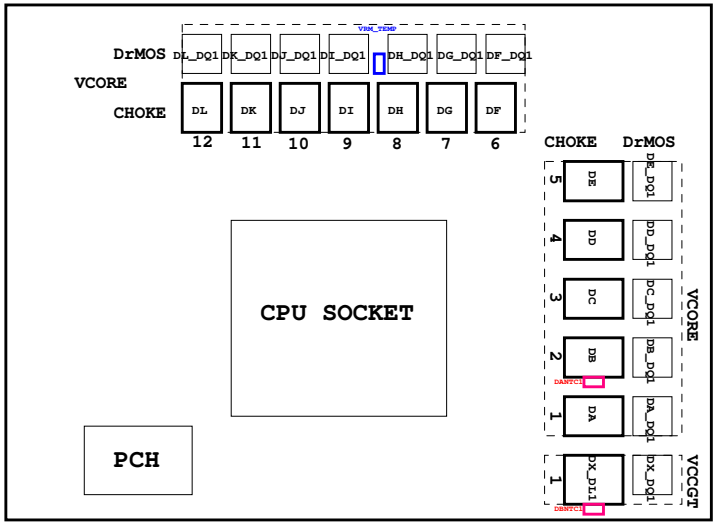
Model Name: B560 AORUS PRO AX

rev 1.02

SHEET	TITLE	
01	COVER SHEET	
02	BOM & PCB MODIFY HISTORY	
03	BLOCK DIAGRAM	
04	CPU_LGA1200-A	(RKL_R0.1)
05	CPU_LGA1200-B-DDR4	(RKL_R0.1)
06	CPU_LGA1200-C	(RKL_R0.1)
07	CPU_LGA1200-D	(RKL_R0.1)
08	DDR 4 CHANNEL A	(CML_R0.1)
09	DDR 4 CHANNEL B	(CML_R0.1)
10	PCH CLK,DMI,CNVI	(RKL_R0.1)
11	PCH SPI,USB	(RKL_R0.1)
12	PCH PCIE,SATA	(RKL_R0.1)
13	PCH ESPI,MISC	(RKL_R0.1)
14	PCH GPP,HDA	(RKL_R0.1)
15	PCH PWR, GND	(RKL_R0.1)
16	Heatsink	
17	ITE ITE8689	(RKL_R0.1)
18	HWM	(RKL_R0.1)
19	FAN CTRL-CFL-SIO_5 FAN	(RKL_R0.1)
20	Single BIOS for CS mode	(RKL_R0.1)
21	PCI EXPRESS X16 SLOT	(REV0.3)
22	PCI EXPRESS X4 SLOT(PCH)	(REV0.51)
23	PCI EXPRESS X1 *3	(REV0.51)
24	SATA	
25	M.2 x4 (A)	(RKL_R0.1)
26		(RKL_R0.1)
27		(RKL_R0.1)
28	M.2 x4 (P)	(RKL_R0.1)
29	COM,LPT,TPM, THB	(CML_R0.94)
30	ISL69269_L=0.15u	(RKL_R0.1)
31	RAA229001_L=0.15u	(RKL_R0.1)
32	VCORE_PSTAGE-1_L=0.15u	(RKL_R0.1)
33	VCORE_PSTAGE-2_L=0.15u	(RKL_R0.1)
34	VCORE_PSTAGE-3_L=0.15u	(RKL_R0.1)
35	VCCGT_PSTAGE_L=0.15u	(RKL_R0.1)
36	VCCSA_MOS	(RKL_R0.1)
37	VCCIO-Ferrite-Z系列	(RKL_R0.1)
38	VCCIO2-Ferrite-Z系列	(RKL_R0.1)
39	RT8120_DDR_CHOKE-Ferrite-2L	(RKL_R0.1)
40	RT8120_VPP_CHOKE-合金	
41	NCP81269_VCC18_PCH	
42	RT8068_VCC1V8_PRIM	
43	DISCRETE POWER	(REV0.1)
44	ATX POWER , A_-PROCHOT	
45	HDMI_NO LS	(CML_R0.94)
46	CNVi_M2_WIFI	(CML_R0.94)
47	Redriver_RTS5461_A	(RKL_R0.1)
48	RTS5441E_A_Type-C	(RKL_R0.1)
49	Redriver_RTS5461_B	(RKL_R0.1)

SHEET	TITLE	
50	R_USB30x4	(CML_R0.94)
51	GENESYS GL850S_1	(RKL_R0.1)
52	GENESYS GL850S_2	(RKL_R0.1)
53	F_USB20	(CML_R0.94)
54	F_U32	(CML_R0.94)
55	KB_MS_USB	(CML_R0.94)
56	RTS5441E_B_Front1	(RKL_R0.1)
57	INTEL I219	(CML_R0.3)
58	U32_LAN CONNECTOR-I219	(CML_R0.3)
59	Realtek ALC1200	(RKL_R0.6)
60	REAR AUDIO JACK	(RKL_R0.6)
61	CPU POWER-1	(RKL_R0.1)
62	CPU POWER-1	(RKL_R0.1)
63	NCT3933	
64	F_PANEL	
65	IT5702	(RKL_R1.0)
66	PCH/AUDIO/DEBUG/C_LED1/2	(RKL_R1.0)
67	D_LED1/D_LED2	
68	SMBUS SWITCH	(RKL_R0.1)
69	CKG	(RKL_R0.1)
70	EMI-ESD	
71	POWER MAP	
72	NTC MAP	



Gigabyte Technology		
Title: Cover Sheet		
Size: Custom	Document Number: B560 AORUS PRO AX	Rev: 1.02
Date: Thursday, February 25, 2021	Sheet 1 of 74	

Model Name: B560 AORUS PRO AX *rev1.02*

Component value change history

2020/09/02

Data	Change Item	Reason
2020/07/09	Update AUDIO & LED 模組	
2020/07/14	Update SIO 模組, ADD OR16~20	
2020/08/13	Update Audio ALC1200 to ALC1220	
	Update PCH 模組(R011_200812)	
2020/08/18	Update PCH POWER模組線路修改	
	DGR6 不上件, DGQ14 & DGR5 上件	
	Update CPU POWER 模組線路修改	
	NPA_R14改為2.8K/4/1, NPA_R16 改為1.8K/4/1	
2020/09/02	intel 500 note rev 0.3	
	電容 10u 0603 16V 全部改為10u 0805 16V(FAN & LED)	
10A-1230	1. P-BOM release	
	1. M.2 螺絲孔修正	
10B-0114	1. HUAU1,HUFU1 "RTS5411E" 改成 "RTS5411"	
10C-0120	1. WR3 change to 3.16K/4/1	
10D-0127	1. Remove OR27 0/4	
10H-0127	1. VCCIO/VCCIO2 change to TPS51215A	
10I	1. DFR18.DGR18 change to "140K/4/1"	
	2. DGR41 change to "102K/4/1"	
	3. OR16~20 change to 22/4	
	4. DFR14 change to 43K/4/1	
10J	1. DFR14 改 40.2K/4/1	
	2. DGR41改105K/4/1	

Circuit or PCB layout change

DATE	Change Item	Reason
2020/11/10-0.1	1. E-BOM release	
2020/12/30-1.0	1. IO SHIELD/HS料號更新	
	2. HUAL1移出PCH_HS	
	3. CNVI走線干擾 (名稱改M2_CNVI)	
	4. M2A_SB & M2B_SB 螺絲孔對調	
	5. Add NPB_C10 , NPB_R6先不要改short pad	
	6. 加拿大 產品本體文字變更	
	7. VCCIO2 VIA HOLE遠離TXP11 (VCCSA/VCCIO一併修改)	
	8. TX14/TX15要打4 VIA hole	
	9. 增加PCH背板電容	
	10. 改成雙色黑色圖騰	
	11. 0 ohm 改成short pad	
	12. OBC15 , OBC2 , BC46 , BC48 , MABC19 , MABC13改為R0201	
	13. Update DP dongle support	
	14. 修改WIFI的命名	
	15. TCER67,77,60,62,73,80,74,75,59,78 , BSR3,DBR6,DBR7改Short pad	

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Title: BOM & PCB MODIFY HISTORY

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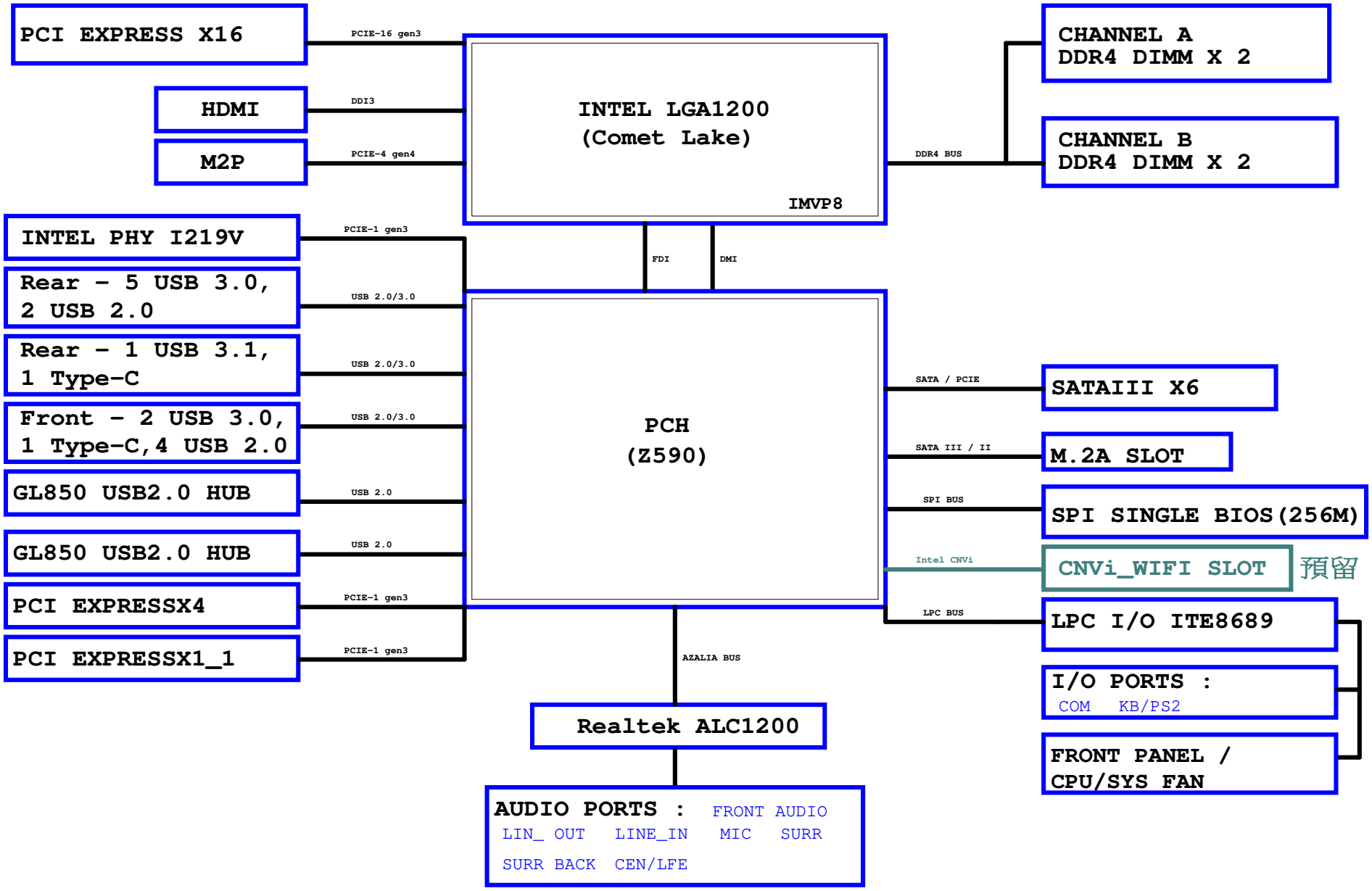
BLOCK DIAGRAM



Gigabyte Technology		
Title: BLOCK DIAGRAM		
Size: C	Document Number: B560 AORUS PRO AX	Rev: 1.02
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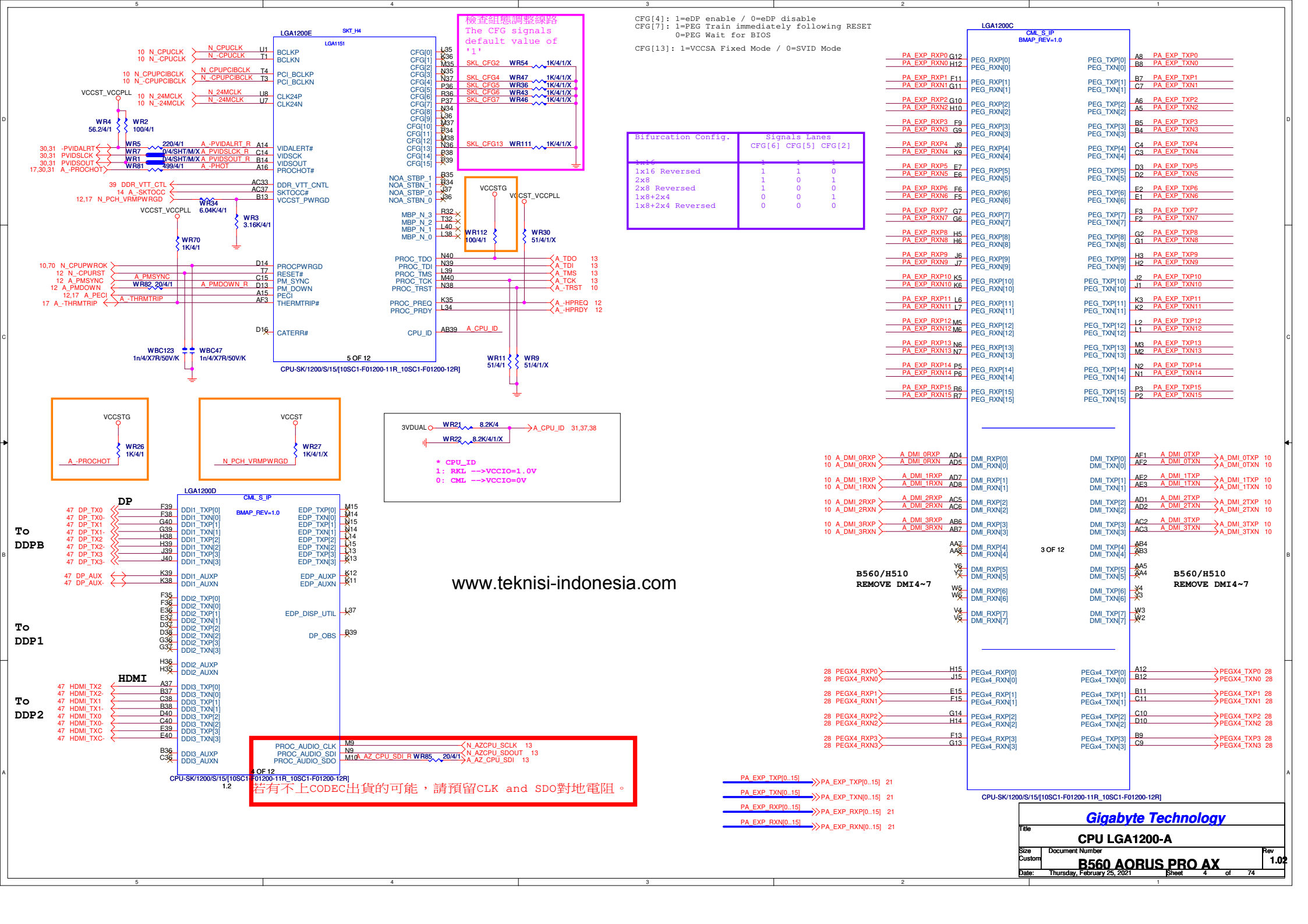
LGA1200E
SKT_H4
LGA1151
5 OF 12
CPU-SK/1200/S/15/[10SC1-F01200-11R_10SC1-F01200-12R]
檢查組態調整線路
The CFG signals default value of '1'
CFG[4]: 1=eDP enable / 0=eDP disable
CFG[7]: 1=PEG Train immediately following RESET
0=PEG Wait for BIOS
CFG[13]: 1=VCCSA Fixed Mode / 0=SVID Mode
Bifurcation Config.
Signals Lanes
CFG[6] CFG[5] CFG[2]
1x16
1x16 Reversed
2x8
2x8 Reversed
1x8+2x4
1x8+2x4 Reversed
LGA1200C
CML_S_IP
BMAP_REV=1.0
3 OF 12
B560/H510
REMOVE DMI4~7
LGA1200D
DP
HDMI
4 OF 12
CPU-SK/1200/S/15/[10SC1-F01200-11R_10SC1-F01200-12R]
1.2
若有不上CODEC出貨的可能，請預留CLK and SDO對地電阻。
* CPU_ID
1: RKL -->VCCIO=1.0V
0: CML -->VCCIO=0V
www.teknisi-indonesia.com
To DDPB
To DDP1
To DDP2
Gigabyte Technology
CPU LGA1200-A
B560 AORUS PRO AX
Rev 1.02
Thursday, February 25, 2021
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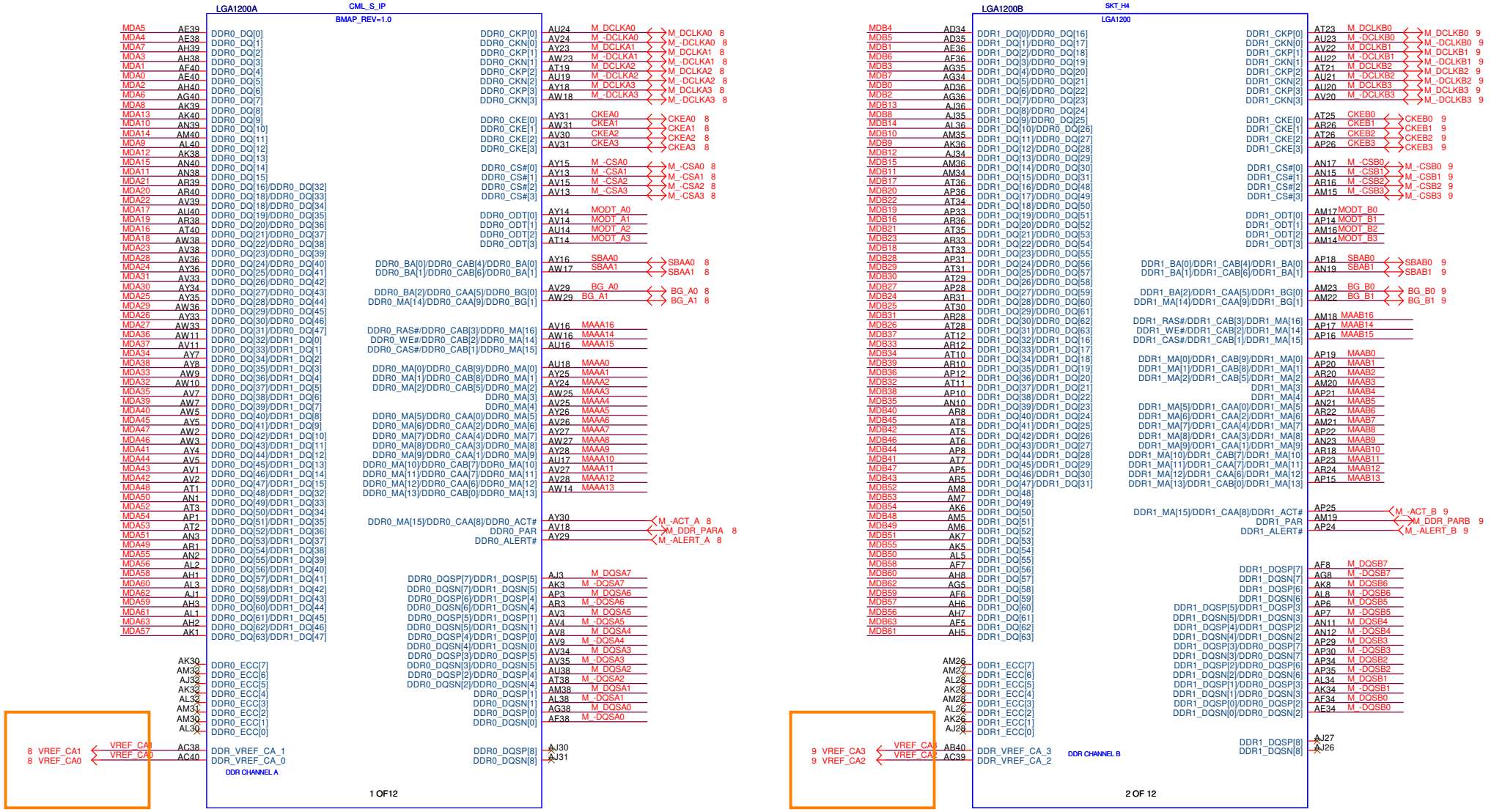
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CML_S_IP
BMAP_REV=1.0
DDR0_DQ[0]
DDR0_DQ[1]
DDR0_DQ[2]
DDR0_DQ[3]
DDR0_DQ[4]
DDR0_DQ[5]
DDR0_DQ[6]
DDR0_DQ[7]
DDR0_DQ[8]
DDR0_DQ[9]
DDR0_DQ[10]
DDR0_DQ[11]
DDR0_DQ[12]
DDR0_DQ[13]
DDR0_DQ[14]
DDR0_DQ[15]
DDR0_DQ[16]/DDR0_DQ[32]
DDR0_DQ[18]/DDR0_DQ[33]
DDR0_DQ[18]/DDR0_DQ[34]
DDR0_DQ[19]/DDR0_DQ[35]
DDR0_DQ[20]/DDR0_DQ[36]
DDR0_DQ[21]/DDR0_DQ[37]
DDR0_DQ[22]/DDR0_DQ[38]
DDR0_DQ[23]/DDR0_DQ[39]
DDR0_DQ[24]/DDR0_DQ[40]
DDR0_DQ[25]/DDR0_DQ[41]
DDR0_DQ[26]/DDR0_DQ[42]
DDR0_DQ[27]/DDR0_DQ[43]
DDR0_DQ[28]/DDR0_DQ[44]
DDR0_DQ[29]/DDR0_DQ[45]
DDR0_DQ[30]/DDR0_DQ[46]
DDR0_DQ[31]/DDR0_DQ[47]
DDR0_DQ[32]/DDR1_DQ[0]
DDR0_DQ[33]/DDR1_DQ[1]
DDR0_DQ[34]/DDR1_DQ[2]
DDR0_DQ[35]/DDR1_DQ[3]
DDR0_DQ[36]/DDR1_DQ[4]
DDR0_DQ[37]/DDR1_DQ[5]
DDR0_DQ[38]/DDR1_DQ[6]
DDR0_DQ[39]/DDR1_DQ[7]
DDR0_DQ[40]/DDR1_DQ[8]
DDR0_DQ[41]/DDR1_DQ[9]
DDR0_DQ[42]/DDR1_DQ[10]
DDR0_DQ[43]/DDR1_DQ[11]
DDR0_DQ[44]/DDR1_DQ[12]
DDR0_DQ[45]/DDR1_DQ[13]
DDR0_DQ[46]/DDR1_DQ[14]
DDR0_DQ[47]/DDR1_DQ[15]
DDR0_DQ[48]/DDR1_DQ[32]
DDR0_DQ[49]/DDR1_DQ[33]
DDR0_DQ[50]/DDR1_DQ[34]
DDR0_DQ[51]/DDR1_DQ[35]
DDR0_DQ[52]/DDR1_DQ[36]
DDR0_DQ[53]/DDR1_DQ[37]
DDR0_DQ[54]/DDR1_DQ[38]
DDR0_DQ[55]/DDR1_DQ[39]
DDR0_DQ[56]/DDR1_DQ[40]
DDR0_DQ[57]/DDR1_DQ[41]
DDR0_DQ[58]/DDR1_DQ[42]
DDR0_DQ[59]/DDR1_DQ[43]
DDR0_DQ[60]/DDR1_DQ[44]
DDR0_DQ[61]/DDR1_DQ[45]
DDR0_DQ[62]/DDR1_DQ[46]
DDR0_DQ[63]/DDR1_DQ[47]
DDR0_ECC[7]
DDR0_ECC[6]
DDR0_ECC[5]
DDR0_ECC[4]
DDR0_ECC[3]
DDR0_ECC[2]
DDR0_ECC[1]
DDR0_ECC[0]
DDR_VREF_CA_1
DDR_VREF_CA_0
DDR CHANNEL A
DDR0_CKP[0]
DDR0_CKN[0]
DDR0_CKP[1]
DDR0_CKN[1]
DDR0_CKP[2]
DDR0_CKN[2]
DDR0_CKP[3]
DDR0_CKN[3]
DDR0_CKE[0]
DDR0_CKE[1]
DDR0_CKE[2]
DDR0_CKE[3]
DDR0_CS#[0]
DDR0_CS#[1]
DDR0_CS#[2]
DDR0_CS#[3]
DDR0_ODT[0]
DDR0_ODT[1]
DDR0_ODT[2]
DDR0_ODT[3]
DDR0_BA[0]/DDR0_CAB[4]/DDR0_BA[0]
DDR0_BA[1]/DDR0_CAB[6]/DDR0_BA[1]
DDR0_BA[2]/DDR0_CAA[5]/DDR0_BG[0]
DDR0_MA[14]/DDR0_CAA[9]/DDR0_BG[1]
DDR0_RAS#/DDR0_CAB[3]/DDR0_MA[16]
DDR0_WE#/DDR0_CAB[2]/DDR0_MA[14]
DDR0_CAS#/DDR0_CAB[1]/DDR0_MA[15]
DDR0_MA[0]/DDR0_CAB[9]/DDR0_MA[0]
DDR0_MA[1]/DDR0_CAB[8]/DDR0_MA[1]
DDR0_MA[2]/DDR0_CAB[5]/DDR0_MA[2]
DDR0_MA[3]
DDR0_MA[4]
DDR0_MA[5]/DDR0_CAA[0]/DDR0_MA[5]
DDR0_MA[6]/DDR0_CAA[2]/DDR0_MA[6]
DDR0_MA[7]/DDR0_CAA[4]/DDR0_MA[7]
DDR0_MA[8]/DDR0_CAA[3]/DDR0_MA[8]
DDR0_MA[9]/DDR0_CAA[1]/DDR0_MA[9]
DDR0_MA[10]/DDR0_CAB[7]/DDR0_MA[10]
DDR0_MA[11]/DDR0_CAA[7]/DDR0_MA[11]
DDR0_MA[12]/DDR0_CAA[6]/DDR0_MA[12]
DDR0_MA[13]/DDR0_CAB[0]/DDR0_MA[13]
DDR0_MA[15]/DDR0_CAA[8]/DDR0_ACT#
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DDR0_ALERT#
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DDR0_DQSN[6]/DDR1_DQSN[4]
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DDR0_DQSN[5]/DDR1_DQSN[1]
DDR0_DQSP[4]/DDR1_DQSP[0]
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DDR0_DQSN[3]/DDR0_DQSN[5]
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DDR0_DQSN[2]/DDR0_DQSN[4]
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DDR0_DQSN[1]
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DDR0_DQSN[0]
DDR0_DQSP[8]
DDR0_DQSN[8]
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SKT_H4
LGA1200
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DDR1_DQ[2]/DDR0_DQ[18]
DDR1_DQ[3]/DDR0_DQ[19]
DDR1_DQ[4]/DDR0_DQ[20]
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DDR1_DQ[9]/DDR0_DQ[25]
DDR1_DQ[10]/DDR0_DQ[26]
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DDR1_DQ[12]/DDR0_DQ[28]
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DDR1_ECC[2]
DDR1_ECC[1]
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DDR_VREF_CA_2
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DDR1_CKN[0]
DDR1_CKP[1]
DDR1_CKN[1]
DDR1_CKP[2]
DDR1_CKN[2]
DDR1_CKP[3]
DDR1_CKN[3]
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DDR1_CKE[1]
DDR1_CKE[2]
DDR1_CKE[3]
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DDR1_CS#[1]
DDR1_CS#[2]
DDR1_CS#[3]
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DDR1_ODT[1]
DDR1_ODT[2]
DDR1_ODT[3]
DDR1_BA[0]/DDR1_CAB[4]/DDR1_BA[0]
DDR1_BA[1]/DDR1_CAB[6]/DDR1_BA[1]
DDR1_BA[2]/DDR1_CAA[5]/DDR1_BG[0]
DDR1_MA[14]/DDR1_CAA[9]/DDR1_BG[1]
DDR1_RAS#/DDR1_CAB[3]/DDR1_MA[16]
DDR1_WE#/DDR1_CAB[2]/DDR1_MA[14]
DDR1_CAS#/DDR1_CAB[1]/DDR1_MA[15]
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DDR1_MA[1]/DDR1_CAB[8]/DDR1_MA[1]
DDR1_MA[2]/DDR1_CAB[5]/DDR1_MA[2]
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DDR1_MA[4]
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DDR1_MA[8]/DDR1_CAA[3]/DDR1_MA[8]
DDR1_MA[9]/DDR1_CAA[1]/DDR1_MA[9]
DDR1_MA[10]/DDR1_CAB[7]/DDR1_MA[10]
DDR1_MA[11]/DDR1_CAA[7]/DDR1_MA[11]
DDR1_MA[12]/DDR1_CAA[6]/DDR1_MA[12]
DDR1_MA[13]/DDR1_CAB[0]/DDR1_MA[13]
DDR1_MA[15]/DDR1_CAA[8]/DDR1_ACT#
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DDR1_ALERT#
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DDR1_DQSN[7]
DDR1_DQSP[6]
DDR1_DQSN[6]
DDR1_DQSP[5]/DDR1_DQSP[3]
DDR1_DQSN[5]/DDR1_DQSN[3]
DDR1_DQSP[4]/DDR1_DQSP[2]
DDR1_DQSN[4]/DDR1_DQSN[2]
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DDR1_DQSN[3]/DDR0_DQSN[7]
DDR1_DQSP[2]/DDR0_DQSP[6]
DDR1_DQSN[2]/DDR0_DQSN[6]
DDR1_DQSP[1]/DDR0_DQSP[3]
DDR1_DQSN[1]/DDR0_DQSN[3]
DDR1_DQSP[0]/DDR0_DQSP[2]
DDR1_DQSN[0]/DDR0_DQSN[2]
DDR1_DQSP[8]
DDR1_DQSN[8]
2 OF 12
CPU-SK/1200/S/15/[10SC1-F01200-11R_10SC1-F01200-12R]
MODT_A[0..3]
MODT_B[0..3]
MDA[0..63]
MDB[0..63]
M_DQSA[0..7]
M_-DQSA[0..7]
MAAA[0..16]
MAAB[0..16]
M_DQSB[0..7]
M_-DQSB[0..7]
黑色cover
LGA1200
ILM_BP_CR/1200/BKNI/[12KRC-SF0001-C1R_12KRC-SF0001-C2R]
Gigabyte Technology
Title
CPU LGA1200-B
Size
Custom
Document Number
B560 AORUS PRO AX
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VCCSA

WBC56 22u/6/X5R/6.3V/M

WBC57 22u/6/X5R/6.3V/M

DCC56 22u/6/X5R/6.3V/M

放CPU SOCKET (TOP LAYER)

VCCSA

WBC52 47u/8/X5R/6.3V/M

放CPU SOCKET (Bottom LAYER)
change footprint to C0805-L-1

VCCIO2 VCCIO2

WBC77 22u/6/X5R/6.3V/M

WBC78 22u/6/X5R/6.3V/M

放CPU SOCKET (TOP LAYER)

VCCIO2

WBC70 22u/6/X5R/6.3V/M

WBC71 22u/6/X5R/6.3V/M

WBC72 22u/6/X5R/6.3V/M

放CPU SOCKET (Bottom LAYER)

VCCIO

WBC53 22u/6/X5R/6.3V/M

WBC54 22u/6/X5R/6.3V/M

WBC59 22u/6/X5R/6.3V/M

放CPU SOCKET (TOP LAYER)

+VCCDDQ_EDGECAP2 +VCCDDQ_EDGECAP1

WBC75 22u/6/X5R/6.3V/M

WBC76 22u/6/X5R/6.3V/M

放CPU SOCKET (Bottom LAYER)

3VDUAL_PCH VCCST_VCCPLL

WR107 0/4/X

WR106 0/4/X

U4

10 A_SUSCLK A_SUSCLK 6 4 2 VCCB B GND VCCA A DIR 1 3 5 WR114 0/4/X A_RTCCLK

74AVC1T45GW/SC70/S/[10TA1-150145-00R]/X

*CML增加,RKL才會用到

VCCGT

LGA1200J SKT_H4 LGA1200

AA32 AA34 AA35 AA36 AA37 AA38 AB32 AB33 AB34 AB35 AB36 AC32 AD32 AE32 AF32 AG32 R40 T37 T38 T39 T40 U33 U34 U35 U36 U37 U38 U39 U40 V32 V33 V34 V36 V38 V40 W32 W34 W35 W36 W37 W38 Y32 Y33 Y34 Y36 Y38 VCCGT

VCCGT_SENSE AB37

VSSGT_SENSE AB38

VCCGT_SENSE 31

VSSGT_SENSE 31

CPU-SK/1200/S/15/[10SC1-F01200-11R_10SC1-F01200-12R]

10 OF 12

VCCSA

LGA1200K SKT_H4 LGA1200

B3 B6 D1 G3 H1 L11 L12 L3 M1 M11 M12 N11 N12 N13 VCCSA

VDDQ

AR14 AT24 AU15 AU25 AV17 AV19 AV23 AW13 AW15 AW24 AW26 AW28 AW30 AY17 VCCDDQ

VCCDDQ_EDGECAP2 AM13

VCCDDQ_EDGECAP1 AM24

+VCCDDQ_EDGECAP2

+VCCDDQ_EDGECAP1

VCCIO2

AJ9 AK10 AK11 AL10 AL11 VCCIO_2

VCCIO_1_2
VOUT = 0.95V
IOUT = 9.5A

VCCST U2 V1 V2

VCCST

WR87 0/4/SHT/20/M/X

VCCST_VCCPLL

VCCSFR R1

VCCSFR

WR126 0/4/SHT/20/M/X

VCCST_VCCPLL

AK25 AL12 AL24 AM12 VCCIO_1

VCCSFR_OC AU13 AU27

VCCSFR_OC

VCCIO

AA3 AB8 AC1 AC7 AD6 U5 V3 V7 W1 W7 W8 VCCIO_0

VCCIO_0
VOUT = 0.95V FOR CML
VOUT = 1.05V FOR RKL
IOUT = 8A

VCCSTG R2 R3

VCCSTG

VCCSTG

VCCFPGM0 R4

VCCFPGM

WR104 0/4/SHT/20/M/X

VCCSTG

VCCFPGM1 T5

VCCFPGM2 T6

31 VCCSA_SENSE C6

38 VCCIO2_SENSE AE4

37 VCCIO_SENSE D5

31,37 VSSSA_VIO_SENSE D6

VCCSA_SENSE

VCCIO_1_2_SENSE

VCCIO_0_SENSE

VSS_SA_VCCIO_0_SENSE

10 OF 12

CPU-SK/1200/S/15/[10SC1-F01200-11R_10SC1-F01200-12R]

WBC124 1u/4/X5R/6.3V/K

VCCSFR_OC WR86 0/4/X VDDQ

WR95 0/4/SHT/20/M/X VCCPLL_OC

WBC96 47u/8/X5R/6.3V/M

LGA1200L SKT_H4 LGA1200

K16 FIVR_PROBE_ANA_1

G16 FIVR_PROBE_ANA_0

H8 EXTBGREF

AU32 DDR_VIEW_1

AN25 DDR_VIEW_0

P33 PEG_VIEW_3

R33 PEG_VIEW_2

J4 PE16_AMON2_PEG_VIEW_1

L4 PE16_AMON1_PEG_VIEW_0

P8 PE4_AMON2

M8 PE4_AMON1

G4 DMI_AMON2

E4 DMI_AMON1

J11 CPU_EDM_1

J13 CPU_EDM_0

A_RTCCLK B15 H_RTCCLK

THERMDA2 AH33

THERMDC2 AH32

THERMDA1 D8

THERMDC1 F8

WTP3

CPU_TRIGGEROUT D12

CPU_TRIGGERIN E12

A_CPU_PCH_TO_R WR88 33/4

A_CPU_PCH_TO 11

N_PCH_CPU_TI 11

VCCCOREG5 AL18

VCCCOREG4 L33

RSVD_M16 M16

RSVD_M33 M33

RSVD_N4 N4

RSVD_T33 T33

12 OF 12

CPU-SK/1200/S/15/[10SC1-F01200-11R_10SC1-F01200-12R]

10 N_CPURTCCLK WR113 0/4/SHT/M/X A_RTCCLK

Gigabyte Technology

Title: CPU LGA1200-C

Size: Custom

Document Number: B560 AORUS PRO AX

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Date: Thursday, February 25, 2021

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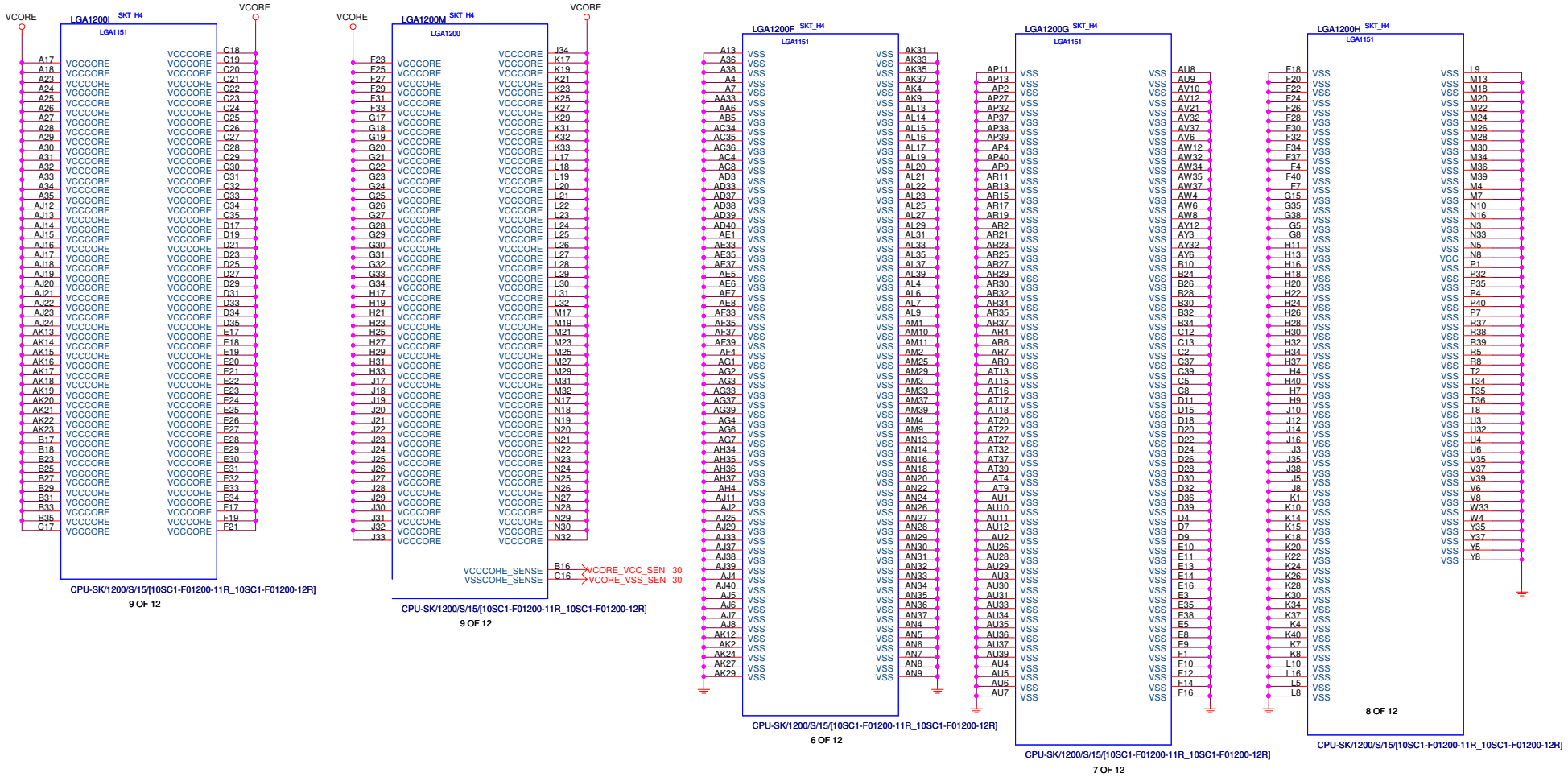
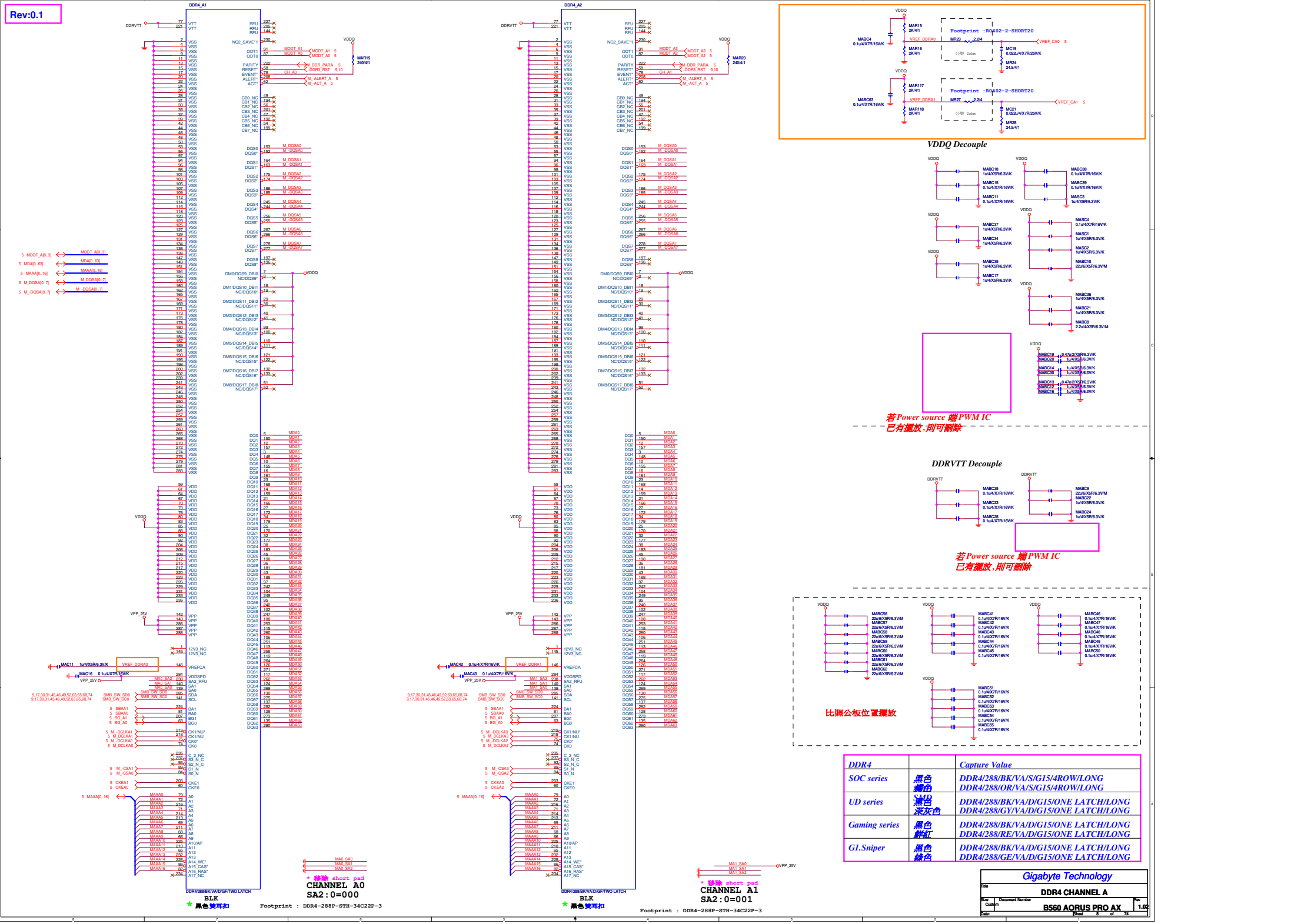


