

Model Name: H370 AORUS GAMING 3

Rev 1.0

SHEET

TITLE

01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	CPU_LGA1151-A
05	CPU_LGA1151-B-DDR4
06	CPU_LGA1151-C
07	CPU_LGA1150-D
08	DDR4 CHANNEL A
09	DDR4 CHANNEL B
10	PCH_CLK BUFFER
11	PCH_DMI,USB,PCIE
12	PCH_MISC
13	PCH SATA,PCIE,SATA_EXPRESS
14	PCH PWR
15	PCH GND
16	ITE 8686 LPC IO
17	HWM
18	FAN CTRL--SIO
19	DUAL BIOS
20	CEC Logic
21	PCI EXPRESS*16 SLOT
22	PCI EXPRESS*4
23	PCI EXPRESS*1 SLOTS
24	SATA
25	M.2X4(M)
26	M.2X2(P)
27	IDFT9FGP310
28	COM,LPT,TPM
29	ISL95866 PWM-Ferrite
30	ISL95866 VCORE-Ferrite
31	ISL95866 VCCGT-Ferrite

SHEET

TITLE

32	VCCSA_VCCIO
33	RT8120_DDR_CHOKE-IRON
34	RT8120_VPP_CHOKE-IRON
35	RT8120_PCH-CHOKE
36	DISCRETE POWER
37	ATX POWER , A_-PROCHOT
38	NCT3933
39	KB_MS_USB
40	HDMI
41	DVI CONN
42	CNVi_M2
43	Type-C & A USB3.1
44	Redriver-Type-C&A
45	Intel I219
46	USB_LAN CONNECTOR
47	Realtek ALC1220VB
48	REAR AUDIO JACK
49	TUSB321_FRONT
50	F_USB30
51	F_USB
52	F_PANEL
53	LAYOUT RULE
54	CPU/IO/DDR LED/C_LED1
55	PCB/PCH/PCIEX16 LED
56	D_LED
57	EMI-ESD
58	POWER MAP
59	NTC MAP

Gigabyte Technology

Title		Cover Sheet	
Size	Document Number	H370 AORUS GAMING3	Rev 1.0
Custom			
Date:	Tuesday, February 13, 2018	Sheet	1 of 60

Model Name: H370 AORUS GAMING 3 *Rev 1.0* Circuit or PCB layout change

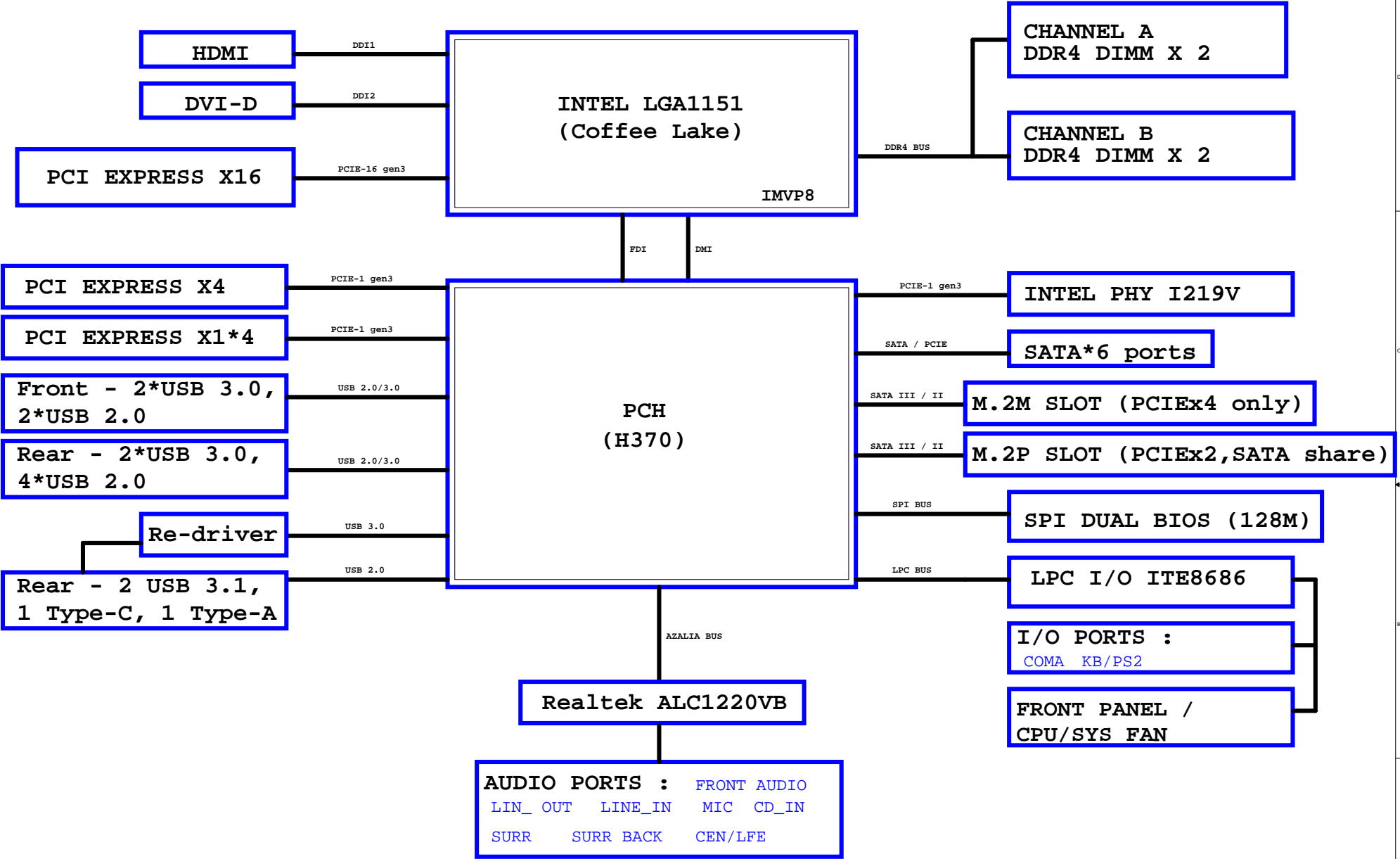
Component value change history

2017/07/19

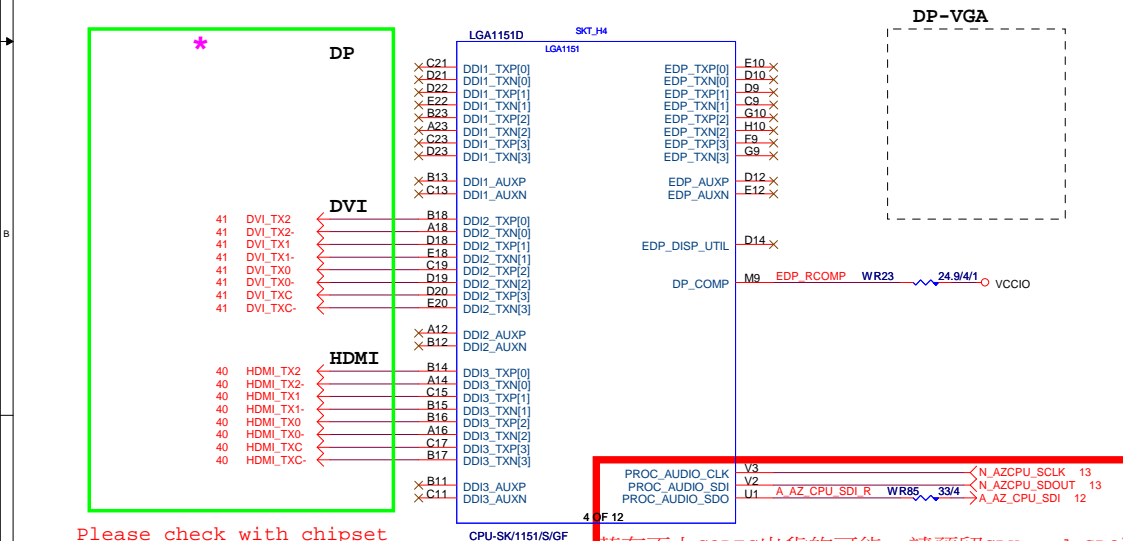
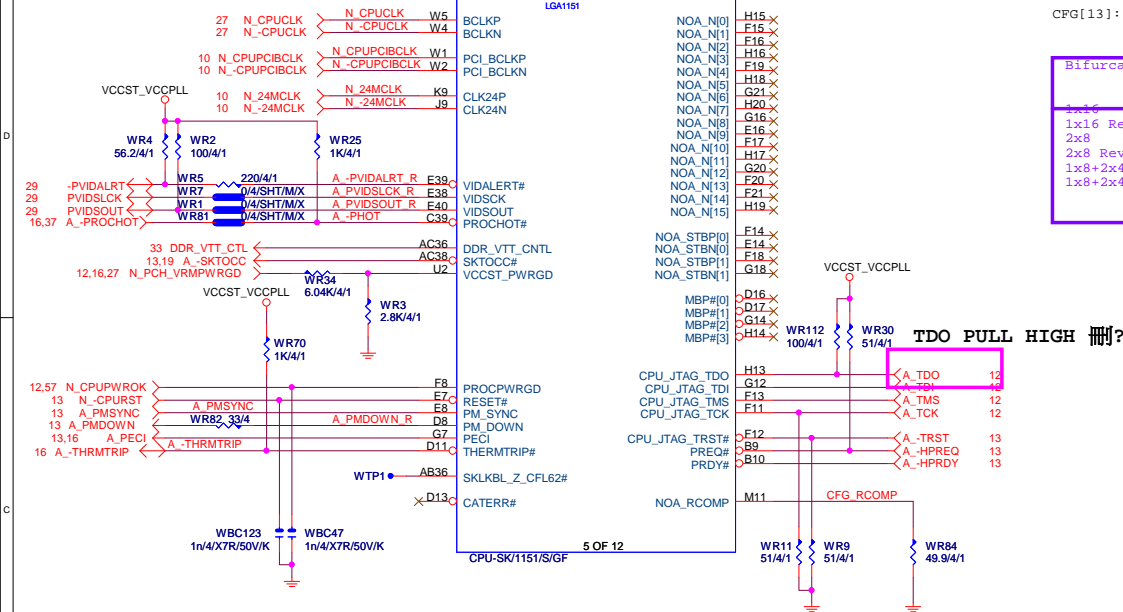
[illegible]

DATE	Change Item	Reason
2017/09/28	Rev0.2	
	Vcore VccGT change to 4+4+2	
2017/10/30	Rev0.3	
	Add CNVC6 10p	
	HDMI source change to DDI3	
	REAR_HS footprint modified to "H370_IO_COVER"	
	CNVi USB port connect to USB14	
	M2_BT_DISABLE connect to GPP_K16	
	M2_WIFI_DISABLE connect to GPP_K17	
	Add ERPQ1,ERPQ2 線路 for Erp AC OFF issue	
	PCIEx4 PPR4,PPR5 改 Short-Pad	
	95856 Power net add DAR131,DAR132,DAR133	
	CNVi add CNVR12,CNVR13,CNVR14,CNVR15,CNVR16,CNVR17,CNVR18	Fix CNVi card can't be detected issue.
	Swap re-driver TXP/TXN	
	M.2_80, M.2_110 修改footprint 與鐵板共用	
	GPP_G4 modified to IO_GP95	
	Re-driver Power net change to 3VDUAL	
	Erp circuit OR171 change power net to 3VDUAL_PCH	
	Erp circuit add LAQR2, LAQR3	
	Re-driver circuit update , add U31BR19,U31BR20,TCAR1,TCAR2,TCAR3,TCAR4	
2017/12/12	Rev0.4	
	HDMI_HPD change to chipset HPD_2	
	DDPB CLK/DATA change to DDPD CLK/DATA	
	CEC IT5211 SMBUS 交換	
2017/12/28	WR86,NR135,NR149,NR151,NR414,OR181,OR198,OR205,OR88,CECR33,CECR36,CECR39,DCR35,MAR115,MAR114,CNVR8,MOATR1=>0/4 Short-Pad	
Rev1.0	NR180,NR182,NR425,DAR131,CR4 => 0/6 Short-Pad	
	NR174 排阻 Short-Pad	
	IDT9FGP310=>MASK	
	CEC IT5211=>MASK	

BLOCK DIAGRAM



CFL_R0.1



Please check with chipset
side CLK/DATA ports

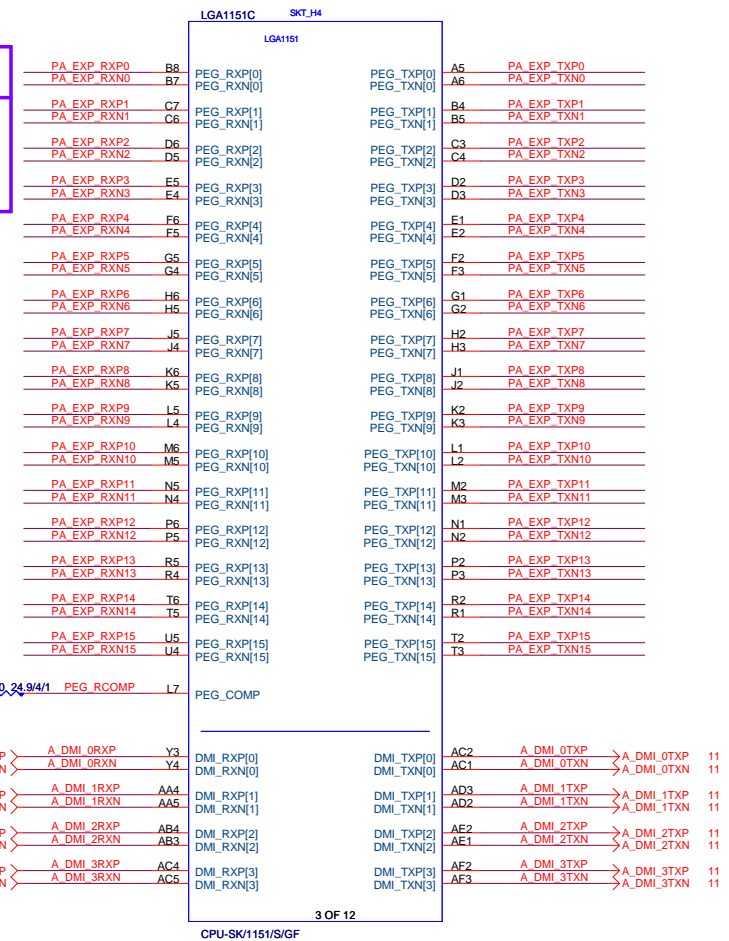
若有不上CODEC出貨的可能，請預留CLK and SDO對地電阻。

```
G-15u : (CPU-SK/1151/S/15)
10SC1-F01151-11R / 10SC1-F01151-12R
G-FL : (CPU-SK/1151/S/GF)
10SC1-F01151-21R / 10SC1-F01151-22R
```

```
CFG[4]: 1=eDP enable / 0=eDP disable
CFG[7]: 1=PEG Train immediately following RESET
        0=PEG Wait for BIOS
```

CFG[13]: 1=VCCSA Fixed Mode / 0=SVID Mode

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

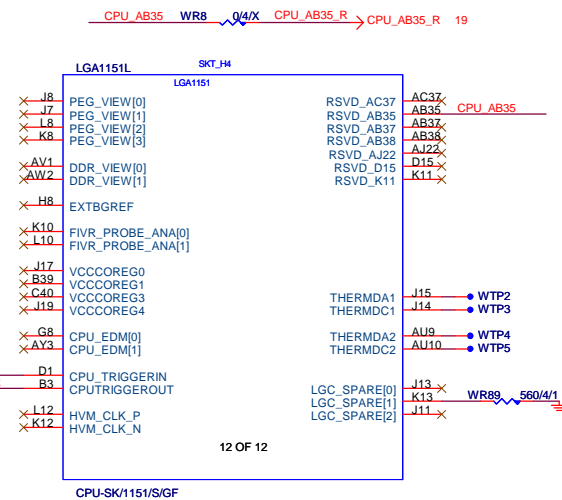
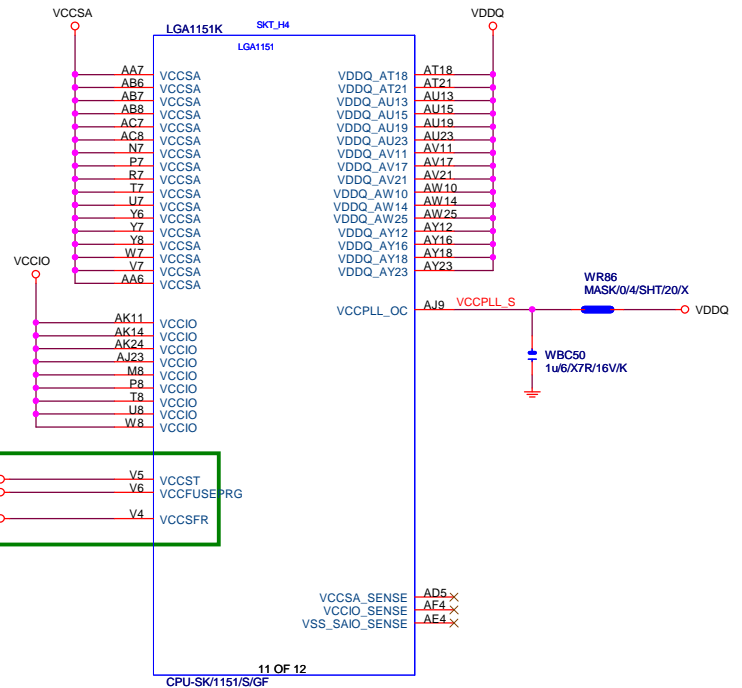
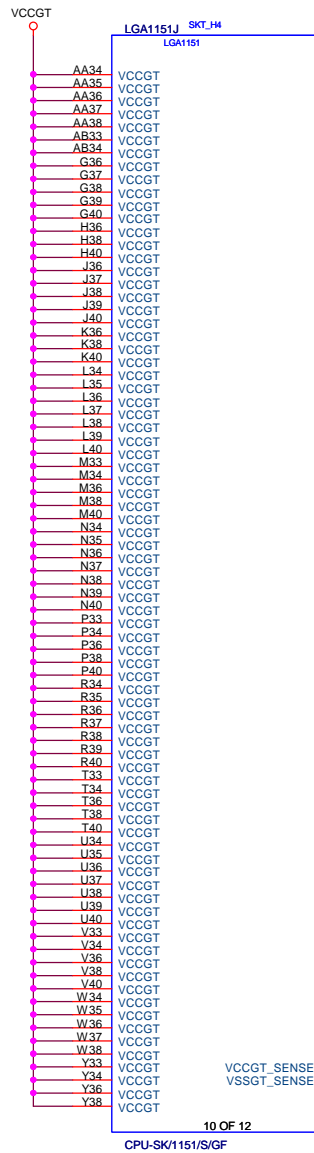
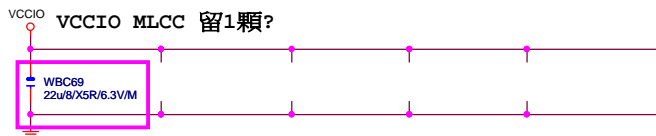
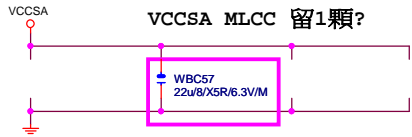


```

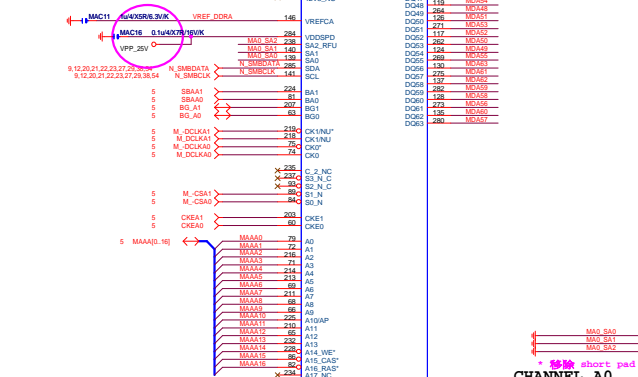
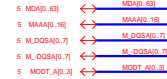
PA_EXP_TXP[0..15]  >>> PA_EXP_TXP[0..15]  21
PA_EXP_TXN[0..15]  >>> PA_EXP_TXN[0..15]  21
PA_EXP_RXP[0..15]  >>> PA_EXP_RXP[0..15]  21
PA_EXP_RXN[0..15]  >>> PA_EXP_RXN[0..15]  21

```

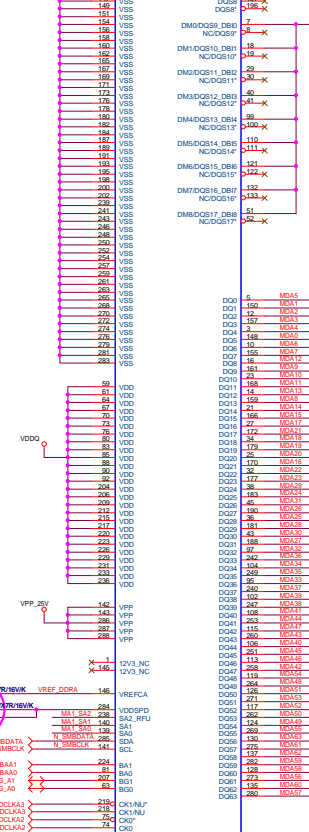

CFL_R0.1



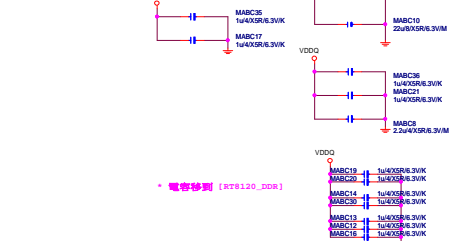
www.teknisi-indonesia.com



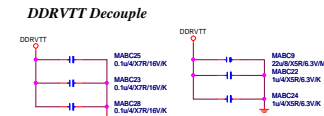
* 黑色 雙耳扣 "DDR4-288P-STH"加強版



* 黑色 雙耳扣 "DDR4-288P-STH" 加強版

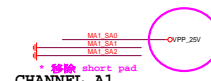


- 電容移到 [RT8120_DDR1]

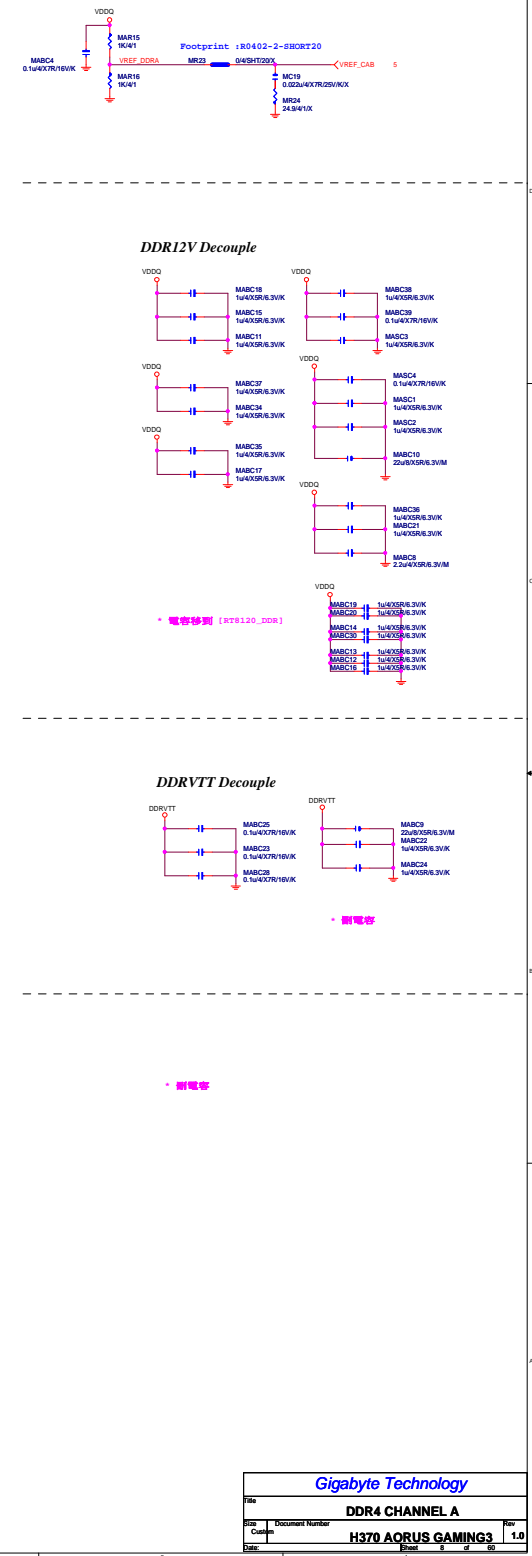


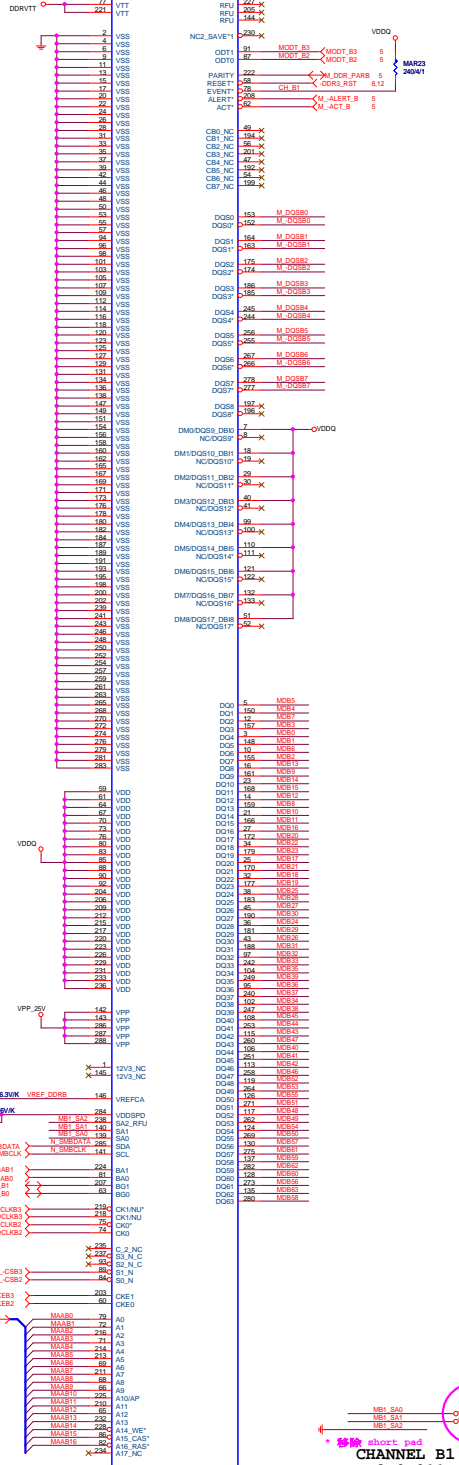
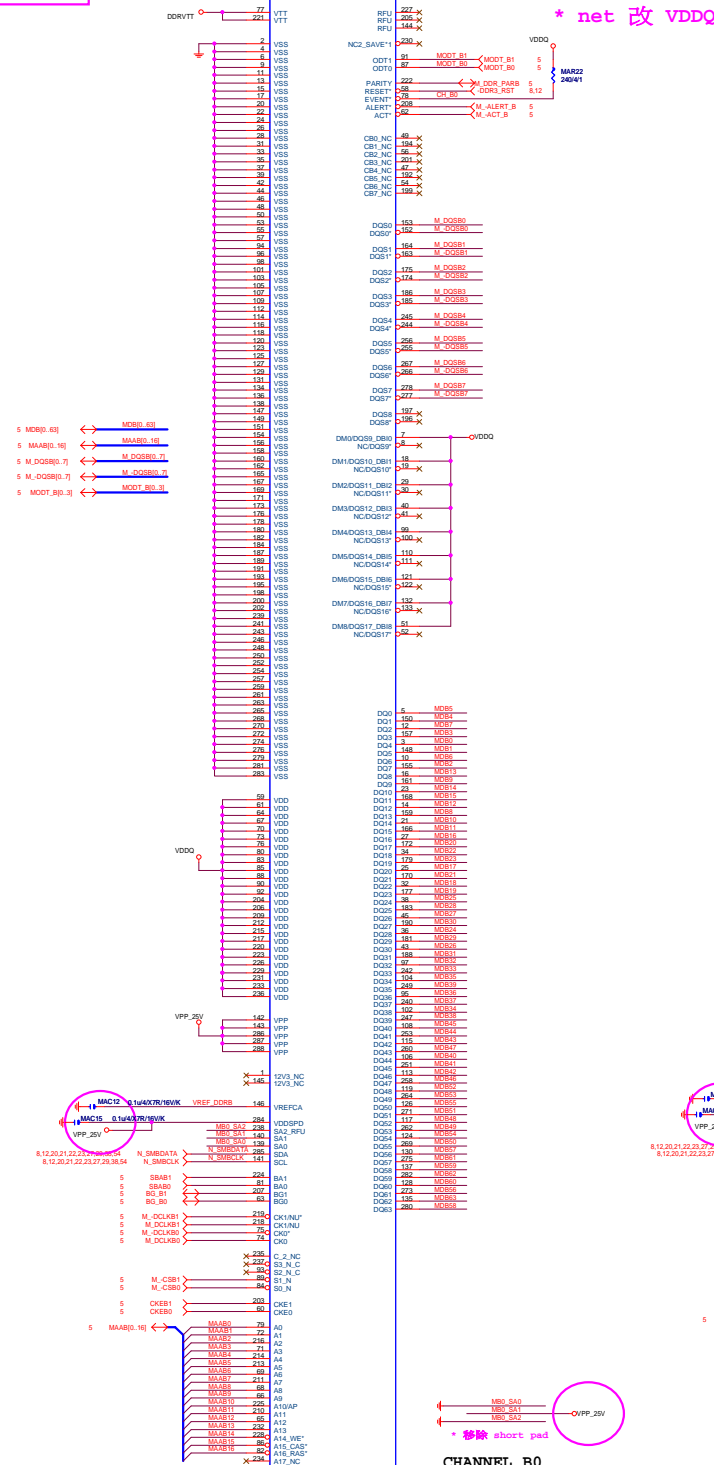
- 副電池

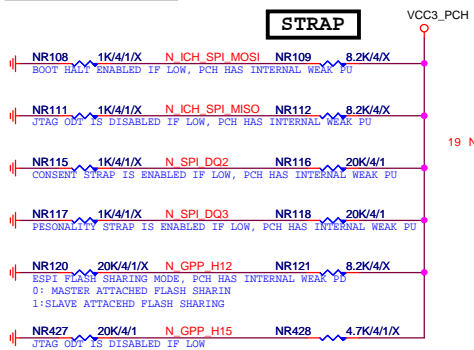
- 削電容



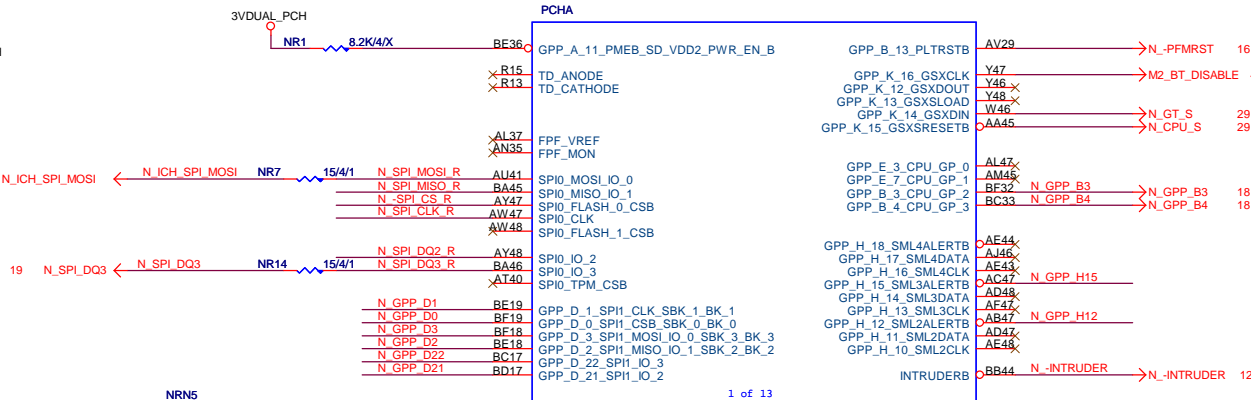
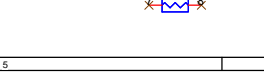
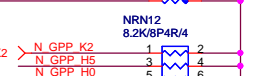
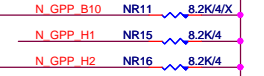
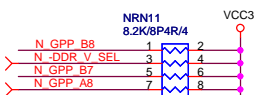
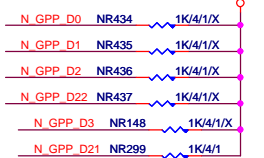
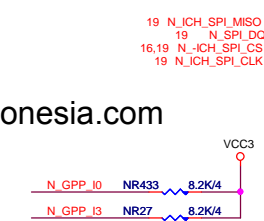
* 移除 short
CHANNEL A
532-0-001



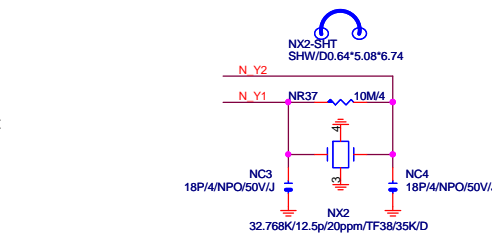
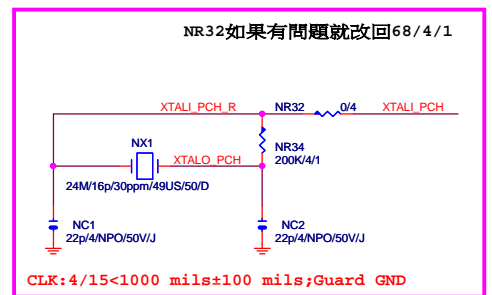
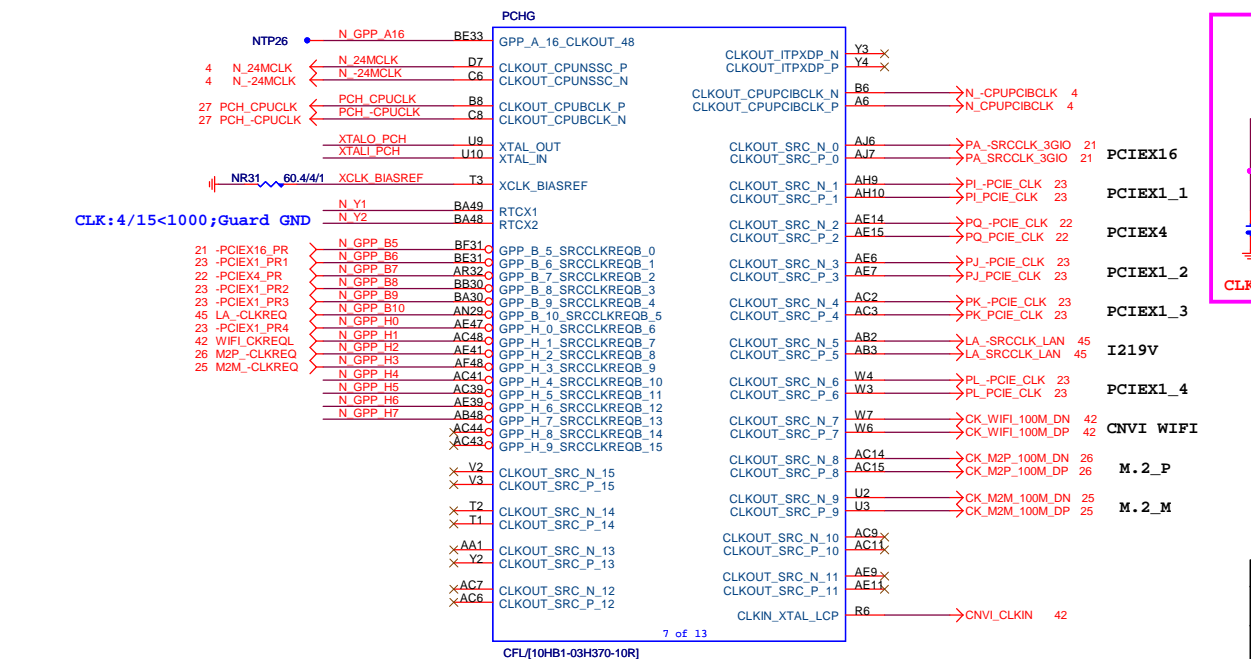
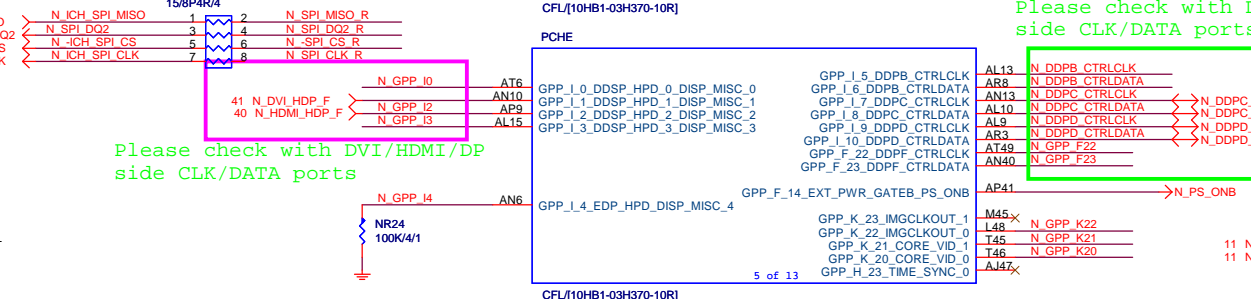




teknisi-indonesia.com



Please check with DVI/HDMI/DP side CLK/DATA ports



CNP_R0.1

注意左側Table及下方訊號名稱改USB31

Item	USB P1	USB P2	USB P3	USB P4	USB P5	USB P6	USB P7 PCIE P1	USB P8 PCIE P2	USB P9 PCIE P3	USB P10 PCIE P4
H310	USB3.0	USB3.0	USB3.0	USB3.0	NA	NA	NA	NA	NA	NA
B350	USB3.1	USB3.1	USB3.1	USB3.1	USB3.0	USB3.0	NA	NA	NA	NA
Q350	USB3.1	USB3.1	USB3.1	USB3.1	USB3.0	USB3.0	USB3.0	USB3.0	NA	NA
H370	USB3.1	USB3.1	USB3.1	USB3.1	USB3.0	USB3.0	USB3.0	USB3.0	PCIE	PCIE
Z370	USB3.1	USB3.1	USB3.1	USB3.1	USB3.1	USB3.1	USB3.0	PCIE	PCIE	PCIE
Q370	USB3.1	USB3.1	USB3.1	USB3.1	USB3.1	USB3.1	USB3.0	PCIE	PCIE	PCIE

