



SHEET

TITLE

SHEET

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01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	CPU_LGA1150-A
05	CPU_LGA1150-B_DDR4
06	CPU_LGA1150-C
07	CPU_LGA1150-D
08	DDR4 CHANNEL A 1,2
09	DDR4 CHANNEL B 1,2
10	PCH_RGB,CLK BUFFER
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12	PCH MISC
13	PCH SATA,PCIE,SATA_EXPRESS
14	PCH_PWR,GND
15	DUAL BIOS
16	ITE 8620 LPC IO
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25	SATA EXPRESS
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28	ISL95856 MOS_VCCGT
29	VCCSA_VCCIO_VCCPLL
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32	RT8120_PCH
33	DISCRETE POWER
34	NCT3933
35	ATX POWER , A_-PROCHOT
36	KB_MS_USB
37	NA
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43	Audio Power
44	NA
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47	NA
48	IDT6V41510_CLK BUFFER
49	COM , TPM , THB , OC
50	F_PANEL
51	DVI CONN
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53	N/A
54	N/A
55,56	PTN3356 - DP to VGA
57	EMI-ESD
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59	NA
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61	NTC MAP
62,63	ALPINE RIDGE
64	HD3SS3212&TUSB321_A
65	HDMI CONN
66	POWER零件使用表

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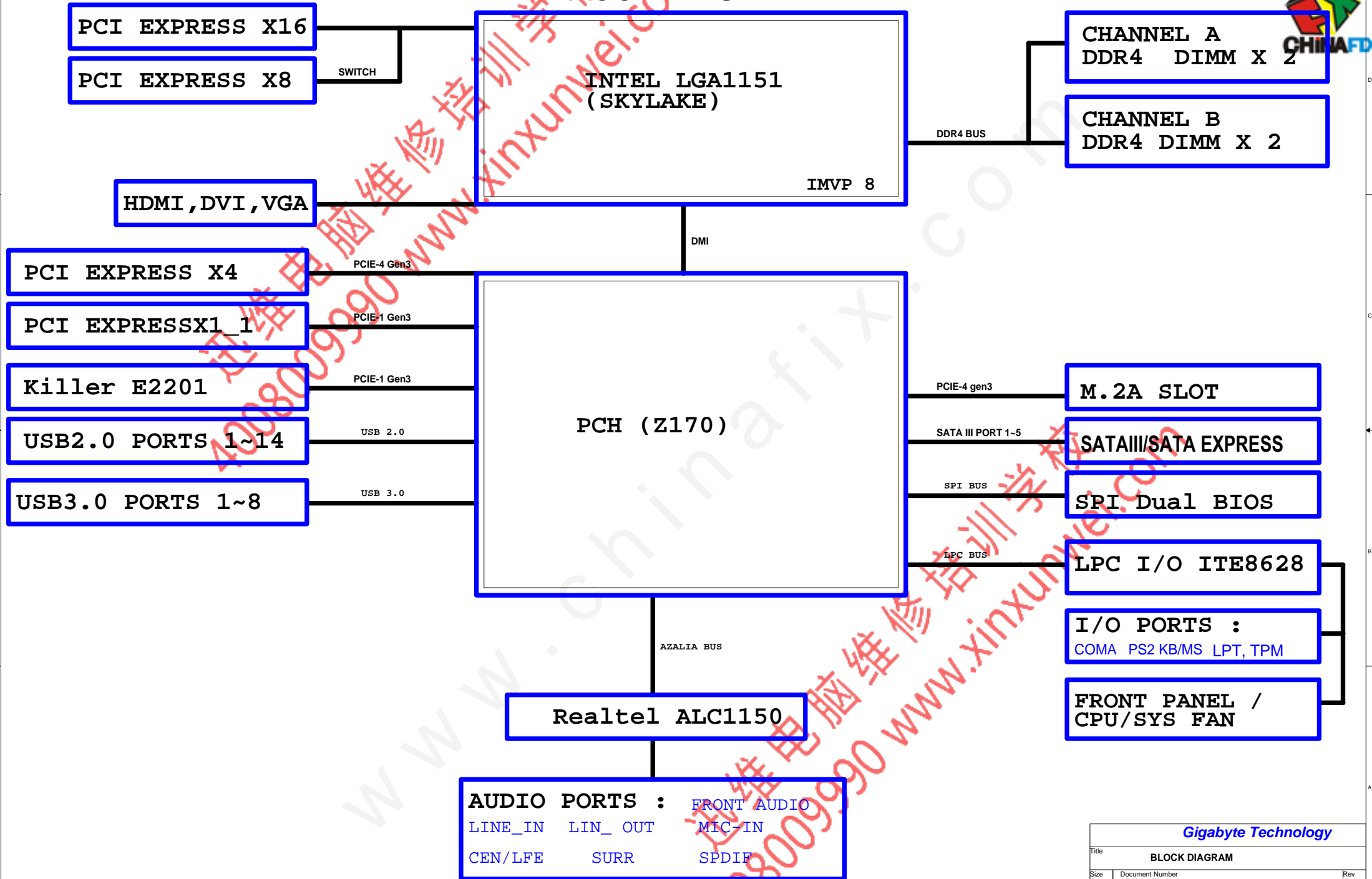
GIGABYTE

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GA-Z170MX-Gaming 5	1.0
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## Circuit or PCB layout change

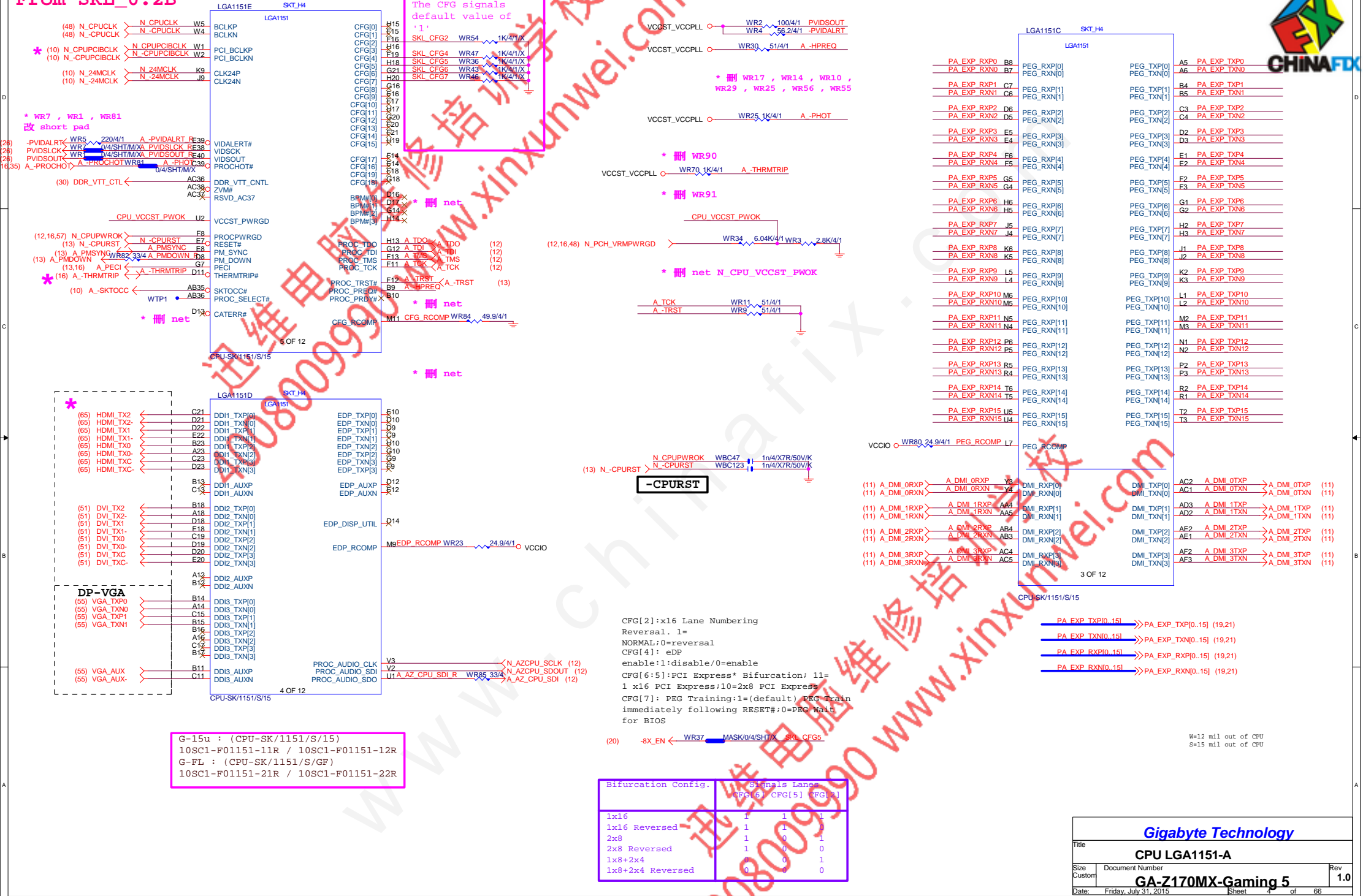
**CHINA**

DATE	Change Item	Reason
2015/03/05 PCB:0.1	1.PCB first release 2.線路由GA-Z1704-GAMING 7-01B.DSN來修改	
2015/01/26 PCB:0.2	1. 移除 BOM:SEAR22,SECR22,SEDR20 2. MR22兩端走線50mils以上 (參考G7修改)	
2015/03/11 PCB:0.1	1.線路由Z1704X-GAMING 5-02.DSN來修改(0311) Z1704MX-Gaming 5 Rev 0.1 Layout request 1.由Z1704X-Gaming 5 Rev 0.1 來修改 2.CPU power由4+4 Hybrid digital+ 3 Hybrid digital 改為4 Hybrid digital (倆倆分開擺90度)+ 3 Hybrid digital 3.PCIE由x4(CPU)+x8+x16改為1x16 / 2x8 4.PCIEx1由3個slot改為一個 5.Remove M.2B 6.Remove Intel i219V PHY 7.PCB改為mATX 244x244 or smaller 8.Remove 80 port 9.OC Turbo button改為onboard 4 pin header 10.Remove ECO button (power saving) 11.Add NXP DP-VGA	GA-Z170MX-Gaming 5 Rev 0.1
2015/05/20 PCB:0.2	1.A.R. PCH PCIE訊號統一改為PCIE1&PCIE2 2.F_USB30_2改接USB30_9&USB30_10 3.PCH_HS改為BGAHSINK-170M-D3H 4.MOS_HS改為MOSHSINK-Z170X-D3H 5.Add OR100 close to SIO 6.FNR5改為FUSE-0603-SHORT10 7.PCIE4改為PCIESLOT-64STH-1 8.M.2 螺絲孔文字改加"A" 9.Add VPP_25V 4顆電容 10.PCH power改+12V&5VDUAL INPUT 11.Q21改0 OHM SHORT PAD 12.ADD DVR21 CLOSE TO DVC11 13.TYPEC_1改為TYPEC 14.Update A.R. 最新線路 15.NX1 24MHz CRYSTAL請參考最新Layout方式 16.TCA_ESD11的pin 1請標A極性標示 17.VCORE_VS放在CPU下方 18.刪除WR100,WR101,NR300,NR301,NR302NR303,WR102,WR103 19.Remove LED_CON1 線路 20.Audio update a. CR44 update footprint "R0603-RH-SHORT30-MASK" b. MOATR1/2/3/4 update footprint "R0402-2-SHORT20-MASK" 21.PCH Crystal 線路新增NR3 22.TYPEC 改為ti solution(參考Z170XP-SLI Rev 0.2) 23.Remove RAU3EC1, LABE1放在原來RAU3EC1的位置 24.TPM remove PIN 13&14 GPIO 25.Add OR171 26.HDMI改為CPU訊號+level shift 27.Add MA_DR9 close to MA_DQ2 or MA_DQ3 28.Add MA_DR10 close to MA_DC10 or MA_DR8 29.Add NPC10 close to NPL2 30.Add DEC3 close to CPU 31.Delete MR22,VDDSPD change to VPP_25V 32.WR94改為0 ohm	GA-Z170MX-Gaming 5 Rev 0.2
2015/07/29	1. BIOS_PH change to MASK	GA-Z170MX-Gaming 5 Rev 1.0



## From SKL\_0.2B

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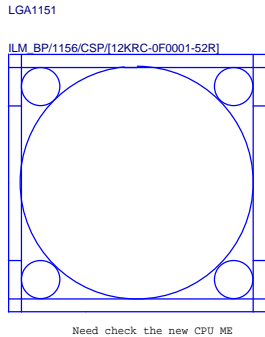
Bifurcation Config.	Signals Lanes		
	CFG[6]	CFG[5]	CFG[4]
1x16	1	1	1
1x16 Reversed	1	1	1
2x8	1	0	1
2x8 Reversed	1	0	0
1x8+2x4	1	0	1
1x8+2x4 Reversed	0	0	0

<b><i>Gigabyte Technology</i></b>			
Title <b>CPU LGA1151-A</b>			
Size Custom	Document Number <b>GA-Z170MX-Gaming 5</b>		Rev <b>1.0</b>
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# \* 改DDR4 net

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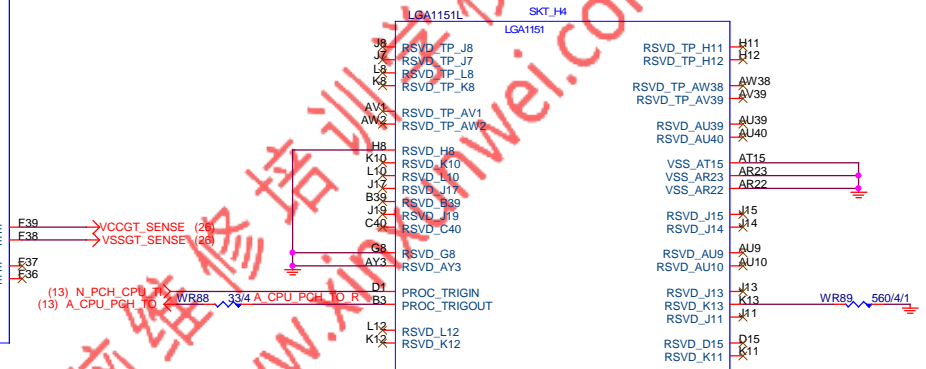
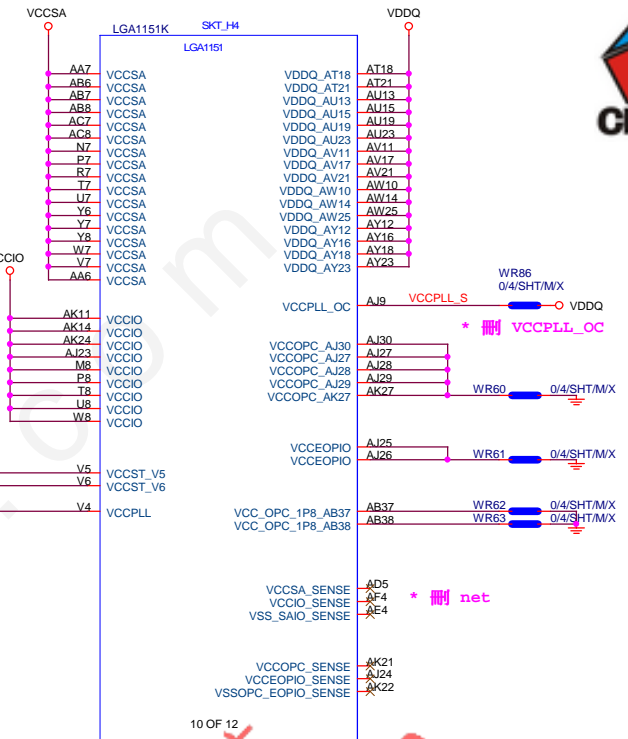
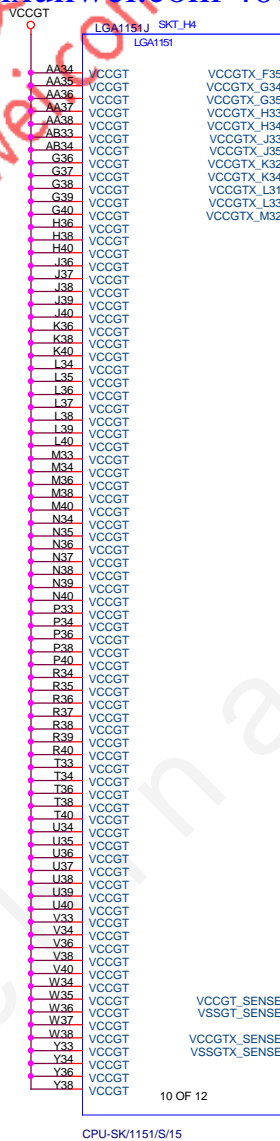
- (8) MODT\_A[0..3] <=> MODT\_A0..31
- (9) MODT\_B[0..3] <=> MODT\_B0..31
- (8) MDA[0..63] <=> MDA0..631
- (9) MDB[0..63] <=> MDB0..631
- (8) M\_DQSA[0..7] <=> M\_DQSA0..71
- (8) M\_-DQSA[0..7] <=> M\_-DQSA0..71
- (8) MAAA[0..16] <=> MAAA0..161
- (9) MAAB[0..16] <=> MAAB0..161
- (9) M\_DQSB[0..7] <=> M\_DQSB0..71
- (9) M\_-DQSB[0..7] <=> M\_-DQSB0..71

**Gigabyte Technology**

Title **CPU LGA1151-B**

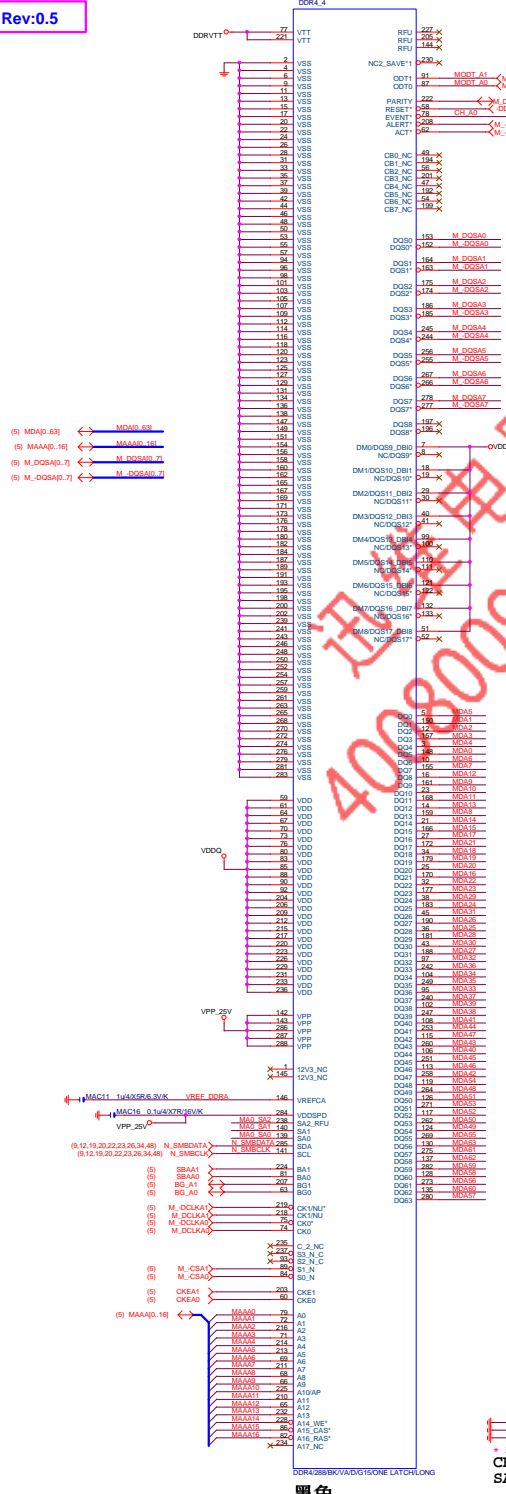
Size Custom Document Number **GA-Z170MX-Gaming 5** Rev **1.0**

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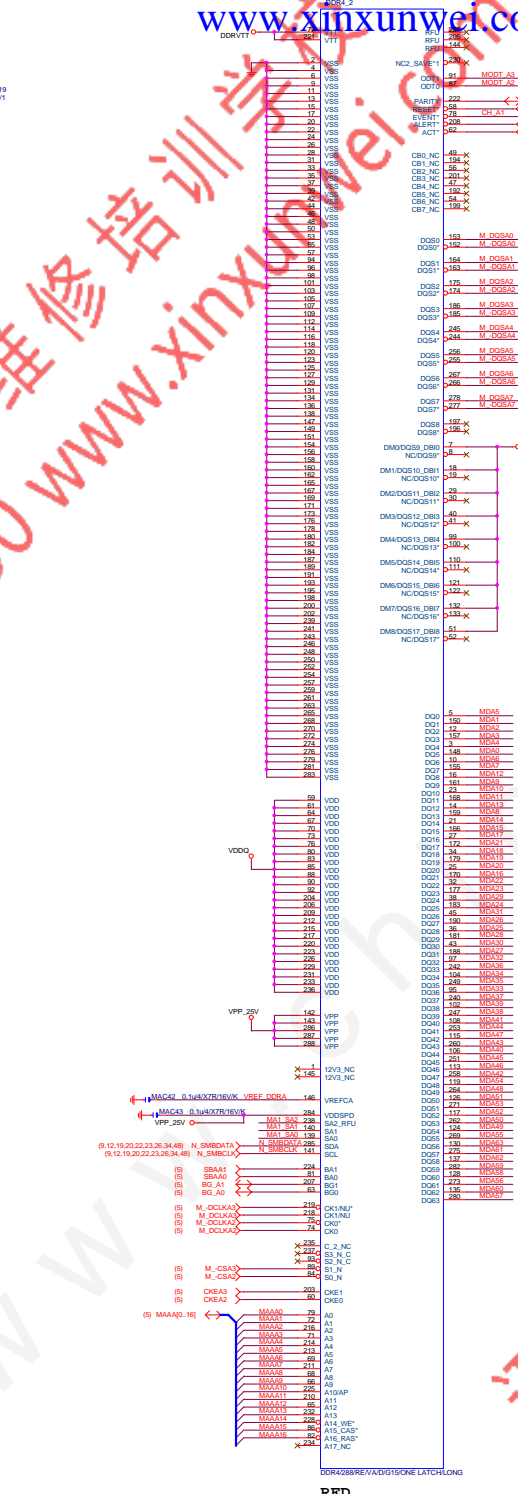








DDR4 288/BK/VA/D/G1S/ONE LATCH/LONG  
黑色  
SA2:0=000



DDR4 288/BK/VA/D/G1S/ONE LATCH/LONG  
RED  
SA2:0=001

DDR4 Pinout Diagram for Channel A0 and A1, showing VDDQ Decouple, DDRVTT Decouple, and VREF Decouple sections.

