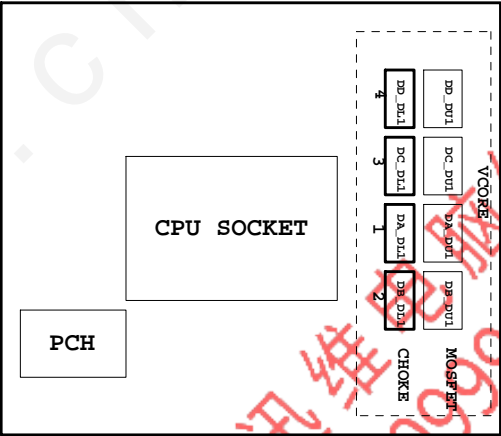


01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	CPU_LGA1151-A
05	CPU_LGA1151-B-DDR3
06	CPU_LGA1151-C
07	CPU_LGA1151-D
08	DDR 4 CHANNEL A
09	DDR 4 CHANNEL B
10	PCH CLOCK BUFFER
11	PCH DMI,USB,PCIE
12	PCH MISC
13	PCH SATA,PCIE,SATA EXPRESS
14	PCH_PWR,GND
15	Dual BIOS
16	I/O ITE8628
17	HWM
18	FAN CTRL-SIO
19	PCIEX16 SLOT
20	PCIEX1*2 SLOT
21	M.2 x4
22	
23	IT8892
24	IT8892 POWER
25	PCI SLOT
26	ISL95858_856 PWM
27	ISL95858_856 MOS_VCORE
28	ISL95858_856 MOS_VCCGT
29	VCCSA_VCCIO_VCCPLL
30	RT8237_DDR_BEAD
31	
32	RT8237_PCH-BEAD
33	DISCRETE POWER
34	NCP3933 OVER VOLTAGE

35	ATX POWER , -PROCHOT
36	KB_MS_USB
37	DVI
38	RTD2168 - DP to VGA - IC
39	RTD2168 - DP to VGA - Conn
40	HDMI
41	R_USB30
42	Realtek 8111HS
43	USB30_LAN CONNECTOR-8111HS
44	ALC887-VD2 CODEC
45	REAR AUDIO JACK
46	F_USB30
47	F_USB20
48	COM , LPT , TPM
49	F_PANEL
50	TABLE LIST

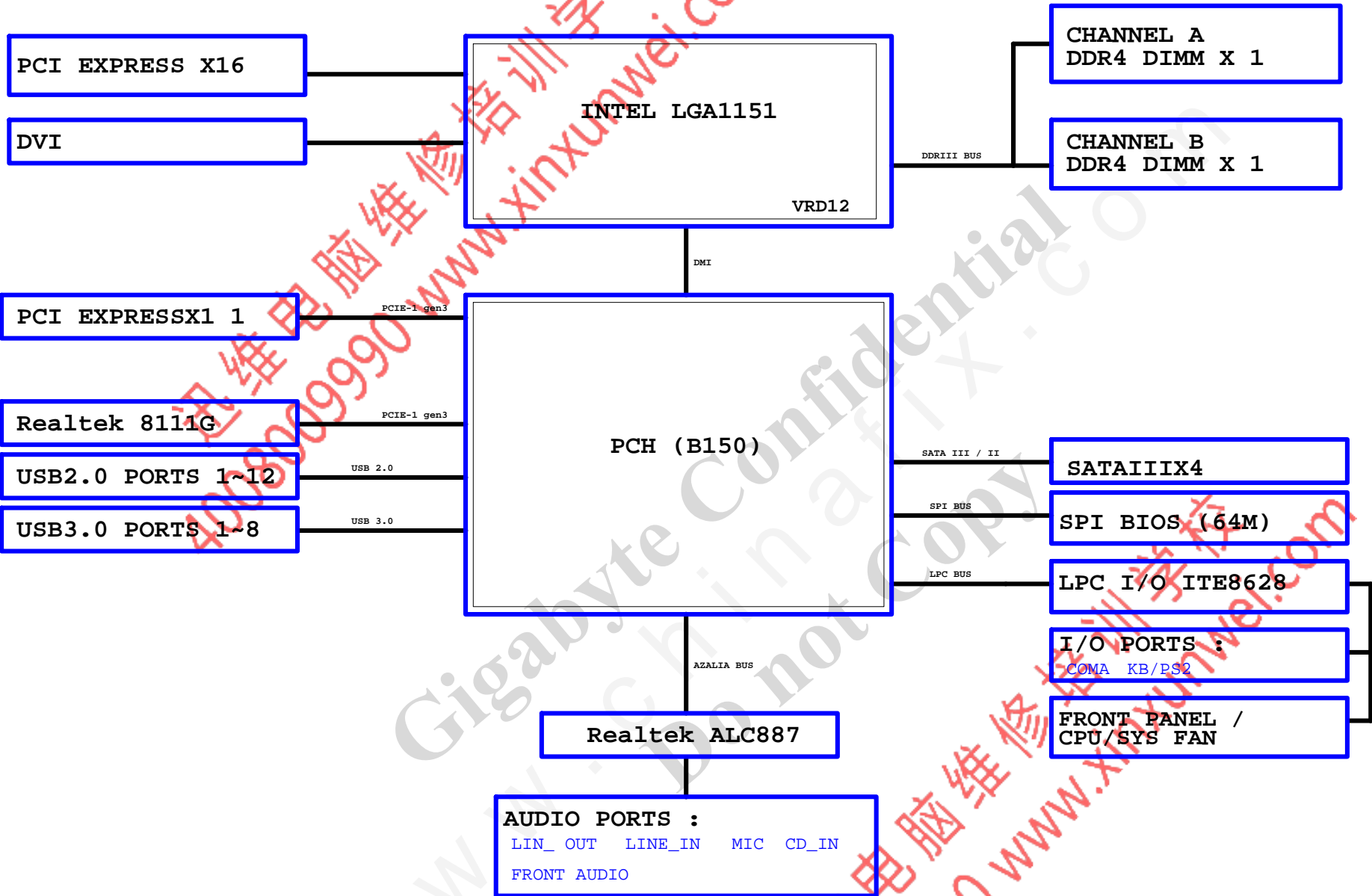


Circuit or PCB layout change

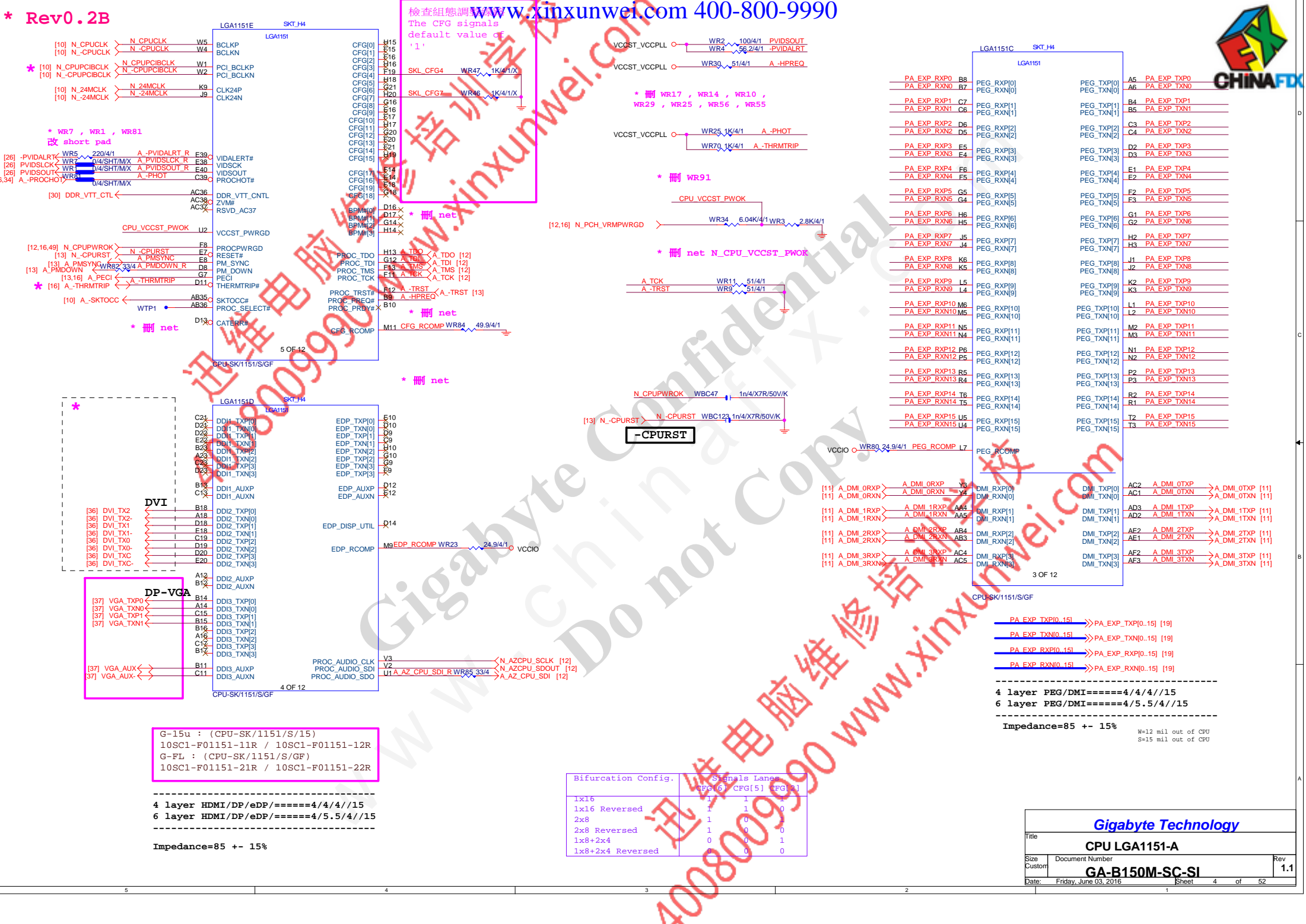
2016/04/12

[illegible]

BLOCK DIAGRAM



Rev0.2B



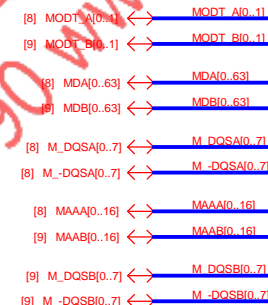
G-15u : (CPU-SK/1151/S/15)
10SC1-F01151-11R / 10SC1-F01151-12R
G-FL : (CPU-SK/1151/S/GF)
10SC1-F01151-21R / 10SC1-F01151-22R

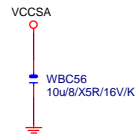
4 layer HDMI/DP/eDP/=====4/4/4//15
6 layer HDMI/DP/eDP/=====4/5.5/4//15

Impedance=85 +- 15%

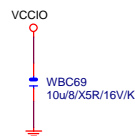
Bifurcation Config.	Signals Lanes		
	CFG[6]	CFG[5]	CFG[2]
1x16	1	1	1
1x16 Reversed	1	1	0
2x8	1	0	0
2x8 Reversed	1	0	0
1x8+2x4	0	0	1
1x8+2x4 Reversed	0	0	0

Gigabyte Technology		
CPU LGA1151-A		
Size Custom	Document Number	Rev 1.1
GA-B150M-SC-SI		
Date: Friday, June 03, 2016	Sheet 4	of 52

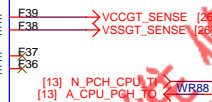
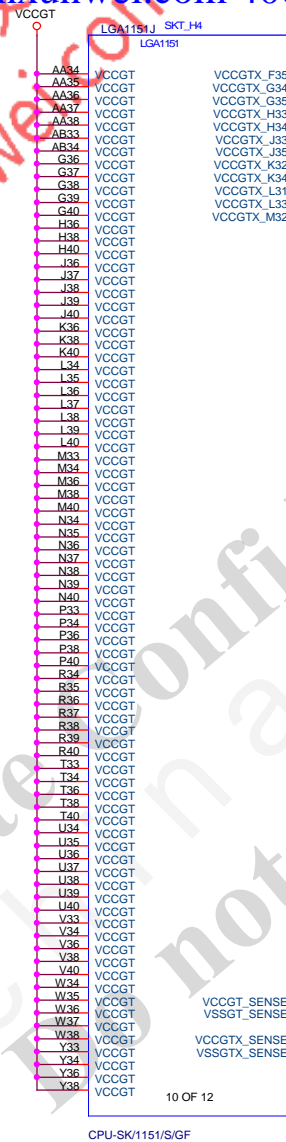
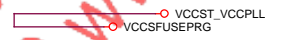




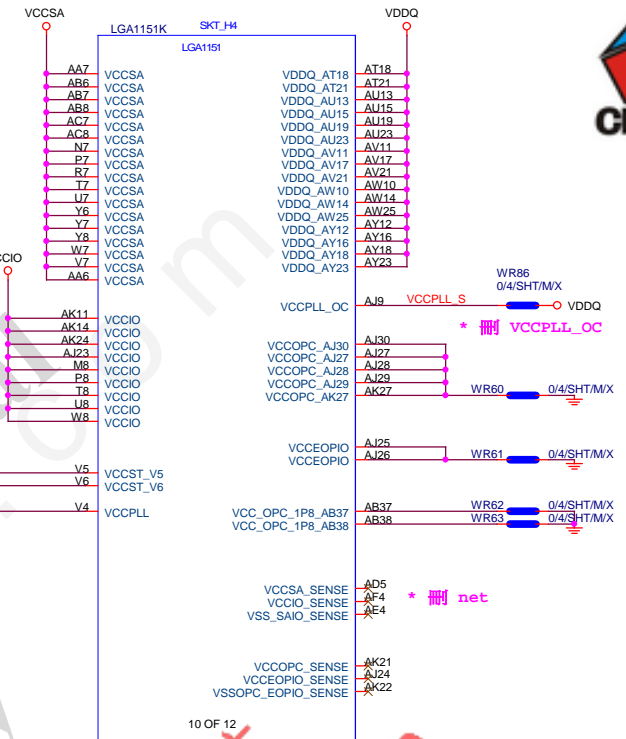
* 删除 WBC124, WBC125, WBC126, WBC127 电容



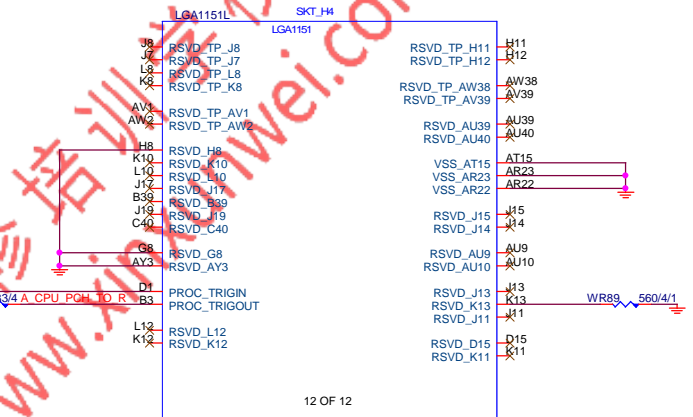
* 删除 VCCGT 电容



[13] N_PCH_CPU_L12
[13] A_CPU_PGH_TO_2



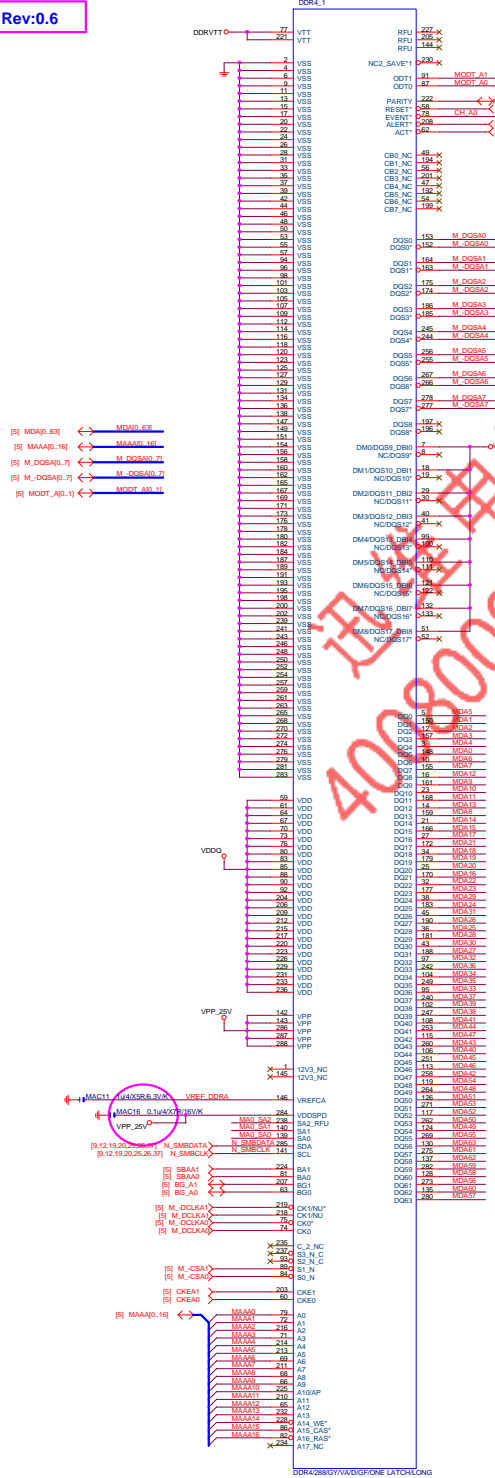
CPU-SK/1151/S/GF



CPU-SK/1151/S/GF

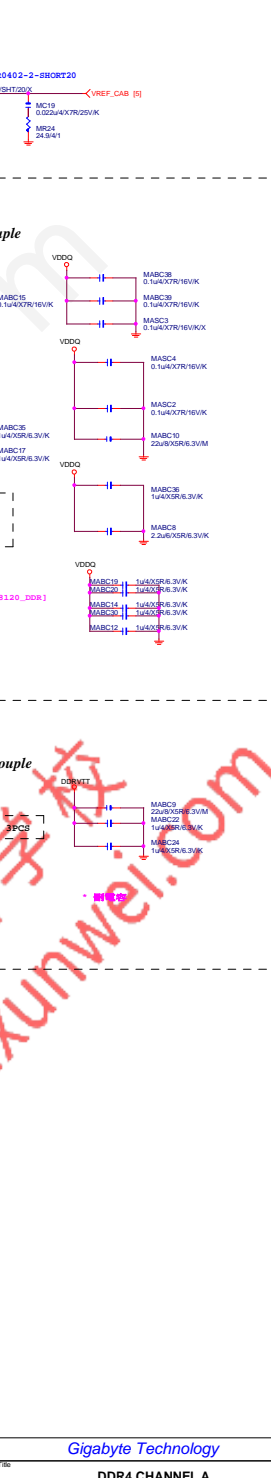
Gigabyte Technology			
Title			
CPU LGA1151-C			
Size	Document Number	Rev	
Custom	GA-B150M-SC-SI	1.1	
Date:	Friday, June 03, 2016	Sheet	6 of 52



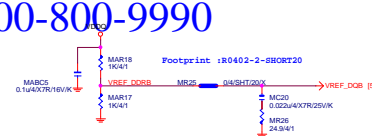


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Do not Copy



Gigabyte Technology			
File	DDR4 CHANNEL A		
Doc. Number	GA-B150M-SC-SI		
Rev	1.1		

