

## SHEET

## TITLE

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03	BLOCK DIAGRAM
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29	ISL95866 VCORE-IRON

## SHEET

## TITLE

30	ISL95866 VCCGT-IRON
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Gigabyte Technology

Title		
Cover Sheet		
Size	Document Number	Rev
Custom	GA-H270M-D3H	1.0
Date:	Thursday, November 17, 2016	Sheet 1 of 57

**Model Name: GA-H270M-D3H**

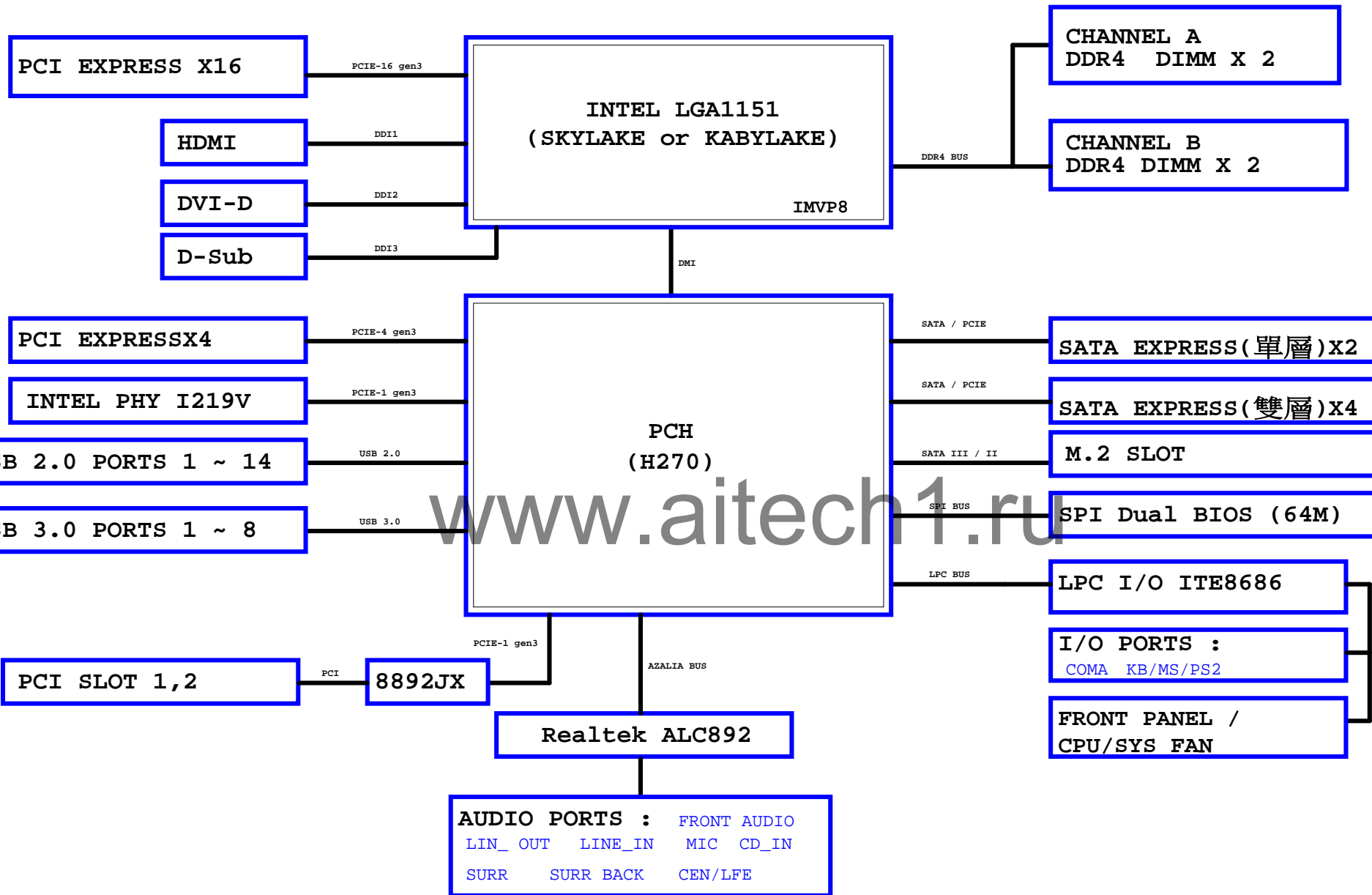
rev 1.0    Circuit or PCB layout change

### Component value change history

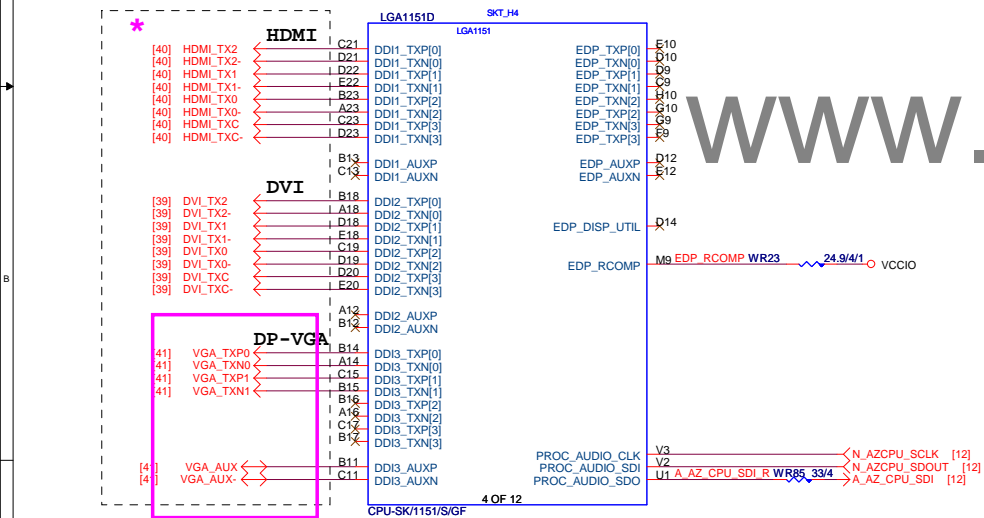
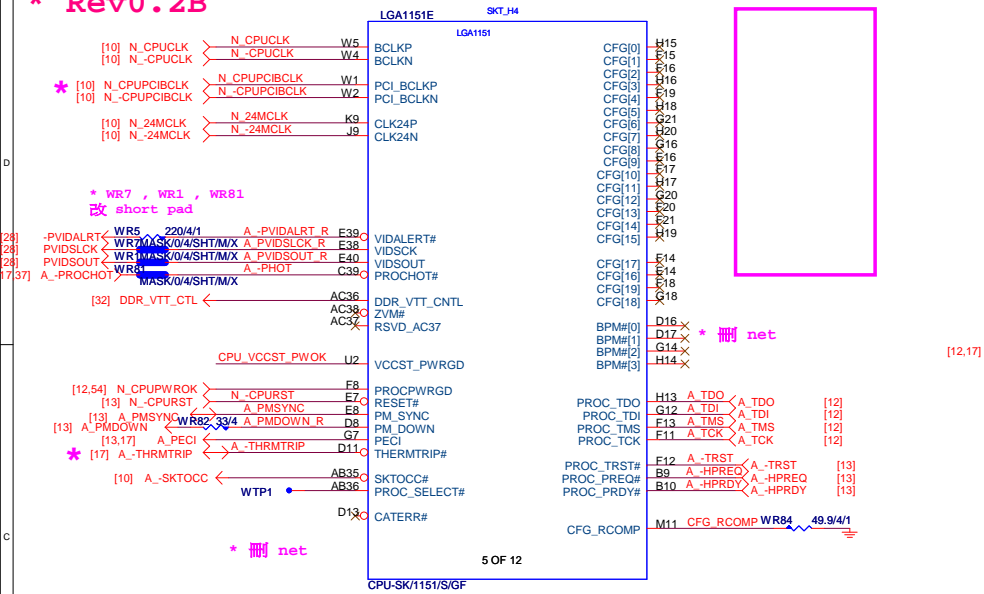
2016/11/17

[illegible][illegible]

# BLOCK DIAGRAM



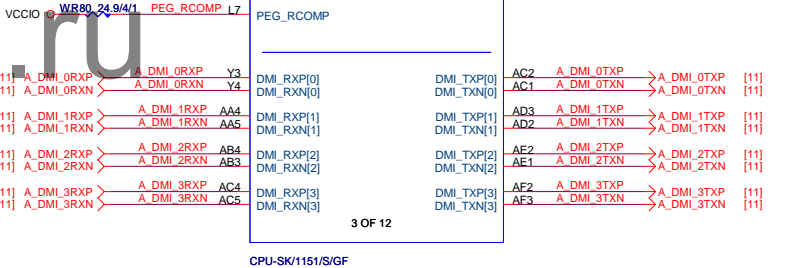
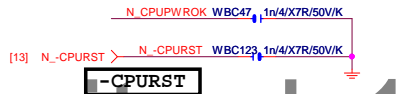
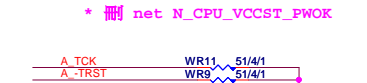
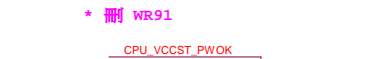
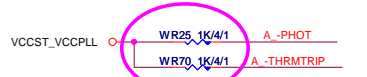
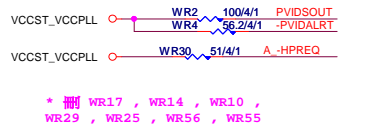
**\* Rev0.2B**



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

```
4 layer HDMI/DP/eDP/====4/4/4//15
6 layer HDMI/DP/eDP/====4/5.5/4//15
```

Impedance=85 +- 15%



PA\_EXP\_TXP[0..15] >> PA\_EXP\_TXP[0..15] [20]  
PA\_EXP\_TXN[0..15] >> PA\_EXP\_TXN[0..15] [20]  
PA\_EXP\_RXP[0..15] >> PA\_EXP\_RXP[0..15] [20]  
PA\_EXP\_RXN[0..15] >> PA\_EXP\_RXN[0..15] [20]

```
4 layer PEG/DMI=====4/4/4//15
6 layer PEG/DMI=====4/5.5/4//15
```

Impedance=85 +- 15%

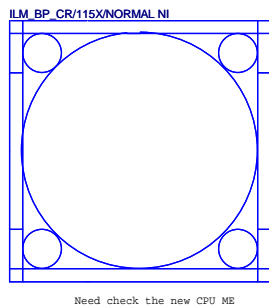
```
W=12 mil out of CPU
S=15 mil out of CPU
```

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

<b><i>Gigabyte Technology</i></b>			
Title			
<b>CPU LGA1151-A</b>			
Size	Document Number		Rev
Custom	<b>GA-H270M-D3H</b>		<b>1.0</b>
Date:	Friday, November 18, 2016	Sheet	4 of 57

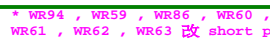


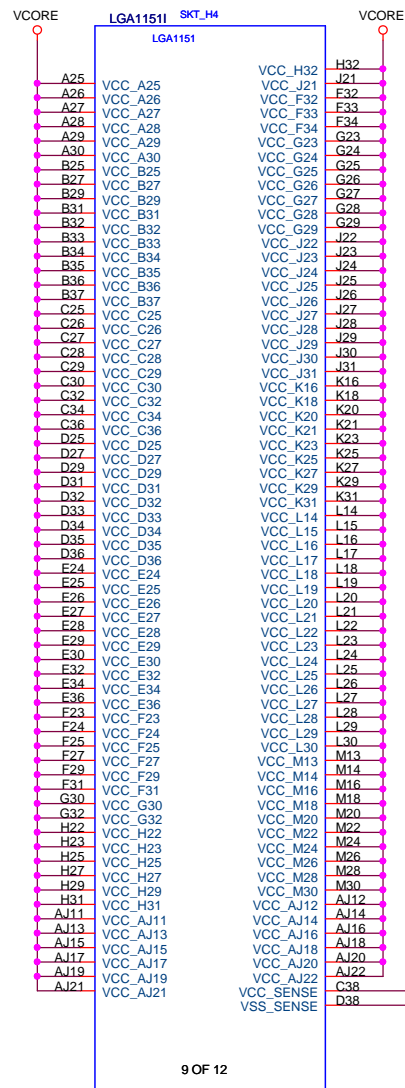
\* 改DDR4 net



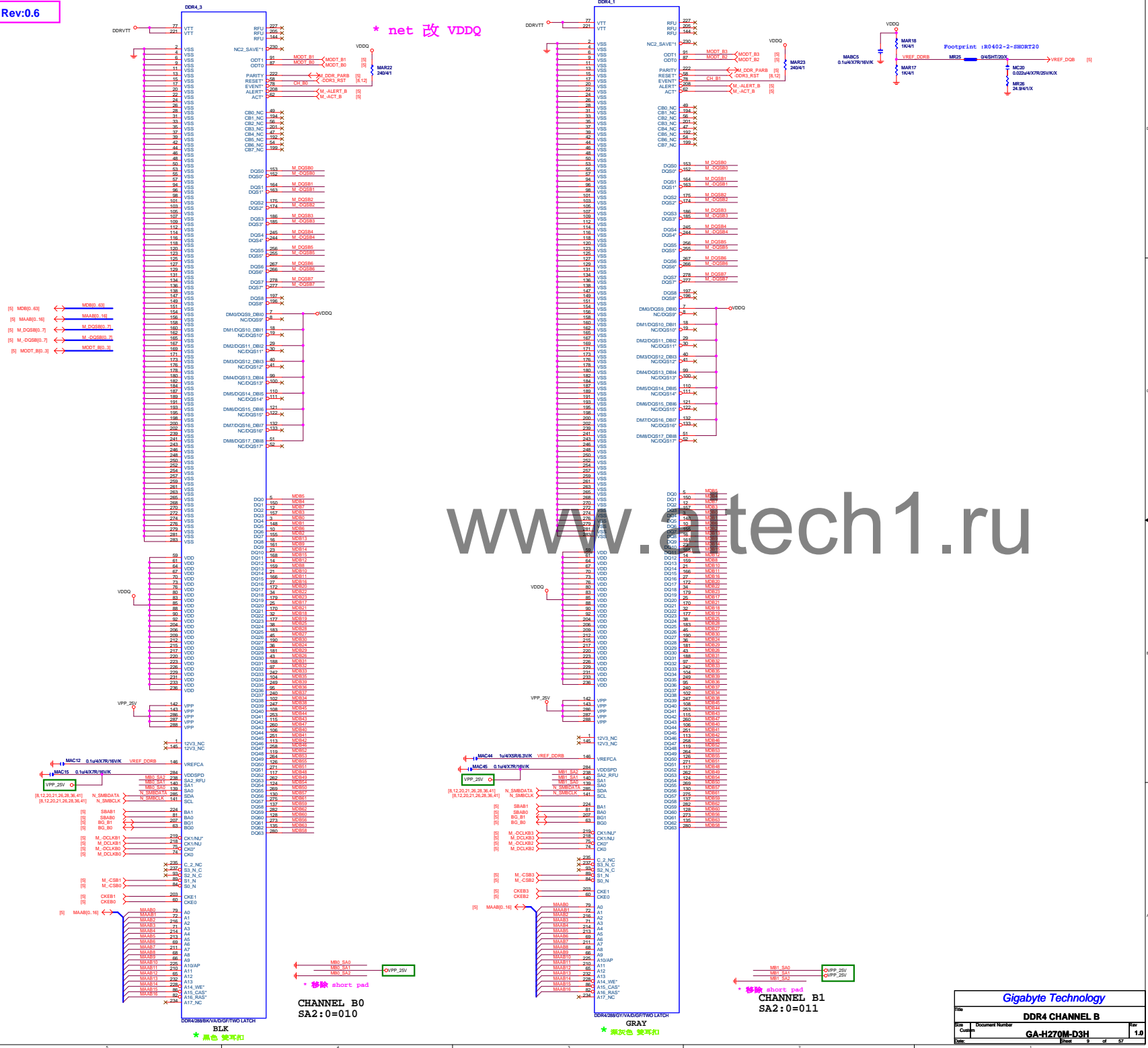
Need check the new CPU ME





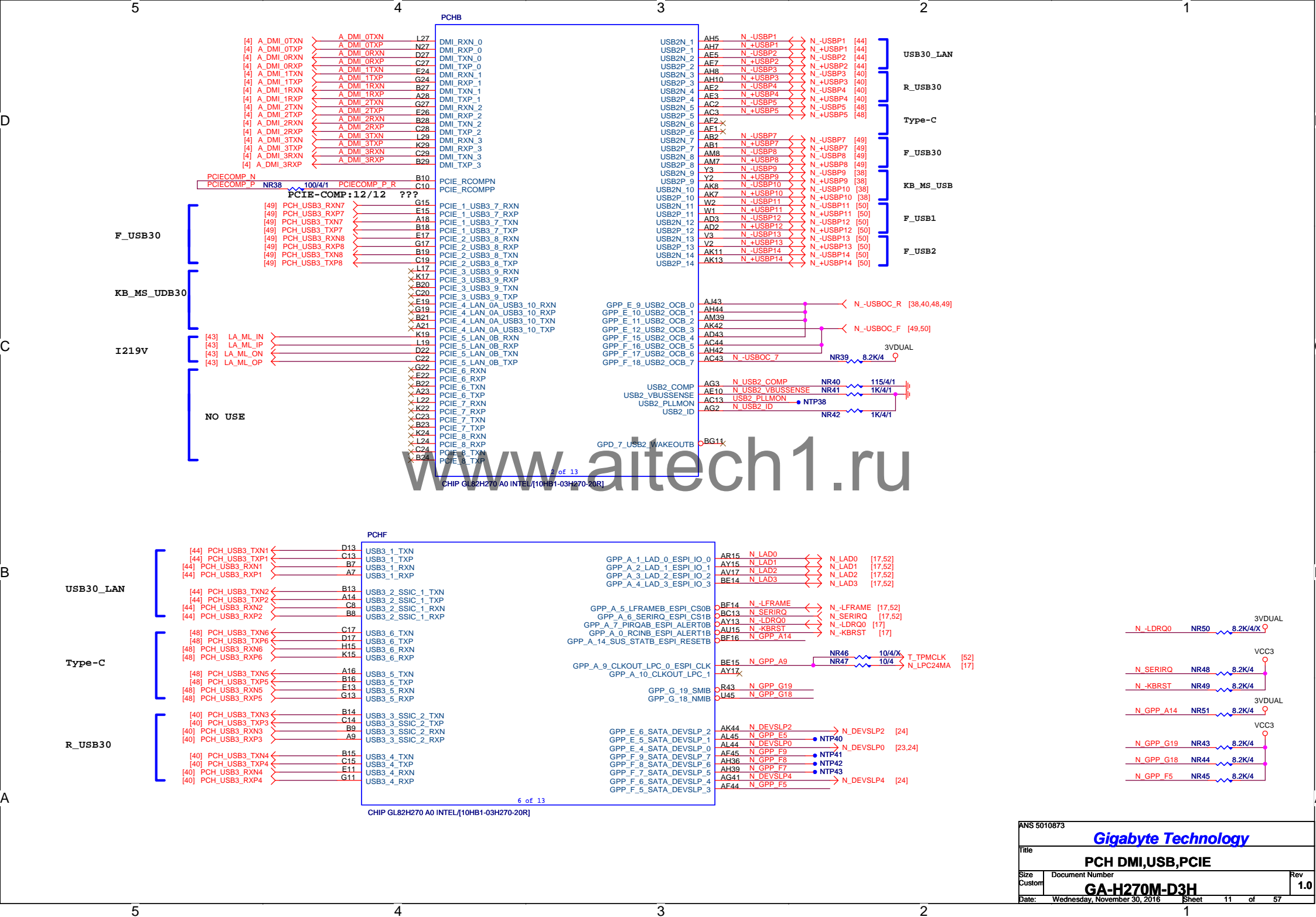








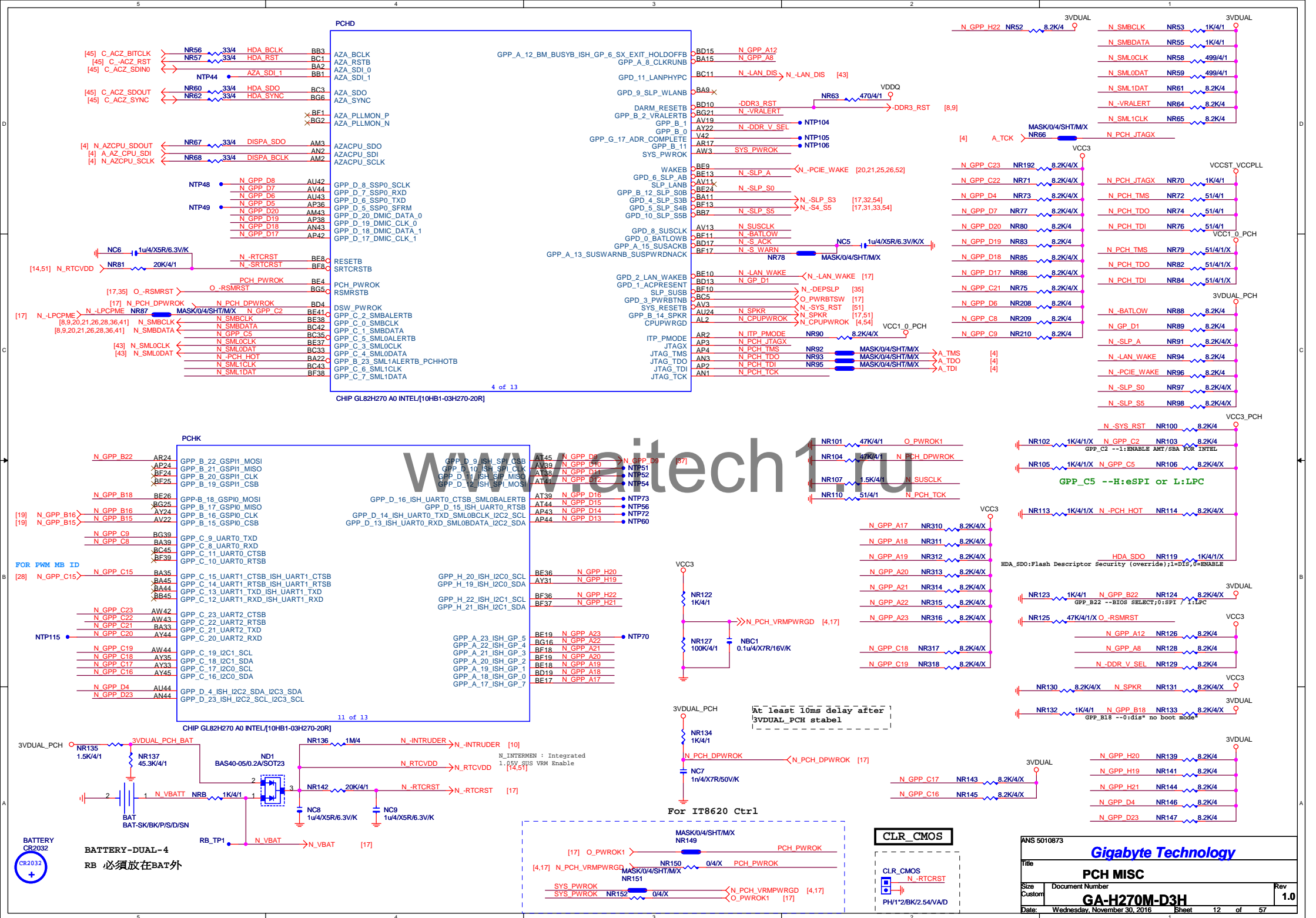




ANS 5010873

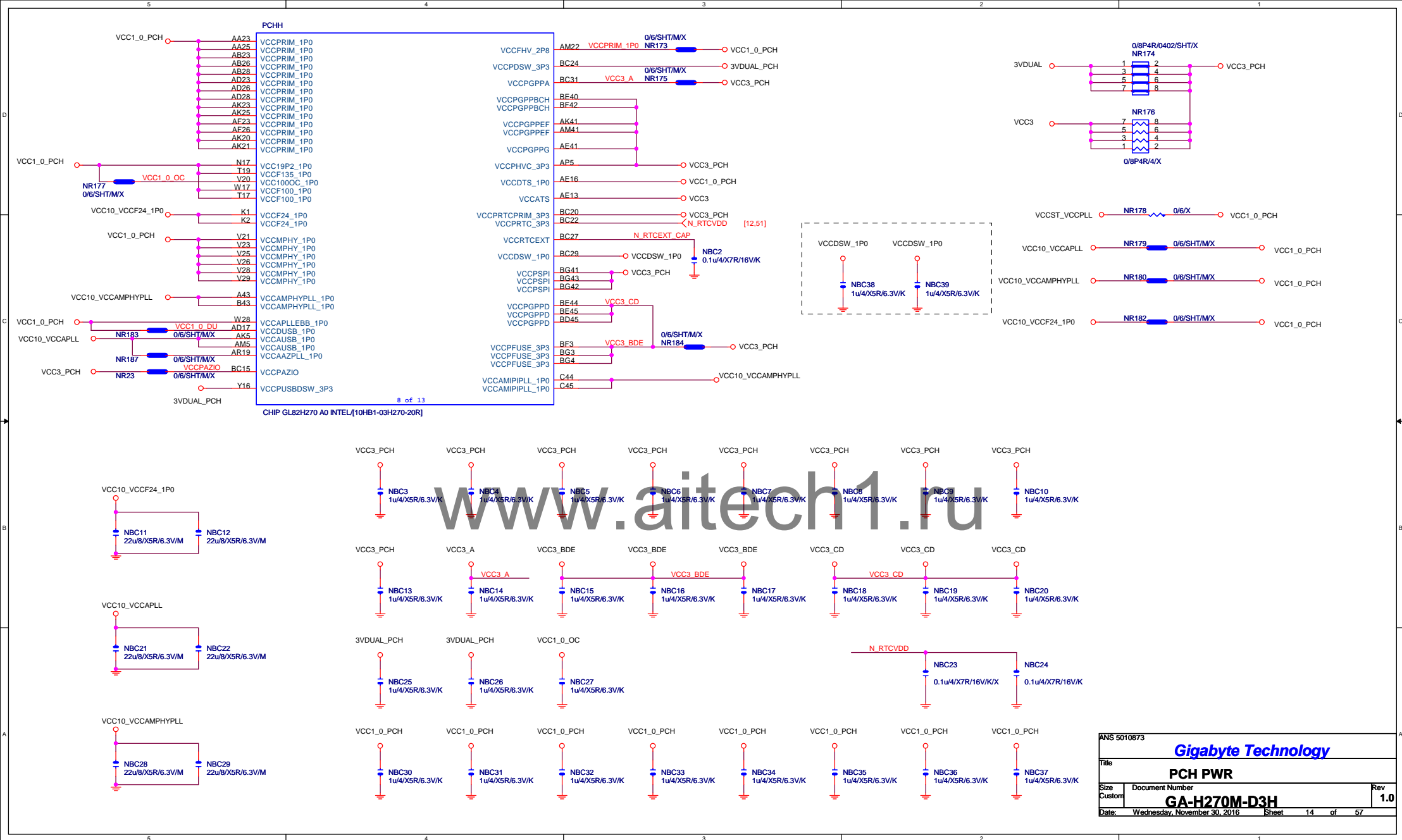
**Gigabyte Technology**

Title			
PCH DMI,USB,PCIE			
Size	Document Number		Rev
Custom	GA-H270M-D3H		1.0
Date:	Wednesday, November 30, 2016	Sheet	11 of 57









