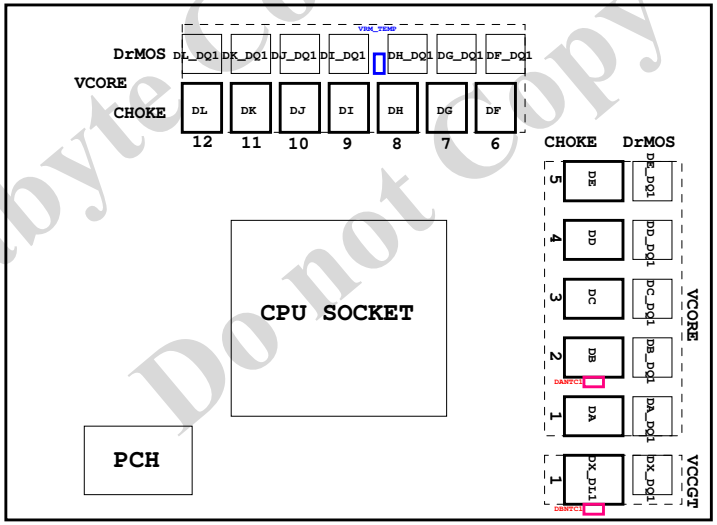
Model Name: B560M AORUS ELITE DB

Rev 1.01

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	(REV0.51)
24	SATA	
25	M.2 x4 (A)_SB	(RKL_R0.1)
26		(RKL_R0.1)
27	POSCAP_0+0_H570_Q570	(RKL_R0.1)
28	M.2 x4 (P)_CPU	(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	RT8237_DDR_B560	(RKL_R0.1)
40	RT8068A_VPP_B560	
41	NCP81269_VCC18_PCH	
42	RT8068_VCC1V8_PRIM	
43	DISCRETE POWER	(REV0.1)
44	ATX POWER , A_-PROCHOT	
45	GL850S_1_Rear USB20 X4	(CML_R0.94)
46	CNVi_M2_WIFI	(CML_R0.94)
47	HDMI / DP	(RKL_R0.1)
48	U32G2	(RKL_R0.1)
49		(RKL_R0.1)

SHEET	TITLE	
50	GL850S_2_ Fornt USB20 X4	(CML_R0.94)
51	ITE5201_G_Type-C	(RKL_R0.1)
52	RTS5411 4port Hub (Chip)	(RKL_R0.1)
53	Front Type-C	(CML_R0.94)
54	F_U32	(CML_R0.94)
55	KB_MS_USB	(CML_R0.94)
56	Redriver_A_Type-A	(RKL_R0.1)
57	REALTEK RTL8125BS	(CML_R0.3)
58	USB30_LAN CONNECTOR-8125	(CML_R0.3)
59	Realtek ALC897	(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		(RKL_R0.1)
70	EMI-ESD	
71	POWER MAP	
72	NTC MAP	



Gigabyte Technology

Title: Cover Sheet

Size: Custom | Document Number: B560M AORUS ELITE DB | Rev: 1.01

Date: Monday, March 22, 2021 | Sheet 1 of 72

Model Name : B560M AORUS ELITE DB

Component value change history   PCB:1.01

Data	Change Item	Reason
2020/11/04 EBOM:01	First release	9MB56MELT-00-01
2020/11/11 EBOM:01A	1. DCR15, 變更為 1K ohm 2. DCR24, 變更為 2.49K ohm 3. DBR20, 變更為 2.7K ohm 4. DBC33,DCC34, 變更為 0.22u/4/6.3V 5. 增加 PCH (10HB1-03Z590-10R) 6. WBC52,DFC51,DFC52,DFC53,DFC54,DFC55, 刪除 47u/8/6.3V 7. WBC116,WBC105,WBC106,WBC97,WBC107,WBC98,WBC108,WBC99,WBC109, WBC110,WBC111,WBC100,WBC112,WBC101,WBC70,WBC113,WBC102,WBC71,WBC114, WBC103,WBC115,WBC104, 刪除 22u/6/6.3V	9MB56MELT-00-01A
2020/12/16 EBOM:02	1. HDMI改Level shift 2. M2P_CPU, 變更為 10NR5-130M67-61R/63R 3. DDR4_A2,DDR4_B2, 變更為 11SM1-521288-J1R/J2R/J3R 4. MA_DQ2, 變更為 10IF9-040406-10R 5. DCQ5,DFQ5,DGQ5,DFQ6,DGQ6,DCQ12 變更為 10IF8-070410-01R/10IF8-073908-01R 6. MA_DQ1, 變更為 10IF9-040406-10R 7. CNVI, 變更為 10NR5-130067-22R 8. 增加 HBC1,HBC2,HBC3, (0.1u/4/16V) 9. 增加 HR15, (4.7K ohm) 10. 增加 HBC4, (10u/6/6.3V) 11. 增加 DGR24, (100K ohm) 12. 增加 DPAQ8,DPAQ9, (2N7002) 13. 增加 HU1, (10TA1-051442-30R) 14. 增加 HR1,CNVR22, (1K ohm) 15. 增加 HR13, (0 ohm) 16. 增加 OBC15, (0.47u/4/6.3V) 17. 增加 DX_DC3, (1u/4/6.3V) 18. 增加 DX_DR8 (1 ohm) 19. 刪除 SMB_SW_R17,SMB_SW_C3,SMB_SW_R20,SMB_SW_C2,HCQ4,HCQ1,HCQ2, HCQ3,HCESD1,HCESD2,NR110,NR224,SMB_SW_U2,HR10,HR6,HR7,HR8, WIFI_MODUL,ANTENNA1,ANTENNA,CNVI-CAP,U4,NR95,NR9,NR32,NR66,NR23, WR125,ECDR4,WR104,WR95,WR106,DGR20,WR107,NR166,WR87,NR167,NR92,DGR36, NR169,NR93,DGR37,TCR3,	9MB56MELT-00-02
2021/01/04 PBOM:10A	1. 12PHASE統一改為6.04K 2. DAR22,DAR67,DAR24,DAR26,DAR49,DAR61,DAR51,DAR63,DAR30,DAR20,DAR53, DAR65, 變更為 6.04K ohm 3. 80P, 變更為 10KS2-040150-11R 4. M2P_CPU, 變更為 10NR5-130M67-51R/52R 5. 增加 D31AR19,D31AR22, (68K ohm) 6. 刪除 CNVI,CNVC3,M2WC4,M2WC5,CNVC1,CNVC2,CNVC4,CNVR22,30,CNVR12, CNVR21,CNVR10,CNVR11,CNVR13,D31AR7,CNVR7,CNVR15,CNVR17	9MB56MELT-00-10A
2021/01/12 PBOM:10B	1. DFR44, 變更為 21K ohm 2. DFR43 變更為 42.2K ohm 3. 增加 DFQ2,DFQ3, (2N7002) 4. HUAU1, 變更為 10HQ5-605411-10R	9MB56MELT-00-10B
2021/01/21 PBOM:10C	1. DAU1, 變更為 10TA1-669269-28R 2. WR3, 變更為 3.16K ohm 3. DA_DL1,DI_DL1,DG_DL1,DL_DL1,DB_DL1,DJ_DL1,DC_DL1, DF_DL1,DK_DL1, DH_DL1,DE_DL1,DD_DL1, 變更為 10LC5-F4300C-01R	9MB56MELT-00-10C
2021/01/27 PBOM:10D	1. 刪除 OR27,	9MB56MELT-00-10D

Component value change history

Data	Change Item	Reason
2021/02/03 PBOM:10D	1. FOR CKD (DB) 客戶 2. 增加包材和配件	9MDB56MELT-DB-10D
2021/03/08 PBOM:10E	1. 修改3VDUAL 2. Q4, 變更為 10GL6-501085-21R/10GL6-501084-22R 3. C9, 變更為 47u/6/6.3V 3. W_OVU1,DFU1,C_OVU1, 變更為 10GL2-305103-01R/10GL2-305109-01R 4. R38, 變更為 174 ohm	9MDB56MELT-DB-10E

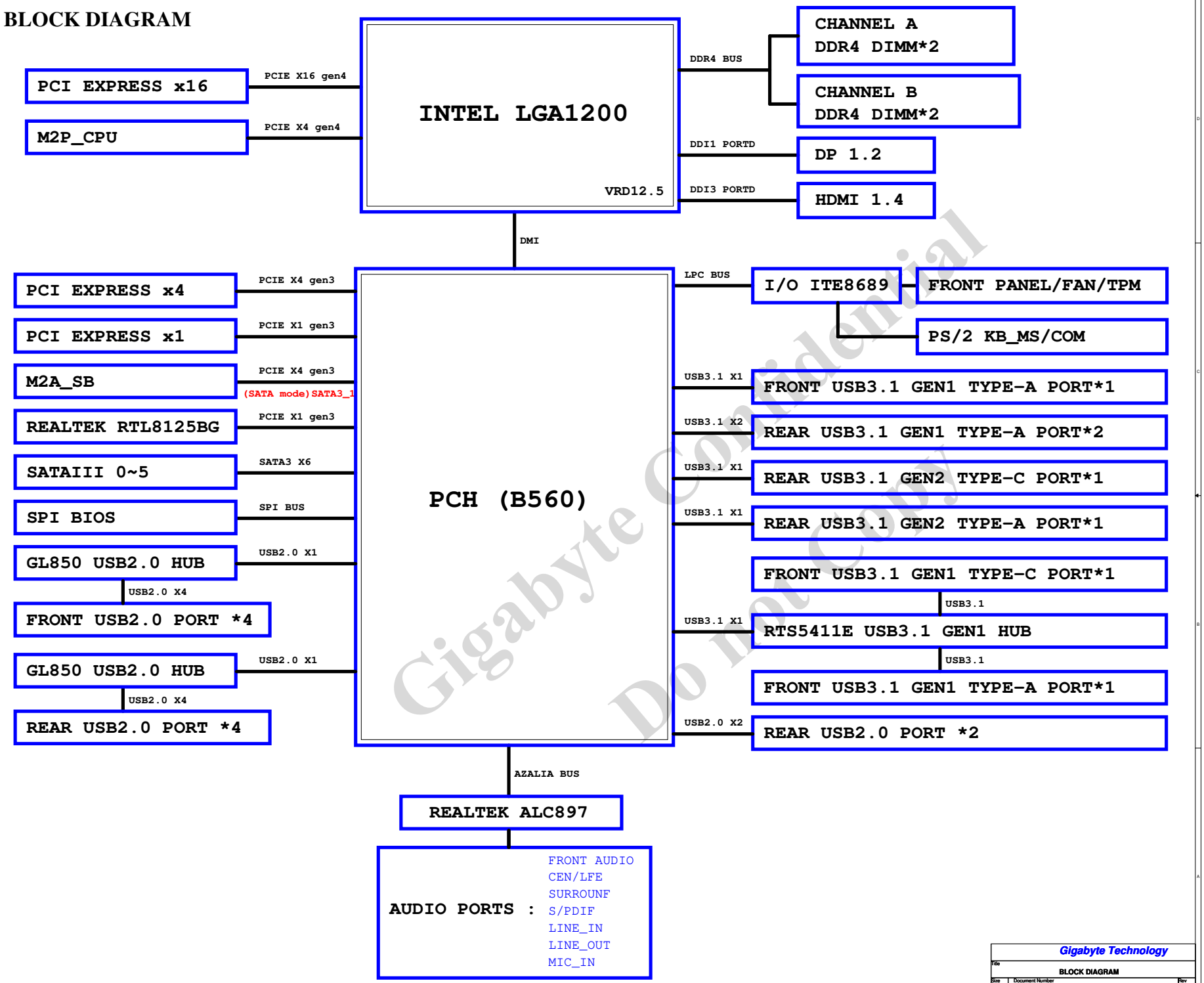
Circuit or PCB layout change

DATE	Change Item	Reason
2020/09/28 PCB:0.1	B560M AORUS ELITE Rev 0.1 Layout Request 1. 由B560M AORUS PRO Rev 0.1來修改 2. 修改PWM VCORE/VCCGT/VCCSA 3. 修改LAN to RTL8125 4. 修改IT5702 LED 5. 修改AUDIO 6. 新增power output電容 7. NPA_C21,NPA_C22, FGC2,FGC3 改0805 8. HU2AX1,U2BX1改SMD 9. Remove USBG2X2 10. USB port已經完成 11. CNVI改平躺 12. Remove ATX_12V_2X2 13. CNVI改CNVI_H	
2020/10/05 PCB:0.1	1. VU1,VU2 pin 8對調net 2. REMOVE PCH Signal Glitch Free 預留對地電阻. 3. STAP TABLE (PAGE 10/11/13/14)PU HI/DOWN 簡化. 4. REMOVE 預留-->NR119,NR263,NR266,NR254,NR253,NR252 5. SHORT PAD-->NR261,NR54,NR232. 6. VCC3_A 預留PULL HI VCCBT 改為VCC1V8 _PRIM. 7. 修改U3TXDN1_C & U3TXDN2_C 8. U32G2C USB2.0 port 改 9. 整合VCC1V8_PRIM_R & VCC1V8_PRIM 10. Add CNVI 30 孔 11.DIL2 接+12V? (之前是從VCC轉)? yes 12. VCC_BUS net 改為VCCB_VBUS 13. DIL2 改VCC 14. DAEC16,DAEC15改EC6D8MM-RH-3	
2020/10/06 PCB:0.1	1. F_AUDIO改Box Header 2. DAL1改CHOKE05U-40A-1PQ-3 3. PCH_HS change to sink_b550m_aorus_pro_pch (同Z490M GAMING X) 4. REAR_HS change to Z590_AORUS_ELITE_AX_IO_COVER 5. RMOS change to SINK_B560M_AORUS_ELITE-R	
2020/10/13 PCB:0.1	1. 修改RTS5411 OCP 線路 2. 修改PCH USB OC pin net 3. NPA_Q1.NPA_Q2 改3*3 footprint 4. NPL3 改bead	
2020/12/01 PCB:0.2	B560M AORUS ELITE Rev 0.2 Layout Request 1. 由B560M AORUS ELITE Rev 0.1 來修改 2. F_U32C 改CC MUX	
2020/12/08 PCB:0.2	1. WR104 改VCCSTG 2. HDMI 改Level shift 3. Remove DMI 4~7 4. 0 ohm 改short pad, WR87/WR125/WR104/WR95/NR169/NR32/NR167/NR166/NR9/NR66/NR93 /NR95/NR92/NR224/DGR36 5. MABC19,MABC13, OBC15, OBC2,BC46,BC48 改0201 6. Remove NR23 7. NR25 改接3vdual 8. Remove NR54 9. Remove NR176 10. Add CNVR22,close PCH 11. CNVI_BRI_DT 與週邊線隔10mils 12. C0402-0201 footprint 改R0201 13. DP Add DPAQ8,DPAQ9	

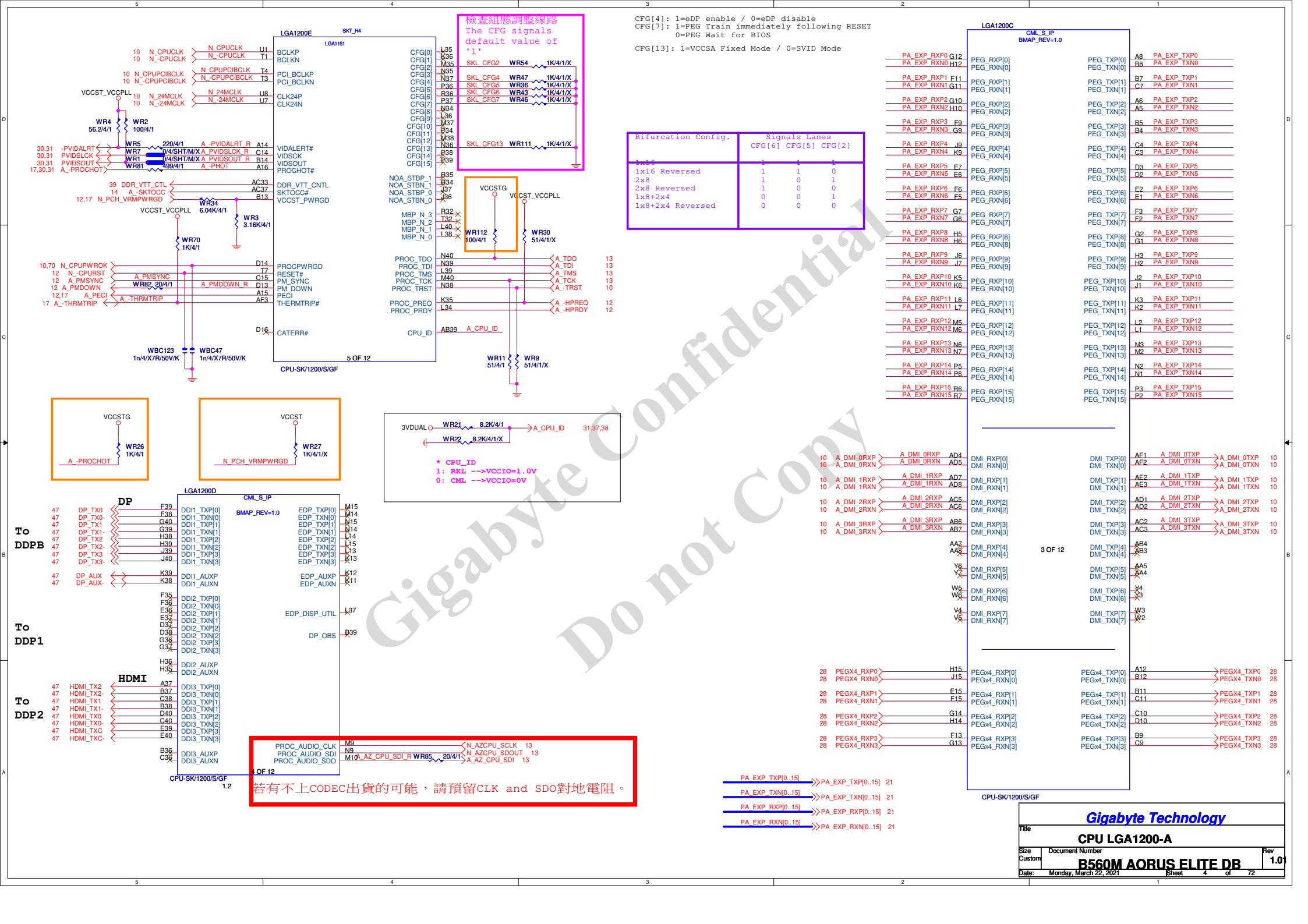
Circuit or PCB layout change

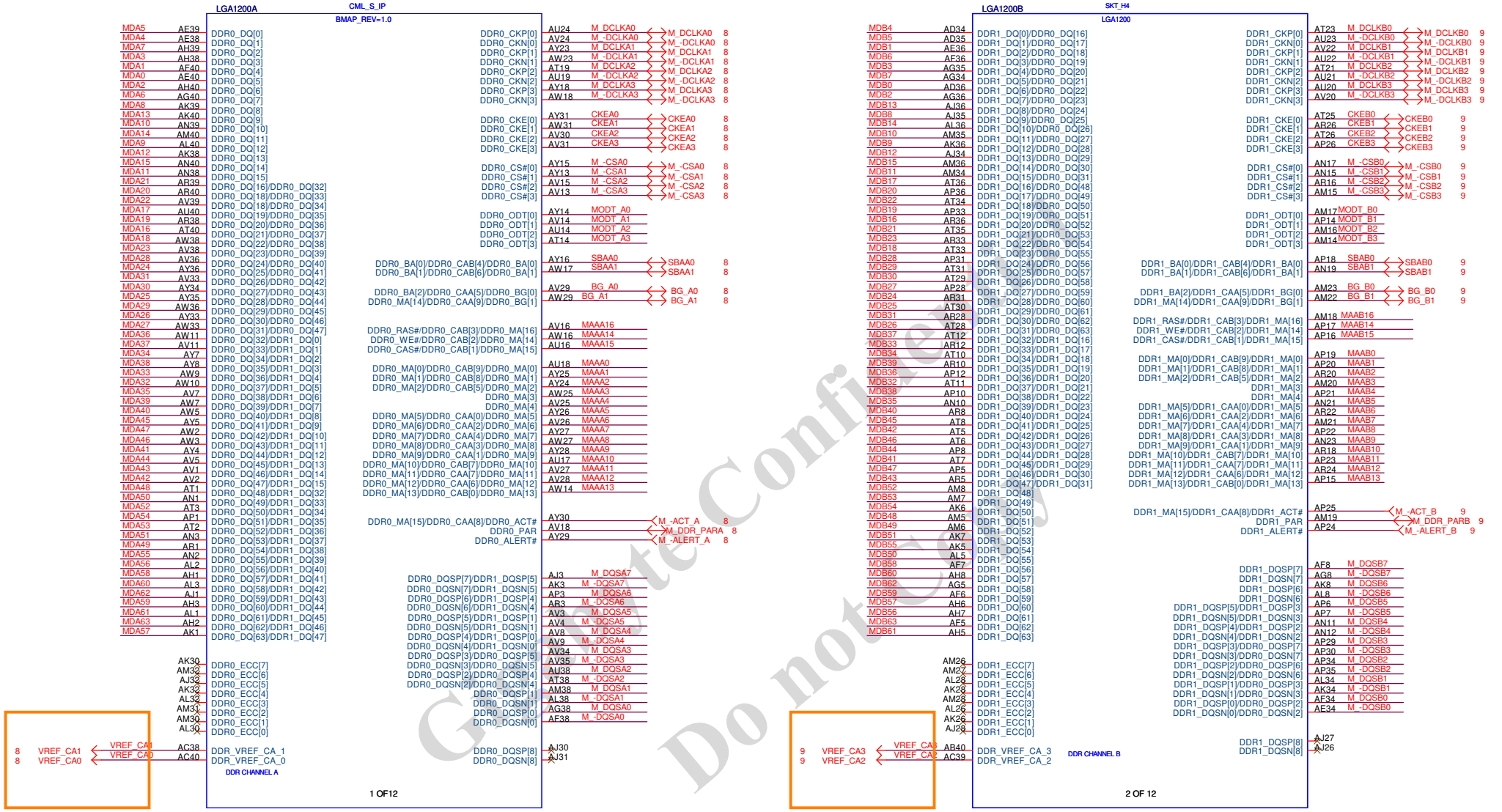
DATE	Change Item	Reason
2020/12/09 PCB:0.2	1. C0402-0201 footprint改R0201	
2020/12/14 PCB:0.2	1. DP Add DPAQ8,DPAQ9	
2020/12/15 PCB:0.2	1. HU1改IC48QFN-PS8101	
2020/12/28 PCB:10	B560M AORUS ELITE Rev 1.0 Layout Request 1. 由B560M AORUS ELITE Rev 0.2 來修改 2. TMOS footprint change to SINK_B560M_AORUS_ELITE-T	
2020/12/01 PCB:1.01	B560M AORUS ELITE Rev 1.01 Layout Request 1. 由B560M AORUS ELITE Rev 1.0 來修改 2. PIV 拉開space 均調整20mils	

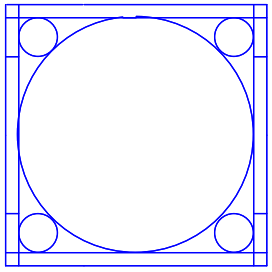
BLOCK DIAGRAM



Gigabyte Technology		
Title: BLOCK DIAGRAM		
Size: Custom	Document Number: B560M AORUS ELITE DB	Rev: 1.01
Date: Monday, March 22, 2021	Sheet 3 of 72	



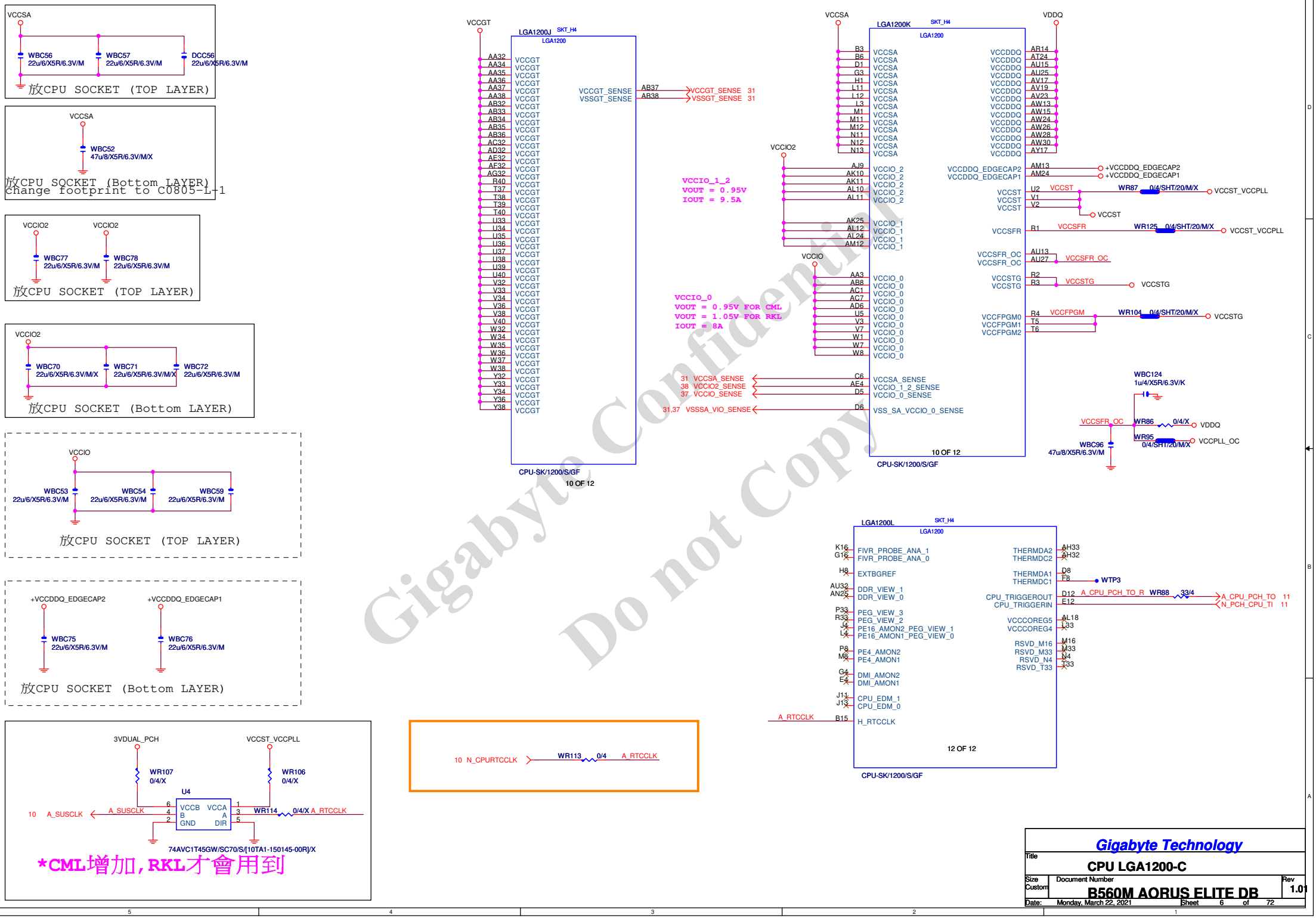




黑色cover

LGA1200
ILM_BP_CR/1200/BKNI/[12KRC-SF0001-83R_12KRC-SF0001-84R]

Gigabyte Technology	
Title	CPU LGA1200-B
Size: Custom	Document Number: B560M AORUS ELITE DB
Rev	1.01
Date: Monday, March 22, 2021	Sheet 5 of 72


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/X
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/X
WBC71 22u/6/X5R/6.3V/M/X
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
VCCB B GND
VCCA A DIR
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
VCCGT_SENSE
VSSGT_SENSE
AB37
AB38
VCCGT_SENSE 31
VSSGT_SENSE 31
CPU-SK/1200/S/GF
10 OF 12
VCCIO_1_2
VOUT = 0.95V
IOUT = 9.5A
VCCIO_0
VOUT = 0.95V FOR CML
VOUT = 1.05V FOR RKL
IOUT = 8A
31 VCCSA_SENSE
38 VCCIO2_SENSE
37 VCCIO_SENSE
31,37 VSSSA_VIO_SENSE
VCCSA_SENSE
VCCIO_1_2_SENSE
VCCIO_0_SENSE
VSS_SA_VCCIO_0_SENSE
VCCSA
VDDQ
LGA1200K SKT_H4
LGA1200
VCCIO2
VCCIO
VCCDDQ_EDGECAP2
VCCDDQ_EDGECAP1
+VCCDDQ_EDGECAP2
+VCCDDQ_EDGECAP1
VCCST_VCCPLL
VCCSFR
VCCSFR_OC
VCCSTG
VCCFPGM0
VCCFPGM1
VCCFPGM2
WR87 0/4/SHT/20/M/X
WR125 0/4/SHT/20/M/X
WR104 0/4/SHT/20/M/X
WBC124 1u/4/X5R/6.3V/K
WR86 0/4/X
WR95 0/4/SHT/20/M/X
WBC96 47u/8/X5R/6.3V/M
10 OF 12
CPU-SK/1200/S/GF
LGA1200L SKT_H4
LGA1200
FIVR_PROBE_ANA_1
FIVR_PROBE_ANA_0
EXTBGREF
DDR_VIEW_1
DDR_VIEW_0
PEG_VIEW_3
PEG_VIEW_2
PE16_AMON2_PEG_VIEW_1
PE16_AMON1_PEG_VIEW_0
PE4_AMON2
PE4_AMON1
DMI_AMON2
DMI_AMON1
CPU_EDM_1
CPU_EDM_0
H_RTCCLK
A_RTCCLK
THERMDA2
THERMDC2
THERMDA1
THERMDC1
CPU_TRIGGEROUT
CPU_TRIGGERIN
VCCCOREG5
VCCCOREG4
RSVD_M16
RSVD_M33
RSVD_N4
RSVD_T33
WTP3
A_CPU_PCH_TO_R WR88 33/4
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N_PCH_CPU_TI 11
12 OF 12
CPU-SK/1200/S/GF
10 N_CPURTCCLK
WR113 0/4 A_RTCCLK
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Gigabyte Technology
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CPU LGA1200-C
Size Custom
Document Number
B560M AORUS ELITE DB
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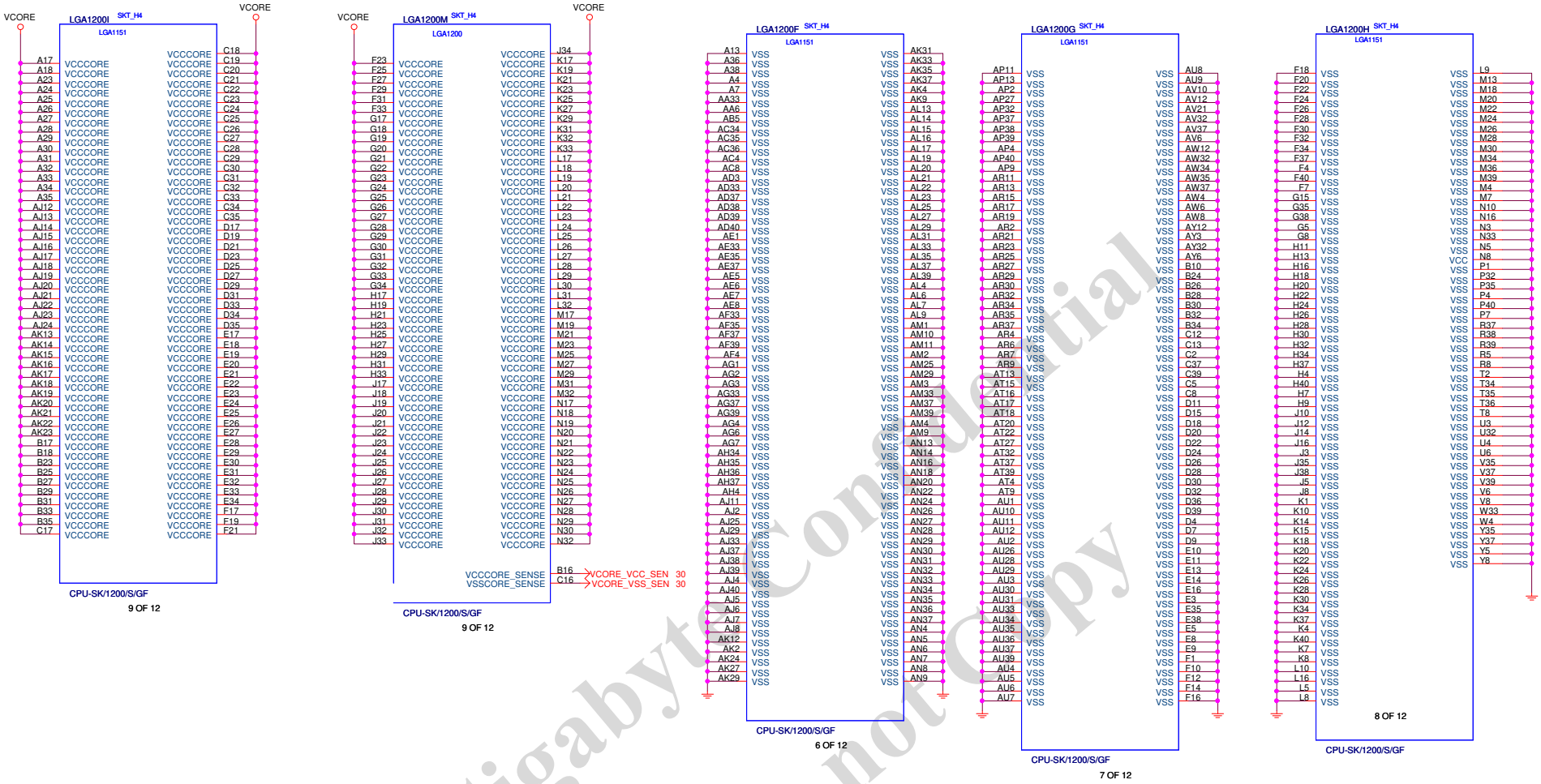
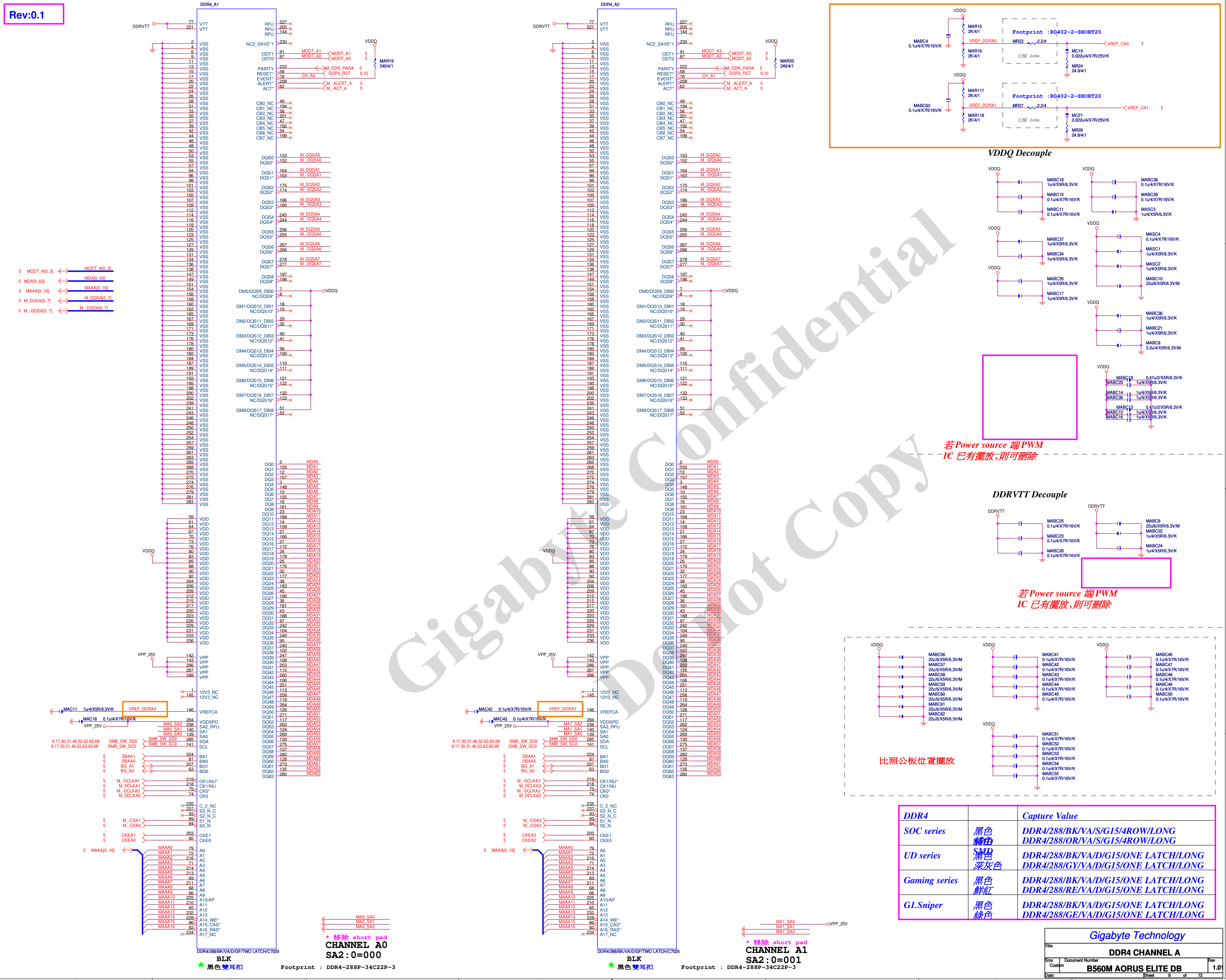


