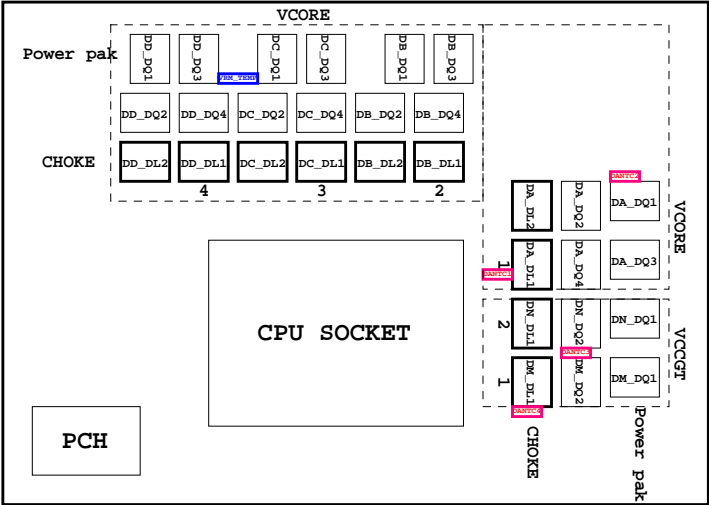


# Model Name: Z390 UD

SHEET	TITLE	Revision :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_LGA1151-D	
08	DDR 4 CHANNEL A	
09	DDR 4 CHANNEL B	
10	PCH CLOCK/DDC/BIOS	
11	PCH DMI,USB,PCIE	
12	PCH MISC	
13	PCH SATA,PCIE,CNVI	
14	PCH PWR	
15	PCH GND,Heatsink	
16	ITE 8688 LPC IO_RGB_LED	
17	HWM	
18	FAN CTRL-CFL-SIO	
19	Dual BIOS for CS mode	
20	CEC Logic	
21	PCIEX16 SLOT	
22	PCIEX4 SLOT1	
23	PCIEX4 SLOT2	
24	PCIEX1*3 SLOT	
25	SATA	
26	M.2 x4 (A)	
27	COM, TPM, THB	
28	VCORE_ISL69138(PWM)	
29	VCORE_ISL69138(Vcore_PPAK-1)	
30	VCORE_ISL69138(Vcore_PPAK-2)	
31	VCORE_ISL69138(Vcore_PPAK-3)	
32	VCORE_ISL69138(VccGT_PPAK)	
33	VCCSA VCCIO_VCCPLL	
34	RT8120_DDR_CHOKE-IRON-2L	
35	RT8120_VPP_CHOKE-IRON-合金	
36	RT8120_PCH-CHOKE-IRON	
37	DISCRETE POWER	

SHEET	TITLE
38	ATX POWER , -PROCHOT
39	NCP3933 OVER VOLTAGE
40	HDMI NO LS/R_USB30
41	R_USB30 ,KB_MS
42	CNVi_M2_WIFI
43	REALTEK RTL8118
44	USB30_LAN CONNECTOR-8118
45	Realtek ALC887
46	REAR AUDIO JACK
47	F_USB30
48	F_USB
49	F_PANEL ,OC_PIN
50	Audio / DEBUG / XMP LED
51	EMI-ESD
52	POWER MAP
53	NTC MAP

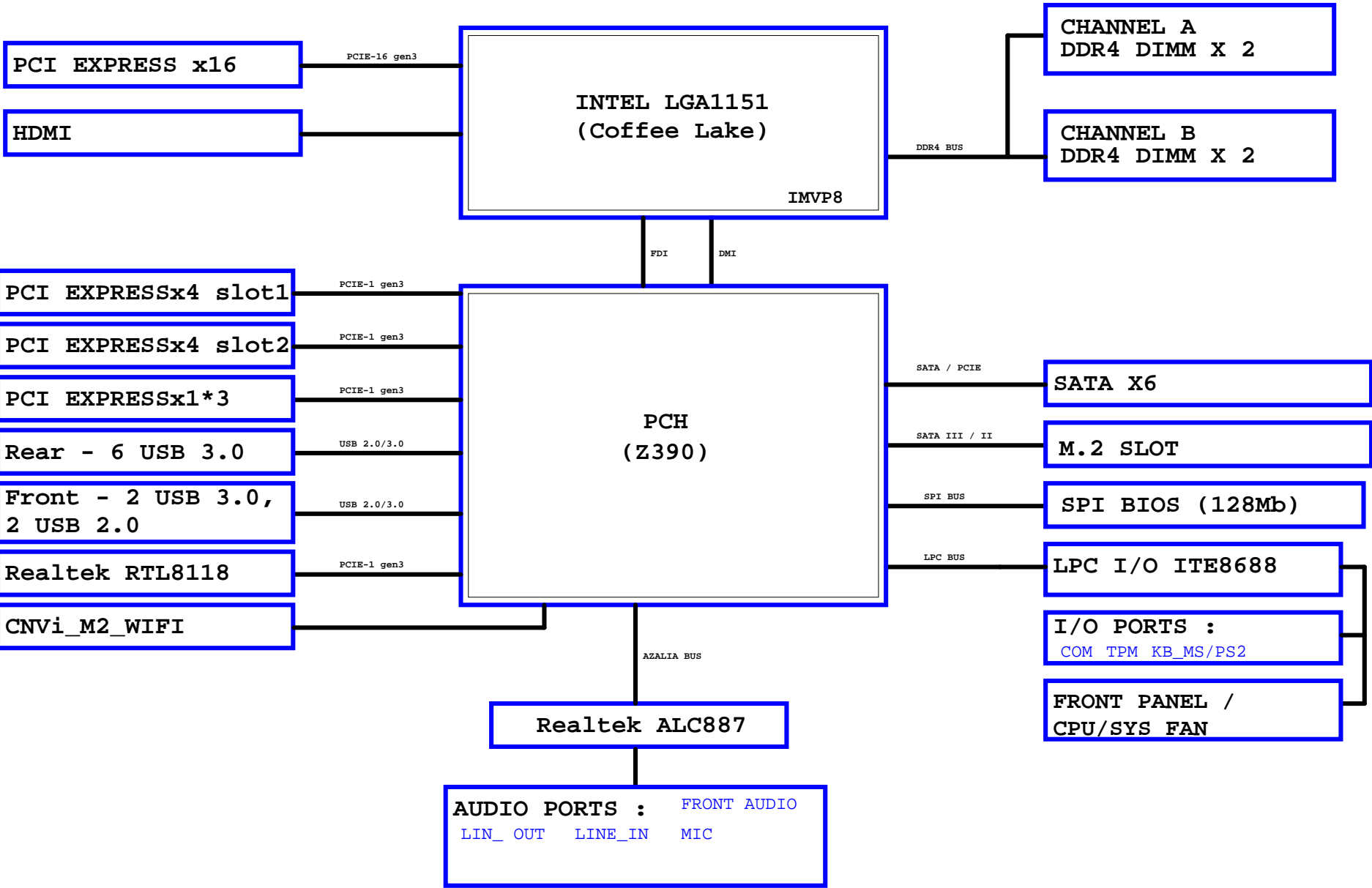


Circuit or PCB layout change

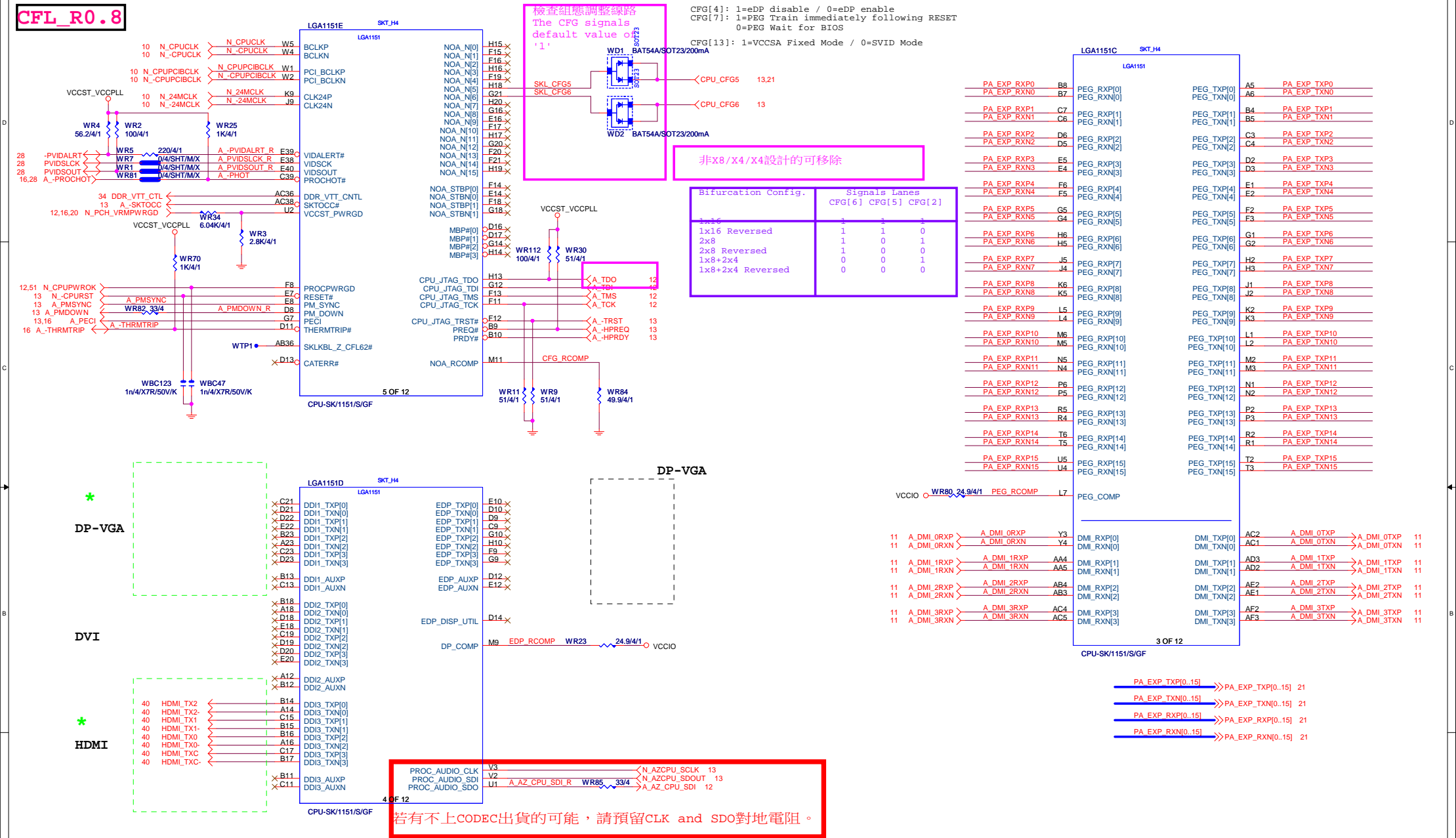
**P-Code: U18024-0**  
**Tip-Top: 9MZ39UD-00-01**

[illegible]

BLOCK DIAGRAM



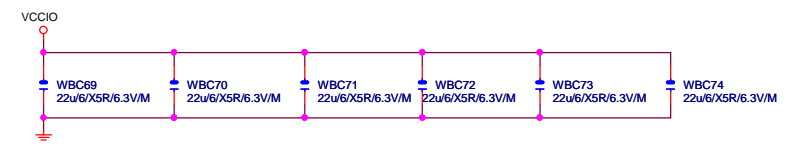
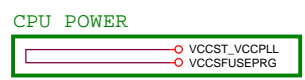
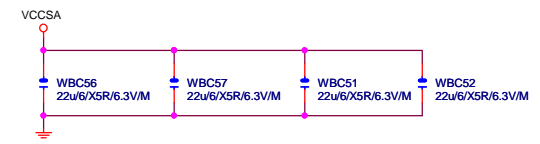
## CFL\_R0.8



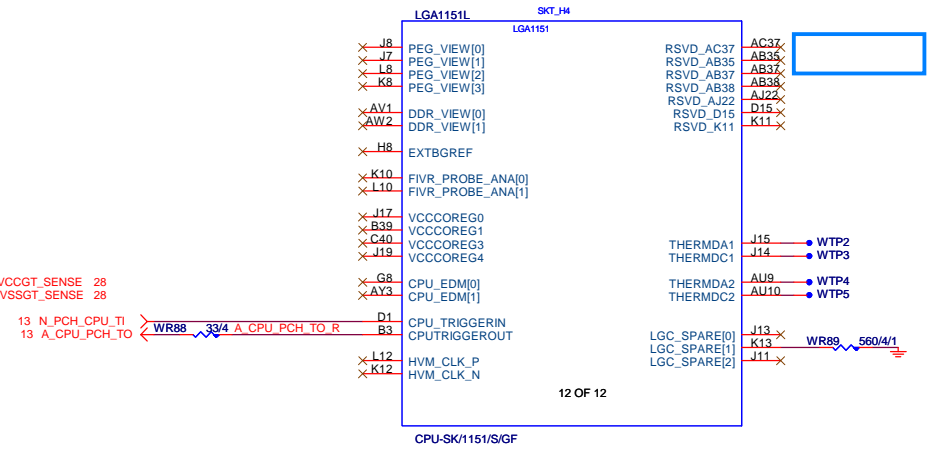
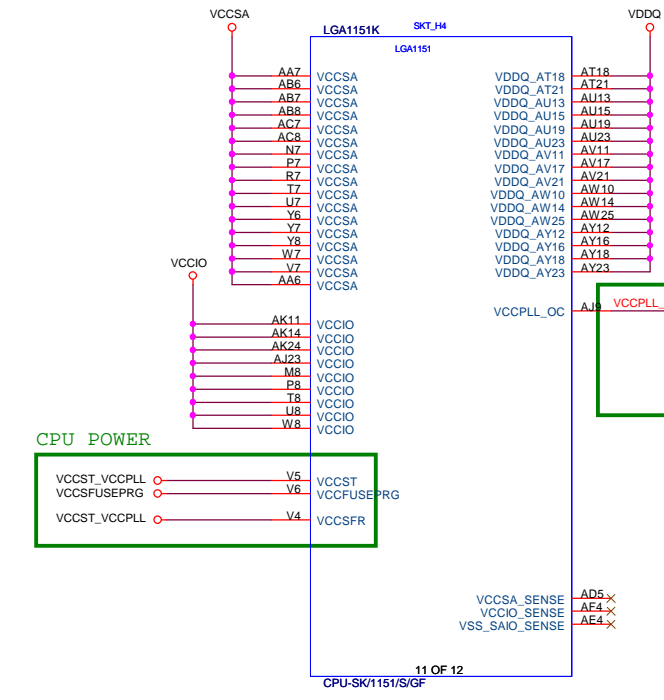
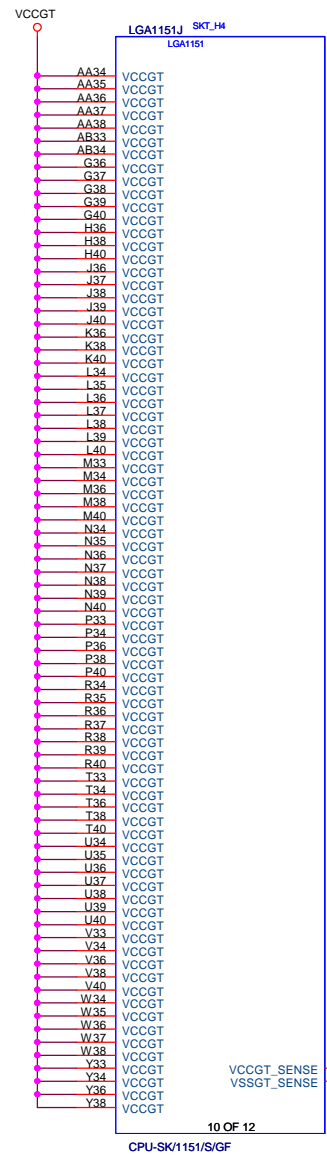
```
G-15u : (CPU-SK/1151/S/15)
10SC1-F01151-11R / 10SC1-F01151-12R
G-FL : (CPU-SK/1151/S/GF)
10SC1-F01151-21R / 10SC1-F01151-22R
```

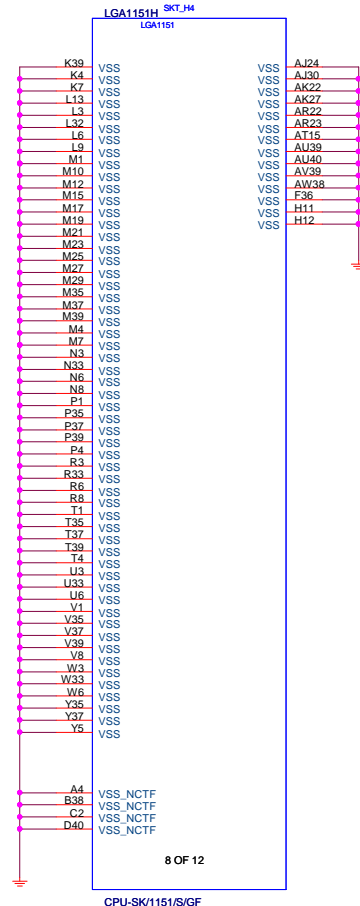
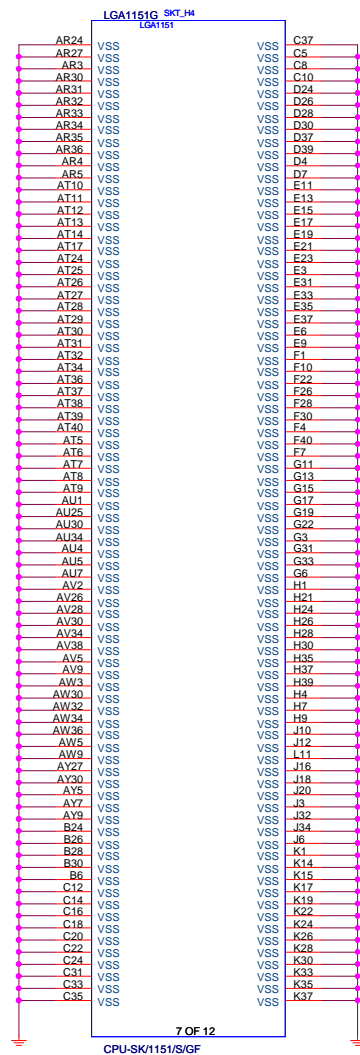
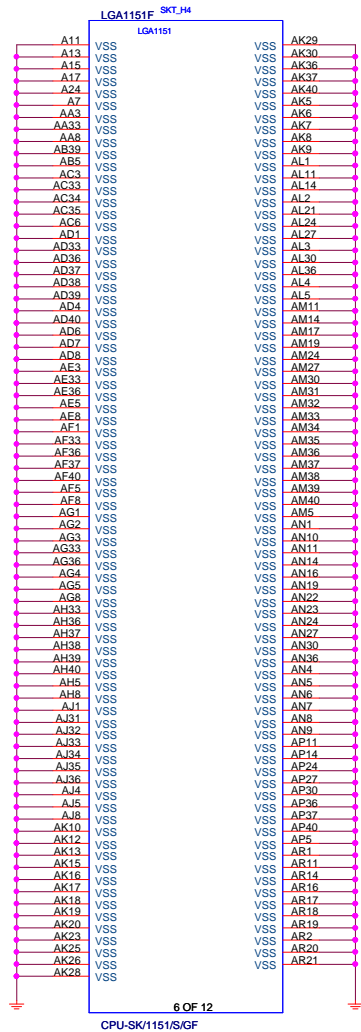
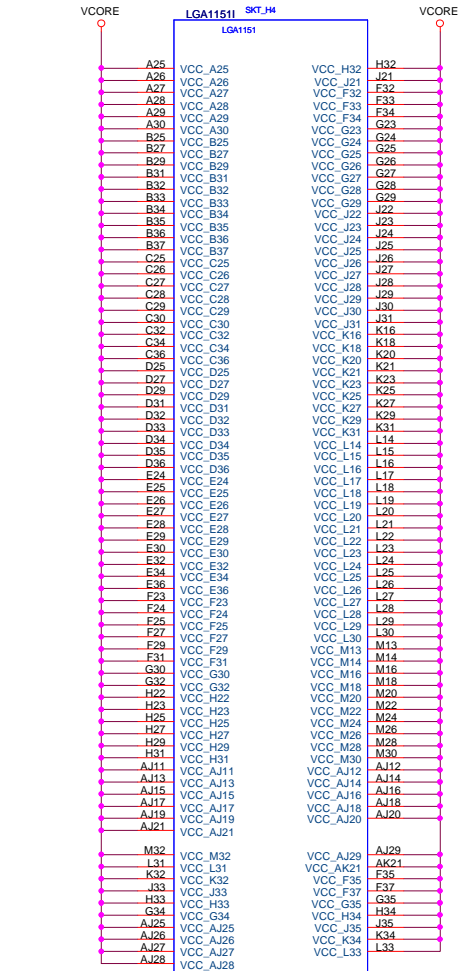


