



01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	CPU_LGA1151-A
05	CPU_LGA1151-B_DDR4
06	CPU_LGA1151-C
07	CPU_LGA1151-D
08	DDR4 CHANNEL A 1,2
09	DDR4 CHANNEL B 1,2
10	PCH_RGB,CLK BUFFER
11	PCH DMI,USB,PCIE
12	PCH MISC
13	PCH SATA,PCIE,SATA EXPRESS
14	PCH_PWR,GND
15	PCH_GND
16	ITE 8686 LPC IO
17	HMW
18	FAN CTRL--SIO
19	PCI EXPRESS X16 SLOT
20	PCI EXPRESS X8 SLOT
21	PCI EXPRESS X16 SWITCH
22	PCI EXPRESS X4 SLOT(CPU)
23	PCIEX4_S0~S1 SWITCH
24	PCI EXPRESS X1 SLOTS (SATA1 SWITCH)
25	SATA EXPRESS
26	ISL95856 PWM
27	ISL95856 MOS_VCORE
28	ISL95856 MOS_VCCGT
29	VCCSA_VCCIO
30	RT8120_DDR
31	RT8120_VPP
32	RT8120_PCH
33	DISCRETE POWER1
34	NCT3933
35	ATX POWER , A_-PROCHOT

36	KB_MS_USB
37	OC , ECO , POWER BUTTON
38	F_USB30
39	F_USB20
40	N/A
41-44	ALC1220
45	DUAL LAN-A~KILLER E2500
46	DUAL LAN-B~I219
47	DUAL USB30_LAN-I219_E2500
48	IDT6V41630_CLK BUFFER
49	COM , TPM , 80 port , THB_C
50	F_PANEL
51~53	ASM2142
54~55	N/A
56	HDMI CONN
57	DP_OUT
58	M2M_32G
59	M2M_32G & STA4/5 SWITCH
60	M2P_32G
61	Realtek RTS5411 4port Hub-FRONT(N/A)
62	N/A
63	EMI/ESD
64	NTC MAP
65	POWER MAP
66	POWER零件使用表
67	TABLE LIST
68	DUAL BIOS
69	U2_32G
70	N/A
71	EC ITE8792
72~74	MCU LED
75	USB_DAC POWER
76	VCCPLL , VCCPLL_OC , VCCST_VCCPLL

Gigabyte Technology

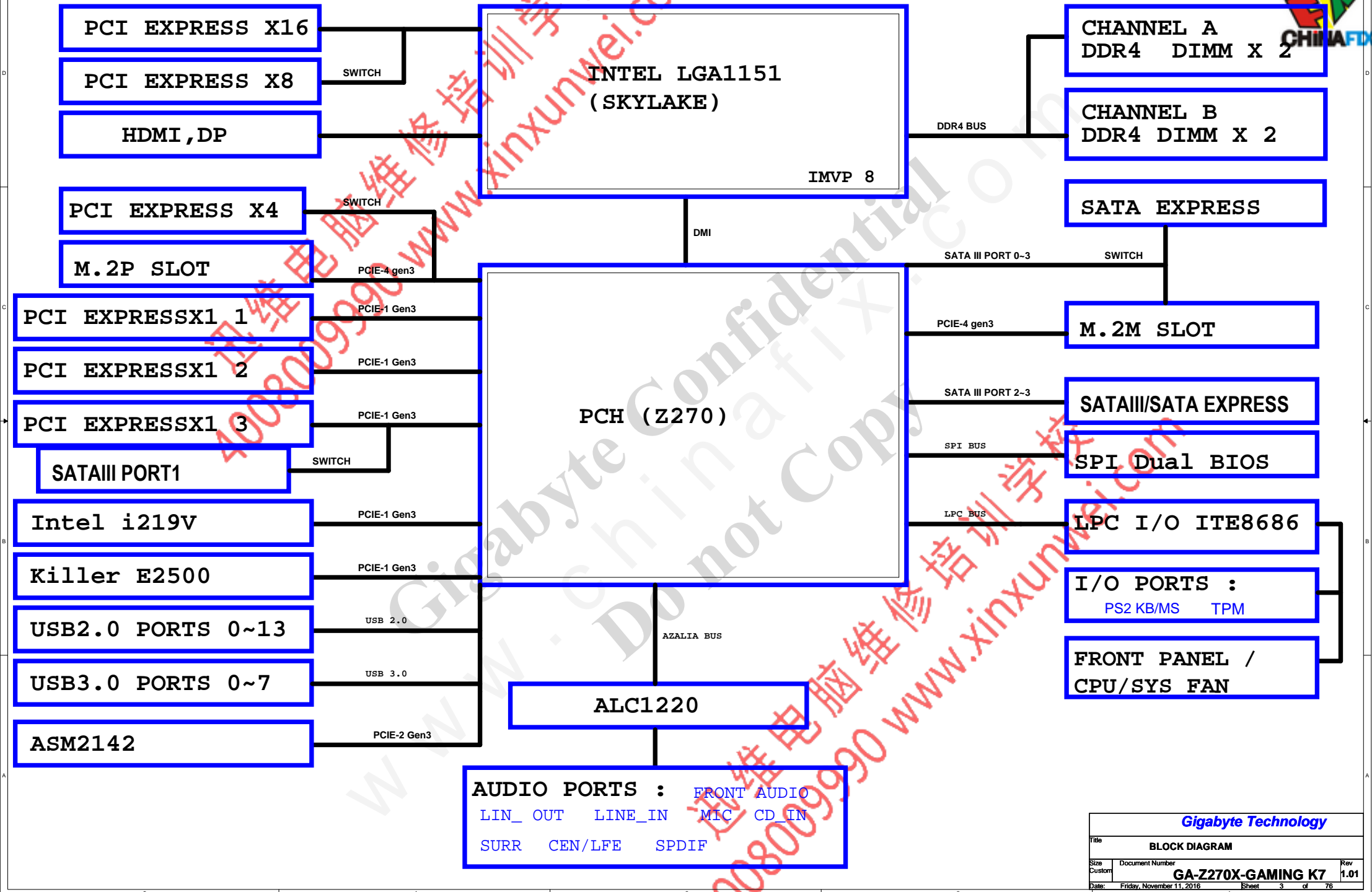


### Component value change history

[illegible][illegible]



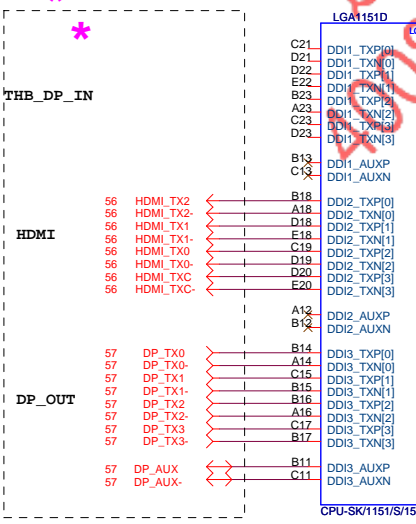
## BLOCK DIAGRAM





From SKL\_0.2B

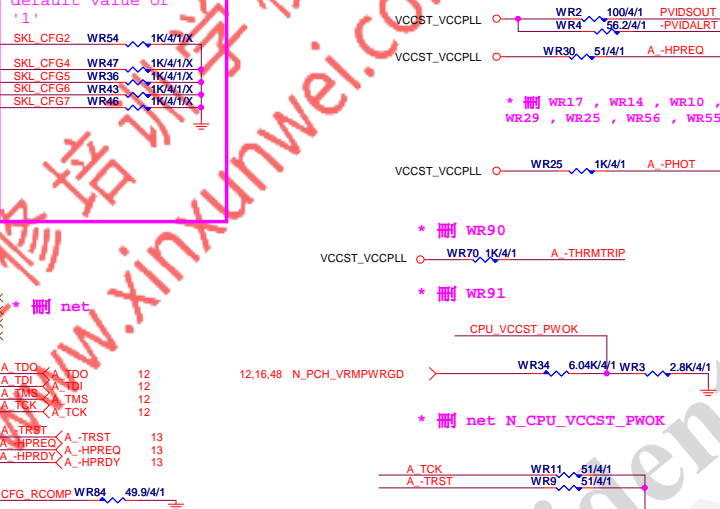
48 N\_CPUCLK → N\_CPUCLK W5 BCLKP  
 48 N\_CPUCLK → N\_CPUCLK W4 BCLKN  
 \* 10 N\_CPUICBCLK → N\_CPUICBCLK W1 PCI\_BCLKP  
 10 N\_CPUICBCLK → N\_CPUICBCLK W2 PCI\_BCLKN  
 10 N\_24MCLK → N\_24MCLK K9 CLK24P  
 10 N\_24MCLK → N\_24MCLK J9 CLK24N  
 \* WR7, WR1, WR81  
 改 short pad  
 -PVIDALRT → WR5 220/41 A\_PVIDALRT E39 VIDALRT#  
 -PVIDSLCK → WR7 0/4/SHT/M/X A\_PVIDSLCK E38 VIDSCK  
 -PVIDSOUT → WR6 0/4/SHT/M/X A\_PVIDSOUT E40 VIDSOUT  
 35 A\_PROCHOT → W81 1/4/SHT/M/X A\_PROCHOT E39 PROCHOT#  
 30 DDR\_VTT\_CTL → AC36 DDR\_VTT\_CNTL  
 → AC38 ZVM#  
 → AC37 RSVD\_AC37  
 CPU VCCST PWOK U2 VCCST\_PWRGDN  
 12.63 N\_CPUPWROK → N\_CPUST E7 PROC\_PWRGDN  
 13 N\_CPUST → A\_PMSYNC E8 RESET#  
 13 A\_PMSYNC → WR2 33/4 A\_PMDOWN D7 PM\_SYNC  
 13 A\_PMDOWN → D8 PM\_DOWN  
 13.16.71 A\_PECI → A\_THRMTRIP D11 THERMTRIP#  
 \* 16 A\_THRMTRIP → A\_THRMTRIP D11 THERMTRIP#  
 10 A\_SKTOCC → AB35 SKTOCC#  
 → WTP1 AB36 PROC\_SELECT#  
 D1X CATERR#  
 \* 删 net



```
G-15u : (CPU-SK/1151/S/15)
10SC1-F01151-11R / 10SC1-F01151-12R
G-FL : (CPU-SK/1151/S/GF)
10SC1-F01151-21R / 10SC1-F01151-22R
```

www.xinxunwei.com 400-800-9990

default value of 11.



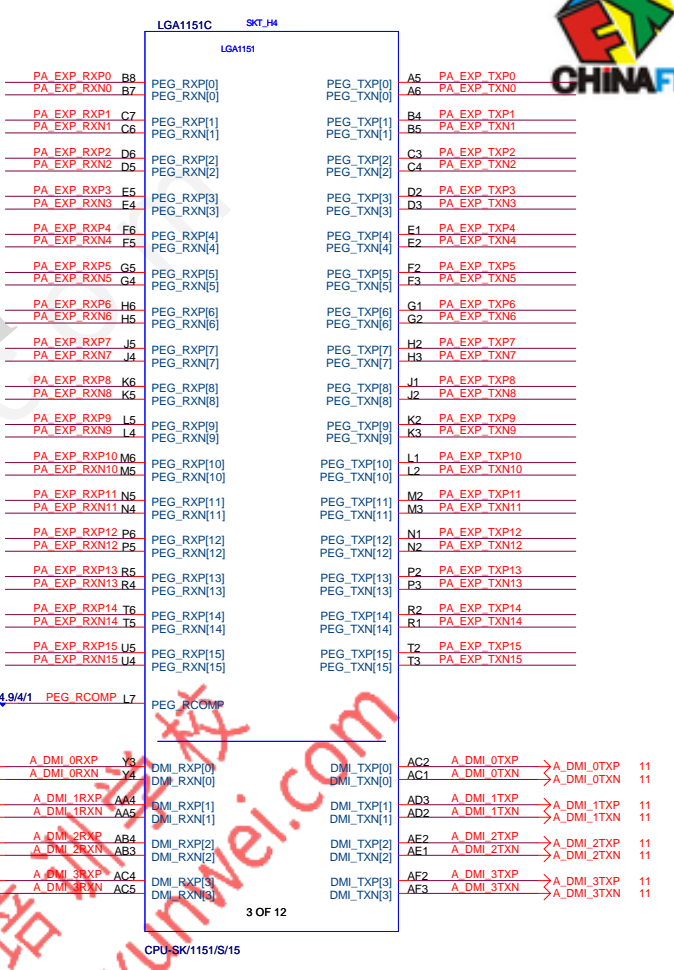
```
CFG[2]:x16 Lane Numbering
Reversal_1=
NORMAL/0=reversal

CFG[4]: eDP
enable:1:disable/0=enable

CFG[6:5]:PCI Express* Bifurcation_11=
1 x16 PCI Express/10=2x8 PCI Express

CFG[7]: PEG Training:1=(default) PEG Train
immediately following RESET#0=PEG Wait
for BIOS
```

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



PA_EXP_TXP[0..15]	» PA_EXP_TXP[0..15]	19,21
PA_EXP_TXN[0..15]	» PA_EXP_TXN[0..15]	19,21
PA_EXP_RXP[0..15]	» PA_EXP_RXP[0..15]	19,21
PA_EXP_RXN[0..15]	» PA_EXP_RXN[0..15]	19,21

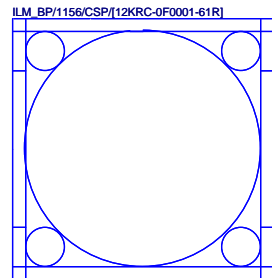
W=12 mil out of CPU  
S=15 mil out of CPU

<b><i>Gigabyte Technology</i></b>			
Title			
<b>CPU LGA1151-A</b>			
Size Custom	Document Number		Rev
	<b>GA-Z270X-GAMING K7</b>		<b>1.0*</b>
Date:	Tuesday, November 15, 2016		Sheet 4 of 76





LGA1151A		SKT_H4	
LGA1151		LGA1151	
MDA0 AE38	DDR0_DQ[0]	DDR0_CKP[0]	AW18 M_DCLKA0
MDA1 AE37	DDR0_DQ[1]	DDR0_CKN[0]	AW18 M_DCLKA0
MDA2 AG38	DDR0_DQ[2]	DDR0_CKP[1]	AW17 M_DCLKA1
MDA3 AG37	DDR0_DQ[3]	DDR0_CKN[1]	AW17 M_DCLKA1
MDA4 AE39	DDR0_DQ[4]	DDR0_CKP[2]	AW16 M_DCLKA2
MDA5 AE40	DDR0_DQ[5]	DDR0_CKN[2]	AW16 M_DCLKA2
MDA6 AG39	DDR0_DQ[6]	DDR0_CKP[3]	AW16 M_DCLKA3
MDA7 AG38	DDR0_DQ[7]	DDR0_CKN[3]	AW16 M_DCLKA3
MDA8 AJ38	DDR0_DQ[8]	DDR0_CKE[0]	AY24 CKEA0
MDA9 AJ37	DDR0_DQ[9]	DDR0_CKE[1]	AY24 CKEA1
MDA10 AL38	DDR0_DQ[10]	DDR0_CKE[2]	AY24 CKEA2
MDA11 AL37	DDR0_DQ[11]	DDR0_CKE[3]	AY25 CKEA3
MDA12 AJ39	DDR0_DQ[12]	DDR0_CS#0	AW12 M-CSA0
MDA13 AJ39	DDR0_DQ[13]	DDR0_CS#1	AW11 M-CSA1
MDA14 AL39	DDR0_DQ[14]	DDR0_CS#2	AW13 M-CSA2
MDA15 AL40	DDR0_DQ[15]	DDR0_CS#3	AW10 M-CSA3
MDA16 AN38	DDR0_DQ[16]/DDR0_DQ[32]	DDR0_ODT[0]	AW11 MODT_A0
MDA17 AN38	DDR0_DQ[17]/DDR0_DQ[33]	DDR0_ODT[1]	AW14 MODT_A1
MDA18 AR38	DDR0_DQ[18]/DDR0_DQ[34]	DDR0_ODT[2]	AW12 MODT_A2
MDA19 AR37	DDR0_DQ[19]/DDR0_DQ[35]	DDR0_ODT[3]	AW10 MODT_A3
MDA20 AN39	DDR0_DQ[20]/DDR0_DQ[36]	DDR0_BA[0]/DDR0_CAB[4]/DDR0_BA[0]	AY13 SBA0A0
MDA21 AN37	DDR0_DQ[21]/DDR0_DQ[37]	DDR0_BA[1]/DDR0_CAB[5]/DDR0_BA[1]	AY15 SBA1A1
MDA22 AR40	DDR0_DQ[22]/DDR0_DQ[38]	DDR0_BA[2]/DDR0_CAB[6]/DDR0_BA[2]	AW23 BG_A0
MDA23 AR40	DDR0_DQ[23]/DDR0_DQ[39]	DDR0_RAS#/DDR0_CAB[3]/DDR0_MAJ[6]	AW13 MAA0A16
MDA24 AW37	DDR0_DQ[24]/DDR0_DQ[40]	DDR0_WE#/DDR0_CAB[2]/DDR0_MAJ[14]	AW14 MAA1A14
MDA25 AU38	DDR0_DQ[25]/DDR0_DQ[41]	DDR0_CAS#/DDR0_CAB[1]/DDR0_MAJ[15]	AW11 MAA1A15
MDA26 AV35	DDR0_DQ[26]/DDR0_DQ[42]	DDR0_MAJ[0]/DDR0_CAB[9]/DDR0_MAJ[0]	AW15 MAA0A0
MDA27 AW35	DDR0_DQ[27]/DDR0_DQ[43]	DDR0_MAJ[1]/DDR0_CAB[8]/DDR0_MAJ[1]	AU18 MAA1A1
MDA28 AU37	DDR0_DQ[28]/DDR0_DQ[44]	DDR0_MAJ[2]/DDR0_CAB[5]/DDR0_MAJ[2]	AU17 MAA1A2
MDA29 AT35	DDR0_DQ[29]/DDR0_DQ[45]	DDR0_MAJ[3]	AU19 MAA1A3
MDA30 AT35	DDR0_DQ[30]/DDR0_DQ[46]	DDR0_MAJ[4]	AU20 MAA1A4
MDA31 AU35	DDR0_DQ[31]/DDR0_DQ[47]	DDR0_MAJ[5]/DDR0_CAA[0]/DDR0_MAJ[5]	AT19 MAA1A5
MDA32 AY8	DDR0_DQ[32]/DDR1_DQ[0]	DDR0_MAJ[6]/DDR0_CAA[2]/DDR0_MAJ[6]	AU20 MAA1A6
MDA33 AW8	DDR0_DQ[33]/DDR1_DQ[1]	DDR0_MAJ[7]/DDR0_CAA[4]/DDR0_MAJ[7]	AU21 MAA1A7
MDA34 AV6	DDR0_DQ[34]/DDR1_DQ[2]	DDR0_MAJ[8]/DDR0_CAA[3]/DDR0_MAJ[8]	AT20 MAA1A8
MDA35 AU6	DDR0_DQ[35]/DDR1_DQ[3]	DDR0_MAJ[9]/DDR0_CAA[1]/DDR0_MAJ[9]	AT22 MAA1A9
MDA36 AU8	DDR0_DQ[36]/DDR1_DQ[4]	DDR0_MAJ[10]/DDR0_CAB[7]/DDR0_MAJ[10]	AU22 MAA1A11
MDA37 AV8	DDR0_DQ[37]/DDR1_DQ[5]	DDR0_MAJ[11]/DDR0_CAA[7]/DDR0_MAJ[11]	AU22 MAA1A12
MDA38 AW6	DDR0_DQ[38]/DDR1_DQ[6]	DDR0_MAJ[12]/DDR0_CAA[6]/DDR0_MAJ[12]	AU12 MAA1A13
MDA39 AV6	DDR0_DQ[39]/DDR1_DQ[7]	DDR0_MAJ[13]/DDR0_CAB[0]/DDR0_MAJ[13]	AU23 BG_A1
MDA40 AY4	DDR0_DQ[40]/DDR1_DQ[8]	DDR0_MAJ[14]/DDR0_CAA[9]/DDR0_BG[1]	AW24 M-AACT_A
MDA41 AV4	DDR0_DQ[41]/DDR1_DQ[9]	DDR0_MAJ[15]/DDR0_CAA[8]/DDR0_ACT#	AY15 M-DDR_PARA
MDA42 AT1	DDR0_DQ[42]/DDR1_DQ[10]	DDR0_ALERT#	AT23 M-ALERT_A
MDA43 AT2	DDR0_DQ[43]/DDR1_DQ[11]	DDR0_DQSN[0]	AF39 M-DQSA0
MDA44 AV3	DDR0_DQ[44]/DDR1_DQ[12]	DDR0_DQSN[1]	AK39 M-DQSA1
MDA45 AW4	DDR0_DQ[45]/DDR1_DQ[13]	DDR0_DQSN[2]/DDR0_DQSN[6]	AP39 M-DQSA2
MDA46 AT3	DDR0_DQ[46]/DDR1_DQ[14]	DDR0_DQSN[3]/DDR0_DQSN[5]	AU36 M-DQSA3
MDA47 AT3	DDR0_DQ[47]/DDR1_DQ[15]	DDR0_DQSN[4]/DDR1_DQSN[1]	AW7 M-DQSA4
MDA48 AP2	DDR0_DQ[48]/DDR1_DQ[16]	DDR0_DQSN[5]/DDR1_DQSN[1]	AU3 M-DQSA5
MDA49 AM4	DDR0_DQ[49]/DDR1_DQ[17]	DDR0_DQSN[6]/DDR1_DQSN[4]	AN3 M-DQSA6
MDA50 AP3	DDR0_DQ[50]/DDR1_DQ[18]	DDR0_DQSN[7]/DDR1_DQSN[5]	AJ3 M-DQSA7
MDA51 AM3	DDR0_DQ[51]/DDR1_DQ[19]	DDR0_DQSP[0]	AF38 M-DQSA0
MDA52 AP4	DDR0_DQ[52]/DDR1_DQ[20]	DDR0_DQSP[1]	AK38 M-DQSA1
MDA53 AM2	DDR0_DQ[53]/DDR1_DQ[21]	DDR0_DQSP[2]/DDR0_DQSP[8]	AP38 M-DQSA2
MDA54 AP1	DDR0_DQ[54]/DDR1_DQ[22]	DDR0_DQSP[3]/DDR0_DQSP[9]	AV7 M-DQSA4
MDA55 AM1	DDR0_DQ[55]/DDR1_DQ[23]	DDR0_DQSP[4]/DDR1_DQSP[0]	AU2 M-DQSA5
MDA56 AK3	DDR0_DQ[56]/DDR1_DQ[24]	DDR0_DQSP[5]/DDR1_DQSP[1]	AN2 M-DQSA6
MDA57 AH4	DDR0_DQ[57]/DDR1_DQ[25]	DDR0_DQSP[6]/DDR1_DQSP[4]	AJ2 M-DQSA7
MDA58 AK4	DDR0_DQ[58]/DDR1_DQ[26]	DDR0_DQSP[7]/DDR1_DQSP[5]	AV32 M-DQSA8
MDA59 AH2	DDR0_DQ[59]/DDR1_DQ[27]	DDR0_DQSP[8]	AU32 M-DQSA8
MDA60 AH4	DDR0_DQ[60]/DDR1_DQ[28]	DDR0_DQSP[9]	
MDA61 AK2	DDR0_DQ[61]/DDR1_DQ[29]		
MDA62 AH3	DDR0_DQ[62]/DDR1_DQ[30]		
MDA63 AK1	DDR0_DQ[63]/DDR1_DQ[31]		



