

Model Name: GA-B150M-Gaming3 DDR3-DB

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12	PCH MISC
13	PCH SATA,PCIE,SATA EXPRESS
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WWW.ATECH1.RU

Model Name: GA-B150M-Gaming3 DDR3-DB
rev1.0

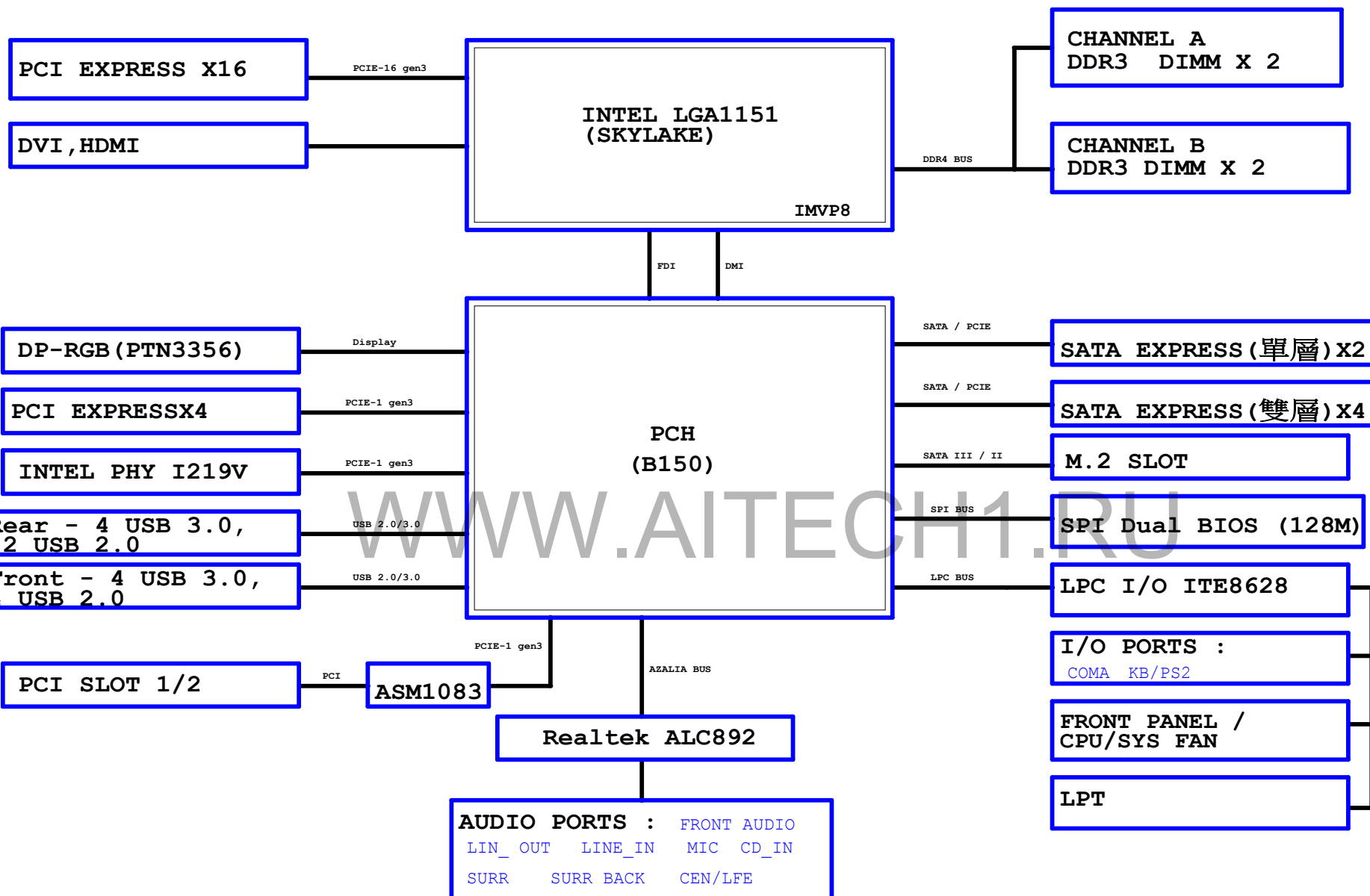
Circuit or PCB layout change

Component value change history

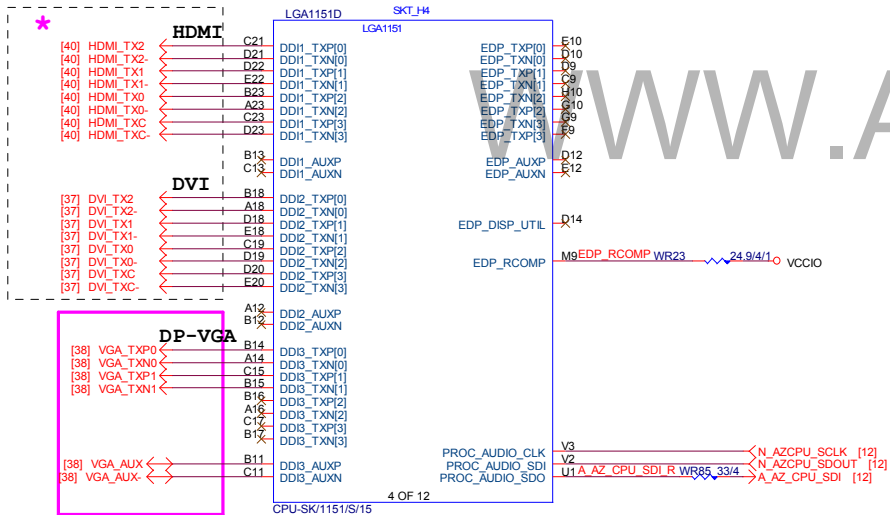
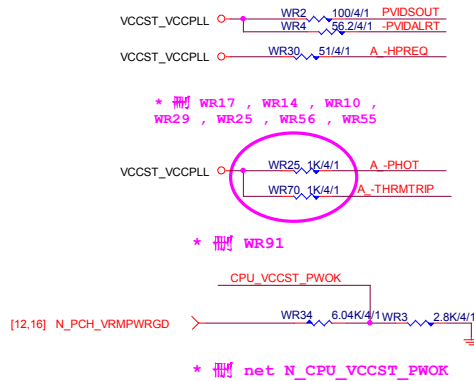
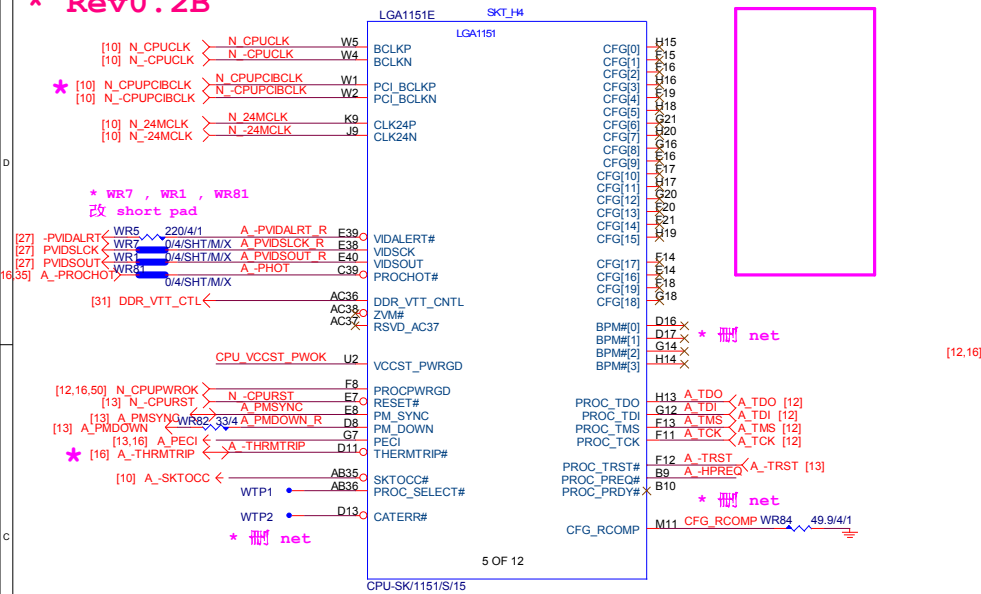
2016/01/06

[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%

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```
CFG[2]:x16 Lane Numbering
Reversal_1=
NORMAL;0=reversal
CFG[4]: eDP
enable;1:disable/0=enable
CFG[6;5]:PCI Express* Bifurcation; 11=
1 x16 PCI Express;10=2x8 PCI Express
CFG[7]: PEG Training:1=(default) PEG Train
immediately following RESET#;0=PEG Wait
for BIOS
```

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

```

PA_EXP_TXPI[0..15]    >> PA_EXP_TXP[0..15] [19]
PA_EXP_TXN[0..15]     >> PA_EXP_TXN[0..15] [19]
PA_EXP_RXPI[0..15]    >> PA_EXP_RXP[0..15] [19]
PA_EXP_RXN[0..15]     >> PA_EXP_RXN[0..15] [19]

```

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

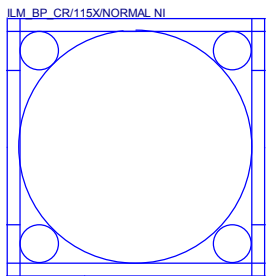
Impedance=85 +- 15%

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

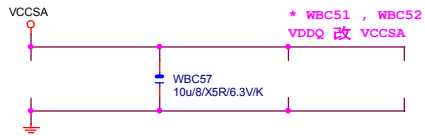
Gigabyte Technology

CPU LGA1151-A

Title			
CPU LGA1151-A			
Size	Document Number	Rev	
Custom	GA-B150M-Gaming3 DDR3-DB	1.0	
Date:	Friday, February 26, 2016	Sheet	4 of 52

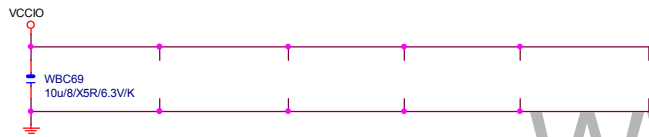
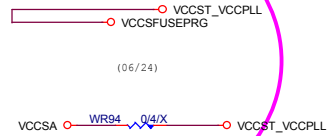


Need check the new CPU MB
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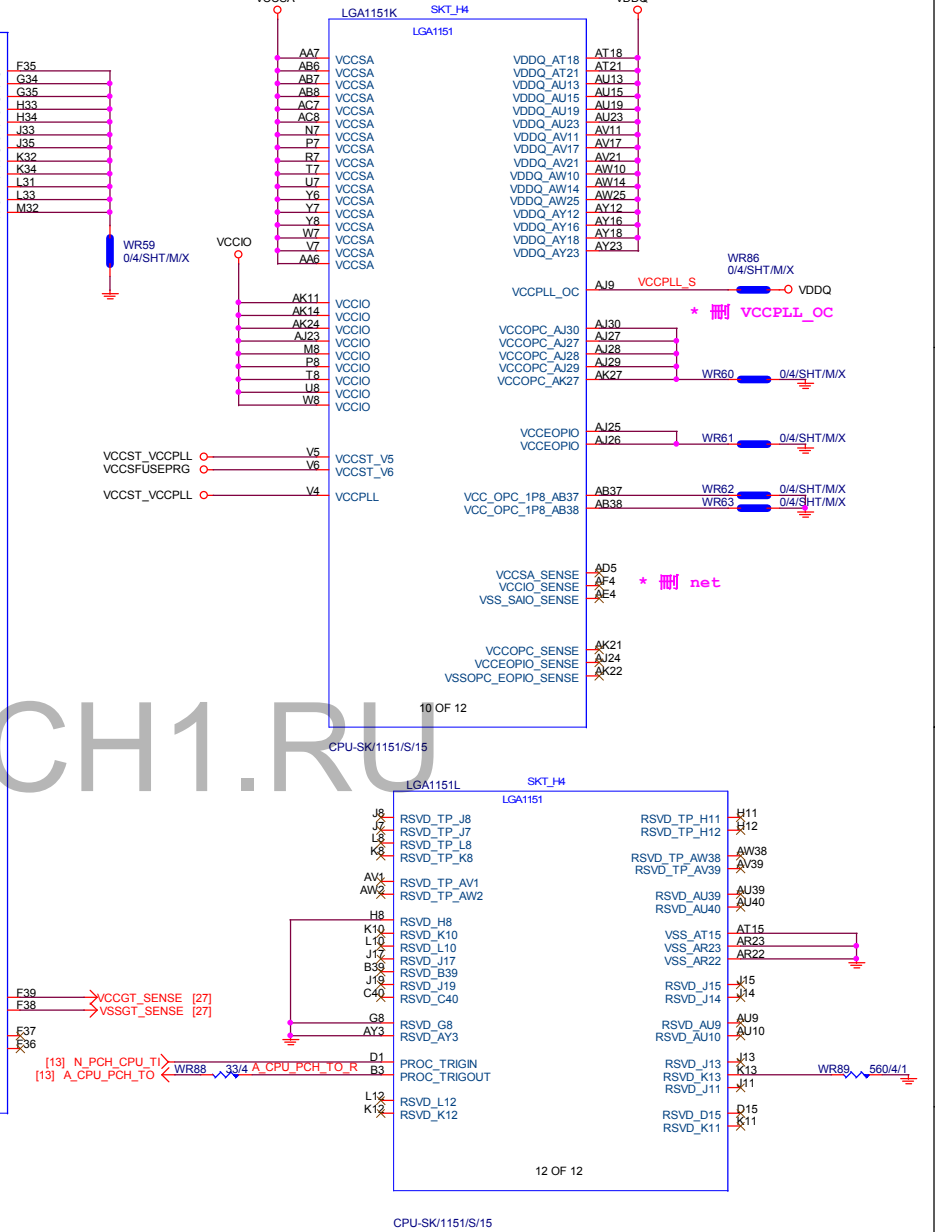
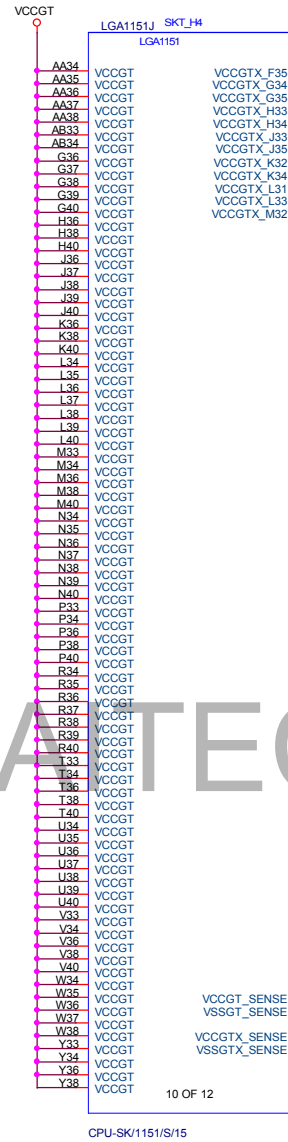


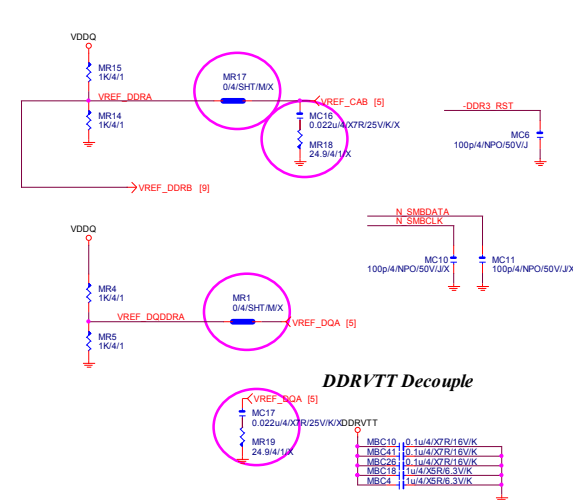
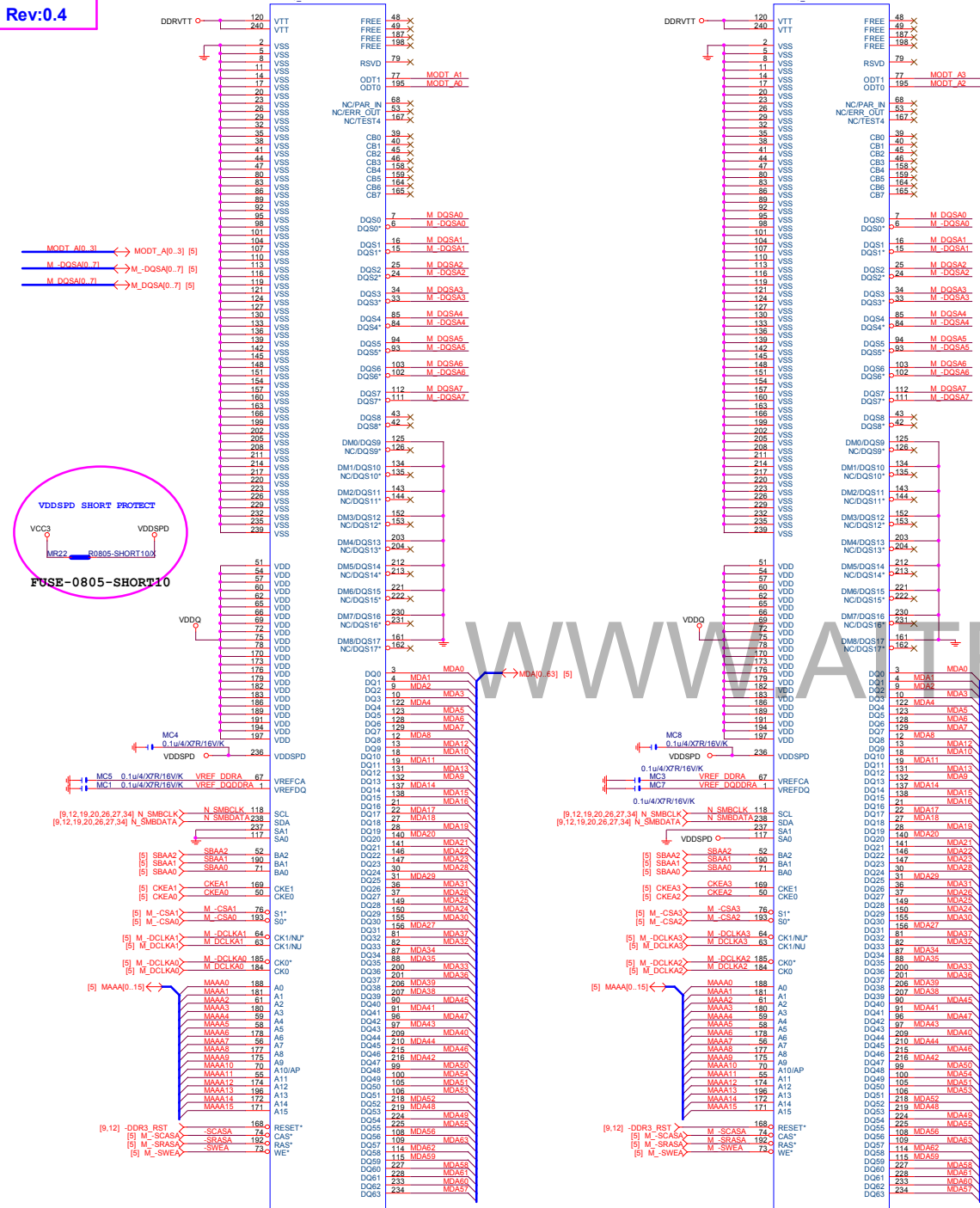
* 刪 WBC124 , WBC125 , WBC126 , WBC127 電容

* WR94 , WR59 , WR86 , WR60 ,
WR61 , WR62 , WR63 改 short
pad



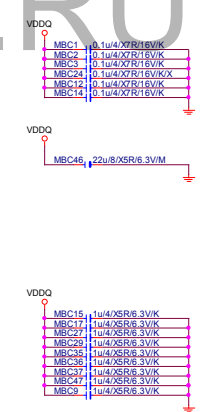
* 刪 VCCGT 電容





DDR TERMINATION CHANNEL A/B

若 Power source 端 PWM IC 已有擺放
，則可刪除



Rev:0.4

M_DQS8[0..7] [5]
M_DQS8[0..7] [5]
MODT_B[0..3] [5]

MC2 0.1u4/X7R/16V/K
VDDSPD
MC14 0.1u4/X7R/16V/K VREF DDRB 67 VREFCA
MC3 0.1u4/X7R/16V/K VREF DQDDB 1 VREFDQ
[8,12,19,20,26,27,34] N_SMBCLK 118 SCL
[8,12,19,20,26,27,34] N_SMBDATA 238 SDA
VDDSPD 237 SA1
117 SA0
[5] SBAB2 52 BA2
[5] SBAB1 190 BA1
[5] SBAB0 71 BA0
[5] CKEB1 169 CKE1
[5] CKEB0 50 CKE0
[5] M_CS81 78 S1*
[5] M_CS80 193 S0*
[5] M_DCLKB1 64 CK1IN*
[5] M_DCLKB0 63 CK1INJ
[5] M_DCLKB0 185 CK0*
[5] M_DCLKB0 184 CK0
[5] MAA8[0..15] [5]
MAA80 188 A0
MAA81 181 A1
MAA82 51 A2
MAA83 180 A3
MAA84 59 A4
MAA85 58 A5
MAA86 178 A6
MAA87 56 A7
