

## Model Name: B460M DS3H AC Y1

SHEET

TITLE

Rev 1.01

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	BIOS
20	CEC
21	PCI EXPRESS*16 SLOT
22	PCI EXPRESS*1 SLOT
23	SATA Connector
24	M.2 X4 (A)
25	IT8892E (NA)
26	PCI SLOT (NA)
27	ASM1085 POWER (NA)
28	LDO POWER (NA)

SHEET

TITLE

29	ISL95866 PWM-IRON
30	ISL95866 VCORE-IRON
31	ISL95866 VCCGT-IRON
32	VCCSA VCCIO VCCPLL
33	RT8237 DDR BEAD
34	RT8068A VPP
35	RT8237 PCH-BEAD
36	DISCRETE POWER
37	POWER MAP
38	ATX POWER , A -PROCHOT
39	KB MS
40	DVI CONN
41	RTD2168 - DP to VGA - IC
42	RTD2168 - DP to VGA - Conn
43	REALTEK 8111G
44	USB LAN CONNECTOR-81118
45	Realtek ALC887
46	REAR AUDIO JACK
47	ADUIO LED
48	R USB30 1
49	R USB30 2
50	HDMI (MASK)
51	Redriver-R USB31 (NA)
52	F USB30
53	F USB
54	F PANEL
55	COM, TPM
56	EMI-ESD
	NTC MAP

Gigabyte Technology

Title		
Cover Sheet		
Size	Document Number	Rev
Custom	B460M DS3H AC Y1	1.01
Date:	Thursday, May 14, 2020	Sheet 1 of 63

rev 1.01 Circuit or PCB layout change

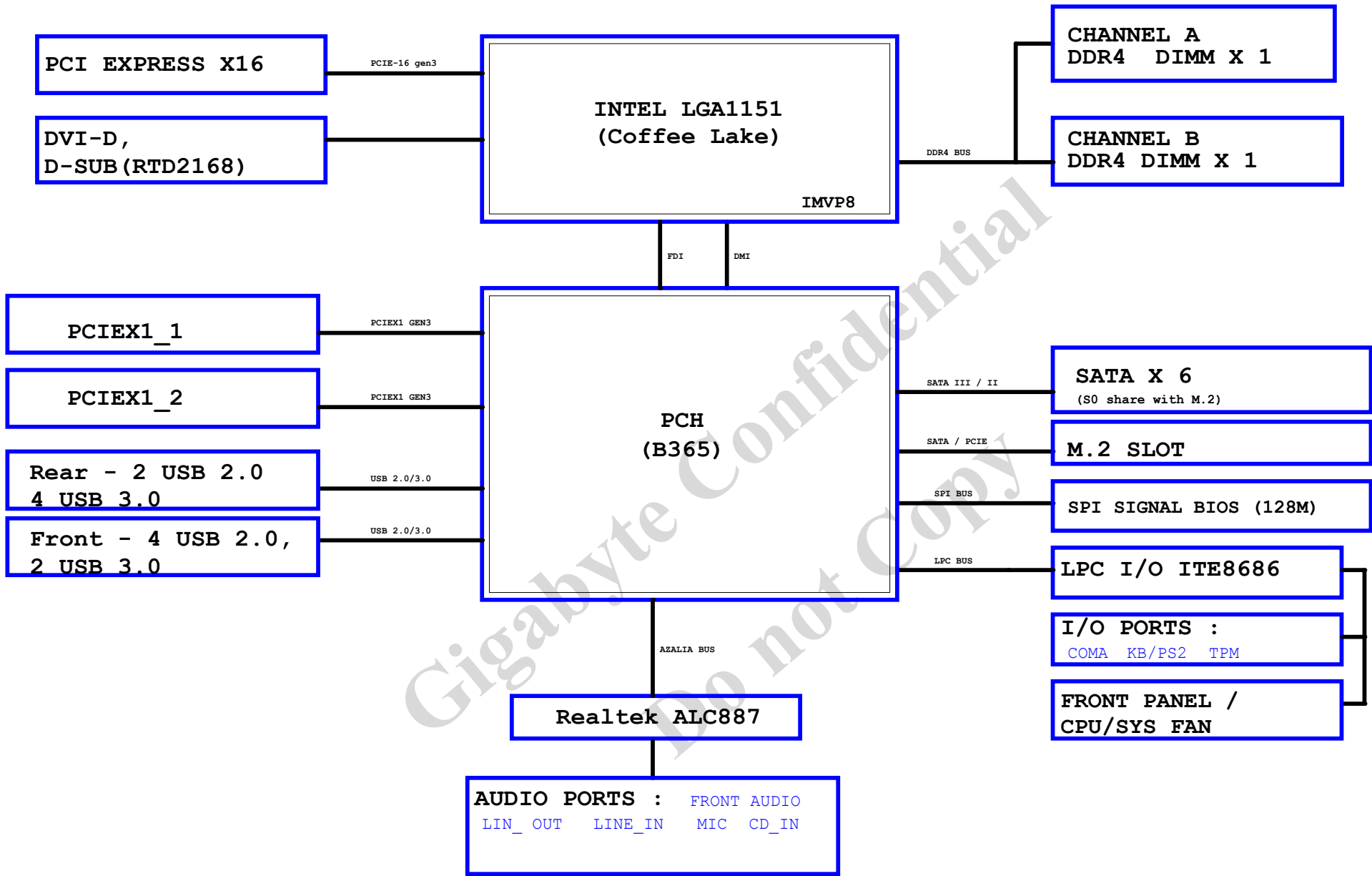
## 2020/03/17

Data	Change Item	Reason
2019/12/11	MCUR7 Update footprint "DIODE_1N5820-SHORT100-MASK"	
2019/12/23	ECD_U1 Capture value : (12R當主料,11R當替料)	
	MCU_PH1 , MCU_PH2不上件	
	IT5702 周邊0ohm改為Short pad	
2020/01/06	DDR SLOT 改為黑灰黑灰	
	NRN11 pin2 接3VDUAL_PCH	
	page.12 1. NC5, NC6, NC8, NC9 value及footprint改為1u/4/X5R/6.3V/K及C0402-2 (NC5不上件) 2. 增加NR444 3. NR134改不上件 page.14 1. NBC10, NBC13, NBC30, NBC31, NBC39, NBC9 value及footprint改為1u/4/X5R/6.3V/K及C0402-2 (上件) 2. NBC25, NBC3, NBC32, NBC4, NBC5, NBC6, NBC7 value及footprint改為1u/4/X5R/6.3V/K及C0402-2 (不上件)	
2020/01/15	Update M2 螺孔 ADD NTC3933 X2 Update Connector name	
2020/01/31	ADD Loadline Patch Modify DDR	
2020/02/06	Update to 1.0 及文字面 SYS_FAN -> SYS_FAN1 COM -> COMA	
2020/02/10	Remove NR221 FIX ASUS WIFI Card PCIE WAKE ISSUE, NRN11 Modify to 1K Update DUAL BIOS OPT STRAP (Pull Up)	
2020/02/13	Update B460 PCH-V Rev.0.6 模組線路 1. 增加NR21, NQ8, NR22 2. NRN11改為1K/8P4R/4 3. Unsupported RKL CPU Patch 線路	
2020/02/20	Update HDA_SDO 線路 ADD VCCPLL_OC	
2020/02/25	Update Z490 Notes Rev 1.12	
2020/03/02	修改為For B460M DS3H AC的Spec Remove AUDIO LED Remove COMA & B Remove D-Sub & DVI ATX 24PIN 改為一般PIN	

DATE	Change Item	Reason
2020/03/17	Update to R1.01 Update HDA_SDO 線路 [P12] Update CHA&B DDR Vref	

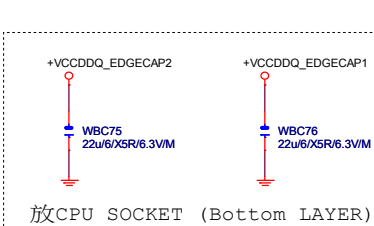
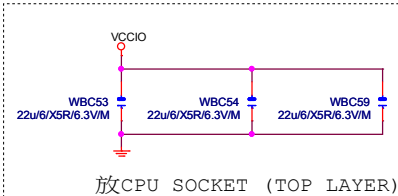
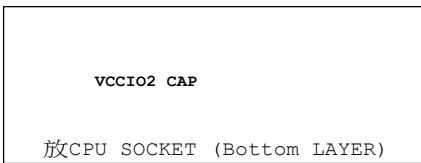
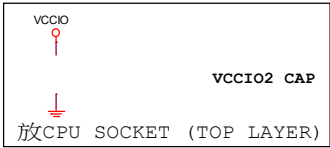
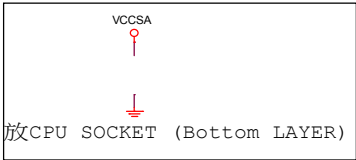
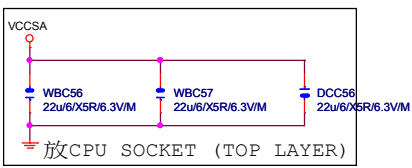
<b>GIGABYTE™</b>			
Title <b>BOM &amp; PCB MODIFY HISTORY</b>			
Size	Document Number	Rev	
Custom	<b>B460M DS3H AC Y1</b>	<b>1.01</b>	
Date:	Thursday, May 14, 2020	Sheet	2 of 63

BLOCK DIAGRAM

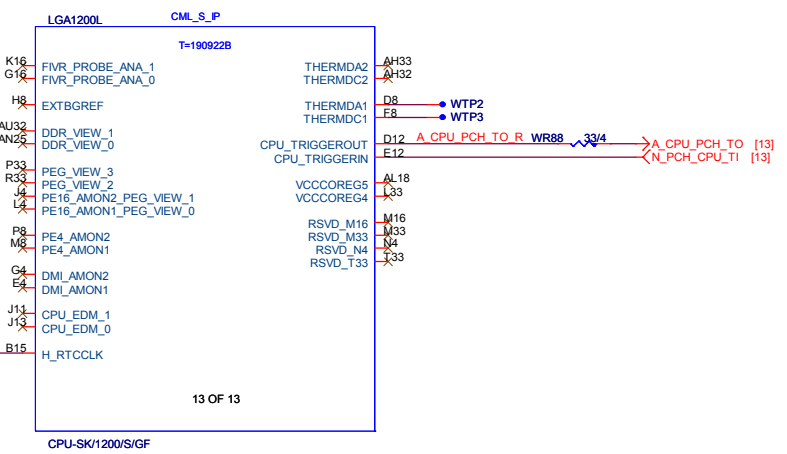
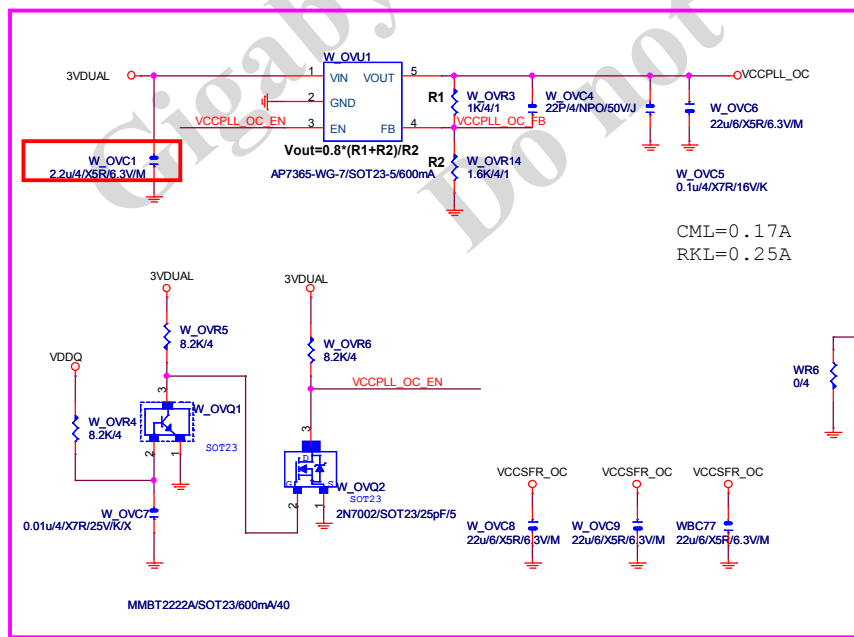
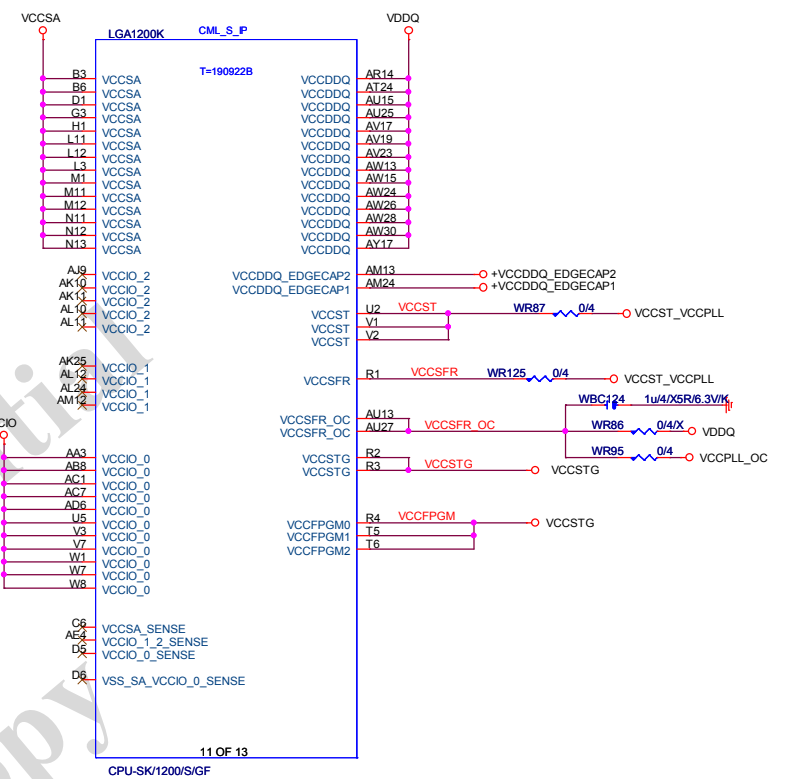
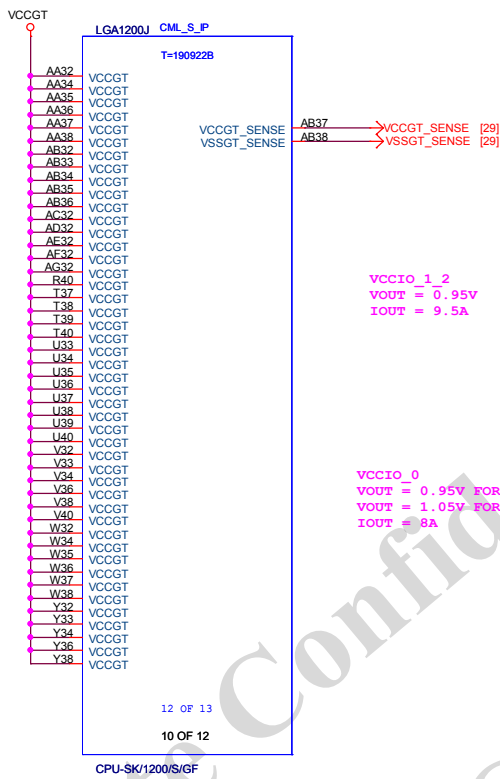


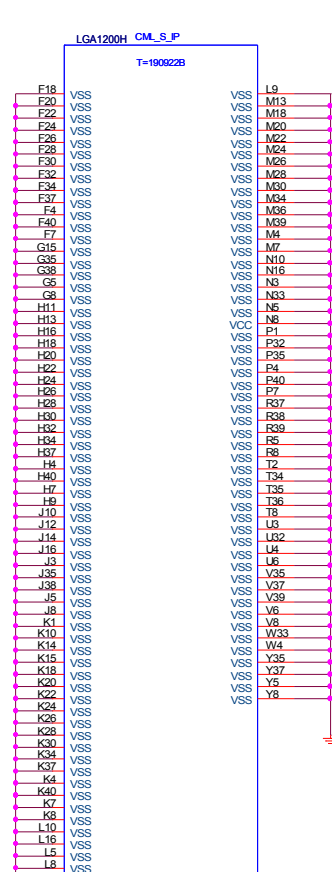
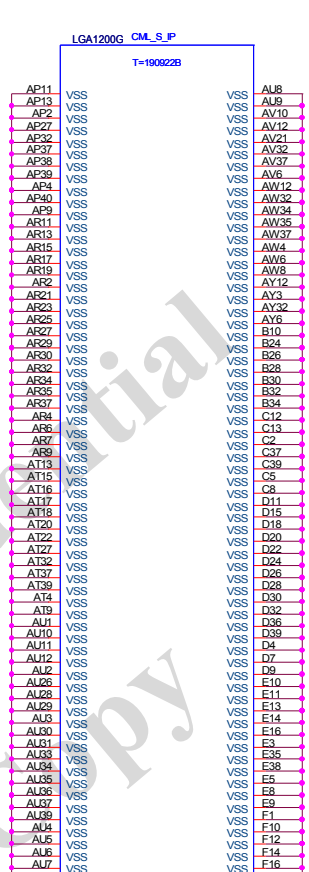
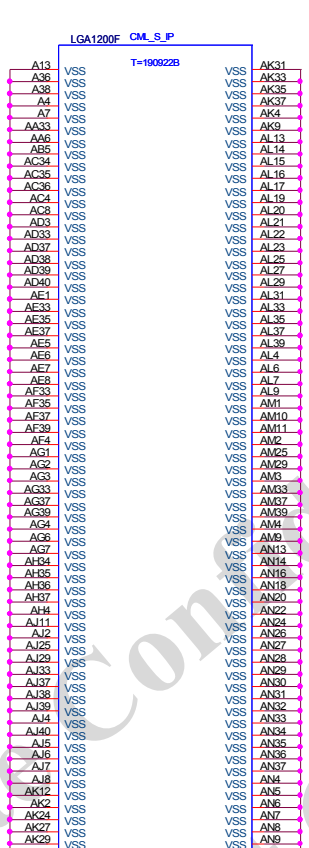
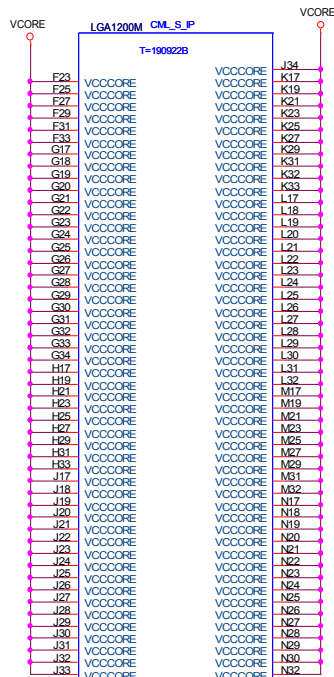
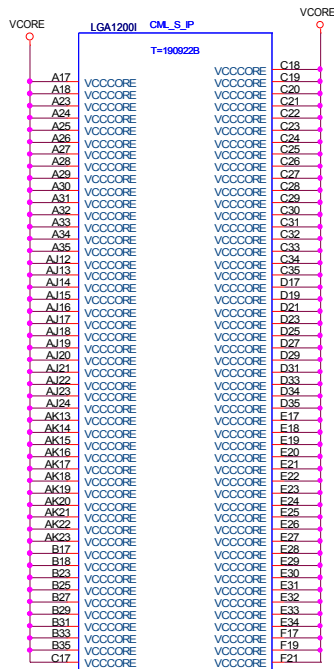






**\*CML增加,RKL才會用到**





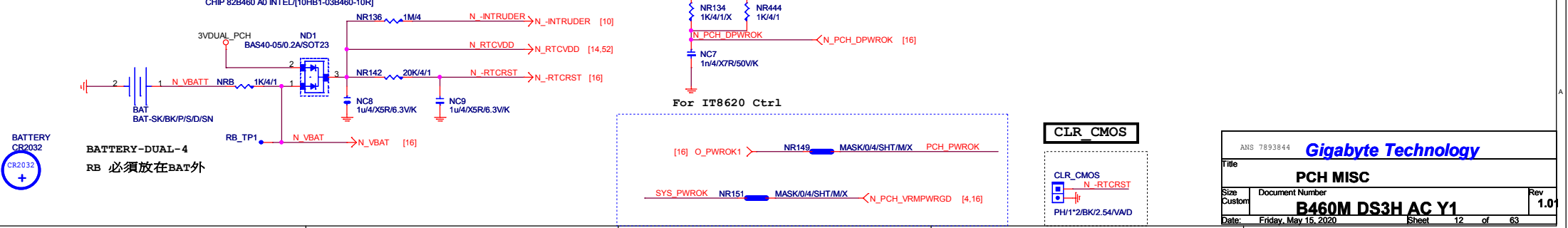
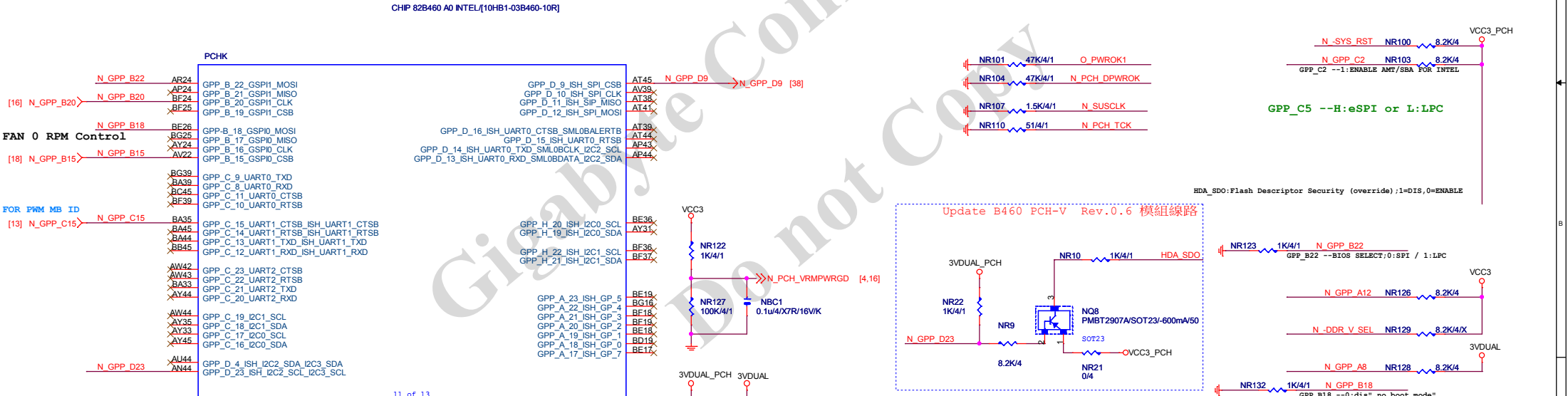
\* 刪 Vcore 電容