* 刪 Vcore 電容

Gigabyte Technology		
Title: CPU LGA1200-D		
Size: Custom	Document Number: B560 AORUS PRO AX	Rev: 1.02
Date: Thursday, February 25, 2021	Sheet 7 of 74	

Rev:0.1



DDR4		Capture Value
SOC series	黑色 綠色	DDR4/288/BK/VA/S/G15/4ROW/LONG DDR4/288/OR/VA/S/G15/4ROW/LONG
UD series	SMD 黑色 深灰色	DDR4/288/BK/VA/D/G15/ONE LATCH/LONG DDR4/288/GY/VA/D/G15/ONE LATCH/LONG
Gaming series	黑色 紅	DDR4/288/BK/VA/D/G15/ONE LATCH/LONG DDR4/288/RE/VA/D/G15/ONE LATCH/LONG
G1.Sniper	黑色 綠色	DDR4/288/BK/VA/D/G15/ONE LATCH/LONG DDR4/288/GE/VA/D/G15/ONE LATCH/LONG

Gigabyte Technology

Title: DDR4 CHANNEL A

Size: Custom | Document Number: B560 AORUS PRO AX | Rev: 1.02

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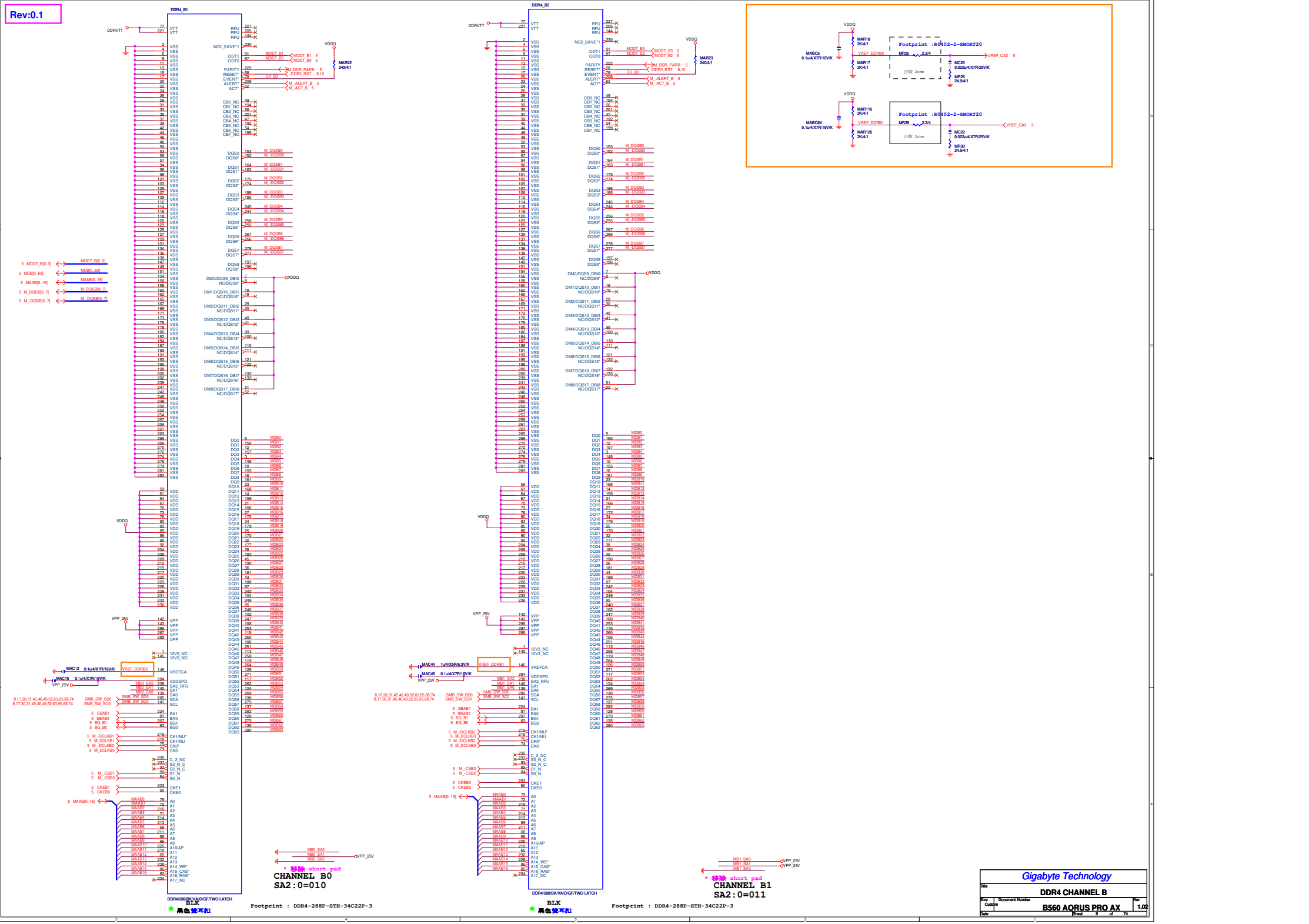
Rev:0.1



Gigabyte Technology	
Title	DDR4 CHANNEL B
Size: Custom	Document Number: B560 AORUS PRO AX
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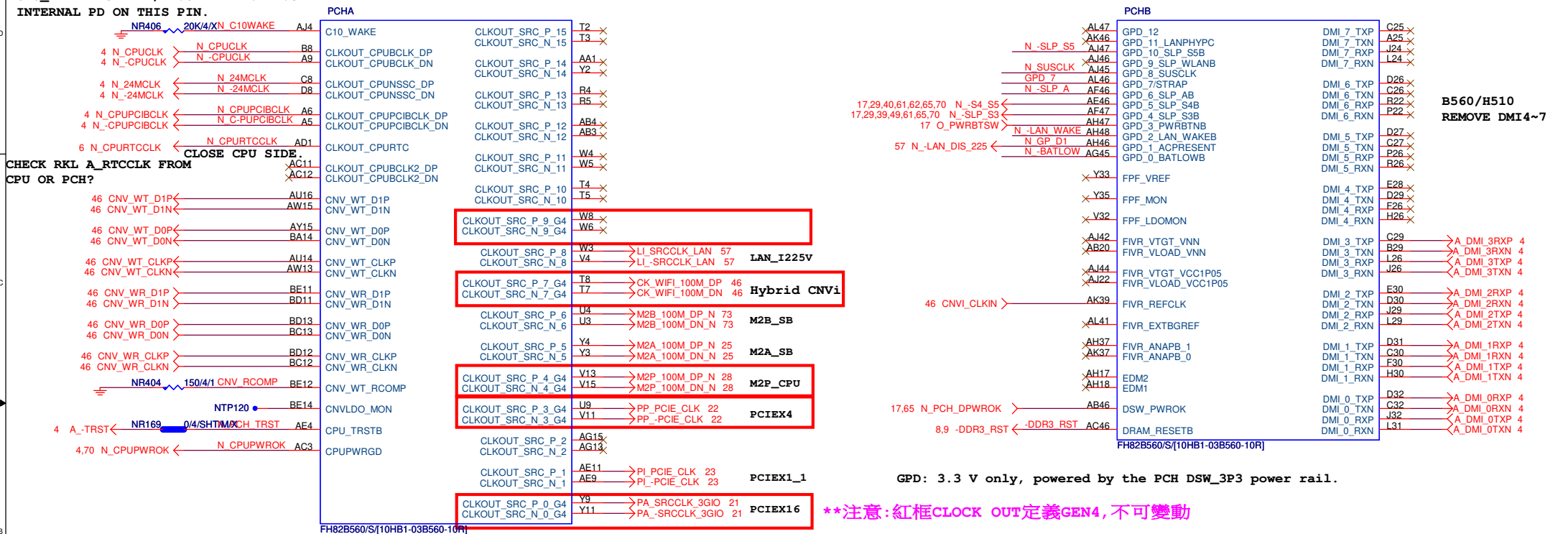
RKL_TGP_PCH-H R0.1

C10_WAKE RESERVED/BIOS NEED TO PROGRAM INTERNAL PD ON THIS PIN.

CHECK RKL A_RTCCLK FROM CPU OR PCH?



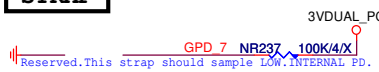
B560/H510
REMOVE DMI4~7

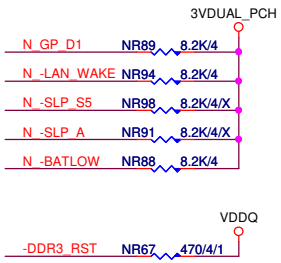
GPD: 3.3 V only, powered by the PCH DSW_3P3 power rail.

**注意:紅框CLOCK OUT定義GEN4,不可變動

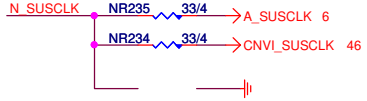
CLKOUT_PCIE_P/N [9, 7, 4, 3, 0] = Must be used for PCIe* Gen4 support

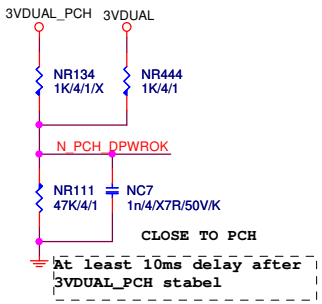
STRAP





N_SUSCLK MAX 2 LOADS SUPPORTED





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Gigabyte Technology

Title	PCH CLK,DMI,CNVI	
Size B	Document Number B560 AORUS PRO AX	Rev 1.02
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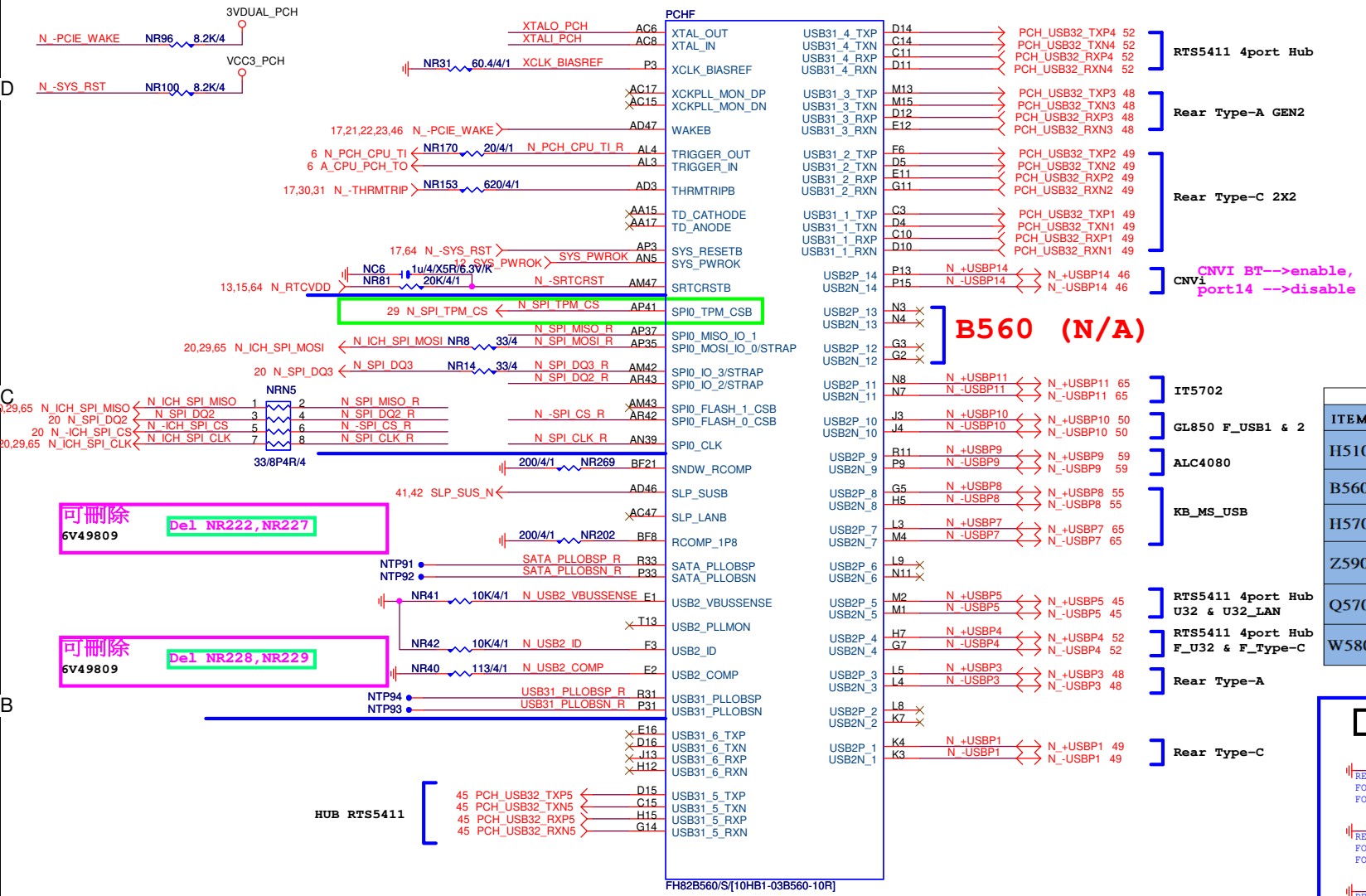
RKL_TGP_PCH-H R0.1



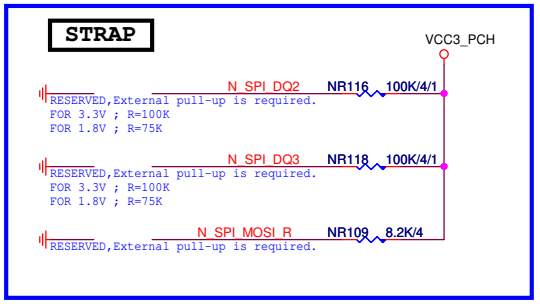
Intel 500 series PCH USB configration P1~P6

ITEM	USB P1	USB P2	USB P3	USB P4	USB P5	USB P6
H510	U3.2 Gen1x1	U3.2 Gen1x1	U3.2 Gen1x1	U3.2 Gen1x1	NA	NA
B560	U3.2 Gen2x1	U3.2 Gen2x1	U3.2 Gen2x1	U3.2 Gen2x1	U3.2 Gen1x1	U3.2 Gen1x1
H570	U3.2 Gen2x1	U3.2 Gen2x1	U3.2 Gen2x1	U3.2 Gen2x1	U3.2 Gen1x1	U3.2 Gen1x1
Z590	U3.2 Gen2x1	U3.2 Gen2x1	U3.2 Gen2x1	U3.2 Gen2x1	U3.2 Gen2x1	U3.2 Gen2x1
Q570	U3.2 Gen2x1	U3.2 Gen2x1	U3.2 Gen2x1	U3.2 Gen2x1	U3.2 Gen2x1	U3.2 Gen2x1
W580	U3.2 Gen2x1	U3.2 Gen2x1	U3.2 Gen2x1	U3.2 Gen2x1	U3.2 Gen2x1	U3.2 Gen2x1
	Gen2x2		Gen2x2		Gen2x2	

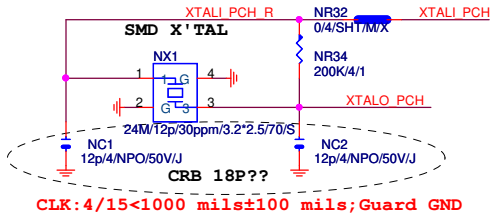
Intel 500 series PCH USB20 configration

ITEM	USB P1~9	USB P10	USB P11	USB P12	USB P13	USB P14
H510	USB2	NA	NA	NA	NA	For Intel® Wireless-AC
B560	USB2	USB2	USB2	NA	NA	
H570	USB2	USB2	USB2	USB2	USB2	
Z590	USB2	USB2	USB2	USB2	USB2	
Q570	USB2	USB2	USB2	USB2	USB2	
W580	USB2	USB2	USB2	USB2	USB2	

STRAP



CLK 24MHZ



ANS 8679757

Gigabyte Technology

Title: PCH SPI,USB

Size: Custom | Document Number: B560 AORUS PRO AX | Rev: 1.02

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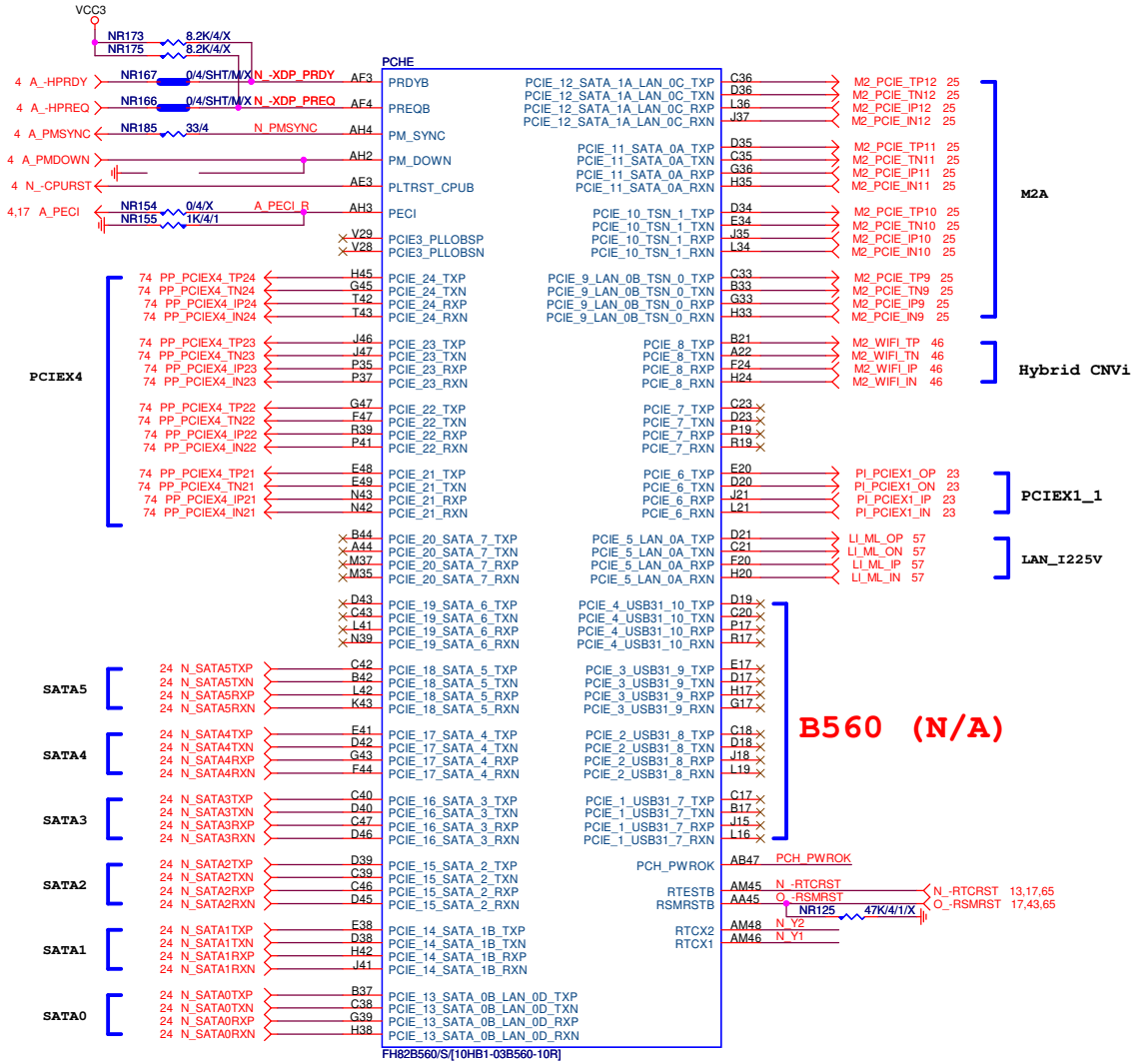
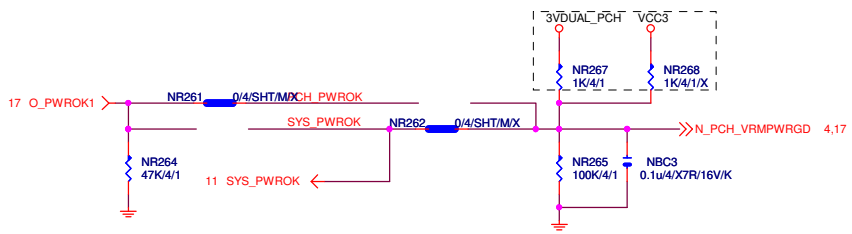
RKL_TGP_PCH-H R0.1





Intel 500 series PCH PCIE P5~P12								
ITEM	PCIE P5	PCIE P6	PCIE P7	PCIE P8	PCIE P9	PCIE P10	PCIE P11	PCIE P12
H510	PCIE /GbE	PCIE	PCIE	PCIE	GbE ONLY	N/A	PCIE	PCIE /GbE
B560	PCIE /GbE	PCIE	PCIE	PCIE	PCIE /GbE	PCIE	PCIE SATA_0'	PCIE SATA_1' GbE
H570	PCIE /GbE	PCIE	PCIE	PCIE	PCIE /GbE	PCIE	PCIE SATA_0'	PCIE SATA_1' GbE
Z590	PCIE /GbE	PCIE	PCIE	PCIE	PCIE /GbE	PCIE	PCIE SATA_0'	PCIE SATA_1' GbE
Q570	PCIE /GbE	PCIE	PCIE	PCIE	PCIE /GbE	PCIE	PCIE SATA_0'	PCIE SATA_1' GbE
W580	PCIE /GbE	PCIE	PCIE	PCIE	PCIE /GbE	PCIE	PCIE SATA_0'	PCIE SATA_1' GbE
					Intel® RST for x2/x4 M.2			

Intel 500 series PCH PCIE P13~P24												
ITEM	PCIE P13	PCIE P14	PCIE P15	PCIE P16	PCIE P17	PCIE P18	PCIE P19	PCIE P20	PCIE P21	PCIE P22	PCIE P23	PCIE P24
H510	SATA_0 /GbE	SATA_1	SATA_2	SATA_3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
B560	SATA_0 /GbE	SATA_1	SATA_2	SATA_3	SATA_4	SATA_5	N/A	N/A	PCIE	PCIE	PCIE	PCIE
H570	PCIE SATA_0 GbE	PCIE SATA_1	PCIE SATA_2	PCIE SATA_3	PCIE SATA_4	PCIE SATA_5	PCIE	PCIE	PCIE	PCIE	PCIE	PCIE
Z590	PCIE SATA_0 GbE	PCIE SATA_1	PCIE SATA_2	PCIE SATA_3	PCIE SATA_4	PCIE SATA_5	PCIE	PCIE	PCIE	PCIE	PCIE	PCIE
Q570	PCIE SATA_0 GbE	PCIE SATA_1	PCIE SATA_2	PCIE SATA_3	PCIE SATA_4	PCIE SATA_5	PCIE	PCIE	PCIE	PCIE	PCIE	PCIE
W580	PCIE SATA_0 GbE	PCIE SATA_1	PCIE SATA_2	PCIE SATA_3	PCIE SATA_4	PCIE SATA_5	PCIE SATA_6	PCIE SATA_7	PCIE	PCIE	PCIE	PCIE
					Intel® RST for x2/x4 M.2				Intel® RST for x2/x4 M.2			

Intel 500 series PCH USB P7~P10				
ITEM	USB P7	USB P8	USB P9	USB P10
H510	NA	NA	NA	NA
B560	NA	NA	NA	NA
H570	U3.2 Gen1x1	U3.2 Gen1x1	PCIE	PCIE
Z590	U3.2 Gen2x1	U3.2 Gen2x1	U3.2 Gen2x1	U3.2 Gen2x1
	PCIE	PCIE	PCIE	PCIE
Q570	U3.2 Gen2x1	U3.2 Gen2x1	U3.2 Gen1x1	U3.2 Gen1x1
	PCIE	PCIE	PCIE	PCIE
W580	U3.2 Gen2x1	U3.2 Gen2x1	U3.2 Gen2x1	U3.2 Gen2x1
	PCIE	PCIE	PCIE	PCIE

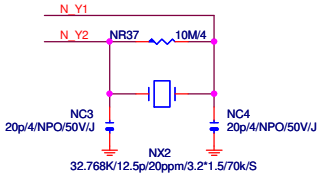
RTC 32.768KHZ

DIP X'TAL

Del DIP NX1

OPTION

SMD X'TAL



(09/21)intel 500 note item 6

ANS 8679757

Gigabyte Technology

Title: **PCH PCIE,SATA**

Size: Custom | Document Number: **B560 AORUS PRO AX** | Rev: 1.02

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RKL_TGP_PCH-H R0.1

GPP_D PU/PD

GPP_B PU/PD

3VDUAL
NR296 8.2K/4 N_-VRALERT
N_-SLP_S0 NR438 100K/4/1

3VDUAL
CLKREQ
NR2 8.2K/4 N_GPP_B5 PCIEX16
NR3 8.2K/4 N_GPP_B6 PCIEX1_1
NR5 8.2K/4 N_GPP_B8 PCIEX4
NR6 8.2K/4 N_GPP_B9 M2P
NR11 8.2K/4 N_GPP_B10 M2A
ON-BOARD DEVICE PULL DOWN
N_GPP_B9 NR13 8.2K/4/X
N_GPP_B10 NR17 8.2K/4/X

PCHD

MINI LOAD
SMBUS SW
CPU_OPT MODE
SYS_FAN3 MODE
SYS_FAN2 MODE
SYS_FAN1 MODE
CPU_FAN MODE
REMOVE N_-DDR_V_SEL

GPP_D_23_UART3_CTSB_THC1_SPI2_INTB AU29
GPP_D_22_UART3_RTSB_THC1_SPI2_RSTB AY30
GPP_D_21_UART3_TXD_THC1_SPI2_IO_3 AW29
GPP_D_20_UART3_RXD_THC1_SPI2_IO_2 BD30
GPP_D_19_GSPI3_MOSI_THC1_SPI2_IO_1 BD35
GPP_D_18_GSPI3_MISO_THC1_SPI2_IO_0 BD34
GPP_D_17_GSPI3_CLK_THC1_SPI2_CLK BC34
GPP_D_16_GSPI3_CS0B_THC1_SPI2_CSB BE35
GPP_D_15_SML1DATA BB30
GPP_D_14_SPI1_IO_3_THC0_SPI1_IO_3 BC30
GPP_D_13_SPI1_IO_2_THC0_SPI1_IO_2 BE30
GPP_D_12_ISH_UART0_CTSB_SML0BALERTB BE31
GPP_D_11 BD32
GPP_D_10_SML0DATA BC33
GPP_D_9_SML0CLK BE32
GPP_D_8_I2S2_SCLK_THC0_SPI1_INTB BD36
GPP_D_7_I2S2_RXD_THC0_SPI1_RSTB BE36
GPP_D_6_I2S2_TXD_MODEM_CLKREQ_CRF_XTAL_CLKREQ AY33
GPP_D_5_I2S2_SFRM_CNV_RF_RESET_B BA33
GPP_D_4_SML1CLK BF33
GPP_D_3_SPI1_MOSI_IO_0_THC0_SPI1_IO_0_SBK_3_BK_3 BD33
GPP_D_2_SPI1_MISO_IO_1_THC0_SPI1_IO_1_SBK_2_BK_2 BE33
GPP_D_1_SPI1_CLK_THC0_SPI1_CLK_SBK_1_BK_1 AW32
GPP_D_0_SPI1_CSB_THC0_SPI1_CSB_SBK_0_BK_0 AU31

GPP_C_23_UART2_CTSB_CNV_MFUART0_CTS_B BB26
GPP_C_22_UART2_RTSB_CNV_MFUART0_RTS_B AU26
GPP_C_21_UART2_TXD_CNV_MFUART0_TXD AW26
GPP_C_20_UART2_RXD_CNV_MFUART0_RXD AY26
GPP_C_19_I2C1_SCL BD20
GPP_C_18_I2C1_SDA BE21
GPP_C_17_I2C0_SCL BD21
GPP_C_16_I2C0_SDA BC22
GPP_C_15_UART1_CTSB_ISH_UART1_CTSB BE23
GPP_C_14_UART1_RTSB_ISH_UART1_RTSB BD24
GPP_C_13_UART1_TXD_ISH_UART1_TXD BD23
GPP_C_12_UART1_RXD_ISH_UART1_RXD BC28
GPP_C_11_UART0_CTSB BD29
GPP_C_10_UART0_RTSB BF29
GPP_C_9_UART0_TXD BE29
GPP_C_8_UART0_RXD BE27
GPP_C_7_ISH_I2C2_SCL_I2C3_SCL BB24
GPP_C_6_ISH_I2C2_SDA_I2C3_SDA_SBK_4_BK_4 AY24
GPP_C_5_SML0ALERTB/STRAP BD27
GPP_C_4_ISH_UART0_TXD_SML0BCLK_I2C2_SCL BE25
GPP_C_3_ISH_UART0_RXD_SML0BDATA_I2C2_SDA BE24
GPP_C_2_SMBALERTB/STRAP BD26
GPP_C_1_SMBDATA BD25
GPP_C_0_SMBCLK BE26

GPP_B_23_SML1ALERTB_PCHHOTB/STRAP BD42
GPP_B_22_GSPI1_MOSI/STRAP AW41
GPP_B_21_GSPI1_MISO_NFC_CLKREQ BE46
GPP_B_20_GSPI1_CLK_NFC_CLK BB42
GPP_B_19_GSPI1_CS0B BD45
GPP_B_18_GSPI0_MOSI/STRAP AU36
GPP_B_17_GSPI0_MISO BA36
GPP_B_16_GSPI0_CLK AY38
GPP_B_15_GSPI0_CS0B BA39
GPP_B_14_SPKR/STRAP BD40
GPP_B_13_PLTRSTB BD39
GPP_B_12_SLP_S0B BE40
GPP_B_11_I2S_MCLK BE39
GPP_B_10_SRCCLKREQB_5 BD38
GPP_B_9_SRCCLKREQB_4 BE38
GPP_B_8_SRCCLKREQB_3 BF37
GPP_B_7_SRCCLKREQB_2 BD37
GPP_B_6_SRCCLKREQB_1 BC38
GPP_B_5_SRCCLKREQB_0 BC37
GPP_B_4_CPU_GP_3 AU34
GPP_B_3_CPU_GP_2 AW35
GPP_B_2_VRALERTB AY35
GPP_B_1_GSPI1_CS1B_TIME_SYNC_1 AY42
GPP_B_0_GSPI0_CS1B AW37

FH82B560/S/[10HB1-03B560-10R]

GPPC_A_14 AW46
GPPC_A_13_ESPI_ALERT3B AV46
GPPC_A_12_ESPI_ALERT2B AV47
GPPC_A_11_ESPI_ALERT1B AU45
GPPC_A_10_ESPI_ALERT0B AU46
GPPC_A_9_ESPI_CS3B AU47
GPPC_A_8_ESPI_CS2B AT48
GPPC_A_7_ESPI_CS1B AT46
GPPC_A_6_ESPI_RESETB AT45
GPPC_A_5_ESPI_CLK AR47
GPPC_A_4_ESPI_CS0B AR46
GPPC_A_3_ESPI_IO_3_SUSACKB AP46
GPPC_A_2_ESPI_IO_2_SUSWARNB_SUSPWRDNACK AP47
GPPC_A_1_ESPI_IO_1 AN45
GPPC_A_0_ESPI_IO_0 AN46

STRAP/GPPC_G_15_DDP2_CTRLDATA_TBT_LSX1_B AL21
GPPC_G_14_DDP2_CTRLCLK_TBT_LSX1_A AN21
STRAP/GPPC_G_13_DDP1_CTRLDATA_TBT_LSX0_B AU19
GPPC_G_12_DDP1_CTRLCLK_TBT_LSX0_A AW18
STRAP/GPPC_G_11_ISH_SPI_MOSI_DDP4_CTRLDATA_GSPI2_MOSI_TBT_LSX3_B AY17
GPPC_G_10_ISH_SPI_MISO_DDP4_CTRLCLK_GSPI2_MISO_TBT_LSX3_A BA17
STRAP/GPPC_G_9_ISH_SPI_CLK_DDP3_CTRLDATA_GSPI2_CLK_TBT_LSX2_B BC17
GPPC_G_8_ISH_SPI_CSB_DDP3_CTRLCLK_GSPI2_CS0B_TBT_LSX2_A BE18

GPPC_G_7 BF17
GPPC_G_6 BD17
GPPC_G_5_SLP_DRAMB BE17
GPPC_G_4_GMII_MDIO_0 BD16
GPPC_G_3_GMII_MDC_0 BC16
GPPC_G_2_DNX_FORCE_RELOAD BE15
GPPC_G_1_DDPA_CTRLDATA BD15
GPPC_G_0_DDPA_CTRLCLK BD14

GPPC_RCOMP BG13
MPHY_RCOMPP B13
MPHY_RCOMPN A13
MLK_RSTB AR3
MLK_DATA AR4
MLK_CLK AP4

JTAGX AM2
JTAG_TMS AM4
JTAG_TDO AM3
JTAG_TDI AN4
JTAG_TCK AM5

STRAP/DBG_PMODE AG5
INTRUDERB AE47
HDACPU_SDO AJ5
HDACPU_SDI AK4
IN HDACPU_BCLK AJ3

NR46/NR47/NR48/NR50/NR57 CLOSE TO PCH<500mil
10/8P4R/4 NRN6
TCP* pins can be routed to USB-C* connector or DP/HDMI native connector
USB_OC
SPI TPM
DDPB/C -->CHIPSET U3C
PLACE 51OHM PD WITHIN 1.1INCH OF PCH
VCCSTG

GPPC_A/GPPC_G (VCCPRIM_3P3 or VCCPRIM_1P8):
each pin voltage is selected by setting the corresponding voltage select soft strap of the pin.

BATTERY

NRB1 必須放在BAT外
DIP款式矮的電池座
BATTERY-DN-1
BAT-SK/BK/P/S/D/SN
BATTERY CR2032

CLR_CMOS

CLR_CMOS
N_-RTCRST
PH/1*2/BK/2.54/VA/D

PCH Signal Glitch Free

N_-PFMRST NR129 100K/4/1/X

STRAP

TOP SWAP OVERRIDE STRAP, PCH HAS INTERNAL WEAK PD
HIGH:TOP SWAP ENABLED
LOW:TOP SWAP DISABLED
NO REBOOT IF SAMPLED HIGH, PCH HAS INTERNAL WEAK PD
Boot BIOS Strap (BBS),PCH HAS INTERNAL WEAK PD.
1 : ESPI PERIPHERAL CHANNEL
0 : SPI(MAF) OR ESPI FLASH CHANNEL(SAF)
TLS Confidentiality IF SAMPLED HIGH, CH HAS INTERNAL WEAK PD
ESPI DISABLE STRAP PCH HAS INTERNAL WEAK PD
HIGH:DISABLE
LOW:ENABLE(DEFAULT)
CPUNSSC Clock Frequency, PCH HAS INTERNAL 20K PD
0 = 38.4 MHz clock (direct from crystal) (default)
1 = 19.2 MHz clock (derived from 38.4 MHz crystal)
Reserved.INTERNAL WEAK PH.
TBT VCCIO CONFIGURATION,PCH HAS INTERNAL WEAK PD
HIGH:3.3V
LOW:1.8V
* RKL
For eSPI

For eSPI

ESPI_ALERT NR49 8.2K/4/X
ESPI_RESET- NR51 8.2K/4/X
ESPI_CS- NR52 8.2K/4/X
ESPI_RESET- NR137 75K/4/1
ESPI_CS- NR138 75K/4/1

N_SMBCLK NR53 1K/4/1
N_SMBDATA NR55 1K/4/1
N_SML0CLK NR58 499/4/1
N_SML0DAT NR59 499/4/1
N_SML1DAT NR61 8.2K/4
N_SML1CLK NR29 8.2K/4
N_GPPC_G7 NR71 8.2K/4

ANS 8679757
Gigabyte Technology
Title: PCH ESPI,MISC
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RKL_TGP_PCH-H R0.1

PCHC

FH82B560/S/[10HB1-03B560-10R]

Fixed voltage on certain GPIO groups: GPD (3.3 V), GPP_J and GPP_S (1.8 V/VCCPRIM_1P8)

STRAP

HDA_SDO:Flash Descriptor Security (override);
1=DIS,0=ENABLE
PCH INTERNAL PD

ESPI FLASH SHARING MODE,INTERNAL 20K PD
0: MASTER ATTACHED FLASH SHARIN
1: SLAVE ATTACEHD FLASH SHARING

Reserved.INTERNAL 20K PD.
0=> JTAG ODT is disabled
1=> JTAG ODT is enabled

SPI FLASH INTERFACE VOLTAGE,INTERNAL 20K PD
0=> VCCSPI at 3.3 V (Default)
1=> VCCSPI at 1.8 V

XTAL Frequency Selection,INTERNAL 20K PD
0 = 38.4 MHz (default)
1 = 24 MHz

M.2 CNVi Mode Select,external PU is required.
0=>Integrated CNVi enabled.
1=>Integrated CNVi disabled.
Note: When connected to the PCH CNVi interface,
the device internal PD resistor
will pull the strap low to enable CNVi interface

Display Port DDC/HOT PLUG SIGNAL		
CPU PORT	PCH DDC	PCH HPD
DDI_A/EDP	GPP_G0/G1	GPP_K6
DDI_1/B	GPP_I5/I6	GPP_K7
DDI_2/C	GPP_G12/G13	GPP_I1
DDI_3/D	GPP_G14/G15	GPP_I2

**
HPD: DDI*. PULL HI IF NO USE.

A
B
C
D
DP
HDMI

PCH Signal Glitch Free

CLKREQ

ON-BOARD DEVICE

注意:PWM SIDE PD 100K.

