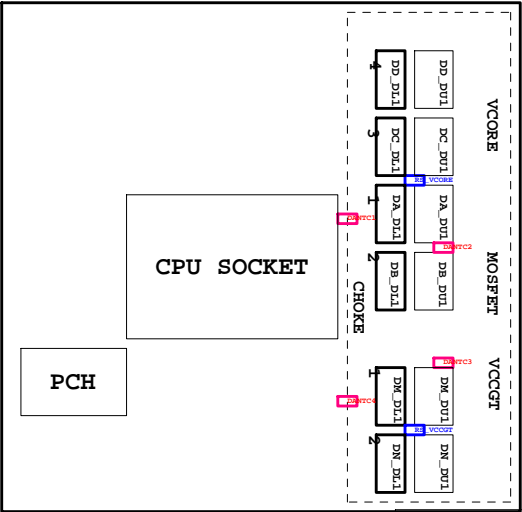


01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	CPU_LGA1151-A
05	CPU_LGA1151-B-DDR4
06	CPU_LGA1151-C
07	CPU_LGA1151-D
08	DDR 4 CHANNEL A (REV0.6)
09	DDR 4 CHANNEL B (REV0.6)
10	PCH CLOCK BUFFER (REV0.7)
11	PCH DMI,USB,PCIE (REV0.7)
12	PCH MISC (REV0.7)
13	PCH SATA,PCIE,SATA_EXPRESS (REV0.7)
14	PCH_PWR,GND (REV0.7)
15	Dual BIOS
16	I/O ITE8628 (REV1.08)
17	HWM
18	FAN CTRL-SIO (REV0.62)
19	PCIEX16 SLOT
20	PCIEX4 SLOT (REV0.4)
21	PCIEX1*2 SLOT / switch (REV0.4)
22	M.2 x4(G) (REV0.4)
23	SATA EXPRESS (REV0.4)
24	Switch for M.2 / SATA EXPRESS & PCIE (REV0.4)
25	VCORE_ ISL95856(PWM) (REV0.17)
26	VCORE_ ISL95856(Vcore) (REV0.17)
27	VCORE_ ISL95856(VccGT) (REV0.17)
28	VCCSA_VCCIO_VCCPLL (REV0.4)REV0.2
29	RT8237_DDR_BEAD-IRON-2L (REV0.39)
30	RT8068A_VPP-IRON (REV0.4)
31	RT8237_PCH-BEAD (REV0.45)
32	DISCRETE POWER (REV0.51)
33	NCP3933 OVER VOLTAGE
34	ATX POWER , -PROCHOT (REV0.55)
35	DVI (REV0.62)

36	KB_MS_USB (REV0.62)
37	RTD2168 - DP to VGA - IC (REV1.03)
38	RTD2168 - DP to VGA - Conn (REV1.03)
39	R_USB30, KB_MS_USB3 (REV0.62)
40	INTEL I219 (REV1.1)
41	USB30_LAN CONNECTOR-I219 (REV1.1)
42	Realtek ALC892 (REV0.4)
43	REAR AUDIO JACK (REV0.4)
44	F_USB30 (REV0.62)
45	F_USB20 (REV0.62)
46	COM , LPT , TPM , THB (REV0.7)
47	F_PANEL (REV0.62)
48	IT8892E/FX (REV0.1)
49	PCI SLOT 1&2
50	IT8892 POWER
51	EMI-ESD
52	TABLE LIST
53	ALPINE RIDGE CIO & DP (REV0.63)
54	ALPINE RIDGE POWER (REV0.63)
55	Etron EJ179S&D_A PORT B (REV0.63)
56	TBT HDMI 2.0 (REV0.43)

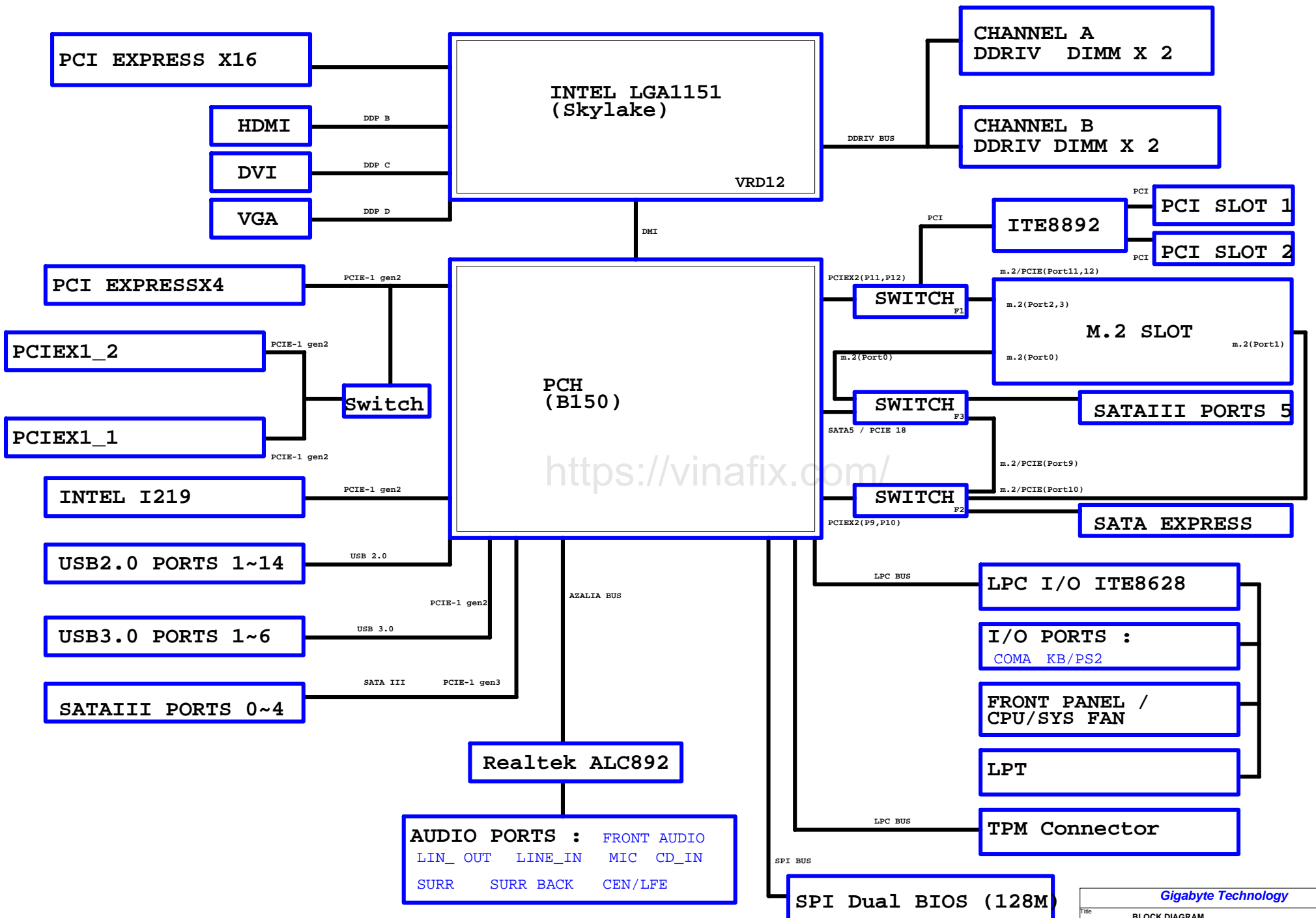


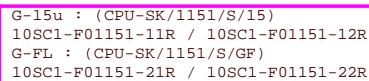
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D

C

BLOCK DIAGRAM





N_CPUURST [13]

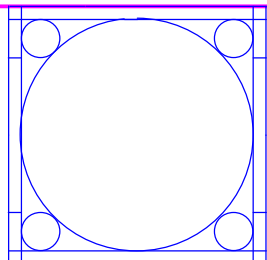
Bifurcation Config.	Signals Lanes		
	CFG[6]	CFG[5]	CFG[2]
1x16	1	1	1
1x16 Reversed	1	1	0
2x8	1	0	1
2x8 Reversed	1	0	0
1x8+2x4	0	0	1
1x8+2x4 Reversed	0	0	0

* 改DDR4 net

LGA1151A SKT_H4			LGA1151B SKT_H4		
MDA0 AE38	DDR0_DQ[0]	DDR0_CK[0]	MDA0 AE38	DDR0_DQ[0]	DDR0_CK[0]
MDA1 AE37	DDR0_DQ[1]	DDR0_CK[1]	MDA1 AE37	DDR0_DQ[1]	DDR0_CK[1]
MDA2 AG38	DDR0_DQ[2]	DDR0_CK[2]	MDA2 AG38	DDR0_DQ[2]	DDR0_CK[2]
MDA3 AG37	DDR0_DQ[3]	DDR0_CK[3]	MDA3 AG37	DDR0_DQ[3]	DDR0_CK[3]
MDA4 AE38	DDR0_DQ[4]	DDR0_CK[4]	MDA4 AE38	DDR0_DQ[4]	DDR0_CK[4]
MDA5 AE40	DDR0_DQ[5]	DDR0_CK[5]	MDA5 AE40	DDR0_DQ[5]	DDR0_CK[5]
MDA6 AG38	DDR0_DQ[6]	DDR0_CK[6]	MDA6 AG38	DDR0_DQ[6]	DDR0_CK[6]
MDA7 AG40	DDR0_DQ[7]	DDR0_CK[7]	MDA7 AG40	DDR0_DQ[7]	DDR0_CK[7]
MDA8 AJ38	DDR0_DQ[8]	DDR0_CK[8]	MDA8 AJ38	DDR0_DQ[8]	DDR0_CK[8]
MDA9 AJ37	DDR0_DQ[9]	DDR0_CK[9]	MDA9 AJ37	DDR0_DQ[9]	DDR0_CK[9]
MDA10 AL38	DDR0_DQ[10]	DDR0_CK[10]	MDA10 AL38	DDR0_DQ[10]	DDR0_CK[10]
MDA11 AL37	DDR0_DQ[11]	DDR0_CK[11]	MDA11 AL37	DDR0_DQ[11]	DDR0_CK[11]
MDA12 AL40	DDR0_DQ[12]	DDR0_CK[12]	MDA12 AL40	DDR0_DQ[12]	DDR0_CK[12]
MDA13 AJ38	DDR0_DQ[13]	DDR0_CK[13]	MDA13 AJ38	DDR0_DQ[13]	DDR0_CK[13]
MDA14 AL39	DDR0_DQ[14]	DDR0_CK[14]	MDA14 AL39	DDR0_DQ[14]	DDR0_CK[14]
MDA15 AL40	DDR0_DQ[15]	DDR0_CK[15]	MDA15 AL40	DDR0_DQ[15]	DDR0_CK[15]
MDA16 AX38	DDR0_DQ[16]	DDR0_CK[16]	MDA16 AX38	DDR0_DQ[16]	DDR0_CK[16]
MDA17 AN40	DDR0_DQ[17]	DDR0_CK[17]	MDA17 AN40	DDR0_DQ[17]	DDR0_CK[17]
MDA18 AR38	DDR0_DQ[18]	DDR0_CK[18]	MDA18 AR38	DDR0_DQ[18]	DDR0_CK[18]
MDA19 AR37	DDR0_DQ[19]	DDR0_CK[19]	MDA19 AR37	DDR0_DQ[19]	DDR0_CK[19]
MDA20 AN39	DDR0_DQ[20]	DDR0_CK[20]	MDA20 AN39	DDR0_DQ[20]	DDR0_CK[20]
MDA21 AN37	DDR0_DQ[21]	DDR0_CK[21]	MDA21 AN37	DDR0_DQ[21]	DDR0_CK[21]
MDA22 AR39	DDR0_DQ[22]	DDR0_CK[22]	MDA22 AR39	DDR0_DQ[22]	DDR0_CK[22]
MDA23 AR40	DDR0_DQ[23]	DDR0_CK[23]	MDA23 AR40	DDR0_DQ[23]	DDR0_CK[23]
MDA24 AW37	DDR0_DQ[24]	DDR0_CK[24]	MDA24 AW37	DDR0_DQ[24]	DDR0_CK[24]
MDA25 AL38	DDR0_DQ[25]	DDR0_CK[25]	MDA25 AL38	DDR0_DQ[25]	DDR0_CK[25]
MDA26 AV38	DDR0_DQ[26]	DDR0_CK[26]	MDA26 AV38	DDR0_DQ[26]	DDR0_CK[26]
MDA27 AW36	DDR0_DQ[27]	DDR0_CK[27]	MDA27 AW36	DDR0_DQ[27]	DDR0_CK[27]
MDA28 AL37	DDR0_DQ[28]	DDR0_CK[28]	MDA28 AL37	DDR0_DQ[28]	DDR0_CK[28]
MDA29 AV37	DDR0_DQ[29]	DDR0_CK[29]	MDA29 AV37	DDR0_DQ[29]	DDR0_CK[29]
MDA30 AT36	DDR0_DQ[30]	DDR0_CK[30]	MDA30 AT36	DDR0_DQ[30]	DDR0_CK[30]
MDA31 AU38	DDR0_DQ[31]	DDR0_CK[31]	MDA31 AU38	DDR0_DQ[31]	DDR0_CK[31]
MDA32 AY38	DDR0_DQ[32]	DDR0_CK[32]	MDA32 AY38	DDR0_DQ[32]	DDR0_CK[32]
MDA33 AW8	DDR0_DQ[33]	DDR0_CK[33]	MDA33 AW8	DDR0_DQ[33]	DDR0_CK[33]
MDA34 AV6	DDR0_DQ[34]	DDR0_CK[34]	MDA34 AV6	DDR0_DQ[34]	DDR0_CK[34]
MDA35 AU6	DDR0_DQ[35]	DDR0_CK[35]	MDA35 AU6	DDR0_DQ[35]	DDR0_CK[35]
MDA36 AU8	DDR0_DQ[36]	DDR0_CK[36]	MDA36 AU8	DDR0_DQ[36]	DDR0_CK[36]
MDA37 AV8	DDR0_DQ[37]	DDR0_CK[37]	MDA37 AV8	DDR0_DQ[37]	DDR0_CK[37]
MDA38 AW6	DDR0_DQ[38]	DDR0_CK[38]	MDA38 AW6	DDR0_DQ[38]	DDR0_CK[38]
MDA39 AV6	DDR0_DQ[39]	DDR0_CK[39]	MDA39 AV6	DDR0_DQ[39]	DDR0_CK[39]
MDA40 AY4	DDR0_DQ[40]	DDR0_CK[40]	MDA40 AY4	DDR0_DQ[40]	DDR0_CK[40]
MDA41 AV4	DDR0_DQ[41]	DDR0_CK[41]	MDA41 AV4	DDR0_DQ[41]	DDR0_CK[41]
MDA42 AT4	DDR0_DQ[42]	DDR0_CK[42]	MDA42 AT4	DDR0_DQ[42]	DDR0_CK[42]
MDA43 AT2	DDR0_DQ[43]	DDR0_CK[43]	MDA43 AT2	DDR0_DQ[43]	DDR0_CK[43]
MDA44 AV3	DDR0_DQ[44]	DDR0_CK[44]	MDA44 AV3	DDR0_DQ[44]	DDR0_CK[44]
MDA45 AW4	DDR0_DQ[45]	DDR0_CK[45]	MDA45 AW4	DDR0_DQ[45]	DDR0_CK[45]
MDA46 AT4	DDR0_DQ[46]	DDR0_CK[46]	MDA46 AT4	DDR0_DQ[46]	DDR0_CK[46]
MDA47 AT3	DDR0_DQ[47]	DDR0_CK[47]	MDA47 AT3	DDR0_DQ[47]	DDR0_CK[47]
MDA48 AP2	DDR0_DQ[48]	DDR0_CK[48]	MDA48 AP2	DDR0_DQ[48]	DDR0_CK[48]
MDA49 AM4	DDR0_DQ[49]	DDR0_CK[49]	MDA49 AM4	DDR0_DQ[49]	DDR0_CK[49]
MDA50 AP3	DDR0_DQ[50]	DDR0_CK[50]	MDA50 AP3	DDR0_DQ[50]	DDR0_CK[50]
MDA51 AM3	DDR0_DQ[51]	DDR0_CK[51]	MDA51 AM3	DDR0_DQ[51]	DDR0_CK[51]
MDA52 AP4	DDR0_DQ[52]	DDR0_CK[52]	MDA52 AP4	DDR0_DQ[52]	DDR0_CK[52]
MDA53 AM2	DDR0_DQ[53]	DDR0_CK[53]	MDA53 AM2	DDR0_DQ[53]	DDR0_CK[53]
MDA54 AP1	DDR0_DQ[54]	DDR0_CK[54]	MDA54 AP1	DDR0_DQ[54]	DDR0_CK[54]
MDA55 AM1	DDR0_DQ[55]	DDR0_CK[55]	MDA55 AM1	DDR0_DQ[55]	DDR0_CK[55]
MDA56 AK3	DDR0_DQ[56]	DDR0_CK[56]	MDA56 AK3	DDR0_DQ[56]	DDR0_CK[56]
MDA57 AH1	DDR0_DQ[57]	DDR0_CK[57]	MDA57 AH1	DDR0_DQ[57]	DDR0_CK[57]
MDA58 AK4	DDR0_DQ[58]	DDR0_CK[58]	MDA58 AK4	DDR0_DQ[58]	DDR0_CK[58]
MDA59 AH2	DDR0_DQ[59]	DDR0_CK[59]	MDA59 AH2	DDR0_DQ[59]	DDR0_CK[59]
MDA60 AH4	DDR0_DQ[60]	DDR0_CK[60]	MDA60 AH4	DDR0_DQ[60]	DDR0_CK[60]
MDA61 AK2	DDR0_DQ[61]	DDR0_CK[61]	MDA61 AK2	DDR0_DQ[61]	DDR0_CK[61]
MDA62 AH3	DDR0_DQ[62]	DDR0_CK[62]	MDA62 AH3	DDR0_DQ[62]	DDR0_CK[62]
MDA63 AK1	DDR0_DQ[63]	DDR0_CK[63]	MDA63 AK1	DDR0_DQ[63]	DDR0_CK[63]

LGA1151

ILM_BP_CR/115X/NORMAL NI[12KRC-0F0001-52R]



Need check the new CPU ME

DDR CHANNEL A

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CPU-SK/1151/S/15

LGA1151B SKT_H4			LGA1151B SKT_H4		
MDB0 AD34	DDR1_DQ[0]	DDR1_CK[0]	MDB0 AD34	DDR1_DQ[0]	DDR1_CK[0]
MDB1 AD35	DDR1_DQ[1]	DDR1_CK[1]	MDB1 AD35	DDR1_DQ[1]	DDR1_CK[1]
MDB2 AG35	DDR1_DQ[2]	DDR1_CK[2]	MDB2 AG35	DDR1_DQ[2]	DDR1_CK[2]
MDB3 AH35	DDR1_DQ[3]	DDR1_CK[3]	MDB3 AH35	DDR1_DQ[3]	DDR1_CK[3]
MDB4 AE35	DDR1_DQ[4]	DDR1_CK[4]	MDB4 AE35	DDR1_DQ[4]	DDR1_CK[4]
MDB5 AG34	DDR1_DQ[5]	DDR1_CK[5]	MDB5 AG34	DDR1_DQ[5]	DDR1_CK[5]
MDB6 AG34	DDR1_DQ[6]	DDR1_CK[6]	MDB6 AG34	DDR1_DQ[6]	DDR1_CK[6]
MDB7 AH34	DDR1_DQ[7]	DDR1_CK[7]	MDB7 AH34	DDR1_DQ[7]	DDR1_CK[7]
MDB8 AK35	DDR1_DQ[8]	DDR1_CK[8]	MDB8 AK35	DDR1_DQ[8]	DDR1_CK[8]
MDB9 AL35	DDR1_DQ[9]	DDR1_CK[9]	MDB9 AL35	DDR1_DQ[9]	DDR1_CK[9]
MDB10 AL32	DDR1_DQ[10]	DDR1_CK[10]	MDB10 AL32	DDR1_DQ[10]	DDR1_CK[10]
MDB11 AL32	DDR1_DQ[11]	DDR1_CK[11]	MDB11 AL32	DDR1_DQ[11]	DDR1_CK[11]
MDB12 AK34	DDR1_DQ[12]	DDR1_CK[12]	MDB12 AK34	DDR1_DQ[12]	DDR1_CK[12]
MDB13 AL34	DDR1_DQ[13]	DDR1_CK[13]	MDB13 AL34	DDR1_DQ[13]	DDR1_CK[13]
MDB14 AK31	DDR1_DQ[14]	DDR1_CK[14]	MDB14 AK31	DDR1_DQ[14]	DDR1_CK[14]
MDB15 AL31	DDR1_DQ[15]	DDR1_CK[15]	MDB15 AL31	DDR1_DQ[15]	DDR1_CK[15]
MDB16 AP35	DDR1_DQ[16]	DDR1_CK[16]	MDB16 AP35	DDR1_DQ[16]	DDR1_CK[16]
MDB17 AN35	DDR1_DQ[17]	DDR1_CK[17]	MDB17 AN35	DDR1_DQ[17]	DDR1_CK[17]
MDB18 AN32	DDR1_DQ[18]	DDR1_CK[18]	MDB18 AN32	DDR1_DQ[18]	DDR1_CK[18]
MDB19 AP32	DDR1_DQ[19]	DDR1_CK[19]	MDB19 AP32	DDR1_DQ[19]	DDR1_CK[19]
MDB20 AN34	DDR1_DQ[20]	DDR1_CK[20]	MDB20 AN34	DDR1_DQ[20]	DDR1_CK[20]
MDB21 AP34	DDR1_DQ[21]	DDR1_CK[21]	MDB21 AP34	DDR1_DQ[21]	DDR1_CK[21]
MDB22 AN31	DDR1_DQ[22]	DDR1_CK[22]	MDB22 AN31	DDR1_DQ[22]	DDR1_CK[22]
MDB23 AP31	DDR1_DQ[23]	DDR1_CK[23]	MDB23 AP31	DDR1_DQ[23]	DDR1_CK[23]
MDB24 AL29	DDR1_DQ[24]	DDR1_CK[24]	MDB24 AL29	DDR1_DQ[24]	DDR1_CK[24]
MDB25 AM29	DDR1_DQ[25]	DDR1_CK[25]	MDB25 AM29	DDR1_DQ[25]	DDR1_CK[25]
MDB26 AP29	DDR1_DQ[26]	DDR1_CK[26]	MDB26 AP29	DDR1_DQ[26]	DDR1_CK[26]
MDB27 AR29	DDR1_DQ[27]	DDR1_CK[27]	MDB27 AR29	DDR1_DQ[27]	DDR1_CK[27]
MDB28 AM28	DDR1_DQ[28]	DDR1_CK[28]	MDB28 AM28	DDR1_DQ[28]	DDR1_CK[28]
MDB29 AL28	DDR1_DQ[29]	DDR1_CK[29]	MDB29 AL28	DDR1_DQ[29]	DDR1_CK[29]
MDB30 AR28	DDR1_DQ[30]	DDR1_CK[30]	MDB30 AR28	DDR1_DQ[30]	DDR1_CK[30]
MDB31 AP28	DDR1_DQ[31]	DDR1_CK[31]	MDB31 AP28	DDR1_DQ[31]	DDR1_CK[31]
MDB32 AR12	DDR1_DQ[32]	DDR1_CK[32]	MDB32 AR12	DDR1_DQ[32]	DDR1_CK[32]
MDB33 AP12	DDR1_DQ[33]	DDR1_CK[33]	MDB33 AP12	DDR1_DQ[33]	DDR1_CK[33]
MDB34 AM13	DDR1_DQ[34]	DDR1_CK[34]	MDB34 AM13	DDR1_DQ[34]	DDR1_CK[34]
MDB35 AL13	DDR1_DQ[35]	DDR1_CK[35]	MDB35 AL13	DDR1_DQ[35]	DDR1_CK[35]
MDB36 AR13	DDR1_DQ[36]	DDR1_CK[36]	MDB36 AR13	DDR1_DQ[36]	DDR1_CK[36]
MDB37 AP13	DDR1_DQ[37]	DDR1_CK[37]	MDB37 AP13	DDR1_DQ[37]	DDR1_CK[37]
MDB38 AM12	DDR1_DQ[38]	DDR1_CK[38]	MDB38 AM12	DDR1_DQ[38]	DDR1_CK[38]
MDB39 AL12	DDR1_DQ[39]	DDR1_CK[39]	MDB39 AL12	DDR1_DQ[39]	DDR1_CK[39]
MDB40 AP10	DDR1_DQ[40]	DDR1_CK[40]	MDB40 AP10	DDR1_DQ[40]	DDR1_CK[40]
MDB41 AR10	DDR1_DQ[41]	DDR1_CK[41]	MDB41 AR10	DDR1_DQ[41]	DDR1_CK[41]
MDB42 AP7	DDR1_DQ[42]	DDR1_CK[42]	MDB42 AP7	DDR1_DQ[42]	DDR1_CK[42]
MDB43 AR7	DDR1_DQ[43]	DDR1_CK[43]	MDB43 AR7	DDR1_DQ[43]	DDR1_CK[43]
MDB44 AR9	DDR1_DQ[44]	DDR1_CK[44]	MDB44 AR9	DDR1_DQ[44]	DDR1_CK[44]
MDB45 AP9	DDR1_DQ[45]	DDR1_CK[45]	MDB45 AP9	DDR1_DQ[45]	DDR1_CK[45]
MDB46 AR6	DDR1_DQ[46]	DDR1_CK[46]	MDB46 AR6	DDR1_DQ[46]	DDR1_CK[46]
MDB47 AP6	DDR1_DQ[47]	DDR1_CK[47]	MDB47 AP6	DDR1_DQ[47]	DDR1_CK[47]
MDB48 AM10	DDR1_DQ[48]	DDR1_CK[48]	MDB48 AM10	DDR1_DQ[48]	DDR1_CK[48]
MDB49 AL10	DDR1_DQ[49]	DDR1_CK[49]	MDB49 AL10	DDR1_DQ[49]	DDR1_CK[49]
MDB50 AM7	DDR1_DQ[50]	DDR1_CK[50]	MDB50 AM7	DDR1_DQ[50]	DDR1_CK[50]
MDB51 AL7	DDR1_DQ[51]	DDR1_CK[51]	MDB51 AL7	DDR1_DQ[51]	DDR1_CK[51]
MDB52 AM9	DDR1_DQ[52]	DDR1_CK[52]	MDB52 AM9	DDR1_DQ[52]	DDR1_CK[52]
MDB53 AL9	DDR1_DQ[53]	DDR1_CK[53]	MDB53 AL9	DDR1_DQ[53]	DDR1_CK[53]
MDB54 AM6	DDR1_DQ[54]	DDR1_CK[54]	MDB54 AM6	DDR1_DQ[54]	DDR1_CK[54]
MDB55 AL6	DDR1_DQ[55]	DDR1_CK[55]	MDB55 AL6	DDR1_DQ[55]	DDR1_CK[55]
MDB56 AL6	DDR1_DQ[56]	DDR1_CK[56]	MDB56 AL6	DDR1_DQ[56]	DDR1_CK[56]
MDB57 AJ7	DDR1_DQ[57]	DDR1_CK[57]	MDB57 AJ7	DDR1_DQ[57]	DDR1_CK[57]
MDB58 AF6	DDR1_DQ[58]	DDR1_CK[58]	MDB58 AF6	DDR1_DQ[58]	DDR1_CK[58]
MDB59 AF7	DDR1_DQ[59]	DDR1_CK[59]	MDB59 AF7	DDR1_DQ[59]	DDR1_CK[59]
MDB60 AH7	DDR1_DQ[60]	DDR1_CK[60]	MDB60 AH7	DDR1_DQ[60]	DDR1_CK[60]
MDB61 AH6	DDR1_DQ[61]	DDR1_CK[61]	MDB61 AH6	DDR1_DQ[61]	DDR1_CK[61]
MDB62 AF7	DDR1_DQ[62]	DDR1_CK[62]	MDB62 AF7	DDR1_DQ[62]	DDR1_CK[62]
MDB63 AF6	DDR1_DQ[63]	DDR1_CK[63]	MDB63 AF6	DDR1_DQ[63]	DDR1_CK[63]