**VDDQ Decouple**

若Power source 端PWM IC 已有擺放, 則可刪除

**DDRVTT Decouple**

若Power source 端PWM IC 已有擺放, 則可刪除

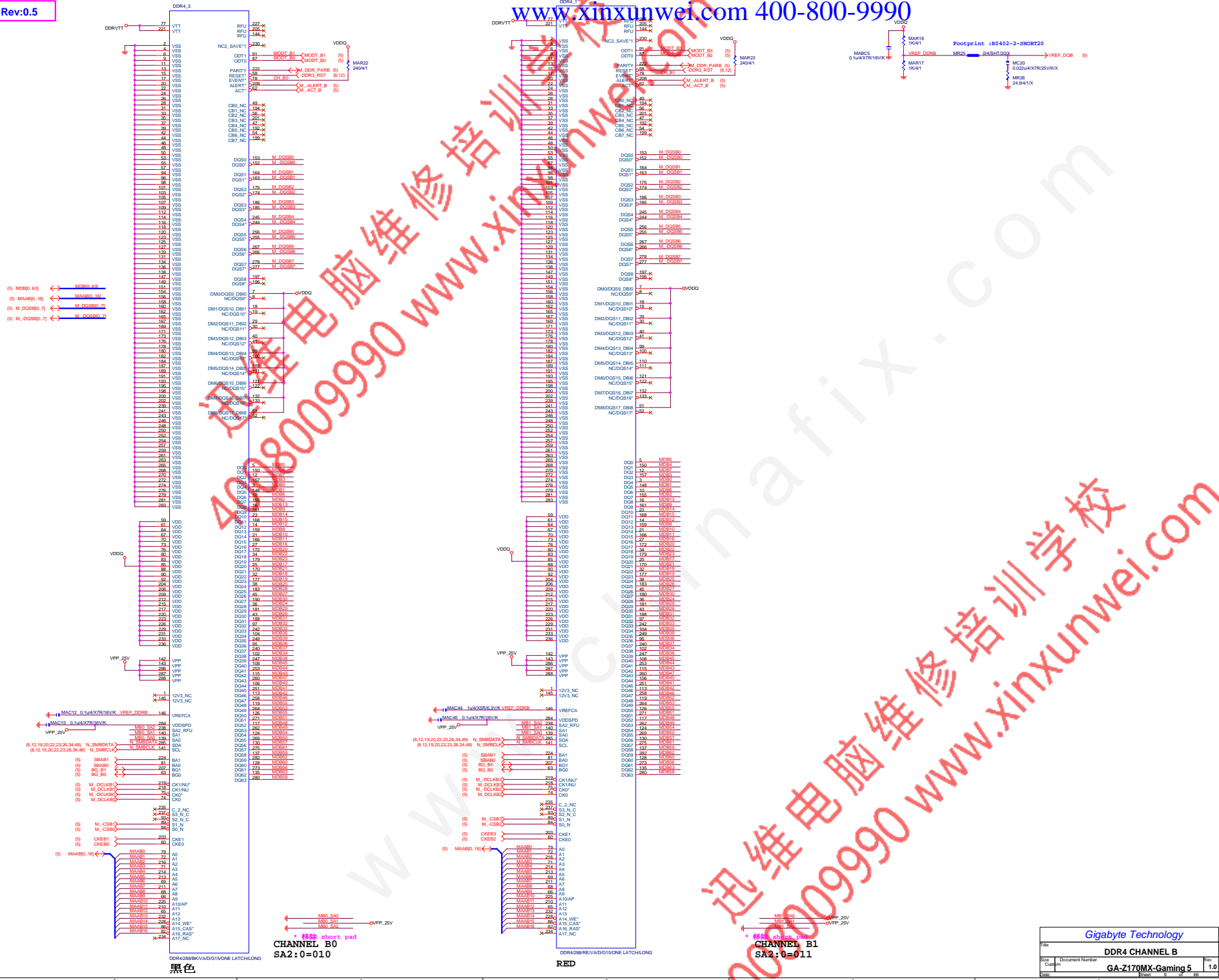
**VREF Decouple**

若Power source 端PWM IC 已有擺放, 則可刪除

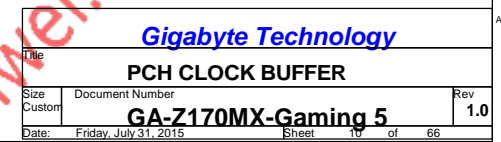
DDR4	Capture Value
SOC series	DDR4/288/BK/VA/S/G1S/4ROW/LONG DDR4/288/OR/VA/S/G1S/4ROW/LONG
UD series	DDR4/288/BK/VA/D/G1S/ONE LATCH/LONG DDR4/288/GY/VA/D/G1S/ONE LATCH/LONG
Gaming series	DDR4/288/BK/VA/D/G1S/ONE LATCH/LONG DDR4/288/RE/VA/D/G1S/ONE LATCH/LONG
GI.Sniper	DDR4/288/BK/VA/D/G1S/ONE LATCH/LONG DDR4/288/GE/VA/D/G1S/ONE LATCH/LONG

Gigabyte Technology  
DDR4 CHANNEL A  
GA-Z170MX-Gaming 5  
Rev 1.0

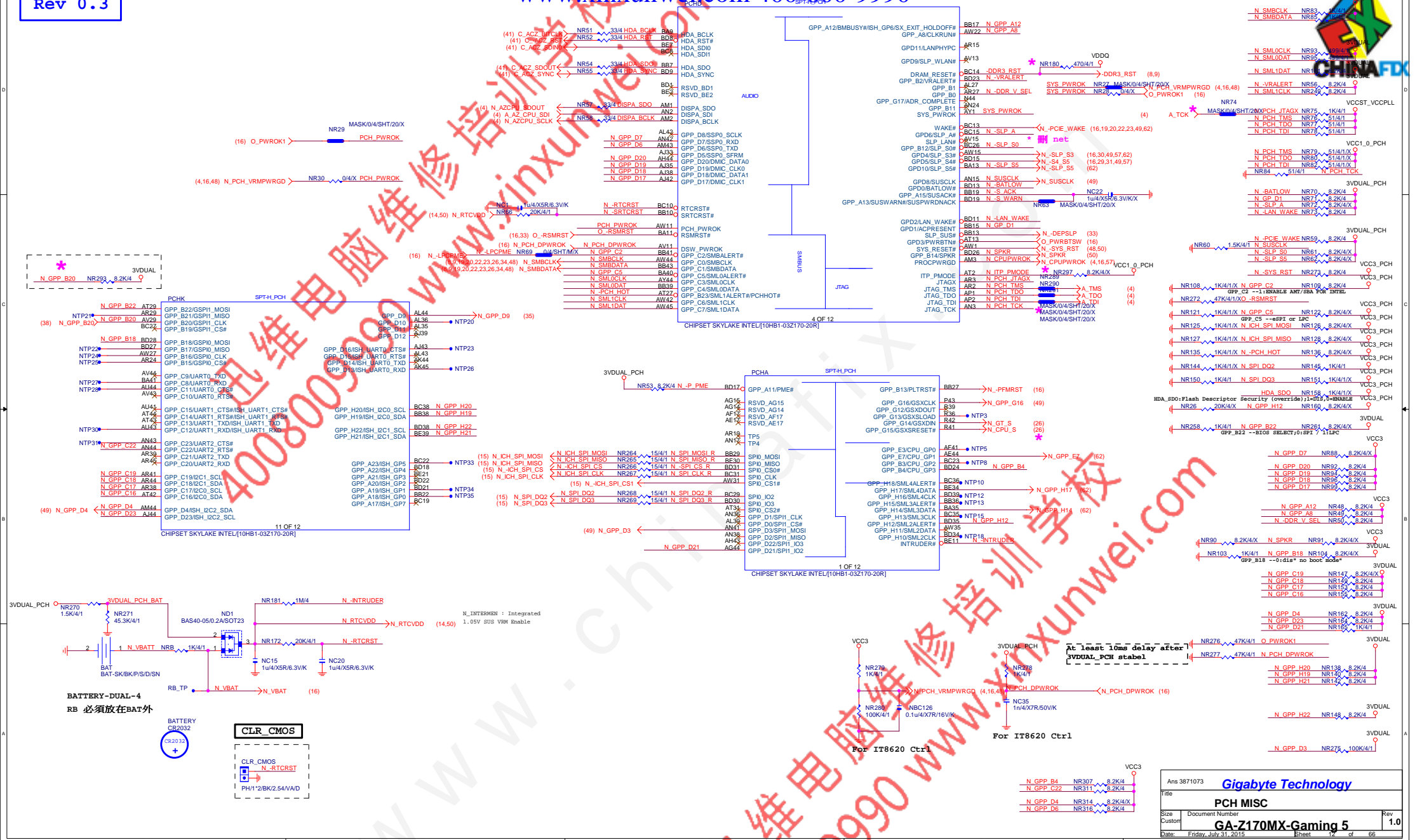




Gigabyte Technology		
File	DDR4 CHANNEL B	
Size	Document Number	Rev
Unit	GA-Z170MX-Gaming 5	1.0











### 裝甲HEATSINK 分成三大部份



PCH\_HS

1X

Footprint :  
BGAHSINK-Z1704M-D3H

X2

HEAT SINK[12SP2-PT17G5-11R]



MOS\_HS

1X

Footprint :  
MOSHHSINK-Z1704-HD3  
(Up Side)

X2

HEAT SINK/X



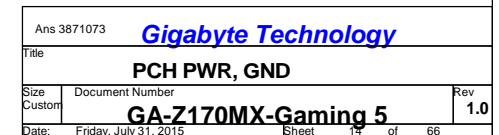
MOS\_HSR

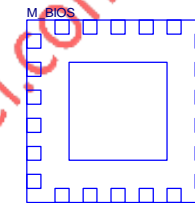
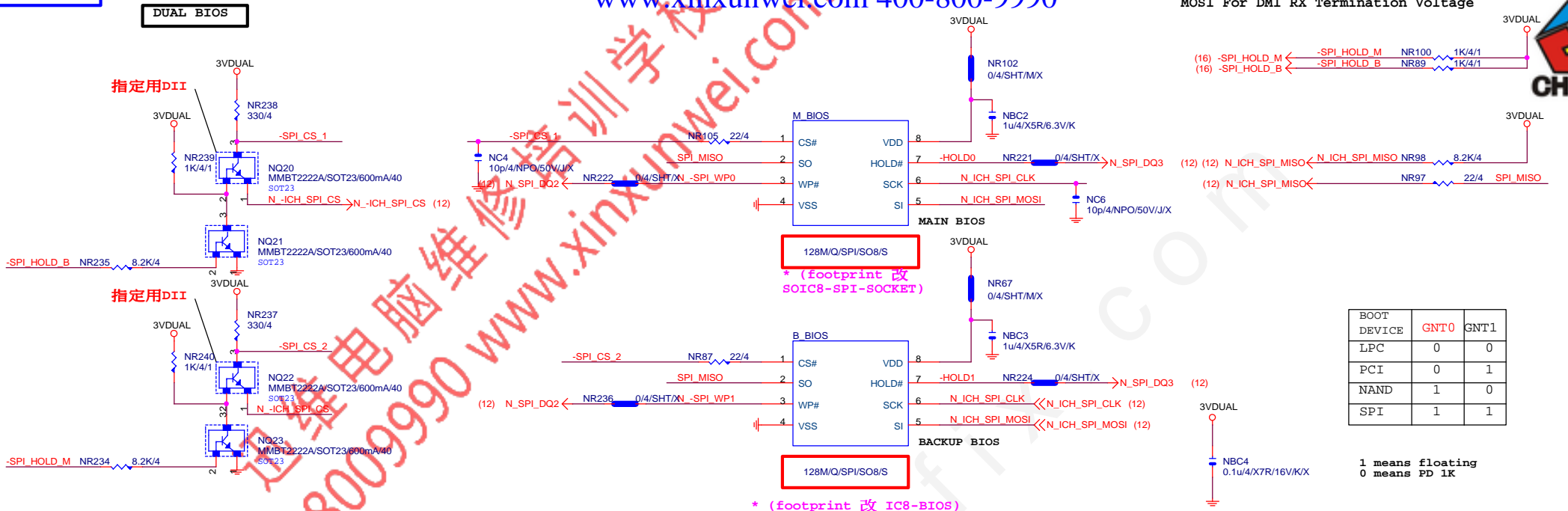
1X

Footprint :  
MOSHHSINK-Z1704M-D3H  
(Right Side)

X2

HEAT SINK/X



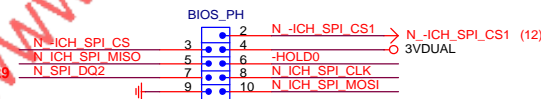


LCP/G-FL/1.27mm/200MIL/WHITE[10SL2-000008-31R]X

\* 試産先上, PVT 移除

**BIOS\_PH**

★Update 2015-01-29



MASK/PH/2\*5K10/BK/2.54/VA/D/X

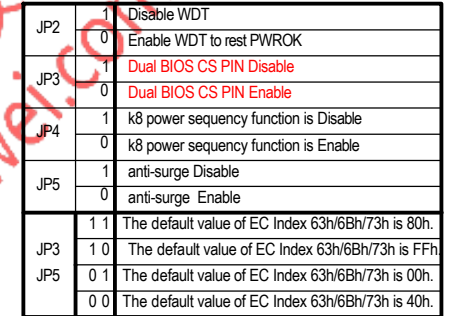
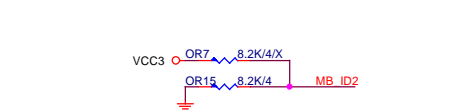
Footprint the same, confirmed by Graceing.

Use COM port pin header part.

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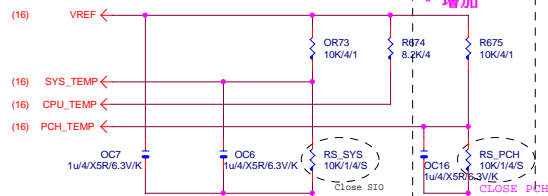
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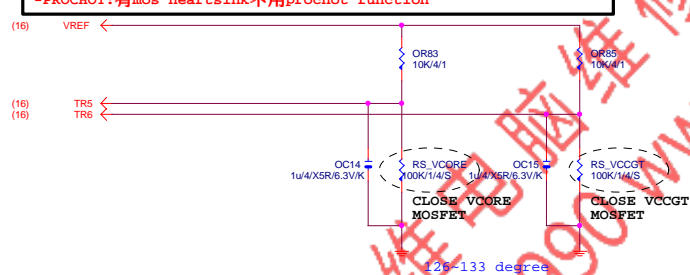
MB ID



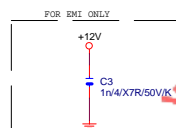
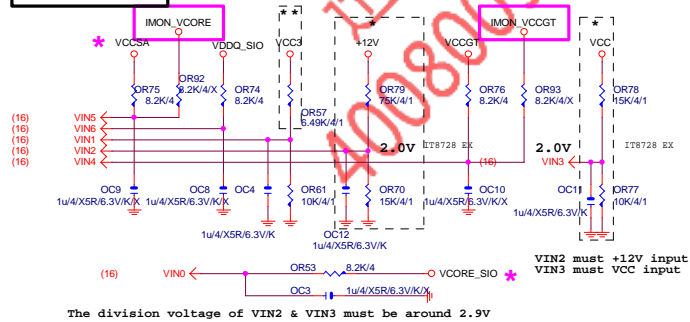
## TEMP H/W MONITOR



## RS\_VCORE, RS\_VCCGT, CLOSE CPU\_VCORE &amp; VCCGT MOSFET



## VOLTAGE-- H/W MONITOR

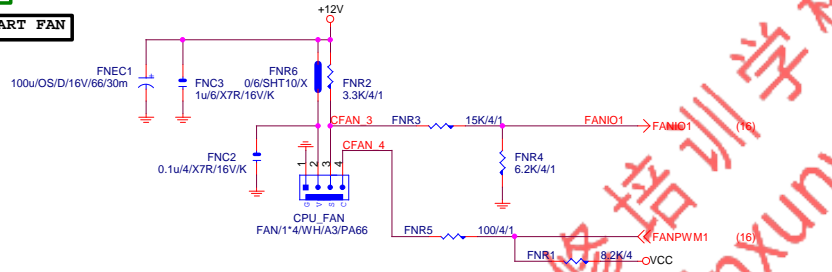


## Gigabyte Technology

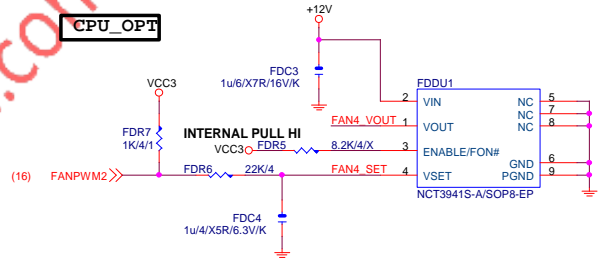
Title			HWM,KB/MS, FAN CTRL
Size	Document Number	Rev	
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CPU SMART FAN

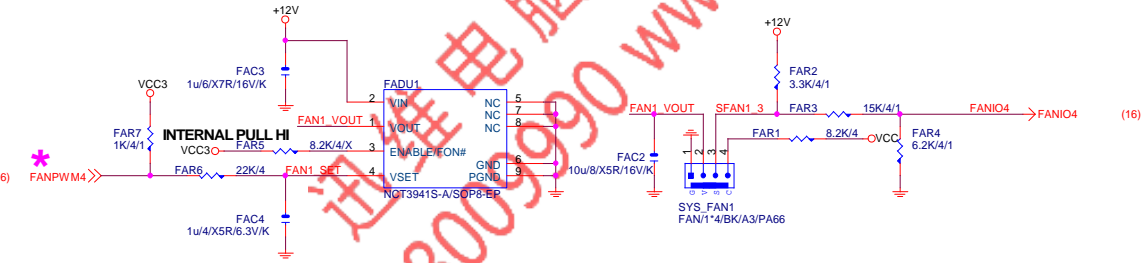


CPU\_OPT

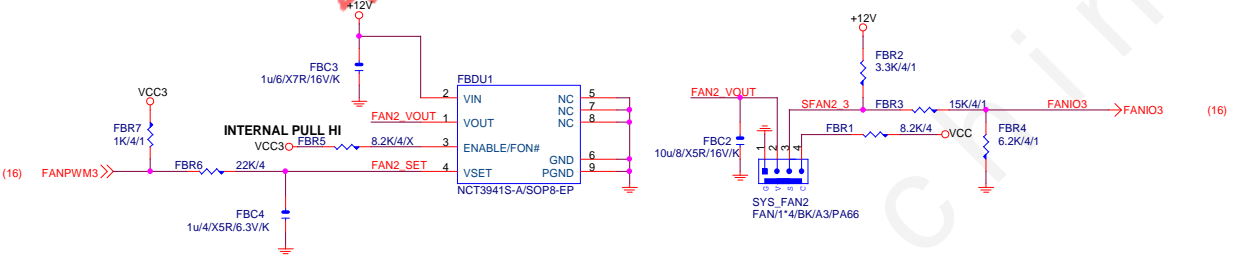


SYSTEM FAN1

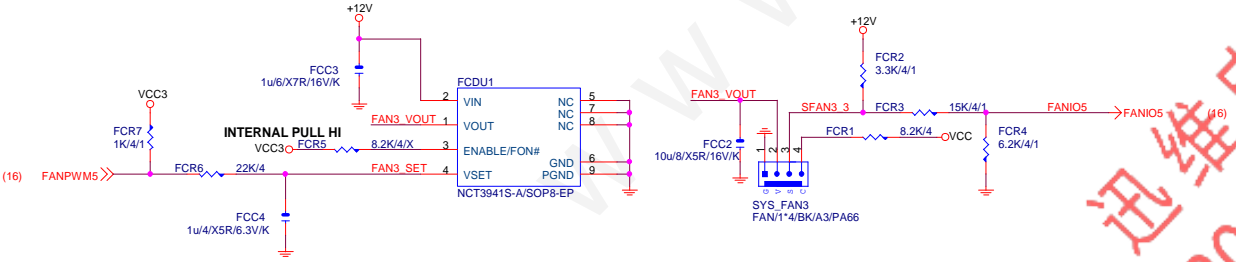
Linear SYS\_FAN  
Enable Function (NCT3941S)  
Full Turn On Function (NCT3941S-A)



SYSTEM FAN2



SYSTEM FAN2



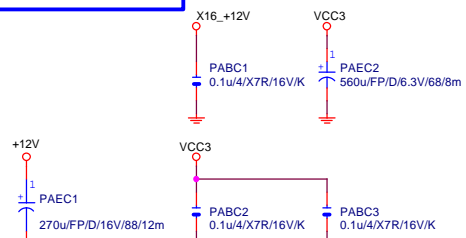
Gigabyte Technology			
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HWM,KB/MS, FAN CTRL			
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Rev 0.3

