Model Name: GA-Z270M-D3P

rev 1.01

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-Z系列	(REV0.23)
07	CPU_LGA1150-D	
08	DDR4 CHANNEL A	(REV0.6)
09	DDR4 CHANNEL B	
10	PCH_CLK BUFFER	
11	PCH_DMI,USB,PCIE	
12	PCH_MISC	
13	PCH SATA,PCIE,SATA_EXPRESS	
14	PCH_PWR	
15	PCH_GND	
16	Single BIOS	(REV0.7)
17	ITE 8686 LPC IO	(REV0.7)
18	HWM	
19	FAN CTRL--SIO	(REV0.82)
20	PCI EXPRESS*16 SLOT	(REV0.2)
21	PCI EXPRESS*4 SLOT	(REV0.51)
22	PCI EXPRESS*1 SLOT/SW	
23	M.2X4	(REV0.6)
24	SATA EXPRESS	
25	IT8892E_JX	(REV0.1)
26	LDO POWER	
27	PCI SLOT 1	
28	ISL95866 PWM-IRON	(REV0.2)
29	ISL95866 VCORE-IRON	

SHEET	TITLE	
30	ISL95866 VCCGT-IRON	
31	VCCSA_VCCIO-合金-Z系列	(REV0.22)
32	RT8120_DDR_BEAD	(REV0.2)
33	RT8068A_VPP合金	(REV0.2)
34	RT8120_PCH-BEAD	(REV0.2)
35	DISCRETE POWER	(REV0.51)
36	NCT3933	
37	ATX POWER , A_-PROCHOT	
38	KB_MS_USB	(REV0.82)
39	DVI CONN	(REV0.82)
40	Dual DP	(REV0.82)
41	F_PANEL	(REV0.82)
42	R_USB30	(REV0.82)
43	INTEL I219	(REV1.11)
44	USB30_LAN CONNECTOR-I219	
45	Realtek ALC892	(REV0.1)
46	REAR AUDIO JACK	
47	AUDIO LED	(REV0.11)
48	F_USB30	(REV0.82)
49	F_USB	(REV0.82)
50	COM, TPM, THB	(REV0.82)
51	CPU POWER-Z系列	(REV0.23)
52	EMI-ESD	(REV0.1)
53	POWER MAP	
54	NTC MAP	
55	TABLE LIST	

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Title: **Cover Sheet**

Size	Document Number	Rev
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Model Name: GA-Z270M-D3P

rev 1.01

Component value change history

2015/08/19

Data	Change Item	Reason
2016/07/04	first release	
	9MZ27MD3P-WG-01 BOM	
2016/09/06	9MZ27MD3P-WG-10A BOM	
	Rename PCH_CPUCLK->N_CPUCLK,BIOS->64M/Q/SPI/SO8/S	
	Rename Net PQ->PP,SYS_FAN3 Rename SYS_FAN3_PUMP	
	OR56->8.2K/X,Add Net -SPI_HOLD_B,Add BSR1,BSR17,Add N_GGP_C15 For PWM MB_ID	
	,Add Net -SPI_HOLD_B, Add BSR1,BSR17,Add N_GGP_C15 For PWM MB_ID	
	, DIP螺柱->CR/[12KSF-F10303-11R],Del OR4,NC2->22p/4/NPO/50V/J	
	DA_DL1,DC_DL1,DB_DL1,DD_DL1,DAL1,DM_DL1,DN_DL1->0.5uH/40A/IMD109/BP/D	
	,MA_L1->1uH/35A/IMD109/BP/D,NPL2->1uH/18A/IMD0809/BP/D	
	,OR79->75K/6/1,KB_MS_USB->KB/USB/A/PC99(DUAL)/GF/2/RA/D	
	Del Net CLKOUT_SRC_N_15, CLKOUT_SRC_P_15,MA_L3->1.0uH/15A/S/6.7m	
	PCIEX16->BK Slot,PCIEX4->BK Slot, DCL1,DCL2,DCL3,DCL4->1.0uH/15A/S/6.7m	
	DAC10->1.2n,DAR35->80.6K,DAC11->68P,DAR55->28K,DAR72->73.2K,DAC44->0.022u/4/X7R/25V/K	
	LEDR2,LEDR3->47/12 Footprint:POLYSWITCH-1206-1,Rename 42A,60A,80A,110A->42,60,80,110	
	MABC8->2.2u/4/X5R/6.3V/M,DDR4_4,DDR4_3->DDR4/288/BK/VA/D/GF/TWO LATCH	
	DDR4_2,DDR4_1->DDR4/288/GY/VA/D/GF/TWO LATCH,SIO->IT8686E/CX/S	
	Del N_SUSCLK,TBC3 Net->TPMCLK,0 Ohm->short pad,OR89->22/4	
	DCL1,DCL2,DCL3,DCL4->1.0uH/15A/S/6.7m,DAU1->95866,Add DANTC2	
2016/09/08	9MZ27MD3P-WG-10B BOM	
	全台系固態電容100uF,270uF,560uF	
2016/11/21	9MZ27MD3P-WG-10C BOM	
	DCR22->X,LEDR2,LEDR3->X,W_OVR8改上件,W_OVR9->X,DAC10->1.5n/4/X7R/50V/K,DAR37->2.74K	
	PCH->10HB1-03Z270-20R,DAR47->16.9K,DAR67->14K,MOS->ON	
	F_USB30_1,F_USB30_2->BH/2*10K20/BK/ON/2.0/VA/USB3.0/PRT	
2016/12/19	9MZ27MD3P-00-10D BOM	
	TMOS->12SP2-S09425-N1R/N2R/N3R, PAEC1,DAEC14,DAEC15,DAEC16->270u/FP/D/16V/88/A/12m	
	GR44->12K	

Circuit or PCB layout change

DATE	Change Item	Reason
2016/07/01 BOM:0.1	1.PCB first release	
	2.線路由Z170M-D3P-WG Rev1.0修改	
2016/09/05 BOM:1.0	Rename PCH_CPUCLK->N_CPUCLK,Del OR4,	
	Rename Net PQ->PP,SYS_FAN3 Rename SYS_FAN3_PUMP	
	,Add Net -SPI_HOLD_B,Add BSR1,BSR17,Add N_GGP_C15 For PWM MB_ID	
	KB_MS_USB->KB/USB/A/PC99(DUAL)/GF/2/RA/D	
	Del Net CLKOUT_SRC_N_15, CLKOUT_SRC_P_15,	
	LEDR2,LEDR3 Footprint:POLYSWITCH-1206-1,Rename 42A,60A,80A,110A->42,60,80,110	
	Del N_SUSCLK,TBC3 Net->TPMCLK,0 Ohm->short pad,OR89->22/4	
2016/11/17 BOM:1.01	WR59,WR60,WR61->0/4/X,Rename SYS_FAN3,NR32,NR174->SHORT PAD	
	GR70,GR78,GR66->0402 SHORT PAD,GL14,GL10,GL16,GL17,GR73->0603 SHORT PAD	
	Add N_SUSCLK,NR286 SHORT PAD,MOS_HS1 Rename TMOS	
	Del MAR25,MC20,MR26, Add MABC6,Add DCC1,DCC2,DCC3,Del DC_SBC7,SBC8	
	Add DCC54, DCC51,DCC52,DCC43,DCC54	

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Title: BOM & PCB MODIFY HISTORY

Size: Custom | Document Number: GA-Z270M-D3P | Rev: 1.01

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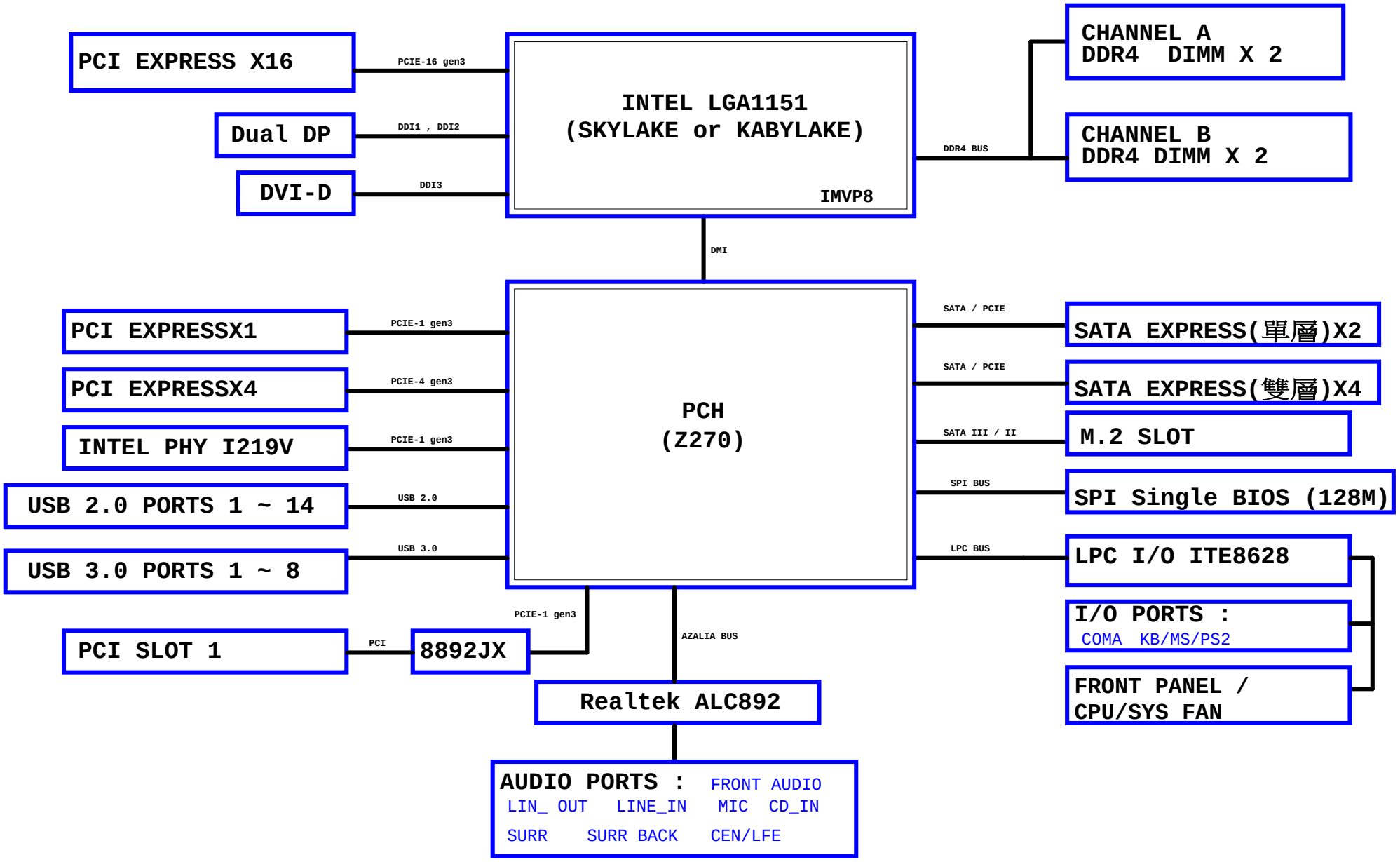
BLOCK DIAGRAM



Gigabyte Technology		
Title: BLOCK DIAGRAM		
Size: C	Document Number: GA-Z270M-D3P	Rev: 1.01
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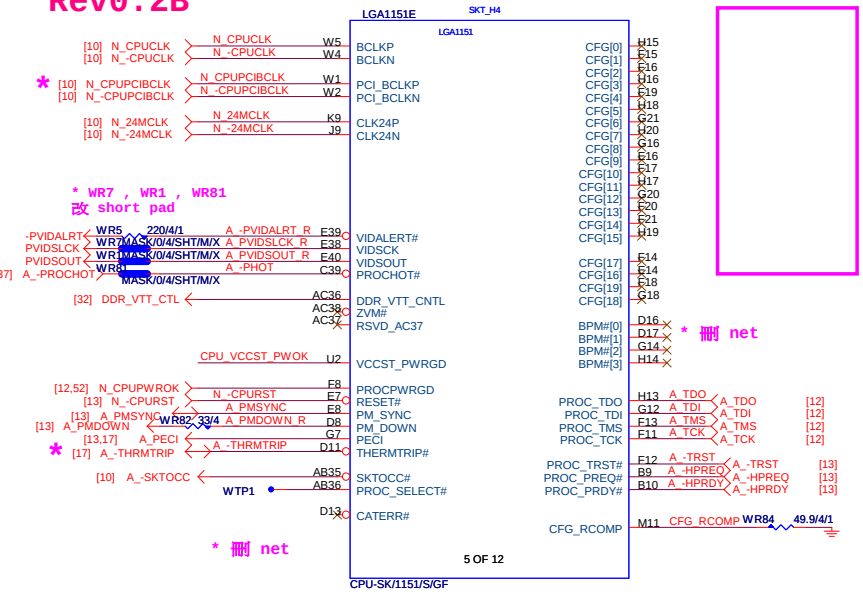
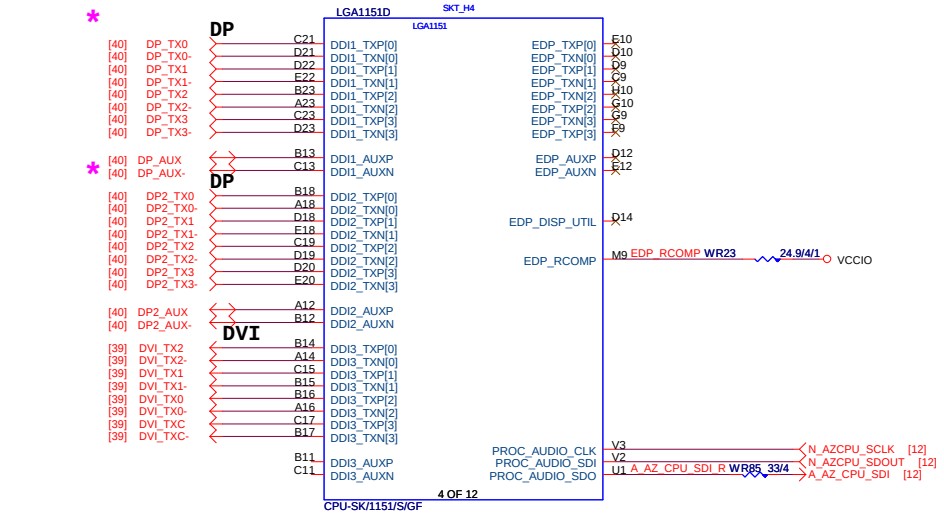
* Rev0.2B



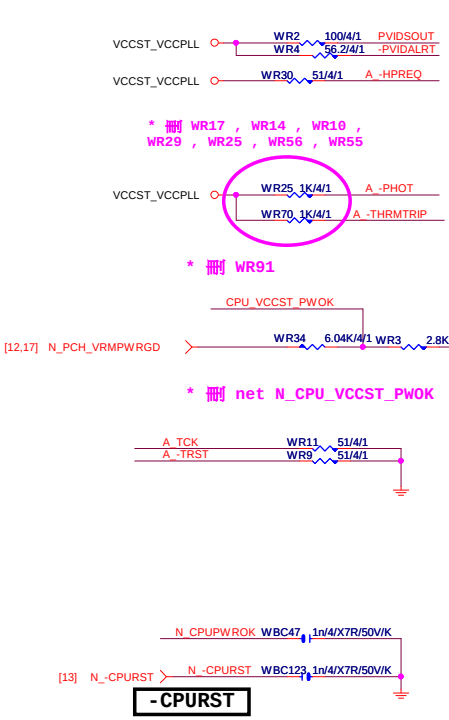
* WR7 , WR1 , WR81
改 short pad

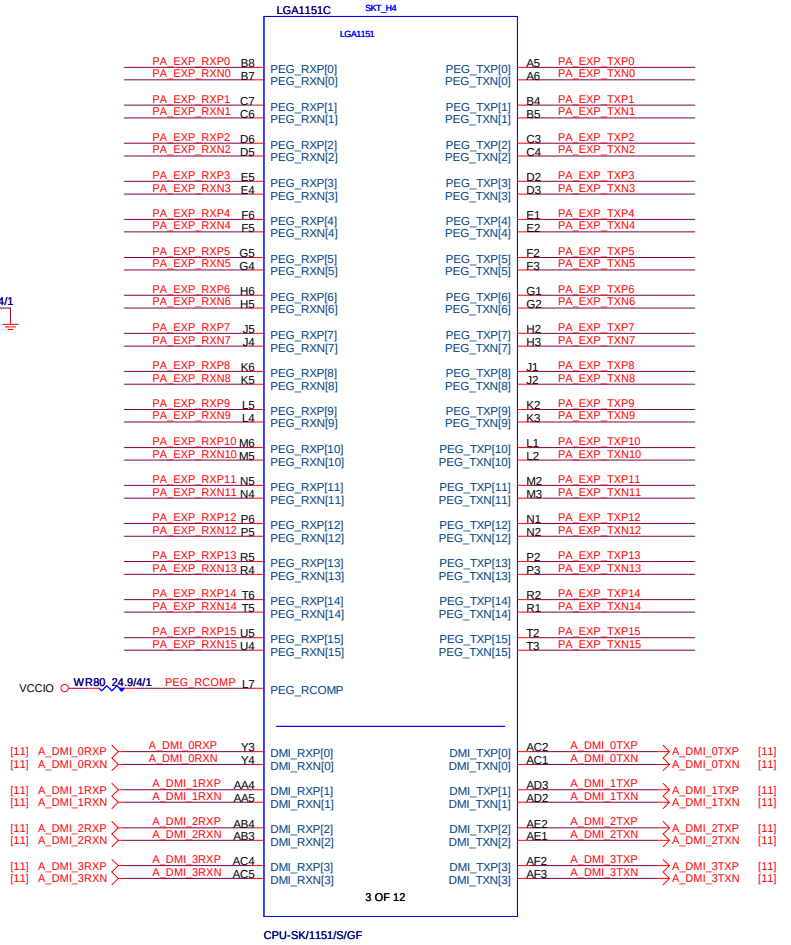
* 刪 net

* 刪 net



* 刪 net





CFG[2]:x16 Lane Numbering Reversal. 1= NORMAL;0=reversal

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

CFG[6:5]:PCI Express* Bifurcation; 11= 1 x16 PCI Express;10=2x8 PCI Express

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

Bifurcation Config.	Signals Lanes 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

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

---
4 layer HDMI/DP/eDP/======4/4/4//15
6 layer HDMI/DP/eDP/======4/5.5/4//15

Impedance=85 +- 15%

---
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

Title	CPU LGA1151-A
Size: Custom	Document Number: GA-Z270M-D3P
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* 改DDR4 net

LGA1151A

SKT_H4

LGA1151

MDA0	AE38	DDR0_DQ[0]	DDR0_CKP[0]	AW18	M_DCLKA0	M_DCLKA0	[8]
MDA1	AE37	DDR0_DQ[1]	DDR0_CKN[0]	AW18	M_-DCLKA0	M_-DCLKA0	[8]
MDA2	AG38	DDR0_DQ[2]	DDR0_CKP[1]	AW17	M_DCLKA1	M_DCLKA1	[8]
MDA3	AG37	DDR0_DQ[3]	DDR0_CKN[1]	AY17	M_-DCLKA1	M_-DCLKA1	[8]
MDA4	AE39	DDR0_DQ[4]	DDR0_CKP[2]	AW16	M_DCLKA2	M_DCLKA2	[8]
MDA5	AE40	DDR0_DQ[5]	DDR0_CKN[2]	AV16	M_-DCLKA2	M_-DCLKA2	[8]
MDA6	AG39	DDR0_DQ[6]	DDR0_CKP[3]	AT16	M_DCLKA3	M_DCLKA3	[8]
MDA7	AG40	DDR0_DQ[7]	DDR0_CKN[3]	AU16	M_-DCLKA3	M_-DCLKA3	[8]
MDA8	AJ38	DDR0_DQ[8]					
MDA9	AJ37	DDR0_DQ[9]	DDR0_CKE[0]	AY24	CKEA0	CKEA0	[8]
MDA10	AL38	DDR0_DQ[10]	DDR0_CKE[1]	AW24	CKEA1	CKEA1	[8]
MDA11	AL37	DDR0_DQ[11]	DDR0_CKE[2]	AV24	CKEA2	CKEA2	[8]
MDA12	AJ40	DDR0_DQ[12]	DDR0_CKE[3]	AV25	CKEA3	CKEA3	[8]
MDA13	AJ39	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]	AU11	M_-CSA1	M_-CSA1	[8]
MDA16	AN38	DDR0_DQ[16]/DDR0_DQ[32]	DDR0_CS#[2]	AV13	M_-CSA2	M_-CSA2	[8]
MDA17	AN40	DDR0_DQ[17]/DDR0_DQ[33]	DDR0_CS#[3]	AV10	M_-CSA3	M_-CSA3	[8]
MDA18	AR38	DDR0_DQ[18]/DDR0_DQ[34]					
MDA19	AR37	DDR0_DQ[19]/DDR0_DQ[35]	DDR0_ODT[0]	AW11	MODT_A0		
MDA20	AN39	DDR0_DQ[20]/DDR0_DQ[36]	DDR0_ODT[1]	AU14	MODT_A1		
MDA21	AN37	DDR0_DQ[21]/DDR0_DQ[37]	DDR0_ODT[2]	AU12	MODT_A2		
MDA22	AR39	DDR0_DQ[22]/DDR0_DQ[38]	DDR0_ODT[3]	AY10	MODT_A3		
MDA23	AR40	DDR0_DQ[23]/DDR0_DQ[39]					
MDA24	AW37	DDR0_DQ[24]/DDR0_DQ[40]	DDR0_BA[0]/DDR0_CAB[4]/DDR0_BA[0]	AY13	SBAA0	SBAA0	[8]
MDA25	AU38	DDR0_DQ[25]/DDR0_DQ[41]	DDR0_BA[1]/DDR0_CAB[6]/DDR0_BA[1]	AV15	SBAA1	SBAA1	[8]
MDA26	AV35	DDR0_DQ[26]/DDR0_DQ[42]	DDR0_BA[2]/DDR0_CAA[5]/DDR0_BG[0]	AW23	BG_A0	BG_A0	[8]
MDA27	AW35	DDR0_DQ[27]/DDR0_DQ[43]					
MDA28	AU37	DDR0_DQ[28]/DDR0_DQ[44]	DDR0_RAS#/DDR0_CAB[3]/DDR0_MA[16]	AW13	MAAA16		
MDA29	AV37	DDR0_DQ[29]/DDR0_DQ[45]	DDR0_WE#/DDR0_CAB[2]/DDR0_MA[14]	AV14	MAAA14		
MDA30	AT35	DDR0_DQ[30]/DDR0_DQ[46]	DDR0_CAS#/DDR0_CAB[1]/DDR0_MA[15]	AY11	MAAA15		
MDA31	AU35	DDR0_DQ[31]/DDR0_DQ[47]					
MDA32	AY8	DDR0_DQ[32]/DDR1_DQ[0]	DDR0_MA[0]/DDR0_CAB[9]/DDR0_MA[0]	AW15	MAAA0		
MDA33	AW8	DDR0_DQ[33]/DDR1_DQ[1]	DDR0_MA[1]/DDR0_CAB[8]/DDR0_MA[1]	AU18	MAAA1		
MDA34	AV6	DDR0_DQ[34]/DDR1_DQ[2]	DDR0_MA[2]/DDR0_CAB[5]/DDR0_MA[2]	AU17	MAAA2		
MDA35	AU6	DDR0_DQ[35]/DDR1_DQ[3]	DDR0_MA[3]	AV19	MAAA3		
MDA36	AU8	DDR0_DQ[36]/DDR1_DQ[4]	DDR0_MA[4]	AT19	MAAA4		
MDA37	AV8	DDR0_DQ[37]/DDR1_DQ[5]	DDR0_MA[5]/DDR0_CAA[0]/DDR0_MA[5]	AU20	MAAA5		
MDA38	AW6	DDR0_DQ[38]/DDR1_DQ[6]	DDR0_MA[6]/DDR0_CAA[2]/DDR0_MA[6]	AV20	MAAA6		
MDA39	AY6	DDR0_DQ[39]/DDR1_DQ[7]	DDR0_MA[7]/DDR0_CAA[4]/DDR0_MA[7]	AU21	MAAA7		
MDA40	AY4	DDR0_DQ[40]/DDR1_DQ[8]	DDR0_MA[8]/DDR0_CAA[3]/DDR0_MA[8]	AT20	MAAA8		
MDA41	AV4	DDR0_DQ[41]/DDR1_DQ[9]	DDR0_MA[9]/DDR0_CAA[1]/DDR0_MA[9]	AT22	MAAA9		
MDA42	AT1	DDR0_DQ[42]/DDR1_DQ[10]	DDR0_MA[10]/DDR0_CAB[7]/DDR0_MA[10]	AY14	MAAA10		
MDA43	AT2	DDR0_DQ[43]/DDR1_DQ[11]	DDR0_MA[11]/DDR0_CAA[7]/DDR0_MA[11]	AU22	MAAA11		
MDA44	AV3	DDR0_DQ[44]/DDR1_DQ[12]	DDR0_MA[12]/DDR0_CAA[6]/DDR0_MA[12]	AV22	MAAA12		
MDA45	AW4	DDR0_DQ[45]/DDR1_DQ[13]	DDR0_MA[13]/DDR0_CAB[0]/DDR0_MA[13]	AV12	MAAA13		
MDA46	AT4	DDR0_DQ[46]/DDR1_DQ[14]	DDR0_MA[14]/DDR0_CAA[9]/DDR0_BG[1]	AV23	BG_A1	BG_A1	[8]
MDA47	AT3	DDR0_DQ[47]/DDR1_DQ[15]	DDR0_MA[15]/DDR0_CAA[8]/DDR0_ACT#	AU24		M_-ACT_A	[8]
MDA48	AP2	DDR0_DQ[48]/DDR1_DQ[32]					
MDA49	AM4	DDR0_DQ[49]/DDR1_DQ[33]	DDR0_PAR	AY15		M_DDR_PARA	[8]
MDA50	AP3	DDR0_DQ[50]/DDR1_DQ[34]	DDR0_ALERT#	AT23		M_-ALERT_A	[8]
MDA51	AM3	DDR0_DQ[51]/DDR1_DQ[35]					
MDA52	AP4	DDR0_DQ[52]/DDR1_DQ[36]					
MDA53	AM2	DDR0_DQ[53]/DDR1_DQ[37]	DDR0_DQSN[0]	AF39	M_-DQSA0		
MDA54	AP1	DDR0_DQ[54]/DDR1_DQ[38]	DDR0_DQSN[1]	AK39	M_-DQSA1		
MDA55	AM1	DDR0_DQ[55]/DDR1_DQ[39]	DDR0_DQSN[2]/DDR0_DQSN[4]	AP39	M_-DQSA2		
MDA56	AK3	DDR0_DQ[56]/DDR1_DQ[40]	DDR0_DQSN[3]/DDR0_DQSN[5]	AU36	M_-DQSA3		
MDA57	AH1	DDR0_DQ[57]/DDR1_DQ[41]	DDR0_DQSN[4]/DDR1_DQSN[0]	AW7	M_-DQSA4		
MDA58	AK4	DDR0_DQ[58]/DDR1_DQ[42]	DDR0_DQSN[5]/DDR1_DQSN[1]	AU3	M_-DQSA5		
MDA59	AH2	DDR0_DQ[59]/DDR1_DQ[43]	DDR0_DQSN[6]/DDR1_DQSN[4]	AN3	M_-DQSA6		
MDA60	AH4	DDR0_DQ[60]/DDR1_DQ[44]	DDR0_DQSN[7]/DDR1_DQSN[5]	AJ3	M_-DQSA7		
MDA61	AK2	DDR0_DQ[61]/DDR1_DQ[45]					
MDA62	AH3	DDR0_DQ[62]/DDR1_DQ[46]	DDR0_DQSP[0]	AF38	M_DQSA0		
MDA63	AK1	DDR0_DQ[63]/DDR1_DQ[47]	DDR0_DQSP[1]	AK38	M_DQSA1		
			DDR0_DQSP[2]/DDR0_DQSP[4]	AP38	M_DQSA2		
AU33			DDR0_DQSP[3]/DDR0_DQSP[5]	AV36	M_DQSA3		
AT33	DDR0_ECC[0]		DDR0_DQSP[4]/DDR1_DQSP[0]	AV7	M_DQSA4		
AW33	DDR0_ECC[1]		DDR0_DQSP[5]/DDR1_DQSP[1]	AU2	M_DQSA5		
AV31	DDR0_ECC[2]		DDR0_DQSP[6]/DDR1_DQSP[4]	AN2	M_DQSA6		
AU31	DDR0_ECC[3]		DDR0_DQSP[7]/DDR1_DQSP[5]	AJ2	M_DQSA7		
AV33	DDR0_ECC[4]						
AW31	DDR0_ECC[5]		DDR0_DQSP[8]	AV32			
AY31	DDR0_ECC[6]		DDR0_DQSN[8]	AU32			
	DDR0_ECC[7]						

DDR CHANNEL A

1 OF12

LGA1151

CPU-SK/1151/S/GF

LGA1151B

SKT_H4

LGA1151

MDB0	AD34	DDR1_DQ[0]/DDR0_DQ[16]	DDR1_CKP[0]	AM20	M_DCLKB0	M_DCLKB0	[9]
MDB1	AD35	DDR1_DQ[1]/DDR0_DQ[17]	DDR1_CKN[0]	AM21	M_-DCLKB0	M_-DCLKB0	[9]
MDB2	AG35	DDR1_DQ[2]/DDR0_DQ[18]	DDR1_CKP[1]	AP22	M_DCLKB1	M_DCLKB1	[9]
MDB3	AH35	DDR1_DQ[3]/DDR0_DQ[19]	DDR1_CKN[1]	AP21	M_-DCLKB1	M_-DCLKB1	[9]
MDB4	AE35	DDR1_DQ[4]/DDR0_DQ[20]	DDR1_CKP[2]	AN20	M_DCLKB2	M_DCLKB2	[9]
MDB5	AE34	DDR1_DQ[5]/DDR0_DQ[21]	DDR1_CKN[2]	AN21	M_-DCLKB2	M_-DCLKB2	[9]
MDB6	AG34	DDR1_DQ[6]/DDR0_DQ[22]	DDR1_CKP[3]	AP19	M_DCLKB3	M_DCLKB3	[9]
MDB7	AH34	DDR1_DQ[7]/DDR0_DQ[23]	DDR1_CKN[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]	AW29	CKEB2	CKEB2	[9]
MDB12	AK34	DDR1_DQ[12]/DDR0_DQ[28]	DDR1_CKE[3]	AU29	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[48]	DDR1_CS#[2]	AN17	M_-CSB2	M_-CSB2	[9]
MDB17	AN35	DDR1_DQ[17]/DDR0_DQ[49]	DDR1_CS#[3]	AM15	M_-CSB3	M_-CSB3	[9]
MDB18	AN32	DDR1_DQ[18]/DDR0_DQ[50]					
MDB19	AP32	DDR1_DQ[19]/DDR0_DQ[51]	DDR1_ODT[0]	AM16	MODT_B0		
MDB20	AN34	DDR1_DQ[20]/DDR0_DQ[52]	DDR1_ODT[1]	AL16	MODT_B1		
MDB21	AP34	DDR1_DQ[21]/DDR0_DQ[53]	DDR1_ODT[2]	AP15	MODT_B2		
MDB22	AN31	DDR1_DQ[22]/DDR0_DQ[54]	DDR1_ODT[3]	AL15	MODT_B3		
MDB23	AP31	DDR1_DQ[23]/DDR0_DQ[55]					
MDB24	AL29	DDR1_DQ[24]/DDR0_DQ[56]	DDR1_RAS#/DDR1_CAB[3]/DDR1_MA[16]	AN18	MAAB16		
MDB25	AM29	DDR1_DQ[25]/DDR0_DQ[57]	DDR1_WE#/DDR1_CAB[2]/DDR1_MA[14]	AL17	MAAB14		
MDB26	AP29	DDR1_DQ[26]/DDR0_DQ[58]	DDR1_CAS#/DDR1_CAB[1]/DDR1_MA[15]	AP16	MAAB15		
MDB27	AR29	DDR1_DQ[27]/DDR0_DQ[59]					
MDB28	AM28	DDR1_DQ[28]/DDR0_DQ[60]	DDR1_BA[0]/DDR1_CAB[4]/DDR1_BA[0]	AL18	SBAB0	SBAB0	[9]
MDB29	AL28	DDR1_DQ[29]/DDR0_DQ[61]	DDR1_BA[1]/DDR1_CAB[6]/DDR1_BA[1]	AM18	SBAB1	SBAB1	[9]
MDB30	AR28	DDR1_DQ[30]/DDR0_DQ[62]	DDR1_BA[2]/DDR1_CAA[5]/DDR1_BG[0]	AW28	BG_B0	BG_B0	[9]
MDB31	AP28	DDR1_DQ[31]/DDR0_DQ[63]					
MDB32	AR12	DDR1_DQ[32]/DDR1_DQ[16]	DDR1_MA[0]/DDR1_CAB[9]/DDR1_MA[0]	AL19	MAAB0		
MDB33	AP12	DDR1_DQ[33]/DDR1_DQ[17]	DDR1_MA[1]/DDR1_CAB[8]/DDR1_MA[1]	AL22	MAAB1		
MDB34	AM13	DDR1_DQ[34]/DDR1_DQ[18]	DDR1_MA[2]/DDR1_CAB[5]/DDR1_MA[2]	AM22	MAAB2		
MDB35	AL13	DDR1_DQ[35]/DDR1_DQ[19]	DDR1_MA[3]	AM23	MAAB3		
MDB36	AR13	DDR1_DQ[36]/DDR1_DQ[20]	DDR1_MA[4]	AP23	MAAB4		
MDB37	AP13	DDR1_DQ[37]/DDR1_DQ[21]	DDR1_MA[5]/DDR1_CAA[0]/DDR1_MA[5]	AL23	MAAB5		
MDB38	AM12	DDR1_DQ[38]/DDR1_DQ[22]	DDR1_MA[6]/DDR1_CAA[2]/DDR1_MA[6]	AW26	MAAB6		
MDB39	AL12	DDR1_DQ[39]/DDR1_DQ[23]	DDR1_MA[7]/DDR1_CAA[4]/DDR1_MA[7]	AY26	MAAB7		
MDB40	AP10	DDR1_DQ[40]/DDR1_DQ[24]	DDR1_MA[8]/DDR1_CAA[3]/DDR1_MA[8]	AU26	MAAB8		
MDB41	AR10	DDR1_DQ[41]/DDR1_DQ[25]	DDR1_MA[9]/DDR1_CAA[1]/DDR1_MA[9]	AW27	MAAB9		
MDB42	AR7	DDR1_DQ[42]/DDR1_DQ[26]	DDR1_MA[10]/DDR1_CAB[7]/DDR1_MA[10]	AP18	MAAB10		
MDB43	AP7	DDR1_DQ[43]/DDR1_DQ[27]	DDR1_MA[11]/DDR1_CAA[7]/DDR1_MA[11]	AU27	MAAB11		
MDB44	AR9	DDR1_DQ[44]/DDR1_DQ[28]	DDR1_MA[12]/DDR1_CAA[6]/DDR1_MA[12]	AV27	MAAB12		
MDB45	AP9	DDR1_DQ[45]/DDR1_DQ[29]	DDR1_MA[13]/DDR1_CAB[0]/DDR1_MA[13]	AR15	MAAB13		
MDB46	AR6	DDR1_DQ[46]/DDR1_DQ[30]	DDR1_MA[14]/DDR1_CAA[9]/DDR1_BG[1]	AY28	BG_B1	BG_B1	[9]
MDB47	AP6	DDR1_DQ[47]/DDR1_DQ[31]	DDR1_MA[15]/DDR1_CAA[8]/DDR1_ACT#	AU28		M_-ACT_B	[9]
MDB48	AM10	DDR1_DQ[48]					
MDB49	AL10	DDR1_DQ[49]	DDR1_PAR	AL20		M_DDR_PARB	[9]
MDB50	AM7	DDR1_DQ[50]	DDR1_ALERT#	AY25		M_-ALERT_B	[9]
MDB51	AL7	DDR1_DQ[51]					
MDB52	AM9	DDR1_DQ[52]					
MDB53	AL9	DDR1_DQ[53]	DDR1_DQSN[0]/DDR0_DQSN[2]	AF34	M_-DQSB0		
MDB54	AM6	DDR1_DQ[54]	DDR1_DQSN[1]/DDR0_DQSN[3]	AK33	M_-DQSB1		
MDB55	AL6	DDR1_DQ[55]	DDR1_DQSN[2]/DDR0_DQSN[6]	AN33	M_-DQSB2		
MDB56	AJ6	DDR1_DQ[56]	DDR1_DQSN[3]/DDR0_DQSN[7]	AN29	M_-DQSB3		
MDB57	AJ7	DDR1_DQ[57]	DDR1_DQSN[4]/DDR1_DQSN[2]	AN13	M_-DQSB4		
MDB58	AF6	DDR1_DQ[58]	DDR1_DQSN[5]/DDR1_DQSN[3]	AR8	M_-DQSB5		
MDB59	AF7	DDR1_DQ[59]	DDR1_DQSN[6]	AM8	M_-DQSB6		
MDB60	AH7	DDR1_DQ[60]	DDR1_DQSN[7]	AG6	M_-DQSB7		
MDB61	AH6	DDR1_DQ[61]					
MDB62	AF7	DDR1_DQ[62]	DDR1_DQSP[0]/DDR0_DQSP[2]	AF35	M_DQSB0		
MDB63	AF6	DDR1_DQ[63]	DDR1_DQSP[1]/DDR0_DQSP[3]	AL33	M_DQSB1		
			DDR1_DQSP[2]/DDR0_DQSP[6]	AP33	M_DQSB2		
AR25			DDR1_DQSP[3]/DDR0_DQSP[7]	AN28	M_DQSB3		
AR26	DDR1_ECC[0]		DDR1_DQSP[4]/DDR1_DQSP[2]	AN12	M_DQSB4		
AM25	DDR1_ECC[1]		DDR1_DQSP[5]/DDR1_DQSP[3]	AP8	M_DQSB5		
AM26	DDR1_ECC[2]		DDR1_DQSP[6]	AL8	M_DQSB6		
AP25	DDR1_ECC[3]		DDR1_DQSP[7]	AG7	M_DQSB7		
AP26	DDR1_ECC[4]						
AL25	DDR1_ECC[5]		DDR1_DQSP[8]	AN25			
AL26	DDR1_ECC[6]		DDR1_DQSN[8]	AN26			
	DDR1_ECC[7]						