Need check the new CPU ME

LGA1151B		SKT_H4	
LGA1151		LGA1151	
MDB0 AD34	DDR1_DQ[0]/DDR0_DQ[16]	DDR1_CKP[0]	AM20 M_DCLKB0
MDB1 AD35	DDR1_DQ[1]/DDR0_DQ[17]	DDR1_CKN[0]	AM21 M_DCLKB0
MDB2 AG35	DDR1_DQ[2]/DDR0_DQ[18]	DDR1_CKP[1]	AP22 M_DCLKB1
MDB3 AH35	DDR1_DQ[3]/DDR0_DQ[19]	DDR1_CKN[1]	AP21 M_DCLKB1
MDB4 AE35	DDR1_DQ[4]/DDR0_DQ[20]	DDR1_CKP[2]	AN20 M_DCLKB2
MDB5 AE34	DDR1_DQ[5]/DDR0_DQ[21]	DDR1_CKN[2]	AN21 M_DCLKB2
MDB6 AG34	DDR1_DQ[6]/DDR0_DQ[22]	DDR1_CKP[3]	AP23 M_DCLKB3
MDB7 AH34	DDR1_DQ[7]/DDR0_DQ[23]	DDR1_CKN[3]	AP20 M_DCLKB3
MDB8 AK35	DDR1_DQ[8]/DDR0_DQ[24]	DDR1_CKE[0]	AY29 CKEB0
MDB9 AL35	DDR1_DQ[9]/DDR0_DQ[25]	DDR1_CKE[1]	AY29 CKEB1
MDB10 AK32	DDR1_DQ[10]/DDR0_DQ[26]	DDR1_CKE[2]	AY29 CKEB2
MDB11 AL32	DDR1_DQ[11]/DDR0_DQ[27]	DDR1_CKE[3]	AY29 CKEB3
MDB12 AK34	DDR1_DQ[12]/DDR0_DQ[28]	DDR1_CS#0	AP17 M-CSB0
MDB13 AL34	DDR1_DQ[13]/DDR0_DQ[29]	DDR1_CS#1	AN15 M-CSB1
MDB14 AK31	DDR1_DQ[14]/DDR0_DQ[30]	DDR1_CS#2	AN17 M-CSB2
MDB15 AL31	DDR1_DQ[15]/DDR0_DQ[31]	DDR1_CS#3	AM15 M-CSB3
MDB16 AP35	DDR1_DQ[16]/DDR0_DQ[32]	DDR1_ODT[0]	AM16 MODT_B0
MDB17 AN35	DDR1_DQ[17]/DDR0_DQ[33]	DDR1_ODT[1]	AL16 MODT_B1
MDB18 AN32	DDR1_DQ[18]/DDR0_DQ[34]	DDR1_ODT[2]	AP15 MODT_B2
MDB19 AP32	DDR1_DQ[19]/DDR0_DQ[35]	DDR1_ODT[3]	AL15 MODT_B3
MDB20 AN34	DDR1_DQ[20]/DDR0_DQ[36]	DDR1_RAS#/DDR1_CAB[3]/DDR1_MAJ[16]	AN18 MAAB16
MDB21 AP34	DDR1_DQ[21]/DDR0_DQ[37]	DDR1_WE#/DDR1_CAB[2]/DDR1_MAJ[14]	AM17 MAAB17
MDB22 AN31	DDR1_DQ[22]/DDR0_DQ[38]	DDR1_CAS#/DDR1_CAB[1]/DDR1_MAJ[15]	AP16 MAAB15
MDB23 AP31	DDR1_DQ[23]/DDR0_DQ[39]	DDR1_BA[0]/DDR1_CAB[4]/DDR1_BA[0]	AL18 SBA0
MDB24 AL29	DDR1_DQ[24]/DDR0_DQ[40]	DDR1_BA[1]/DDR1_CAB[6]/DDR1_BA[1]	AM18 SBA1
MDB25 AM29	DDR1_DQ[25]/DDR0_DQ[41]	DDR1_BA[2]/DDR1_CAB[5]/DDR1_BA[2]	AW19 BG_B0
MDB26 AP29	DDR1_DQ[26]/DDR0_DQ[42]	DDR1_MAJ[0]/DDR1_CAB[9]/DDR1_MAJ[0]	AL18 SBA0
MDB27 AR29	DDR1_DQ[27]/DDR0_DQ[43]	DDR1_MAJ[1]/DDR1_CAB[8]/DDR1_MAJ[1]	AM18 SBA1
MDB28 AM28	DDR1_DQ[28]/DDR0_DQ[44]	DDR1_MAJ[2]/DDR1_CAB[5]/DDR1_MAJ[2]	AW19 BG_B0
MDB29 AN28	DDR1_DQ[29]/DDR0_DQ[45]	DDR1_MAJ[3]	AL19 MAAB0
MDB30 AN28	DDR1_DQ[30]/DDR0_DQ[46]	DDR1_MAJ[4]	AL22 MAAB1
MDB31 AP28	DDR1_DQ[31]/DDR0_DQ[47]	DDR1_MAJ[5]/DDR1_CAA[0]/DDR1_MAJ[5]	AM22 MAAB2
MDB32 AR12	DDR1_DQ[32]/DDR1_DQ[0]	DDR1_MAJ[6]/DDR1_CAA[2]/DDR1_MAJ[6]	AL23 MAAB3
MDB33 AP12	DDR1_DQ[33]/DDR1_DQ[1]	DDR1_MAJ[7]/DDR1_CAA[4]/DDR1_MAJ[7]	AP23 MAAB4
MDB34 AL13	DDR1_DQ[34]/DDR1_DQ[2]	DDR1_MAJ[8]/DDR1_CAA[3]/DDR1_MAJ[8]	AL23 MAAB5
MDB35 AL33	DDR1_DQ[35]/DDR1_DQ[3]	DDR1_MAJ[9]/DDR1_CAA[1]/DDR1_MAJ[9]	AW26 MAAB6
MDB36 AR13	DDR1_DQ[36]/DDR1_DQ[4]	DDR1_MAJ[10]/DDR1_CAB[7]/DDR1_MAJ[10]	AM26 MAAB7
MDB37 AP13	DDR1_DQ[37]/DDR1_DQ[5]	DDR1_MAJ[11]/DDR1_CAA[7]/DDR1_MAJ[11]	AL26 MAAB8
MDB38 AM12	DDR1_DQ[38]/DDR1_DQ[6]	DDR1_MAJ[12]/DDR1_CAA[6]/DDR1_MAJ[12]	AW27 MAAB9
MDB39 AT12	DDR1_DQ[39]/DDR1_DQ[7]	DDR1_MAJ[13]/DDR1_CAB[0]/DDR1_MAJ[13]	AP18 MAAB10
MDB40 AT10	DDR1_DQ[40]/DDR1_DQ[8]	DDR1_MAJ[14]/DDR1_CAA[9]/DDR1_BG[1]	AL27 MAAB11
MDB41 AR10	DDR1_DQ[41]/DDR1_DQ[9]	DDR1_MAJ[15]/DDR1_CAA[8]/DDR1_ACT#	AL27 MAAB12
MDB42 AR7	DDR1_DQ[42]/DDR1_DQ[10]	DDR1_DQSN[0]	AY28 BG_B1
MDB43 AP7	DDR1_DQ[43]/DDR1_DQ[11]	DDR1_DQSN[1]	AL20 M-DDR_PARB
MDB44 AR9	DDR1_DQ[44]/DDR1_DQ[12]	DDR1_DQSN[2]/DDR0_DQSN[6]	AY26 M-ALERT_B
MDB45 AP9	DDR1_DQ[45]/DDR1_DQ[13]	DDR1_DQSN[3]/DDR0_DQSN[5]	AF34 M-DQSB0
MDB46 AP6	DDR1_DQ[46]/DDR1_DQ[14]	DDR1_DQSN[4]/DDR1_DQSN[1]	AK33 M-DQSB1
MDB47 AP6	DDR1_DQ[47]/DDR1_DQ[15]	DDR1_DQSN[5]/DDR1_DQSN[1]	AN33 M-DQSB2
MDB48 AM10	DDR1_DQ[48]/DDR1_DQ[16]	DDR1_DQSN[6]/DDR1_DQSN[4]	AL13 M-DQSB3
MDB49 AL10	DDR1_DQ[49]/DDR1_DQ[17]	DDR1_DQSN[7]/DDR1_DQSN[5]	AR8 M-DQSB5
MDB50 AM7	DDR1_DQ[50]/DDR1_DQ[18]	DDR1_DQSP[0]	AM8 M-DQSB6
MDB51 AL7	DDR1_DQ[51]/DDR1_DQ[19]	DDR1_DQSP[1]	AG7 M-DQSB7
MDB52 AM9	DDR1_DQ[52]/DDR1_DQ[20]	DDR1_DQSP[2]/DDR0_DQSP[8]	AF35 M-DQSB0
MDB53 AL9	DDR1_DQ[53]/DDR1_DQ[21]	DDR1_DQSP[3]/DDR0_DQSP[9]	AL33 M-DQSB1
MDB54 AM6	DDR1_DQ[54]/DDR1_DQ[22]	DDR1_DQSP[4]/DDR1_DQSP[0]	AP33 M-DQSB2
MDB55 AL6	DDR1_DQ[55]/DDR1_DQ[23]	DDR1_DQSP[5]/DDR1_DQSP[1]	AN28 M-DQSB3
MDB56 AJ6	DDR1_DQ[56]/DDR1_DQ[24]	DDR1_DQSP[6]/DDR1_DQSP[4]	AL12 M-DQSB4
MDB57 AL7	DDR1_DQ[57]/DDR1_DQ[25]	DDR1_DQSP[7]/DDR1_DQSP[5]	AP8 M-DQSB5
MDB58 AE6	DDR1_DQ[58]/DDR1_DQ[26]	DDR1_DQSP[8]	AL8 M-DQSB6
MDB59 AE7	DDR1_DQ[59]/DDR1_DQ[27]	DDR1_DQSP[9]	AG7 M-DQSB7
MDB60 AH7	DDR1_DQ[60]/DDR1_DQ[28]	DDR1_ECC[0]	AN25 M-DQSB8
MDB61 AH6	DDR1_DQ[61]/DDR1_DQ[29]	DDR1_ECC[1]	AN26 M-DQSB8
MDB62 AE7	DDR1_DQ[62]/DDR1_DQ[30]	DDR1_ECC[2]	
MDB63 AF6	DDR1_DQ[63]/DDR1_DQ[31]	DDR1_ECC[3]	
MDB ECC0 AR25	DDR1_ECC[0]	DDR1_ECC[4]	
MDB ECC1 AR26	DDR1_ECC[1]	DDR1_ECC[5]	
MDB ECC2 AM26	DDR1_ECC[2]	DDR1_ECC[6]	
MDB ECC3 AM25	DDR1_ECC[3]	DDR1_ECC[7]	
MDB ECC4 AP28	DDR1_ECC[4]	DDR1_ECC[8]	
MDB ECC5 AP25	DDR1_ECC[5]	DDR1_ECC[9]	
MDB ECC6 AL25	DDR1_ECC[6]	DDR1_ECC[10]	
MDB ECC7 AL26	DDR1_ECC[7]	DDR1_ECC[11]	

DDR CHANNEL B

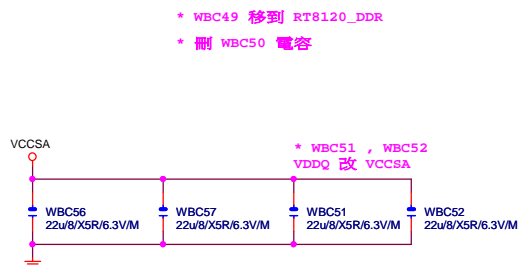
CPU-SK1151/S15

8 MODT_A0[.3]	MODT_A0[.3]
9 MODT_B0[.3]	MODT_B0[.3]
MDA[0..63]	MDA[0..63]
MDB[0..63]	MDB[0..63]
8 M_DQSA[0..7]	M_DQSA[0..7]
8 M_DQSA[0..7]	M_DQSA[0..7]
8 MAA[0..16]	MAA[0..16]
9 MAA[0..16]	MAA[0..16]
9 M_DQSB[0..7]	M_DQSB[0..7]
9 M_DQSB[0..7]	M_DQSB[0..7]

DDR_VREF_CA	AB40 VREF_CAB	VREF_CAB	8
DDR_VREF_DQ	AC40 VREF_DQB	VREF_DQB	9

Gigabyte Technology			
CPU LGA1151-B			
Size	Document Number	Rev	1.01
Custom	GA-Z770X-GAMING K7		
Date:	Tuesday, November 15, 2016	Sheet	5 of 76





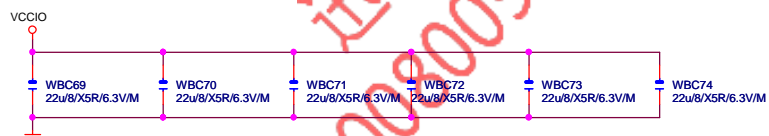
\* 删 WBC124, WBC125, WBC126, WBC127 电容

CPU POWER

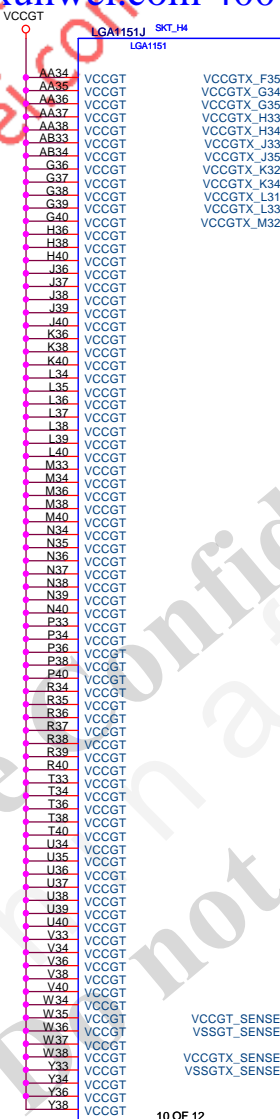
\* WR94, WR95, WR86, WR60,  
WR61, WR62, WR63 改 short  
pad

VCCST\_VCCPLL

VCCSFUSEPRG



\* 删 VCCGT 电容



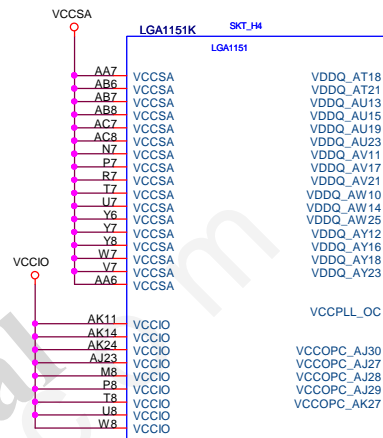
CPU-SK/1151/S/15



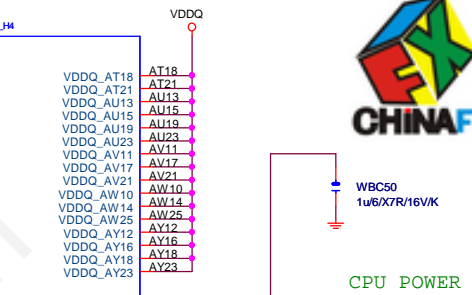
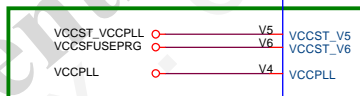
13 N.POH CPU\_1N

13 A.CPU\_POH TO R

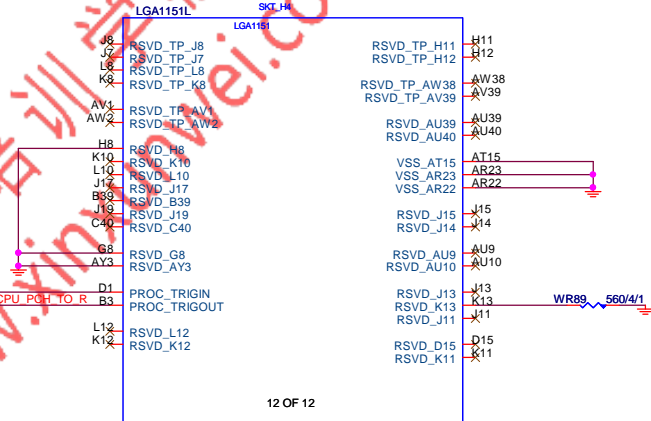
WR88 33/4 A CPU\_POH TO R



CPU POWER



CPU-SK/1151/S/15



CPU-SK/1151/S/15

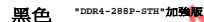
Gigabyte Technology

Title			CPU LGA1151-C	
Size	Document Number			Rev
Custom	GA-Z270X-GAMING K7			1.01
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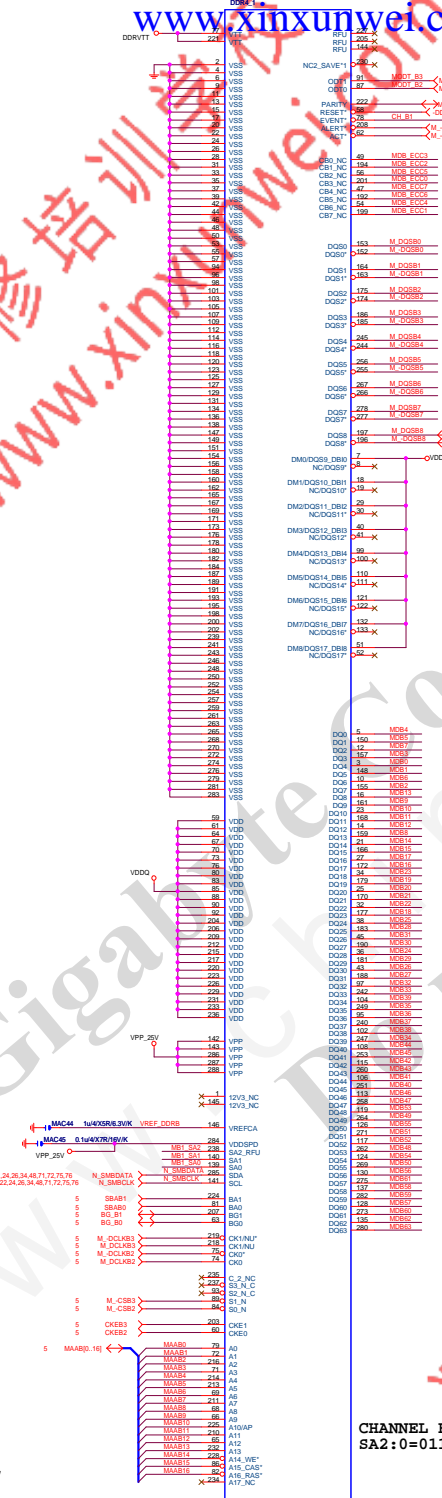




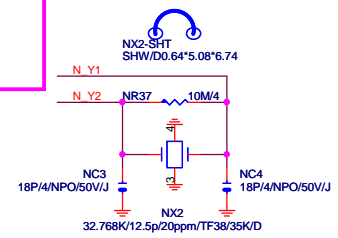
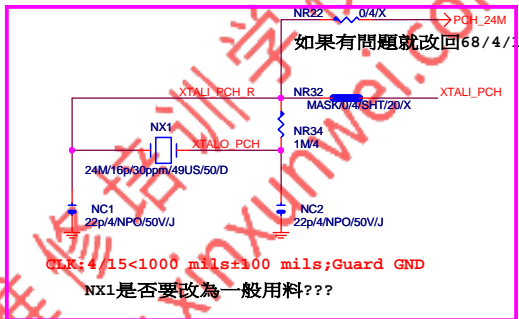
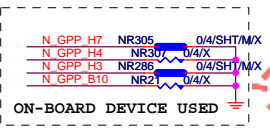




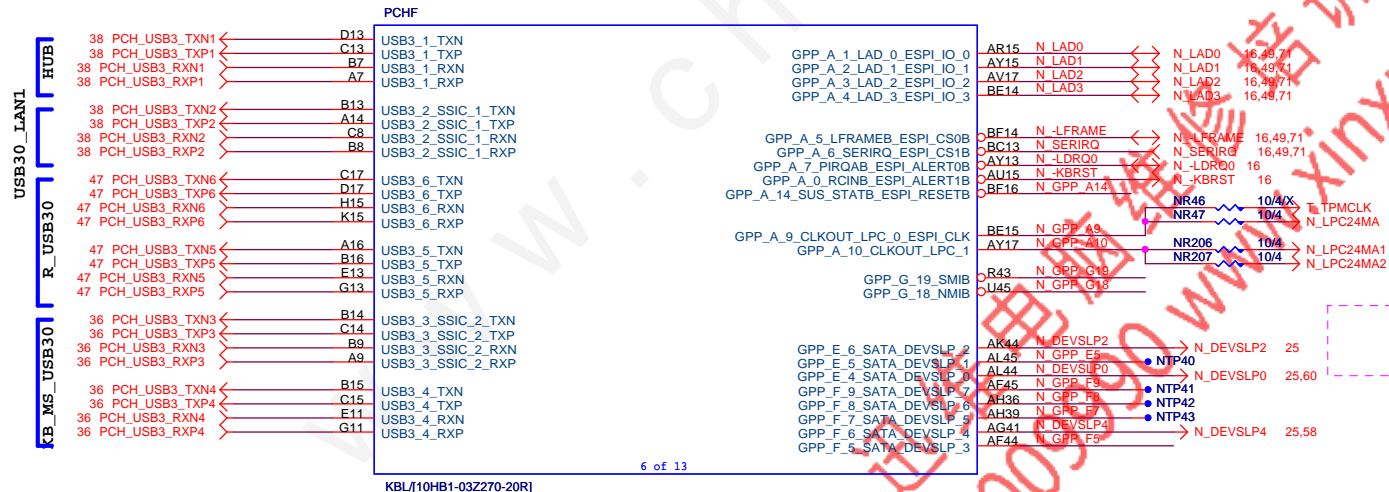










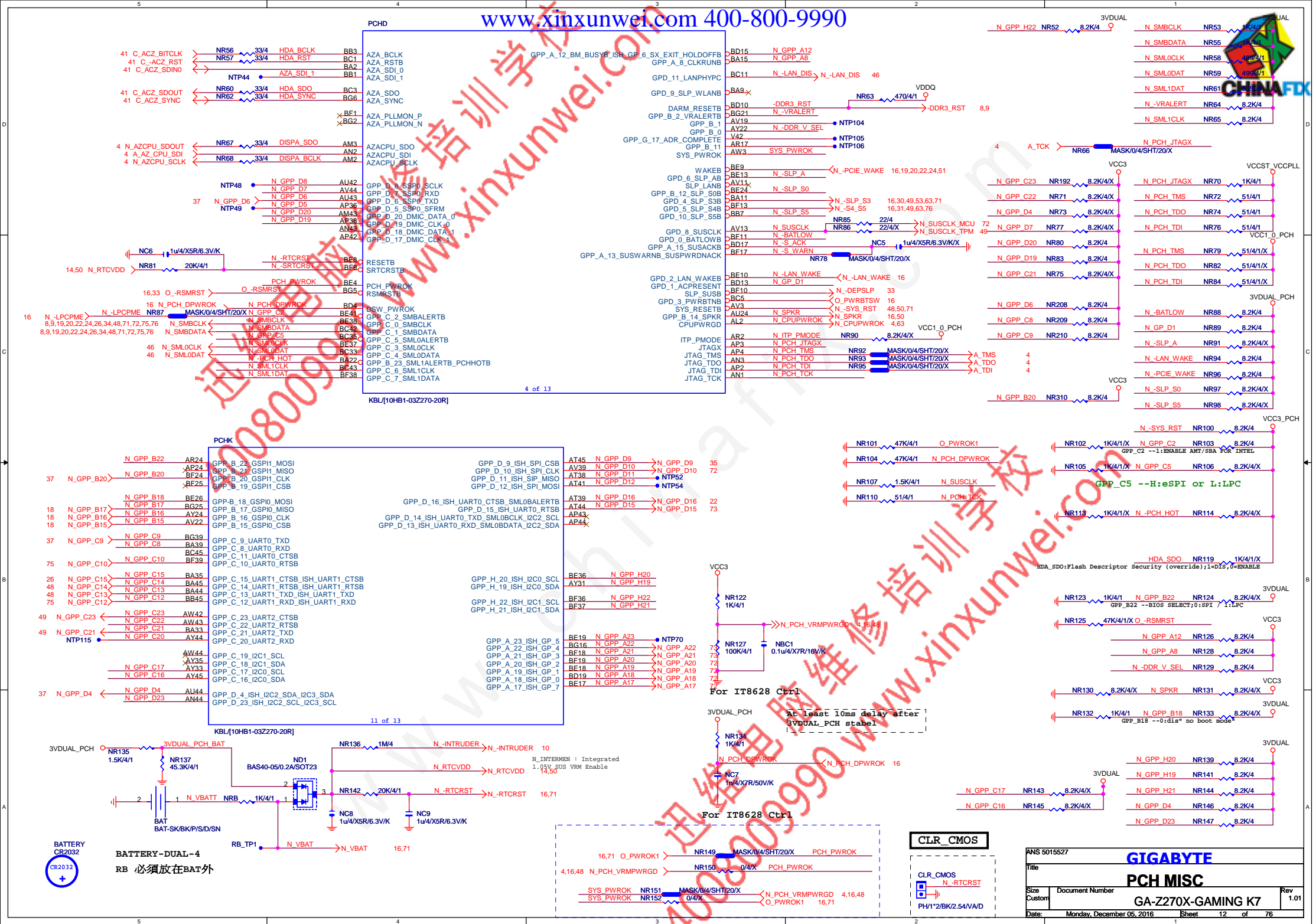


ANS 5015527

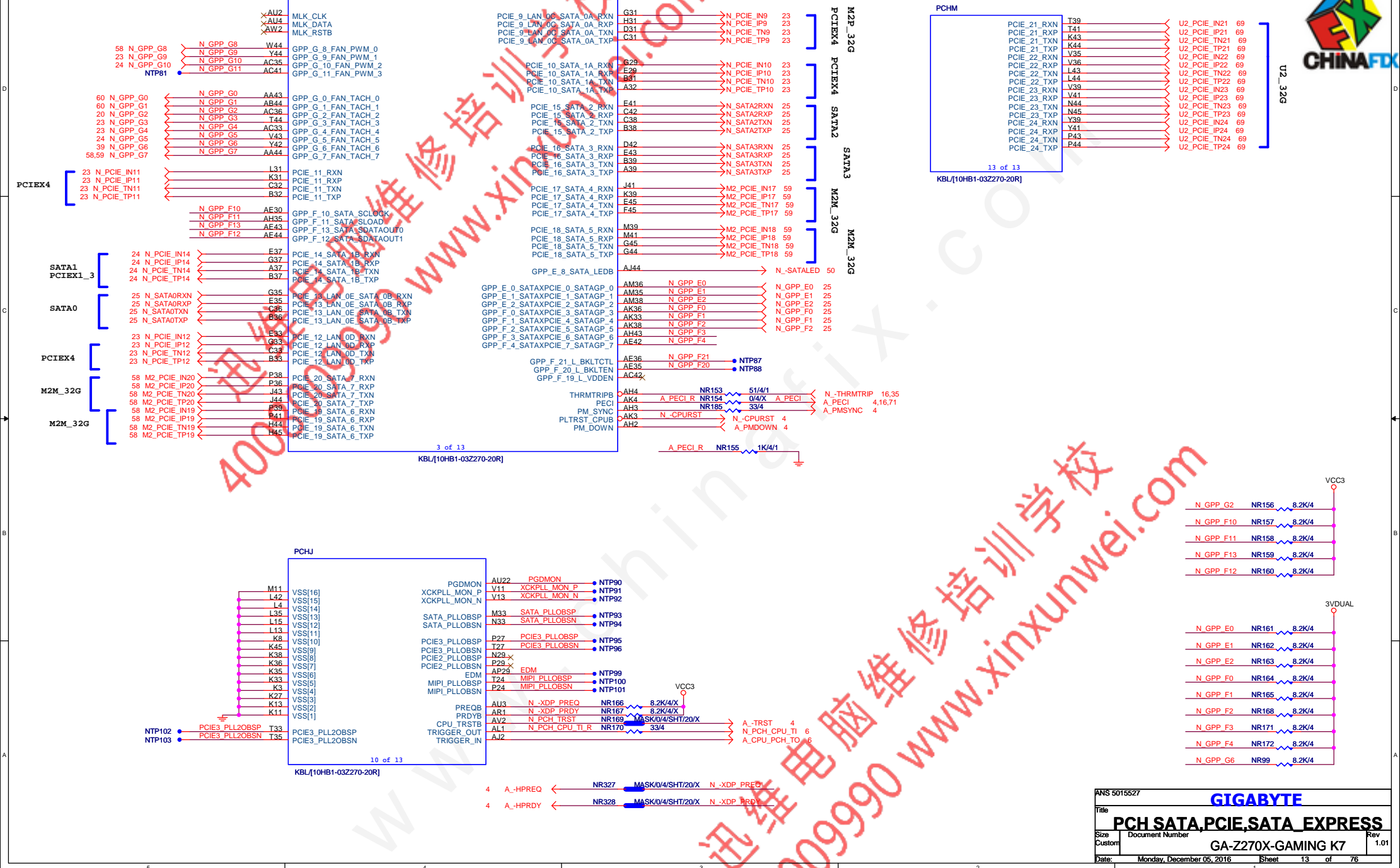
GIGABYTE

Title		PCH DMI,USB,PCIE	
Size	Document Number	GA-Z270X-GAMING K7	
Custom			Rev 1.01
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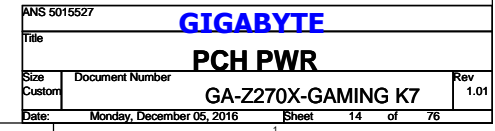


ANS 5015527

GIGABYTE

Title  
PCH SATA, PCIE, SATA EXPRESSSize  
CustomDocument Number  
GA-Z270X-GAMING K7Date  
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1.01







PCHL		
A25	VSS	A42
A30	VSS	D45
P22	VSS	BG44
AV38	VSS	BE44
AV45	VSS	BF43
AV8	VSS	BF2
AY11	VSS	W29
AY19	VSS	A35
AY37	VSS	AG23
AY4	VSS	A40
AY42	VSS	AA1
AY8	VSS	AA17
B25	VSS	AA18
B3	VSS	AA20
B30	VSS	AA21
B35	VSS	AA26
B4	VSS	AA28
B41	VSS	AA29
BA13	VSS	AB17
BA17	VSS	AC32
BA29	VSS	AE4
BA31	VSS	AE8
BA37	VSS	AF18
BA4	VSS	AF20
BA42	VSS	AF21
BB40	VSS	AF25
BC38	VSS	AF28
BC40	VSS	AF29
BC9	VSS	AF4
BD11	VSS	AF42
BD16	VSS	AG18
BD2	VSS	AG20
BD21	VSS	AG21
BD25	VSS	AG23
F2	VSS	AG25
F31	VSS	AG26
E6	VSS	AG28
E8	VSS	AG29
F39	VSS	AH11
F43	VSS	AH13
G4	VSS	AH13
G40	VSS	AH30
G42	VSS	AH32
F6	VSS	AH38
G9	VSS	AH17
H11	VSS	AH18
H13	VSS	AH20
H17	VSS	AJ21
H19	VSS	AJ23
H22	VSS	AJ25
H24	VSS	AJ26
H27	VSS	AJ28
H29	VSS	AJ29
H33	VSS	AJ45
H35	VSS	AK10
H38	VSS	AK14
H4	VSS	AK16
H42	VSS	AK17
H9	VSS	AK18
J4	VSS	AK26
M36	VSS	AK28
M38	VSS	AM14
M4	VSS	AN14
M8	VSS	AP19
M9	VSS	AR22
N13	VSS	AR27
N15	VSS	AU29
N19	VSS	AU33
N22	VSS	AV1
N24	VSS	AV10
N31	VSS	AV15
N42	VSS	AV24
P10	VSS	AV27
P12	VSS	AV33
AV35	VSS	

KBL[10HB1-03Z270-20R]

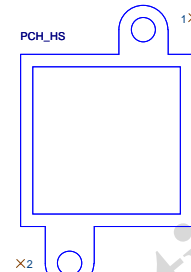
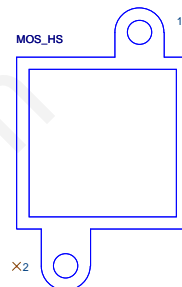
9 of 13