PCIEX16 CAP

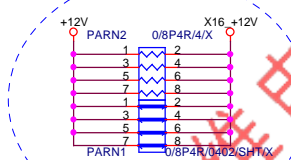
PCIEX16 SLOT

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PCIEX16 PROTECT SHT

+12 protect short-wire test



PCIEX16 AC CAP

PA EXP TXP0	PAC5	0.22u/4/X5R/6.3V/K	PA EXP TXP0 C
PA EXP TXN0	PAC4	0.22u/4/X5R/6.3V/K	PA EXP TXN0 C
PA EXP TXP1	PAC6	0.22u/4/X5R/6.3V/K	PA EXP TXP1 C
PA EXP TXN1	PAC7	0.22u/4/X5R/6.3V/K	PA EXP TXN1 C
PA EXP TXP2	PAC8	0.22u/4/X5R/6.3V/K	PA EXP TXP2 C
PA EXP TXN2	PAC9	0.22u/4/X5R/6.3V/K	PA EXP TXN2 C
PA EXP TXP3	PAC10	0.22u/4/X5R/6.3V/K	PA EXP TXP3 C
PA EXP TXN3	PAC11	0.22u/4/X5R/6.3V/K	PA EXP TXN3 C
PA EXP TXP4	PAC12	0.22u/4/X5R/6.3V/K	PA EXP TXP4 C
PA EXP TXN4	PAC13	0.22u/4/X5R/6.3V/K	PA EXP TXN4 C
PA EXP TXP5	PAC14	0.22u/4/X5R/6.3V/K	PA EXP TXP5 C
PA EXP TXN5	PAC15	0.22u/4/X5R/6.3V/K	PA EXP TXN5 C
PA EXP TXP6	PAC16	0.22u/4/X5R/6.3V/K	PA EXP TXP6 C
PA EXP TXN6	PAC17	0.22u/4/X5R/6.3V/K	PA EXP TXN6 C
PA EXP TXP7	PAC18	0.22u/4/X5R/6.3V/K	PA EXP TXP7 C
PA EXP TXN7	PAC19	0.22u/4/X5R/6.3V/K	PA EXP TXN7 C
PA EXP SW TXP8	PAC20	0.22u/4/X5R/6.3V/K	PA EXP SW TXP8 C
PA EXP SW TXN8	PAC21	0.22u/4/X5R/6.3V/K	PA EXP SW TXN8 C
PA EXP SW TXP9	PAC22	0.22u/4/X5R/6.3V/K	PA EXP SW TXP9 C
PA EXP SW TXN9	PAC23	0.22u/4/X5R/6.3V/K	PA EXP SW TXN9 C
PA EXP SW TXP10	PAC24	0.22u/4/X5R/6.3V/K	PA EXP SW TXP10 C
PA EXP SW TXN10	PAC25	0.22u/4/X5R/6.3V/K	PA EXP SW TXN10 C
PA EXP SW TXP11	PAC26	0.22u/4/X5R/6.3V/K	PA EXP SW TXP11 C
PA EXP SW TXN11	PAC27	0.22u/4/X5R/6.3V/K	PA EXP SW TXN11 C
PA EXP SW TXP12	PAC28	0.22u/4/X5R/6.3V/K	PA EXP SW TXP12 C
PA EXP SW TXN12	PAC29	0.22u/4/X5R/6.3V/K	PA EXP SW TXN12 C
PA EXP SW TXP13	PAC30	0.22u/4/X5R/6.3V/K	PA EXP SW TXP13 C
PA EXP SW TXN13	PAC31	0.22u/4/X5R/6.3V/K	PA EXP SW TXN13 C
PA EXP SW TXP14	PAC32	0.22u/4/X5R/6.3V/K	PA EXP SW TXP14 C
PA EXP SW TXN14	PAC33	0.22u/4/X5R/6.3V/K	PA EXP SW TXN14 C
PA EXP SW TXP15	PAC34	0.22u/4/X5R/6.3V/K	PA EXP SW TXP15 C
PA EXP SW TXN15	PAC35	0.22u/4/X5R/6.3V/K	PA EXP SW TXN15 C

PCI-E REV:1.1--&gt; 2.5GHZ

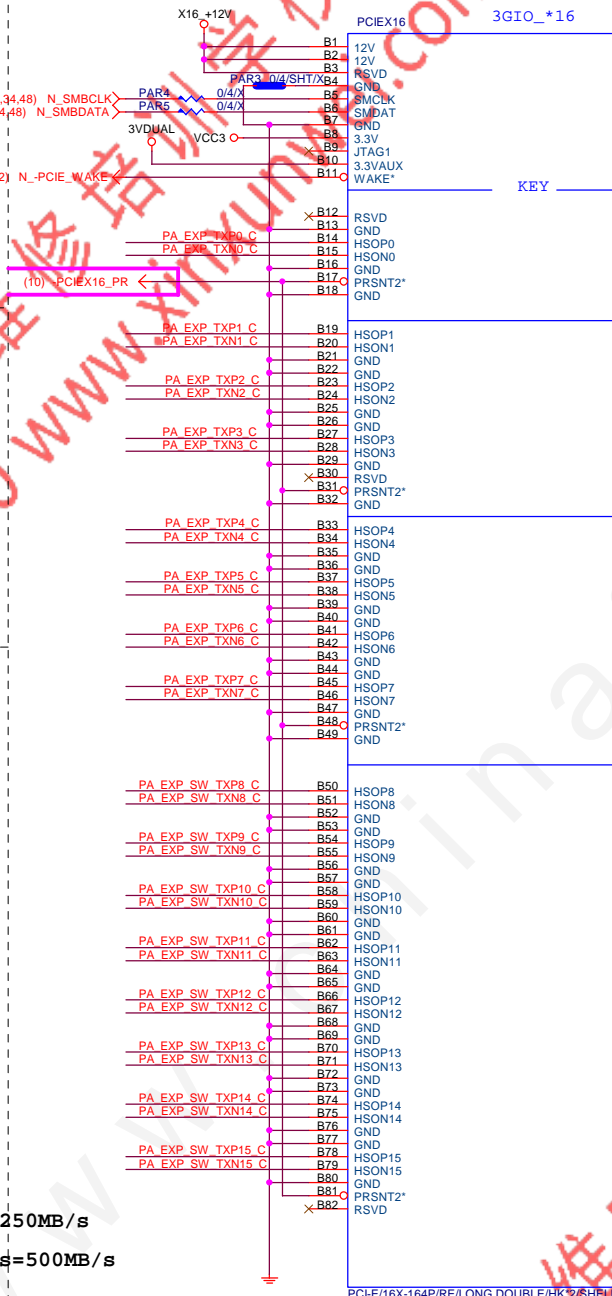
PCE-E X1(單向) BANDWITH=2.5GHz\*(8b/10b)=2Gb/s=250MB/s

PCE-E X1(雙向) BANDWITH=2.5GHz\*(8b/10b)X2=4Gb/s=500MB/s

PCE-E X16(單向) BANDWITH=2.5GHz\*(8b/10b)X16=32Gb/s=4GB/s

PCE-E X16(雙向) BANDWITH=2.5GHz\*(8b/10b)X16X2=64Gb/s=8GB/s

PCI-E REV:2.0--&gt; 5GHZ



PCI-E/16X-164P/RE/LONG DOUBLE/HK 2/SHELL



PCIEX16\*16/5/5/5/16

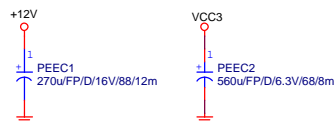
PA EXP RXP0.15]	>>>PA_EXP_RXP0.15]	(4,21)
PA EXP RXN0.15]	>>>PA_EXP_RXN0.15]	(4,21)
PA EXP TXP0.15]	>>>PA_EXP_TXP0.15]	(4,21)
PA EXP TXN0.15]	>>>PA_EXP_TXN0.15]	(4,21)
PA EXP SW RXP8.15]	>>>PA_EXP_SW_RXP8.15]	(21)
PA EXP SW RXN8.15]	>>>PA_EXP_SW_RXN8.15]	(21)
PA EXP SW TXP8.15]	>>>PA_EXP_SW_TXP8.15]	(21)
PA EXP SW TXN8.15]	>>>PA_EXP_SW_TXN8.15]	(21)

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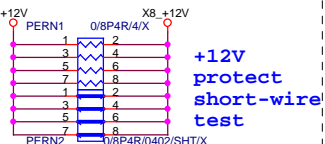
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Custom	GA-Z170MX-Gaming 5	1.0	
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Rev 0.3

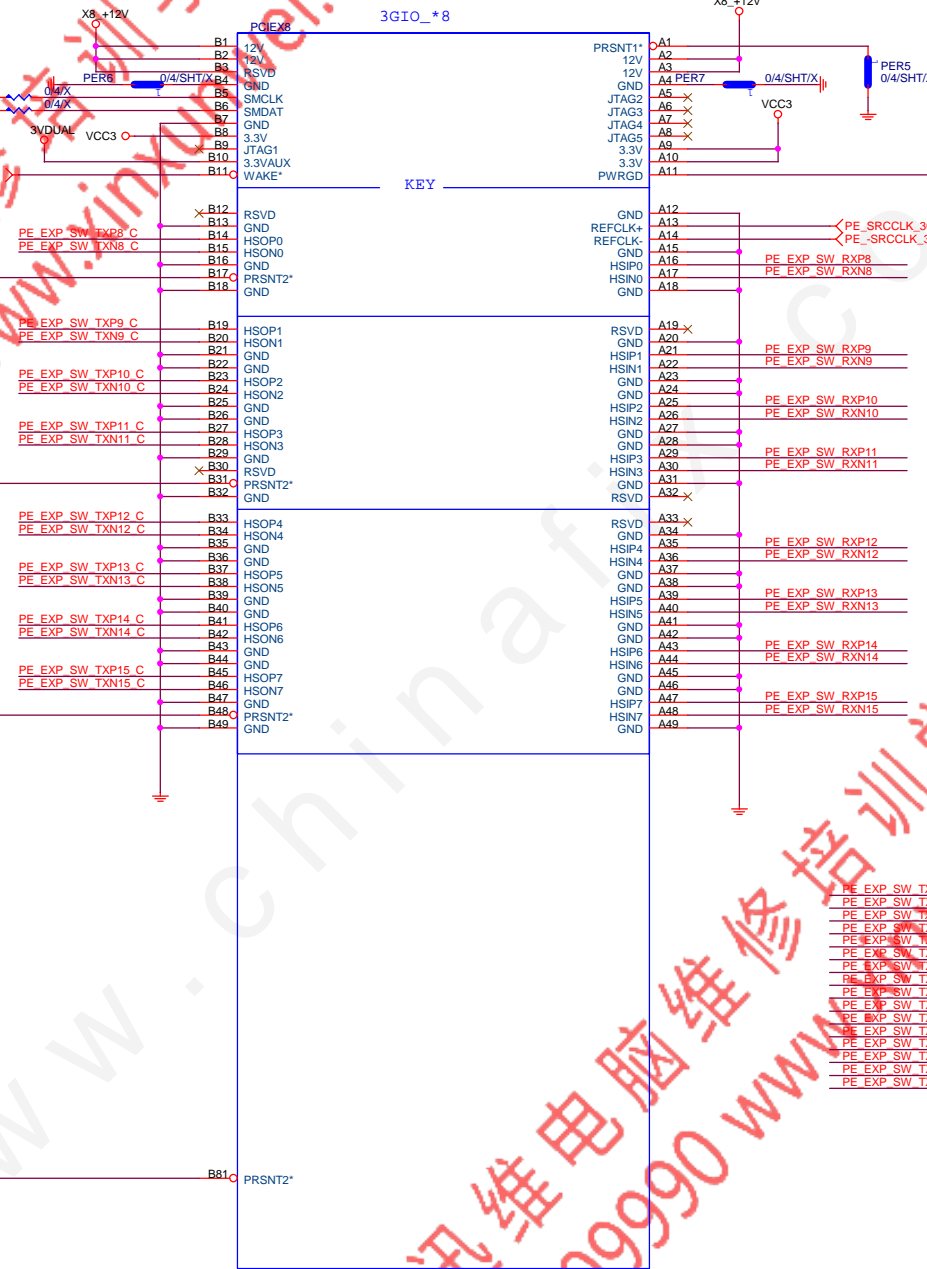
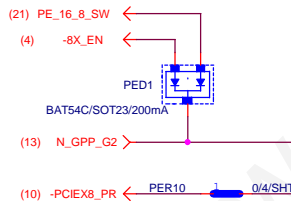
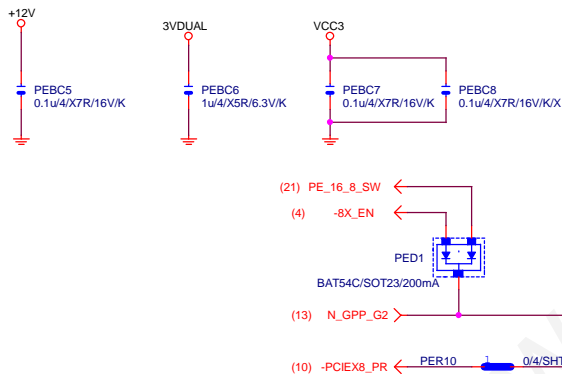
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### PCIEX8 PROTECT SHT



(12,16,19,22,23,49,62) N.-PCIE\_WAKE



O.-PCIE\_RST (16,19,22,23,24,25,49)

PE\_EXP\_SW\_RXP[8..15] >> PE\_EXP\_SW\_RXP[8..15] (21)  
PE\_EXP\_SW\_RXN[8..15] >> PE\_EXP\_SW\_RXN[8..15] (21)  
PE\_EXP\_SW\_TXP[8..15] >> PE\_EXP\_SW\_TXP[8..15] (21)  
PE\_EXP\_SW\_TXN[8..15] >> PE\_EXP\_SW\_TXN[8..15] (21)

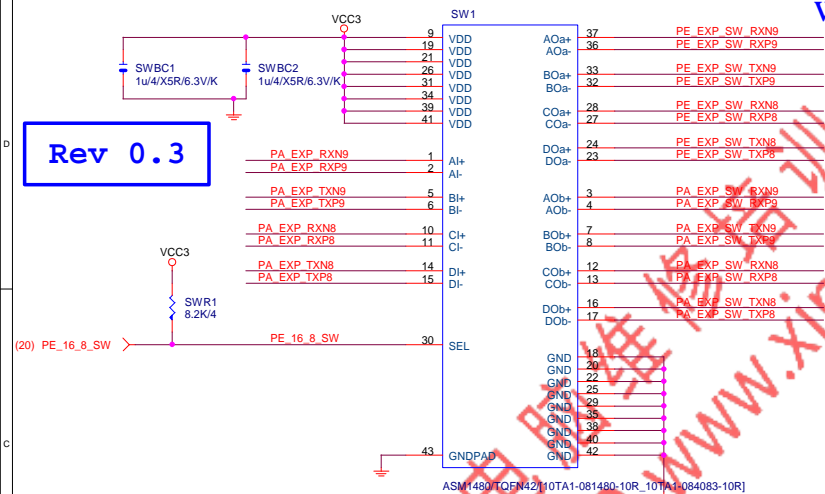
PE_EXP_SW_TXP8	PEC7	0.22u/4/X5R/6.3V/K	PE_EXP_SW_TXP8_C
PE_EXP_SW_TXN8	PEC8	0.22u/4/X5R/6.3V/K	PE_EXP_SW_TXN8_C
PE_EXP_SW_TXP9	PEC9	0.22u/4/X5R/6.3V/K	PE_EXP_SW_TXP9_C
PE_EXP_SW_TXN9	PEC10	0.22u/4/X5R/6.3V/K	PE_EXP_SW_TXN9_C
PE_EXP_SW_TXP10	PEC11	0.22u/4/X5R/6.3V/K	PE_EXP_SW_TXP10_C
PE_EXP_SW_TXN10	PEC12	0.22u/4/X5R/6.3V/K	PE_EXP_SW_TXN10_C
PE_EXP_SW_TXP11	PEC13	0.22u/4/X5R/6.3V/K	PE_EXP_SW_TXP11_C
PE_EXP_SW_TXN11	PEC14	0.22u/4/X5R/6.3V/K	PE_EXP_SW_TXN11_C
PE_EXP_SW_TXP12	PEC15	0.22u/4/X5R/6.3V/K	PE_EXP_SW_TXP12_C
PE_EXP_SW_TXN12	PEC16	0.22u/4/X5R/6.3V/K	PE_EXP_SW_TXN12_C
PE_EXP_SW_TXP13	PEC17	0.22u/4/X5R/6.3V/K	PE_EXP_SW_TXP13_C
PE_EXP_SW_TXN13	PEC18	0.22u/4/X5R/6.3V/K	PE_EXP_SW_TXN13_C
PE_EXP_SW_TXP14	PEC19	0.22u/4/X5R/6.3V/K	PE_EXP_SW_TXP14_C
PE_EXP_SW_TXN14	PEC20	0.22u/4/X5R/6.3V/K	PE_EXP_SW_TXN14_C
PE_EXP_SW_TXP15	PEC21	0.22u/4/X5R/6.3V/K	PE_EXP_SW_TXP15_C
PE_EXP_SW_TXN15	PEC22	0.22u/4/X5R/6.3V/K	PE_EXP_SW_TXN15_C

Gigabyte Technology

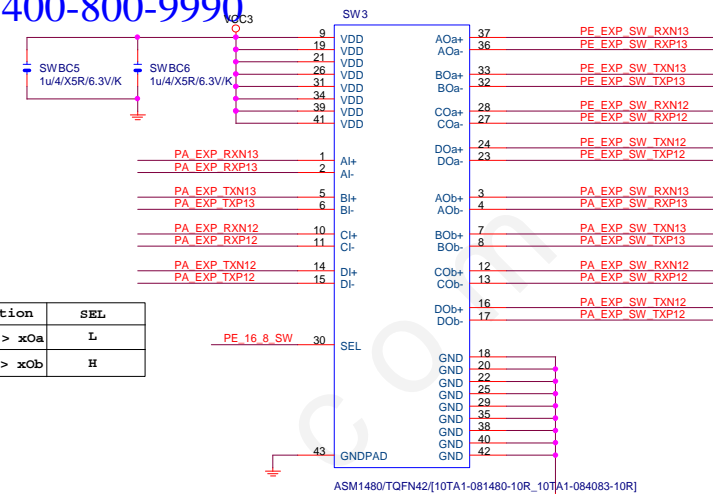
Title				PCI EXPRESS X8	
Size				Custom	
Date:				Friday, July 31, 2015	
Sheet				20 of 66	
Rev				1.0	



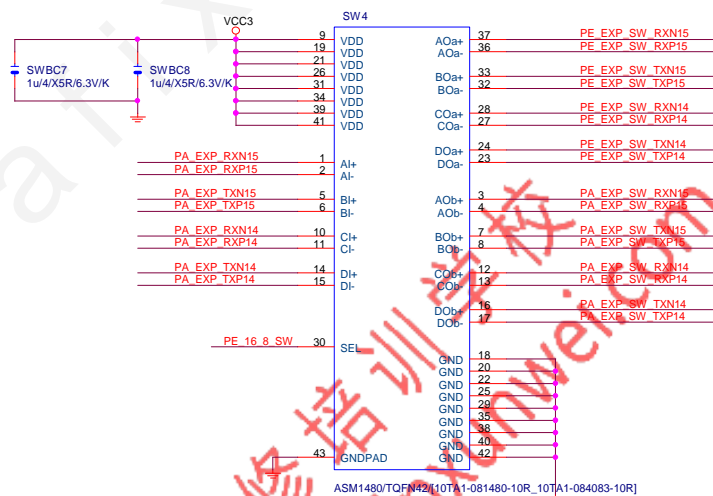
Rev 0.3



Function	SEL
xI--> xOa	L
xI--> xOb	H



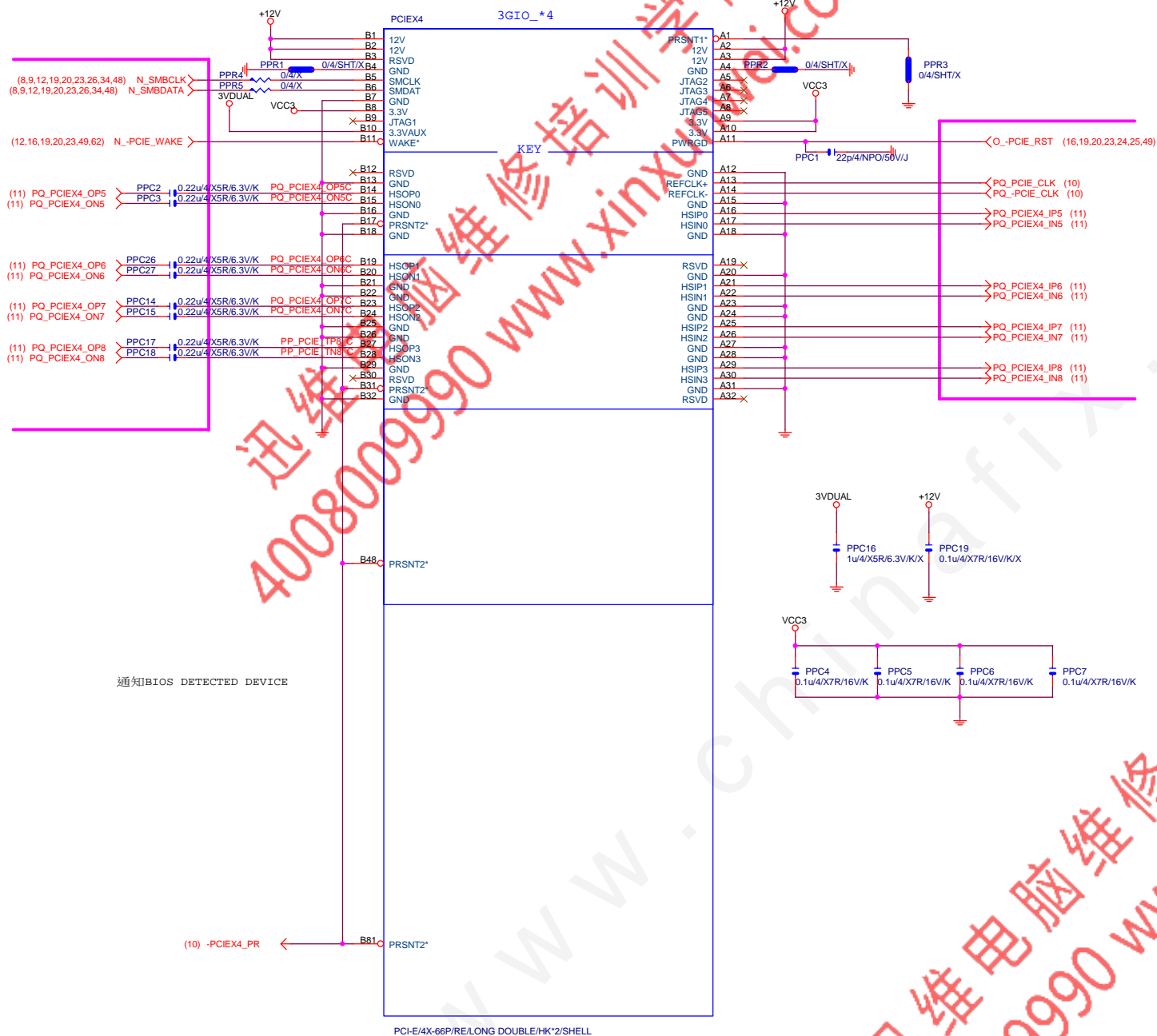
PA EXP SW RXP18\_15] >>> PA\_EXP\_SW\_RXP18..15] (19)  
PA EXP SW RXN18\_15] >>> PA\_EXP\_SW\_RXN18..15] (19)  
PA EXP SW TXP18\_15] >>> PA\_EXP\_SW\_TXP18..15] (19)  
PA EXP SW TXN18\_15] >>> PA\_EXP\_SW\_TXN18..15] (19)  
PE EXP SW RXP18\_15] >>> PE\_EXP\_SW\_RXP18..15] (20)  
PE EXP SW RXN18\_15] >>> PE\_EXP\_SW\_RXN18..15] (20)  
PE EXP SW TXP18\_15] >>> PE\_EXP\_SW\_TXP18..15] (20)  
PE EXP SW TXN18\_15] >>> PE\_EXP\_SW\_TXN18..15] (20)  
PA EXP RXP10\_15] >>> PA\_EXP\_RXP10..15] (4,19)  
PA EXP RXN10\_15] >>> PA\_EXP\_RXN10..15] (4,19)  
PA EXP TXP10\_15] >>> PA\_EXP\_TXP10..15] (4,19)  
PA EXP TXN10\_15] >>> PA\_EXP\_TXN10..15] (4,19)