CFL\_R0.8 check 模組

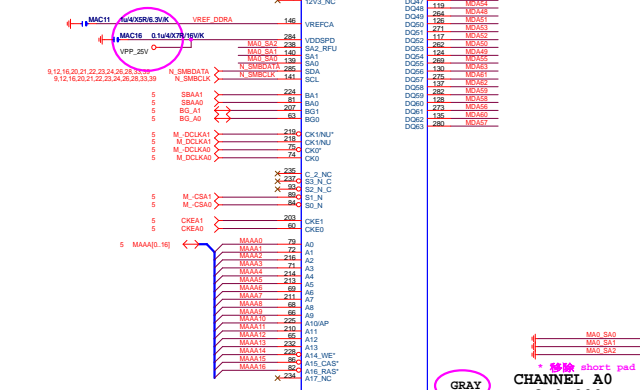


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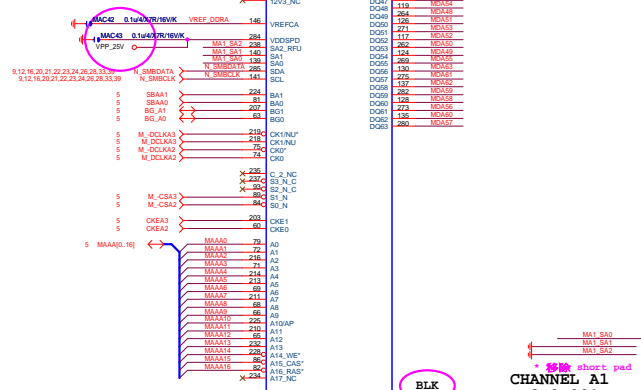






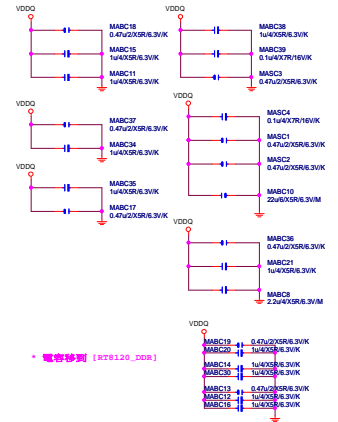
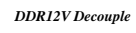
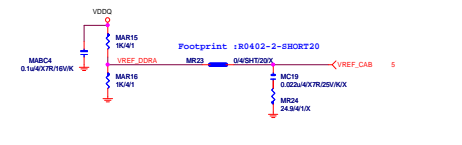
GRAY

CHANNEL A0  
SA2:0=000

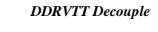


BLK

CHANNEL A1  
SA2:0=001

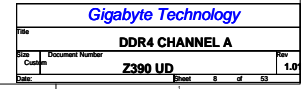


\* 電容移到 [RT8120\_DDR]

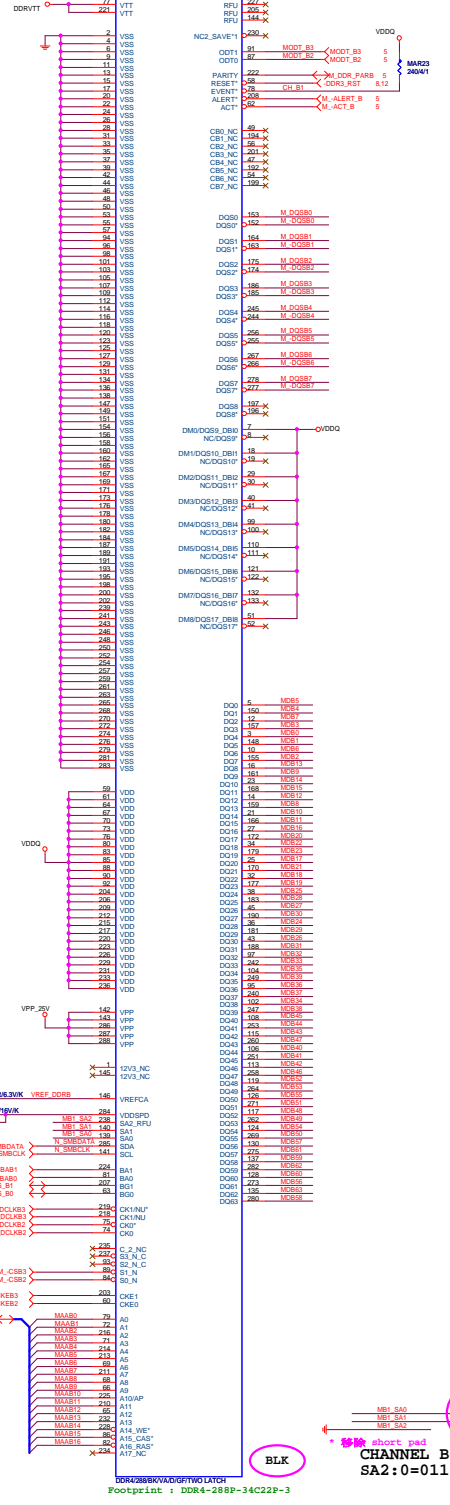
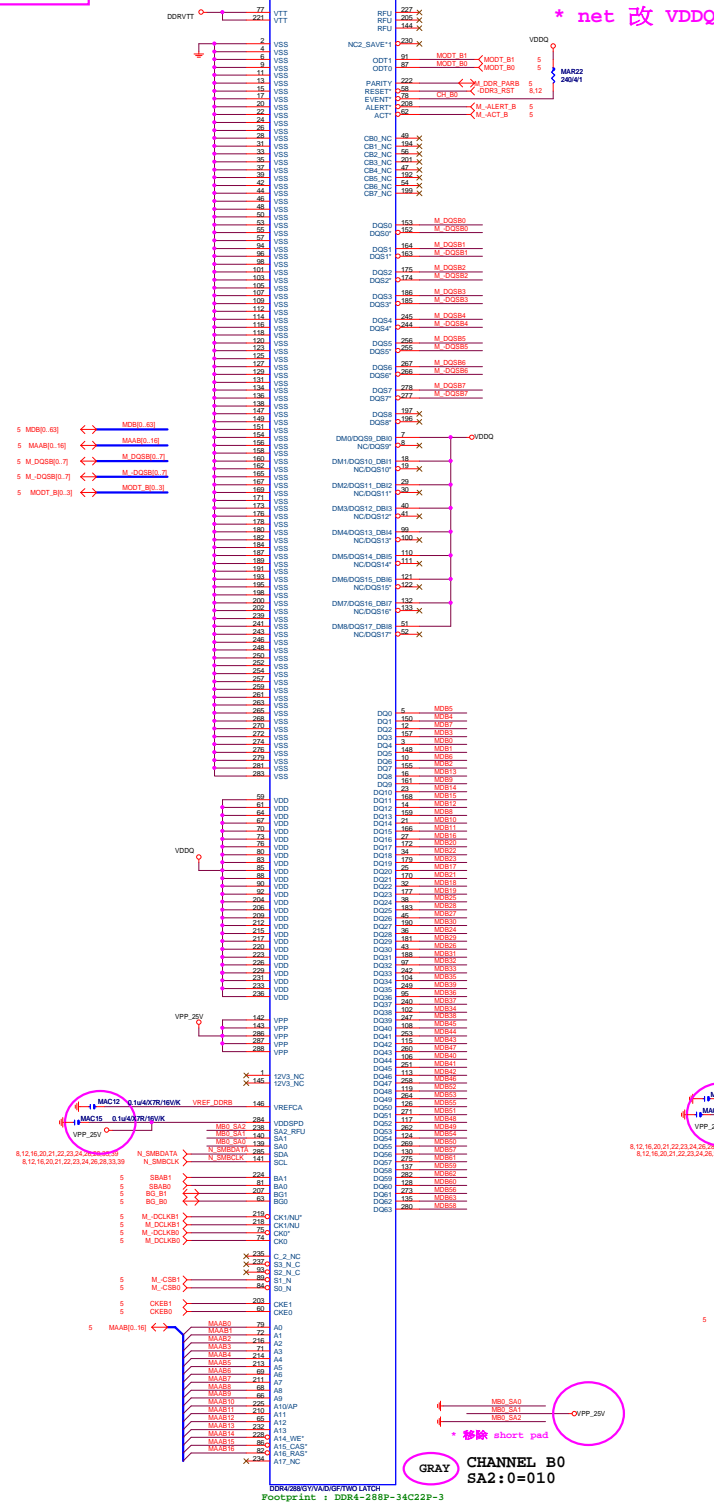


- 副電容

- 耐電容

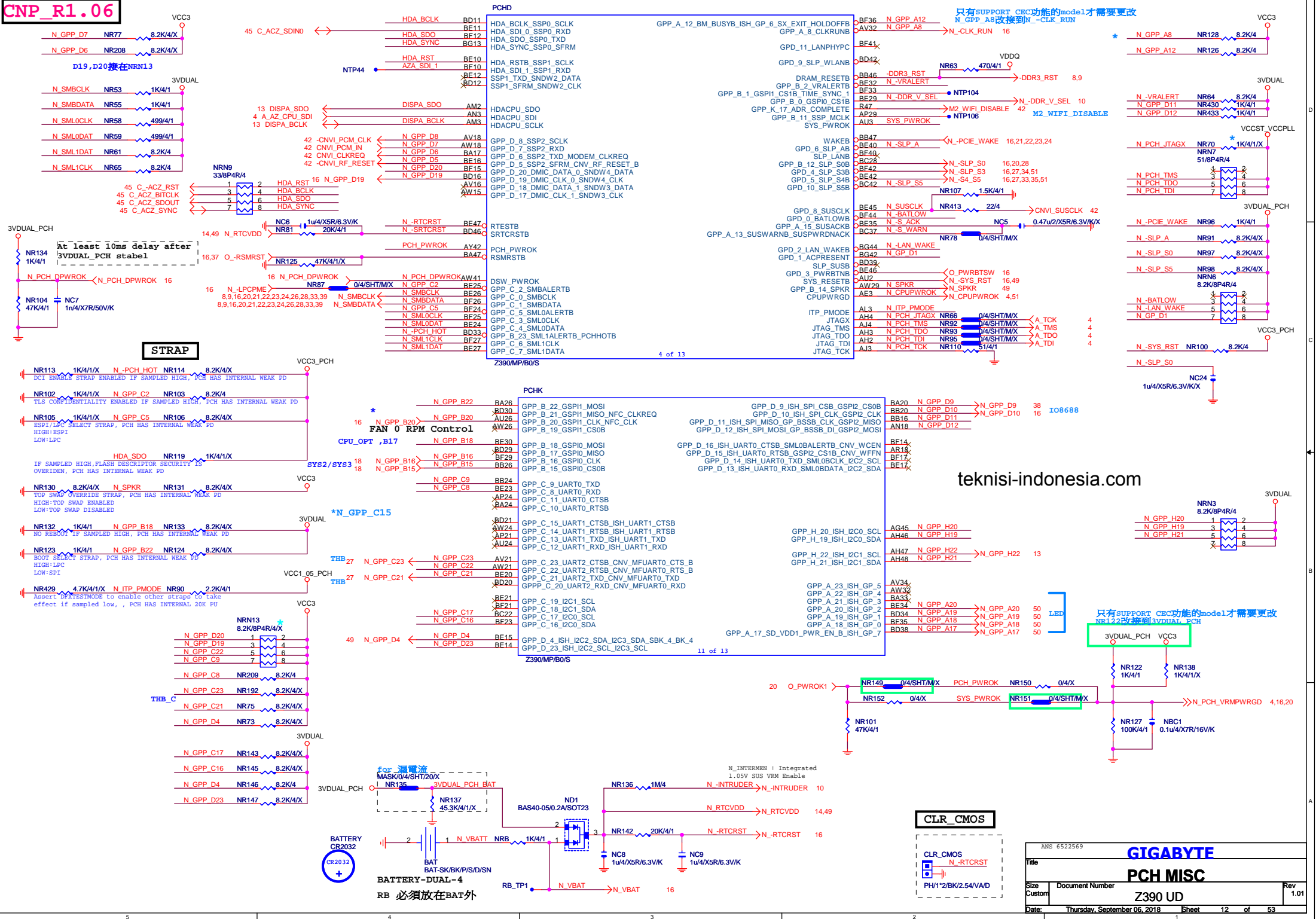












CNP\_R1.06

STRAP

PCHD

PCHK

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CLR\_CMOS

GIGABYTE

PCH MISC

Z390 UD

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ITEM	PCIE P9	PCIE P10	PCIE P11	PCIE P12	PCIE P13	PCIE P14	PCIE P15	PCIE P16	PCIE P17	PCIE P18	PCIE P19	PCIE P20
H310	GbE	N/A	PCIE	PCIE GbE	GbE SATA 0	SATA 1	SATA2	SATA 3	N/A	N/A	N/A	N/A
B360	PCIE GbE	PCIE	PCIE SATA 0A	PCIE GbE SATA 1A	GbE SATA 0B	SATA 1B	SATA2	SATA 3	SATA4	SATA5	N/A	N/A
Q360	PCIE GbE	PCIE	PCIE SATA 0A	PCIE GbE SATA 1A	PCIE GbE SATA 0B	PCIE SATA 1B	SATA2	SATA 3	SATA4	SATA5	N/A	N/A
H370	PCIE GbE	PCIE	PCIE SATA 0A	PCIE GbE SATA 1A	PCIE GbE SATA 0B	PCIE SATA 1B	PCIE SATA 2	PCIE SATA 3	SATA4	SATA5	PCIE	PCIE
Z390	PCIE GbE	PCIE	PCIE SATA 0A	PCIE GbE SATA 1A	PCIE GbE SATA 0B	PCIE SATA 1B	PCIE SATA 2	PCIE SATA 3	PCIE SATA 4	PCIE SATA 5	PCIE	PCIE
Q370	PCIE GbE	PCIE	PCIE SATA 0A	PCIE GbE SATA 1A	PCIE GbE SATA 0B	PCIE SATA 1B	PCIE SATA 2	PCIE SATA 3	PCIE SATA 4	PCIE SATA 5	PCIE	PCIE

**STRAP**

**NR415** 8.2K/4X N\_GPP\_J4 **NR416** 8.2K/4 VCCPRIM\_1P6

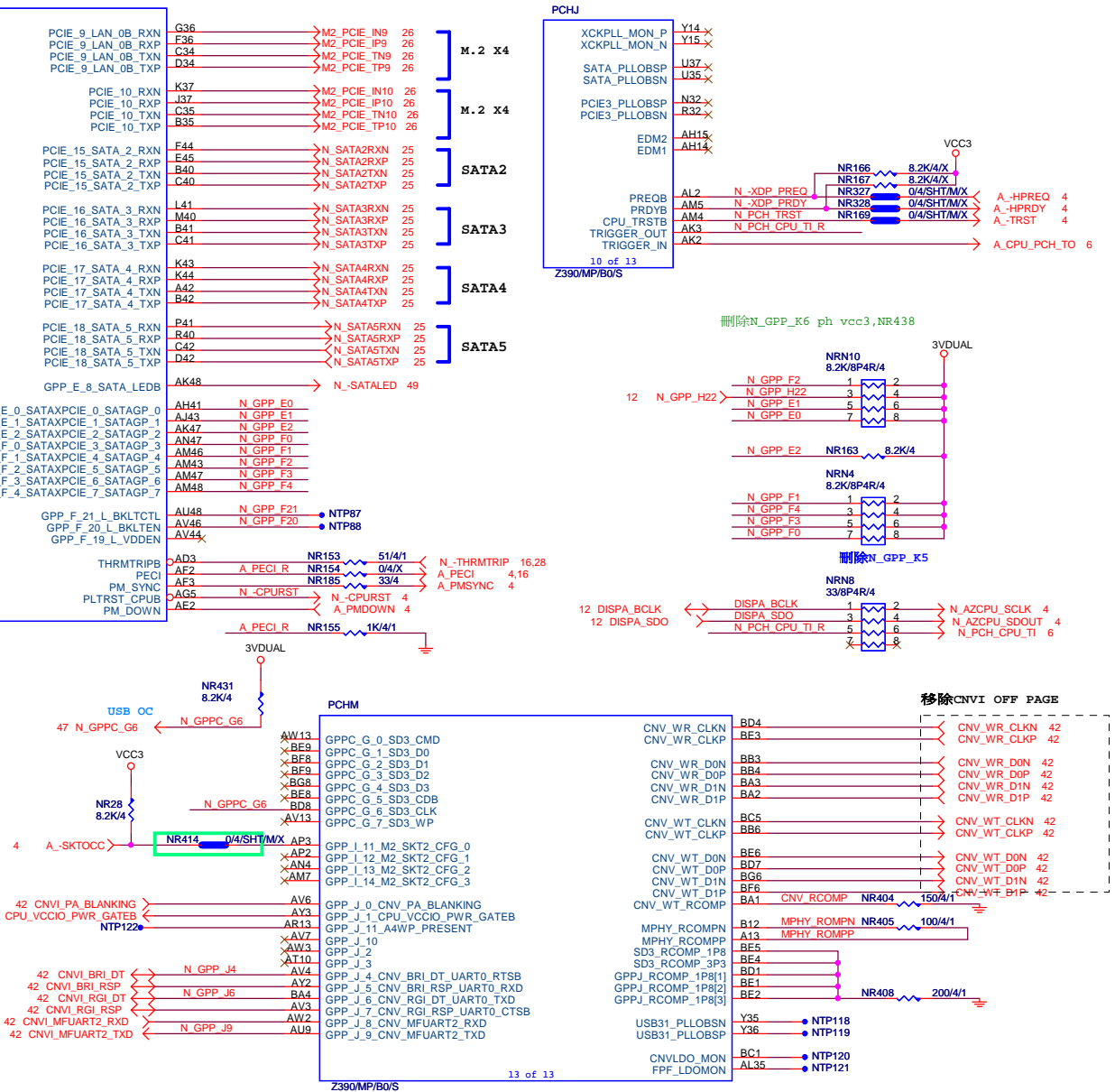
XTAL FREQUENCY SELECTION, PCH HAS INTERNAL 20K PD  
 1 = 24MHZ (25MHZ WHEN XTAL FREQ DIVIDER NON ZERO)  
 0 = 38.4/19.2MHZ

**NR417** 8.2K/4X N\_GPP\_J6 **NR418** 8.2K/4

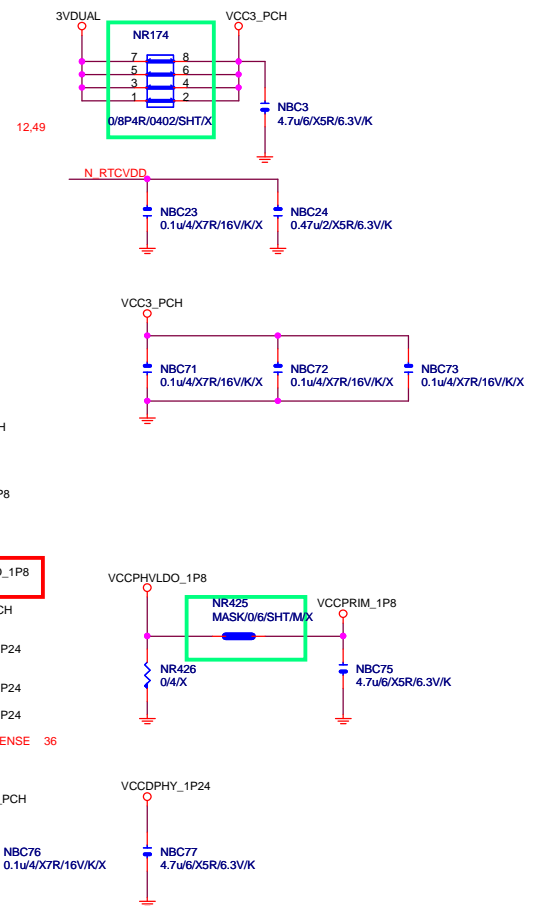
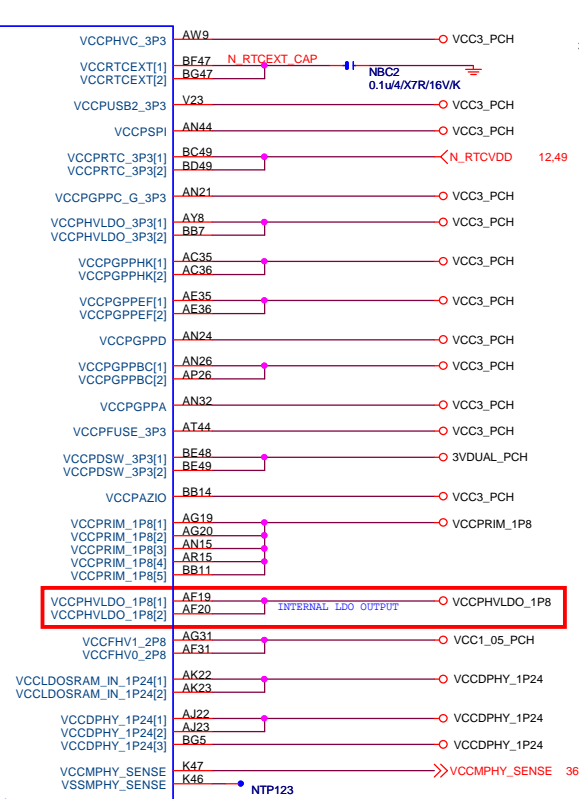
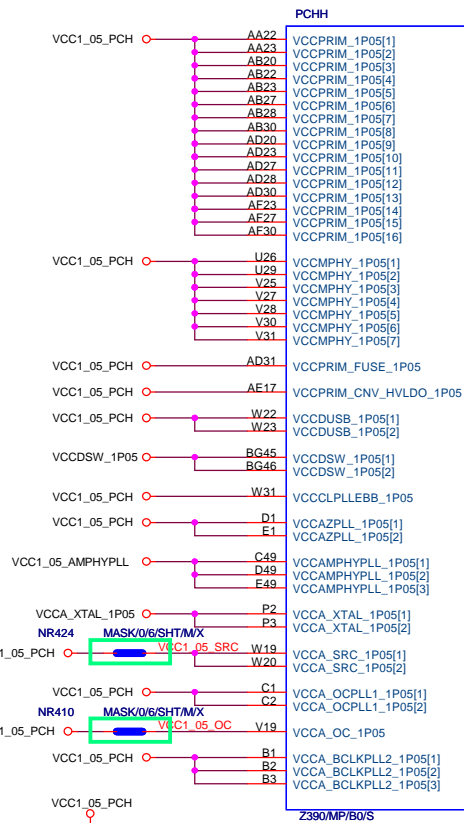
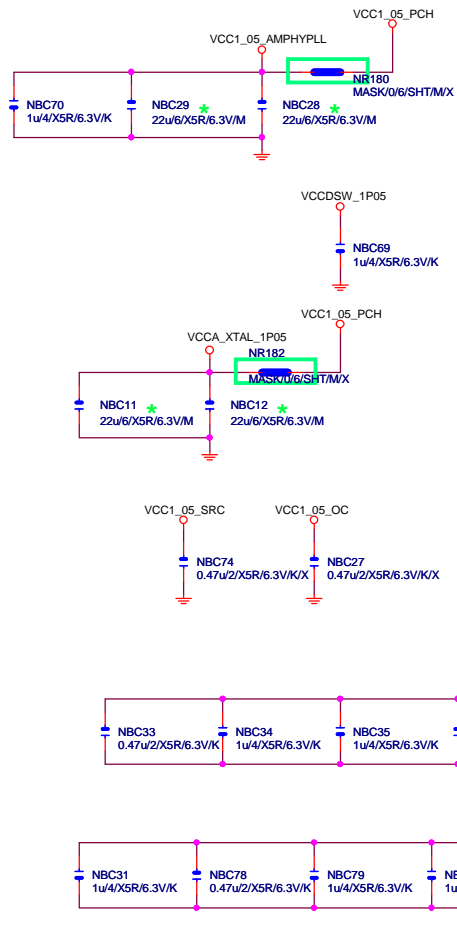
CNVI  
 0 = INTEGRATED CNVI ENABLE  
 1 = INTEGRATED CNVI DISABLE