USB pin out map

USB31_1
USB31_2
USB31_3
USB31_4
USB31_5
USB31_6
USB30_7
USB30_8
USB30_9
USB30_10

PCH

DMI need to reverse

	A	DMI 3TXN	K34	PCIE	DMI 0_RXN
4 A_DMI_3TXN	>	A_DMI_3TXN	J35		DMI_0_RXN
4 A_DMI_3TXP	>	A_DMI_3TXP	J35		DMI_0_RXP
4 A_DMI_3RXN	>	A_DMI_3RXN	C33		DMI_0_TXN
4 A_DMI_3RXP	>	A_DMI_3RXP	B33		DMI_0_TXP
4 A_DMI_2TXN	>	A_DMI_2TXN	G33		DMI_1_RXN
4 A_DMI_2TXP	>	A_DMI_2TXP	F34		DMI_1_RXP
4 A_DMI_2RXN	>	A_DMI_2RXN	C32		DMI_1_TXN
4 A_DMI_2RXP	>	A_DMI_2RXP	B32		DMI_1_TXP
4 A_DMI_1TXN	>	A_DMI_1TXN	K32		DMI_2_RXN
4 A_DMI_1TXP	>	A_DMI_1TXP	J32		DMI_2_RXP
4 A_DMI_1RXN	>	A_DMI_1RXN	C31		DMI_2_TXN
4 A_DMI_1RXP	>	A_DMI_1RXP	B31		DMI_2_TXP
4 A_DMI_0TXN	>	A_DMI_0TXN	G30		DMI_3_RXN
4 A_DMI_0TXP	>	A_DMI_0TXP	F30		DMI_3_RXP
4 A_DMI_0RXN	>	A_DMI_0RXN	C29		DMI_3_TXN
4 A_DMI_0RXP	>	A_DMI_0RXP	B29		DMI_3_TXP
	>	A_DMI_4_RXN	M29		DMI_4_RXN
	>	A_DMI_4_RXP	K29		DMI_4_RXP
	>	A_DMI_4_TXN	D29		DMI_4_TXN
	>	A_DMI_4_TXP	E28		DMI_4_TXP
	>	A_DMI_5_RXN	M26		DMI_5_RXN
	>	A_DMI_5_RXP	L26		DMI_5_RXP
	>	A_DMI_5_TXN	C27		DMI_5_TXN
	>	A_DMI_5_TXP	B27		DMI_5_TXP
	>	A_DMI_6_RXN	G26		DMI_6_RXN
	>	A_DMI_6_RXP	F26		DMI_6_RXP
	>	A_DMI_6_TXN	B26		DMI_6_TXN
	>	A_DMI_6_TXP	C26		DMI_6_TXP
	>	A_DMI_7_RXN	R24		DMI_7_RXN
	>	A_DMI_7_RXP	P24		DMI_7_RXP
	>	A_DMI_7_TXN	B25		DMI_7_TXN
	>	A_DMI_7_TXP	A25		DMI_7_TXP

H370 USB
only

H370 PCIE
only

F_USB30

PCIE1_1

PCIE1_2

PCIE4

50 PCH_USB30_RXN7	>	G17	PCIE_1_USB31_7_RXN
50 PCH_USB30_RXP7	>	F16	PCIE_1_USB31_7_RXP
50 PCH_USB30_TXN7	>	A17	PCIE_1_USB31_7_TXN
50 PCH_USB30_TXP7	>	B17	PCIE_1_USB31_7_TXP
50 PCH_USB30_RXN8	>	R21	PCIE_2_USB31_8_RXN
50 PCH_USB30_RXP8	>	P21	PCIE_2_USB31_8_RXP
50 PCH_USB30_TXN8	>	B18	PCIE_2_USB31_8_TXN
50 PCH_USB30_TXP8	>	C18	PCIE_2_USB31_8_TXP
23 PL_PCIE1_1_IN	>	K18	PCIE_3_USB31_9_RXN
23 PL_PCIE1_1_OP	>	J18	PCIE_3_USB31_9_RXP
23 PL_PCIE1_1_ON	>	C19	PCIE_3_USB31_9_TXN
23 PL_PCIE1_1_IP	>	N18	PCIE_3_USB31_9_TXP
23 PJ_PCIE1_1_IN	>	R18	PCIE_4_USB31_10_RXN
23 PJ_PCIE1_1_OP	>	D20	PCIE_4_USB31_10_TXN
23 PJ_PCIE1_1_ON	>	C20	PCIE_4_USB31_10_TXP
23 PJ_PCIE1_1_IP	>	F20	PCIE_5_LAN_0A_RXN
22 PQ_PCIE4_1_IN6	>	G20	PCIE_5_LAN_0A_RXP
22 PQ_PCIE4_1_IP6	>	B21	PCIE_5_LAN_0A_TXN
22 PQ_PCIE4_1_ON6	>	A22	PCIE_5_LAN_0A_TXP
22 PQ_PCIE4_1_OP6	>	K21	PCIE_6_RXN
22 PQ_PCIE4_1_IN6	>	J21	PCIE_6_RXP
22 PQ_PCIE4_1_ON6	>	D21	PCIE_6_TXN
22 PQ_PCIE4_1_OP6	>	C21	PCIE_6_TXP
22 PQ_PCIE4_1_IN7	>	L24	PCIE_7_RXN
22 PQ_PCIE4_1_IP7	>	J24	PCIE_7_RXP
22 PQ_PCIE4_1_ON7	>	C23	PCIE_7_TXN
22 PQ_PCIE4_1_OP7	>	F24	PCIE_7_TXP
22 PQ_PCIE4_1_IN8	>	G24	PCIE_8_RXN
22 PQ_PCIE4_1_IP8	>	B24	PCIE_8_RXP
22 PQ_PCIE4_1_ON8	>	B24	PCIE_8_TXN
22 PQ_PCIE4_1_OP8	>	C24	PCIE_8_TXP

HDMI_USB30

PCIE

PCIE_1_USB31_7_RXN	>	G17	PCIE_1_USB31_7_RXN
PCIE_1_USB31_7_RXP	>	F16	PCIE_1_USB31_7_RXP
PCIE_1_USB31_7_TXN	>	A17	PCIE_1_USB31_7_TXN
PCIE_1_USB31_7_TXP	>	B17	PCIE_1_USB31_7_TXP
PCIE_2_USB31_8_RXN	>	R21	PCIE_2_USB31_8_RXN
PCIE_2_USB31_8_RXP	>	P21	PCIE_2_USB31_8_RXP
PCIE_2_USB31_8_TXN	>	B18	PCIE_2_USB31_8_TXN
PCIE_2_USB31_8_TXP	>	C18	PCIE_2_USB31_8_TXP
PCIE_3_USB31_9_RXN	>	K18	PCIE_3_USB31_9_RXN
PCIE_3_USB31_9_RXP	>	J18	PCIE_3_USB31_9_RXP
PCIE_3_USB31_9_TXN	>	C19	PCIE_3_USB31_9_TXN
PCIE_3_USB31_9_TXP	>	N18	PCIE_3_USB31_9_TXP
PCIE_4_USB31_10_RXN	>	R18	PCIE_4_USB31_10_RXN
PCIE_4_USB31_10_TXN	>	D20	PCIE_4_USB31_10_TXN
PCIE_4_USB31_10_TXP	>	C20	PCIE_4_USB31_10_TXP
PCIE_5_LAN_0A_RXN	>	F20	PCIE_5_LAN_0A_RXN
PCIE_5_LAN_0A_RXP	>	G20	PCIE_5_LAN_0A_RXP
PCIE_5_LAN_0A_TXN	>	B21	PCIE_5_LAN_0A_TXN
PCIE_5_LAN_0A_TXP	>	A22	PCIE_5_LAN_0A_TXP
PCIE_6_RXN	>	K21	PCIE_6_RXN
PCIE_6_RXP	>	J21	PCIE_6_RXP
PCIE_6_TXN	>	D21	PCIE_6_TXN
PCIE_6_TXP	>	C21	PCIE_6_TXP
PCIE_7_RXN	>	L24	PCIE_7_RXN
PCIE_7_RXP	>	J24	PCIE_7_RXP
PCIE_7_TXN	>	C23	PCIE_7_TXN
PCIE_7_TXP	>	F24	PCIE_7_TXP
PCIE_8_RXN	>	G24	PCIE_8_RXN
PCIE_8_RXP	>	B24	PCIE_8_RXP
PCIE_8_TXN	>	B24	PCIE_8_TXN
PCIE_8_TXP	>	C24	PCIE_8_TXP

2 of 13

PCIE

44 PCH_USB31_RXN1	>	D11	USB31_1_RXN
44 PCH_USB31_RXP1	>	C11	USB31_1_RXP
44 PCH_USB31_TXN1	>	F9	USB31_1_TXN
44 PCH_USB31_TXP1	>	F7	USB31_1_TXP
44 PCH_USB31_RXN2	>	B9	USB31_2_RXN
44 PCH_USB31_RXP2	>	C9	USB31_2_RXP
44 PCH_USB31_TXN2	>	C3	USB31_2_TXN
44 PCH_USB31_TXP2	>	D4	USB31_2_TXP
49 PCH_USB31_RXN3	>	B10	USB31_3_RXN
49 PCH_USB31_RXP3	>	C10	USB31_3_RXP
49 PCH_USB31_TXN3	>	F11	USB31_3_TXN
49 PCH_USB31_TXP3	>	G12	USB31_3_TXP
49 PCH_USB31_RXN4	>	K16	USB31_4_RXN
49 PCH_USB31_RXP4	>	J16	USB31_4_RXP
49 PCH_USB31_TXN4	>	B14	USB31_4_TXN
49 PCH_USB31_TXP4	>	C14	USB31_4_TXP
40 PCH_USB30_RXN5	>	J13	USB31_5_RXN
40 PCH_USB30_RXP5	>	K13	USB31_5_RXP
40 PCH_USB30_TXN5	>	C15	USB31_5_TXN
40 PCH_USB30_TXP5	>	B15	USB31_5_TXP
40 PCH_USB30_RXN6	>	G14	USB31_6_RXN
40 PCH_USB30_RXP6	>	F14	USB31_6_RXP
40 PCH_USB30_TXN6	>	C17	USB31_6_TXN
40 PCH_USB30_TXP6	>	C16	USB31_6_TXP

CFI[10HB1-03H370-10R]

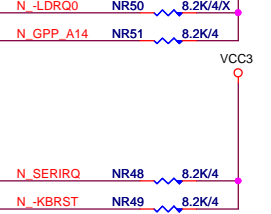
USB2N_1	>	J3	N_-USBP1	43	TYPE-A
USB2N_2	>	J2	N_-USBP1	43	TYPE-C
USB2N_3	>	N13	N_-USBP2	43	TYPE-A
USB2N_4	>	N15	N_-USBP2	43	TYPE-C
USB2N_5	>	K4	N_-USBP3	50	TYPE-A
USB2N_6	>	K3	N_-USBP3	50	TYPE-C
USB2N_7	>	M10	N_-USBP4	50	TYPE-A
USB2N_8	>	L9	N_-USBP4	50	TYPE-C
USB2N_9	>	M4	N_-USBP5	40	TYPE-A
USB2N_10	>	L2	N_-USBP5	40	TYPE-C
USB2N_11	>	K7	N_-USBP6	40	TYPE-A
USB2N_12	>	K6	N_-USBP6	40	TYPE-C
USB2N_13	>	L4	N_-USBP7	51	TYPE-A
USB2N_14	>	L3	N_-USBP7	51	TYPE-C
USB2N_15	>	G4	N_-USBP8	51	TYPE-A
USB2N_16	>	G5	N_-USBP8	51	TYPE-C
USB2N_17	>	M6	N_-USBP9	39	TYPE-A
USB2N_18	>	N8	N_-USBP9	39	TYPE-C
USB2N_19	>	H3	N_-USBP9	39	TYPE-A
USB2N_20	>	H2	N_-USBP10	39	TYPE-C
USB2N_21	>	R10	N_-USBP10	39	TYPE-A
USB2N_22	>	P9	N_-USBP11	46	TYPE-C
USB2N_23	>	G1	N_-USBP11	46	TYPE-A
USB2N_24	>	G2	N_-USBP12	46	TYPE-C
USB2N_25	>	N3	N_-USBP12	46	TYPE-A
USB2N_26	>	N2	N_-USBP13	49	TYPE-C
USB2N_27	>	E5	N_-USBP13	49	TYPE-A
USB2N_28	>	F6	N_-USBP14	42	TYPE-C
USB2N_29	>	F6	N_-USBP14	42	TYPE-A

GPP_E_9_USB2_OCB_0	>	AH36	N_-USBOC_R	43.50
GPP_E_10_USB2_OCB_1	>	AL40	N_-USBOC_R	43.50
GPP_E_11_USB2_OCB_2	>	AJ44	N_-USBOC_F	49.50
GPP_E_12_USB2_OCB_3	>	AL41	N_-USBOC_F	49.50
GPP_F_15_USB2_OCB_4	>	AV47	N_-USBOC_F	49.50
GPP_F_16_USB2_OCB_5	>	AR35	N_-USBOC_F	49.50
GPP_F_17_USB2_OCB_6	>	AR37	N_-USBOC_F	49.50
GPP_F_18_USB2_OCB_7	>	AV43	N_-USBOC_F	49.50

USB2_COMP	>	F4	N_USB2_COMP	NR40	115K/4/1
USB2_VBUSSENSE	>	F3	N_USB2_VBUSSENSE	NR41	10K/4/1
USB2_PLLMON	>	U13	USB2_PLLMON	NTP38	
USB2_ID	>	G3	N_USB2_ID	NR42	10K/4/1X
GPD_7	>	BE41	N_GPD_7		
PCIE_21_RXN	>	T43	M2_PCIE_RN21	25	
PCIE_21_RXP	>	R44	M2_PCIE_RP21	25	
PCIE_21_TXN	>	G47	M2_PCIE_TN21	25	
PCIE_21_TXP	>	F46	M2_PCIE_TP21	25	
PCIE_22_RXN	>	U40	M2_PCIE_RN22	25	
PCIE_22_RXP	>	H41	M2_PCIE_RP22	25	
PCIE_22_TXN	>	H47	M2_PCIE_TN22	25	
PCIE_22_TXP	>	H48	M2_PCIE_TP22	25	
PCIE_23_RXN	>	W43	M2_PCIE_RN23	25	
PCIE_23_RXP	>	W44	M2_PCIE_RP23	25	
PCIE_23_TXN	>	G49	M2_PCIE_TN23	25	
PCIE_23_TXP	>	G48	M2_PCIE_TP23	25	
PCIE_24_RXN	>	Y40	M2_PCIE_RN24	25	
PCIE_24_RXP	>	Y41	M2_PCIE_RP24	25	
PCIE_24_TXN	>	G46	M2_PCIE_TN24	25	
PCIE_24_TXP	>	G45	M2_PCIE_TP24	25	

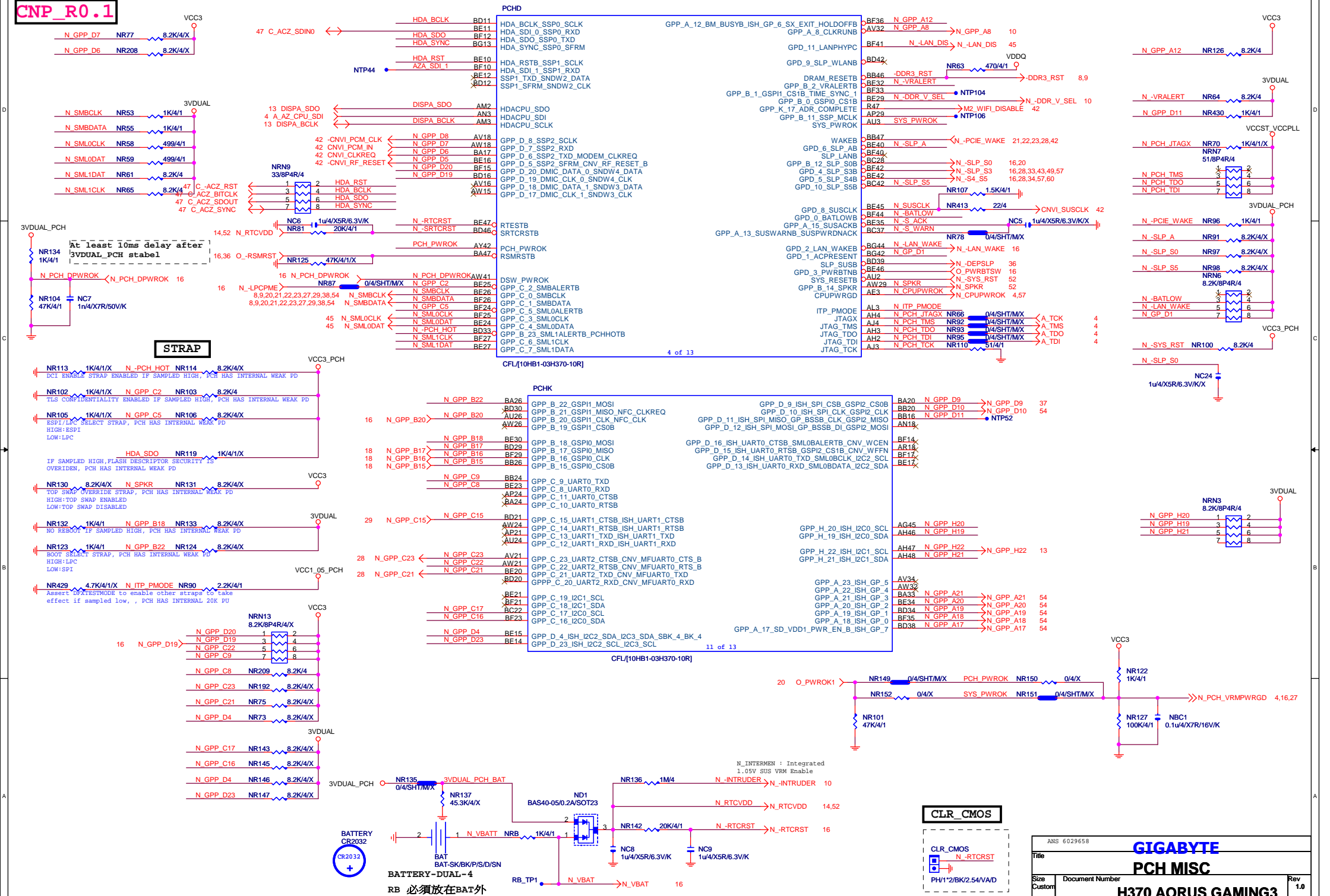
GPP_A_1_LAD_0_ESPI_IO_0	>	BB39	N_LAD0	16.28
GPP_A_2_LAD_1_ESPI_IO_1	>	AV37	N_LAD1	16.28
GPP_A_3_LAD_2_ESPI_IO_2	>	AV37	N_LAD2	16.28
GPP_A_4_LAD_3_ESPI_IO_3	>	BA38	N_LAD3	16.28
GPP_A_5_LFRAMEB_ESPI_CS0B	>	BE38	N_LFRAME	16.28
GPP_A_6_SERIRQ_ESPI_CS1B	>	AW35	N_SERIRQ	16.28
GPP_A_7_PIRQAB_ESPI_ALERT0B	>	BA38	N_LDRQ0	16
GPP_A_8_OCINB_ESPI_ALERT1B	>	BE39	N_KBRST	16
GPP_A_9_SUS_STATB_ESPI_RESETB	>	BF38	N_GPP_A14	16
GPP_A_9_CLKOUT_LPC_0_ESPI_CLK	>	BB36	N_GPP_A9	16
GPP_A_10_CLKOUT_LPC_1	>	BB34	N_GPP_A10	16
GPP_K_19_SMBI	>	T48	N_GPP_K19	10
GPP_K_18_SMBI	>	T47	N_GPP_K18	10
GPP_E_6_SATA_DEVSLP_2	>	AH40	N_DEVSLP0	26
GPP_E_5_SATA_DEVSLP_1	>	AH38	N_DEVSLP0	26
GPP_E_4_SATA_DEVSLP_0	>	AL48	N_DEVSLP0	26
GPP_F_9_SATA_DEVSLP_7	>	AP47	N_DEVSLP0	26
GPP_F_8_SATA_DEVSLP_6	>	AN37	N_DEVSLP0	26
GPP_F_7_SATA_DEVSLP_5	>	AN46	N_DEVSLP0	26
GPP_F_6_SATA_DEVSLP_4	>	AR47	N_DEVSLP0	26
GPP_F_5_SATA_DEVSLP_3	>	AP48	N_DEVSLP0	26

BB39	N_LAD0	<	N_LAD0	16.28
AV37	N_LAD1	<	N_LAD1	16.28
AV37	N_LAD2	<	N_LAD2	16.28
BA38	N_LAD3	<	N_LAD3	16.28
BE38	N_LFRAME	<	N_LFRAME	16.28
AW35	N_SERIRQ	<	N_SERIRQ	16.28
BA38	N_LDRQ0	<	N_LDRQ0	16
BE39	N_KBRST	<	N_KBRST	16
BF38	N_GPP_A14	<	N_GPP_A14	16
BB36	N_GPP_A9	<	N_GPP_A9	16
BB34	N_GPP_A10	<	N_GPP_A10	16
T48	N_GPP_K19	<	N_GPP_K19	10
T47	N_GPP_K18	<	N_GPP_K18	10
AH40	N_DEVSLP0	<	N_DEVSLP0	26
AH38	N_DEVSLP0	<	N_DEVSLP0	26
AL48	N_DEVSLP0	<	N_DEVSLP0	26
AP47	N_DEVSLP0	<	N_DEVSLP0	26
AN37	N_DEVSLP0	<	N_DEVSLP0	26
AN46	N_DEVSLP0	<	N_DEVSLP0	26
AR47	N_DEVSLP0	<	N_DEVSLP0	26
AP48	N_DEVSLP0	<	N_DEVSLP0	26

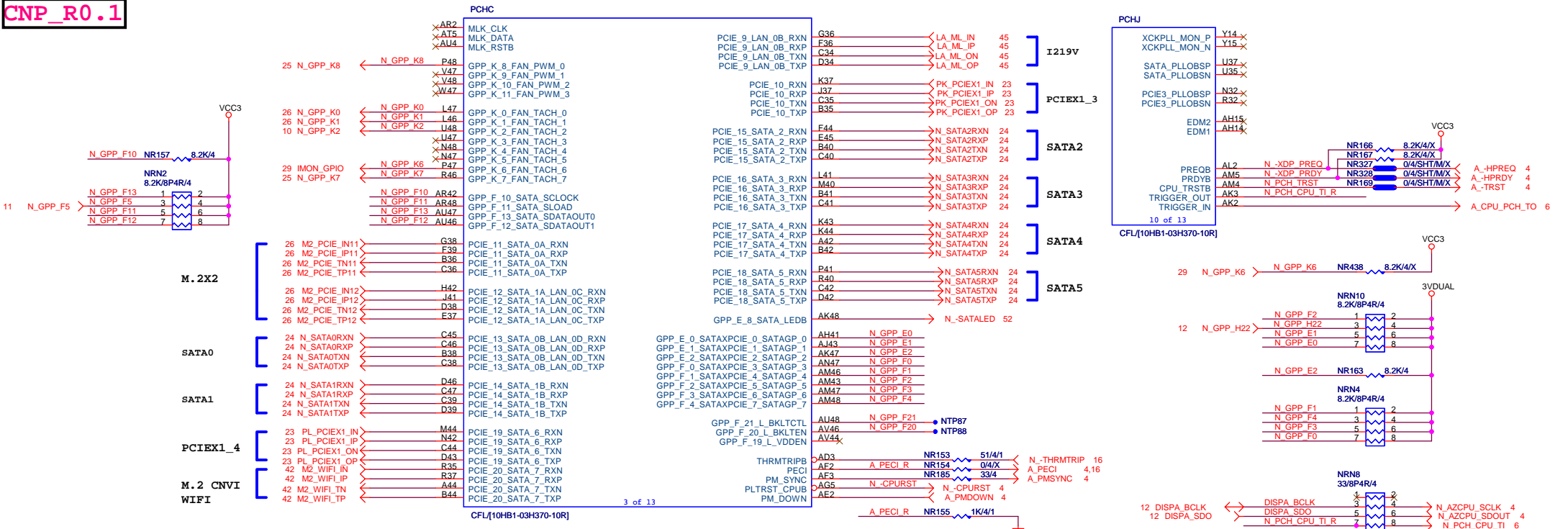


CNVI的BT功能enable時

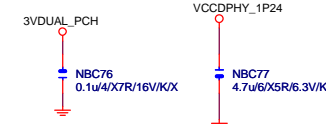
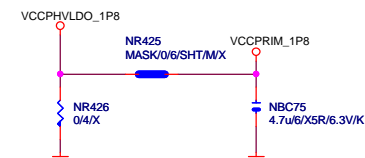
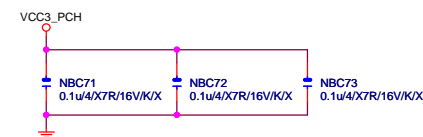
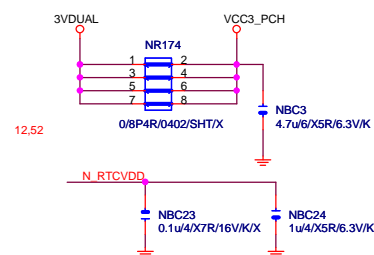
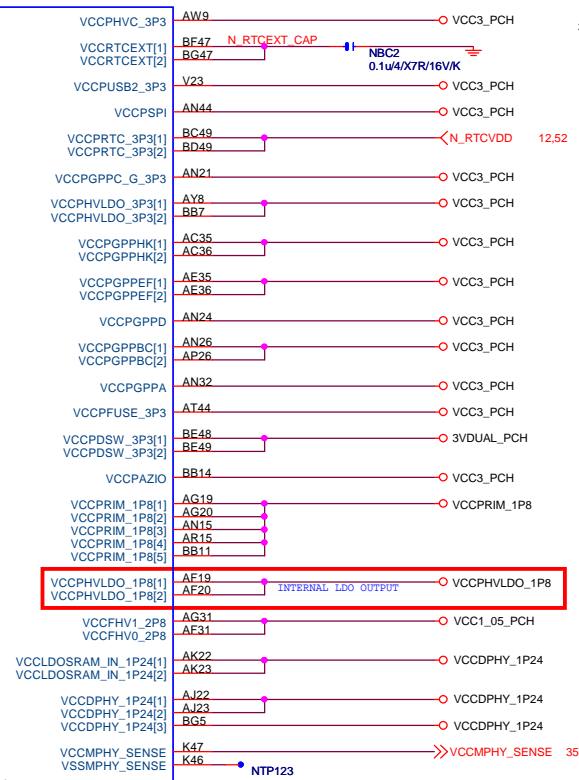
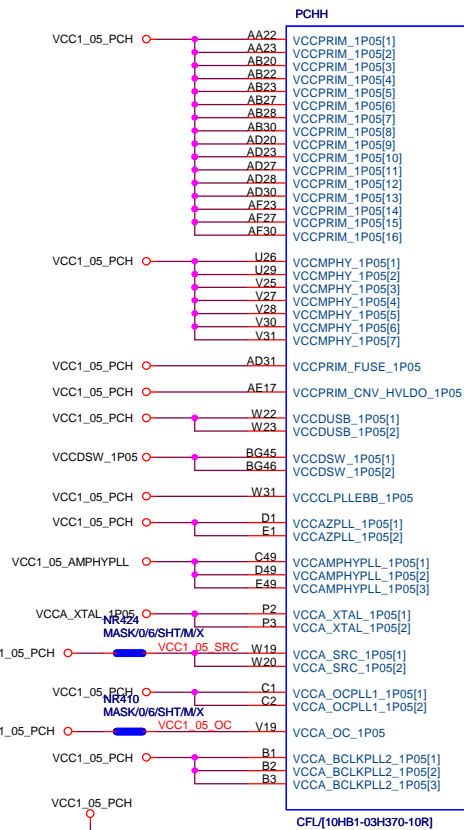
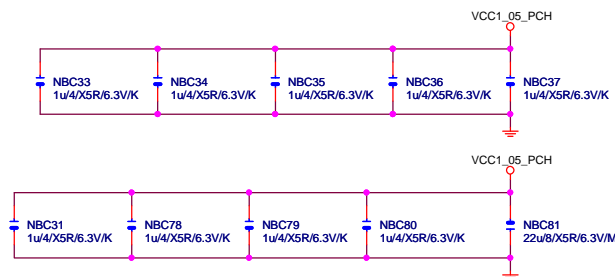
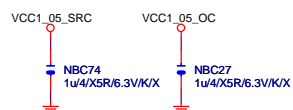
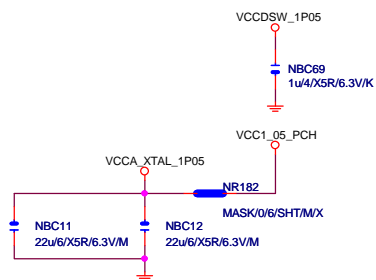
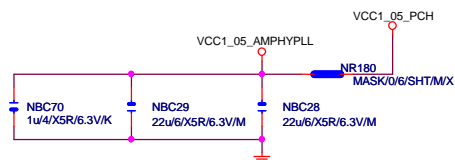
CNP_R0.1



CNP_R0.1



CNP_R0.1



www.teknisi-indonesia.com

PCHL		
A2	VSS	VSS
A28	VSS	AL12
A3	VSS	AL17
A33	VSS	AL21
A37	VSS	AL24
A4	VSS	BG48
A45	VSS	C12
A46	VSS	C25
A47	VSS	C30
A48	VSS	C4
A5	VSS	C48
A5	VSS	AM1
A8	VSS	AM18
AA19	VSS	AM32
AA20	VSS	AM49
AA25	VSS	D12
AA27	VSS	D16
AA28	VSS	D17
AA30	VSS	AN16
AA31	VSS	AN34
AA49	VSS	AN38
AA5	VSS	AP4
AB19	VSS	AP46
AB25	VSS	AR12
AB31	VSS	AR16
AC12	VSS	AR34
AC17	VSS	AR38
AC33	VSS	AT1
AC38	VSS	AT16
AC4	VSS	AT18
AC46	VSS	AT21
AD1	VSS	AT24
AD19	VSS	AT26
AD2	VSS	AT29
AD22	VSS	AT32
AD25	VSS	AT34
AD49	VSS	AT45
AE12	VSS	AV11
AE33	VSS	AV39
AE38	VSS	AW10
AE4	VSS	AW4
AE46	VSS	AW40
AF22	VSS	AW46
AF25	VSS	B47
AF28	VSS	B48
AG1	VSS	B49
AG22	VSS	BA12
AG23	VSS	BA14
AG25	VSS	BA44
AG27	VSS	BA5
AG28	VSS	BA6
AG30	VSS	BB41
AG49	VSS	BB43
AH12	VSS	BB9
AH17	VSS	M16
AH33	VSS	M18
AH38	VSS	BC10
AJ19	VSS	BC13
AJ20	VSS	BC15
AJ25	VSS	BC19
AJ27	VSS	BC24
AJ28	VSS	BC26
AJ30	VSS	BC31
AJ31	VSS	BC35
AK19	VSS	BC40
AK20	VSS	BC45
AK25	VSS	BC8
AK27	VSS	BD43
AK28	VSS	BE44
AK30	VSS	BE1
AK31	VSS	BF2
AK4	VSS	BF3
AK46	VSS	BF48
		BF49
		BG17
		BG2
		BG22
		BG25
		BG28

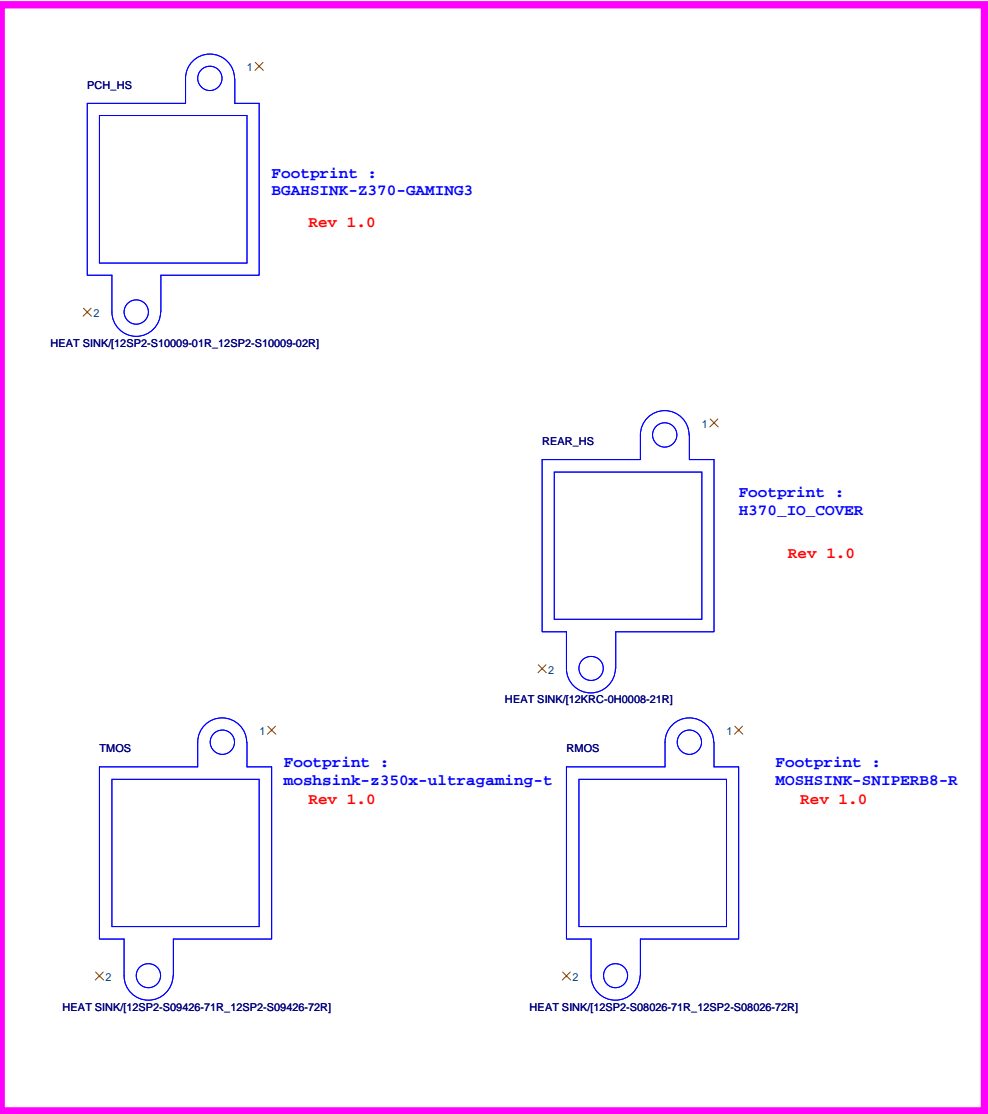
9 of 13

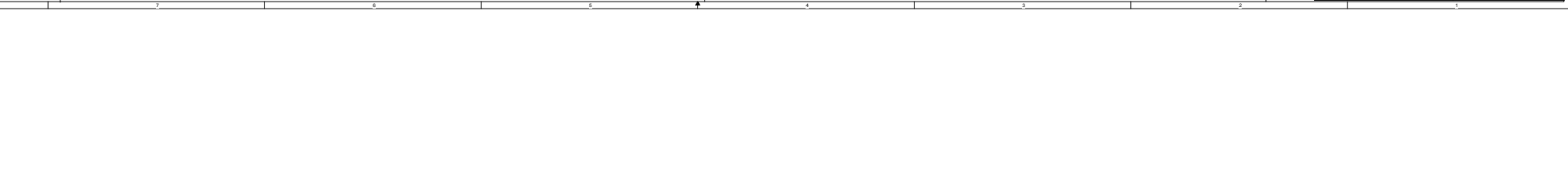
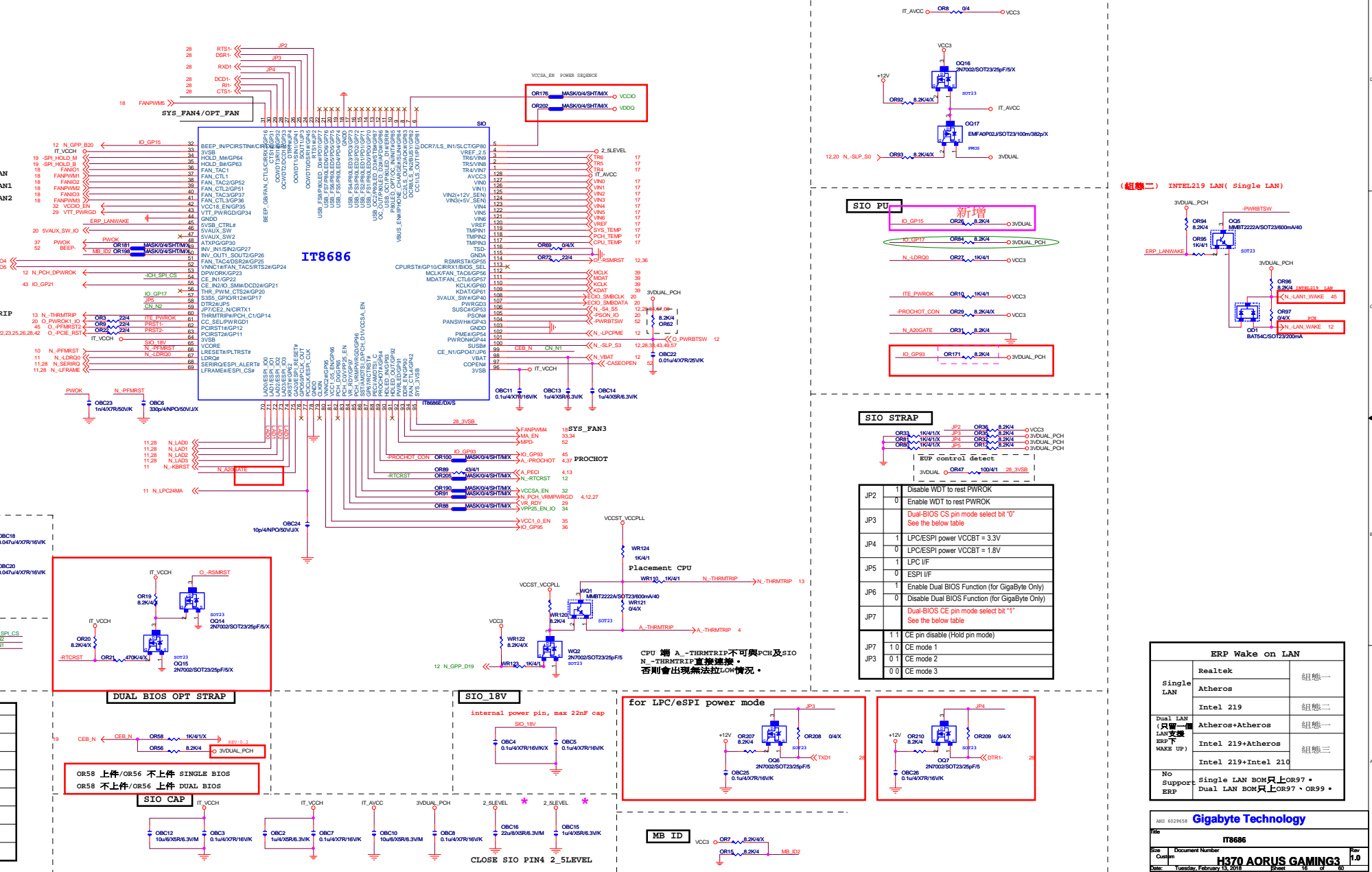
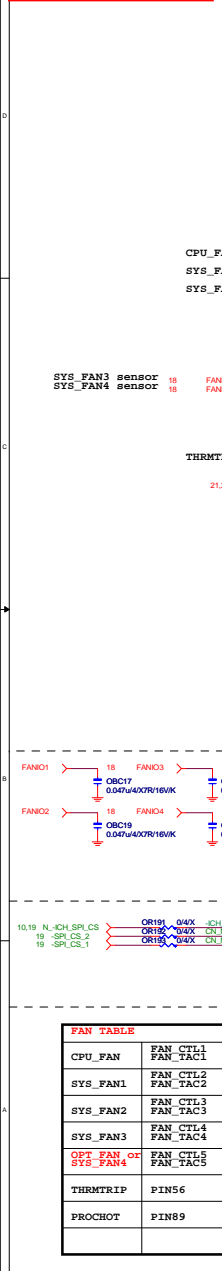
CFL[10HB1-03H370-10R]