DDR CHANNEL B

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DDR_VREF_CA	AB40	VREF_CAB	VREF_CAB [8]
DDR0_VREF_DQ	AC40		
DDR1_VREF_DQ	AC39	VREF_DQB	VREF_DQB [9]

CPU-SK/1151/S/GF

ILM_BP_CR/115X/NORMAL NI

Need check the new CPU ME

[8] MODT_A[0..3] ⟷ MODT_A[0..3]

[9] MODT_B[0..3] ⟷ MODT_B[0..3]

[8] MDA[0..63] ⟷ MDA[0..63]

[9] MDB[0..63] ⟷ MDB[0..63]

[8] M_DQSA[0..7] ⟷ M_DQSA[0..7]

[8] M_-DQSA[0..7] ⟷ M_-DQSA[0..7]

[8] MAAA[0..16] ⟷ MAAA[0..16]

[9] MAAB[0..16] ⟷ MAAB[0..16]

[9] M_DQSB[0..7] ⟷ M_DQSB[0..7]

[9] M_-DQSB[0..7] ⟷ M_-DQSB[0..7]

Gigabyte Technology

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REV:0.23

* WBC49 移到 RT8120_DDR

* 刪 WBC50 電容

* WBC51 , WBC52 VDDQ 改 VCCSA

VCCSA

WBC56 22u/8/X5R/6.3V/M

WBC57 22u/8/X5R/6.3V/M

WBC51 22u/8/X5R/6.3V/M

WBC52 22u/8/X5R/6.3V/M

* 刪 WBC124 , WBC125 , WBC126 , WBC127 電容

CPU POWER

* WR94 , WR59 , WR86 , WR60 , WR61 , WR62 , WR63 改 short pad

VCCST_VCCPLL

VCCSFUSEPRG

VCCSA

VCCST_VCCPLL

remove WR94

VCCIO

WBC69 22u/8/X5R/6.3V/M

WBC70 22u/8/X5R/6.3V/M

WBC71 22u/8/X5R/6.3V/M

WBC72 22u/8/X5R/6.3V/M

WBC73 22u/8/X5R/6.3V/M

WBC74 22u/8/X5R/6.3V/M

* 刪 VCCGT 電容

VCCGT

LGA1151J SKT_H4 LGA1151

AA34 AA35 AA36 AA37 AA38 AB33 AB34 G36 G37 G38 G39 G40 H36 H38 H40 J36 J37 J38 J39 J40 K36 K38 K40 L34 L35 L36 L37 L38 L39 L40 M33 M34 M36 M38 M40 N34 N35 N36 N37 N38 N39 N40 P33 P34 P36 P38 P40 R34 R35 R36 R37 R38 R39 R40 T33 T34 T36 T38 T40 U34 U35 U36 U37 U38 U39 U40 V33 V34 V36 V38 V40 W34 W35 W36 W37 W38 Y33 Y34 Y36 Y38 — VCCGT

VCCGTX_F35 VCCGTX_G34 VCCGTX_G35 VCCGTX_H33 VCCGTX_H34 VCCGTX_J33 VCCGTX_J35 VCCGTX_K32 VCCGTX_K34 VCCGTX_L31 VCCGTX_L33 VCCGTX_M32 — F35 G34 G35 H33 H34 J33 J35 K32 K34 L31 L33 M32

WR59 0/4/X

VCCGT_SENSE F39 VSSGT_SENSE F38

VCCGTX_SENSE F37 VSSGTX_SENSE F36

VCCGT_SENSE [28] VSSGT_SENSE [28]

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CPU-SK/1151/S/GF

VCCSA

LGA1151K SKT_H4 LGA1151

AA7 AB6 AB7 AB8 AC7 AC8 N7 P7 R7 T7 U7 Y6 Y7 Y8 W7 V7 AA6 — VCCSA

VCCIO

AK11 AK14 AK24 AJ23 M8 P8 T8 U8 W8 — VCCIO

CPU POWER

VCCST_VCCPLL V5 VCCSFUSEPRG V6

VCCPLL V4

V5 VCCST_V6

VCCPLL

VDDQ

VDDQ_AT18 VDDQ_AT21 VDDQ_AU13 VDDQ_AU15 VDDQ_AU19 VDDQ_AU23 VDDQ_AV11 VDDQ_AV17 VDDQ_AV21 VDDQ_AW10 VDDQ_AW14 VDDQ_AW25 VDDQ_AY12 VDDQ_AY16 VDDQ_AY18 VDDQ_AY23 — AT18 AT21 AU13 AU15 AU19 AU23 AV11 AV17 AV21 AW10 AW14 AW25 AY12 AY16 AY18 AY23

WBC50 1u/6/X7R/16V/K

VCCPLL_OC AJ9 VCCPLL_S WR86 0/4/X VDDQ

WR95 0/4/SHT/M/X VCCPLL_OC

VCCOPC_AJ30 VCCOPC_AJ27 VCCOPC_AJ28 VCCOPC_AJ29 VCCOPC_AK27 — AJ30 AJ27 AJ28 AJ29 AK27

WR60 0/4/X

VCCEOPIO VCCEOPIO — AJ25 AJ26

WR61 0/4/X

VCC_OPC_1P8_AB37 VCC_OPC_1P8_AB38 — AB37 AB38

WR62 MASK/0/4/SHT/M/X

WR63 MASK/0/4/SHT/M/X

VCCSA_SENSE AD5 VCCIO_SENSE AF4 VSS_SAIO_SENSE AE4

* 刪 net

VCCOPC_SENSE AK21 VCCEOPIO_SENSE AJ24 VSSOPC_EOPIO_SENSE AK22

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CPU-SK/1151/S/GF

LGA1151L SKT_H4 LGA1151

RSVD_TP_J8 RSVD_TP_J7 RSVD_TP_L8 RSVD_TP_K8 — J8 J7 L8 K8

RSVD_TP_AV1 RSVD_TP_AW2 — AV1 AW2

RSVD_H8 RSVD_K10 RSVD_L10 RSVD_J17 RSVD_B39 RSVD_J19 RSVD_C40 — H8 K10 L10 J17 B39 J19 C40

RSVD_G8 RSVD_AY3 — G8 AY3

PROC_TRIGIN PROC_TRIGOUT — D1 B3

RSVD_L12 RSVD_K12 — L12 K12

[13] N_PCH_CPU_TI [13] A_CPU_PCH_TO WR88 33/4 A_CPU_PCH_TO_R

RSVD_TP_H11 RSVD_TP_H12 — H11 H12

RSVD_TP_AW38 RSVD_TP_AV39 — AW38 AV39

RSVD_AU39 RSVD_AU40 — AU39 AU40

VSS_AT15 VSS_AR23 VSS_AR22 — AT15 AR23 AR22

RSVD_J15 RSVD_J14 — J15 J14

RSVD_AU9 RSVD_AU10 — AU9 AU10

RSVD_J13 RSVD_K13 RSVD_J11 — J13 K13 J11

WR89 560/4/1

RSVD_D15 RSVD_K11 — D15 K11

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CPU-SK/1151/S/GF

Gigabyte Technology		
Title: CPU LGA1151-C		
Size: Custom	Document Number: GA-Z270M-D3P	Rev: 1.01
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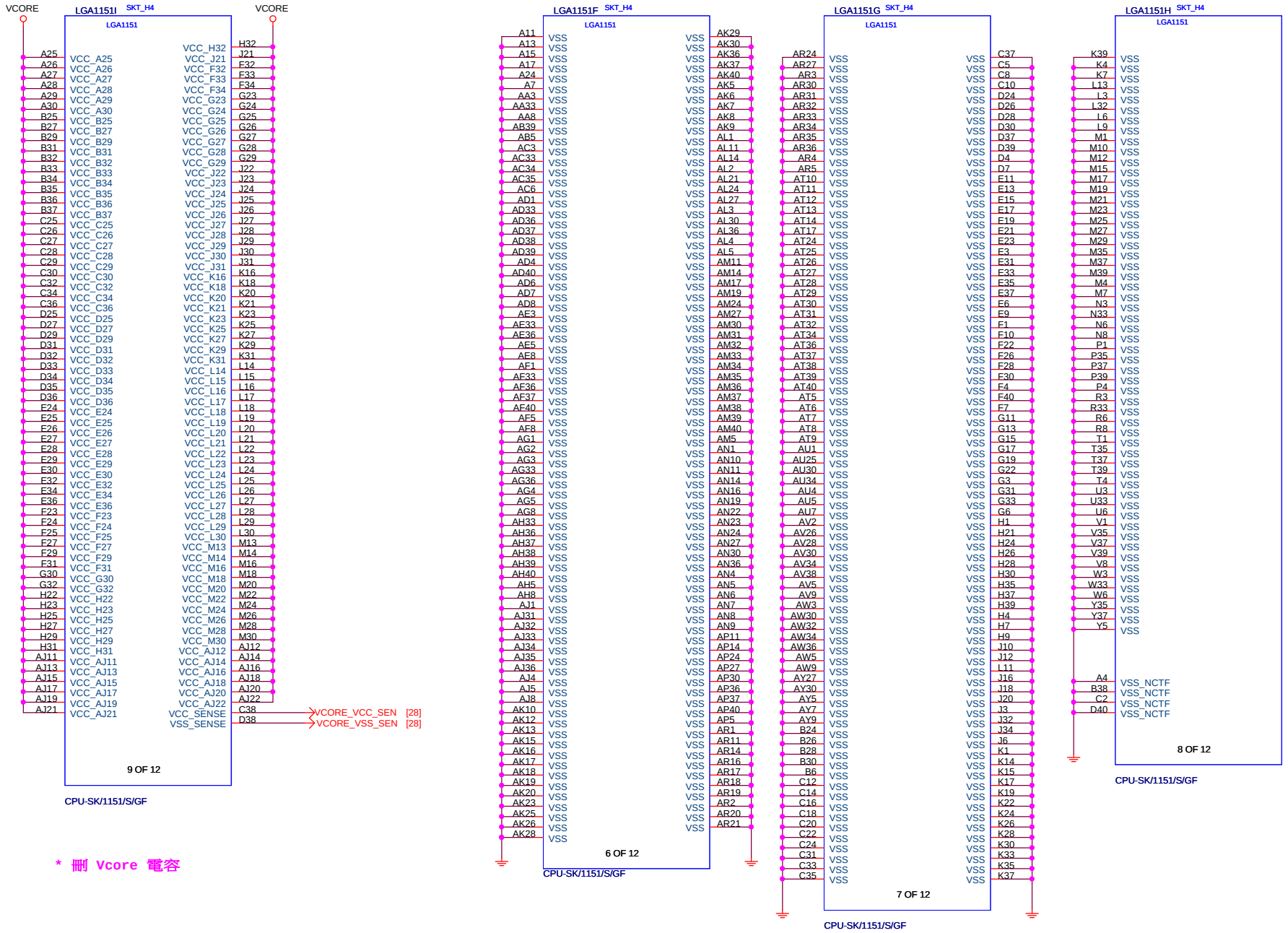

Gigabyte Technology			
Title: CPU LGA1151-C			
Size: Custom	Document Number: GA-Z270M-D3P		Rev: 1.01
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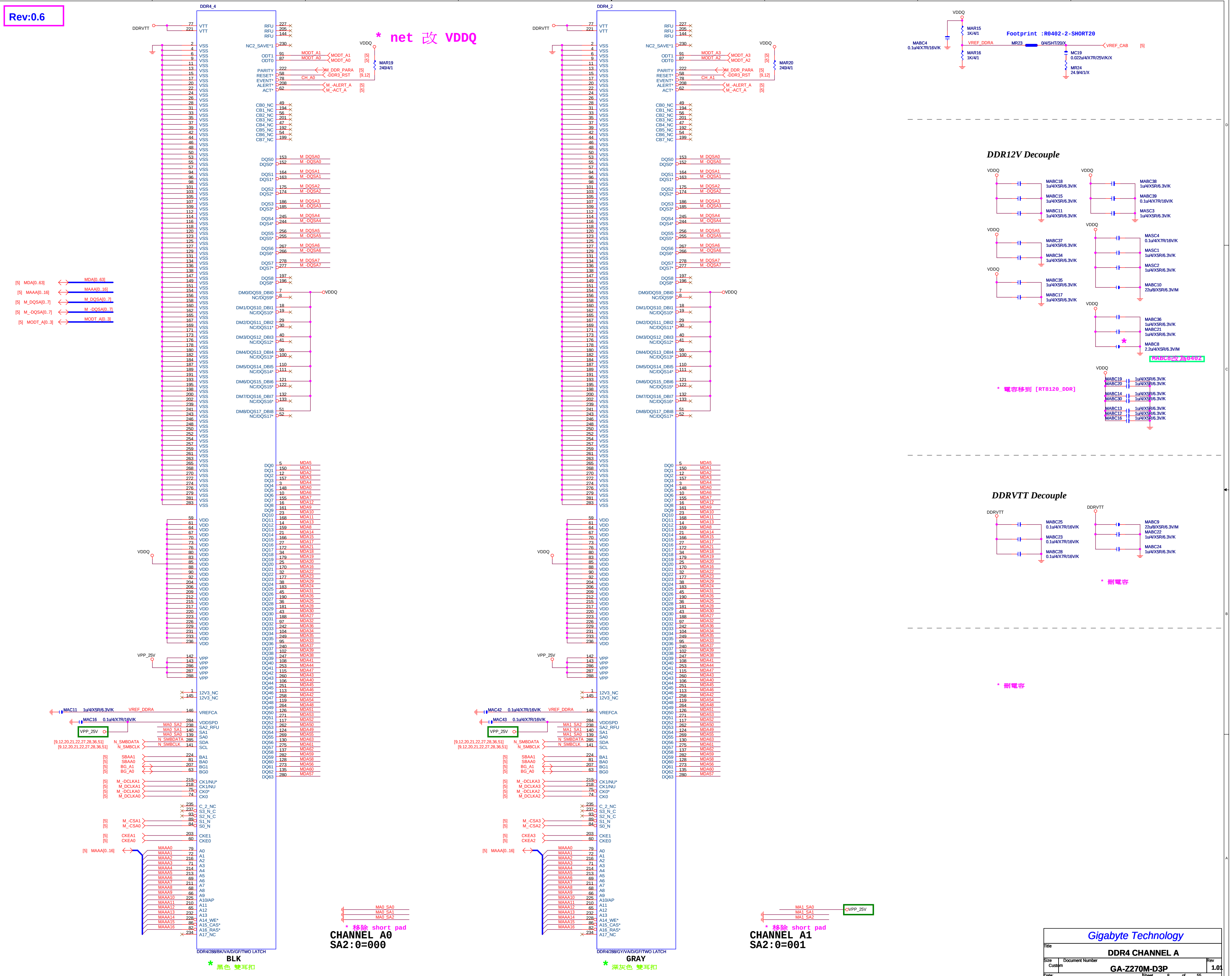
Rev:0.6



DDR4_4
DDR4_2
* net 改 VDDQ
Footprint :R0402-2-SHORT20
DDR12V Decouple
DDRVTT Decouple
MABC8改為0402
* 電容移到 [RT8120_DDR]
* 刪電容
* 刪電容
VREF_DDRA
VREF_CAB
VDDQ
DDRVTT
VPP_25V
MAR15 1K/4/1
MAR16 1K/4/1
MAR19 240/4/1
MAR20 240/4/1
MR23 0/4/SHT/20/X
MC19 0.022u/4/X7R/25V/K/X
MR24 24.9/4/1/X
MABC4 0.1u/4/X7R/16V/K
MAC11 1u/4/X5R/6.3V/K
MAC16 0.1u/4/X7R/16V/K
MAC42 0.1u/4/X7R/16V/K
MAC43 0.1u/4/X7R/16V/K
MDA[0..63]
MAAA[0..16]
M_DQSA[0..7]
M_-DQSA[0..7]
MODT_A[0..3]
N_SMBDATA
N_SMBCLK
MA0_SA0
MA0_SA1
MA0_SA2
MA1_SA0
MA1_SA1
MA1_SA2
* 移除 short pad
* 移除 short pad
CHANNEL A0
SA2:0=000
CHANNEL A1
SA2:0=001
DDR4/288/BK/VA/D/GF/TWO LATCH
BLK
* 黑色 雙耳扣
DDR4/288/GY/VA/D/GF/TWO LATCH
GRAY
* 深灰色 雙耳扣

Gigabyte Technology

Title	DDR4 CHANNEL A
Size: Custom	Document Number: GA-Z270M-D3P
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Rev:0.6

* net 改 VDDQ

DDR4_3

DDR4_1

CHANNEL B0
SA2:0=010

CHANNEL B1
SA2:0=011

BLK
* 黑色 雙寫扣

GRAY
* 深灰色 雙寫扣

* 移除 short pad

* 移除 short pad

Gigabyte Technology

Title	DDR4 CHANNEL B
Size	Custom
Document Number	GA-Z270M-D3P
Rev	1.01
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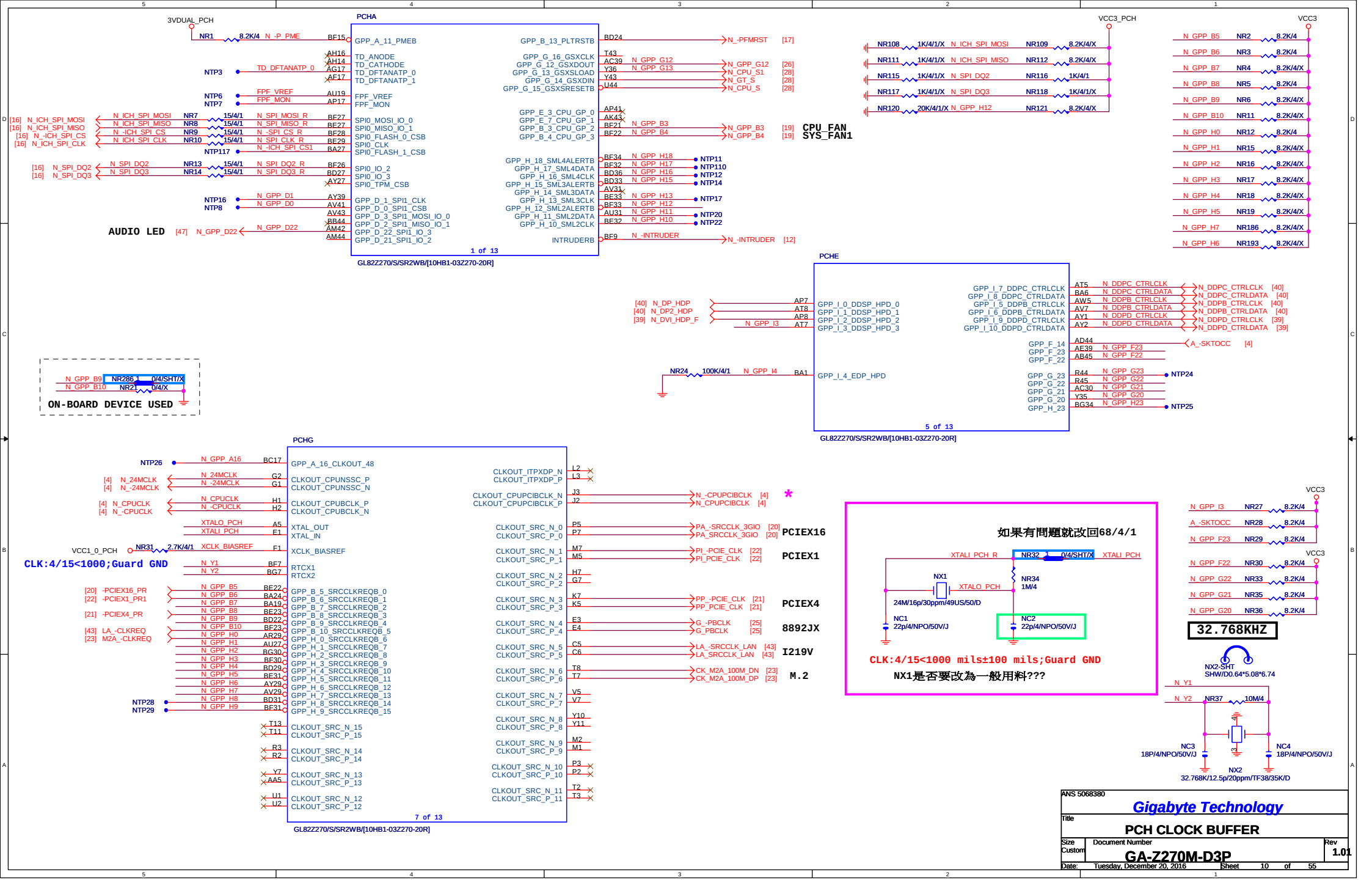
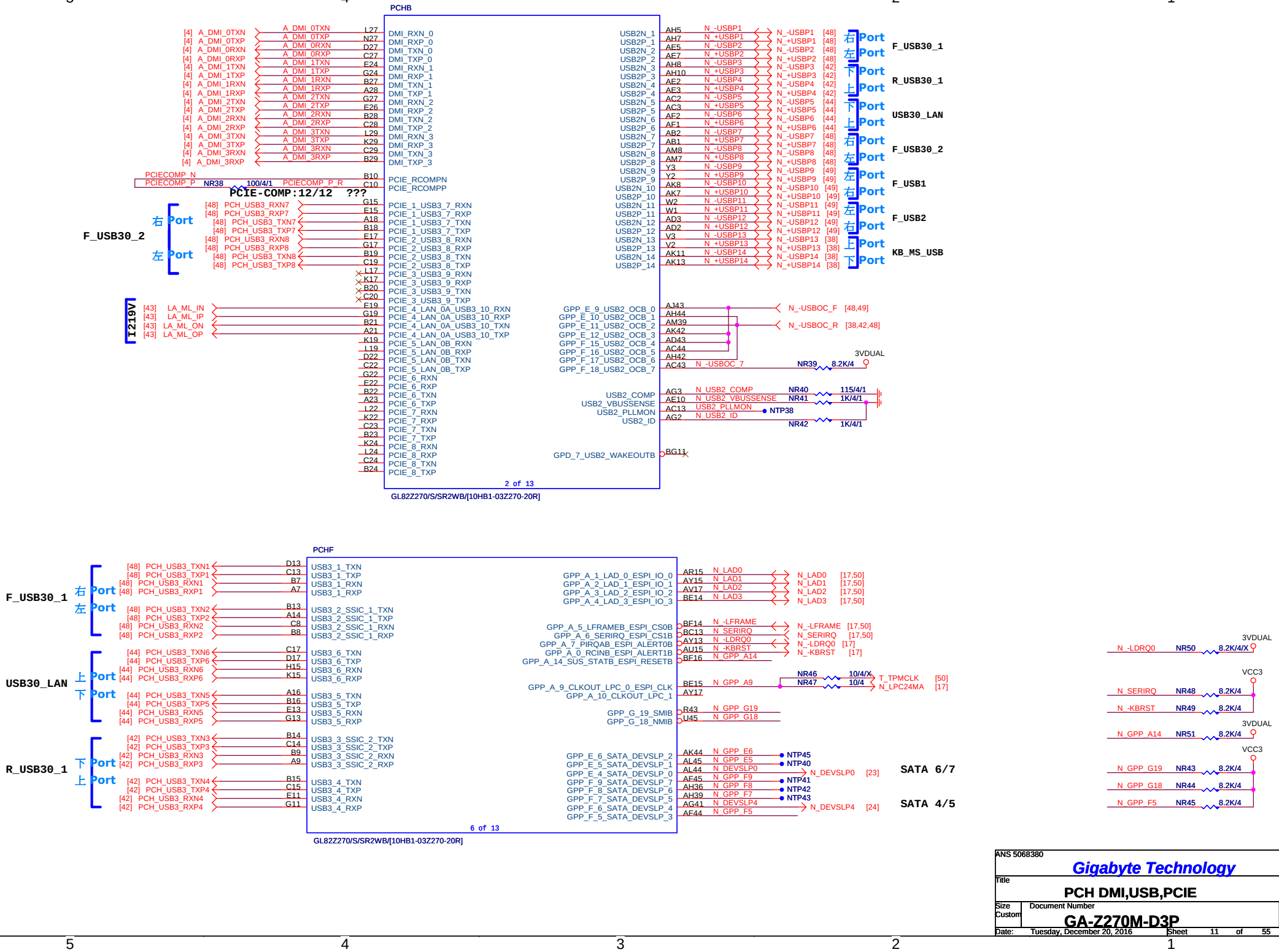

PCHA
3VDUAL_PCH
GL82Z270/S/SR2WB/[10HB1-03Z270-20R]
1 of 13
AUDIO LED
ON-BOARD DEVICE USED
PCHE
5 of 13
PCHG
7 of 13
CLK:4/15<1000;Guard GND
PCIEX16
PCIEX1
PCIEX4
8892JX
I219V
M.2
CPU_FAN
SYS_FAN1
如果有問題就改回68/4/1
CLK:4/15<1000 mils±100 mils;Guard GND
NX1是否要改為一般用料???
32.768KHZ
Gigabyte Technology
PCH CLOCK BUFFER
GA-Z270M-D3P
Tuesday, December 20, 2016



ANS 5068380			
Gigabyte Technology			
Title: PCH DMI,USB,PCIE			
Size: Custom	Document Number: GA-Z270M-D3P		Rev: 1.01
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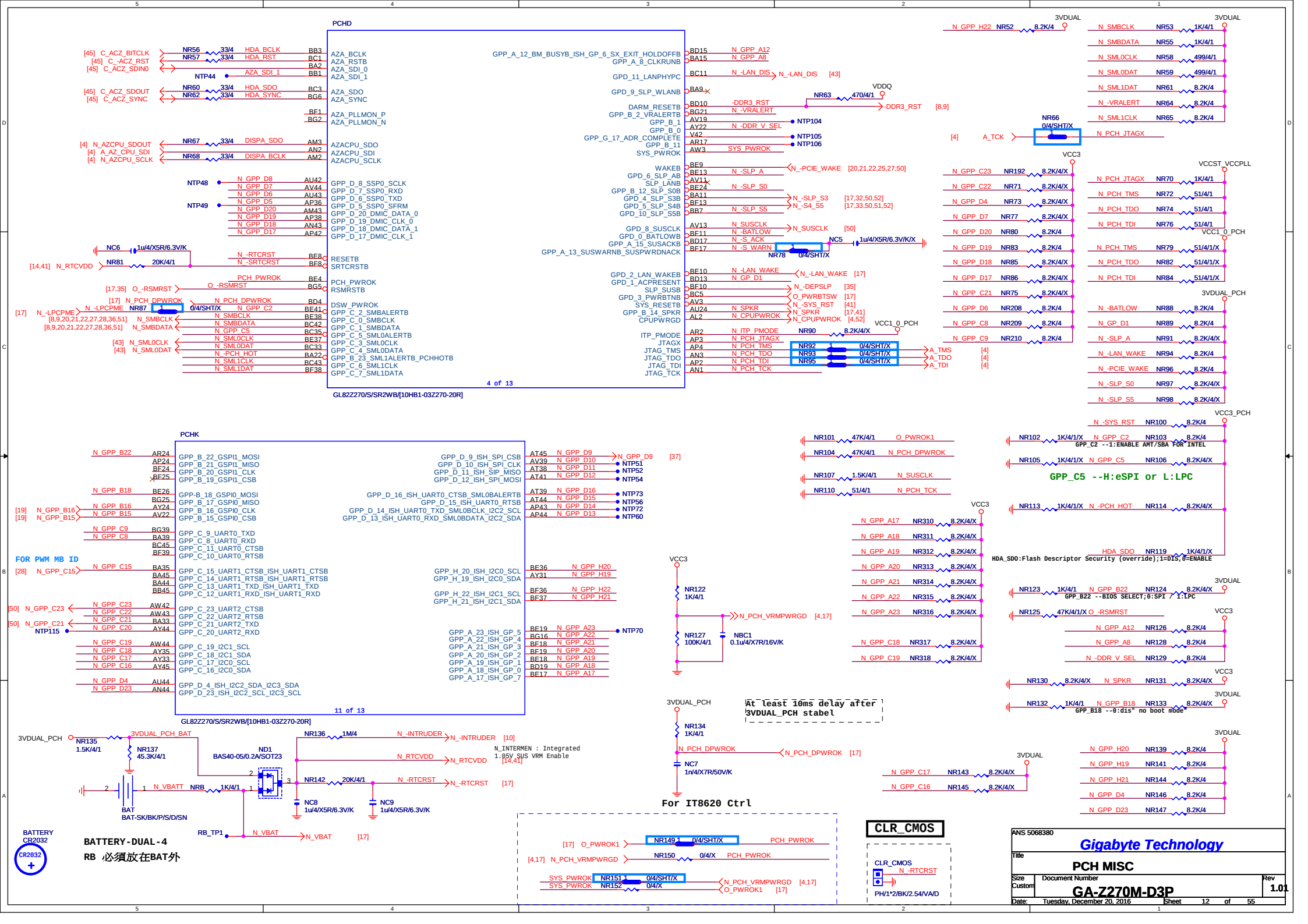
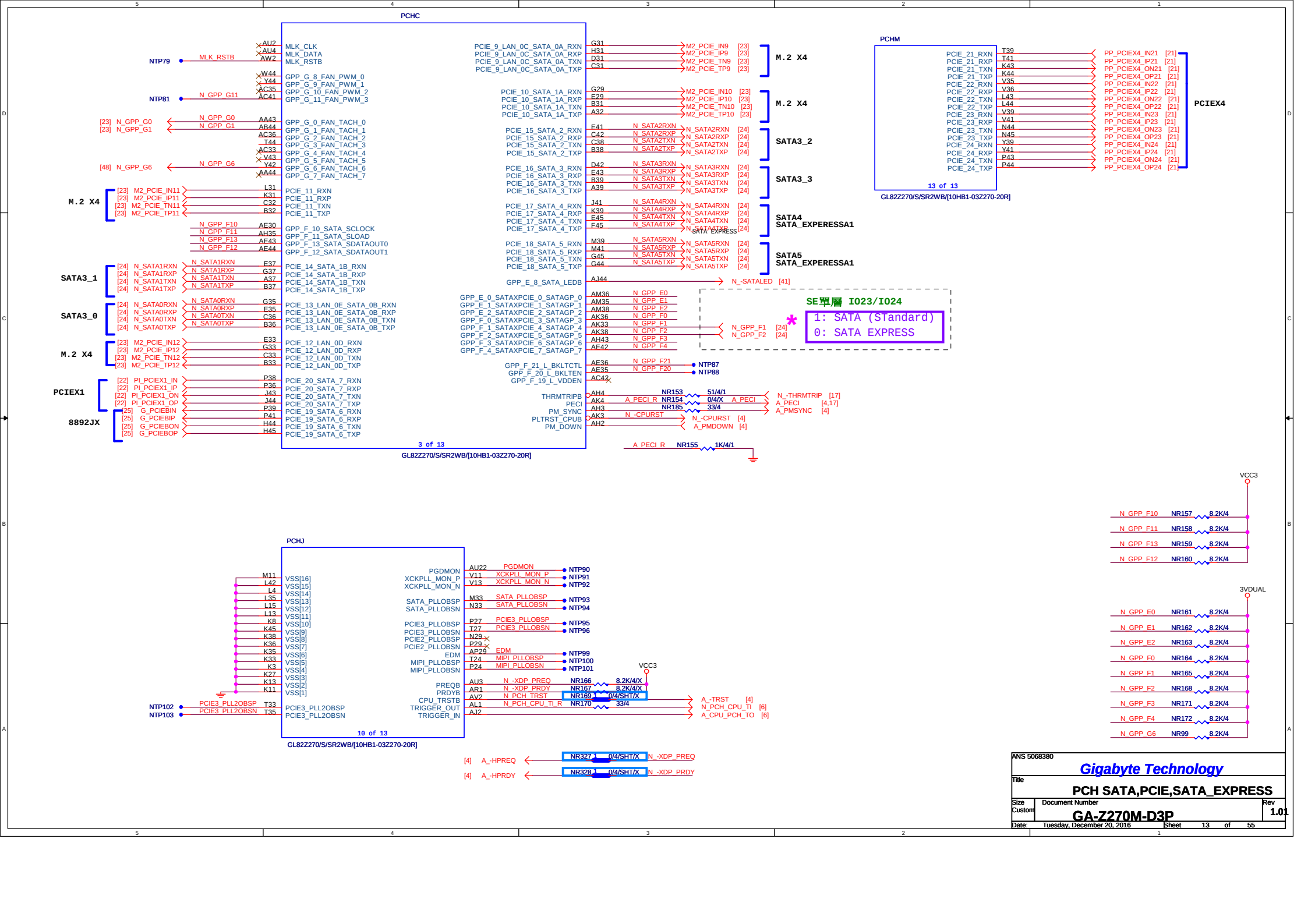