VCCIO VID

M2A_PCH IFDET
M2A_PCH DETECT

CNVI WIFI/BT DISABLE
PCIEX8 PRESENT
M2P_CPU DETECT

DDPA -->CHIPSET U3D

RESERVED STRAP

ANS 8679757	Gigabyte Technology
Title	PCH GPP,HDA
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RKL_TGP_PCH-H R0.1

NR174 MASK/0/8P4R/0402/SHT/X
3VDUAL — 1 2 3 4 5 6 7 8 — VCC3_PCH

PCHG

AD4 VCCST_OVERRIDE
V18 VCCPUSB2_3P3
11,13,64 N_RTCVDD → BF46 VCCPRTC_3P3, BG46 VCCPRTC_3P3, BG47 VCCPRTC_3P3
VCCPRIM_1P05 → AK22 VCCPRIM_FUSE_1P05
AJ20 VCCPRIM_CNVLDOPLL_1P05
VCC1V8_PRIM → AA27 VCC1V8_PRIM
AA27, AB22, AB23, AB25, AB27, AD20, AD22, AD23, AD25, AD27, AF20, AF22, AF23, AF25, AF27 VCCPRIM_1P8
VCC3_PCH → AA18 VCCPGPPI
VCC3_PCH → AP22 VCCPGPPR
VCC3_PCH → AG18 VCCPGPPHK
AM37 VCCPGPPEF
VCC3_PCH → AU24 VCCPGPPD
VCC3_PCH → AP19 VCCPGPPG_3P3
AP24 VCCPGPPBC
VCC3_A → AP29 VCCPGPPA_3P3
VCC3_PCH → AT35 VCCPFUSE_3P3
VCC1V8_PRIM → Y37 VCCPFUSE_1P8
BD48 VCCPDSW_3P3, BD49 VCCPDSW_3P3
3VDUAL_PCH → BE49 VCCPDSW_3P3

BF4, BG3, BG4 VCCLDOSTD_OUT_0P85 → VCC0P85_PCH
VCC18_PCH
1.8V@10.9A
AA38, AC38, AC39, AC41, AC42, AC44, AD38, AD39, AD41, AD42, AD44, AE38, AE39, AE41, AE42, AE44, AG38 VCCIN_AUX_PCH
AH39 VCCIN_AUX_VCCSENSE → VCC18_PCH_VCCSENSE 41
AH41 VCCIN_AUX_VSSSENSE → VCC18_PCH_VSSSENSE 41
BD1, BD2, BE1 VCCDPHY_1P24 → VCCDPHY_1P24
internally with a LDO 1.24 V for CNVi logic
P29, R29 VCCA_CLKLDO_1P8
AK21 VCCPRIM_1P05 → VCCPRIM_1P05
W20, W22, W23, W25 VCC1P05 → VCC1P05_OUT_FET → NR239 0/6/X → V1P05A
RESERVED
AN29 VCC_VNNEXT_1P05
AN28 VCC_V1P05EXT_1P05 → NTP121 → NR240 1K/4/1/X

+V1P8A=+VCCPRIM_1P8

FH82B560/S/[10HB1-03B560-10R]

close to pin BG46
N_RTCVDD — NBC23 1u/4/X5R/6.3V/K — NBC24 0.1u/4/X7R/16V/K

VCC1P05_OUT_FET — NBC43 0.1u/4/X7R/16V/K — NBC44 0.1u/4/X7R/16V/K — NBC45 0.1u/4/X7R/16V/K

VCC0P85_PCH — close to PCH — NBC83 2.2u/4/X5R/6.3V/M
VCCDPHY_1P24 — close to PCH — NBC1 4.7u/6/X5R/6.3V/K
VCCPRIM_1P05 — NBC28 0.1u/4/X7R/16V/K

VCC3_PCH — NBC13 1u/4/X5R/6.3V/K — NBC15 1u/4/X5R/6.3V/K — NBC16 1u/4/X5R/6.3V/K — NBC17 1u/4/X5R/6.3V/K — NBC18 1u/4/X5R/6.3V/K

VCC1V8_PRIM — NR232 MASK/0/6/SHT/M/X — VCCA_CLKLDO_1P8
NR260 0/4
close to pin R29/P29
NBC40 0.1u/4/X7R/16V/K — NBC41 0.1u/4/X7R/16V/K — NBC42 0.1u/4/X7R/16V/K
NBC47 47u/8/X5R/6.3V/M

GROUP A 1.8V,For eSPI
VCCBT — NR56 0/6/X — VCC3_PCH
NR224 MASK/0/6/SHT/M/K
VCC3_A — NBC14 1u/4/X5R/6.3V/K

3VDUAL_PCH — NBC25 1u/4/X5R/6.3V/K — NBC26 1u/4/X5R/6.3V/K

VCC1V8_PRIM — NBC39 1u/4/X5R/6.3V/K — NBC73 1u/4/X5R/6.3V/K — NBC75 1u/4/X5R/6.3V/K

VCC18_PCH — PLACE NEAR PCH BGA
NBC48 47u/8/X5R/6.3V/M — NBC49 47u/8/X5R/6.3V/M — NBC50 47u/8/X5R/6.3V/M
NBC86 10u/6/X5R/6.3V/M — NBC87 10u/6/X5R/6.3V/M — NBC88 10u/6/X5R/6.3V/M

VCC3 — NBC79 1u/4/X5R/6.3V/K — NBC80 1u/4/X5R/6.3V/K

VCC1V8_PRIM — NBC38 1u/4/X5R/6.3V/K — NBC76 1u/4/X5R/6.3V/K

VCC18_PCH — PLACE UNDERNEATH PCH BGA
NBC81 22u/8/X5R/6.3V/M — NBC82 22u/8/X5R/6.3V/M — NBC53 0.1u/4/X7R/16V/K — NBC54 0.1u/4/X7R/16V/K

VCCPGPPR:Audio Power 3.3 V or 1.8 V.
VCCPGPPBC/D/EF/HK/I:Power rail for GPIOs
REMOVE VCC10_VCCF24_1P0/VCC10_VCCAPLL/VCC10_VCCAMPHYPLL

PCHH

AW25, AW39, AY25, AY43, AY5, AY7, B1, B2, B4, B46, B48, B49, B6, BA41, BA43, BA49, BA9, BB25, BB44, BB8, BC11, BC15, BC19, BC24, BC25, BC26, BC31, BC35, BC39, BC41, BC9, BF1, BF13, BF2, BF42, BF48, BF49, BG17, BG2, BG22, BG25, BG28, BG33, BG37, BG41, BG48, BG9, C1, C12, C24, C4, C49, C7, D1, D13, D2, D24, D25, D33, D37, D48, D49, D7, E13, E15, E19, E22, E24, E25, E26, E31, E33, E35, E37, E39, E9, F25 VSS

VSS F42, F8, G1, G41, G48, G49, G9, H25, H43, H8, J11, J25, J39, J9, K11, K39, K45, K5, L14, L25, M12, M17, M19, M21, M22, M24, M25, M26, M28, M29, M31, M33, M38, M49, M5, P12, P21, P24, P25, P28, P38, P4, P45, R21, R24, R25, R28, T1, T12, T15, T17, T33, T38, T49, U19, U21, U22, U24, U25, U26, U28, U29, U31, V12, V17, V21, V22, V24, V25, V26, V33, V38, W27, W28, W30, W44, Y12, Y13, Y15, Y17, Y18, Y32, Y38 VSS

FH82B560/S/[10HB1-03B560-10R]

PCHI

A17, A2, A28, A3, A37, A4, A41, A45, A46, A47, A48, AA12, AA13, AA20, AA22, AA23, AA25, AA29, AA30, AA32, AA33, AA35, AA37, AA49, AA5, AB28, AC13, AC18, AC35, AC37, AC4, AC45, AC5, AC9, AD11, AD12, AD13, AD15, AD17, AD18, AD28, AD35, AD37, AD45, AD49, AD5, AD6, AD8, AD9, AE12, AE13, AE15, AE17, AE18, AE35, AE37, AE45, AE5, AF28, AG1, AG12, AG17, AG20, AG22, AG23, AG25, AG27, AG28, AG35, AG37, AG49, AH12, AH13, AH15, AH35, AH38 VSS

VSS AJ23, AJ25, AJ27, AJ28, AK12, AK17, AK18, AK24, AK25, AK26, AK28, AK29, AK30, AK32, AK33, AK35, AK38, AK45, AK5, AL19, AL22, AL24, AL25, AL26, AL28, AL29, AL31, AM1, AM12, AM17, AM33, AM35, AM38, AM49, AN17, AN19, AN22, AN24, AN25, AN26, AN31, AN33, AP12, AP17, AP21, AP25, AP26, AP28, AP31, AP33, AP38, AP45, AP5, AT1, AT12, AT17, AT19, AT21, AT22, AT24, AT25, AT26, AT28, AT29, AT31, AT33, AT37, AT49, AT5, AU25, AU41, AV11, AV39, AV45, AV5, AW11, AW24 VSS

FH82B560/S/[10HB1-03B560-10R]

ANS 8679757

Gigabyte Technology

Title: PCH PWR, GND

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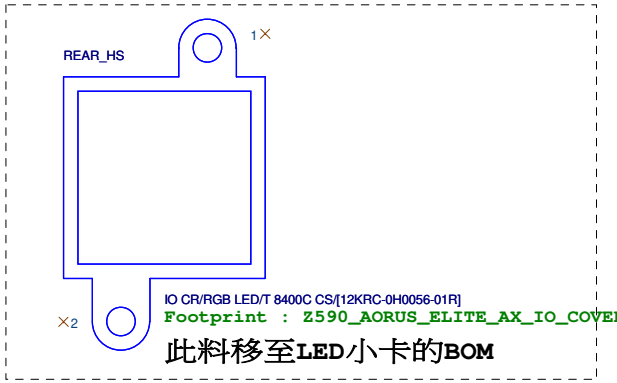
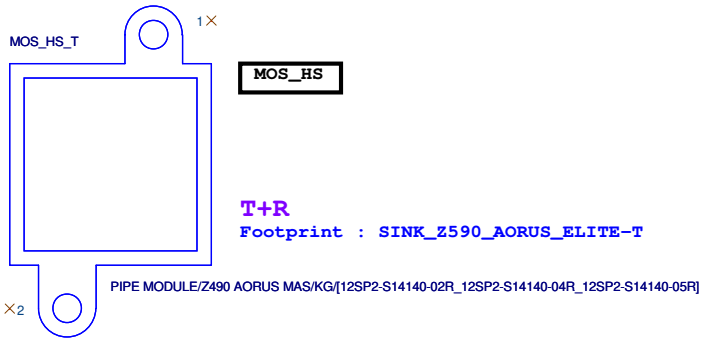
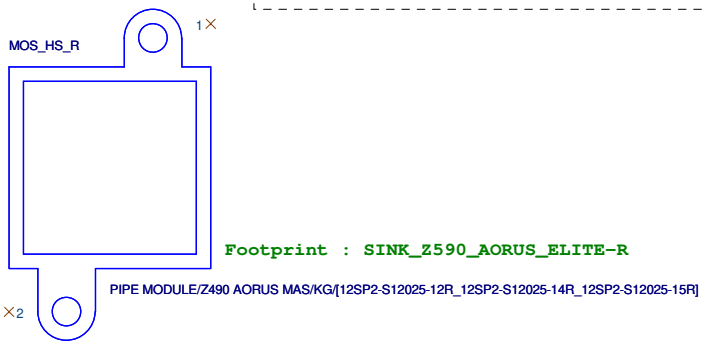
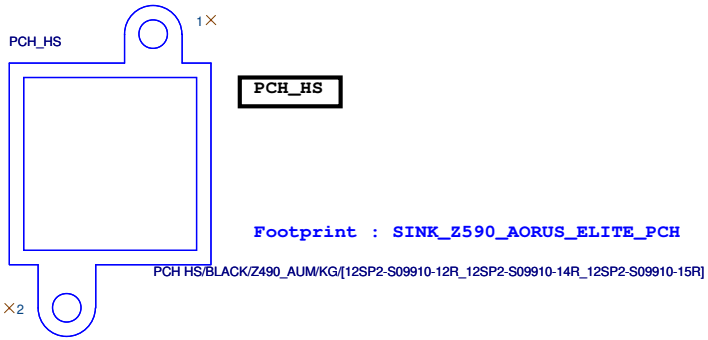
装甲HEATSINK 分成四大部份

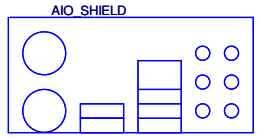








一體式IO SHIELD



IO SH/SUS 430/t=0.2mm AJOHO/[11AIO-0C0063-02R]

Gigabyte Technology		
Title: Heatsink		
Size: Custom	Document Number: B560 AORUS PRO AX	Rev: 1.02
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REV:0.1

PCIE slot 需支援 PCIE M2 Card
PCIEX16.A19 接 IO_GP81
PCIEX16.B30 接 IO_GP83
PCIEX8.A19 接 IO_GP85
PCIEX8.B30 接 IO_GP86

IT8689E

IT8689E/BX/S[10HP2-118689-20R]

CPU_FAN
SYS_FAN1
SYS_FAN2

SYS_FAN3 sensor
SYS_FAN4 sensor

keep 0 ohm
AUDIO BEAT LED

THRMTRIP

SYS_FAN3

PROCHOT

CLOSE TO SIO PIN 79

for LPC/eSPI power mode

PWR SHT

SIO PU

新增

SIO STRAP

for eSPI

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 JP3	1 1	CE pin disable (Hold pin mode)
	1 0	CE mode 1
	0 1	CE mode 2
	0 0	CE mode 3

請依開案規格，選擇Support Erp下 LAN Wake up組態。

(組態一) PCIE LAN(Single & Dual LAN)

(組態二) INTEL219 LAN(Single LAN)

INTEL219 LAN組態上件

(組態三) INTEL LAN+PCIE LAN(Dual LAN)

CEC ONLY

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

DUAL BIOS OPT STRAP

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

MB ID

SIO_18V

internal power pin, max 22nF cap

SIO CAP

CLOSE SIO PIN4 2_5LEVEL

Gigabyte Technology

Title: IT8688

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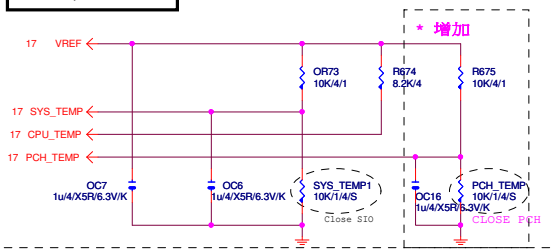
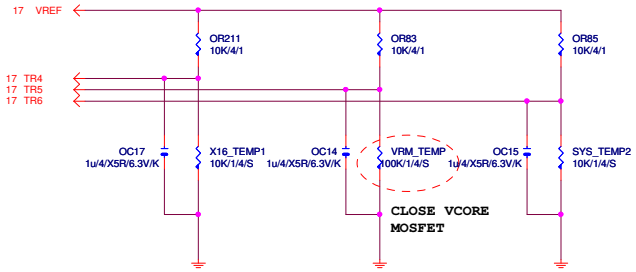
TEMP H/W MONITOR

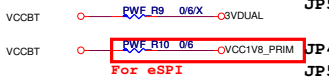


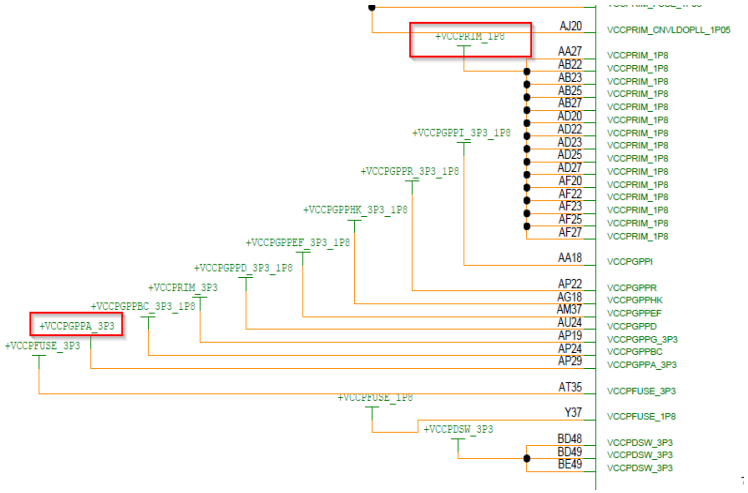
5個FAN時使用



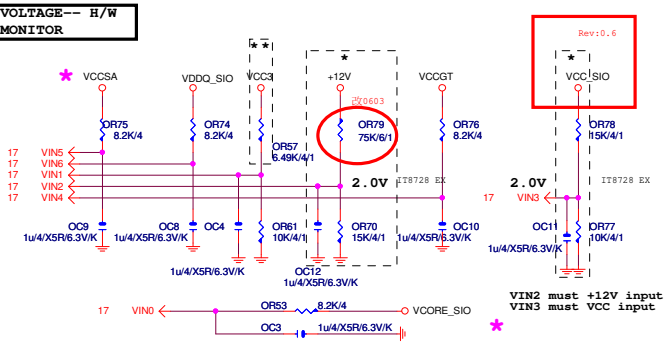
JP4 HI ESPI MODE VCCBT 3.3V
JP5 HI ESPI MODE LPC I/F

JP4 LO ESPI MODE VCCBT 1.8V
JP5 LO ESPI MODE ESPI I/F



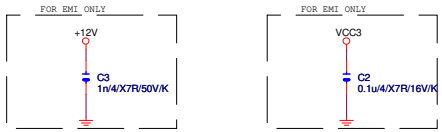


VOLTAGE-- H/W MONITOR



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

(靠近ATX CONNECTOR)



★Update 2015-04.24

Gigabyte Technology		
Title: HWM,KB/MS, FAN CTRL		
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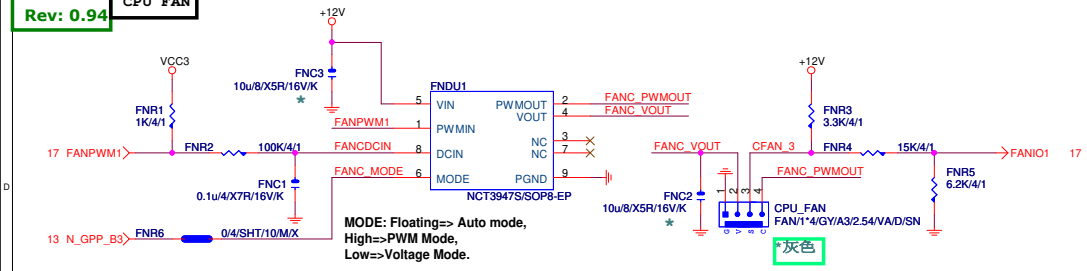
Rev: 0.94

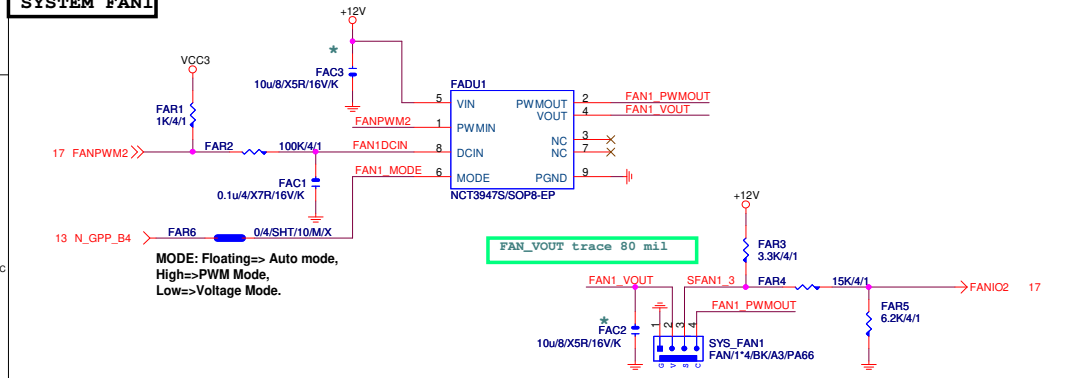
CPU FAN



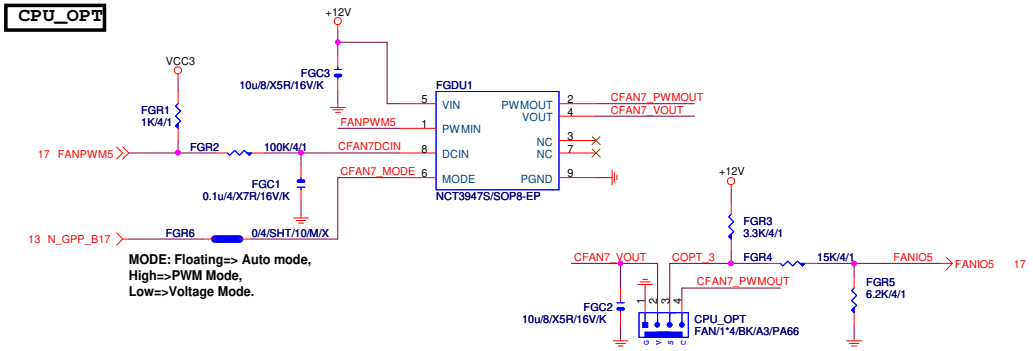
IO 5 FAN

CPU_FAN
CPU_OPT
SYS_FAN1
SYS_FAN2
SYS_FAN3

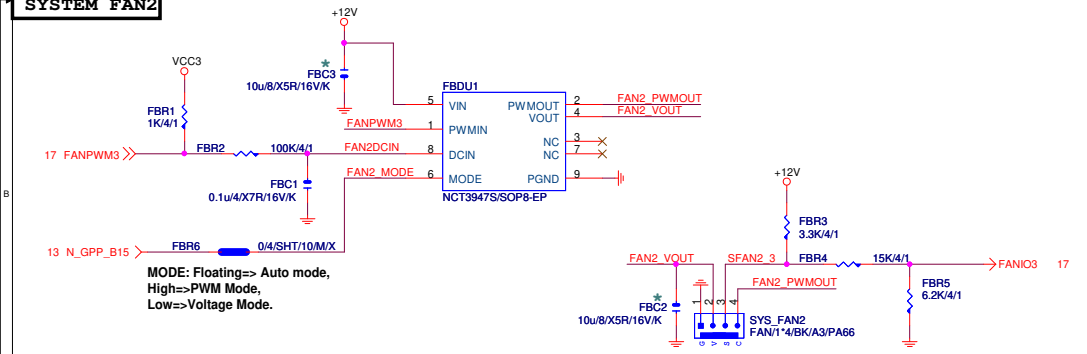
SYSTEM FAN1

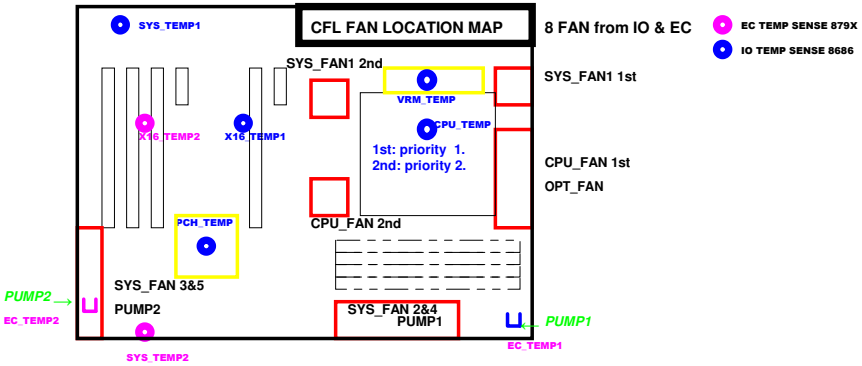


CPU_OPT

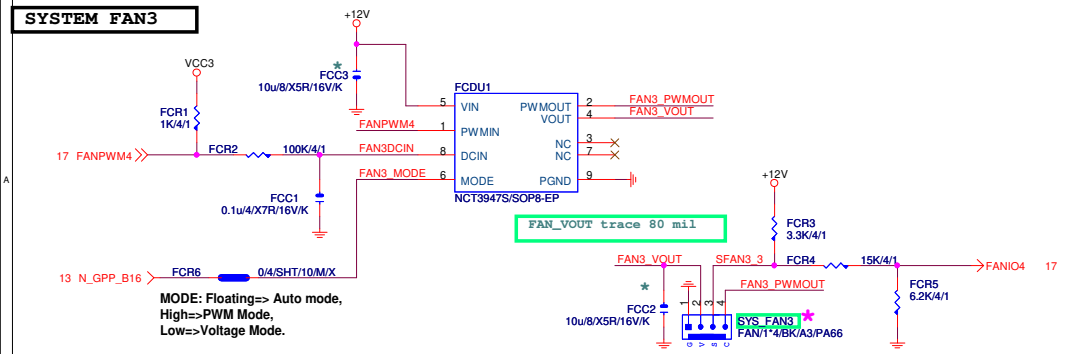


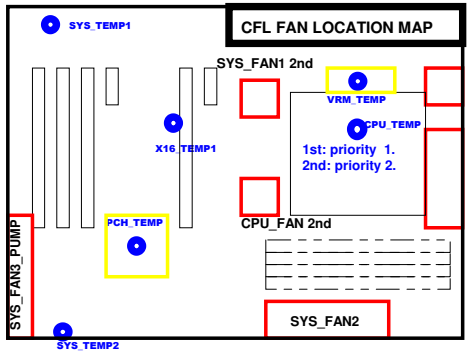
SYSTEM FAN2





SYSTEM FAN3





Gigabyte Technology

Title: HWM,KB/MS, FAN CTRL

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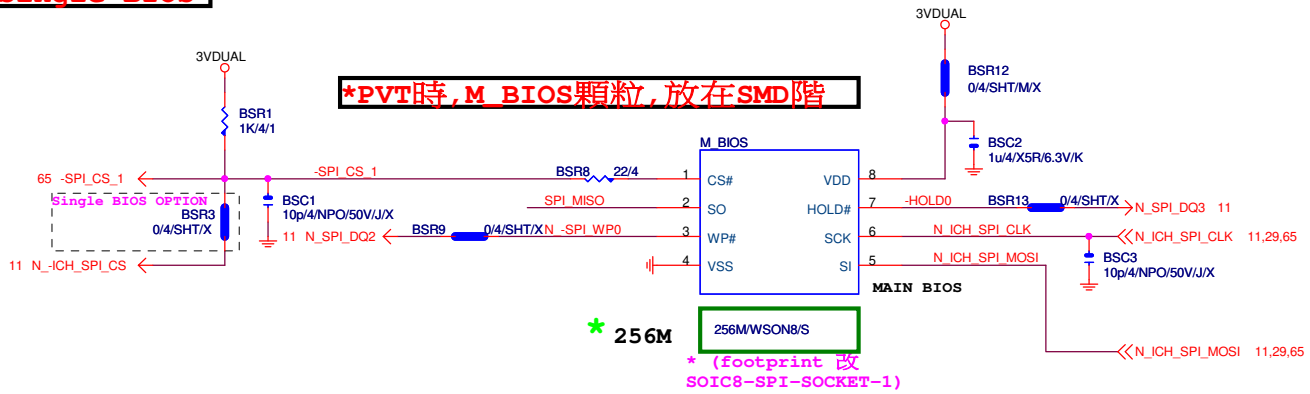
DUAL BIOS

*Single BIOS

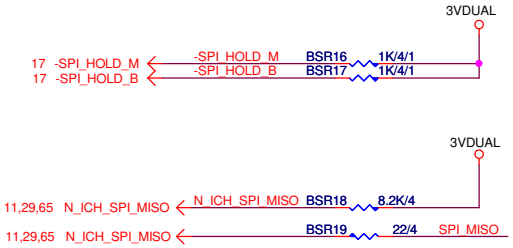
*PVT時,M_BIOS顆粒,放在SMD階



* 256M

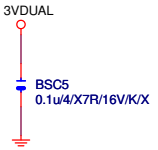
* (footprint 改 SOIC8-SPI-SOCKET-1)

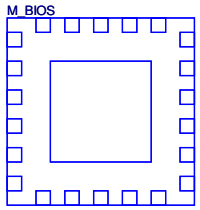
MOSI For DMI RX Termination Voltage



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[10SL2-000008-71R]/X

* 試產先上 , PVT 移除

Gigabyte Technology

Title: BIOS

Size: Custom | Document Number: B560 AORUS PRO AX | Rev: 1.02

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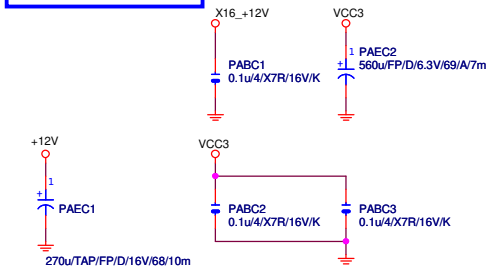
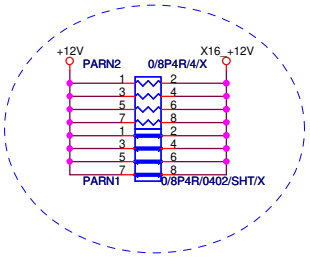
Rev 0.3

PCIEX16 CAP



PCIEX16 PROTECT SHT

+12 protect
short-wire test



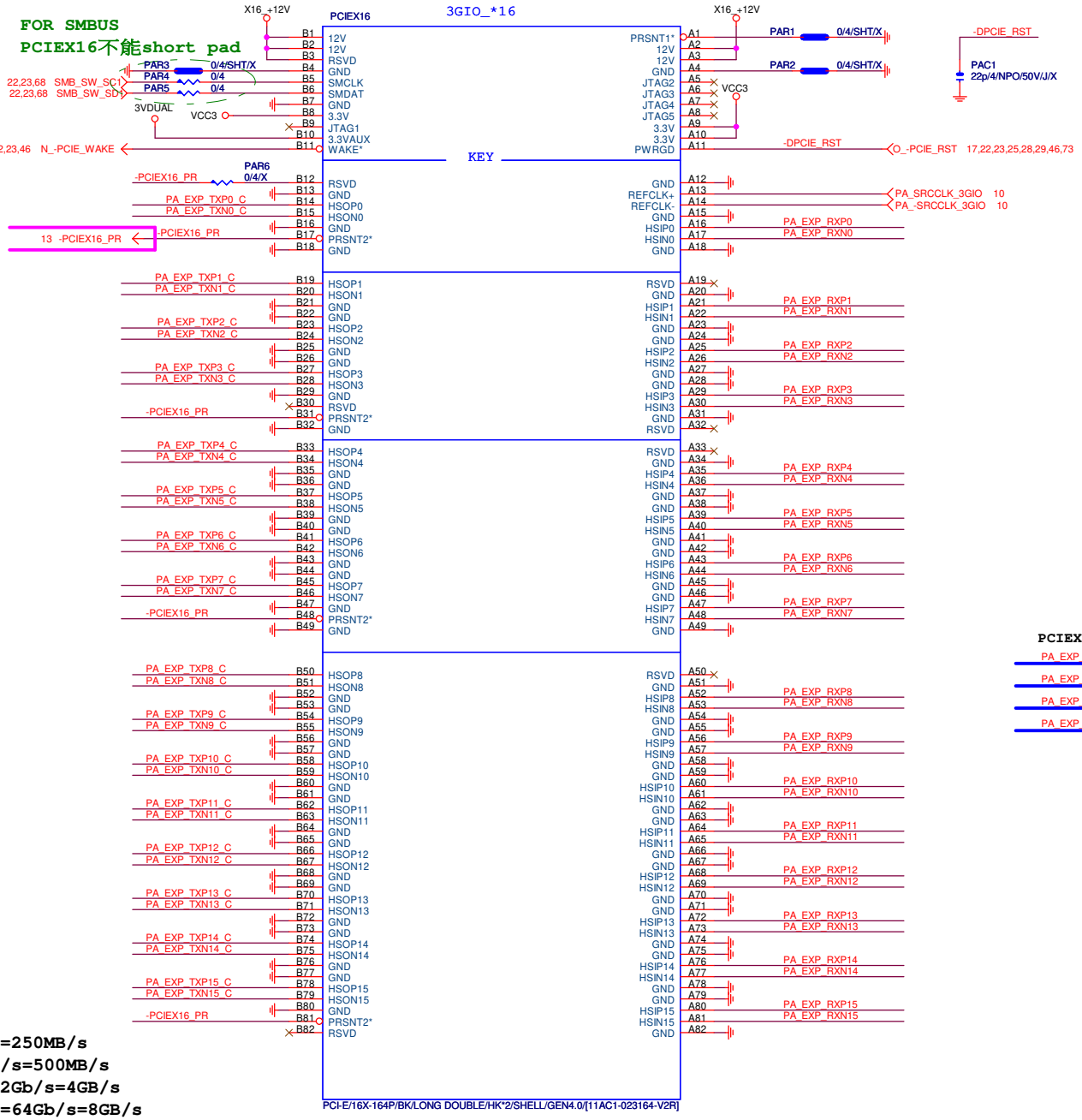
PCIEX16 AC CAP

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

PCIEX16 SLOT

PCIESLOT-164STH

FOR SMBUS
PCIEX16不能short pad



黑色 金屬 加強

PCIEX16:16/5/5/5/16

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

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

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Rev 0.51

PCIE*4

* Footprint "PCIESLOT-64STH-1"

FOR SMBUS

PCIEX4 SM Bus電阻layout 改0 ohm 上件

PCIEX4

3GIO_*4

KEY

+12V

3VDUAL

VCC3

B1 12V
B2 12V
B3 RSVD
B4 GND
B5 SMCLK
B6 SMDAT
B7 GND
B8 3.3V
B9 JTAG1
B10 3.3VAUX
B11 WAKE*
B12 RSVD
B13 GND
B14 HSOP0
B15 HSON0
B16 GND
B17 PRSNT2*
B18 GND
B19 HSOP1
B20 HSON1
B21 GND
B22 GND
B23 HSOP2
B24 HSON2
B25 GND
B26 GND
B27 HSOP3
B28 HSON3
B29 GND
B30 RSVD
B31 PRSNT2*
B32 GND
B48 PRSNT2*
B81 PRSNT2*

A1 PRSNT1*
A2 12V
A3 12V
A4 GND
A5 JTAG2
A6 JTAG3
A7 JTAG4
A8 JTAG5
A9 3.3V
A10 3.3V
A11 PWRGD
A12 GND
A13 REFCLK+
A14 REFCLK-
A15 GND
A16 HSIP0
A17 HSIN0
A18 GND
A19 RSVD
A20 GND
A21 HSIP1
A22 HSIN1
A23 GND
A24 GND
A25 HSIP2
A26 HSIN2
A27 GND
A28 GND
A29 HSIP3
A30 HSIN3
A31 GND
A32 RSVD

PQR1 0/4/SHT/X
PQR2 0/4/SHT/X
PQR3 0/4/SHT/X
PQR4 0/4
PQR5 0/4
PQR6 0/4/X

21,23,68 SMB_SW_SC1
21,23,68 SMB_SW_SD
11,17,21,23,46 N_-PCIE_WAKE
-PCIEX4_PR

O_-PCIE_RST 17,21,23,25,28,29,46,73
PQC1 22p/4/NPO/50V/J

PP_PCIE_CLK 10
PP_-PCIE_CLK 10

74 PP_PCIEX4_TP24_SW
74 PP_PCIEX4_TN24_SW
PQC2 0.22u/4/X5R/6.3V/K PP_PCIEX4_TP24C
PQC3 0.22u/4/X5R/6.3V/K PP_PCIEX4_TN24C
PP_PCIEX4_IP24_SW 74
PP_PCIEX4_IN24_SW 74

74 PP_PCIEX4_TP23_SW
74 PP_PCIEX4_TN23_SW
PQC26 0.22u/4/X5R/6.3V/K PP_PCIEX4_TP23C
PQC27 0.22u/4/X5R/6.3V/K PP_PCIEX4_TN23C
PP_PCIEX4_IP23_SW 74
PP_PCIEX4_IN23_SW 74

74 PP_PCIEX4_TP22_SW
74 PP_PCIEX4_TN22_SW
PQC14 0.22u/4/X5R/6.3V/K PP_PCIEX4_TP22C
PQC15 0.22u/4/X5R/6.3V/K PP_PCIEX4_TN22C
PP_PCIEX4_IP22_SW 74
PP_PCIEX4_IN22_SW 74

74 PP_PCIEX4_TP21_SW
74 PP_PCIEX4_TN21_SW
PQC17 0.22u/4/X5R/6.3V/K PP_PCIEX4_TP21C
PQC18 0.22u/4/X5R/6.3V/K PP_PCIEX4_TN21C
PP_PCIEX4_IP21_SW 74
PP_PCIEX4_IN21_SW 74

13 -PCIEX4_PR
Pull-up from PCH
13 N_GPP_D14
PRR12 0/4/SHT/X
VCC3
PRR11 8.2K/4/X
通知BIOS DETECTED DEVICE

PQC16 1u/4/X5R/6.3V/K/X
PQC19 0.1u/4/X7R/16V/K

PQC4 0.1u/4/X7R/16V/K
PQC5 0.1u/4/X7R/16V/K
PQC6 0.1u/4/X7R/16V/K
PQC7 0.1u/4/X7R/16V/K

PCI-E/4X-65P/BK/AORUS

黑色

Gigabyte Technology

Title: PCIE_X4

Size: Custom | Document Number: B560 AORUS PRO AX | Rev: 1.02

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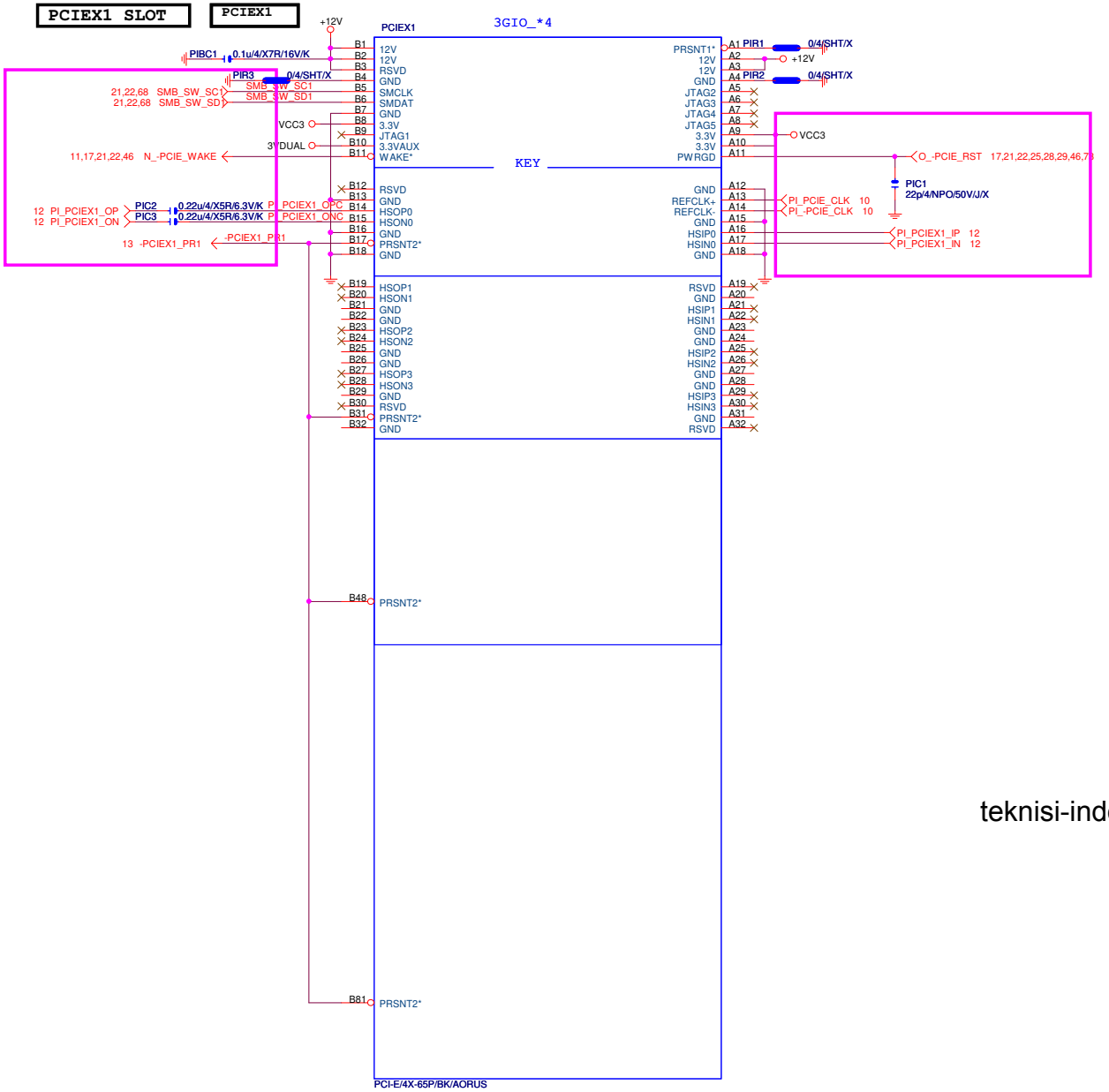
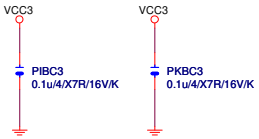
Rev 0.51

PCIEX1 SLOT

PCIEX1





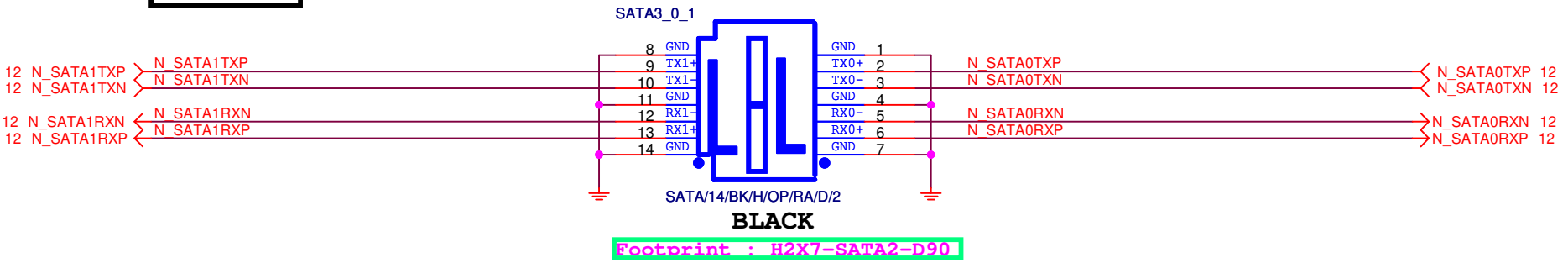
Gigabyte Technology		
Title: PCIE X1 *3		
Size: Custom	Document Number: B560 AORUS PRO AX	Rev: 1.02
Date: Thursday, February 25, 2021	Sheet 23 of 74	