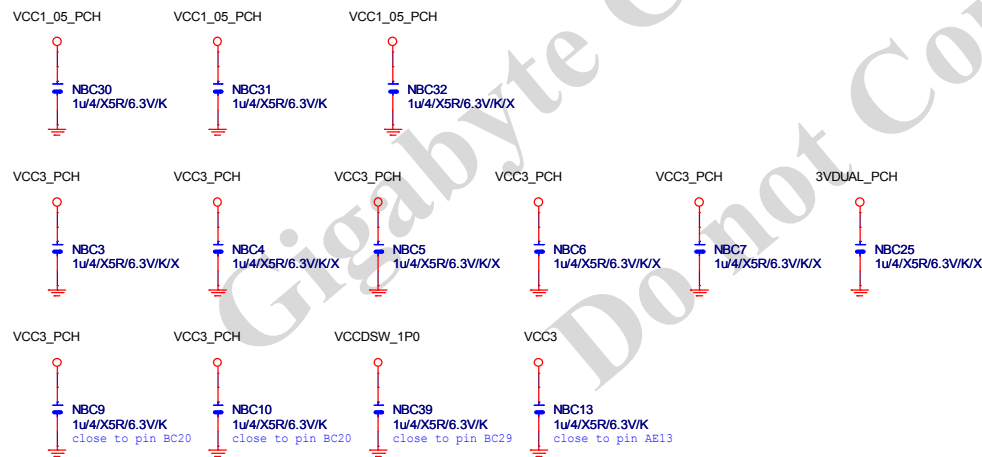
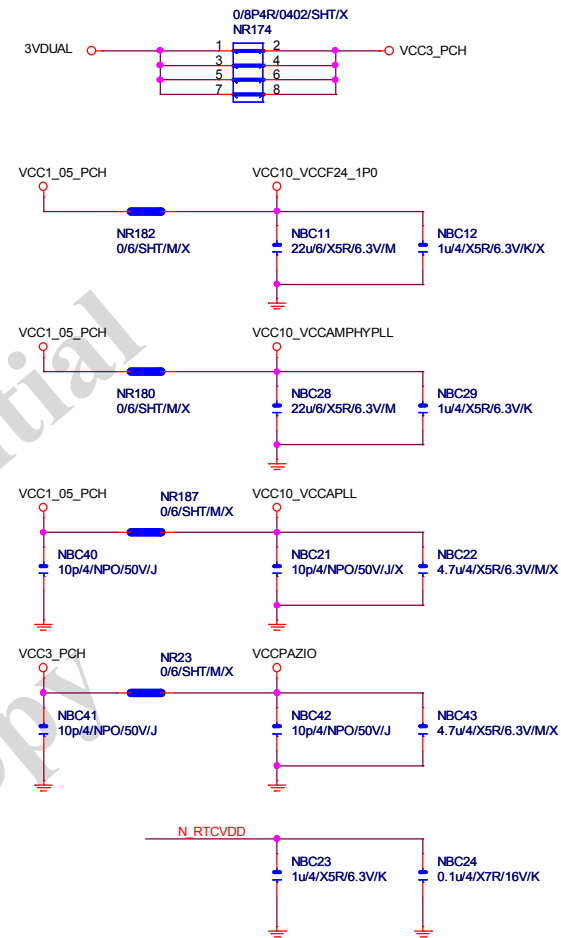
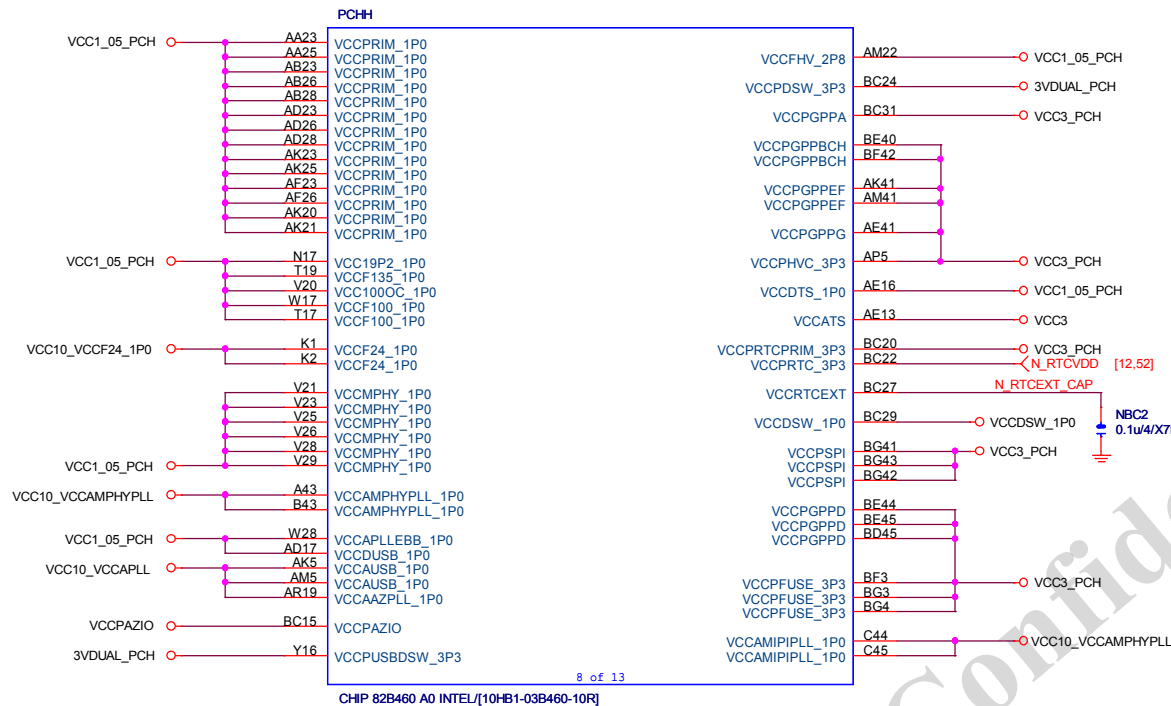




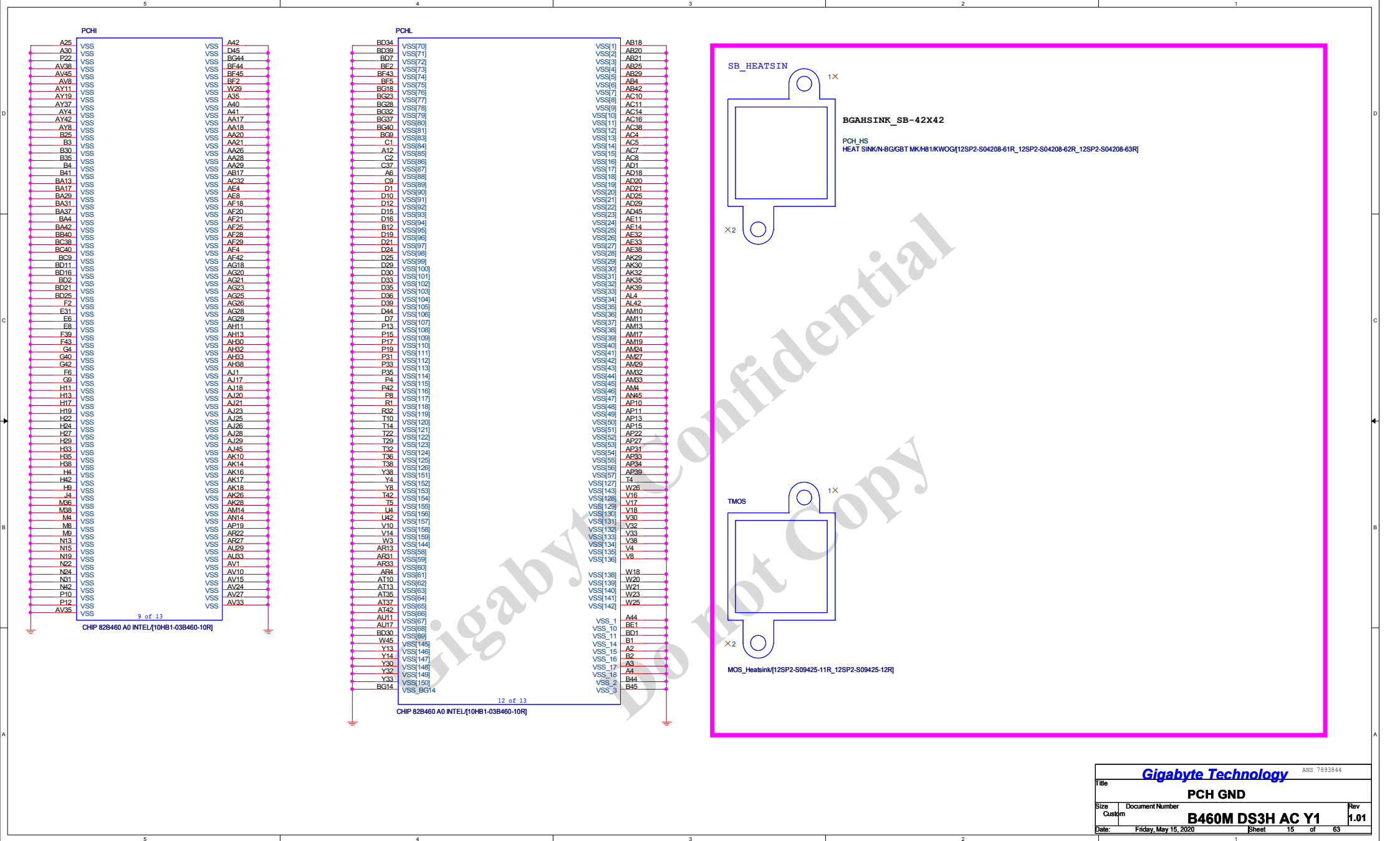


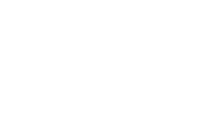
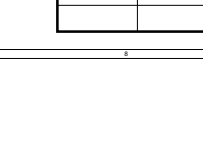
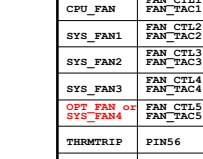
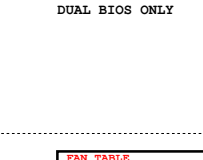
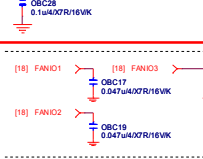
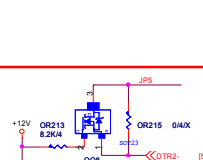
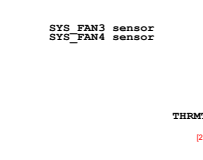
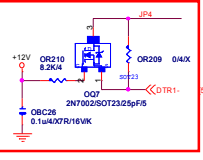
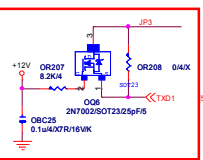
ANS 7893844		<b>Gigabyte Technology</b>	
Title			
<b>PCH MISC</b>			
Size	Document Number		Rev
Custom	<b>B460M_DS3H_AC_Y1</b>		<b>1.0</b>
Date:	Friday, May 15, 2020		Sheet 12 of 63





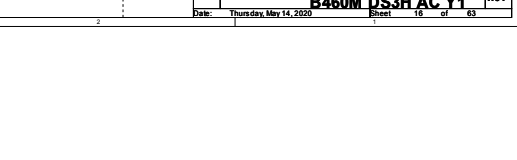
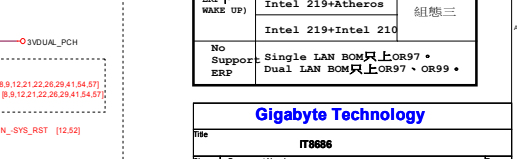
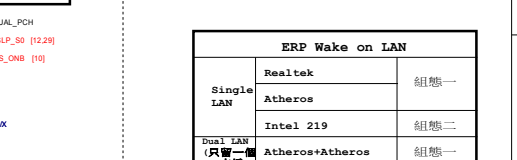
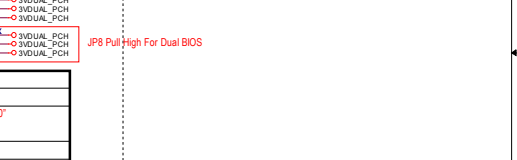
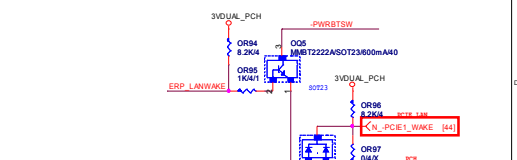
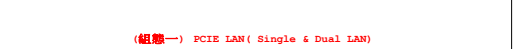
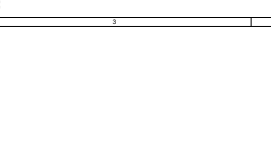
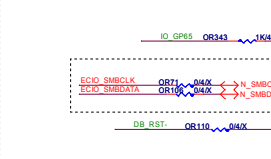
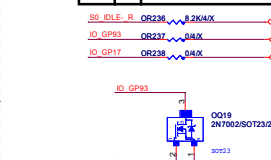
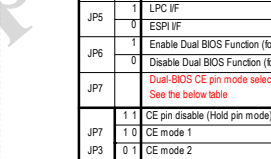
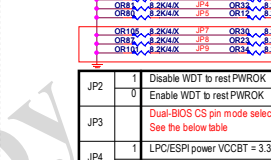
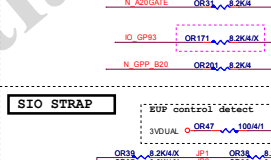
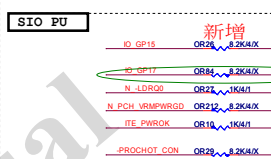
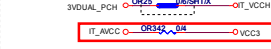
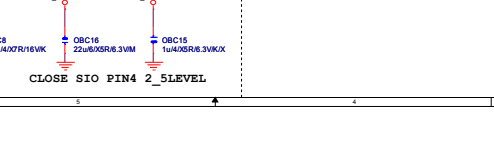
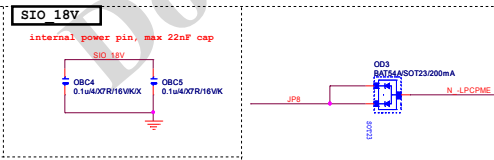
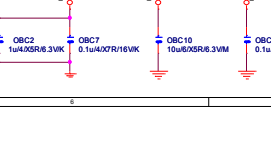
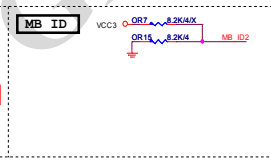
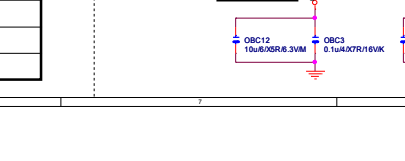
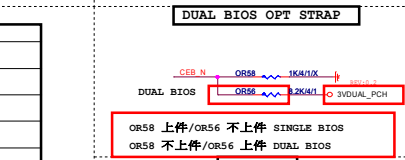
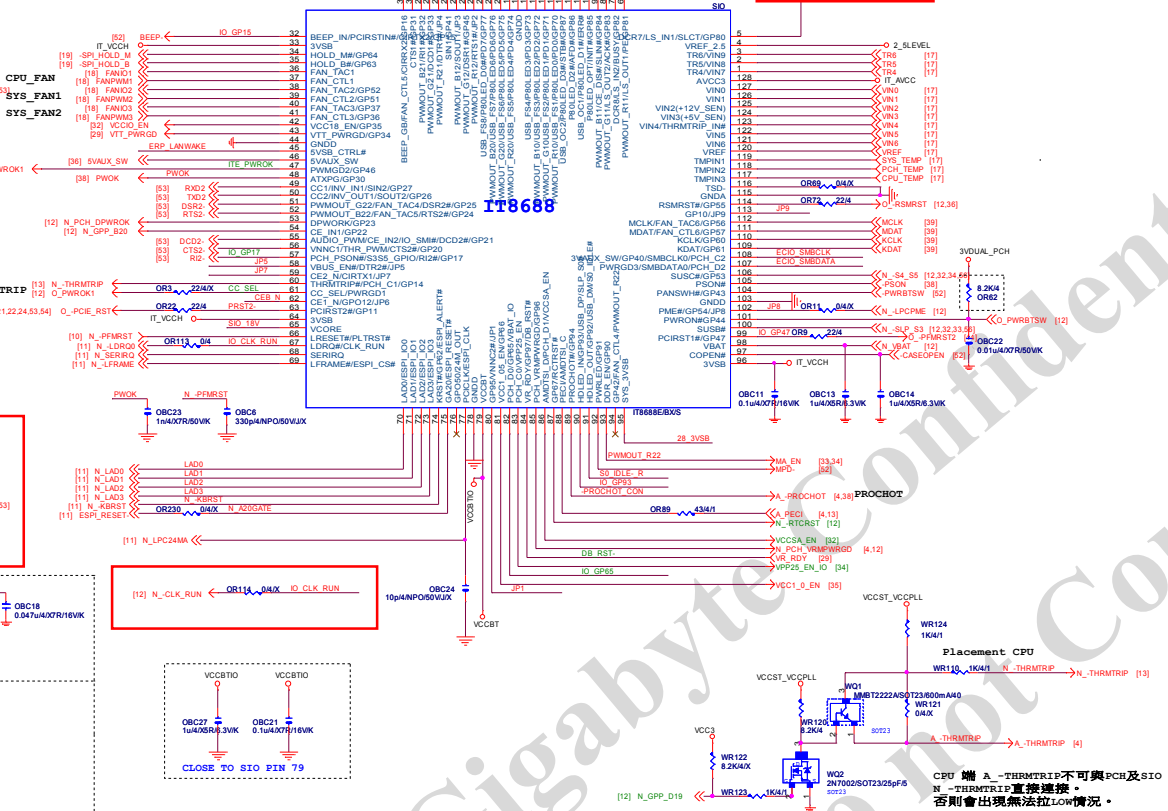
ANS 7893844		<b>Gigabyte Technology</b>	
Title		<b>PCH PWR</b>	
Size	Document Number	Rev	
B		<b>B460M DS3H AC Y1</b>	
Date:	Friday, May 15, 2020	Sheet	14 of 63



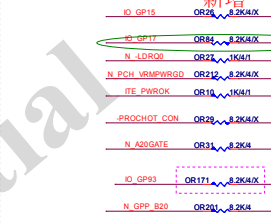


for LPC/eSPI power mode

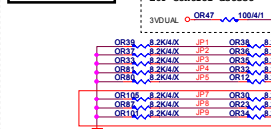
低階沒有COMB,無OTF\_FAN  
延遲用GPI6取代



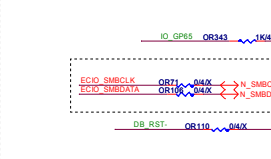
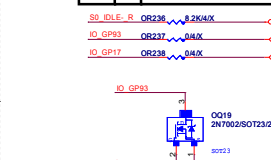
SIO PU



SIO STRAP



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



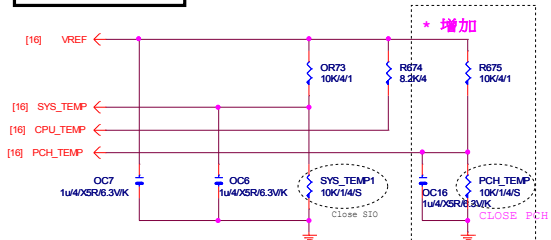
JP8 Pull High For Dual BIOS

ERP Wake on LAN		
Single LAN	Realtek	組態一
Dual LAN (只留一個 LAN 支援 WAKE UP)	Atheros+Realtek	組態二
No Support	Intel 219+Realtek	組態三
ERP	Intel 219+Intel 210	組態四

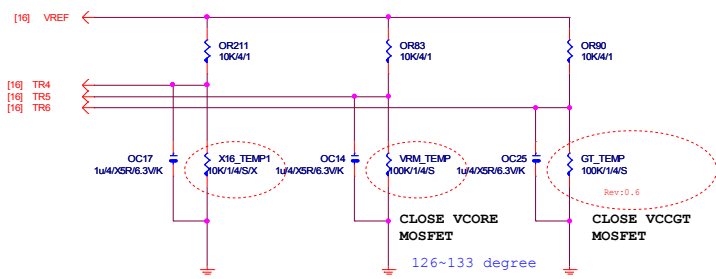
Gigabyte Technology

IT8686	
Size	Document Number
Custom	B460M DS3H AC V1
Date	Thursday, May 14, 2020
Rev	1.01

