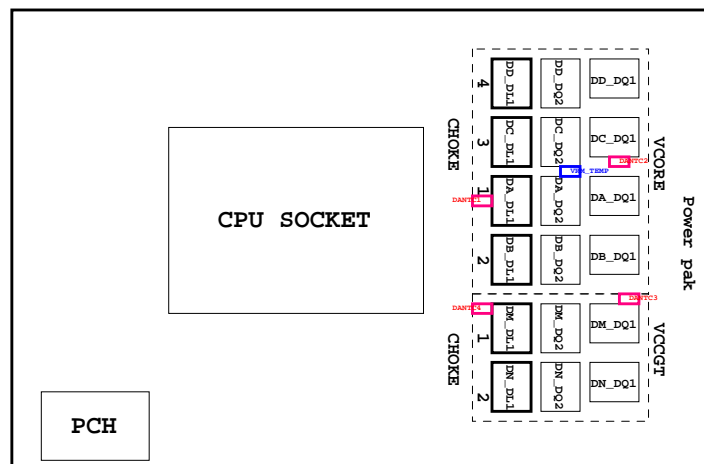


rev 1.0

01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	CPU_LGA1151-A
05	CPU_LGA1151-B-DDR4
06	CPU_LGA1151-B-H系列 (REV0.23)
07	CPU_LGA1151-D
08	DDR 4 CHANNEL A (REV0.6)
09	DDR 4 CHANNEL B
10	PCH CLOCK BUFFER (REV0.7)
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	I/O ITE8628 (REV0.7)
18	HWM
19	FAN CTRL-SIO (REV0.82)
20	PCIEX16 SLOT (REV0.2)
21	PCIEX1_1-3 SLOT (REV0.51)
22	PCIEX1_4-7 SLOT (REV0.51)
23	PCIEX1_8-11 SLOT (REV0.51)
24	SATA
25	ISL95866 PWM-IRON_1H1L (REV0.3)
26	ISL95866 MOS_VCORE-1H1L (REV0.3)
27	ISL95866 MOS_VCCGT-1H1L (REV0.3)
28	VCCSA_VCCIO-IRON-B.H系列 (REV0.23)
29	RT8237_DDR_CHOKE-IRON-2L (REV0.2)
30	RT8068A_VPP_CHOKE-IRON (REV0.2)
31	RT8237_PCH-IRON (REV0.3)
32	DISCRETE POWER (REV0.51)
33	NCT3933 OVER VOLTAGE
34	ATX POWER , -PROCHOT
35	KB_MS_USB (REV0.82)
36	R_USB30 (REV0.82)

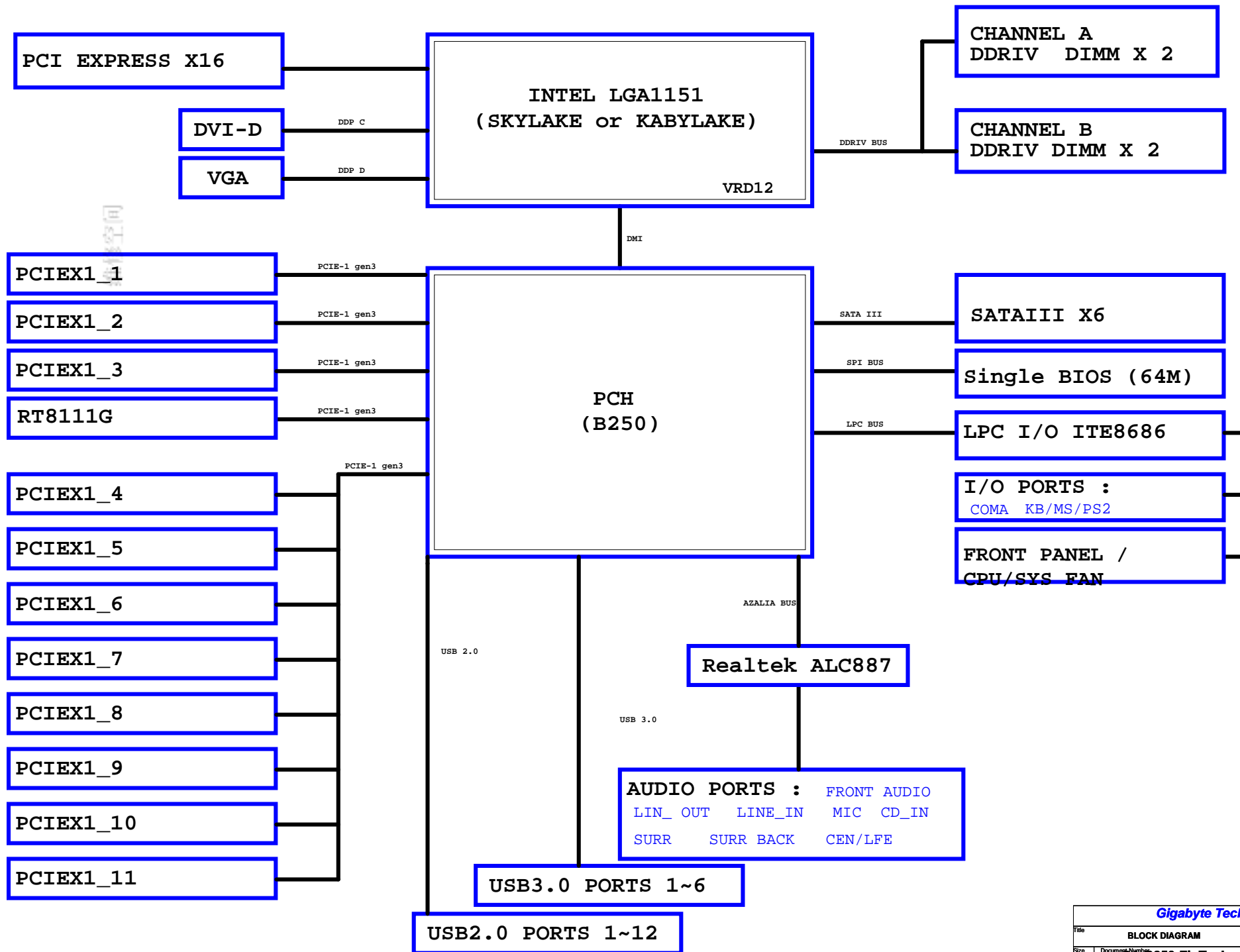
SHEET	TITLE
37	RTL8111G (REV1.06)
38	USB30_LAN CONNECTOR-8111G (REV1.06)
39	ALC887-VD2 CODEC (REV0.1)
40	REAR AUDIO JACK (REV0.1)
41	F_USB30 (REV0.82)
42	F_USB20 (REV0.82)
43	COM (REV0.82)
44	F_PANEL (REV0.82)
45	RTD2168-DP to VGA-IC (REV1.03)
46	RTD2168-DP to VGA-CONN (REV1.03)
47	DVI CONN (REV0.82)
48	Audio / DEBUG (REV0.31)
49	EMI-ESD (REV0.1)
50	POWER MAP
51	TABLE LIST

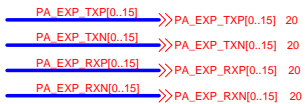
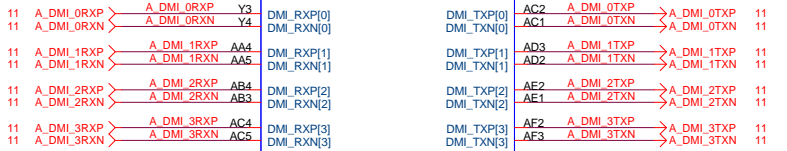


rev 1.0

[illegible][illegible]

BLOCK DIAGRAM





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4 layer PEG/DMI=====4/4/4//15
5 layer PEG/DMI=====4/5.5/4//15
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Impedance=85 +- 15%

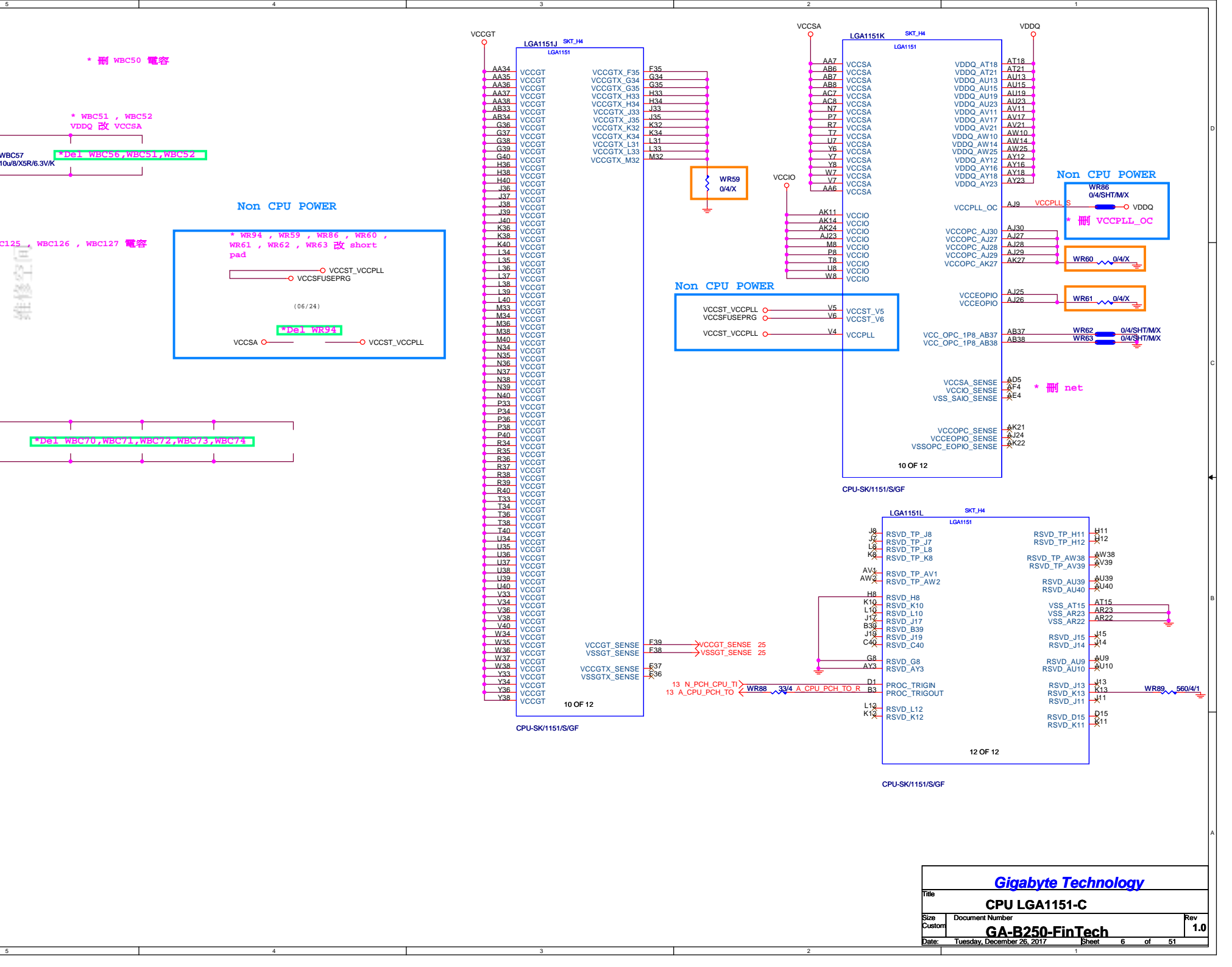
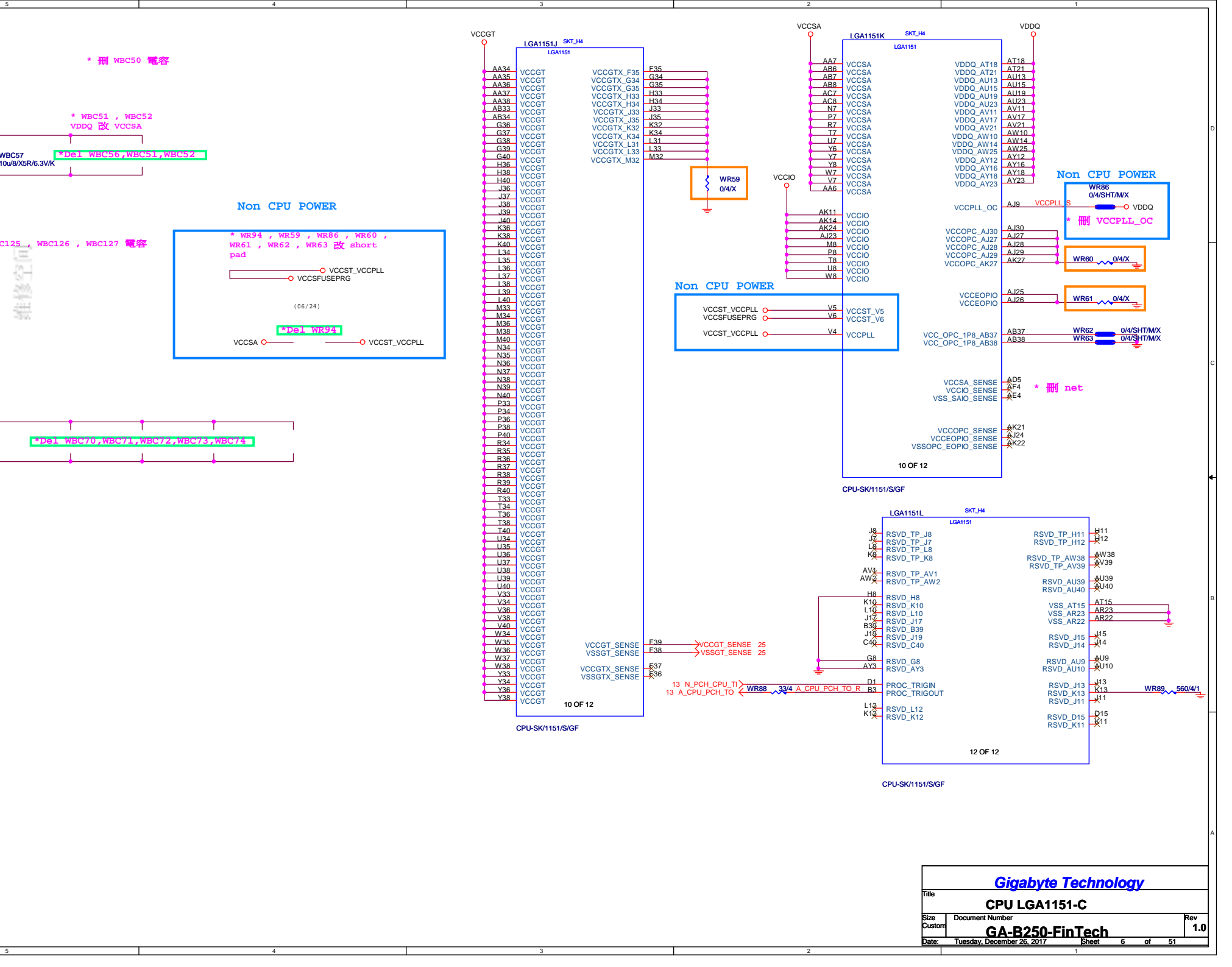
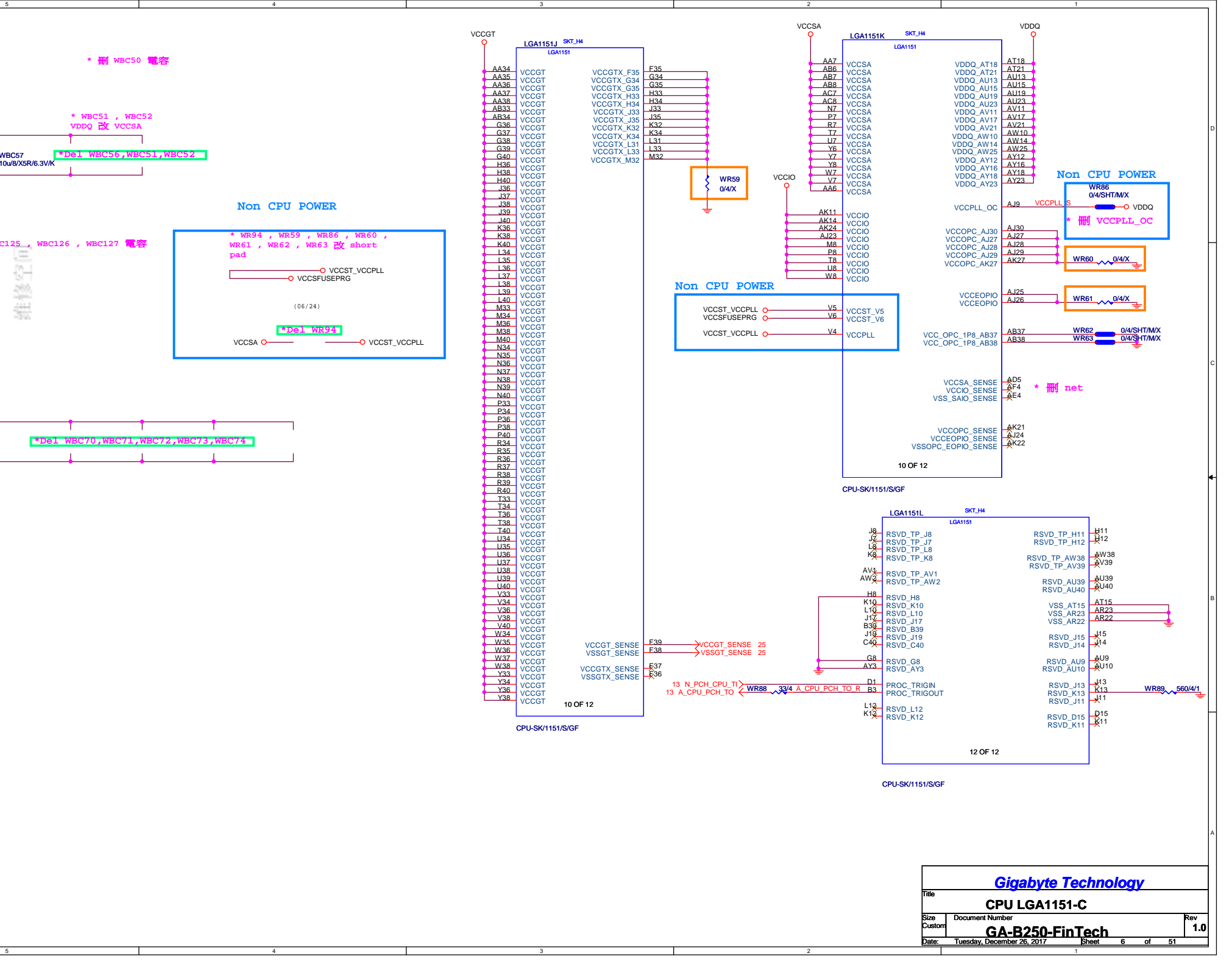
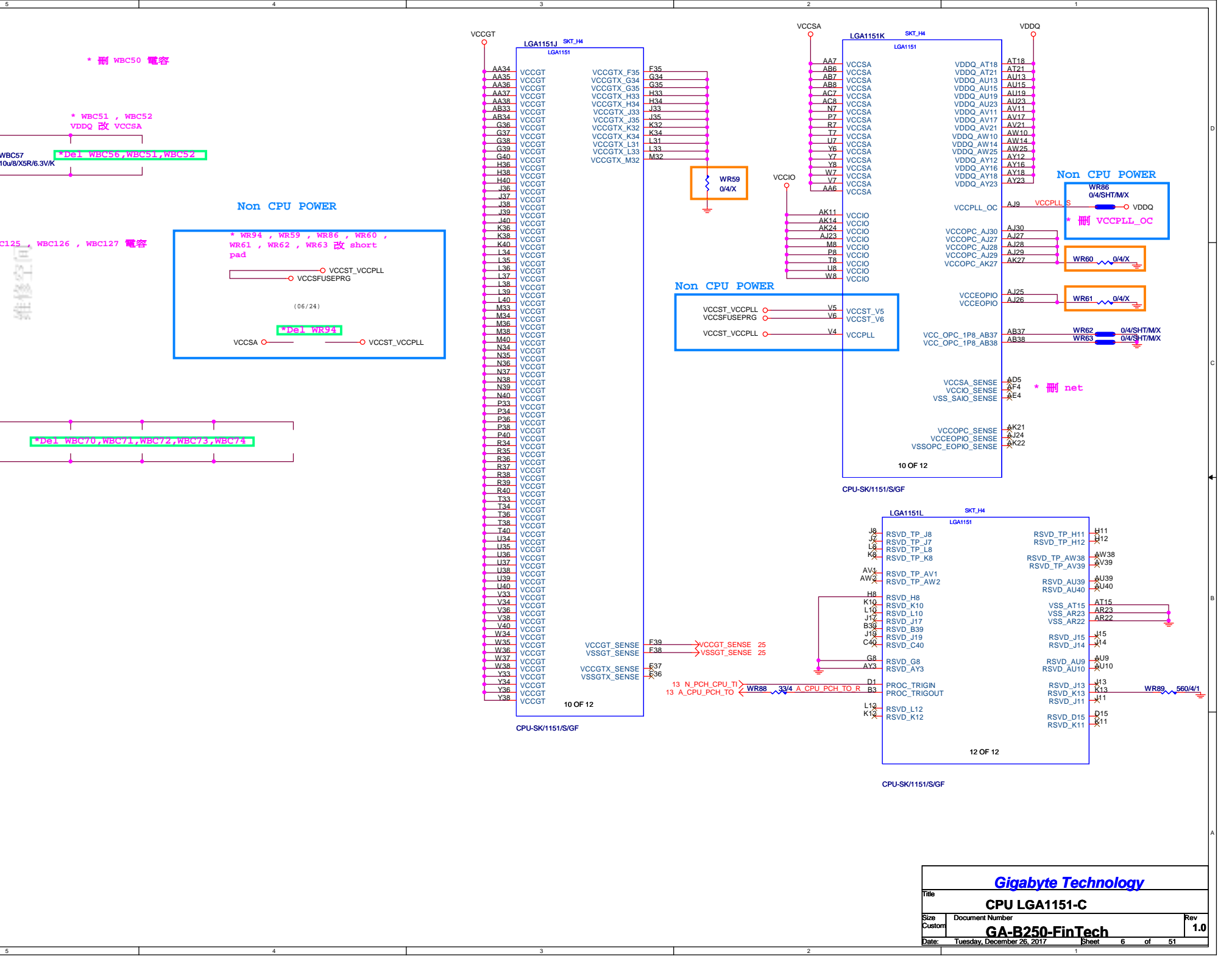
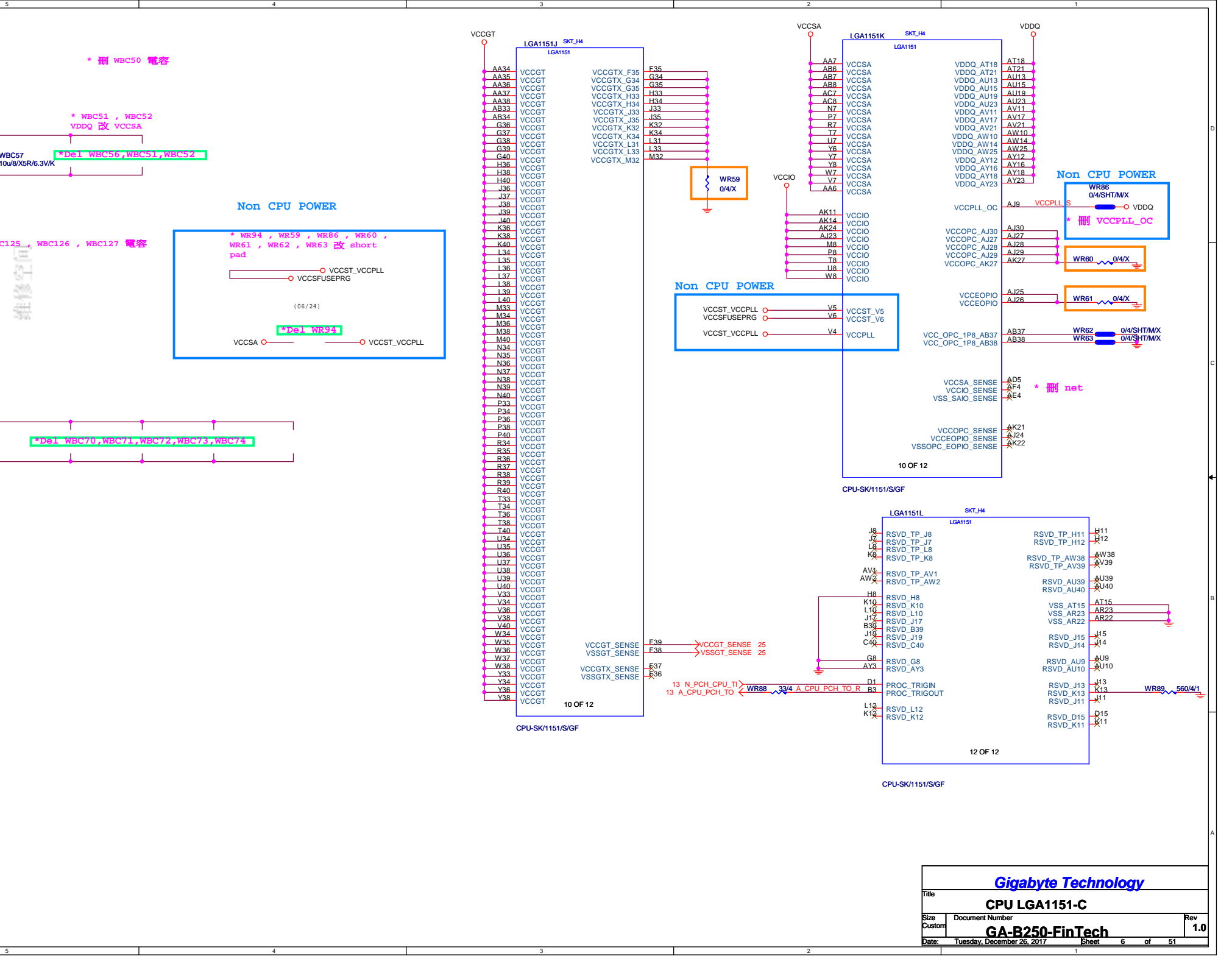
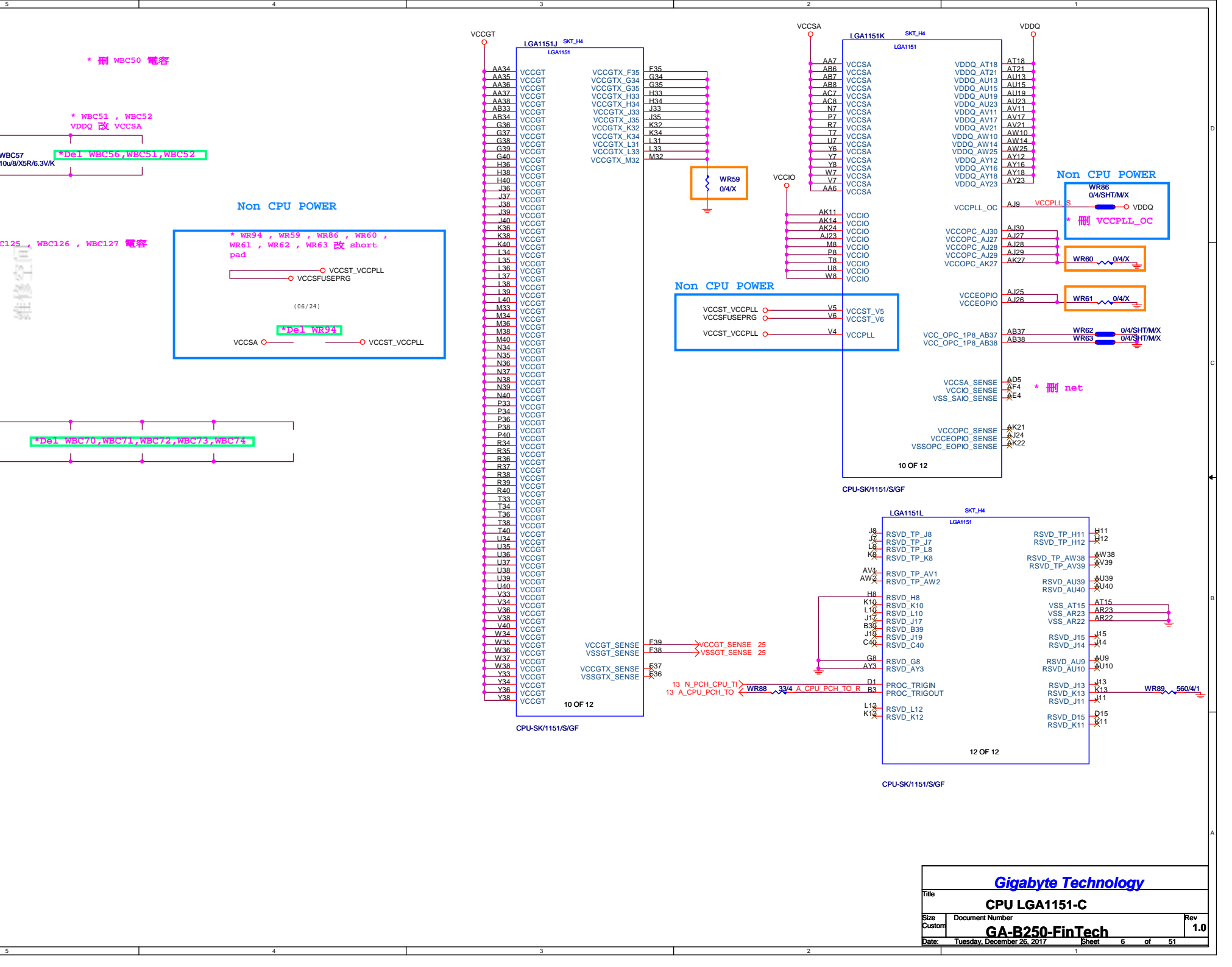
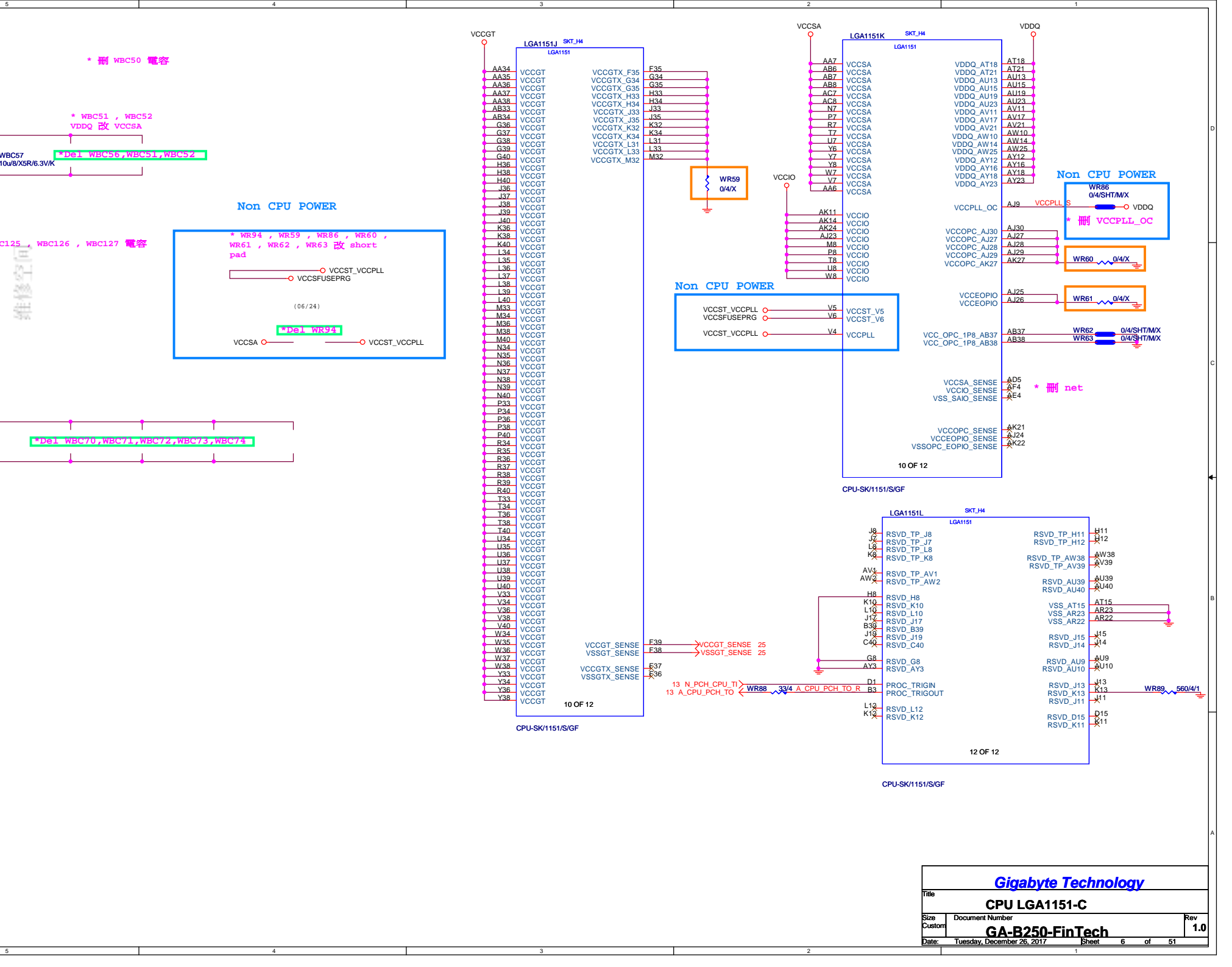
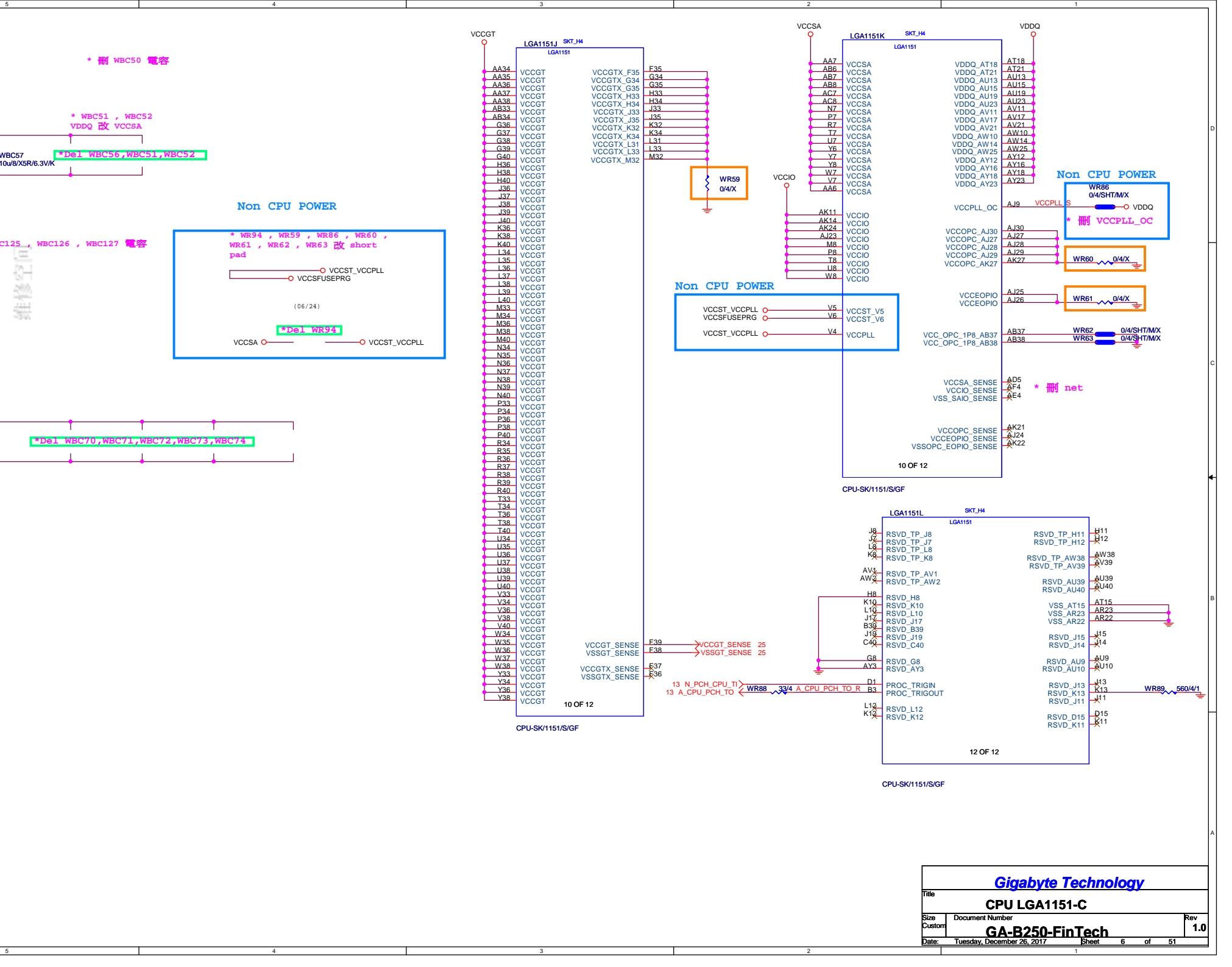
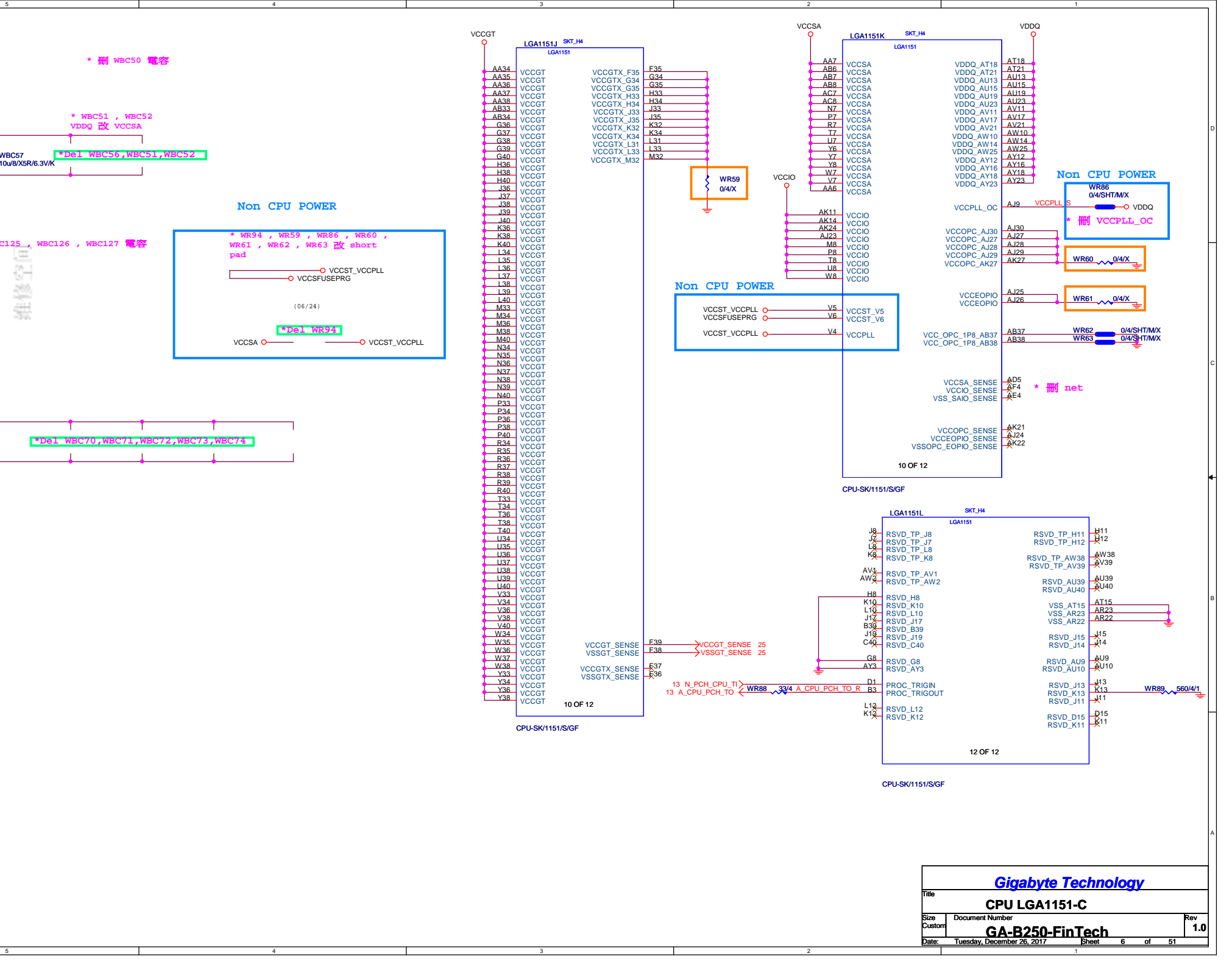
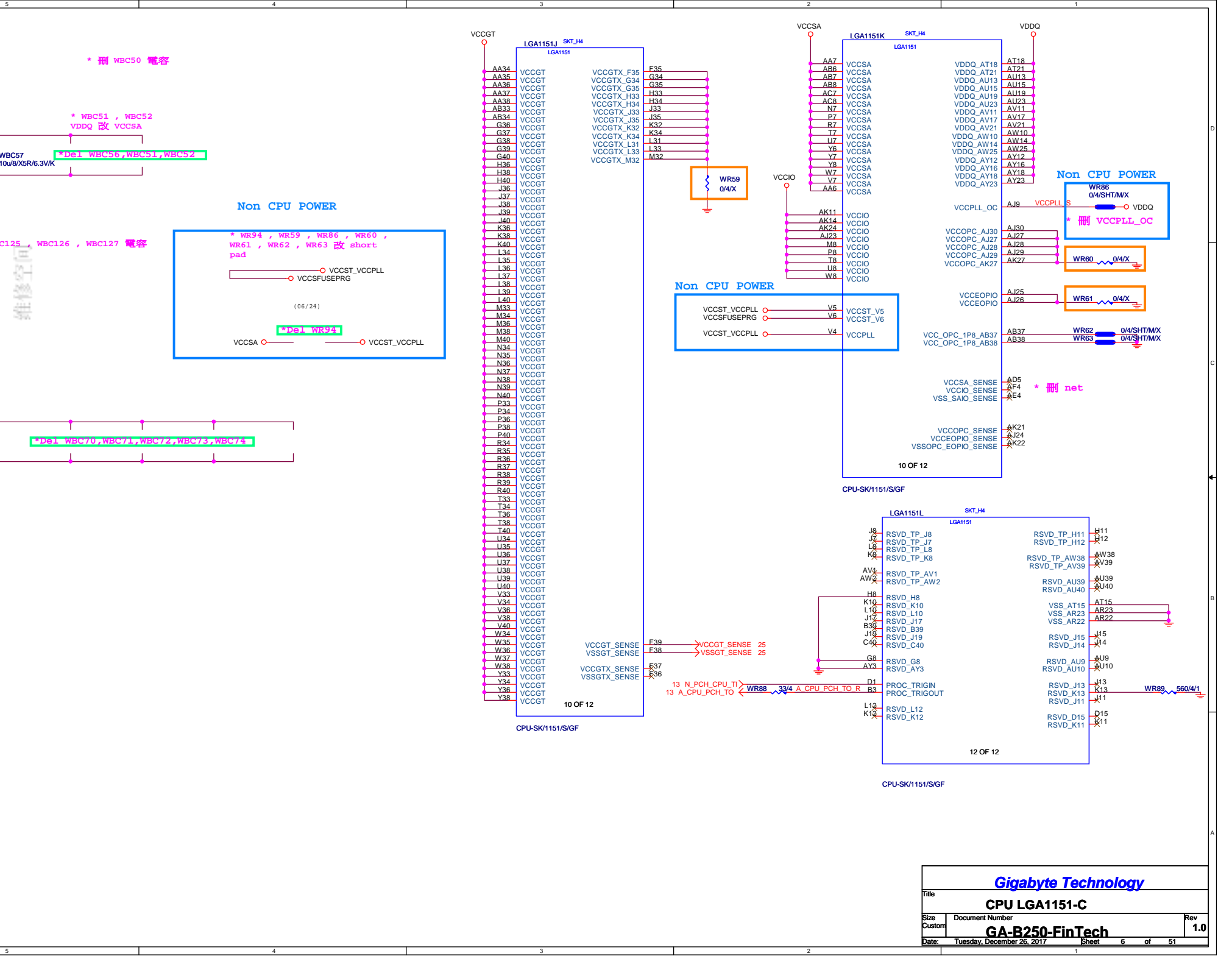
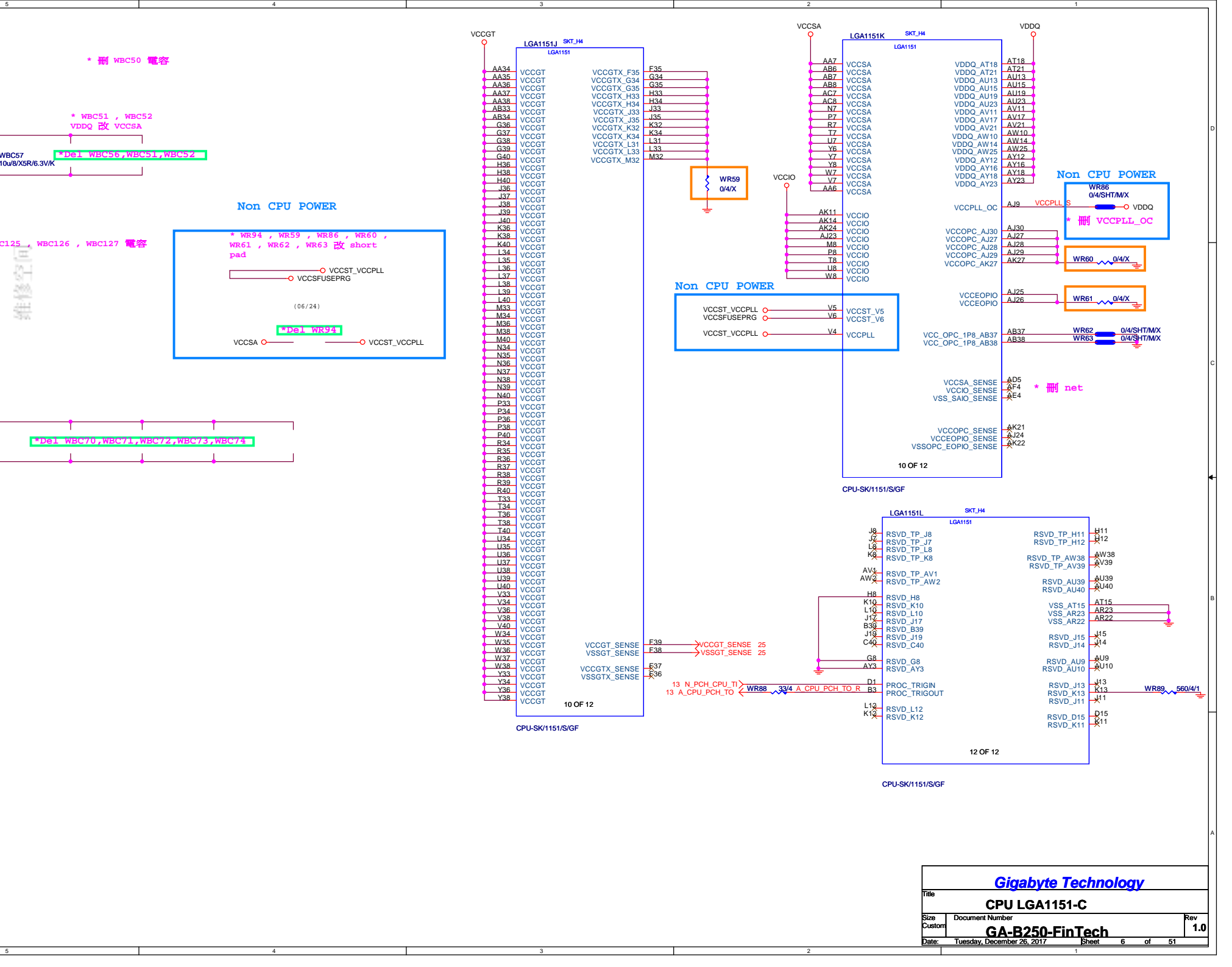
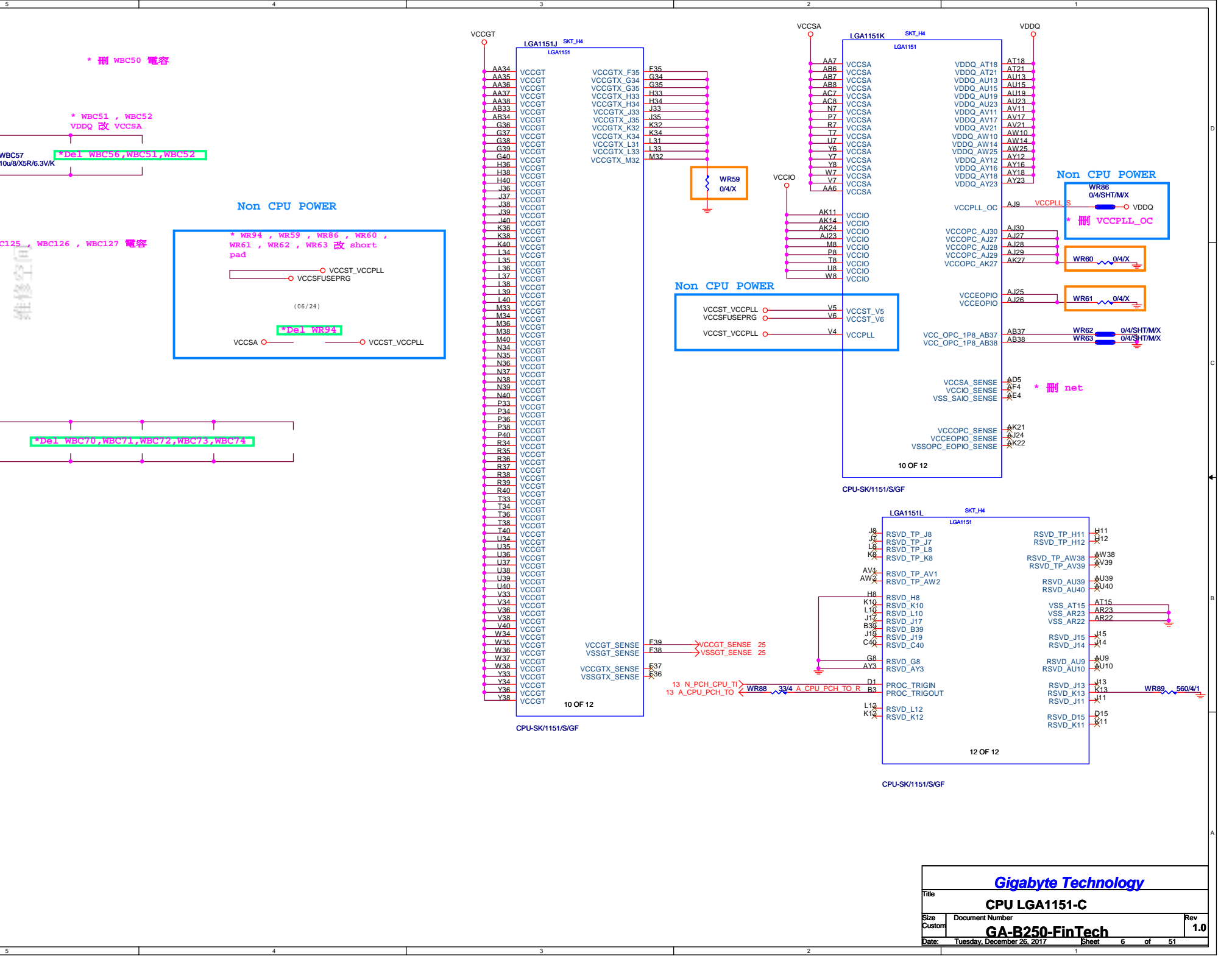
W=12 mil out of CPU
S=15 mil out of CPU

