

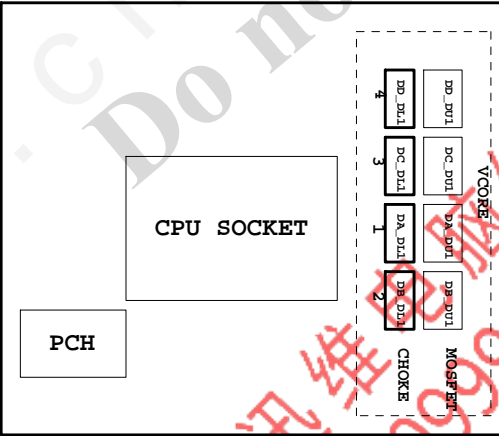


SHEET TITLE Rev 1.1

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

SHEET TITLE

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

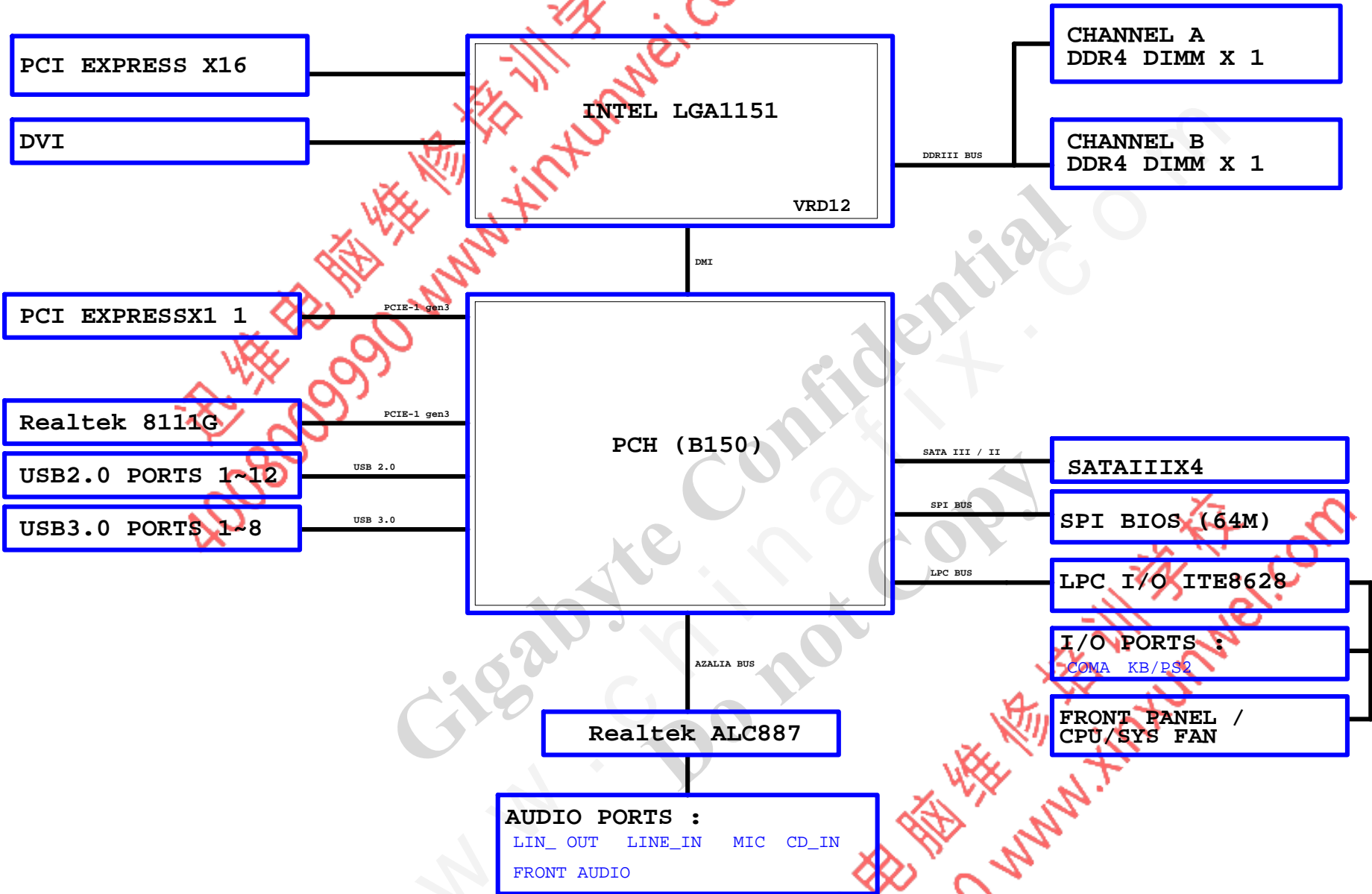


Circuit or PCB layout change

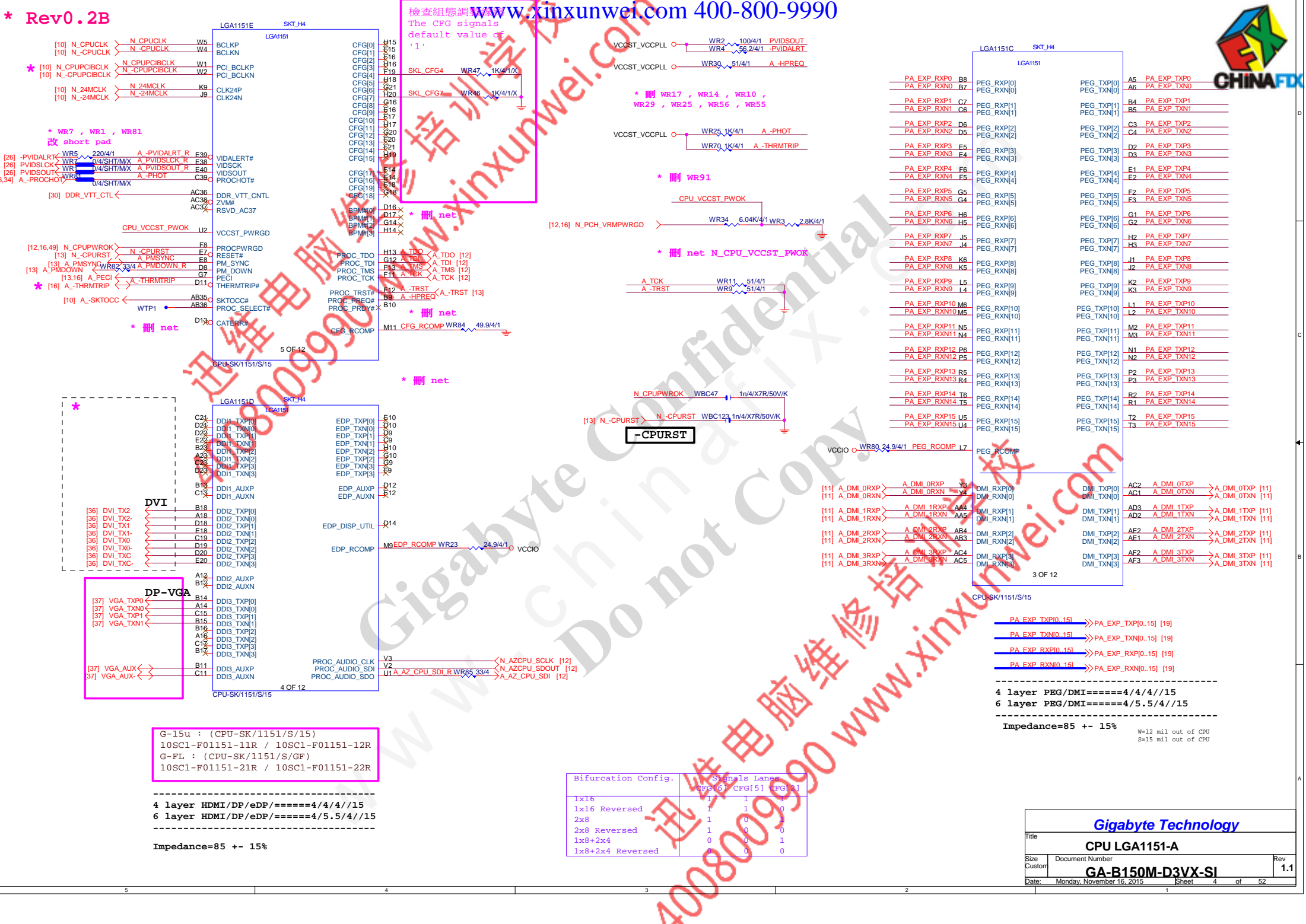
2015/11/13

[illegible]

BLOCK DIAGRAM



* Rev0.2B



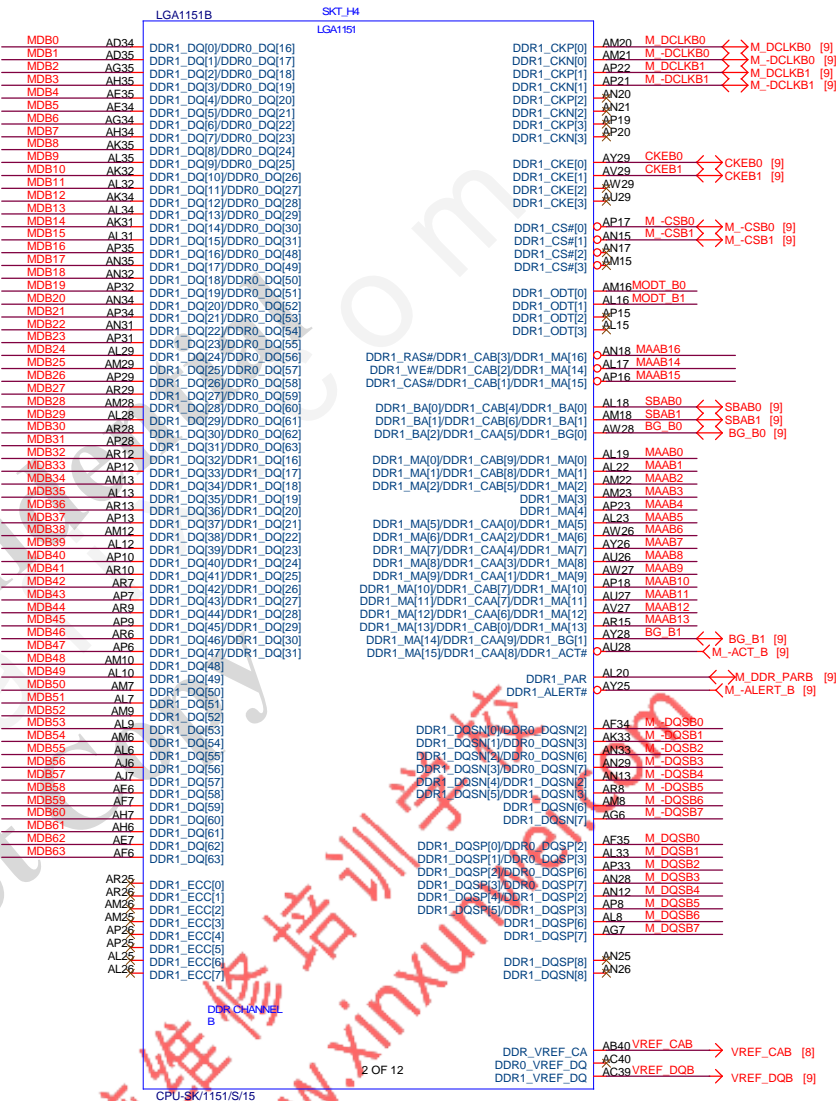
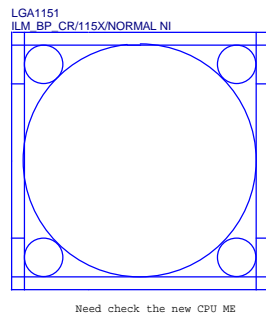
G-15u : (CPU-SK/1151/S/15)
10SC1-F01151-11R / 10SC1-F01151-12R
G-FL : (CPU-SK/1151/S/GF)
10SC1-F01151-21R / 10SC1-F01151-22R

