

Model Name : H510M DS2

Rev 1.01

SHEET

TITLE

SHEET

TITLE

01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	CPU_LGA1151-A
05	CPU_LGA1151-B-DDR4
06	CPU_LGA1151-C
07	CPU_LGA1150-D
08	DDR4 CHANNEL A
09	DDR4 CHANNEL B
10	PCH_CLK BUFFER
11	PCH_DMI,USB,PCIE
12	PCH_MISC
13	PCH SATA,PCIE,SATA_EXPRESS
14	PCH PWR
15	PCH GND
16	ITE 8686 LPC IO
17	HWM
18	FAN CTRL--SIO
19	BIOS
20	CEC
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23	SATA Connector
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25	IT8892E (NA)
26	PCI SLOT (NA)
27	ASM1085 POWER (NA)
28	LDO POWER (NA)

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		
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Custom	H510M DS2	1.01
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Model Name : H510M DS2

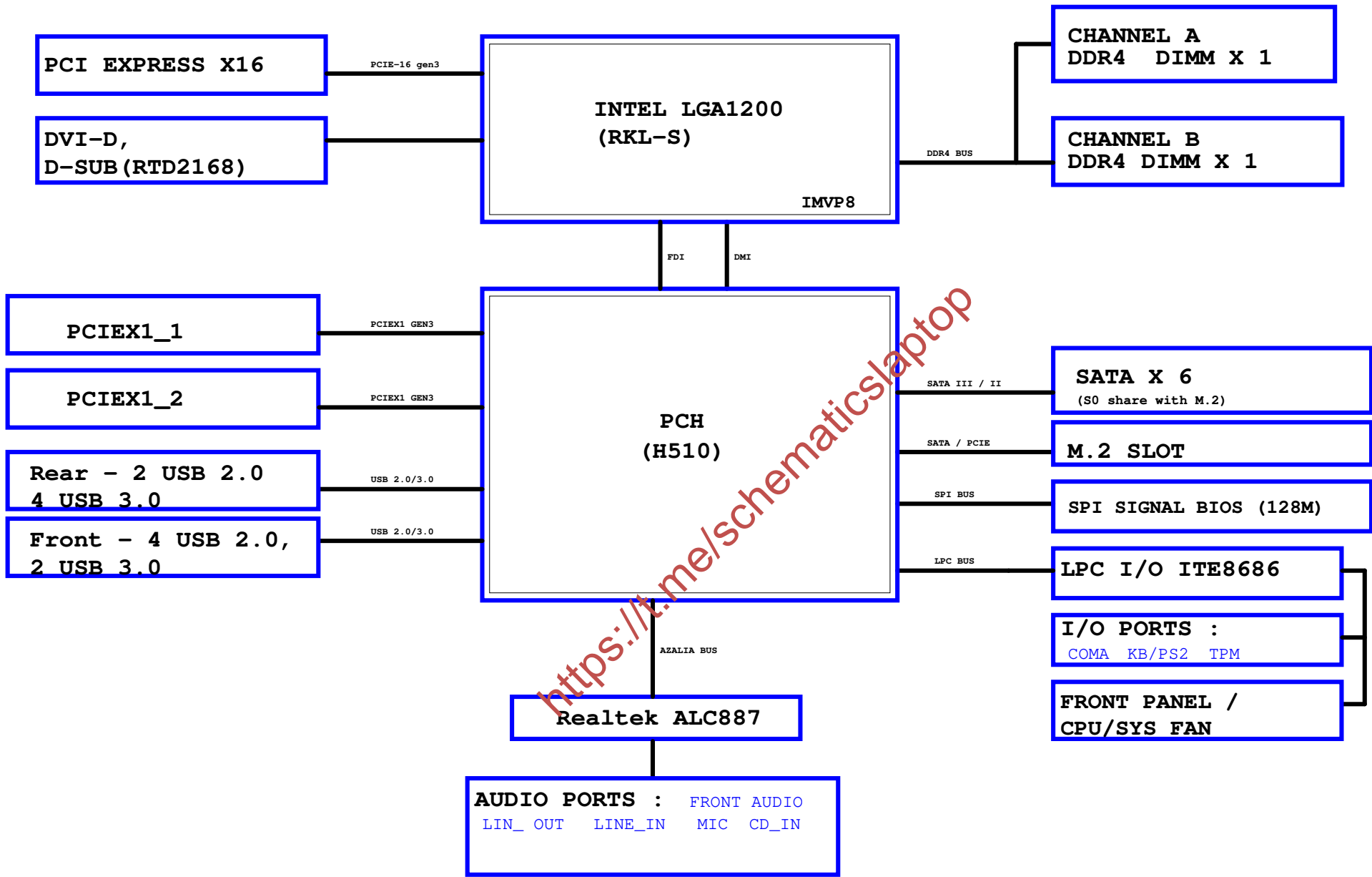
Component value change history

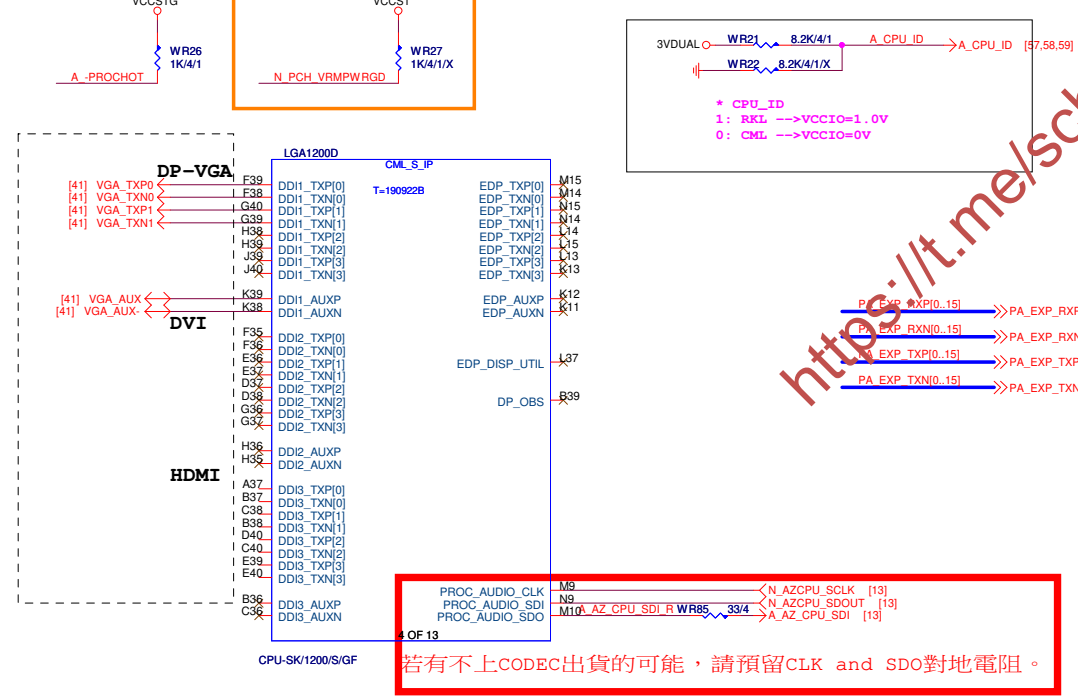
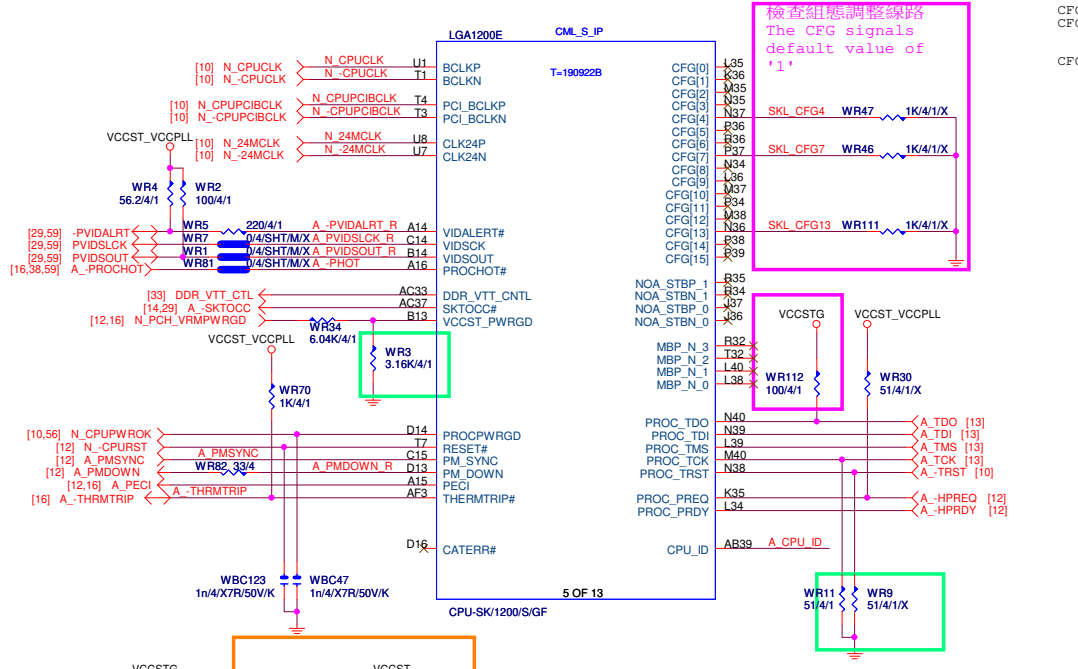
Data	Change Item	Reason
2019/12/12	1. H410M H 改 S2	R01
2019/12/12	1. EVT	9MH410MS2-00-01
2020/02/24	1. 修改模組線路 & note	R10
2020/03/12	1. DVT	9MH410MS2-00-10A
2020/03/17	1. 修改模組線路 & note	R101
2020/03/29	1. PVT	9MH410MS2-00-10E
2020/04/07	1. 修改模組線路 & note	9MH410MS2-00-10F
2020/04/17	1. 採購修改電容用料	9MH410MS2-00-10G
2020/08/27	1. H410M S2 改 H510M S2	R01
2020/11/01	1. H510M DS2V 改 H510M DS2 2. 移除DVI , 增加R_LPT, R_COM 3. 移除USB Hub , RGB Header	R01
2020/11/01	1. 500 Series Notes 16	R01
2021/03/16	1. DDR改10mv 一階 FBOM	9MH51MDS2-00-10D

Circuit or PCB layout change

DATE	Change Item	Reason

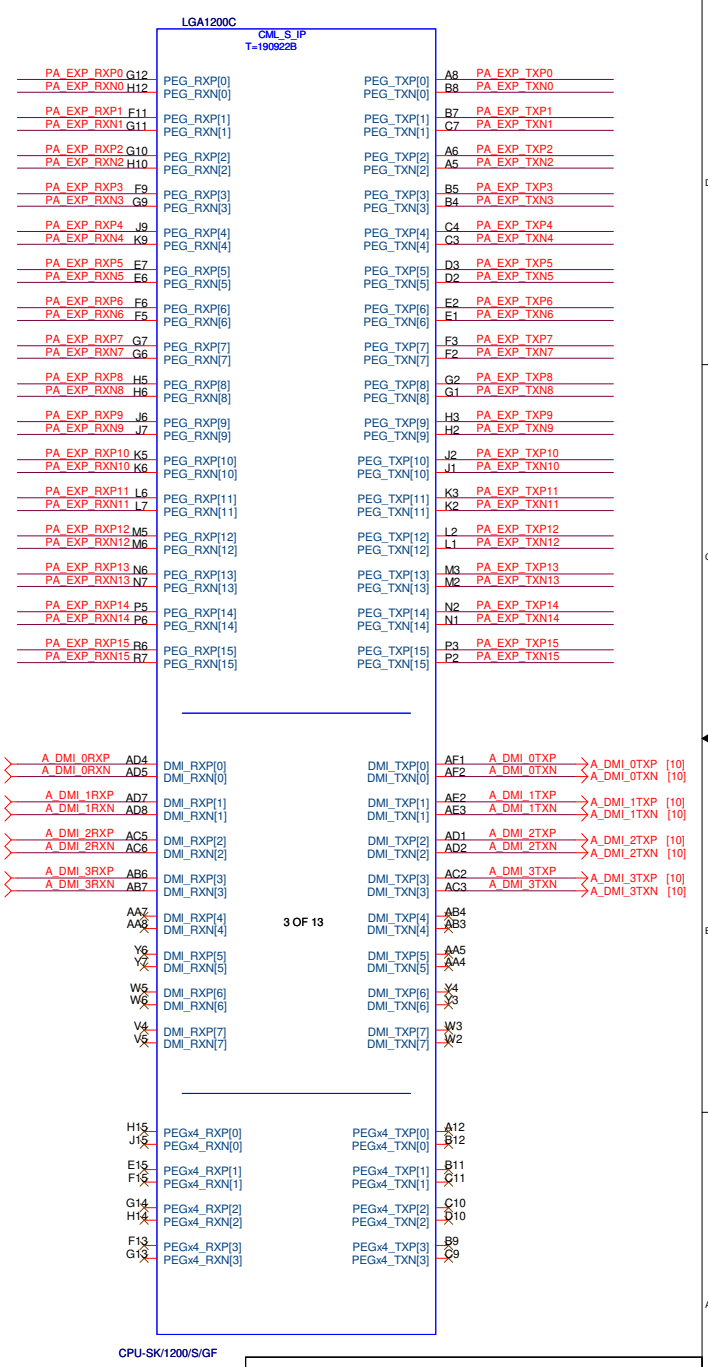
BLOCK DIAGRAM

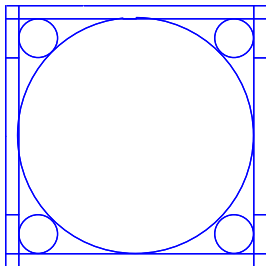
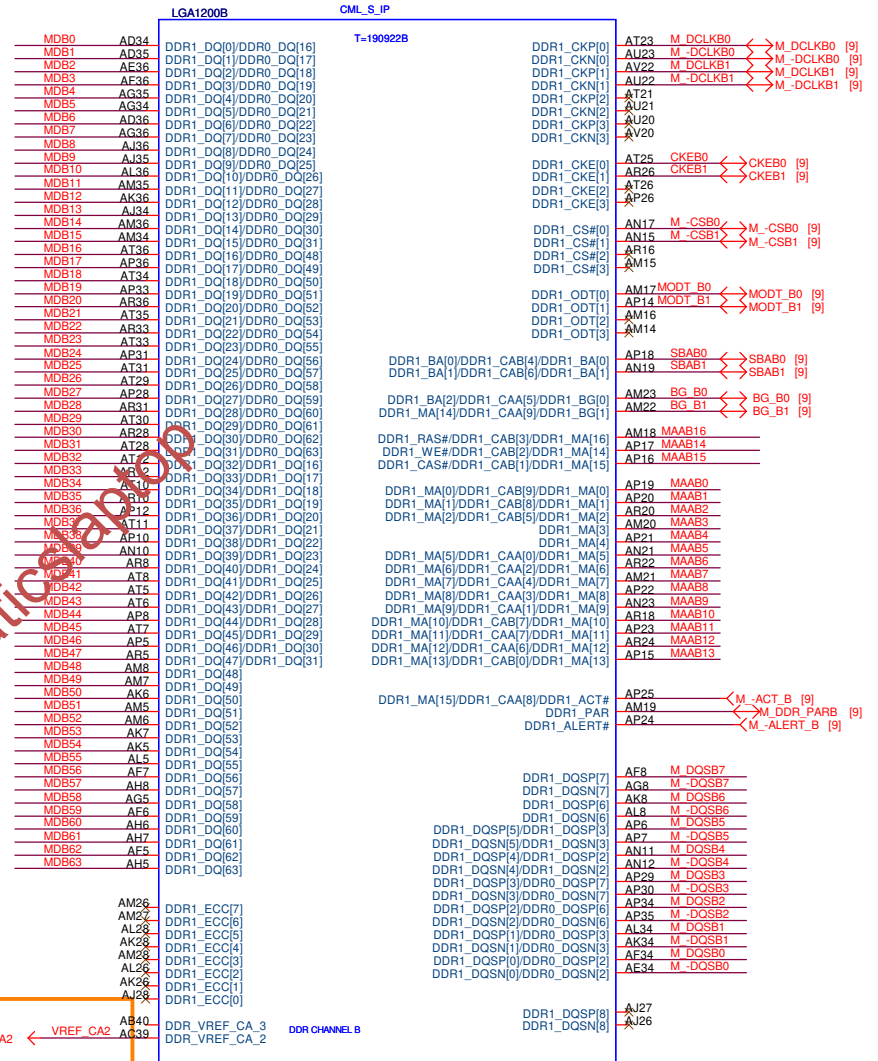
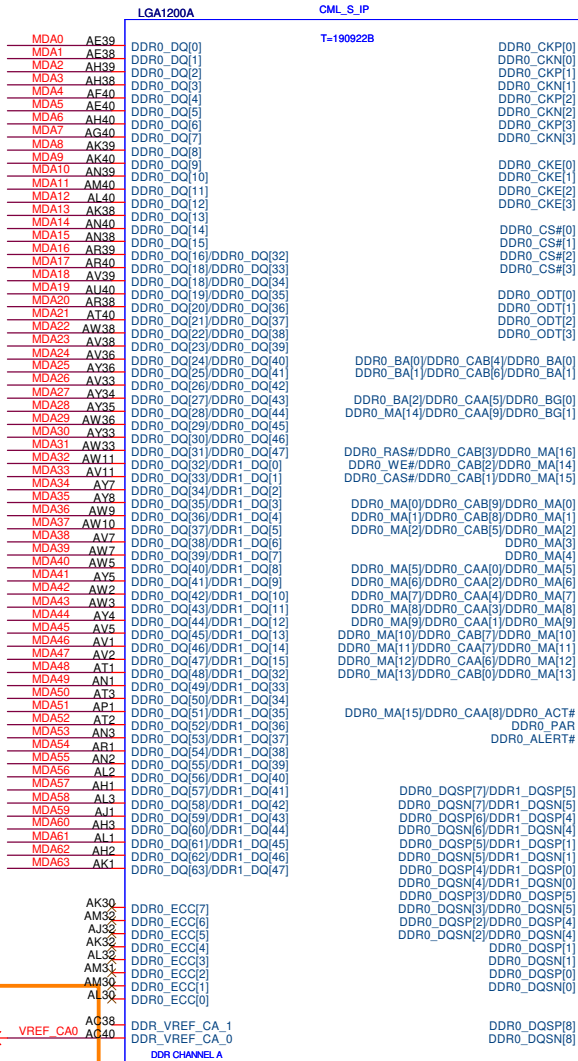




CFG[4]: 0=eDP enable / 1=eDP disable  
CFG[7]: 1=PEG Train immediately following RESET  
0=PEG Wait for BIOS  
CFG[13]: 1=VCCSA Fixed Mode / 0=SVID Mode

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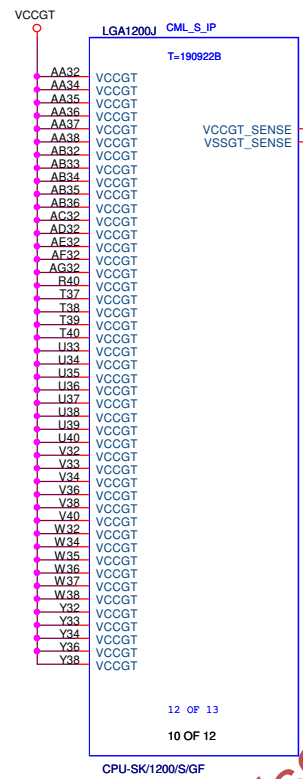
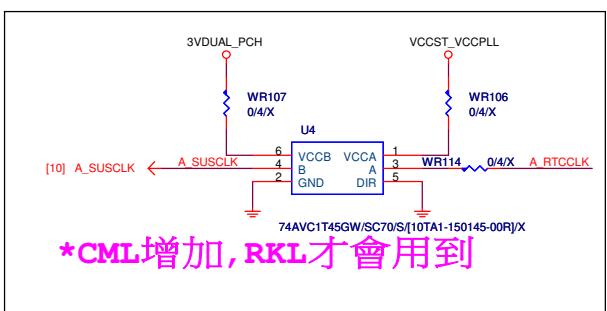
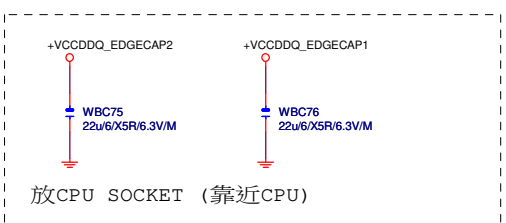
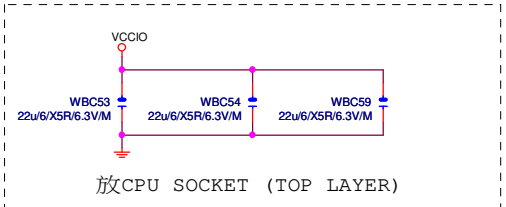
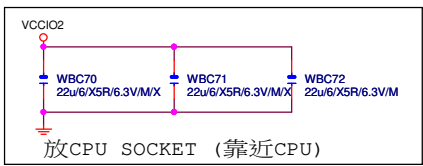
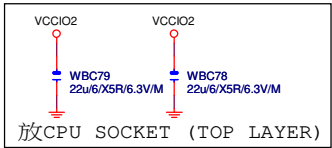
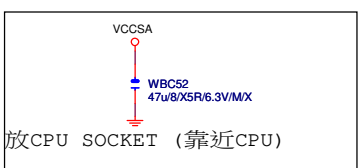
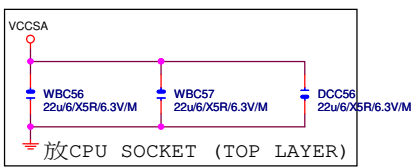


