVDDH
AR8161:3VDUAL

AR8161-->(O)

AR8161-->(O)

AR8161-->N/A

AR8152-->N/A

CLOSE LAN CHIP

Power domain chart

	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	

USB_LAN CONNECTOR

USB_LAN

LR21:AR8151(O),AR8152(X)

EMI

CLOSE USB_LAN

USB-->90歐姆:[15/4.5/7.5/4.5/15]

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

Dual Color LED

Single Color LED

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

Title: ARTHEROS AR8151/AR8161

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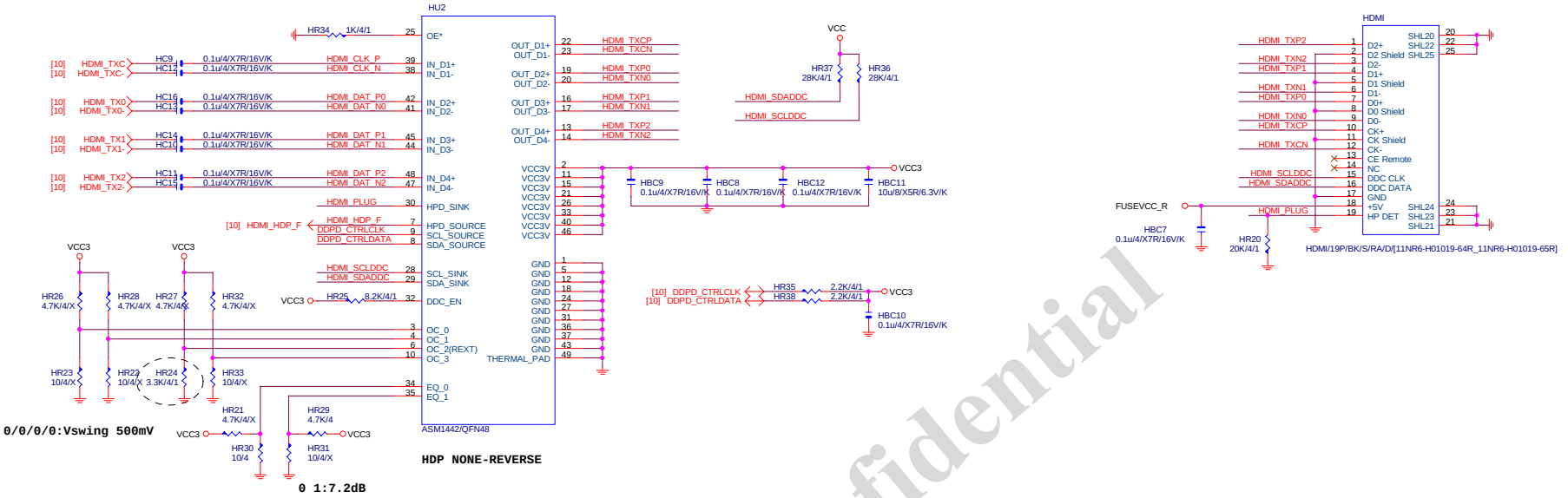