* 刪 Vcore 電容

Gigabyte Technology		
Title: CPU LGA1200-D		
Size: Custom	Document Number: B560M AORUS ELITE DB	Rev: 1.01
Date: Monday, March 22, 2021	Sheet 7 of 72	



DDR4		Capture Value
SOC series	黑色 橘色 SMD	DDR4/288/BK/VA/S/G15/4ROW/LONG DDR4/288/OR/VA/S/G15/4ROW/LONG
UD series	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 鮮紅	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

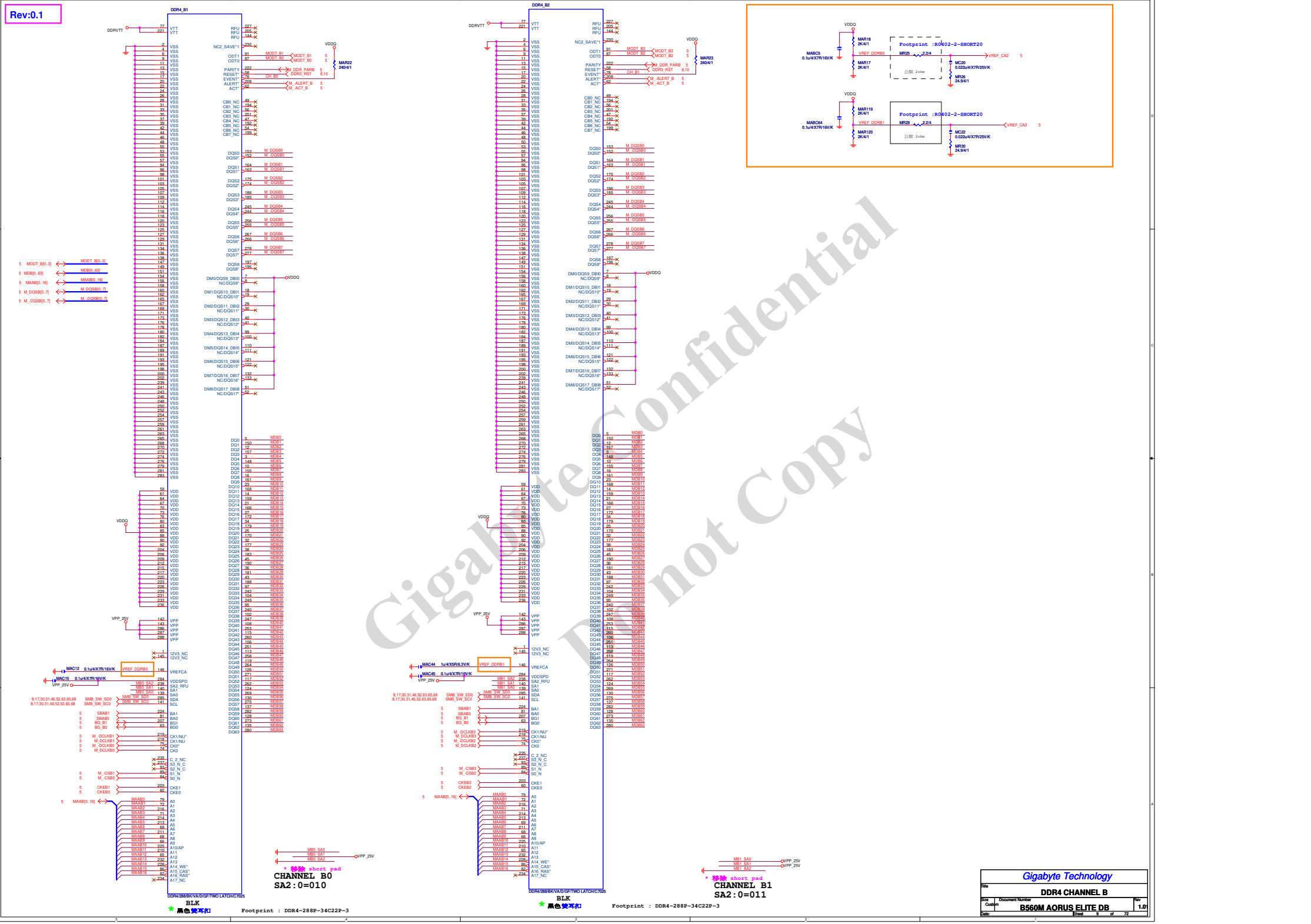
Gigabyte Technology

Title: DDR4 CHANNEL A

Size: Custom | Document Number: B560M AORUS ELITE DB | Rev: 1.01

Date: | Sheet 8 of 72

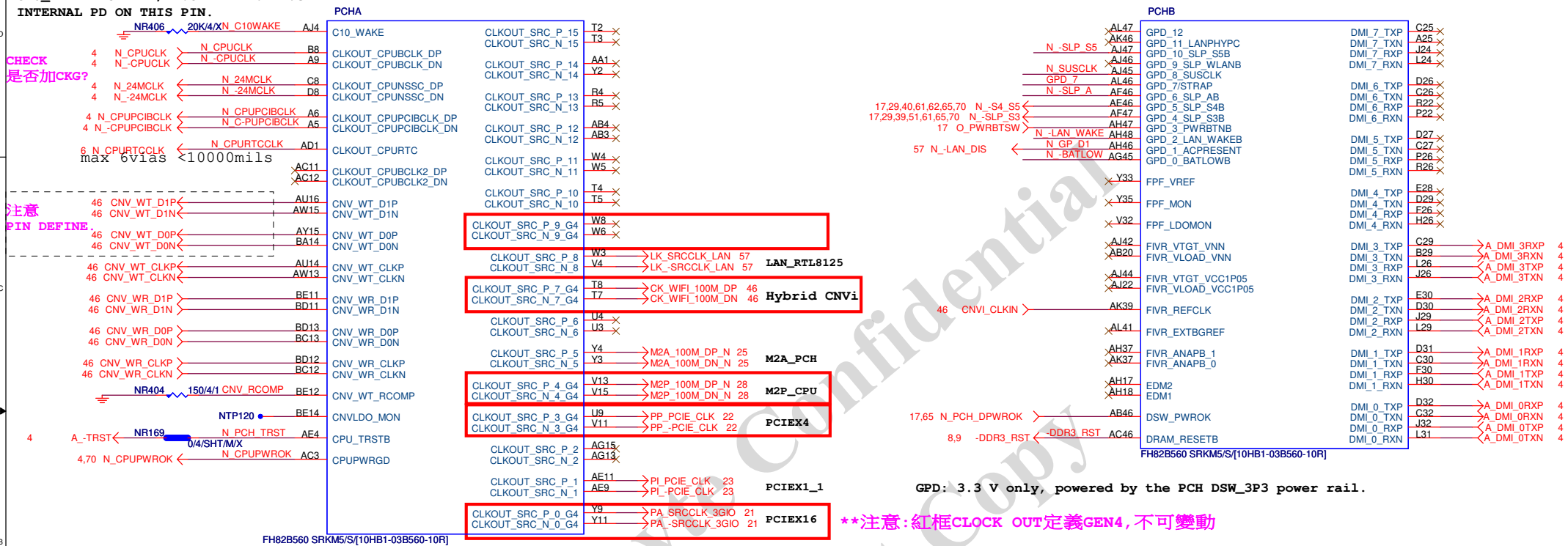
Rev:0.1



Gigabyte Technology	
Title	DDR4 CHANNEL B
Size / Custom	Document Number: B560M AORUS ELITE DB
Rev	1.0
Date:	Sheet 9 of 72

RKL_TGP_PCH-H R0.1

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

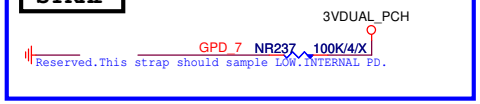


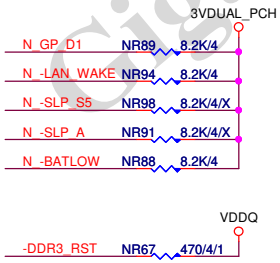
GPD: 3.3 V only, powered by the PCH DSW_3P3 power rail.

**注意:紅框CLOCK OUT定義GEN4,不可變動

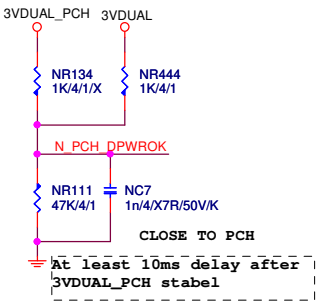
CLKOUT_PCIE_P/N [9, 7, 4, 3, 0] = Must be used for PCIe* Gen4 support

STRAP





N_SUSCLK MAX 2 LOADS SUPPORTED



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Gigabyte Technology

Title: PCH CLK,DMI,CNVI

Size: B | Document Number: B560M AORUS ELITE DB | Rev: 1.01

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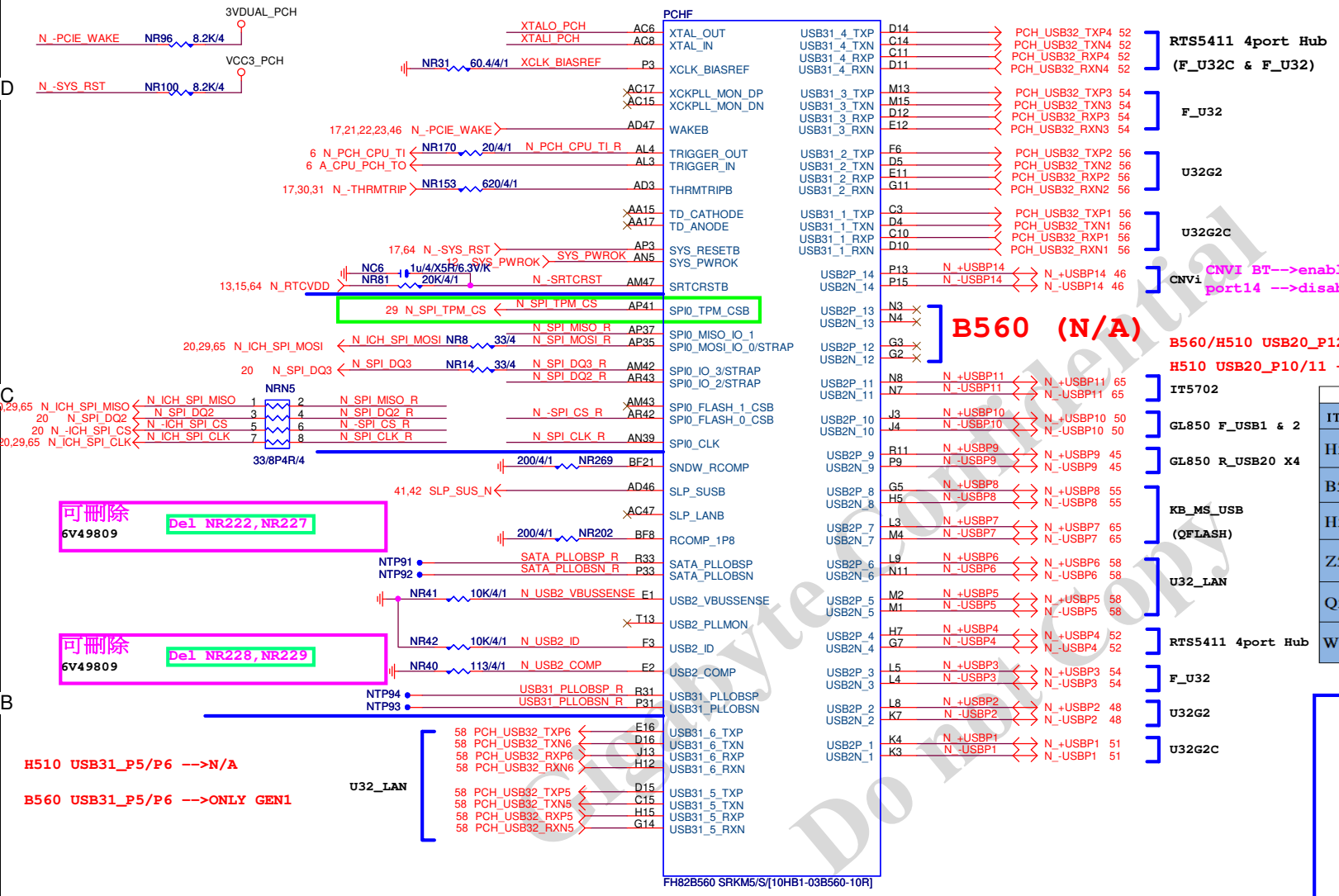
RKL_TGP_PCH-H R0.1



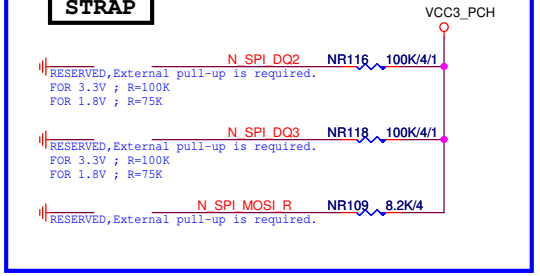
Intel 500 series PCH USB configration P1~P6

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	

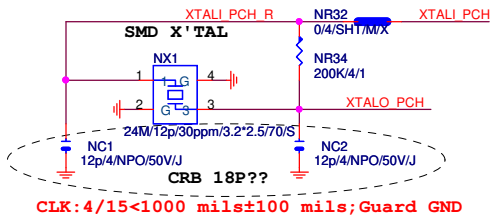
Intel 500 series PCH USB20 configration

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



CLK:4/15<1000 mils±100 mils;Guard GND

PCH Signal Glitch Free

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Gigabyte Technology

Title: PCH SPI,USB

Size: Custom | Document Number: B560M AORUS ELITE DB | Rev: 1.01

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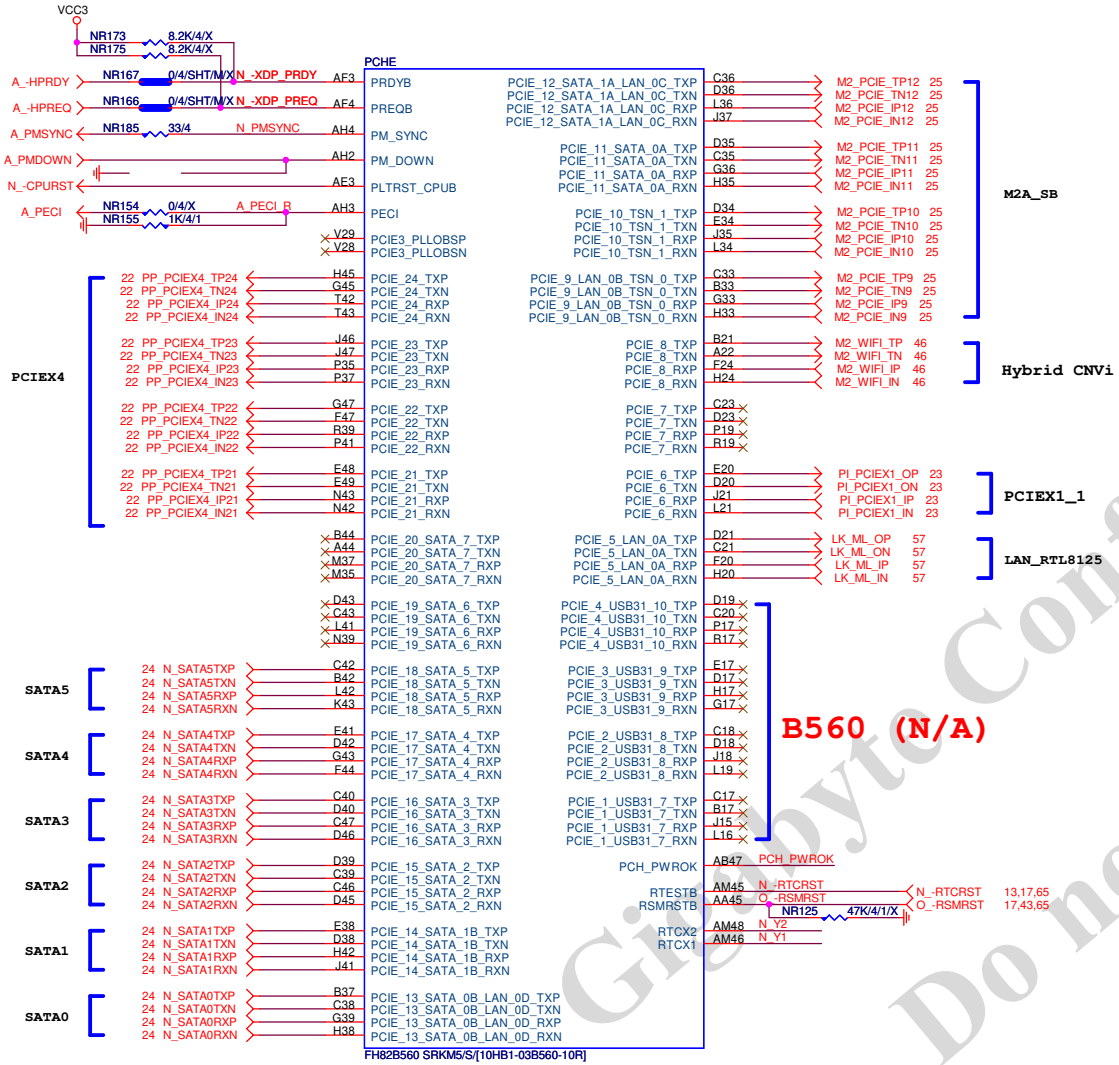
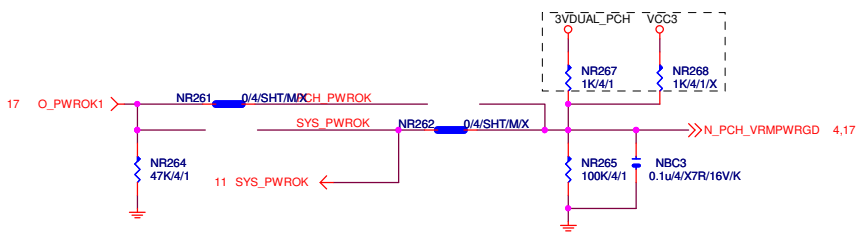




Intel 500 series PCH PCIE P5~P12

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

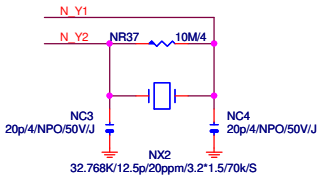
RTC 32.768KHZ

DIP X'TAL

Del DIP NX1

OPTION

SMD X'TAL



(09/21)intel 500 note item 6

ANS 8736362 **Gigabyte Technology**

Title: **PCH PCIE,SATA**

Size: Custom | Document Number: **B560M AORUS ELITE DB** | Rev: 1.01

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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_CPU
NR11 8.2K/4 N_GPP_B10 M2A_SB
ON-BOARD DEVICE PULL DOWN
N_GPP_B9 NR13 8.2K/4/X
N_GPP_B10 NR17 8.2K/4/X

PCHD

14 N_GPP_D23 N_GPP_D23 AU29
*W_BUTTON LED
AUDIO
AUDIO beat mode
U32GEN2*2
PCIEX4_PRSNT
PCIEX4_PRSNT
MINI LOAD
N_SML1DAT BB30
44 N_GPP_D11 BD32
57 N_SML0DAT N_SML0DAT BC33
57 N_SML0CLK N_SML0CLK BE32
46 -CNVI_PCM_CLK N_GPP_D8 BD36
46 CNVI_PCM_IN N_GPP_D7 BE36
46 CNVI_CLKREQ N_GPP_D6 AY33
46 -CNVI_RF_RESET N_GPP_D5 BA33
N_SML1CLK BF33
U32GEN2*2
FOR OC BUTTON

GPP_D_23_UART3_CTSB_THC1_SPI2_INTB
GPP_D_22_UART3_RTSB_THC1_SPI2_RSTB
GPP_D_21_UART3_TXD_THC1_SPI2_IO_3
GPP_D_20_UART3_RXD_THC1_SPI2_IO_2
GPP_D_19_GSPI3_MOSI_THC1_SPI2_IO_1
GPP_D_18_GSPI3_MISO_THC1_SPI2_IO_0
GPP_D_17_GSPI3_CLK_THC1_SPI2_CLK
GPP_D_16_GSPI3_CS0B_THC1_SPI2_CSB
GPP_D_15_SML1DATA
GPP_D_14_SPI1_IO_3_THC0_SPI1_IO_3
GPP_D_13_SPI1_IO_2_THC0_SPI1_IO_2
GPP_D_12_ISH_UART0_CTSB_SML0BALERTB
GPP_D_11
GPP_D_10_SML0DATA
GPP_D_9_SML0CLK
GPP_D_8_I2S2_SCLK_THC0_SPI1_INTB
GPP_D_7_I2S2_RXD_THC0_SPI1_RSTB
GPP_D_6_I2S2_TXD_MODEM_CLKREQ_CRF_XTAL_CLKREQ
GPP_D_5_I2S2_SFRM_CNV_RF_RESET_B
GPP_D_4_SML1CLK
GPP_D_3_SPI1_MOSI_IO_0_THC0_SPI1_IO_0_SBK_3_BK_3
GPP_D_2_SPI1_MISO_IO_1_THC0_SPI1_IO_1_SBK_2_BK_2
GPP_D_1_SPI1_CLK_THC0_SPI1_CLK_SBK_1_BK_1
GPP_D_0_SPI1_CSB_THC0_SPI1_CSB_SBK_0_BK_0

STRAP/GPPC_G_15_DDP2_CTRLDATA_TBT_LSX1_B
GPPC_G_14_DDP2_CTRLCLK_TBT_LSX1_A
STRAP/GPPC_G_13_DDP1_CTRLDATA_TBT_LSX0_B
GPPC_G_12_DDP1_CTRLCLK_TBT_LSX0_A
STRAP/GPPC_G_11_ISH_SPI_MOSI_DDP4_CTRLDATA_GSPI2_MOSI_TBT_LSX3_B
GPPC_G_10_ISH_SPI_MISO_DDP4_CTRLCLK_GSPI2_MISO_TBT_LSX3_A
STRAP/GPPC_G_9_ISH_SPI_CLK_DDP3_CTRLDATA_GSPI2_CLK_TBT_LSX2_B
GPPC_G_8_ISH_SPI_CSB_DDP3_CTRLCLK_GSPI2_CS0B_TBT_LSX2_A

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 ESPI_ALERT ESPI_ALERT 17
GPPC_A_9_ESPI_CS3B AU47
GPPC_A_8_ESPI_CS2B AT48
GPPC_A_7_ESPI_CS1B AT46
GPPC_A_6_ESPI_RESETB AT45 ESPI_RESET- ESPI_RESET- 17
GPPC_A_5_ESPI_CLK AR47 N_GPP_A5 NR46 22/4 ESPI_CLK 17
GPPC_A_4_ESPI_CS0B AR46 ESPI_CS- ESPI_CS- 17
GPPC_A_3_ESPI_IO_3_SUSACKB AP46 N_ESPI_IO3
GPPC_A_2_ESPI_IO_2_SUSWARNB_SUSPWRDNACK AP47 N_ESPI_IO2
GPPC_A_1_ESPI_IO_1 AN45 N_ESPI_IO1
GPPC_A_0_ESPI_IO_0 AN46 N_ESPI_IO0

N_ESPI_IO1 1 2 ESPI_IO1 17
N_ESPI_IO0 3 4 ESPI_IO0 17
N_ESPI_IO2 5 6 ESPI_IO2 17
N_ESPI_IO3 7 8 ESPI_IO3 17
10/8P4R/4/A
NRN6

NR46/NR47/NR48/NR50/NR57 CLOSE TO PCH<500mil

AL21 N_DDP2_CTRLDATA N_DDP2_CTRLDATA 47
AN21 N_DDP2_CTRLCLK N_DDP2_CTRLCLK 47
AU19 N_GPP_G13
AW18 N_GPP_G12
AY17 N_GPP_G11
BA17
BC17 N_GPP_G9
BE18

TCP* pins can be routed to USB-C* connector or DP/HDMI native connector

BF17 N_GPPC_G7 N_GPPC_G7 54 USB_OC
BD17 N_GPPC_G6 N_GPPC_G6 29 SPI_TPM

THB_C 29 N_GPP_C23 BB26
PCIEX16 BIFURCATION
THB_C 29 N_GPP_C21 AU26
PCIEX16 BIFURCATION
RTS5411 HUB2
RTS5411 HUB1 52 N_GPP_C18 AW26
ENC
ENC
PCIEX8 BIFURCATION
PCIEX16 BIFURCATION
PCIEX16 BIFURCATION
SMBUS_SW 68 N_GPP_C10 AY26
QFLASH+/CLK_MOS_LED
BIOS_LED
USB_DAC_Q2_DISABLE
USB_DAC_Q1_DISABLE

GPP_C_23_UART2_CTSB_CNV_MFUART0_CTS_B
GPP_C_22_UART2_RTSB_CNV_MFUART0_RTS_B
GPP_C_21_UART2_TXD_CNV_MFUART0_TXD
GPP_C_20_UART2_RXD_CNV_MFUART0_RXD
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 BF23
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

N_GPP_C5
17 N_-LPCPME NR9 0/4/SHT/M/X N_GPP_C2
68 N_SMBDATA N_SMBDATA
68 N_SMBCLK N_SMBCLK

GPPC_RCOMP BG13 GPPC_RCOMP 200/4/1 NR45
MPHY_RCOMPP B13 PCIECOMP_P_R 100/4/1 NR38 PCIECOMP_P
MPHY_RCOMPN A13 PCIECOMP_N
MLK_RSTB AR3
MLK_DATA AR4
MLK_CLK AP4

DDPB/C -->CHIPSET U3C

JTAGX AM2 N_PCH_JTAGX NR66 0/4/SHT/M/X A_TCK 4
JTAG_TMS AM4 N_PCH_TMS NR92 0/4/SHT/M/X A_TMS 4
JTAG_TDO AM3 N_PCH_TDO NR93 0/4/SHT/M/X A_TDO 4
JTAG_TDI AN4 N_PCH_TDI NR95 0/4/SHT/M/X A_TDI 4
JTAG_TCK AM5 N_PCH_TCK NR110 51/4/1/X

PLACE 51OHM PD WITHIN 1.1INCH OF PCH

VCCSTG
N_PCH_TMS NR79 51/4/1
N_PCH_TDO NR82 100/4/1
N_PCH_TDI NR84 51/4/1
N_PCH_JTAGX

STRAP/DBG_PMODE AG5 N_ITP_PMODE
INTRUDERB AE47 N_-INTRUDER

HDACPU_SDO AJ5 DISPA_SDO NR298 33/4 N_AZCPU_SDOUT 4
HDACPU_SDI AK4 A_AZ_CPU_SDI 4
IN HDACPU_BCLK AJ3 DISPA_BCLK NR68 33/4 N_AZCPU_SCLK 4

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.

N_PCH_HOT BD42
N_GPP_B22 AW41
N_GPP_B20 BE46
17 N_GPP_B20 BB42
N_GPP_B18 BD45
N_GPP_B17 AU36
CPU_OPT MODE 19 N_GPP_B17 BA36
SYS_FAN3 MODE 19 N_GPP_B16 AY38
SYS_FAN2 MODE 19 N_GPP_B15 BA39
64 N_SPKR N_SPKR BD40
17,65 N_-PFMRST BD39
17,30 N_-SLP_S0 N_-SLP_S0 BE40
BE39
M2A_SB 25 M2A_-CLKREQ N_GPP_B10 BD38
M2P_CPU 28 M2P_-CLKREQ N_GPP_B9 BE38
PCIEX4 22 -PCIEX4_PR N_GPP_B8 BF37
BD37
PCIEX1 23 -PCIEX1_PR1 N_GPP_B6 BC38
PCIEX16 21 -PCIEX16_PR N_GPP_B5 BC37
SYS_FAN1 MODE 19 N_GPP_B4 AU34
CPU_FAN MODE 19 N_GPP_B3 AW35
N_-VRALERT AY35
AY42
REMOVE N_-DDR_V_SEL AW37

GPP_B_23_SML1ALERTB_PCHHOTB/STRAP
GPP_B_22_GSPI1_MOSI/STRAP
GPP_B_21_GSPI1_MISO_NFC_CLKREQ
GPP_B_20_GSPI1_CLK_NFC_CLK
GPP_B_19_GSPI1_CS0B
GPP_B_18_GSPI0_MOSI/STRAP
GPP_B_17_GSPI0_MISO
GPP_B_16_GSPI0_CLK
GPP_B_15_GSPI0_CS0B
GPP_B_14_SPKR/STRAP
GPP_B_13_PLTRSTB
GPP_B_12_SLP_S0B
GPP_B_11_I2S_MCLK
GPP_B_10_SRCCLKREQB_5
GPP_B_9_SRCCLKREQB_4
GPP_B_8_SRCCLKREQB_3
GPP_B_7_SRCCLKREQB_2
GPP_B_6_SRCCLKREQB_1
GPP_B_5_SRCCLKREQB_0
GPP_B_4_CPU_GP_3
GPP_B_3_CPU_GP_2
GPP_B_2_VRALERTB
GPP_B_1_GSPI1_CS1B_TIME_SYNC_1
GPP_B_0_GSPI0_CS1B

FH82B560 SRKM5/S/[10HB1-03B560-10R]

VCC3 3VDUAL
N_GPP_G12 NR275 3.3K/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

BATTERY

3VDUAL_PCH
ND1
BAS40-05/0.2A/SOT23
NR136 1M/4/1 N_-INTRUDER
N_RTCVDD N_RTCVDD 11,15,64
NR142 20K/4/1 N_-RTCRST N_-RTCRST 12,17,65
NC8 1u/4/X5R/6.3V/K
NC9 1u/4/X5R/6.3V/K
N_VBATT NRB1 1K/4/1
BAT
BAT-SK/BK/P/S/D/SN
RB_TP1
N_VBAT N_VBAT 17

NRB1 必須放在BAT外
DIP款式矮的電池座
BATTERY-DN-1

BATTERY
CR2032

CLR_CMOS

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

PCH Signal Glitch Free

STRAP

VCC3
N_SPKR NR131 8.2K/4/X
TOP SWAP OVERRIDE STRAP, PCH HAS INTERNAL WEAK PD
HIGH:TOP SWAP ENABLED
LOW:TOP SWAP DISABLED

3VDUAL
N_GPP_B18 NR133 8.2K/4/X
NO REBOOT IF SAMPLED HIGH, PCH HAS INTERNAL WEAK PD
N_GPP_B22 NR124 8.2K/4/X
Boot BIOS Strap (BBS),PCH HAS INTERNAL WEAK PD.
1 : ESPI PERIPHERAL CHANNEL
0 : SPI(MAF) OR ESPI FLASH CHANNEL(SAF)

VCC3_PCH
NR102 1K/4/1/X N_GPP_C2 NR103 8.2K/4
TLS Confidentiality IF SAMPLED HIGH, CH HAS INTERNAL WEAK PD
NR105 1K/4/1/X N_GPP_C5
ESPI DISABLE STRAP PCH HAS INTERNAL WEAK PD
HIGH:DISABLE
LOW:ENABLE(DEFAULT)
For eSPI

VCC3_PCH
N_-PCH_HOT NR114 8.2K/4/X
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)

3VDUAL
V1P05A
NR249 1K/4/1/X N_ITP_PMODE
Reserved.INTERNAL WEAK PH.

* RKL
3VDUAL_PCH
NR247
N_DDP2_CTRLDATA 2.2K/4/X
N_GPP_G13 NR248 2.2K/4/X
N_GPP_G11 NR241 2.2K/4/X
N_GPP_G9 NR242 2.2K/4/X
TBT VCCIO CONFIGURATION,PCH HAS INTERNAL WEAK PD
HIGH:3.3V
LOW:1.8V

For eSPI

VCCBT
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

ANS 8736362 **Gigabyte Technology**

Title: **PCH ESPI,MISC**

Size: Custom | Document Number: **B560M AORUS ELITE DB** | Rev: 1.01

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RKL_TGP_PCH-H R0.1

PCHC

FH82B560 SRKM5/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

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

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

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

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

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.

PCH Signal Glitch Free

RESERVED STRAP

ON-BOARD DEVICE

LAN RTL8125
CNVI

VCCIO VID

M2A_PCH IFDET
M2A_PCH DETECT

CNVI WIFI/BT DISABLE
PCIEX8 PRESENT
M2P_CPU DETECT

DDPA -->CHIPSET U3D

注意:PWM SIDE PD 100K.

Title	PCH GPP,HDA
Size	Custom
Document Number	B560M AORUS ELITE DB
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Date:	Monday, March 22, 2021
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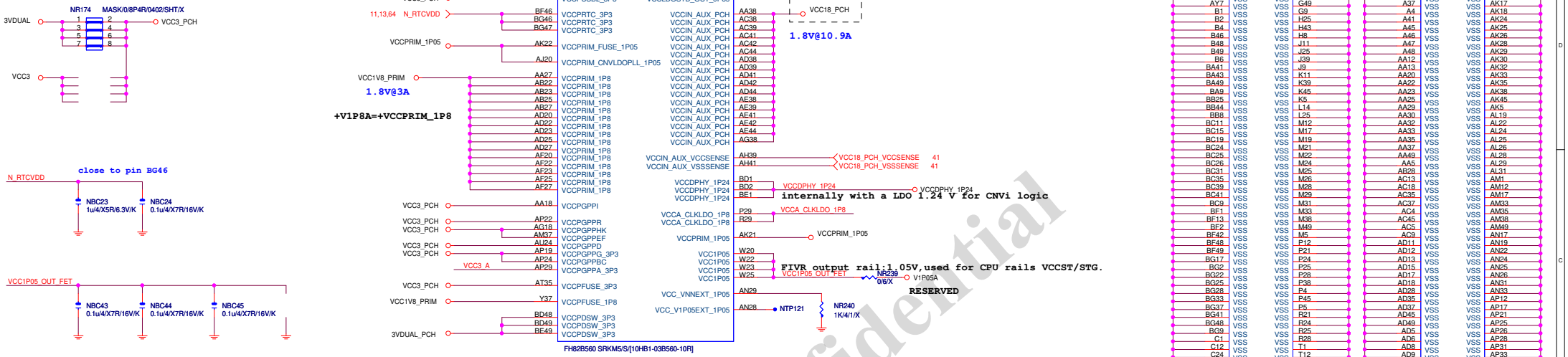
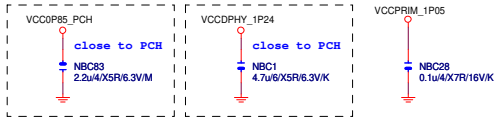
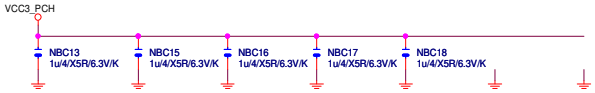
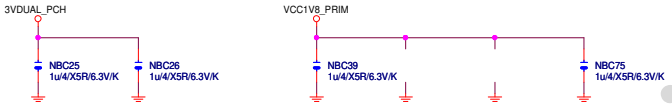
ANS 8736362 Gigabyte Technology

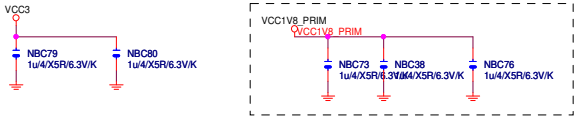
RKL_TGP_PCH-H R0.1







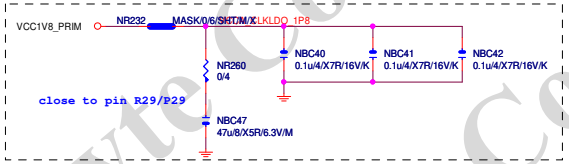


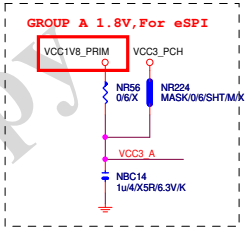


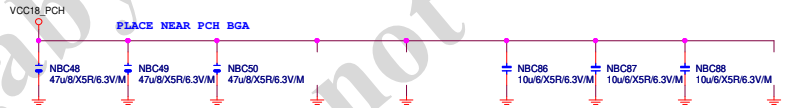
VCCPGPPR:Audio Power 3.3 V or 1.8 V.