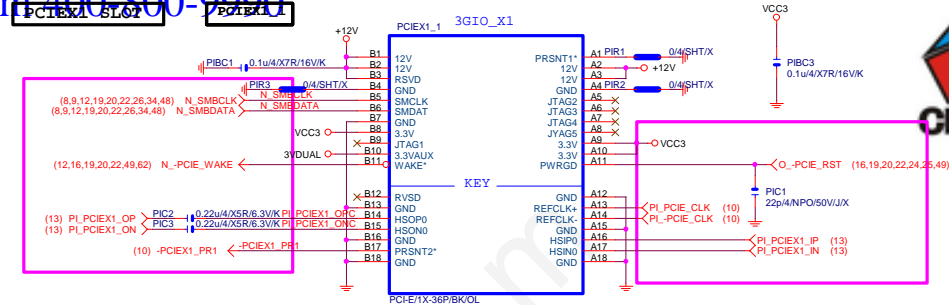
Gigabyte Technology

PCI EXPRESS X16 SWITCH

Title	GA-Z170MX-Gaming 5			Rev	1.0
Size	Custom	Document Number			
Date:	Friday, July 31, 2015	Sheet	21	of	66

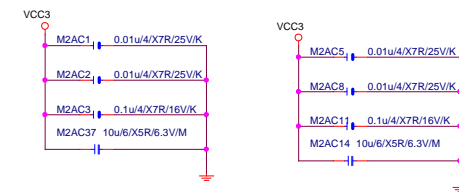


GIGABYTE			
Title			
PCIE_X4			
Size	Document Number	Rev	
Custom		GA-Z170MX-Gaming13	
Date:	Friday, July 31, 2015	Sheet	22 of 66



PCIE X4/X1 SWITCH

M.2 Lane2 from PCH port15

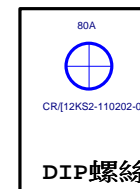


VCC3 VCC3

M2A2 1K/4/1 M2A6 1K/4/1

M2A\_DETECT M2A4 MASK/0/4/SHT/20/X N\_GPP\_G1 (13)

M2ASSD 1F/DET M2A1 MASK/0/4/SHT/20/X N\_GPP\_G1 (13)



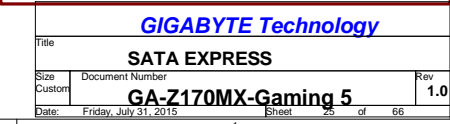
66

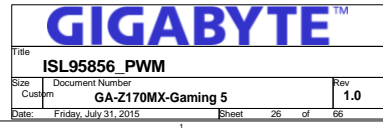
42A 60A 80A

CR/11KS2-040002-01R CR/11KS2-040002-01R CR/11KS2-040002-01R

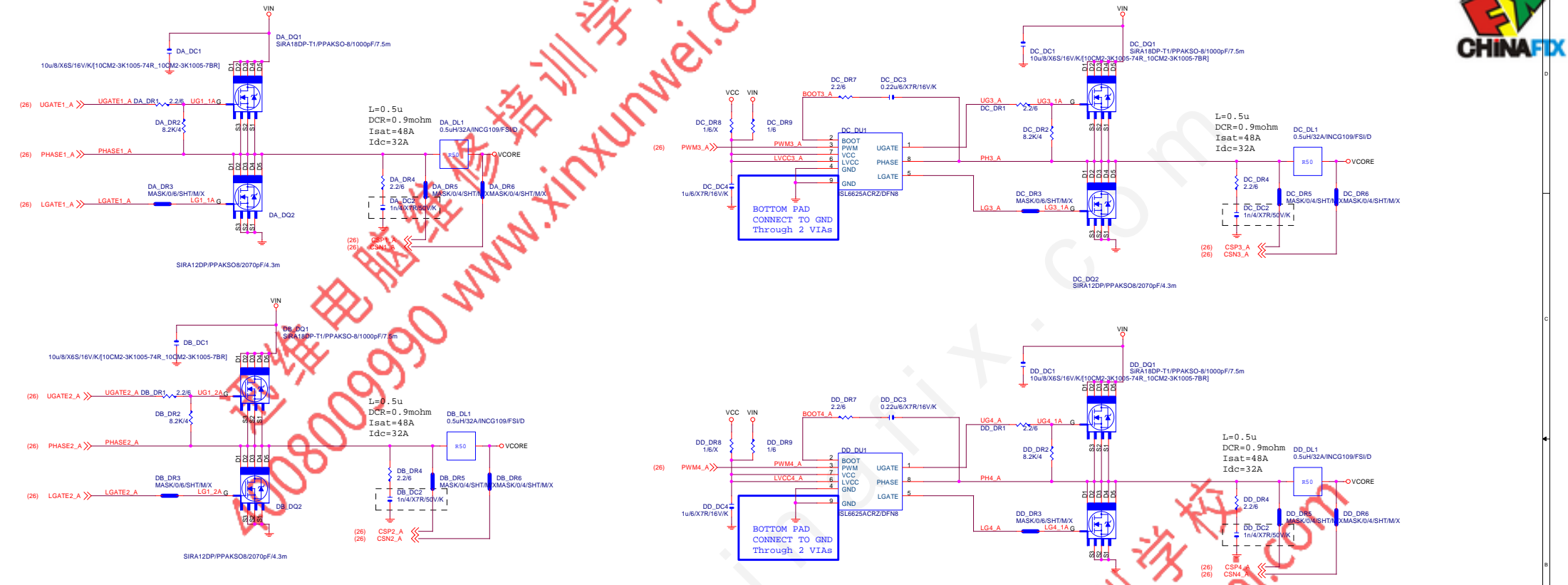
M.2 有插卡 /沒插卡 GPP_G0	M.2插何種卡？ GPP_G1	SATA Express 插何種硬碟？ GPP_E0/E2/F1	I015 (S0)	I016 (S1)	I017	I018	I019 (S0)	IP20 (S1)
有插卡 (Low)	SATA Mode (Low)	SATA (Hi)	SATA (M.2)	PCIE x1	PCIE x1	PCIE X1	PCIE x1	SATA
		SATA Express (Low)	SATA (M.2)	PCIE x1	PCIE x1	PCIE x1	SATA Express	
	PCIE Mode (Hi)	SATA (Hi)	PCIE x4 (For M.2)				SATA	SATA
		SATA Express (Low)	PCIE x4 (For M.2)				SATA Express	
沒插卡 (Hi)	Don' t Care (Hi)	SATA (Hi)	PCIE x4				SATA	SATA
		SATA Express (Low)	PCIE x4				SATA Express	



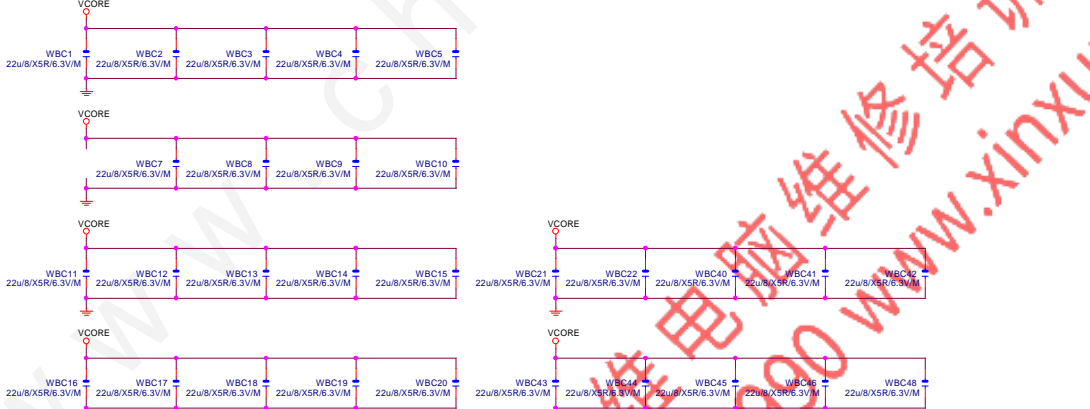
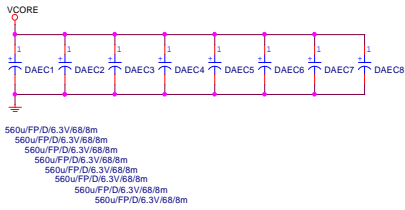




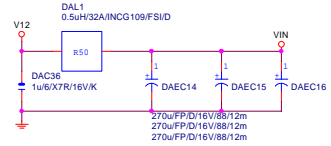
VCORE



VCORE CAP 560u\*8PCS 22u\*29PCS



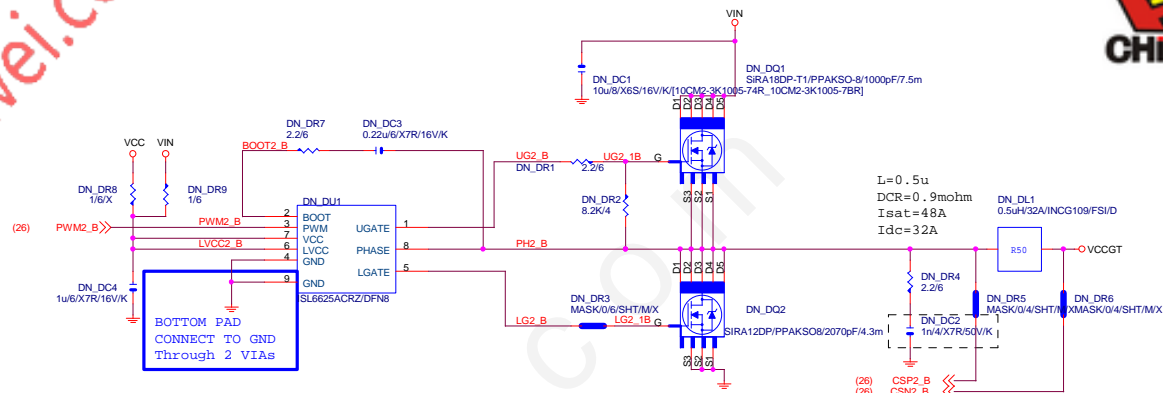
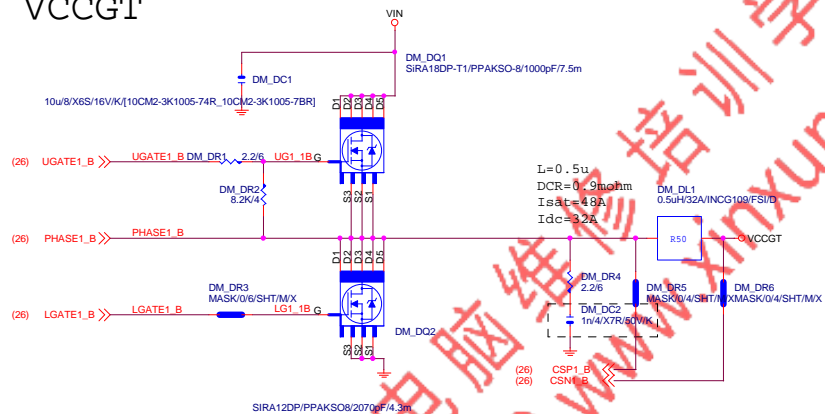
VIN CAP 270u\*3PCS



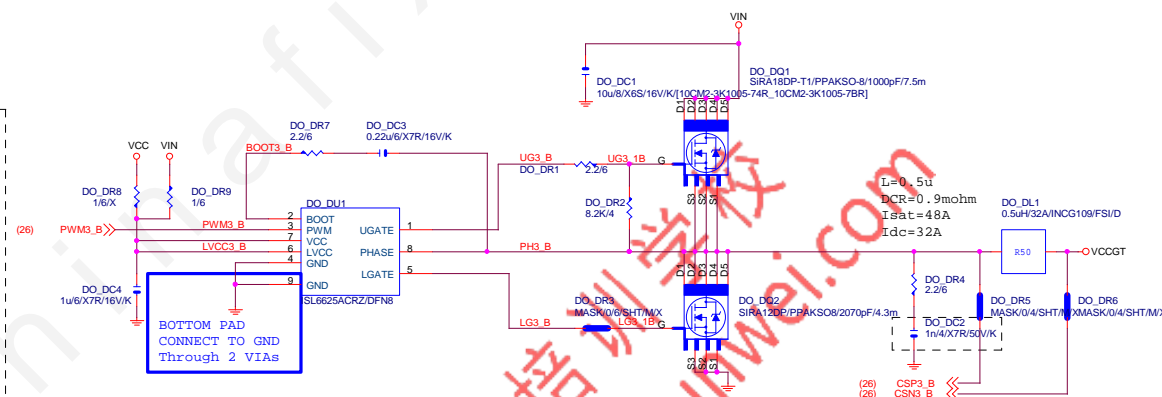
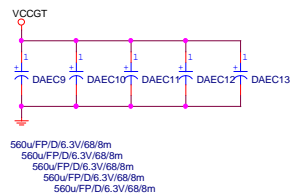
GIGABYTE™		
ISL9585E MOS		
Title	Document Number	Rev
Size	Custom	GA-Z170MX-Gaming 5
Date:	Friday, July 31, 2015	Sheet 27 of 66



## VCCGT

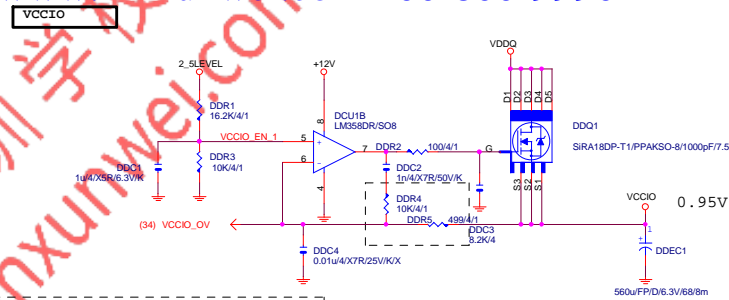
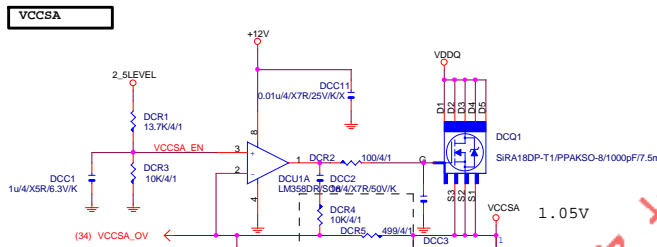


## VCCGT CAP 560u\*5PCS 22u\*15PCS

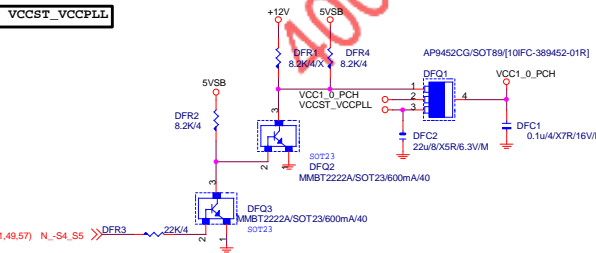
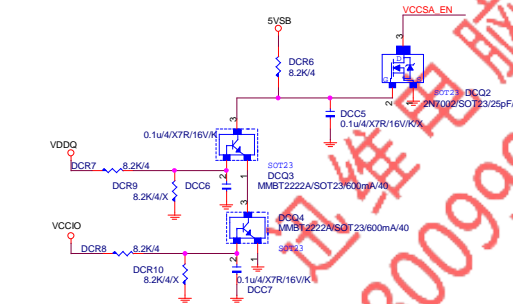
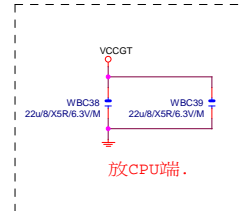


GIGABYTE™			
Title			
ISL95856 MOS			
Size	Document Number	Rev	
Custom	GA-Z170MX-Gaming 5	1.0	
Date:	Friday, July 31, 2015	Sheet	28 of 66





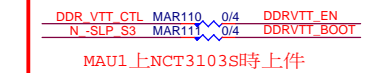
VCCIO\_EN 1 → VCCIO\_EN (16)  
MASK004/SHT720X  
Connect to IT8620



VCCST\_VCCPLL

Close to CPU

DDR VIN CAP  
560u\*2PCS



DDRVTT CAP



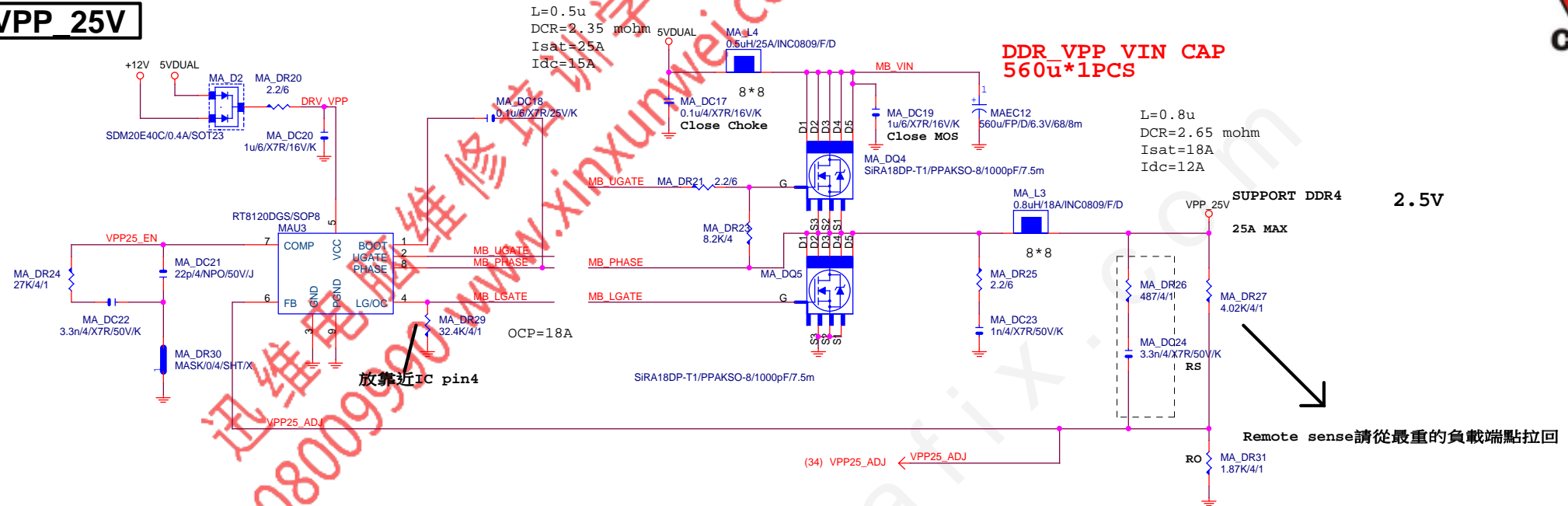
Title			
RT8120_DDR4 POWER			
Size	Document Number	Rev	
Custom	GA-Z170MX-Gaming 5	1.0	
Date:	Friday, July 31, 2015	Sheet	30 of 66

REV:0.86

VPP\_25V

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CHOKE與CAP料號可變



PWR\_SEQ

\* 刪 MA\_DR32

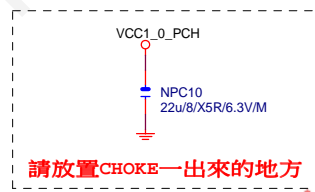
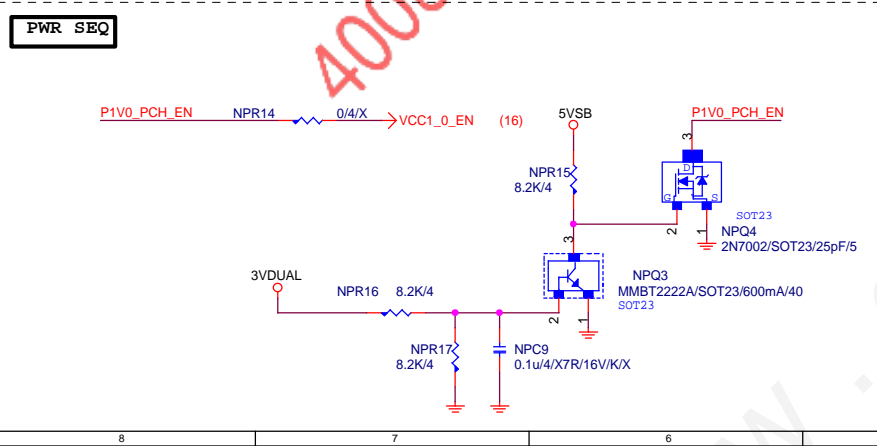
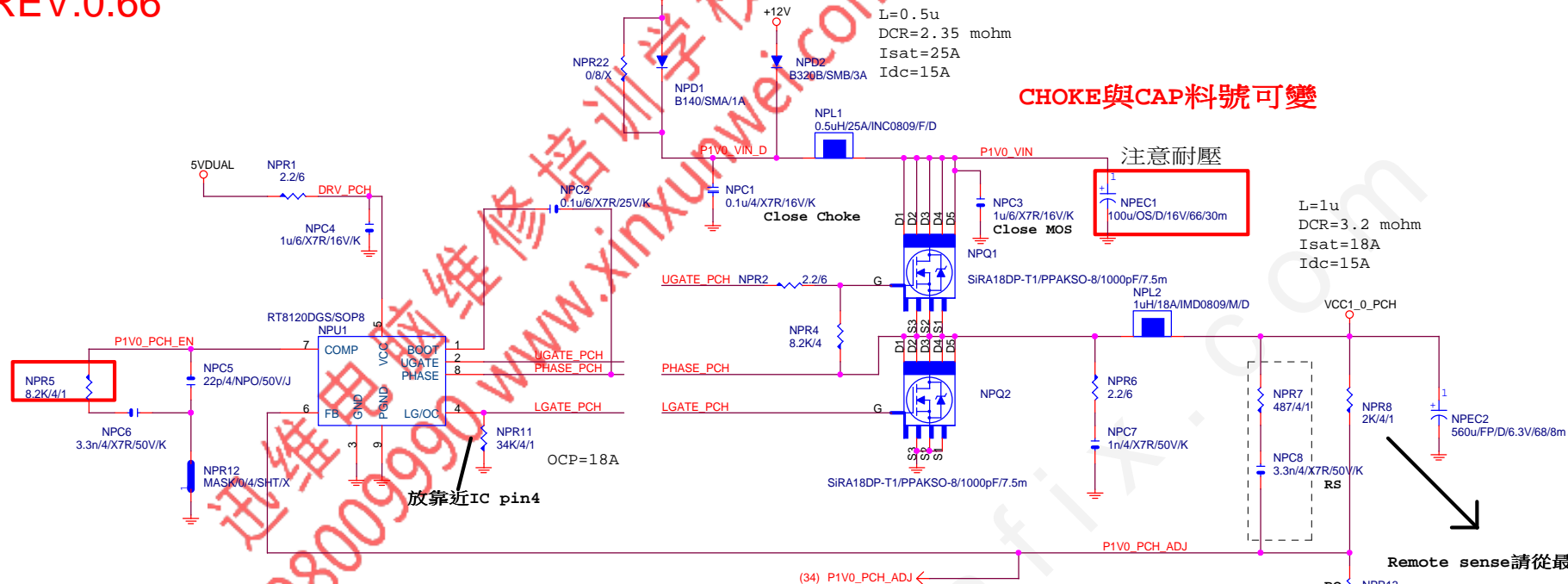
VPP CAP 560u\*1PCS