黑色cover

LGA1200  
ILM\_BP\_CR/115X/BKNI/12KRC-SF0001-81R\_12KRC-SF0001-82R

MDA[0..63]  
MDB[0..63]  
M\_DQSA[0..7]  
M\_DQSA[0..7]  
MAAA[0..16]  
MAAB[0..16]  
M\_DQSB[0..7]  
M\_DQSB[0..7]

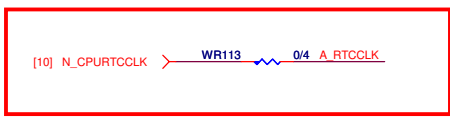
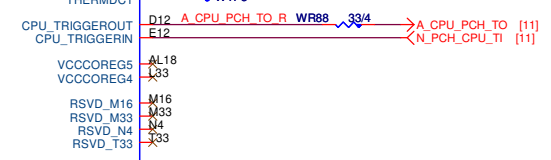
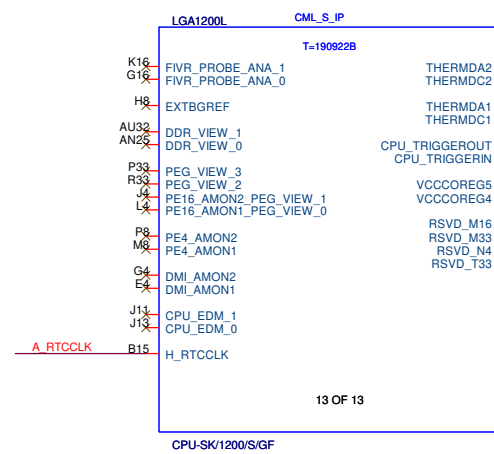
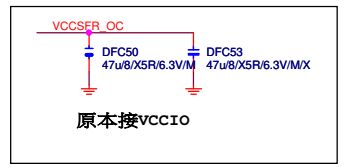
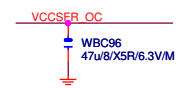
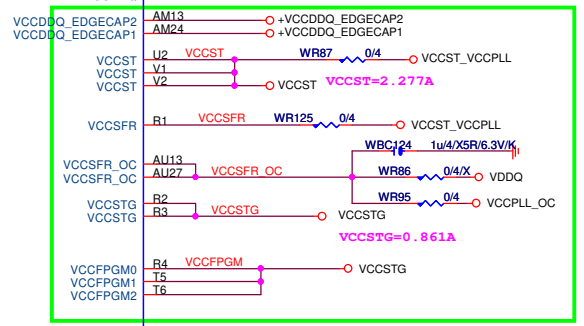
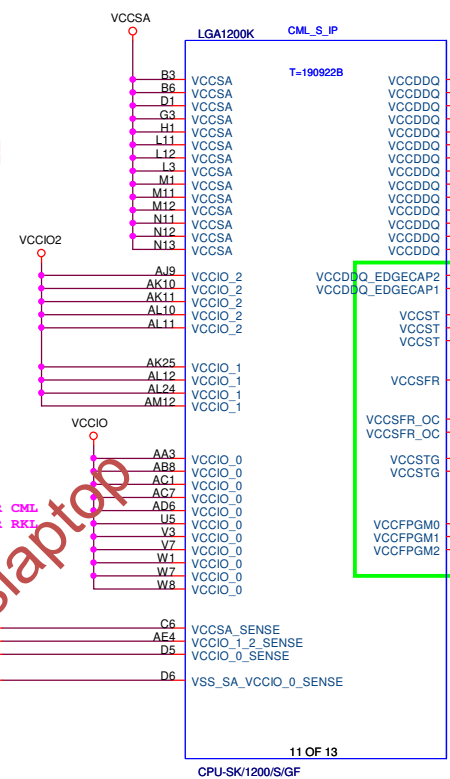
Gigabyte Technology		
CPU LGA1200-B		
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VCCIO\_1\_2  
VOUT = 0.95V  
IOUT = 9.5A

VCCIO\_0  
VOUT = 0.95V FOR CML  
VOUT = 1.05V FOR RKL  
IOUT = 8A

[59] VCCSA\_SENSE  
[58] VCCIO\_1\_2\_SENSE  
[57] VCCIO\_0\_SENSE  
[57,59] VSS\_SA\_VCCIO\_0\_SENSE



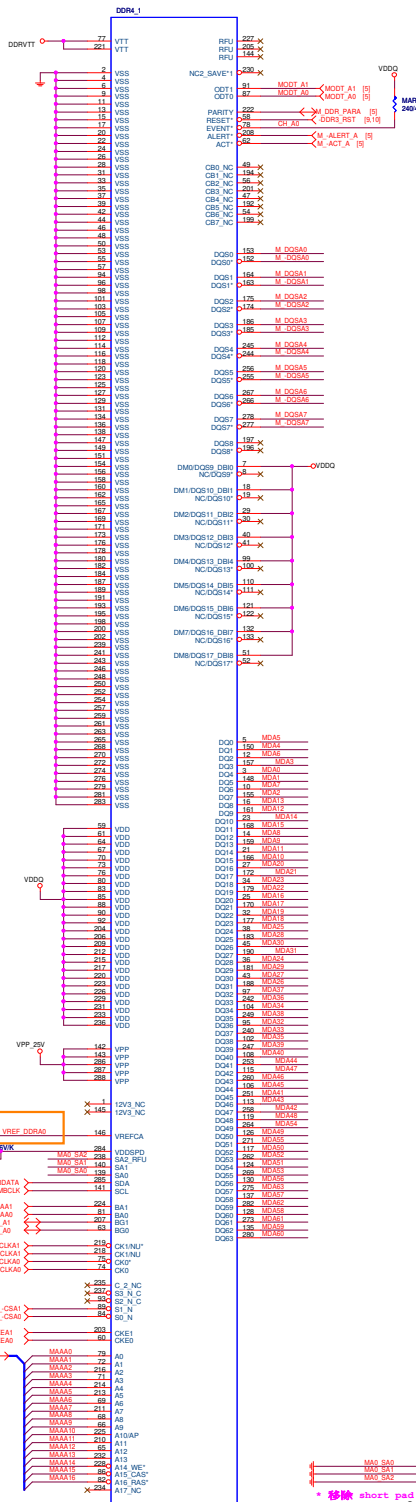
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<https://t.me/schematicsslapshot>

Gigabyte Technology			
CPU LGA1200-C			
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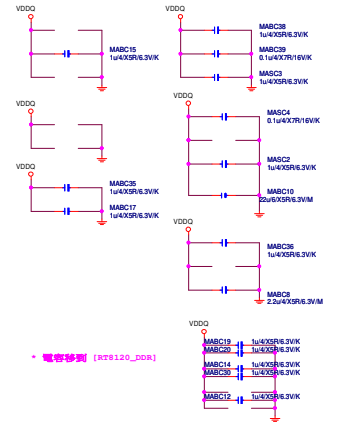




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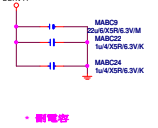


DDR12V Decouple

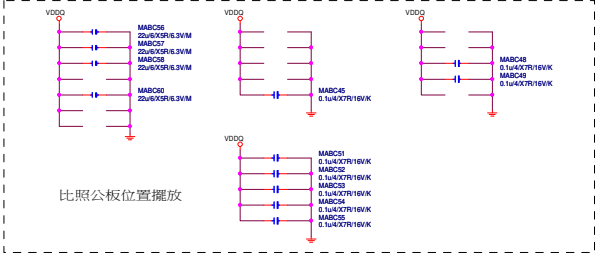


\* 電容移動 (RTR12V\_DDR)

DDRVT Decouple



\* 電容



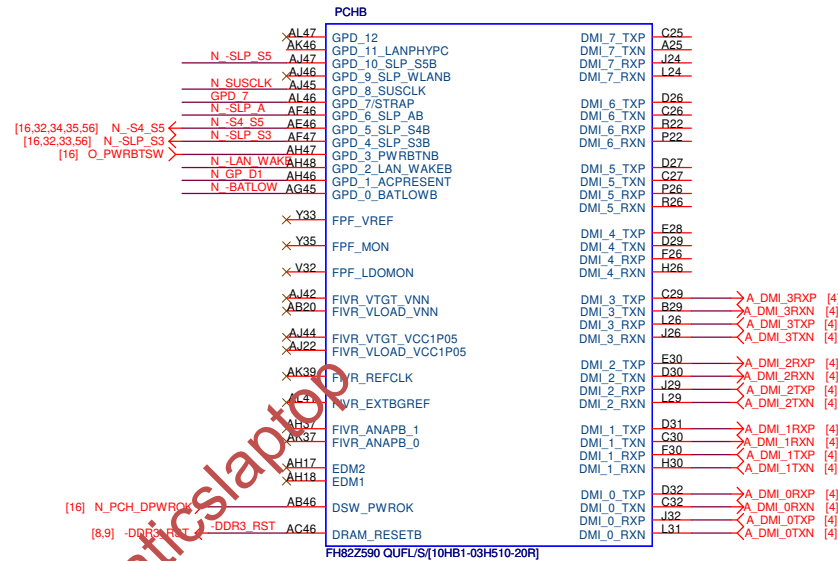
比照公板位置擺放





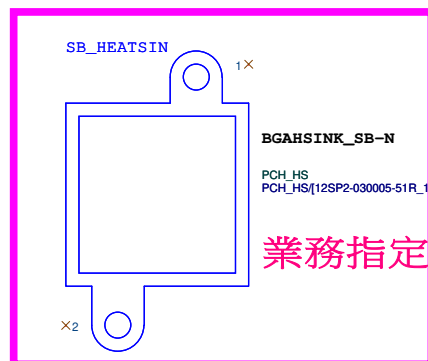
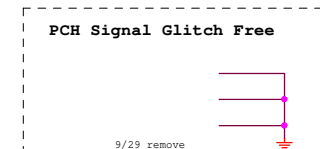
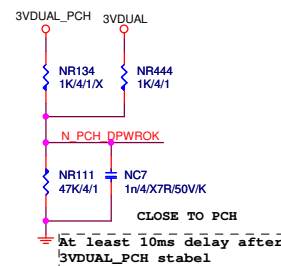
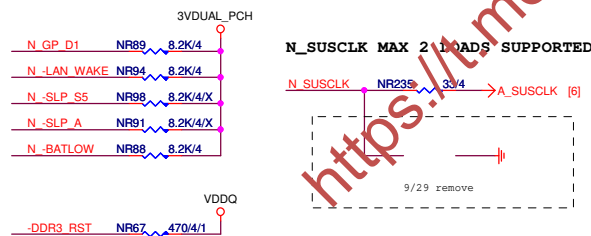
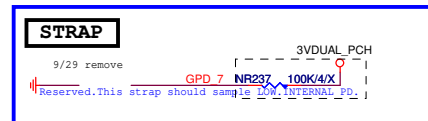
# RKL\_TGP\_PCH-H R0.11

C10\_WAKE RESERVED/BIOS NEED TO PROGRAM  
INTERNAL PD ON THIS PIN.



GPD: 3.3 V only, powered by the PCH DSW\_3P3 power rail.

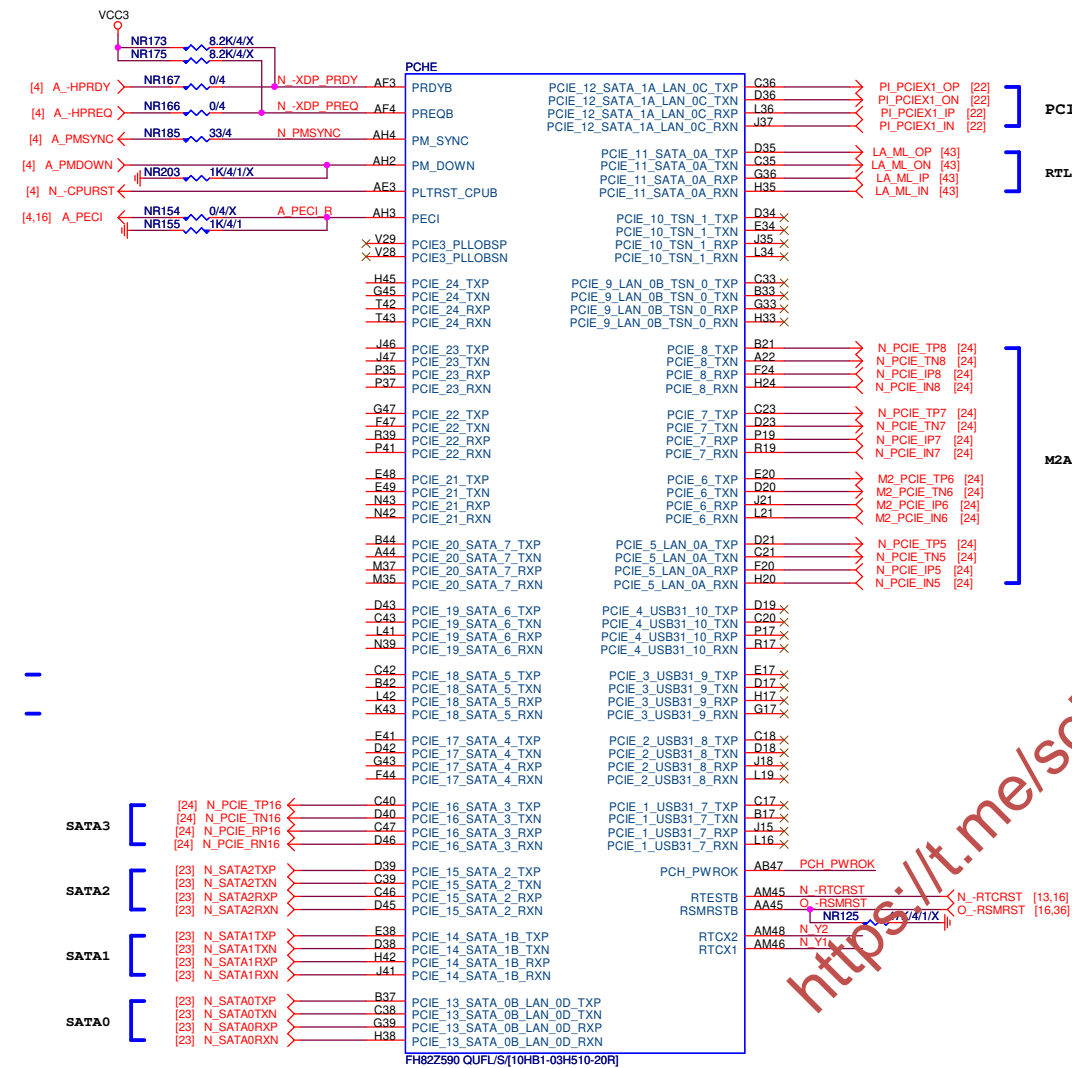
CLKOUT\_PCIE\_P/N [9, 7, 4, 3, 0] = Must be used for PCIe\* Gen4 support



ANS 8704755		Gigabyte Technology	
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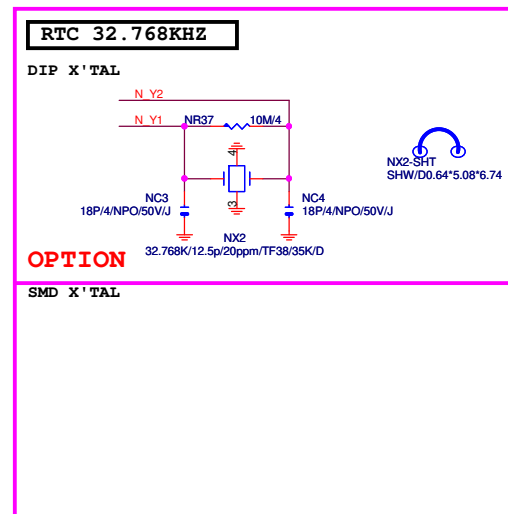


# RKL\_TGP\_PCH-H R0.11



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

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

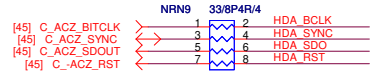


Intel 500 series PCH USB P7~P10				
ITEM	USB P7	USB P8	USB P9	USB P10
H510	NA	NA	NA	NA
B560	NA	NA	NA	NA
H570	U3.2 Gen1x1	U3.2 Gen1x1	PCIE	PCIE
Z590	U3.2 Gen2x1	U3.2 Gen2x1	U3.2 Gen2x1	U3.2 Gen2x1
Q570	U3.2 Gen2x1	U3.2 Gen2x1	U3.2 Gen1x1	U3.2 Gen1x1
W580	U3.2 Gen2x1	U3.2 Gen2x1	U3.2 Gen2x1	U3.2 Gen2x1





## RKL\_TGP\_PCH-H R0.11



```

DEBUG LED
PCIEEX8 A19
PCIEEX8 A33
PCIEEX8 A32
PCIEEX8 PRESENT

```

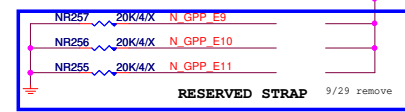
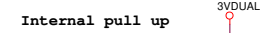
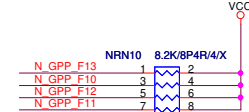
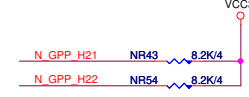
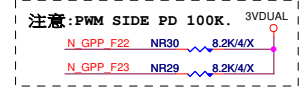
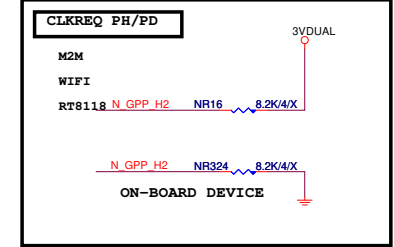
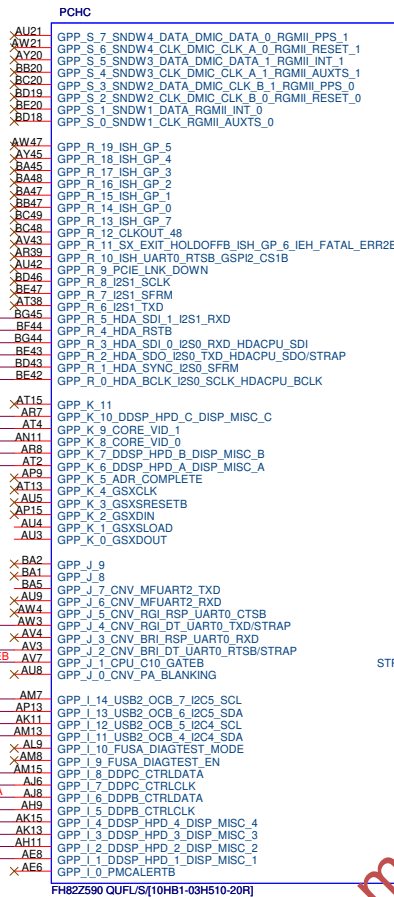
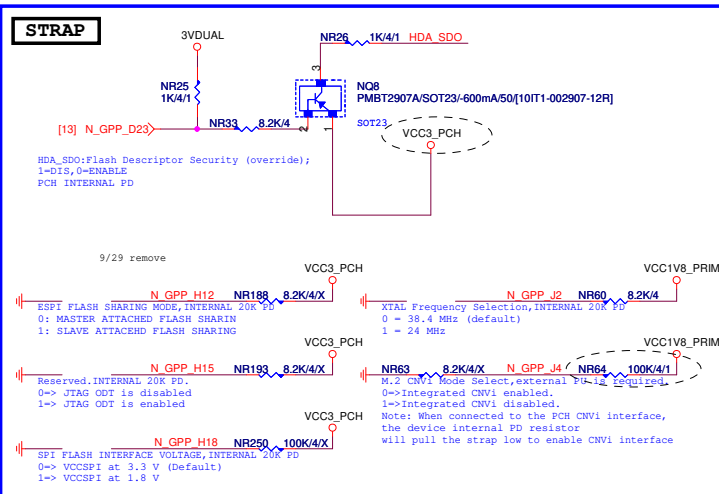
CNVI WIFI/BT DISABLE

```
TBT RTD3
M2B_CPU DETECT
M2A_CPU IFDET
M2A_CPU DETECT
```