**NR419** 8.2K/4X N\_GPP\_J9 **NR420** 8.2K/4X

SELECT SPI LOS FLASH INTERFACE OPERATING VOLTAGE, PCH HAS INTERNAL 20K PD  
 0 = VCCPSI IS CONNECTED TO 1.8V RAIL  
 1 = VCCPSI IS CONNECTED TO 3.3V RAIL



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PCHI		
A2	VSS	VSS
A28	VSS	AL12
A3	VSS	AL17
A33	VSS	AL21
A37	VSS	AL24
A4	VSS	BG48
A45	VSS	AL29
A46	VSS	AL33
A47	VSS	AL38
A48	VSS	AM1
A5	VSS	AM18
A8	VSS	AM32
AA19	VSS	AM49
AA20	VSS	AN12
AA25	VSS	AN16
AA27	VSS	AN34
AA28	VSS	AN38
AA30	VSS	AP4
AA31	VSS	AP46
AA49	VSS	AR12
AA5	VSS	AR16
AB19	VSS	AR34
AB25	VSS	AR38
AB31	VSS	AT1
AC12	VSS	AT16
AC17	VSS	AT18
AC33	VSS	AT21
AC38	VSS	AT24
AC4	VSS	AT26
AC46	VSS	AT29
AD1	VSS	AT32
AD19	VSS	AT34
AD2	VSS	AT45
AD22	VSS	AV11
AD25	VSS	AV39
AD49	VSS	AW10
AE12	VSS	AW4
AE33	VSS	AW40
AE38	VSS	AW46
AE4	VSS	B47
AE46	VSS	B48
AF22	VSS	B49
AF25	VSS	BA12
AF28	VSS	BA14
AG1	VSS	BA44
AG22	VSS	BA5
AG23	VSS	BA6
AG25	VSS	BB41
AG27	VSS	BB43
AG28	VSS	BB9
AG30	VSS	M16
AG49	VSS	M18
AH12	VSS	BC13
AH17	VSS	BC15
AH33	VSS	BC19
AH38	VSS	BC24
AJ19	VSS	BC26
AJ20	VSS	BC31
AJ25	VSS	BC35
AJ27	VSS	BC40
AJ28	VSS	BC45
AJ30	VSS	BC8
AJ31	VSS	BD43
AK19	VSS	BE44
AK20	VSS	BE1
AK25	VSS	BF2
AK27	VSS	BF3
AK28	VSS	BF48
AK30	VSS	BF49
AK31	VSS	BG17
AK4	VSS	BG2
AK46	VSS	BG22
		BG25
		BG28

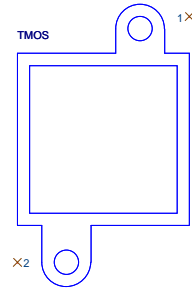
Z390MP/B0/S

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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
C5	VSS	N38
D12	VSS	P26
D16	VSS	P29
D17	VSS	P4
D30	VSS	P46
D33	VSS	R12
D8	VSS	R16
E10	VSS	R26
E13	VSS	R28
E15	VSS	R3
E17	VSS	R34
E19	VSS	R38
E22	VSS	R4
E24	VSS	T17
E26	VSS	T18
E31	VSS	T32
E33	VSS	T4
E35	VSS	T49
E40	VSS	T5
E42	VSS	T7
E8	VSS	U12
F41	VSS	U15
F43	VSS	U17
F47	VSS	U21
G44	VSS	U24
G6	VSS	U33
H8	VSS	U38
J10	VSS	V20
J26	VSS	V22
J29	VSS	V4
J4	VSS	V46
J40	VSS	W25
J46	VSS	W27
J47	VSS	W28
J48	VSS	W30
J9	VSS	Y10
K11	VSS	Y12
K39	VSS	Y17
M16	VSS	Y33
M18	VSS	Y38
M21	VSS	Y9

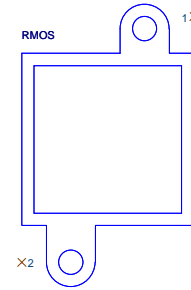
Z390MP/B0/S

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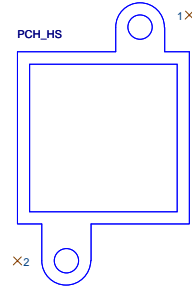
HEAT SINK[12SP2-S09426-G1R\_12SP2-S09426-G2R\_12SP2-S09426-G3R]

Footprint : same Z370 HD3  
MOSHSINK-Z370\_HD3P-T  
PN: 12SP2-S09426-G1R/G2R/G3R  
1.5mm thermal pad



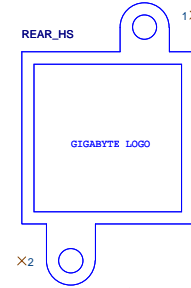
HEAT SINK[12SP2-S08026-G1R\_12SP2-S08026-G2R\_12SP2-S08026-G3R]

Footprint : same Z370 HD3  
MOSHSINK-Z370\_HD3P-R  
PN: 12SP2-S08026-G1R/G2R/G3R  
1.5mm thermal pad



HEAT SINK[12SP2-S08604-03R\_12SP2-S08604-01R]

Footprint : same H370 HD3  
BGAHSINK-Z370\_HD3P  
PN:12SP2-S08604-03R/01R

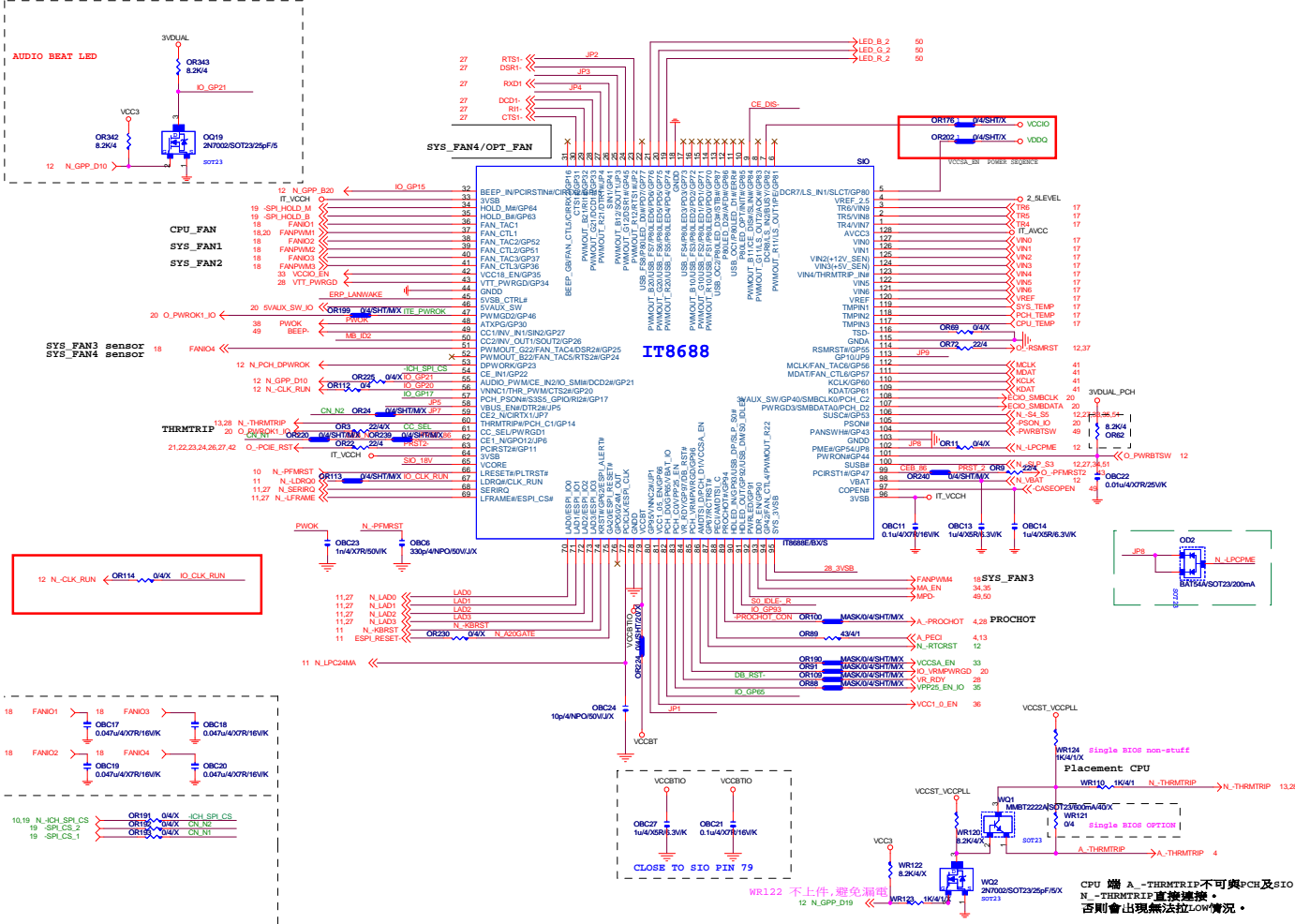


IO CR/LINE 032U CS[12KRC-0H0022-01R]X

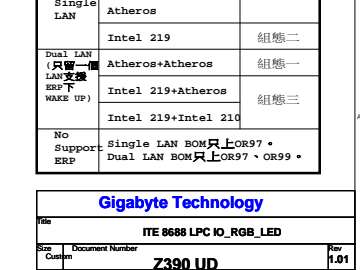
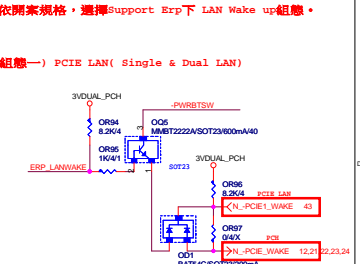
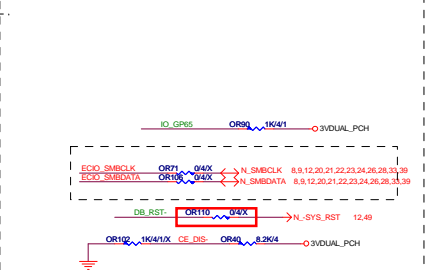
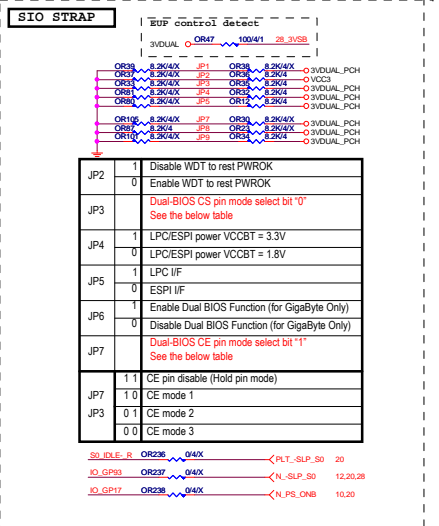
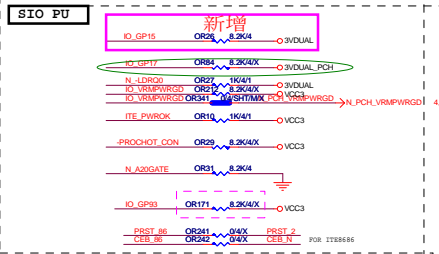
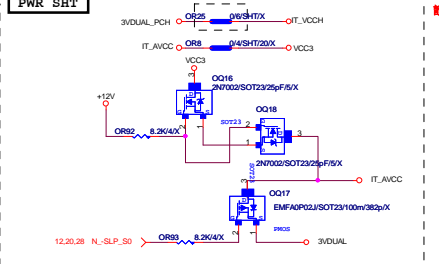
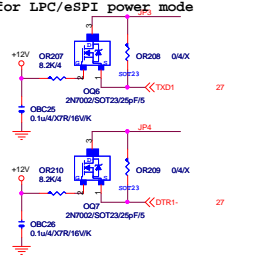
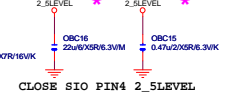
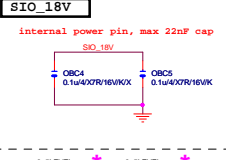
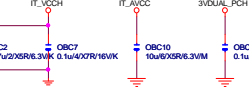
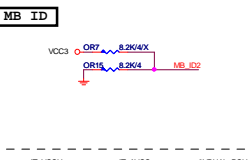
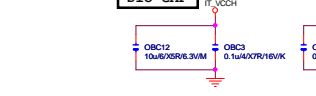
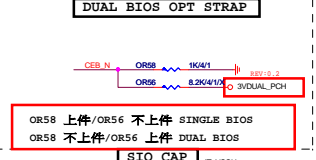
Footprint :  
Z390\_AORUS\_G7\_IO\_COVER  
PN: 12KRC-0H0022-01R

ANSI: 6522569		<b>GIGABYTE</b>	
Title		<b>PCH GND</b>	
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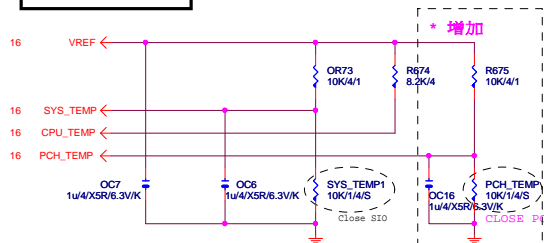
FAN TABLE	
CPU_FAN	FAN_CTL1 FAN_TAC1
SYS_FAN1	FAN_CTL2 FAN_TAC2
SYS_FAN2	FAN_CTL3 FAN_TAC3
SYS_FAN3	FAN_CTL4 FAN_TAC4
OPT FAN OF SYS_FAN4	FAN_CTL5 FAN_TAC5
THRMTRIP	PIN56
PROCHOT	PIN89



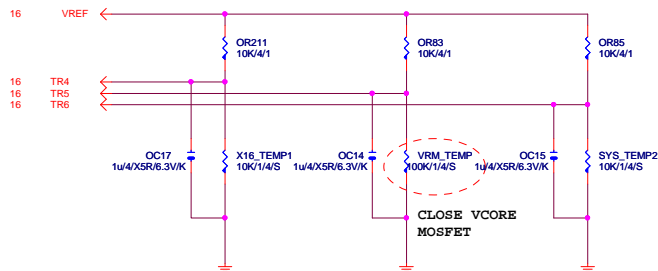
ERP Wake on LAN		
Single LAN	Realtek	組態一
	Atheros	組態二
Dual LAN (只留一備 LAN 支援 WAKE UP)	Intel 219	組態一
	Atheros+Realtek	組態二
	Intel 219+Realtek	組態三
No support ERP	Single LAN BOM 只上 OR97	
	Dual LAN BOM 只上 OR97 + OR99	

Gigabyte Technology		
ITE 8688 LPC IO_RGB_LED		
Doc	Document Number	Rev
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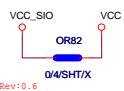
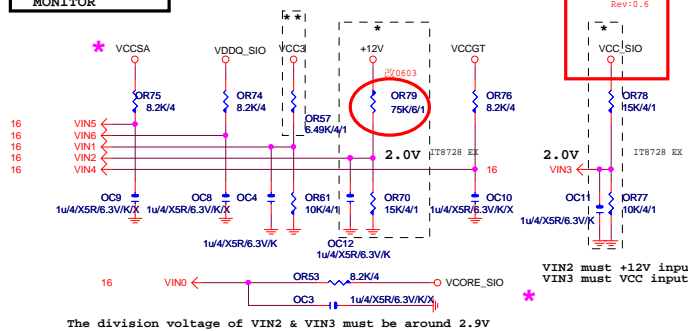
# TEMP H/W MONITOR



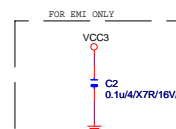
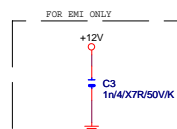
## 5個FAN時使用



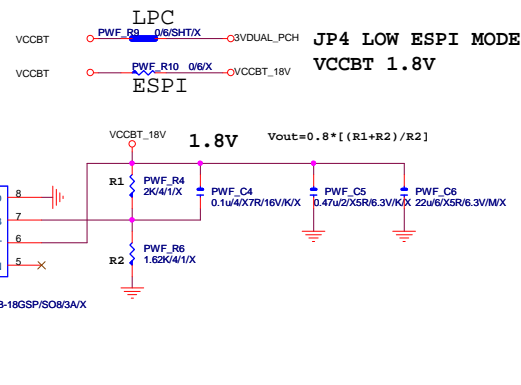
# VOLTAGE-- H/W MONITOR



(靠近ATX CONNECTOR )



★Update 2015-04.24

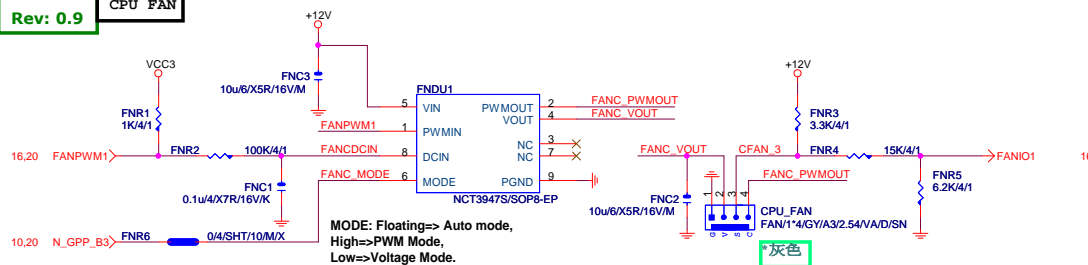


# Gigabyte Technology

Title			HWM,KB/MS, FAN CTRL
Size	Document Number	Rev	
Custom	Z390 UD	1.01	
Date:	Thursday, September 06, 2018	Sheet	17 of 53