PCHD
AZA_BCLK
AZA_RSTB
AZA_SDI_0
AZA_SDI_1
AZA_SDO
AZA_SYNC
AZA_PLLMON_P
AZA_PLLMON_N
AZACPU_SDO
AZACPU_SDI
AZACPU_SCLK
GPP_D_8_SSP0_SCLK
GPP_D_7_SSP0_RXD
GPP_D_6_SSP0_TXD
GPP_D_5_SSP0_SFRM
GPP_D_20_DMIC_DATA_0
GPP_D_19_DMIC_CLK_0
GPP_D_18_DMIC_DATA_1
GPP_D_17_DMIC_CLK_1
RESETB
SRTCRSTB
PCH_PWROK
RSMRSTB
DSW_PWROK
GPP_C_2_SMBALERTB
GPP_C_0_SMBCLK
GPP_C_1_SMBDATA
GPP_C_5_SML0ALERTB
GPP_C_3_SML0CLK
GPP_C_4_SML0DATA
GPP_B_23_SML1ALERTB_PCHHOTB
GPP_C_6_SML1CLK
GPP_C_7_SML1DATA
GPP_A_12_BM_BUSYB_ISH_GP_6_SX_EXIT_HOLDOFFB
GPP_A_8_CLKRUNB
GPD_11_LANPHYPC
GPD_9_SLP_WLANB
DARM_RESETB
GPP_B_2_VRALERTB
GPP_B_1
GPP_B_0
GPP_G_17_ADR_COMPLETE
GPP_B_11
SYS_PWROK
WAKEB
GPD_6_SLP_AB
SLP_LANB
GPP_B_12_SLP_S0B
GPD_4_SLP_S3B
GPD_5_SLP_S4B
GPD_10_SLP_S5B
GPD_8_SUSCLK
GPD_0_BATLOWB
GPP_A_15_SUSACKB
GPP_A_13_SUSWARNB_SUSPWRDNACK
GPD_2_LAN_WAKEB
GPD_1_ACPRESENT
SLP_SUSB
GPD_3_PWRBTNB
SYS_RESETB
GPP_B_14_SPKR
CPUPWRGD
ITP_PMODE
JTAGX
JTAG_TMS
JTAG_TDO
JTAG_TDI
JTAG_TCK
4 of 13
GL82Z270/S/SR2WB/[10HB1-03Z270-20R]
PCHK
GPP_B_22_GSPI1_MOSI
GPP_B_21_GSPI1_MISO
GPP_B_20_GSPI1_CLK
GPP_B_19_GSPI1_CSB
GPP-B_18_GSPI0_MOSI
GPP_B_17_GSPI0_MISO
GPP_B_16_GSPI0_CLK
GPP_B_15_GSPI0_CSB
GPP_C_9_UART0_TXD
GPP_C_8_UART0_RXD
GPP_C_11_UART0_CTSB
GPP_C_10_UART0_RTSB
GPP_C_15_UART1_CTSB_ISH_UART1_CTSB
GPP_C_14_UART1_RTSB_ISH_UART1_RTSB
GPP_C_13_UART1_TXD_ISH_UART1_TXD
GPP_C_12_UART1_RXD_ISH_UART1_RXD
GPP_C_23_UART2_CTSB
GPP_C_22_UART2_RTSB
GPP_C_21_UART2_TXD
GPP_C_20_UART2_RXD
GPP_C_19_I2C1_SCL
GPP_C_18_I2C1_SDA
GPP_C_17_I2C0_SCL
GPP_C_16_I2C0_SDA
GPP_D_4_ISH_I2C2_SDA_I2C3_SDA
GPP_D_23_ISH_I2C2_SCL_I2C3_SCL
GPP_D_9_ISH_SPI_CSB
GPP_D_10_ISH_SPI_CLK
GPP_D_11_ISH_SPI_MISO
GPP_D_12_ISH_SPI_MOSI
GPP_D_16_ISH_UART0_CTSB_SML0BALERTB
GPP_D_15_ISH_UART0_RTSB
GPP_D_14_ISH_UART0_TXD_SML0BCLK_I2C2_SCL
GPP_D_13_ISH_UART0_RXD_SML0BDATA_I2C2_SDA
GPP_H_20_ISH_I2C0_SCL
GPP_H_19_ISH_I2C0_SDA
GPP_H_22_ISH_I2C1_SCL
GPP_H_21_ISH_I2C1_SDA
GPP_A_23_ISH_GP_5
GPP_A_22_ISH_GP_4
GPP_A_21_ISH_GP_3
GPP_A_20_ISH_GP_2
GPP_A_19_ISH_GP_1
GPP_A_18_ISH_GP_0
GPP_A_17_ISH_GP_7
11 of 13
GL82Z270/S/SR2WB/[10HB1-03Z270-20R]
FOR PWM MB ID
BATTERY-DUAL-4
RB 必須放在BAT外
BATTERY
CR2032
BAT
BAT-SK/BK/P/S/D/SN
ND1
BAS40-05/0.2A/SOT23
3VDUAL_PCH_BAT
For IT8620 Ctrl
At least 10ms delay after 3VDUAL_PCH stabel
N_INTERMEN : Integrated 1.05V SUS VRM Enable
GPP_C2 --1:ENABLE AMT/SBA FOR INTEL
GPP_C5 --H:eSPI or L:LPC
HDA_SDO:Flash Descriptor Security (override);1=DIS,0=ENABLE
GPP_B22 --BIOS SELECT;0:SPI / 1:LPC
GPP_B18 --0:dis" no boot mode"
CLR_CMOS
PH/1*2/BK/2.54/VA/D
ANS 5068380
Gigabyte Technology
Title
PCH MISC
Size Custom
Document Number
GA-Z270M-D3P
Rev 1.01
Date: Tuesday, December 20, 2016
Sheet 12 of 55


PCHC
MLK_CLK
MLK_DATA
MLK_RSTB
NTP79
NTP81
N_GPP_G11
GPP_G_8_FAN_PWM_0
GPP_G_9_FAN_PWM_1
GPP_G_10_FAN_PWM_2
GPP_G_11_FAN_PWM_3
N_GPP_G0
N_GPP_G1
N_GPP_G6
GPP_G_0_FAN_TACH_0
GPP_G_1_FAN_TACH_1
GPP_G_2_FAN_TACH_2
GPP_G_3_FAN_TACH_3
GPP_G_4_FAN_TACH_4
GPP_G_5_FAN_TACH_5
GPP_G_6_FAN_TACH_6
GPP_G_7_FAN_TACH_7
M.2 X4
PCIE_11_RXN
PCIE_11_RXP
PCIE_11_TXN
PCIE_11_TXP
N_GPP_F10
N_GPP_F11
N_GPP_F13
N_GPP_F12
GPP_F_10_SATA_SCLOCK
GPP_F_11_SATA_SLOAD
GPP_F_13_SATA_SDATAOUT0
GPP_F_12_SATA_SDATAOUT1
SATA3_1
PCIE_14_SATA_1B_RXN
PCIE_14_SATA_1B_RXP
PCIE_14_SATA_1B_TXN
PCIE_14_SATA_1B_TXP
SATA3_0
PCIE_13_LAN_0E_SATA_0B_RXN
PCIE_13_LAN_0E_SATA_0B_RXP
PCIE_13_LAN_0E_SATA_0B_TXN
PCIE_13_LAN_0E_SATA_0B_TXP
M.2 X4
PCIE_12_LAN_0D_RXN
PCIE_12_LAN_0D_RXP
PCIE_12_LAN_0D_TXN
PCIE_12_LAN_0D_TXP
PCIEX1
8892JX
PCIE_20_SATA_7_RXN
PCIE_20_SATA_7_RXP
PCIE_20_SATA_7_TXN
PCIE_20_SATA_7_TXP
G_PCIEBIN
G_PCIEBIP
G_PCIEBON
G_PCIEBOP
3 of 13
GL82Z270/S/SR2WB/[10HB1-03Z270-20R]
PCIE_9_LAN_0C_SATA_0A_RXN
PCIE_9_LAN_0C_SATA_0A_RXP
PCIE_9_LAN_0C_SATA_0A_TXN
PCIE_9_LAN_0C_SATA_0A_TXP
M.2 X4
PCIE_10_SATA_1A_RXN
PCIE_10_SATA_1A_RXP
PCIE_10_SATA_1A_TXN
PCIE_10_SATA_1A_TXP
PCIE_15_SATA_2_RXN
PCIE_15_SATA_2_RXP
PCIE_15_SATA_2_TXN
PCIE_15_SATA_2_TXP
SATA3_2
PCIE_16_SATA_3_RXN
PCIE_16_SATA_3_RXP
PCIE_16_SATA_3_TXN
PCIE_16_SATA_3_TXP
SATA3_3
PCIE_17_SATA_4_RXN
PCIE_17_SATA_4_RXP
PCIE_17_SATA_4_TXN
PCIE_17_SATA_4_TXP
SATA4
SATA_EXPERESSA1
SATA_EXPRESS
PCIE_18_SATA_5_RXN
PCIE_18_SATA_5_RXP
PCIE_18_SATA_5_TXN
PCIE_18_SATA_5_TXP
SATA5
SATA_EXPERESSA1
GPP_E_8_SATA_LEDB
N_-SATALED
GPP_E_0_SATAXPCIE_0_SATAGP_0
GPP_E_1_SATAXPCIE_1_SATAGP_1
GPP_E_2_SATAXPCIE_2_SATAGP_2
GPP_F_0_SATAXPCIE_3_SATAGP_3
GPP_F_1_SATAXPCIE_4_SATAGP_4
GPP_F_2_SATAXPCIE_5_SATAGP_5
GPP_F_3_SATAXPCIE_6_SATAGP_6
GPP_F_4_SATAXPCIE_7_SATAGP_7
SE單層 IO23/IO24
1: SATA (STandard)
0: SATA EXPRESS
GPP_F_21_L_BKLTCTL
GPP_F_20_L_BKLTEN
GPP_F_19_L_VDDEN
NTP87
NTP88
THRMTRIPB
PECI
PM_SYNC
PLTRST_CPUB
PM_DOWN
N_-THRMTRIP
A_PECI
A_PMSYNC
N_-CPURST
A_PMDOWN
A_PECI_R
NR155
1K/4/1
PCHM
PCIE_21_RXN
PCIE_21_RXP
PCIE_21_TXN
PCIE_21_TXP
PCIE_22_RXN
PCIE_22_RXP
PCIE_22_TXN
PCIE_22_TXP
PCIE_23_RXN
PCIE_23_RXP
PCIE_23_TXN
PCIE_23_TXP
PCIE_24_RXN
PCIE_24_RXP
PCIE_24_TXN
PCIE_24_TXP
13 of 13
GL82Z270/S/SR2WB/[10HB1-03Z270-20R]
PCIEX4
PP_PCIEX4_IN21
PP_PCIEX4_IP21
PP_PCIEX4_ON21
PP_PCIEX4_OP21
PP_PCIEX4_IN22
PP_PCIEX4_IP22
PP_PCIEX4_ON22
PP_PCIEX4_OP22
PP_PCIEX4_IN23
PP_PCIEX4_IP23
PP_PCIEX4_ON23
PP_PCIEX4_OP23
PP_PCIEX4_IN24
PP_PCIEX4_IP24
PP_PCIEX4_ON24
PP_PCIEX4_OP24
VCC3
N_GPP_F10
N_GPP_F11
N_GPP_F13
N_GPP_F12
NR157
NR158
NR159
NR160
8.2K/4
3VDUAL
N_GPP_E0
N_GPP_E1
N_GPP_E2
N_GPP_F0
N_GPP_F1
N_GPP_F2
N_GPP_F3
N_GPP_F4
N_GPP_G6
NR161
NR162
NR163
NR164
NR165
NR168
NR171
NR172
NR99
PCHJ
VSS[16]
VSS[15]
VSS[14]
VSS[13]
VSS[12]
VSS[11]
VSS[10]
VSS[9]
VSS[8]
VSS[7]
VSS[6]
VSS[5]
VSS[4]
VSS[3]
VSS[2]
VSS[1]
PCIE3_PLL2OBSP
PCIE3_PLL2OBSN
NTP102
NTP103
10 of 13
GL82Z270/S/SR2WB/[10HB1-03Z270-20R]
PGDMON
XCKPLL_MON_P
XCKPLL_MON_N
SATA_PLLOBSP
SATA_PLLOBSN
PCIE3_PLLOBSP
PCIE3_PLLOBSN
PCIE2_PLLOBSP
PCIE2_PLLOBSN
EDM
MIPI_PLLOBSP
MIPI_PLLOBSN
PREQB
PRDYB
CPU_TRSTB
TRIGGER_OUT
TRIGGER_IN
NTP90
NTP91
NTP92
NTP93
NTP94
NTP95
NTP96
NTP99
NTP100
NTP101
N_-XDP_PREQ
N_-XDP_PRDY
N_PCH_TRST
N_PCH_CPU_TI_R
A_-TRST
N_PCH_CPU_TI
A_CPU_PCH_TO
NR166
NR167
NR169
NR170
8.2K/4/X
0/4/SHT/X
33/4
A_-HPREQ
A_-HPRDY
NR327
NR328
ANS 5068380
Gigabyte Technology
Title
PCH SATA,PCIE,SATA_EXPRESS
Size
Custom
Document Number
GA-Z270M-D3P
Rev
1.01
Date:
Tuesday, December 20, 2016
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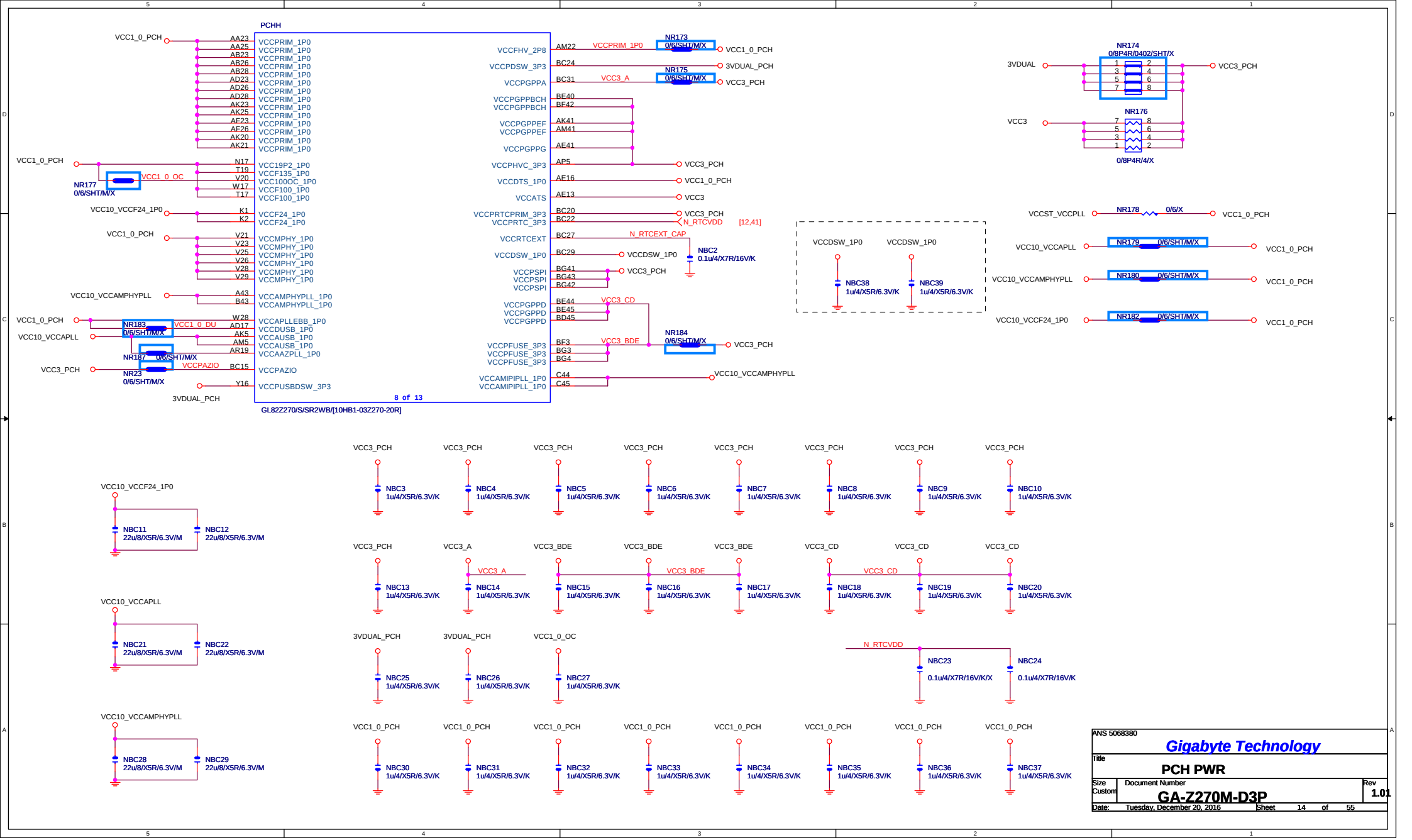
13
of
55



ANS 5068380

Gigabyte Technology

Title: **PCH PWR**

Size	Document Number	Rev
Custom	GA-Z270M-D3P	1.01

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PCHI

A25	VSS	VSS	A42
A30	VSS	VSS	D45
P22	VSS	VSS	BG44
AV38	VSS	VSS	BF44
AV45	VSS	VSS	BF45
AV8	VSS	VSS	BF2
AY11	VSS	VSS	W29
AY19	VSS	VSS	A35
AY37	VSS	VSS	A40
AY4	VSS	VSS	A41
AY42	VSS	VSS	AA17
AY8	VSS	VSS	AA18
B25	VSS	VSS	AA20
B3	VSS	VSS	AA21
B30	VSS	VSS	AA26
B35	VSS	VSS	AA28
B4	VSS	VSS	AA29
BA1	VSS	VSS	AB17
BA13	VSS	VSS	AC32
BA17	VSS	VSS	AE4
BA29	VSS	VSS	AE8
BA31	VSS	VSS	AF18
BA37	VSS	VSS	AF20
BA4	VSS	VSS	AF21
BA42	VSS	VSS	AF25
BB40	VSS	VSS	AF28
BC38	VSS	VSS	AF29
BC40	VSS	VSS	AF4
BC9	VSS	VSS	AF42
BD11	VSS	VSS	AG18
BD16	VSS	VSS	AG20
BD2	VSS	VSS	AG21
BD21	VSS	VSS	AG23
BD25	VSS	VSS	AG25
F2	VSS	VSS	AG26
E31	VSS	VSS	AG28
E6	VSS	VSS	AG29
E8	VSS	VSS	AH11
F39	VSS	VSS	AH13
F43	VSS	VSS	AH30
G4	VSS	VSS	AH32
G40	VSS	VSS	AH33
G42	VSS	VSS	AH38
F6	VSS	VSS	AJ1
G9	VSS	VSS	AJ17
H11	VSS	VSS	AJ18
H13	VSS	VSS	AJ20
H17	VSS	VSS	AJ21
H19	VSS	VSS	AJ23
H22	VSS	VSS	AJ25
H24	VSS	VSS	AJ26
H27	VSS	VSS	AJ28
H29	VSS	VSS	AJ29
H33	VSS	VSS	AJ45
H35	VSS	VSS	AK10
H38	VSS	VSS	AK14
H4	VSS	VSS	AK16
H42	VSS	VSS	AK17
H9	VSS	VSS	AK18
J4	VSS	VSS	AK26
M36	VSS	VSS	AK28
M38	VSS	VSS	AM14
M4	VSS	VSS	AN14
M8	VSS	VSS	AP19
M9	VSS	VSS	AR22
N13	VSS	VSS	AR27
N15	VSS	VSS	AU29
N19	VSS	VSS	AU33
N22	VSS	VSS	AV1
N24	VSS	VSS	AV10
N31	VSS	VSS	AV15
N42	VSS	VSS	AV24
P10	VSS	VSS	AV27
P12	VSS	VSS	AV33
AV35	VSS		

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GL82Z270/S/SR2WB/[10HB1-03Z270-20R]

PCHL

BD34	VSS[70]	VSS[1]	AB18
BD39	VSS[71]	VSS[2]	AB20
BD7	VSS[72]	VSS[3]	AB21
BE2	VSS[73]	VSS[4]	AB25
BF43	VSS[74]	VSS[5]	AB29
BF5	VSS[75]	VSS[6]	AB4
BG18	VSS[76]	VSS[7]	AB42
BG23	VSS[77]	VSS[8]	AC10
BG28	VSS[78]	VSS[9]	AC11
BG32	VSS[79]	VSS[10]	AC14
BG37	VSS[80]	VSS[11]	AC16
BG40	VSS[81]	VSS[12]	AC38
BG9	VSS[83]	VSS[13]	AC4
C1	VSS[84]	VSS[14]	AC5
A12	VSS[85]	VSS[15]	AC7
C2	VSS[86]	VSS[16]	AC8
C37	VSS[87]	VSS[17]	AD1
A6	VSS[88]	VSS[18]	AD18
C9	VSS[89]	VSS[19]	AD20
D1	VSS[90]	VSS[20]	AD21
D10	VSS[91]	VSS[21]	AD25
D12	VSS[92]	VSS[22]	AD29
D15	VSS[93]	VSS[23]	AD45
D16	VSS[94]	VSS[24]	AE11
B12	VSS[95]	VSS[25]	AE14
D19	VSS[96]	VSS[26]	AE32
D21	VSS[97]	VSS[27]	AE33
D24	VSS[98]	VSS[28]	AE38
D25	VSS[99]	VSS[29]	AK29
D29	VSS[100]	VSS[30]	AK30
D30	VSS[101]	VSS[31]	AK32
D33	VSS[102]	VSS[32]	AK35
D35	VSS[103]	VSS[33]	AK39
D36	VSS[104]	VSS[34]	AL4
D39	VSS[105]	VSS[35]	AL42
D44	VSS[106]	VSS[36]	AM10
D7	VSS[107]	VSS[37]	AM11
P13	VSS[108]	VSS[38]	AM13
P15	VSS[109]	VSS[39]	AM17
P17	VSS[110]	VSS[40]	AM19
P19	VSS[111]	VSS[41]	AM24
P31	VSS[112]	VSS[42]	AM27
P33	VSS[113]	VSS[43]	AM29
P35	VSS[114]	VSS[44]	AM32
P4	VSS[115]	VSS[45]	AM33
P42	VSS[116]	VSS[46]	AM4
P8	VSS[117]	VSS[47]	AN45
R1	VSS[118]	VSS[48]	AP10
R32	VSS[119]	VSS[49]	AP11
T10	VSS[120]	VSS[50]	AP13
T14	VSS[121]	VSS[51]	AP15
T22	VSS[122]	VSS[52]	AP22
T29	VSS[123]	VSS[53]	AP27
T32	VSS[124]	VSS[54]	AP31
T36	VSS[125]	VSS[55]	AP33
T38	VSS[126]	VSS[56]	AP34
Y38	VSS[151]	VSS[57]	AP39
Y4	VSS[152]	VSS[127]	T4
Y8	VSS[153]	VSS[143]	W26
T42	VSS[154]	VSS[128]	V16
T5	VSS[155]	VSS[129]	V17
U4	VSS[156]	VSS[130]	V18
U42	VSS[157]	VSS[131]	V30
V10	VSS[158]	VSS[132]	V32
V14	VSS[159]	VSS[133]	V33
W3	VSS[144]	VSS[134]	V38
AF13	VSS[58]	VSS[135]	V4
AR31	VSS[59]	VSS[136]	V8
AR33	VSS[60]		
AR4	VSS[61]	VSS[138]	W18
AT10	VSS[62]	VSS[139]	W20
AT13	VSS[63]	VSS[140]	W21
AT35	VSS[64]	VSS[141]	W23
AT37	VSS[65]	VSS[142]	W25
AT42	VSS[66]		
AU11	VSS[67]	VSS_1	A44
AU17	VSS[68]	VSS_10	BE1
BD30	VSS[69]	VSS_11	BD1
W45	VSS[145]	VSS_14	B1
Y13	VSS[146]	VSS_15	A2
Y14	VSS[147]	VSS_16	B2
Y30	VSS[148]	VSS_17	A3
Y32	VSS[149]	VSS_18	A4
Y33	VSS[150]	VSS_2	B44
BG14	VSS_BG14	VSS_3	B45

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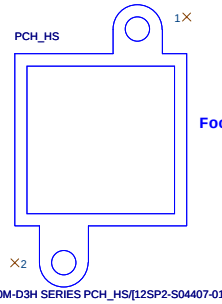
GL82Z270/S/SR2WB/[10HB1-03Z270-20R]

HEATSINK



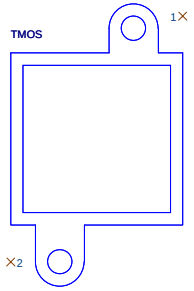
Footprint :BGAHSINK-Z170M-D3H

Z170M-D3H SERIES PCH_HS/[12SP2-S04407-01R_12SP2-S04407-02R_12SP2-S04407-03R]

*

Location: PCH_HS 12SP2-S04407-01R/02R/03R
Location: TMOS 12SP2-S09425-N1R/N2R/N3R

圖騰 ： 灰色斜線圖騰

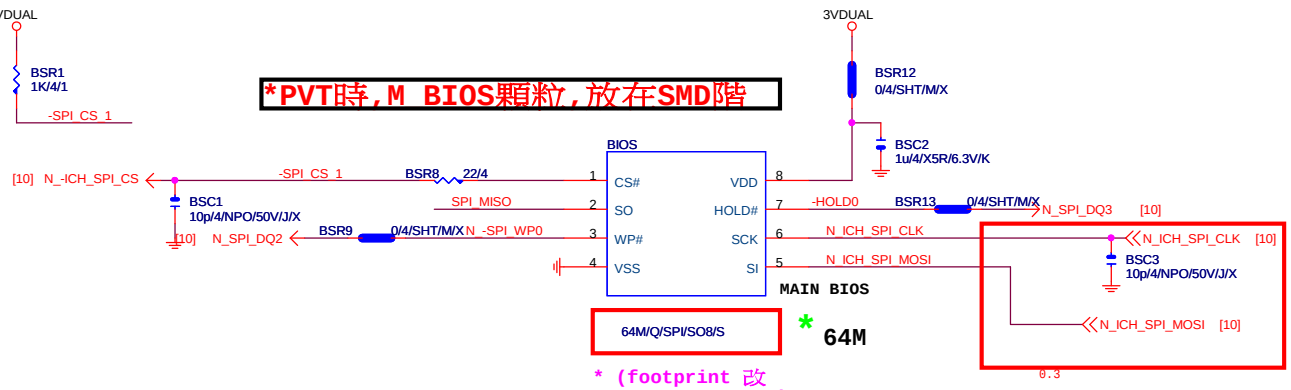


Footprint :
MOSHSINK-Z270M-D3H-T

HEAT SINK/[12SP2-S09425-N1R_12SP2-S09425-N2R_12SP2-S09425-N3R]

Gigabyte Technology		
Title: PCH GND		
Size: Custom	Document Number: GA-Z270M-D3P	Rev: 1.01
Date: Monday, December 19, 2016	Sheet 15 of 55	

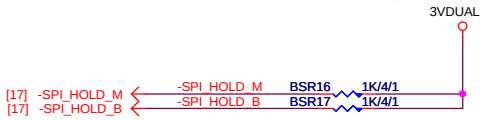
Rev 0.7

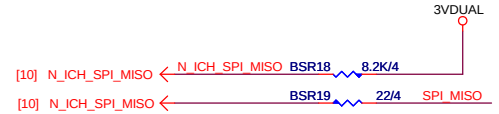


* (footprint 改 SOIC8-SPI-SOCKET)

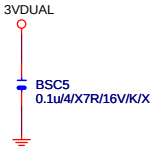
* (MP footprint 改 IC8-BIOS)

MOSI For DMI RX Termination Voltage

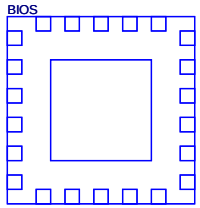




BOOT DEVICE	GNT0	GNT1
LPC	0	0
PCI	0	1
NAND	1	0
SPI	1	1



1 means floating
0 means PD 1K



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

* 試產先上 , PVT 移除

Gigabyte Technology		
Title: BIOS		
Size: Custom	Document Number: GA-Z270M-D3P	Rev: 1.01
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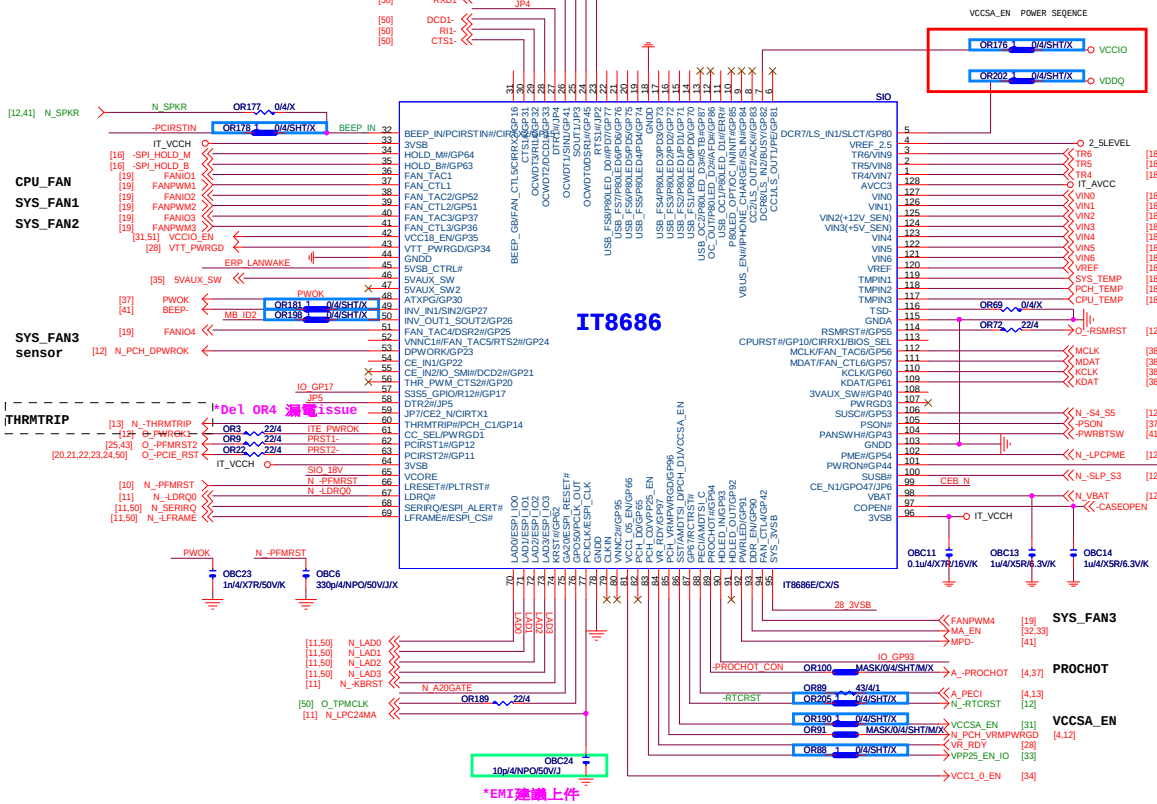
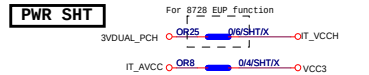
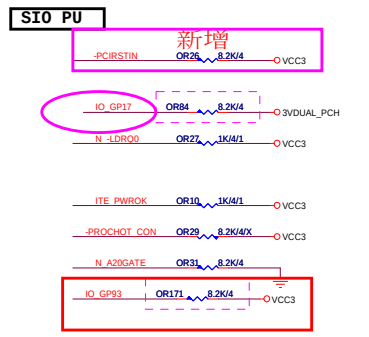
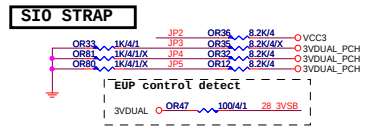
SIO IT8686 REV:0.7