\* 大電容 x1

GIGABYTE™			
Title			
RT8120_VPP25 POWER			
Size	Document Number	Rev	
Custom	GA-Z170MX-Gaming 5	1.0	
Date:	Friday, July 31, 2015	Sheet	31 of 66

REV:0.66

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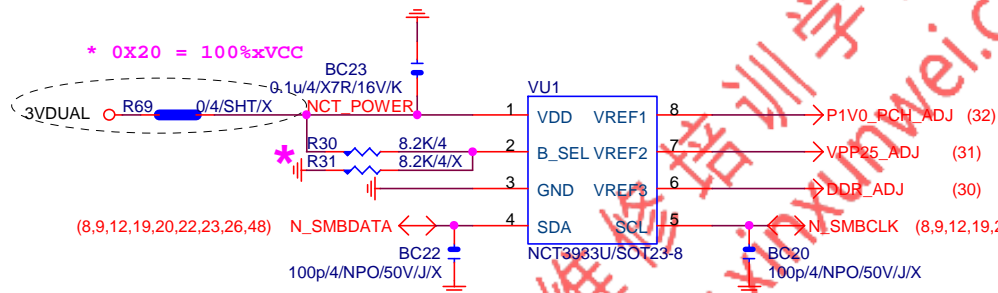
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Title			
RT8120_PCH POWER			
Size	Document Number	Rev	
Custom	GA-Z170MX-Gaming 5	1.0	
Date:	Friday, July 31, 2015	Sheet	32 of 66



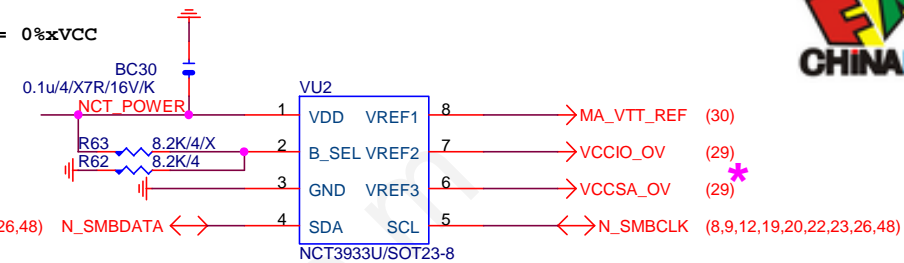




## OVER VOLTAGE



0X2A = 0%xVCC



0X22 = 75%xVCC

\* 删除 OVU3

NCT3933	0X2A	0X20	0X22
VREF1	DDRVTT	VREF_DDRA_DQ	PCH Core
VREF2	VREF_DDRA_CA	N/A	VCC1_5_PCH
VREF3	VREF_DDRA_CA	VREF_DDRB_DQ	SMREF

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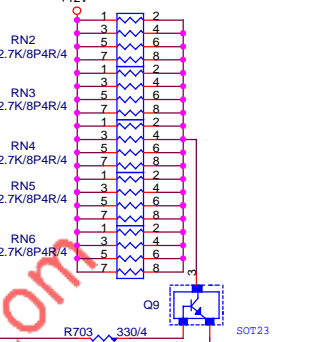
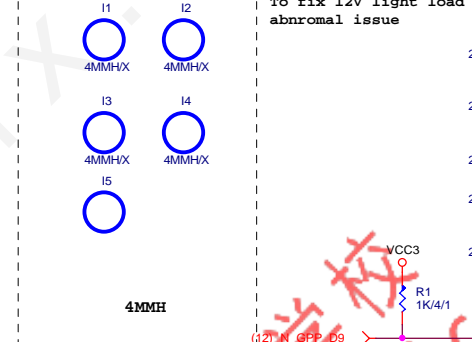
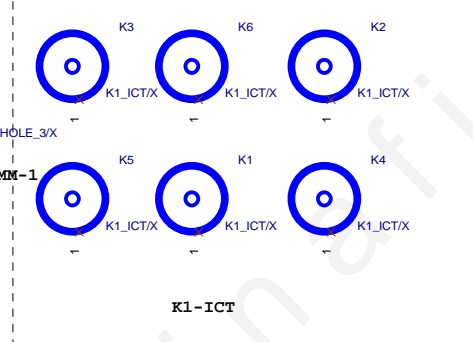
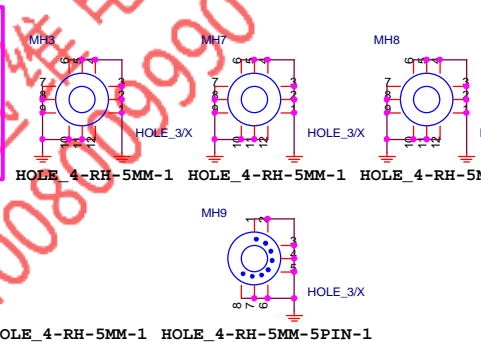
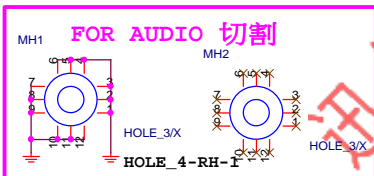
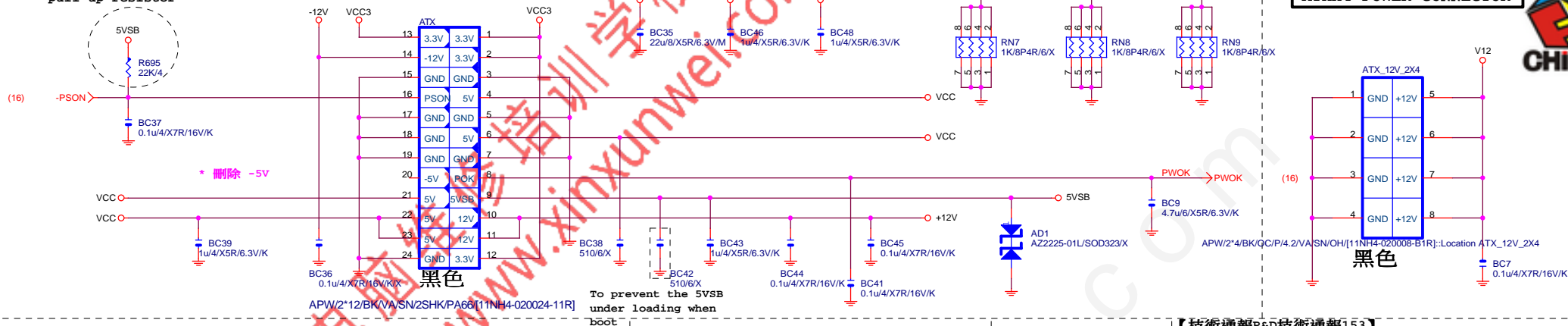
Title		CPU CORE VR-2	
Size	Document Number	GA-Z170MX-Gaming 5	
Custom		Rev	5
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Patch some PSU no internal pull up resistor

## ATXX24 POWER CONNECTOR

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## ATXX4 POWER CONNECTOR



### 【技術通報R&D技術通報153】

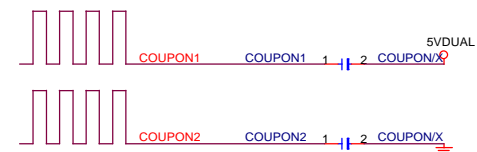
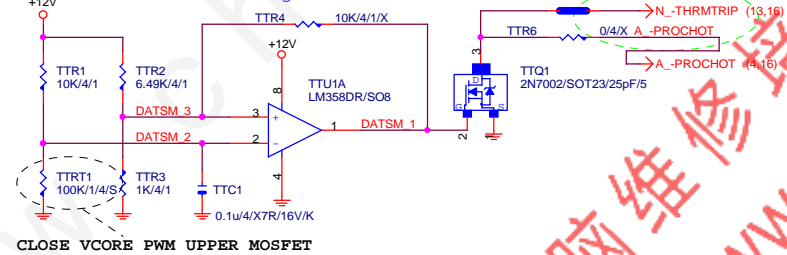
To fix 12V light load abnormal issue

-PROHOT \* 保留 ?

-PROHOT

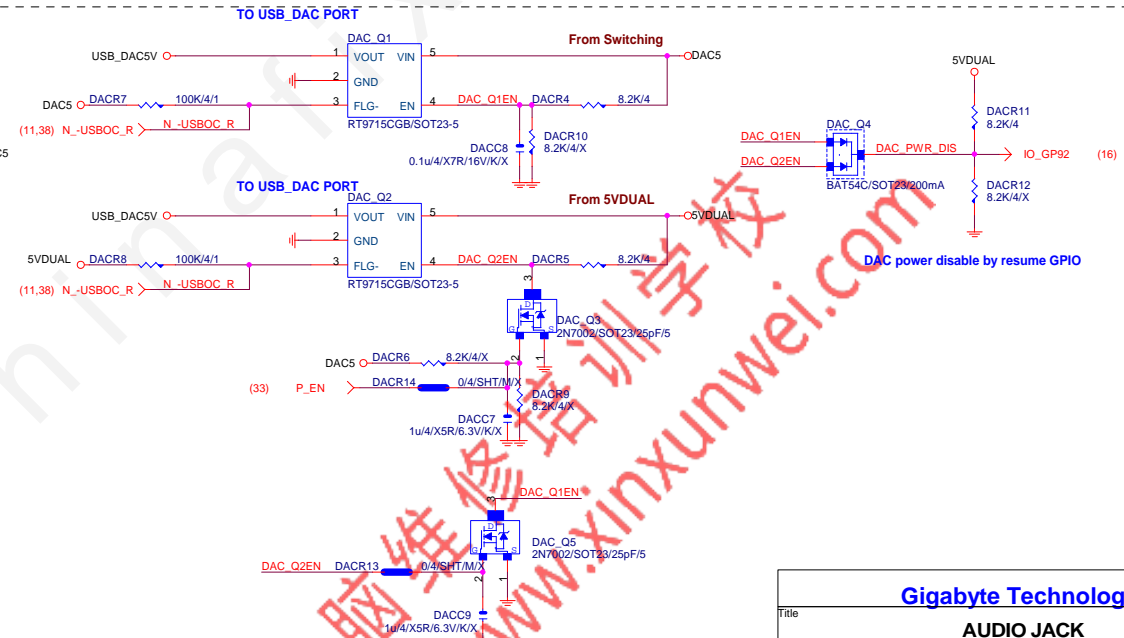
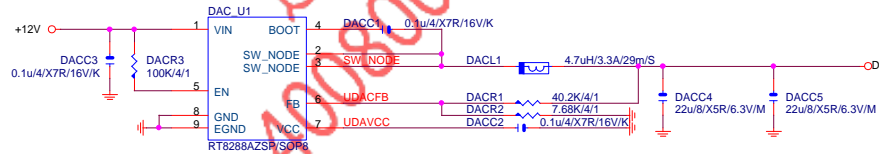
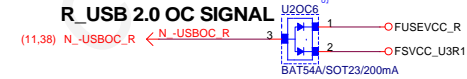
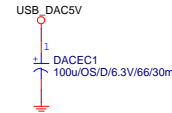
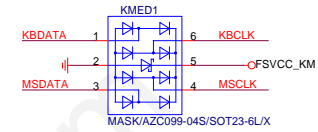
OTP:132度 / PCB THERMAL TRIP:122 度

125 ~130degree assert



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Title			
ATX POWER CONNECTOR			
Size	Document Number	GA-Z170MX-Gaming 5	
Custom		Rev 1.0	
Date:	Friday, July 31, 2015	Sheet	35 of 66

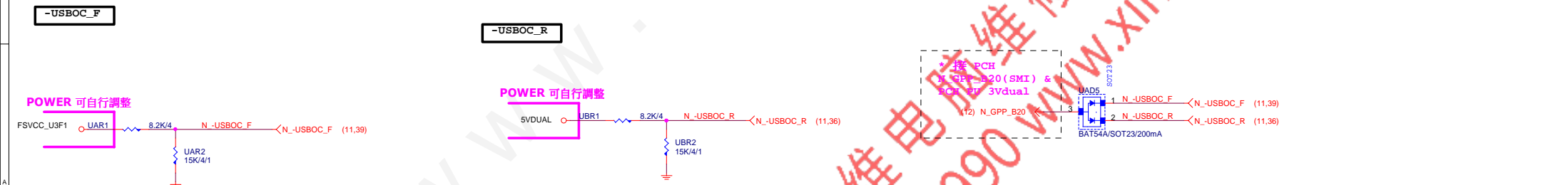


<h1 style="text-align: center;">Gigabyte Technology</h1>			
<h2 style="text-align: center;">AUDIO JACK</h2>			
Size Custom	Document Number	<h1 style="text-align: center;">GA-Z170MX-Gaming</h1>	
Date: Friday, July 31, 2015		Sheet 36 of 66	Rev 9.0

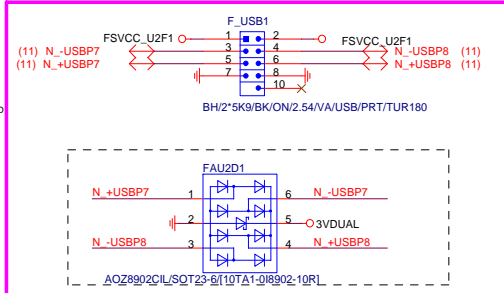




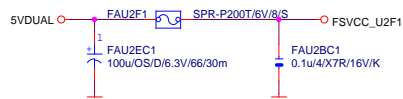
Gigabyte Technology			
Title			
OC BUTTOM			
Size	Document Number		Rev
Custom	GA-Z170MX-Gaming 5		1.0
Date:	Friday, July 31, 2015	Sheet	37 of 66
		1	



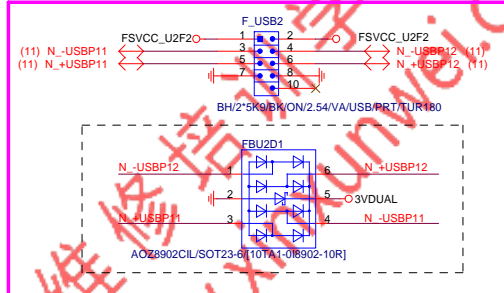
NET 可變



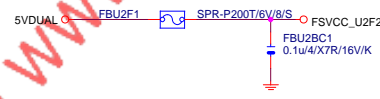
Close to connector  
FUSE 2 Port 1 Fuse 2A



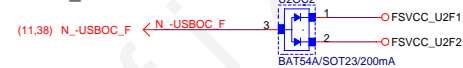
NET 可變



Close to connector  
FUSE 2 Port 1 Fuse 2A



F\_USB 2.0 OC SIGNAL



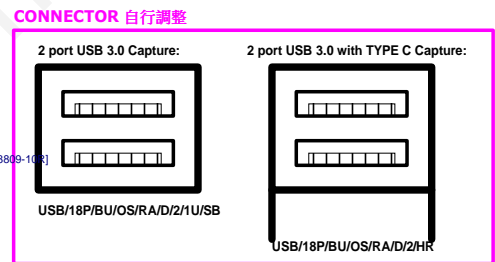
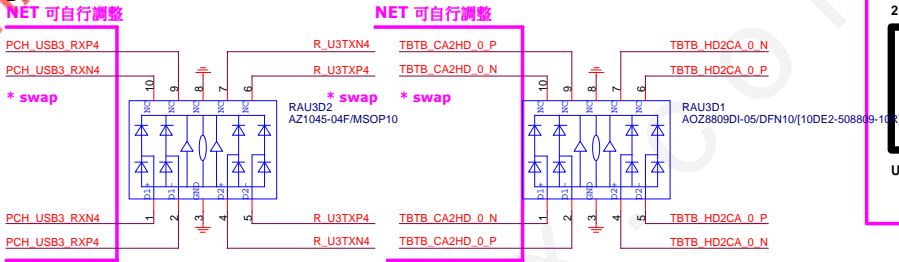
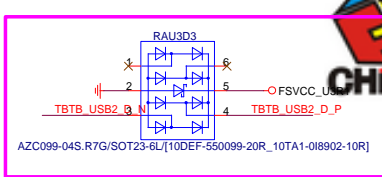
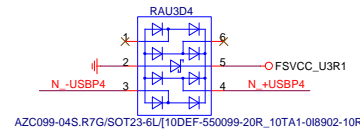
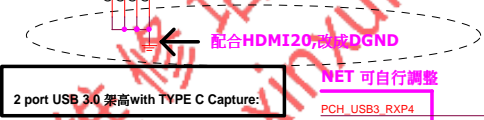
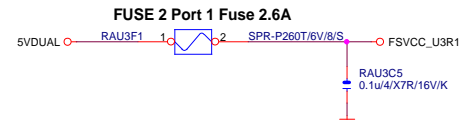
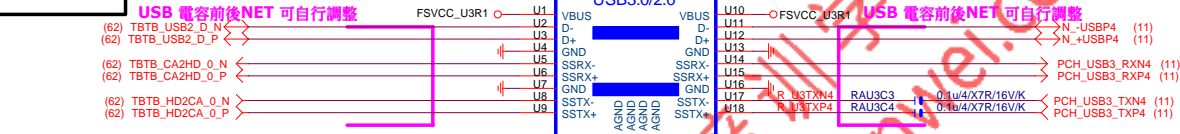
Gigabyte Technology

Title		USB2.0	
Size		Document Number	
Date:		Friday, July 31, 2015	
Sheet		39 of 66	

GA-Z170MX-Gaming 5



R\_USB30



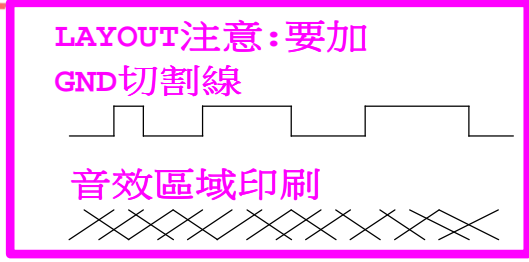
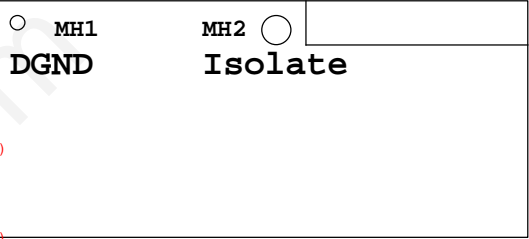
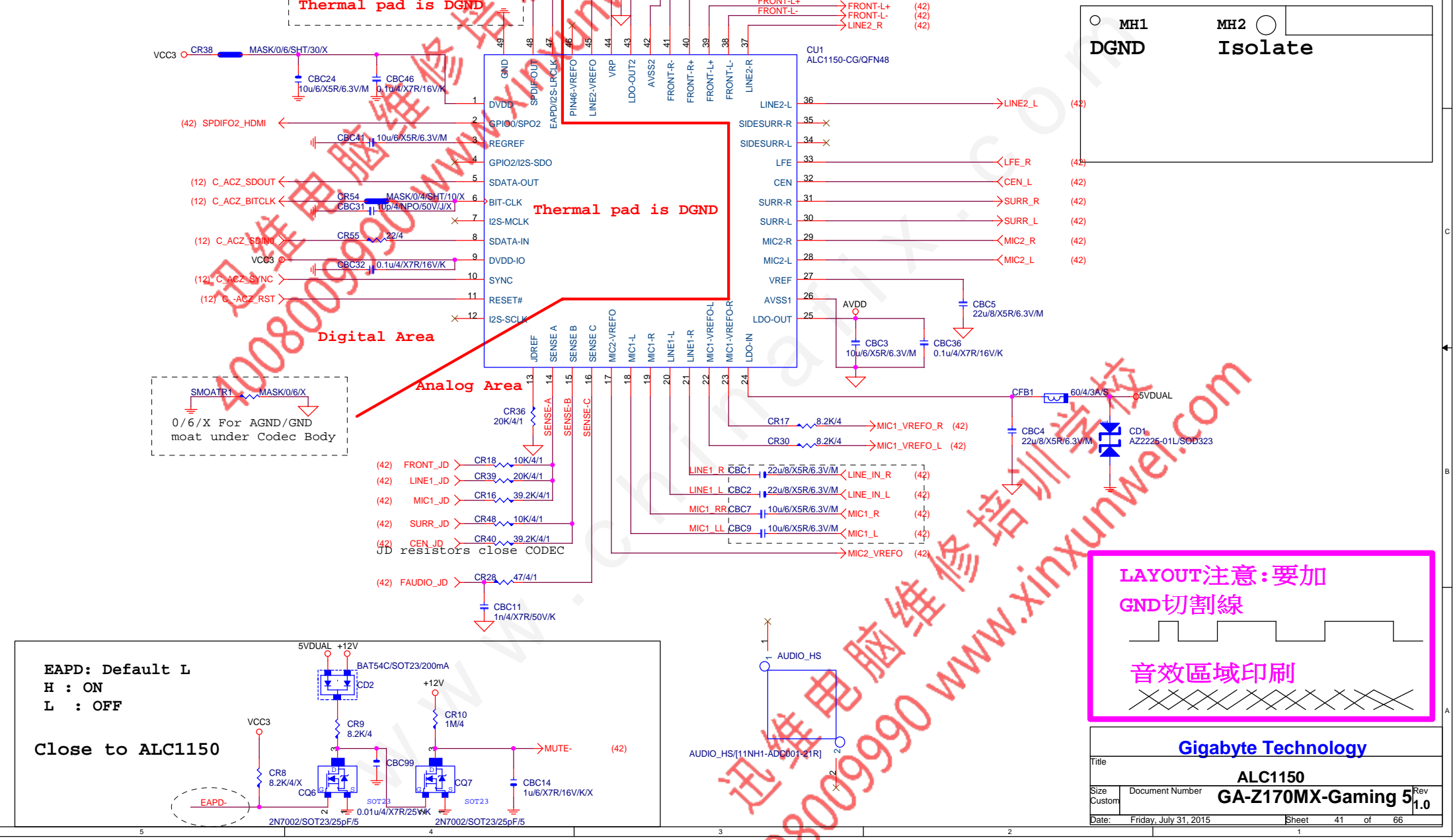
Gigabyte Technology			
Title		KB_MS_USB3, R_USB30	
Size		Document Number	
Custom		GA-Z170MX-Gaming 5	
Date:	Friday, July 31, 2015	Sheet	40 of 66