PCHL		
BG3	VSS	M24
BG33	VSS	M32
BG37	VSS	M34
BG4	VSS	M49
BG48	VSS	M5
C12	VSS	N12
C25	VSS	N16
C30	VSS	N34
C4	VSS	N35
C48	VSS	N37
AM1	VSS	N38
AM18	VSS	P26
AM32	VSS	P29
AM49	VSS	P4
D12	VSS	P46
D16	VSS	R12
D17	VSS	R16
AN16	VSS	R26
AN34	VSS	R28
AN38	VSS	R3
AP4	VSS	R34
AP46	VSS	R38
AR12	VSS	R4
AR16	VSS	T17
AR34	VSS	T18
AR38	VSS	T32
AT1	VSS	T4
AT16	VSS	T49
AT18	VSS	T5
AT21	VSS	T7
AT24	VSS	U12
AT26	VSS	U15
AT29	VSS	U17
AT32	VSS	U21
AT34	VSS	U24
AT45	VSS	U33
AV11	VSS	U38
AV39	VSS	V20
AW10	VSS	V22
AW4	VSS	V4
AW40	VSS	V46
AW46	VSS	W25
B47	VSS	W27
B48	VSS	W28
B49	VSS	W30
BA12	VSS	Y10
BA14	VSS	Y12
BA44	VSS	Y17
BA5	VSS	Y33
BA6	VSS	Y38
BB41	VSS	Y9
BB43	VSS	
BB9	VSS	
M16	VSS	
M18	VSS	
BC10	VSS	
BC13	VSS	
BC15	VSS	
BC19	VSS	
BC24	VSS	
BC26	VSS	
BC31	VSS	
BC35	VSS	
BC40	VSS	
BC45	VSS	
BC8	VSS	
BD43	VSS	
BE44	VSS	
BE1	VSS	
BF2	VSS	
BF3	VSS	
BF48	VSS	
BF49	VSS	
BG17	VSS	
BG2	VSS	
BG22	VSS	
BG25	VSS	
BG28	VSS	

12 of 13

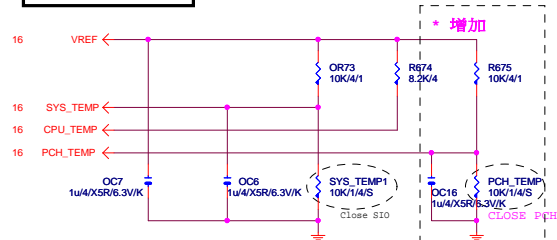
CFL[10HB1-03H370-10R]



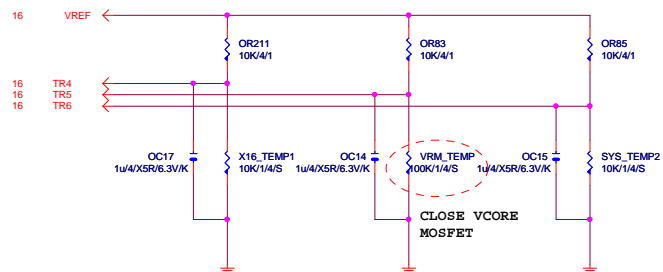


ERP Wake on LAN		
Single LAN	Realtek	組態一
	Atheros	
Dual LAN (只留一個 LAN 支援 WAKE UP)	Intel 219	組態二
	Atheros+Atheros	組態一
Dual LAN BOM 只上 OR97	Intel 219+Intel 210	組態三
	Intel 219+Intel 210	組態三
No support ERP	Dual LAN BOM 只上 OR97 + OR99	

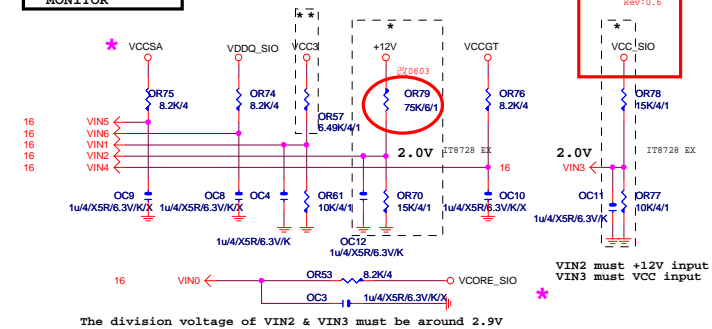
TEMP H/W MONITOR



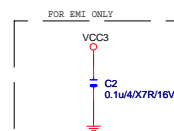
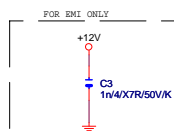
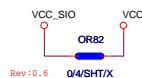
5個FAN時使用



VOLTAGE-- H/W MONITOR



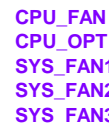
(靠近ATX CONNECTOR)



★Update 2015-04-24

Gigabyte Technology

Title			HWM,KB/MS, FAN CTRL
Size	Document Number	Rev	
Custom	H370 AORUS GAMING3	1.0	
Date:	Tuesday, February 13, 2018	Sheet	17 of 60



SYSTEM FAN1

VCC3
FAR1 1K/4/1
FANPWM2
FAR2 100K/4/1
FAC1 0.1u4/X7R/16V/K
FAR6 0.4/SHT/10M/X
MODE: Floating=> Auto mode,
High=>PWM Mode,
Low=>Voltage Mode.

+12V
FAC3 10U8/X5R/16V/K
FANPWM2
FAN1DCIN
FAN1_MODE
FADU1 NCT3947S/SOP8-EP
VIN
PWMOUT VOUT
PWMIN
DCIN
MODE
PGND
FAN1_VOUT
FAN1_PWMOUT
NC
NC
NC
N_GPP_B4
FAR3 3.3K/4/1
SFAN1_3
FAR4 15K/4/1
FAN1_VOUT
FAC2 10u8/X5R/16V/K
SYS_FAN1 FAN1*4/BK/A3/PA66
FAN1_PWMOUT
FAR5 6.2K/4/1
FANIO2

[illegible]

SYSTEM FAN2

VCC3

FBC3 100u/8/X5R/16V/K

FANPWM3

FBR1 1K/4/1

FBR2 100K/4/1

FAN2DCIN

FBC1 0.1u/4/X7R/16V/K

FAN2_MODE

FBR6 0.1u/4/X7R/16V/K

FAN2_PWMOUT

FBR3 3.3K/4/1

FAN2_VOUT

FBR4 15K/4/1

FAN2_PWMOUT

FBR5 6.2K/4/1

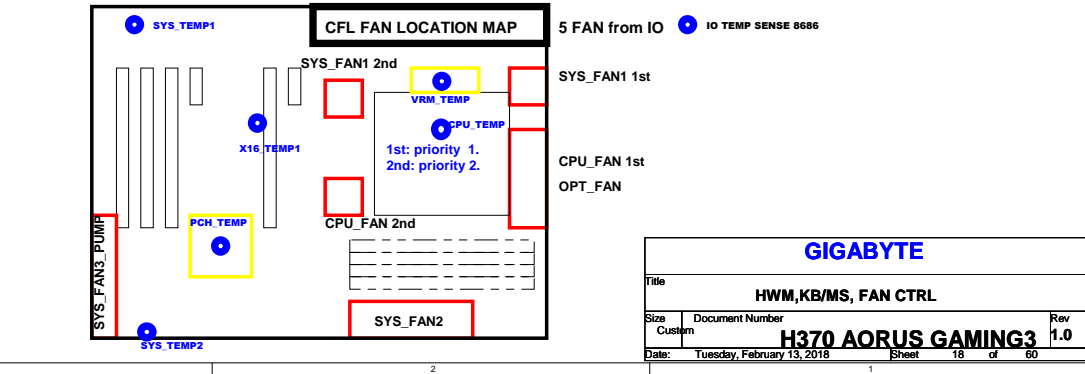
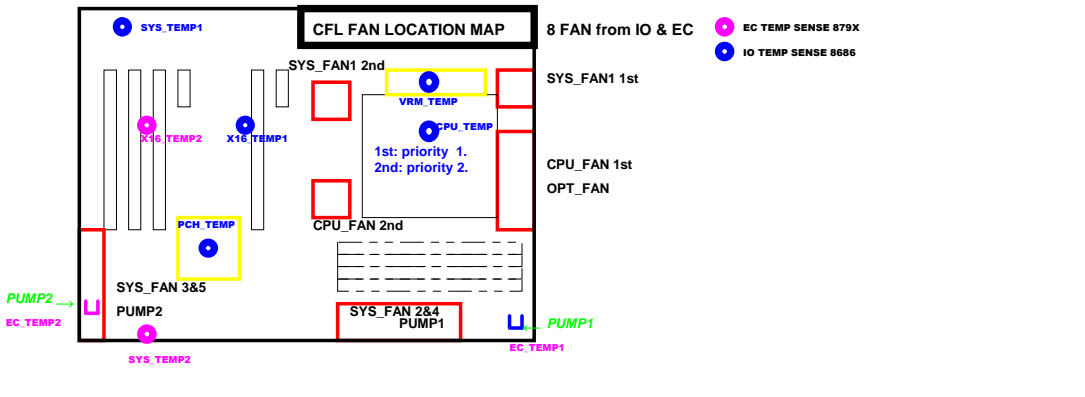
FAN1

FBC2 100u/8/X5R/16V/K

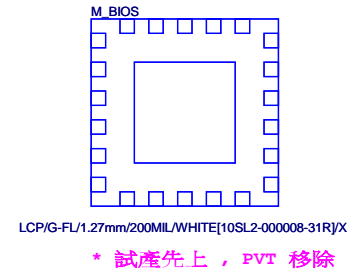
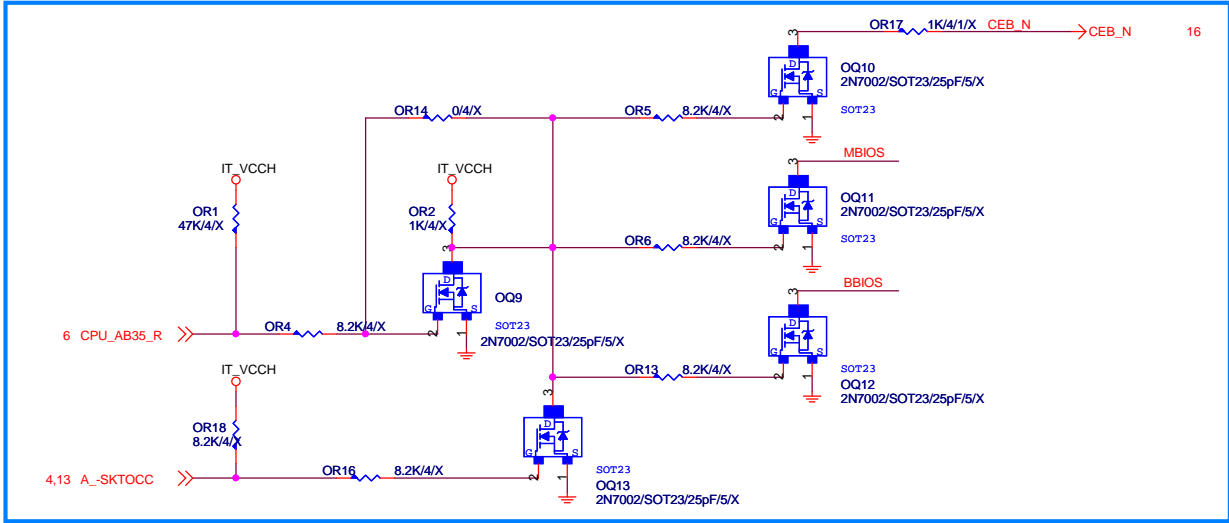
SYS_FAN2 FAN1

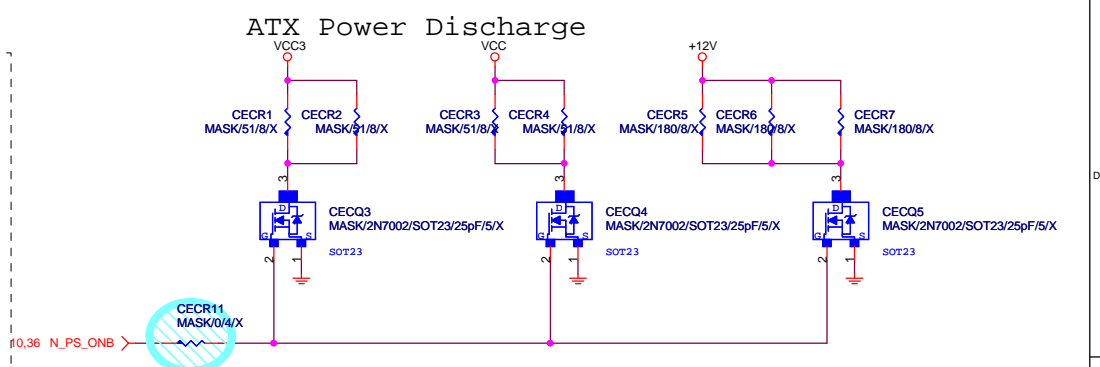
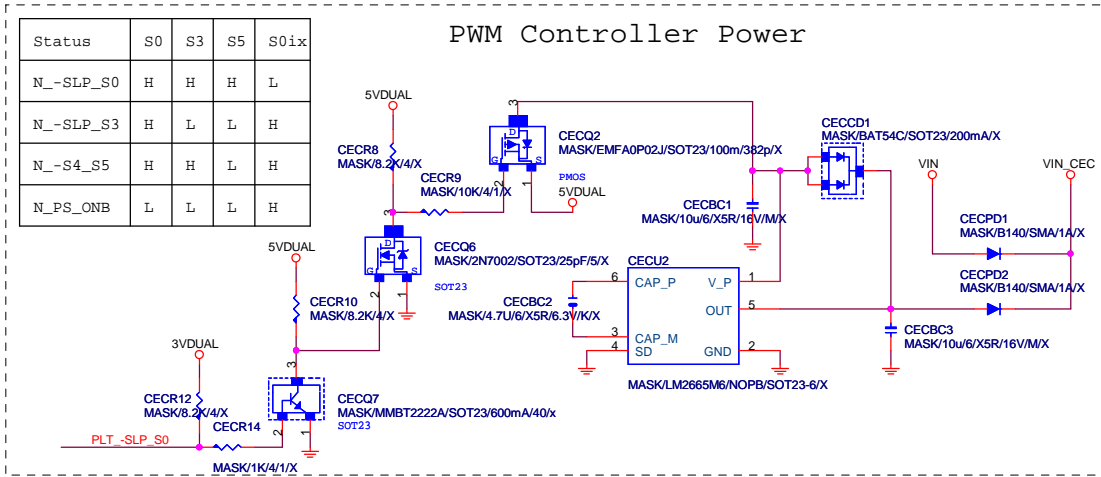
NCT3947S/SOP8-EP

MODE: Floating=> Auto mode,
High=>PWM Mode,
Low=>Voltage Mode.

[illegible]

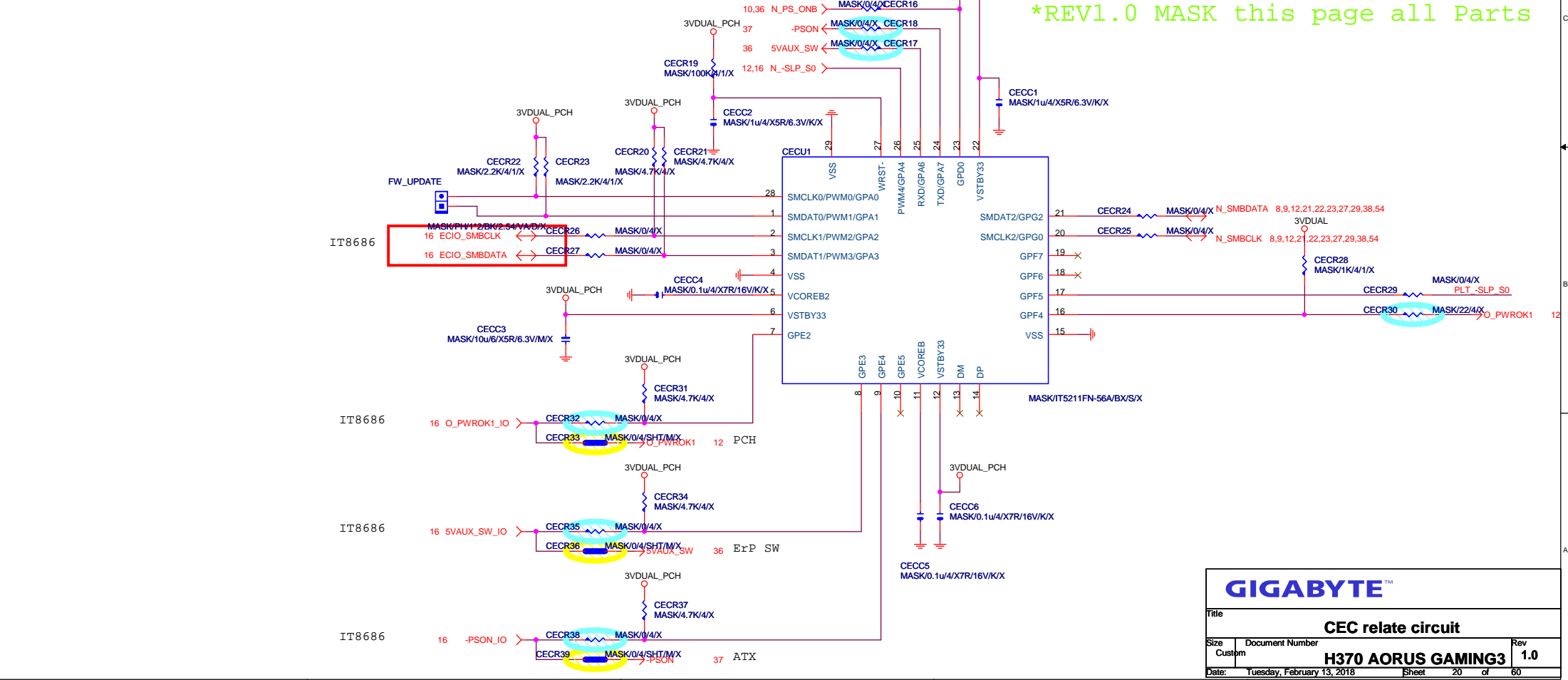
DUAL BIOS



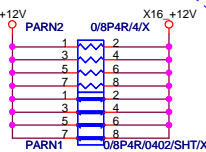


teknisi-indonesia.com

*REV1.0 MASK this page all Parts



+12 - protect
short-wire test



8,9,12,20,22,23,27,29,38,54 N_SMBCLK
8,9,12,20,22,23,27,29,38,54 N_SMBDATA

12,22,23,28,42 N_-PCIE_WAKE

10 -PCIE16_PR

PA_EXP_RXP0_15] >> PA_EXP_RXP0_15] 4

PA_EXP_RXN0_15] >> PA_EXP_RXN0_15] 4

PA_EXP_TXP0_15] >> PA_EXP_TXP0_15] 4

PA_EXP_TXN0_15] >> PA_EXP_TXN0_15] 4

PA_EXP_TXP0 C PAC5 0.22u4/X5R6.3V/K PA_EXP_TXP0 C

PA_EXP_TXN0 C PAC4 0.22u4/X5R6.3V/K PA_EXP_TXN0 C

PA_EXP_TXP1 C PAC6 0.22u4/X5R6.3V/K PA_EXP_TXP1 C

PA_EXP_TXN1 C PAC7 0.22u4/X5R6.3V/K PA_EXP_TXN1 C

PA_EXP_TXP2 C PAC8 0.22u4/X5R6.3V/K PA_EXP_TXP2 C

PA_EXP_TXN2 C PAC9 0.22u4/X5R6.3V/K PA_EXP_TXN2 C

PA_EXP_TXP3 C PAC10 0.22u4/X5R6.3V/K PA_EXP_TXP3 C

PA_EXP_TXN3 C PAC11 0.22u4/X5R6.3V/K PA_EXP_TXN3 C

PA_EXP_TXP4 C PAC12 0.22u4/X5R6.3V/K PA_EXP_TXP4 C

PA_EXP_TXN4 C PAC13 0.22u4/X5R6.3V/K PA_EXP_TXN4 C

PA_EXP_TXP5 C PAC14 0.22u4/X5R6.3V/K PA_EXP_TXP5 C

PA_EXP_TXN5 C PAC15 0.22u4/X5R6.3V/K PA_EXP_TXN5 C

PA_EXP_TXP6 C PAC16 0.22u4/X5R6.3V/K PA_EXP_TXP6 C

PA_EXP_TXN6 C PAC17 0.22u4/X5R6.3V/K PA_EXP_TXN6 C

PA_EXP_TXP7 C PAC18 0.22u4/X5R6.3V/K PA_EXP_TXP7 C

PA_EXP_TXN7 C PAC19 0.22u4/X5R6.3V/K PA_EXP_TXN7 C

PA_EXP_TXP8 C PAC21 0.22u4/X5R6.3V/K PA_EXP_TXP8 C

PA_EXP_TXN8 C PAC20 0.22u4/X5R6.3V/K PA_EXP_TXN8 C

PA_EXP_TXP9 C PAC22 0.22u4/X5R6.3V/K PA_EXP_TXP9 C

PA_EXP_TXN9 C PAC23 0.22u4/X5R6.3V/K PA_EXP_TXN9 C

PA_EXP_TXP10 C PAC24 0.22u4/X5R6.3V/K PA_EXP_TXP10 C

PA_EXP_TXN10 C PAC25 0.22u4/X5R6.3V/K PA_EXP_TXN10 C

PA_EXP_TXP11 C PAC26 0.22u4/X5R6.3V/K PA_EXP_TXP11 C

PA_EXP_TXN11 C PAC27 0.22u4/X5R6.3V/K PA_EXP_TXN11 C

PA_EXP_TXP12 C PAC28 0.22u4/X5R6.3V/K PA_EXP_TXP12 C

PA_EXP_TXN12 C PAC29 0.22u4/X5R6.3V/K PA_EXP_TXN12 C

PA_EXP_TXP13 C PAC30 0.22u4/X5R6.3V/K PA_EXP_TXP13 C

PA_EXP_TXN13 C PAC31 0.22u4/X5R6.3V/K PA_EXP_TXN13 C

PA_EXP_TXP14 C PAC32 0.22u4/X5R6.3V/K PA_EXP_TXP14 C

PA_EXP_TXN14 C PAC33 0.22u4/X5R6.3V/K PA_EXP_TXN14 C

PA_EXP_TXP15 C PAC34 0.22u4/X5R6.3V/K PA_EXP_TXP15 C

PA_EXP_TXN15 C PAC35 0.22u4/X5R6.3V/K PA_EXP_TXN15 C

PCIEX16:16/5/5/5/16

PCI-E REV:1.1--> 2.5GHZ

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

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

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

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

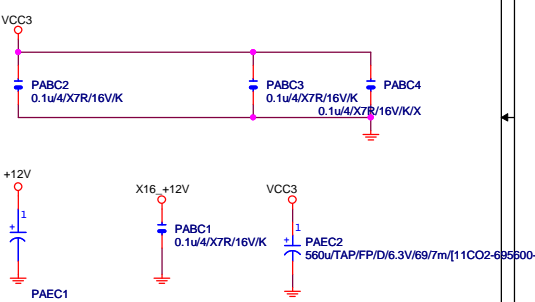
PCI-E REV:2.0--> 5GHZ

PCIESLOT-164P

PCIEX16 3GIO_*16

PCI-E/16X-164P/BK/LONG DOUBLE/HK/2SHELL[11AC1-023164-L1R]

黑色SLOT 金屬加強版



PAEC1 270uTAP/FP/D/16V/8C/10m[11CO5-8C2700-11R]

PAEC2 560uTAP/FP/D/6.3V/69/7m[11CO2-69500-2]

PAEC3 0.1u4/X7R/16V/K

PAEC4 0.1u4/X7R/16V/K

PAEC5 0.1u4/X7R/16V/K

PAEC6 0.1u4/X7R/16V/K

PAEC7 0.1u4/X7R/16V/K

PAEC8 0.1u4/X7R/16V/K

PAEC9 0.1u4/X7R/16V/K

PAEC10 0.1u4/X7R/16V/K

PAEC11 0.1u4/X7R/16V/K

PAEC12 0.1u4/X7R/16V/K

PAEC13 0.1u4/X7R/16V/K

PAEC14 0.1u4/X7R/16V/K

PAEC15 0.1u4/X7R/16V/K

PAEC16 0.1u4/X7R/16V/K

PAEC17 0.1u4/X7R/16V/K

PAEC18 0.1u4/X7R/16V/K

PAEC19 0.1u4/X7R/16V/K

PAEC20 0.1u4/X7R/16V/K

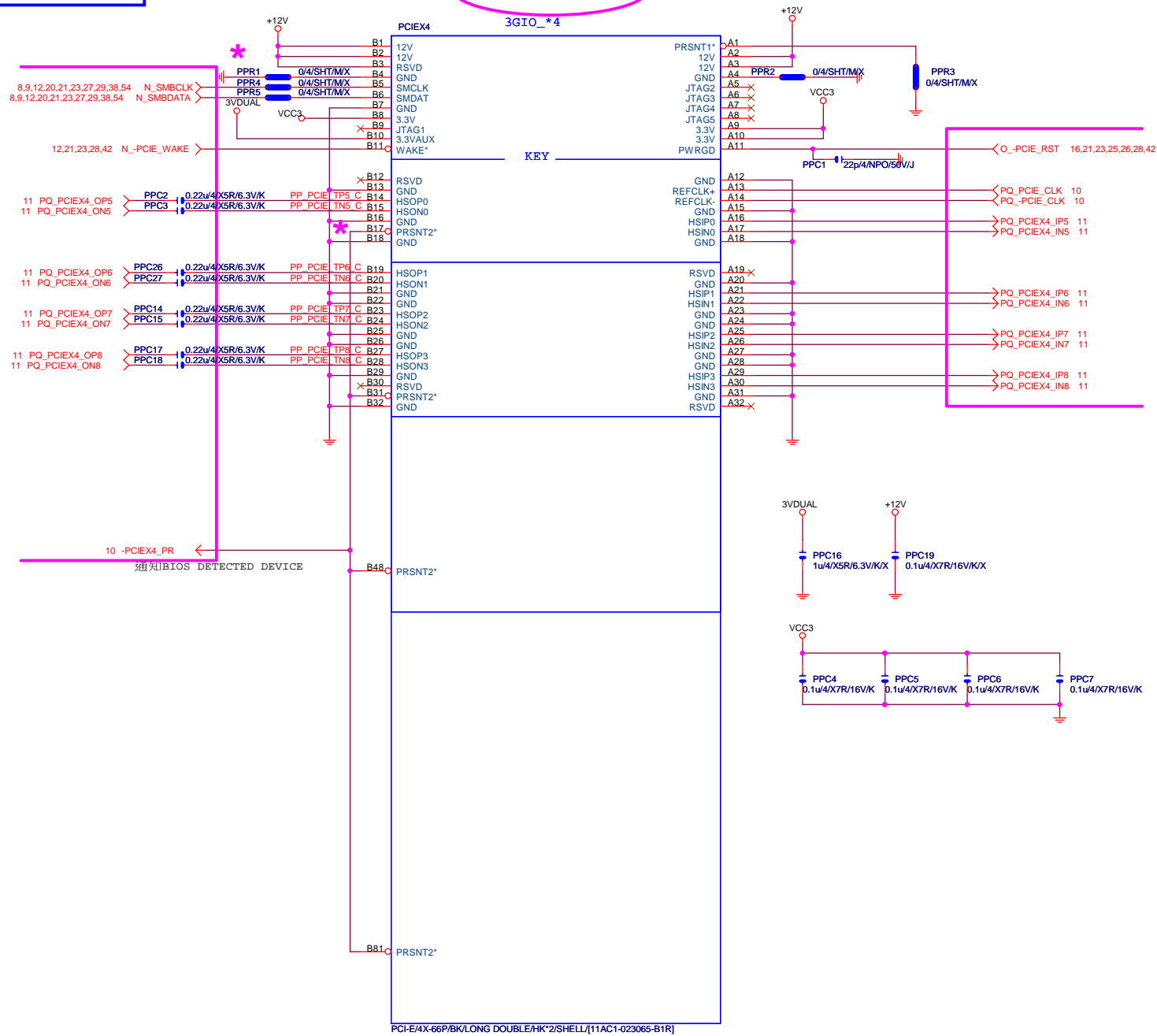
PAEC21 0.1u4/X7R/16V/K

PAEC22 0.1u4/X7R/16V/K

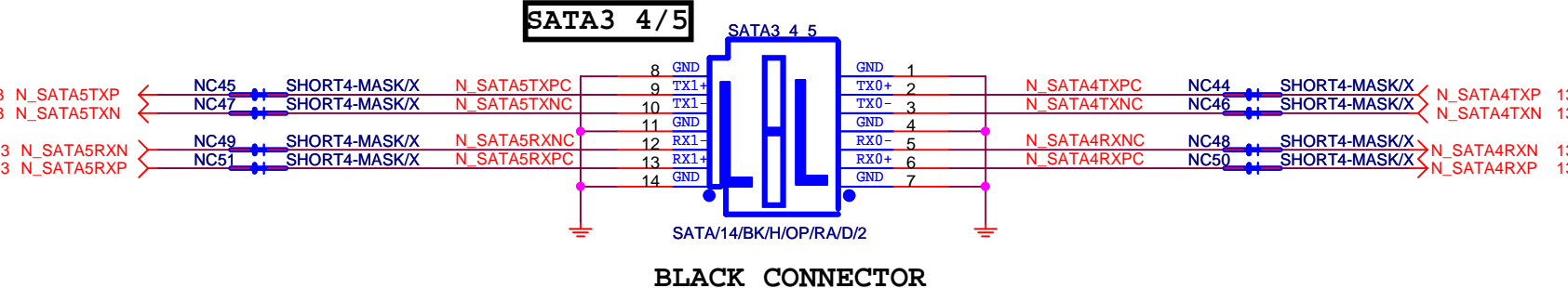
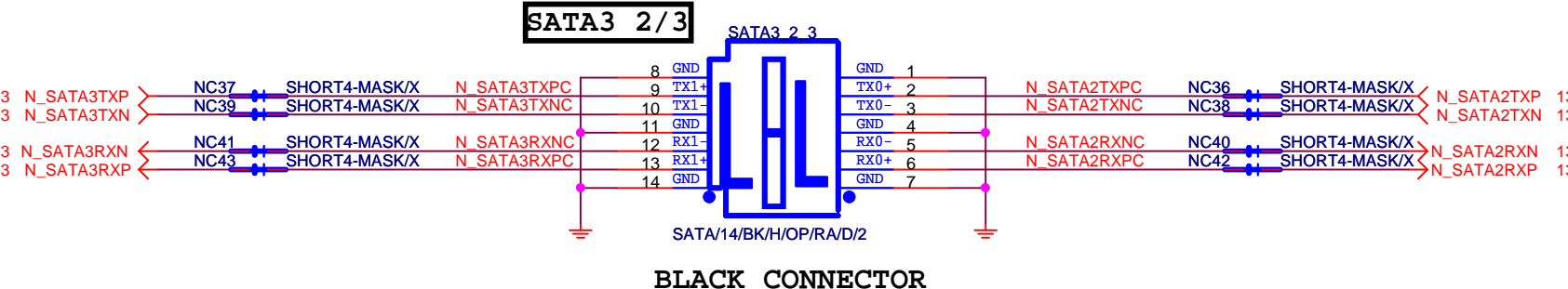
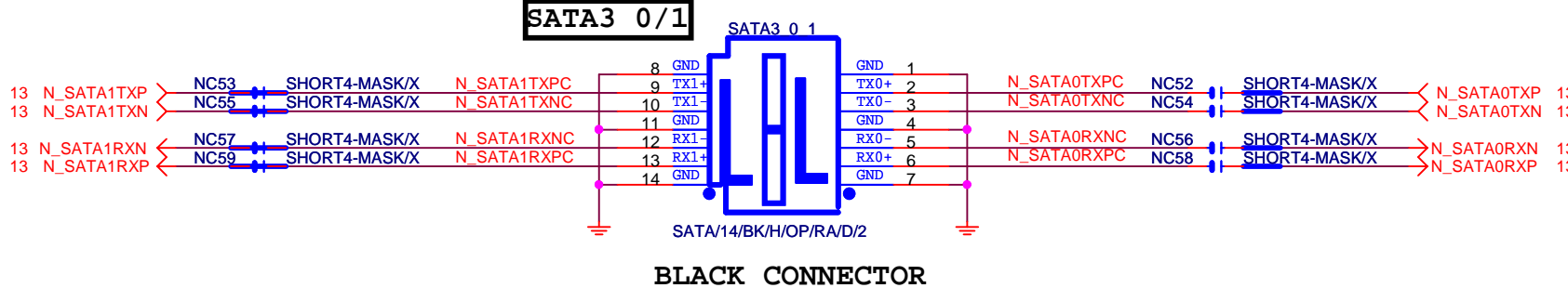
PAEC23 0.1u4/X7R/16V/K

PAEC24 0.1u4/X7R/16V/K

PAEC25 0.1u4/X7R/16V/K



Gigabyte Technology			
Title			
PCIE_X4			
Size	Document Number		Rev
Custom	H370 AORUS GAMING3		1.0
Date:	Tuesday, February 13, 2018		Sheet 22 of 60



Rev 0.4

M.2 Lane4 from PCH port24

M.2 Lane3 from PCH port23

M.2 Lane2 from PCH port22

M.2 Lane2 from PCH port21

支援SATA and M.2 function

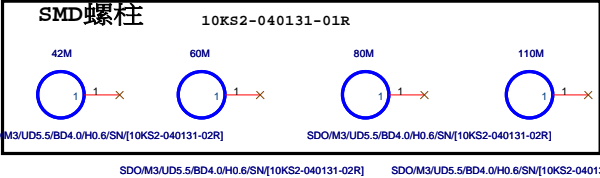
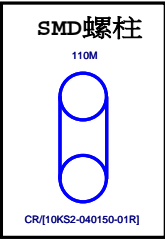
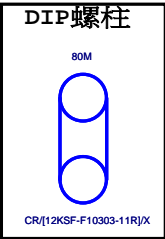
需與M2_-CLKREQ對應

SATA : GND.
PCIe : HIGH

M2插卡時為Low

架高

M2M_32G
M2M_32G_HS[12SP1-S10205-01R]



from PCH port9

from PCH port10

from PCH port11

from PCH port12

需與M2_-CLKREQ對應

M2插卡時為Low

架高

DIP螺柱

DIP螺絲

SMD螺柱

Gigabyte Technology

H370 AORUS GAMING3

Rev 1.0

Document Number

Date: Tuesday, February 13, 2018

Sheet 26 of 60

[illegible][illegible]

The diagram illustrates the internal circuitry of the M.2 X4 slot on the Gigabyte H370 AORUS GAMING3 motherboard. Key features include:

- Pins and Connections:** Detailed mapping of SKT3 SSD PIN OUT pins (1-68) to various components like capacitors (M2PC1-M2PC16), LEDs (M2P_LED), and power management ICs (M2PSATAE_PERST_N, M2PR11).
- Component Values:** Specific capacitor values and types are noted, such as 0.01uF/4X7R/25V/K and 0.1uF/4X7R/16V/K.
- Power Management:** Connections for VCC3, GND, and signal lines like M2PSSD SATA DEVSLP, MASK0/4/SHT/M/X, and M2P_CLKREQ are shown.
- M.2 Connector Details:** Information about the M.2_16G connector, including its dimensions (5mm M KEY) and part number (10NR5-130067-52R).
- Notes and Callouts:** Various annotations provide additional context, such as "To HDD LED control circuit", "To DEVSLP0 for power saving", and "需與M2_-CLKREQ對應".