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]
1x16	1	1
1x16 Reversed	1	1
2x8	1	0
2x8 Reversed	1	0
1x8+2x4	0	1
1x8+2x4 Reversed	0	1

Gigabyte Technology		
CPU LGA1151-A		
Size Custom	Document Number	Rev 1.1
GA-B150M-D3VX-SI		
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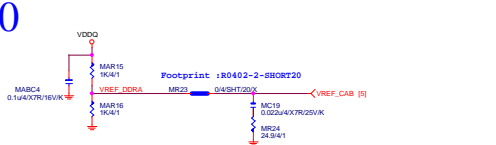




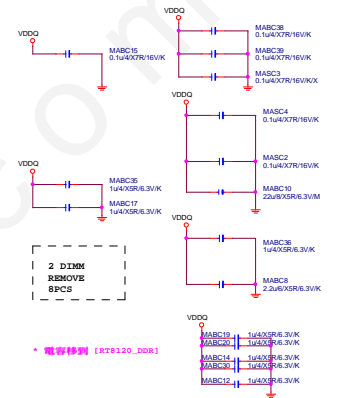


迅维电脑维修培训学校
4008009990 www.xinxunwei.com

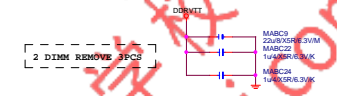
迅维电脑维修培训学校
4008009990 www.xinxunwei.com



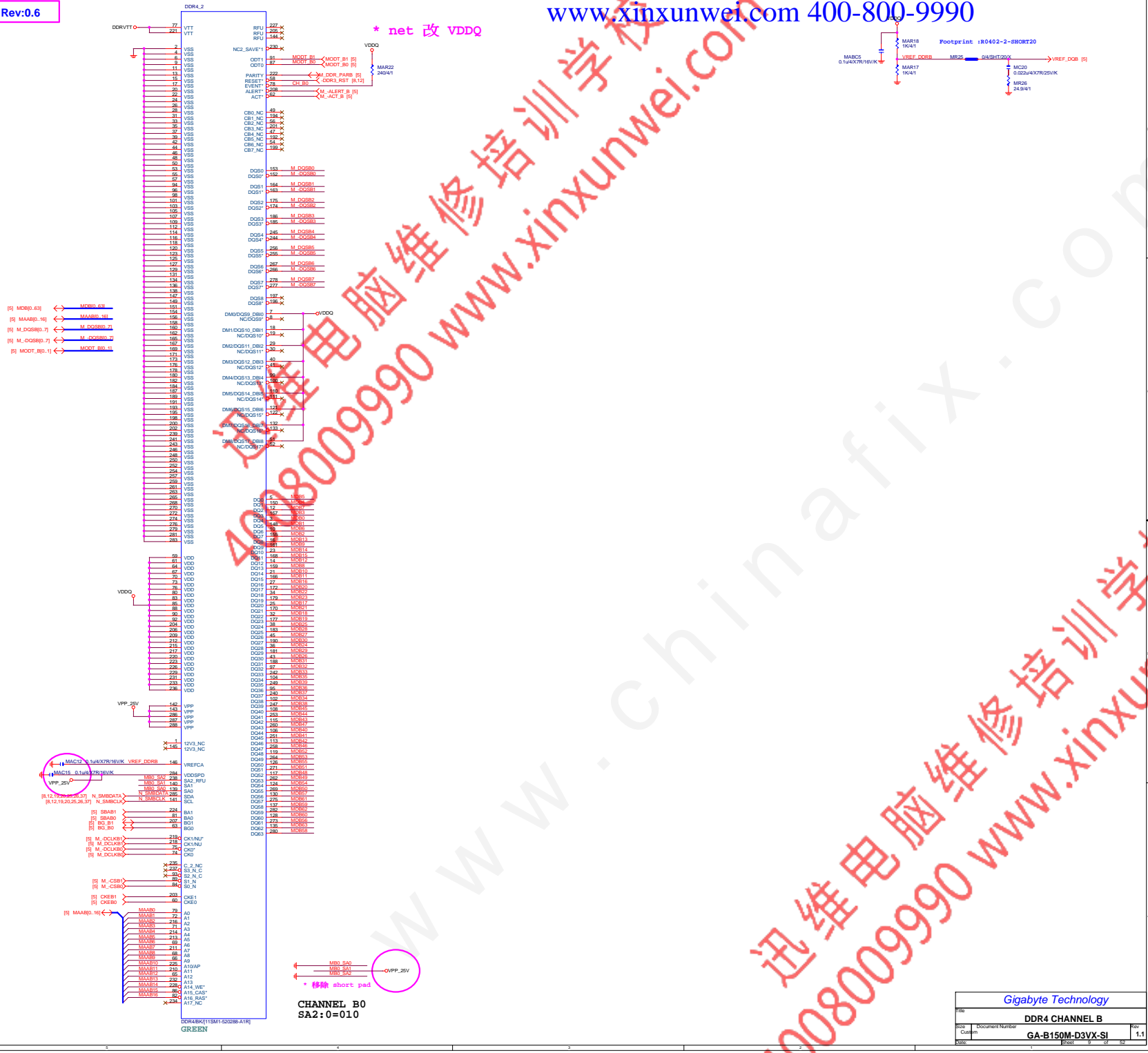
DDR12V Decouple



DDRVTT Decouple

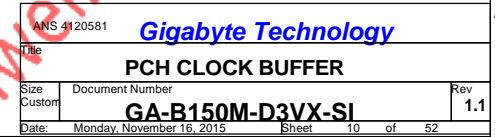


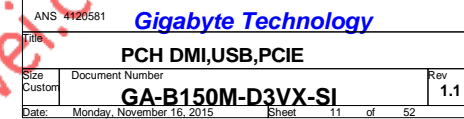
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File	DDR4 CHANNEL A		
Size	Document Number	GA-B150M-D3VX-SI	Rev
1.1			

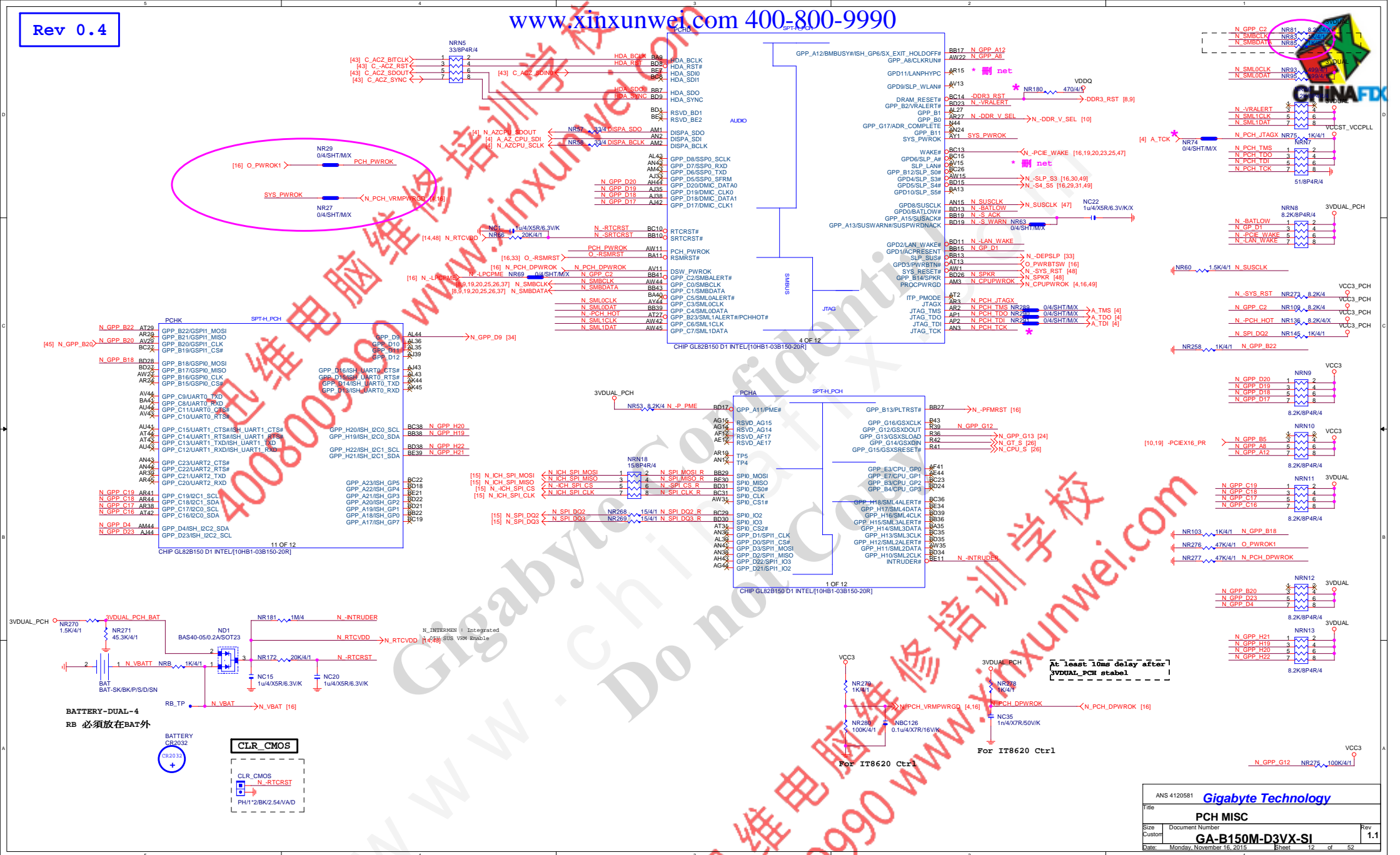


Gigabyte Technology		
File	DDR4 CHANNEL B	
Doc. Number	GA-B150M-D3VX-SI	
Version	1.1	1.1