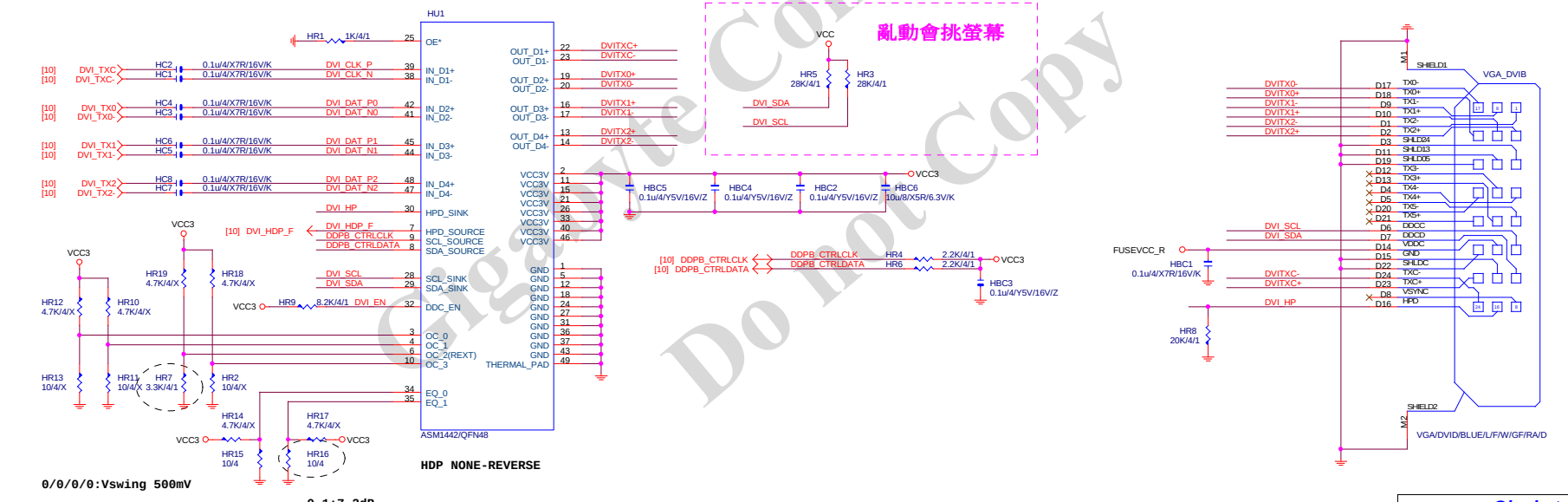

Gigabyte Technology

Title: HDMI / DVI

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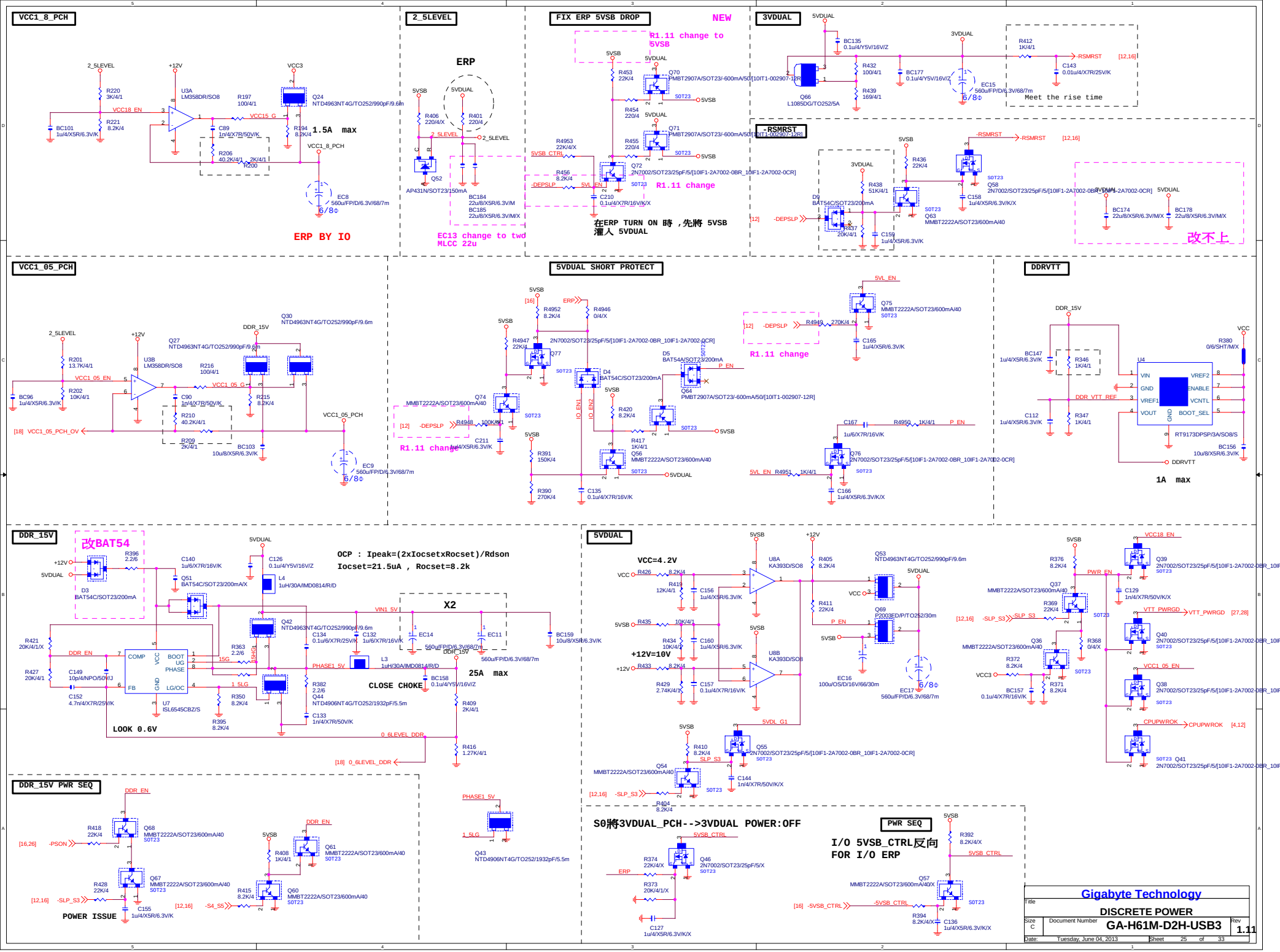
VCC1_8_PCH
2_5LEVEL
FIX ERP 5VSB DROP
NEW
R1.11 change to 5VSB
3VDUAL
ERP
1.5A max
ERP BY IO
EC13 change to two MLCC 22u
R1.11 change
在ERP TURN ON 時，先將 5VSB 灌入 5VDUAL
-RSMRST
Meet the rise time
改不上
VCC1_05_PCH
5VDUAL SHORT PROTECT
DDRVTT
1A max