IT8686

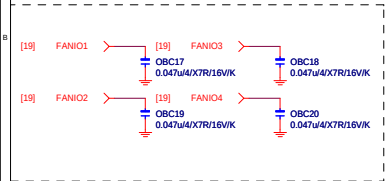


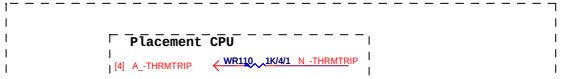






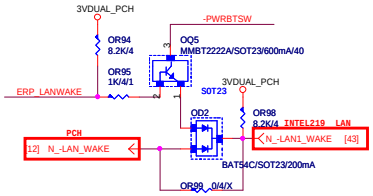
JP2	1	Disable WDT to rest PWROK
	0	Enable WDT to rest PWROK
JP3		Dual-BIOS CS pin mode select bit "0" See the below table
JP4	1	LPC/ESPI power VCCBT = 3.3V
	0	LPC/ESPI power VCCBT = 1.8V
JP5	1	LPC I/F
	0	ESPI I/F
JP6	1	Enable Dual BIOS Function (for GigaByte Only)
	0	Disable Dual BIOS Function (for GigaByte Only)
JP7		Dual-BIOS CE pin mode select bit "1" See the below table
JP7	1 1	CE pin disable (Hold pin mode)
JP7	1 0	CE mode 1
JP3	0 1	CE mode 2
	0 0	CE mode 3



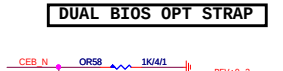


CPU 端 A_-THRMTRIP不可與PCH及SIO N_-THRMTRIP直接連接。否則會出現無法拉LOW情況。

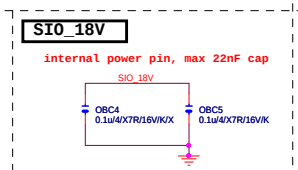
ERP Wake on LAN		
Single LAN	Realtek	組態一
	Atheros	
	Intel 219	組態二
Dual LAN (只留一個 LAN支援 ERP下 WAKE UP)	Atheros+Atheros	組態一
	Intel 219+Atheros	組態三
	Intel 219+Intel 210	
No Support ERP	Single LAN BOM只上OR97。 Dual LAN BOM只上OR97、OR99。	

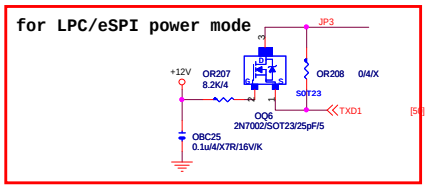


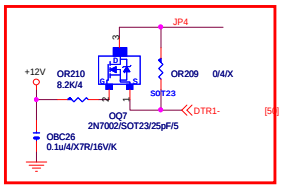
FAN TABLE	
CPU_FAN	FAN_CTL1 FAN_TAC1
SYS_FAN1	FAN_CTL2 FAN_TAC2
SYS_FAN2	FAN_CTL3 FAN_TAC3
SYS_FAN3	FAN_CTL4 FAN_TAC4
OPT_FAN or SYS_FAN4	FAN_CTL5 FAN_TAC5
THRMTRIP	PIN56
PROCHOT	PIN89

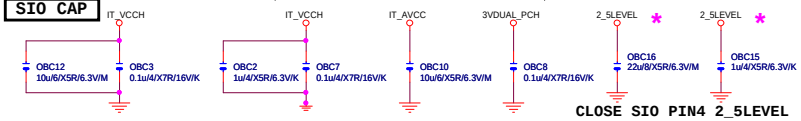


OR58 上件/OR56 不上件 SINGLE BIOS
OR58 不上件/OR56 上件 DUAL BIOS







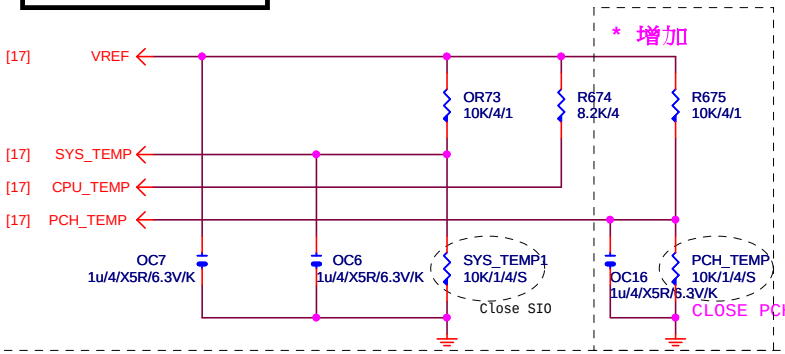


CLOSE SIO PIN4 2_5LEVEL

Gigabyte Technology

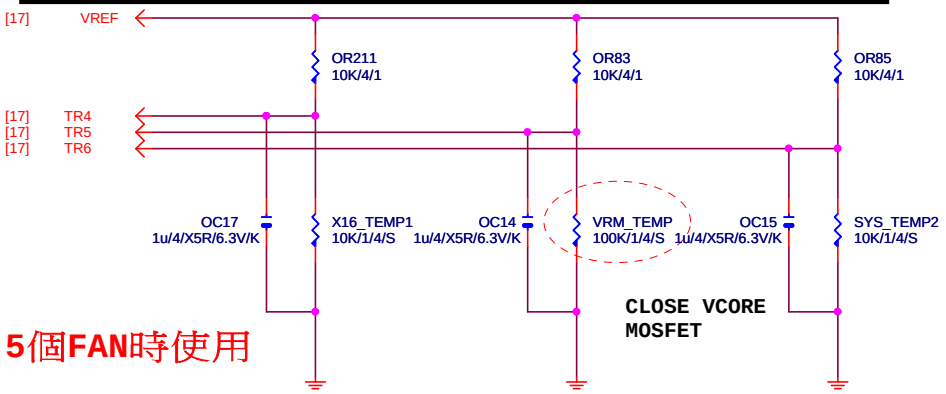
Title	ITE 8686 LPC IO
Size / Document Number	Custom / GA-Z270M-D3P
Rev	1.01
Date: Monday, December 19, 2016	Sheet 17 of 55

TEMP H/W MONITOR



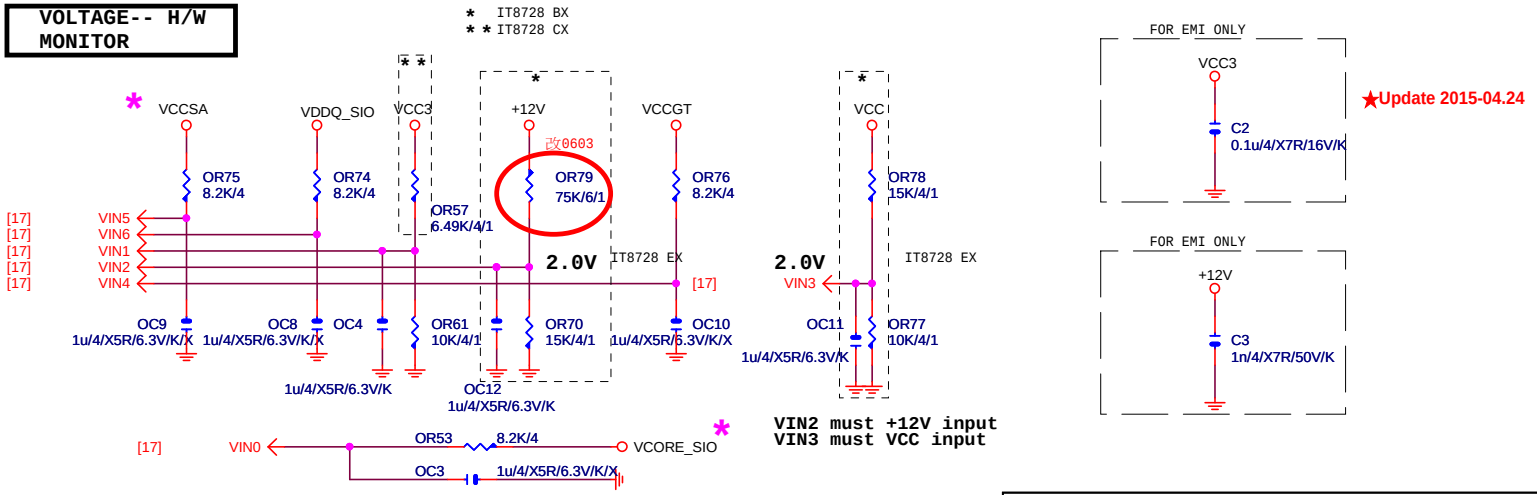
RS_VCORE、RS_VCCGT CLOSE CPU VCORE & VCCGT MOSFET

-PROCHOT:有mos heartsink不用prochot function



5個FAN時使用

VOLTAGE-- H/W MONITOR



★Update 2015-04.24

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

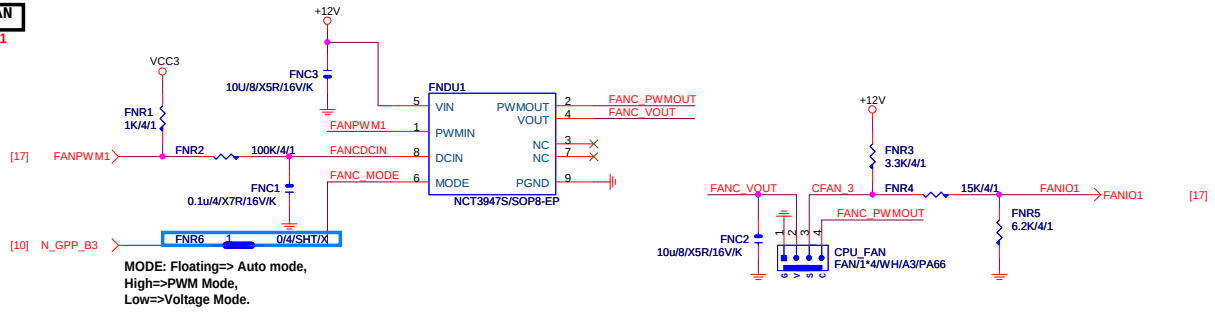
Gigabyte Technology

Title	HWM,KB/MS, FAN CTRL	
Size: Custom	Document Number: GA-Z270M-D3P	Rev: 1.01
Date: Monday, December 19, 2016	Sheet 18 of 55	

Rev: 0.82

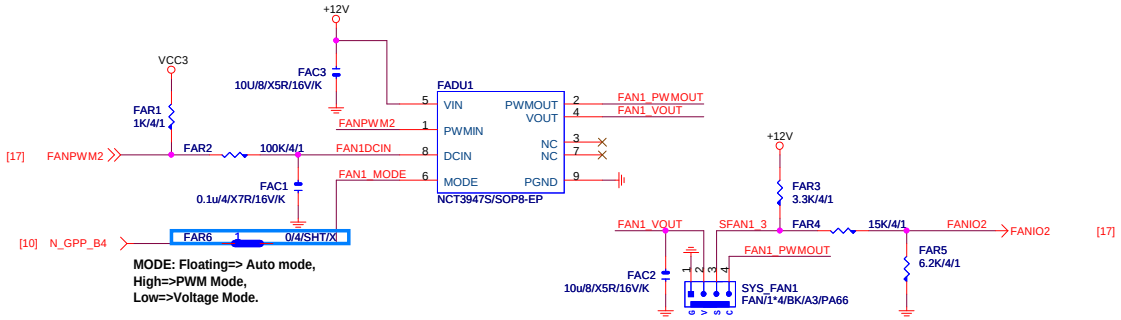
CPU SMART FAN

★Update 2016.06.01



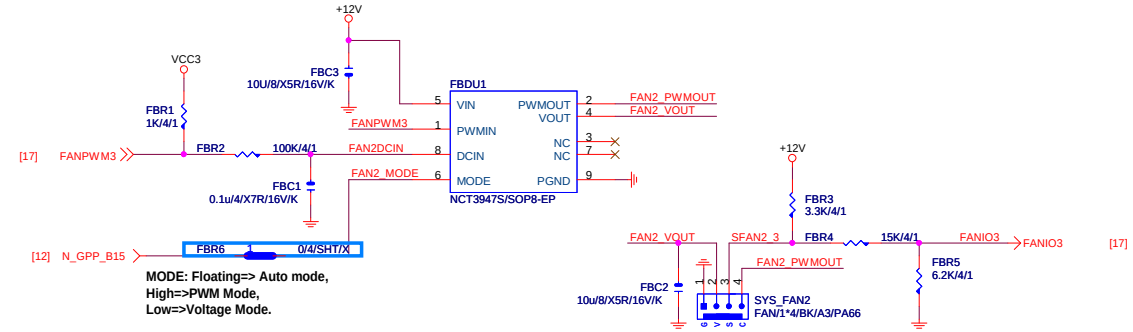
SYSTEM FAN1

A.



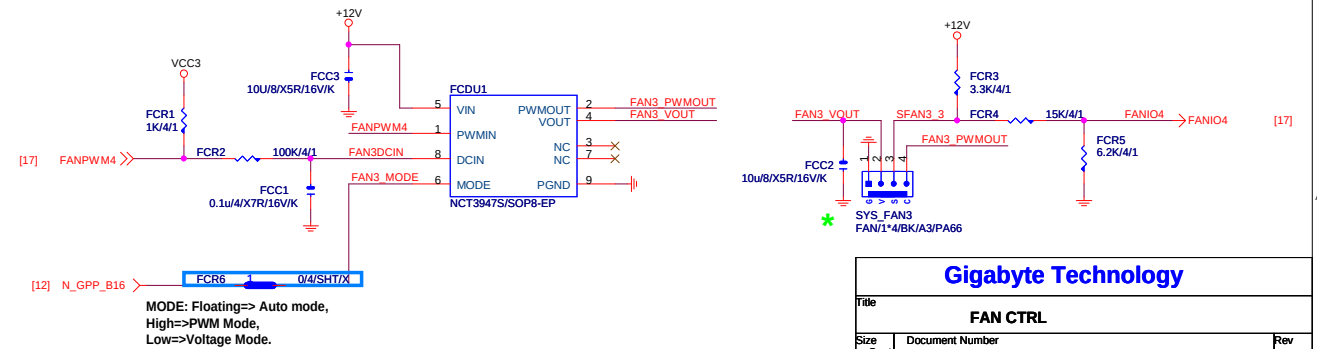
SYSTEM FAN2

B.



SYSTEM FAN3

C.



Gigabyte Technology

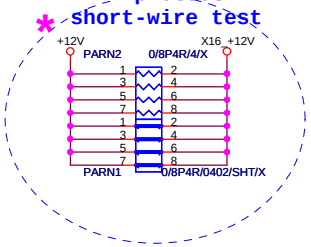
Title: FAN CTRL		
Size: Custom	Document Number: GA-Z270M-D3P	Rev: 1.01
Date: Monday, December 19, 2016	Sheet 19 of 55	

Rev 0.2

Footprint : PCIESLOT-164P

3GIO_*16

+12 protect short-wire test



PCIEX16

KEY

PCI-E/16X-164P/BK/LONG DOUBLE

BACK

*黑色

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

PABC2 0.1u/4/X7R/16V/K
PABC3 0.1u/4/X7R/16V/K
PABC4 0.1u/4/X7R/16V/K/X

PAEC1 270u/FP/D/16V/88/A/12m
PABC1 0.1u/4/X7R/16V/K
PAEC2 560u/FP/D/6.3V/69/A/11m

*改台系固態電容

PCIEX16:16/5/5/5/16
PCI-E REV:1.1--> 2.5GHZ
PCE-E X1(單向) BANDWITH=2.5GHz*(8b/10b)=2Gb/s=250MB/s
PCE-E X1(雙向) BANDWITH=2.5GHz*(8b/10b)X2=4Gb/s=500MB/s
PCE-E X16(單向) BANDWITH=2.5GHz*(8b/10b)X16=32Gb/s=4GB/s
PCE-E X16(雙向) BANDWITH=2.5GHz*(8b/10b)X16X2=64Gb/s=8GB/s

PCI-E REV:2.0--> 5GHZ
PCE-E X1(單向) BANDWITH=5GHz*(8b/10b)=4Gb/s=500MB/s

PCI-E REV:3.0--> 8GHZ
PCE-E X1(單向) BANDWITH=8GHz*(128b/130b)=8Gb/s=1GB/s

Gigabyte Technology

Title: **PCI EXPRESS * 16**

Size: Custom | Document Number: **GA-Z270M-D3P** | Rev: **1.01**

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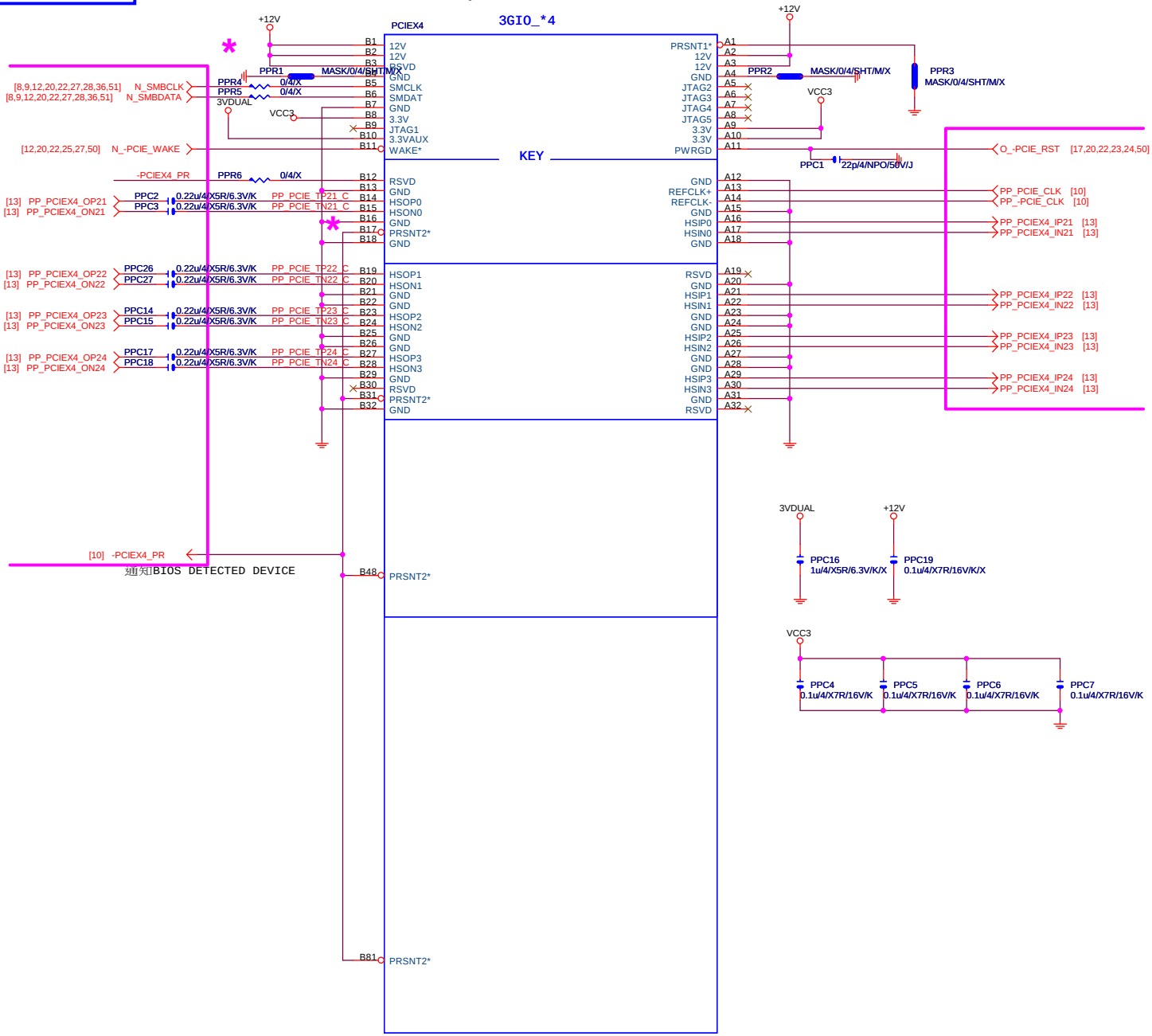
Rev 0.51

PCIE*4

Footprint : PCIESLOT-64P-1

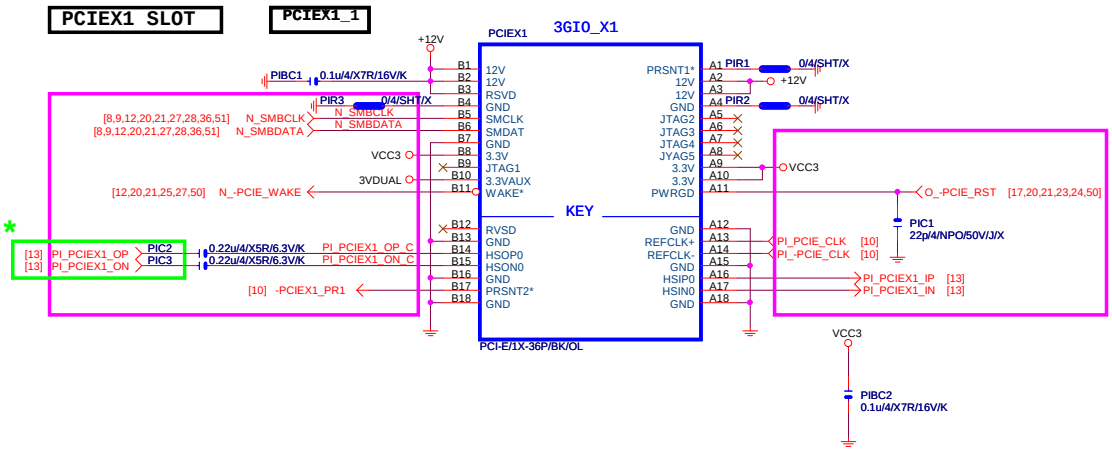


PCI-E/4X-66P/BK/LONG DOUBLE

BACK

* 黑色

Gigabyte Technology		
Title: PCIE_X4		
Size: Custom	Document Number: GA-Z270M-D3P	Rev: 1.01
Date: Monday, December 19, 2016	Sheet 21 of 55	



1個X1 ，不用SWITCH

Gigabyte Technology		
Title: PCIEX1		
Size: Custom	Document Number: GA-Z270M-D3P	Rev: 1.01
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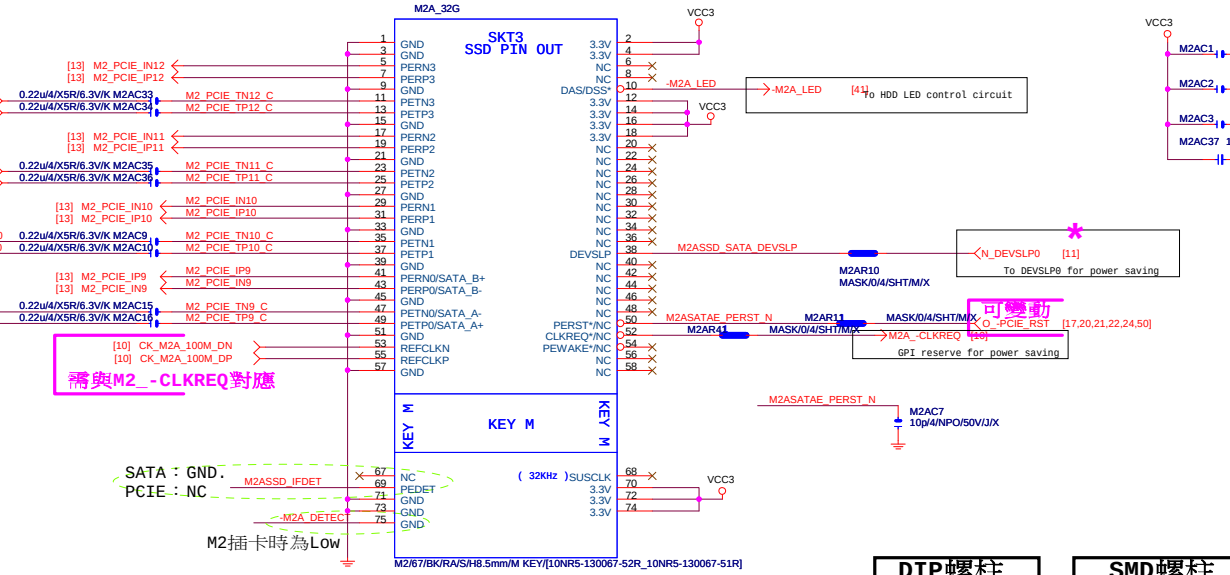
Rev 0.6

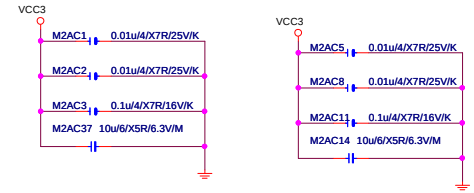
M.2 Lane4 from PCH port18

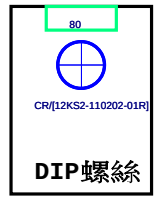
M.2 Lane3 from PCH port17

M.2 Lane2 from PCH port16

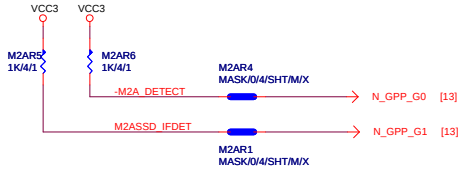
M.2 Lane1 from PCH port15



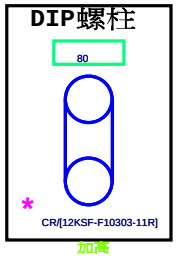


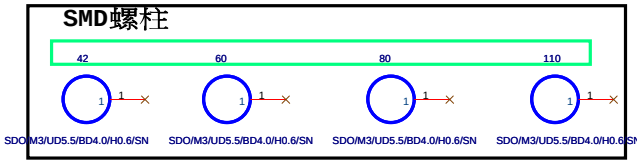


支援SATA and M.2 function



* Footprint : NGFF-M-75P-11CM-3-SMD





* Footprint : HOLE_C236D165-A

M.2 有插卡/沒插卡 GPP_G0	M.2插何種卡？ GPP_G1	SATA Express 插何種硬碟？ GPP_E0/E2/F1	IO15 (S0)	IO16 (S1)	IO17	IO18	IO19 (S0)	IP20 (S1)
有插卡 (Low)	SATA Mode (Low)	SATA (Hi)	SATA (M.2)	PCIE x1	PCIE x1	PCIE X1	PCIE x1	SATA
		SATA Express (Low)	SATA (M.2)	PCIE x1	PCIE x1	PCIE x1	SATA Express	
	PCIE Mode (Hi)	SATA (Hi)	PCIE x4 (For M.2)				SATA	SATA
		SATA Express (Low)	PCIE x4 (For M.2)				SATA Express	
沒插卡 (Hi)	Don't Care (Hi)	SATA (Hi)	PCIE x4				SATA	SATA
		SATA Express (Low)	PCIE x4				SATA Express	

Gigabyte Technology

Title: M.2 X4

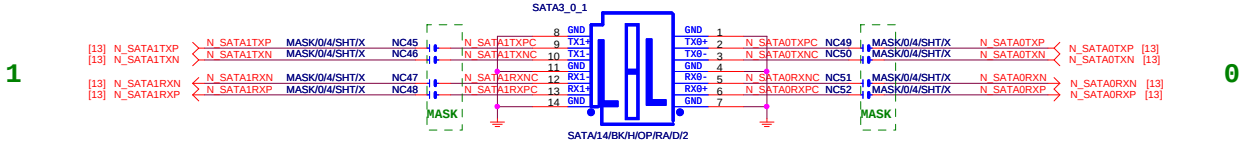
Size: Custom | Document Number: GA-Z270M-D3P | Rev: 1.01

Date: Monday, December 19, 2016 | Sheet 23 of 55

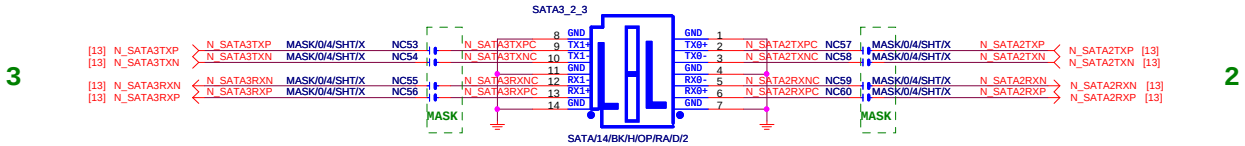
Footprint : H2X7-SATA2-D90

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

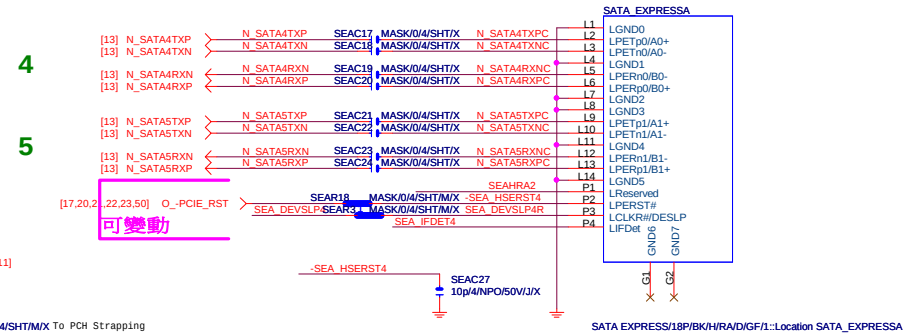
IO19/IO20 To SATA3 port0/1



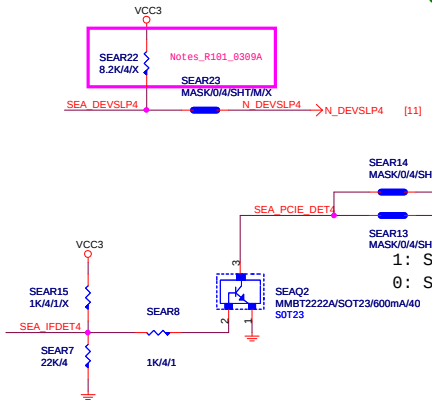
IO21/IO22 To SATA3 port2/3



單層 IO23/IO24 To SATA3 port4/5



SATA EXPRESS/18P/BK/H/RA/D/GF/1::Location SATA_EXPRESSA



SATA EXPRESS 訊號 SATA EXPRESS 文字面

SATA 1	SATA 3		
SATA 0	SATA 2	SATA 5	SATA 4

SATA 5 (文字面寫SATA 1)
SATA 4 (文字面寫SATA 0)
SATA 3
SATA 2
SATA 1 (文字面寫SATA 5)
SATA 0 (文字面寫SATA 4)