PCHL		
BD34	VSS[70]	AB18
BD39	VSS[71]	AB20
BD7	VSS[72]	AB21
BE2	VSS[73]	AB25
BF43	VSS[74]	AB29
BF2	VSS[75]	AB4
BG18	VSS[76]	AB42
BG23	VSS[77]	AC10
BG28	VSS[78]	AC14
BG32	VSS[79]	AC16
BG37	VSS[80]	AC18
BG40	VSS[81]	AC4
BG9	VSS[83]	AC5
C1	VSS[84]	AC7
A12	VSS[85]	AC8
C2	VSS[86]	AD1
CA29	VSS[87]	AD18
CA6	VSS[88]	AD20
CA32	VSS[89]	AD21
D1	VSS[90]	AD25
D10	VSS[91]	AD29
D12	VSS[92]	AD45
D15	VSS[93]	AE11
D16	VSS[94]	AE14
D17	VSS[95]	AE32
D19	VSS[96]	AE33
D21	VSS[97]	AE38
D24	VSS[98]	AK29
D25	VSS[99]	AK30
D29	VSS[100]	AK32
D30	VSS[101]	AK35
D33	VSS[102]	AK39
D35	VSS[103]	AL4
D36	VSS[104]	AL42
D39	VSS[105]	AM10
D44	VSS[106]	AM11
D7	VSS[107]	AM13
P13	VSS[108]	AM17
P15	VSS[109]	AM19
P17	VSS[110]	AM24
P19	VSS[111]	AM27
P31	VSS[112]	AM29
P33	VSS[113]	AM32
P35	VSS[114]	AM33
P4	VSS[115]	AM4
P42	VSS[116]	AN45
P8	VSS[117]	AP10
R1	VSS[118]	AP11
R32	VSS[119]	AP15
T10	VSS[120]	AP22
T14	VSS[121]	AP27
T22	VSS[122]	AP31
T29	VSS[123]	AP33
T32	VSS[124]	AP34
T36	VSS[125]	AP39
T38	VSS[126]	T4
Y38	VSS[127]	W26
Y4	VSS[128]	V16
Y4	VSS[129]	V17
Y8	VSS[130]	V18
Y8	VSS[131]	V30
T42	VSS[132]	V32
T5	VSS[133]	V33
U4	VSS[134]	V38
U42	VSS[135]	V4
V10	VSS[136]	V8
V14	VSS[137]	W18
V19	VSS[138]	W20
V14	VSS[139]	W21
W3	VSS[140]	W23
W3	VSS[141]	W25
W3	VSS[142]	
AR13	VSS[143]	A44
AR31	VSS[144]	BE1
AR33	VSS[145]	BD1
AR4	VSS[146]	B1
AR4	VSS[147]	A2
AT10	VSS[148]	A3
AT13	VSS[149]	A4
AT35	VSS[150]	B44
AT37	VSS[151]	B45
AT42	VSS[152]	
AU11	VSS[153]	VSS_1
AU17	VSS[154]	VSS_10
BD30	VSS[155]	VSS_11
W45	VSS[156]	VSS_14
Y13	VSS[157]	VSS_15
Y14	VSS[158]	VSS_16
Y30	VSS[159]	VSS_17
Y32	VSS[160]	VSS_18
Y33	VSS[161]	VSS_2
Y33	VSS[162]	VSS_3
BG14	VSS[163]	

KBL[10HB1-03Z270-20R]

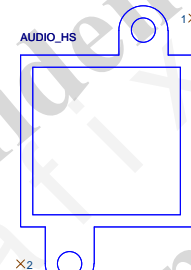
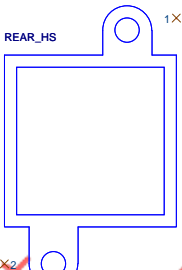
12 of 13

## 裝甲HEATSINK 分成四大部份

Footprint :  
BGAHSINK-Z270X-GAMING7Footprint :  
MOSHINK-Z270X-GAMING7

HEAT SINK[12SP2-S06912-11R/12R/13R]

HEAT SINK[12SP2-PT27G7-01R\_12SP2-PT27G7-02R\_12SP2-PT27G7-03R]

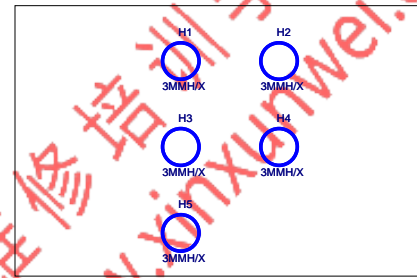
Footprint :  
Z270X-AUDIO\_COVERFootprint :  
Z270X-IO\_COVER

塑膠/鐵件裝甲

HEAT SINK[12KRC-0A0001-31R]

HEAT SINK[12KRC-0H0007-21R]

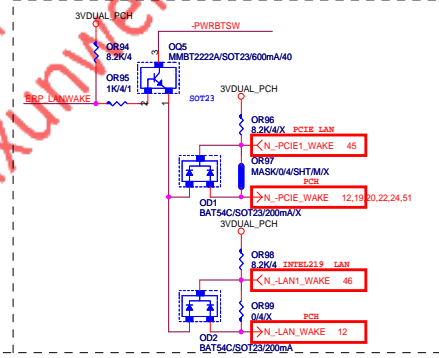
GIGABYTE



3MMH

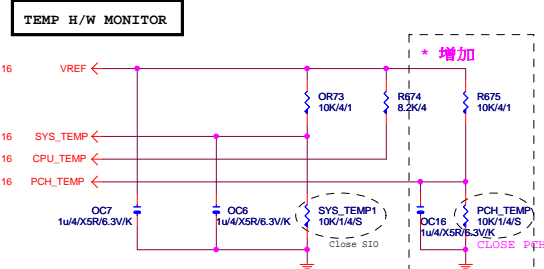
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PCH GND			
Size	Document Number	Rev	
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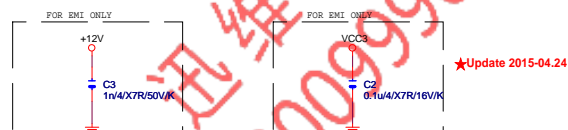
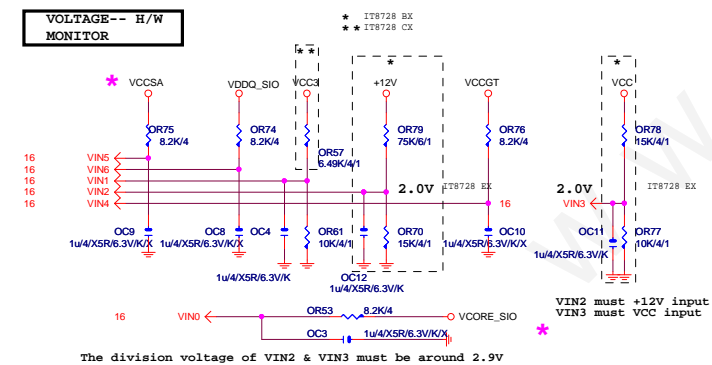
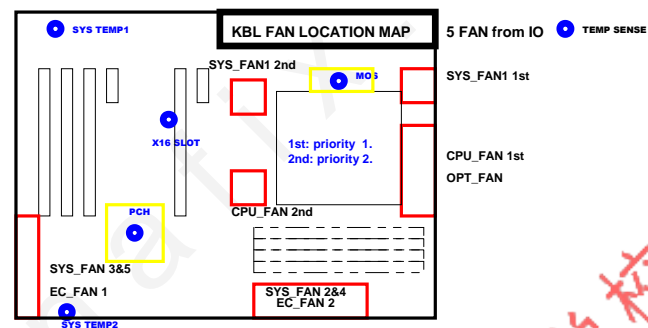
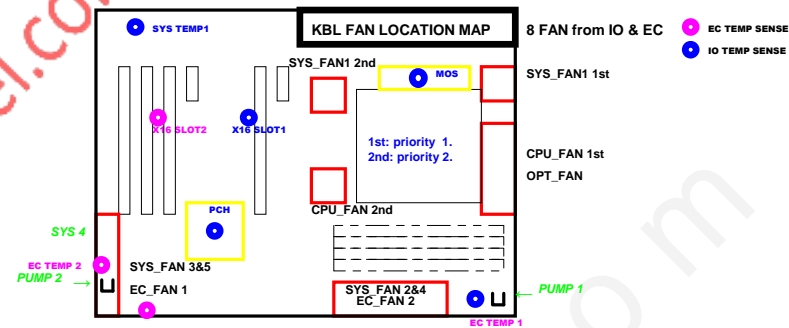
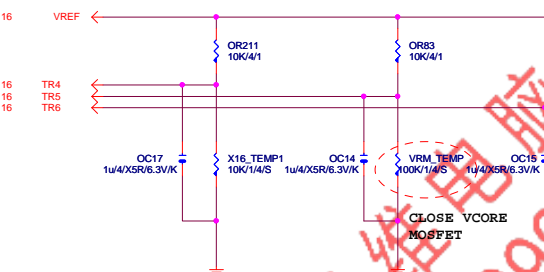


Title				IT8686			
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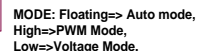




5個FAN時使用







**MODE: Floating=> Auto mode,  
High=>PWM Mode,  
Low=>Voltage Mode.**

MODE: Floating=> Auto mode  
High=>PWM Mode,  
Low=>Voltage Mode.

**MODE:** Floating=> Auto mode,  
High=>PWM Mode,  
Low=>Voltage Mode.



**MODE: Floating=> Auto mode,  
High=>PWM Mode,  
Low=>Voltage Mode.**





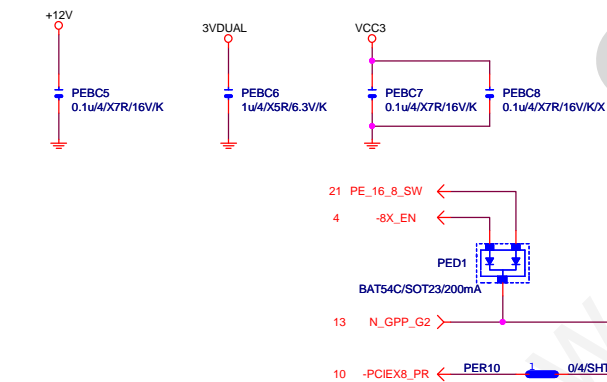
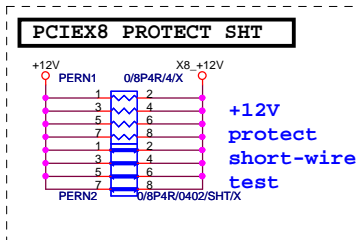


Title			
PCI EXPRESS * 16			
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12,16,19,22,24,51 N\_-PCIE\_WAKE

PER11

0/4/X

PE EXP SW TXP8 C

PE EXP SW TXN8 C

PE EXP SW TXP9 C

PE EXP SW TXN9 C

PE EXP SW TXP10 C

PE EXP SW TXN10 C

PE EXP SW TXP11 C

PE EXP SW TXN11 C

PE EXP SW TXP12 C

PE EXP SW TXN12 C

PE EXP SW TXP13 C

PE EXP SW TXN13 C

PE EXP SW TXP14 C

PE EXP SW TXN14 C

PE EXP SW TXP15 C

PE EXP SW TXN15 C

PCIESLOT-98STH

3GIO\_\*8

PCI-E/8X-99P/BK/LONG DOUBLE/HK/2/SHELL/11AC1-023099-F1R

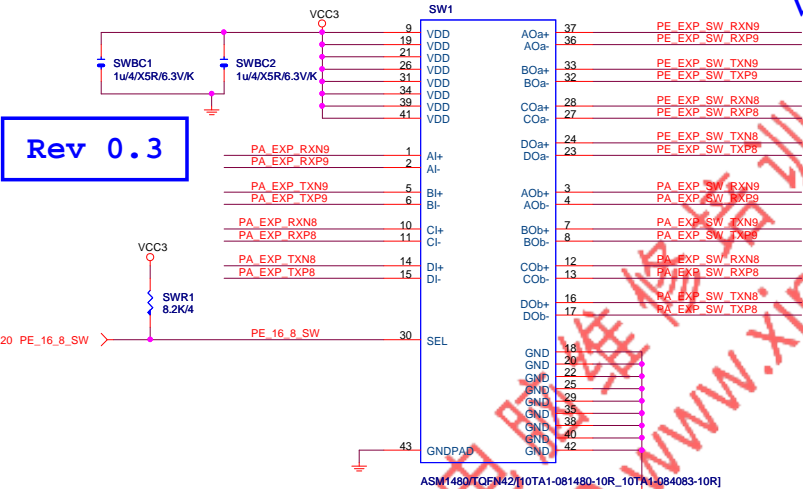
黑色金屬加強

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

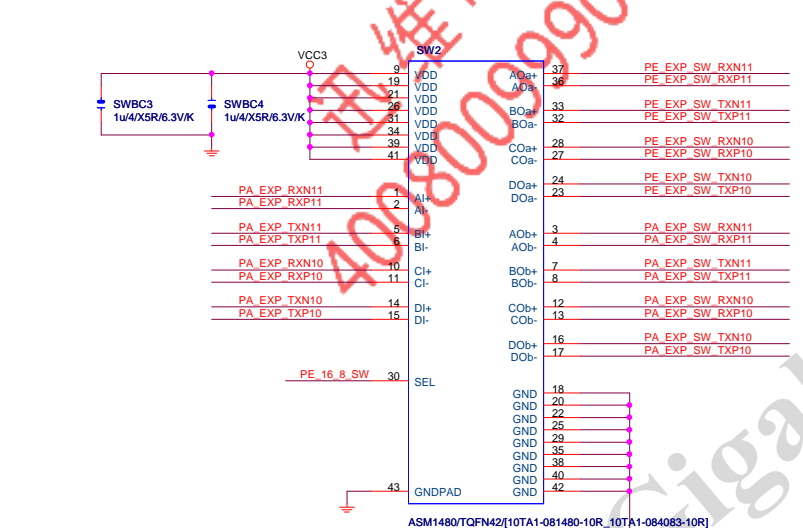
Gigabyte Technology			
Title			
PCI EXPRESS X8			
Size			
Document Number			
GA-Z270X-GAMING K7			
Date:			
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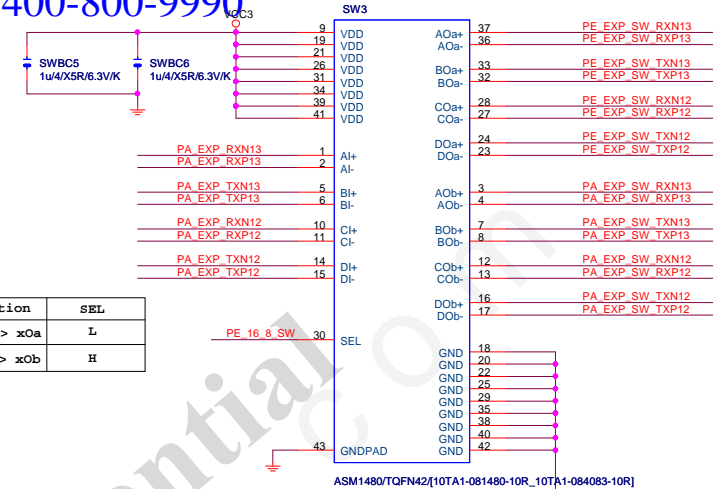
ASM1480/TQFN42[10TA1-081480-10R\_10TA1-084083-10R]



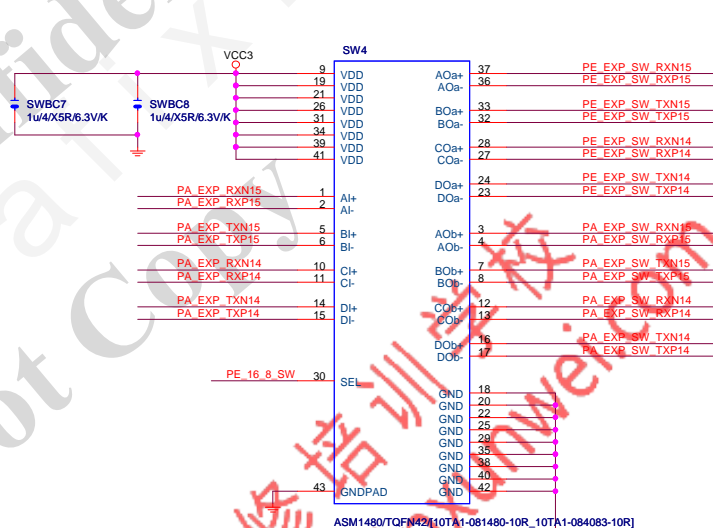
ASM1480/TQFN42[10TA1-081480-10R\_10TA1-084083-10R]

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 PA\_EXP\_SW\_RXN[8..15] >>> PA\_EXP\_SW\_RXN[8..15] 19  
 PA\_EXP\_SW\_TXP[8..15] >>> PA\_EXP\_SW\_TXP[8..15] 19  
 PA\_EXP\_SW\_TXN[8..15] >>> PA\_EXP\_SW\_TXN[8..15] 19  
 PE\_EXP\_SW\_RXP[8..15] >>> PE\_EXP\_SW\_RXP[8..15] 20  
 PE\_EXP\_SW\_RXN[8..15] >>> PE\_EXP\_SW\_RXN[8..15] 20  
 PE\_EXP\_SW\_TXP[8..15] >>> PE\_EXP\_SW\_TXP[8..15] 20  
 PE\_EXP\_SW\_TXN[8..15] >>> PE\_EXP\_SW\_TXN[8..15] 20  
 PA\_EXP\_RXP[0..15] >>> PA\_EXP\_RXP[0..15] 4,19  
 PA\_EXP\_RXN[0..15] >>> PA\_EXP\_RXN[0..15] 4,19  
 PA\_EXP\_TXP[0..15] >>> PA\_EXP\_TXP[0..15] 4,19  
 PA\_EXP\_TXN[0..15] >>> PA\_EXP\_TXN[0..15] 4,19

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



ASM1480/TQFN42[10TA1-081480-10R\_10TA1-084083-10R]



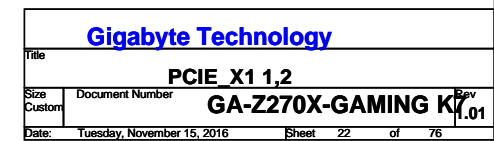
ASM1480/TQFN42[10TA1-081480-10R\_10TA1-084083-10R]

Gigabyte Technology

PCI EXPRESS X16 SWITCH

Title	Document Number	Rev
Size	Custom	GA-Z270X-GAMING K7 1.01
Date:	Tuesday, November 15, 2016	Sheet 21 of 76



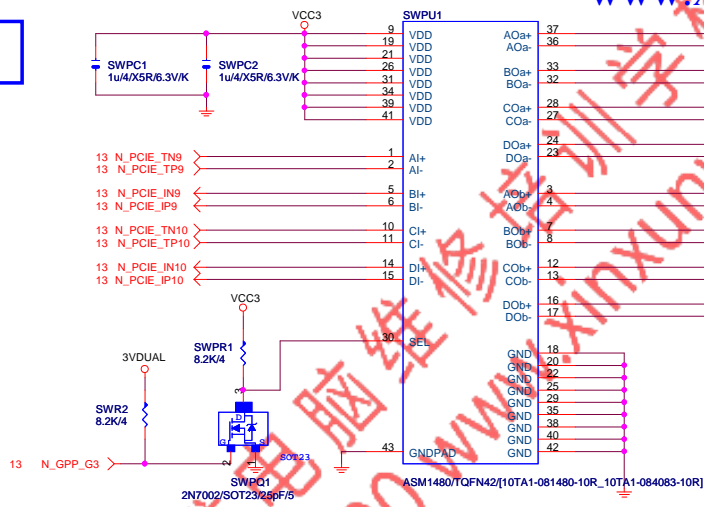


黑色金屬加強

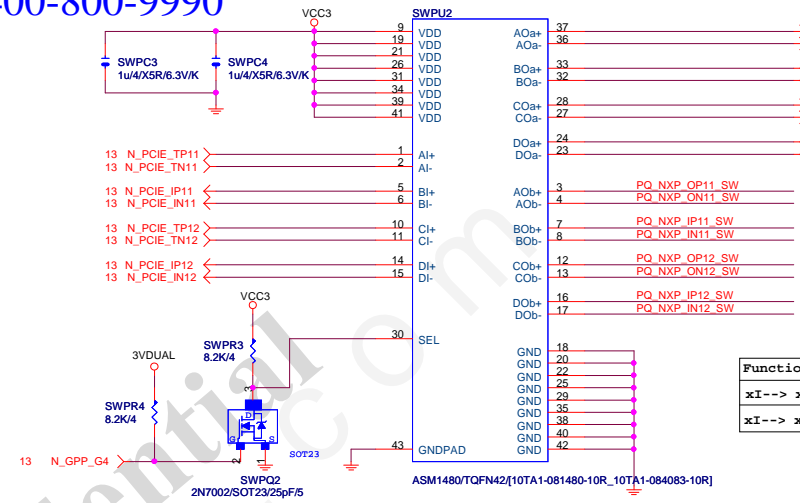


Rev 0.1

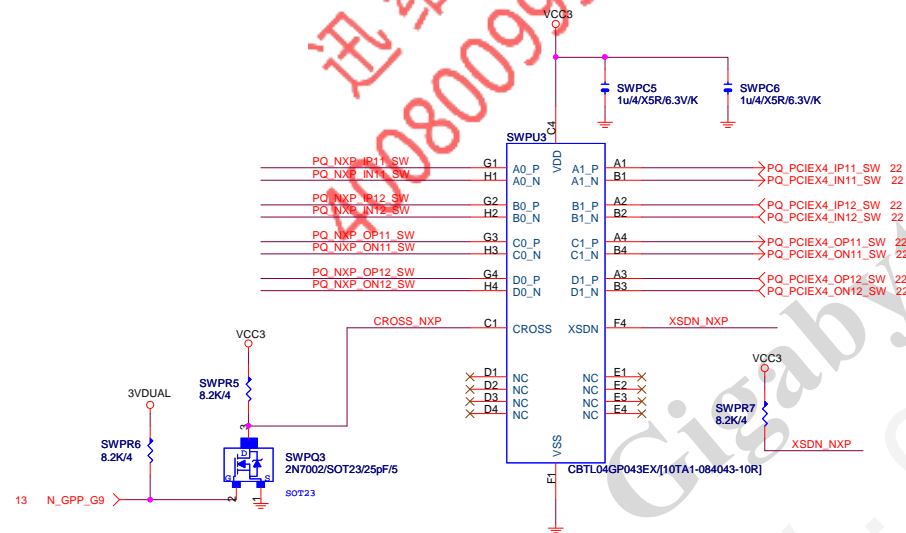
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Function	SEL
xI--> xOa	L
xI--> xOb	H



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



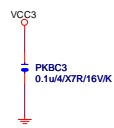
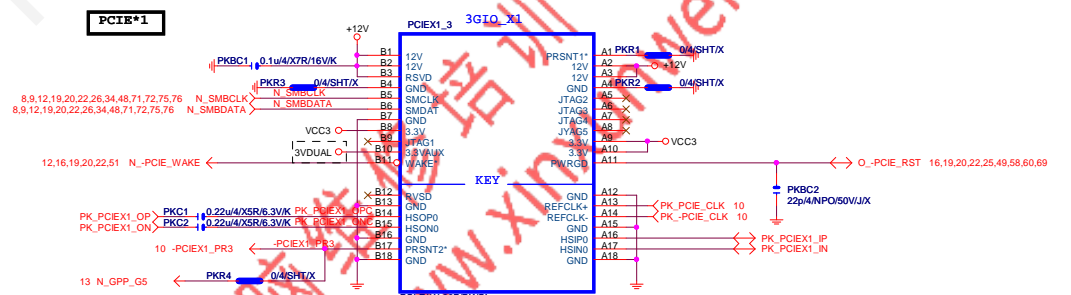
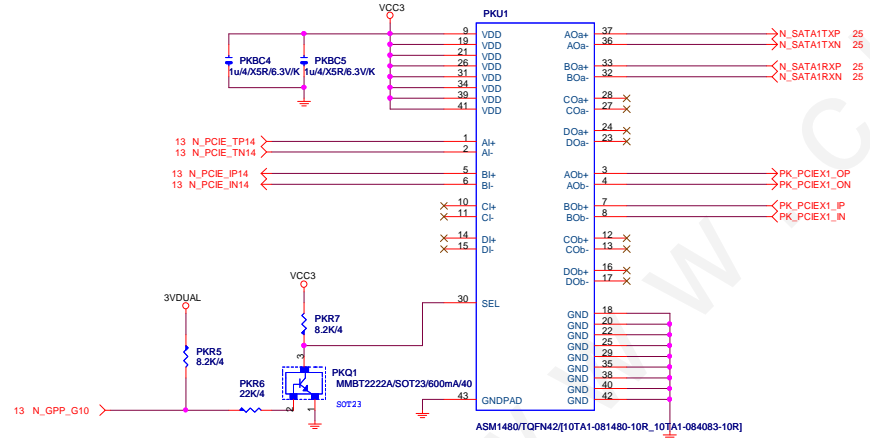
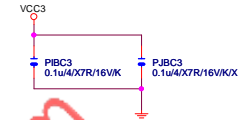
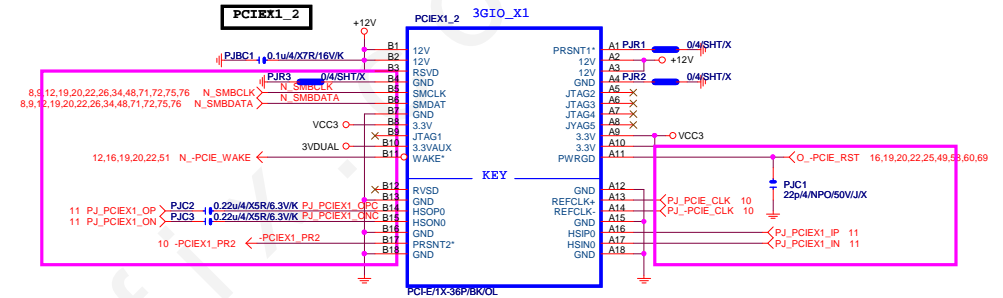
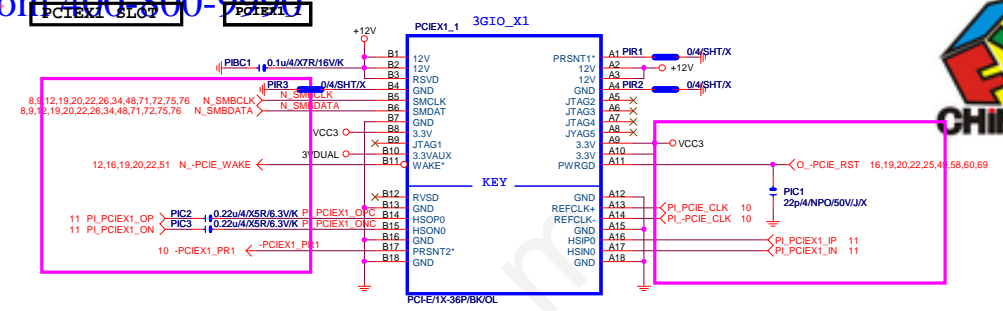
When CROSS = HIGH, selects cross function  
When CROSS = LOW, selects pass-through function.