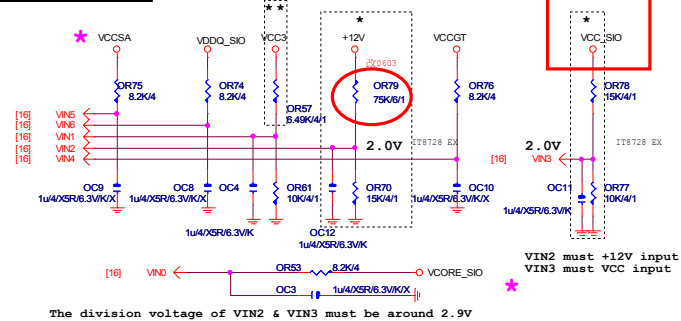
# TEMP H/W MONITOR



## 低階機種: 3個FAN時使用

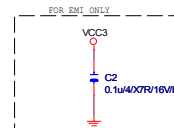
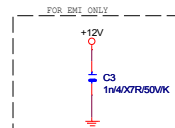


# VOLTAGE-- H/W MONITOR



VCCBT PWF\_R6 09/SHT/30X 03/DUAL\_PCH

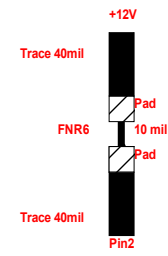
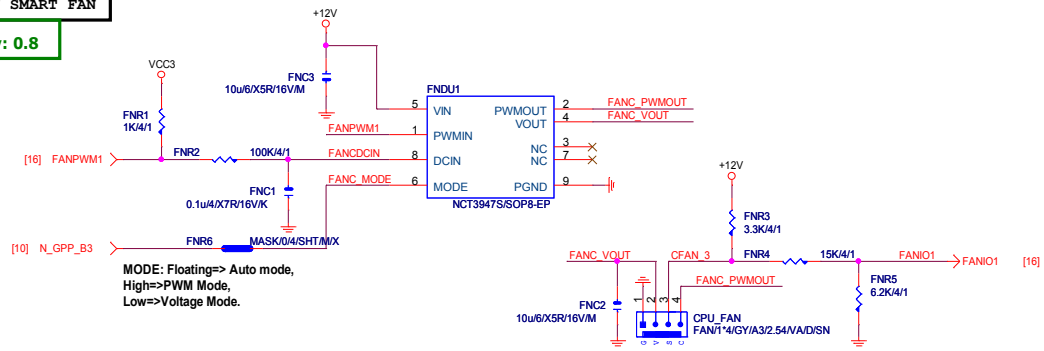
(靠近ATX CONNECTOR)



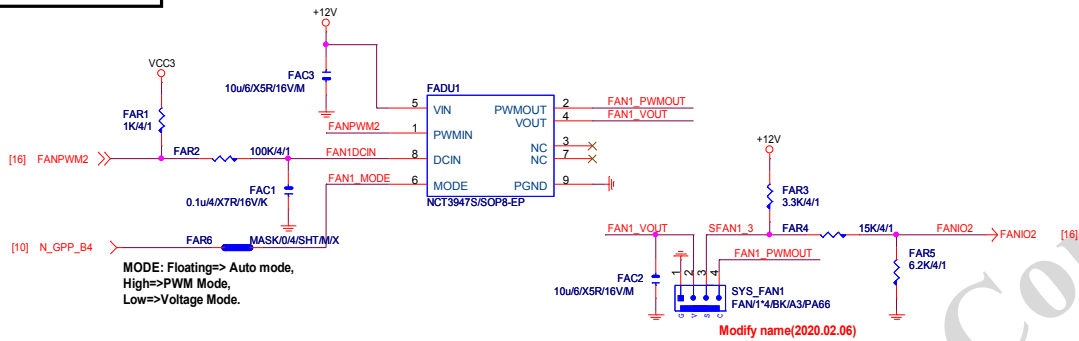
★Update 2015-04.24

Gigabyte Technology

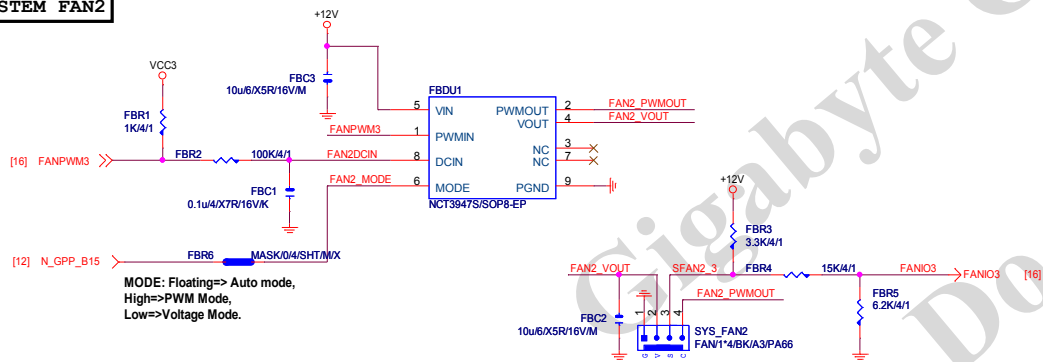
Title			HWM,KB/MS, FAN CTRL
Size	Document Number	Rev	
Custom	B460M DS3H AC Y1	1.01	
Date:	Thursday, May 14, 2023	Sheet	17 of 63



A. SYSTEM FAN1

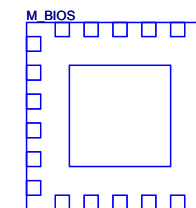


SYSTEM FAN2



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

1 means floating  
0 means PD 1K

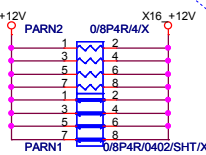


1 CP/G-EL /1.27mm/200MIL /WHITE[10SI 2-000008-31R]/X

\* 試產先上，PVT 移除

Gigabyte Confidential  
Do not Copy

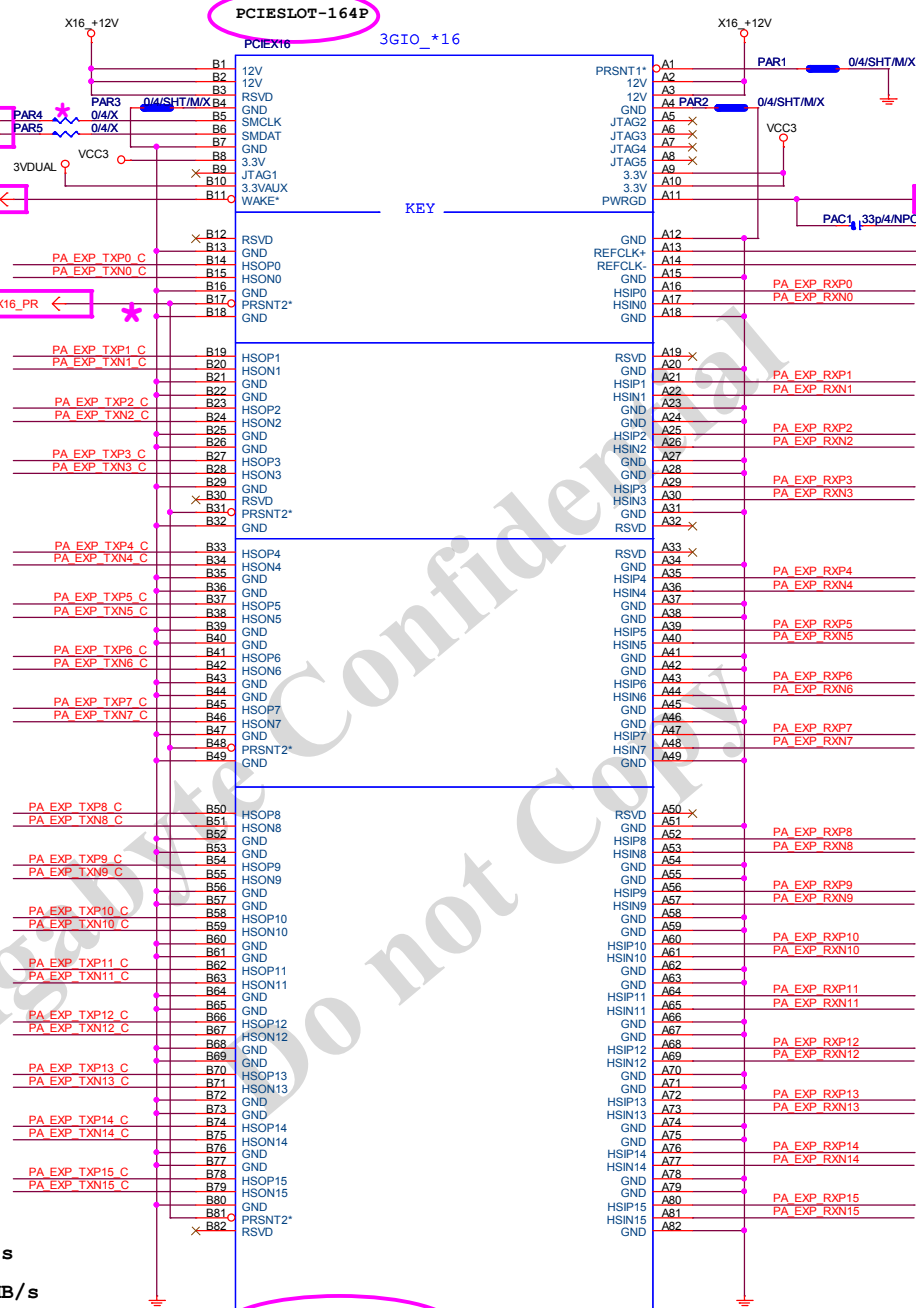
<b>GIGABYTE™</b>			
Title			
<b>CEC relate circuit</b>			
Size	Document Number	<b>B460M DS3H AC Y1</b>	Rev
Custom			<b>1.01</b>
Date:	Thursday, May 14, 2020		Sheet 20 of 63

+12V protect  
short-wire test

[8,9,12,16,22,26,29,41,54,57] N\_SMBCLK  
[8,9,12,16,22,26,29,41,54,57] N\_SMBDATA

[12,16,22,53,54] N\_-PCIE\_WAKE

[10] -PCIE16\_PR



PCI-E/16X-164P/GY/LONG DOUBLE/HK\*2

黑色SLOT

PCIEX16:16/5/5/5/16

PCI-E REV:1.1--&gt; 2.5GHZ

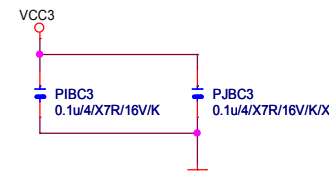
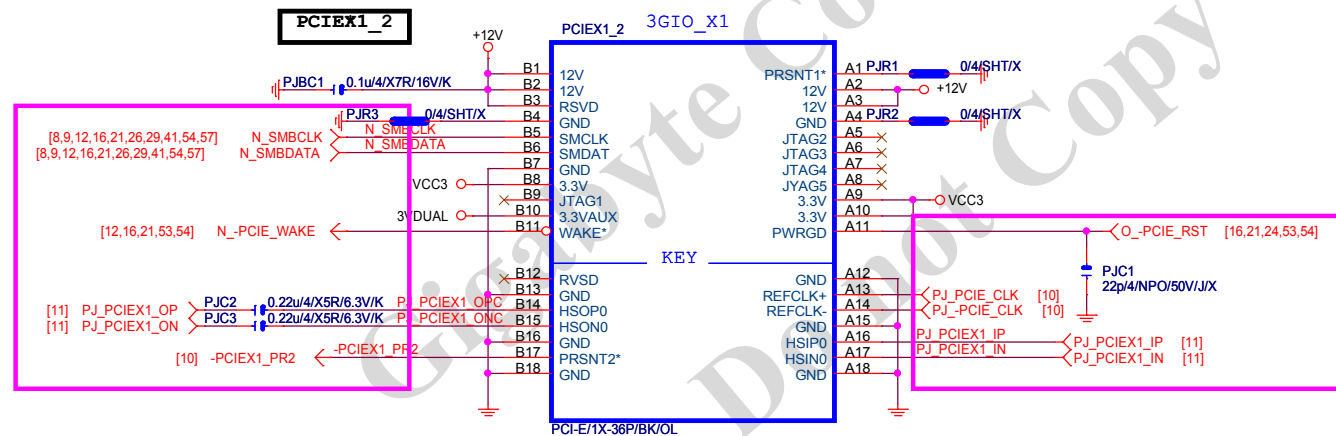
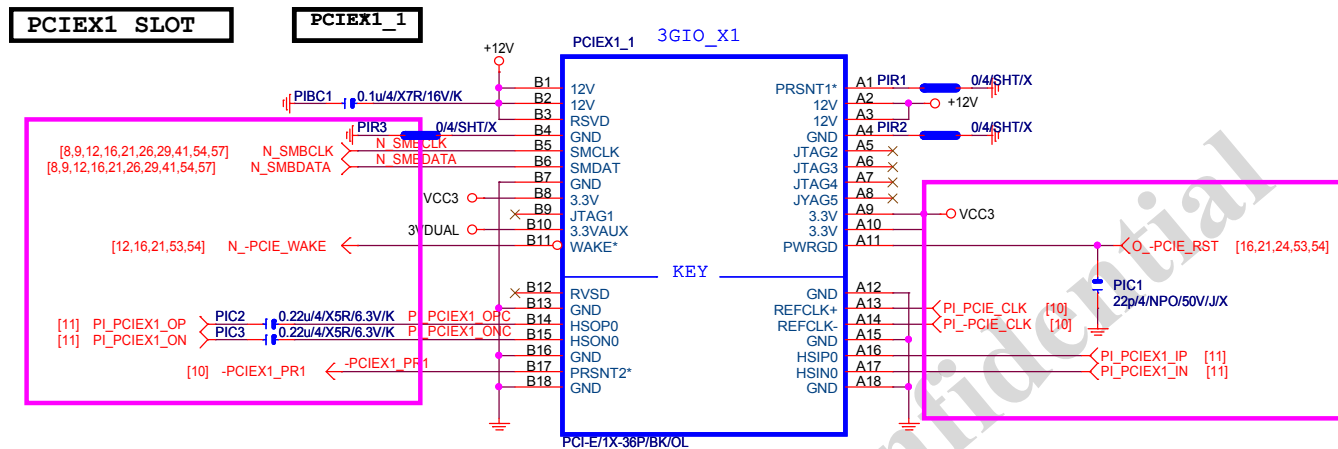
PCE-E X1 (單向) BANDWIDTH=2.5GHz\*(8b/10b)=2Gb/s=250MB/s

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

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

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

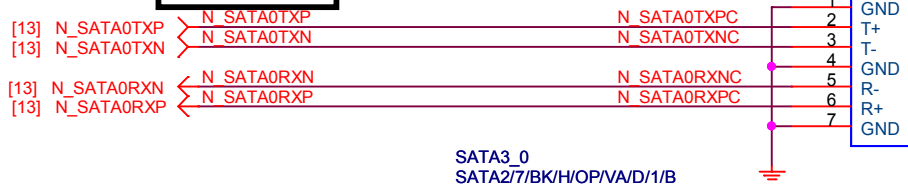
PCI-E REV:2.0--&gt; 5GHZ



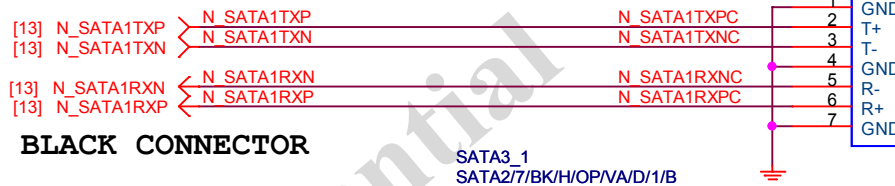
Gigabyte Technology

Title		
PCIE_X4		
Size	Document Number	Rev
Custom		1.01
Date:	Thursday, May 14, 2020	Sheet 22 of 63

### SATA3 0/1



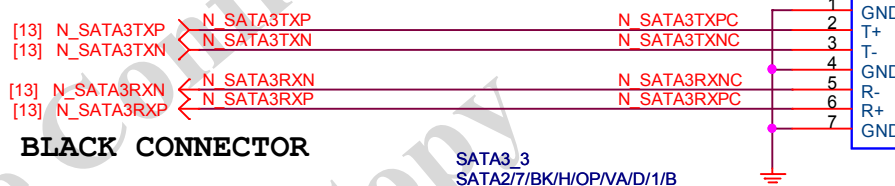
BLACK CONNECTOR



### SATA3 2/3



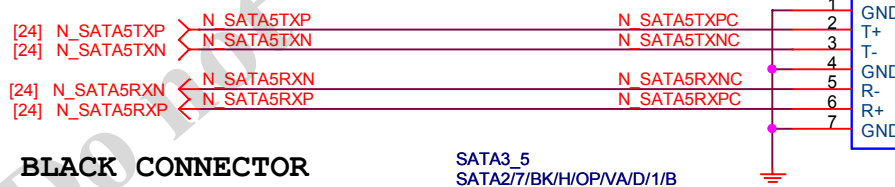
BLACK CONNECTOR



### SATA3 4/5



BLACK CONNECTOR



Gigabyte Technology

Title

SATA

Size  
Custom

Document Number

B460M DS3H AC Y1

Rev

1.01

Date: Thursday, May 14, 2020

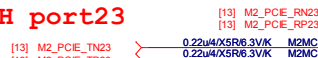
Sheet 23 of 63

Rev 0.4

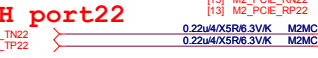
M.2 Lane4 from PCH port24



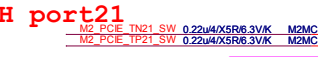
M.2 Lane3 from PCH port23



M.2 Lane2 from PCH port22



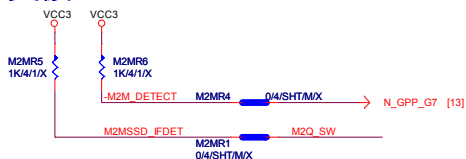
M.2 Lane2 from PCH port21



需與M2 -CLKREQ對應

SATA : GND.  
PCIe : HIGH

支援SATA and M.2 function

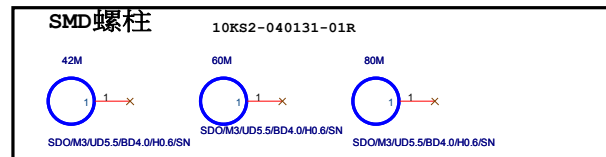
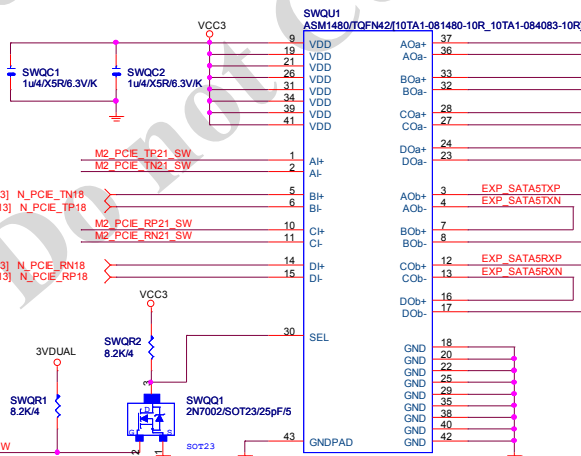