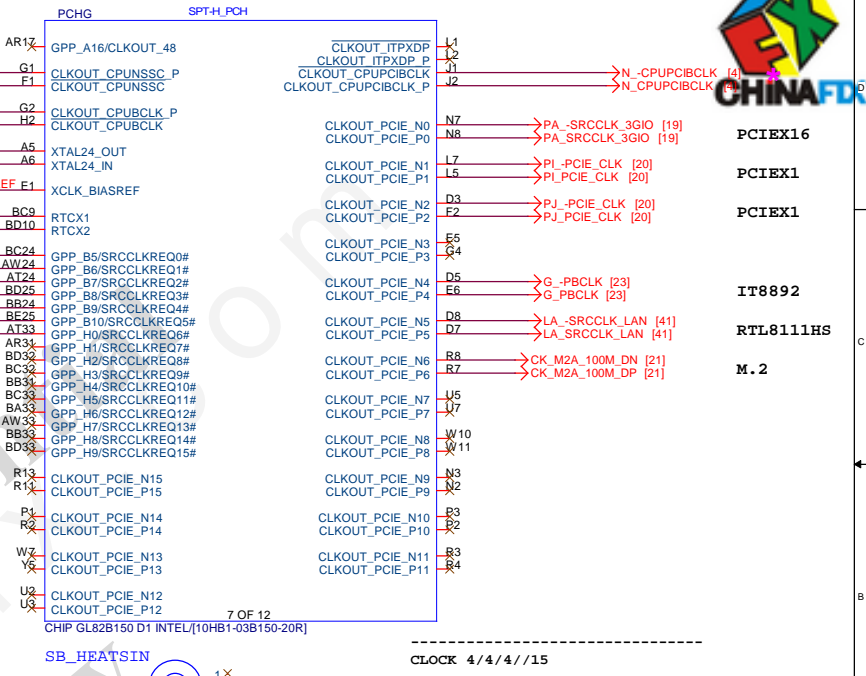
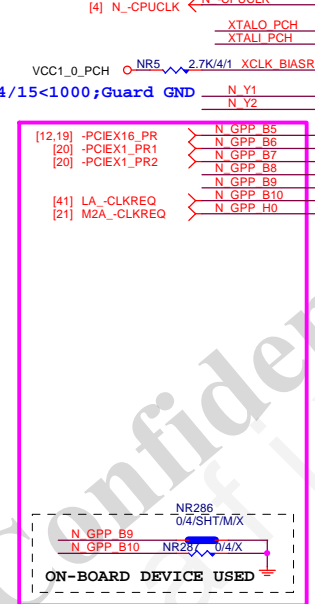
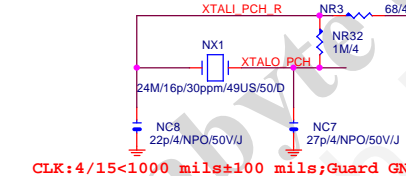
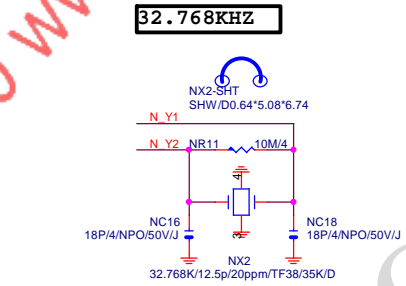
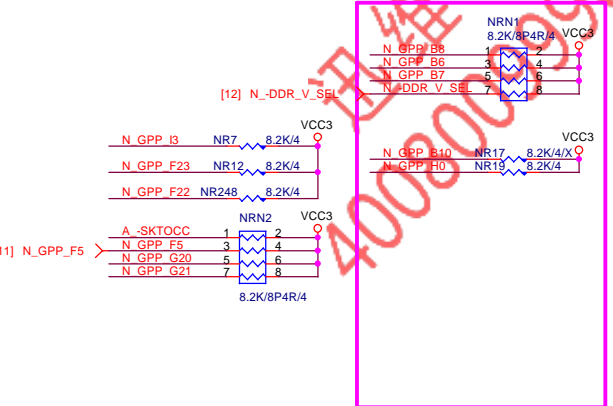
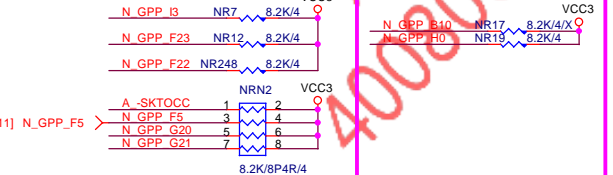


<i>Gigabyte Technology</i>			
Title			
DDR4 CHANNEL B			
Size	Document Number		Rev
Custom	GA-B150M-SC-SI		1
Date	Sheet		of

[36] N_DVI_HDP_F
[37] N_VGA_HDP_F

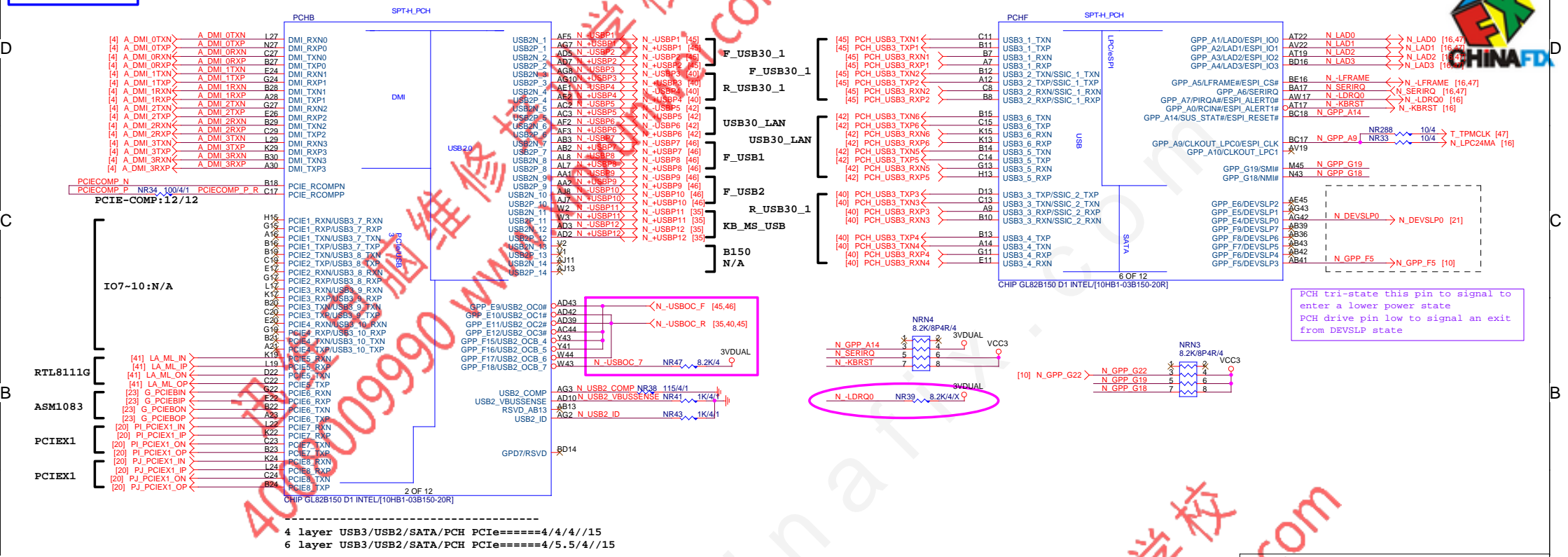
AW4
AY2
AV4
BA4

GPP_I0/DDPB_HPD0
GPP_I1/DDPC_HPD1
GPP_I2/DDPD_HPD2
GPP_I3/DDPE_HPD3

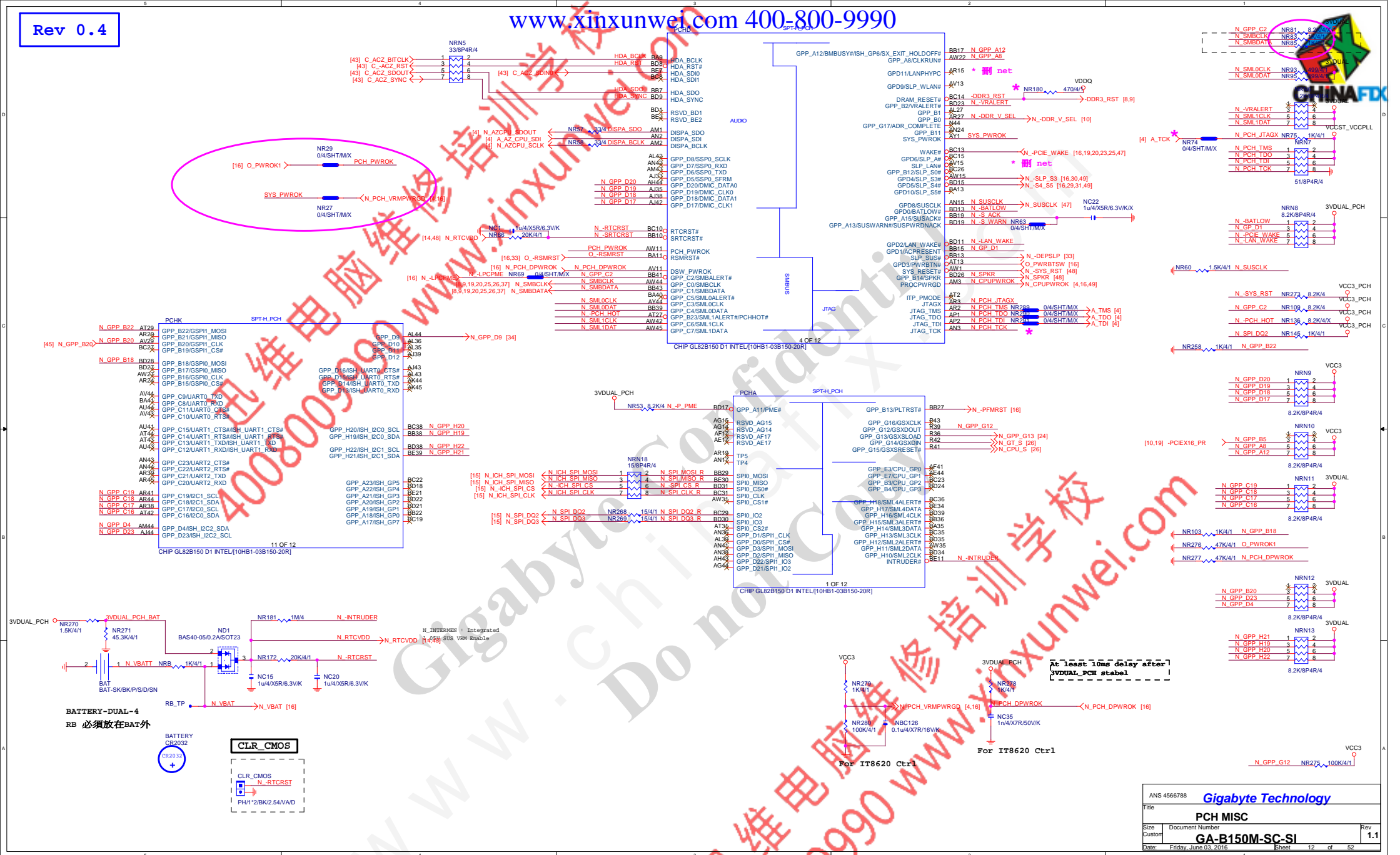


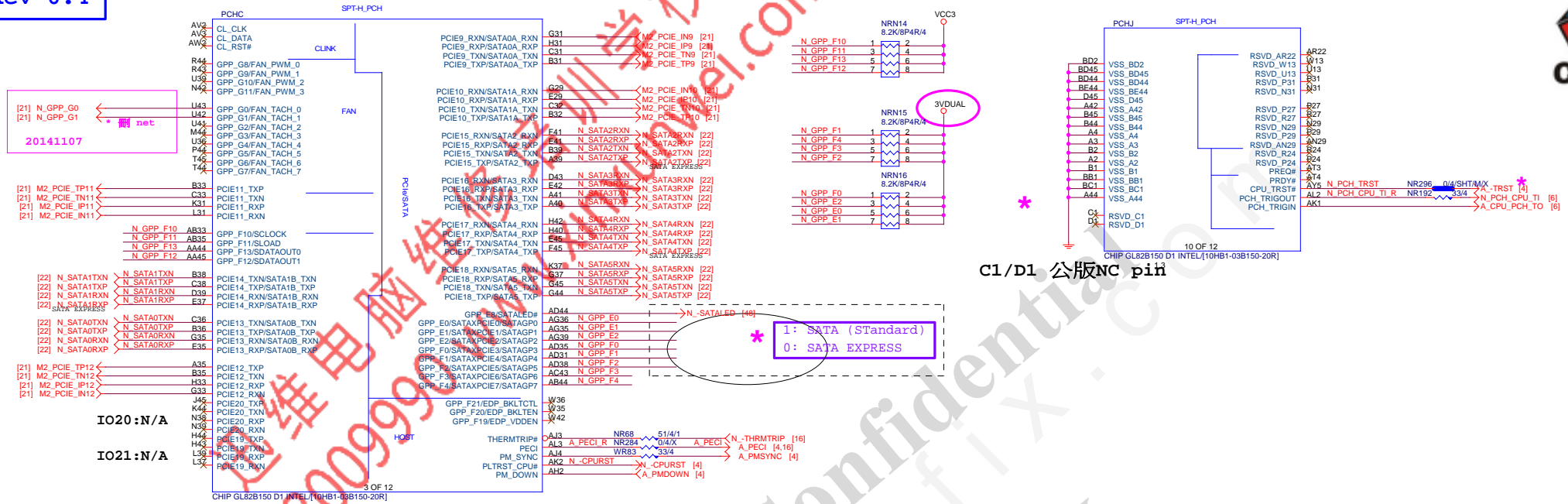
LOW COST ICH7 HEATSINK
BLACK HS
PCH_HS
PCH_HS[12SP2-030005-51R 12SP2-030005-52R 12SP2-030005-53R]

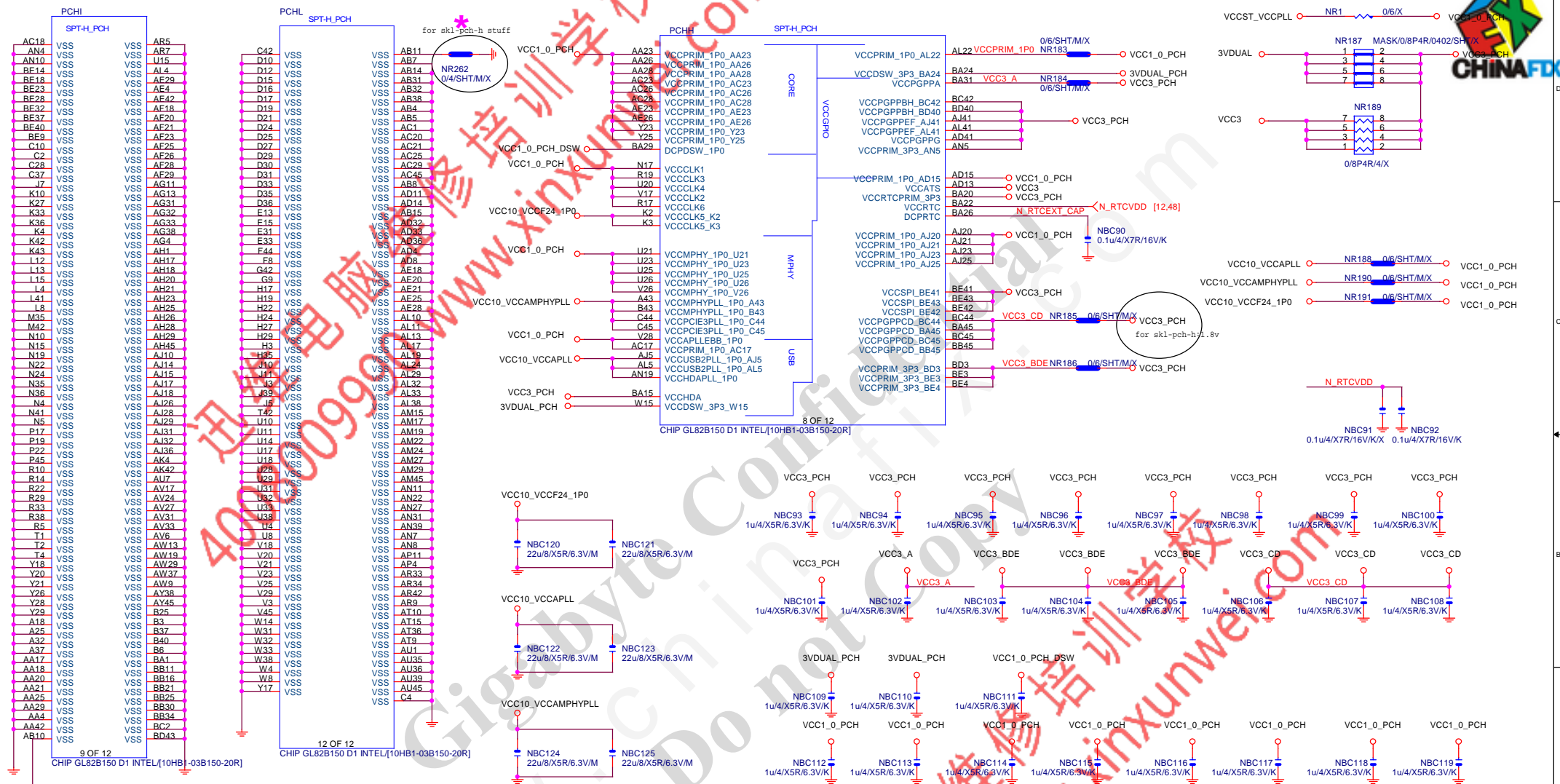
ANS 4566788		Gigabyte Technology	
File		PCH CLOCK BUFFER	
Size	Document Number	Rev	
Custom	GA-B150M-SC-SI	1.1	
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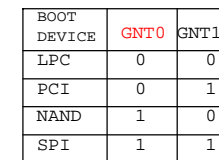
ANS 466788		Gigabyte Technology	
PCH DMI,USB,PCIE			
Size	Document Number	Rev	
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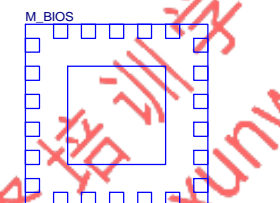




ANS 4566788		Gigabyte Technology	
Title		PCH PWR, GND	
Size	Document Number	Rev	
Custom	GA-B150M-SC-SI	1.1	
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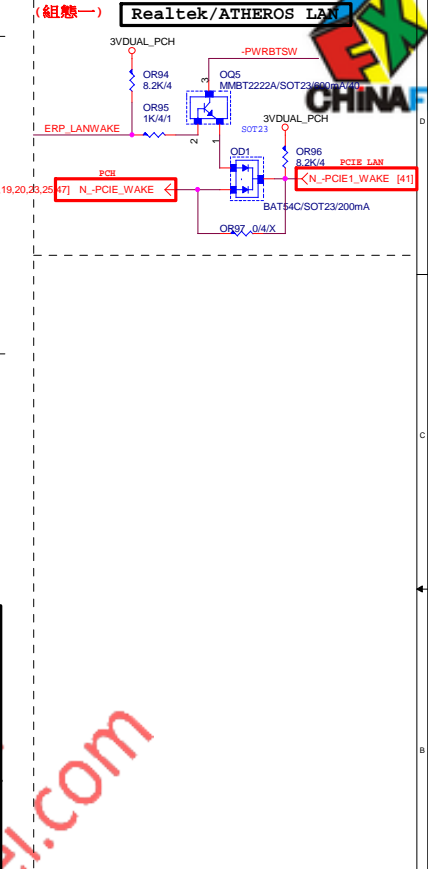
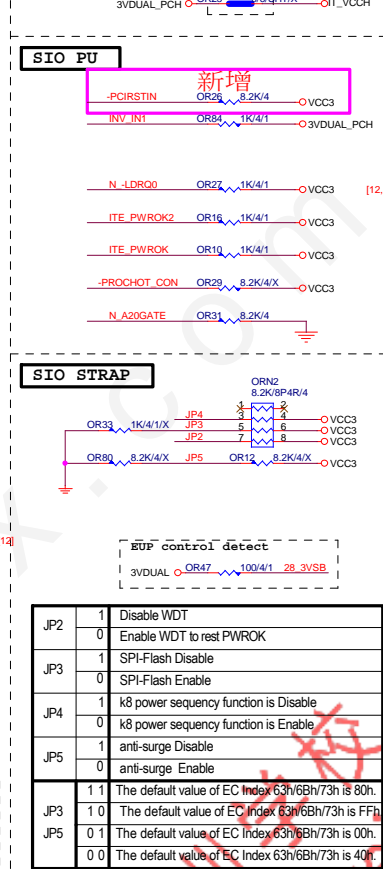