IO18/IO19 To SATA3 port0/1

6 SATA3 from Z490 (90度R-A)

SATA3 0/1

上 Port (8~14)　　下 Port (1~7)

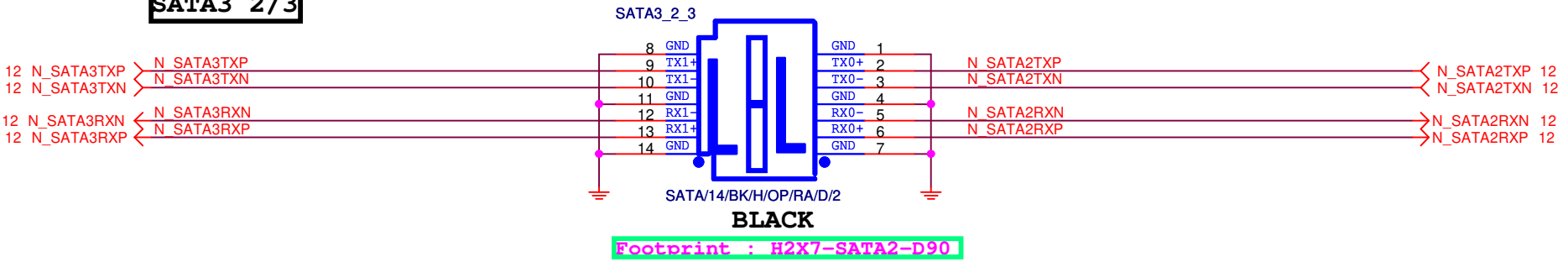


Footprint : H2X7-SATA2-D90

IO20/IO21 To SATA3 port2/3

SATA3 2/3

上 Port (8~14)　　下 Port (1~7)

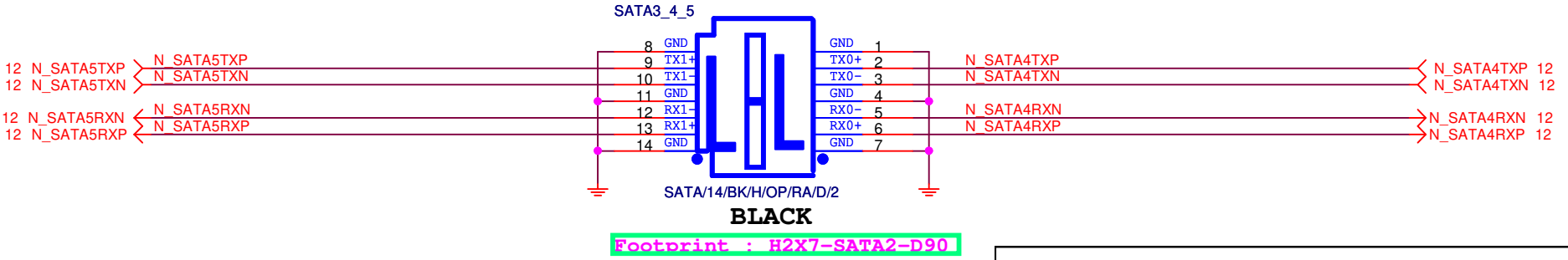


Footprint : H2X7-SATA2-D90

IO22/IO23 To SATA3 port4/5

SATA3 4/5

上 Port (8~14)　　下 Port (1~7)



Footprint : H2X7-SATA2-D90

Gigabyte Technology

Title: SATA		
Size: Custom	Document Number: B560 AORUS PRO AX	Rev: 1.02
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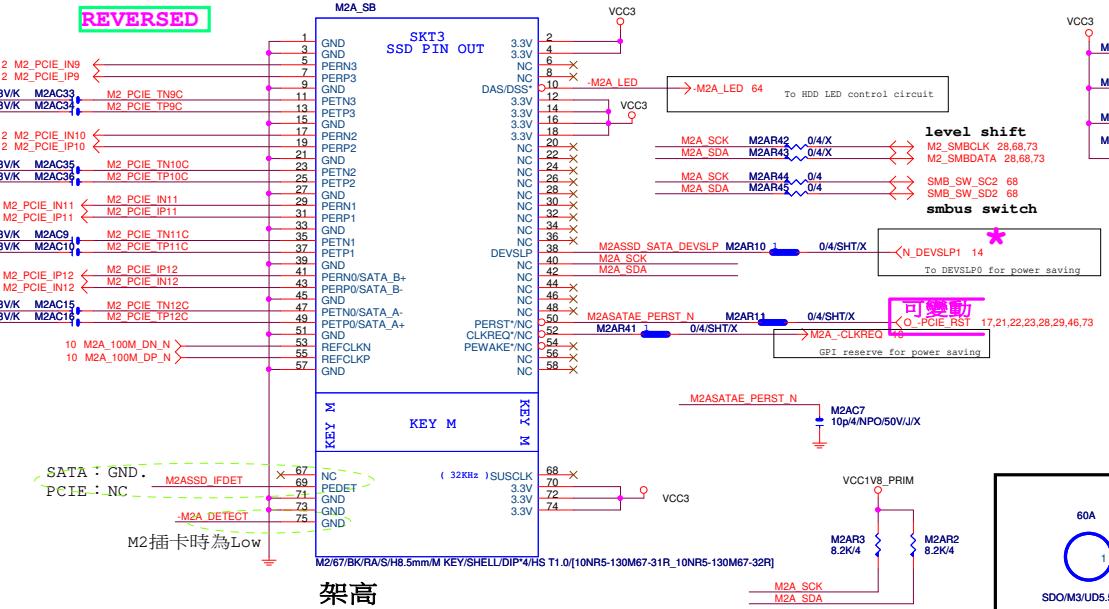
Rev 0.1

M.2 Lane4 from PCH port9

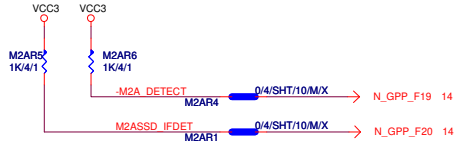
M.2 Lane3 from PCH port10

M.2 Lane2 from PCH port11

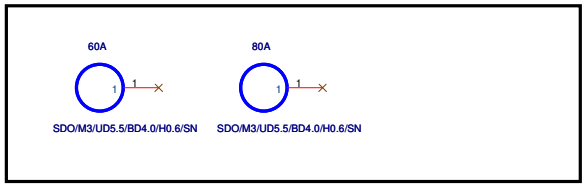
M.2 Lane1 from PCH port12

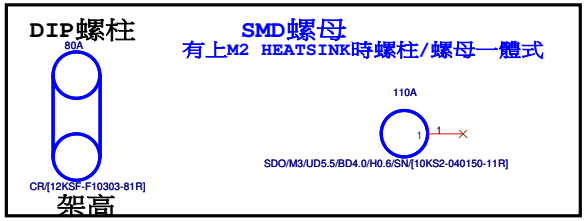


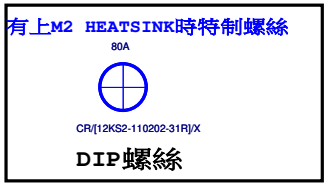
支援SATA and M.2 function



Flex IO priority	N_GPP_K1	IO14 PCIe#9	IO15 PCIe#10	IO16 PCIe#11	IO17 PCIe#12
M2A SATA	L	PCIE	PCIE	SATA 0	SATA 1
M2A PCIE (PCIE Reverse)	H	PCIE	PCIE	PCIE	PCIE







Gigabyte Technology

Title: M.2 X4

Size: Custom | Document Number: B560 AORUS PRO AX | Rev: 1.02

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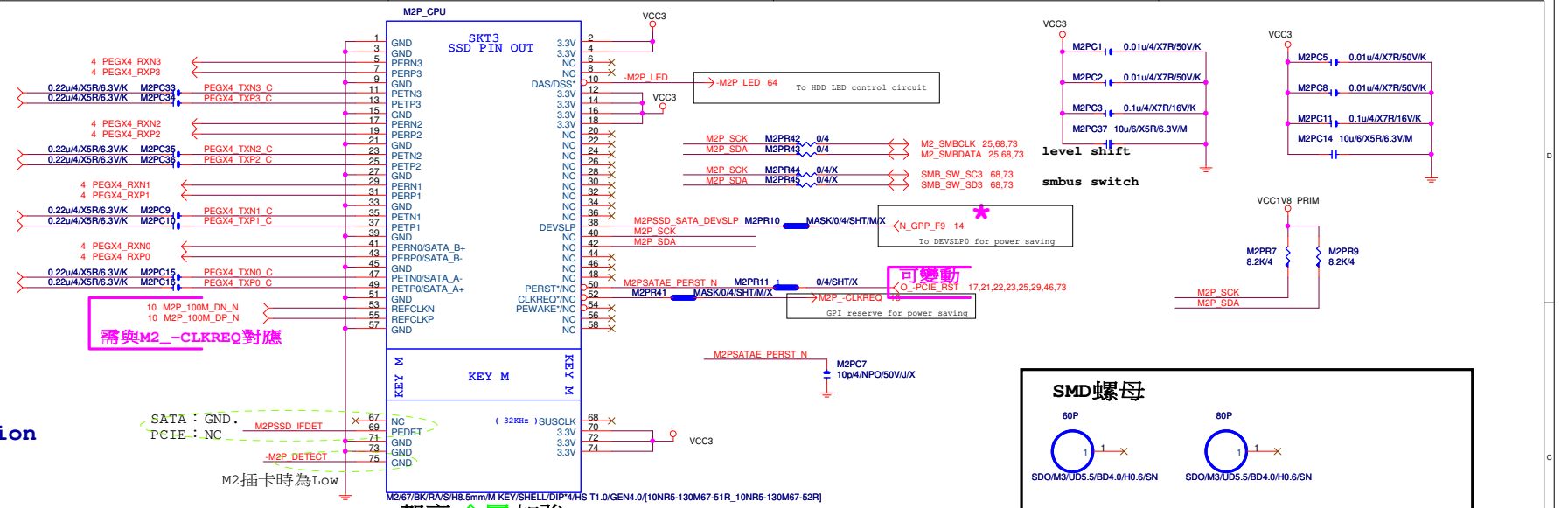
Rev 0.1

M.2 Lane4 from CPU port4

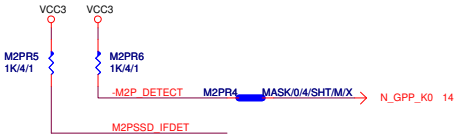
M.2 Lane3 from CPU port3

M.2 Lane2 from CPU port2

M.2 Lane1 from CPU port1



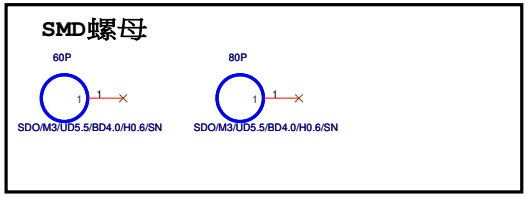
支援SATA and M.2 function

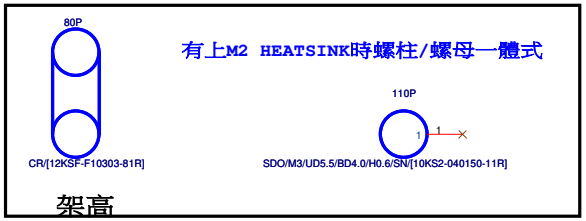


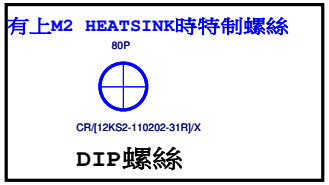
架高 金屬加強

Footprint : M2_110_H2MM8W

SMD螺母







M2P_CPU_HS

M2 HEATSINK

M2P_CPU_HS/[12SP1-S13905-32R_12SP1-S13905-34R_12SP1-S13905-35R]::M2P_CPU_HS

Gigabyte Technology		
Title: M.2 X4 (P)		
Size: Custom	Document Number: B560 AORUS PRO AX	Rev: 1.02
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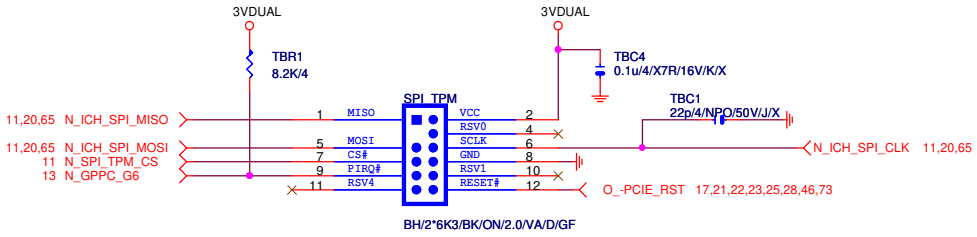
COM PORT Rev: 0.94

LPT PORT

RTD3 GPIO refer by Intel RVP

GPIO	CFL-S	CML-U	CML-H	CML-S
TBT_PERST_N	GPP_F_2	GPPC_C15_SLOT1_RST_N	GPP_F4_SATAPCIE7	GPP_F2
TBT_Wake_N	GPP_H_15	GPPC_D11_SLOT1_WAKE_N	GPPK_18	GPP_H15
RTD3_PWN_EN	GPP_I_5	GPPC_D15	GPP_H_16_SML4_CLK	GPP_K23

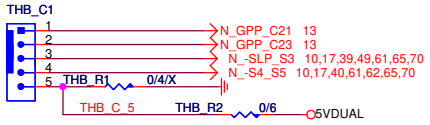
TPM CONNECT



Footprint: TPM2X6-CUT3

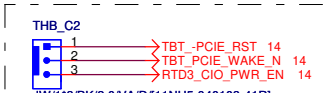
Thunderbolt

★Update 2015-12-29



PH/1*5/BK/2.54/VA/D/[11NH5-040105-41R]

Footprint update "WAFER-1X5P"



JW/1*3/BK/2.0/VA/D/[11NH5-040103-41R]

Footprint update "WAFER1X3-2MM"

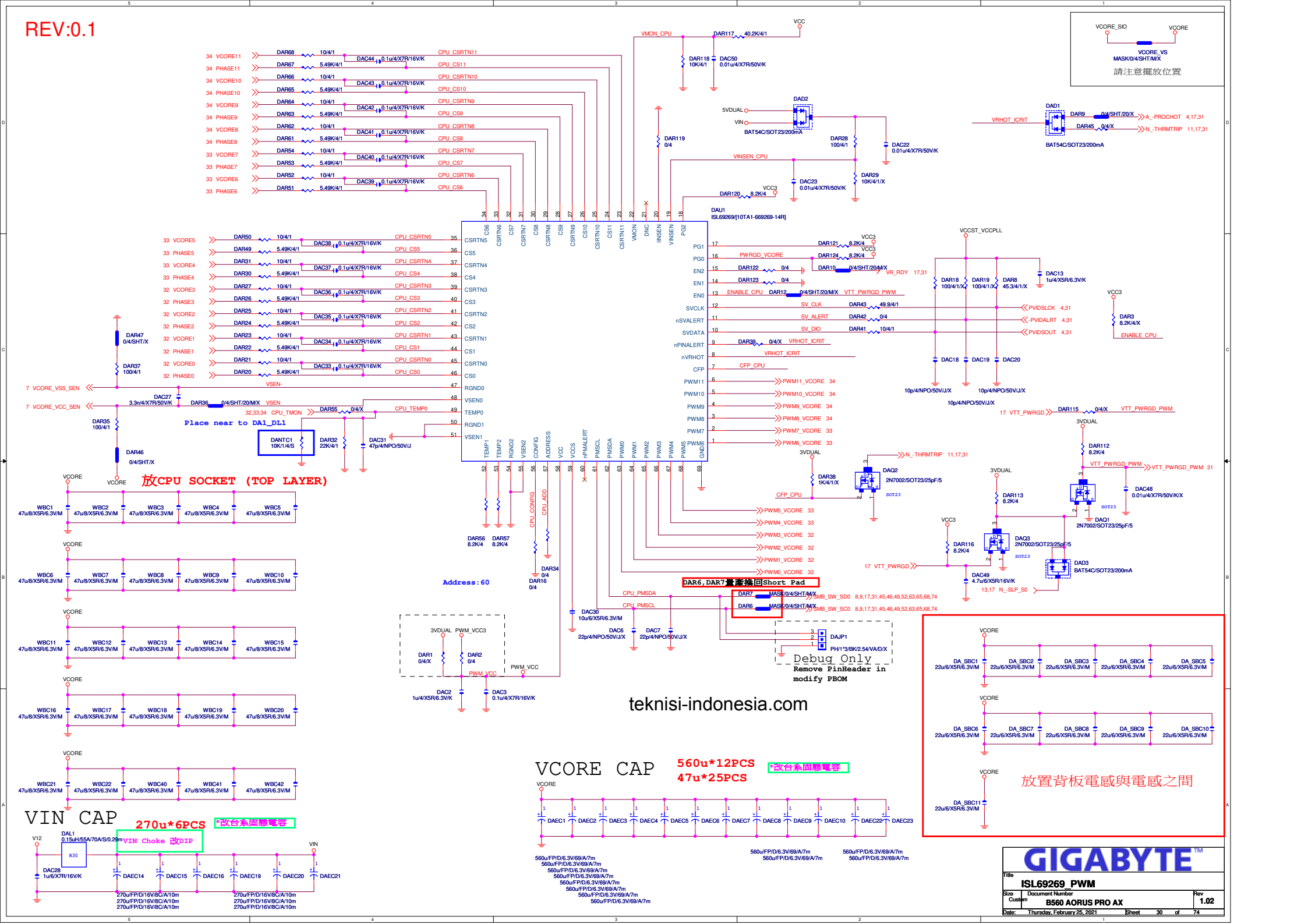
FOR TBT RTD3

Z490系列使用

TBT_-PCIE_RST : CFL connector to GPP_F_2
TBT_PCIE_WAKE_N : CFL connector to GPP_H_15
RTD3_CIO_PWR_EN : CFL connector to GPP_K_23

Gigabyte Technology		
Title: FP,F_USB,USB PWR,BZ		
Size: Custom	Document Number: B560 AORUS PRO AX	Rev: 1.02
Date: Thursday, February 25, 2021	Sheet 29 of 74	

REV:0.1



GIGABYTE			
Title	ISL69269_PWM		
Size: Custom	Document Number: B560 AORUS PRO AX		Rev: 1.02
Date: Thursday, February 25, 2021	Sheet 30 of 74		

REV:0.1

Connect to IT8688

Place near to DX_DL1

Address:63

* A_CPU_ID
1: RKL -->ADDRESS=63_ID=0
0: CML -->ADDRESS=63_ID=7

VCCGT CAP

*改台系固態電容

560u*3PCS

47u*7PCS

放CPU SOCKET (Bottom LAYER)

560u/FP/D/6.3V/69/A/7m
560u/FP/D/6.3V/69/A/7m
560u/FP/D/6.3V/69/A/7m

Vout=0.8*(R1+R2)/R2

AP7365-WG-7/SOT23-5/600mA

20MIL

GIGABYTE

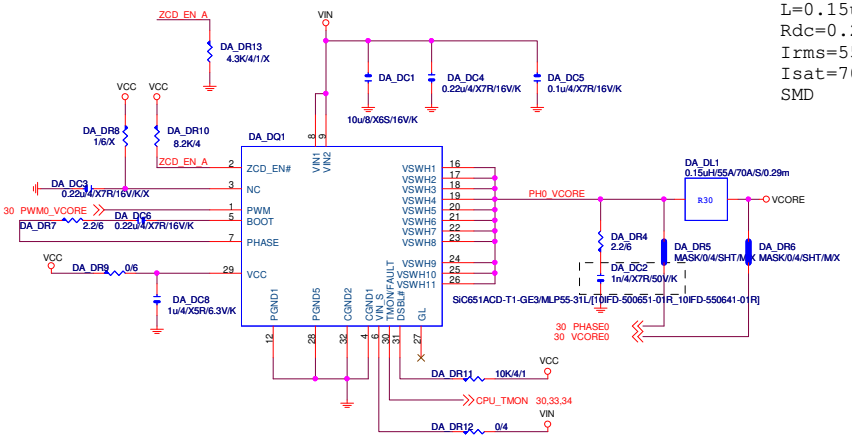
Title: RAA229001_PWM

Size: Custom | Document Number: B560 AORUS PRO AX | Rev: 1.02

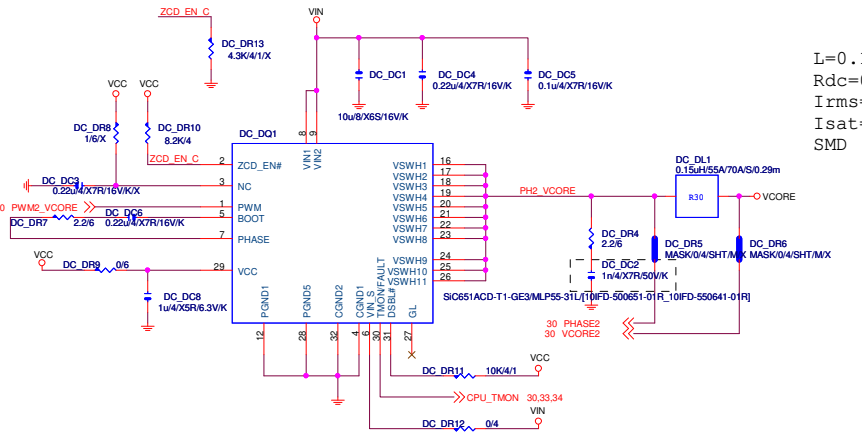
Date: Thursday, February 25, 2021 | Sheet 31 of 74

REV:0.1

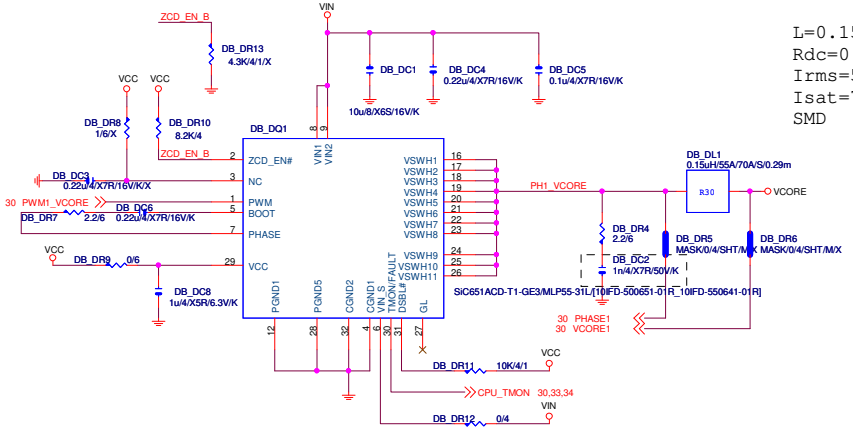
DRMOS使用NCP302155時PIN2 and PIN3要上件(Ex:DA_DR13.DA_DR8.DA_DC3)



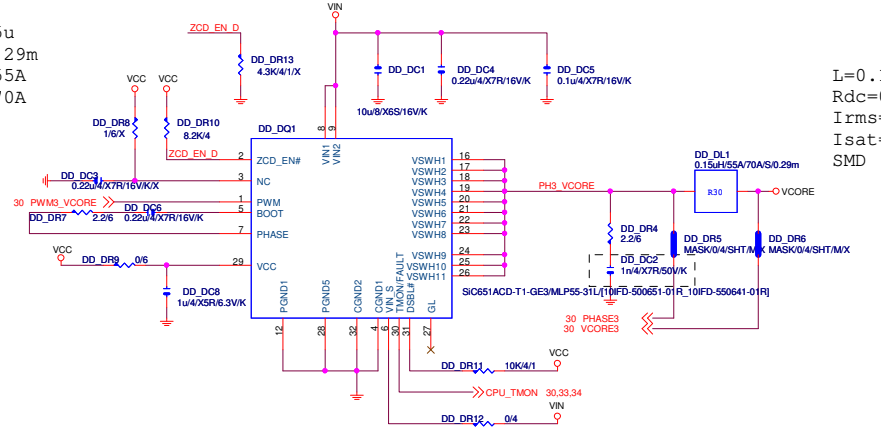
L=0.15u
Rdc=0.29m
Irms=55A
Isat=70A
SMD



L=0.15u
Rdc=0.29m
Irms=55A
Isat=70A
SMD



L=0.15u
Rdc=0.29m
Irms=55A
Isat=70A
SMD



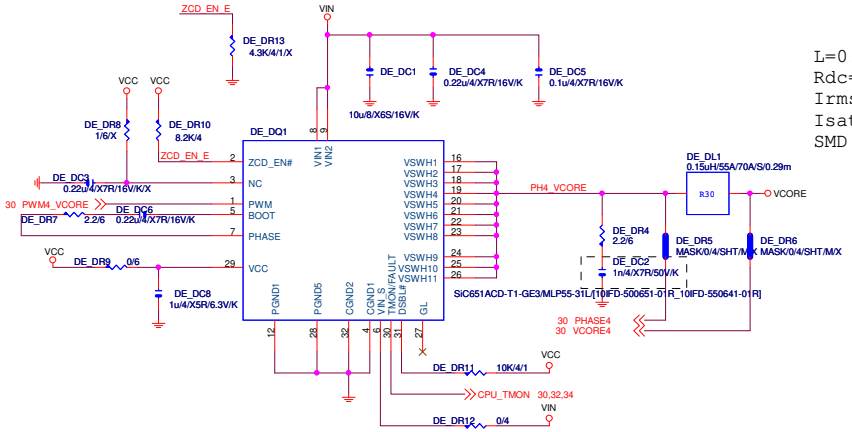
L=0.15u
Rdc=0.29m
Irms=55A
Isat=70A
SMD

GIGABYTE™

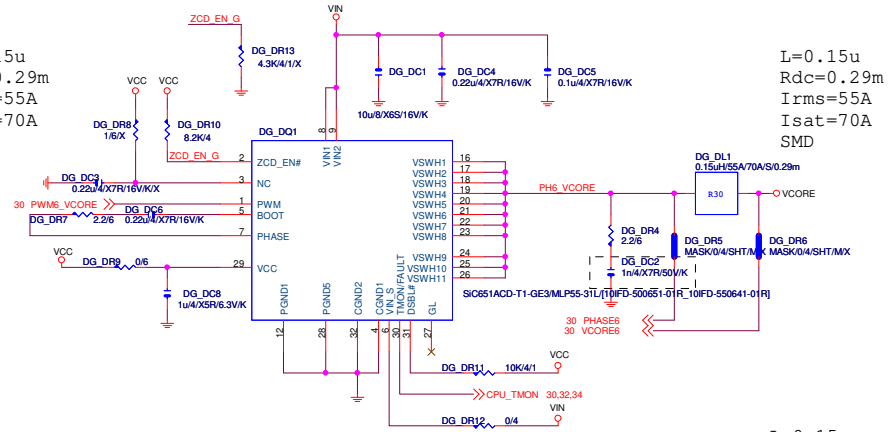
Title	VCORE_DRMOS-1	
Size: Custom	Document Number: B560 AORUS PRO AX	Rev: 1.02
Date: Thursday, February 25, 2021	Sheet 32 of 74	

REV:0.1

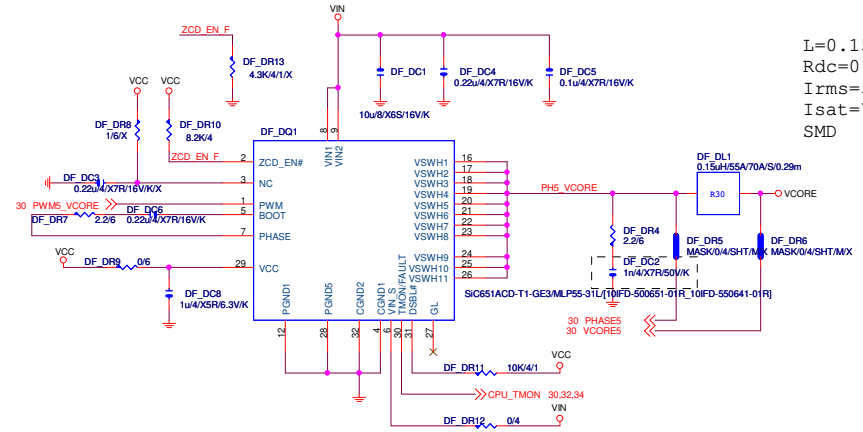
DRMOS使用NCP302155時PIN2 and PIN3要上件(Ex:DA_DR13.DA_DR8.DA_DC3)



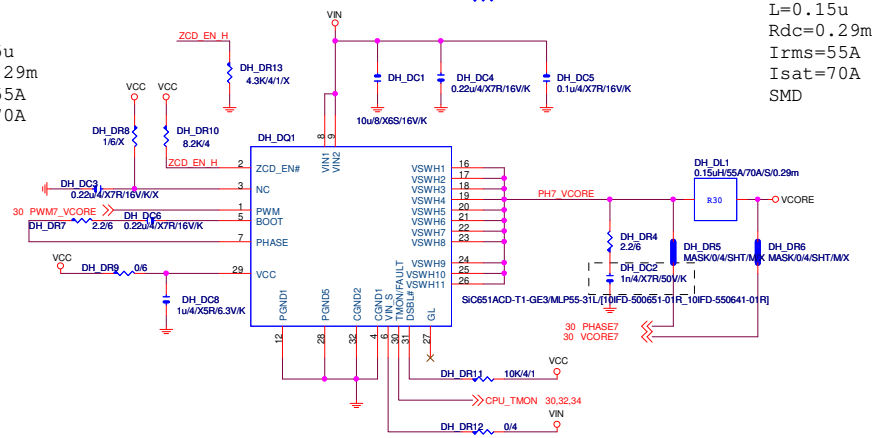
L=0.15u
Rdc=0.29m
Irms=55A
Isat=70A
SMD



L=0.15u
Rdc=0.29m
Irms=55A
Isat=70A
SMD



L=0.15u
Rdc=0.29m
Irms=55A
Isat=70A
SMD



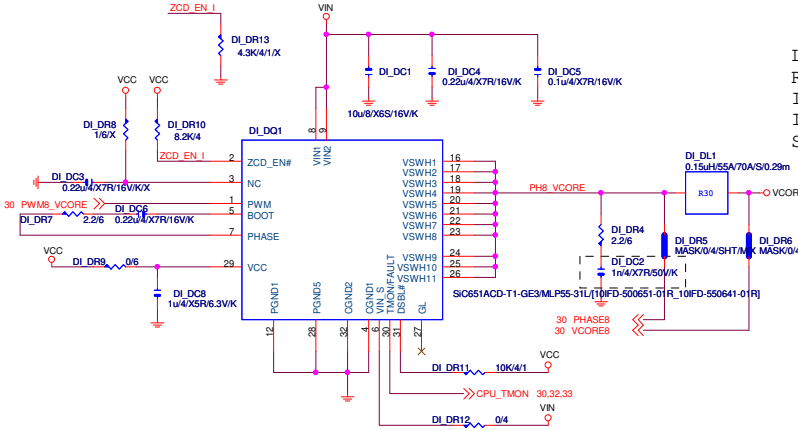
L=0.15u
Rdc=0.29m
Irms=55A
Isat=70A
SMD

GIGABYTE™

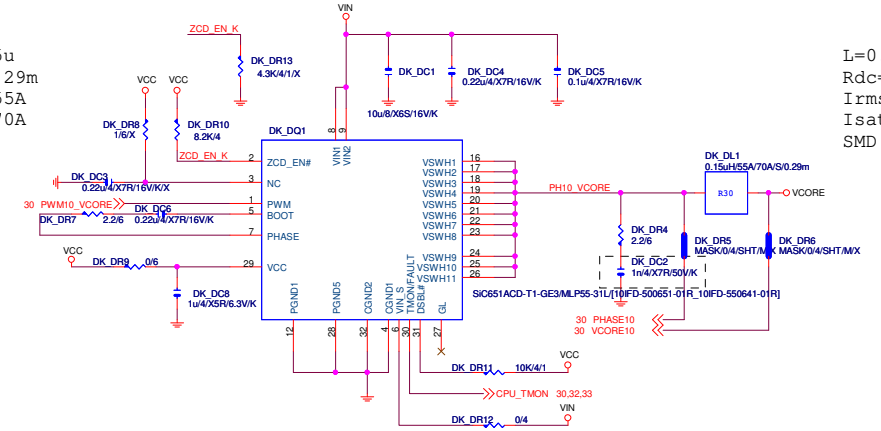
Title	VCORE_DRMOS-2	
Size: Custom	Document Number: B560 AORUS PRO AX	Rev: 1.02
Date: Thursday, February 25, 2021	Sheet 33 of 74	

REV:0.1

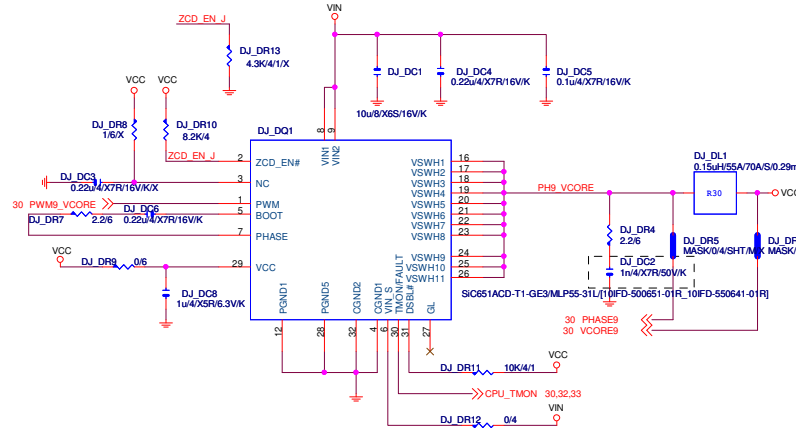
DRMOS使用NCP302155時PIN2 and PIN3要上件(Ex:DA_DR13.DA_DR8.DA_DC3)



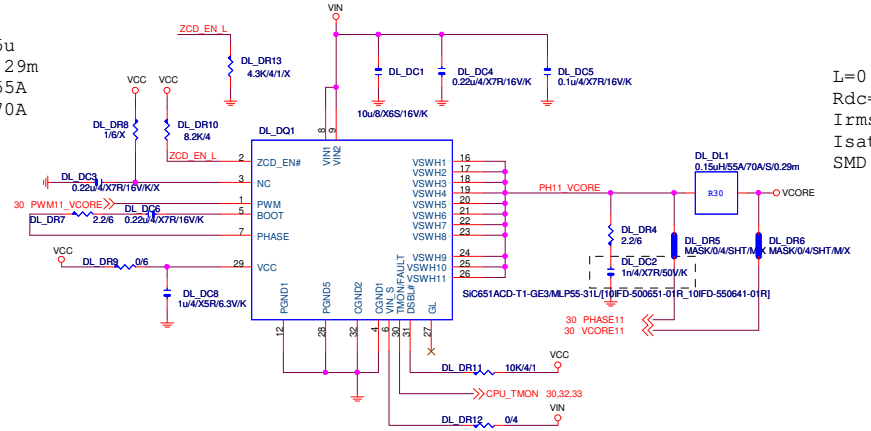
L=0.15u
Rdc=0.29m
Irms=55A
Isat=70A
SMD



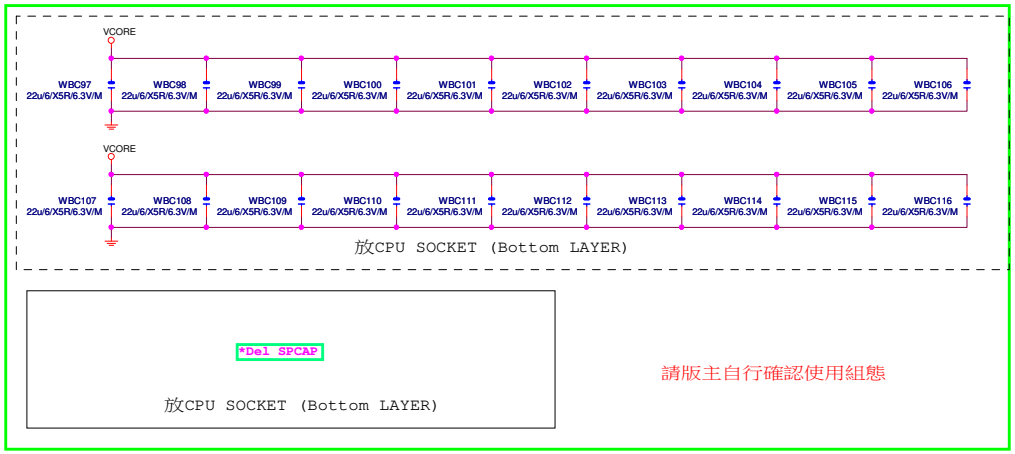
L=0.15u
Rdc=0.29m
Irms=55A
Isat=70A
SMD



L=0.15u
Rdc=0.29m
Irms=55A
Isat=70A
SMD



L=0.15u
Rdc=0.29m
Irms=55A
Isat=70A
SMD



*Del SPCAP

放CPU SOCKET (Bottom LAYER)

請版主自行確認是否使用
請版主自行確認使用330u or 470u

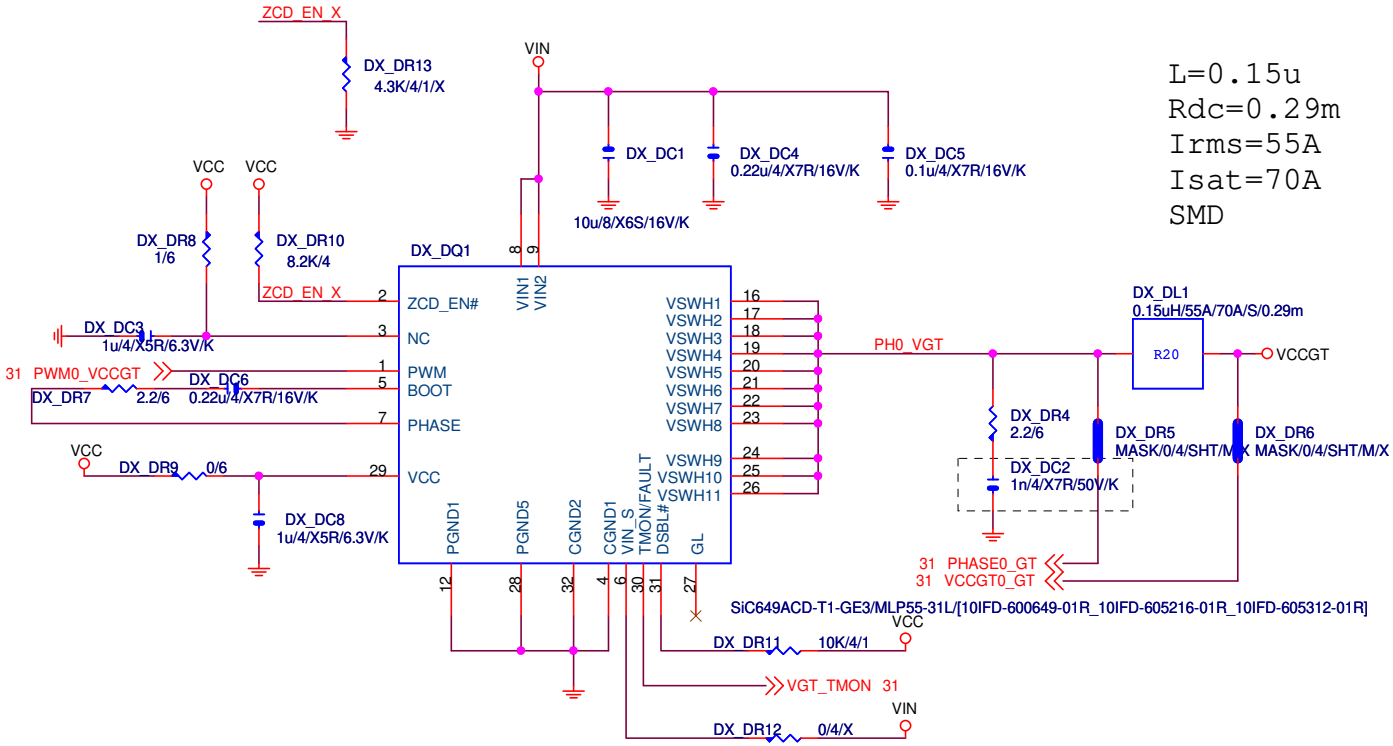
請版主自行確認使用組態

GIGABYTE

Title	VCORE_DRMOS-3	
Size: Custom	Document Number: B560 AORUS PRO AX	Rev: 1.02
Date: Thursday, February 25, 2021	Sheet 34 of 74	

REV:0.1

DRMOS使用NCP302155時PIN2 and PIN3要上件(Ex:DA_DR13.DA_DR8.DA_DC3)