\* Footprint : m2\_80\_h2mm8w

舊的Switch,價格低

SATA Conn

M2Q\_SW  
High : M2X4 + SATA 5 OK  
Low : M2 (SATA) + SATA 5 NA

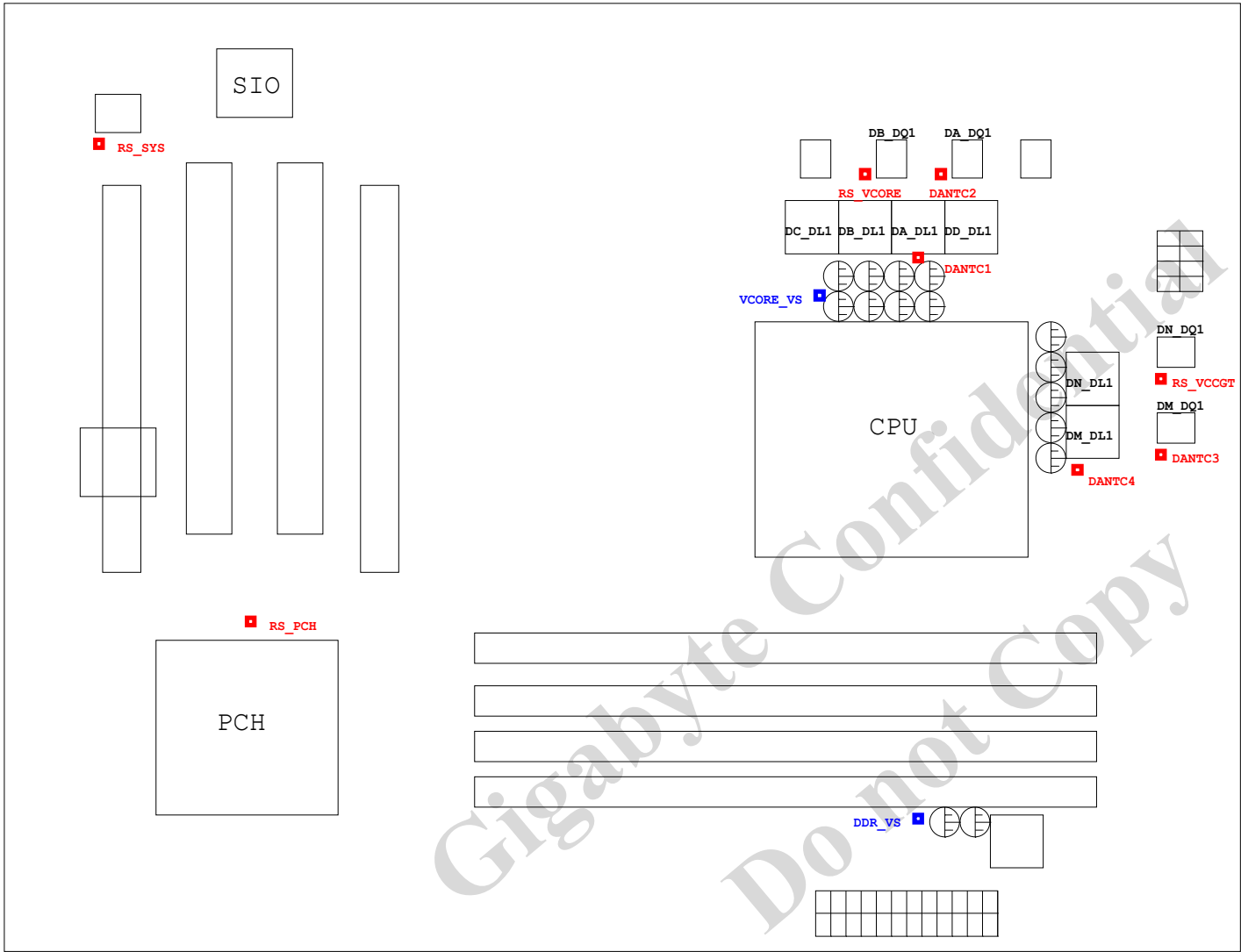


M.2 PCIE Mode

M.2 SATA Mode

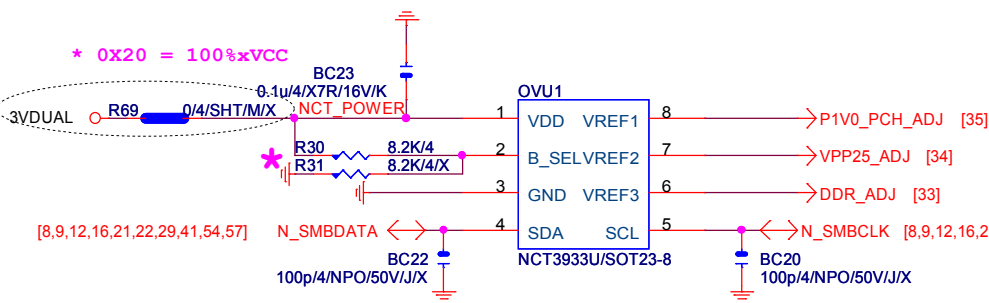
Function	SEL
xI--> x0a	L
xI--> x0b	H

Gigabyte Technology		
Title	M.2 X4	
Size	Document Number	Rev
Custom	B460M DS3H AC Y1	1.01
Date:	Thursday, May 14, 2020	Sheet 24 of 63

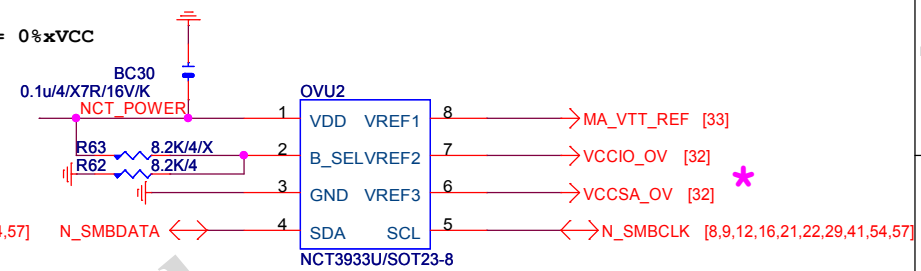


熱敏電阻	擺放靠近位置	走線方式
DANTC1	DA_DL1	N/A
DANTC2	DA_DQ1	Differential
DANTC3	DM_DQ1	N/A
DANTC4	DM_DL1	Differential
RS_VCORE	DB_DQ1	N/A
RS_VCCGT	DN_DQ1	N/A
RS_PCH	PCH	N/A
RS_SYS	CU1	N/A

OVER VOLTAGE



0X2A = 0%xVCC



0X22 = 75%xVCC

\* 删除 ovu3

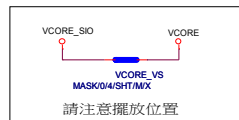
NCT3933	0X2A	0X20	0X22
VREF1	DDRVTT	VREF_DDRA_DQ	PCH Core
VREF2	VREF_DDRA_CA	N/A	VCC1_5_PCH
VREF3	VREF_DDRA_CA	VREF_DDRB_DQ	SMREF

**Gigabyte Technology**

Title: CPU CORE VR-2

Size: Custom Document Number: B460M DS3H AC Y1 Rev 1.01

Date: Thursday, May 14, 2020 Sheet 26 of 63

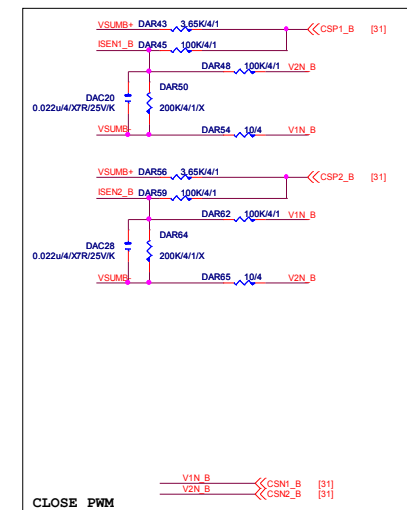
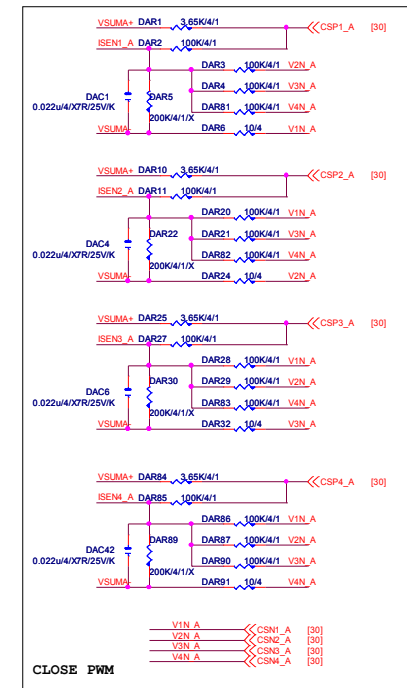
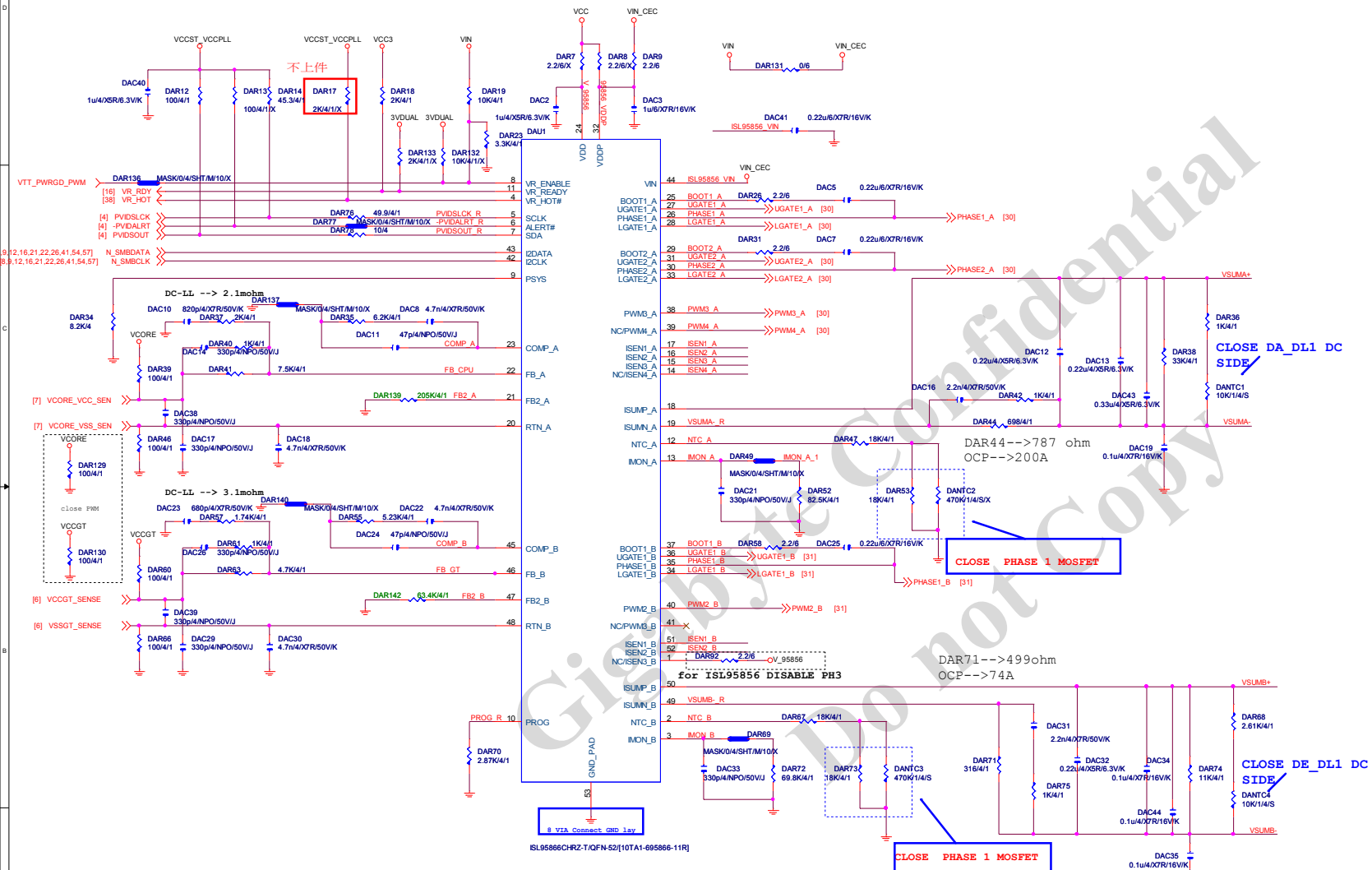
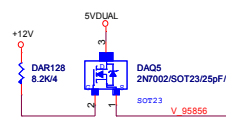


CEC:DAR133.DAR132 上件.DAR18.DAR19.DAR23.DAR131不上件

non CEC:DAR133.DAR132 不上件.DAR18.DAR19.DAR23.上件.

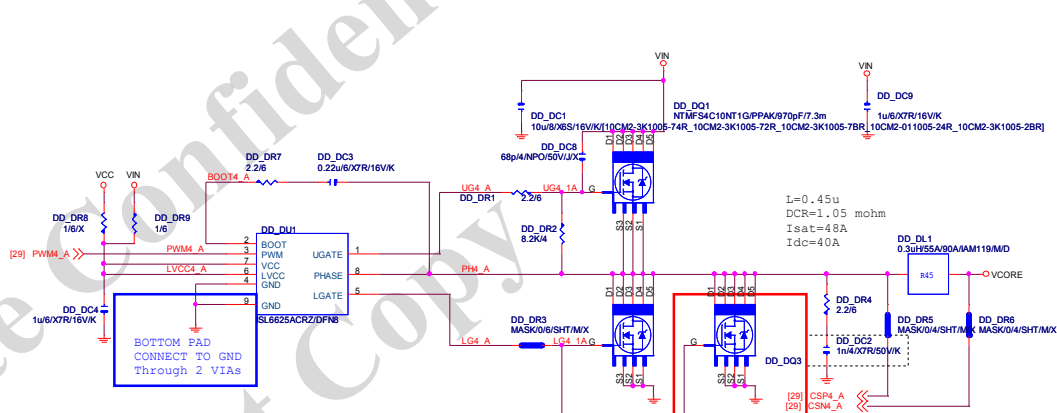
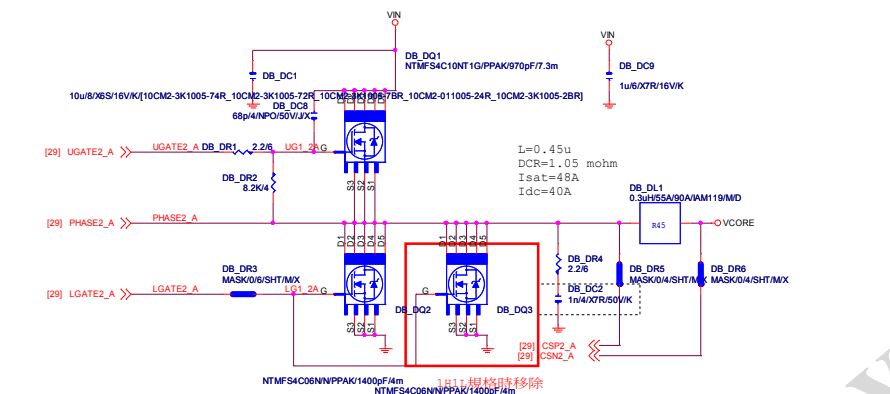
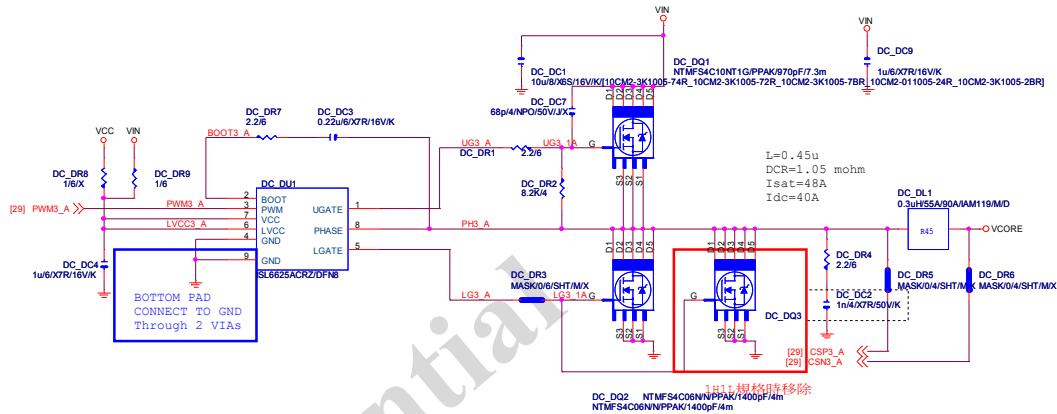
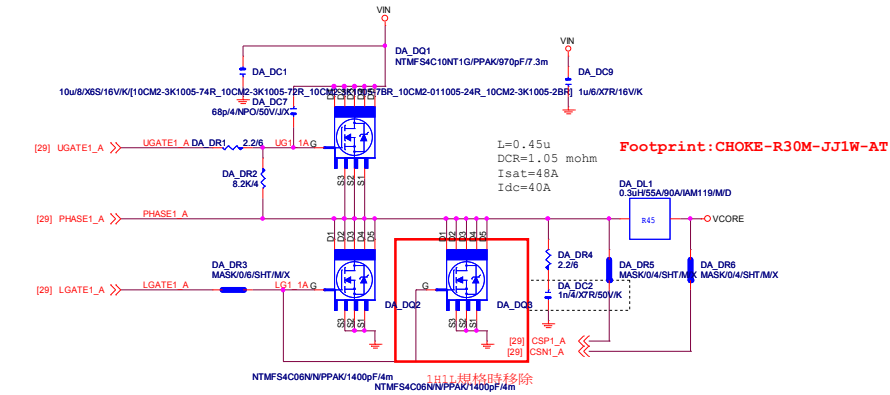
DAR131改short pad

DAR131 short pad footprint:R0603-RH-SHORT30-MASK

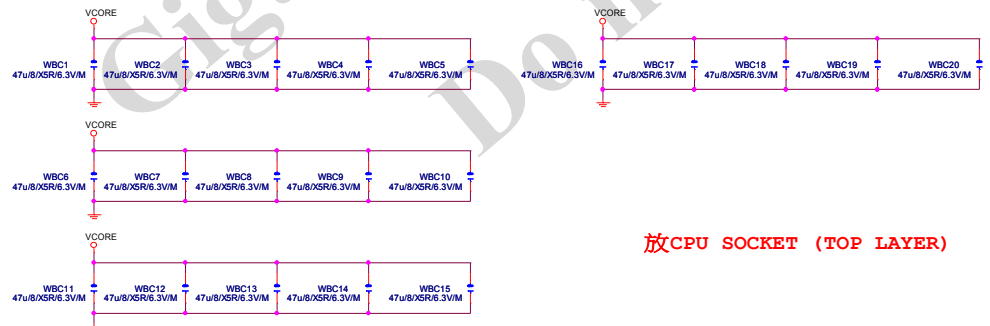
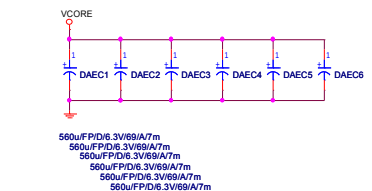


**GIGABYTE**

VCORE

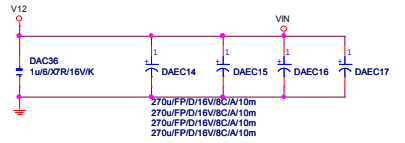


VCORE CAP 560u\*6PCS 22u\*20PCS



放CPU SOCKET (TOP LAYER)

VIN CAP 270u\*4PCS



File	ISL95866 MOS		
Size	Document Number	Rev	
Custom	B460M DS3H AC Y1	1.01	
Date:	Thursday, May 14, 2020	Sheet	30 of 63