MAA88 177 A8
MAA89 175 A9
MAA810 70 A10/AP
MAA811 55 A11
MAA812 174 A12
MAA813 196 A13
MAA814 172 A14
MAA815 171 A15
[8,12] -DDR3_RST
[5] M_SCASB 74 CAS*
[5] M_SRASB 192 CAS*
[5] M_SWE8 72 WE*
[5] M_SWE8 72 WE*

DDR3_3

黑色

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MC12 0.1u4/X7R/16V/K
VDDSPD
MC15 VREF DDRB 67 VREFCA
MC13 VREF DQDDB 1 VREFDQ
[8,12,19,20,26,27,34] N_SMBCLK 118 SCL
[8,12,19,20,26,27,34] N_SMBDATA 238 SDA
VDDSPD 237 SA1
117 SA0
[5] SBAB2 52 BA2
[5] SBAB1 190 BA1
[5] SBAB0 71 BA0
[5] CKEB3 169 CKE1
[5] CKEB2 50 CKE0
[5] M_CS81 78 S1*
[5] M_CS80 193 S0*
[5] M_DCLKB3 64 CK1IN*
[5] M_DCLKB2 63 CK1INJ
[5] M_DCLKB2 185 CK0*
[5] M_DCLKB2 184 CK0
[5] MAA8[0..15] [5]
MAA80 188 A0
MAA81 181 A1
MAA82 51 A2
MAA83 180 A3
MAA84 59 A4
MAA85 58 A5
MAA86 178 A6
MAA87 56 A7
MAA88 177 A8
MAA89 175 A9
MAA810 70 A10/AP
MAA811 55 A11
MAA812 174 A12
MAA813 196 A13
MAA814 172 A14
MAA815 171 A15
[8,12] -DDR3_RST
[5] M_SCASB 74 CAS*
[5] M_SRASB 192 CAS*
[5] M_SWE8 72 WE*
[5] M_SWE8 72 WE*

DDR3_1

紅色

黑色
紅色

DTMM4
DTMM2
DTMM3
DTMM1

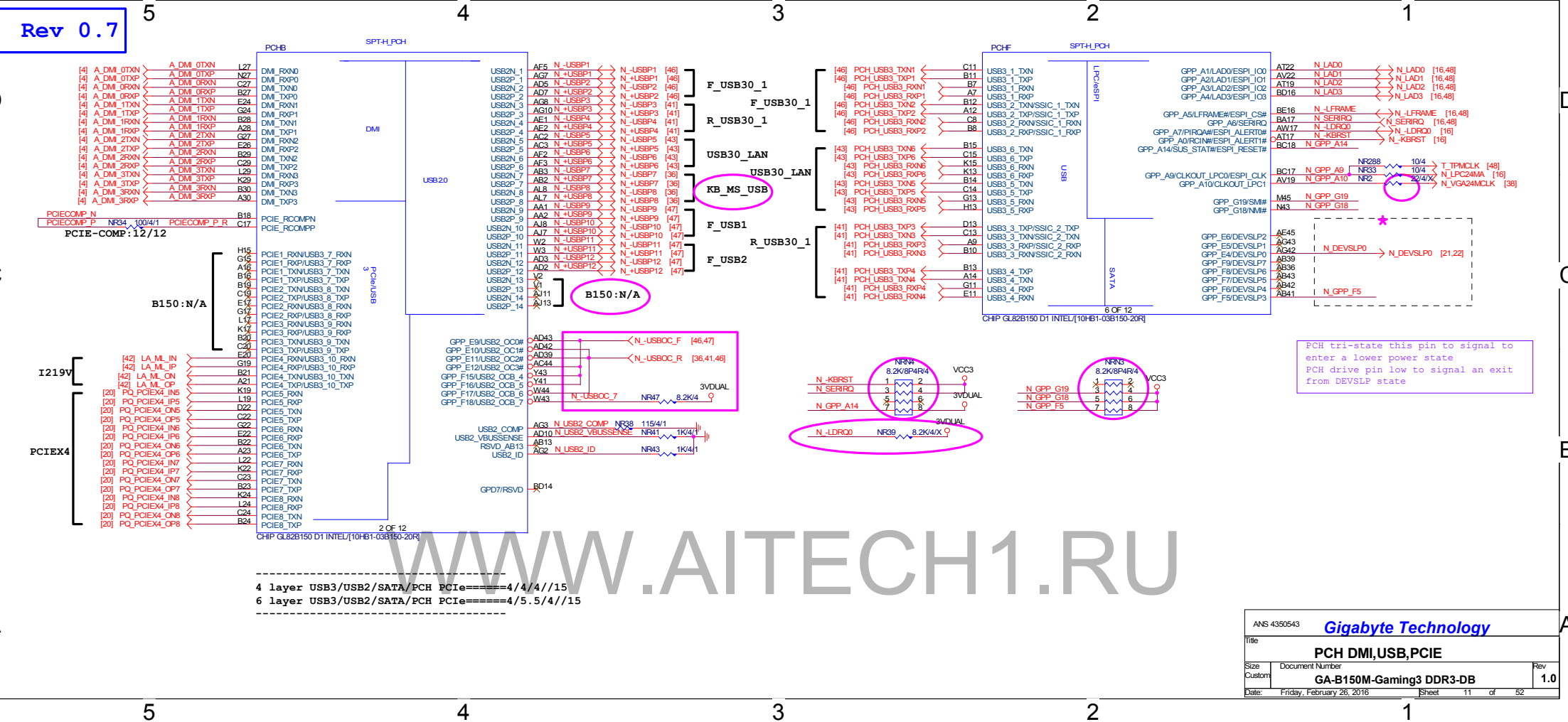
CHA

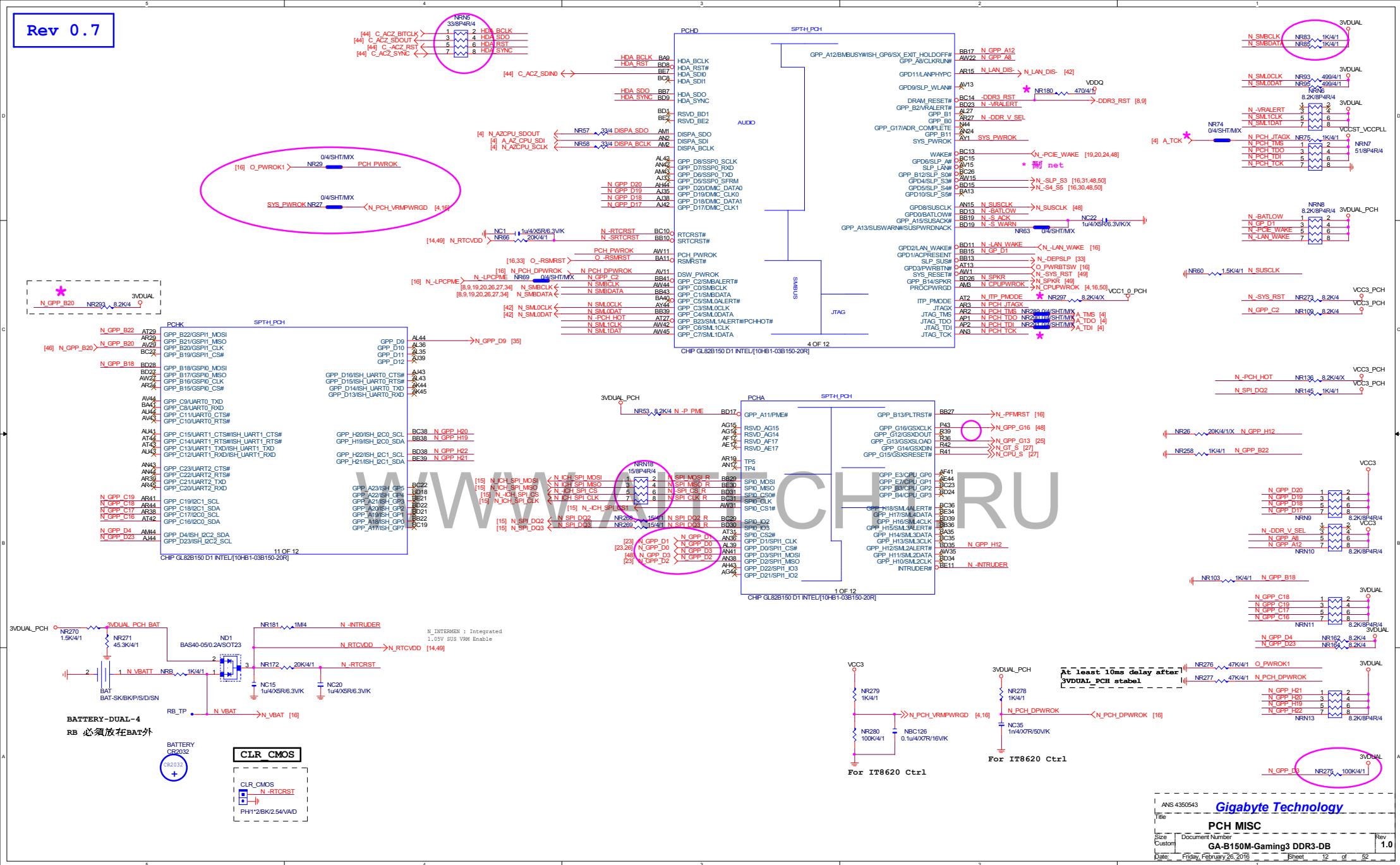
CHB

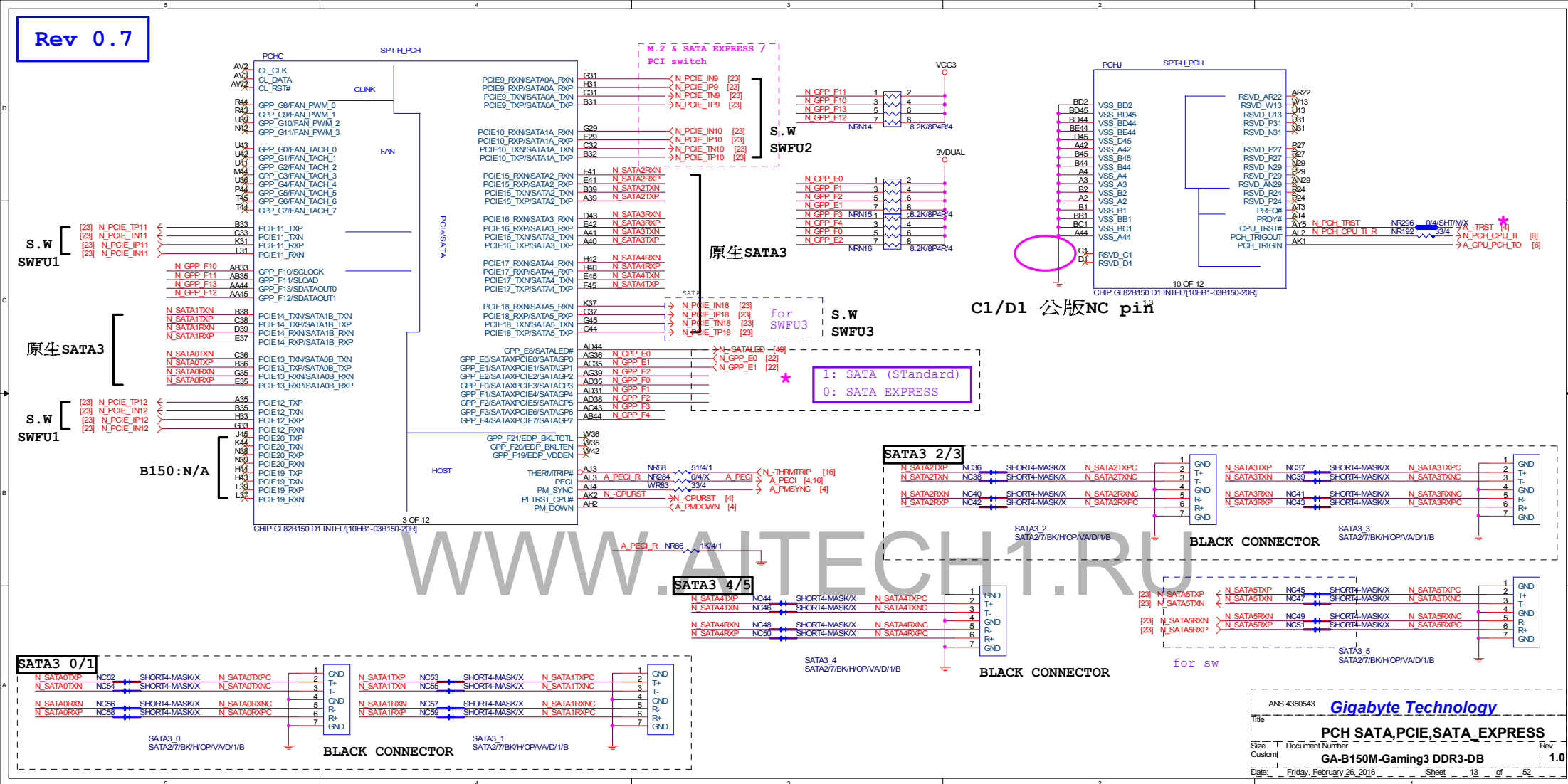
CPU

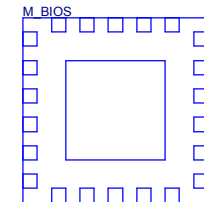
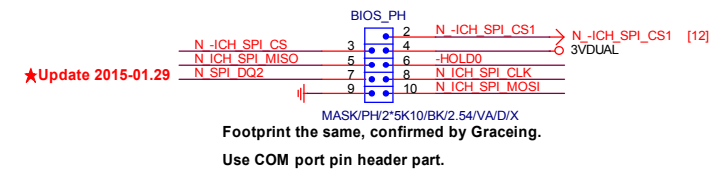
Gigabyte Technology		
Title		
DDR3L CHANNEL B		
Size	Document Number	Rev
Custom	GA-B150M-Gaming3 DDR3-DB	1.0
Date	Friday, February 26, 2016	Sheet 9 of 52







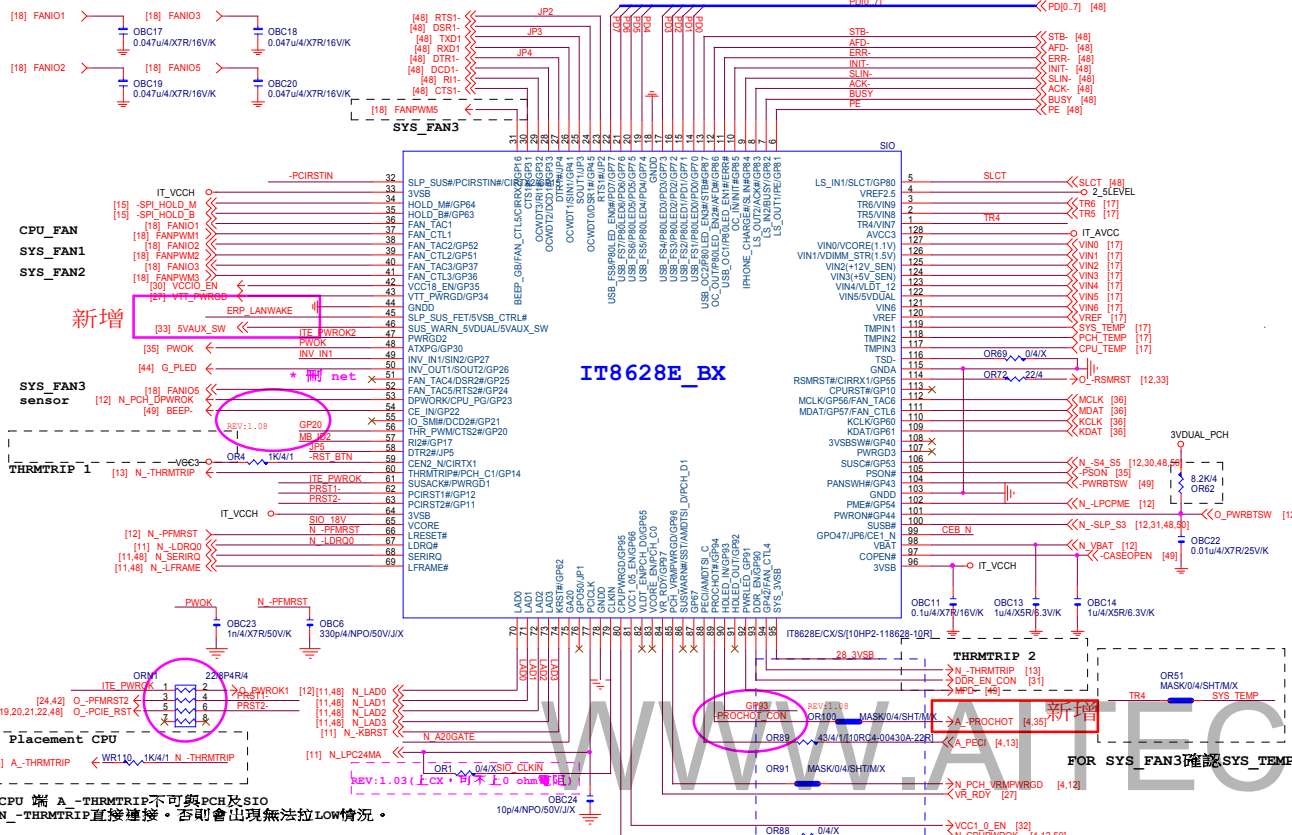




LCP/G-FL/1.27mm/200MIL/WHITE[10SL2-000008-31R]/X

* 試產先上，PVT 移除

SIO IT8628CX REV.1.08



FAN TABLE

CPU_FAN	FAN_CTL1
SYS_FAN1	FAN_CTL2
SYS_FAN2	FAN_CTL3
SYS_FAN3	FAN_CTL5
OPT FAN or SYS_FAN4	N/A
THRMTrip1	YES PIN6
THRMTrip2	YES PIN94

IT8628E_GPIO問題調整

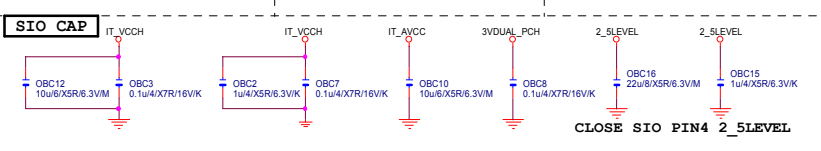
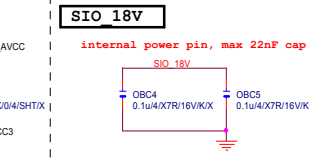
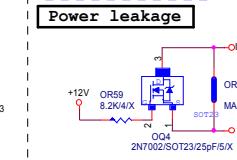
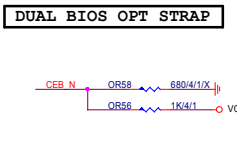
PIN 50 GP2C 第一次上POWER時 會拉 Lo

PIN 90/91 GP93 92PASS TO GP92 高濕時 GP92 會被拉 Lo (ITE BUG)

PIN 108 GP40 --- POWER ON 時會拉 Lo

PIN 111/112 MOUSE 8-PIN FUNCTION 111/112 轉一使用, 不然會互相干擾

PIN 22 PIN22 需高於 3V, 若低於 3V 則部分 COM, PORT 及 LPT 裝置 將會異常動作

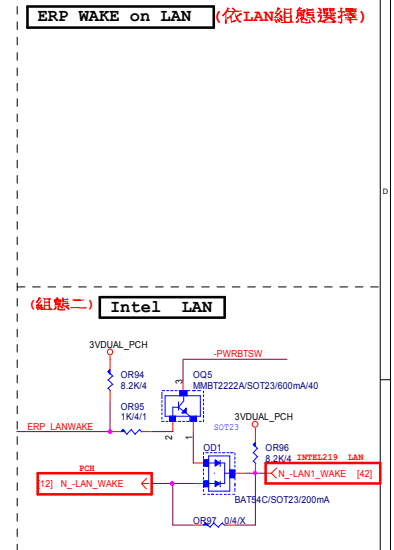


CLOSE SIO PIN4 2_5LEVEL



SIO PU

JP2	1	Disable WDT
JP2	0	Enable WDT to rest PWROK
JP3	1	Dual BIOS CS PIN Disable
JP3	0	Dual BIOS CS PIN Enable
JP4	1	k8 power sequency function is Disable
JP4	0	k8 power sequency function is Enable
JP5	1	anti-surge Disable
JP5	0	anti-surge Enable
JP3	1 1	The default value of EC Index 63h/6Bh/73h is 80h.
JP3	1 0	The default value of EC Index 63h/6Bh/73h is FFh
JP5	0 1	The default value of EC Index 63h/6Bh/73h is 00h.
JP5	0 0	The default value of EC Index 63h/6Bh/73h is 40h.