1 means floating
0 means PD 1K



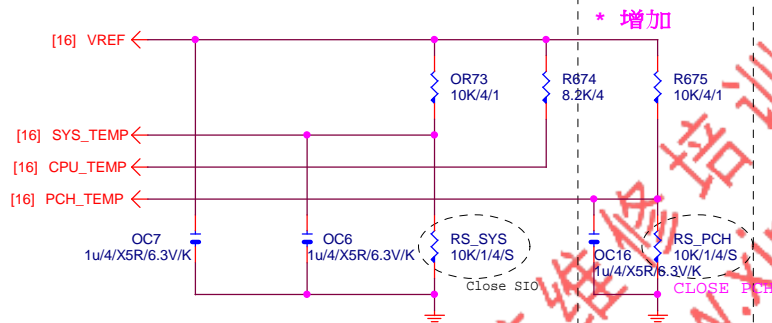
LCP/G-FL/1.27mm/200MIL/WHITE[10SL2-000008-31R]/X

* 試產先上，PVT 移除

[illegible]

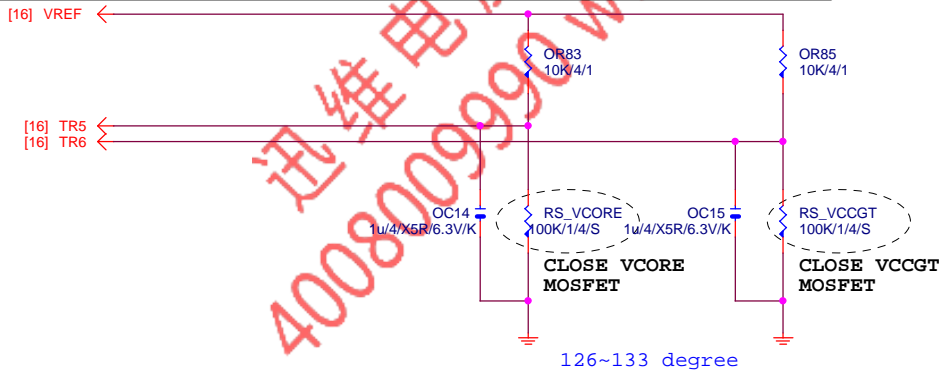
TEMP H/W MONITOR

REV 1.04



RS_VCORE, RS_VCCGT, CLOSE CPU_VCORE & VCCGT MOSFET

-PROCHOT:有mos heartsink不用prochot function

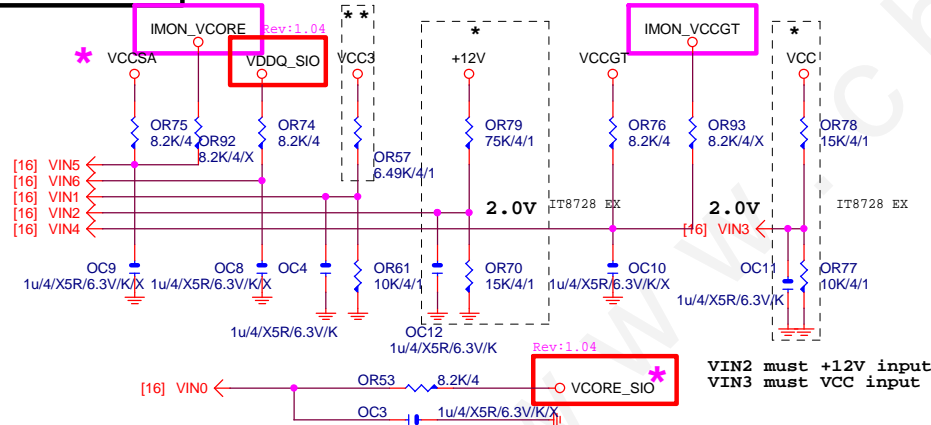


VOLTAGE-- H/W MONITOR

Connect to PWM

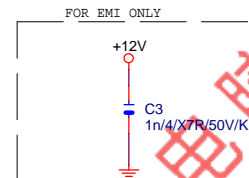
★ IT8728 BX
★★ IT8728 CX

Connect to PWM



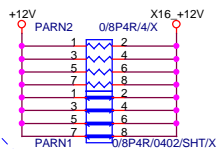
The division voltage of VIN2 & VIN3 must be around 2.9V

VIN2 must +12V input
VIN3 must VCC input



Gigabyte Technology

Title		
HWM,KB/MS, FAN CTRL		
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* +12 protect
short-wire test

PA_EXP_RXP0_15] >> PA_EXP_RXP[0..15] [4]
PA_EXP_RXN0_15] >> PA_EXP_RXN[0..15] [4]
PA_EXP_TXP0_15] >> PA_EXP_TXP[0..15] [4]
PA_EXP_TXN0_15] >> PA_EXP_TXN[0..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

PCIEX16:16/5/5/5/16

PCI-E REV:1.1--> 2.5GHZ

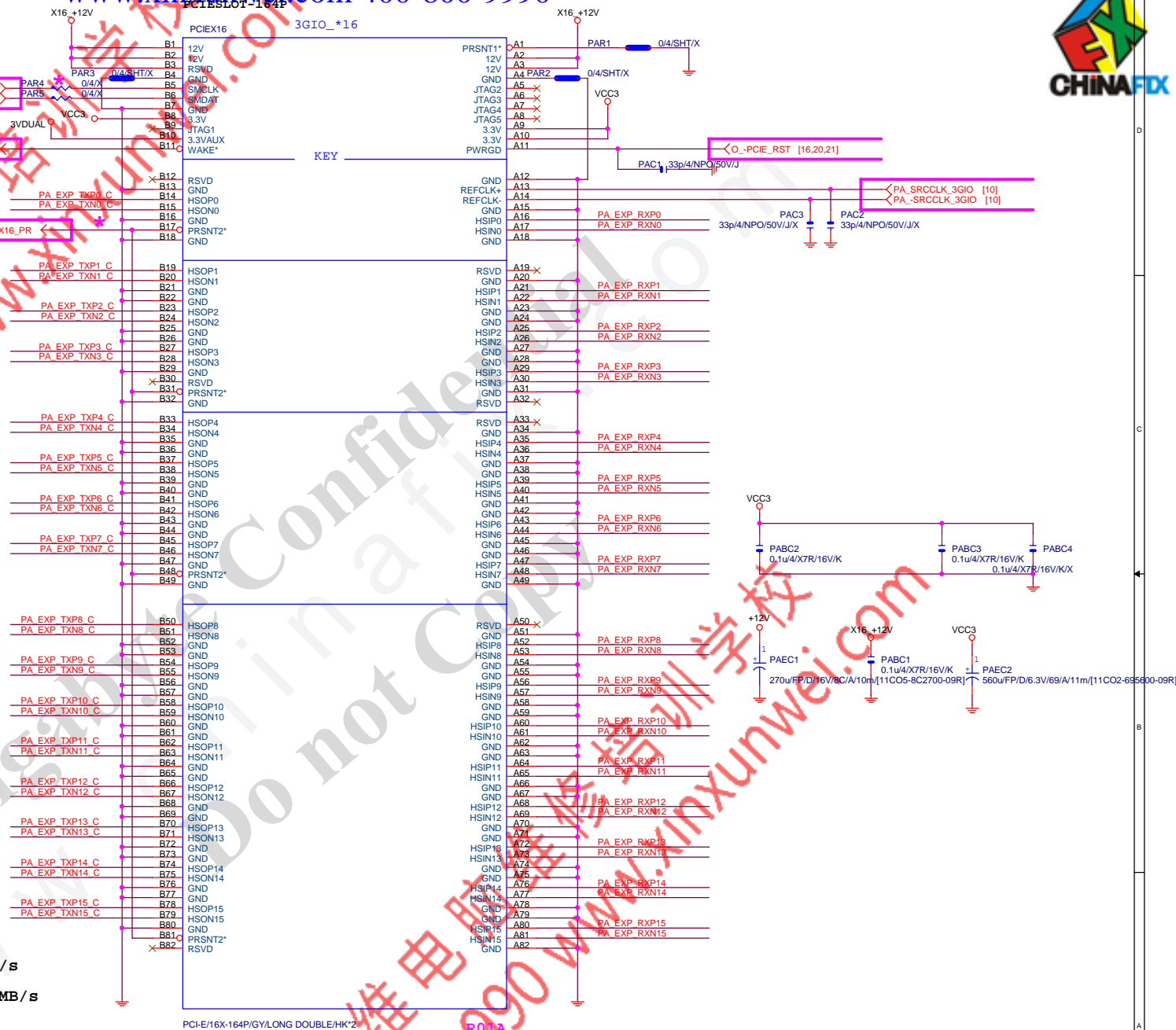
PCE-E X1(單向) BANDWIDTH=2.5GHz*(8b/10b)=2Gb/s=250MB/s

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

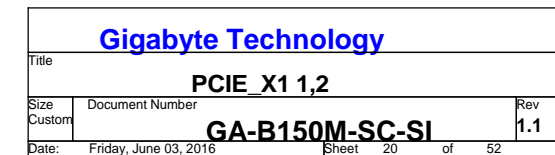


PCI-E/16X-164P/GY/LONG DOUBLE/HK'2

R01A

Gigabyte Technology

Title			PCI EXPRESS * 16	
Size	Document Number	GA-B150M-SC-SI		Rev 1.1
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M.2 Lane4 from PCH port18

M.2 Lane3 from PCH port17

M.2 Lane2 from PCH port16

M.2 Lane2 from PCH port15

支援SATA and M.2 function



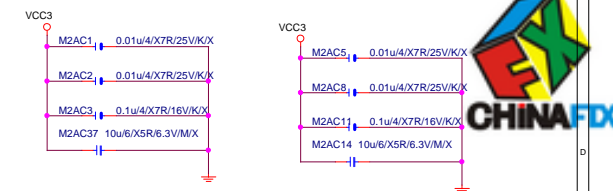
請與M2 - CLKREQ對應

KEY M

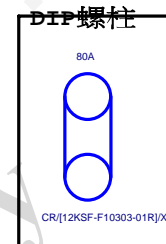
(32KHz)

M2/67/BK/RA/S/H4.2mm/M KEY/X

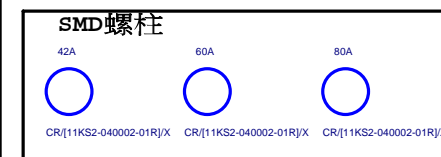
M.2 有插卡 /沒插卡 GPP_G0	M.2插何種卡? GPP_G1	SATA Express 插何種硬碟? GPP_E0/E2/F1	IO15 (S0)	IO16 (S1)	IO17	IO18	IO19 (S0)	IP20 (S1)
有插卡 (Low)	SATA Mode (Low)	SATA (Hi)	SATA (M.2)	PCIE x1	PCIE x1	PCIE x1	PCIE x1	SATA
		SATA Express (Low)	SATA (M.2)	PCIE x1	PCIE x1	PCIE x1	SATA Express	
	PCIE Mode (Hi)	SATA (Hi)	PCIE 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	



DIP螺絲

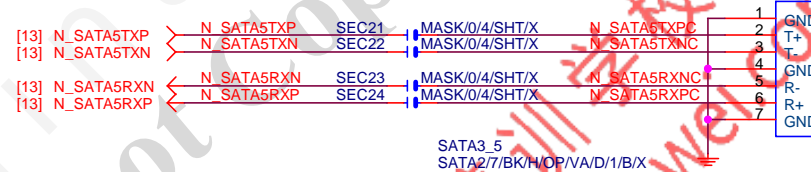
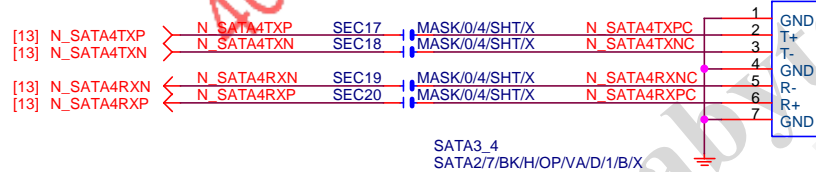
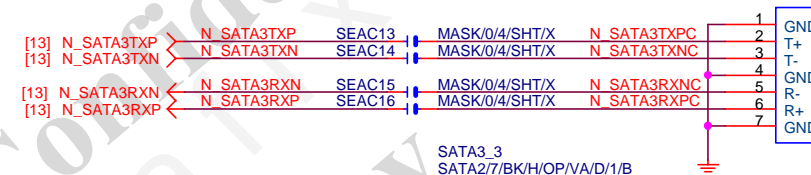
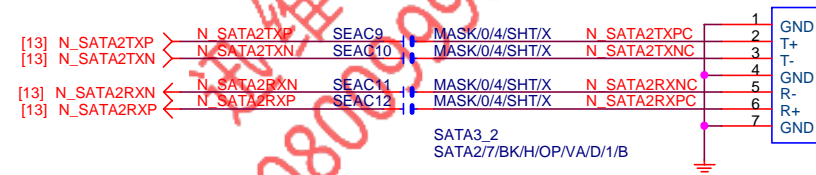
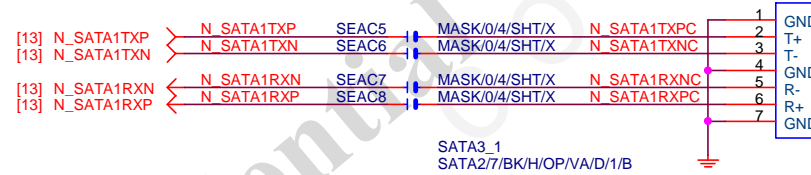
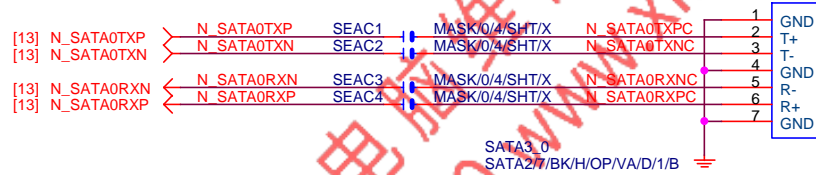


DIP螺絲



SMD螺柱

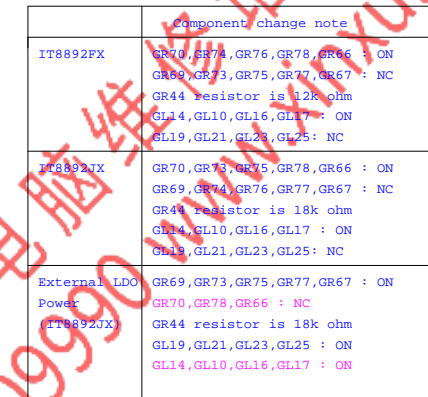
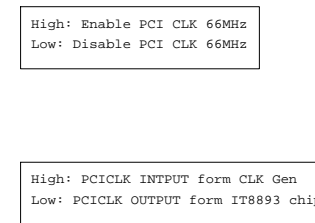
Gigabyte Technology			
M.2 X4			
Size	Document Number	Rev	
Custom	GA-B150M-SC-SI	1.1	
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MASK

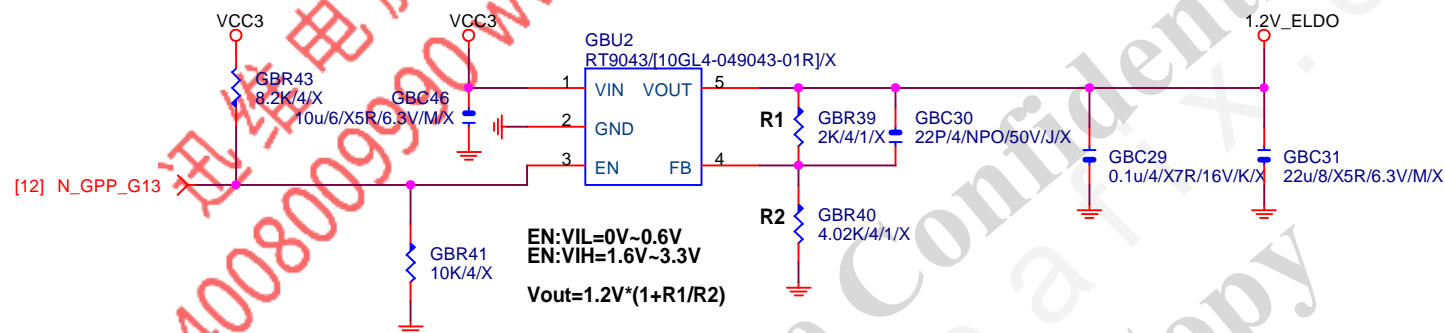
Gigabyte Technology

Title		
SATA EXPRESS		
Size	Document Number	Rev
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External LDO Power (178892JX)	GR69,GR73,GR75,GR77,GR67 : ON GR70,GR78,GR66 : NC GR44 resistor is 18k ohm GL19,GL21,GL23,GL25 : ON GL14,GL10,GL16,GL17 : ON
-------------------------------------	--

Rev 0.1



Gigabyte Technology

Title

ASM1085 POWER

Size
Custom

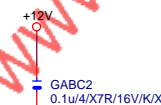
Document Number

GA-B150M-SC-SI

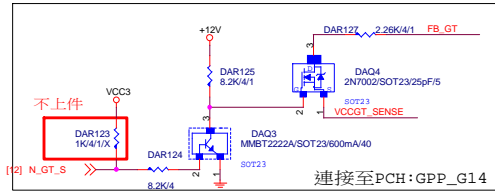
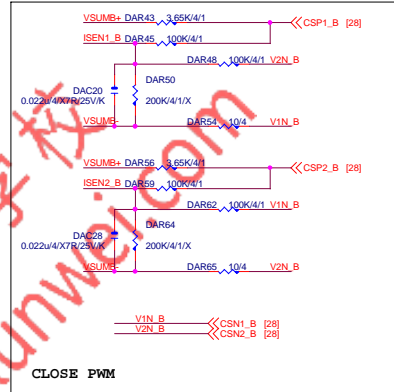
Rev
1.1

Date: Friday, June 03, 2016

Sheet 24 of 52



Title				
PCI SLOT 1				
Size	Document Number			Rev
Custom	GA-B150M-SC-SI			1.1
Date:	Friday, June 03, 2016	Sheet	25 of	52