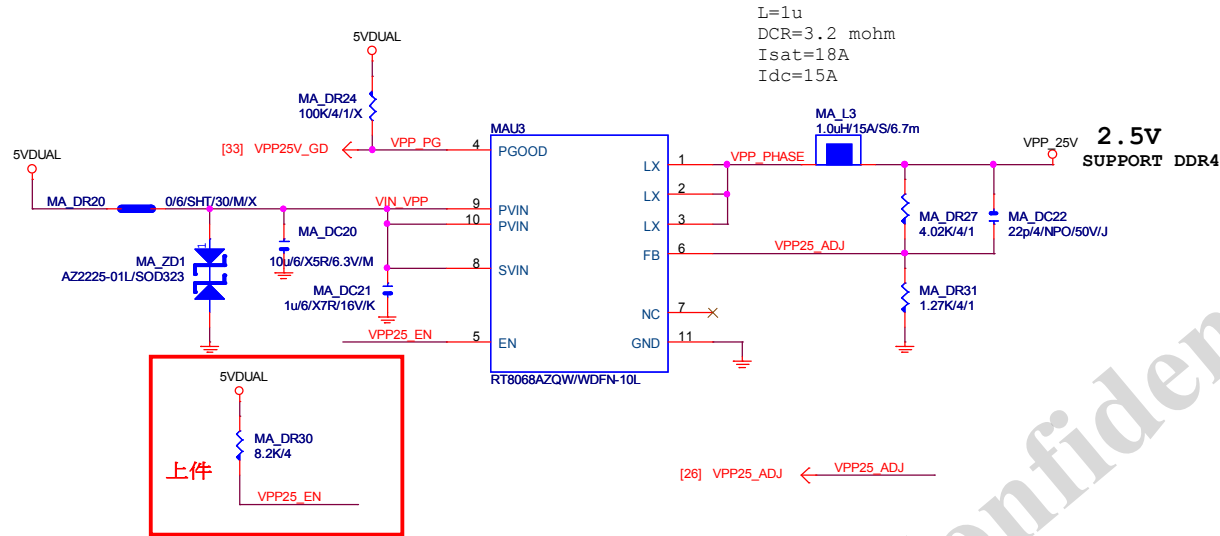




REV:0.1

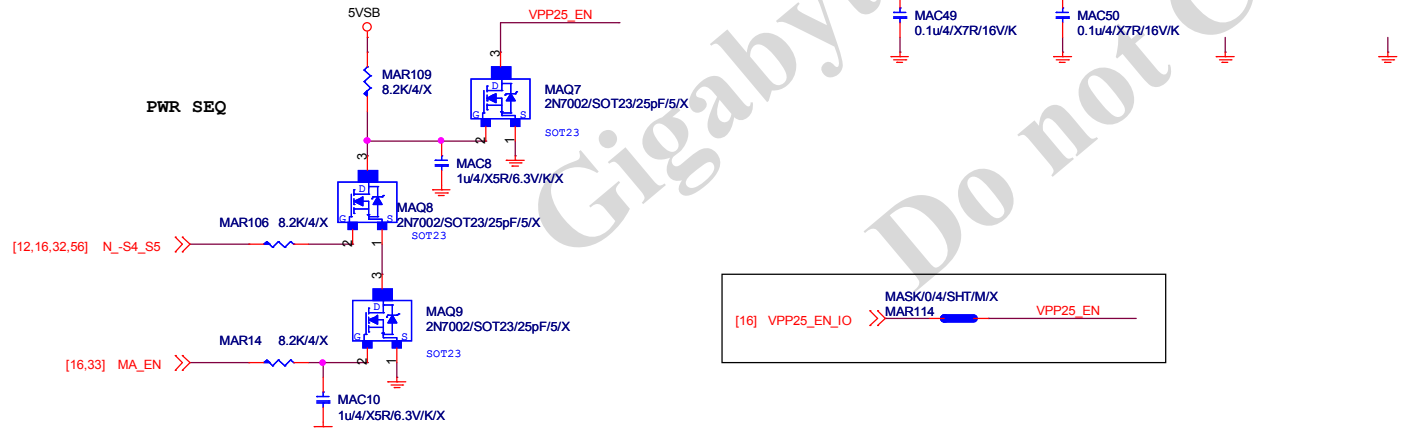
VPP\_25V

CHOKE與CAP料號可變



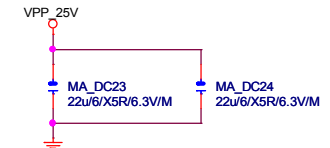
PWR\_SEQ

\* 刪 MA\_DR32



VPP CAP 22u\*1PCS

\* 大電容 x0

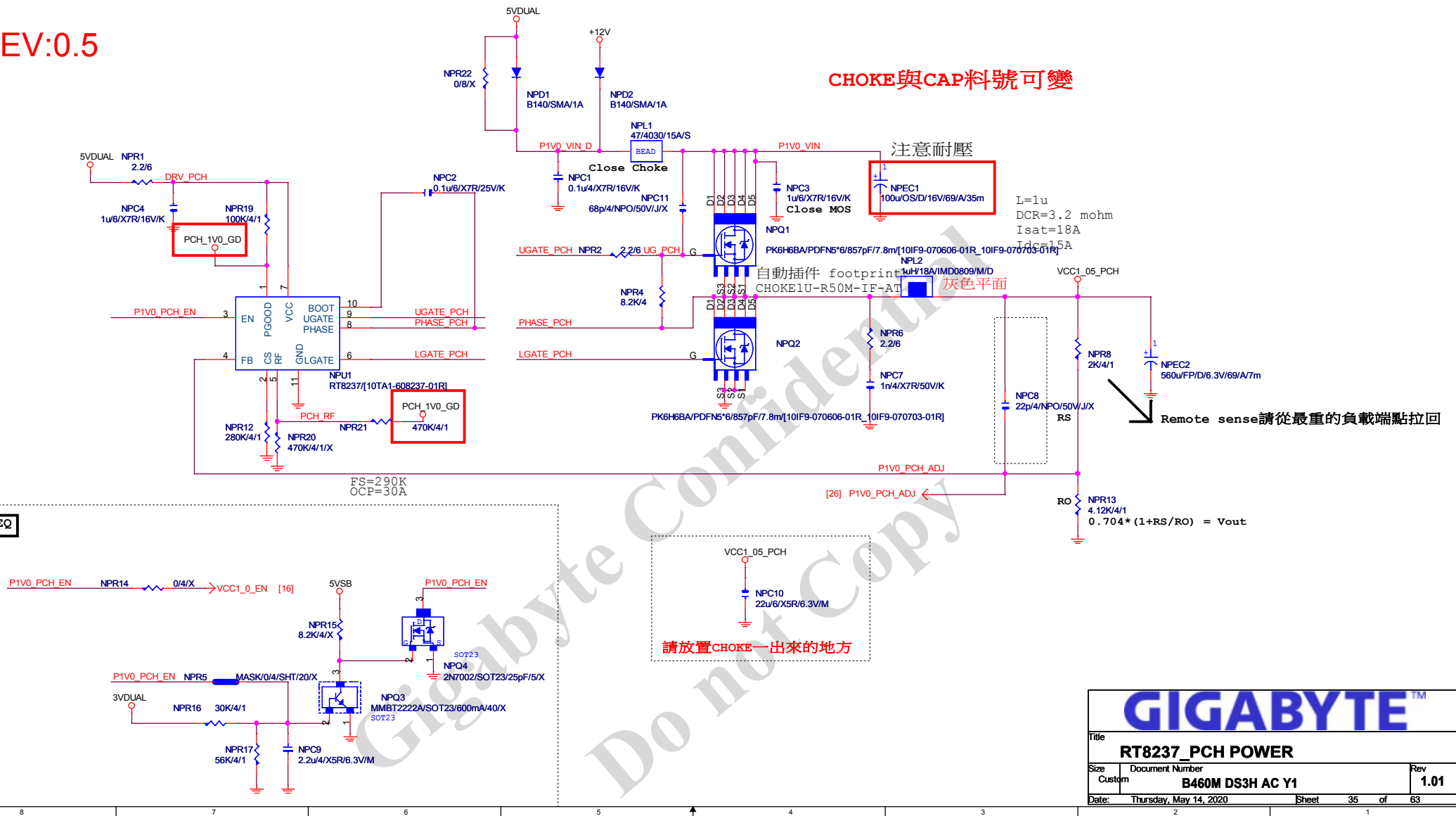


GIGABYTE™

Title		
RT8068A_VPP25 POWER		
Size	Document Number	Rev
Custom	B460M DS3H AC Y1	1.01
Date:	Thursday, May 14, 2020	Sheet 34 of 63

REV:0.5

CHOKE與CAP料號可變



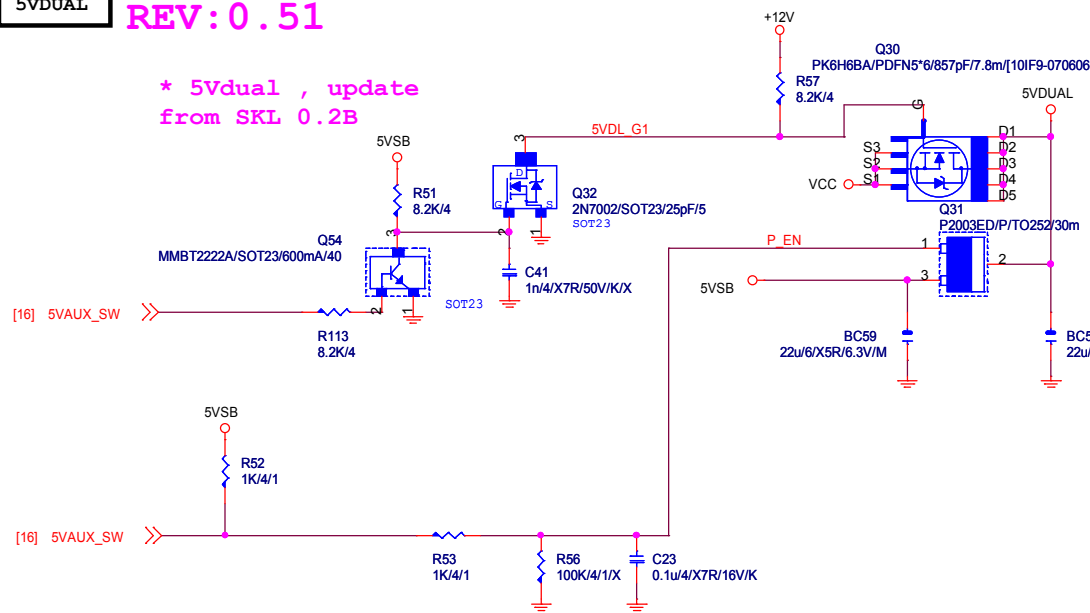
GIGABYTE™

Title			
RT8237_PCH POWER			
Size	Document Number		Rev
	Custom B460M DS3H AC Y1		1.01
Date:	Thursday, May 14, 2020	Sheet 35 of 63	

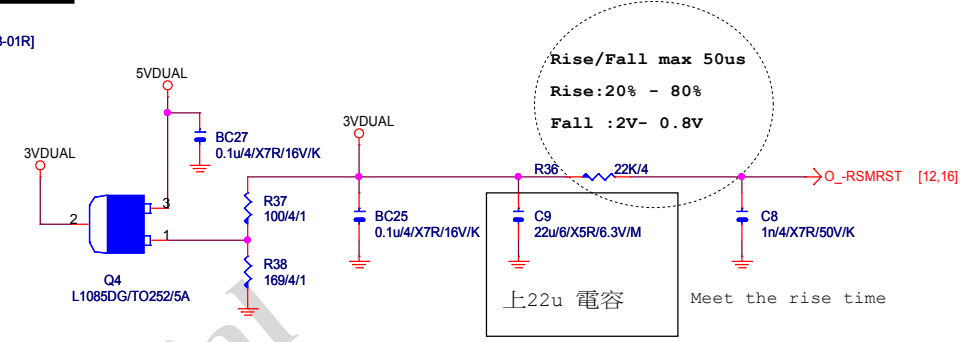
5VDUAL

REV:0.51

\* 5Vdual , update  
from SKL 0.2B



3VDUAL

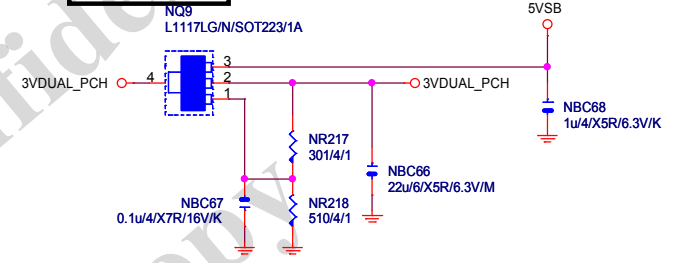


Rise/Fall max 50us  
Rise:20% - 80%  
Fall :2V- 0.8V

上22u 電容

Meet the rise time

3VDUAL\_PCH

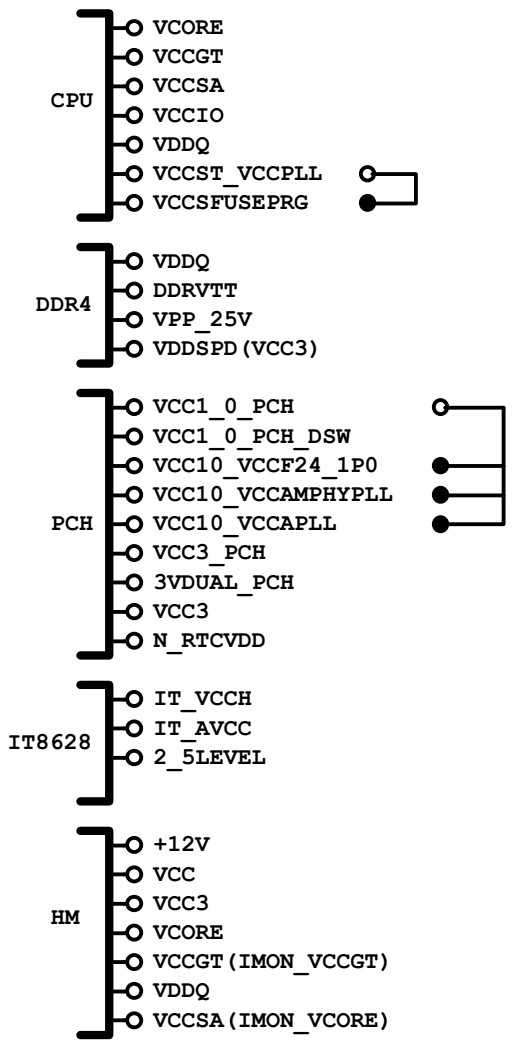


O -RSMRST (不上件)

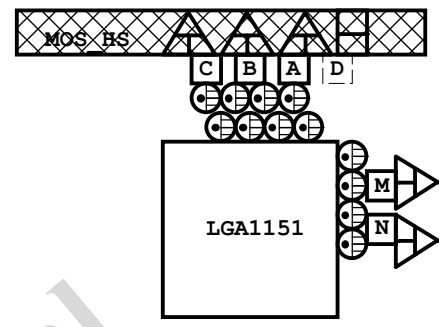
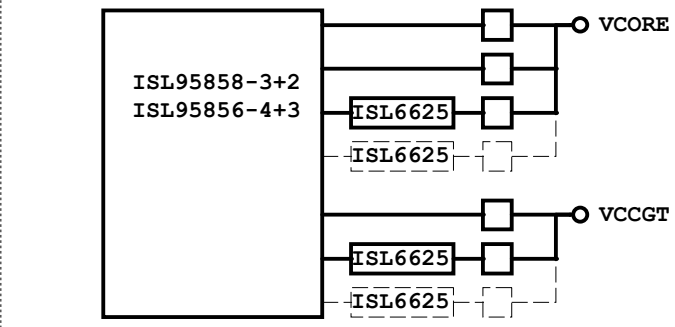
Gigabyte Technology

Title			
DISCRETE POWER			
Size	Document Number	B460M DS3H AC Y1	
Custom			Rev 1.01
Date: Thursday, May 14, 2020		Sheet 36	of 63

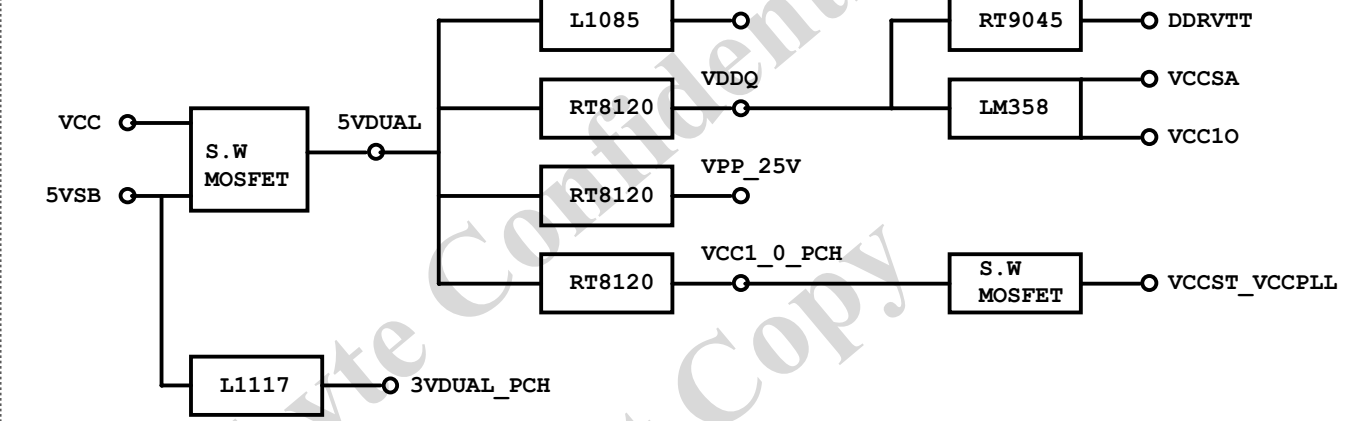
POWER BLOCK MAP



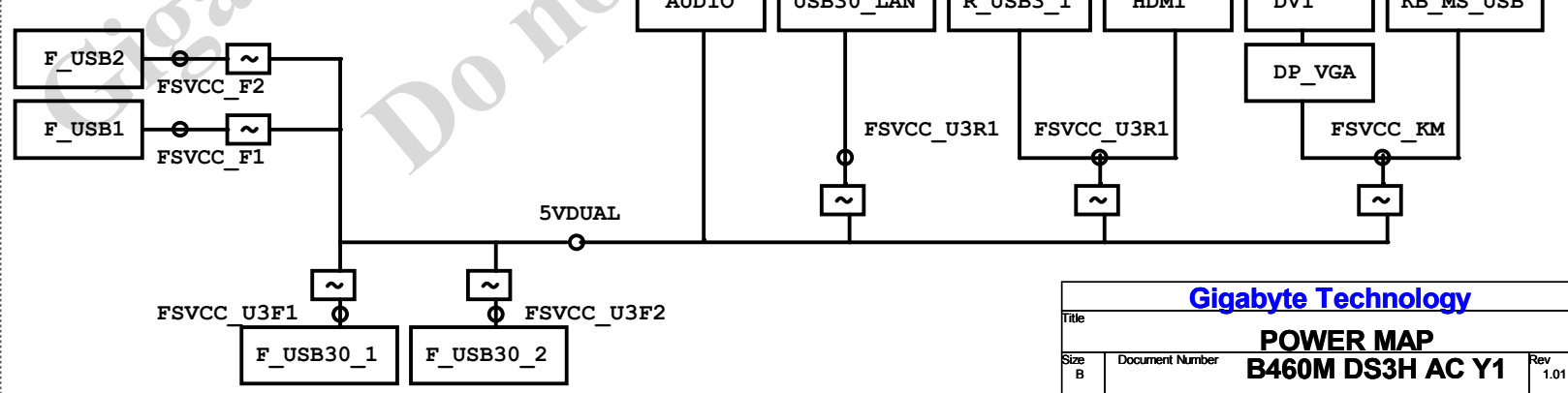
VCORE/VCCGT



POWER

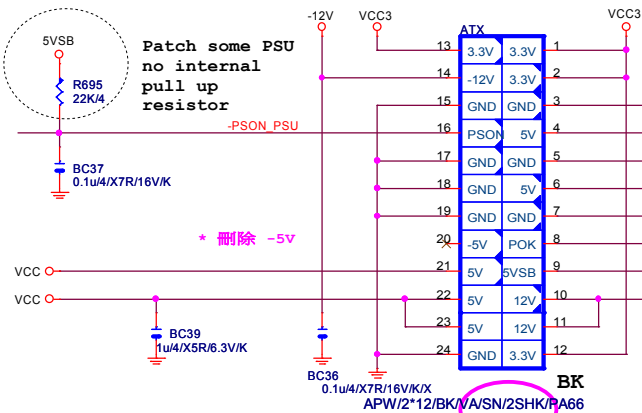


FUSE POWER F/R

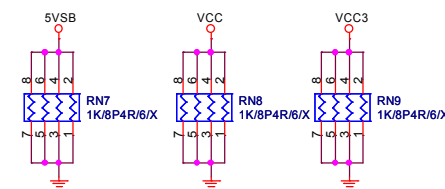


# ATXX24 POWER CONNECTOR

2x12 (一般Pin)  
FOOTPRINT: ATXPWR\_24-6

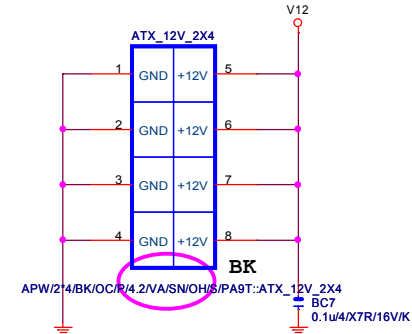


# DUMMY LOAD

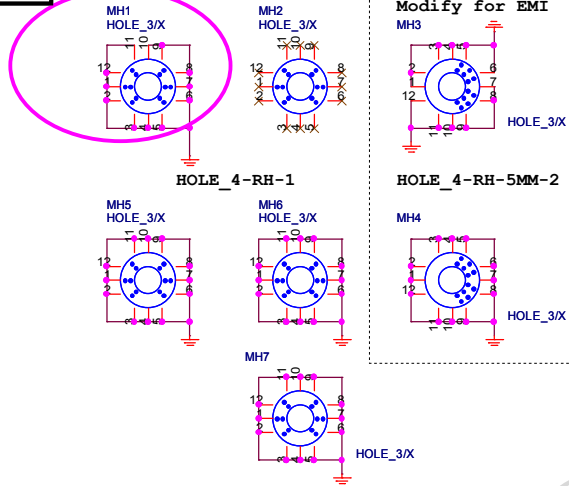


# ATXX4 POWER CONNECTOR

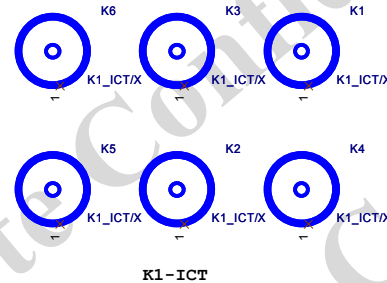
2x4 (實心Pin)  
FOOTPRINT: ATXPW2X4-SOLID



# 螺絲孔



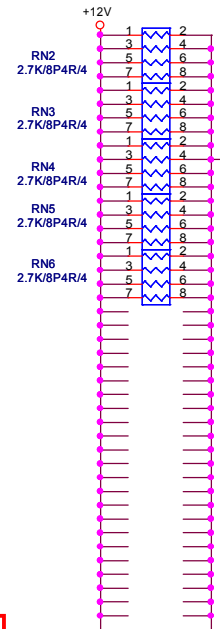
# 固定孔/光學點



# +12V DUMMY LOAD

【技術通報R&D技術通報153】

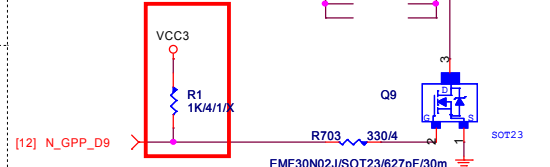
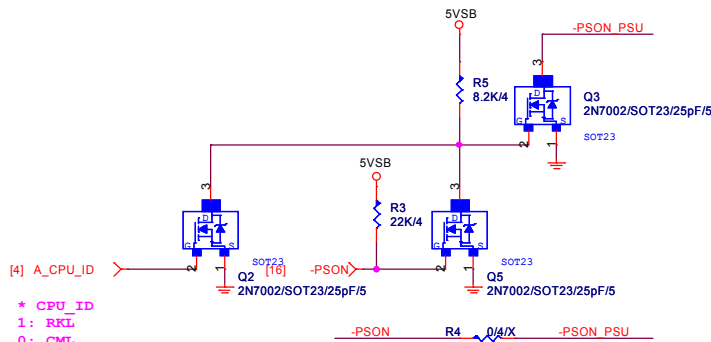
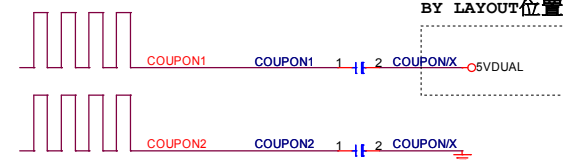
To fix 12V light load abnormal issue