[illegible]

from PCH port9

from PCH port10

from PCH port11

from PCH port12

需與M2_-CLKREQ對應

M2插卡時為Low

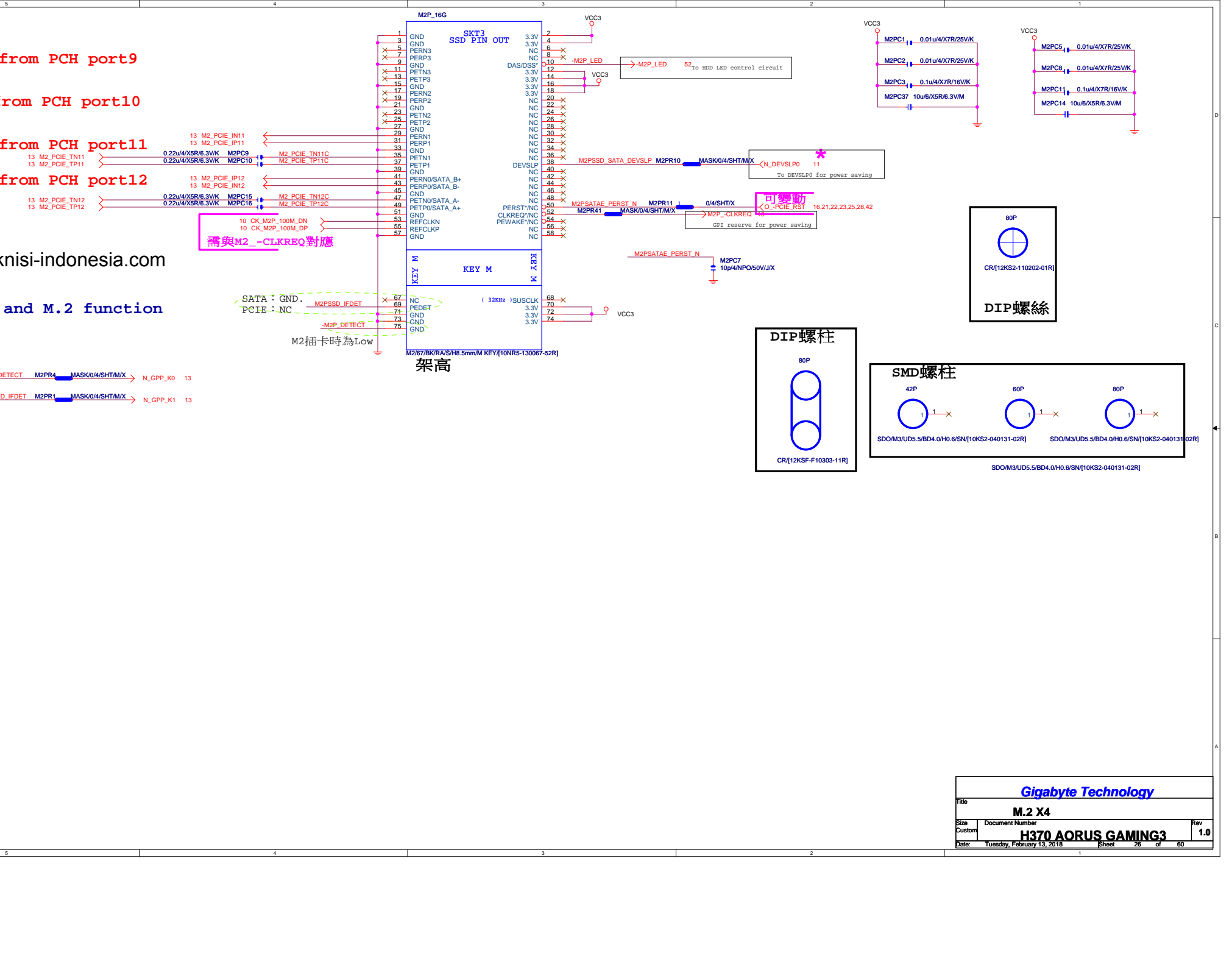
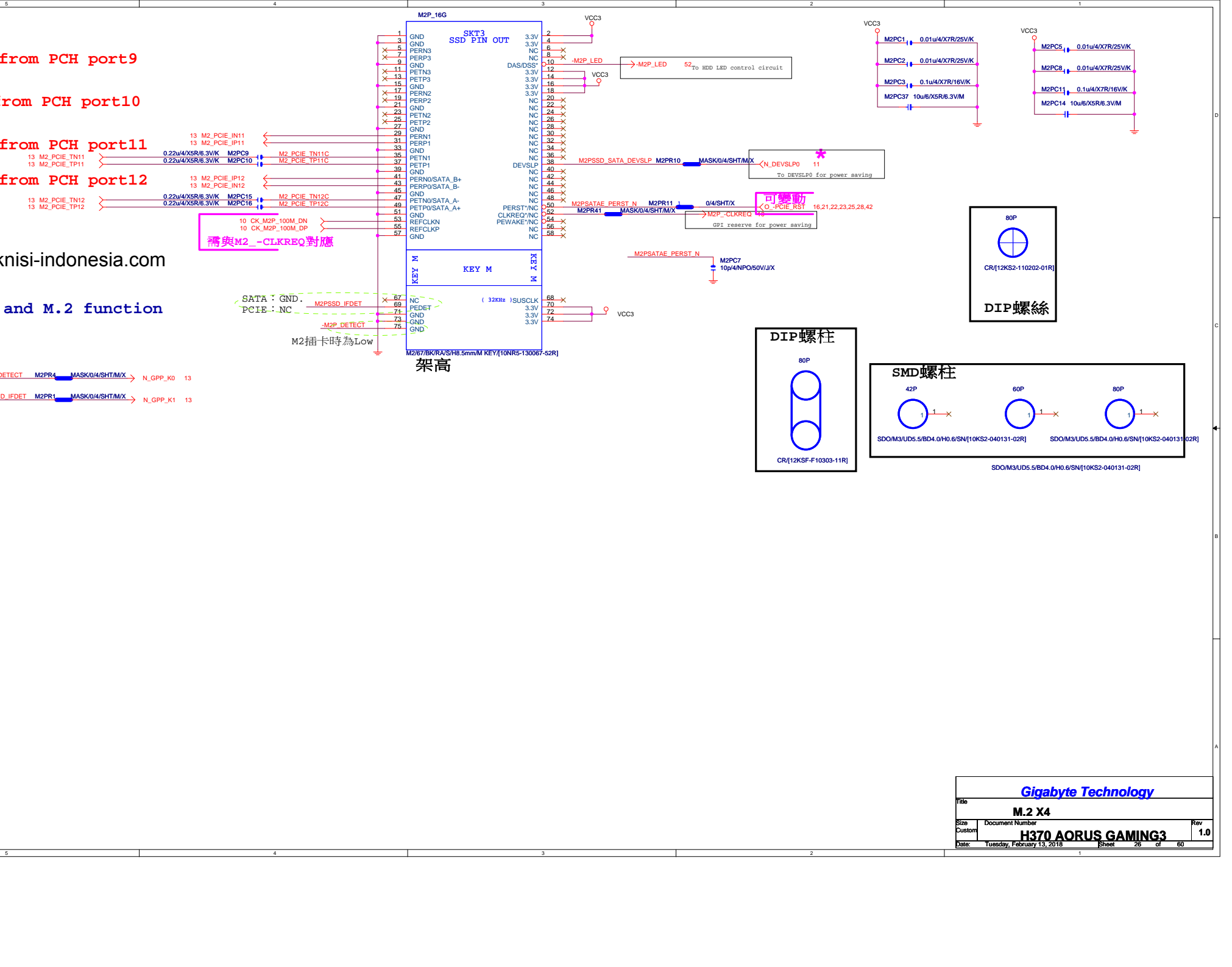
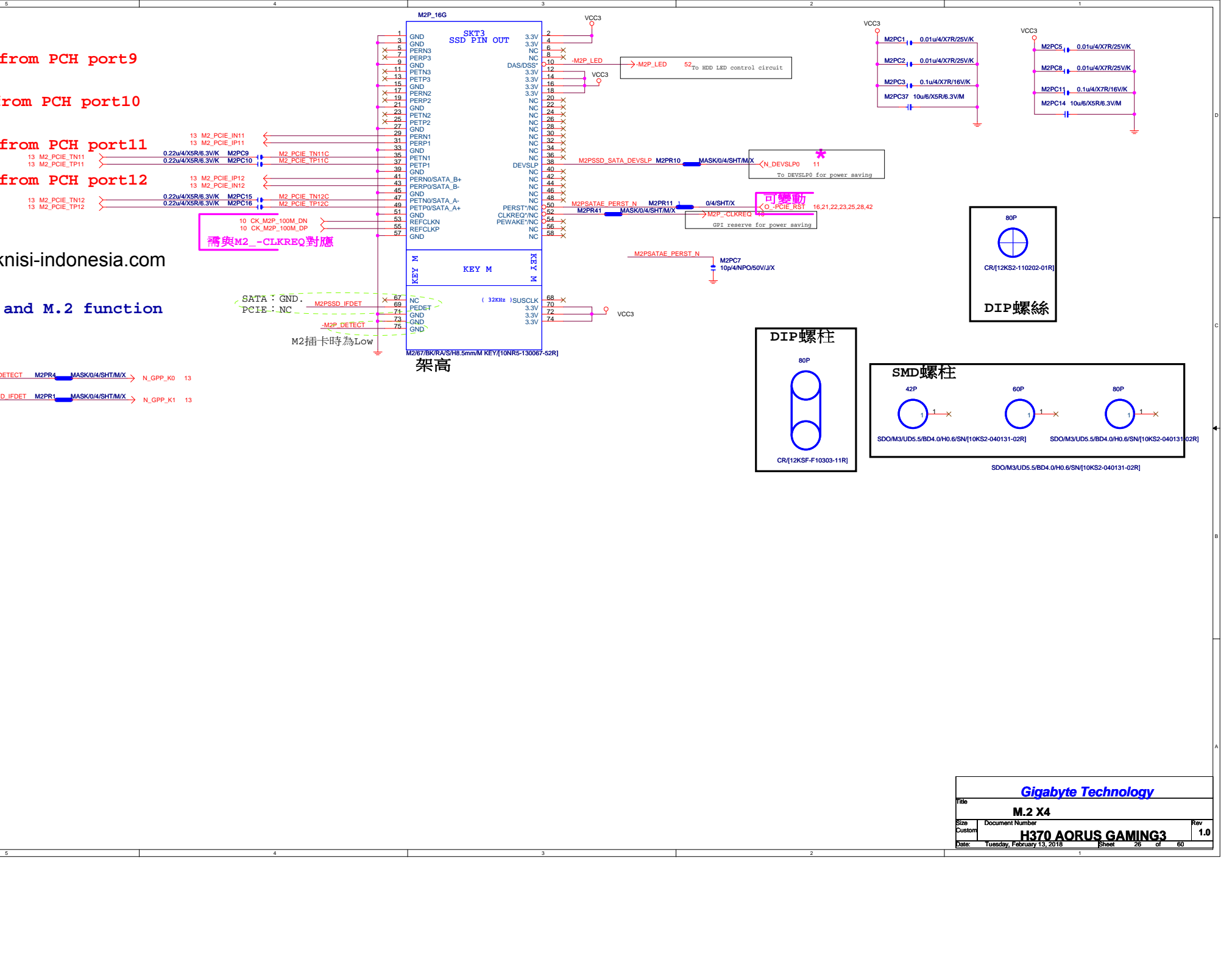
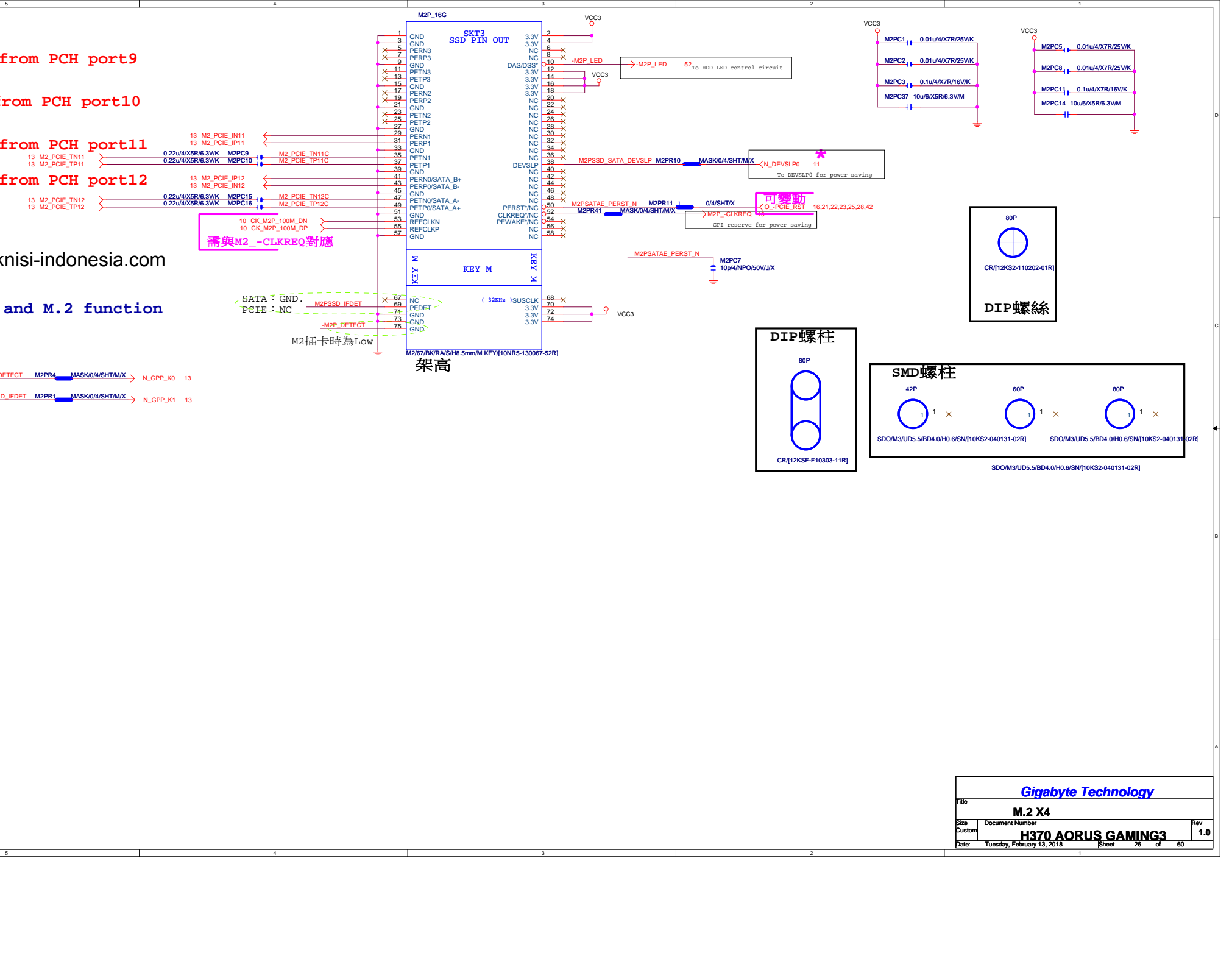
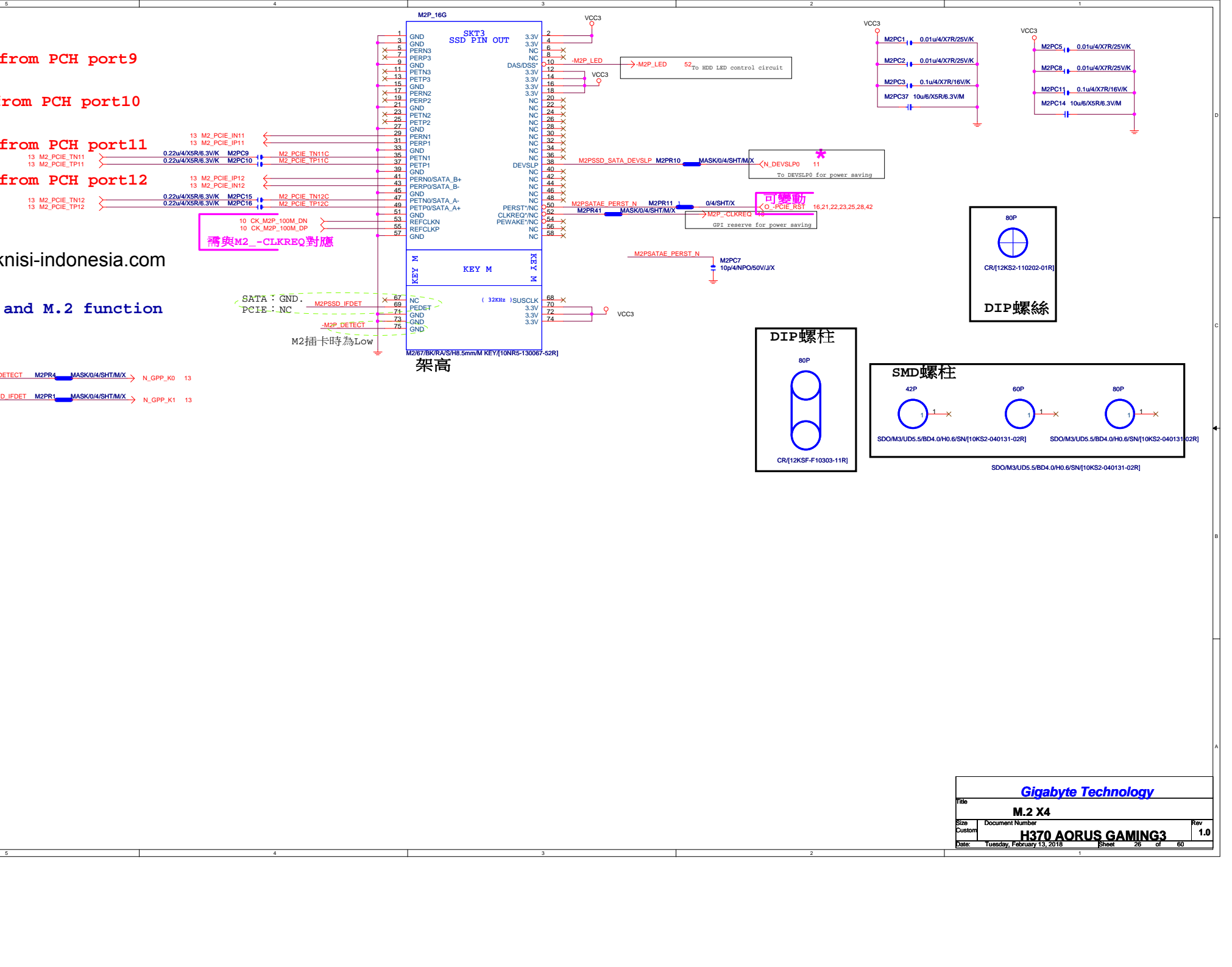
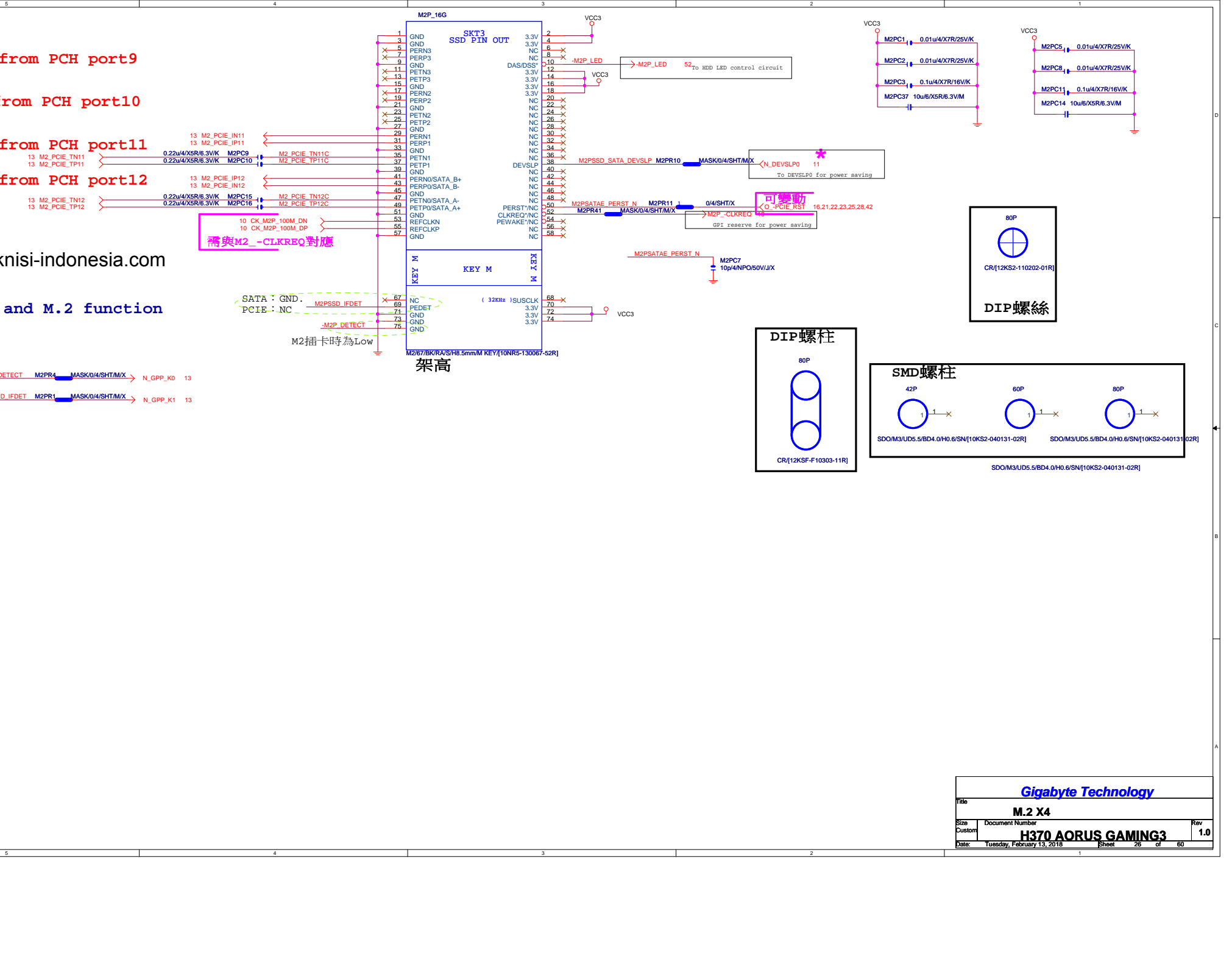
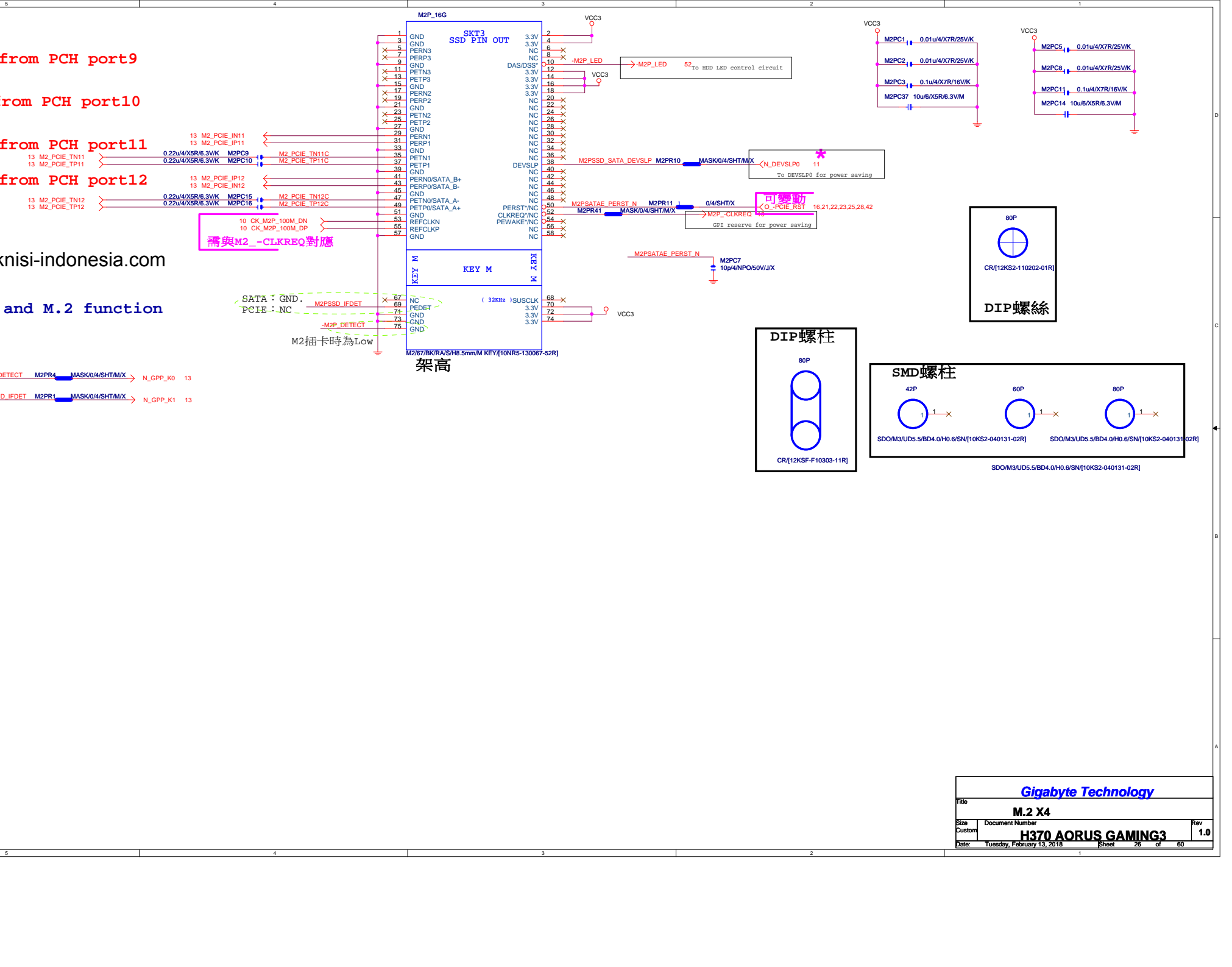
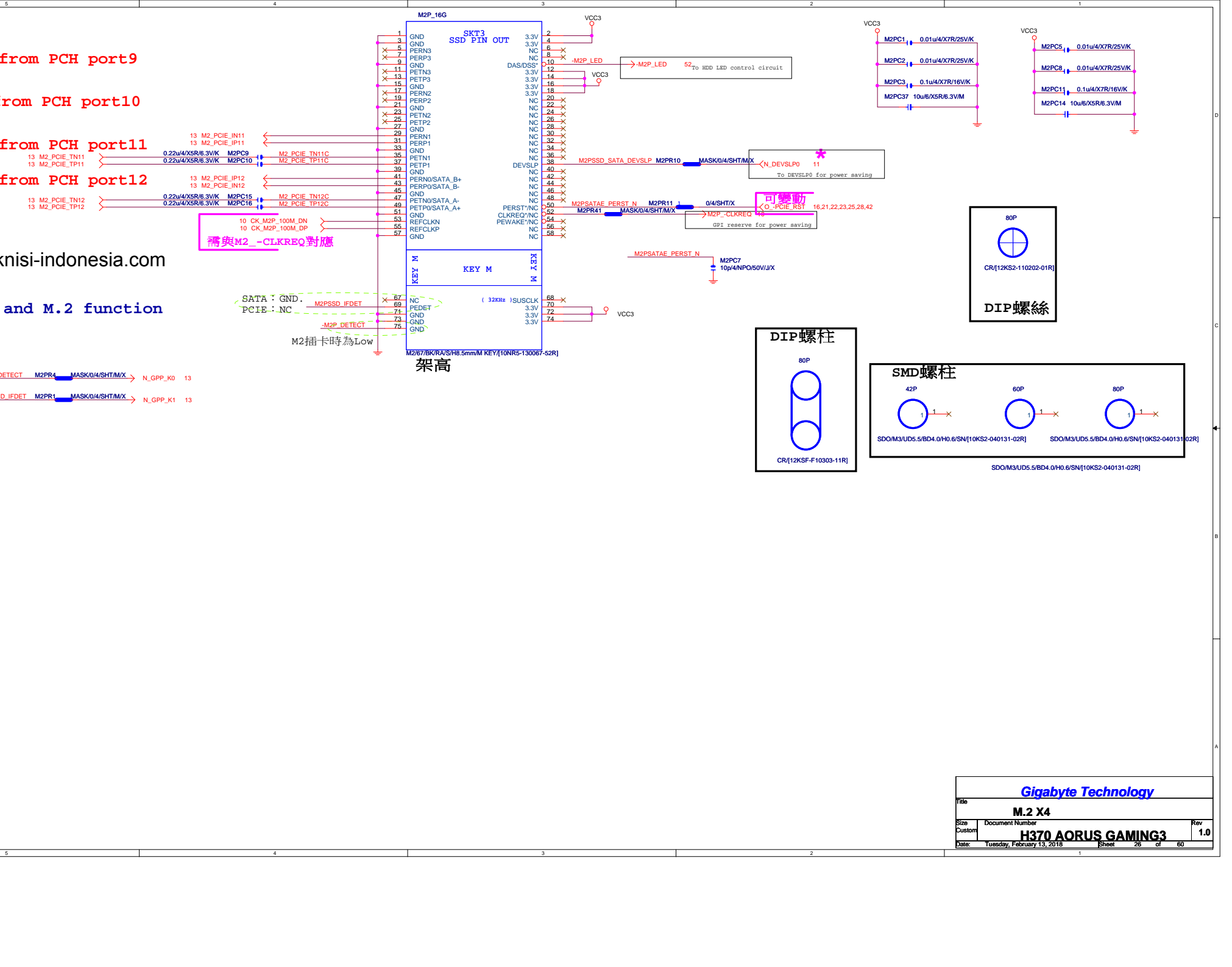
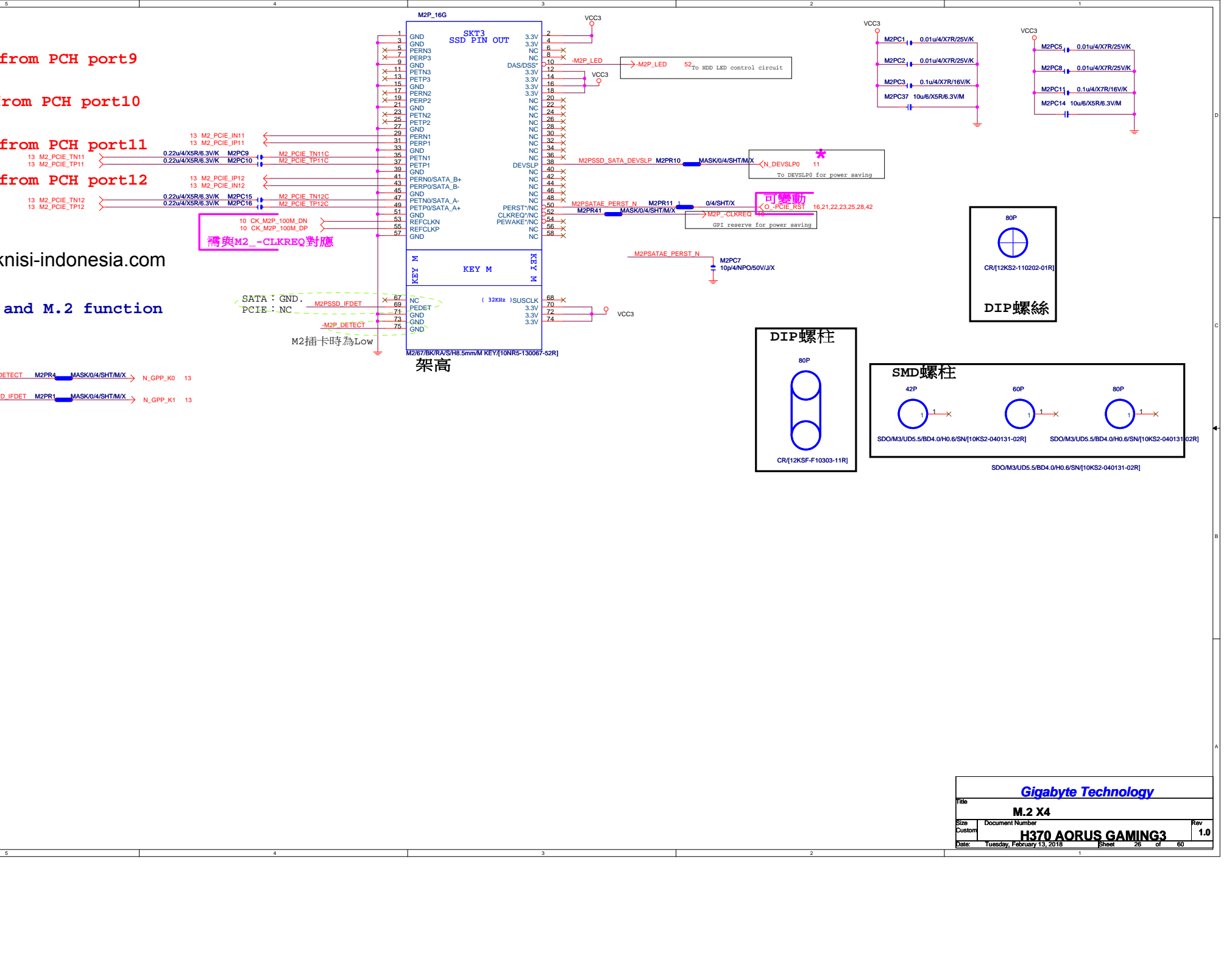
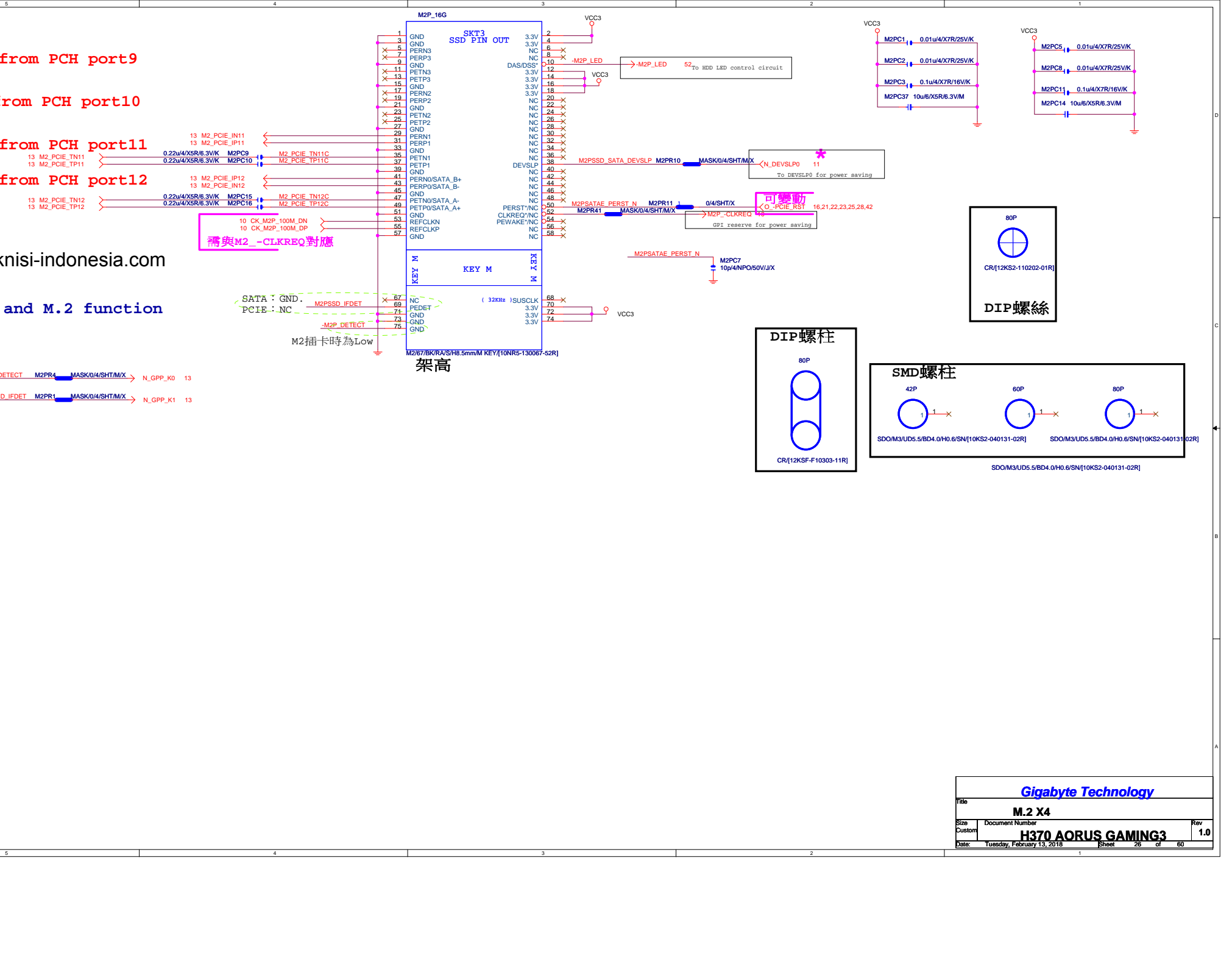
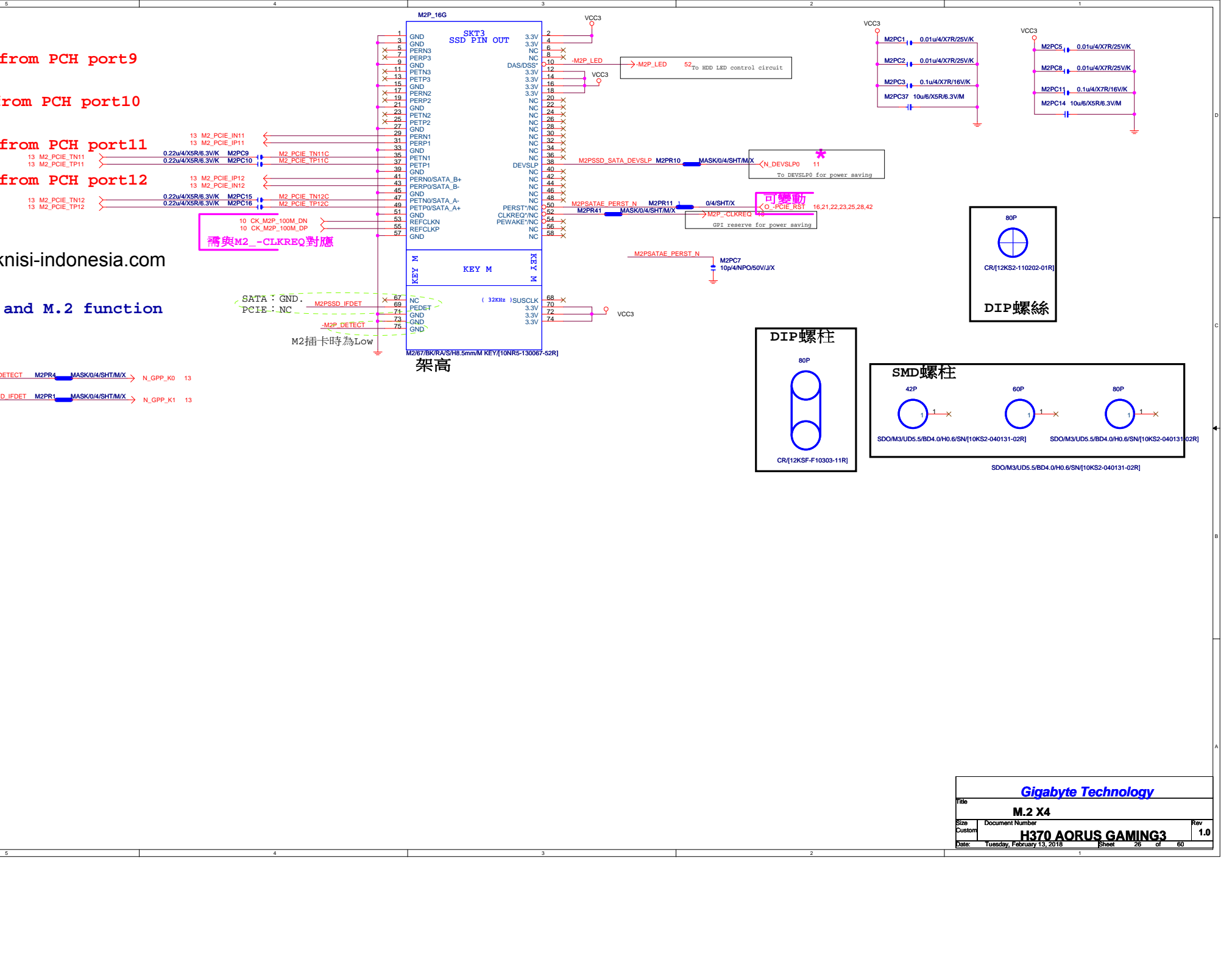
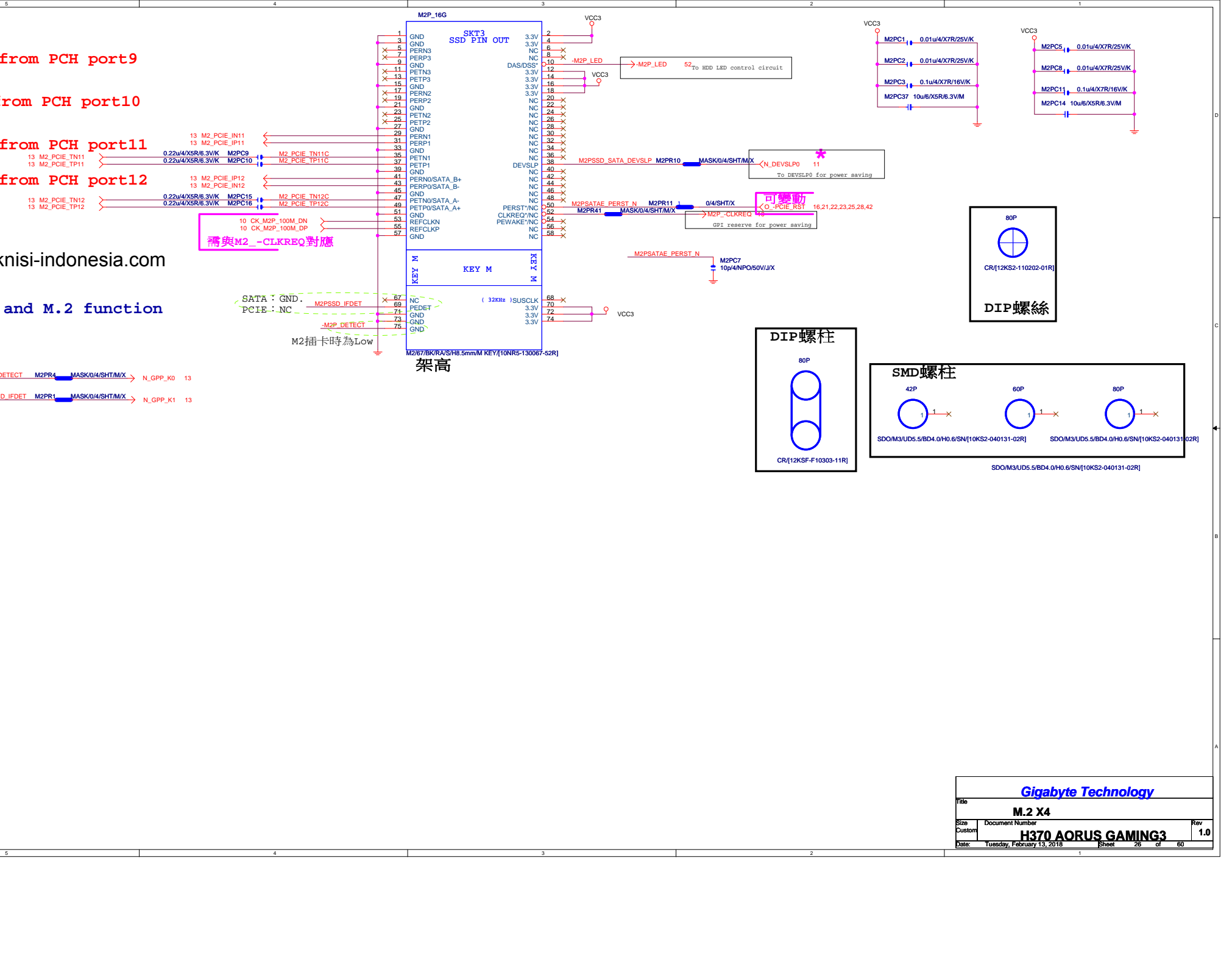
架高