PCHI		
A25	VSS	A42
A30	VSS	D45
P22	VSS	BG44
AV38	VSS	BF44
AV45	VSS	BF45
AV8	VSS	BF2
AY11	VSS	W29
AY19	VSS	A35
AY37	VSS	A40
AY4	VSS	A41
AY42	VSS	AA17
AY8	VSS	AA18
B25	VSS	AA20
B3	VSS	AA21
B30	VSS	AA26
B38	VSS	AA28
B4	VSS	AA29
B41	VSS	AB17
BA13	VSS	AC32
BA17	VSS	AE4
BA25	VSS	AE8
BA31	VSS	AF18
BA37	VSS	AF20
BA4	VSS	AF21
BA42	VSS	AF25
BB40	VSS	AF28
BC38	VSS	AF29
BC40	VSS	AF4
BC9	VSS	AF42
BD11	VSS	AG18
BD16	VSS	AG20
BD2	VSS	AG21
BD21	VSS	AG23
BD28	VSS	AG25
F2	VSS	AG26
E31	VSS	AG28
E6	VSS	AG29
F39	VSS	AH11
F43	VSS	AH13
G4	VSS	AH30
G40	VSS	AH32
G42	VSS	AH33
F6	VSS	AH38
G9	VSS	AJ1
H11	VSS	AJ17
H13	VSS	AJ18
H17	VSS	AJ20
H19	VSS	AJ21
H22	VSS	AJ23
H24	VSS	AJ25
H27	VSS	AJ26
H29	VSS	AJ28
H33	VSS	AJ29
H35	VSS	AJ45
H38	VSS	AK10
H4	VSS	AK14
H42	VSS	AK16
H9	VSS	AK17
M36	VSS	AK18
M38	VSS	AK26
M4	VSS	AK28
M8	VSS	AM14
M9	VSS	AN14
N13	VSS	AP19
N15	VSS	AR22
N19	VSS	AR27
N22	VSS	AU29
N24	VSS	AU33
N31	VSS	AV1
N42	VSS	AV10
N42	VSS	AV15
P10	VSS	AV24
P12	VSS	AV27
AV35	VSS	AV33

9 of 13  
CHIP GL82H270 A0 INTEL[10HB1-03H270-20R]

PCHL		
BD34	VSS[70]	AB18
BD39	VSS[71]	AB20
BE2	VSS[72]	AB21
BF43	VSS[73]	AB25
BF5	VSS[74]	AB29
BG18	VSS[75]	AB4
BG23	VSS[76]	AB42
BG28	VSS[77]	AC10
BG32	VSS[78]	AC11
BG37	VSS[79]	AC14
BG40	VSS[80]	AC16
BG9	VSS[81]	AC38
C1	VSS[84]	AC4
A12	VSS[85]	AC5
C2	VSS[86]	AC7
C37	VSS[87]	AD1
A6	VSS[88]	AD18
C9	VSS[89]	AD20
D1	VSS[90]	AD21
D10	VSS[91]	AD25
D12	VSS[92]	AD29
D15	VSS[93]	AD45
D16	VSS[94]	AE11
B12	VSS[95]	AE14
D19	VSS[96]	AE32
D21	VSS[97]	AE33
D24	VSS[98]	AE38
D25	VSS[99]	AK29
D29	VSS[100]	AK30
D30	VSS[101]	AK32
D33	VSS[102]	AK35
D35	VSS[103]	AK39
D36	VSS[104]	AL4
D39	VSS[105]	AL42
D44	VSS[106]	AM10
D7	VSS[107]	AM11
P13	VSS[108]	AM13
P15	VSS[109]	AM17
P17	VSS[110]	AM19
P19	VSS[111]	AM24
P21	VSS[112]	AM27
P33	VSS[113]	AM29
P35	VSS[114]	AM32
P4	VSS[115]	AM33
P42	VSS[116]	AM4
P8	VSS[117]	AN45
R1	VSS[118]	AP10
R32	VSS[119]	AP11
T10	VSS[120]	AP13
T14	VSS[121]	AP15
T22	VSS[122]	AP22
T29	VSS[123]	AP27
T32	VSS[124]	AP31
T36	VSS[125]	AP33
T38	VSS[126]	AP34
Y38	VSS[127]	AP39
Y4	VSS[128]	T4
Y8	VSS[129]	W26
AK26	VSS[130]	W16
T42	VSS[131]	W17
T5	VSS[132]	W18
U4	VSS[133]	W19
U42	VSS[134]	W20
V10	VSS[135]	W21
V14	VSS[136]	W23
W3	VSS[137]	W25
AR13	VSS[138]	W18
AR31	VSS[139]	W20
AR33	VSS[140]	W21
AR4	VSS[141]	W23
AT10	VSS[142]	W25
AT13	VSS[143]	A44
AT35	VSS[144]	BE1
AT37	VSS[145]	BD1
AT42	VSS[146]	B1
AU11	VSS[147]	A2
AU17	VSS[148]	B2
BD30	VSS[149]	A3
W45	VSS[150]	A4
Y13	VSS[151]	B44
Y14	VSS[152]	B45
Y30	VSS[153]	
Y32	VSS[154]	
Y33	VSS[155]	
Y34	VSS[156]	
Y35	VSS[157]	
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Y41	VSS[163]	
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Y302	VSS[424]	
Y303	VSS[425]	
Y304	VSS[426]	
Y305	VSS[427]	
Y306	VSS[428]	
Y307	VSS[429]	
Y308	VSS[430]	
Y309	VSS[431]	
Y310	VSS[432]	
Y311	VSS[433]	
Y312	VSS[434]	
Y313	VSS[435]	



\* 試產先上，PVT 移除

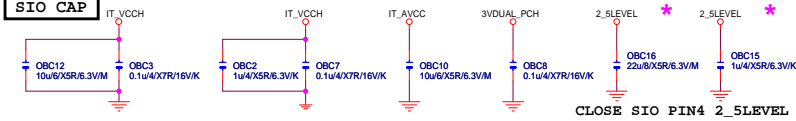


FAN TABLE	
CPU_FAN	FAN_CTL1 FAN_TAC1
SYS_FAN1	FAN_CTL2 FAN_TAC2
SYS_FAN2	FAN_CTL3 FAN_TAC3
SYS_FAN3	FAN_CTL4 FAN_TAC4
OPT_FAN or SYS_FAN4	FAN_CTL5 FAN_TAC5
THRMTRIP	PIN56
PROCHOT	PIN89

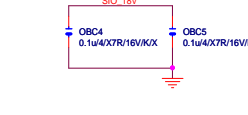
CEB\_N OR58 1K/4/1/X

OR58 上件/OR56 不上件 SINGLE BIOS  
OR58 不上件/OR56 上件 DUAL BIOS

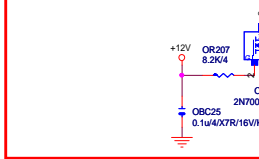
OBC12  
10u/6/X5R/6.3V/M



internal power pin, max 22nF cap

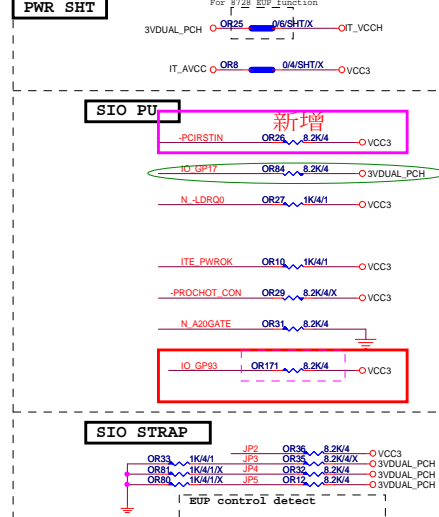


CLOSE SIO PIN4 2\_5LEVEL

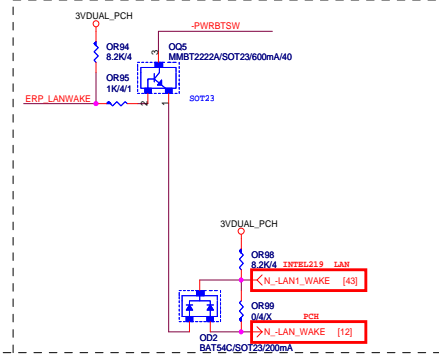
[illegible]

**Gigabyte Technology**

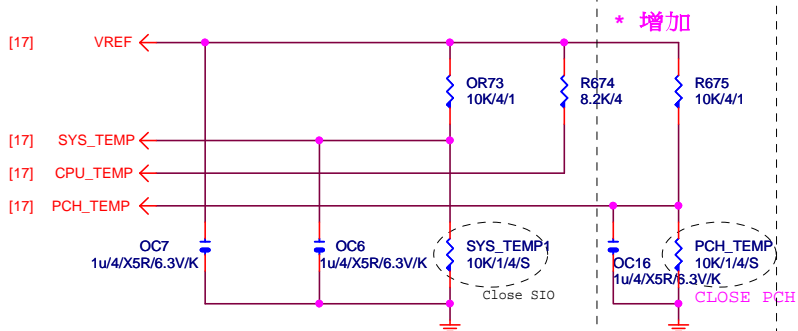
Title			
ITE 8686 LPC IO			
Size	Document Number		
Custom	GA-H270M-D3H		
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JP2	1	Disable WDT to rest PWROK
	0	Enable WDT to rest PWROK
JP3		Dual-BIOS CS pin mode select bit "0" See the below table
JP4	1	LPC/ESPI power VCCBT = 3.3V
	0	LPC/ESPI power VCCBT = 1.8V
JP5	1	LPC I/F
	0	ESPI I/F
JP6	1	Enable Dual BIOS Function (for GigaByte Only)
	0	Disable Dual BIOS Function (for GigaByte Only)
JP7		Dual-BIOS CE pin mode select bit "1" See the below table
JP7	1 1	CE pin disable (Hold pin mode)
	1 0	CE mode 1
	0 1	CE mode 2
	0 0	CE mode 3

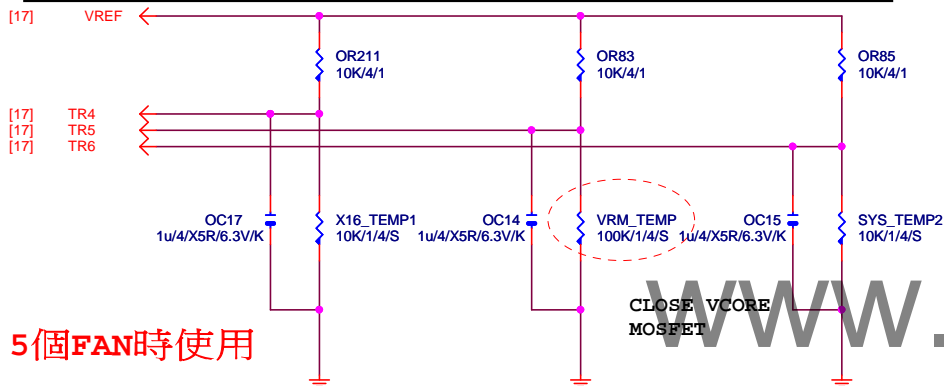


# TEMP H/W MONITOR



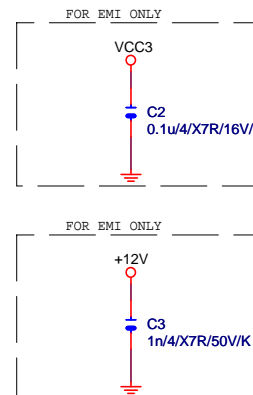
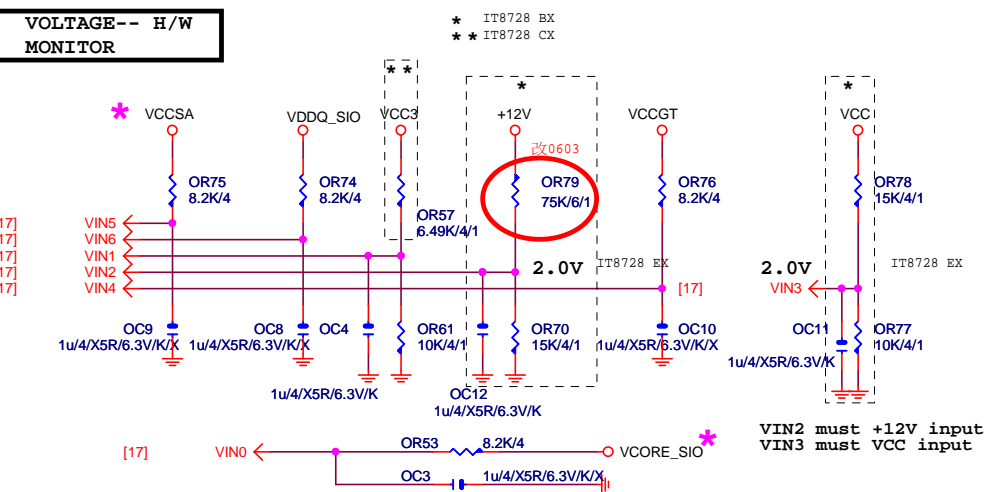
# RS VCORE、RS VCCGT、CLOSE CPU VCORE & VCCGT MOSFET

-PROCHOT:有mos heartsink不用prochot function



5個FAN時使用

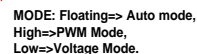
# VOLTAGE-- H/W MONITOR



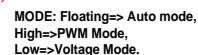
★Update 2015-04.24

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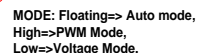
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HWM,KB/MS, FAN CTRL		
Size	Document Number	Rev
Custom	GA-H270M-D3H	1.0
Date:	Friday, November 18, 2016	Sheet 18 of 57



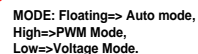
A.



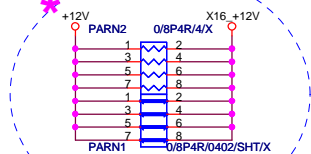
## B.



C.



Title			
FAN CTRL			
Size	Document Number		Rev
Custom	GA-H270M-D3H		1.0
Date:	Friday, November 18, 2016	Sheet	19 of 57

+12 - protect  
short-wire test

[8,9,12,21,26,28,36,41] N\_SMBCLK  
[8,9,12,21,26,28,36,41] N\_SMBDATA

[12,21,25,26,52] N\_-PCIE\_WAKE

[10] -PCIE16\_PR

PA\_EXP\_RXP0.[15] >> PA\_EXP\_RXP0.[15] [4]  
PA\_EXP\_RXN0.[15] >> PA\_EXP\_RXN0.[15] [4]  
PA\_EXP\_TXP0.[15] >> PA\_EXP\_TXP0.[15] [4]  
PA\_EXP\_TXN0.[15] >> PA\_EXP\_TXN0.[15] [4]

PA_EXP_TXP0	PAC5	0.22u4/X5R6.3V/K	PA_EXP_TXP0_C
PA_EXP_TXN0	PAC4	0.22u4/X5R6.3V/K	PA_EXP_TXN0_C
PA_EXP_TXP1	PAC6	0.22u4/X5R6.3V/K	PA_EXP_TXP1_C
PA_EXP_TXN1	PAC7	0.22u4/X5R6.3V/K	PA_EXP_TXN1_C
PA_EXP_TXP2	PAC8	0.22u4/X5R6.3V/K	PA_EXP_TXP2_C
PA_EXP_TXN2	PAC9	0.22u4/X5R6.3V/K	PA_EXP_TXN2_C
PA_EXP_TXP3	PAC10	0.22u4/X5R6.3V/K	PA_EXP_TXP3_C
PA_EXP_TXN3	PAC11	0.22u4/X5R6.3V/K	PA_EXP_TXN3_C
PA_EXP_TXP4	PAC12	0.22u4/X5R6.3V/K	PA_EXP_TXP4_C
PA_EXP_TXN4	PAC13	0.22u4/X5R6.3V/K	PA_EXP_TXN4_C
PA_EXP_TXP5	PAC14	0.22u4/X5R6.3V/K	PA_EXP_TXP5_C
PA_EXP_TXN5	PAC15	0.22u4/X5R6.3V/K	PA_EXP_TXN5_C
PA_EXP_TXP6	PAC16	0.22u4/X5R6.3V/K	PA_EXP_TXP6_C
PA_EXP_TXN6	PAC17	0.22u4/X5R6.3V/K	PA_EXP_TXN6_C
PA_EXP_TXP7	PAC18	0.22u4/X5R6.3V/K	PA_EXP_TXP7_C
PA_EXP_TXN7	PAC19	0.22u4/X5R6.3V/K	PA_EXP_TXN7_C
PA_EXP_TXP8	PAC21	0.22u4/X5R6.3V/K	PA_EXP_TXP8_C
PA_EXP_TXN8	PAC20	0.22u4/X5R6.3V/K	PA_EXP_TXN8_C
PA_EXP_TXP9	PAC22	0.22u4/X5R6.3V/K	PA_EXP_TXP9_C
PA_EXP_TXN9	PAC23	0.22u4/X5R6.3V/K	PA_EXP_TXN9_C
PA_EXP_TXP10	PAC24	0.22u4/X5R6.3V/K	PA_EXP_TXP10_C
PA_EXP_TXN10	PAC25	0.22u4/X5R6.3V/K	PA_EXP_TXN10_C
PA_EXP_TXP11	PAC26	0.22u4/X5R6.3V/K	PA_EXP_TXP11_C
PA_EXP_TXN11	PAC27	0.22u4/X5R6.3V/K	PA_EXP_TXN11_C
PA_EXP_TXP12	PAC28	0.22u4/X5R6.3V/K	PA_EXP_TXP12_C
PA_EXP_TXN12	PAC29	0.22u4/X5R6.3V/K	PA_EXP_TXN12_C
PA_EXP_TXP13	PAC30	0.22u4/X5R6.3V/K	PA_EXP_TXP13_C
PA_EXP_TXN13	PAC31	0.22u4/X5R6.3V/K	PA_EXP_TXN13_C
PA_EXP_TXP14	PAC32	0.22u4/X5R6.3V/K	PA_EXP_TXP14_C
PA_EXP_TXN14	PAC33	0.22u4/X5R6.3V/K	PA_EXP_TXN14_C
PA_EXP_TXP15	PAC34	0.22u4/X5R6.3V/K	PA_EXP_TXP15_C
PA_EXP_TXN15	PAC35	0.22u4/X5R6.3V/K	PA_EXP_TXN15_C

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PCIEX16:16/5/5/5/16

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

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

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

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

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

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

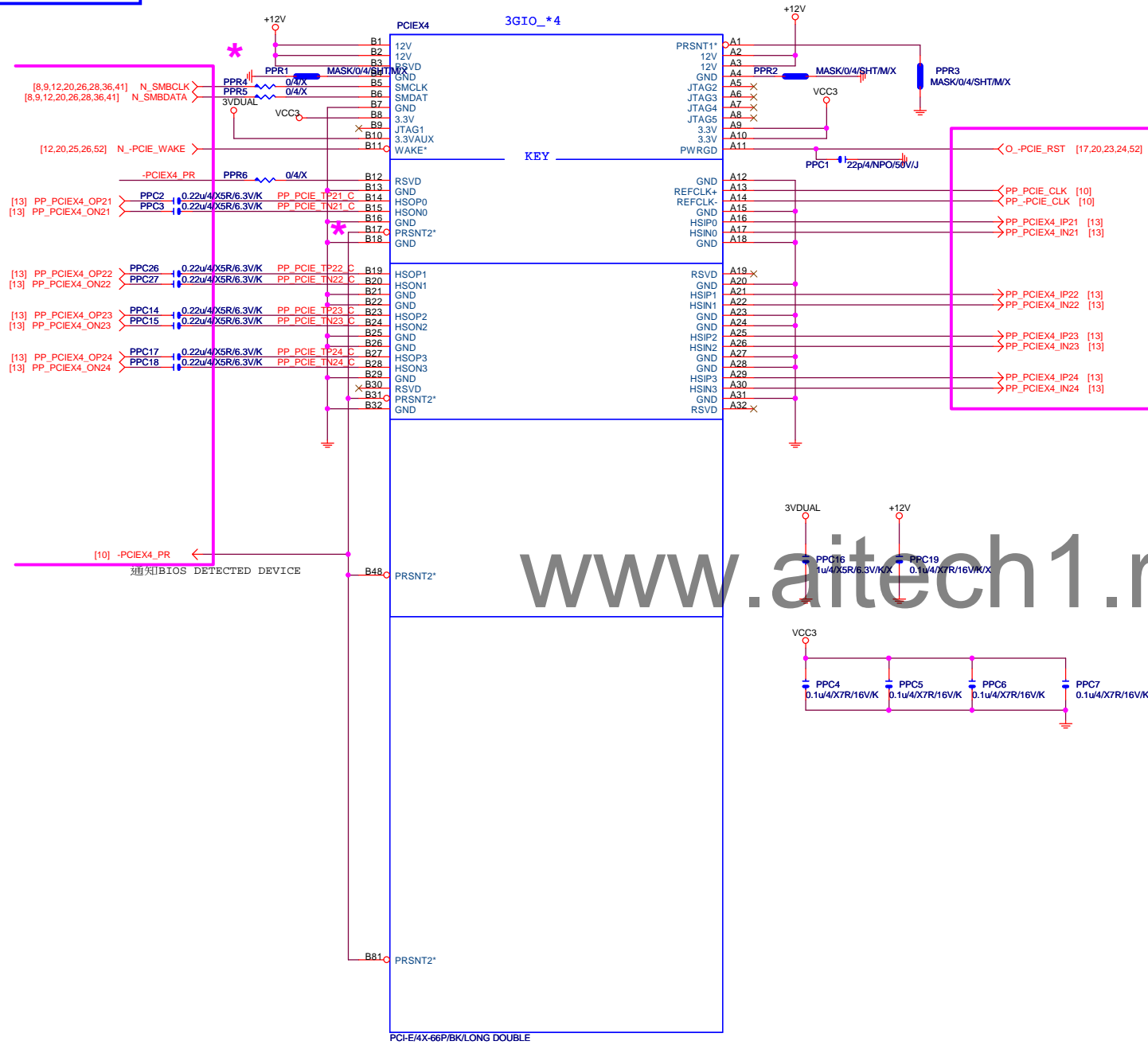
PCE-E X1(單向) BANDWIDTH=5GHz\*(8b/10b)=4Gb/s=500MB/s

PCI-E REV:3.0--&gt; 8GHZ

PCE-E X1(單向) BANDWIDTH=8GHz\*(128b/130b)=8Gb/s=1GB/s

黑色SLOT

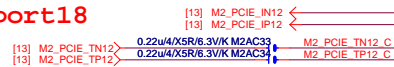




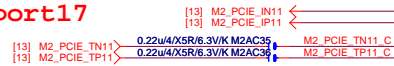
黑色

Gigabyte Technology			
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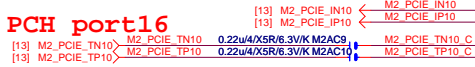
## M.2 Lane4 from PCH port18