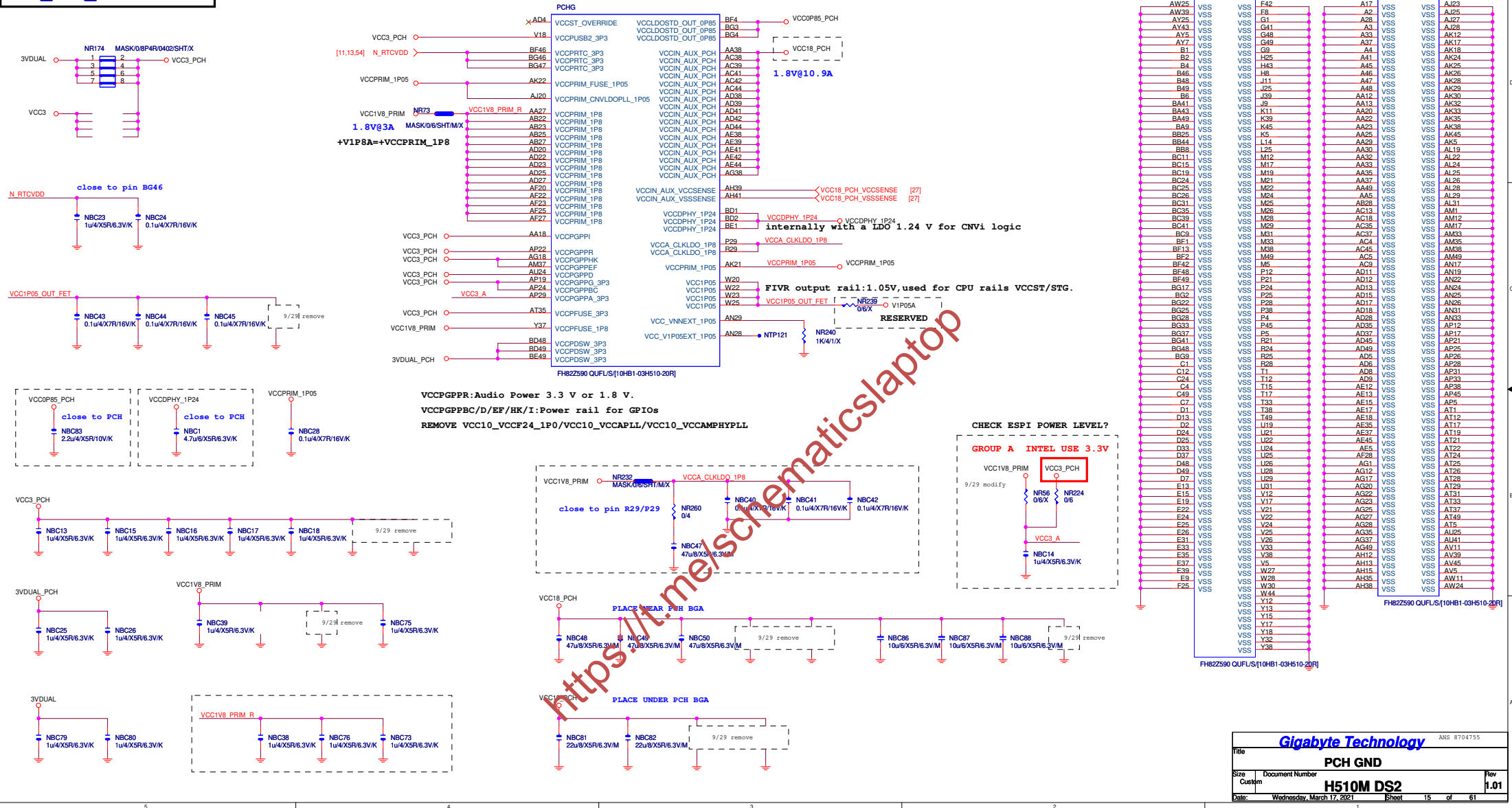
J GROUP ONLY 1.8V LEVEL

\*\*DDPC CHANGE TO GPP\_G12/G13

U32GEN2\*2 C.C DETECT

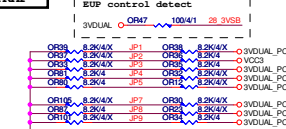
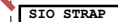
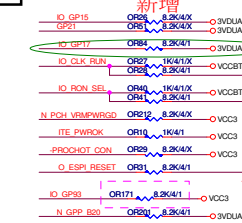
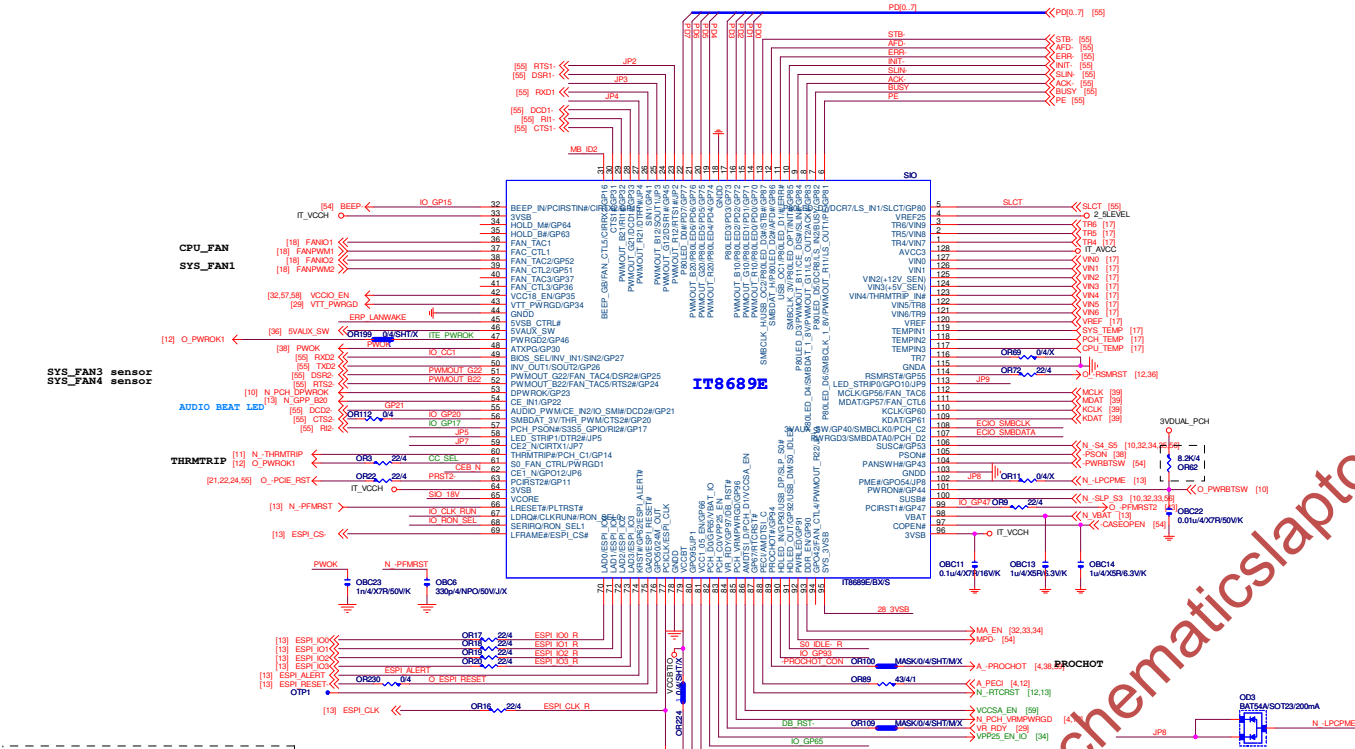
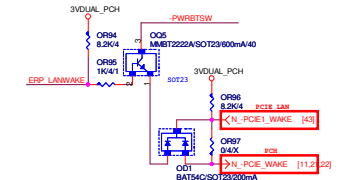


RTD3 GPIO <sup>1</sup>	CML-S <sup>2</sup>	RKL-S <sup>3</sup>
TBT_PERST_N <sup>4</sup>	GPP_F2 <sup>5</sup>	GPP_F16 <sup>6</sup>
TBT_Wake_N <sup>4</sup>	GPP_H15 <sup>5</sup>	GPP_H9 <sup>6</sup>
RTD3_PWN_EN <sup>4</sup>	GPP_K23 <sup>5</sup>	GPP_K3 <sup>6</sup>

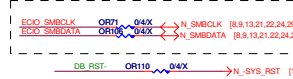
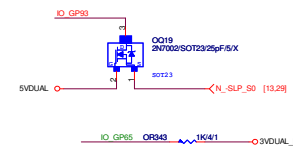




**(組態一) PCIE LAN( Single & Dual LAN)**



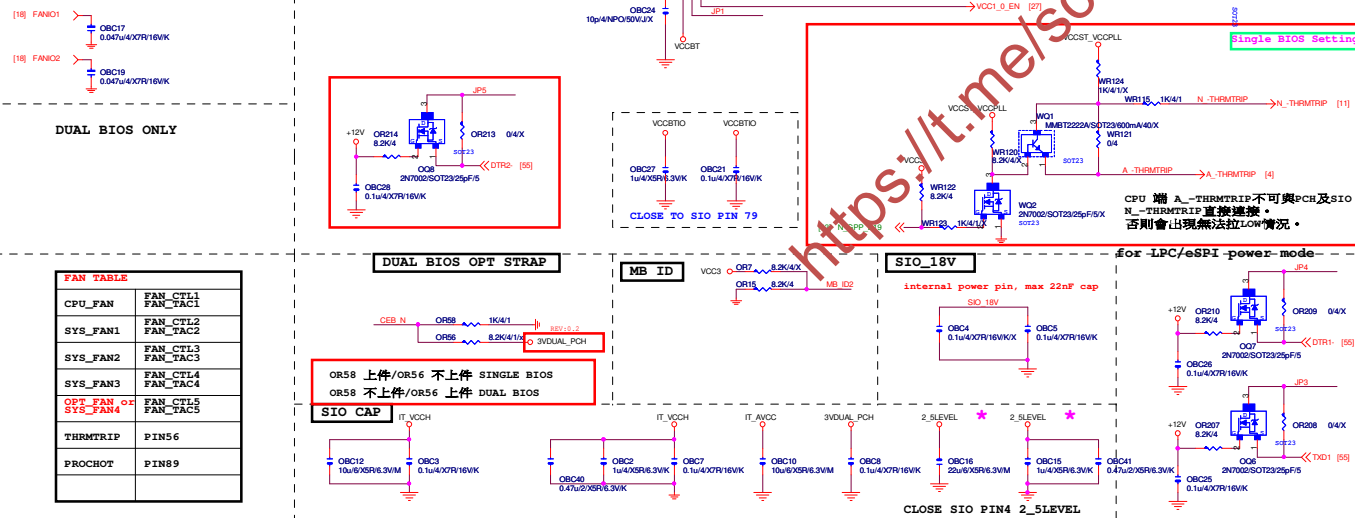
JP2	1	Disable WDT to rest PWROK
	0	Enable WDT to rest PWROK
JP3	1	Dual BIOS CS pin mode select bit "0" See the below table
	0	
JP4	1	LPC/ESPI power VCCBT = 3.3V
	0	LPC/ESPI power VCCBT = 1.8V
JP5	1	LPC I/F
	0	ESPI I/F
JP6	1	Enable Dual BIOS Function (for GigaByte Only)
	0	Disable Dual BIOS Function (for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



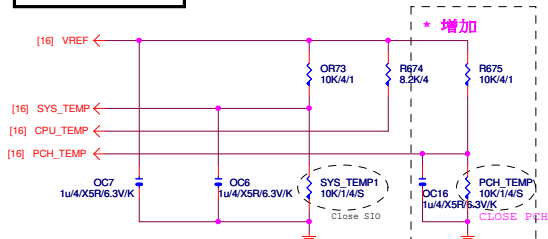
ERP Wake on LAN		
Single LAN  Dual LAN (只留一个 LAN支路 ERP下 wake up)	Realtek	组態一
	Atheros	
	Intel 219	组態二
	Atheros+Atheros	组態一
	Intel 219+Atheros	组態三
	Intel 219+Intel 219	
NO SUPPORT	Single LAN BOM只上OR97。 Dual LAN BOM只上OR97、OR99。	

**Gigabyte Technology**

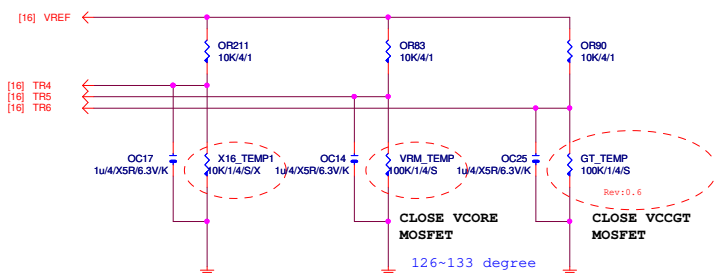
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Size	Document Number						Flav
Custom	H510M DS2						1.01
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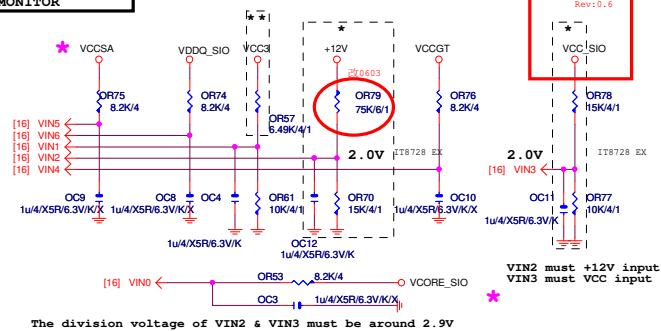
TEMP H/W MONITOR



**低階機種:3個FAN時使用**



VOLTAGE-- H/W  
MONITOR



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

JP4 HI ESPI MODE VCCBT 3.3V

JP5 HI ESPI MODE LPC I/F

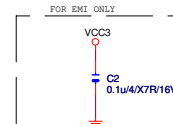
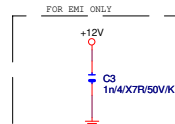
```
M JP4 LO ESPI MODE VCCBT 1.8V
```

JP5 LO ESPI MODE ESPI I/F



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(靠近ATX CONNECTOR )



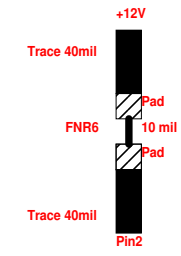
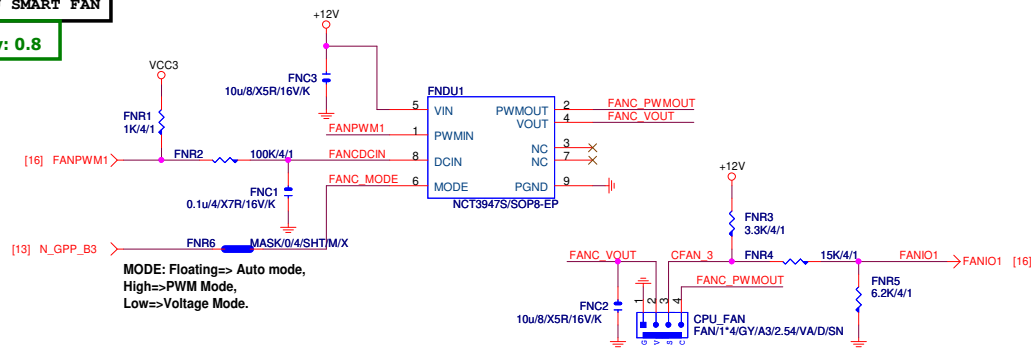
★Update 2015-04.24

## Gigabyte Technology

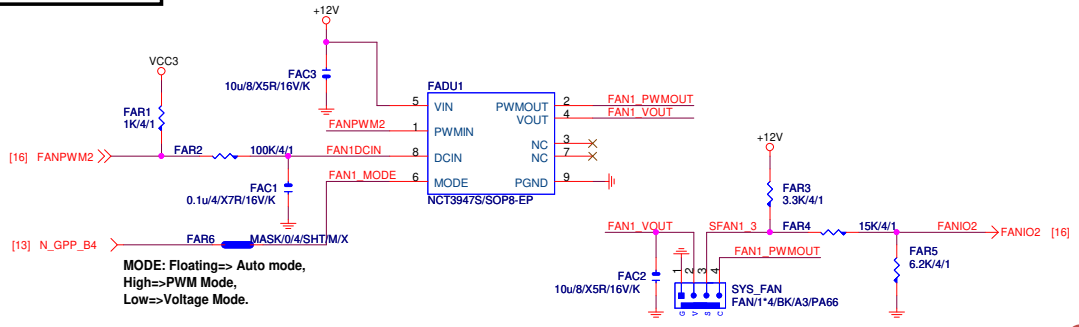
Title			
HWM,KB/MS, FAN CTRL			
Size	Document Number	Rev	
Custom	H510M DS2	1.01	
Date:	Wednesday, March 17, 2021	Sheet	17 of 61

CPU SMART FAN

Rev: 0.8



A. SYSTEM FAN1



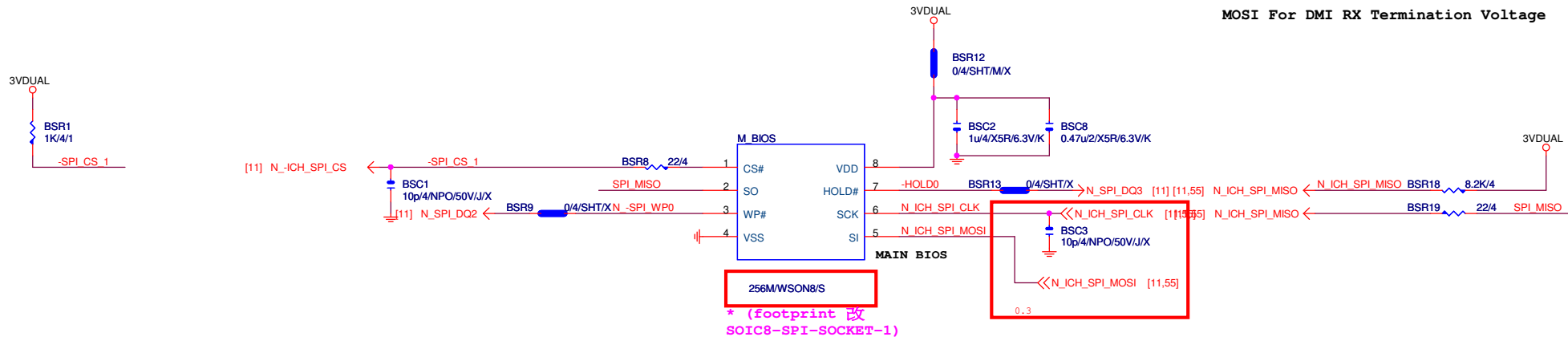
<https://t.me/schematics4laptop>

Gigabyte Technology

Title			
FAN CTRL			
Size	Document Number	Rev	
Custom	H510M DS2	1.01	
Date: Wednesday, March 17, 2021		Sheet	18 of 61

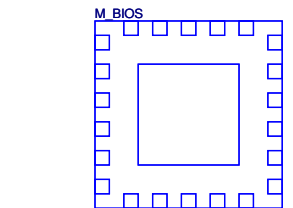
DUAL BIOS

MOSI For DMI RX Termination Voltage



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

1 means floating  
0 means PD 1K



SPI-SK/8/GF/S/x  
\* 試産先上, PVT 移除

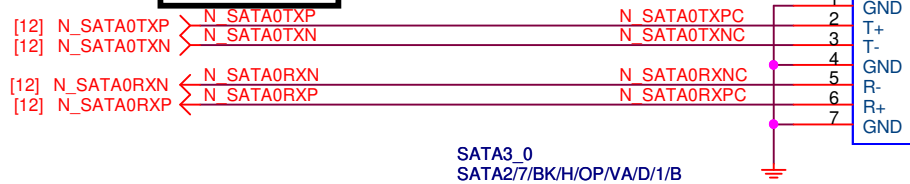
[https://t.me/schematics\\_laptop](https://t.me/schematics_laptop)