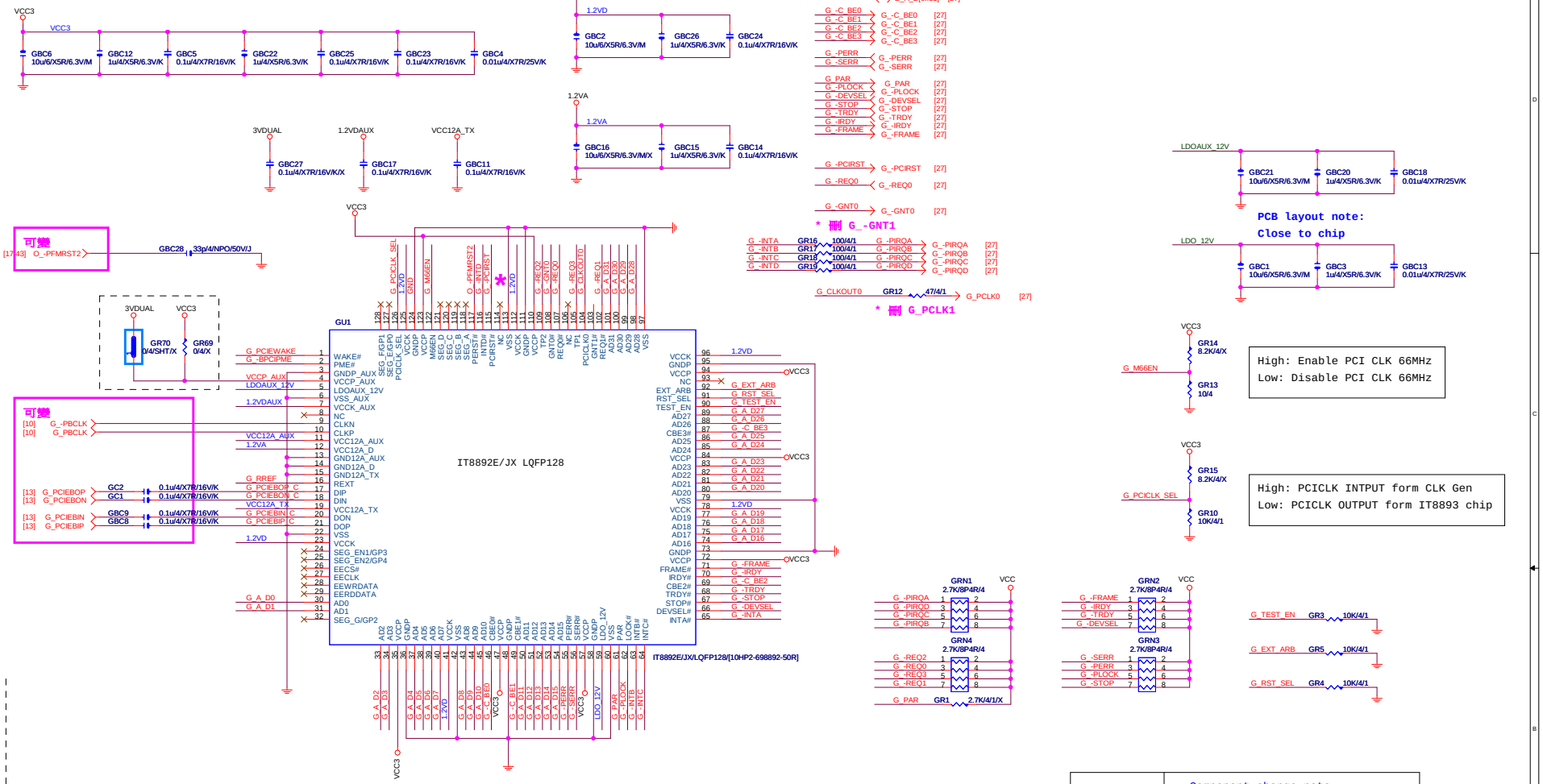
Gigabyte Technology

Title: SATA EXPRESS

Size: Custom | Document Number: GA-Z270M-D3P | Rev: 1.01

Date: Monday, December 19, 2016 | Sheet 24 of 55

Rev 0.1

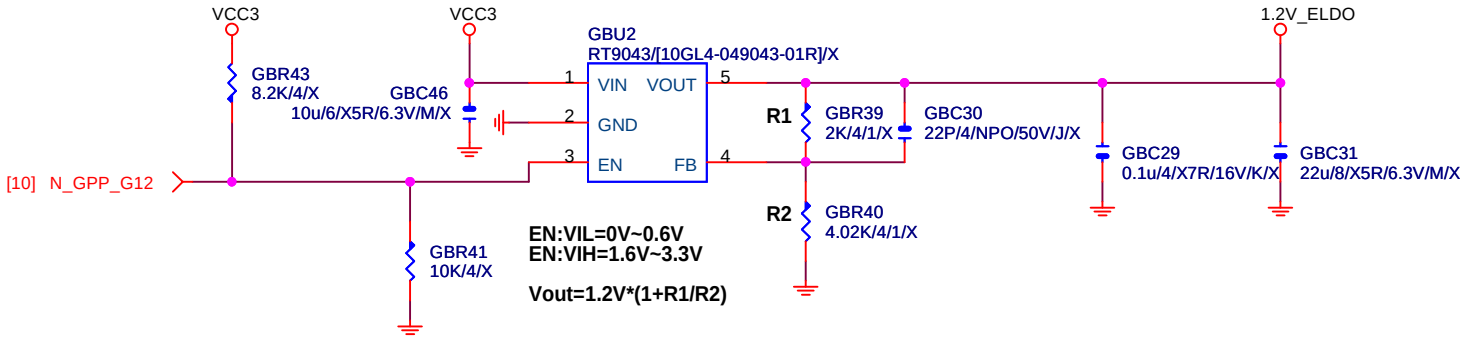


	Component change note
IT8892FX	GR70,GR74,GR76,GR78,GR66 : ON GR69,GR73,GR75,GR77,GR67 : NC GR44 resistor is 12k ohm GL14,GL10,GL16,GL17 : ON GL19,GL21,GL23,GL25: NC
IT8892JX	GR70,GR73,GR75,GR78,GR66 : ON GR69,GR74,GR76,GR77,GR67 : NC GR44 resistor is 18k ohm GL14,GL10,GL16,GL17 : ON GL19,GL21,GL23,GL25: NC
External LDO Power (IT8892JX)	GR69,GR73,GR75,GR77,GR67 : ON GR70,GR78,GR66 : NC GR44 resistor is 18k ohm GL19,GL21,GL23,GL25 : ON GL14,GL10,GL16,GL17 : ON

Gigabyte Technology		
Title	IT8892E_JX	
Size: Custom	Document Number: GA-Z270M-D3P	Rev: 1.01
Date: Monday, December 19, 2016	Sheet 25 of 55	

Rev 0.1

*** 全部不上件**

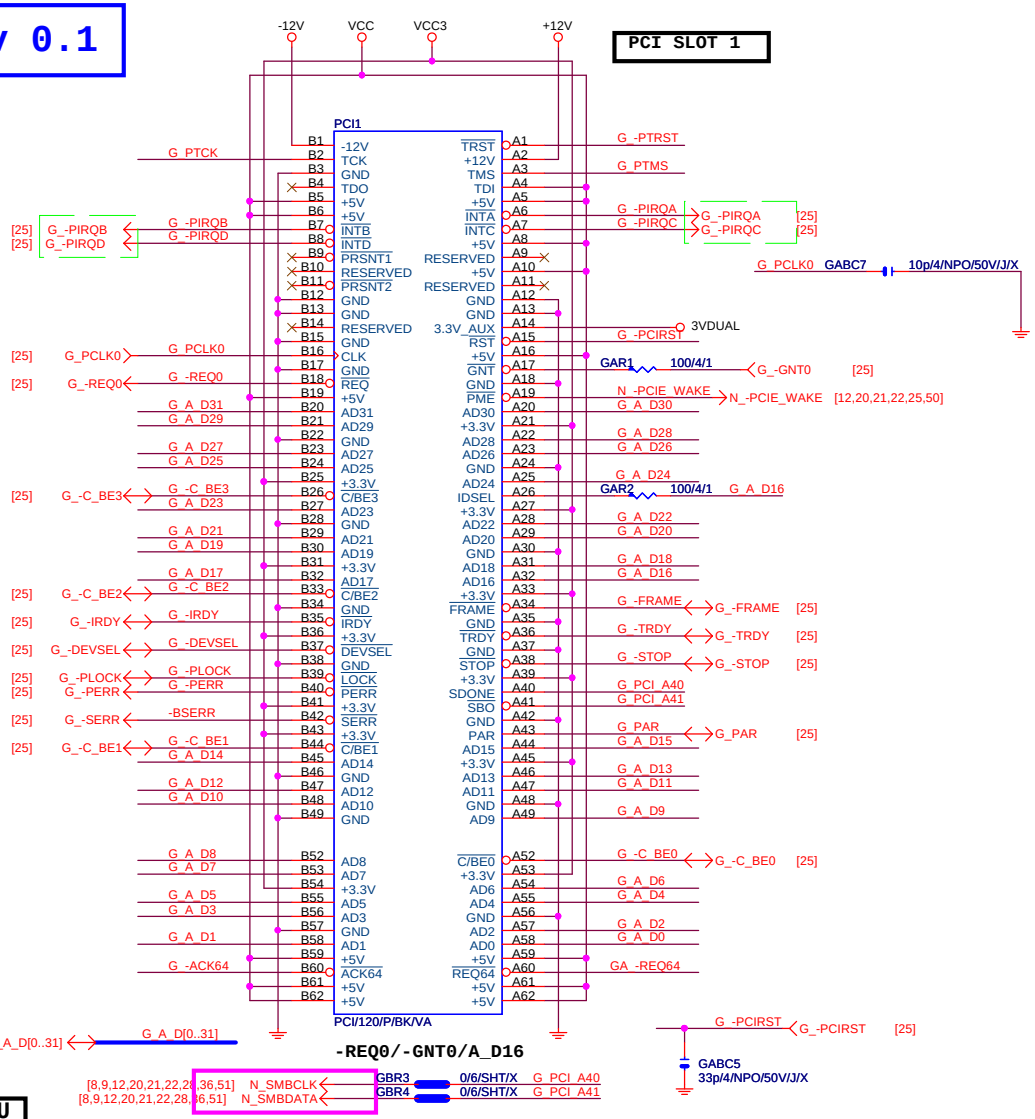


Gigabyte Technology

Title	LDO POWER		
Size: Custom	Document Number: GA-Z270M-D3P		Rev: 1.01
Date: Monday, December 19, 2016	Sheet 26 of 55		

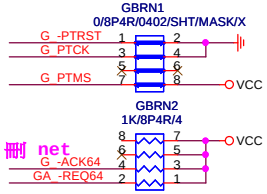
Rev 0.1

PCI SLOT 1

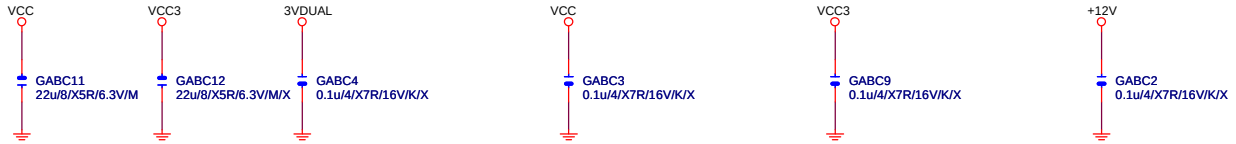


PCI PU

footprint改為R8P4R-0402-SHORT-MASK



PCI CAP



GIGABYTE™

Title	PCI SLOT 1	
Size: Custom	Document Number: GA-Z270M-D3P	Rev: 1.01
Date: Monday, December 19, 2016	Sheet 27 of 55	

0.2 (IRON CHOKE)

VCORE_SIO — VCORE
VCORE_VS
MASK/0/4/SHT/M/X
請注意擺放位置

H:ISL95856 or ISL95858
L:ISL95866 or ISL95868
3VDUAL — NR400 8.2K/4 — N_GPP_C15 [12]
NR401 8.2K/4/X
close to PCH

*Del DAR135

DC-LL --> 2.1mohm
DC-LL --> 3.1mohm
close PWM

DAR44-->604 ohm
OCP-->160A

DAR71-->499 ohm
OCP-->74A

for ISL95856 DISABLE PH3

CLOSE DA_DL1 DC SIDE
CLOSE DE_DL1 DC SIDE
CLOSE ?
CLOSE PWM

VCORE	ISL95856	ISL95866
DAR137	X	V
DAR138	V	X
DAR139	X	V
DAC15	V	X
DAR79	V	X
DAR33	V	X

VCCGT	ISL95856	ISL95866
DAR140	X	V
DAR141	V	X
DAR142	X	V
DAC27	V	X
DAR80	V	X
DAR51	V	X

不上件 — DAR123 1K/4/1/X — DAR124 8.2K/4 — DAQ3 MMBT2222A/SOT23/600mA/40 — 連接至PCH:GPP_G14

不上件 — DAR120 1K/4/1/X — DAR121 8.2K/4 — DAQ1 MMBT2222A/SOT23/600mA/40 — 連接至PCH:GPP_G15

DAR131 for DC-LL change to 0.4m ohm
不上件 — DAR133 1K/4/1/X — DAR134 8.2K/4 — DAQ7 MMBT2222A/SOT23/600mA/40 — Z系列才需要留 — 連接至PCH GPP_G13

Title	ISL95866_PWM
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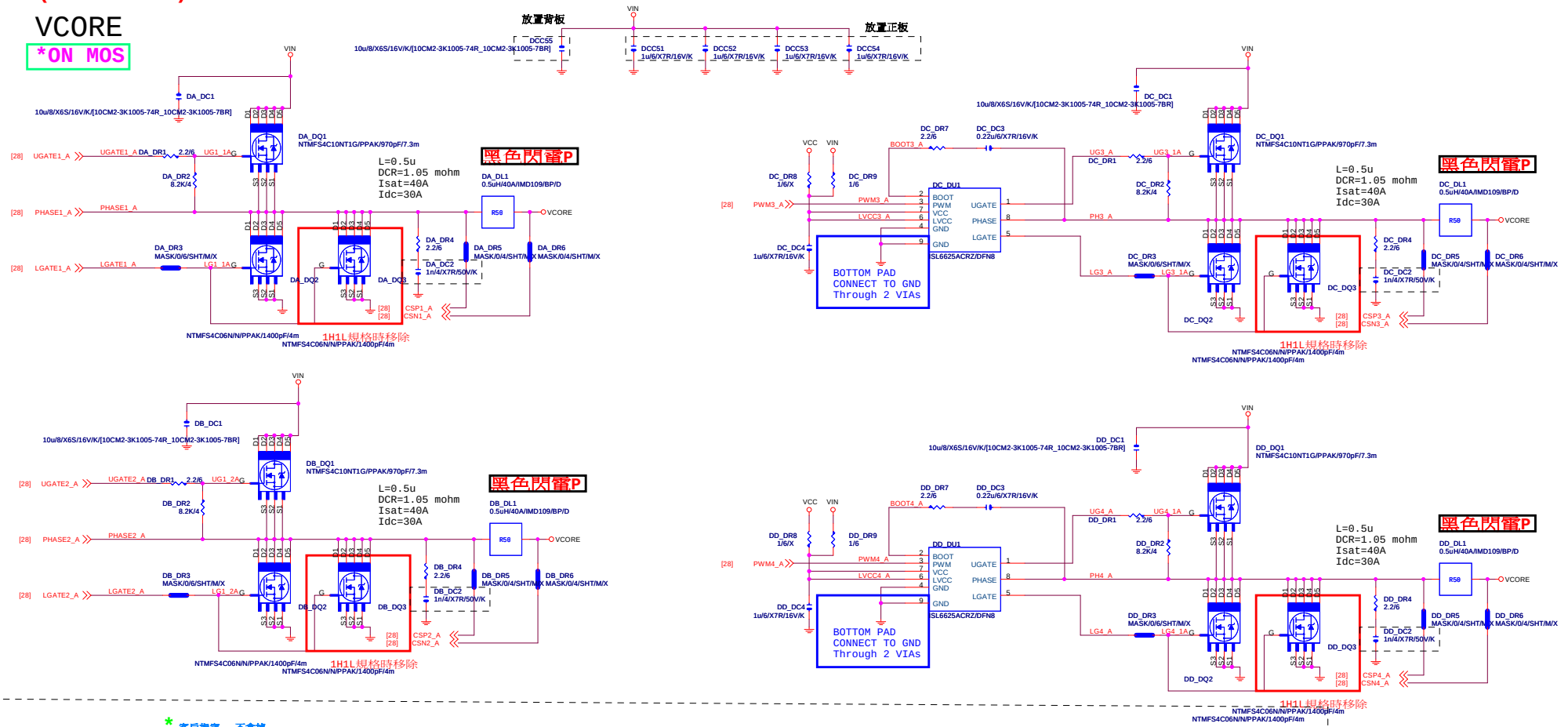
0.2 (IRON CHOKE)

VCORE

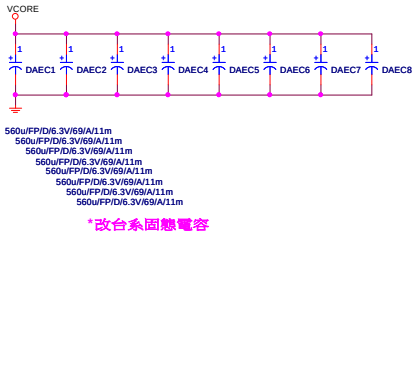
*ON MOS

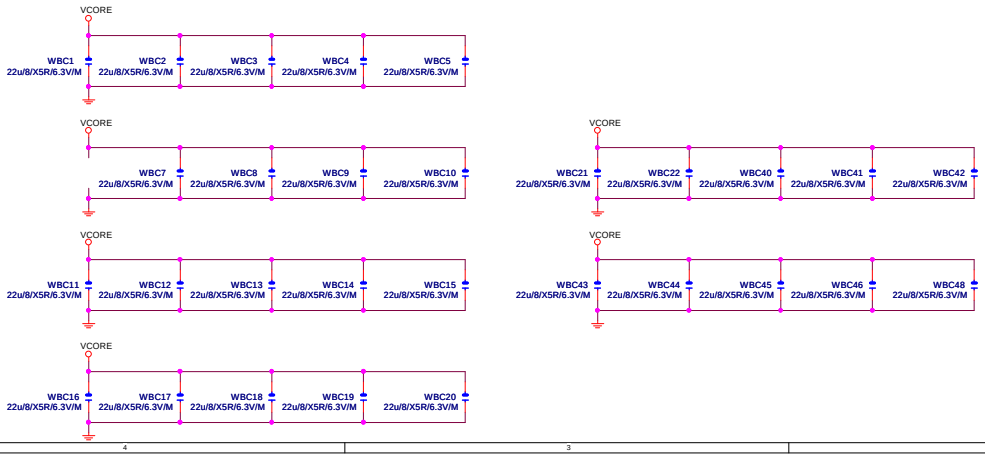


VCORE CAP

* 客戶指定，不拿掉

560u*8PCS
22u*29PCS



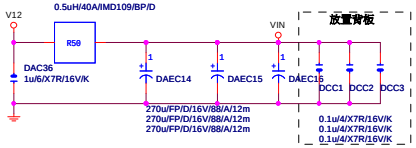


VIN CAP

*改台系固態電容

270u*3PCS

黑色閃電P



GIGABYTE™

Title	ISL95866_MOS_VCORE	
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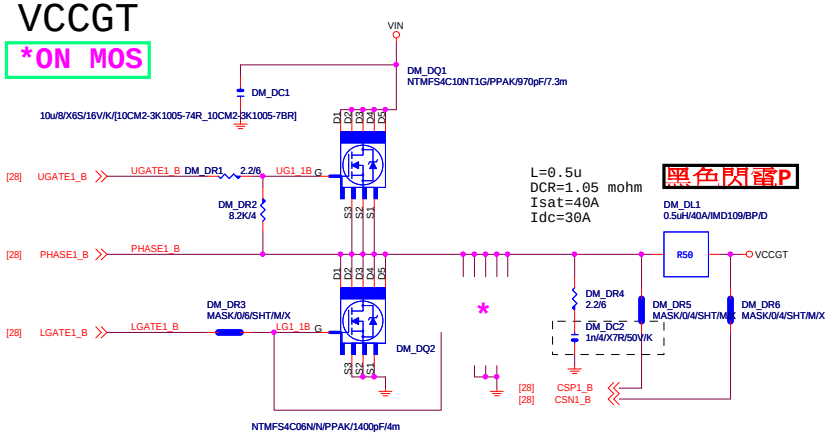
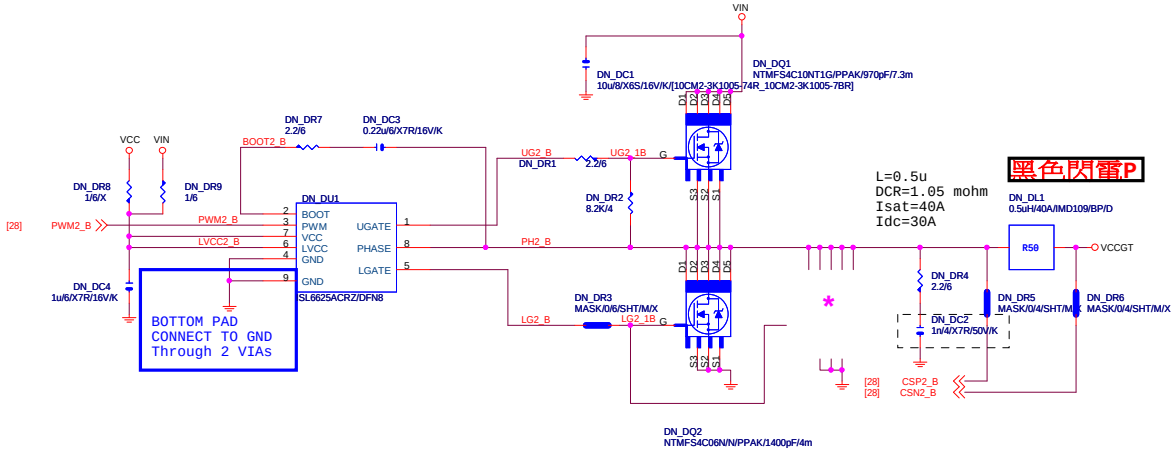
0.2 (IRON CHOKE)

VCCGT

*ON MOS

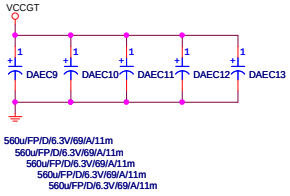




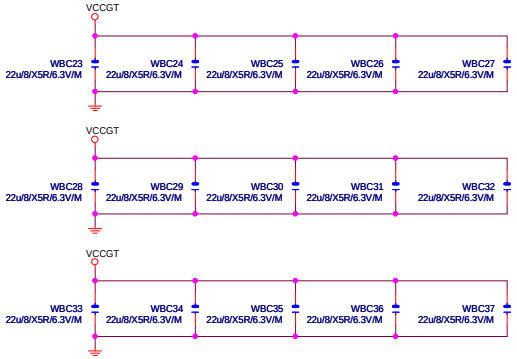
VCCGT CAP

* 客戶指定，不拿掉

560u*5PCS
22u*15PCS



*改台系固態電容



GIGABYTE™

Title	ISL95866_MOS_VCCGT		
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VCCIO

REV:0.22

L=1u
DCR=6.7 mohm
Isat=15A
Idc=12A

CHOKE與CAP料號可變

合金CHOKE

注意耐壓

6*6

Close Choke

Close MOS

RT8120DGS/SOP8

放靠近IC pin4

OCP=30A

Remote sense請從最重的負載端點拉回

0.8*(1+RS/RO) = Vout
0.8*[1+2K/8K)] =
1.0V

有使用CPU POWER時DCR22不上件

*Del DCR34

Connect to IT8686

放CPU端.

VCCSA

for DDR4 短頻
VCCSA 刪除DC_SBC7 ,DC_SBC8 ,
3.層顯, CPU底部銅箔 & VIA 照範本貼

SIO PIN5 . PIN7 用在其他function時使用

SIO PIN5接VDDQ . PIN7接VCCIO .時使用

*Del DCR36

Connect to IT8686

Title	VCCSA_VCCIO		
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DDR4

REV:0.2(IRON CHOKE)

L=0.5u
DCR=2.1 mohm
Isat=20A
Idc=15A

DDR VIN CAP
560u*2PCS

黑色閃電P

SUPPORT DDR4 1.2V

25A MAX

L=1u
DCR=2.5 mohm
Isat=35A
Idc=28A

*ON MOS

OCP=40A

FREQ=300KHZ

放靠近IC pin4

CLOSE TO DDR POWER PLANE

VDDQ_SIO VDDQ

DDR_VS
MASK/0/4/SHT/M/X

MOSFET請依MOSFET使用規則.自行選擇
ON-->10IF9-040406-10R[NTMFS4C06N/N/PPAK/1400pF/4m]
VISHAY-->10IF9-040012-10R[SIRA12DP/PPAKSO8/2070pF/4.3m]

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

PWR SEQ

For power sequence require

* Del MAR112

Connect to IT8686

DDRVTT

1.1A MAX

DDR CAP

560u*4PCS

* 大電容 x4

22u*2PCS

DDRVTT CAP

* 大電容 x0

[4] DDR_VTT_CTL
[12,17,50,52] N_-SLP_S3

MAU1上NCT3103S時上件

GIGABYTE

Title	RT8120_DDR POWER		
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VPP_25V

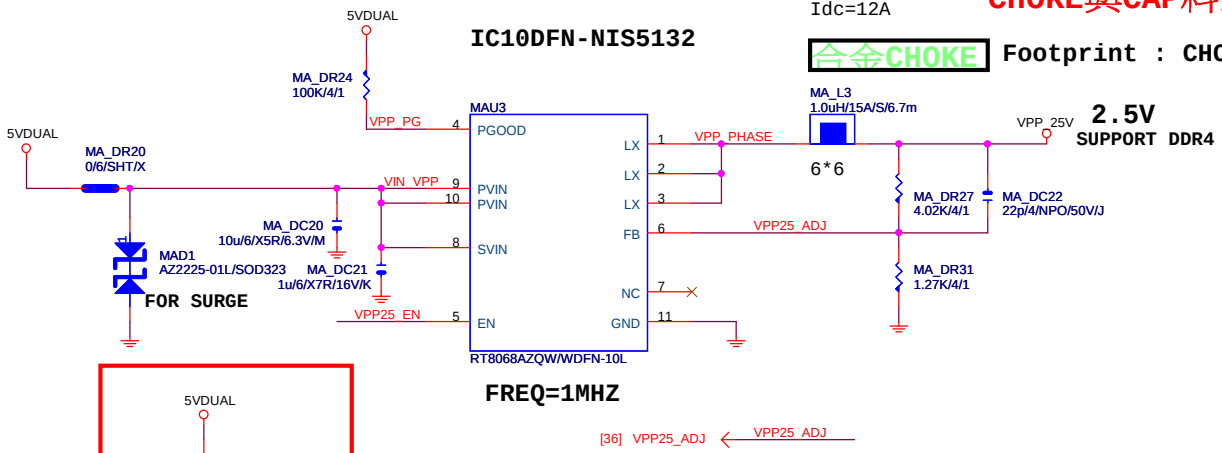
REV:0.2

L=1u
DCR=6.7 mohm
Isat=15A
Idc=12A

CHOKE與CAP料號可變

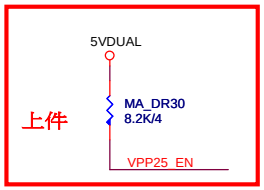
合金CHOKE Footprint : CHOKE6X6mm_SMD-1

IC10DFN-NIS5132

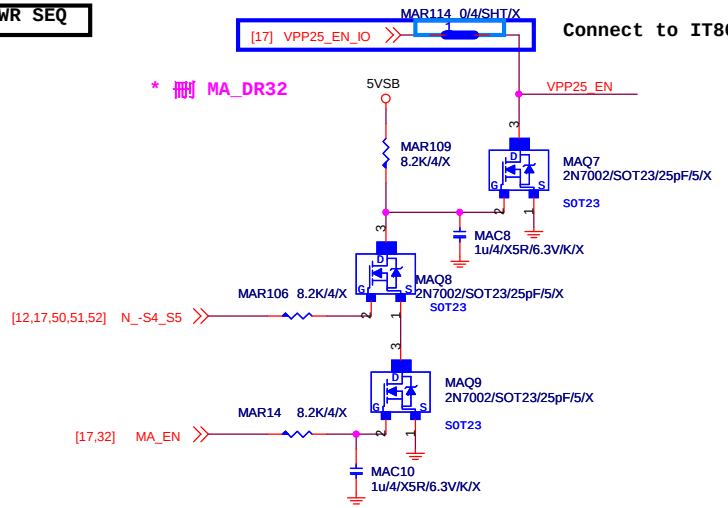


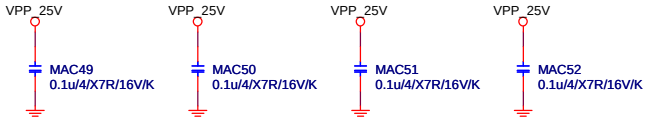
FREQ=1MHZ

[36] VPP25_ADJ ← VPP25_ADJ



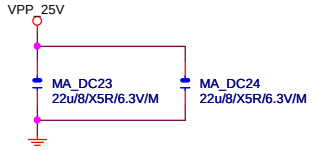
PWR SEQ





VPP CAP 22u*2PCS

* 大電容 x0



GIGABYTE™

Title	RT8068A_VPP25 POWER		
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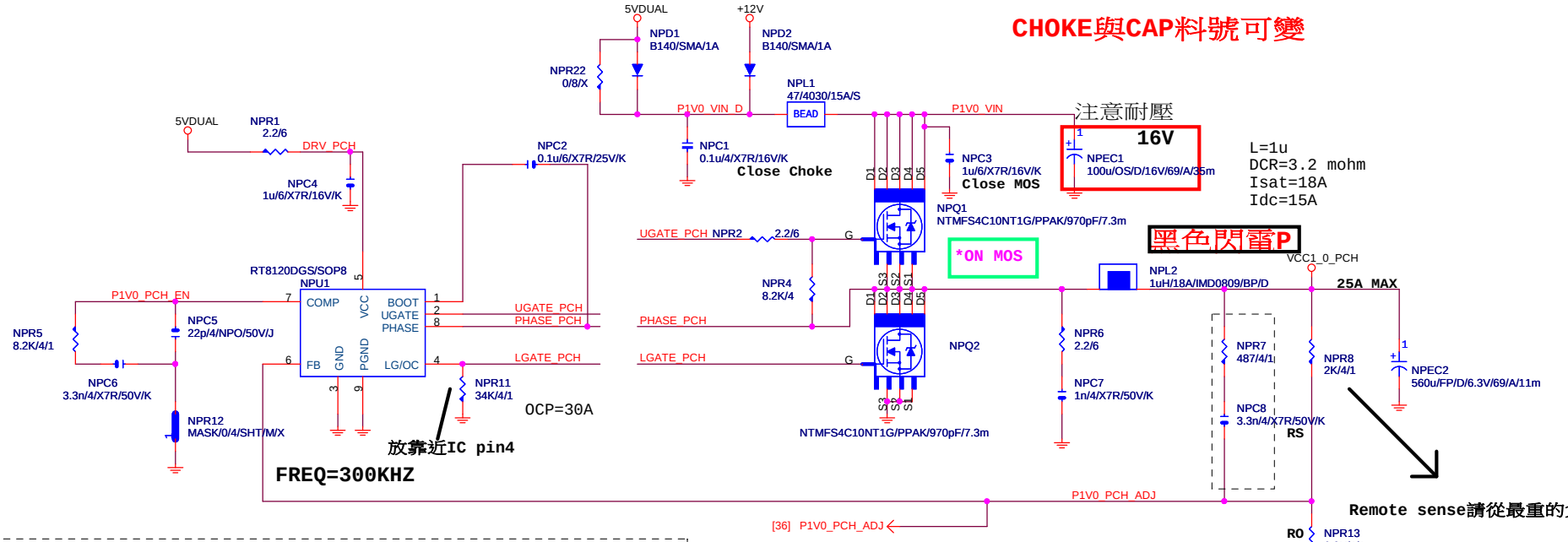
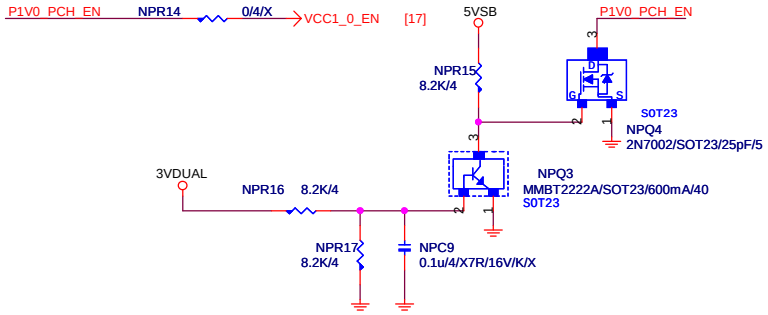
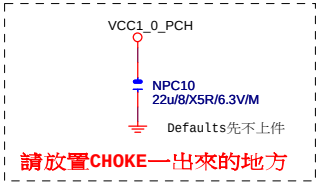
VCC1_0_PCH

REV:0.2(IRON CHOKE)



PWR SEQ





GIGABYTE™

Title	RT8120_PCH POWER	
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5VDUAL

REV:0.51

* 5Vdual , update from SKL 0.2B

*ON MOS

+12V
Q30
NTMFS4C10NT1G/PPAK/970pF/7.3m
R57
8.2K/4
5VDUAL
5VDL_G1
5VSB
R51
8.2K/4
2N7002/SOT23/25pF/5
Q32
S0T23
Q54
MMBT2222A/SOT23/600mA/40
S0T23
C41
1n/4/X7R/50V/K/X
VCC
Q31
P2003ED/P/TO252/30m
P_EN
5VSB
BC59
22u/8/X5R/6.3V/M
BC58
22u/8/X5R/6.3V/M
[17] 5VAUX_SW
R113
8.2K/4
5VSB
R52
1K/4/1
[17] 5VAUX_SW
R53
1K/4/1
R56
100K/4/1/X
C23
0.1u/4/X7R/16V/K

3VDUAL

5VDUAL
BC27
0.1u/4/X7R/16V/K
3VDUAL
3VDUAL
Q4
L1085DG/TO252/5A
R37
100/4/1
R38
169/4/1
3VDUAL
R36
22K/4
O_-RSMRST [12,17]
BC25
0.1u/4/X7R/16V/K
C9
22u/8/X5R/6.3V/M
C8
1n/4/X7R/50V/K
上22u 電容
Meet the rise time

Rise/Fall max 50us
Rise:20% - 80%
Fall :2V- 0.8V

3VDUAL_PCH

NQ9
L1117LG/N/SOT223/1A
3VDUAL_PCH
5VSB
3VDUAL_PCH
NBC68
1u/4/X5R/6.3V/K
NR217
301/4/1
NBC66
22u/8/X5R/6.3V/M
NBC67
0.1u/4/X7R/16V/K
NR218
510/4/1

O_-RSMRST (不上件)