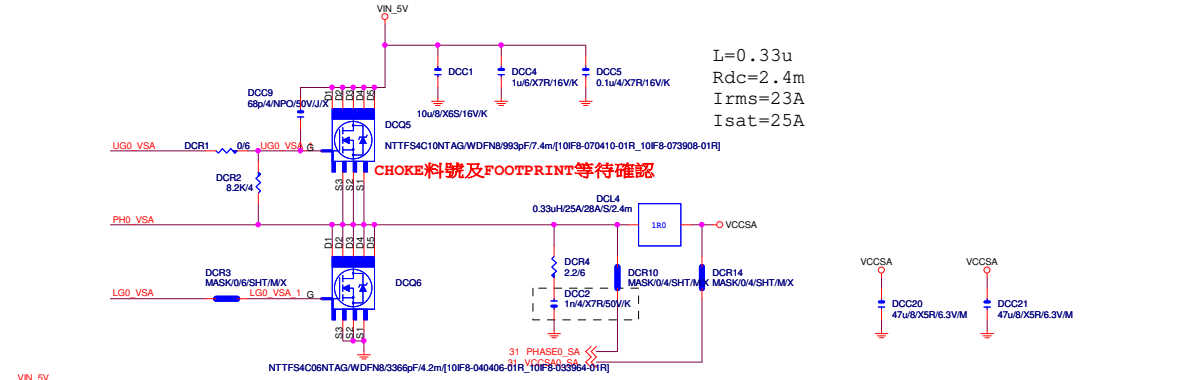


L=0.15u
Rdc=0.29m
Irms=55A
Isat=70A
SMD

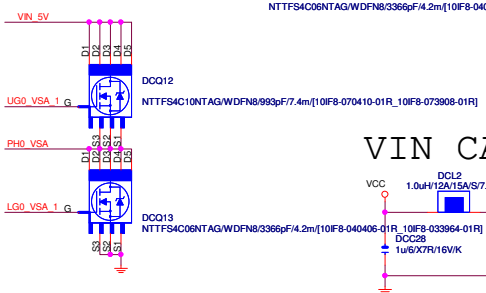
GIGABYTE™

Title	VCCGT_DRMOS	
Size: Custom	Document Number: B560 AORUS PRO AX	Rev: 1.02
Date: Thursday, February 25, 2021	Sheet 35 of 74	

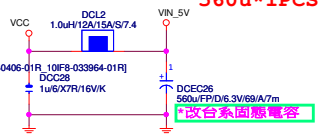
REV:0.1

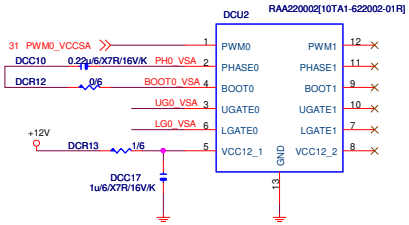


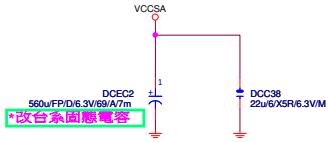
L=0.33u
Rdc=2.4m
Irms=23A
Isat=25A



VIN CAP 560u*1PCS







CPU SOCKET 已經有22u/6 *4pcs

GIGABYTE™

Title	VCCSA MOSFET	
Size: Custom	Document Number: B560 AORUS PRO AX	Rev: 1.02
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VCCIO

REV:0.12

RKL MODIFY

5VDUAL

DFR11 2.2/6 DRV_VIO

DFC11 1u/6/X7R/16V/K

VCC

DFR10 100K/4/1 VCCIO_PG

VCC3

DFR25 8.2K/4 VCCIO_EN_1

5VDUAL

DFR20 0/4 VCCIO0_MODE

DFU2

TPS51215ARUKR/WQFN-20

VCCIO_EN_1

VCCIO_PG

A_CPU_ID_N

VCCIO0_VID1

DFR18 140K/4/1

DFC56 3.3n/4/X7R/50V/K

VCCIO0_VREF

DFC57 0.1u/4/X7R/16V/K

VIO_VSA_RGND DFR35 0/4/X VSSSA_VIO_SENSE 6,31

請盡量靠近分支點

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

CHOKE與CAP料號可變

注意耐壓

VCC

DCL1 1.0uH/12A/15A/S/7.4 6*6

Close Choke

DFC36 DFC37 DFC39 0.1u/4/X7R/16V/K DFC27 68p/4/NPO/50V/J/X 0.1u/4/X7R/16V/K

DFC9 1u/8/X7R/16V/K Close MOS

DFQ5 NTTFS4C10NTAG/WDFN8/993pF/7.4m/[10IF8-070410-01R_10IF8-073908-01R]

VCCIO_VIN

DFC24 10u/8/X5R/16V/K DFC25 10u/8/X5R/16V/K DFC26 10u/8/X5R/16V/K

UGATE_VIO DFR12 2.2/6 UG_VIO

DFR13 8.2K/4

PHASE_VIO

LGATE_VIO

DFQ6 NTTFS4C10NTAG/WDFN8/993pF/7.4m/[10IF8-070410-01R_10IF8-073908-01R]

DFL2 1.0uH/12A/15A/S/7.4 6*6

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

VCCIO

使用GPIO超壓須移除

DFR15 2.2/6

DFC14 1n/4/X7R/50V/K

DFR16 487/4/1/X

DFR17 1K/4/1

DFEC2 560u/TAP/FP/D/6.3V/68/C/8m

DFC38 22u/6/X5R/6.3V/M

DFC15 3.3n/4/X7R/50V/K/X RS

VCCIO_OV

63 VCCIO_OV

DFR28 100/4/1/X

DFR27 10K/4/1/X DFR9 0/4/X VCCIO_SENSE 6

使用GPIO超壓須上件

VCCIO

DFC51 47u/8/X5R/6.3V/M DFC52 47u/8/X5R/6.3V/M

DFC54 47u/8/X5R/6.3V/M DFC55 47u/8/X5R/6.3V/M

放CPU SOCKET (Bottom LAYER)

ADDRESS=2A
VREF=02

VIO_RGND

DFR34 0/4/X VIO_VSA_RGND

DFC58 100p/4/NPO/50V/J/X 靠近PIN1

DFR26 0/4 放置靠近output cap端

使用GPIO超壓
1. DFR26須改為100/4/1
2. DFR34需上件

DFC59 100p/4/NPO/50V/J/X 靠近PIN20

VCCIO_EN VCCIO_EN_1

Connect to IT8795

17,38,6 VCCIO_EN

Connect to IT8686

DCR21 8.2K/4 DCQ7 2N7002/SOT23/25pF/5

DCR22 8.2K/4/X DCQ8 2N7002/SOT23/25pF/5

DCR23 100K/4/1 DCC16 1u/6/X7R/16V/K

DFR38 100K/4/1 VCCIO0_VID1 DFQ1 2N7002/SOT23/25pF/5

DFR37 8.2K/4/1 A_CPU_ID_N DFQ11 2N7002/SOT23/25pF/5

4,31,38 A_CPU_ID

* A_CPU_ID
1: RKL -->VCCIO=1.05V (VID0=L,VID1=H)
0: CML -->VCCIO=0.95V (VID0=H,VID1=L)

VCCIO0_VREF

DFR40 51K/4/1

VCCIO0_V3

DFR14 40.2K/4/1

VCCIO0_V2 1.050V

DFR39 9.53K/4/1

VCCIO0_V1 0.951V

DFR41 91K/4/1

VCCIO0_V0

DFR50 0/4

VCCIO_OV

DFR33 422K/4/1/X VIO_RGND

DFR43 42.2K/4/1 DFR44 21K/4/1

DFR29 100K/4/1/X DFQ2 2N7002/SOT23/25pF/5

DFR31 100K/4/1/X DFQ3 2N7002/SOT23/25pF/5

14 VCCIO_VID1 14 VCCIO_VID2 VIO_RGND

DFR30 100K/4/1 DFC28 0.1u/4/X7R/16V/K DFR32 100K/4/1 DFC29 0.1u/4/X7R/16V/K

VCCIO_VID1-->GPP_F_22
VCCIO_VID2-->GPP_F_23

使用GPIO超壓須上件

VCCIO_VID1	VCCIO_VID2	VCCIO_0_G1	VOUT
LOW	LOW	LOW	0.950V
LOW	LOW	HIGH	1.050V
HIGH	LOW	HIGH	1.075V
LOW	HIGH	HIGH	1.100V
HIGH	HIGH	HIGH	1.125V

Mode	VR	Mode logic	LPM	VID Setting G1 logic	VID Setting G0 logic	VOUT (V)
Mode1	VCCIO	0	0	x	x	0(LPM)
			1	0	0	0.85
			1	0	1	0.875
			1	1	0	0.95
			1	1	1	0.975
Mode2	VPRIMCORE	Floating	0	x	x	0.7V(LPM)
			1	0	0	0.85
			1	0	1	0.9
			1	1	0	0.95
			1	1	1	1
Mode3	VccEDRAM/ VccEOPIO	1	0	x	x	0(LPM)
			1	0	0	0.8
			1	0	1	0.95
			1	1	0	1
			1	1	1	1.05

VCCIO_PG DGR36 MASK/0/4/SHT/X VCCIO_PWRGD

Connector to SIO PIN7

VCCIO_PWRGD 17

3VDUAL

DGR2 100K/4/1/X DGQ2 2N7002/SOT23/25pF/5/X

DGR4 100K/4/1 DGQ10 2N7002/SOT23/25pF/5

DGQ1 2N7002/SOT23/25pF/5/X

* A_CPU_ID_N
0: RKL
1: CML

DGQ3 2N7002/SOT23/25pF/5

DGQ4 2N7002/SOT23/25pF/5

VCCIO_PG

A_CPU_ID_N

38 VCCIO2_PG VCCIO2_PG

VIO_C10_G 38

A_CPU_ID_N

VCC3

DFR24 10K/4/1

VIO_C10_G

DFQ16 2N7002/SOT23/25pF/5

DFQ15 MMBT2222A/SOT23/600mA/40

VCCIO0_VID1

DFQ17 2N7002/SOT23/25pF/5

14,61 CPU_VCCIO_PWR_GATEB

DFR42 10K/4/1

C10 function

GIGABYTE

Title: VCCIO

Size: Custom | Document Number: B560 AORUS PRO AX | Rev: 1.02

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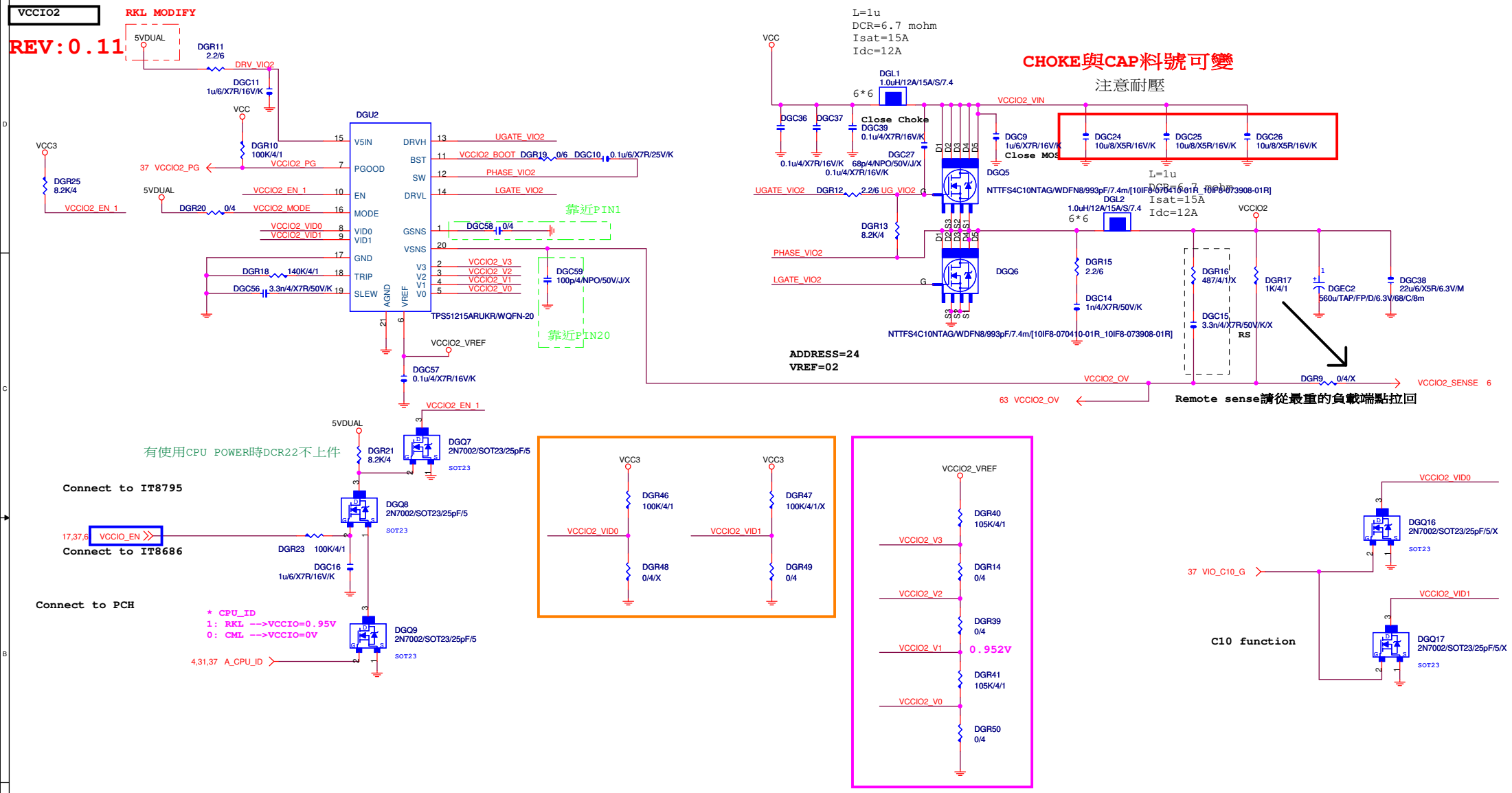
VCCIO2

RKL MODIFY

REV:0.11



GIGABYTE

Title: VCCIO2

Size: Custom | Document Number: B560 AORUS PRO AX | Rev: 1.02

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REV:0.11

DDR4

5VDUAL
MAR2
8.2K/4
MA_EN
上件

MA_DR38.MA_DC15

VPP_25V使用8120.8068A.RT8237時上件

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

CLOSE TO DDR POWER PLANE

5VDUAL
MA_DR8
2.2/6
MA_DC10
1u/6/X7R/16V/K
MA_DR37
100K/4/1
VDDQ_GD
MA_DC9
0.1u/6/X7R/25V/K
VPP_25V
5VDUAL
MA_DR40
8.2K/4/X
MA_DR41
8.2K/4
40 VPP25V_GD
MA_DR38
MASK/0/4/SHT/M/10/X
DDR_EN
17,40,61 MA_EN
MA_DR39 0/4/X
MA_DC15
0.1u/4/X7R/16V/K
EN
PGOOD
VCC
BOOT
UGATE
PHASE
FB
CS
RF
GND
LGATE
MAU2
RT8237/[10TA1-608237-01R]
MA_UGATE
MA_PHASE
MA_LGATE
MA_RF
MA_DR45
VDDQ_GD
470K/4/1
MA_DR15
182K/4/1
MA_DR19
470K/4/1/X

FS=290K
OCP=40A

PIN7-->20mil
PIN1-->6mil
PIN2-->6mil
PIN5-->6mil
PIN3-->6mil

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]

5VDUAL
MA_L2
47/4030/15A/S
BEAD
MA_VIN
MA_DC6
0.1u/4/X7R/16V/K
Close Choke
MA_DC7
1u/6/X7R/16V/K
Close MOS
MAEC1
560u/FP/D/6.3V/69/A/7m
MA_DC25
68p/4/NPO/50V/J/X
MA_DQ1
NTMFS4C06N/N/PPAK/1400pF/4m
MA_UGATE
MA_DR1 2.2/6
MA_UG
MA_DR2
8.2K/4
MA_PHASE
MA_LGATE
MA_DR9 2.2/6
MA_LG
MA_DQ2
MA_DQ3
MA_DR5
2.2/6
MA_DC5
1n/4/X7R/50V/K
NTMFS4C06N/N/PPAK/1400pF/4m
NTMFS4C06N/N/PPAK/1400pF/4m
1H1L規格移除
MA_L1
0.8uH/28A/INCG109/FS/D
R50
10*10
VDDQ
DDR_ADJ
63 DDR_ADJ
MA_DC14
22p/4/NPO/50V/J/X
RS
RO
MA_DR12
1.4K/4/1
MA_DR13
1K/4/1

DDR VIN CAP
560u*2PCS

CHOKE與CAP料號可變

MA_VIN
Rev 9.0
VDDQ
MAC63
0.1u/4/X7R/16V/K
MAC62
22u/6/X5R/6.3V/M

SUPPORT DDR4 1.2V
25A MAX

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

VDDQ
MAC60
22u/6/X5R/6.3V/M

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

VPP_25V使用8120時上件

MAU1上RT9045時上件(不可MASK)

DDRVTT

VDDQ
MAC2
1u/4/X5R/6.3V/K
MAR5
1K/4/1
*
MA_VTT_REF
MAC1
0.01u/4/X7R/50V/K
MAR4
1K/4/1
NCT3103S/SOP8/2A
MAU1
VIN
GND
VREF1
VOUT
VREF2
ENABLE
VCNTL
BOOT_SEL
GND
DDRVTT_EN
DDRVTT_BOOT
1.1A MAX
DDRVTT
5VDUAL
MAC7
10u/6/X5R/6.3V/M

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

VDDQ
MAEC3
560u/FP/D/6.3V/69/A/7m
VDDQ
MAEC4
560u/FP/D/6.3V/69/A/7m
* 大電容 x4
VDDQ
MAEC6
560u/FP/D/6.3V/69/A/7m
VDDQ
MAEC7
560u/FP/D/6.3V/69/A/7m
指定footprint "EC6D8MM-RH-2"
VDDQ
WBC49
22u/6/X5R/6.3V/M
VDDQ
Del WBC50

DDRVTT CAP

* 大電容 x0

DDRVTT
MAC4
22u/6/X5R/6.3V/M
DDRVTT
MAC5
22u/6/X5R/6.3V/M

4 DDR_VTT_CTL
10,17,29,49,61,65,70 N_-SLP_S3
DDR_VTT_CTL MAR110 MASK/0/4/SHT/M/10/X DDRVTT_EN
N_-SLP_S3 MAR111 MASK/0/4/SHT/M/10/X DDRVTT_BOOT

GIGABYTE

Title	RT8237_DDR4 POWER
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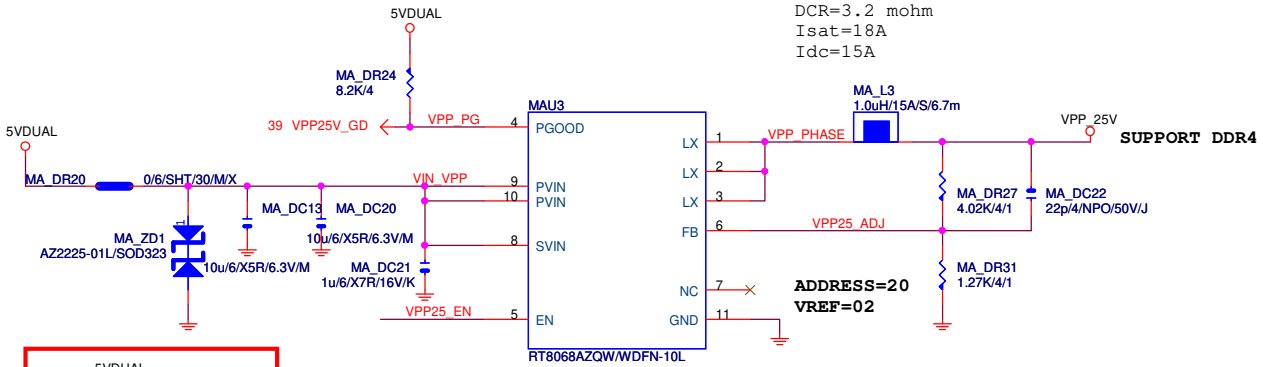
Rev	1.02
Date:	Thursday, February 25, 2021
Sheet	39 of 74

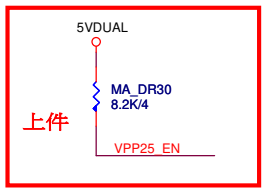
REV:0.1

VPP_25V

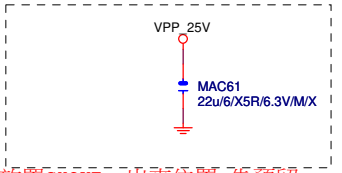
CHOKE與CAP料號可變

L=1u
DCR=3.2 mohm
Isat=18A
Idc=15A





2.5V



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

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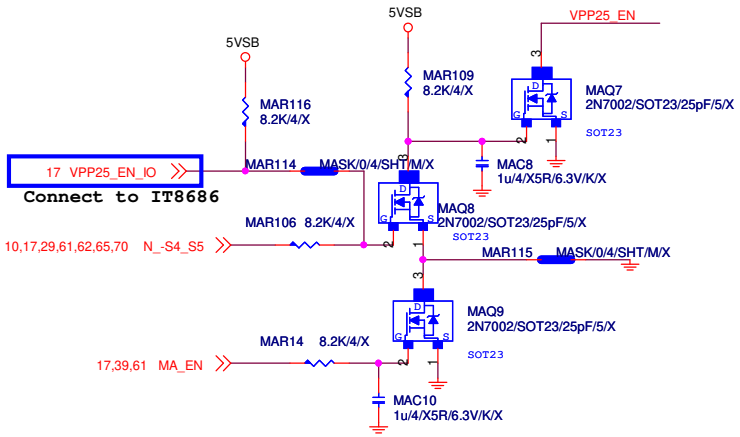
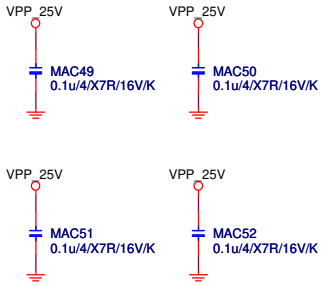
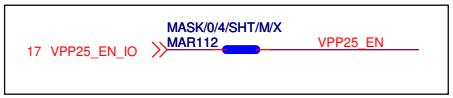
PWR SEQ

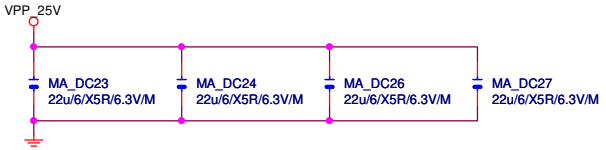
* 刪 MA_DR32







VPP CAP 22u*4PCS



GIGABYTE™

Title	RT8068_VPP25 POWER	
Size: Custom	Document Number: B560 AORUS PRO AX	Rev: 1.02
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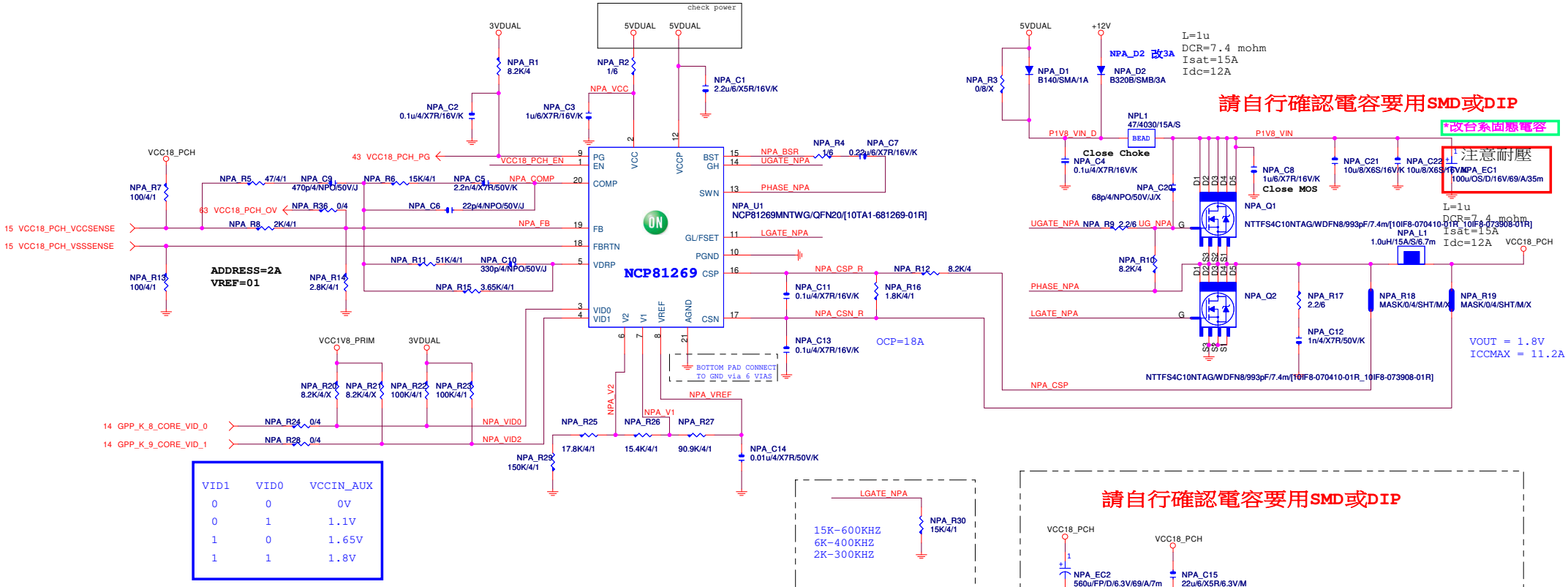
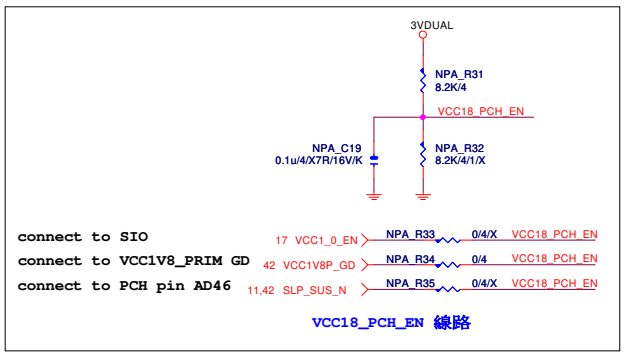


VID1	VID0	VCCIN_AUX
0	0	0V
0	1	1.1V
1	0	1.65V
1	1	1.8V



GIGABYTE			
Title: NCP81269_PCH POWER			
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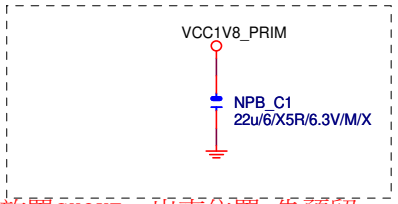
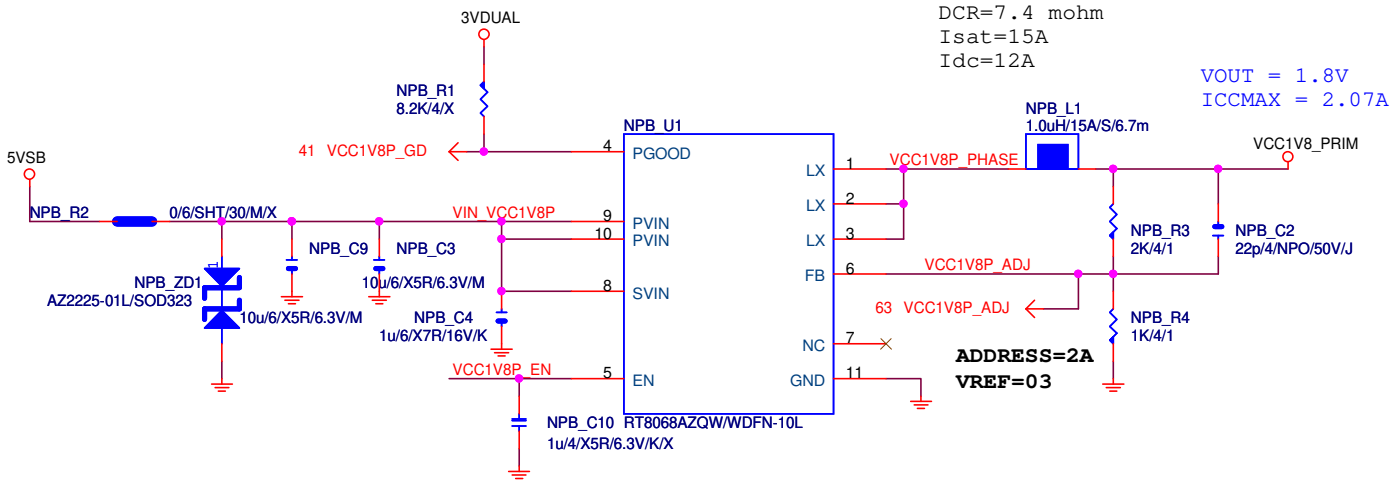
REV:0.1

VCC1V8_PRIM

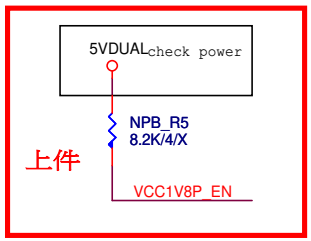
CHOKE與CAP料號可變



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

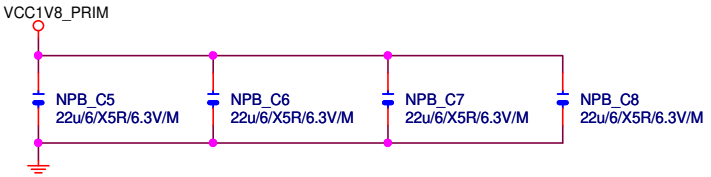


PWR SEQ



connect to PCH pin AD46

VCC1V8_PRIM CAP 22u*4PCS



GIGABYTE™

Title: RT8068_VCC1V8_PRIM		
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5VDUAL

REV:0.1

* 5Vdual , update from SKL 0.2B

*NIKO

+12V
Q30
PK6H6BA/PDFN5*6/857pF/7.8m
R57
8.2K/4
5VDUAL
5VDL_G1
5VSB
R51
8.2K/4
Q32
2N7002/SOT23/25pF/5
SOT23
Q54
MMBT2222A/SOT23/600mA/40
SOT23
C41
1n/4/X7R/50V/K/X
17 5VAUX_SW
R113
8.2K/4
VCC
Q31
P2003ED/P/TO252/30m
P_EN
5VSB
BC59
22u/6/X5R/6.3V/M
BC58
22u/6/X5R/6.3V/M
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
R37
100/4/1
R38
169/4/1
Q4
L1085DG/TO252/5A
3VDUAL
R36
22K/4/1
BC25
0.1u/4/X7R/16V/K
C9
22u/6/X5R/6.3V/M
上22u 電容
C8
1n/4/X7R/50V/K
O_-RSMRST 12,17,65

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

Meet the rise time

O_-RSMRST
5VSB
R54
8.2K/4
Q34
2N7002/SOT23/25pF/5
SOT23
Q33
2N7002/SOT23/25pF/5
SOT23
41 VCC18_PCH_PG
C42
0.1u/4/X7R/16V/K/X
R115
0/4/X

3VDUAL_PCH

NQ9
L1117LG/N/SOT223/1A
5VSB
3VDUAL_PCH
3VDUAL_PCH
NBC68
1u/4/X5R/6.3V/K
NR217
301/4/1
NBC66
22u/6/X5R/6.3V/M
NBC67
0.1u/4/X7R/16V/K
NR218
510/4/1

Gigabyte Technology		
Title: DISCRETE POWER		
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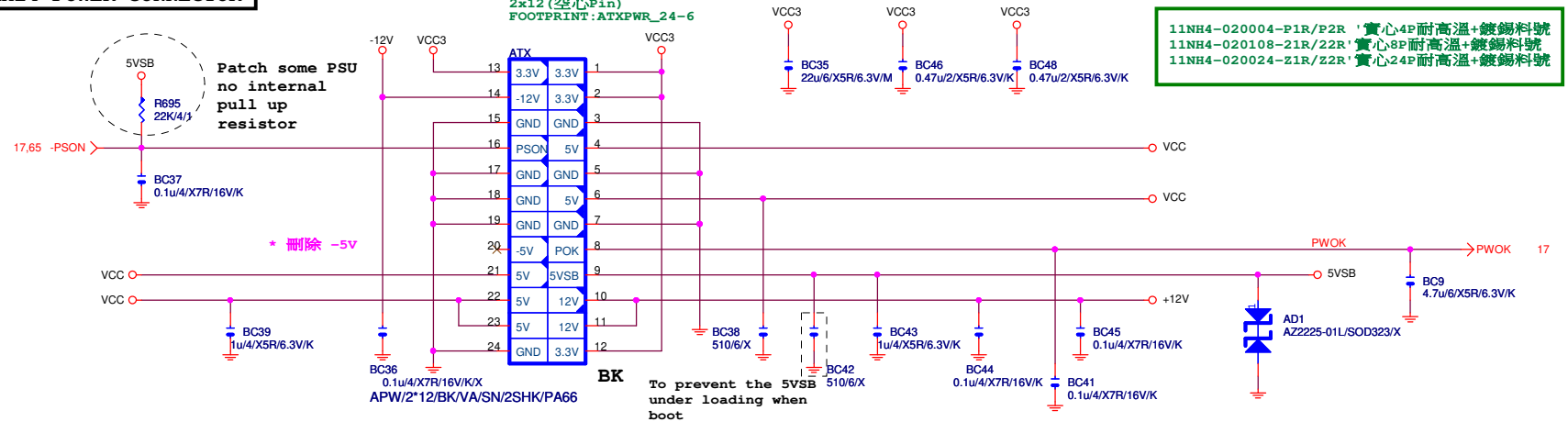
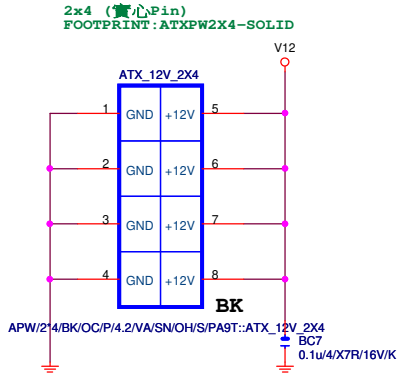
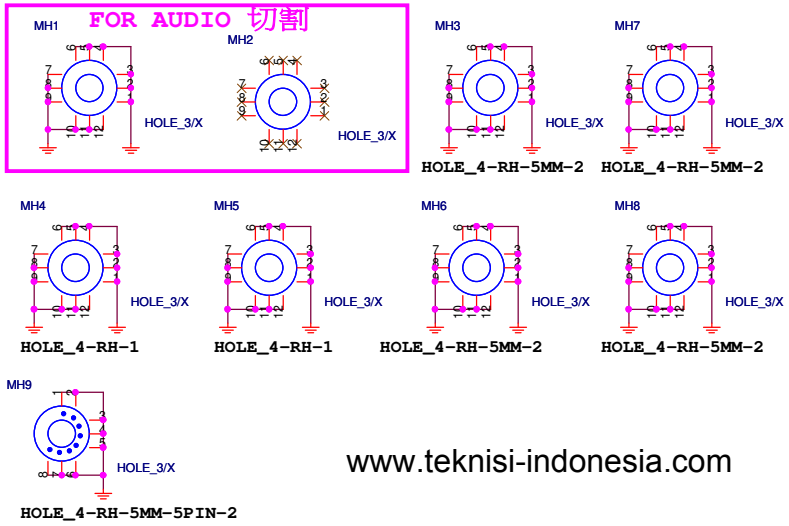
ATXX24 POWER CONNECTOR



ATXX4 POWER CONNECTOR



FOR AUDIO 切割



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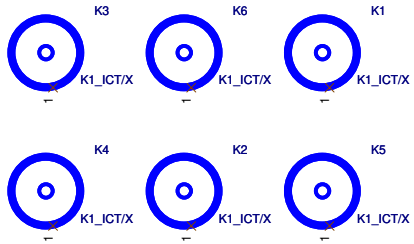
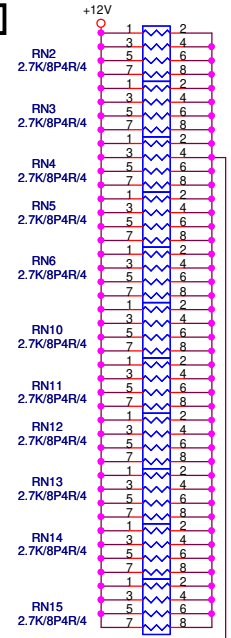
固定孔/光學點



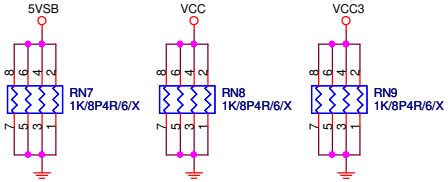
4MMH

+12V DUMMY LOAD

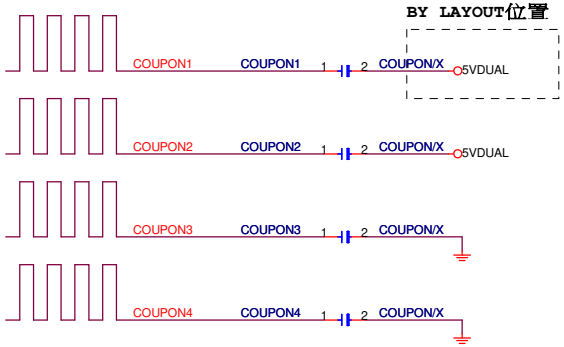
To fix 12V light load abnromal issue

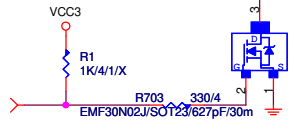


DUMMY LOAD



COUPON





Gigabyte Technology

Title: ATX POWER CONNECTOR

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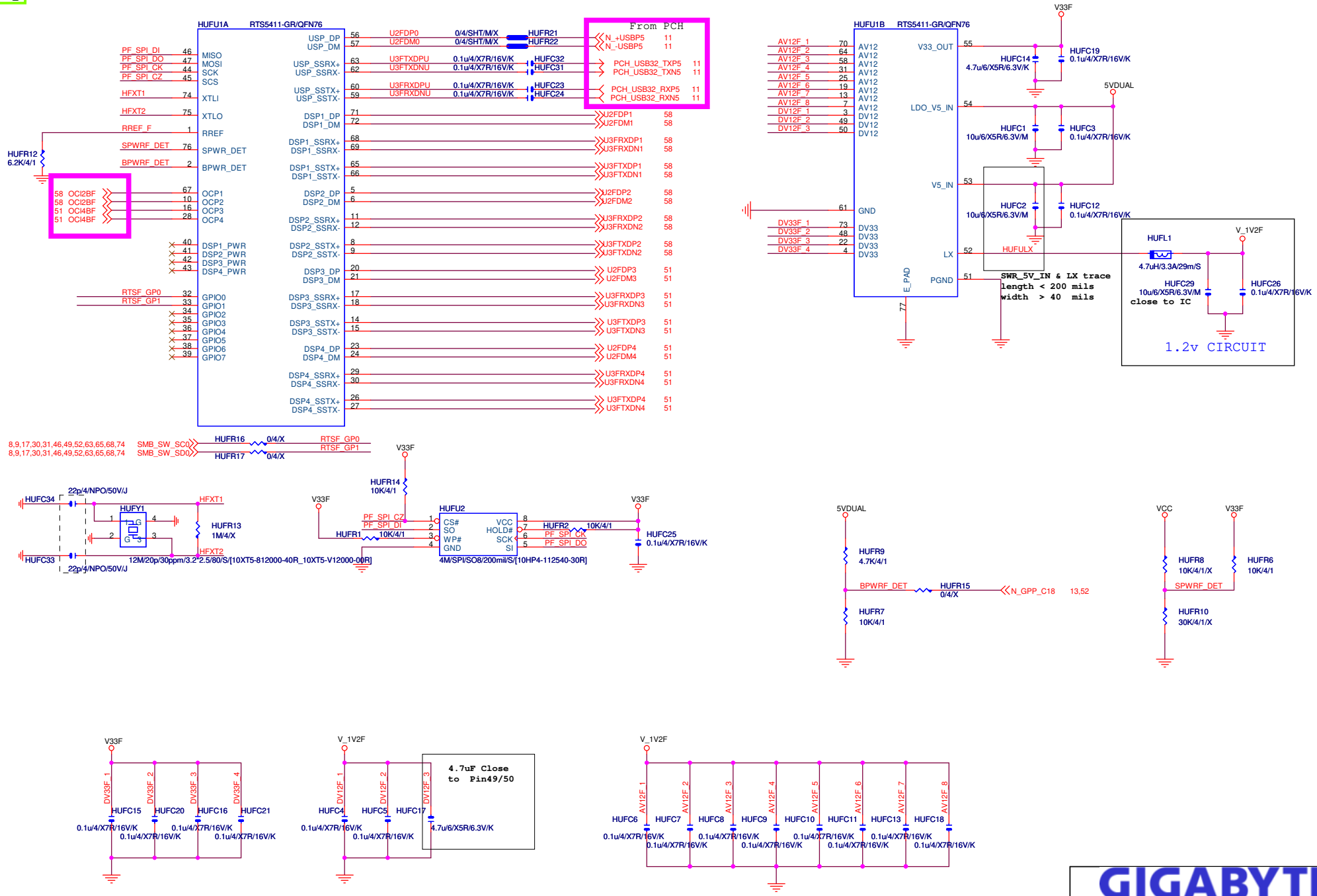
RTS5411 HUB Rev0.1

GROUP F



Rev: 0.94

CNVi_M2_WIFI

*量產時,全部不上件

支援PCIE介面WIFI及USB介面BT

M2_WIFI

REV=1

	1	GND	
11 N_+USBP14	3	USB_D+	3P3VAUX_2 2
11 N_-USBP14	5	USB_D-	3P3VAUX_4 4
	7	GND	LED1# 6 Remove LED show
10 CNV_WR_D1N	9	SDIO CLK	PCM_CLK/I2S SCK 8 -CNVI_PCM_CLK_R
10 CNV_WR_D1P	11	SDIO CMD	PCM_SYNC/I2S WS 10 -CNVI_RF_RESET_R
	13	SDIO DATA0	PCM_IN/I2S SD_IN 12 CNVI_PCM_IN_R
10 CNV_WR_D0N	15	SDIO DATA1	PCM_OUT/I2S SD_OUT 14 CNVI_CLKREQ_R
10 CNV_WR_D0P	17	SDIO DATA2	LED2# 16 Remove LED show
	19	SDIO DATA3	GND 18
10 CNV_WR_CLKN	21	SDIO WAKE#	UART WAKE# 20 CNVI_PIN22 CNVR22 49.9/4/1 CNVI_BRI_RSP 14
10 CNV_WR_CLKP	23	SDIO RESET#	UART RXD 22

Module Key E

	33	GND	UART TXD 32
12 M2_WIFI_TP	35	PETP0	UART CTS 34 CNVI_PIN23 CNVR23 49.9/4/1 CNVI_RGI_DT 14
12 M2_WIFI_TN	37	PETN0	UART_RTS 36 CNVI_RGI_RSP 14
	39	GND	VENDOR DEFINED 38 CNVI_BRI_DT 14
12 M2_WIFI_IP	41	PERP0	VENDOR DEFINED 40
12 M2_WIFI_IN	43	PERN0	VENDOR DEFINED 42 CNVI_PA_BLANKING
	45	GND	COEX3 44 NGFF_CO_3 CNVR3 0/4/X CNVI_PA_BLANKING 14
10 CK_WIFI_100M_DP	47	REFCLKP0	COEX2 46 NGFF_CO_2 CNVR4 0/4/X CNVI_MFUART2_TXD 14
10 CK_WIFI_100M_DN	49	REFCLKN0	COEX1 48 NGFF_CO_1 CNVR5 0/4/X CNVI_MFUART2_RXD 14
	51	GND	SUSCLK(32KHz) 50 M2_WIFI_SUSCLK CNVR6 MASK/0/4/SHT/M/X CNVI_SUSCLK 10
14 WIFI_CKREQL	53	CLKREQ0#	PERST0# 52 M2_WIFI_RST- O_-PCIE_RST 17,21,22,23,25,28,29,73
11,17,21,22,23 N_-PCIE_WAKE	55	PEWAKE0#	W_DISABLE2# 54 M2_BT_DISABLE M2_BT_DISABLE 14
	57	GND	W_DISABLE1# 56 M2_WIFI_DISABLE M2_WIFI_DISABLE 14
10 CNV_WT_D1N	59	RSVD/PETP1	I2C_DATA 58 M2_WIFI_SDATA CNVR19 0/4/X SMB_SW_SD0 8,9,17,30,31,45,49,52,63,65,68,74
10 CNV_WT_D1P	61	RSVD/PETN1	I2C_CLK 60 M2_WIFI_SCLK CNVR20 0/4/X SMB_SW_SC0 8,9,17,30,31,45,49,52,63,65,68,74
	63	GND	ALERT# 62 M2_WIFI_ALERT- CNVR21 8.2K/4 3VDUAL
10 CNV_WT_D0N	65	RSVD/PERP1	RSVD 64 M2_CNVI_CLKIN CNVR8 MASK/0/4/SHT/M/X CNVI_CLKIN 10
10 CNV_WT_D0P	67	RSVD/PERN1	UIM_SWP/PERST1# 66
	69	GND	UIM_PWR_SNK/CLKREQ1# 68
10 CNV_WT_CLKN	71	RSVD/REFCLKP1	UIM_PWR_SRC/PEWAKE1# 70
10 CNV_WT_CLKP	73	RSVD/REFCLKN1	3P3VAUX_72 72 3VDUAL
	75	GND	3P3VAUX_74 74

NGFF_M2_E-KEY[10NH5-130067-11R]

NET 可變

Rev:0.6
★Socket 1 for Intel PCIe&CNVI WIFI

M2WC4 0.1u/4/X7R/16V/K M2_WIFI_TP_C
M2WC5 0.1u/4/X7R/16V/K M2_WIFI_TN_C
3VDUAL M2WR4 8.2K/4/X
M2WR1 MASK0/4/SHT/M/X WIFI_CKREQ
M2WR6 0/4/SHT/20/X WIFI_WAKE

Rev:0.4
★1. M2_CNVI_CLKIN 旁包GND LINE,且200mil打一個GND via.
★2. M2_CNVI_CLKIN 預留一個10p cap 靠近CNVI card connector.

