

SHEET

TITLE

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_LGA1150-D
08	DDR4 CHANNEL A (Rev 0.)
09	DDR4 CHANNEL B
10	PCH_CLK BUFFER (Rev 0.4)
11	PCH_DMI,USB,PCIE
12	PCH_MISC
13	PCH_SATA,PCIE,SATA_EXPRESS
14	PCH_PWR,GND
15	Single BIOS (Rev 0.1)
16	ITE 8628 LPC IO (Rev 1.07)
17	HWM
18	FAN CTRL--SIO (Rev 0.55)
19	PCI_EXPRESS*16 SLOT (Rev 0.2)
20	PCI_EXPRESS*4 SLOT
21	PCI_EXPRESS*1 SLOT/SW
22	M.2X4 (Rev 0.7)
23	SATA_EXPRESS (Rev 0.7)
24	ASM1083 PCI BRIDGE (Rev 0.9)
25	ASM1083 POWER
26	PCI SLOT 1&2
27	ISL95858 PWM-IRON (Rev 0.15)

SHEET

TITLE

28	ISL95858 VCORE-IRON
29	ISL95858 VCCGT-IRON
30	VCCSA_VCCIO_VCCPLL (Rev 0.4)
31	RT8237_DDR_BEAD (Rev 0.36)
32	RT8068A_VPP (Rev 0.36)
33	RT8237_PCH-BEAD (Rev 0.48)
34	DISCRETE POWER (Rev 0.51)
35	NCT3933
36	ATX POWER, A_PROCHOT
37	KB_MS USB (Rev 0.61)
38	DVI_CONN (Rev 0.61)
39	PTN3356 - DP to VGA - IC (Rev 1.08)
40	PTN3356 - DP to VGA - Conn
41	DUAL DP PORT (Rev 0.61)
42	INTEL I219 (Rev 1.09)
43	USB30_LAN CONNECTOR-I219
44	Realtek ALC892 (Rev 0.4)
45	REAR AUDIO JACK
46	F_USB30 (Rev 0.61)
47	F_USB (Rev 0.61)
48	R_USB30 (Rev 0.61)
49	F_PANEL
50	SWITCH (Rev 0.7)
51	COM, TPM, THB (Rev 0.61)
52	EMI-ESD
53	POWER MAP
54	NTC MAP

Gigabyte Technology

Title			Cover Sheet
Size	Document Number	GA-B150M-D3P-WG	Rev
Custom			1.0
Date	Monday, August 31, 2015	Sheet	1 of 54

**rev1.0**

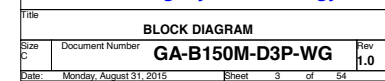
## Circuit or PCB layout change

### Component value change history

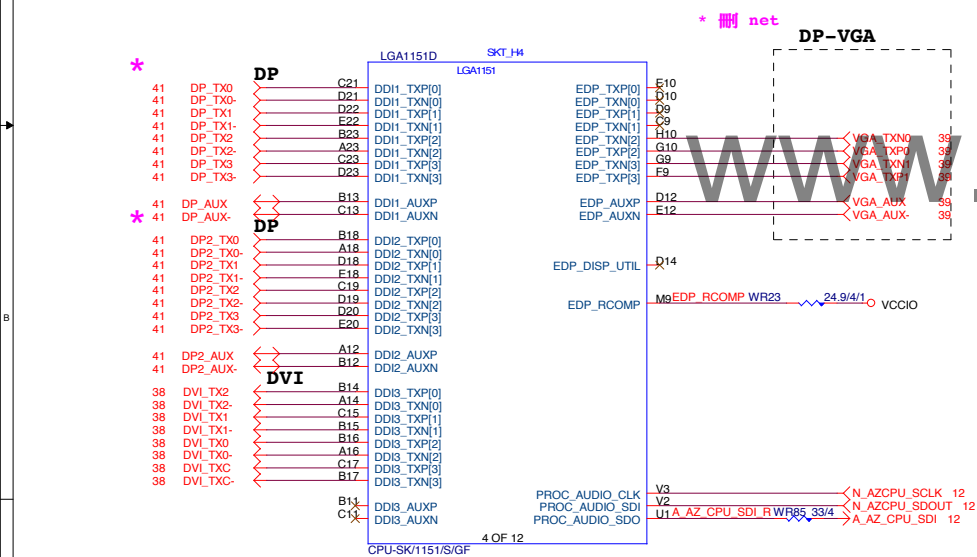
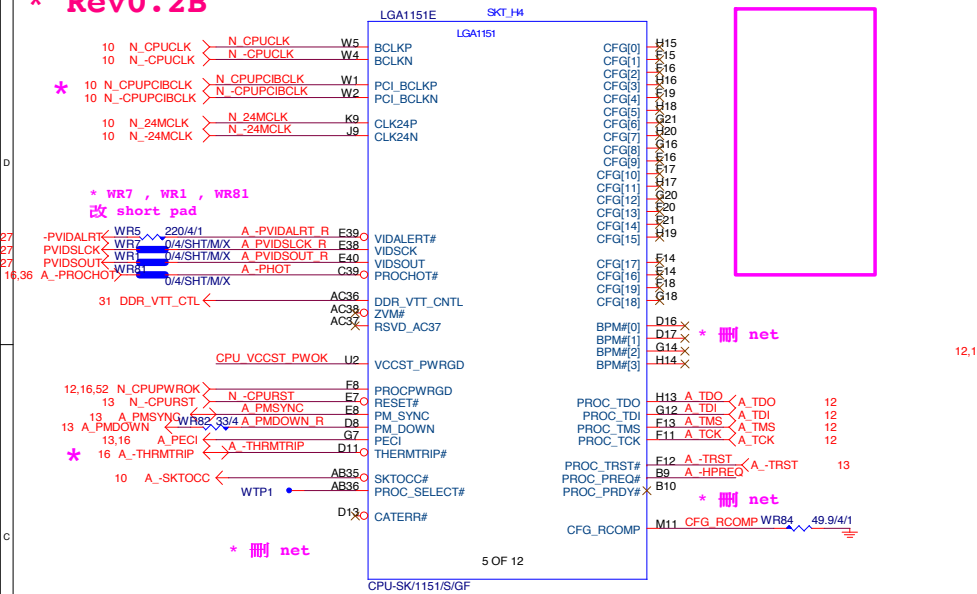
2015/08/19

[illegible][illegible]

## BLOCK DIAGRAM



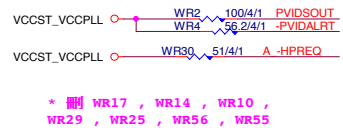
**\* Rev0.2B**



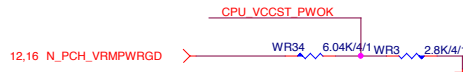
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G-15u : (CPU-SK/1151/S/15)
10SC1-F01151-11R / 10SC1-F01151-12R
G-FL : (CPU-SK/1151/S/GF)
10SC1-F01151-21R / 10SC1-F01151-22R
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```
4 layer HDMI/DP/eDP/=====4/4/4//15
6 layer HDMI/DP/eDP/=====4/5.5/4//15
```

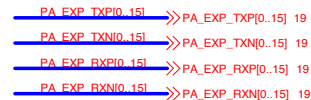
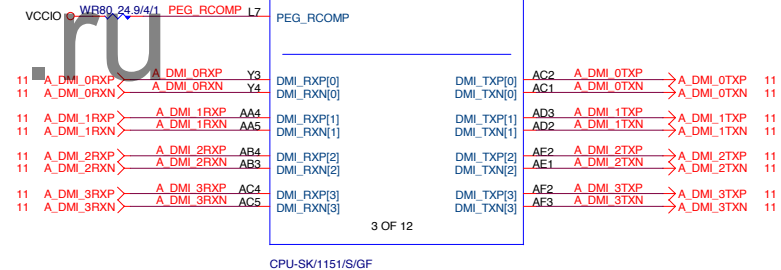
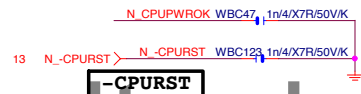
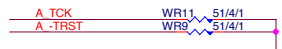
**Impedance=85 +- 15%**



\* 删除 WR91