DDR_15V
改BAT54
OCP : Ipeak=(2xIocsetxRocset)/Rdson
Iocset=21.5uA , Rocset=8.2k
X2
25A max
CLOSE CHOKE
LOOK 0.6V
5VDUAL
VCC=4.2V
+12V=10V
S0將3VDUAL_PCH-->3VDUAL POWER:OFF
I/O 5VSB_CTRL反向
FOR I/O ERP
PWR SEQ
DDR_15V PWR SEQ
POWER ISSUE
Gigabyte Technology
DISCRETE POWER
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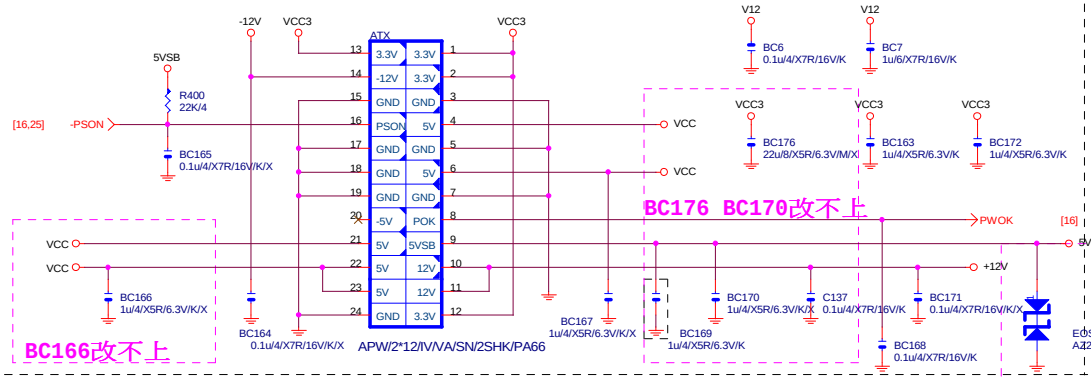
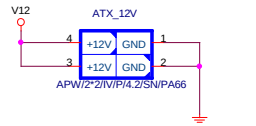
ATXX24 POWER CONNECTOR