DIP螺柱

DIP螺絲

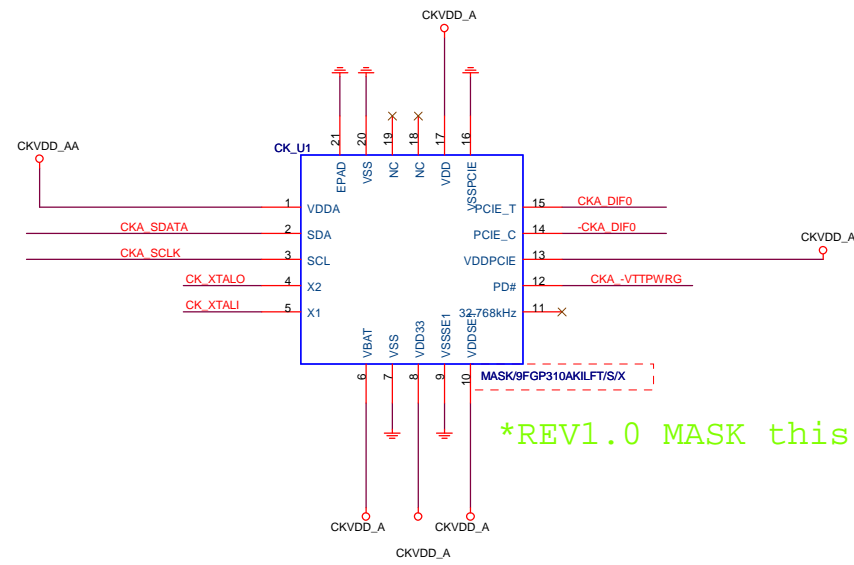
SMD螺柱

Gigabyte Technology			
Title			
M.2 X4			
Size	Document Number	Rev	
Custom	H370 AORUS GAMING3	1.0	
Date:	Tuesday, February 13, 2018	Sheet	26 of 60

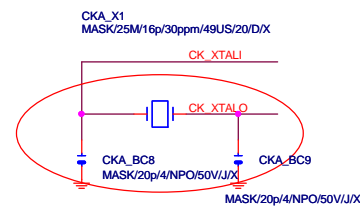
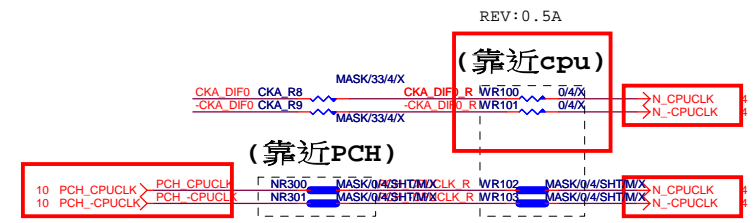
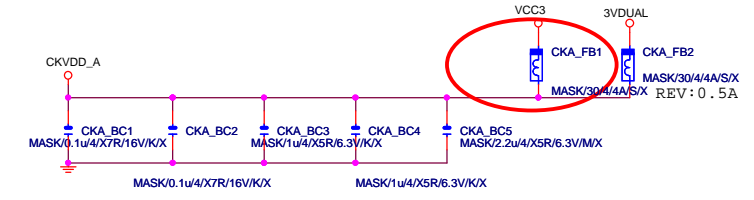


REV:0.5

IDT9FGP310

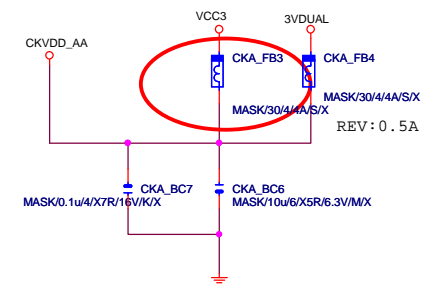
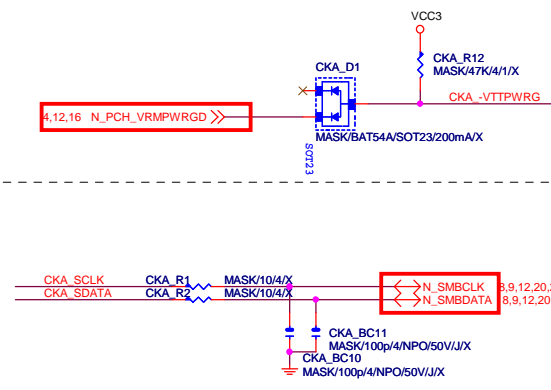


*REV1.0 MASK this page all Parts



*可變，依需求上件不上件。

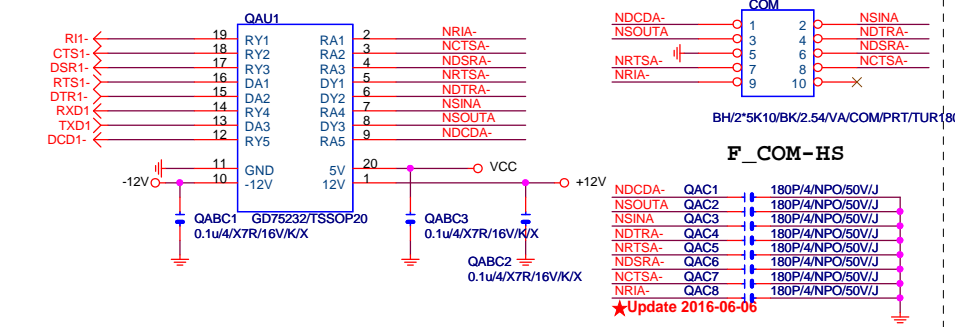
SMBUS



GIGABYTE™			
Title IDT9FGP310_CLK			
Size	Document Number	Rev	
Custom	H370 AORUS GAMING3	1.0	
Date:	Tuesday, February 13, 2018	Sheet	27 of 60

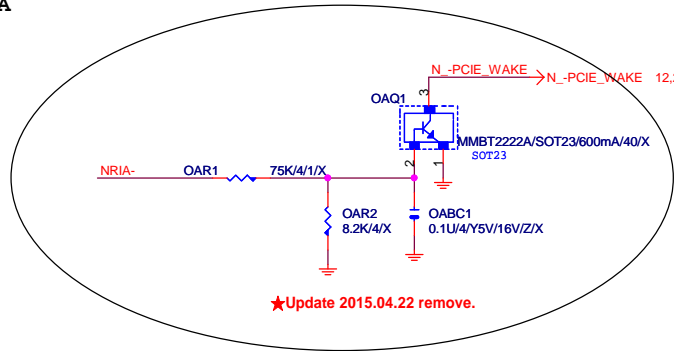
COM PORT

Rev: 0.7



COM RI

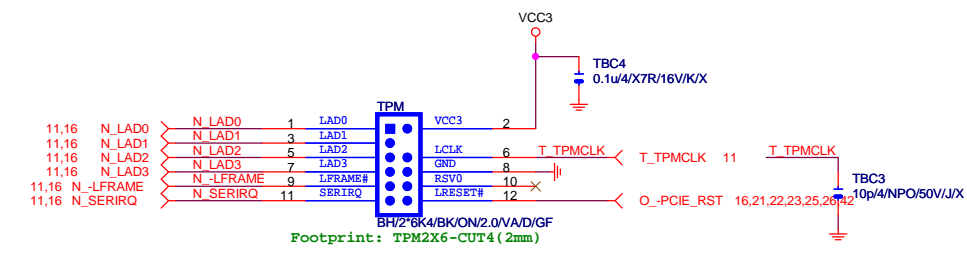
N/A



LPT PORT

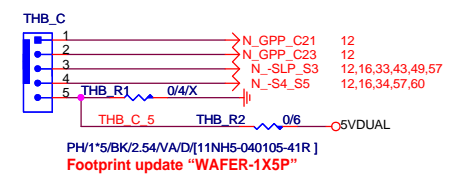
R&D技術通報151 有使用PRINT PORT的
MODEL，需使用新料號：10HP2-118728-72R。(CHIP IT8728F/EX (GB) ITE/SMD
QFP128 PRINTPORT SORTING)料件。串電阻33 ohm改為68 ohm。

TPM CONNECT

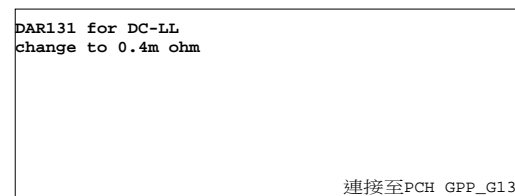
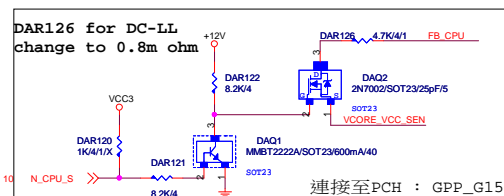
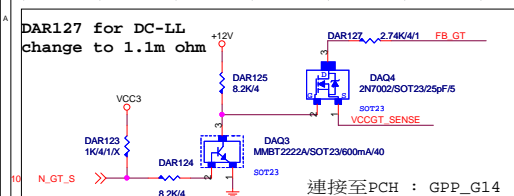
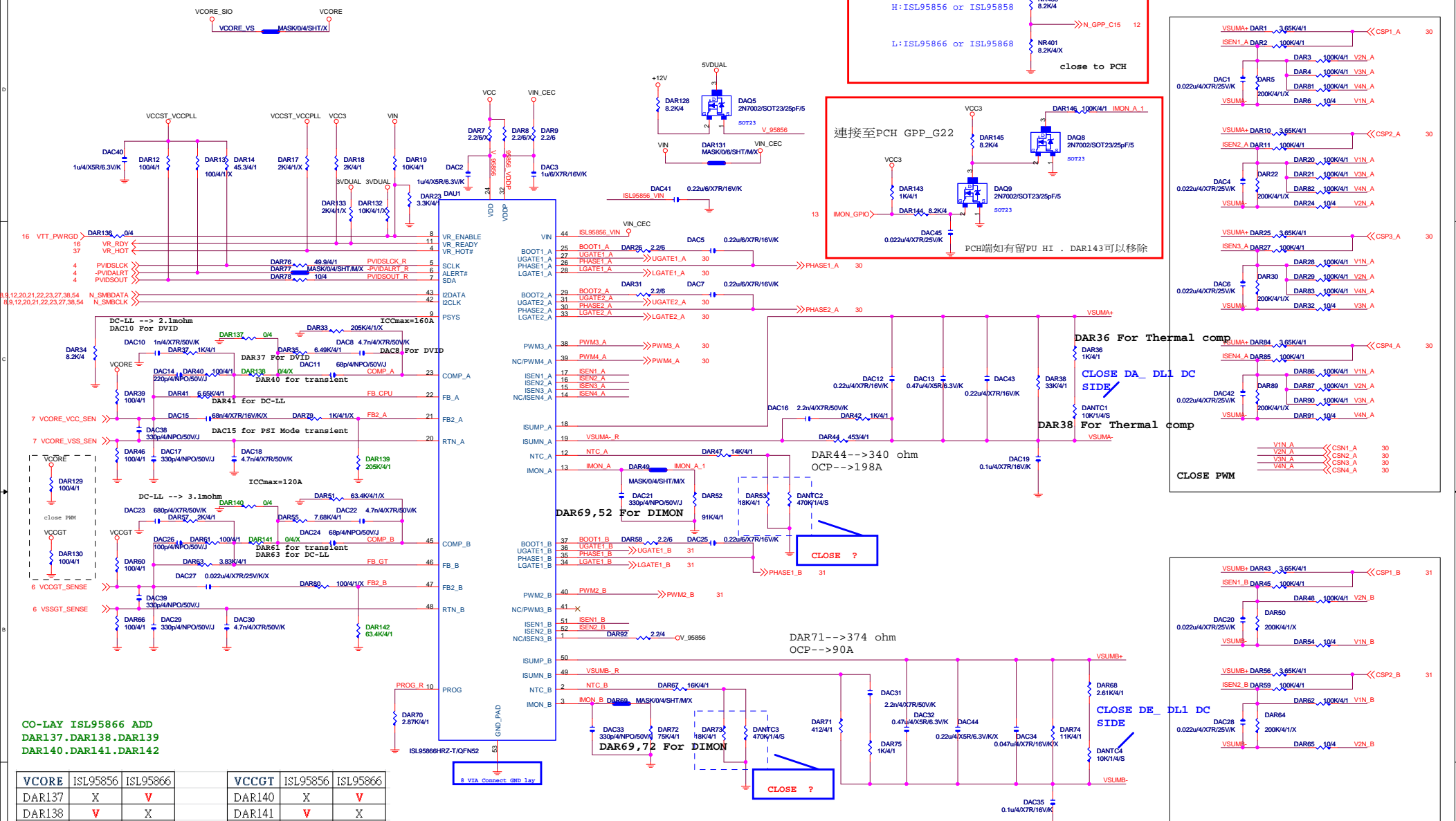


Thunderbolt

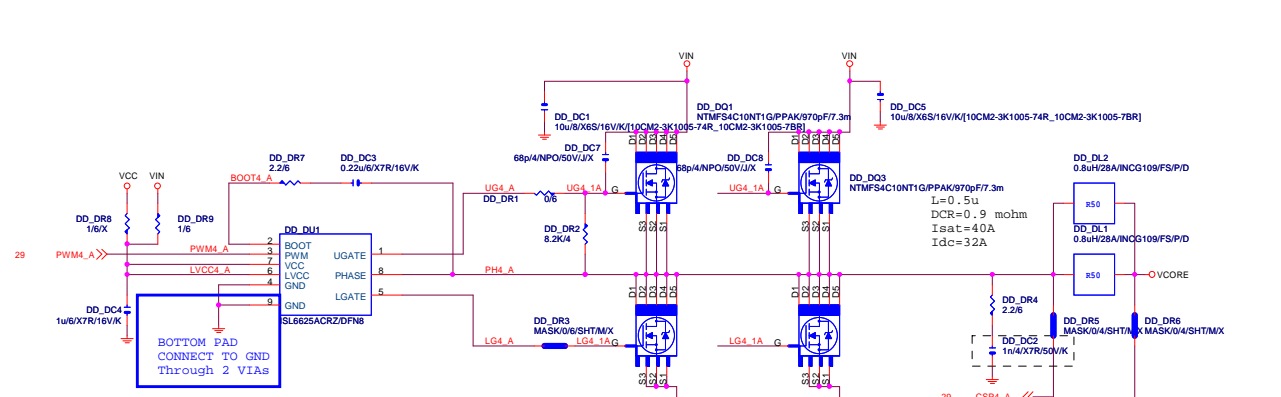
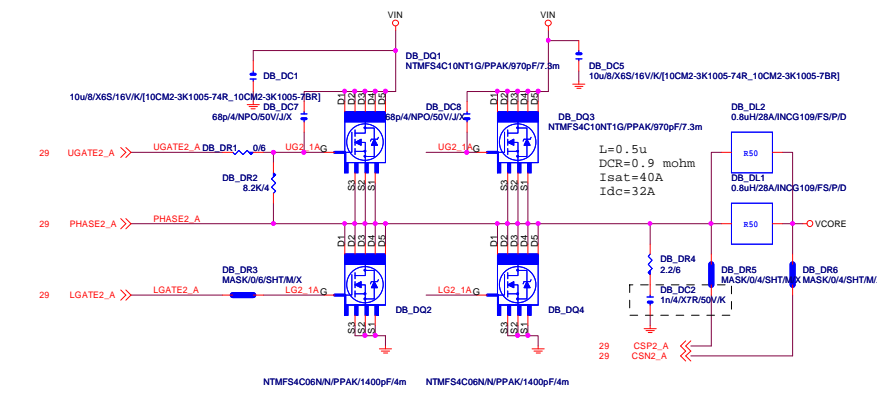
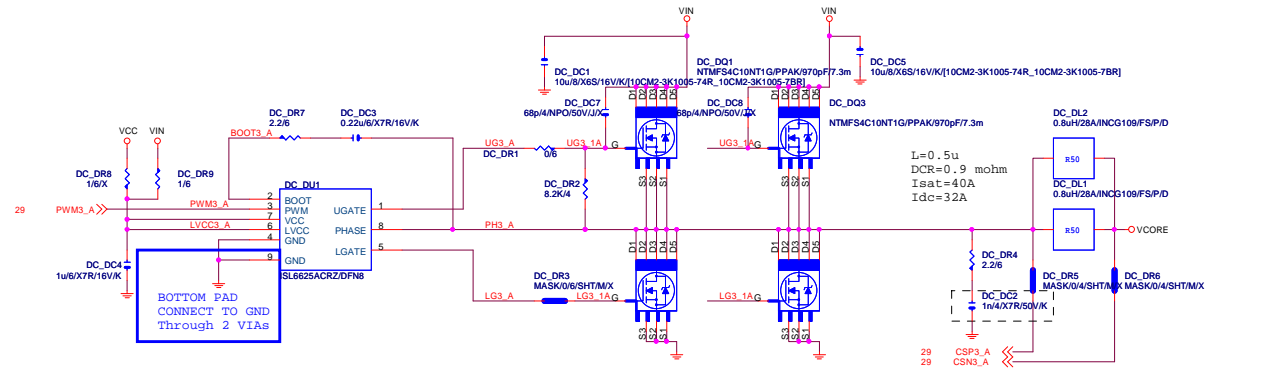
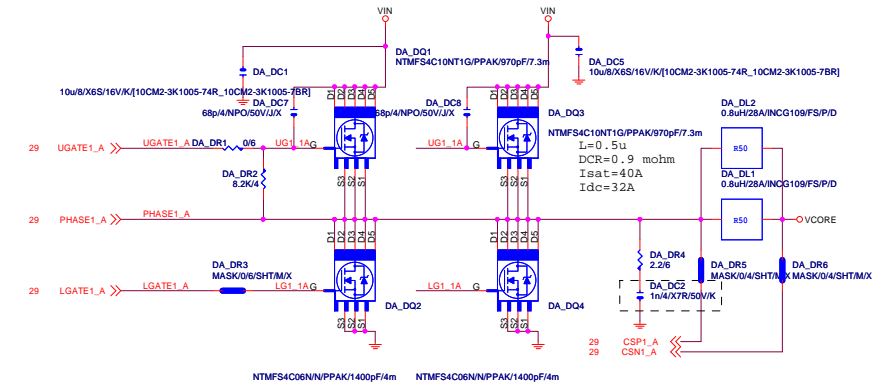
★Update 2015-12-29



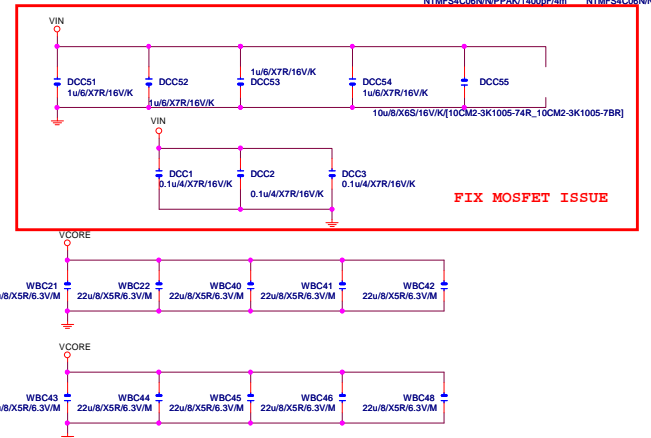
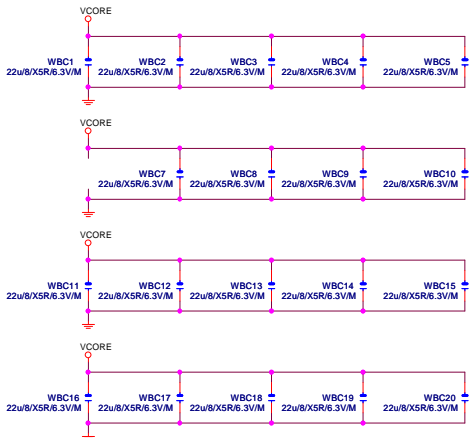
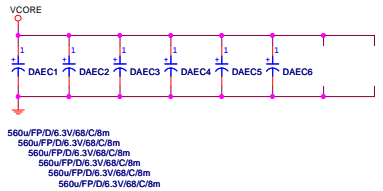
Ferrite REV:0.32



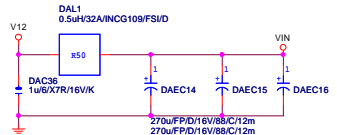
Ferrite REV:0.32
VCORE



VCORE CAP 560u*8PCS
22u*29PCS



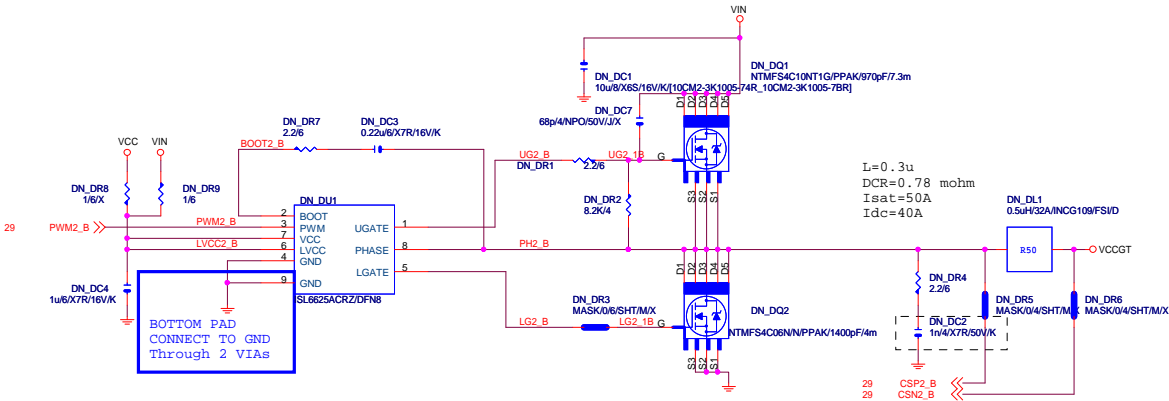
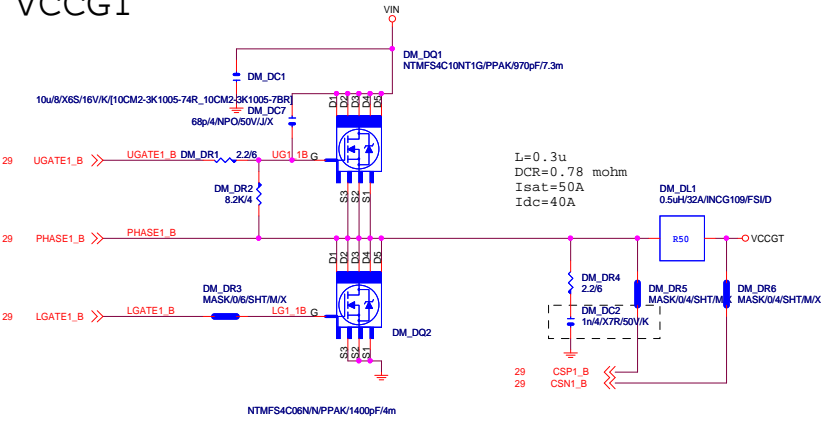
VIN CAP 270u*3PCS



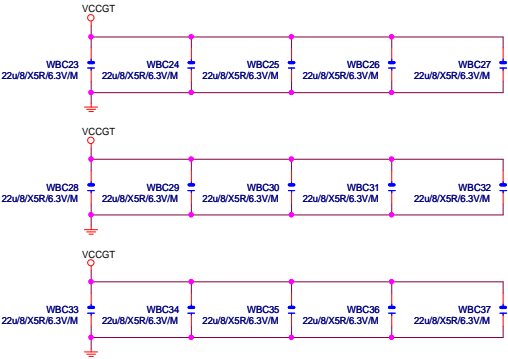
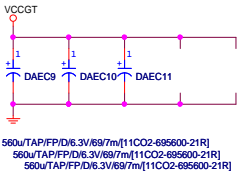
GIGABYTE

File	ISL95866 MOS		
Size	Document Number	H370 AORUS GAMING3	Rev
Custom			1.0
Date:	Tuesday, February 13, 2018	Sheet	30 of 60

VCCGT



VCCGT CAP 560u*3PCS 22u*15PCS

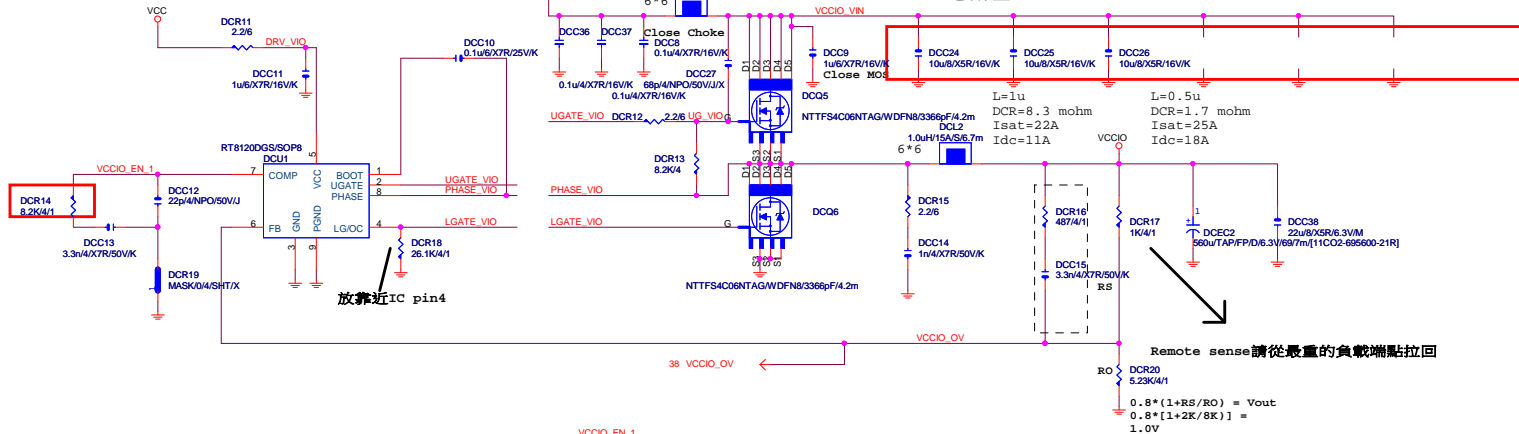


REV:0.42

L=1u
DCR=8.3 mohm
Isat=22A
Idc=11A

CHOKE與CAP料號可變

注意耐壓

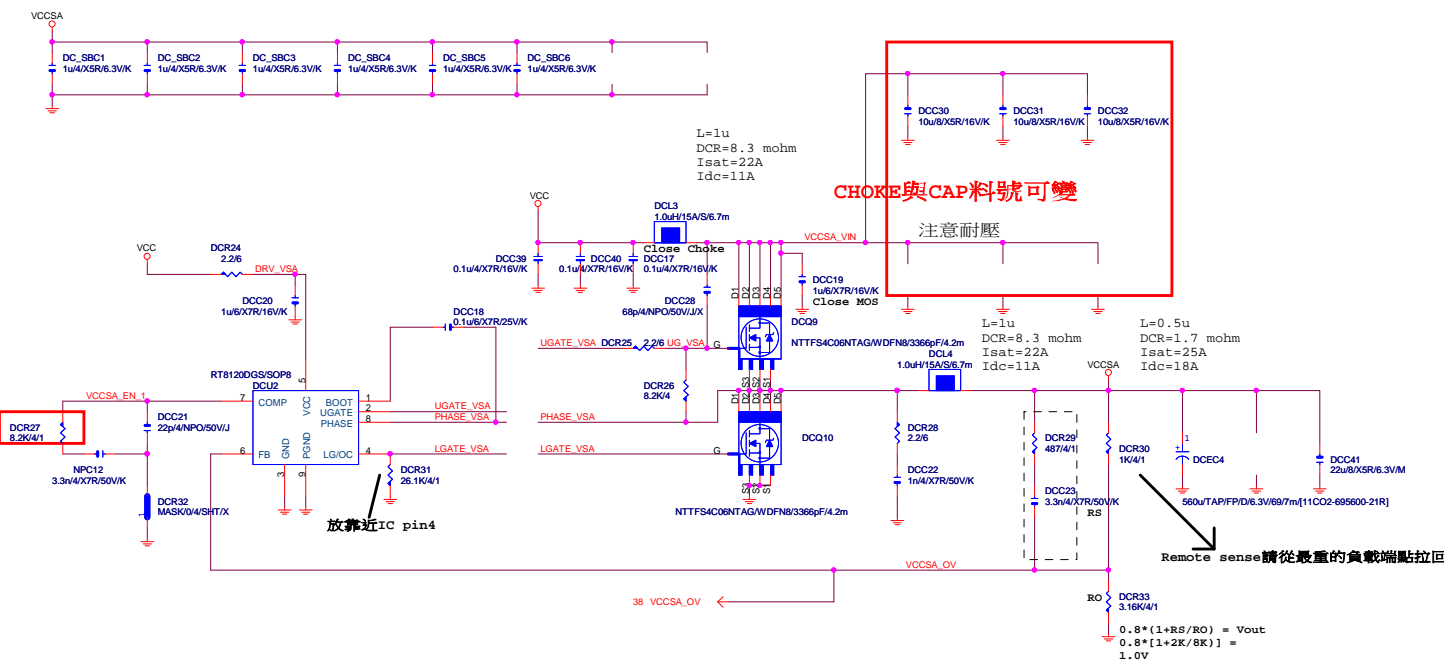
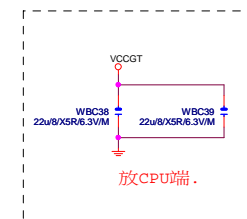
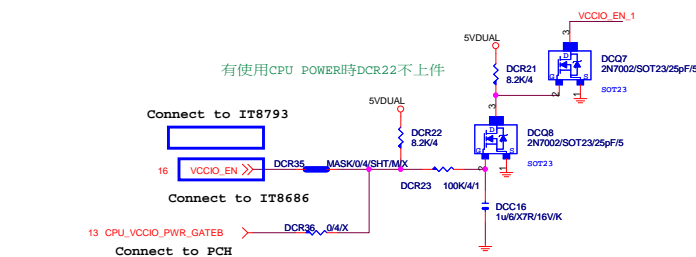