```
* 删除 net N_CPU_VCCST_PWOK
```



4 layer PEG/DMI=====4/4/4//15  
6 layer PEG/DMI=====4/5.5/4//15

Impedance=85 +- 15%

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

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

<b><i>Gigabyte Technology</i></b>			
Title <b>CPU LGA1151-A</b>			
Size Custom	Document Number <b>GA-B150M-D3P-WG</b>		Rev <b>1.0</b>
Date:	Monday, August 31, 2015	Sheet	4 of 54



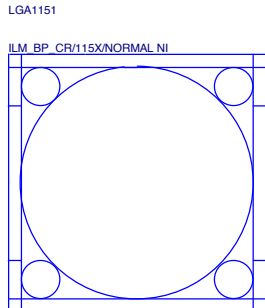
# \* 改DDR4 net

LGA1151A SKT_H4 LGA1151									
MDA0 AE38	DDR0_DQ[0]	DDR0_CK[0]	AW18 M_DCLKA0	M_DCLKA0	8				
MDA1 AE37	DDR0_DQ[1]	DDR0_CK[1]	AV18 M_DCLKA0	M_DCLKA0	8				
MDA2 AG38	DDR0_DQ[2]	DDR0_CK[1]	AW17 M_DCLKA1	M_DCLKA1	8				
MDA3 AG37	DDR0_DQ[3]	DDR0_CK[1]	AY17 M_DCLKA1	M_DCLKA1	8				
MDA4 AE38	DDR0_DQ[4]	DDR0_CK[2]	AW16 M_DCLKA2	M_DCLKA2	8				
MDA5 AE40	DDR0_DQ[5]	DDR0_CK[2]	AV16 M_DCLKA2	M_DCLKA2	8				
MDA6 AG38	DDR0_DQ[6]	DDR0_CK[3]	AT16 M_DCLKA3	M_DCLKA3	8				
MDA7 AG40	DDR0_DQ[7]	DDR0_CK[3]	AU16 M_DCLKA3	M_DCLKA3	8				
MDA8 AJ38	DDR0_DQ[8]								
MDA9 AJ37	DDR0_DQ[9]	DDR0_CK[0]	AY24 CKEA0	CKEA0	8				
MDA10 AL38	DDR0_DQ[10]	DDR0_CK[1]	AV24 CKEA1	CKEA1	8				
MDA11 AL37	DDR0_DQ[11]	DDR0_CK[2]	AV24 CKEA2	CKEA2	8				
MDA12 AL40	DDR0_DQ[12]	DDR0_CK[2]	AV25 CKEA3	CKEA3	8				
MDA13 AL39	DDR0_DQ[13]								
MDA14 AL39	DDR0_DQ[14]	DDR0_CS[0]	AW12 M_CSA0	M_CSA0	8				
MDA15 AL40	DDR0_DQ[15]	DDR0_CS[1]	AV12 M_CSA1	M_CSA1	8				
MDA16 AX38	DDR0_DQ[16]	DDR0_CS[2]	AV10 M_CSA2	M_CSA2	8				
MDA17 AX40	DDR0_DQ[17]	DDR0_CS[3]	AV10 M_CSA3	M_CSA3	8				
MDA18 AR38	DDR0_DQ[18]								
MDA19 AR37	DDR0_DQ[19]	DDR0_ODT[0]	AW11 MODT A0	MODT A0	8				
MDA20 AN39	DDR0_DQ[20]	DDR0_ODT[1]	AU14 MODT A1	MODT A1	8				
MDA21 AN37	DDR0_DQ[21]	DDR0_ODT[2]	AU12 MODT A2	MODT A2	8				
MDA22 AR39	DDR0_DQ[22]	DDR0_ODT[3]	AY10 MODT A3	MODT A3	8				
MDA23 AR40	DDR0_DQ[23]								
MDA24 AV37	DDR0_DQ[24]	DDR0_BA[0]/DDR0_CAB[4]/DDR0_BA[0]	AY13 SBAA0	SBAA0	8				
MDA25 AL38	DDR0_DQ[25]	DDR0_BA[1]/DDR0_CAB[5]/DDR0_BA[1]	AV15 SBAA1	SBAA1	8				
MDA26 AV35	DDR0_DQ[26]	DDR0_BA[2]/DDR0_CAB[5]/DDR0_BA[0]	AW23 BG A0	BG A0	8				
MDA27 AW36	DDR0_DQ[27]								
MDA28 AU37	DDR0_DQ[28]	DDR0_RAS#/DDR0_CAB[3]/DDR0_MA[16]	AW13 MAAA16	MAAA16	8				
MDA29 AV37	DDR0_DQ[29]	DDR0_WE#/DDR0_CAB[2]/DDR0_MA[14]	AV14 MAAA14	MAAA14	8				
MDA30 AT35	DDR0_DQ[30]	DDR0_CAS#/DDR0_CAB[1]/DDR0_MA[15]	AY11 MAAA15	MAAA15	8				
MDA31 AU35	DDR0_DQ[31]								
MDA32 AX38	DDR0_DQ[32]	DDR0_MA[0]/DDR0_CAB[9]/DDR0_MA[0]	AW15 MAAA0	MAAA0	8				
MDA33 AW38	DDR0_DQ[33]	DDR0_MA[1]/DDR0_CAB[8]/DDR0_MA[1]	AU18 MAAA1	MAAA1	8				
MDA34 AV6	DDR0_DQ[34]	DDR0_MA[2]/DDR0_CAB[5]/DDR0_MA[2]	AU17 MAAA2	MAAA2	8				
MDA35 AU6	DDR0_DQ[35]	DDR0_MA[3]	AU17 MAAA3	MAAA3	8				
MDA36 AU8	DDR0_DQ[36]	DDR0_MA[4]	AT19 MAAA4	MAAA4	8				
MDA37 AV8	DDR0_DQ[37]	DDR0_MA[5]/DDR0_CAA[0]/DDR0_MA[5]	AU20 MAAA5	MAAA5	8				
MDA38 AU8	DDR0_DQ[38]	DDR0_MA[6]/DDR0_CAA[2]/DDR0_MA[6]	AU21 MAAA6	MAAA6	8				
MDA39 AV6	DDR0_DQ[39]	DDR0_MA[7]/DDR0_CAA[4]/DDR0_MA[7]	AT20 MAAA7	MAAA7	8				
MDA40 AY4	DDR0_DQ[40]	DDR0_MA[8]/DDR0_CAA[3]/DDR0_MA[8]	AT22 MAAA8	MAAA8	8				
MDA41 AV4	DDR0_DQ[41]	DDR0_MA[9]/DDR0_CAA[1]/DDR0_MA[9]	AU22 MAAA11	MAAA11	8				
MDA42 AT2	DDR0_DQ[42]	DDR0_MA[10]/DDR0_CAA[7]/DDR0_MA[10]	AV22 MAAA12	MAAA12	8				
MDA43 AT2	DDR0_DQ[43]	DDR0_MA[11]/DDR0_CAA[6]/DDR0_MA[11]	AV12 MAAA13	MAAA13	8				
MDA44 AV3	DDR0_DQ[44]	DDR0_MA[12]/DDR0_CAA[6]/DDR0_MA[12]	AV23 BG A1	BG A1	8				
MDA45 AW4	DDR0_DQ[45]	DDR0_MA[13]/DDR0_CAB[0]/DDR0_MA[13]	AU24 M_ACT_A	M_ACT_A	8				
MDA46 AT4	DDR0_DQ[46]	DDR0_MA[14]/DDR0_CAA[9]/DDR0_BG[1]							
MDA47 AT3	DDR0_DQ[47]	DDR0_MA[15]/DDR0_CAA[8]/DDR0_ACT#							
MDA48 AP2	DDR0_DQ[48]								
MDA49 AM4	DDR0_DQ[49]	DDR0_PAR	AY15 M_DDR_PARA	M_DDR_PARA	8				
MDA50 AP3	DDR0_DQ[50]	DDR0_ALERT#	AT23 M_ALERT_A	M_ALERT_A	8				
MDA51 AM3	DDR0_DQ[51]								
MDA52 AP4	DDR0_DQ[52]	DDR0_DQS[0]	AF38 M_DQSA0	DQSA0	8				
MDA53 AM2	DDR0_DQ[53]	DDR0_DQS[1]	AK38 M_DQSA1	DQSA1	8				
MDA54 AP1	DDR0_DQ[54]	DDR0_DQS[2]	AV36 M_DQSA2	DQSA2	8				
MDA55 AM1	DDR0_DQ[55]	DDR0_DQS[3]	AV7 M_DQSA5	DQSA5	8				
MDA56 AK3	DDR0_DQ[56]	DDR0_DQS[4]	AU3 M_DQSA6	DQSA6	8				
MDA57 AH1	DDR0_DQ[57]	DDR0_DQS[5]	AN3 M_DQSA7	DQSA7	8				
MDA58 AK4	DDR0_DQ[58]	DDR0_DQS[6]							
MDA59 AH2	DDR0_DQ[59]	DDR0_DQS[7]							
MDA60 AH4	DDR0_DQ[60]								
MDA61 AK2	DDR0_DQ[61]	DDR0_DQSP[0]	AF38 M_DQSA0	DQSA0	8				
MDA62 AH3	DDR0_DQ[62]	DDR0_DQSP[1]	AK38 M_DQSA1	DQSA1	8				
MDA63 AK1	DDR0_DQ[63]	DDR0_DQSP[2]	AV36 M_DQSA2	DQSA2	8				
		DDR0_DQSP[3]	AV7 M_DQSA5	DQSA5	8				
		DDR0_DQSP[4]	AU3 M_DQSA6	DQSA6	8				
		DDR0_DQSP[5]	AN3 M_DQSA7	DQSA7	8				
		DDR0_DQSP[6]							
		DDR0_DQSP[7]							
		DDR0_DQSP[8]	AV32						
		DDR0_DQSP[9]	AU32						