O_-RSMRST
5VSB
NR202
22K/4/X
S0T23
NQ19
2N7002/SOT23/25pF/5/X
3VDUAL
NQ18
MMBT2222A/SOT23/600mA/40/X
S0T23
NR203 75K/4/1/X
NR204 27K/4/1/X
NC23 1u/4/X5R/6.3V/K/X
At least 10ms delay after 3VDUAL stabel
D4
[12] N_-DEPSLP
BAT54A/SOT23/200mA/X
S0T23

Gigabyte Technology		
Title: DISCRETE POWER		
Size: Custom	Document Number: GA-Z270M-D3P	Rev: 1.01
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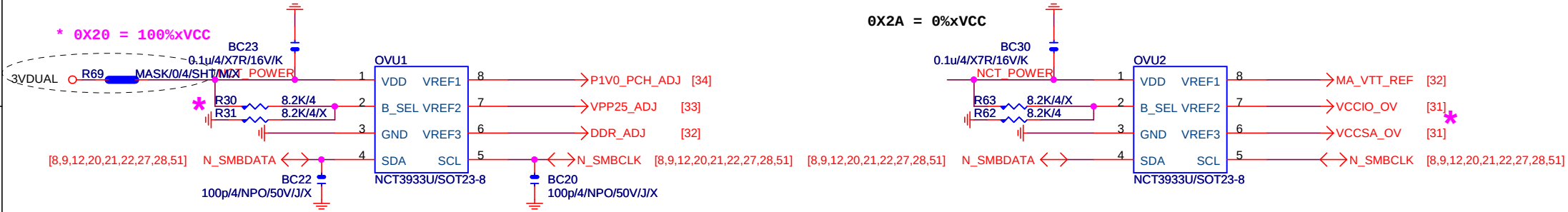
OVER VOLTAGE



0X22 = 75%xVCC

* 刪除 OVU3

NCT3933	0X20	0X2A
VREF1	VCC1_0_PCH	DDRVTT
VREF2	VPP_25V	VCCIO
VREF3	VDDQ	VCCSA

Gigabyte Technology

Title: CPU CORE VR-2

Size: Custom | Document Number: GA-Z270M-D3P | Rev: 1.01

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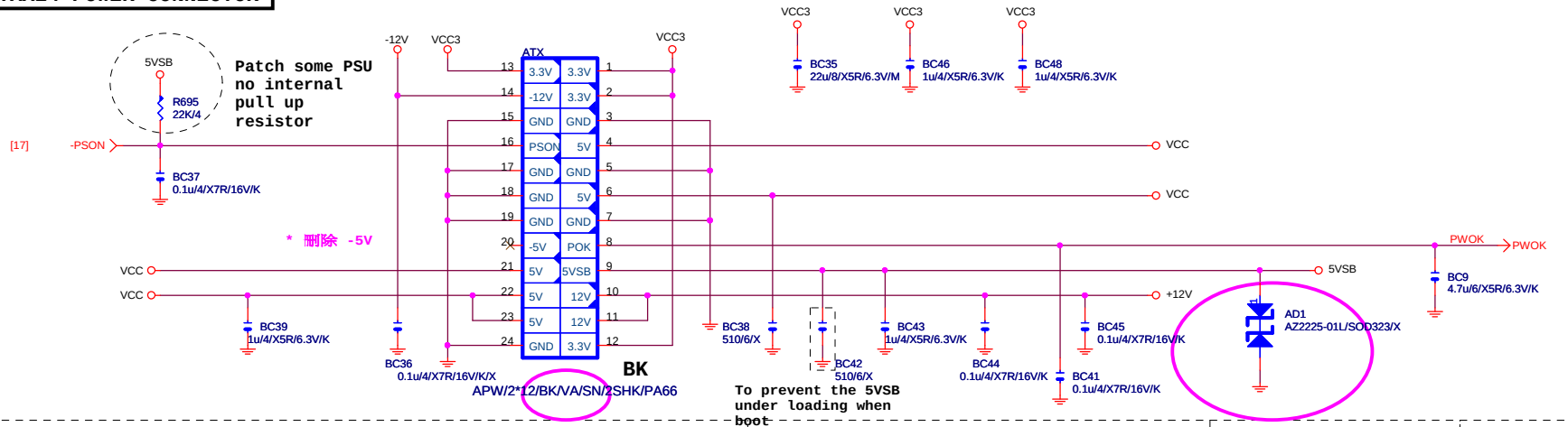
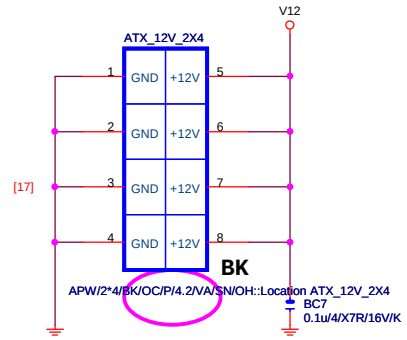
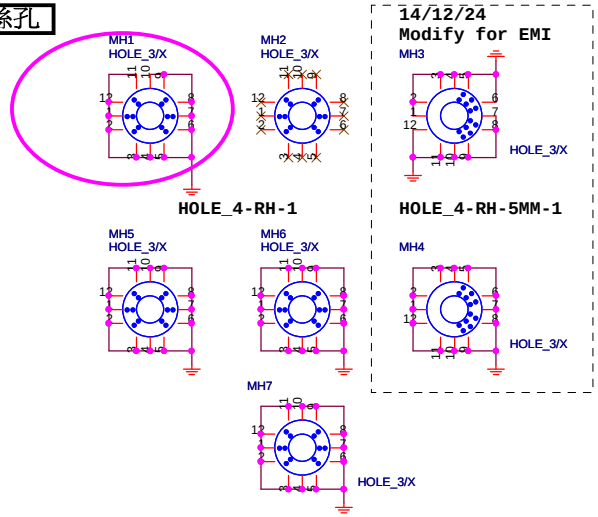
ATXX24 POWER CONNECTOR



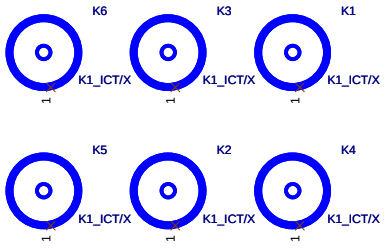
ATXX4 POWER CONNECTOR

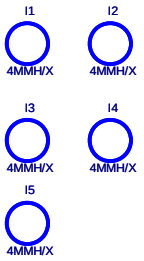


螺絲孔

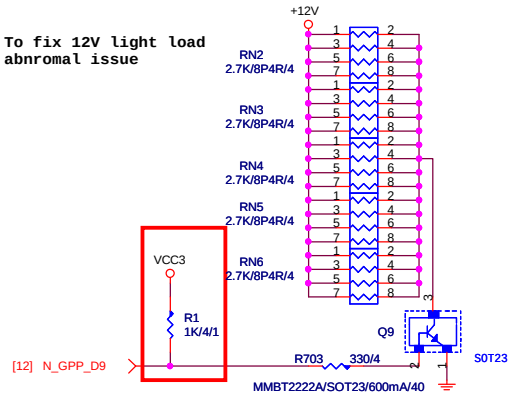


固定孔/光學點



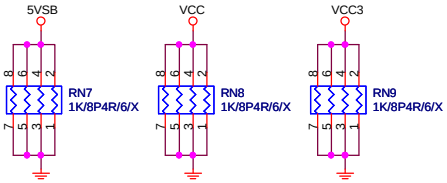


+12V DUMMY LOAD

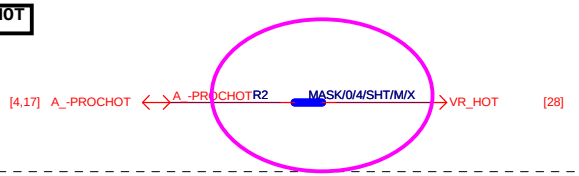


【技術通報R&D技術通報153】

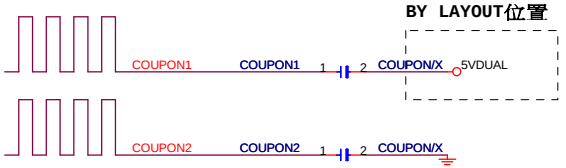
DUMMY LOAD



-PROHOT



COUPON



Gigabyte Technology

Title: ATX POWER CONNECTOR

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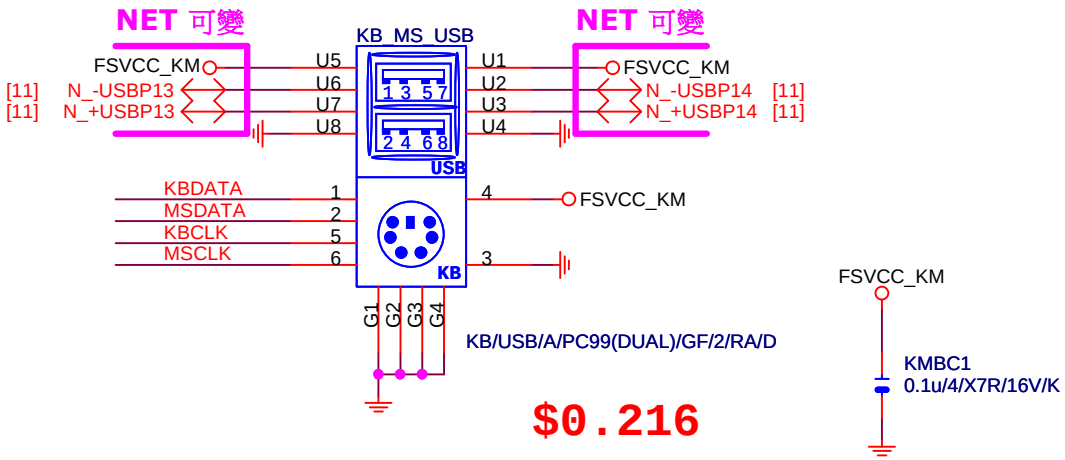
KB_MS_USB

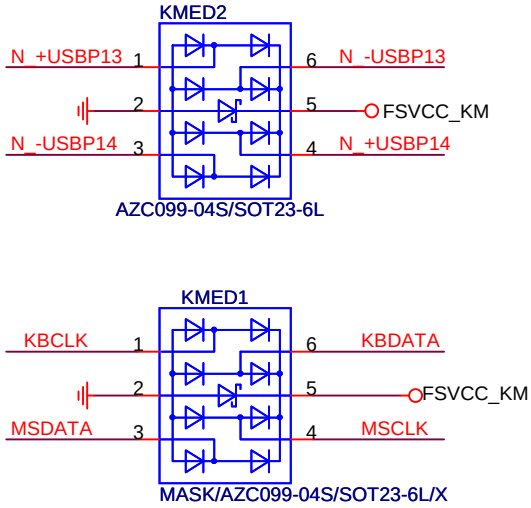
Rev: 0.82

改回原來的上USB, 下PS2

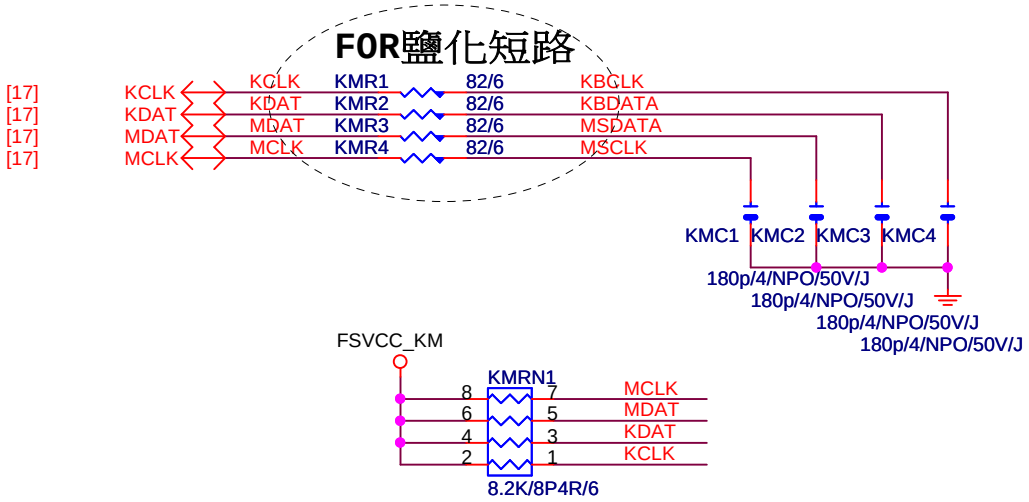


ESD

***SWAP KMED2**

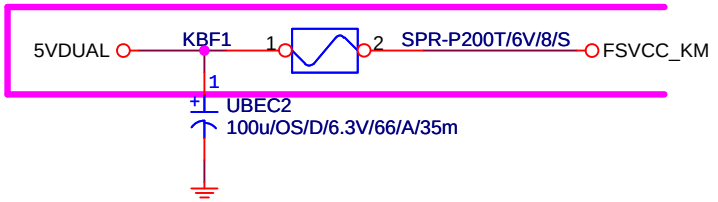


KB_MS_USB DAMPING/PU

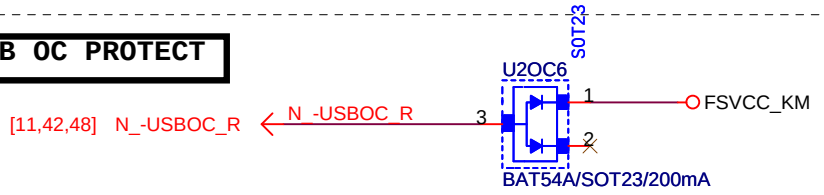


KB_MS_USB PWR

NET 可變, 與其他USB SHARE



USB OC PROTECT



Gigabyte Technology			
Title: **KB_MS_USB**			
Size: A	Document Number: **GA-Z270M-D3P**		Rev: **1.01**
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DVI

Rev: 0.82

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

NET 可變

[4] DVI_TXC
[4] DVI_TXC-
VBC1 0.1u/4/X7R/16V/K DVITXC+ VR1 680/4/1
VBC2 0.1u/4/X7R/16V/K DVITXC- VR2 680/4/1

[4] DVI_TX0
[4] DVI_TX0-
VBC3 0.1u/4/X7R/16V/K DVITX0+ VR3 680/4/1
VBC4 0.1u/4/X7R/16V/K DVITX0- VR4 680/4/1

[4] DVI_TX1
[4] DVI_TX1-
VBC5 0.1u/4/X7R/16V/K DVITX1+ VR7 680/4/1
VBC7 0.1u/4/X7R/16V/K DVITX1- VR8 680/4/1

[4] DVI_TX2
[4] DVI_TX2-
VBC8 0.1u/4/X7R/16V/K DVITX2+ VR9 680/4/1
VBC9 0.1u/4/X7R/16V/K DVITX2- VR10 680/4/1

DVI_G

VQ1
2N7002/SOT23/25pF/5
SOT23

VCC VR16 8.2K/4 VQ1_2

DVI_SCL

VQ2
2N7002/SOT23/25pF/5
SOT23

VCC VR17 1K/4/1 VQ2_2 N_DDPD_CTRLCLK

★Update 2016.06.20

DVI_SDA

VQ3
2N7002/SOT23/25pF/5
SOT23

VCC VR18 1K/4/1 VQ3_2 N_DDPD_CTRLDATA

★Update 2016.06.20

DVI PU

VCC

防漏電 ★Update 2015.05.27

VD1
BAT54A/SOT23/200mA
SOT23

VR14 2.2K/4/1
VR13 2.2K/4/1

DVI_SDA
DVI_SCL

[10] N_DDPD_CTRLCLK
[10] N_DDPD_CTRLDATA
VR5 2.2K/4/1
VR6 2.2K/4/1
VCC3

VBC6
0.1u/4/X7R/16V/K/X

DVI_HP

VQ4
2N7002/SOT23/25pF/5
SOT23

VCC3
VR20 1M/4

VCC VR19 8.2K/4 VQ4_2 N_DVI_HDP_F

N_DVI_HDP_F [10]

DVI CONN

NET 可變

FSVCC_KM

DVITX0-
DVITX0+
DVITX1-
DVITX1+
DVITX2-
DVITX2+
DVI_SCL
DVI_SDA
DVITXC-
DVITXC+
DVI_HP

VR15 20K/4/1

M1 M2 M5 M6 M7 M8

DVI

COMMON

DVI-30P-4P-1

DVI-D/24P/SC/RA/D/SH

平躺式 DVI-D

11NR6-501024-31

ESD

NET 可變

FSVCC_KM

VBC10
0.1u/4/X7R/16V/K

VESD3
AZC099-04S/SOT23-6L

DVI_SDA
DVI_HP
DVI_SCL

NET 可變

FSVCC_KM

Close to connector

VESD2
AZ1045-04F/MSOP10

DVITX1+
DVITX1-
DVITX2-
DVITX2+

Close to connector

VESD1
AZ1045-04F/MSOP10

DVITXC+
DVITXC-
DVITX0-
DVITX0+

* swap

Close to connector

Gigabyte Technology			
Title: DVI			
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Rev: 0.82

Dual Display Port

DNG_DET Hi=HDMI output, Low=DP output.

DNG_DET_B Hi=HDMI output, Low=DP port output.

NET FROM CPU 可變

Connect to related pin.

DUAL_DP

DISPLAY2/40P/BK/RA/D/G15u

Close to connector

AZ1045-04F/MSOP10

Title	DP PORT		
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FRONT PANEL

Rev: 0.82

★Update 2016.06.15

VCC, VCC3, VCC

FPR22 8.2K/4/X

FPR6 330/6

FPR1 330/6/X

FPBC1 0.01u/4/X7R/25V/K/X

5VDUAL

* 刪FPP23 , FPP7

FPR2 330/6

MPD+

3VDUAL_PCH

FPR3 8.2K/4

[17]

F_PANEL

HD+ 1 — HD+ MSG/PD+ 2 — MPD+

-HDLED 3 — HD- MSG/PD- 4 — MPD- ≫ MPD-

★Update 2015-02-11

5 — GND PW+ 6 — -PWRBT_1

[12] N_-SYS_RST — FPR5 100/4/1 — -RST 7 — RESET PW- 8

9 — CI-

FPBC2 0.01u/4/X7R/25V/K

-CASEOPEN 11 — CI+

SP+ 14 — VCC

MPD+ 15 — PWR+ NC 16

MPD- 17 — PWR- NC 18

19 — PWR- SP- 20 — SPK-

FPR9 33/4

-PWRBTSW [17]

FPC1 0.01u/4/X7R/25V/K/X

FPBC3 0.01u/4/X7R/25V/K

BH/2*10K10,12,13/BK/2.54/VA/PA/[11NH3-000210-F1R]

Update 2015.01.08

Footprint=F_PANEL-100

ESD

FPESD1

-PWRBT_1 1 — 6 — -PWRBT_1

2 — 5 — 3VDUAL_PCH

-RST 3 — 4 — -HDLED ★Update 2015-02-11

AZC099-04S/SOT23-6L

CASE OPEN

[12,14] N_RTCVDD — FPR8 1M/4 — -CASEOPEN — -CASEOPEN [17]

FPBC4 0.01u/4/X7R/25V/K

SATA/M.2 LED

FPD2

[13] N_-SATALED

[23] -M2A_LED

-HDLED

BAT54A/SOT23/200mA

SOT23

Fix some M.2 cause HD_LED always on.

★Update 2016.06.15

Now , inport , Pull High (IO_GP27)

,IO_GP26 ouport

SPKR W/O EC

VCC

FPD1 1N4148W/SOD123/300mA

SOD123

VCC3

FPR16 1K/4/1/X

FPQ6

SPK- — FPR13 75/4/1 — FPR14 75/4/1

FPR15 8.2K/4

N_SPKR [12,17]

MMBT2222A/SOT23/600mA/40

FPQ5

MMBT2222A/SOT23/600mA/40

SOT23

VCC — FPR17 1K/4/1

FPR18 8.2K/4

FPQ7

2N7002/SOT23/25pF/5

SOT23

[17] BEEP-

For SPKR voltage issue. FPQ6=>2222, FPQ7=>7002

Gigabyte Technology

Title: FRONT PANEL

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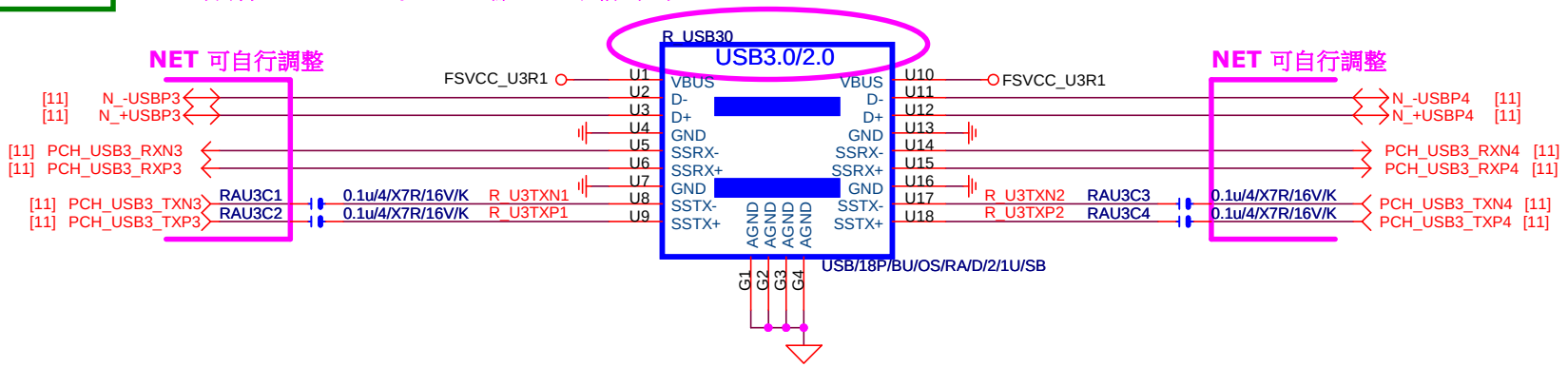
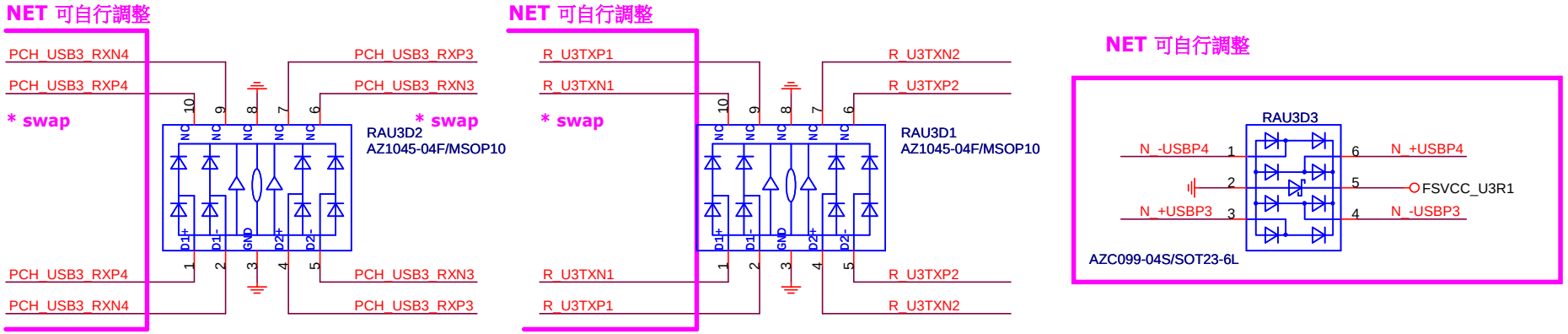
Rev: 0.82

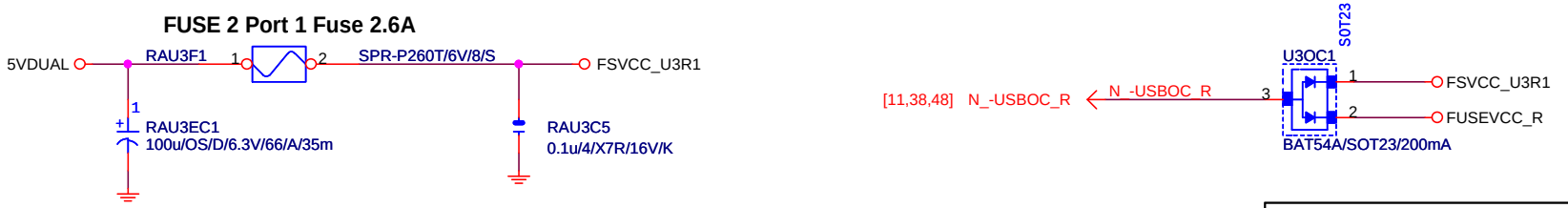
ESD 可自行SWAP PIN ,CONN端 NET 名稱 不可



ESD



FUSE



Gigabyte Technology		
Title: R_USB30,USB_OC		
Size: Custom	Document Number: GA-Z270M-D3P	Rev: 1.01
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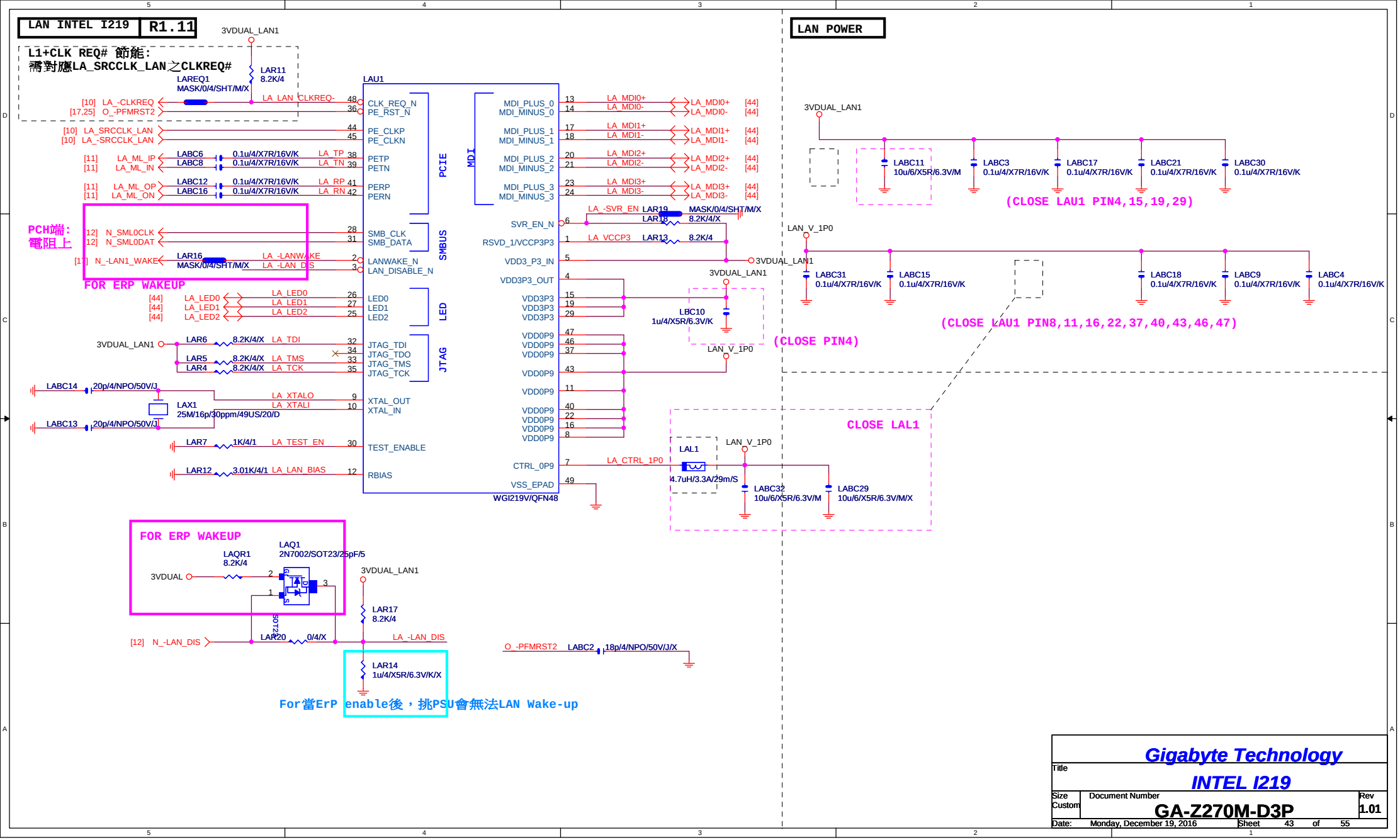
LAN INTEL I219 R1.11
L1+CLK REQ# 節能:
需對應LA_SRCCLK_LAN之CLKREQ#
3VDUAL_LAN1
LAR11 8.2K/4
LAREQ1 MASK/0/4/SHT/M/X
LA_LAN_CLKREQ-
[10] LA_-CLKREQ
[17,25] O_-PFMRST2
LAU1
CLK_REQ_N
PE_RST_N
PE_CLKP
PE_CLKN
PETP
PETN
PERP
PERN
PCIE
MDI
MDI_PLUS_0
MDI_MINUS_0
MDI_PLUS_1
MDI_MINUS_1
MDI_PLUS_2
MDI_MINUS_2
MDI_PLUS_3
MDI_MINUS_3
[10] LA_SRCCLK_LAN
[10] LA_-SRCCLK_LAN
[11] LA_ML_IP
[11] LA_ML_IN
[11] LA_ML_OP
[11] LA_ML_ON
LABC6 0.1u/4/X7R/16V/K
LABC8 0.1u/4/X7R/16V/K
LABC12 0.1u/4/X7R/16V/K
LABC16 0.1u/4/X7R/16V/K
LA_TP
LA_TN
LA_RP
LA_RN
PCH端:
電阻上
[12] N_SML0CLK
[12] N_SML0DAT
SMB_CLK
SMB_DATA
SMBUS
[17] N_-LAN1_WAKE
LAR16 MASK/0/4/SHT/M/X
LA_-LANWAKE
LA_-LAN_DIS
LANWAKE_N
LAN_DISABLE_N
FOR ERP WAKEUP
[44] LA_LED0
[44] LA_LED1
[44] LA_LED2
LED0
LED1
LED2
LED
3VDUAL_LAN1
LAR6 8.2K/4/X LA_TDI
LAR5 8.2K/4/X LA_TMS
LAR4 8.2K/4/X LA_TCK
JTAG_TDI
JTAG_TDO
JTAG_TMS
JTAG_TCK
JTAG
LABC14 20p/4/NPO/50V/J
LABC13 20p/4/NPO/50V/J
LAX1 25M/16p/30ppm/49US/20/D
LA_XTALO
LA_XTALI
XTAL_OUT
XTAL_IN
LAR7 1K/4/1 LA_TEST_EN
TEST_ENABLE
LAR12 3.01K/4/1 LA_LAN_BIAS
RBIAS
WGI219V/QFN48
SVR_EN_N
RSVD_1/VCCP3P3
VDD3_P3_IN
VDD3P3_OUT
VDD3P3
VDD0P9
CTRL_0P9
VSS_EPAD
LA_-SVR_EN
LAR19 LAR18 MASK/0/4/SHT/M/X 8.2K/4/X
LA_VCCP3
LAR13 8.2K/4
LBC10 1u/4/X5R/6.3V/K
LAN_V_1P0
(CLOSE PIN4)
CLOSE LAL1
LAL1 4.7uH/3.3A/29m/S
LABC32 10u/6/X5R/6.3V/M
LABC29 10u/6/X5R/6.3V/M/X
LA_CTRL_1P0
FOR ERP WAKEUP
LAQ1 2N7002/SOT23/25pF/5
LAQR1 8.2K/4
3VDUAL
SOT23
LAR17 8.2K/4
LAR20 0/4/X
[12] N_-LAN_DIS
LA_-LAN_DIS
LAR14 1u/4/X5R/6.3V/K/X
O_-PFMRST2
LABC2 18p/4/NPO/50V/J/X
For當ErP enable後，挑PSU會無法LAN Wake-up
LAN POWER
LABC11 10u/6/X5R/6.3V/M
LABC3 0.1u/4/X7R/16V/K
LABC17 0.1u/4/X7R/16V/K
LABC21 0.1u/4/X7R/16V/K
LABC30 0.1u/4/X7R/16V/K
(CLOSE LAU1 PIN4,15,19,29)
LABC31 0.1u/4/X7R/16V/K
LABC15 0.1u/4/X7R/16V/K
LABC18 0.1u/4/X7R/16V/K
LABC9 0.1u/4/X7R/16V/K
LABC4 0.1u/4/X7R/16V/K
(CLOSE LAU1 PIN8,11,16,22,37,40,43,46,47)
Gigabyte Technology
Title
INTEL I219
Size Custom
Document Number
GA-Z270M-D3P
Rev 1.01
Date: Monday, December 19, 2016
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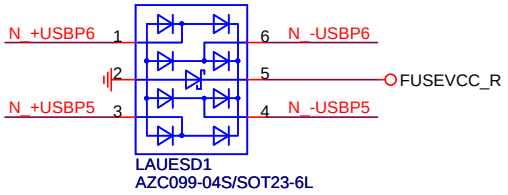
USB_LAN CONNECTOR R1.11