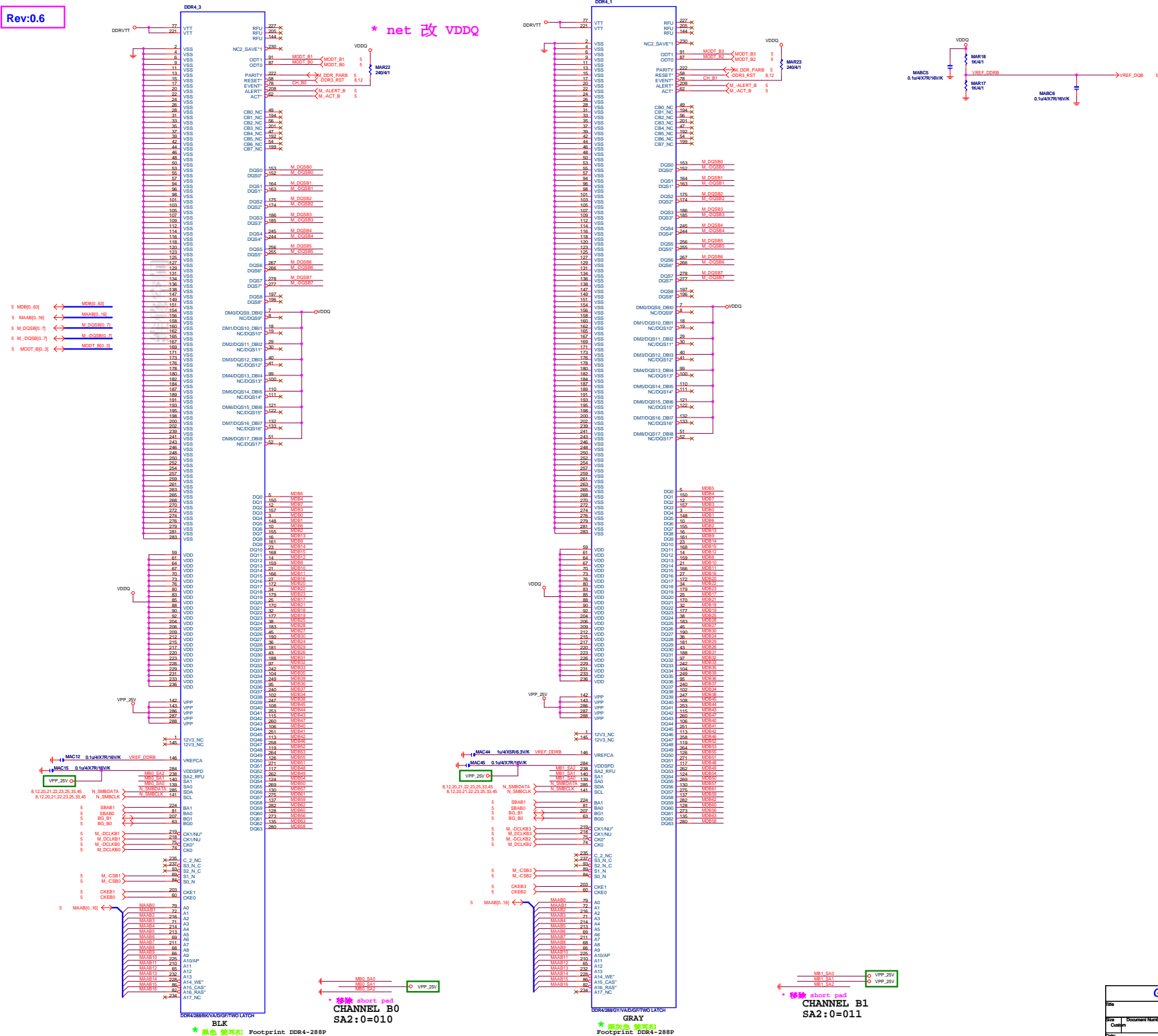
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	CFG[6]	CFG[5]	CFG[2]
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1x16 Reversed	1	1	0
2x8	1	0	1
2x8 Reversed	1	0	0
1x8+2x4	0	0	1
1x8+2x4 Reversed	0	0	0

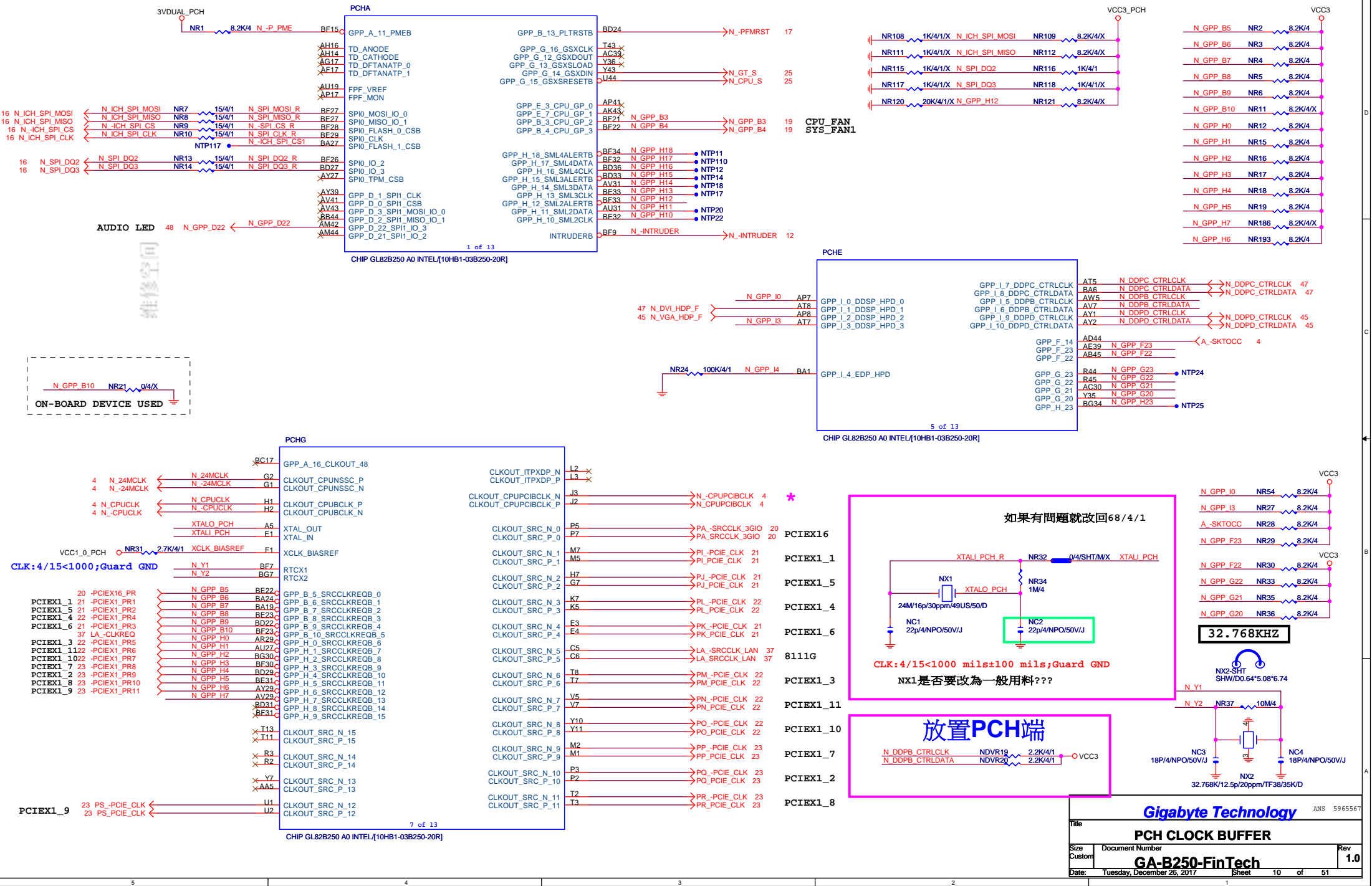
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Title			
CPU LGA1151-A			
Size	Document Number		Rev
Custom	GA-B250-FinTech		1.0
Date:	Tuesday, December 26, 2017	Sheet	4 of 51

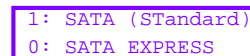
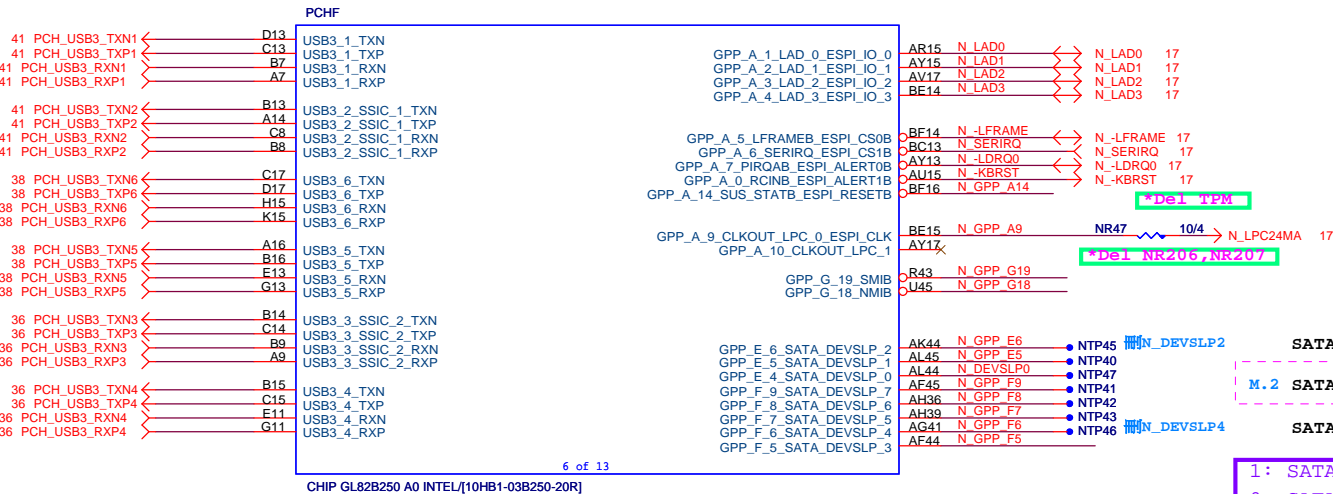
* 改DDR4 net