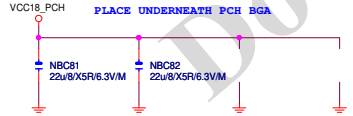
VCCPGPPBC/D/EF/HK/I:Power rail for GPIOs

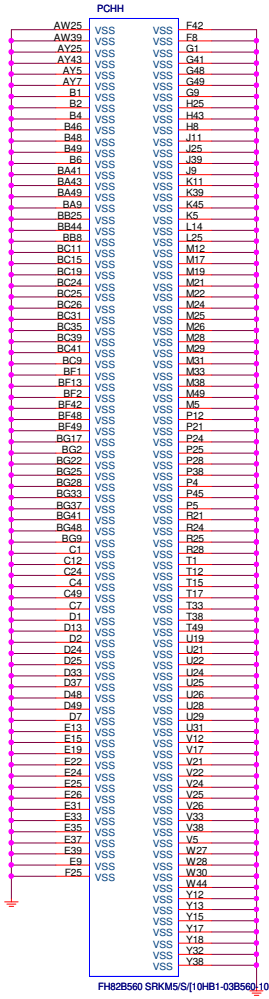
REMOVE VCC10_VCCF24_1P0/VCC10_VCCAPLL/VCC10_VCCAMPHYPLL

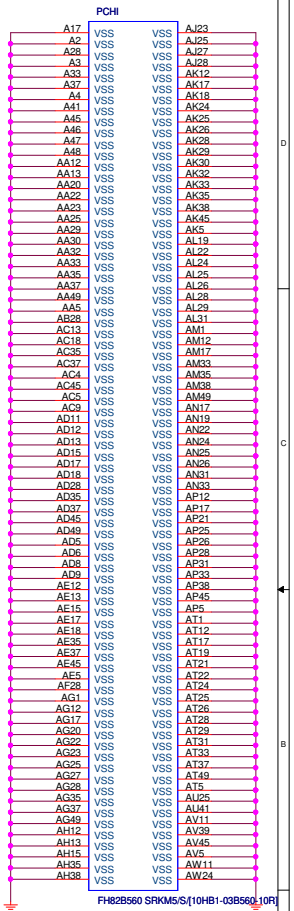












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Gigabyte Technology

Title: **PCH PWR, GND**

Size: Custom | Document Number: **B560M AORUS ELITE DB** | Rev: 1.01

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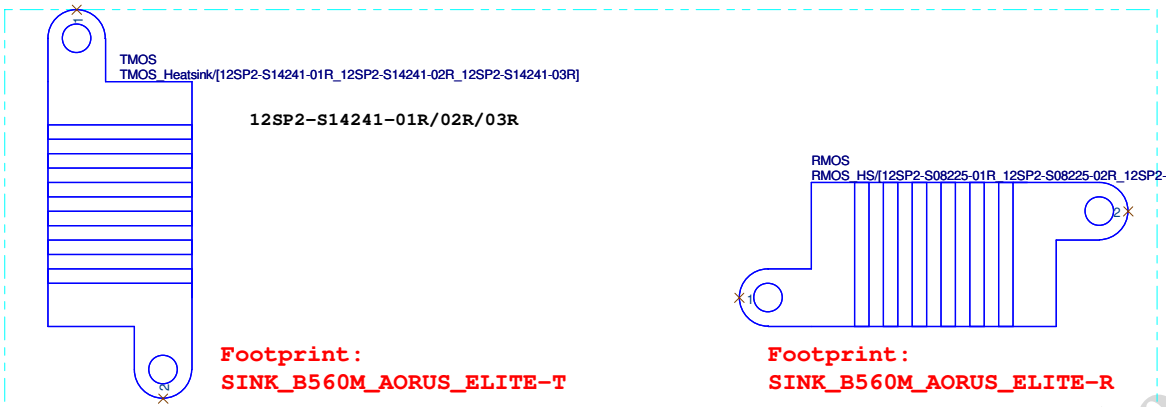
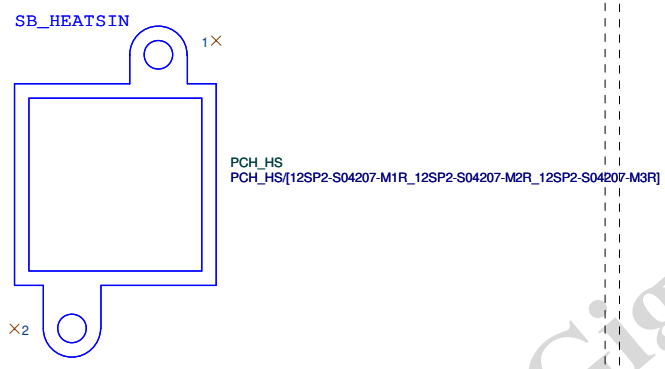
裝甲HEATSINK 分成四大部份

MOS_HS



PCH_HS

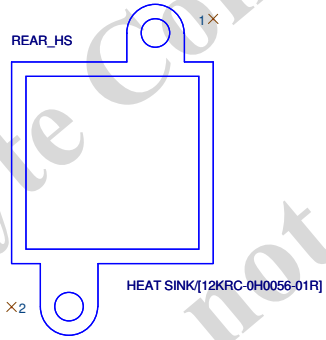
Location: PCH_HS 12SP2-S04207-J2R/J4R



FOOTPRINTS :
sink_b550m_aorus_pro_pch

裝甲

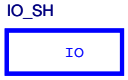
Location: REAR_HS 12KRC-0H0044-01R



Footprint :
Z590_AORUS_ELITE_AX_IO_COVER

後窗鐵片

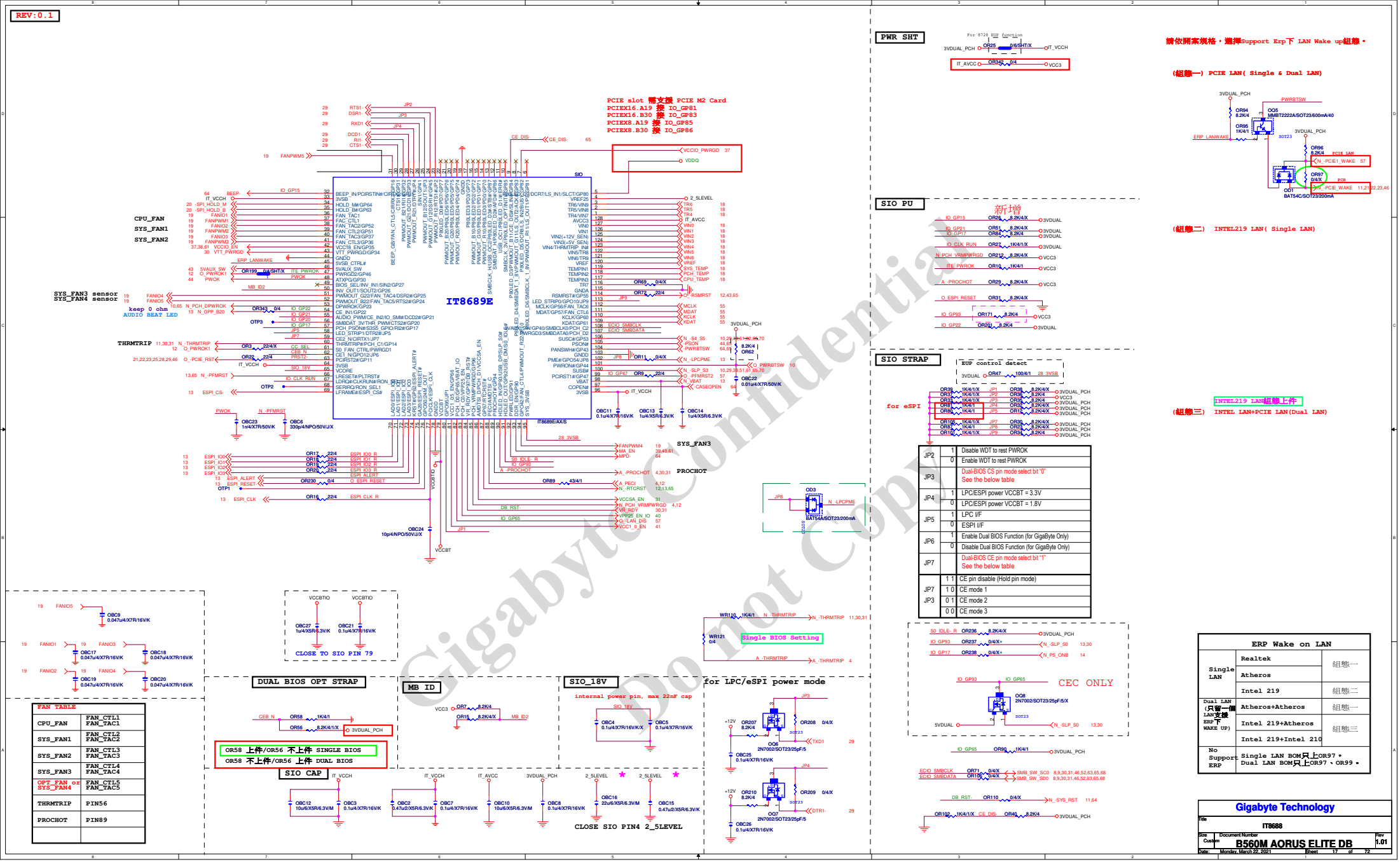
Location: IO_SH 11AIO-0C0015-22R



- PCB顏色 ： 咖啡黑
- 文字面 ： 灰色
- 疊構 ： E
- 圖騰:ID設計Z590版GIGABYTE GAMING

Gigabyte Technology		
Title: Heatsink		
Size: Custom	Document Number: B560M AORUS ELITE DB	Rev: 1.01
Date: Monday, March 22, 2021	Sheet 16 of 72	

REV:0.1



PWR SHT

SIO PU

SIO STRAP

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)

(組態三) INTEL LAN+PCIE LAN(Dual LAN)

INTEL219 LAN組態上件

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。	

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

for LPC/eSPI power mode

SIO CAP

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

Gigabyte Technology	
Title	IT8688
Size: Custom	Document Number: B560M AORUS ELITE DB
Rev: 1.01	
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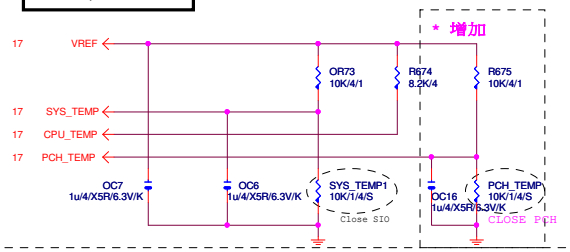
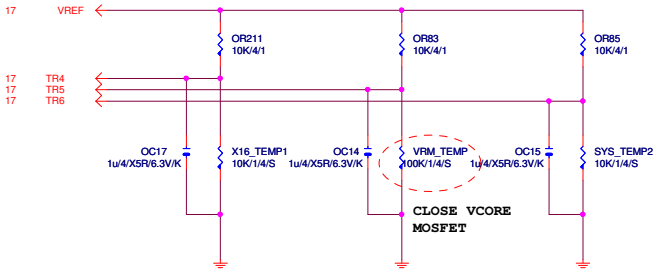
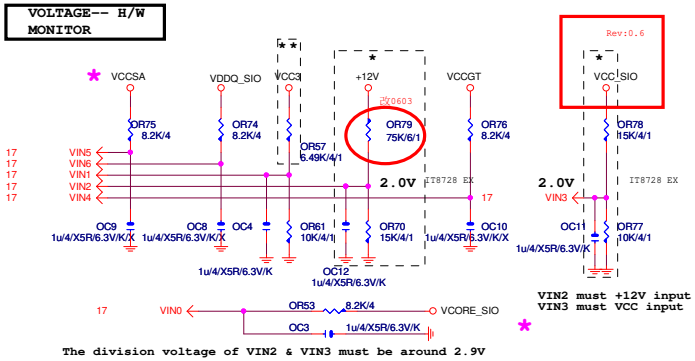
TEMP H/W MONITOR



5個FAN時使用

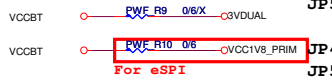


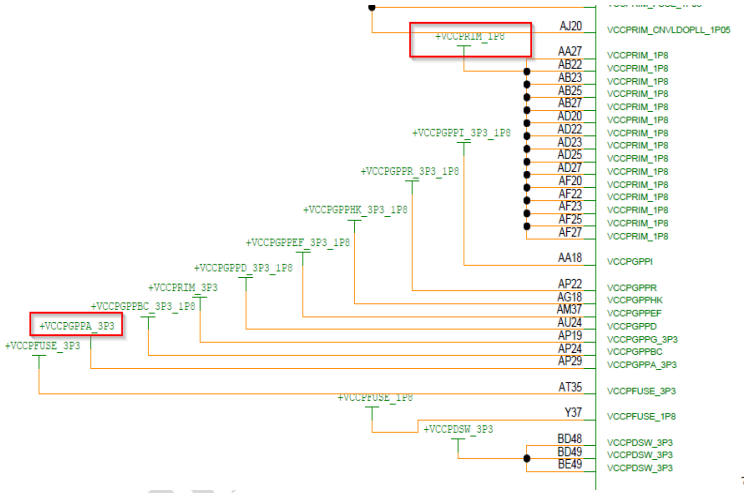
VOLTAGE-- H/W MONITOR

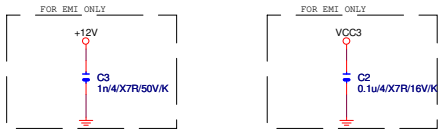


JP4 HI ESPI MODE VCCBT 3.3V
JP5 HI ESPI MODE LPC I/F

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







★Update 2015-04.24

Gigabyte Technology		
Title: HWM,KB/MS, FAN CTRL		
Size: Custom	Document Number: B560M AORUS ELITE DB	Rev: 1.01
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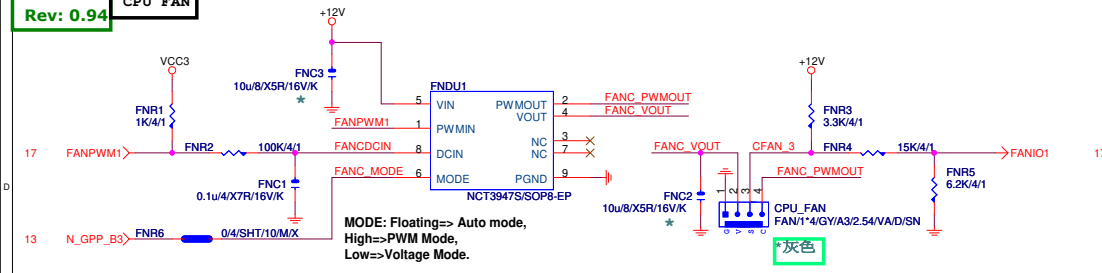
Rev: 0.94

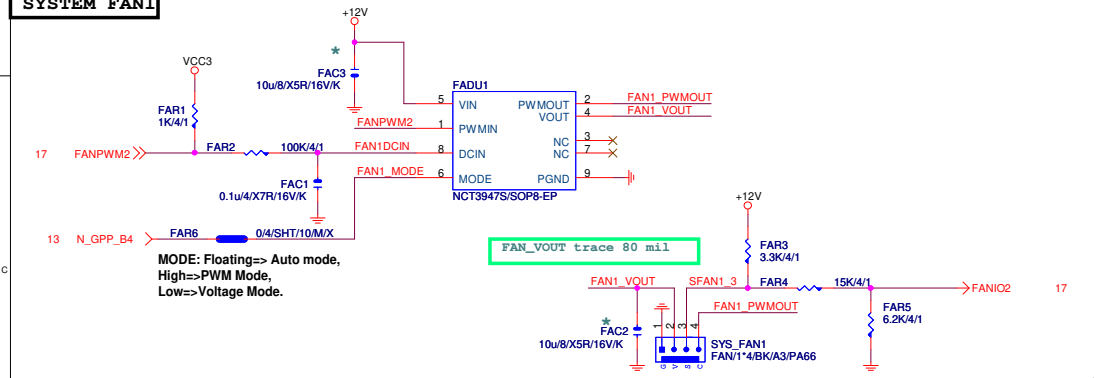
CPU FAN



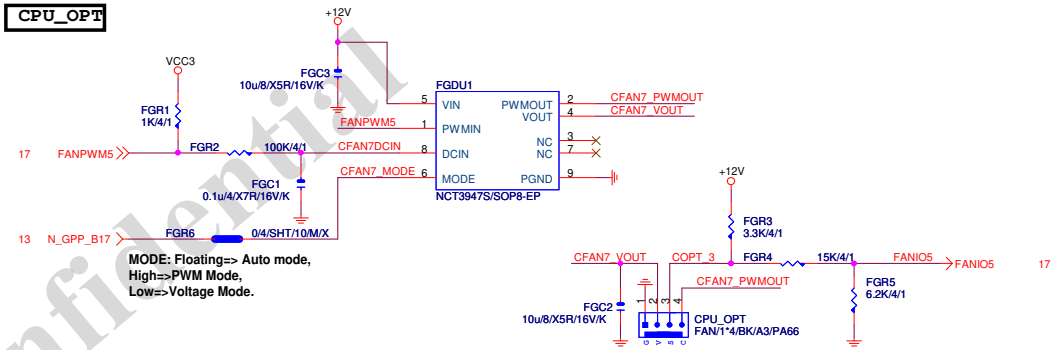
IO 5 FAN

CPU_FAN
CPU_OPT
SYS_FAN1
SYS_FAN2
SYS_FAN3

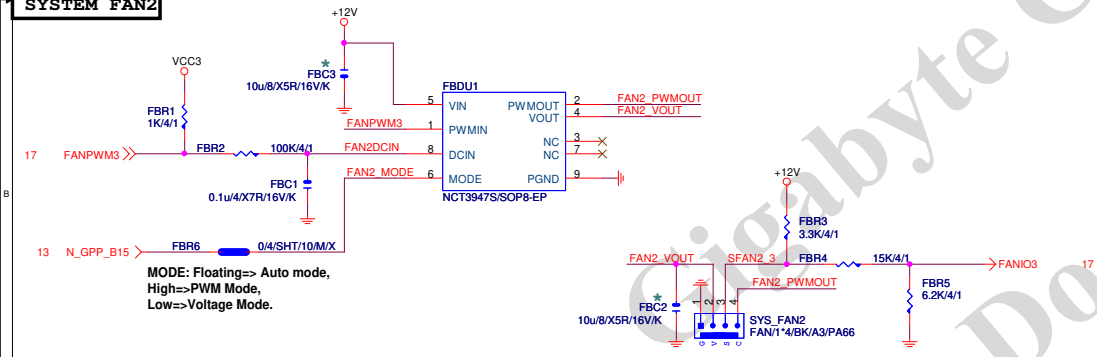
SYSTEM FAN1



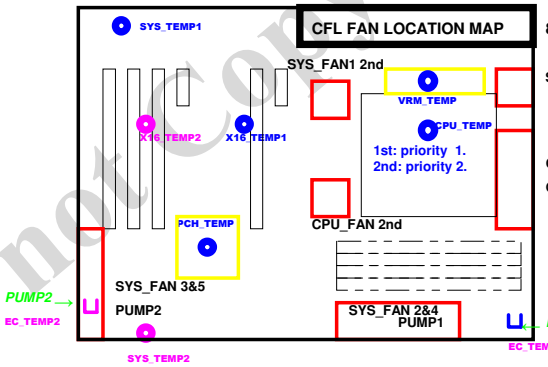
CPU_OPT



SYSTEM FAN2



CFL FAN LOCATION MAP



8 FAN from IO & EC

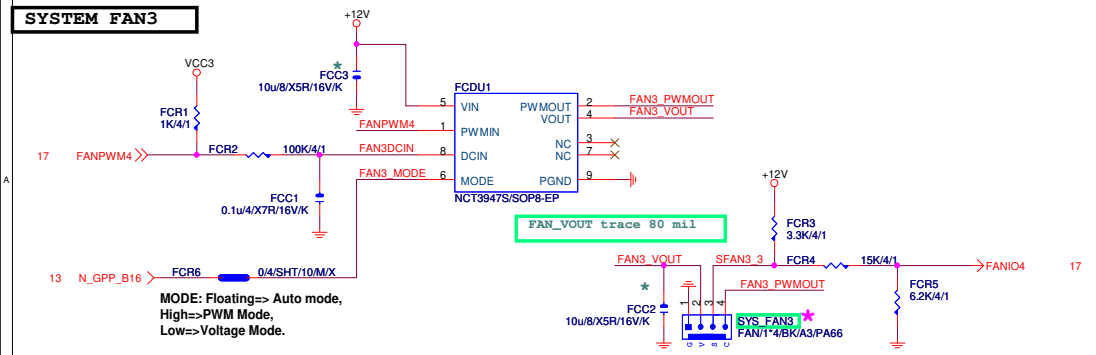
EC TEMP SENSE 879X

IO TEMP SENSE 8686

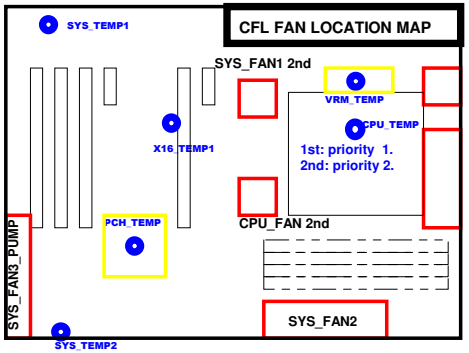
SYS_FAN1 1st

CPU_FAN 1st
OPT_FAN

SYSTEM FAN3



CFL FAN LOCATION MAP



5 FAN from IO

IO TEMP SENSE 8686

SYS_FAN1 1st

CPU_FAN 1st
OPT_FAN

Gigabyte Technology

Title: HWM,KB/MS, FAN CTRL

Size: Custom | Document Number: B560M AORUS ELITE DB | Rev: 1.01

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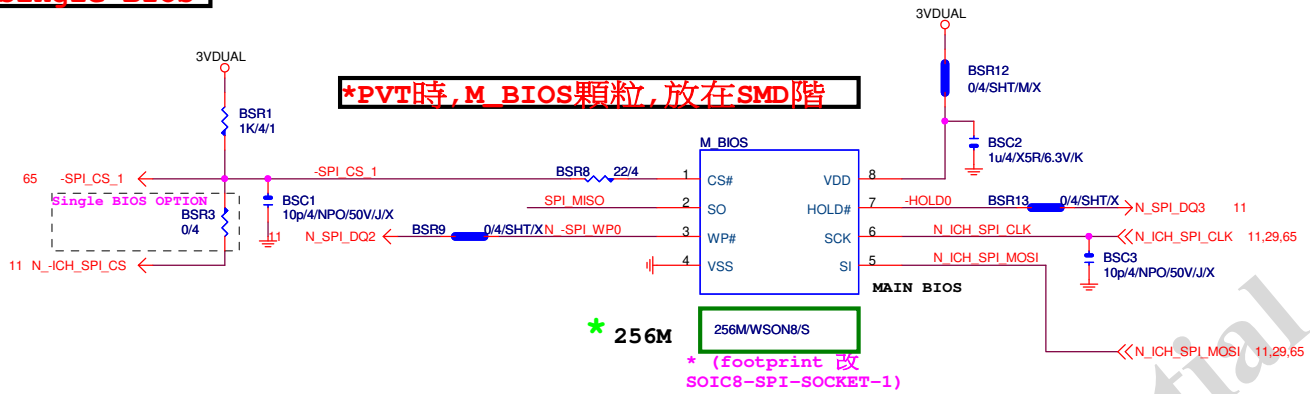
DUAL BIOS

*Single BIOS

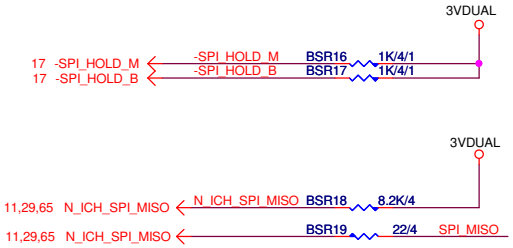
*PVT時,M_BIOS顆粒,放在SMD階



* 256M

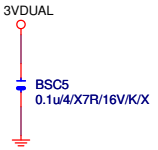
* (footprint 改 SOIC8-SPI-SOCKET-1)

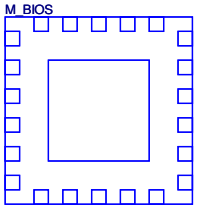
MOSI For DMI RX Termination Voltage



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: B560M AORUS ELITE DB | Rev: 1.01

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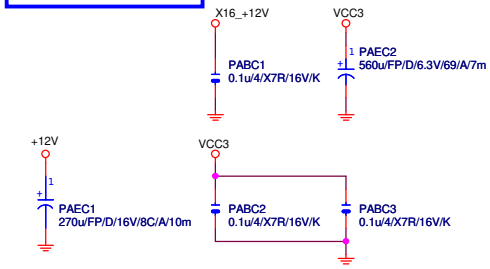
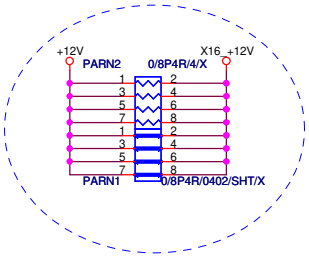
Rev 0.3

PCIEX16 CAP



PCIEX16 PROTECT SHT

+12 protect
short-wire test



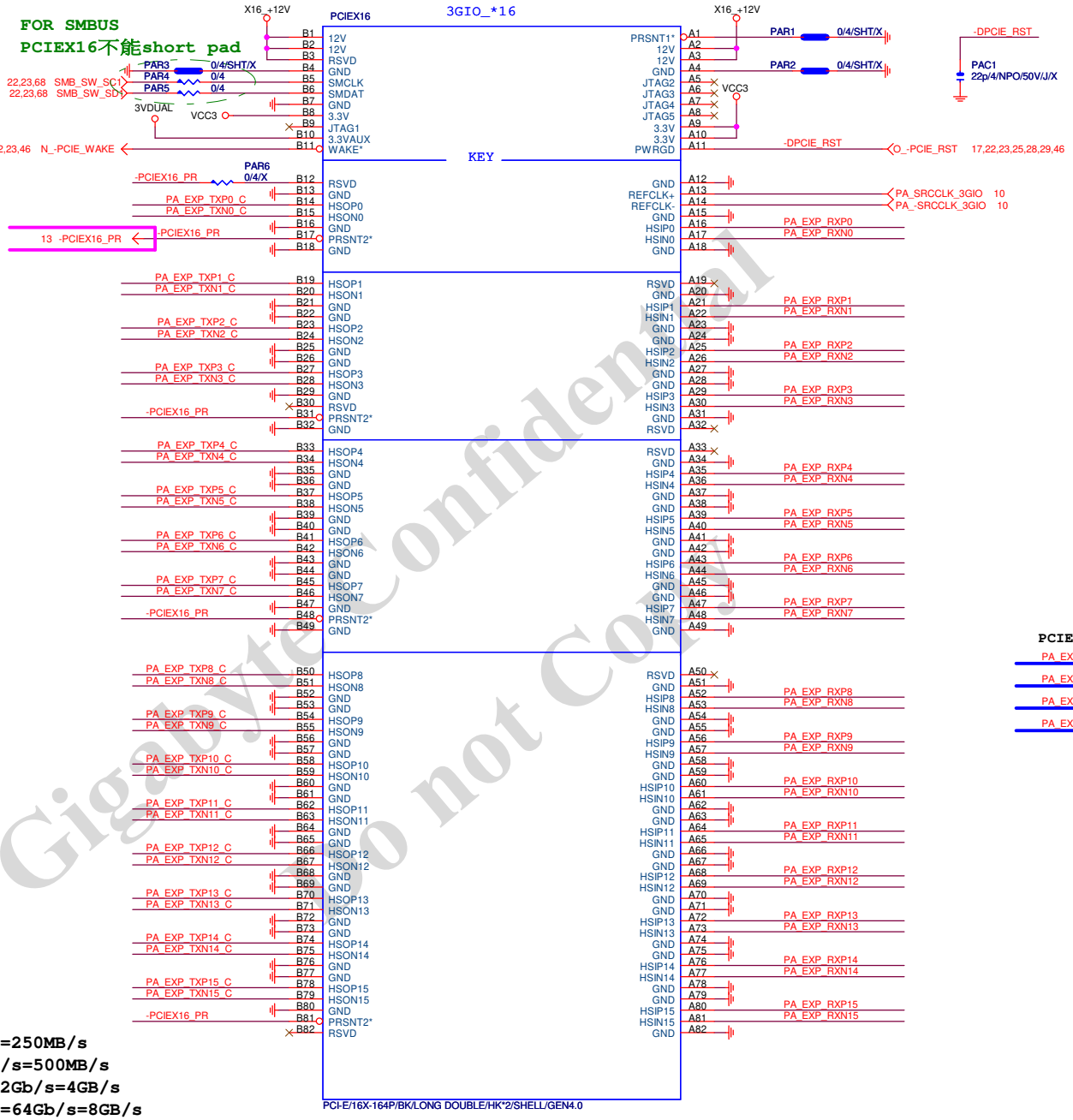
PCIEX16 AC CAP

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			
Size: Custom	Document Number: B560M AORUS ELITE DB		Rev: 1.01
Date: Monday, March 22, 2021	Sheet 21 of 72		

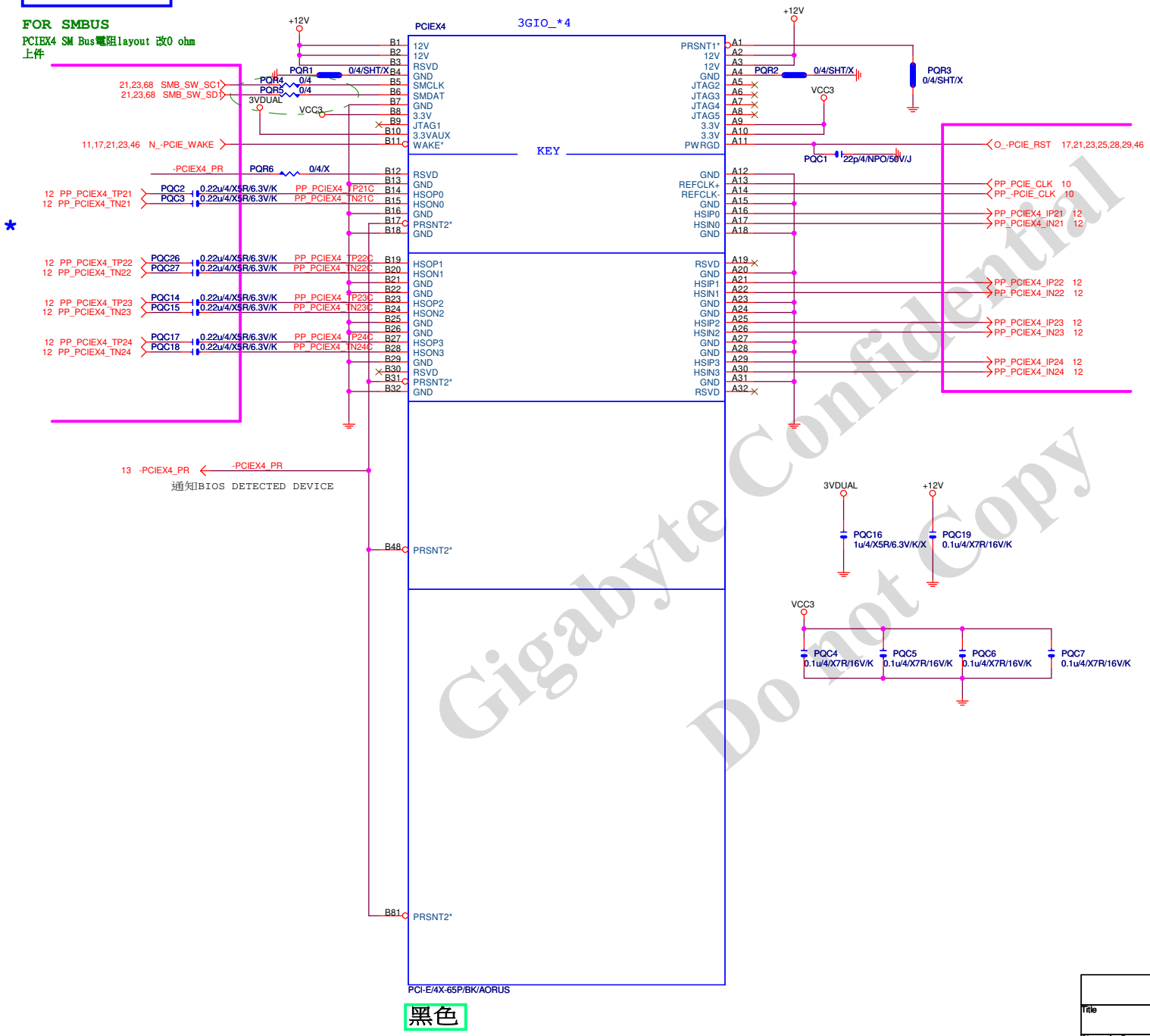
Rev 0.51

PCIE*4

* Footprint "PCIESLOT-64P-1"

FOR SMBUS

PCIEX4 SM Bus電阻layout 改0 ohm 上件



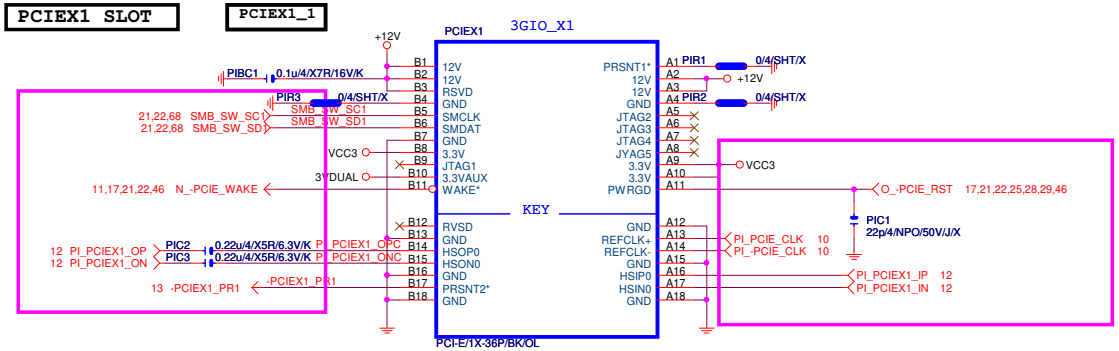
黑色

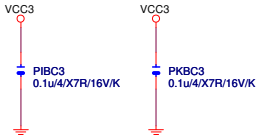
Gigabyte Technology		
Title: PCIE_X4		
Size: Custom	Document Number: B560M AORUS ELITE DB	Rev: 1.01
Date: Monday, March 22, 2021	Sheet 22 of 72	

Rev 0.51

PCIEX1 SLOT

PCIEX1_1





Gigabyte Technology

Title: PCIE X1 *3

Size: Custom | Document Number: B560M AORUS ELITE DB | Rev: 1.01

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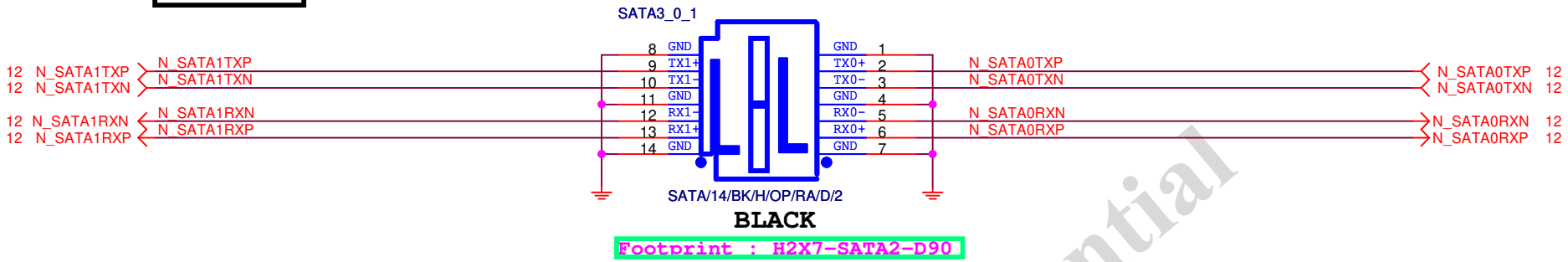
IO18/IO19 To SATA3 port0/1