有使用CPU POWER時DCR22不上件

Connect to IT8793

Connect to IT8686

Connect to PCH

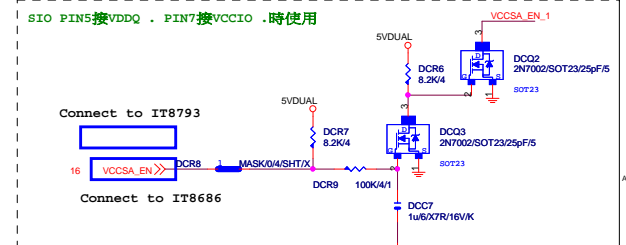


SIO PIN5 . PIN7 用在其他function時使用

SIO PIN5接VDDQ . PIN7接VCCIO .時使用

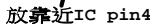
Connect to IT8793

Connect to IT8686



GIGABYTE™		
File	VCCIO_VCCSA	
Size	Document Number	Rev
Custom	H370 AORUS GAMING3	1.0
Date:	Tuesday, February 13, 2018	Sheet 32 of 60

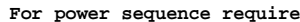
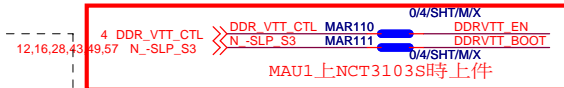
DDR4



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

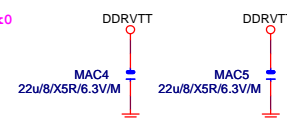
PWR SEQ

**DDRVTT**

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



DDRVTT CAP



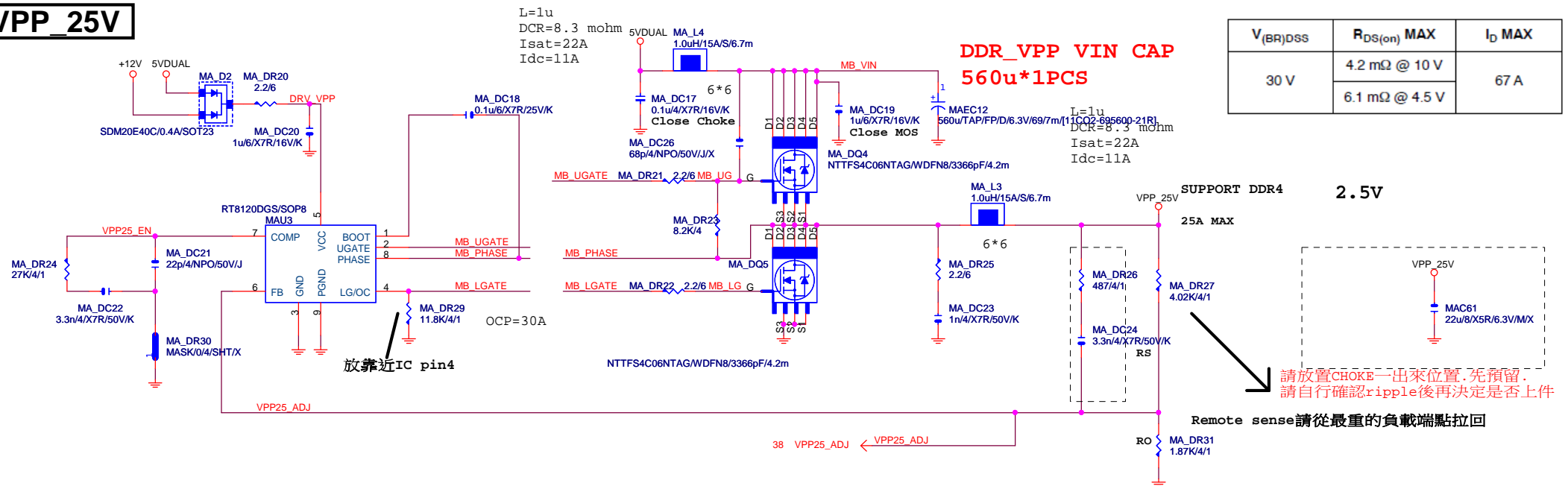
GIGABYTE

Title			
RT8120_DDR4 POWER			
Size	Document Number	Rev	
Custom	H370 AORUS GAMING3	1.0	
Date:	Tuesday, February 13, 2018	Sheet	33 of 60

VPP_25V

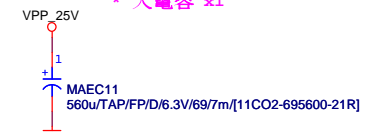
DDR_VPP VIN CAP
560u*1PCS

$V_{(BR)DSS}$	$R_{DS(on)} \text{ MAX}$	$I_D \text{ MAX}$
30 V	4.2 m Ω @ 10 V	67 A
	6.1 m Ω @ 4.5 V	



VPP CAP 560u*1PCS

* 大電容 x1

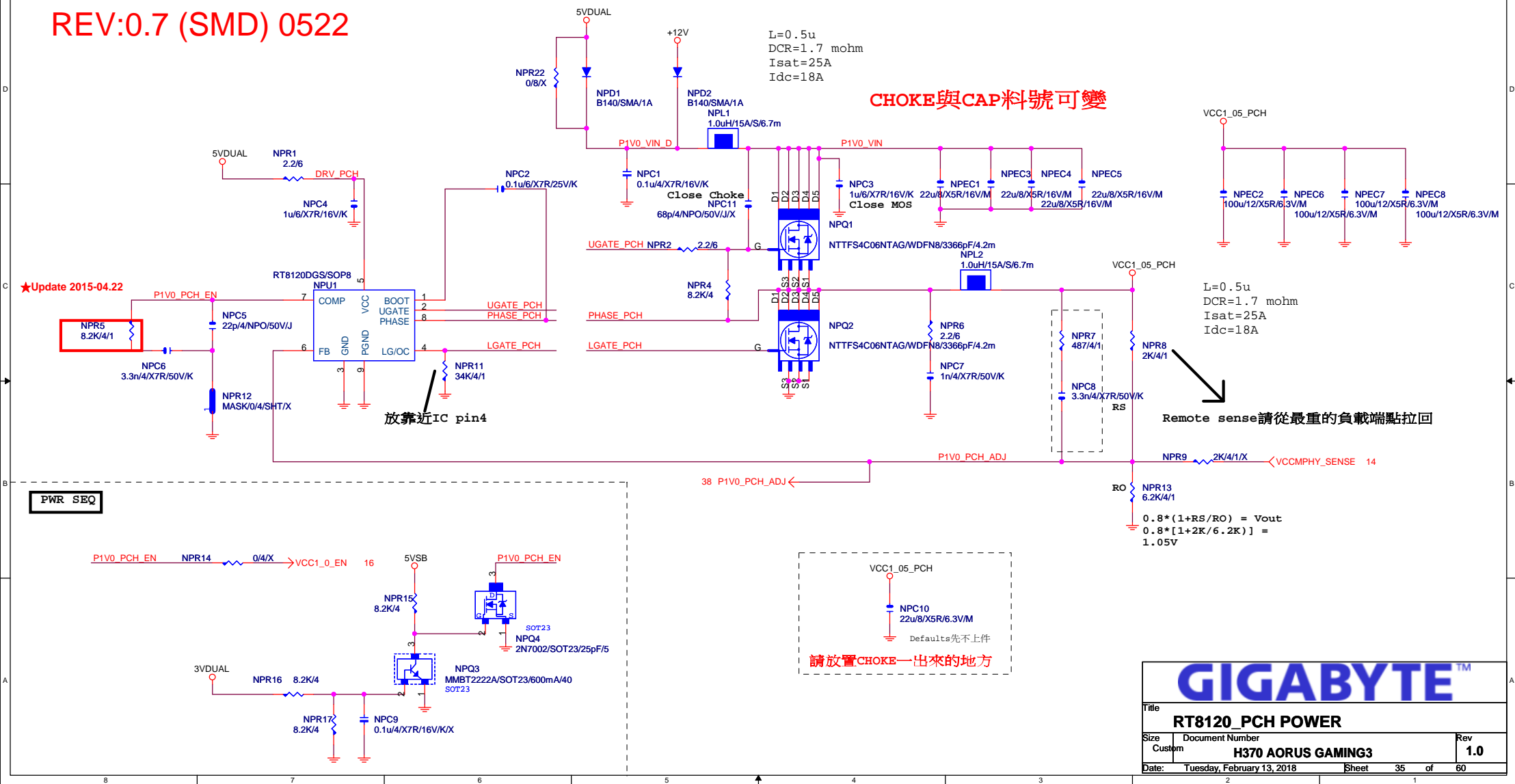


www.teknisi-indonesia.com

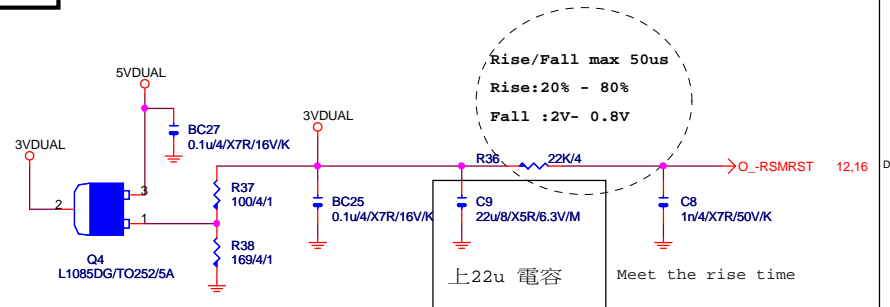
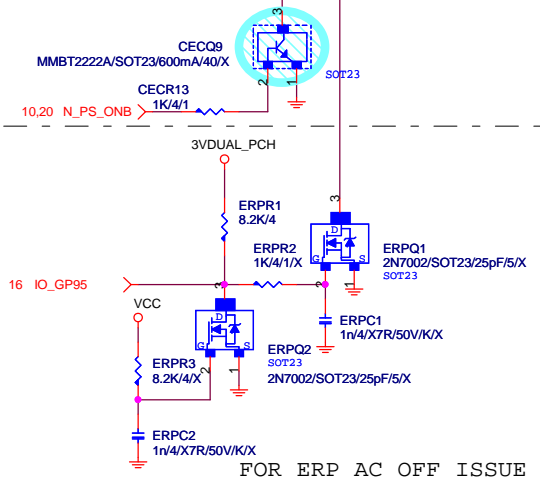
GIGABYTE™

Title RT8120_VPP25 POWER			
Size Custom	Document Number H370 AORUS GAMING3	Rev 1.0	
Date: Tuesday, February 13, 2018	Sheet 34	of 60	

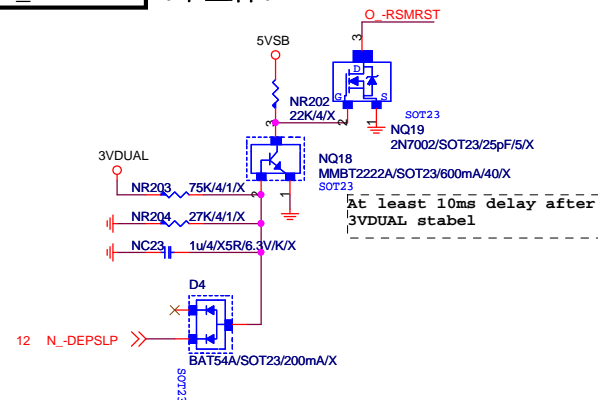
REV:0.7 (SMD) 0522



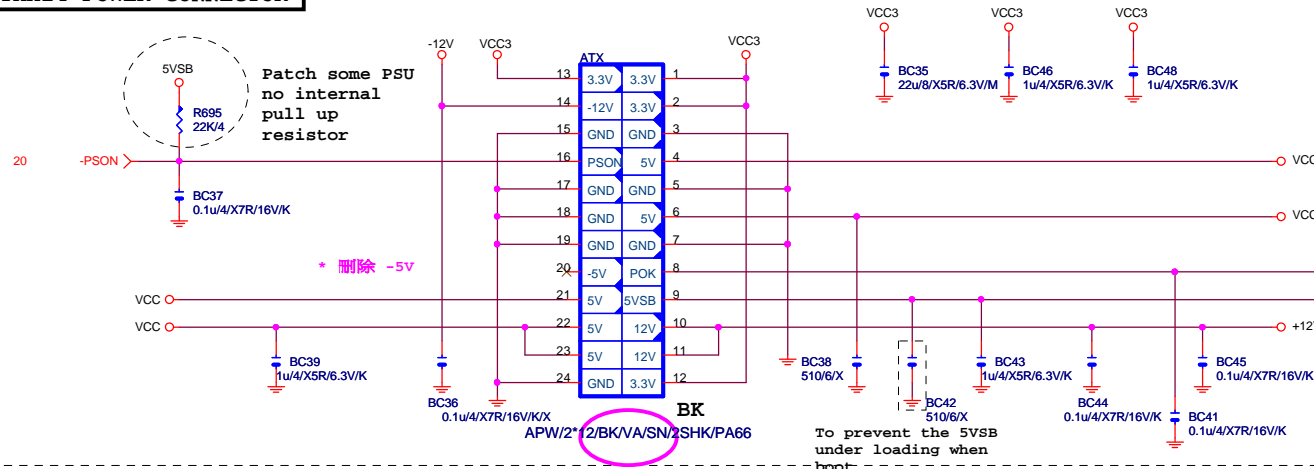
20 5VAUX_SW



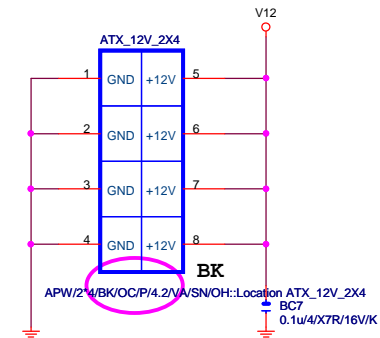
O_-RSMRST (不上件)



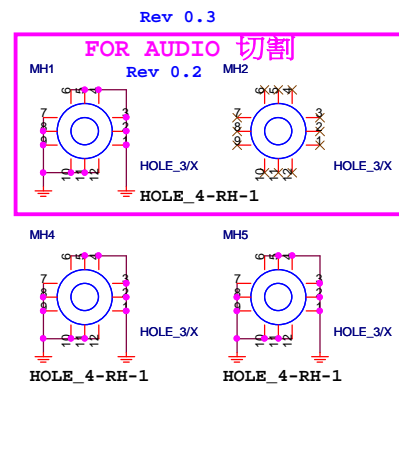
ATXX24 POWER CONNECTOR



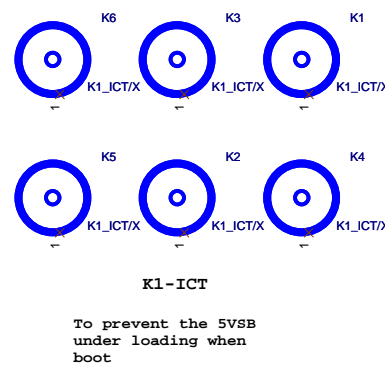
ATXX4 POWER CONNECTOR



螺絲孔

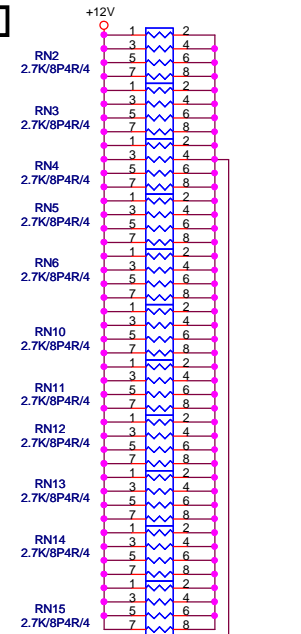


固定孔/光學點

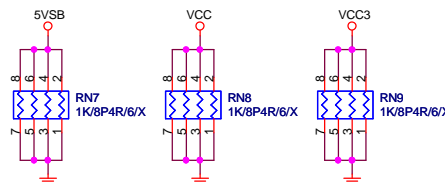


+12V DUMMY LOAD

To fix 12V light load abnormal issue



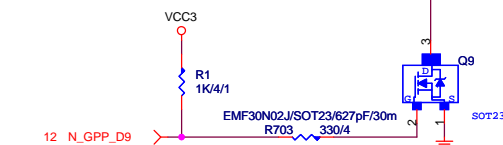
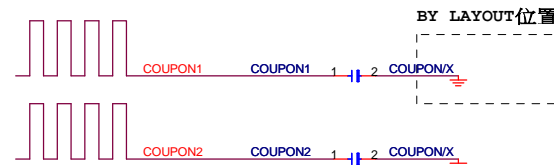
DUMMY LOAD



-PROHOT

4.16 A_PROCHOT <-> A_PROCHOTR2 MASK/0/4/SHT/M/X >-> VR_HOT 29

COUPON

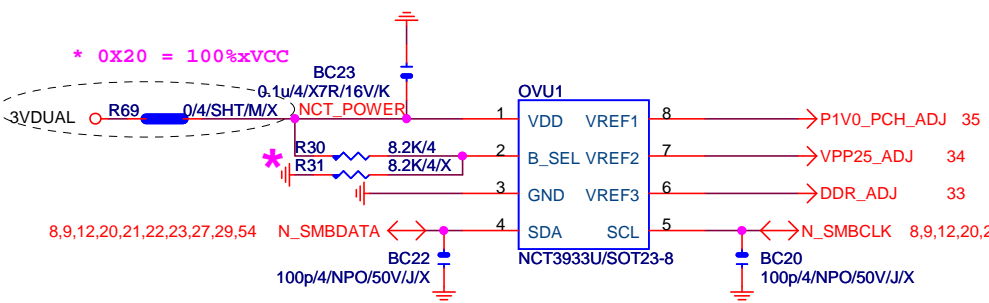


Gigabyte Technology

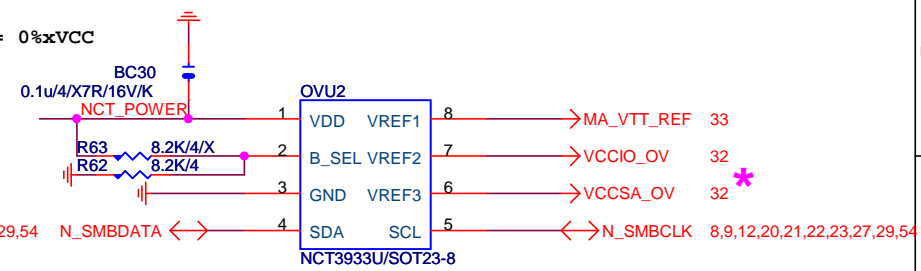
Title			ATX POWER CONNECTOR
Size	Document Number		Rev
Custom			1.0
Date:	Tuesday, February 13, 2018	Sheet	37 of 60

H370 AORUS GAMING3

OVER VOLTAGE



0X2A = 0%xVCC



0X22 = 75%xVCC

* 删除 OVU3

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

Gigabyte Technology

TitleCPU CORE VR-2

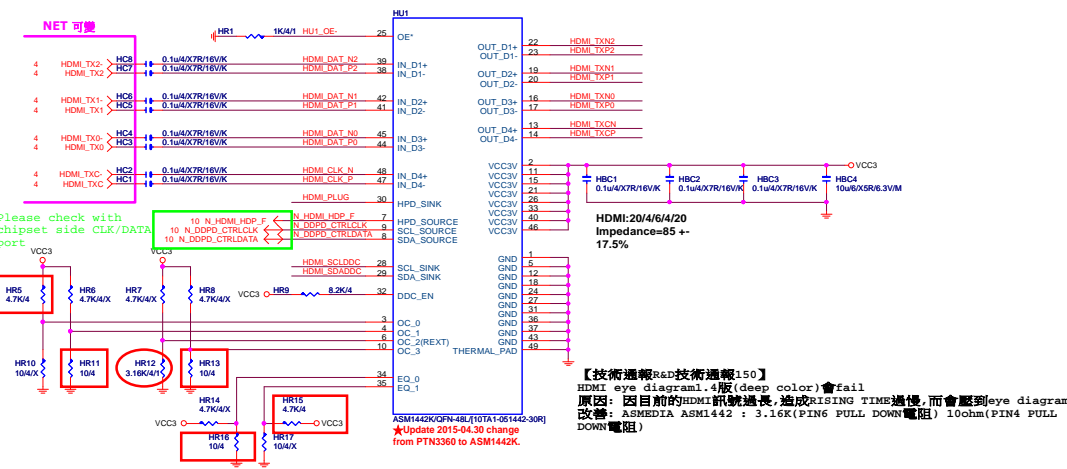
SizeCustom

Document Number

Rev1.0

H370 AORUS GAMING3

Date: Tuesday, February 13, 2018Sheet 38 of 60



NET 可變

Please check with chipset side CLK/DATA port

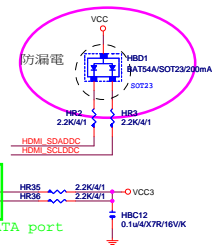
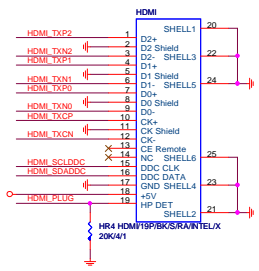
PTN3360: PIN 4/10/34/35 NC PIN, 都不上值; 只上HR12:10K

ASM1442: 紅色框要上, HR12:3.16K

【技術通報R&D技術通報150】
HDMI eye diagram 1.4版(deep color)會fail
原因: 因目前的HDMI訊號過長, 造成RISING TIME過慢, 而會壓到eye diagram
改善: ASMEDIA ASM1442 : 3.16K(PIN6 PULL DOWN電阻) 10ohm(PIN4 PULL DOWN電阻)

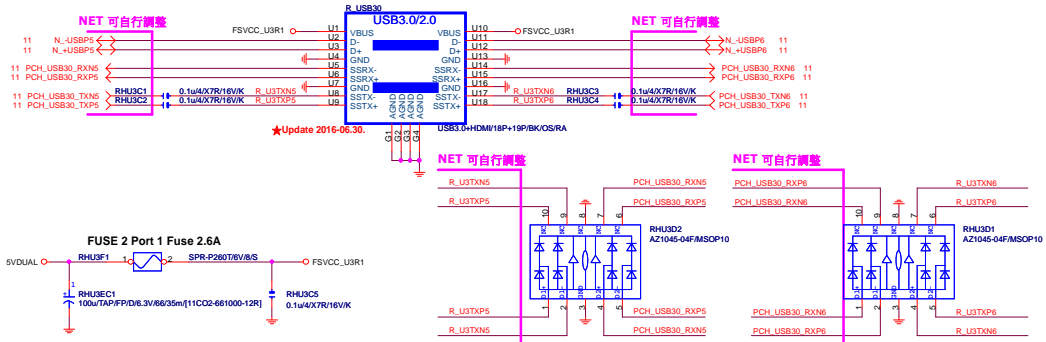
★Update 2015-04-30 change from PTN3360 to ASM1442K

Power 自行調整

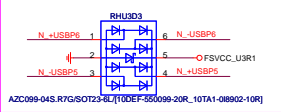


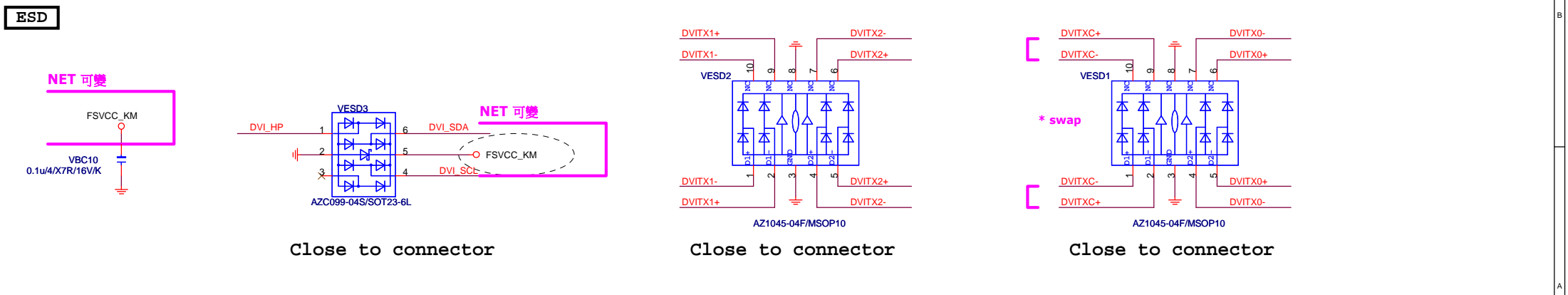
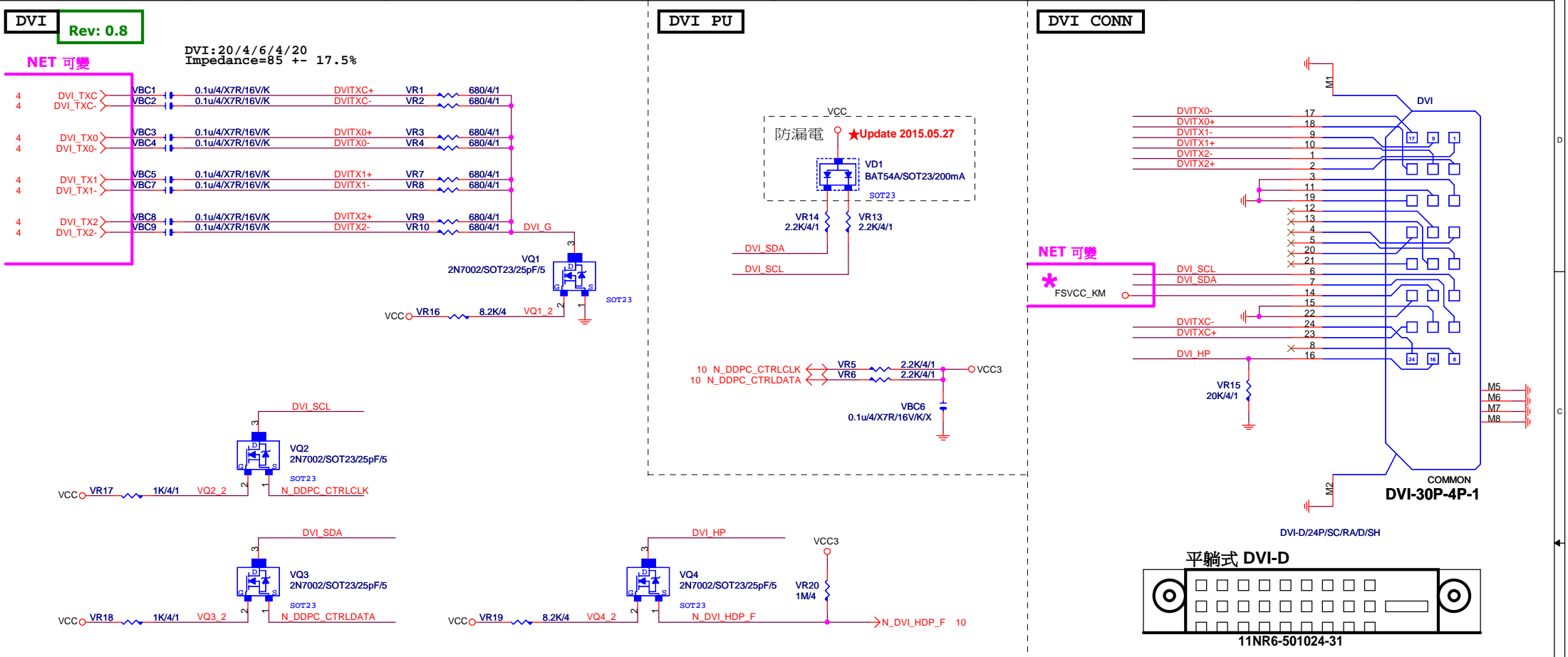
Please check with chipset side CLK/DATA port

ESD 可自行SWAP PIN ,CONN端 NET 名稱 不可



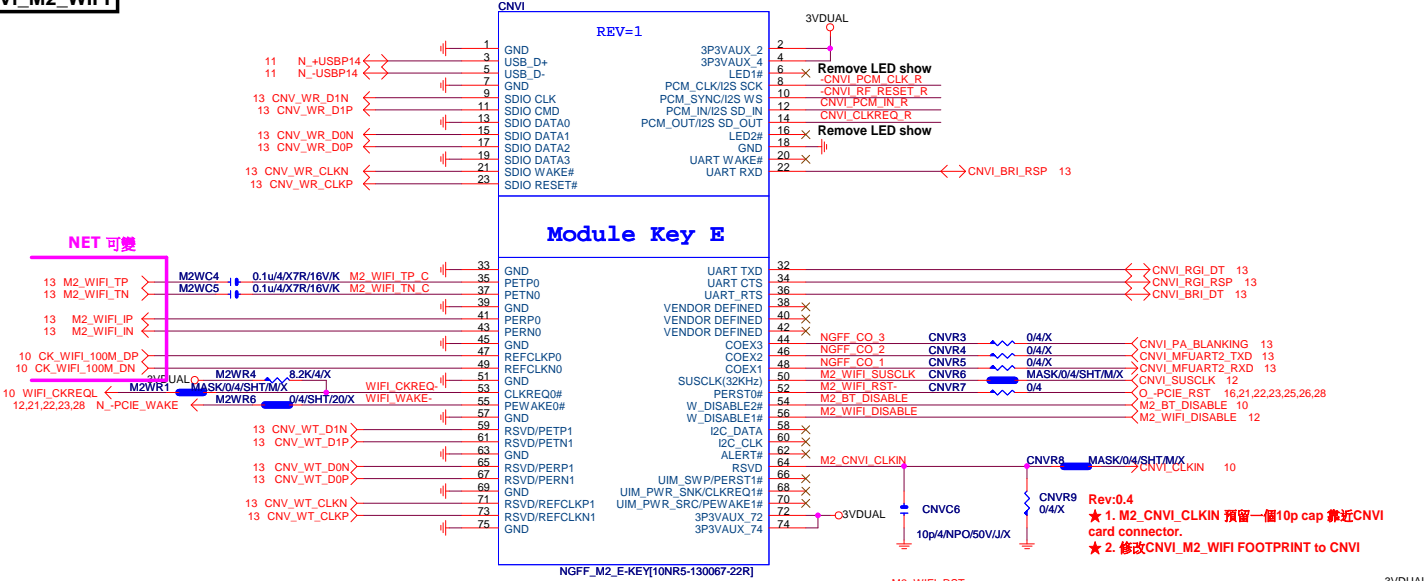
NET 可自行調整





CNVi_M2_WIFI

不支援PCIE介面WIFI及USB介面BT



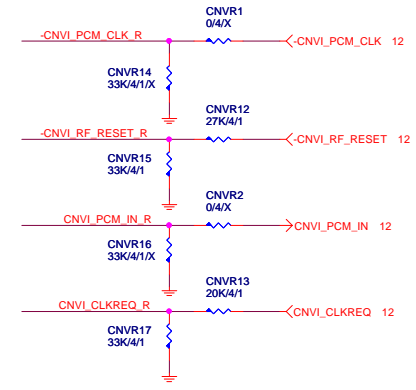
直立
Footprint Notice.

★Update 2015-07-22
★Footprint for 直立式 SMD:
WIFI-EKEY
★SMD P/N: 直立式
10NH5-130067-11R.

橫躺
Footprint Notice.