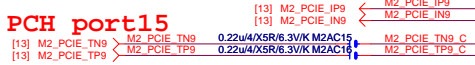
## M.2 Lane3 from PCH port17



## M.2 Lane2 from PCH port16

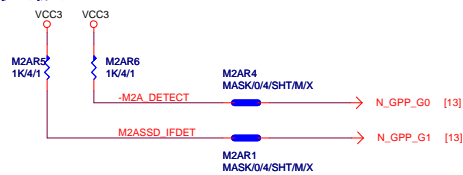


## M.2 Lane1 from PCH port15



需與M2\_-CLKREQ對應

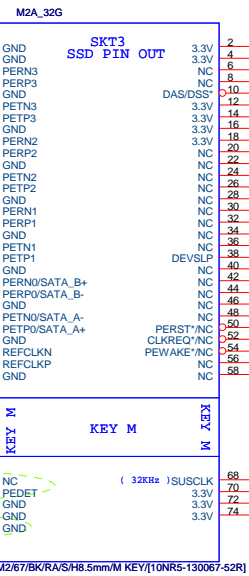
## 支援SATA and M.2 function



\* Footprint : NGFF-M-75P-11CM-3-SMD

M.2 有插卡 /沒插卡 GPP_G0	M.2插何種卡? GPP_G1	SATA Express 插何種硬碟? GPP_E0/E2/F1	IO15 (S0)	IO16 (S1)	IO17	IO18	IO19 (S0)	IO20 (S1)
有插卡 (Low)	SATA Mode (Low)	SATA (Hi)	SATA (M.2)	PCIE x1	PCIE x1	PCIE x1	PCIE x1	SATA
		SATA Express (Low)	SATA (M.2)	PCIE x1	PCIE x1	PCIE x1	SATA Express	
	PCIE Mode (Hi)	SATA (Hi)	PCIE x4 (For M.2)				SATA	SATA
		SATA Express (Low)	PCIE x4 (For M.2)				SATA Express	
沒插卡 (Hi)	Don't Care (Hi)	SATA (Hi)	PCIE x4				SATA	SATA
		SATA Express (Low)	PCIE x4				SATA Express	

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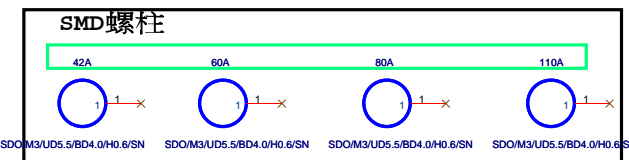
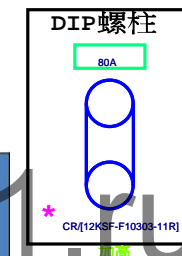
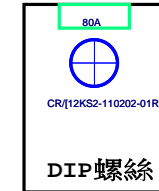
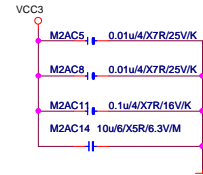
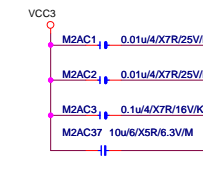


M2A\_LED [54] To HDD LED control circuit

M2ASSD SATA\_DEVSLP &lt;N\_DEVSLP0 [11,24] To DEVSLP0 for power saving

M2ASATAE PERST\_N M2AR11 MASK0/4/SHT/M/X M2A\_CLKREQ0 [17,20,21,24,52] GPI reserve for power saving

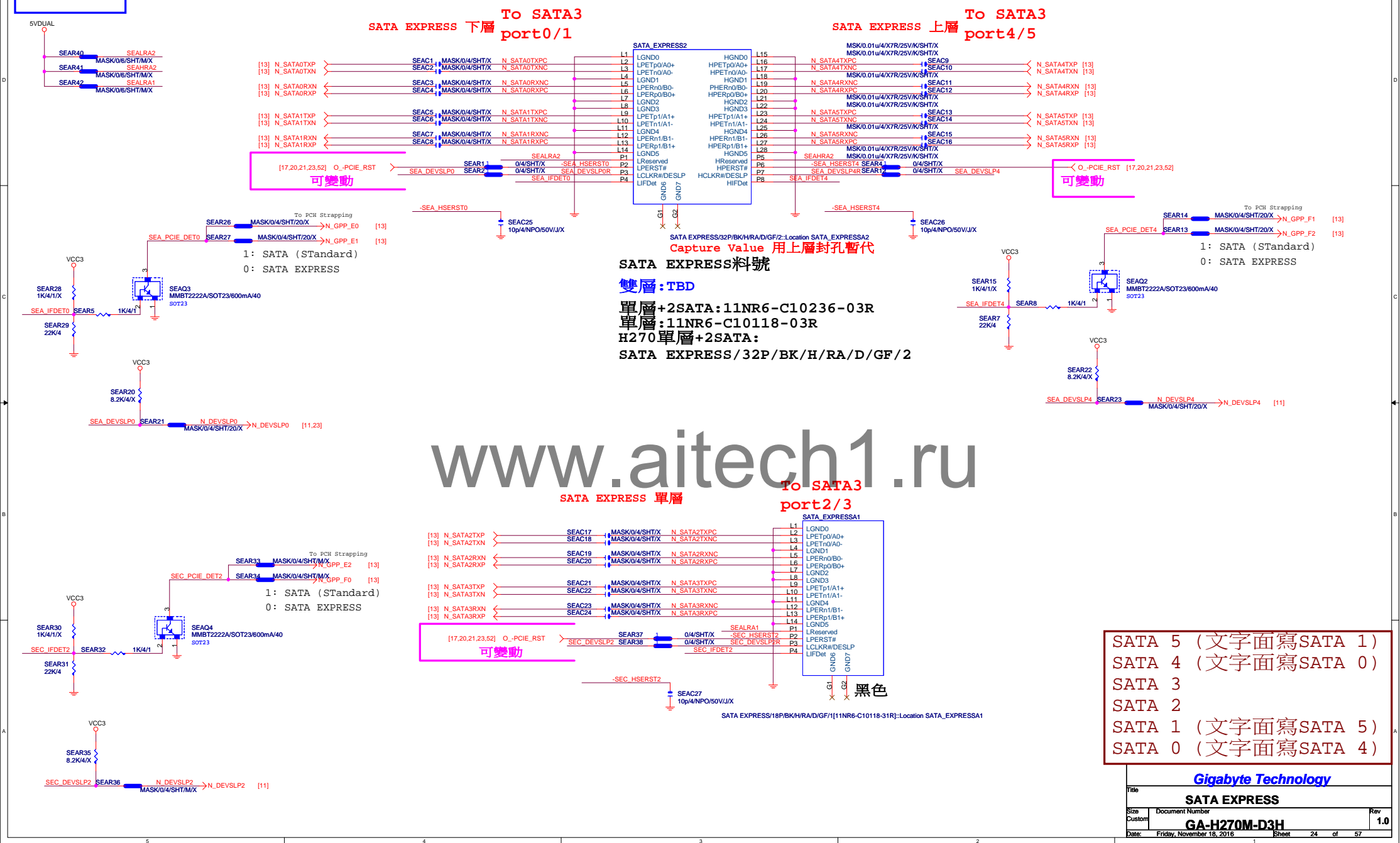
M2ASATAE PERST\_N M2AC7 10pF/4NPO/50V/UJX

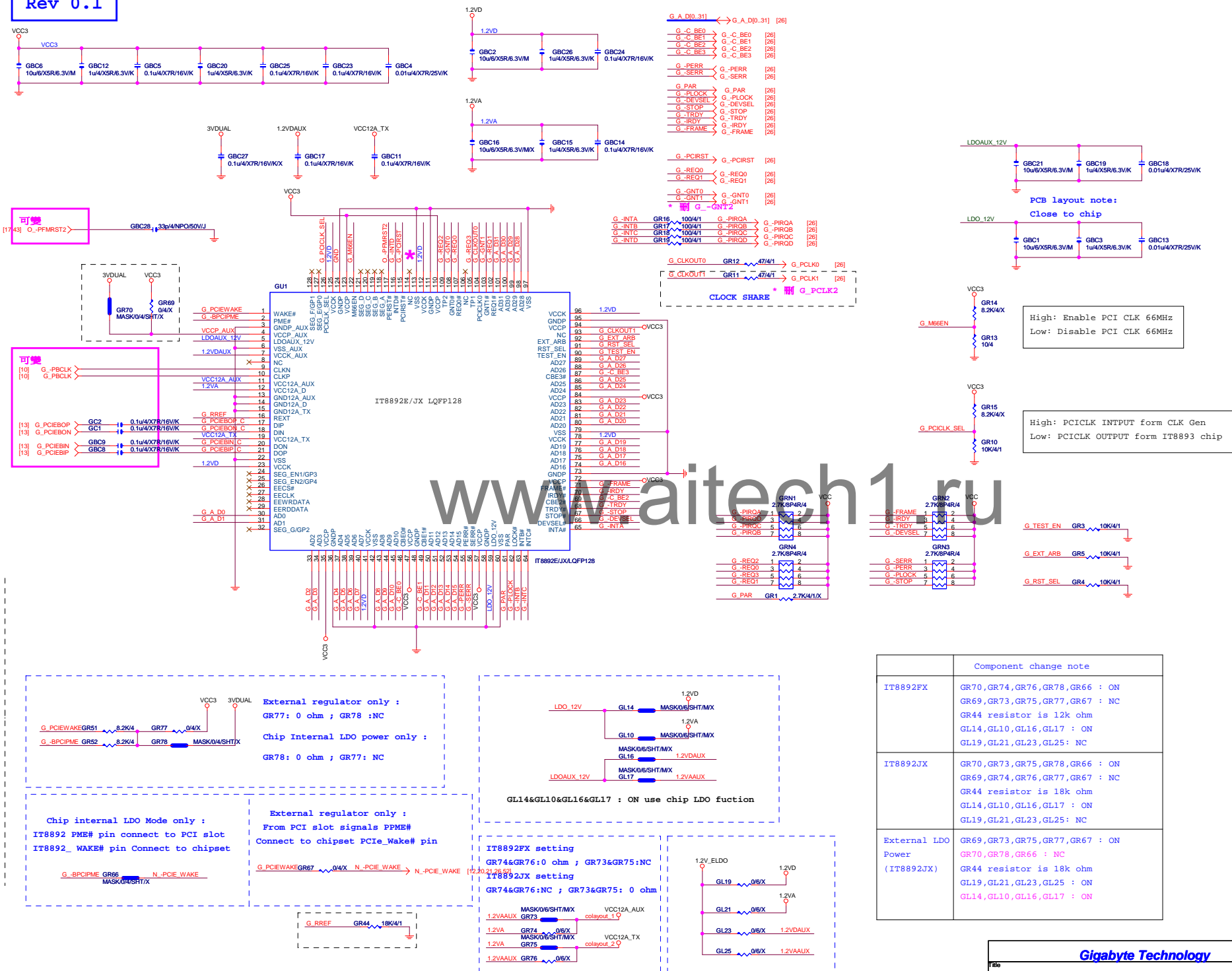


\* Footprint : HOLE\_C236D165-A

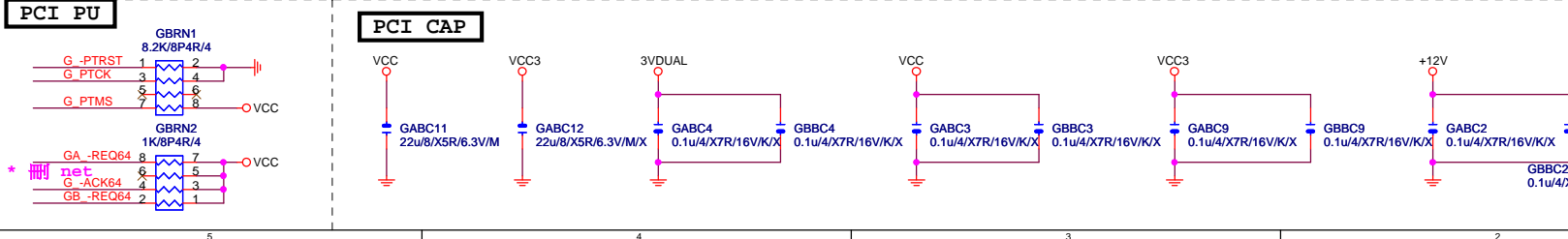
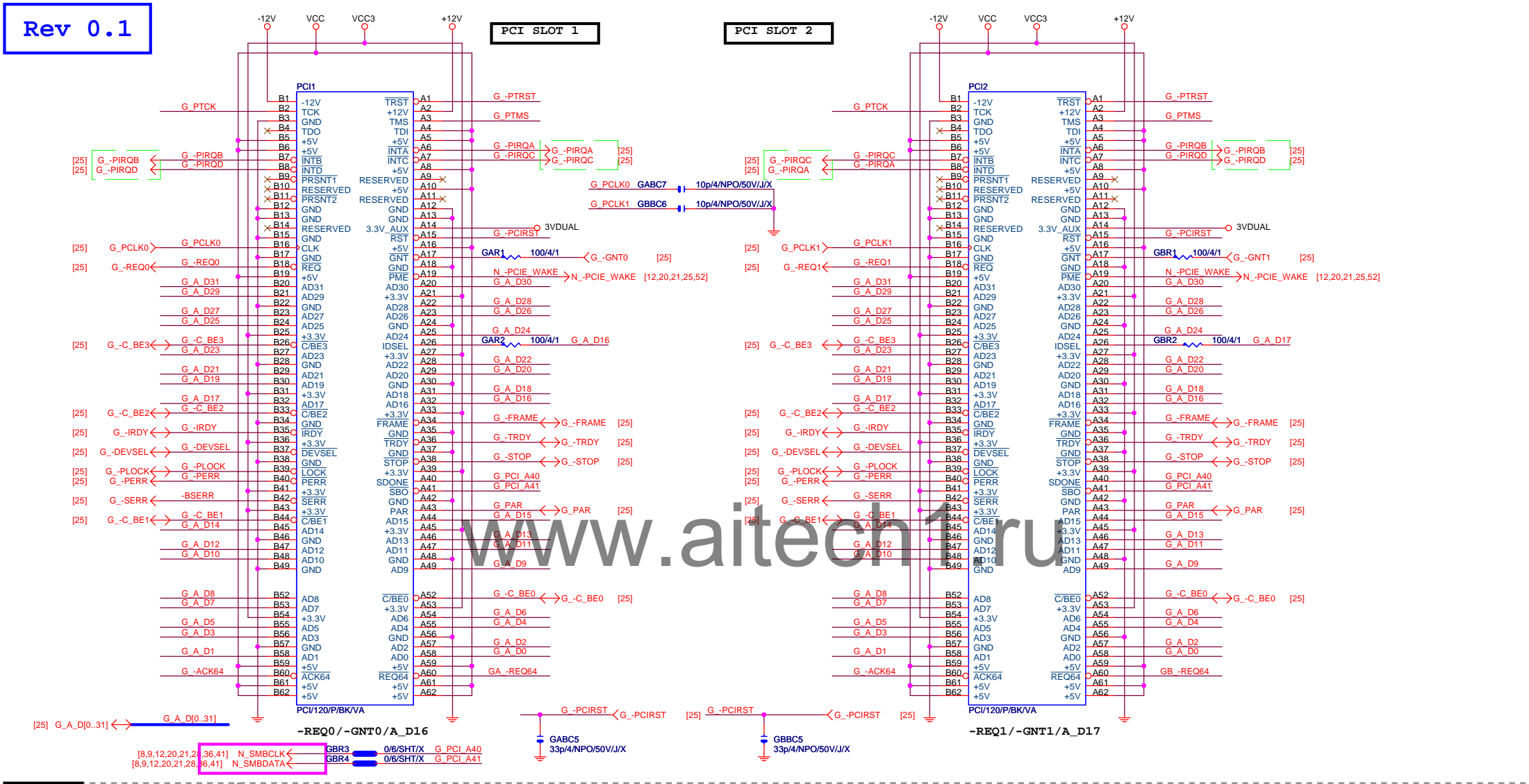
Gigabyte Technology

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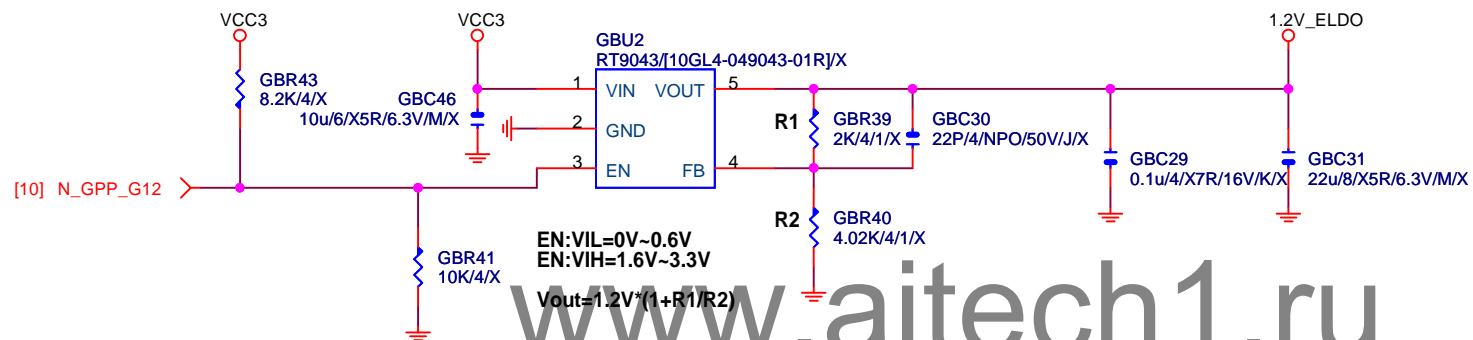
Rev 0.1



<b>GIGABYTE™</b>					
<b>Title                      PCI SLOT 1&amp;2</b>					
<b>Size</b>	<b>Document Number</b>				<b>Rev</b>
Custom	<b>GA-H270M-D3H</b>				<b>1.0</b>
<b>Date:</b>	<b>Friday, November 18, 2016</b>		<b>Sheet</b>	<b>26</b>	<b>of 57</b>

Rev 0.1

\* 全部不上件



Gigabyte Technology

Title

LDO POWER

Size  
Custom

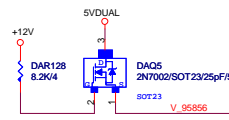
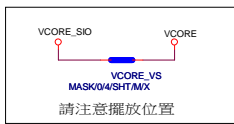
Document Number

GA-H270M-D3H

Rev  
1.0

Date: Friday, November 18, 2016

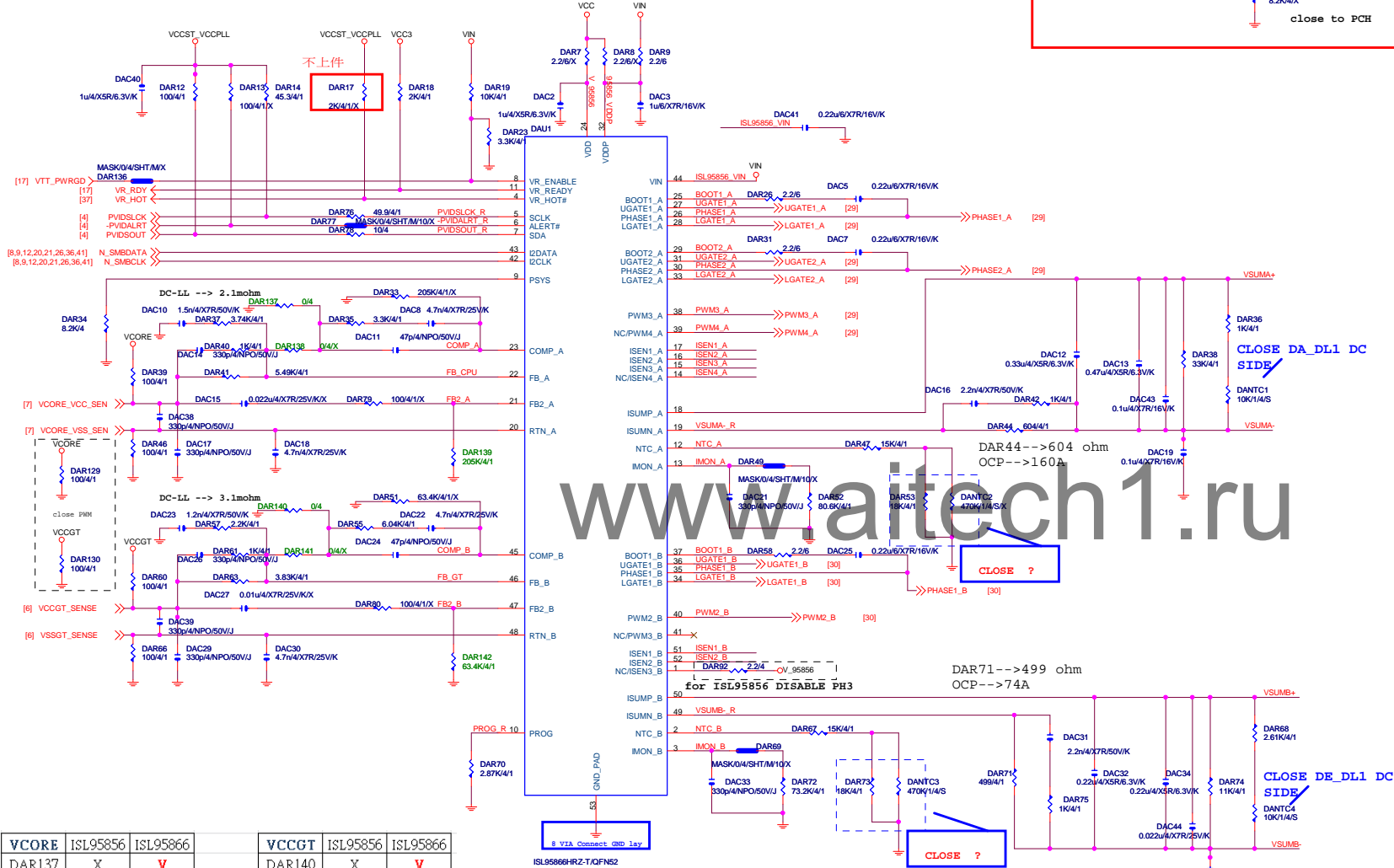
Sheet 27 of 57



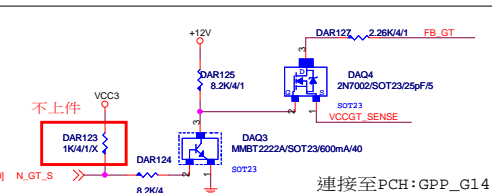
H:ISL95856 or ISL95858

L:ISL95866 or ISL95868

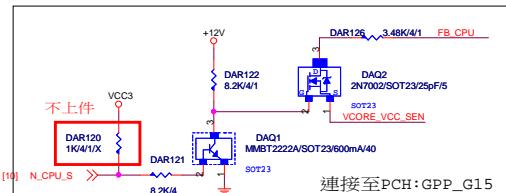
close to PCH



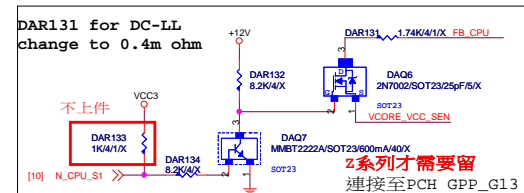
Vcore	ISL95856	ISL95866	VCCGT	ISL95856	ISL95866
DAR137	X	V	DAR140	X	V
DAR138	V	X	DAR141	V	X
DAR139	X	V	DAR142	X	V
DAC15	V	X	DAC27	V	X
DAR79	V	X	DAR80	V	X
DAR33	V	X	DAR51	V	X



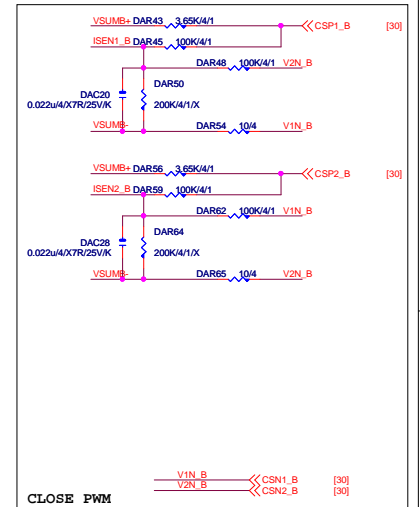
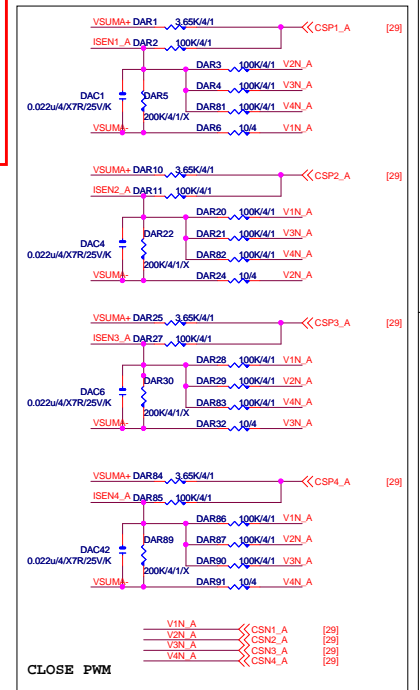
連接至PCH: GPP\_G14