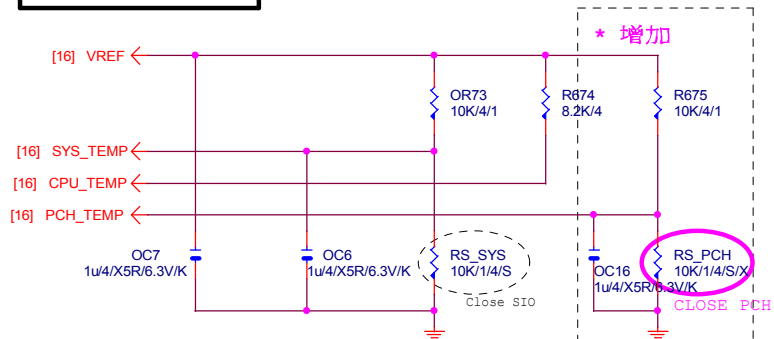


Intel LAN

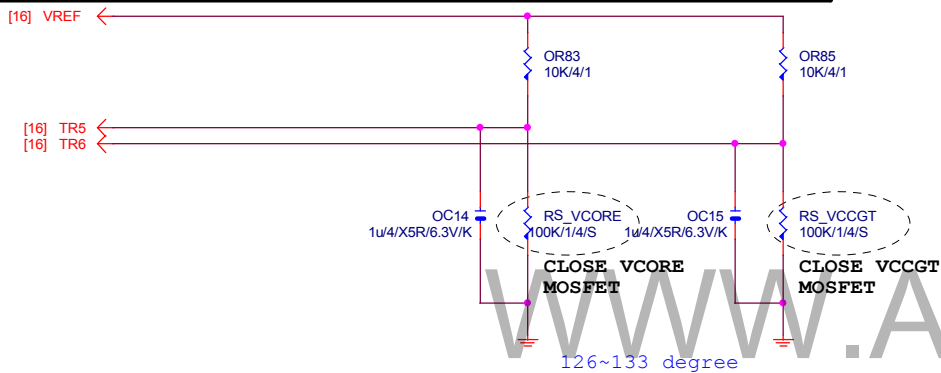
123	N_LAN_WAKE	ERP LANWAKE
421	N_LAN_WAKE	ERP LANWAKE

ERP Wake on LAN

Single LAN	Realtek	組態一
	Atheros	
	Intel 219	組態二
Dual LAN	Atheros+Atheros	組態一
	Intel 219+Atheros	
	Intel 219+Intel 210	組態三
No Support ERP	BOM不上	N/A

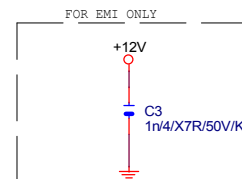
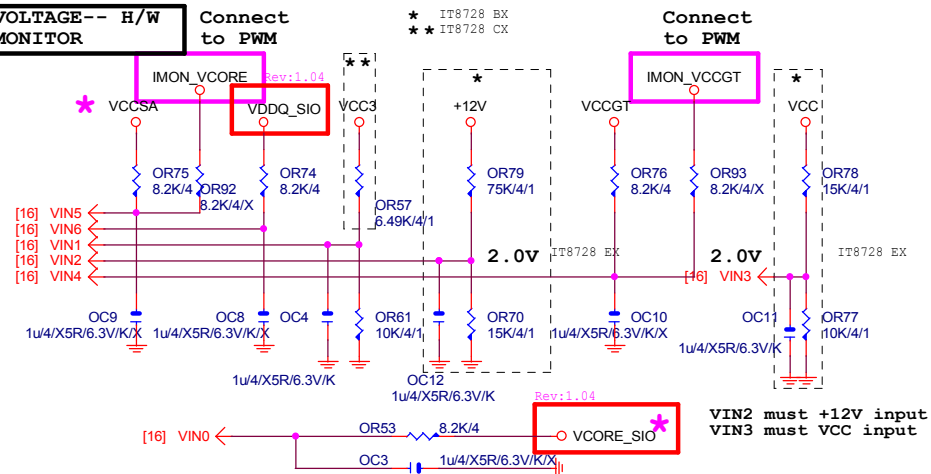
**RS_VCORE, RS_VCCGT, CLOSE CPU_VCORE & VCCGT MOSFET**

~~PROCHOT: 有mos heatsink 不用prochot function~~

**VOLTAGE-- H/W MONITOR**

Connect to PWM

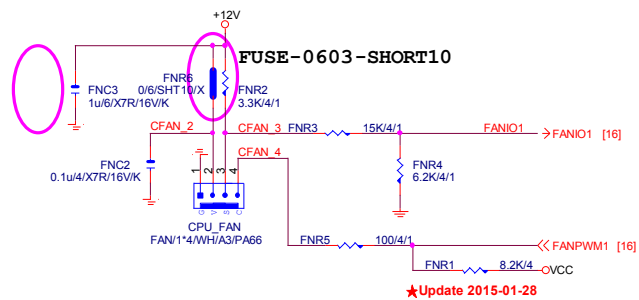
Connect to PWM

**Gigabyte Technology**

Title				Rev 1.0
HWM,KB/MS, FAN CTRL				
Size Custom	Document Number GA-B150M-Gaming3 DDR3-DB			
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CPU SMART FAN

Rev: 0.7

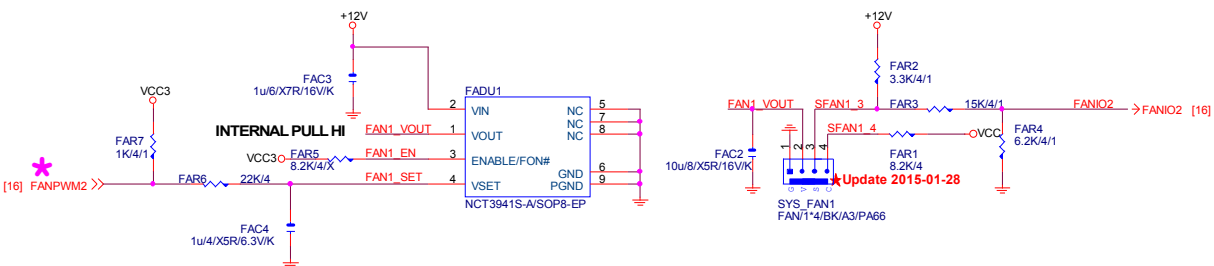


SYSTEM FAN1

Linear SYS_FAN

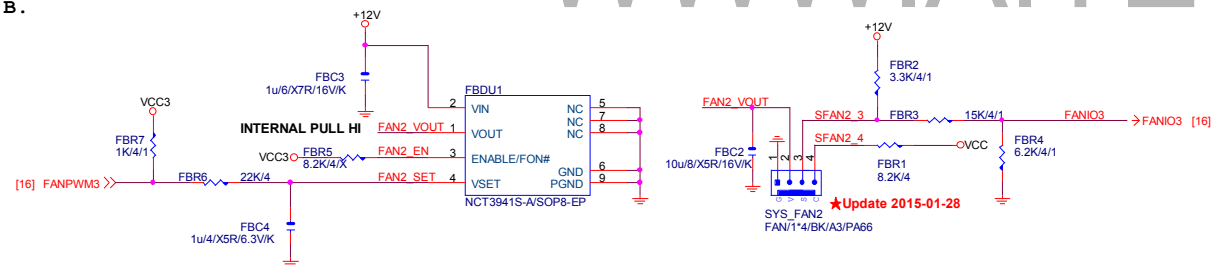
Enable Function (NCT3941S)
Full Turn On Function (NCT3941S-A)

A.



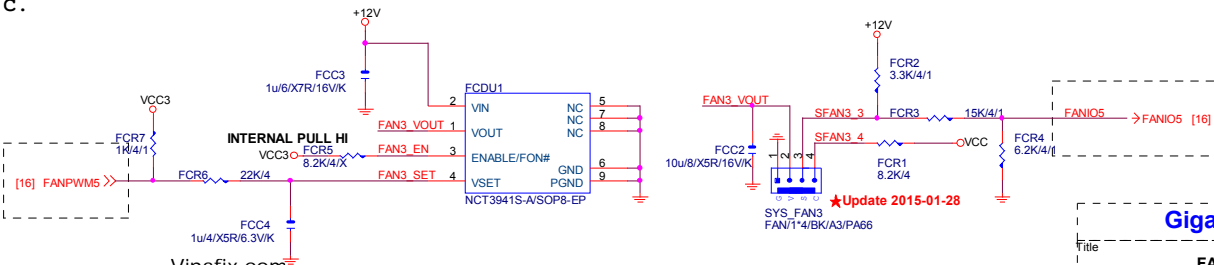
SYSTEM FAN2

B.



SYSTEM FAN3

C.

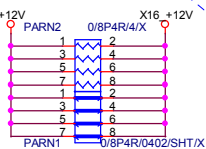


Gigabyte Technology

FAN CTRL

GA-B150M-Gaming3 DDR3-DB
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Rev 0.2

+12V_protect
short-wire test

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	0.22u/4/X5R/6.3V/K	PA_EXP_TXP0_C
PA_EXP_TXN0	PAC4	0.22u/4/X5R/6.3V/K	PA_EXP_TXN0_C
PA_EXP_TXP1	PAC6	0.22u/4/X5R/6.3V/K	PA_EXP_TXP1_C
PA_EXP_TXN1	PAC7	0.22u/4/X5R/6.3V/K	PA_EXP_TXN1_C
PA_EXP_TXP2	PAC8	0.22u/4/X5R/6.3V/K	PA_EXP_TXP2_C
PA_EXP_TXN2	PAC9	0.22u/4/X5R/6.3V/K	PA_EXP_TXN2_C
PA_EXP_TXP3	PAC10	0.22u/4/X5R/6.3V/K	PA_EXP_TXP3_C
PA_EXP_TXN3	PAC11	0.22u/4/X5R/6.3V/K	PA_EXP_TXN3_C
PA_EXP_TXP4	PAC12	0.22u/4/X5R/6.3V/K	PA_EXP_TXP4_C
PA_EXP_TXN4	PAC13	0.22u/4/X5R/6.3V/K	PA_EXP_TXN4_C
PA_EXP_TXP5	PAC14	0.22u/4/X5R/6.3V/K	PA_EXP_TXP5_C
PA_EXP_TXN5	PAC15	0.22u/4/X5R/6.3V/K	PA_EXP_TXN5_C
PA_EXP_TXP6	PAC16	0.22u/4/X5R/6.3V/K	PA_EXP_TXP6_C
PA_EXP_TXN6	PAC17	0.22u/4/X5R/6.3V/K	PA_EXP_TXN6_C
PA_EXP_TXP7	PAC18	0.22u/4/X5R/6.3V/K	PA_EXP_TXP7_C
PA_EXP_TXN7	PAC19	0.22u/4/X5R/6.3V/K	PA_EXP_TXN7_C
PA_EXP_TXP8	PAC20	0.22u/4/X5R/6.3V/K	PA_EXP_TXP8_C
PA_EXP_TXN8	PAC21	0.22u/4/X5R/6.3V/K	PA_EXP_TXN8_C
PA_EXP_TXP9	PAC22	0.22u/4/X5R/6.3V/K	PA_EXP_TXP9_C
PA_EXP_TXN9	PAC23	0.22u/4/X5R/6.3V/K	PA_EXP_TXN9_C
PA_EXP_TXP10	PAC24	0.22u/4/X5R/6.3V/K	PA_EXP_TXP10_C
PA_EXP_TXN10	PAC25	0.22u/4/X5R/6.3V/K	PA_EXP_TXN10_C
PA_EXP_TXP11	PAC26	0.22u/4/X5R/6.3V/K	PA_EXP_TXP11_C
PA_EXP_TXN11	PAC27	0.22u/4/X5R/6.3V/K	PA_EXP_TXN11_C
PA_EXP_TXP12	PAC28	0.22u/4/X5R/6.3V/K	PA_EXP_TXP12_C
PA_EXP_TXN12	PAC29	0.22u/4/X5R/6.3V/K	PA_EXP_TXN12_C
PA_EXP_TXP13	PAC30	0.22u/4/X5R/6.3V/K	PA_EXP_TXP13_C