DDR CHANNEL A

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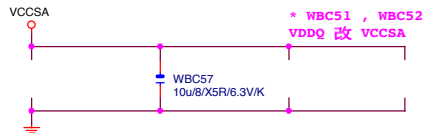
CPU-SK1151/S/GF



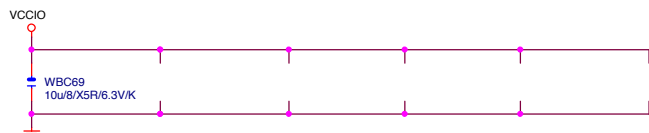
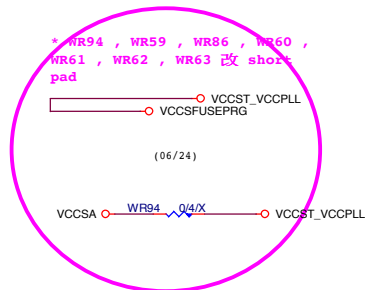
Need check the new CPU ME

LGA1151B SKT_H4 LGA1151									
MDB0	AD34	DDR1_DQ[0]/DDR0_DQ[16]	DDR1_CK[0]	AM20 M_DCLKB0	M_DCLKB0	9			
MDB1	AD35	DDR1_DQ[1]/DDR0_DQ[17]	DDR1_CK[1]	AM21 M_DCLKB0	M_DCLKB0	9			
MDB2	AG35	DDR1_DQ[2]/DDR0_DQ[18]	DDR1_CK[2]	AP22 M_DCLKB1	M_DCLKB1	9			
MDB3	AH35	DDR1_DQ[3]/DDR0_DQ[19]	DDR1_CK[1]	AP21 M_DCLKB1	M_DCLKB1	9			
MDB4	AE35	DDR1_DQ[4]/DDR0_DQ[20]	DDR1_CK[2]	AN20 M_DCLKB2	M_DCLKB2	9			
MDB5	AF34	DDR1_DQ[5]/DDR0_DQ[21]	DDR1_CK[2]	AN21 M_DCLKB2	M_DCLKB2	9			
MDB6	AG34	DDR1_DQ[6]/DDR0_DQ[22]	DDR1_CK[3]	AP19 M_DCLKB3	M_DCLKB3	9			
MDB7	AH34	DDR1_DQ[7]/DDR0_DQ[23]	DDR1_CK[3]	AP20 M_DCLKB3	M_DCLKB3	9			
MDB8	AK35	DDR1_DQ[8]/DDR0_DQ[24]							
MDB9	AL35	DDR1_DQ[9]/DDR0_DQ[25]	DDR1_CKE[0]	AY29 CKEB0	CKEB0	9			
MDB10	AK32	DDR1_DQ[10]/DDR0_DQ[26]	DDR1_CKE[1]	AV29 CKEB1	CKEB1	9			
MDB11	AL32	DDR1_DQ[11]/DDR0_DQ[27]	DDR1_CKE[2]	AV29 CKEB2	CKEB2	9			
MDB12	AK34	DDR1_DQ[12]/DDR0_DQ[28]	DDR1_CKE[3]	AV29 CKEB3	CKEB3	9			
MDB13	AL34	DDR1_DQ[13]/DDR0_DQ[29]							
MDB14	AK31	DDR1_DQ[14]/DDR0_DQ[30]	DDR1_CS[0]	AP17 M_CSB0	M_CSB0	9			
MDB15	AL31	DDR1_DQ[15]/DDR0_DQ[31]	DDR1_CS[1]	AN15 M_CSB1	M_CSB1	9			
MDB16	AP35	DDR1_DQ[16]/DDR0_DQ[32]	DDR1_CS[2]	AN17 M_CSB2	M_CSB2	9			
MDB17	AN35	DDR1_DQ[17]/DDR0_DQ[33]	DDR1_CS[3]	AM15 M_CSB3	M_CSB3	9			
MDB18	AN32	DDR1_DQ[18]/DDR0_DQ[34]							
MDB19	AP32	DDR1_DQ[19]/DDR0_DQ[35]	DDR1_ODT[0]	AM16 MODT B0	MODT B0	8			
MDB20	AN34	DDR1_DQ[20]/DDR0_DQ[36]	DDR1_ODT[1]	AL16 MODT B1	MODT B1	8			
MDB21	AP34	DDR1_DQ[21]/DDR0_DQ[37]	DDR1_ODT[2]	AL17 MODT B2	MODT B2	8			
MDB22	AN31	DDR1_DQ[22]/DDR0_DQ[38]	DDR1_ODT[3]	AL15 MODT B3	MODT B3	8			
MDB23	AP31	DDR1_DQ[23]/DDR0_DQ[39]							
MDB24	AL29	DDR1_DQ[24]/DDR0_DQ[40]	DDR1_RAS#/DDR1_CAB[3]/DDR1_MA[16]	AN18 MAAB16	MAAB16	8			
MDB25	AM29	DDR1_DQ[25]/DDR0_DQ[41]	DDR1_WE#/DDR1_CAB[2]/DDR1_MA[14]	AL17 MAAB17	MAAB17	8			
MDB26	AP29	DDR1_DQ[26]/DDR0_DQ[42]	DDR1_CAS#/DDR1_CAB[1]/DDR1_MA[15]	AL16 MAAB15	MAAB15	8			
MDB27	AR29	DDR1_DQ[27]/DDR0_DQ[43]							
MDB28	AM28	DDR1_DQ[28]/DDR0_DQ[44]	DDR1_BA[0]/DDR1_CAB[4]/DDR1_BA[0]	AL18 SBAB0	SBAB0	9			
MDB29	AL28	DDR1_DQ[29]/DDR0_DQ[45]	DDR1_BA[1]/DDR1_CAB[5]/DDR1_BA[1]	AM18 SBAB1	SBAB1	9			
MDB30	AB28	DDR1_DQ[30]/DDR0_DQ[46]	DDR1_BA[2]/DDR1_CAA[5]/DDR1_BG[0]	AW28 BG B0	BG B0	9			
MDB31	AP28	DDR1_DQ[31]/DDR0_DQ[47]							
MDB32	AR12	DDR1_DQ[32]/DDR0_DQ[48]	DDR1_MA[0]/DDR1_CAB[9]/DDR1_MA[0]	AL19 MAAB0	MAAB0	8			
MDB33	AP12	DDR1_DQ[33]/DDR0_DQ[49]	DDR1_MA[1]/DDR1_CAB[8]/DDR1_MA[1]	AL22 MAAB1	MAAB1	8			
MDB34	AM13	DDR1_DQ[34]/DDR0_DQ[50]	DDR1_MA[2]/DDR1_CAB[5]/DDR1_MA[2]	AM22 MAAB2	MAAB2	8			
MDB35	AL13	DDR1_DQ[35]/DDR0_DQ[51]	DDR1_MA[3]	AM23 MAAB3	MAAB3	8			
MDB36	AB13	DDR1_DQ[36]/DDR0_DQ[52]	DDR1_MA[4]	AP23 MAAB4	MAAB4	8			
MDB37	AP13	DDR1_DQ[37]/DDR0_DQ[53]	DDR1_MA[5]/DDR1_CAA[0]/DDR1_MA[5]	AL23 MAAB5	MAAB5	8			
MDB38	AM12	DDR1_DQ[38]/DDR0_DQ[54]	DDR1_MA[6]/DDR1_CAA[2]/DDR1_MA[6]	AY26 MAAB7	MAAB7	8			
MDB39	AL12	DDR1_DQ[39]/DDR0_DQ[55]	DDR1_MA[7]/DDR1_CAA[4]/DDR1_MA[7]	AY26 MAAB8	MAAB8	8			
MDB40	AP10	DDR1_DQ[40]/DDR0_DQ[56]	DDR1_MA[8]/DDR1_CAA[3]/DDR1_MA[8]	AW27 MAAB9	MAAB9	8			
MDB41	AR10	DDR1_DQ[41]/DDR0_DQ[57]	DDR1_MA[9]/DDR1_CAA[1]/DDR1_MA[9]	AL18 MAAB10	MAAB10	8			
MDB42	AF7	DDR1_DQ[42]/DDR0_DQ[58]	DDR1_MA[10]/DDR1_CAB[7]/DDR1_MA[10]	AU27 MAAB11	MAAB11	8			
MDB43	AF7	DDR1_DQ[43]/DDR0_DQ[59]	DDR1_MA[11]/DDR1_CAA[7]/DDR1_MA[11]	AV27 MAAB12	MAAB12	8			
MDB44	AB9	DDR1_DQ[44]/DDR0_DQ[60]	DDR1_MA[12]/DDR1_CAA[6]/DDR1_MA[12]	AL15 MAAB13	MAAB13	8			
MDB45	AP9	DDR1_DQ[45]/DDR0_DQ[61]	DDR1_MA[13]/DDR1_CAB[0]/DDR1_MA[13]	AY28 BG B1	BG B1	9			
MDB46	AB6	DDR1_DQ[46]/DDR0_DQ[62]	DDR1_MA[14]/DDR1_CAA[9]/DDR1_BG[1]	AU28 M_ACT_B	M_ACT_B	9			
MDB47	AF6	DDR1_DQ[47]/DDR0_DQ[63]	DDR1_MA[15]/DDR1_CAA[8]/DDR1_ACT#						
MDB48	AM10	DDR1_DQ[48]							
MDB49	AL10	DDR1_DQ[49]	DDR1_PAR	AL20 M_DDR_PARB	M_DDR_PARB	9			
MDB50	AM7	DDR1_DQ[50]	DDR1_ALERT#	AY25 M_ALERT_B	M_ALERT_B	9			
MDB51	AL7	DDR1_DQ[51]							
MDB52	AM6	DDR1_DQ[52]							
MDB53	AL9	DDR1_DQ[53]	DDR1_DQS[0]	AF34 M_DQSB0	DQSB0	8			
MDB54	AL6	DDR1_DQ[54]	DDR1_DQS[1]	AK33 M_DQSB1	DQSB1	8			
MDB55	AL6	DDR1_DQ[55]	DDR1_DQS[2]	AN33 M_DQSB2	DQSB2	8			
MDB56	AL6	DDR1_DQ[56]	DDR1_DQS[3]	AN29 M_DQSB3	DQSB3	8			
MDB57	AL7	DDR1_DQ[57]	DDR1_DQS[4]	AN13 M_DQSB4	DQSB4	8			
MDB58	AF6	DDR1_DQ[58]	DDR1_DQS[5]	AM8 M_DQSB5	DQSB5	8			
MDB59	AF7	DDR1_DQ[59]	DDR1_DQS[6]	AG6 M_DQSB7	DQSB7	8			
MDB60	AH7	DDR1_DQ[60]							
MDB61	AH6	DDR1_DQ[61]							