DDR CHANNEL B

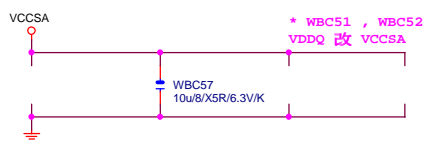
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[8] MODT_A[0..3]	MODT_A0..3
[9] MODT_B[0..3]	MODT_B0..3
[8] MDA[0..63]	MDA0..63
[9] MDB[0..63]	MDB0..63
[8] M_DQSA[0..7]	M_DQSA0..7
[8] M_-DQSA[0..7]	M_-DQSA0..7
[8] MAAA[0..16]	MAAA0..16
[9] MAAB[0..16]	MAAB0..16
[9] M_DQSB[0..7]	M_DQSB0..7
[9] M_-DQSB[0..7]	M_-DQSB0..7

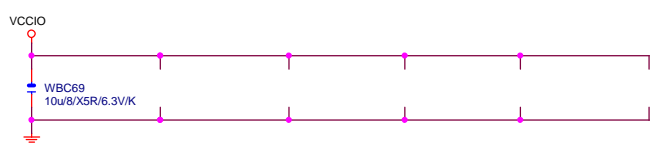
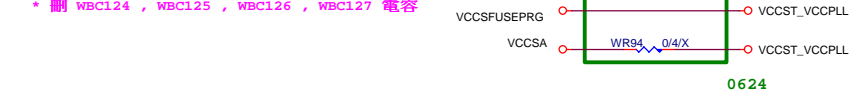
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Gigabyte Technology		
CPU LGA1151-B		
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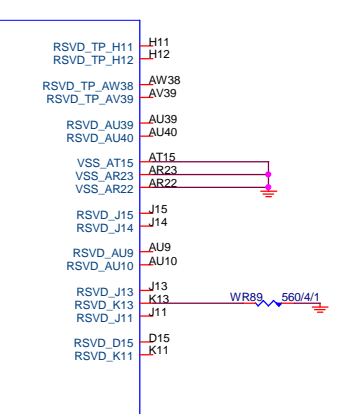
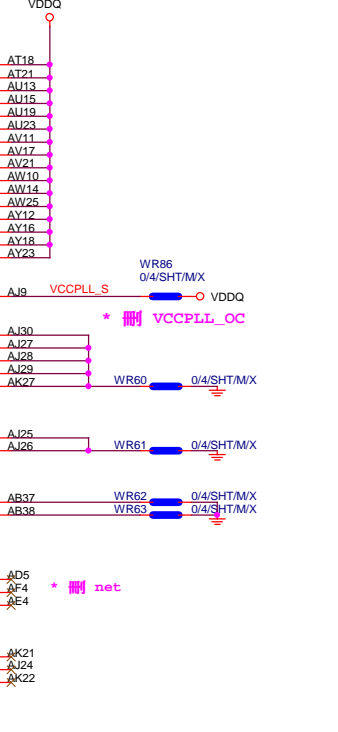
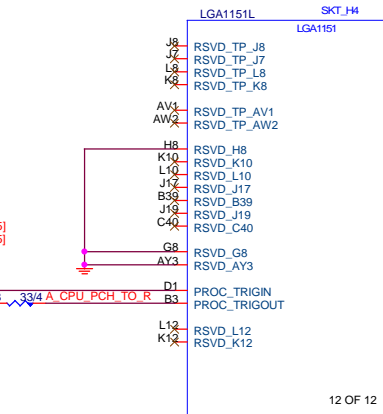
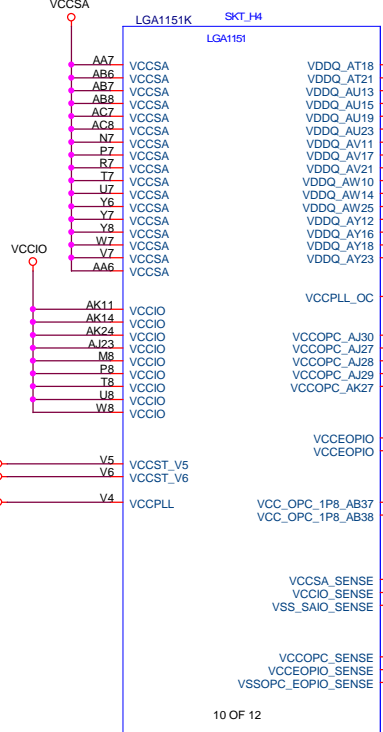
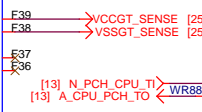
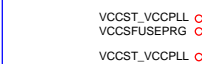
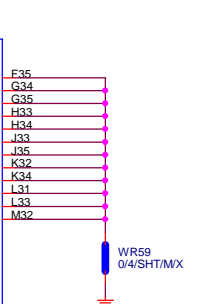
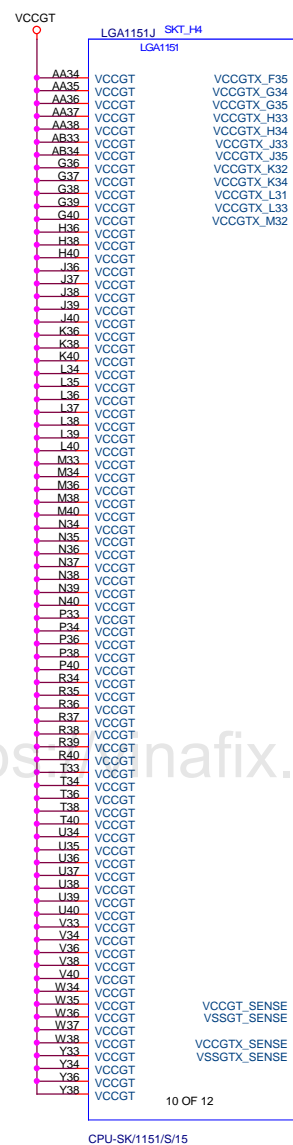
* WBC49 移到 RT8120_DDR
* 刪 WBC50 電容

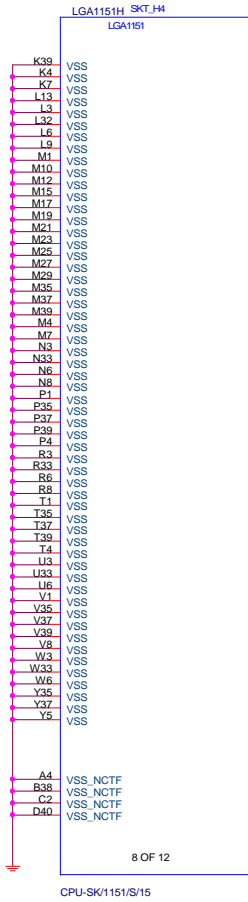
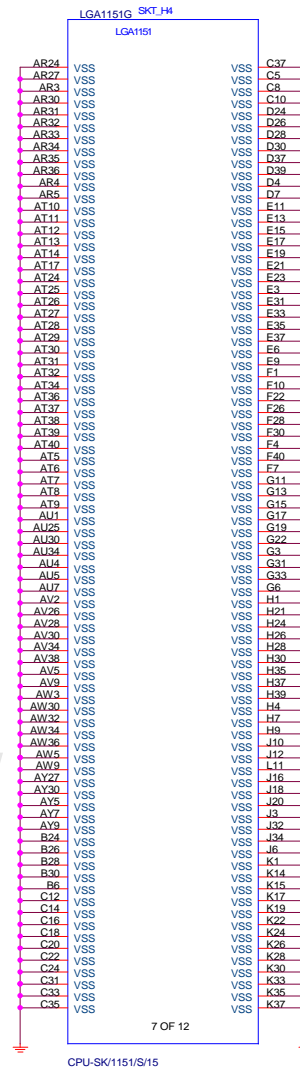
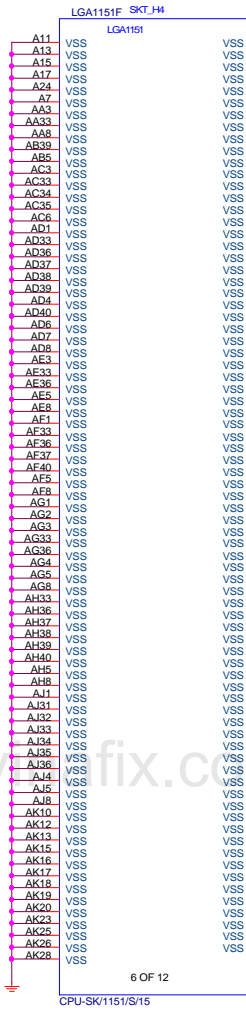
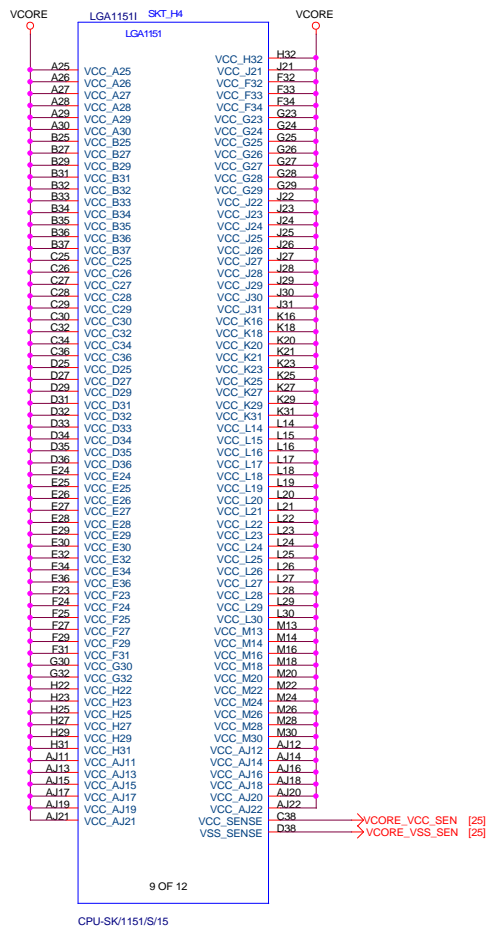


* 刪 WBC124 , WBC125 , WBC126 , WBC127 電容



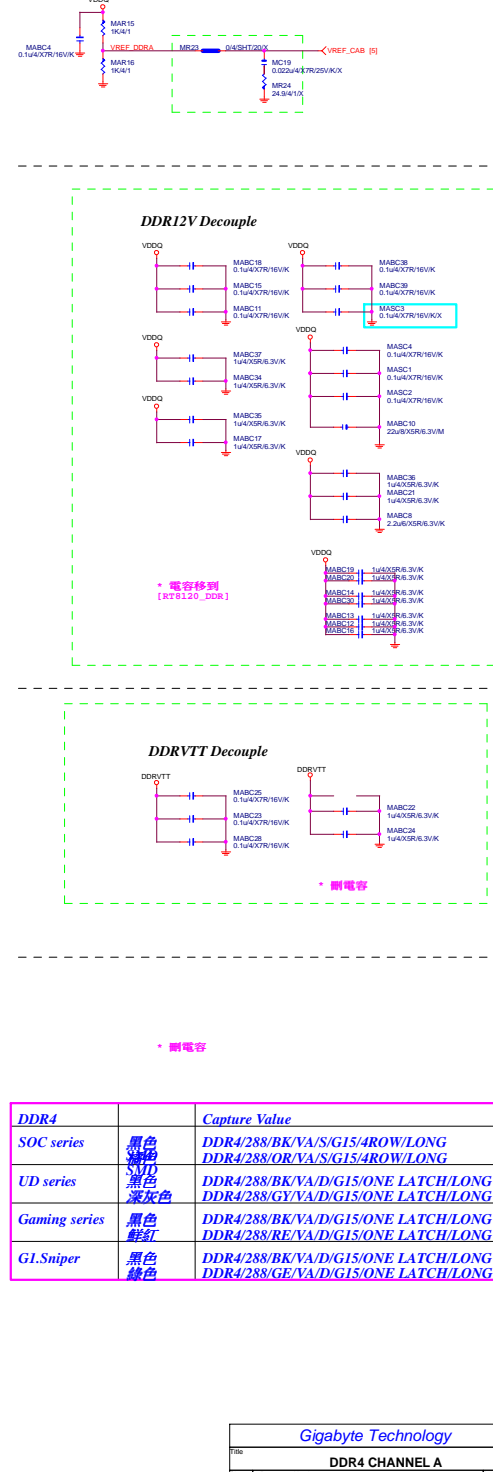
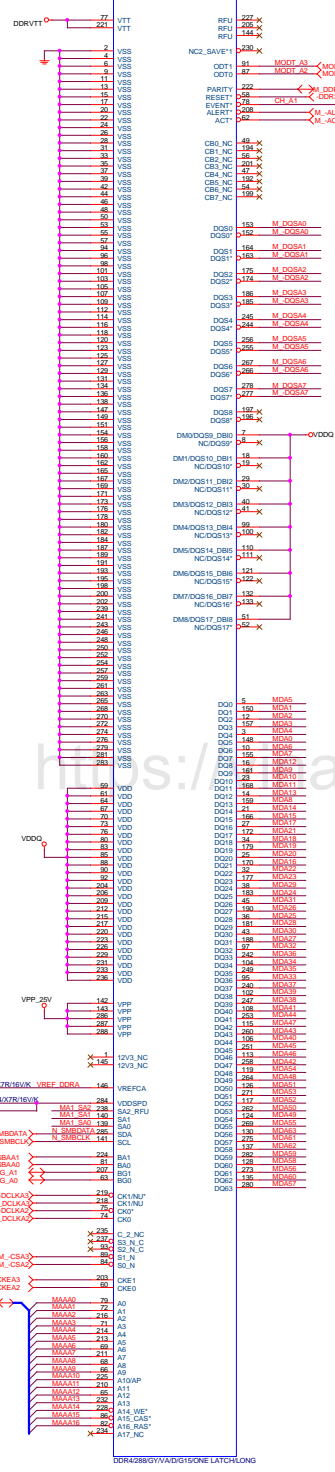
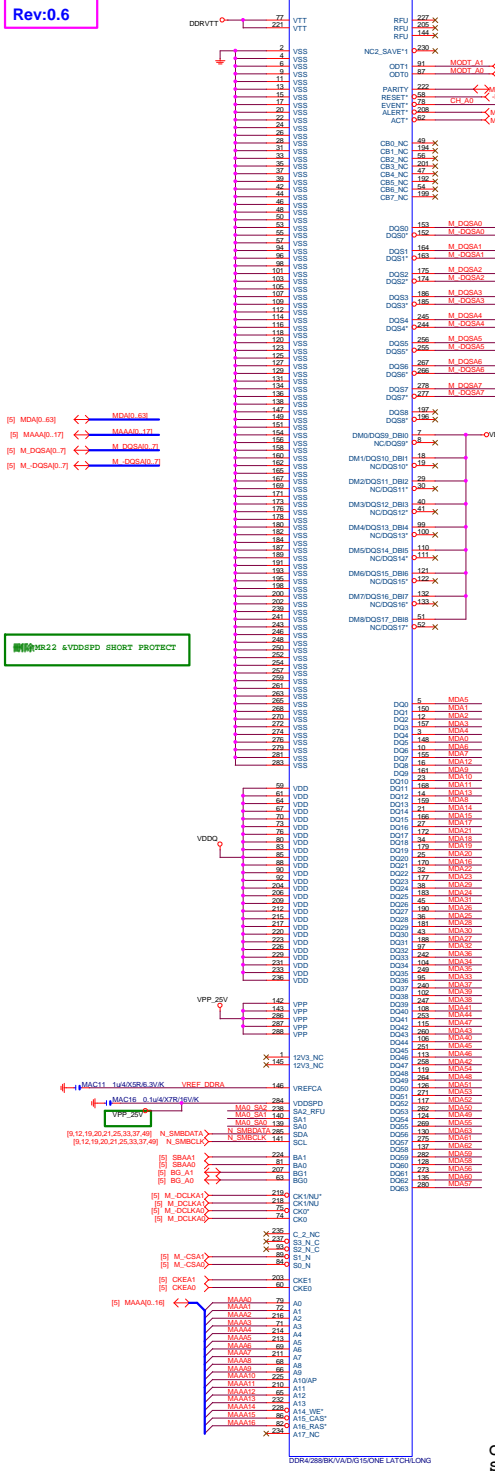
* 刪 VCCGT 電容



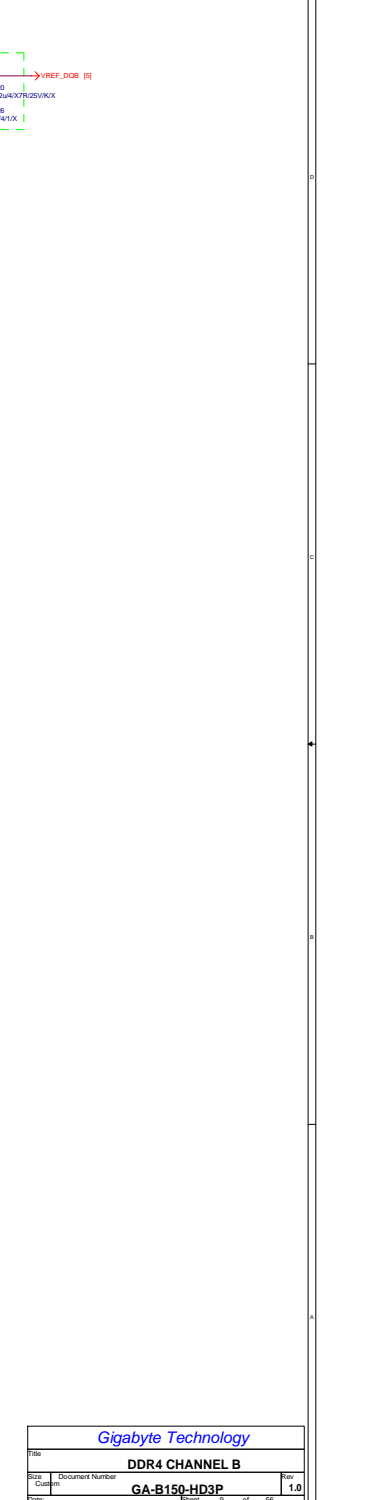
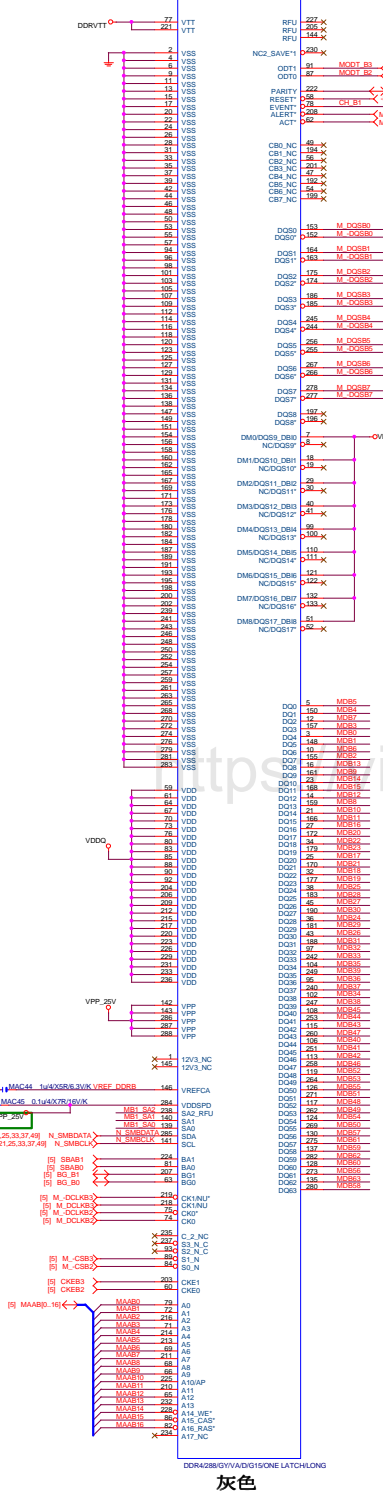
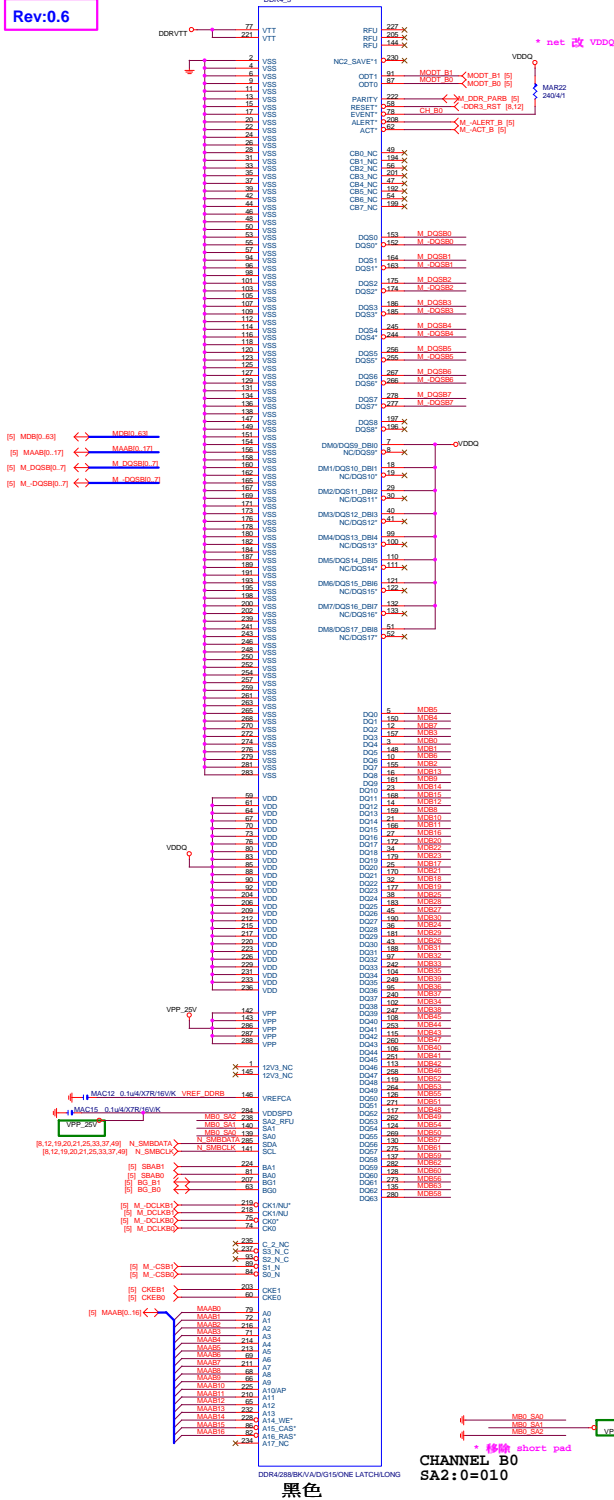