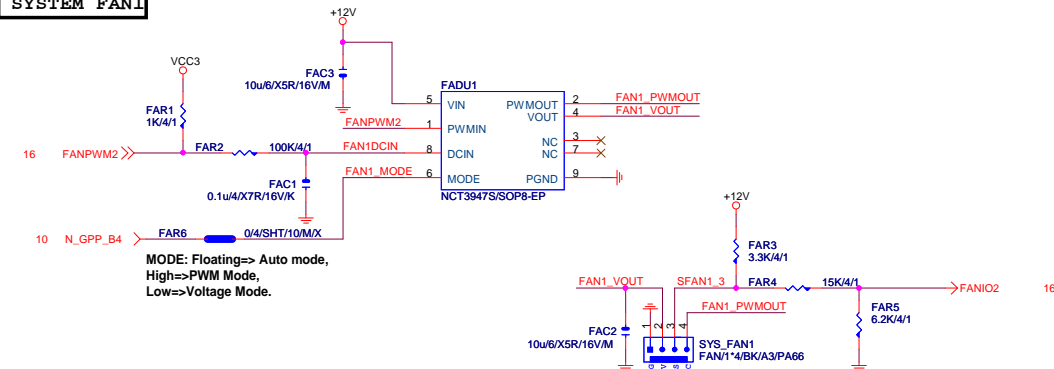
Rev: 0.9

## CPU FAN

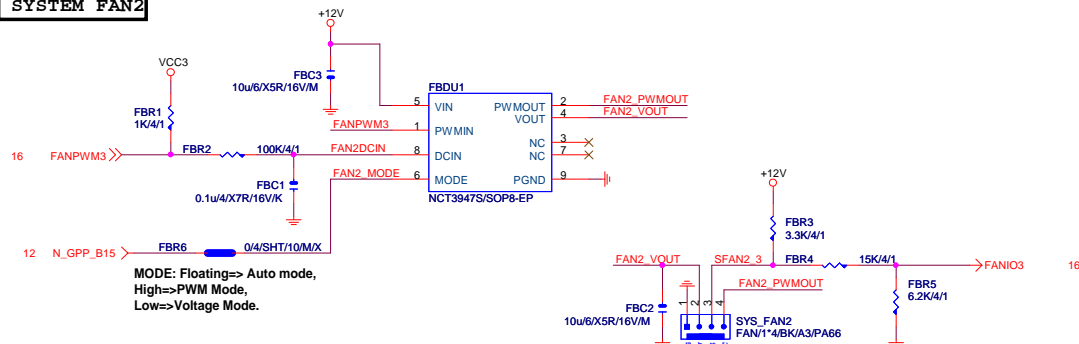


IO 4 FAN  
CPU\_FAN  
SYS\_FAN1  
SYS\_FAN2  
SYS\_FAN3

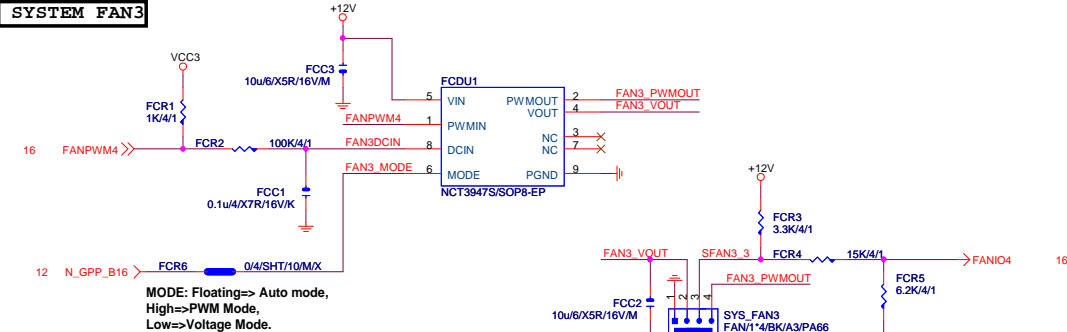
## SYSTEM FAN1



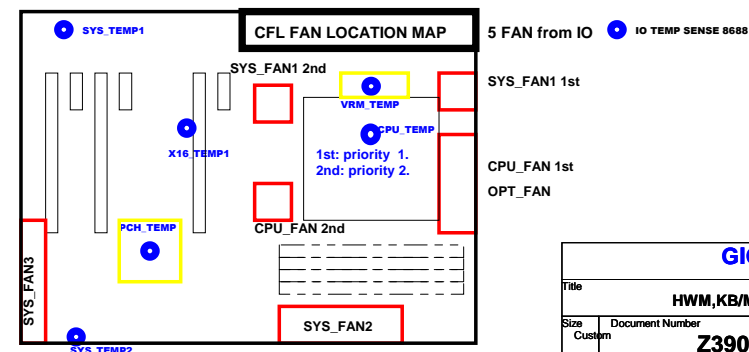
## CPU\_OPT



## SYSTEM FAN3



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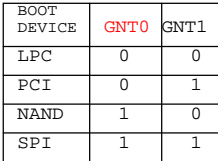


**GIGABYTE**

Title	HWM,KB/MS, FAN CTRL
-------	---------------------

Size	Document Number	Rev
Custom	<b>Z390 UD</b>	<b>1.01</b>
Date:	Thursday, September 06, 2018	Sheet 18 of 53

**DUAL BIOS**

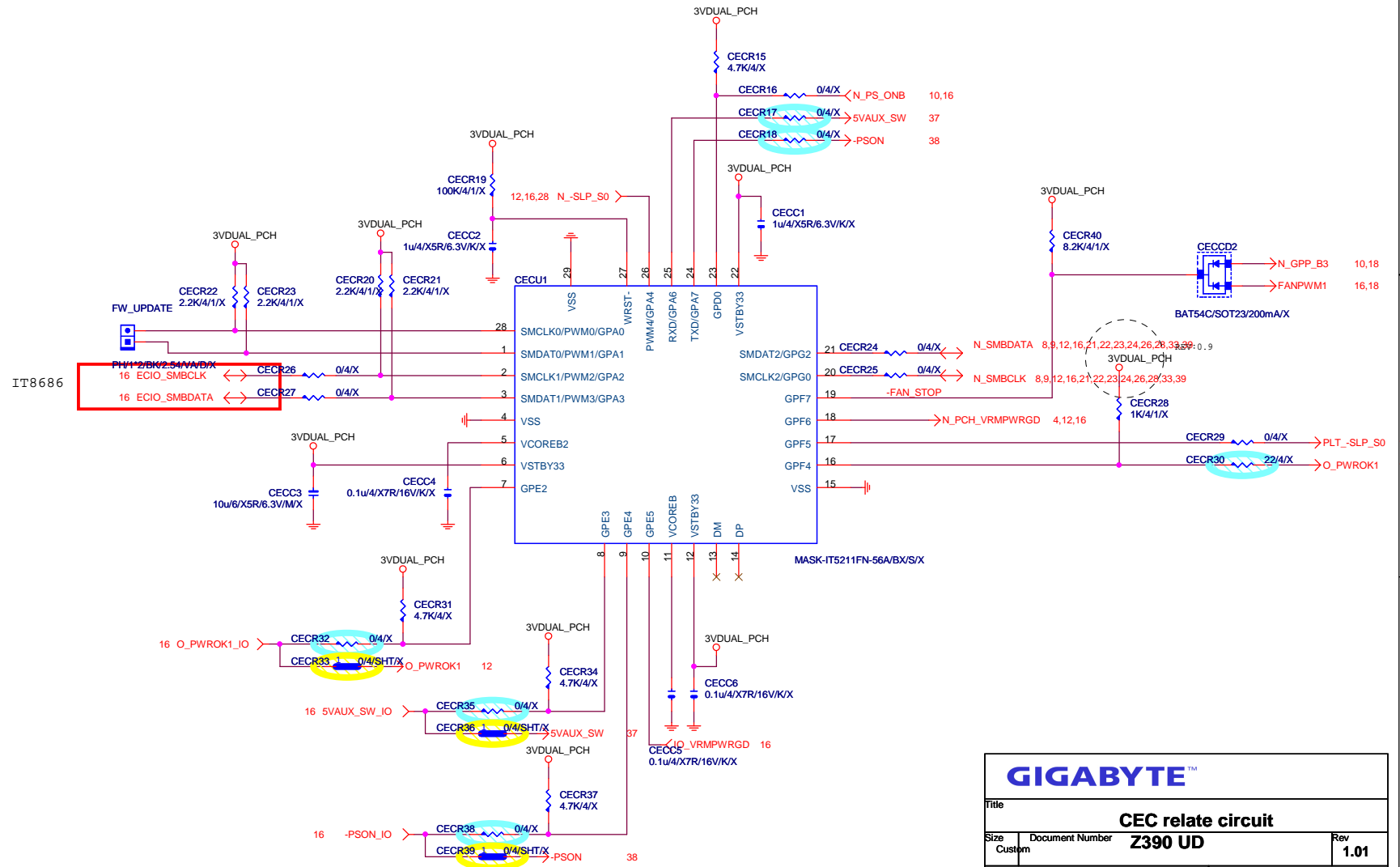


1 means floating  
0 means PD 1K



\* 試產先上，PVT 移除

## ATX Power Discharge

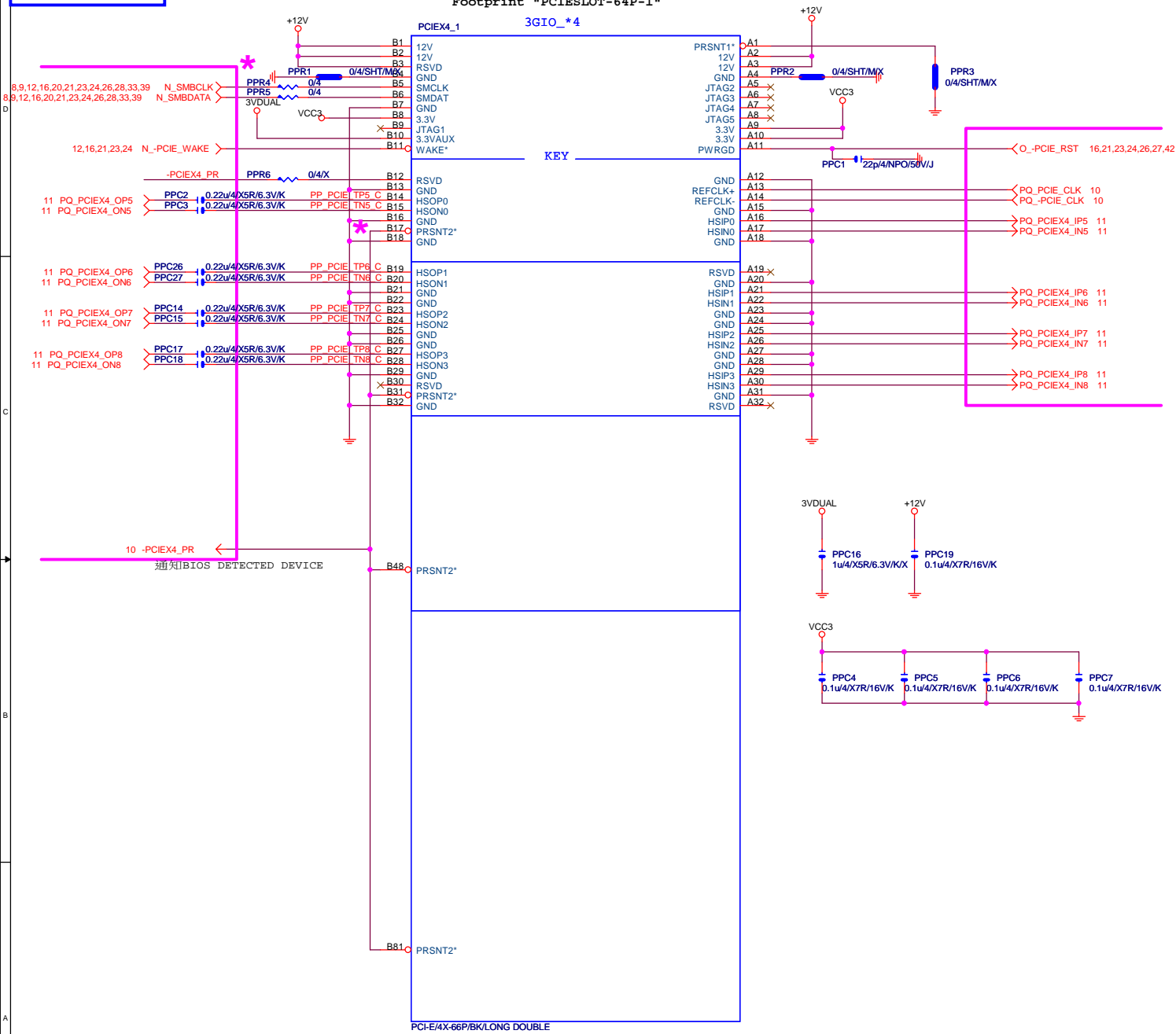




Rev 0.51

PCIE\*4

Footprint "PCIESLOT-64P-1"



11A11-023065-17R: 黑色

Gigabyte Technology			
Title			
PCIE_X4			
Size	Document Number		Rev
Custom	Z390 UD		1.01
Date:	Thursday, September 06, 2018	Sheet	22 of 53

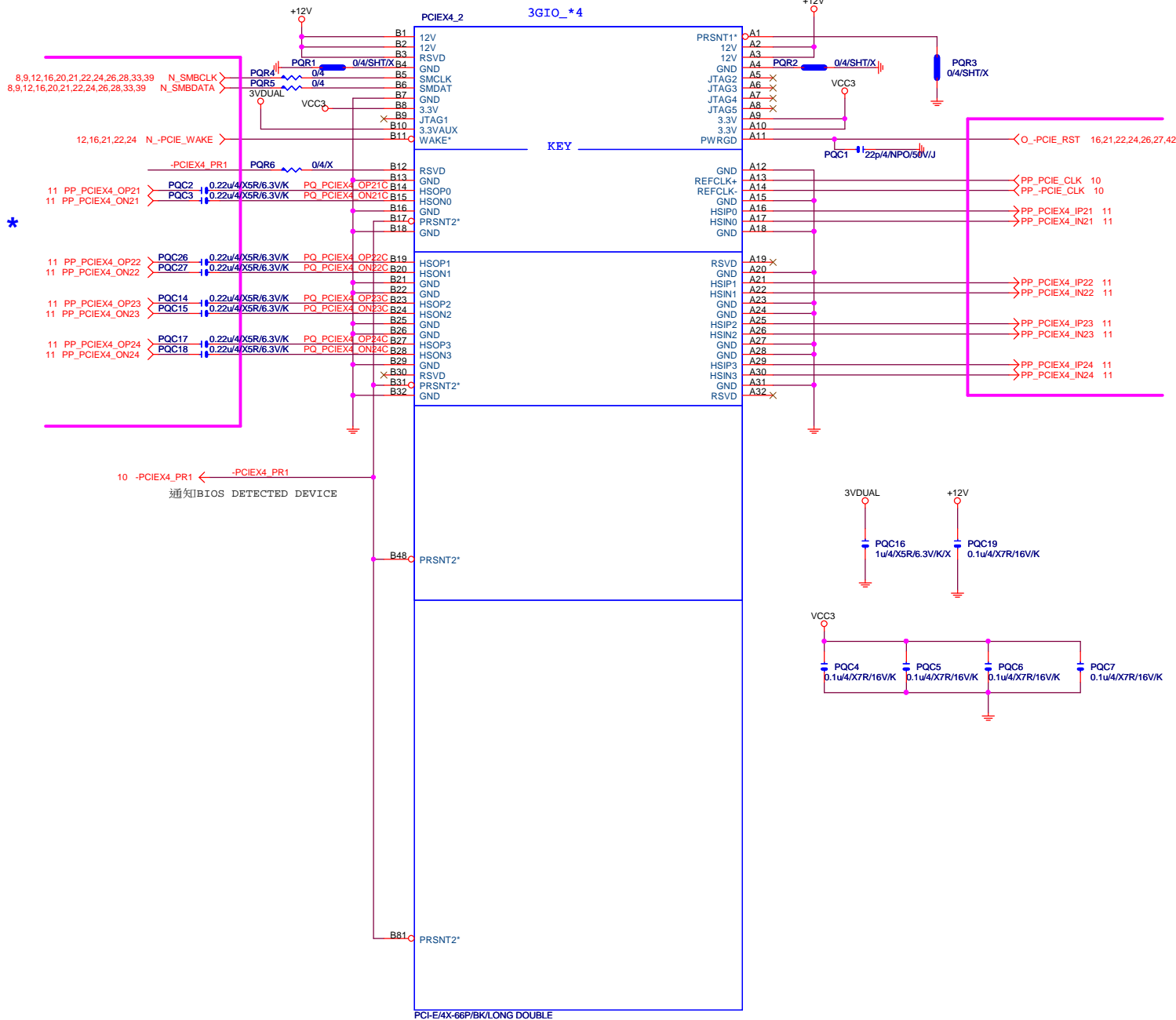


Rev 0.51

PCIE\*4

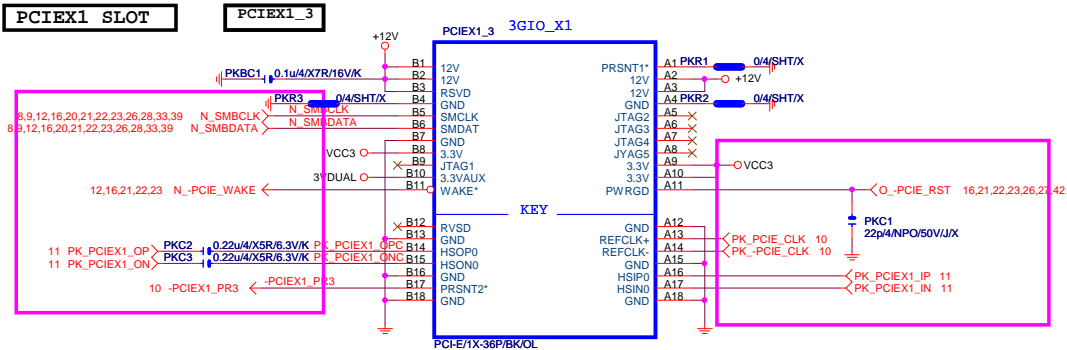
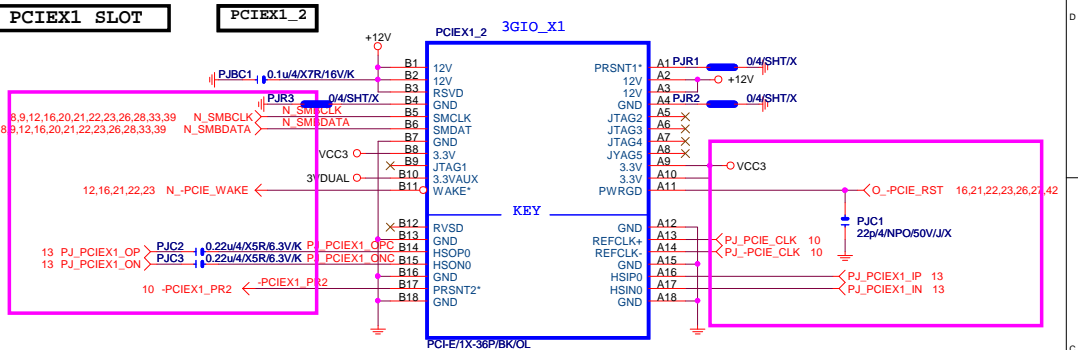
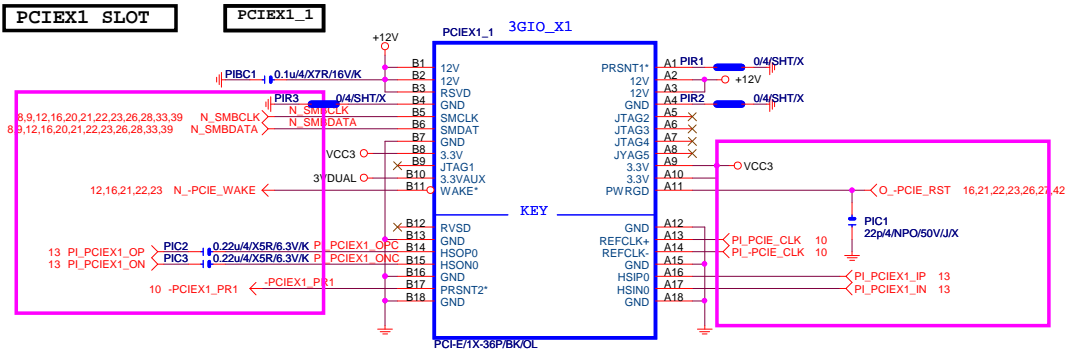


Footprint "PCIESLOT-64P-1"

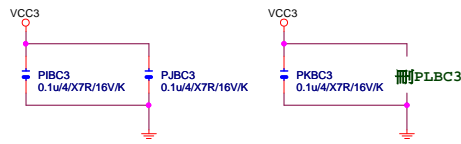


Gigabyte Technology

Title			PCIE_X4
Size	Document Number	Rev	
Custom	Z390 UD	1.01	
Date:	Thursday, September 06, 2018	Sheet	23 of 53



删除PCIE1\_4



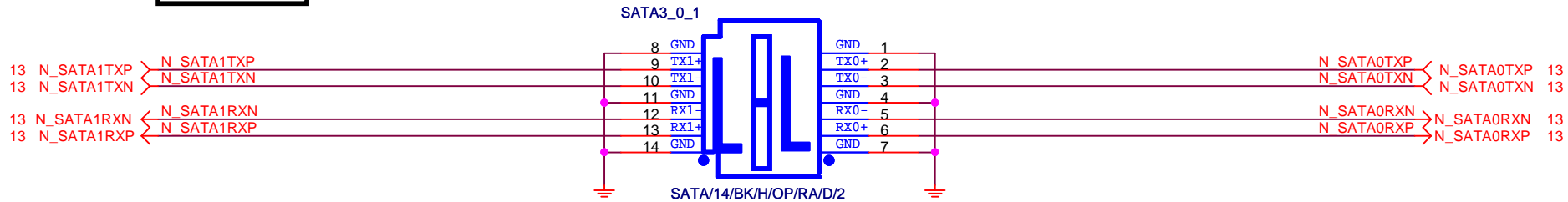
## IO18/IO19 To SATA3 port0/1 (90度R-A, 180度V-A)

上 Port (8~14)

下 Port (1~7)

6 SATA3 from Z390 (90度R-A)

**SATA3 0/1**



SATA/14/BK/H/OP/RA/D/2

BLACK

Footprint : H2X7-SATA2-D90

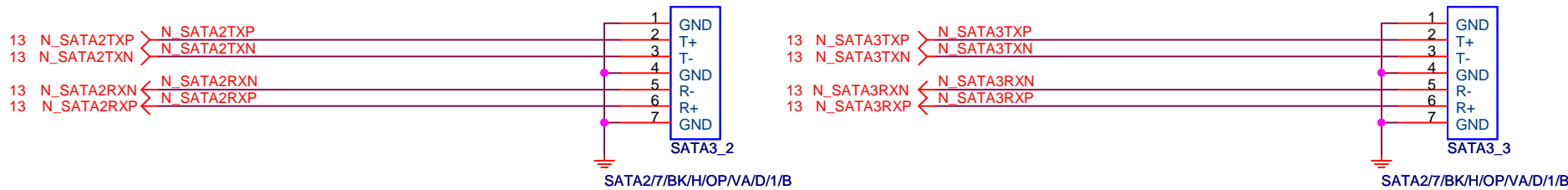
## IO20/IO21 To SATA3 port2/3

上 Port (8~14)

下 Port (1~7)