PA_EXP_TXN13	PAC31	0.22u/4/X5R/6.3V/K	PA_EXP_TXN13_C
PA_EXP_TXP14	PAC32	0.22u/4/X5R/6.3V/K	PA_EXP_TXP14_C
PA_EXP_TXN14	PAC33	0.22u/4/X5R/6.3V/K	PA_EXP_TXN14_C
PA_EXP_TXP15	PAC34	0.22u/4/X5R/6.3V/K	PA_EXP_TXP15_C
PA_EXP_TXN15	PAC35	0.22u/4/X5R/6.3V/K	PA_EXP_TXN15_C

PCIE16:16/5/5/5/16

PCI-E REV:1.1--> 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--> 5GHZ

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PCIESLOT-164P

3GIO_*16

[8,9,12,20,26,27,34] N_SMBCLK
[8,9,12,20,26,27,34] N_SMBDATA

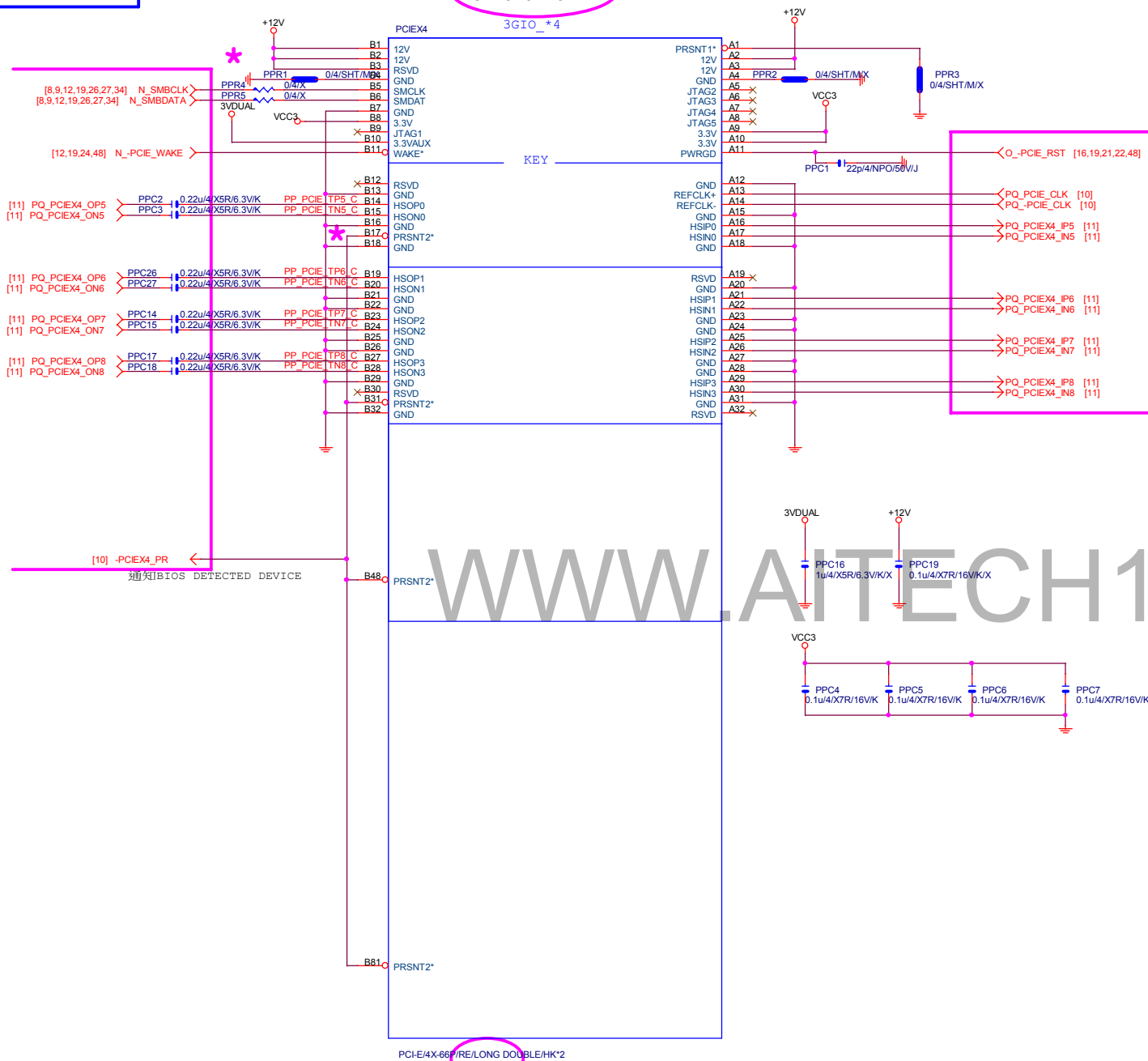
[12,20,24,48] N_PCIE_WAKE

[10] -PCIE16_PR

PCE/E16X-164P/RE/LONG DOUBLE/HK*2

紅色

Gigabyte Technology			
Title			
PCI EXPRESS * 16			
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Custom			Rev 1.0
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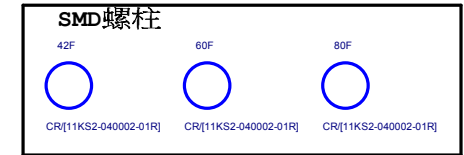
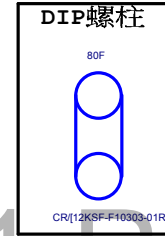
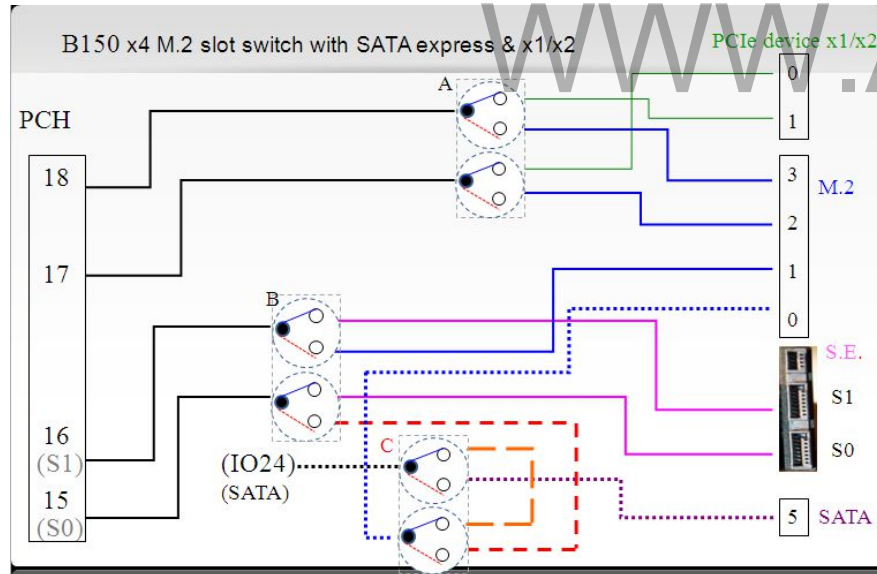
紅色

M.2 Lane2 from PCH port15 or port 24

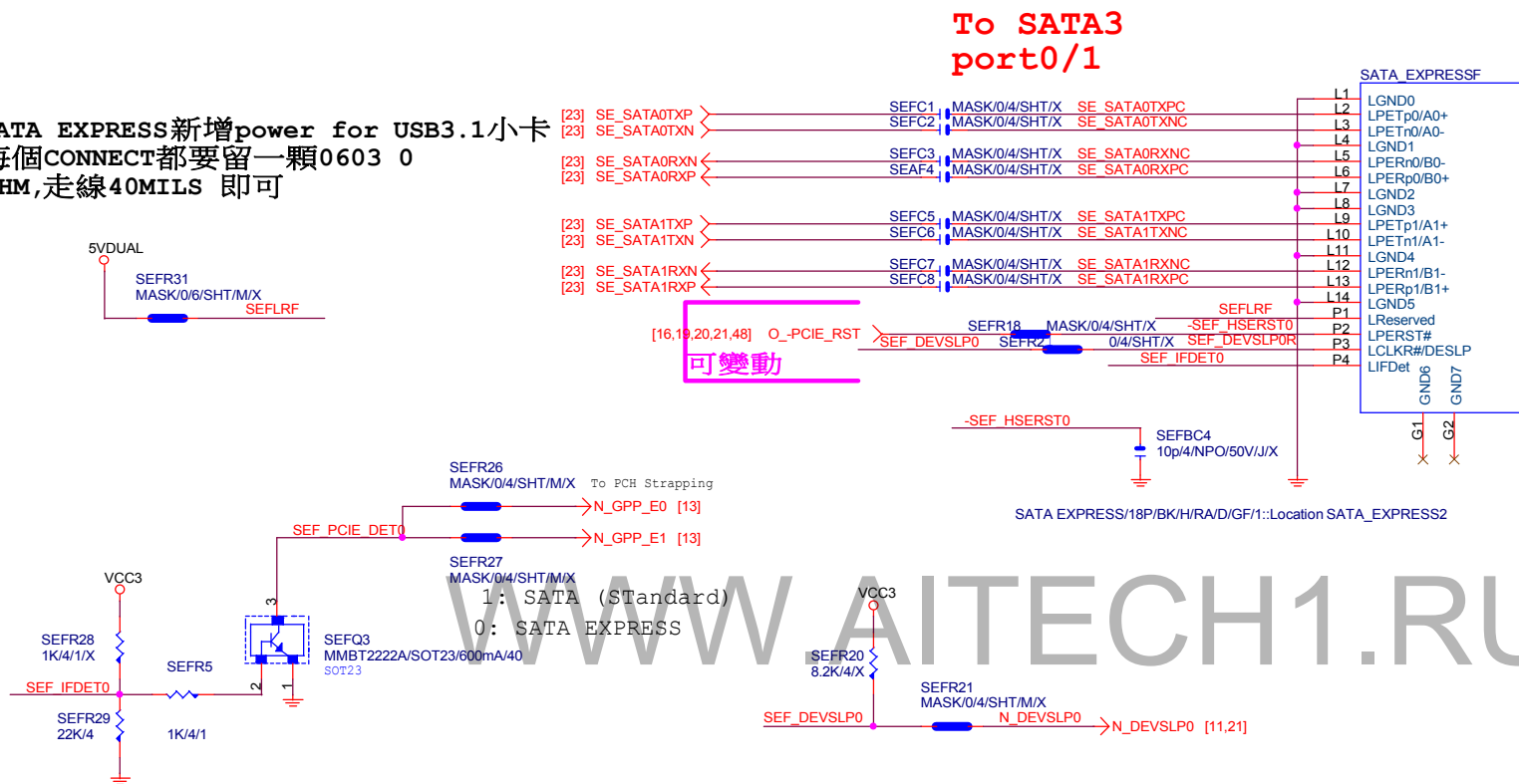
[23]	M2_PCIE_TNX	>	
[23]	M2_PCIE_TPX	>	

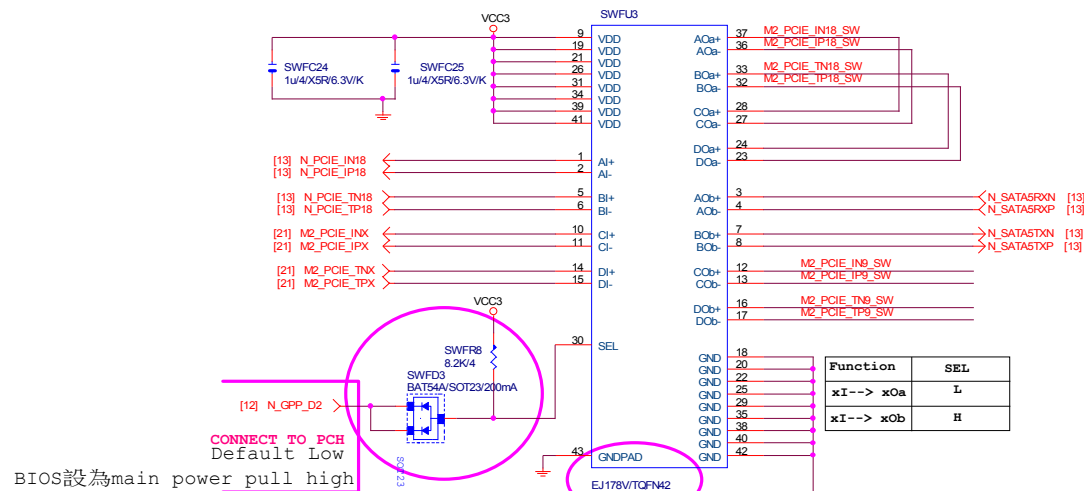
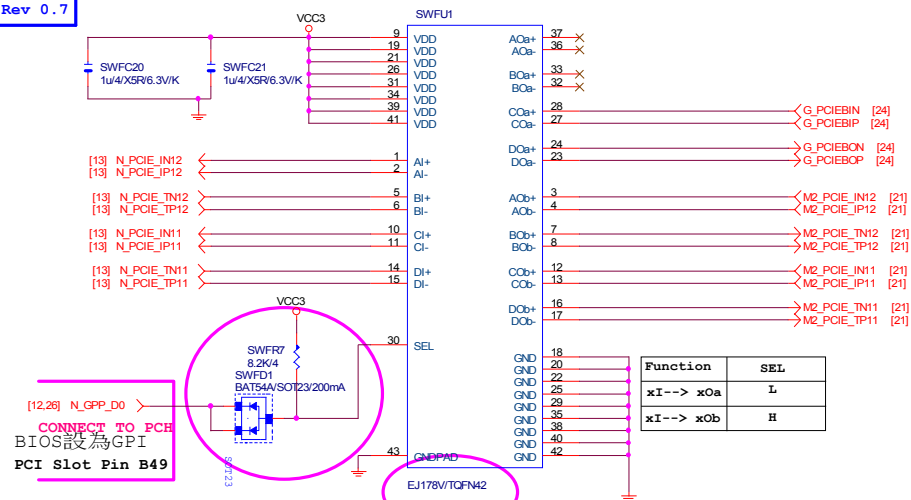
支援SATA and M.2 function

M2插卡時為Low



SATA EXPRESS新增power for USB3.1小卡
每個CONNECT都要留一顆0603 0
OHM,走線40MILS 即可





當偵測到此組態

	PCI S.E. M.2 (SATA)	PCI S.E. SATA S5	PCI M.2 (PCIEX2) SATA S5	M.2 (PCIEX4) SATA S5	S.E. M.2 (SATA)	M.2 (SATA)	PCI
N_GPP_D0	L	NA	L	H	H	H	L
N_GPP_G20	L	H	L	L	L	L	H
N_GPP_G21	L	H	H	H	L	L	H
N_GPP_E0	NA	L	NA	NA	L	H	H

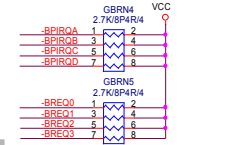
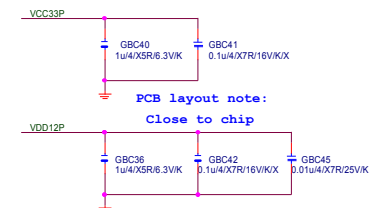
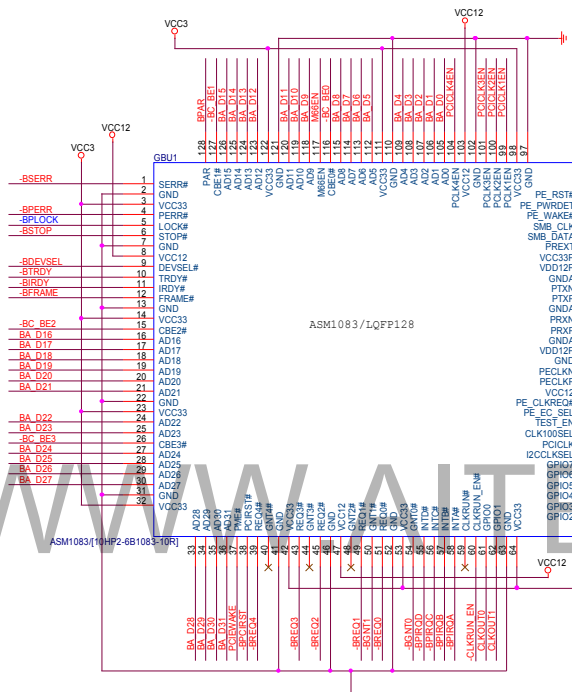
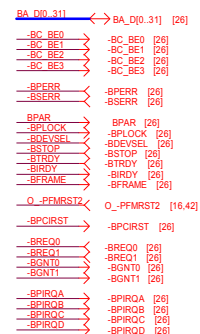
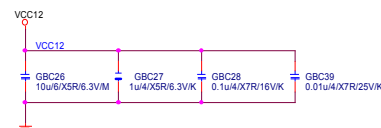
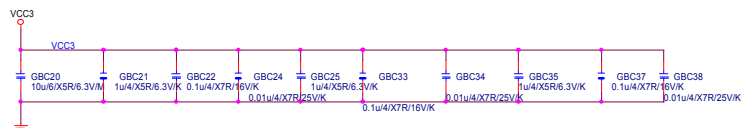
設定為此組態

	PCI S.E. M.2 (SATA)	PCI S.E. SATA S5	PCI M.2 (PCIEX2) SATA S5	M.2 (PCIEX4) SATA S5	S.E. M.2 (SATA)	M.2 (SATA)	PCI
N_GPP_D1	L	L	H	H	L	H	NA
N_GPP_D2	L	H	H	H	L	H	NA

Gigabyte Technology

PCI EXPRESS X16 SWITCH

Size	Document Number	Rev
Custom	GA-B150M-Gaming3 DDR3-DB	1.0
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CLK100SEL Strapping Set

CLK100SEL	H	L
PCIe CLK	100M +/-N%	100M +/-N%
PCICLK_IN	X	33M
PCICLK0	33M +/-N%	33M

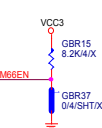
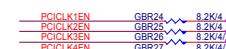
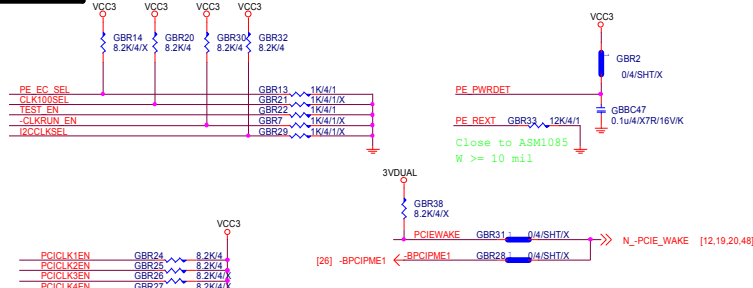
PE_EC_SEL-
"H" for Express Card mode
"L" for PCIe Riser Card mode

CLK100SEL-
"H" for PECLK input only
"L" for PECLK & PCICLK input

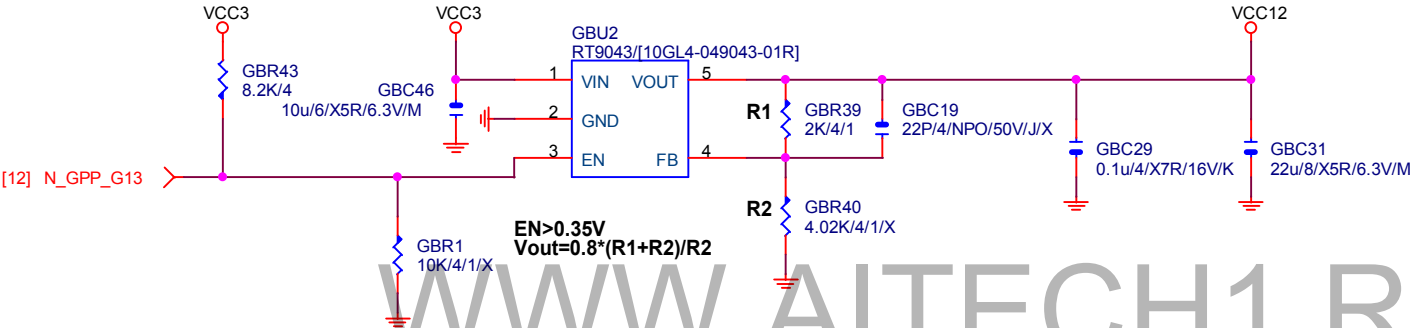
TEST_EN-
"H" for Test Mode Enable
"L" for Test Mode Disable

-CLKRUN_EN-
"H" for CLKRUN Mode Disable
"L" for CLKRUN Mode Enable

I2CCLKSEL-
"H" is 135KHz I2CCLK
"L" is 67.5KHz I2CCLK



Rev 0.9