Flex IO priority	N_GPP_G0 (PCH GPP_G0)	N_GPP_D16 (PCH GPP_D16)
M2P_32G Only	L	H
PCIEX4 Only (PCIe Reverse)	H	L
M2P_32G + PCIEX4 (M2P_32Gx2 + PCIEX4_x2)	L	L

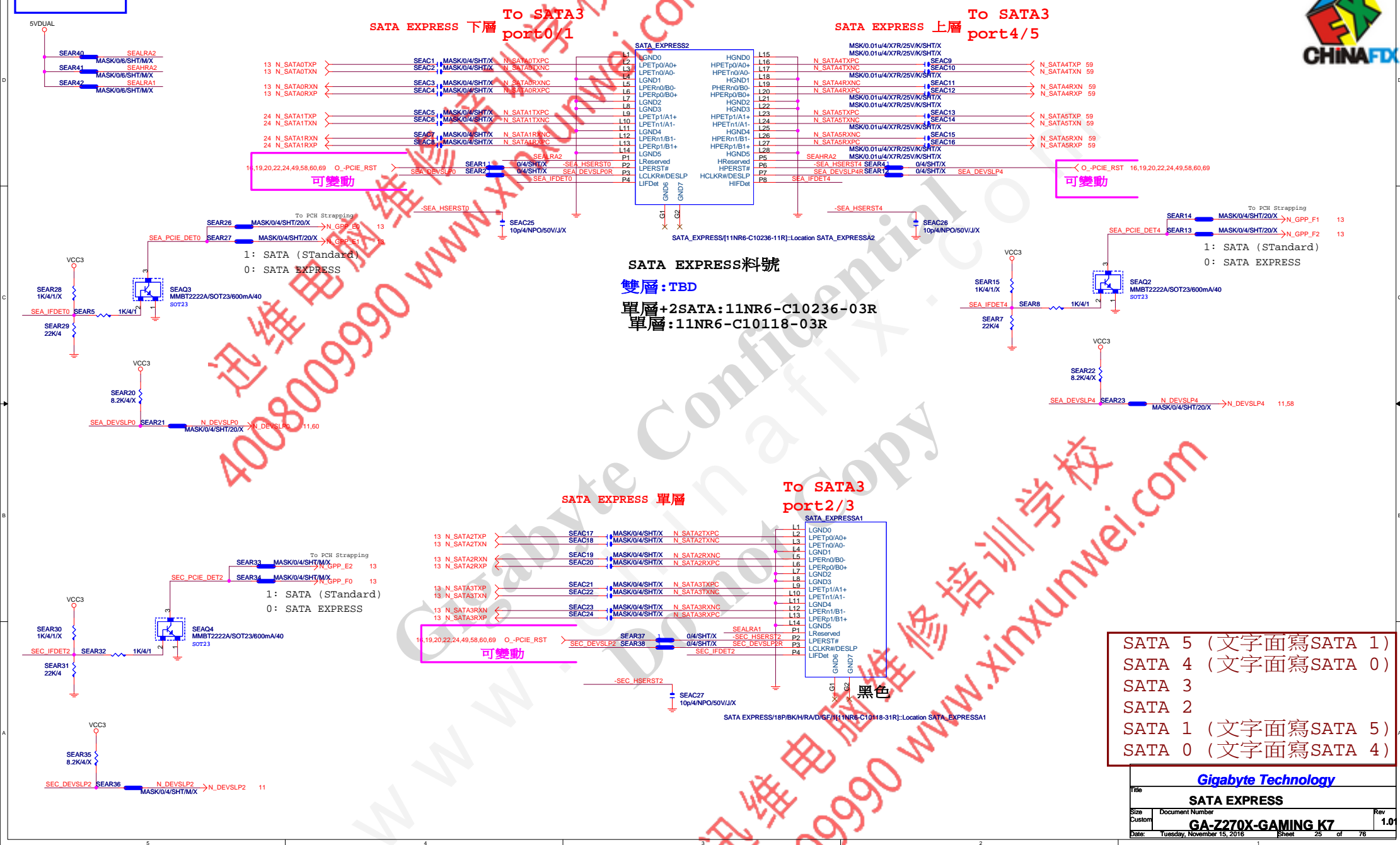
N_GPP_G3 (PCH GPP_G3)	N_GPP_G4 (PCH GPP_G4)	N_GPP_G9 (PCH GPP_G9)
H	H	H
L	L	H
H	L	L

Gigabyte Technology SWITCH			
Title	Document Number	GA-Z270X-GAMING K7	Rev 1.01
Size	Custom		
Date:	Tuesday, November 15, 2016	Sheet	23 of 76

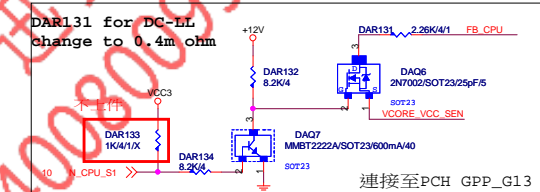
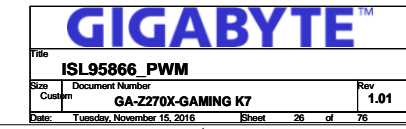










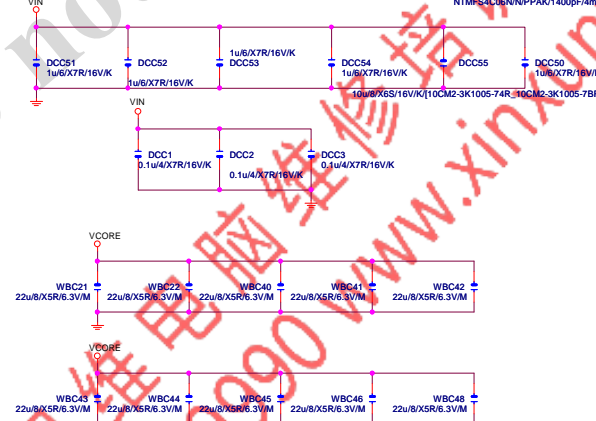
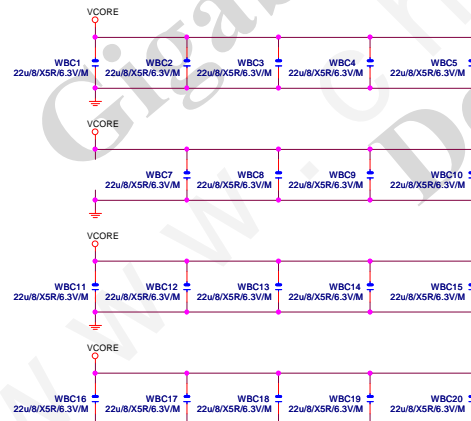


VCORE	ISL95856	ISL95866	VCCT	ISL95856	ISL95866
DAR137	X	V	DAR140	X	V
DAR138	V	X	DAR141	V	X
DAR139	X	V	DAR142	X	V
DAC15	V	X	DAC27	V	X
DAR79	V	X	DAR80	V	X
DAR33	V	X	DAR51	V	X

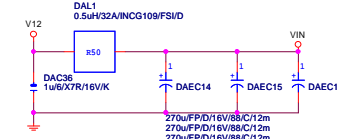




## VCORE CAP

[illegible]

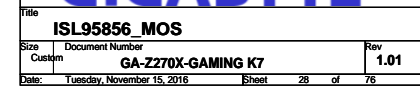
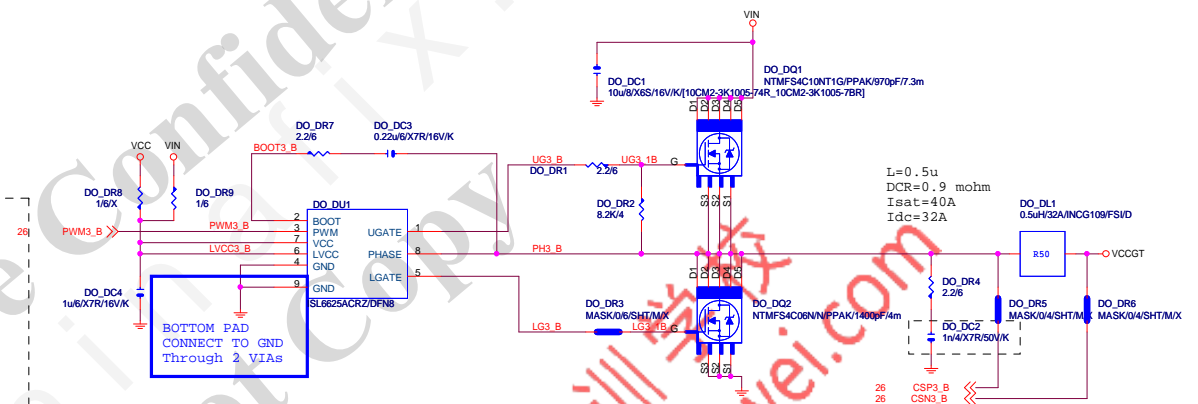
270u\*3PCS



## GIGABYTE

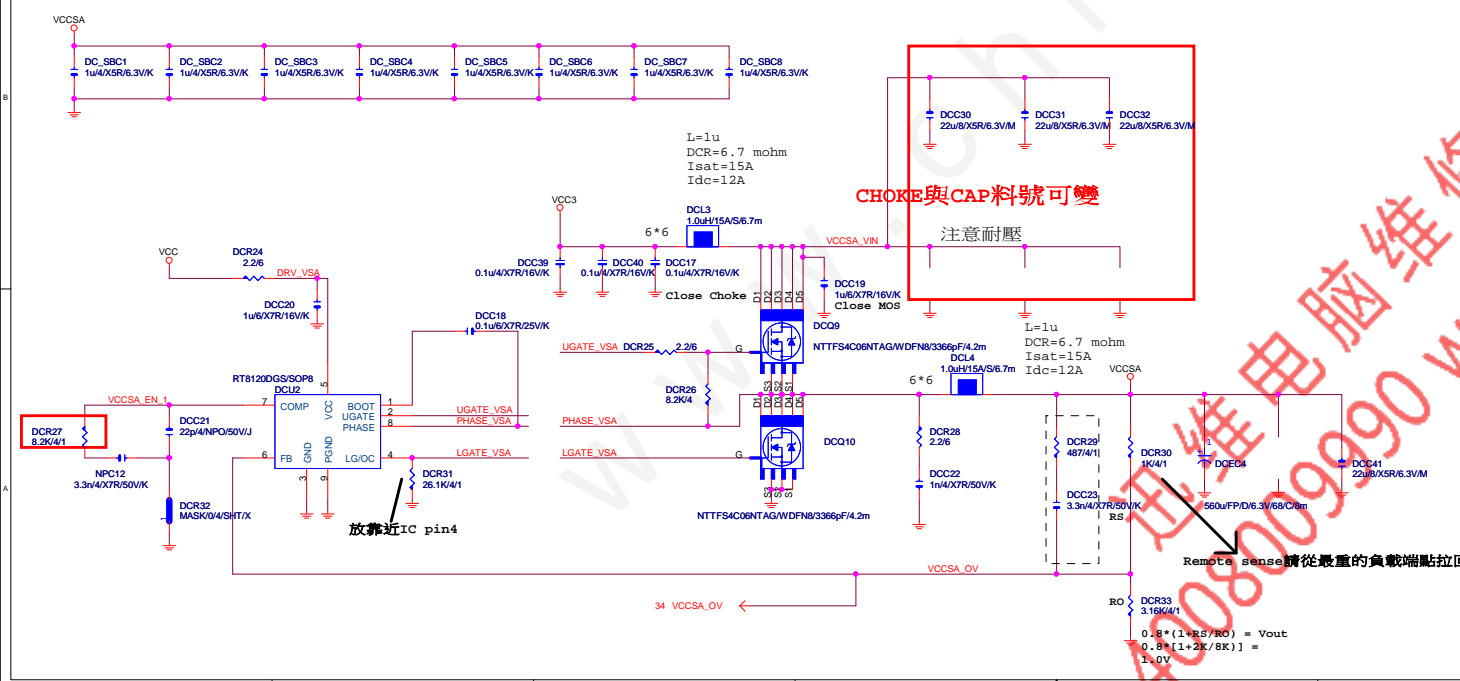
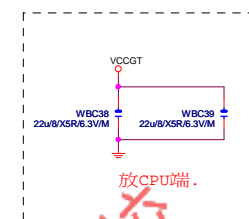
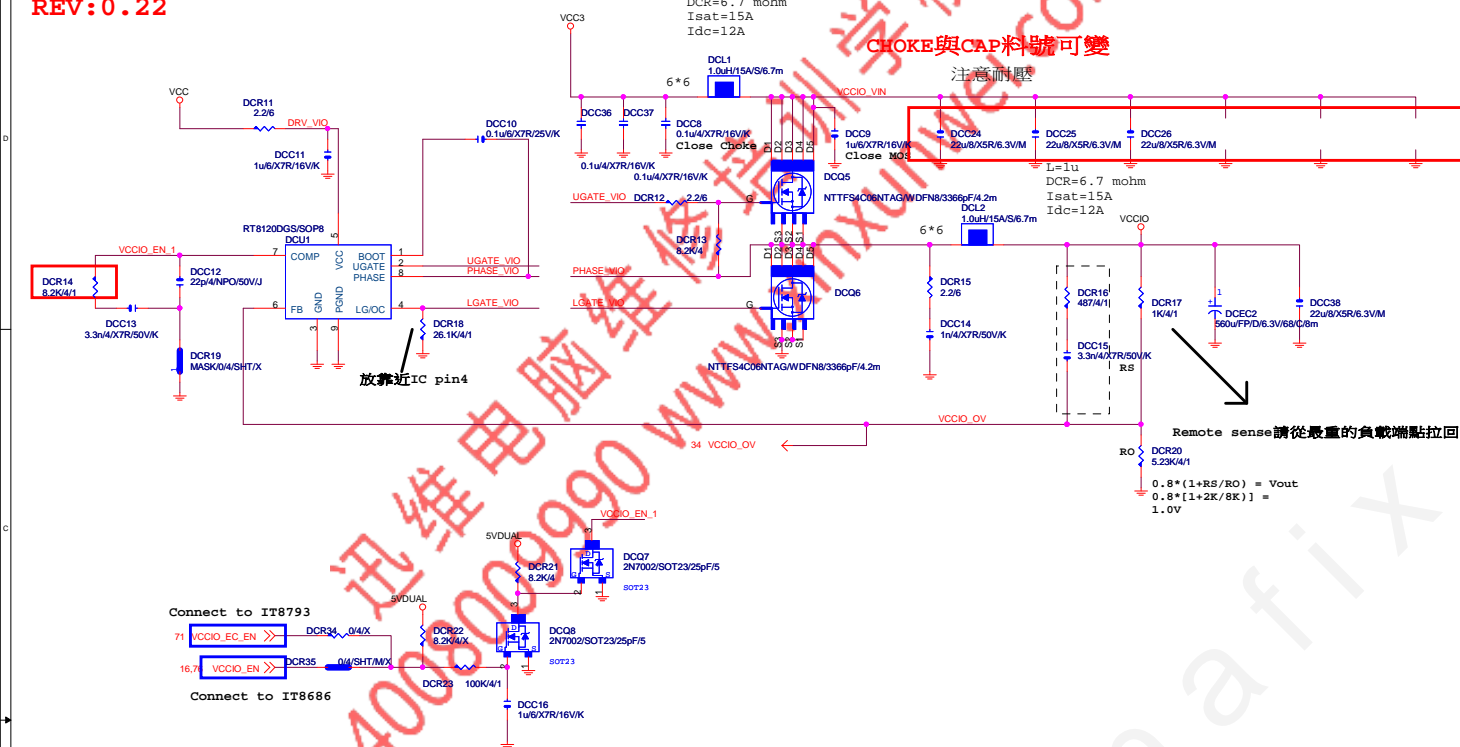
Title			
ISL95856_MOS			
Size	Document Number	Rev	
Custom	GA-Z270X-GAMING K7	1.01	
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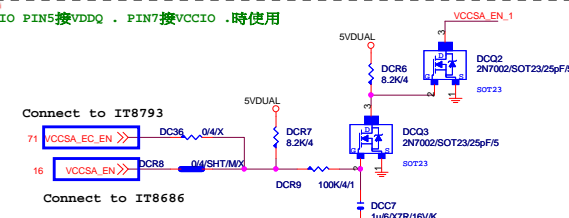


REV: 0.22



SIO PIN5 . PIN7 用在其他function時使用

SIO PIN5接VDDQ . PIN7接VCCIO .時使用

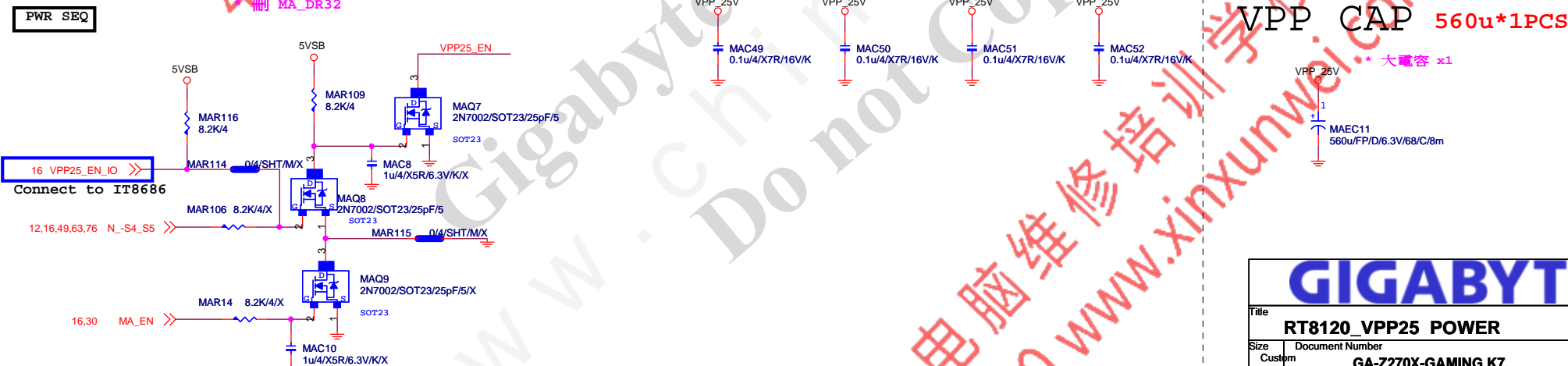
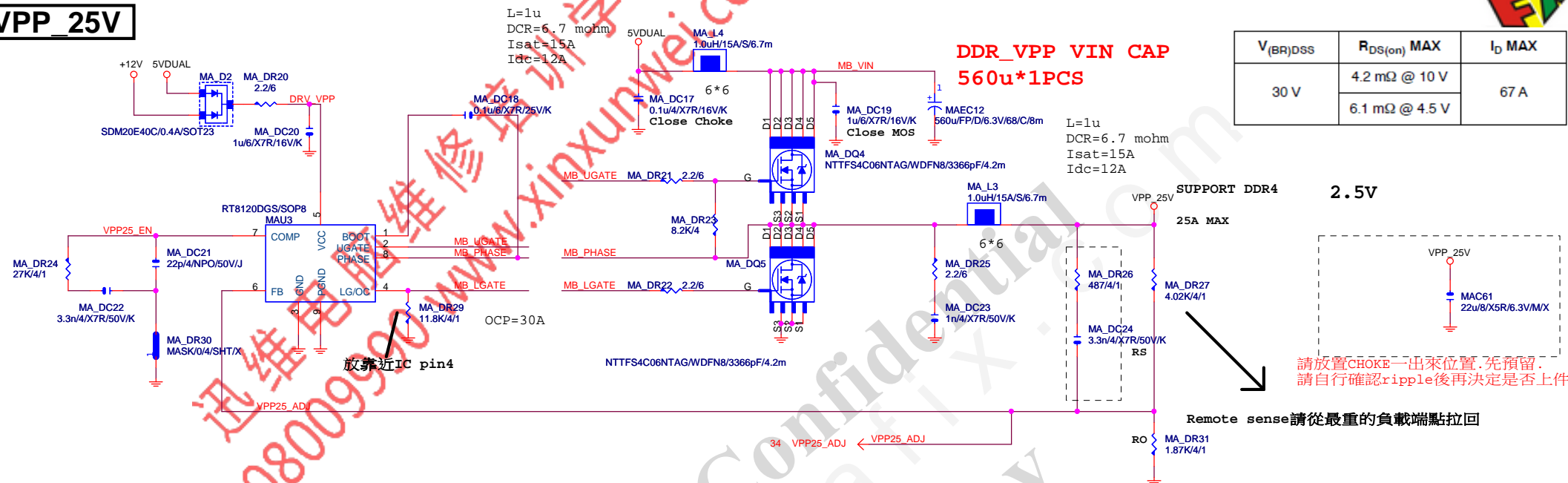




**GIGABYTE™**



**VPP\_25V**



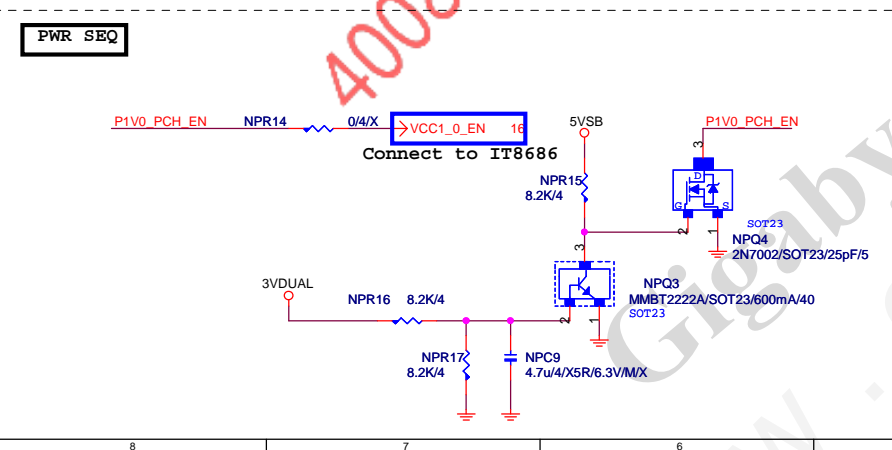
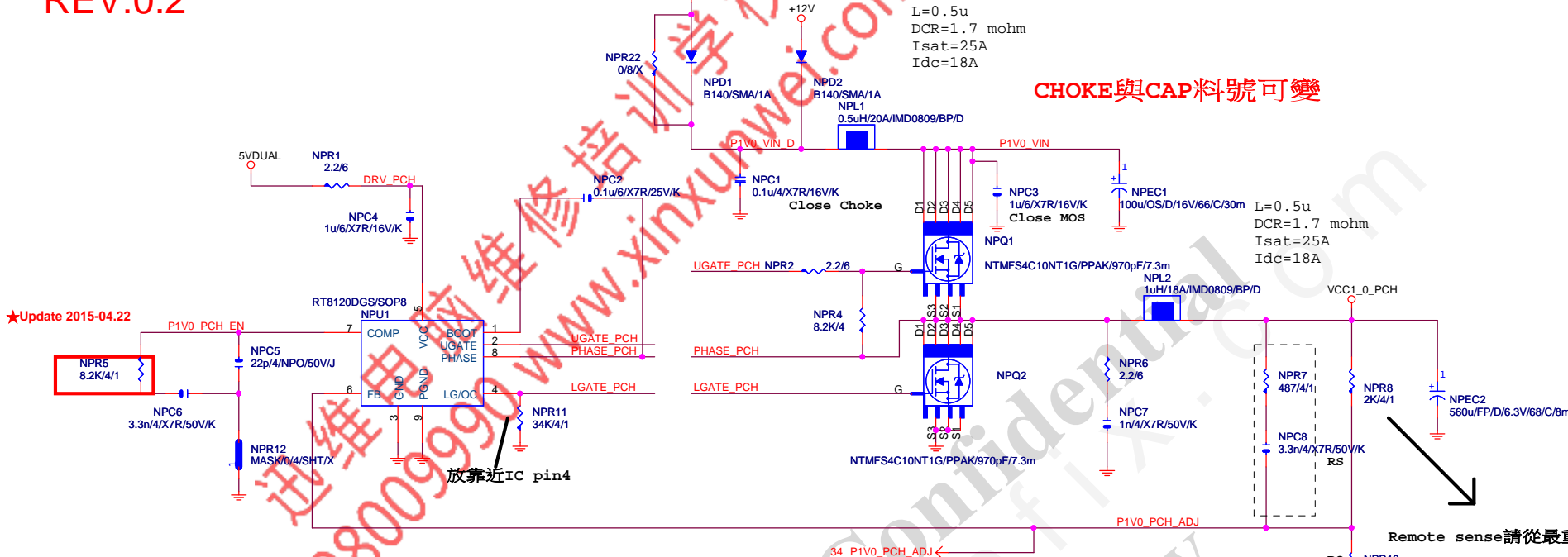
# GIGABYTE™

Title				<b>RT8120_VPP25 POWER</b>			
Size		Document Number				Rev	
Custom		<b>GA-Z270X-GAMING K7</b>				<b>1.01</b>	
Date: Tuesday, November 15, 2016				Sheet 31 of 76			



REV:0.2

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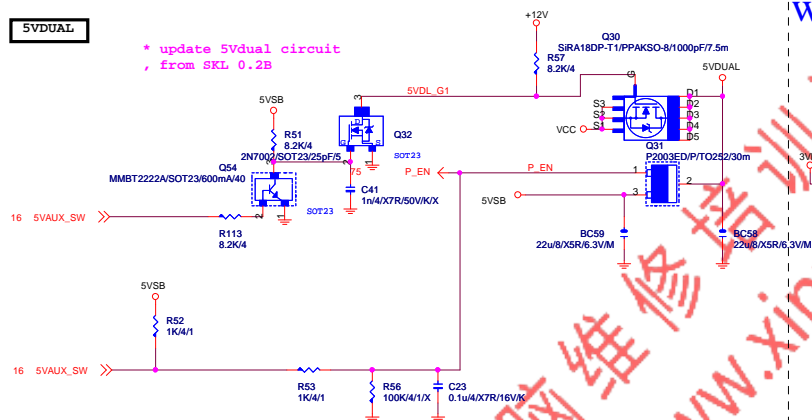


GIGABYTE™			
Title			
RT8120_PCH POWER			
Size	Document Number	Rev	
Custom	GA-Z270X-GAMING K7	1.01	
Date:	Tuesday, November 15, 2016	Sheet	32 of 76

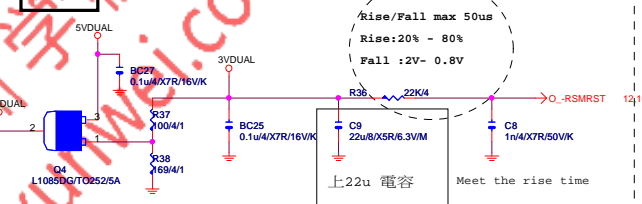


# 5VDUAL

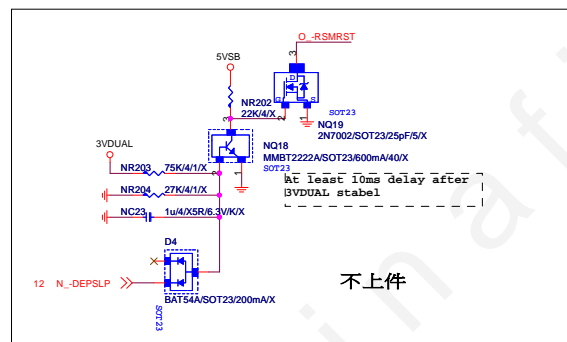
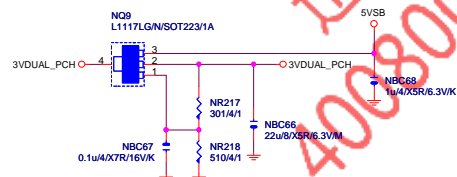
\* update 5VDual circuit  
from SKL 0.2B



# 3VDUAL



# 3VDUAL\_PCH



不上件

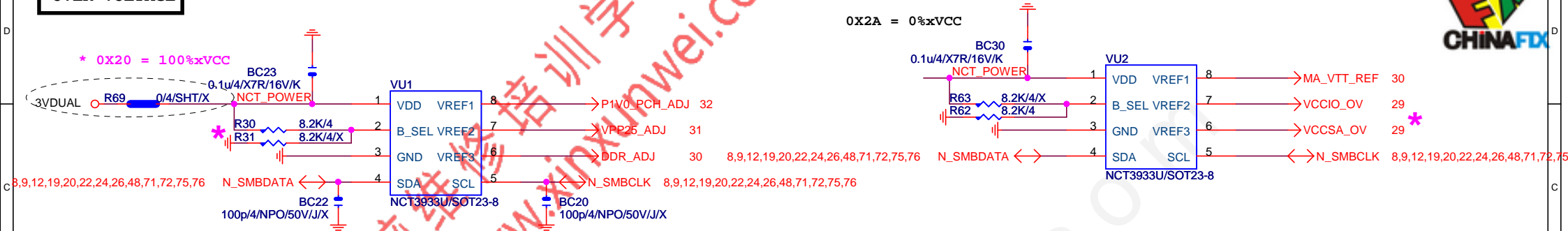
Gigabyte Technology

Title		DISCRETE POWER	
Size	Document Number	GA-Z270X-GAMING K7	
Custom		Rev 1.01	
Date:	Tuesday, November 15, 2016	Sheet	33 of 76





## OVER VOLTAGE

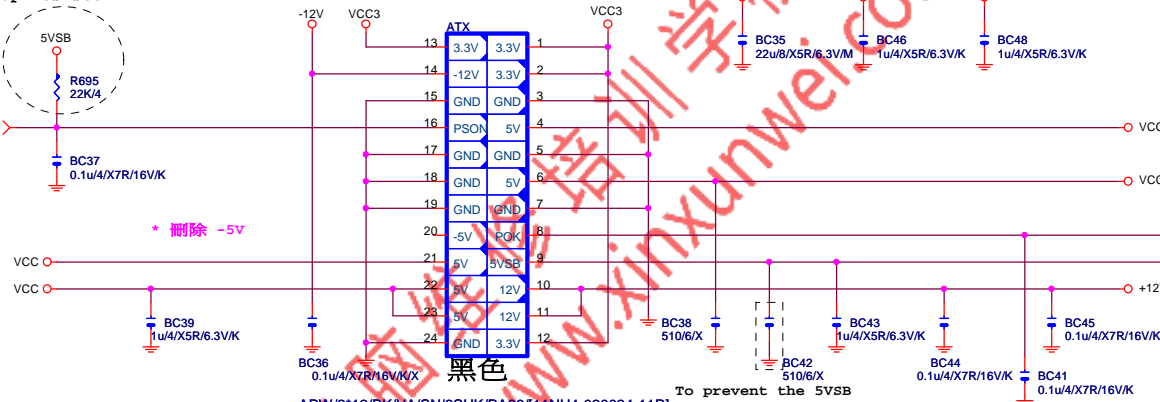


NCT3933	0X2A	0X20	0X22
VREF1	DDRVTT	VREF_DDRA_DQ	PCH Core
VREF2	VREF_DDRA_CA	N/A	VCC1_5_PCH
VREF3	VREF_DDRA_CA	VREF_DDRB_DQ	SMREF