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**SATA3 2/3**



SATA2/7/BK/H/OP/NA/D/1/B

BLACK

Footprint : H1X7-SATA2-HS-MASK

BLACK

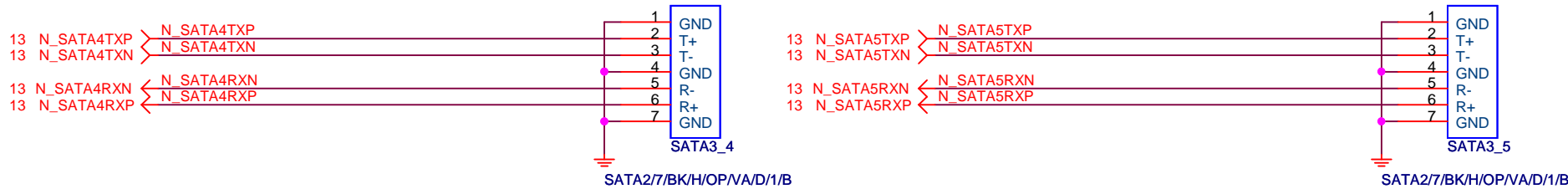
Footprint : H1X7-SATA2-HS-MASK

## IO22/IO23 To SATA3 port4/5

上 Port (8~14)

下 Port (1~7)

**SATA3 4/5**



SATA2/7/BK/H/OP/NA/D/1/B

BLACK

Footprint : H1X7-SATA2-HS-MASK

BLACK

Footprint : H1X7-SATA2-HS-MASK

**Gigabyte Technology**

Title

**SATA**

Size  
Custom

Document Number

**Z390 UD**

Rev

**1.01**

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Rev 0.6

Z390

REVERSED

M.2 Lane4 from PCH port14

M.2 Lane3 from PCH port15

M.2 Lane2 from PCH port16

M.2 Lane2 from PCH port17

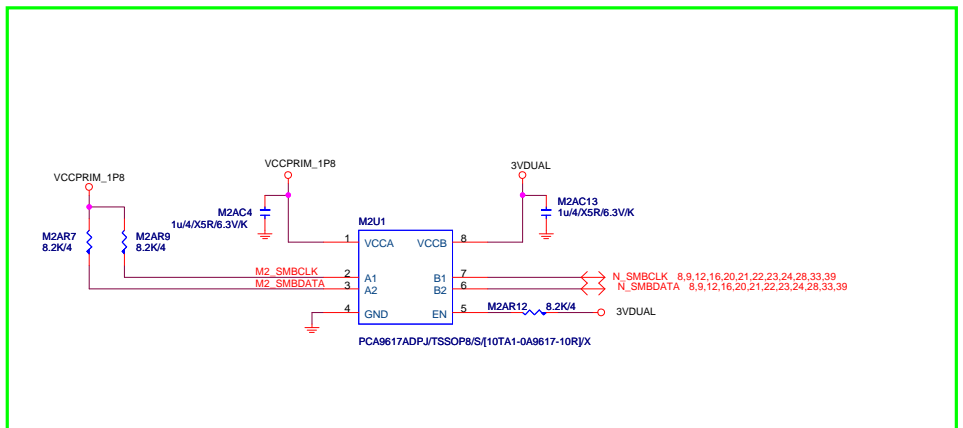
支援SATA and M.2 function

需與M2\_-CLKREQ對應

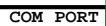
Firmware : M2\_110

金屬加強 (10NR5-130M67-31R) (M.2鐵殼のIP散)

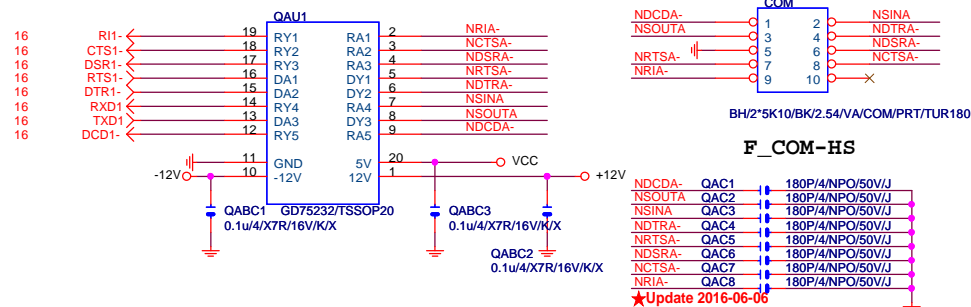
Flex IO priority	N_GPP_K1	IO14 PCIe#9	IO15 PCIe#10	IO16 PCIe#11	IO17 PCIe#12
M2A SATA	L	PCIE	PCIE	SATA 0	SATA 1
M2A PCIE (PCIe Reverse)	H	PCIE	PCIE	PCIE	PCIE



Gigabyte Technology			
Title	M.2 X4		
Size	Document Number	Rev	
Custom	Z390 UD	1.01	
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**Rev: 0.91**

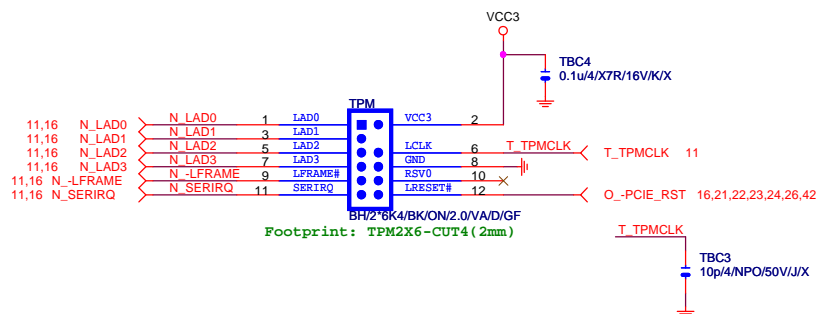


N/A



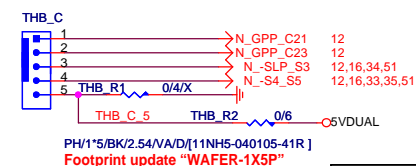
模組為: IT8686 LPT+COMA, 單獨刪除LPT...CHECK.

## TPM CONNECT



## Thunderbolt

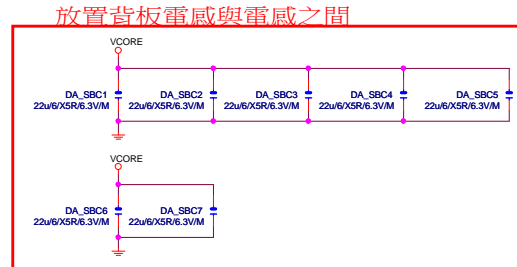
★Update 2015-12-29



## Gigabyte Technology

Title			
COM, TPM ,THB			
Size Custom	Document Number		Rev
	Z390 UD		1.01
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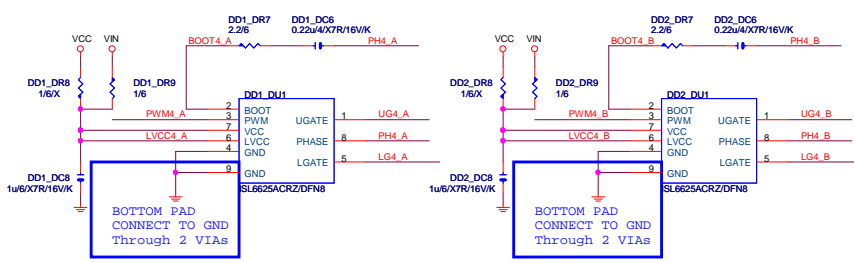
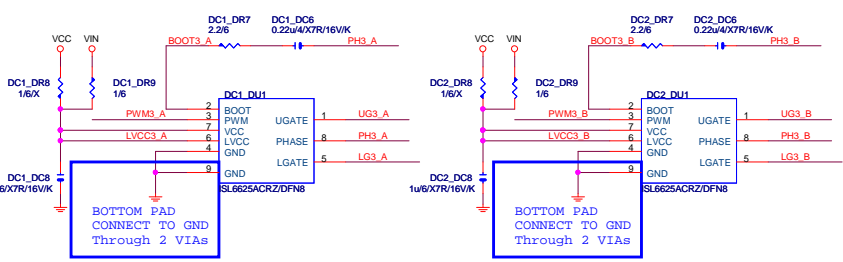
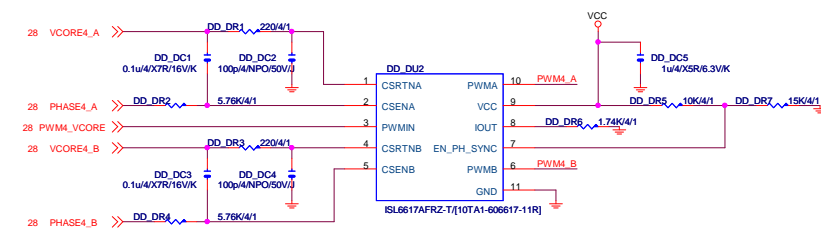
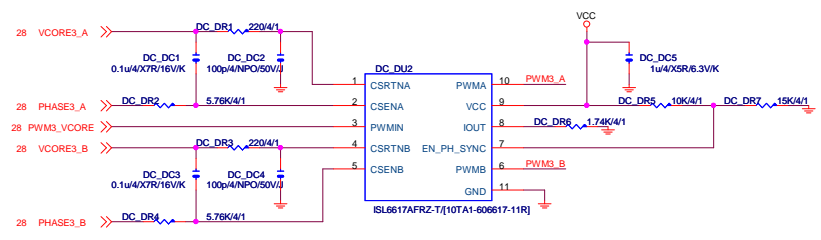
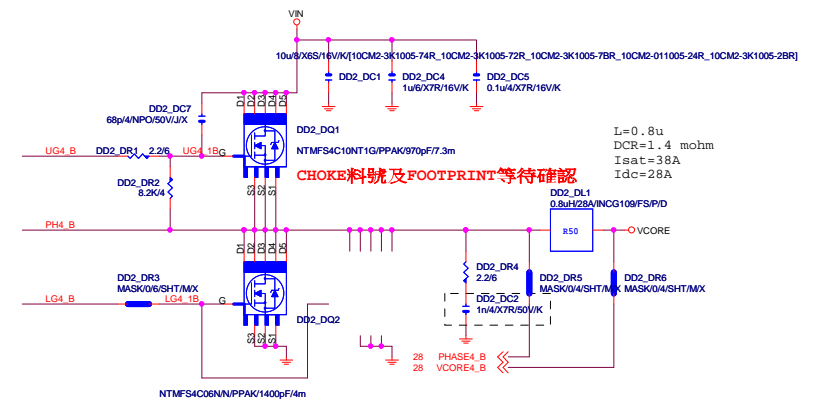
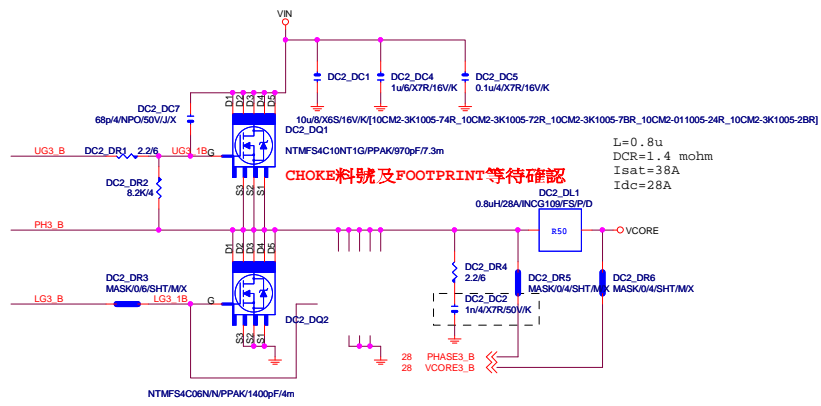
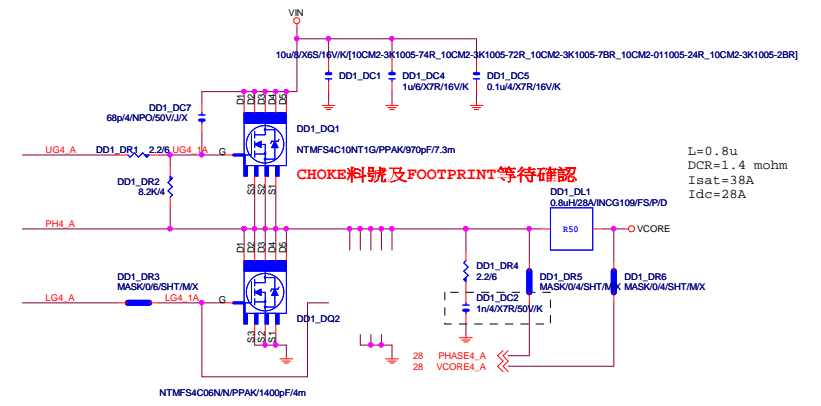
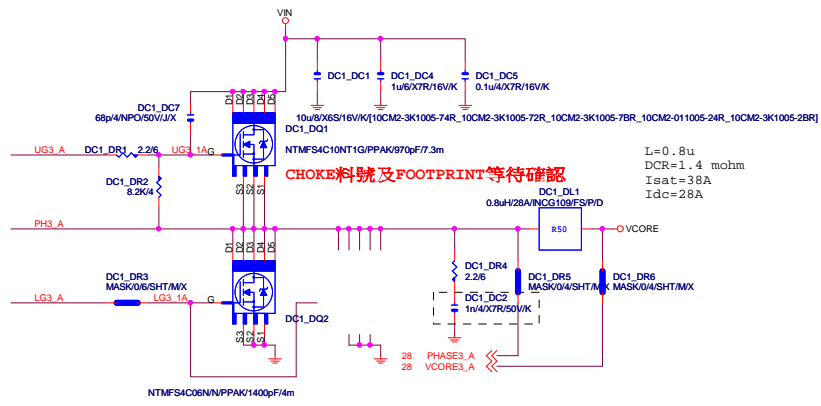
**\*PVT時,DAJP1不上件**



<b>GIGABYTE™</b>			
Title <b>ISL69138_PWM</b>			
Size Custom	Document Number <b>Z390 UD</b>		Rev <b>1.01</b>
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DE1\_DC7  
68p/4NPO/50V/JFX

DE1\_DC1  
10u/4X7R/16V/K

DE1\_DC4  
1u/4X7R/16V/K

DE1\_DC5  
0.1u/4X7R/16V/K

DE1\_DR1  
2.2K

DE1\_DR2  
8.2K

DE1\_DR3  
MASK0/6/SHT/MX

DE1\_DR4  
2.2/6

DE1\_DR5  
MASK0/4/SHT/MX

DE1\_DR6  
MASK0/4/SHT/MX

DE1\_DQ1

DE1\_DQ2

DE1\_DL1  
0.8uH/28A/INCG108/F5/PI/D

R50

VIN

VGS\_A

PHS\_A

LG5\_A

VCOM\_A

VCOM

28

28

PHASES\_A

VCOMES\_A

NTM54C10NT1G/PPAK/570pF/7.3m

NTM54C06NN/PPAK/1400pF/4m

CHOKE料號及FOOTPRINT等待確認

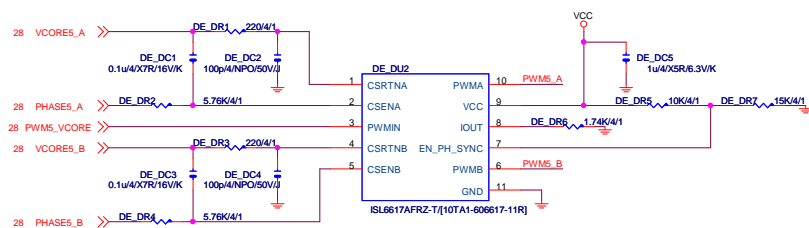
L=0.8u  
DCR=1.4 mohm  
Isat=38A  
Idc=28A

NTMFS406N/PPAK/1400qF/4m

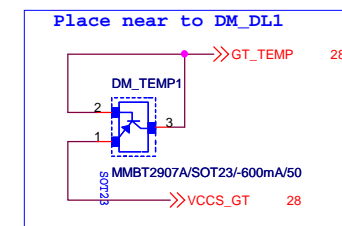
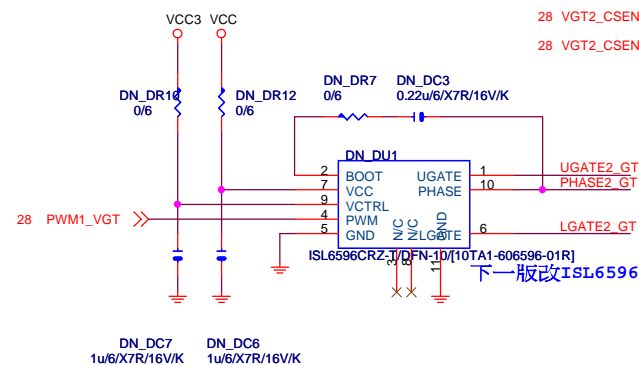
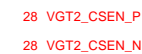
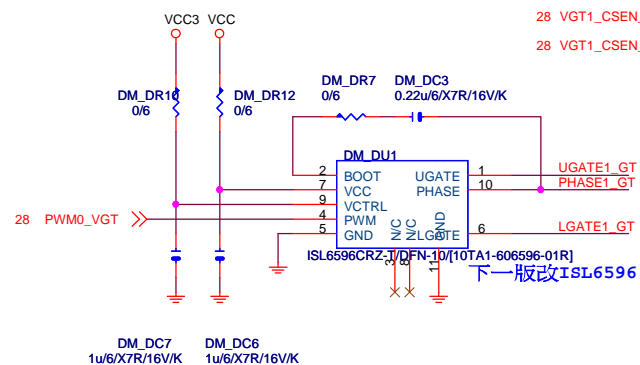
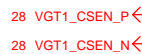
NTMFS4C10NT1G/PPAK/970qF/7.3m

CHOKE料號及FOOTPRINT等待確認

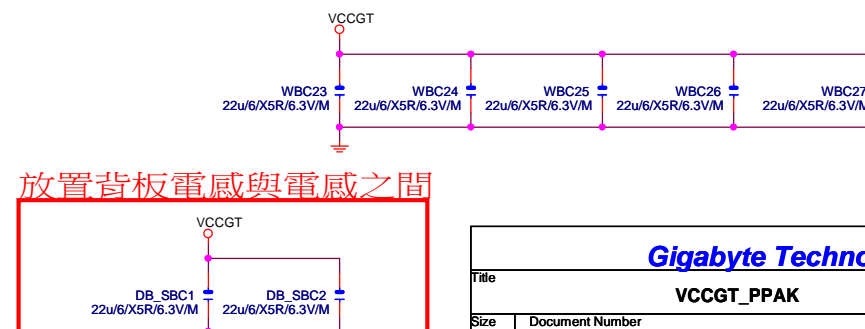
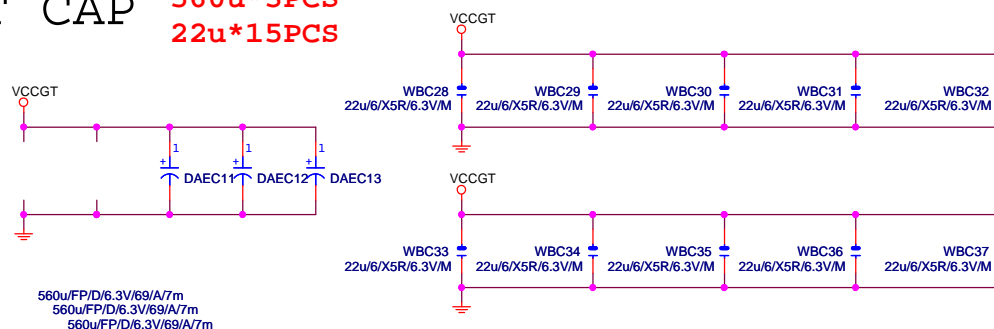
W=0.8u  
DCR=1.4 mohm  
Isat=38A  
Idc=28A

[illegible]


VCCGT

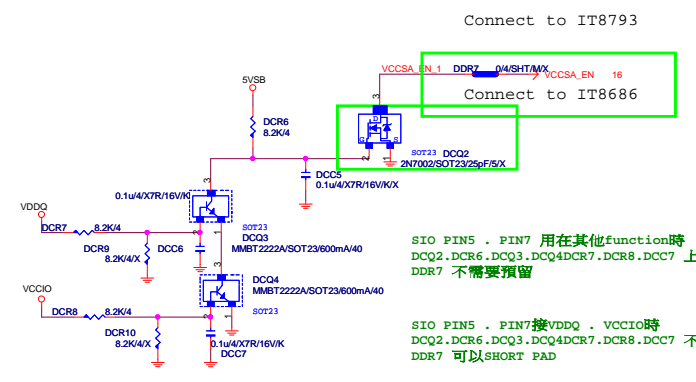
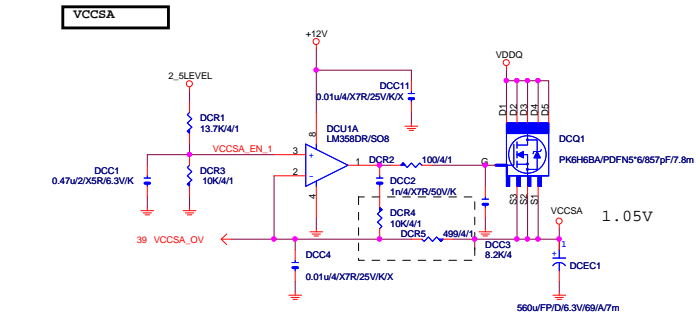