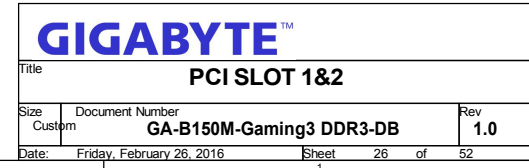


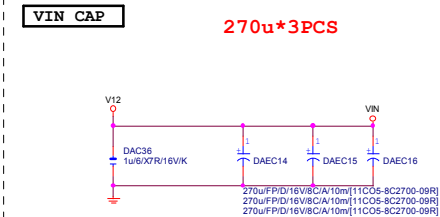
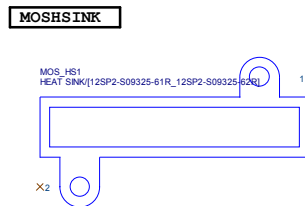
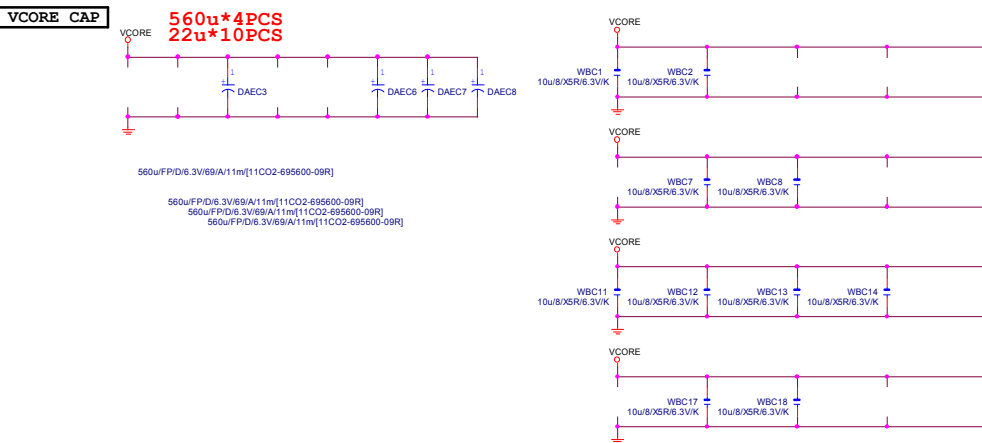
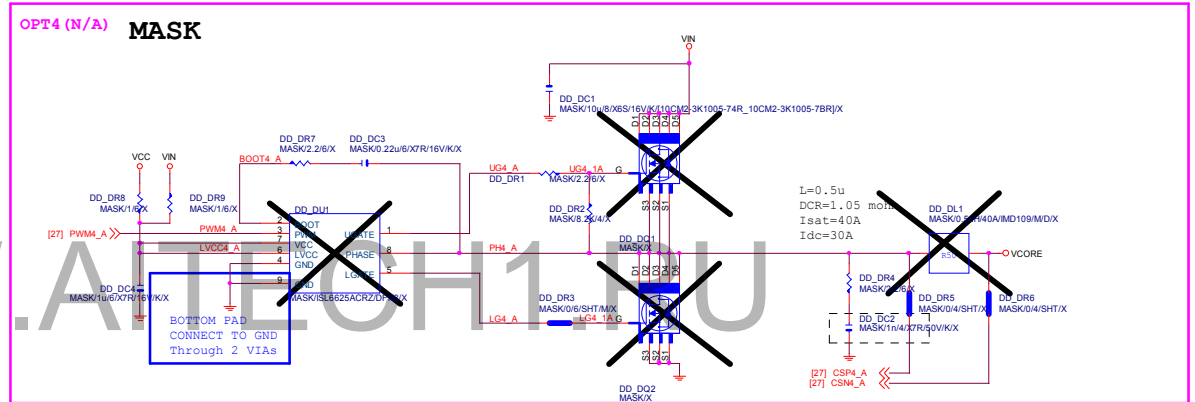
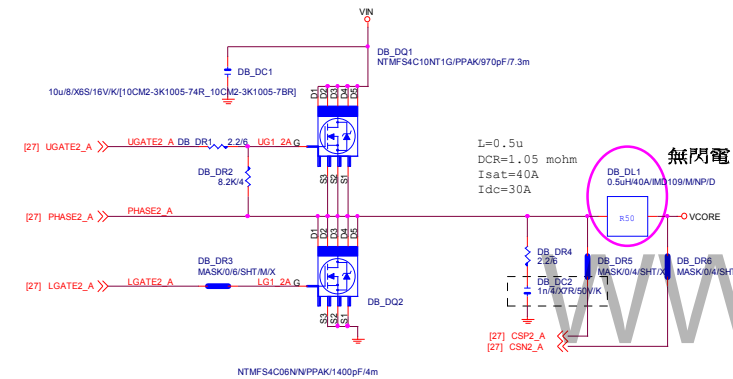
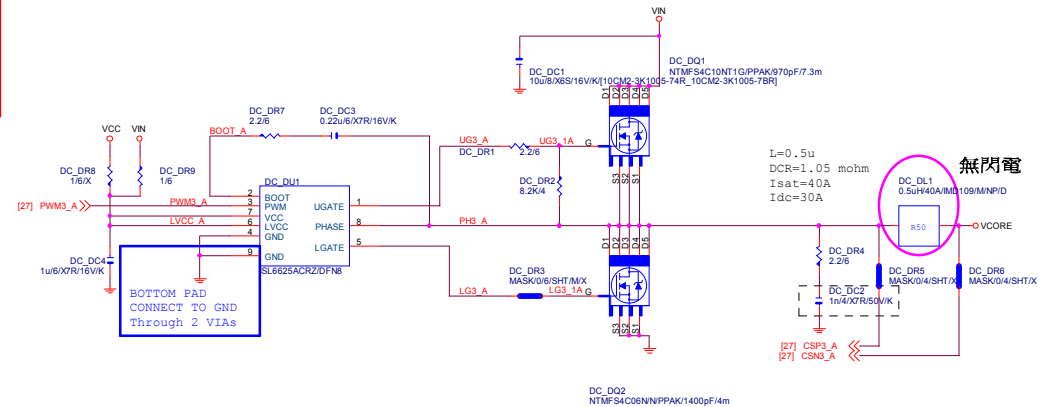
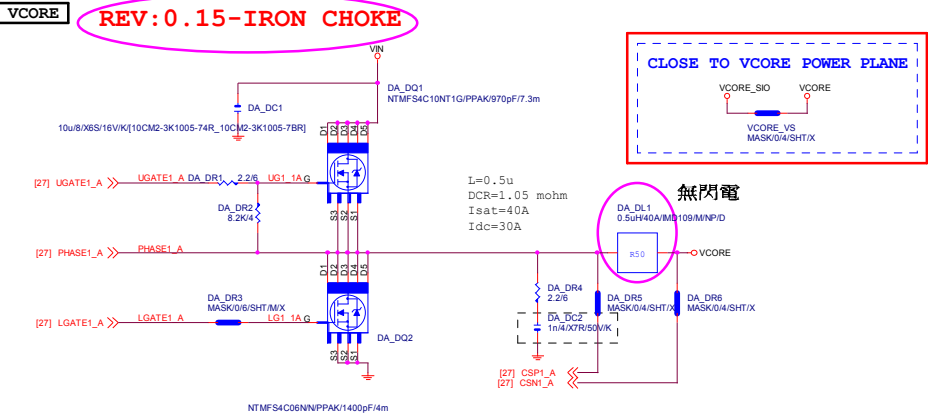
WWW.AITECH1.RU

Gigabyte Technology			
Title			
ASM1085 POWER			
Size	Document Number	GA-B150M-Gaming3 DDR3-DB	Rev
Custom			1.0
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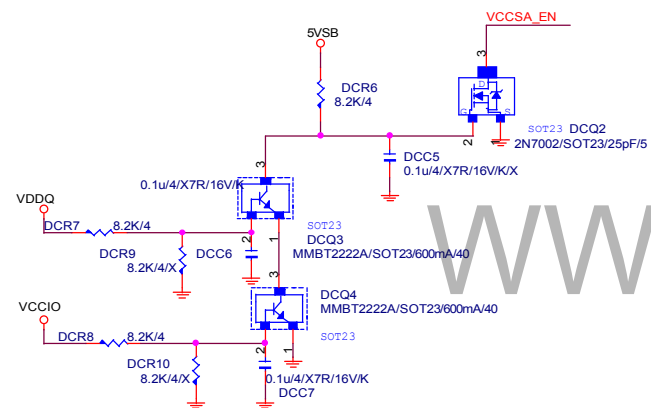
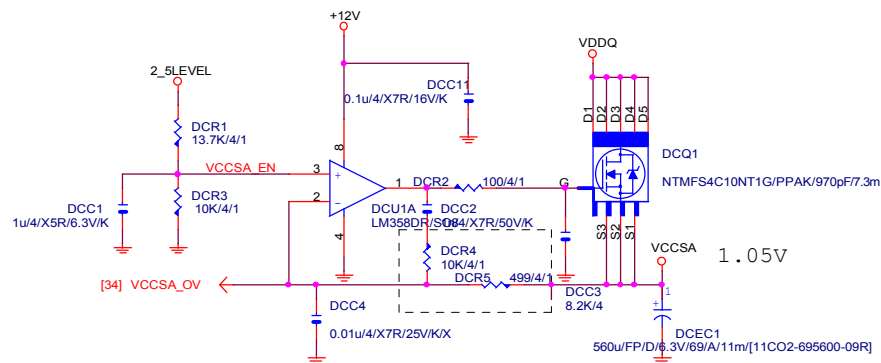
PCI SLOT 1

PCI SLOT 2



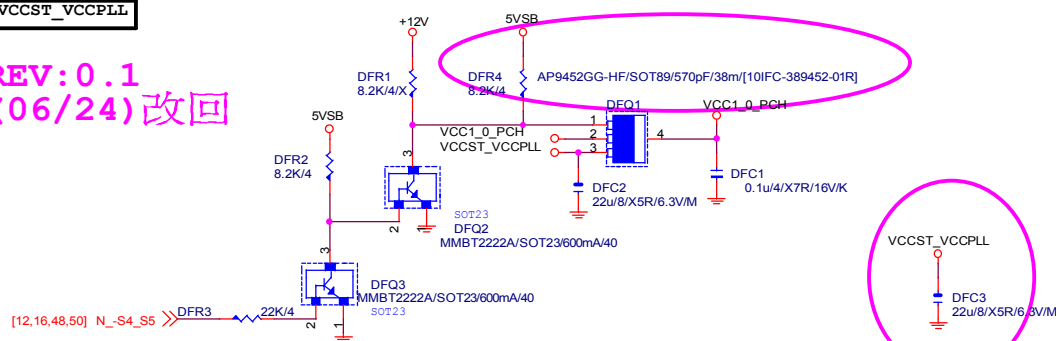


REV: 0.4

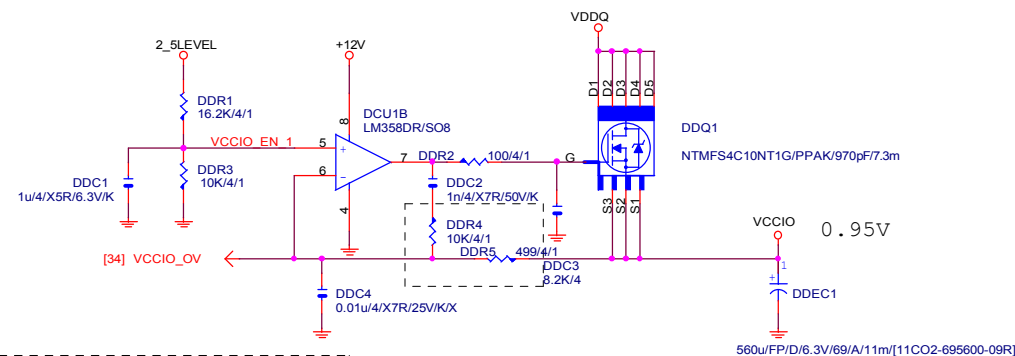


VCCST_VCCPLL

REV:0.1
(06/24)改回



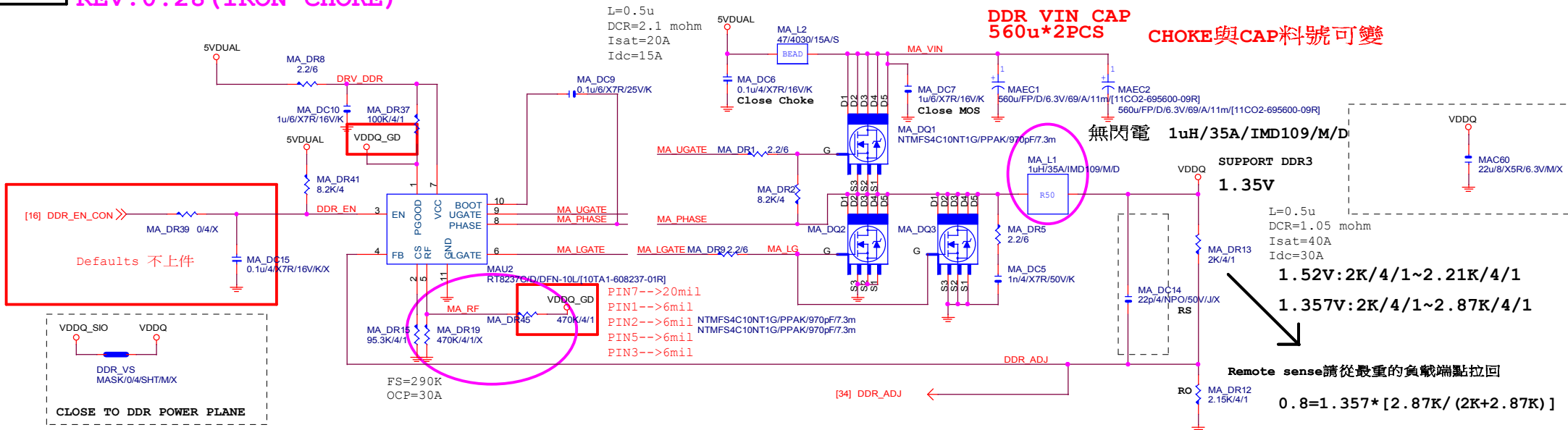
VCCIO



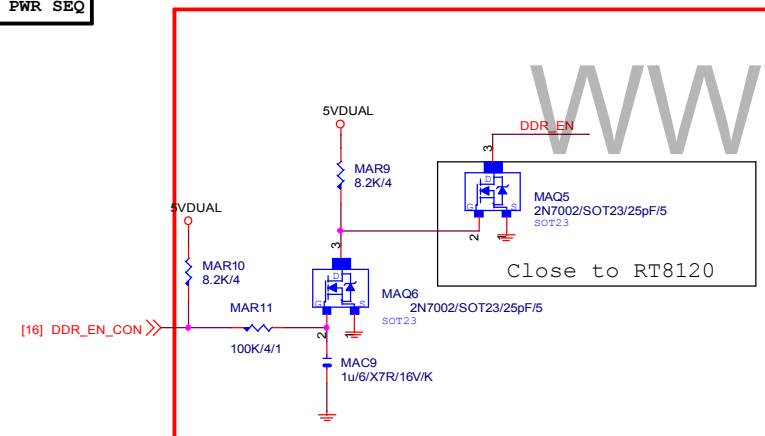
VCCIO_EN 1 DDR10 0/4/SHT/MX VCCIO_EN [16]

Connect to IT8620

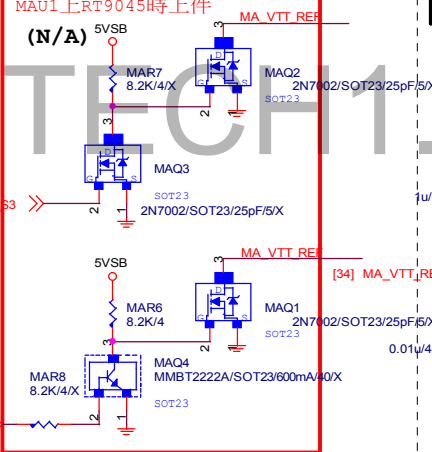
放CPU端。



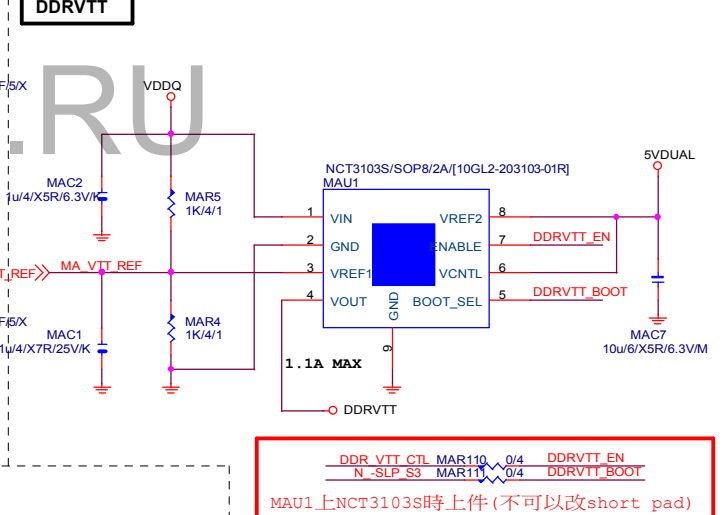
PWR SEQ



MAU1上RT9045時上件

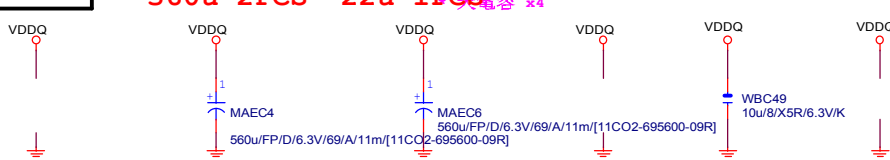


DDRVTT

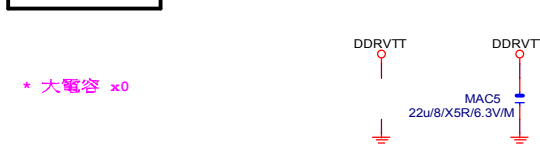


DDR CAP

560u*2PCS 22u*1PCS



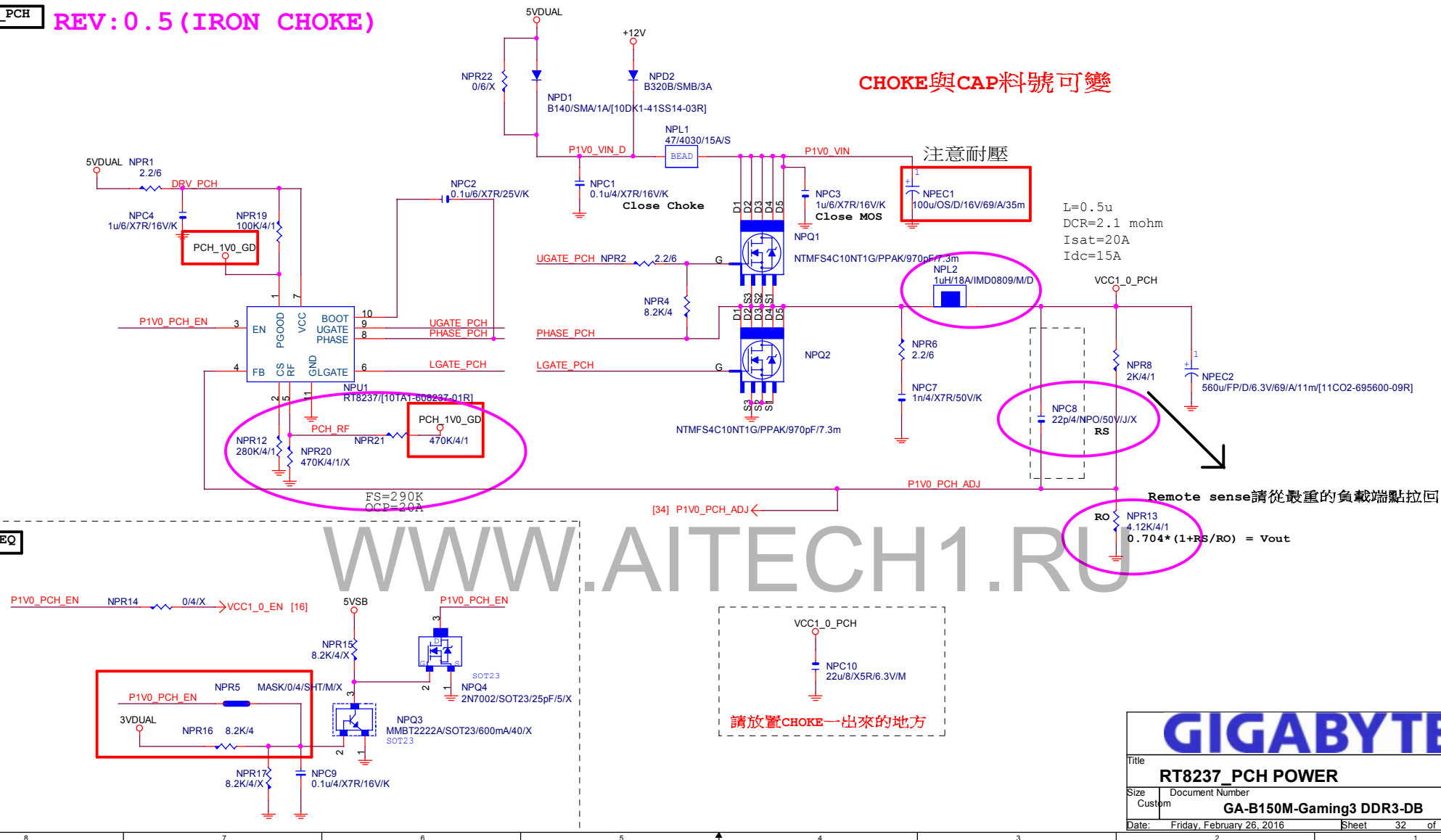
DDRVTT CAP



GIGABYTE™

Title		
RT8120_DDR POWER		
Size	Document Number	Rev
Custom	GA-B150M-Gaming3 DDR3-DB	1.0
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CHOKE與CAP料號可變



GIGABYTE™

Title			
RT8237_PCH POWER			
Size	Document Number	Rev	
Custom	GA-B150M-Gaming3 DDR3-DB	1.0	
Date:	Friday, February 26, 2016	Sheet	32 of 52

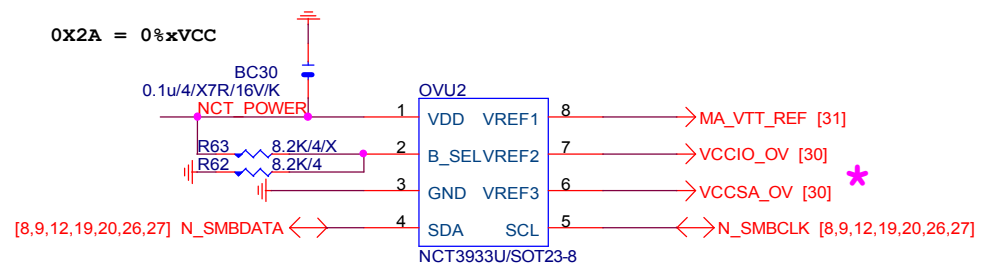
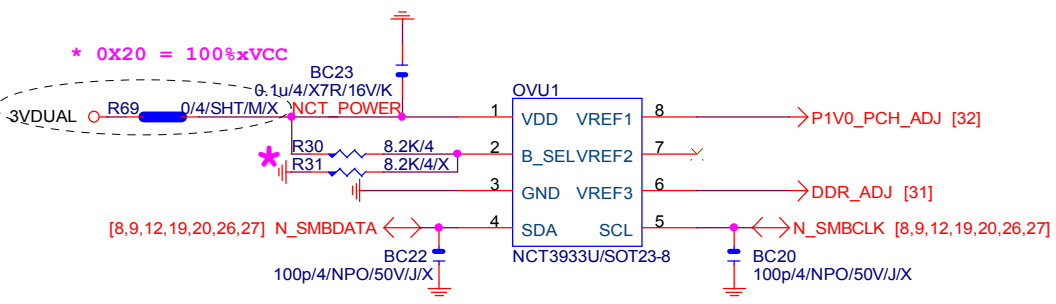
[16] 5VAUX_SW >>



3VDUAL

[12] N_-DEP

OVER VOLTAGE



0X22 = 75% \times VCC

* 删除 OVU3

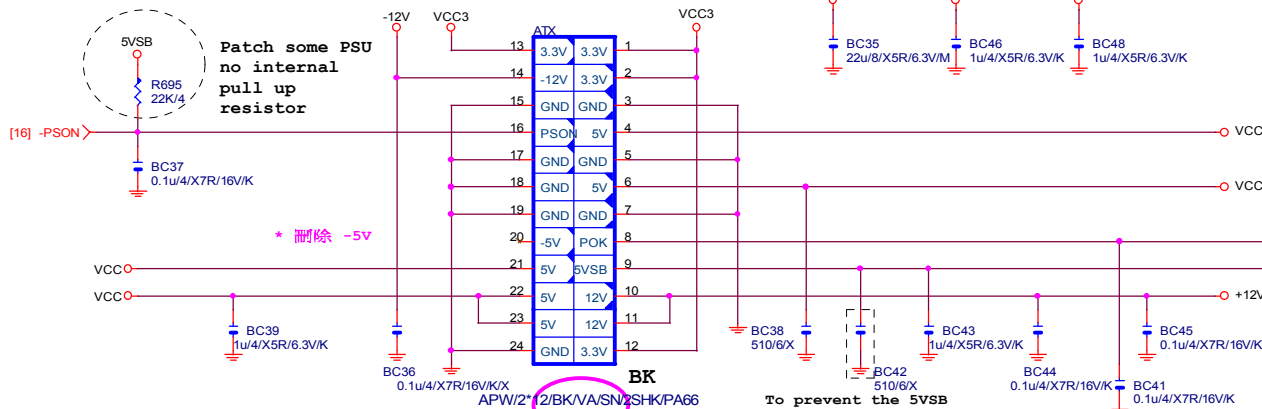
NCT3933	0X2A	0X20	0X22
VREF1	DDRVT	VREF_DDRA_DQ	PCH Core
VREF2	VREF_DDRA_CA	N/A	VCC1_5_PCH
VREF3	VREF_DDRA_CA	VREF_DDRB_DQ	SMREF

Gigabyte Technology

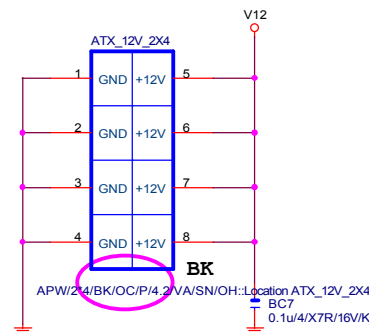
CPU CORE VR-2

Title	CPU CORE VR-2	
Size	Document Number	Rev
Custom	GA-B150M-Gaming3 DDR3-DB	1.0
Date:	Friday, February 26, 2016	Sheet 34 of 52

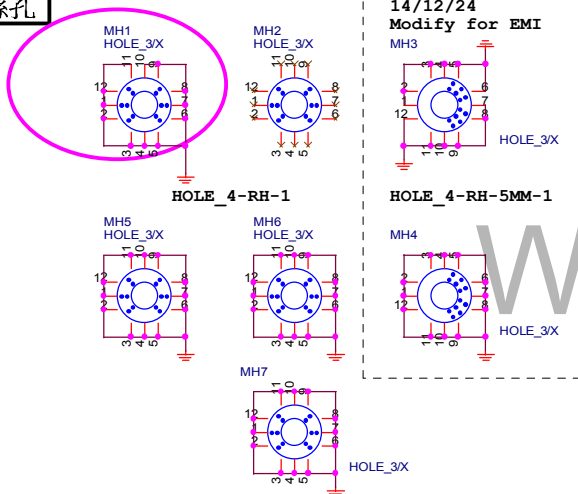
ATXX24 POWER CONNECTOR



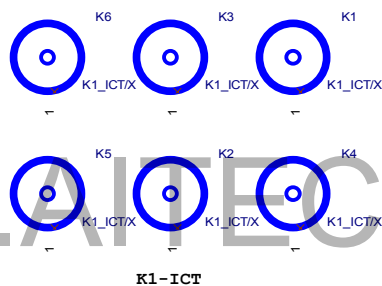
ATXX4 POWER CONNECTOR



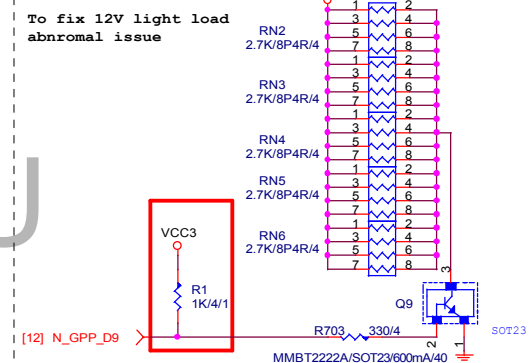
螺絲孔



固定孔/光學點

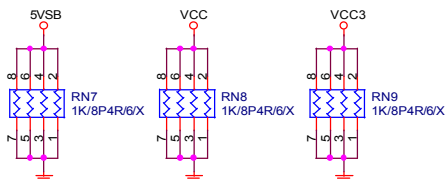


+12V DUMMY LOAD



【技術通報R&D技術通報153】

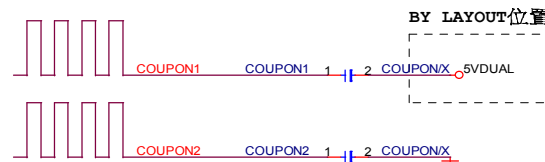
DUMMY LOAD



-PROHOT

[4.16] A_-PROHOT <-> -PROCHOTR2 MASK/0/4/SHT/MX VR_HOT [27]

COUPON



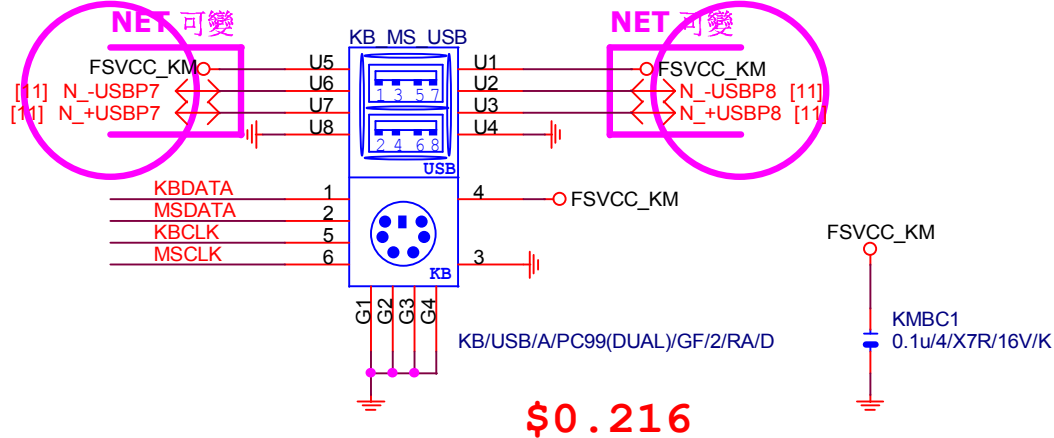
Gigabyte Technology

ATX POWER CONNECTOR

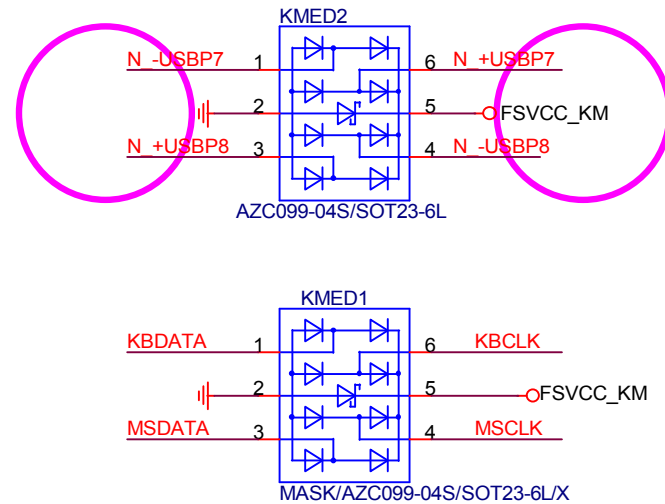
Title	Document Number	Rev
Size	GA-B150M-Gaming3 DDR3-DB	1.0
Custom		