6 SATA3 from Z490 (90度R-A)

SATA3 0/1

上 Port (8~14)　　下 Port (1~7)

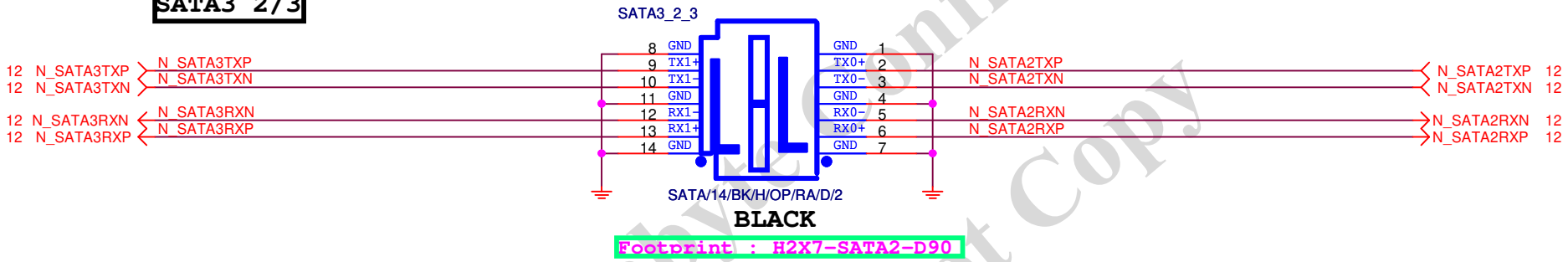


Footprint : H2X7-SATA2-D90

IO20/IO21 To SATA3 port2/3

SATA3 2/3

上 Port (8~14)　　下 Port (1~7)

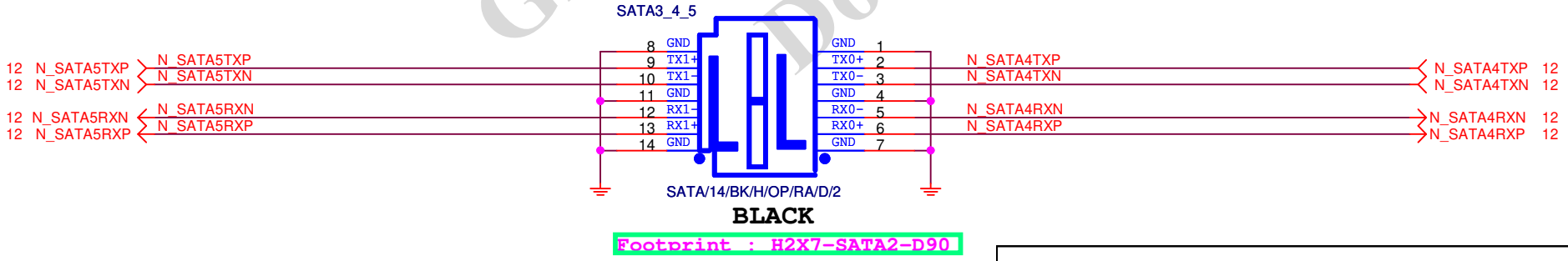


Footprint : H2X7-SATA2-D90

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: B560M AORUS ELITE DB	Rev: 1.01
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Rev 0.1

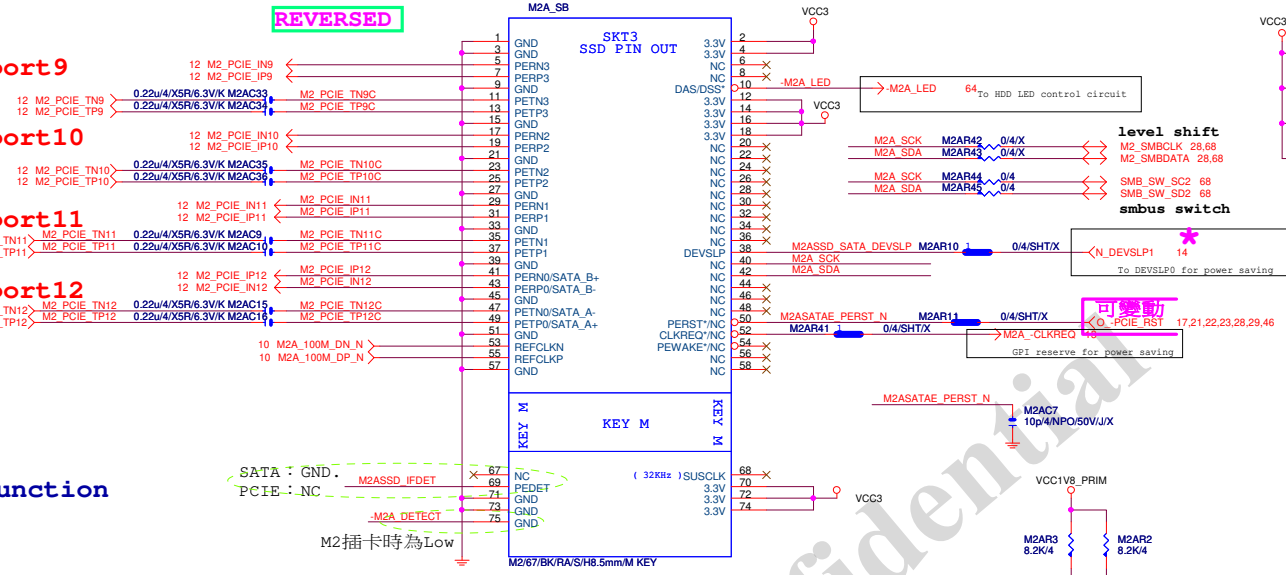
M.2 Lane4 from PCH port9

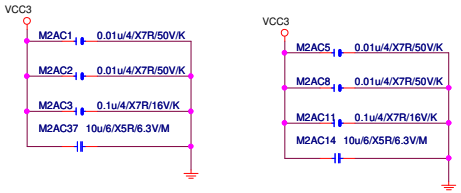
M.2 Lane3 from PCH port10

M.2 Lane2 from PCH port11

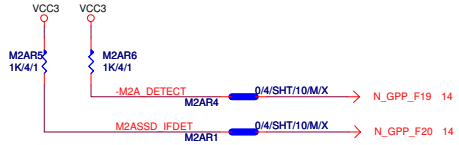
M.2 Lane1 from PCH port12

REVERSED



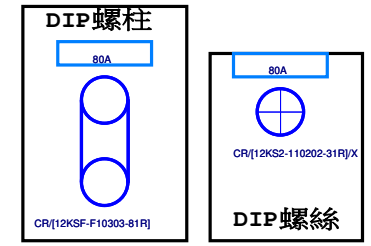


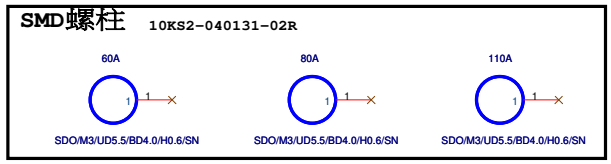
支援SATA and M.2 function



架高

Footprint : M2_110_H2MM8W





★ Footprint : HOLE_C236D165-A
10KS2-040131-02R:SDO/M3/UD5.5/BD4.0/H0.6/SN

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: B560M AORUS ELITE DB | Rev: 1.01

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GIGABYTE™

Title: AQC113C		
Size: Custom	Document Number: B560M AORUS ELITE DB	Rev: 1.01
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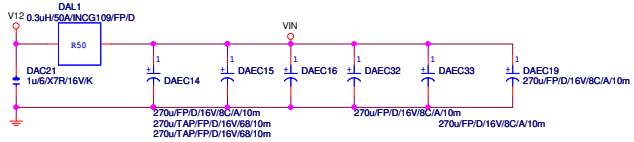
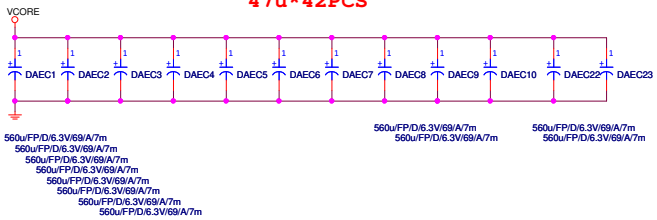
REV:0.12

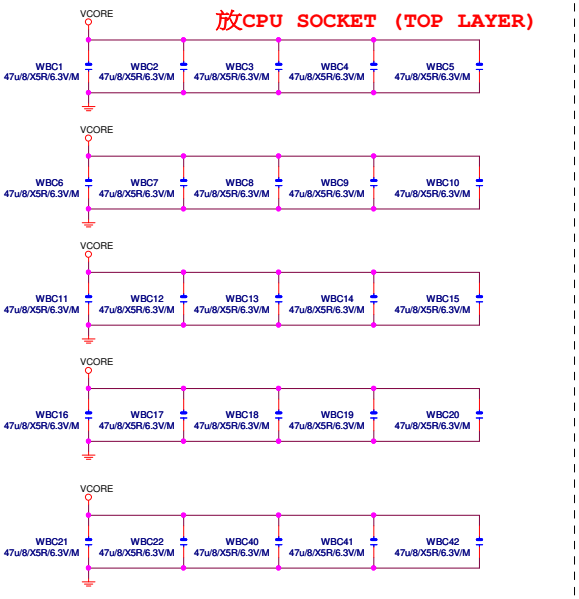
VIN CAP 270u*6PCS

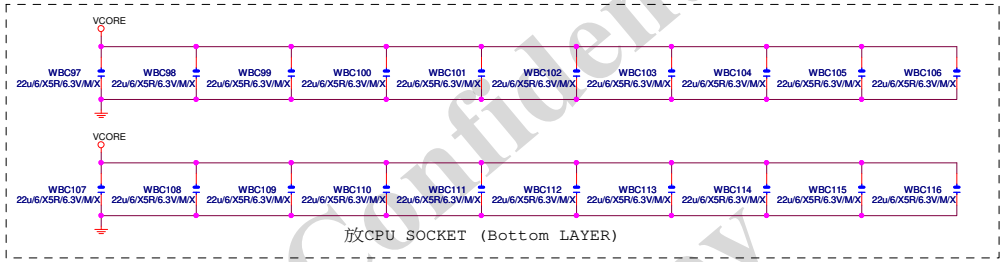


VCORE CAP 560u*12PCS 47u*42PCS



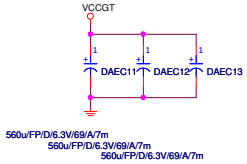
放CPU SOCKET (TOP LAYER)

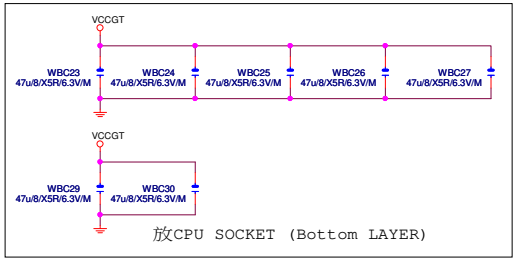




放CPU SOCKET (Bottom LAYER)

VCCGT CAP 560u*3PCS 47u*7PCS





放CPU SOCKET (Bottom LAYER)

GIGABYTE™

Title	POSCAP_1+0	
Size: Custom	Document Number: B560M AORUS ELITE DB	Rev: 1.01
Date: Monday, March 22, 2021	Sheet 27 of 72	

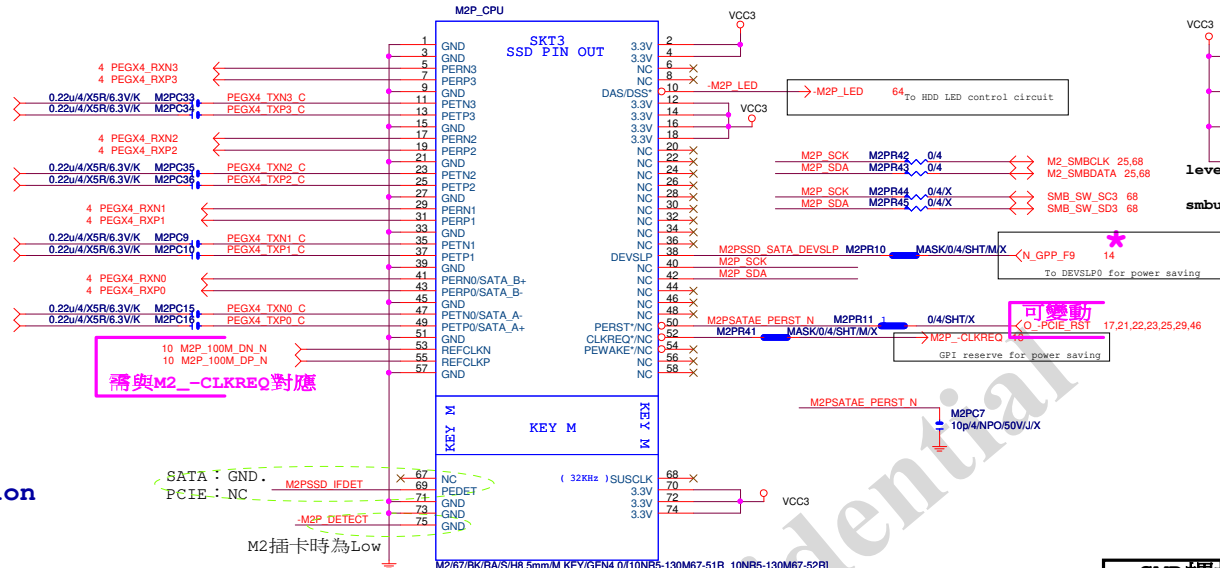
Rev 0.1

M.2 Lane4 from CPU port4

M.2 Lane3 from CPU port3

M.2 Lane2 from CPU port2

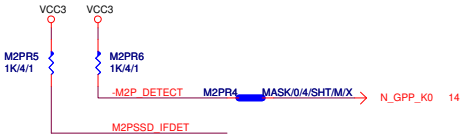
M.2 Lane1 from CPU port1

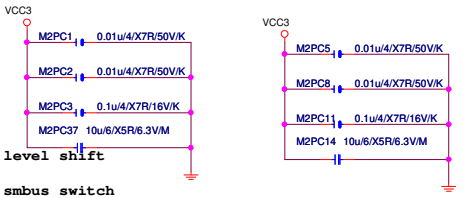


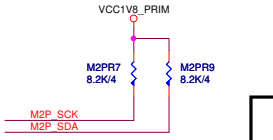
架高　　加強

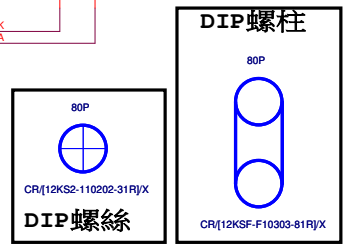
Footprint : m2_80_h2mm8w

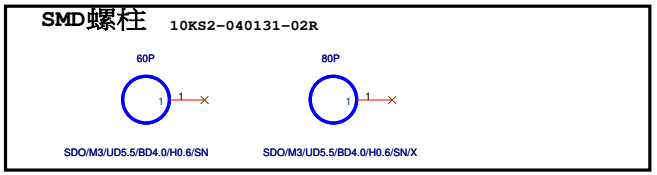
支援SATA and M.2 function



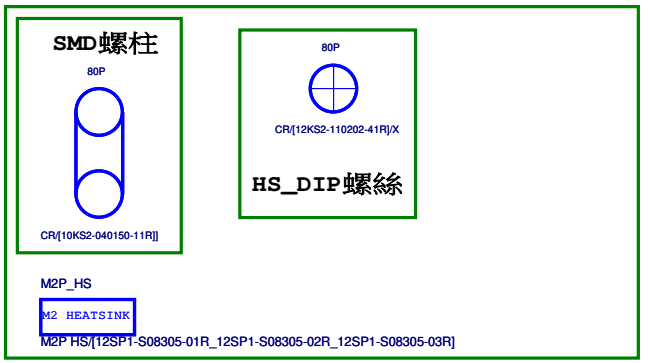








Footprint : HOLE_C236D165-A



Gigabyte Technology			
Title: M.2 X4 (P)			
Size: Custom	Document Number: B560M AORUS ELITE DB		Rev: 1.01
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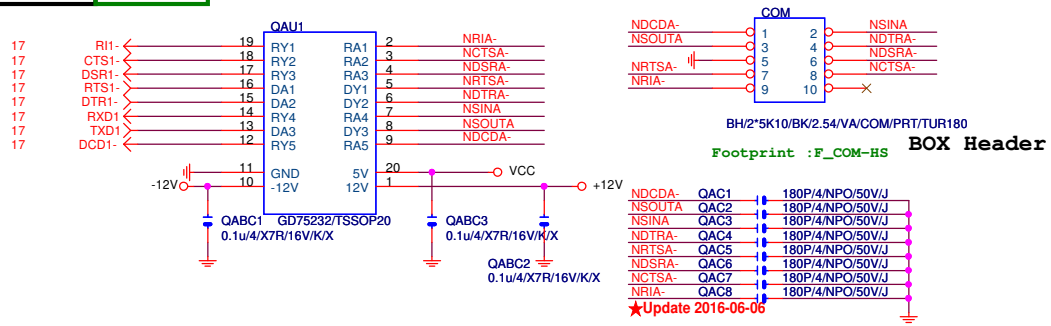
COM PORT

Rev: 0.94

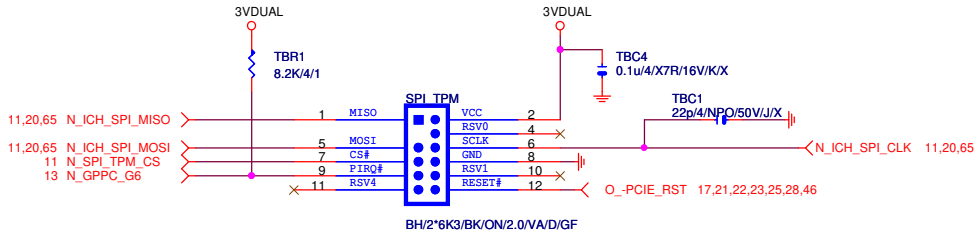


LPT PORT

RTD3 GPIO refer by Intel RVP

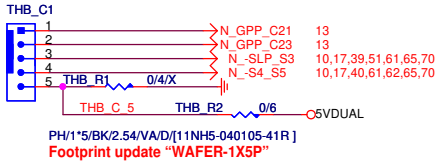
GPIO	CFL-S	CML-U	CML-H	CML-S
TBT_PERST_N	GPP_F_2	GPPC_C15_SLOT1_RST_N	GPP_F4_SATAPCIE7	GPP_F2
TBT_Wake_N	GPP_H_15	GPPC_D11_SLOT1_WAKE_N	GPPK_18	GPP_H15
RTD3_PWN_EN	GPP_I_5	GPPC_D15	GPP_H_16_SML4_CLK	GPP_K23

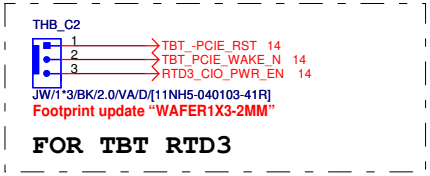
TPM CONNECT



Thunderbolt

★Update 2015-12-29





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: B560M AORUS ELITE DB	Rev: 1.01
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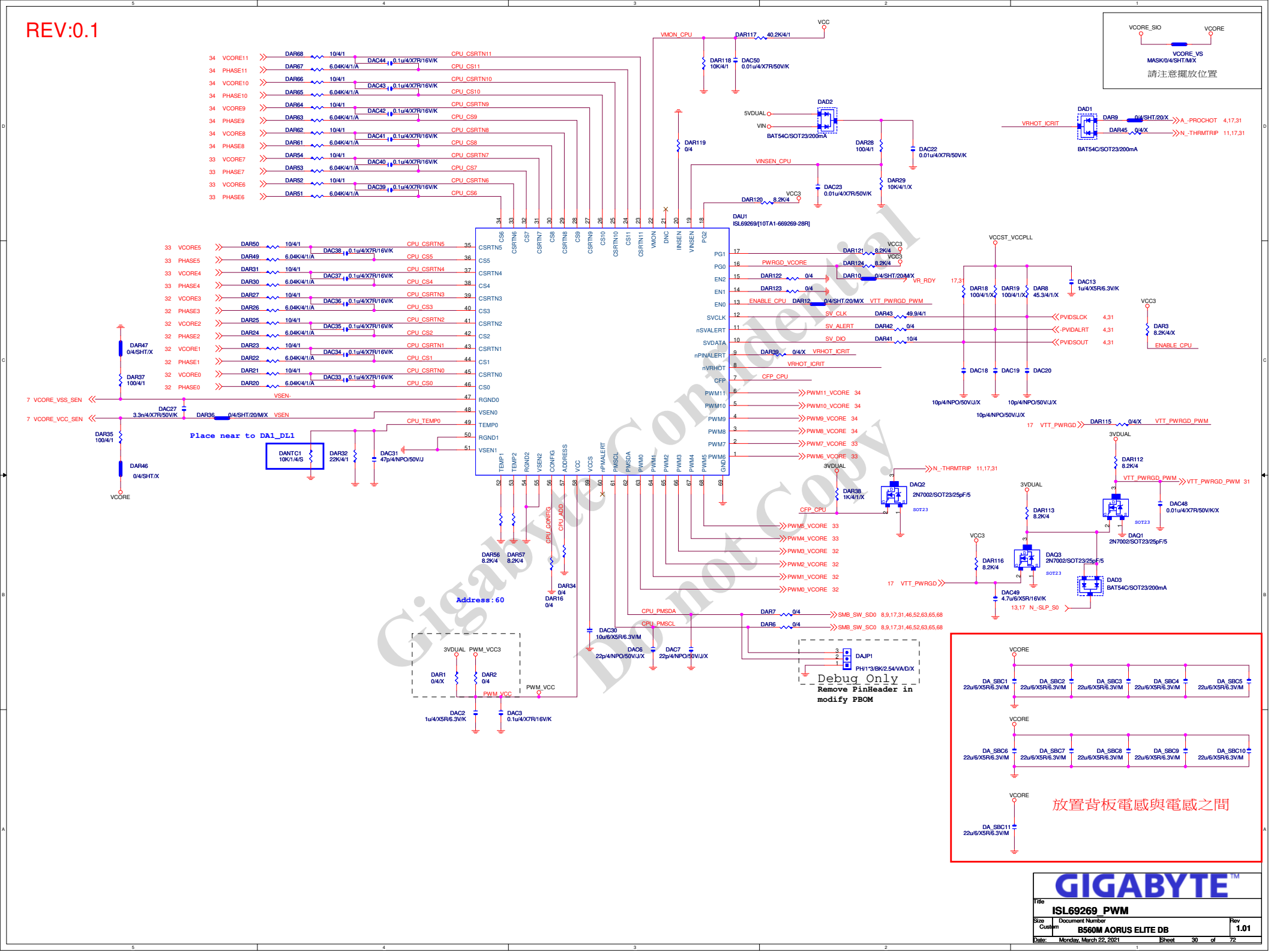
REV:0.1



GIGABYTE		
Title	ISL69269_PWM	
Size: Custom	Document Number: B560M AORUS ELITE DB	Rev: 1.01
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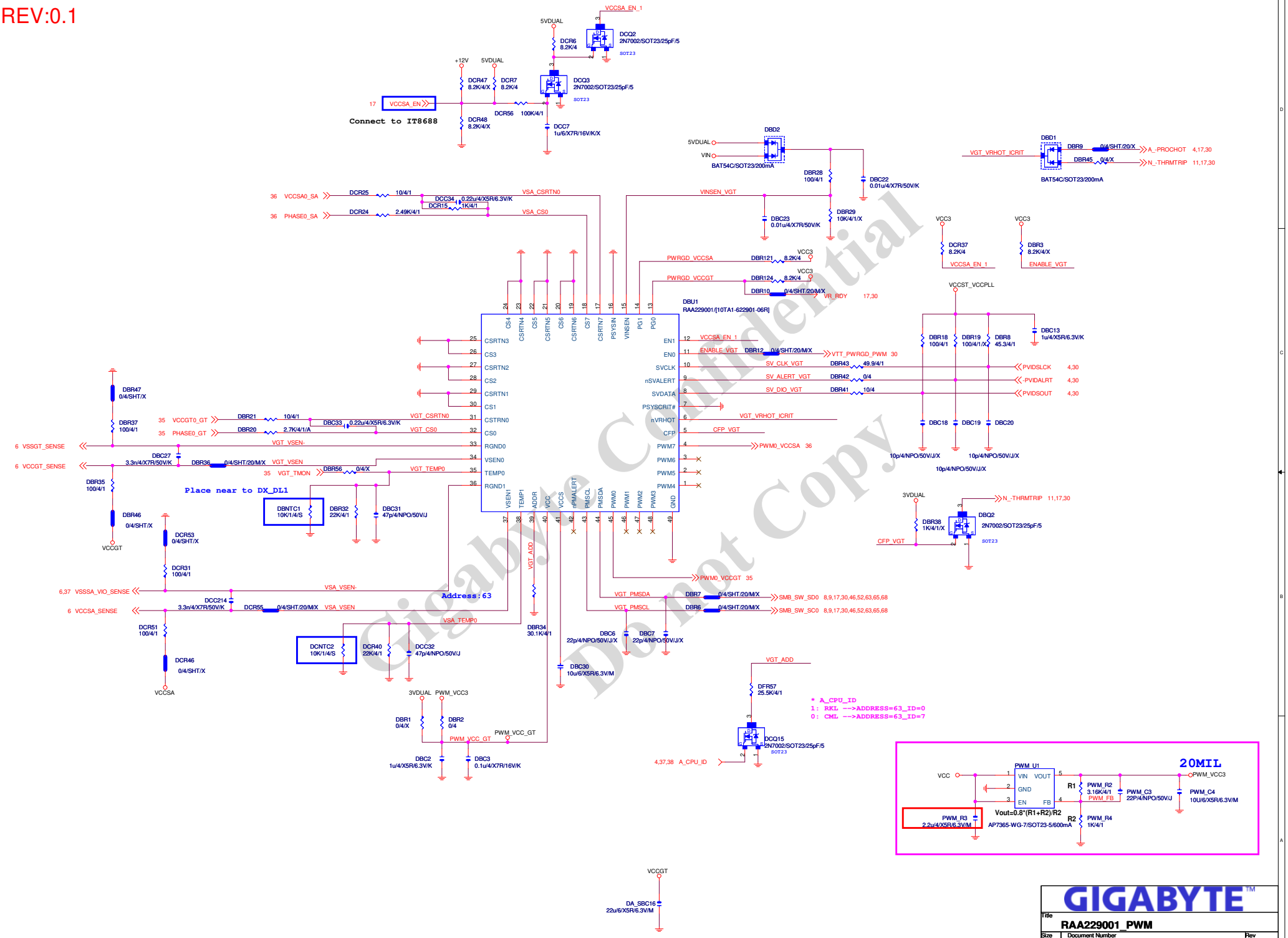
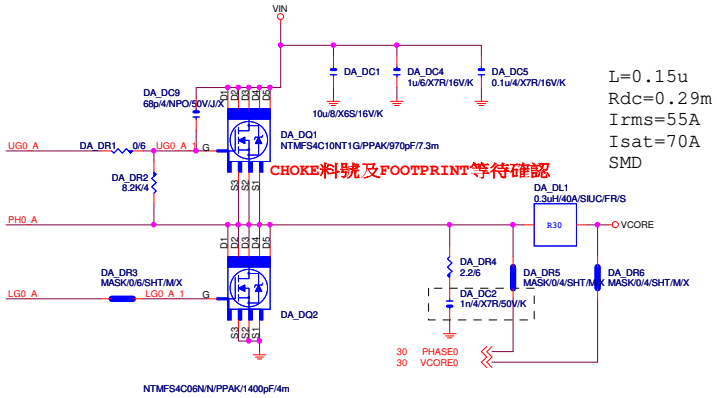
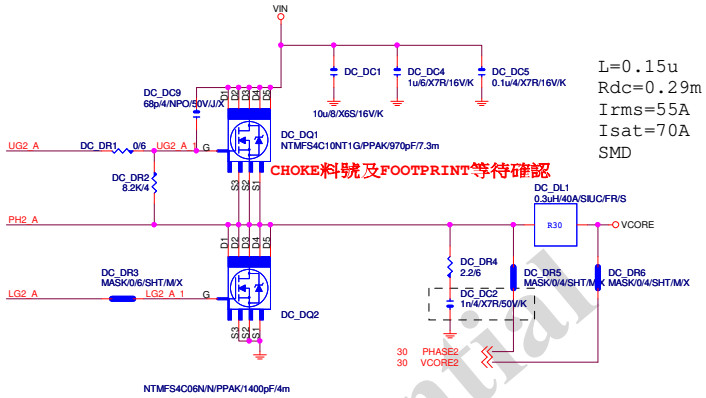
REV:0.1



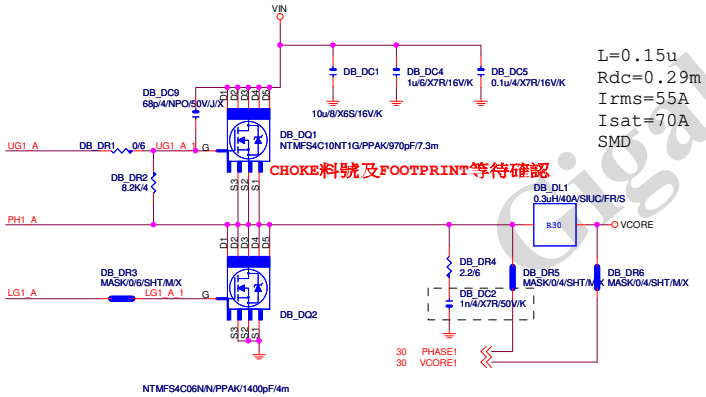
REV:0.1



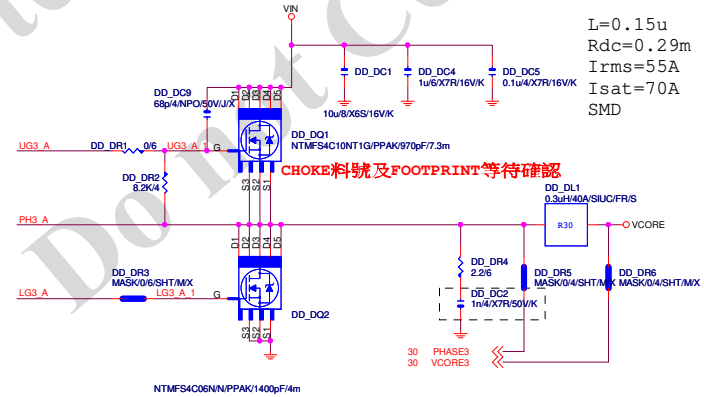
L=0.15u
Rdc=0.29m
Irms=55A
Isat=70A
SMD

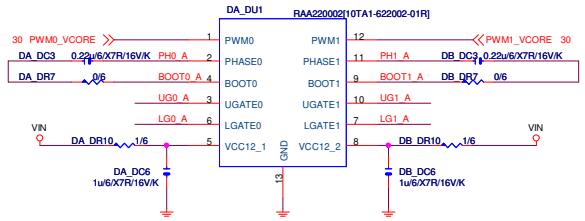


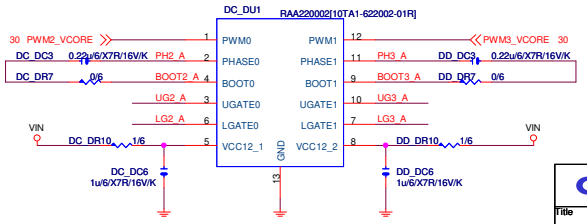
L=0.15u
Rdc=0.29m
Irms=55A
Isat=70A
SMD



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







GIGABYTE™

Title	VCORE_PPAK-1	
Size: Custom	Document Number: B560M AORUS ELITE DB	Rev: 1.01
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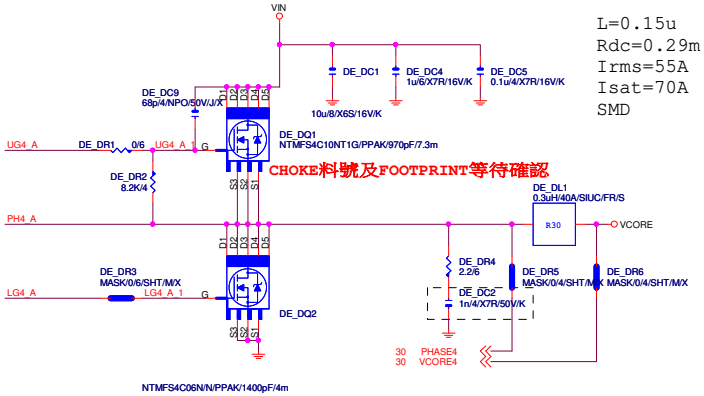
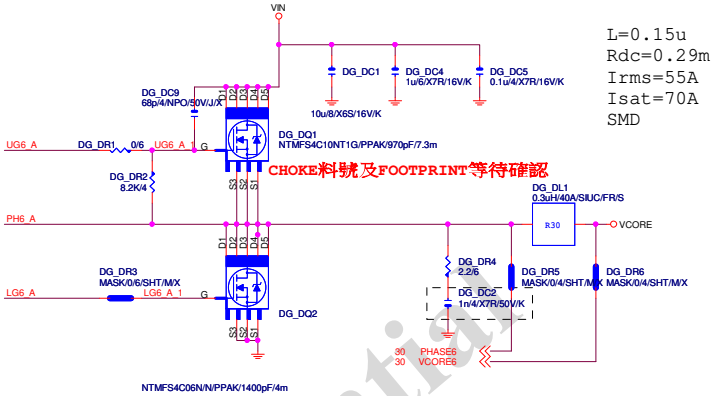
REV:0.1