連接至PCH: GPP\_G15



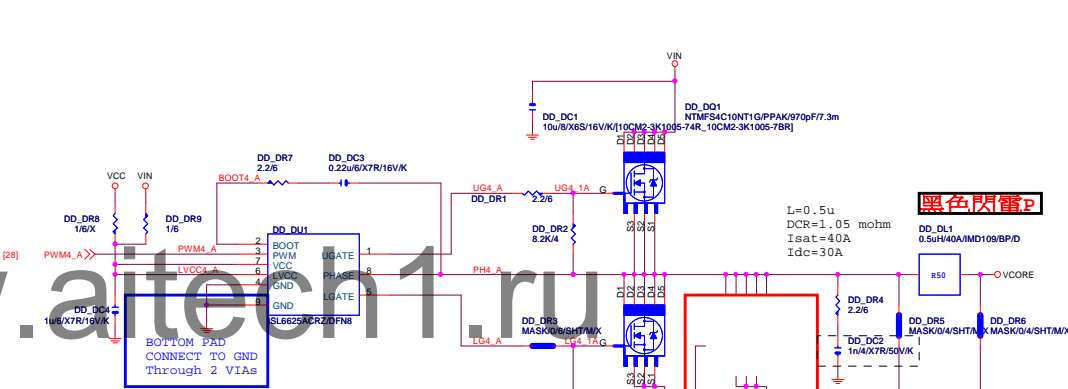
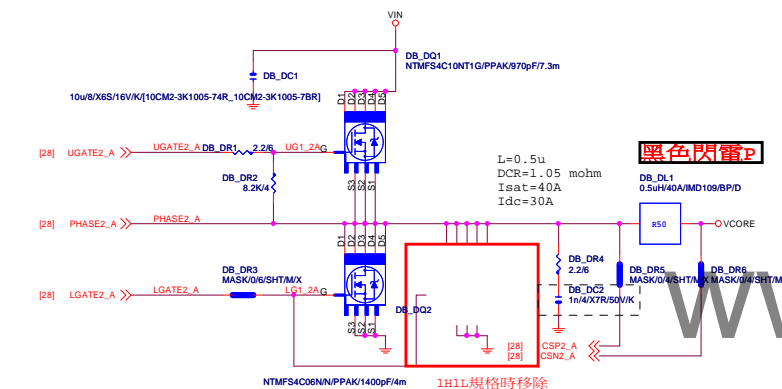
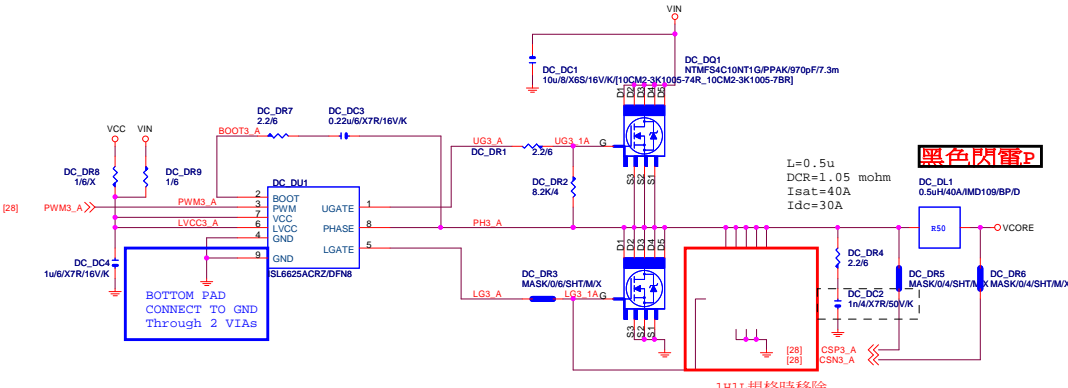
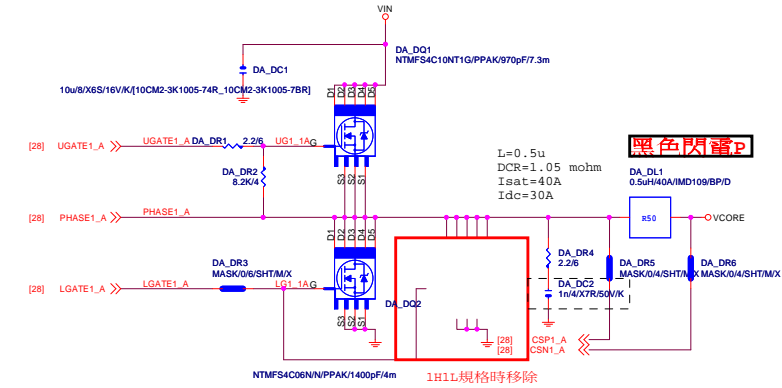
連接至PCH: GPP\_G13





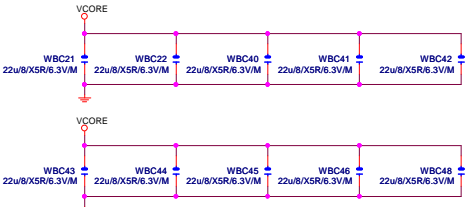
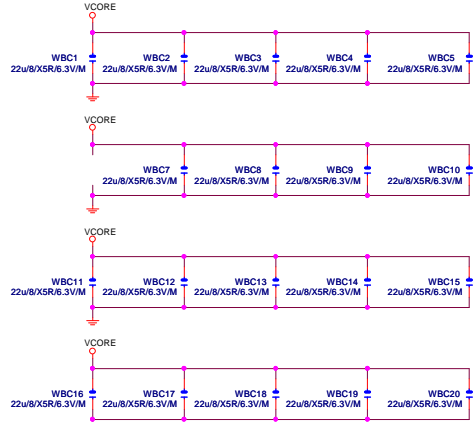
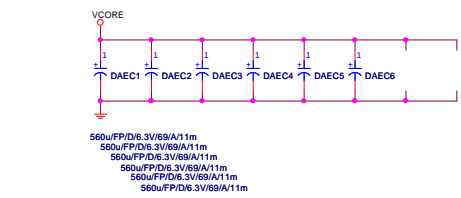
0.11 (IRON CHOKE)

VCORE

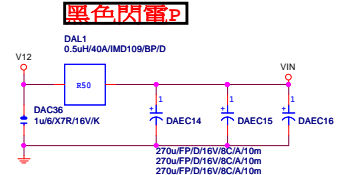


VCORE CAP

560u\*8PCS  
22u\*29PCS

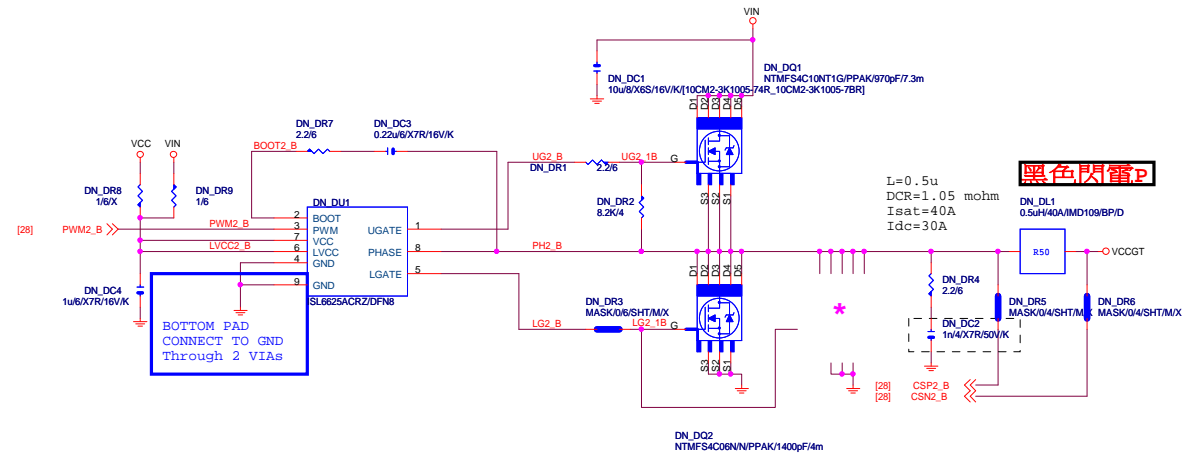
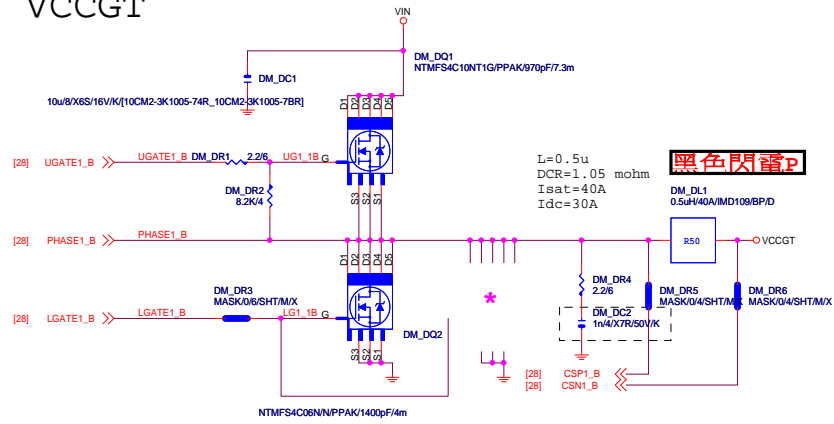


VIN CAP 270u\*3PCS

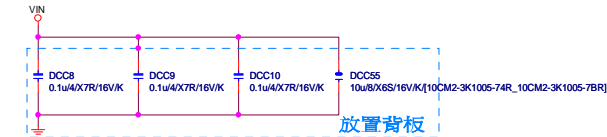
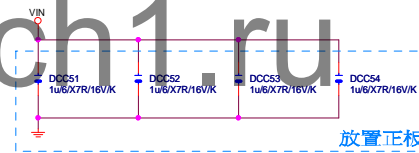




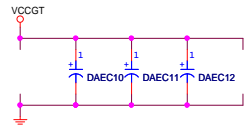
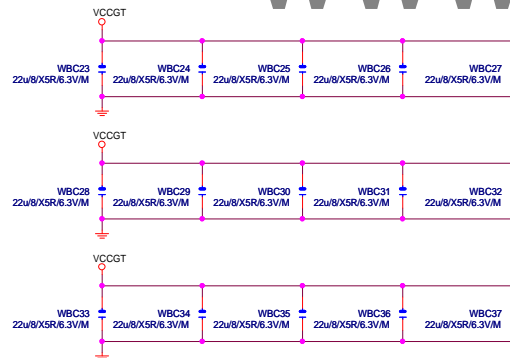
## VCCGT



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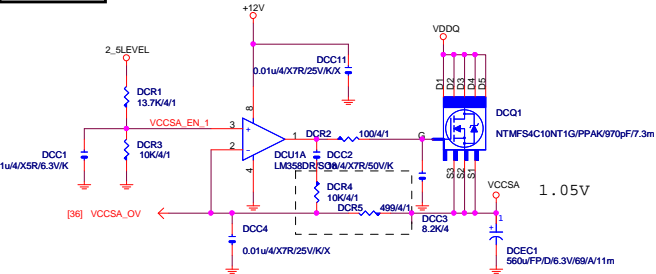


\* 客戶指定，不拿掉

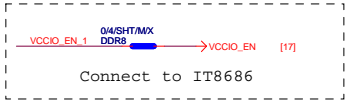
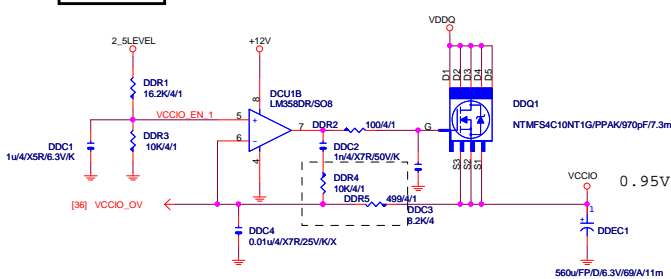
560u\*5PCS  
22u\*15PCS560uFP/D/6.3V/69/A/11m  
560uFP/D/6.3V/69/A/11m  
560uFP/D/6.3V/69/A/11m

GIGABYTE™			
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VCCSA

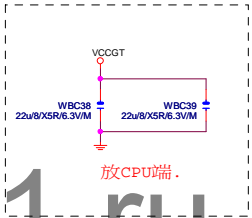


VCCIO

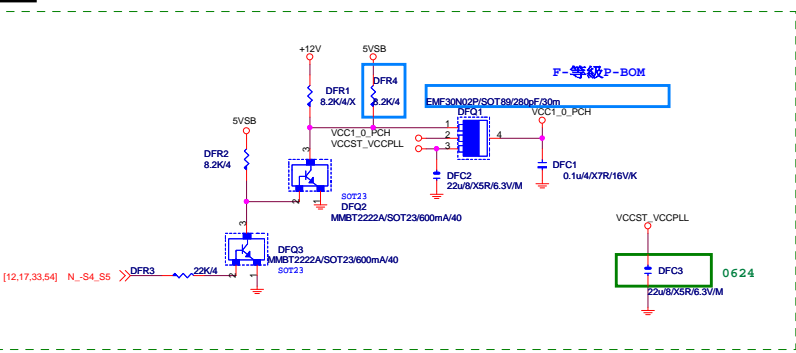


SIO PIN5 . PIN7 用在其他function時  
DCQ2 上件  
DDR7 不需要預留

SIO PIN5 . PIN7接VDDQ . VCCIO時  
DCQ2 不上件  
DDR7 上件

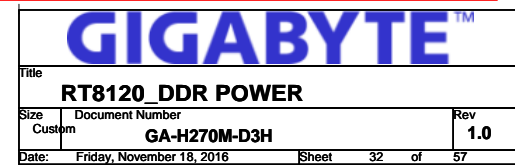


VCCST\_VCCPLL



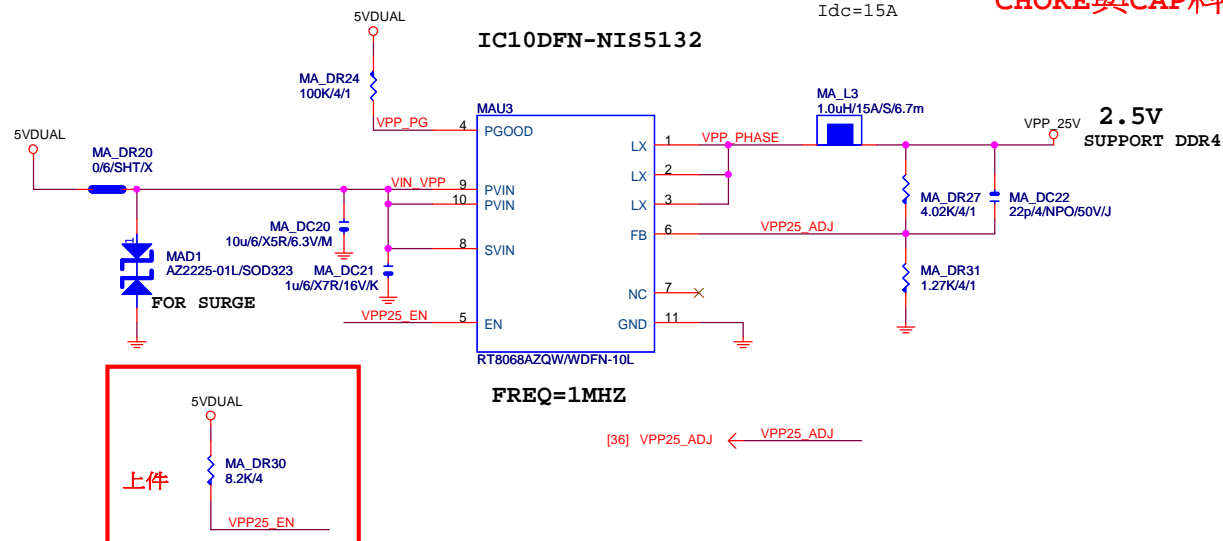
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REV:0.1 (IRON CHOKE)



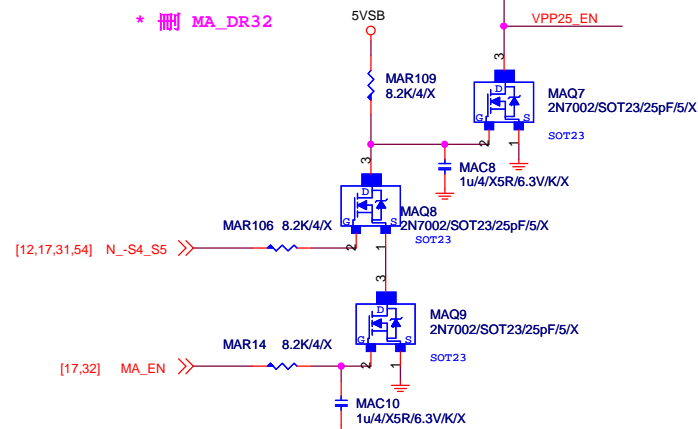
REV:0.1 (IRON CHOKE)

## CHOKES與CAP料號可變



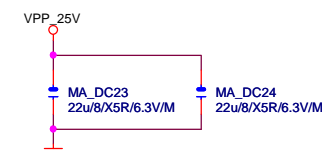
[17] VPP25\_EN\_IO   MASK/0/4/SHT/MX  
MAR114

Connect to IT8686



22u\*1PCS

\* 大電容 x0



# GIGABYTE™

Title			
RT8068A_VPP25 POWER			
Size	Document Number	Rev	
Custom	GA-H270M-D3H	1.0	
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Title			
RT8120_PCH POWER			
Size	Document Number	Rev	
Custom	GA-H270M-D3H	1.0	
Date:	Friday, November 18, 2016	Sheet	34 of 57

## REV: 0.51

[17] 5VAUX SW



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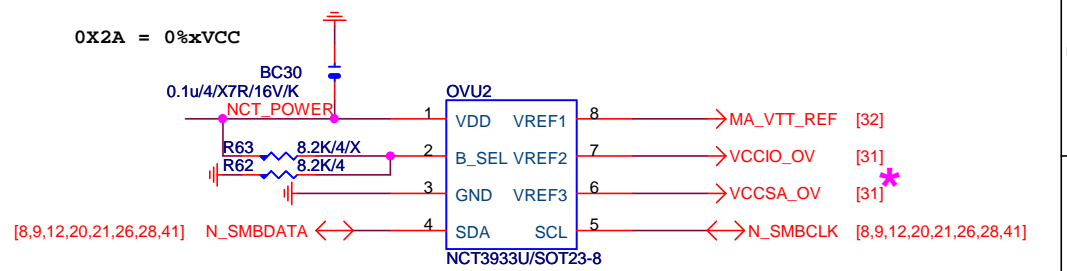
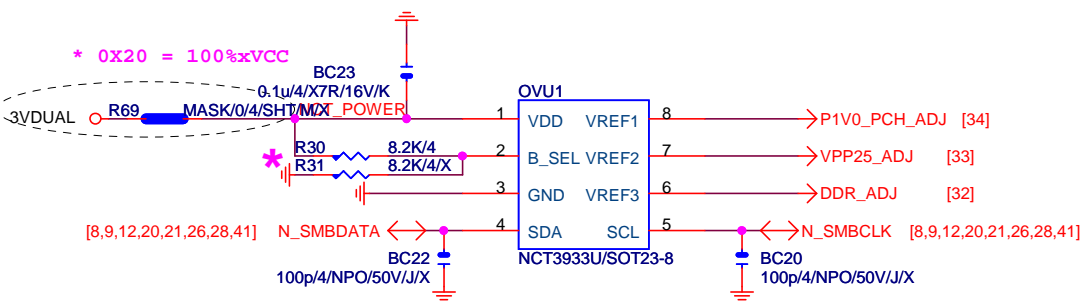


-RSMRST (不上件)



Title			
<b>DISCRETE POWER</b>			
Size	Document Number		Rev
Custom	<b>GA-H270M-D3H</b>		<b>1.0</b>
Date:	Friday, November 18, 2016	Sheet	35 of 57

OVER VOLTAGE



0X22 = 75%xVCC

\* 删除 OVU3

NCT3933	0X20	0X2A
VREF1	VCC1_0_PCH	DDRVTT
VREF2	VPP_25V	VCCIO
VREF3	VDDQ	VCCSA

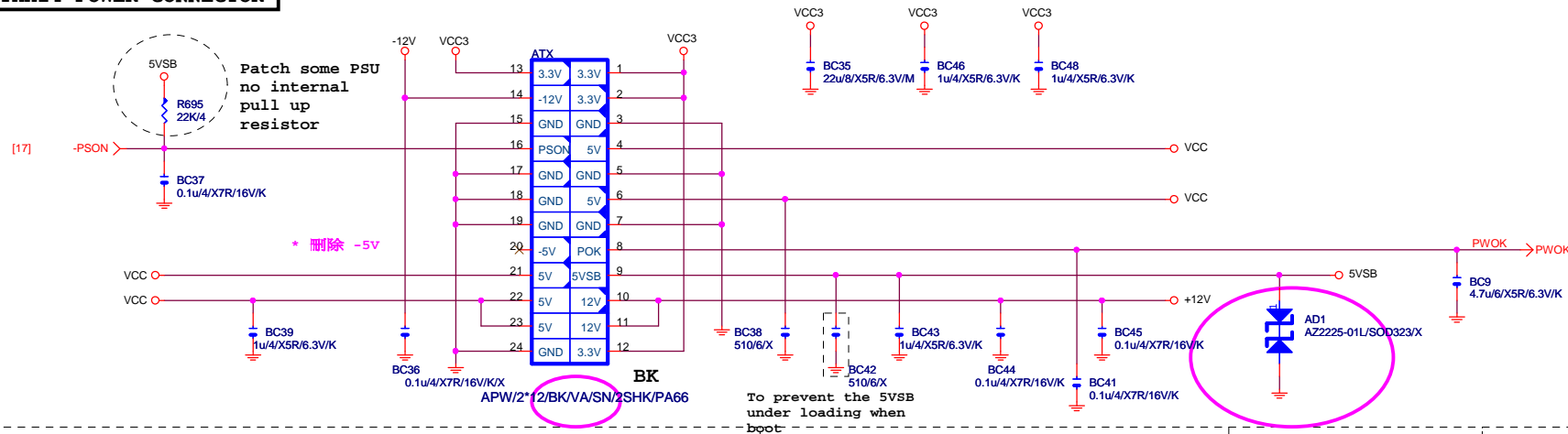
**Gigabyte Technology**

Title CPU CORE VR-2

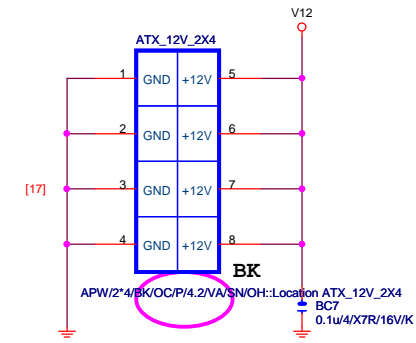
Size Custom Document Number GA-H270M-D3H Rev 1.0

Date: Friday, November 18, 2016 Sheet 36 of 57

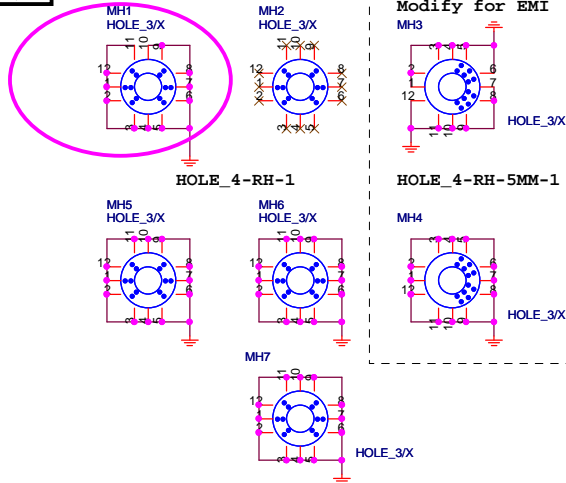
## ATXX24 POWER CONNECTOR



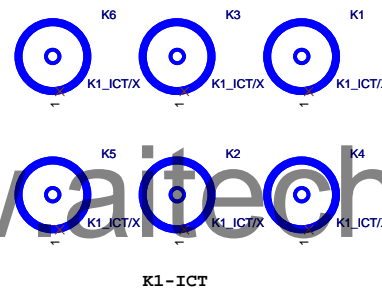
## ATXX4 POWER CONNECTOR



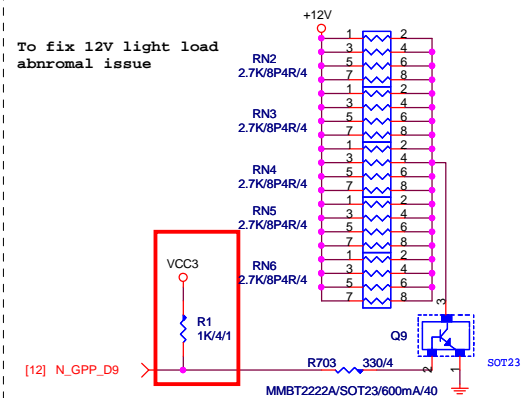
## 螺絲孔



## 固定孔/光學點

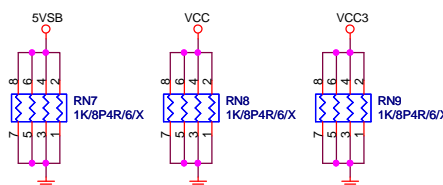


## +12V DUMMY LOAD



【技術通報R&D技術通報153】

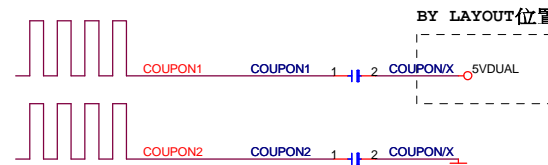
## DUMMY LOAD



## -PROHOT



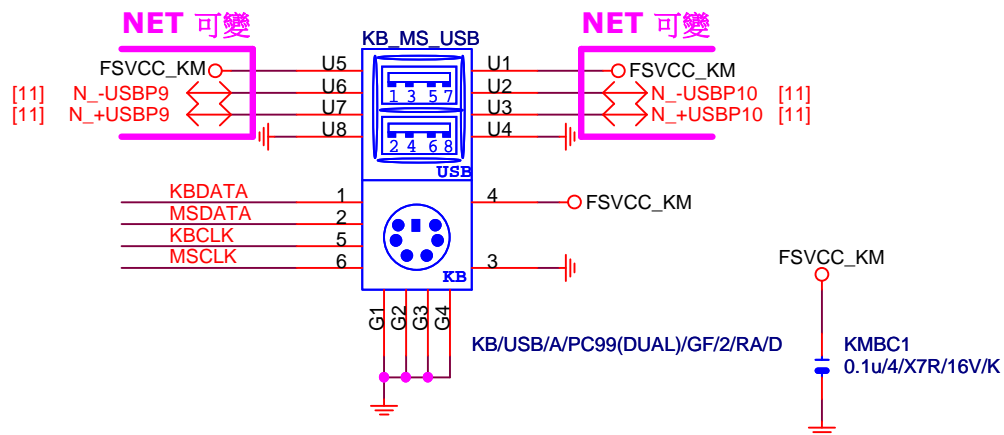
## COUPON



## Gigabyte Technology

Title			ATX POWER CONNECTOR
Size	Document Number	GA-H270M-D3H	
Custom			Rev 1.0
Date:	Friday, November 18, 2016	Sheet	37 of 57