MDB62	AF7	DDR1_DQ[62]	DDR1_DQSP[0]	AF35 M_DQSB0	DQSB0	8			
MDB63	AF6	DDR1_DQ[63]	DDR1_DQSP[1]	AL33 M_DQSB1	DQSB1	8			
			DDR1_DQSP[2]	AN33 M_DQSB2	DQSB2	8			
			DDR1_DQSP[3]	AN28 M_DQSB3	DQSB3	8			
			DDR1_DQSP[4]	AN12 M_DQSB4	DQSB4	8			
			DDR1_DQSP[5]	AP8 M_DQSB5	DQSB5	8			
			DDR1_DQSP[6]	AL8 M_DQSB6	DQSB6	8			
			DDR1_DQSP[7]	AG7 M_DQSB7	DQSB7	8			
			DDR1_DQSP[8]	AN25					
			DDR1_DQSP[8]	AN26					
AR25	DDR1_ECC[0]								
AR26	DDR1_ECC[1]								
AM26	DDR1_ECC[2]								
AM25	DDR1_ECC[3]								
AF36	DDR1_ECC[4]								
AF35	DDR1_ECC[5]								
AL26	DDR1_ECC[6]								
AL25	DDR1_ECC[7]								
DDR CHANNEL									
AC40	DDR0_VREF_CA		DDR_VREF_CA	AB40 VREF CAB	VREF CAB	8			
AC39	DDR0_VREF_DQ		DDR_VREF_DQ	AC39 VREF DOB	VREF DOB	8			

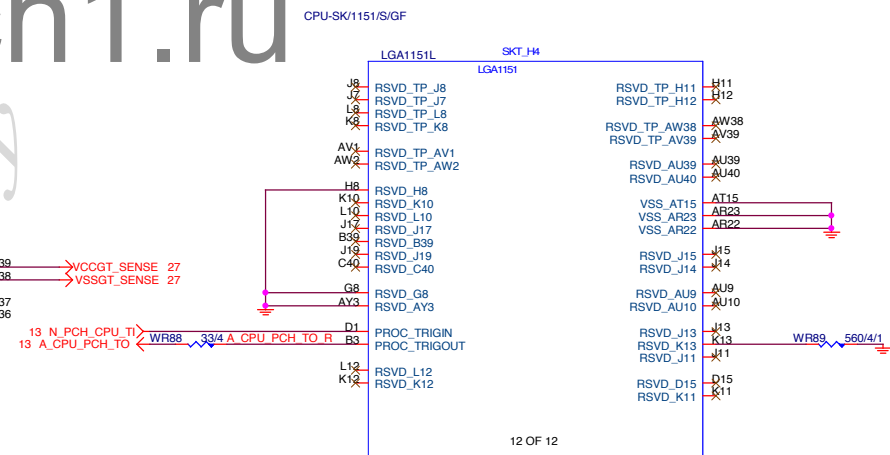
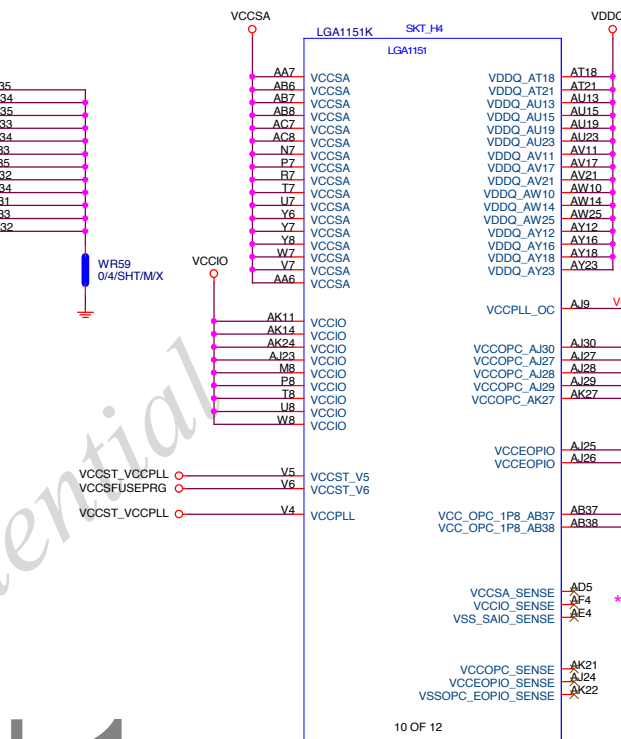
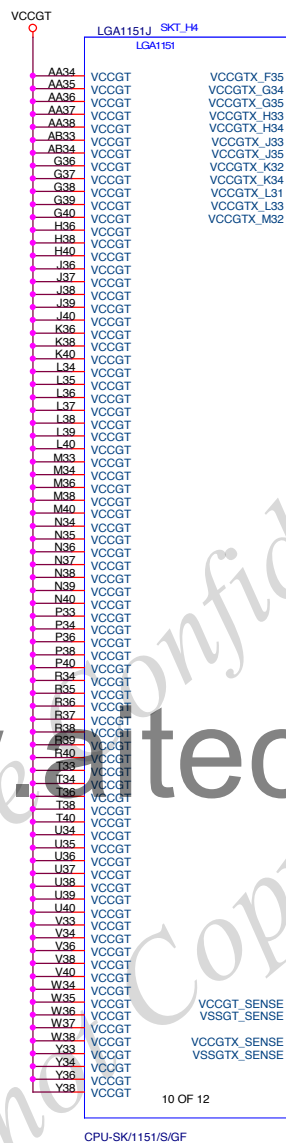
\* 刪 WBC50 電容

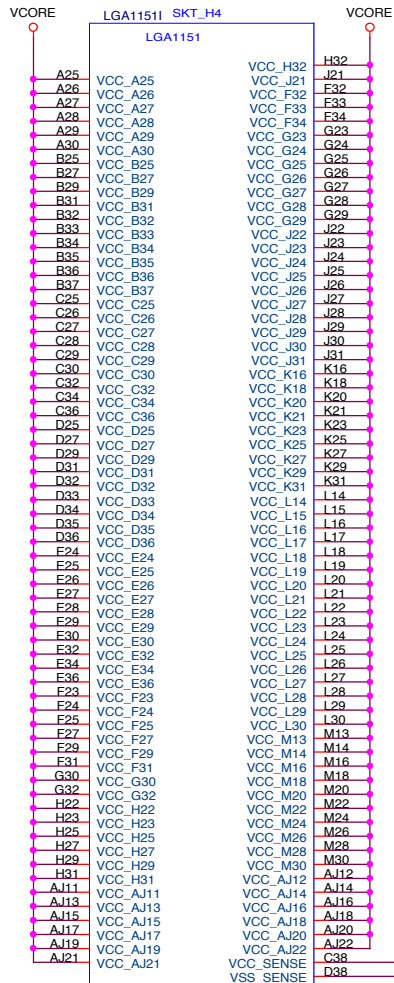


\* 刪 WBC124 , WBC125 , WBC126 , WBC127 電容



\* 刪 VCCGT 電容

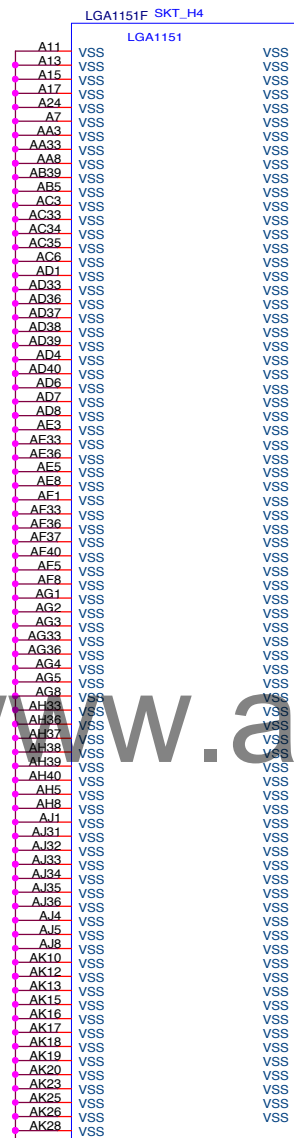




9 OF 12

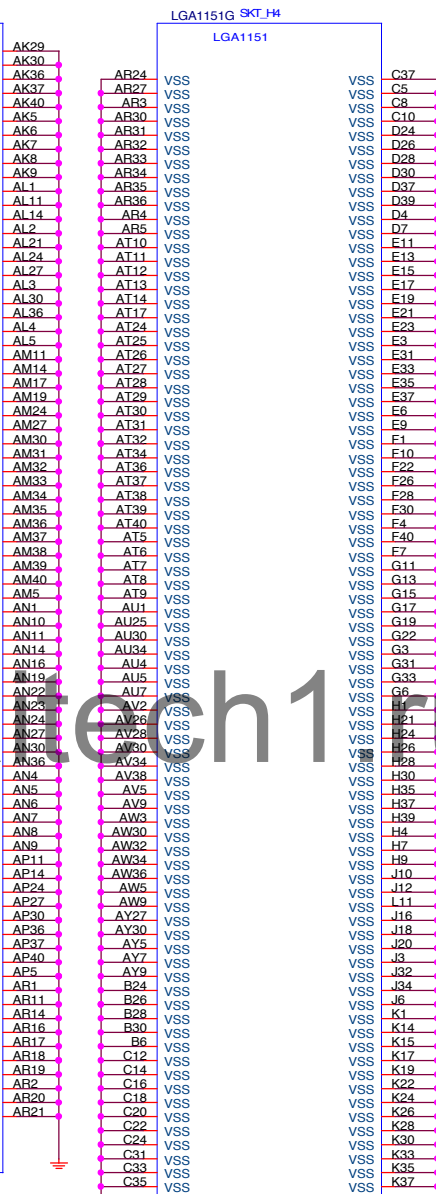
CPU-SK/1151/S/GF

\* 刪 Vcore 電容



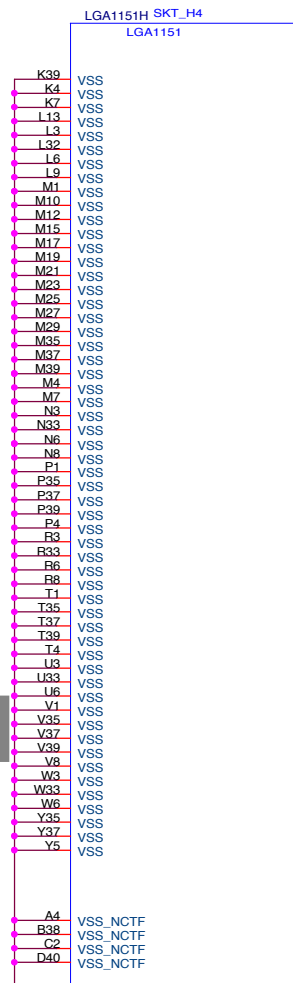
6 OF 12

CPU-SK/1151/S/GF



7 OF 12

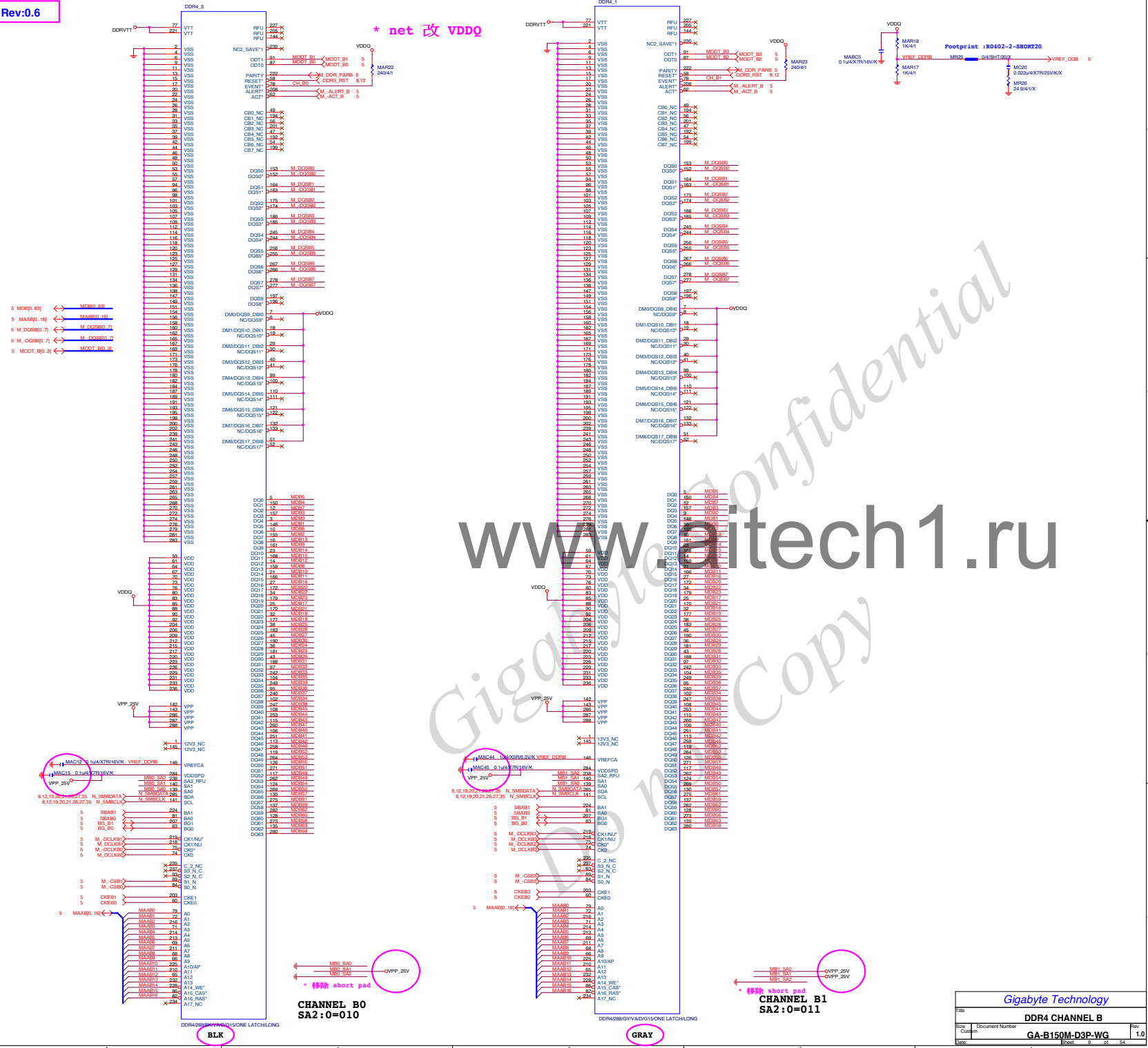
CPU-SK/1151/S/GF



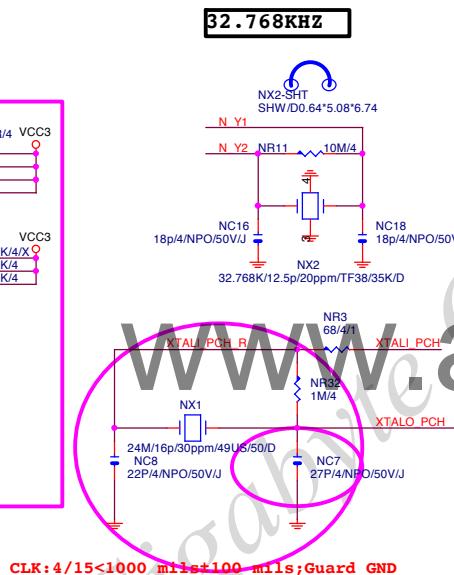
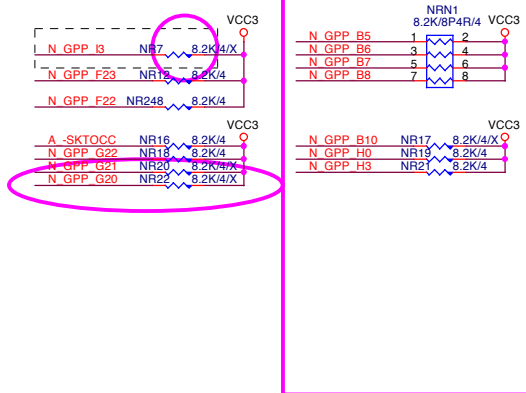
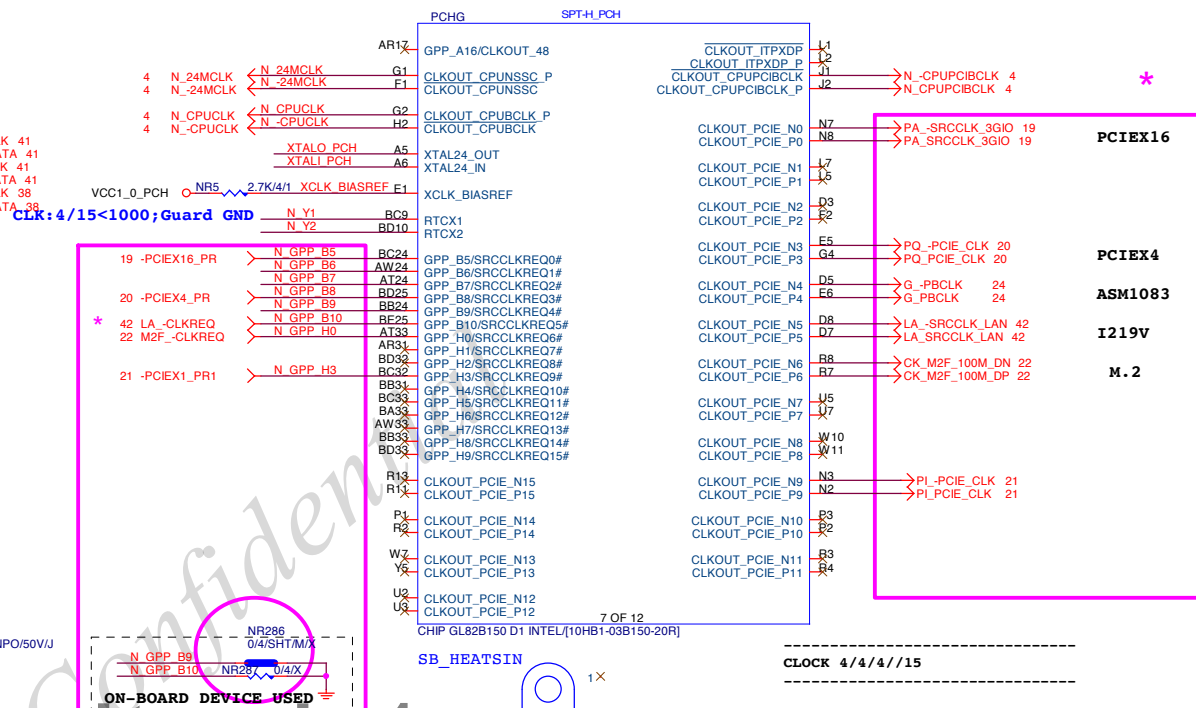
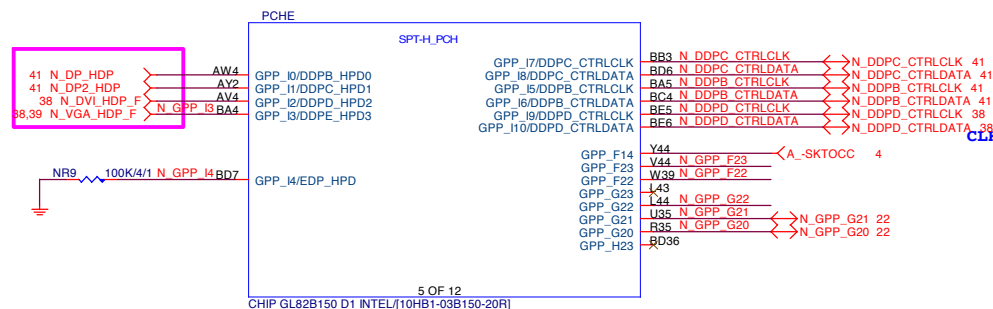
8 OF 12

CPU-SK/1151/S/GF







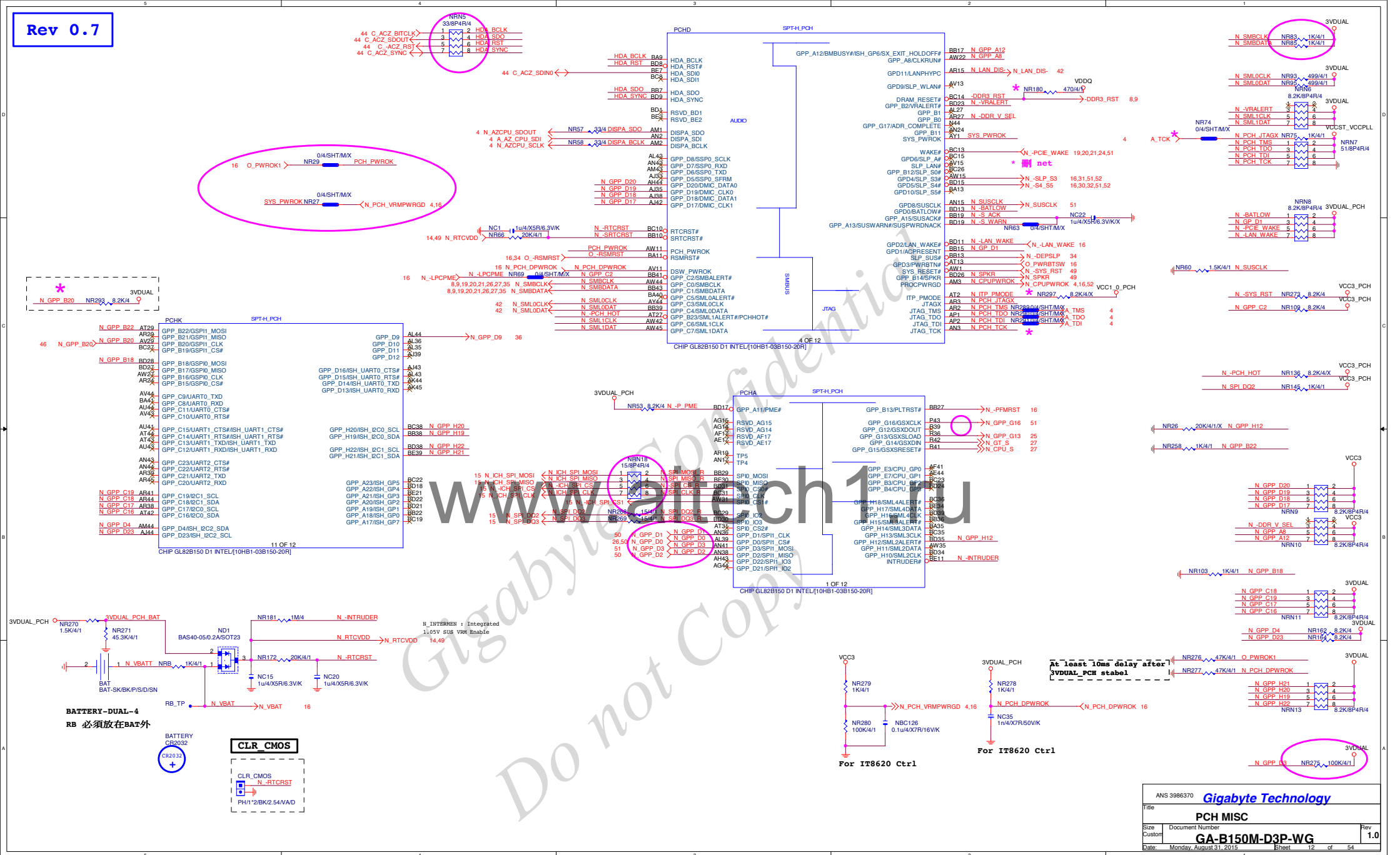


CLK: 4/15<1000 mils±100 mils; Guard GND

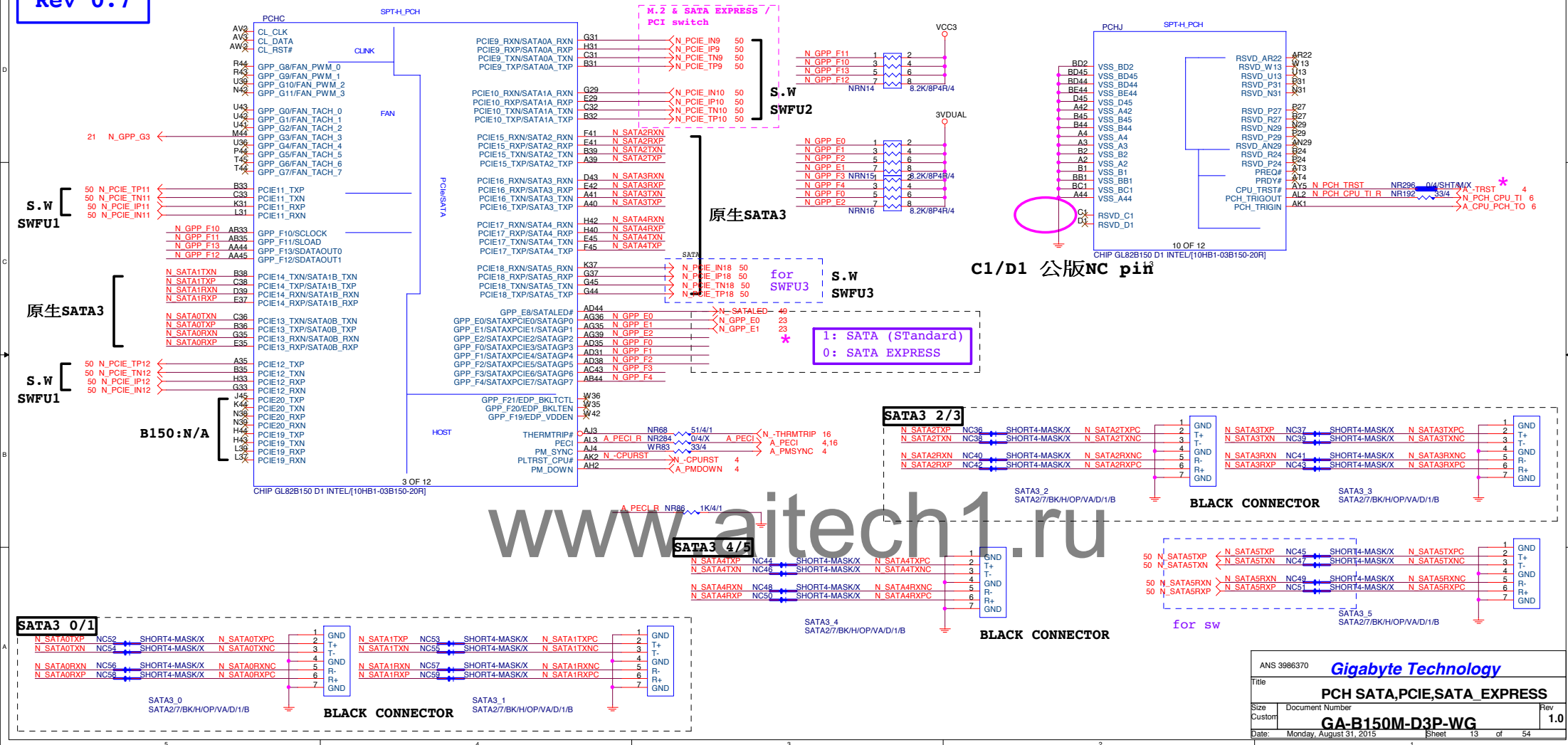
**B85M-D3H Series PCH  
Heatsink**

<b><i>Gigabyte Technology</i></b>			
Title			
<b>PCH CLOCK BUFFER</b>			
Size	Document Number		Rev
Custom			1.0
<b>GA-B15M-D3P-WG</b>			
Date:	Monday, April 31, 2015	Sheet	10 of 54

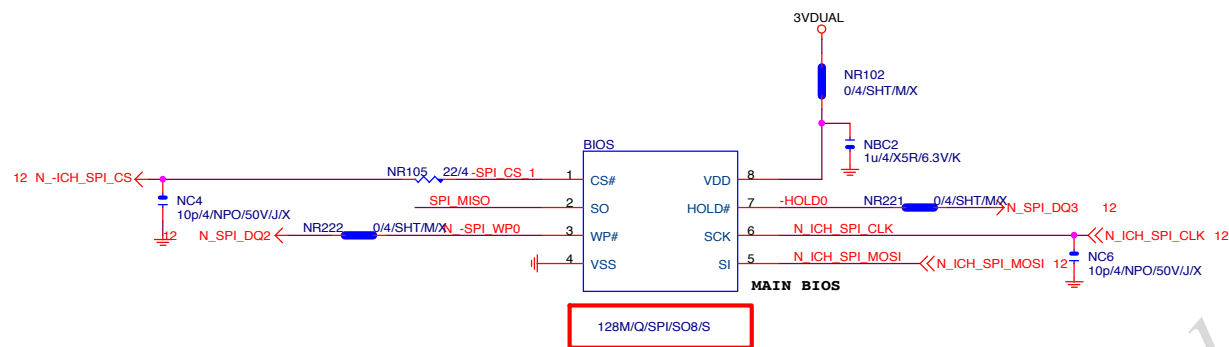






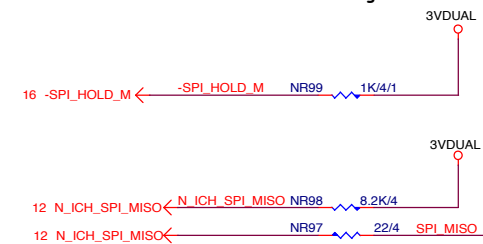






\* (footprint 改  
SOIC8-SPI-SOCKET)  
\* (MP footprint 改 IC8-BIOS)

## MOSI For DMI RX Termination Voltage



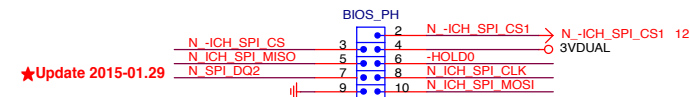
BOOT DEVICE	GNT0	GNT1
LPC	0	0
PCI	0	1
NAND	1	0
SPI	1	1

1 means floating  
0 means PD 1K

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\* 試產先上，PVT 移除

## BIOS\_PH



★Update 2015-01.29

PH2\*5K10/BK/2.54/VA/DX

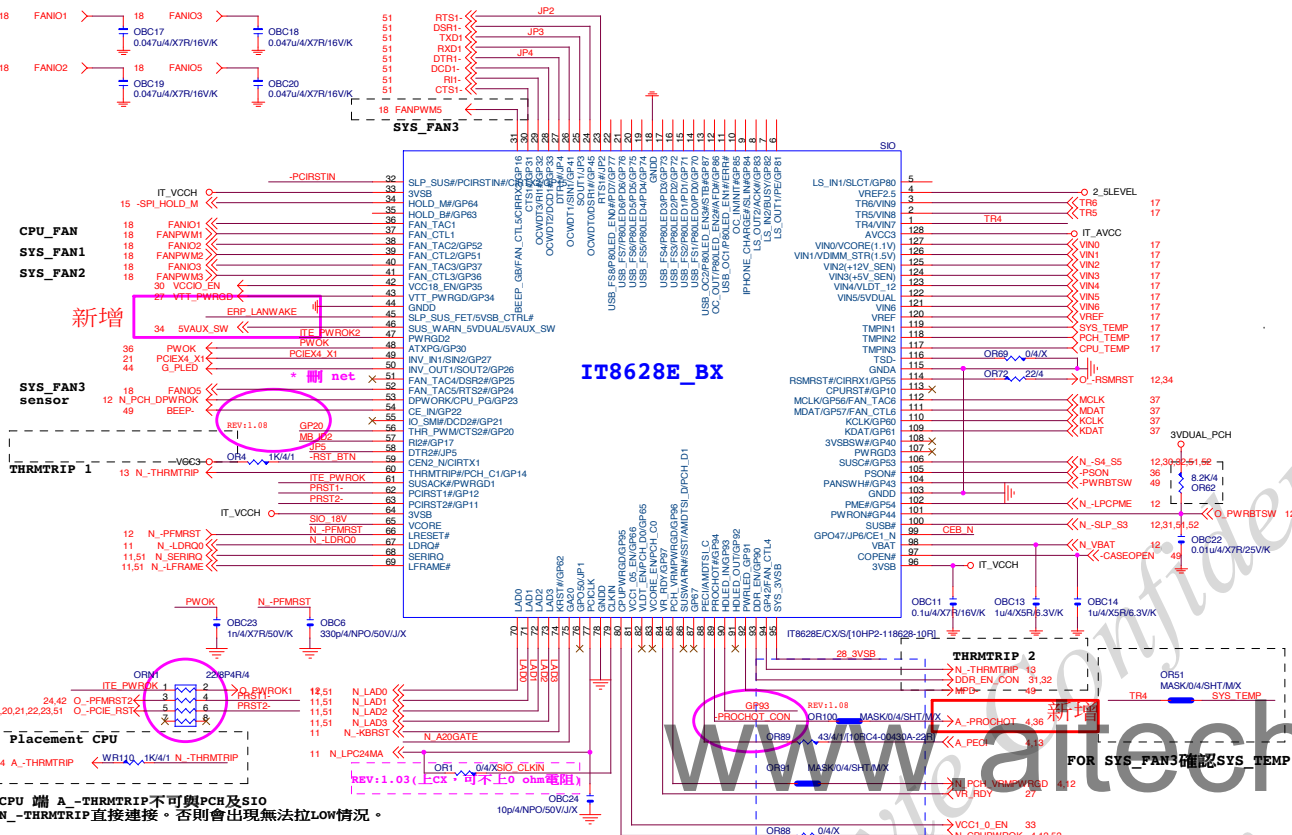
Footprint the same, confirmed by Graceing.

Use COM port pin header part.

**Gigabyte Technology**

Title		BIOS	
Size	Document Number	GA-B150M-D3P-WG	Rev
Custom			1.0
Date:	Monday, August 31, 2015	Sheet	15 of 54

SIO IT8628CX REV:1.08



**FAN TABLE**

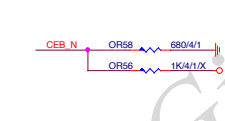
CPU_FAN	FAN_CTL1 FAN_TAC1
SYS_FAN1	FAN_CTL2 FAN_TAC2
SYS_FAN2	FAN_CTL3 FAN_TAC3
SYS_FAN3	FAN_CTL5 FAN_TAC5
OPT FAN OF SYS_FAN4	N/A

**THRMTRIP1** YES PIN60  
**THRMTRIP2** YES PIN94

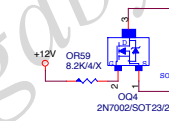
**IT8620E GPIO問題匯整**

PIN 50	GP25-第一次接上POWER時 會拉LO
PIN 90/91	DEFAULT為HLED FUNCTION GP93 BIT#6 TO GP92 高溫時 GP92 會被拉LO (ITE BUG)
PIN 108	GP40--- POWER ON 時會拉 LO
PIN 111/112	MOUSE 跟 FAN6 FUNCTION 擇一使用, 不然會互相干擾
PIN 22	PIN22, 需高於3V, 若低於 此部分COM PORT及LPT裝置 蜂鳴器會異常動作。

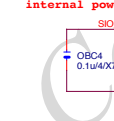
DUAL BIOS OPT STRAP



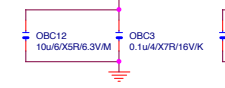
Power leakage



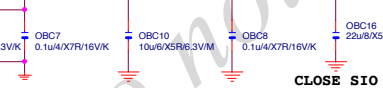
SIO 18V



SIO CAP



CLOSE SIO PIN4 2\_5LEVEL



PWR SHT



SIO PU



SIO STRAP



EUP control detect



FOR SYS\_FAN3及SYS\_TEMP



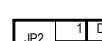
THRMTRIP 2



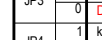
THRMTRIP 1



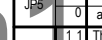
THRMTRIP 0



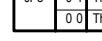
THRMTRIP 3



THRMTRIP 4



THRMTRIP 5



THRMTRIP 6



THRMTRIP 7



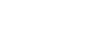
THRMTRIP 8



THRMTRIP 9



THRMTRIP 10



THRMTRIP 11



THRMTRIP 12



THRMTRIP 13



THRMTRIP 14



ERP WAKE on LAN (依LAN組態選擇)



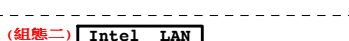
Intel LAN



12 N\_LAN\_WAKE



12 N\_LAN\_WAKE



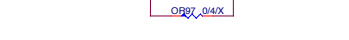
12 N\_LAN\_WAKE



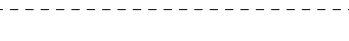
12 N\_LAN\_WAKE



12 N\_LAN\_WAKE



12 N\_LAN\_WAKE



12 N\_LAN\_WAKE



12 N\_LAN\_WAKE



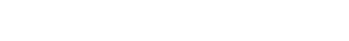
12 N\_LAN\_WAKE



12 N\_LAN\_WAKE



12 N\_LAN\_WAKE



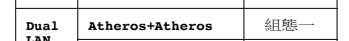
12 N\_LAN\_WAKE



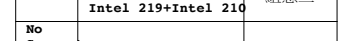
12 N\_LAN\_WAKE



12 N\_LAN\_WAKE



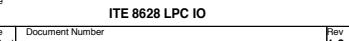
12 N\_LAN\_WAKE



12 N\_LAN\_WAKE



12 N\_LAN\_WAKE



12 N\_LAN\_WAKE



Gigabyte Technology

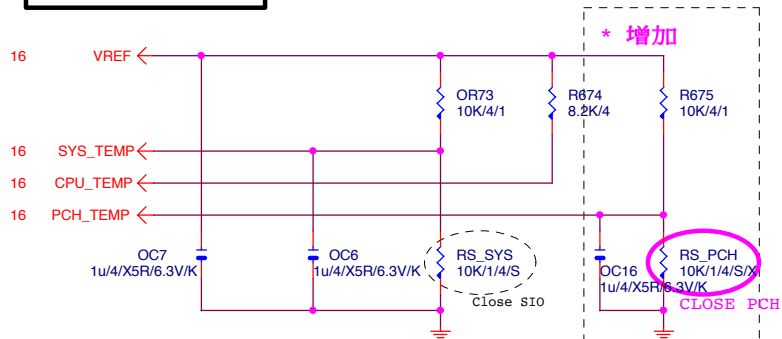
File  
ITE 8628 LPC IO

Size  
Document Number  
Custom  
GA-B150M-D3P-WG

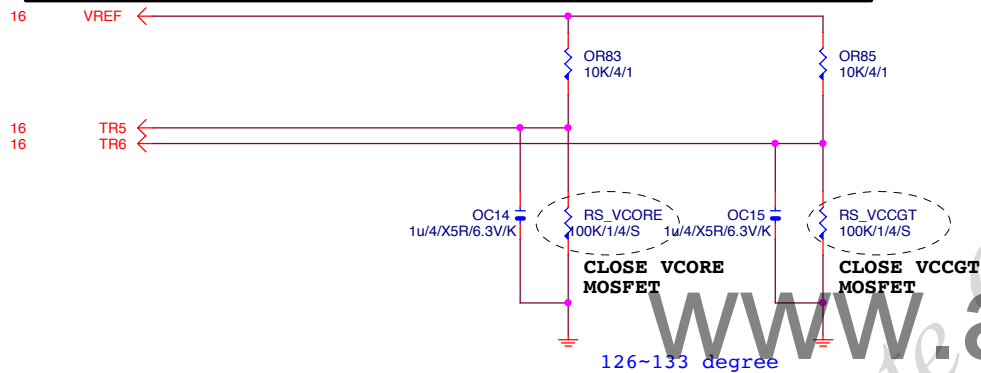