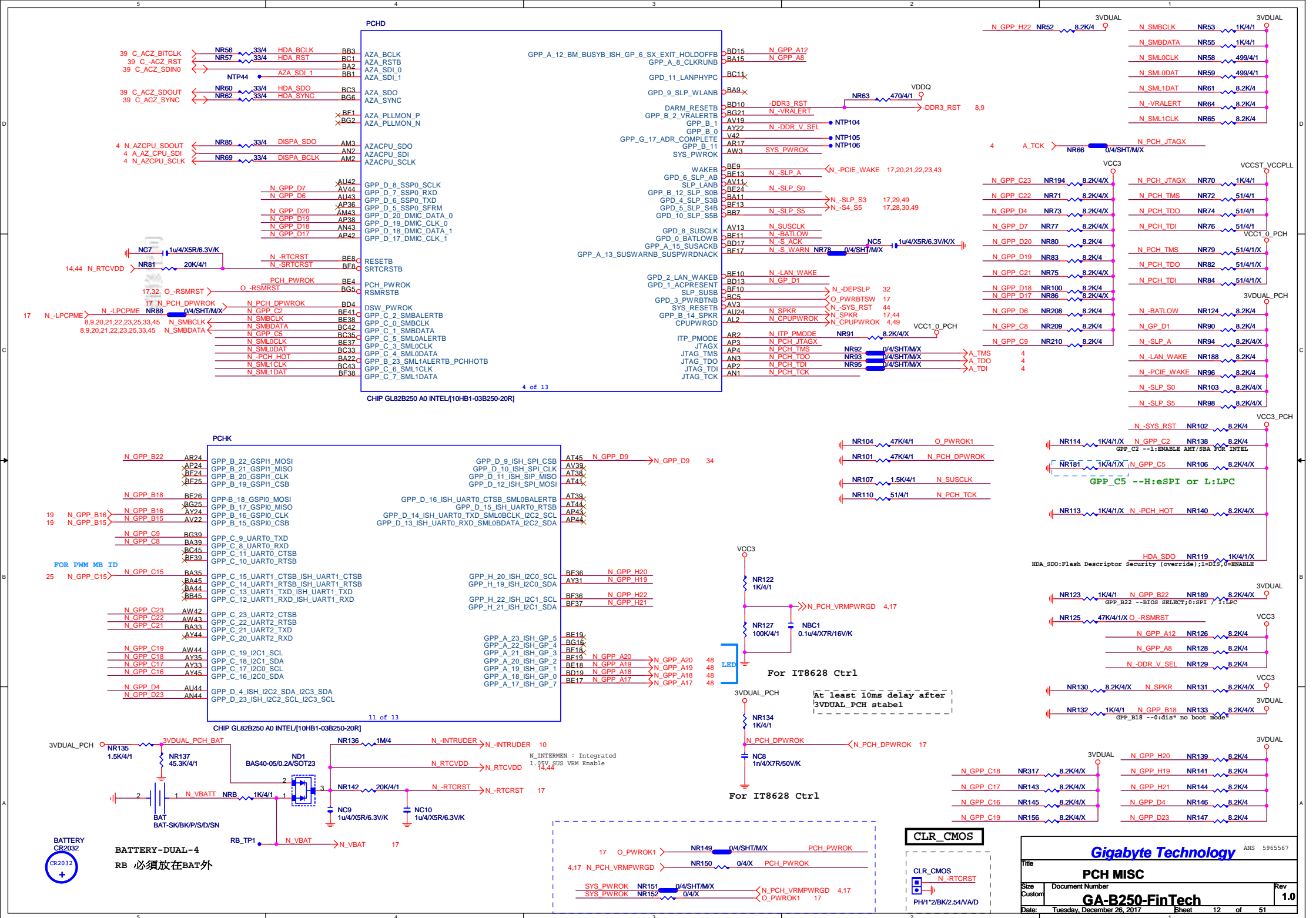
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MDA2 AG38	DDR0_DQ[2]	AW17 M_DCLKA1	M_DCLKA1 8
MDA3 AG37	DDR0_DQ[3]	AW17 M_DCLKA1	M_DCLKA1 8
MDA4 AE39	DDR0_DQ[4]	AW16 M_DCLKA2	M_DCLKA2 8
MDA5 AE40	DDR0_DQ[5]	AW16 M_DCLKA2	M_DCLKA2 8
MDA6 AG39	DDR0_DQ[6]	AW16 M_DCLKA3	M_DCLKA3 8
MDA7 AG40	DDR0_DQ[7]	AW16 M_DCLKA3	M_DCLKA3 8
MDA8 AJ38	DDR0_DQ[8]	AW24 CKEA0	CKEA0 8
MDA9 AJ37	DDR0_DQ[9]	AW24 CKEA1	CKEA1 8
MDA10 AL38	DDR0_DQ[10]	AW24 CKEA2	CKEA2 8
MDA11 AL37	DDR0_DQ[11]	AW25 CKEA3	CKEA3 8
MDA12 AJ40	DDR0_DQ[12]	AW12 M_CSA0	M_CSA0 8
MDA13 AJ39	DDR0_DQ[13]	AW12 M_CSA1	M_CSA1 8
MDA14 AL39	DDR0_DQ[14]	AW13 M_CSA2	M_CSA2 8
MDA15 AL40	DDR0_DQ[15]	AW10 M_CSA3	M_CSA3 8
MDA16 AN38	DDR0_DQ[16]/DDR0_DQ[32]	AW11 MODT_A0	MODT_A0 8
MDA17 AN40	DDR0_DQ[17]/DDR0_DQ[33]	AW14 MODT_A1	MODT_A1 8
MDA18 AR38	DDR0_DQ[18]/DDR0_DQ[34]	AW12 MODT_A2	MODT_A2 8
MDA19 AR37	DDR0_DQ[19]/DDR0_DQ[35]	AW10 MODT_A3	MODT_A3 8
MDA20 AN39	DDR0_DQ[20]/DDR0_DQ[36]	AW13 SBA00	SBA00 8
MDA21 AN37	DDR0_DQ[21]/DDR0_DQ[37]	AW15 SBA01	SBA01 8
MDA22 AR40	DDR0_DQ[22]/DDR0_DQ[38]	AW23 BG_A0	BG_A0 8
MDA23 AR40	DDR0_DQ[23]/DDR0_DQ[39]	AW13 M_AAA0	M_AAA0 8
MDA24 AW37	DDR0_DQ[24]/DDR0_DQ[40]	AW14 M_AAA1	M_AAA1 8
MDA25 AU38	DDR0_DQ[25]/DDR0_DQ[41]	AW11 M_AAA5	M_AAA5 8
MDA26 AV35	DDR0_DQ[26]/DDR0_DQ[42]	AW15 M_AAA0	M_AAA0 8
MDA27 AW35	DDR0_DQ[27]/DDR0_DQ[43]	AW18 M_AAA1	M_AAA1 8
MDA28 AU37	DDR0_DQ[28]/DDR0_DQ[44]	AW17 M_AAA2	M_AAA2 8
MDA29 AV37	DDR0_DQ[29]/DDR0_DQ[45]	AW19 M_AAA3	M_AAA3 8
MDA30 AT35	DDR0_DQ[30]/DDR0_DQ[46]	AW19 M_AAA3	M_AAA3 8
MDA31 AU35	DDR0_DQ[31]/DDR0_DQ[47]	AW20 M_AAA4	M_AAA4 8
MDA32 AY8	DDR0_DQ[32]/DDR1_DQ[0]	AW20 M_AAA4	M_AAA4 8
MDA33 AW8	DDR0_DQ[33]/DDR1_DQ[1]	AW21 M_AAA5	M_AAA5 8
MDA34 AV6	DDR0_DQ[34]/DDR1_DQ[2]	AW22 M_AAA12	M_AAA12 8
MDA35 AU6	DDR0_DQ[35]/DDR1_DQ[3]	AW22 M_AAA12	M_AAA12 8
MDA36 AU8	DDR0_DQ[36]/DDR1_DQ[4]	AW23 BG_A1	BG_A1 8
MDA37 AV8	DDR0_DQ[37]/DDR1_DQ[5]	AW24 M_DDR_PARA	M_DDR_PARA 8
MDA38 AW6	DDR0_DQ[38]/DDR1_DQ[6]	AT23 M_ALERT_A	M_ALERT_A 8
MDA39 AV6	DDR0_DQ[39]/DDR1_DQ[7]	AF38 M_DQSA0	M_DQSA0 8
MDA40 AY4	DDR0_DQ[40]/DDR1_DQ[8]	AK38 M_DQSA1	M_DQSA1 8
MDA41 AV4	DDR0_DQ[41]/DDR1_DQ[9]	AP38 M_DQSA2	M_DQSA2 8
MDA42 AT1	DDR0_DQ[42]/DDR1_DQ[10]	AV7 M_DQSA4	M_DQSA4 8
MDA43 AT2	DDR0_DQ[43]/DDR1_DQ[11]	AU2 M_DQSA5	M_DQSA5 8
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MDA45 AW4	DDR0_DQ[45]/DDR1_DQ[13]	AJ2 M_DQSA7	M_DQSA7 8
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MDA48 AP2	DDR0_DQ[48]/DDR1_DQ[16]	AP38 M_DQSA2	M_DQSA2 8
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MDA61 AK2	DDR0_DQ[61]/DDR1_DQ[29]	AK38 M_DQSA1	M_DQSA1 8
MDA62 AH3	DDR0_DQ[62]/DDR1_DQ[30]	AP38 M_DQSA2	M_DQSA2 8
MDA63 AK1	DDR0_DQ[63]/DDR1_DQ[31]	AV7 M_DQSA4	M_DQSA4 8
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AY84	DDR0_ECC[103]	AP38 M_DQSA2	M_DQSA2 8
AV85	DDR0_ECC[104]	AV7 M_DQSA4	M_DQSA4 8
AY85	DDR0_ECC[105]	AU2 M_DQSA5	M_DQSA5 8
AV86	DDR0_ECC[106]	AN2 M_DQSA6	M_DQSA6 8
AY86	DDR0_ECC[107]	AJ2 M_DQSA7	M_DQSA7 8
AV87	DDR0_ECC[108]	AF38 M_DQSA0	M_DQSA0 8
AY87	DDR0_ECC[109]	AK38 M_DQSA1	M_DQSA1 8
AV88	DDR0_ECC[110]	AP38 M_DQSA2	M_DQSA2 8
AY88	DDR0_ECC[111]	AV7 M_DQSA4	M_DQSA4 8
AV89	DDR0_ECC[112]	AU2 M_DQSA5	M_DQSA5 8
AY89	DDR0_ECC[113]	AN2 M_DQSA6	M_DQSA6 8
AV90	DDR0_ECC[114]	AJ2 M_DQSA7	M_DQSA7 8
AY90	DDR0_ECC[115]	AF38 M_DQSA0	M_DQSA0 8
AV91	DDR0_ECC[116]	AK38 M_DQSA1	M_DQSA1 8
AY91	DDR0_ECC[117]	AP38 M_DQSA2	M_DQSA2 8
AV92	DDR0_ECC[118]	AV7 M_DQSA4	M_DQSA4 8
AY92	DDR0_ECC[119]	AU2 M_DQSA5	M_DQSA5 8
AV93	DDR0_ECC[120]	AN2 M_DQSA6	M_DQSA6 8
AY93	DDR0_ECC[121]	AJ2 M_DQSA7	M_DQSA7 8
AV94	DDR0_ECC[122]	AF38 M_DQSA0	M_DQSA0 8
AY94	DDR0_ECC[123]	AK38 M_DQSA1	M_DQSA1 8
AV95	DDR0_ECC[124]	AP38 M_DQSA2	M_DQSA2 8
AY95	DDR0_ECC[125]	AV7 M_DQSA4	M_DQSA4 8
AV96	DDR0_ECC[126]	AU2 M_DQSA5	M_DQSA5 8
AY96	DDR0_ECC[127]	AN2 M_DQSA6	M_DQSA6 8
AV97	DDR0_ECC[128]	AJ2 M_DQSA7	M_DQSA7 8
AY97	DDR0_ECC[129]	AF38 M_DQSA0	M_DQSA0 8
AV98	DDR0_ECC[130]	AK38 M_DQSA1	M_DQSA1 8
AY98	DDR0_ECC[131]	AP38 M_DQSA2	M_DQSA2 8
AV99	DDR0_ECC[132]	AV7 M_DQSA4	M_DQSA4 8
AY99	DDR0_ECC[133]	AU2 M_DQSA5	M_DQSA5 8
AV100	DDR0_ECC[134]	AN2 M_DQSA6	M_DQSA6 8
AY100	DDR0_ECC[135]	AJ2 M_DQSA7	M_DQSA7 8
AV101	DDR0_ECC[136]	AF38 M_DQSA0	M_DQSA0 8
AY101	DDR0_ECC[137]	AK38 M_DQSA1	M_DQSA1 8
AV102	DDR0_ECC[138]	AP38 M_DQSA2	M_DQSA2 8
AY102	DDR0_ECC[139]	AV7 M_DQSA4	M_DQSA4 8
AV103	DDR0_ECC[140]	AU2 M_DQSA5	M_DQSA5 8
AY103	DDR0_ECC[141]	AN2 M_DQSA6	M_DQSA6 8
AV104	DDR0_ECC[142]	AJ2 M_DQSA7	M_DQSA7 8
AY104	DDR0_ECC[143]	AF38 M_DQSA0	M_DQSA0 8
AV105	DDR0_ECC[144]	AK38 M_DQSA1	M_DQSA1 8
AY105	DDR0_ECC[145]	AP38 M_DQSA2	M_DQSA2 8
AV106	DDR0_ECC[146]	AV7 M_DQSA4	M_DQSA4 8
AY106	DDR0_ECC[147]	AU2 M_DQSA5	M_DQSA5 8
AV107	DDR0_ECC[148]	AN2 M_DQSA6	M_DQSA6 8
AY107	DDR0_ECC[149]	AJ2 M_DQSA7	M_DQSA7 8
AV108	DDR0_ECC[150]	AF38 M_DQSA0	M_DQSA0 8
AY108	DDR0_ECC[151]	AK38 M_DQSA1	M_DQSA1 8
AV109	DDR0_ECC[152]	AP38 M_DQSA2	M_DQSA2 8
AY109	DDR0_ECC[153]	AV7 M_DQSA4	M_DQSA4 8
AV110	DDR0_ECC[154]	AU2 M_DQSA5	M_DQSA5 8
AY110	DDR0_ECC[155]	AN2 M_DQSA6	M_DQSA6 8
AV111	DDR0_ECC[156]	AJ2 M_DQSA7	M_DQSA7 8
AY111	DDR0_ECC[157]	AF38 M_DQSA0	M_DQSA0 8
AV112	DDR0_ECC[158]	AK38 M_DQSA1	M_DQSA1 8
AY112	DDR0_ECC[159]	AP38 M_DQSA2	M_DQSA2 8
AV113	DDR0_ECC[160]	AV7 M_DQSA4	M_DQSA4 8
AY113	DDR0_ECC[161]	AU2 M_DQSA5	M_DQSA5 8
AV114	DDR0_ECC[162]	AN2 M_DQSA6	M_DQSA6 8
AY114	DDR0_ECC[163]	AJ2 M_DQSA7	M_DQSA7 8
AV115	DDR0_ECC[164]	AF38 M_DQSA0	M_DQSA0 8
AY115	DDR0_ECC[165]	AK38 M_DQSA1	M_DQSA1 8
AV116	DDR0_ECC[166]	AP38 M_DQSA2	M_DQSA2 8
AY116	DDR0_ECC[167]	AV7 M_DQSA4	M_DQSA4 8
AV117	DDR0_ECC[168]	AU2 M_DQSA5	M_DQSA5 8
AY117	DDR0_ECC[169]	AN2 M_DQSA6	M_DQSA6 8
AV118	DDR0_ECC[170]	AJ2 M_DQSA7	M_DQSA7 8
AY118	DDR0_ECC[171]	AF38 M_DQSA0	M_DQSA0 8
AV119	DDR0_ECC[172]	AK38 M_DQSA1	M_DQSA1 8
AY119	DDR0_ECC[173]	AP38 M_DQSA2	M_DQSA2 8
AV120	DDR0_ECC[174]	AV7 M_DQSA4	M_DQSA4 8
AY120	DDR0_ECC[175]	AU2 M_DQSA5	M_DQSA5 8
AV121	DDR0_ECC[176]	AN2 M_DQSA6	M_DQSA6 8
AY121	DDR0_ECC[177]	AJ2 M_DQSA7	M_DQSA7 8
AV122	DDR0_ECC[178]	AF38 M_DQSA0	M_DQSA0 8
AY122	DDR		

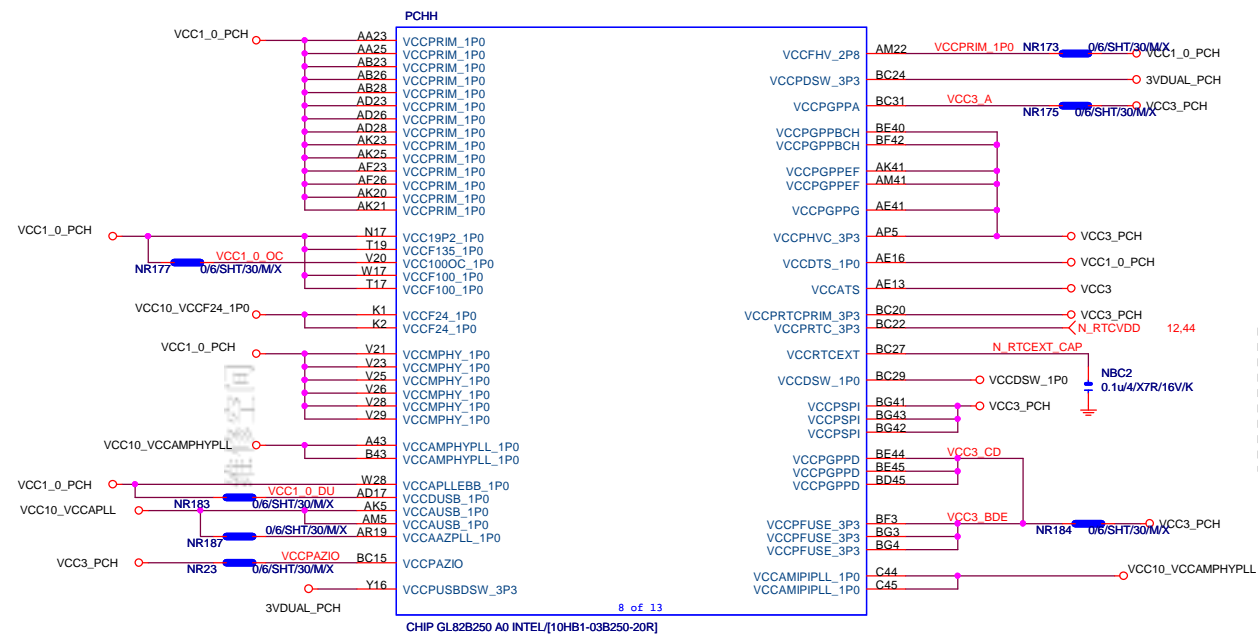




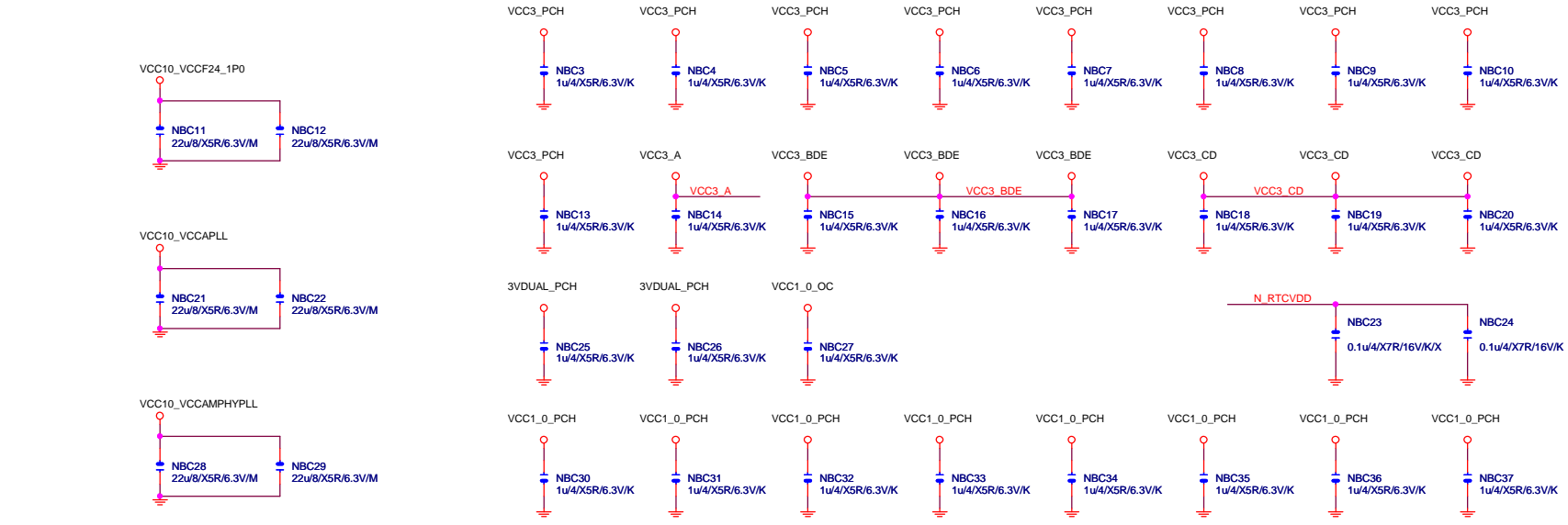
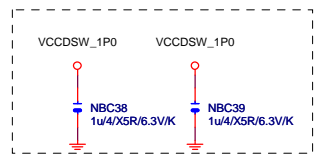
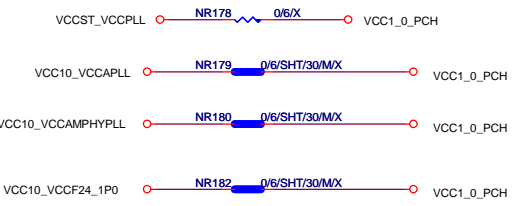
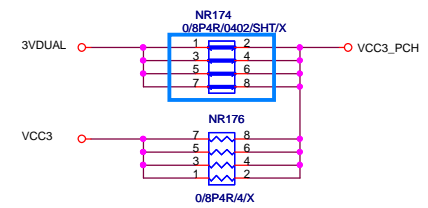








***PVT時,NR174改Short Pad**



Gigabyte Technology			ANS 5965567
Title			
PCH PWR, GND			
Size	Document Number	Rev	
Custom	GA-B250-FinTech	1.0	
Date:	Tuesday, December 26, 2017	Sheet	14 of 51

裝甲HEATSINK 分成四大部份

PCHI		
A25	VSS	A42
A30	VSS	D45
P22	VSS	BG44
AV38	VSS	BF44
AV45	VSS	BF45
AV8	VSS	BF2
AV11	VSS	W29
AV19	VSS	A35
AV37	VSS	A40
AY4	VSS	A41
AY42	VSS	AA17
AY8	VSS	AA18
B25	VSS	AA20
B3	VSS	AA21
B30	VSS	AA26
B35	VSS	AA28
B4	VSS	AA29
B41	VSS	AB17
BA13	VSS	AC32
BA17	VSS	AE
BA29	VSS	AE4
BA31	VSS	AE8
BA37	VSS	AE18
BA4	VSS	AF20
BA42	VSS	AF21
BB40	VSS	AF25
BC38	VSS	AF28
BC40	VSS	AF29
BC9	VSS	AF4
BD11	VSS	AF42
BD16	VSS	AG18
BD2	VSS	AG20
BD21	VSS	AG21
BD25	VSS	AG23
F2	VSS	AG25
F31	VSS	AG26
E6	VSS	AG28
E8	VSS	AG29
F38	VSS	AH11
F43	VSS	AH13
G4	VSS	AH30
G40	VSS	AH32
G42	VSS	AH33
F6	VSS	AH38
G9	VSS	AJ1
H11	VSS	AJ17
H13	VSS	AJ18
H17	VSS	AJ20
H19	VSS	AJ21
H22	VSS	AJ23
H24	VSS	AJ25
H27	VSS	AJ26
H29	VSS	AJ28
H33	VSS	AJ29
H35	VSS	AJ45
H38	VSS	AK10
H4	VSS	AK14
H42	VSS	AK16
H9	VSS	AK17
J4	VSS	AK18
M36	VSS	AK26
M38	VSS	AK28
M4	VSS	AM14
M8	VSS	AN14
M9	VSS	AP19
N13	VSS	AR22
N15	VSS	AR27
N19	VSS	AU29
N22	VSS	AU33
N24	VSS	AV1
N31	VSS	AV10
N42	VSS	AV15
P10	VSS	AV24
P12	VSS	AV27
AV35	VSS	AV33

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CHIP GL82B250 A0 INTEL[10HB1-03B250-20R]

PCHL		
BD34	VSS[70]	AB18
BD39	VSS[71]	AB20
BD7	VSS[72]	AB21
BE2	VSS[73]	AB25
BF43	VSS[74]	AB29
BF5	VSS[75]	AB4
BG18	VSS[76]	AB42
BG23	VSS[77]	AC10
BG28	VSS[78]	AC10
BG32	VSS[79]	AC14
BG37	VSS[80]	AC16
BG40	VSS[81]	AC38
CG	VSS[82]	AC4
C1	VSS[83]	AC5
A12	VSS[84]	AC7
C2	VSS[85]	AC8
CG7	VSS[86]	AD1
AG	VSS[87]	AD18
C9	VSS[88]	AD20
D6	VSS[89]	AD21
D1	VSS[90]	AD25
D10	VSS[91]	AD29
D12	VSS[92]	AD45
D15	VSS[93]	AE11
D16	VSS[94]	AE14
R12	VSS[95]	AE32
D19	VSS[96]	AE38
D21	VSS[97]	AK29
D24	VSS[98]	AK30
D25	VSS[99]	AK32
D29	VSS[100]	AK35
AG20	VSS[101]	AK39
D33	VSS[102]	AL4
D35	VSS[103]	AL42
D36	VSS[104]	AM10
F2	VSS[105]	AM11
D32	VSS[106]	AM13
D44	VSS[107]	AM17
D7	VSS[108]	AM19
P13	VSS[109]	AM24
P15	VSS[110]	AM27
P17	VSS[111]	AM29
P19	VSS[112]	AM32
P31	VSS[113]	AM33
P33	VSS[114]	AM4
P35	VSS[115]	AN45
P4	VSS[116]	AP10
P42	VSS[117]	AP11
P8	VSS[118]	AP13
R1	VSS[119]	AP15
R32	VSS[120]	AP22
T10	VSS[121]	AP27
T14	VSS[122]	AP31
T22	VSS[123]	AP33
T29	VSS[124]	AP34
T32	VSS[125]	AP39
T36	VSS[126]	T4
T38	VSS[127]	W26
Y38	VSS[128]	V16
Y4	VSS[129]	V17
Y8	VSS[130]	V18
T42	VSS[131]	V30
T5	VSS[132]	V32
U4	VSS[133]	V33
U42	VSS[134]	V38
U44	VSS[135]	V4
V10	VSS[136]	V8
V14	VSS[137]	W18
W3	VSS[138]	W20
AR13	VSS[139]	W21
AR31	VSS[140]	W23
AR33	VSS[141]	W25
AR4	VSS[142]	
AT10	VSS[143]	A44
AT13	VSS[144]	BE1
AT35	VSS[145]	BD1
AT37	VSS[146]	B1
AT42	VSS[147]	A2
AU11	VSS[148]	B2
AU17	VSS[149]	A3
BD30	VSS[150]	A4
W45	VSS[151]	B44
Y13	VSS[152]	B45
Y14	VSS[153]	
Y15	VSS[154]	
Y16	VSS[155]	
Y30	VSS[156]	
Y32	VSS[157]	
Y33	VSS[158]	
Y34	VSS[159]	
Y35	VSS[160]	
Y36	VSS[161]	
Y37	VSS[162]	
Y38	VSS[163]	
Y39	VSS[164]	
Y40	VSS[165]	
Y41	VSS[166]	
Y42	VSS[167]	
Y43	VSS[168]	
Y44	VSS[169]	
Y45	VSS[170]	
Y46	VSS[171]	
Y47	VSS[172]	
Y48	VSS[173]	
Y49	VSS[174]	
Y50	VSS[175]	
Y51	VSS[176]	
Y52	VSS[177]	
Y53	VSS[178]	
Y54	VSS[179]	
Y55	VSS[180]	
Y56	VSS[181]	
Y57	VSS[182]	
Y58	VSS[183]	
Y59	VSS[184]	
Y60	VSS[185]	
Y61	VSS[186]	
Y62	VSS[187]	
Y63	VSS[188]	
Y64	VSS[189]	
Y65	VSS[190]	
Y66	VSS[191]	
Y67	VSS[192]	
Y68	VSS[193]	
Y69	VSS[194]	
Y70	VSS[195]	
Y71	VSS[196]	
Y72	VSS[197]	
Y73	VSS[198]	
Y74	VSS[199]	
Y75	VSS[200]	
Y76	VSS[201]	
Y77	VSS[202]	
Y78	VSS[203]	
Y79	VSS[204]	
Y80	VSS[205]	
Y81	VSS[206]	
Y82	VSS[207]	
Y83	VSS[208]	
Y84	VSS[209]	
Y85	VSS[210]	
Y86	VSS[211]	
Y87	VSS[212]	
Y88	VSS[213]	
Y89	VSS[214]	
Y90	VSS[215]	
Y91	VSS[216]	
Y92	VSS[217]	
Y93	VSS[218]	
Y94	VSS[219]	
Y95	VSS[220]	
Y96	VSS[221]	
Y97	VSS[222]	
Y98	VSS[223]	
Y99	VSS[224]	
Y100	VSS[225]	

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CHIP GL82B250 A0 INTEL[10HB1-03B250-20R]

Location: PCH_HS 12SP2-S04208-61R/62R/63R
Location: MOS_HS 12SP2-S08924-11R/12R/13R

1X Footprint CHECK

尺寸42*42
孔徑3MM

footprint: BGAHSINK_SB-42X42

HEAT SINK N-BG GBT MK/H81/KWOG/[12SP2-S04208-61R_12SP2-S04208-62R_12SP2-S04208-63R]

H81 Series PCH
Heatsink

1X

footprint: MOSHSINK-DRMOS-7UD3H

HEAT SINK MOSFET/Z77-MOS/KWOG/[12SP2-S08924-11R_12SP2-S08924-12R_12SP2-S08924-13R]