Rev	1.0
-----	-----

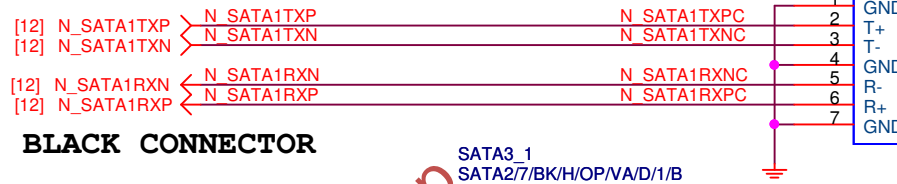




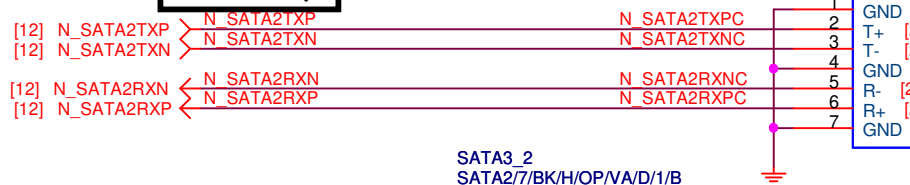
### SATA3 0/1



BLACK CONNECTOR



### SATA3 2/3



BLACK CONNECTOR



### SATA3 4/5

**Gigabyte Technology**

Title

**SATA**

Size  
Custom

Document Number

**H510M DS2**

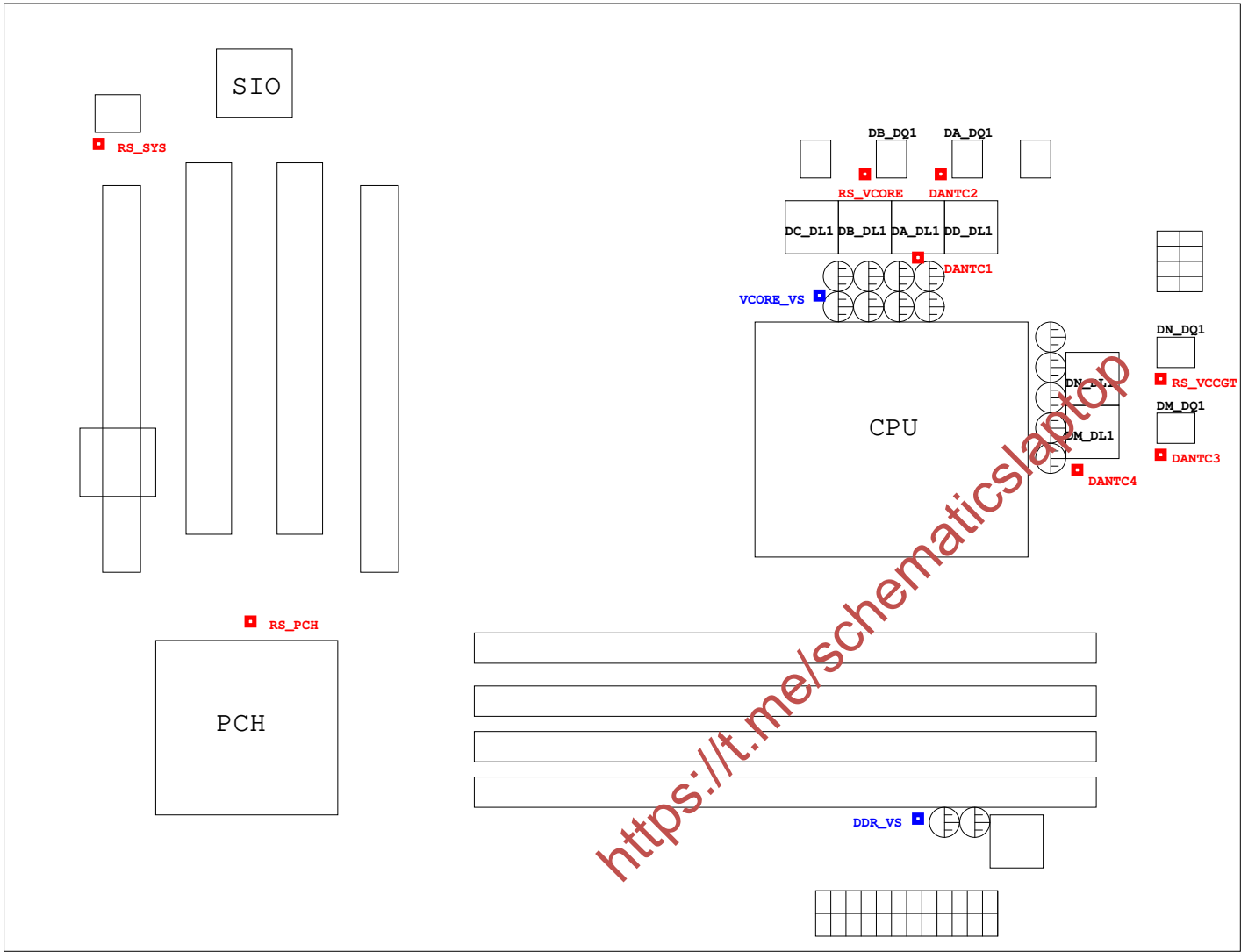
Rev

**1.01**

Date: Wednesday, March 17, 2021

Sheet 23 of 61

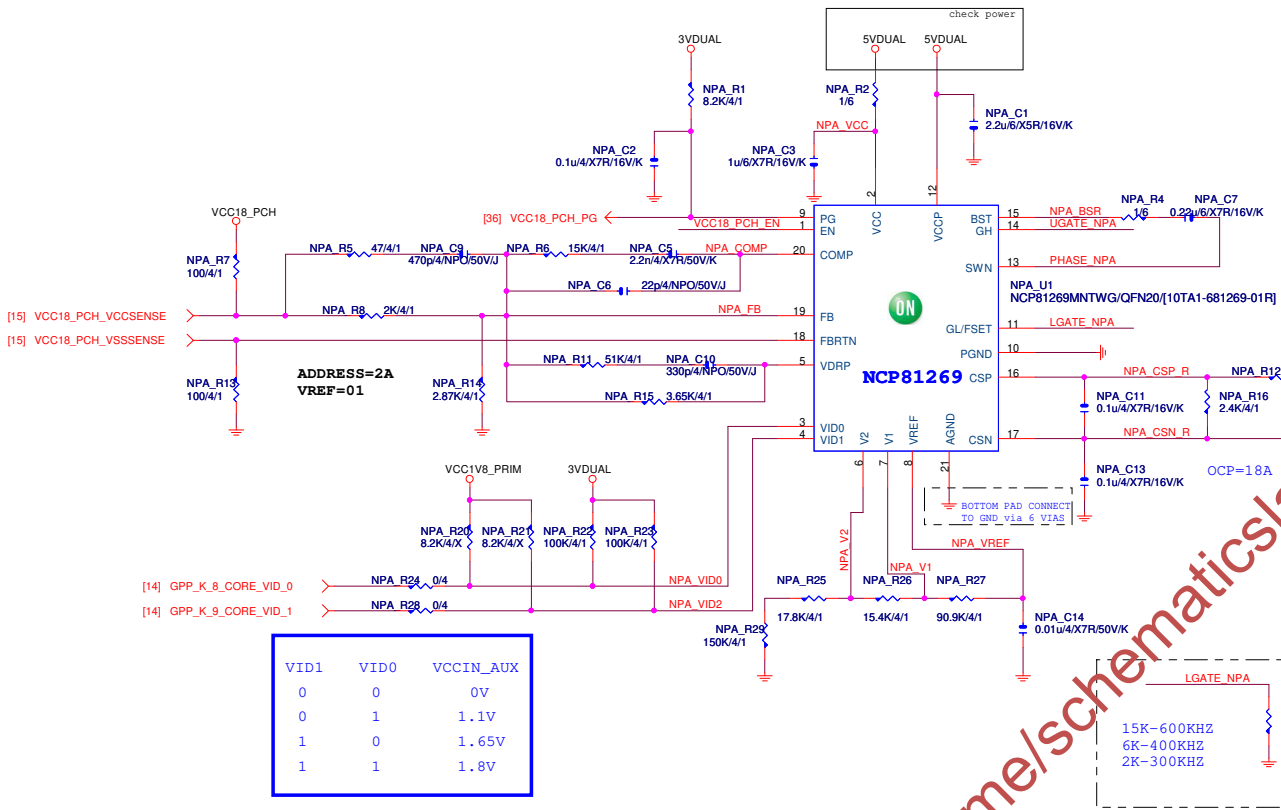




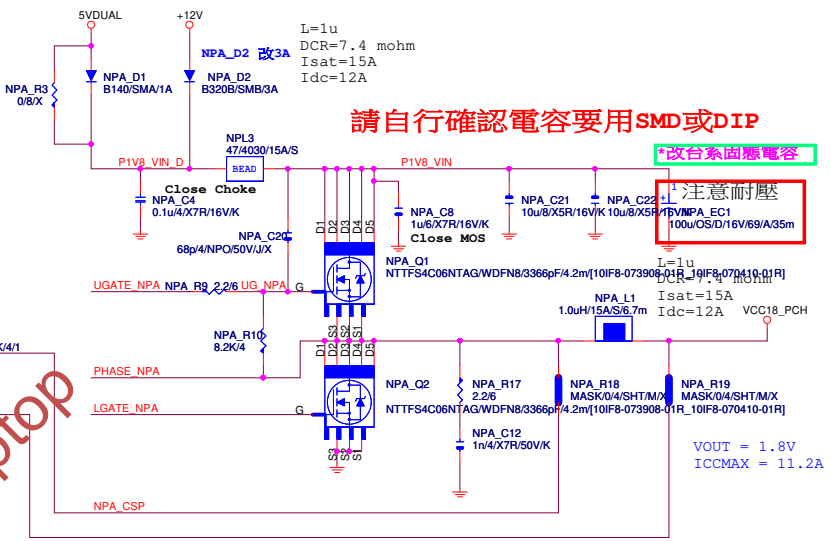
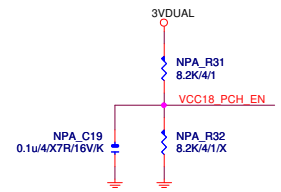
熱敏電阻	擺放靠近位置	走線方式
DANTC1	DA_DL1	N/A
DANTC2	DA_DQ1	Differential
DANTC3	DM_DQ1	N/A
DANTC4	DM_DL1	Differential
RS_VCORE	DB_DQ1	N/A
RS_VCCGT	DN_DQ1	N/A
RS_PCH	PCH	N/A
RS_SYS	CU1	N/A

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Gigabyte Technology		
File		
IT8892E		
Size	Document Number	Rev
Custom	H510M DS2	1.01
Date:	Wednesday, March 17, 2021	Sheet 26 of 61



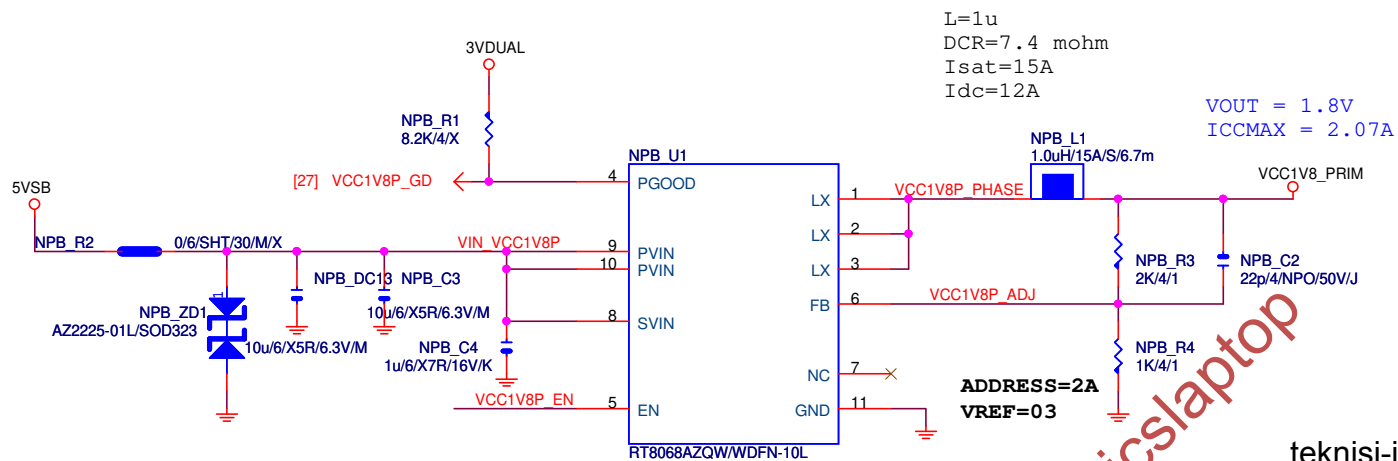
VID1	VID0	VCCIN_AUX
0	0	0V
0	1	1.1V
1	0	1.65V
1	1	1.8V



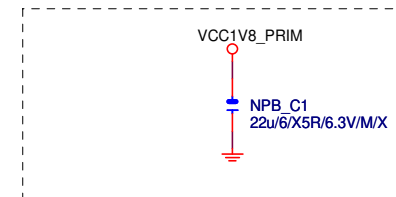
<https://t.me/schematics4laptop>

REV:0.1

# VCC1V8 PRIM



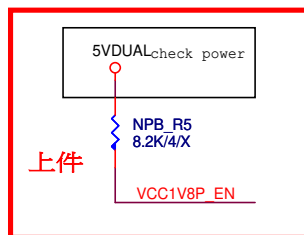
CHOKE與CAP料號可變



請放置CHOKE一出來位置.先預留.  
請自行確認ripple後再決定是否上件

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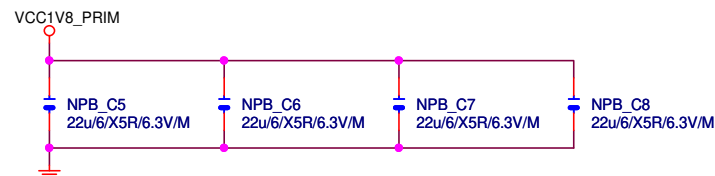
## PWR SEQ



connect to PCH pin AD46

[11,27] SLP\_SUS\_N >> NPB\_R6 0/4 VCC1V8P\_EN

## VCC1V8\_PRIM CAP 22u\*4PCS

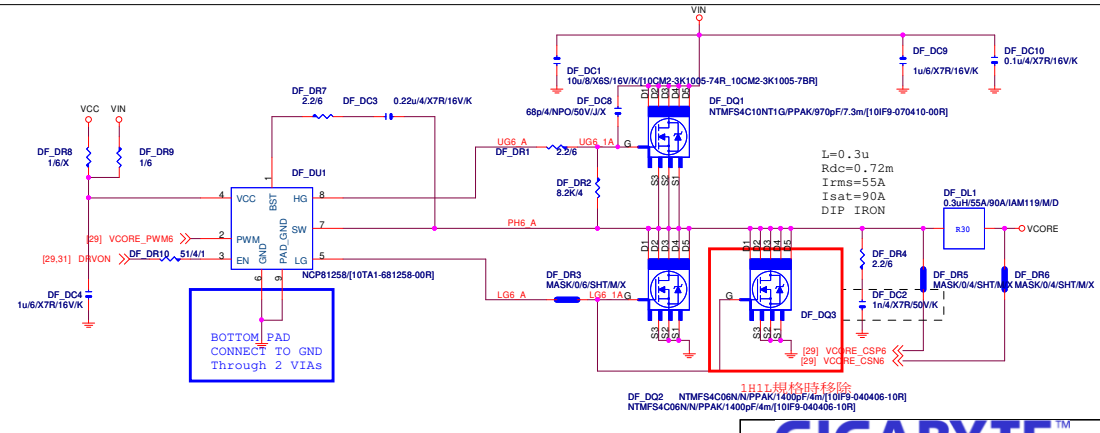
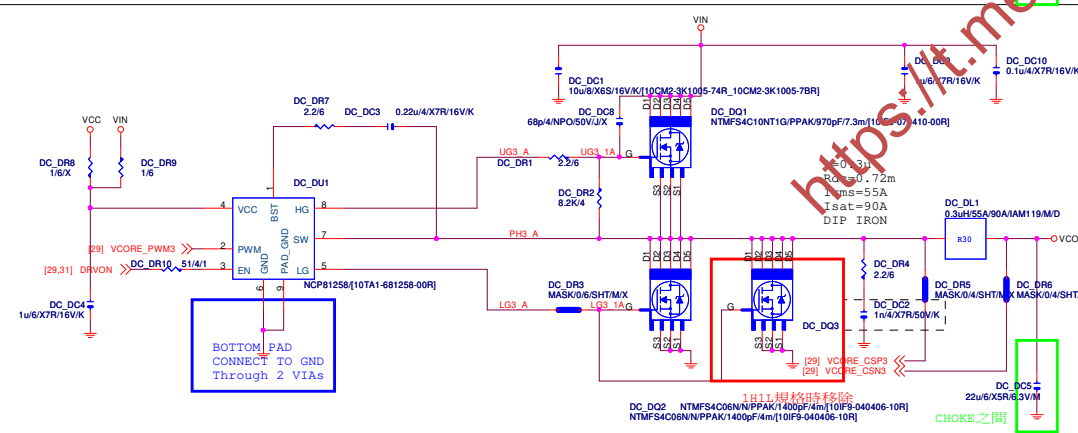
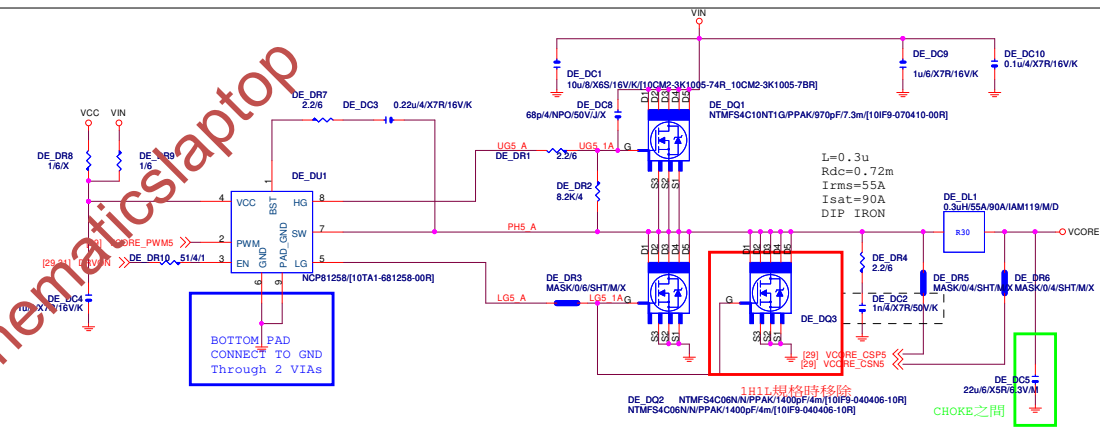
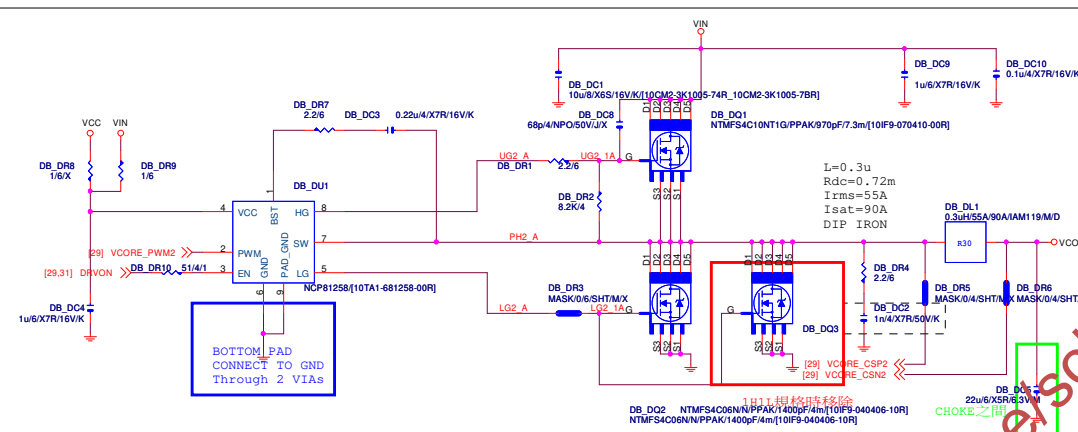
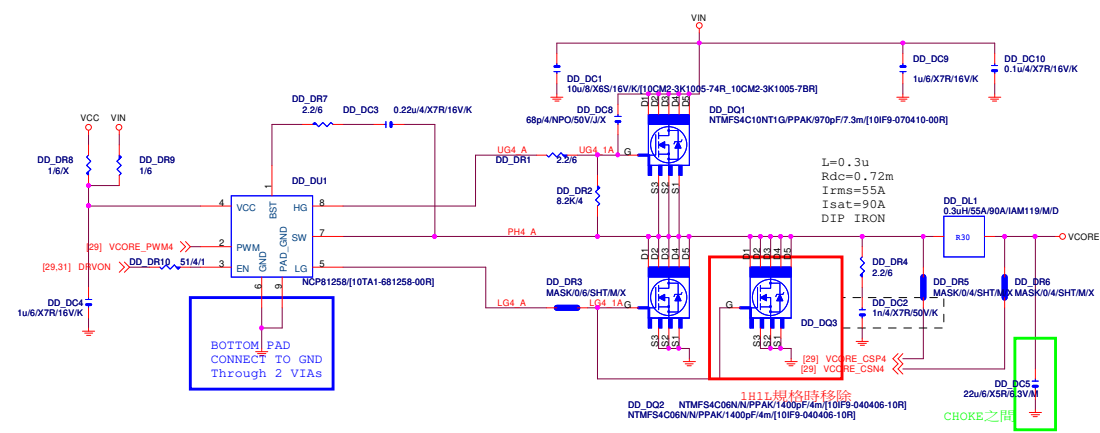
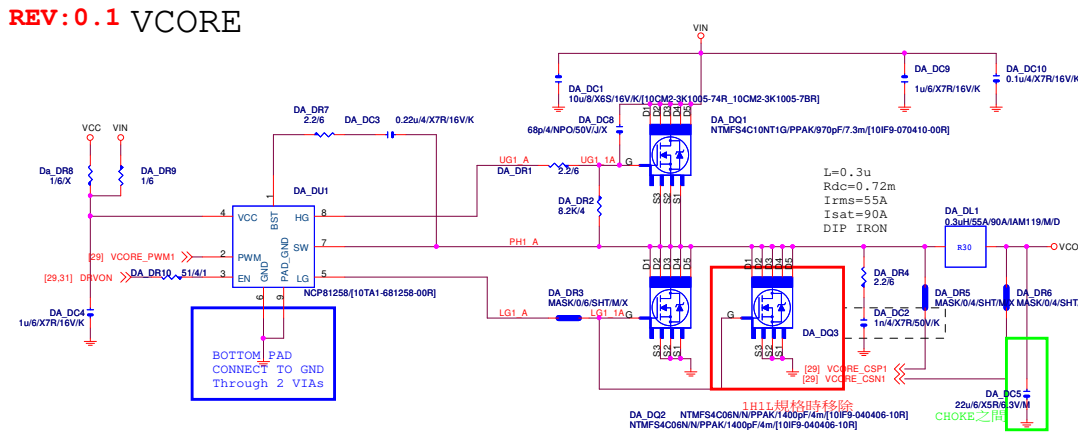