[36] N_DVI_HDP_F
[37] N_VGA_HDP_F

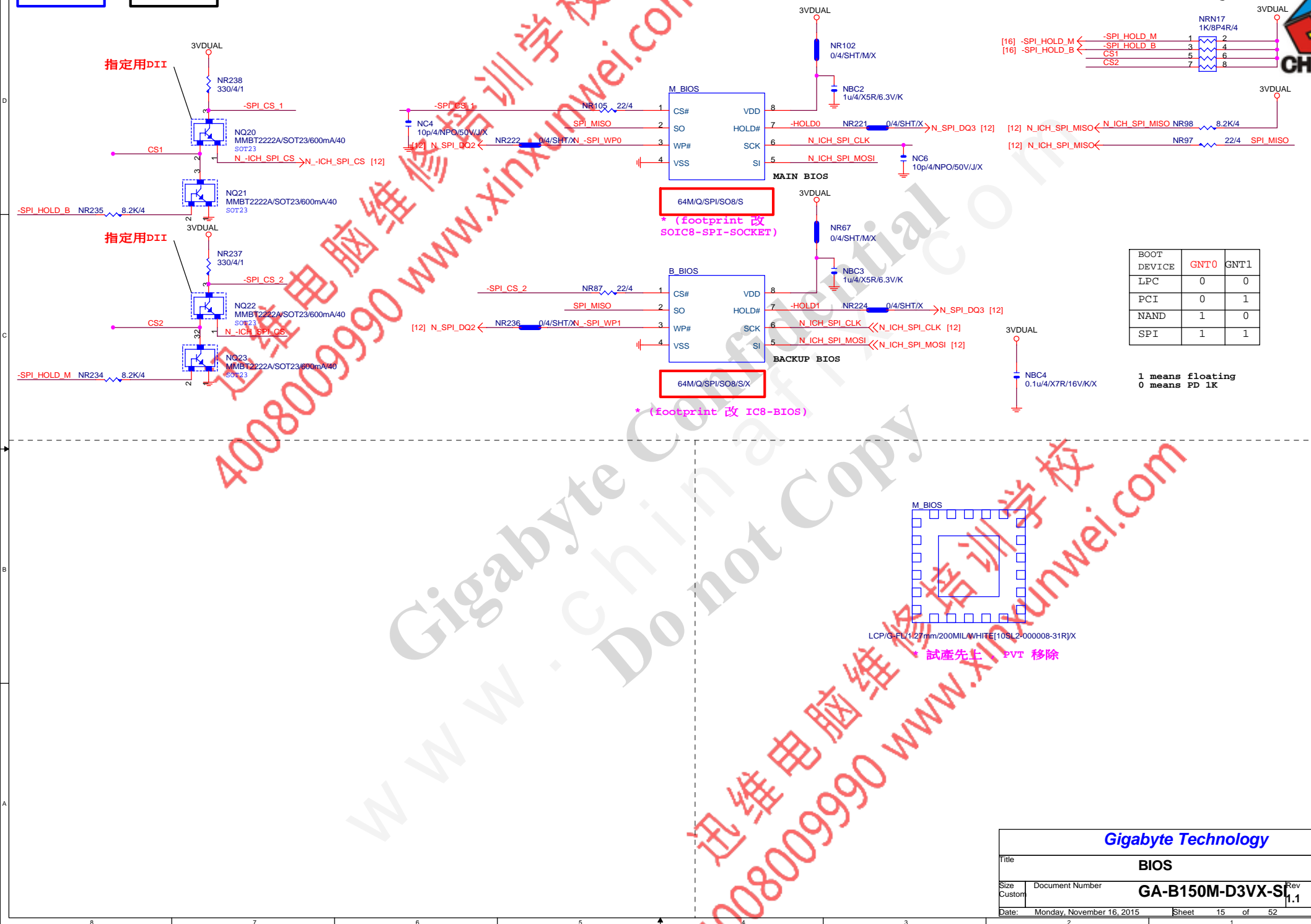


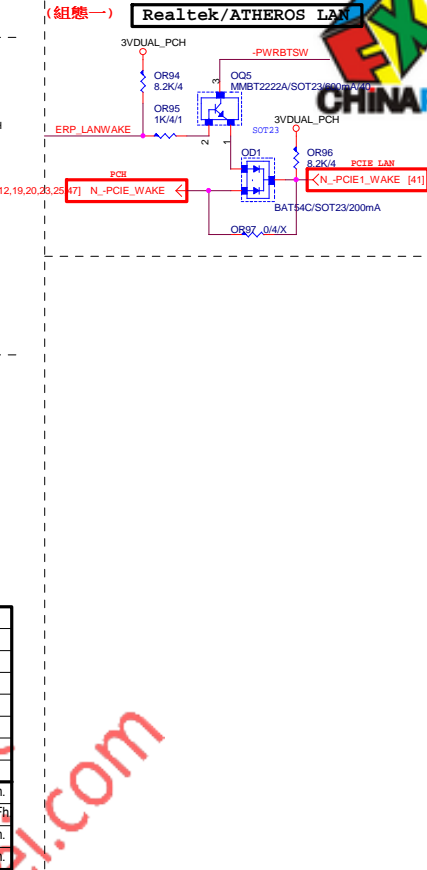
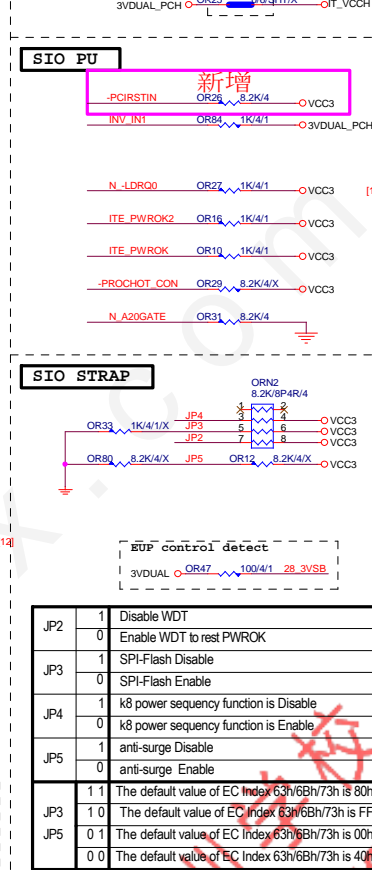




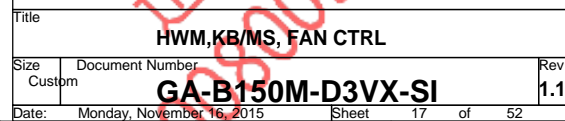


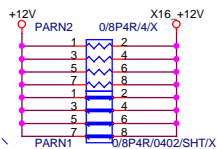






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* +12V protect
short-wire test

PA_EXP_RXP0_15] >> PA_EXP_RXP0[0..15] [4]
PA_EXP_RXN0_15] >> PA_EXP_RXN0[0..15] [4]
PA_EXP_TXP0_15] >> PA_EXP_TXP0[0..15] [4]
PA_EXP_TXN0_15] >> PA_EXP_TXN0[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

PCIE16:16/5/5/5/16

PCI-E REV:1.1--> 2.5GHZ

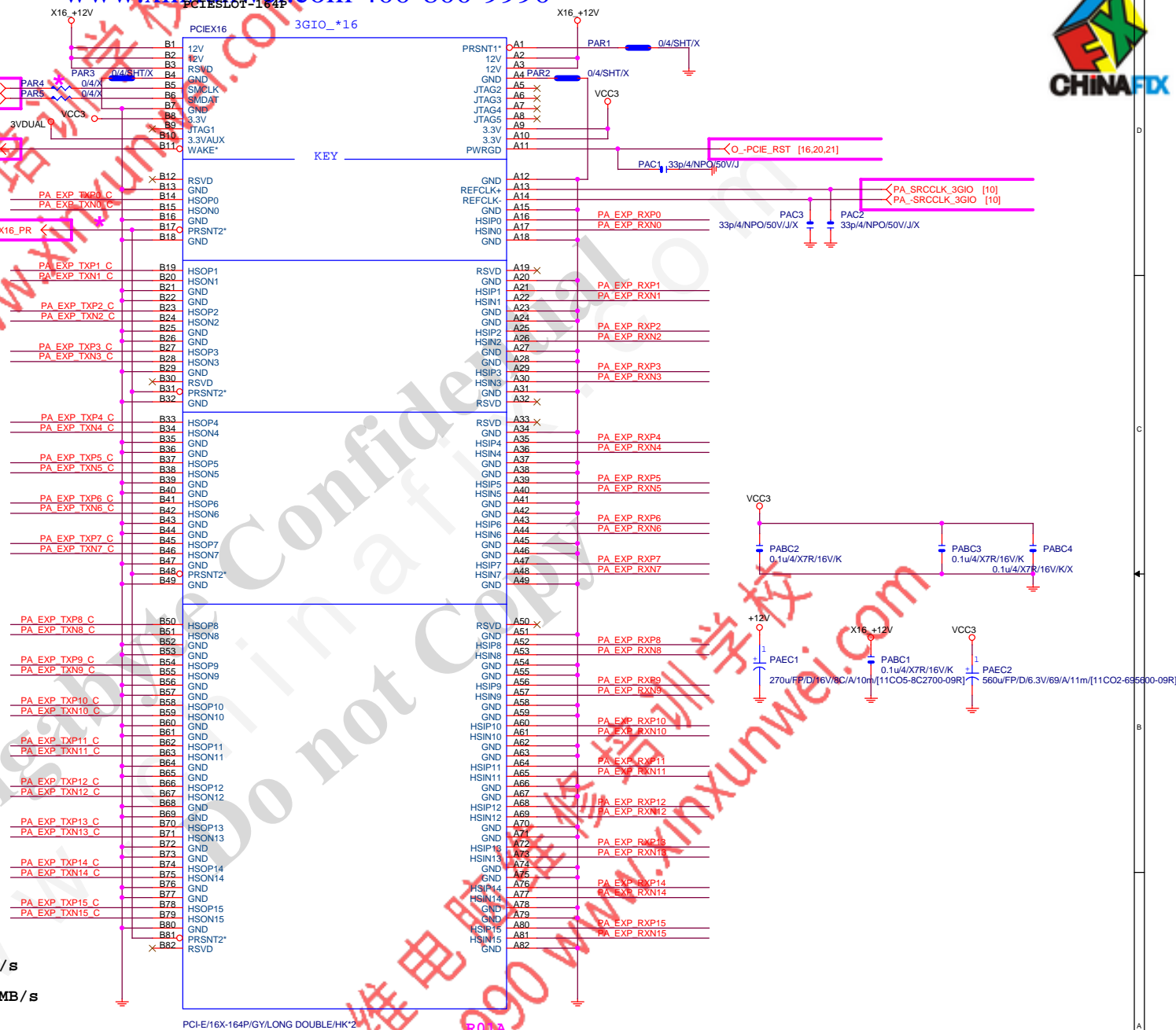
PCE-E X1(單向) BANDWIDTH=2.5GHz*(8b/10b)=2Gb/s=250MB/s