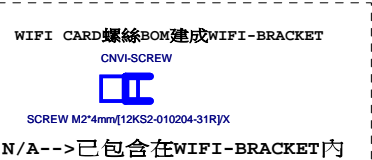
★Update 2015-07-22
★Footprint for 橫躺式高:
NGFF-E-75P-3
★Footprint for 橫躺式矮:
NGFF-E-75P-2
★橫躺式高SMD
P/N:10NR5-130067-61R
★橫躺式矮SMD
P/N:10NR5-130067-22R

Rev:0.6
★ 1. Fix CNVi card can't be detected issue.
★ 2. Voltage division to 1.8V

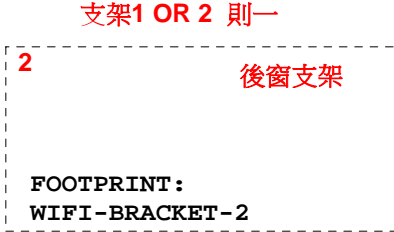
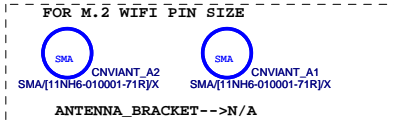


teknisi-indonesia.com

FOR M.2 WIFI MODULE ON BOARD



10WP4-009560-20R
AC9560 :Jefferson Peak2230



DIP螺絲

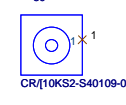


橫躺SMD M.2 矮 OR 高則一

DIP螺絲

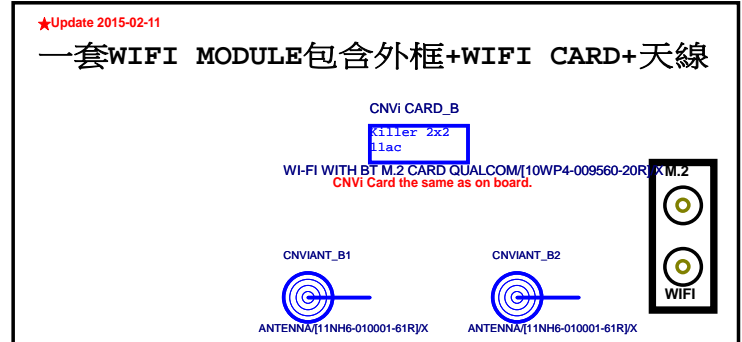


SMD螺柱



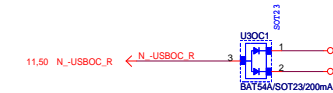
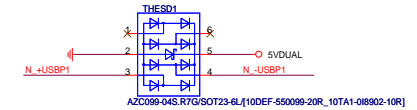
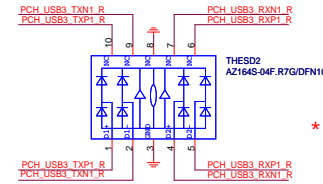
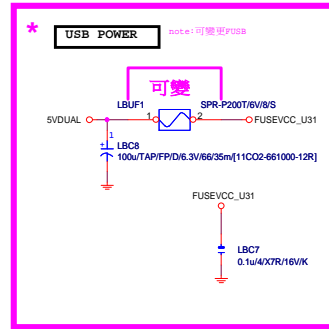
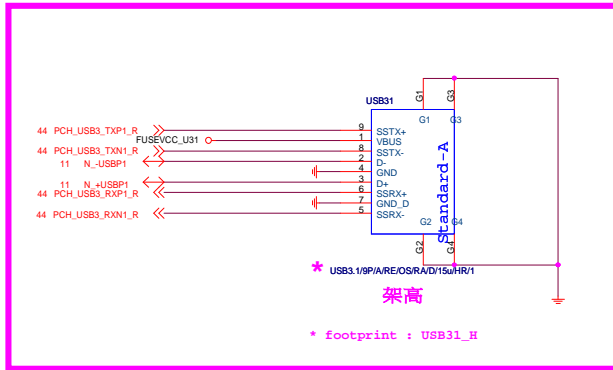
SMD螺柱

FOR M.2 WIFI MODULE @ REAR PANEL

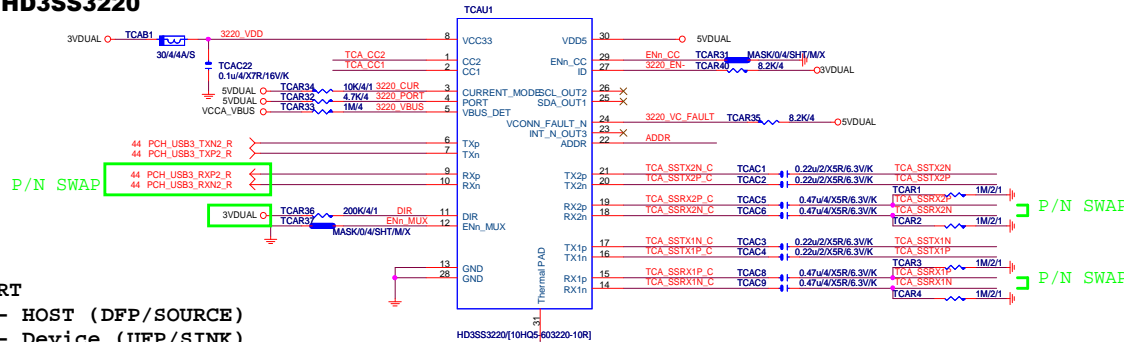


GIGABYTE™			
Title CNVi_M2_WIFI			
Size Custom	Document Number H370 AORUS GAMING3	Rev 1.0	
Date: Tuesday, February 13, 2018	Sheet 42	of 60	

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



TI HD3SS3220

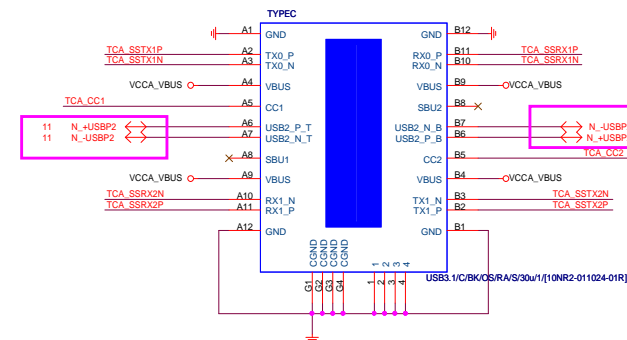


PORT

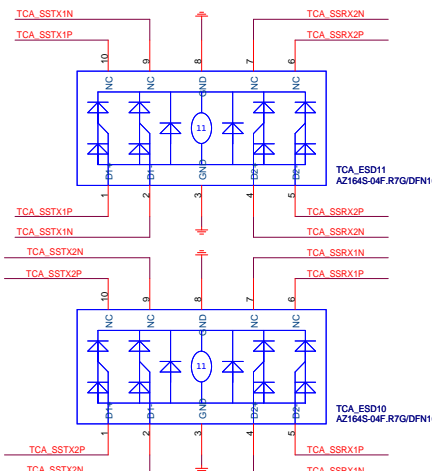
H - HOST (DFP/SOURCE)
L - Device (UFP/SINK)
NC - Dual Role (DRP)

CURRENT MODE

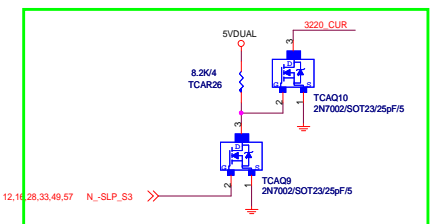
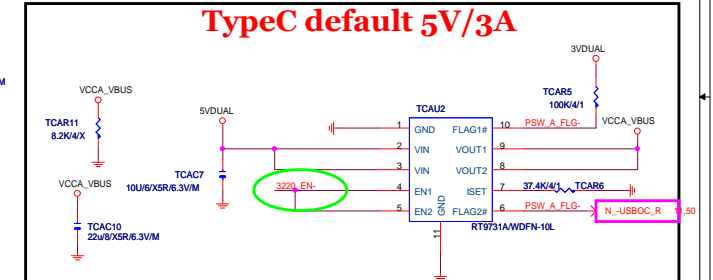
L - Default (900mA) / Pull down to GND or NC
M - Medium (1.5A) / Pull up to VDD 500K
H - High (3.0A) / Pull up to VDD 10K



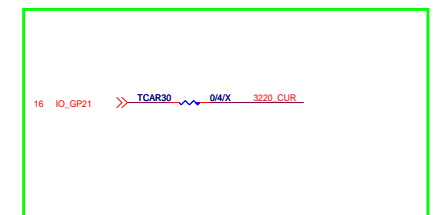
Color markers can be changed by model



TypeC default 5V/3A

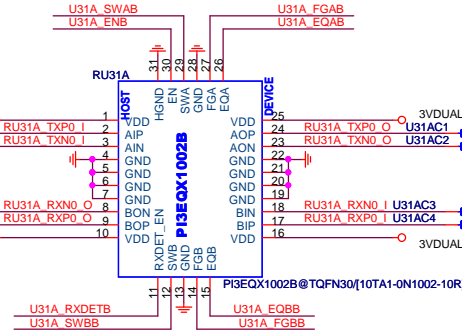
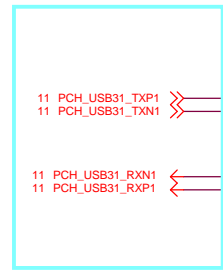


For VBUS current limit at 900mA on S3

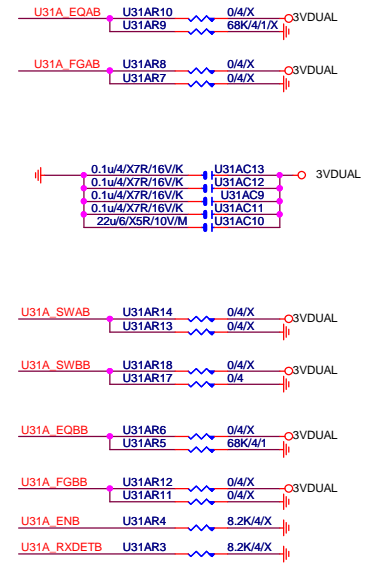
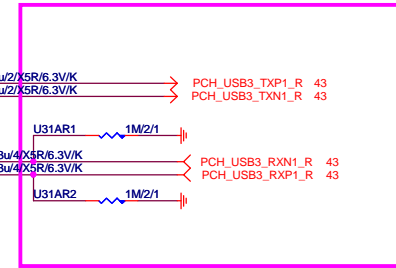


Gigabyte Technology	
Title	R_USB30,USB_OC
Size	Document Number
P	H370 AORUS GAMING3
Date	Tuesday, February 13, 2018
Sheet	43 of 60
Rev	1.0

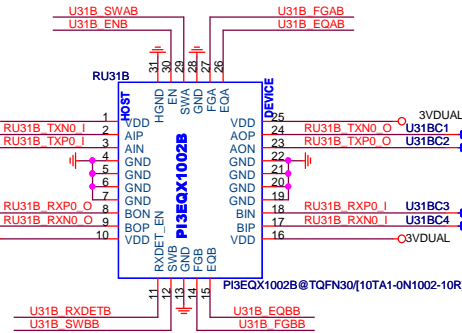
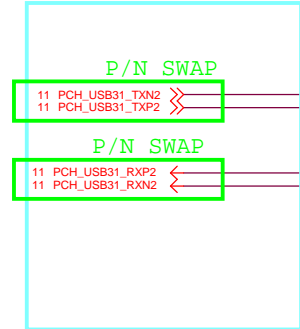
PCH Site



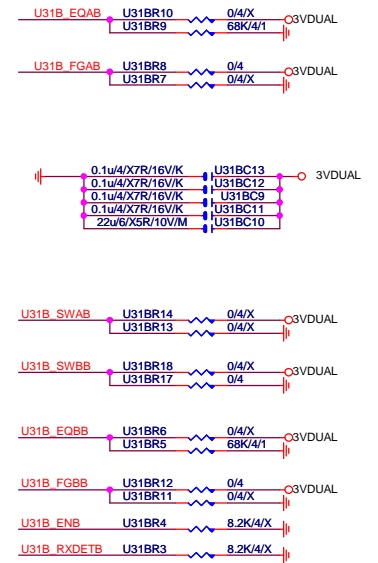
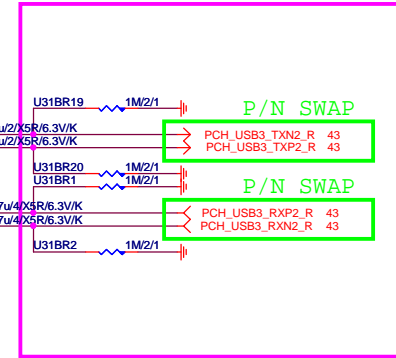
USB-A Connector Site



PCH Site

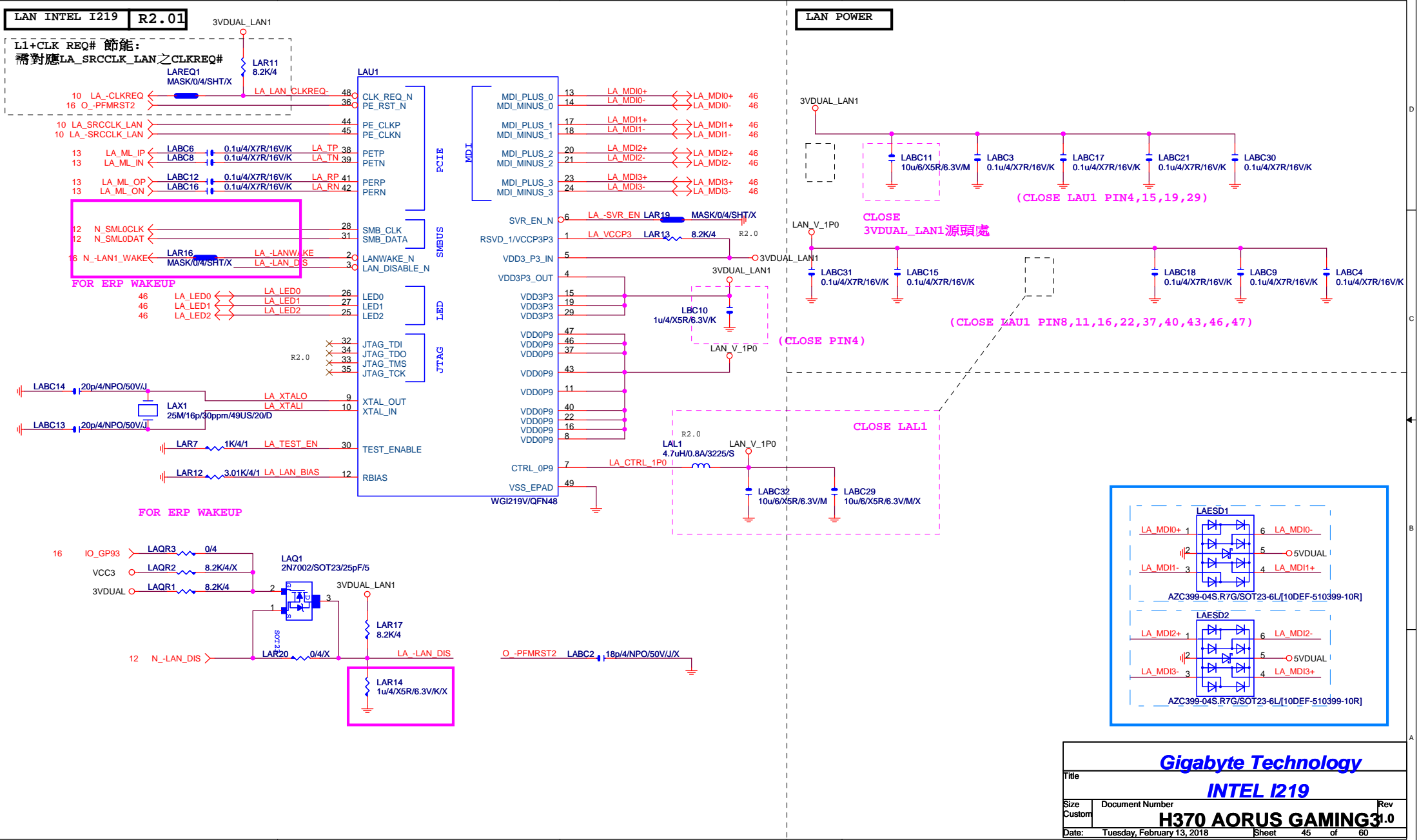
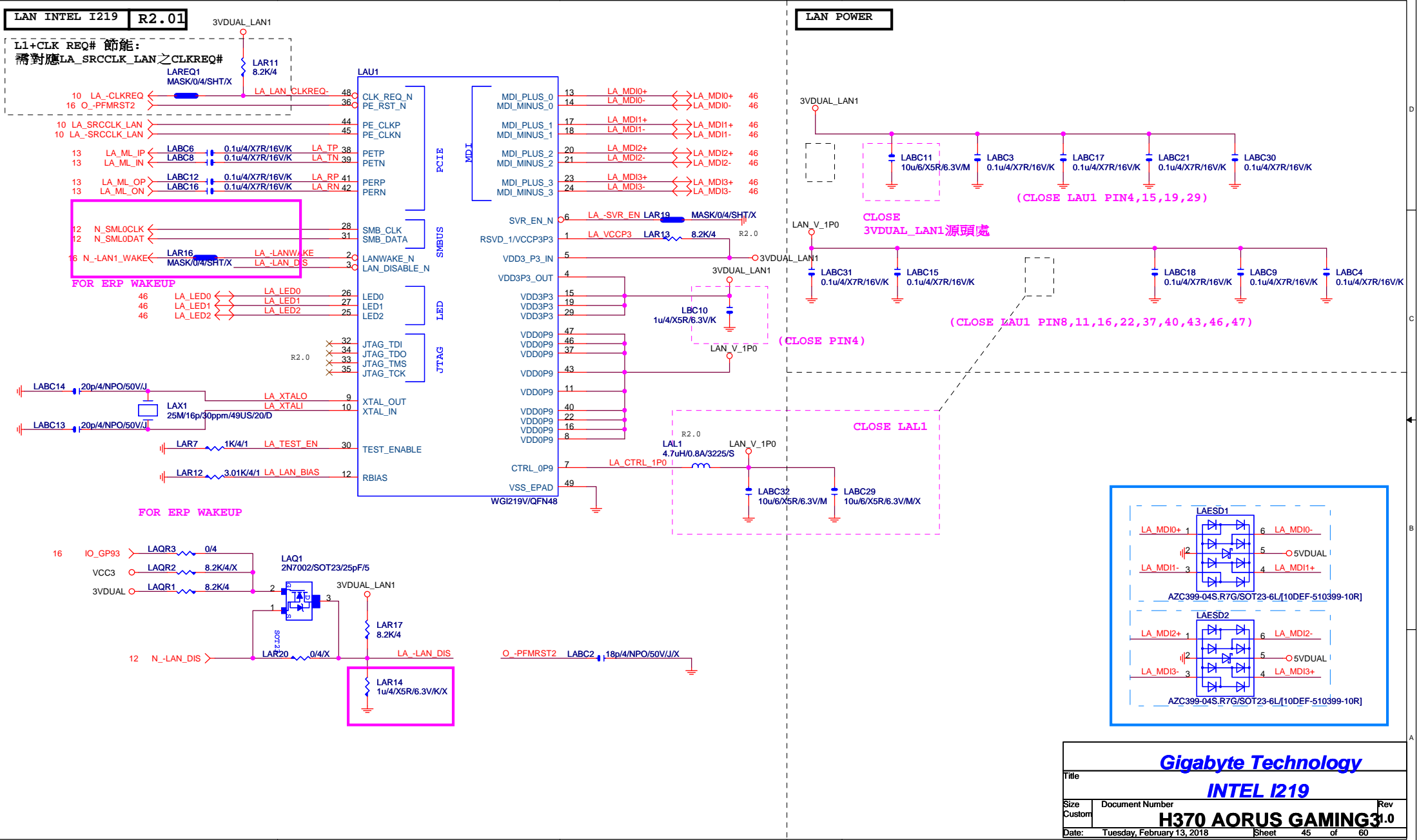


USB-C Connector Site



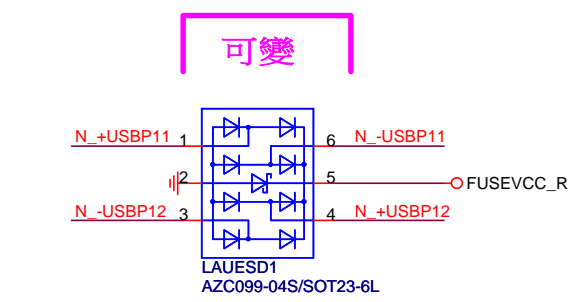
GIGABYTE™

Title	PI3EQX1002B Redriver/DC-J		
Size	Document Number	H370 AORUS GAMING3	Rev 1.0
Date:	Tuesday, February 13, 2018	Sheet 44	of 60

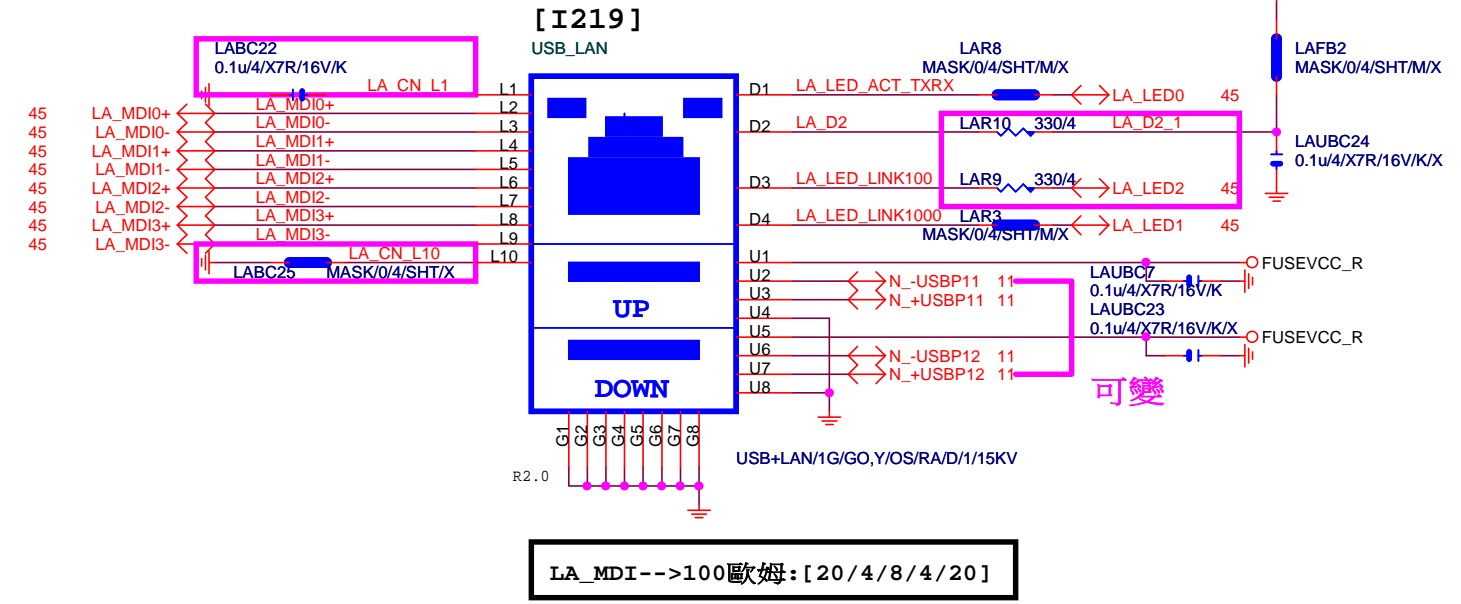


USB_LAN CONNECTOR R2.02

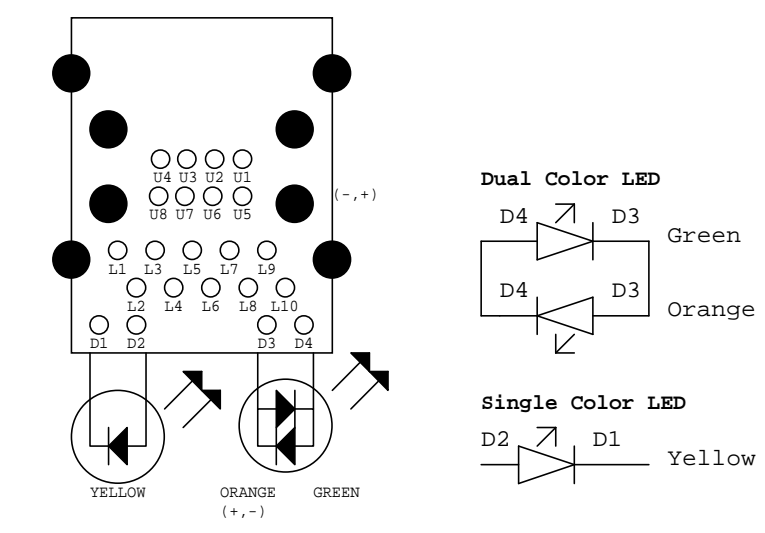
RMA ESD PROTECT note:可變更USB NAME



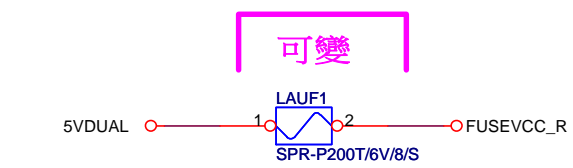
USB_LAN CONNECTOR note:可變更USB NAME



USB_LAN LAYOUT示意圖



USB POWER note:可變更FUSE

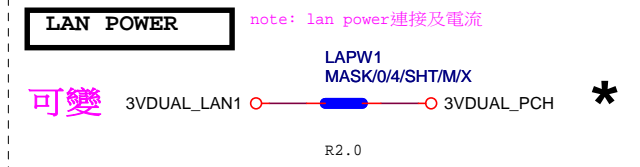


Close to connector
USB_LAN 2-Port 2.0A
FUSE-0805

LAN_COVER FOOT PRINT:LAN_COVER

可變
[視SPEC需求]

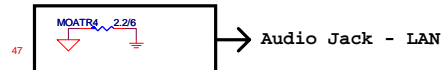
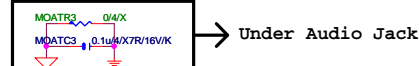
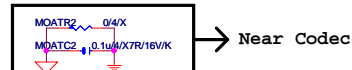
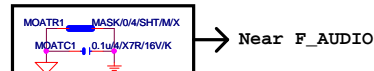
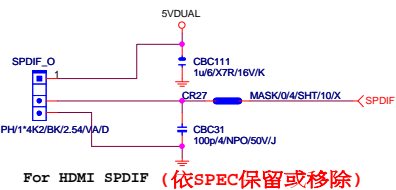
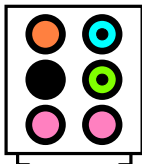
EMI SHORT PAD



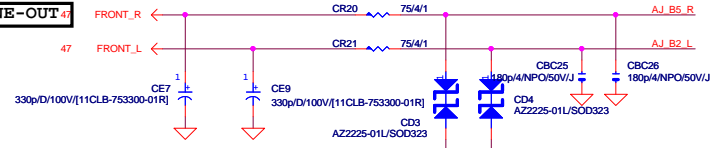
Gigabyte Technology			
LAN CONNECTOR-I219			
Size	Document Number		Rev
Custom	H370 AORUS GAMING3		1.0
Date:	Tuesday, February 13, 2018	Sheet	46 of 60

Rev 2.04

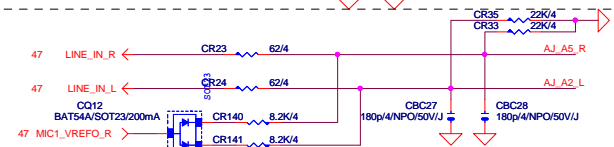
AZALIA JACK



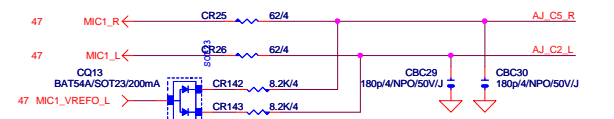
LINE-OUT



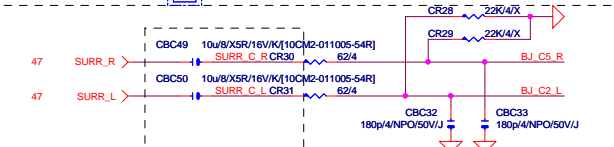
LINE-IN



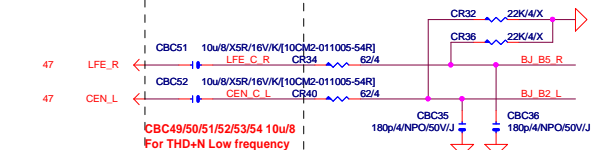
MIC-IN



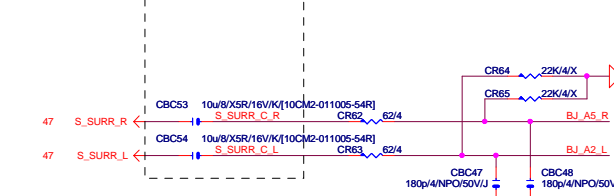
SURROUND



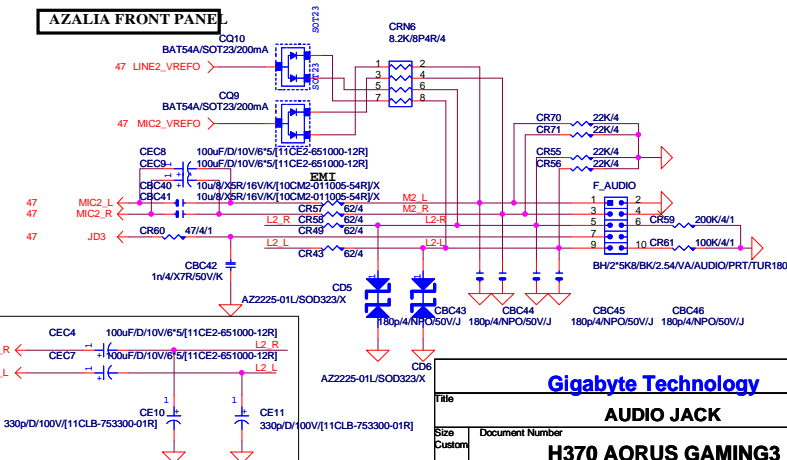
CEN/LFE



SURR BACK



AZALIA FRONT PANE

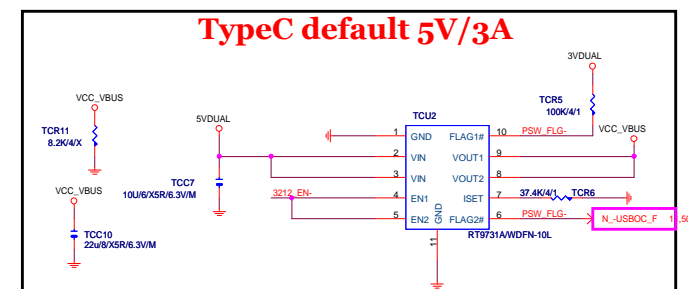


Gigabyte Technology

AUDIO JACK

File	Document Number	Rev
Size	Custom	H370 AORUS GAMING3
Date	Tuesday, February 13, 2018	1.0

TypeC default 5V/3A



PORT

H - HOST
L - Device
NC - Dual Role

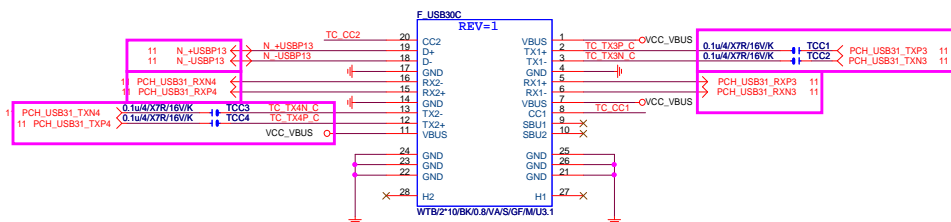
5V DUAL

8.2K/4
TCR27

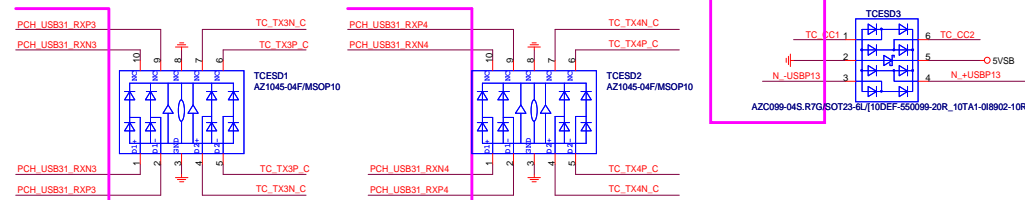
TCQ12
2N7002/SOT23/25pF/5

TCQ11
2N7002/SOT23/25pF/5


321 CUR

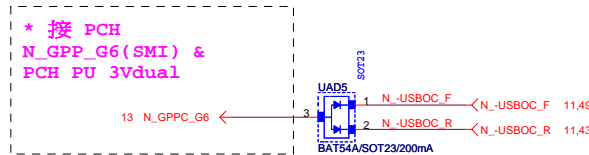
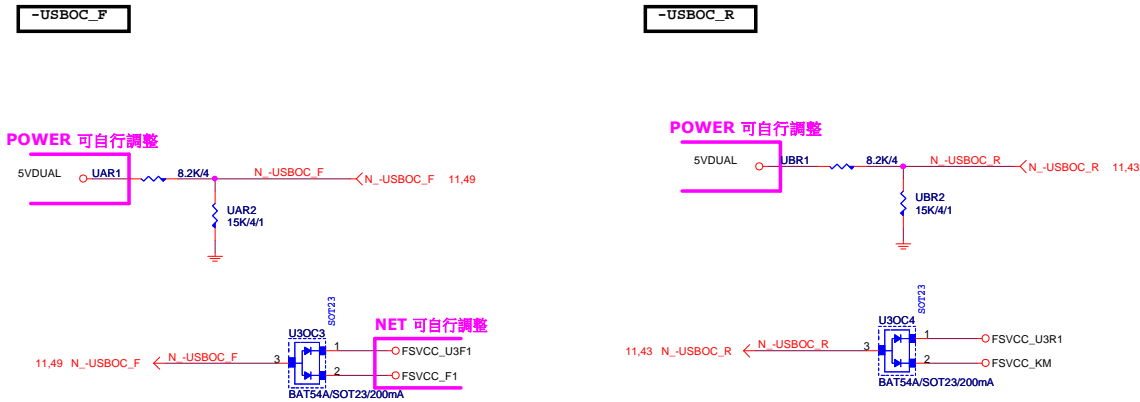
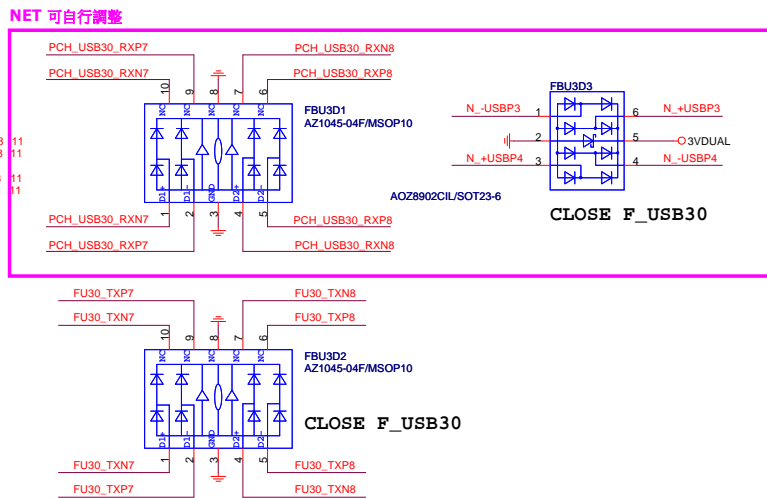
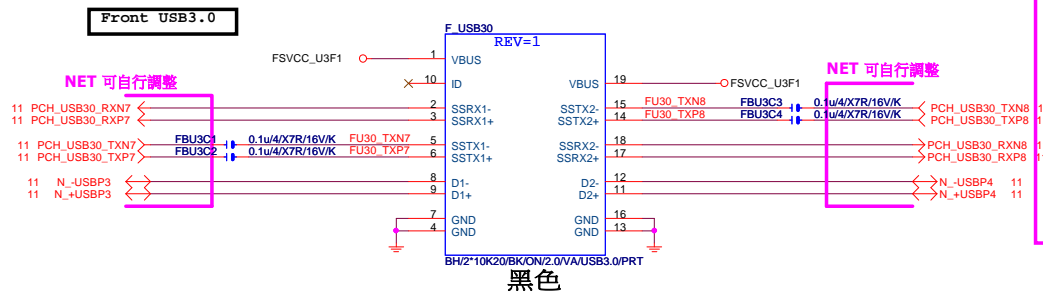


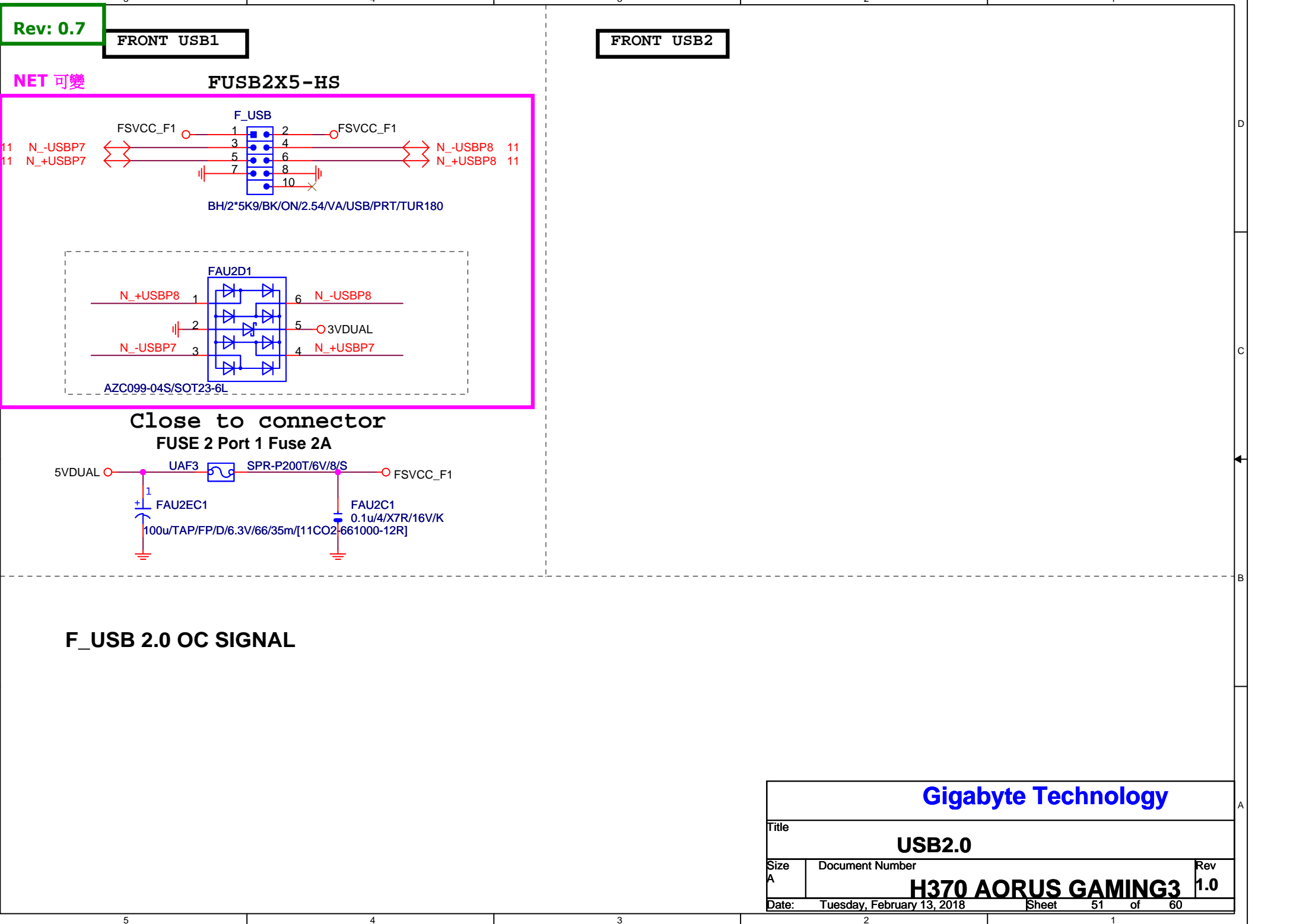
USB2.0 can be used the same source



Color markers can be changed by model

			
Title			
TI TUSB321			
Size	Document Number	Rev	
C	H370 AORUS GAMING3	1.0	
Date:	Tuesday, February 13, 2018	Sheet	49 of 60





Close to connector

FUSE 2 Port 1 Fuse 2A

5VDUAL

1

FAU2EC1

100u/TAP/FP/D/6.3V/66/35m[11CO2-661000-12R]