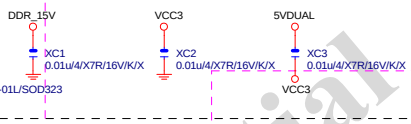


BC176 BC170改不上

BC166改不上

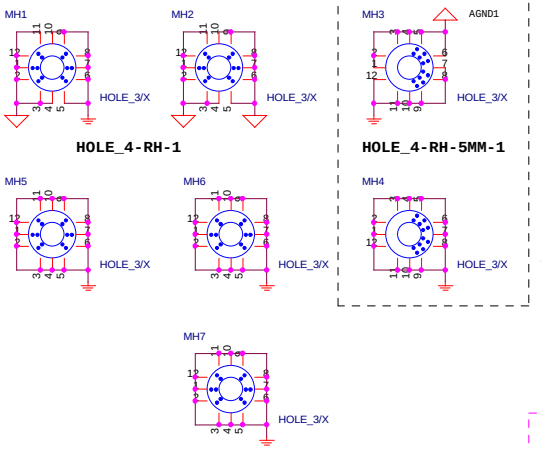


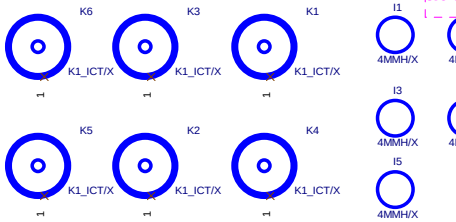
ATX_4-4



add AZ2225

change to VCC3 for EMI

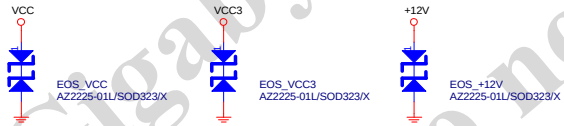




To prevent the 5VSB under loading when boot

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

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



Gigabyte Technology		
Title: ATX CONNECTOR		
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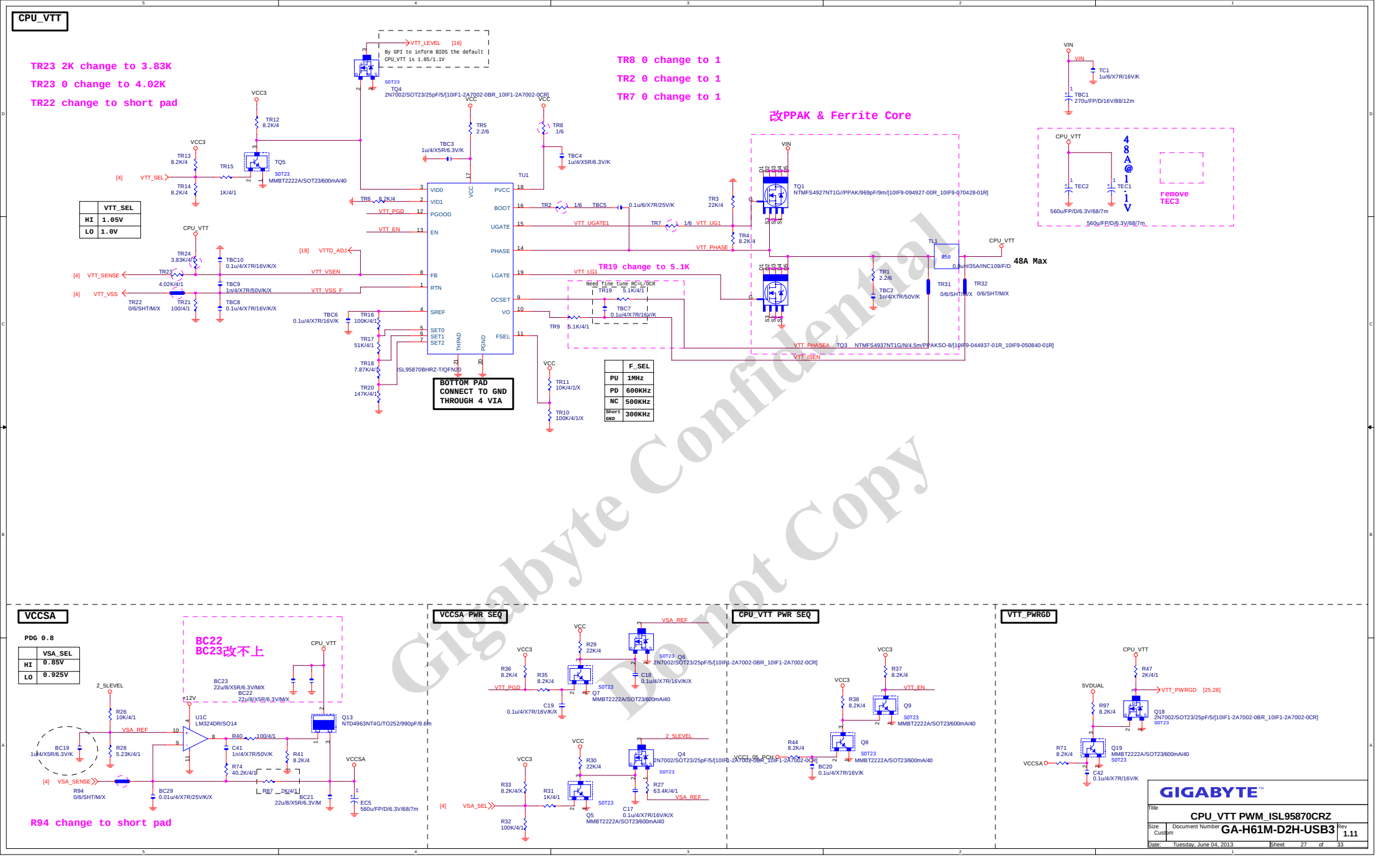

Title	CPU_VTT PWM_ISL95870CRZ
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DR85 150 change to 51
DR69 6.8K change to 11K
DR82 0 change to 10
DR62 2.1K change to 1.1K
DR65 1.6K change to 1.1K
DR57 100 change to 8.2K
DR102 100 change to 8.2K
DR54 short change to 750
DR103 short change to 1K
DR91 6.8K change to 10K
DR100 3.3K change to 1K
DR69 11K change to 20K
DR54 750 change to 1.2K