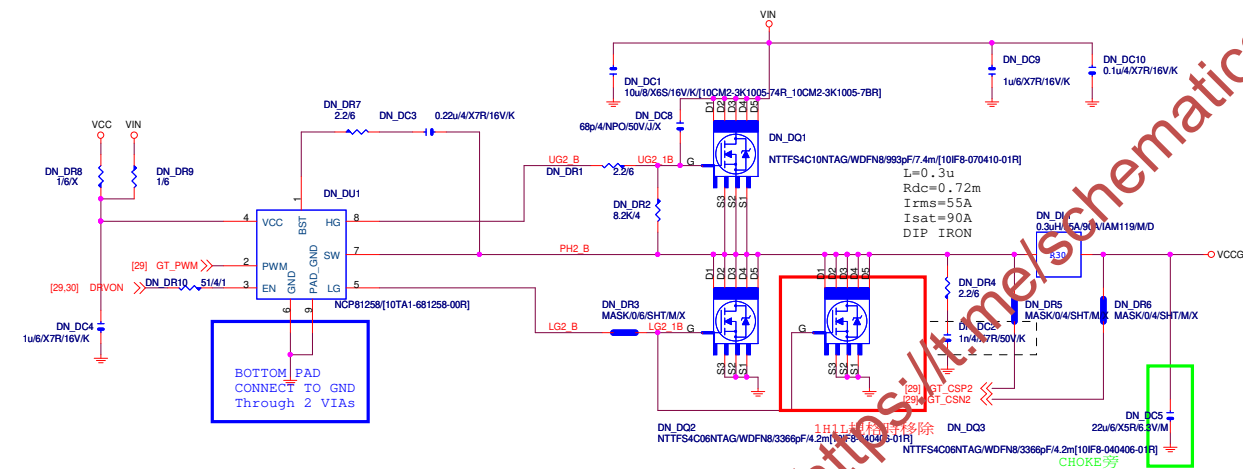
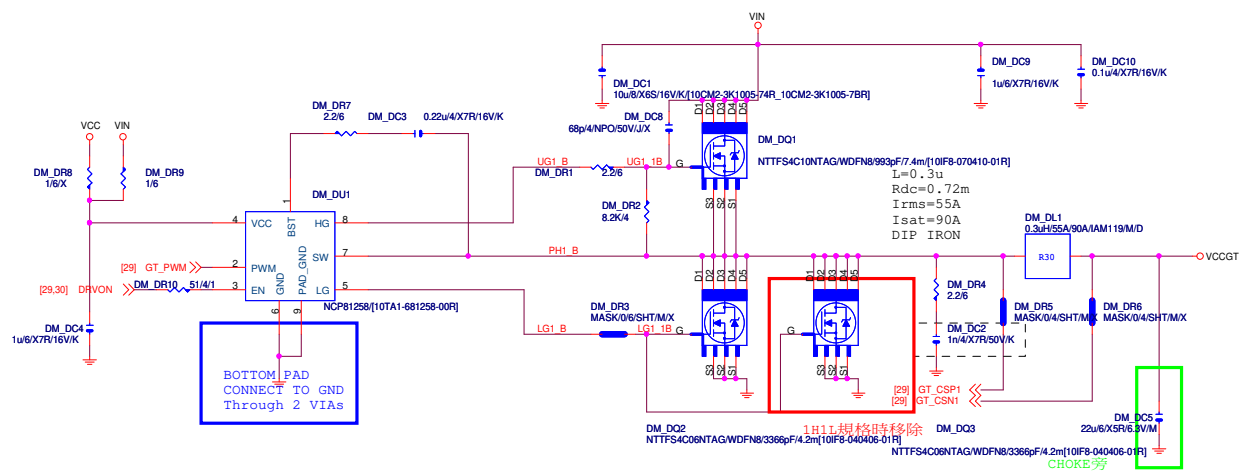
Gigabyte Technology

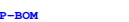
Title			RT8068_VCC1V8_PRIM
Size	Document Number	H510M DS2	
Custom		Rev	1.01
Date:	Wednesday, March 17, 2021	Sheet	28 of 61

```
NOT INSTALL CPU --> VBOOT=1.05V
INSTALL CPU --> VBOOT=0V
```

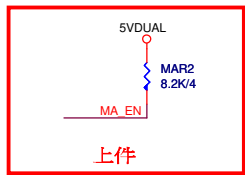




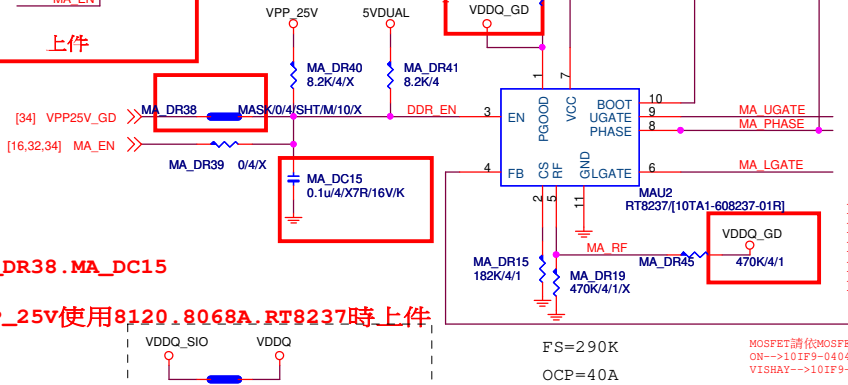




DDR4



上件



MA\_DR38.MA\_DC15

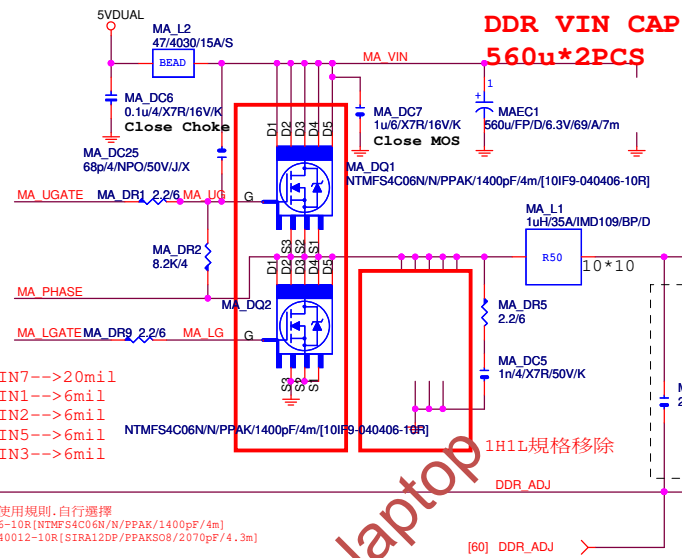
**VPP\_25V使用8120.8068A.RT8237時上件**



FS=290K  
OCP=40A

MOSFET請依MOSFET使用規則,自行選擇  
ON-->10IF9-040406-10R[NTMFS4C06N/N/PPAK/1400pF/4m]  
VISHAY-->10IF9-040012-10R[SIRA12DF/PPAKS08/2070pF/4.3m]

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



DDR VIN CAP  
560u\*2PCS

**CHOKES與CAP料號可變**

SUPPORT DDR4 1.2V

25A MAX

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

請放置CHOKE一出來位置.先預留.  
請自行確認ripple後再決定是否上件  
請從最重的負載端點拉回

Remote sense請從最重的負載端點拉回

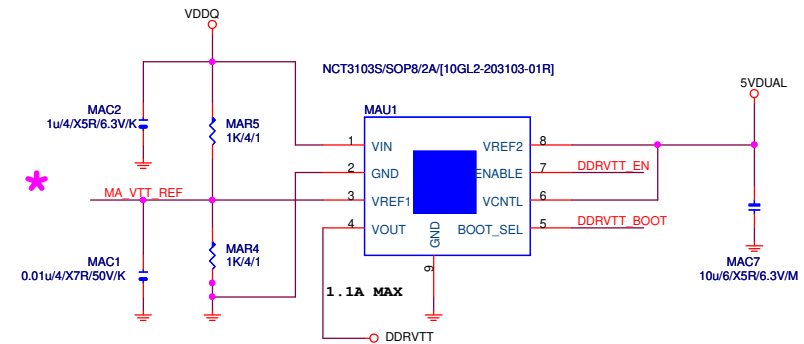
**PWR SEQ**

CLOSE TO DDR POWER PLANE

For power sequence require

VPP\_25V使用8120時上件

MAU1上RT9045時上件(不可MASK)



**GIGABYTE™**

Title	RT8237 DDR4 POWER
-------	-------------------

Size	Document Number
Custom	<b>H510M DS2</b>

Date: Wednesday, March 17, 2021 Sheet 33 of 61

Date: Wednesday, March 17, 2021 Sheet 33 of 61

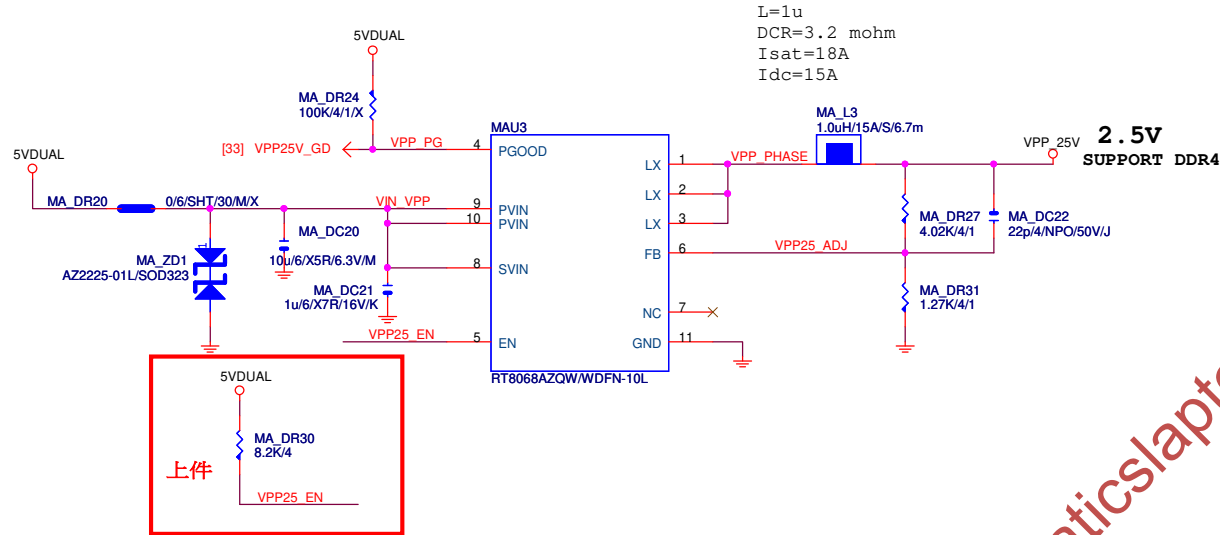
2	1
---	---

---

REV:0.1

VPP 25V

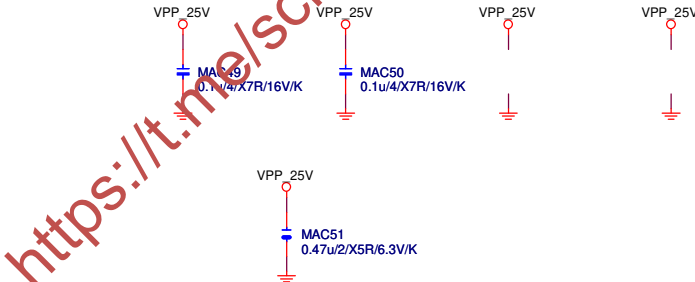
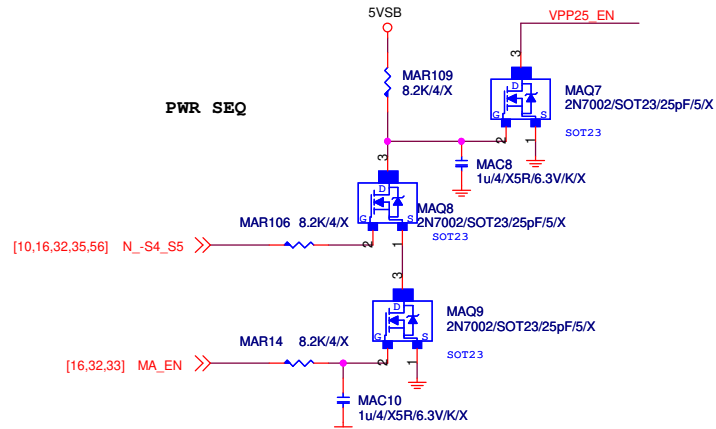
CHOKE與CAP料號可變



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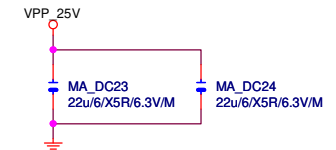
PWR SEQ

\* 刪 MA\_DR32



VPP CAP 22u\*1PCS

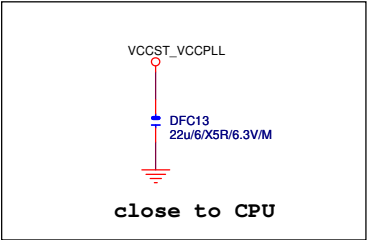
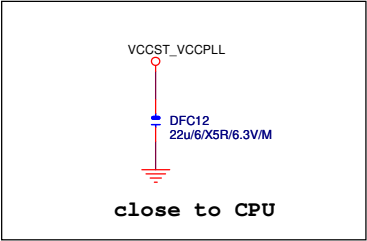
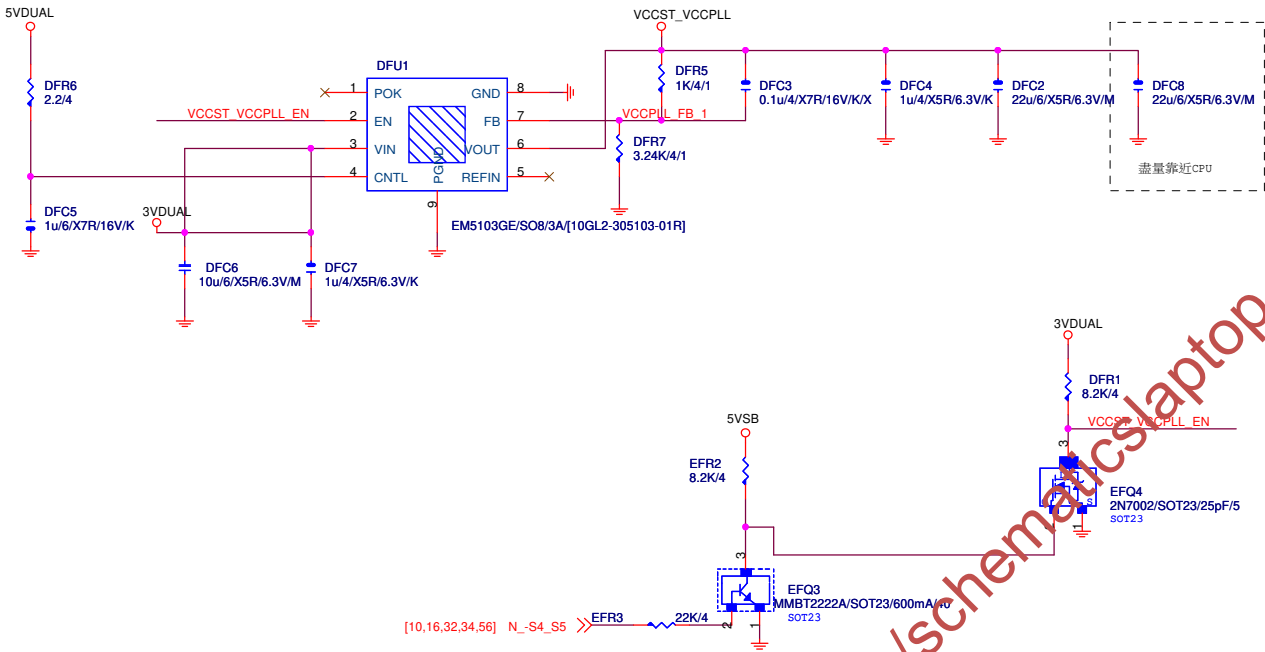
\* 大電容 x0



GIGABYTE™

Title		
RT8068A_VPP25 POWER		
Size	Document Number	Rev
Custom	H510M DS2	1.01
Date:	Wednesday, March 17, 2021	Sheet 34 of 61

VCCST\_VCCPLL 替換原先MOS開關線路



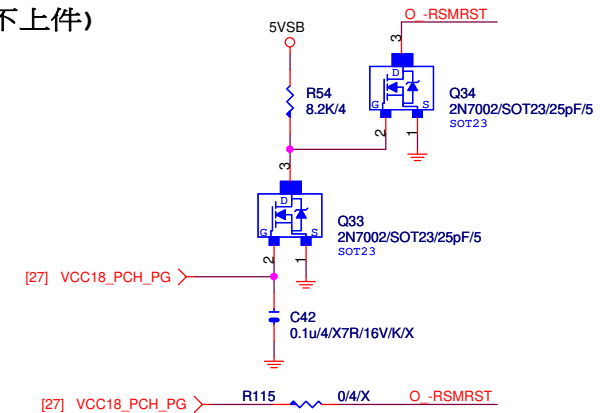
## REV: 0.51

[16] 5VAUX\_SW



Q4 指定料號 ~~FIX~~ 3VDUAL  
R38=174/4 ~~FIX~~ 3VDUAL

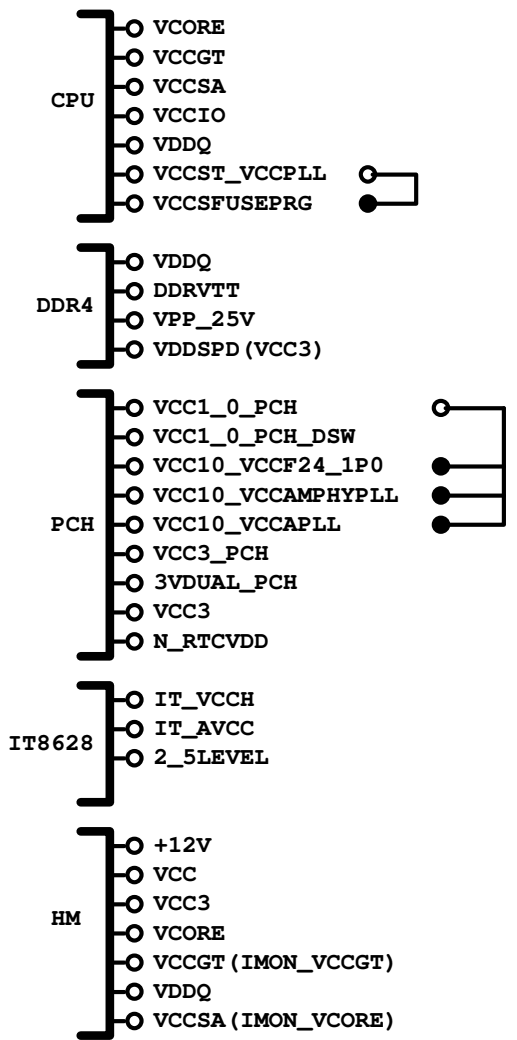
## 3VDUAL\_PCH 4



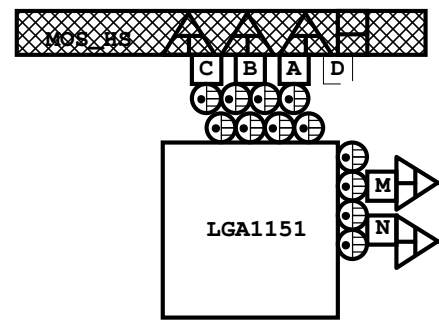
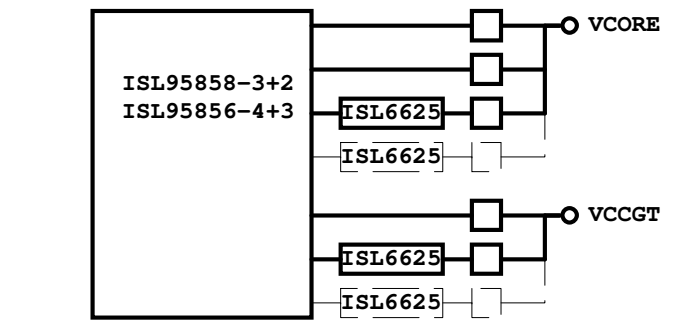
Title			
<b>DISCRETE POWER</b>			
Size	Document Number		Rev
Custom	<b>H510M DS2</b>		<b>1.01</b>
Date:	Wednesday, March 17, 2021	Sheet	36 of 61