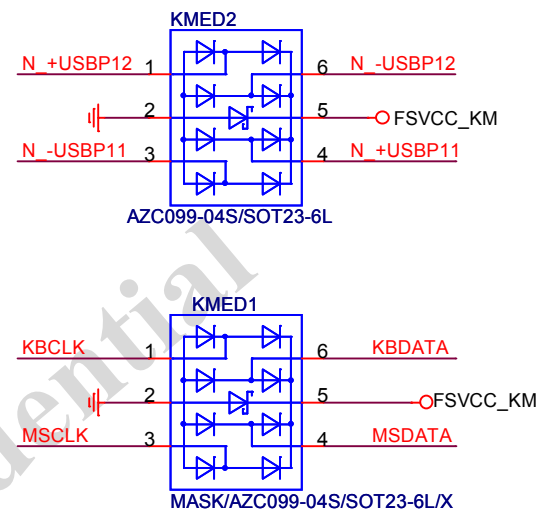
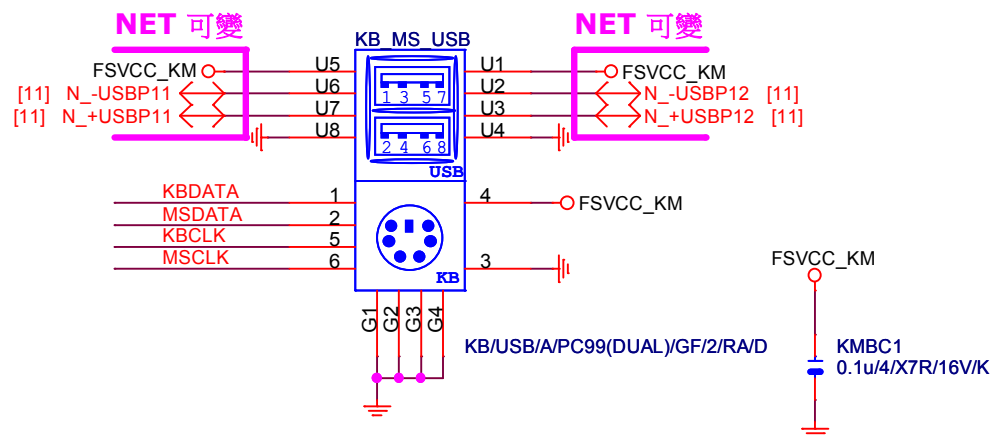
# -PROHOT



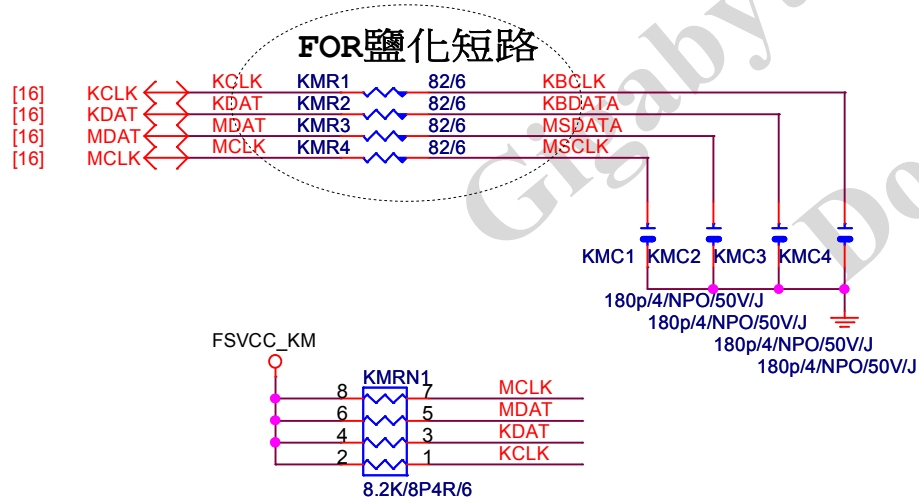
# COUPON



Gigabyte Technology			
Title			
ATX POWER CONNECTOR			
Size	Document Number	B460M DS3H AC Y1	
Custom		Rev 1.01	
Date:	Thursday, May 14, 2020	Sheet	38 of 63

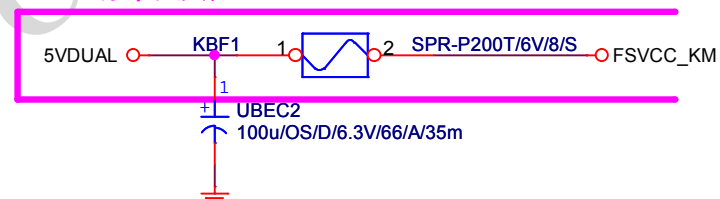


## KB\_MS\_USB DAMPING/PU



## KB\_MS\_USB PWR

## NET 可變, 與其他USB SHARE



## USB OC PROTECT

Gigabyte Technology

Title

KB\_MS\_USB

Size

Document Number

B460M DS3H AC Y1

Rev

1.01

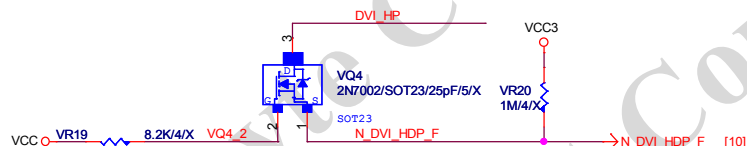
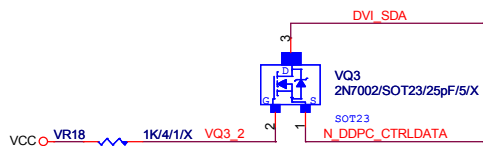
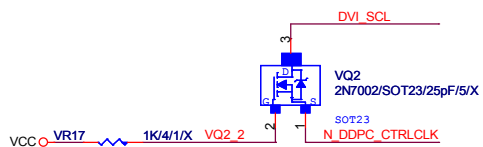
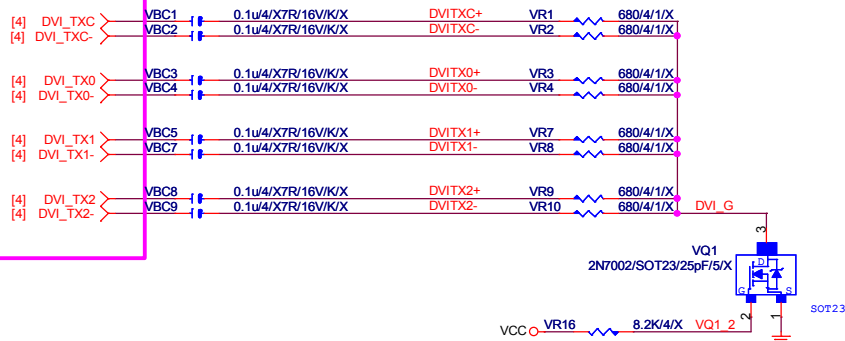
Date: Thursday, May 14, 2020

Sheet 39 of 63

DVI

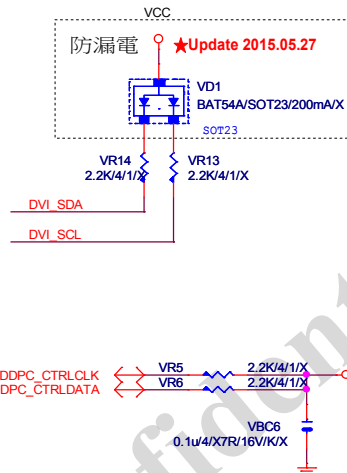
Rev: 0.8

NET 可變

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

B460M DS3H AC[N/A]

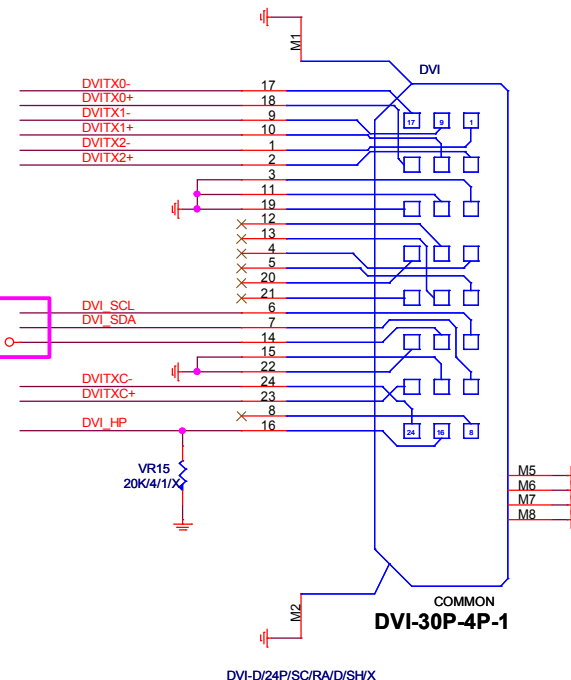
DVI PU



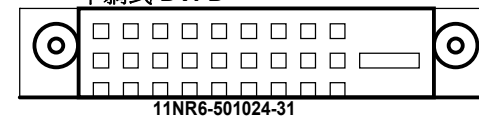
DVI CONN

NET 可變

\* FSVCC\_KM

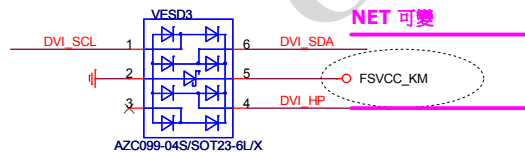
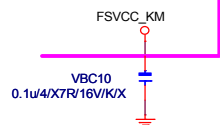


平躺式 DVI-D



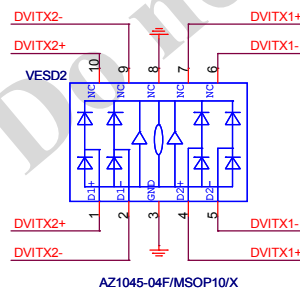
ESD

NET 可變

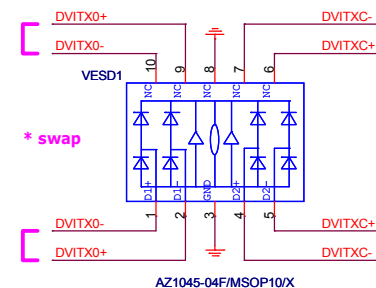


Close to connector

NET 可變



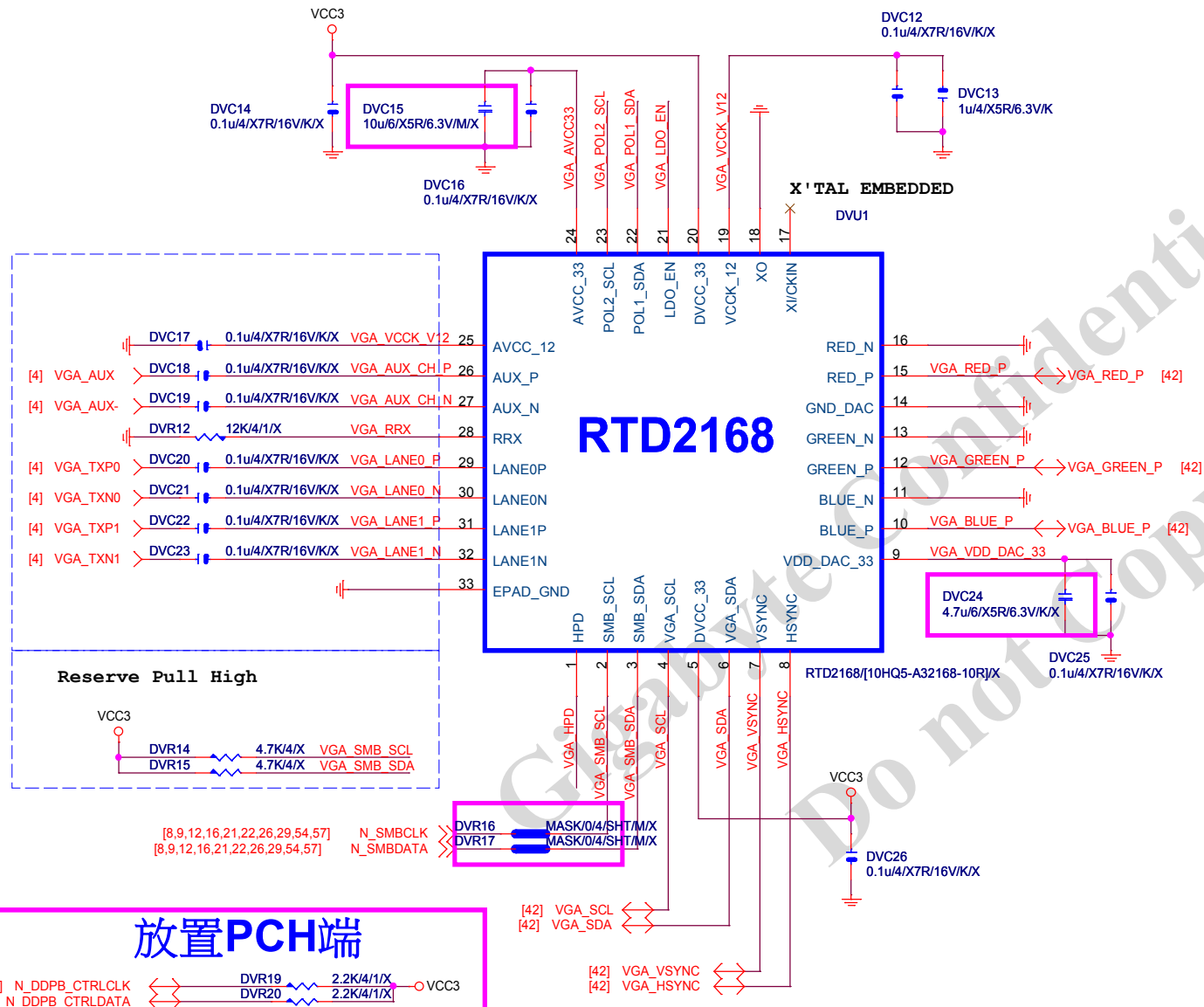
Close to connector



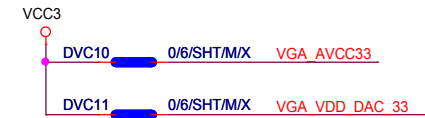
Close to connector

Gigabyte Technology

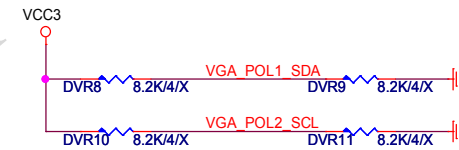
Title		DVI	
Size	Document Number	B460M DS3H AC Y1	
Custom		Rev 1.01	
Date:	Thursday, May 14, 2020	Sheet	40 of 63



## POWER

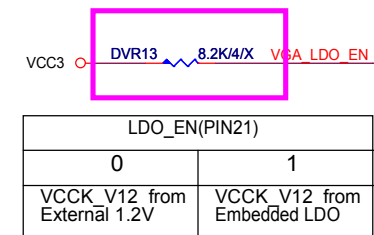


## Power on latch

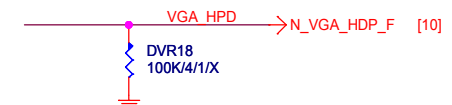


		POL1_SDA(PIN22)	
		0	1
POL2_SCL (PIN23)	0	X	EP MODE
	1	ROM ONLY MODE	EEPROM MODE

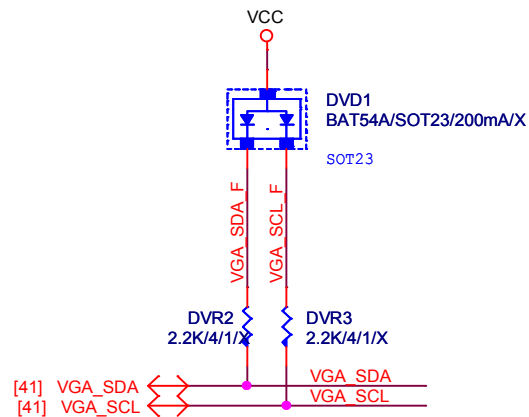
## Embedded LDO



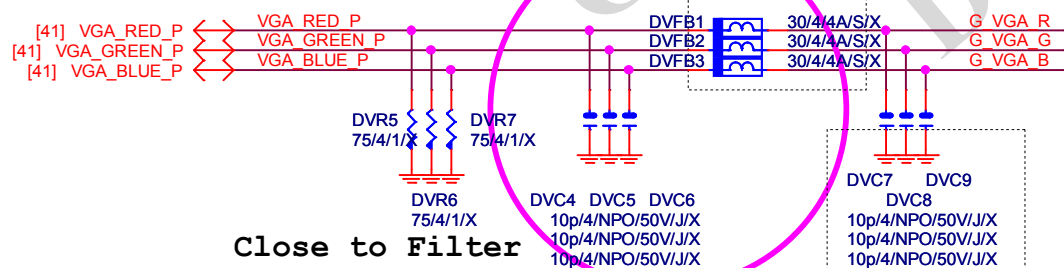
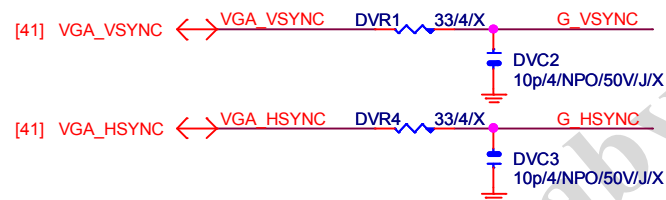
## DP HPD



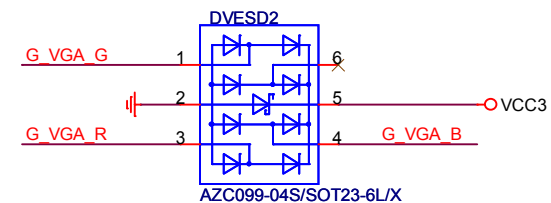
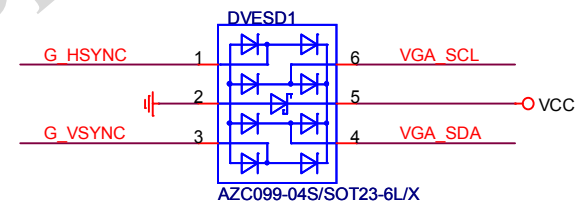
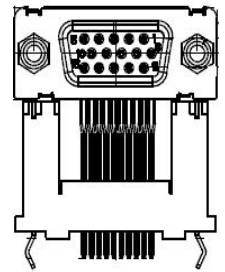
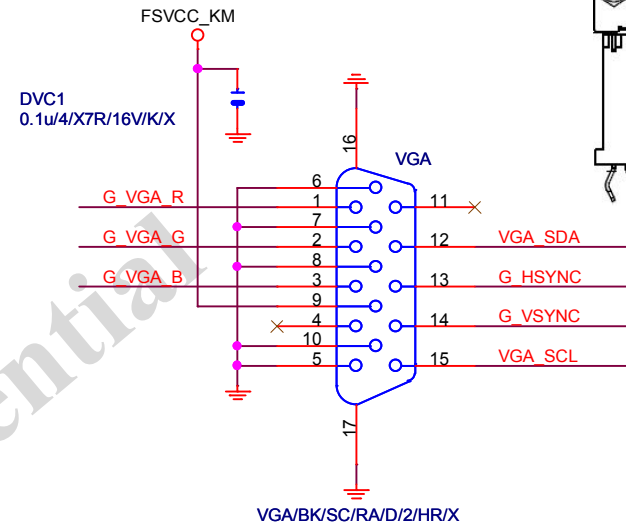
**Gigabyte Technology**  
**DP-VGA RTD2168**



## B460M DS3H AC[N/A]



FOR EMI



**Gigabyte Technology**  
**DP-VGA RTD2168**

Title

Size  
Custom

Document Number

B460M DS3H AC Y1

Rev  
1.01

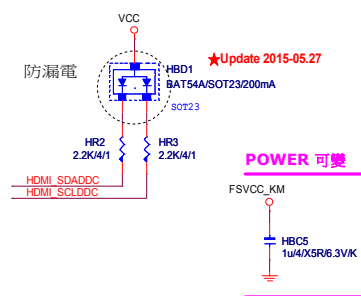
Date: Thursday, May 14, 2020

Sheet 42 of 63

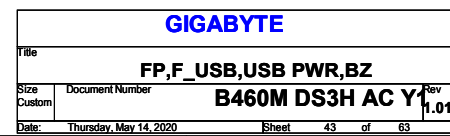
[4] HDMI\_TX2-  
[4] HDMI\_TX2

[4] HDMI\_TX1-  
[4] HDMI\_TX1

[4] HDMI\_TX0-  
[4] HDMI\_TX0



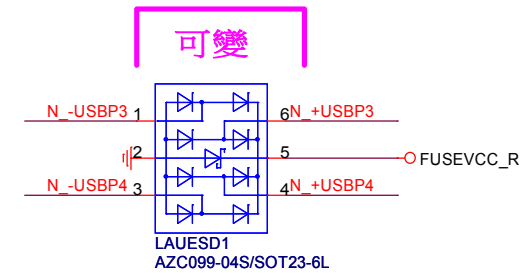
【技術通報R&D技術通報150】  
HDMI eye diagram 4版(deep color)會fail  
原因: 因目前的HDMI訊號過長,造成RISING TIME過慢,而會壓到eye diagram  
改善: ASMEDIA ASM1442 : 3.16K(PIN6 PULL DOWN電阻) 10ohm(PIN4 PULL DOWN電阻)