CNVC6 10p/4/NPO/50V/J/X
CNVR9 0/4/X

Rev:0.6
★1. 將PCH吐出的3.3V 經分壓為1.8V 才進到CNVI

CNVR1 0/4/X -CNVI_PCM_CLK_R -CNVI_PCM_CLK 13
CNVR14 33K/4/1/X
CNVR12 27K/4/1 -CNVI_RF_RESET_R -CNVI_RF_RESET 13
CNVR15 33K/4/1
CNVR2 0/4/X CNVI_PCM_IN_R CNVI_PCM_IN 13
CNVR16 33K/4/1/X
CNVR13 20K/4/1 CNVI_CLKREQ_R CNVI_CLKREQ 13
CNVR17 33K/4/1

CNVR24 1K/4/1

直立

Footprint Notice.

★Update 2015-07-22

★Footprint for 直立式 SMD: WIFI-EKEY

★SMD P/N: 直立式 10NH5-130067-11R.

橫躺

Footprint Notice.

★Update 2015-07-22

★Footprint for 橫躺式高: NGFF-E-75P-3

★Footprint for 橫躺式矮: CNVI

★ 橫躺式高SMD P/N:10NR5-130067-61R

★ 橫躺式矮SMD P/N:10NR5-130067-22R

M2_WIFI_RST- CNVR18 60.4K/4/1/X CNVC5 10p/4/NPO/50V/J/X

Rev:0.6
★ for PCIe mode 預留

M2_BT_DISABLE CNVR10 8.2K/4
M2_WIFI_DISABLE CNVR11 8.2K/4

CNVC1 0.01u/4/X7R/50V/K
CNVC2 0.01u/4/X7R/50V/K
CNVC3 0.1u/4/X7R/16V/K
CNVC4 10u/6/X5R/6.3V/M

FOR M.2 WIFI MODULE @ REAR PANEL

★Update 2015-02-11

一套WIFI MODULE包含外框+WIFI CARD+天線

WIFI

WIFI_COVER M_PCIE_H

WIFI_CARD Killer 2x2 11ac

WI-FI WITH BT M.2 CARD INTEL/[20CB1-020200-00R]
CNVi Card the same as on board.

CARD/[11KWP-000001-31R]
Wifi card塑膠蓋

M.2 WIFI

CNVI_WIFI/[12AC2-000004-41R]

M2_WIFIANT_B1 M2_WIFIANT_B2

WIFI_SK CR/[12KS2-110202-01R]
螺絲

ANTENNA/[11NH6-010001-D1R_11NH6-010001-D2R_11NH6-010001-F1R_11NH6-010001-F2R]::M2_WIFIANT_B1
ANTENNA/[11NH6-010001-D1R_11NH6-010001-D2R_11NH6-010001-F1R_11NH6-010001-F2R]::M2_WIFIANT_B2

兩片式WIFI金屬殼改為單件式
Layout Library : wifi-ekey-module-1
Tiptop P/N : 12AC2-000004-31R

GIGABYTE™

Title	CNVi_M2_WIFI	
Size: Custom	Document Number: B560 AORUS PRO AX	Rev: 1.02
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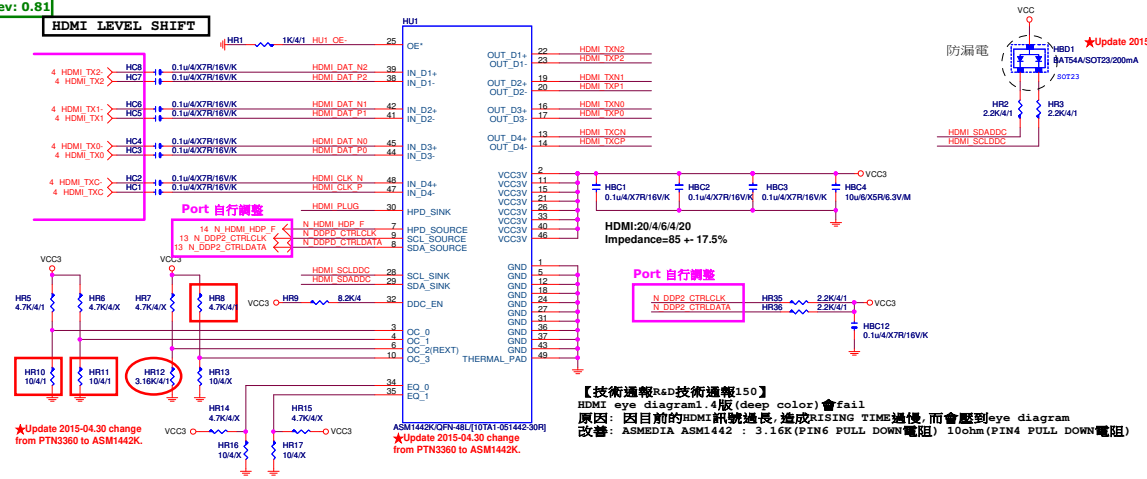
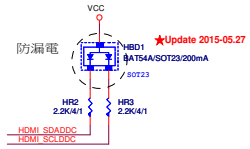
Rev: 0.81

HDMI LEVEL SHIFT

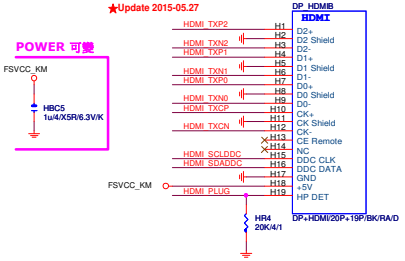




HDMI:20/4/6/4/20
Impedance=85 +- 17.5%

Port 自行調整

【技術通報R&D技術通報150】
HDMI eye diagram1.4版(deep color)會fail
原因：因目前的HDMI訊號過長，造成RISING TIME過慢，而會壓到eye diagram
改善：ASMEDIA ASM1442 : 3.16K(PIN6 PULL DOWN電阻) 10ohm(PIN4 PULL DOWN電阻)



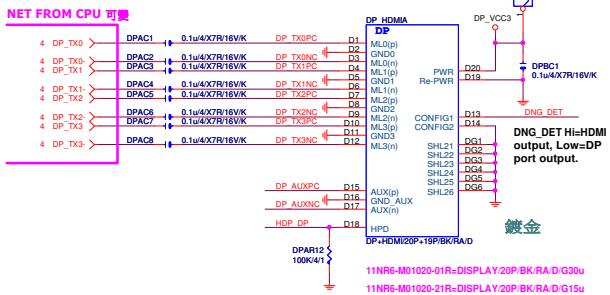
PTN3360:PIN 4/10/34/35 NC PIN,都不上值;只上HR12:10K
ASM1442:紅色框要上,HR12:3.16K

Rev: 0.41

SINGLE Display Port

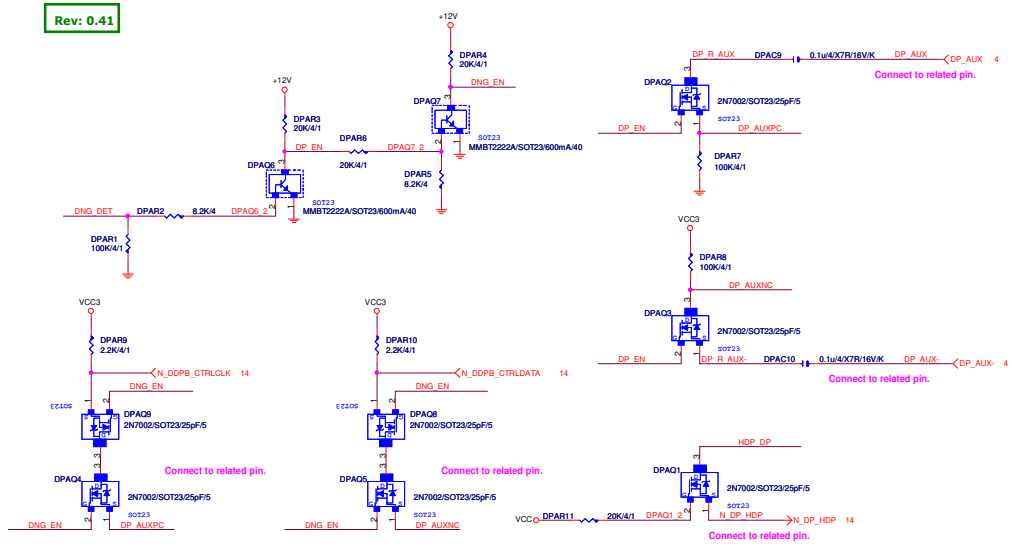
Z490 Notes Rev 1.02
DP的model請在電源處加Diode

Display Port with HDMI, or HDMI only.

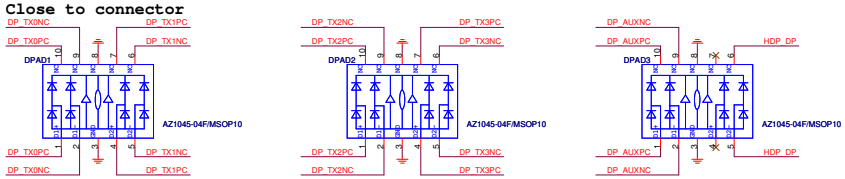


11NR6-M01020-01R=DISPLAY/20P/BK/RA/D/G30u
11NR6-M01020-01R=DISPLAY/20P/BK/RA/D/G15u
11NR6-M01020-71R=DISPLAY/20P/BK/RA/D/G15u/Au

DP

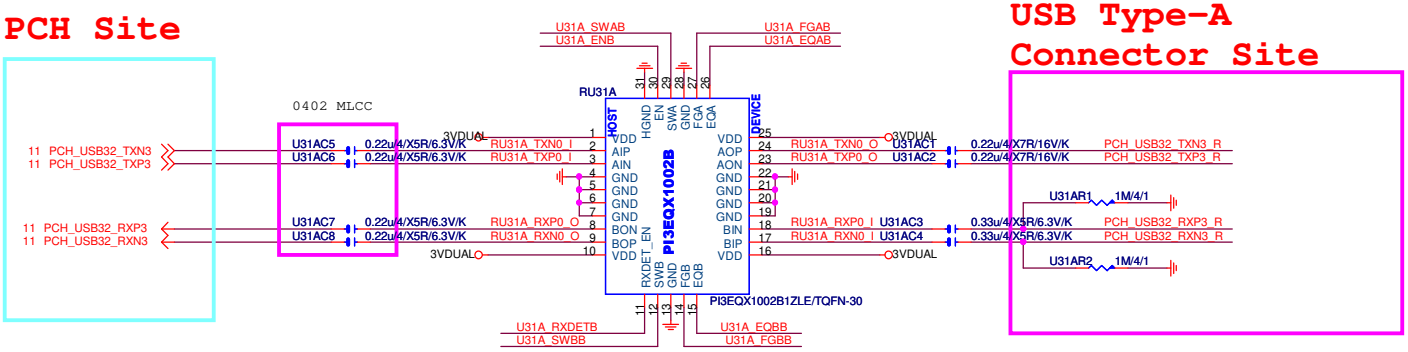


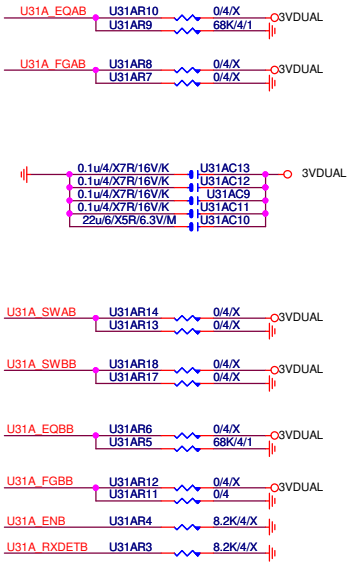
Close to connector



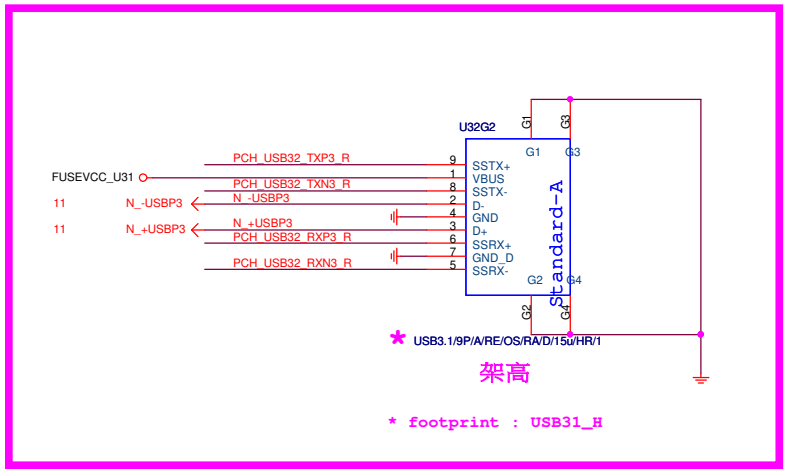
Gigabyte Technology			
Title: HDMI_NO LS/U32			
Size: Custom	Document Number: Z590M GAMING X	Rev: 1.02	
Date: Thursday, February 25, 2021	Sheet 47 of 72		

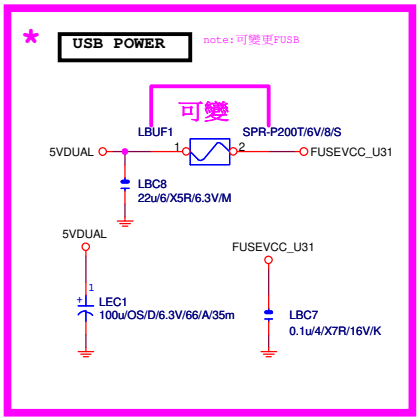
GROUP B

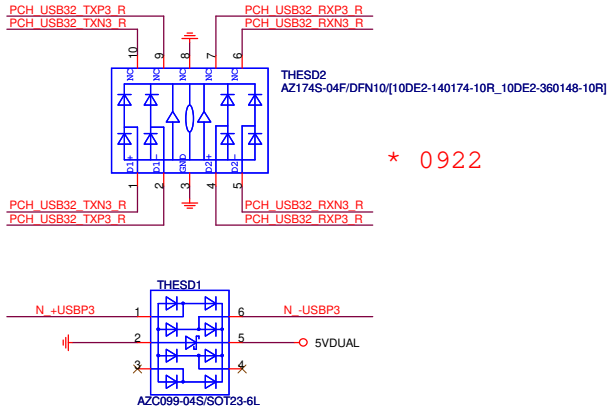




USB31 TYPE A Connector / power source / FUSE which choose for project demand







P/N SWAP

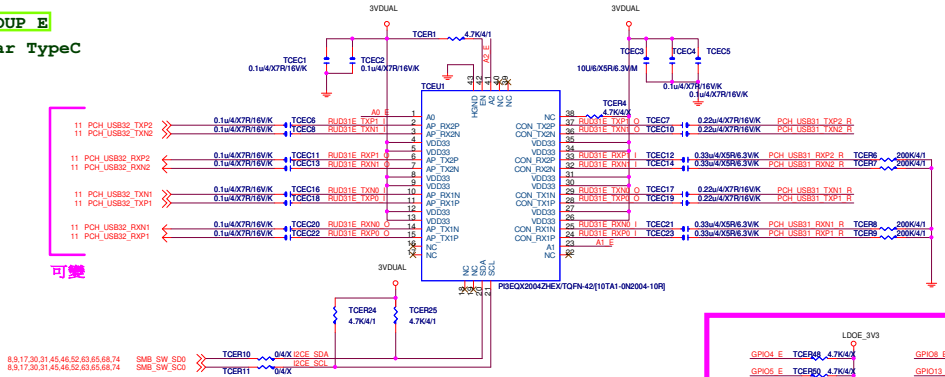
GIGABYTE™

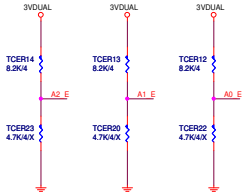
Title	PI3EQX1002B Redriver/DC-J_C/D	
Size: Custom	Document Number: B560 AORUS PRO AX	Rev: 1.02
Date: Thursday, February 25, 2021	Sheet 48 of 74	

USB3.2 GEN2x2 PI3EQX2004 + RTS5452 Rev0.1

GROUP E

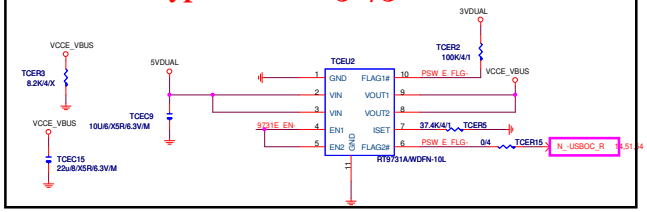
Rear TypeC

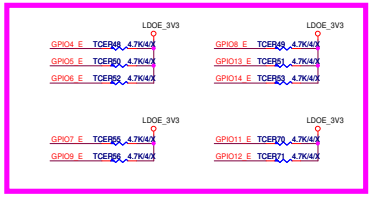




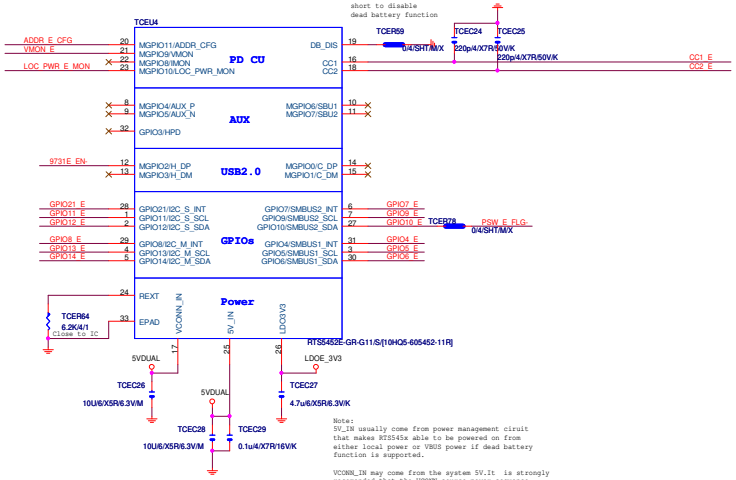
第一組AE(111) ; 第二組AC(110)

TypeC default 5V/3A



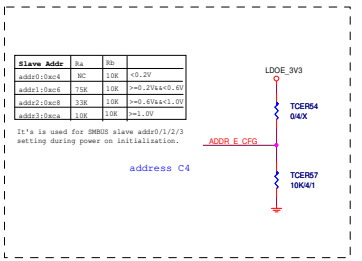


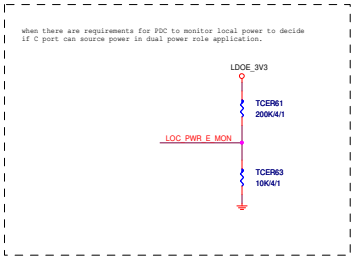
Reserved pull resistors

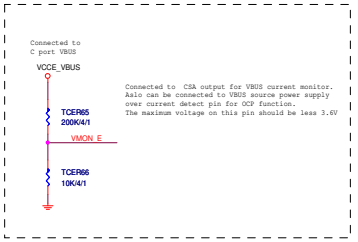


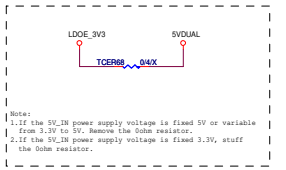
Note:
5V_IN usually come from power management ciruit that makes RTS545x able to be powered on from either local power or VBUS power if dead battery function is supported.

VCONN_IN may come from the system 5V.It is strongly recommended that the VCONN source power sequence should be synchronised with local power.

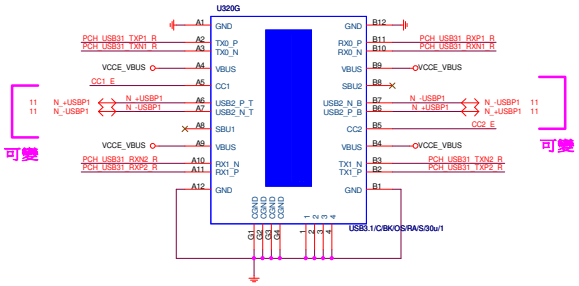




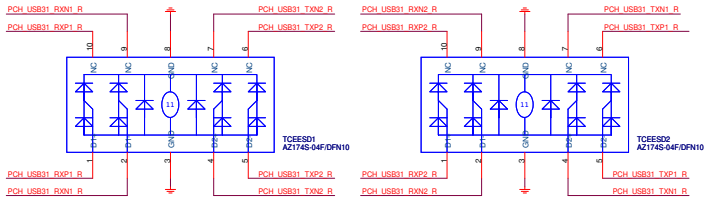


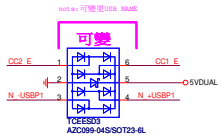


Color markers can be changed by model



USB2.0 can be used the same source





GIGABYTE

Title	PI3EQX2004_RTS5452_Rear	
Size: Custom	Document Number: GA-ROCKETLAKE	Rev: 1.02
Date: Thursday, February 25, 2021	Sheet 49 of 74	

USB20 HUB_2

Dual USB2 HUB used Rev 0.2

HUB2

GL850G/S

HUB2_AVDD21	1	AVDD	DP1	28	HUB2_+USBP1
HUB2_-USBP2	2	DM2	DM1	27	HUB2_-USBP1
HUB2_+USBP2	3	DP2	DP0	26	N_+USBP10 11
HU2BR7 680/4/1	4	RREF	DM0	25	N_-USBP10 11
HUB2_AVDD22	5	AVDD	V33	24	3_3V_IN2
GL2_XTALO	6	X1	V5	23	5VDUAL
GL2_XTALI	7	X2	PWREN1#/SDA	22	
HUB2_-USBP3	8	DM3	OVCUR1#/SMC	21	GL2_OVCUR1
HUB2_+USBP3	9	DP3	PWREN2#	20	
HUB2_AVDD23	10	AVDD	OVCUR2#/SMD	19	
HUB2_-USBP4	11	DM4	PGANG	18	GL2_PGANG
HUB2_+USBP4	12	DP4	PSELF	17	GL2_PSELF
-GL2_RESET	13	RESET#	DVDD	16	HUB2_DVDD
	14	TEST/SCL	GND	15	

HU2BC7 0.1u/4/X7R/16V/K

GL850S-HHY22/SSOP28

SSOP28-IT8209R

HUB RESET

5VDUAL — HU2BR5 10K/4/1 — -GL2_RESET

HU2BR1 47K/4/1

HU2BC1 1u/4/X5R/6.3V/K

HUB PWR

HUB2_DVDD

3_3V_IN2

HU2BC2 10u/6/X5R/6.3V/M

CLOSE PIN24

HUB2_AVDD21 — HU2BC4 0.1u/4/X7R/16V/K

HUB2_AVDD22 — HU2BC5 0.1u/4/X7R/16V/K

HUB2_AVDD23 — HU2BC6 0.1u/4/X7R/16V/K

CLOSE_PWR_PIN

HUB OVER CURRENT SENSE

5VDUAL

HU2BR2 8.2K/4 — GL2_OVCUR1

HU2BR3 15K/4/1

HU2BOC1 (SOT23) — FSVCC_U2F1

BAT54A/SOT23/200mA

FRONT USB1

NET 可變

FSVCC_U2F1 FSVCC_U2F1

F_USB1

HUB2_-USBP1	3	4	HUB2_-USBP2
HUB2_+USBP1	5	6	HUB2_+USBP2
	7	8	
		10	

BH/2*5K9/BK/ON/2.54/VA/USB/PRT/TUR180

FAU2D1

HUB2_-USBP1	1	6	HUB2_+USBP1
	2	5	3VDUAL
HUB2_+USBP2	3	4	HUB2_-USBP2

AZC099-04S/SOT23-6L

Close to connector

FUSE 2 Port 1 Fuse 2A

FUSE 2 Port 1 Fuse 2A

5VDUAL — FAU2F1 SPR-P200T/6V/8/S — FSVCC_U2F1

FAU2EC1 100u/OS/D/6.3V/66/A/35m

FAU2BC1 0.1u/4/X7R/16V/K

FRONT USB2

NET 可變

FSVCC_U2F1 FSVCC_U2F1

F_USB2

HUB2_-USBP3	3	4	HUB2_-USBP4
HUB2_+USBP3	5	6	HUB2_+USBP4
	7	8	
		10	

BH/2*5K9/BK/ON/2.54/VA/USB/PRT/TUR180

FBU2D1

HUB2_-USBP3	1	6	HUB2_+USBP3
	2	5	3VDUAL
HUB2_+USBP4	3	4	HUB2_-USBP4

AZC099-04S/SOT23-6L

Close to connector

FUSE 2 Port 1 Fuse 2A

HUB CRYSTAL

ONLY SUPPORT 12MHZ

HU2BC3 22p/4/NPO/50V/J — GL2_XTALO

HU2BX1

HU2BC8 22p/4/NPO/50V/J — GL2_XTALI

12M/20p/30ppm/3.2*2.5/80/S/[10XT5-812000-40R_10XT5-V12000-00R]

HUB MODE

Ganged mode

HUB2_DVDD

HU2BR4 100K/4/1

GL2_PGANG

P.H. USE GL_OVCUR1
DETECT ALL PORT

PSELF

HUB2_DVDD

HU2BR6 100K/4/1

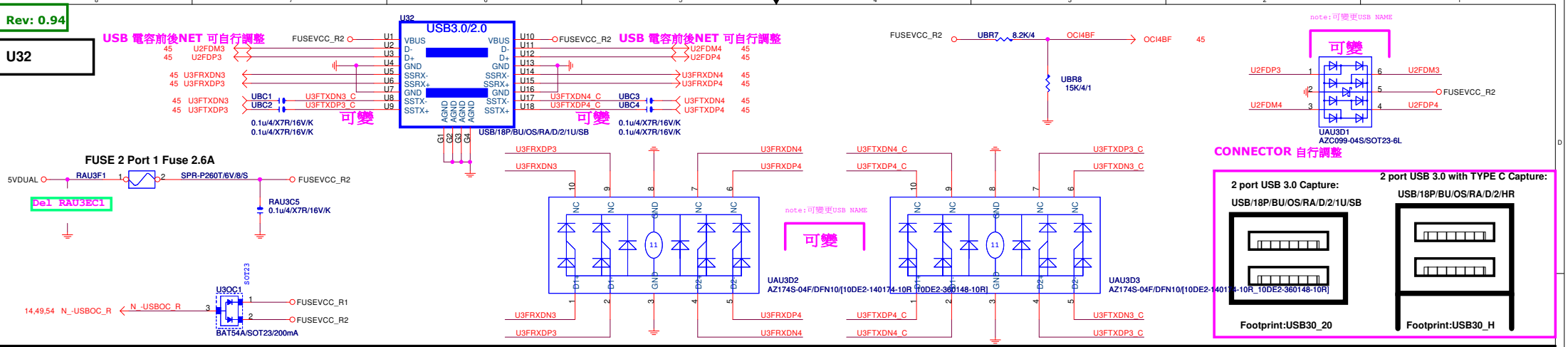
GL2_PSELF

HUB self-power mode:
P.H.=EVERY PORT 500mA.
P.D.=EVERY PORT 100mA.

Gigabyte Technology			
Title: HUB GL850GS_1			
Size: Custom	Document Number: B560 AORUS PRO AX		Rev: 1.02
Date: Thursday, February 25, 2021	Sheet 50 of 74		

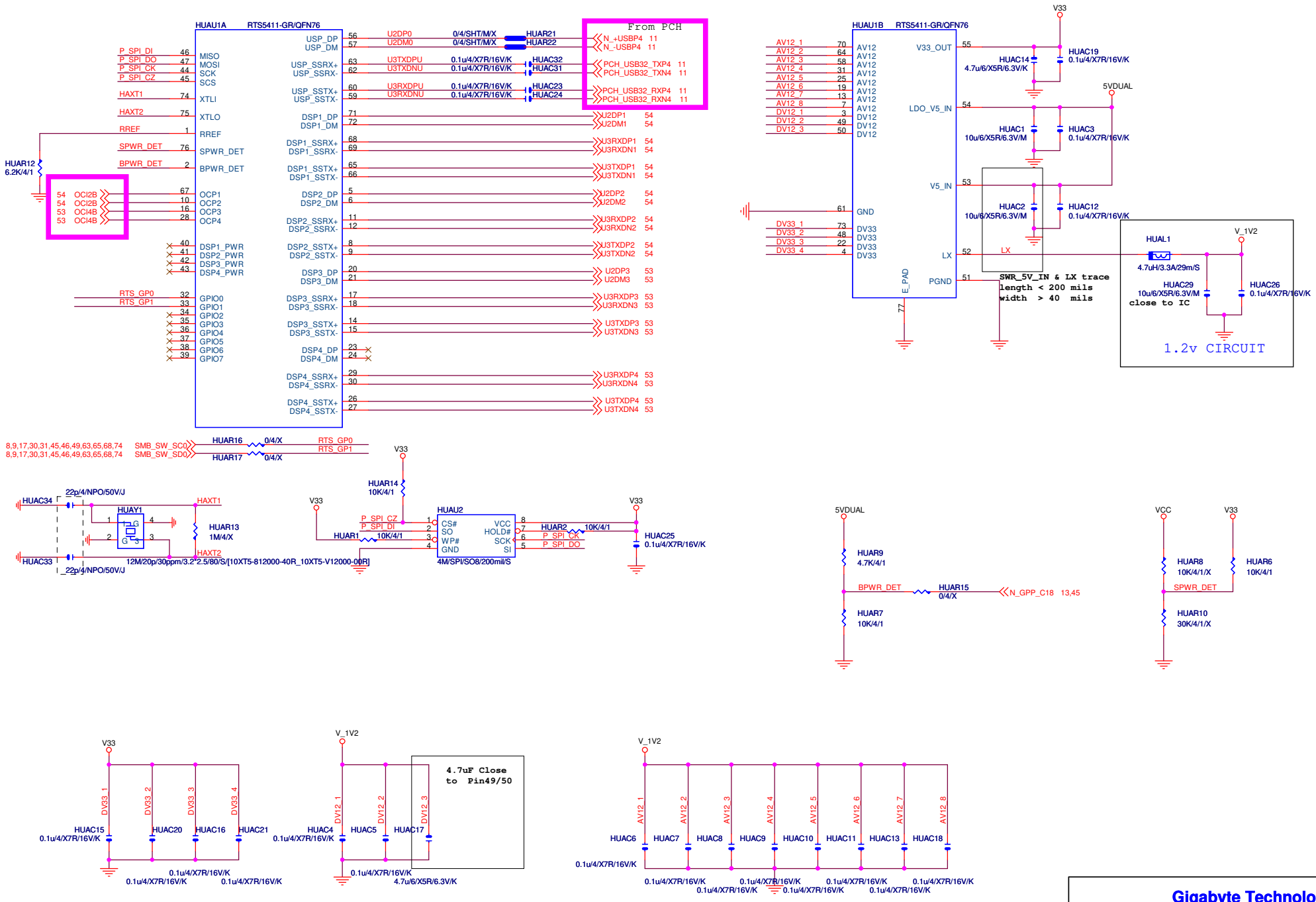
Rev: 0.94

U32



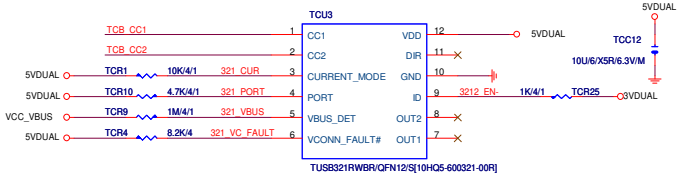
KB_MS_U32

GIGABYTE			
Title: R_USB30			
Size: Custom	Document Number: B560 AORUS PRO AX		Rev: 1.02
Date: Thursday, February 25, 2021	Sheet 51 of 74		


HUAU1A RTS5411-GR/QFN76
From PCH
HUAU1B RTS5411-GR/QFN76
V33
5VDUAL
V_1V2
1.2v CIRCUIT
SWR_5V_IN & LX trace length < 200 mils width > 40 mils close to IC
4.7uF Close to Pin49/50
HUAU2
4M/SPI/SO8/200mil/S
12M/20p/30ppm/3.2*2.5/80/S/[10XT5-812000-40R_10XT5-V12000-00R]
Gigabyte Technology
REALTEK RTS5411
B560 AORUS PRO AX
Thursday, February 25, 2021

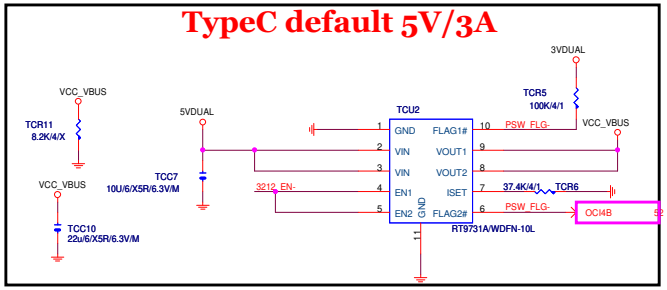
Front1 U32 GEN1 RTS5441E Rev0.1

GROUP B



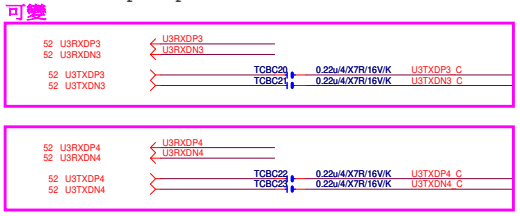
CURRENT MODE
L – Default current / Pull down to GND or NC
M – Medium (1.5A) current / Pull up to VDD 500K
H – High (3.0A) current / Pull up to VDD 10K

PORT
H – HOST
L – Device
NC – Dual Role

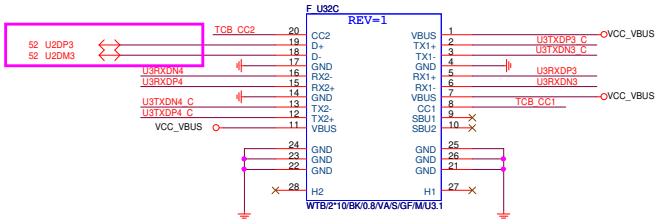


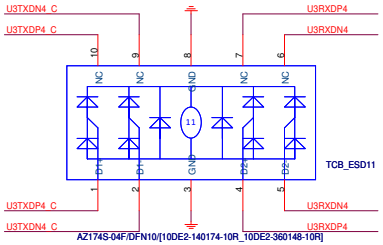
USB 3.x SuperSpeed

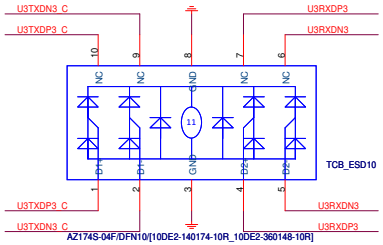
可變

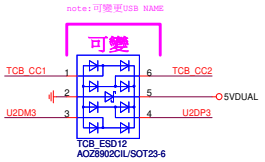


Color markers can be changed by model









GIGABYTE™

Title	TI HD3SS3220_Front1	
Size C	Document Number B560 AORUS PRO AX	Rev 1.02
Date: Thursday, February 25, 2021	Sheet 53 of 74	

Rev: 0.94

Front USB3.0

右 Port

左 Port

F_U32
REV=1

FSVCC_U3F1

NET 可自行調整

52 U3RXDN1
52 U3RXDP1
52 U3TXDN1
52 U3TXDP1
52 U2DM1
52 U2DP1

FBU3C1 0.1u/4/X7R/16V/K FU30_TXN7
FBU3C2 0.1u/4/X7R/16V/K FU30_TXP7

VBUS ID SSRX1- SSRX1+ SSTX1- SSTX1+ D1- D1+ GND GND

SSTX2- SSTX2+ SSRX2- SSRX2+ D2- D2+ GND GND

FU30_TXN8 FU30_TXP8

FBU3C3 0.1u/4/X7R/16V/K
FBU3C4 0.1u/4/X7R/16V/K

NET 可自行調整

U3TXDN2 52
U3TXDP2 52
U3RXDN2 52
U3RXDP2 52
U2DM2 52
U2DP2 52

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

黑色

FUSE 2 Port 1 Fuse 2.6A

5VDUAL RBU3F2 SPR-P260T/6V/8/S FSVCC_U3F1
RBU3EC2 100u/OS/D/6.3V/66/A/35m
RBU3C6 0.1u/4/X7R/16V/K

F_USB POWER PROTECT

NET 可自行調整

U3RXDN2 U3RXDP2 U3RXDP1 U3RXDN1

FBU3D1
AZ174S-04F/DFN10/[10DE2-140174-10R_10DE2-360148-10R]

FBU3D3
U2DM1 U2DP2 U2DP1 3VDUAL U2DM2

AZC099-04S/SOT23-6L

CLOSE F_USB30

FU30_TXP7 FU30_TXN7 FU30_TXN8 FU30_TXP8

FBU3D2
AZ174S-04F/DFN10/[10DE2-140174-10R_10DE2-360148-10R]