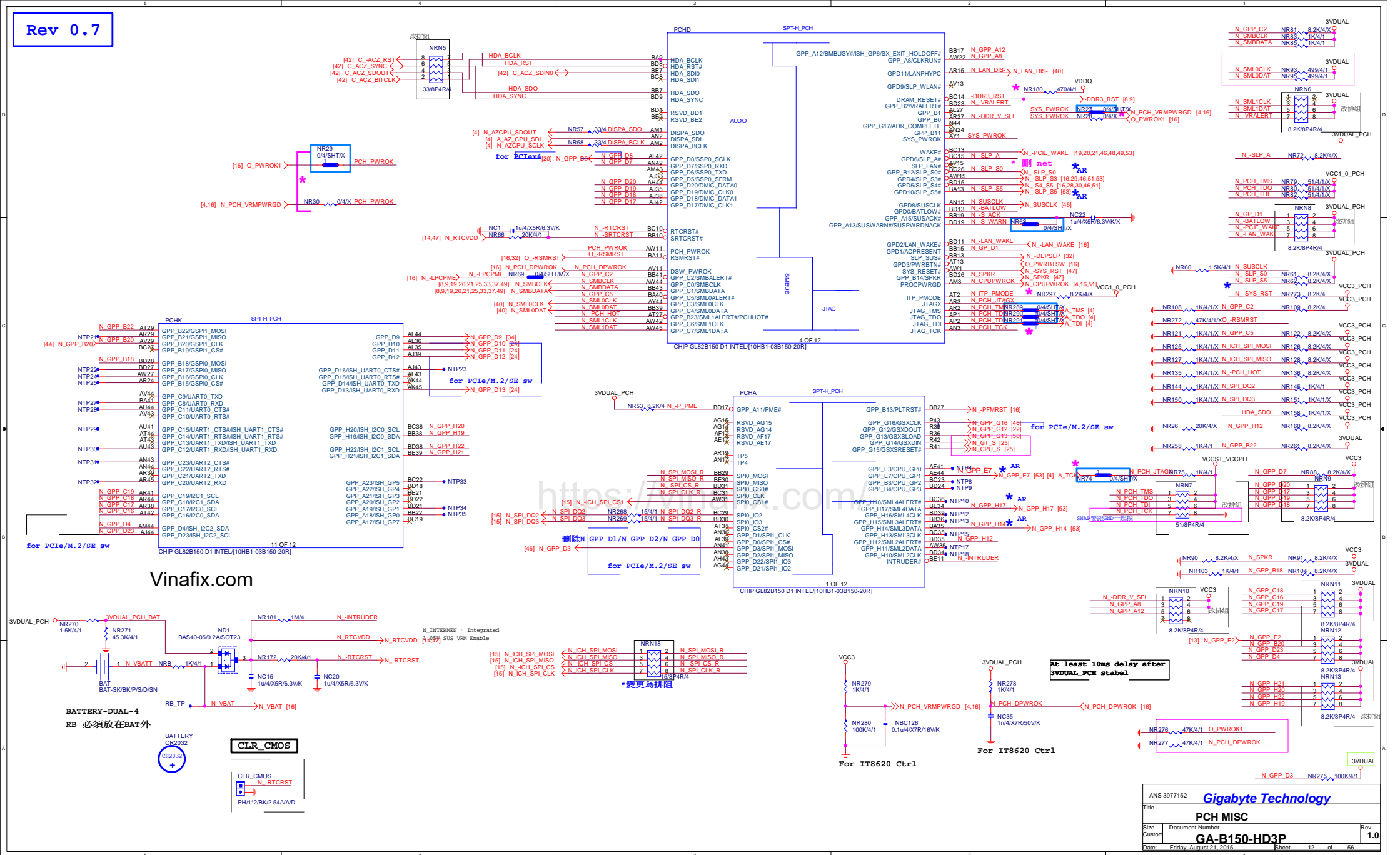
* 刪 Vcore 電容

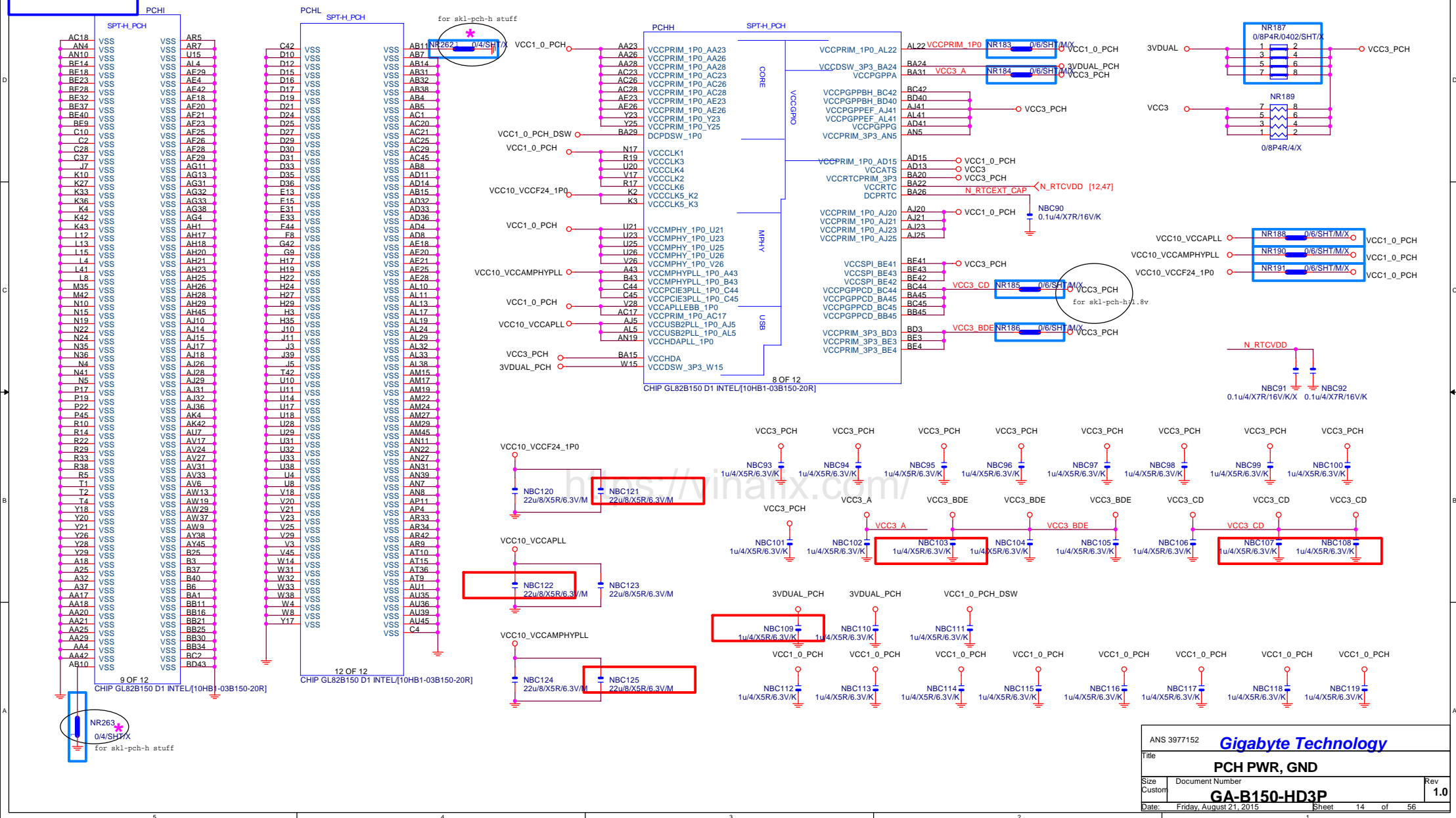
Vinafix.com



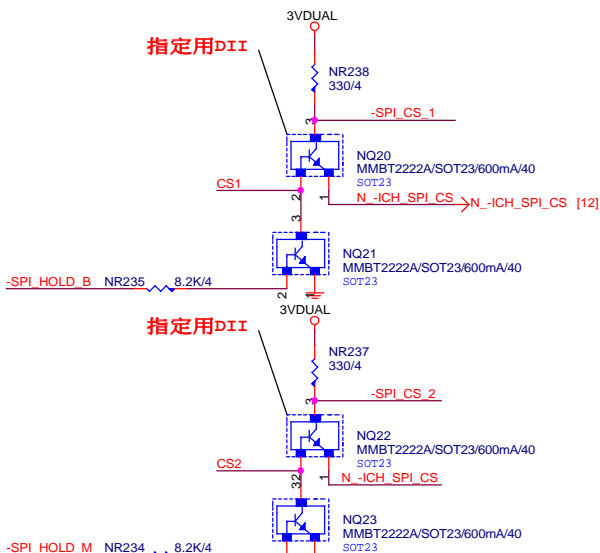
DDR4		Capture Value
SOC series	黑色 黑色	DDR4/288/BK/VA/S/G15/4ROW/LONG DDR4/288/OR/VA/D/G15/4ROW/LONG
UD series	SMD 深灰色	DDR4/288/BK/VA/D/G15/ONE LATCH/LONG DDR4/288/GY/VA/D/G15/ONE LATCH/LONG
Gaming series	黑色 鮮紅	DDR4/288/BK/VA/D/G15/ONE LATCH/LONG DDR4/288/RE/VA/D/G15/ONE LATCH/LONG
GI.Sniper	黑色 綠色	DDR4/288/BK/VA/D/G15/ONE LATCH/LONG DDR4/288/GE/VA/D/G15/ONE LATCH/LONG



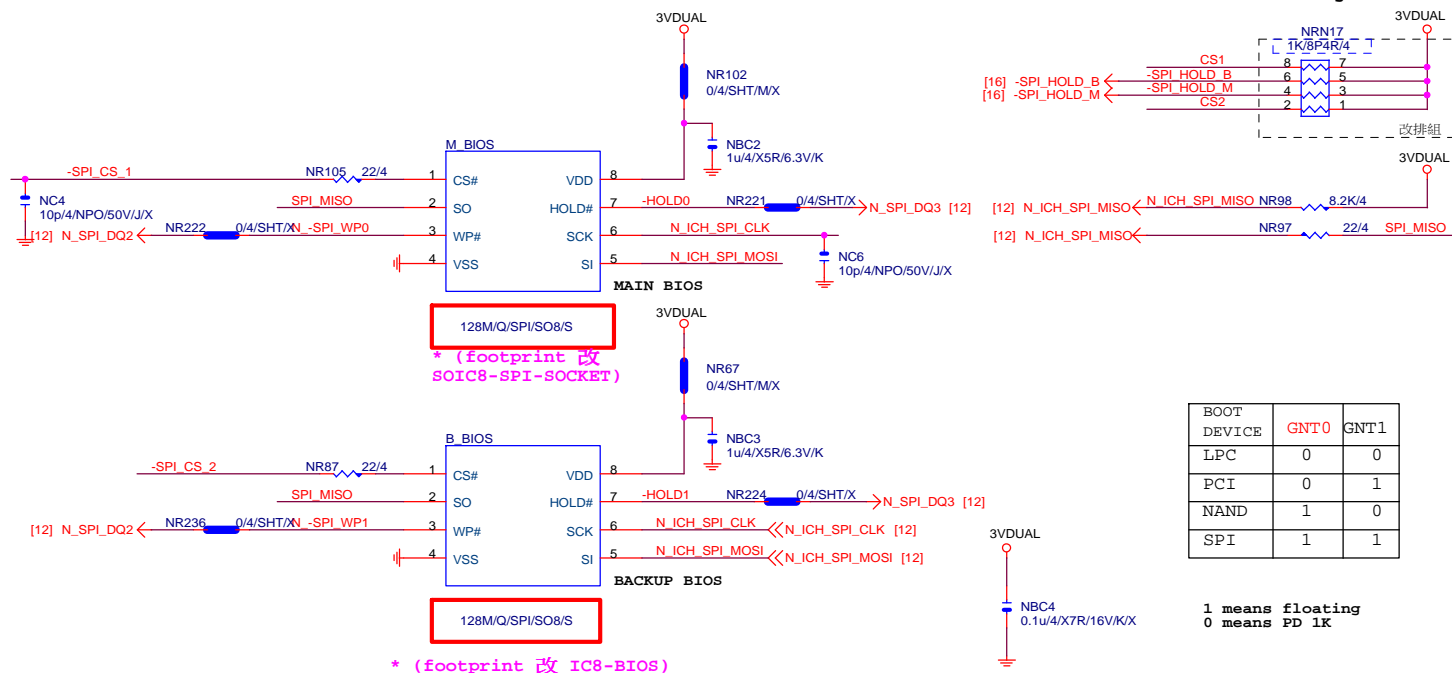




指定用DII



指定用DII

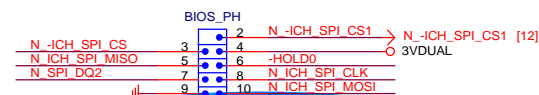

<https://vinafix.com/>

M_BIOS

LCP/G-FL/1.27mm/200MIL/WHITE[10SL2-00000831R]X

* 試産先上, PVT 移除

BIOS_PH

★Update
2015-01.29PVT mask footprint
:BIOS2X5-RH-1-MASK

Footprint the same, confirmed by Graceing.

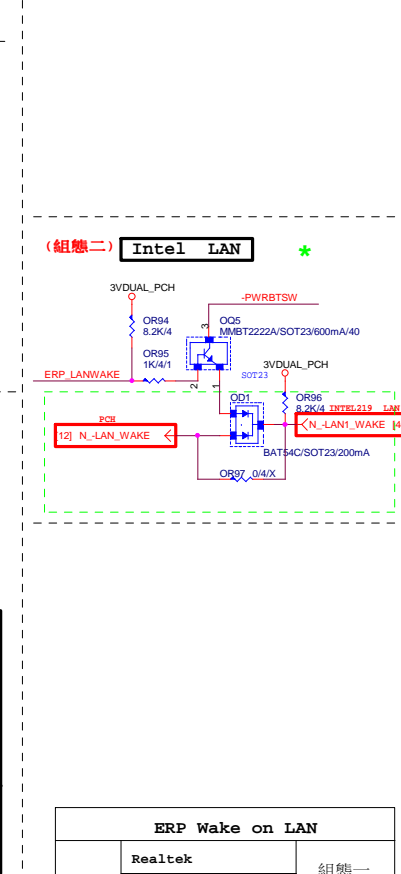
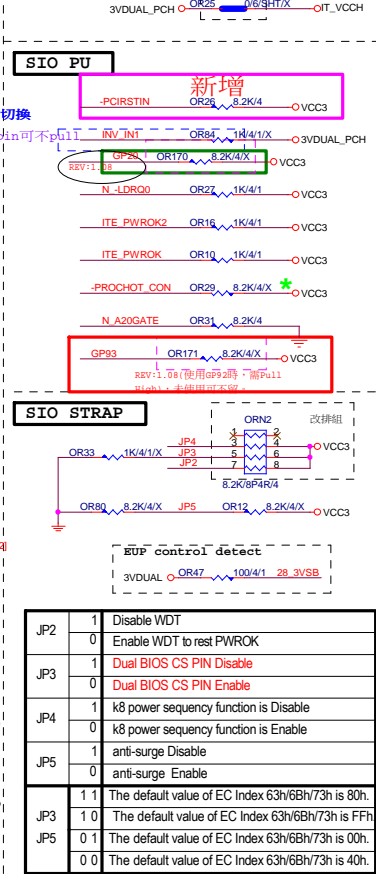
Use COM port pin header part.

* 試産先上, PVT mask



Gigabyte Technology

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internal power pin, max 22nF cap

SIO_18V

OBC4
0.1u4/X7R/16V/K

OBC5
0.1u4/X7R/16V/K

2_5LEVEL

OBC16
22u8/X5R/6.3V/M

OBC15
1u4/X5R/6.3V/K

VCC3

OR7 8.2K/4/X

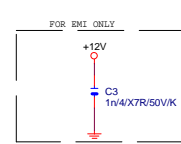
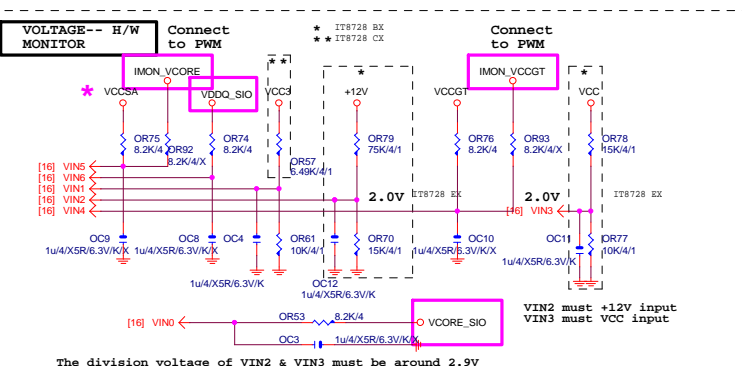
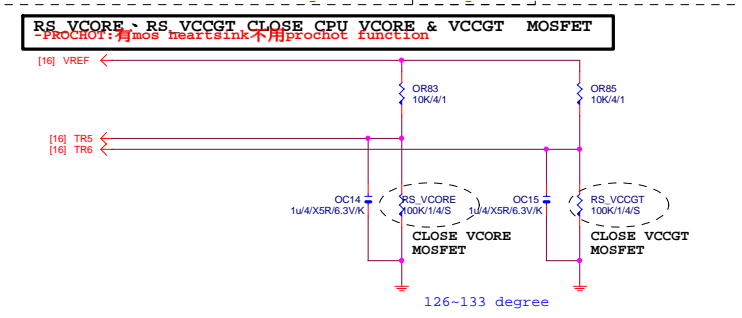
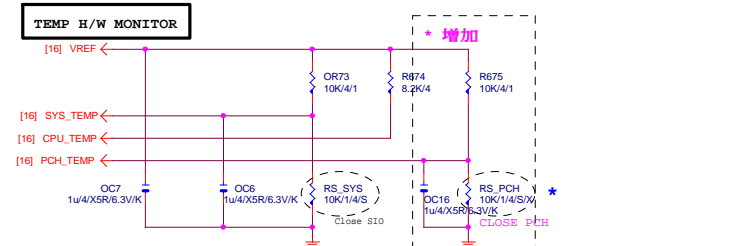
OR15 8.2K/4

MB ID2

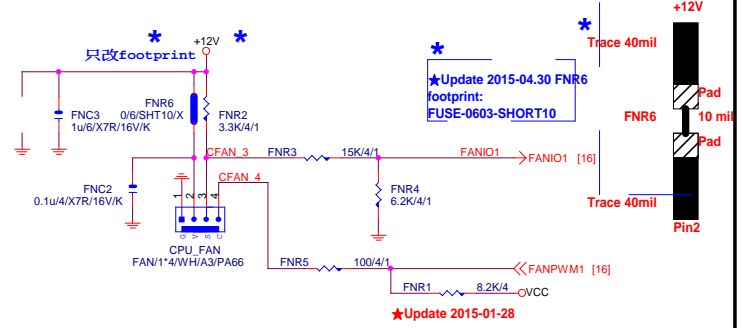
Ground symbol

ERP Wake on LAN		
Single LAN	Realtek	組態一
	Atheros	
	Intel 219	組態二
Dual LAN	Atheros+Atheros	組態一
	Intel 219+Atheros	組態三
	Intel 219+Intel 210	
No Support ERP	BOM不上	N/A

REV:1.06



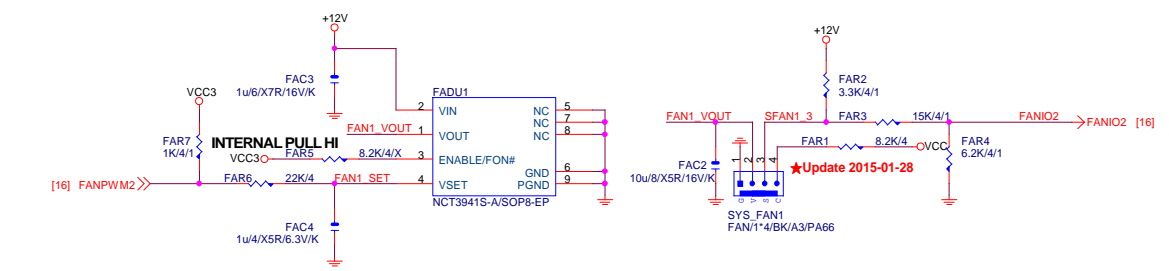
CPU SMART FAN



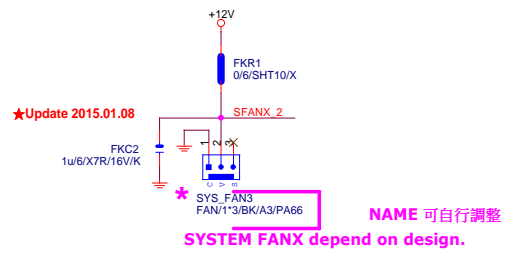
Vinafix.com

SYSTEM FAN1

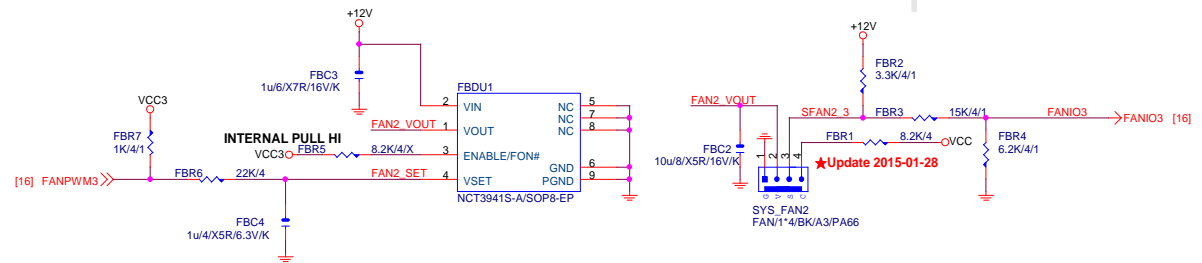
Linear SYS_FAN
Enable Function (NCT3941S)
Full Turn On Function (NCT3941S-A)



SYSTEM FANX

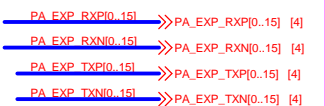
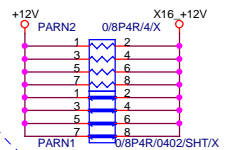


SYSTEM FAN2

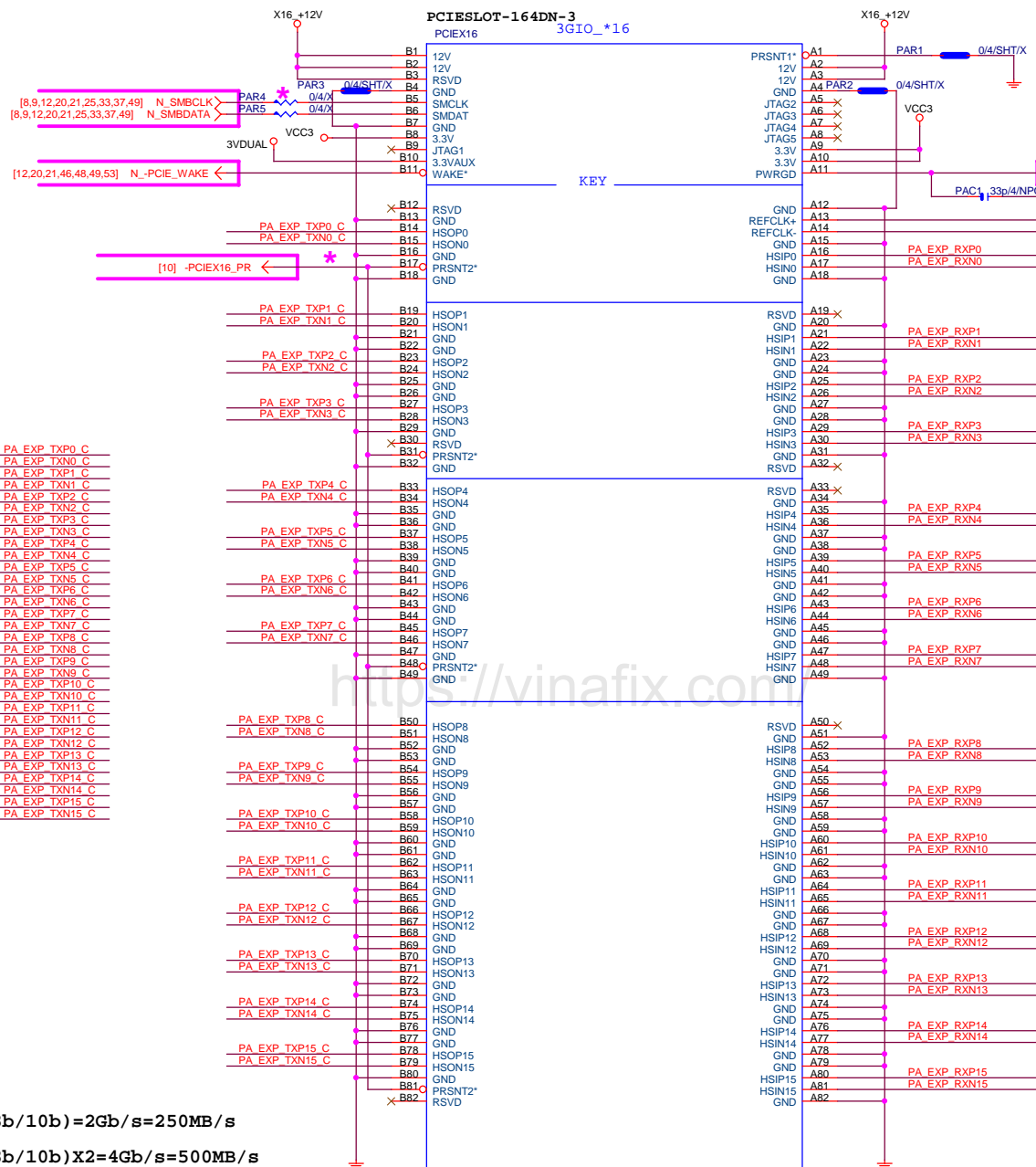


Rev 0.1

```
/* +12 protect
short-wire test
```



PA EXP TXP0	PAC5	0.22u4/X5R6.3V/3K	PA EXP TXP0 C
PA EXP TXP0	PAC4	0.22u4/X5R6.3V/3K	PA EXP TXP0 C
PA EXP TXP1	PAC6	0.22u4/X5R6.3V/3K	PA EXP TXP1 C
PA EXP TXN1	PAC7	0.22u4/X5R6.3V/3K	PA EXP TXN1 C
PA EXP TXP2	PAC8	0.22u4/X5R6.3V/3K	PA EXP TXP2 C
PA EXP TXN2	PAC9	0.22u4/X5R6.3V/3K	PA EXP TXN2 C
PA EXP TXP3	PAC10	0.22u4/X5R6.3V/3K	PA EXP TXP3 C
PA EXP TXN3	PAC11	0.22u4/X5R6.3V/3K	PA EXP TXN3 C
PA EXP TXP4	PAC12	0.22u4/X5R6.3V/3K	PA EXP TXP4 C
PA EXP TXN4	PAC13	0.22u4/X5R6.3V/3K	PA EXP TXN4 C
PA EXP TXP5	PAC14	0.22u4/X5R6.3V/3K	PA EXP TXP5 C
PA EXP TXN5	PAC15	0.22u4/X5R6.3V/3K	PA EXP TXN5 C
PA EXP TXP6	PAC16	0.22u4/X5R6.3V/3K	PA EXP TXP6 C
PA EXP TXN6	PAC17	0.22u4/X5R6.3V/3K	PA EXP TXN6 C
PA EXP TXP7	PAC18	0.22u4/X5R6.3V/3K	PA EXP TXP7 C
PA EXP TXN7	PAC19	0.22u4/X5R6.3V/3K	PA EXP TXN7 C
PA EXP TXP8	PAC21	0.22u4/X5R6.3V/3K	PA EXP TXP8 C
PA EXP TXN8	PAC20	0.22u4/X5R6.3V/3K	PA EXP TXN8 C
PA EXP TXP9	PAC22	0.22u4/X5R6.3V/3K	PA EXP TXP9 C
PA EXP TXN9	PAC23	0.22u4/X5R6.3V/3K	PA EXP TXN9 C
PA EXP TXP10	PAC24	0.22u4/X5R6.3V/3K	PA EXP TXP10 C
PA EXP TXN10	PAC25	0.22u4/X5R6.3V/3K	PA EXP TXN10 C
PA EXP TXP11	PAC26	0.22u4/X5R6.3V/3K	PA EXP TXP11 C
PA EXP TXN11	PAC27	0.22u4/X5R6.3V/3K	PA EXP TXN11 C
PA EXP TXP12	PAC28	0.22u4/X5R6.3V/3K	PA EXP TXP12 C
PA EXP TXN12	PAC29	0.22u4/X5R6.3V/3K	PA EXP TXN12 C
PA EXP TXP13	PAC30	0.22u4/X5R6.3V/3K	PA EXP TXP13 C
PA EXP TXN13	PAC31	0.22u4/X5R6.3V/3K	PA EXP TXN13 C
PA EXP TXP14	PAC32	0.22u4/X5R6.3V/3K	PA EXP TXP14 C
PA EXP TXN14	PAC33	0.22u4/X5R6.3V/3K	PA EXP TXN14 C
PA EXP TXP15	PAC34	0.22u4/X5R6.3V/3K	PA EXP TXP15 C
PA EXP TXN15	PAC35	0.22u4/X5R6.3V/3K	PA EXP TXN15 C