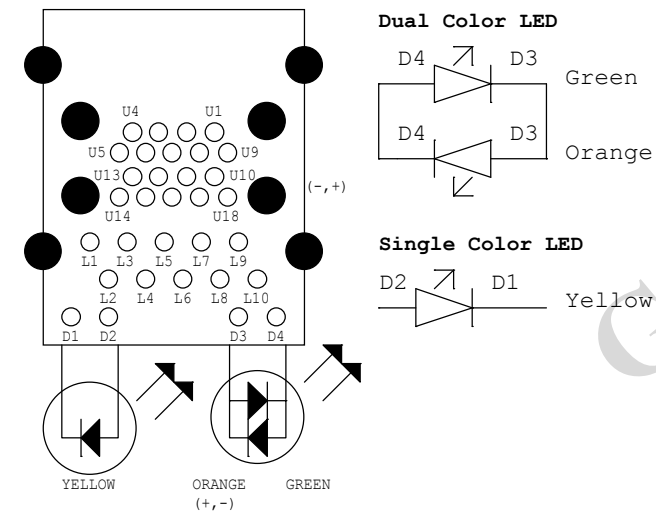
# USB30\_LAN CONNECTOR R2.01

## RMA ESD PROTECT note:可變更USB NAME



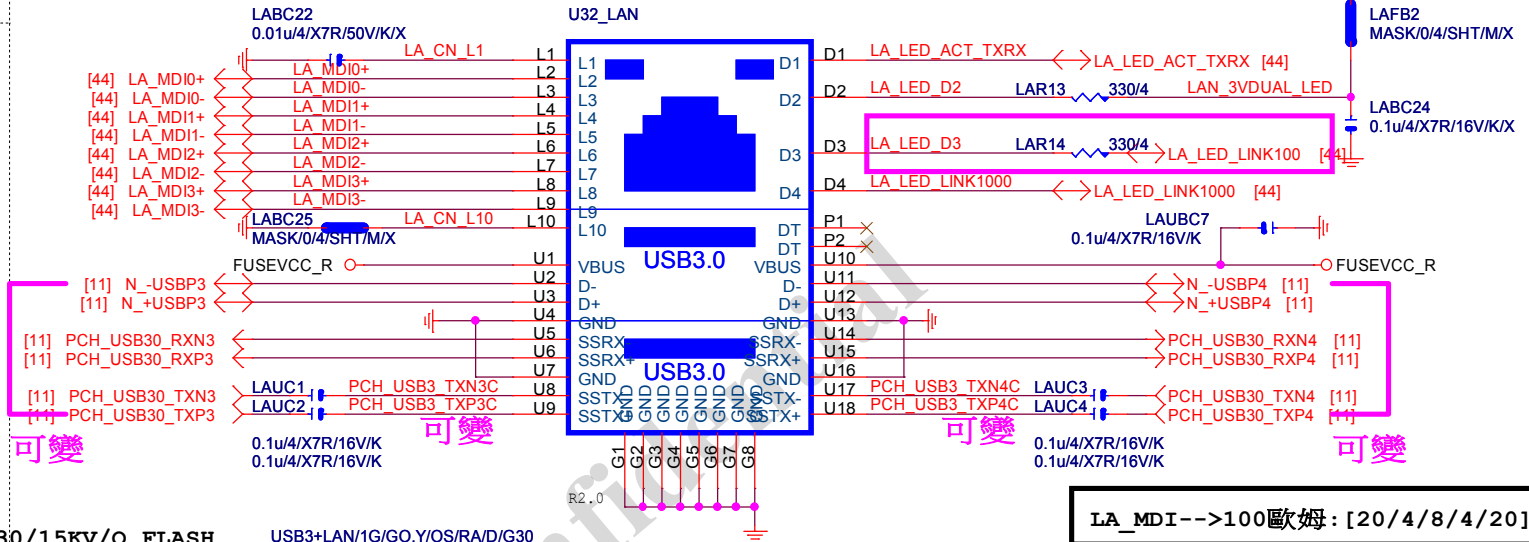
USB上白下藍:USB3+LAN/1G/GO,Y/OS/RA/D/G30/15KV/Q FLASH

## USB30\_LAN LAYOUT示意圖

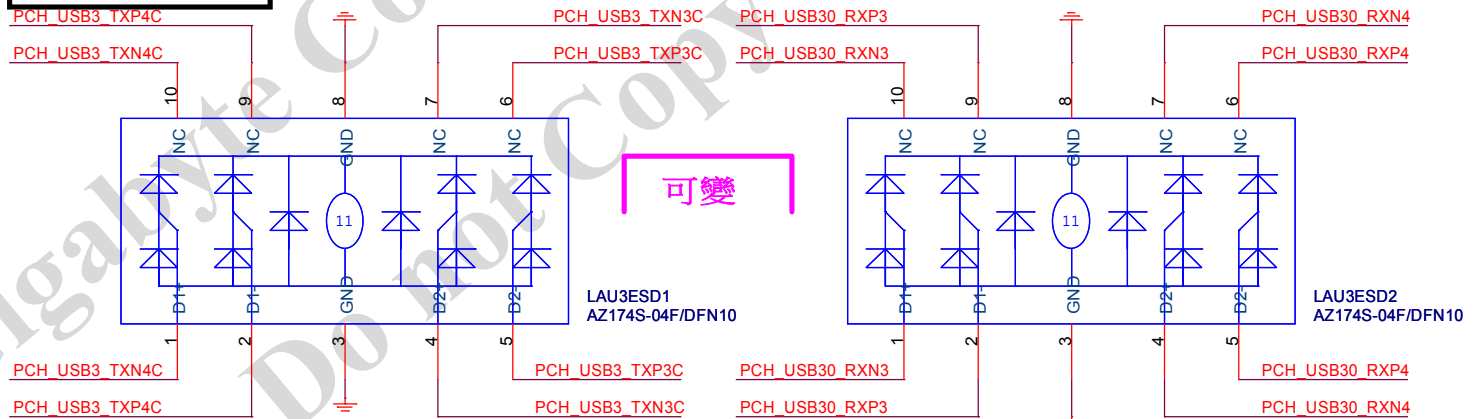


# USB\_LAN CONNECTOR note:可變更USB NAME

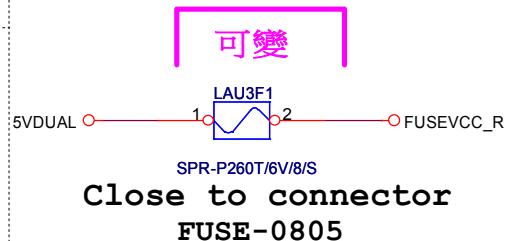
## [RTL8111G]



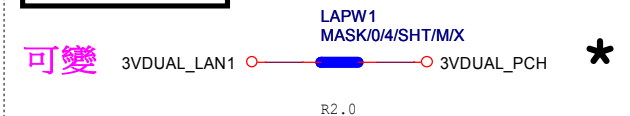
## RMA ESD PROTECT note:可變更USB NAME



## USB POWER note:可變更FUSE

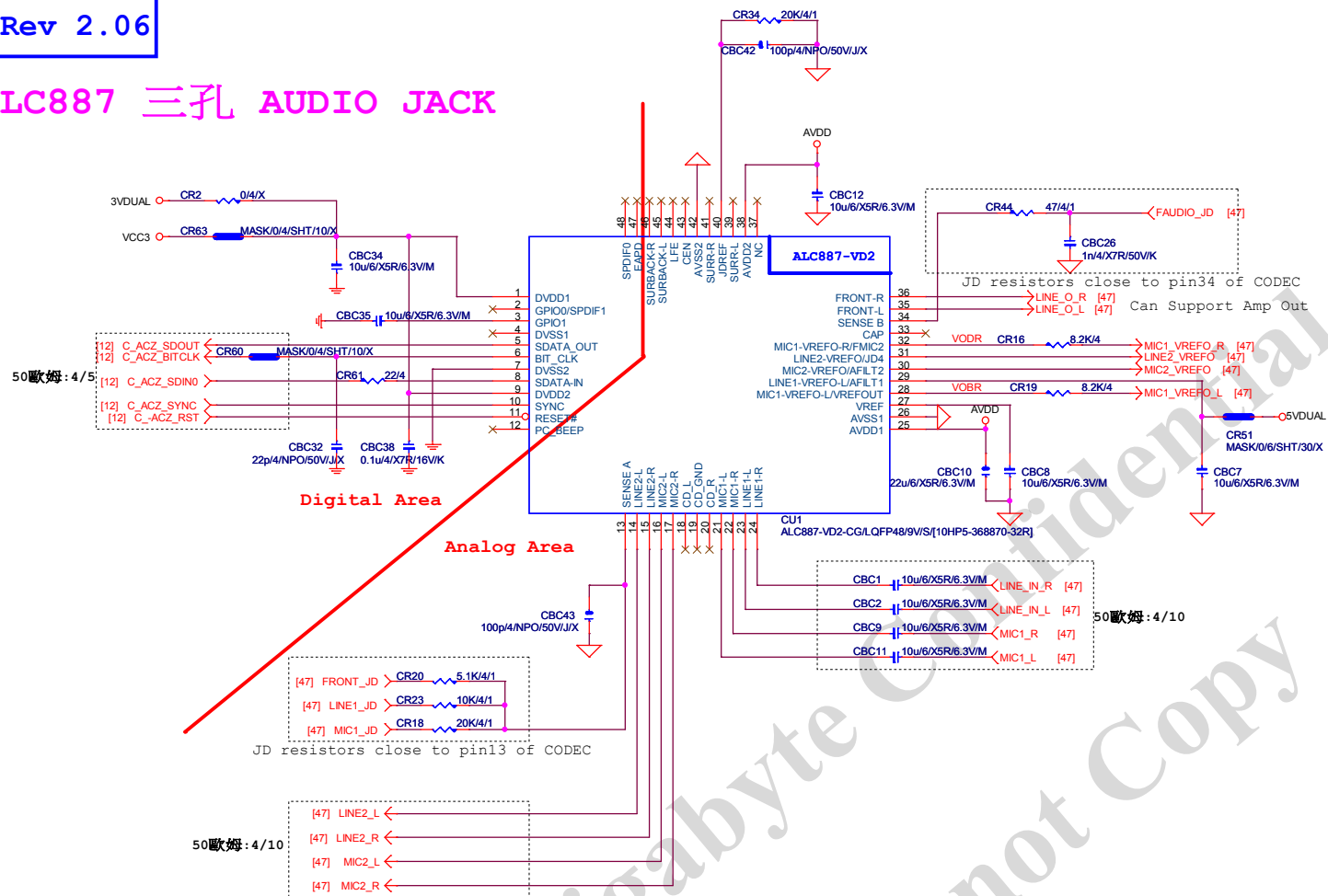


## LAN POWER note:lan power連接及電流



Gigabyte Technology			
LAN CONNECTOR-RTL8111G			
Title	Document Number	Rev	
Size	Custom	B460M DS3H AC Y1	
Date:	Thursday, May 14, 2020	Sheet	45 of 63

## ALC887 三孔 AUDIO JACK



**LAYOUT注意: 螺絲孔下GND方式**

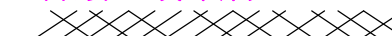
1. MH1空間夠, 下DGND
2. MH2一律改為Isolate

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

**LAYOUT注意: 要加**

**GND切割線**

**音效區域印刷**



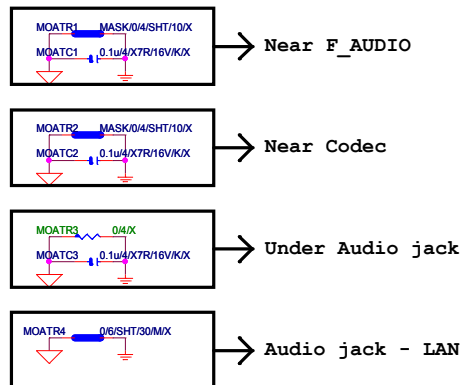
\*料號後補  
\*LAYOUT與否, 依照各Model spec

**BOM OPTION :**

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

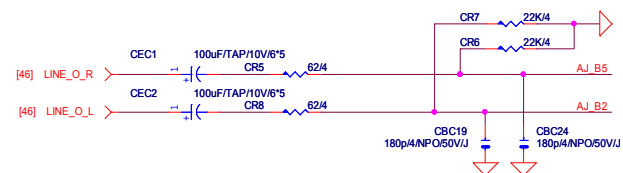
<b>Gigabyte Technology</b>			
Title <b>HD AUDIO ALC887</b>			
Size	Document Number	<b>B460M DS3H AC Y1</b>	
Custom			Rev <b>1.01</b>
Date:	Thursday, May 14, 2020	Sheet	46 of 63

Rev 2.06

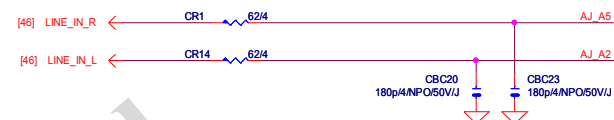


\*量産前, 0ohm改short pad

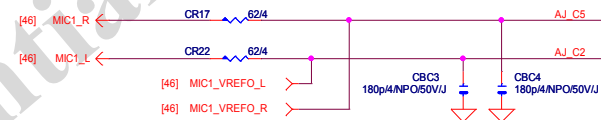
## LINE-OUT



## LINE-IN



## MIC-IN



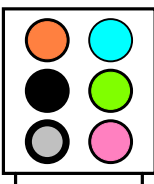
## SURROUND

## CEN/LFE

## SURR BACK

For HDMI SPDIF (依SPEC保留或移除)

## AZALIA JACK

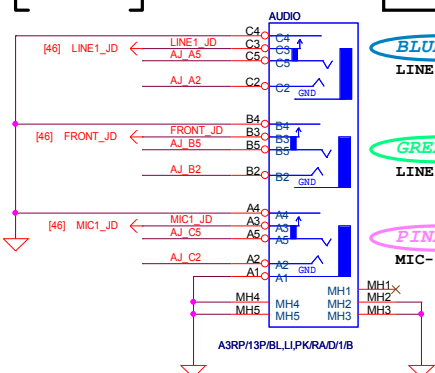


## AZALIA JACK

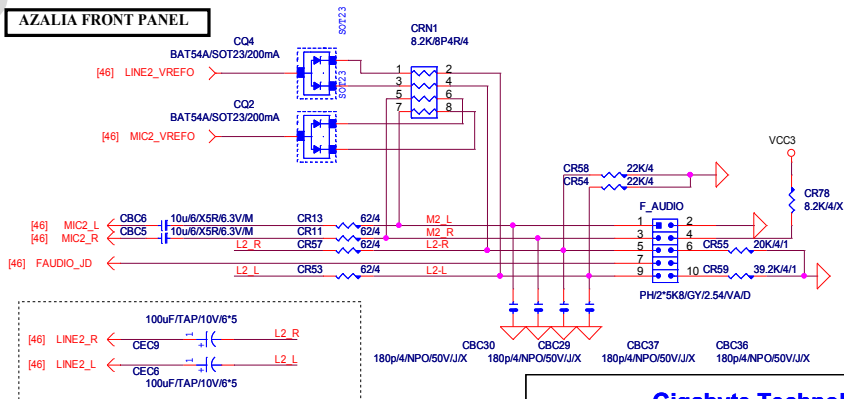
BLUE  
LINE-IN

GREEN  
LINE-OUT

PINK  
MIC-IN



## AZALIA FRONT PANEL



Gigabyte Technology

Title			AUDIO JACK	
Size			B460M DS3H AC Y1	
Date:			Thursday, May 14, 2020	Sheet 47 of 63
Rev			1.01	

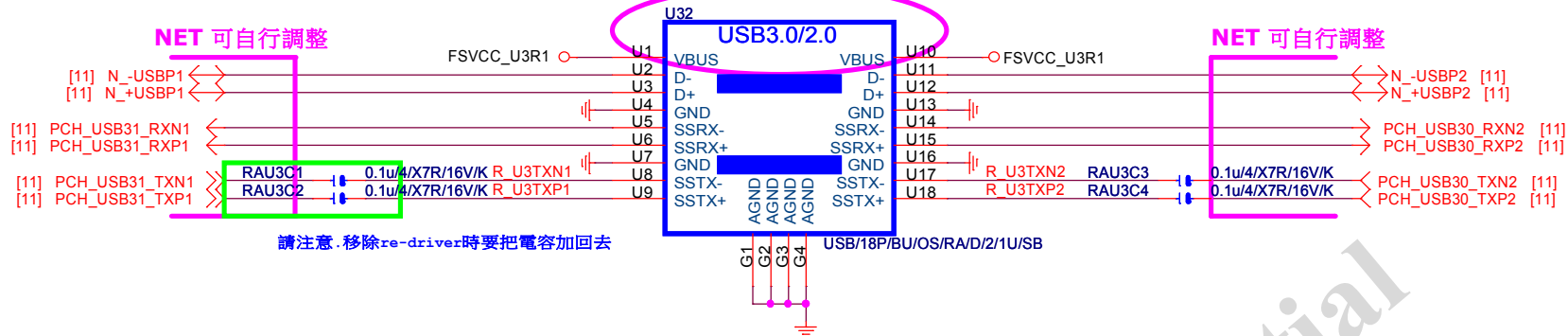
Gigabyte Confidential  
Do not Copy

**GIGABYTE™**

Title			<b>Amient Single LED</b>		
Size	Document Number				Rev
Custom	<b>B460M DS3H AC Y1</b>				<b>1.01</b>
Date:		Thursday, May 14, 2020		Sheet	48 of 63

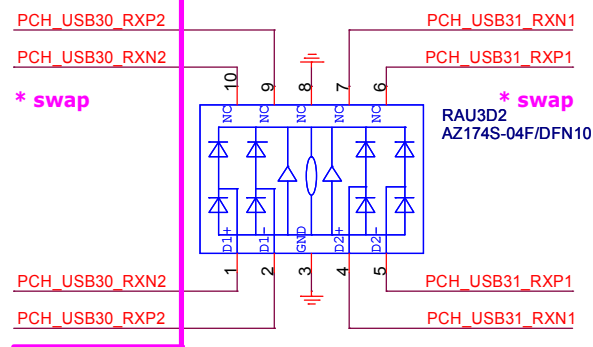
Rev: 0.7

ESD 可自行SWAP PIN ,CONN端 NET 名稱 不可

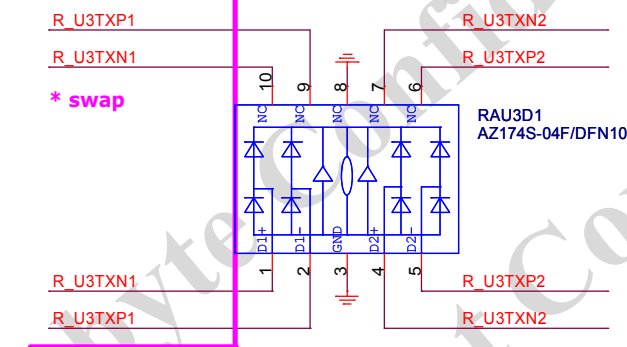


ESD

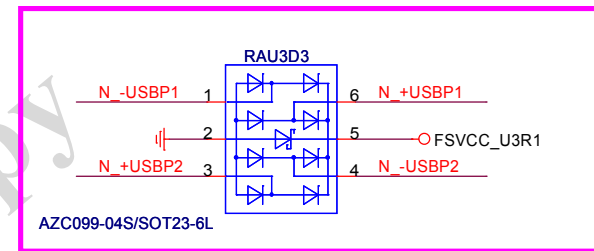
NET 可自行調整



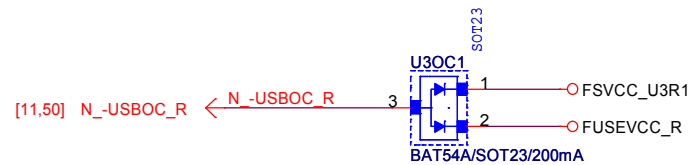
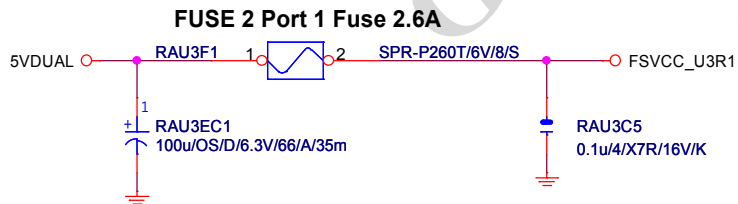
NET 可自行調整



NET 可自行調整



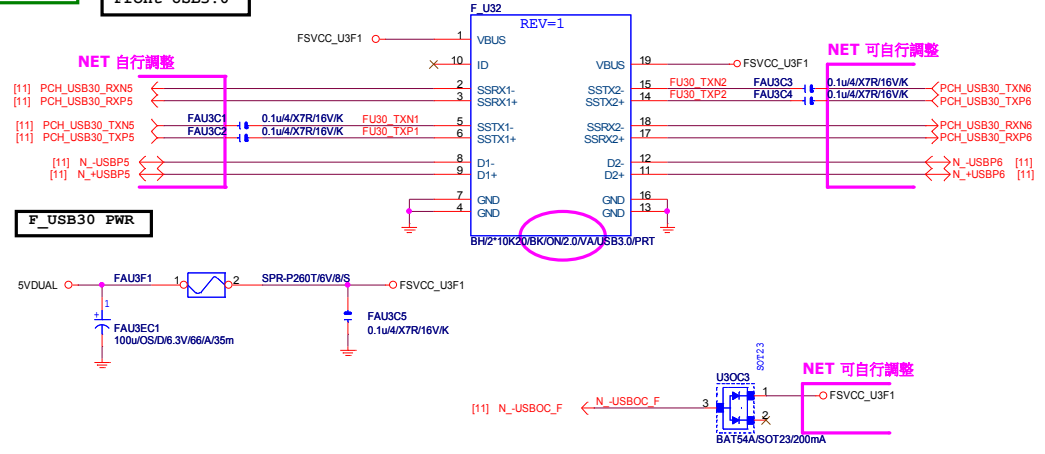
FUSE



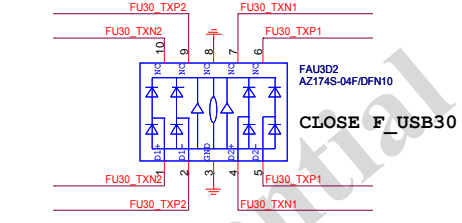
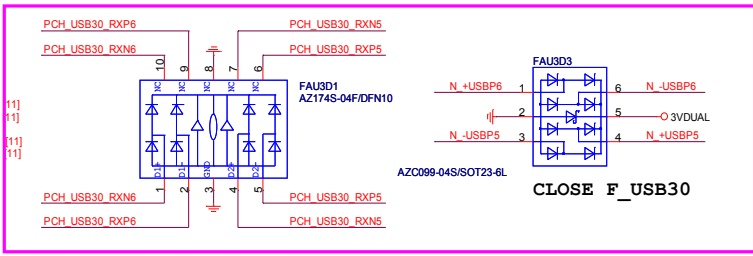
Gigabyte Technology