VCCGT	CAP	560u*3PCS
		22u*15PCS

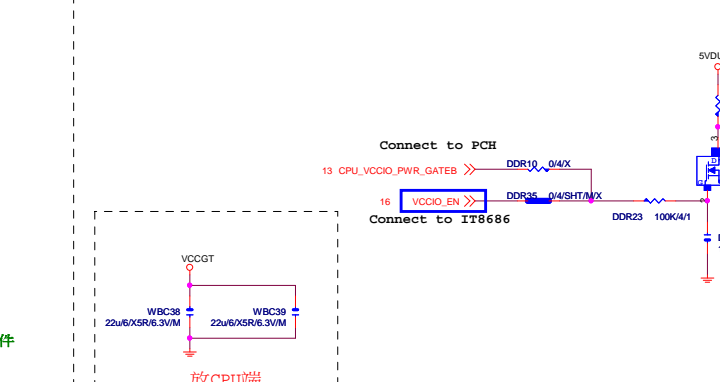
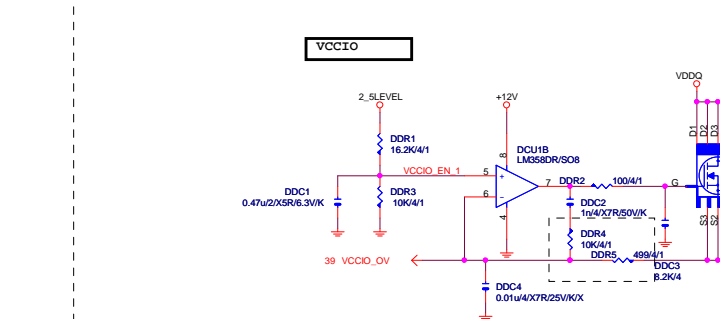
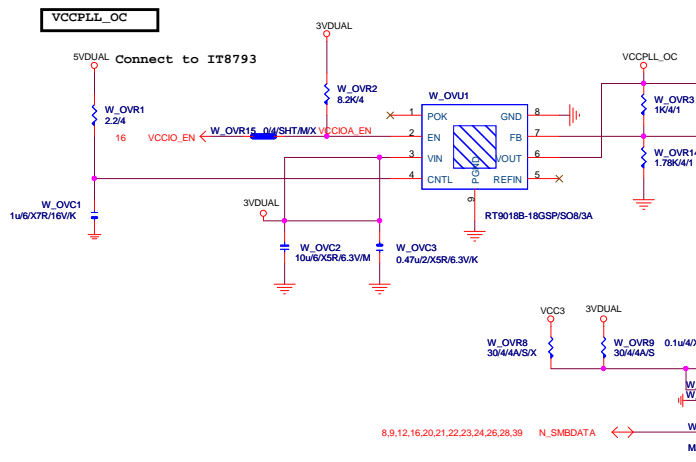
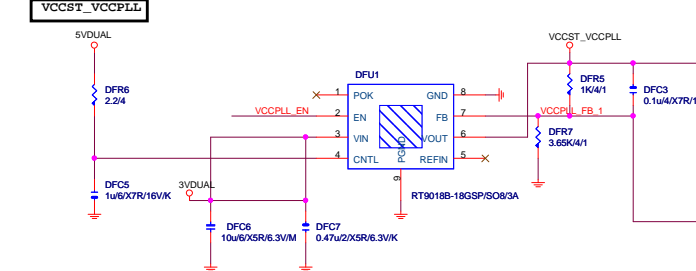


放置背板電感與電感之間

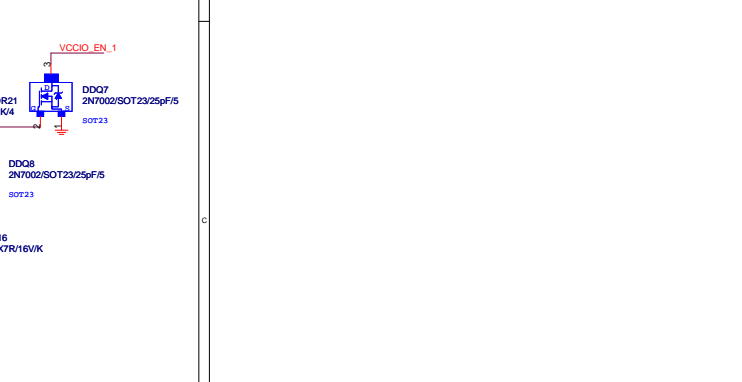
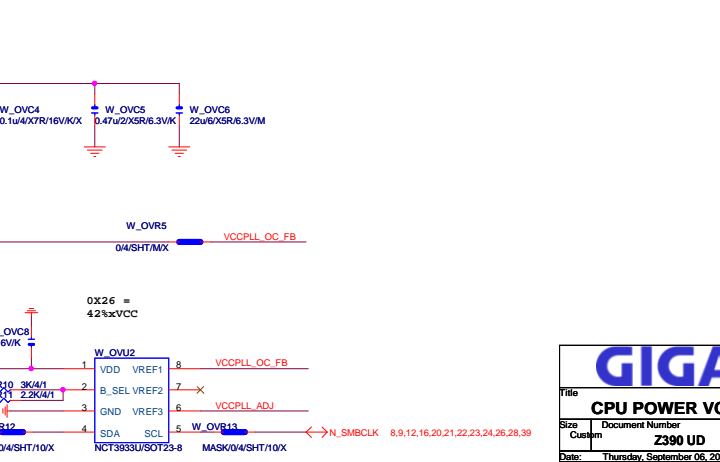
				
Title				
VCCGT_PPAK				
Size	Document Number			Rev
B	Z390 UD			1.01
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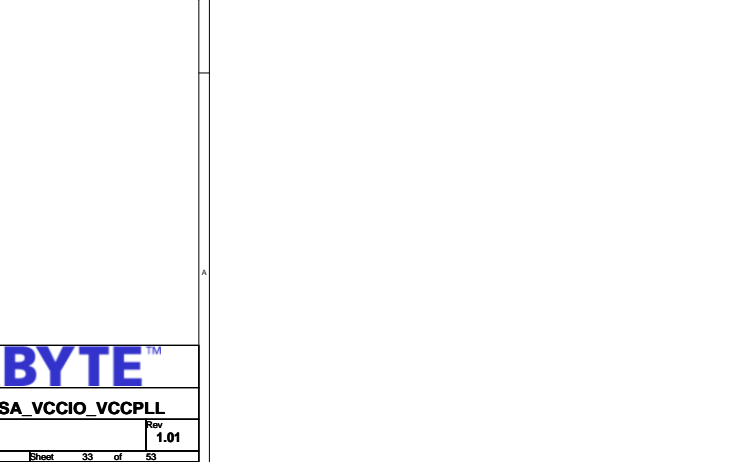
Connect to IT8793



Connect to PCH

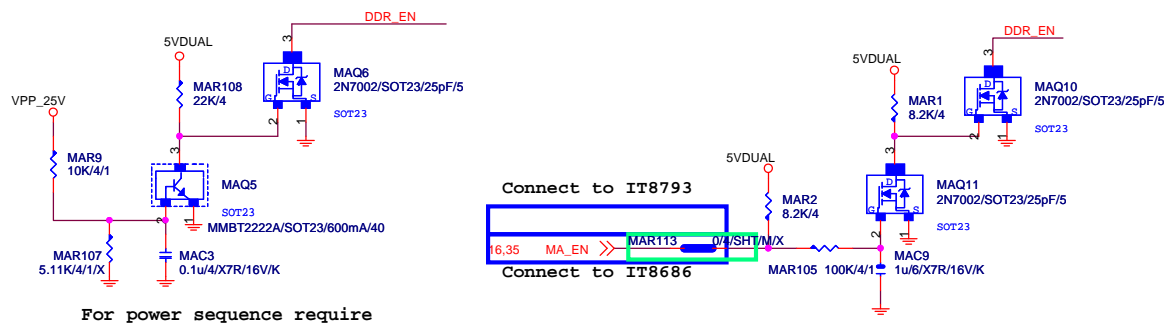


Connect to PCH

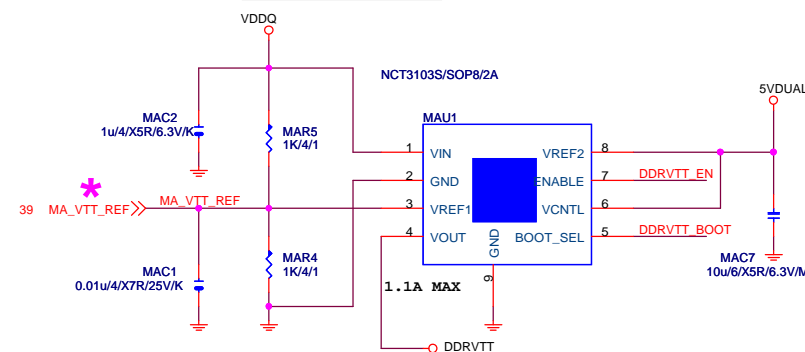




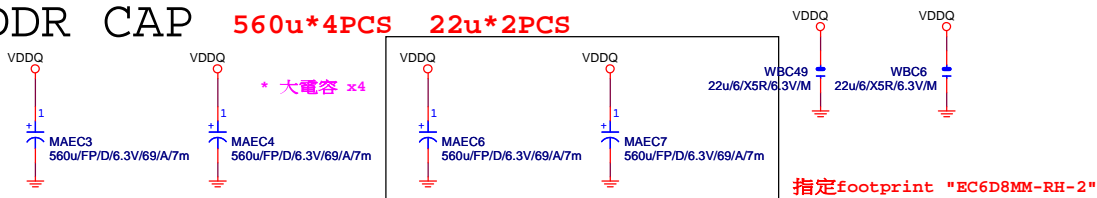
PWR	SEQ
-----	-----



For power sequence require

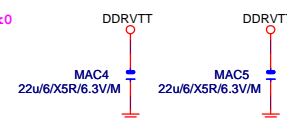
**DDRVTT**

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



指定footprint "EC6D8MM-RH-2"

## DDRVTT CAP



\* 大電容 x0

4 DDR\_VTT\_CTL >>> DDR\_VTT\_CTL MAR110 >>> DDRVTT\_EN  
12,16 27,51 N\_SLP\_S3 >>> N\_SLP\_S3 MAR111 >>> DDRVTT\_BOOT  
0/4/SHT/M/X  
0/4/SHT/M/X  
MAU1上NCT3103S時上件

# GIGABYTE

Title			
<b>RT8120_DDR4 POWER</b>			
Size	Document Number	Rev	
Custom	<b>Z390 UD</b>	<b>1.01</b>	
Date:	Thursday, September 06, 2018	Sheet	34 of 53

**VPP\_25V**

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

## CHOKES與CAP料號可變

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

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

39 VPP25\_ADJ ← VPP25\_ADJ

16,34 MA\_EN &gt;

VPP\_25V

1

MAEC11  
560u/FP/D/6.3V/69/A/7m

Title			
RT8120_VPP25 POWER			
Size	Document Number		Rev
Custom	Z390 UD		1.01
Date:	Thursday, September 06, 2018	Sheet	35 of 53



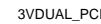


## REV:0.12

20 5VAUX\_SW



## 3VDUAL\_PCH

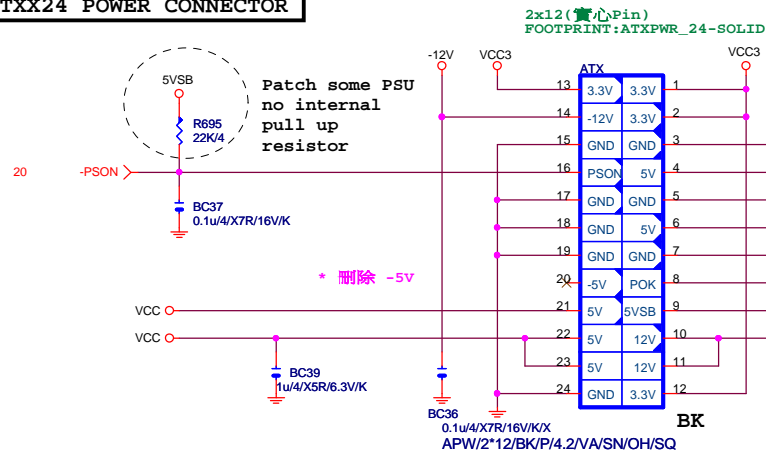


(不上件)

## Gigabyte Technology

Title			
<b>DISCRETE POWER</b>			
Size	Document Number		Rev
Custom	<b>Z390 UD</b>		<b>1.01</b>
Date:	Thursday, September 06, 2018	Sheet	37 of 53

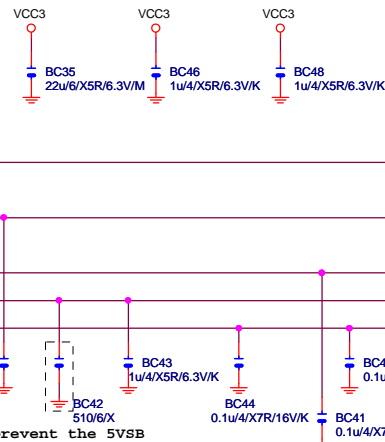
## ATXX24 POWER CONNECTOR



```

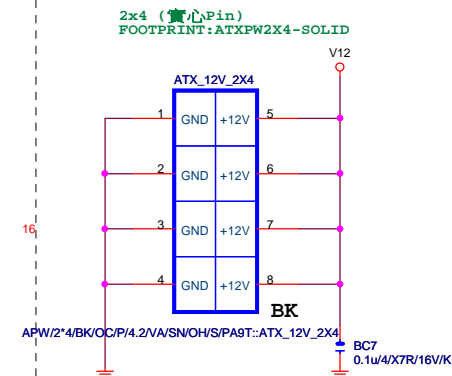
To prevent the 5VSB
under loading when
- boot - - - - -

```

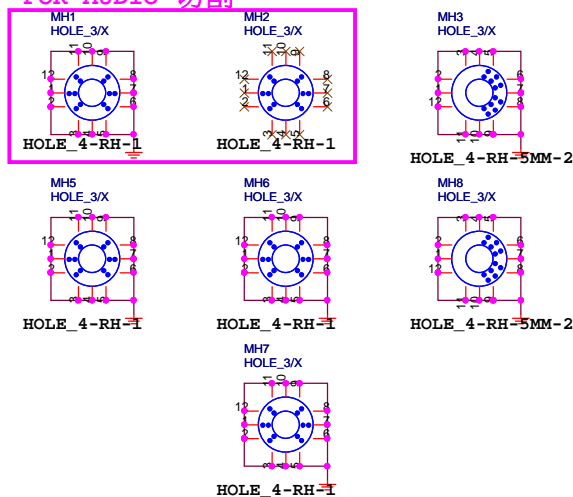


11NH4-020004-P1R/P2R '實心4P耐高溫、鍍錫料號  
11NH4-020108-21R/22R' 實心8P耐高溫、鍍錫料號  
11NH4-020024-Z1R/Z2R' 實心24P耐高溫、鍍錫料號

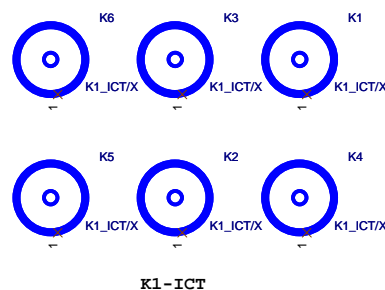
## ATXX4 POWER CONNECTOR



**螺絲孔** FOR AUDIO 切割



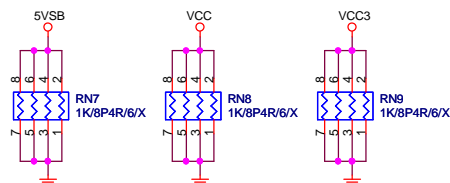
**固定孔/光學點**



To prevent the 5VSB  
under loading when  
boot

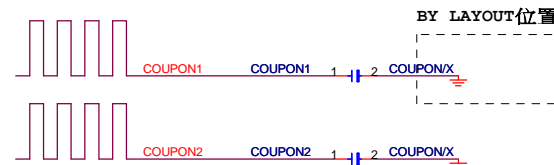
teknisi-indonesia.com

DUMMY LOAD
------------



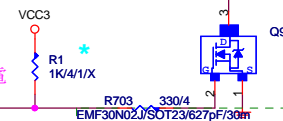
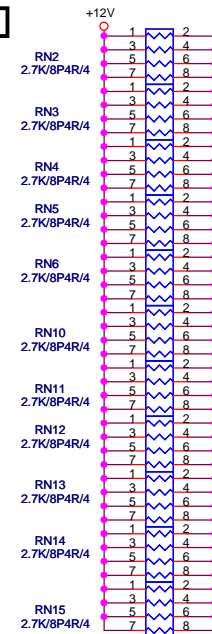
**-PROHOT**

## COUPON



## +12V DUMMY LOAD

To fix 12V light load  
abnromal issue



Check R1 是否會漏電

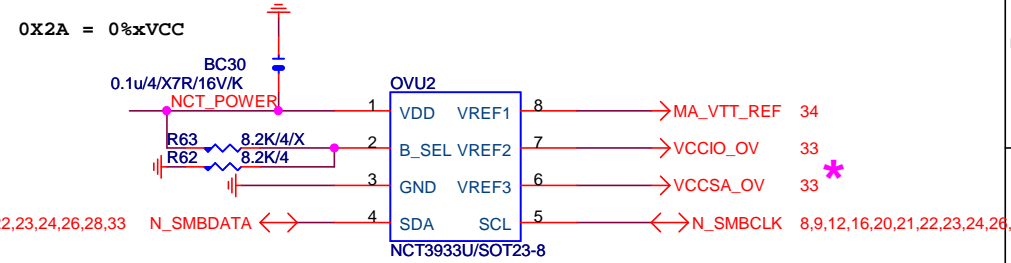
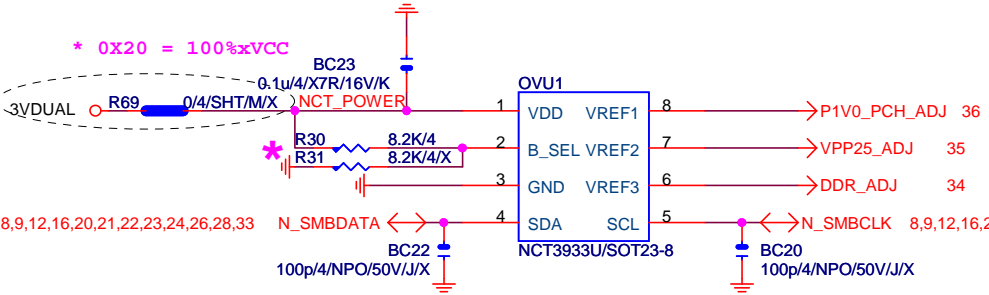
## Gigabyte Technology

Title	<b>ATX POWER CONNECTOR</b>
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OVER VOLTAGE



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 NCT3933

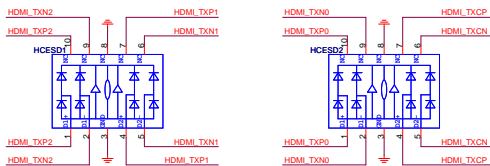
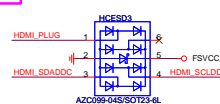
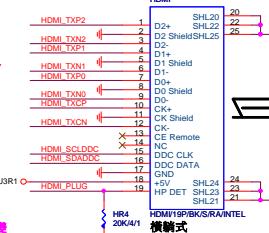
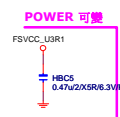
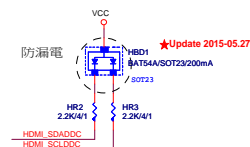
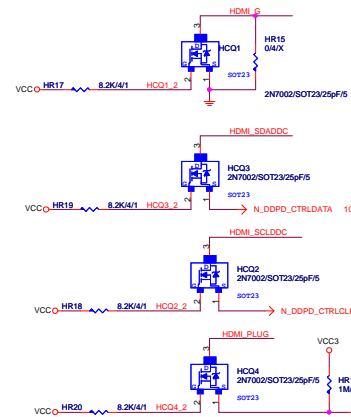
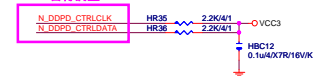
Size Custom

Document Number

Rev1.01

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AZ1045-04F/MSOP10

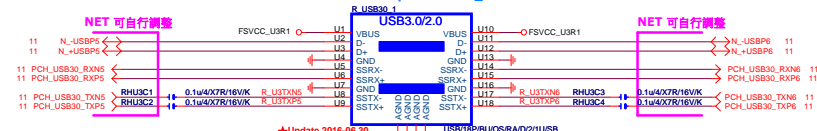
Close to connector

AZ1045-04F/MSOP10

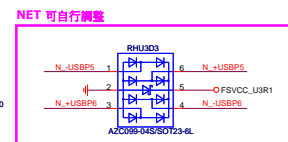
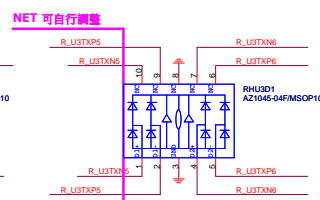
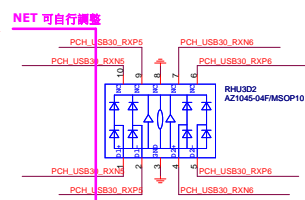
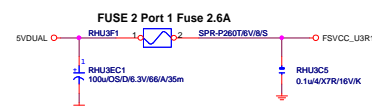
Close to connector

ESD 可自行SWAP PIN ,CONN端 NET 名稱 不可

Footprint:USB30\_20

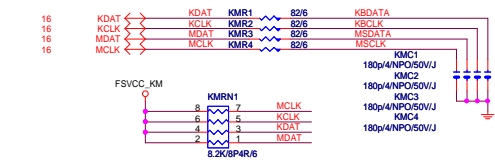
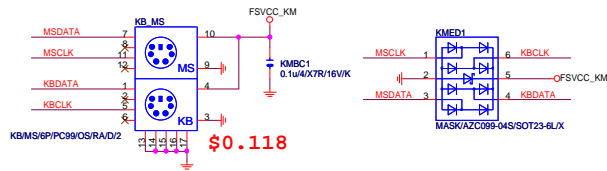


★Update 2016-06.30.