CLOSE F_USB30

FSVCC_U3F1 UAR5 8.2K/4 OCI2B 52
UAR6 15K/4/1

teknisi-indonesia.com

-USBOC_F

POWER 可自行調整

5VDUAL UAR1 8.2K/4 N_-USBOC_F N_-USBOC_F 14
UAR2 15K/4/1

U3OC4 SOT23

14 N_-USBOC_F N_-USBOC_F FSVCC_U3F1 F_32

NET 可自行調整

BAT54A/SOT23/200mA

-USBOC_R

POWER 可自行調整

5VDUAL UBR1 8.2K/4 N_-USBOC_R N_-USBOC_R 14,49,51
UBR2 15K/4/1

U3OC5 SOT23

14,49,51 N_-USBOC_R N_-USBOC_R FUSEVCC_U31 U32G2 U32_LAN

NET 可自行調整

BAT54A/SOT23/200mA

* 接 PCH
N_GPP_G6(SMI) &
PCH PU 3Vdual

13 N_GPPC_G7

UAD5 SOT23

N_-USBOC_F N_-USBOC_F 14
N_-USBOC_R N_-USBOC_R 14,49,51

BAT54A/SOT23/200mA

Gigabyte Technology

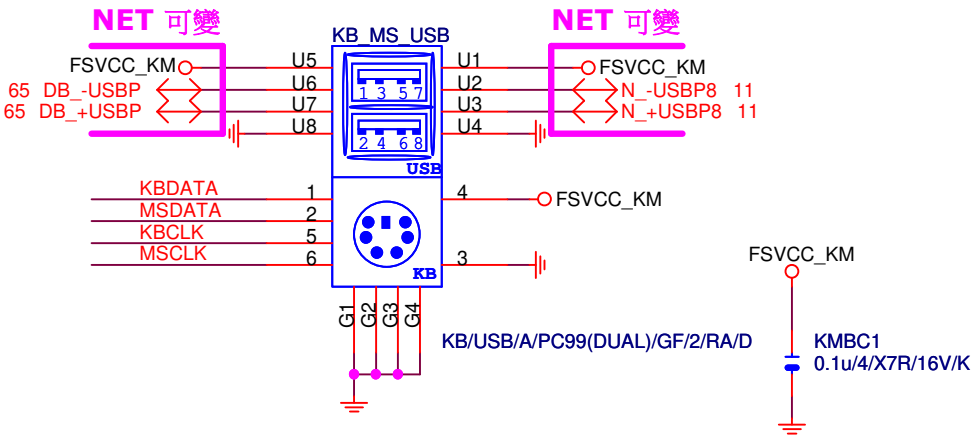
Title: F_U32

Size: Custom | Document Number: B560 AORUS PRO AX | Rev: 1.02

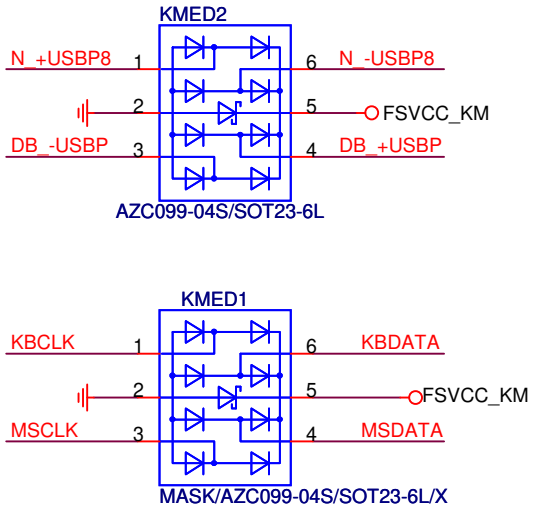
Date: Thursday, February 25, 2021 | Sheet 54 of 74

KB_MS_USB

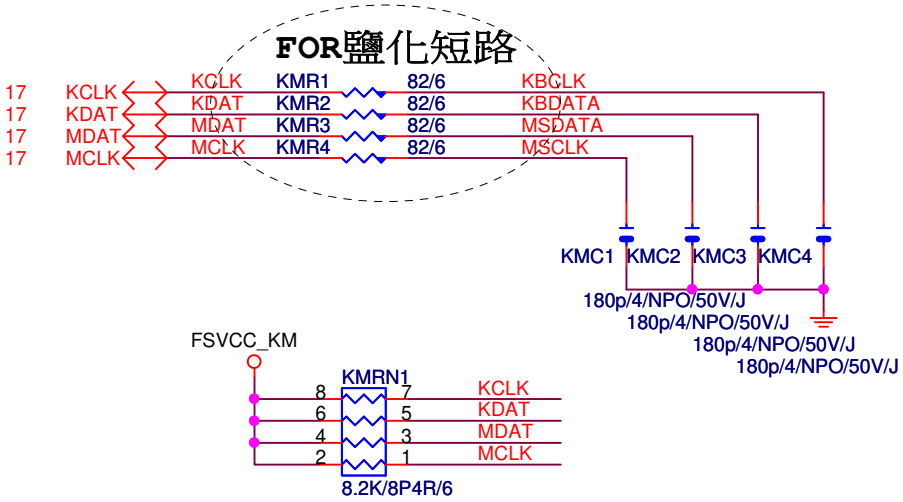
Rev: 0.7



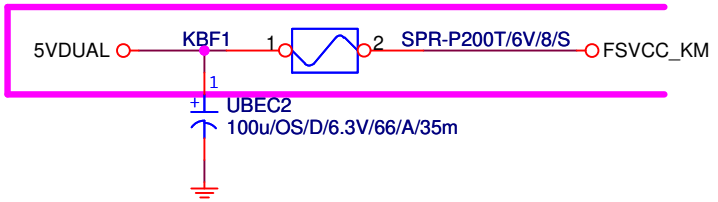
ESD



KB_MS_USB DAMPING/PU



KB_MS_USB PWR



USB OC PROTECT

Gigabyte Technology		
Title: KB_MS_USB30		
Size: A	Document Number: B560 AORUS PRO AX	Rev: 1.02
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LAN INTEL I225 R1.02

3VDUAL_LAN1
同i225 LAN Power
LIR40 8.2K/4
LIR41 8.2K/4
LI_SCL
LI_SDA

Lan Config	SMB (LIR38/39/21)	SMB PU (LIR40/41)
i225V + i219V	X	O
i225LM + i219LM	O	X
Only i225V	X	O
Only i225LM	O	X

1uH/4.6A/2520/S/[10LC3-04100B-01R]
LIL1
LAN_V_0P9
LI_CTRL_0P9
LIBC3 22u/6/X5R/6.3V/M
LIBC32 22u/6/X5R/6.3V/M
LIR30 MASK/0/4/SHT/X
3VDUAL_LAN1
LIU1

DCDC_REGO_0V9 DCDC_REGO_0V9 VDD_0V9 VDD_0V9 PCIE_VP_0V9 VDDA0V9 VDDA0V9 VDDA0V9 VOPS_1V8 VDDA3V3 VDDA3V3 VDD3V3DCDC VDDP_3V3 VDDP_3V3 PCIE_VPH_3V3 VDDA3V3XO VDDA3V3CDB

To PCH
10 N_-LAN_DIS_225
LIR16 0/4/X
LI_-LAN_DIS
LIR15 8.2K/4
LIR12 1u/4/X5R/6.3V/K/X
7 O_-LAN_DIS
LIR32 0/4
To SIO GP65

12 LI_ML_IP
12 LI_ML_IN
LIBC13 0.1u/4/X7R/16V/K
LIBC14 0.1u/4/X7R/16V/K
LI_TP
LI_TN
12 LI_ML_OP
12 LI_ML_ON
LIBC16 0.1u/4/X7R/16V/K
LIBC17 0.1u/4/X7R/16V/K
LI_RP
LI_RN
10 LI_SRCCLK_LAN
10 LI_-SRCCLK_LAN
3VDUAL_LAN1
14 LI_-CLKREQ
LIR1 8.2K/4
LIR14 MASK/0/4/SHT/X
LI_LAN_CLKREQ-
LI_-LANWAKE
17 O_-PFMRST2
LIBC21 18p/4/NPO/50V/J/X
13 N_SML0CLK
13 N_SML0DAT
LIR38 0/4/X
LIR39 0/4/X
LI_SCL
LI_SDA
3VDUAL_LAN1
LIR3 10K/4/1
LI_ALRTN
10p/4/NPO/50V/J
LIBC28
25M/12p/30ppm/3.2*2.5/35/S
LIX1
LI_XTALI
LI_XTALO
LIBC29 10p/4/NPO/50V/J
LIR31 10K/4/1/X 廠
LIR22 10K/4/1
LIR23 10K/4/1
LIR24 10K/4/1
LIR25 10K/4/1
LI_JTDO
LI_JTDI
LI_JTMS
LI_JTCK
3VDUAL_LAN1
LI_SPISO
LI_SPISI
LI_SPICK
LI_SPICS

PE_Tp PE_TN PE_Rp PE_Rn PE_CLK_p PE_CLK_n PE_CLKREQN PE_WAKE_N/MDINT/GP14 PE_RST_N/EXINT0/GP13 SMB_CLK/SCL/MDC/GP4 SMB_DATA/SDA/MDIO/GP5 SMB_ALRTN/GPC1/GP11 MISO/GPIO6 MOSI/GPIO7/SD4 SCLK/GPIO8/SD5 MCS/GPIO9/SD6 XTAL_IN/CLK XTAL_OUT JTDO/SDP3/UTXD/GP17 JTDI/SDP1/LIGHT/GP15 JTMS/SDP2/URXD/GP16 JTCK/GPHY_LED3/GP3

Foxville

TPIAp TPIAn LI_MDI0+ LI_MDI0- 58
TPIBp TPIBn LI_MDI1+ LI_MDI1- 58
TPICp TPICn LI_MDI2+ LI_MDI2- 58
TPIDp TPIDn LI_MDI3+ LI_MDI3- 58
LED0/UTXD/GP0 LED1/URXD/GP1 LED2/URXD/GP2 LI_LED0 LI_LED1 LI_LED2 58
LAN_PWR_GOOD DEV_OFFN LI_PD LI_-LAN_DIS LIR4 10K/4/1 3VDUAL_LAN1
SDP0/GPC0/CLK0/GP10 LI_SDP0 LIR5 49.9/4/1/X
TRSTN RCAL LI_TRSTN LI_RCAL LIR29 0/4/X LIR6 22K/4/1
RESREF LI_RESREF LIR7 200/4/1
GND_EPAD

CHIP LAN I225V B3 INTEL/[10HP2-40225V-10R]

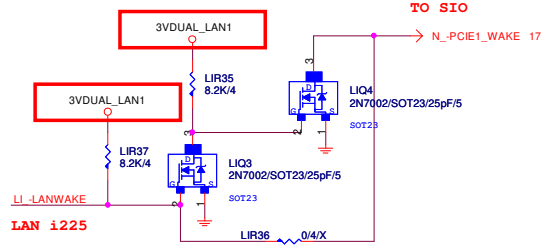
若支援vPRO/i225LM,
LIR38/39需上件

Reserve
N_SML0DAT LIR21 0/4/X LI_ALRTN
I225 monitors SMB_DATA
for existing the ULP mode.

INTEL Removed MDI Lane Swap feature.
(October/2019)

CHIP LAN I225V B3 INTEL/[10HP2-40225V-10R]
CHIP LAN I225LM B3 INTEL/[10HP2-40225L-10R]

(組態一) PCIE LAN(Single & Dual LAN)
Patch LAN i225 WAKE 漏電



LAN POWER

(CLOSE LAU1 PIN7,14,23,39,43,47) (10u X1, 2.2u X1)

3VDUAL_LAN1
LIBC1 22u/6/X5R/6.3V/M
LIBC3 10u/6/X5R/6.3V/M
LIBC4 10u/6/X5R/6.3V/M

3VDUAL_LAN1 (CLOSE LAU1 PIN7,14,23,39,43,47)
Reserve
LIBC15 0.1u/4/X7R/16V/K
LIBC8 0.1u/4/X7R/16V/K
LIBC9 0.1u/4/X7R/16V/K
LIBC10 0.1u/4/X7R/16V/K
LIBC11 0.1u/4/X7R/16V/K/X
LIBC12 0.1u/4/X7R/16V/K/X

(10u X1, 2.2u X2)

LAN_V_0P9 (CLOSE LAU1 PIN9,26,44)
LIBC18 22u/6/X5R/6.3V/M
LIBC19 10u/6/X5R/6.3V/M
LIBC20 10u/6/X5R/6.3V/M

LAN_V_0P9 (CLOSE LAU1 PIN9,26,44)
Reserve
LIBC22 0.1u/4/X7R/16V/K
LIBC23 0.1u/4/X7R/16V/K
LIBC24 0.1u/4/X7R/16V/K
LIBC25 0.1u/4/X7R/16V/K
LIBC26 0.1u/4/X7R/16V/K/X
LIBC27 0.1u/4/X7R/16V/K/X

MDI ESD

LIESD1
LI_MDI1-
LI_MDI1+
3VDUAL_LAN1
LI_MDI0+
LI_MDI0-
AZC399-04S.R7G/SOT23-6L/[10DEF-510399-10R]

LIESD2
LI_MDI3-
LI_MDI3+
3VDUAL_LAN1
LI_MDI2+
LI_MDI2-
AZC399-04S.R7G/SOT23-6L/[10DEF-510399-10R]

3VDUAL_LAN1
LIU2
16M/SPI/SO8/200mil/S
LIR8 10K/4/1
LIR9 10K/4/1
LIR11 10K/4/1
LI_SPICS
LI_SPISO
LI_WP-
CS# SO WP# VSS VDD HOLD# SCK SI
LI_HOLD
LI_SPICK
LI_SPISI
LIR10 10K/4/1
LIR26 10K/4/1
LIR27 10K/4/1
3VDUAL_LAN1
LIBC30 0.1u/4/X7R/16V/K/X
Debug Disable Strapping
(Normal Operation: Stuff)
LIR28 1K/4/1/X
disable
Flash Security

Gigabyte Technology

Title: INTEL I225

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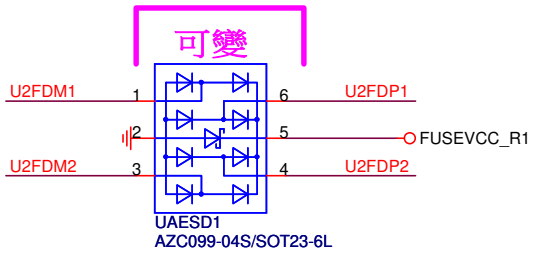
USB30_LAN CONNECTOR R1.02

RMA ESD PROTECT

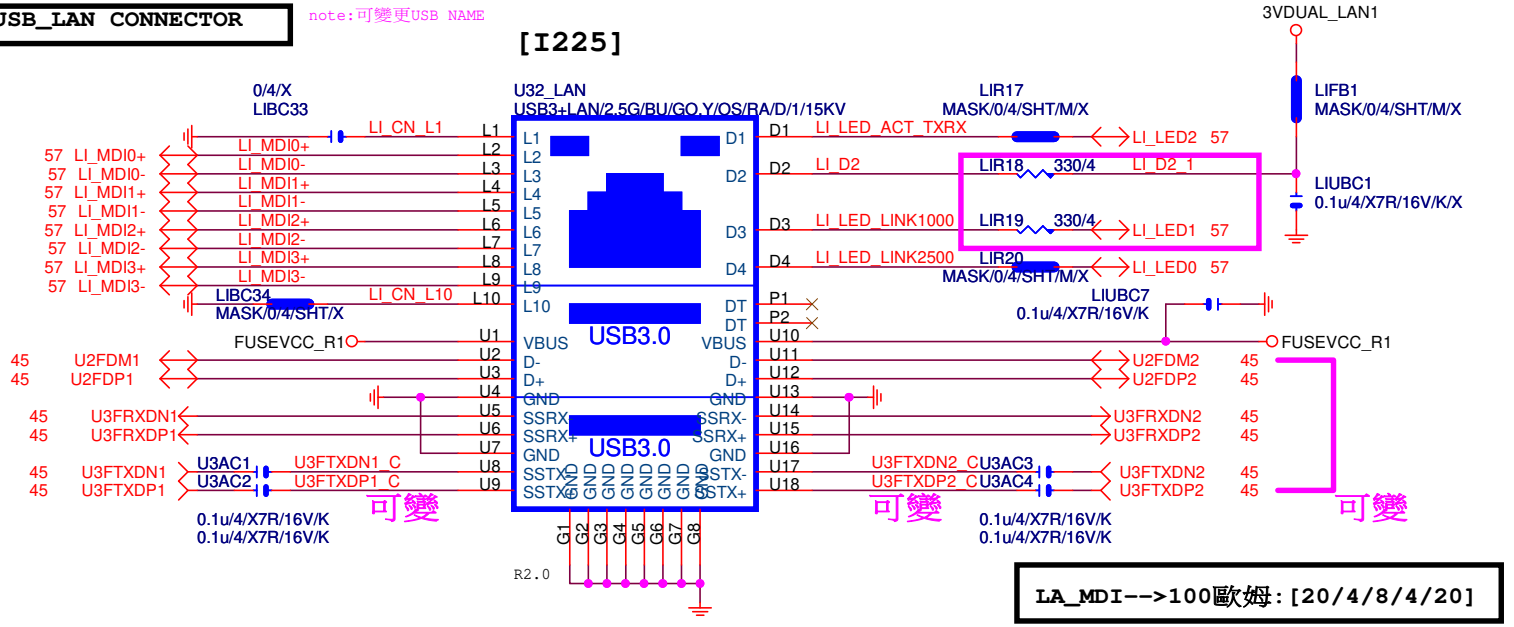
note:可變更USB NAME



USB_LAN CONNECTOR

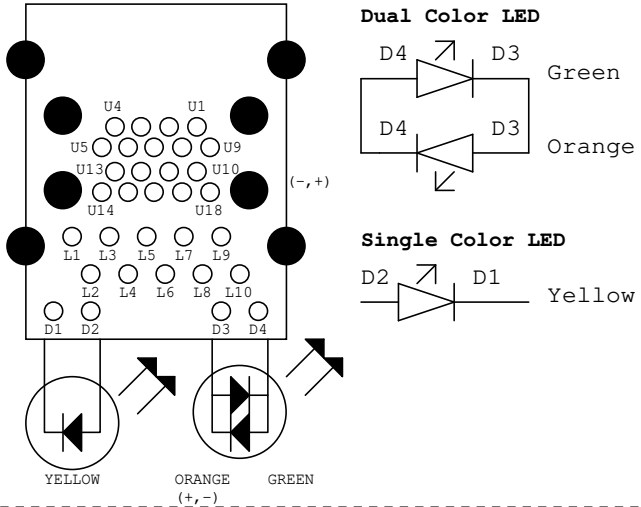
note:可變更USB NAME

[I225]



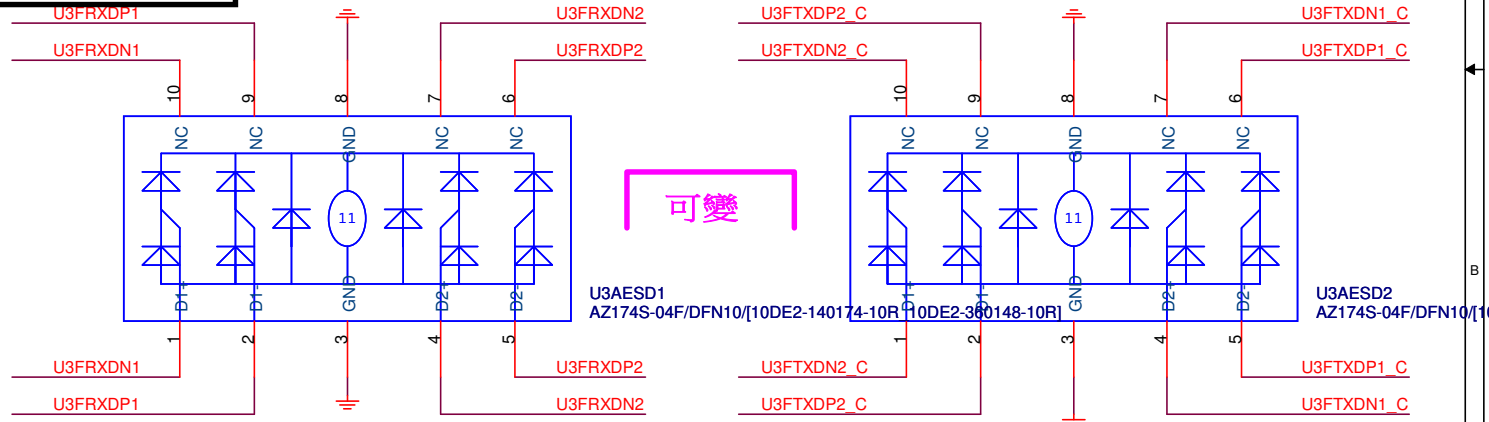
LA_MDI-->100歐姆:[20/4/8/4/20]

USB30_LAN LAYOUT示意圖



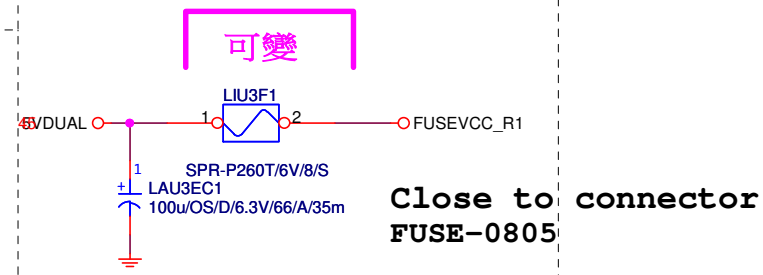
RMA ESD PROTECT

note:可變更USB NAME



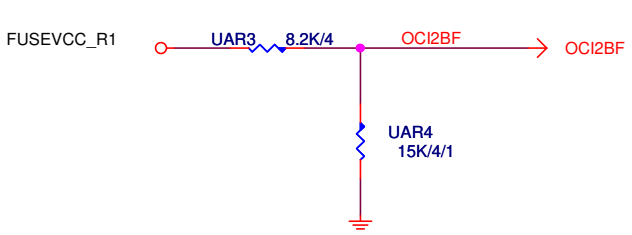
USB POWER

note:可變更FUSE



LAN POWER

note: lan power連接及電流



Gigabyte Technology

Title: LAN CONNECTOR-I225

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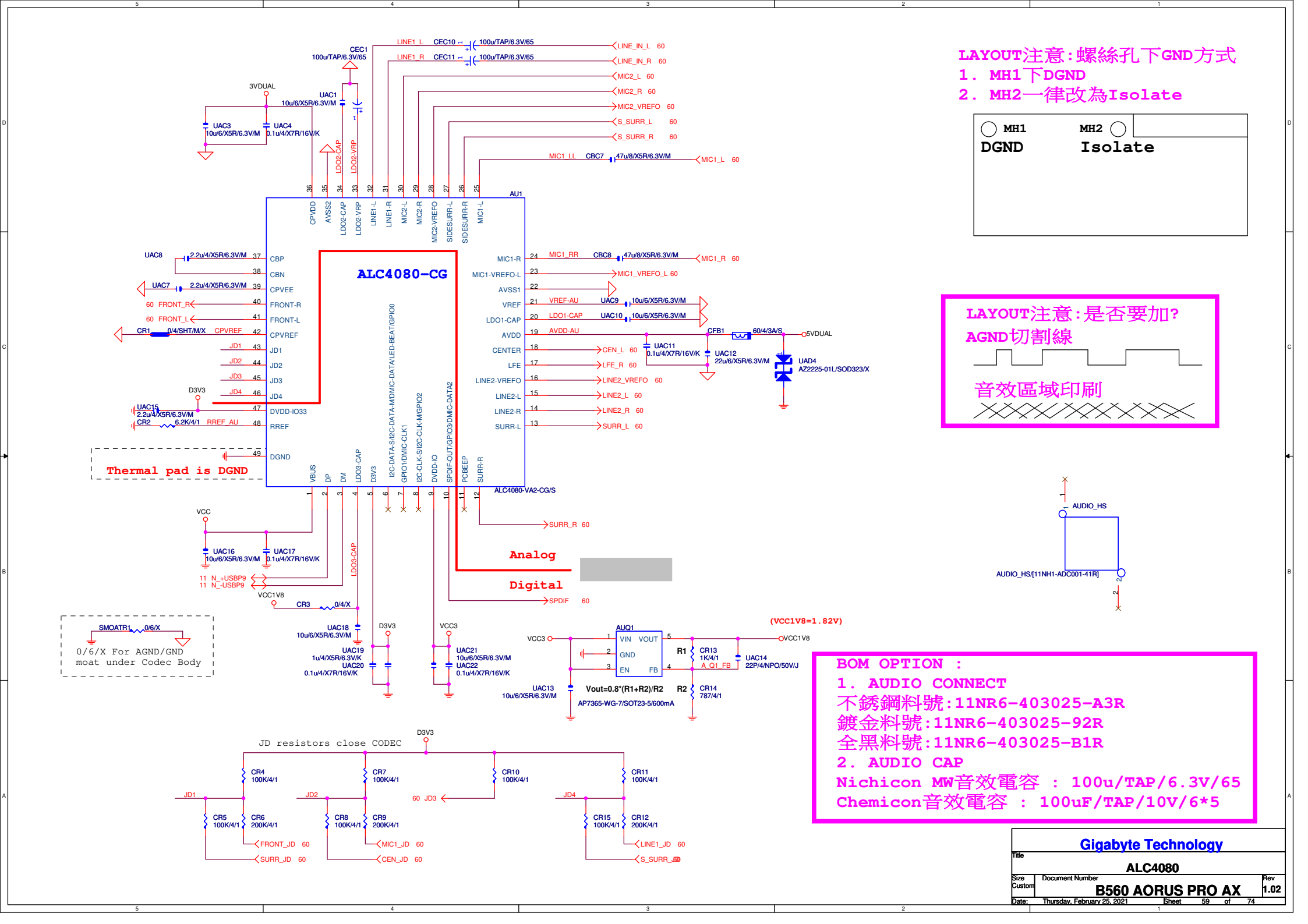
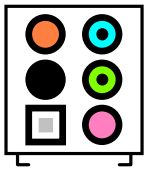

LAYOUT注意:螺絲孔下GND方式
1. MH1下DGND
2. MH2一律改為Isolate
MH1
DGND
MH2
Isolate
LAYOUT注意:是否要加?
AGND切割線
音效區域印刷
ALC4080-CG
Thermal pad is DGND
Analog
Digital
JD resistors close CODEC
BOM OPTION :
1. AUDIO CONNECT
不銹鋼料號:11NR6-403025-A3R
鍍金料號:11NR6-403025-92R
全黑料號:11NR6-403025-B1R
2. AUDIO CAP
Nichicon MW音效電容 : 100u/TAP/6.3V/65
Chemicon音效電容 : 100uF/TAP/10V/6*5
Gigabyte Technology
ALC4080
B560 AORUS PRO AX
Thursday, February 25, 2021

Rev 6.0

AZALIA JACK



MOATR1 0/4
MOATC1 0.1u/4/X7R/16V/K → Near F_AUDIO

MOATR2 0/4/X
MOATC2 0.1u/4/X7R/16V/K → Near Codec

MOATR3 0/4/X
MOATC3 0.1u/4/X7R/16V/K → Under Audio Jack

MOATR4 2.2/6 → Audio Jack - LAN

5VDUAL
SPDIF_O
CBC111 1u/6/X7R/16V/K
CR27 MASK/0/4/SHT/10/X
SPDIF
PH/1*4K2/BK/2.54/VA/D
CBC31 100p/4/NPO/50V/J

For HDMI SPDIF （依SPEC保留或移除）

LINE-OUT

59 FRONT_R — CR20 75/4/1 — AJ_B5_R
59 FRONT_L — CR21 75/4/1 — AJ_B2_L
CE7 330p/D/100V/[11CLB-753300-01R]
CE9 330p/D/100V/[11CLB-753300-01R]
CD3 AZ2225-01L/SOD323
CD4 AZ2225-01L/SOD323
CBC25 180p/4/NPO/50V/J
CBC26 180p/4/NPO/50V/J

LINE-IN

59 LINE_IN_R — CR23 62/4 — AJ_A5_R
59 LINE_IN_L — CR24 62/4 — AJ_A2_L
CR35 22K/4/1
CR33 22K/4/1
CBC27 180p/4/NPO/50V/J
CBC28 180p/4/NPO/50V/J

MIC-IN

59 MIC1_R — CR25 62/4 — AJ_C5_R
59 MIC1_L — CR26 62/4 — AJ_C2_L
CQ13 BAT54A/SOT23/200mA
59 MIC1_VREFO_L — CR142 8.2K/4 — CR143 8.2K/4
CBC29 180p/4/NPO/50V/J
CBC30 180p/4/NPO/50V/J

SURROUND

59 SURR_R — CBC49 10u/8/X5R/16V/K — SURR_C_R CR30 62/4 — BJ_C5_R
59 SURR_L — CBC50 10u/8/X5R/16V/K — SURR_C_L CR31 62/4 — BJ_C2_L
CBC32 180p/4/NPO/50V/J
CBC33 180p/4/NPO/50V/J

CEN/LFE

59 LFE_R — CBC51 10u/8/X5R/16V/K — LFE_C_R CR34 62/4 — BJ_B5_R
59 CEN_L — CBC52 10u/8/X5R/16V/K — CEN_C_L CR40 62/4 — BJ_B2_L
CBC35 180p/4/NPO/50V/J
CBC36 180p/4/NPO/50V/J

CBC49/50/51/52 10u/8
For THD+N Low frequency

SURR BACK

59 S_SURR_R — CBC53 10u/8/X5R/16V/K — S_SURR_C_R CR62 62/4 — BJ_A5_R
59 S_SURR_L — CBC54 10u/8/X5R/16V/K — S_SURR_C_L CR63 62/4 — BJ_A2_L
CBC47 180p/4/NPO/50V/J
CBC48 180p/4/NPO/50V/J

AZALIA JACK

AUDIOB
59 LINE1_JD — LINE1_JD — AJ_A5_R — AJ_A2_L — BLUE LINE-IN
59 FRONT_JD — FRONT_JD — AJ_B5_R — AJ_B2_L — GREEN LINE-OUT
59 MIC1_JD — MIC1_JD — AJ_C5_R — AJ_C2_L — PINK MIC-IN
2X3RP/26P/OR,BK,GY,BU,GE,PK/RA/X

AUDIOA
59 CEN_JD — CEN_JD — BJ_B5_R — BJ_B2_L — Orange CEN/LFE
59 SURR_JD — SURR_JD — BJ_C5_R — BJ_C2_L — Black SURROUND
59 S_SURR_JD — S_SURR_JD — BJ_A5_R — BJ_A2_L — Gray SURROUND SIDE
2X3RP/26P/OR,BK,GY,BU,GE,PK/RA

AZALIA FRONT PANEL

CQ10 BAT54A/SOT23/200mA
59 LINE2_VREFO
CQ9 BAT54A/SOT23/200mA
59 MIC2_VREFO
CRN6 8.2K/8P4R/4

Box header footprint : F_AUDIO
Pin header footprint : F_AUDIO_S

CR70 22K/4/1
CR71 22K/4/1
CR55 22K/4/1
CR56 22K/4/1
F_AUDIO
CEC8 100u/TAP/6.3V/65
CEC9 100u/TAP/6.3V/65
59 MIC2_L — M2_LL — CR57 62/4 — M2_L
59 MIC2_R — M2_RR — CR58 62/4 — M2_R
L2_R — CR49 62/4 — L2-R
59 JD3 — CR60 47/4/1
L2_L — CR43 62/4 — L2-L
EMI
CR59 200K/4/1
CR61 100K/4/1
BH/2*5K8/BK/2.54/VA/AUDIO/PRT/TUR180
CBC42 1n/4/X7R/50V/K
CD5 AZ2225-01L/SOD323/X
CD6 AZ2225-01L/SOD323/X
CBC43 180p/4/NPO/50V/J
CBC44 180p/4/NPO/50V/J
CBC45 180p/4/NPO/50V/J
CBC46 180p/4/NPO/50V/J

59 LINE2_R — CEC4 100u/TAP/6.3V/65 — L2_R
59 LINE2_L — CEC7 100u/TAP/6.3V/65 — L2_L
CE10 330p/D/100V/[11CLB-753300-01R]
CE11 330p/D/100V/[11CLB-753300-01R]

GIGABYTE

Title	AUDIO JACK	
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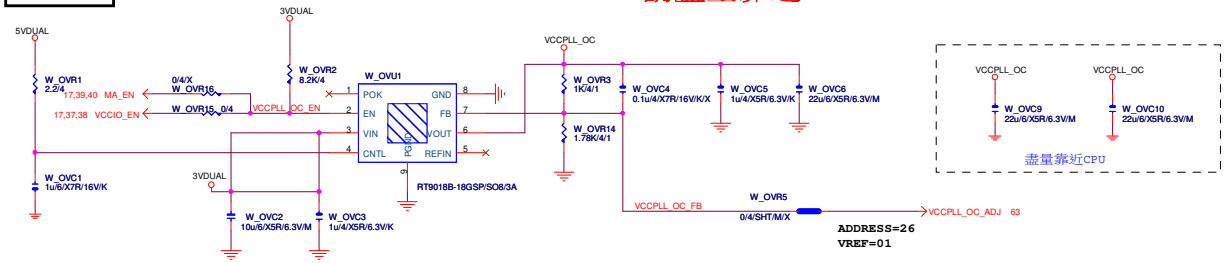
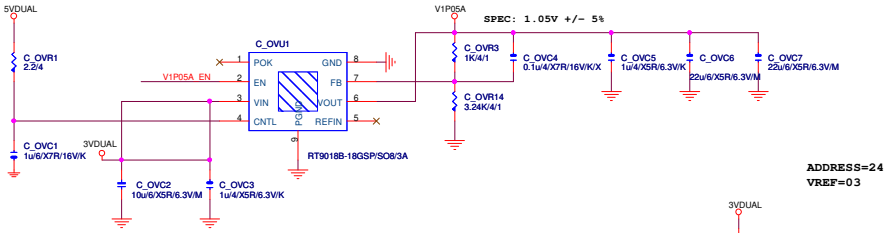
REV:0.12

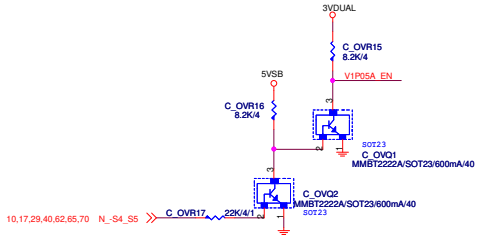
VCCPLL_OC

請盡量靠近CPU

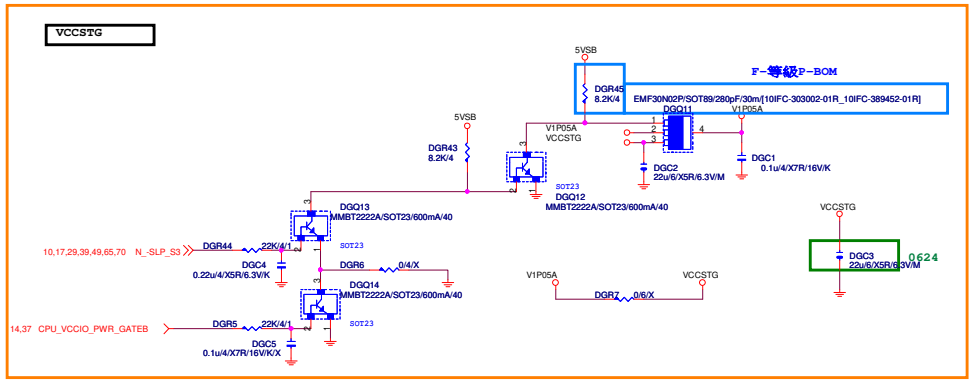


V1P05A





VCCSTG



GIGABYTE™

Title	CPU POWER-1	
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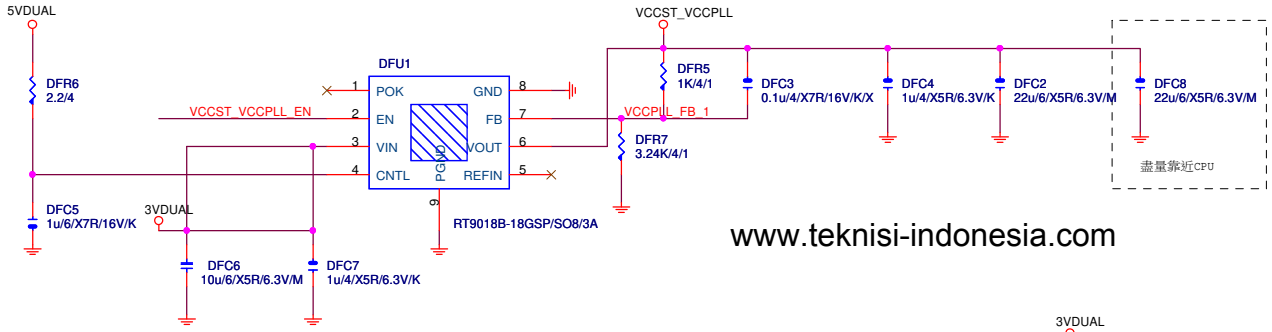
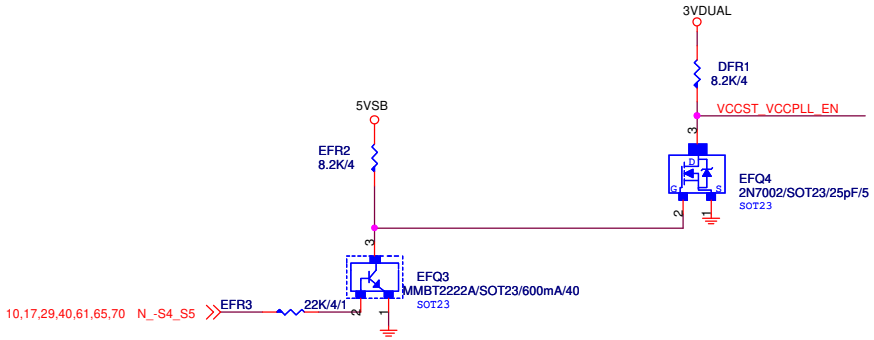
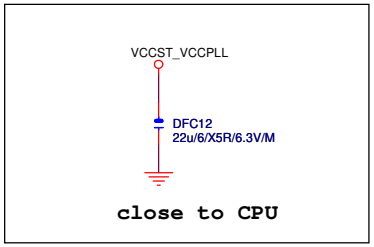
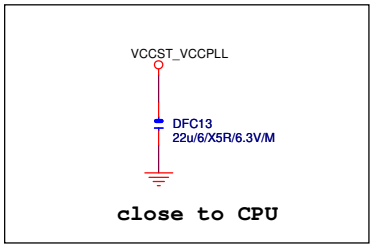
REV:0.12

VCCST_VCCPLL 替換原先MOS開關線路









GIGABYTE™

Title: CPU POWER-2		
Size: Custom	Document Number: B560 AORUS PRO AX	Rev: 1.02
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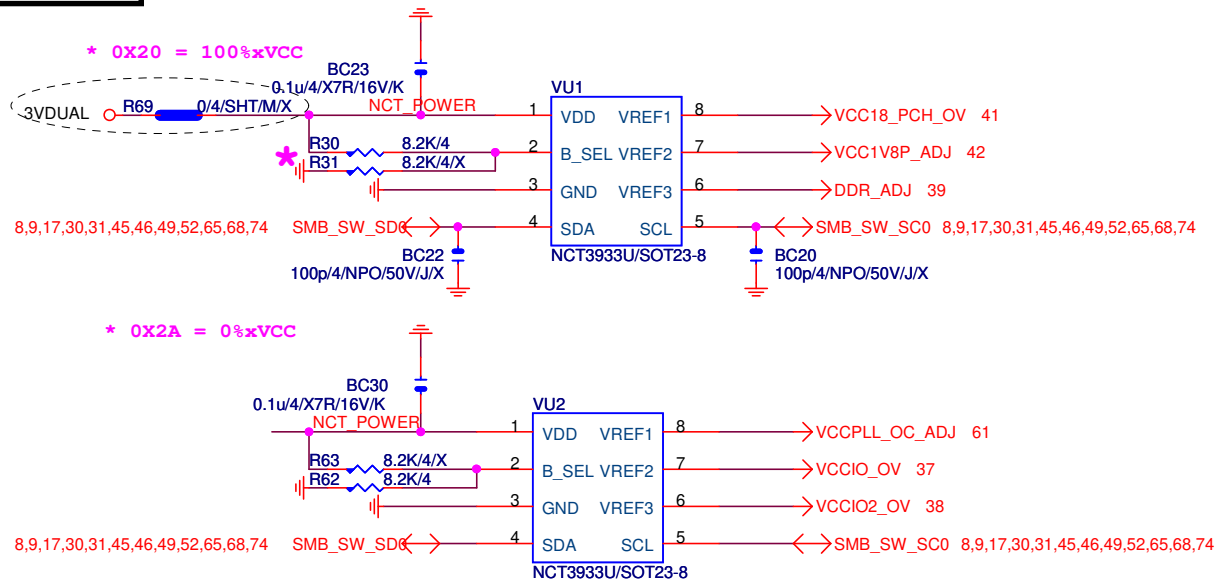
OVER VOLTAGE REV:0.12