Date:	Friday, February 26, 2016	Sheet 35 of 52

KB_MS_USB

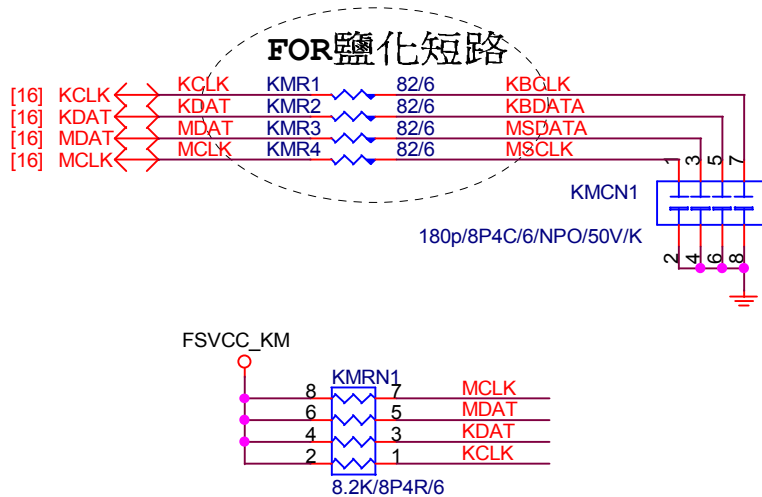
Rev: 0.7



ESD

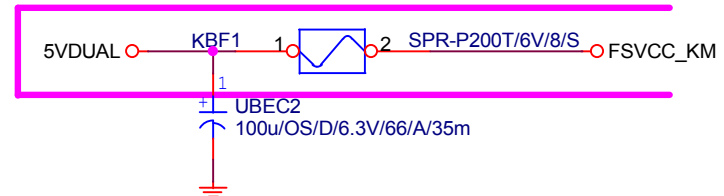


KB_MS_USB DAMPING/PU

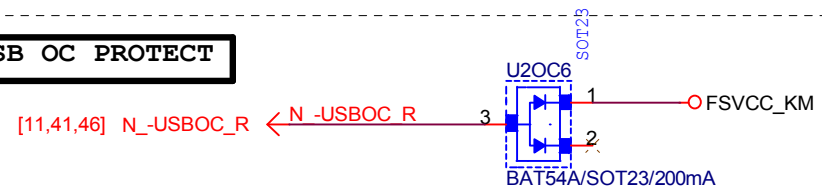


KB_MS_USB PWR

NET 可變, 與其他 USB SHARE



USB OC PROTECT



Gigabyte Technology

KB_MS_USB

Title

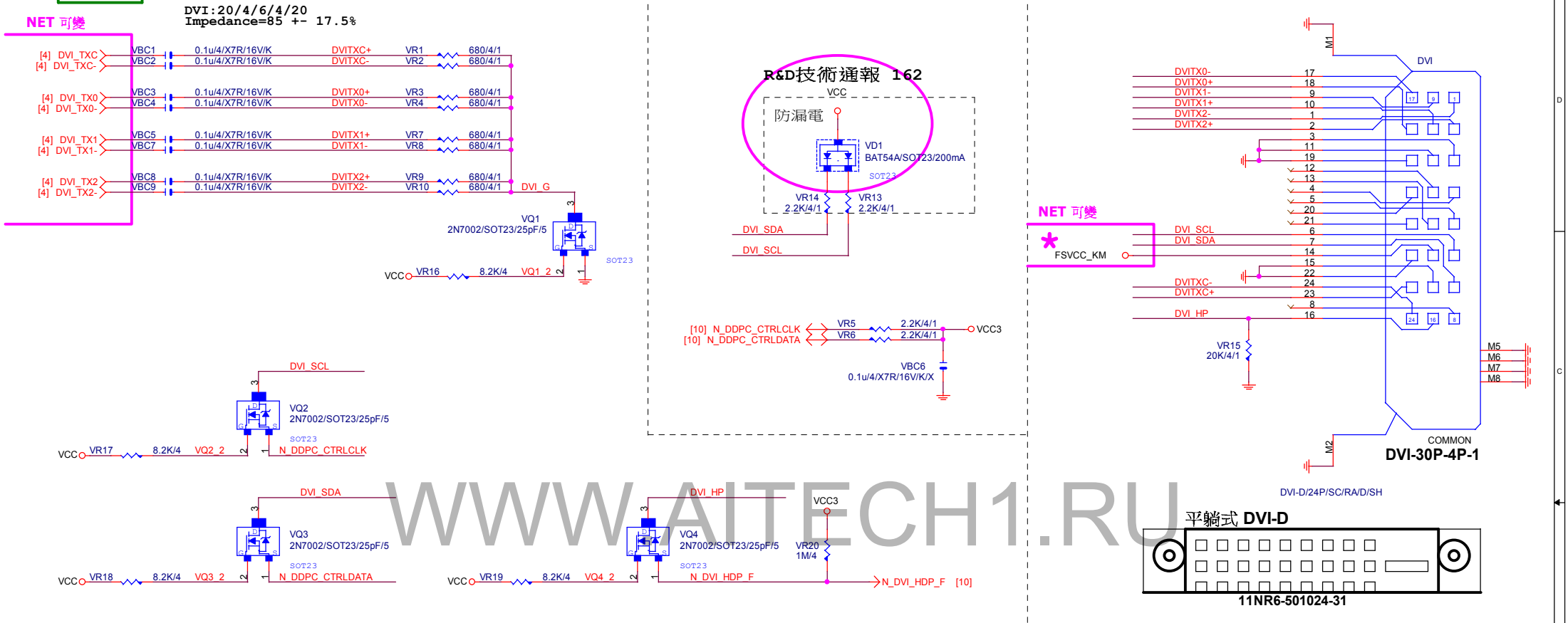
Size
A

Document Number GA-B150M-Gaming3 DDR3-DB

Rev
1.0

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ROM PART: PTN3356R1BS/[10HQ5-A23356-10R]
FLASH PART: PTN3356F1BS/[10HQ5-A23356-20R]

省X'TAL COST DOWN:

1. 上件:

DVC28 [10p/4/NPO/50V/J]

DVC11 [10p/4/NPO/50V/J]~修改值

DVR10 [8.2K/4]

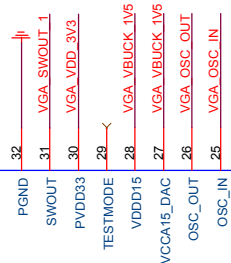
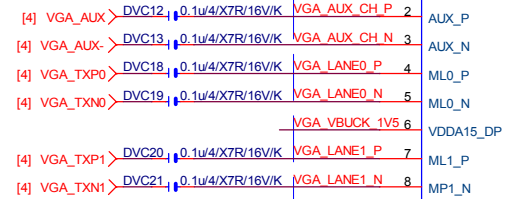
2. 删除:

DVX1 [25M/16p/30ppm/49US/20/D]

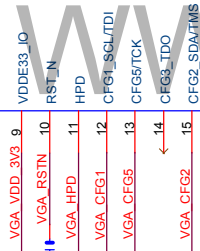
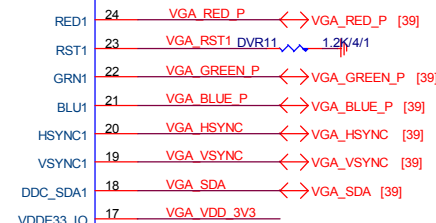
DVC10 [20p/4/NPO/50V/J]

DVR9 [8.2K/4]

* CPU DP端



DVU1
PTN3356F1BS/QFN32/[10HQ5-A23356-20R]

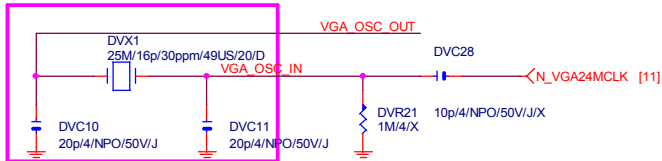


DVC27
1u4/X5R/6.3V/K/X

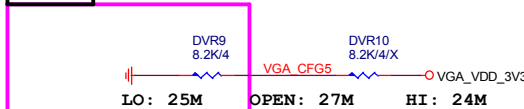
放置PCH端



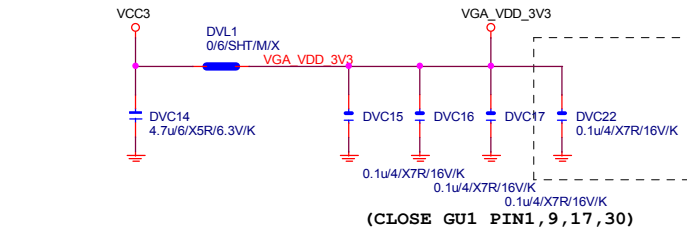
25M Crystal FROM PCH 24MHZ ISSUE



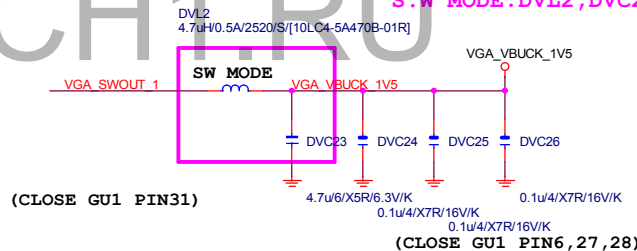
CFG5 For Crystal Less



ADAPTER POWER



LDO MODE:DVL2,DVC23-->X
S.W MODE:DVL2,DVC23-->O

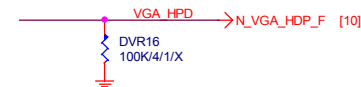


CFG1&2

Non-Compliant

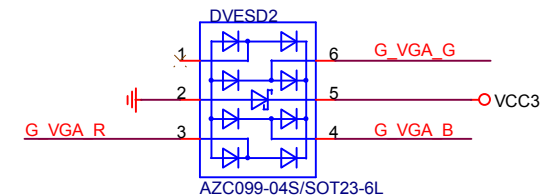
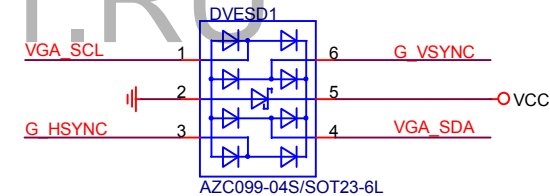
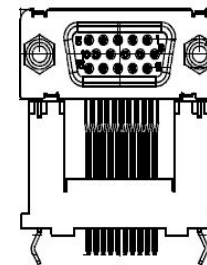
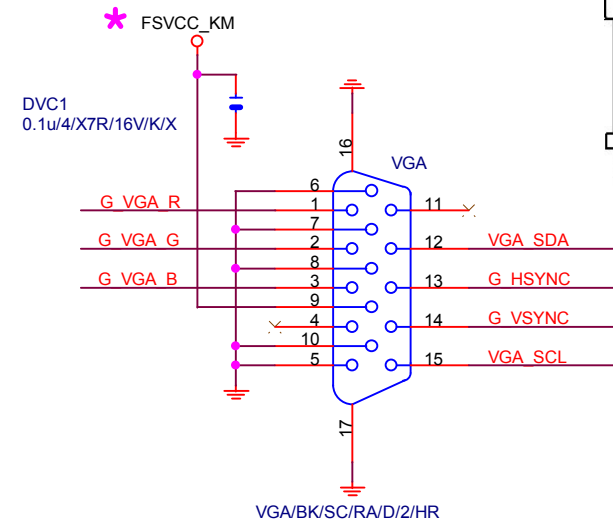
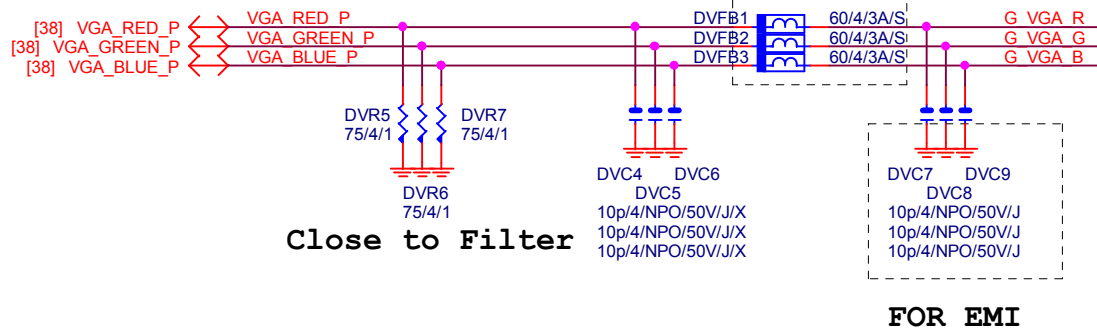
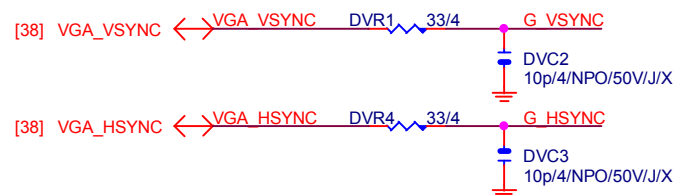
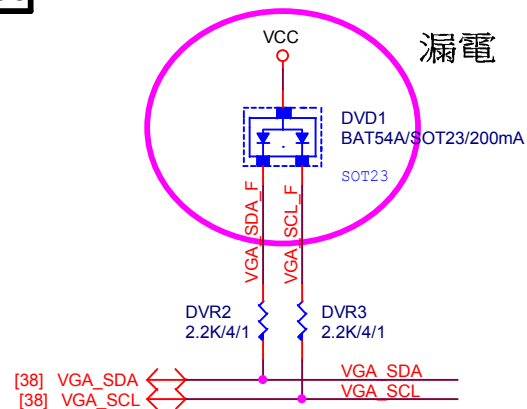


HPD PCH端



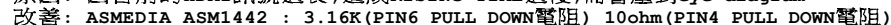
Gigabyte Technology
NXP-PTN3356

Title	Document Number	GA-B150M-Gaming3 DDR3-DB	Rev	1.0
Size	Custom			
Date:	Friday, February 26, 2016	Sheet	38	of 52



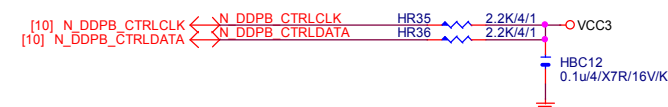
Gigabyte Technology
NXP-PTN3356

Title				Rev 1.0
NXP-PTN3356				
Size Custom	Document Number GA-B150M-Gaming3 DDR3-DB			Rev 1.0
Date:	Friday, February 26, 2016	Sheet	39 of 52	

Rev: 0.7

FSVCC_U3R1

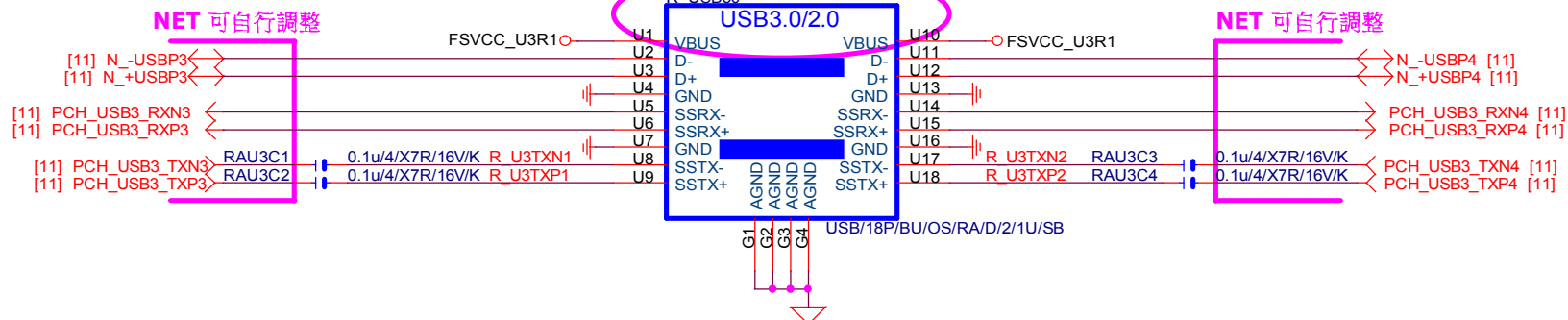
HBC5
1u/4/X5R/6.3V/K



Title		HDMI	
Size Custom	Document Number	GA-B150M-Gaming3 DDR3-DB	Rev 1.0
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Rev: 0.7

ESD 可自行SWAP PIN ,CONN端 NET 名稱 不可



ESD

NET 可自行調整

PCH_USB3_RXN4

PCH_USB3_RXP4

* swap

PCH_USB3_RXP4

PCH_USB3_RXN4

PCH_USB3_RXP3

PCH_USB3_RXN3

* swap

PCH_USB3_RXN3

PCH_USB3_RXP3

NET 可自行調整

R U3TXP1

R U3TXN1

* swap

R U3TXN1

R U3TXP1

R U3TXN2

R U3TXP2

* swap

R U3TXP2

R U3TXN2

NET 可自行調整

N_-USBP4

N_+USBP4

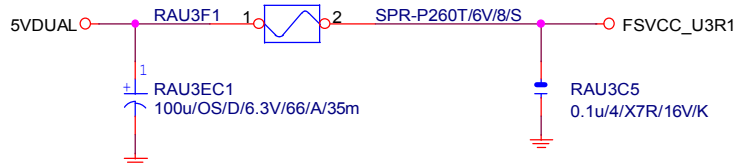
N_+USBP3

N_-USBP3