Date  
Monday, August 31, 2015  
Sheet  
16 of 54

## TEMP H/W MONITOR

REV 1.08



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

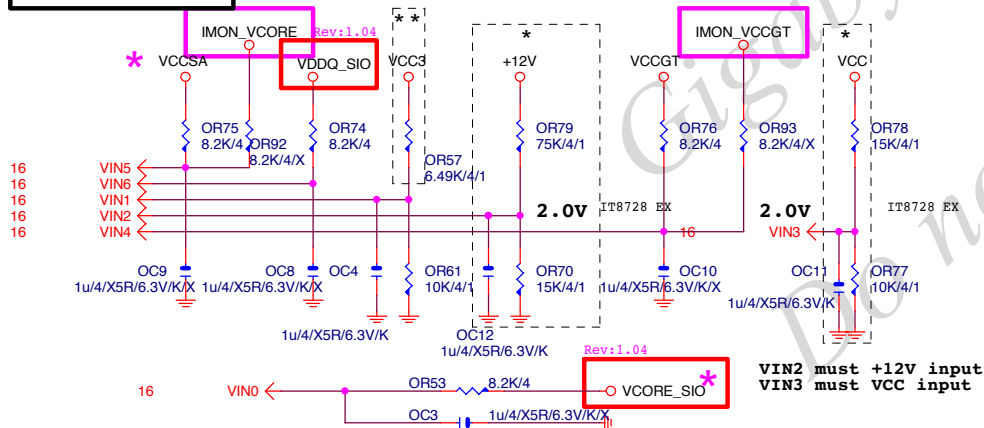
~~Prochot: 有mos heartsink不用prochot function~~

## VOLTAGE-- H/W MONITOR

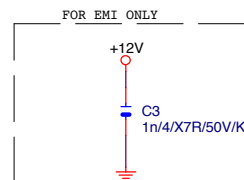
Connect to PWM

\* IT8728 BX  
\* IT8728 CX

Connect to PWM



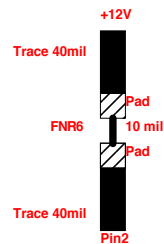
The division voltage of VIN2 &amp; VIN3 must be around 2.9V

VIN2 must +12V input  
VIN3 must VCC input

Gigabyte Technology

Title				
HWM,KB/MS, FAN CTRL				
Size	Document Number			Rev
Custom	GA-B150M-D3P-WG			1.0
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## Rev: 0.7



Linear SYS\_FAN

**A.**



**B.**

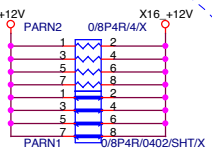


C.



## Gigabyte Technology

Title			
FAN CTRL			
Size	Document Number		Rev
Custom	GA-B150M-D3P-WG		1.0
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+12V\_protect  
short-wire test

8,9,12,20,21,26,27,35 N\_SMBCLK  
8,9,12,20,21,26,27,35 N\_SMBDATA

12,20,21,24,51 N\_-PCIE\_WAKE

10 -PCIE16\_PR

PA\_EXP\_RXP[0..15] >> PA\_EXP\_RXP[0..15] 4  
PA\_EXP\_RXN[0..15] >> PA\_EXP\_RXN[0..15] 4  
PA\_EXP\_TXP[0..15] >> PA\_EXP\_TXP[0..15] 4  
PA\_EXP\_TXN[0..15] >> PA\_EXP\_TXN[0..15] 4

PA_EXP_TXP0	PAC5	0.22u/4/X5R/6.3V/K	PA_EXP_TXP0 C
PA_EXP_TXN0	PAC4	0.22u/4/X5R/6.3V/K	PA_EXP_TXN0 C
PA_EXP_TXP1	PAC6	0.22u/4/X5R/6.3V/K	PA_EXP_TXP1 C
PA_EXP_TXN1	PAC7	0.22u/4/X5R/6.3V/K	PA_EXP_TXN1 C
PA_EXP_TXP2	PAC8	0.22u/4/X5R/6.3V/K	PA_EXP_TXP2 C
PA_EXP_TXN2	PAC9	0.22u/4/X5R/6.3V/K	PA_EXP_TXN2 C
PA_EXP_TXP3	PAC10	0.22u/4/X5R/6.3V/K	PA_EXP_TXP3 C
PA_EXP_TXN3	PAC11	0.22u/4/X5R/6.3V/K	PA_EXP_TXN3 C
PA_EXP_TXP4	PAC12	0.22u/4/X5R/6.3V/K	PA_EXP_TXP4 C
PA_EXP_TXN4	PAC13	0.22u/4/X5R/6.3V/K	PA_EXP_TXN4 C
PA_EXP_TXP5	PAC14	0.22u/4/X5R/6.3V/K	PA_EXP_TXP5 C
PA_EXP_TXN5	PAC15	0.22u/4/X5R/6.3V/K	PA_EXP_TXN5 C
PA_EXP_TXP6	PAC16	0.22u/4/X5R/6.3V/K	PA_EXP_TXP6 C
PA_EXP_TXN6	PAC17	0.22u/4/X5R/6.3V/K	PA_EXP_TXN6 C
PA_EXP_TXP7	PAC18	0.22u/4/X5R/6.3V/K	PA_EXP_TXP7 C
PA_EXP_TXN7	PAC19	0.22u/4/X5R/6.3V/K	PA_EXP_TXN7 C
PA_EXP_TXP8	PAC21	0.22u/4/X5R/6.3V/K	PA_EXP_TXP8 C
PA_EXP_TXN8	PAC20	0.22u/4/X5R/6.3V/K	PA_EXP_TXN8 C
PA_EXP_TXP9	PAC22	0.22u/4/X5R/6.3V/K	PA_EXP_TXP9 C
PA_EXP_TXN9	PAC23	0.22u/4/X5R/6.3V/K	PA_EXP_TXN9 C
PA_EXP_TXP10	PAC24	0.22u/4/X5R/6.3V/K	PA_EXP_TXP10 C
PA_EXP_TXN10	PAC25	0.22u/4/X5R/6.3V/K	PA_EXP_TXN10 C
PA_EXP_TXP11	PAC26	0.22u/4/X5R/6.3V/K	PA_EXP_TXP11 C
PA_EXP_TXN11	PAC27	0.22u/4/X5R/6.3V/K	PA_EXP_TXN11 C
PA_EXP_TXP12	PAC28	0.22u/4/X5R/6.3V/K	PA_EXP_TXP12 C
PA_EXP_TXN12	PAC29	0.22u/4/X5R/6.3V/K	PA_EXP_TXN12 C
PA_EXP_TXP13	PAC30	0.22u/4/X5R/6.3V/K	PA_EXP_TXP13 C
PA_EXP_TXN13	PAC31	0.22u/4/X5R/6.3V/K	PA_EXP_TXN13 C
PA_EXP_TXP14	PAC32	0.22u/4/X5R/6.3V/K	PA_EXP_TXP14 C
PA_EXP_TXN14	PAC33	0.22u/4/X5R/6.3V/K	PA_EXP_TXN14 C
PA_EXP_TXP15	PAC34	0.22u/4/X5R/6.3V/K	PA_EXP_TXP15 C
PA_EXP_TXN15	PAC35	0.22u/4/X5R/6.3V/K	PA_EXP_TXN15 C

PCIE16:16/5/5/5/16

PCI-E REV:1.1--> 2.5GHZ

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

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

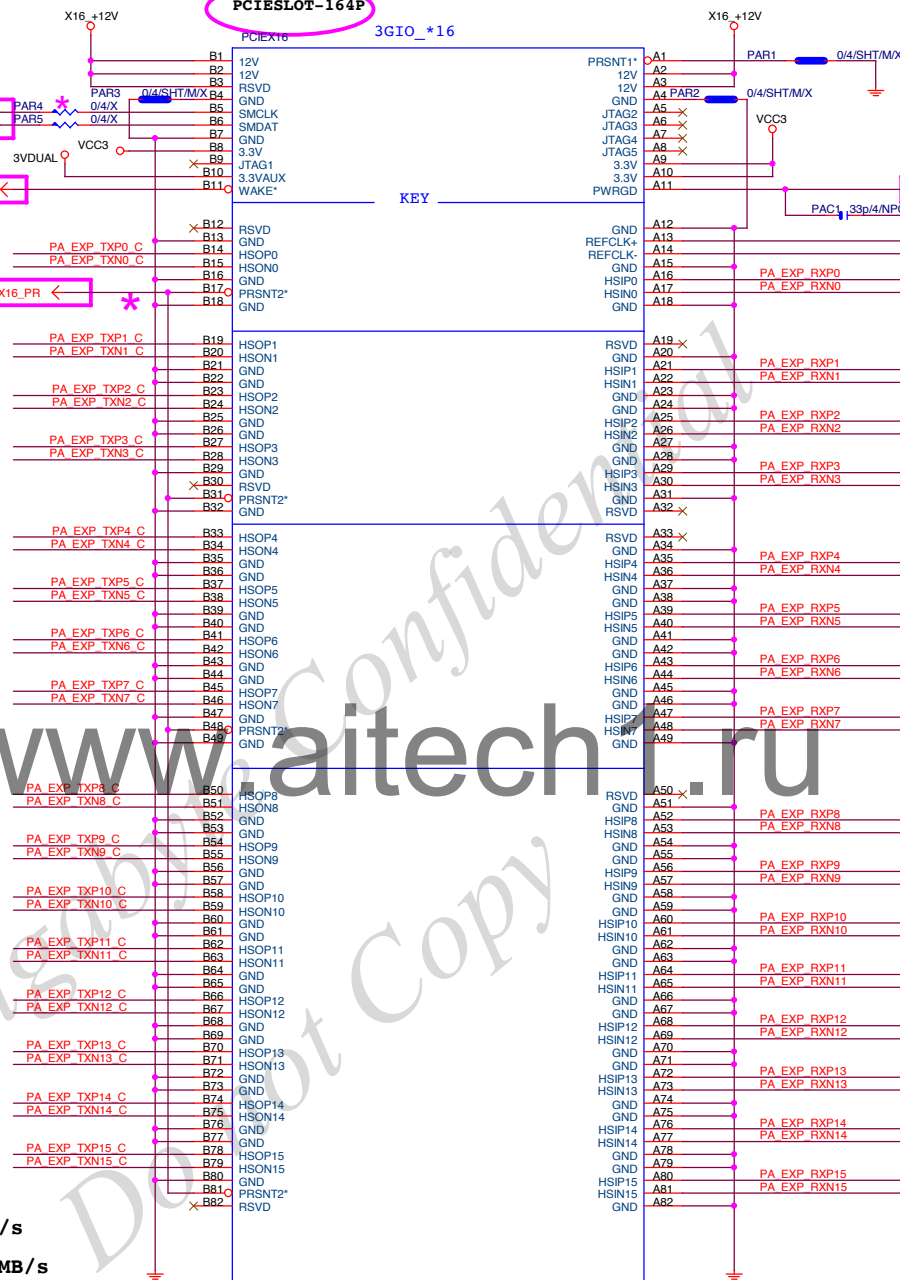
PCE-E X16(單向) BANDWIDTH=2.5GHz\*(8b/10b)X16=32Gb/s=4GB/s

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

PCI-E REV:2.0--> 5GHZ

## PCIESLOT-164P

3GIO\_\*16

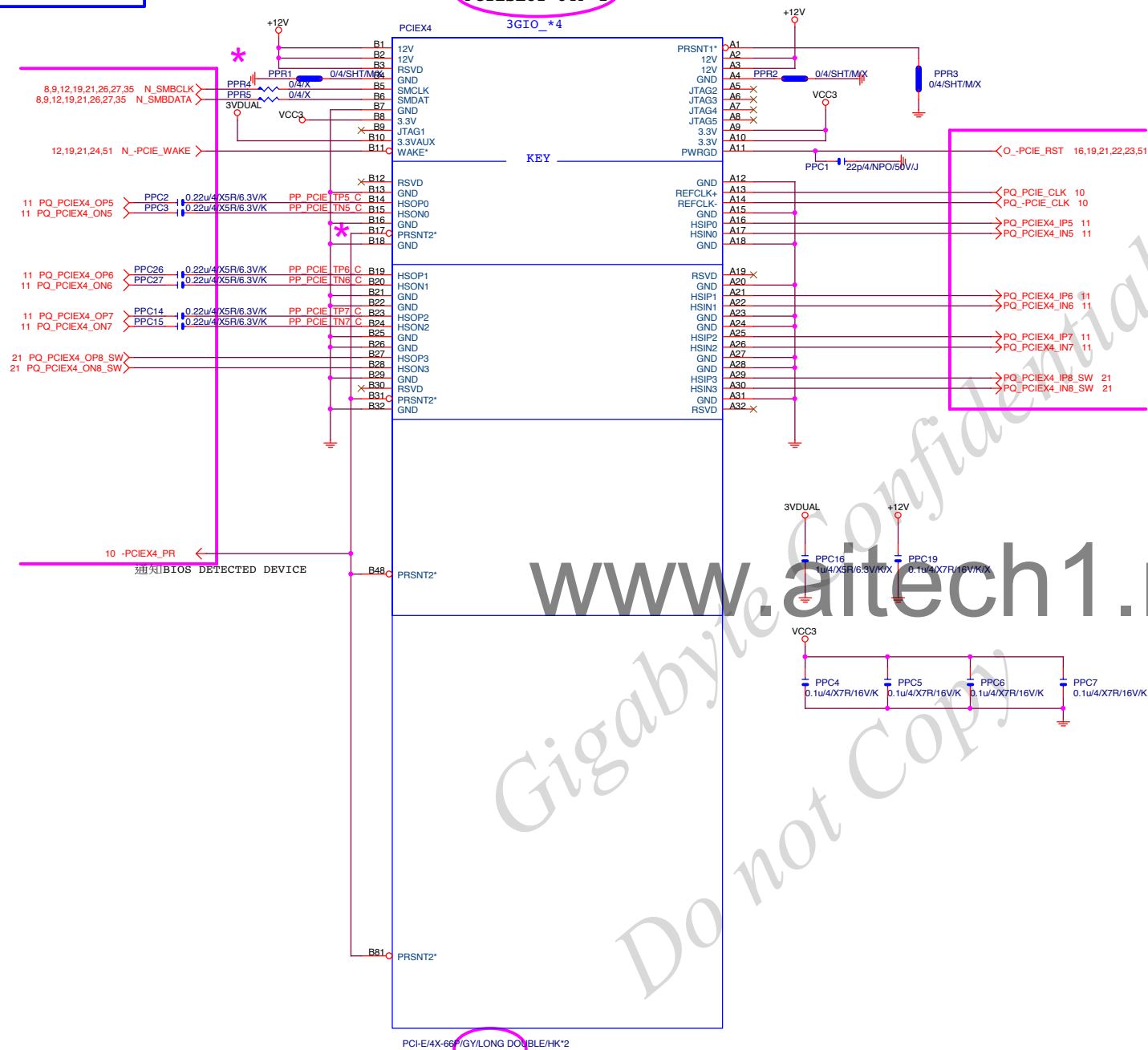


PCE-E/16X-164P/GY/LONG DOUBLE/HK\*2

Gigabyte Technology

Title			PCI EXPRESS * 16	
Size	Document Number	Rev		1.0
Custom	GA-B150M-D3P-WG			
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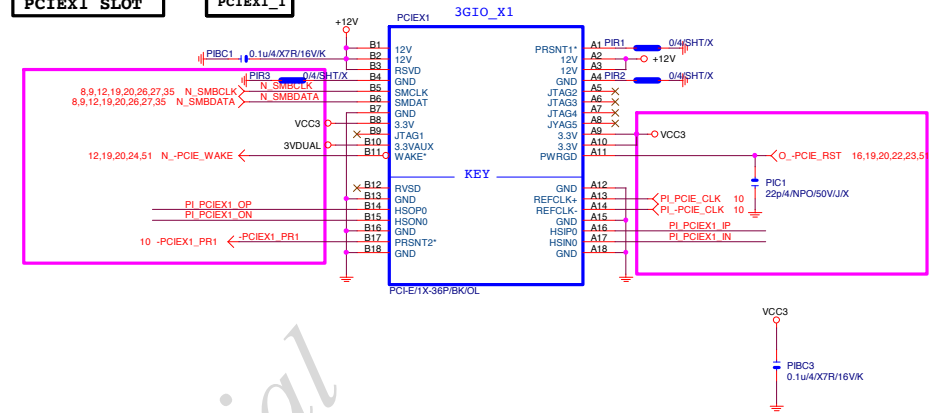
Gigabyte Technology

Title			PCIE X4
Size	Document Number	Rev	
Custom			GA-B150M-D3P-WG 1.0
Date:	Monday, August 31, 2015	Sheet	20 of 54

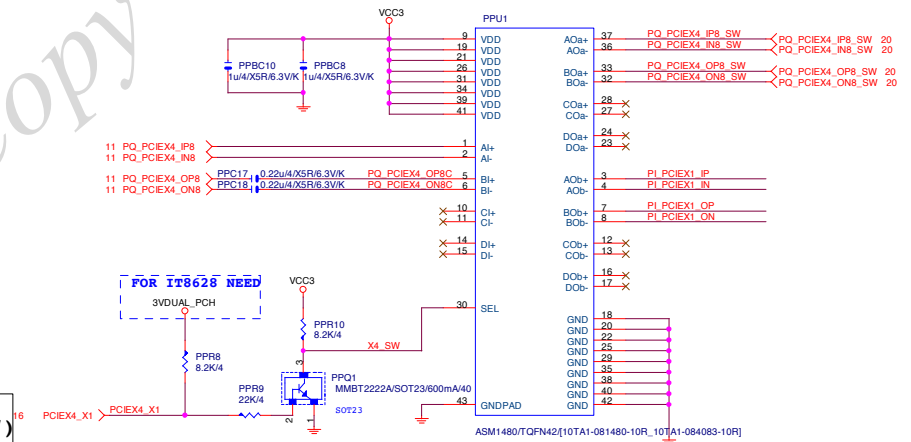


## PCIEX1 SLOT

## PCIEX1\_1



## PCIEX4/X1 SWITCH



	N_GPP_G3 (PCH_GPP_G3)	PCIEX4_X1 (SIO_GPIO27)
PCIEX4 -> X4 M2_WIFI -> N/A PCIEX1 -> N/A (Default)	H	H
PCIEX4 -> X1 M2_WIFI -> X1 PCIEX1 -> X1	L	L

Function	SEL
X1--> X0a	L;PCIEX4_SLOT-->X1
X1--> X0b	H;PCIEX4_SLOT-->X4

## Gigabyte Technology

Title		
PCIE X1 1,2		
Size	Document Number	Rev
Custom	GA-B150M-D3P-WG	1.0
Date:	Monday, August 31, 2015	Sheet 21 of 54

Rev 0.7

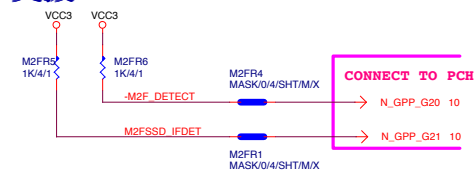
M.2 Lane4 from PCH port18

M.2 Lane3 from PCH port17

M.2 Lane2 from PCH port16

M.2 Lane2 from PCH port15 or port 24

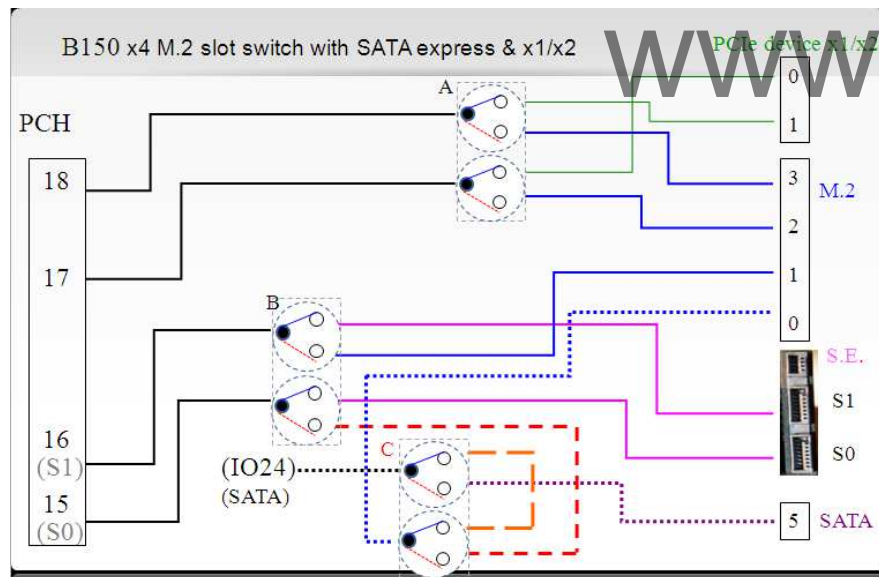
支援SATA and M.2 function



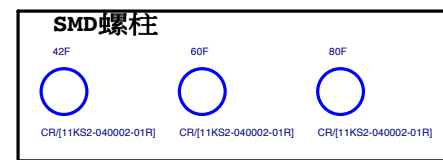
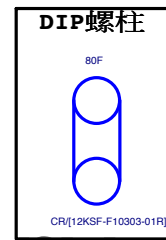
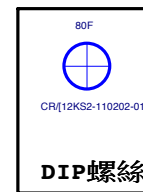
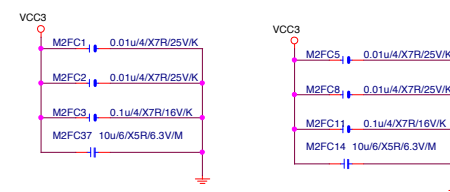
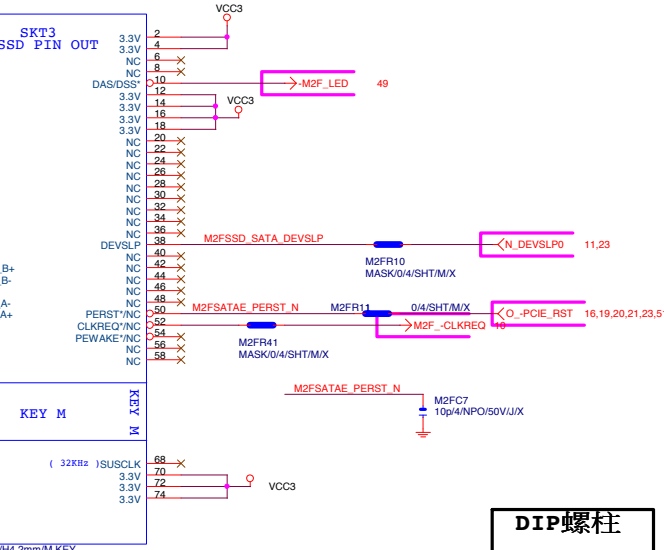
需與M2\_-CLKREQ對應

SATA : GND.  