GIGABYTE

Footprint :
X99-ARMOR-AUDIO

Footprint :
REAR_ARMOR-Z270X-GAMING7

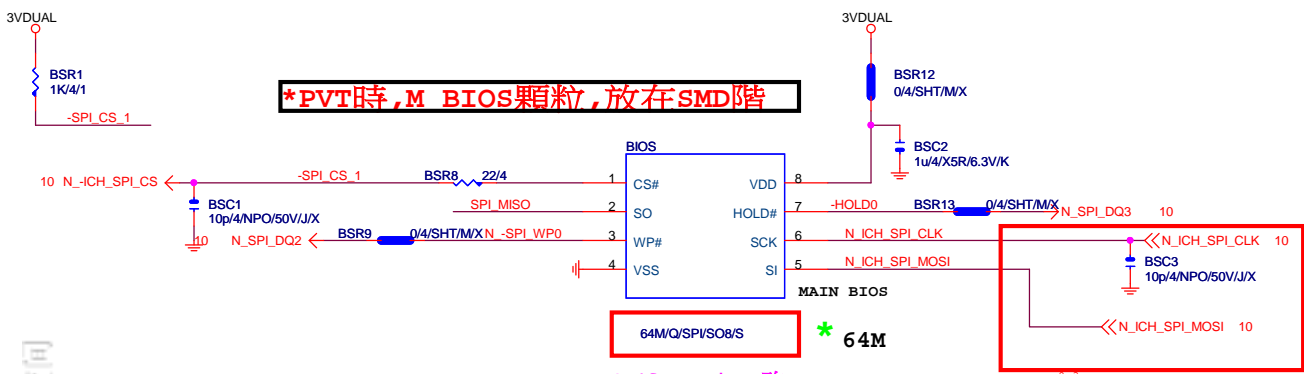
鐵件裝甲

Footprint :
Z270X-GAMING7_ARMOR

塑膠裝甲

PCB : 咖啡黑(咖啡)
圖騰 : 灰色斜線圖騰及文字面
抗硫電阻 : YES

Gigabyte Technology			ANSI	5965567
Title				
PCH PWR, GND				
Size	Document Number			Rev
Custom	GA-B250-FinTech			1.0
Date:	Tuesday, December 26, 2017	Sheet	15	of 51

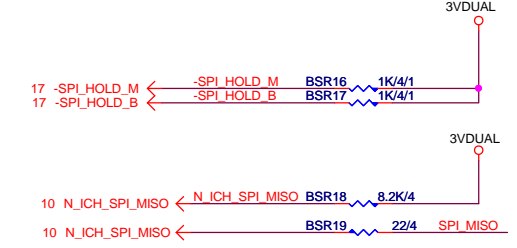


*PVT時,M BIOS顆粒,放在SMD階

* (footprint 改
SOIC8-SPI-SOCKET)

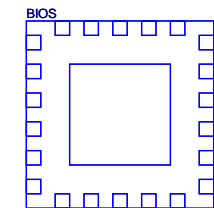
* (MP footprint 改 IC8-BIOS)

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

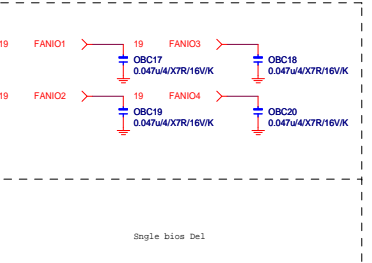
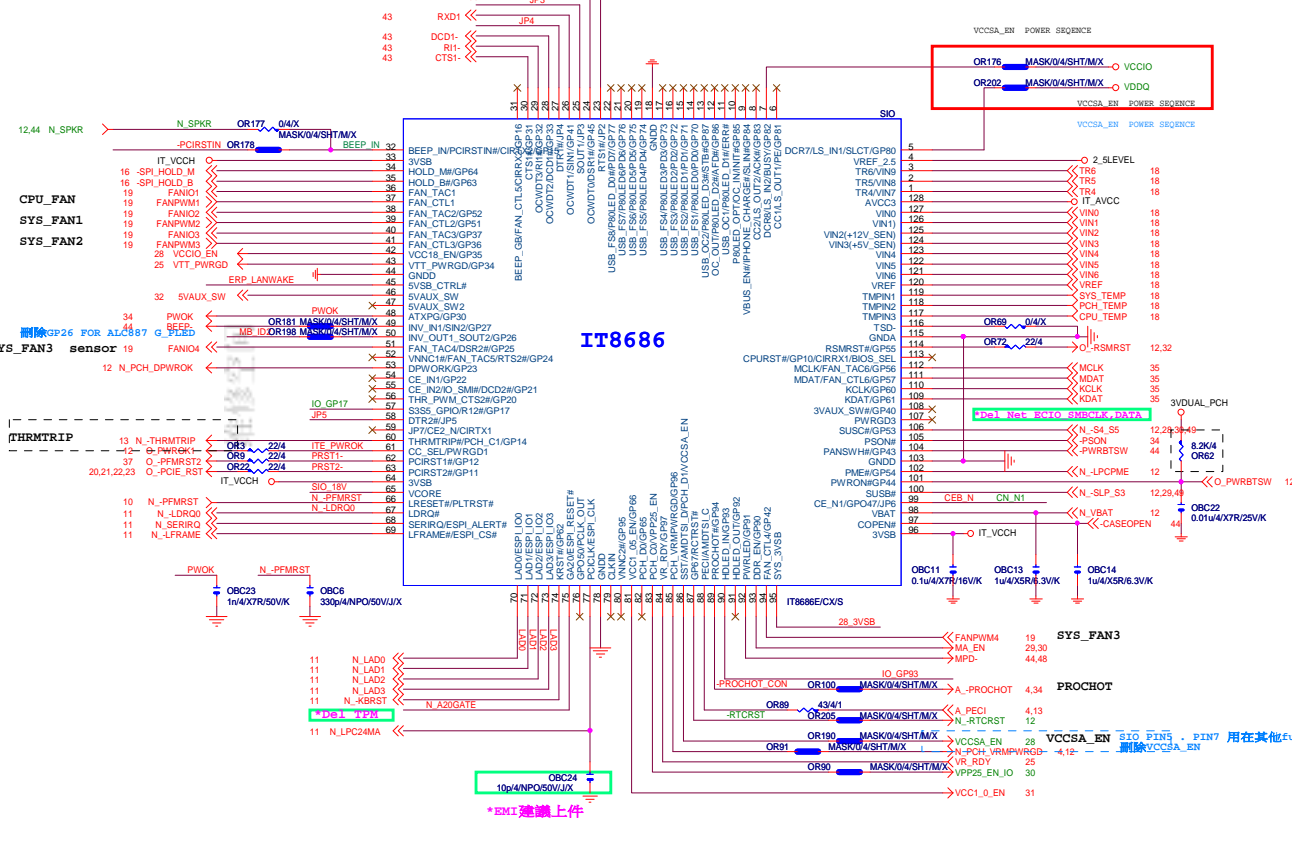


LCP/G-FL/1.27mm/200MIL/WHITE[10SL2-000008-31R]/X

* 試產先上, PVT 移除

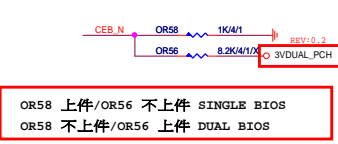
SIO IT8686 REV:0.7

IT8686

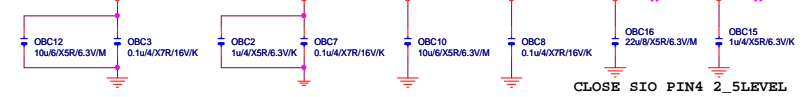


FAN TABLE	
CPU_FAN	FAN_CTL1 FAN_TAC1
SYS_FAN1	FAN_CTL2 FAN_TAC2
SYS_FAN2	FAN_CTL3 FAN_TAC3
SYS_FAN3	FAN_CTL4 FAN_TAC4
OPT_FAN or SYS_FAN4	FAN_CTL5 FAN_TAC5
THRMTRIP	PIN56
PROCHOT	PIN89

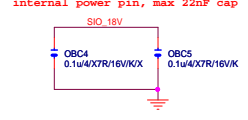
DUAL BIOS OPT STRAP



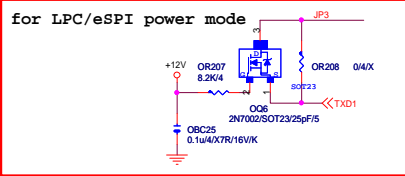
SIO CAP



SIO_18V



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



PWR SHT

For 8728 BUP Function

3VDUAL_PCH OR25 0.1u/4X7R/16V/K IT_VCC

IT_AVCC OR8 0.1u/4X7R/16V/K VCC3

SIO PU

新增

PCIRSTIN OR26 8.2K/4 VCC3

IO_GP17 OR170 8.2K/4 3VDUAL_PCH

N_LDRO0 OR27 1K/4/1 VCC3

ITE_PWROK OR10 1K/4/1 VCC3

PROCHOT_CON OR28 8.2K/4 VCC3

N_A20GATE OR31 8.2K/4

IO_GP93 OR171 8.2K/4 VCC3

SIO STRAP

JP2 OR36 8.2K/4 VCC3

JP3 OR35 8.2K/4 VCC3

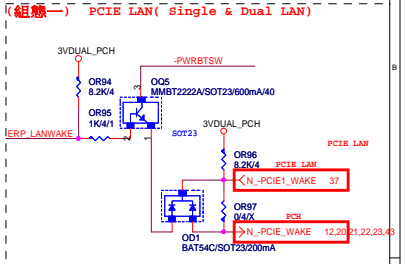
JP4 OR34 8.2K/4 VCC3

JP5 OR12 8.2K/4 VCC3

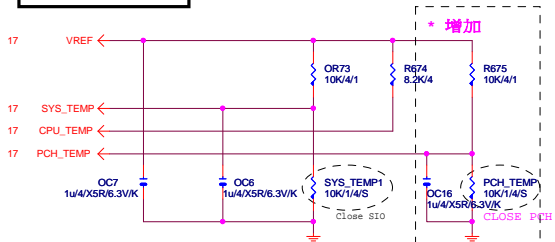
BUP control detect

3VDUAL OR47 100k/1 28.3VSB

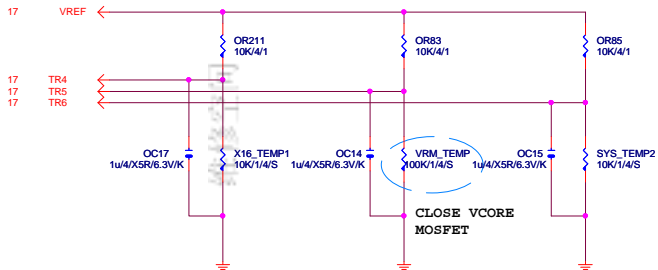
JP2	1	Disable WDT to rest PWROK
	0	Enable WDT to rest PWROK
JP3		Dual-BIOS CS pin mode select bit "0"
		See the below table
JP4	1	LPC/ESPI power VCCBT = 3.3V
	0	LPC/ESPI power VCCBT = 1.8V
JP5	1	LPC I/F
	0	ESPI I/F
JP6	1	Enable Dual BIOS Function (for GigaByte Only)
	0	Disable Dual BIOS Function (for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



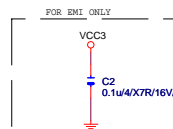
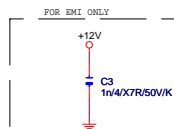
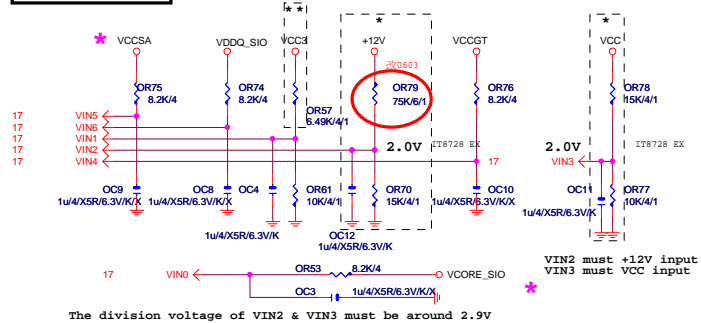
TEMP H/W MONITOR



5個FAN時使用



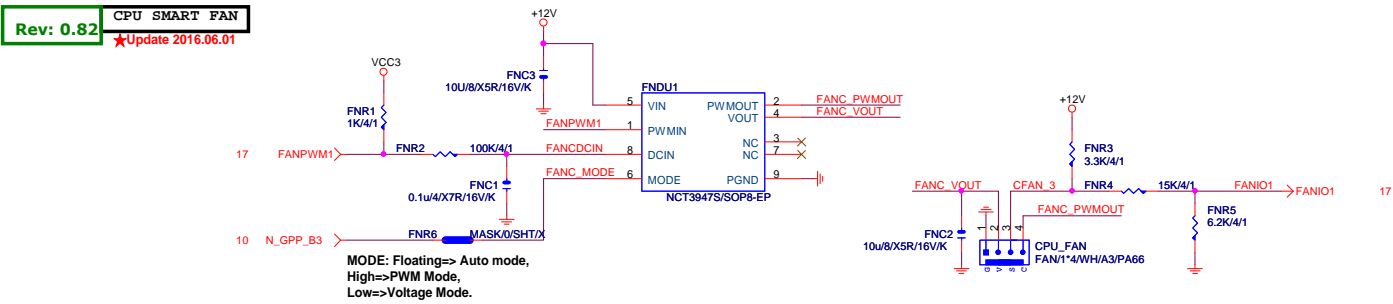
VOLTAGE-- H/W MONITOR



★Update 2015-04.24

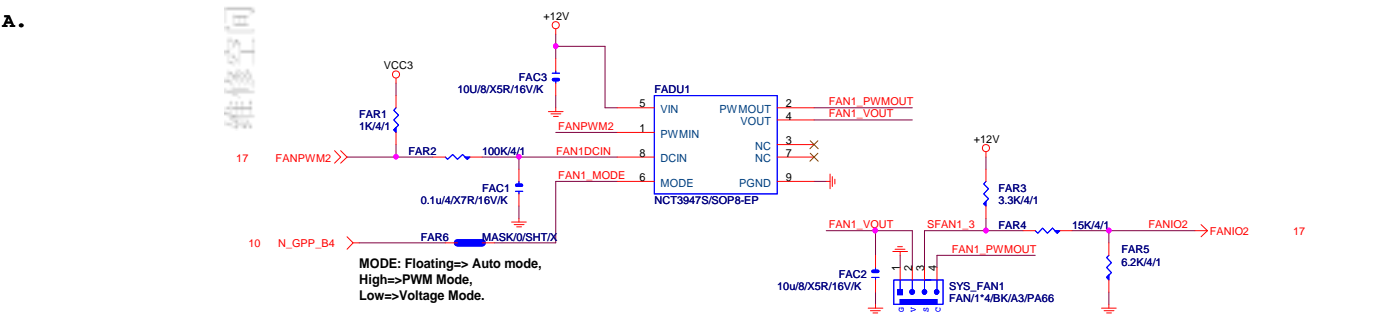
Gigabyte Technology

Title			HWM
Size	Document Number	Rev	
Custom	GA-B250-FinTech	1.0	
Date:	Tuesday, December 28, 2017	Sheet	18 of 51



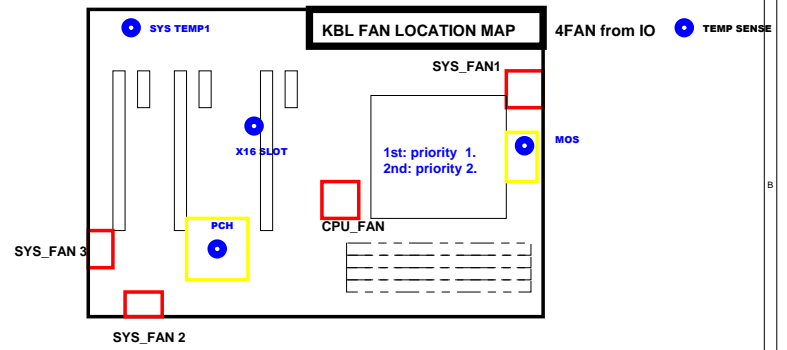
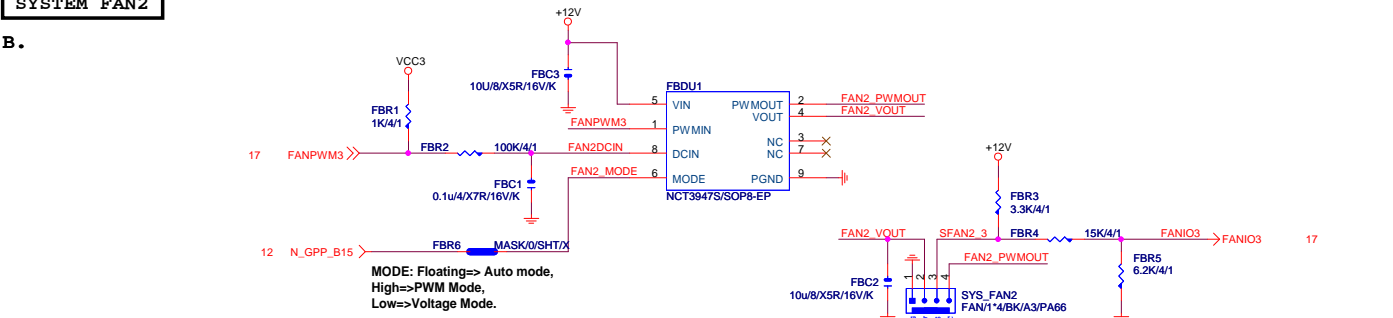
SYSTEM FAN1

A.



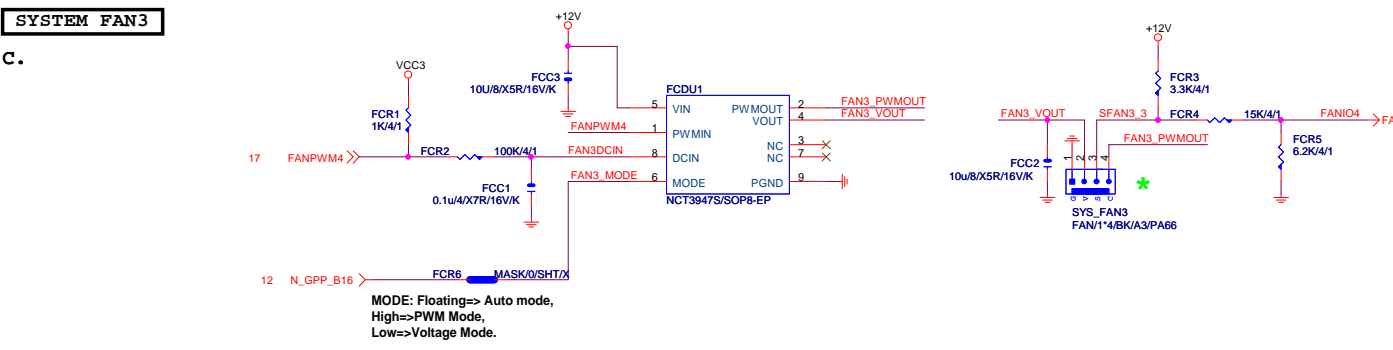
SYSTEM FAN2

B.



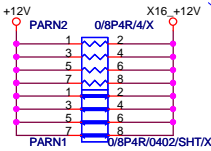
SYSTEM FAN3

C.



Rev 0.2

+12 - protect
short-wire test



Footprint : PCIESLOT-164P

3GIO_*16

8,9,12,21,22,23,25,33,45 N_SMBCLK
8,9,12,21,22,23,25,33,45 N_SMBDATA

12,17,21,22,23,43 N_-PCIE_WAKE

10 -PCIE16_PR

PA_EXP_RXP[0..15] >> PA_EXP_RXP[0..15] 4
PA_EXP_RXN[0..15] >> PA_EXP_RXN[0..15] 4
PA_EXP_TXP[0..15] >> PA_EXP_TXP[0..15] 4
PA_EXP_TXN[0..15] >> PA_EXP_TXN[0..15] 4

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

PCIE16:16/5/5/5/16

PCI-E REV:1.1--> 2.5GHZ

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

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

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

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

PCI-E REV:2.0--> 5GHZ

PCE-E X1(單向) BANDWIDTH=5GHz*(8b/10b)=4Gb/s=500MB/s

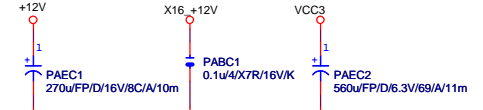
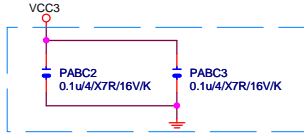
PCI-E REV:3.0--> 8GHZ

PCE-E X1(單向) BANDWIDTH=8GHz*(128b/130b)=8Gb/s=1GB/s

PCIE16X-164P/BK/LONG DOUBLE

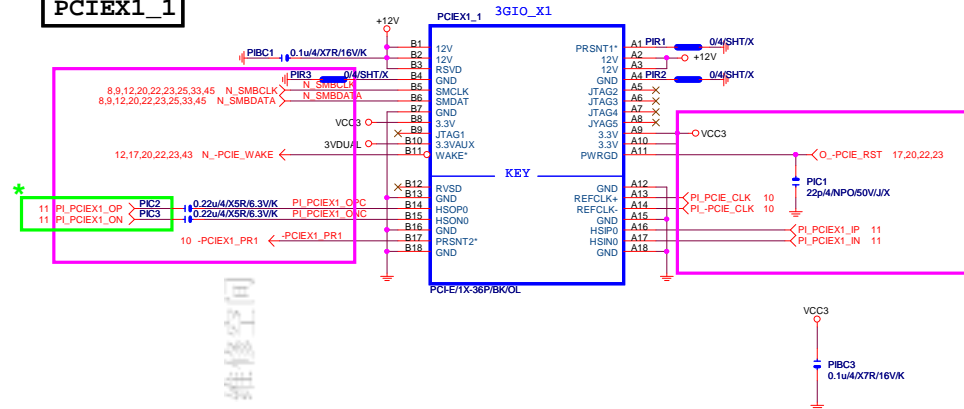
BACK

* 黑色

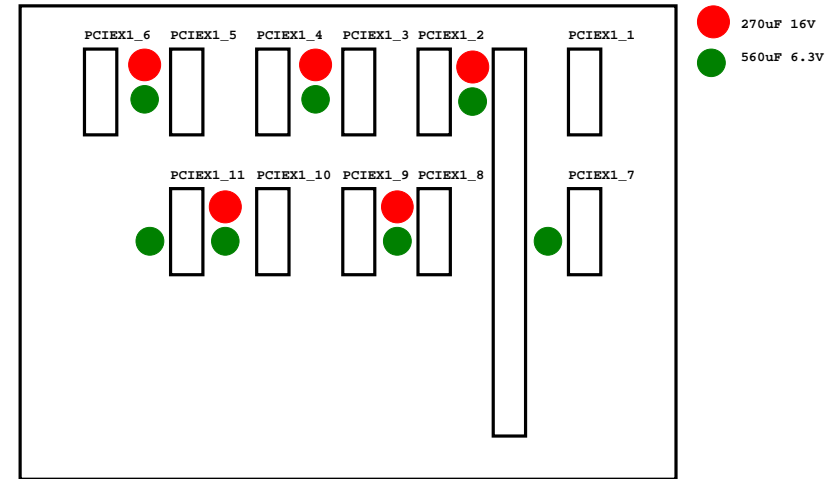


Gigabyte Technology		
PCI-E SLOT		
Title	Document Number	
Size	Rev 1.0	
Custom	GA-B250-FinTech	
Date:	Tuesday, December 26, 2017	Sheet 20 of 51

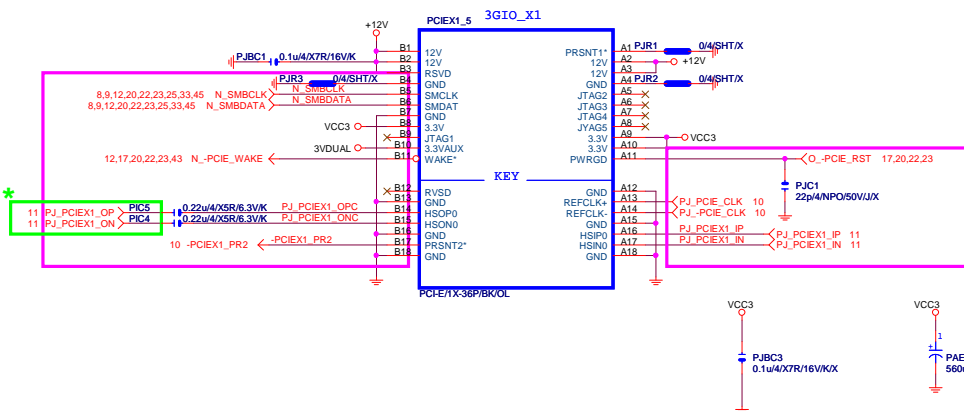
PCIEX1_1



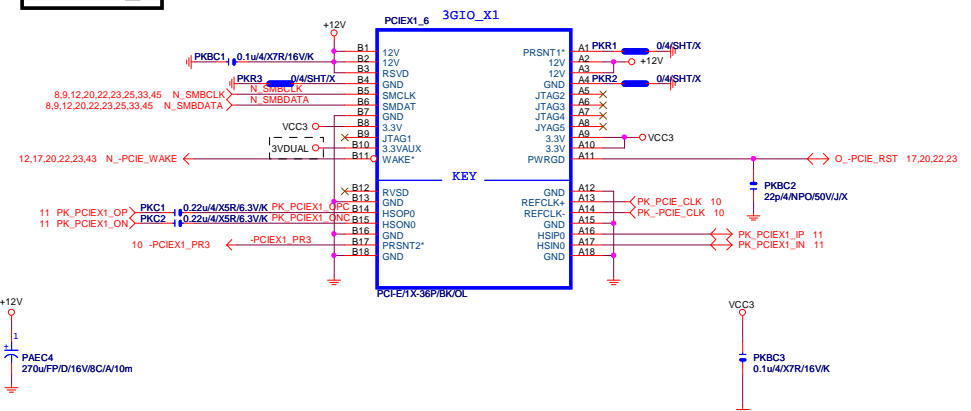
PCIEX1 配置圖與電容分佈



PCIEX1_5



PCIEX1_6

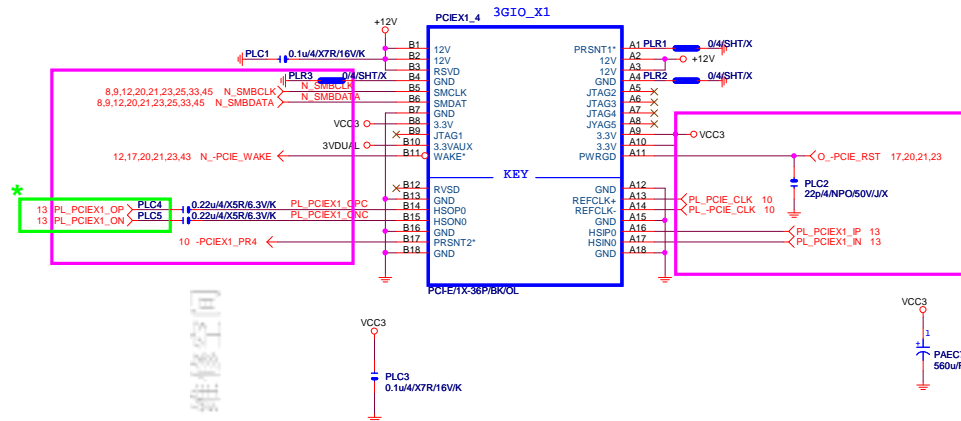


Gigabyte Technology

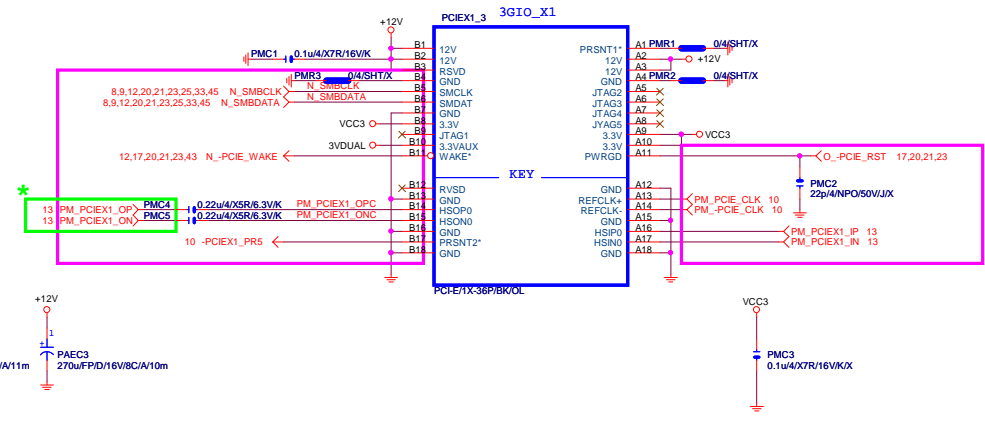
Title			PCIEX1 SLOTS(1.5.6)
Document Number			GA-B250-FinTech
Date	Tuesday, December 26, 2017	Sheet	21 of 51