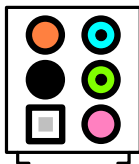
LAYOUT注意:螺絲孔下GND方式

- MH1空間夠,下DGND  
空間不夠,才改為Isolate
- MH2一律改為Isolate
- Codec下方,第二層必須參考GND

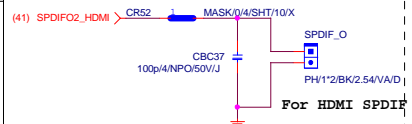
ALC1150 五孔+SPDIF  
AUDIO JACK



## AZALIA JACK



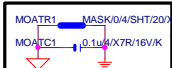
## SPDIF OUT



Audio jack -&gt; USB(各打2 VIA hole)



Under Audio jack(各打2 VIA hole)



Near F\_AUDIO(各打2 VIA hole)



Near Codec (各打2 VIA hole)



Near R\_AUDIO(各打2 VIA hole)

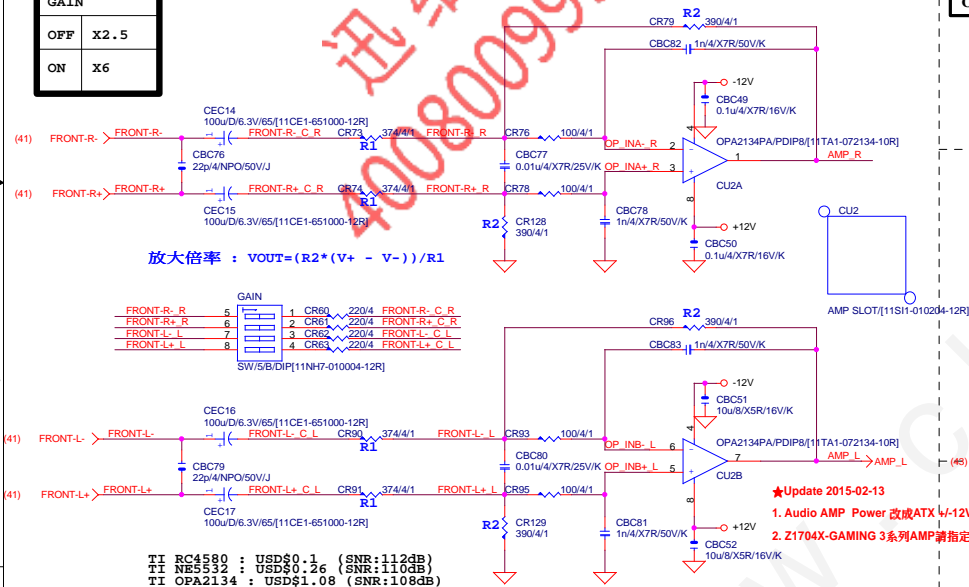


Near AMP (各打2 VIA hole)

\*量產前,0ohm改short pad

GAIN	
OFF	X2.5
ON	X6

## Differential to Single-End AMPLIFIED



## AZALIA JACK

BLUE  
LINE-INGREEN  
LINE-OUTPINK  
MIC-INOrange  
CEN/LFEBlack  
SURROUND

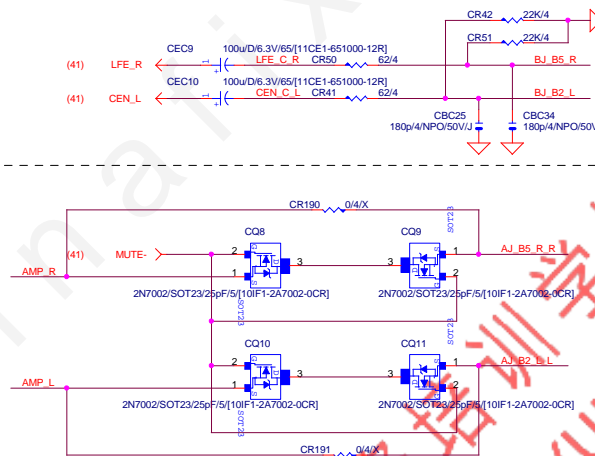
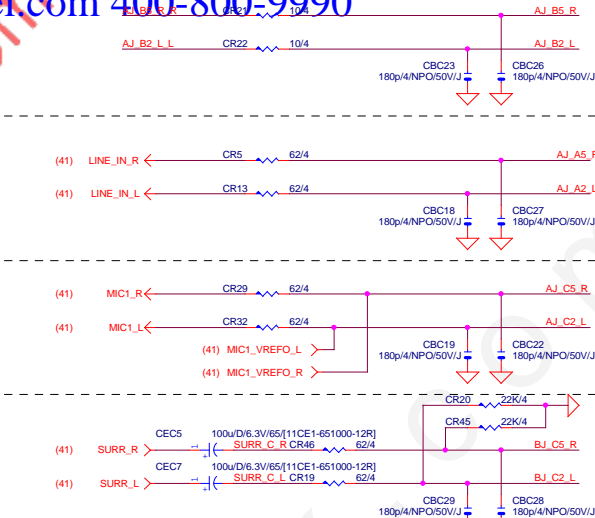
SPDIF

## LINE-IN

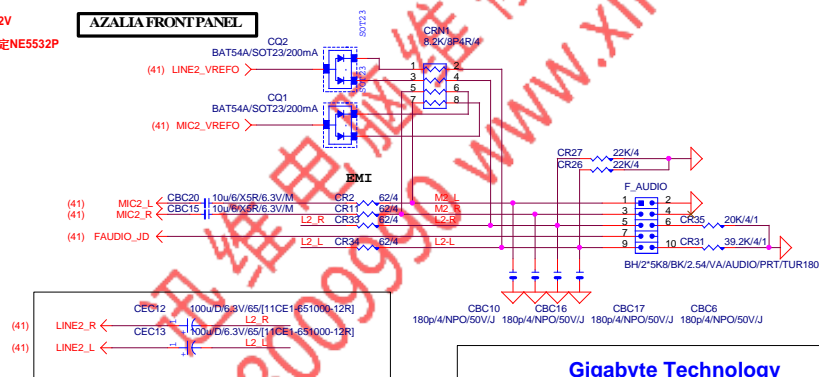
## MIC-IN

## SURROUND

## CEN/LFE



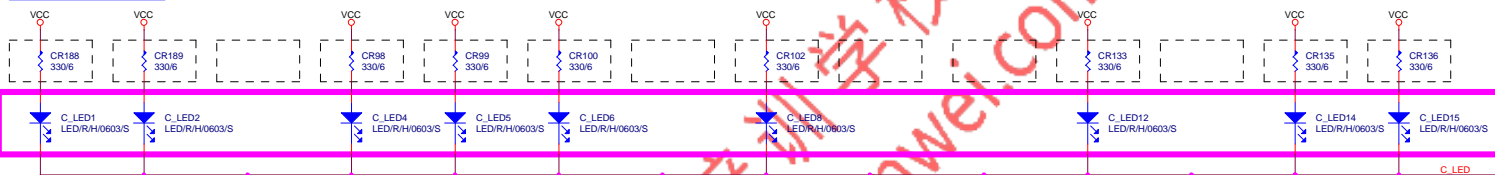
## AZALIA FRONT PANEL



## Gigabyte Technology

File		AUDIO JACK	
Size	Document Number	GA-Z170MX-Gaming 5	Rev 1.0
Custom			
Date	Friday, July 31, 2015	Sheet	42 of 66

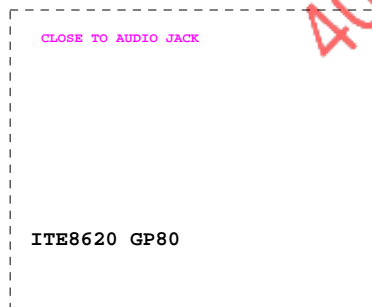
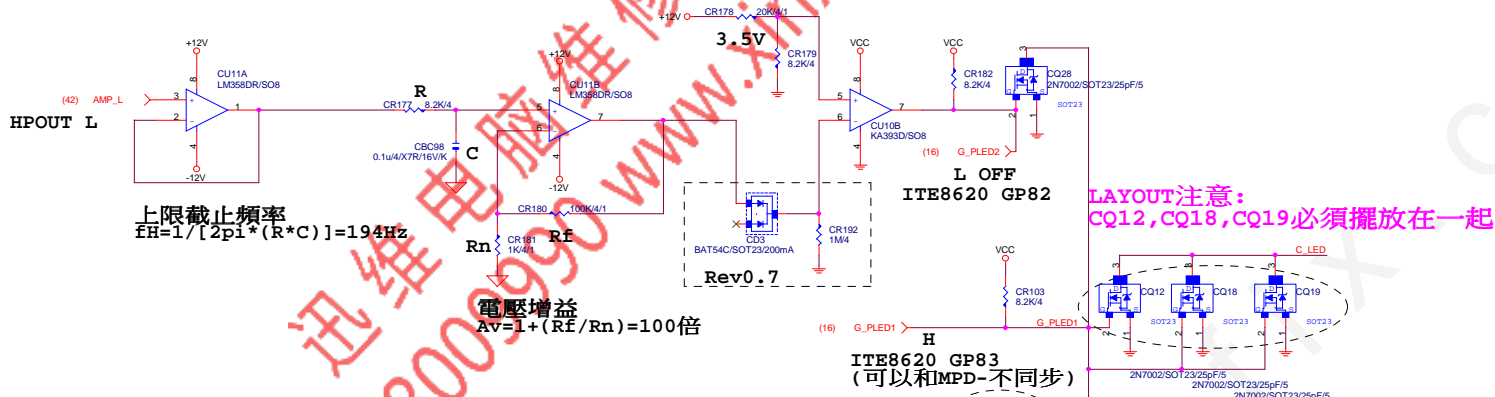




VALUE可變,LED顏色請自行修改

[UD/SOC系列--> 白光LED(黃色):LED/W/6/S]

[GAMING系列--> 紅光LED(紅色):LED/R/H/0603/S]



### Rear Panel LED ON/OFF

	IO_GP80
REAR LED ON	H
REAR LED OFF	L

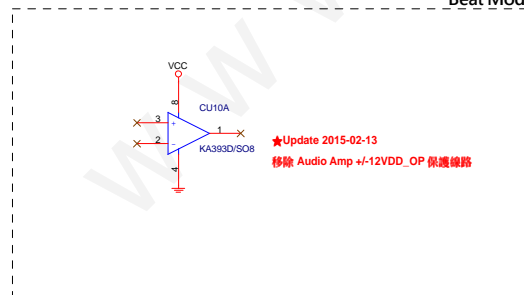
### AUDIO LED Control (沒有LPT model)

	IO_GP82	IO_GP83	IO_GP91
Still Mode	L	H	L
OFF Mode	L	L	L
Pluse Mode	L	H	BREATH
Beat Mode	OD	H	L

### AUDIO LED Control (有LPT model)

	IO_GP92	IO_GP17	IO_GP91
Still Mode	L	H	L
OFF Mode	L	L	L
Pluse Mode	L	H	BREATH
Beat Mode	OD	H	L

LAYOUT OPTION : 除了GAMING3/5系列和Z1704N-GAMING5不要LAYOUT, 其餘GAMING系列機種都要留LAYOUT



★Update 2015-02-13  
 移除 Audio Amp +/-12VDD\_OP 保護線路

**GIGABYTE**

Title	AUDIO LED	
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\* Rev0.11

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**GIGABYTE™**

Title		
EMI/ESD		
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B	GA-Z170MX-Gaming 5	1.0
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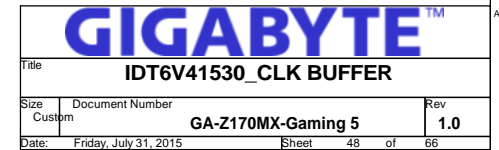
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Title			
Etron EJ179V			
Size	Document Number		Rev
Custom	GA-Z170MX-Gaming 5		1.0
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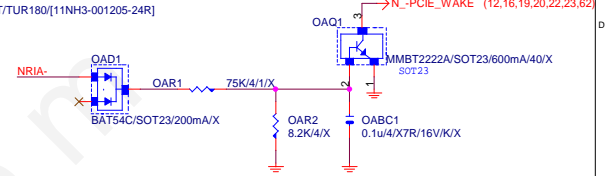
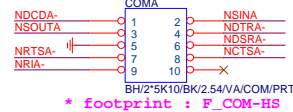
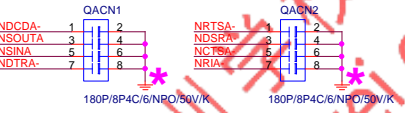
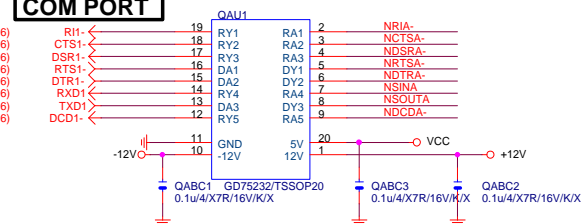
IDT6V41530





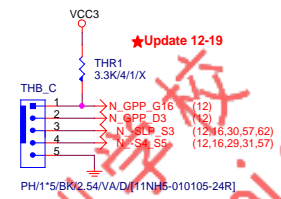


COM PORT

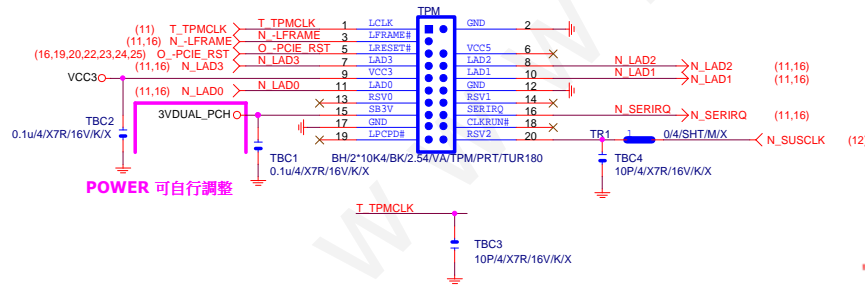


80 PORT

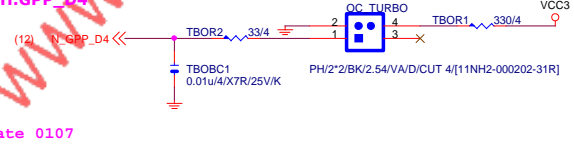
Thunderbolt



TPM CONNECT



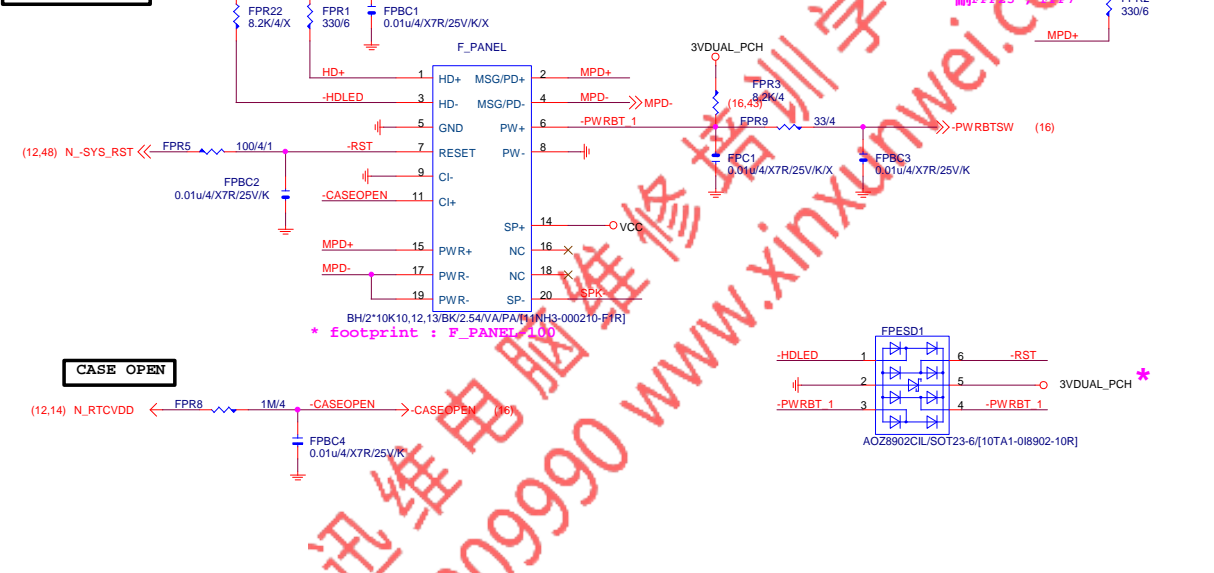
PCH:GPP\_D4



Gigabyte Technology

Title		FP,F_USB,USB PWR,BZ	
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FRONT PANEL

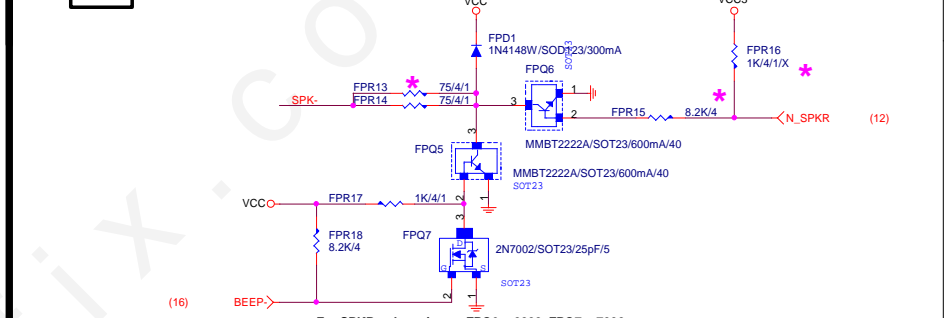


CASE OPEN



FPD1 LED# signal open-collector, pull-up (8.2 kΩ to 10 kΩ) to Vcc3\_3

SPKR

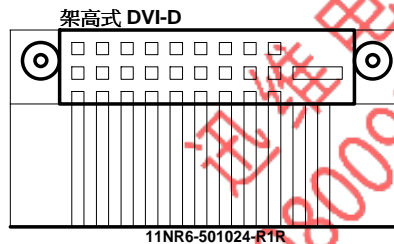
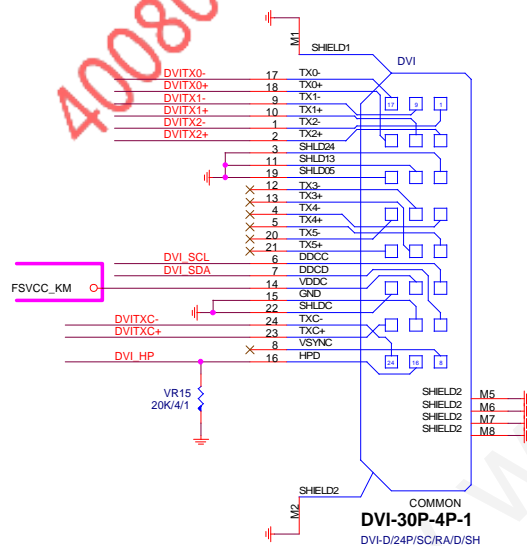
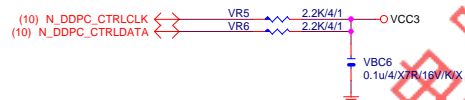
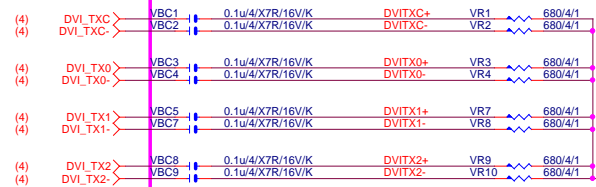


Rev: 0.62

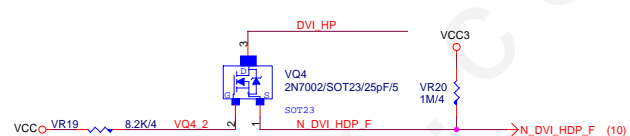
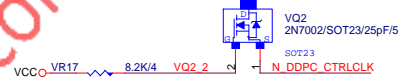
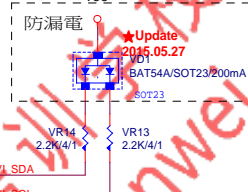
DVI CONN

DVI:20/4/6/4/20  
Impedance=85 +- 17.5%

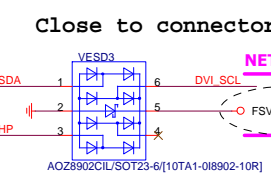
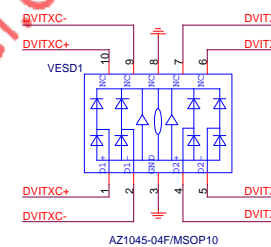
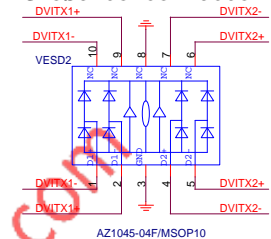
NET 可變



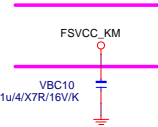
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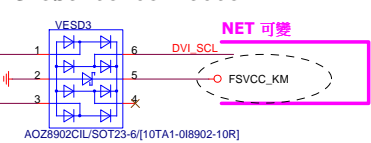
Close to connector