PCIE : NC

M2插卡時為Low



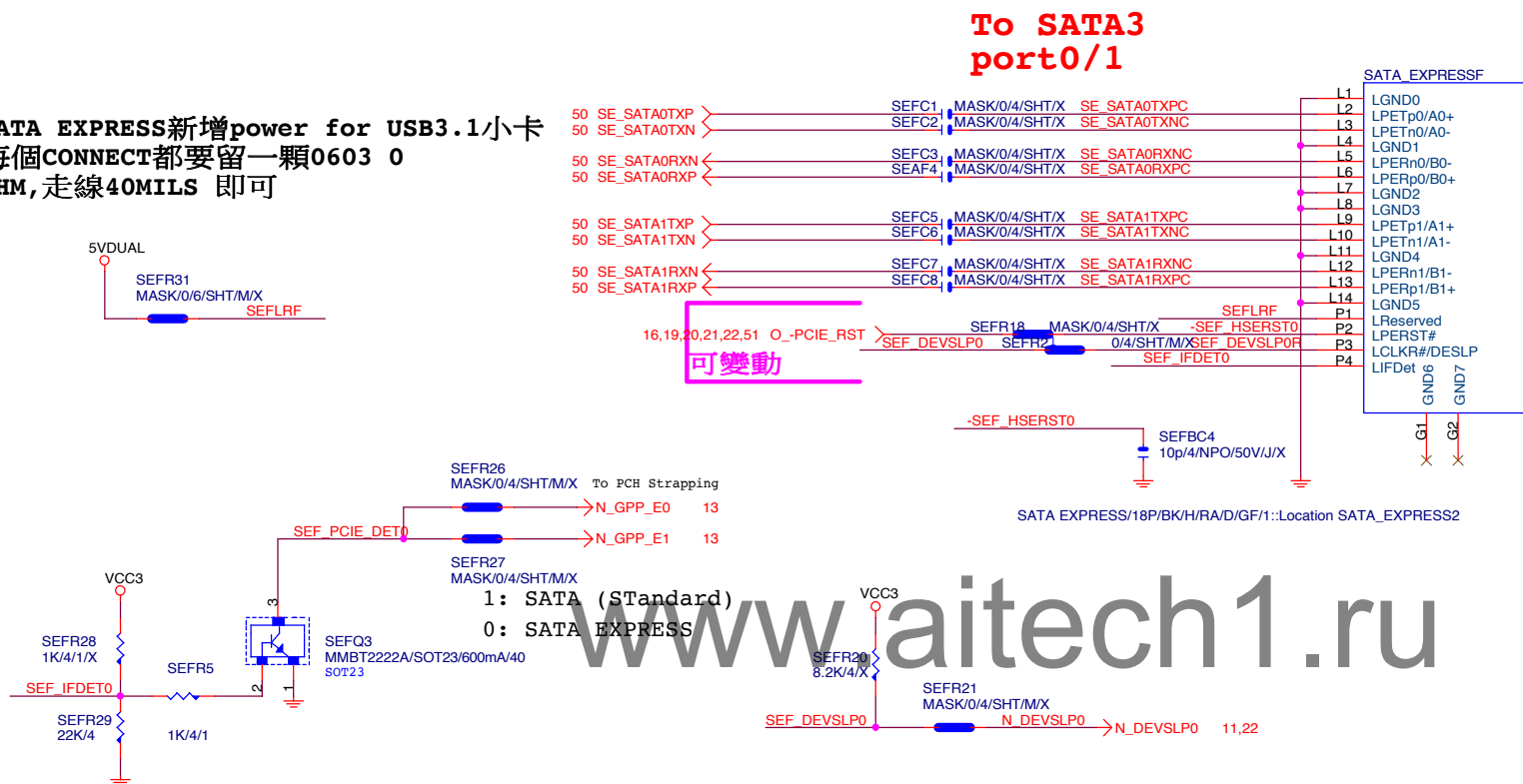
www.aitech1.ru

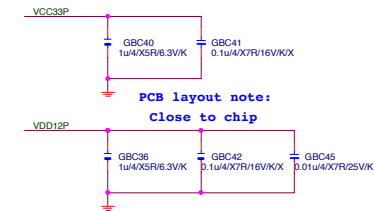
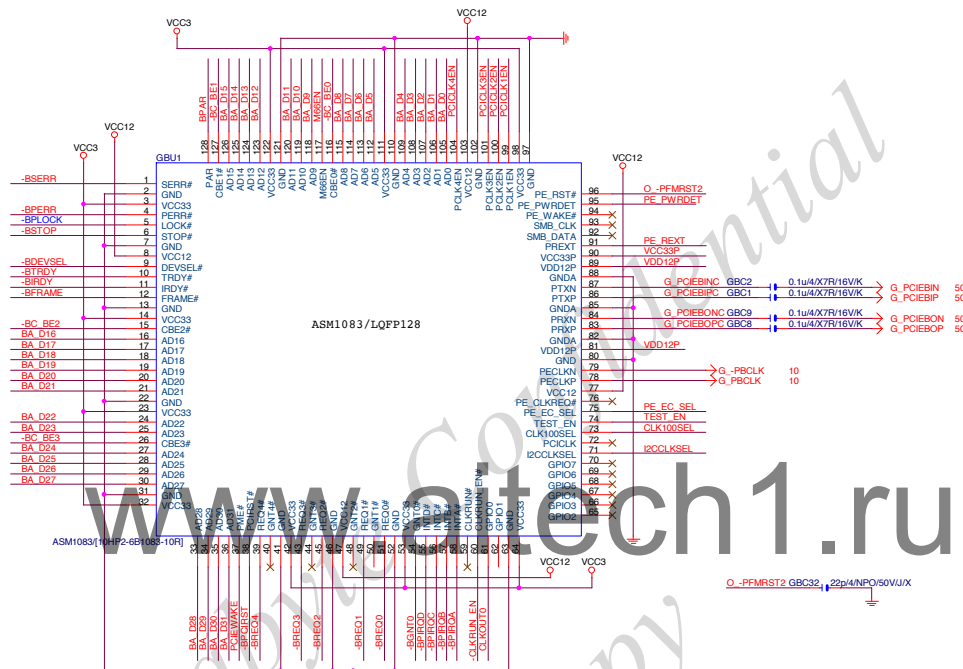
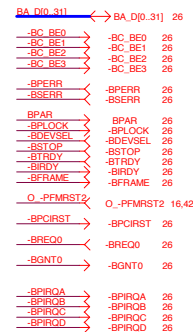
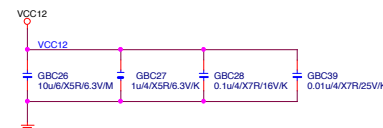
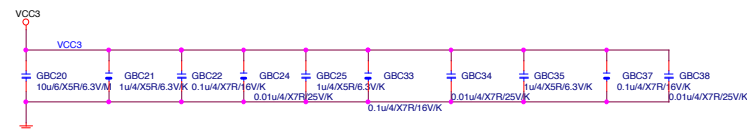


Gigabyte Technology			
M.2 X4			
Title	Document Number	Rev	1.0
Size	GA-B150M-D3P-WG		
Custom			
Date:	Monday, August 31, 2015	Sheet	22 of 54

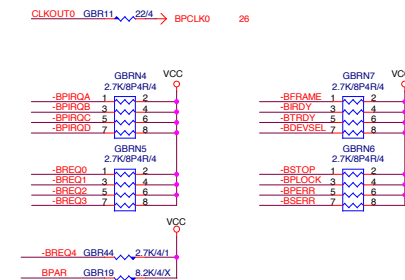
**Rev 0.7**

**SATA EXPRESS新增power for USB3.1小卡  
每個CONNECT都要留一顆0603 0  
OHM,走線40MILS 即可**





PCB layout note:  
Close to chip



### CLK100SEL Strapping Set

CLK100SEL	H	L
PCIe CLK	100M +/-N%	100M +/-N%
PCICLK_IN	X	33M
PCICLK0	33M +/-N%	33M

PE\_EC\_SEL-  
 "H" for Express Card mode  
 "L" for PCIe Riser Card  
 mode

CLK100SEL-  
 "H" for PECLK input only  
 "L" for PECLK & PCICKL

TEST\_EN-

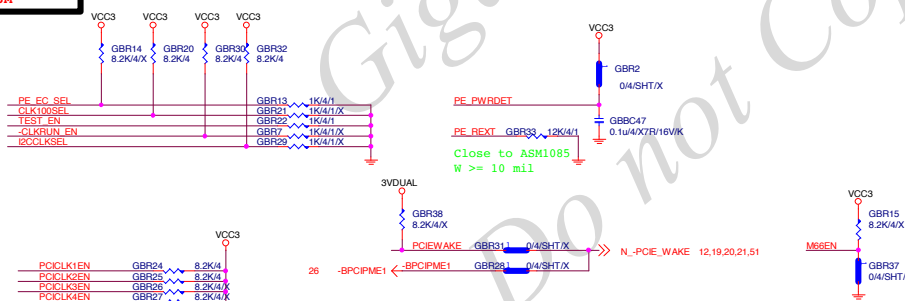
"H" for Test Mode Enable  
"L" for Test Mode

Disable  
CLKRUN EN

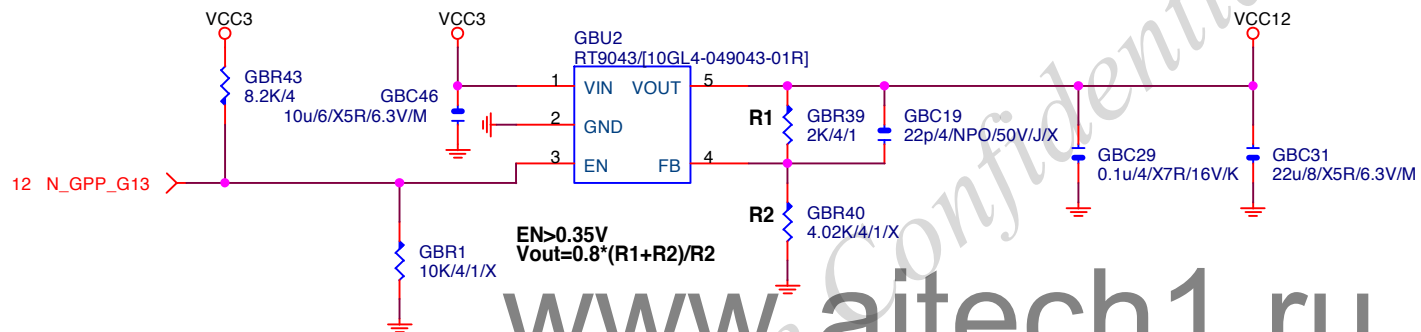
"H" for CLKRUN Mode Disable

I2CCLKSEL=

"H" is 135KHz I2CCLK  
"x" is 63.5KHz I2CCLK



Rev 0.8



Gigabyte Technology

Title

ASM1085 POWER

Size  
Custom

Document Number

GA-B150M-D3P-WG

Rev  
1.0

Date: Monday, August 31, 2015

Sheet 25 of 54

**PCI SLOT 1**



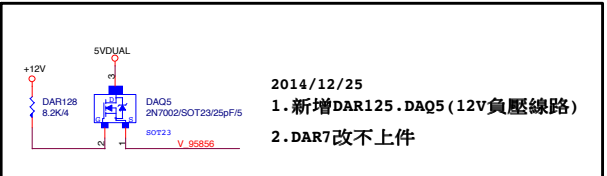
Title	PCI SLOT 1&2
-------	--------------

**GA-B150M-D3P-WG**

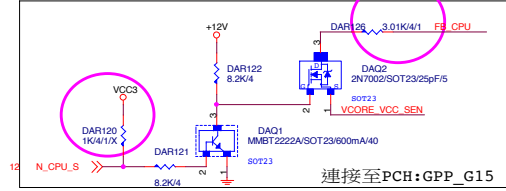
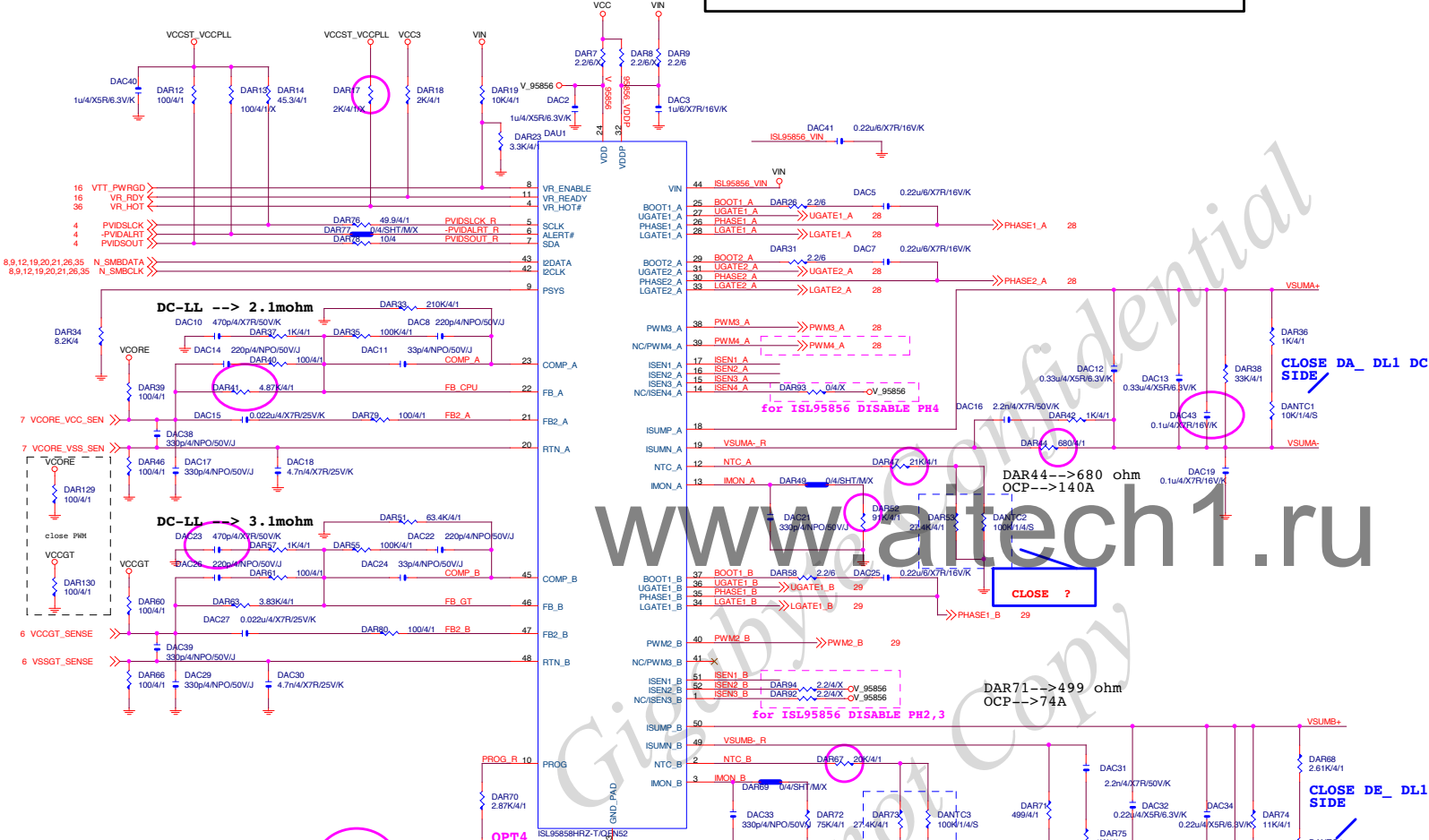
Rev	1.0
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Date: Monday, August 31, 2015

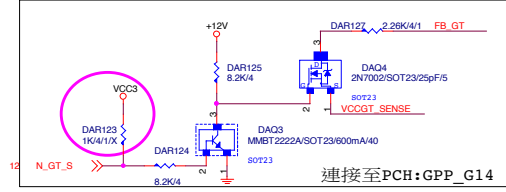
Sheet 26 of 54



2014/12/25  
1. 新增DAR125. DAQ5 (12V負壓線路)  
2. DAR7改不上件

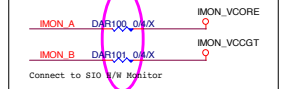


連接至PCH:GPP\_G15

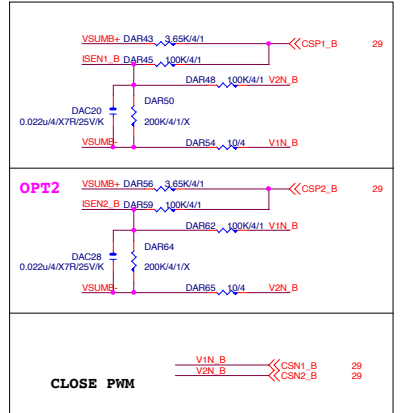
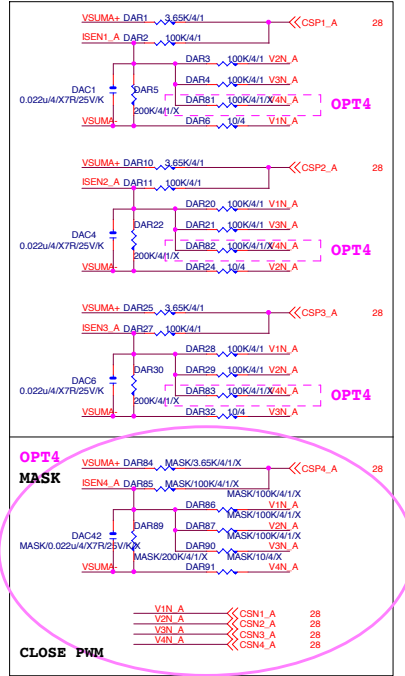


連接至PCH:GPP\_G14

先上ISL95858, 預留ISL95856 4PHASE

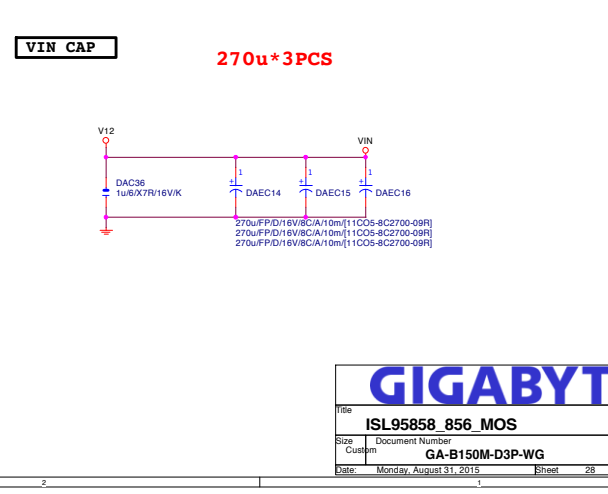
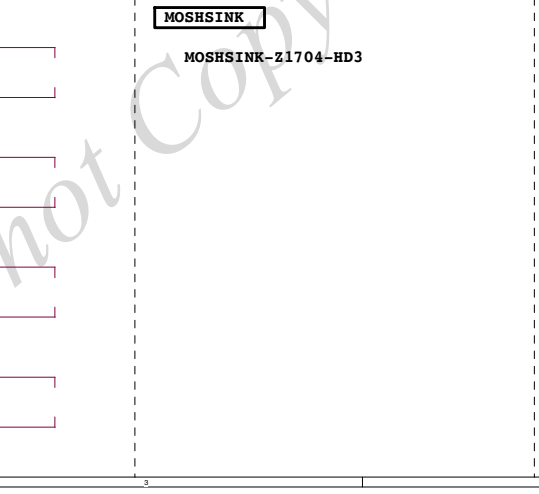
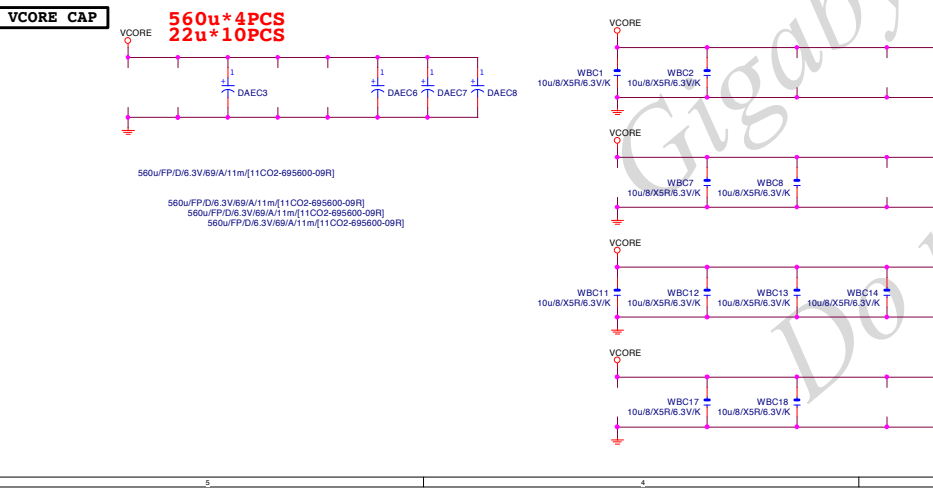
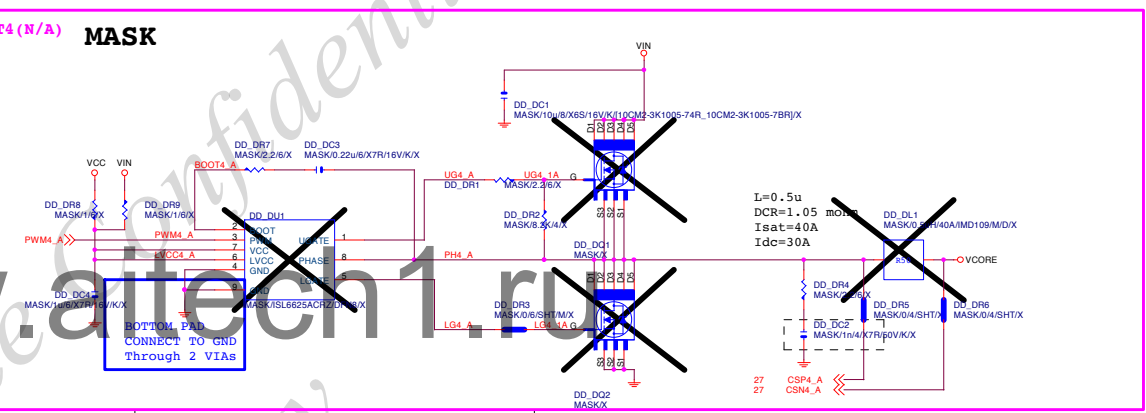
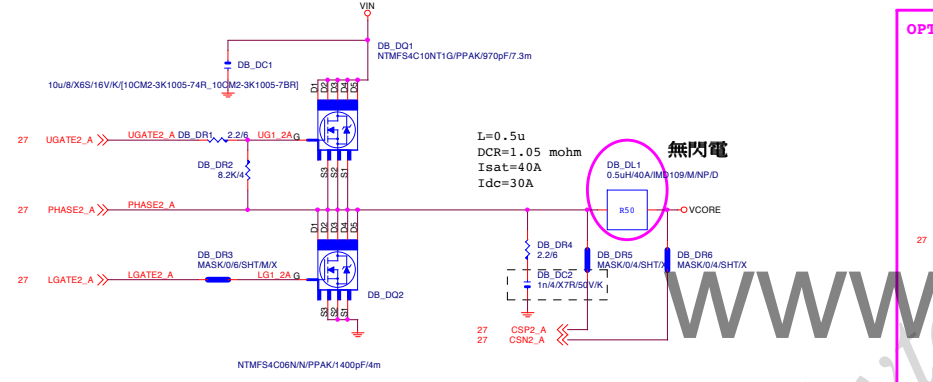
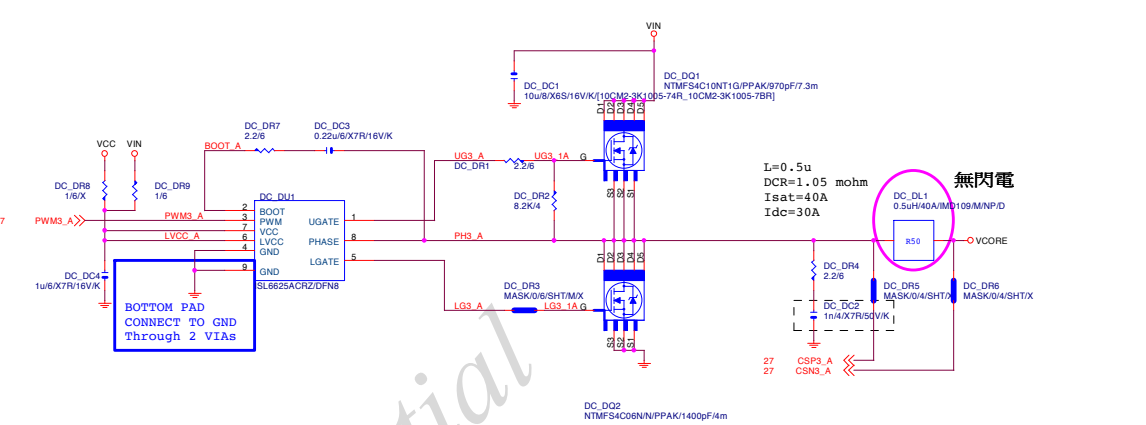
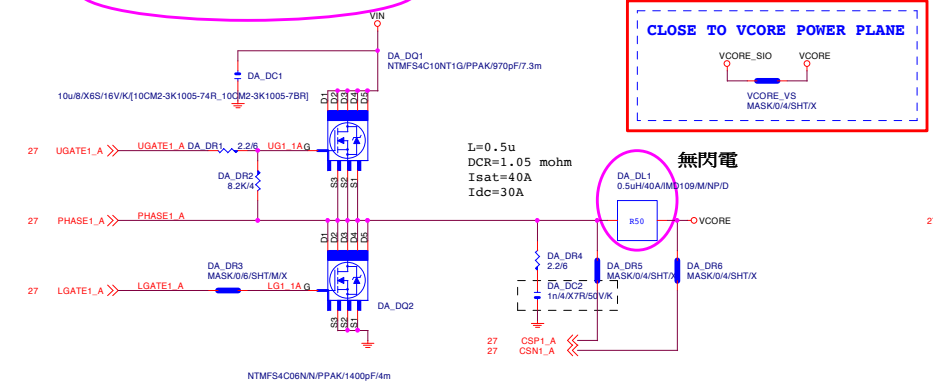


Connect to S10 V/W Monitor



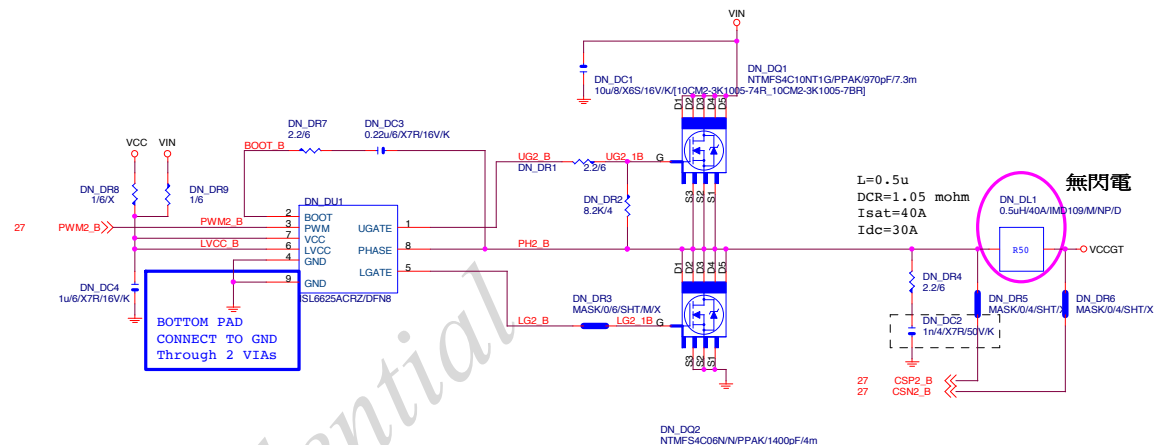
2014/12/19 REV:0.7  
1. N\_CPU\_S連接至PCH:GPP\_G15  
2. N\_GT\_S連接至PCH:GPP\_G14

VCORE REV:0.15-IRON CHOKE

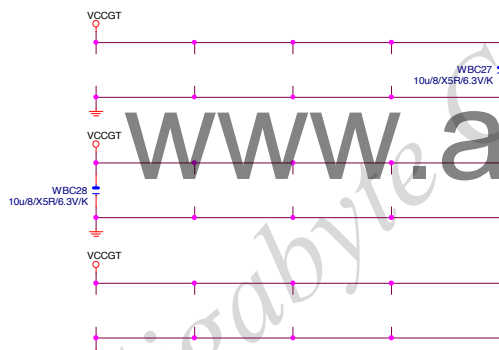
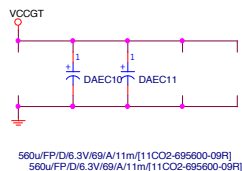




**REV:0.15-IRON CHOKE**



560u\*2PCS  
22u\*2PCS



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# GIGABYTE

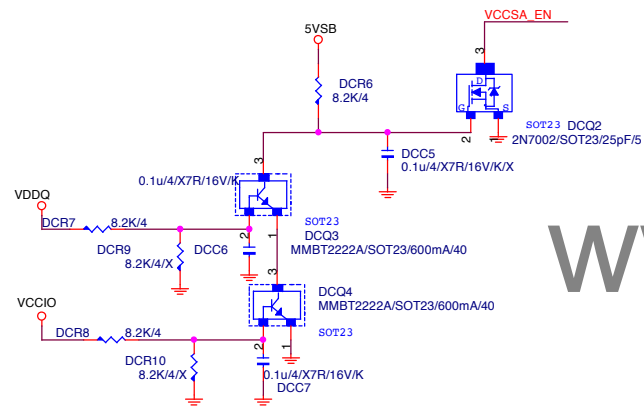
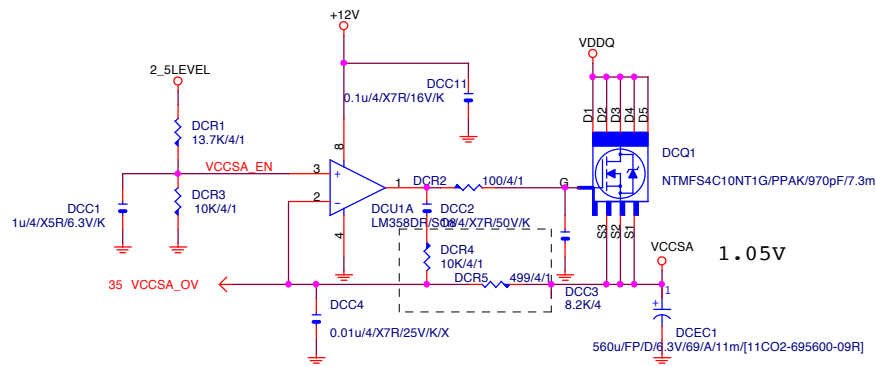
Title  
**ISL95858\_MOS**

Size	Document Number
Custom	<b>GA-B150M-D3P-WG</b>

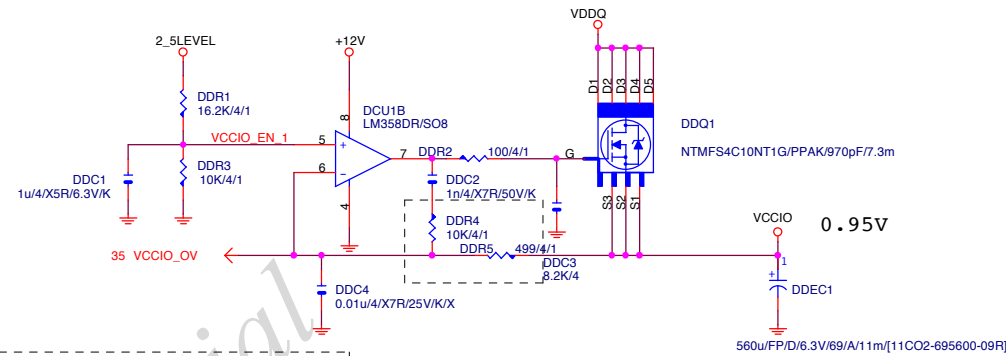
Date: Monday, August 31, 2015 Sheet 29 of 54

Rev	1.0
-----	-----

VCCSA REV:0.4



VCCIO

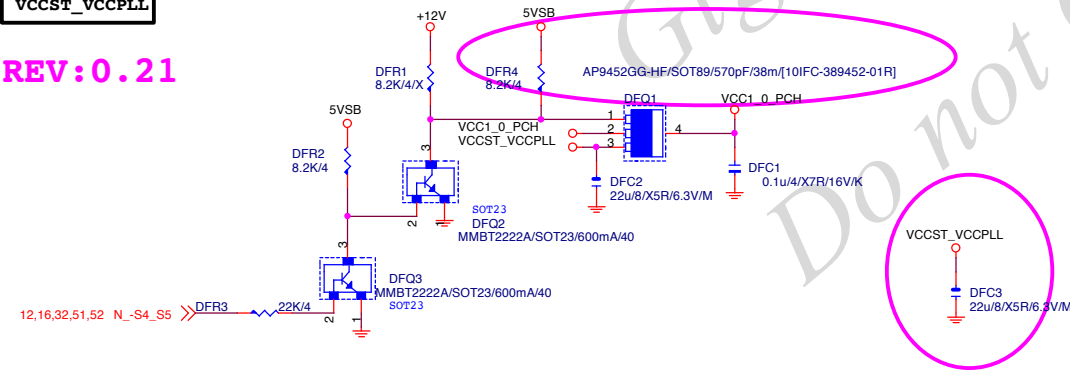


VCCIO\_EN 1 DDR10 0/4/SHT/MX VCCIO\_EN 16  
Connect to IT8620

VCCGT  
放CPU端.

VCCST\_VCCPLL

REV:0.21



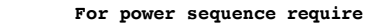
GIGABYTE™			
Title VCCSA_VCCIO			
Size	Document Number	Rev	
Custom	GA-B150M-D3P-WG	1.0	
Date:	Monday, August 31, 2015	Sheet	30 of 54

## DDR4

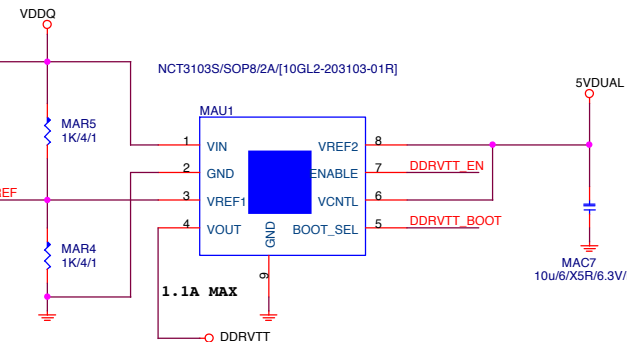


請放置CHOKE一出來位置.先預留.  
請自行確認ripple後再決定是否上件

**Remote sense**請從最重的負載端點拉回



VPP\_25V使用8120時上件



DDR_VTT_CTL	MAR110	0/4/SHT/M/X	DDRVTT_EN
N_SLP_S3	MAR111	0/4/SHT/M/X	DDRVTT_BOOT

MAU1上NCT3103S時上件(不可以改short pac

# GIGABYTE

Title  
RT8237\_DDR4 POWER

Size	Document Number
Custom	<b>GA-B150M-D3P-WG</b>

Date: Monday, August 31, 2015 Sheet 31 of 54

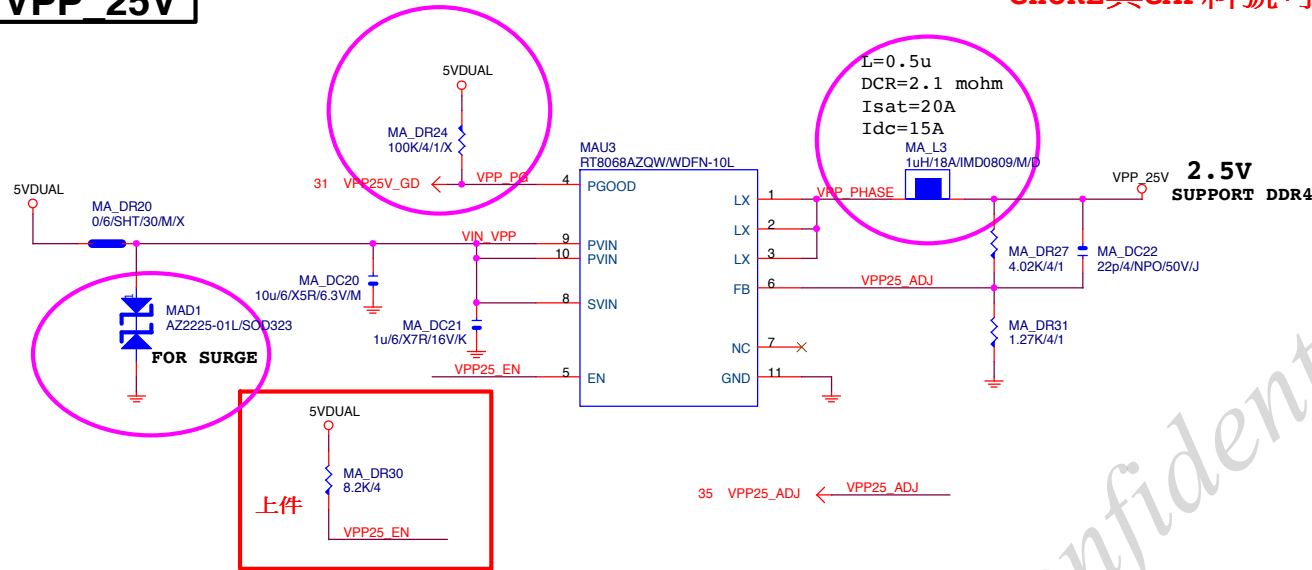
2	1
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REV:0.4

VPP\_25V

VPP25V\_GD不能使用會亂打

CHOKE與CAP料號可變



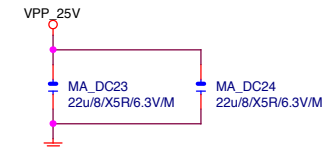
PWR\_SEQ

\* 刪 MA\_DR32



VPP CAP 22u\*1PCS

\* 大電容 x0



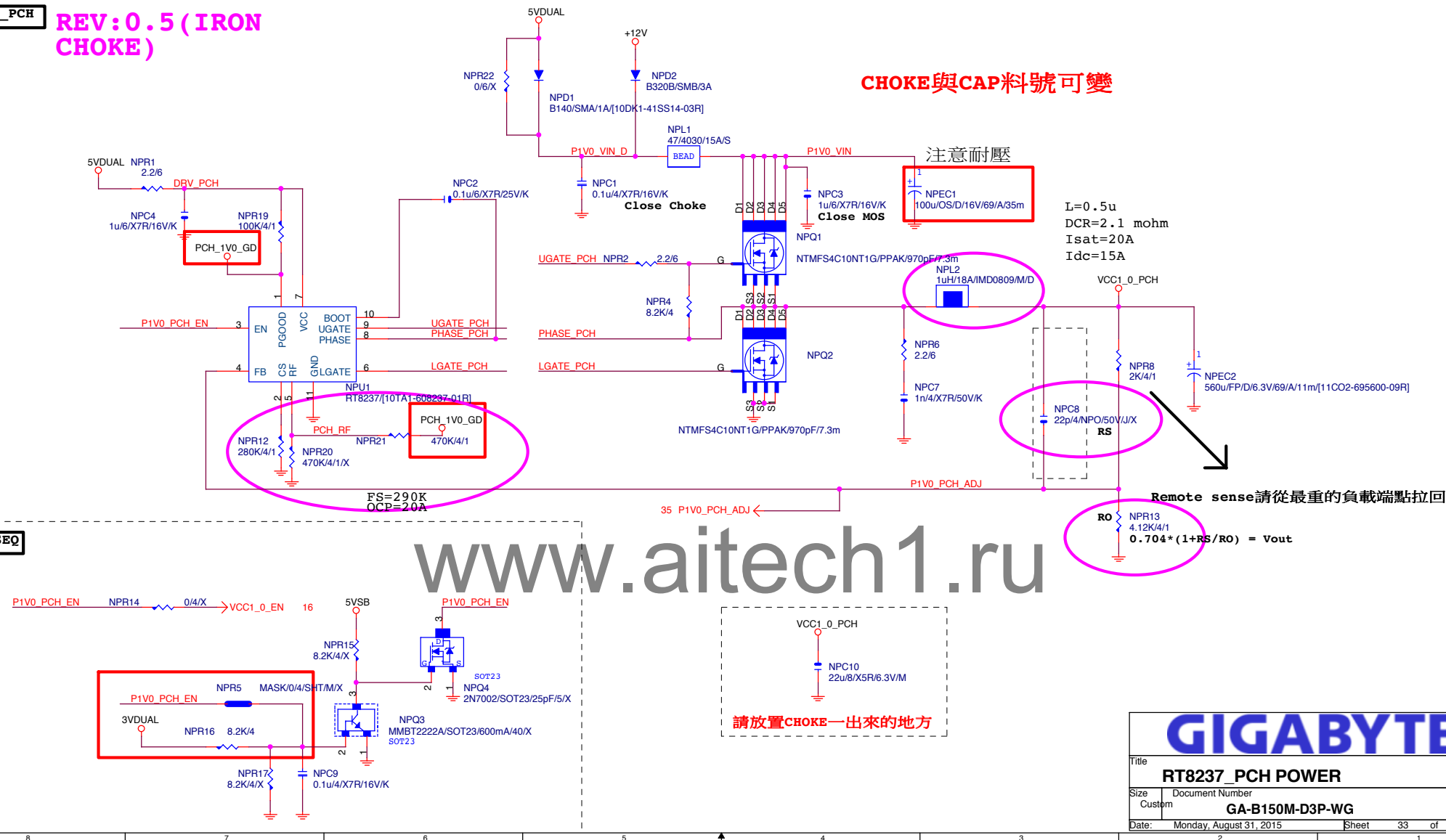
GIGABYTE™

Title		
RT8068A_VPP25 POWER		
Size	Document Number	Rev
Custom	GA-B150M-D3P-WG	1.0
Date:	Monday, August 31, 2015	Sheet 32 of 54

VCC1\_0\_PCH

REV:0.5 (IRON  
CHOKE)

CHOKE與CAP料號可變



GIGABYTE™

Title		
RT8237_PCH POWER		
Size	Document Number	Rev
Custom	GA-B150M-D3P-WG	1.0
Date:	Monday, August 31, 2015	Sheet 33 of 54

**REV: 0.51**

3VDUAL

5VDUAL

BC27  
0.1u/4/X7R/16V/K

3VDUAL

BC25  
0.1u/4/X7R/16V/K

R37  
100/4/1

R38  
169/4/1

Q4  
L1085DG/TO252/5A

R36  
22K/4

C9  
22u/8/X5R/6.3V/M

C8  
1n/4/X7R/50V/K

O\_-RSMRST

12,16

上22u 电容

Meet the rise time

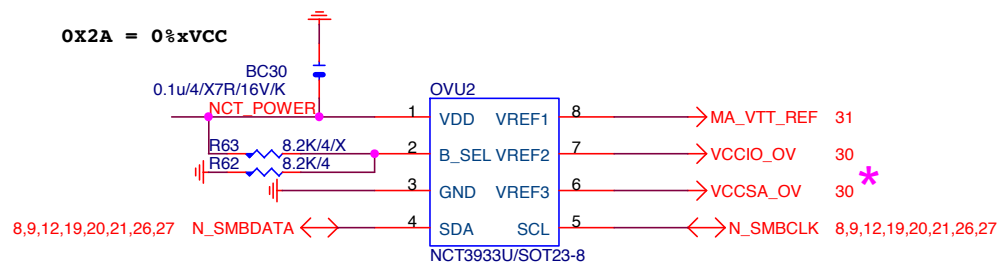
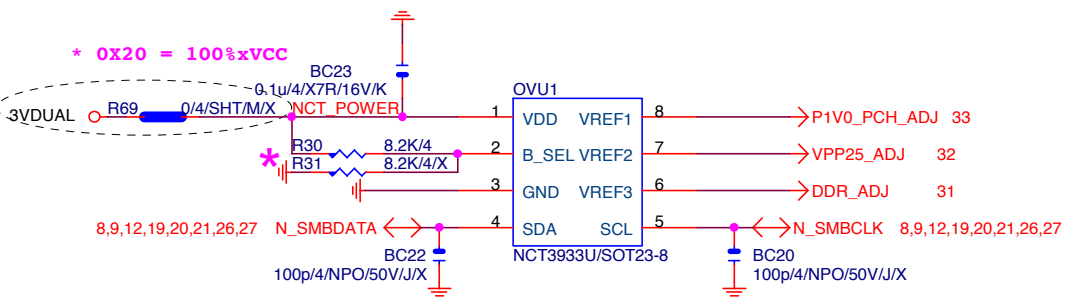
Rise/Fall max 500us  
Rise: 20% - 80%  
Fall : 2V- 0.8V