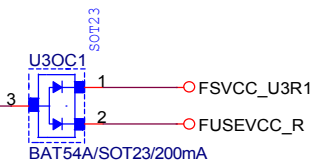
AZC099-04S/SOT23-6L

FUSE

FUSE 2 Port 1 Fuse 2.6A



[11,36,46] N_-USBOC_R <- N_-USBOC R

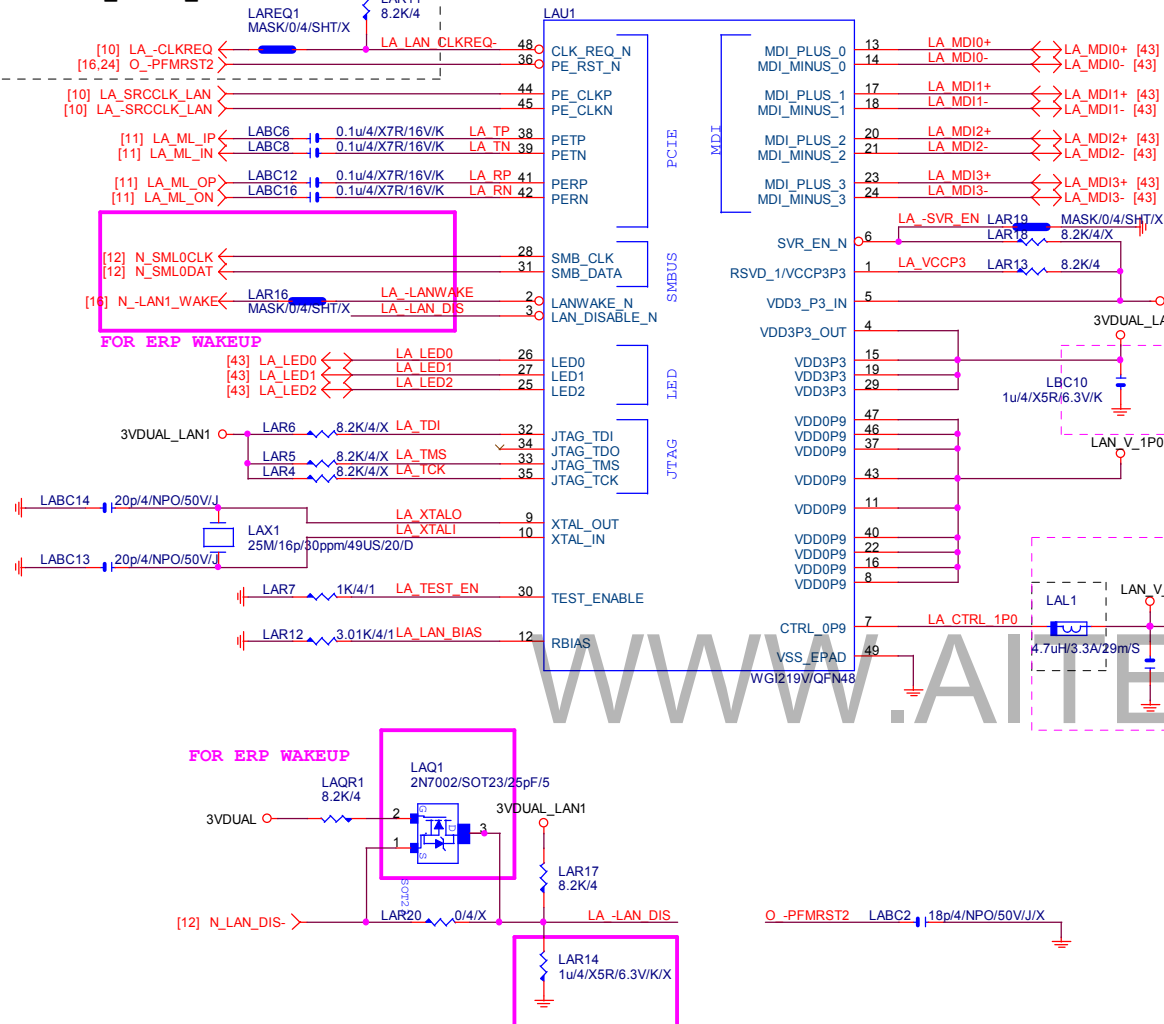


Gigabyte Technology

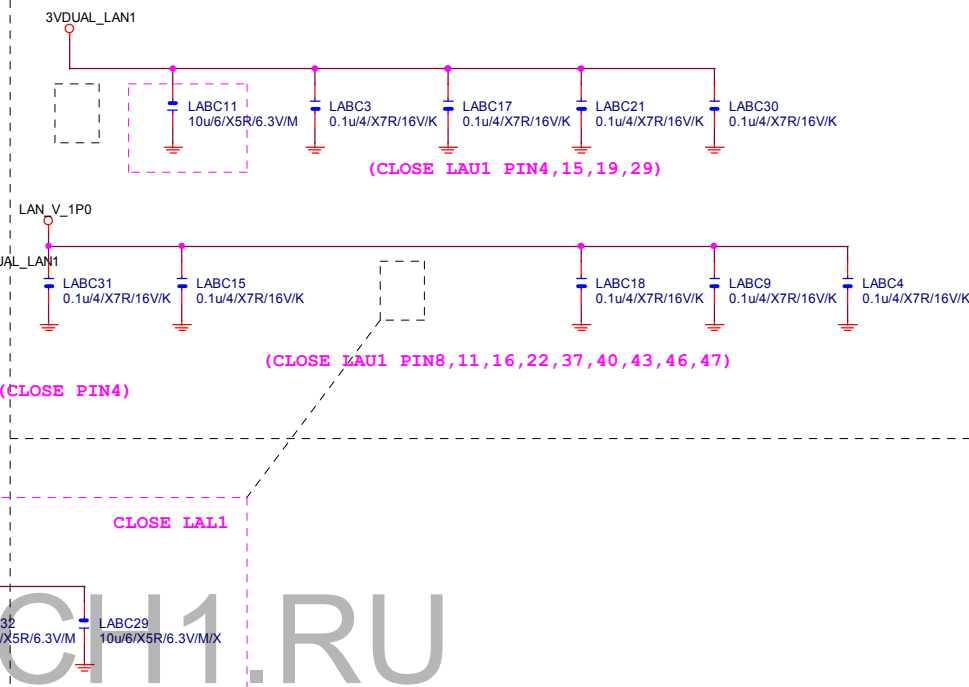
Title		
R_USB30,USB_OC		
Size	Document Number	Rev
Custom	GA-B150M-Gaming3 DDR3-DB	1.0
Date:	Friday, February 26, 2016	Sheet 41 of 52

R1.1

L1+CLK REQ# 節能:
需對應LA_SRCCLK_LAN之CLKREQ#



LAN POWER



Gigabyte Technology

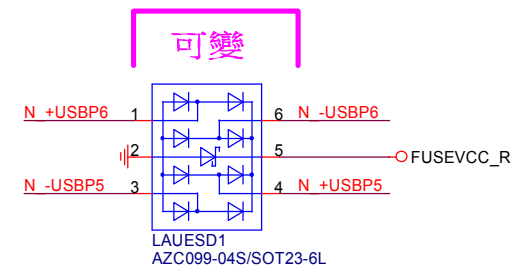
INTEL I219

Size	Document Number	Rev
Custom	GA-B150M-Gaming3 DDR3-DB	1.0

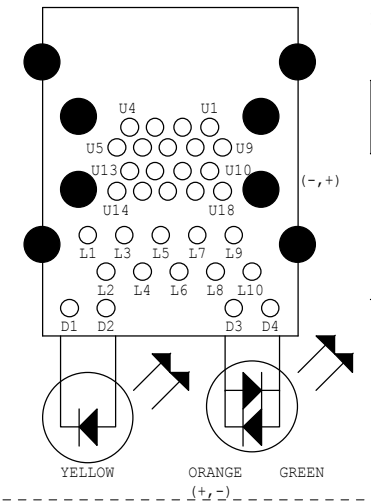
Date: Friday, February 26, 2016 Sheet 42 of 52

USB_LAN CONNECTOR R1.1

RMA ESD PROTECT note:可變更USB NAME



USB30_LAN LAYOUT示意圖



LAN_COVER FOOT PRINT: LAN_COVER

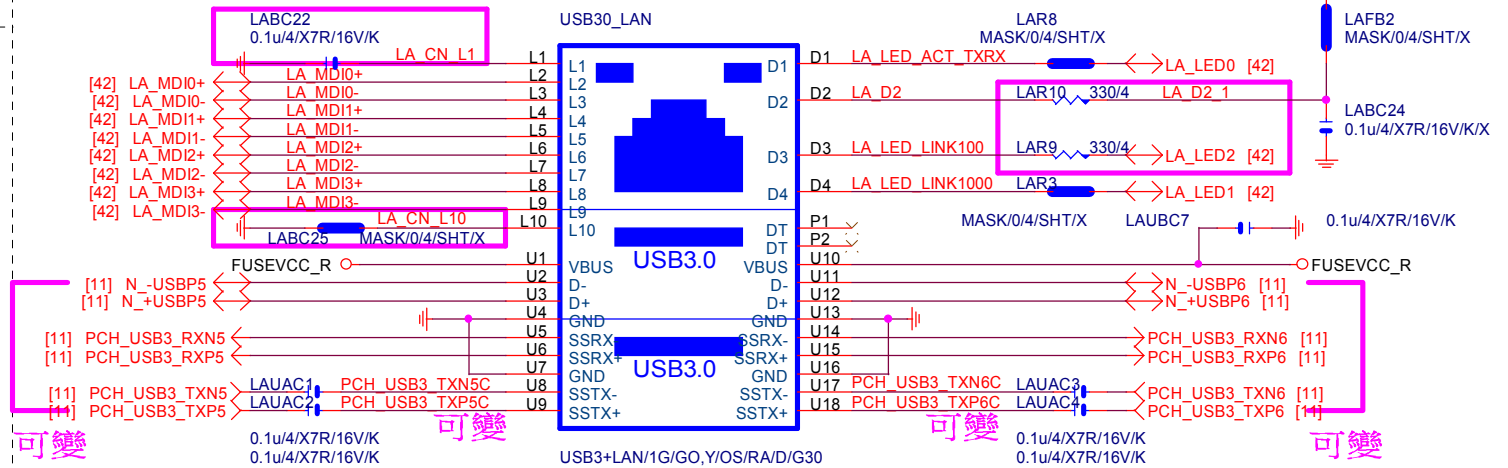
可變
[視SPEC需求]

Vinafix.com

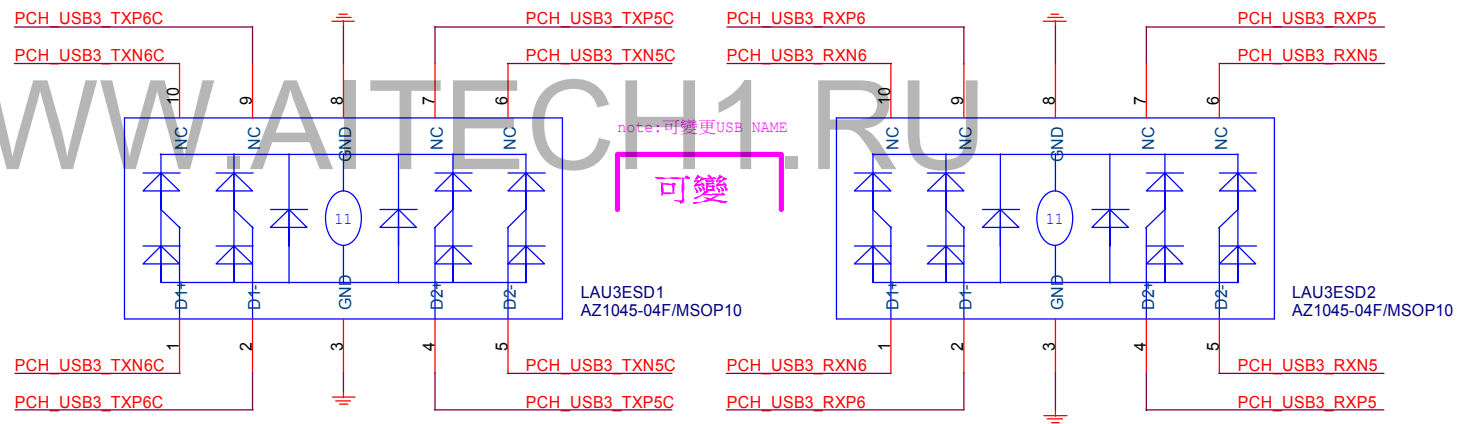
[-D3H不加蓋]

USB_LAN CONNECTOR note:可變更USB NAME

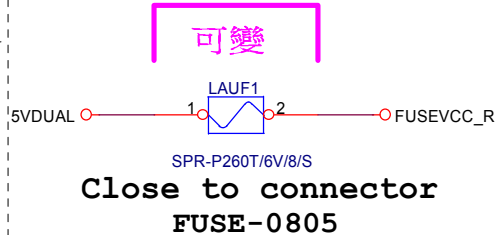
[I219]



LA_MDI-->100歐姆: [20/4/8/4/20]



USB POWER note:可變更FUSE

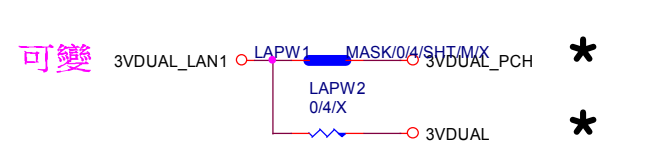


EMI SHORT PAD

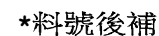
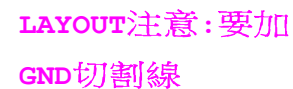
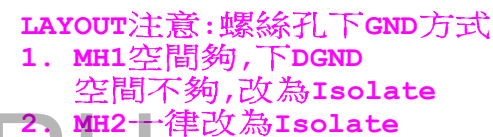
PS:視EMI需求



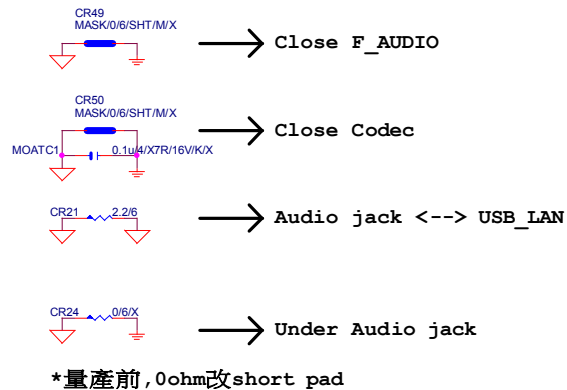
LAN POWER note:lan power連接及電流



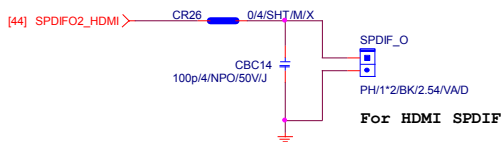
Gigabyte Technology		
LAN CONNECTOR-I219		
Title	Document Number	Rev
Size	Custom	GA-B150M-Gaming3 DDR3-DB
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- BOM OPTION :**
1. Chemicon音效電容
 2. 金屬外置 Reserve (上件與否,依照各Model spec)
 3. LED Reserve (上件與否和LED顏色,依照各Model spec)

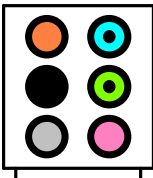


SPDIF_OUT

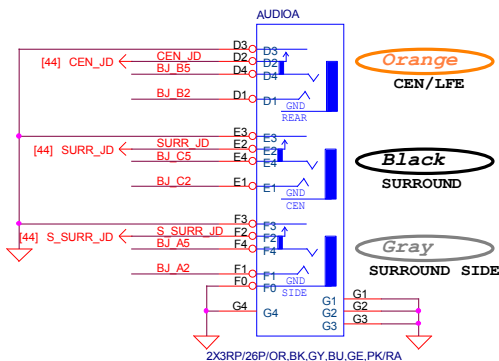
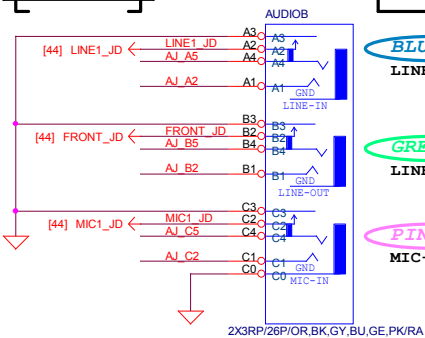


SPDIF_IN

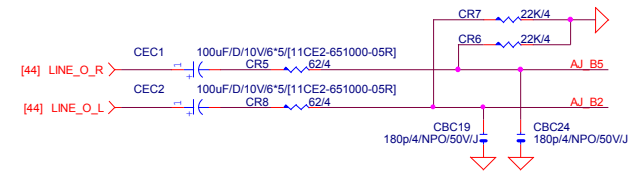
AZALIA JACK



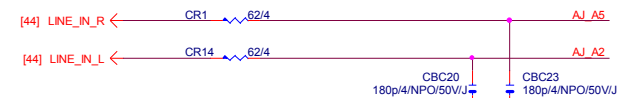
AZALIA JACK

BLUE
LINE-INGREEN
LINE-OUTPINK
MIC-IN

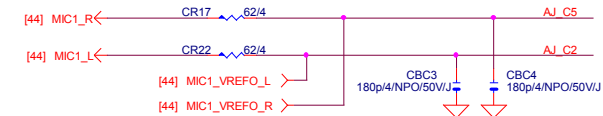
LINE-OUT



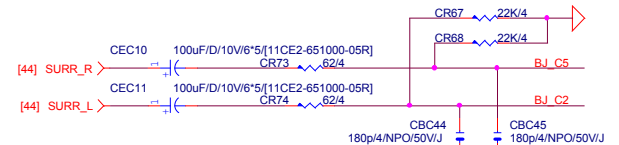
LINE-IN



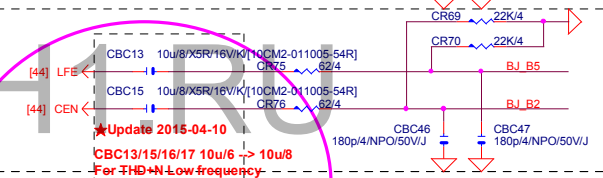
MIC-IN



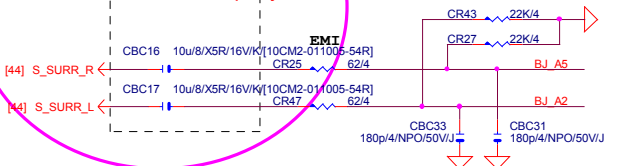
SURROUND



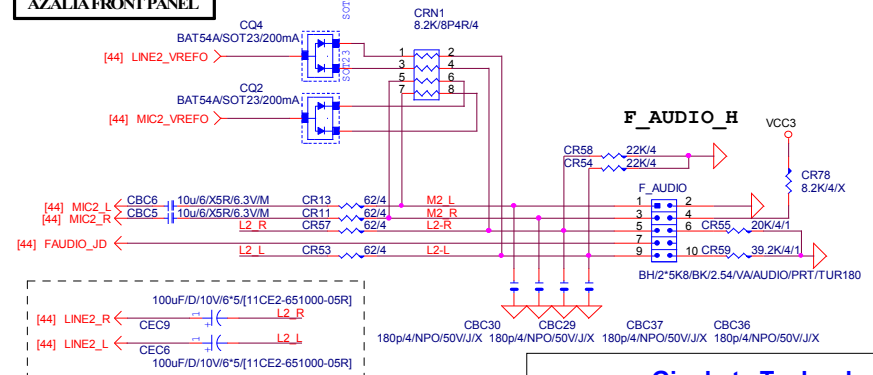
CEN/LFE



SURRBACK



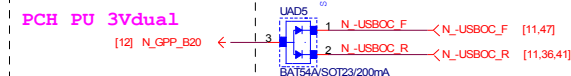
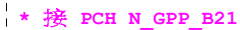
AZALIA FRONT PANEL



Gigabyte Technology

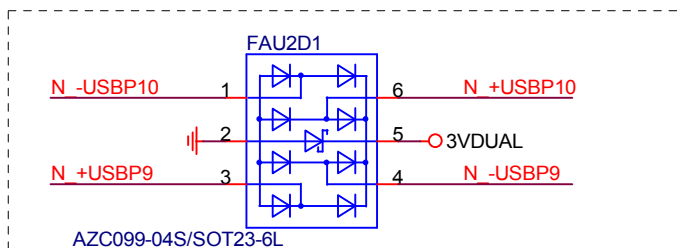
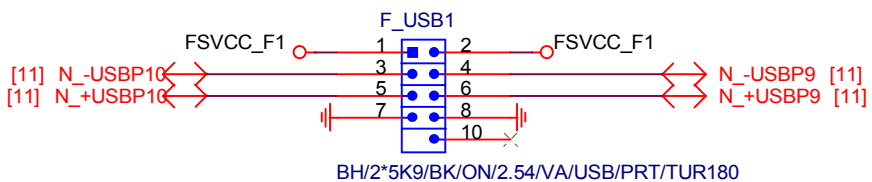
AUDIO JACK

Title	GA-B150M-Gaming3 DDR3-DB		
Size	Document Number	GA-B150M-Gaming3 DDR3-DB	Rev 1.0
Custom	Date:	Friday, February 26, 2016	Sheet 45 of 52



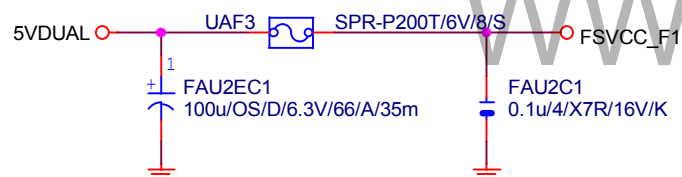
NET 可變

FUSB2X5-HS



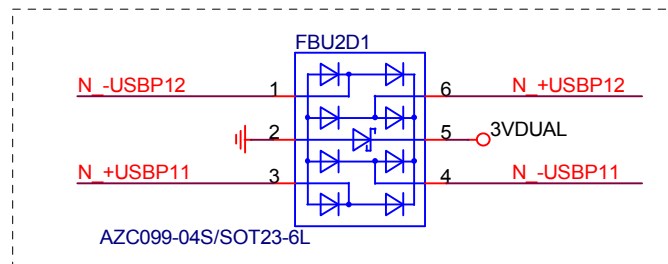