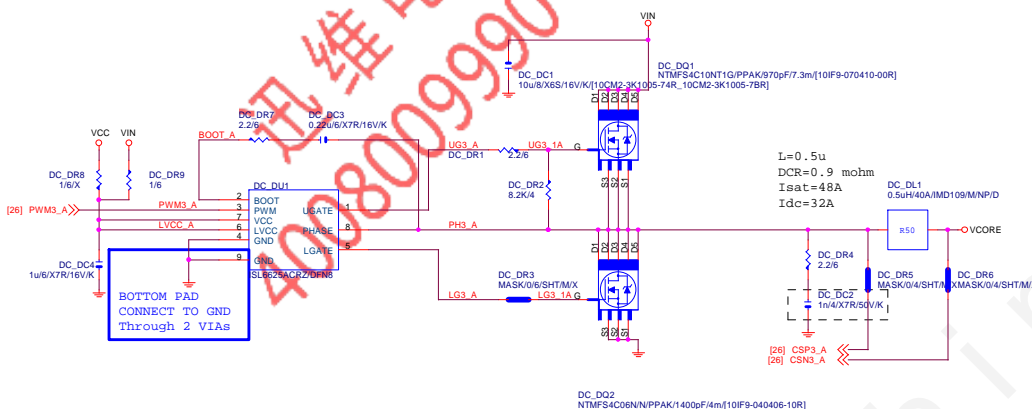
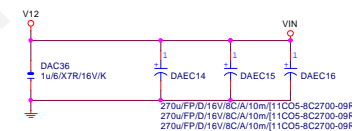


GIGABYTE™			
Title ISL95858/95856_PWM			
Size Custom	Document Number GA-B150M-SC-SI		Rev 1.1
Date: Friday, June 03, 2016	Sheet	26 of	52

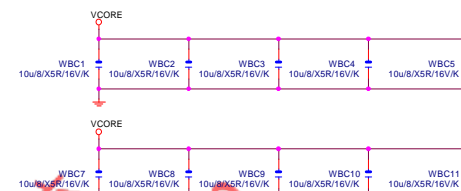
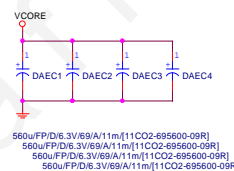
VCORE



VIN CAP 270u*3PCS

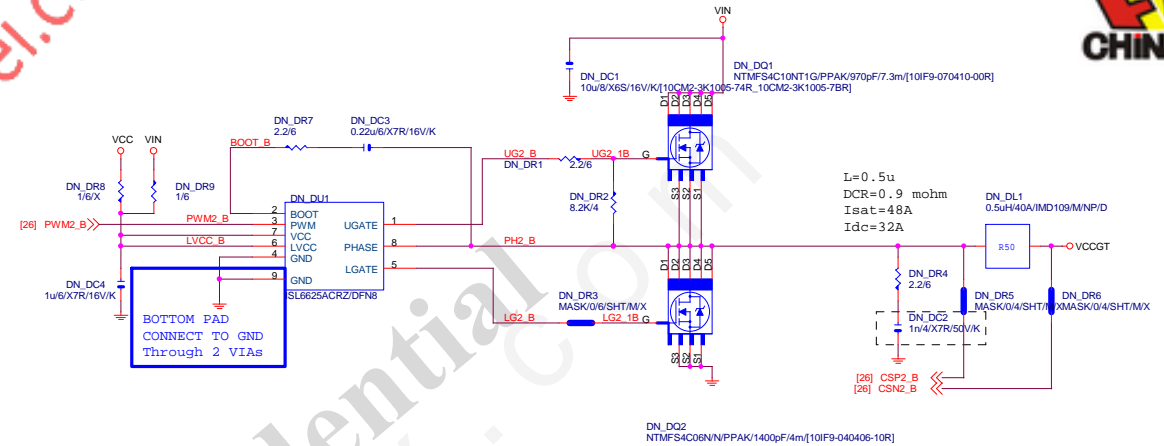


VCORE CAP 560u*8PCS
22u*29PCS

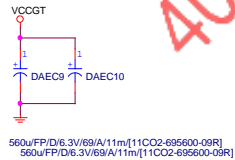



GIGABYTE™

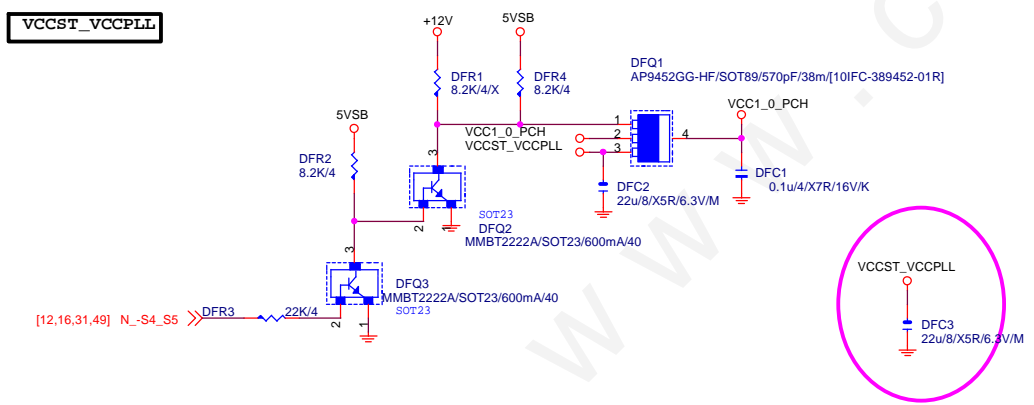
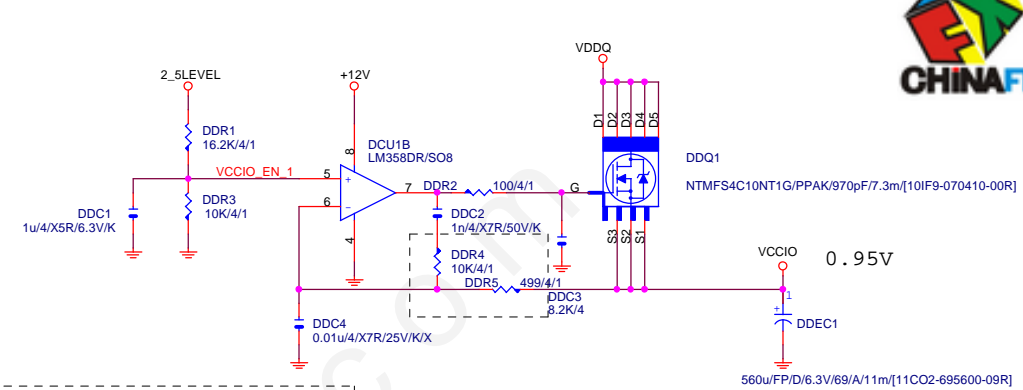
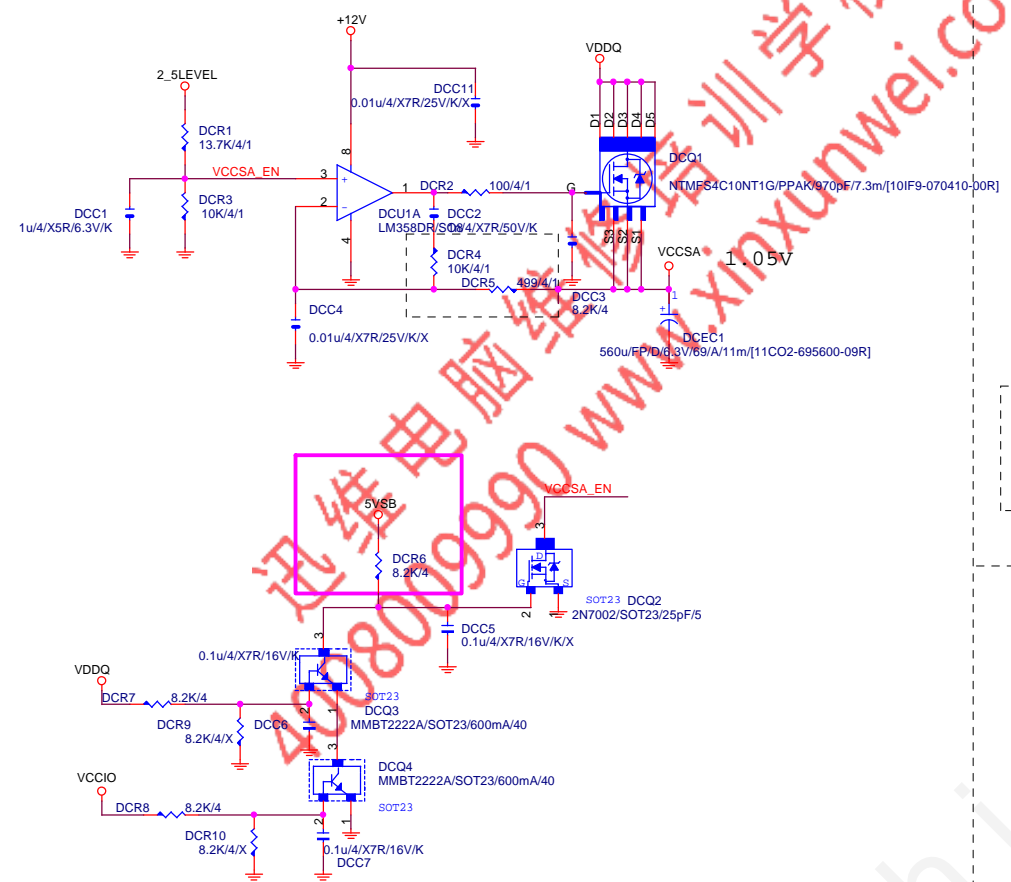
Title			ISL95858_MOS
Size	Document Number	GA-B150M-SC-SI	
	Custm		
Date		Friday, June 03, 2016	Sheet 27 of 52



The diagram shows two capacitors, WBC23 and WBC24, both with a value of $10\mu/8/X5R/16V/K$. WBC23 is connected to the VCCGT supply, and WBC24 is connected to ground.

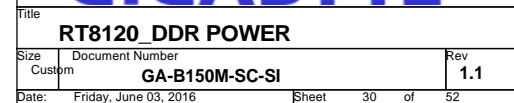


			
Title			
ISL95858_MOS			
Size	Document Number		Rev
Custom	GA-B150M-SC-SI		1.1
Date:	Friday, June 03, 2016	Sheet 28 of	52



GIGABYTE™			
Title			
VCCSA_VCCIO			
Size			
Custom			
Document Number			
GA-B150M-SC-SI			
Rev			
1.1			
Date:		Sheet	
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DDR VIN CAP
560u*2PCS



REV:0.33

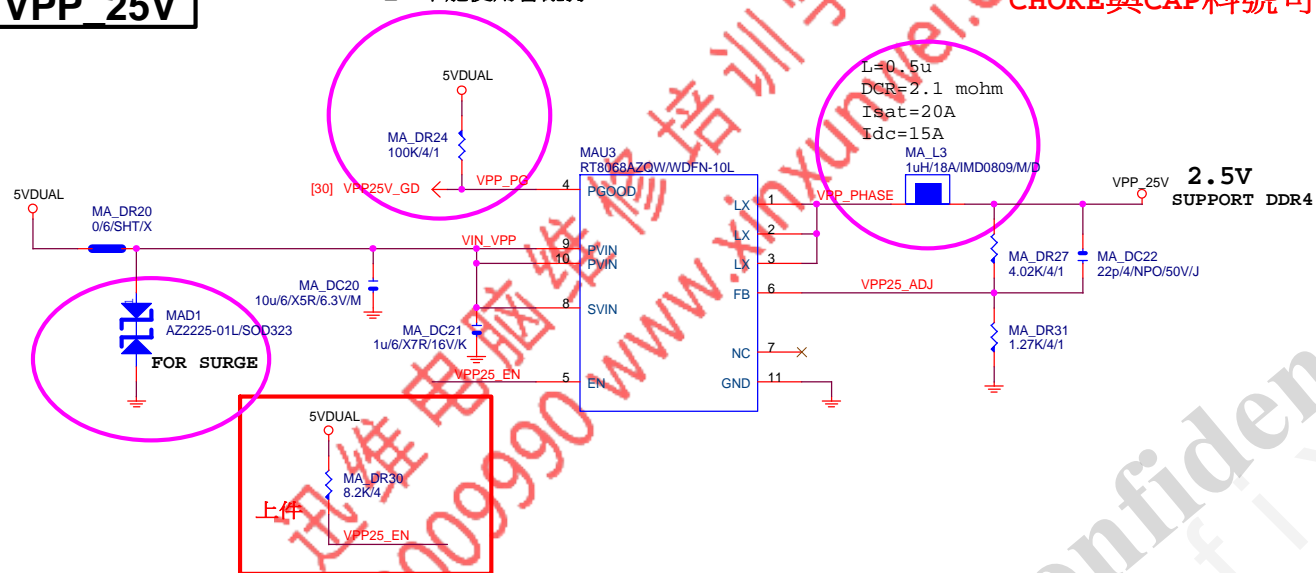
www.xinxunwei.com 400-800-9990



VPP_25V

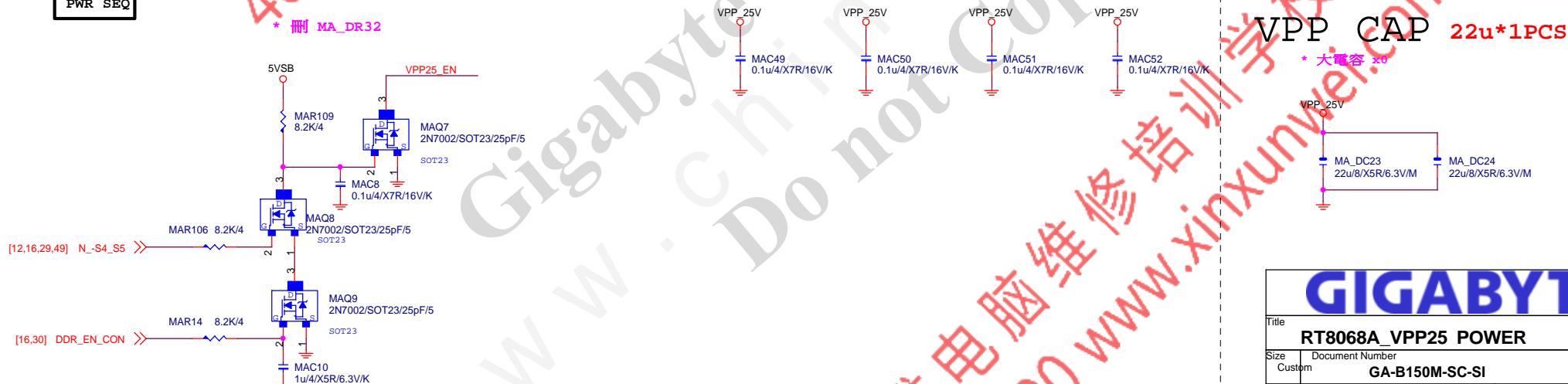
VPP25V_GD不能使用會亂打

CHOKER與CAP料號可變



PWR_SEQ

* 刪 MA_DR32



GIGABYTE™

Title		
RT8068A_VPP25 POWER		
Size	Document Number	Rev
Custom	GA-B150M-SC-SI	1.1
Date:	Friday, June 03, 2016	Sheet 31 of 52