**Rev: 0.7**

**KMED2**

1 N\_+USBP10 6 N\_-USBP10

2 5 FSVCC\_KM

3 N\_-USBP9 4 N\_+USBP9

AZC099-04S/SOT23-6L

**KMED1**

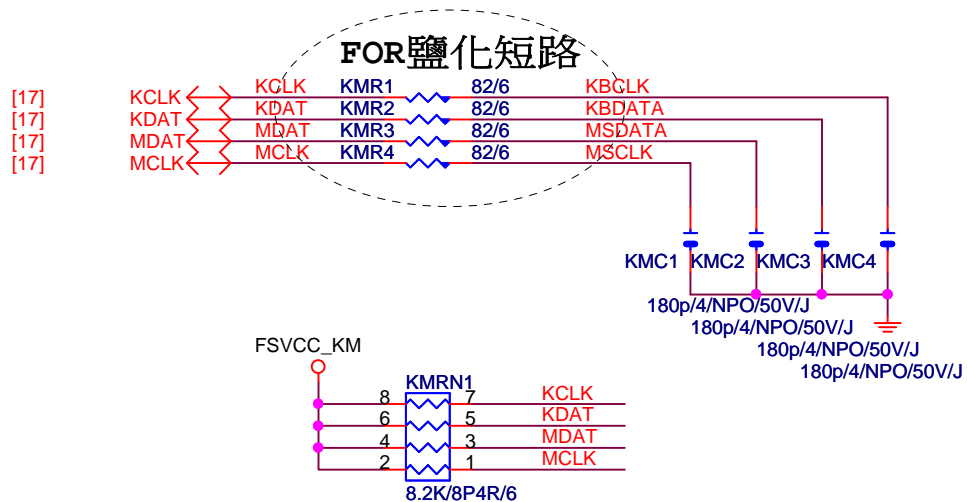
1 KBDATA 6 KBCLK

2 5 FSVCC\_KM

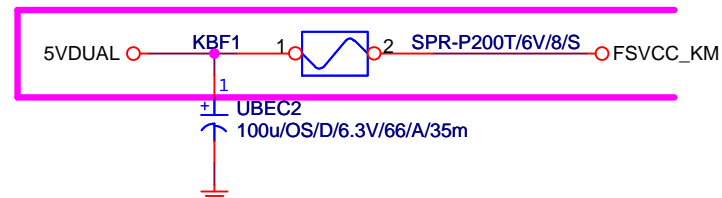
3 MSDATA 4 MSLCK

MASK/AZC099-04S/SOT23-6L/X

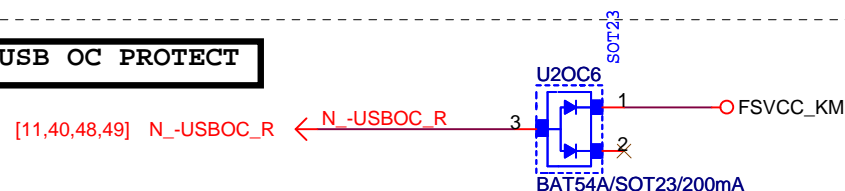
## KB MS USB PWR



## NET 可變，與其他USB SHARE



## USB OC PROTECT



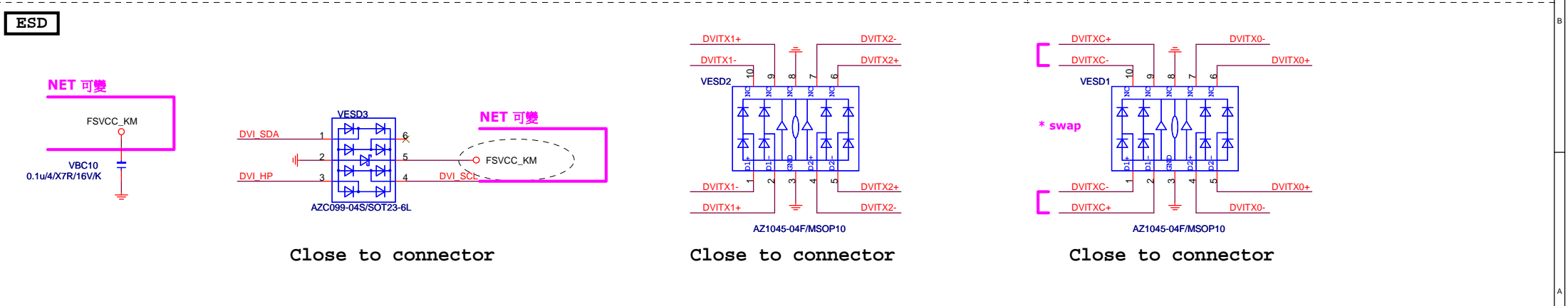
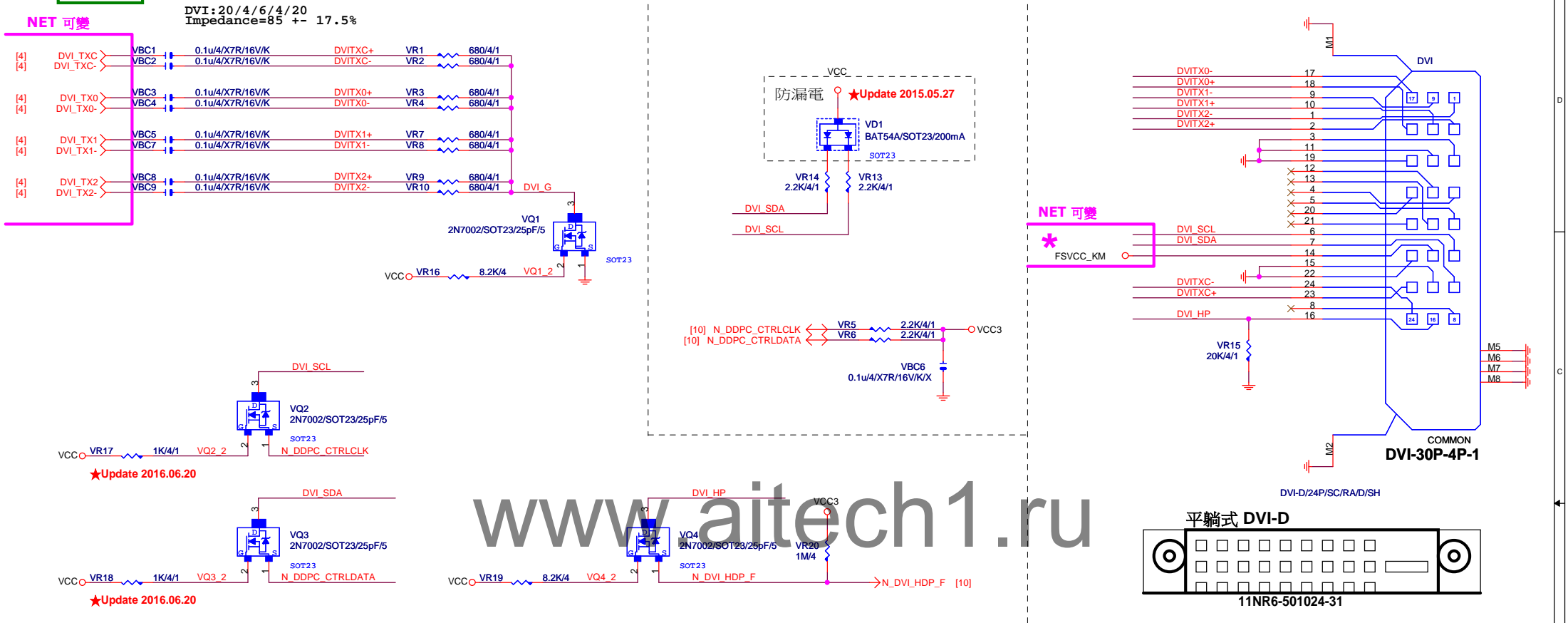
## Gigabyte Technology

**KB\_MS\_USB**

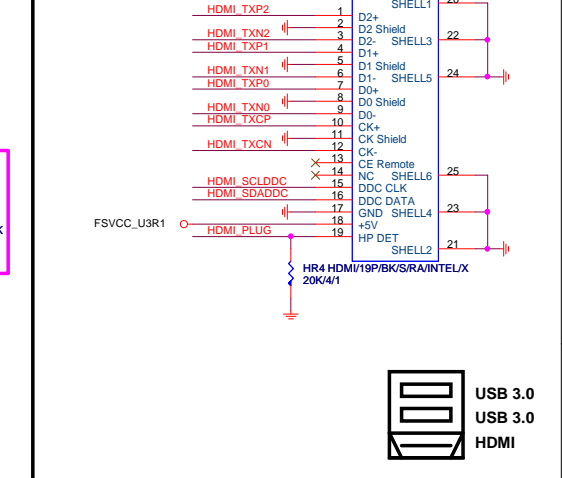
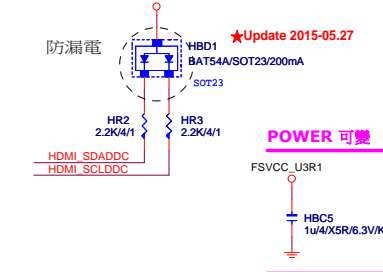
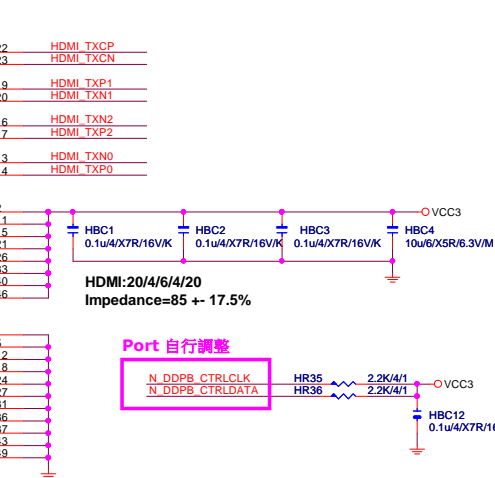
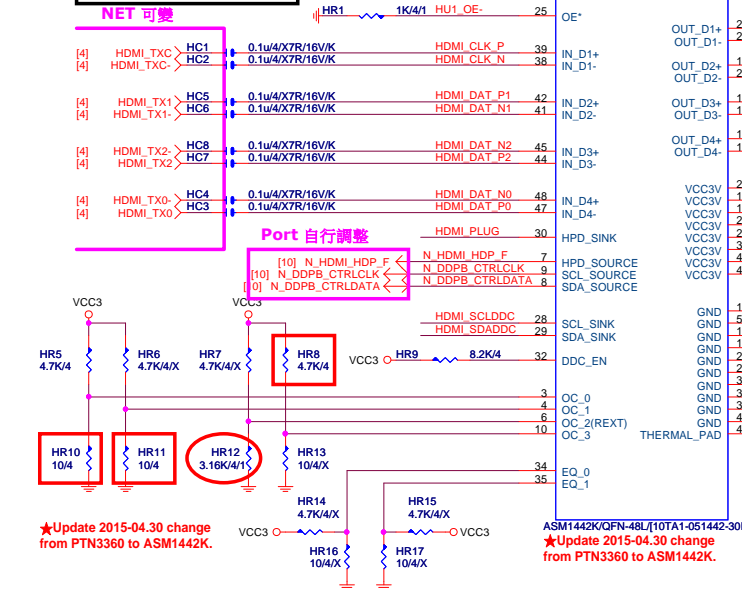
**GA-H270M-D3H**

Rev	
1.0	

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HDMI LEVEL SHIFT

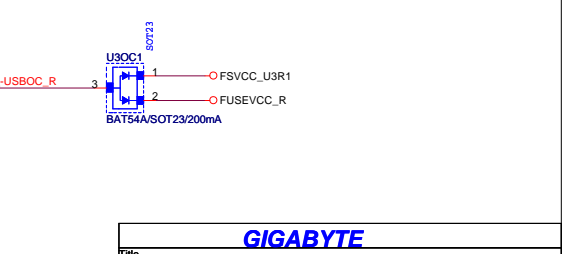
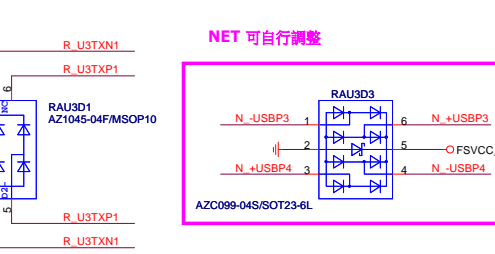
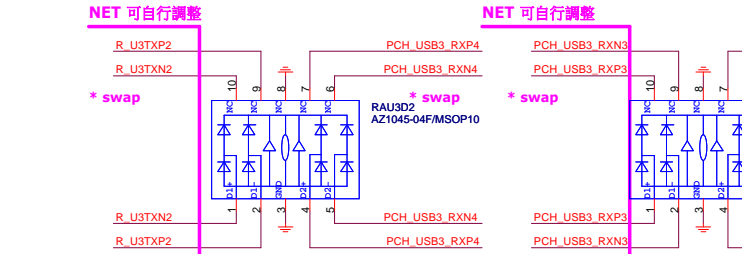
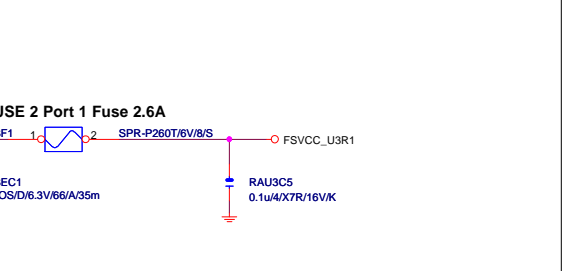
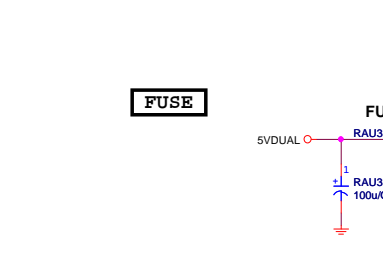
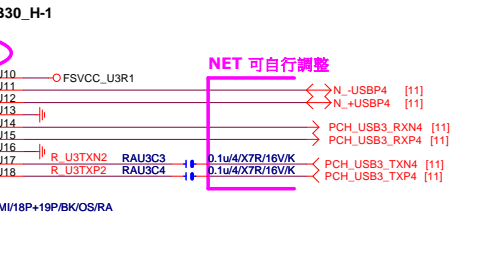
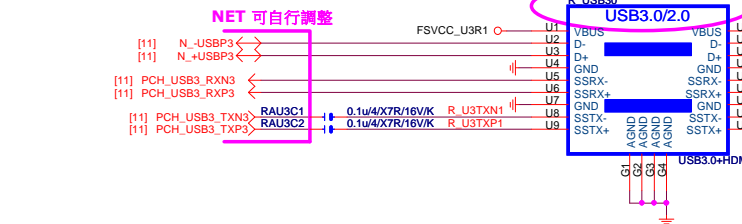


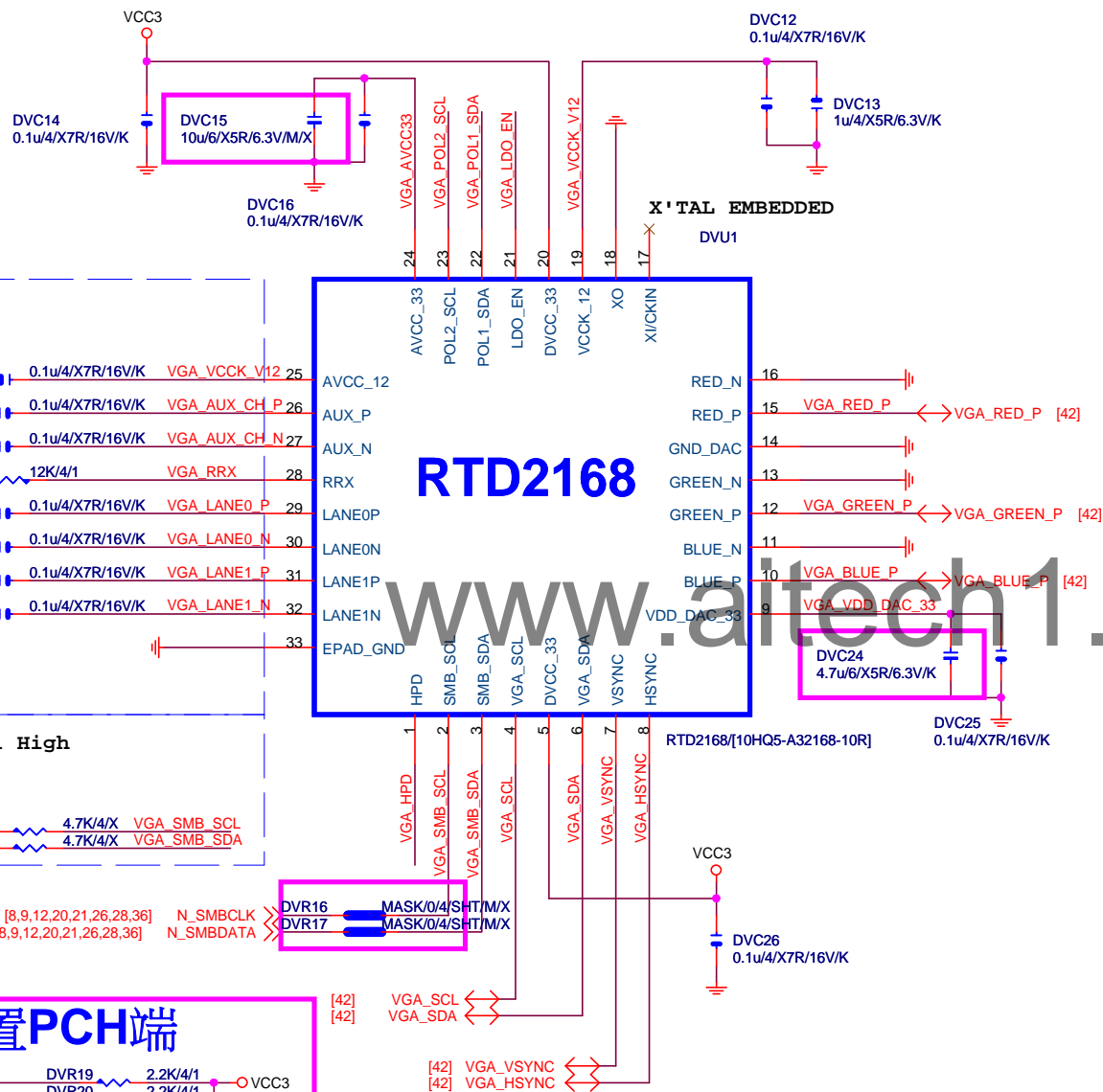
PTN3360:PIN 4/10/34/35 NC PIN,都不上值;只上HR12:10K  
ASMI442:紅色框要上,HR12:3.16K

【技術通報R&D技術通報150】  
HDMI eye diagram 1.4版(deep color)會fail  
原因: 因目前的HDMI訊號過長,造成RISING TIME過慢,而會壓到eye diagram  
改善: ASMEDIA ASMI442 : 3.16K(PIN6 PULL DOWN電阻) 10ohm(PIN4 PULL DOWN電阻)

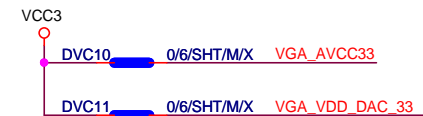
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ESD 可自行SWAP PIN ,CONN端 NET 名稱 不可

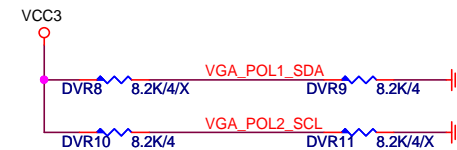




## POWER

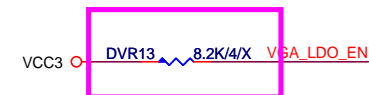


Power on latch



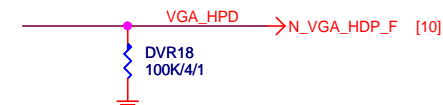
		POL1_SDA(PIN22)	
		0	1
POL2_SCL (PIN23)	0	X	EP MODE
	1	<b>ROM ONLY MODE</b>	EEPROM MODE

Embedded LDO

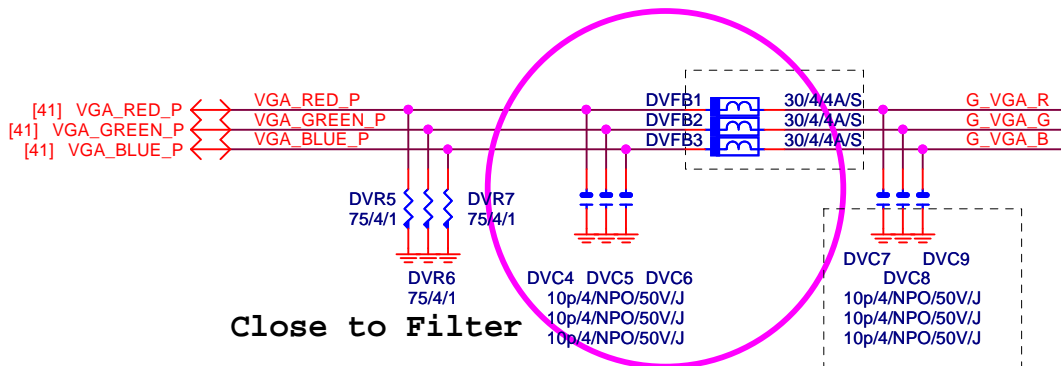
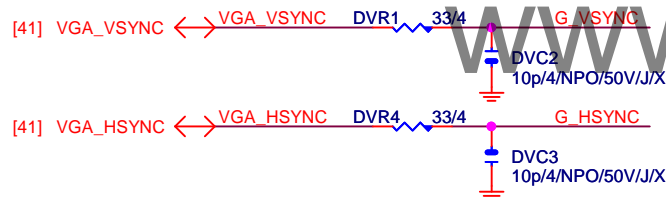
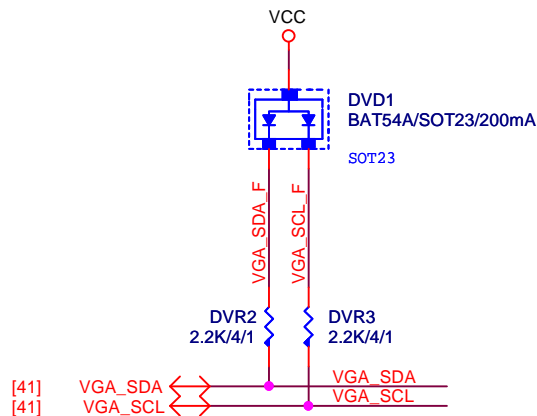


LDO_EN(PIN21)	
0	1
VCCK_V12 from External 1.2V	VCCK_V12 from Embedded LDO

## DP HPD



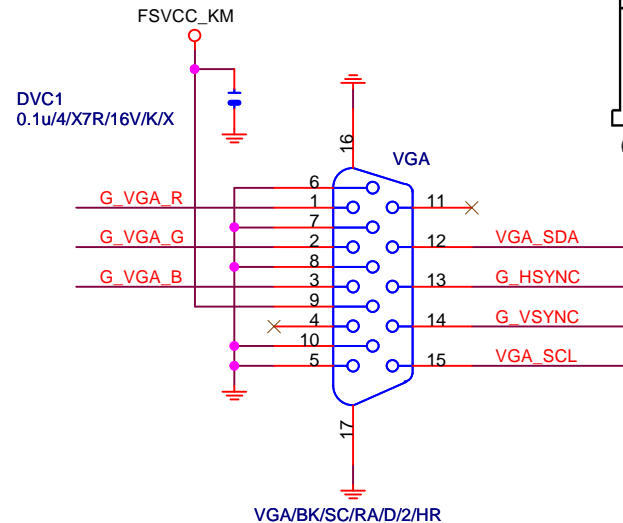
# VGA SIGNAL R1.03



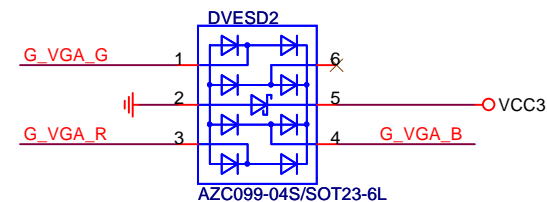
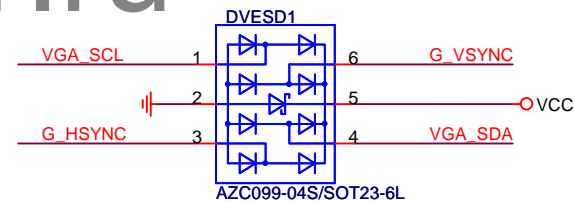
Close to Filter