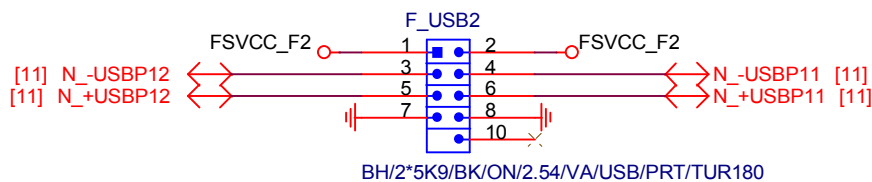
Close to connector

FUSE 2 Port 1 Fuse 2A



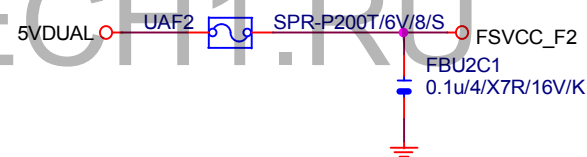
NET 可變

FUSB2X5-HS

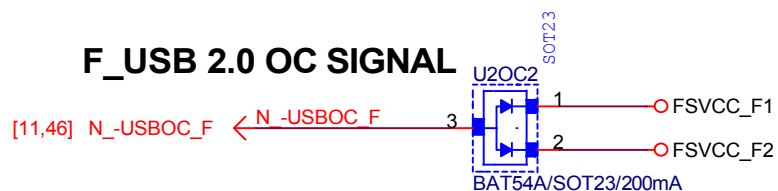


Close to connector

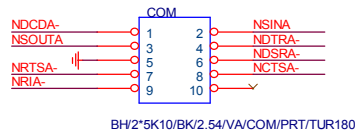
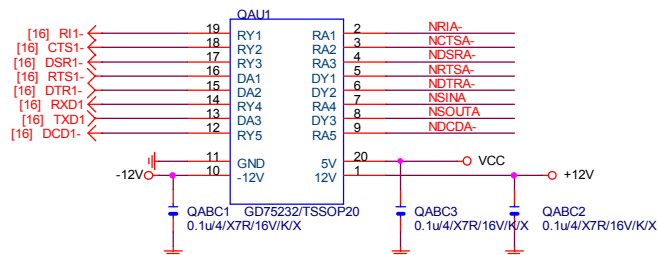
FUSE 2 Port 1 Fuse 2A



F_USB 2.0 OC SIGNAL

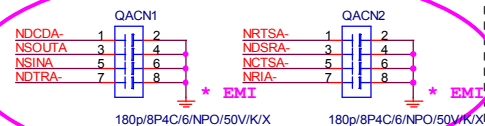


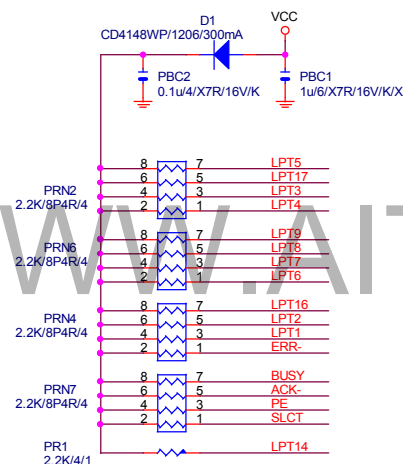
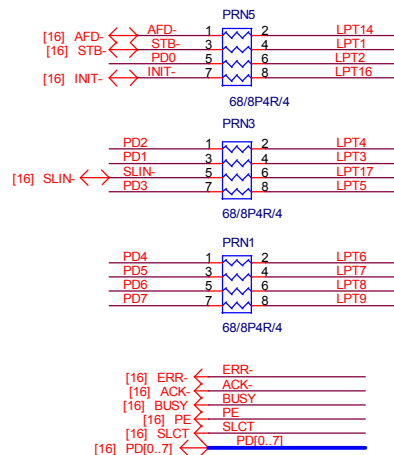
Rev: 0.7



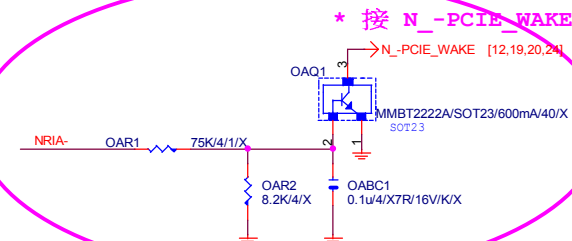
BH/2*5K10/BK/2.54/VA/COM/PRT/TUR180

F COM-HS

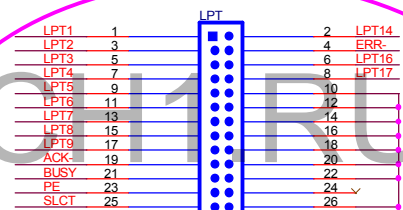


LPT PORT

COM RI	N/A
--------	-----



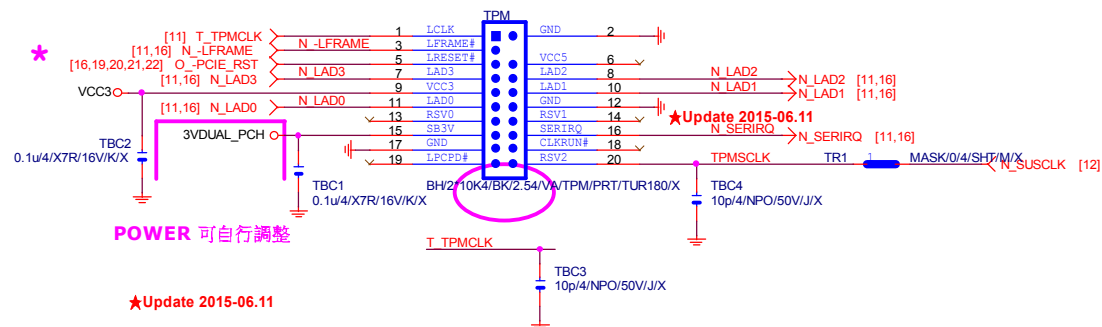
R&D技術通報151 有使用PRINT PORT的
MODEL，需使用新料號:10HP2-118728-72R。(CHIP IT8728F/EX (GB) ITE/SMD
QFP128 PRINTPORT SORTING)料件。串電阻33 ohm改為68 ohm。



BH/2*13K24/BK/2.54/VA/LPT/PRT/TUR180

F LPT-HS

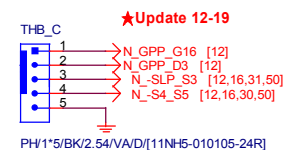
TPM CONNECT



★Update 2015-06.11

Vinafix.com

Thunderbolt



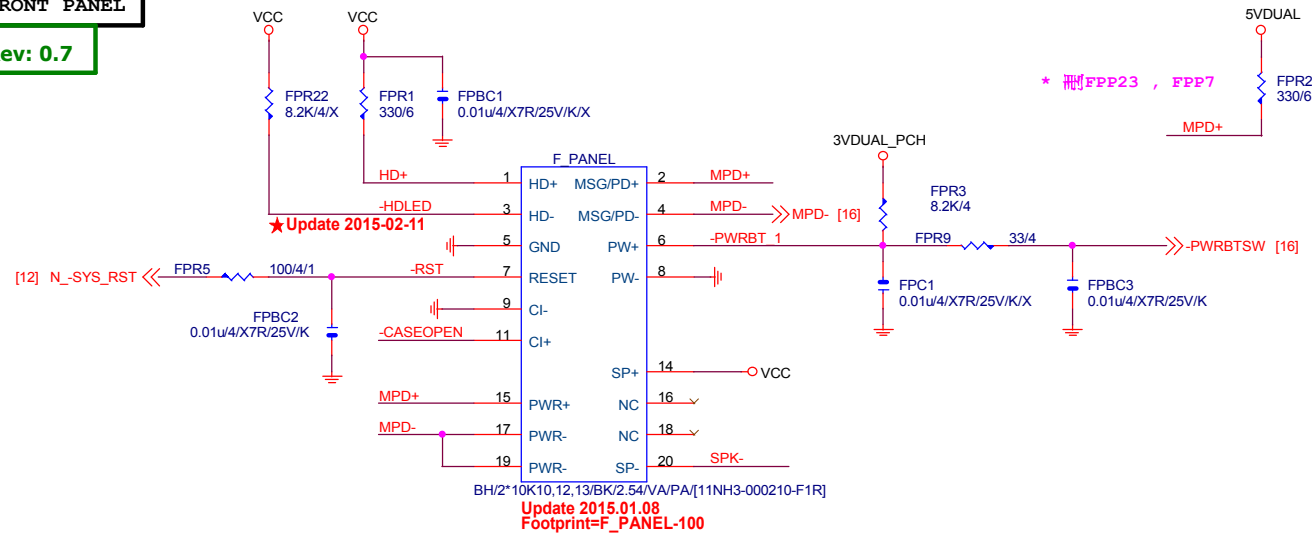
PH/1*5/BK/2.54/VA/D/[11NH5-010105-24R]

Gigabyte Technology

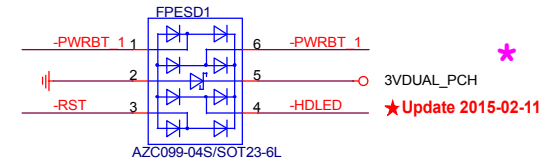
Title			
FP,F_USB,USB PWR,BZ			
Size Custom	Document Number	GA-B150M-Gaming3 DDR3-DB	Rev 1.0
Date:	Friday, February 26, 2016	Sheet 48 of 52	

FRONT PANEL

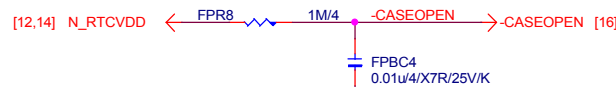
Rev: 0.7



ESD

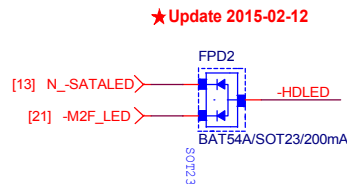


CASE OPEN

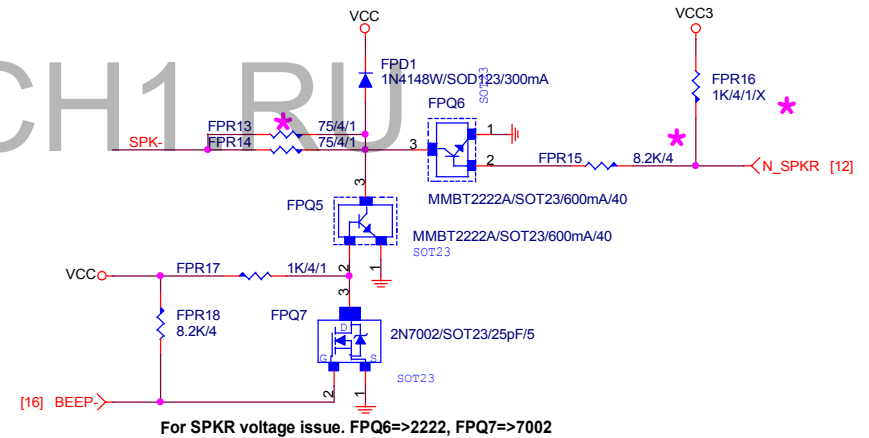


SATA LED

SATALED# signal open-collector, pull-up (8.2 kΩ to 10 kΩ) to Vcc3_3



SPKR



Gigabyte Technology

FRONT PANEL			
Title	GA-B150M-Gaming3 DDR3-DB		
Size Custom	Document Number	Rev	1.0
Date:	Friday, February 26, 2016	Sheet	49 of 52

CLOSE SIO

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

[12,16,31,48] N_SLP_S3 <

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

[12,16,30,48] N_S4_S5 <

EMIC3
100p/4/NPO/50V/J/X

[4,12,16] N_CPUPWROK <

CLOSE PCH

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

[4,12,16] N_CPUPWROK <

WWW.AITECH1.RU

GIGABYTE™

Title

EMI/ESD

Size
A

Document Number

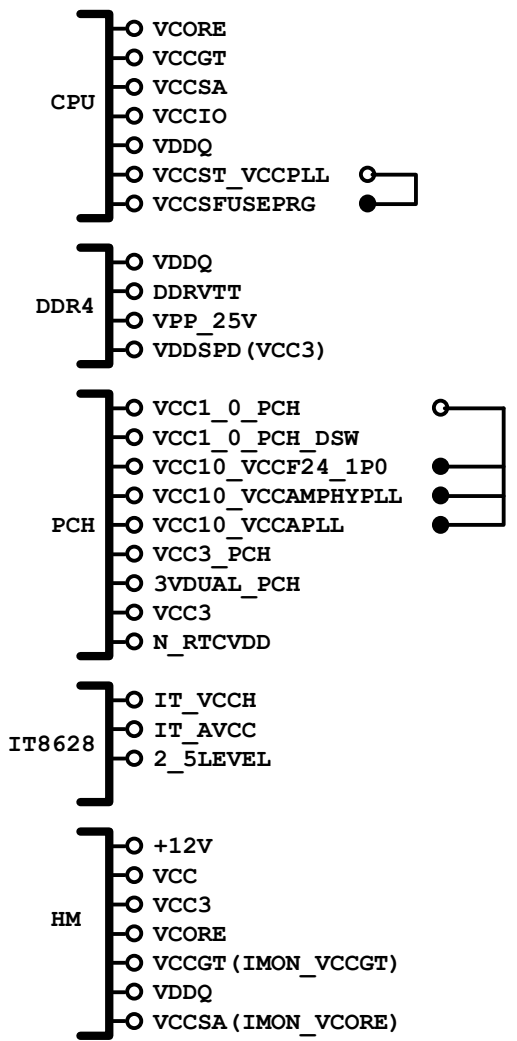
GA-B150M-Gaming3 DDR3-DB

Rev
1.0

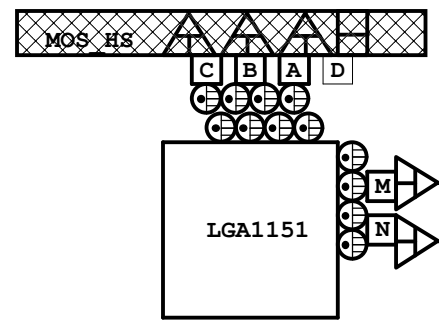
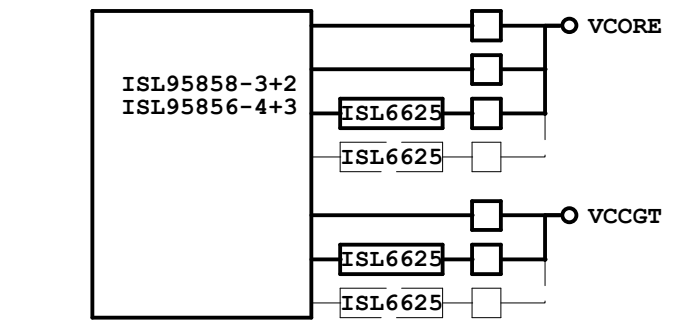
Date: Friday, February 26, 2016

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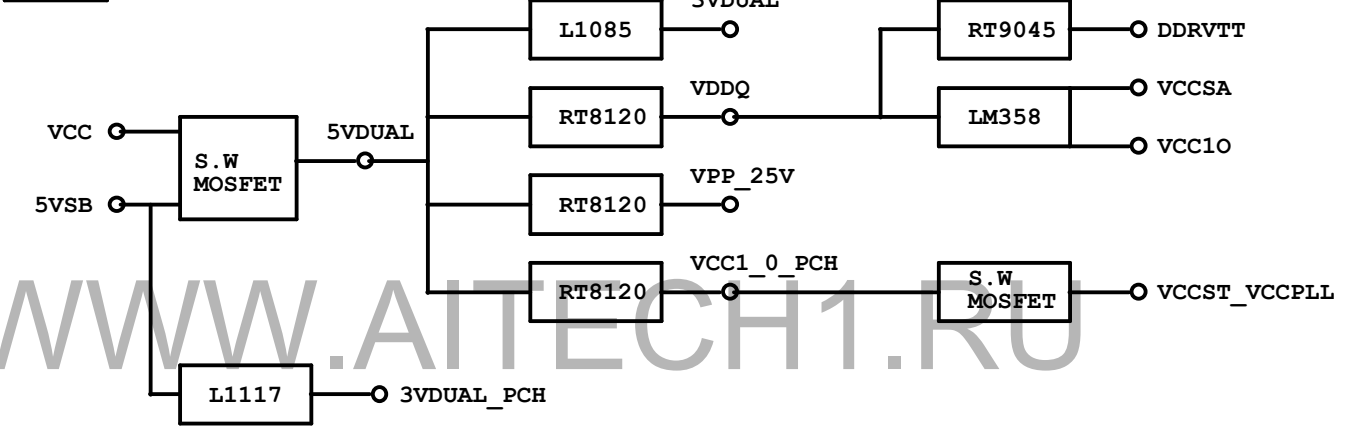
POWER BLOCK MAP



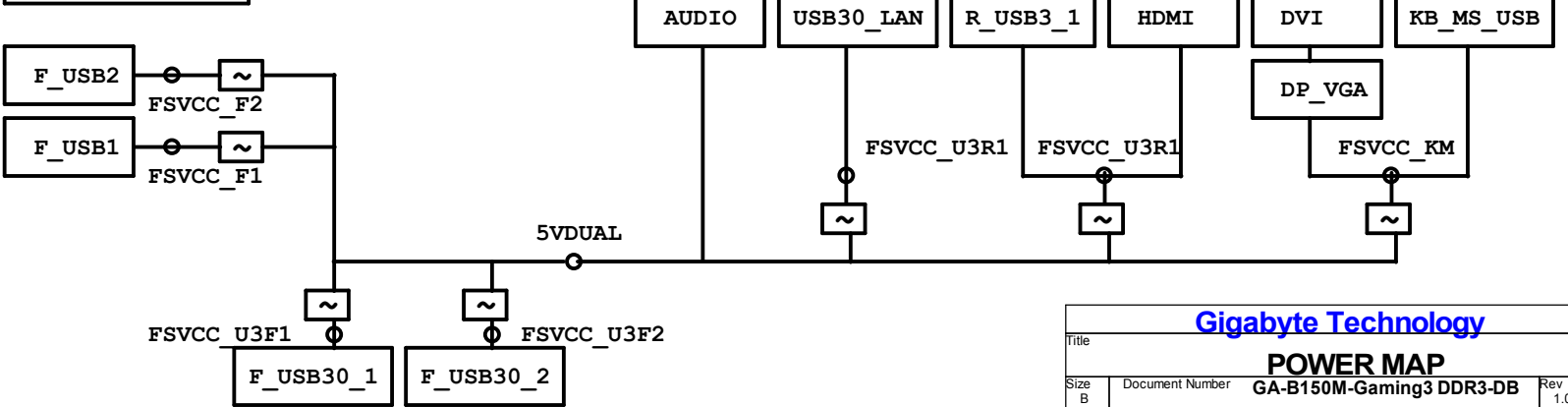
VCORE/VCCGT



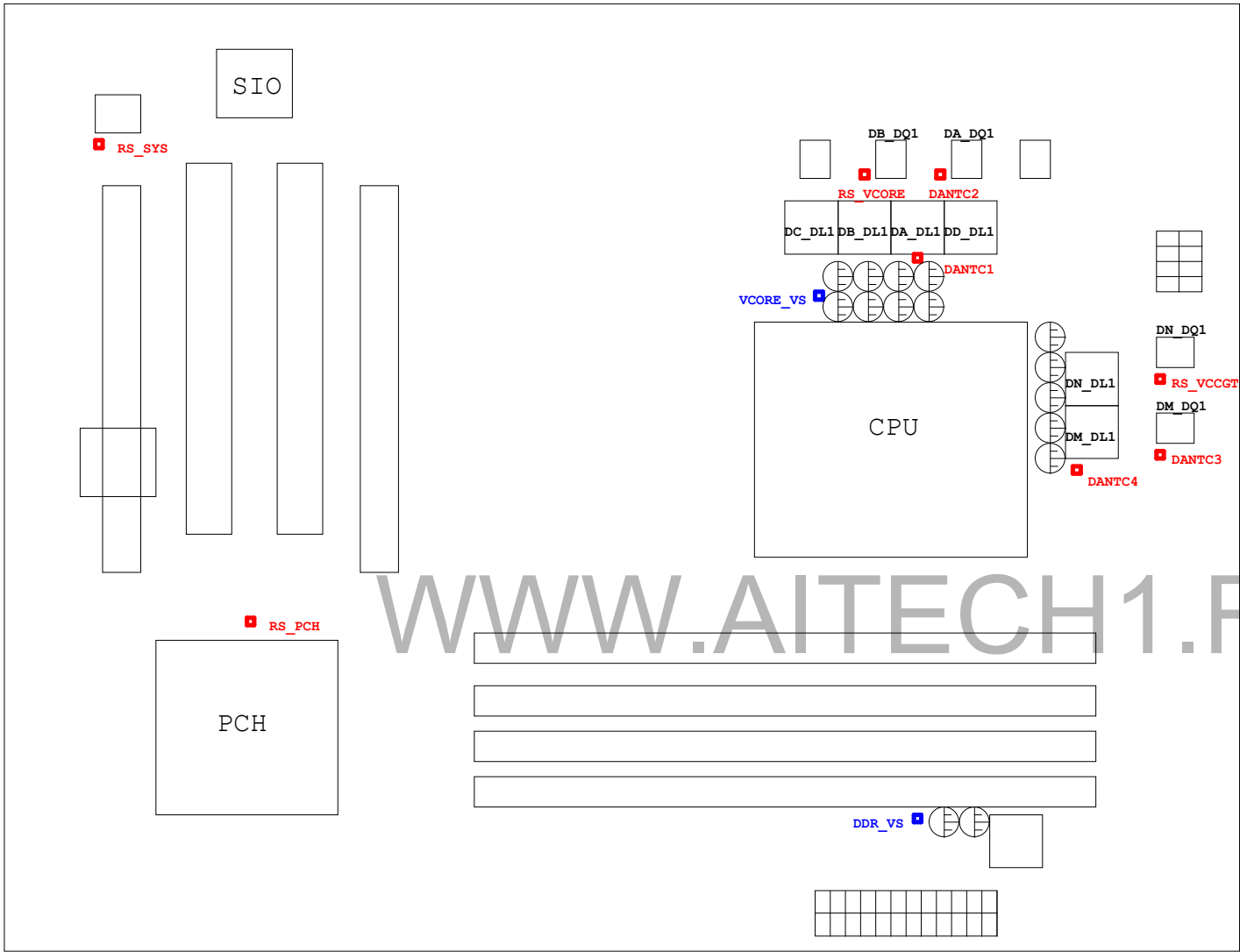
POWER



FUSE POWER F/R



Gigabyte Technology			
Title			
POWER MAP			
Size B	Document Number	GA-B150M-Gaming3 DDR3-DB	Rev 1.0
Date:	Friday, February 26, 2016	Sheet 51	of 52



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