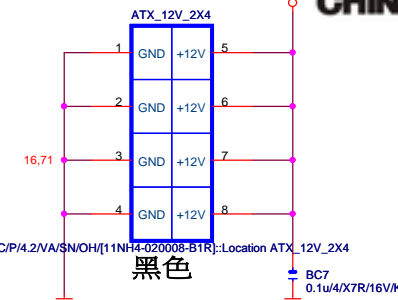
Gigabyte Technology		
CPU CORE VR-2		
Size	Document Number	Rev
Custom	GA-Z270X-GAMING K7	1.01
Date:	Tuesday, November 15, 2016	Sheet 34 of 76



## ATXX4 POWER CONNECTOR

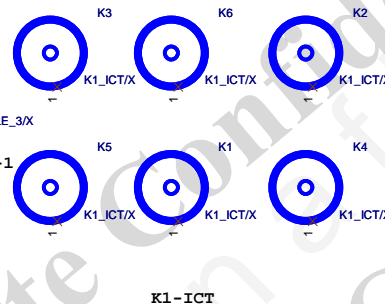
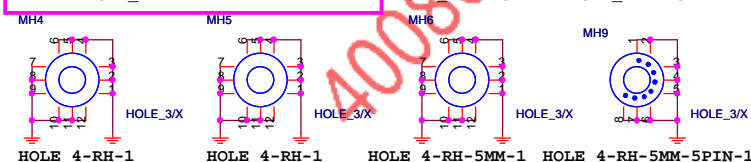
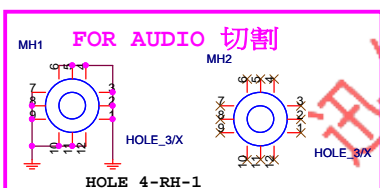
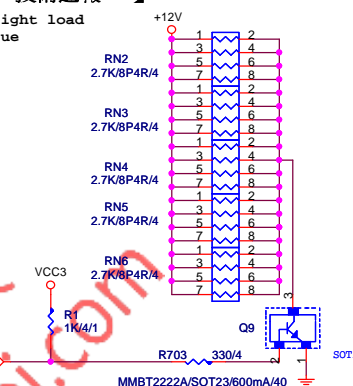


APW/2\*12/BK/VA/SN/2SHK/PA66/[11NH4-020024-11R]



【技術通報R&amp;D技術通報153】

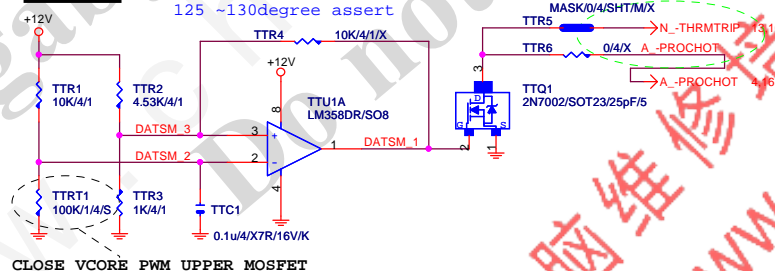
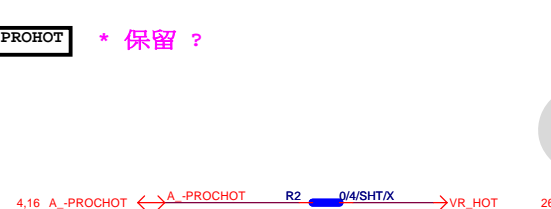
To fix 12V light load  
abnromal issue



**-PROHOT**

OTP:130度 / PCB THERMAL TRIP:128 度

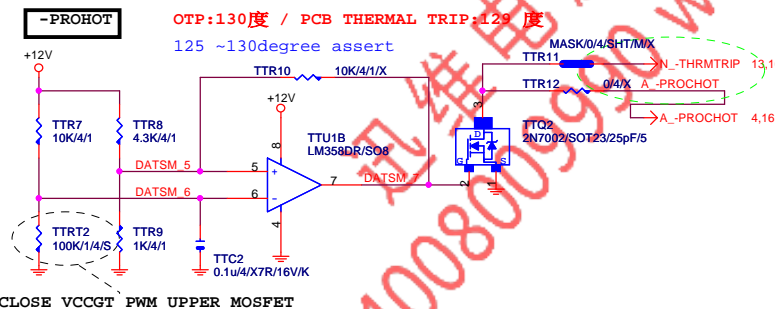
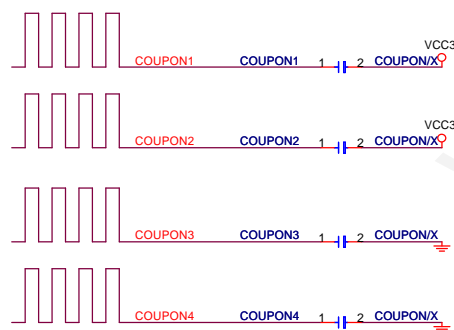
125 ~130degree assert



**-PROHOT**

OTP:130度 / PCB THERMAL TRIP:129 度

125 ~130degree assert



## Gigabyte Technology

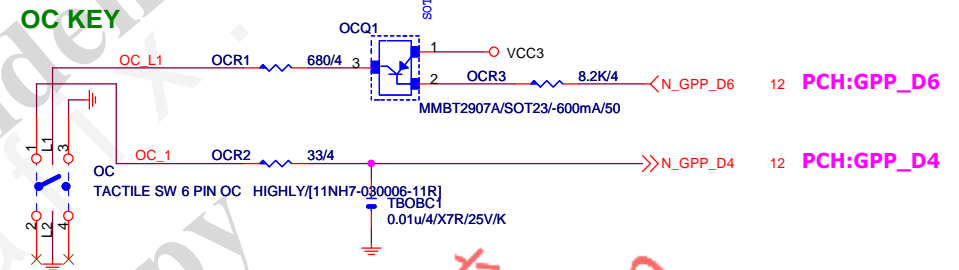
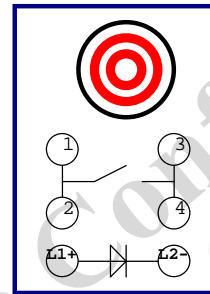
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<b>ATX POWER CONNECTOR</b>			
Size Custom	Document Number	<b>GA-Z270X-GAMING K7</b>	Rev <b>1.0</b>
Date:	Tuesday, November 15, 2016	Sheet 35 of 76	



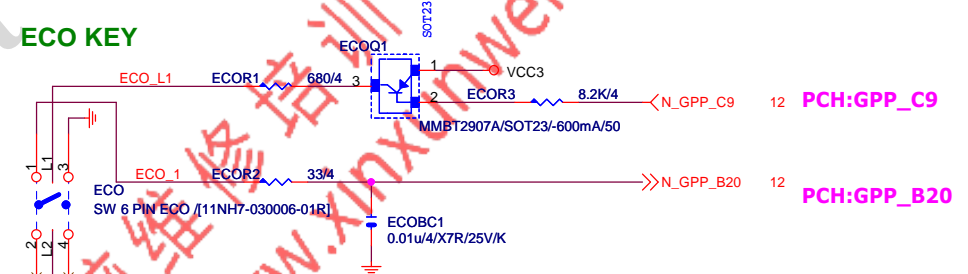
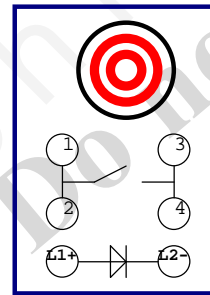




"OC\_LED" 1X2pin only for Z270X-GAMING 7



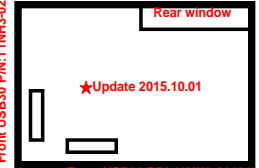
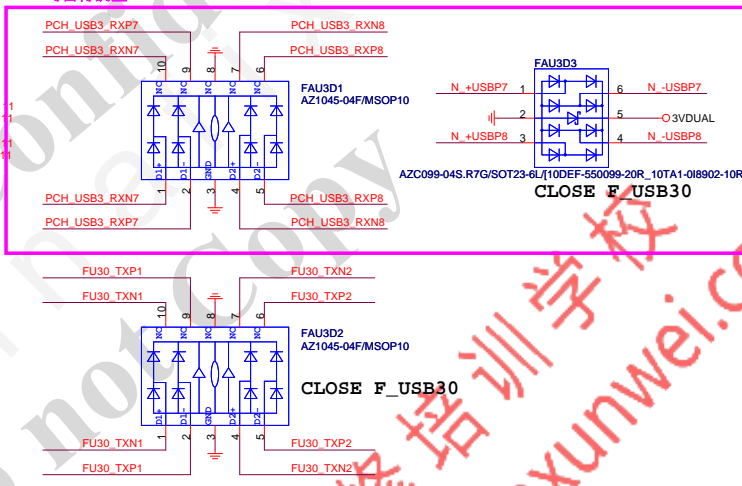
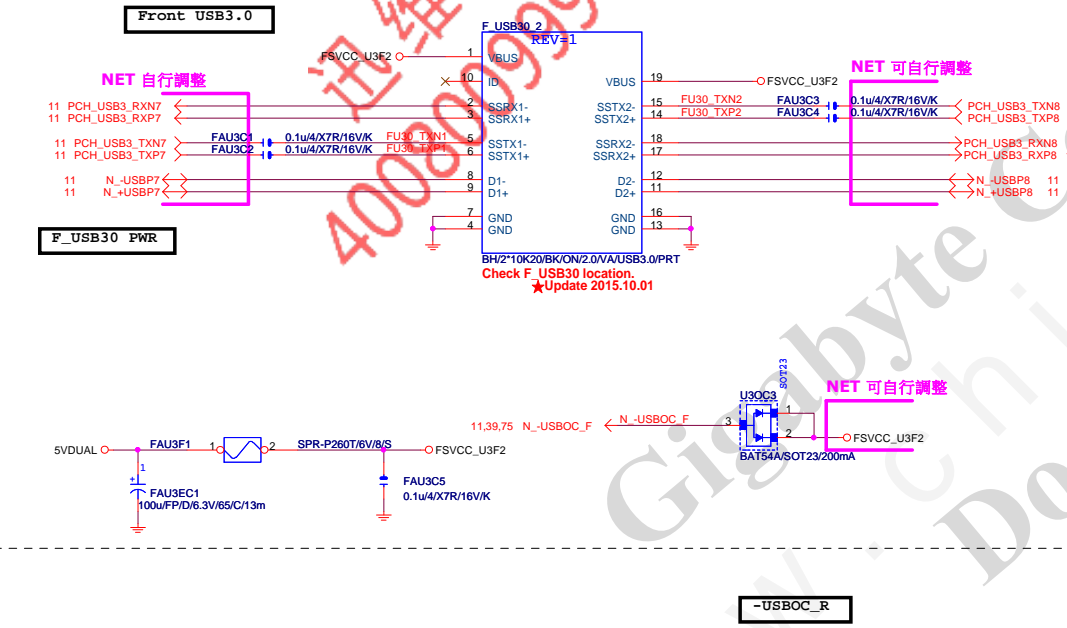
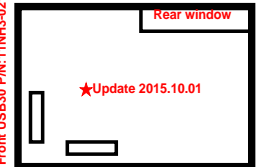
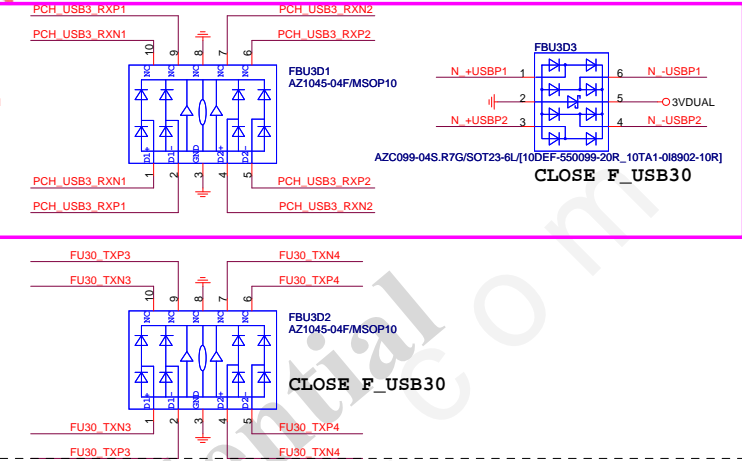
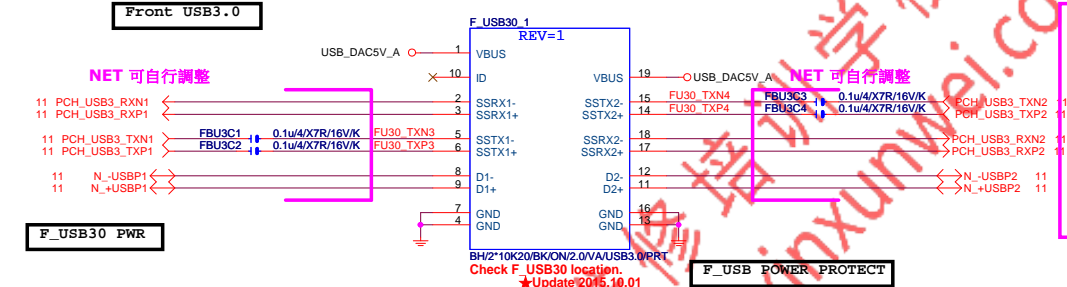
"OC\_BT" 1X2pin only for Z270X-GAMING 7



**Gigabyte Technology**

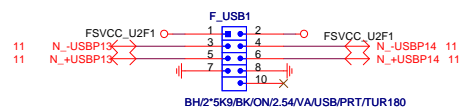
Title			
OC BUTTOM			
Size	Document Number	GA-Z270X-GAMING K7	
Custom		Rev 1.01	
Date:	Tuesday, November 15, 2016	Sheet	37 of 76



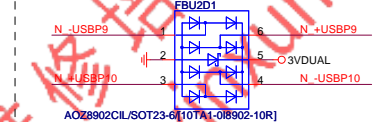
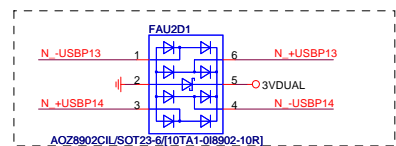
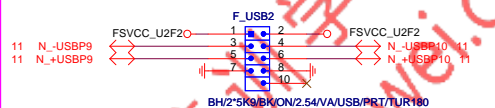




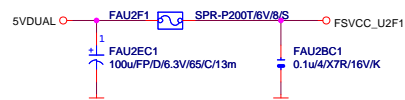
NET 可變



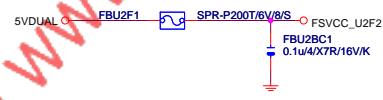
NET 可變



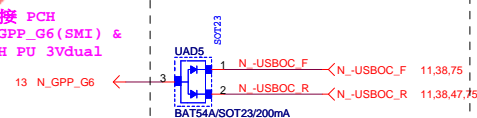
Close to connector  
FUSE 2 Port 1 Fuse 2A



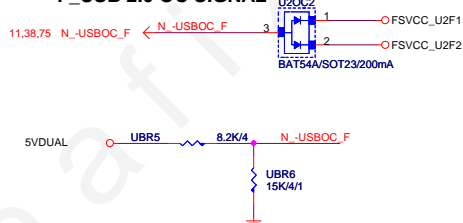
Close to connector  
FUSE 2 Port 1 Fuse 2A



\* 接 PCH  
N\_GPP\_G6(SMI) &  
PCH PU 3Vdual



F\_USB 2.0 OC SIGNAL







Gigabyte Technology		
Title		
KB_MS_USB3, R_USB30		
Size	Document Number	Rev
Custom	GA-Z270X-GAMING K7	1.01
Date	Friday, November 11, 2016	Sheet 40 of 76



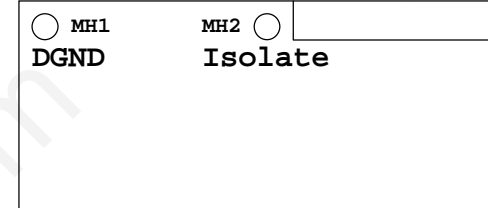
## ALC1220 5H+1S+AMP

LAYOUT注意:螺絲孔下GND方式

1. MH1下DGND
2. MH2一律改為Isolate



Default不上,如因layout  
空間問題,可移除



LAYOUT注意:是否要加?  
AGND切割線

音效區域印刷



Analog

Digital

Spilt by DGND

## BOM OPTION :

## 1. AUDIO CONNECT

不銹鋼料號:11NR6-403025-A2R

鍍金料號:11NR6-403025-92R

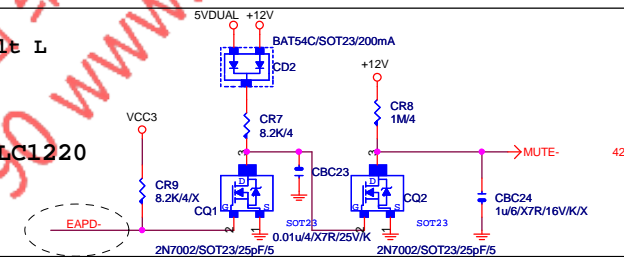
## 2. AUDIO CAP

Nichicon MW音效電容 : 11CE1-651000-12R

Chemicon 音效電容 : 11CE2-651000-05R

EAPD: Default L  
H : ON  
L : OFF

Close to ALC1220

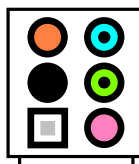
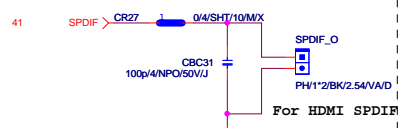


## Gigabyte Technology

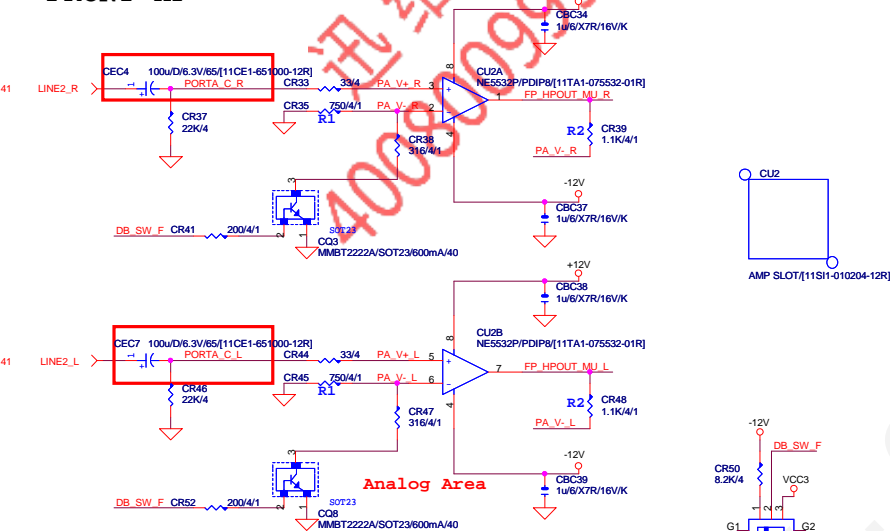
Title		
ALC1220		
Size	Document Number	Rev
Custom	GA-Z270X-GAMING K7	1.01
Date:	Tuesday, November 15, 2016	Sheet 41 of 76



**AZALIA JACK**

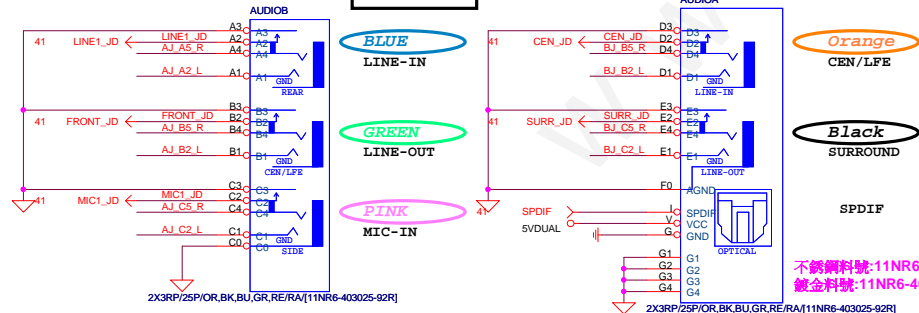
**SPDIF\_OUT**

FRONT HP



**AMPLIFIED** OP AMP. Rate =  $(R2/R1)+1$

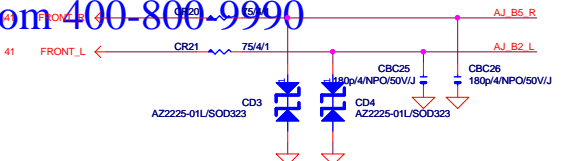
**AZALIA JACK**



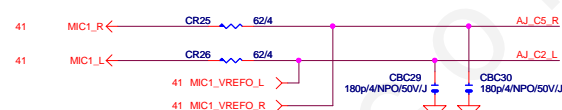
不銹鋼料號:11NR6-403025-A2R  
鍍金料號:11NR6-403025-92R

/RA/11NR6-403025-92R)

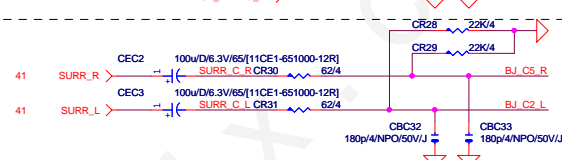
**LINE-IN**



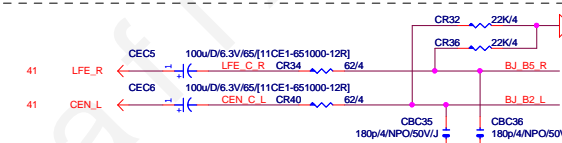
## MIC-IN



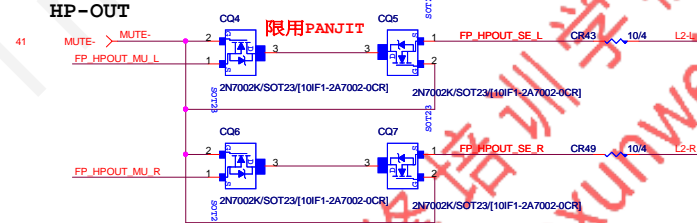
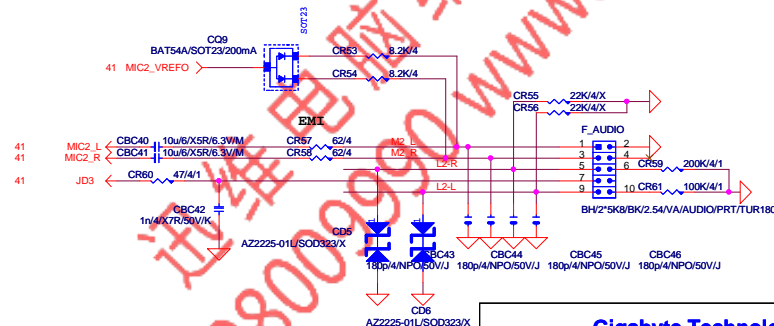
**SURROUND**



## CEN/LFE



Mute  
HP-OUT

**AZALIA FRONT PANE**

## Gigabyte Technology

Title			
AUDIO JACK			
Size	Document Number		Rev
Custom		GA-Z270X-GAMING K7	1.01
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GIGABYTE™		
Title Renesas uPD720210_1		
Size Custom	Document Number GA-Z270X-GAMING K7	Rev 1.01
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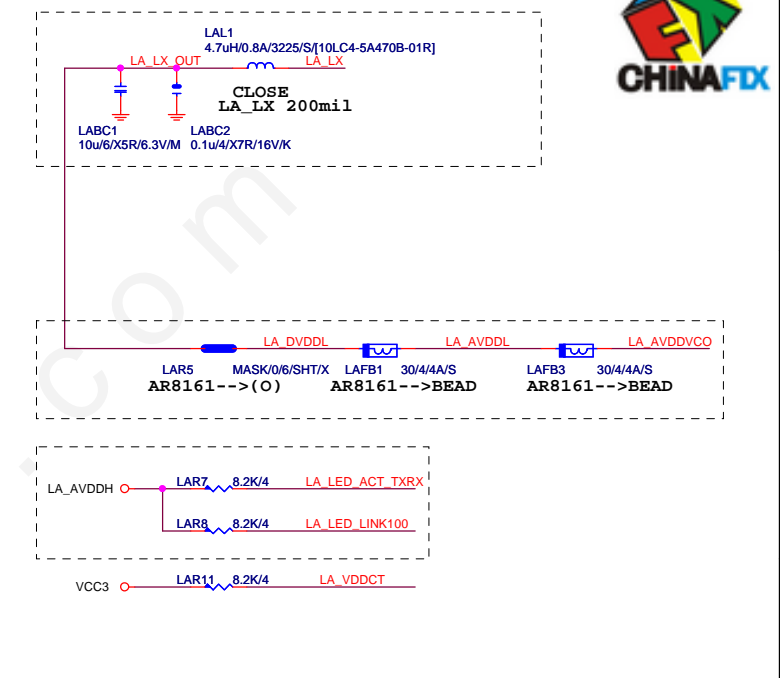
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GIGABYTE™		
Title Renesas uPD720210_1		
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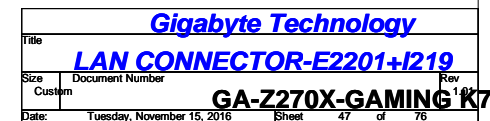
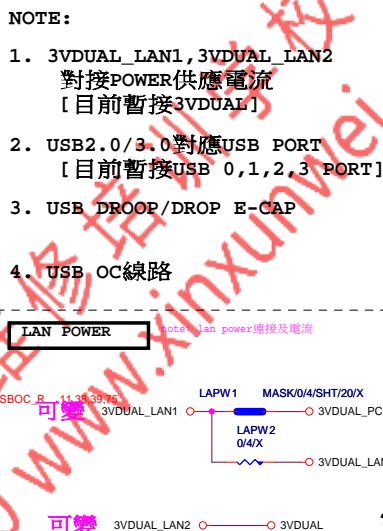
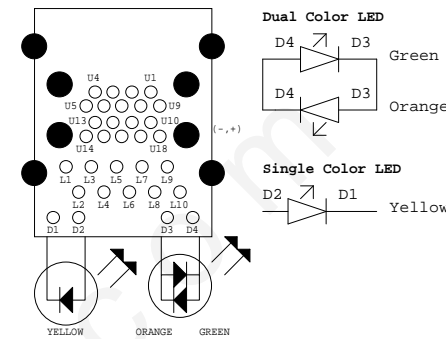


<p align="center"><b>Gigabyte Technology</b></p> <p align="center"><b>DUAL LAN~ E2201+I219</b></p>			
<p>Title</p>			
Size	Document Number	Rev	
Custom		1.01	
<p align="center"><b>GA-Z270X-GAMING K7</b></p>			
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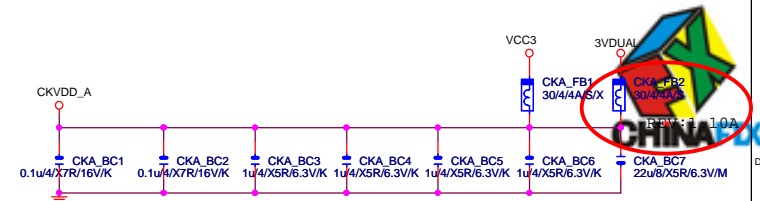




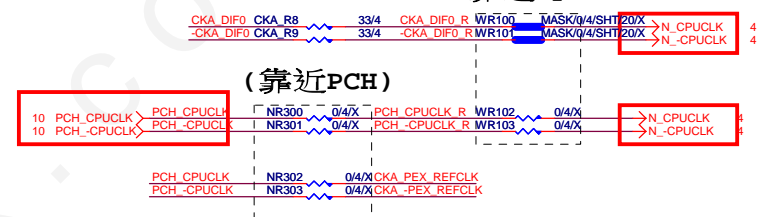






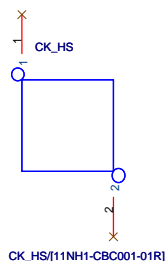
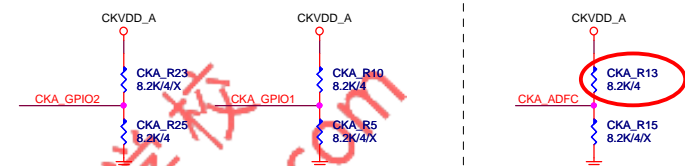


(靠近cpu)