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

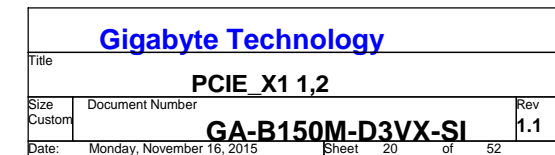


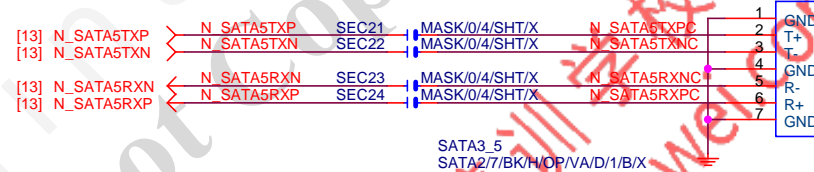
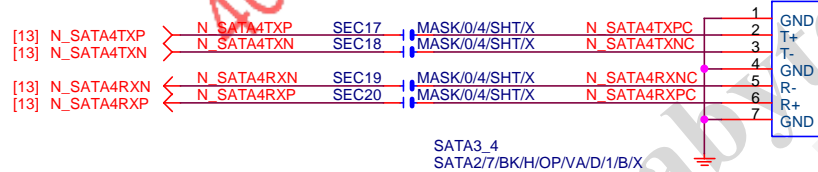
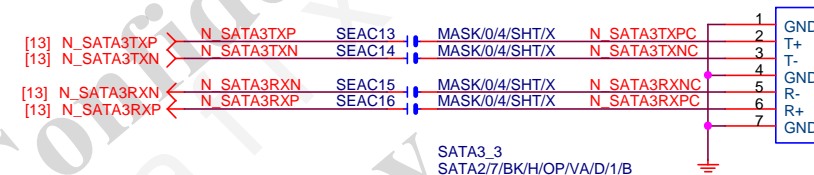
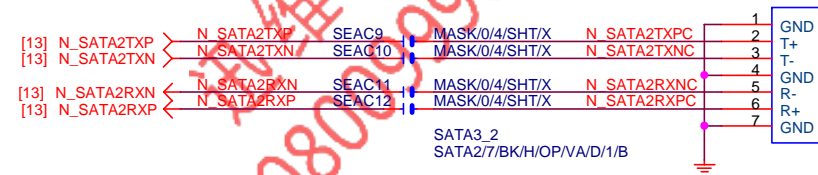
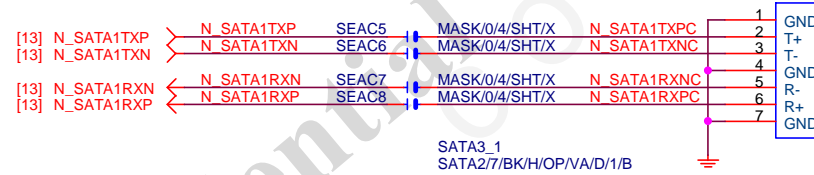
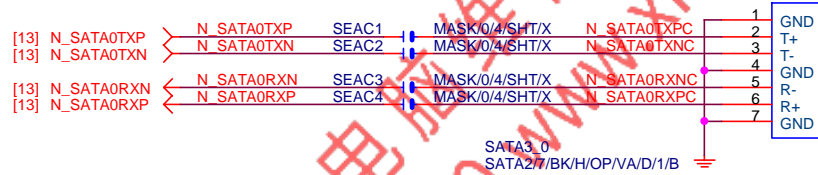
PCI-E/16X-164P/GY/LONG DOUBLE/HK'2

R01A

Gigabyte Technology

Title			PCI EXPRESS * 16	
Size	Document Number	GA-B150M-D3VX-SI		Rev
Custom				1.1
Date:	Monday, November 16, 2015	Sheet	19	of 52

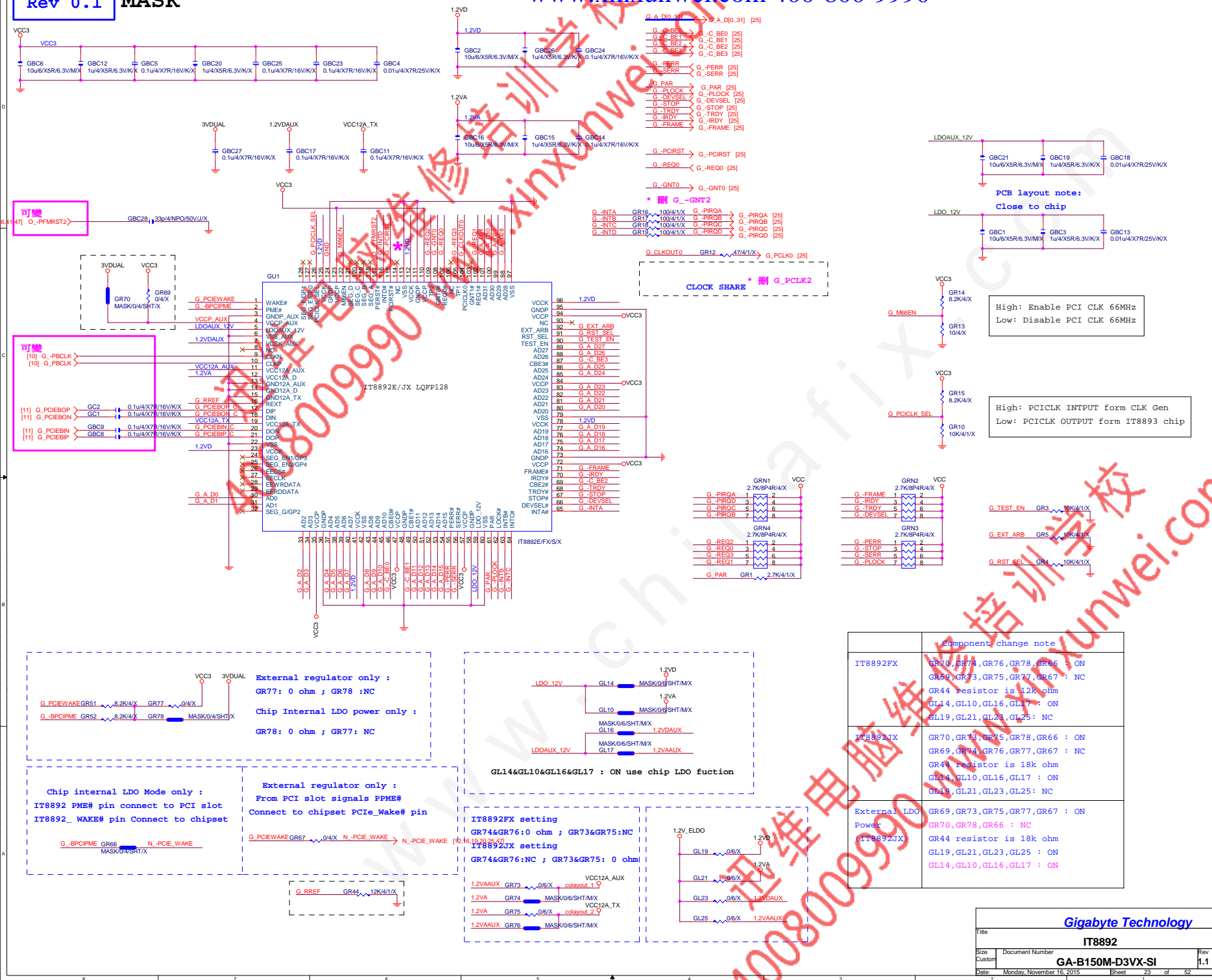




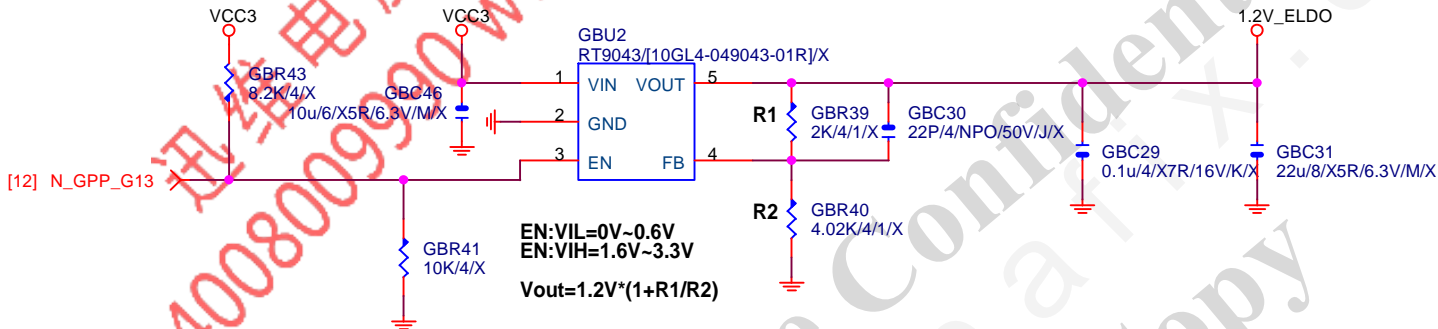
MASK

Gigabyte Technology

Title		
SATA EXPRESS		
Size	Document Number	Rev
Custom	GA-B150M-D3VX-SI	1.1
Date:	Monday, November 16, 2015	Sheet 1 of 22




Rev 0.1

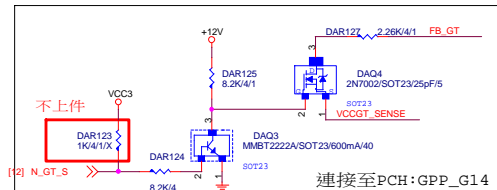
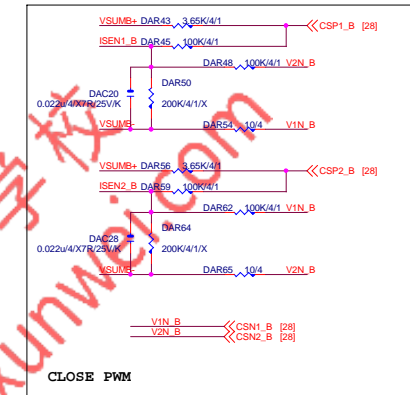


Gigabyte Technology

Title			ASM1085 POWER		
Size			Document Number		
Custom			GA-B150M-D3VX-SI		
Date:			Monday, November 16, 2015		
			Sheet 24 of 52		
			Rev 1.1		



			
Title			
PCI SLOT 1			
Size	Document Number		Rev
Custom	GA-B150M-D3VX-SI		1.1
Date:	Monday, November 16, 2015	Sheet	25 of 52