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

DR52 16.2K change to 24.9K

改 Ferrite Core

DR46 DR48 DR45 DR47 change to 10

DR86 change to 750

FOLLOW SB VALUE

FOR DVCS

FOLLOW SB VALUE

DR56 10K change to 0

BOTTOM PAD CONNECT TO GND THROUGH 10 VIA

Close VCORE output choke

Close VXG output choke

FOR CUT5 IC

disable PHASE4

disable VAXG

For 6327

FOR RMA

Set BT=PD 10K for Vboot=1.1V

remove VAXG RDY

U2 ISL6364CRZ/QFN48

Gigabyte Technology	
Title	CPU CORE VR-1
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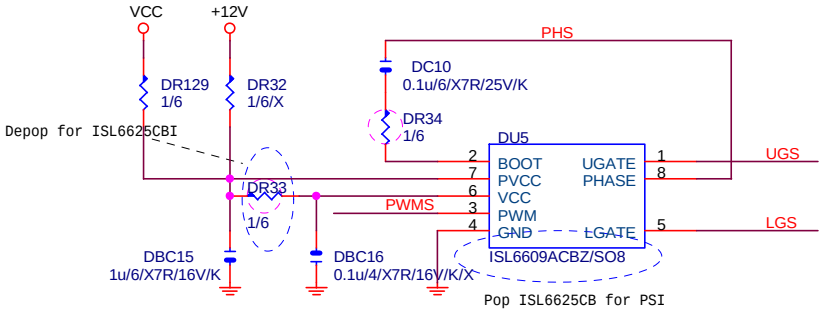
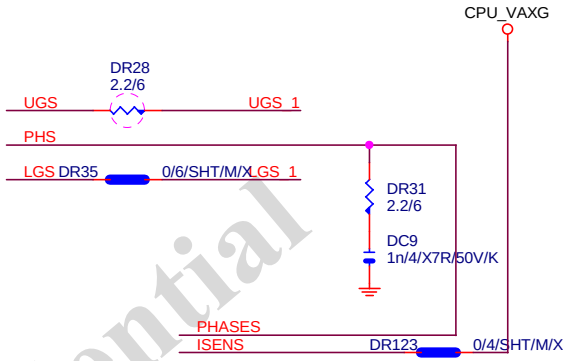
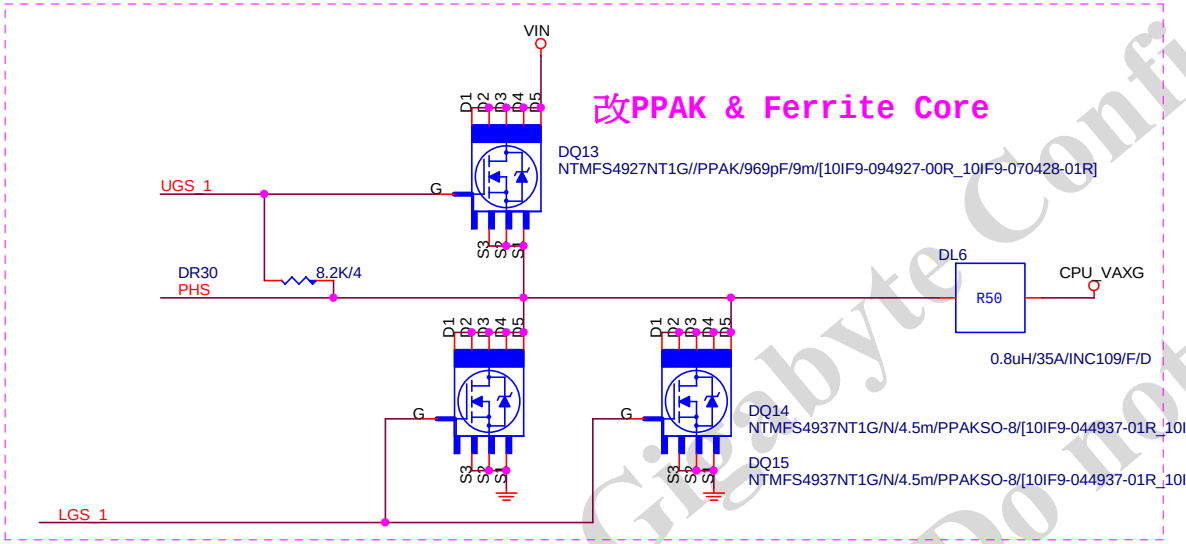
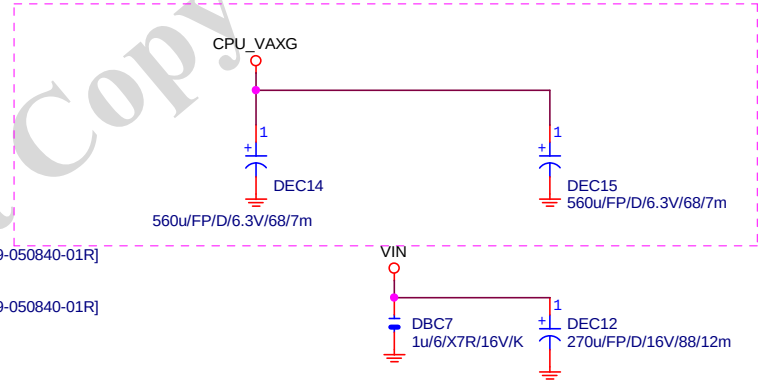
VAXG

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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改PPAK & Ferrite Core

PWM1 PWM2 PWM3 [28]
ISEN1 ISEN2 ISEN3 [28]
PHASE1 PHASE2 PHASE3 [28]

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]
[2]

11LC3-30500C-R1~R3

ISL6609ACBZ/SO8

DQ1 DQ2 DQ4 DQ5 DQ6 DQ7 DQ10 DQ11 DQ12
NTMFS4937NT1G//PPAK/969pF/9m/[10IF9-094927-00R_10IF9-070428-01R]
NTMFS4937NT1G/N/4.5m/PPAKSO-8/[10IF9-044937-01R_10IF9-050840-01R]