Rev 1.0

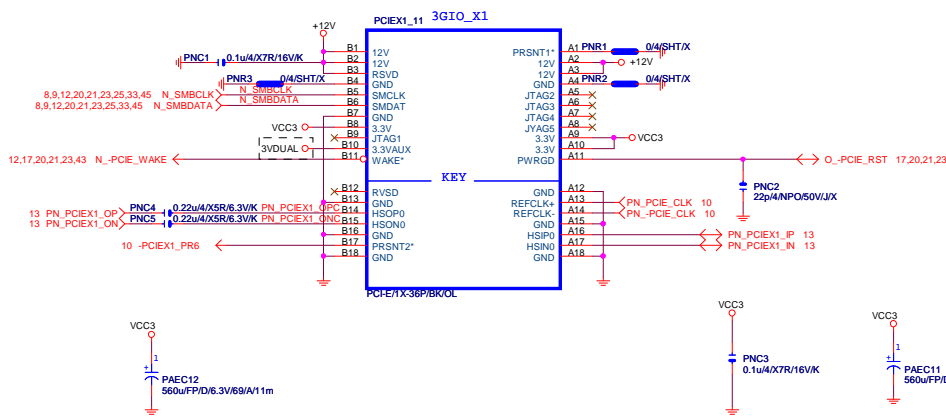
PCIE1_4



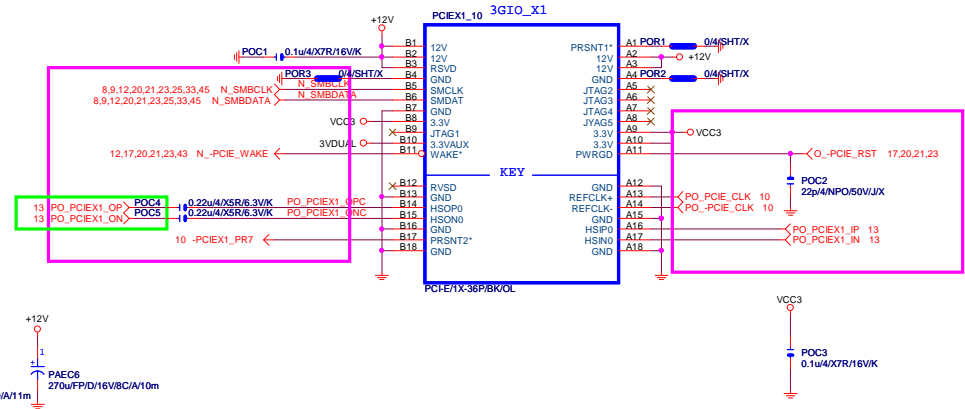
PCIE1_3



PCIE1_11



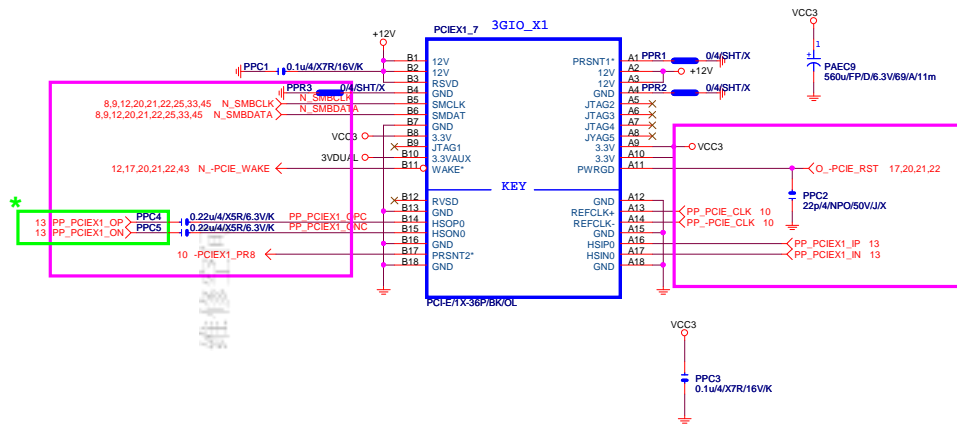
PCIE1_10



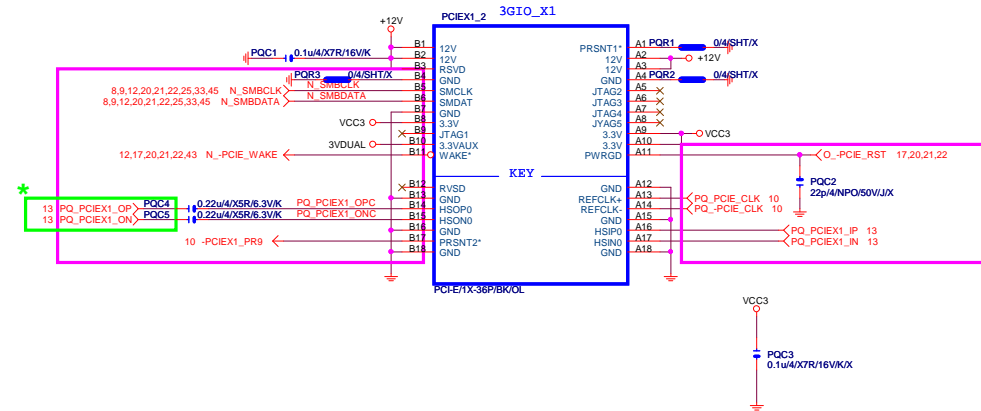
Gigabyte Technology

Title		PCIE1 SLOTS(4.3.11.10)	
Size	Document Number	GA-B250-FinTech	
Customer	Date	Tuesday, December 26, 2017	Sheet 22 of 51
		Rev	1.0

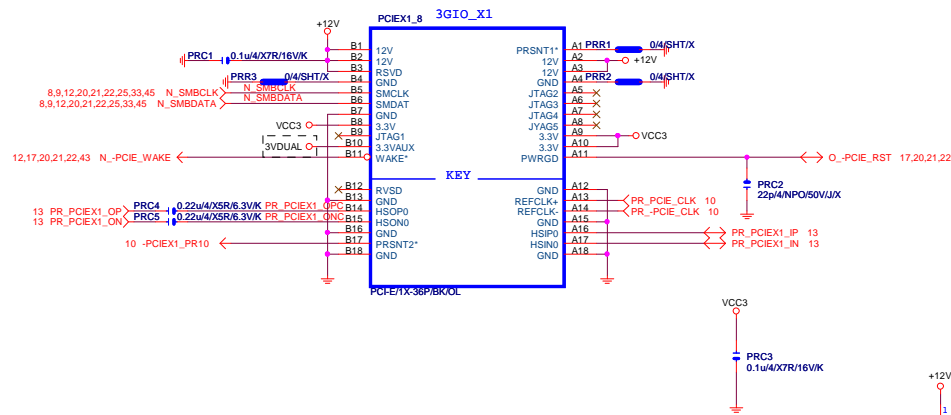
PCIEX1_7



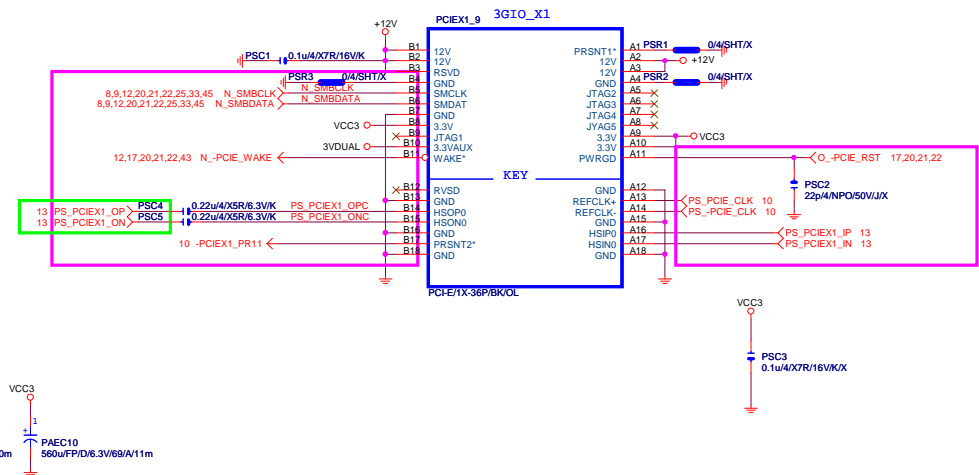
PCIEX1_2



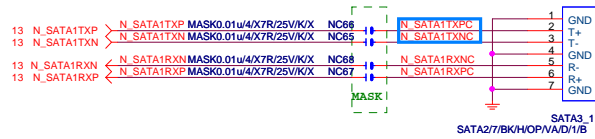
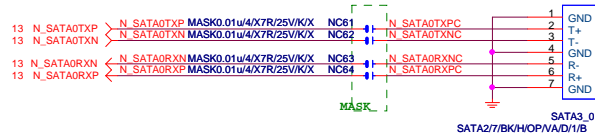
PCIEX1_8



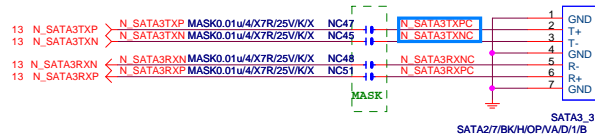
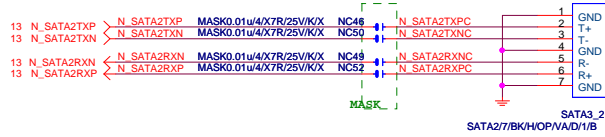
PCIEX1_9



To SATA3 port0/1



To SATA3 port2/3

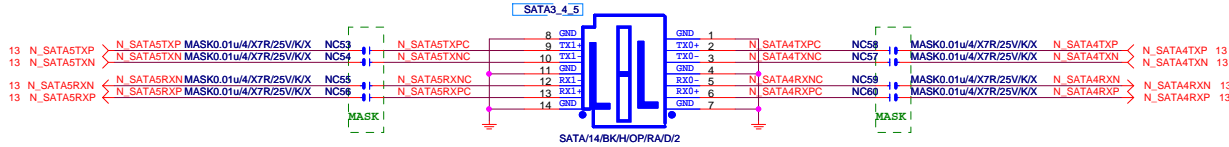


IO23/IO24

上 Port (8-14)

To SATA3 port4/5

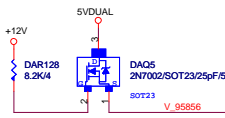
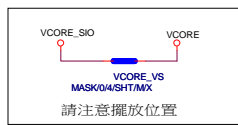
下 Port (1-7)



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	Document Number	Rev
Custom	GA-B250-FinTech	1.0
Date:	Tuesday, December 26, 2017	Sheet 24 of 51

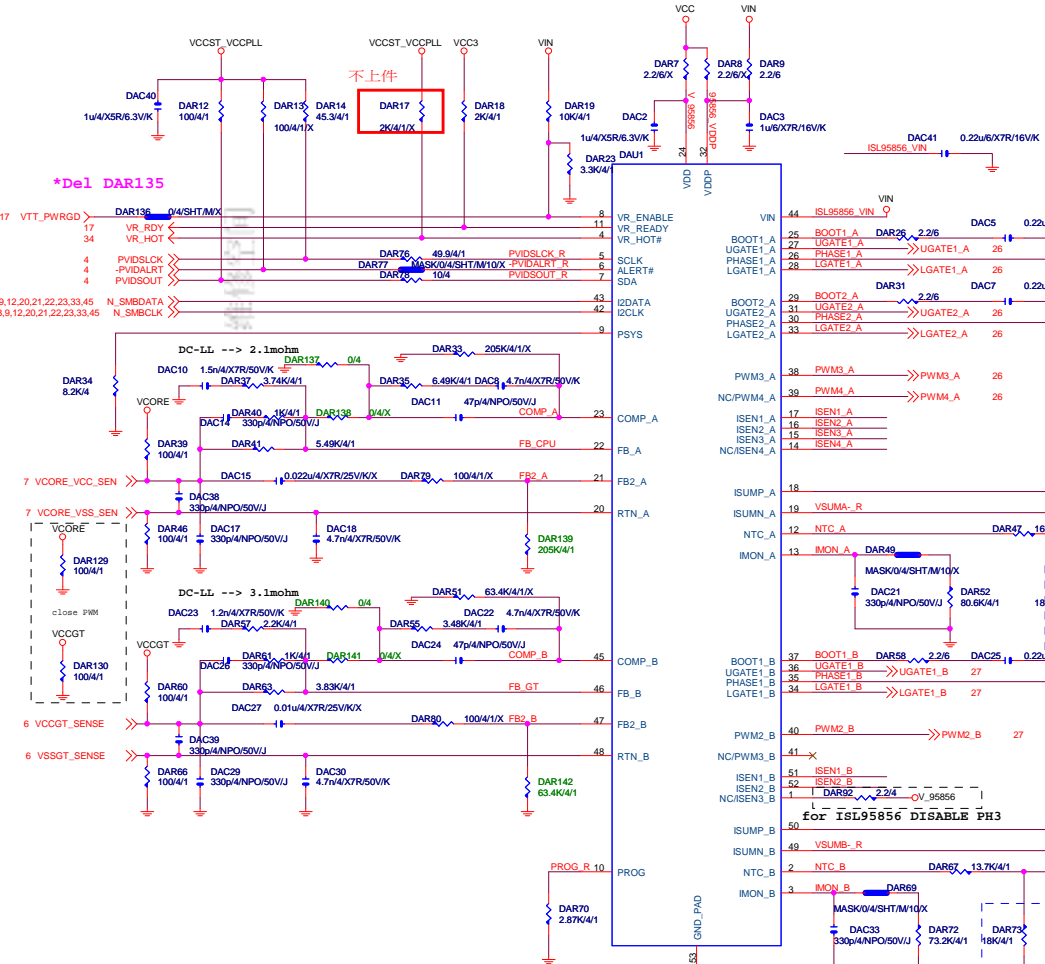
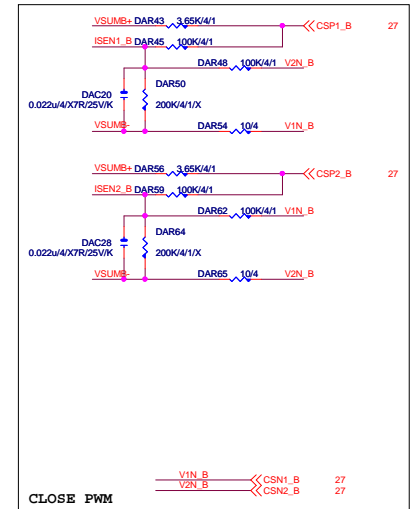
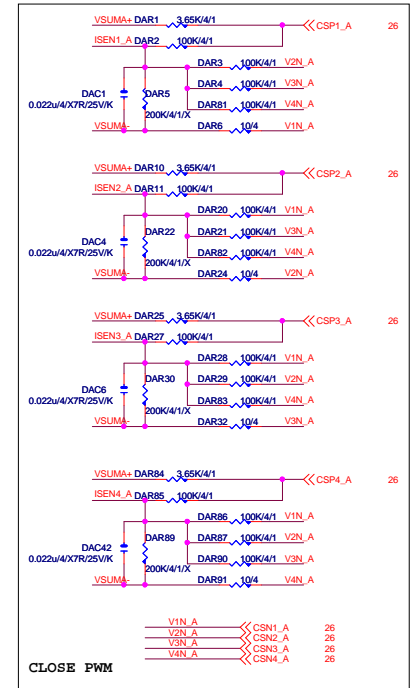


FOR PWM MB ID

H: ISL95856 or ISL95858

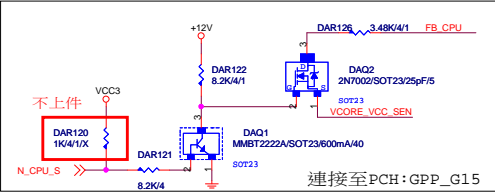
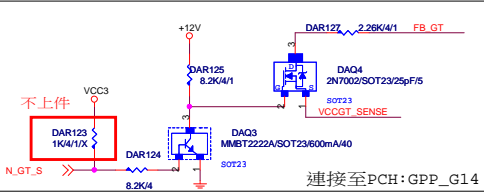
L: ISL95866 or ISL95868

close to PCH



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

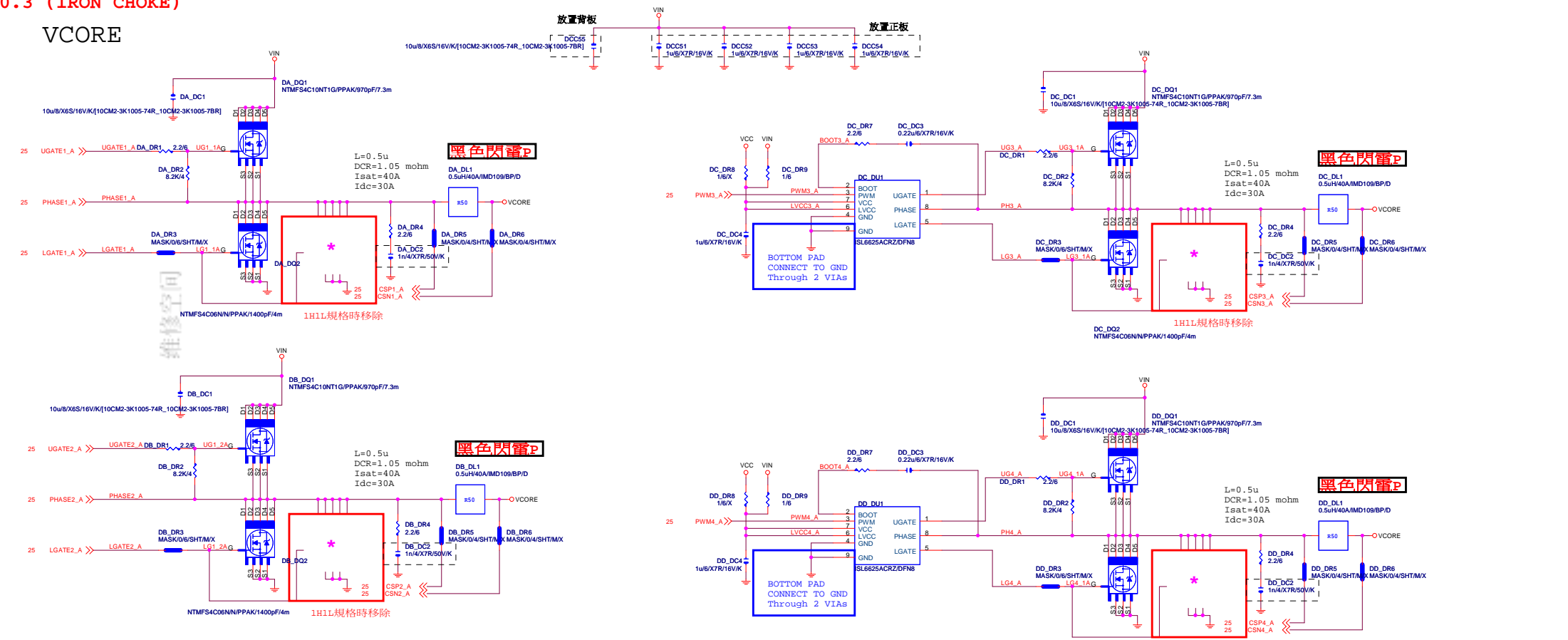
*Del DAR100
Connect to EC H/W Monitor



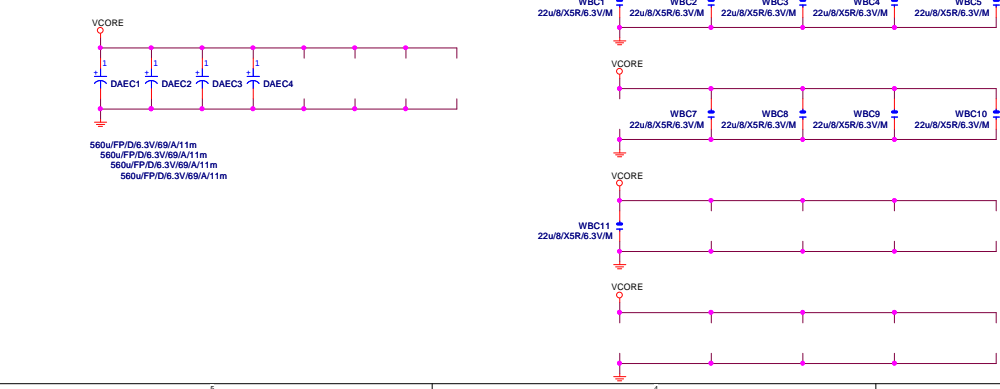
z系列才需要留
連接至PCH GPP_G13

0.3 (IRON CHOKE)

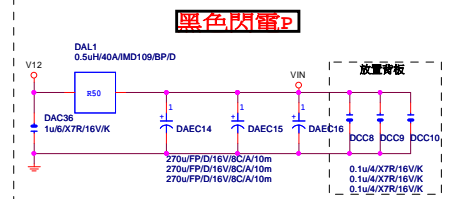
VCORE



VCORE CAP 560u*4PCS 22u*10PCS

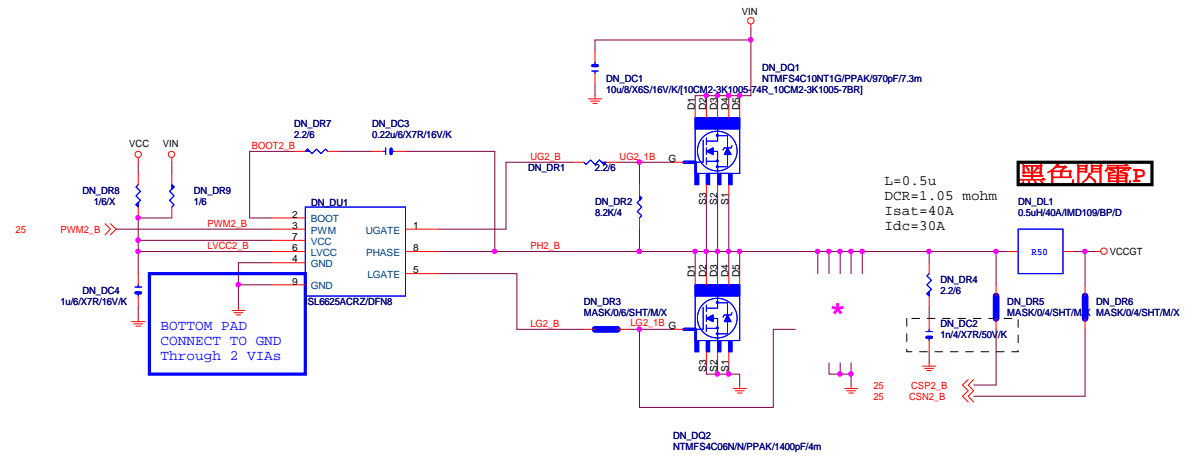
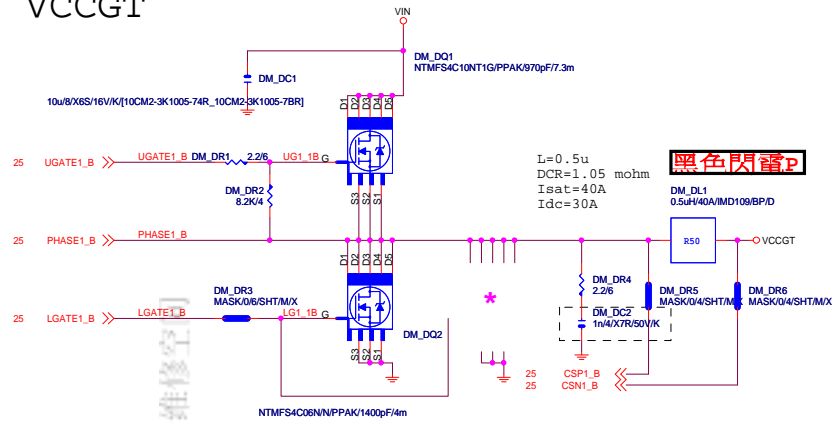


VIN CAP 270u*3PCS

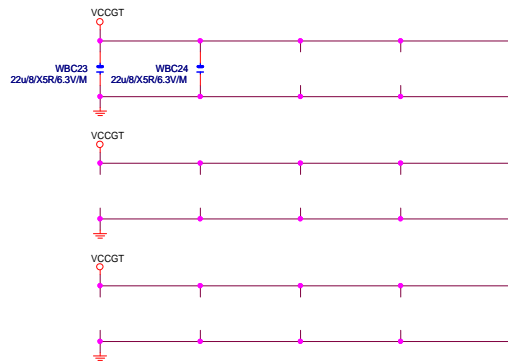
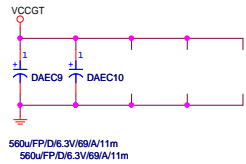


Title		
ISL95866 MOS_VCORE		
Size	Document Number	Rev
Custom	GA-B250-FinTech	1.0
Date:	Tuesday, December 26, 2017	Sheet 26 of 51

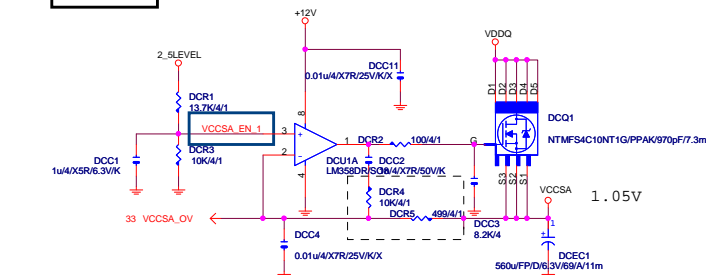
VCCGT



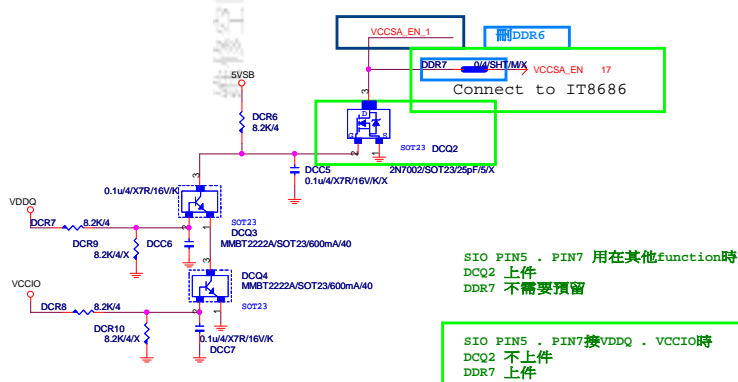
VCCGT CAP 560u*2PCS 22u*2PCS



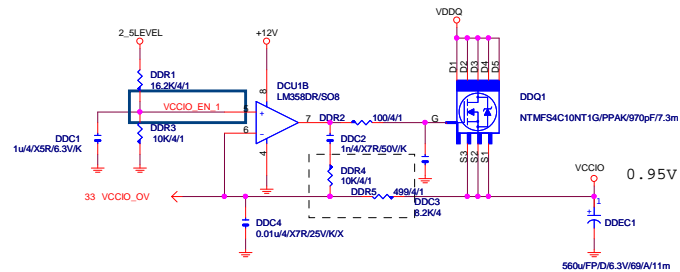
VCCSA



Connect to IT8793

SIO PIN5 . PIN7 用在其他function時
DCQ2 不上件
DDR7 不需要預留SIO PIN5 . PIN7接VDDQ . VCCIO時
DCQ2 不上件
DDR7 不上件

VCCIO



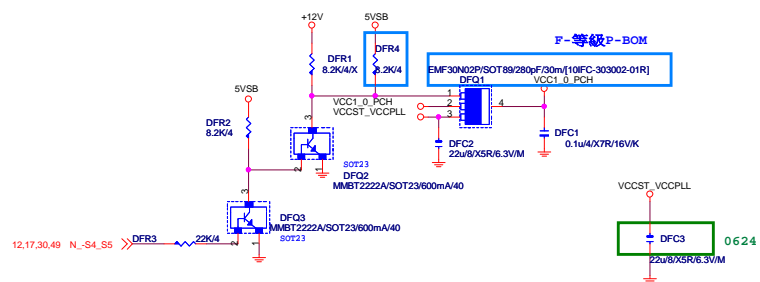
Connect to IT8686

Connect to IT8793

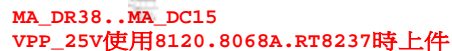
VCCGT總共2顆：刪WBC38 ,WBC39

VCCGT
放CPU端。

VCCST_VCCPLL



DDR4



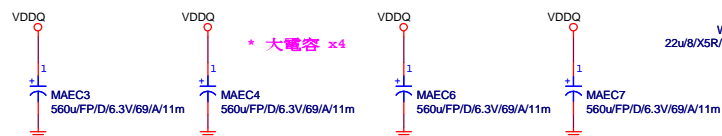
PWR SEQ

CLOSE TO DDR POWER PLANE

For power sequence require

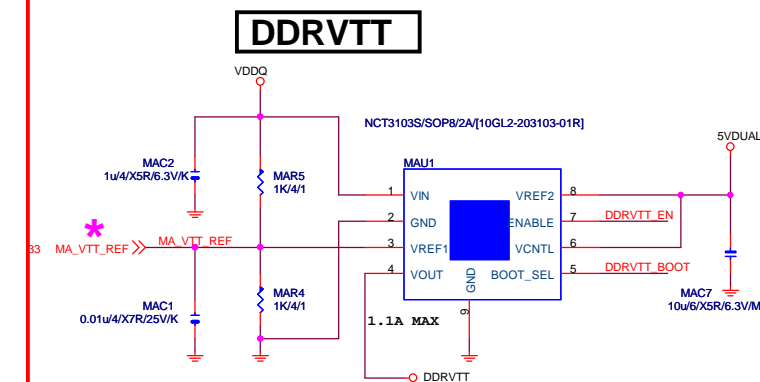
VPP_25V使用8120時上件

DDR CAP 560u*4PCS 22u*2PCS



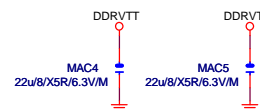
VDDQ總共3顆：WBC49,MAC60,MABC10

DDRVTT CAP



4	DDR_VTT_CTL	DDR VTT CTL	MAR110	MASK/0/4/SHT/M/10/X	DDRVTT EN
2,17,49	N-SLP S3	N-SLP S3	MAR111	MASK/0/4/SHT/M/10/X	DDRVTT BOOT

* 大電容 x0



GIGABYTE™

Title
RT8237 DDR4 POWER

Size	Document Number
Custom	GA-B250-FinTech

Rev
1.