PCIEX16:16/5/5/5/16

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) BANDWITH=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

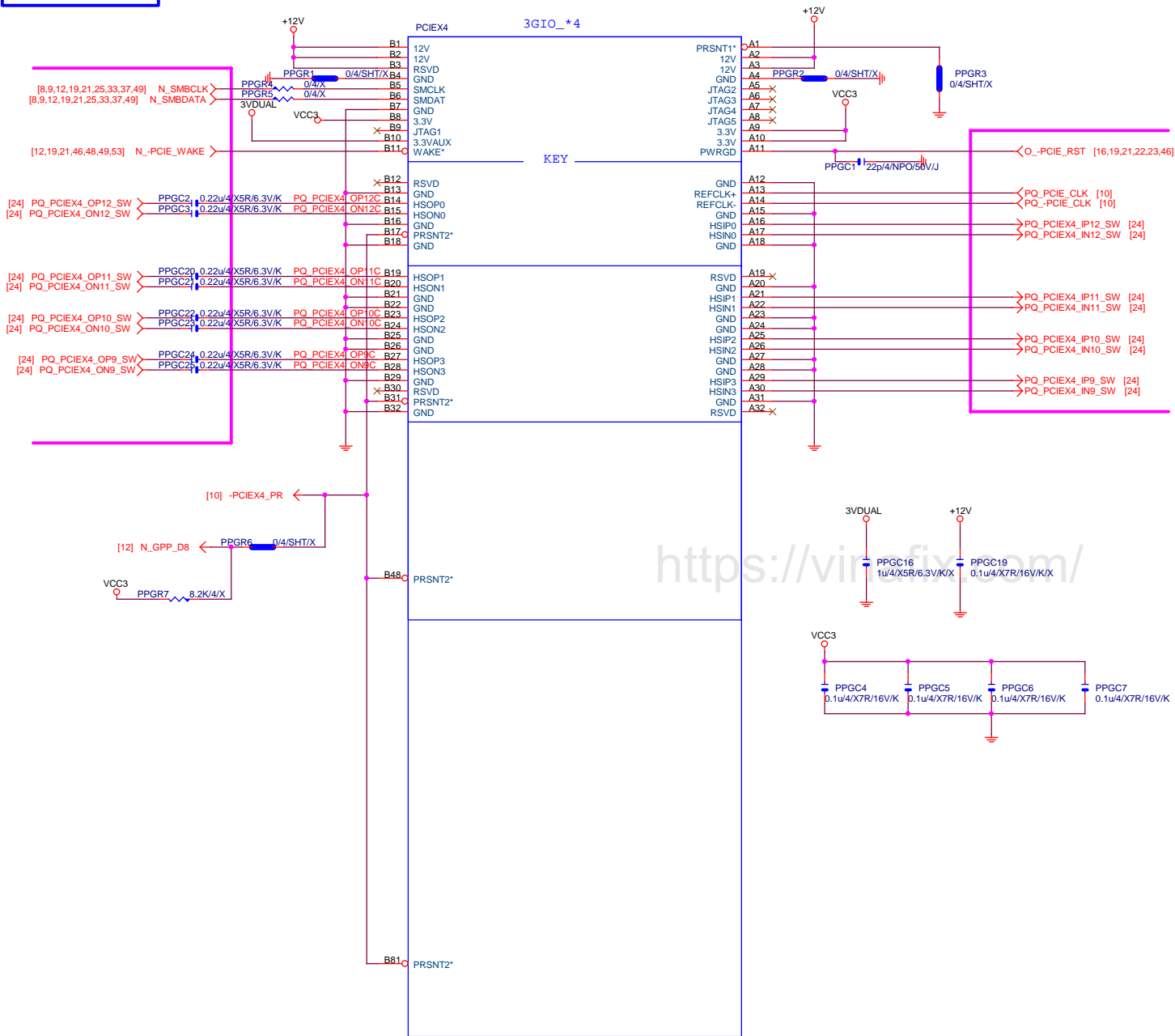
PCI-E REV:2.0--> 5GHZ

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

* footprint : PCIESLOT-164P

REV 0.4

PCIE*4



PCI-E/4X-66P/GY/LONG DOUBLE/HK*2[11AC1-023065-51R]

* 一般Footprint PCIESLOT-64P-1

GIGABYTE

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PCIE_X4			
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PCIEX1 SLOT

PCIEX1_1

PCIEX1_1 3GIO_X1

沒有switch, 電容加回去

PCIEX1_2

PCIEX4/X1 SWITCH

PPU1

Gigabyte Technology

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REV 0.4

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

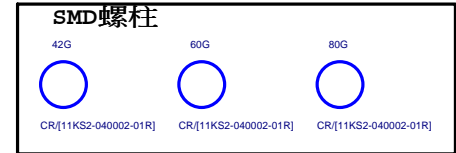
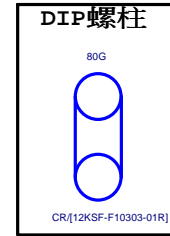
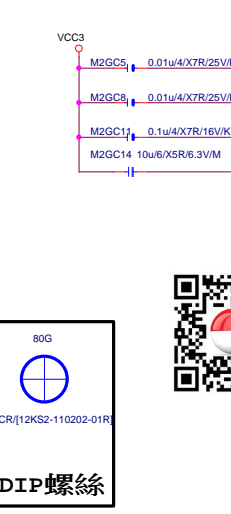
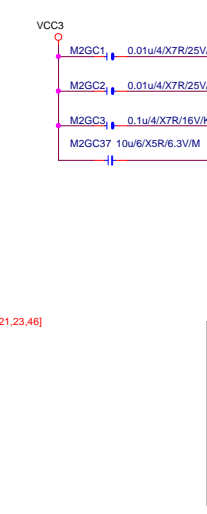
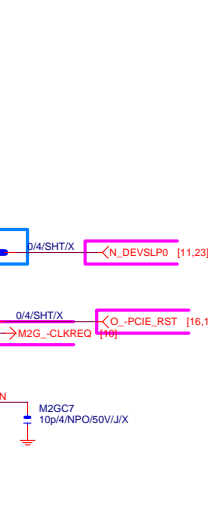
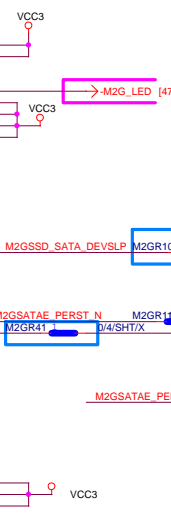
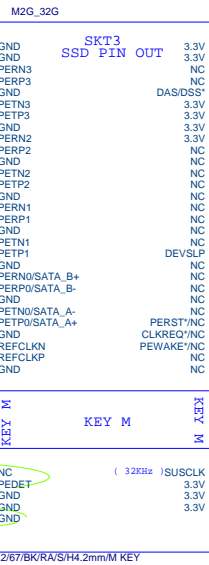
需與M2 -CLKREQ對應

SATA : GND.
PCIe : NC

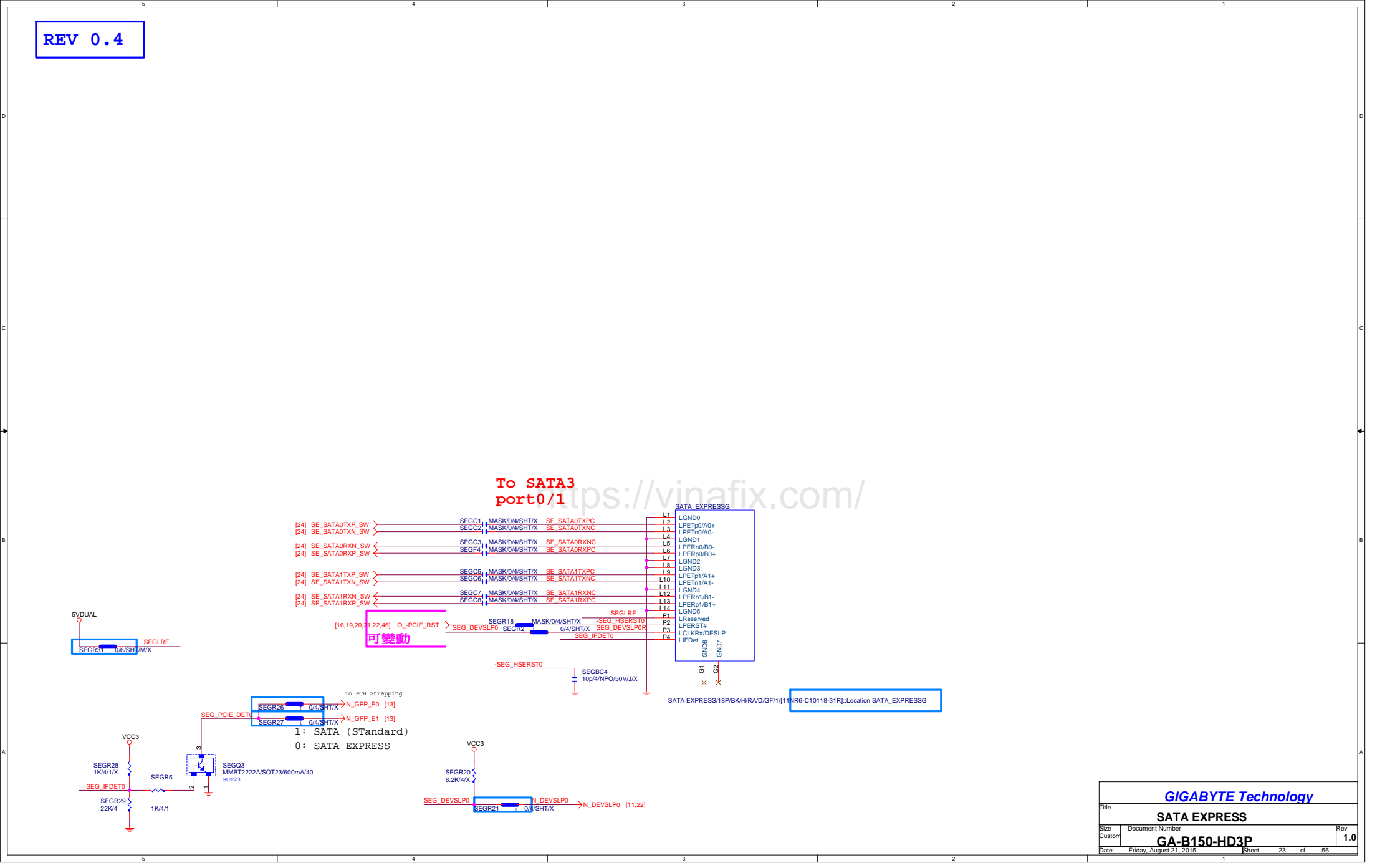
M2插卡時為Low

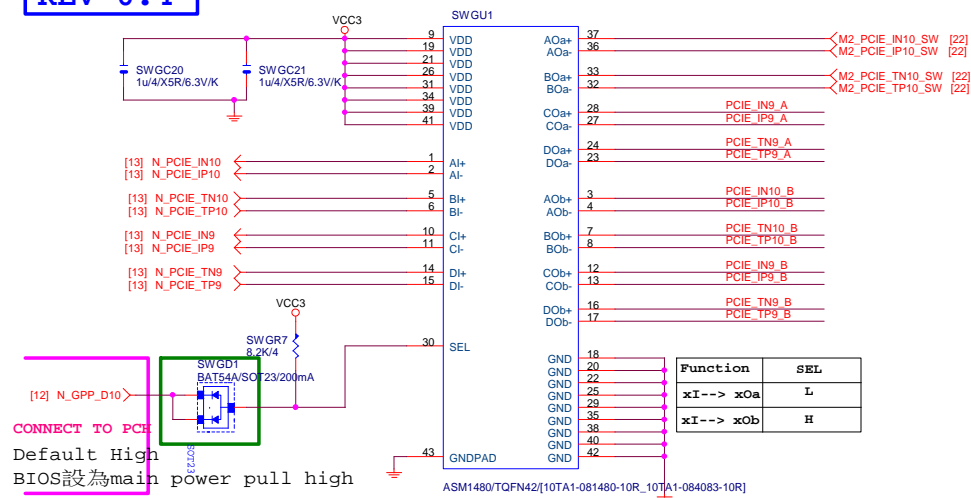
<https://vinafix.com/>

Vinafix.com

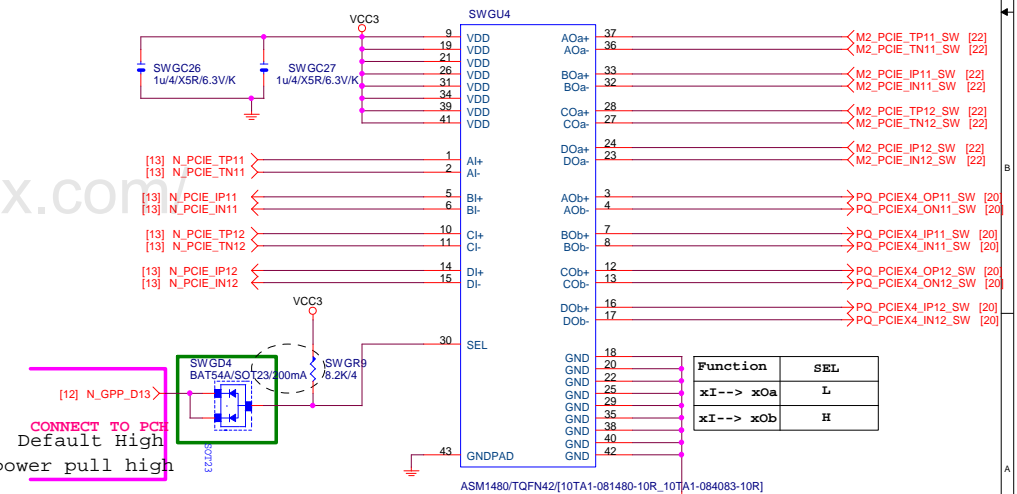
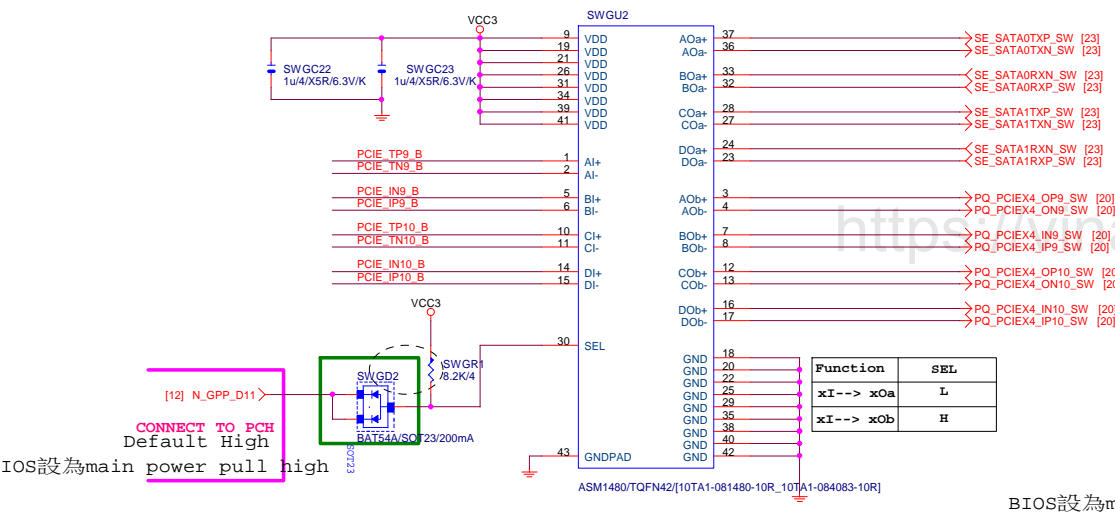
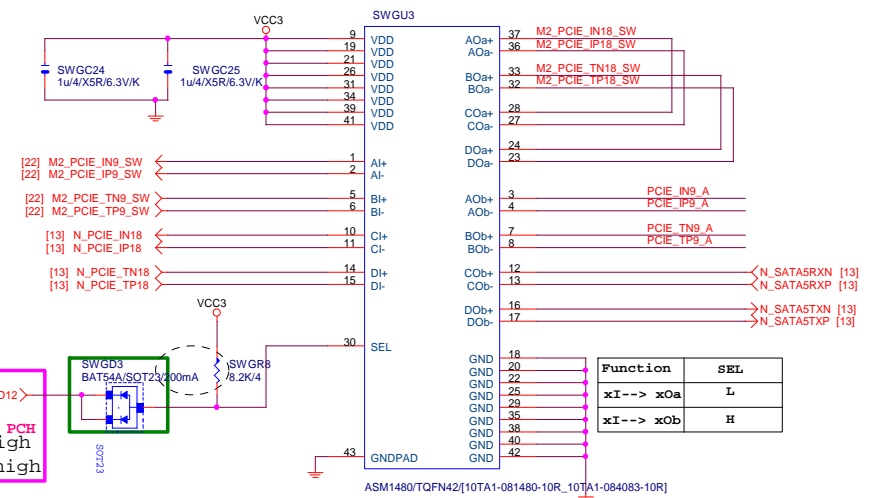


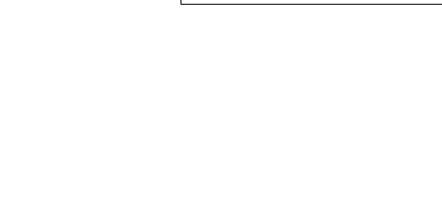
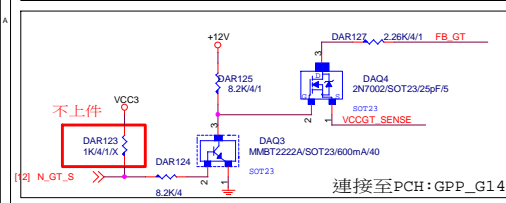
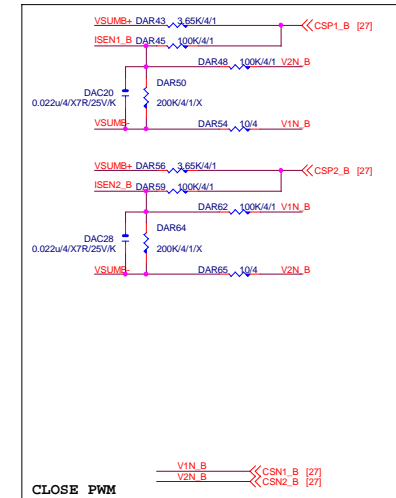
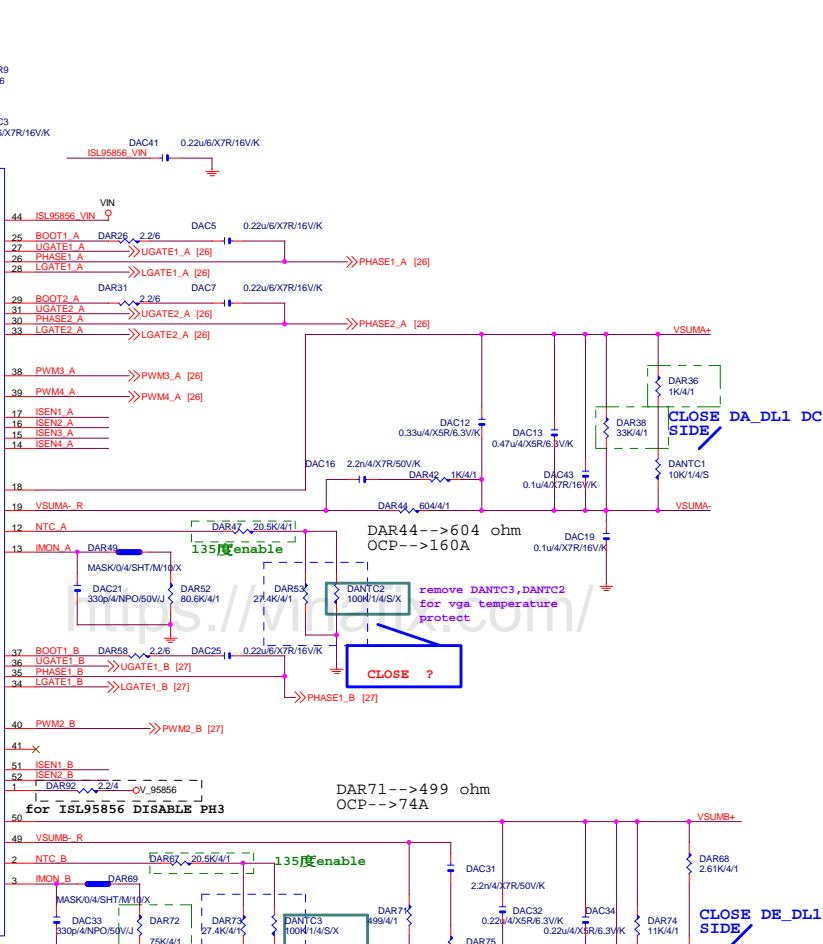
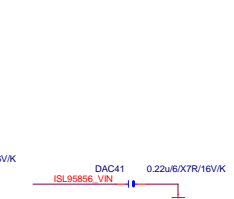
GIGABYTE Technology			
Title			
M.2 X4			
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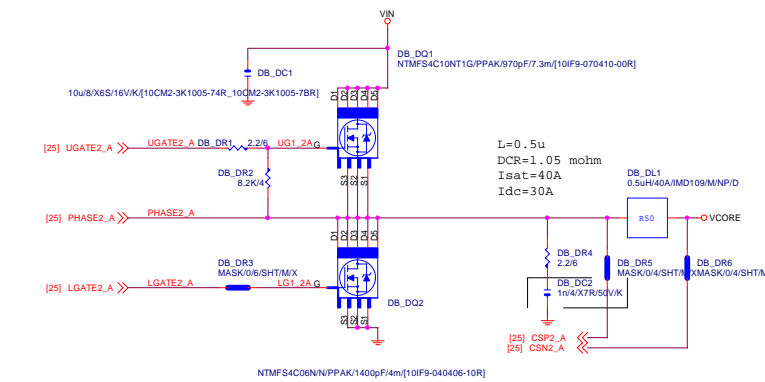
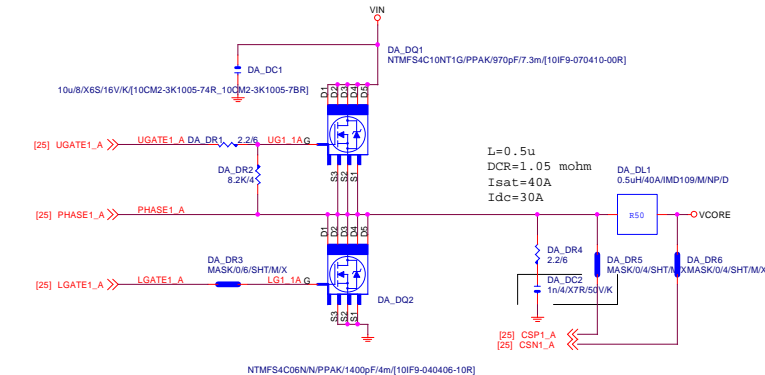