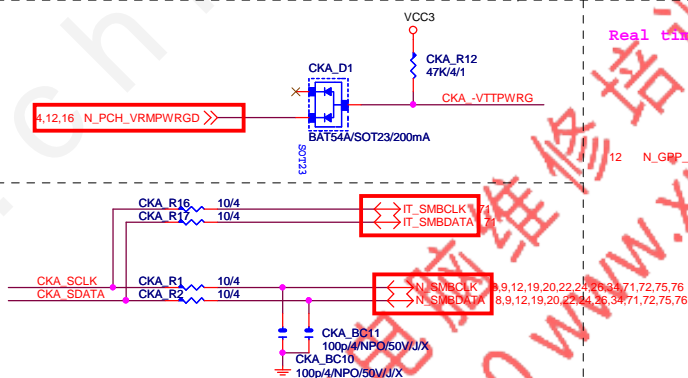


### CPU Frequency Selection and output Divider Table

B53b1(FS1)	B53b0(FS0)	VCO (MHz)	CPU Divider	CPU (MHz)	Typ SS%	Typ SS ON/OFF
0	0	200.00	2.00	100.00	-	OFF
0	1	400.00	4.00	100.00	-	OFF
1	0	1000.00	10.00	100.00	-0.50%	ON
1	1	100.00	1.00	100.00	-	OFF

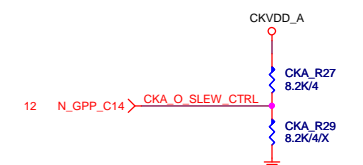


\*可變，依需求上件不上件。



### Real time selection function

### Frequency change slew rate control



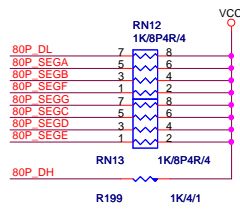
# GIGABYTE™

Title	IDT6V41530 CLK BUFFER
-------	-----------------------

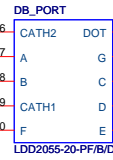
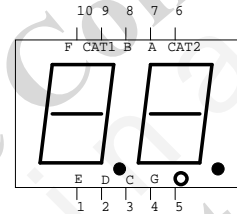
Size Custom	Document Number <b>GA-Z270X-GAMING K7</b>	Rev <b>1.01</b>
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## 80 PORT

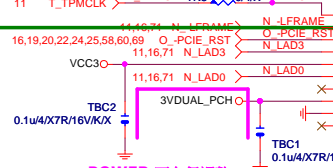


COMMON CATHODE

Physical Package  
(TOP VIEW)

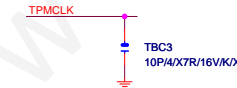
## TPM CONNECT

16 O\_TPMCLK → O\_TPMCLKTR2 → MASK0/4/SHT20/X  
11 T\_TPMCLK → T\_TPMCLKTR3 → 0/4/X → TPMCLK



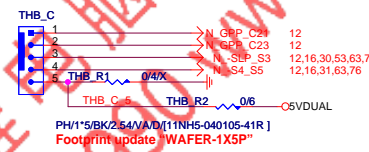
POWER 可自行調整

★Update 2015-06.11



## Thunderbolt

★Update 2015-12-29



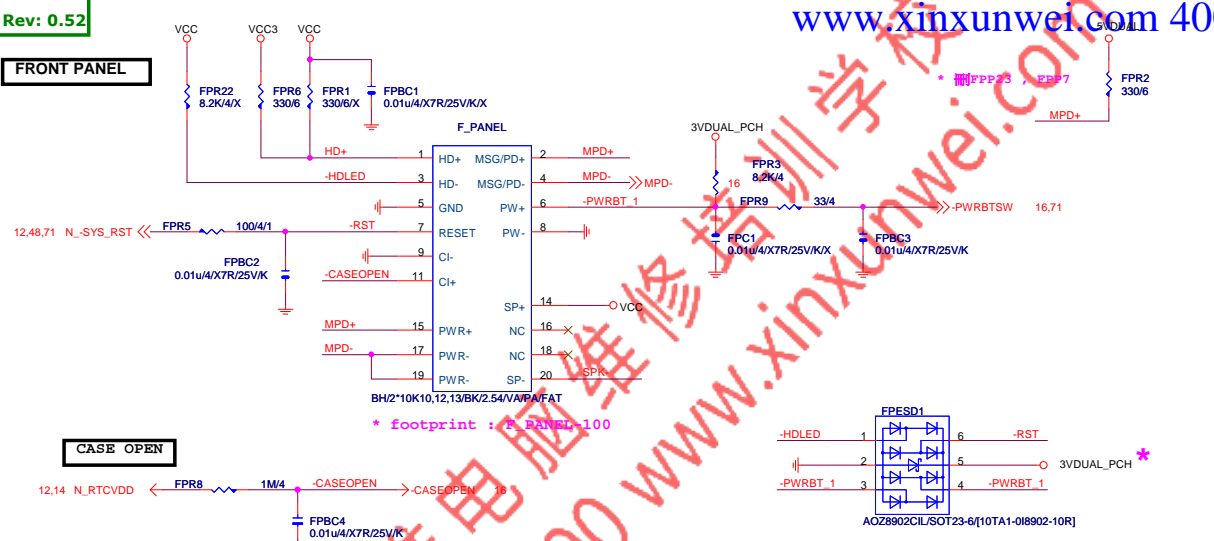
Gigabyte Technology

Title		FP,F_USB,USB PWR,BZ	
Size	Document Number	GA-Z270X-GAMING K7	
Custom		R1.07	
Date:	Tuesday, November 15, 2016	Sheet	49 of 76

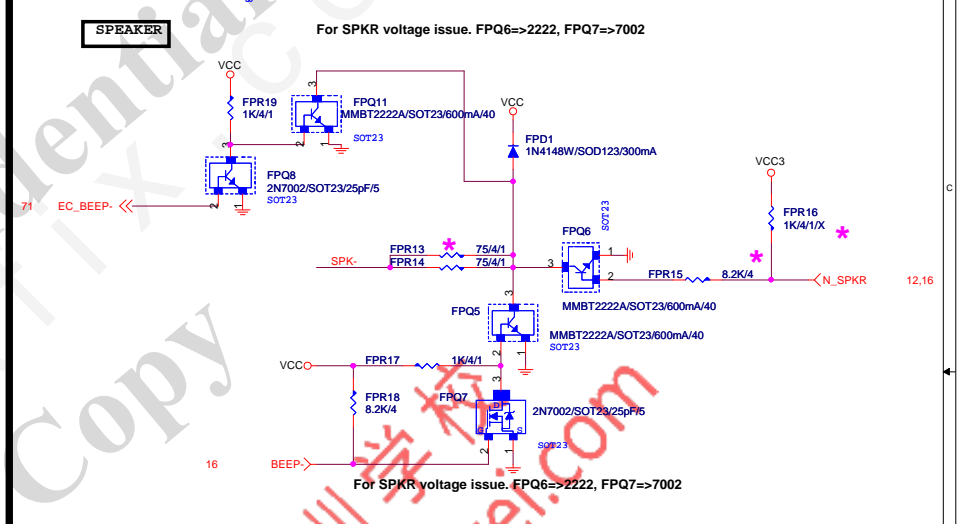
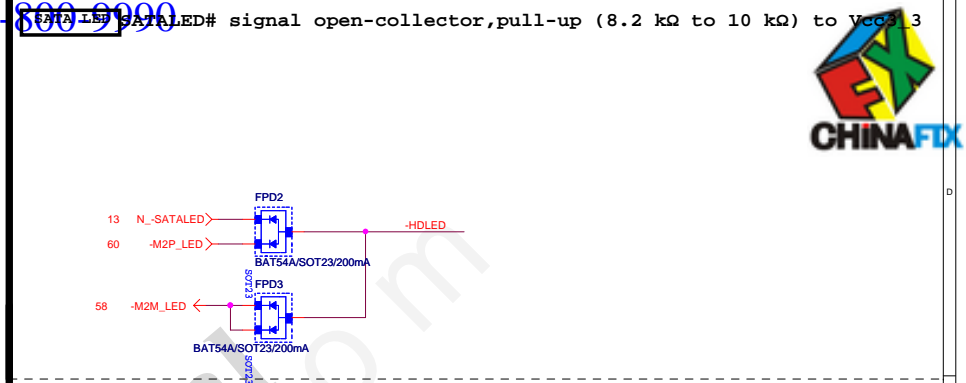
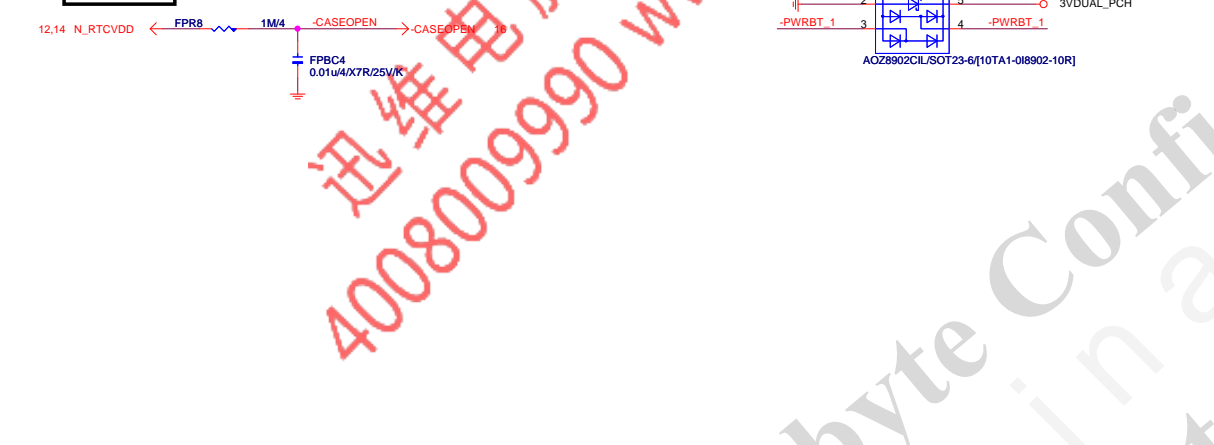




FRONT PANEL



CASE OPEN





Color markers can be changed by model

**Base on ASM2142 0.1 Reference SCH**

Change to 0402

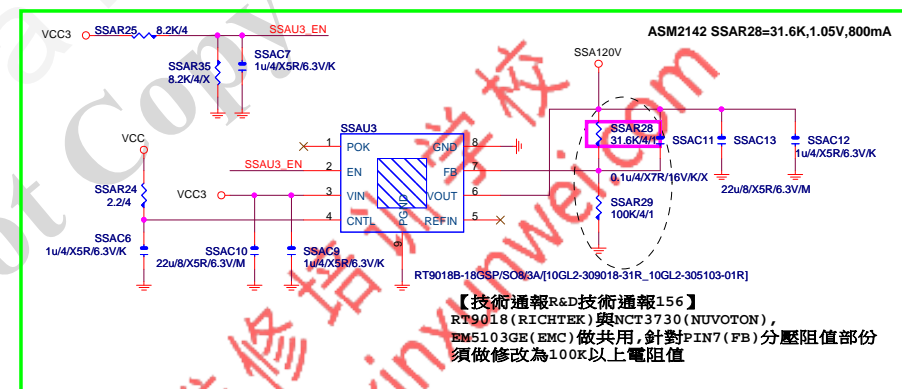
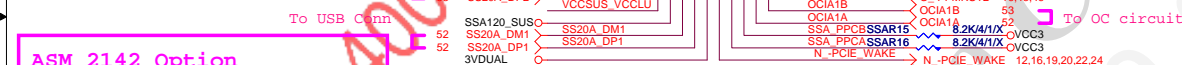
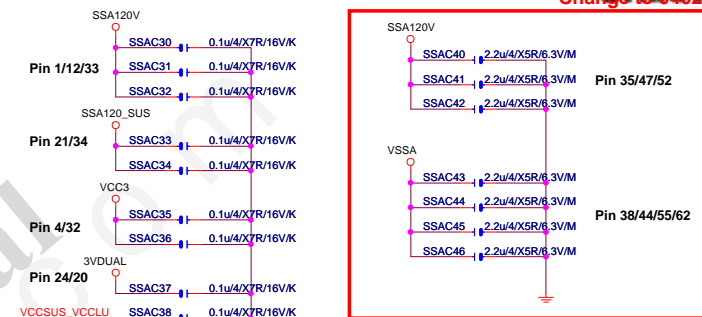
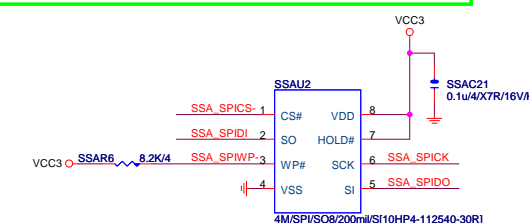
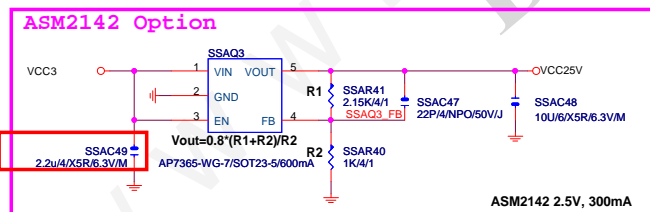



Figure 10 shows the pinmux configuration for SPI0. The configurations are as follows:


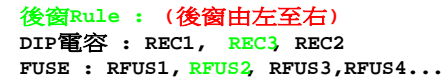
- SSAR18 (SSA\_REXT):** 12.1K/4/1
- SSAR36 (SSA\_SMI-):** 8.2K/4
- SSAR27 (SSA\_SPICK) and SSAR33 (SSA\_4/1/X):** 8.2K/4
- SSAR4 (SSA\_UARTR) and SSAR3 (SSA\_4/1/X):** 8.2K/4

The configurations are grouped under two labels: **UART\_RX $\rightarrow$ CSEL1** and **SPI\_DO $\rightarrow$ CSEL0**.



				
Title				
<p align="center"><b>ASM2142</b></p>				
Size	Document Number			Rev
Custom	<b>GA-Z270X-GAMING K7</b>			<b>1.01</b>
Date:	Tuesday, November 15, 2016	Sheet	51 of	76



[illegible]

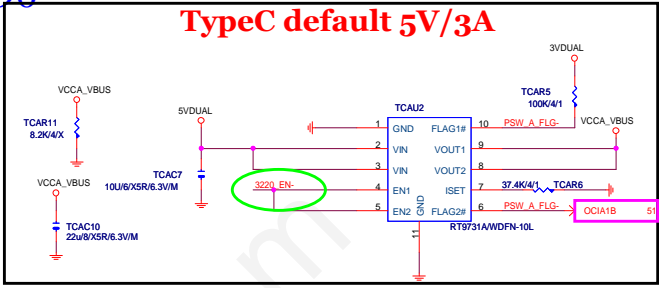
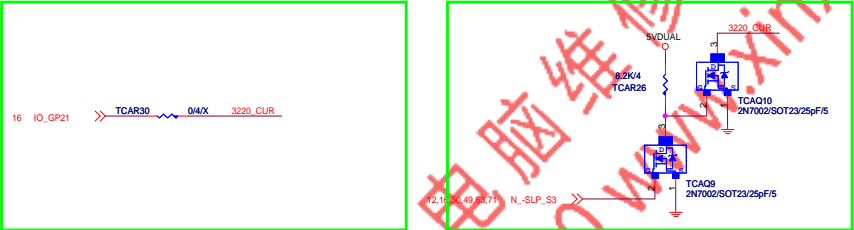




USB 3.x SuperSpeed

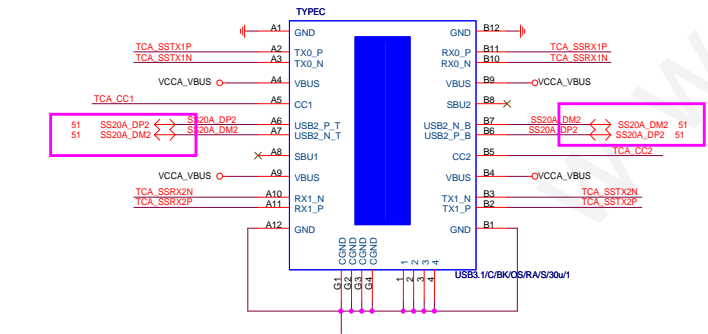


For VBUS current limit at 900mA on S3



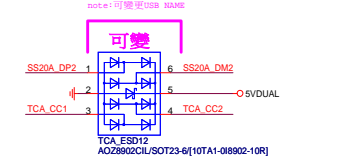
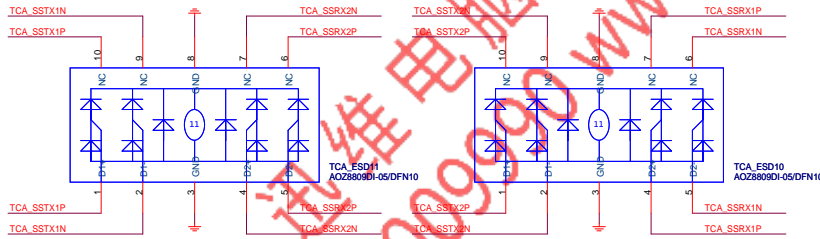
PORT  
H - HOST (DFP/SOURCE)  
L - Device (UFP/SINK)  
NC - Dual Role (DRP)

CURRENT MODE  
L - Default (900mA) / Pull down to GND or NC  
M - Medium (1.5A) / Pull up to VDD 500K  
H - High (3.0A) / Pull up to VDD 10K



USB2.0 can be used the same source

Color markers can be changed by model



GIGABYTE™		
Title		
TI HD3SS3212		
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GIGABYTE™		
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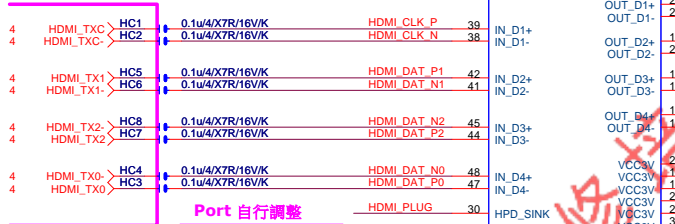
迅维电脑维修培训学校  
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GIGABYTE™		
Title Renesas uPD720210_1		
Size Custom	Document Number GA-Z270X-GAMING K7	Rev 1.01
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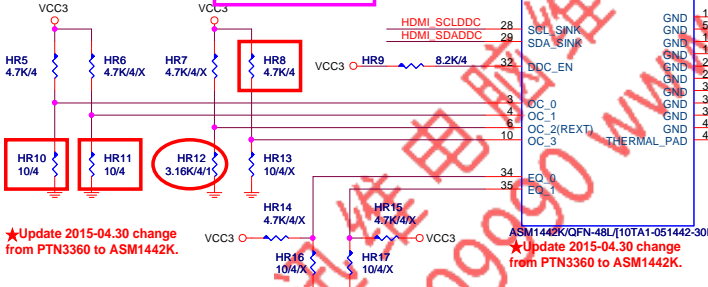
HDMI LEVEL SHIFT

NET 可變



Port 自行調整

10 N\_HDMI\_HDP\_F  
10 N\_DDPC\_CTRLCLK  
10 N\_DDPC\_CTRLDATA



★Update 2015-04.30 change from PTN3360 to ASM1442K.

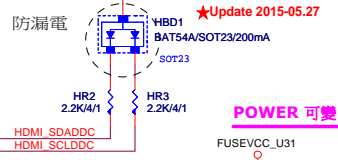
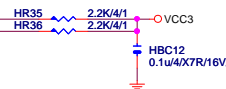
PTN3360:PIN 4/10/34/35 NC PIN,都不上值;只上HR12:10K  
ASM1442:紅色框要上,HR12:3.16K

【技術通報R&D技術通報150】

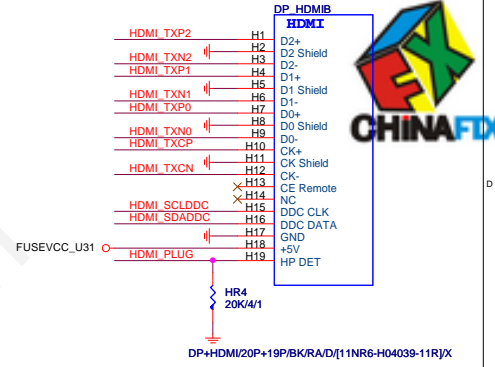
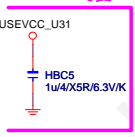
HDMI eye diagram 1.4版(deep color)會fail  
原因: 因目前的HDMI訊號過長,造成RISING TIME過慢,而會壓到eye diagram  
改善: ASMEDIA ASM1442 : 3.16K(PIN6 PULL DOWN電阻) 10ohm(PIN4 PULL DOWN電阻)

Port 自行調整

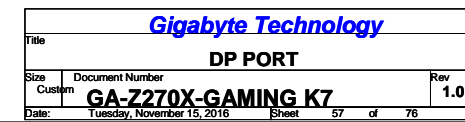
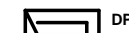
N\_DDPC\_CTRLCLK  
N\_DDPC\_CTRLDATA



POWER 可變

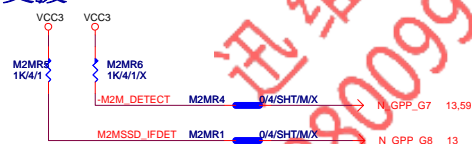
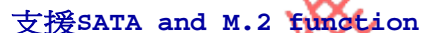








## M.2 Lane2 from PCH port23

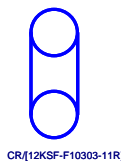


需與M2\_-CLKREQ對應

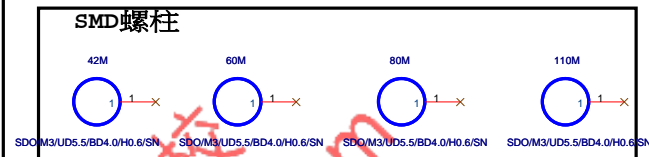
```
SATA : GND.
PCIE : HIGH
```

# 架高

DIP螺柱



## SMD螺柱

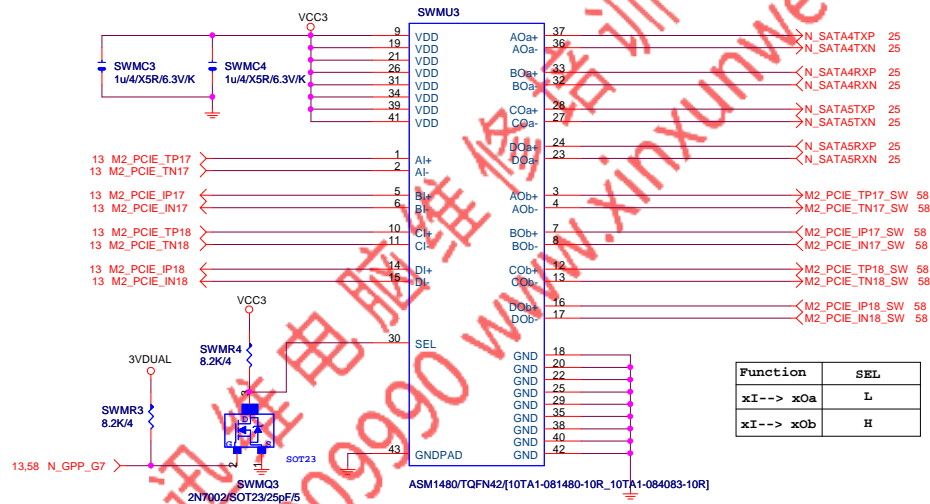


## DIP螺絲



Rev 0.1

(M) TYPE

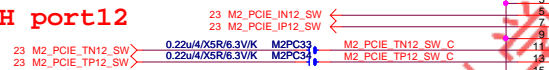


M.2 Detect N_GPP_G7	M.2 MODE N_GPP_G8	PCIE17	PCIE18	PCIE19	PCIE20
HIGH	X	切回 SATA4	切回 SATA5	N\A	N\A
LOW	HIGH(PCIE)	PCIEX4 FOR M.2(最優先)			
LOW	LOW(SATA)	SATA FOR M.2	N\A	N\A	N\A

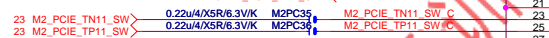
Gigabyte Technology			
M.2X4_S4~S5 SWITCH			
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Custom		Rev 1.01	
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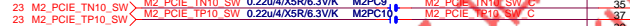
## M.2 Lane4 from PCH port12