The schematic shows the NQ9 L1117LG/N/SOT223/1A voltage regulator. The input is connected to 5VSB. The output is connected to 3VDUAL\_PCHO. The circuit includes two resistors, NR217 (301/4/1) and NR218 (510/4/1), and two capacitors, NBC67 (0.1uF/4X7R/16V/K) and NBC68 (1uF/4X5R/6.3V/K).

[illegible]

Title			
<b>DISCRETE POWER</b>			
Size	Document Number		Rev
Custom	<b>GA-B150M-D3P-WG</b>		<b>1.0</b>
Date:	Monday, August 31, 2015	Sheet	34 of 54

OVER VOLTAGE



0x22 = 75%xVCC

\* 删除 ovu3

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

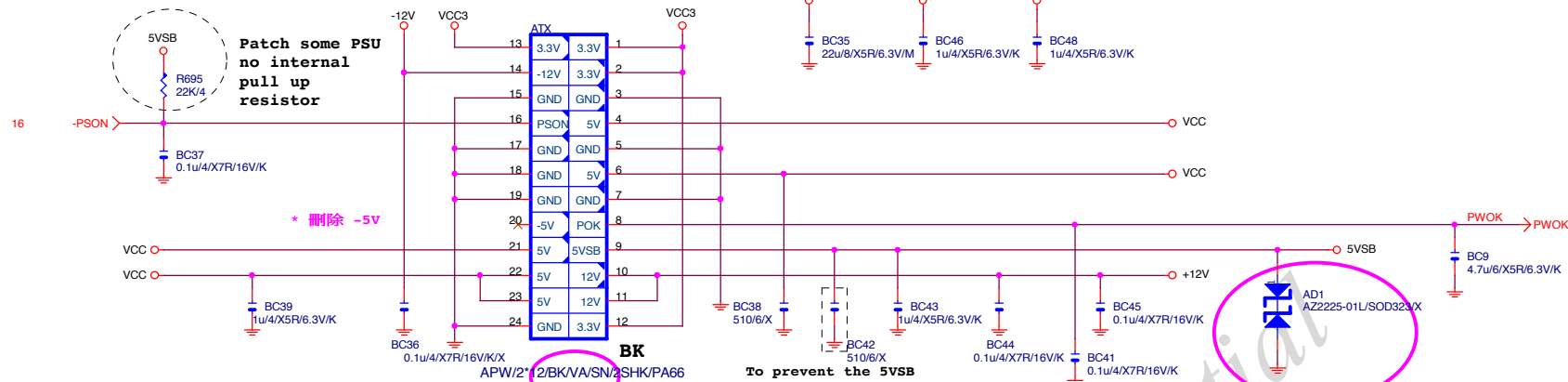
**Gigabyte Technology**

Title CPU CORE VR-2

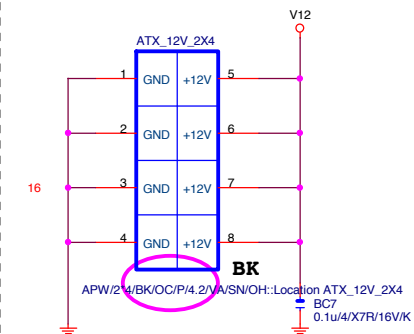
Size Custom Document Number GA-B150M-D3P-WG Rev 1.0

Date: Monday, August 31, 2015 Sheet 35 of 54

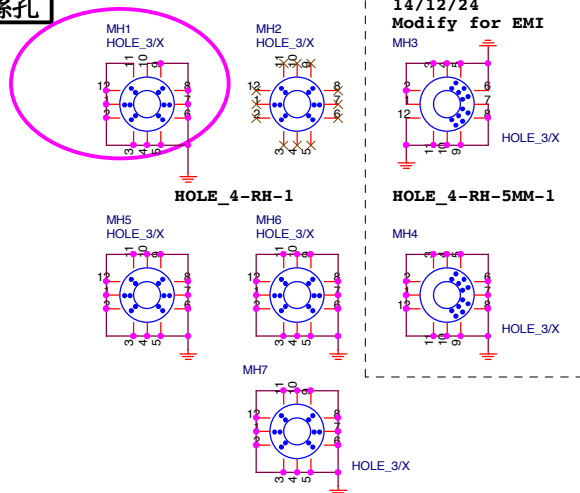
## ATXX24 POWER CONNECTOR



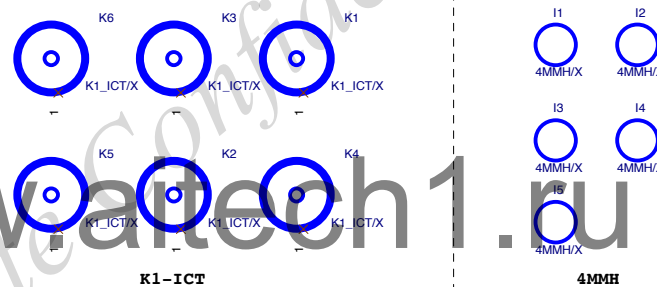
## ATXX4 POWER CONNECTOR



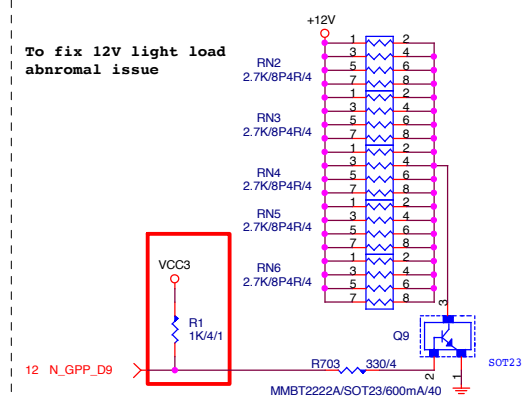
## 螺絲孔



## 固定孔/光學點

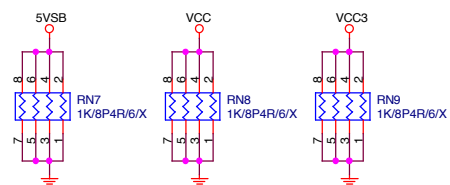


## +12V DUMMY LOAD

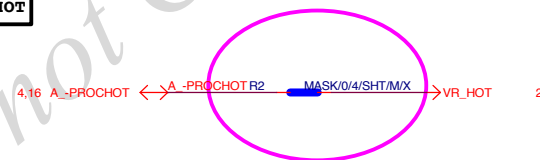


【技術通報R&D技術通報153】

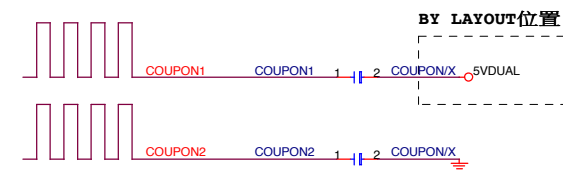
## DUMMY LOAD



## -PROHOT



## COUPON



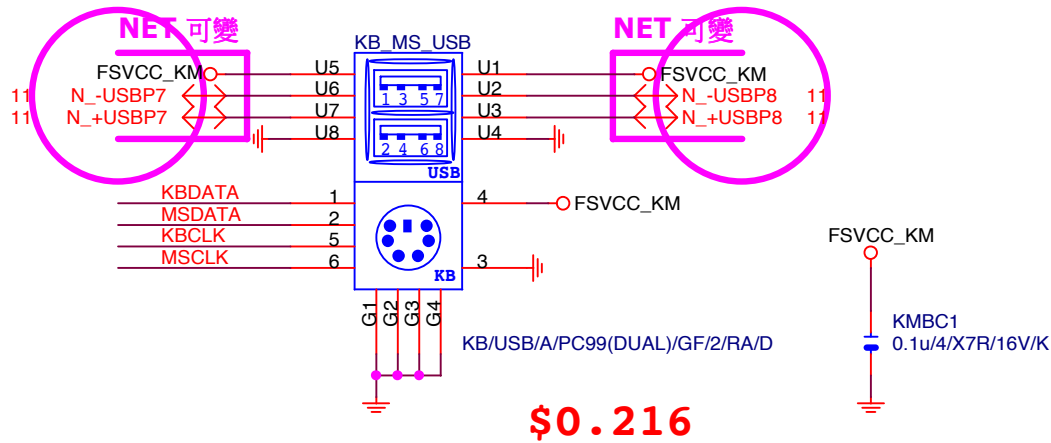
## Gigabyte Technology

Title				
ATX POWER CONNECTOR				
Size Custom	Document Number			Rev
	GA-B150M-D3P-WG			1.0
Date:	Monday, August 31, 2015		Sheet	36 of 54

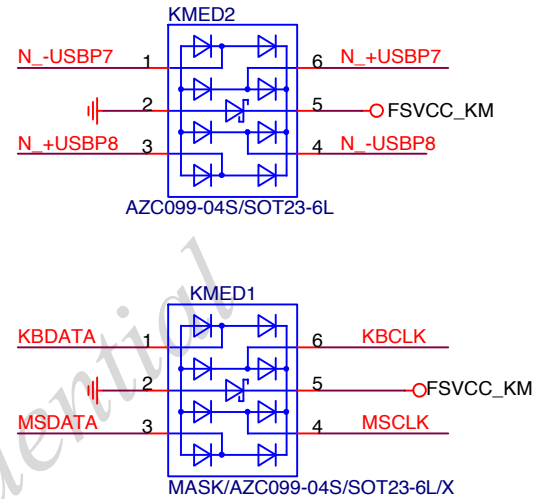


## KB\_MS\_USB

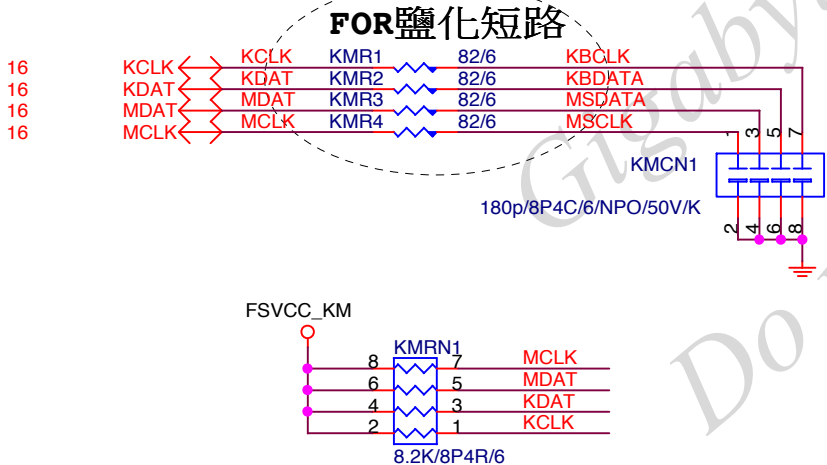
Rev: 0.7



## ESD

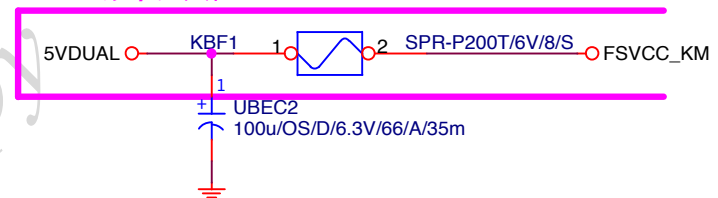


## KB\_MS\_USB DAMPING/PU

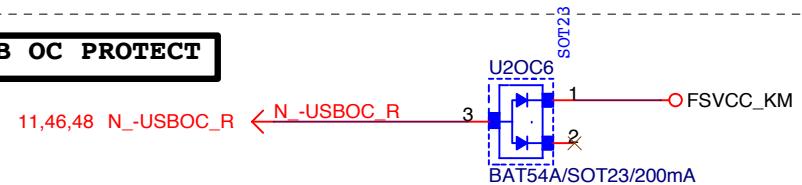


## KB\_MS\_USB PWR

NET 可變, 與其他 USB SHARE



## USB OC PROTECT



Gigabyte Technology

Title

KB\_MS\_USB

Size

Document Number

GA-B150M-D3P-WG

Rev

1.0

Date:

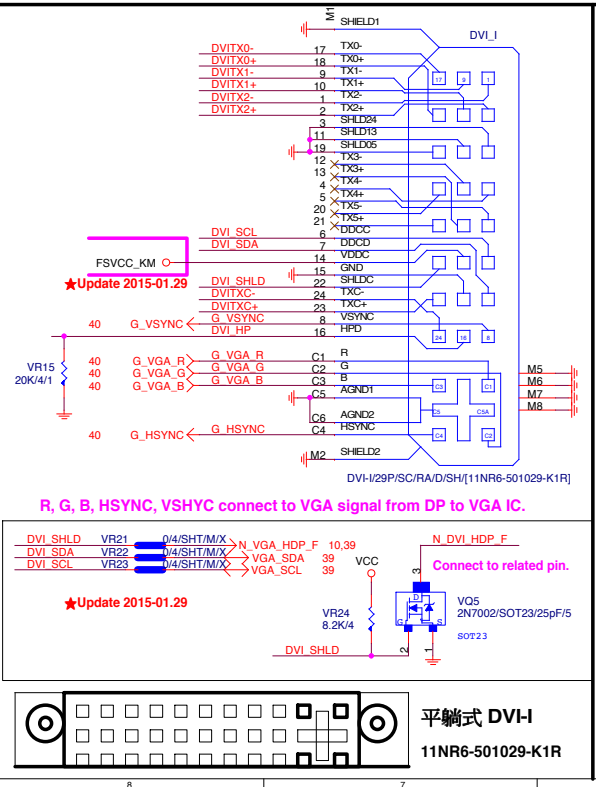
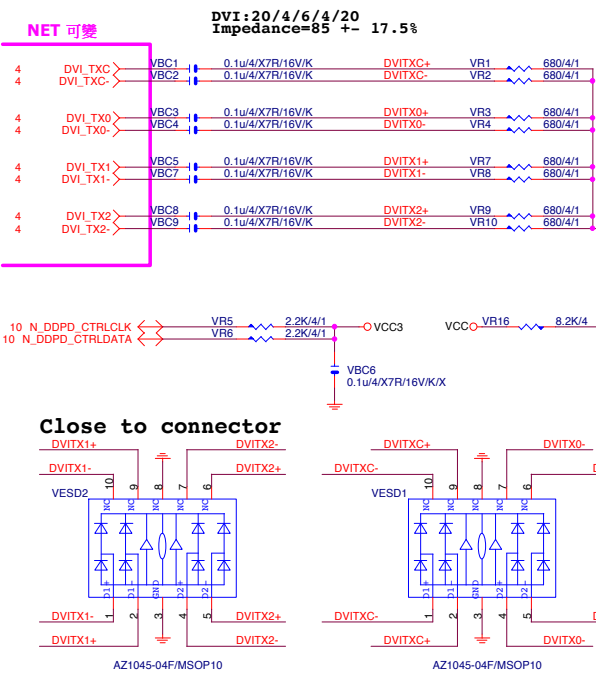
Monday, August 31, 2015

Sheet

37

of

54



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Do not Copy

ROM PART: PTN3356R1BS/[10HQ5-A23356-10R]  
FLASH PART: PTN3356F1BS/[10HQ5-A23356-20R]

省X'TAL COST DOWN:

1. 上件:

DVC28 [10p/4/NPO/50V/J]

DVC11 [10p/4/NPO/50V/J]~修改值  
DVR10 [8.2K/4]

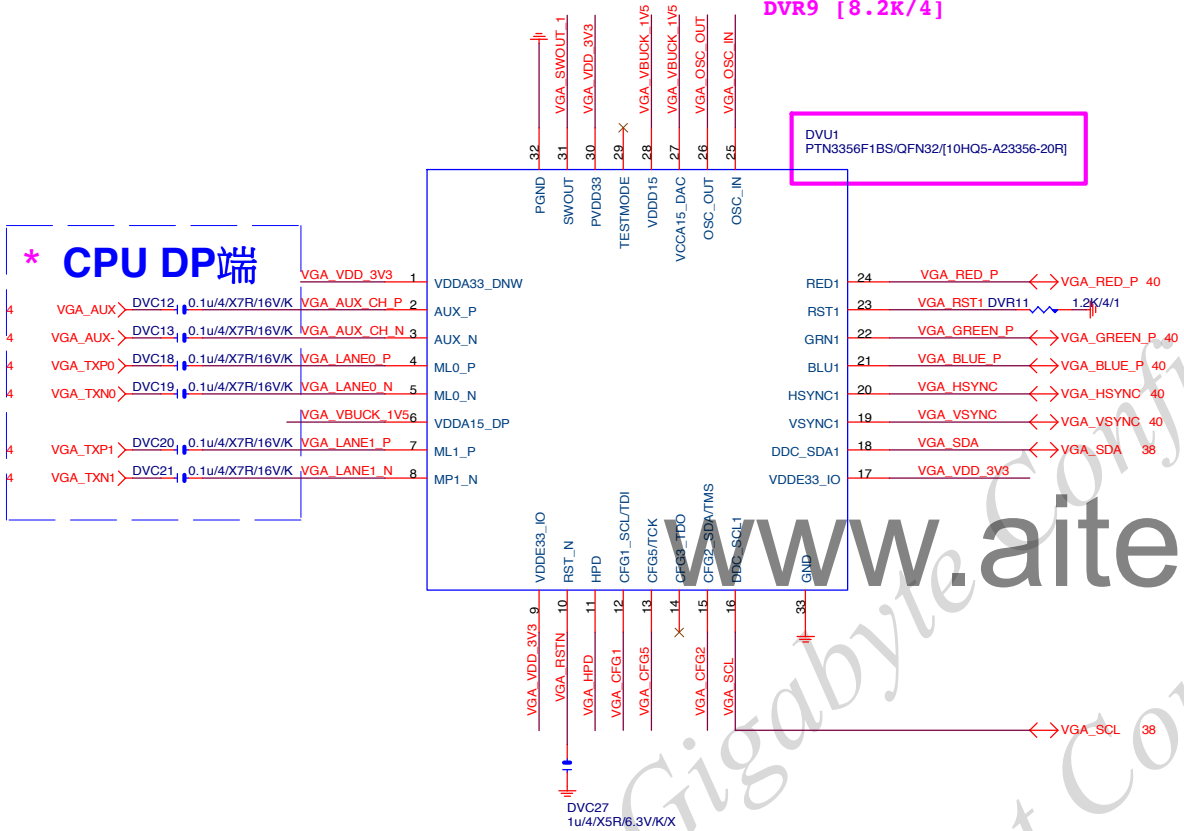
2. 删除:

DVX1 [25M/16p/30ppm/49US/20/D]

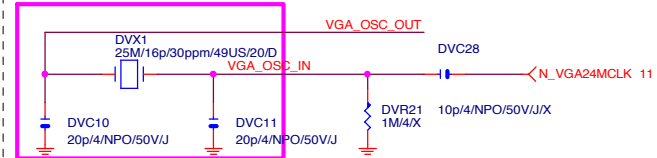
DVC10 [20p/4/NPO/50V/J]

DVR9 [8.2K/4]

## \* CPU DP端



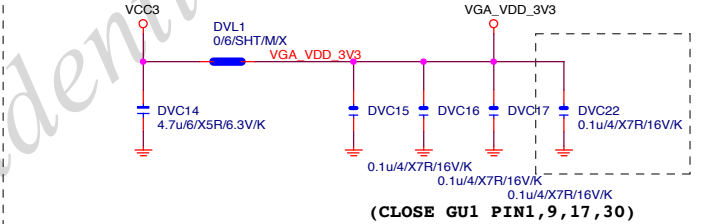
## 25M Crystal FROM PCH 24MHZ ISSUE



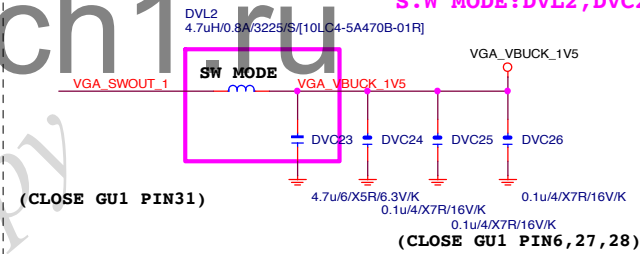
## CFG5 For Crystal Less



## ADAPTER POWER

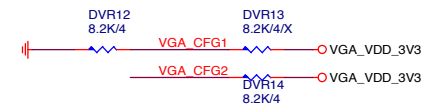


LDO MODE: DVL2, DVC23-->X  
S.W MODE: DVL2, DVC23-->O



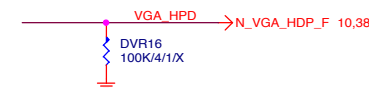
## CFG1&amp;2

Non-Compliant



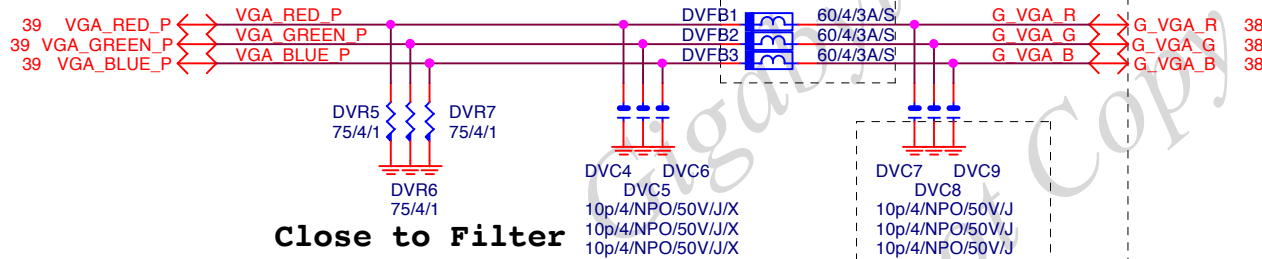
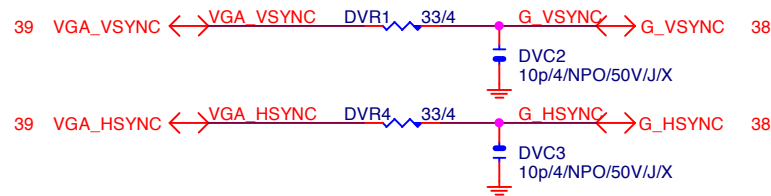
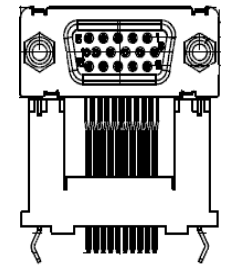
## HPD

PCH端 \*



Gigabyte Technology  
NXP-PTN3356

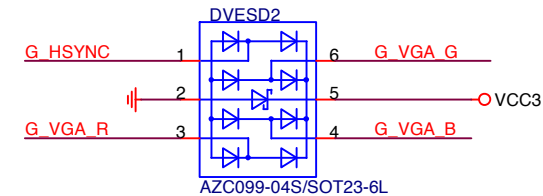
Title	Document Number	Rev
Size	GA-B150M-D3P-WG	1.0
Custom		
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Close to Filter

FOR EMI

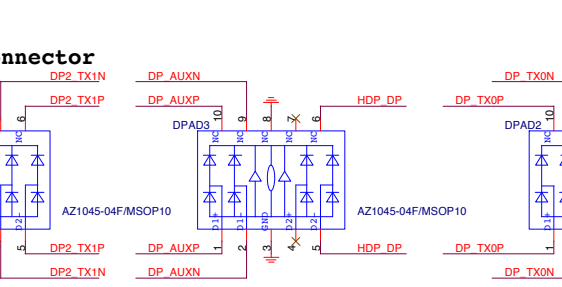
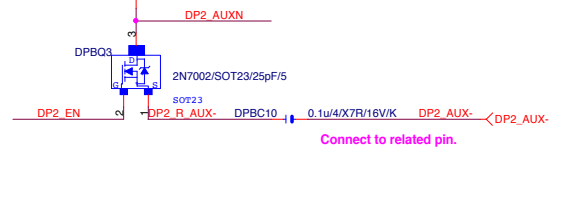
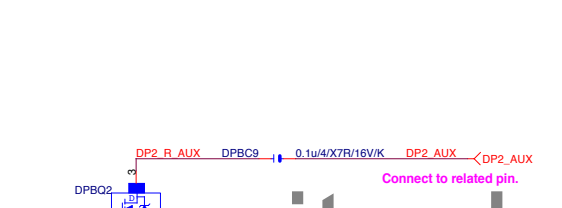
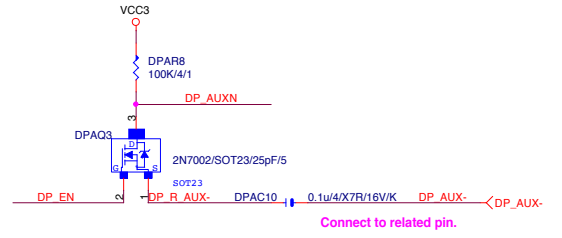
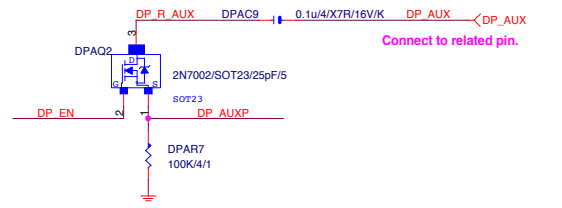
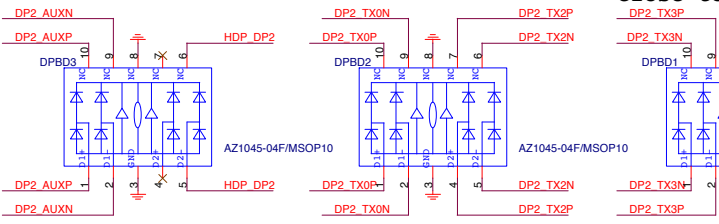
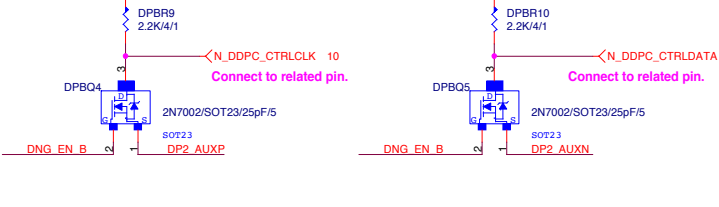
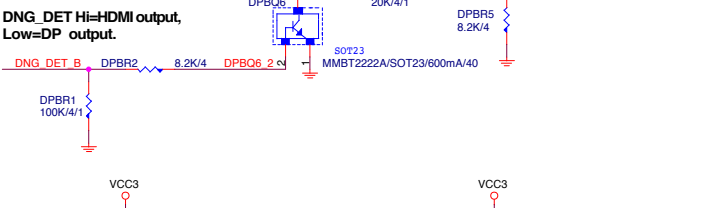
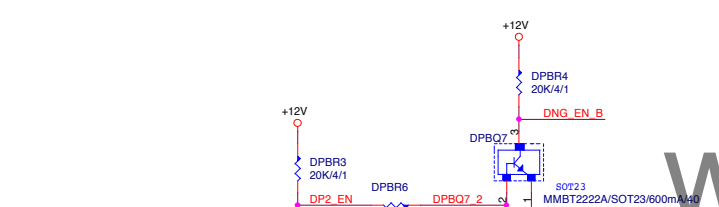
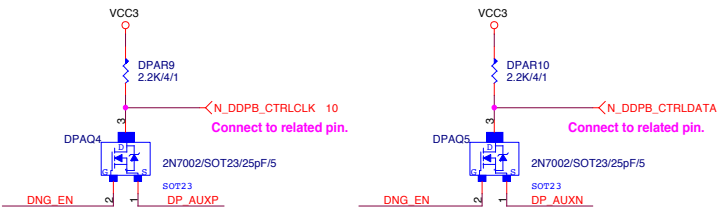
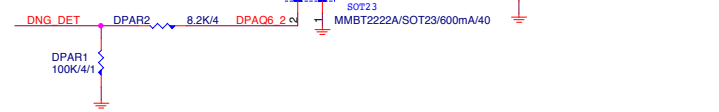
VGA ESD



Gigabyte Technology  
NXP-PTN3356

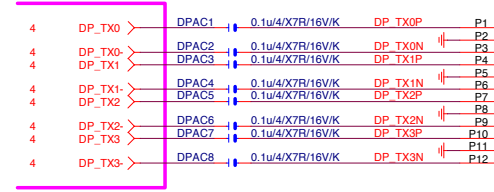
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DNG\_DET Hi=HDMI output,  
Low=DP output.

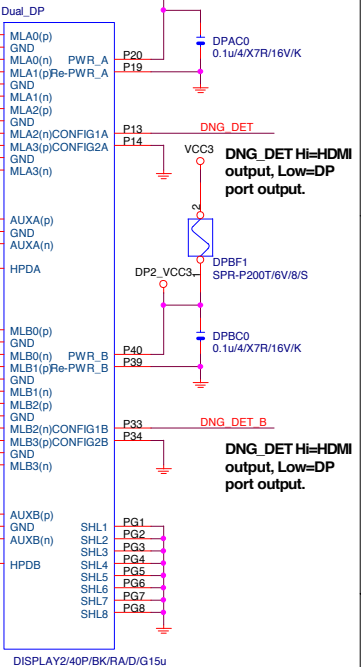
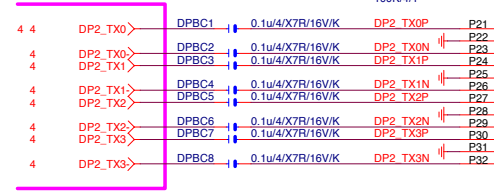


## Dual Display Port

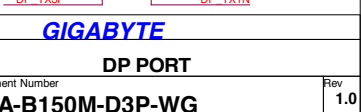
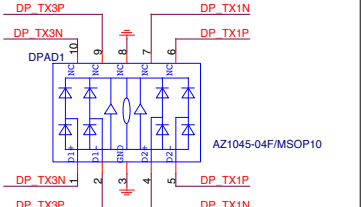
NET FROM CPU 可變



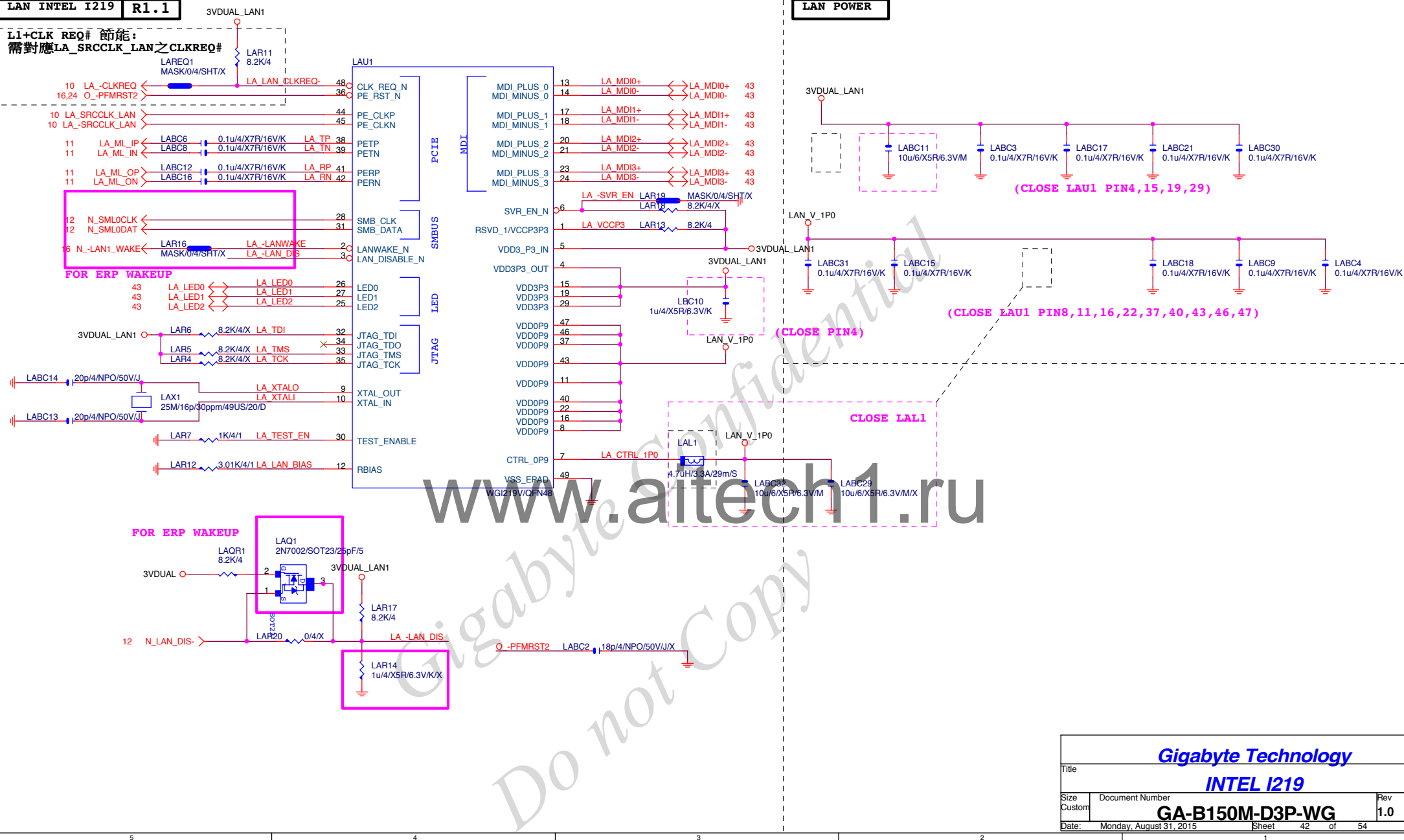
NET FROM CPU 可變



## Close to connector



GIGABYTE			
DP PORT			
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L1+CLK REQ# 節能:  
需對應LA\_SRCCLK\_LAN之CLKREQ#

Gigabyte Technology

INTEL I219

Title

Size  
Custom

Document Number

GA-B150M-D3P-WG

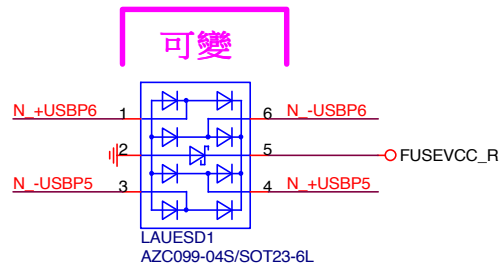
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1.0

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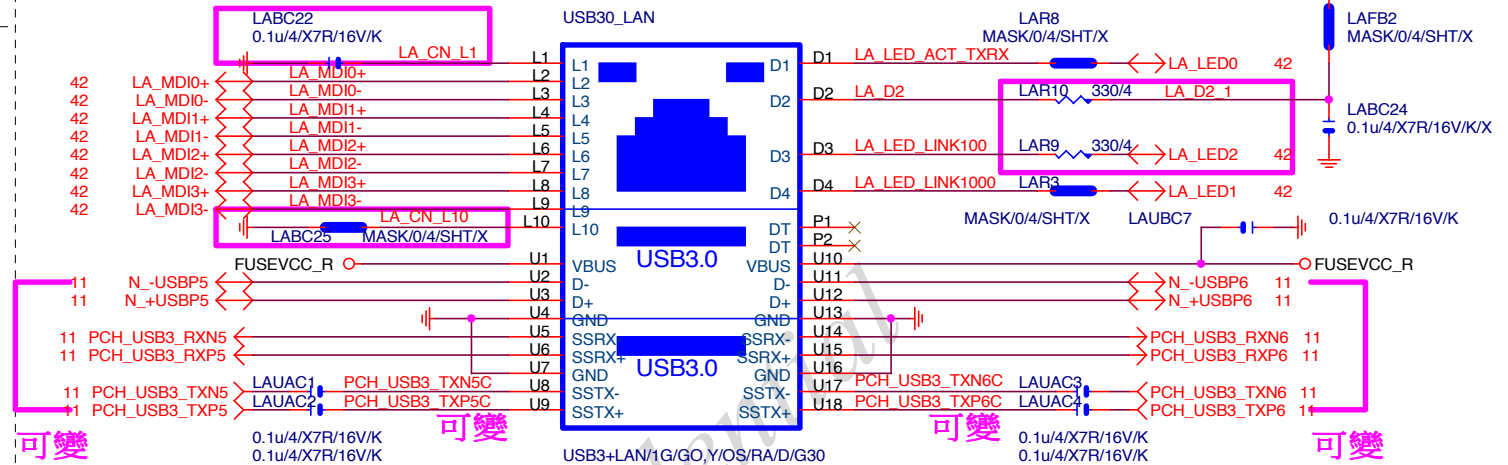
## R1.1

note:可變更USB NAME



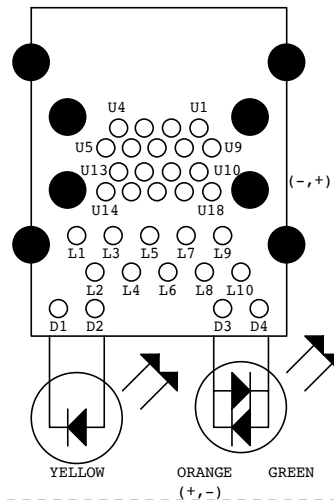
note:可變更USB NAME

[ I219 ]




LA\_MDI-->100歐姆:[20/4/8/4/20]

## Dual Color LED



**Single Color LED**

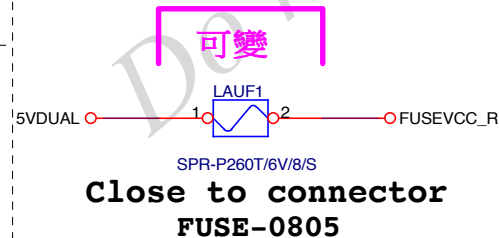
D2  D1 Yellow

FOOT PRINT:LAN COVER

可變  
[視SPEC需求]