UAF3

SPR-P200T/6V/8/S

FAU2C1

0.1u/4/X7R/16V/K

FSVCC_F1

F_USB 2.0 OC SIGNAL

Gigabyte Technology

Title

USB2.0

Size A

Document Number

H370 AORUS GAMING3

Rev

1.0

Date:

Tuesday, February 13, 2018

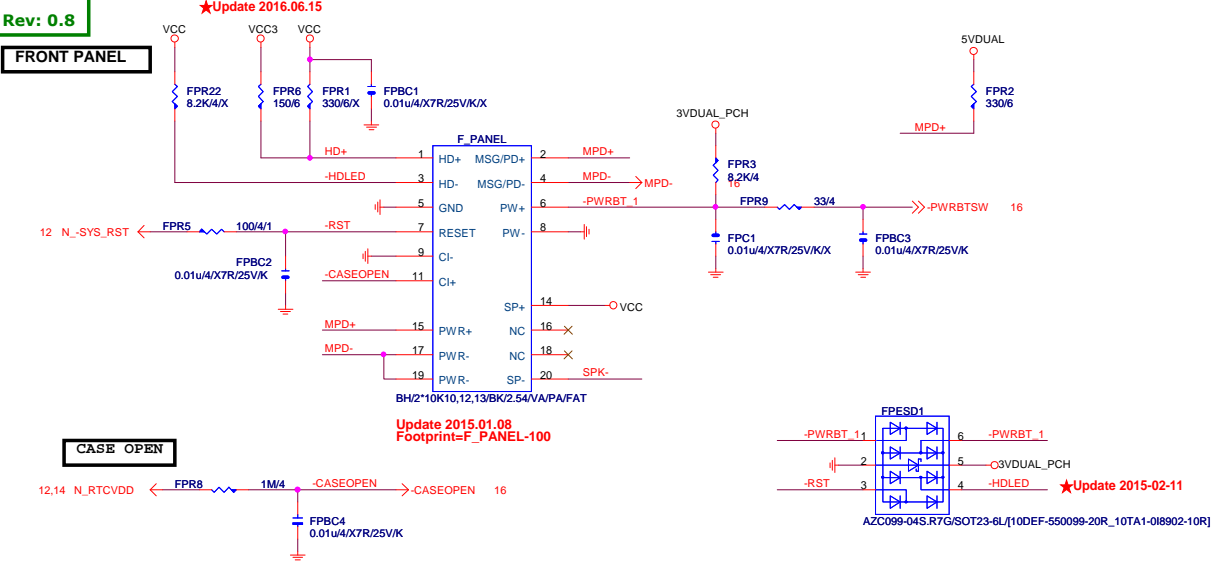
Sheet

51

of

60

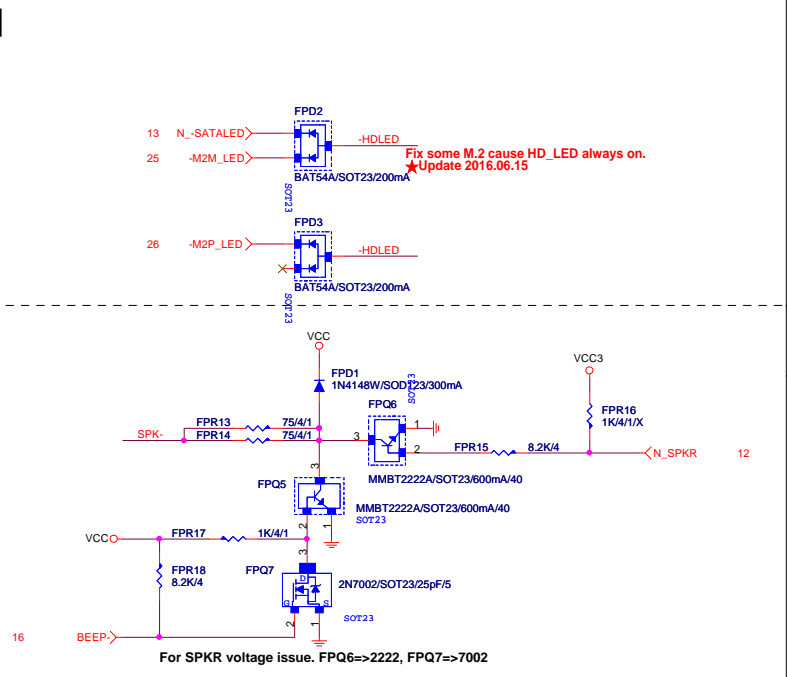
FRONT PANEL



FRONT PANEL SHORT

SATA/M.2 LED

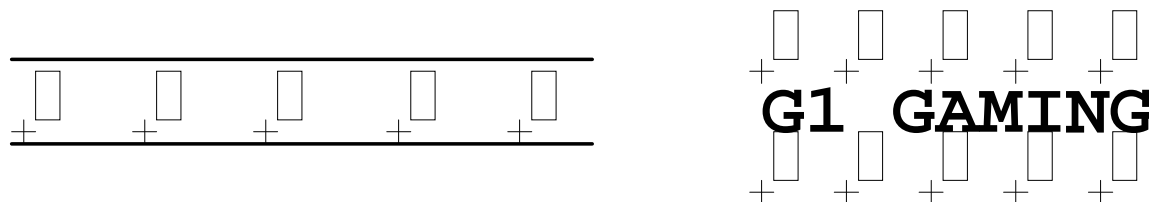
SPKR



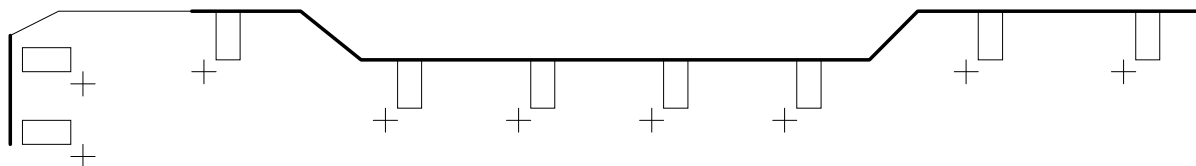
RGB LED LAYOUT 注意事項：

1. Debug LED (各LED依CPU/DRAM/VGA/BOOT個別位置擺放)
2. 背板 RGB LED 方向整板請統一如下
(整板正極可統一朝下或朝上)
3. 正板 RGB LED 統一方向即可
4. MCU_PW & MCU_PW33電源一律走20mils
5. ECF1,ECF2,ECF3,ECF5 兩端電源走80mils或用鋪銅方式加粗
6. MCU LED 出pin的走線4mils,如:LED_R_1,LED_G_1,LED_B_1
7. LED RGBW rule :W/S=10/5 mils 如:LED_R_11,LED_G_11,LED_B_11..
(包含從晶體到排阻到LED的net)
8. Digital LED NET rule W/S=4/8 mils
GPD0_SDA_B,GPD0_SDA_BB,GPD0_SDA_C,GPD0_SDA_CC

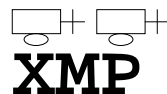
PCB板邊透光model name鏤空+背面 RGB LED



Audio Ground切割線+背面 RGB LED

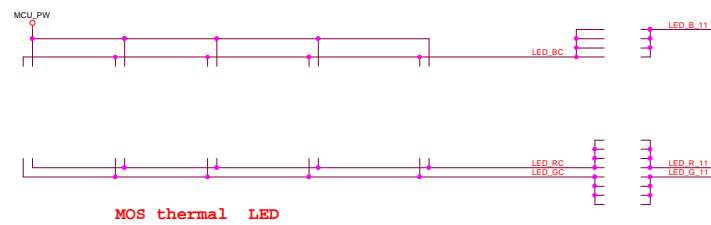


"XMP"字樣鏤空+背面 RGB測發光 LED



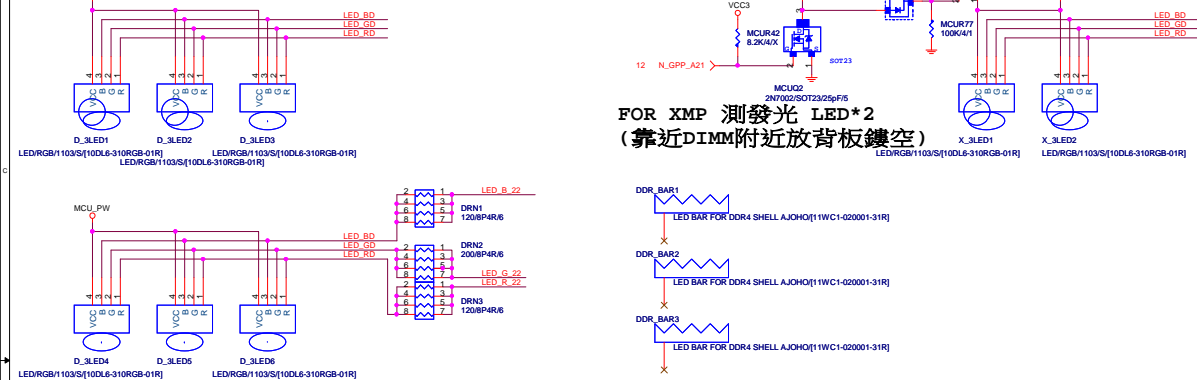
GIGABYTE™			
Title LAYOUT GUIDE			
Size	Document Number	Rev	
Custom	H370 AORUS GAMING3	1.0	
Date: Tuesday, February 13, 2018	Sheet	53	of 60

第一區 LED FOR CPU 正發光 LED*4 (在CPU CHOKE之間,MOS_HS下方,不外露)



第二區 LED

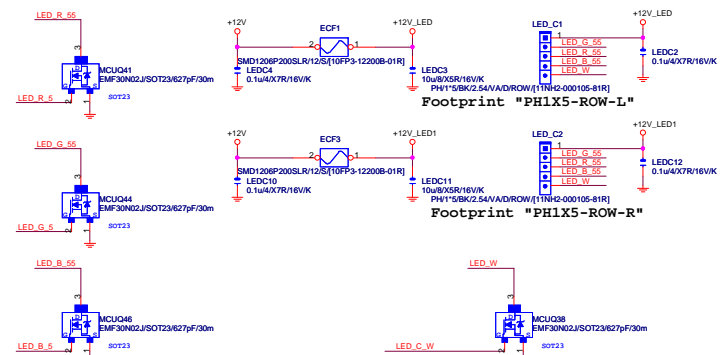
FOR DIMM 側發光 LED*12
(位置在DIMM兩側)



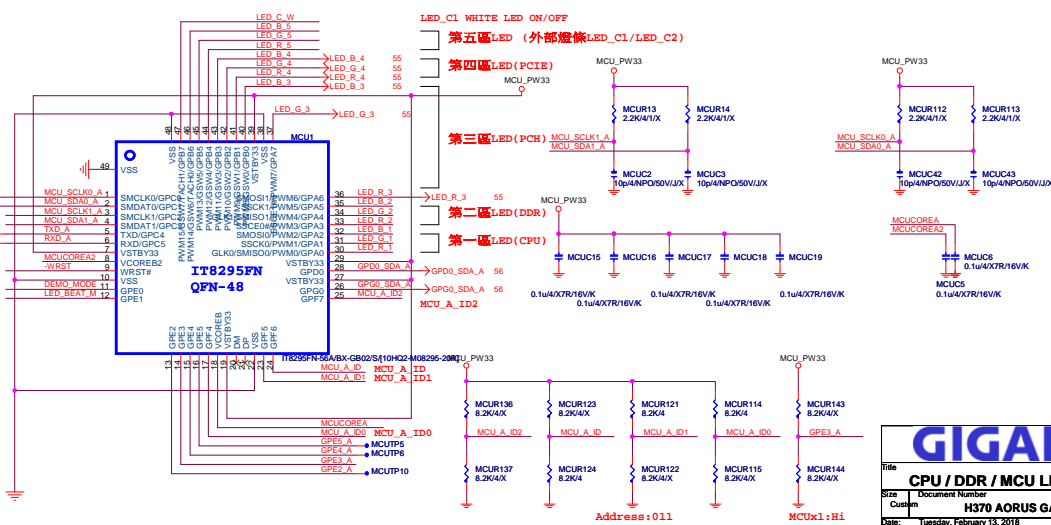
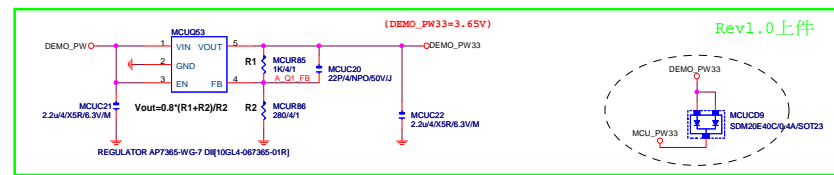
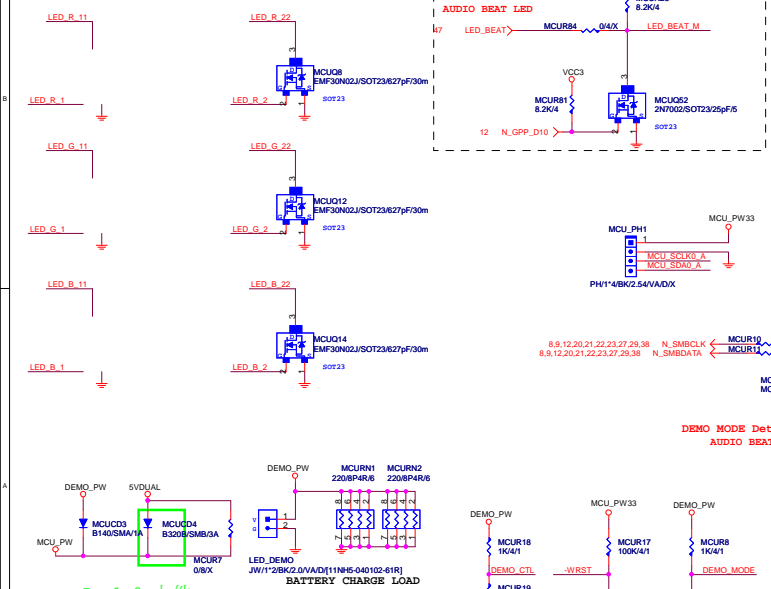
第五區 LED

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)



第一區 LED CONTROL 第二區 LED CONTROL

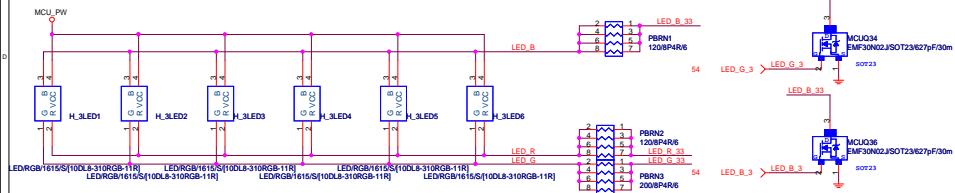
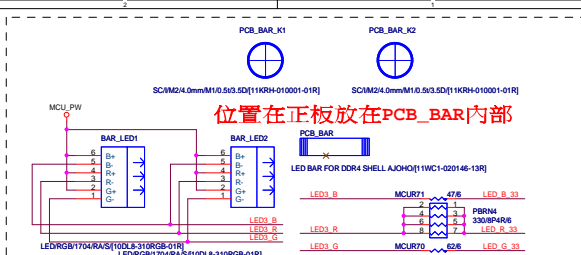
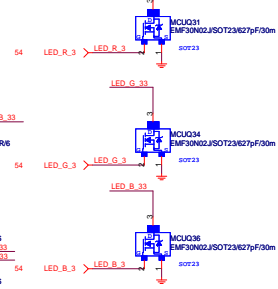


N_GPP_A17	CPU DEBUG
N_GPP_A18	DDR DEBUG
N_GPP_A19	VGA DEBUG
N_GPP_A20	BOOT DEVICE DEBUG
N_GPP_A21	XMP LED SWITCH
N_GPP_A22	TURBO LED SWITCH
N_GPP_D12	LED_IO LED SWITCH

第三區 LED

FOR PCH 正發光 LED*4 (位置在正板,依據PCH_HS設計擺放)

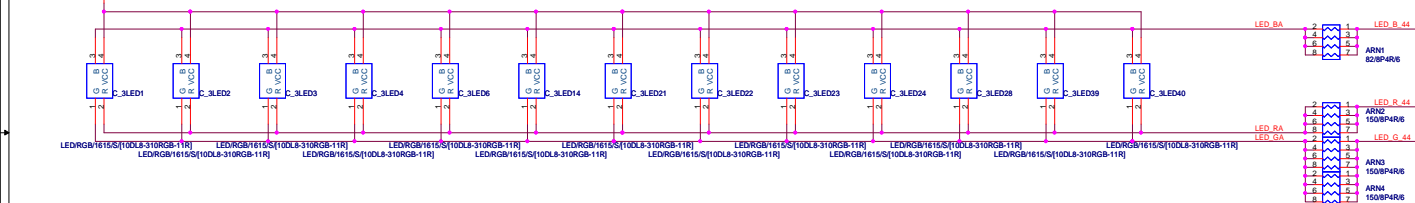
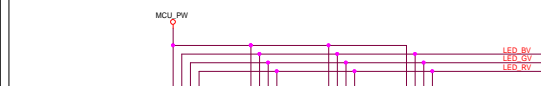
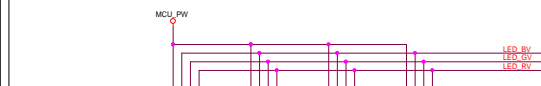
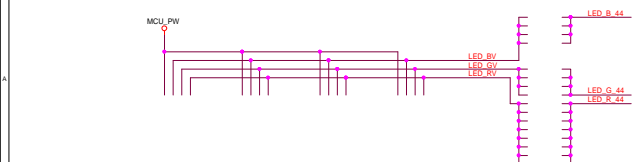
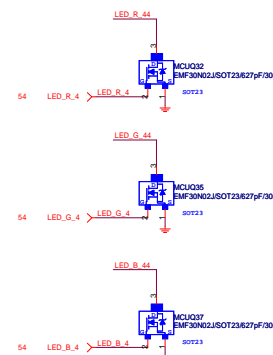
FOR PCH 正發光 LED*4 (位置在正板,依據PCH_HS設計擺放)

**第三區 LED CONTROL**

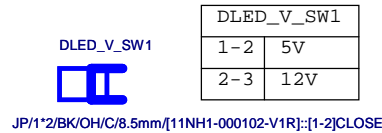
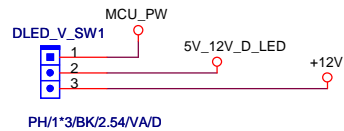
位置在正板放在PCB_BAR內部

第四區 LED

FOR AUDIO 正發光 LED*13 (位置在背板AUDIO切割線)

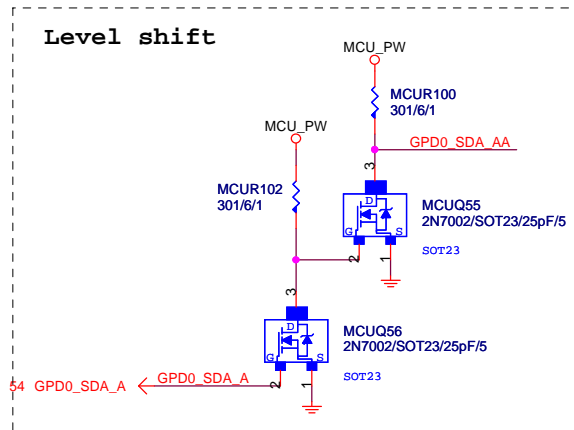
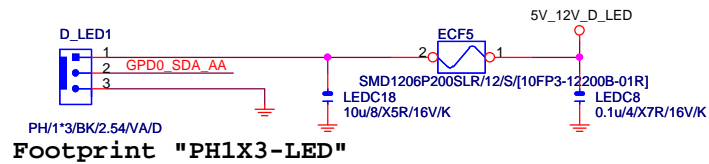
FOR PCIEX16 側發光 LED*4
(位置在PCIEX16 SLOT兩側各4顆)FOR PCIEX8 側發光 LED*4
(位置在PCIEX8 SLOT兩側各4顆)FOR PCIEX4 (PCH) 側發光 LED*4
(位置在PCIEX4 SLOT兩側各4顆)**第四區 LED CONTROL**

第六區 LED（靠近左上板邊位置）

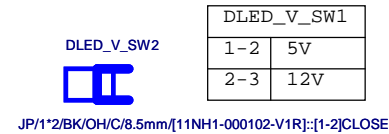
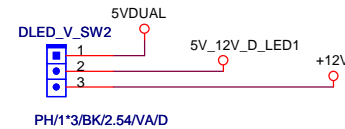


teknisi-indonesia.com

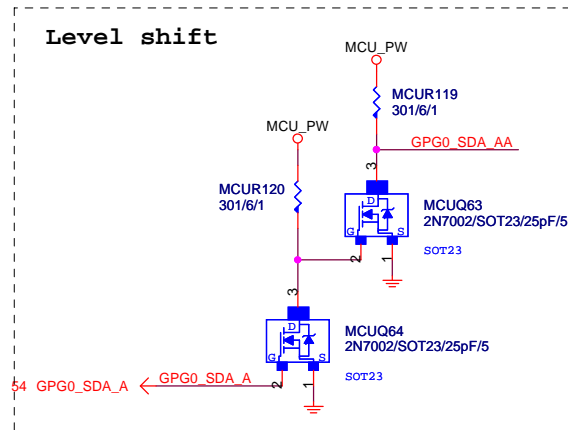
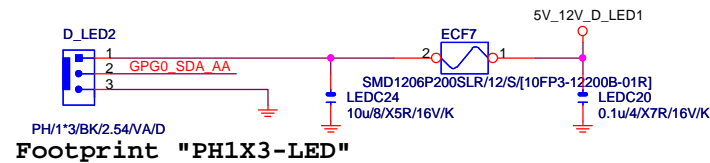
Digital LED Strip1

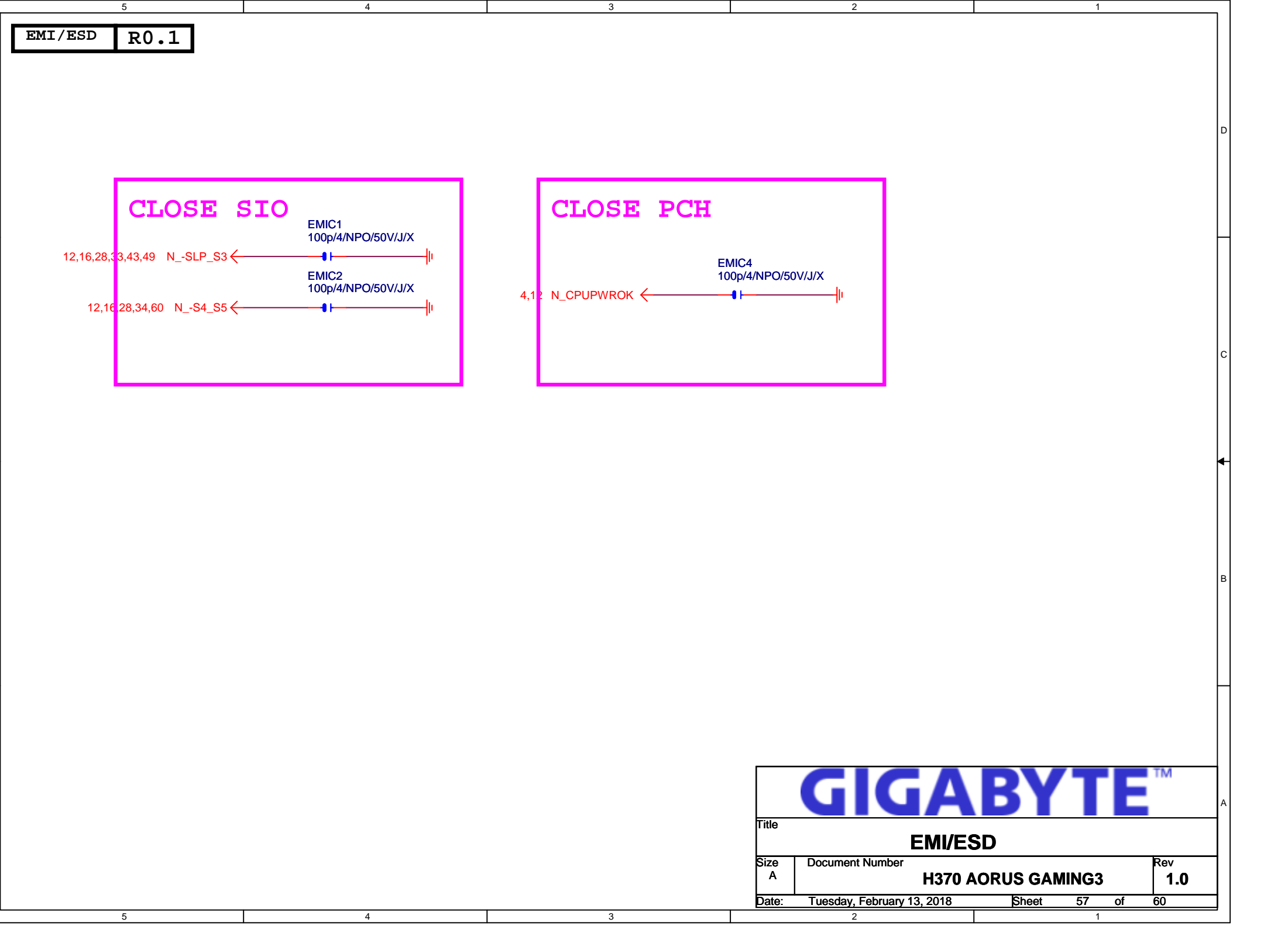


第七區 LED（靠近右下DDR板邊位置）



Digital LED Strip2





CLOSE SIO

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

12,16,28,33,43,49 N_-SLP_S3 ←

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

12,16,28,34,60 N_-S4_S5 ←

CLOSE PCH

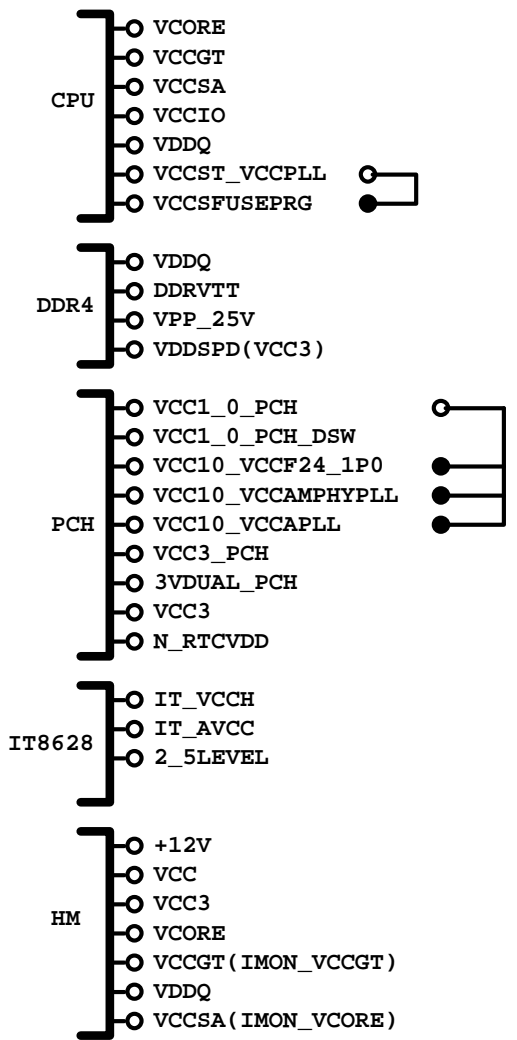
EMIC4
100p/4/NPO/50V/J/X

4,12 N_CPUPWROK ←

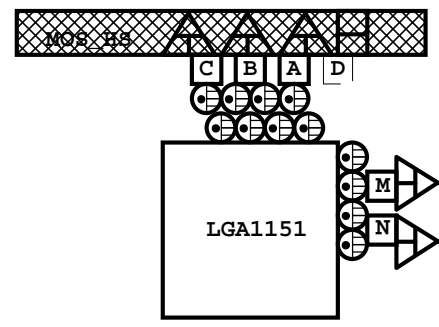
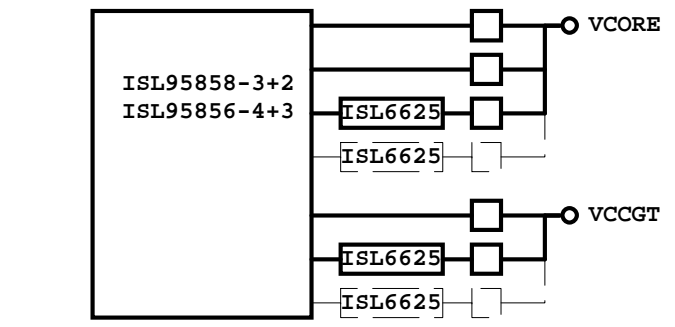
GIGABYTE™

Title		
EMI/ESD		
Size A	Document Number H370 AORUS GAMING3	Rev 1.0
Date:	Tuesday, February 13, 2018	Sheet 57 of 60

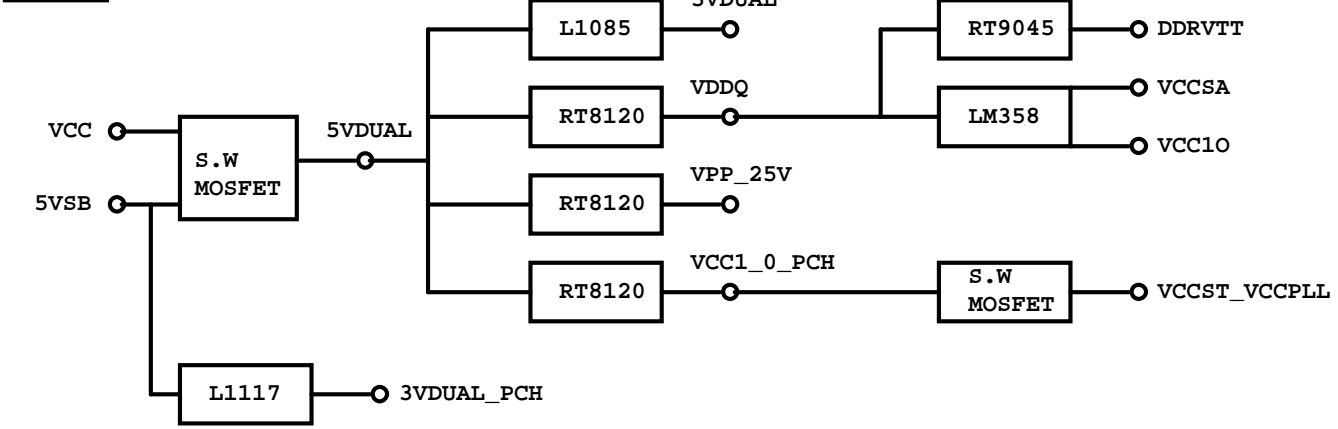
POWER BLOCK MAP



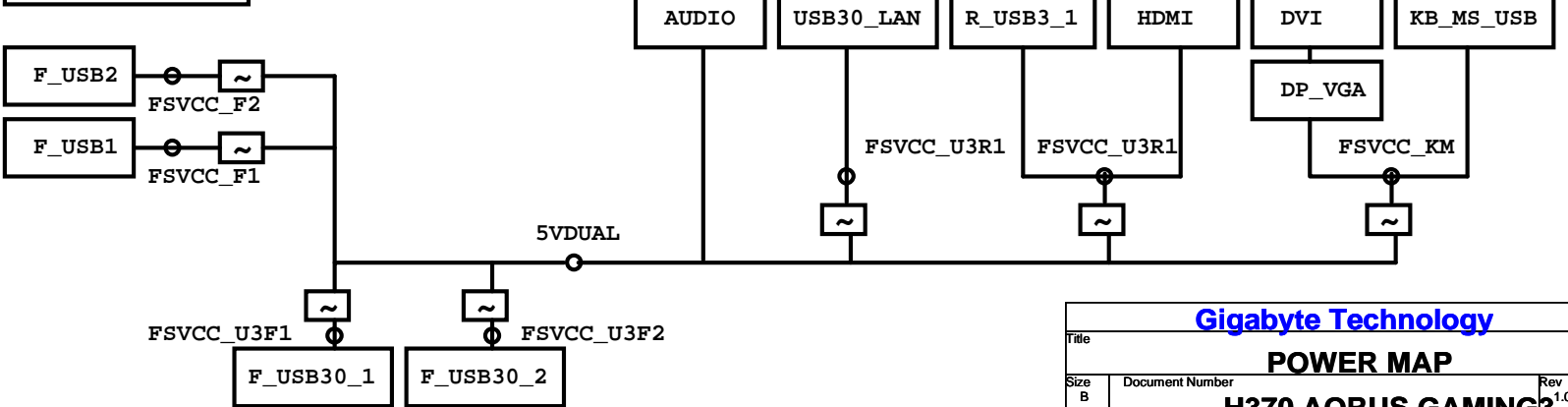
VCORE/VCCGT

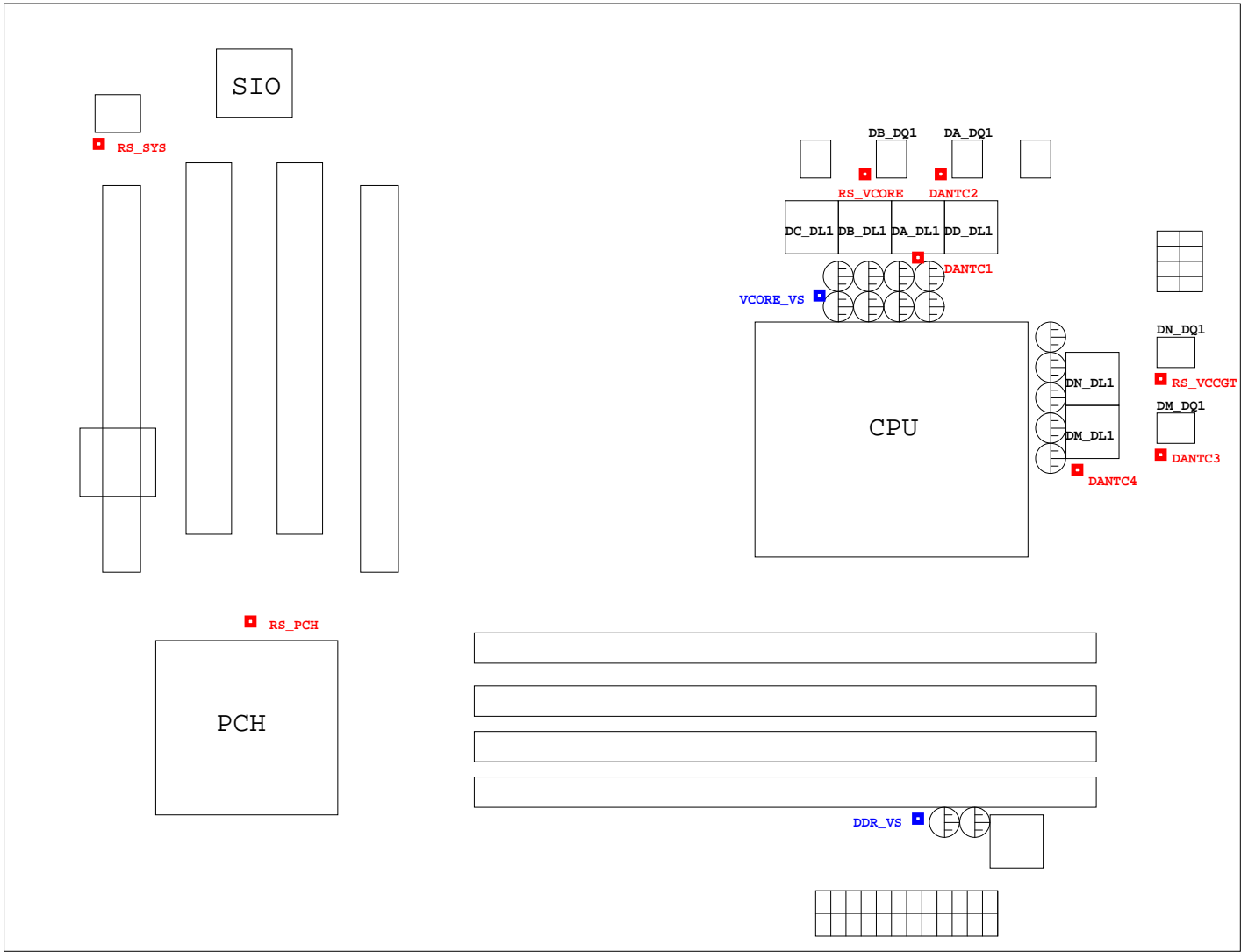


POWER



FUSE POWER F/R





熱敏電阻	擺放靠近位置	走線方式
DANTC1	DA_DL1	N/A
DANTC2	DA_DQ1	Differential
DANTC3	DM_DQ1	N/A
DANTC4	DM_DL1	Differential
RS_VCORE	DB_DQ1	N/A
RS_VCCGT	DN_DQ1	N/A
RS_PCH	PCH	N/A
RS_SYS	CU1	N/A

VCCSA

VCCIO

SIO PIN5 . PIN7 用在其他function時
DCQ2.DCR6.DCQ3.DCQ4DCR7.DCR8.DCC7 上件
DDR7 不需要預留

SIO PIN5 . PIN7接VDDQ . VCCIO時
DCQ2.DCR6.DCQ3.DCQ4DCR7.DCR8.DCC7 不上件
DDR7 可以SHORT PAD

VCCST_VCCPLL