FOR EMI

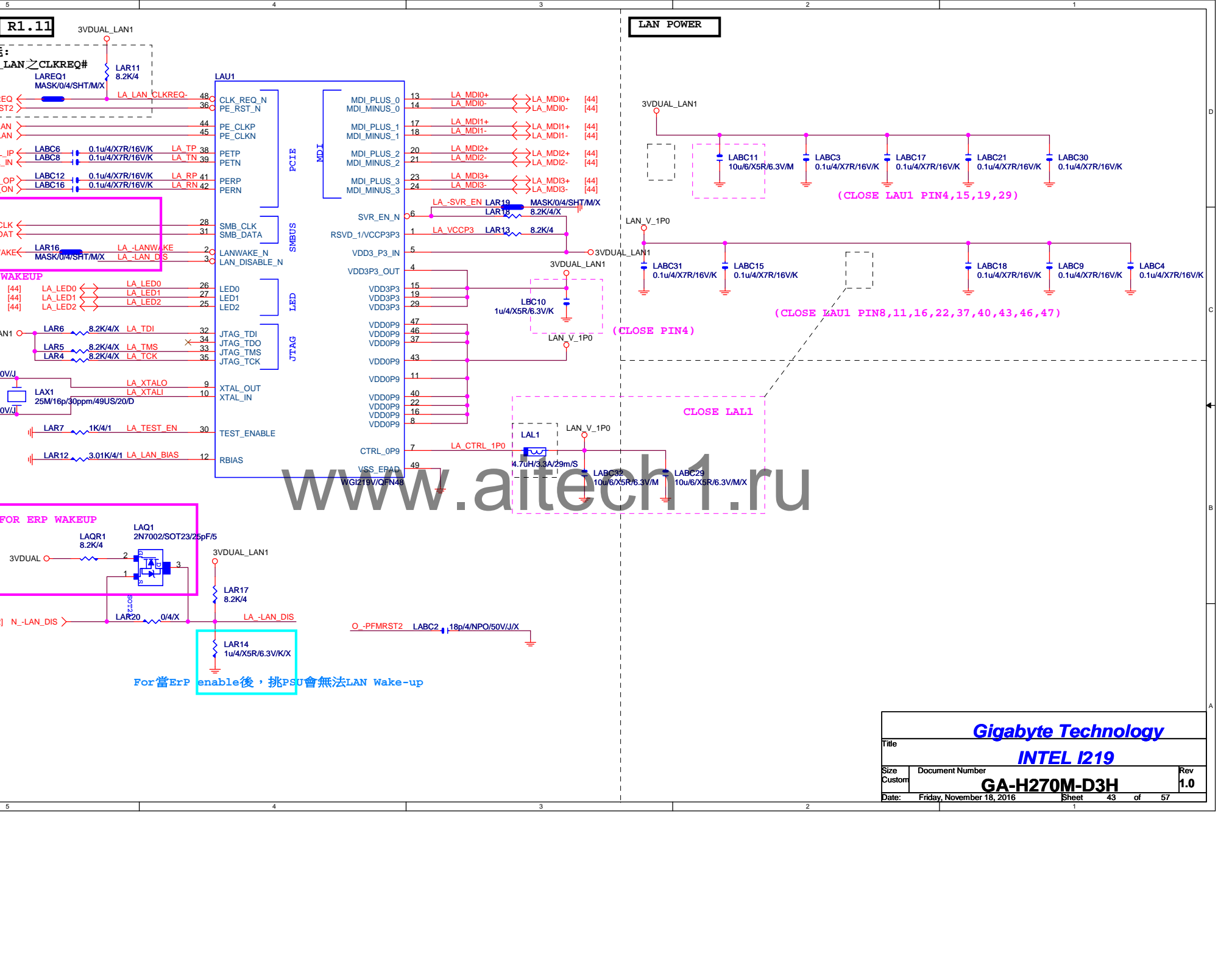
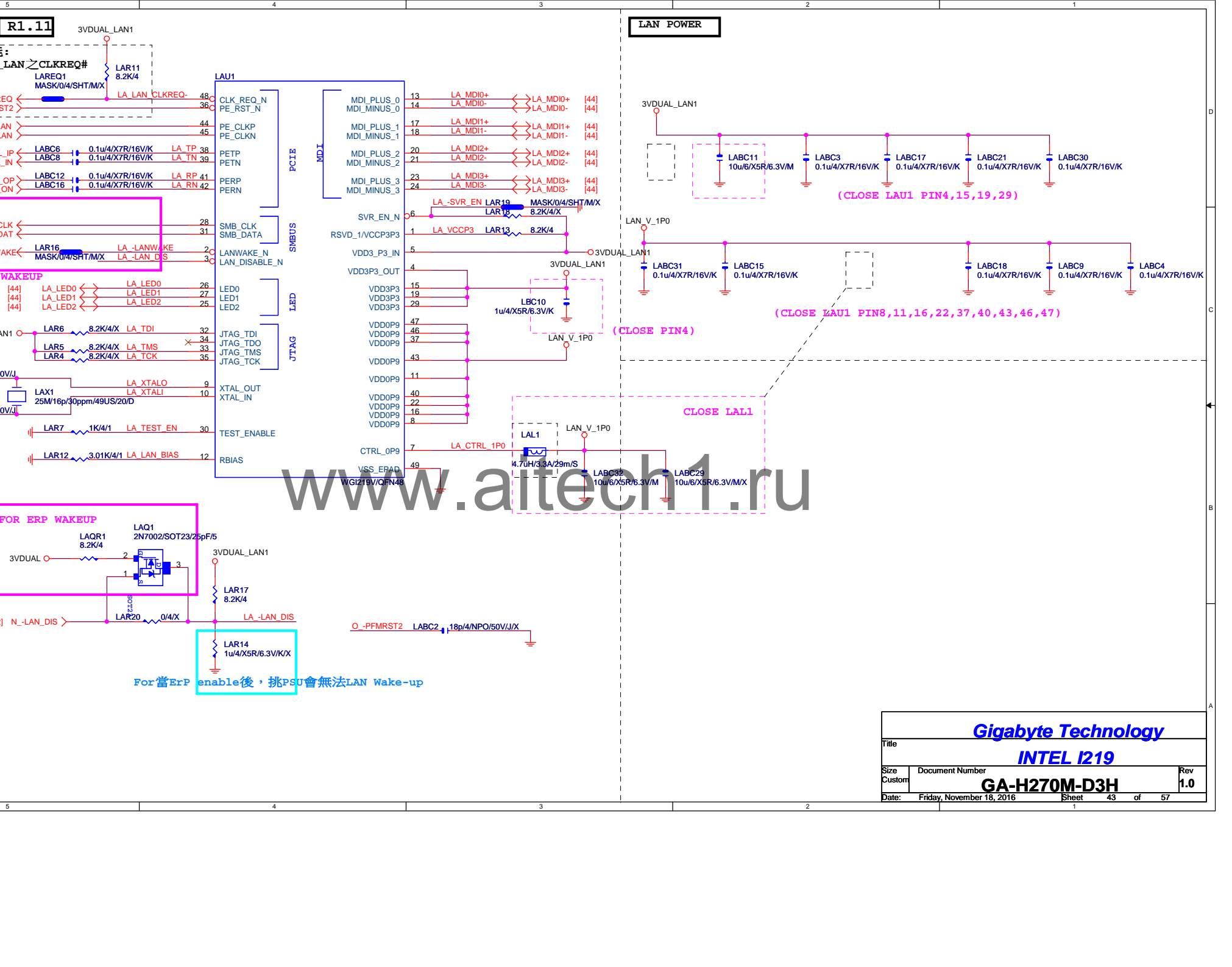
# VGA CONN. 架高型VGA (BLACK)



# VGA ESD

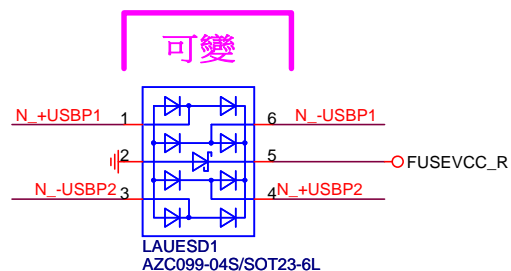


Gigabyte Technology			
Title DP-VGA RTD2168			
Size Custom	Document Number	GA-H270M-D3H	
Date:	Friday, November 18, 2016	Sheet	42 of 57
		Rev	1.0

[illegible][illegible][illegible]

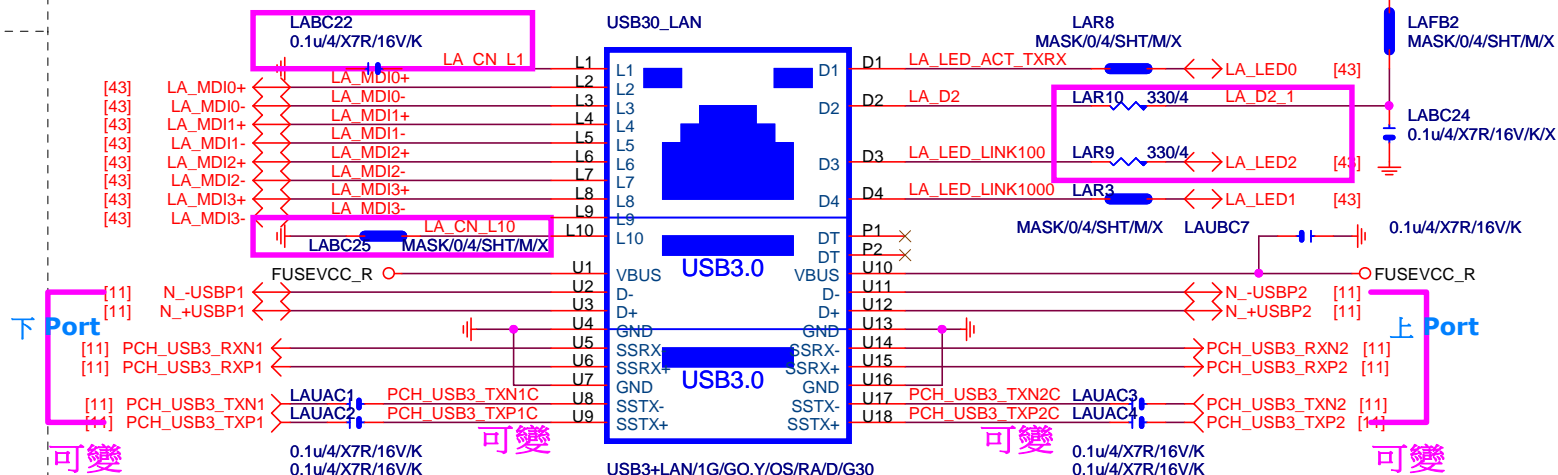
## R1.11

note:可變更USB NAME



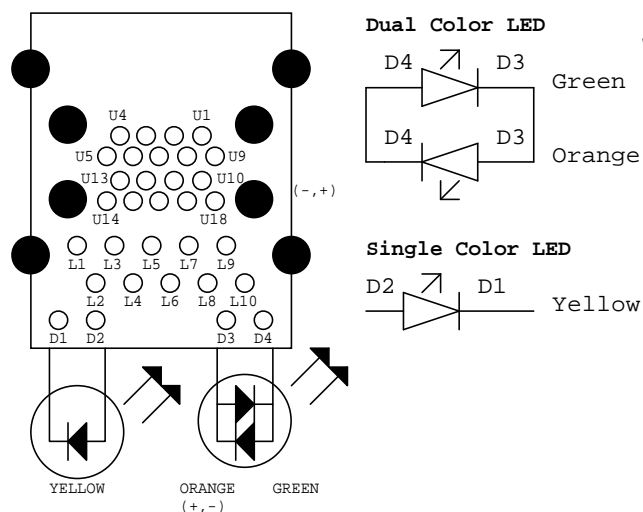
note:可變更USB NAME

[ I219 ]



LA MDI-->100歐姆:[20/4/8/4/20]

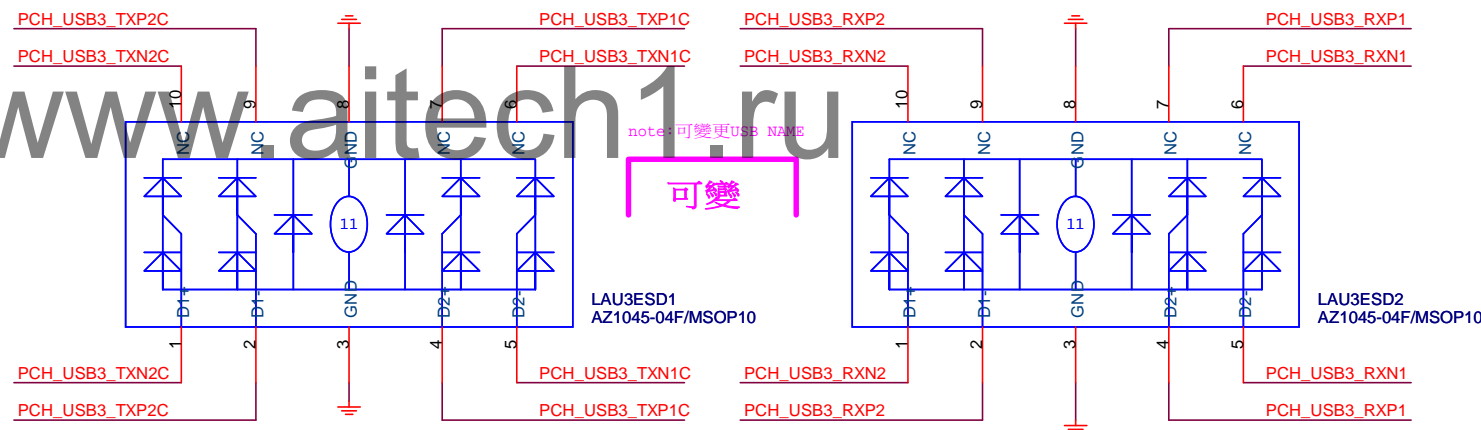
### USB30\_LAN LAYOUT示意圖



FOOT PRINT:LAN COVER

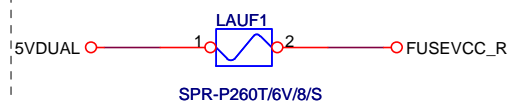
## 可變 [視SPEC需求]

```
*Del USB_LAN_HS
```



note:可變更FUSE

可變



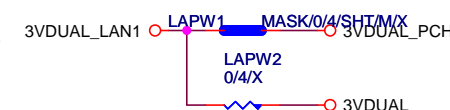
Close to connector  
FUSE-0805

PS:視EMI需求



note: lan power連接及電流

可變

\*  
\*

## Gigabyte Technology

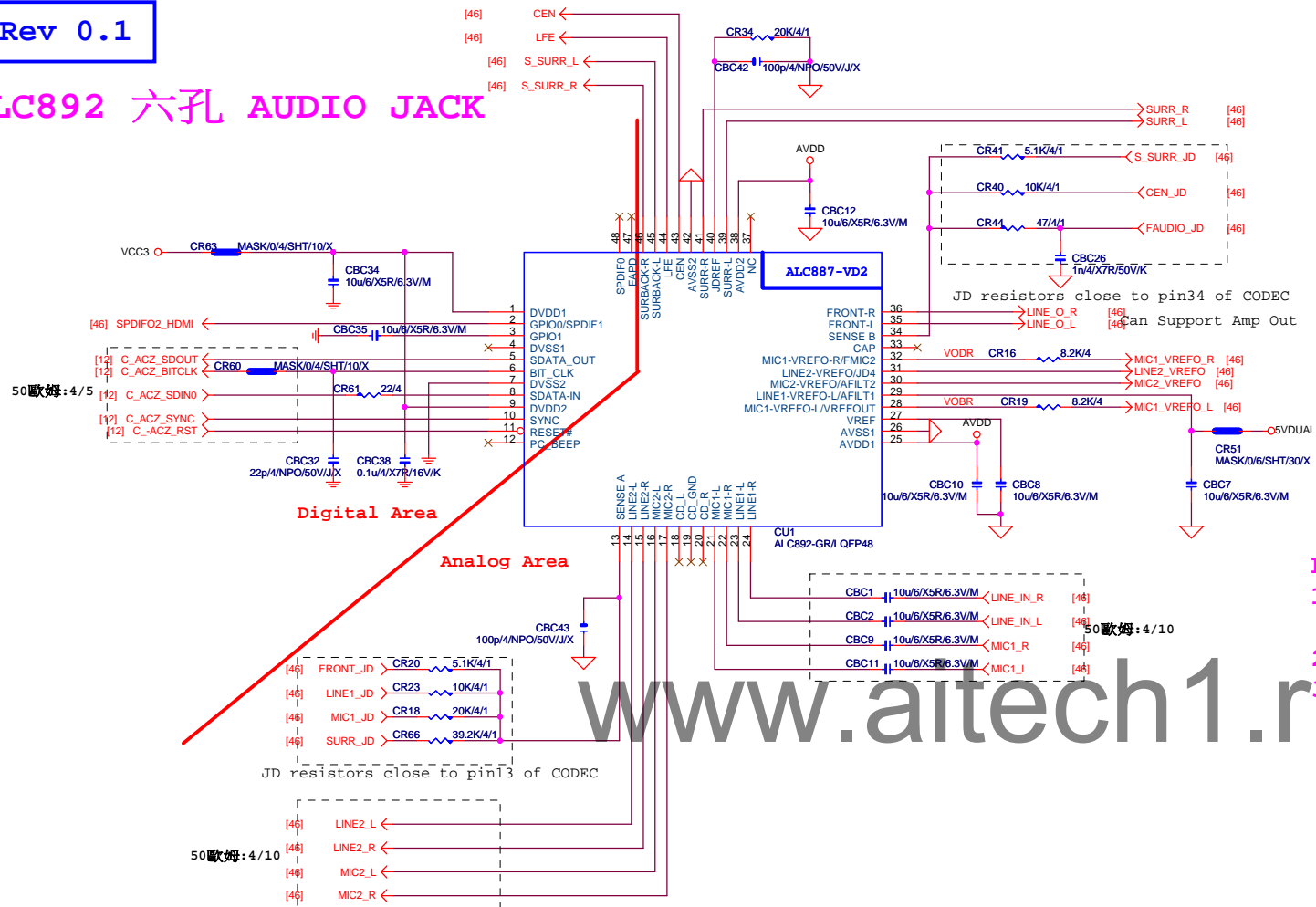
## LAN CONNECTOR-I219

Size Custom	Document Number <b>GA-H270M-D3H</b>	Rev 1.0
Date: Friday, November 18, 2016	Sheet 44 of 57	



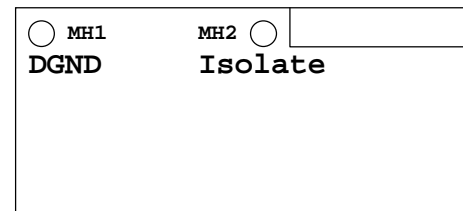
Rev 0.1

# ALC892 六孔 AUDIO JACK



LAYOUT注意: 螺絲孔下GND方式

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



LAYOUT注意: 要加

GND切割線

音效區域印刷



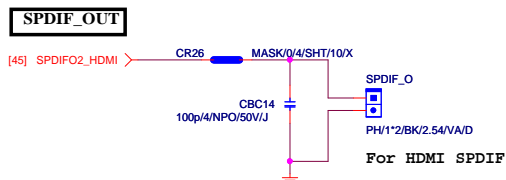
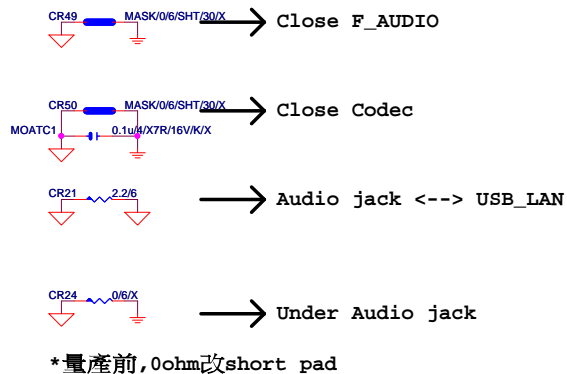
\*Del AUDIO\_HS

\*料號後補

- 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)

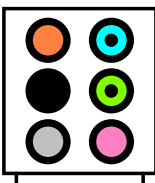
Gigabyte Technology			
Title HD AUDIO ALC892			
Size Custom	Document Number	GA-H270M-D3H	
Date:	Friday, November 18, 2016	Sheet	45 of 57
		Rev	1.0

Rev 0.1



**SPDIF\_IN**

**AZALIA JACK**

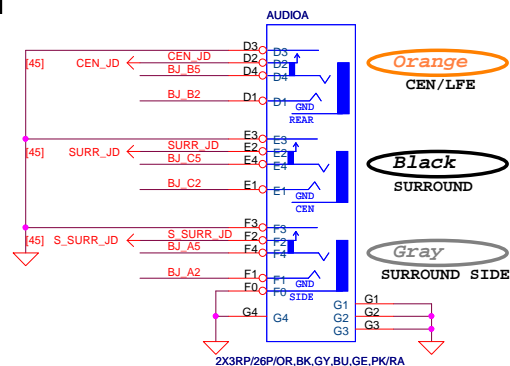
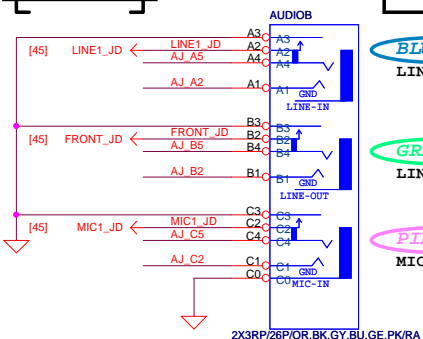