0.8uH/35A/INC109/F/D

Title	CPU CORE VR-3
Size / Custom	Document Number: GA-H61M-D2H-USB3
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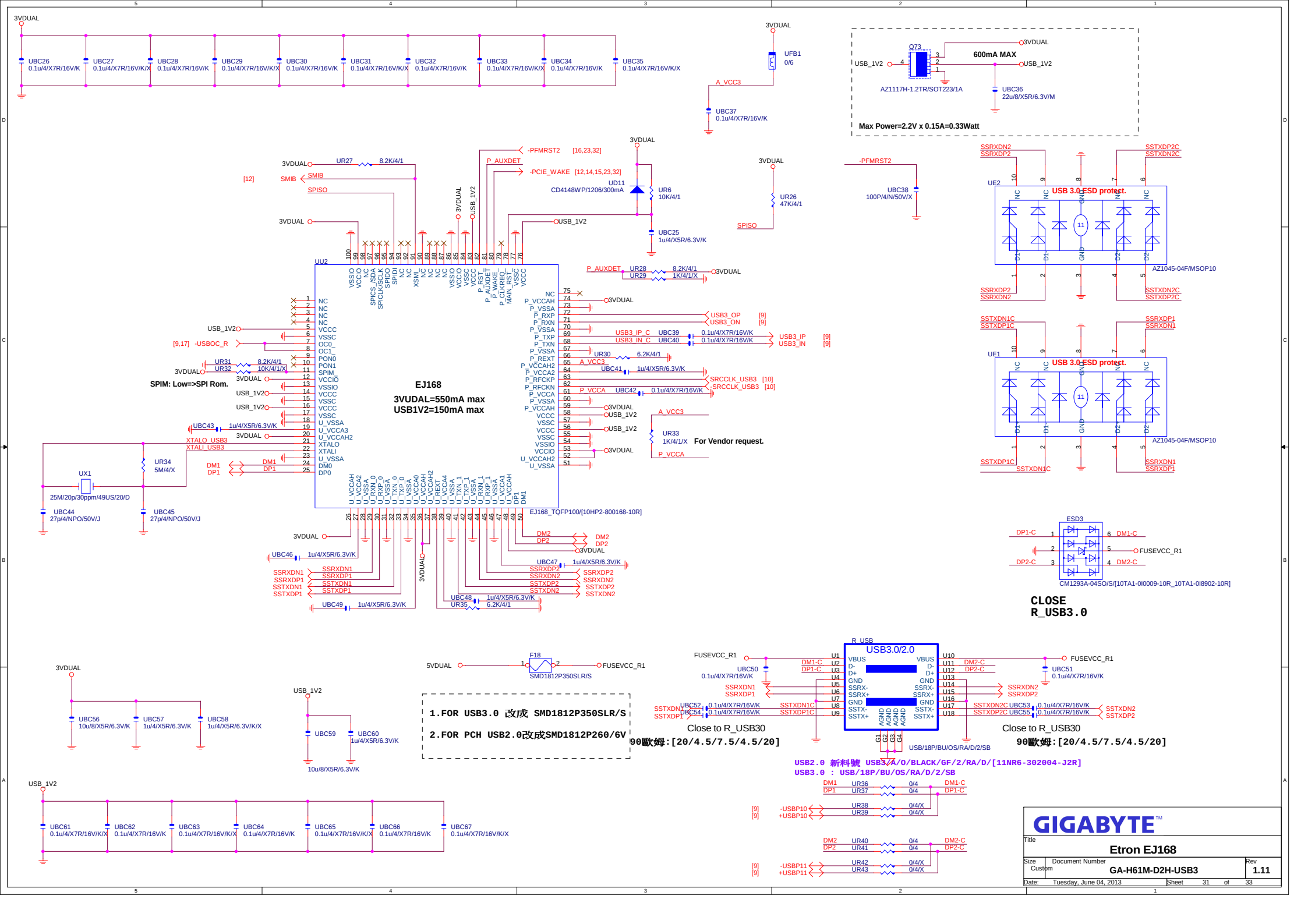
Gigabyte Technology