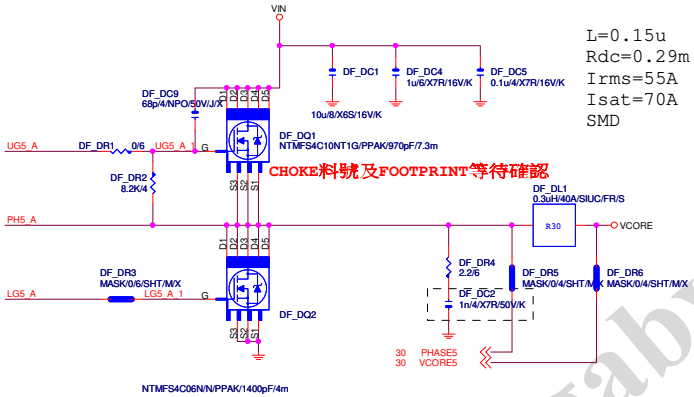
L=0.15u
Rdc=0.29m
Irms=55A
Isat=70A
SMD

CHOKE料號及FOOTPRINT等待確認



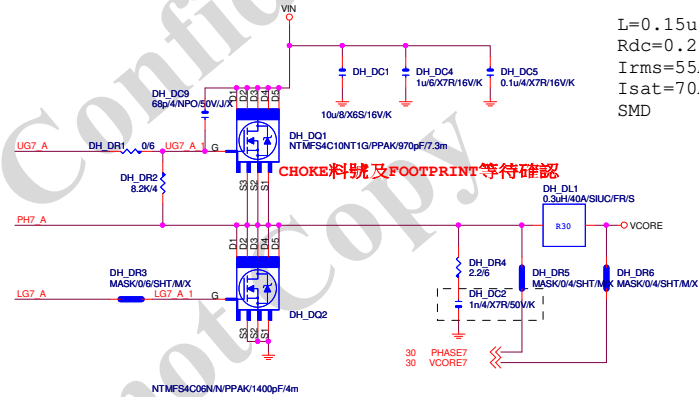
L=0.15u
Rdc=0.29m
Irms=55A
Isat=70A
SMD

CHOKE料號及FOOTPRINT等待確認

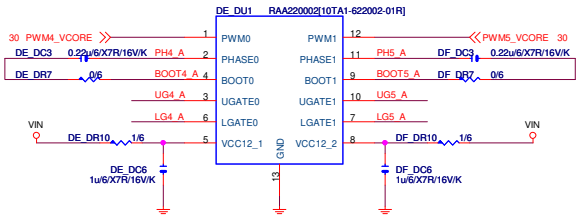


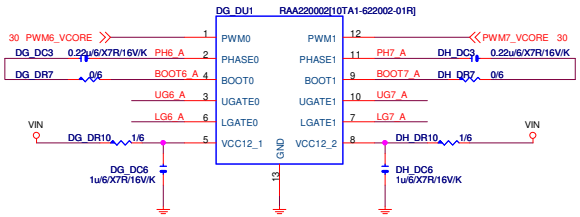
L=0.15u
Rdc=0.29m
Irms=55A
Isat=70A
SMD

CHOKE料號及FOOTPRINT等待確認



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





GIGABYTE™

Title	VCORE_PPAK-2	
Size: Custom	Document Number: B560M AORUS ELITE DB	Rev: 1.01
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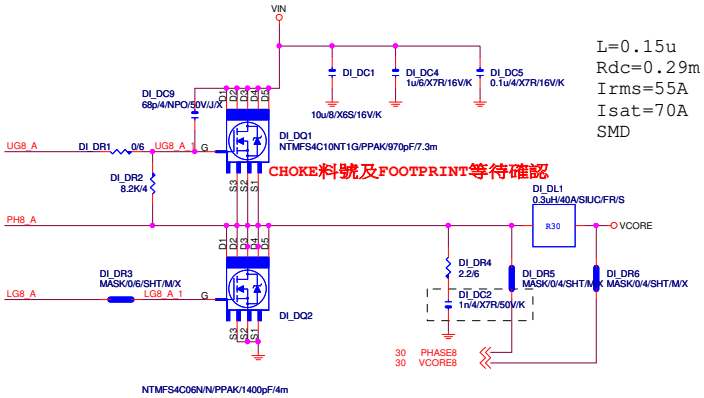
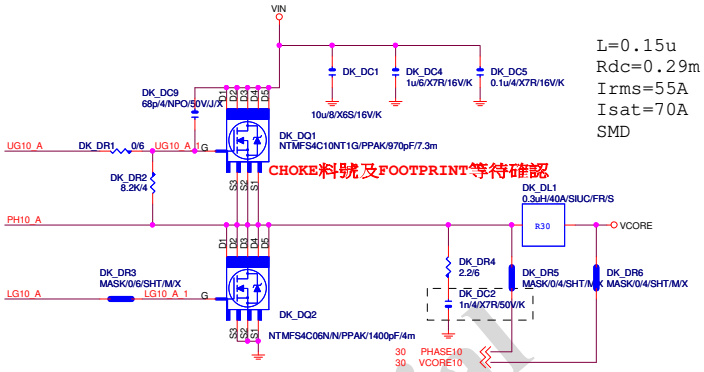
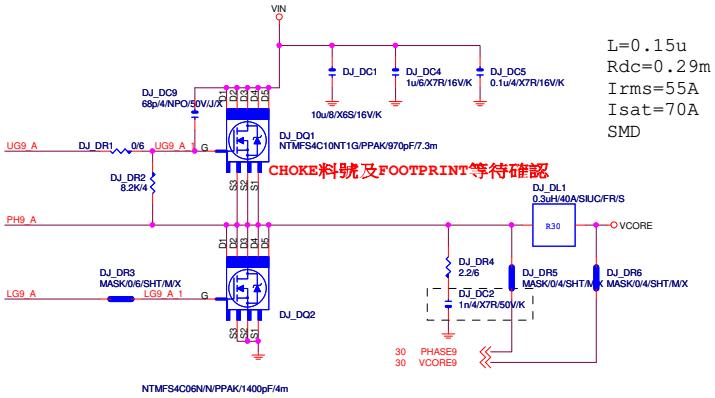
REV:0.1



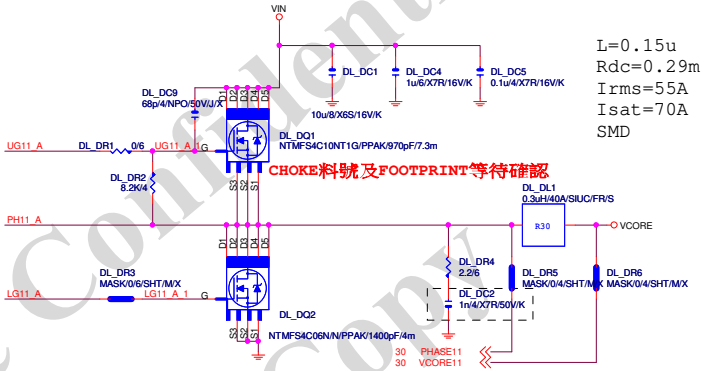
L=0.15u
Rdc=0.29m
Irms=55A
Isat=70A
SMD

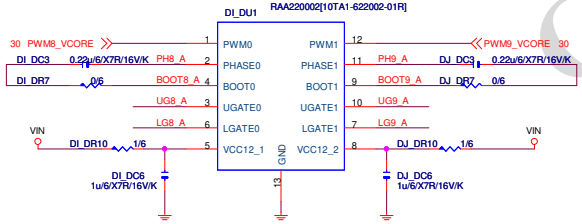


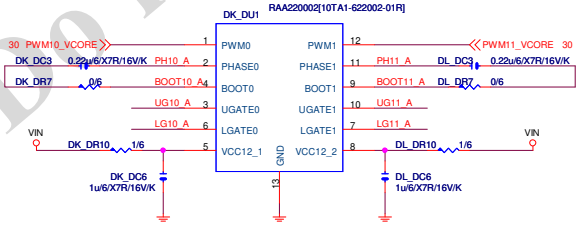
L=0.15u
Rdc=0.29m
Irms=55A
Isat=70A
SMD



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







GIGABYTE™

Title: VCORE_PPAK-3

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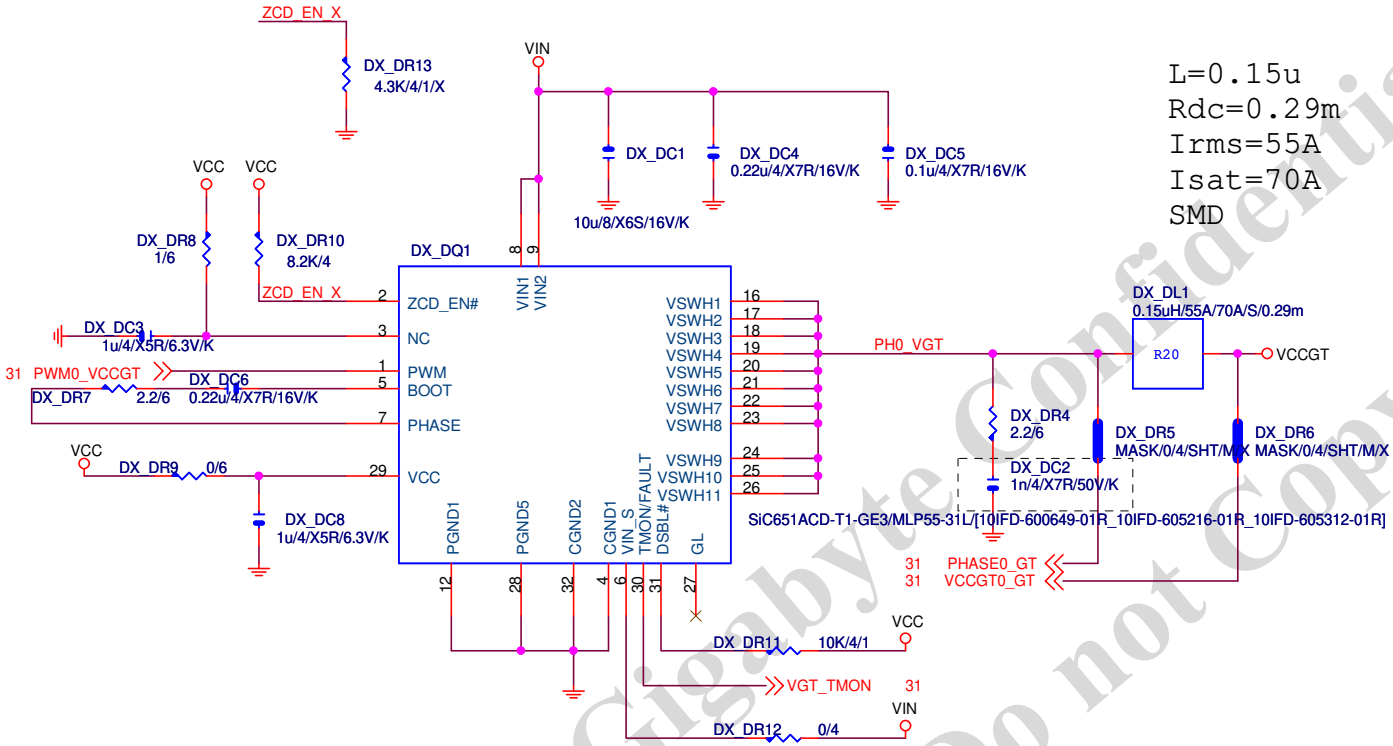
REV:0.1

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: B560M AORUS ELITE DB	Rev: 1.01
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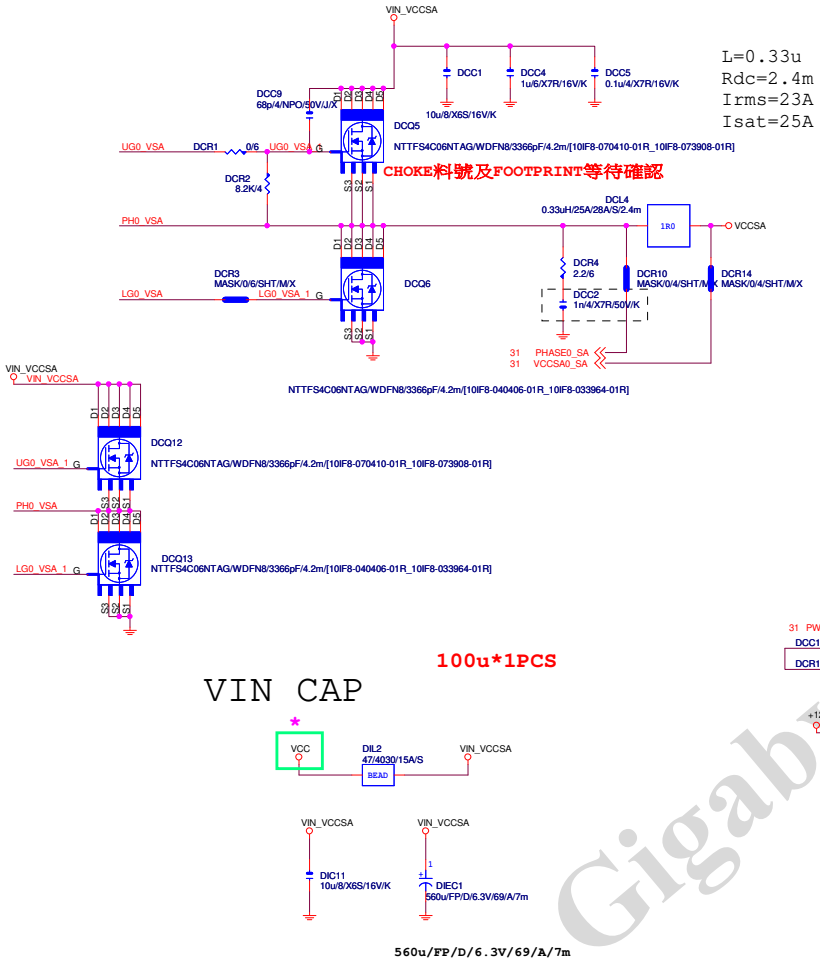
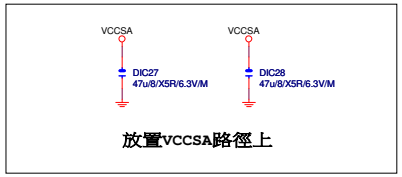
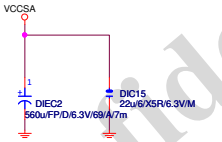
REV:0.1



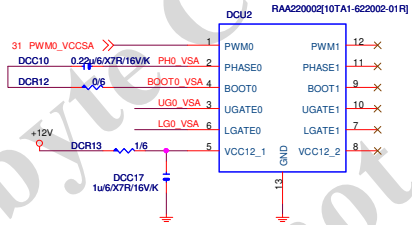
L=0.33u
Rdc=2.4m
Irms=23A
Isat=25A

VCCSA CAP





CPU SOCKET 已經有22u/6 *4pcs



VIN CAP

100u*1PCS

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

GIGABYTE™

Title	VCCSA MOSFET	
Size: Custom	Document Number: B560M AORUS ELITE DB	Rev: 1.01
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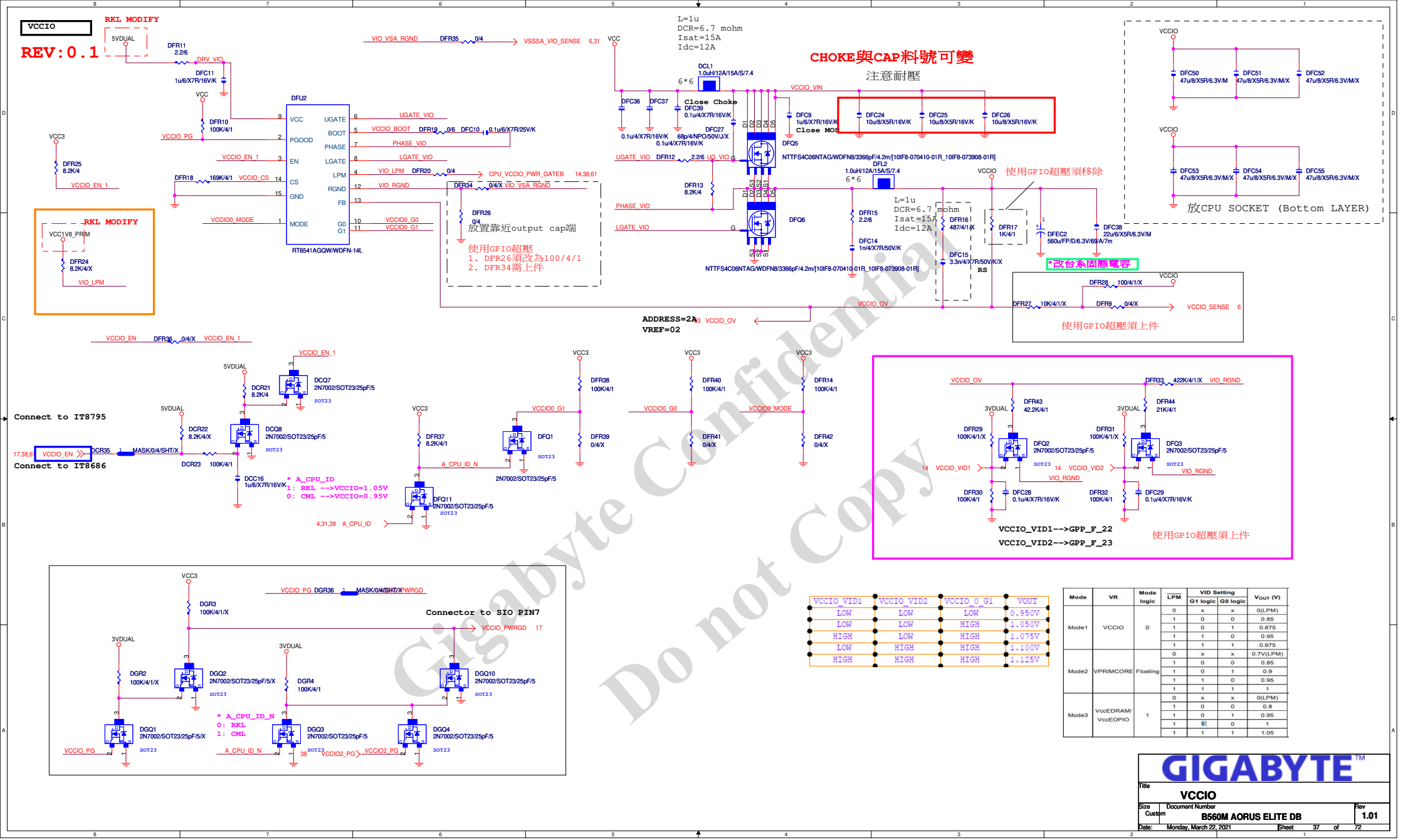
VCCIO

RKL MODIFY

REV:0.1



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

GIGABYTE

Title: VCCIO

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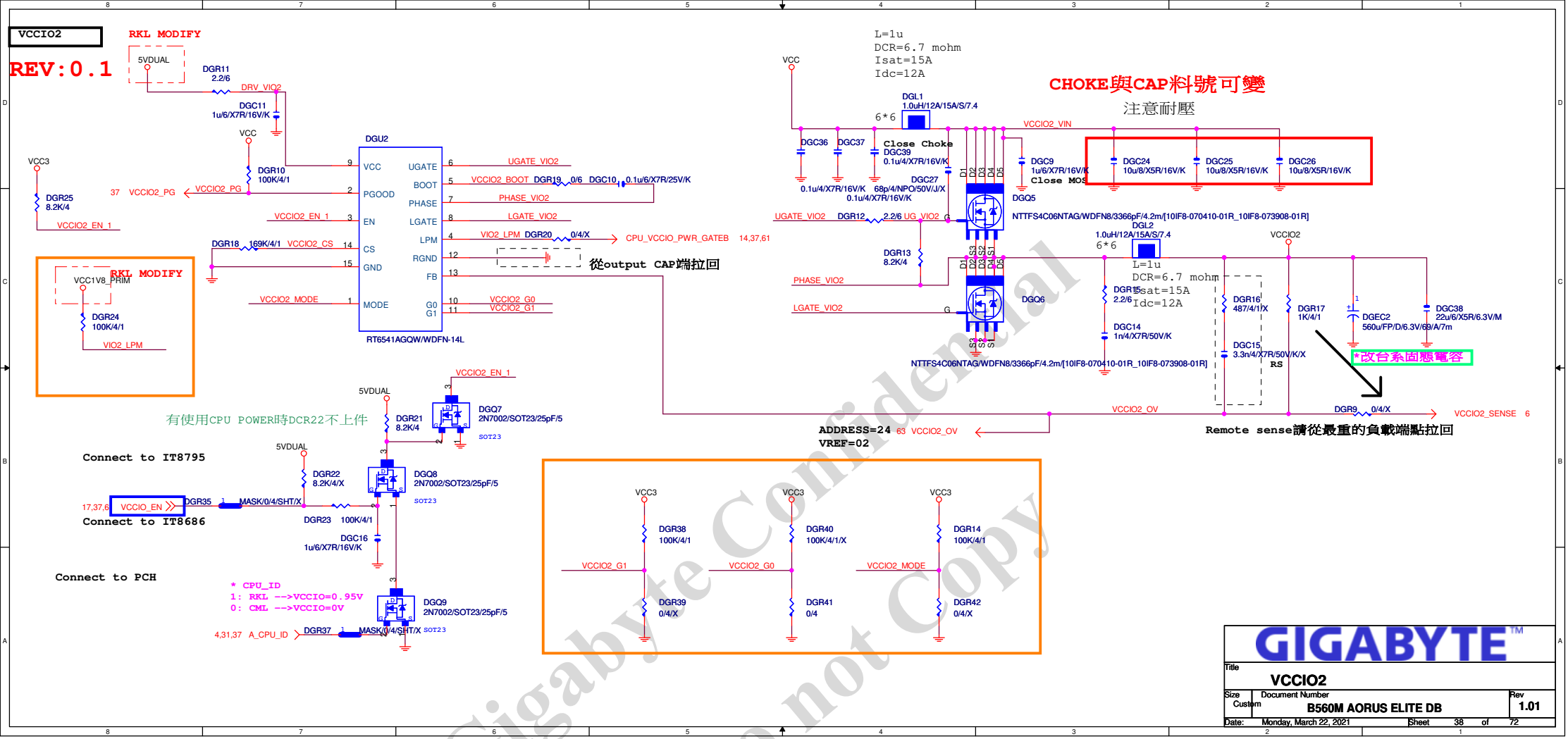

REV:0.11

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 — DDR_VS MASK/0/4/SHT/M/X — VDDQ

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 — 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

MAU2 RT8237/[10TA1-608237-01R]

EN, PGOOD, VCC, BOOT, UGATE, PHASE, FB, CS, RF, GND, GLGATE

MA_UGATE — MA_PHASE — MA_LGATE

MA_RF — MA_DR45 — VDDQ_GD 470K/4/1

MA_DR15 91K/4/1 — MA_DR19 470K/4/1/X

FS=290K

OCP=40A

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 NTMFS4C10NT1G/PPAK/970pF/7.3m/[10IF9-040406-10R]

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 NTMFS4C10NT1G/PPAK/970pF/7.3m/[10IF9-040406-10R]

MA_DQ3 NTMFS4C10NT1G/PPAK/970pF/7.3m/[10IF9-040406-10R]

MA_DR5 2.2/6

MA_DC5 1n/4/X7R/50V/K

MA_L1 1uH/35A/IMD109/M/D R50 10*10

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

VDDQ — MA_DR13 1K/4/1 — MA_DC14 22p/4/NPO/50V/J/X RS — MA_DR12 1.4K/4/1 RO

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

DDR_ADJ — 63 DDR_ADJ

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

1H1L規格移除

DDR VIN CAP
560u*2PCS

CHOKE與CAP料號可變

SUPPORT DDR4 1.2V

25A MAX

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

NCT3103S/SOP8/2A/[10GL2-203103-01R]

MAU1: VIN, GND, VREF1, VOUT, VREF2, ENABLE, VCNTL, BOOT_SEL, GND

MA_VTT_REF

MAC1 0.01u/4/X7R/50V/K — MAR4 1K/4/1

1.1A MAX

DDRVTT

DDRVTT_EN — DDRVTT_BOOT

5VDUAL — MAC7 10u/6/X5R/6.3V/M

DDR CAP

560u*3PCS

Footprint EC6D8MM-RH-2

MAEC3 560u/FP/D/6.3V/69/A/7m

MAEC4 560u/FP/D/6.3V/69/A/7m

MAEC2 560u/FP/D/6.3V/69/A/7m

* 大電容 x4

DDRVTT CAP

* 大電容 x0

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

4 DDR_VTT_CTL
10,17,29,51,61,65,70 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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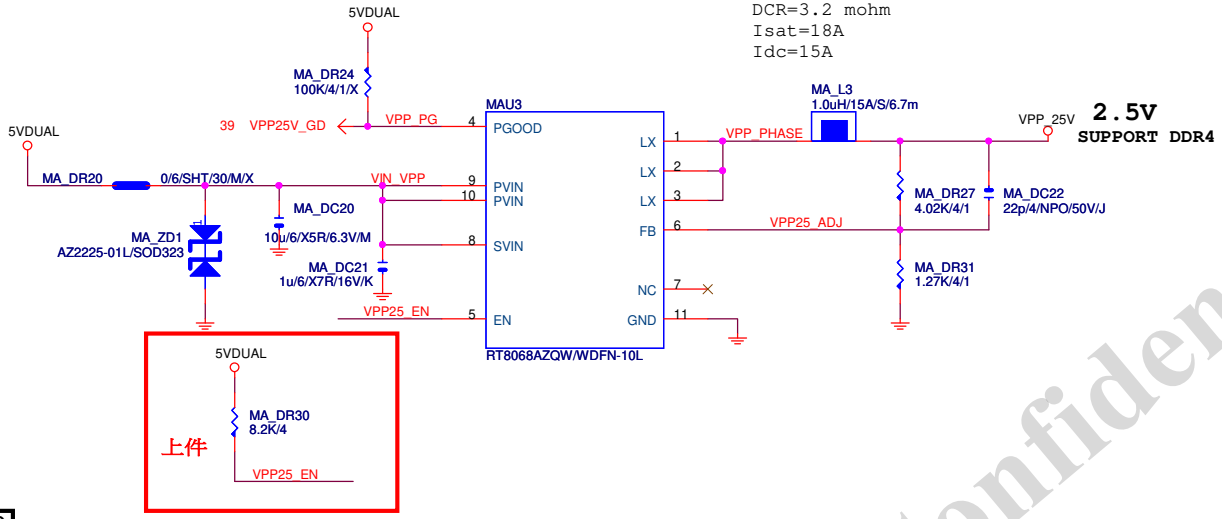
REV:0.11

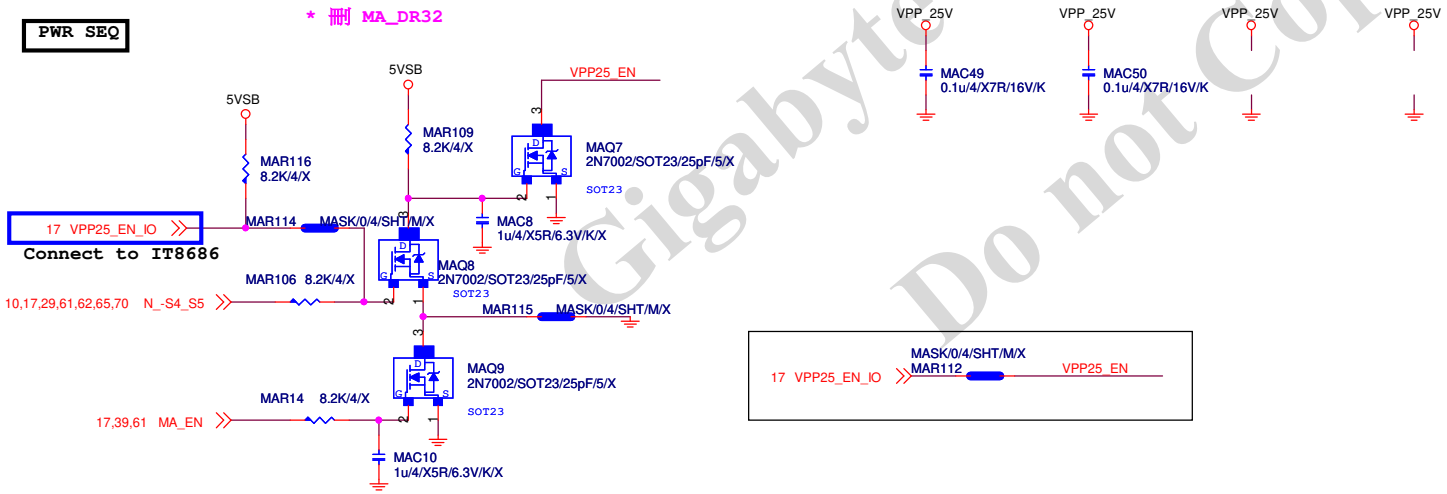
VPP_25V

CHOKE與CAP料號可變

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

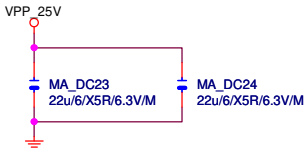


PWR SEQ



VPP CAP 22u*2PCS

* 大電容 x0



GIGABYTE™

Title	RT8068A_VPP25 POWER	
Size: Custom	Document Number: B560M AORUS ELITE DB	Rev: 1.01
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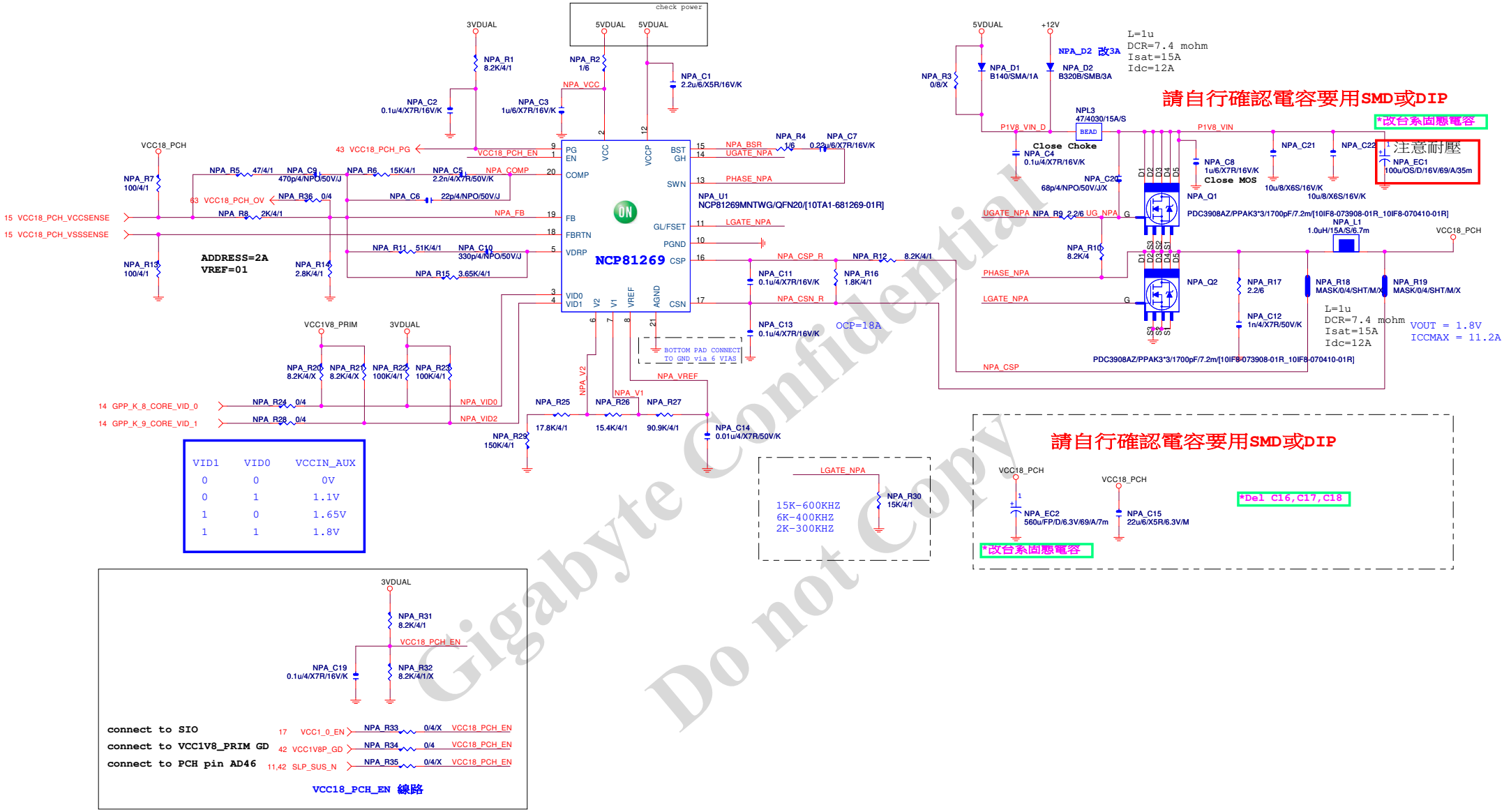

GIGABYTE

Title	NCP81269_PCH POWER	
Size: Custom	Document Number: B560M AORUS ELITE DB	Rev: 1.01
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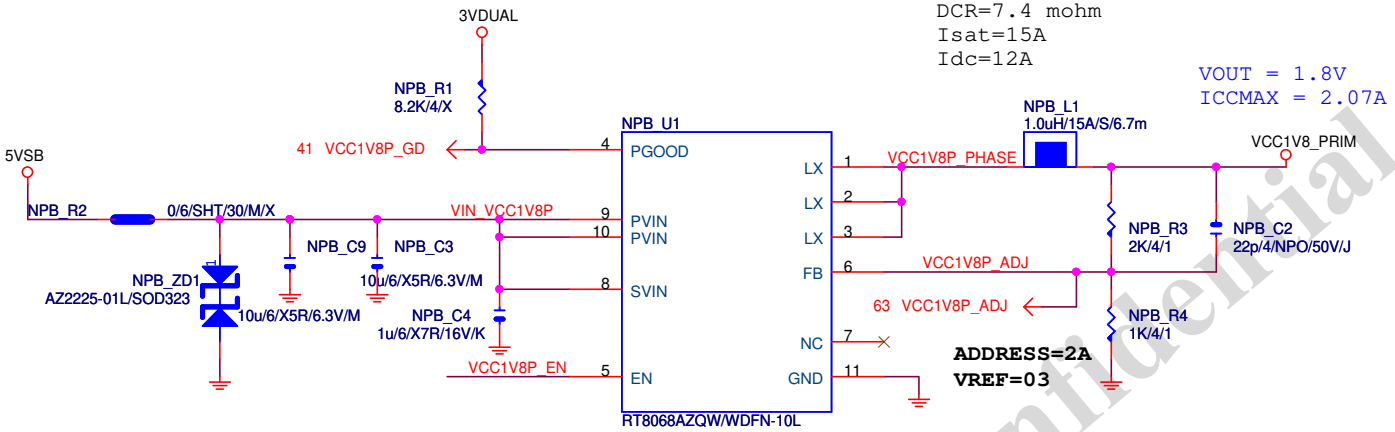
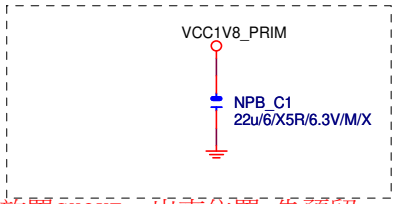
REV:0.1

VCC1V8_PRIM

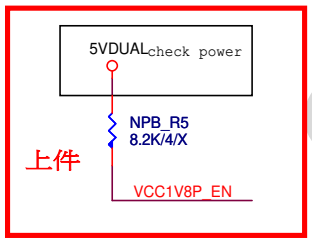


CHOKE與CAP料號可變



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

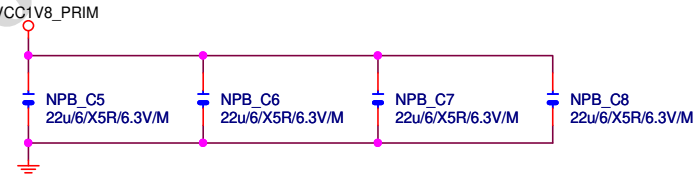
PWR SEQ



connect to PCH pin AD46

11,41 SLP_SUS_N — NPB_R6 0/4 — VCC1V8P_EN

VCC1V8_PRIM CAP 22u*4PCS



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Title	RT8068_VCC1V8_PRIM	
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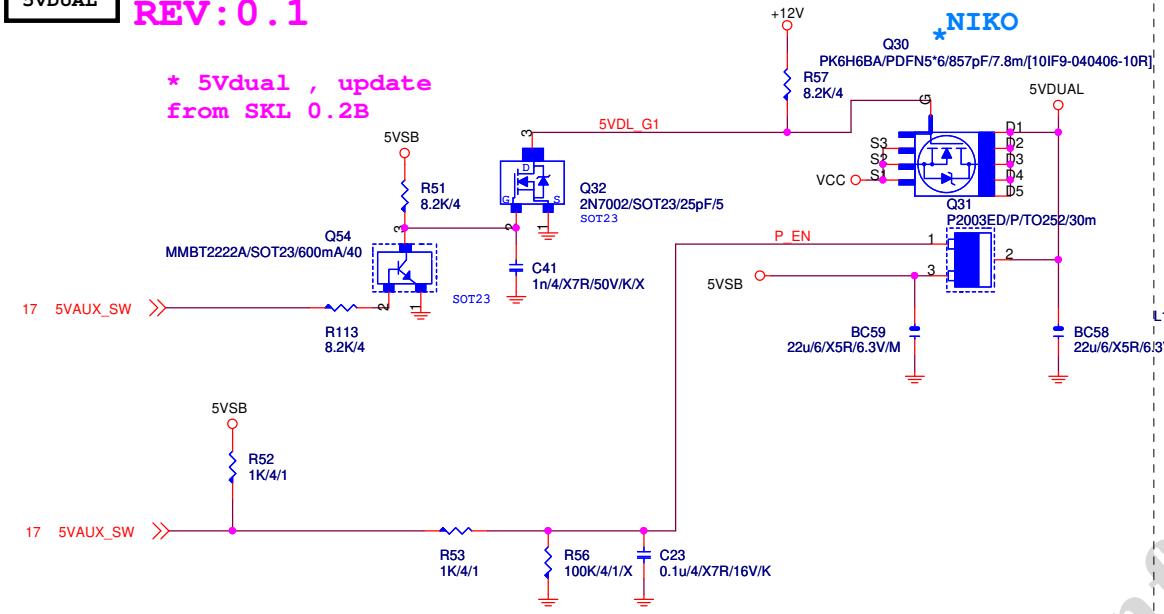
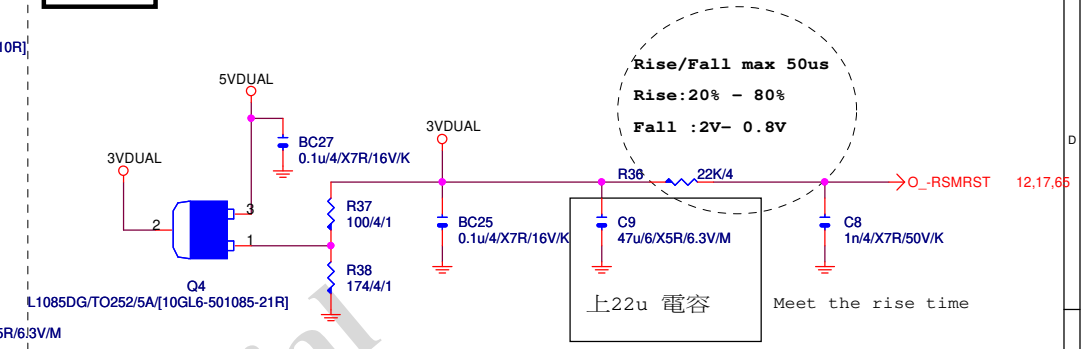
5VDUAL