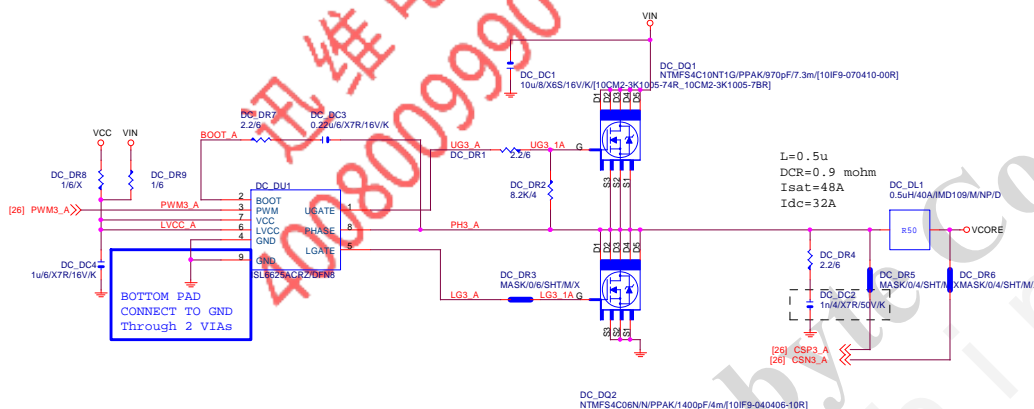
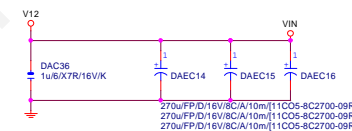


GIGABYTE™			
Title			
ISL95858/95856_PWM			
Size	Document Number		Rev
Custom	GA-B150M-D3VX-SI		1.1
Date:	Monday, November 16, 2015	Sheet	26 of 52

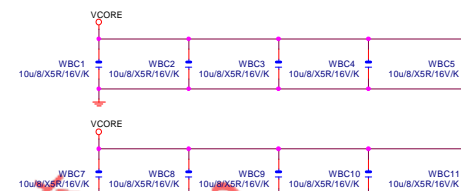
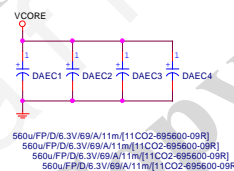
VCORE



VIN CAP 270u*3PCS

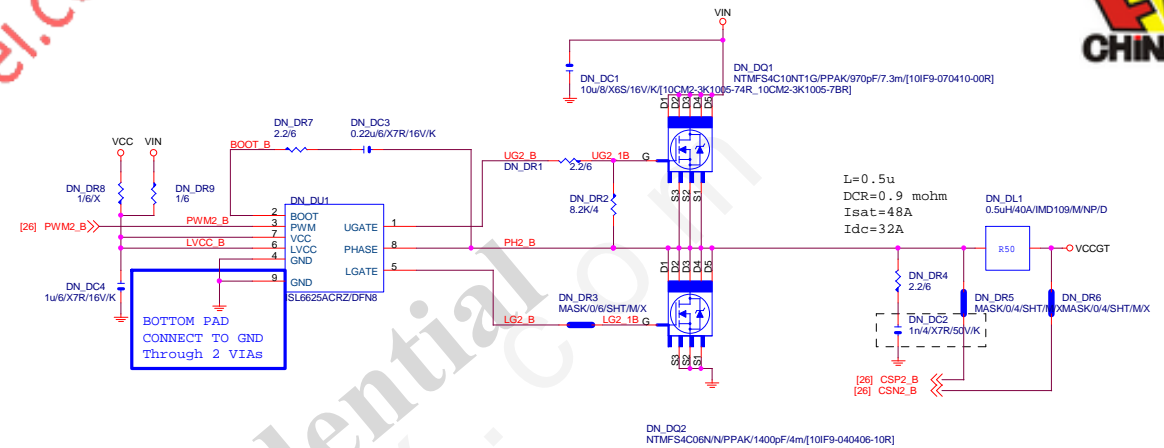


VCORE CAP 560u*8PCS
22u*29PCS

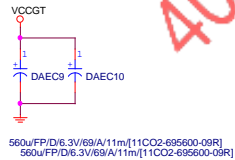



GIGABYTE™

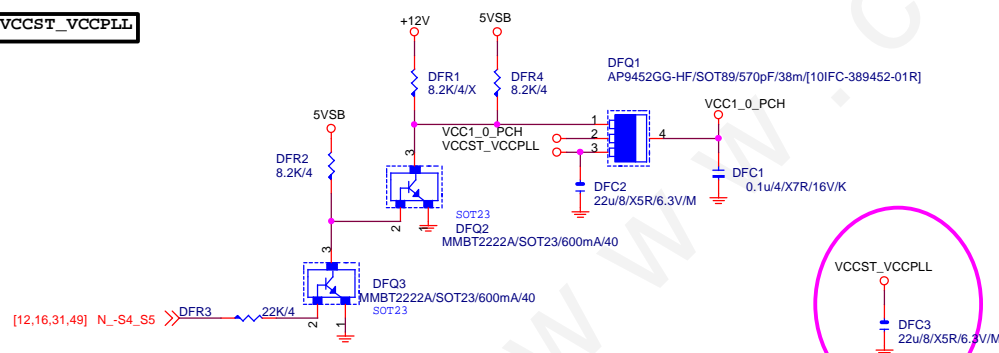
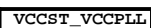
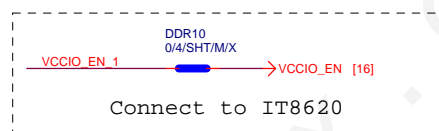
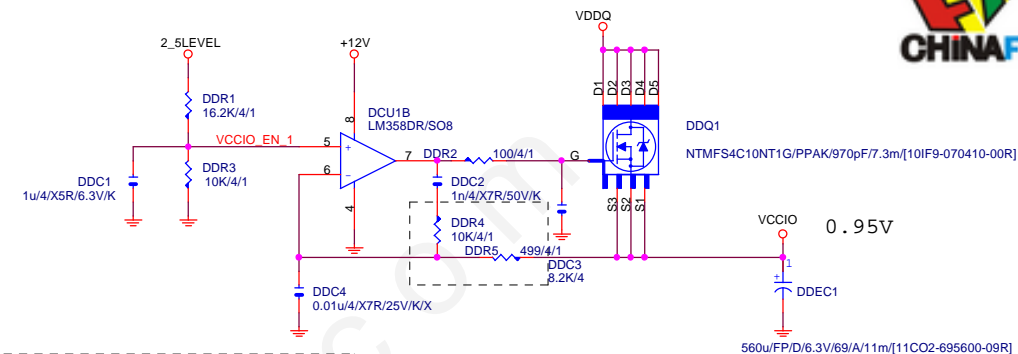
Title			ISL95858_MOS
Size	Document Number	Rev	
	GA-B150M-D3VX-SI	1.1	
Date	Monday, November 16, 2015	Sheet	27 of 52



The diagram shows two capacitors, WBC23 and WBC24, connected in parallel. The top terminal of both capacitors is connected to a node labeled VCCGT. The bottom terminal of both capacitors is connected to a common ground symbol. The capacitors are labeled with their values: 10u8/X5R/16V/K.

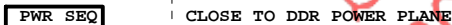


			
Title			
ISL95858_MOS			
Size	Document Number		Rev
Custom	GA-B150M-D3VX-SI		1.1
Date:	Monday, November 16, 2015	Sheet 28 of	52

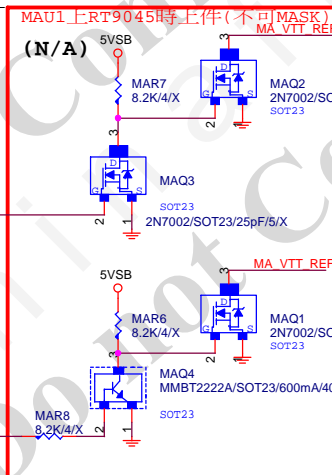


Title VCCSA_VCCIO			
Size Custom	Document Number GA-B150M-D3VX-SI		Rev 1.1
Date:	Monday, November 16, 2015	Sheet 29 of 52	

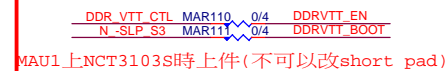
CHOKES與CAP料號可變



CLOSE TO DDR POWER PLANE



DDRVTT CAP

**GIGABYTE™**

RT8120_DDR POWER

Document Number	GA-B150M-D3VX-SI
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REV:0.33

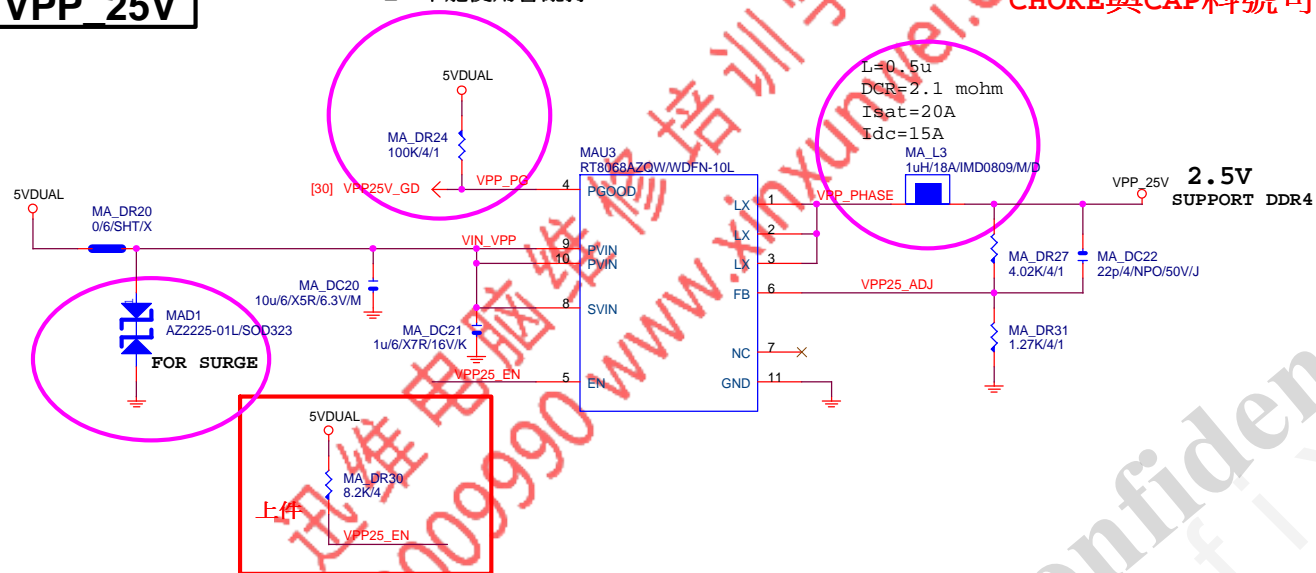
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VPP_25V