SWAP



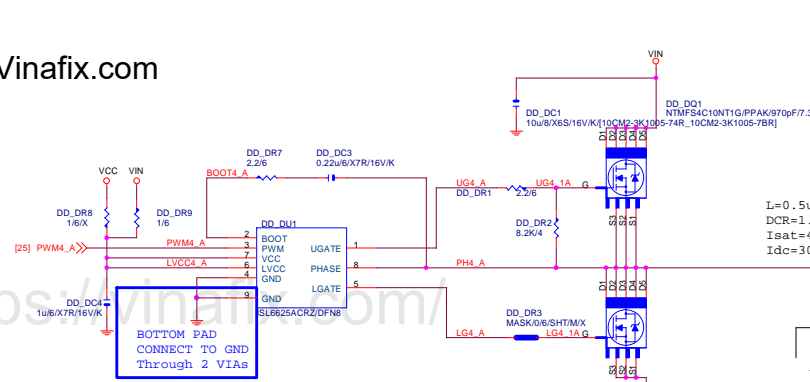
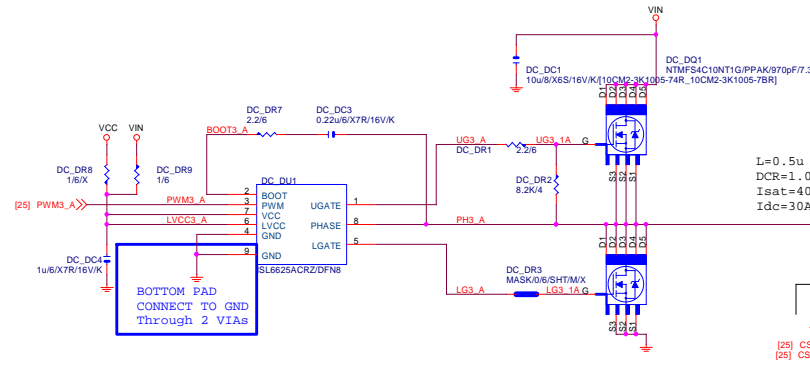


VCORE

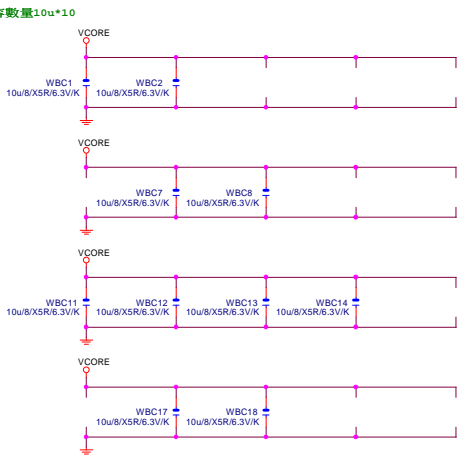
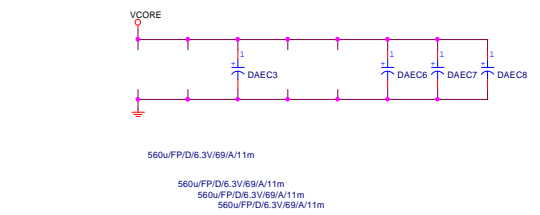


Vinafix.com

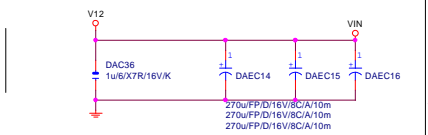
https://vinafix.com/



VCORE CAP 560u*4PCS 10u*10PCS



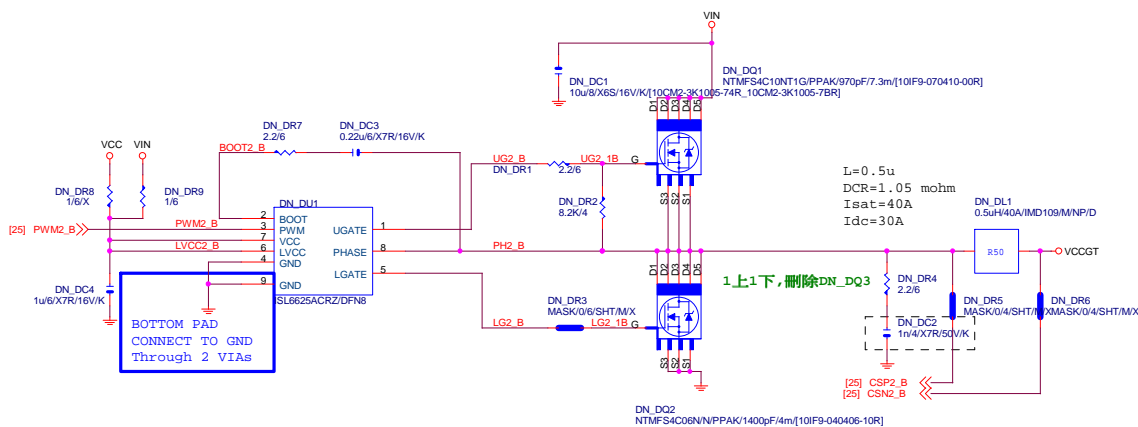
VIN CAP 270u*3PCS



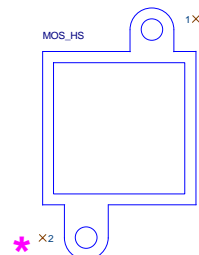
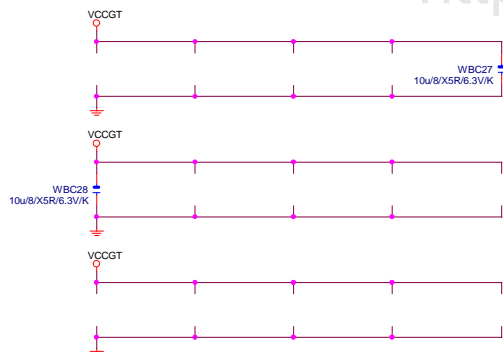
GIGABYTE™

Title		ISL95856_MOS	
Size	Custom	Document Number	GA-B150-HD3P
Date	Friday, August 21, 2015	Sheet	28 of 56


VCCGT



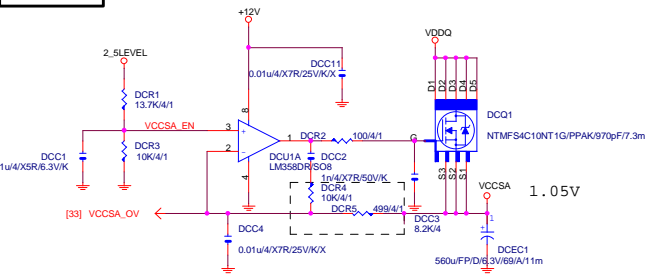
VCCGT CAP 560u*2PCS
10u*2PCS



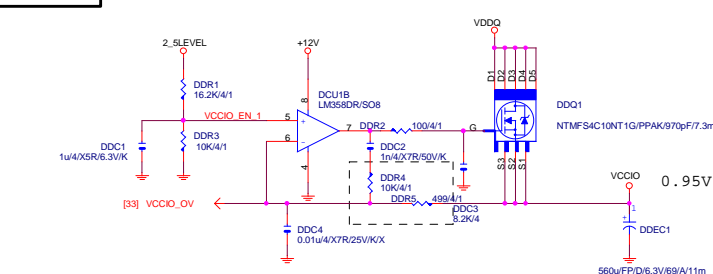
MOS散熱片
B150-HD3
改FOOTPRINT為"MOSHSINK-Z1704-HD3"

			
Title ISL95856_MOS			
Size Custom	Document Number GA-B150-HD3P		Rev 1.0
Date:	Friday, August 21, 2015	Sheet 27 of	56

VCCSA



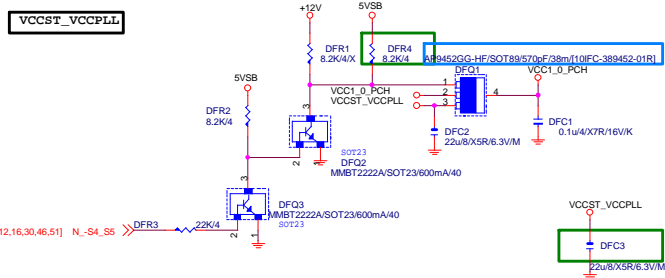
VCCIO



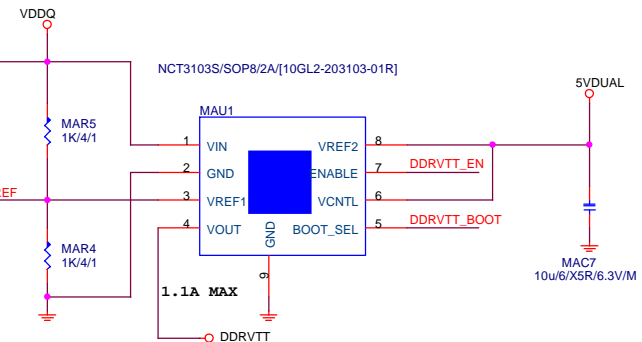
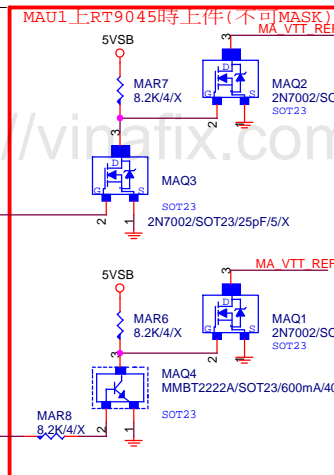
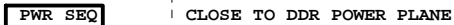
Connect to IT8620

VCCGT
放CPU端。

VCCST_VCCPLL

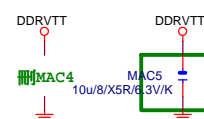


DDR4



DDR_VTT_CTL	MAR110	0/4	DDRVTT_EN
N_SLP_S3	MAR111	0/4	DDRVTT_BOOT

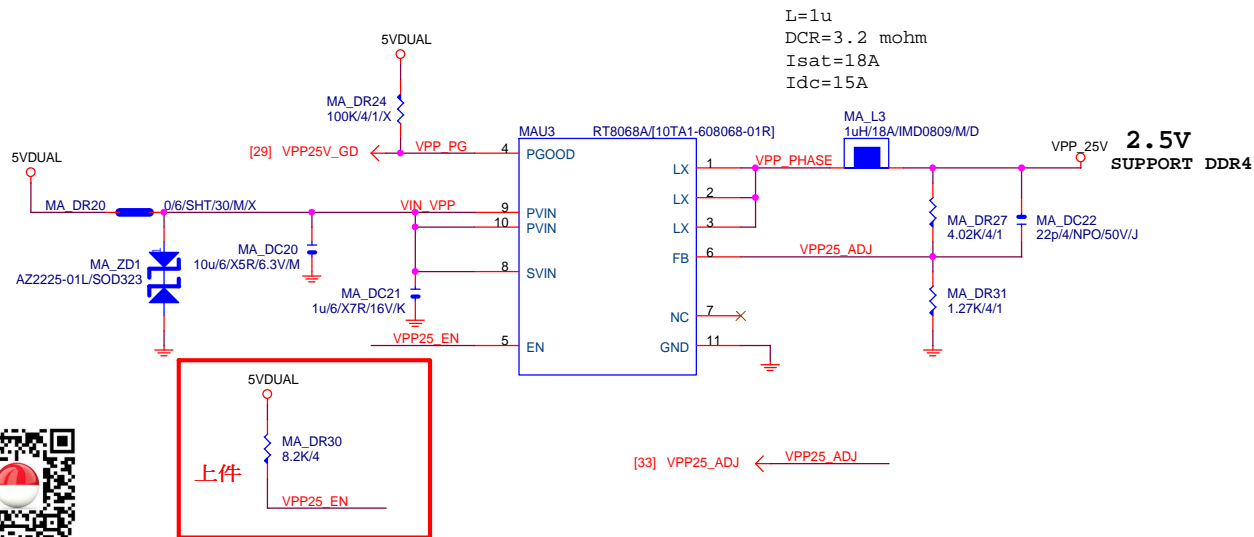
MAU1上NCT3103S時上件(不可以改short pad)



REV:0.4

VPP_25V

CHOKE與CAP料號可變



Vinafix.com



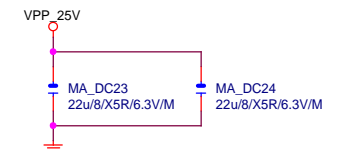
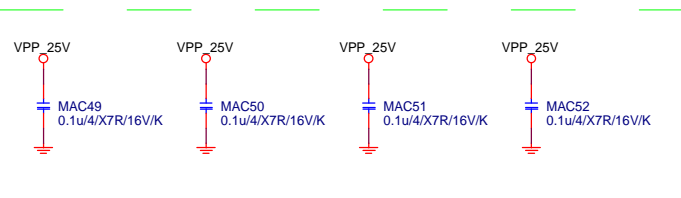
PWR_SEQ

* 刪 MA_DR32

REV0.3

VPP CAP 22u*1PCS

* 大電容 x0

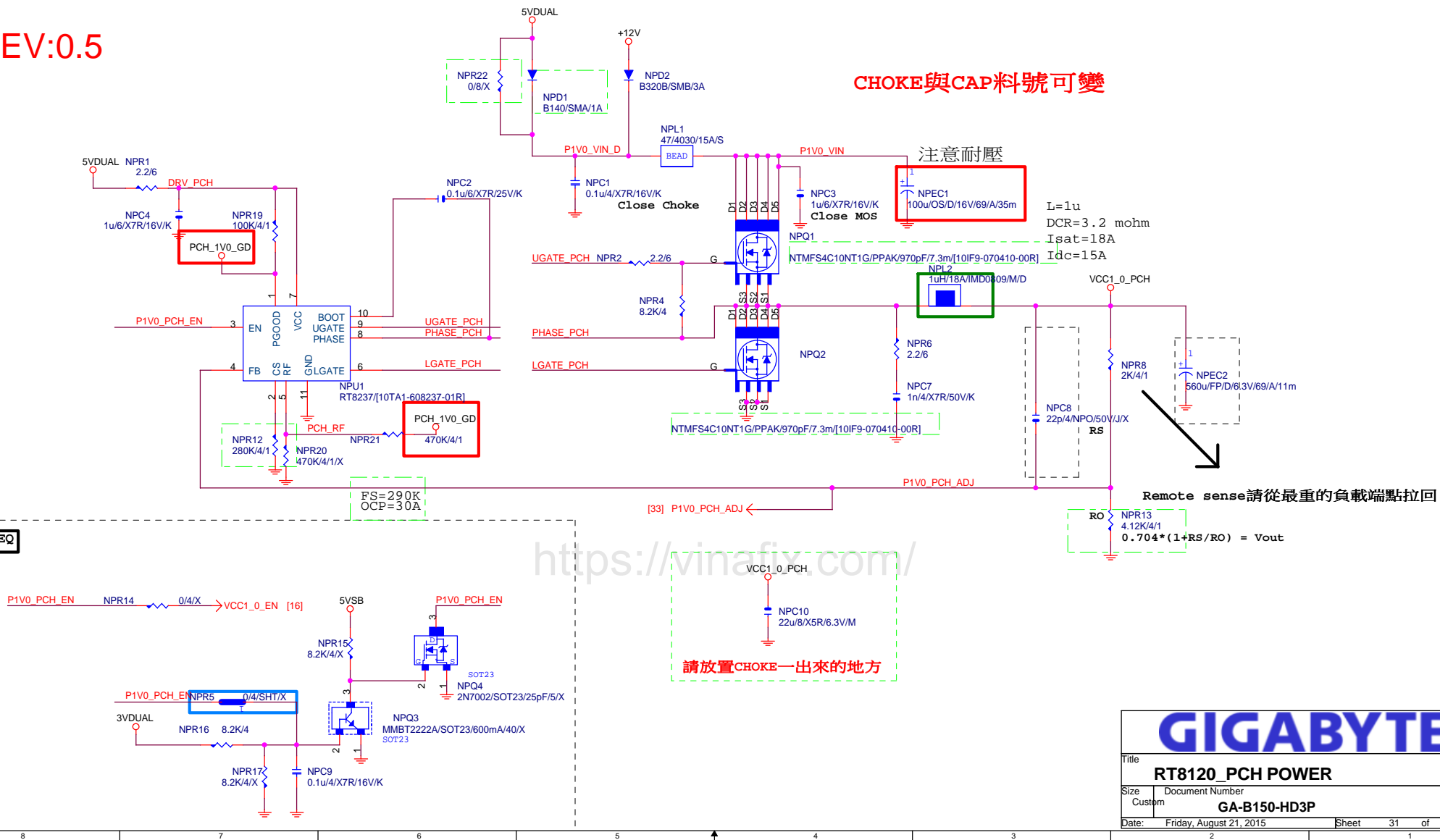


GIGABYTE™

Title		
RT8120_VPP25 POWER		
Size	Document Number	Rev
Custom	GA-B150-HD3P	1.0
Date:	Friday, August 21, 2015	Sheet 30 of 56

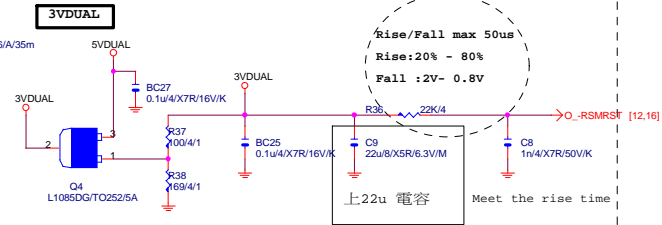
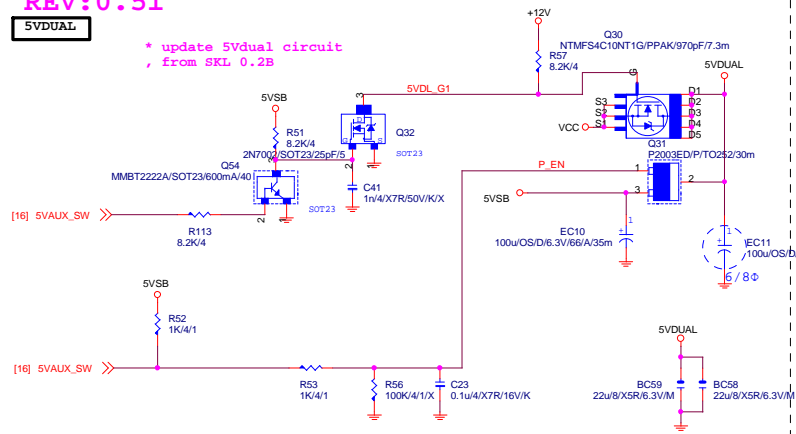
REV:0.5

CHOKE與CAP料號可變

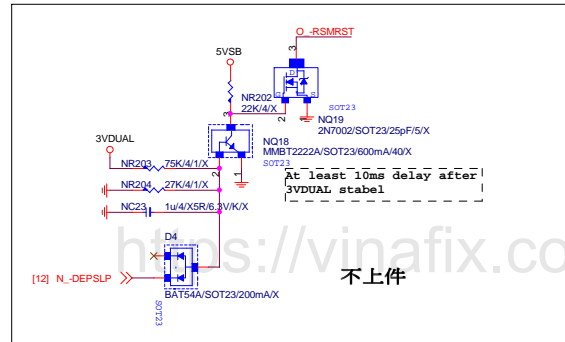
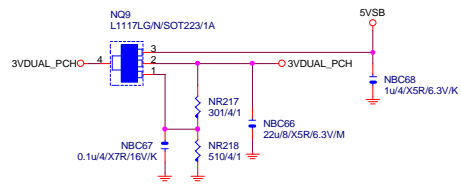


GIGABYTE™			
Title			
RT8120_PCH POWER			
Size	Document Number	Rev	
Custom	GA-B150-HD3P	1.0	
Date:	Friday, August 21, 2015	Sheet	31 of 55

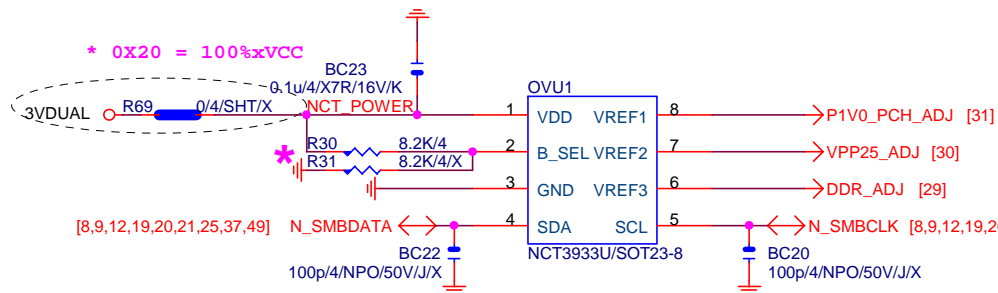
```
* update 5Vdual circuit
, from SKL 0.2B
```



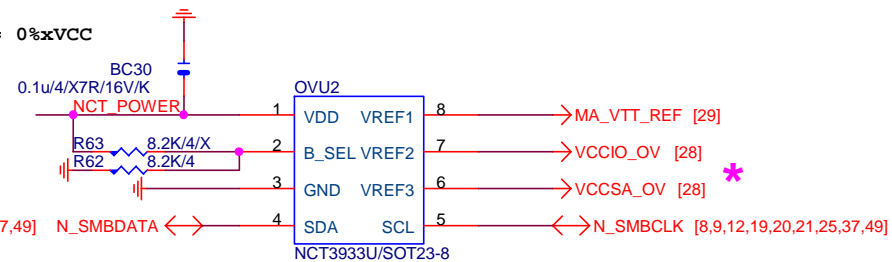
3VDUAL_PCH



OVER VOLTAGE



0X2A = 0%xVCC



0X22 = 75%xVCC

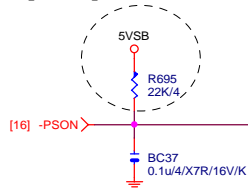
* 删除 OVU3

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

Gigabyte Technology

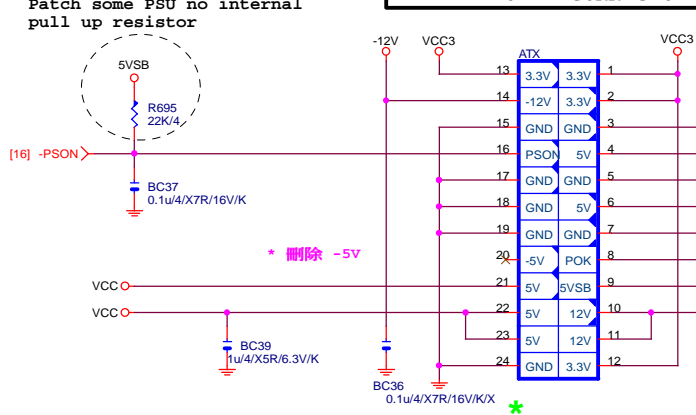
Title			CPU CORE VR-2		
Size			Document Number		
Custom			GA-B150-HD3P		
Date:			Friday, August 21, 2015		
Sheet			33 of 56		
Rev			1.0		

Patch some PSU no internal pull up resistor



* 删除 -5V

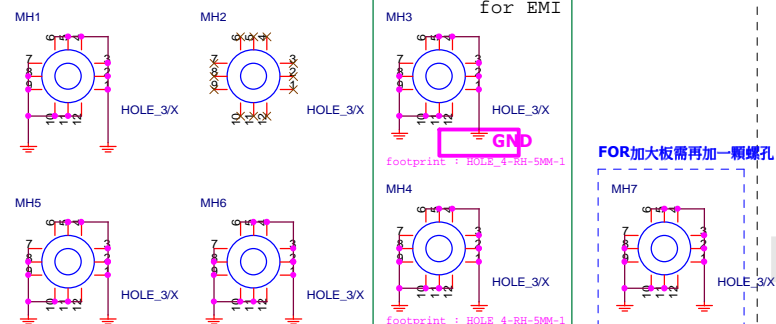
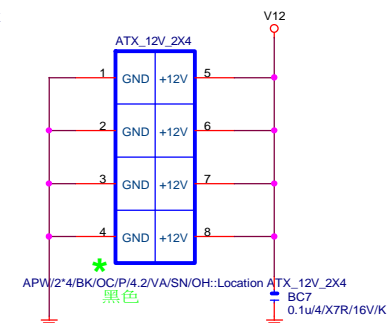
ATXX24 POWER CONNECTOR



APW/2*12BK/VA/SN/2SHK/PA66

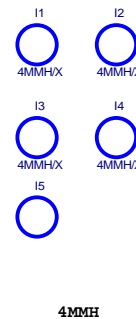
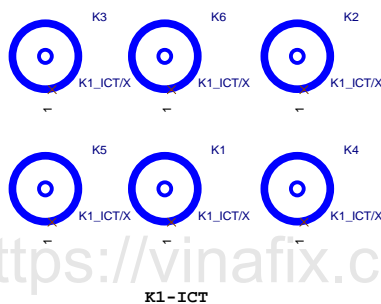
To prevent the 5VSB under loading when boot