Title		R_USB30,USB_OC	
Size	Document Number	B460M DS3H AC Y1	
Custom		Rev 1.01	
Date:	Thursday, May 14, 2020	Sheet	49 of 63

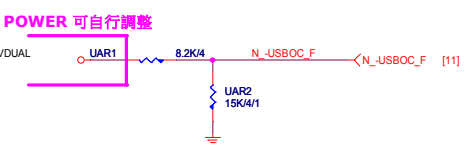
Front USB3.0



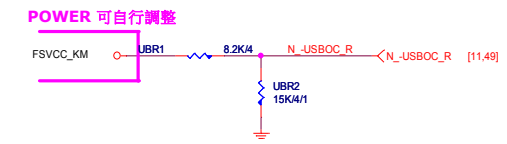
NET 可自行調整



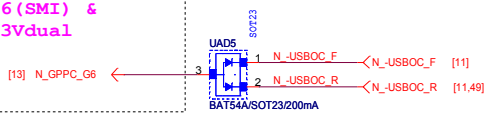
-USBOC\_F



-USBOC\_R

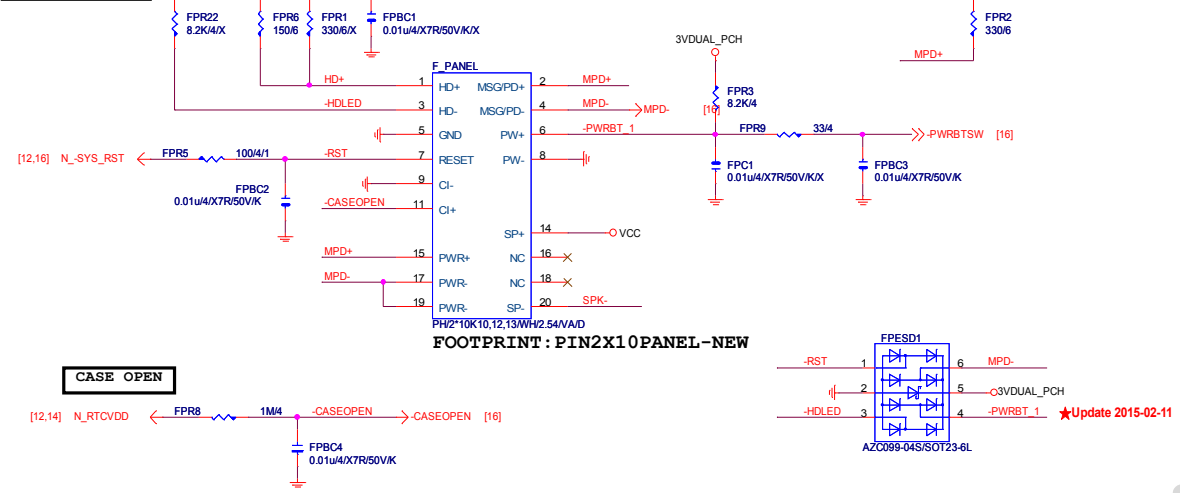


\* 接 PCH  
N\_GPP\_G6(SMI) &  
PCH PU 3Vdual

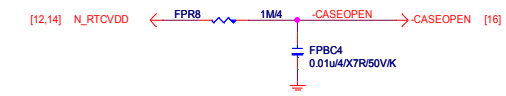




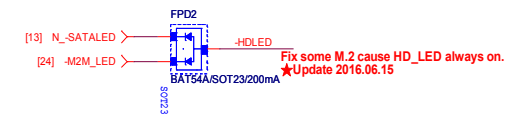
FRONT PANEL



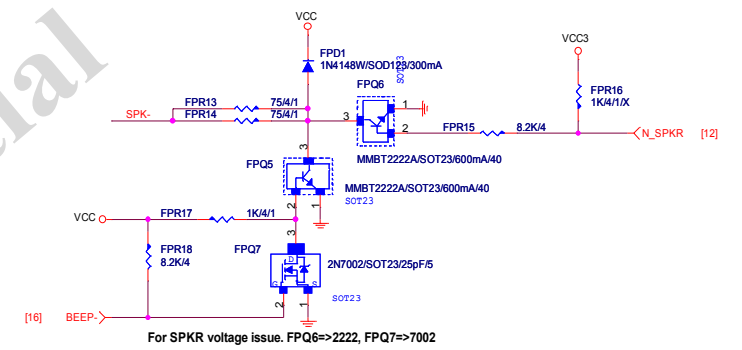
CASE OPEN



SATA/M.2 LED

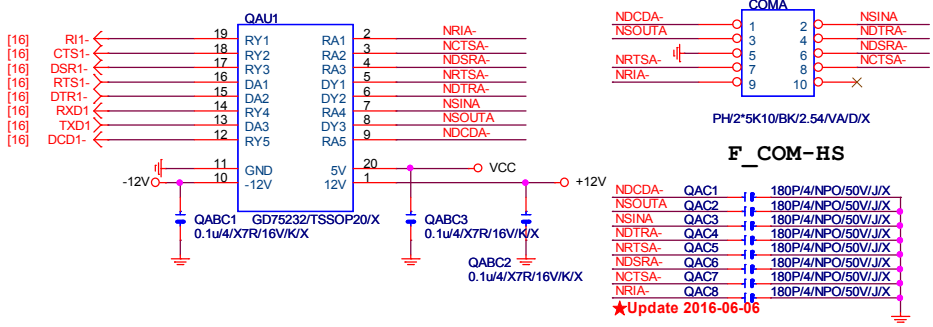


SPKR

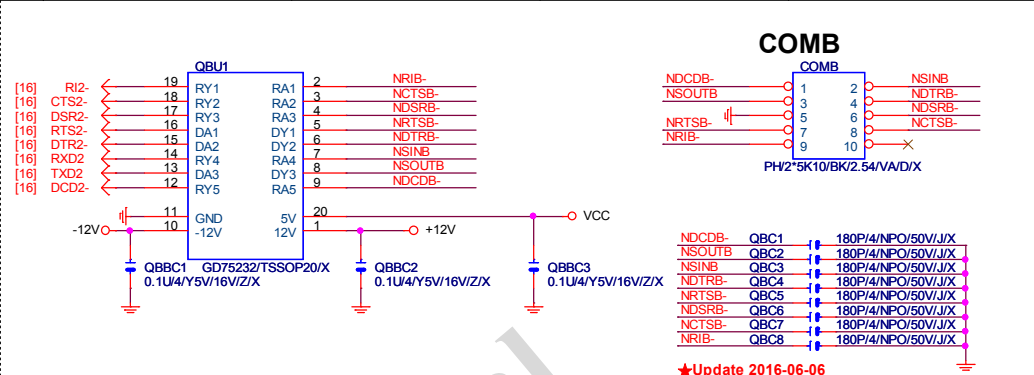


FRONT PANEL SHORT

COM PORT Rev: 0.7



B460M DS3H AC[N/A]

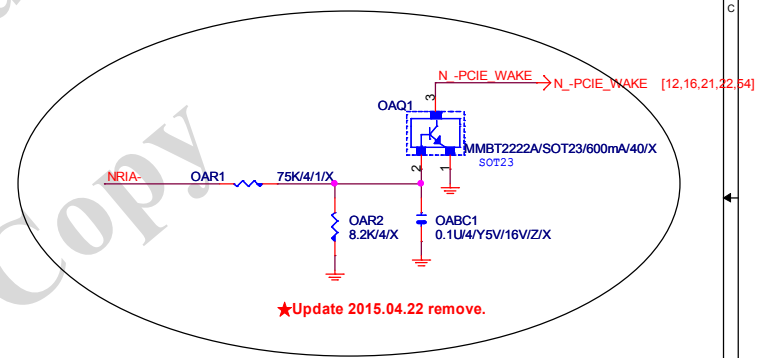


B460M DS3H AC[N/A]

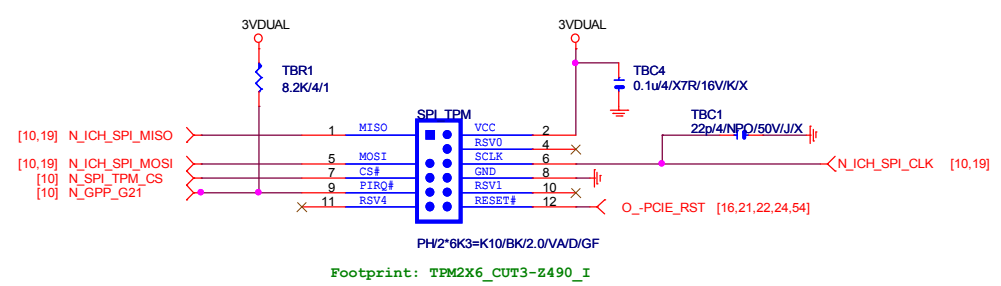
LPT PORT

COM RI

N/A



TPM CONNECT



Rev: 0.2

請選擇適用的USBport :  
SOC/UD7/UD5/G1/G7 : USB4  
;UD3/G5:USB6

NET 可變

[11] N\_+USBP10  
[11] N\_-USBP10

PCIE:15/4/4/15(breakout min 8/4/4/8)  
外層Impedance=85 +/- 17.5%

PCIE:15/4/4/15(breakout min 8/4/4/8)  
內層 Impedance=85 +/- 12%

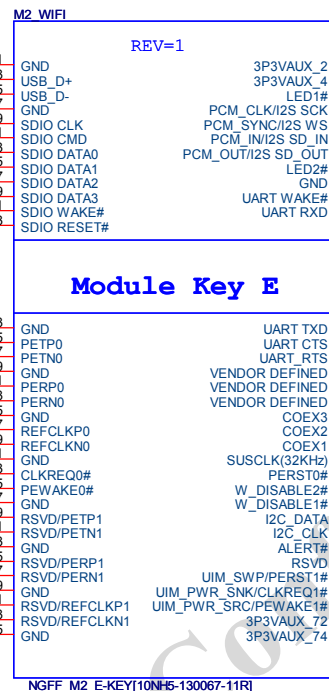
NET 可變

WIFI use PCIE port4 in X99

[11] M2\_WIFI\_TP  
[11] M2\_WIFI\_TN  
[11] M2\_WIFI\_IP  
[11] M2\_WIFI\_JN  
[10] CK\_WIFI\_100M\_DP  
[10] CK\_WIFI\_100M\_DN  
[10] WIFI\_CKREQL  
[12,16,21,22,53] N\_PCIE\_WAKE

M2WC4 0.1u/4/X7R/16V/K  
M2WC5 0.1u/4/X7R/16V/K  
M2WR4 22/4  
M2WR6 0/4/SHT/20/X

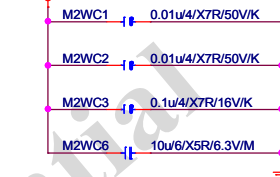
33 GND  
35 PETP0  
37 PETN0  
39 GND  
41 PERP0  
43 PERN0  
45 GND  
47 REFCLKP0  
49 REFCLKN0  
51 GND  
53 CLKREQ0#  
55 PEWAKE0#  
57 GND  
59 RSVD/PETP1  
61 RSVD/PETN1  
63 GND  
65 RSVD/PERP1  
67 RSVD/PERN1  
69 GND  
71 RSVD/REFCLKP1  
73 RSVD/REFCLKN1  
75 GND



Remove LED show

Remove LED show

3VDUAL

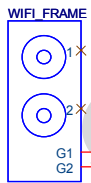
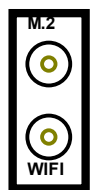


M2\_WIFI\_SUSCLK M2WR3 0/4/SHT/M/X  
M2\_WIFI\_RST- M2WR5 0/4/SHT/M/X  
M2\_WIFI\_DIS2- M2WR7 8.2K/4  
M2\_WIFI\_DIS1- M2WR8 8.2K/4  
M2\_WIFI\_SDATA M2WR9 10/4/X  
M2\_WIFI\_SCLK M2WR10 10/4/X  
M2\_WIFI\_ALERT- M2WR11 8.2K/4

N\_SUSCLK\_WIFI [12]  
O\_PCIE\_RST [16,21,22,24,53]  
N\_SMBDATA [8,9,12,16,21,22,26,29,41,57]  
N\_SMBCLK [8,9,12,16,21,22,26,29,41,57]

M2\_WIFI\_RST-  
M2WBC1 10p/4/NPO/50V/J/X

一套WIFI MODULE包含外框+WIFI CARD+天線



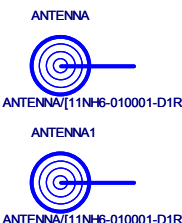
WIFI\_MODULE  
Wi-Fi BT noVpro M.2 CARD INTEL[20CB1-023168-10R]



CNV1 CARD  
CARD[11KWP-000001-21R]  
Wifi card塑膠蓋



CNV1\_WIFI\_SK  
CR[12KS2-110202-01R]  
螺絲



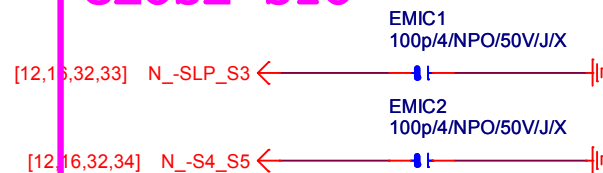
FRAME/WIFI M2/RA/1535 I/[12AC2-000004-31R]

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

GIGABYTE™

Title <b>M2_WIFI</b>		
Size B	Document Number <b>B460M DS3H AC Y1</b>	Rev <b>1.01</b>
Date:	Thursday, May 14, 2020	Sheet 54 of 63

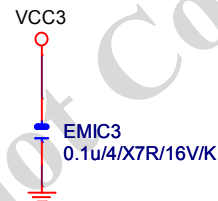
## CLOSE SIO



## CLOSE PCH



## CLOSE NR47

**GIGABYTE™**

Title

**EMI/ESD**Size  
A

Document Number

**B460M DS3H AC Y1**

Rev

**1.01**

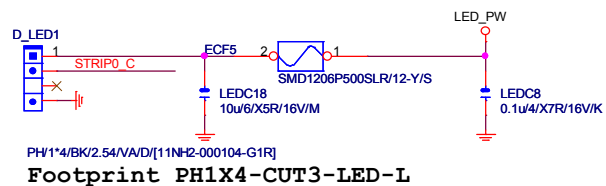
Date: Thursday, May 14, 2020

Sheet 56 of 63



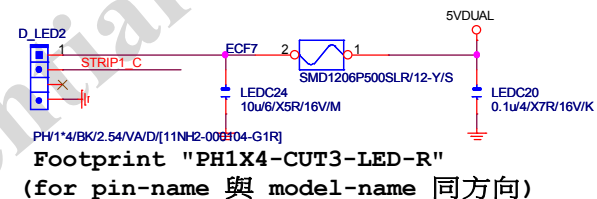
## 第六區 LED (靠近左上板邊位置)

### Digital LED Strip1

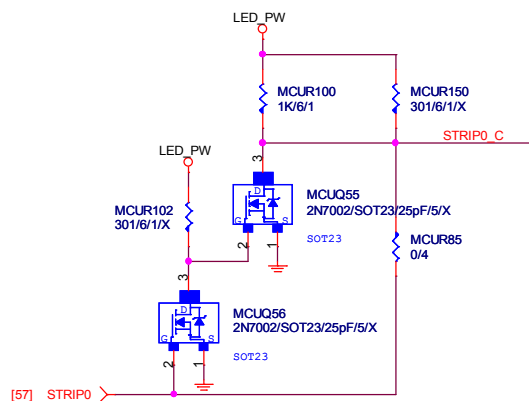


## 第七區 (靠近右下CPU板邊位置)

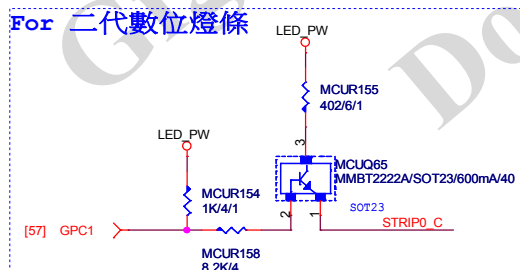
### Digital LED Strip2



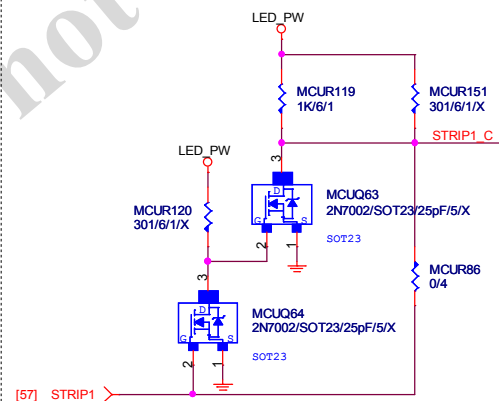
### 燈條 Level shift



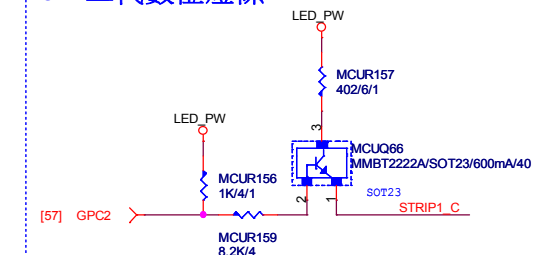
### For 二代數位燈條



### 燈條 Level shift

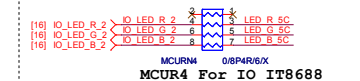
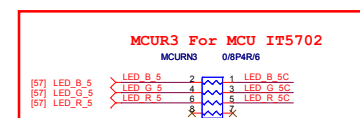
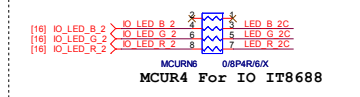
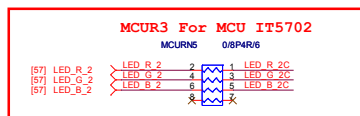


### For 二代數位燈條

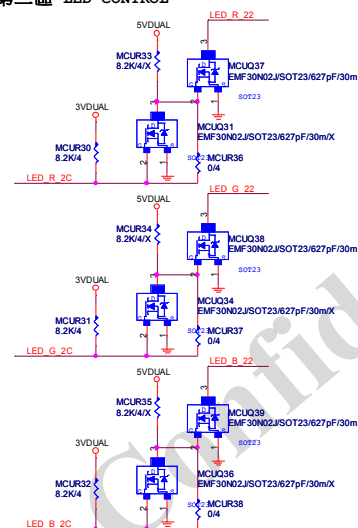


# GIGABYTE™

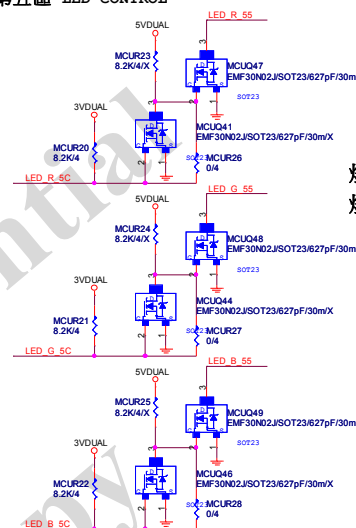
Title		
D_LED1/D_LED2		
Size	Document Number	Rev
Custom	B460M DS3H AC Y1	1.01
Date:	Thursday, May 14, 2020	Sheet 59 of 63



## 第二區 LED CONTROL

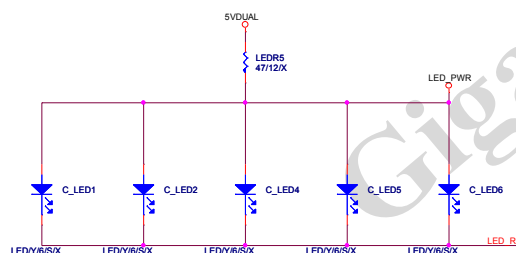
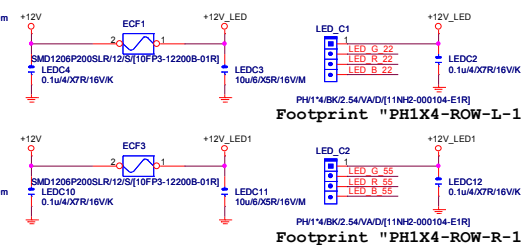


## 第五區 LED CONTROL



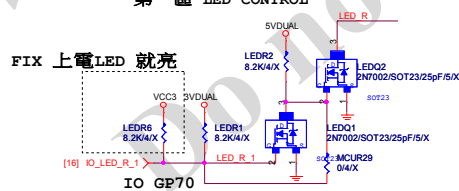
燈條 LED (LED\_C1放在PCB左邊板邊位置)

燈條 LED (LED\_C2放在PCB右邊板邊位置)



B460M DS3H AC[N/A]

## 第一區 LED CONTROL



B460M DS3H AC[N/A]

GIGABYTE™

File	PCH/AUDIO/DEBUG/C_LED1/2		
Size	Document Number	Rev	
Custom	B460M DS3H AC Y1	1.01	
Date:	Thursday, May 14, 2020	Sheet	62 of 65