REV:0.47

www.xinxunwei.com 400-800-9990



CHOKE與CAP料號可變

注意耐壓

L=0.5u
DCR=2.1 mohm
Isat=20A
Idc=15A

Remote sense請從最重的負載端點拉回

請放置CHOKE一出來的地方

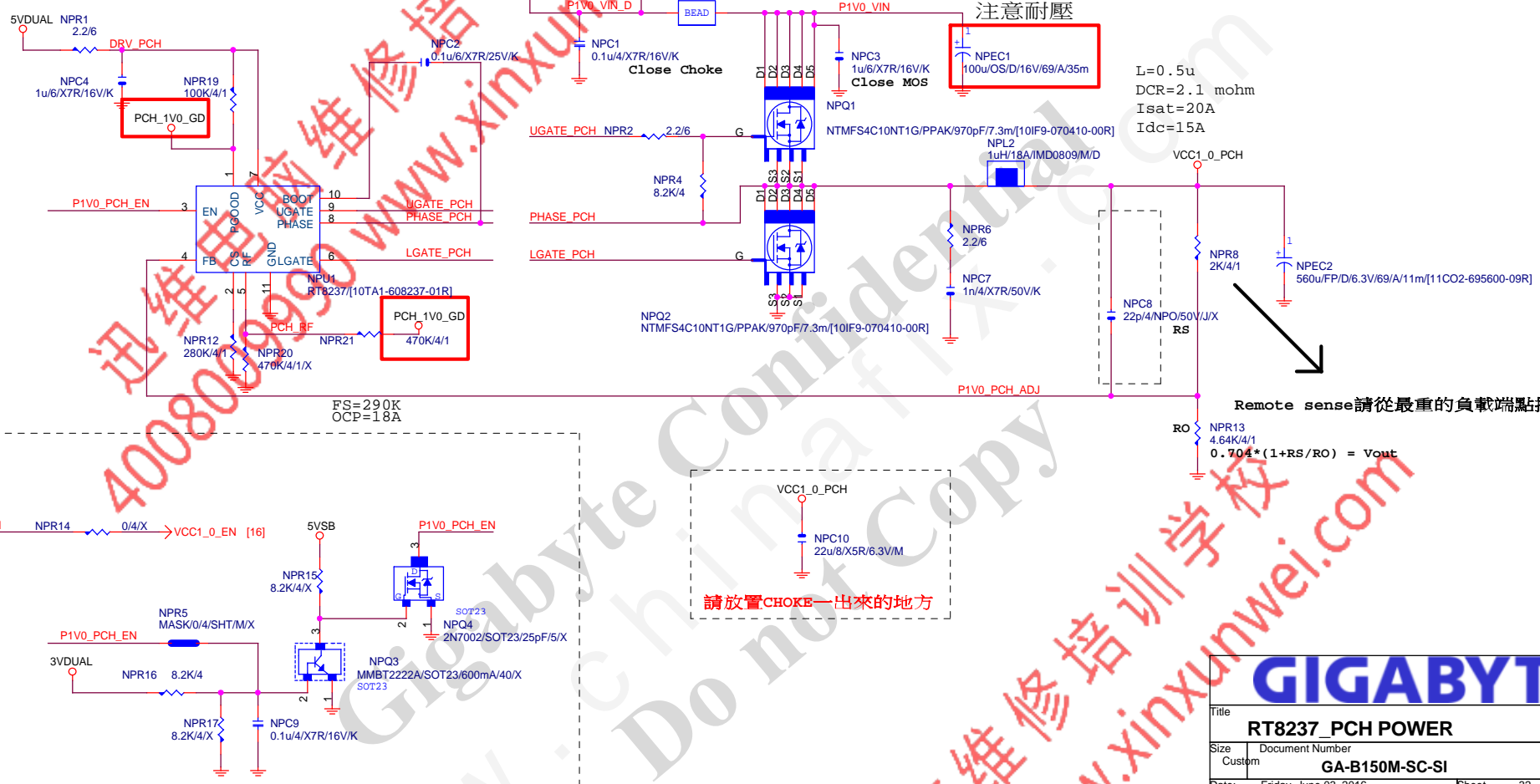
PWR_SEQ

GIGABYTE™

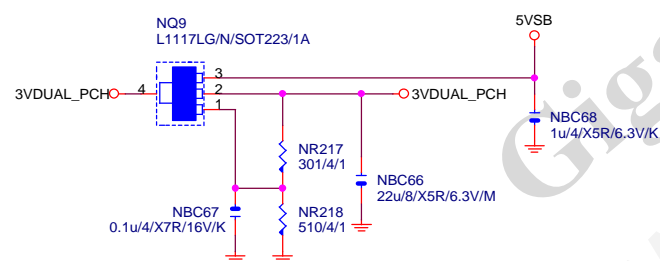
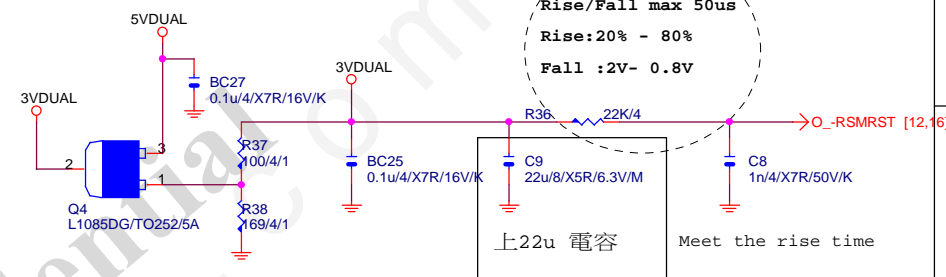
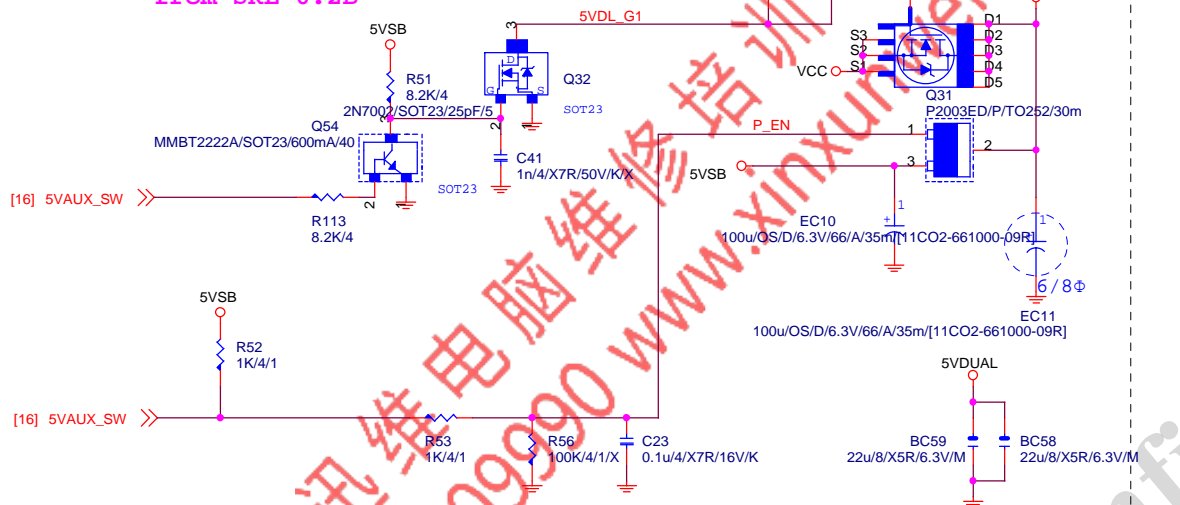
Title
RT8237_PCH POWER

Size Document Number
Custom GA-B150M-SC-SI Rev 1.1

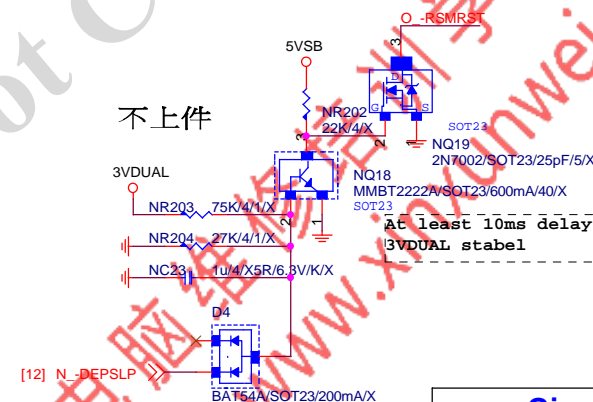
Date: Friday, June 03, 2016 Sheet 32 of 52



* 5Vdual , update
from SKL 0.2B



不上件



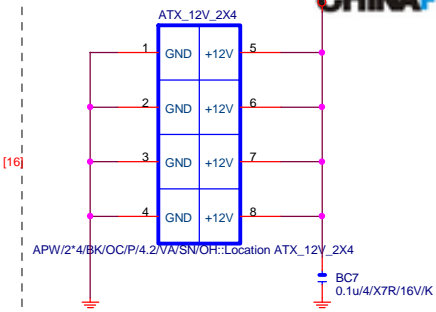
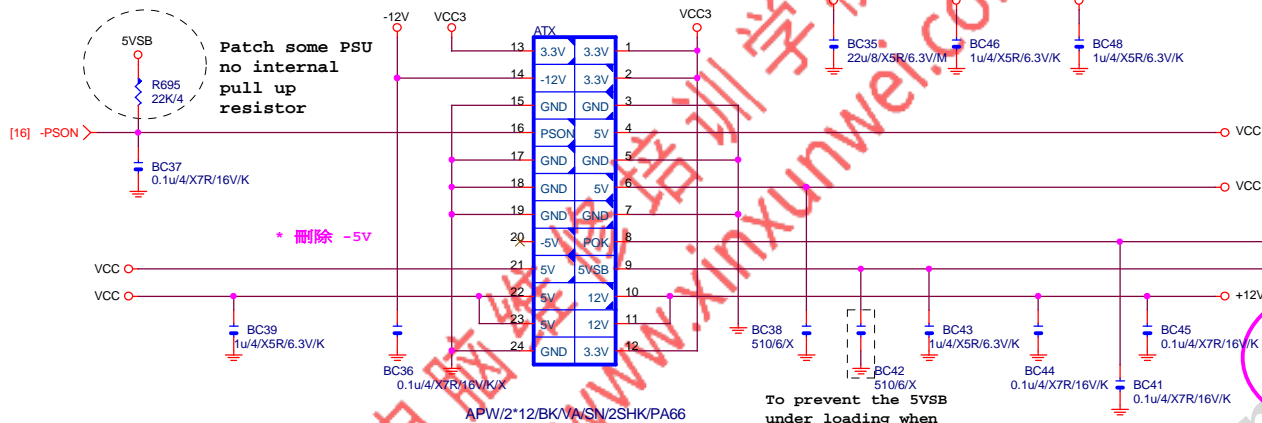
Gigabyte Technology

Title			
DISCRETE POWER			
Size	Document Number	GA-B150M-SC-SI	
Custom			
Date:	Friday, June 03, 2016	Sheet	33 of 52
		1	

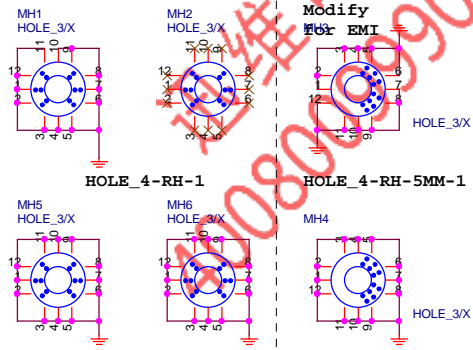
ATXX24 POWER CONNECTOR

www.xinxunwei.com 400-800-9990

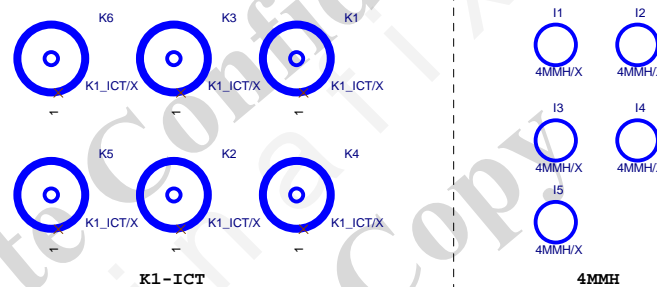
ATXX4 POWER CONNECTOR



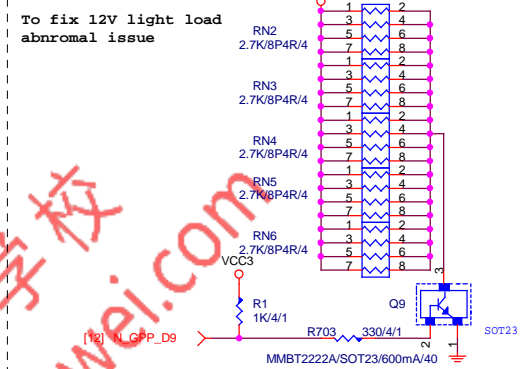
螺絲孔



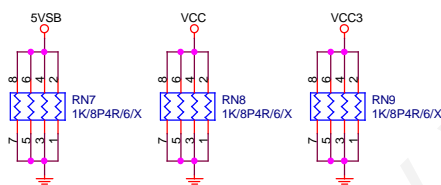
固定孔/光學點



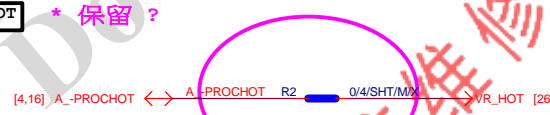
+12V DUMMY LOAD



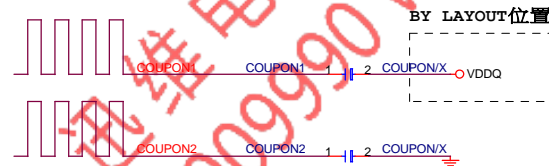
DUMMY LOAD



-PROHOT



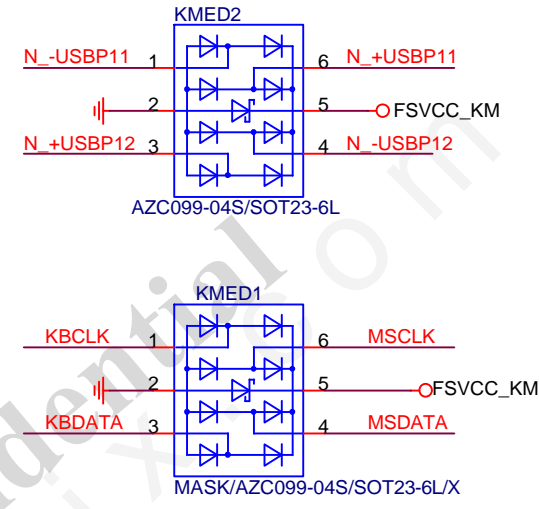
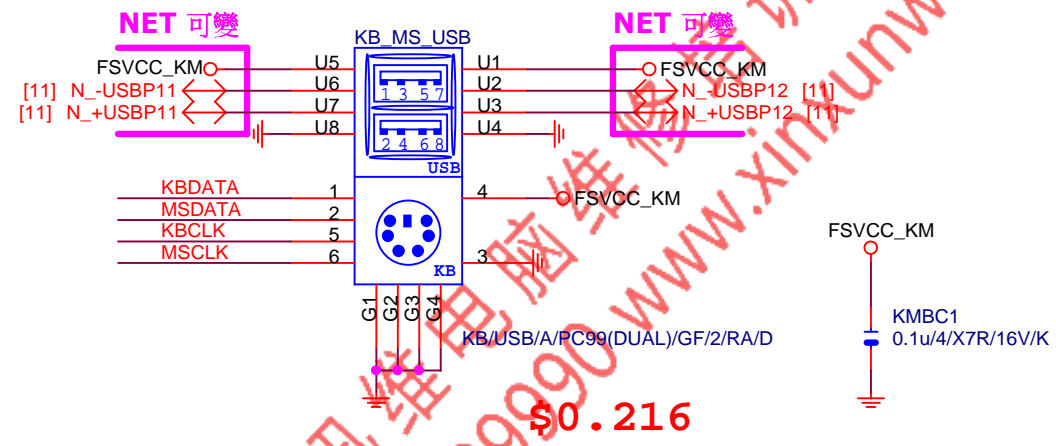
COUPON



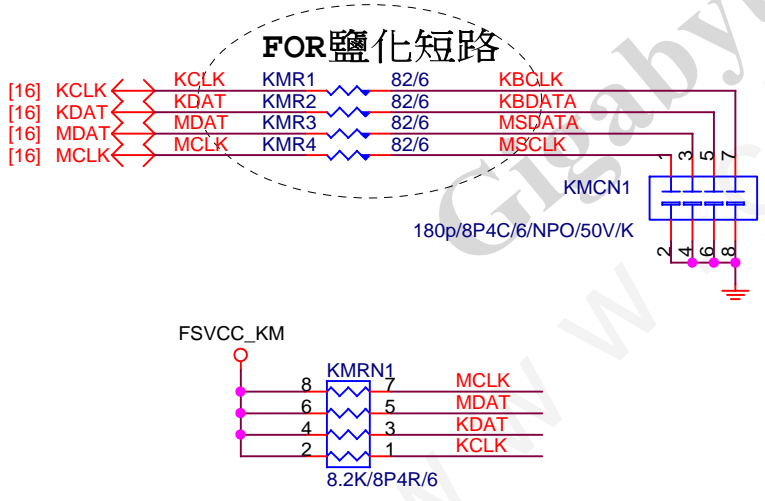
【技術通報R&D技術通報153】

Gigabyte Technology

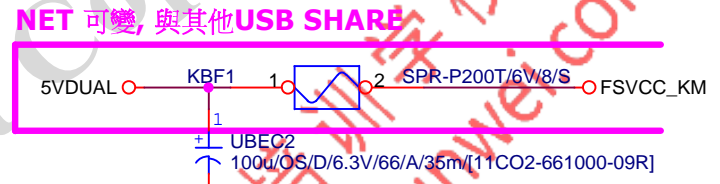
Title		
ATX POWER CONNECTOR		
Size	Document Number	Rev
Custom	GA-B150M-SC-SI	1.1
Date:	Friday, June 03, 2016	Sheet 34 of 52



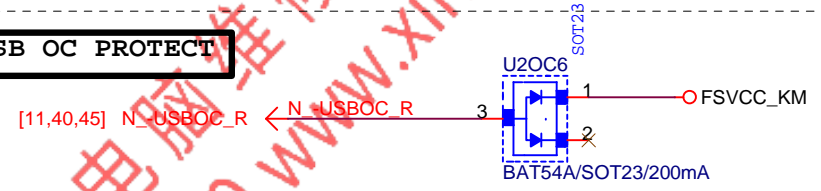
KB_MS_USB DAMPING/PU



KB_MS_USB PWR



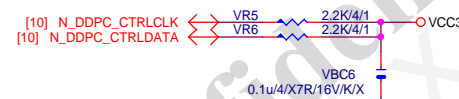
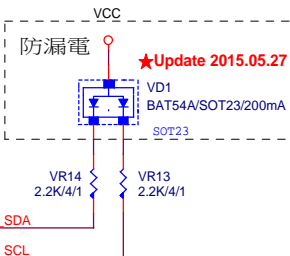
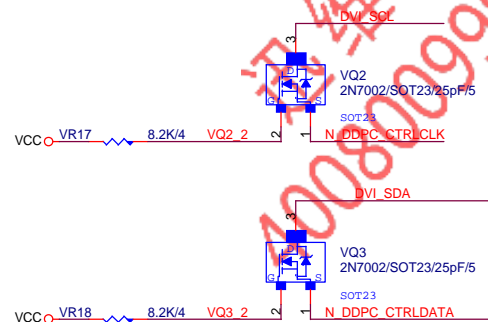
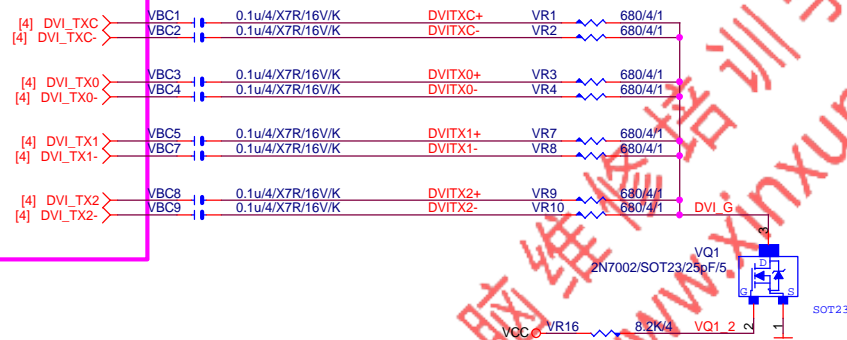
USB OC PROTECT



Gigabyte Technology			
Title			
AUDIO JACK			
Size	Document Number		Rev
A	GA-B150M-SC-SI		1.1
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	2	1	

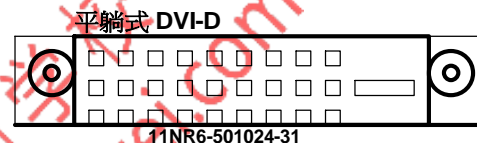
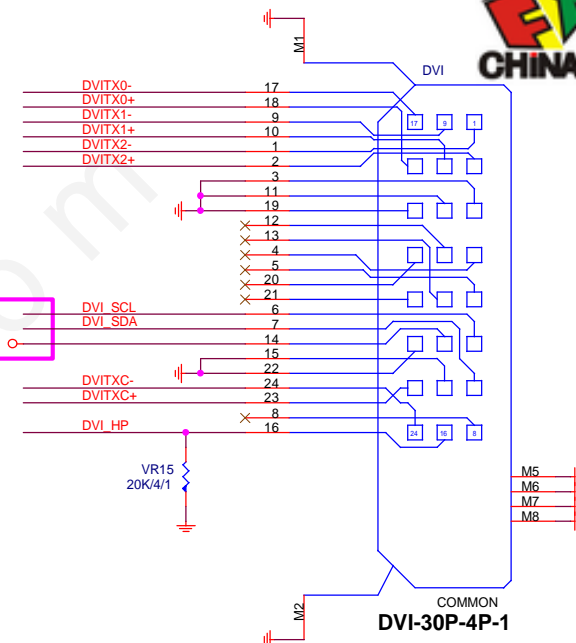


NET 可變

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

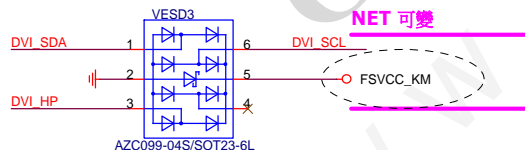
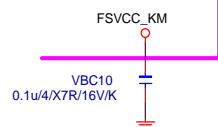
NET 可變