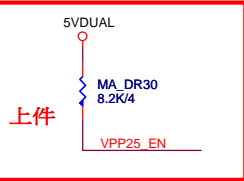
Date: Tuesday, December 26, 2017 Sheet 29 of 51

VPP_25V

CHOKE與CAP料號可變

合金CHOKE

2.5V
SUPPORT DDR4



* 删除 MA_DR32

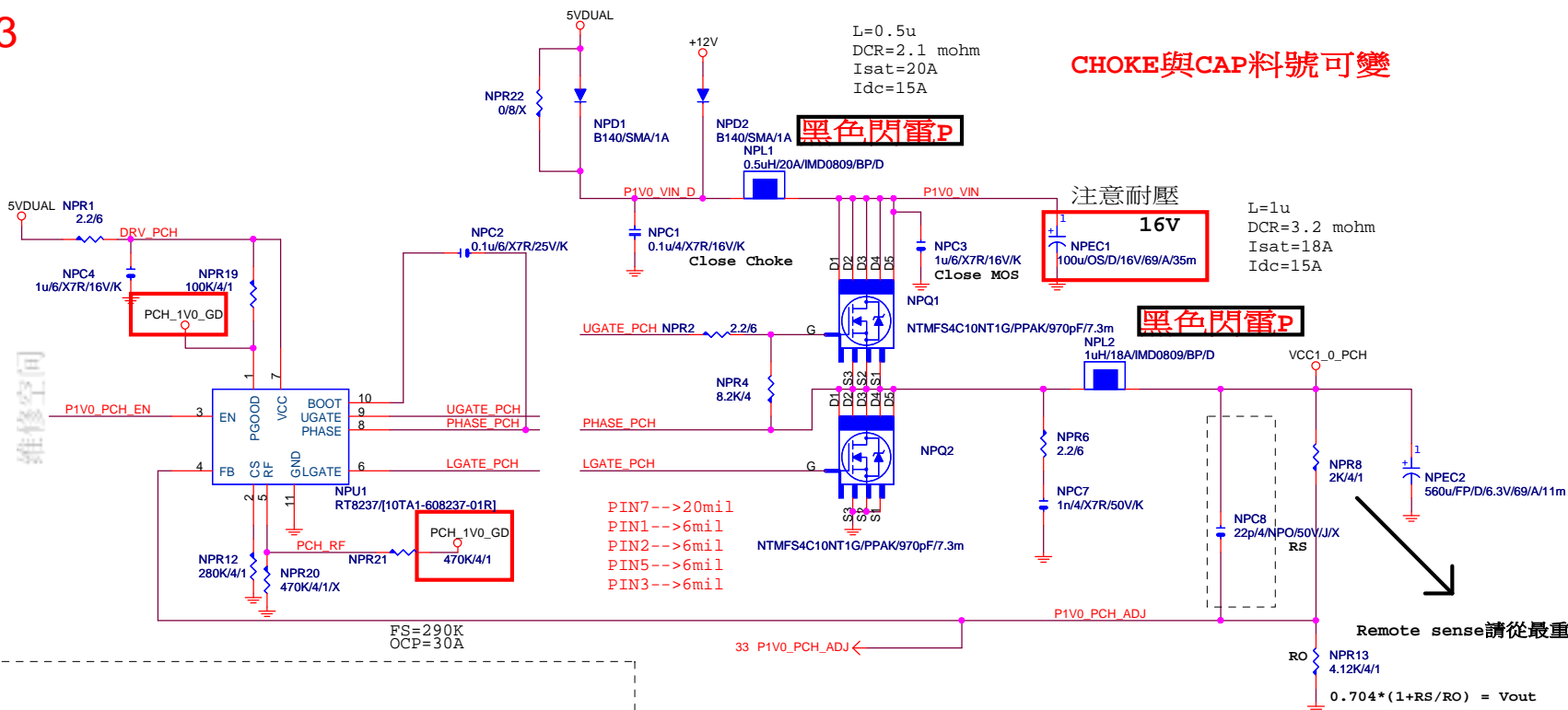


VPP CAP 22u*2PCS

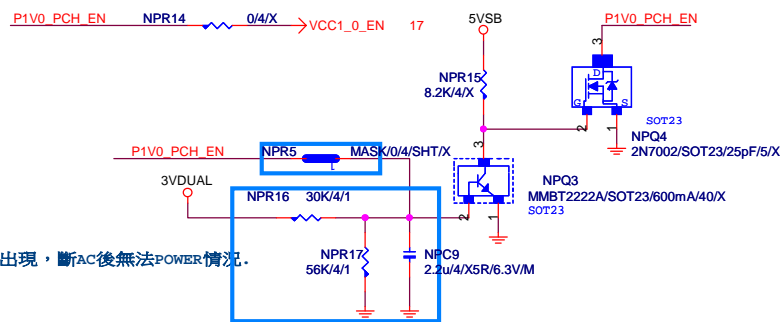
GIGABYTE™

Title			
RT8068A_VPP			
Size	Document Number	Rev	
Custom	GA-B250-FinTech	1.0	
Date:	Tuesday, December 26, 2017	Sheet	30 of 51

REV:0.3



PWR_SEQ



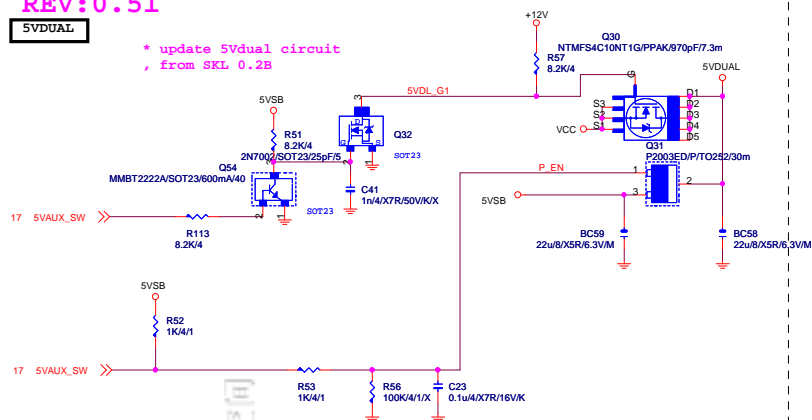
請放置CHOKE一出來的地方

GIGABYTE™			
Title			
RT8237_PCH POWER			
Size	Document Number	Rev	
Custom	GA-B250-FinTech	1.0	
Date:	Tuesday, December 26, 2017	Sheet	31 of 51

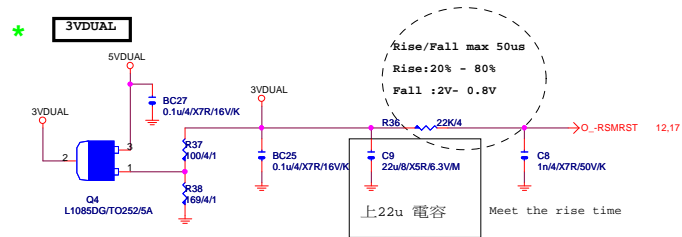
REV:0.51

5VDUAL

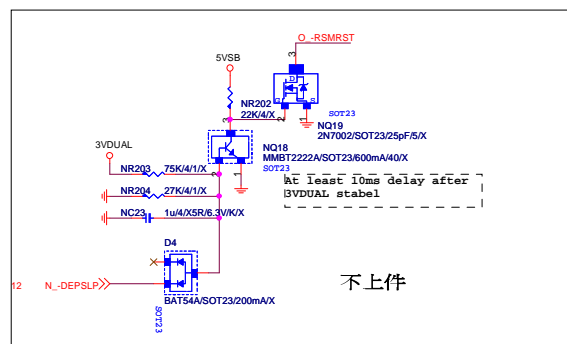
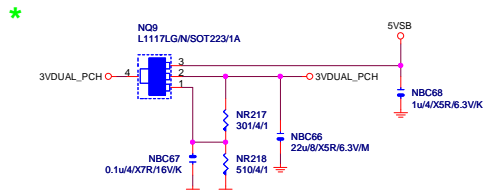
* update 5Vdual circuit
from SKL 0.2B



3VDUAL



3VDUAL_PCH

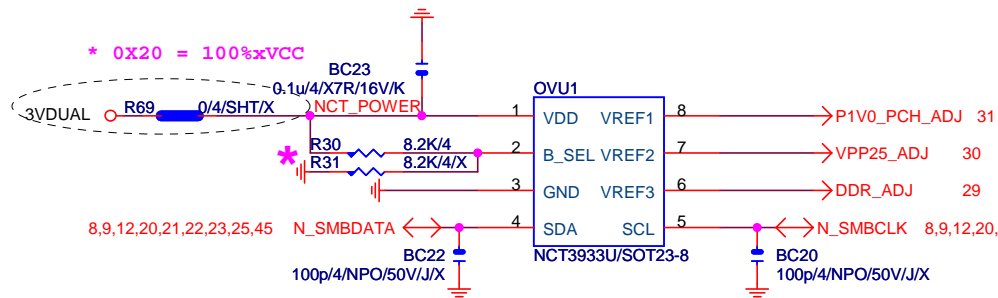


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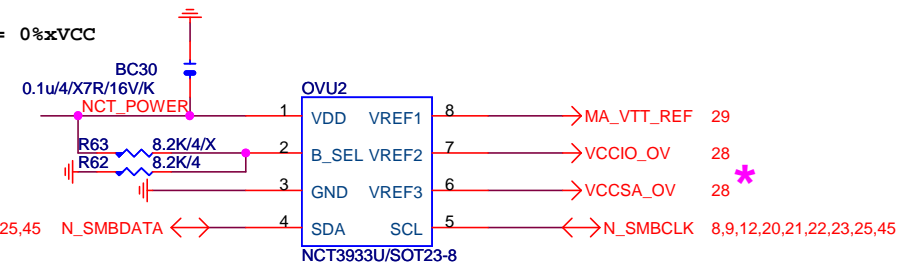
Gigabyte Technology

Title			
DISCRETE POWER			
Size	Document Number	Rev	
Custom	GA-B250-FinTech	1.0	
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OVER VOLTAGE



0X2A = 0%xVCC



0X22 = 75%xVCC

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

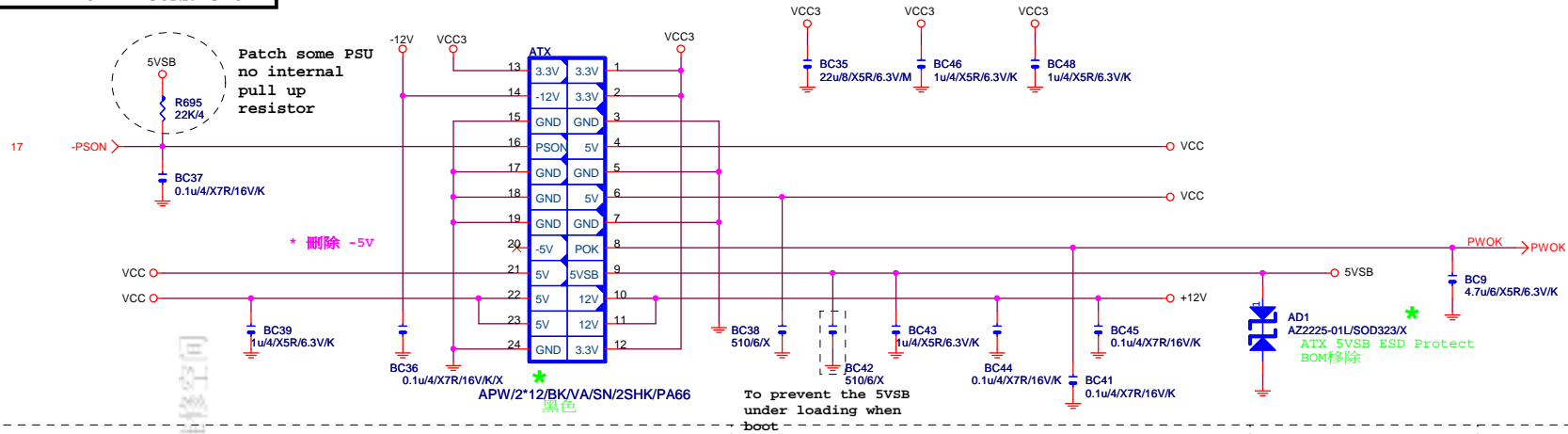
Gigabyte Technology

Title: **NCT3933**

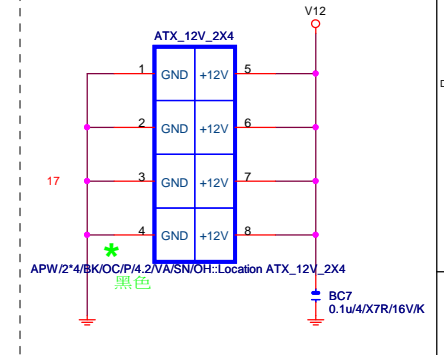
Size Custom | Document Number: **GA-B250-FinTech** | Rev: **1.0**

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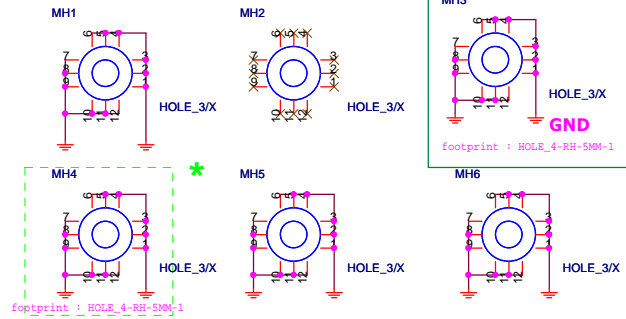
ATXX24 POWER CONNECTOR



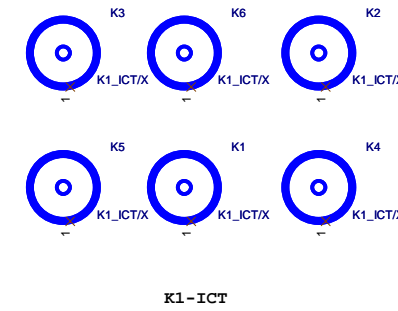
ATXX4 POWER CONNECTOR



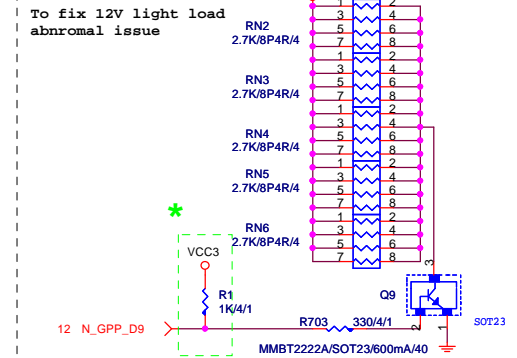
螺絲孔



固定孔/光學點



+12V DUMMY LOAD



DUMMY LOAD

-PROHOT



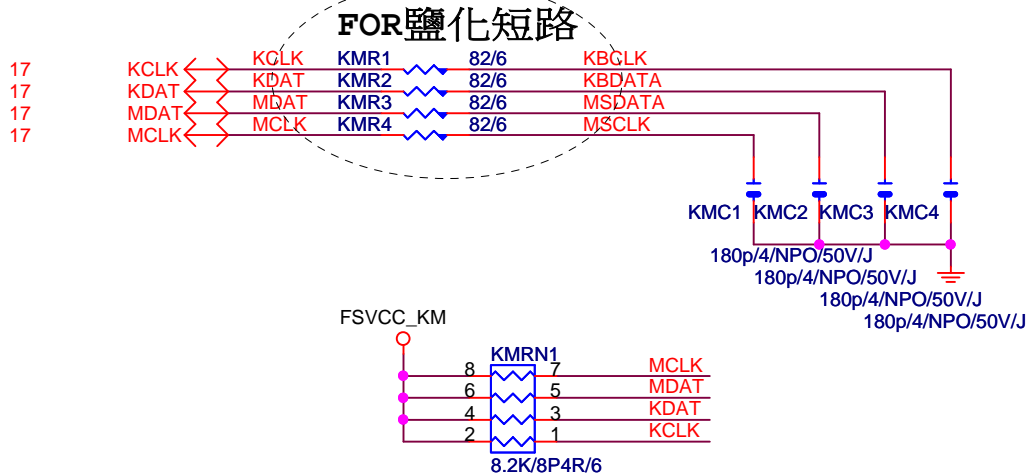
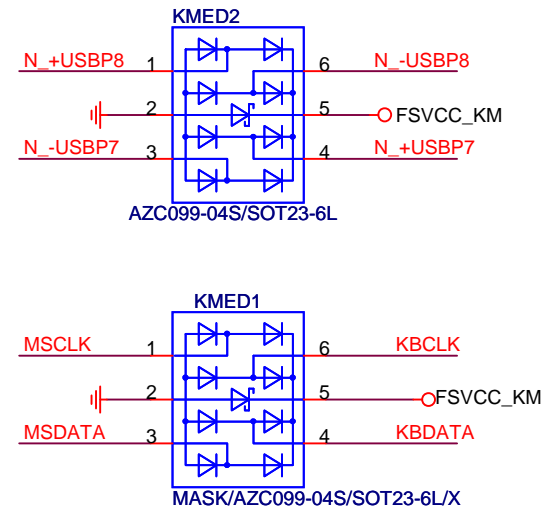
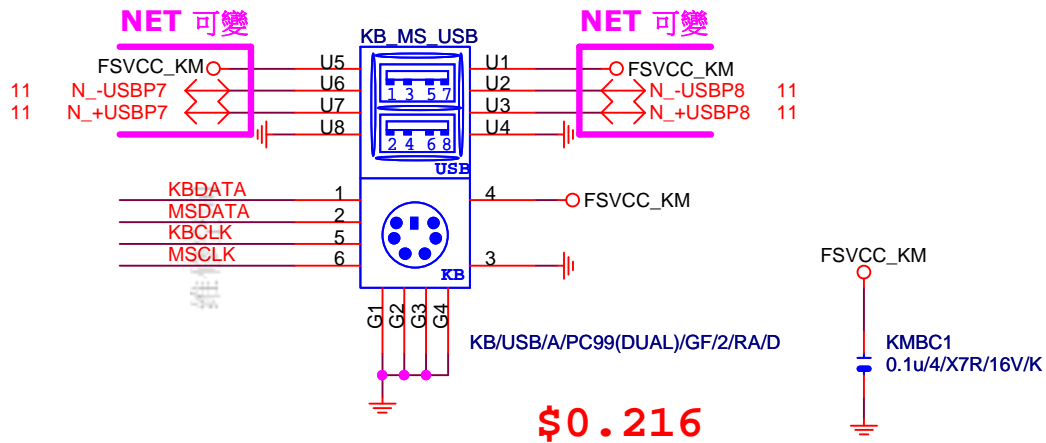
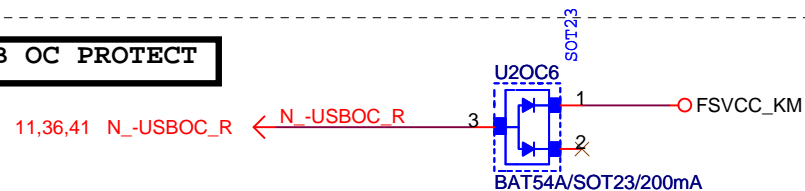
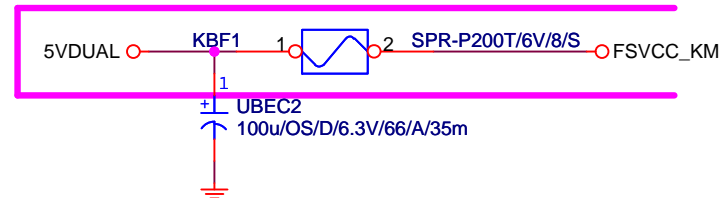
【技術通報R&D技術通報153】

COUPON



Gigabyte Technology

Title			ATX POWER CONNECTOR		
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**NET 可變, 與其他USB SHARE****Gigabyte Technology**

Title

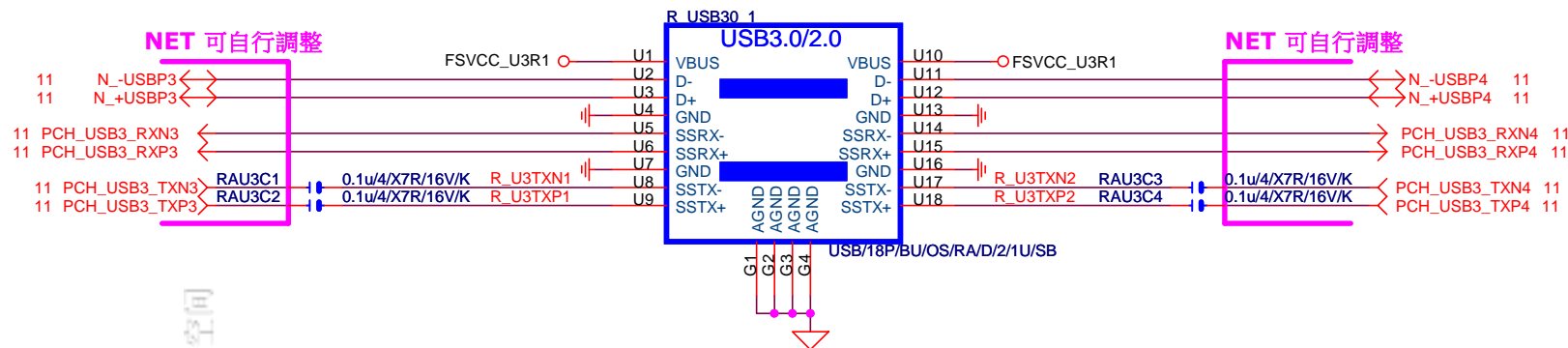
KB_MS_USBSize
A

Document Number

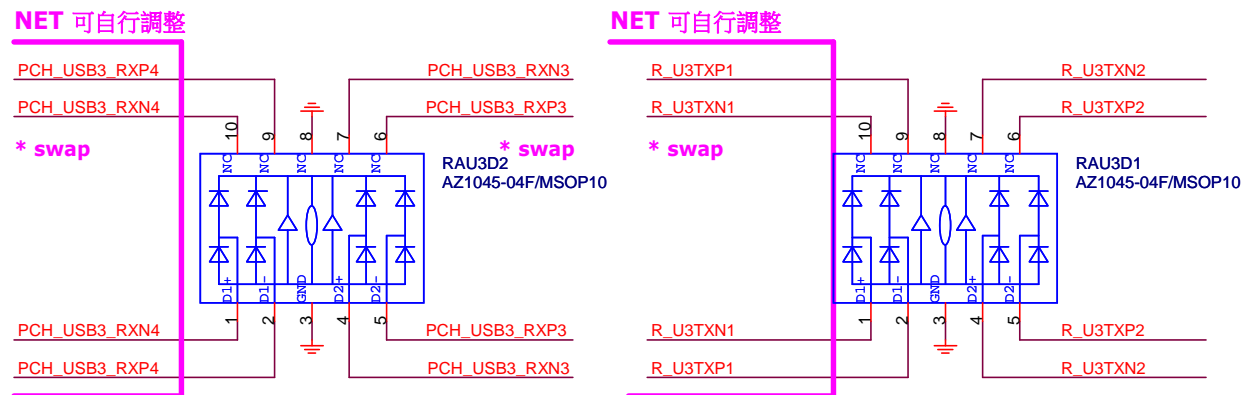
GA-B250-FinTechRev
1.0

Date: Tuesday, December 26, 2017

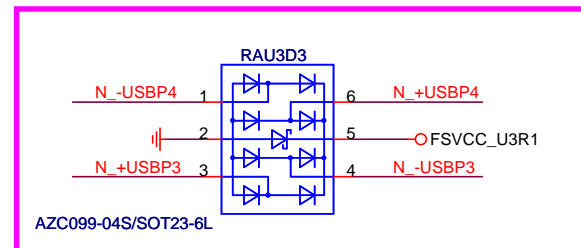
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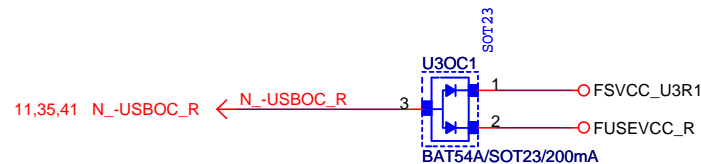
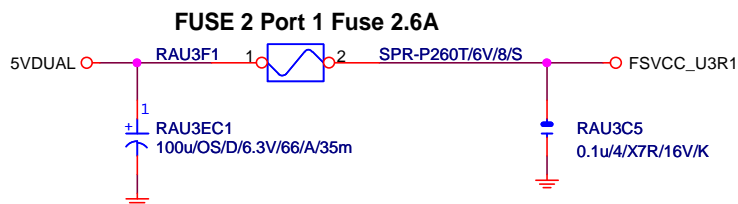
ESD



NET 可自行調整

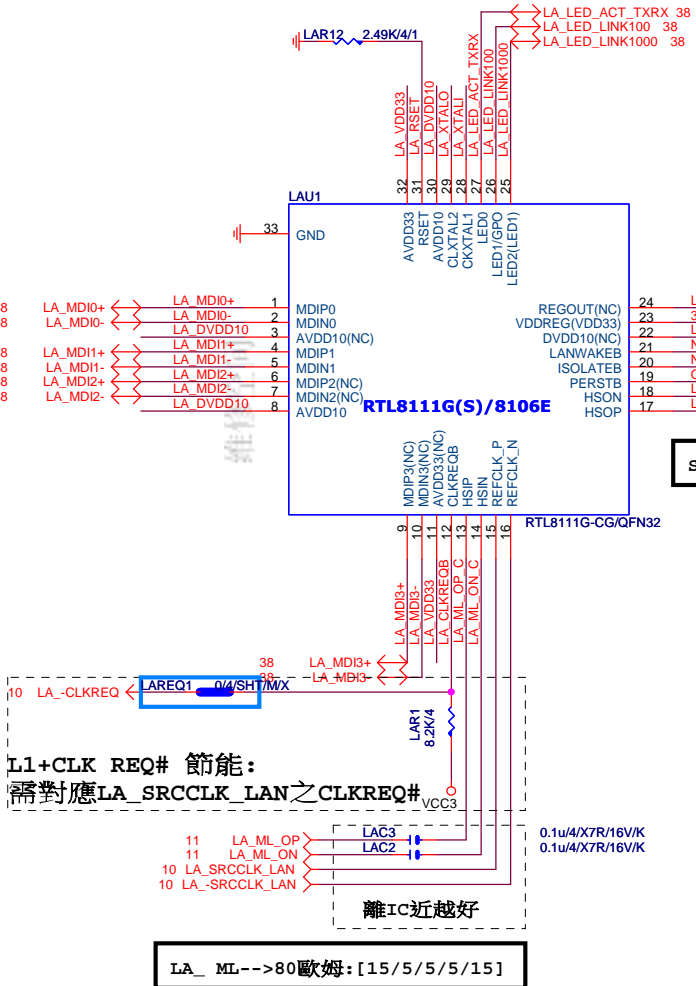


FUSE



Gigabyte Technology

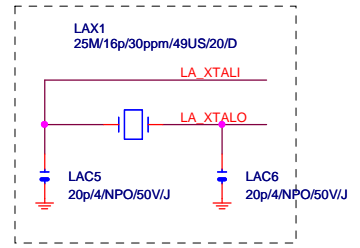
Title			
R_USB30			
Size	Document Number	GA-B250-FinTech	
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L1+CLK REQ# 節能:
需對應LA_SRCCLK_LAN之CLKREQ#

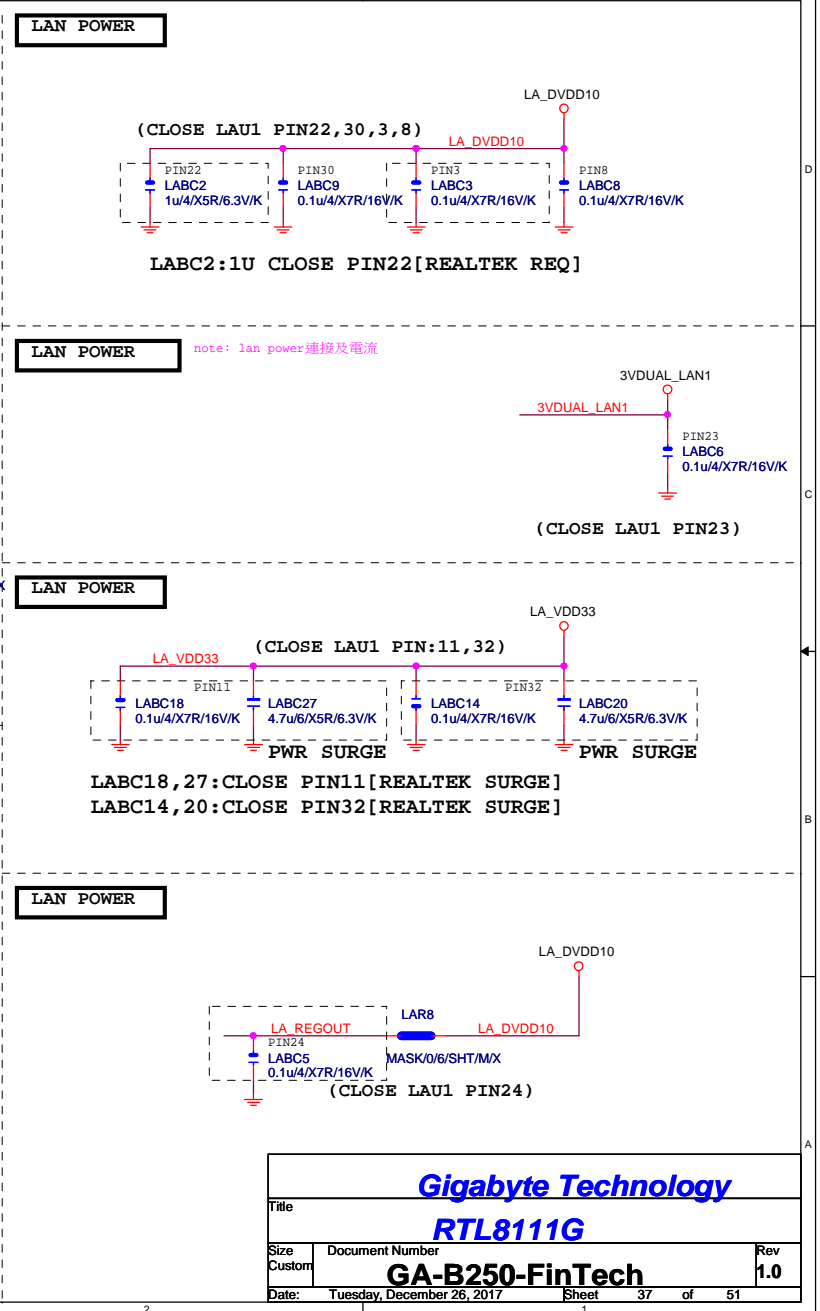
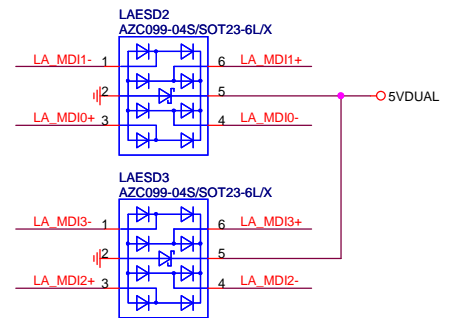
離IC近越好

LA_ ML-->80歐姆:[15/5/5/15]



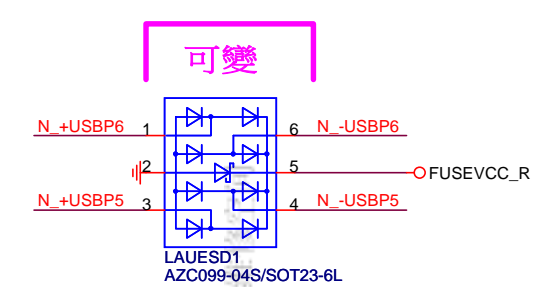
SRCCLK-->50歐姆:[18/4/10/4/18]