ATXX4 POWER CONNECTOR



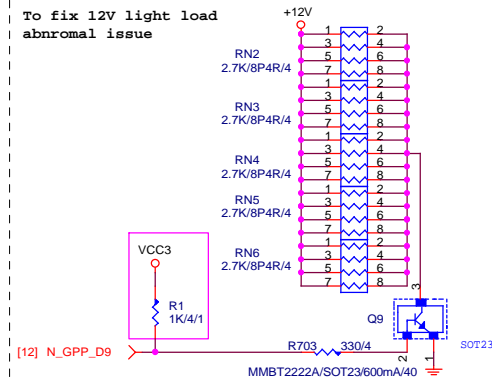
有TYPE-C螺絲洞改半圈, footprint : HOLE_4-RH-5MM-1

FOR加大板需再加一顆螺孔

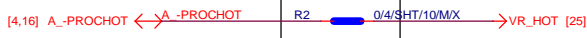


【技術通報R&D技術通報153】

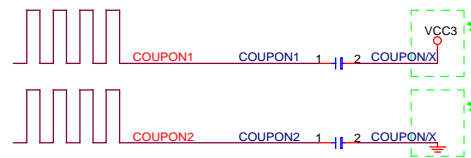
To fix 12V light load abnormal issue



-PROHOT

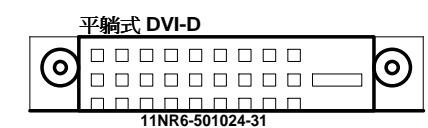
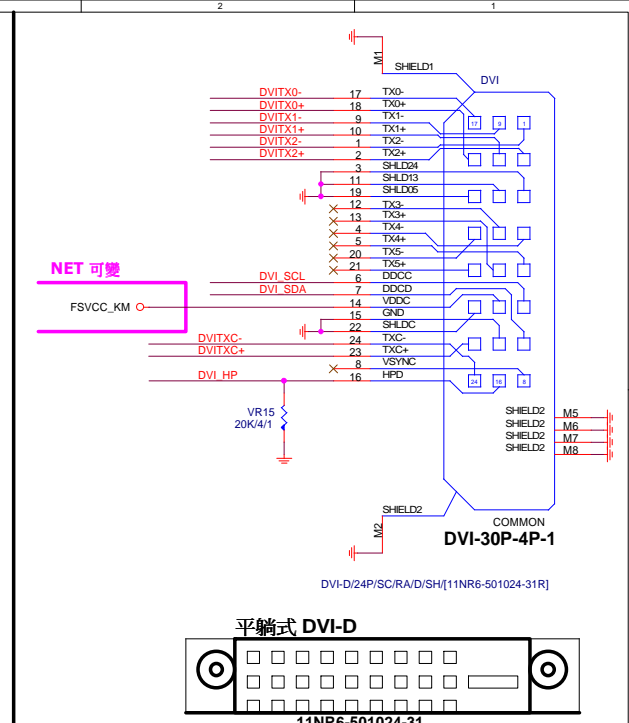


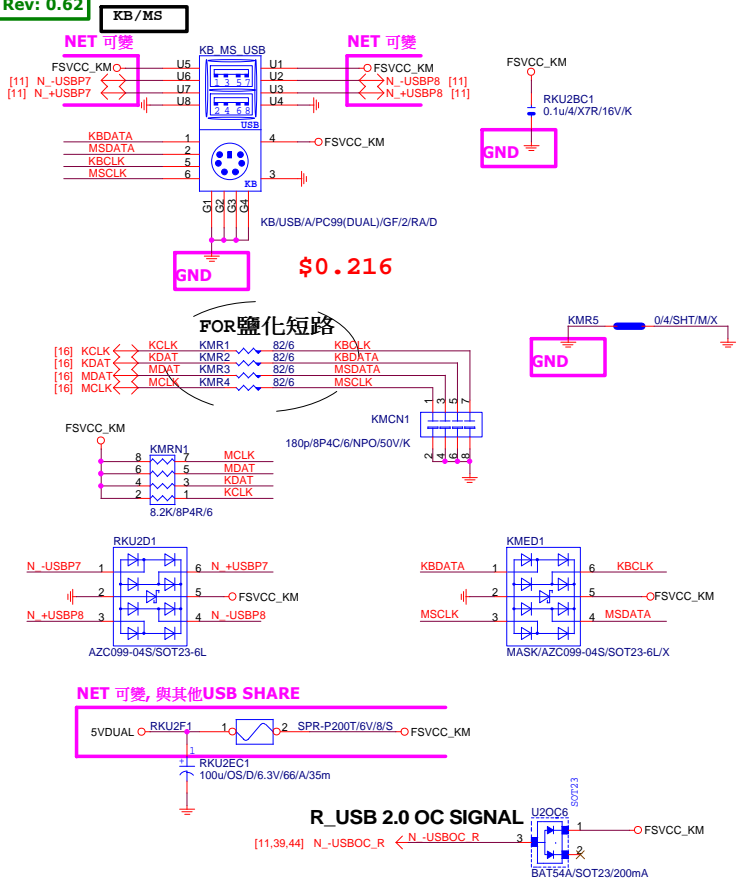
COUPON



Gigabyte Technology

Title			ATX POWER CONNECTOR
Size	Document Number	Rev	
Custom	GA-B150-HD3P	1.0	
Date:	Friday, August 21, 2015	Sheet	34 of 56





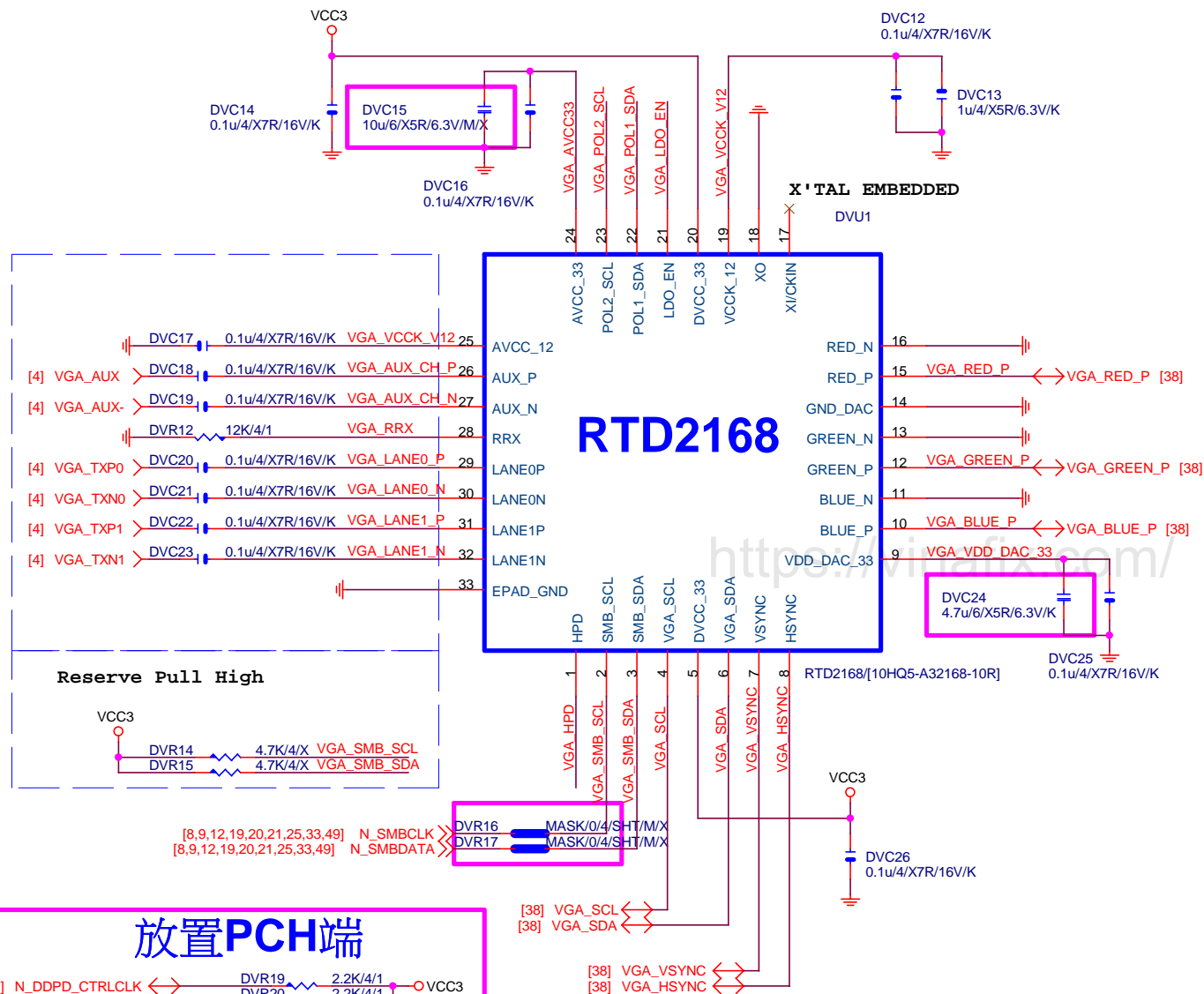
USB_DAC

<https://vinafix.com/>

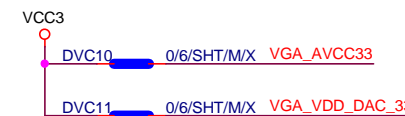
Vinafix.com

Gigabyte Technology

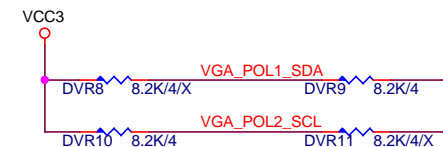
Title				AUDIO JACK	
Size				GA-B150-HD3P	
Date:				Friday, August 21, 2015	Sheet 36 of 56
Rev				1.0	



POWER

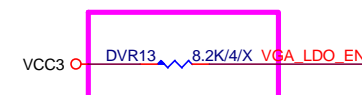


Power on latch



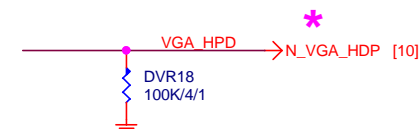
		POL1_SDA(PIN22)	
		0	1
POL2_SCL (PIN23)	0	X	EP MODE
	1	ROM ONLY MODE	EEPROM MODE

Embedded LDO

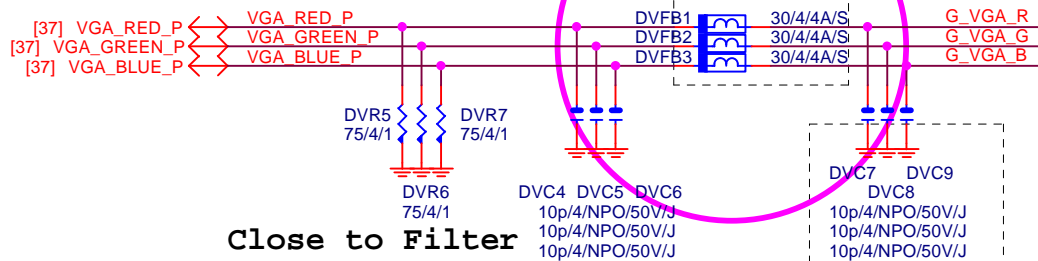
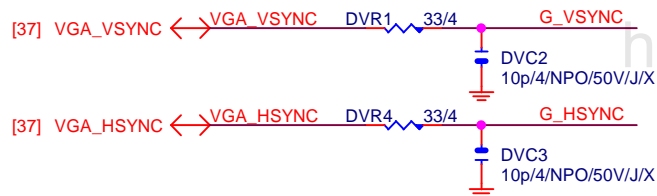
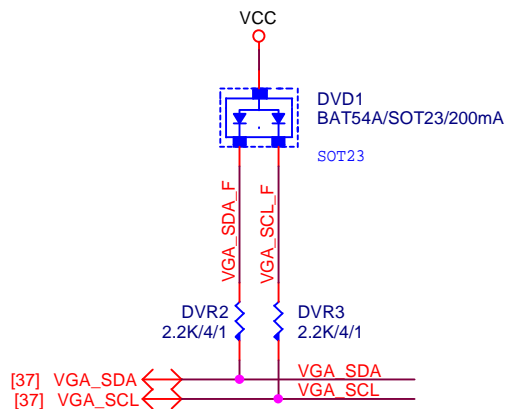


LDO_EN(PIN21)	
0	1
VCCK_V12 from External 1.2V	VCCK_V12 from Embedded LDO

DP HPD

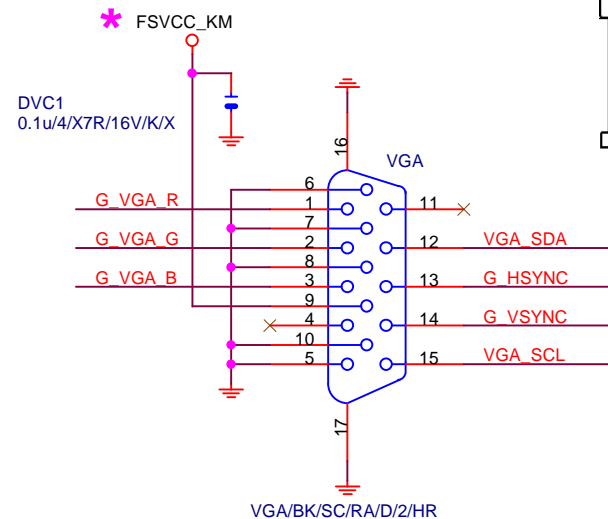


VGA SIGNAL R1.03

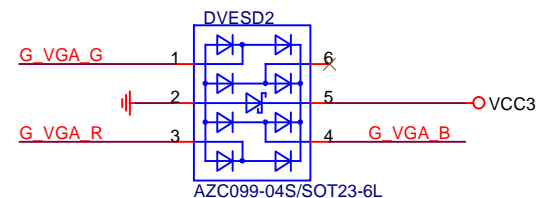
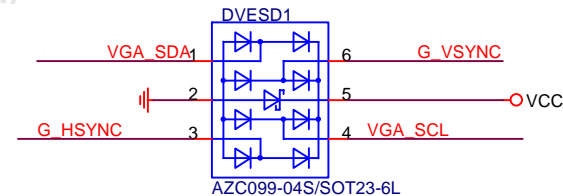


FOR EMI

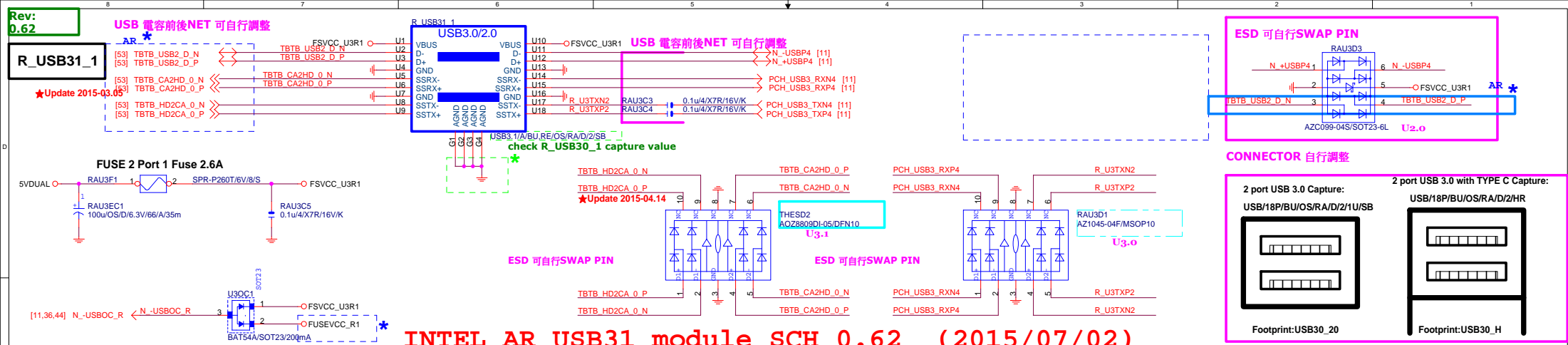
VGA CONN. 架高型VGA (BLACK)



VGA ESD



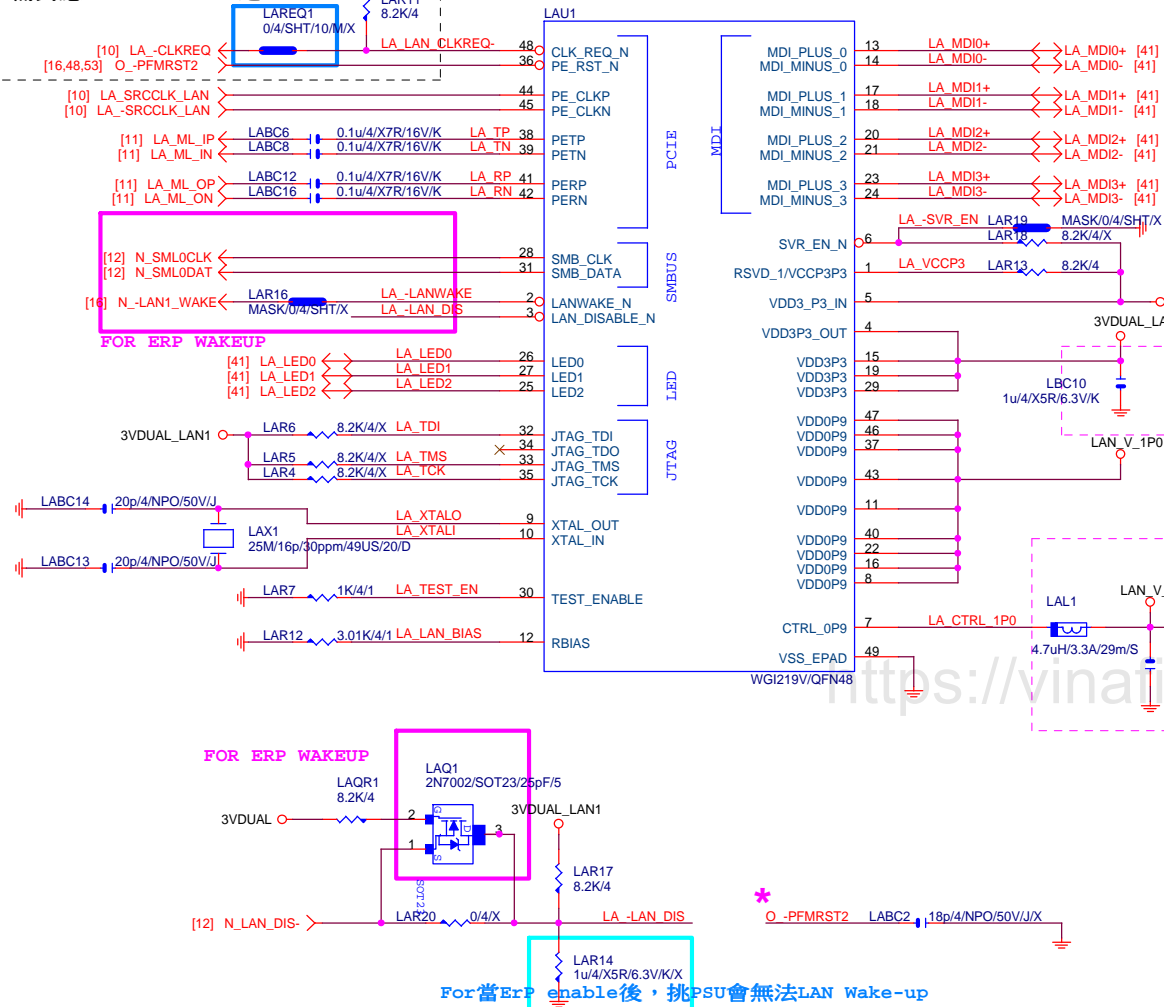
Gigabyte Technology			
DP-VGA RTD2168			
Title	GA-B150-HD3P		
Size	Document Number	Rev	
Custom		1.0	
Date:	Friday, August 21, 2015	Sheet	38 of 56



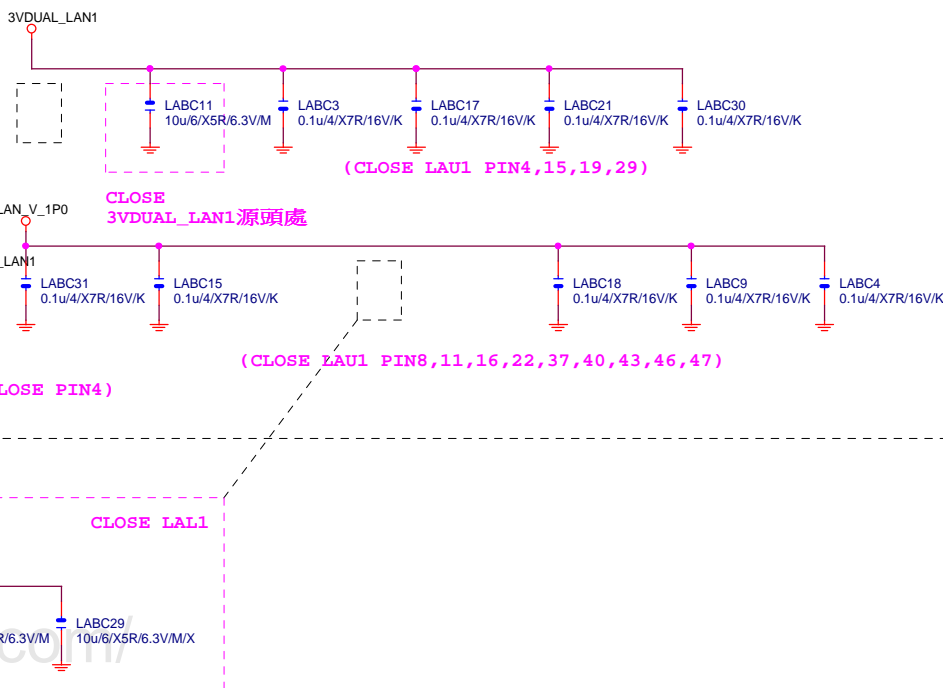
<https://vinafix.com/>

R1.1

L1+CLK REQ# 節能：
需對應LA_SRCCLK_LAN之CLKREQ#



LAN POWER



*
O -PFMRST2 LABC2 18p/4/NPO/50V/J/X

For當ErP enable後，挑PSU會無法LAN Wake-up

Gigabyte Technology

INTEL I219

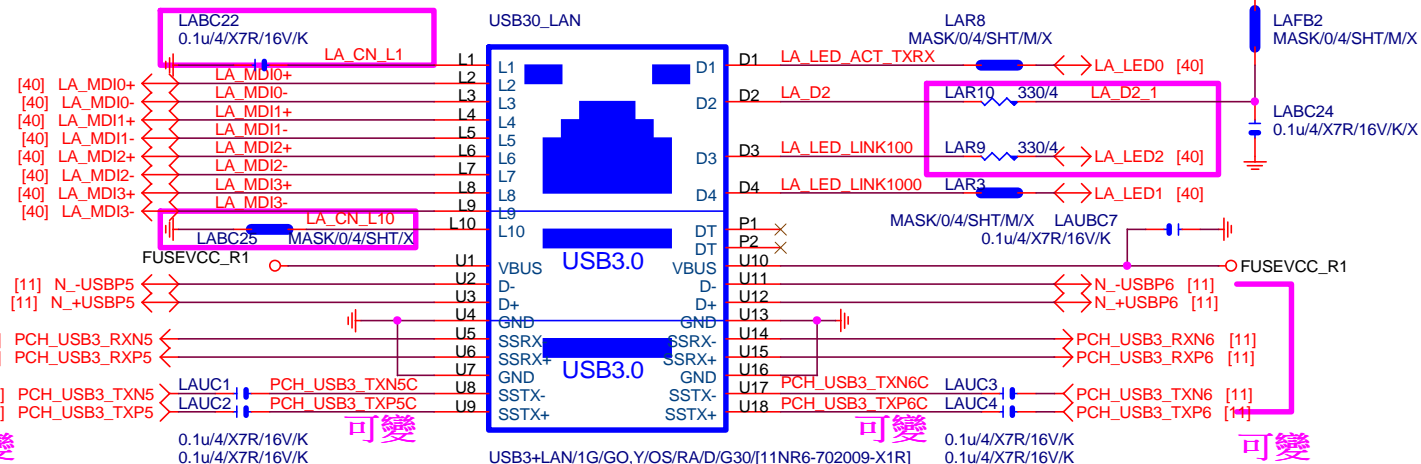
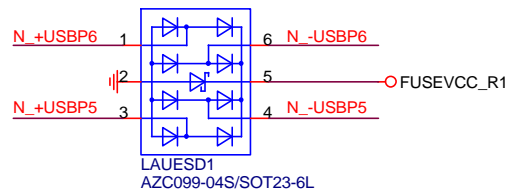
GA-B150-HD3P