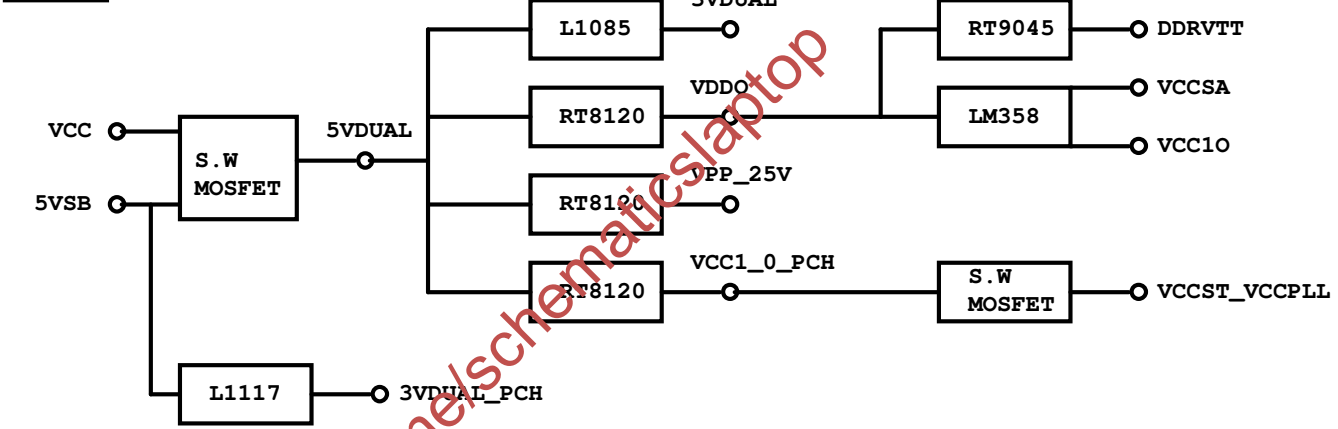
POWER BLOCK MAP



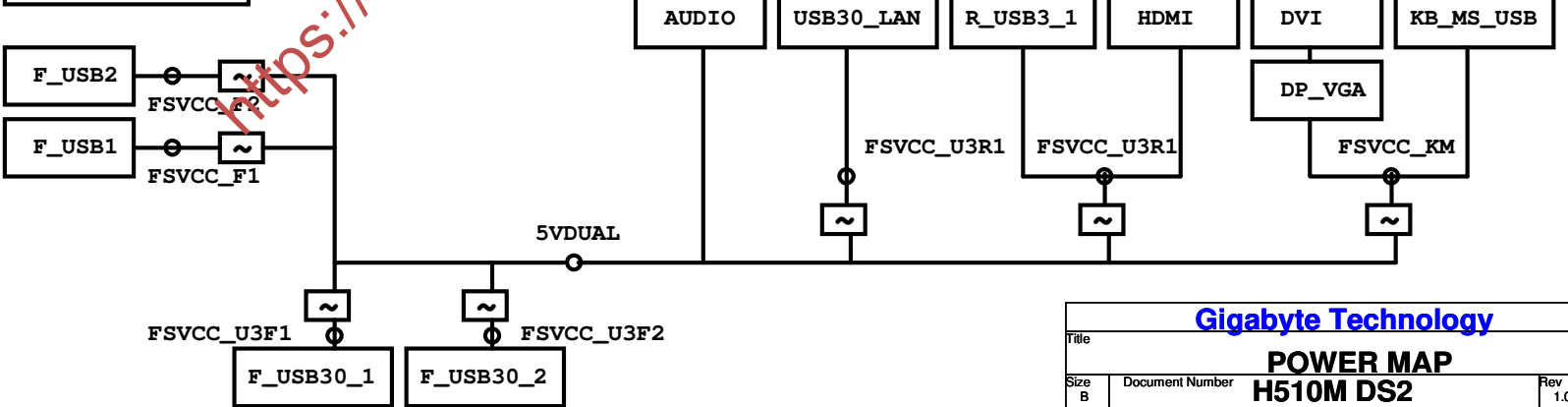
VCORE/VCCGT



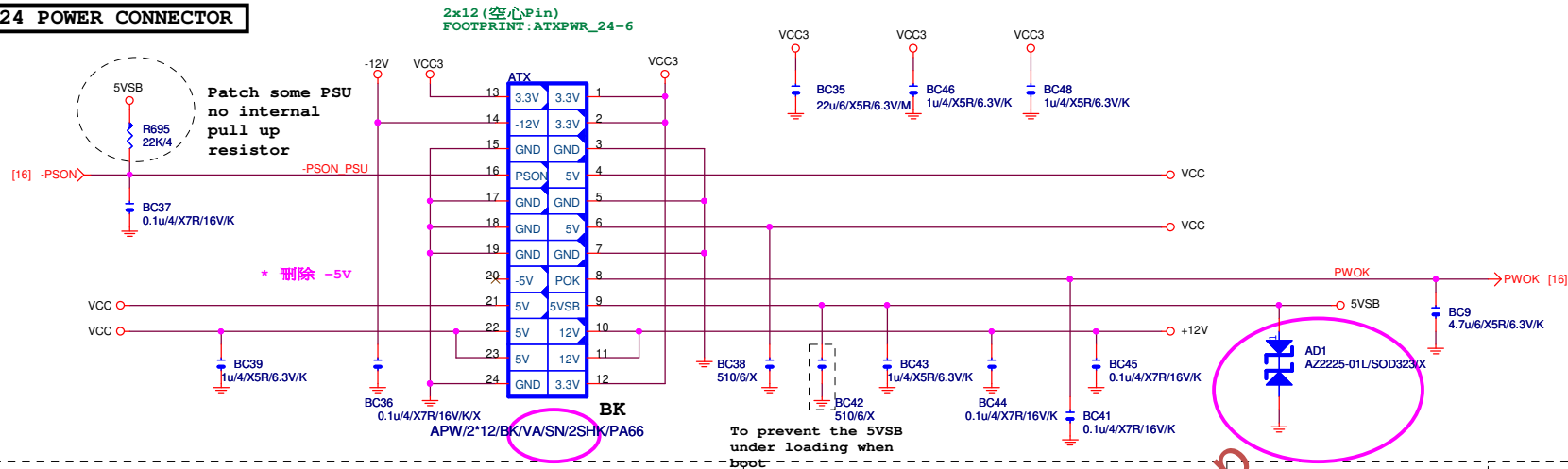
POWER



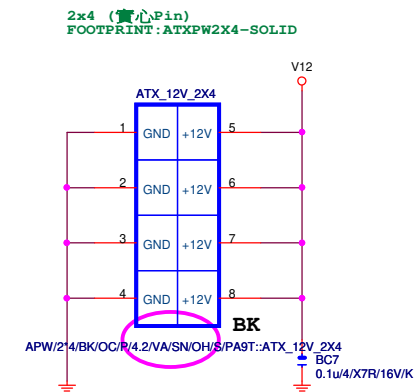
FUSE POWER F/R



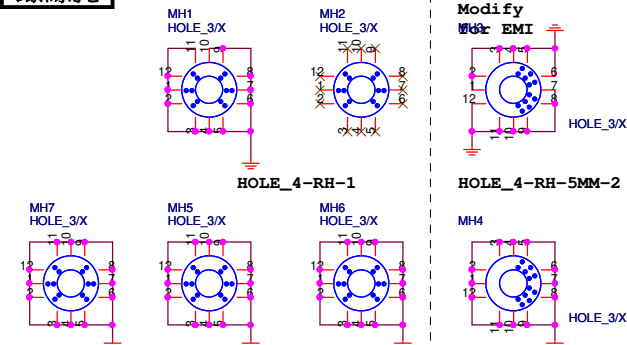
## ATXX24 POWER CONNECTOR



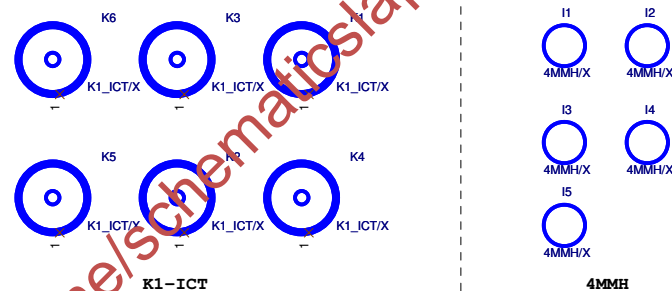
## ATXX4 POWER CONNECTOR



螺絲孔



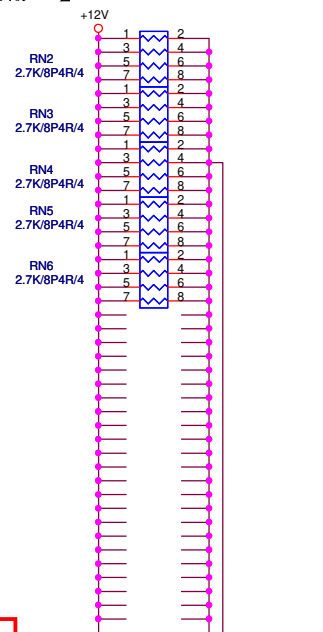
### 固定孔/光學點



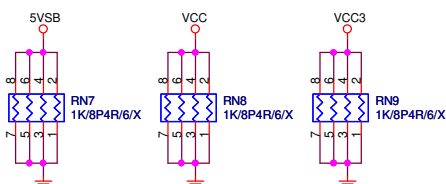
## +12V DUMMY LOAD

【技術通報R&amp;D技術通報153】

To fix 12V light load  
abnromal issue



**DUMMY LOAD**



**-PROHOT**



## COUPON

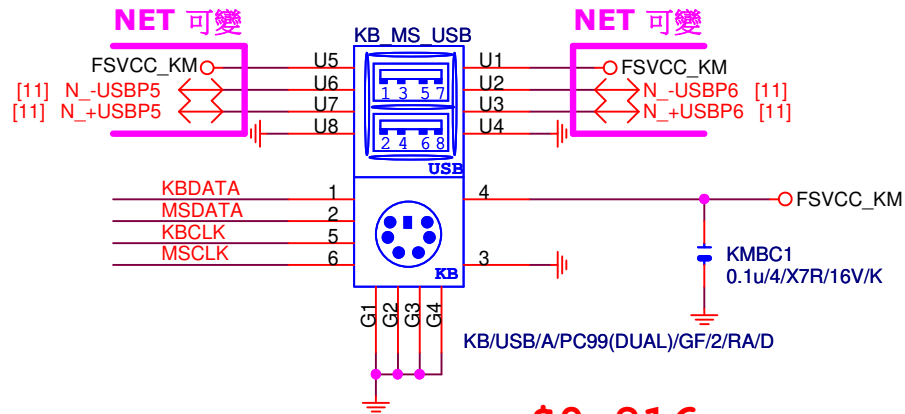


## Gigabyte Technology

Title			
<b>ATX POWER CONNECTOR</b>			
Size Custom	Document Number	<b>H510M DS2</b>	Rev <b>1.01</b>
Date:	Wednesday, March 17, 2021	Sheet	38 of 61

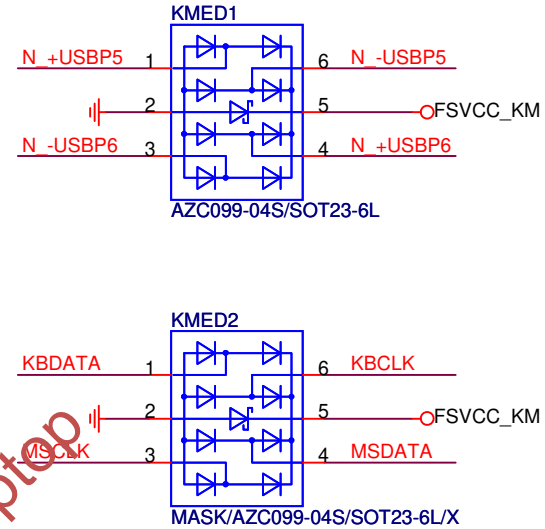
## KB\_MS\_USB

Rev: 0.2

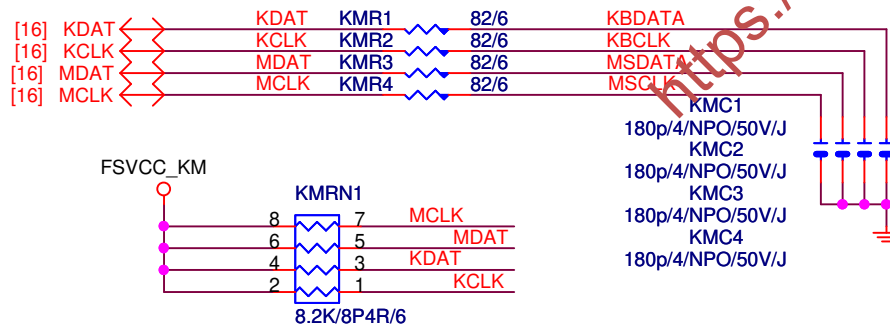


\$0.216

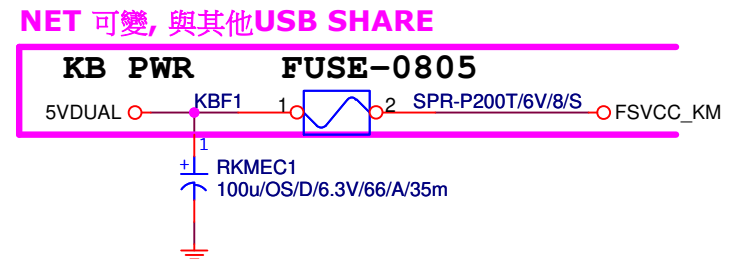
## ESD



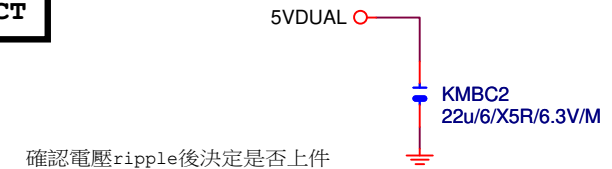
## KB\_MS\_USB DAMPING/PU



## KB\_MS\_USB PWR



## USB OC PROTECT



Gigabyte Technology

Title

KB\_MS

Size  
A

Document Number

H510M DS2

Rev  
1.01

Date: Wednesday, March 17, 2021

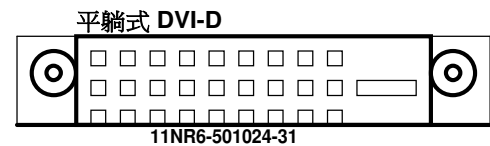
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DVI

DVI PU

DVI CONN

ESD



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RTD2168

X'TAL EMBEDDED

DVU1

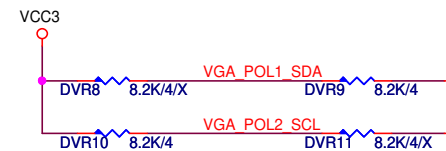
Reserve Pull High

放置PCH端

## POWER

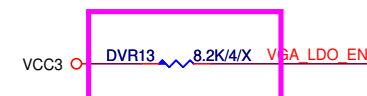


## Power on latch



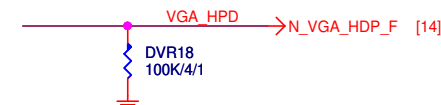
		POL1_SDA(PIN22)	
		0	1
POL2_SCL (PIN23)	0	X	EP MODE
	1	ROM ONLY MODE	EEPROM MODE

## Embedded LDO



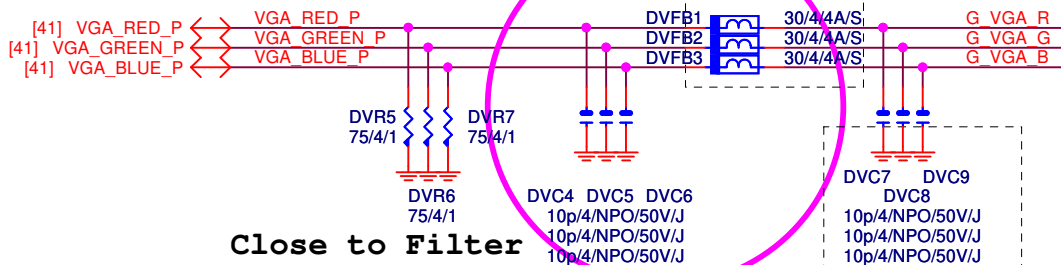
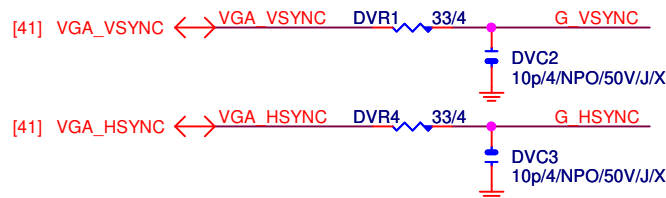
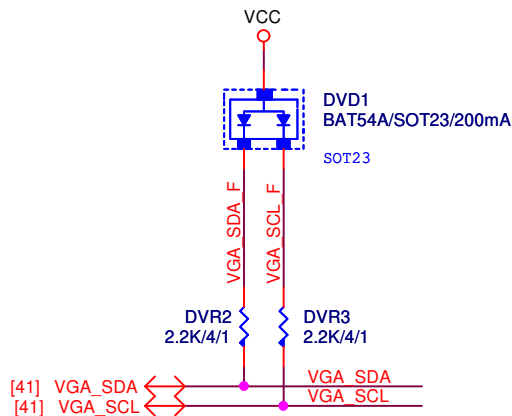
LDO_EN(PIN21)	
0	1
VCC3	VCC3
External 1.2V	Embedded LDO

## DP HPD

Gigabyte Technology  
DP-VGA RTD2168

Title		
Size	Document Number	H510M DS2
Custom		Rev 1.01
Date:	Wednesday, March 17, 2021	Sheet 41 of 61

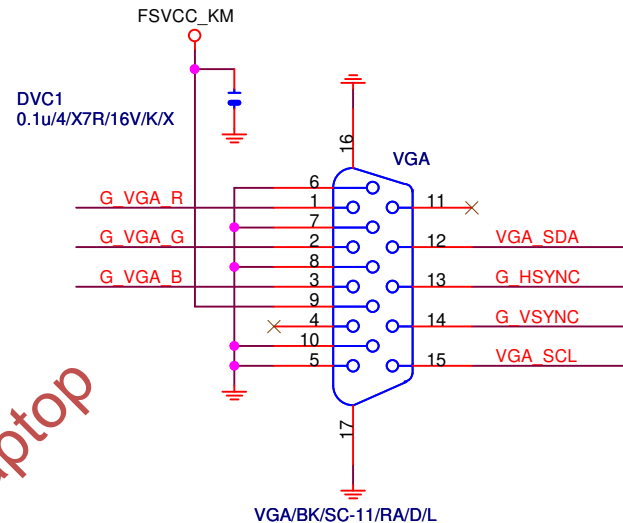
# VGA SIGNAL R2.0



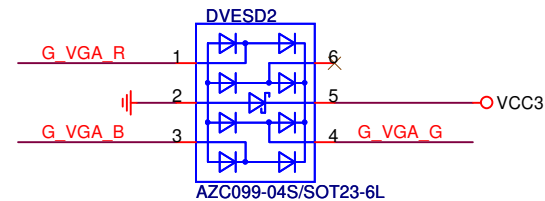
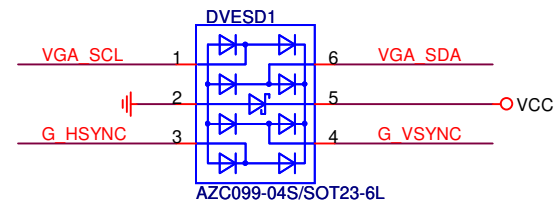
Close to Filter

FOR EMI

# VGA CONN.



# VGA ESD



Gigabyte Technology  
DP-VGA RTD2168

Title

Size  
Custom

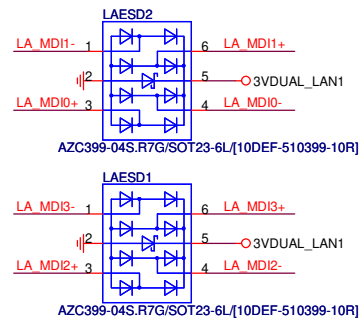
Document Number

H510M DS2

Rev  
1.01

Date: Wednesday, March 17, 2021

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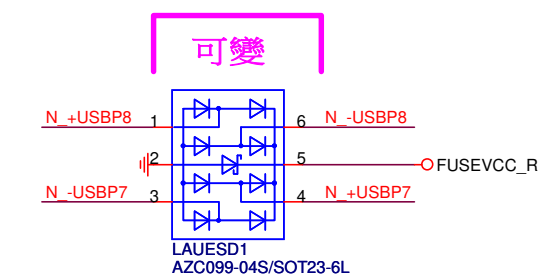