MDI ESD預留 *

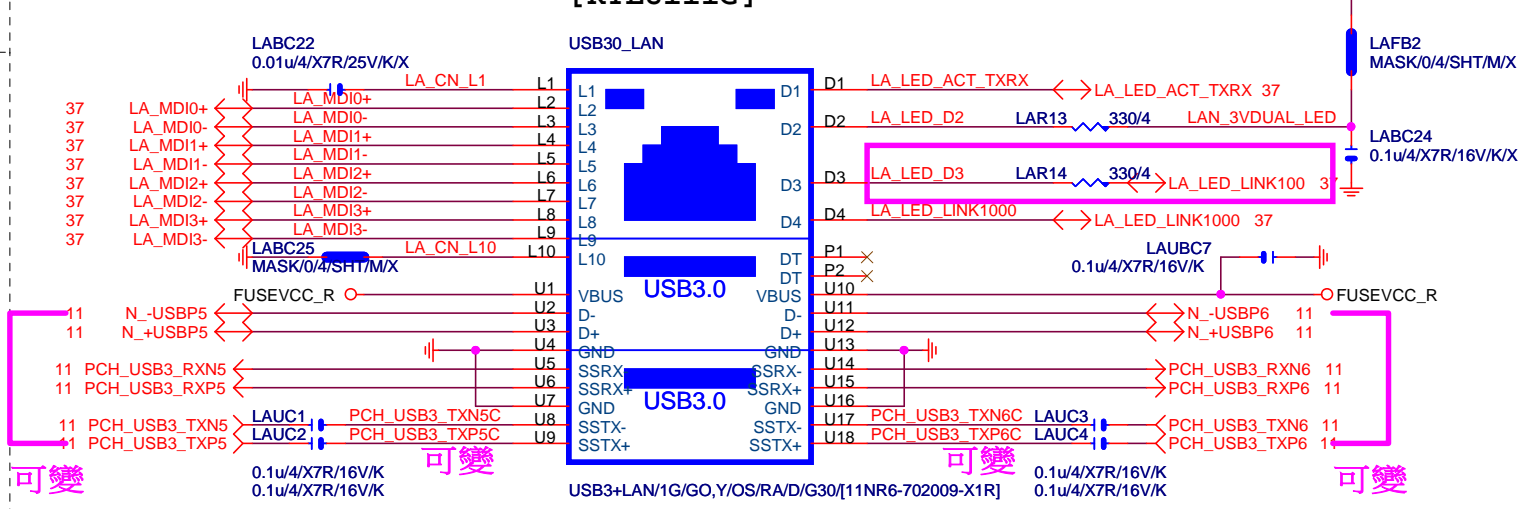


USB_LAN CONNECTOR R1.06

RMA ESD PROTECT note:可變更USB NAME

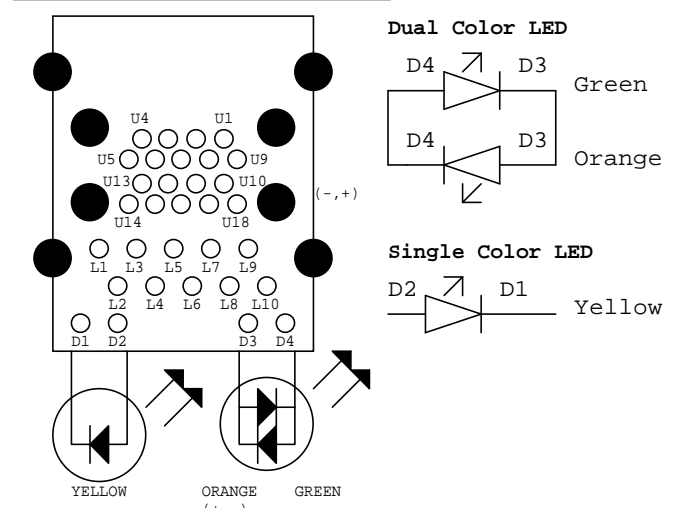


USB_LAN CONNECTOR [RTL8111G] note:可變更USB NAME

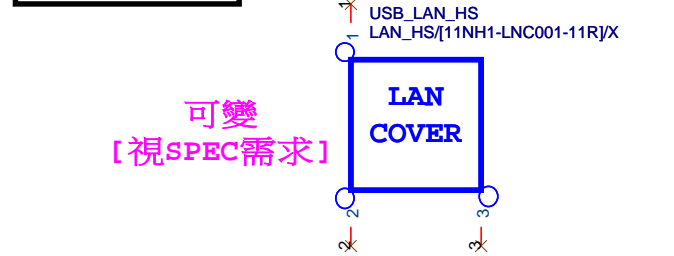


LA_MDI-->100歐姆:[20/4/8/4/20]

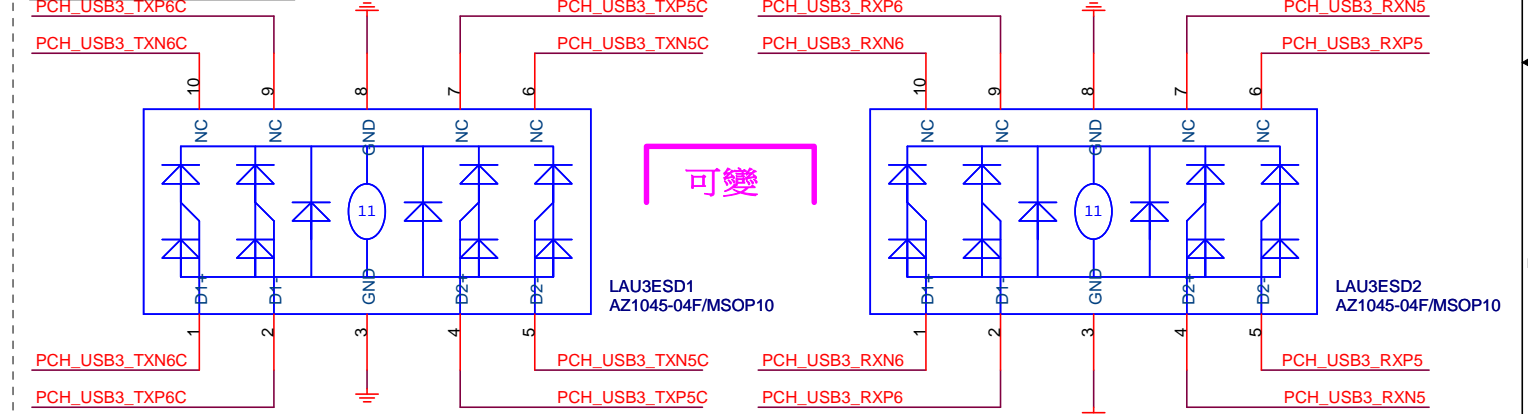
USB30_LAN LAYOUT示意圖



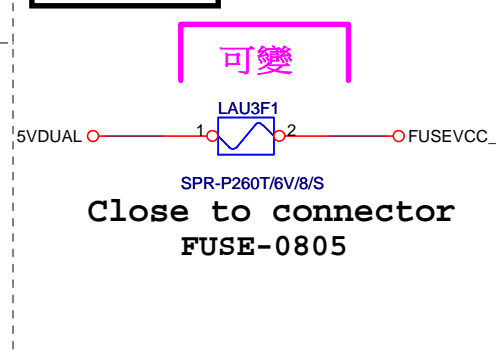
LAN_COVER FOOT PRINT:LAN_COVER



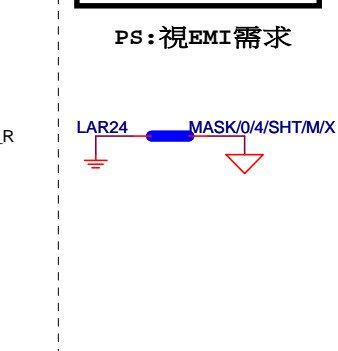
RMA ESD PROTECT note:可變更USB NAME



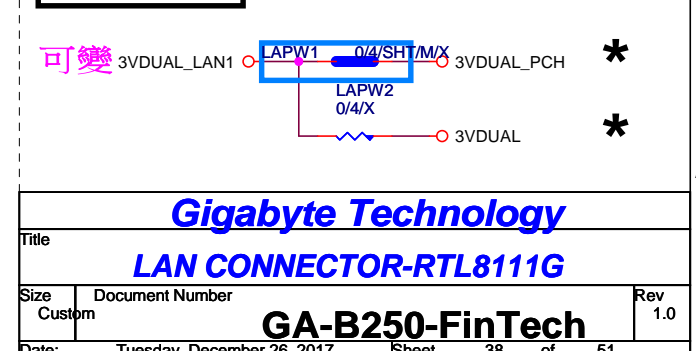
USB POWER note:可變更FUSE

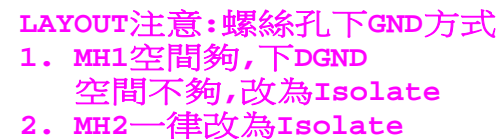


EMI SHORT PAD PS:視EMI需求



LAN POWER note: lan power連接及電流





<input type="radio"/> MH1	<input type="radio"/> MH2	
DGND	Isolate	

音效區域印刷

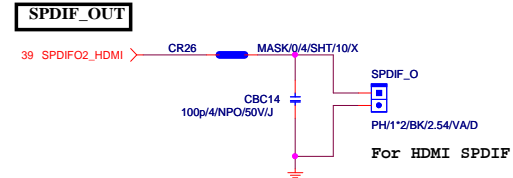
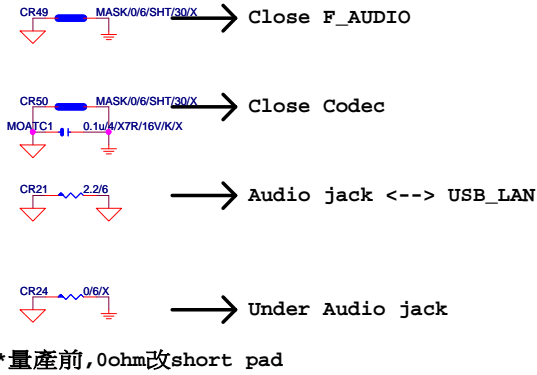
*料號後補
*LAYOUT與否,依照各Model spec

BOM OPTION :

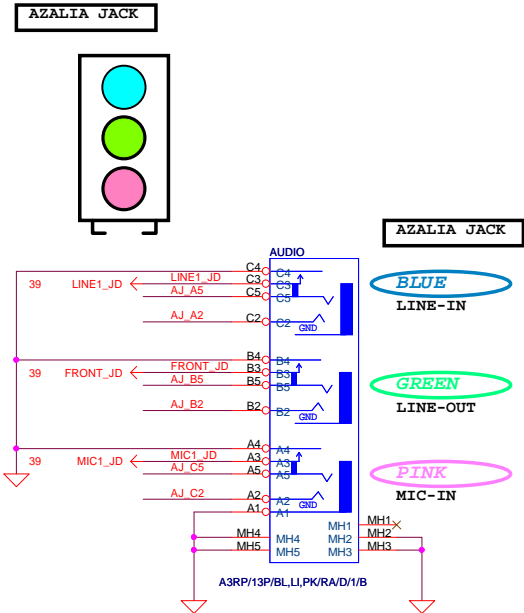
1. Chemicon音效電容
2. 金屬外罩 Reserve (上件與否,依照各Model spec)
3. LED Reserve (上件與否和LED顏色,依照各Model spec)

Rev 0.1

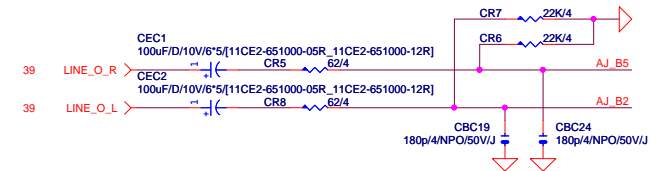
維修空間



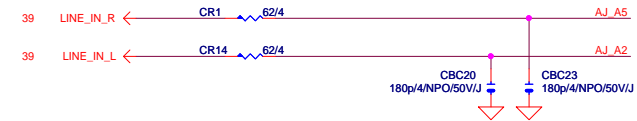
SPDIF_IN



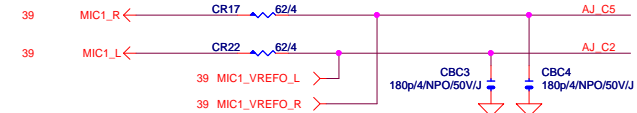
LINE-OUT



LINE-IN



MIC-IN

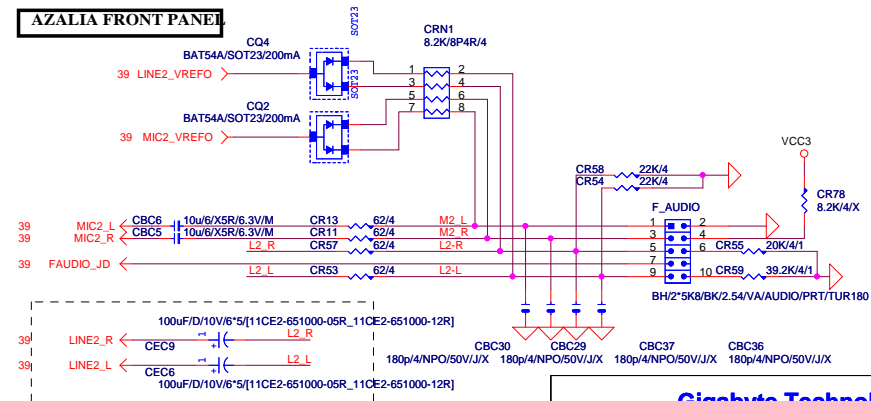


SURROUND

CEN/LFE

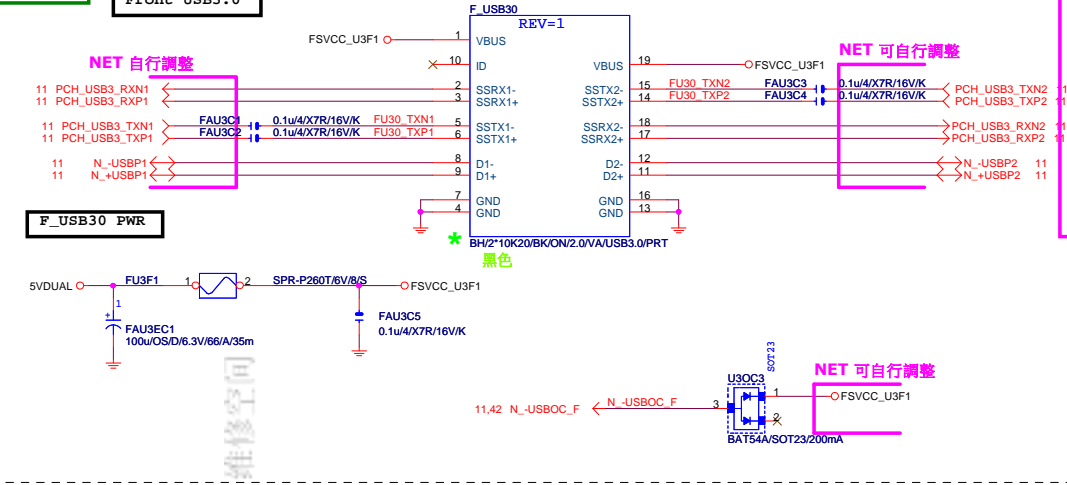
SURR BACK

AZALIA FRONT PANEL

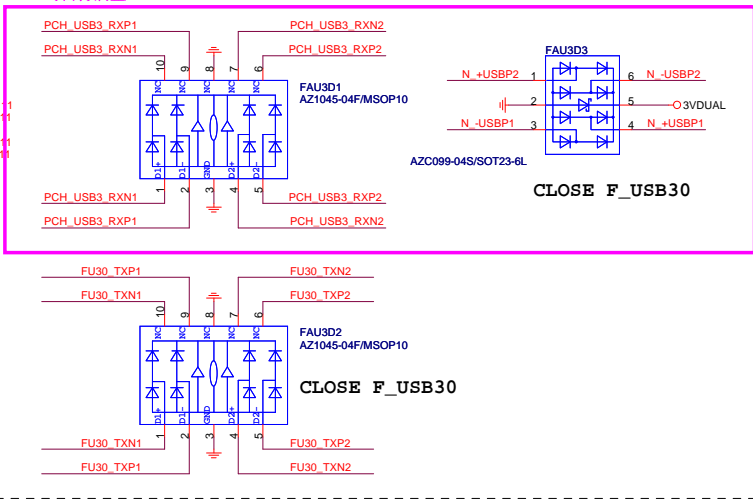


Gigabyte Technology			
Title			
AUDIO JACK			
Size Custom			
Document Number			
GA-B250-FinTech			
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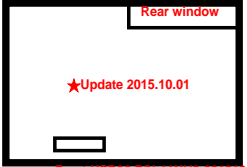
Front USB3.0



NET 可自行調整

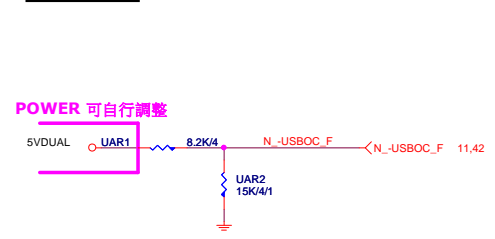


Front USB30 P/N:11NH3-021210-B1R/B2R

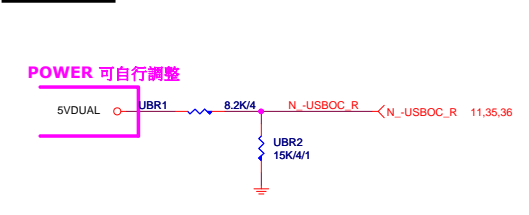


Front USB30 P/N:11NH3-021210-51R/52R

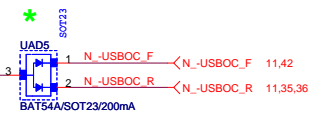
-USBOC_F



-USBOC_R



* 接 PCH N_GPP_G6 (SMI) & PCH PU 3Vdual
13 N_GPP_G6

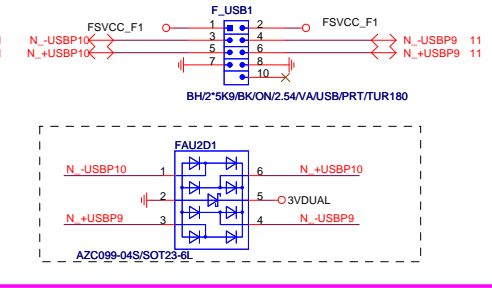


Gigabyte Technology

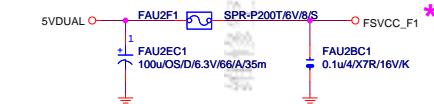
Title			
F_USB30, USB_OC			
Size	Document Number	GA-B250-FinTech	
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FRONT USB1

NET 可變

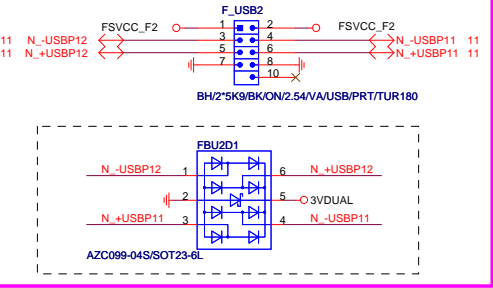


Close to connector
FUSE 2 Port 1 Fuse 2A

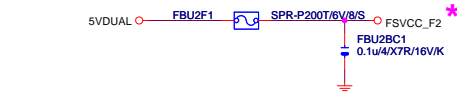


FRONT USB2

NET 可變



Close to connector
FUSE 2 Port 1 Fuse 2A



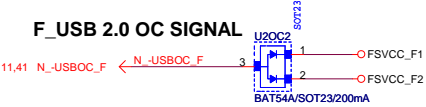
FRONT USB3

FRONT USB4

REAR USB1

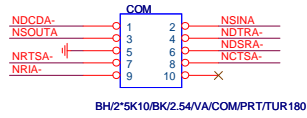
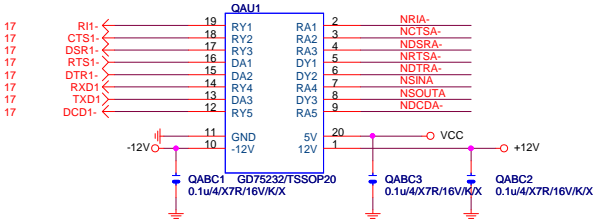
REAR USB2

F_USB 2.0 OC SIGNAL



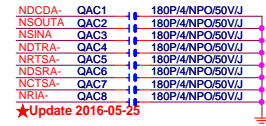
COM PORT

Rev: 0.82

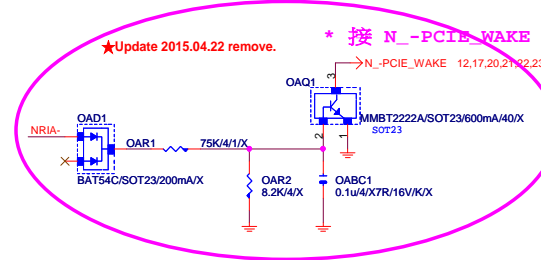


BH/2*5K10/BK/2.54/VA/COM/PRT/TUR180

F_COM-HS



COM RI N/A



★Update 2015.04.22 remove.

* 接 N_-PCIE_WAKE

N_-PCIE_WAKE 12,17,20,21,22,23

TPM CONNECT

*Del TPM

Gigabyte Technology

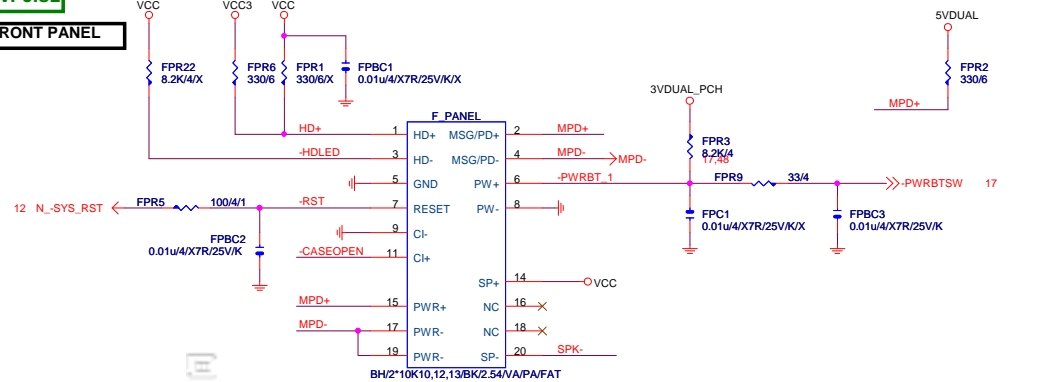
Title			
COM			
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Rev 1.0

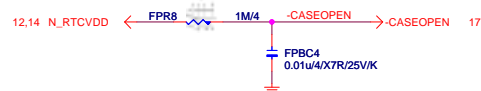
Rev: 0.82

★Update 2016.06.15

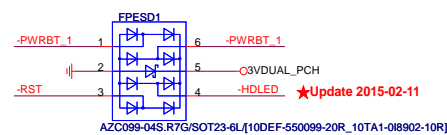
FRONT PANEL



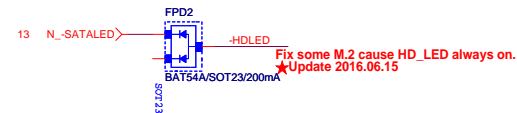
CASE OPEN



FRONT PANEL SHORT

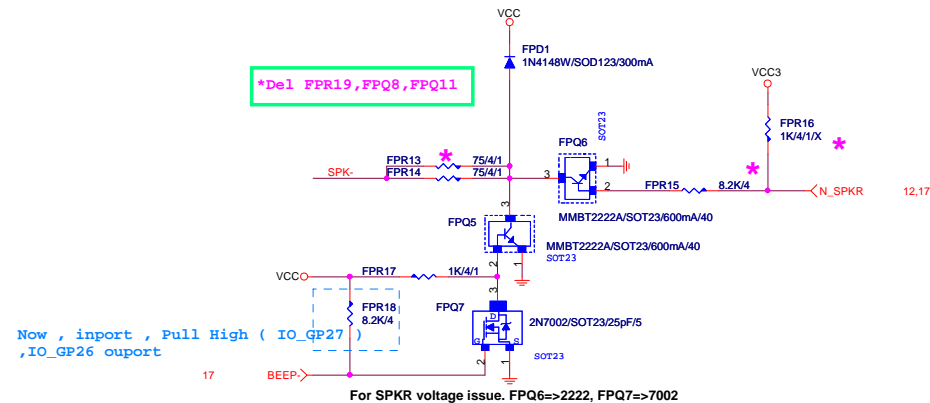


SATA LED



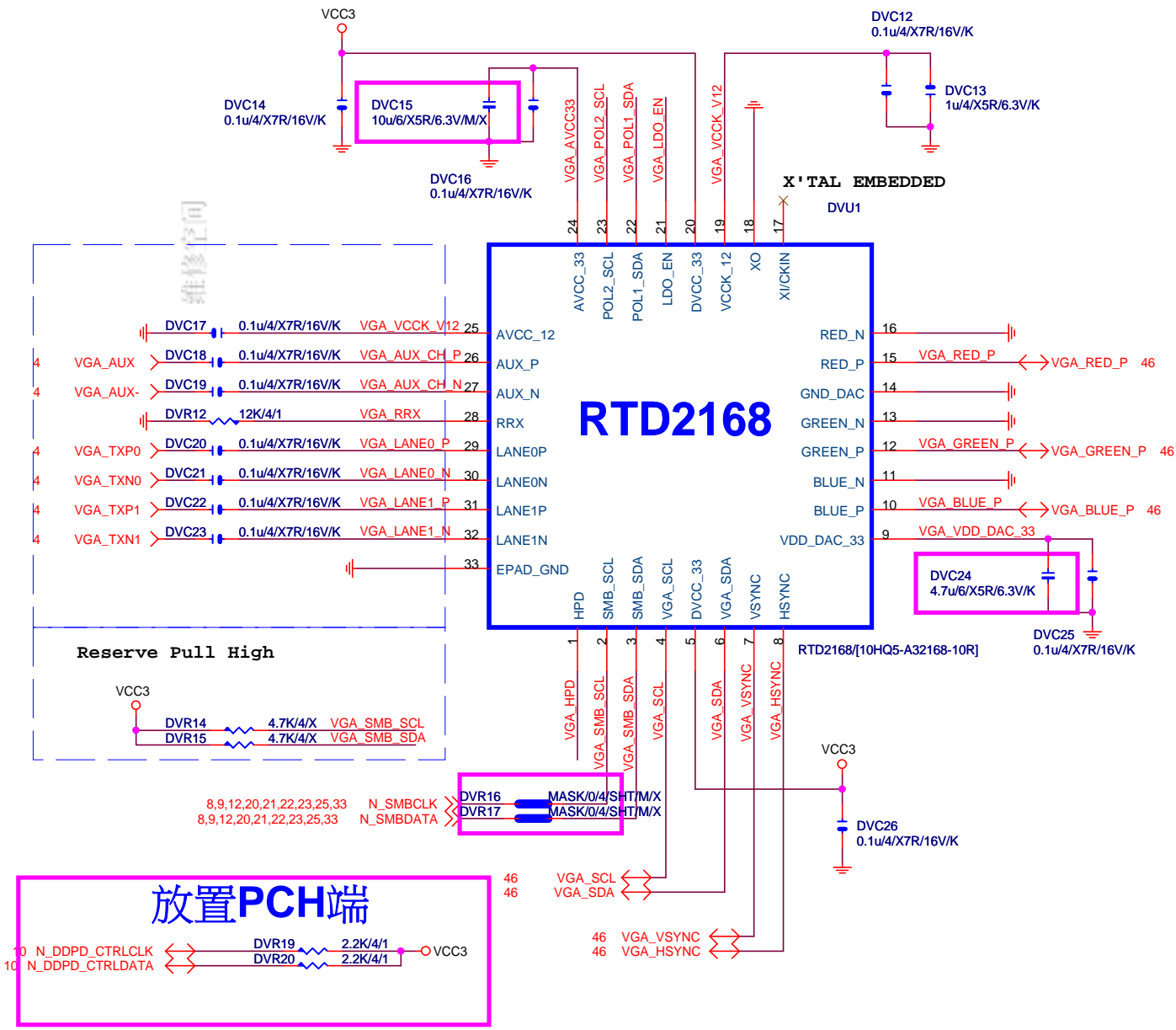
SPEAKER

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

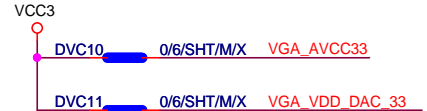


Gigabyte Technology

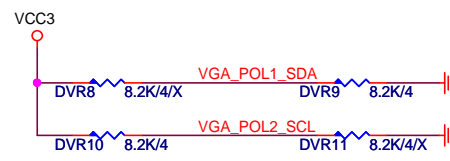
Title			
FRONT PANEL			
Size	Document Number	Rev	
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POWER

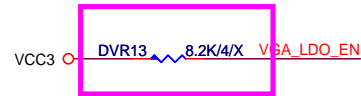


Power on latch



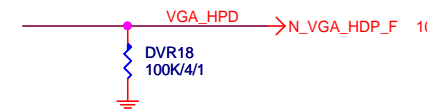
		POL1_SDA(PIN22)	
		0	1
POL2_SCL (PIN23)	0	X	EP MODE
	1	ROM ONLY MODE	EEPROM MODE

Embedded LDO



LDO_EN(PIN21)	
0	1
VCC_12 from External 1.2V	VCC_12 from Embedded LDO

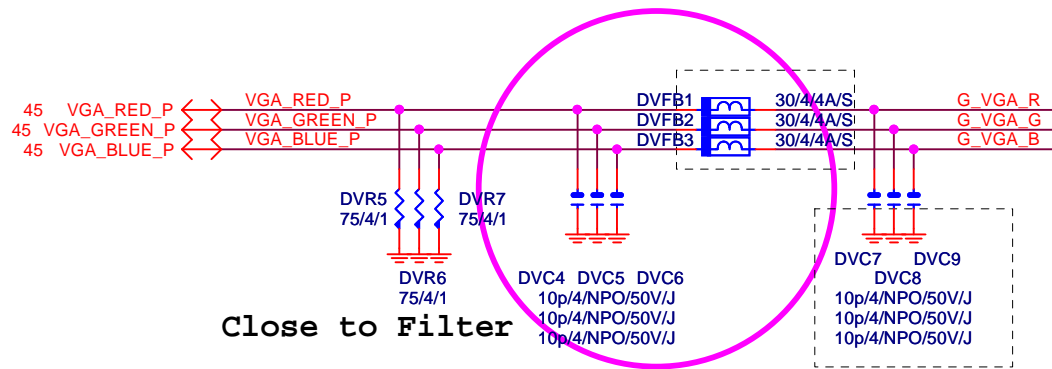
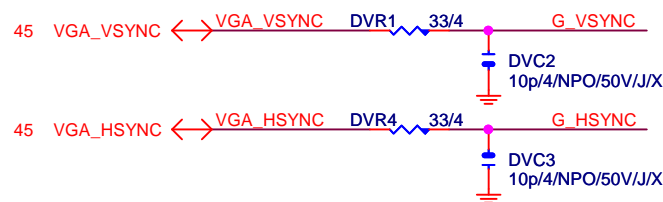
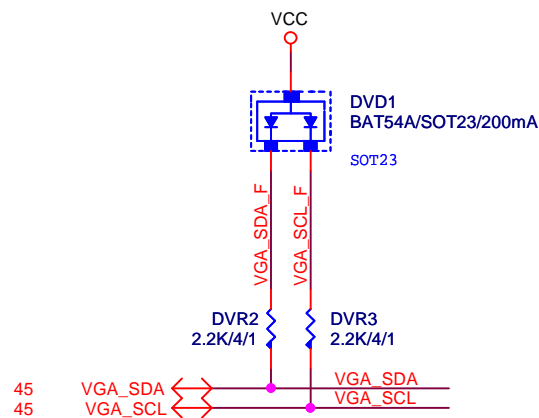
DP HPD