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

Title			
INTEL I219			
Size Custom	Document Number		Rev
	GA-B150-HD3P		1.0
Date:	Friday, August 21, 2015	Sheet 40 of 56	

note:可變更USB NAME

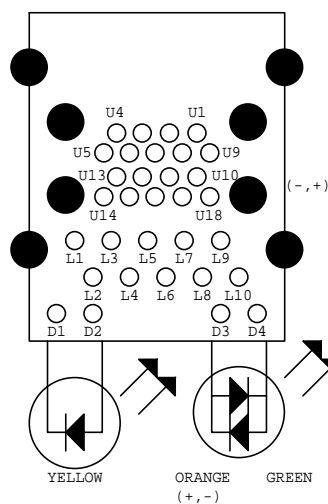
可變



Vinafix.com

LA MDI-->100歐姆:[20/4/8/4/20]

note:可變更USB NAME



Dual Color LED

Green

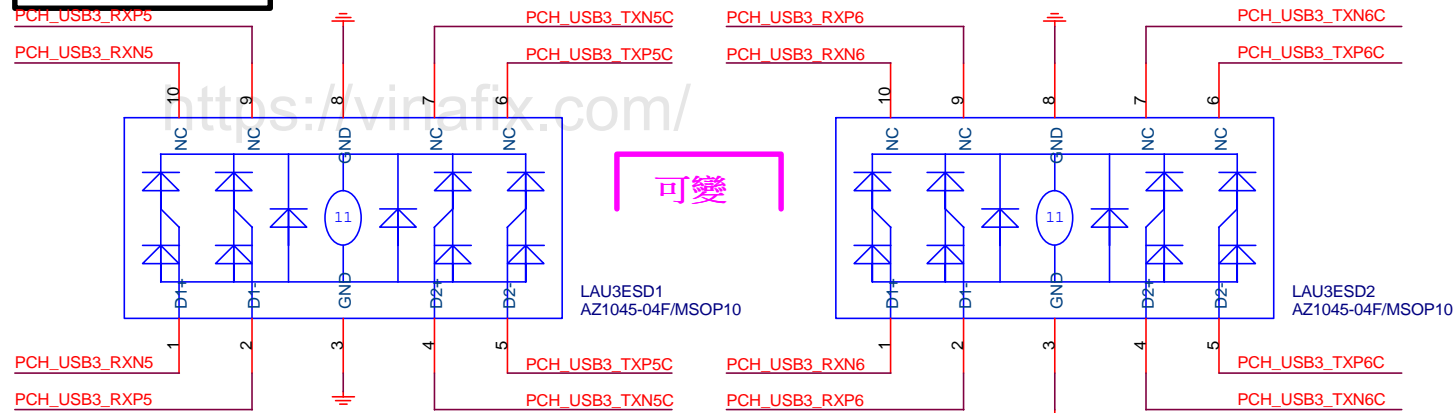
Orange

Single Color LED

Yellow

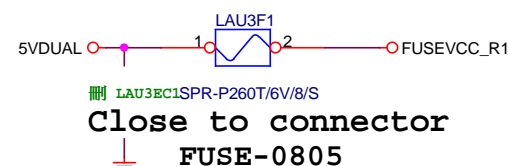
FOOT PRINT:LAN COVER

可變 [視SPEC需求]



note:可變更FUSE

可變



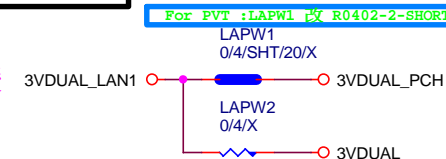
for note 如果4個port是連接在一起,則可用一個100uF電容

LAN POWER

note: lan power連接及電流

PS:視EMI需求

可變



Gigabyte Technology
LAN CONNECTOR-I219

GA-B150-HD3P

Size	Document Number
------	-----------------

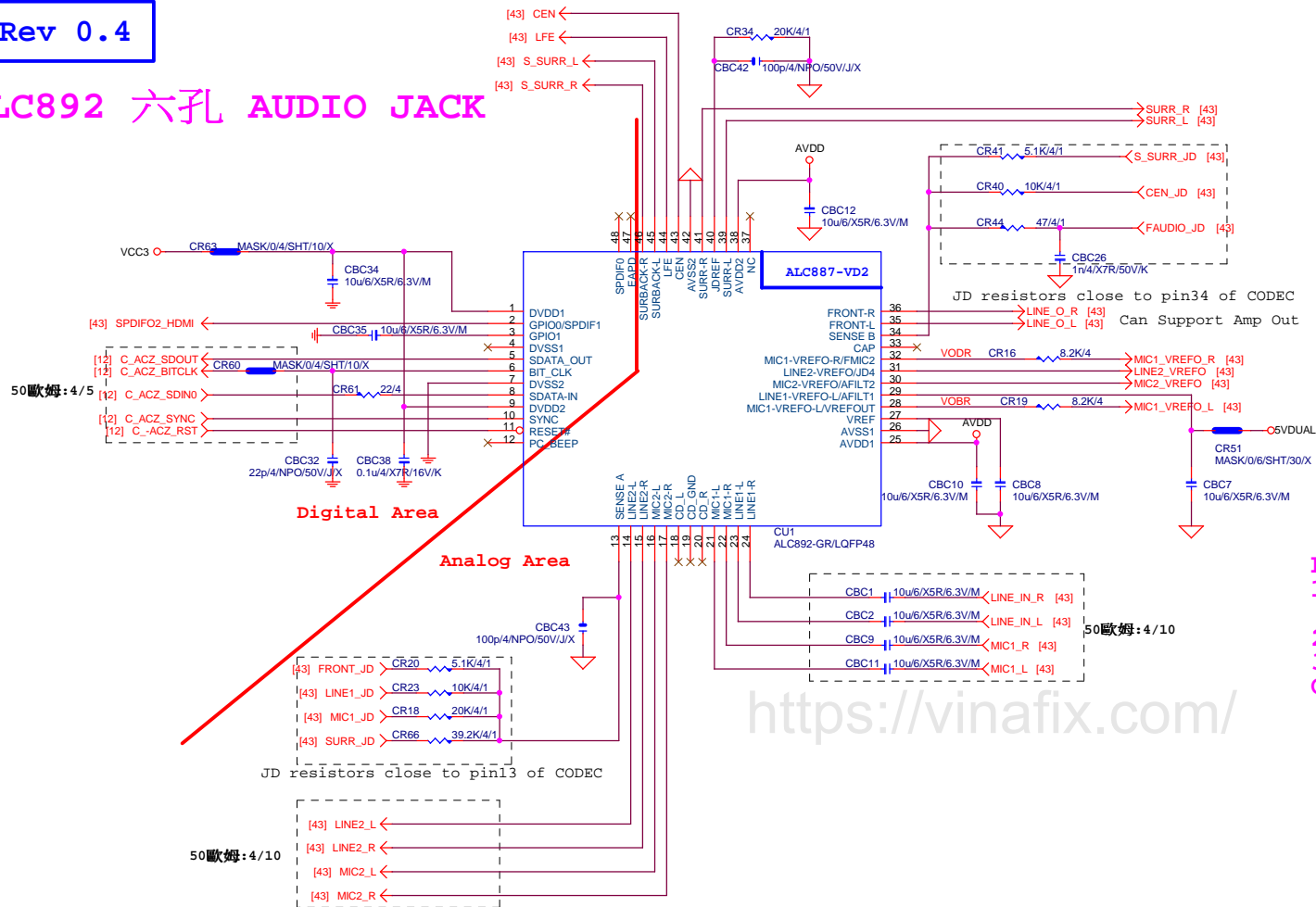
Date: Friday, August 21, 2015

Sheet 41 of 56

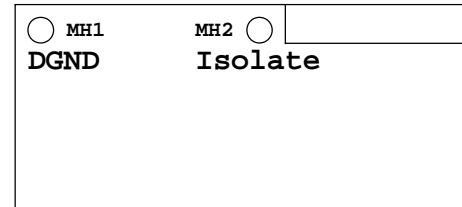
Rev	1.0
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Rev 0.4

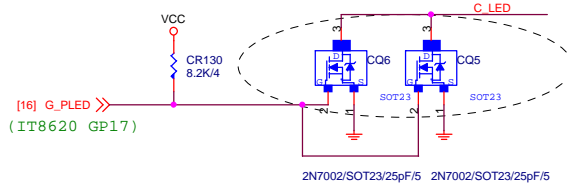
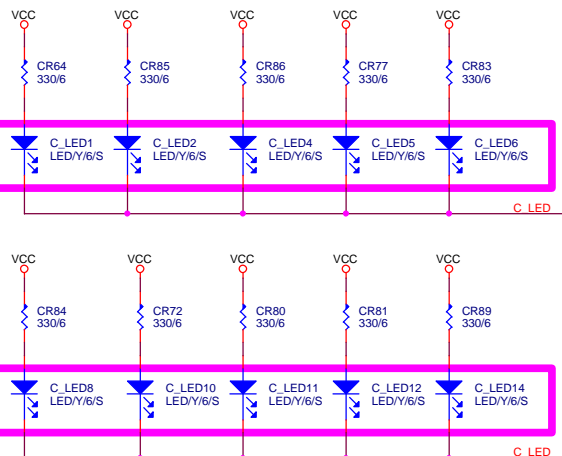
ALC892 六孔 AUDIO JACK



LAYOUT注意:螺絲孔下GND方式
1. MH1空間夠,下DGND
空間不夠,才改為Isolate
2. MH2一律改為Isolate
3. Codec下方,第二層必須參考GND



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



LAYOUT注意:
CQ5, CQ6必須擺放在一起

*料號後補

LAYOUT注意:要加
GND切割線

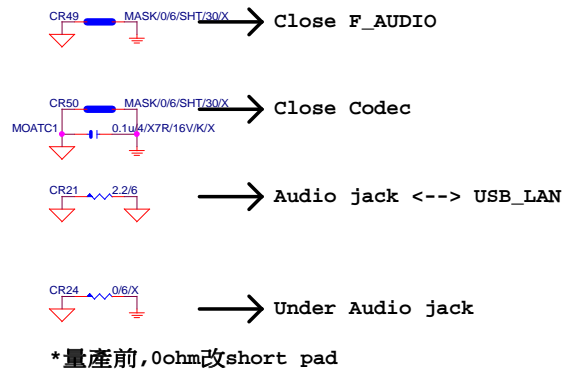
音效區域印刷



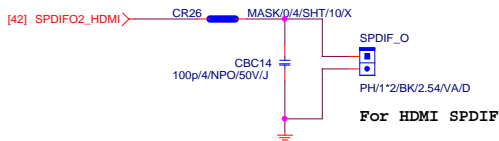
BOM OPTION : 1. Chemicon音效電容
2. 金屬外罩 Reserve (LAYOUT上件與否,依照各Model spec)
3. LED Reserve (上件與否和LED顏色,依照各Model spec)

Gigabyte Technology

Title HD AUDIO ALC887		
Size Custom	Document Number GA-B150-HD3P	Rev 1.0
Date: Friday, August 21, 2015	Sheet 42	of 56

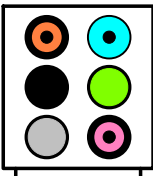


SPDIF_OUT



SPDIF_IN

AZALIA JACK



AZALIA JACK

BLUE

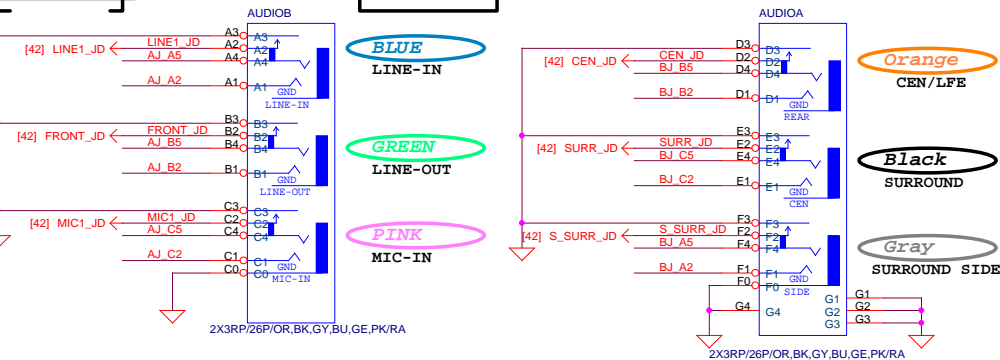
LINE-IN

GREEN

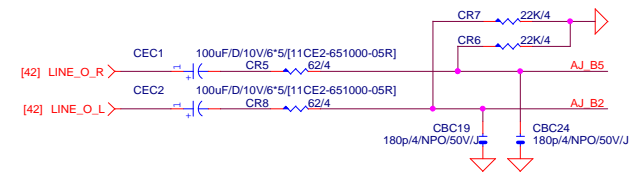
LINE-OUT

PINK

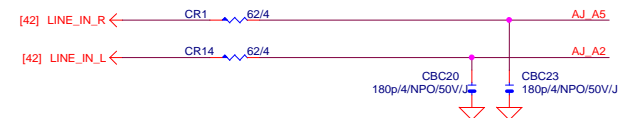
MIC-IN



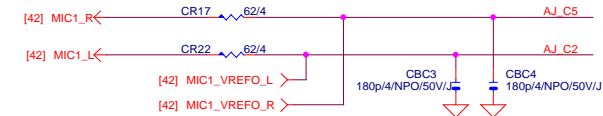
LINE-OUT



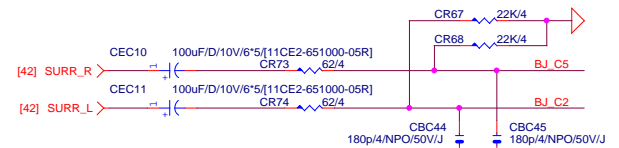
LINE-IN



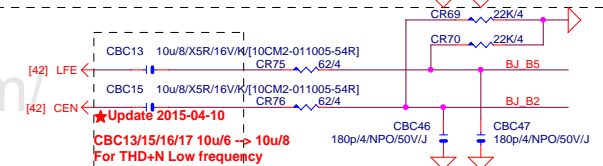
MIC-IN



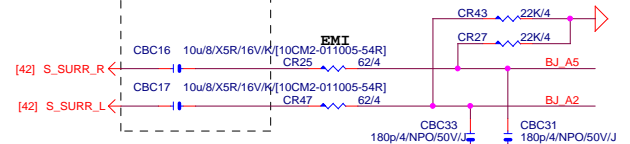
SURROUND



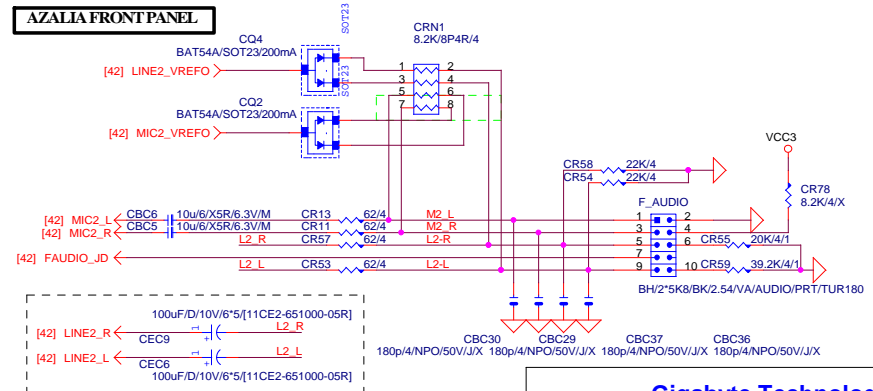
CEN/LFE



SURRBACK

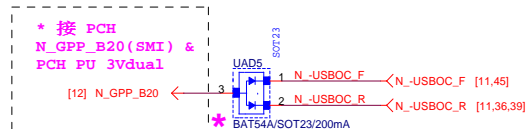
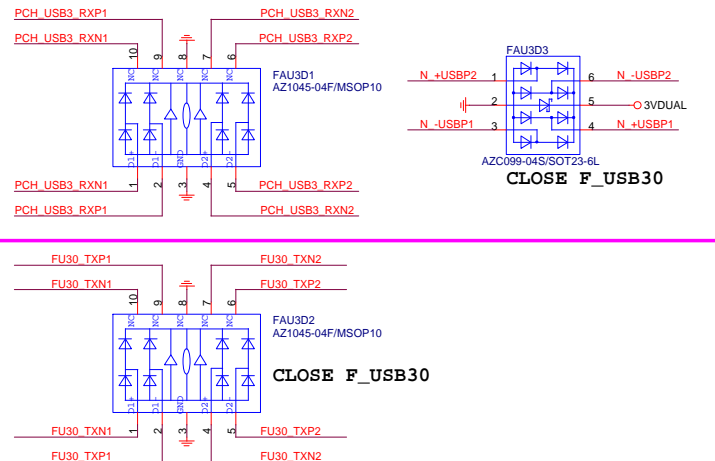


AZALIA FRONT PANEL



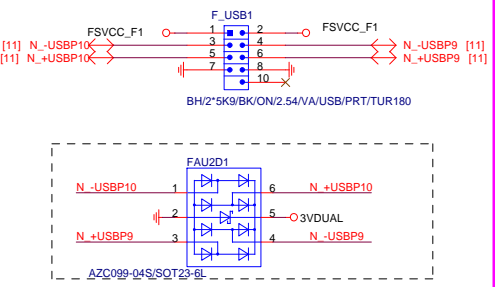
Gigabyte Technology

Title			
AUDIO JACK			
Size Custom	Document Number	GA-B150-HD3P	Rev 1.0
Date:	Friday, August 21, 2015	Sheet 43 of 56	

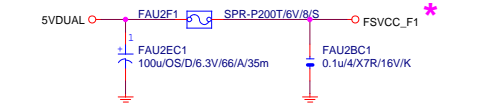


FRONT USB1

NET 可變

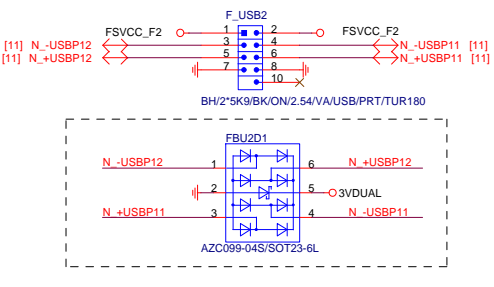


Close to connector
FUSE 2 Port 1 Fuse 2A

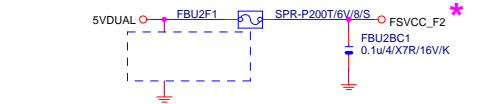


FRONT USB2

NET 可變



Close to connector
FUSE 2 Port 1 Fuse 2A



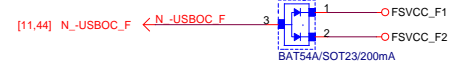
FRONT USB3

FRONT USB4

REAR USB1

REAR USB2

F_USB 2.0 OC SIGNAL



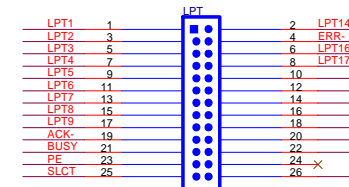
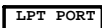
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Gigabyte Technology

Title			USB2.0
Size	Document Number	GA-B150-HD3P	
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OR



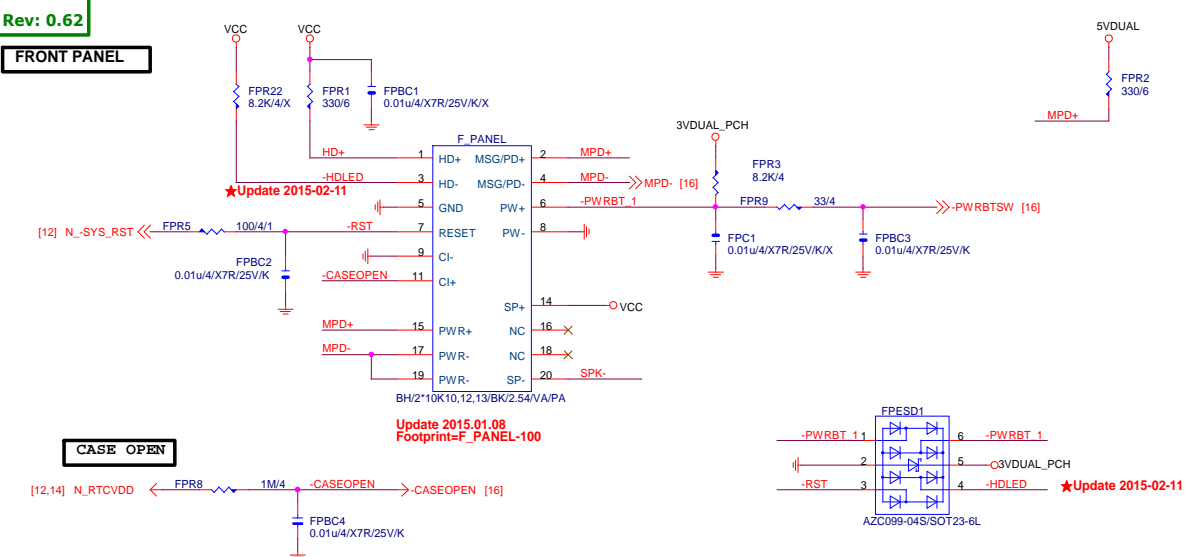
BH/2*13K24/BK/2.54/VA

TPM CONNECTOR



Title			
FP,F_USB,USB PWR,BZ			
Size	Document Number	Rev	
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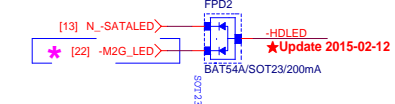
FRONT PANEL



CASE OPEN

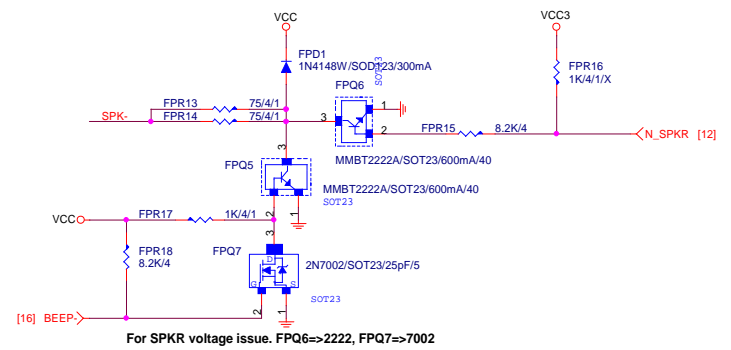
FRONT PANEL SHORT

SATA LED



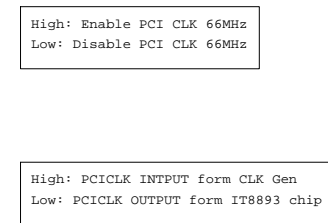
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SPKR



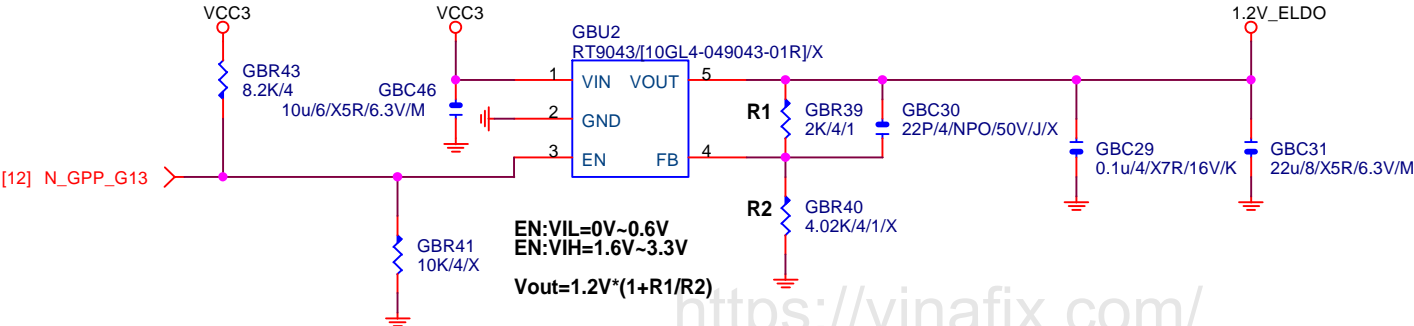
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FRONT PANEL			
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Title			
IT8892E			
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Rev 0.1

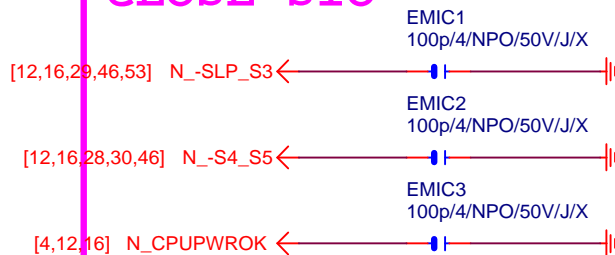


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Title			
ASM1085 POWER			
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CLOSE SIO