**AZALIA JACK**

BLUE  
LINE-IN

GREEN  
LINE-OUT

PINK  
MIC-IN

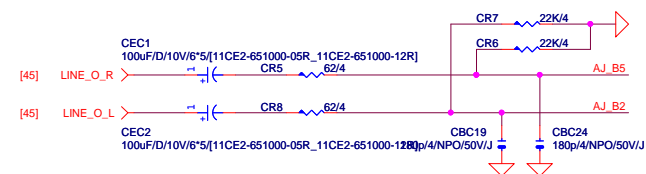


Orange  
CEN/LFE

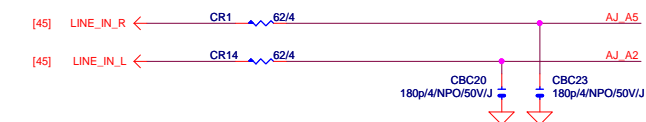
Black  
SURROUND

Gray  
SURROUND SIDE

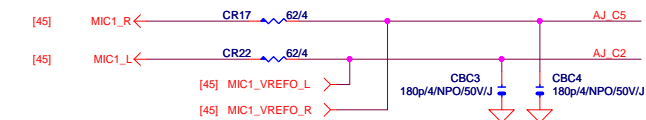
**LINE-OUT**



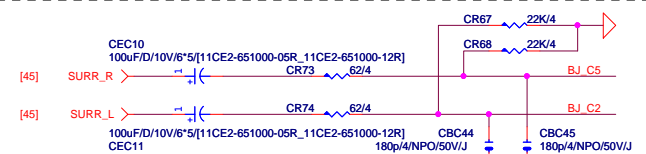
**LINE-IN**



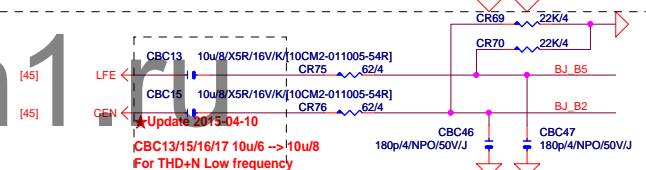
**MIC-IN**



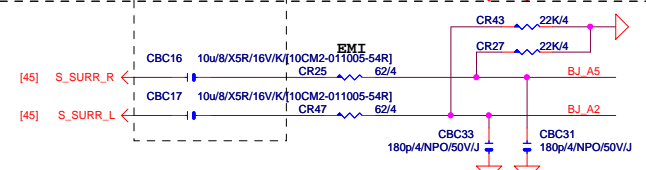
**SURROUND**



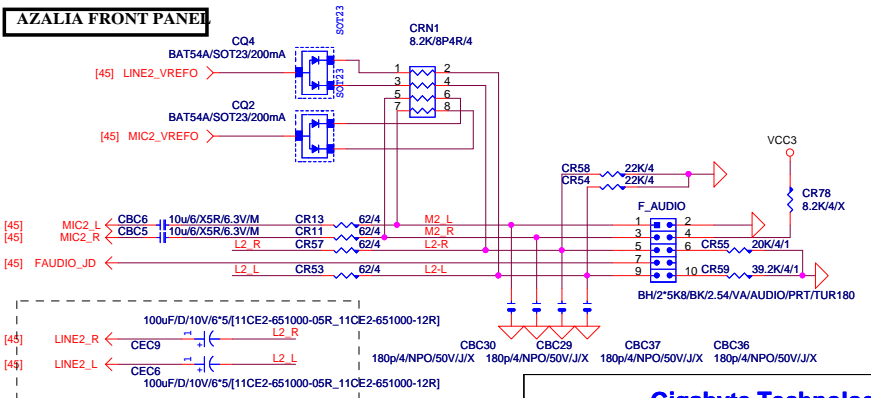
**CEN/LFE**



**SURR BACK**



**AZALIA FRONT PANEL**



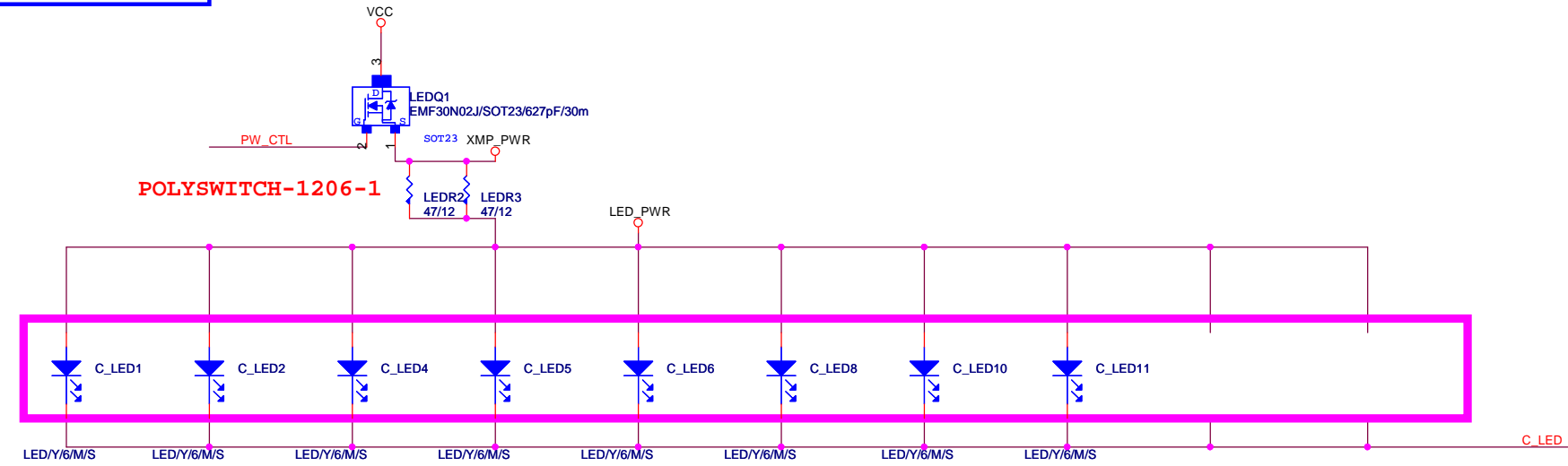
Gigabyte Technology

AUDIO JACK

GA-H270M-D3H

Rev 1.0

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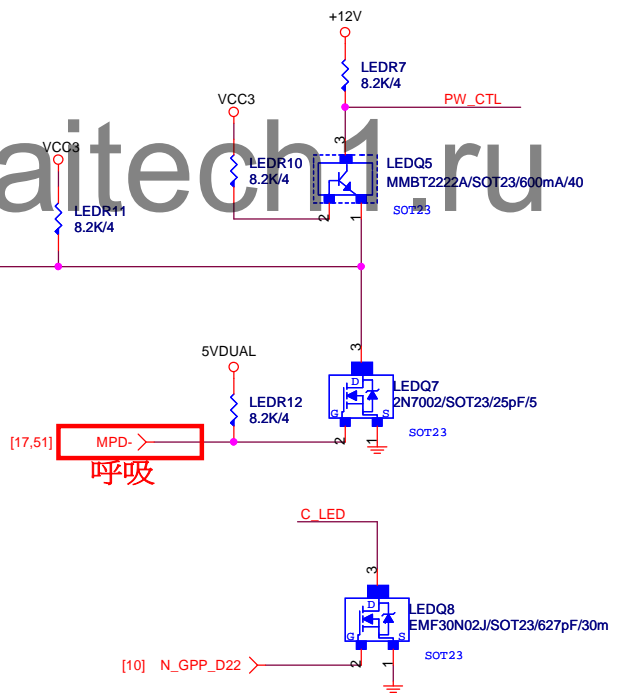


Ambient LED Control

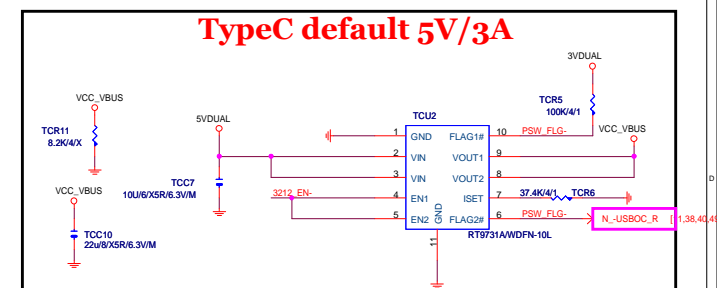
	N_GPP_D22	IO_GP91
Still Mode	H	L
OFF Mode	L	L
Pluse Mode	H	BREATH

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[10] N\_GPP\_D22 >  
ON/OFF



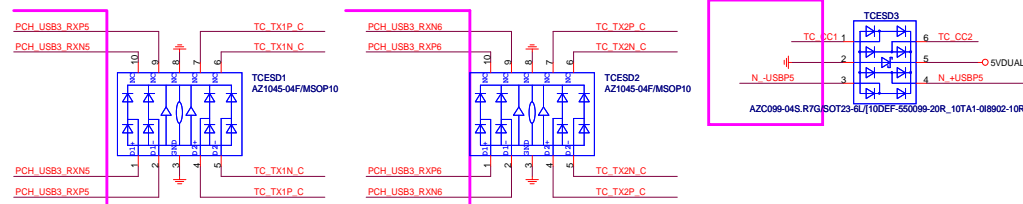
## TypeC default 5V/3A



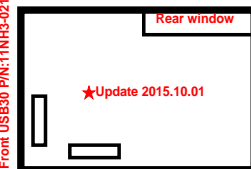
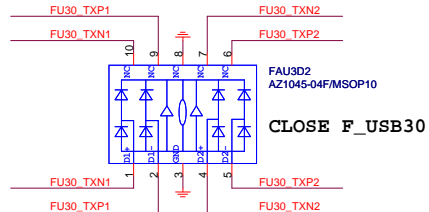
## PORT

```
H - HOST
L - Device
NC - Dual Role
```

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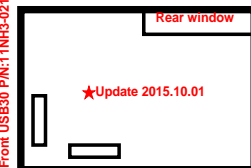


## Color markers can be changed by model

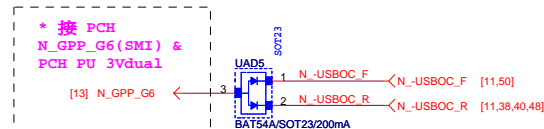
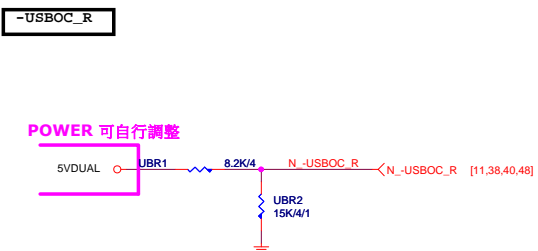


Front USB30 P/N:11NH3-021210-51R/52R

Front USB30 P/N:11NH3-021210-B1R/B2R



Front USB30 P/N:11NH3-021210-51R/52R

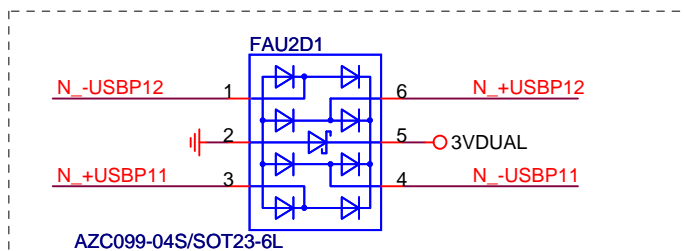
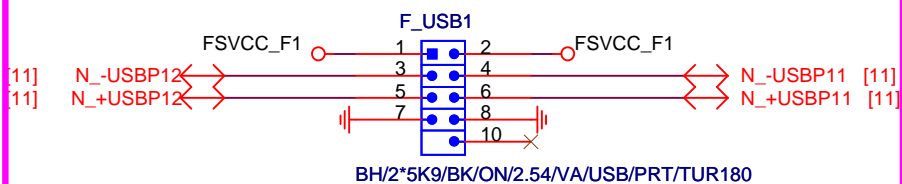


Rev: 0.81

FRONT USB1

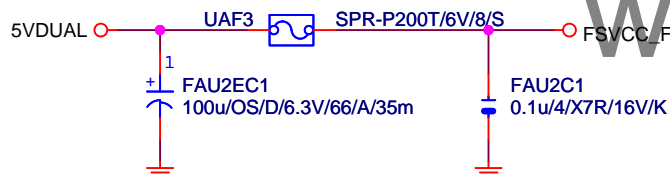
NET 可變

FUSB2X5-HS



Close to connector

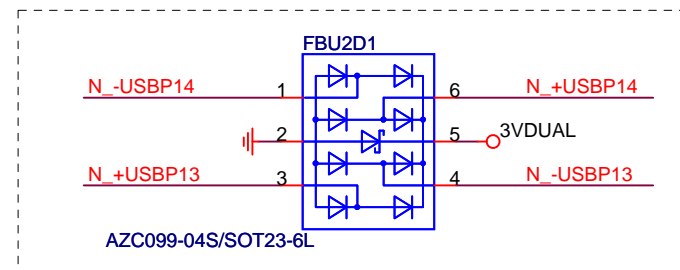
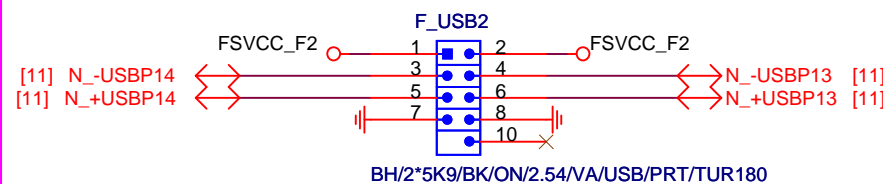
FUSE 2 Port 1 Fuse 2A



FRONT USB2

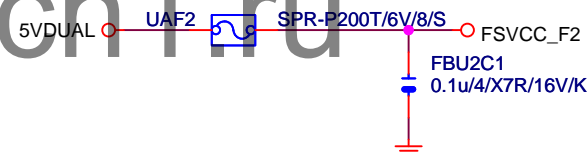
NET 可變

FUSB2X5-HS

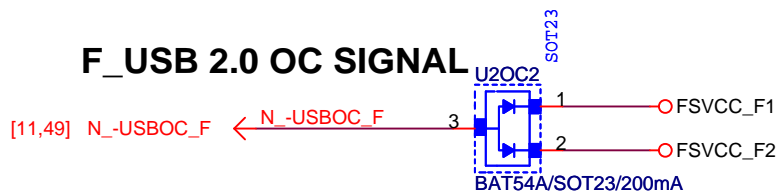


Close to connector

FUSE 2 Port 1 Fuse 2A



F\_USB 2.0 OC SIGNAL



Gigabyte Technology

Title

USB2.0

Size  
A

Document Number

GA-H270M-D3H

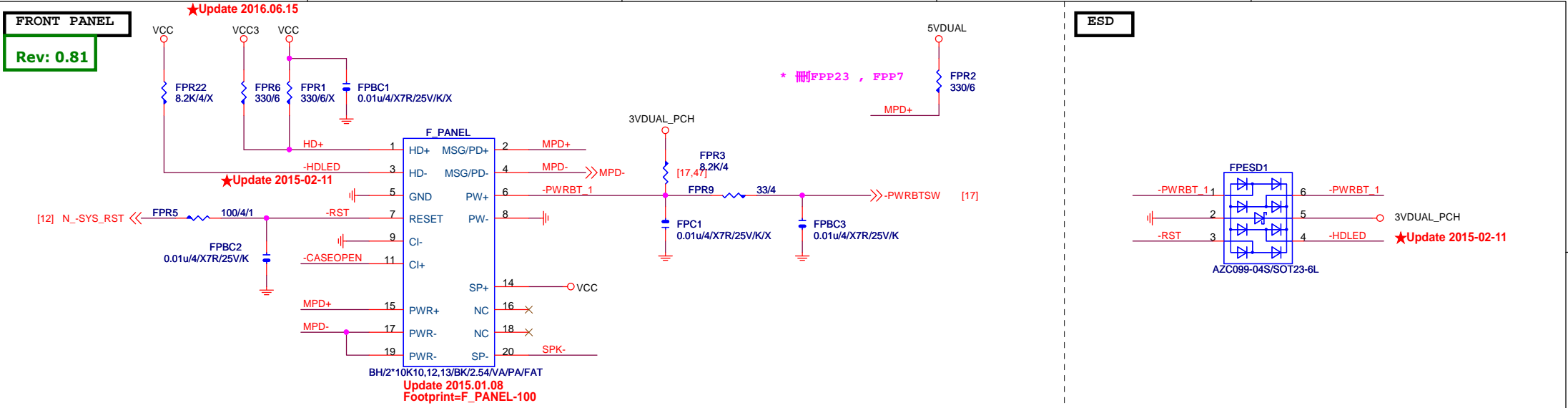
Rev  
1.0

Date: Friday, November 18, 2016

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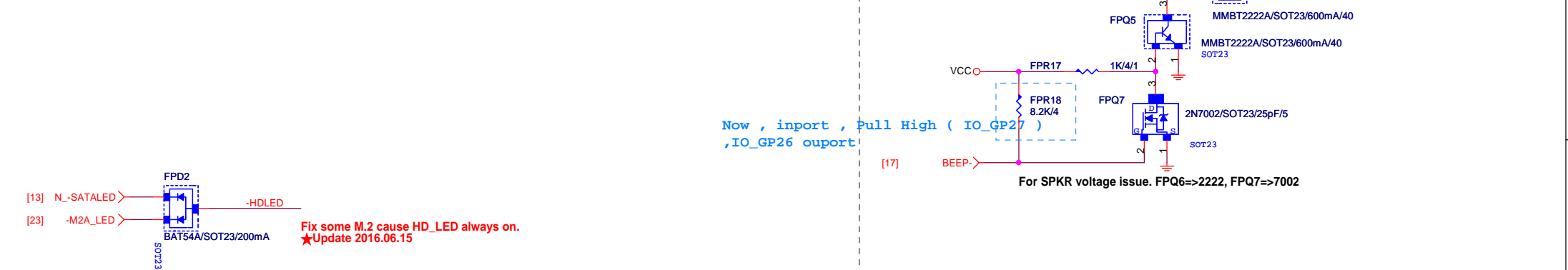
# FRONT PANEL

Rev: 0.81

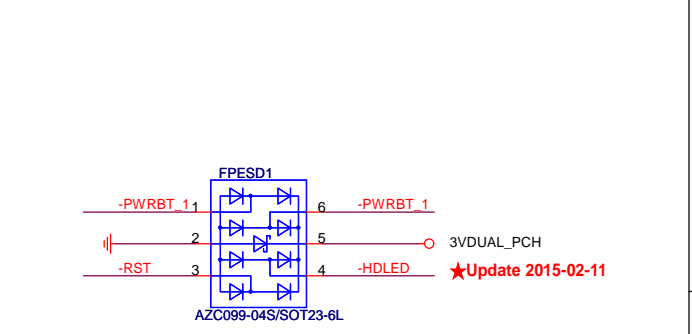


# CASE OPEN

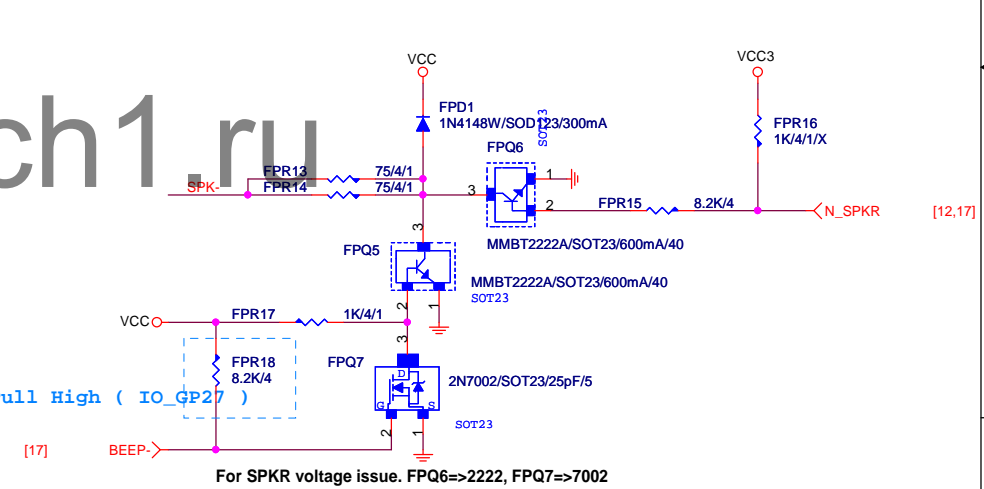
# SATA/M.2 LED



# ESD



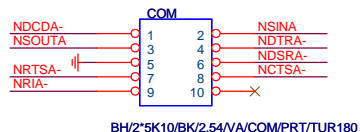
# SPKR W/O BC



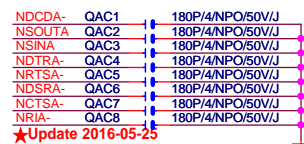
Gigabyte Technology			
Title			
FRONT PANEL			
Size			
Custom	Document Number	Rev	
Date:		Friday, November 18, 2016	Sheet 51 of 57
		GA-H270M-D3H	1.0



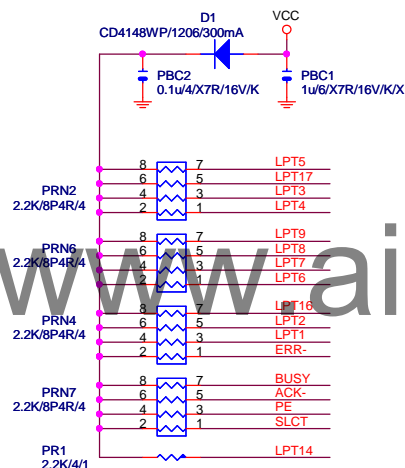
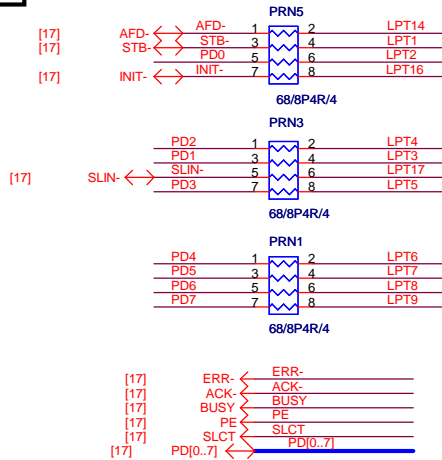
## Rev: 0.81



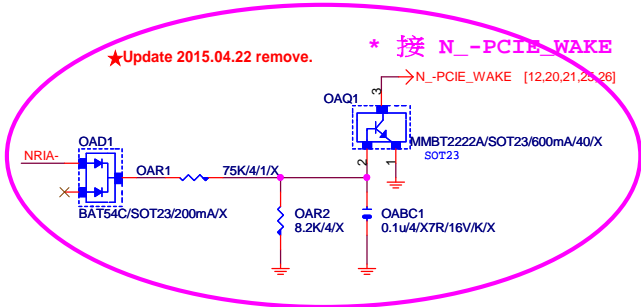
F COM-HS



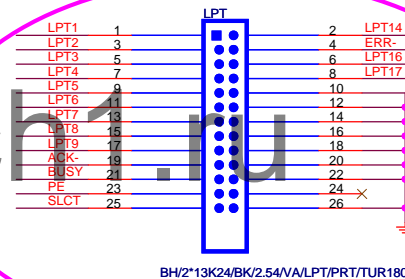
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N/A

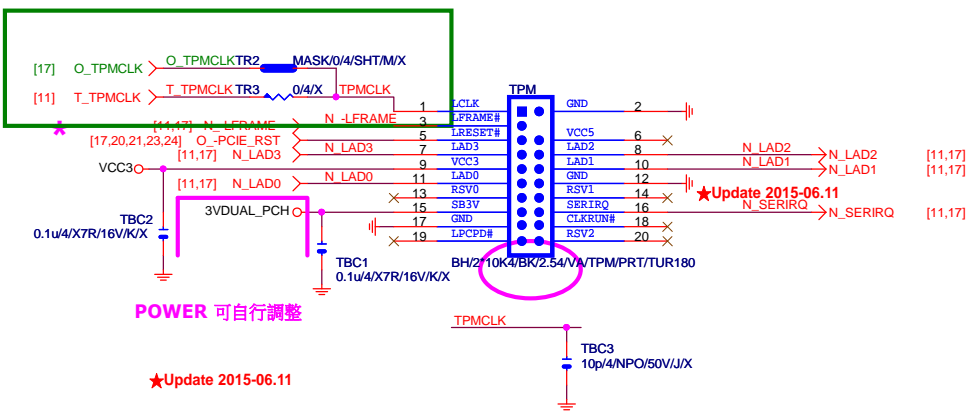


R&D技術通報151 有使用PRINT PORT的  
MODEL, 需使用新料號:10HP2-118728-72R。(CHIP IT8728F/EX (GB) ITE/SMD  
QFP128 PRINTPORT SORTING)料件。串電阻33 ohm改為68 ohm。



F\_LPT-HS

## ECT



## Gigabyte Technology

Title			
FP,F_USB,USB PWR,BZ			
Size	Document Number	Rev	
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## CLOSE SIO

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

[12,17,32] N\_SLP\_S3 ←

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

[12,17,31,33] N\_S4\_S5 ←

\*Del EMIC3

## CLOSE PCH

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

[4,12] N\_CPUPWROK ←

EMIC5

VCC3

1n/4/X7R/50V/K

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**GIGABYTE™**

Title

**EMI/ESD**Size  
A

Document Number

**GA-H270M-D3H**

Rev

**1.0**

Date: Friday, November 18, 2016

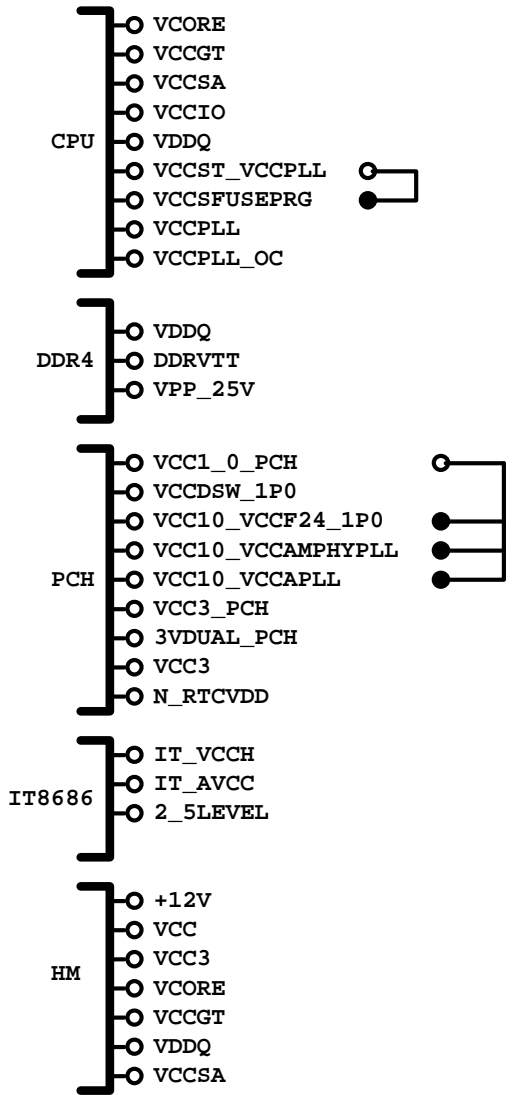
Sheet

54

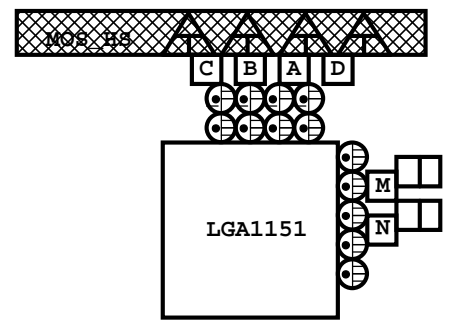
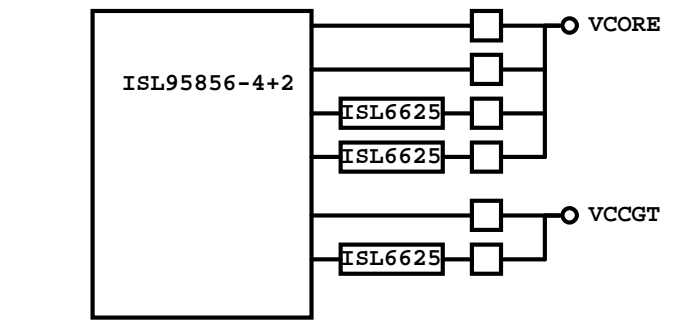
of