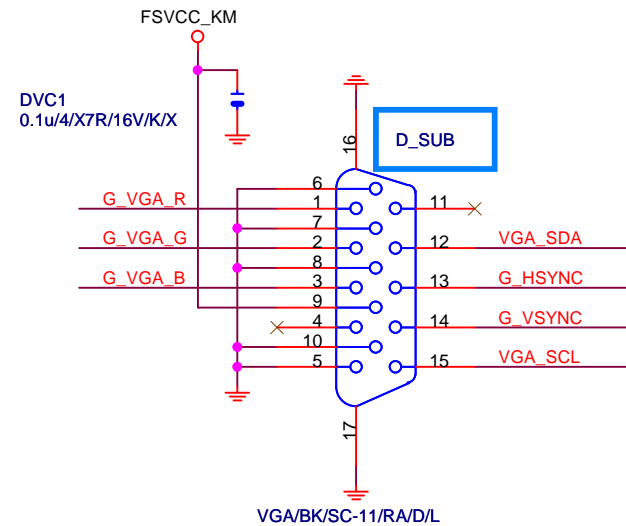
Gigabyte Technology

VGA SIGNAL R1.03

维修空间

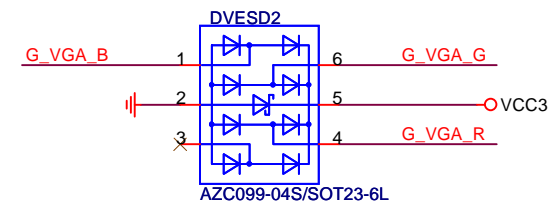
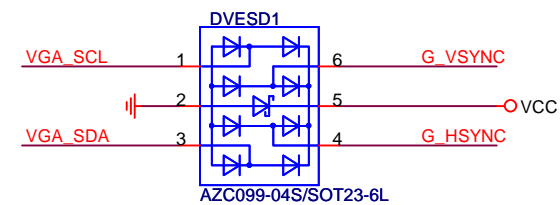


VGA CONN. 平躺型VGA (BLACK)



Footprint : VGACONN

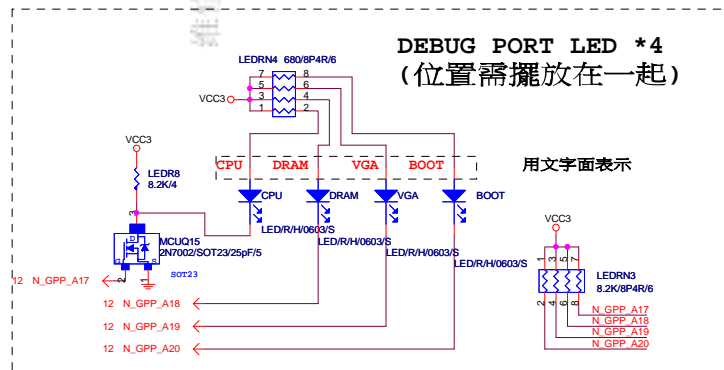
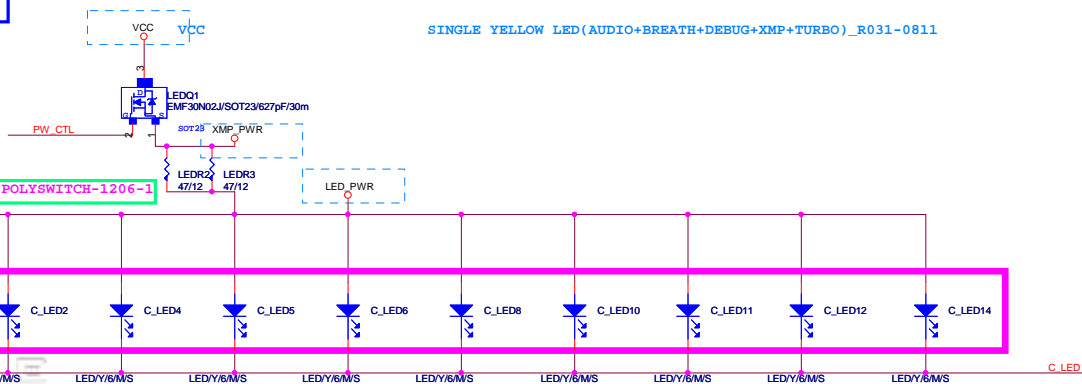
VGA ESD



GIGABYTE™

Title			RTD2168 - DP to VGA - Conn	
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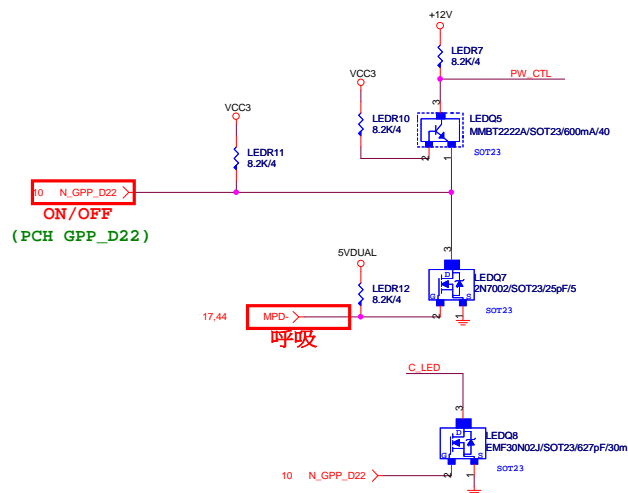
Rev 0.31



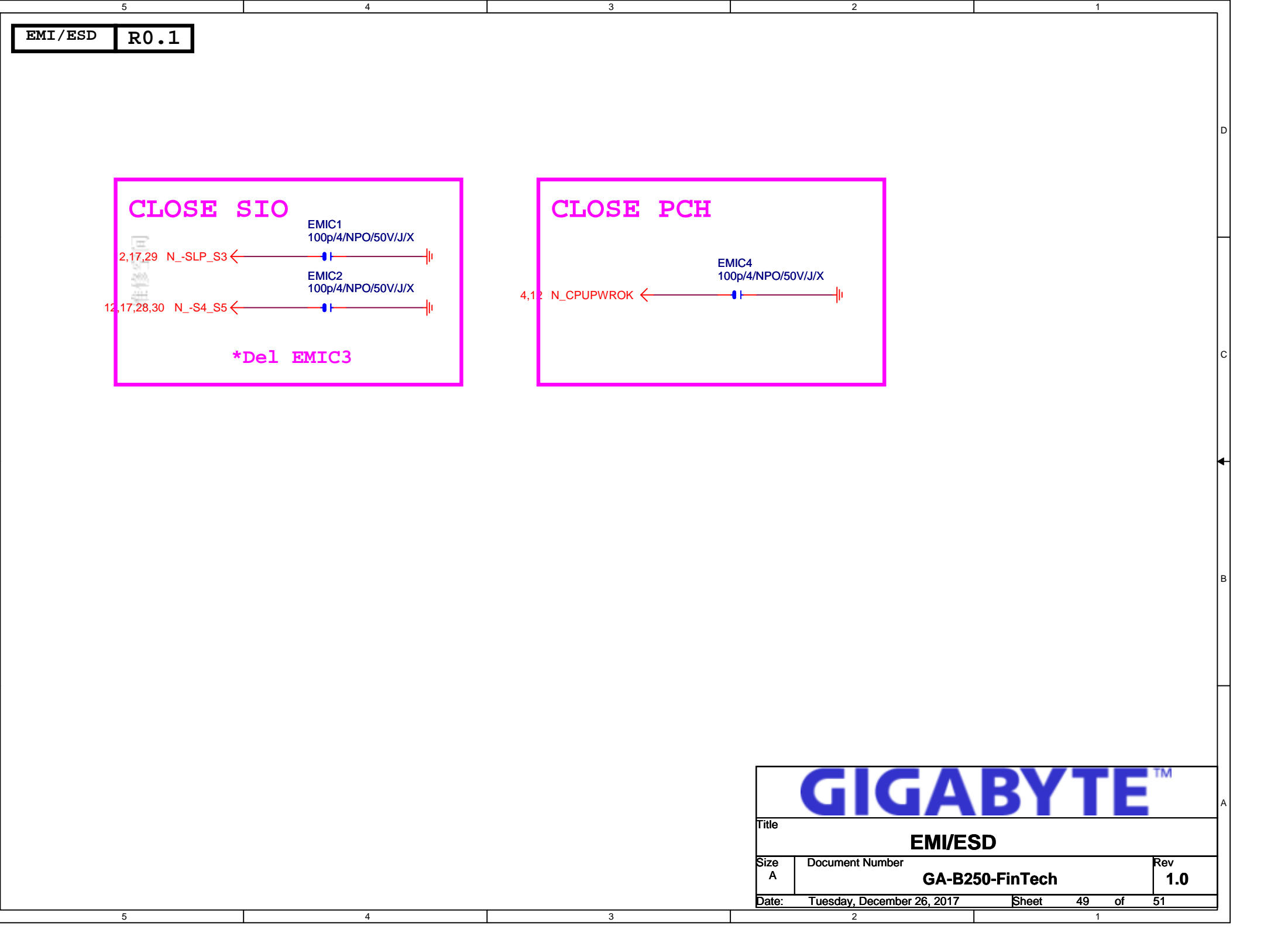
Ambient LED Control

	N_GPP_D22	IO_GP91
Still Mode	H	L
OFF Mode	L	L
Pluse Mode	H	BREATH

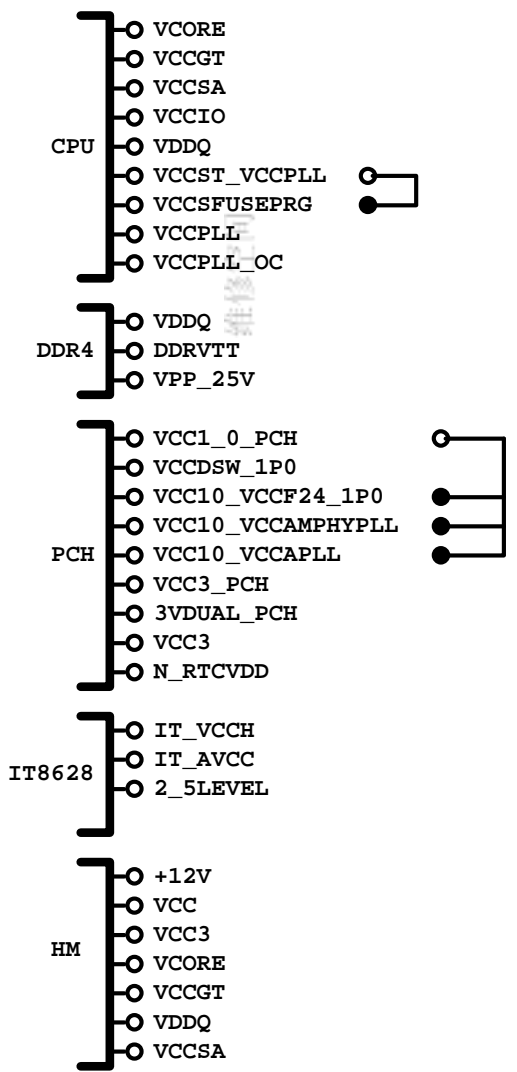
Del XMP LED



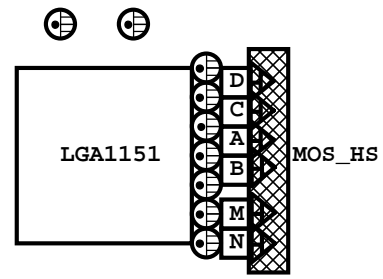
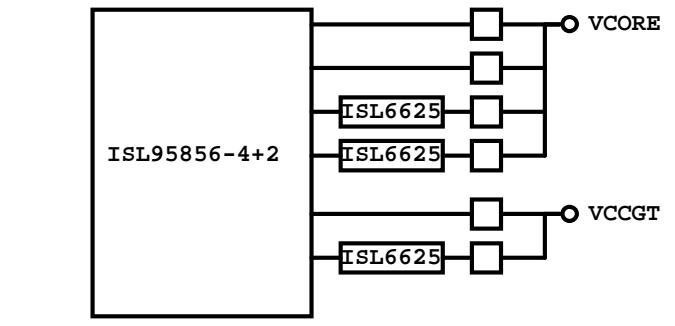
Del TURBO LED



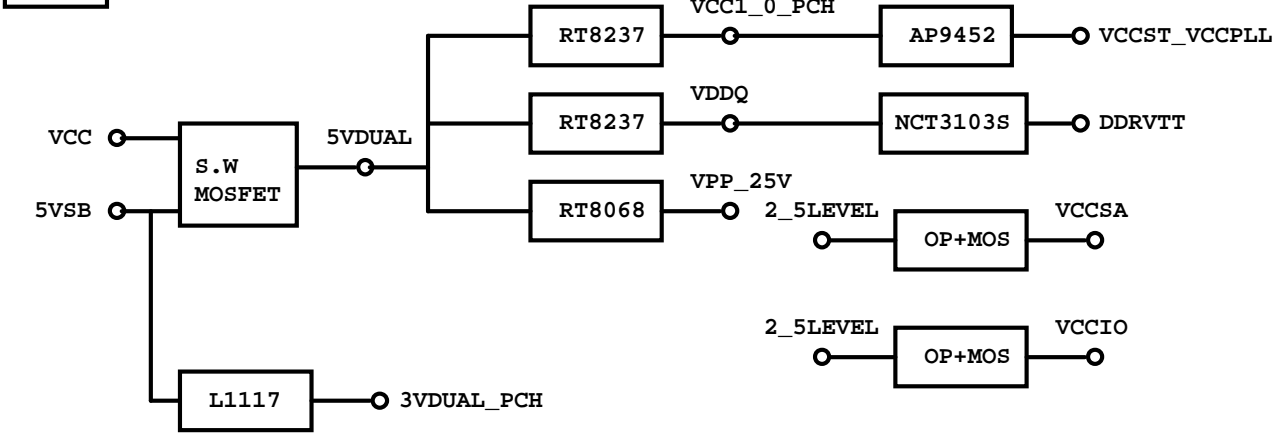
POWER BLOCK MAP



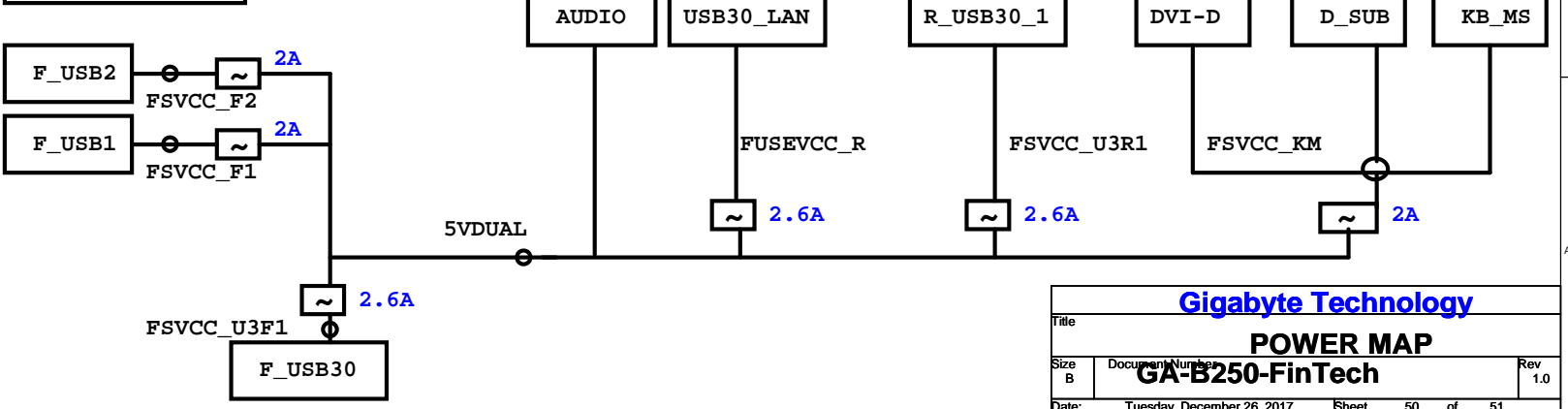
VCORE/VCCGT



POWER



FUSE POWER F/R



Gigabyte Technology		
Title		
POWER MAP		
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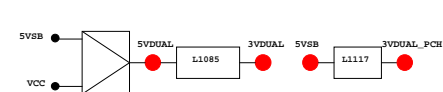
PCH GPIO LIST TABLE

PIN NAME	PWR	Default	USAGE	NOTE
GFP_A0	MAIN	H-Z	RGIN#	N_KBRST P/U 8.2K VCC3
GFP_A1	MAIN	H-Z	LAD0	N_LAD0 N/A
GFP_A2	MAIN	H-Z	LAD1	N_LAD1 N/A
GFP_A3	MAIN	H-Z	LAD2	N_LAD2 N/A
GFP_A4	MAIN	H-Z	LAD3	N_LAD3 N/A
GFP_A5	MAIN	H-Z	LFRAME	N_LFRAME N/A
GFP_A6	MAIN	H-Z	SERIRQ	N_SERIRQ P/U 8.2K VCC3
GFP_A7	MAIN	H-Z	PIRQA#	N_LDRQ0 P/U 8.2K VCC3
GFP_A8	MAIN	H-Z	CLKRUN	N_GFP_A8 P/U 8.2K VCC3
GFP_A9	MAIN	H-Z	CLKOUT	N_LPC24MA N/A
GFP_A11	MAIN	H-Z	PME#	N_-P_PME P/U 8.2K 3VDUAL_PCH
GFP_A12	MAIN	H-Z	GPI	N_GFP_A12 P/U 8.2K VCC3
GFP_A13	MAIN	H-Z	MANR#	N_-S_WARN# N/A
GFP_A14	MAIN	H-Z	STAT#	N_GFP_A14 P/U 8.2K 3VDUAL
GFP_A15	MAIN	H-Z	ACK#	N_-S_ACK N/A
GFP_B0	MAIN	H-Z	ZPO	N_-DDR_V_SEL P/U 8.2K VCC3
GFP_B2	MAIN	H-Z	GPI	N/A N/A
GFP_B3	MAIN	H-Z	GPI	N_GFP_B3 N/A
GFP_B4	MAIN	H-Z	GPI	N_GFP_B4 N/A
GFP_B5	MAIN	H-Z	GPI	-PCIRX16_PR P/U 8.2K VCC3
GFP_B6	MAIN	H-Z	GPI	-PCIRX1_PK1 P/U 8.2K VCC3
GFP_B7	MAIN	H-Z	GPI	-PCIRX1_PK2 P/U 8.2K VCC3
GFP_B8	MAIN	H-Z	GPI	-PCIRX4_PK P/U 8.2K VCC3
GFP_B9	MAIN	H-Z	GPI	-PCIRX1_PK3 P/U 8.2K VCC3
GFP_B10	MAIN	H-Z	GPI	LA_-CLKREQ P/U 8.2K 3VDUAL_LAN1
GFP_B12	MAIN	H-Z	SLP_S0	N_-SLP_S0 N/A
GFP_B13	MAIN	H-Z	PLTRST	N_-PPWRST N/A
GFP_B14	MAIN	H-Z	GPO	N_SPER N/A
GFP_B15	MAIN	H-Z	GPI	N_GFP_B15 N/A
GFP_B16	MAIN	H-Z	GPI	N_GFP_B16 N/A
GFP_B22	MAIN	H-Z	GPO	N_GFP_B22 P/D 1K GND
GFP_B23	MAIN	H-Z	GPO	N_PCH_RST N/A
GFP_C0	MAIN	H-Z	SHBCLK	N_SHBCLK P/U 1K 3VDUAL
GFP_C1	MAIN	H-Z	SHBDATA	N_SHBDATA P/U 1K 3VDUAL
GFP_C2	MAIN	H-Z	GPO	N_-LPCPME N/A
GFP_C3	MAIN	H-Z	SHLCLK	N_SHLCLK P/U 499 3VDUAL
GFP_C4	MAIN	H-Z	SHL0DAT	N_SHL0DAT P/U 499 3VDUAL
GFP_C6	MAIN	H-Z	GPI	N_SHL1CLK P/U 8.2K 3VDUAL
GFP_C7	MAIN	H-Z	GPI	N_SHL1DAT P/U 8.2K 3VDUAL
GFP_C21	MAIN	H-Z	GPI	N_GFP_C21 N/A
GFP_C23	MAIN	H-Z	GPI	N_GFP_C23 N/A
GFP_D4	MAIN	H-Z	GPI	N_GFP_D4 P/U 8.2K 3VDUAL
GFP_D7	MAIN	H-Z	GPI	N_GFP_D7 N/A
GFP_D8	MAIN	H-Z	GPI	N/A N/A
GFP_D9	MAIN	H-Z	GPI	N_GFP_D9 P/U 1K VCC3
GFP_D10	MAIN	H-Z	GPI	N/A N/A
GFP_D13	MAIN	H-Z	GPI	N/A N/A
GFP_D23	MAIN	H-Z	GPI	N_GFP_D23 P/U 8.2K 3VDUAL
GFP_E0	MAIN	H-Z	GPI	N_GFP_E0 P/U 8.2K 3VDUAL
GFP_E1	MAIN	H-Z	GPI	N_GFP_E1 P/U 8.2K 3VDUAL
GFP_E2	MAIN	H-Z	GPI	N_GFP_E2 P/U 8.2K 3VDUAL
GFP_E3	MAIN	H-Z	GPI	N/A N/A
GFP_E4	MAIN	H-Z	GPI	N_DEVSLEP0 N/A
GFP_E6	MAIN	H-Z	GPI	N_GFP_E6 N/A
GFP_E8	MAIN	H-Z	GPI	N_-SATALED N/A
GFP_E9	MAIN	H-Z	GPI	N_-USB0C_F N/A
GFP_E10	MAIN	H-Z	GPI	N_-USB0C_R N/A
GFP_E11	MAIN	H-Z	GPI	N_-USB0C_R N/A
GFP_E12	MAIN	H-Z	GPI	N_-USB0C_R N/A
GFP_F0	MAIN	H-Z	GPI	N_GFP_F0 P/U 8.2K 3VDUAL
GFP_F1	MAIN	H-Z	GPI	N_GFP_F1 P/U 8.2K 3VDUAL
GFP_F2	MAIN	H-Z	GPI	N_GFP_F2 P/U 8.2K 3VDUAL
GFP_F3	MAIN	H-Z	GPI	N_GFP_F3 P/U 8.2K 3VDUAL
GFP_F4	MAIN	H-Z	GPI	N_GFP_F4 P/U 8.2K 3VDUAL
GFP_F5	MAIN	H-Z	GPI	N_GFP_F5 P/U 8.2K VCC3
GFP_F6	MAIN	H-Z	GPI	N_GFP_F6 N/A
GFP_F10	MAIN	H-Z	GPI	N_GFP_F10 P/U 8.2K VCC3
GFP_F11	MAIN	H-Z	GPI	N_GFP_F11 P/U 8.2K VCC3
GFP_F12	MAIN	H-Z	GPI	N_GFP_F12 P/U 8.2K VCC3
GFP_F13	MAIN	H-Z	GPI	N_GFP_F13 P/U 8.2K VCC3
GFP_F14	MAIN	H-Z	GPI	A_-SKTOCC P/U 8.2K VCC3
GFP_F15	MAIN	H-Z	GPI	N_-USB0C_F N/A
GFP_F16	MAIN	H-Z	GPI	N_-USB0C_F N/A
GFP_F17	MAIN	H-Z	GPI	N_-USB0C_7 P/U 8.2K 3VDUAL
GFP_F18	MAIN	H-Z	GPI	N_-USB0C_7 P/U 8.2K 3VDUAL
GFP_F22	MAIN	H-Z	GPI	N_GFP_F22 P/U 8.2K VCC3
GFP_F23	MAIN	H-Z	GPI	N_GFP_F23 P/U 8.2K VCC3
GFP_G11	MAIN	H-Z	FANPWM2	N/A N/A
GFP_G12	MAIN	H-Z	GPI	N/A N/A
GFP_G13	MAIN	H-Z	GPI	N/A N/A
GFP_G14	MAIN	H-Z	GPI	N_GF_S N/A
GFP_G15	MAIN	H-Z	GPI	N_CPU_S N/A
GFP_G18	MAIN	H-Z	GPI	N_GFP_G18 P/U 8.2K VCC3
GFP_G19	MAIN	H-Z	GPI	N_GFP_G19 P/U 8.2K VCC3
GFP_G20	MAIN	H-Z	GPI	N_GFP_G20 P/U 8.2K VCC3
GFP_G21	MAIN	H-Z	GPI	N_GFP_G21 P/U 8.2K VCC3
GFP_G22	MAIN	H-Z	GPI	N_GFP_G22 P/U 8.2K VCC3
GFP_H0	MAIN	H-Z	GPI	M2A_-CLKREQ P/U 8.2K VCC3
GFP_H12	MAIN	H-Z	GPO	N_GFP_H12 N/A
GFP_H19	MAIN	H-Z	GPI	N_GFP_H19 P/U 8.2K 3VDUAL
GFP_H20	MAIN	H-Z	GPI	N_GFP_H20 P/U 8.2K 3VDUAL
GFP_H21	MAIN	H-Z	GPI	N_GFP_H21 P/U 8.2K 3VDUAL
GFP_H22	MAIN	H-Z	GPI	N_GFP_H22 P/U 8.2K 3VDUAL
GFP_I0	MAIN	H-Z	GPI	N_GFP_I0 P/U 8.2K VCC3
GFP_I1	MAIN	H-Z	GPI	N_DVI_HDP_F P/U 1M VCC3
GFP_I2	MAIN	H-Z	GPI	N_VGA_HDP_F N/A

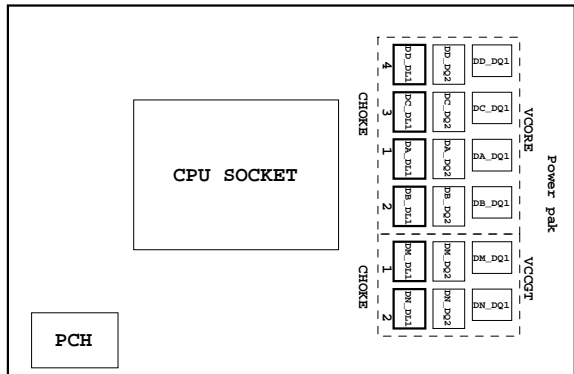
PIN NAME	PWR	Default	USAGE	NOTE
GFP_I3	MAIN	H-Z	GPI	N_GFP_I3 P/U 8.2K VCC3
GFP_I4	MAIN	H-Z	GPI	N_GFP_I4 P/D 100K GND
GFP_I5	MAIN	H-Z	GPI	N_DDBP_CTRLCLK P/U 2.2K VCC3
GFP_I6	MAIN	GPO	N_DDBP_CTRLDATA	P/U 2.2K VCC3
GFP_I7	MAIN	H-Z	GPI	N_DDBP_CTRLCLK P/U 2.2K VCC3
GFP_I8	MAIN	GPO	N_DDBP_CTRLDATA	P/U 2.2K VCC3
GFP_I9	MAIN	H-Z	GPI	N_DDBP_CTRLCLK P/U 2.2K VCC3
GFP_I10	MAIN	GPO	N_DDBP_CTRLDATA	P/U 2.2K VCC3
GP00	STBY	BATLOW	N_-BATLOW	P/U 8.2K 3VDUAL_PCH
GP01	STBY	ACPRESENT	N_GP_D1	P/U 8.2K 3VDUAL_PCH
GP02	STBY	LAM_MAKE	N_-LAM_MAKE	P/U 8.2K 3VDUAL_PCH
GP03	STBY	PWRBTN	O_PWRBTW	P/U 8.2K 3VDUAL_PCH
GP04	STBY	SLP_S3	N_-SLP_S3	N/A
GP05	STBY	SLP_S4	N_-S4_S5	N/A
GP06	STBY	SLP_A	N_-SLP_A	N/A
GP08	STBY	SUSCLK	N_SUSCLK	P/D 1.5K GND
GP010	STBY	SLP_S5	N_-SLP_S5	N/A
GP011	STBY	LAMPHYC	N/A	N/A

Super I/O ITE8686 GPIO Table

PIN NAME	USAGE	NOTE
PCIRST3#/GP10/VDIMM_STR_EN	N/A	
PCIRST2#/GP11	O_-PCIR_RST	
PCIRST1#/GP12	O_-PPWRST2	
SVC/PECI_RQT/GP14	N_-THERMTRIP	
SLP_SUS#/PCIRST1N#/CIRTX2/GP15	-PCIRSTIN	
PS1_L/FAN_CLT5/CIRRX2/GP16	PIN	
R12#/GP17	IO_GP17	
THR_PWM_CTS2#/GP20	PIN	
IO_SMI#DCD2#/GP21	PIN	
SPI_S1/GP22	PIN	
DPWRCK/CPU_PG/GP23	N_PCH_DPWRCK	
FAN_TAC5/RTS2#/GP24	PIN	
FAN_TAC4/DSR2#/GP25	FANIO4	
INV_OUT1_SOUT2/GP26	MB_ID2	
INV_IN1/SIN2/GP27	BEEP-	
ATXPG/GP30	PWOK	
CT81/GP31	CTS1-	
OCMDT3/R11#/GP32	R11-	
OCMDT2/DCD1#/GP33	DCD1-	
VTT_PWRGD/GP34	VTT_PWRGD	
VCC18_EN/GP35	VCCIO_EN	
FAN_CTL3/GP36	FANPWM3	
FAN_TAC3/GP37	FANIO3	
3VSBSW#/GP40	PIN	
OCMDT1/SIN1/GP41	RXD1	
GP42/CLK/FAN_CTL4	FANPWM4	
FANSMW#/GP43	-PWRBTW	
PWRON#/GP44	O_PWRBTW	
OCMDT0/DSR1#/GP45	DSR1-	
CE2_N/GP47/JP6	CEB_N	
GP50/JP1	N/A	
FAN_CTL2/GP51	FANPWM2	
FAN_TAC2/GP52	FANIO2	
SUSC#/GP53	N_-S4_S5	
PME#/GP54	N_-LPCPME	
RSRST#/CIRRX1/GP55	O_-RSRST	
MCLK/FAN_TAC6/GP56	MCLK	
MDAT/FAN_CTL6/GP57	MDAT	
KCLK/GP60	KCLK	
KDAT/GP61	KDAT	
KRST#/GP62	N_-KBRST	
HOLD_B#/GP63	-SPI_HOLD_B	
HOLD_B#/GP64	-SPI_HOLD_M	
VLDT_B#/PCH_D0/GP65	N/A	
VCC1_05_EN/GP66	VCC1_0_EN	
GP67	N_-RTCRST	
USB_F81/PD0/GP70	PIN	
USB_F82/PD1/GP71	PIN	
USB_F83/PD2/GP72	PIN	
USB_F83/PD3/GP73	PIN	
USB_F85/PD4/GP74	PIN	
USB_F86/PD5/GP75	PIN	
USB_F87/PD7/GP76	PIN	
USB_F88/PD8/GP77	PIN	
LS_IN1/SLCT/GP80	VDDQ	
LS_OUT1/PE/GP81	N/A	
LS_IN2/BUSY/GP82	VCCIO	
LS_OUT2/ACK#/GP83	N/A	
IPHONE_CHARGE#/SLIN#/GP84	N/A	
OC_IN/INIT#/GP85	N/A	
OC_OUT/AFD#/GP86	N/A	
USB_OC2/STB#/GP87	N/A	
DDR_EN/GP90	MA_EN	
PWRLED/GP91	MPD-	
HOLD_OUT/GP92	PIN	
HOLD_IN/GP93	IO_GP93	
PROCHOT#/GP94	-PROCHOT_CON	
CPUPWRGD/GP95	PIN	
PCH_VRMPWRGD/GP96	N_PCH_VRMPWRGD	
VR_RDY/GP97	VR_RDY	



PWM各相位の擺法如下:



BIOS超電壓對應表:

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

散熱模組料號:

B250-D3A :
PCH : 12SP2-S04208-61R/62R/63R
MOS : 12SP2-S08924-11R/12R/13R

	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