* FSVCC_KM

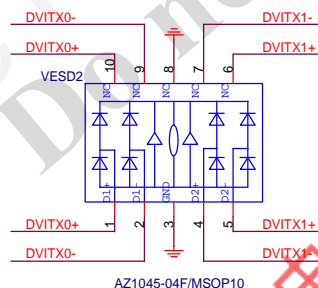


ESD

NET 可變

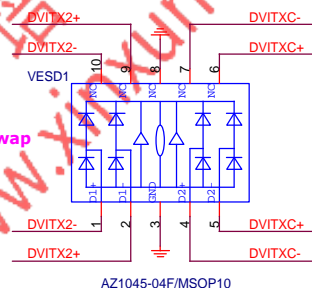


Close to connector



Close to connector


* swap

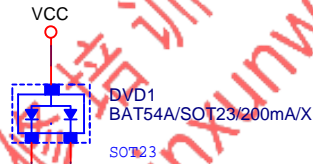
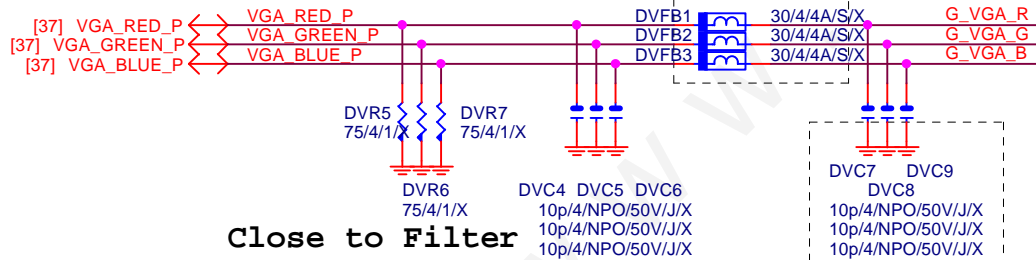
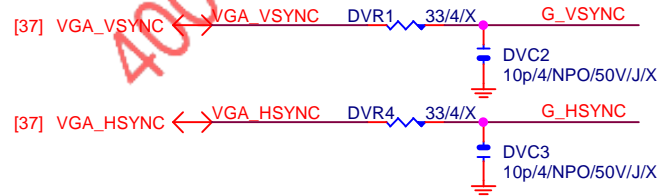


Close to connector

Gigabyte Technology

Title			
FP,F_USB,USB PWR,BZ			
Size	Document Number	GA-B150M-SC-SI	
Custom			Rev 1.1
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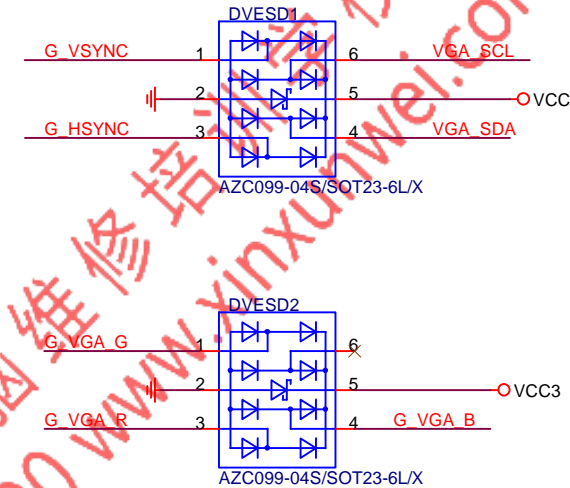
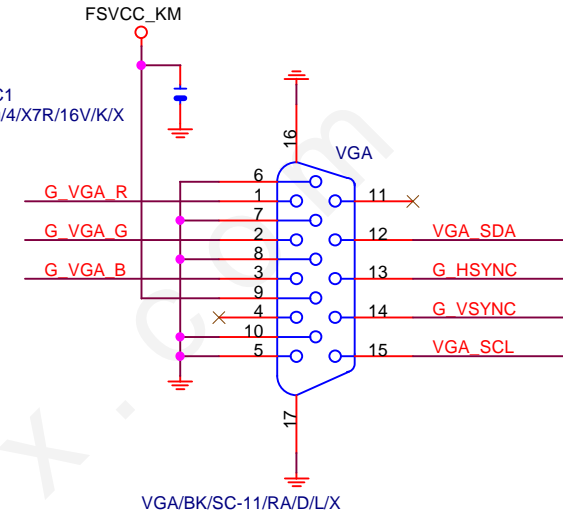
<div style="text-align: center;">  Gigabyte Technology </div>			
<div style="text-align: center;"> DP-VGA RTD2168 </div>			
Title			
Size	Document Number		Rev
Custom	GA-B150M-SC-SI		1.1
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DVR2
2.2K/4/1/XDVR3
2.2K/4/1/X[37] VGA_SDA <->
[37] VGA_SCL <->VGA_SDA
VGA_SCL

Close to Filter

FOR EMI

VGA ESD



Gigabyte Technology

Title DP-VGA RTD2168

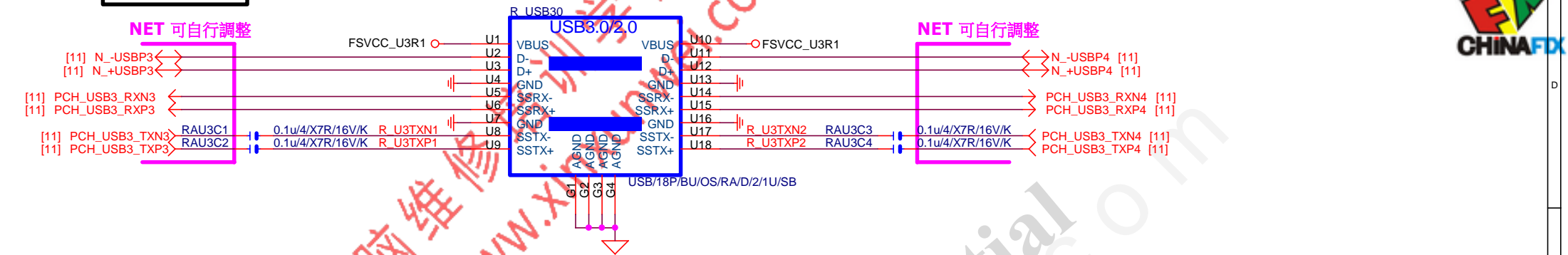
Size Custom Document Number GA-B150M-SC-SI

Rev
1.1

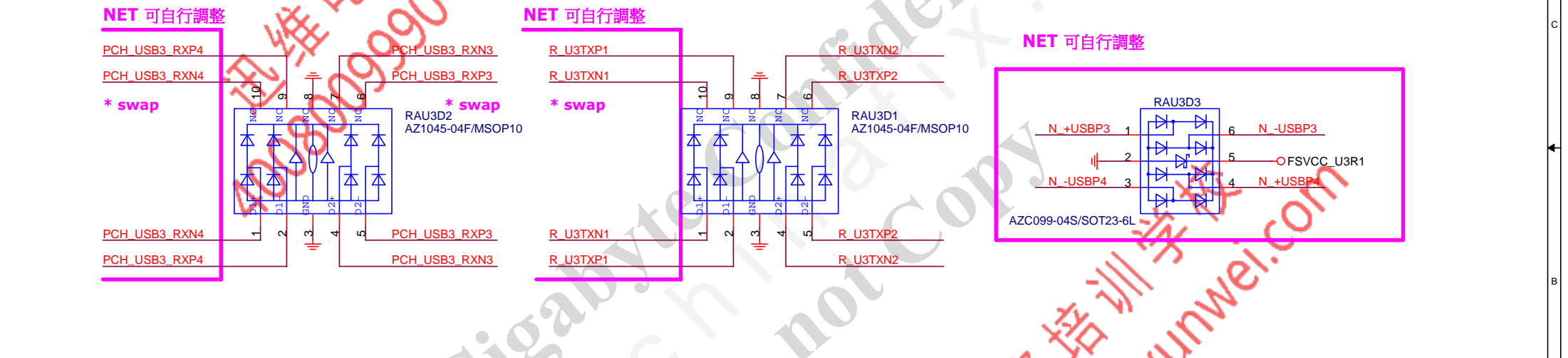
Date: Friday, June 03, 2016 Sheet 38 of 52



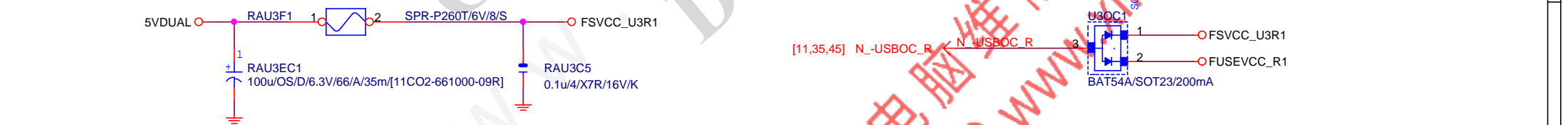
ESD 可自行SWAP PIN, 端 NET 名稱 不可



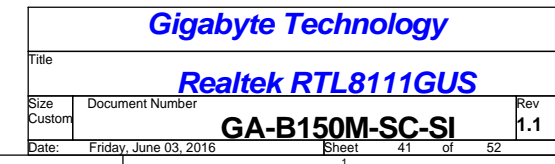
ESD



FUSE

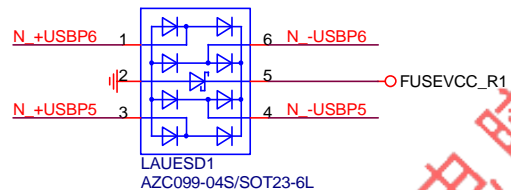


Gigabyte Technology			
Title			
R_USB30,F_USB30, USB_OC			
Size	Document Number	GA-B150M-SC-SI	
Custom			Rev 1.1
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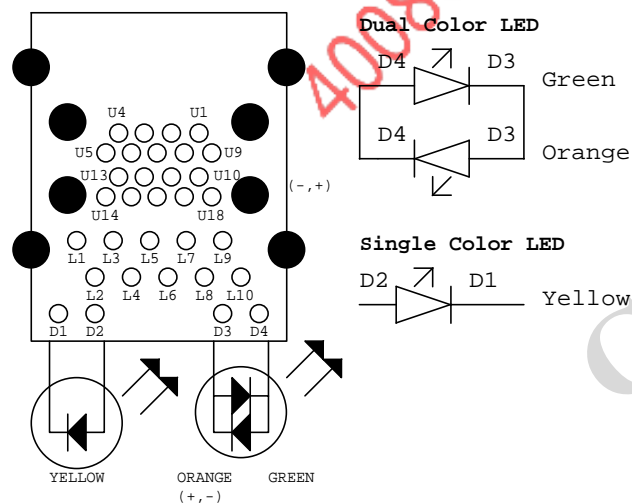


note:可變更USB NAME

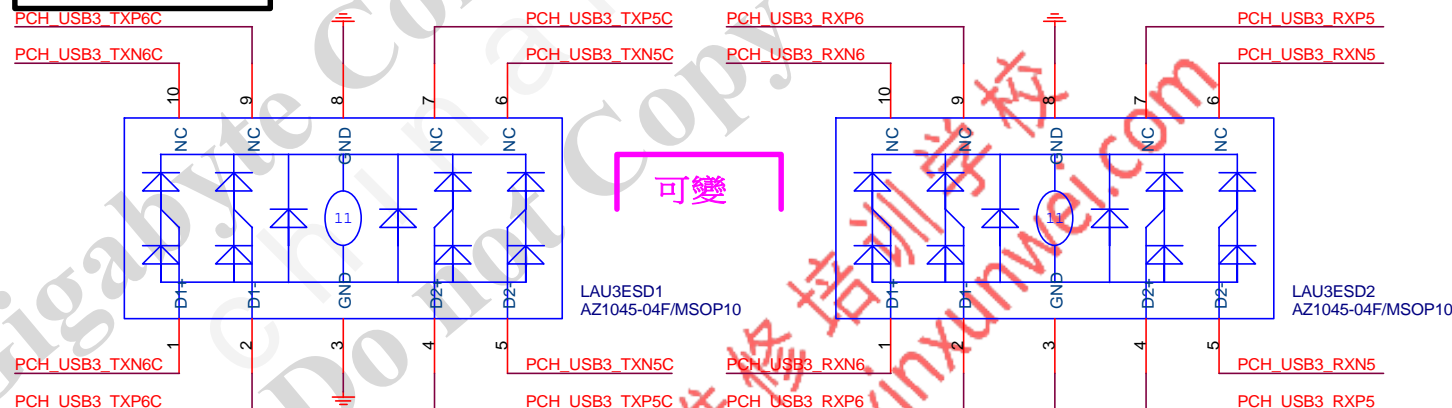
可變



USB30_LAN LAYOUT示意圖

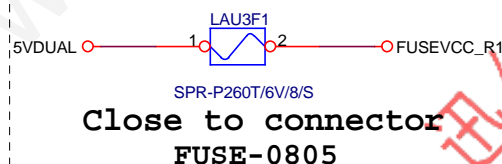


note:可變更USB NAME



note:可變更FUSE

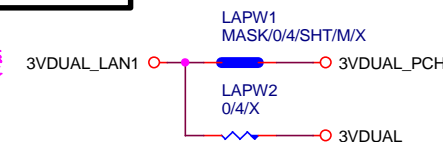
可變



PS:視EMI需求

note: lan power連接及電流

可變



Gigabyte Technology

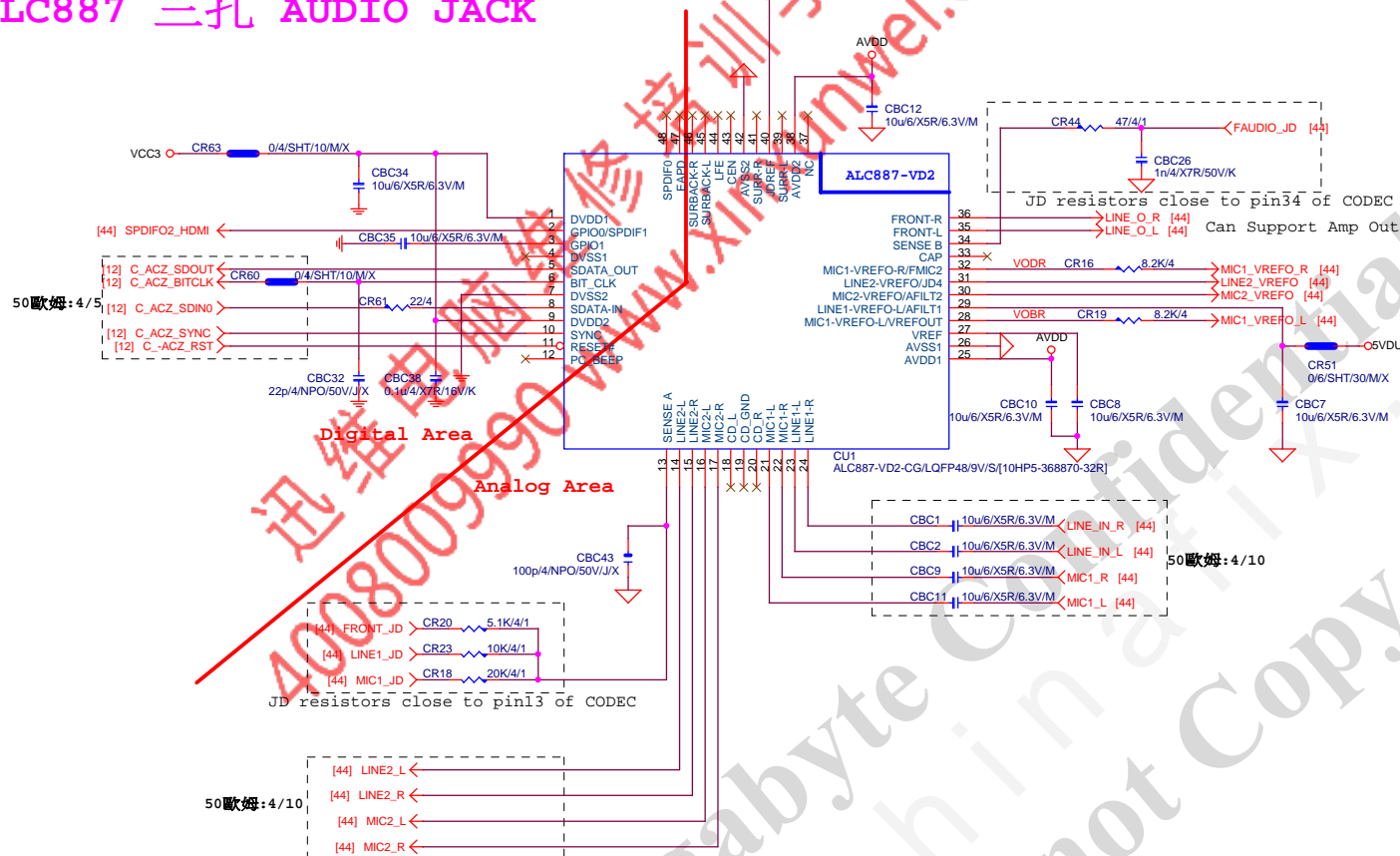
LAN CONNECTOR-RTL8111G

Size	Document Number
Custom	

GA-B150M-SC-SI

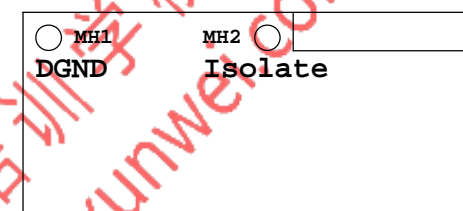
1.1

ALC887 三孔 AUDIO JACK

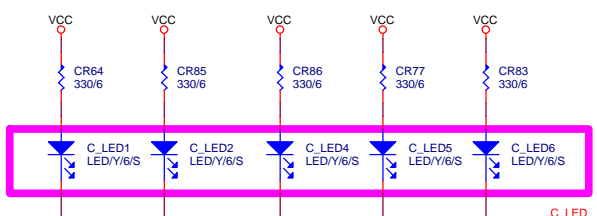


LAYOUT注意:螺絲孔下GND方式

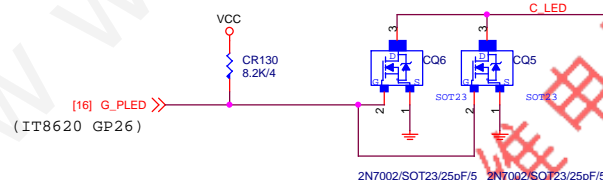
1. MH1空間夠, 下DGND
空間不夠, 改為Isolate
2. MH2一律改為Isolate



VALUE可變,LED顏色請自行修改
(預設:低亮度黃色LED:LED/Y/6/S)



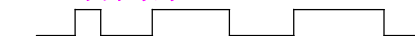
GREEN(綠色)



*LAYOUT與否,依照各Model spec

LAYOUT注意:要加

GND切割線



音效區域印刷



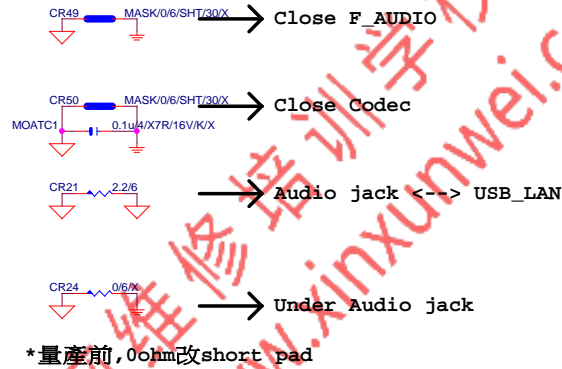
BOM OPTION : 1. Chemicon音效電容
2. 金屬外罩 Reserve (上件與否,依照各Model spec)
3. LED Reserve (上件與否和LED顏色,依照各Model spec)

Gigabyte Technology

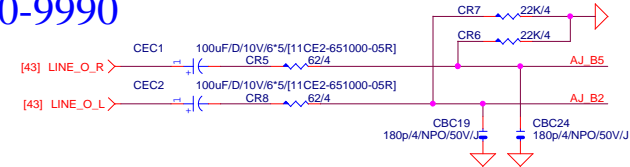
Title			
HD AUDIO ALC887			
Size	Document Number	Rev	
Custom	GA-B150M-SC-SI	1.	
Date:	Friday, June 03, 2016	Sheet	43 of 52