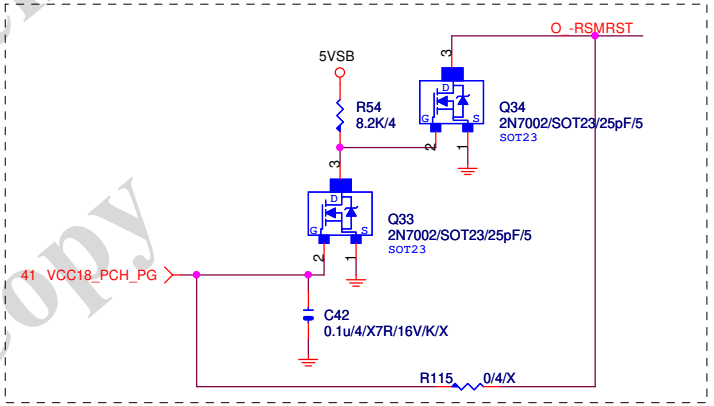
REV:0.1

* 5Vdual , update from SKL 0.2B

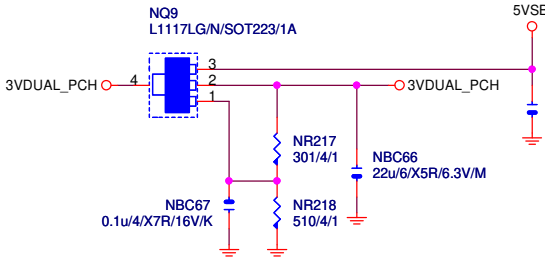


3VDUAL





3VDUAL_PCH



Gigabyte Technology		
Title: DISCRETE POWER		
Size: Custom	Document Number: B560M AORUS ELITE DB	Rev: 1.01
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ATXX24 POWER CONNECTOR

2x12(空心Pin)
FOOTPRINT:ATXPWR_24-6

11NH4-020004-P1R/P2R '實心4P耐高溫+鍍錫料號
11NH4-020108-21R/22R'實心8P耐高溫+鍍錫料號
11NH4-020024-Z1R/Z2R'實心24P耐高溫+鍍錫料號

Patch some PSU no internal pull up resistor

R695 22K/4

BC37 0.1u/4/X7R/16V/K

BC35 22u/6/X5R/6.3V/M

BC46 0.47u/2/X5R/6.3V/K

BC48 0.47u/2/X5R/6.3V/K

ATX

13	3.3V	3.3V	1
14	-12V	3.3V	2
15	GND	GND	3
16	PSON	5V	4
17	GND	GND	5
18	GND	5V	6
19	GND	GND	7
20	-5V	POK	8
21	5V	5VSB	9
22	5V	12V	10
23	5V	12V	11
24	GND	3.3V	12

BK

17,65 -PSON

* 刪除 -5V

BC36 0.1u/4/X7R/16V/K/X

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

BC38 510/6/X

BC42 510/6/X

BC43 1u/4/X5R/6.3V/K

BC44 0.1u/4/X7R/16V/K

BC45 0.1u/4/X7R/16V/K

BC41 0.1u/4/X7R/16V/K

BC39 1u/4/X5R/6.3V/K

AD1 AZ2225-01L/SOD323/X

BC9 4.7u/6/X5R/6.3V/K

To prevent the 5VSB under loading when boot

ATXX4 POWER CONNECTOR

2x4 (實心Pin)
FOOTPRINT:ATXPW2X4-SOLID

ATX_12V_2X4

1	GND	+12V	5
2	GND	+12V	6
3	GND	+12V	7
4	GND	+12V	8

BK

APW/2*4/BK/OC/P/4.2/VA/SN/OH/S/PA9T::ATX_12V_2X4

BC7 0.1u/4/X7R/16V/K

螺絲孔

MH1 HOLE_3/X

MH2 HOLE_3/X

HOLE_4-RH-1

14/12/24 Modify for EMI

MH3 HOLE_3/X

HOLE_4-RH-5MM-2

MH5 HOLE_3/X

MH6 HOLE_3/X

MH4 HOLE_3/X

MH7 HOLE_3/X

MH8 HOLE_3/X

HOLE_4-RH-5MM-5PIN-2

固定孔/光學點

K6 K3 K1

K5 K2 K4

K1_ICT/X

K1-ICT

To prevent the 5VSB under loading when boot

I1 I2 I3 I4 I5

4MMH/X

4MMH

+12V DUMMY LOAD

To fix 12V light load abnromal issue

RN2 2.7K/8P4R/4

RN3 2.7K/8P4R/4

RN4 2.7K/8P4R/4

RN5 2.7K/8P4R/4

RN6 2.7K/8P4R/4

RN10 2.7K/8P4R/4

RN11 2.7K/8P4R/4

RN12 2.7K/8P4R/4

RN13 2.7K/8P4R/4

RN14 2.7K/8P4R/4

RN15 2.7K/8P4R/4

R1 1K/4/1/X

R703 330/4

EMF30N02J/SOT23/627pF/30m

Q9

13 N_GPP_D11

DUMMY LOAD

RN7 1K/8P4R/6/X

RN8 1K/8P4R/6/X

RN9 1K/8P4R/6/X

COUPON

BY LAYOUT位置

COUPON1 COUPON2 COUPON3 COUPON4

COUPON/X

5VDUAL

Gigabyte Technology

Title: ATX POWER CONNECTOR

Size: Custom | Document Number: B560M AORUS ELITE DB | Rev: 1.01

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USB20 HUB_1

Single USB2 HUB used Rev 0.2

HU2AU1

GL850G/S

HUB1_-USBP3
HUB1_+USBP3
HU2AR7 680/4/1
HUB_AVDD11
HUB_AVDD12
GL1_XTALO
GL1_XTALI
HUB1_-USBP2
HUB1_+USBP2
HUB_AVDD13
HUB1_-USBP4
HUB1_+USBP4
-GL1_RESET

AVDD DM2 DP2 RREF AVDD X1 X2 DM3 DP3 AVDD DM4 DP4 RESET# TEST/SCL

DP1 DM1 DP0 DM0 V33 V5 PWREN1#/SDA OVCUR1#/SMC PWREN2# OVCUR2#/SMD PGANG PSELF DVDD GND

3_3V_IN1
5VDUAL
GL1_OVCUR1
GL1_PGANG
GL1_PSELF
HUB1_DVDD

HUB1_+USBP1
HUB1_-USBP1
N_+USBP9
N_-USBP9

HU2AC7 0.1u/4/X7R/16V/K

GL850S-HHY22/SSOP28

SSOP28-IT8209R

HUB RESET

5VDUAL HU2AR5 10K/4/1 -GL1_RESET
HU2AR1 47K/4/1
HU2AC1 1u/4/X5R/6.3V/K

HUB PWR

HUB1_DVDD
3_3V_IN1
HU2AC2 10u/6/X5R/6.3V/M
CLOSE PIN24
HUB AVDD11
HUB AVDD12
HUB AVDD13
HU2AC4 0.1u/4/X7R/16V/K
HU2AC5
HU2AC6 0.1u/4/X7R/16V/K
0.1u/4/X7R/16V/K
CLOSE PWR PIN

HUB OVER CURRENT SENSE

5VDUAL
HU2AR2 8.2K/4
GL1_OVCUR1
HU2AR3 15K/4/1
HU2AOC1 SOT23
FSVCC_U2R5
FSVCC_U2R6
BAT54A/SOT23/200mA

HUB CRYSTAL

ONLY SUPPORT 12MHZ

HU2AC3 22p/4/NPO/50V/J
GL1_XTALI
GL1_XTALO
HU2AX1 12M/20p/30ppm/3.2*2.5/80/S/[10XT5-812000-40R]
HU2AC8 22p/4/NPO/50V/J

REU2D1

HUB1_+USBP1
HUB1_-USBP3
HUB1_-USBP1
FSVCC_U2R5
HUB1_+USBP3

AZC099-04S/SOT23-6L

RFU2D1

HUB1_-USBP4
HUB1_+USBP2
HUB1_+USBP4
FSVCC_U2R6
HUB1_-USBP2

AZC099-04S/SOT23-6L

NET 可變

R_USB20

HUB1_-USBP2
HUB1_+USBP2
HUB1_-USBP4
HUB1_+USBP4
HUB1_-USBP3
HUB1_+USBP3
HUB1_-USBP1
HUB1_+USBP1
FSVCC_U2R5
FSVCC_U2R6

UP
MID 1
MID 2
DOWN

USB/A/BK/OS/RA/D/4

HUB MODE

Ganged mode

HUB1_DVDD
HU2AR4 100K/4/1
GL1_PGANG

P.H. USE GL_OVCUR1
DETECT ALL PORT

PSELF

HUB1_DVDD
HU2AR6 100K/4/1
GL1_PSELF

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

FUSE 2 Port 1 Fuse 2A

5VDUAL REU2F1 SPR-P200T/6V/8/S FSVCC_U2R5
REU2EC1 100u/OS/D/6.3V/66/A/35m
REU2BC1 0.1u/4/X7R/16V/K

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

FUSE 2 Port 1 Fuse 2A

5VDUAL RFU2F1 SPR-P200T/6V/8/S FSVCC_U2R6
RFU2BC1 0.1u/4/X7R/16V/K

R_USB 2.0 OC SIGNAL

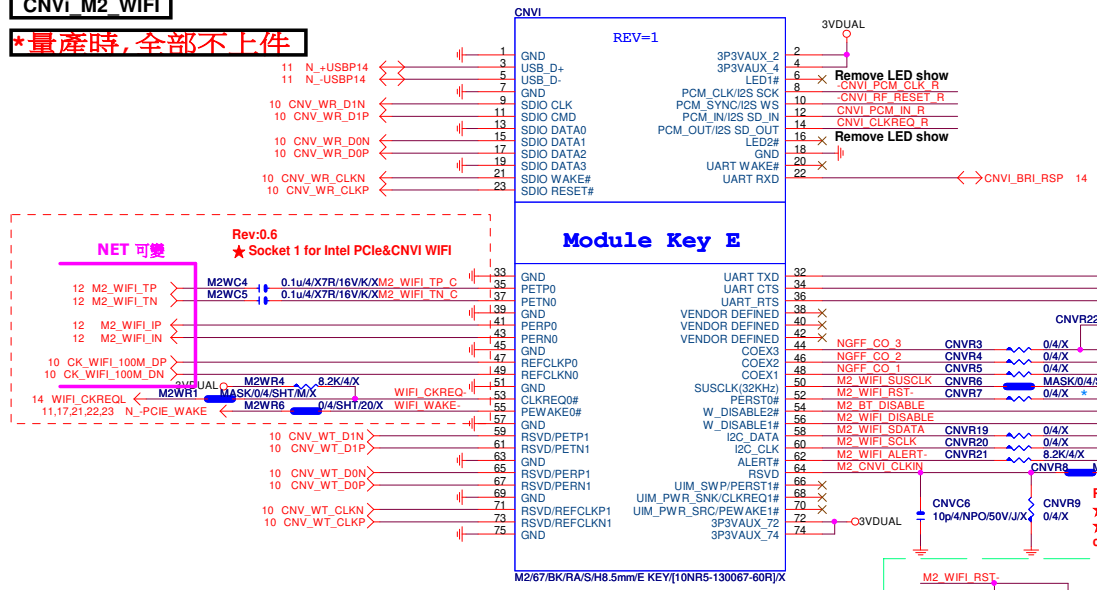
Gigabyte Technology			
Title: HUB GL850GS_1			
Size: Custom	Document Number: B560M AORUS ELITE DB		Rev: 1.01
Date: Monday, March 22, 2021	Sheet 45 of 72		

Rev: 0.94

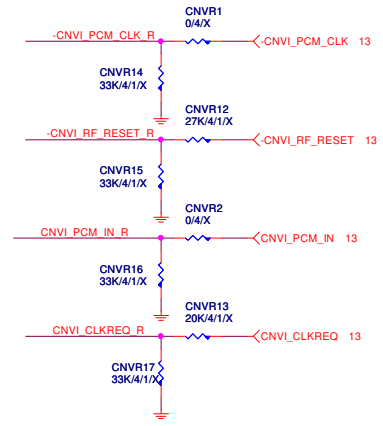
CNVi_M2_WIFI

*量產時,全部不上件

支援PCIE介面WIFI及USB介面BT



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



NET 可變

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

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.

高的CNVI

橫躺

Footprint Notice.

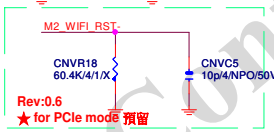
★Update 2015-07-22

★Footprint for 橫躺式高: NGFF-E-75P-3

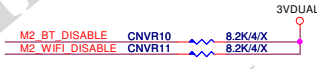
★Footprint for 橫躺式矮: CNVI

★ 橫躺式高SMD P/N:10NR5-130067-61R

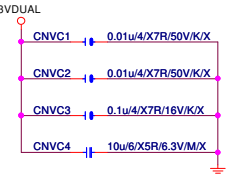
★ 橫躺式矮SMD P/N:10NR5-130067-22R



Rev:0.6
★ for PCIe mode 預留

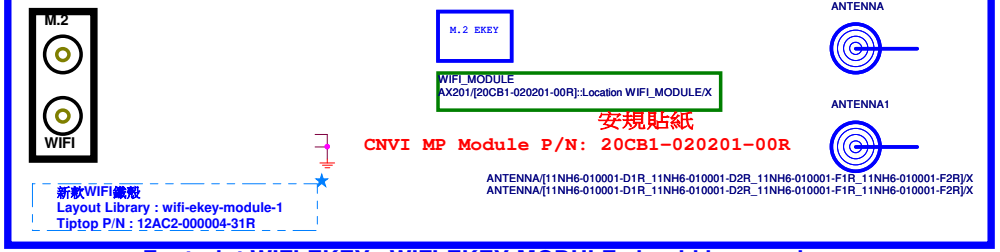


Rev:0.4
★ 1. M2_CNVI_CLKIN 旁包GND LINE,且200mil打一個GND via.
★ 2. M2_CNVI_CLKIN 預留一個10p cap 靠近CNVI card connector.

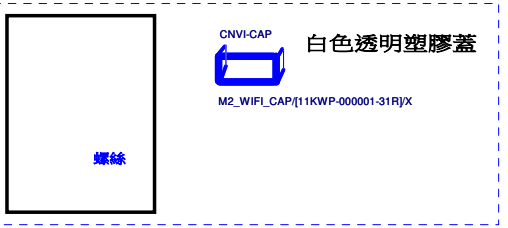


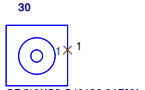
量產不附

一套WIFI MODULE包含外框+WIFI CARD+天線



Footprint WIFI-EKEY+ WIFI-EKEY-MODULE should be a package.





10KS2-S40126-01R

GIGABYTE™

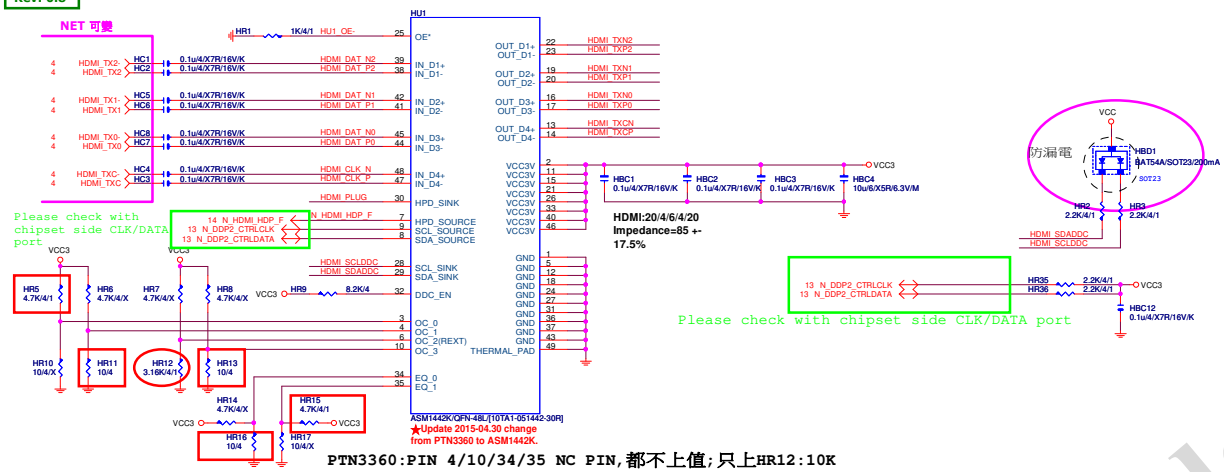
Title: CNVi_M2_WIFI

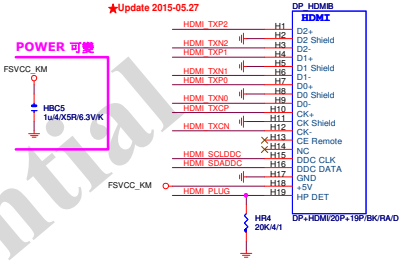
Size: Custom | Document Number: B560M AORUS ELITE DB | Rev: 1.01

Date: Monday, March 22, 2021 | Sheet 46 of 72

HDMI LEVEL SHIFT

Rev: 0.8



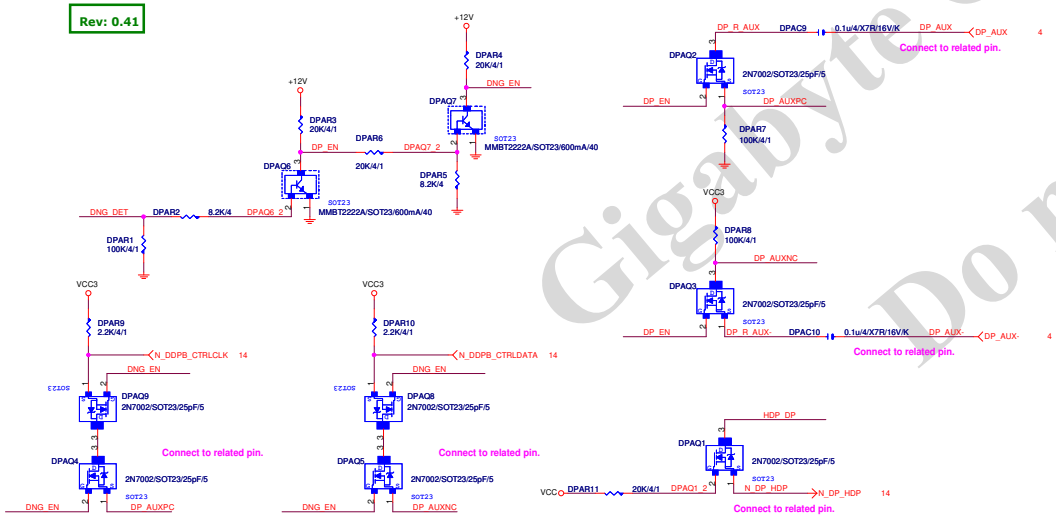


PTN3360:PIN 4/10/34/35 NC PIN,都不上值;只上HR12:10K

ASM1442:紅色框要上,HR12:3.16K

【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)

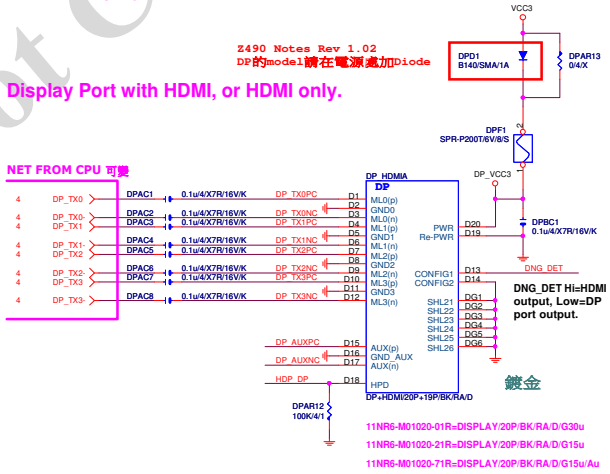
Rev: 0.41



SINGLE Display Port

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

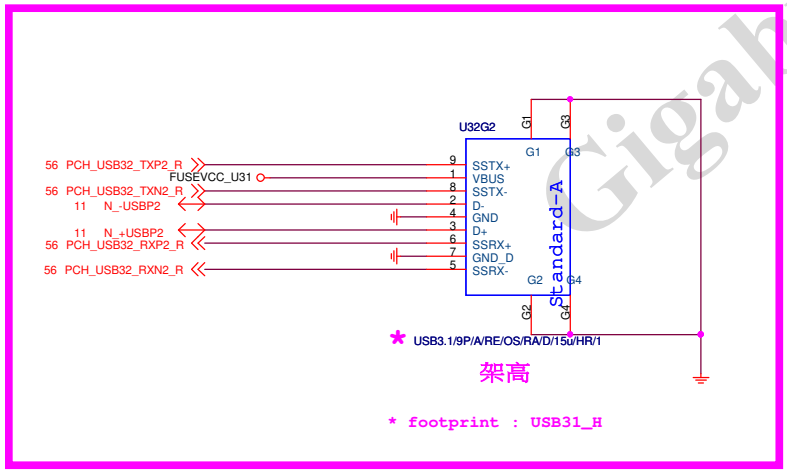
Display Port with HDMI, or HDMI only.

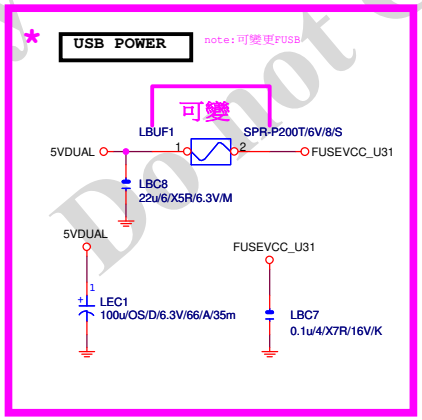


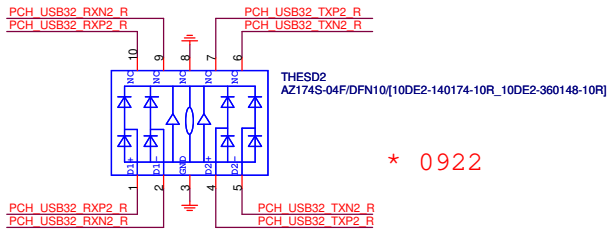
Gigabyte Technology		
Title: HDMI_NO LS/U32		
Size: Custom	Document Number: B560M AORUS ELITE DDR	Rev: 1.0
Date: Monday, March 22, 2021	Sheet 47 of 72	

GROUP B

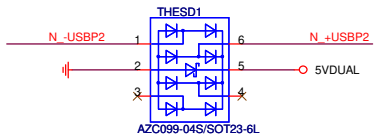
USB31 TYPE A Connector / power source / FUSE which choose for project demand







* 0922



P/N SWAP

GIGABYTE™

Title	PI3EQX1002B Redriver/DC-J_C/D	
Size: Custom	Document Number: B560M AORUS ELITE DB	Rev: 1.01
Date: Monday, March 22, 2021	Sheet 48 of 72	

Gigabyte Technology		
Title: R_USB30,USB_OC		
Size: Custom	Document Number: B560M AORUS ELITE DP	Rev: 1.01
Date: Monday, March 22, 2021	Sheet 49 of 72	

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_XTALI — GL2_XTALO

HU2BX1 12M/20p/30ppm/3.2*2.5/80/S/[10XT5-812000-40R]

HU2BC8 22p/4/NPO/50V/J

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: B560M AORUS ELITE DB		Rev: 1.01
Date: Monday, March 22, 2021	Sheet 50 of 72		

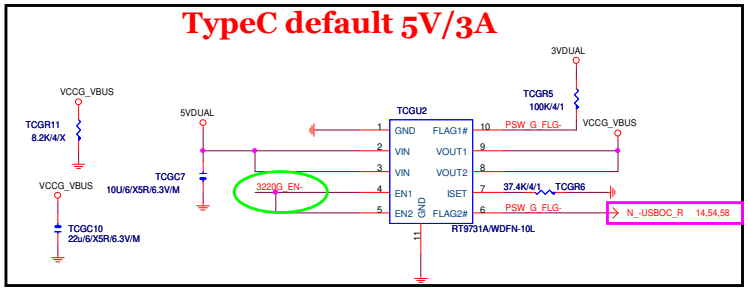
USB3.2 GEN2 PI3EQX1004E Rev0.1

IT5201 MUX Type-C

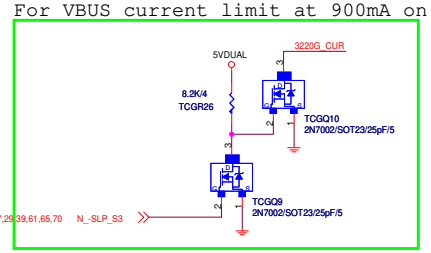
MUX 請擇一

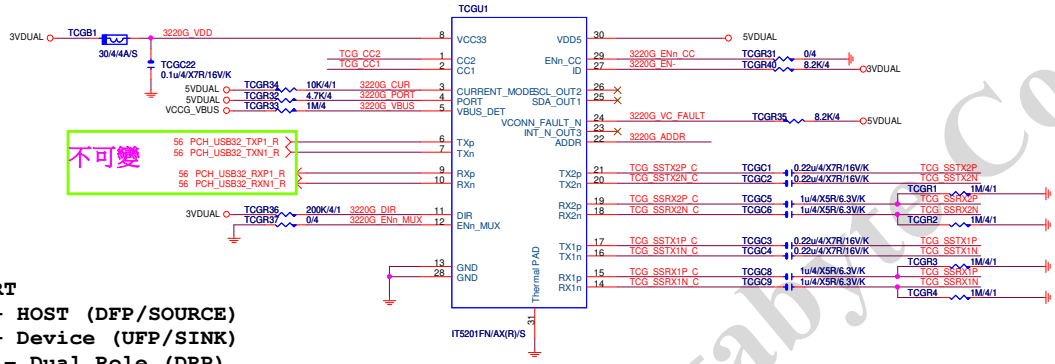
GROUP G

TypeC default 5V/3A

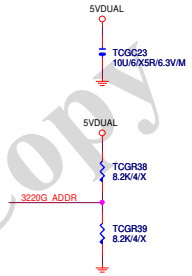


For VBUS current limit at 900mA on S3





ITE 5201 (colay TI HD3SS3220)



PORT

H – HOST (DFP/SOURCE)

L – Device (UFP/SINK)

NC – Dual Role (DRP)

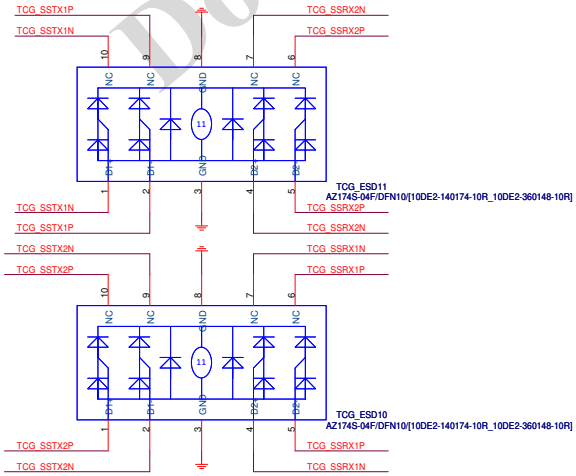
CURRENT MODE

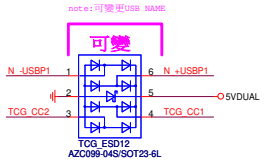
L – Default (900mA) / Pull down to GND or NC

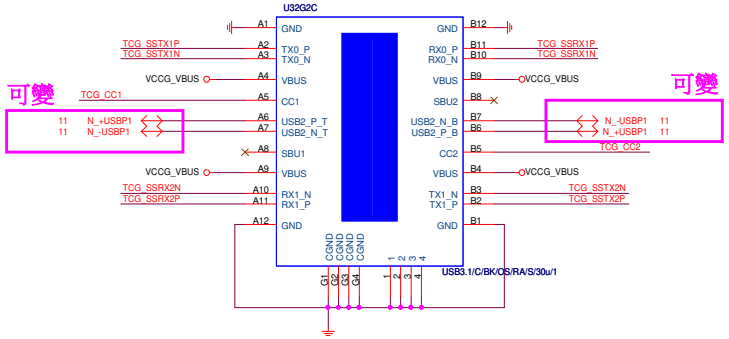
M – Medium (1.5A) / Pull up to VDD 500K

H – High (3.0A) / Pull up to VDD 10K

Color markers can be changed by model

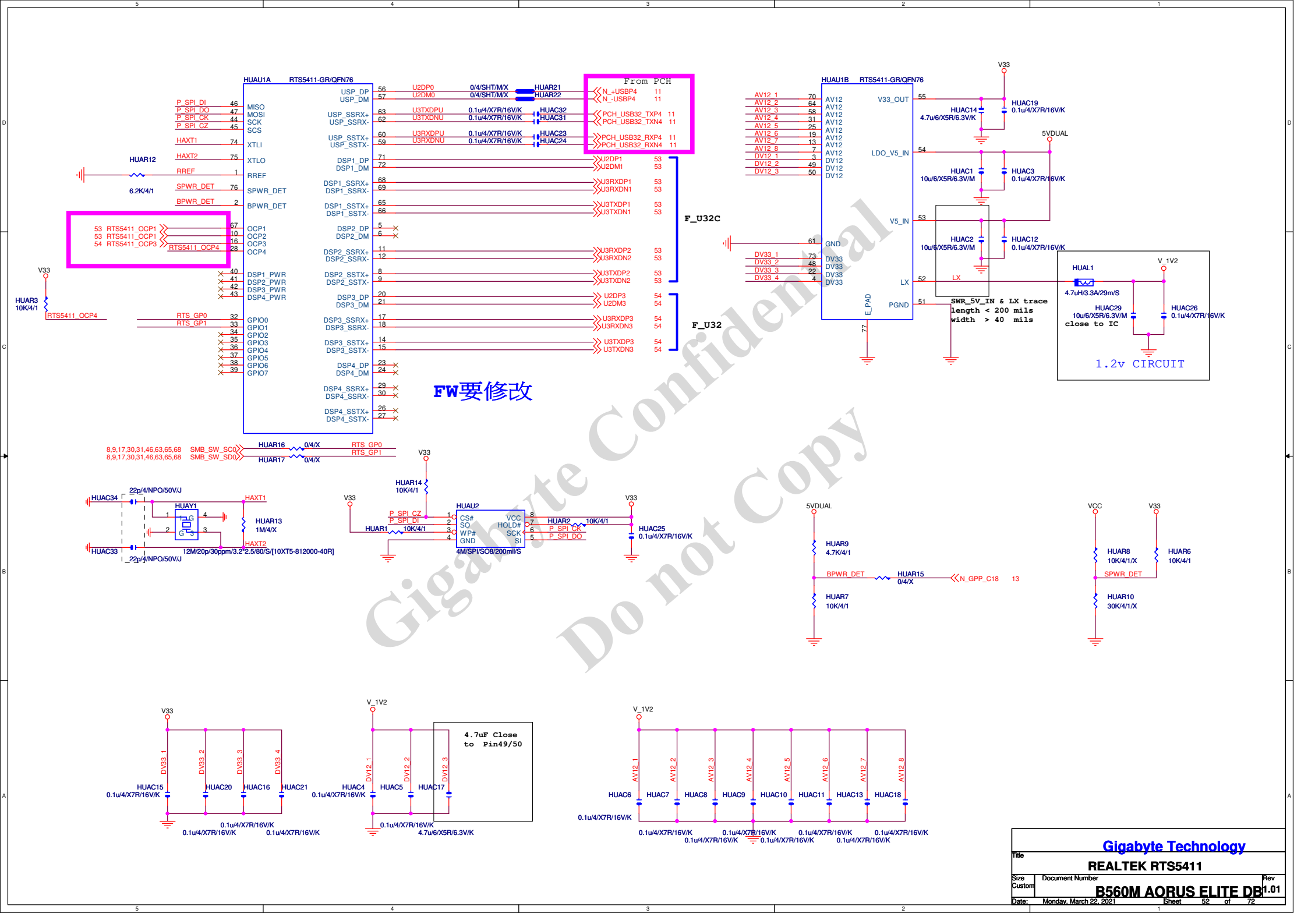






USB2.0 can be used the same source

Title	Gigabyte Technology	
	ITE5201_C_Type-C	
Size C	Document Number B560M AORUS ELITE DB	Rev 1.01
Date: Monday, March 22, 2021	Sheet 51 of 72	


HUAU1A RTS5411-GR/QFN76
From PCH
F_U32C
F_U32
FW要修改
HUAU1B RTS5411-GR/QFN76
SWR_5V_IN & LX trace length < 200 mils width > 40 mils close to IC
1.2v CIRCUIT
4.7uF Close to Pin49/50
HUAU2
4M/SPI/SO8/200mil/S
12M/20p/30ppm/3.2*2.5/80/S/[10XT5-812000-40R]
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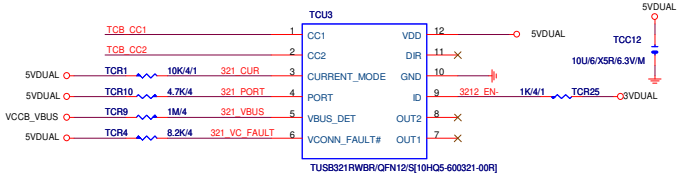
Gigabyte Technology
REALTEK RTS5411
B560M AORUS ELITE DB
Monday, March 22, 2021

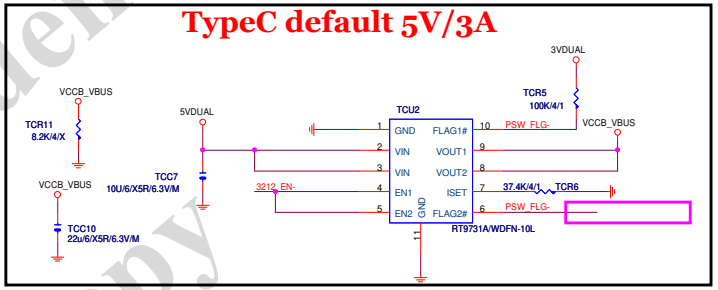
Front1 U32 GEN1 RTS5441E Rev0.1

GROUP B



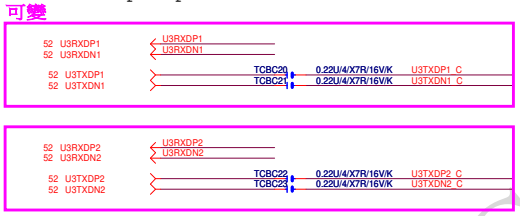
CURRENT MODE
L – Default current / Pull down to GND or NC
M – Medium (1.5A) current / Pull up to VDD 500K
H – High (3.0A) current / Pull up to VDD 10K