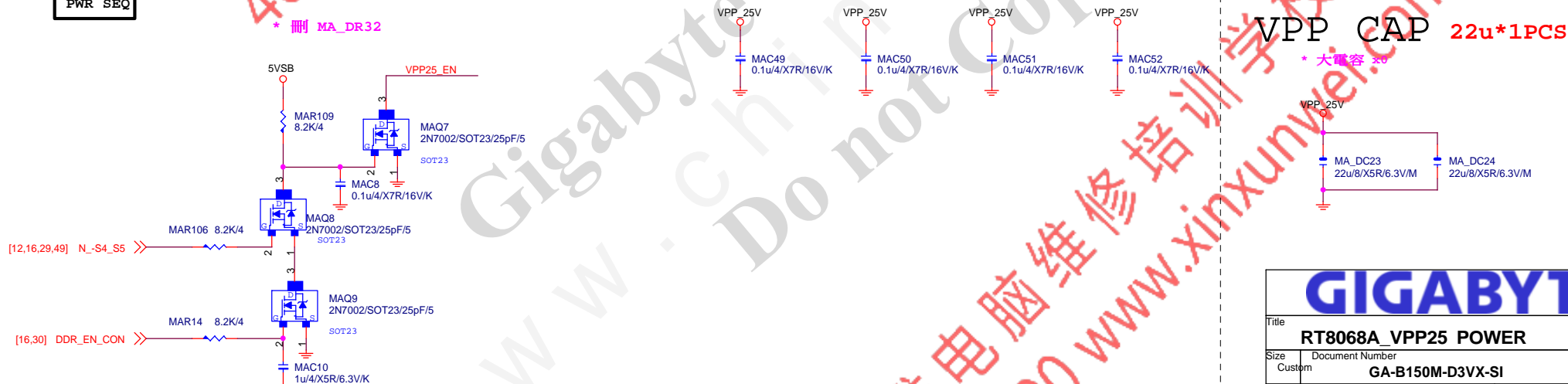
VPP25V_GD不能使用會亂打

CHOKER與CAP料號可變



PWR_SEQ

* 删除 MA_DR32



GIGABYTE™

Title		
RT8068A_VPP25 POWER		
Size	Document Number	Rev
Custom	GA-B150M-D3VX-SI	1.1
Date:	Monday, November 16, 2015	Sheet 31 of 52

REV:0.47

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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

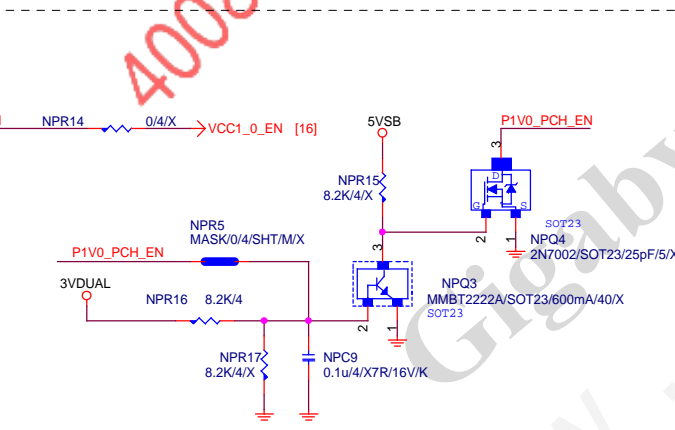
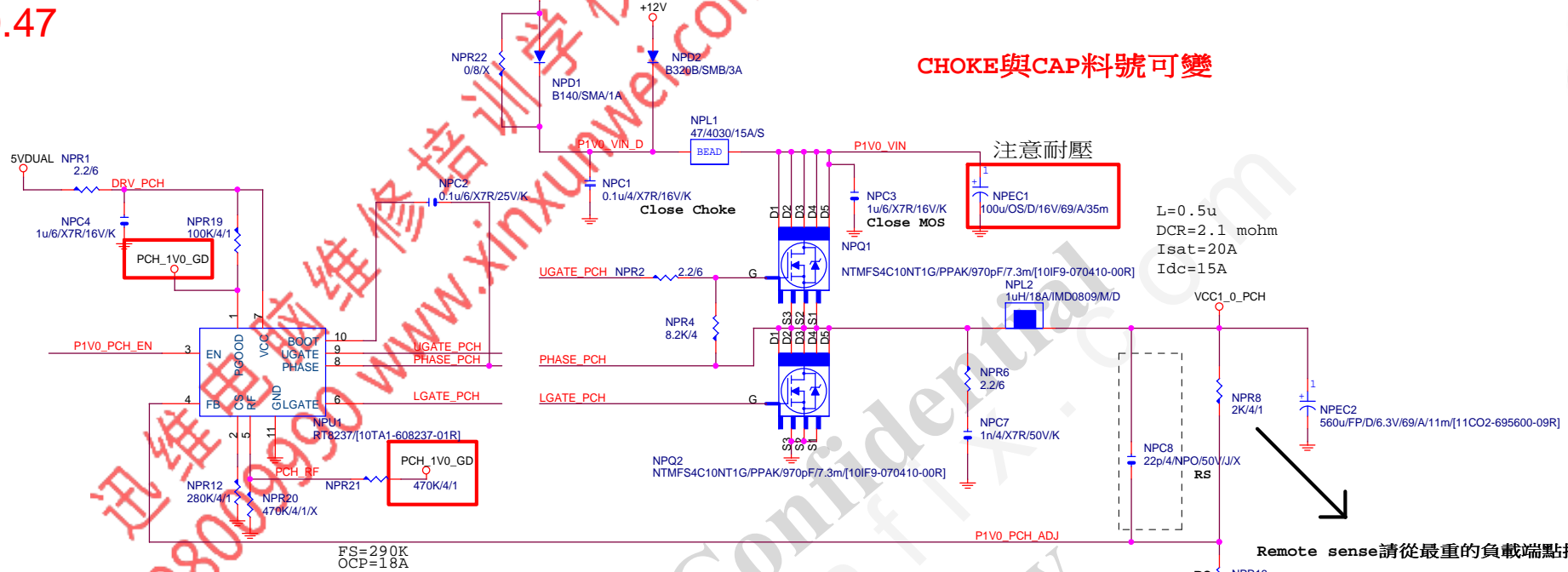
請放置CHOKE一出來的地方

GIGABYTE™

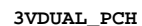
Title
RT8237_PCH POWER

Size Document Number
Custom **GA-B150M-D3VX-SI** Rev **1.1**

Date: Monday, November 16, 2015 Sheet 32 of 52




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* 5Vdual , update
from SKL 0.2B
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不上件

[12] N.-DEPSL

Gigabyte Technology

Title

DISCRETE POWER

Size	
Custom	

GA-B150M-D3VX-SI

Rev
1.1

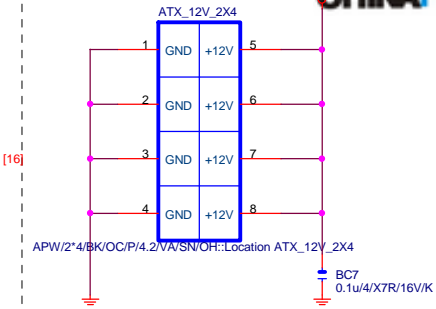
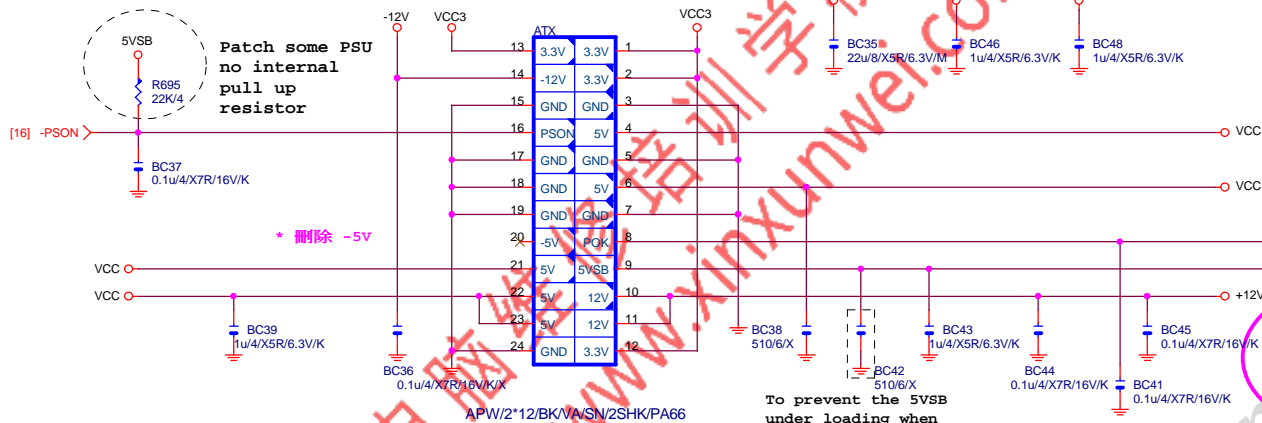
Date: Monday, November 16, 2015

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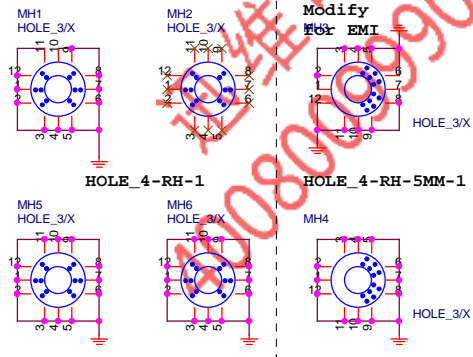
ATXX24 POWER CONNECTOR

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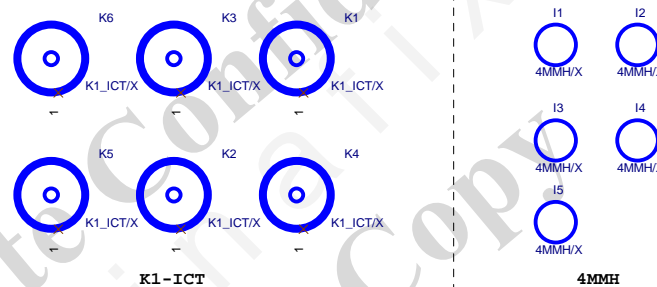
ATXX4 POWER CONNECTOR



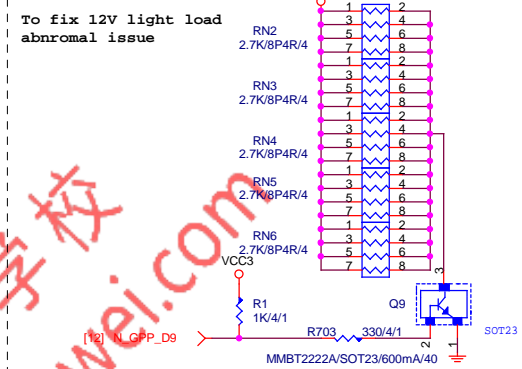
螺絲孔



固定孔/光學點

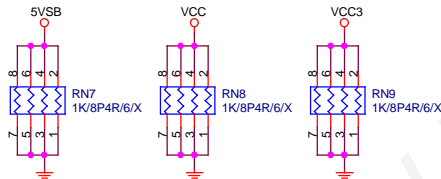


+12V DUMMY LOAD

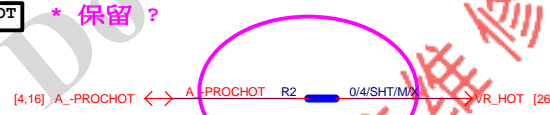


【技術通報R&D技術通報153】

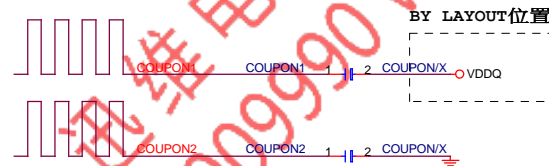
DUMMY LOAD



-PROHOT



COUPON

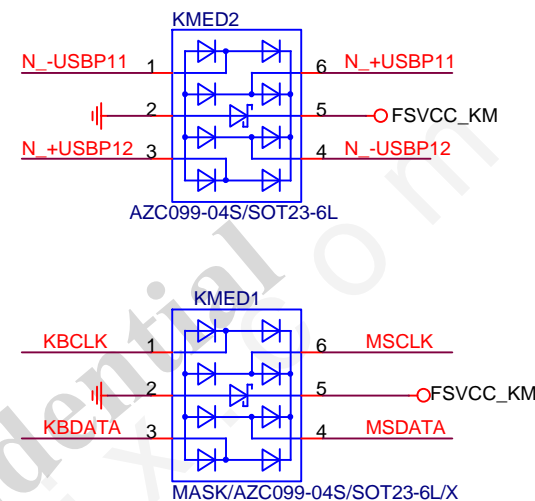


Gigabyte Technology

Title		
ATX POWER CONNECTOR		
Size	Document Number	Rev
Custom	GA-B150M-D3VX-SI	1.1
Date:	Monday, November 16, 2015	Sheet 34 of 52