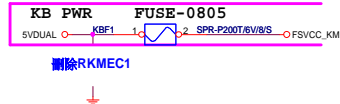


Rev: 0.8

KB/MS

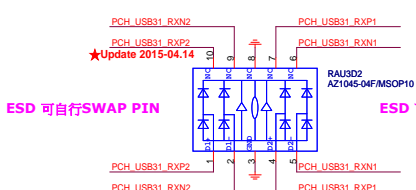
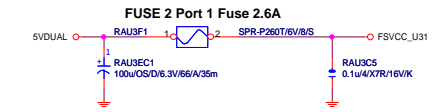
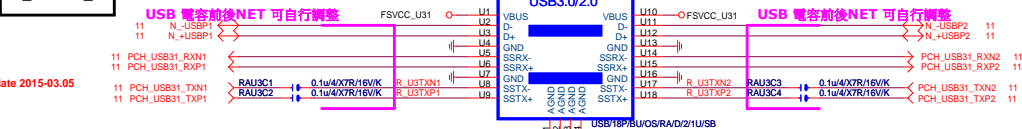


NET 可變, 與其他USB SHARE



Rev: 0.8

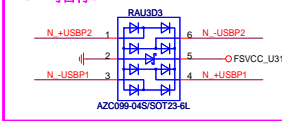
R\_USB30\_1



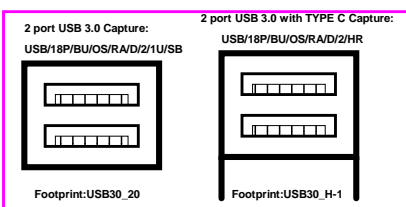
★Update 2015-03.05

★Update 2015-04.14

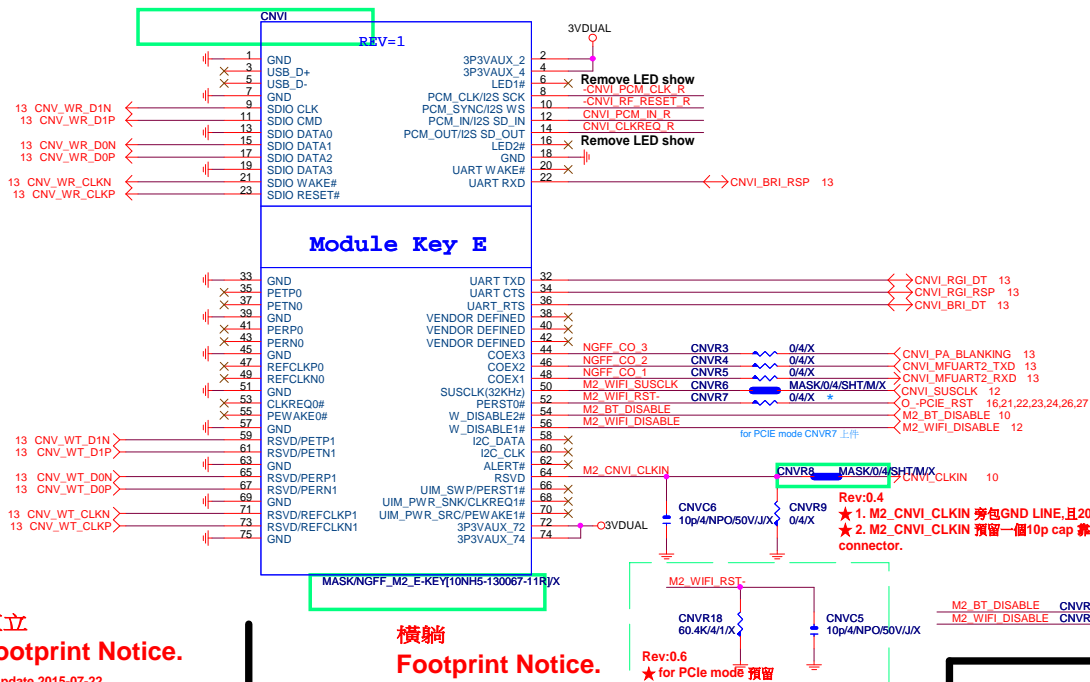
ESD 可自自行SWAP PIN



CONNECTOR 自行調整



## CNVi\_M2\_WIFI



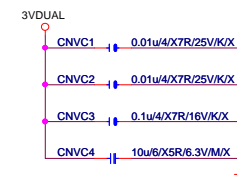
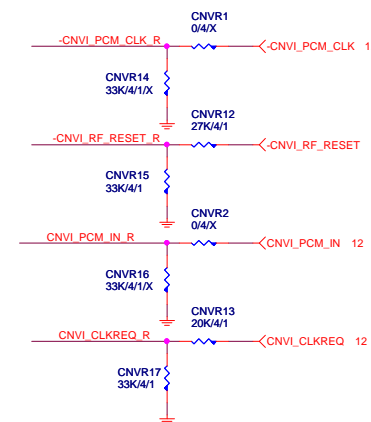
### 直立 Footprint Notice.

★Update 2015-07-22

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

### 橫躺 Footprint Notice.

★Update 2015-07-22

★Footprint for 橫躺式高:  
NGFF-E-75P-3★Footprint for 橫躺式矮:  
CNVi★橫躺式高SMD  
P/N:10NR5-130067-61R  
★橫躺式矮SMD  
P/N:10NR5-130067-22RRev:0.6  
★1. 將PCH吐出的3.3V 經分壓為1.8V 才連到CNVi

先貼B360N WIFI ~CHECK 模組

### 一套WIFI MODULE包含外框+WIFI CARD+天線



Footprint WIFI-EKEY+ WIFI-EKEY-MODULE-1 should be a package.

GIGABYTE™

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## R2.04

note:可變更USB NAME



USB3+LAN/1G/GO,Y/OS/RA/D/G30

### USB30\_LAN LAYOUT示意圖



Green

Orange

Single Color LED

Yellow

note:可變更USB NAME

## [RTL8118]



## 可變

## 可變

## 可變

LA\_MDI-->100歐姆:[20/4/8/4/20]

note:可變更USB NAME



note:可變更FUSE



note: lan power連接及電流



**\*ERP WOL**

## Gigabyte Technology

## LAN CONNECTOR-RTL8118

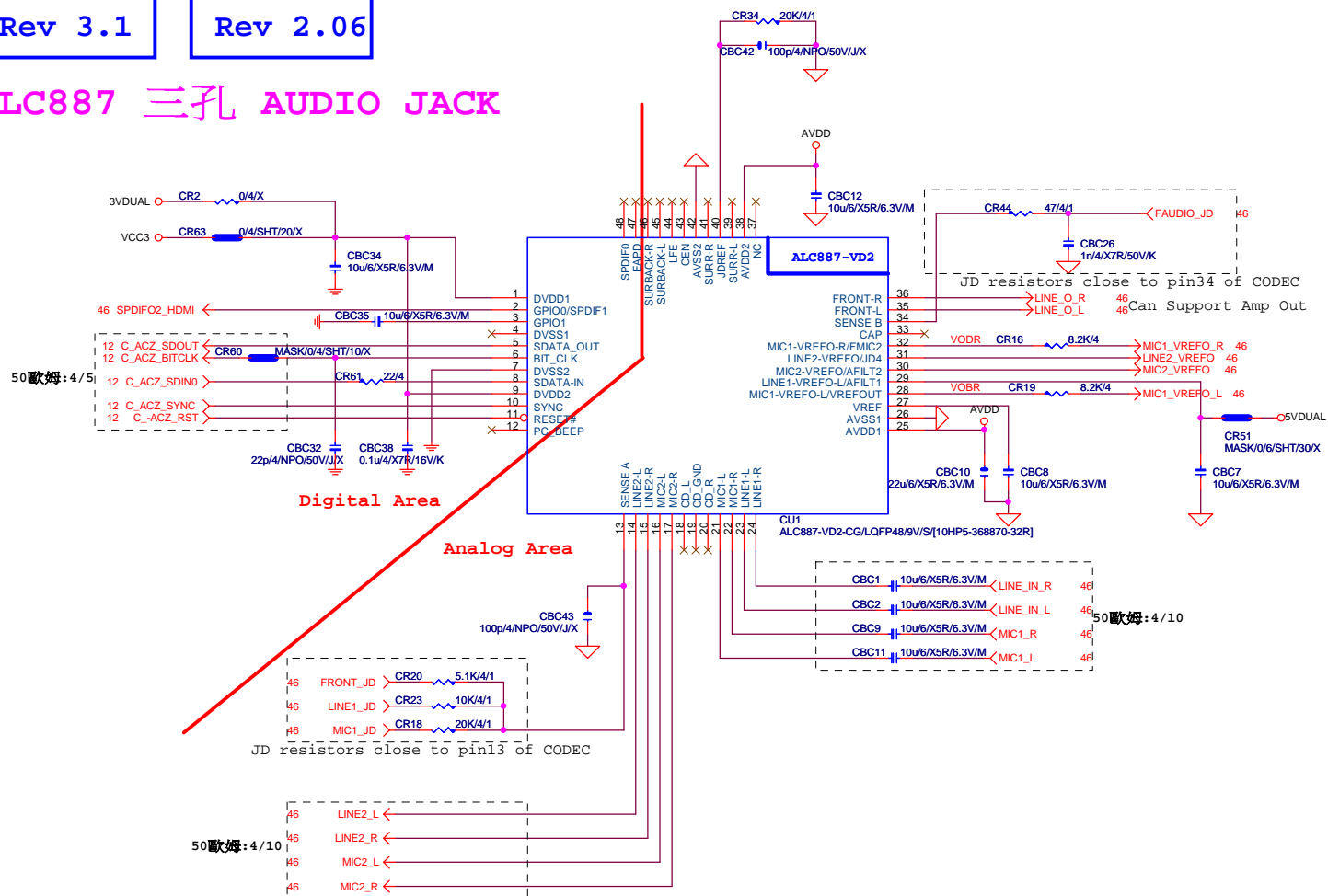
Size	Document Number
Custom	

## Z390 UD

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## ALC887 三孔 AUDIO JACK

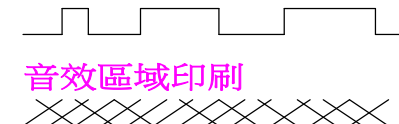


LAYOUT注意: 螺絲孔下GND方式

1. MH1空間夠, 下DGND
2. 空間不夠, 改為Isolate
3. 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

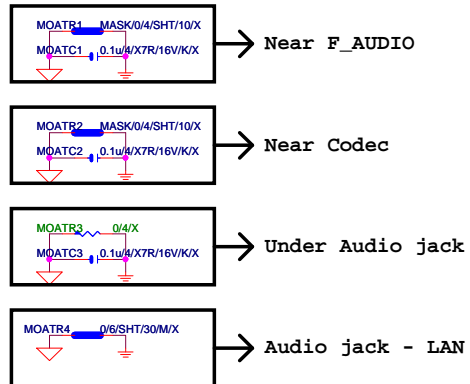


BOM OPTION : 1. Chemicon音效電容  
2. 金屬外罩 Reserve (LAYOUT上件與否, 依照各Model spec)  
3. LED Reserve (上件與否和LED顏色, 依照各Model spec)

Gigabyte Technology		
Title HD AUDIO ALC887		
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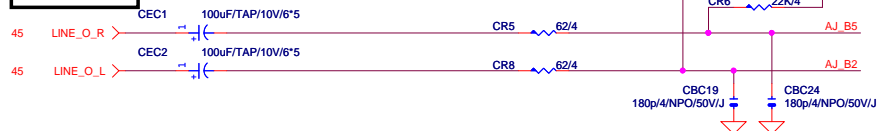
Rev 3.1

Rev 2.06

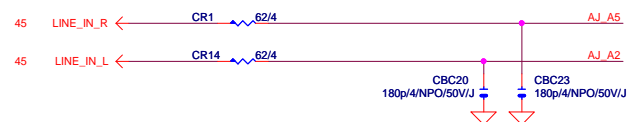


\*量産前, 0ohm改short pad

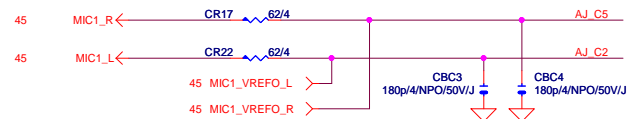
## LINE-OUT



## LINE-IN



## MIC-IN

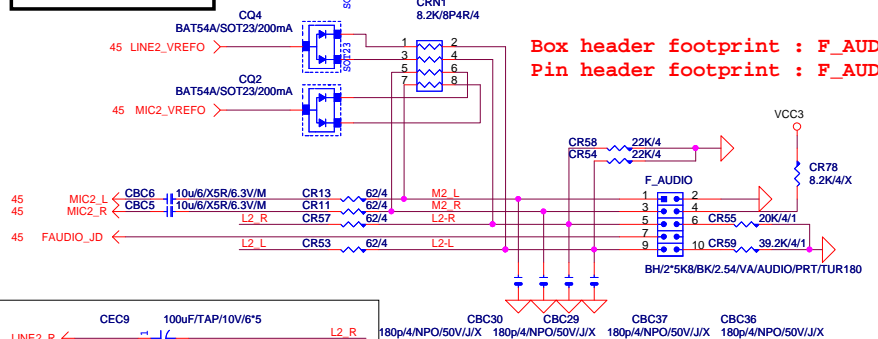


## SURROUND

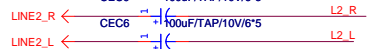
## CEN/LFE

## SURR BACK

## AZALIA FRONT PANEL

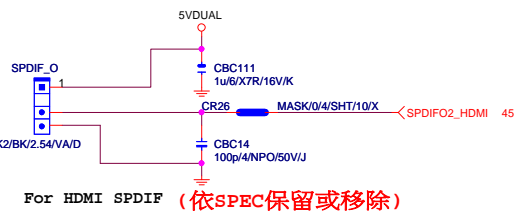


Box header footprint : F\_AUDIO  
Pin header footprint : F\_AUDIO\_S

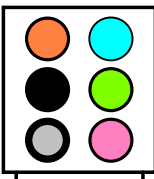


Gigabyte Technology

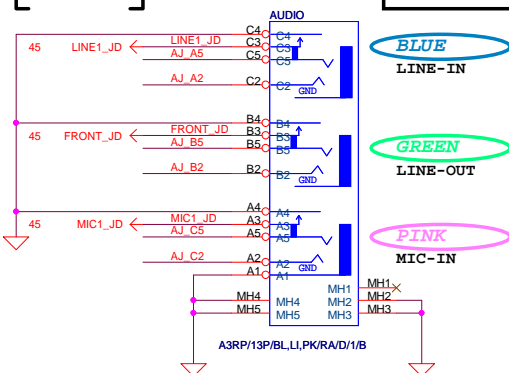
Title			
AUDIO JACK			
Size	Document Number	Z390 UD	Rev
Custom			1.0
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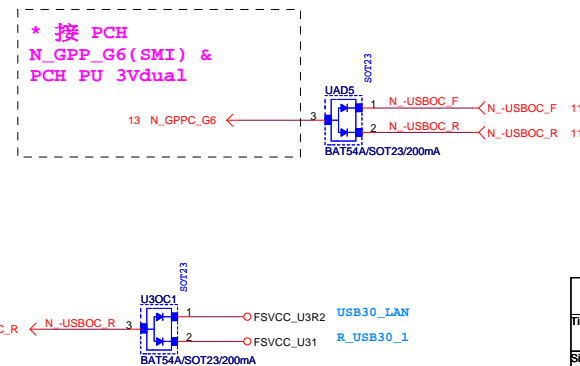
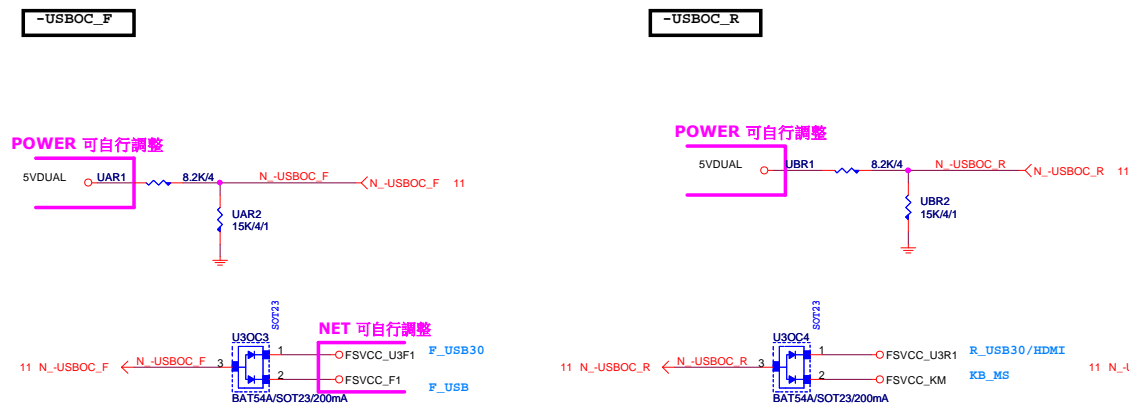
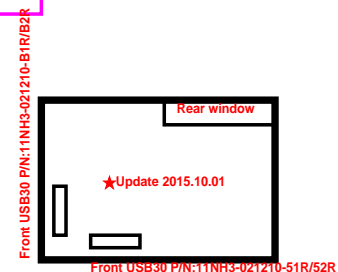
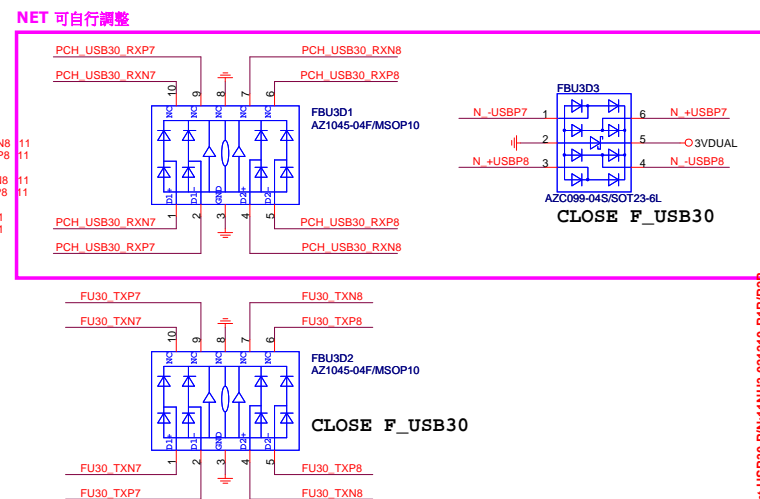
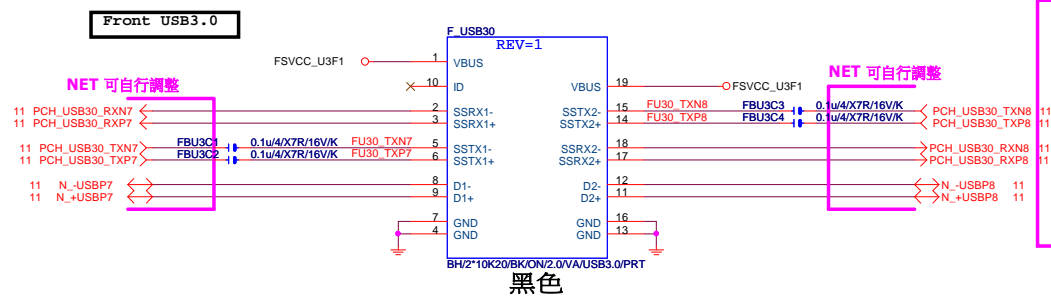


## AZALIA JACK



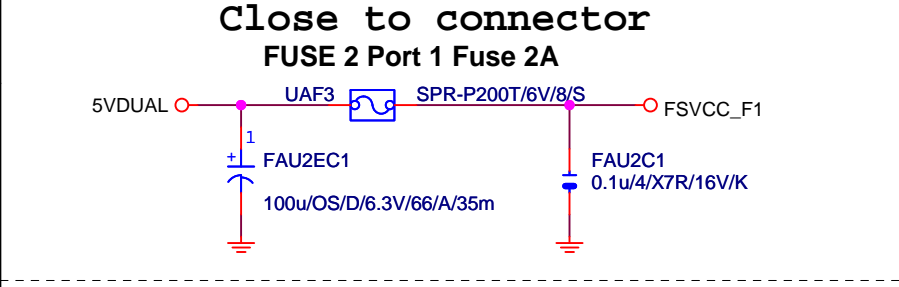
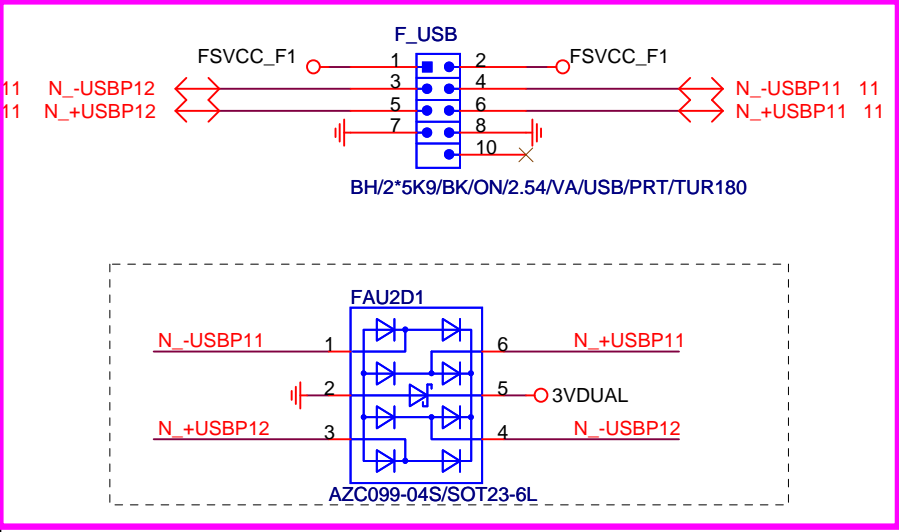
## AZALIA JACK