NCT3933	0X2A	0X20
VREF1	VCC18_PCH	VCCPLL_OC
VREF2	VCCIO	VCC1V8_PRIM
VREF3	VCCIO2	VDDQ

Gigabyte Technology

Title: CPU CORE VR-2

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Rev: 0.94

FRONT PANEL

★Update 2016.06.15

VCC VCC3 VCC

FPR22 8.2K/4/X
FPR6 150/6
FPR1 330/6/X
FPBC1 0.01u/4/X7R/50V/K/X

5VDUAL 3VDUAL_PCH

FPR2 330/6/X
FPR4 150/6
★Update 2018.05.23

MPD+

3VDUAL_PCH

FPR3 8.2K/4

F_PANEL

	HD+ 1	MSG/PD+ 2	MPD+
-HDLED	HD- 3	MSG/PD- 4	MPD- MPD- 17
	GND 5	PW+ 6	-PWRBT_1
11,17 N_-SYS_RST FPR5 100/4/1 -RST	RESET 7	PW- 8	
FPBC2 0.01u/4/X7R/50V/K	CI- 9		
-CASEOPEN	CI+ 11		
		SP+ 14	VCC
MPD+	PWR+ 15	NC 16	
MPD-	PWR- 17	NC 18	
	PWR- 19	SP- 20	SPK-

FPR9 33/4 -PWRBTSW 17,65

FPC1 0.01u/4/X7R/50V/K/X

FPBC3 0.01u/4/X7R/50V/K

BH/2*10K10,12,13/BK/2.54/VA/PA/GRAY

Update 2015.01.08
Footprint=F_PANEL-100

FPESD1

MPD-	1	6	-PWRBT_1
	2	5	3VDUAL_PCH
-RST	3	4	-HDLED

AZC099-04S/SOT23-6L

★Update 2015-02-11

CASE OPEN

11,13,15 N_RTCVDD FPR8 1M/4/1 -CASEOPEN -CASEOPEN 17

FPBC4 0.01u/4/X7R/50V/K

SATA/M.2 LED

14 N_-SATALED
73 -M2B_LED

FPD2 BAT54A/SOT23/200mA SOT23 -HDLED

Fix some M.2 cause HD_LED always on.
★Update 2016.06.15

25 -M2A_LED
28 -M2P_LED

FPD3 BAT54A/SOT23/200mA SOT23 -HDLED

SPKR W/O EC

VCC

FPD1 1N4148W/SOD123/300mA SOD123

SPK- FPR13 75/4/1 FPR14 75/4/1

FPQ6 MMBT2222A/SOT23/600mA/40

FPR15 8.2K/4

VCC3 FPR16 1K/4/1/X

N_SPKR 13

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

FRONT PANEL SHORT

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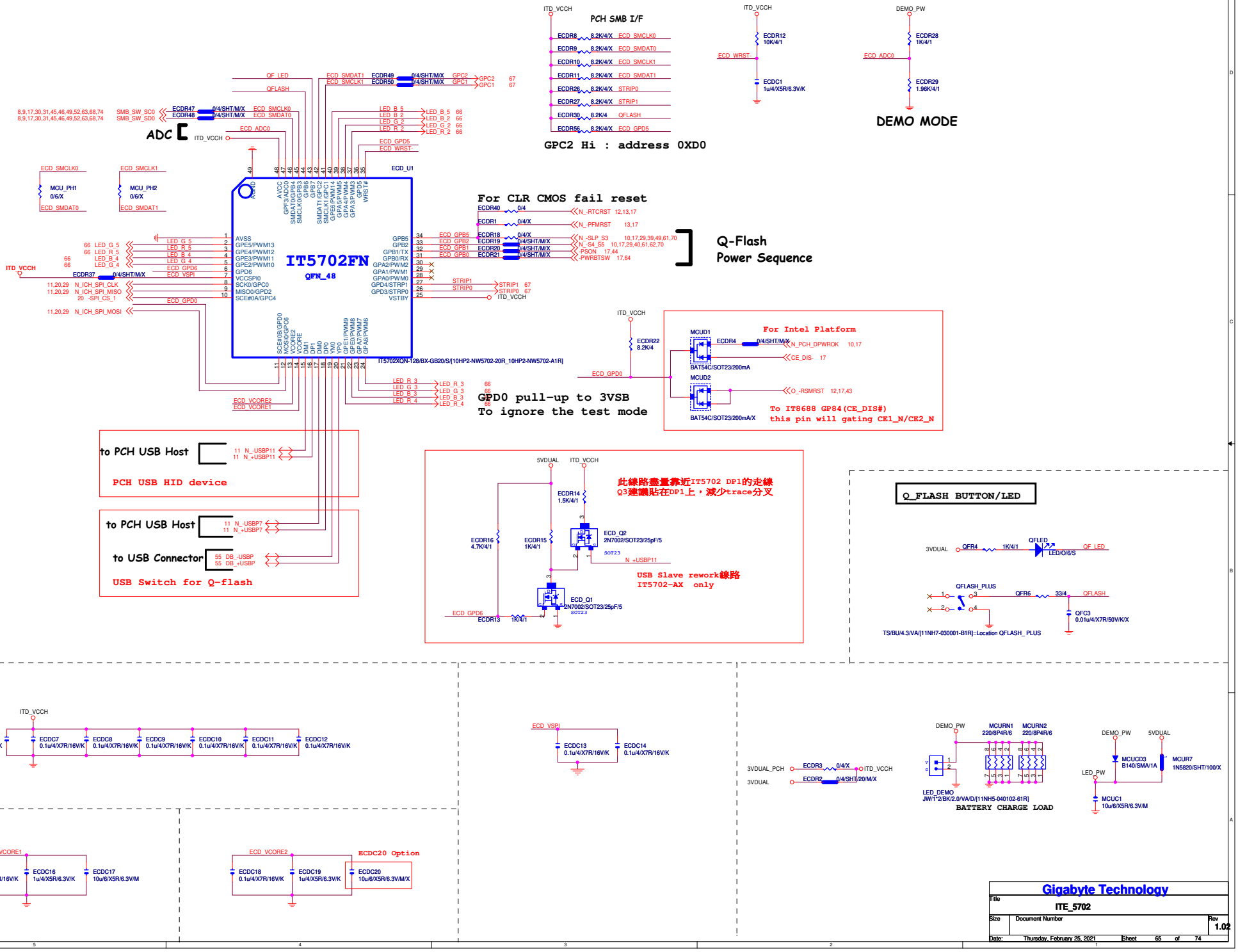
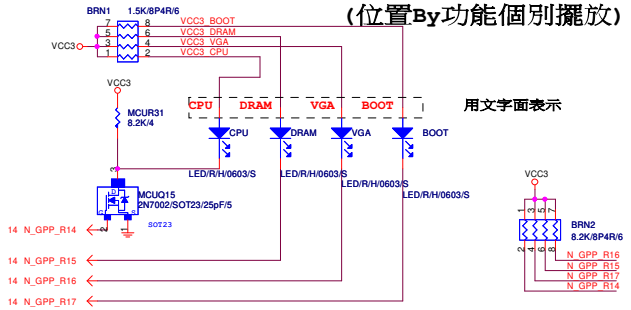
ECD_U1 請放在PCH到BIOS路徑上.避免線過長



Rev 1.0

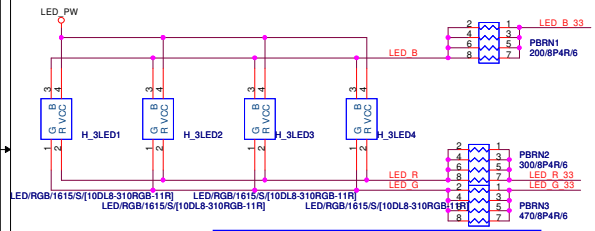
DEBUG PORT LED *4
(位置By功能個別擺放)



N_GPP_R14	CPU DEBUG
N_GPP_R15	DDR DEBUG
N_GPP_R16	VGA DEBUG
N_GPP_R17	BOOT DEVICE DEBUG

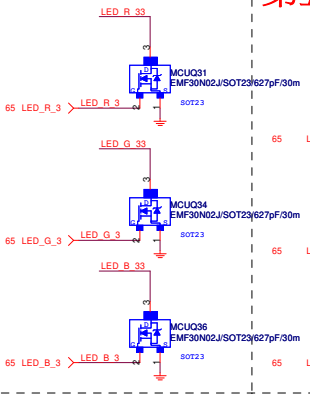
第三區 LED

FOR PCH 正發光 LED*6 (位置在正板,依據PCH_HS設計擺放)



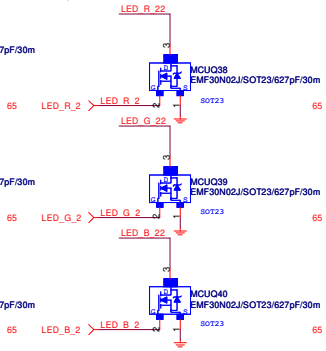
FOOTPRINT:LED-4P-RGB

第三區 LED CONTROL

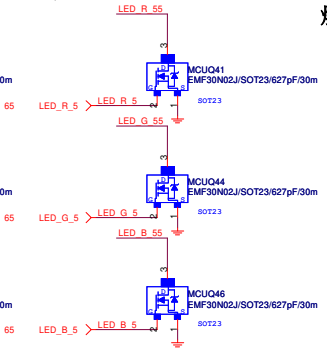


第五區 LED

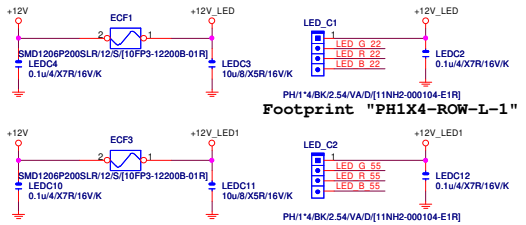
第二區 LED CONTROL



第五區 LED CONTROL

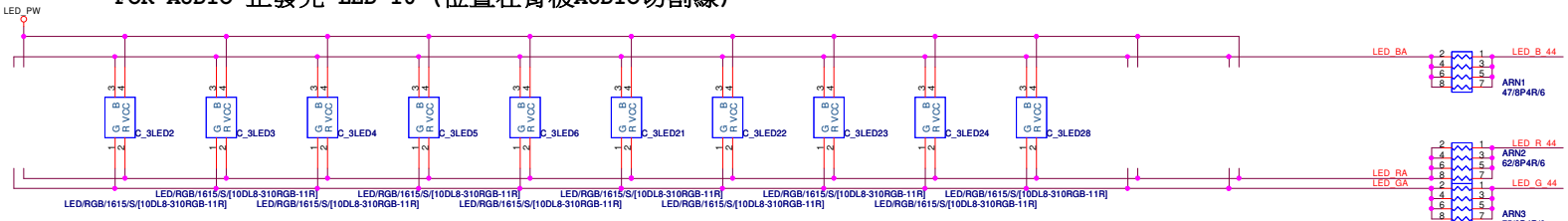


燈條 LED (LED_C1放在PCB左邊板邊位置)
燈條 LED (LED_C2放在PCB右邊板邊位置)



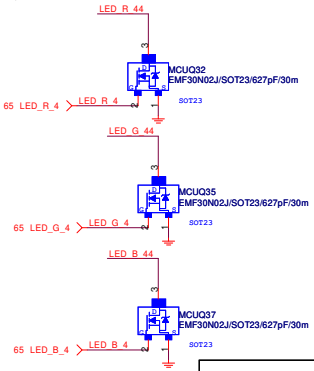
第四區 LED

FOR AUDIO 正發光 LED*10 (位置在背板AUDIO切割線)



FOOTPRINT:LED-4P-RGB

第四區 LED CONTROL



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Title	PCH/AUDIO/DEBUG/C_LED1/2	
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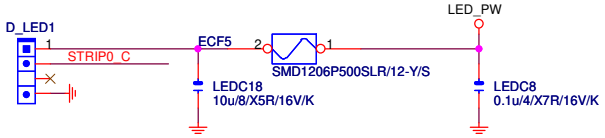
Rev 1.0

第六區 LED (靠近左上板邊位置)

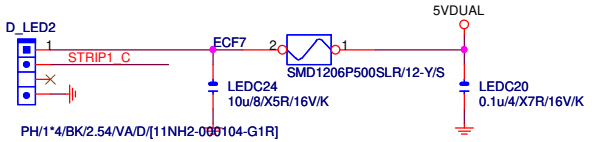
Digital LED Strip1



Footprint PH1X4-CUT3-LED-L

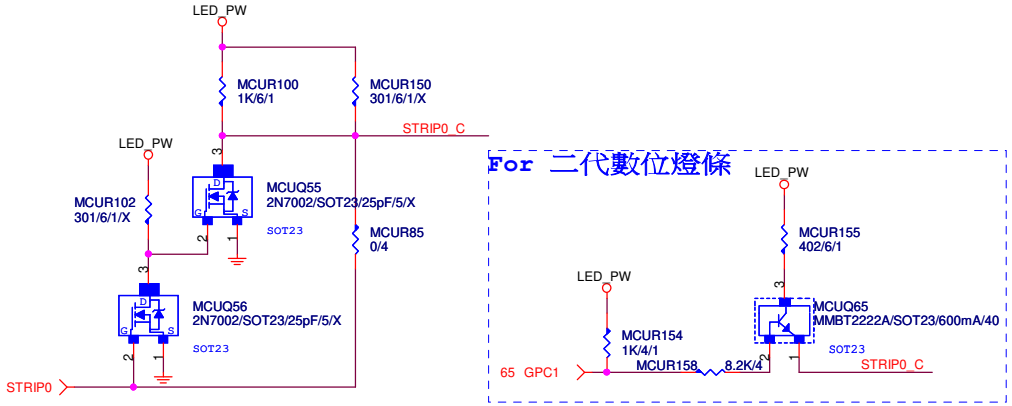
第七區(靠近右下CPU板邊位置)

Digital LED Strip2

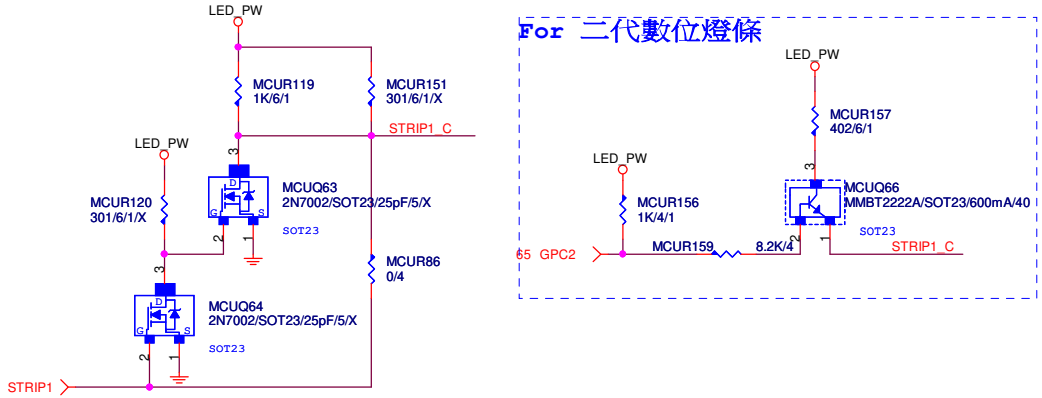


Footprint "PH1X4-CUT3-LED-R"
(for pin-name 與 model-name 同方向)

燈條 Level shift



燈條 Level shift



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Title	D_LED1/D_LED2	
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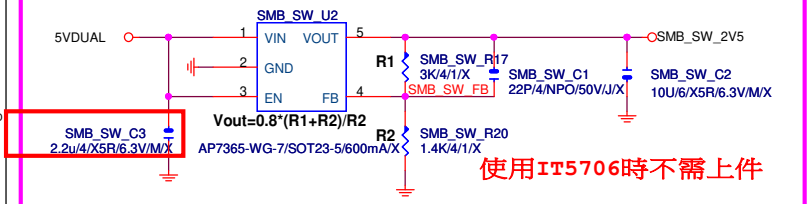
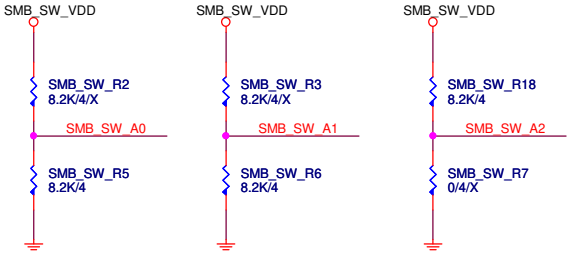
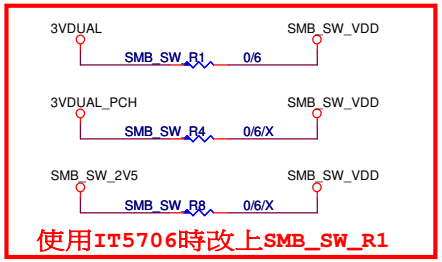
REV:0.1



使用IT5706時不需上件

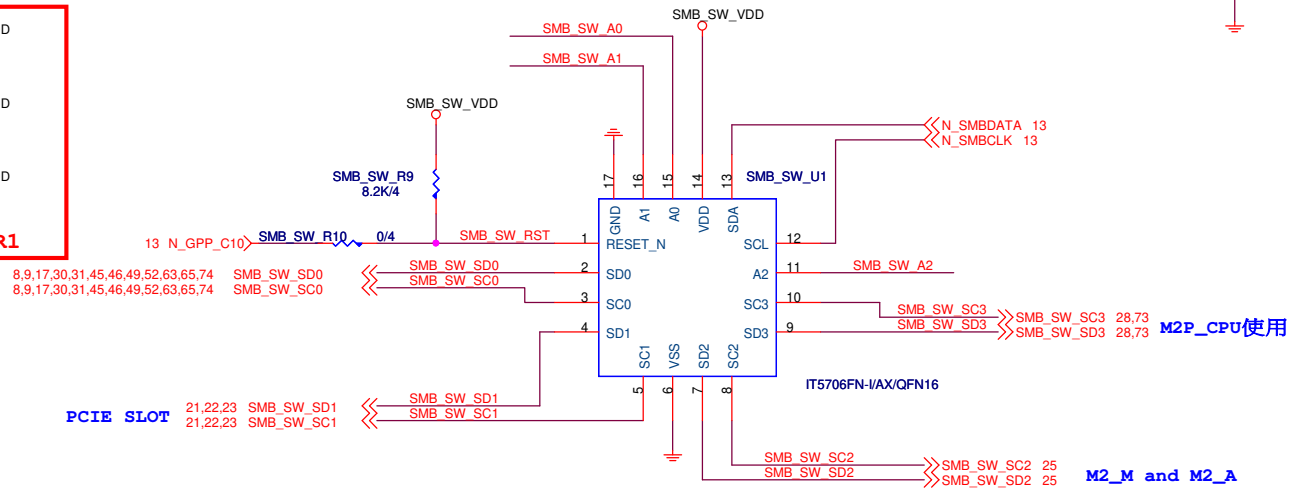
ADDRESS = 74



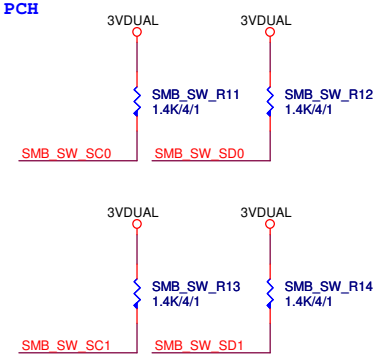


使用IT5706時改上SMB_SW_R1

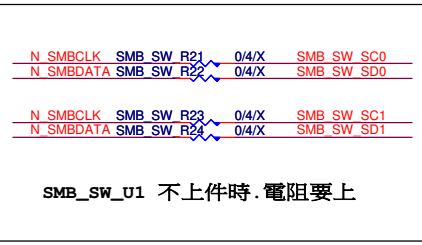
other



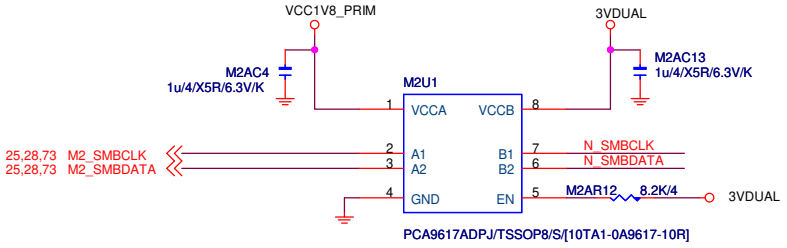
PCH



M2_B and M2_C



SMB_SW_U1 不上件時.電阻要上



M2_P and M2_A

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EMI/ESD R0.1

CLOSE SIO

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

10,17,29,39,49,61,65 N_-SLP_S3

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

10,17,29,40,61,62,65 N_-S4_S5

CLOSE PCH

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

4,10 N_CPUPWROK

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Title	EMI/ESD	
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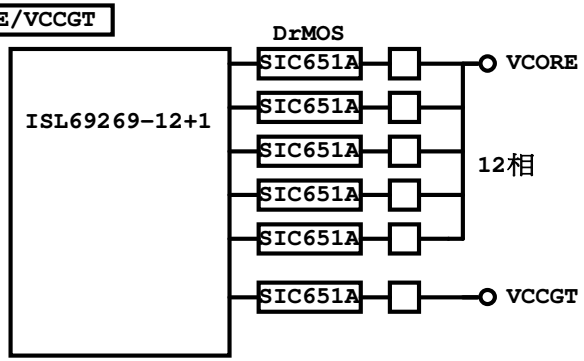
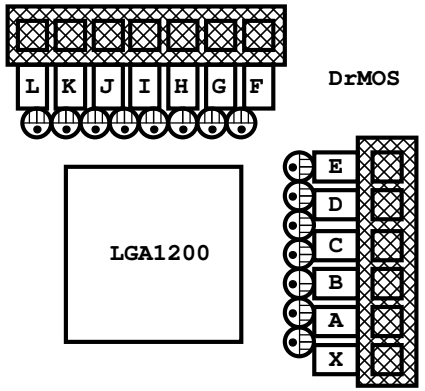
POWER BLOCK MAP

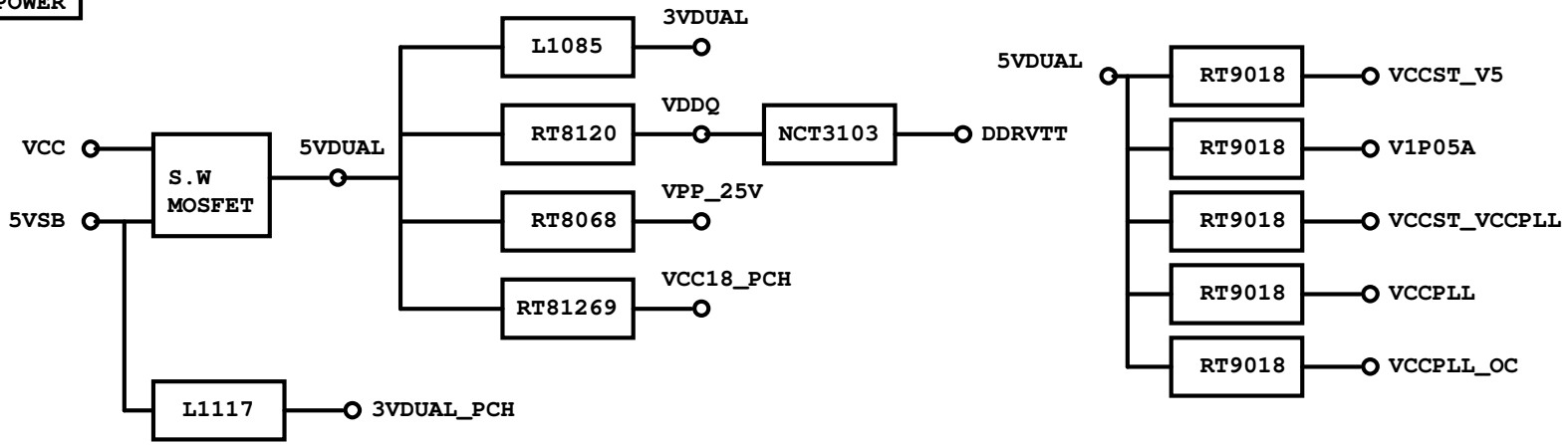
- CPU
  - VCORE
  - VCCGT
  - VCCSA
  - VCCIO
  - VCCIO2
  - VCCST_VCCPLL
  - VCCPLL
  - VCCPLL_OC
  - VCCST_V5
  - V1P05A
  - VCCSTG
  - VDDQ
- DDR4
  - VDDQ
  - DDRVTT
  - VPP_25V
- PCH
  - VCC18_PCH
  - VCC1V8_PRIM
  - VCCPRM_1P05
  - VCCDPHY_1P24
  - VCC0P85_PCH
  - VCC3_PCH
  - 3VDUAL_PCH
  - VCC3
  - N_RTCVDD
- IT8689
  - IT_VCCH
  - IT_AVCC
  - 2_5LEVEL
- HM
  - +12V
  - VCC
  - VCC3
  - VCORE
  - VCCGT(IMON_VCCGT)
  - VDDQ
  - VCCSA(IMON_VCORE)

VCORE/VCCGT

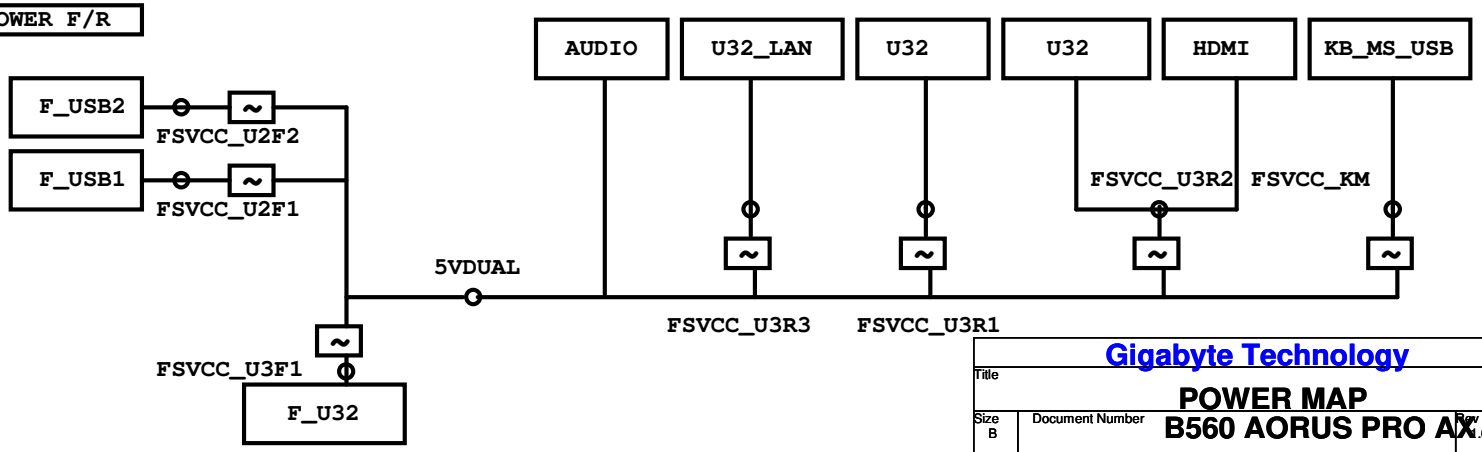




POWER



FUSE POWER F/R



Gigabyte Technology

Title: POWER MAP

Size: B | Document Number: B560 AORUS PRO AX | Rev: 1.02

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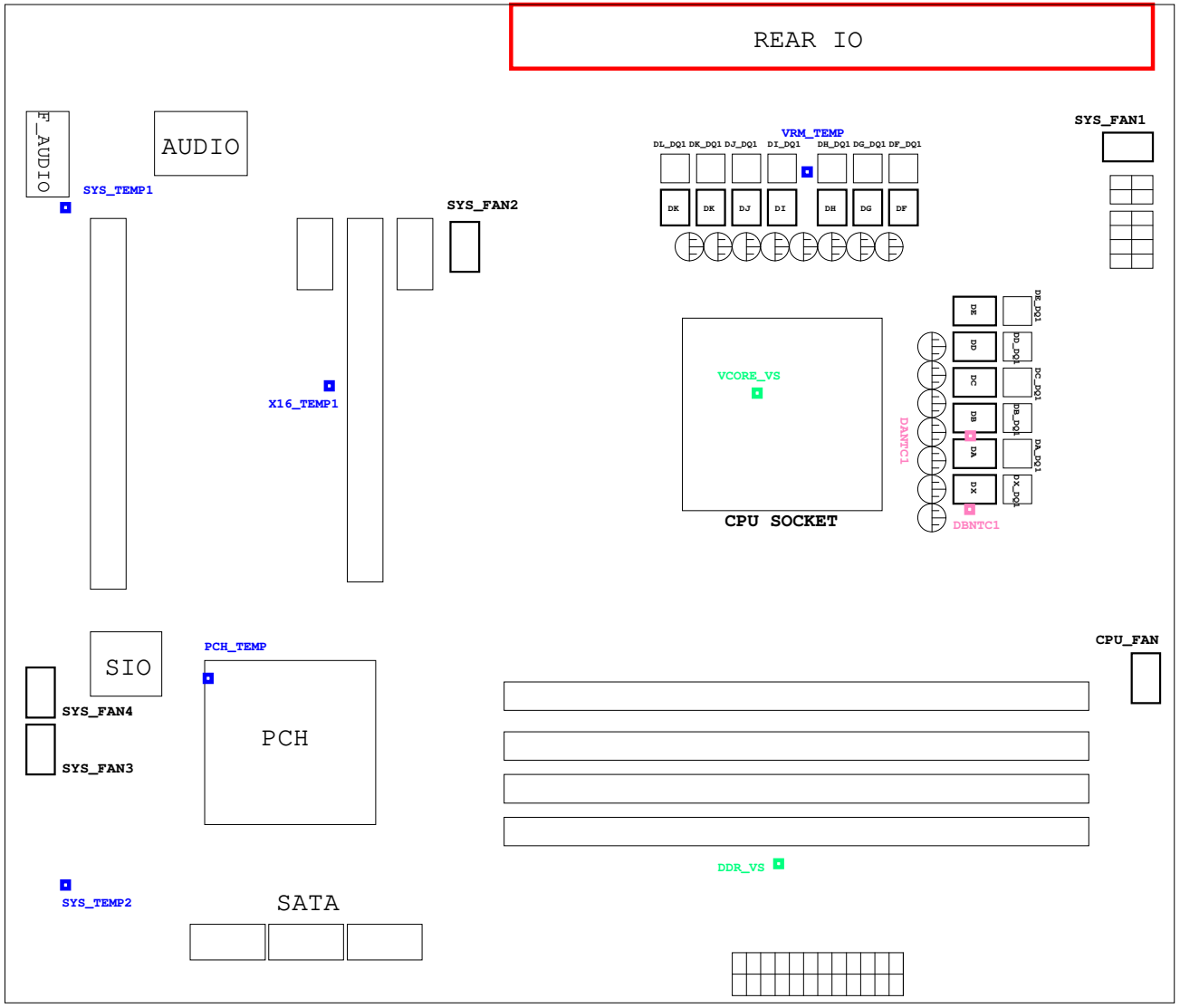

熱敏電阻	擺放靠近位置	走線方式
DANTC1	DA_DL2	Differential
DANTC2	DA_DQ3	Differential
DANTC3	DM_DQ2	Differential
DANTC4	DM_DL1	Differential
VRM_TEMP	DC_DQ1	N/A
X16_TEMP1	PCIEX16	N/A
PCH_TEMP	PCH	N/A
SYS_TEMP1	F_AUDIO	N/A
SYS_TEMP2	F_PANEL	N/A

SIO RS
PWM RS
SIO VIN

FAN

Gigabyte Technology

Title: NTC MAP

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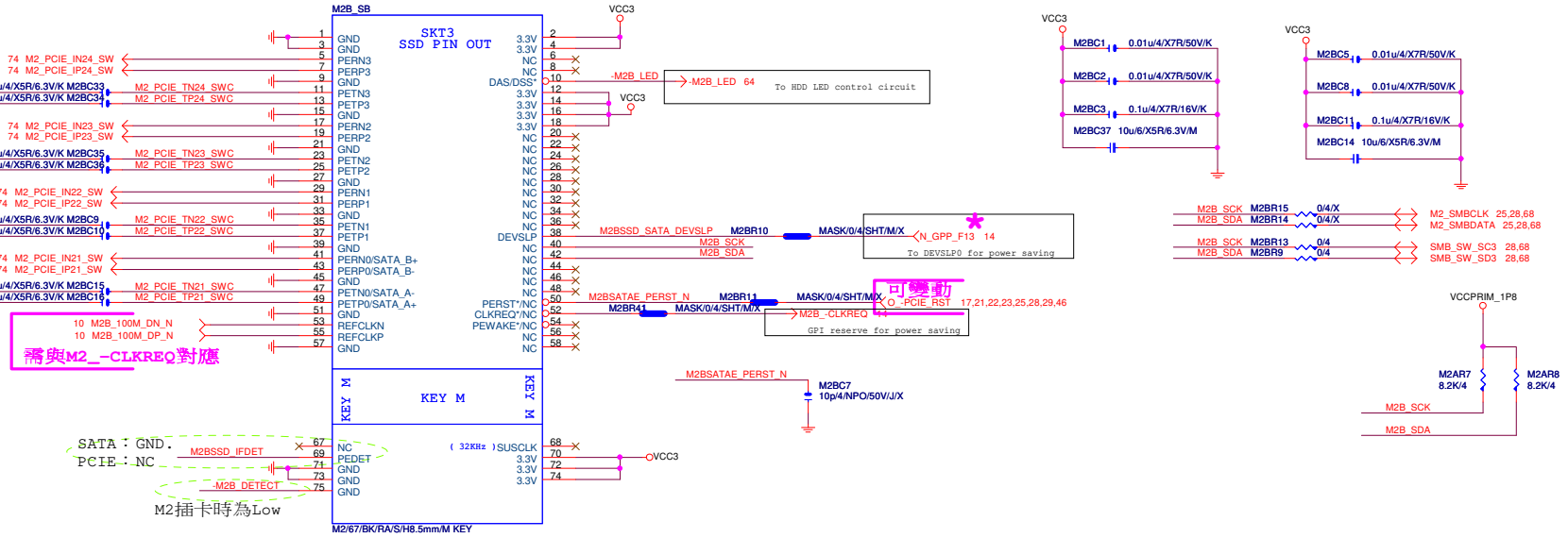
Rev 0.6

M.2 Lane3 from PCH port24

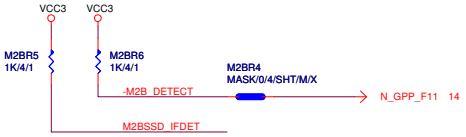
M.2 Lane2 from PCH port23

M.2 Lane1 from PCH port22

M.2 Lane1 from PCH port21

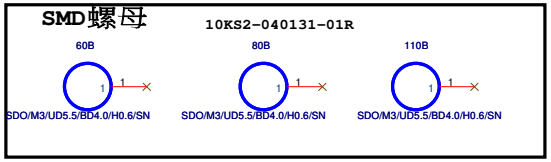


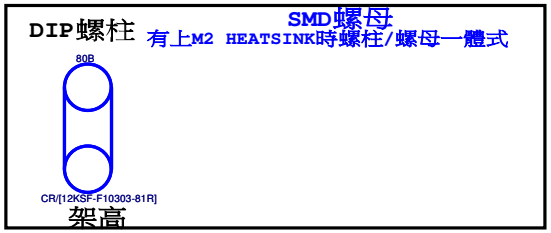
支援SATA and M.2 function

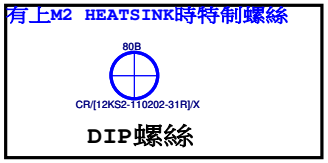


架高 金屬加強

Footprint : m2_110_h2mm8w







M2B_SB_HS
M2 HEATSINK

M2B_SB_HS/[12SP1-S11705-02R_12SP1-S11705-04R_12SP1-S11705-05R]::M2B_SB_HS

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Title: M.2 X4

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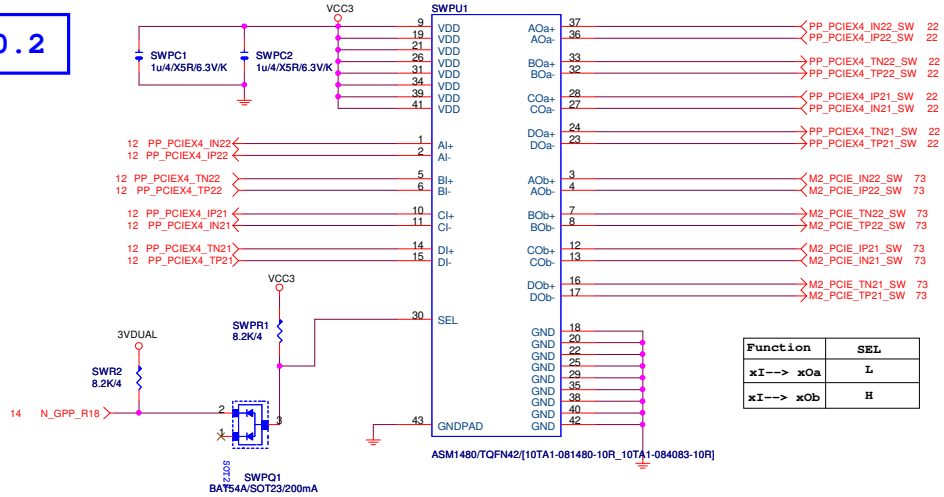
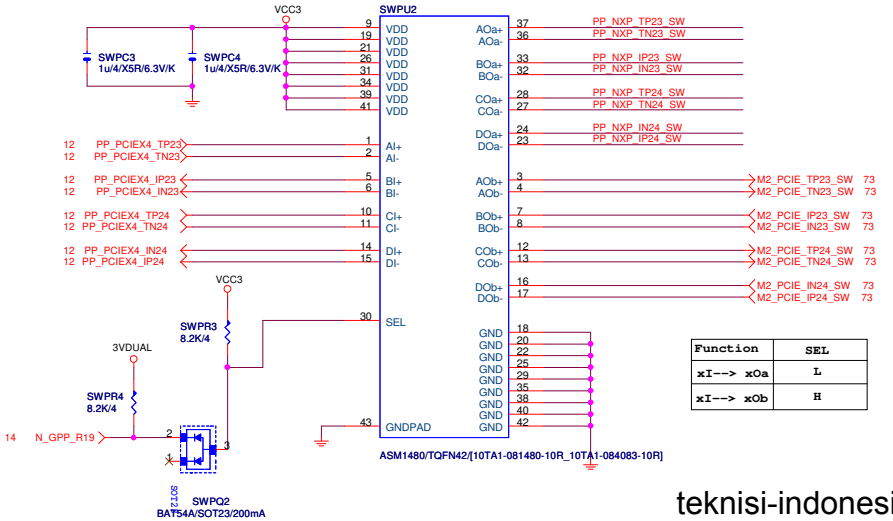
Rev 0.2





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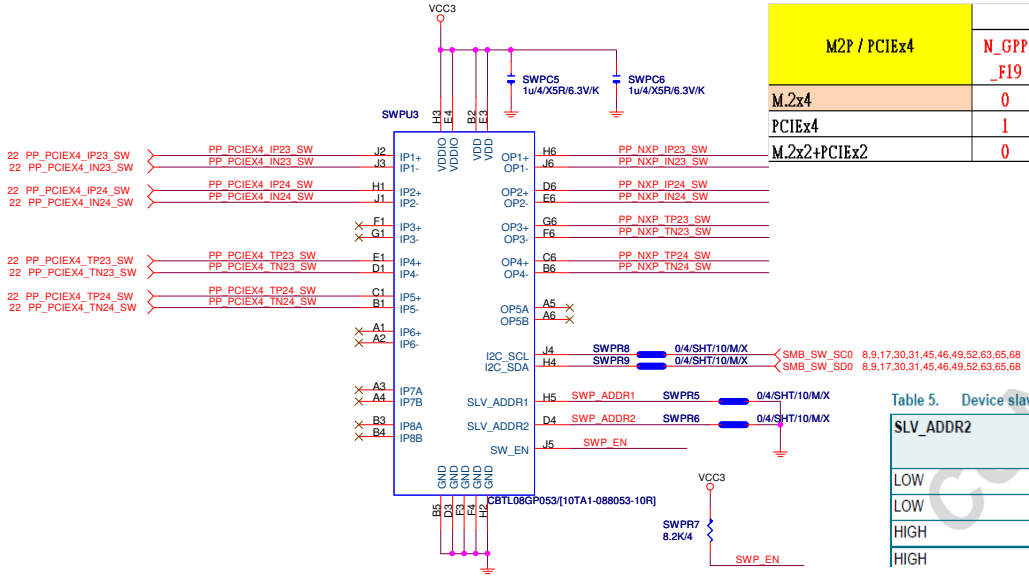

M2P / PCIEx4	GPI				GPO			M.E. Config				CBTL08GP053
	N_GPP_F19	N_GPP_F20	N_GPP_D13		N_GPP_F21	N_GPP_F22				P24	P23	P22	P21	0x60/0x61
M.2x4	0	1	1		1	1				PCIEx4				Don't Care
PCIEx4	1	1	0		0	0				PCIEx4 (Reverse)				IP1=OP1, IP2=OP2, IP4=OP3, IP5=OP4
M.2x2+PCIEx2	0	1	0		1	0				PCIEx2		PCIEx2		IP2=OP1, IP1=OP2, IP5=OP3, IP4=OP4

Table 5. Device slave address

SLV_ADDR2	SLV_ADDR1	I²C-bus device address
LOW	LOW	0x60/0x61
LOW	HIGH	0x64/0x65
HIGH	LOW	0x68/0x69
HIGH	HIGH	0x6C/0x6D

Title	Gigabyte Technology SWITCH	
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