## M.2 Lane3 from PCH port11



## M.2 Lane2 from PCH port10



## M.2 Lane2 from PCH port9



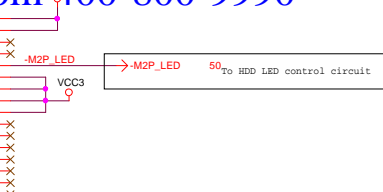
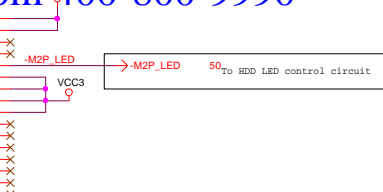
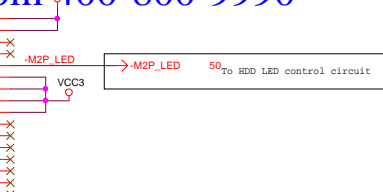
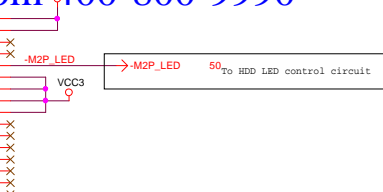
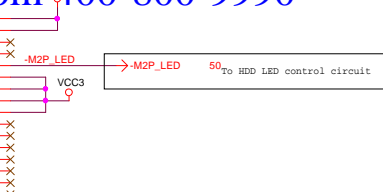
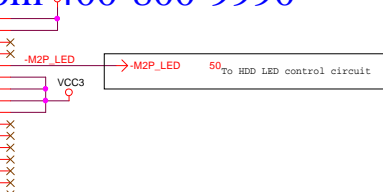
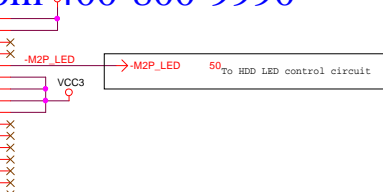
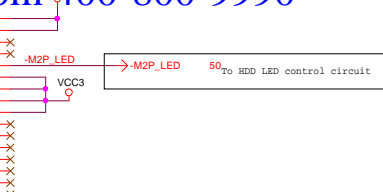
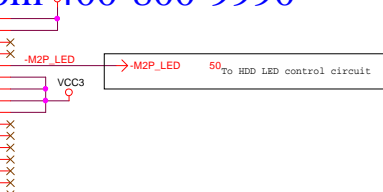
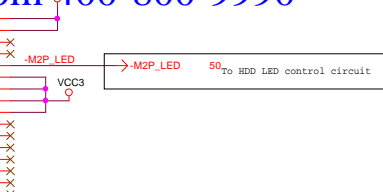
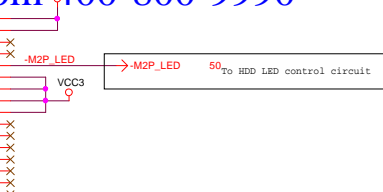
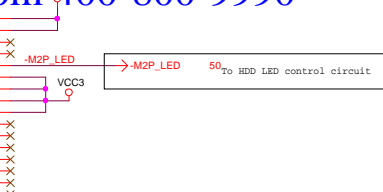
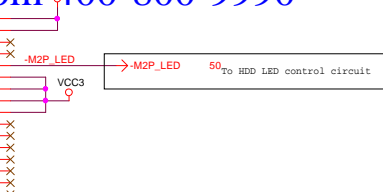
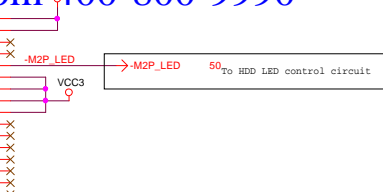
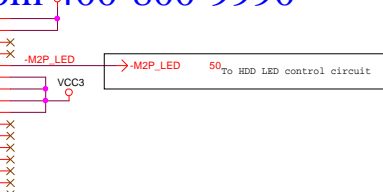
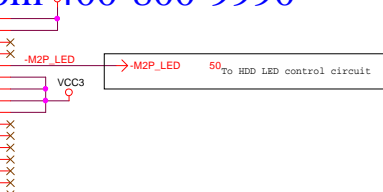
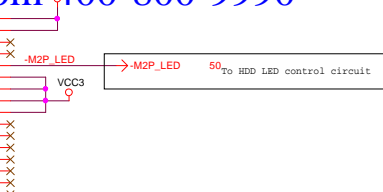
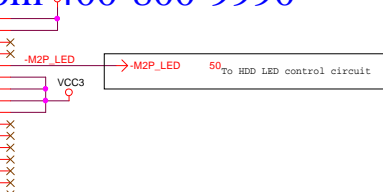
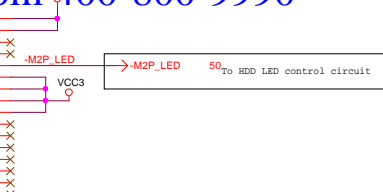
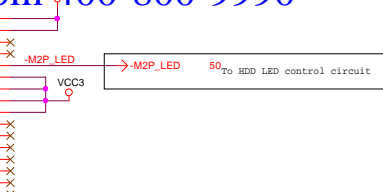
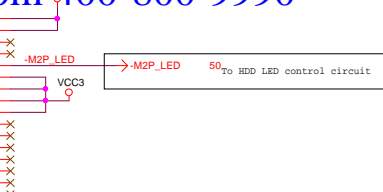
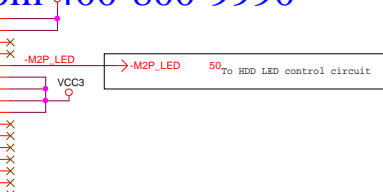
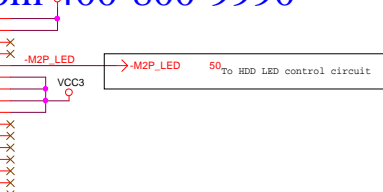
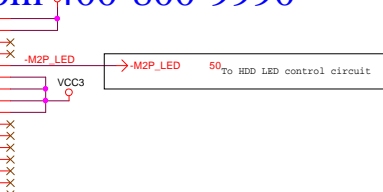
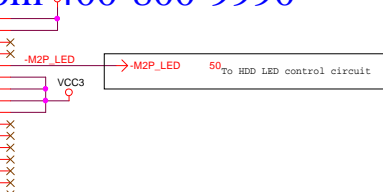
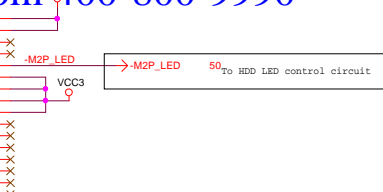
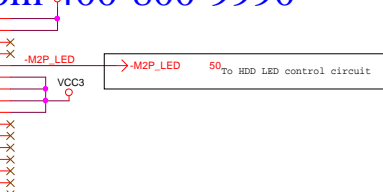
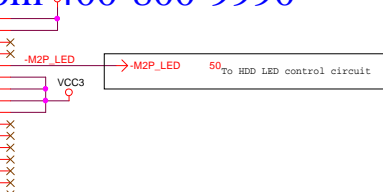
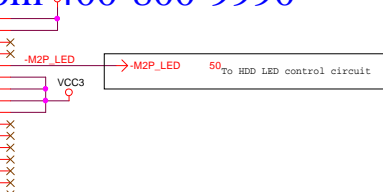
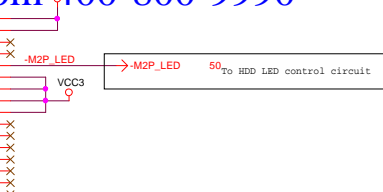
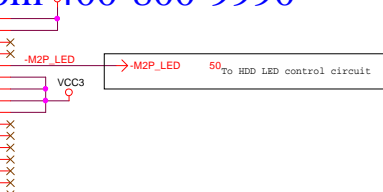
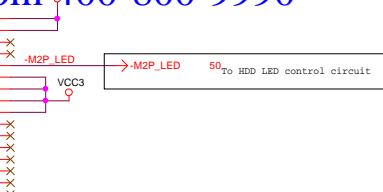
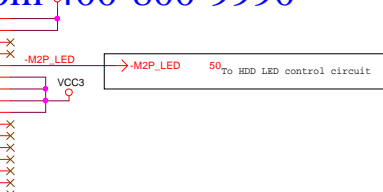
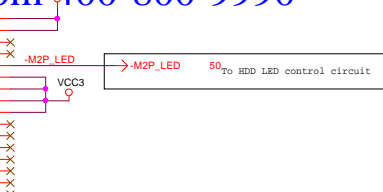
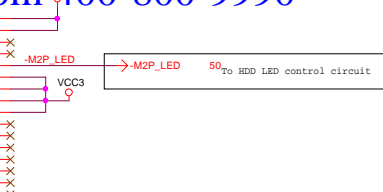
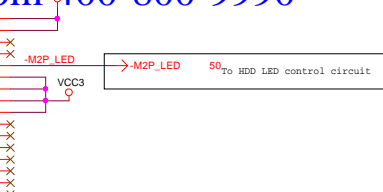
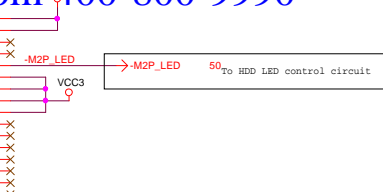
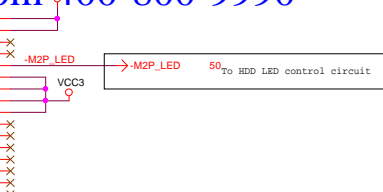
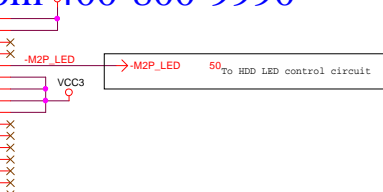
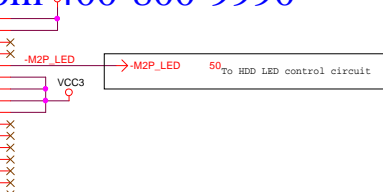
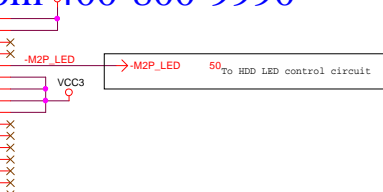
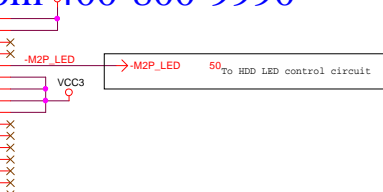
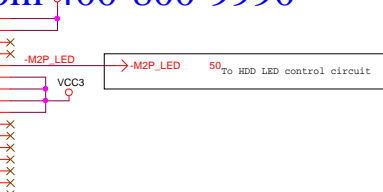
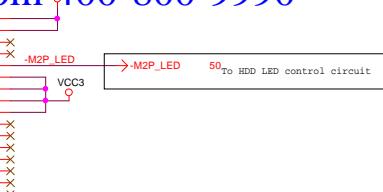
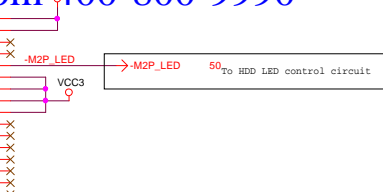
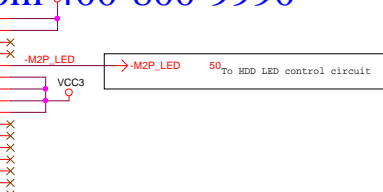
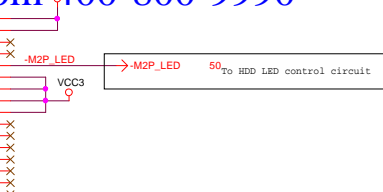
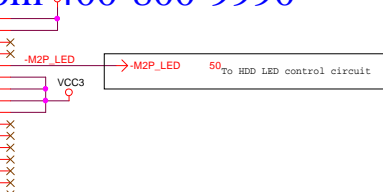
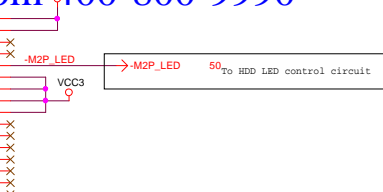
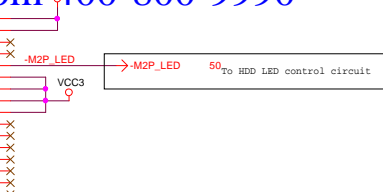
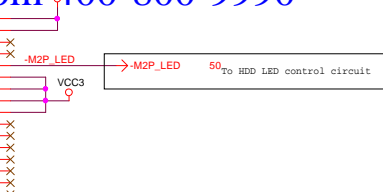
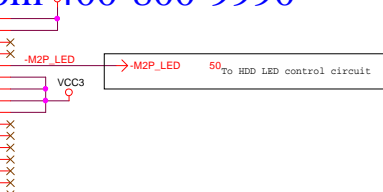
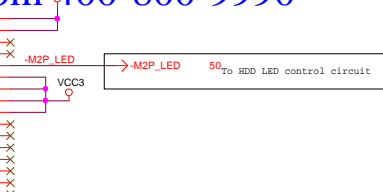
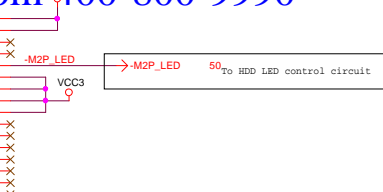
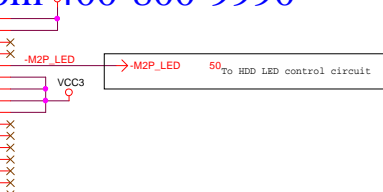
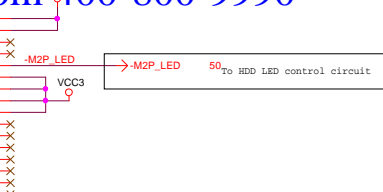
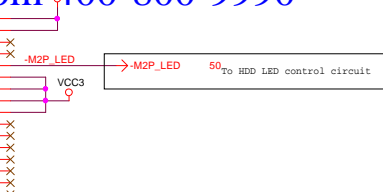
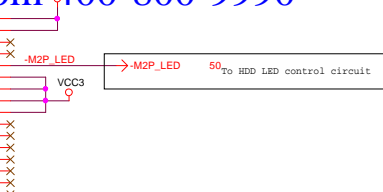
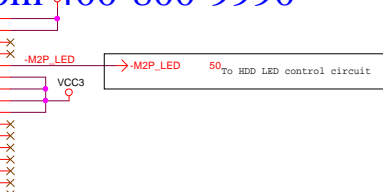
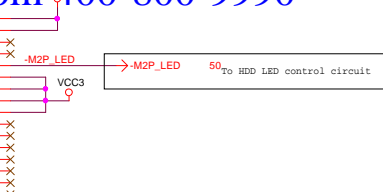
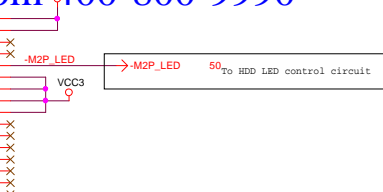
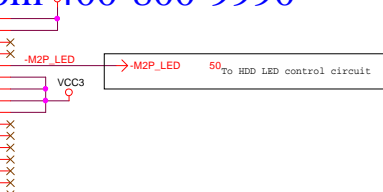
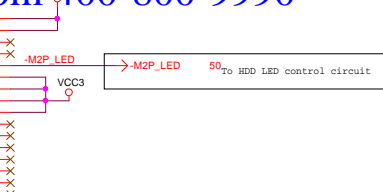
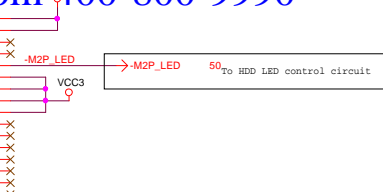
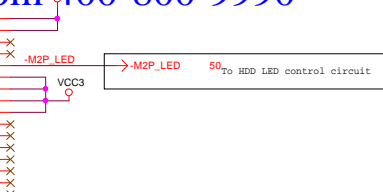
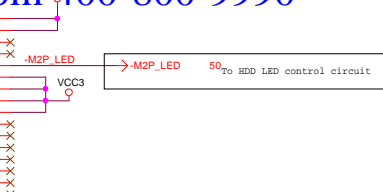
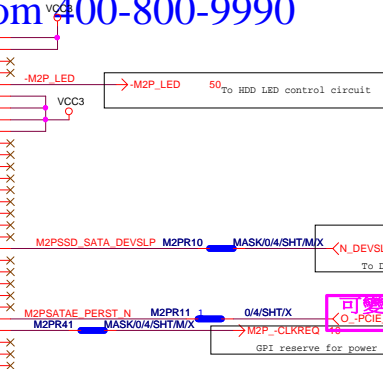
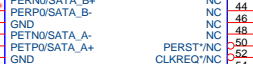
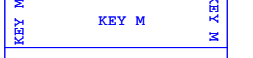
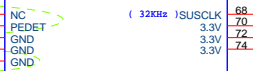
需與M2\_CLKREQ對應

## 支援SATA and M.2 function



架高

M2/67/BK/RA/S/H8.5mm/M KEY[10NR5-130067-52R]







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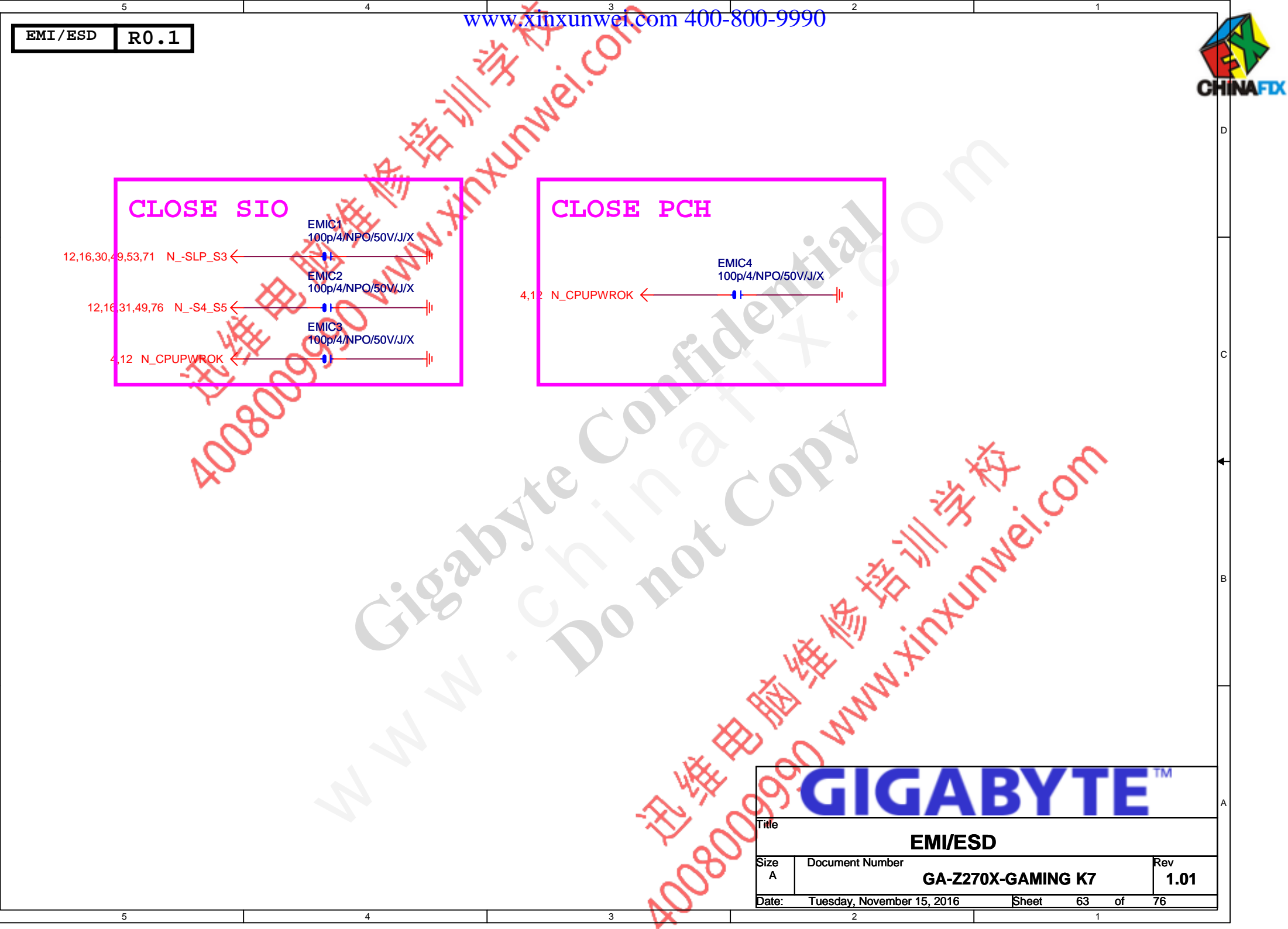
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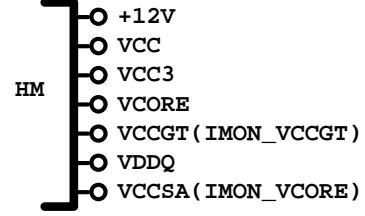
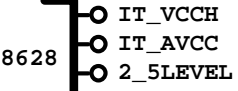
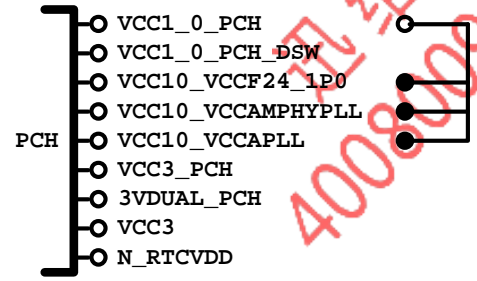
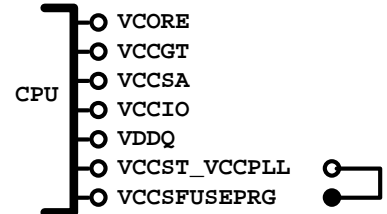




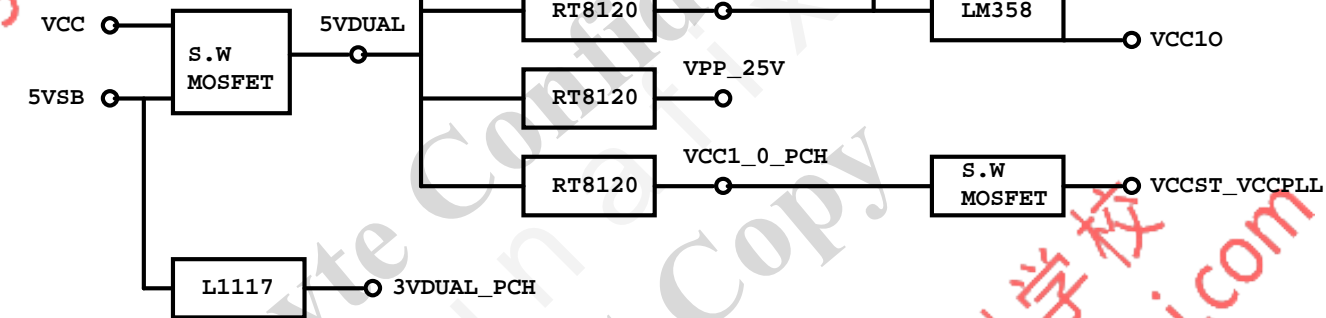
POWER BLOCK MAP

VCORE/VCCGT

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POWER



FUSE POWER F/R



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## 固態電容料號.請自行修改

日系黑色固態	Capture Value
11C02-C85600-01R	560u/FP/D/6.3V/68/C/8m
11C05-C82700-01R	270u/FP/D/16V/88/C/12m
11C05-C61000-01R	100u/OS/D/16V/66/C/30m
11C02-C51000-01R	100u/FP/D/6.3V/65/C/13m

日系一般固態	Capture Value
11C02-685600-01R	560u/FP/D/6.3V/68/8m
11C05-882700-01R	270u/FP/D/16V/88/12m
11C05-661000-03R	100u/OS/D/16V/66/30m
11C02-651000-02R	100u/OS/D/6.3V/66/30m

台系固態	Capture Value
11C02-661000-09R	100u/OS/D/6.3V/66/A/35m
11C05-691000-09R	100u/OS/D/16V/69/A/35m
11C05-8C2700-09R	270u/FP/D/16V/8C/A/10m
11C02-695600-09R	560u/FP/D/6.3V/69/A/11m

## 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/INCG0809/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

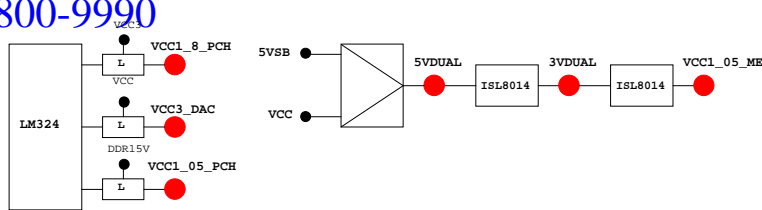
		料號	Capture Value	Footprint
PWM	ISL95856	10TA1-695856-01R		IC52QFN-6x6-G
PWM	ISL95858	10TA1-695858-01R		IC52QFN-6x6-G
PWM	IR35201	10TA1-635201-00R		IC56QFN-9VRS4339
PWM	IR3570	10TA1-603570-00R		IC40MLFP-ISL95835
PWM	RT8237C/D	10TA1-608237-01R		IC10DFN-NIS5132

## REGULATOR

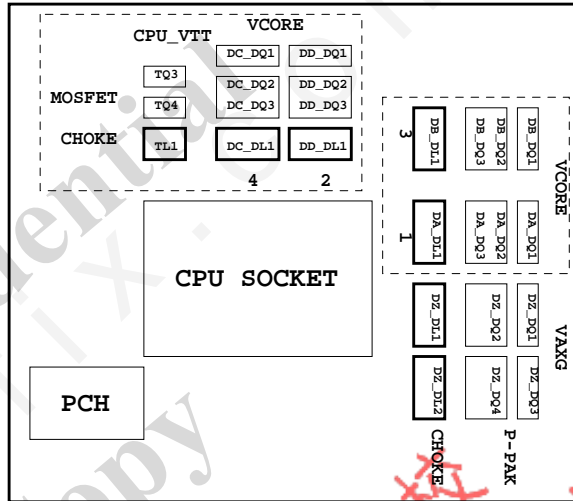
		料號	Capture Value	Footprint
	NCT3103S	10GL2-203103-01R	NCT3103S/SOP8/2A	IC8-EPSOIC

GIGABYTE™			
Title <b>RT8120_DDR4 POWER</b>			
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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

	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

Gigabyte Technology			
TABLE LIST			
Size	Document Number	Rev	
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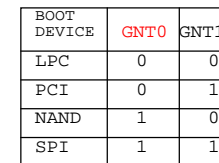
Super I/O ITE8720 chip table

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_NA0P7	CEB_N	
GP46/IRRX	-LAN2_DSM	
PSION#/GP42	-PSON	
PWROK2#/GP41	PECI_CTL	
PCIRST3#/GP10/VDIMM_STR_EN	-PCIE_RST	
RSMRST#CIRRX1/GP55	-RSMRST	
PMR#/GP54	-LPCPME	
PD5/GP75/BUSS00	N/A	

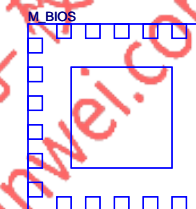
PIN NAME	USAGE	NOTE
FAN_TAC2/GP52	FANIO2	
FAN_TAC3/GP37	FANIO3	
VIDO3/FAN_TAC4/GP25/DSR2#	FANIO4	
FAN_CTL2/GP51	FANPWM2	
FAN_CTL3/GP36	FANPWM3	
VID4/GP34	BEEP-	
VID3/GP33	TURBO1	
VID2/GP32	TURBO0	
VCORE_GOOD/VID6/GP63	CPUT_LED1_C	
VID5/GP35	CPUT_LED2_C	
VID1/GP31	CPUT_LED3_C	
VID0/GP30	-LAN1_DSM	NBT_LED1_C
SLCT/GP80	CPU_LED1_C	
PE/GP81	CPU_LED2_C	
BUSY/GP82	CPU_LED3_C	
PD3/GP73/BUSS11	SB_LED1_C	
PD4/GP74/BUSS12	SB_LED2_C	
VCORE_EN/VID7/GP64	IT_GP64	SB_LED3_C
PD0/GP70	NB_LED1_C	
PD1/GP71	NB_LED2_C	
PD2/GP72/BUSS10	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
SUSCH#/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/SMB_C_R	SE PIN	FST_2X8
INIT#/GP85/SMBD_M	SEC_2x8	GTLREF_AD2
ACK#/GP83	DDR_LED1_C	
VID01/GP21/DCD2#	DDR_LED2_C	
STB#/GP87/SMB_C_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/PCIRST1N#/CIRT2X/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	

PIN NAME	PWR	Default	USAGE	NOTE
GP0	MAIN	H-Z	GPI00	N/A
GP1/TACH1	MAIN	GPI	GPI01	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	GPI07	P/U 8.2K VCC3
GP8	STBY	H	GPI08	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	GPI012	N/A
GP13	STBY	L	LPCPME#	P/U 8.2K 3VDUAL
GP14/OC7#	STBY	NATIVE	USB OC7#	N/A
GP15	STBY	L	GPI015(TLS Enable)	P/U 8.2K 3VDUAL
GP16	MAIN	GPI	GPI016	P/U 8.2K VCC3
GP17/TACH0	MAIN	GPI	GPI017	P/U 8.2K VCC3
GP18	MAIN	GPI	Mobile Only	N/A
GP19	MAIN	GPI	GPI019	P/U 8.2K VCC3
GP20	MAIN	GPI	GPI020	P/U 8.2K VCC3
GP21	MAIN	GPI	GPI021	P/U 8.2K VCC3
GP22	MAIN	H-Z	GPI022	P/U 8.2K VCC3
GP23	MAIN	GPI	GPI023	N/A
GP24	STBY	L	SKTOCC#	N/A
GP25	STBY		Mobile Only	N/A
GP26	STBY		Mobile Only	N/A
GP27	STBY	H	GPI027	P/U 8.2K 3VDUAL
GP28	STBY	H	PWR_LED	P/U 8.2K 3VDUAL
GP29	STBY	L	GPI029	N/A
GP30	STBY	H-Z	GPI	Mobile Only
GP31	STBY	H-Z	GPI	Mobile Only
GP32	MAIN	H	GPO	N/A
GP33	MAIN	H	GPO	N/A
GP34	MAIN	H-Z	GPI	-PCI_STOP
GP35	MAIN	L	GPO	-ACZ_DBT
GP36	MAIN	GPI	N/A	N/A
GP37	MAIN	GPI	N/A	N/A
GP38	MAIN	H-Z	GPI	PCIEX4 Detect
GP39	MAIN	H-Z	GPI	GPI039
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	GPI044
GP45	STBY	NATIVE	GPI045	P/U 8.2K 3VDUAL
GP46	STBY	L	NATIVE	GPI046
GP47	STBY		Mobile Only	N/A
GP48	MAIN	H-Z	IN	GPI048
GP49	MAIN	H-Z	IN	GPI049
GP50	MAIN	NATIVE	-REQ1	P/U 2.2K VCC
GP51	MAIN	H	NATIVE	-GNT1
GP52	MAIN	NATIVE	-REQ2	P/U 2.2K VCC
GP53	MAIN	H	NATIVE	-GNT2
GP54	MAIN	NATIVE	-REQ3	P/U 2.2K VCC
GP55	MAIN	H	NATIVE	-GNT3
GP56	STBY	NATIVE	Mobile Only	N/A
GP57	STBY	H-Z	IN	VCORE_OV1
GP58	STBY	H-Z	NATIVE	F_USB_OC
GP59	STBY	NATIVE	USB_OC0#	N/A
GP60	STBY	H-Z	NATIVE	N/A(Reverse)
GP61	STBY	L	NATIVE	-SUSTAT
GP62	STBY	L	NATIVE	SUSCLK
GP63	STBY	L	NATIVE	GPI063
GP64	MAIN	L	NATIVE	CLKOUTFLEX0
GP65	MAIN	L	NATIVE	CLKOUTFLEX1
GP66	MAIN	L	NATIVE	CLKOUTFLEX2
GP67	MAIN	L	NATIVE	CLKOUTFLEX3
GP72	STBY	H-Z	NATIVE	VCORE_OV4
GP73	STBY		Mobile Only	N/A
GP74	STBY	H-Z	NATIVE	1_05V_OV2
GP75	STBY	H-Z	NATIVE	N/A(Reverse)