**[-D3H不加蓋]**

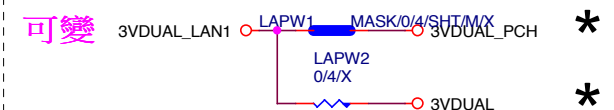
note:可變更FUSE



**PS:視EMI需求**

LAR24 MASK/0/4/SHT/X

note: lan power連接及電流



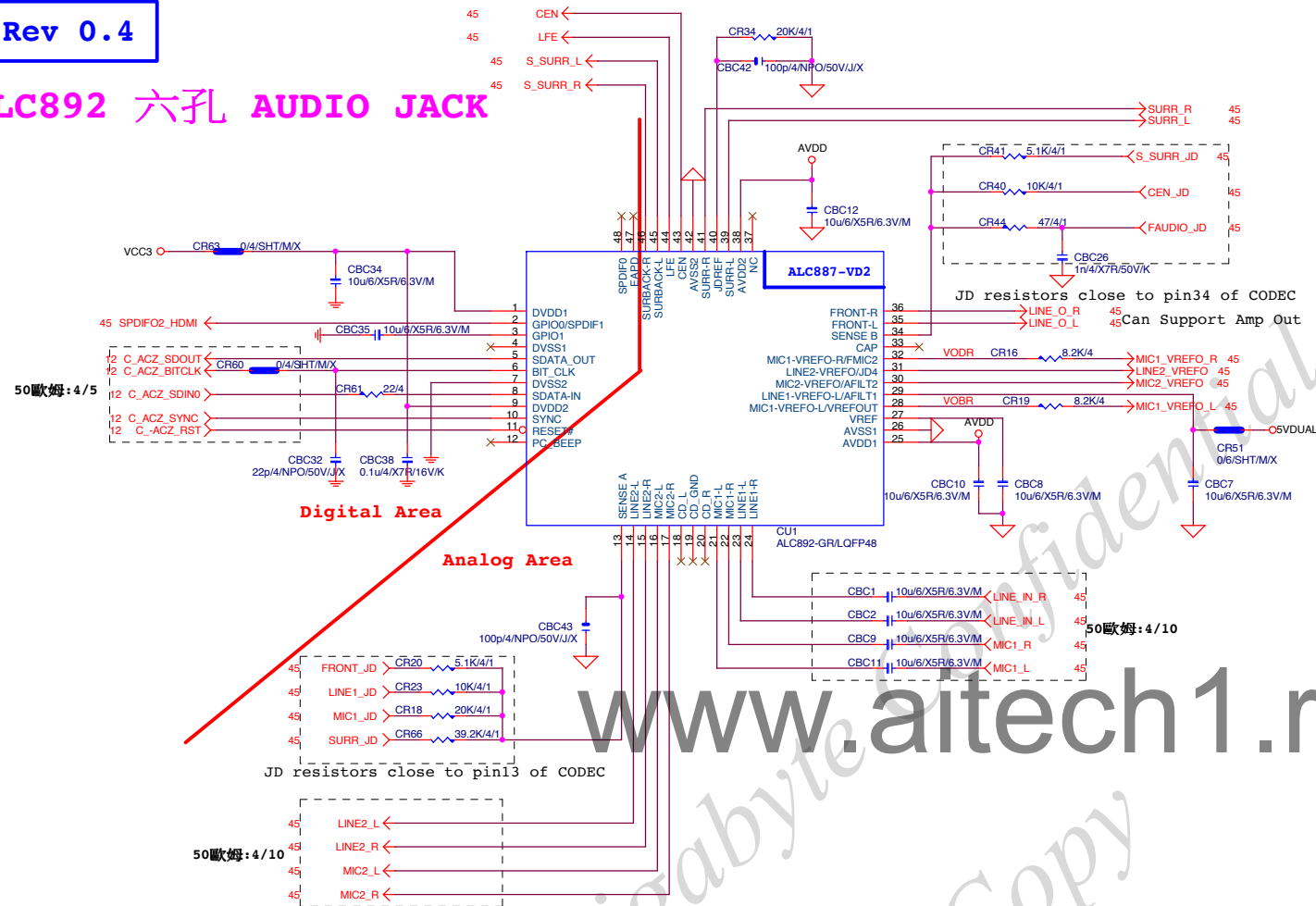
## Gigabyte Technology

## ***LAN CONNECTOR-I219***

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**ALC892 六孔 AUDIO JACK**

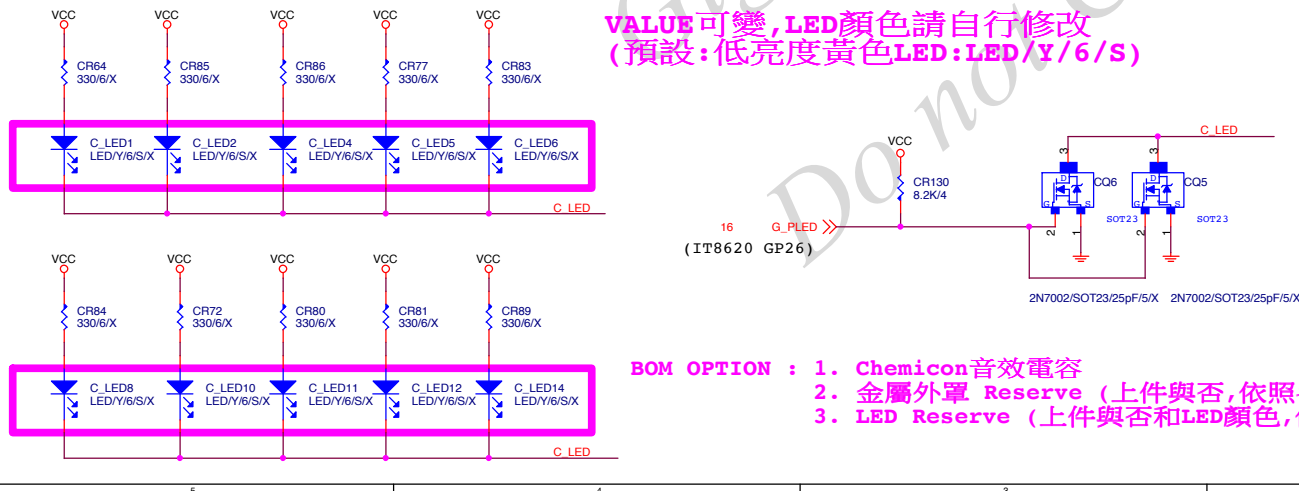


**LAYOUT注意:螺絲孔下GND方式**

1. MH1空間夠, 下DGND  
空間不夠, 改為Isolate
2. MH2一律改為Isolate

☐ MH1      MH2 ☐   
**DGND**      **Isolate**

VALUE可變,LED顏色請自行修改  
(預設:低亮度黃色LED:LED/Y/6/S)



\*料號後補

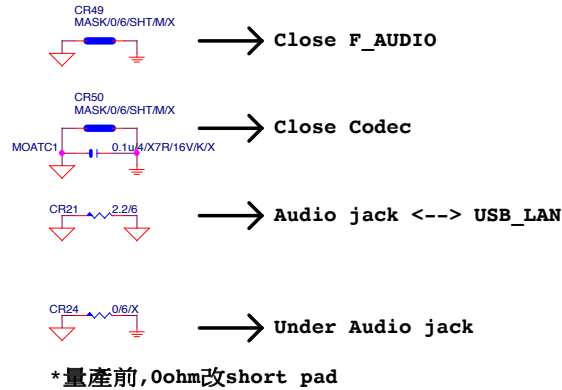
**LAYOUT注意:要加  
GND切割線**

## 音效區域印刷

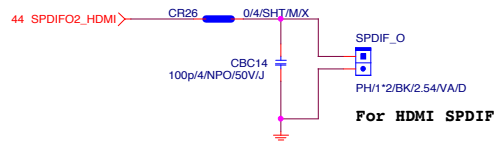
## Gigabyte Technology

Title			
HD AUDIO ALC892			
Size	Document Number		Rev
Custom	GA-B150M-D3P-WG		1.0
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Rev 0.4

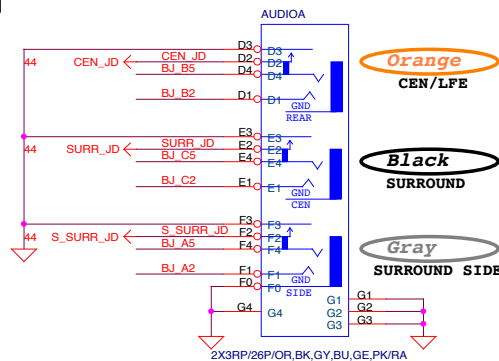
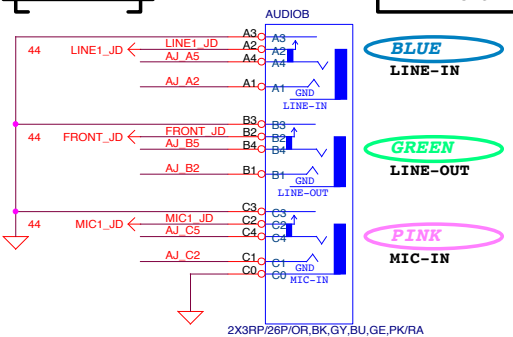
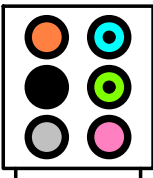


#### SPDIF\_OUT

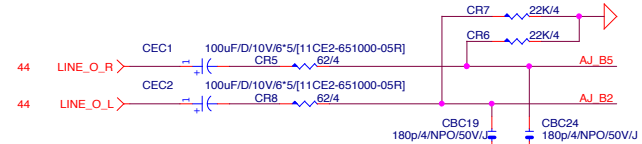


#### SPDIF\_IN

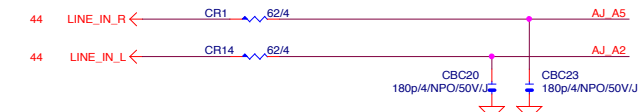
#### AZALIA JACK



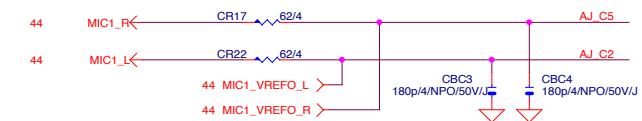
#### LINE-OUT



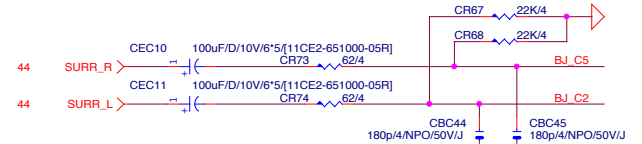
#### LINE-IN



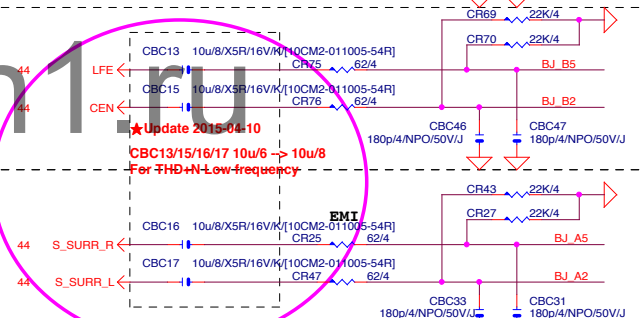
#### MIC-IN



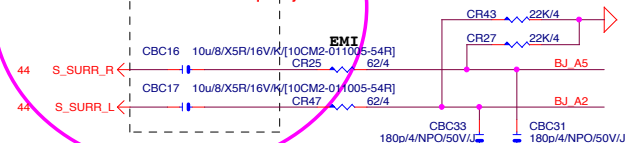
#### SURROUND



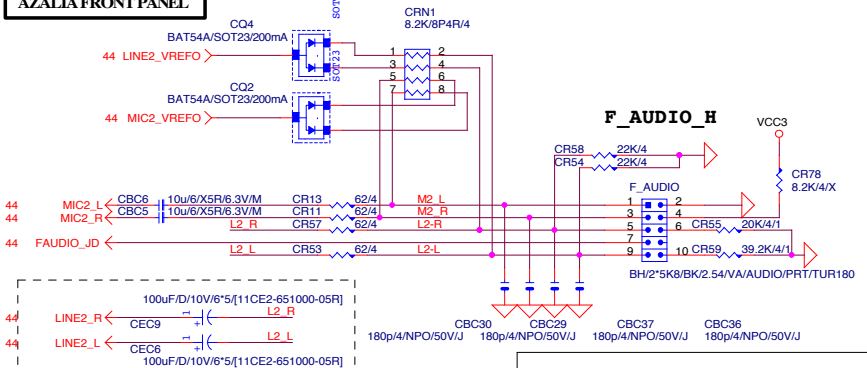
#### CEN/LFE



#### SURRBACK



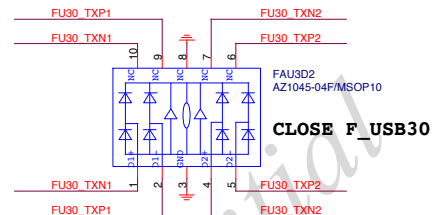
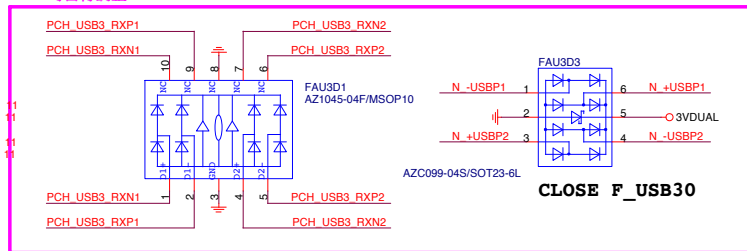
#### AZALIA FRONT PANEL



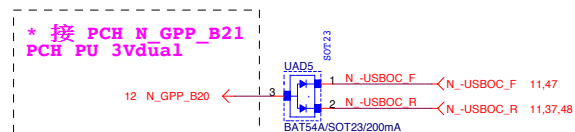
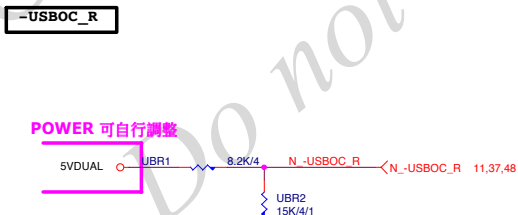
Gigabyte Technology

AUDIO JACK

Title	Document Number	Rev
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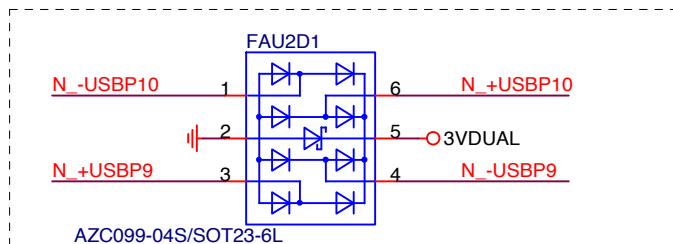
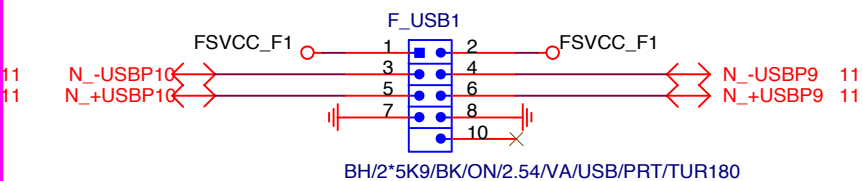


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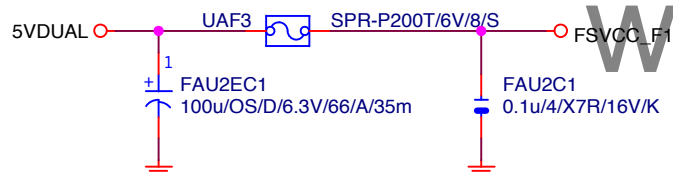
NET 可變

## FUSB2X5-HS



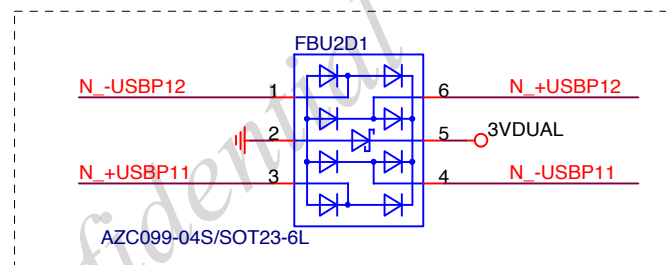
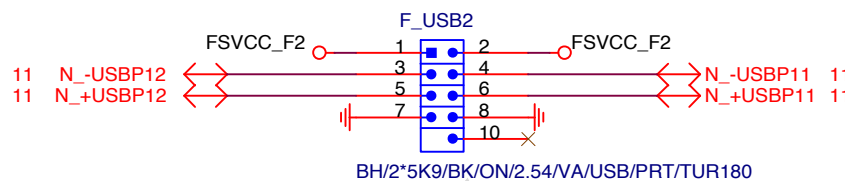
Close to connector

FUSE 2 Port 1 Fuse 2A



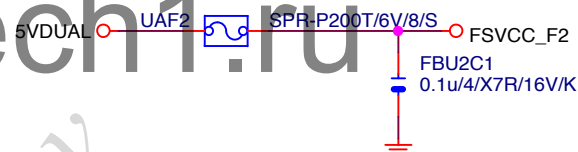
NET 可變

## FUSB2X5-HS

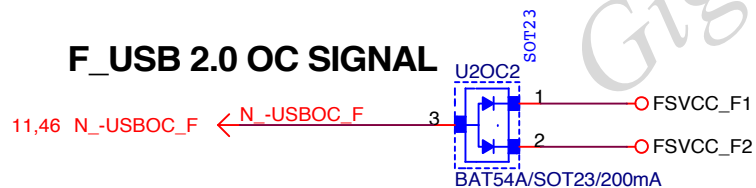


Close to connector

FUSE 2 Port 1 Fuse 2A



## F\_USB 2.0 OC SIGNAL



Gigabyte Technology

Title

USB2.0

Size  
A

Document Number

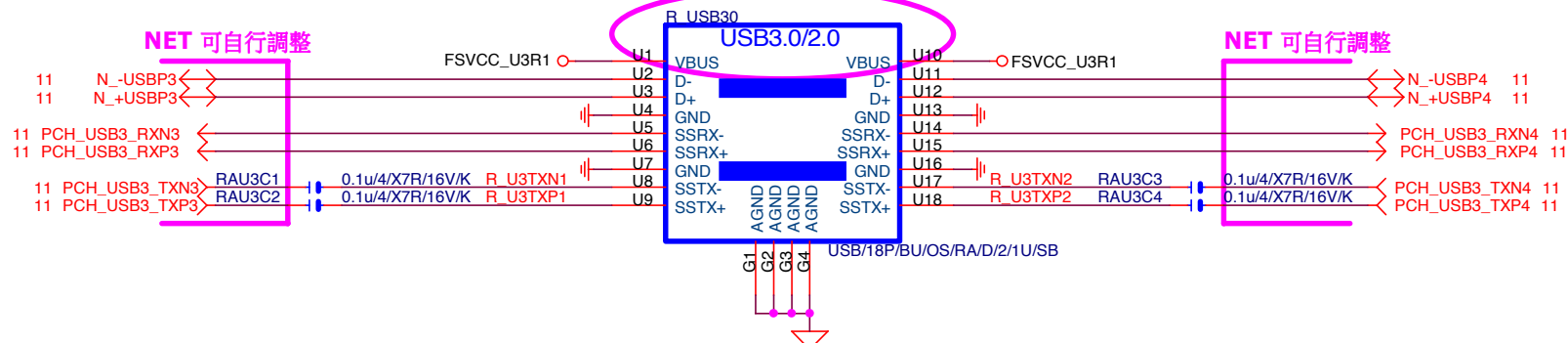
GA-B150M-D3P-WG1.0

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Rev: 0.7

ESD 可自行SWAP PIN ,CONN端 NET 名稱 不可

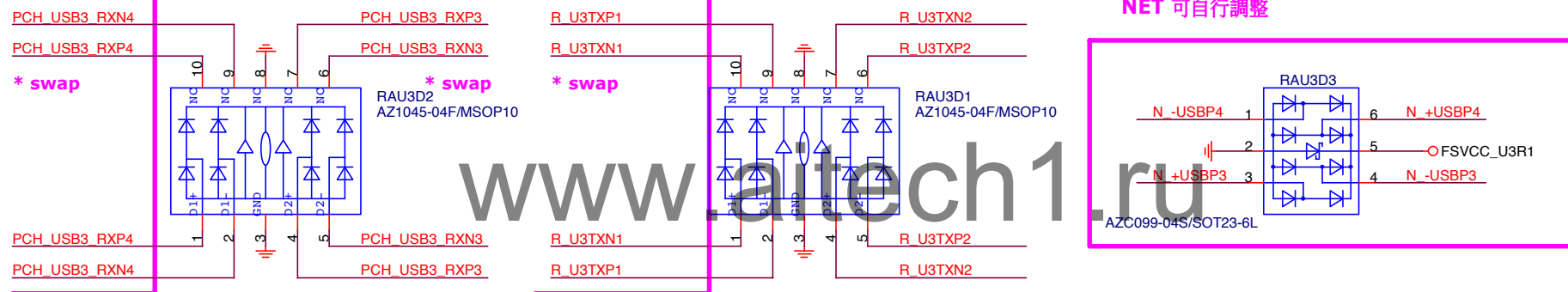


ESD

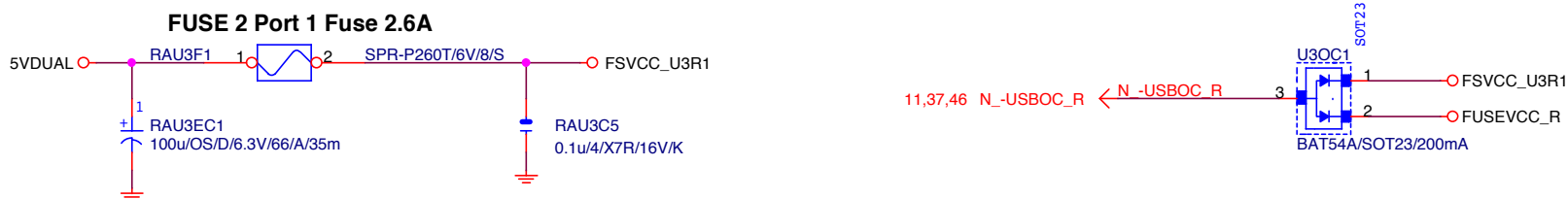
NET 可自行調整

NET 可自行調整

NET 可自行調整

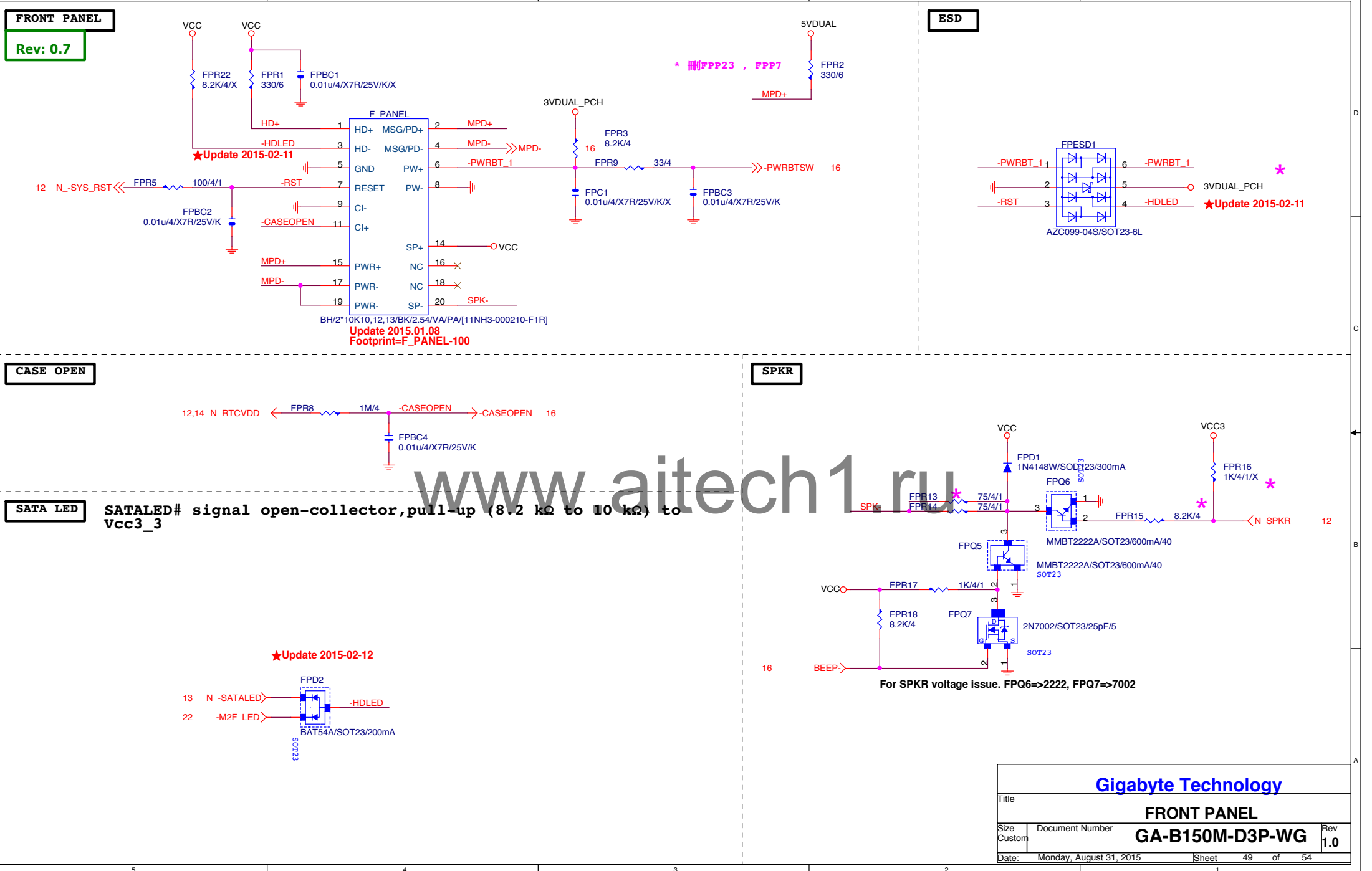


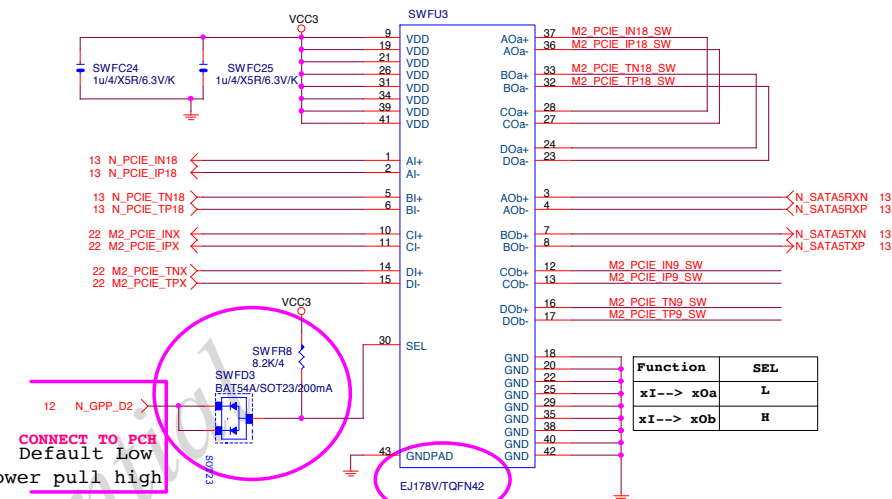
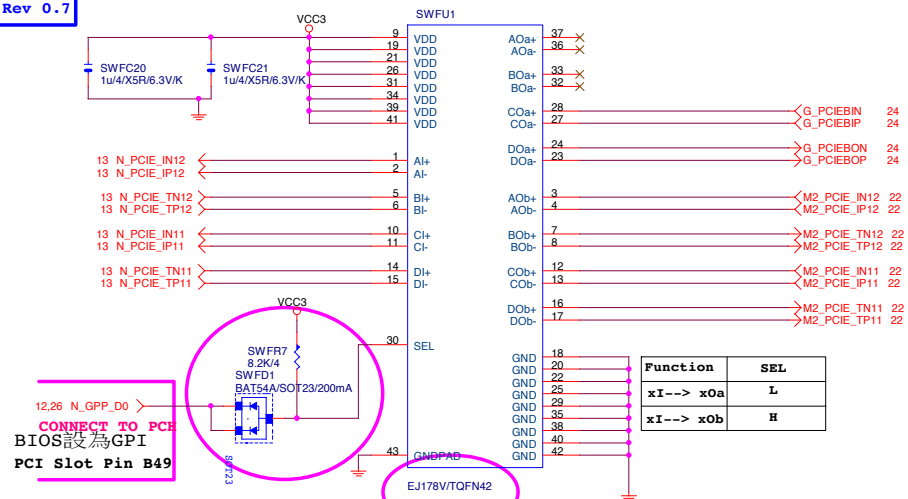
FUSE



Gigabyte Technology

Title		R_USB30,USB_OC	
Size	Document Number	GA-B150M-D3P-WG	
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當偵測到此組態

	PCI S.E. M.2 (SATA)	PCI S.E. SATA S5	PCI M.2 (PCIE_X2) SATA S5	M.2 (PCIE_X4) SATA S5	S.E. M.2 (SATA)	M.2 (SATA)	PCI
N_GPP_D0	L	NA	L	H	H	H	L
N_GPP_G20	L	H	L	L	L	L	H
N_GPP_G21	L	H	H	H	L	L	H
N_GPP_E0	NA	L	NA	NA	L	H	H

設定為此組態

	PCI S.E. M.2 (SATA)	PCI S.E. SATA S5	PCI M.2 (PCIE_X2) SATA S5	M.2 (PCIE_X4) SATA S5	S.E. M.2 (SATA)	M.2 (SATA)	PCI
N_GPP_D1	L	L	H	H	L	H	NA
N_GPP_D2	L	H	H	H	L	H	NA

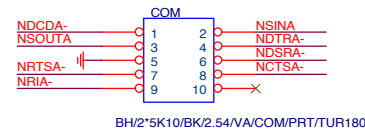
Gigabyte Technology

PCI EXPRESS X16 SWITCH

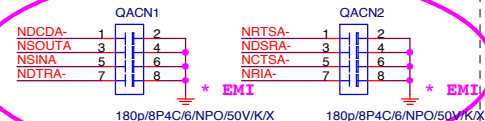
Title	Document Number	Rev
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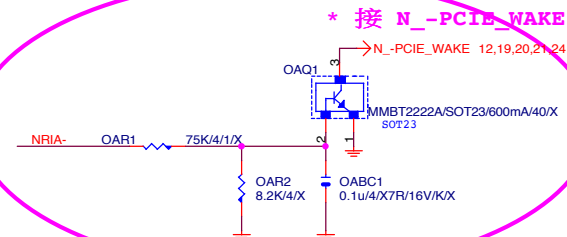
**Rev: 0.7**



F\_COM-HS

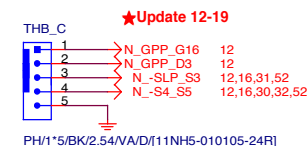
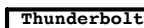


N/A



LPT PORT

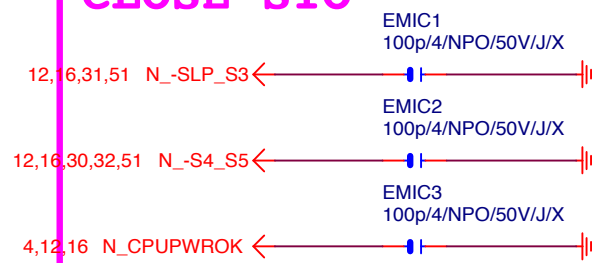
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**TPM CONNECT**

## Gigabyte Technology

Title			
FP,F_USB,USB PWR,BZ			
Size Custom	Document Number	GA-B150M-D3P-WG	Rev 1.0
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CLOSE SIO



CLOSE PCH

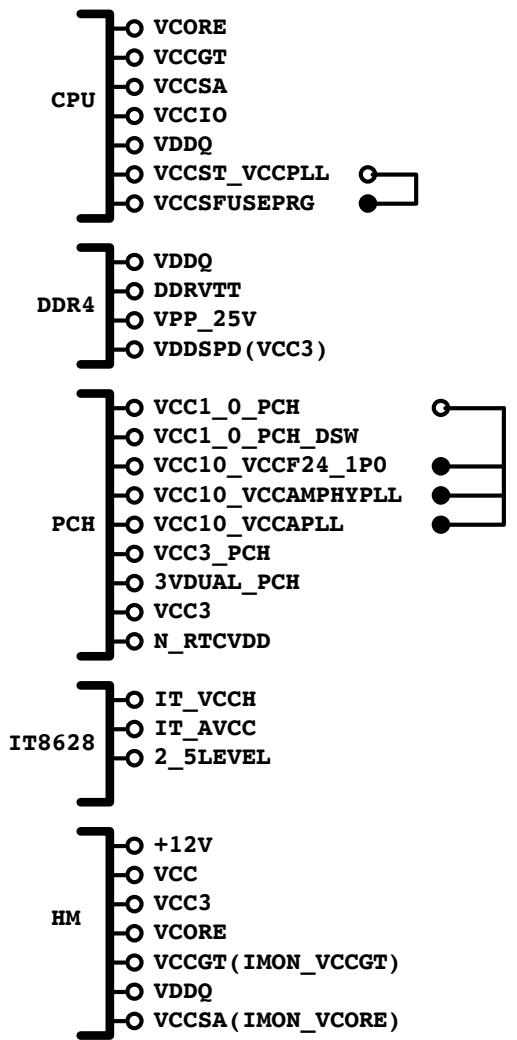


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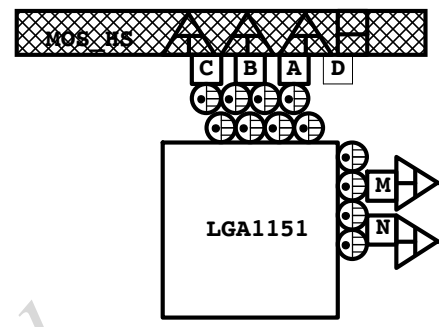
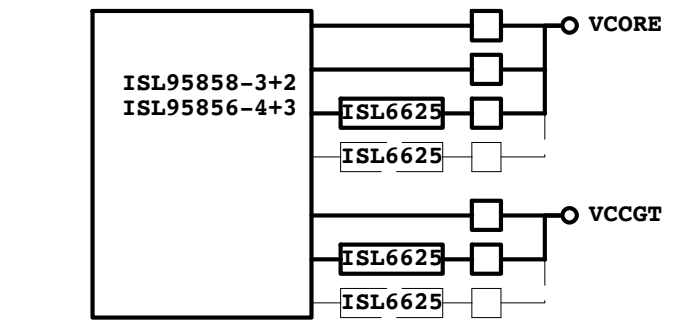


Title		
EM/ESD		
Size A	Document Number GA-B150M-D3P-WG	Rev 1.0
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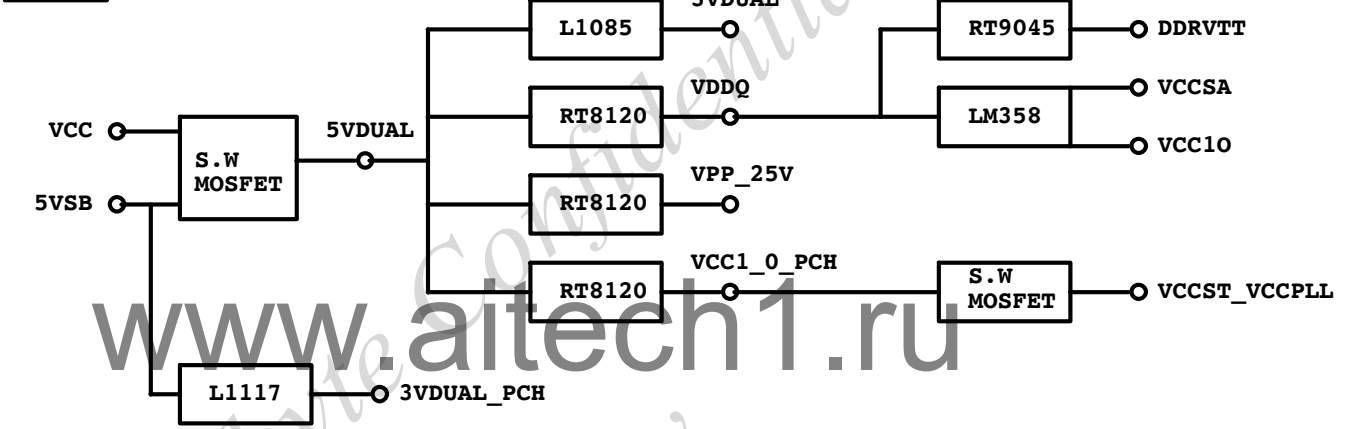
POWER BLOCK MAP



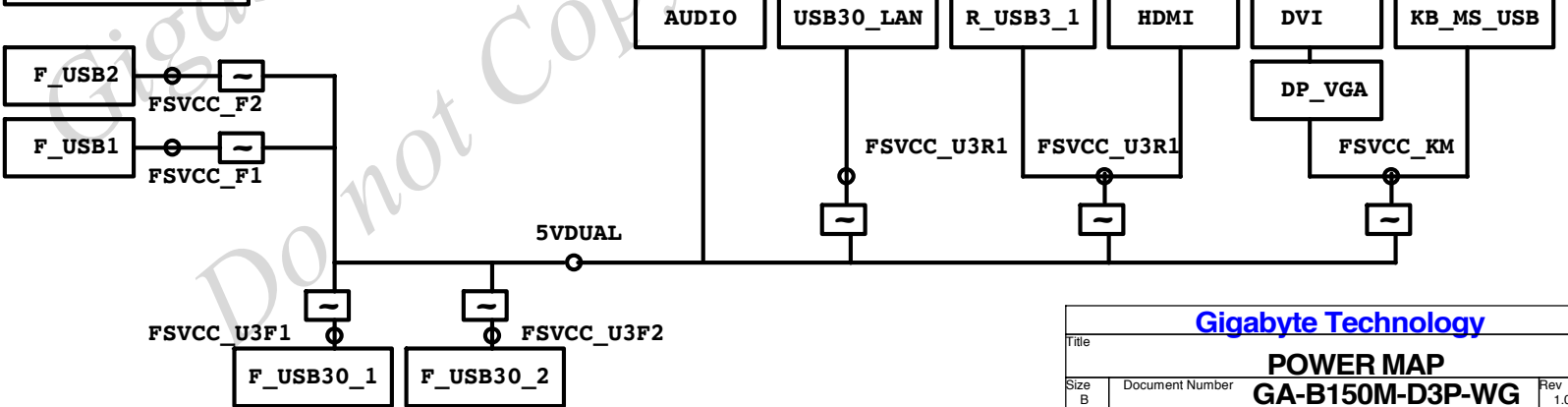
VCORE/VCCGT



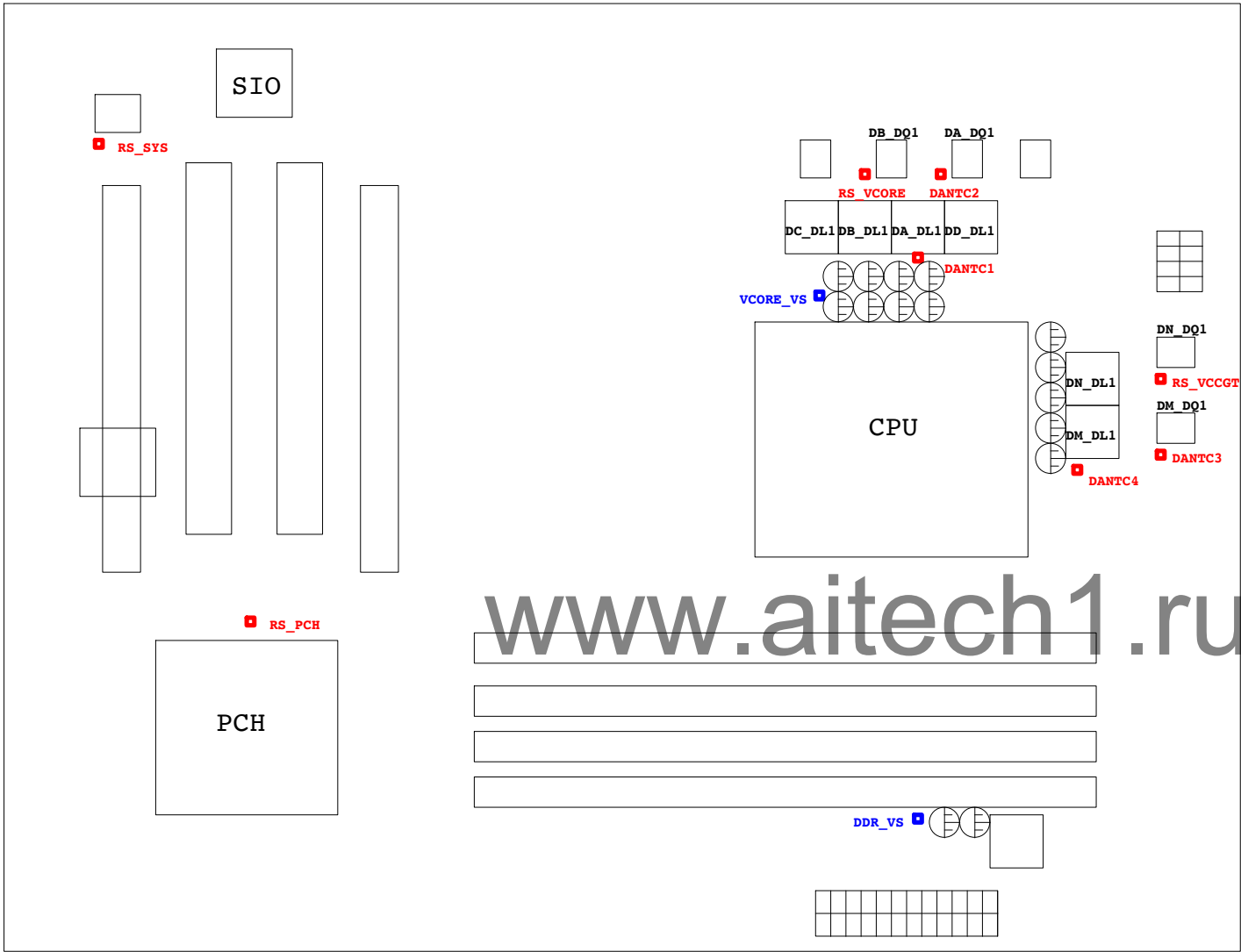
POWER



FUSE POWER F/R



Gigabyte Technology			
Title			
POWER MAP			
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熱敏電阻	擺放靠近位置	走線方式
DANTC1	DA_DL1	N/A
DANTC2	DA_DQ1	Differential
DANTC3	DM_DQ1	N/A
DANTC4	DM_DL1	Differential
RS_VCORE	DB_DQ1	N/A
RS_VCCGT	DN_DQ1	N/A
RS_PCH	PCH	N/A
RS_SYS	CU1	N/A