CLOSE PCH



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EMI/ESD

Size
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Document Number

GA-B150-HD3P

Rev

1.0

Date: Friday, August 21, 2015

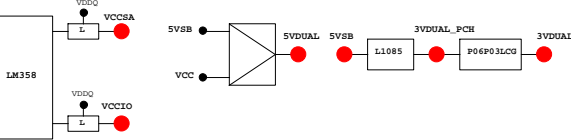
Sheet 51 of 56

IPIN NAME	PWR	Default	USAGE	NOTE	
GPP_A0	MAIN	NATIVE	N_-KBRST	P/U 8.2K VCC3	
GPP_A1	MAIN	NATIVE	N_LAD0	N/A	
GPP_A2	MAIN	NATIVE	N_LAD1	N/A	
GPP_A3	MAIN	NATIVE	N_LAD2	N/A	
GPP_A4	MAIN	NATIVE	N_LAD3	N/A	
GPP_A5	MAIN	NATIVE	N_-LFRAME	N/A	
GPP_A6	MAIN	NATIVE	N_SRRIO	P/U 8.2K VCC3	
GPP_A7	MAIN	NATIVE	N_-LQSQ0	P/U 8.2K 3VDUAL	
GPP_A8	MAIN	NATIVE	N_GPP_A8	P/U 8.2K VCC3	
GPP_A9	MAIN	NATIVE	N_LPC24MB	N/A	
GPP_A10	MAIN	NATIVE	N_LPC24MA	N/A	
GPP_A11	MAIN	NATIVE	N_-P_PME	P/U 8.2K 3VDUAL_PCH	
GPP_A12	MAIN	GPI	N_GPP_A12	P/U 8.2K VCC3	
GPP_A13	MAIN	NATIVE	N_-G_WARN	N/A	
GPP_A14	MAIN	NATIVE	N_GPP_A14	P/U 8.2K 3VDUAL	
GPP_A15	MAIN	NATIVE	N_-G_ACK	N/A	
GPP_B0	MAIN	CORE_VID0	N_-DDR_V_SEL	P/U 8.2K VCC3	
GPP_B1	MAIN	CORE_VID1	N/A	N/A	
GPP_B2	MAIN	GPI	N_-VRALERT	P/U 8.2K 3VDUAL	
GPP_B5	MAIN	GPI	N_-PCTXIE1_PR	P/U 8.2K VCC3	
GPP_B6	MAIN	GPI	N_-PCTXIE1_PR1	P/U 8.2K VCC3	
GPP_B7	MAIN	GPI	N_-PCTXIE1_PR2	P/U 8.2K VCC3	
GPP_B8	MAIN	GPI	N_-PCTXIE4_PR	P/U 8.2K VCC3	
GPP_B9	MAIN	GPI	N/A	N/A	
GPP_B10	MAIN	GPI	N/A	N/A	
GPP_B11	MAIN	GPI	N/A	N/A	
GPP_B12	MAIN	SLP_G0	N_SLP_G0	P/U 8.2K VCC3	
GPP_B13	MAIN	PLTST	N_-PFWBST	N/A	
GPP_B14	MAIN	H-Z	GPO	N/A	
GPP_B18	MAIN	H-Z	GPO	N/A	
GPP_B20	MAIN	GPI	N_GPP_B20	P/U 8.2K 3VDUAL	
GPP_B22	MAIN	GPI	N_GPP_B22	P/U 8.2K 3VDUAL	
GPP_C0	MAIN	SMBCLK	N/A	N/A	
GPP_C1	MAIN	SMBCDATA	N/A	N/A	
GPP_C2	MAIN	H-Z	GPO	N/A	
GPP_C3	MAIN	SMCLOCK	N_SMCLOCK	P/U 499 3VDUAL	
GPP_C4	MAIN	SMCLOCK	N_SMCLOCK	P/U 499 3VDUAL	
GPP_C5	MAIN	H-Z	GPO	N/A	
GPP_C6	MAIN	GPI	N_SMCCLK	P/U 8.2K 3VDUAL	
GPP_C7	MAIN	GPI	N_SMCIDAT	P/U 8.2K 3VDUAL	
GPP_D4	MAIN	GPI	N_GPP_D4	P/U 8.2K 3VDUAL	
GPP_D7	MAIN	GPI	N_GPP_D7	N/A	
GPP_D9	MAIN	GPI	N_GPP_D9	N/A	
GPP_D17	MAIN	GPI	N_GPP_D17	P/U 8.2K VCC3	
GPP_D18	MAIN	GPI	N_GPP_D18	P/U 8.2K VCC3	
GPP_D19	MAIN	GPI	N_GPP_D19	P/U 8.2K VCC3	
GPP_D20	MAIN	GPI	N_GPP_D20	P/U 8.2K VCC3	
GPP_D23	MAIN	GPI	N_GPP_D23	P/U 8.2K 3VDUAL	
GPP_E0	MAIN	NATIVE	N_GPP_E0	P/U 8.2K VCC3	
GPP_E1	MAIN	NATIVE	N_GPP_E1	P/U 8.2K VCC3	
GPP_E2	MAIN	NATIVE	N_GPP_E2	P/U 8.2K VCC3	
GPP_E3	MAIN	GPI	N_CPU_S	P/U 8.2K VCC3	
GPP_E4	MAIN	GPI	N_DEVELP0	P/U 8.2K VCC3	
GPP_E6	MAIN	GPI	N_DEVELP2	P/U 8.2K VCC3	
GPP_E7	MAIN	GPI	N_GT_S	P/U 8.2K VCC3	
GPP_E8	MAIN	GPI	N_-SATALED	N/A	
GPP_E9	MAIN	H-Z	GPI	N_-USB0C_F	N/A
GPP_E10	MAIN	H-Z	GPI	N_-USB0C_R	N/A
GPP_E11	MAIN	H-Z	GPI	N_-USB0C_R	N/A
GPP_E12	MAIN	H-Z	GPI	N_-USB0C_F	N/A
GPP_F0	MAIN	NATIVE	N_GPP_F0	P/U 8.2K VCC3	
GPP_F1	MAIN	NATIVE	N_GPP_F1	P/U 8.2K VCC3	
GPP_F2	MAIN	NATIVE	N_GPP_F2	P/U 8.2K VCC3	
GPP_F3	MAIN	GPI	N_GPP_F3	P/U 8.2K VCC3	
GPP_F4	MAIN	GPI	N_GPP_F4	P/U 8.2K VCC3	
GPP_F5	MAIN	GPI	N_GPP_F5	P/U 8.2K VCC3	
GPP_F6	MAIN	GPI	N_DEVELP4	P/U 8.2K VCC3	
GPP_F10	MAIN	GPI	N_GPP_F10	P/U 8.2K VCC3	
GPP_F11	MAIN	GPI	N_GPP_F11	P/U 8.2K VCC3	
GPP_F12	MAIN	GPI	N_GPP_F12	P/U 8.2K VCC3	
GPP_F13	MAIN	GPI	N_GPP_F13	P/U 8.2K VCC3	
GPP_F14	MAIN	GPI	A_-SKT0CC	P/U 8.2K VCC3	
GPP_F15	MAIN	GPI	N_-USB0C_F	N/A	
GPP_F16	MAIN	GPI	N_-USB0C_F	N/A	
GPP_F17	MAIN	GPI	N_-USB0C_R	N/A	
GPP_F18	MAIN	GPI	N_-USB0C_F	P/U 8.2K 3VDUAL	
GPP_F22	MAIN	GPI	N_GPP_F22	P/U 8.2K VCC3	
GPP_F23	MAIN	GPI	N_GPP_F23	P/U 8.2K VCC3	
GPP_G0	MAIN	GPI	N_GPP_G0	P/U 1K VCC3	
GPP_G1	MAIN	GPI	N_GPP_G1	P/U 1K VCC3	
GPP_G12	MAIN	GPI	N_GPP_G12	P/U 3.3K VCC3	
GPP_G16	MAIN	GPI	N_GPP_G16	N/A	
GPP_G18	MAIN	GPI	N_GPP_G18	P/U 8.2K VCC3	
GPP_G19	MAIN	GPI	N_GPP_G19	P/U 8.2K VCC3	
GPP_G20	MAIN	GPI	N_GPP_G20	P/U 8.2K VCC3	
GPP_G21	MAIN	GPI	N_GPP_G21	P/U 8.2K VCC3	
GPP_G22	MAIN	GPI	N_GPP_G22	P/U 8.2K VCC3	
GPP_H0	MAIN	GPI	M2_-CLERQ0	P/U 8.2K VCC3	
GPP_H12	MAIN	GPI	N_GPP_H12	P/U 8.2K VCC3	
GPP_H19	MAIN	GPI	N_GPP_H19	P/U 8.2K 3VDUAL	
GPP_H20	MAIN	GPI	N_GPP_H20	P/U 8.2K 3VDUAL	
GPP_H21	MAIN	GPI	N_GPP_H21	P/U 8.2K 3VDUAL	
GPP_H22	MAIN	GPI	N_GPP_H22	P/U 8.2K 3VDUAL	
GPP_I0	MAIN	GPI	N_HDMI_HDP_F	N/A	
GPP_I11	MAIN	GPI	N_DVI_HDP_F	P/U 1M VCC3	
GPP_I12	MAIN	GPI	N_VGA_HDP_F	N/A	

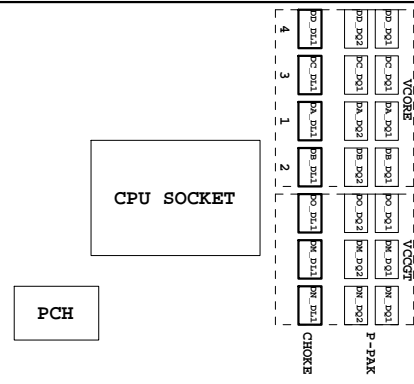
PIN NAME	PWR	Default	USAGE	NOTE
GPP_13	MAIN	GPIO	N_GPP_13	P/U 0.2K VCC3
GPP_14	MAIN	GPIO	N_GPP_14	P/U 100K GND
GPP_15	MAIN	GPIO	N_DDPB_CTLRLCK	P/U 0.2K VCC
GPP_16	MAIN	GPIO	N_DDPB_CTLRLDATA	P/U 0.2K VCC
GPP_17	MAIN	GPIO	N_DDPB_CTLRLDATA	P/U 2.1K VCC3
GPP_18	MAIN	GPIO	N_DDPB_CTLRLDATA	P/U 0.2K VCC3
GPP_19	MAIN	GPIO	N_DDPB_CTLRLCK	P/U 0.2K VCC
GPP_110	MAIN	GPIO	N_DDPB_CTLRLCK	P/U 2.1K VCC3
GDPO	STBY	BATLOW	N-BATLOW	P/U 8.2K 3VDDAL PCH
GDPL	STBY	APRESSTBY	N_GP_DL	P/U 8.2K 3VDDAL PCH
GDPD2	STBY	LAN_WAKE	N-LAN_WAKE	N/A
GDPD3	STBY	PWRBRTN	O_PWRBRTSN	P/U 8.2K 3VDDAL PCH
GDPD4	STBY	SLP_S3	N-SLP_S3	N/A
GDPD5	STBY	SLP_S4	N-SLP_S4	N/A
GDPD6	STBY	SLP_A	N-SLP_A	P/U 8.2K 3VDDAL PCH
GDPD7	STBY	NATIVE	N-ACK	N/A
GDPD8	STBY	SUSCLK	N-SUSCLK	N/A
GDPD10	STBY	SLP_S5	N-SLP_S5	N/A

Super I/O ITE8720 GPIO Table

PCIRSTW/GP10/VDIMM_STR_BN	W/A	NOTE
PCIRSTW/GP11	O -POTR_RST	
PCIRSTW/GP12	O -FPMRST2	
SVC/PECI_RQT/GP14	TRM_QP14	
SLP_SUS8/PCIRSTH0N/CIRTX2/GP15	-PCIRSTH	
PS1_L/FAN_CLT5/CIRRX2/GP16	N -THERSTRIP	
R128/GP17	MR_ID2	
THR_PMR_CT228/GP20	N -THERSTRIP	
IO_SMI8DCD28/GP21	PIN	
SPT_S1/GP22	DEEP-	
DPWROK/CPU_PG/GP23	N_PCH_DPWROK	
FAN_TAC5/RTS28/GP24	PIN	
FAN_TAC4/DSR28/GP25	FANIO4	
INV_OUT1_SOUT2/GP26	G_PLD2	
INV_IN1/SIN2/GP27	INV_IN1	
ATXPG/GP30	PMOK	
CT81/GP31	CT81-	
OCMDT3/R118/GP32	R11-	
OCMDT2/DCD18/GP33	DCD1-	
VTT_FWRGD/GP34	VTT_FWRGD	
VCC18_BN/GP35	VCCIO_BN	
FAN_CT13/GP36	FANPMW3	
FAN_TAC3/GP37	FANIO3	
3VBSWB/GP40	PIN	
OCMDT1/SINI/GP41	RXD1	
GP42/SCK/FAN_CT14	PIN	
PAN8WB/GP43	-PWRBTW	
PWR8WB/GP44	O_PWRBTW	
OCMDT0/DSR18/GP45	DSR1-	
CR1_N/GP47/JP6	CRB_N	
PIN	PIN	
FAN_CT12/GP51	FANPMW2	
FAN_TAC2/GP52	FANIO2	
SUS0N/GP53	N -S4_S5	
PMB8/GP54	N -LPCPM8	
RSMBST0/CIRRX1/GP55	O -RSMRST	
MC1K/FAN_TAC6/GP56	MC1K	
MDAT/FAN_CT16/GP57	MDAT	
KCLK/GP60	KCLK	
KDAT/GP61	KDAT	
KRST8/GP62	N -KRST	
HOLD_B8/GP63	-SPT_HOLD_B	
HOLD_B8/GP64	-SPT_HOLD_M	
VLDST_BN/PCH_DP0/GP65	PIN	
VCC1_05_BN/GP66	VCC1_0_BN	
GP67	PIN	
USB_F81/PD0/GP70	PD0	
USB_F82/PD1/GP71	PD1	
USB_F83/PD2/GP72	PD2	
USB_F83/PD3/GP73	PD3	
USB_F85/PD4/GP74	PD4	
USB_F86/PD5/GP75	PD5	
USB_F87/PD7/GP76	PD6	
USB_F88/PD8/GP77	PD7	
LS-IN1/SLCT/GP80	SLCT	
LS_OUT1/P8/GP81	PE	
LS_LN2/BUSY/GP82	BUSY	
LS_OUT2/ACK/GP83	ACK	
IFPHONE_CHARGER_E/LIN8/GP84	SLIN-	
OC_IN/ENIT8/GP85	INIT-	
OC_OUT/AFW8/GP86	AFD-	
USB_OC2/STB8/GP87	STB-	
DDR_BN/GP90	MA_BN	
PWRLED/GP91	MFD-	
HOLD_OUT/GP92	PIN	
HDLED_IN/GP93	PIN	
PROCROT7/GP94	-PROCROT_CON	
CPUPWRGD/GP95	PIN N_CPUPWRK	
PCH_VMPWRGD/GP96	N_PCH_VMPWRGD	
VR_RDY/GP97	VR_RDY	



PWM各相位的擺法如下：



BIOS超電壓對應表:

線路圖名稱	BIOS選項
Vcore	CPU Vcore
VCCGT	CPU Graphic Voltage
VCCSA	CPU System Agent Voltage
VCCIO	CPU I/O Voltage
VCC1_0_PCH	PCH core
VDDQ	DRAM voltage
VPP_25V	DRAM VPP voltage
DDRVT	DRAM Terminatio
VREF_DQ_A/VREF_DQ_B	DRAM Data Ref

散熱模組料號:

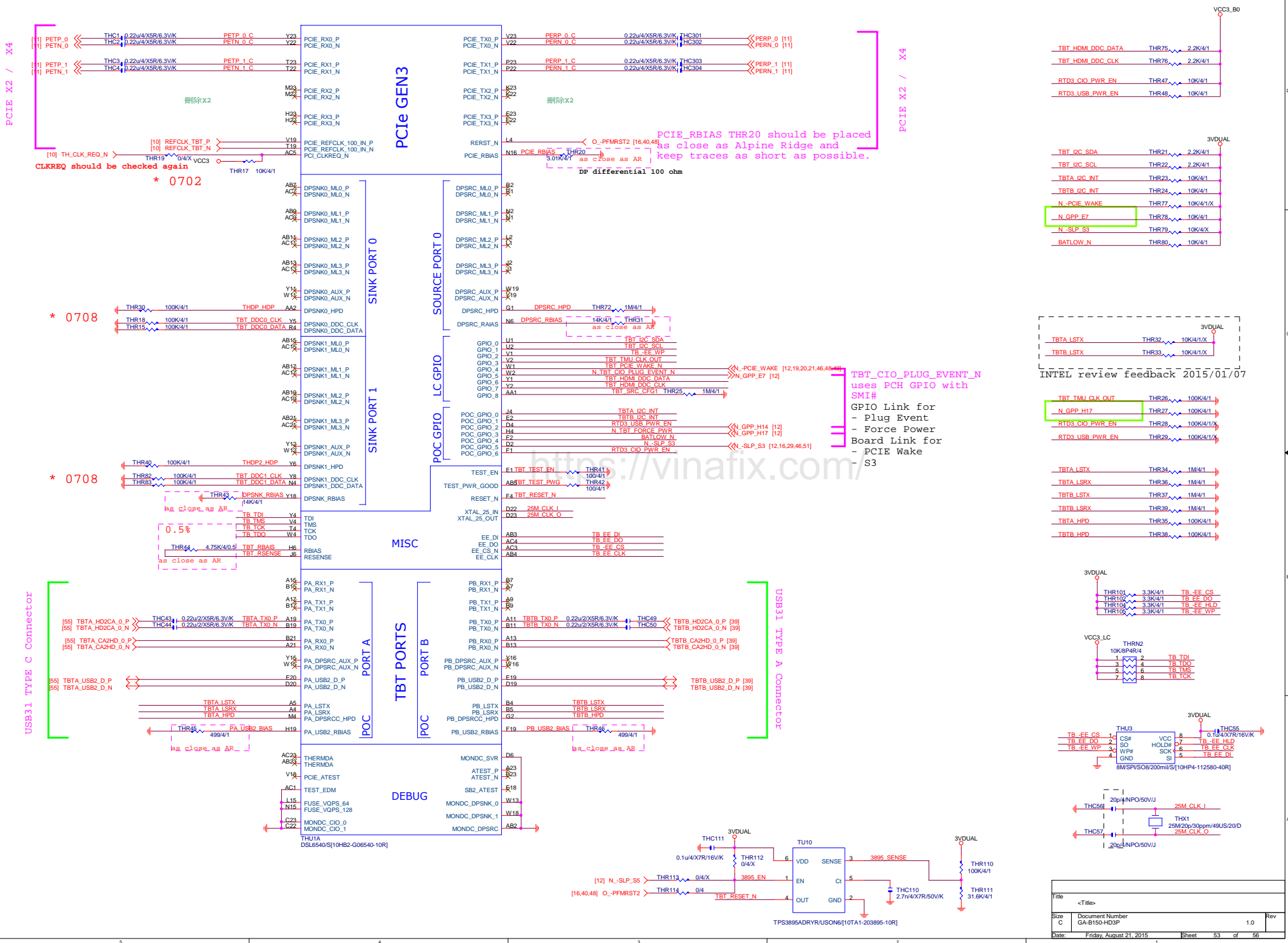
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MOSFET :

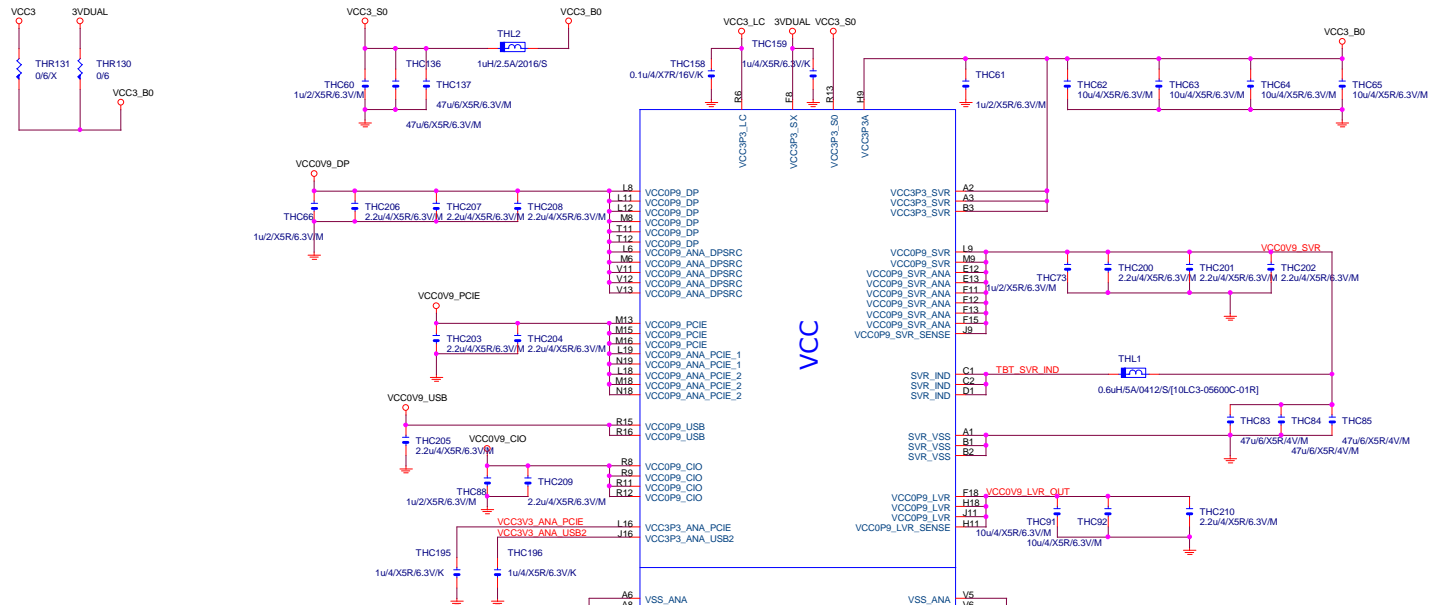
100

	3 pin FAN control	4 pin FAN control	FAN speed	Controller
CPU FAN	+12V	FANPWM1	FANIO1	IT8628
SYS FAN1	FANPWM2	VCC	FANIO2	IT8628
	FAN1_VOUT	N/A	N/A	NCT3941
SYS FAN2	FANPWM3	VCC	FANIO3	IT8628
	FAN2_VOUT	N/A	N/A	NCT3941
SYS FAN3	+12V	N/A	FANIO4	IT8628

INTEL AR USB31 module SCH 0.63 (2015/07/08)



INTEL AR USB31 module SCH 0.63 (2015/07/08)



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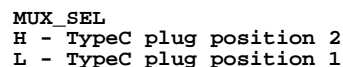
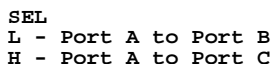
Power Consumption Table					
	VCC3	3VDUAL	VCC3_LC	VCC3V3_ANA_PCIE VCC3V3_ANA_USB2	VCC0V9_LVR_OUT
Max Current(A)	1.05 A 40 mil	0.19 A 10 mil	0.03 A 5 mil	0.1 A 5 mil	0.06 A 5 mil
	VCC0V9_SVR	VCC0V9_DP	VCC0V9_PCIE	VCC0V9_USB	VCC0V9_CIO
Max Current(A)	1.83 A 80 mil	0.7 A 30 mil	0.58 A 30 mil	0.22 A 15 mil	0.28 A 15 mil

GND

DSL6540/S[10HB2-G06540-10R

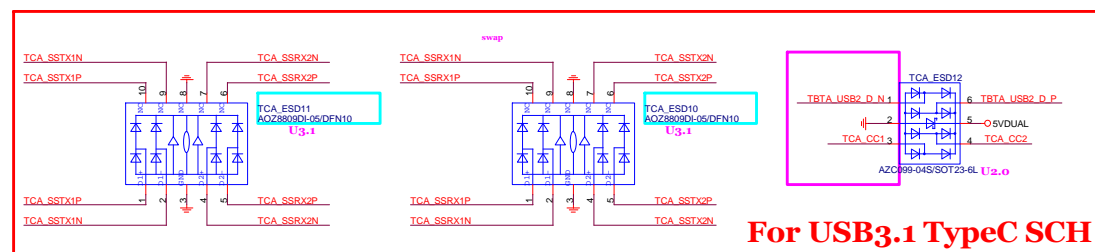
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* 0612



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

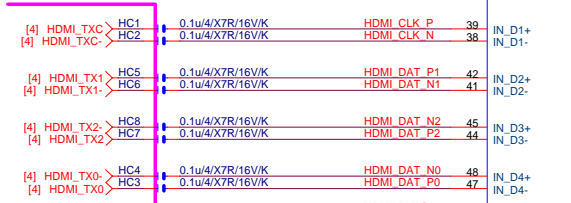
H - HOST
L - Device
NC - Dual
Role



For USB3.1 TypeC SCH

Color markers can be changed by model

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<Title>			
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HDMI LEVEL SHIFT**NET 可變****Port 自行調整**

[10] N_HDMI_HDP_F
[10] N_DDPB_CTRLCLK
[10] N_DDPB_CTRLDATA

N_HDMI_HDP_F
N_DDPB_CTRLCLK
N_DDPB_CTRLDATA

HPD_SOURCE
SCL_SOURCE
SDA_SOURCE

HPD_SINK
SCL_SINK
SDA_SINK

DDC_EN
OC_0
OC_1
OC_2(REXT)
OC_3

EQ_0
EQ_1

THERMAL_PAD

ASM1442/QFN-48L[10TA1-051442-30R]

改上ASM1442:

1Z170/H170 HDMI level shift "NO NEED TO CHANGE".
Keep using PTN3360DBS/HVQFN48

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

HR5;HR15:4.7K/4;
HR11; HR13; HR16:10/4;
HR12:3.16K;
HU1:10TA1-051442-30R

B150改上ASM1442

改上ASM1442:capture value:ASM1442K/QFN-48L

改上PTN3360:capture value:PTN3360DBS/HVQFN48

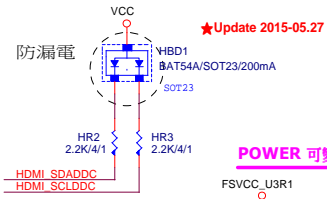
【技術通報R&D技術通報150】

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)

1Z170/H170 HDMI level shift "NO NEED TO CHANGE".

Keep using PTN3360DBS/HVQFN48

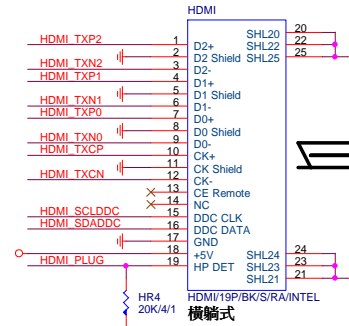


★Update 2015-05-27

POWER 可變

FSVCC_U3R1

HBC5
1u4/X5R/6.3V/K



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