1 means floating  
0 means PD 1K



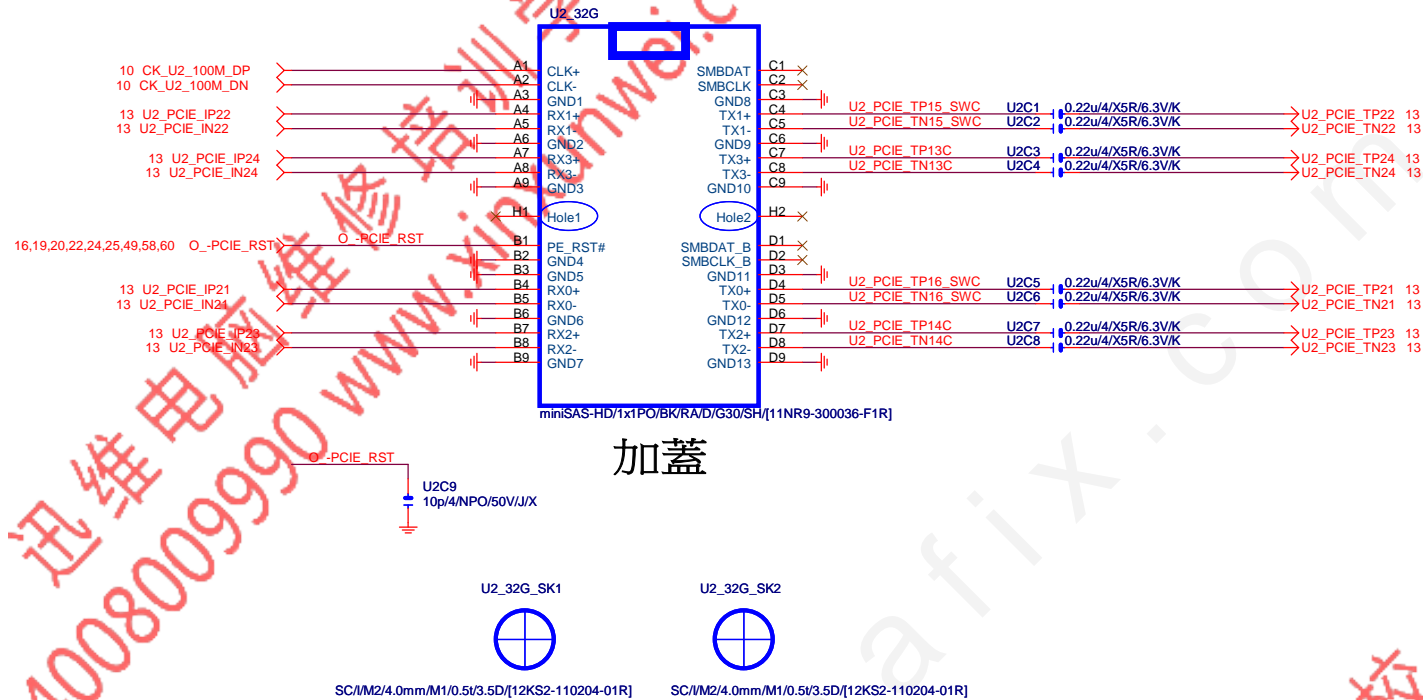
LCP/G-FL/1.27mm/200MIL/WHITE[10SL2-000008-31R]/X

\* 試產先上，PVT 移除



Rev 0.3

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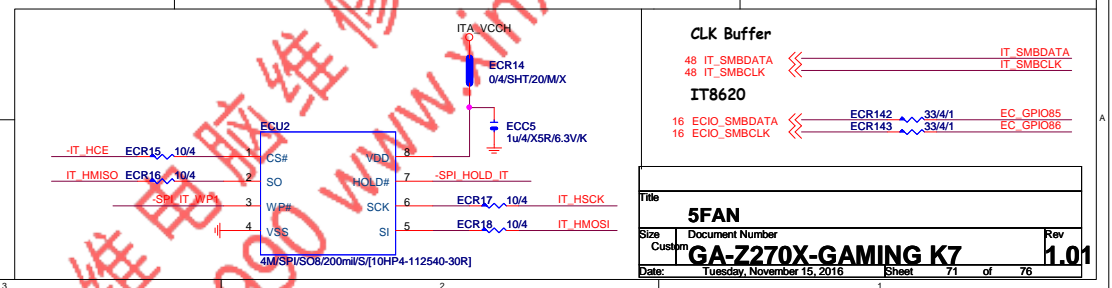
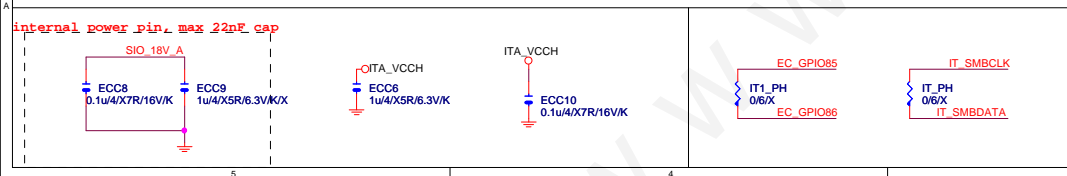
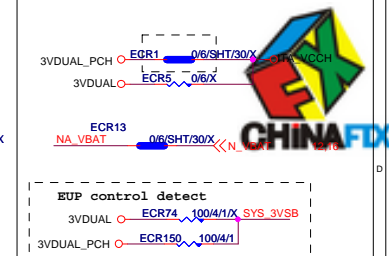
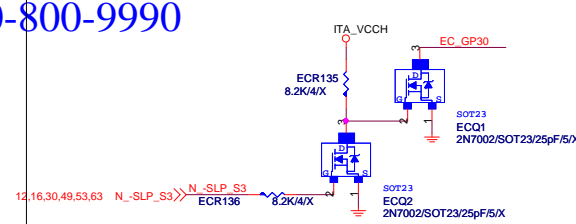
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PCH PWR-VCC18_PCH			
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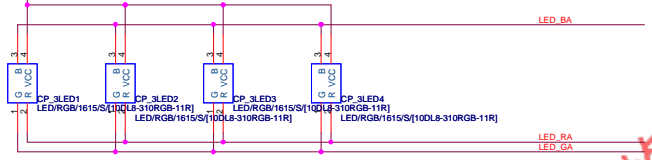




第一區 LED

Rev 0.63

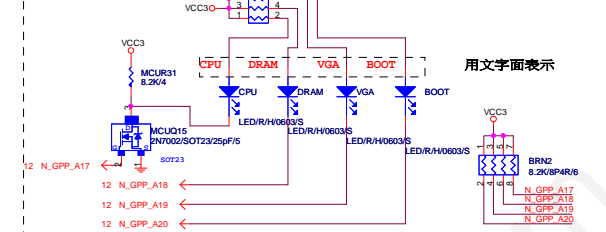
FOR CPU 正發光 LED\*5  
(在CPU CHOK之間,MOS\_HS下方,不外露)



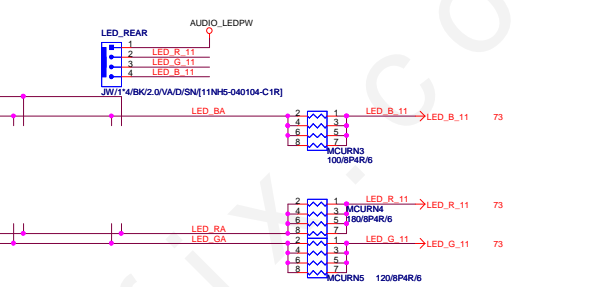
www.xinxunwei.com 400-800-9990  
LED GPIO PIN DEFINE

N_GPP_A1	CPU DEBUG
N_GPP_A16	DDR DEBUG
N_GPP_A18	VGA DEBUG
N_GPP_A20	BOOT DEBUG
N_GPP_A21	XMP LED SWITCH
N_GPP_A22	TURBO LED SWITCH
N_GPP_D16	LED_C LED SWITCH
N_GPP_D17	PCIEX16 LED SWITCH
N_GPP_D18	PCIEX8 LED SWITCH

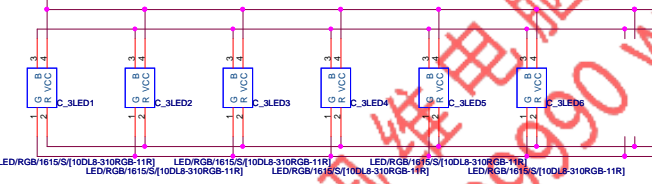
DEBUG PORT LED \*4  
(位置需擺放在一起)



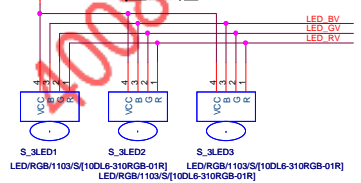
REAR 裝甲LED  
(位置在後窗裝甲內)



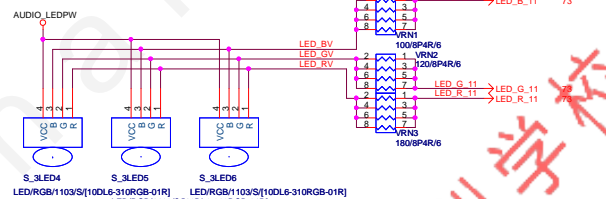
FOR AUDIO 正發光 LED\*6  
(位置在AUDIO切割線)



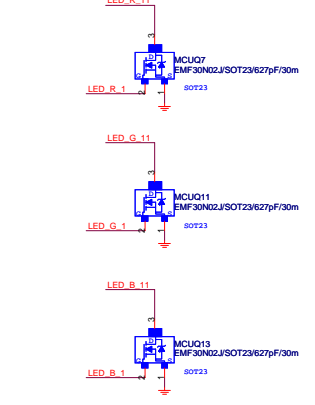
FOR PCIEX16 側發光 LED\*3  
(位置在PCIEX16 SLOT)



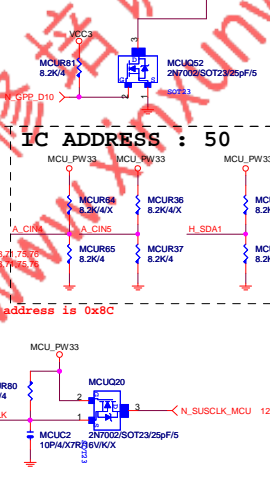
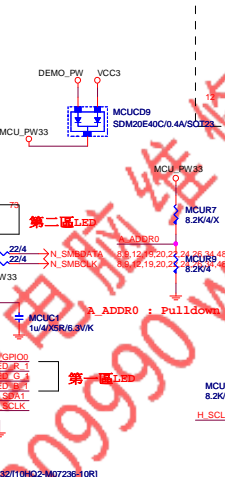
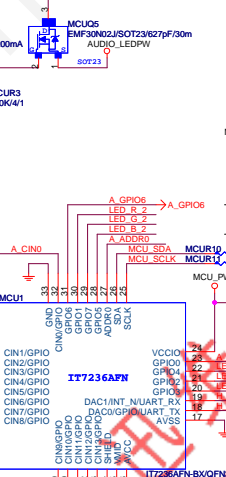
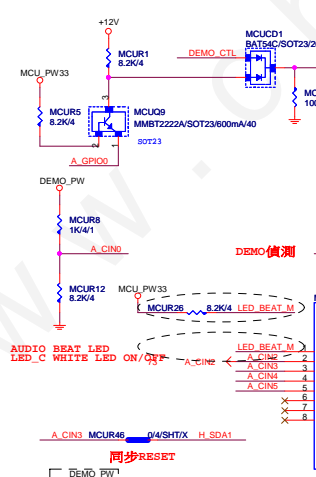
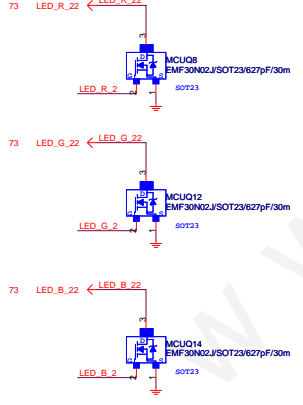
FOR PCIEX8 側發光 LED\*3  
(位置在PCIEX8 SLOT)



第一區 LED CONTROL



第二區 LED CONTROL



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File CPU/AUDIO/PCIEX LED

Size Document Number

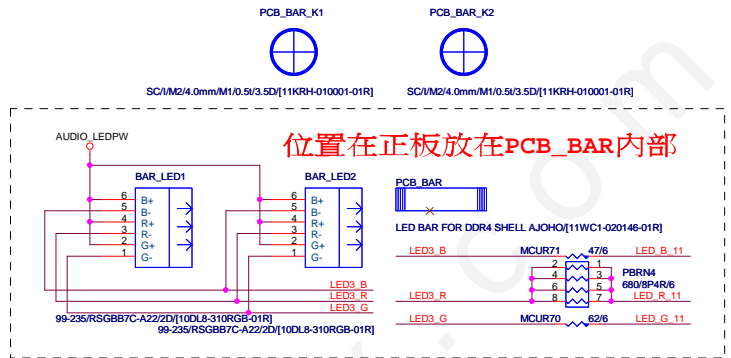
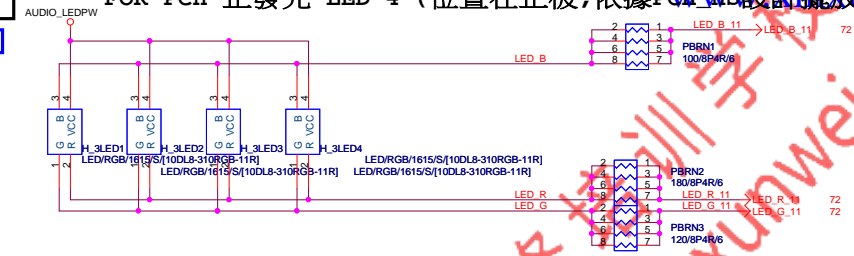
Custom GA-Z770X-GAMING K7

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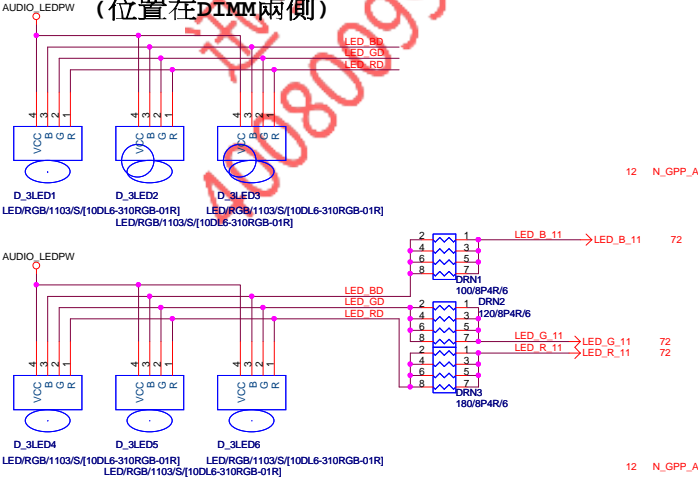
Rev 1.01



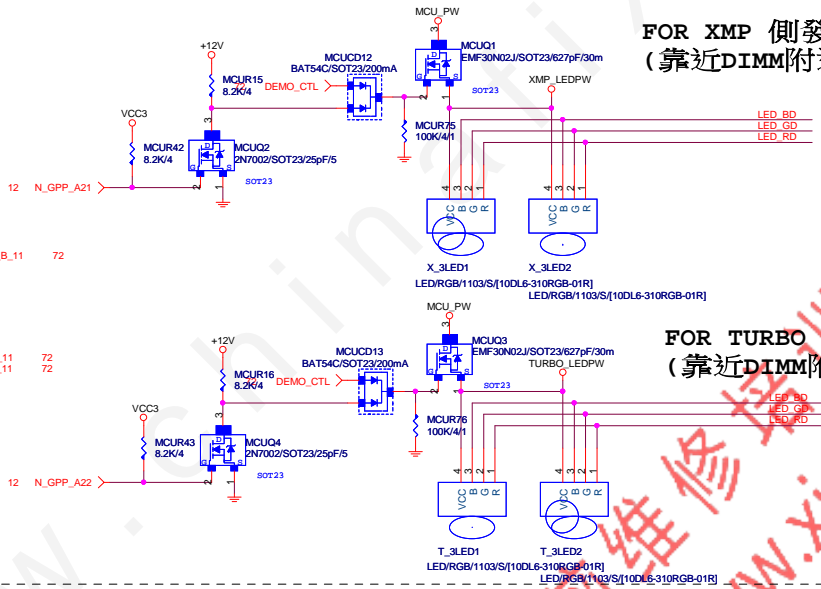
Rev 0.63



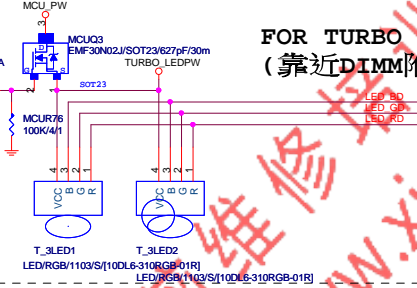
FOR DIMM 側發光 LED\*6 (位置在DIMM兩側)



FOR XMP 側發光 LED\*2 (靠近DIMM附近放背板鏤空)

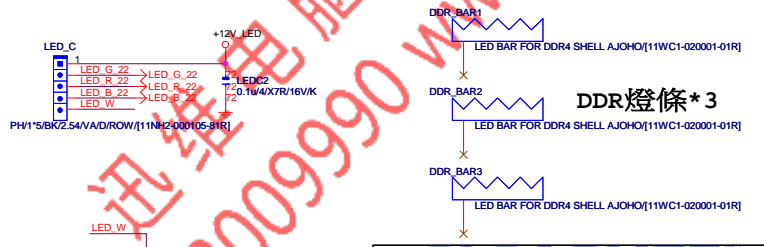
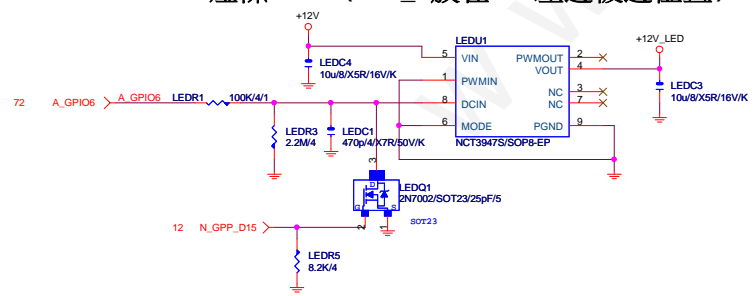


FOR TURBO 側發光 LED\*2 (靠近DIMM附近背板鏤空)



第二區

FOR 燈條 LED (LED\_C放在PCB左邊板邊位置)



DDR燈條\*3

GIGABYTE™			
PCH/MODEL/DDR LED			
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## RGB LED LAYOUT 注意事項：

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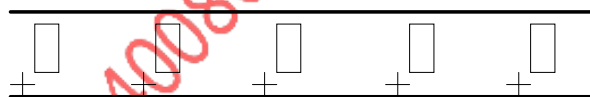


1. Debug LED 文字面表示如右所示 (LED請擺在一起)
2. 背板 RGB LED 方向整板請統一如下  
(整板正極可統一朝下或朝上)
3. 正板 RGB LED 統一方向即可
4. LED RGB 10PCS 以上走20mils  
LED RGB 10PCS 以下空間問題可以走10mils  
LED電源一律走20mils
5. MCU LED 出pin的走線4mils,如:LED\_R\_1,LED\_G\_1,LED\_B\_1 .....  
過晶體的走線20mils,包含過排組到LED的走線如:LED\_R\_11,LED\_G\_11,LED\_B\_11..
6. XMP/TURBO/G1.GAMING 側發光 LED 位置如下

VGA CPU

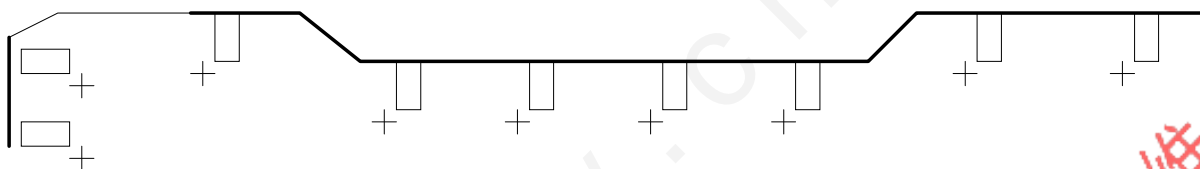
BOOT DRAM

PCB板邊透光model name鏤空+背面 RGB LED



LED間距160mil  
**G1 GAMING**

Audio Ground切割線+背面 RGB LED



"Turbo", "XMP"字樣(分開控制) 鏤空+背面 RGB側發光 LED

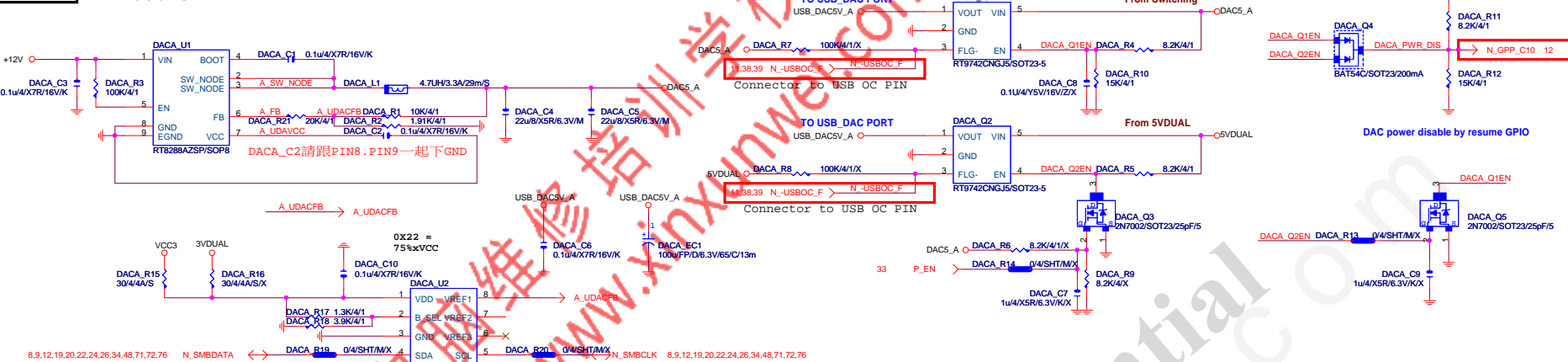
LED間距200mil  
**TURBO**  
LED間距200mil  
**XMP**

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Title MODEL/PCB LED			
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USB\_DAC\_A REV:0.13

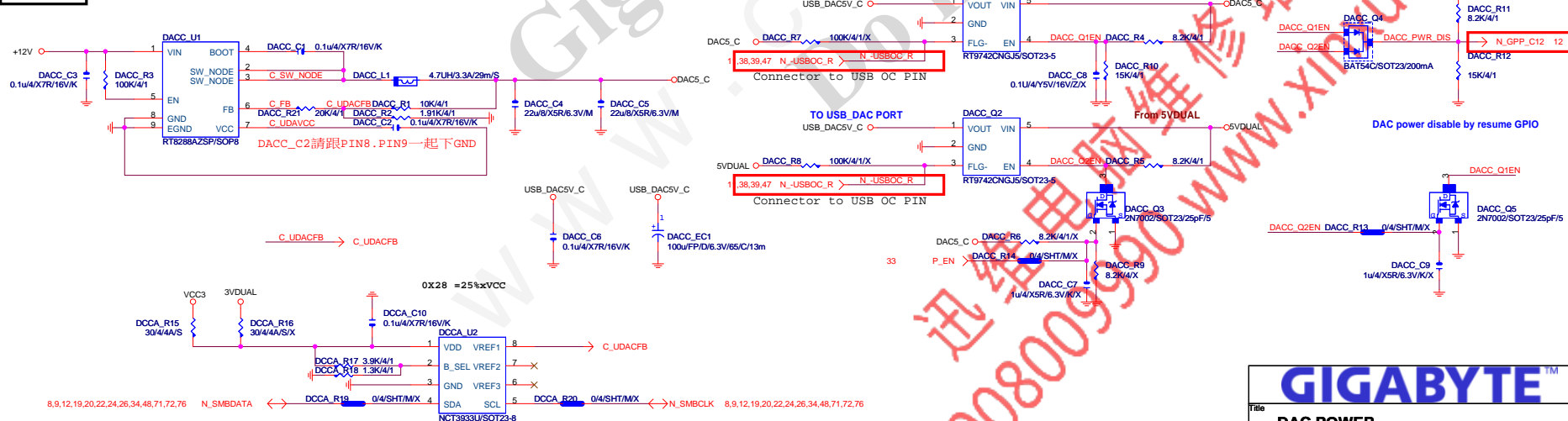


USB\_DAC\_B

F\_USB30\_2

USB\_DAC\_C

KB\_MS\_USB0

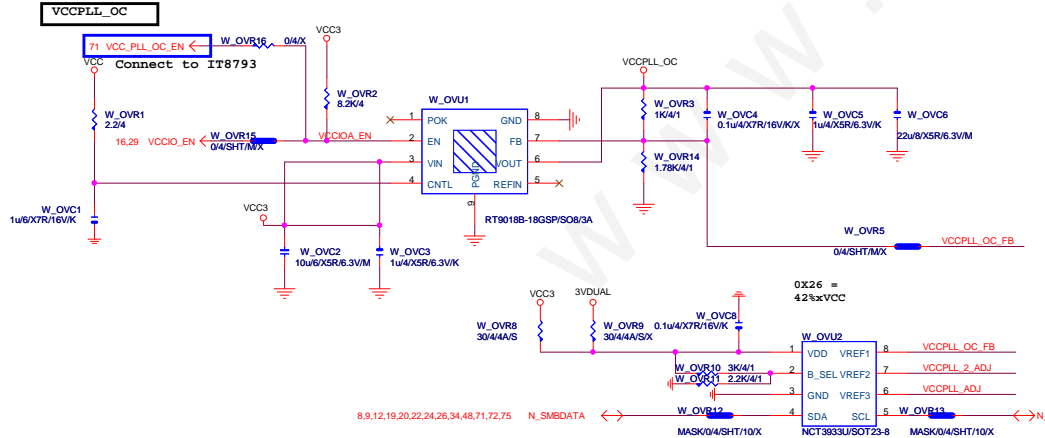
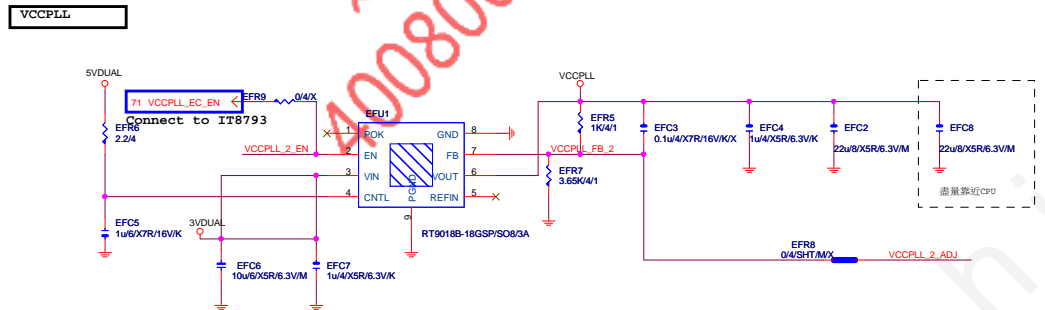
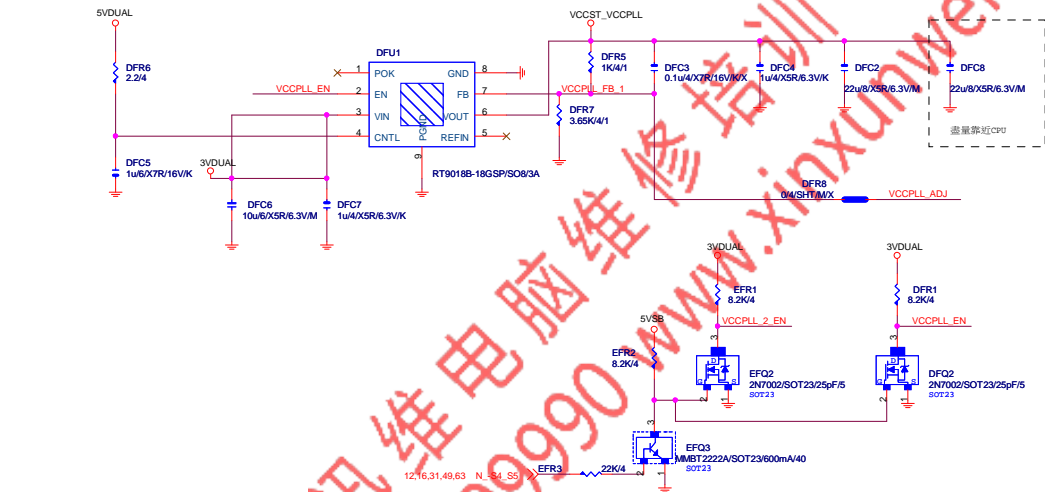


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VCCST\_VCCPLL 替換原先MOS開關線路



**GIGABYTE™**

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