Rev 0.5

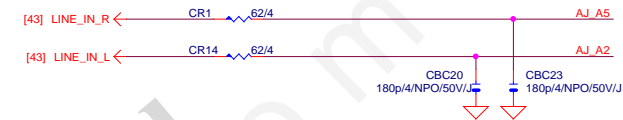
www.xinxunwei.com 400-800-9990



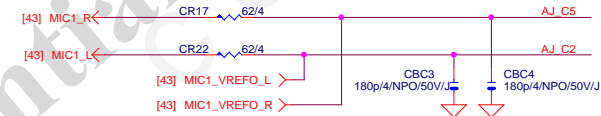
LINE-OUT



LINE-IN



MIC-IN

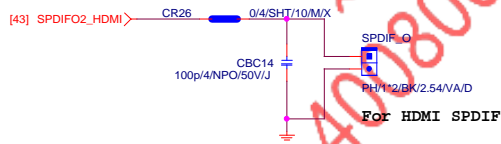


SURROUND

CEN/LFE

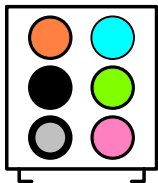
SURRBACK

SPDIF_OUT

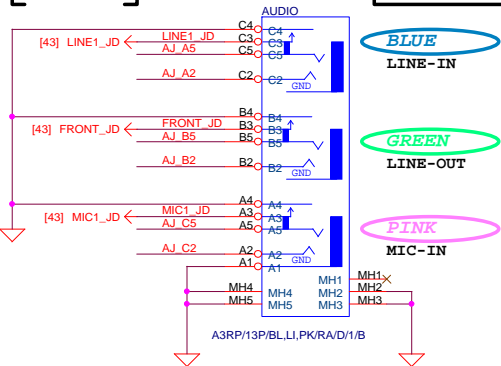


SPDIF_IN

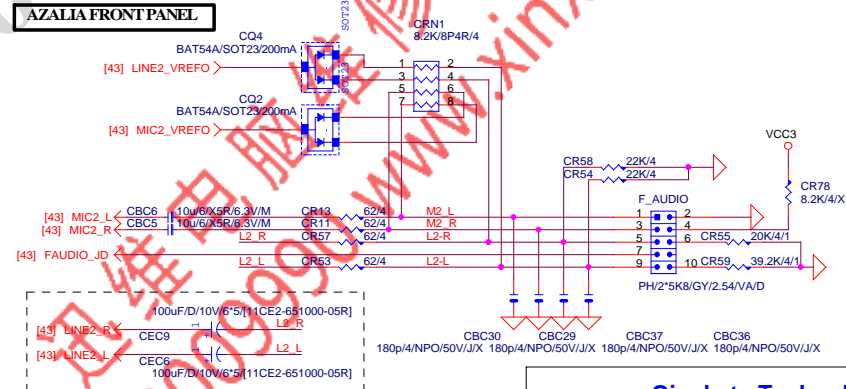
AZALIA JACK



AZALIA JACK



AZALIA FRONT PANEL



Gigabyte Technology

Title		
AUDIO JACK		
Size	Document Number	Rev
Custom	GA-B150M-SC-SI	1.1
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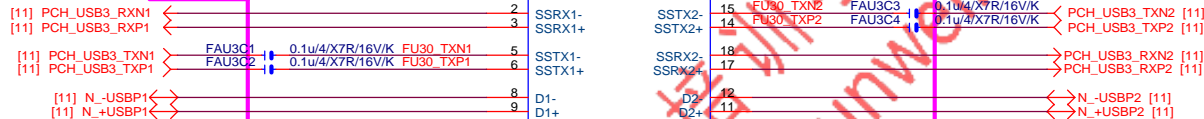
Rev: 0.53

Front USB3.0

F_USB30

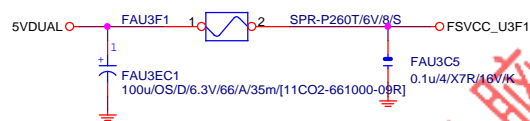
REV=1

NET 自行調整

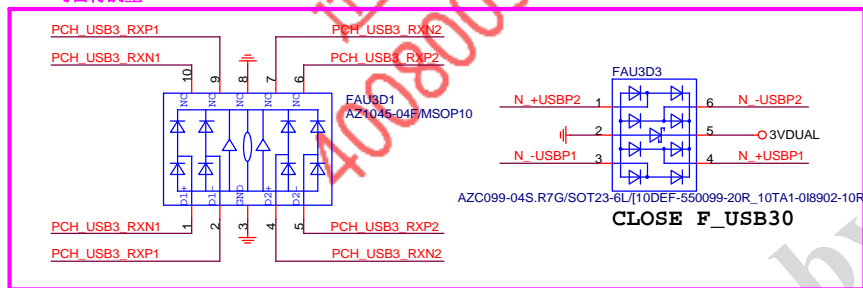


NET 可自行調整

F_USB30 PWR



NET 可自行調整

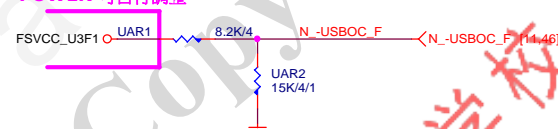


CLOSE F_USB30

CLOSE F_USB30

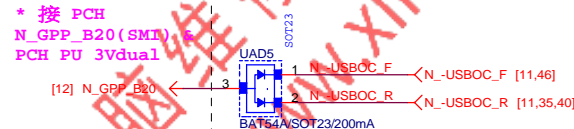
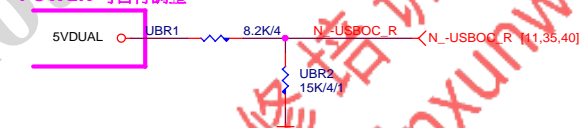
-USBOC_F

POWER 可自行調整



-USBOC_R

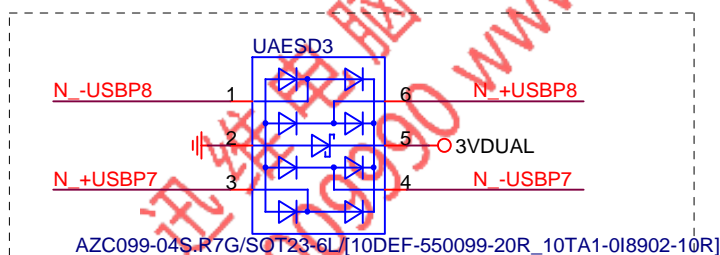
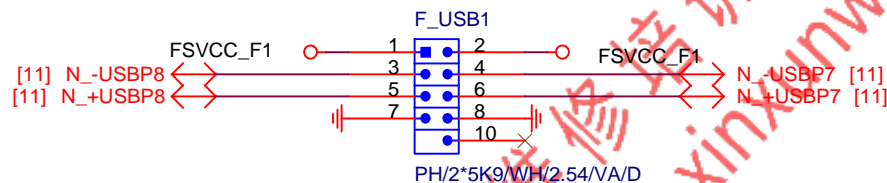
POWER 可自行調整



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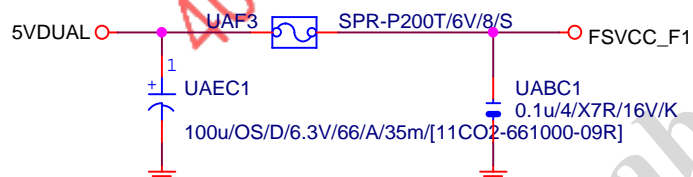
Title			R_USB30,F_USB30,USB_OC
Size	Document Number	GA-B150M-SC-SI	
Custom		Rev	1.1
Date:	Friday, June 03, 2016	Sheet	45 of 52

NET 可變

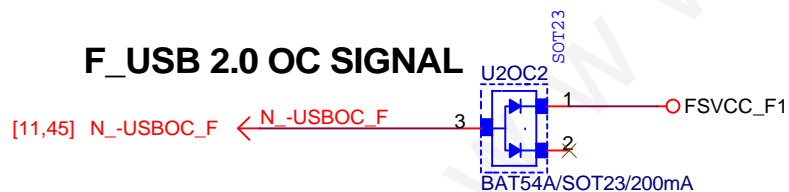


Close to connector

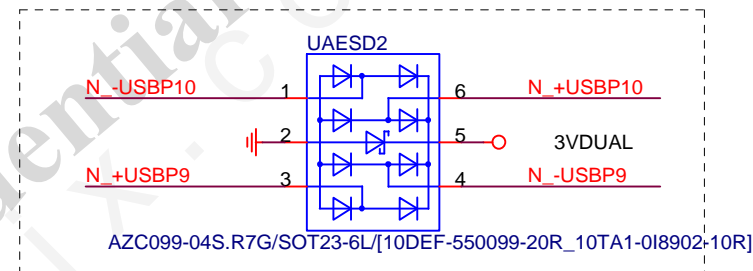
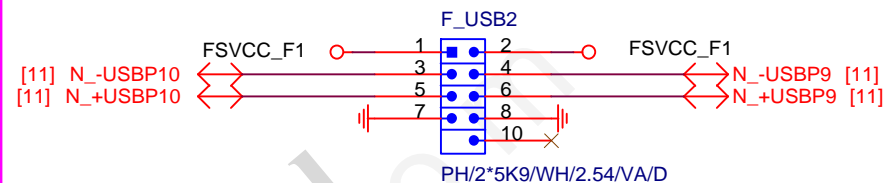
FUSE 2 Port 1 Fuse 2A



F_USB 2.0 OC SIGNAL



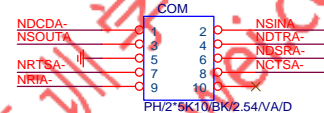
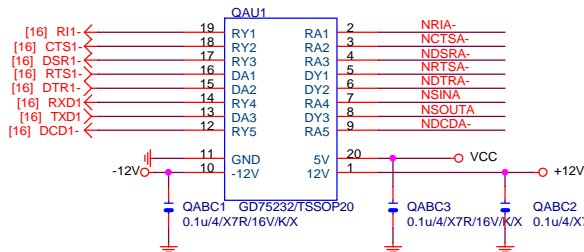
NET 可變



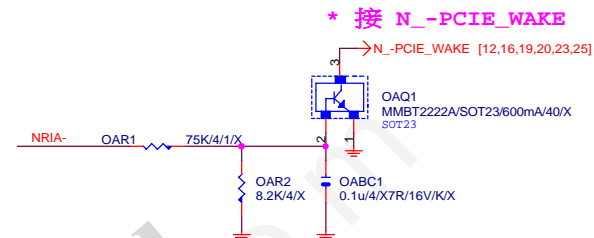
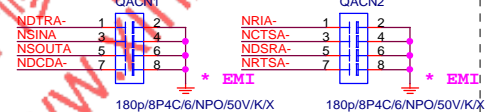
Gigabyte Technology

USB2.0

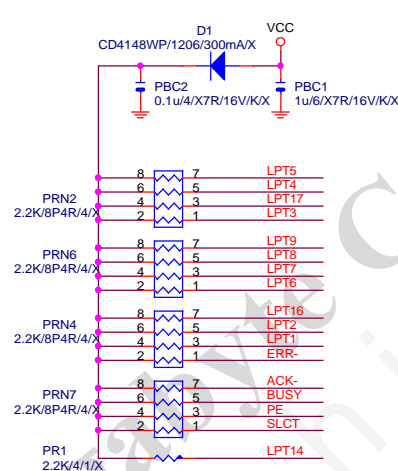
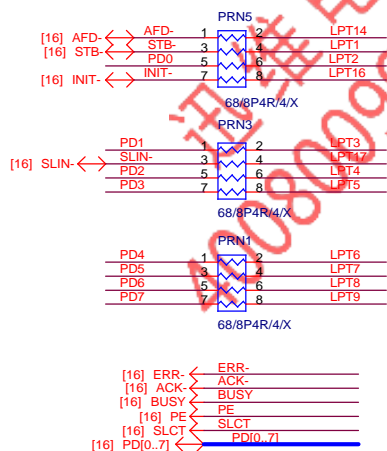
Title		
USB2.0		
Size	Document Number	Rev
Custom	GA-B150M-SC-SI	1.1
Date:	Friday, June 03, 2016	Sheet 46 of 52



* footprint :
PIN2X5-CUT10-COM

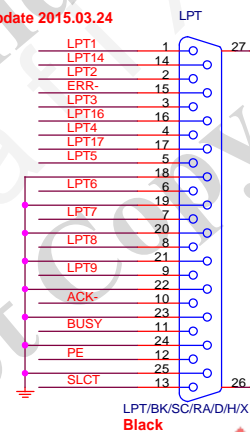


LPT PORT



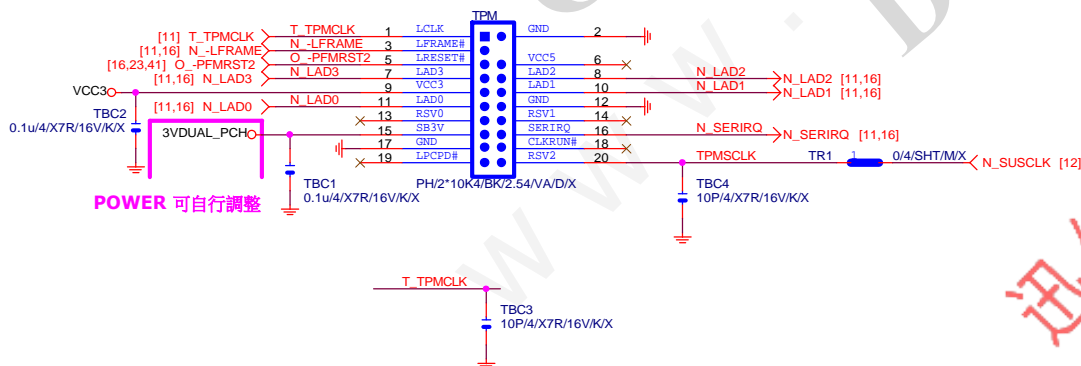
R&D技術通報151 有使用PRINT PORT的
MODEL，需使用新料號：10HP2-118728-72R。(CHIP IT8728F/EX (GB) ITE/SMD
QFP128 PRINTPORT SORTING)料件。串電阻33 ohm改為68 ohm。

★Update 2015.03.24



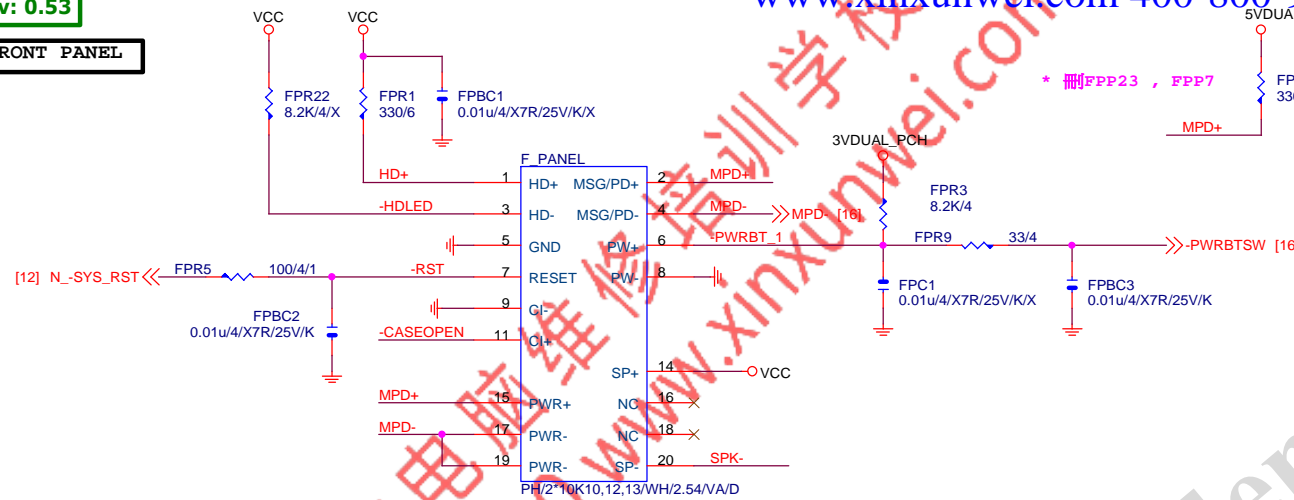
TPM CONNECTOR

PH2X10-CUT4_TPM



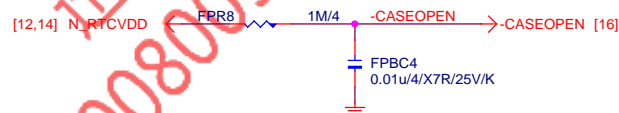
Gigabyte Technology			
Title			
FP,F_USB,USB PWR,BZ			
Size	Document Number	Rev	
Custom	GA-B150M-SC-SI	1.1	
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FRONT PANEL



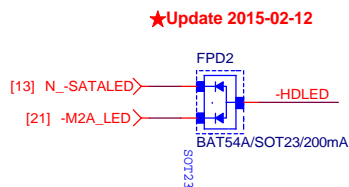
FOOTPRINT: PIN2X10PANEL-NEW

CASE OPEN

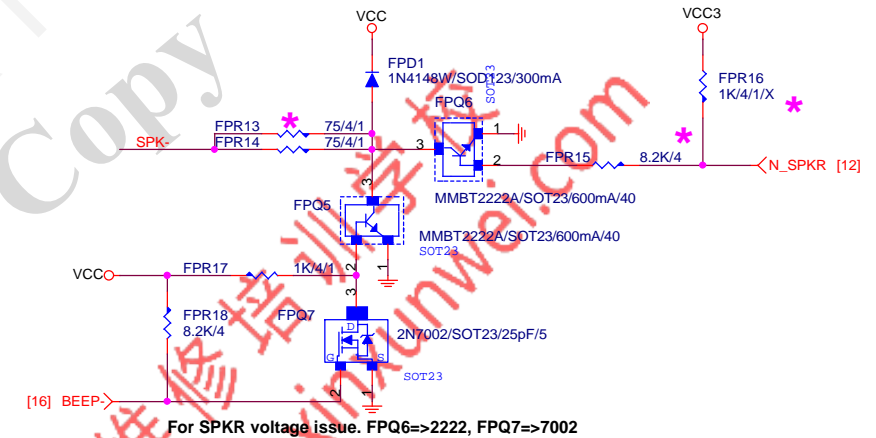


SATA LED

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

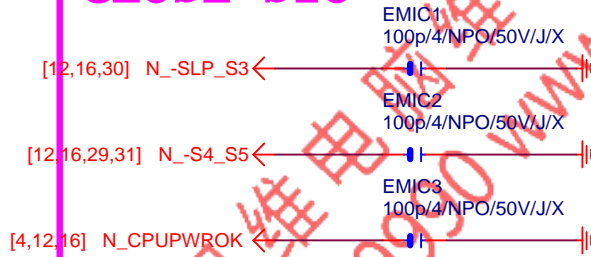


SPKR



Gigabyte Technology			
Title			
FRONT PANEL			
Size Custom	Document Number	GA-B150M-SC-SI	Rev 1.1
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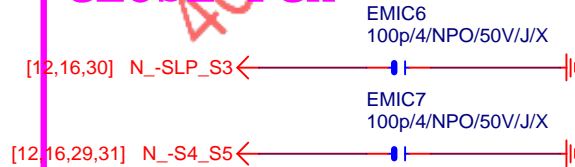
CLOSE SIO