NET 可變



Close to connector



Gigabyte Technology

Title		FP,F_USB,USB PWR,BZ	
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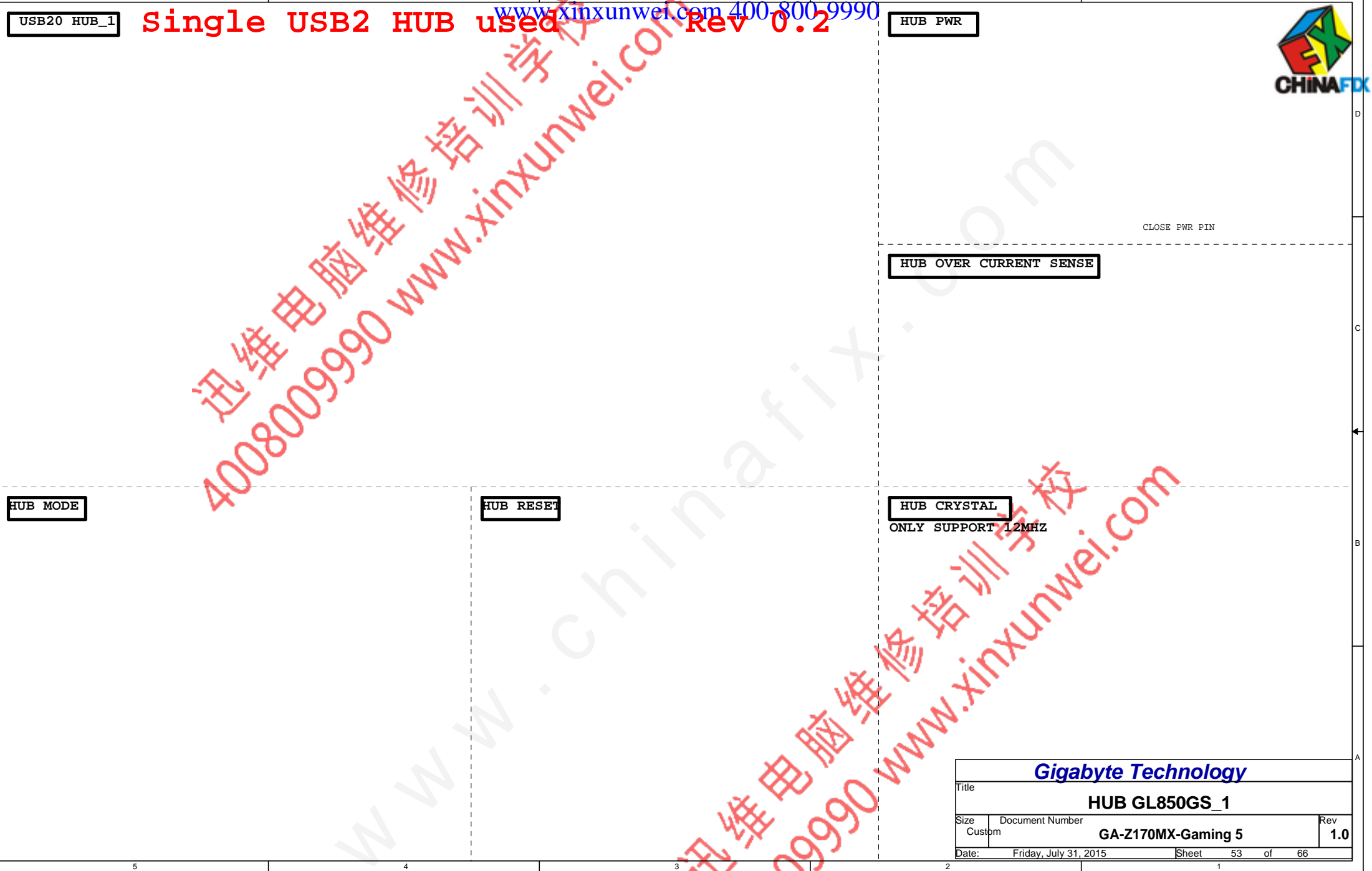
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Gigabyte Technology		
Title		
HDMI20 MCDP2800-BA		
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USB20 HUB\_1

Single USB2 HUB used

Rev 0.2

HUB PWR

CHINA FDX

CLOSE PWR PIN

HUB OVER CURRENT SENSE

HUB MODE

HUB RESET

HUB CRYSTAL

ONLY SUPPORT 12MHZ

Gigabyte Technology		
Title		
HUB GL850GS_1		
Size	Document Number	Rev
Custom	GA-Z170MX-Gaming 5	1.0
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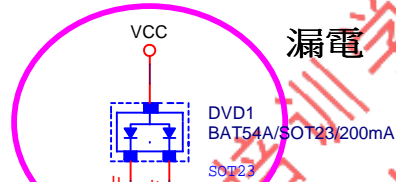
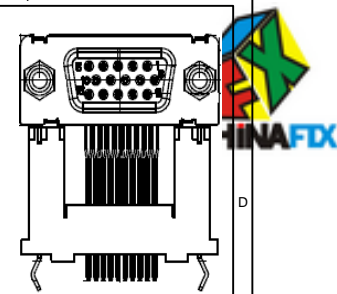
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GIGABYTE			
Title			
DP PORT			
Size	Document Number		Rev
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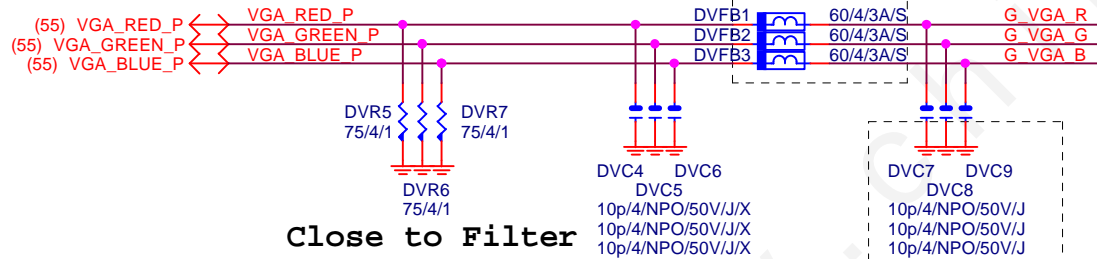
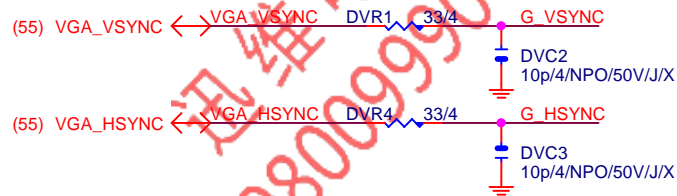


DVR2  
2.2K/4/1

DVR3  
2.2K/4/1

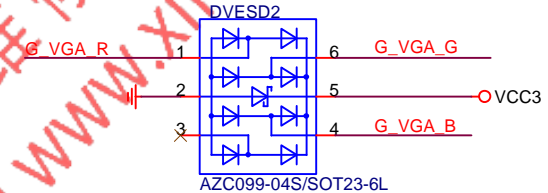
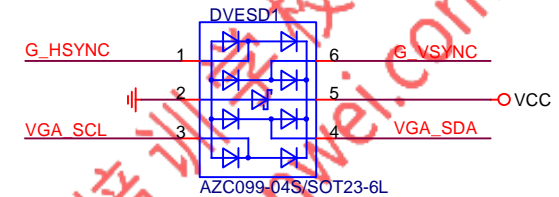
(55) VGA\_SDA  
(55) VGA\_SCL

VGA\_SDA  
VGA\_SCL



FOR EMI

## VGA ESD



Gigabyte Technology

NXP-PTN3356

Title		
GA-Z170MX-Gaming 5		
Size	Document Number	Rev
Custom		1.0
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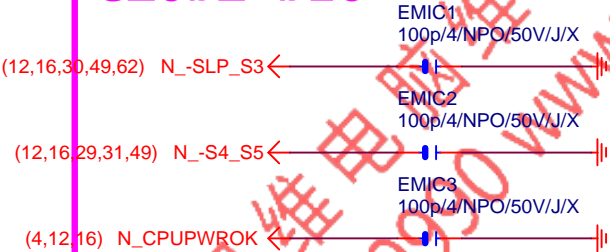




EMI/ESD

R0.1

CLOSE SIO



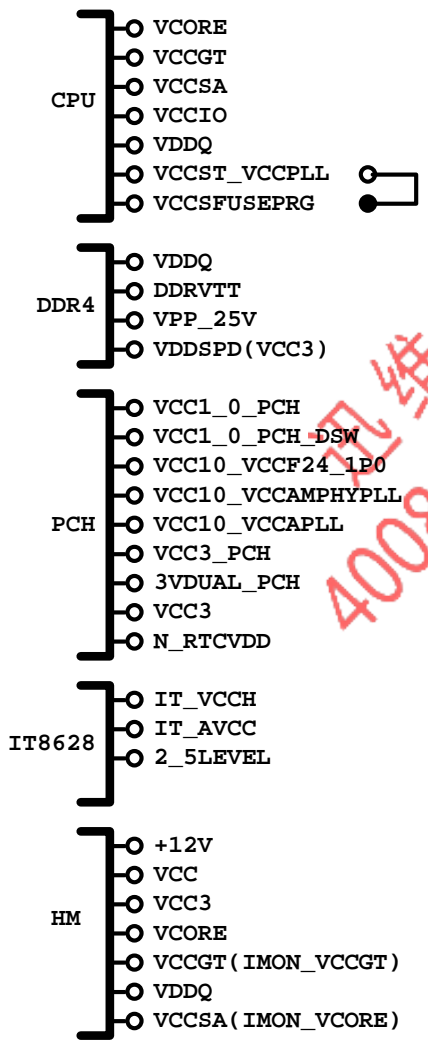
CLOSE PCH



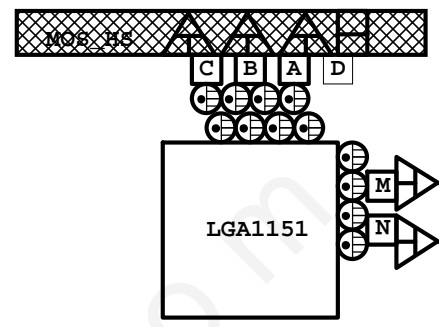
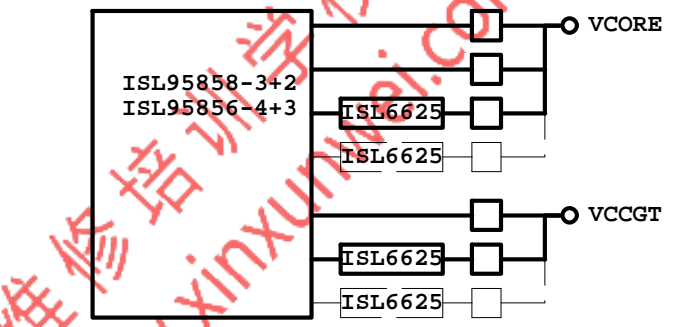
GIGABYTE™

Title		
EMI/ESD		
Size A	Document Number	Rev
	GA-Z170MX-Gaming 5	1.0
Date:	Friday, July 31, 2015	Sheet 57 of 66

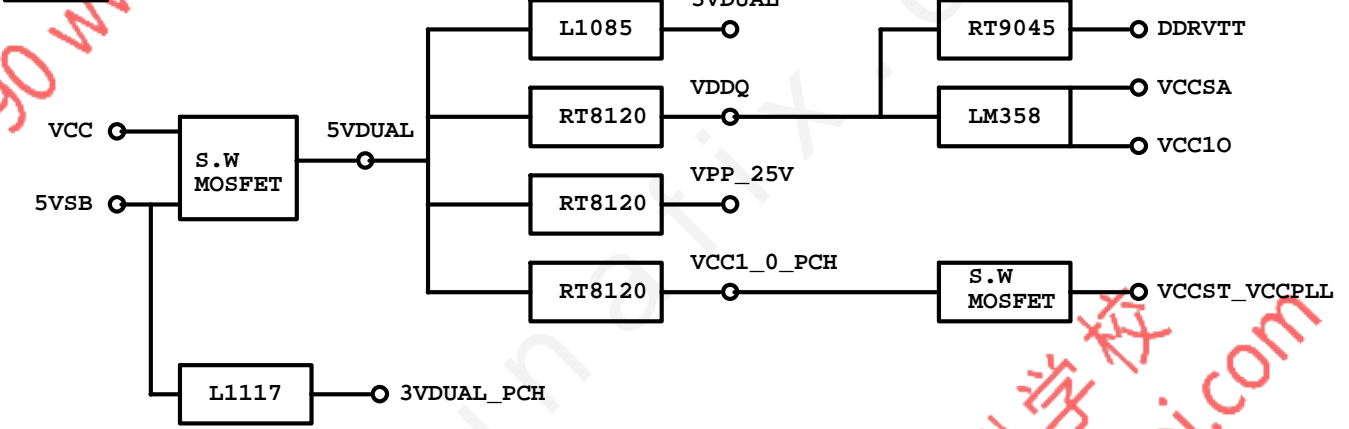
POWER BLOCK MAP



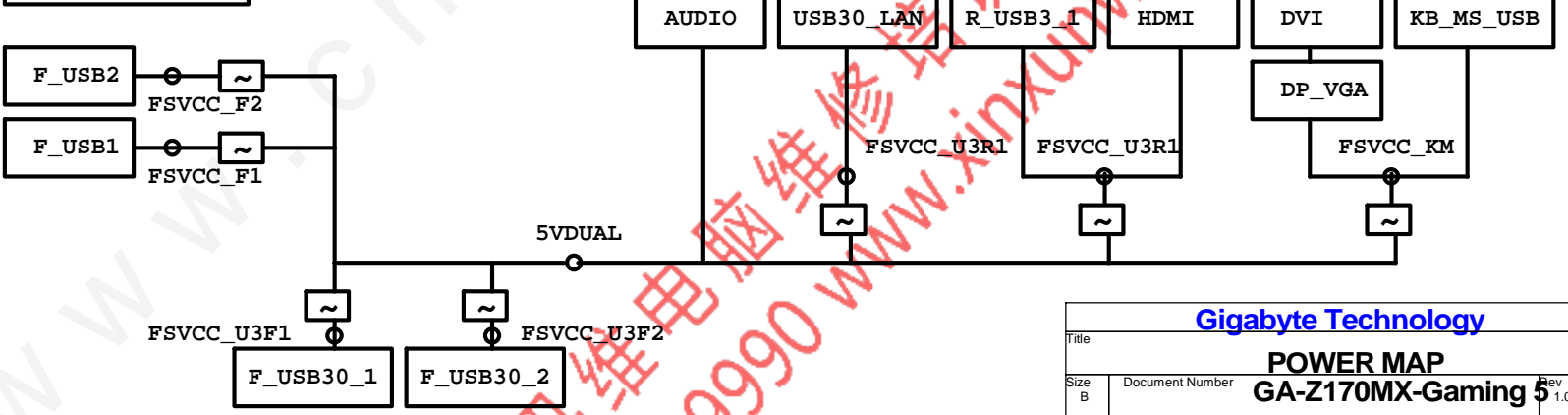
VCORE/VCCGT



POWER



FUSE POWER F/R



Gigabyte Technology			
Title			
POWER MAP			
Size	Document Number	GA-Z170MX-Gaming 5	
B		Rev 1.0	
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GIGABYTE™			
Title RT8120_DDR4 POWER			
Size Custom	Document Number GA-Z170MX-Gaming 5		Rev 1.0
Date: Friday, July 31, 2015	Sheet 59	of 66	

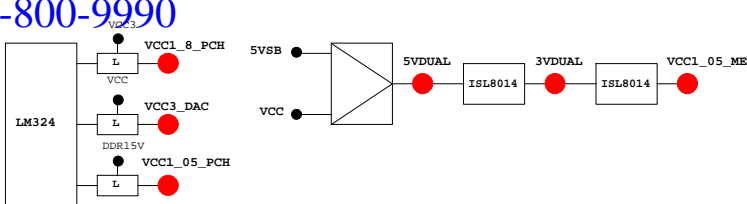


PCH GPIO LIST TABLE					
PIN NAME	PWR	Default	USAGE	NOTE	
GP0	MAIN	H-Z	GPI	GPIO0	N/A
GP1/TACH1	MAIN		GPI	GPIO1	N/A
GP2/PIRQE#	MAIN		GPI	-PIRQE	P/U 8.2K VCC3
GP3/PIRQF#	MAIN		GPI	-PIRQF	P/U 8.2K VCC3
GP4/PIRQG#	MAIN		GPI	-PIRQG	P/U 8.2K VCC3
GP5/PIRQH#	MAIN		GPI	-PIRQH	P/U 8.2K VCC3
GP6/TACH2	MAIN		GPI	PCIEX1 Detect	P/U 8.2K VCC3
GP7/TACH3	MAIN		GPI	GPIO7	P/U 8.2K VCC3
GP8	STBY	H	GPI	GPIO8	N/A
GP9/OC5#	STBY	NATIVE	USB OC5#	N/A	
GP10/OC6#	STBY	NATIVE	USB OC6#	N/A	
GP11/SMBALERT#	STBY	NATIVE	USB PWR protect	P/U 8.2K 3VDUAL	
GP12	STBY	L	GPI	GPIO12	N/A
GP13	STBY	L	GPI	LPCPME#	P/U 8.2K 3VDUAL
GP14/OC7#	STBY	NATIVE	USB OC7#	N/A	
GP15	STBY	L	GPI	GPIO15(TLS Enable)	P/U 8.2K 3VDUAL
GP16	MAIN		GPI	GPIO16	P/U 8.2K VCC3
GP17/TACH0	MAIN		GPI	GPIO17	P/U 8.2K VCC3
GP18	MAIN		GPI	Mobile Only	N/A
GP19	MAIN		GPI	GPIO19	P/U 8.2K VCC3
GP20	MAIN		GPI	GPIO20	P/U 8.2K VCC3
GP21	MAIN		GPI	GPIO21	P/U 8.2K VCC3
GP22	MAIN	H-Z	GPI	GPIO22	P/U 8.2K VCC3
GP23	MAIN		GPI	GPIO23	N/A
GP24	STBY	L	GPI	SKTOCC#	N/A
GP25	STBY			Mobile Only	N/A
GP26	STBY			Mobile Only	N/A
GP27	STBY	H	GPO	GPIO27	P/U 8.2K 3VDUAL
GP28	STBY	H	GPO	PWR_LED	P/U 8.2K 3VDUAL
GP29	STBY	L	GPI	GPIO29	N/A
GP30	STBY	H-Z	GPI	Mobile Only	N/A
GP31	STBY	H-Z	GPI	Mobile Only	N/A
GP32	MAIN	H	GPO	N/A	N/A
GP33	MAIN	H	GPO	N/A	N/A
GP34	MAIN	H-Z	GPI	-PCI_STOP	P/U 8.2K VCC3
GP35	MAIN	L	GPO	-ACZ_DET	P/U 8.2K VCC3
GP36	MAIN		GPI	N/A	N/A
GP37	MAIN		GPI	N/A	N/A
GP38	MAIN	H-Z	GPI	PCIEX4 Detect	P/U 8.2K VCC3
GP39	MAIN	H-Z	GPI	GPIO39	P/U 8.2K VCC3
GP40	STBY	NATIVE	USB OC1#	N/A	
GP41	STBY	NATIVE	USB OC2#	N/A	
GP42	STBY	NATIVE	USB OC3#	N/A	
GP43	STBY	NATIVE	USB OC4#	N/A	
GP44	STBY	L	NATIVE	GPIO44	P/U 8.2K 3VDUAL
GP45	STBY	NATIVE		GPIO45	P/U 8.2K 3VDUAL
GP46	STBY	L	NATIVE	GPIO46	P/U 8.2K 3VDUAL
GP47	STBY			Mobile Only	N/A
GP48	MAIN	H-Z	IN	GPIO48	P/U 8.2K 3VDUAL
GP49	MAIN	H-Z	IN	GPIO49	P/U 8.2K 3VDUAL
GP50	MAIN		NATIVE	-REQ1	P/U 2.2K VCC
GP51	MAIN	H	NATIVE	-GNT1	N/A
GP52	MAIN		NATIVE	-REQ2	P/U 2.2K VCC
GP53	MAIN	H	NATIVE	-GNT2	N/A
GP54	MAIN		NATIVE	-REQ3	P/U 2.2K VCC
GP55	MAIN	H	NATIVE	-GNT3	N/A
GP56	STBY	NATIVE		Mobile Only	N/A
GP57	STBY	H-Z	IN	VCORE_OV1	P/U 8.2K 3VDUAL
GP58	STBY	H-Z	NATIVE	F_USB_OC	P/U 8.2K 3VDUAL
GP59	STBY		NATIVE	USB_OC0#	N/A
GP60	STBY	H-Z	NATIVE	N/A(Reverse)	P/U 8.2K 3VDUAL
GP61	STBY	L	NATIVE	-SUSTAT	N/A
GP62	STBY	L	NATIVE	SUSCLK	N/A
GP63	STBY	L	NATIVE	GPIO63	N/A
GP64	MAIN	L	NATIVE	CLKOUTFLEX0	N/A
GP65	MAIN	L	NATIVE	CLKOUTFLEX1	N/A
GP66	MAIN	L	NATIVE	CLKOUTFLEX2	N/A
GP67	MAIN	L	NATIVE	CLKOUTFLEX3	N/A
GP72	STBY	H-Z	NATIVE	VCORE_OV4	P/U 8.2K 3VDUAL
GP73	STBY			Mobile Only	N/A
GP74	STBY	H-Z	NATIVE	1_05V_OV2	P/U 8.2K 3VDUAL
GP75	STBY	H-Z	NATIVE	N/A(Reverse)	P/U 8.2K 3VDUAL

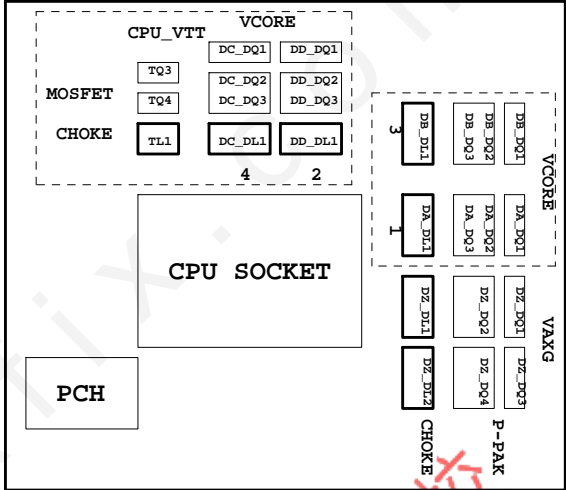
Super I/O ITE8720 GPIO Pin List

PIN NAME	USAGE	NOTE
SVC/PECI_RQT/GP14	-PECI_REQ	
PWROK1/GP13	PWROK1/ITE_PWROK	
KRST#/GP62	-KRST	
SO/GP50	-ICH_SPI_CS	
IRTX/GP47/CE2_N/JP7	CEB_N	
GP46/IRRX	-LAN2_DSM	
PSION#/GP42	-PSON	
PWROK2#/GP41	PECI_CTL	
PCIRST3#/GP10/VDIMM_STR_EN	-PCIE_RST	
RSMRST/CIRRX1/GP55	-RSMRST	
PME#/GP54	-LPCPME	
PD5/GP75/BUSS00	N/A	