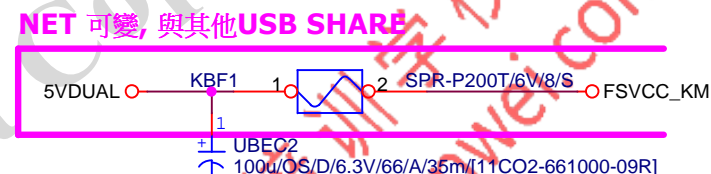
KB MS USB

ESD

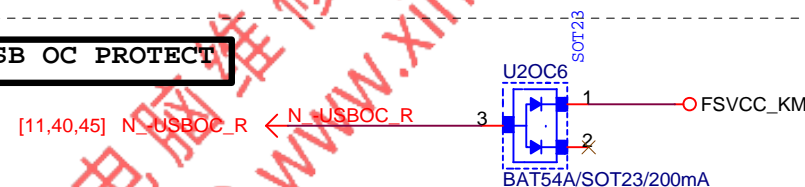


KB_MS_USB DAMPING/PU

KB MS USB PWR



USB OC PROTECT



Gigabyte Technology

AUDIO JACK

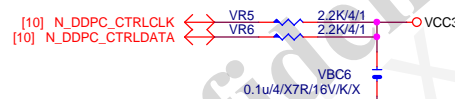
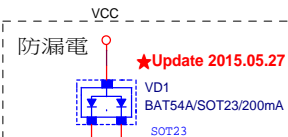
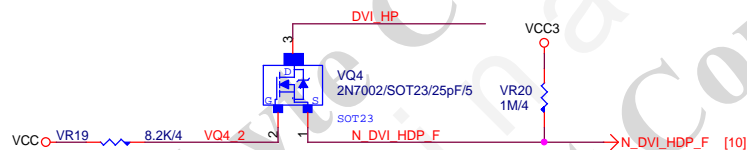
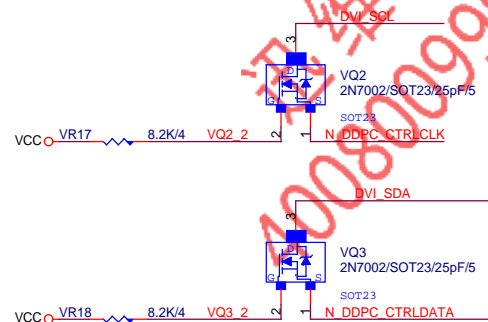
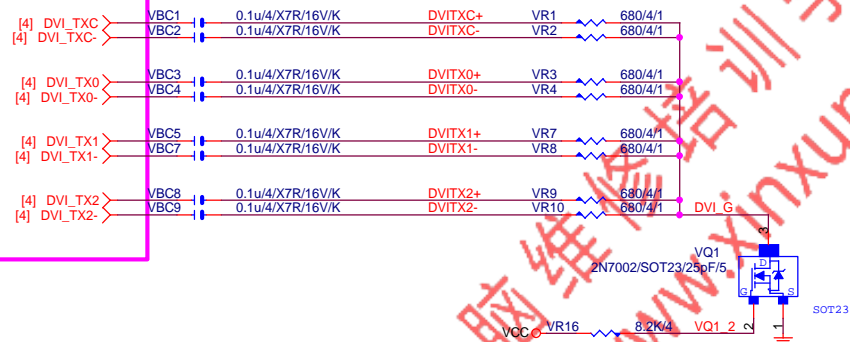
GA-B150M-D3VX-SI

Rev	1.1
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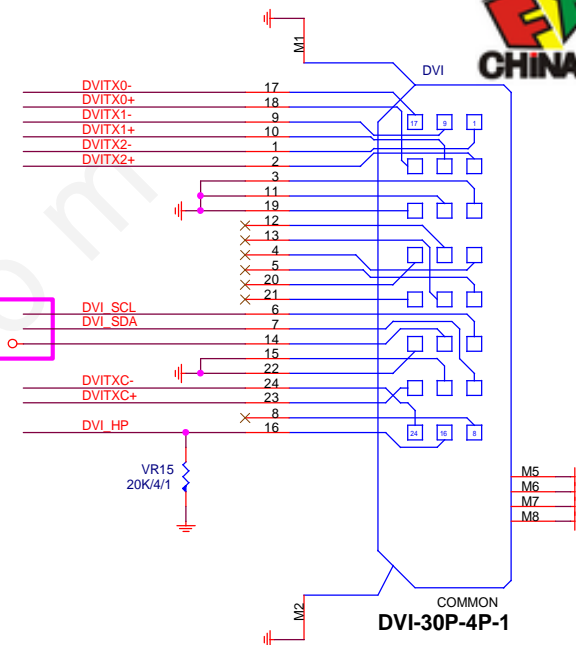


NET 可變

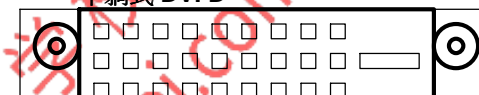
DVI: 20/4/6/4/20
Impedance=85 +- 17.5%

NET 可變

* FSVCC_KM

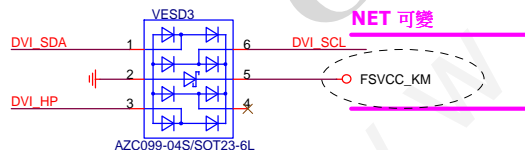
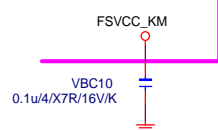


平躺式 DVI-D



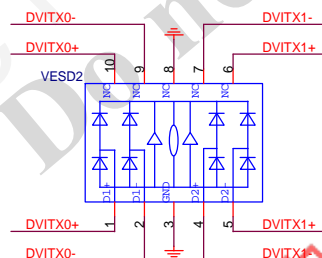
ESD

NET 可變



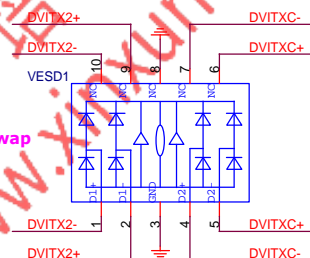
Close to connector

NET 可變



Close to connector

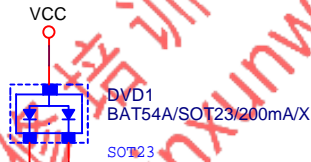
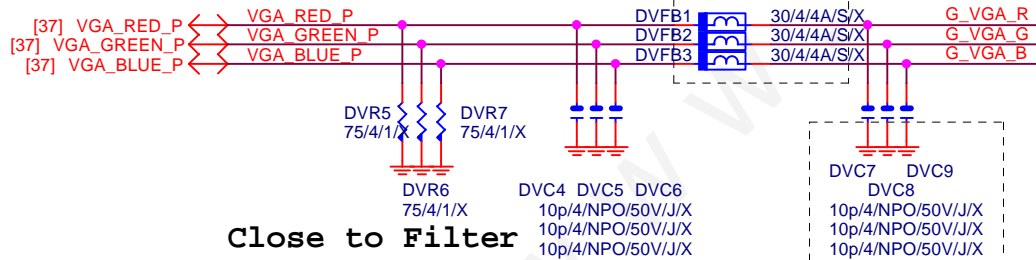
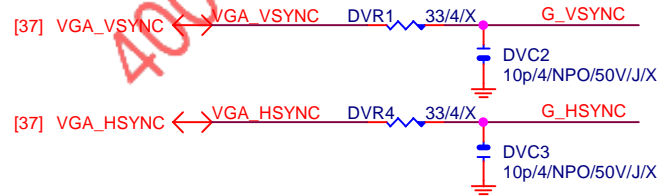
* swap



Close to connector

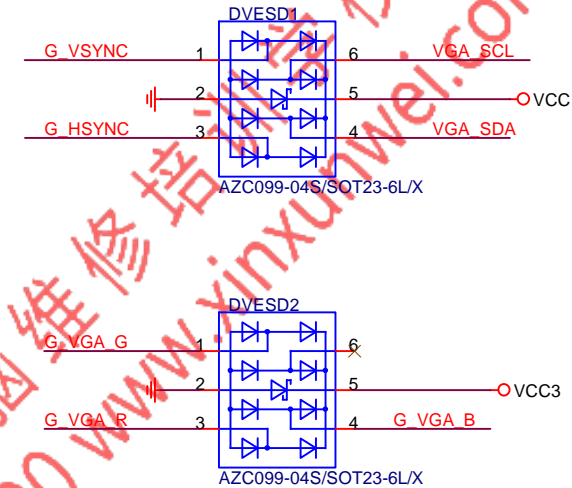
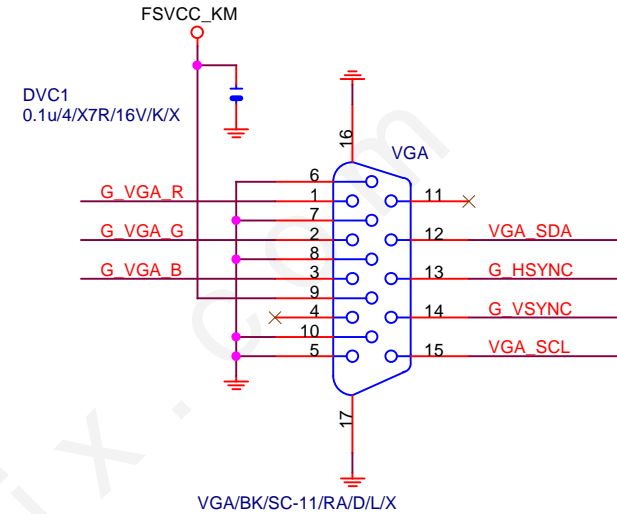
Gigabyte Technology

Title		FP,F_USB,USB PWR,BZ	
Size		Document Number	
Custom		GA-B150M-D3VX-S1.1	
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DVR2
2.2K/4/1/XDVR3
2.2K/4/1/X[37] VGA_SDA <-> VGA_SDA
[37] VGA_SCL <-> VGA_SCL