LA REGOUT  
PIN24  
LABC5  
0.1u/4/X7R/16V/K  
LAR8  
MASK0/6/SHT/M/X  
LA DVDD10  
LA\_DVDD10  
(CLOSE LAU1 PIN24)

<p align="center"><b>Gigabyte Technology</b></p> <p align="center"><b>Realtek RTL8111G</b></p>			
Title			
Size	Document Number	Rev	
Custom	<b>H510M DS2</b>	<b>1.01</b>	
Date:	Wednesday, March 17, 2021	Sheet	43 of 61

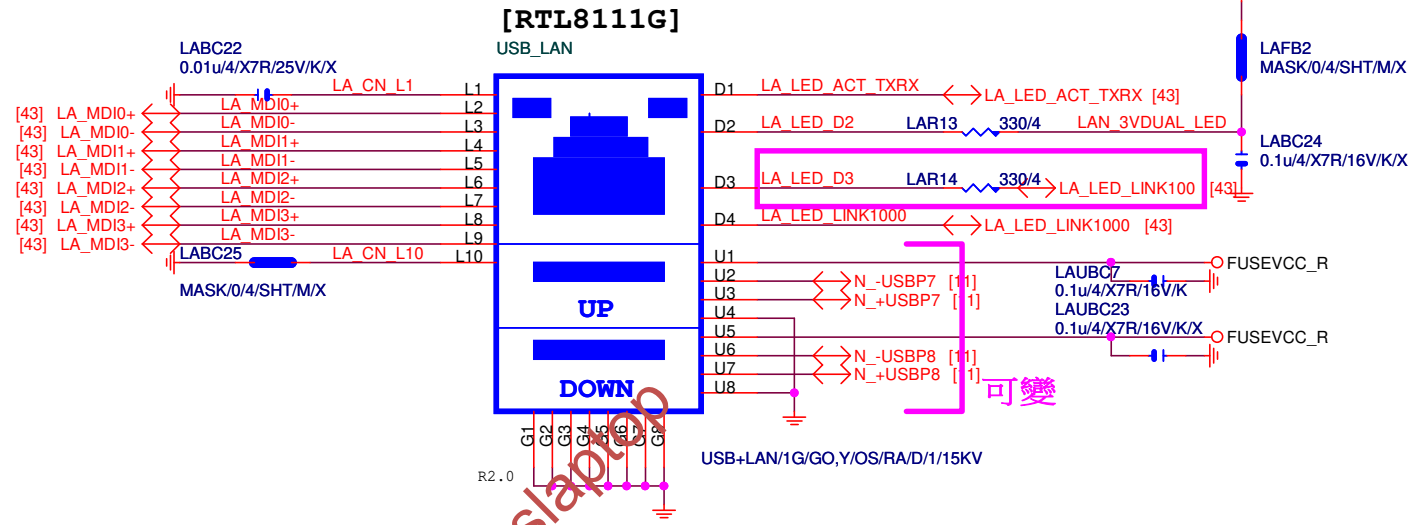
USB\_LAN CONNECTOR R2.02

RMA ESD PROTECT note:可變更USB NAME



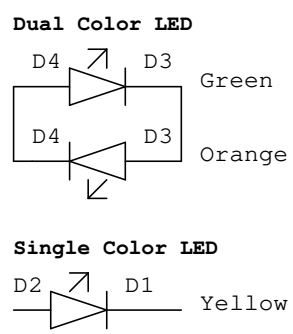
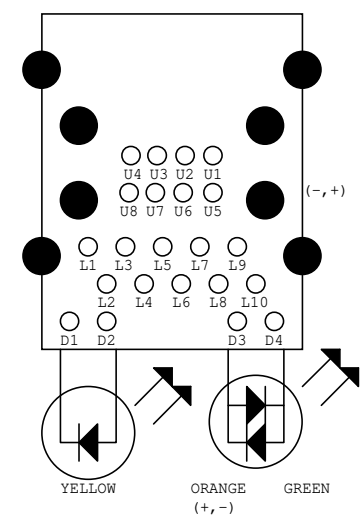
USB\_LAN CONNECTOR

note:可變更USB NAME



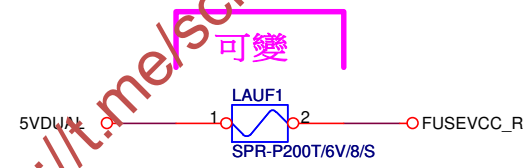
LA\_MDI-->100歐姆: [20/4/8/4/20]

USB\_LAN LAYOUT示意图



USB POWER

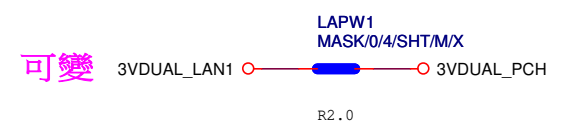
note:可變更FUSE



Close to connector  
USB\_LAN 2-Port 2.0A  
FUSE-0805

LAN POWER

note: lan power連接及電流

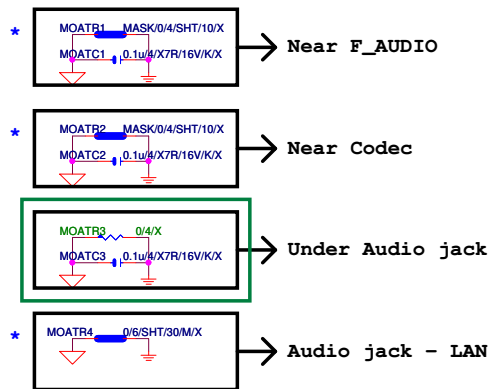


Gigabyte Technology			
Title			
LAN CONNECTOR-RTL8111G			
Size	Document Number	Rev	
Custom		H510M DS2 1.01	
Date:	Wednesday, March 17, 2021	Sheet	44 of 61





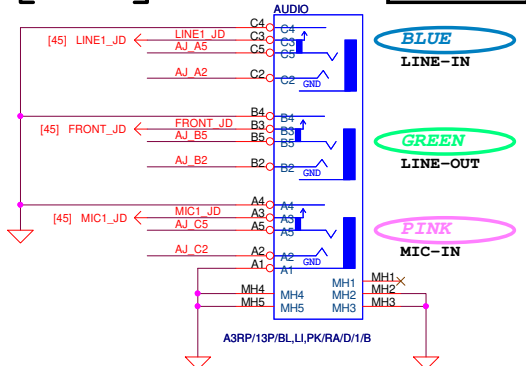
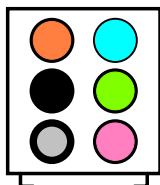
Rev 6.0



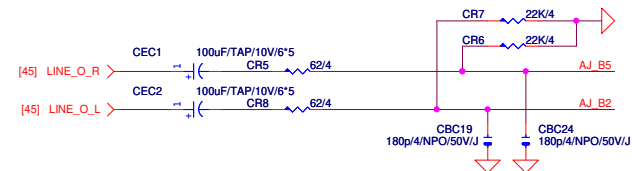
\*量産前,MOATR1/MOATR2/MOATR4 ....0ohm改short pad

For HDMI SPDIF (依SPEC保留或移除)

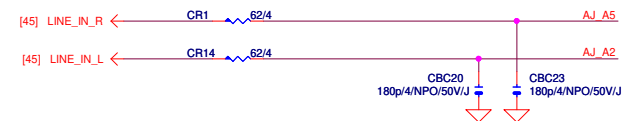
#### AZALIA JACK



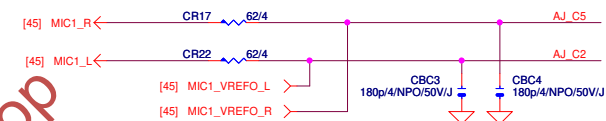
#### LINE-OUT



#### LINE-IN



#### MIC-IN



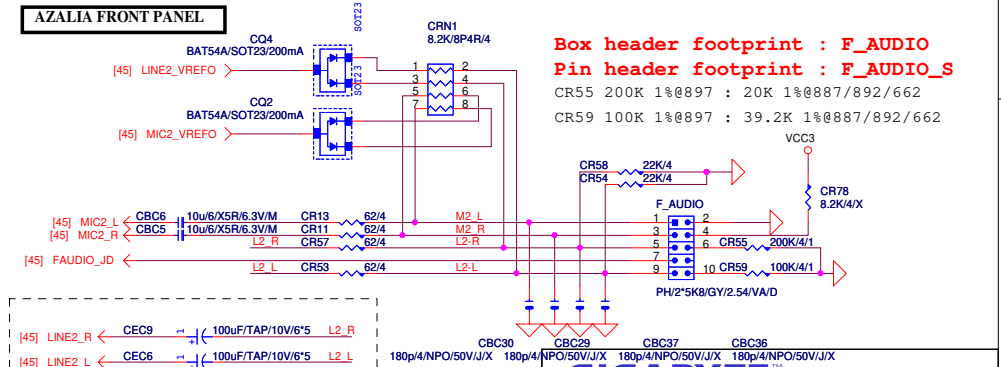
#### SURROUND

www.teknisi-indonesia.com

#### CEM/LFE

#### SURR BACK

#### AZALIA FRONT PANEL



GIGABYTE			
Title			
AUDIO JACK			
Size	Document Number	Rev	
Custom	H510M DS2	1.01	
Date:	Wednesday, March 17, 2021	Sheet	46 of 61

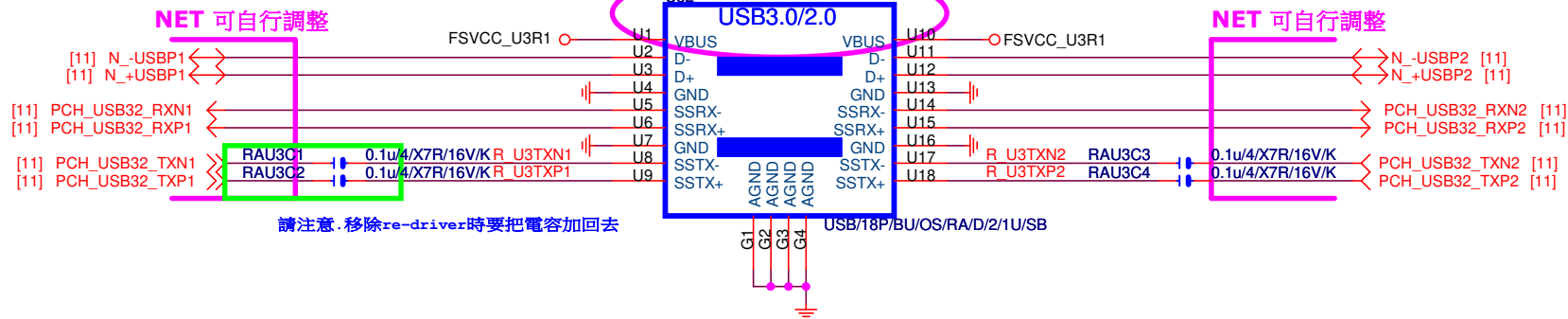
Rev 1.0

[https://t.me/schematics\\_laptop](https://t.me/schematics_laptop)

GIGABYTE™			
Title			
Amient Single LED			
Size	Document Number		Rev
Custom	H510M DS2		1.01
Date:	Wednesday, March 17, 2021	Sheet	47 of 61

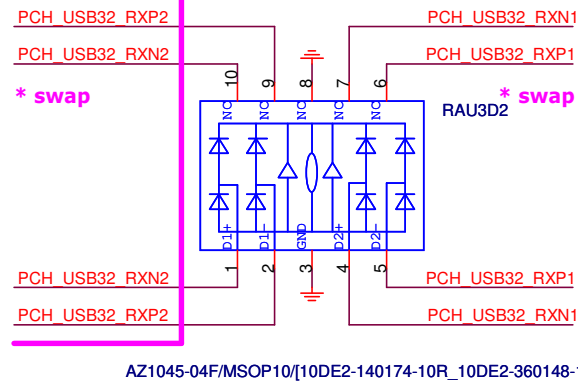
Rev: 0.7

ESD 可自行SWAP PIN ,CONN端 NET 名稱 不可

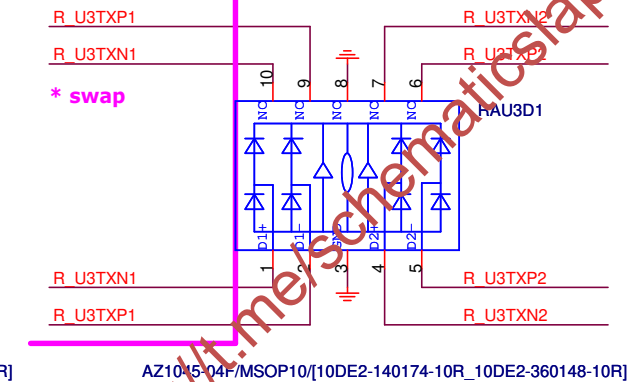


ESD

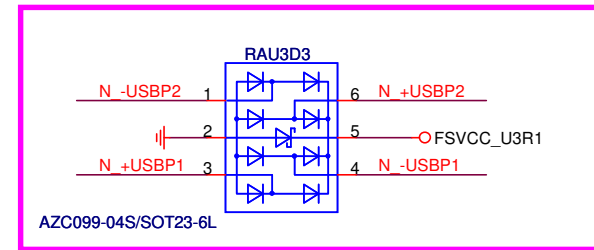
NET 可自行調整



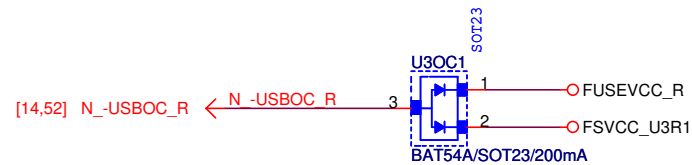
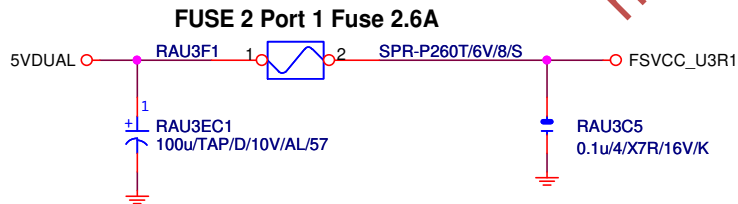
NET 可自行調整



NET 可自行調整



FUSE



Gigabyte Technology

Title					Rev 1.01
R_USB30,USB_OC					
Size Custom	Document Number				H510M DS2
Date: Wednesday, March 17, 2021		Sheet	48	of	61


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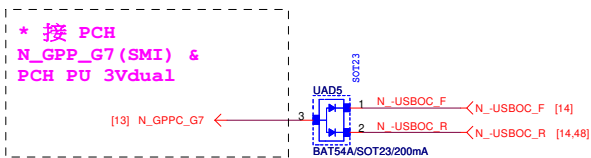
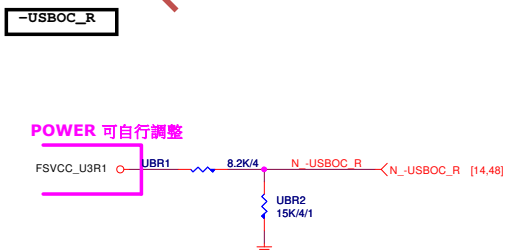
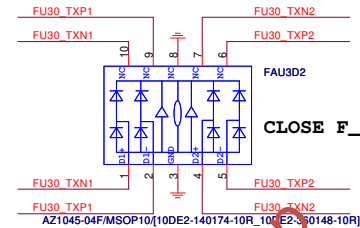
Gigabyte Technology			
Title			
R_USB30,USB_OC			
Size	Document Number		Rev
Custom	H510M DS2		1.01
Date:	Wednesday, March 17, 2021	Sheet	49 of 61

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GIGABYTE			
Title			
FP,F_USB,USB PWR,BZ			
Size	Document Number		Rev
Custom	H510M DS2		1.01
Date:	Wednesday, March 17, 2021		
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<https://t.me/schematicslaptop>

			
Title <b>PI3EQX1002B Redriver/DC-J</b>			
Size Custom	Document Number <b>H510M DS2</b>		Rev <b>1.01</b>
Date: <b>Wednesday, March 17, 2021</b>	Sheet <b>51</b>	of <b>61</b>	





USB20 HUB\_1

Single USB2 HUB used

Rev 0.2

HUB PWR

HUB OVER CURRENT SENSE

HUB CRYSTAL

ONLY SUPPORT 12MHZ

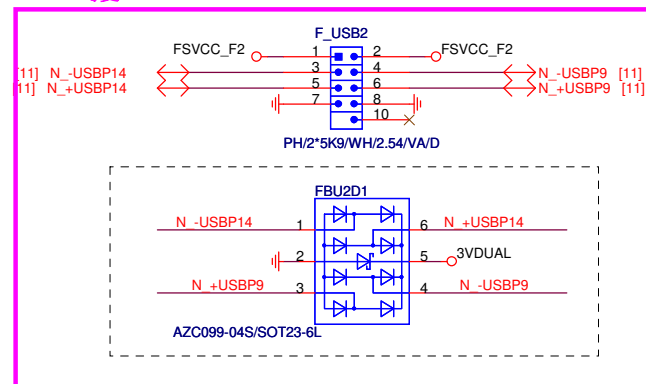
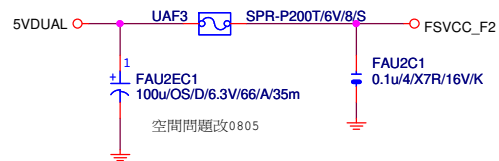
HUB MODE

NET 可變

FUSB2X5-HS

NET 可變

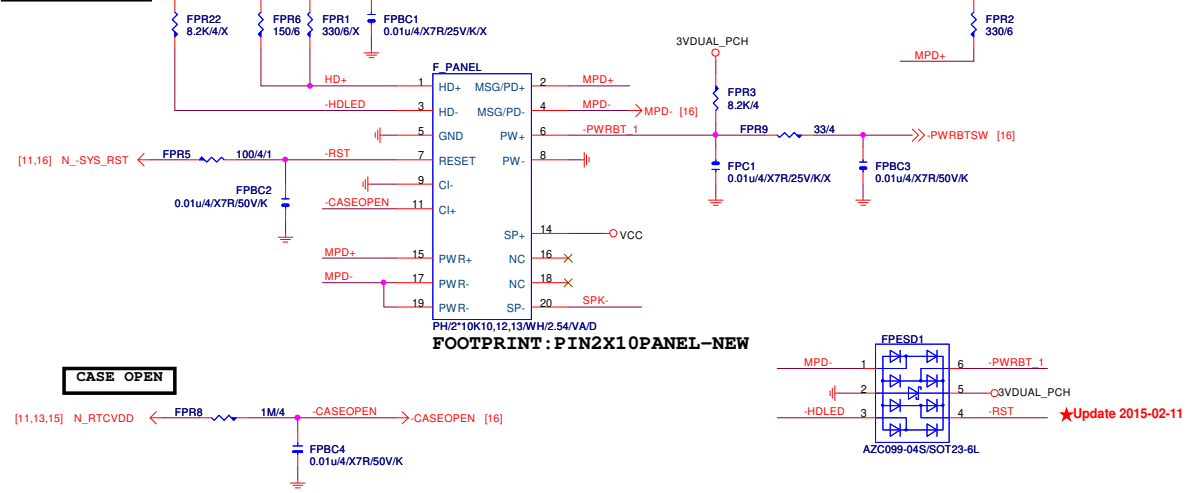
FUSB2X5-HS



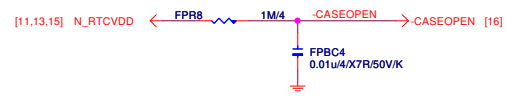
Gigabyte Technology

Title			
HUB GL850GS_1			
Size	Document Number	H510M DS2	Rev
Custom			1.01
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FRONT PANEL

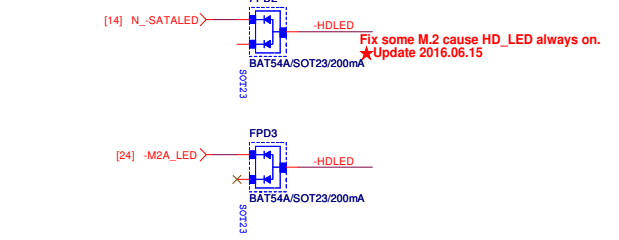


CASE OPEN

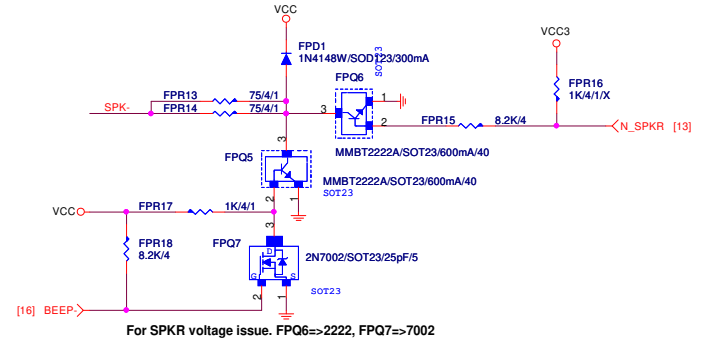


FRONT PANEL SHORT

SATA/M.2 LED

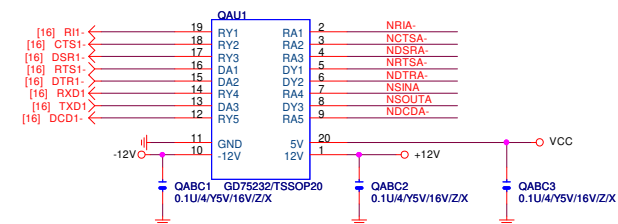


SPKR

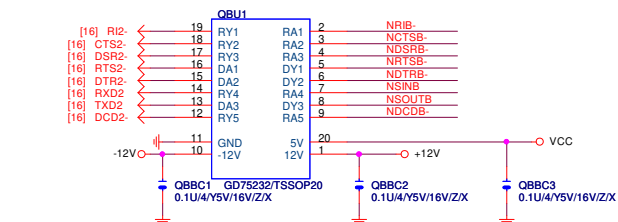
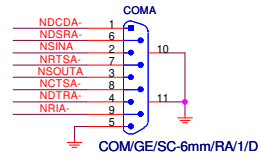