57

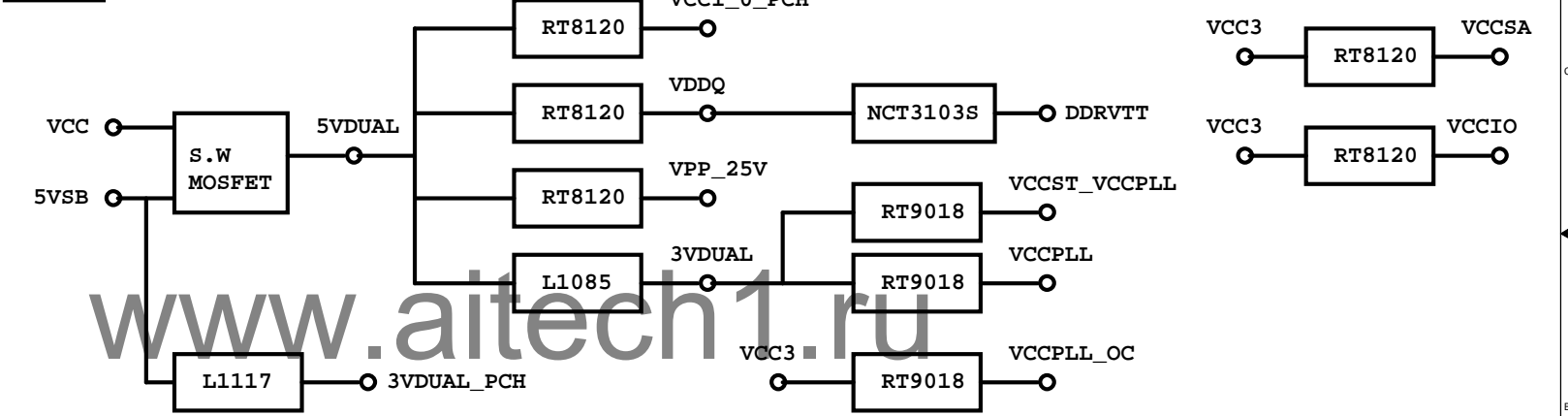
POWER BLOCK MAP



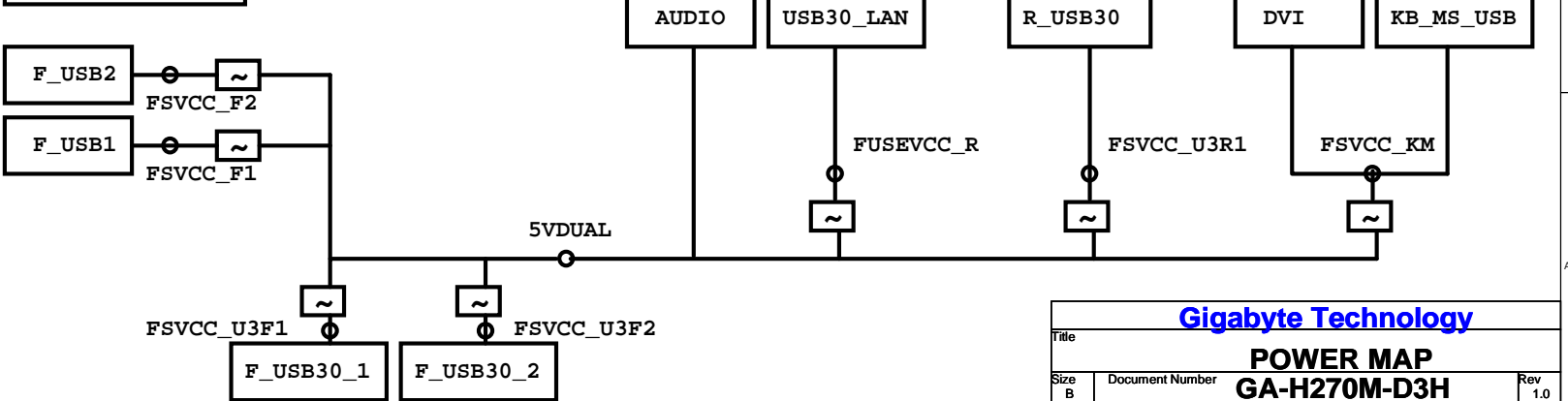
VCORE/VCCGT



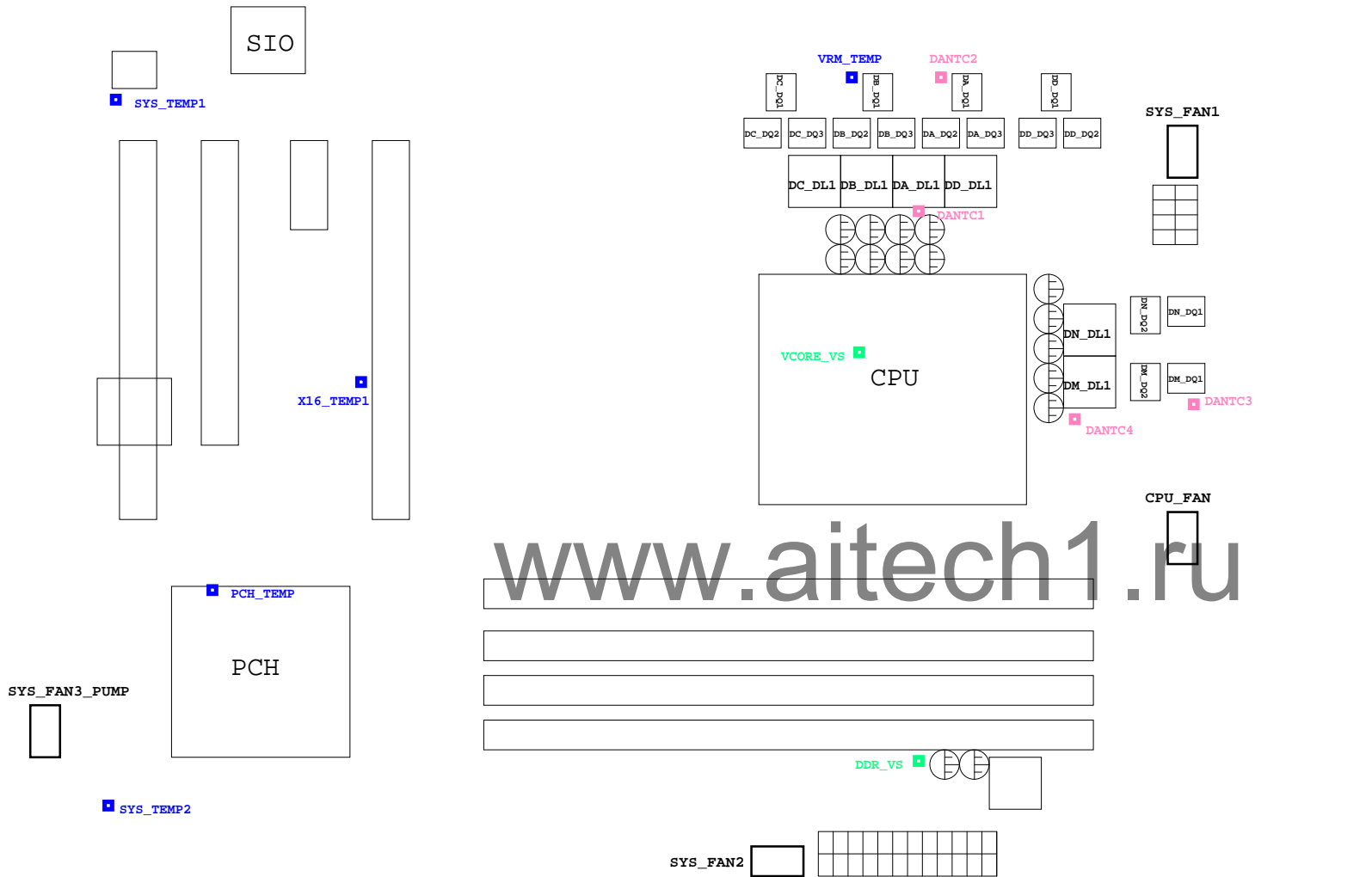
POWER



FUSE POWER F/R



Gigabyte Technology			
Title			
POWER MAP			
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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_DQ2	N/A
DANTC4	DM_DL1	Differential
VCORE_TEMP	DB_DQ1	N/A
X16_TEMP1	PCIEX16	N/A
PCH_TEMP	PCH	N/A
SYS_TEMP1	CU1	N/A
SYS_TEMP2	N/A	N/A

■ SIO RS  
■ SIO VIN  
■ PWM RS  
■ FAN

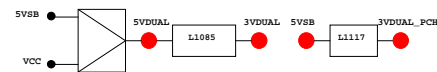
# PCH GPIO LIST TABLE

PIN NAME	PWR	Default	USAGE	NOTE
GPP_A0	MAIN	H-Z	RCIN#	P/U 8.2K VCC3
GPP_A1	MAIN	H-Z	LAD0	N/A
GPP_A2	MAIN	H-Z	LAD1	N/A
GPP_A3	MAIN	H-Z	LAD2	N/A
GPP_A4	MAIN	H-Z	LAD3	N/A
GPP_A5	MAIN	H-Z	LFRAME	N/A
GPP_A6	MAIN	H-Z	SERIRQ	P/U 8.2K VCC3
GPP_A7	MAIN	H-Z	PIRQA#	P/U 8.2K VCC3
GPP_A8	MAIN	H-Z	CLKRUN	N_GPP_A8
GPP_A9	MAIN	H-Z	CLKOUT	T_TPMCLK/N_LPC24M
GPP_A11	MAIN	H-Z	PME#	N_-P_PME P/U 8.2K 3VDUAL_PCH
GPP_A12	MAIN	H-Z	GP1	N_GPP_A12 P/U 8.2K VCC3
GPP_A13	MAIN	H-Z	WARR#	N_-S_WARR#
GPP_A14	MAIN	H-Z	STAT#	N_GPP_A14 P/U 8.2K 3VDUAL
GPP_A15	MAIN	H-Z	ACK#	N_-S_ACK
GPP_B0	MAIN	H-Z	ZPO	N_-DDR_V_SERL P/U 8.2K VCC3
GPP_B2	MAIN	H-Z	GP1	N_-VVALERT P/U 8.2K 3VDUAL
GPP_B3	MAIN	H-Z	GP1	N_GPP_B3
GPP_B4	MAIN	H-Z	GP1	N_GPP_B4
GPP_B5	MAIN	H-Z	GP1	-PCIRX16_PR P/U 8.2K VCC3
GPP_B6	MAIN	H-Z	GP1	-PCIRX1_PK1 P/U 8.2K VCC3
GPP_B8	MAIN	H-Z	GP1	-PCIRX4_PR P/U 8.2K VCC3
GPP_B9	MAIN	H-Z	GP1	N_GPP_B9
GPP_B10	MAIN	H-Z	GP1	LA_-CLKREQ P/U 8.2K 3VDUAL LAN1
GPP_B12	MAIN	H-Z	SLP_S0	N_-SLP_S0
GPP_B13	MAIN	H-Z	ELTRST	N_-PPWRST
GPP_B14	MAIN	H-Z	GP0	N_SPEK
GPP_B15	MAIN	H-Z	GP1	N_GPP_B15
GPP_B16	MAIN	H-Z	GP1	N_GPP_B16
GPP_B22	MAIN	H-Z	GP1	N_GPP_B22
GPP_B23	MAIN	H-Z	GP0	N_-PCH_HOT
GPP_C0	MAIN	H-Z	SHMCLK	P/U 1K 3VDUAL
GPP_C1	MAIN	H-Z	SHMDATA	P/U 1K 3VDUAL
GPP_C2	MAIN	H-Z	GP0	N_-LPCPME
GPP_C3	MAIN	H-Z	SHMCLK	N_SHMCLK P/U 499 3VDUAL
GPP_C4	MAIN	H-Z	SHMCLK	N_SHMCLK P/U 499 3VDUAL
GPP_C5	MAIN	H-Z	GP0	N_GPP_C5
GPP_C6	MAIN	H-Z	GP1	N_SHMCLK P/U 8.2K 3VDUAL
GPP_C7	MAIN	H-Z	GP1	N_SHMCLK P/U 8.2K 3VDUAL
GPP_C22	MAIN	H-Z	GP1	N_GPP_C22
GPP_C23	MAIN	H-Z	GP1	N_GPP_C23
GPP_D4	MAIN	H-Z	GP1	N_GPP_D4 P/U 8.2K 3VDUAL
GPP_D7	MAIN	H-Z	GP1	N_GPP_D7
GPP_D8	MAIN	H-Z	GP1	N_GPP_D8
GPP_D9	MAIN	H-Z	GP1	N_GPP_D9 P/U 1K VCC3
GPP_D10	MAIN	H-Z	GP1	N_GPP_D10
GPP_D13	MAIN	H-Z	GP1	N_GPP_D13
GPP_D23	MAIN	H-Z	GP1	N_GPP_D23 P/U 8.2K 3VDUAL
GPP_E0	MAIN	H-Z	GP1	N_GPP_E0 P/U 8.2K 3VDUAL
GPP_E1	MAIN	H-Z	GP1	N_GPP_E1 P/U 8.2K 3VDUAL
GPP_E2	MAIN	H-Z	GP1	N_GPP_E2 P/U 8.2K 3VDUAL
GPP_E3	MAIN	H-Z	GP1	N/A
GPP_E4	MAIN	H-Z	GP1	N_DEVSLP0
GPP_E6	MAIN	H-Z	GP1	N_DEVSLP2
GPP_E8	MAIN	H-Z	GP1	N_-SATALED
GPP_E9	MAIN	H-Z	GP1	N_-USB0C_F
GPP_E10	MAIN	H-Z	GP1	N_-USB0C_R
GPP_E11	MAIN	H-Z	GP1	N_-USB0C_R
GPP_E12	MAIN	H-Z	GP1	N_-USB0C_F
GPP_F0	MAIN	H-Z	GP1	N_GPP_F0 P/U 8.2K 3VDUAL
GPP_F1	MAIN	H-Z	GP1	N_GPP_F1 P/U 8.2K 3VDUAL
GPP_F2	MAIN	H-Z	GP1	N_GPP_F2 P/U 8.2K 3VDUAL
GPP_F3	MAIN	H-Z	GP1	N_GPP_F3 P/U 8.2K 3VDUAL
GPP_F4	MAIN	H-Z	GP1	N_GPP_F4 P/U 8.2K 3VDUAL
GPP_F5	MAIN	H-Z	GP1	N_GPP_F5 P/U 8.2K VCC3
GPP_F6	MAIN	H-Z	GP1	N_DEVSLP4
GPP_F10	MAIN	H-Z	GP1	N_GPP_F10 P/U 8.2K VCC3
GPP_F11	MAIN	H-Z	GP1	N_GPP_F11 P/U 8.2K VCC3
GPP_F12	MAIN	H-Z	GP1	N_GPP_F12 P/U 8.2K VCC3
GPP_F13	MAIN	H-Z	GP1	N_GPP_F13 P/U 8.2K VCC3
GPP_F14	MAIN	H-Z	GP1	A_-SKTOCC P/U 8.2K VCC3
GPP_F15	MAIN	H-Z	GP1	N_-USB0C_F
GPP_F16	MAIN	H-Z	GP1	N_-USB0C_F
GPP_F17	MAIN	H-Z	GP1	N_-USB0C_7 P/U 8.2K 3VDUAL
GPP_F18	MAIN	H-Z	GP1	N_-USB0C_7 P/U 8.2K 3VDUAL
GPP_F22	MAIN	H-Z	GP1	N_GPP_F22 P/U 8.2K VCC3
GPP_F23	MAIN	H-Z	GP1	N_GPP_F23 P/U 8.2K VCC3
GPP_G11	MAIN	H-Z	FANPWM2	N/A
GPP_G12	MAIN	H-Z	GP1	N_GPP_G12
GPP_G13	MAIN	H-Z	GP1	N_CPU_S1
GPP_G14	MAIN	H-Z	GP1	N_GT_S
GPP_G15	MAIN	H-Z	GP1	N_CPU_S
GPP_G18	MAIN	H-Z	GP1	N_GPP_G18 P/U 8.2K VCC3
GPP_G19	MAIN	H-Z	GP1	N_GPP_G19 P/U 8.2K VCC3
GPP_G20	MAIN	H-Z	GP1	N_GPP_G20 P/U 8.2K VCC3
GPP_G21	MAIN	H-Z	GP1	N_GPP_G21 P/U 8.2K VCC3
GPP_G22	MAIN	H-Z	GP1	N_GPP_G22 P/U 8.2K VCC3
GPP_H0	MAIN	H-Z	GP1	N2A_-CLKREQ P/U 8.2K VCC3
GPP_H12	MAIN	H-Z	GP0	N_GPP_H12
GPP_H19	MAIN	H-Z	GP1	N_GPP_H19 P/U 8.2K 3VDUAL
GPP_H20	MAIN	H-Z	GP1	N_GPP_H20 P/U 8.2K 3VDUAL
GPP_H21	MAIN	H-Z	GP1	N_GPP_H21 P/U 8.2K 3VDUAL
GPP_H22	MAIN	H-Z	GP1	N_GPP_H22 P/U 8.2K 3VDUAL
GPP_I0	MAIN	H-Z	GP1	N_DP_HDP
GPP_I1	MAIN	H-Z	GP1	N_DP2_HDP
GPP_I2	MAIN	H-Z	GP1	N_DVI_HDP_F

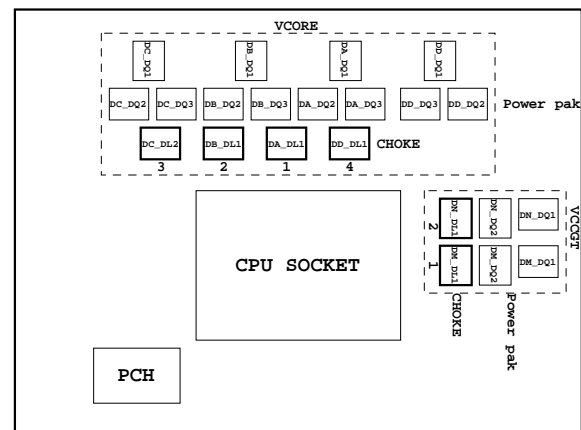
PIN NAME	PWR	Default	USAGE	NOTE
GPP_I3	MAIN	H-Z	GP1	N_GPP_I3 P/U 8.2K VCC3
GPP_I4	MAIN	H-Z	GP1	N_GPP_I4 P/U 100K GND
GPP_I5	MAIN	H-Z	GP1	N_DDBP_CTRLCLK P/U 2.2K VCC3
GPP_I6	MAIN	H-Z	GP0	N_DDBP_CTRLCLK P/U 2.2K VCC3
GPP_I7	MAIN	H-Z	GP1	N_DDBP_CTRLCLK P/U 2.2K VCC3
GPP_I8	MAIN	H-Z	GP0	N_DDBP_CTRLCLK P/U 2.2K VCC3
GPP_I9	MAIN	H-Z	GP1	N_DDBP_CTRLCLK P/U 2.2K VCC3
GPP_I10	MAIN	H-Z	GP0	N_DDBP_CTRLCLK P/U 2.2K VCC3
GPD0	STBY	BATLOW	N_-BATLOW	P/U 8.2K 3VDUAL_PCH
GPD1	STBY	ACPRESENT	N_GP_D1	P/U 8.2K 3VDUAL_PCH
GPD2	STBY	LAN_WAKE	N_-LAN_WAKE	P/U 8.2K 3VDUAL_PCH
GPD3	STBY	PWRBTN	O_PWRBTN	P/U 8.2K 3VDUAL_PCH
GPD4	STBY	SLP_S3	N_-SLP_S3	N/A
GPD5	STBY	SLP_S4	N_-S4_S5	N/A
GPD6	STBY	SLP_A	N_-SLP_A	N/A
GPD8	STBY	SUSCLK	N_SUSCLK	P/D 1.5K GND
GPD10	STBY	SLP_S5	N_-SLP_S5	N/A
GPD11	STBY	LAMPHYC	N_-LAN_DIS	N/A

## Super I/O ITR8686 GPIO Table

PIN NAME	USAGE	NOTE
PCIRST3#/GP10/VDIMM_STR_EN	N/A	
PCIRST2#/GP11	O_-PCIR_RST	
PCIRST1#/GP12	O_-PPWRST2	
SVC/PECI_RQT/GP14	N_-THERMTRIP	
SLP_SUS#/PCIRSTIN#/CIRT2/GP15	-PCIRSTIN	
PS1_L/FAN_CLT5/CIRKX2/GP16	<a href="#">PIN</a>	
R12#/GP17	IO_GP17	
THR_PWM_CTS2#/GP20	<a href="#">PIN</a>	
IO_SMI#DCD2#/GP21	<a href="#">PIN</a>	
SP1_S1/GP22	BEEP-	
DPWRK/CPU_PG/GP23	N_PCH_DPWRK	
FAN_TAC5/RTS2#/GP24	FANIO5	
FAN_TAC4/DSR2#/GP25	<a href="#">PIN</a>	
INV_OUT1/OUT2/GP26	G_PLD	
INV_IN1/SIN2/GP27	INV_IN1	
ATXPG/GP30	PWOK	
CTS1/GP31	CTS1-	
OCMDT3/R11#/GP32	R11-	
OCMDT2/DCD1#/GP33	DCD1-	
VTT_PWRGD/GP34	VTT_PWRGD	
VCC18_EN/GP35	VCCIO_EN	
FAN_CTL3/GP36	FANPWM3	
FAN_TAC3/GP37	FANIO3	
3VSB5W/GP40	<a href="#">PIN</a>	
OCMDT1/SIN1/GP41	RXD1	
GP42/CLK/FAN_CTL4	FANPWM4	
PAN5W/GP43	PWRBTN	
PWRON#/GP44	O_PWRBTN	
OCMDT0/DSR1#/GP45	DSR1	
CE2_N/GP47/JP6	CEB_N	
GP50/JP1	O_TPMCLK	
FAN_CTL2/GP51	FANPWM2	
FAN_TAC2/GP52	FANIO2	
SUSC#/GP53	N_-S4_S5	
PME#/GP54	N_-LPCPME	
RSRST#/CIRKX1/GP55	O_-RSRST	
MLCK/FAN_TAC6/GP56	MLCK	
MDAT/FAN_CTL6/GP57	MDAT	
KCLK/GP60	KCLK	
KDAT/GP61	KDAT	
KRST#/GP62	N_-KRST	
HOLD_B#/GP63	<a href="#">PIN</a>	
HOLD_N#/GP64	-SPI_HOLD_N	
VLDT_EN/PCH_D0/GP65	MB_ID2	
VCC1_05_EN/GP66	VCC1_0_EN	
GP67	N_-RTCRST	
USB_F81/PD0/GP70	<a href="#">PIN</a>	
USB_F82/PD1/GP71	<a href="#">PIN</a>	
USB_F83/PD2/GP72	<a href="#">PIN</a>	
USB_F83/PD3/GP73	<a href="#">PIN</a>	
USB_F85/PD4/GP74	<a href="#">PIN</a>	
USB_F86/PD5/GP75	<a href="#">PIN</a>	
USB_F87/PD7/GP76	<a href="#">PIN</a>	
USB_F88/PD8/GP77	<a href="#">PIN</a>	
LS_IN1/SLCT/GP80	VDDQ	
LS_OUT1/PE/GP81	<a href="#">PIN</a>	
LS_IN2/BUSY/GP82	VCCIO	
LS_OUT2/ACK#/GP83	<a href="#">PIN</a>	
IPHONE_CHARGE#/SLIN#/GP84	<a href="#">PIN</a>	
OC_IN/INIT#/GP85	<a href="#">PIN</a>	
OC_OUT/AFD#/GP86	<a href="#">PIN</a>	
USB_OC2/STB#/GP87	<a href="#">PIN</a>	
DDR_EN/GP90	MA_EN	
PWRLED/GP91	MPD-	
HOLD_OUT/GP92	<a href="#">PIN</a>	
HDLED_IN/GP93	GP93	
PROCHOT#/GP94	A_-PROCHOT	
CPUPWRGD/GP95	<a href="#">PIN</a>	
PCH_VRMPWRGD/GP96	N_PCH_VRMPWRGD	
VR_RDY/GP97	VR_RDY	



PWM各相位的擺法如下:



BIOS超電壓對應表:

線路圖名稱	BIOS選項
Vcore	CPU Vcore
VCCGT	CPU Graphic Voltage
VCCSA	CPU System Agent Voltage
VCCIO	CPU I/O Voltage
VCC1 & PCH	PCH core
VDDQ	DRAM voltage
VPP_25V	DRAM VPP voltage
DDRVT	DRAM Terminatio
VREF_DQ_AVREF_DQ_B	DRAM Data Ref

散熱模組料號:

Z270M-D3P-WG :  
PCH : 12SP2-S04907-01R/02R/03R  
MOS : 12SP2-S09325-31R/32R/33R

	3 pin Fan control	4 pin Fan control	FAN speed	Controller
CPU FAN	FANPWM1	VCC	FANIO1	IT8686
	FANC_VOUT	N/A	N/A	NCT3947
SYS FAN1	FANPWM2	VCC	FANIO2	IT8686
	FAN1_VOUT	N/A	N/A	NCT3947
SYS FAN2	FANPWM3	VCC	FANIO3	IT8686
	FAN2_VOUT	N/A	N/A	NCT3947
SYS_FAN3_PUMP	FANPWM4	VCC	FANIO4	IT8686
	FAN3_VOUT	N/A	N/A	NCT3947

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