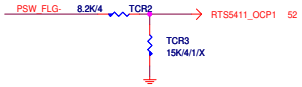
PORT
H – HOST
L – Device
NC – Dual Role



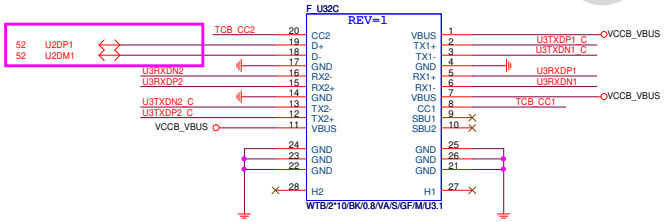
USB 3.x SuperSpeed

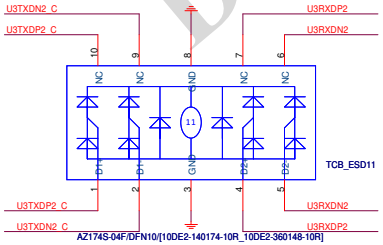
可變

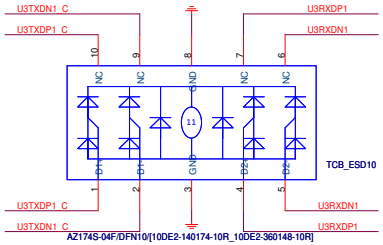


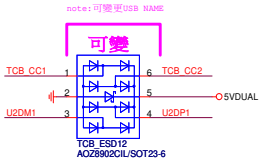


Color markers can be changed by model





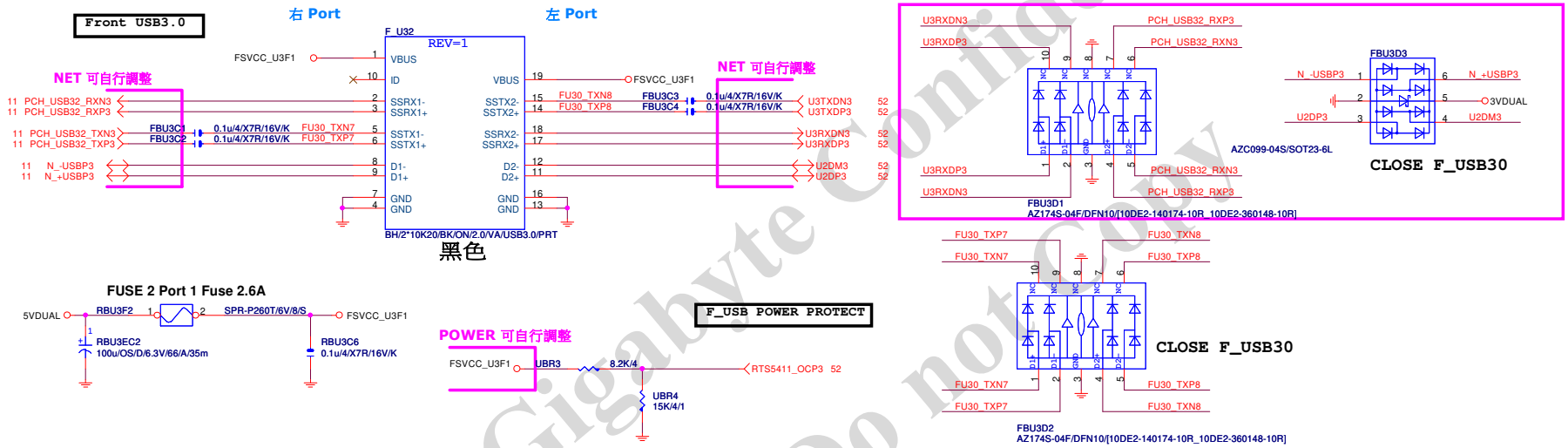


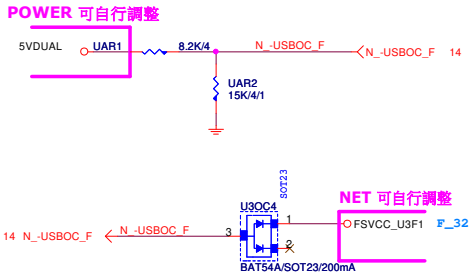


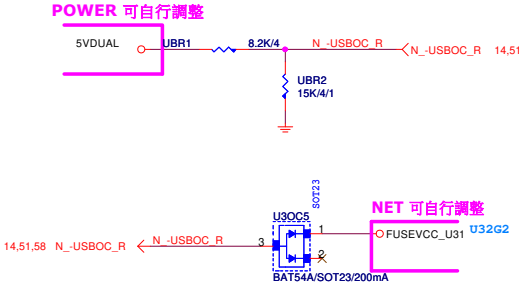
GIGABYTE™

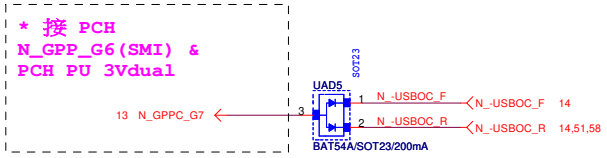
Title	TI HD3SS3220_Front1	
Size C	Document Number B560M AORUS ELITE DB	Rev 1.01
Date: Monday, March 22, 2021	Sheet 53 of 72	

Rev: 0.94





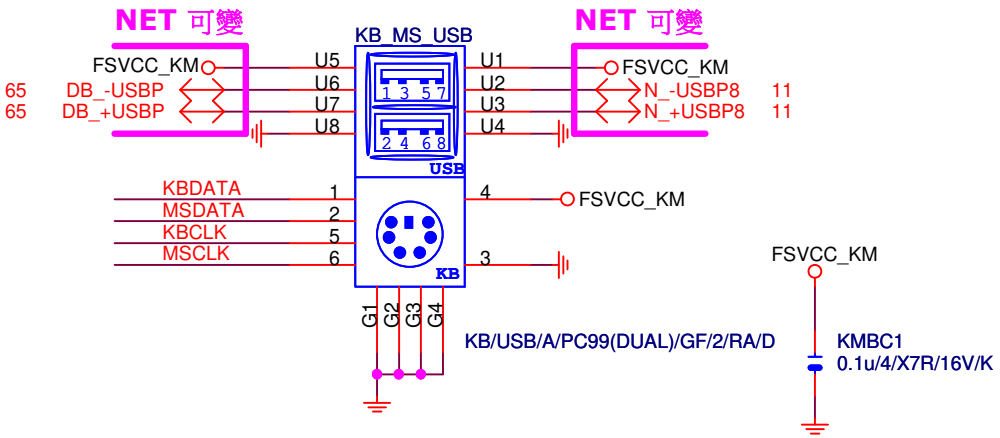




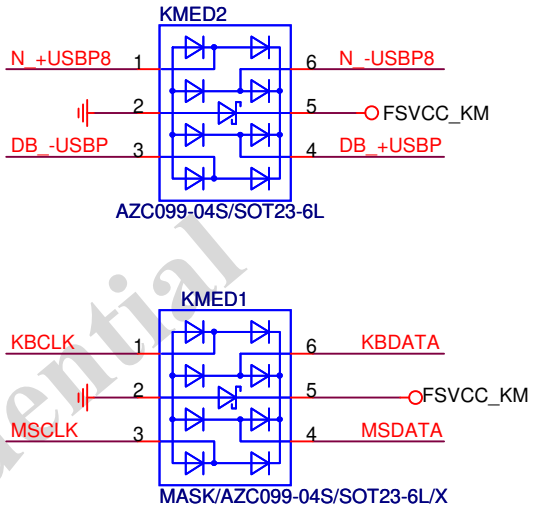
Gigabyte Technology		
Title: F_U32		
Size: Custom	Document Number: B560M AORUS ELITE DB	Rev: 1.01
Date: Monday, March 22, 2021	Sheet 54 of 72	

KB_MS_USB

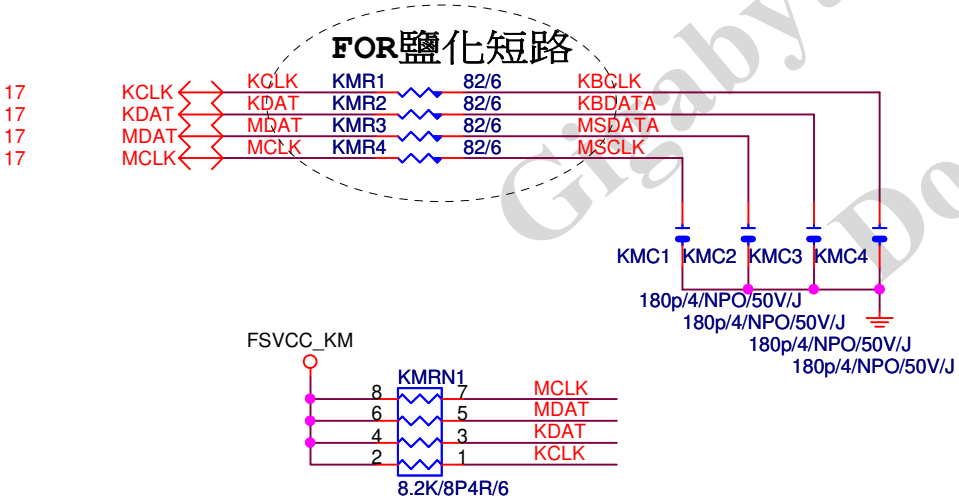
Rev: 0.7



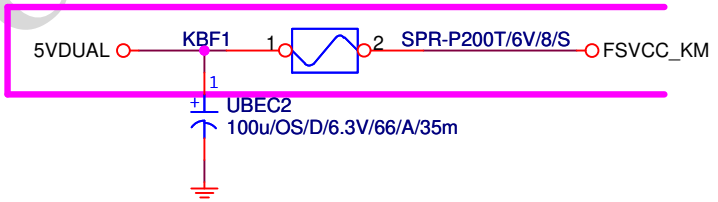
ESD



KB_MS_USB DAMPING/PU



KB_MS_USB PWR



USB OC PROTECT

Gigabyte Technology		
Title: KB_MS_USB30		
Size: A	Document Number: B560M AORUS ELITE DB	Rev: 1.01
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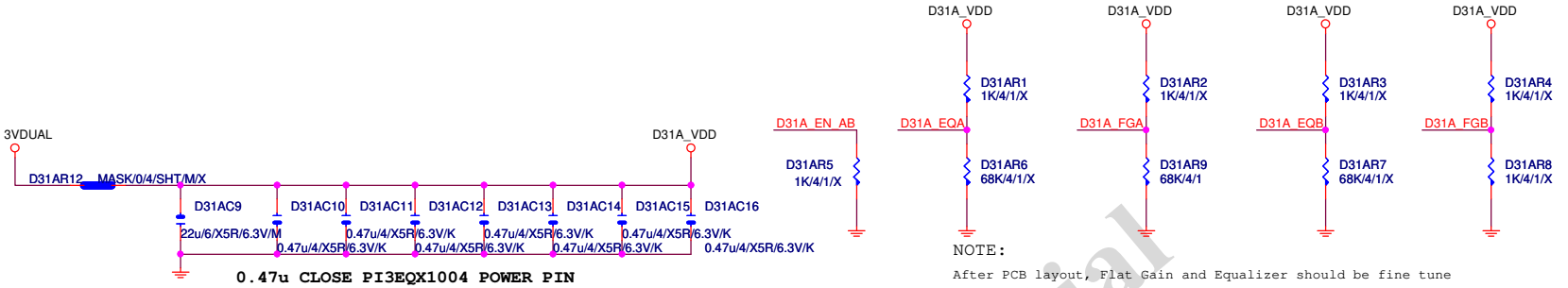
USB3.2 GEN2 PI3EQX1004B1 Rev0.1

Type-A

GROUP A

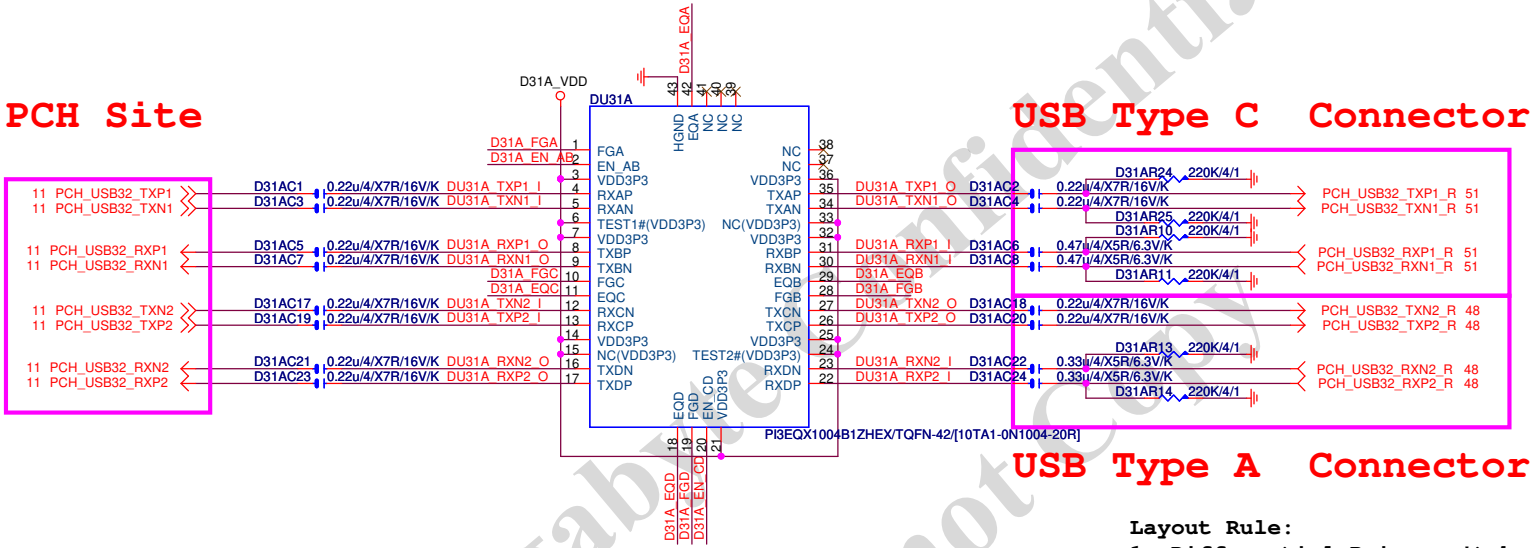


NOTE:

After PCB layout, Flat Gain and Equalizer should be fine tune

PCH Site

可變

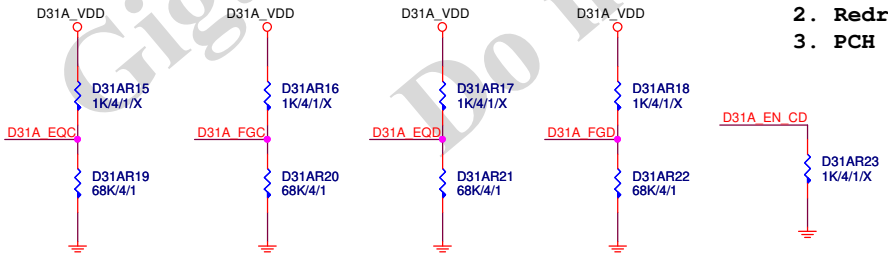


USB Type C Connector Site

USB Type A Connector Site

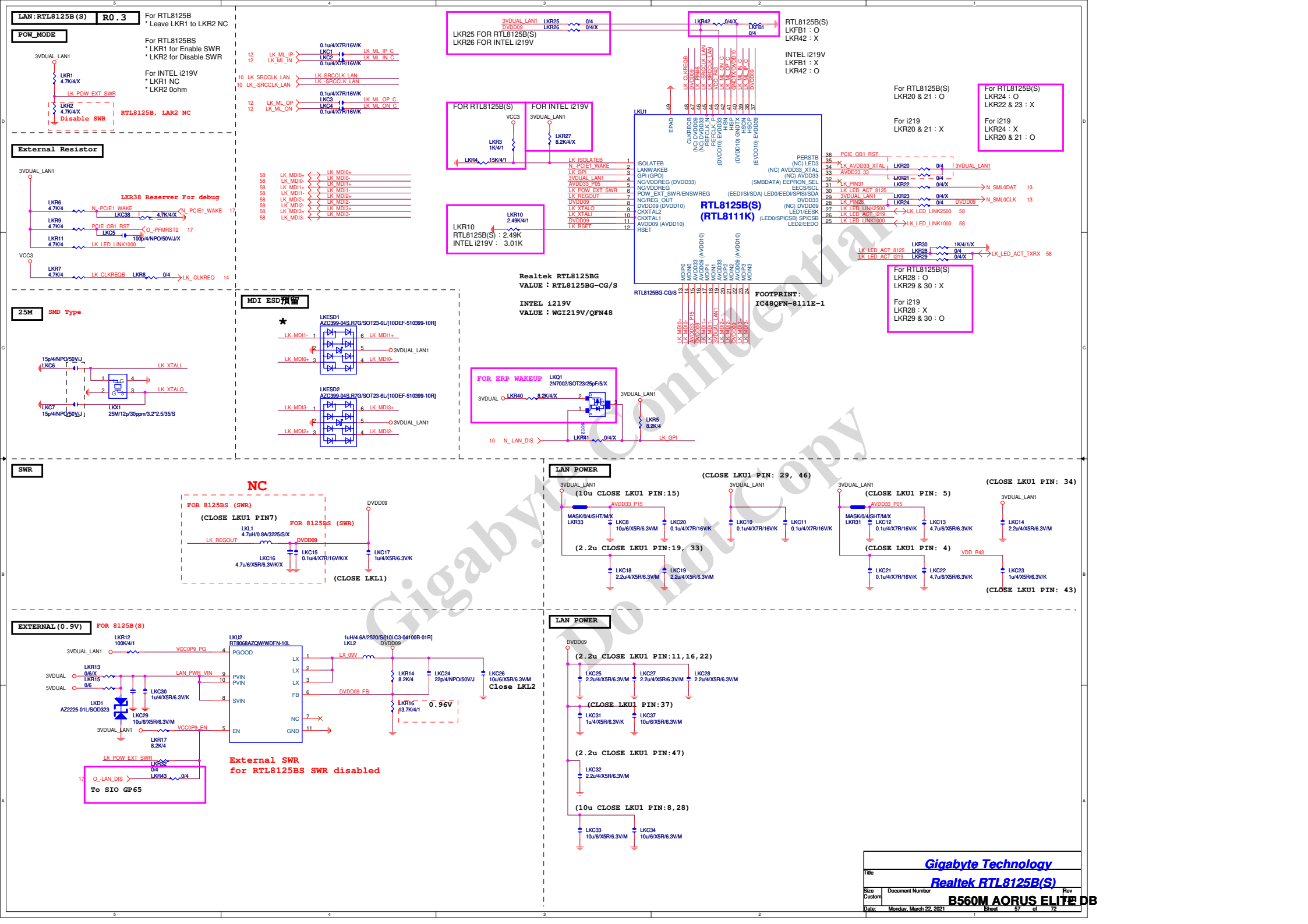
Layout Rule:

1. Differential Pair can't be swaped
2. Redriver to Connector Length min. 1 inch
3. PCH to Redriver Length min. 6 inch



GIGABYTE™

Title	Redriver_A_TYPE-A	
Size B	Document Number B560M AORUS ELITE DB	Rev 1.01
Date: Monday, March 22, 2021	Sheet 56 of 72	

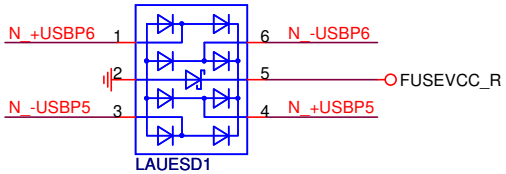

LAN:RTL8125B(S)
R0.3
POW_MODE
For RTL8125B
* Leave LKR1 to LKR2 NC
For RTL8125BS
* LKR1 for Enable SWR
* LKR2 for Disable SWR
For INTEL i219V
* LKR1 NC
* LKR2 0ohm
RTL8125B, LAR2 NC
Disable SWR
External Resistor
LKR38 Reserver For debug
25M
SMD Type
MDI ESD預留
LKR25 FOR RTL8125B(S)
LKR26 FOR INTEL i219V
RTL8125B(S)
LKFB1 : O
LKR42 : X
INTEL i219V
LKFB1 : X
LKR42 : O
FOR RTL8125B(S)
FOR INTEL i219V
LKR10
RTL8125B(S) : 2.49K
INTEL i219V : 3.01K
RTL8125B(S)
(RTL8111K)
Realtek RTL8125BG
VALUE : RTL8125BG-CG/S
INTEL i219V
VALUE : WGI219V/QFN48
FOOTPRINT:
IC48QFN-8111E-1
For RTL8125B(S)
LKR20 & 21 : O
For i219
LKR20 & 21 : X
For RTL8125B(S)
LKR24 : O
LKR22 & 23 : X
For i219
LKR24 : X
LKR20 & 21 : O
For RTL8125B(S)
LKR28 : O
LKR29 & 30 : X
For i219
LKR28 : X
LKR29 & 30 : O
FOR ERP WAKEUP
SWR
NC
FOR 8125BS (SWR)
(CLOSE LKU1 PIN7)
(CLOSE LKL1)
LAN POWER
(CLOSE LKU1 PIN: 29, 46)
(10u CLOSE LKU1 PIN:15)
(2.2u CLOSE LKU1 PIN:19, 33)
(CLOSE LKU1 PIN: 5)
(CLOSE LKU1 PIN: 4)
(CLOSE LKU1 PIN: 34)
(CLOSE LKU1 PIN: 43)
EXTERNAL(0.9V)
FOR 8125B(S)
External SWR
for RTL8125BS SWR disabled
To SIO GP65
LAN POWER
(2.2u CLOSE LKU1 PIN:11,16,22)
(CLOSE LKU1 PIN:37)
(2.2u CLOSE LKU1 PIN:47)
(10u CLOSE LKU1 PIN:8,28)
Gigabyte Technology
Realtek RTL8125B(S)
B560M AORUS ELITE DB
Monday, March 22, 2021
Sheet 57 of 72
Gigabyte Confidential
Do Not Copy

USB_LAN CONNECTOR R0.3

RMA ESD PROTECT

note:可變更USB NAME

可變



可變

USB_LAN CONNECTOR

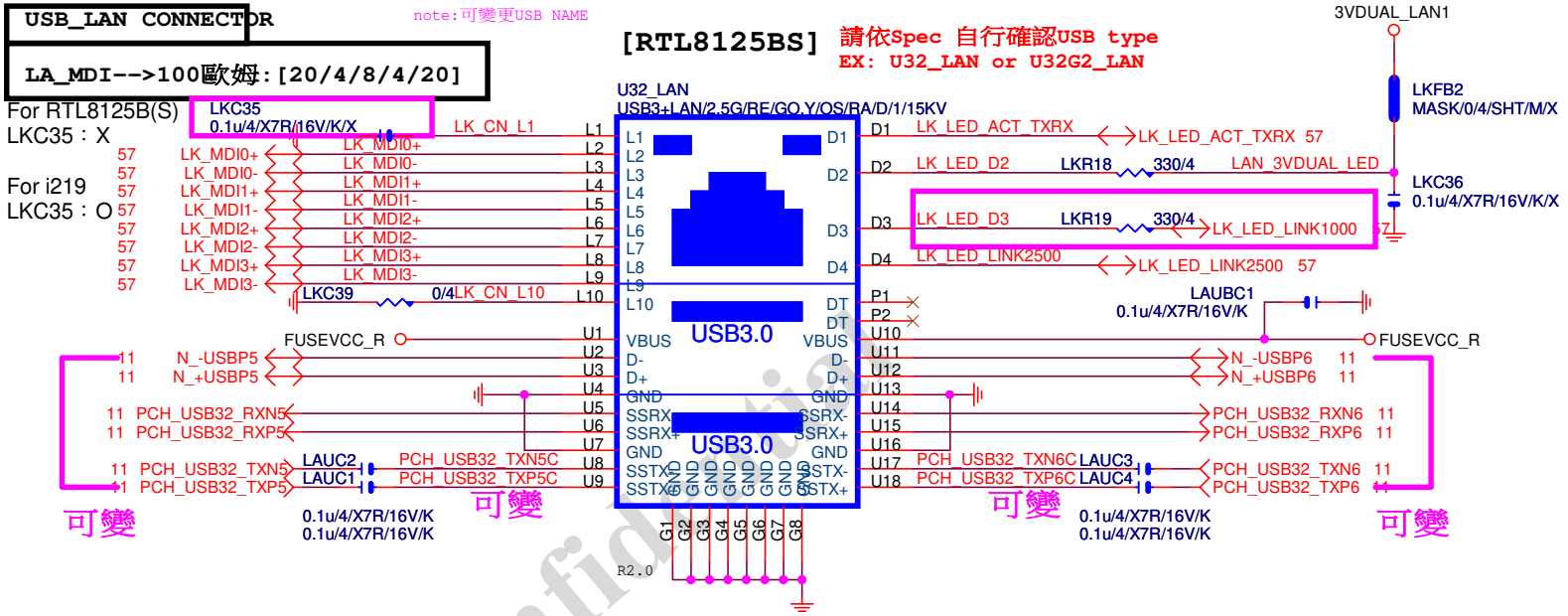
note:可變更USB NAME

LA_MDI-->100歐姆:[20/4/8/4/20]

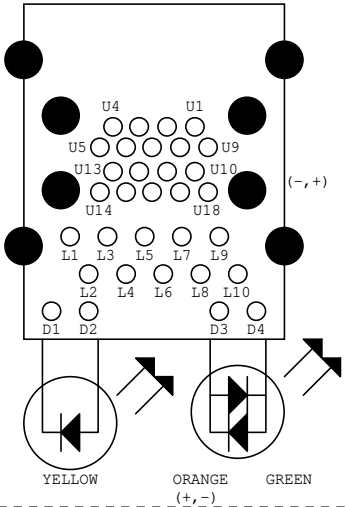
[RTL8125BS] 請依Spec 自行確認USB type
EX: U32_LAN or U32G2_LAN

For RTL8125B(S)
LKC35：X

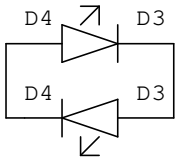
For i219
LKC35：O



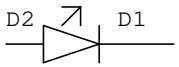
USB30_LAN LAYOUT示意圖



Dual Color LED

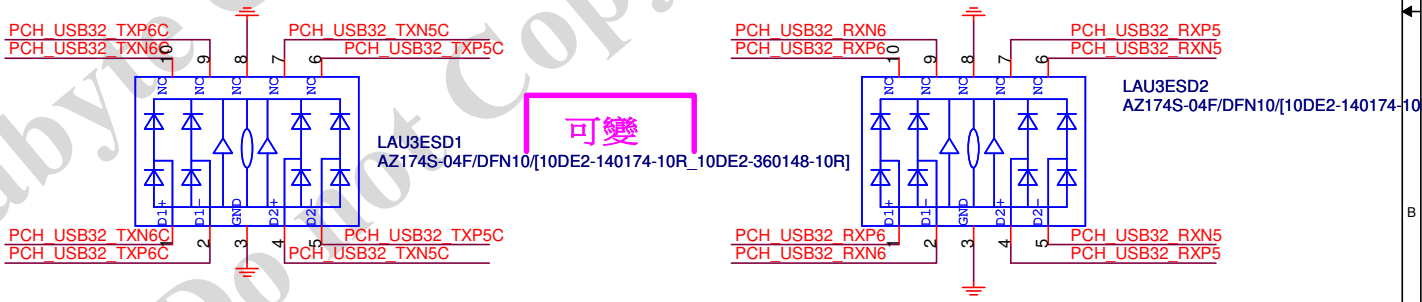


Single Color LED



RMA ESD PROTECT

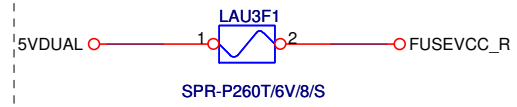
note:可變更USB NAME



USB POWER

note:可變更FUSE

可變



Close to connector
FUSE-0805

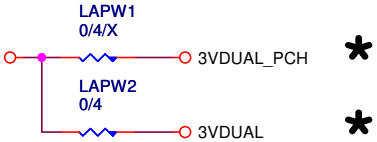
EMI SHORT PAD

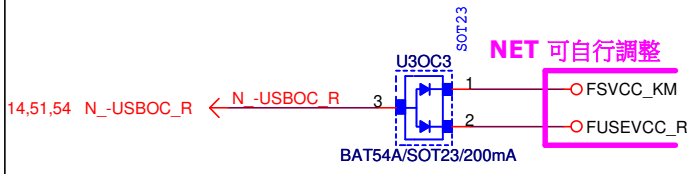
PS:視EMI需求

LAN POWER

note: lan power連接及電流

可變





Title	Gigabyte Technology LAN CONNECTOR-RTL8125B(S)
Size	Custom
Document Number	B560M AORUS ELITE DB
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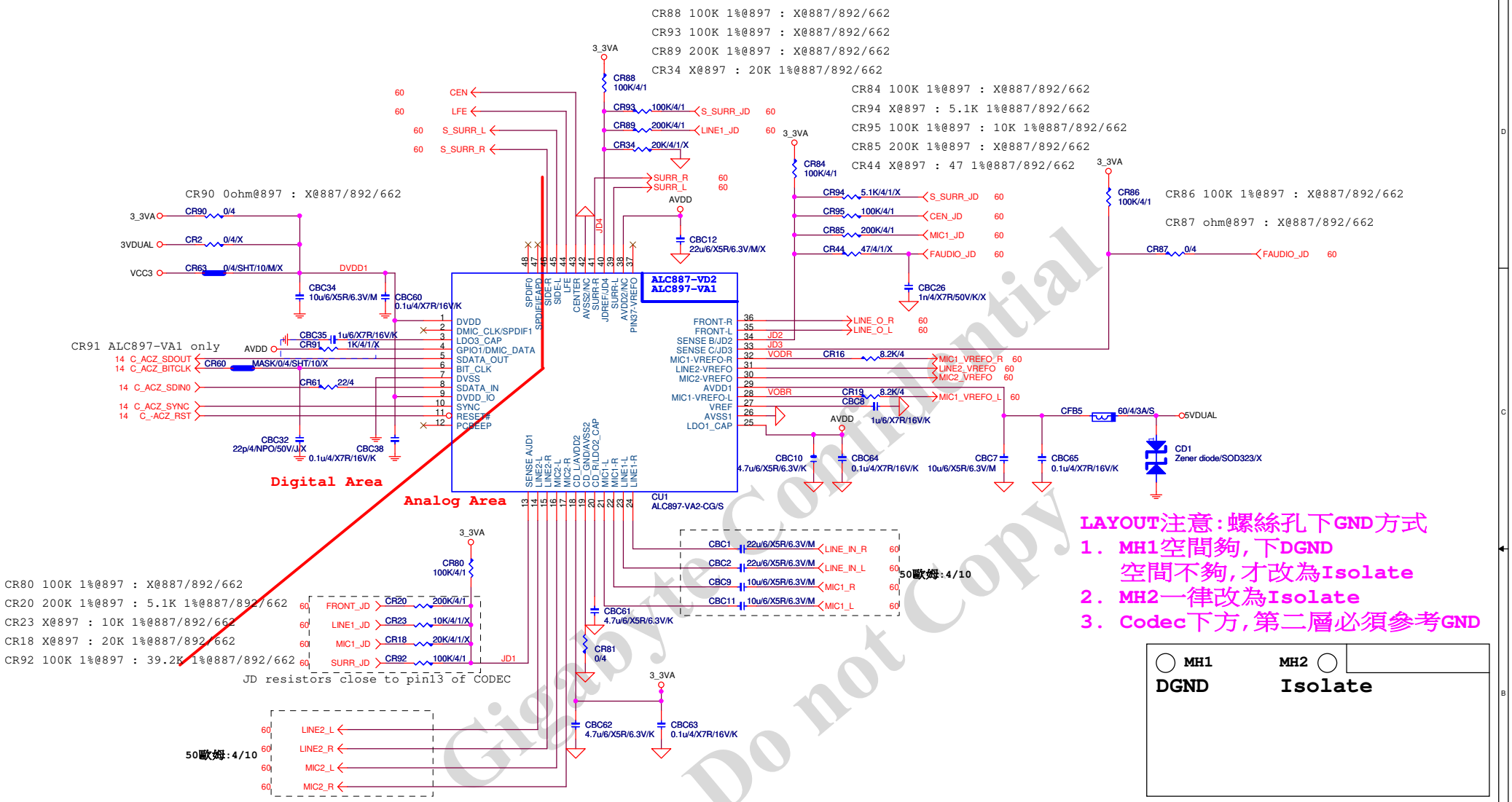

LAYOUT注意:螺絲孔下GND方式

1. MH1空間夠,下DGND
   空間不夠,才改為Isolate
2. MH2一律改為Isolate
3. Codec下方,第二層必須參考GND

MH1	MH2
DGND	Isolate

LAYOUT注意:要加
GND切割線

音效區域印刷

		897	887/892/662
Pin03	LDO3	1uF	10uF
Pin09	DVDD-IO	0.1uF	1uF
Pin18	AVDD2	4.7uF/0.1uF	NC
CR81	AVDD2	0ohm	NC
Pin20	LDO2	4.7uF	NC
Pin25	LDO1	4.7uF	22uF
Pin27	VREF	1uF	10uF
Pin38	AVDD2	NC	22uF

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

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Title	HD AUDIO ALC887VE/887VD	
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Rev 6.0

* MOATR1 MASK/0/4/SHT/10/X
MOATC1 0.1u/4/X7R/16V/K/X → Near F_AUDIO

* MOATR2 MASK/0/4/SHT/10/X
MOATC2 0.1u/4/X7R/16V/K/X → Near Codec

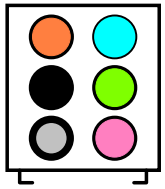
MOATR3 0/4/X
MOATC3 0.1u/4/X7R/16V/K/X → Under Audio jack

* MOATR4 0/6/SHT/30/M/X → Audio jack - LAN

*量產前,MOATR1/MOATR2/MOATR4 ....0ohm改short pad

For HDMI SPDIF (依SPEC保留或移除)

AZALIA JACK



AUDIOB

AZALIA JACK

BLUE LINE-IN
GREEN LINE-OUT
PINK MIC-IN

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

AUDIOA

Orange CEN/LFE
Black SURROUND
Gray SURROUND SIDE

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

LINE-OUT

59 LINE_O_R → CEC1 100u/TAP/6.3V/65 CR5 62/4 → AJ_B5
59 LINE_O_L → CEC2 100u/TAP/6.3V/65 CR8 62/4 → AJ_B2
CR7 22K/4
CR6 22K/4
CBC19 180p/4/NPO/50V/J
CBC24 180p/4/NPO/50V/J

LINE-IN

59 LINE_IN_R → CR1 62/4 → AJ_A5
59 LINE_IN_L → CR14 62/4 → AJ_A2
CBC20 180p/4/NPO/50V/J
CBC23 180p/4/NPO/50V/J

MIC-IN

59 MIC1_R → CR17 62/4 → AJ_C5
59 MIC1_L → CR22 62/4 → AJ_C2
59 MIC1_VREFO_L
59 MIC1_VREFO_R
CBC3 180p/4/NPO/50V/J
CBC4 180p/4/NPO/50V/J

SURROUND

59 SURR_R → CBC49 10u/8/X5R/16V/K SURR_C_R CR73 62/4 → BJ_C5
59 SURR_L → CBC50 10u/8/X5R/16V/K SURR_C_L CR74 62/4 → BJ_C2
CBC44 180p/4/NPO/50V/J
CBC45 180p/4/NPO/50V/J

CEN/LFE

59 LFE → CBC13 10u/8/X5R/16V/K LFE_C_R CR75 62/4 → BJ_B5
59 CEN → CBC15 10u/8/X5R/16V/K CEN_C_L CR76 62/4 → BJ_B2
CBC49/50/13/15/16/17 10u/8
For THD+N Low frequency
CBC46 180p/4/NPO/50V/J
CBC47 180p/4/NPO/50V/J

SURR BACK

EMI

59 S_SURR_R → CBC16 10u/8/X5R/16V/K S_SURR_C_R CR25 62/4 → BJ_A5
59 S_SURR_L → CBC17 10u/8/X5R/16V/K S_SURR_C_L CR47 62/4 → BJ_A2
CBC33 180p/4/NPO/50V/J
CBC31 180p/4/NPO/50V/J

AZALIA FRONT PANEL

59 LINE2_VREFO → CQ4 BAT54A/SOT23/200mA
59 MIC2_VREFO → CQ2 BAT54A/SOT23/200mA
CRN1 8.2K/8P4R/4

59 MIC2_L → CBC6 10u/6/X5R/6.3V/M CR13 62/4 → M2_L
59 MIC2_R → CBC5 10u/6/X5R/6.3V/M CR11 62/4 → M2_R
L2_R CR57 62/4 → L2-R
59 FAUDIO_JD
L2_L CR53 62/4 → L2-L

59 LINE2_R → CEC9 100u/TAP/6.3V/65 → L2_R
59 LINE2_L → CEC6 100u/TAP/6.3V/65 → L2_L

CR58 22K/4
CR54 22K/4
VCC3
CR78 8.2K/4/X
F_AUDIO
CR55 200K/4/1
CR59 100K/4/1
BH/2*5K8/BK/2.54/VA/AUDIO/PRT/TUR180

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

Box header footprint : F_AUDIO
Pin header footprint : F_AUDIO_S
CR55 200K 1%@897 : 20K 1%@887/892/662
CR59 100K 1%@897 : 39.2K 1%@887/892/662