3VDUAL
UBC26 0.1u/4/X7R/16V/K
UBC27 0.1u/4/X7R/16V/K/X
UBC28 0.1u/4/X7R/16V/K
UBC29 0.1u/4/X7R/16V/K/X
UBC30 0.1u/4/X7R/16V/K
UBC31 0.1u/4/X7R/16V/K/X
UBC32 0.1u/4/X7R/16V/K
UBC33 0.1u/4/X7R/16V/K/X
UBC34 0.1u/4/X7R/16V/K
UBC35 0.1u/4/X7R/16V/K/X
UFB1 0/6
A_VCC3
UBC37 0.1u/4/X7R/16V/K
Q73
USB_1V2
600mA MAX
AZ1117H-1.2TR/SOT223/1A
UBC36 22u/8/X5R/6.3V/M
Max Power=2.2V x 0.15A=0.33Watt
UR27 8.2K/4/1
SMIB
[12]
SPISO
-PFMRST2 [16,23,32]
P_AUXDET
-PCIE_WAKE [12,14,15,23,32]
UD11 CD4148WP/1206/300mA
UR6 10K/4/1
UBC25 1u/4/X5R/6.3V/K
UR26 47K/4/1
UBC38 100P/4/N/50V/X
UU2
EJ168
3VDUAL=550mA max
USB1V2=150mA max
SPIM: Low=>SPI Rom.
EJ168_TQFP100/[10HP2-800168-10R]
UR28 8.2K/4/1
UR29 1K/4/1/X
USB3_OP [9]
USB3_ON [9]
USB3_IP_C UBC39 0.1u/4/X7R/16V/K
USB3_IN_C UBC40 0.1u/4/X7R/16V/K
USB3_IP [9]
USB3_IN [9]
UR30 6.2K/4/1
UBC41 1u/4/X5R/6.3V/K
SRCCLK_USB3 [10]
SRCCLK_USB3 [10]
P_VCCA UBC42 0.1u/4/X7R/16V/K
UR33 1K/4/1/X
For Vendor request.
[9,17] -USBOC_R
UR31 8.2K/4/1
UR32 10K/4/1/X
UBC43 1u/4/X5R/6.3V/K
XTALO_USB3
XTALI_USB3
UX1
25M/20p/30ppm/49US/20/D
UR34 5M/4/X
UBC44 27p/4/NPO/50V/J
UBC45 27p/4/NPO/50V/J
DM1
DP1
DM2
DP2
UBC46 1u/4/X5R/6.3V/K
UBC47 1u/4/X5R/6.3V/K
UBC48 1u/4/X5R/6.3V/K
UR35 6.2K/4/1
UBC49 1u/4/X5R/6.3V/K
SSRXDN1
SSRXDP1
SSTXDN1
SSTXDP1
SSRXDP2
SSRXDN2
SSTXDP2
SSTXDN2
UE2
UE1
USB 3.0 ESD protect.
AZ1045-04F/MSOP10
SSRXDN2
SSRXDP2
SSTXDP2C
SSTXDN2C
SSTXDN1C
SSTXDP1C
SSRXDP1
SSRXDN1
ESD3
CM1293A-04SO/S/[10TA1-0I0009-10R_10TA1-0I8902-10R]
DP1-C
DM1-C
DP2-C
DM2-C
FUSEVCC_R1
CLOSE
R_USB3.0
5VDUAL
F18
SMD1812P350SLR/S
1.FOR USB3.0 改成 SMD1812P350SLR/S