<https://t.me/schematics4laptop>

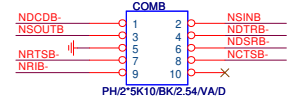
COM PORT



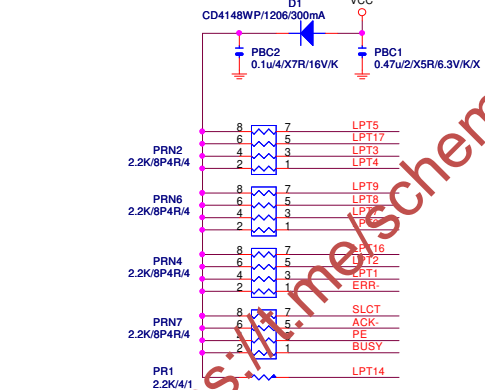
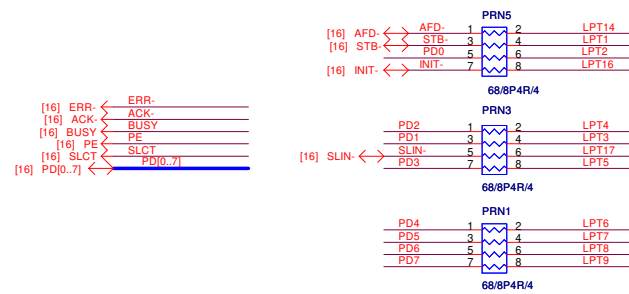
COMA



COMB

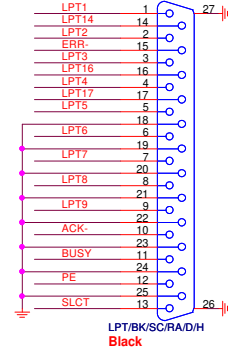


LPT PORT

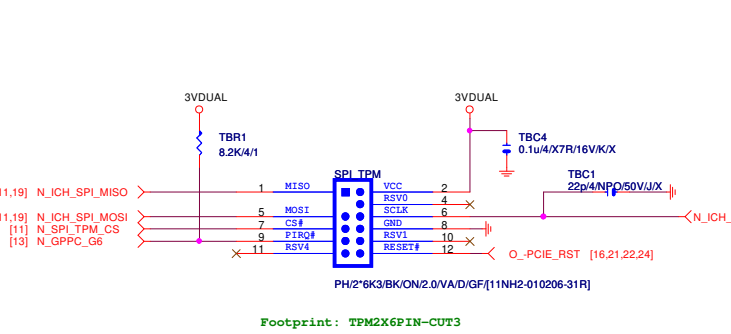


R&D 2015.03.24 151 有使用PRINT PORT的  
MODEL 需使用新料號:10HP2-118728-72R (CHIP IT8728F/EX (GB) ITE/SMD  
PRINTPORT SORTING) 料件。串電阻33 ohm改為68 ohm。

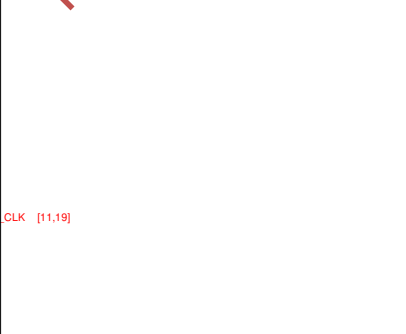
★Update 2015.03.24



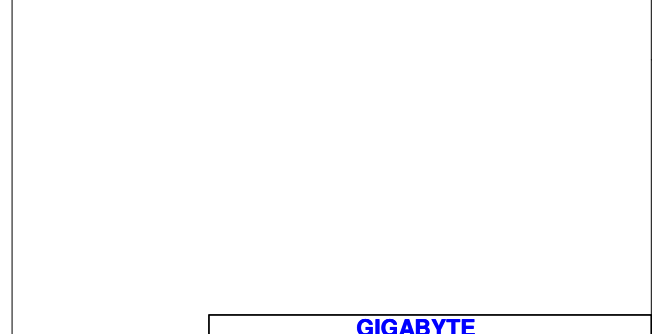
TPM CONNECTOR



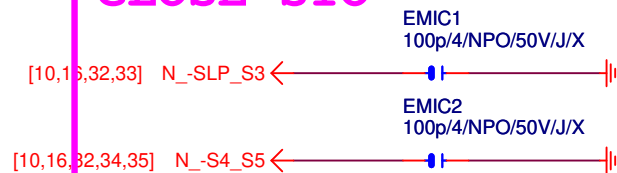
Thunderbolt



BIOS\_PH



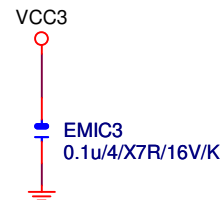
## CLOSE SIO



## CLOSE PCH



## CLOSE VR47

**GIGABYTE™**

Title

**EMI/ESD**Size  
A

Document Number

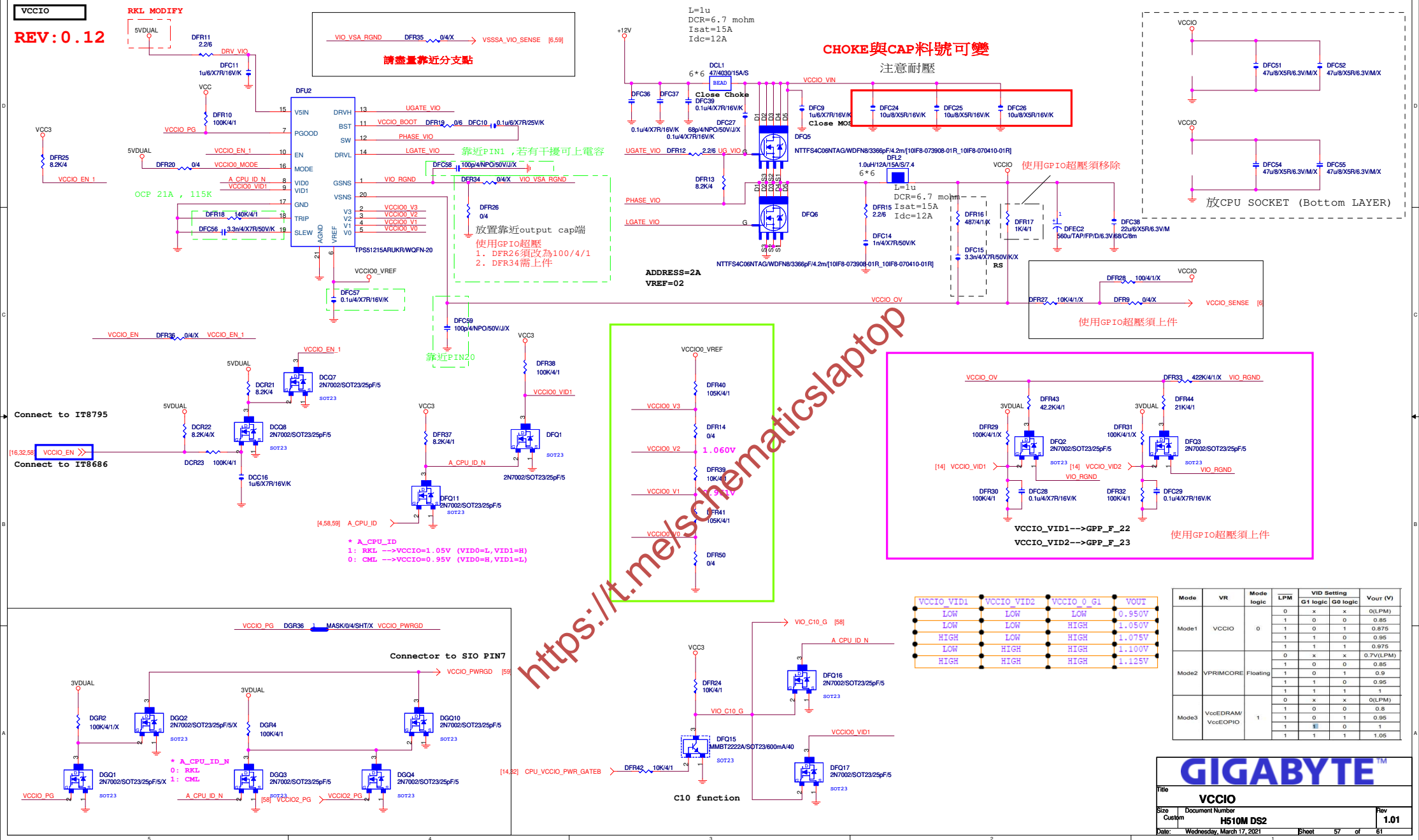
**H510M DS2**

Rev

**1.01**

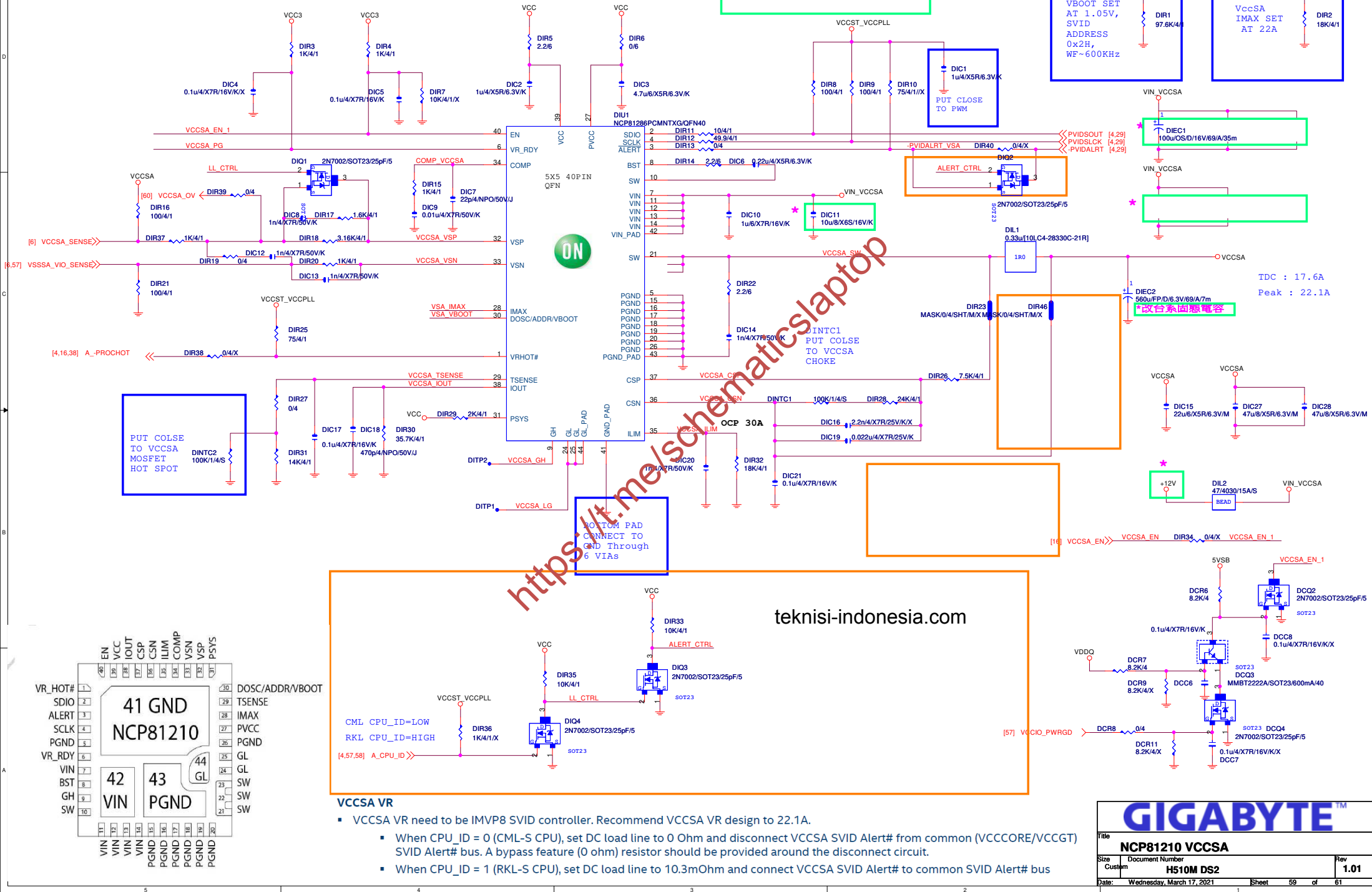
Date: Wednesday, March 17, 2021

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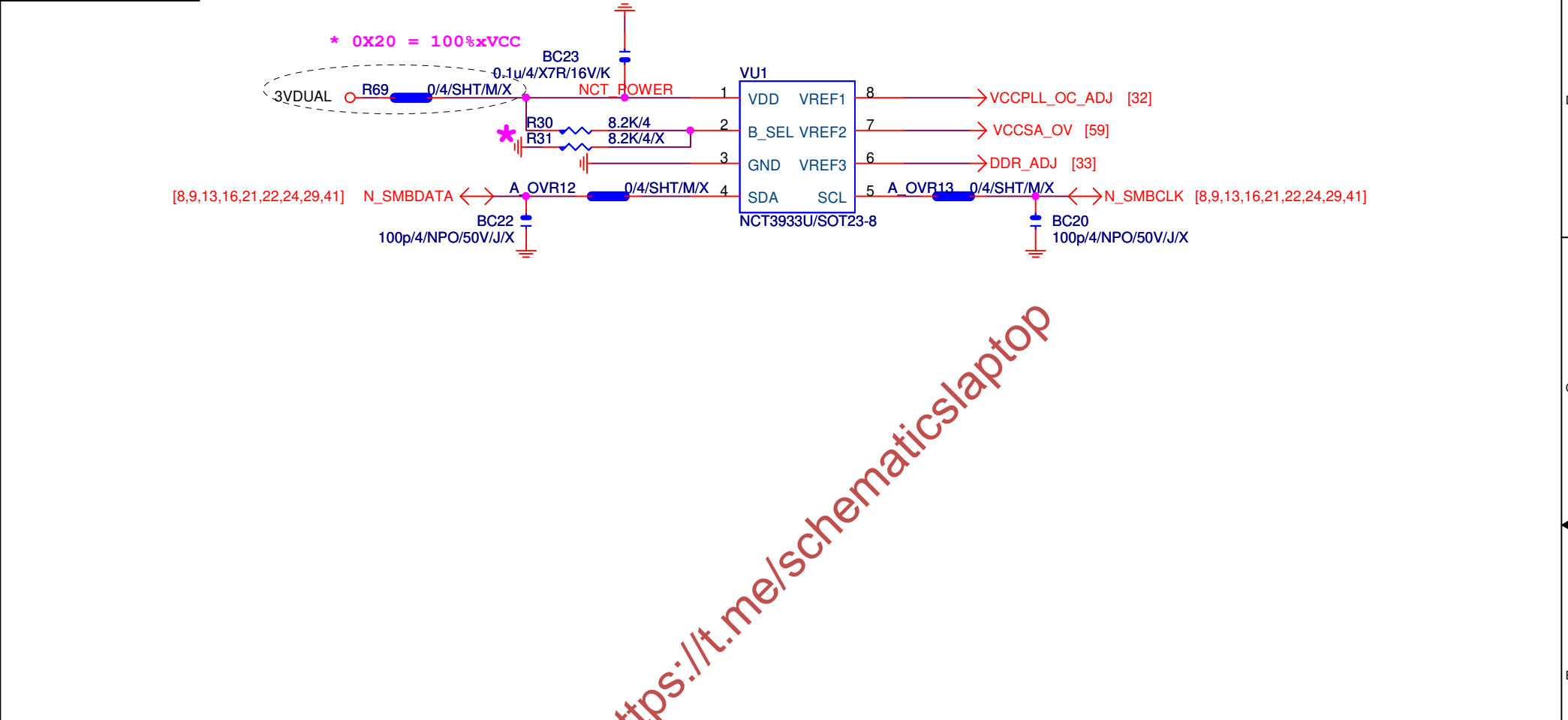


Mode	VR	Mode logic	VID Setting		Vout (V)	
			LPM G1 logic	G0 logic		
Mode1	VCCIO	0	0	x	x	0(LPM)
			0	0	0	0.85
			1	0	1	0.875
			1	1	0	0.95
			1	1	1	0.975
Mode2	VPRIMCORE	Floating	0	x	x	0.7V(LPM)
			1	0	0	0.85
			1	0	1	0.9
			1	1	0	0.95
			1	1	1	1
Mode3	VccEDRAM/ VccEOPIO	1	0	x	x	0(LPM)
			1	0	0	0.8
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





OVER VOLTAGE



Address	0x2A	0x28	0x26	0x24	0x22	0x20
R1 (kΩ)	open	3.9	3	2.2	1.3	10
R2 (kΩ)	10	1.3	2.2	3	3.9	open
ADD_SEL Voltage (% of VCC)	0	25	42	58	75	100

Table1. Recommended Slave Address Setting

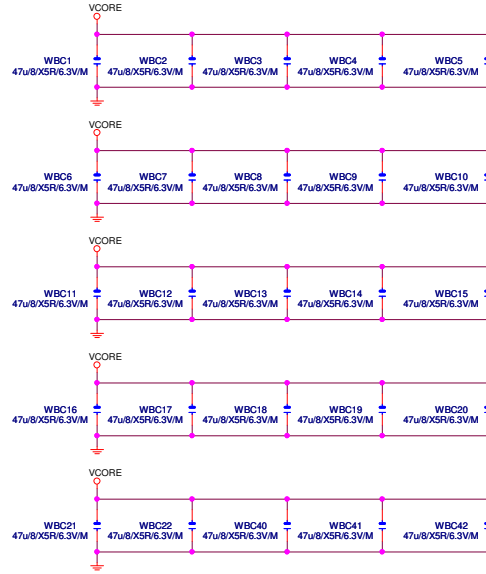
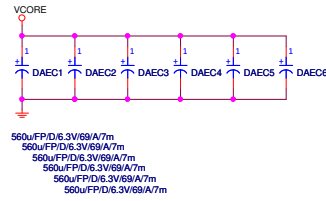
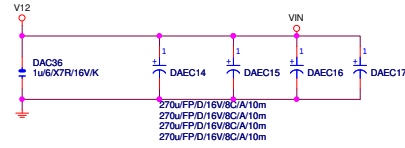
NCT3933	
VREF1	VCCPLL_OC
VREF2	VCCSA
VREF3	VDDQ

Title		
<Title>		
Size A	Document Number H510M DS2	Rev 1.01
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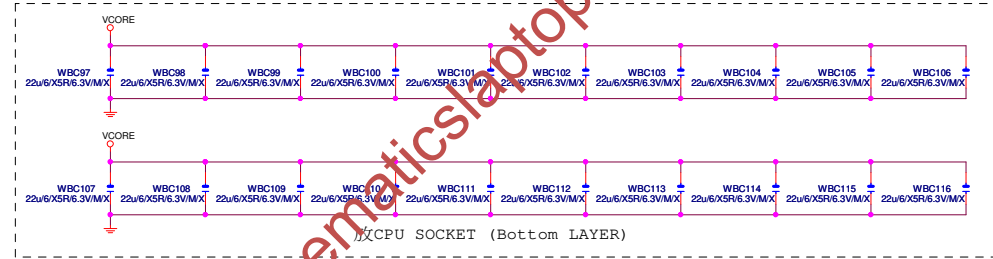


VIN CAP 270u\*4PCS

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

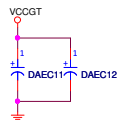


放CPU SOCKET (TOP LAYER)

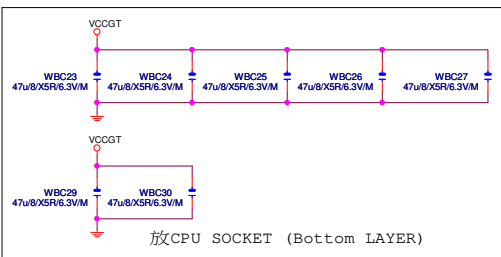


放CPU SOCKET (Bottom LAYER)

VCCGT CAP 560u\*2PCS  
22u\*4PCS



560uFP/D/6.3V/69A/7m  
560uFP/D/6.3V/69A/7m



放CPU SOCKET (Bottom LAYER)

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Title			
<Title>			
Size	Document Number		
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