GIGABYTE™

Title: AUDIO JACK

Size	Document Number	Rev
Custom	B560M AORUS ELITE DB	1.01

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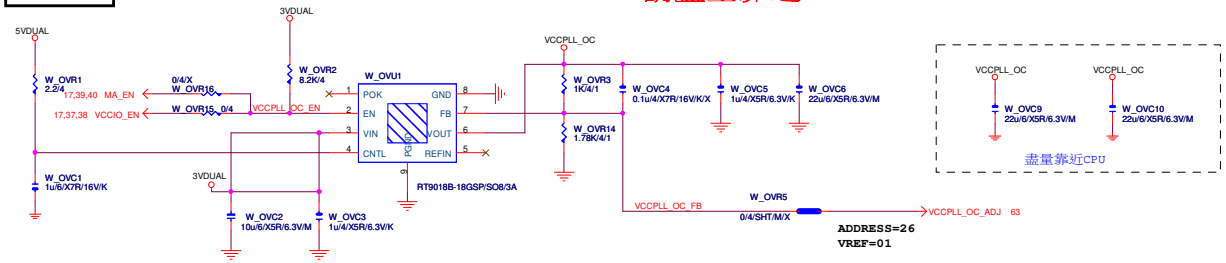
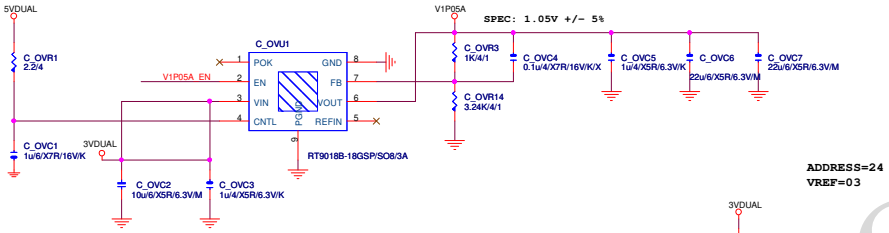
REV:0.12

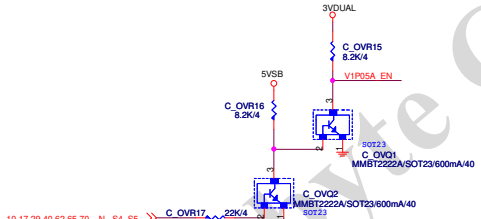
VCCPLL_OC

請盡量靠近CPU

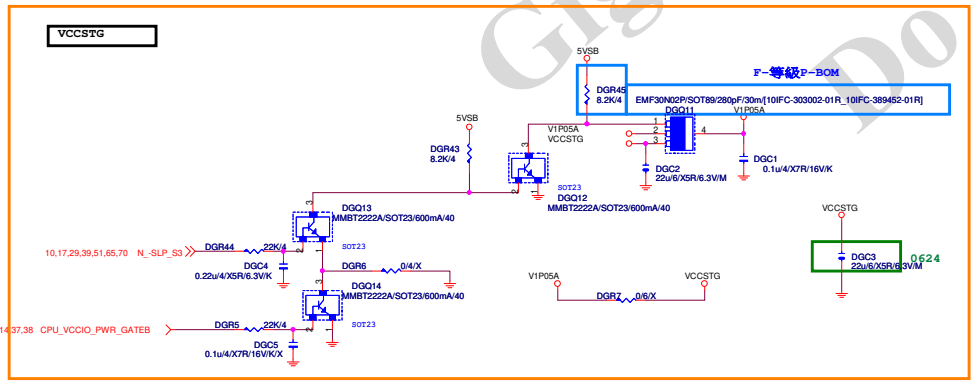


V1P05A





VCCSTG



GIGABYTE™

Title: CPU POWER-1		
Size: Custom	Document Number: B560M AORUS ELITE DB	Rev: 1.01
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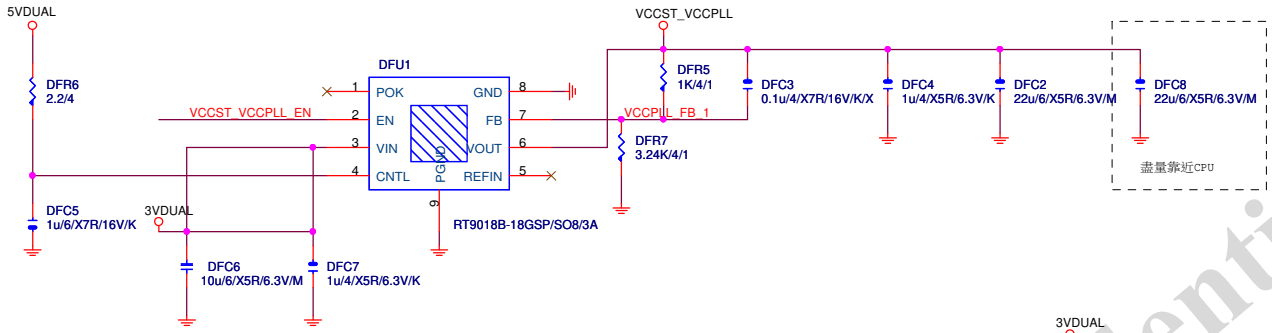
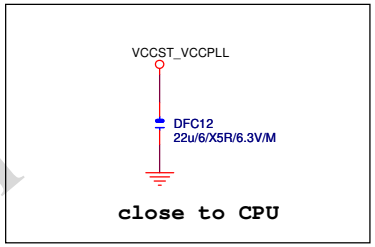
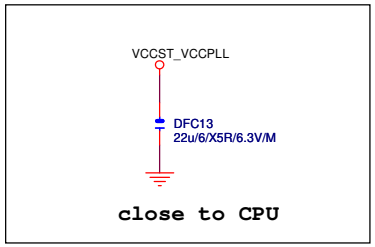
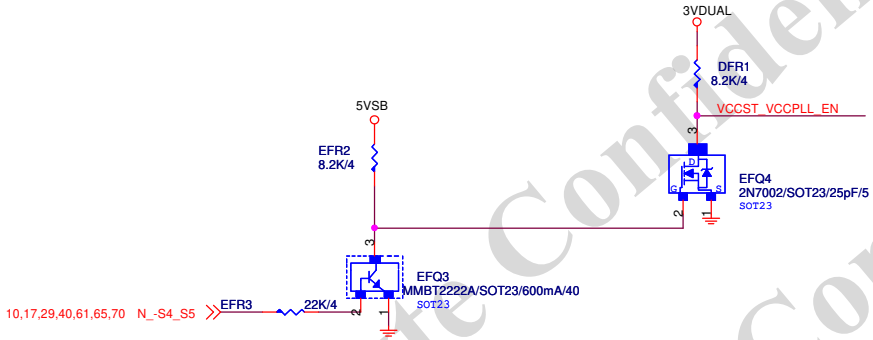
REV:0.12

VCCST_VCCPLL 替換原先MOS開關線路









GIGABYTE™

Title	CPU POWER-2	
Size: Custom	Document Number: B560M AORUS ELITE DB	Rev: 1.01
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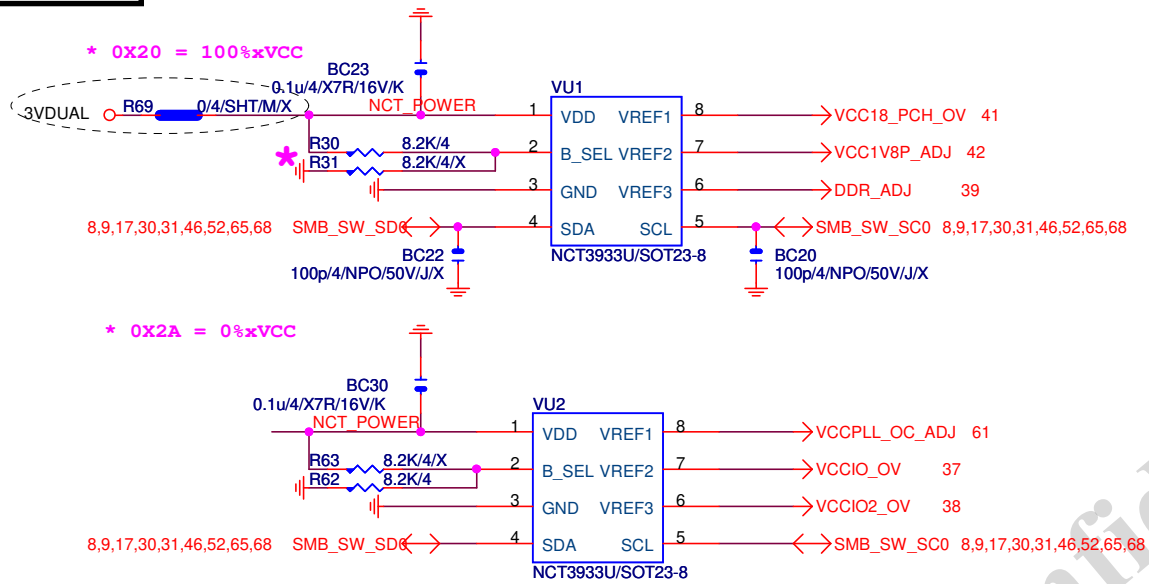
OVER VOLTAGE REV:0.12



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

F_PANEL

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

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

Update 2015.01.08
Footprint=F_PANEL-100

3VDUAL_PCH
FPR3 8.2K/4
FPC1 0.01u/4/X7R/50V/K/X
FPR9 33/4 → -PWRBTSW 17,65
FPBC3 0.01u/4/X7R/50V/K

5VDUAL, 3VDUAL_PCH
MPD+ → FPR2 330/6/X, FPR4 150/6
★Update 2018.05.23

CASE OPEN

11,13,15 N_RTCVDD → FPR8 1M/4/1 → -CASEOPEN → -CASEOPEN 17
FPBC4 0.01u/4/X7R/50V/K

FPESD1
MPD- 1 — 6 -PWRBT_1
2 — 5 3VDUAL_PCH
-RST 3 — 4 -HDLED
AZC099-04S/SOT23-6L

★Update 2015-02-11

SATA/M.2 LED

FPD2
14 N_-SATALED → -HDLED
BAT54A/SOT23/200mA
Fix some M.2 cause HD_LED always on.
★Update 2016.06.15

FPD3
25 -M2A_LED → -HDLED
28 -M2P_LED
BAT54A/SOT23/200mA

SPKR W/O EC

VCC → FPD1 1N4148W/SOD123/300mA
SPK- → FPR13 75/4/1 → FPR14 75/4/1 → FPQ6
FPQ6 MMBT2222A/SOT23/600mA/40
FPR15 8.2K/4
VCC3 → FPR16 1K/4/1/X
N_SPKR 13
FPQ5 MMBT2222A/SOT23/600mA/40
VCC → FPR17 1K/4/1
FPR18 8.2K/4
FPQ7 2N7002/SOT23/25pF/5
17 BEEP-

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

FRONT PANEL SHORT

Gigabyte Technology		
Title: FRONT PANEL		
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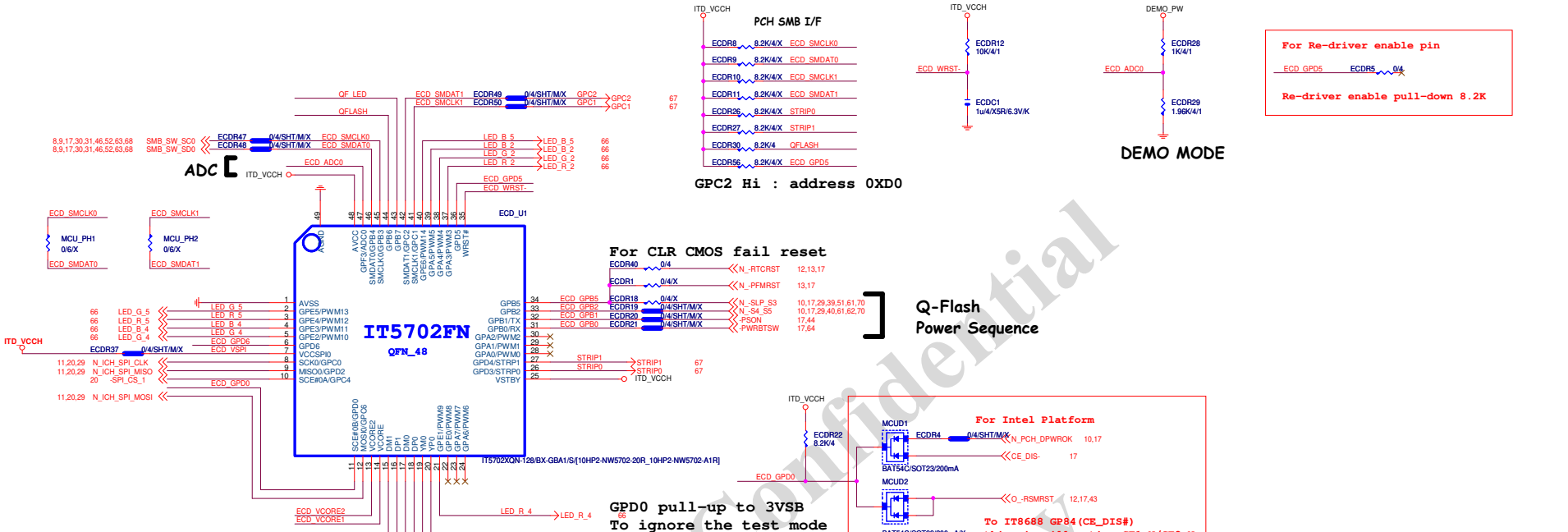
ECD_U1 請放在PCH到BIOS路徑上.避免線過長



Gigabyte Technology	
Title	ITE_5702
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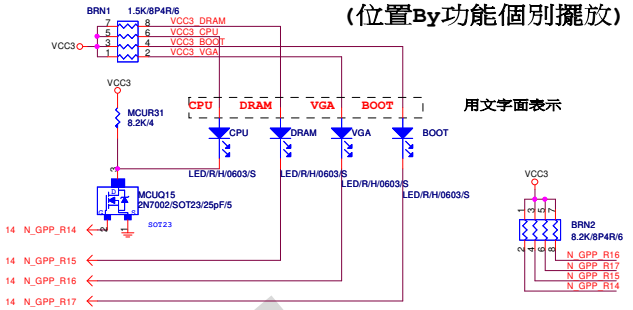
Rev 1.0

第一區 LED CONTROL

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

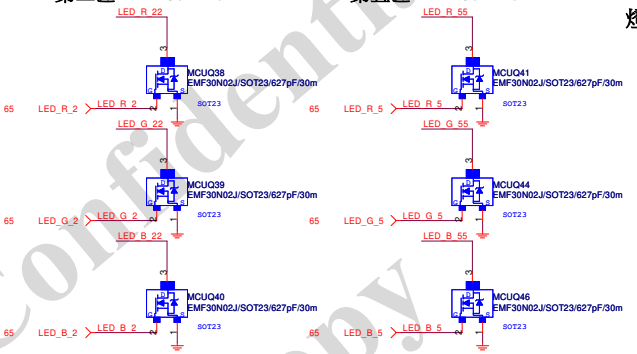
第三區 LED

第三區 LED CONTROL

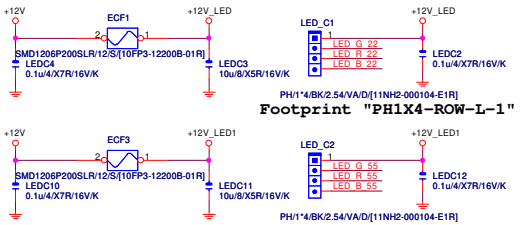
第五區 LED

第二區 LED CONTROL

第五區 LED CONTROL

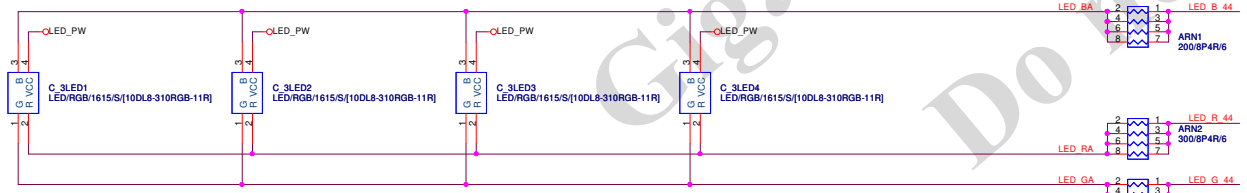


燈條 LED (LED_C1放在PCB左邊板邊位置)
燈條 LED (LED_C2放在PCB右邊板邊位置)



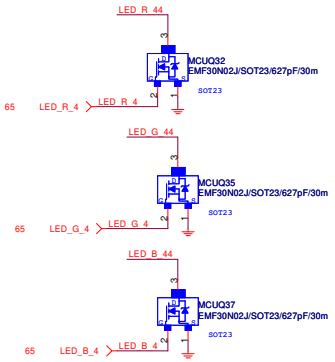
第四區 LED

FOR AUDIO 正發光 LED*5 (位置在背板AUDIO切割線)



FOOTPRINT:LED-4P-RGB

第四區 LED CONTROL



GIGABYTE

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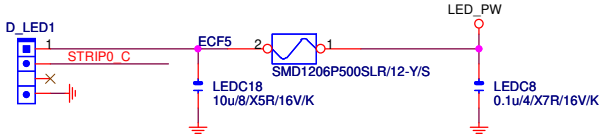
Rev 1.0

第六區 LED (靠近左上板邊位置)

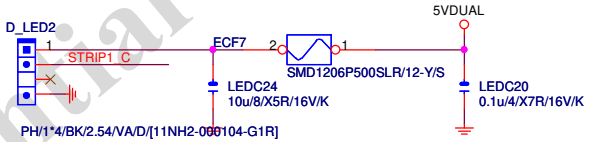
Digital LED Strip1



Footprint PH1X4-CUT3-LED-L

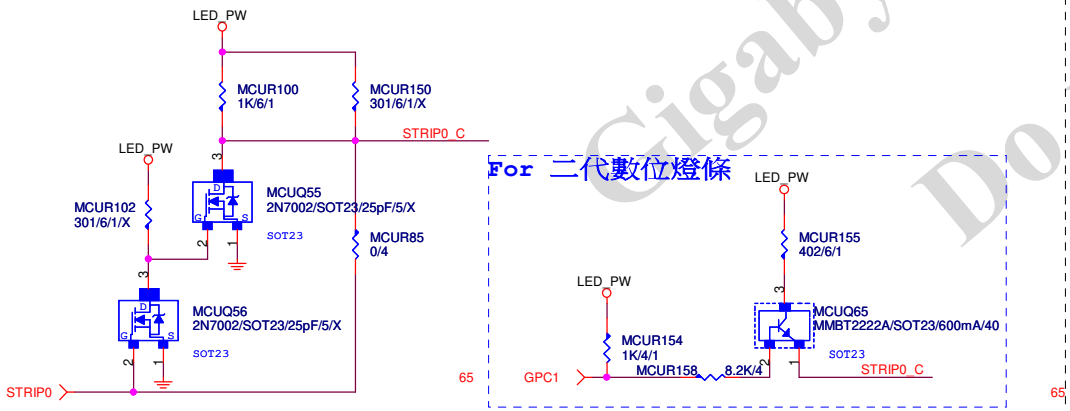
第七區(靠近右下CPU板邊位置)

Digital LED Strip2

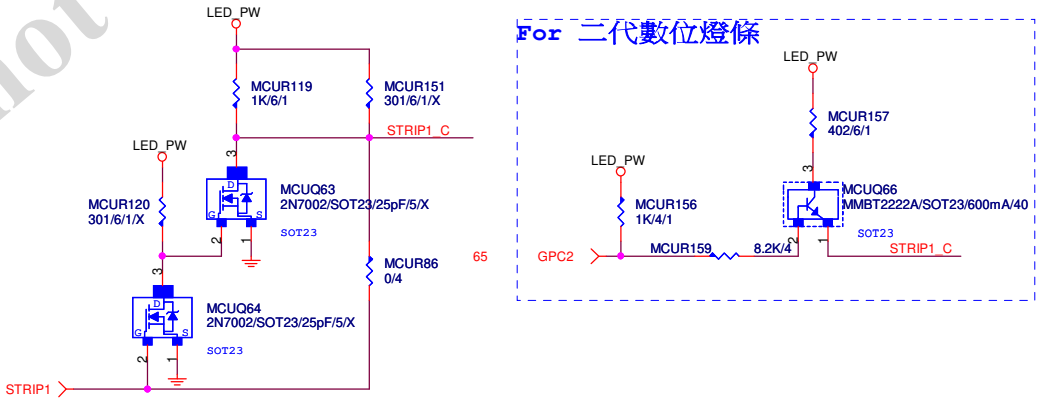


Footprint "PH1X4-CUT3-LED-R"
(for pin-name 與 model-name 同方向)

燈條 Level shift



燈條 Level shift



GIGABYTE™

Title	D_LED1/D_LED2	
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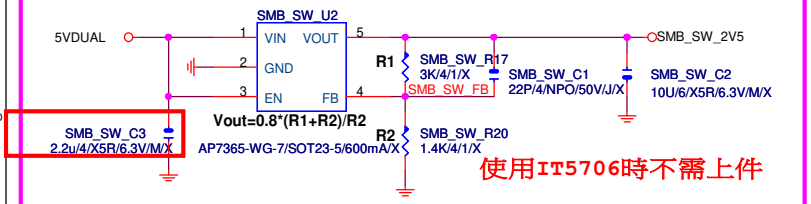
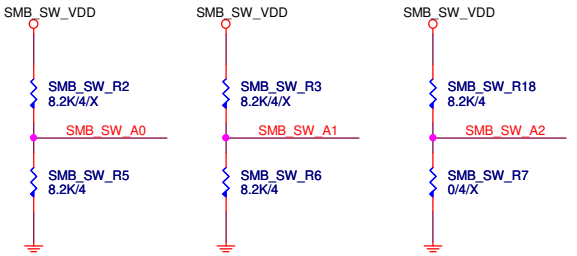
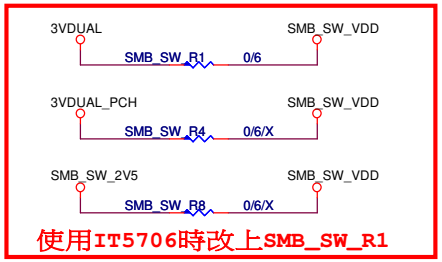
REV:0.1



使用IT5706時不需上件

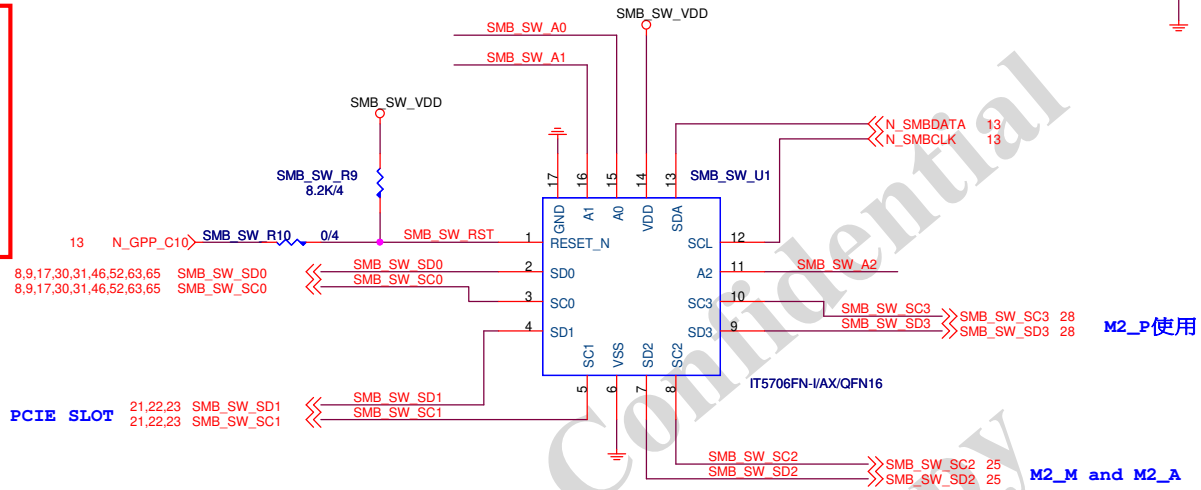
ADDRESS = 74





使用IT5706時改上SMB_SW_R1

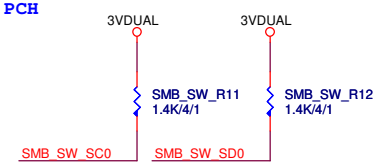
other

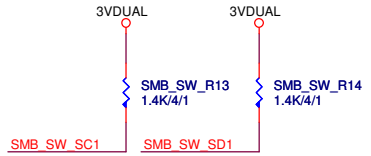


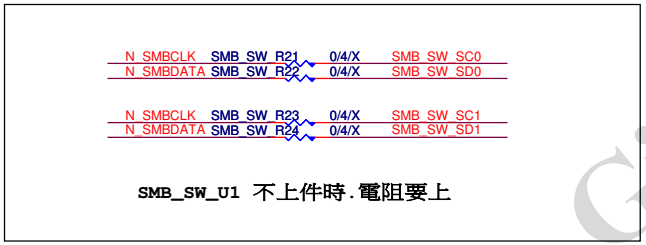
M2_P使用

M2_M and M2_A

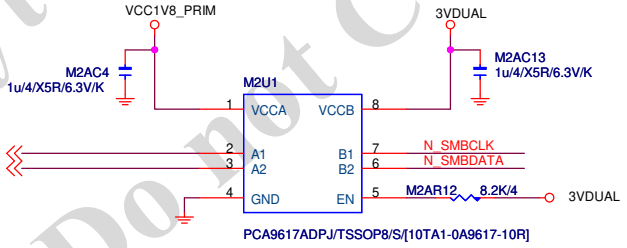
PCH







SMB_SW_U1 不上件時.電阻要上



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Title	SMBUS SWITCH	
Size: Custom	Document Number: B560M AORUS ELITE DB	Rev: 1.01
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Title	AQC113C	
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EMI/ESD R0.1

CLOSE SIO

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

10,17,29,39,51,61,65 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

GIGABYTE™

Title	EMI/ESD	
Size: A	Document Number: B560M AORUS ELITE DB	Rev: 1.01
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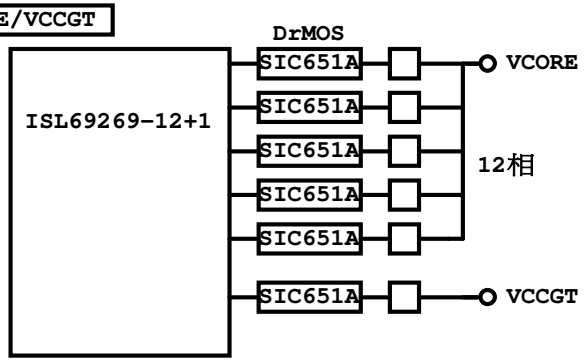
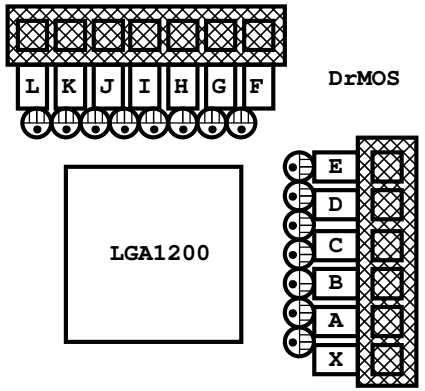
POWER BLOCK MAP

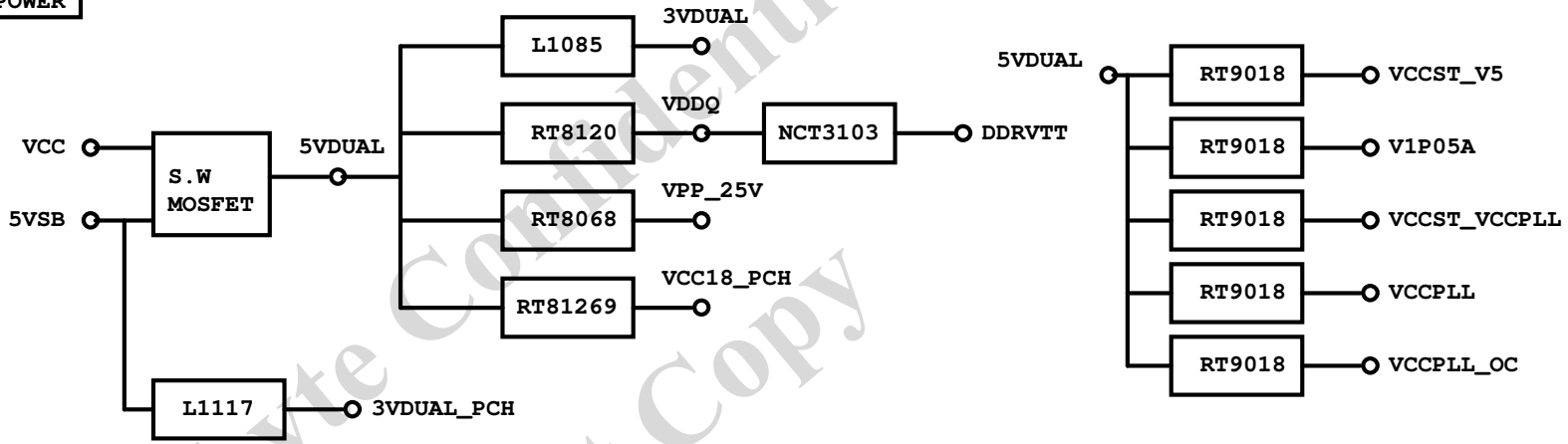
- CPU
  - VCORE
  - VCCGT
  - VCCSA
  - VCCIO
  - VCCIO2
  - VCCST_VCCPLL
  - VCCPLL
  - VCCPLL_OC
  - VCCST_V5
  - V1P05A
  - VCCSTG
  - VDDQ
- DDR4
  - VDDQ
  - DDRVTT
  - VPP_25V
- PCH
  - VCC18_PCH
  - VCC1V8_PRIM
  - VCCPRM_1P05
  - VCCDPHY_1P24
  - VCC0P85_PCH
  - VCC3_PCH
  - 3VDUAL_PCH
  - VCC3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

VCORE/VCCGT

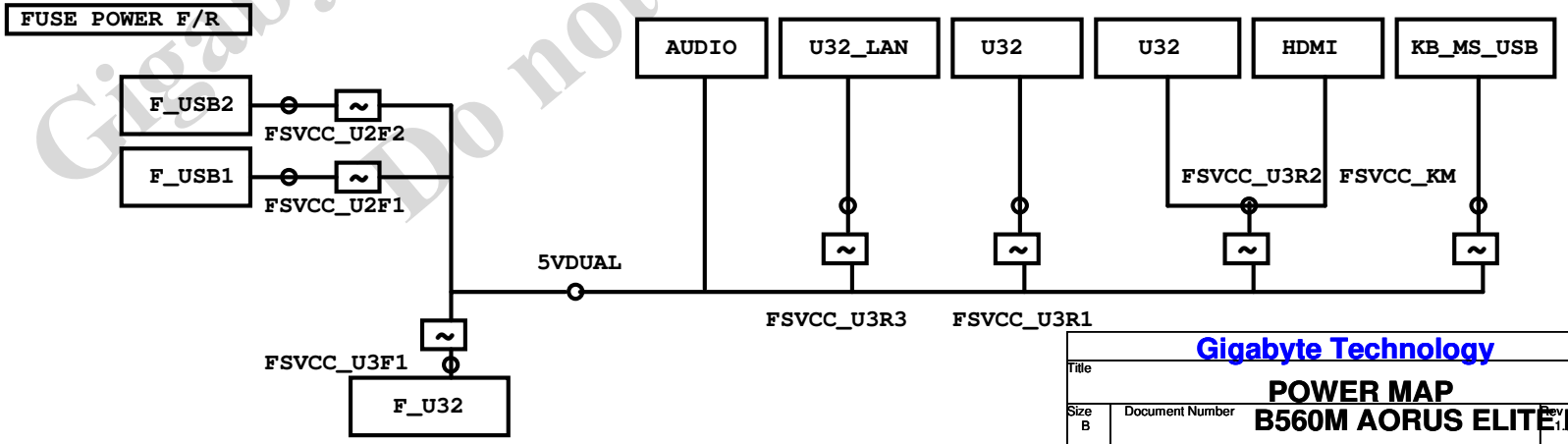




POWER



FUSE POWER F/R



Gigabyte Technology

Title: POWER MAP

Size: B | Document Number: B560M AORUS ELITE DB | Rev: 1.0

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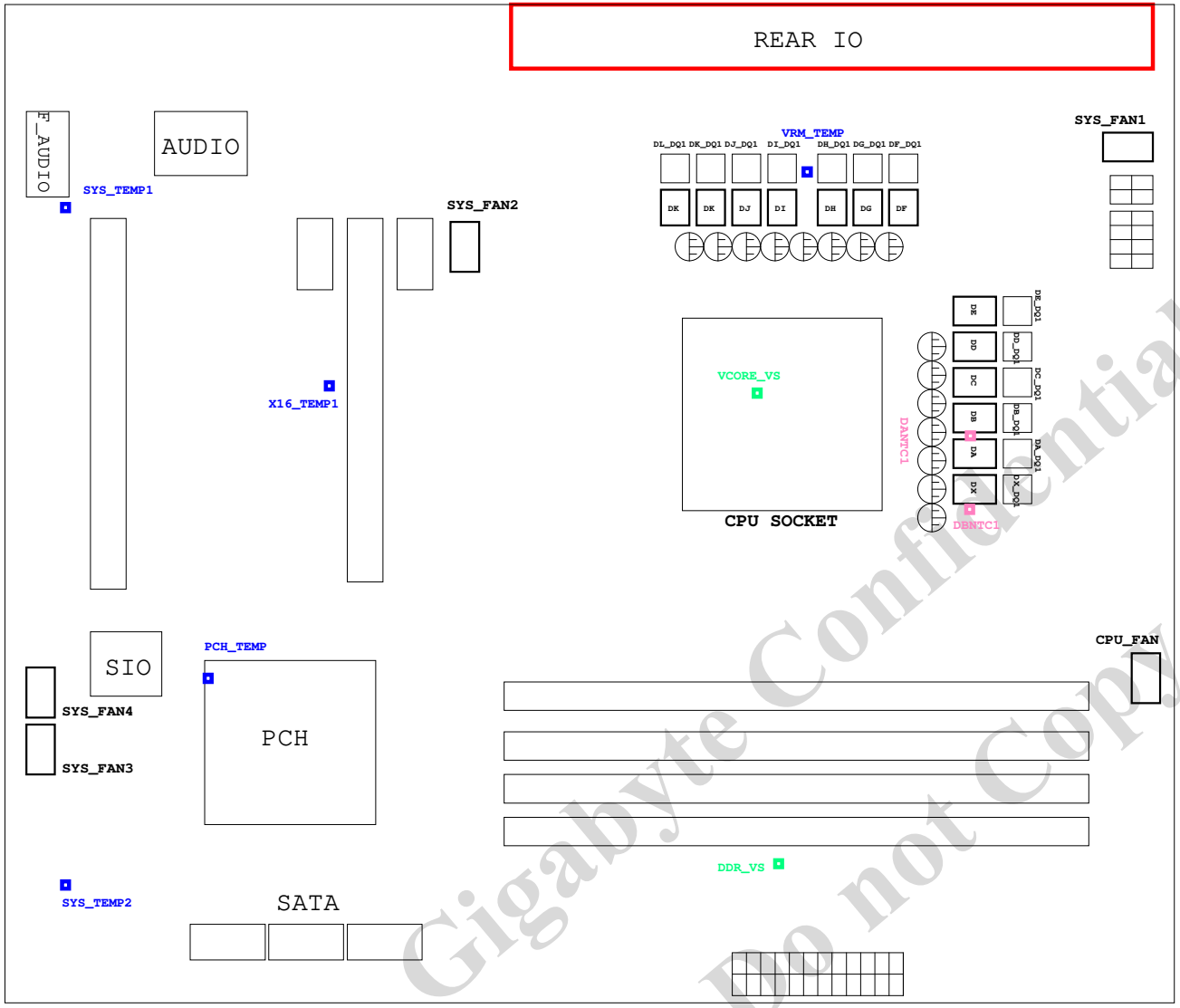

熱敏電阻	擺放靠近位置	走線方式
DANTC1	DA_DL2	Differential
DANTC2	DA_DQ3	Differential
DANTC3	DM_DQ2	Differential
DANTC4	DM_DL1	Differential
VRM_TEMP	DC_DQ1	N/A
X16_TEMP1	PCIEX16	N/A
PCH_TEMP	PCH	N/A
SYS_TEMP1	F_AUDIO	N/A
SYS_TEMP2	F_PANEL	N/A

SIO RS
PWM RS
SIO VIN

FAN

Gigabyte Technology

Title: NTC MAP

Size: Custom | Document Number: B560M AORUS ELITE DB | Rev: 1.01

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