RMA ESD PROTECT

note:可變更USB NAME

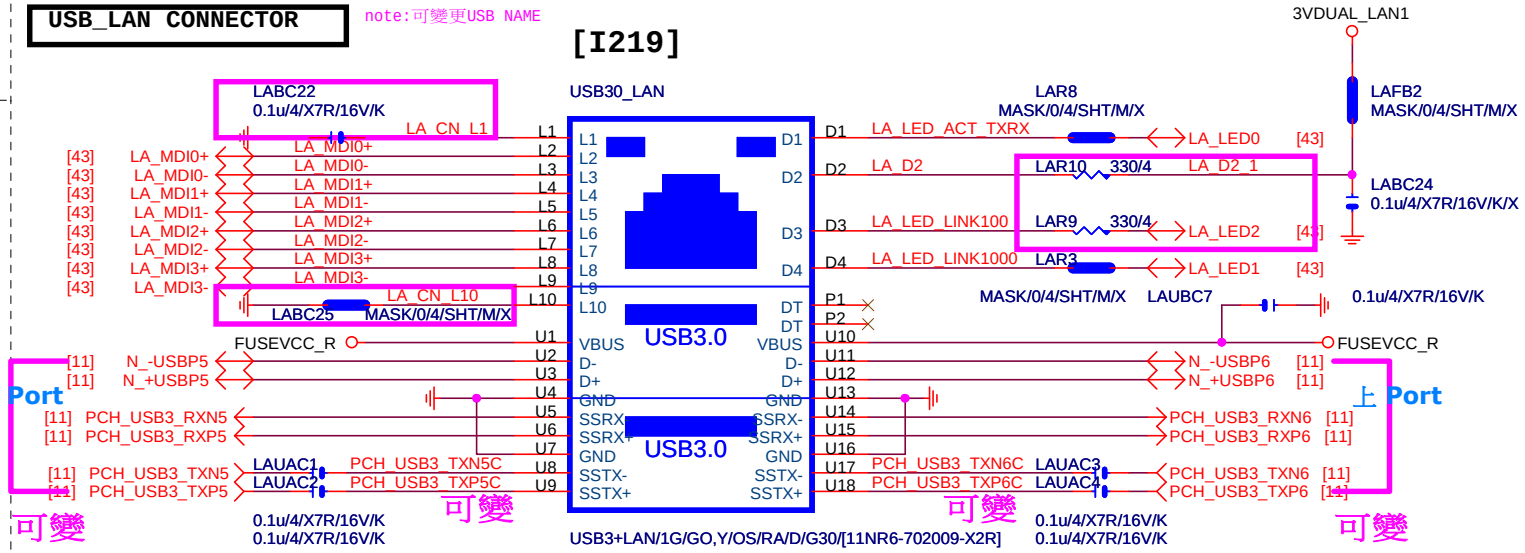
可變



USB_LAN CONNECTOR

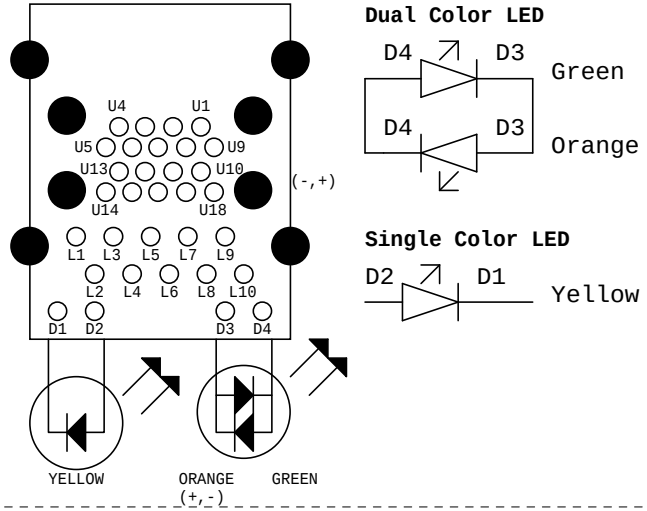
note:可變更USB NAME

[I219]



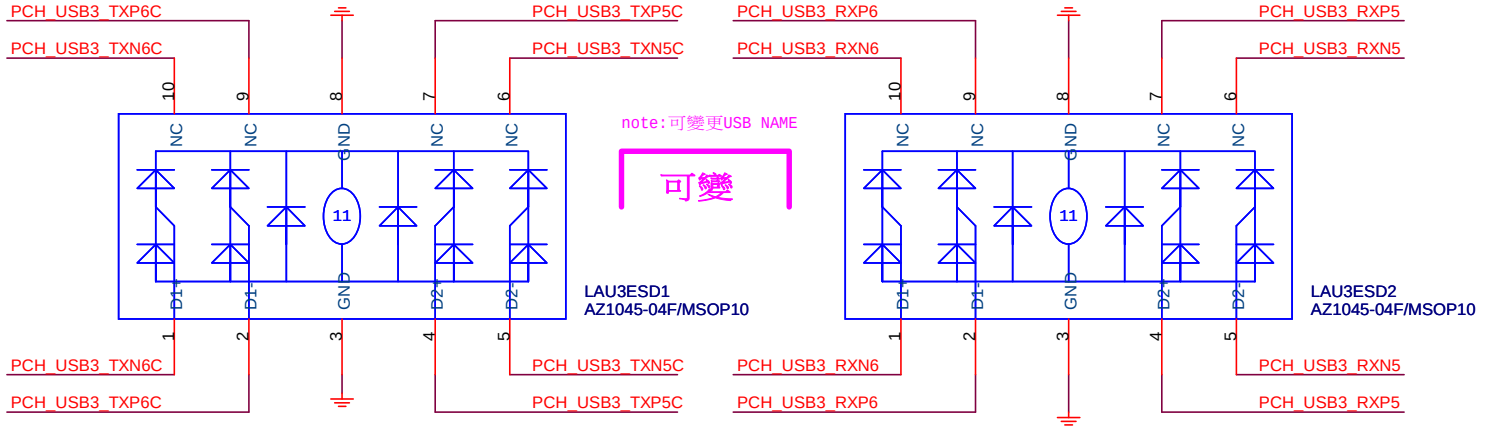
LA_MDI-->100歐姆:[20/4/8/4/20]

USB30_LAN LAYOUT示意圖



Dual Color LED

Single Color LED



LAN_COVER

FOOT PRINT:LAN_COVER

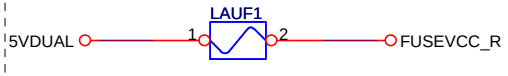
可變 *Del USB_LAN_HS

[視SPEC需求]

USB POWER

note:可變更FUSE

可變



SPR-P260T/6V/8/S

Close to connector

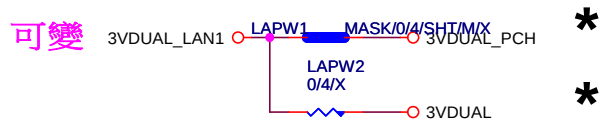
FUSE-0805

EMI SHORT PAD

PS:視EMI需求

LAN POWER

note: lan power連接及電流



Gigabyte Technology

Title: **LAN CONNECTOR-I219**

Size	Document Number	Rev
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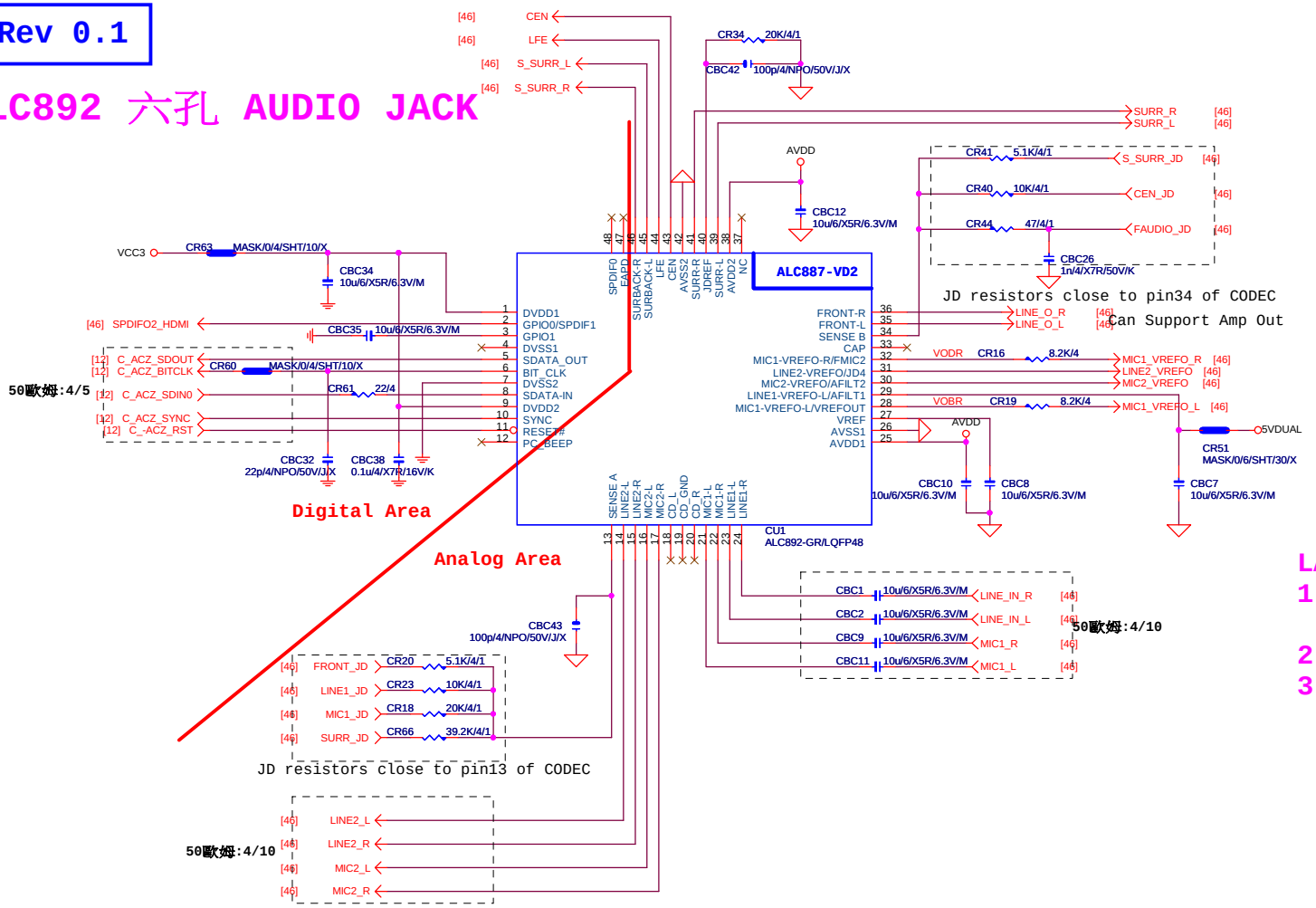
Rev 0.1

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

MH1	MH2
DGND	Isolate

LAYOUT注意:要加
GND切割線

音效區域印刷

*Del AUDIO_HS

*料號後補

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 ALC892			
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Rev 0.1

CR49 MASK/0/6/SHT/30/X → Close F_AUDIO

CR50 MASK/0/6/SHT/30/X, MOATC1 0.1u/4/X7R/16V/K/X → Close Codec

CR21 2.2/6 → Audio jack <--> USB_LAN

CR24 0/6/X → Under Audio jack

*量產前,0ohm改short pad

SPDIF_OUT

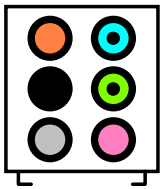
[45] SPDIFO2_HDMI — CR26 MASK/0/4/SHT/10/X — SPDIF_O — PH/1*2/BK/2.54/VA/D

CBC14 100p/4/NPO/50V/J

For HDMI SPDIF

SPDIF_IN

AZALIA JACK



AUDIOB

[45] LINE1_JD — LINE1_JD, AJ_A5, AJ_A2 — A3, A2, A4, A1 — GND — LINE-IN

[45] FRONT_JD — FRONT_JD, AJ_B5, AJ_B2 — B3, B2, B4, B1 — GND — LINE-OUT

[45] MIC1_JD — MIC1_JD, AJ_C5, AJ_C2 — C3, C2, C4, C1, C0 — GND — MIC-IN

2X3RP/26P/OR,BK,GY,BU,GE,PK/RA

AZALIA JACK

BLUE LINE-IN

GREEN LINE-OUT

PINK MIC-IN

AUDIOA

[45] CEN_JD — CEN_JD, BJ_B5, BJ_B2 — D3, D2, D4, D1 — GND — REAR

[45] SURR_JD — SURR_JD, BJ_C5, BJ_C2 — E3, E2, E4, E1 — GND — CEN

[45] S_SURR_JD — S_SURR_JD, BJ_A5, BJ_A2 — F3, F2, F4, F1, F0 — GND — SIDE

G4 — G1, G2, G3

2X3RP/26P/OR,BK,GY,BU,GE,PK/RA

Orange CEN/LFE

Black SURROUND

Gray SURROUND SIDE

LINE-OUT

CEC1 100uF/D/10V/6*5/[11CE2-651000-05R_11CE2-651000-12R]

CEC2 100uF/D/10V/6*5/[11CE2-651000-05R_11CE2-651000-12R]

[45] LINE_O_R — CEC1 — CR5 62/4 — CR7 22K/4, CR6 22K/4 — AJ_B5

[45] LINE_O_L — CEC2 — CR8 62/4 — AJ_B2

CBC19 180p/4/NPO/50V/J, CBC24 180p/4/NPO/50V/J

LINE-IN

[45] LINE_IN_R — CR1 62/4 — AJ_A5

[45] LINE_IN_L — CR14 62/4 — AJ_A2

CBC20 180p/4/NPO/50V/J, CBC23 180p/4/NPO/50V/J

MIC-IN

[45] MIC1_R — CR17 62/4 — AJ_C5

[45] MIC1_L — CR22 62/4 — AJ_C2

[45] MIC1_VREFO_L

[45] MIC1_VREFO_R

CBC3 180p/4/NPO/50V/J, CBC4 180p/4/NPO/50V/J

SURROUND

CEC10 100uF/D/10V/6*5/[11CE2-651000-05R_11CE2-651000-12R]

CEC11 100uF/D/10V/6*5/[11CE2-651000-05R_11CE2-651000-12R]

[45] SURR_R — CEC10 — CR73 62/4 — CR67 22K/4, CR68 22K/4 — BJ_C5

[45] SURR_L — CEC11 — CR74 62/4 — BJ_C2

CBC44 180p/4/NPO/50V/J, CBC45 180p/4/NPO/50V/J

CEN/LFE

[45] LFE — CBC13 10u/8/X5R/16V/K/[10CM2-011005-54R] — CR75 62/4 — CR69 22K/4, CR70 22K/4 — BJ_B5

[45] CEN — CBC15 10u/8/X5R/16V/K/[10CM2-011005-54R] — CR76 62/4 — BJ_B2

★Update 2015-04-10

CBC13/15/16/17 10u/6 --> 10u/8

For THD+N Low frequency

CBC46 180p/4/NPO/50V/J, CBC47 180p/4/NPO/50V/J

SURR BACK

EMI

[45] S_SURR_R — CBC16 10u/8/X5R/16V/K/[10CM2-011005-54R] — CR25 62/4 — CR43 22K/4, CR27 22K/4 — BJ_A5

[45] S_SURR_L — CBC17 10u/8/X5R/16V/K/[10CM2-011005-54R] — CR47 62/4 — BJ_A2

CBC33 180p/4/NPO/50V/J, CBC31 180p/4/NPO/50V/J

AZALIA FRONT PANEL

CQ4 BAT54A/SOT23/200mA

CQ2 BAT54A/SOT23/200mA

SOT23

CRN1 8.2K/8P4R/4

[45] LINE2_VREFO

[45] MIC2_VREFO

VCC3

CR58 22K/4, CR54 22K/4, CR78 8.2K/4/X

F_AUDIO

[45] MIC2_L — CBC6 10u/6/X5R/6.3V/M — CR13 62/4 — M2_L

[45] MIC2_R — CBC5 10u/6/X5R/6.3V/M — CR11 62/4 — M2_R

L2_R — CR57 62/4 — L2-R

[45] FAUDIO_JD

L2_L — CR53 62/4 — L2-L

CR55 20K/4/1, CR59 39.2K/4/1

BH/2*5K8/BK/2.54/VA/AUDIO/PRT/TUR180

100uF/D/10V/6*5/[11CE2-651000-05R_11CE2-651000-12R]

[45] LINE2_R — CEC9 — L2_R

[45] LINE2_L — CEC6 — L2_L

100uF/D/10V/6*5/[11CE2-651000-05R_11CE2-651000-12R]

CBC30 180p/4/NPO/50V/J/X, CBC29 180p/4/NPO/50V/J/X, CBC37 180p/4/NPO/50V/J/X, CBC36 180p/4/NPO/50V/J/X

Gigabyte Technology

Title: AUDIO JACK

Size: Custom | Document Number: GA-Z270M-D3P | Rev: 1.01

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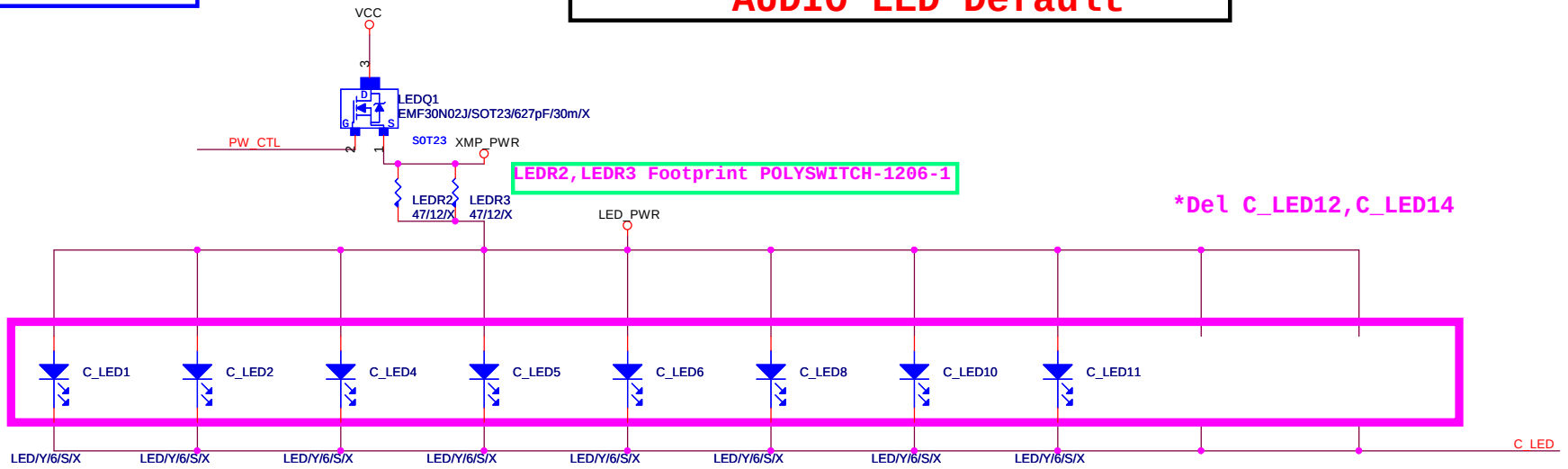
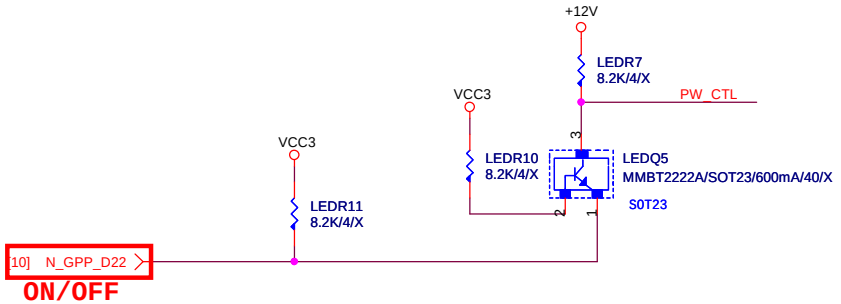
Rev 0.11

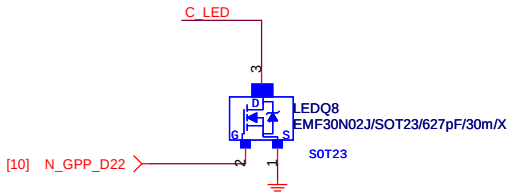
* AUDIO LED Default





Ambient LED Control

	N_GPP_D22
t S ill Mode	H
OFF Mode	L



Gigabyte Technology		
Title: Amient Single LED		
Size: Custom	Document Number: GA-Z270M-D3P	Rev: 1.01
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Rev: 0.82

Front USB3.0

F_USB30_1 REV=1

NET 自行調整

FSVCC_U3F1 → VBUS (1), ID (10), SSRX1-/SSRX1+ (2/3), SSTX1-/SSTX1+ (5/6), D1-/D1+ (8/9), GND (7/4)

[11] PCH_USB3_RXN1 / [11] PCH_USB3_RXP1

FAU3C1 0.1u/4X7R/16V/K FU30_TXN1

FAU3C2 0.1u/4X7R/16V/K FU30_TXP1

[11] PCH_USB3_TXN1 / [11] PCH_USB3_TXP1

[11] N_-USBP1 / [11] N_+USBP1

VBUS (19), SSTX2-/SSTX2+ (15/14), SSRX2-/SSRX2+ (18/17), D2-/D2+ (12/11), GND (16/13)

FSVCC_U3F1

FU30_TXN2 FAU3C3 0.1u/4X7R/16V/K

FU30_TXP2 FAU3C4 0.1u/4X7R/16V/K

NET 可自行調整

PCH_USB3_TXN2 [11] / PCH_USB3_TXP2 [11]

PCH_USB3_RXN2 [11] / PCH_USB3_RXP2 [11]

N_-USBP2 [11] / N_+USBP2 [11]

BH/2*10K20/BK/ON/2.0/VA/USB3.0/PRT

黑色

F_USB30 PWR

5VDUAL → FAU3F1 (1→2) SPR-P260T/6V/8/S → FSVCC_U3F1

FAU3EC1 100u/OS/D/6.3V/66/A/35m

FAU3C5 0.1u/4/X7R/16V/K

NET 可自行調整

[11,49] N_-USBOC_F → U3OC3 (SOT23, 3) → FSVCC_U3F1 / FSVCC_U3F2

BAT54A/SOT23/200mA

NET 可自行調整

PCH_USB3_RXP1 / PCH_USB3_RXN1 / PCH_USB3_RXP2 / PCH_USB3_RXN2

FAU3D1 AZ1045-04F/MSOP10

AZC099-04S/SOT23-6L

FAU3D3: N_+USBP2, N_-USBP2, 3VDUAL, N_-USBP1, N_+USBP1

CLOSE F_USB30

FU30_TXP1 / FU30_TXN1 / FU30_TXP2 / FU30_TXN2

FAU3D2 AZ1045-04F/MSOP10

CLOSE F_USB30

Front USB30 P/N:11NH3-021210-B1R/B2R

Rear window

★Update 2015.10.01

Front USB30 P/N:11NH3-021210-51R/52R

Front USB3.0

F_USB30_2 REV=1

NET 可自行調整

FSVCC_U3F2 → VBUS (1), ID (10), SSRX1-/SSRX1+ (2/3), SSTX1-/SSTX1+ (5/6), D1-/D1+ (8/9), GND (7/4)

[11] PCH_USB3_RXN7 / [11] PCH_USB3_RXP7

FBU3C1 0.1u/4X7R/16V/K FU30_TXN3

FBU3C2 0.1u/4X7R/16V/K FU30_TXP3

[11] PCH_USB3_TXN7 / [11] PCH_USB3_TXP7

[11] N_-USBP7 / [11] N_+USBP7

VBUS (19), SSTX2-/SSTX2+ (15/14), SSRX2-/SSRX2+ (18/17), D2-/D2+ (12/11), GND (16/13)

FSVCC_U3F2

FU30_TXN4 FBU3C3 0.1u/4X7R/16V/K

FU30_TXP4 FBU3C4 0.1u/4X7R/16V/K

NET 可自行調整

PCH_USB3_TXN8 [11] / PCH_USB3_TXP8 [11]

PCH_USB3_RXN8 [11] / PCH_USB3_RXP8 [11]

N_-USBP8 [11] / N_+USBP8 [11]

BH/2*10K20/BK/ON/2.0/VA/USB3.0/PRT

黑色

F_USB30 PWR

5VDUAL → FBU3F1 (1→2) SPR-P260T/6V/8/S → FSVCC_U3F2

*Del FBU3EC1

FBU3C5 0.1u/4/X7R/16V/K

F_USB POWER PROTECT

NET 可自行調整

PCH_USB3_RXP7 / PCH_USB3_RXN7 / PCH_USB3_RXP8 / PCH_USB3_RXN8

FBU3D1 AZ1045-04F/MSOP10

AZC099-04S/SOT23-6L

FBU3D3: N_-USBP7, N_+USBP7, 3VDUAL, N_+USBP8, N_-USBP8

CLOSE F_USB30

FU30_TXP3 / FU30_TXN3 / FU30_TXP4 / FU30_TXN4

FBU3D2 AZ1045-04F/MSOP10

CLOSE F_USB30

Front USB30 P/N:11NH3-021210-B1R/B2R

Rear window

★Update 2015.10.01

Front USB30 P/N:11NH3-021210-51R/52R

-USBOC_F

POWER 可自行調整

5VDUAL → UAR1 8.2K/4 → N_-USBOC_F → N_-USBOC_F [11,49]

UAR2 15K/4/1

-USBOC_R

POWER 可自行調整

5VDUAL → UBR1 8.2K/4 → N_-USBOC_R → N_-USBOC_R [11,38,42]

UBR2 15K/4/1

* 接 PCH N_GPP_G6(SMI) & PCH PU 3Vdual

[13] N_GPP_G6

UAD5 (SOT23): N_-USBOC_F → N_-USBOC_F [11,49]; N_-USBOC_R → N_-USBOC_R [11,38,42]

BAT54A/SOT23/200mA

Gigabyte Technology			
Title: R_USB30,F_USB30, USB_OC			
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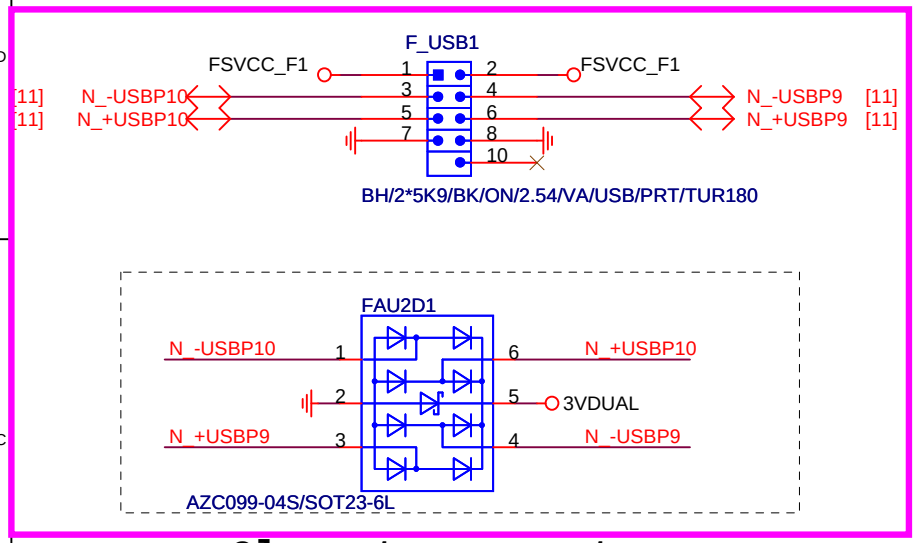
Rev: 0.82

FRONT USB1

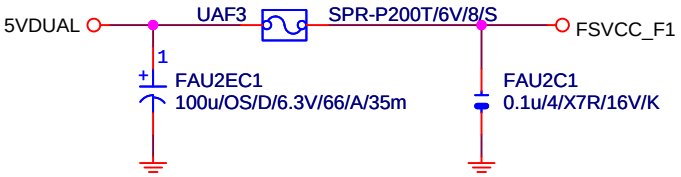
NET 可變

FUSB2X5-HS



Close to connector

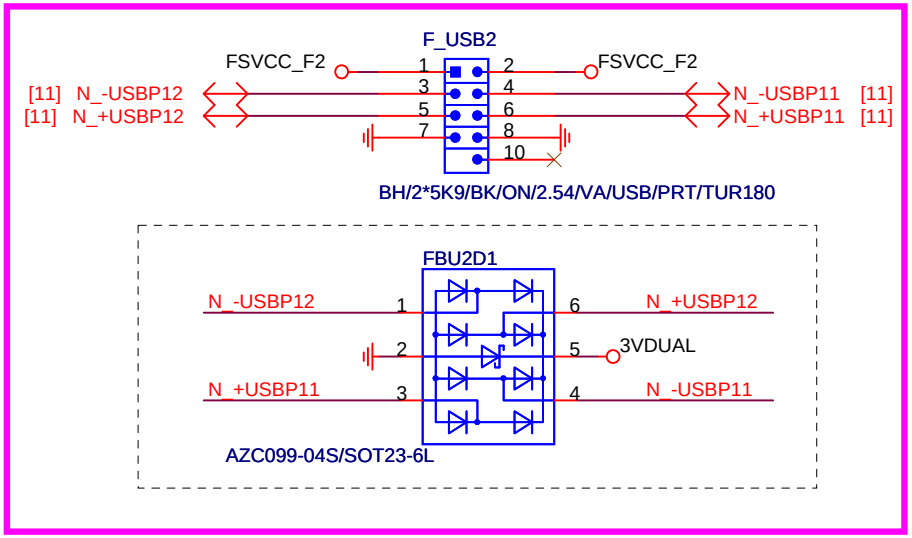
FUSE 2 Port 1 Fuse 2A



FRONT USB2

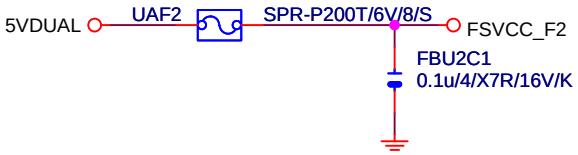
NET 可變

FUSB2X5-HS

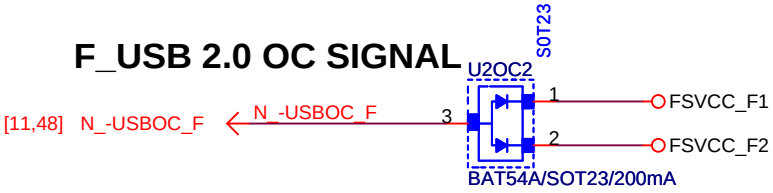


Close to connector

FUSE 2 Port 1 Fuse 2A



F_USB 2.0 OC SIGNAL



Gigabyte Technology		
Title: USB2.0		
Size: A	Document Number: GA-Z270M-D3P	Rev: 1.01
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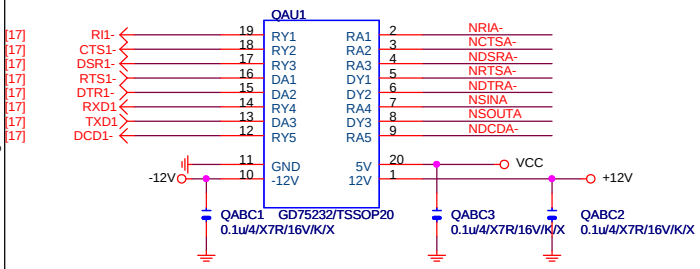
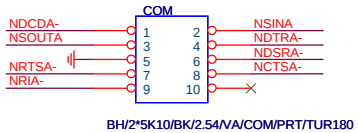
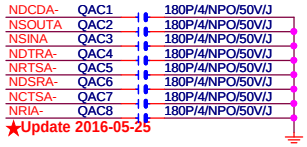
COM PORT

Rev: 0.82





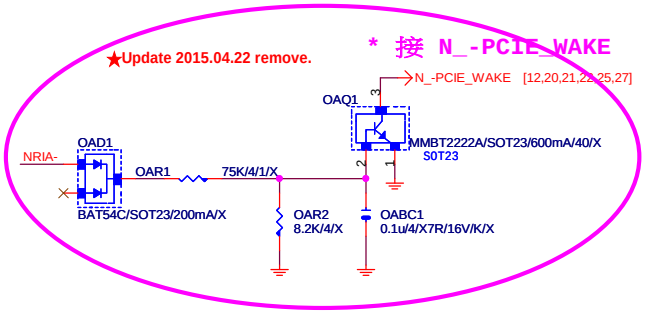
F_COM-HS



★Update 2016-05-25

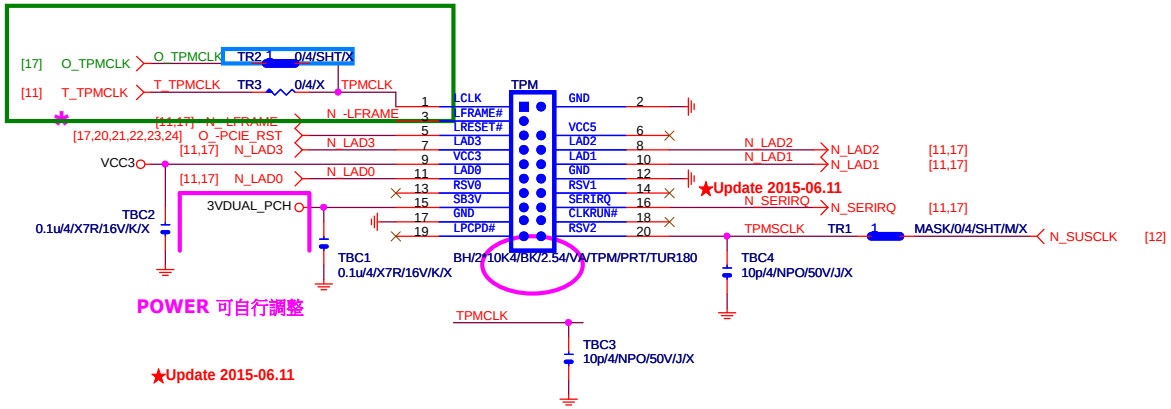
COM RI

N/A



LPT PORT

TPM CONNECT



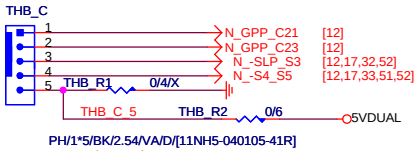
★Update 2015-06.11

POWER 可自行調整

★Update 2015-06.11

Thunderbolt

★Update 2015-12-29



Footprint update "WAFER-1X5P"