BLUE  
LINE-INGREEN  
LINE-OUTPINK  
MIC-IN



NET 可變

FUSB2X5-HS

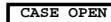


F\_USB 2.0 OC SIGNAL

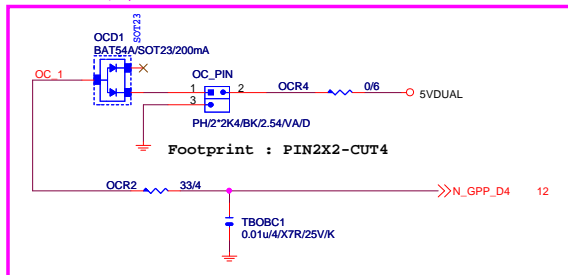
刪除U2OC1 ,移至與U3OC3接

刪除U2OC1 , FRONT USB2

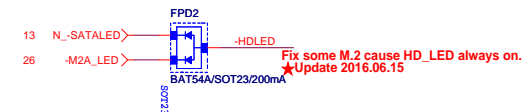
Gigabyte Technology			
Title			
USB2.0			
Size A	Document Number		Rev
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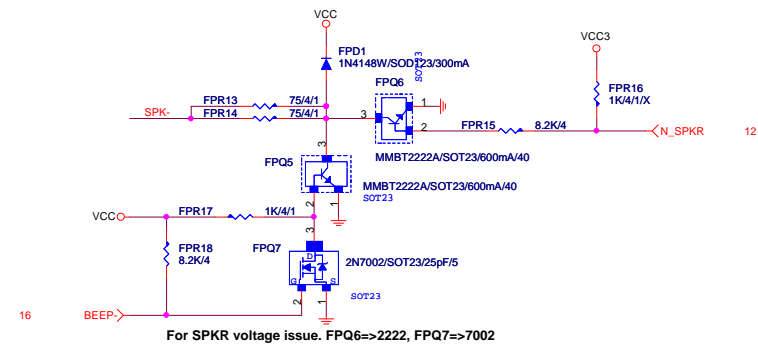
## FRONT PANEL SHORT

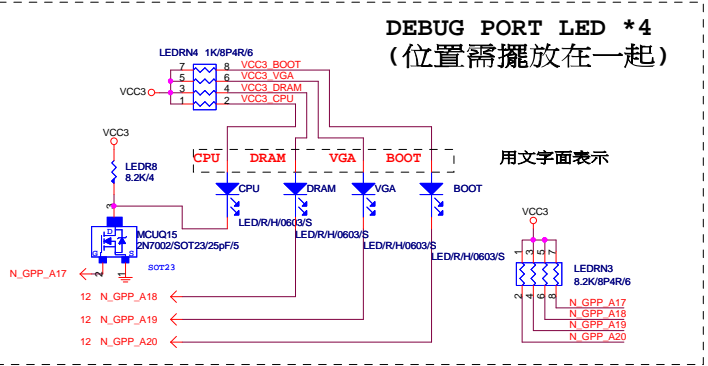
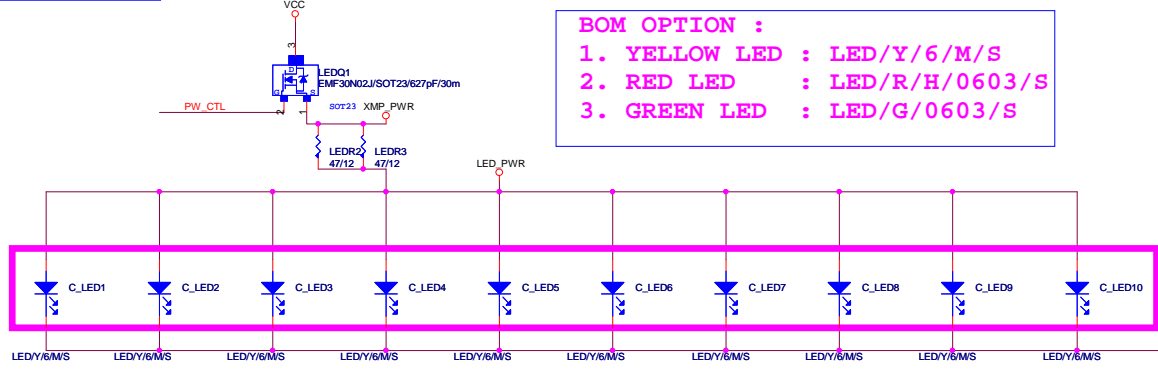


SATA/M.2 LED
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## SPKR

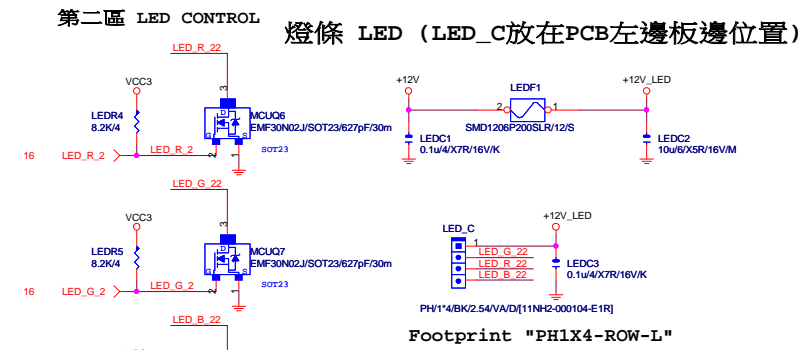




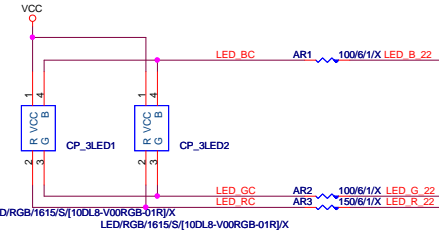
Ambient LED Control

	N_GPP_D22	IO GP91
Still Mode	H	L
OFF Mode	L	L
Pluse Mode	H	BREATH

RGB LED CONTROL

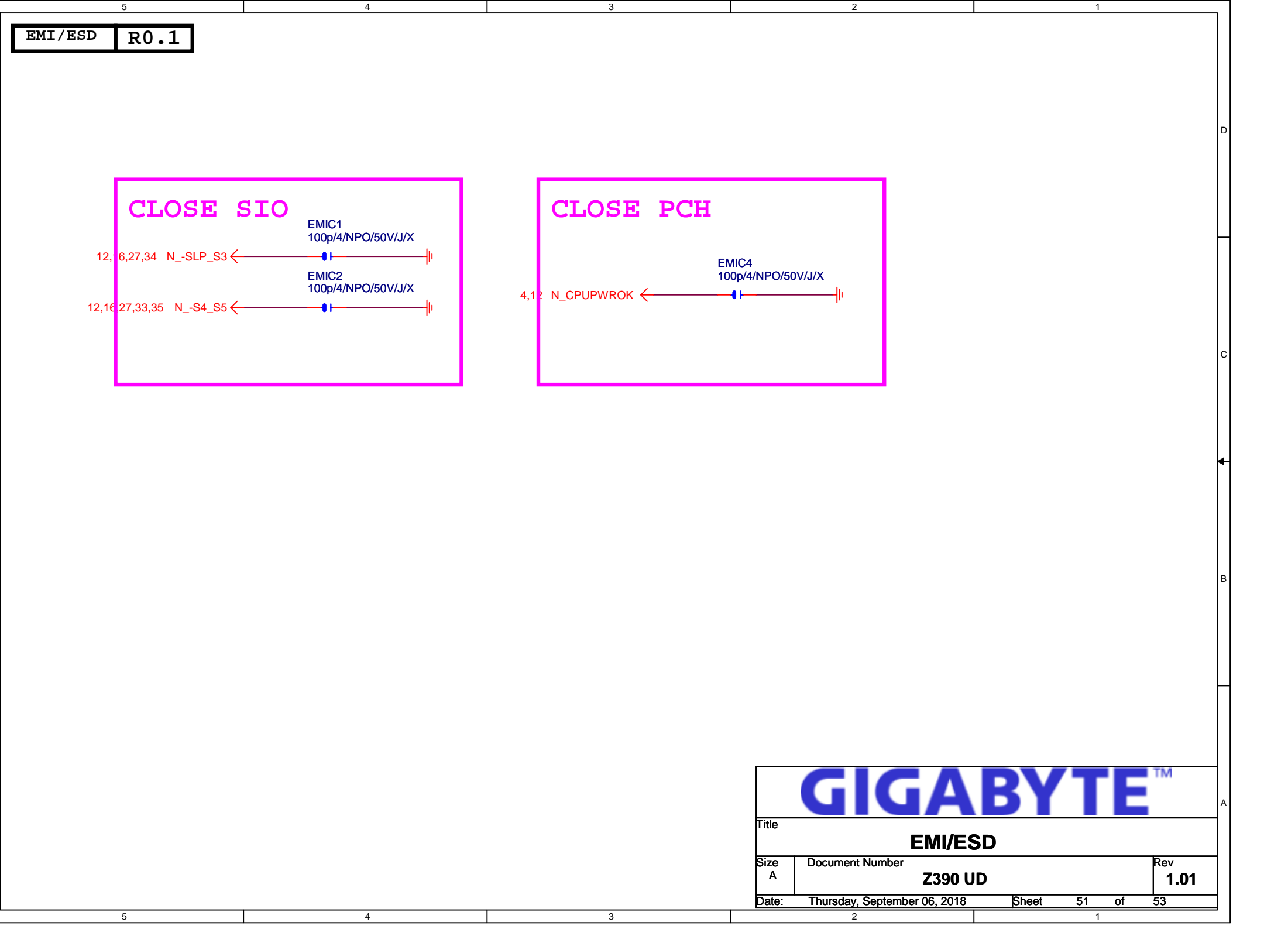


FOR 裝甲高亮度 正發光 LED\*2  
(位置在正板,依據裝甲設計擺放)

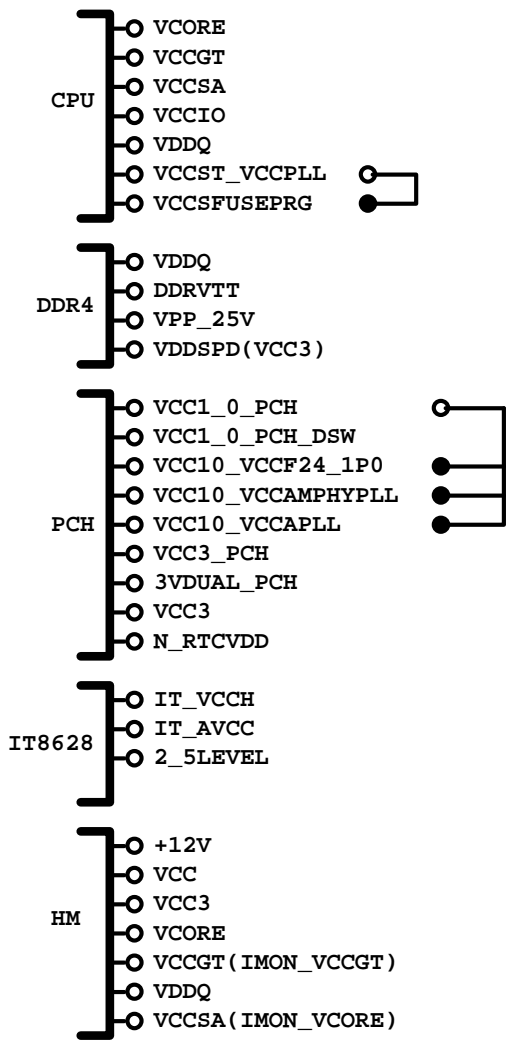


FOOTPRINT: LED\_4P\_RGB 高亮度

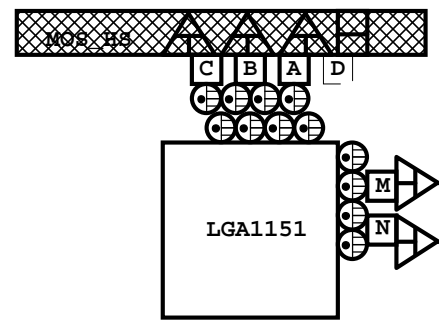
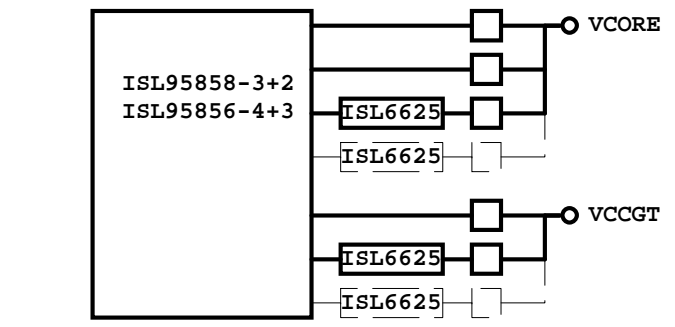




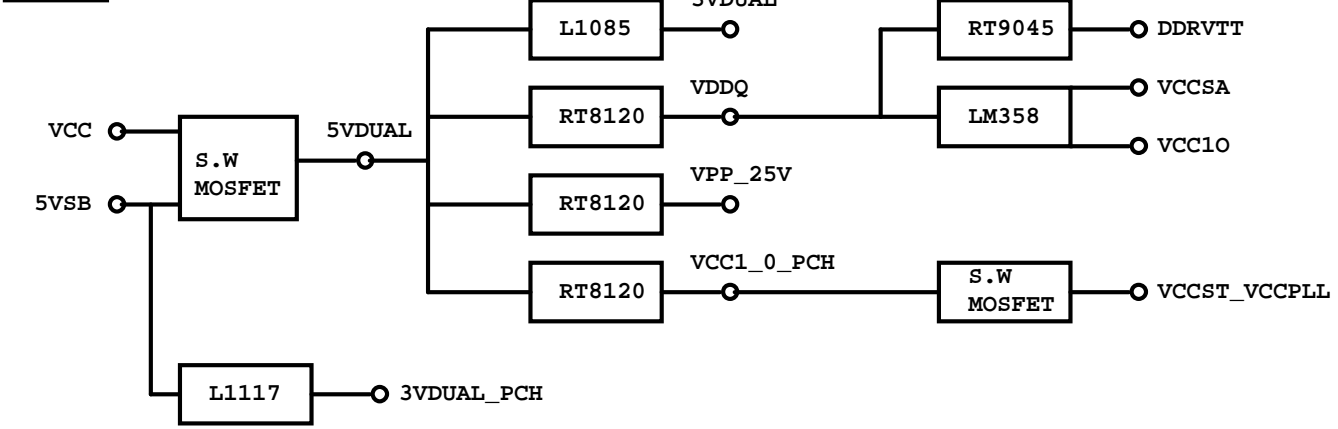
POWER BLOCK MAP



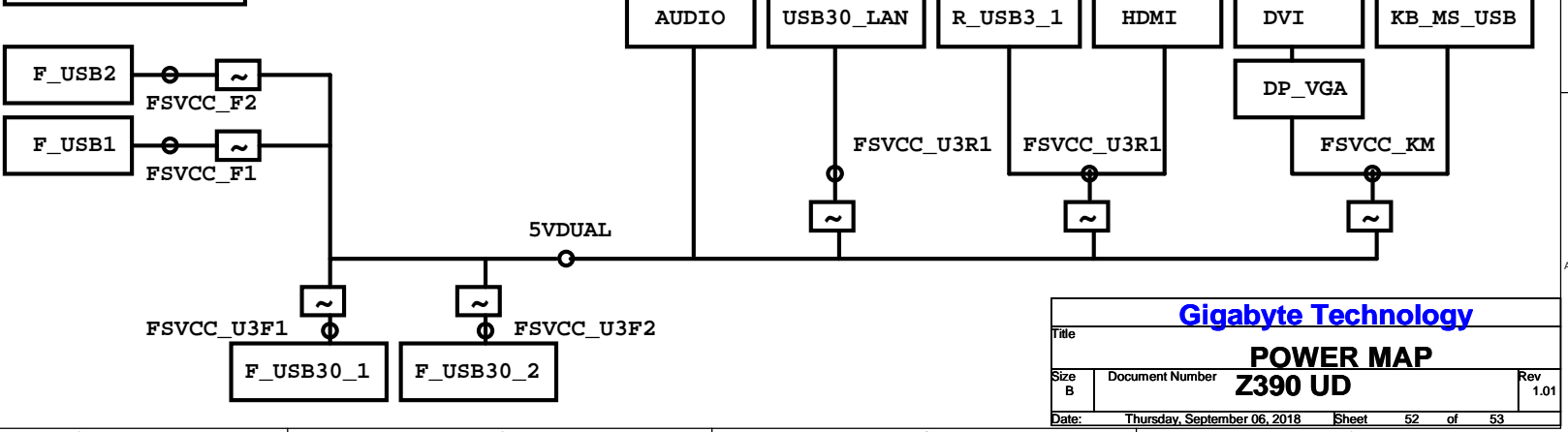
VCORE/VCCGT

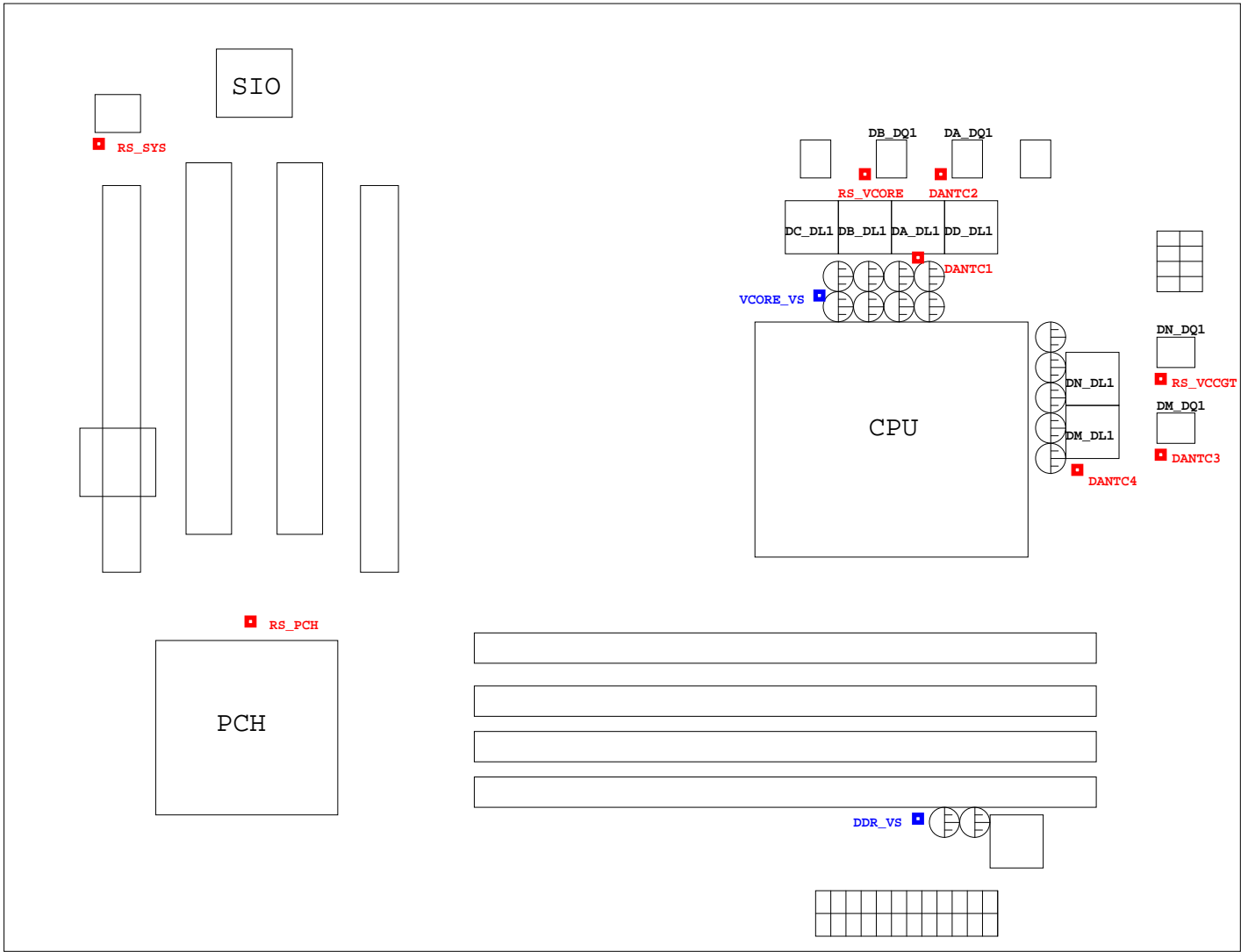


POWER



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