PIN NAME	USAGE	NOTE
FAN_TAC2/GP52	FANIO2	
FAN_TAC3/GP37	FANIO3	
VIDO3/FAN_TAC4/GP25/DSR2#	FANIO4	
FAN_CTL2/GP51	FANPWM2	
FAN_CTL3/GP36	FANPWM3	
VID4/GP34	BEEP-	
VID3/GP33	TURBO1	
VID2/GP32	TURBO0	
VCORE_GOOD/VID6/GP63	CPUT_LED1_C	
VID5/GP35	CPUT_LED2_C	
VID1/GP31	CPUT_LED3_C	
VID0/GP30	-LAN1_DSM	NBT_LED1_C
SLCT/GP80	CPU_LED1_C	
PE/GP81	CPU_LED2_C	
BUSY/GP82	CPU_LED3_C	
PD3/GP73/BUSSI1	SB_LED1_C	
PD4/GP74/BUSSI2	SB_LED2_C	
VCORE_EN/VID7/GP64	IT_GP64	SB_LED3_C
PD0/GP70	NB_LED1_C	
PD1/GP71	NB_LED2_C	
PD2/GP72/BUSSI0	NB_LED3_C	
GP22/SCK	LOW_PWR_1	
VID05/GP27/SIN2	LOW_PWR_2	
PCIRST2#/GP11	-PFMRST1	
PCIRST1#/GP12	-PFMRST2	
3VBSBW#/GP40	CSI_F0	BSEL166_1
SUSC#/GP53	CSI_F1	BSEL166_2
GP23/SI	BSEL166_3/CSISBSL	
VID00/GP20/CTS2#	CPUT_LED1_C	BSEL166_4
GP65/VDDA_EN/GB_01	MB_ID2	
PD6/GP76/BUSS01	MB_ID3	
PD7/GP77/BUSS02	MB_ID4	
AFD#/GP86/SMBC_R	3V PIN	FST_2X8
INIT#/GP85/SMBD_M	SEC_2x8	GTLREF_AD2
ACK#/GP83	DDR_LED1_C	
VID01/GP21/DCD2#	DDR_LED2_C	
STB#/GP87/SMBC_M	DDR_LED3_C	
PWRON#/GP44	VCORE_OV1	
PANSWH#/GP43	PWRBTSW	
KDAT/GP61	-PWRBTSW	
KCLK/GP60	KDAT	
MDAT/GP57	KCLK	
MACL/GP56	MDAT	
GP66/VLDT_EN/GB_02	NBT_LED1_C	MCLK
SVD/PCIRSTIN#/CIRTX/GP15	PWM2_CR	
KDAT/GP61	PWM2_CR	
GP67/CPU_PG/GB_03	EN_LOADLINE	IT_GP67/-EN_PWM2
SLIN#/GP84/SMBD_R	-EN_PWM2	
PSI_L/FAN_CLT5/CIRRX2/GP16	-THERM	
VID04/GP26/SOUT2	DDR18V_PH2_EN	
VID02/FAN_TAC5/GP24/DSR2#	DDR18V_LED	
VID06/GP17/RI2#	1_1V_PH_EN	
VID07/JP6/DTR2#	JP6	
PD5/GP75/BUSS00	SB_LED3_C	



PWM各相位的擺法如下:



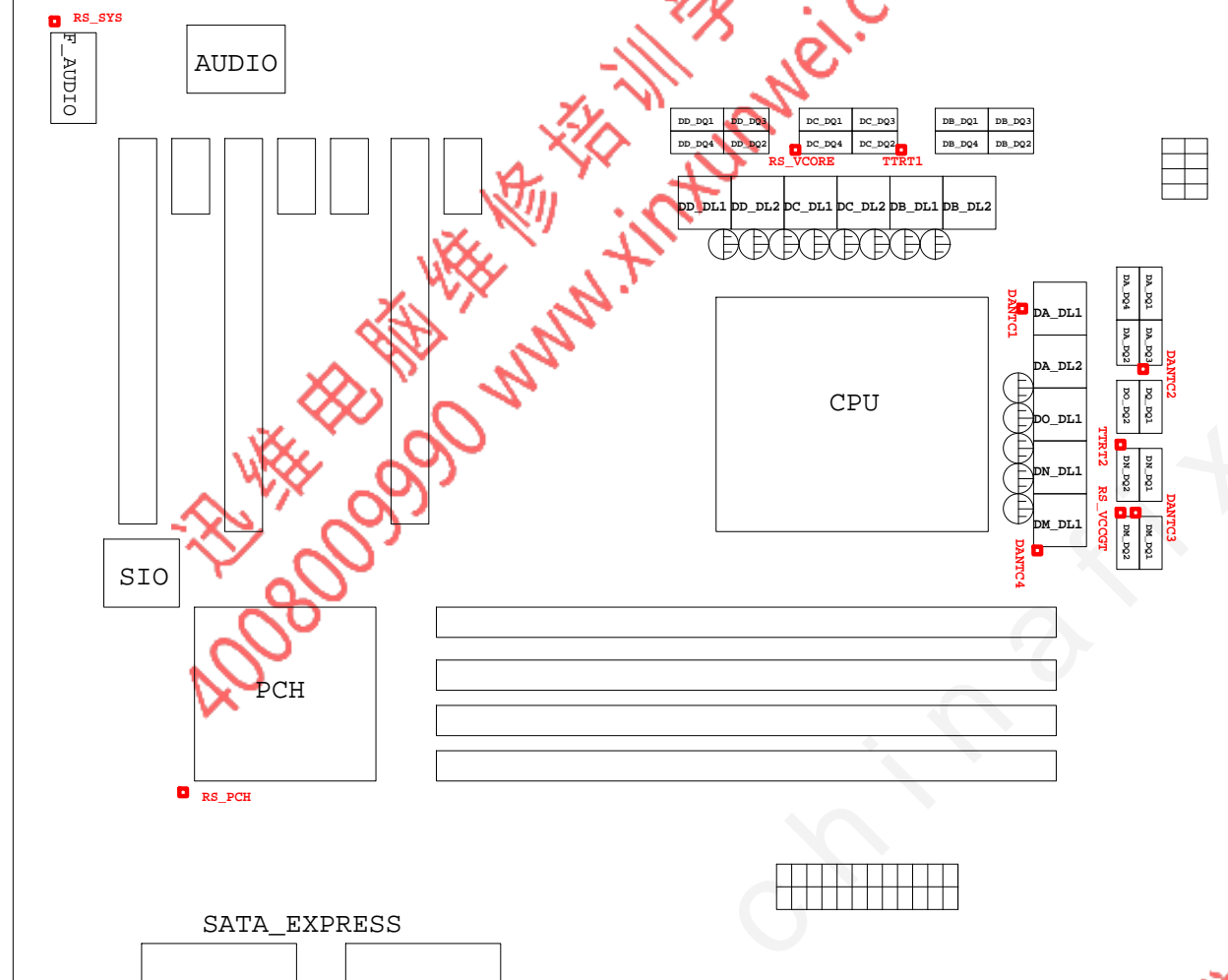
BIOS超電壓對應表:

散熱模組料號:

線路圖名稱	BIOS選項
Vcore	CPU Vcore
CPU_VTT	CPU Termination
CPU_VAXG	CPU Graphic Core
VCC1_8_PCH	CPU PLL
VCC1_05_PCH	PCH core
3VDUAL	3VDUAL
DDR15V	DRAM voltage
DDRVTT	DRAM Termination
VREF_CA_A/VREF_CA_B	DRAM Address Ref
VREF_DQ_A/VREF_DQ_B	DRAM Data Ref

Z77-D3H :  
PCH :  
12SP2-S05511-01R/02R/03R  
MOSFET :  
12SP2-S08924-01R/02R/03R

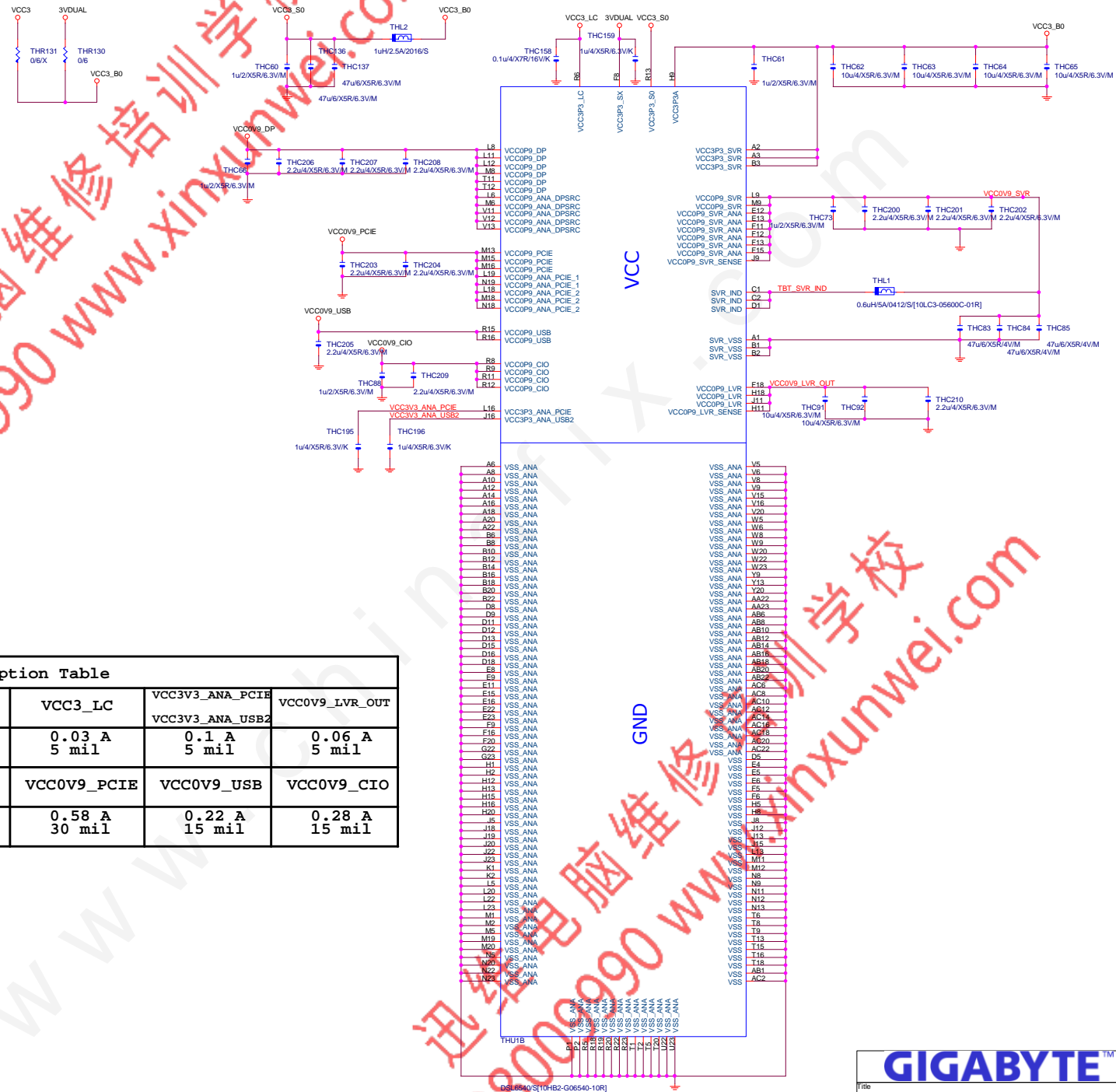
	3 pin FAN control	4 pin FAN control	FAN speed	Controller
CPU FAN	FANPWM1	FANPWM3	FANIO1	IT8720
	ICH_FAN_PWM2	ICH_FAN_PWM0	ICH_FAN_TACH0	PCH
SYS FAN	FANPWM2	N/A	FANIO2	IT8720
	ICH_FAN_PWM1	N/A	ICH_FAN_TACH1	PCH
PWR FAN	N/A	N/A	FANIO3	IT8720
			ICH_FAN_TACH2	PCH



熱敏電阻	擺放靠近位置	走線方式
DANTEC1	DA_DL2	Differential
DANTEC2	DA_DQ3	Differential
DANTEC3	DM_DQ2	Differential
DANTEC4	DM_DL1	Differential
RS_VCORE	DC_DQ4	N/A
RS_VCCGT	DM_DQ2	N/A
TTRT1	DC_DQ2	N/A
TTRT2	DN_DQ2	N/A
RS_PCH	PCH	N/A
RS_SYS	F_AUDIO	N/A





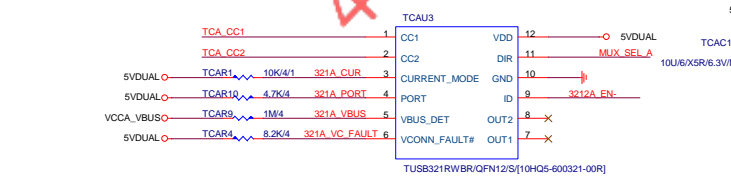
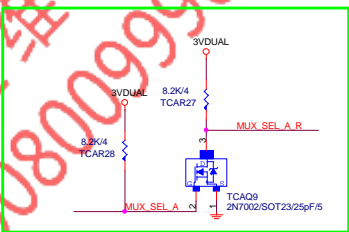
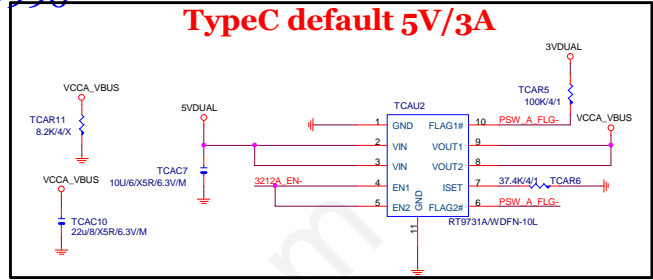
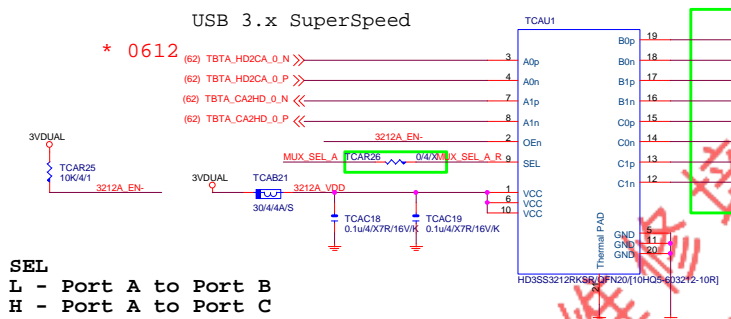


Power Consumption Table

	VCC3	3VDUAL	VCC3_LC	VCC3V3_ANA_PCIE	VCC0V9_LVR_OUT
Max Current(A)	1.05 A 40 mil	0.19 A 10 mil	0.03 A 5 mil	0.1 A 5 mil	0.06 A 5 mil
	VCC0V9_SVR	VCC0V9_DP	VCC0V9_PCIE	VCC0V9_USB	VCC0V9_CIO
Max Current(A)	1.83 A 80 mil	0.7 A 30 mil	0.58 A 30 mil	0.22 A 15 mil	0.28 A 15 mil

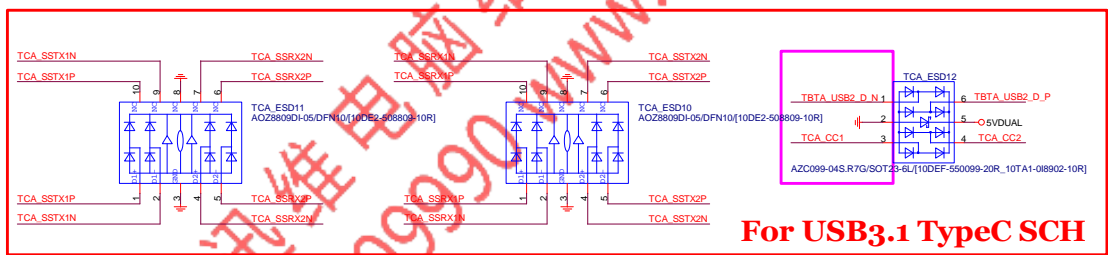
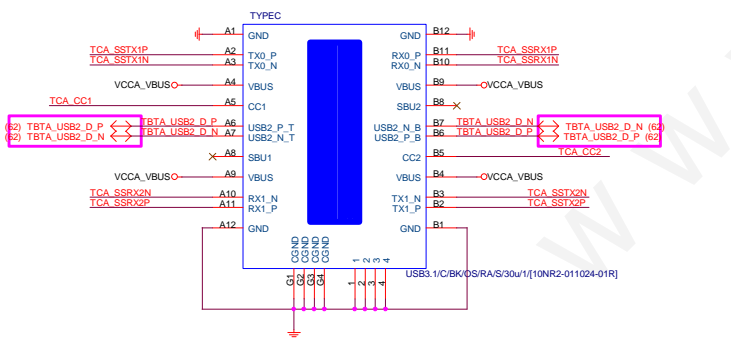
GIGABYTE™

File			ALPINE RIDGE POWER
Size	Document Number	GA-Z170MX-Gaming 5	
C		Rev	1.0
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CURRENT MODE  
L - Default current / Pull down to GND or NC  
M - Medium (1.5A) current / Pull up to VDD 500K  
H - High (3.0A) current / Pull up to VDD 10K

PORT  
H - HOST  
L - Device  
NC - Dual Role

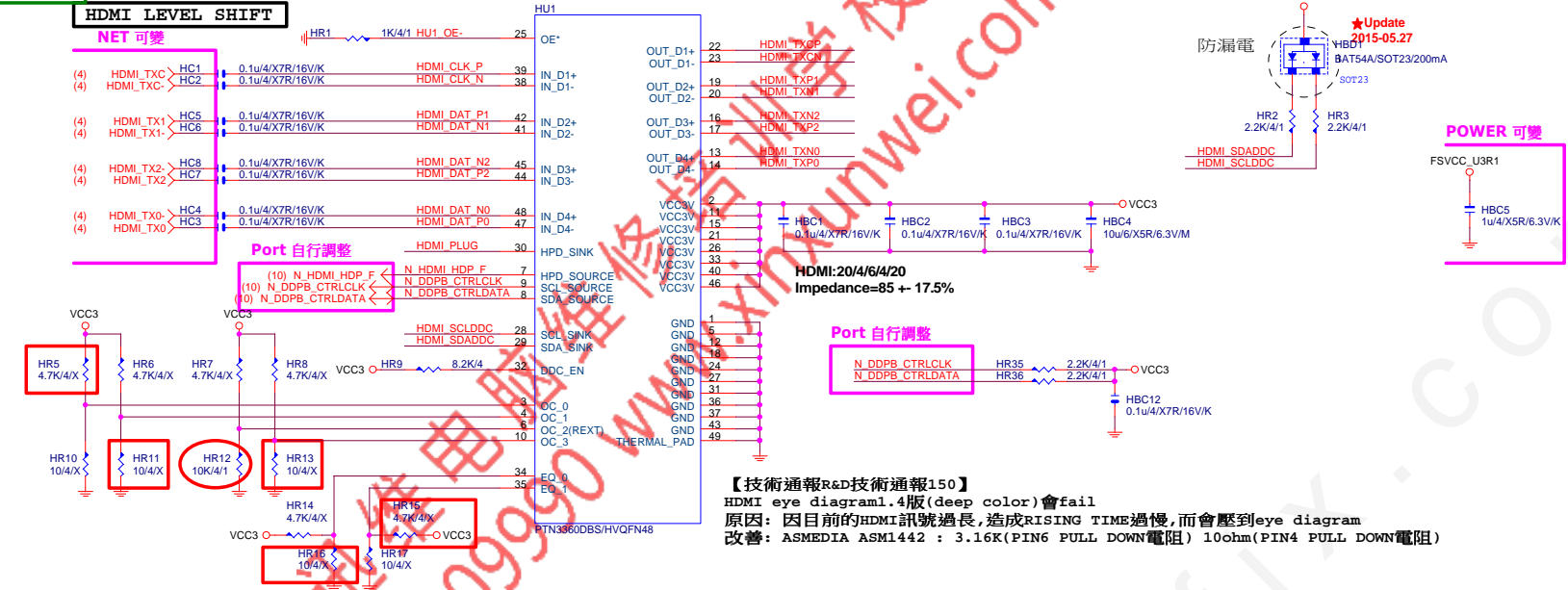


For USB3.1 TypeC SCH

Color markers can be changed by model

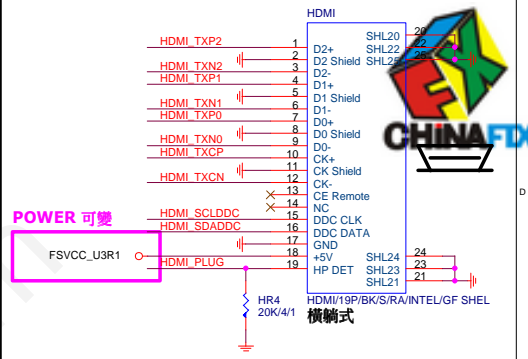
GIGABYTE™		
TI TUSB321		
Size C	Document Number	Rev
	GA-Z170MX-Gaming 5	1.0
Date:	Friday, July 31, 2015	Sheet 64 of 66

USB2.0 can be used the same source



PTN3360:PIN 4/10/34/35 NC, PIN, 都不上值;只上HR12:10K  
ASM1442:紅色框要上,HR12:3.16K

【技術通報R&D技術通報150】  
HDMI eye diagram 1.4版(deep color)會fail  
原因: 因目前的HDMI訊號過長,造成RISING TIME過慢,而會壓到eye diagram  
改善: ASMEDIA ASM1442 : 3.16K(PIN6 PULL DOWN電阻) 10ohm(PIN4 PULL DOWN電阻)



POWER 可變  
FSVCC\_U3R1  
HDMI PLUG  
HDMI TXP2  
HDMI TXN2  
HDMI TXP1  
HDMI TXN1  
HDMI TXP0  
HDMI TXN0  
HDMI TXCP  
HDMI TXCN  
CE Remote  
DDC CLK  
DDC DATA  
GND  
+5V  
HP DET  
SHL24  
SHL23  
SHL21  
SHL20  
SHL22  
SHL21  
橫躺式  
直立式  
P/N:11NR6-H01019-K1R

## IRON CHOKE

	料號	Capture Value	SIZE	Footprint	
DIP	11LC5-M4500C-01R	0.5uH/40A/IMD109/M/D	10*10	CHOKE05U-40A-1PQ-3	閃電P
DIP	11LC5-M4500C-11R	0.5uH/40A/IMD109/M/NP/D	10*10	CHOKE05U-40A-1PQ-3	無閃電P
DIP	11LC5-M2500C-01R	0.5uH/20A/IMD0809/M/D	8*8	CHOKE1U-R50M-IF	

Skylake Iron Choke閃電P導入機種如下：

[1] Z170/H170 機種全部導入

[2] B150/H110Gaming機種導入，其餘不導入

## Ferrite

	料號	Capture Value	SIZE	Footprint
DIP	11LC5-F3500C-11R	0.5uH/32A/INCG109/FSI/D	10*10	CHOKE05U-40A-1PQ-3
DIP	11LC5-F2500C-11R	0.5uH/25A/INC0809/F/D	8*8	CHOKE1U-R50M-IF
SMD	10LC5-F4300C-01R	0.3uH/40A/SIUC/FR/S	10*7	CHOKE11X8MM-SMD

## BEAD

	料號	Capture Value	SIZE	Footprint
DIP	10LFB-15470A-01R	47/4030/15A/S	4*3	BEADC8B-BPH_SMD

PWM料號

		料號	Capture Value	Footprint
PWM	ISL95856	10TA1-695856-01R		IC52QFN-6x6-G
PWM	ISL95858	10TA1-695858-01R		IC52QFN-6x6-G
PWM	IR35201	10TA1-635201-00R		IC56QFN-9VRS4339
PWM	IR3570	10TA1-603570-00R		IC40MLFP-ISL95835
PWM	RT8237C/D	10TA1-608237-01R		IC10DFN-NIS5132

## REGULATOR

	料號	Capture Value	Footprint
NCT3103S	10GL2-203103-01R	NCT3103S/SOP8/2A	IC8-EPSOIC