Gigabyte Technology		
Title: FP,F_USB,USB PWR,BZ		
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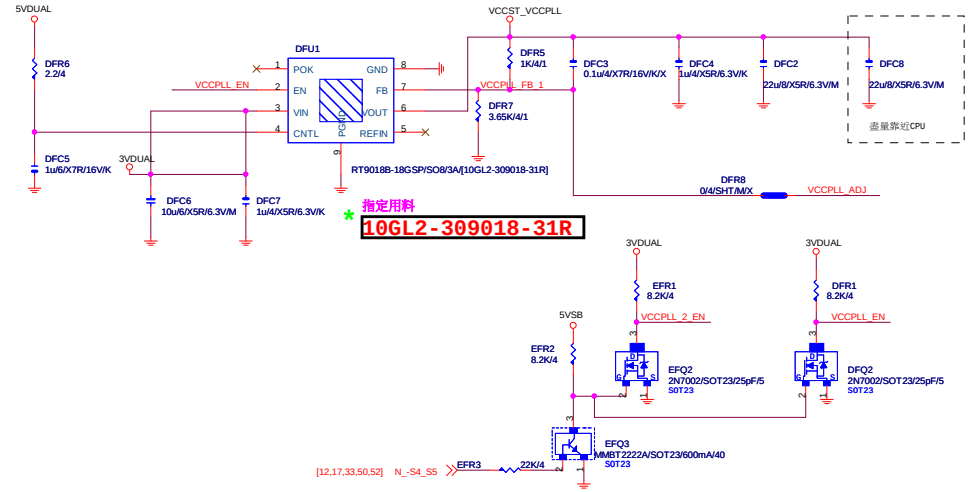
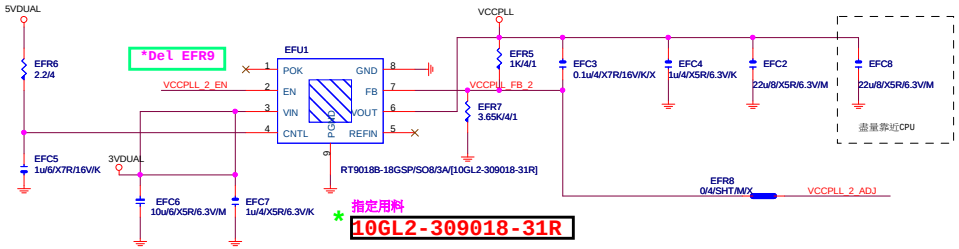
REV:0.23

VCCST_VCCPLL

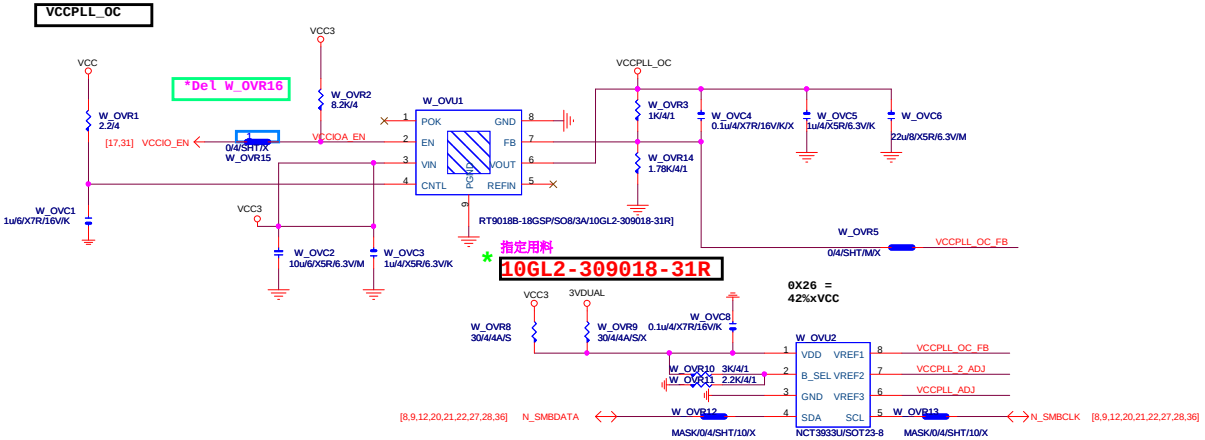
替換原先MOS開關線路



VCCPLL



VCCPLL_OC



Gigabyte Technology		
Title: CPU POWER-RT9018		
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EMI/ESD R0.1

CLOSE SIO

EMIC1
100p/4/NPO/50V/J/X

[12,17,32,50] N_-SLP_S3

EMIC2
100p/4/NPO/50V/J/X

[12,17,33,50,51] N_-S4_S5

*Del EMIC3

CLOSE PCH

EMIC4
100p/4/NPO/50V/J/X

[4,12] N_CPUPWROK

EMIC5

VCC3

1n/4/X7R/50V/K

GIGABYTE™

Title	EMI/ESD		
Size A	Document Number GA-Z270M-D3P		Rev 1.01
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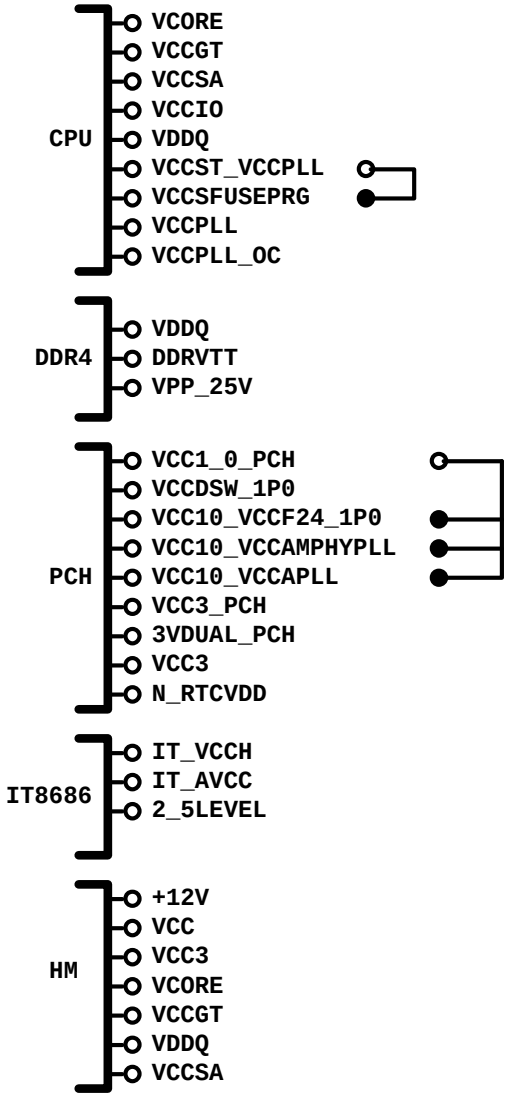
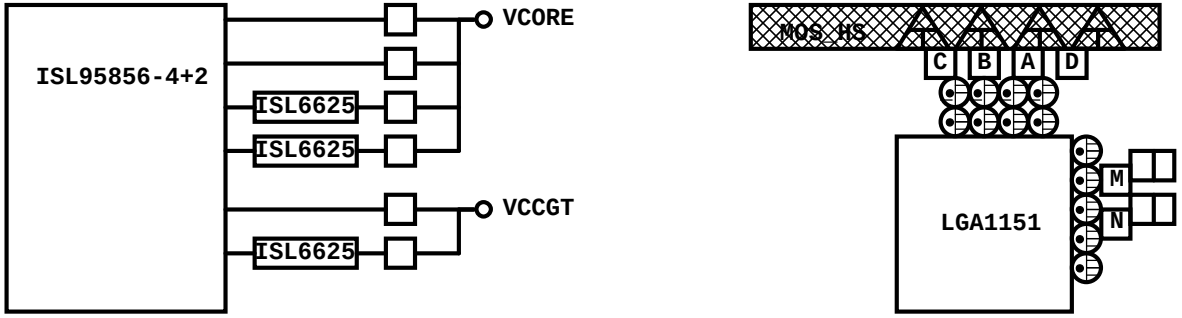
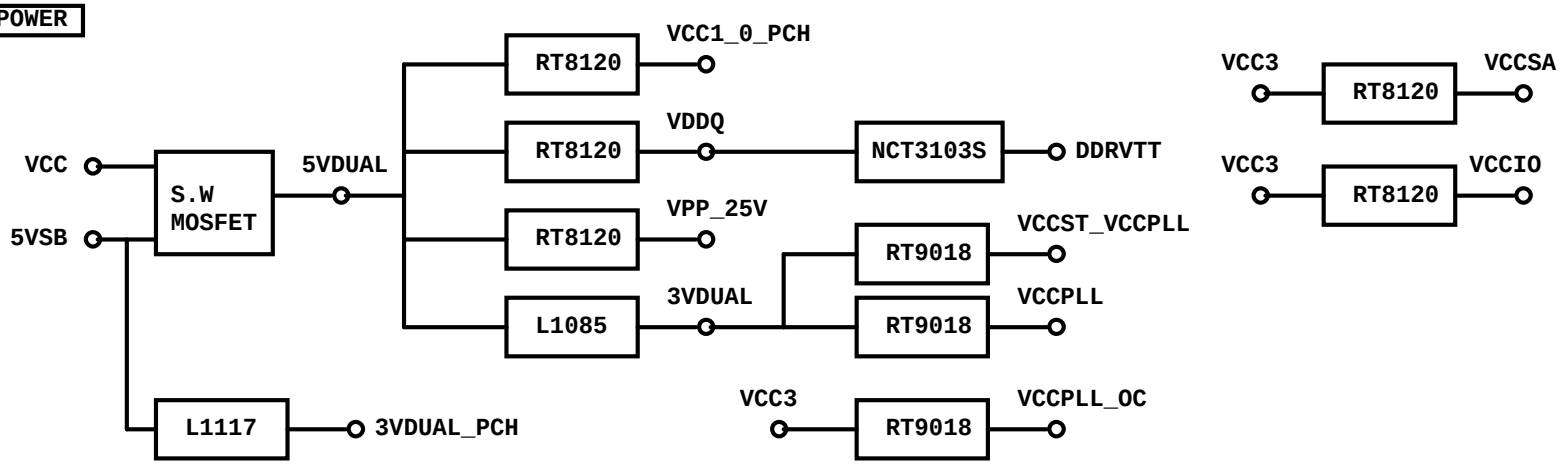
POWER BLOCK MAP



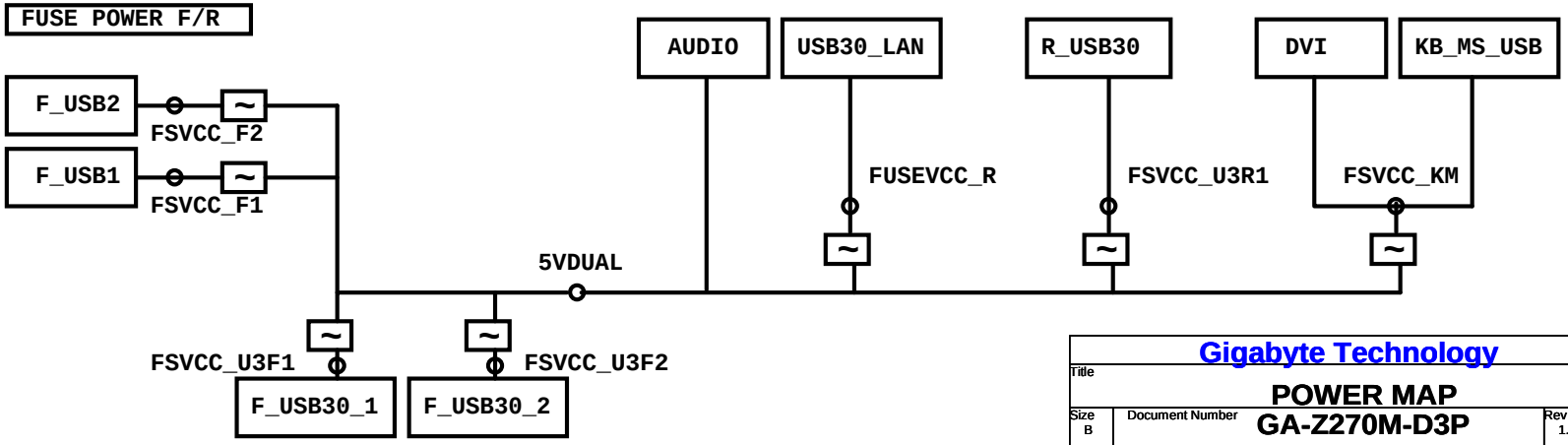
VCORE/VCCGT



POWER



FUSE POWER F/R



Gigabyte Technology

Title	POWER MAP	
Size B	Document Number GA-Z270M-D3P	Rev 1.01
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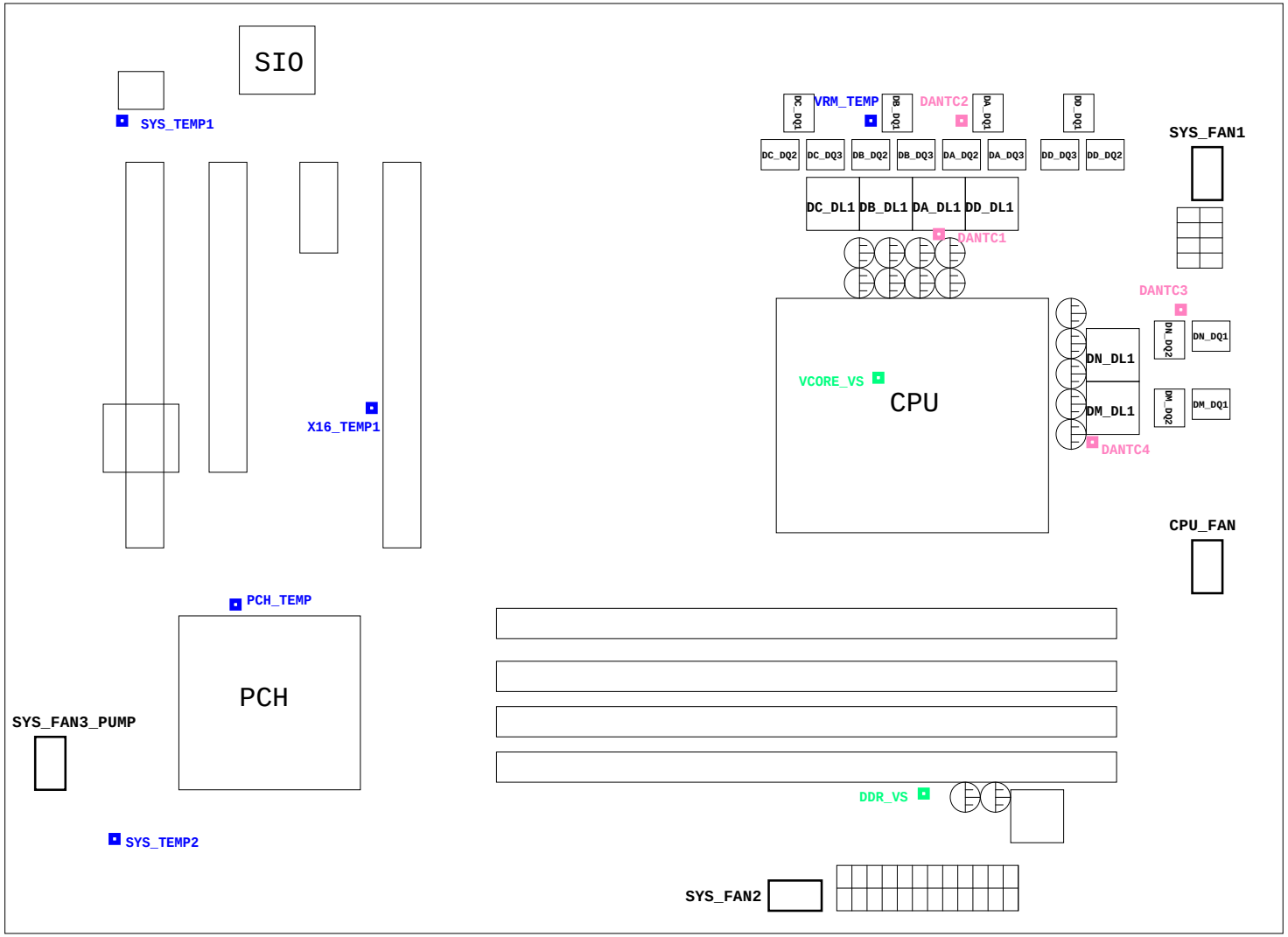

熱敏電阻	擺放靠近位置	走線方式
DANTC1	DA_DL1	N/A
DANTC2	DA_DQ1	Differential
DANTC3	DM_DQ2	N/A
DANTC4	DM_DL1	Differential
VCORE_TEMP	DB_DQ1	N/A
X16_TEMP1	PCIEX16	N/A
PCH_TEMP	PCH	N/A
SYS_TEMP1	CU1	N/A
SYS_TEMP2	N/A	N/A

SIO RS
SIO VIN
PWM RS
FAN

Gigabyte Technology

Title: NTC MAP

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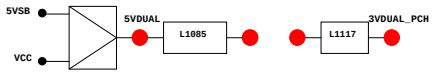
PCH GPIO LIST TABLE

PIN NAME	PWR	RTD3/PLTRST	Default	USAGE	NOTE
GPP_A0	MAIN	H-Z	RCIN#	N_-KBRST	P/U 8.2K VCC3
GPP_A1	MAIN	H-Z	LAD0	N_LAD0	N/A
GPP_A2	MAIN	H-Z	LAD1	N_LAD1	N/A
GPP_A3	MAIN	H-Z	LAD2	N_LAD2	N/A
GPP_A4	MAIN	H-Z	LAD3	N_LAD3	N/A
GPP_A5	MAIN	H-Z	LFRAME#	N_-LFRAME	N/A
GPP_A6	MAIN	H-Z	SERIRQ	N_SERIRQ	P/U 8.2K VCC3
GPP_A7	MAIN	H-Z	PIRQA#	N_-LDRQ0	P/U 8.2K VCC3
GPP_A8	MAIN	H-Z	CLKRUN#	N_GPP_A8	P/U 8.2K VCC3
GPP_A9	MAIN	H-Z	CLKOUT	T_TPMCLK/N_LPC24MA	N/A
GPP_A11	MAIN	H-Z	PME#	N_-P_PME	P/U 8.2K 3VDUAL_PCH
GPP_A12	MAIN	H-Z	GPI	N_GPP_A12	P/U 8.2K VCC3
GPP_A13	MAIN	H-Z	WANRN#	N_-S_WARN	N/A
GPP_A14	MAIN	H-Z	STAT#	N_GPP_A14	P/U 8.2K 3VDUAL
GPP_A15	MAIN	H-Z	ACK#	N_-S_ACK	N/A
GPP_B0	MAIN	H-Z	GPO	N_-DDR_V_SEL	P/U 8.2K VCC3
GPP_B2	MAIN	H-Z	GPI	N_-VRALERT	P/U 8.2K 3VDUAL
GPP_B3	MAIN	H-Z	GPI	N_GPP_B3	N/A
GPP_B4	MAIN	H-Z	GPI	N_GPP_B4	N/A
GPP_B5	MAIN	H-Z	GPI	-PCIEX16_PR	P/U 8.2K VCC3
GPP_B6	MAIN	H-Z	GPI	-PCIEX1_PR1	P/U 8.2K VCC3
GPP_B8	MAIN	H-Z	GPI	-PCIEX4_PR	P/U 8.2K VCC3
GPP_B9	MAIN	H-Z	GPI	N_GPP_B9	P/D GND
GPP_B10	MAIN	H-Z	GPI	LA_-CLKREQ	P/U 8.2K 3VDUAL_LAN1
GPP_B12	MAIN	H-Z	SLP_S0	N_-SLP_S0	N/A
GPP_B13	MAIN	H-Z	PLTRST	N_-PFMRST	N/A
GPP_B14	MAIN		GPO	N_SPKR	N/A
GPP_B15	MAIN	H-Z	GPI	N_GPP_B15	N/A
GPP_B16	MAIN	H-Z	GPI	N_GPP_B16	N/A
GPP_B22	MAIN		GPO	N_GPP_B22	P/D 1K GND
GPP_B23	MAIN	H-Z	GPO	N_-PCH_HOT	N/A
GPP_C0	MAIN	H-Z	SMBCLK	N_SMBCLK	P/U 1K 3VDUAL
GPP_C1	MAIN	H-Z	SMBDATA	N_SMBDATA	P/U 1K 3VDUAL
GPP_C2	MAIN		GPO	N_-LPCPME	N/A
GPP_C3	MAIN	H-Z	SML0CLK	N_SML0CLK	P/U 499 3VDUAL
GPP_C4	MAIN	H-Z	SML0DAT	N_SML0DAT	P/U 499 3VDUAL
GPP_C5	MAIN		GPO	N_GPP_C5	N/A
GPP_C6	MAIN	H-Z	GPI	N_SML1CLK	P/U 8.2K 3VDUAL
GPP_C7	MAIN	H-Z	GPI	N_SML1DAT	P/U 8.2K 3VDUAL
GPP_C22	MAIN	H-Z	GPI	N/A	N/A
GPP_C23	MAIN	H-Z	GPI	N_GPP_C23	N/A
GPP_D4	MAIN	H-Z	GPI	N_GPP_D4	P/U 8.2K 3VDUAL
GPP_D7	MAIN	H-Z	GPI	N_GPP_D7	N/A
GPP_D8	MAIN	H-Z	GPI	N_GPP_D8	N/A
GPP_D9	MAIN	H-Z	GPI	N_GPP_D9	P/U 1K VCC3
GPP_D10	MAIN	H-Z	GPI	N_GPP_D10	N/A
GPP_D13	MAIN	H-Z	GPI	N_GPP_D13	N/A
GPP_D23	MAIN	H-Z	GPI	N/A	N/A
GPP_E0	MAIN	H-Z	GPI	N_GPP_E0	P/U 8.2K 3VDUAL
GPP_E1	MAIN	H-Z	GPI	N_GPP_E1	P/U 8.2K 3VDUAL
GPP_E2	MAIN	H-Z	GPI	N_GPP_E2	P/U 8.2K 3VDUAL
GPP_E3	MAIN	H-Z	GPI	N/A	N/A
GPP_E4	MAIN	H-Z	GPI	N_DEVSLP0	N/A
GPP_E6	MAIN	H-Z	GPI	N_GPP_E6	N/A
GPP_E8	MAIN	H-Z	GPI	N_-SATALED	N/A
GPP_E9	MAIN	H-Z	GPI	N_-USBOC_F	N/A
GPP_E10	MAIN	H-Z	GPI	N_-USBOC_R	N/A
GPP_E11	MAIN	H-Z	GPI	N_-USBOC_R	N/A
GPP_E12	MAIN	H-Z	GPI	N_-USBOC_F	N/A
GPP_F0	MAIN	H-Z	GPI	N_GPP_F0	P/U 8.2K 3VDUAL
GPP_F1	MAIN	H-Z	GPI	N_GPP_F1	P/U 8.2K 3VDUAL
GPP_F2	MAIN	H-Z	GPI	N_GPP_F2	P/U 8.2K 3VDUAL
GPP_F3	MAIN	H-Z	GPI	N_GPP_F3	P/U 8.2K 3VDUAL
GPP_F4	MAIN	H-Z	GPI	N_GPP_F4	P/U 8.2K 3VDUAL
GPP_F5	MAIN	H-Z	GPI	N_GPP_F5	P/U 8.2K VCC3
GPP_F6	MAIN	H-Z	GPI	N_DEVSLP4	N/A
GPP_F10	MAIN	H-Z	GPI	N_GPP_F10	P/U 8.2K VCC3
GPP_F11	MAIN	H-Z	GPI	N_GPP_F11	P/U 8.2K VCC3
GPP_F12	MAIN	H-Z	GPI	N_GPP_F12	P/U 8.2K VCC3
GPP_F13	MAIN	H-Z	GPI	N_GPP_F13	P/U 8.2K VCC3
GPP_F14	MAIN	H-Z	GPI	A_-SKTOCC	P/U 8.2K VCC3
GPP_F15	MAIN	H-Z	GPI	N_-USBOC_F	N/A
GPP_F16	MAIN	H-Z	GPI	N_-USBOC_F	N/A
GPP_F17	MAIN	H-Z	GPI	N_-USBOC_R	N/A
GPP_F18	MAIN	H-Z	GPI	N_-USBOC_7	P/U 8.2K 3VDUAL
GPP_F22	MAIN	H-Z	GPI	N_GPP_F22	P/U 8.2K VCC3
GPP_F23	MAIN	H-Z	GPI	N_GPP_F23	P/U 8.2K VCC3
GPP_G11	MAIN	H-Z	FANPWM2	N_GPP_G11	N/A
GPP_G12	MAIN	H-Z	GPI	N_GPP_G12	N/A
GPP_G13	MAIN	H-Z	GPI	N_CPU_S1	N/A
GPP_G14	MAIN	H-Z	GPI	N_GT_S	N/A
GPP_G15	MAIN	H-Z	GPI	N_CPU_S	N/A
GPP_G18	MAIN	H-Z	GPI	N_GPP_G18	P/U 8.2K VCC3
GPP_G19	MAIN	H-Z	GPI	N_GPP_G19	P/U 8.2K VCC3
GPP_G20	MAIN	H-Z	GPI	N_GPP_G20	P/U 8.2K VCC3
GPP_G21	MAIN	H-Z	GPI	N_GPP_G21	P/U 8.2K VCC3
GPP_G22	MAIN	H-Z	GPI	N_GPP_G22	P/U 8.2K VCC3
GPP_H0	MAIN	H-Z	GPI	M2A_-CLKREQ	P/U 8.2K VCC3
GPP_H12	MAIN		GPO	N_GPP_H12	N/A
GPP_H19	MAIN	H-Z	GPI	N_GPP_H19	P/U 8.2K 3VDUAL
GPP_H20	MAIN	H-Z	GPI	N_GPP_H20	P/U 8.2K 3VDUAL
GPP_H21	MAIN	H-Z	GPI	N_GPP_H21	P/U 8.2K 3VDUAL
GPP_H22	MAIN	H-Z	GPI	N_GPP_H22	P/U 8.2K 3VDUAL
GPP_I0	MAIN	H-Z	GPI	N_DP_HDP	N/A
GPP_I1	MAIN	H-Z	GPI	N_DP2_HDP	N/A
GPP_I2	MAIN	H-Z	GPI	N_DVI_HDP_F	P/U 1M VCC3

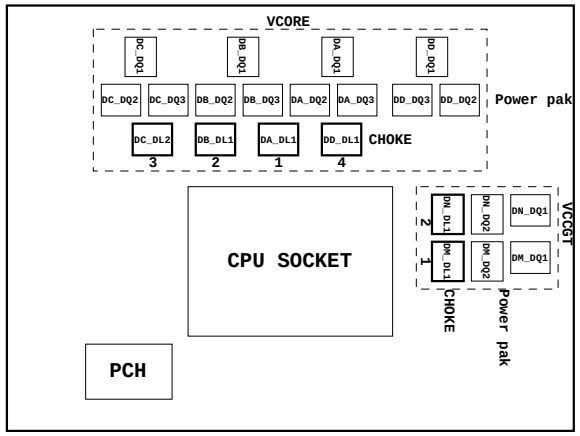
PIN NAME	PWR	RTD3/PLTRST	Default	USAGE	NOTE
GPP_I3	MAIN	H-Z	GPI	N_GPP_I3	P/U 8.2K VCC3
GPP_I4	MAIN	H-Z	GPI	N_GPP_I4	P/D 100K GND
GPP_I5	MAIN	H-Z	GPI	N_DDPB_CTRLCLK	P/U 2.2K VCC3
GPP_I6	MAIN		GPO	N_DDPB_CTRLDATA	P/U 2.2K VCC3
GPP_I7	MAIN	H-Z	GPI	N_DDPC_CTRLCLK	P/U 2.2K VCC3
GPP_I8	MAIN		GPO	N_DDPC_CTRLDATA	P/U 2.2K VCC3
GPP_I9	MAIN	H-Z	GPI	N_DDPD_CTRLCLK	P/U 2.2K VCC3
GPP_I10	MAIN		GPO	N_DDPD_CTRLDATA	P/U 2.2K VCC3
GPD0	STBY		BATLOW	N_-BATLOW	P/U 8.2K 3VDUAL_PCH
GPD1	STBY		ACPRESENT	N_GP_D1	P/U 8.2K 3VDUAL_PCH
GPD2	STBY		LAN_WAKE	N_-LAN_WAKE	P/U 8.2K 3VDUAL_PCH
GPD3	STBY		PWRBTN	O_PWRBTSW	P/U 8.2K 3VDUAL_PCH
GPD4	STBY		SLP_S3	N_-SLP_S3	N/A
GPD5	STBY		SLP_S4	N_-S4_S5	N/A
GPD6	STBY		SLP_A	N_-SLP_A	N/A
GPD8	STBY		SUSCLK	N_SUSCLK	P/D 1.5K GND
GPD10	STBY		SLP_S5	N_-SLP_S5	N/A
GPD11	STBY		LANPHYPC	N_-LAN_DIS	N/A

Super I/O ITE8686 GPIO Table

PIN NAME	USAGE	NOTE
PCIRST3#/GP10/VDIMM_STR_EN	N/A	
PCIRST2#/GP11	O_-PCIE_RST	
PCIRST1#/GP12	O_-PFMRST2	
SVC/PECI_RQT/GP14	N_-THRMTRIP	
SLP_SUS#/PCIRSTIN#/CIRTX2/GP15	-PCIRSTIN	
PSI_L/FAN_CLT5/CIRRX2/GP16	空 PIN	
RI2#/GP17	IO_GP17	
THR_PWM_CTS2#/GP20	空 PIN	
IO_SMI#DCD2#/GP21	空 PIN	
SPI_SI/GP22	空 PIN	
DPWROK/CPU_PG/GP23	N_PCH_DPWROK	
FAN_TAC5/RTS2#/GP24	空 PIN	
FAN_TAC4/DSR2#/GP25	FANIO4	
INV_OUT1_SOUT2/GP26	MB_ID2	
INV_IN1/SIN2/GP27	BEEP-	
ATXPG/GP30	PWOK	
CTS1/GP31	CTS1-	
OCWDT3/RI1#/GP32	RI1-	
OCWDT2/DCD1#/GP33	DCD1-	
VTT_PWRGD/GP34	VTT_PWRGD	
VCC18_EN/GP35	VCCIO_EN	
FAN_CTL3/GP36	FANPWM3	
FAN_TAC3/GP37	FANIO3	
3VSBSW#/GP40	空 PIN	
OCWDT1/SIN1/GP41	RXD1	
GP42/SCK/FAN_CTL4	FANPWM4	
PANSWH#/GP43	-PWRBTSW	
PWRON#/GP44	O_PWRBTSW	
OCWDT0/DSR1#/GP45	DSR1-	
CE2_N/GP47/JP6	CEB_N	
GP50/JP1	O_TPMCLK	
FAN_CTL2/GP51	FANPWM2	
FAN_TAC2/GP52	FANIO2	
SUSC#/GP53	N_-S4_S5	
PME#/GP54	N_-LPCPME	
RSMRST#/CIRRX1/GP55	O_-RSMRST	
MCLK/FAN_TAC6/GP56	MCLK	
MDAT/FAN_CTL6/GP57	MDAT	
KCLK/GP60	KCLK	
KDAT/GP61	KDAT	
KRST#/GP62	N_-KBRST	
HOLD_B#/GP63	空 PIN	
HOLD_B#/GP64	-SPI_HOLD_M	
VLDT_EN/PCH_D0/GP65	空 PIN	
VCC1_05_EN/GP66	VCC1_0_EN	
GP67	N_-RTCRST	
USB_FS1/PD0/GP70	空 PIN	
USB_FS2/PD1/GP71	空 PIN	
USB_FS3/PD2/GP72	空 PIN	
USB_FS3/PD3/GP73	空 PIN	
USB_FS5/PD4/GP74	空 PIN	
USB_FS6/PD5/GP75	空 PIN	
USB_FS7/PD7/GP76	空 PIN	
USB_FS8/PD8/GP77	空 PIN	
LS-IN1/SLCT/GP80	VDDQ	
LS_OUT1/PE/GP81	空 PIN	
LS_IN2/BUSY/GP82	VCCIO	
LS_OUT2/ACK#/GP83	空 PIN	
IPHONE_CHARGE#/SLIN#/GP84	空 PIN	
OC_IN/INIT#/GP85	空 PIN	
OC_OUT/AFD#/GP86	空 PIN	
USB_OC2/STB#/GP87	空 PIN	
DDR_EN/GP90	MA_EN	
PWRLED/GP91	MPD-	
HOLD_OUT/GP92	空 PIN	
HDLED_IN/GP93	IO_GP93	
PROCHOT#/GP94	A_-PROCHOT	
CPUPWRGD/GP95	空 PIN	
PCH_VRMPWRGD/GP96	N_PCH_VRMPWRGD	
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
DDRVTT	DRAM Terminatio
VREF_DQ_A/VREF_DQ_B	DRAM Data Ref

散熱模組料號:

Z270M-D3P :
PCH : 12SP2-S04407-01R/02R/03R
MOS : 12SP2-S09425-N1R/N2R/N3R

	3 pin FAN control	4 pin FAN control	FAN speed	Controller
CPU FAN	FANPWM1	VCC	FANIO1	IT8686
	FANC_VOUT	N/A	N/A	NCT3947
SYS FAN1	FANPWM2	VCC	FANIO2	IT8686
	FAN1_VOUT	N/A	N/A	NCT3947
SYS FAN2	FANPWM3	VCC	FANIO3	IT8686
	FAN2_VOUT	N/A	N/A	NCT3947
SYS_FAN3	FANPWM4	VCC	FANIO4	IT8686
	FAN3_VOUT	N/A	N/A	NCT3947

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Title: TABLE LIST

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