2.FOR PCH USB2.0改成SMD1812P260/6V
UBC56 10u/8/X5R/6.3V/K
UBC57 1u/4/X5R/6.3V/K
UBC58 1u/4/X5R/6.3V/K/X
UBC59
UBC60 1u/4/X5R/6.3V/K
10u/8/X5R/6.3V/K
UBC61 0.1u/4/X7R/16V/K/X
UBC62 0.1u/4/X7R/16V/K
UBC63 0.1u/4/X7R/16V/K/X
UBC64 0.1u/4/X7R/16V/K
UBC65 0.1u/4/X7R/16V/K/X
UBC66 0.1u/4/X7R/16V/K
UBC67 0.1u/4/X7R/16V/K/X
R_USB
USB3.0/2.0
UBC50 0.1u/4/X7R/16V/K
UBC51 0.1u/4/X7R/16V/K
UBC52 0.1u/4/X7R/16V/K
UBC54 0.1u/4/X7R/16V/K
UBC53 0.1u/4/X7R/16V/K
UBC55 0.1u/4/X7R/16V/K
SSTXDN1C
SSTXDP1C
SSTXDN2C
SSTXDP2C
Close to R_USB30
90歐姆:[20/4.5/7.5/4.5/20]
USB/18P/BU/OS/RA/D/2/SB
USB2.0 新料號 USB/A/O/BLACK/GF/2/RA/D/[11NR6-302004-J2R]
USB3.0 : USB/18P/BU/OS/RA/D/2/SB
UR36 0/4
UR37 0/4
UR38 0/4/X
UR39 0/4/X
-USBP10
+USBP10
UR40 0/4
UR41 0/4
UR42 0/4/X
UR43 0/4/X
-USBP11
+USBP11
GIGABYTE
Etron EJ168
Size Custom
Document Number GA-H61M-D2H-USB3
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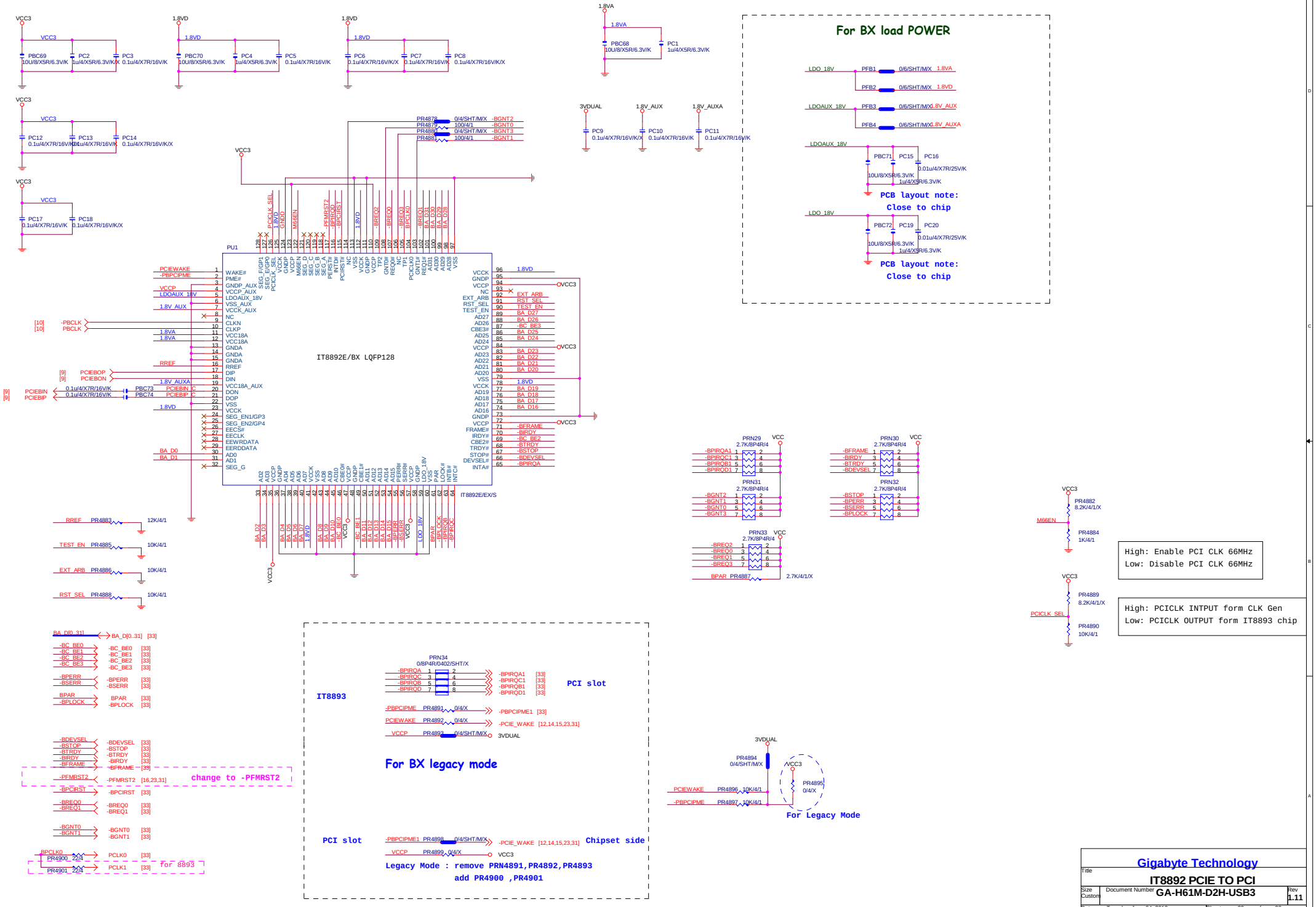
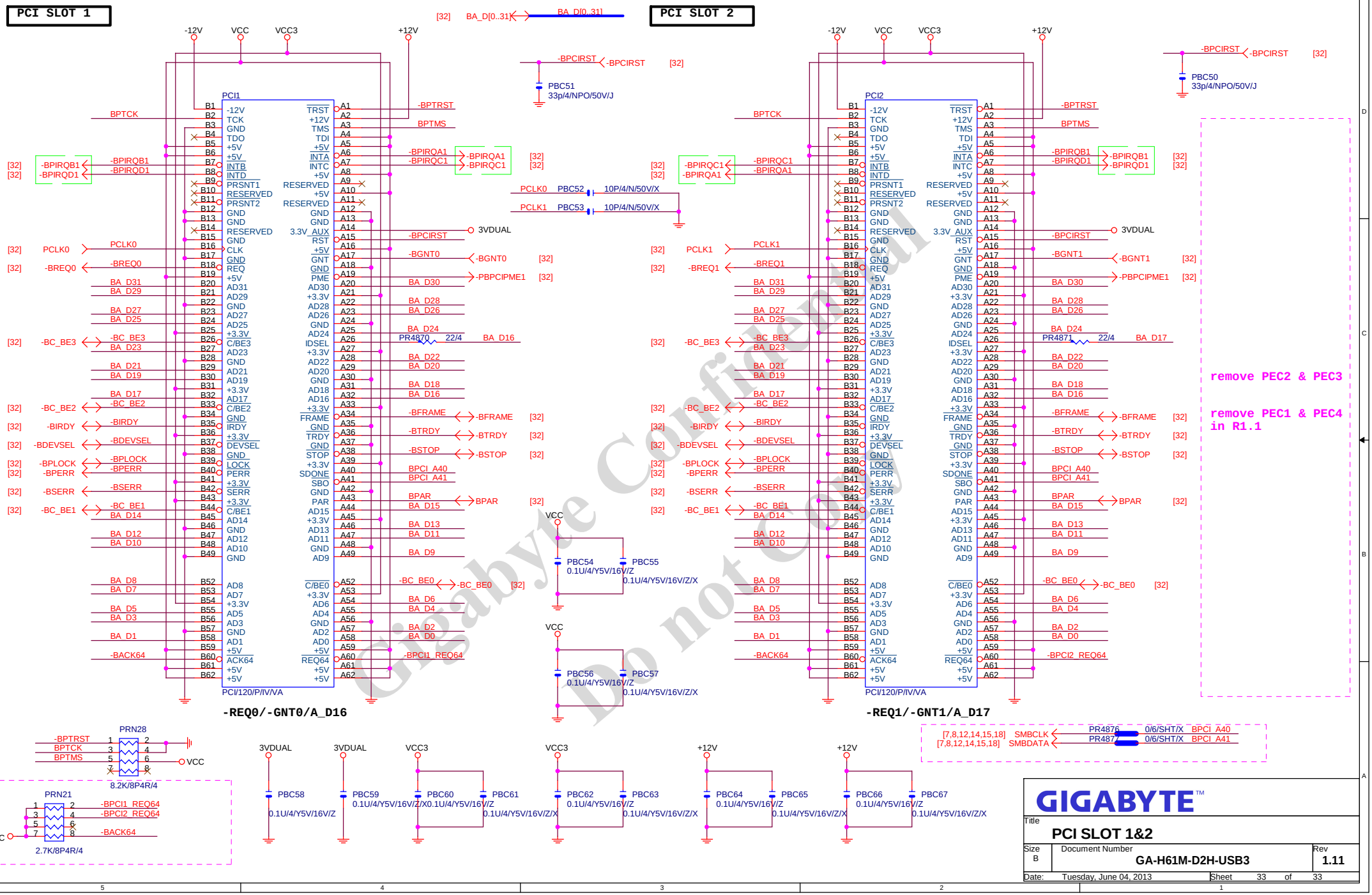

For BX load POWER
PCB layout note:
Close to chip
PCB layout note:
Close to chip
IT8892E/BX LQFP128
IT8892E/EX/S
High: Enable PCI CLK 66MHz
Low: Disable PCI CLK 66MHz
High: PCICLK INTPUT form CLK Gen
Low: PCICLK OUTPUT form IT8893 chip
IT8893
PCI slot
For BX legacy mode
PCI slot
Chipset side
Legacy Mode : remove PRN4891,PR4892,PR4893
add PR4900 ,PR4901
change to -PFMRST2
for 8893
For Legacy Mode
Gigabyte Technology
IT8892 PCIE TO PCI
GA-H61M-D2H-USB3
1.11
Tuesday, June 04, 2013



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Title	PCI SLOT 1&2	
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