CLOSE PCH



CLOSE PCH



For H1703M-HD3 USB



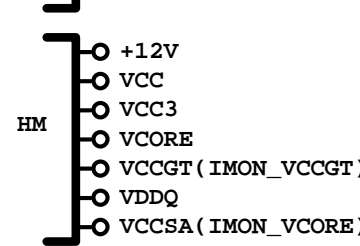
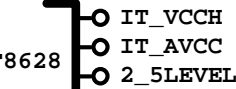
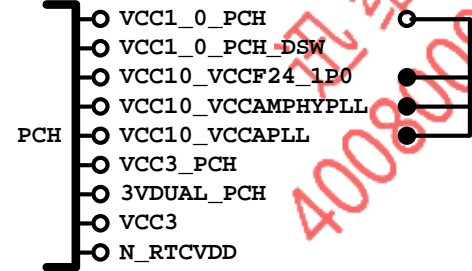
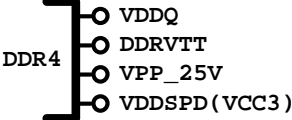
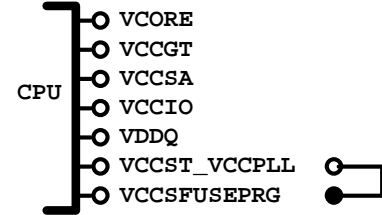
GIGABYTE™

Title EMI/ESD		
Size A	Document Number GA-B150M-SC-SI	Rev 1.1
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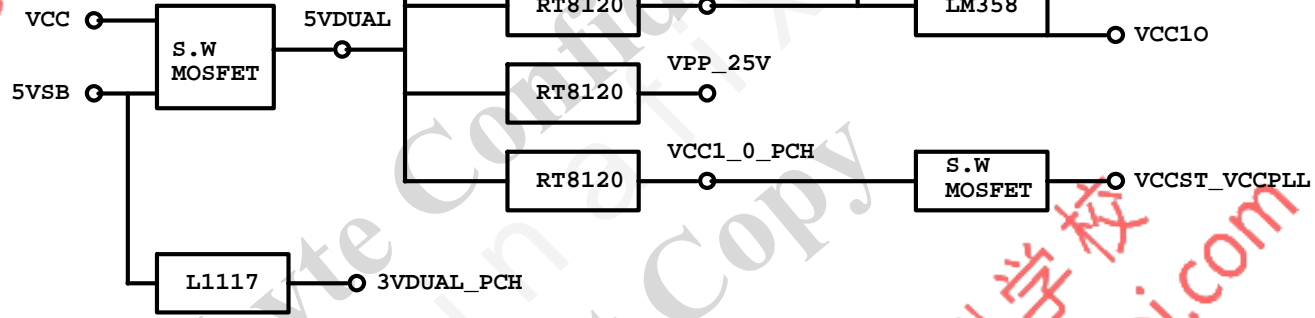
POWER BLOCK MAP

VCORE/VCCGT

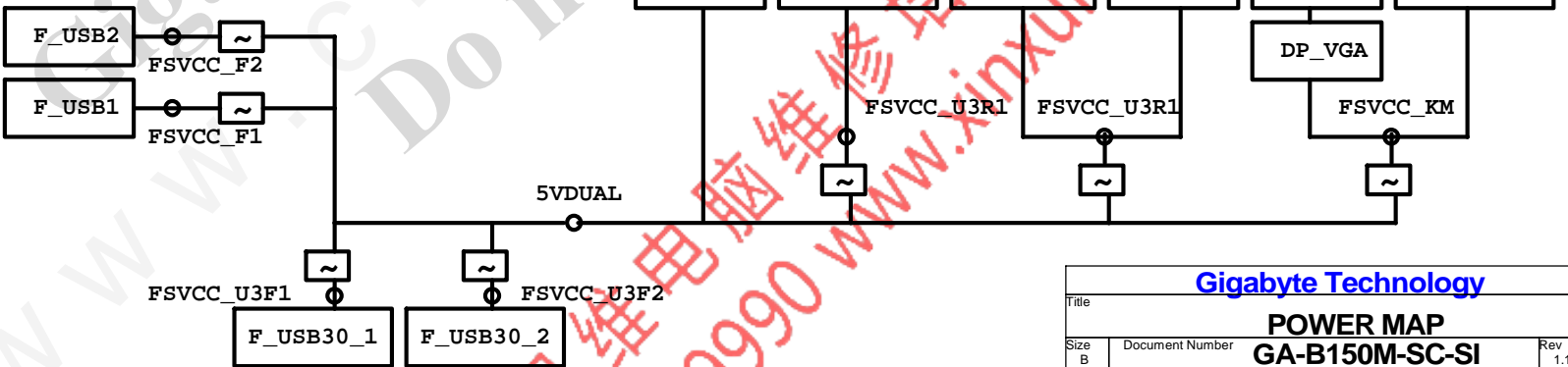
www.xinxunwei.com 400-800-9990



POWER



FUSE POWER F/R



Gigabyte Technology

Title		
POWER MAP		
Size B	Document Number	Rev 1.1
GA-B150M-SC-SI		
Date:	Friday, June 03, 2016	Sheet 50 of 52

固態電容料號.請自行修改

日系黑色固態	Capture Value
11C02-C85600-01R	560u/FP/D/6.3V/68/C/8m
11C05-C82700-01R	270u/FP/D/16V/88/C/12m
11C05-C61000-01R	100u/OS/D/16V/66/C/30m
11C02-C51000-01R	100u/FP/D/6.3V/65/C/13m

日系一般固態	Capture Value
11C02-685600-01R	560u/FP/D/6.3V/68/8m
11C05-882700-01R	270u/FP/D/16V/88/12m
11C05-661000-03R	100u/OS/D/16V/66/30m
11C02-651000-02R	100u/OS/D/6.3V/66/30m

台系固態	Capture Value
11C02-661000-09R	100u/OS/D/6.3V/66/A/35m
11C05-691000-09R	100u/OS/D/16V/69/A/35m
11C05-8C2700-09R	270u/FP/D/16V/8C/A/10m
11C02-695600-09R	560u/FP/D/6.3V/69/A/11m

IRON CHOKE

	料號	Capture Value	SIZE	Footprint
DIP	11LC5-M4500C-01R	0.5uH/40A/IMD109/M/D	10*10	CHOKE05U-40A-1PQ-3
DIP	11LC5-M2500C-01R	0.5uH/20A/IMD0809/M/D	8*8	CHOKE1U-R50M-IF

Ferrite

	料號	Capture Value	SIZE	Footprint
DIP	11LC5-F3500C-11R	0.5uH/32A/INCG109/FSI/D	10*10	CHOKE05U-40A-1PQ-3
DIP	11LC5-F2500C-11R	0.5uH/25A/INC0809/F/D	8*8	CHOKE1U-R50M-IF
SMD	未建(SIUC1007-R30M-JJ1W)		10*7	CHOKE11X8MM-SMD

BEAD

	料號	Capture Value	SIZE	Footprint
DIP	10LFB-15470A-01R	47/4030/15A/S	4*3	BEADC8B-BPH_SMD

PWM料號

		料號	Capture Value	Footprint
PWM	ISL95856	10TA1-695856-01R		IC52QFN-6x6-G
PWM	ISL95858	10TA1-695858-01R		IC52QFN-6x6-G
PWM	IR35201	10TA1-635201-00R		IC56QFN-9VRS4339
PWM	IR3570	10TA1-603570-00R		IC40MLFP-ISL95835

GIGABYTE™			
Title POWER零件使用表			
Size Custom	Document Number GA-B150M-SC-SI		Rev 1.1
Date:	Friday, June 03, 2016	Sheet 1	51 of 52

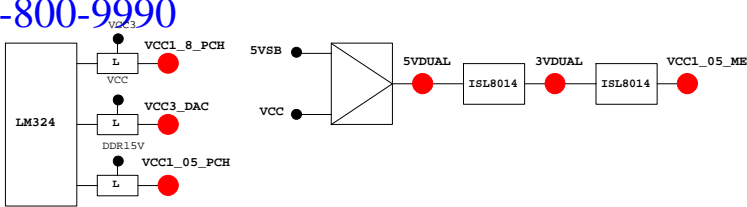


PCH GPIO LIST TABLE					
PIN NAME	PWR	Default	USAGE	NOTE	
GP0	MAIN	H-Z	GPI0	GPI0	N/A
GP1/TACH1	MAIN		GPI0	GPI0	N/A
GP2/PIRQ#	MAIN		GPI	-PIRQE	P/U 8.2K VCC3
GP3/PIRQ#	MAIN		GPI	-PIRQF	P/U 8.2K VCC3
GP4/PIRQ#	MAIN		GPI	-PIRQG	P/U 8.2K VCC3
GP5/PIRQ#	MAIN		GPI	-PIRQH	P/U 8.2K VCC3
GP6/TACH2	MAIN		GPI	PCIEX1 Detect	P/U 8.2K VCC3
GP7/TACH3	MAIN		GPI	GPI07	P/U 8.2K VCC3
GP8	STBY	H	GPI	GPI08	N/A
GP9/OC5#	STBY		NATIVE	USB OC5#	N/A
GP10/OC6#	STBY		NATIVE	USB OC6#	N/A
GP11/SMBALERT#	STBY		NATIVE	USB PWR protect	P/U 8.2K 3VDUAL
GP12	STBY	L	GPI	GPI012	N/A
GP13	STBY	L	GPI	LPCPME#	P/U 8.2K 3VDUAL
GP14/OC7#	STBY		NATIVE	USB OC7#	N/A
GP15	STBY	L	GPI	GPI015(TLS Enable)	P/U 8.2K 3VDUAL
GP16	MAIN		GPI	GPI016	P/U 8.2K VCC3
GP17/TACH0	MAIN		GPI	GPI017	P/U 8.2K VCC3
GP18	MAIN		GPI	Mobile Only	N/A
GP19	MAIN		GPI	GPI019	P/U 8.2K VCC3
GP20	MAIN		GPI	GPI020	P/U 8.2K VCC3
GP21	MAIN		GPI	GPI021	P/U 8.2K VCC3
GP22	MAIN	H-Z	GPI	GPI022	P/U 8.2K VCC3
GP23	MAIN		GPI	GPI023	N/A
GP24	STBY	L	GPI	SKTOCC#	N/A
GP25	STBY			Mobile Only	N/A
GP26	STBY			Mobile Only	N/A
GP27	STBY	H	GPO	GPI027	P/U 8.2K 3VDUAL
GP28	STBY	H	GPO	PWR_LED	P/U 8.2K 3VDUAL
GP29	STBY	L	GPI	GPI029	N/A
GP30	STBY	H-Z	GPI	Mobile Only	N/A
GP31	STBY	H-Z	GPI	Mobile Only	N/A
GP32	MAIN	H	GPO	N/A	N/A
GP33	MAIN	H	GPO	N/A	N/A
GP34	MAIN	H-Z	GPI	-PCI_STOP	P/U 8.2K VCC3
GP35	MAIN	L	GPO	-ACZ_DET	P/U 8.2K VCC3
GP36	MAIN		GPI	N/A	N/A
GP37	MAIN		GPI	N/A	N/A
GP38	MAIN	H-Z	GPI	PCIEX4 Detect	P/U 8.2K VCC3
GP39	MAIN	H-Z	GPI	GPI039	P/U 8.2K VCC3
GP40	STBY		NATIVE	USB OC1#	N/A
GP41	STBY		NATIVE	USB OC2#	N/A
GP42	STBY		NATIVE	USB OC3#	N/A
GP43	STBY		NATIVE	USB OC4#	N/A
GP44	STBY	L	NATIVE	GPI044	P/U 8.2K 3VDUAL
GP45	STBY		NATIVE	GPI045	P/U 8.2K 3VDUAL
GP46	STBY	L	NATIVE	GPI046	P/U 8.2K 3VDUAL
GP47	STBY			Mobile Only	N/A
GP48	MAIN	H-Z	IN	GPI048	P/U 8.2K 3VDUAL
GP49	MAIN	H-Z	IN	GPI049	P/U 8.2K 3VDUAL
GP50	MAIN		NATIVE	-REQ1	P/U 2.2K VCC
GP51	MAIN	H	NATIVE	-GNT1	N/A
GP52	MAIN		NATIVE	-REQ2	P/U 2.2K VCC
GP53	MAIN	H	NATIVE	-GNT2	N/A
GP54	MAIN		NATIVE	-REQ3	P/U 2.2K VCC
GP55	MAIN	H	NATIVE	-GNT3	N/A
GP56	STBY		NATIVE	Mobile Only	N/A
GP57	STBY	H-Z	IN	VCORE_OV1	P/U 8.2K 3VDUAL
GP58	STBY	H-Z	NATIVE	F_USB_OC	P/U 8.2K 3VDUAL
GP59	STBY		NATIVE	USB_OC0#	N/A
GP60	STBY	H-Z	NATIVE	N/A(Reverse)	P/U 8.2K 3VDUAL
GP61	STBY	L	NATIVE	-SUSTAT	N/A
GP62	STBY	L	NATIVE	SUSCLK	N/A
GP63	STBY	L	NATIVE	GPI063	N/A
GP64	MAIN	L	NATIVE	CLKOUTFLEX0	N/A
GP65	MAIN	L	NATIVE	CLKOUTFLEX1	N/A
GP66	MAIN	L	NATIVE	CLKOUTFLEX2	N/A
GP67	MAIN	L	NATIVE	CLKOUTFLEX3	N/A
GP72	STBY	H-Z	NATIVE	VCORE_OV4	P/U 8.2K 3VDUAL
GP73	STBY			Mobile Only	N/A
GP74	STBY	H-Z	NATIVE	1_05V_OV2	P/U 8.2K 3VDUAL
GP75	STBY	H-Z	NATIVE	N/A(Reverse)	P/U 8.2K 3VDUAL

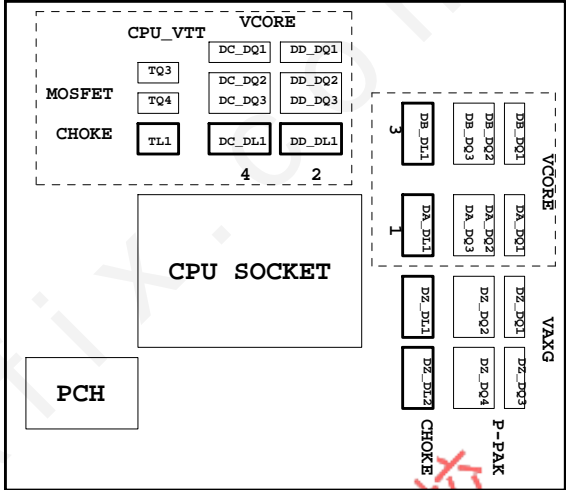
Super I/O ITE8720 GPIO Table

PIN NAME	USAGE	NOTE
SVC/PECI_RQT/GP14	-PECI_REQ	
PWROK1/GP13	PWROK1/ITE_PWROK	
KRST#/GP62	-KRST	
SO/GP50	-ICH_SPI_CS	
IRTX/GP47/CE2_N/JP7	CEB_N	
GP46/IRRX	-LAN2_DSM	
PSION#/GP42	-PSON	
PWROK2#/GP41	PECI_CTL	
PCIRST3#/GP10/VDIMM_STR_EN	-PCIE_RST	
RSMRST/CIRRX1/GP55	-RSMRST	
PME#/GP54	-LPCPME	
PD5/GP75/BUSS00	N/A	

PIN NAME	USAGE	NOTE
FAN_TAC2/GP52	FANIO2	
FAN_TAC3/GP37	FANIO3	
VIDO3/FAN_TAC4/GP25/DSR2#	FANIO4	
FAN_CTL2/GP51	FANPWM2	
FAN_CTL3/GP36	FANPWM3	
VID4/GP34	BEEP-	
VID3/GP33	TURBO1	
VID2/GP32	TURBO0	
VCORE_GOOD/VID6/GP63	CPUT_LED1_C	
VID5/GP35	CPUT_LED2_C	
VID1/GP31	CPUT_LED3_C	
VID0/GP30	-LAN1_DSM	NBT_LED1_C
SLCT/GP80	CPU_LED1_C	
PE/GP81	CPU_LED2_C	
BUSY/GP82	CPU_LED3_C	
PD3/GP73/BUSSI1	SB_LED1_C	
PD4/GP74/BUSSI2	SB_LED2_C	
VCORE_EN/VID7/GP64	IT_GP64	SB_LED3_C
PD0/GP70	NB_LED1_C	
PD1/GP71	NB_LED2_C	
PD2/GP72/BUSSI0	NB_LED3_C	
GP22/SCK	LOW_PWR_1	
VID05/GP27/SIN2	LOW_PWR_2	
PCIRST2#/GP11	-PFMRST1	
PCIRST1#/GP12	-PFMRST2	
3VBSBW#/GP40	CSI_F0	BSEL166_1
SUSC#/GP53	CSI_F1	BSEL166_2
GP23/SI	BSEL166_3/CSISBSL	
VID00/GP20/CTS2#	CPUT_LED1_C	BSEL166_4
GP65/VDDA_EN/GB_01	MB_ID2	
PD6/GP76/BUSS01	MB_ID3	
PD7/GP77/BUSS02	MB_ID4	
AFD#/GP86/SMB_C_R	SEC_PIN	FST_2X8
INIT#/GP85/SMB_D_M	SEC_2x8	GTLREF_AD2
ACK#/GP83	DDR_LED1_C	
VID01/GP21/DCD2#	DDR_LED2_C	
STB#/GP87/SMB_C_M	DDR_LED3_C	
PWRON#/GP44	VCORE_OV1	
PANSW#/GP43	PWRBTSW	
KDAT/GP61	-PWRBTSW	
KCLK/GP60	KDAT	
MDAT/GP57	KCLK	
MACL/GP56	MDAT	
GP66/VLDT_EN/GB_02	NBT_LED1_C	MCLK
SVD/PCIRSTIN#/CIRTX/GP15	PWM2_CR	
KDAT/GP61	PWM2_CR	
GP67/CPU_PG/GB_03	EN_LOADLINE	IT_GP67/-EN_PWM2
SLIN#/GP84/SMB_D_R	-EN_PWM2	
PSI_L/FAN_CLT5/CIRRX2/GP16	-THERM	
VID04/GP26/SOUT2	DDR18V_PH2_EN	
VID02/FAN_TAC5/GP24/DSR2#	DDR18V_LED	
VID06/GP17/RI2#	1_1V_PH_EN	
VID07/JP6/DTR2#	JP6	
PD5/GP75/BUSS00	SB_LED3_C	



PWM各相位的擺法如下:



BIOS超電壓對應表:

散熱模組料號:

線路圖名稱	BIOS選項
Vcore	CPU Vcore
CPU_VTT	CPU Termination
CPU_VAXG	CPU Graphic Core
VCC1_8_PCH	CPU PLL
VCC1_05_PCH	PCH core
3VDUAL	3VDUAL
DDR15V	DRAM voltage
DDRVTT	DRAM Termination
VREF_CA_A/VREF_CA_B	DRAM Address Ref
VREF_DQ_A/VREF_DQ_B	DRAM Data Ref

Z77-D3H :
PCH :
12SP2-S05511-01R/02R/03R
MOSFET :
12SP2-S08924-01R/02R/03R

	3 pin FAN control	4 pin FAN control	FAN speed	Controller
CPU FAN	FANPWM1	FANPWM3	FANIO1	IT8720
	ICH_FAN_PWM2	ICH_FAN_PWM0	ICH_FAN_TACH0	PCH
SYS FAN	FANPWM2	N/A	FANIO2	IT8720
	ICH_FAN_PWM1	N/A	ICH_FAN_TACH1	PCH
PWR FAN	N/A	N/A	FANIO3	IT8720
			ICH_FAN_TACH2	PCH

Gigabyte Technology			
Title	TABLE LIST		
Size C	Document Number	GA-B150M-SC-SI	Rev 1.1
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