Close to Filter

FOR EMI



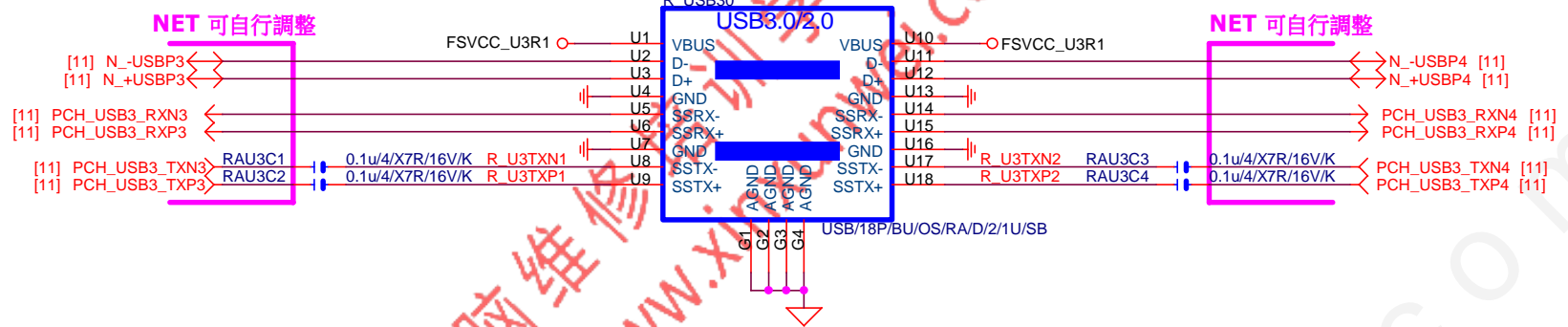
Gigabyte Technology

DP-VGA RTD2168

Size Custom	Document Number GA-B150M-D3VX-SI	Rev 1.1
Date:	Monday, November 16, 2015	Sheet 38 of 52

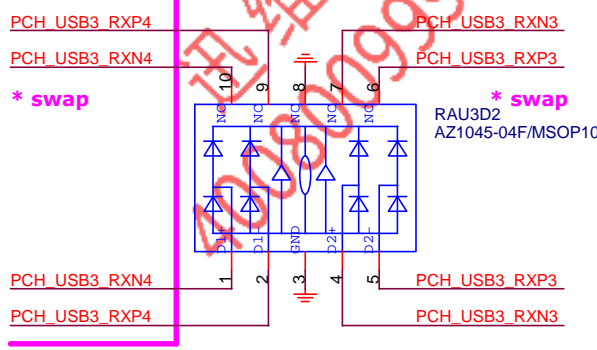


ESD 可自行SWAP PIN, 端 NET 名稱 不可

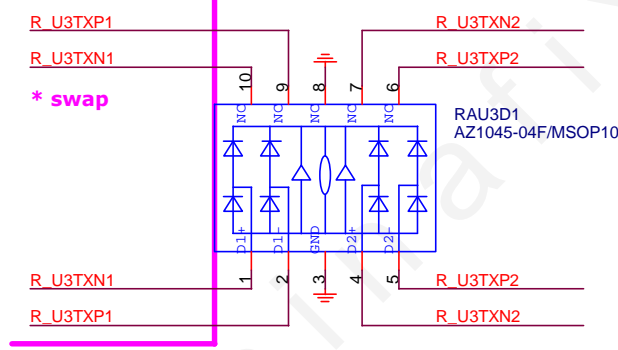


ESD

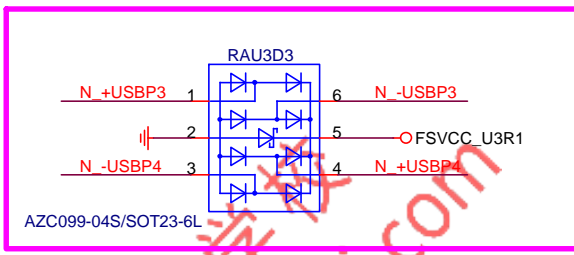
NET 可自行調整



NET 可自行調整

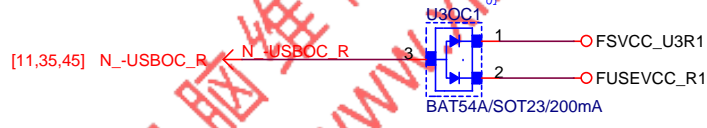
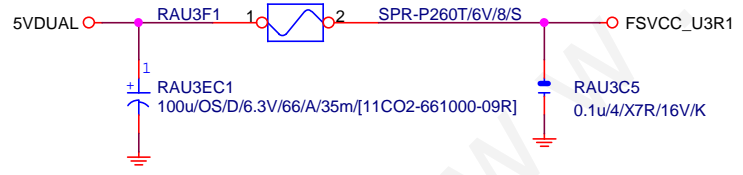


NET 可自行調整



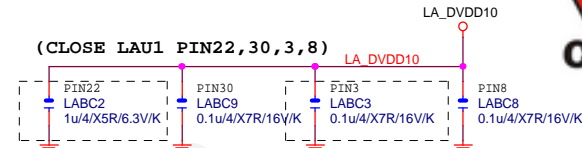
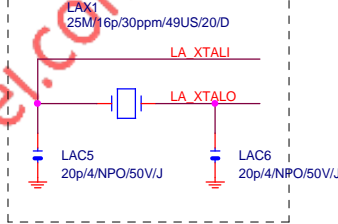
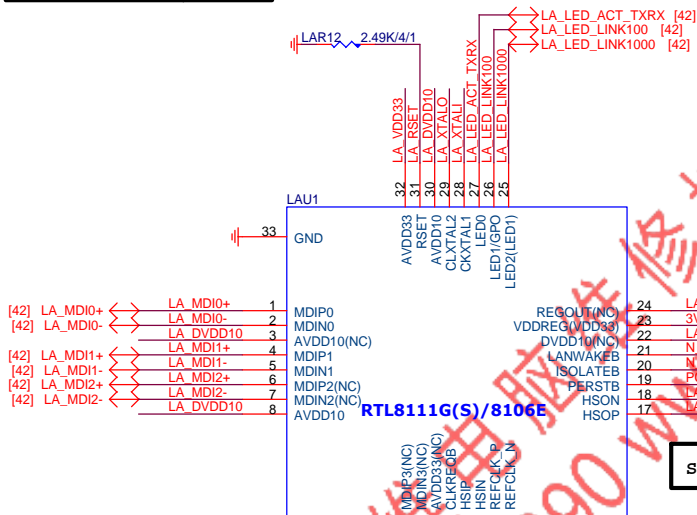
FUSE

FUSE 2 Port 1 Fuse 2.6A



Gigabyte Technology

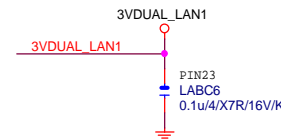
Title		R_USB30,F_USB30, USB_OC	
Size	Document Number	GA-B150M-D3VX-S1.1	
Custom			
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LABC2:1U CLOSE PIN22[REALTEK REQ]

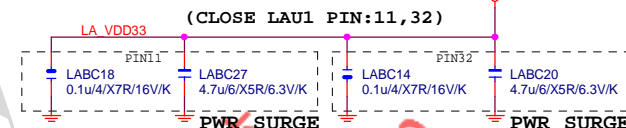
LAN POWER

note: lan power連接及電流

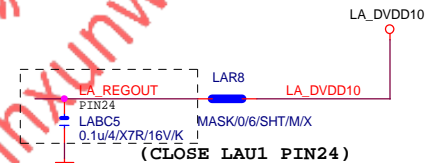


(CLOSE LAU1 PIN23)

LAN POWER

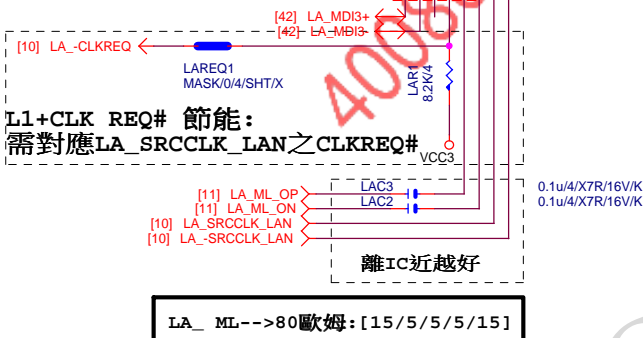
LABC18,27:CLOSE PIN11[REALTEK SURGE]
LABC14,20:CLOSE PIN32[REALTEK SURGE]

LAN POWER



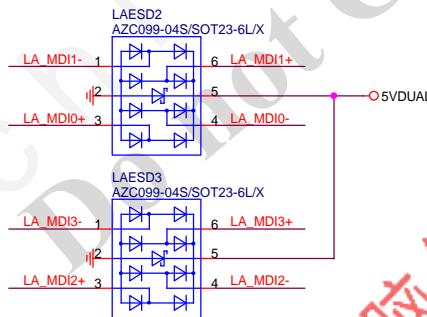
Gigabyte Technology

Title			Realtek RTL8111GUS	
Size	Document Number	GA-B150M-D3VX-SI		Rev 1.1
Custom				
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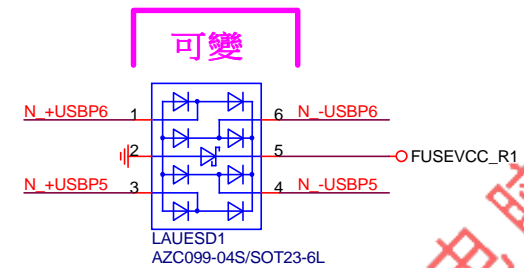
LA_ML-->80歐姆:[15/5/5/5/15]

MDI ESD預留 *

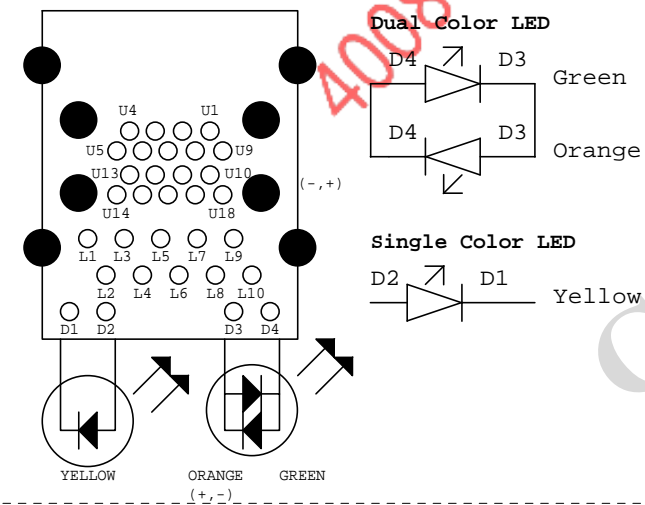


USB_LAN CONNECTOR R1.06

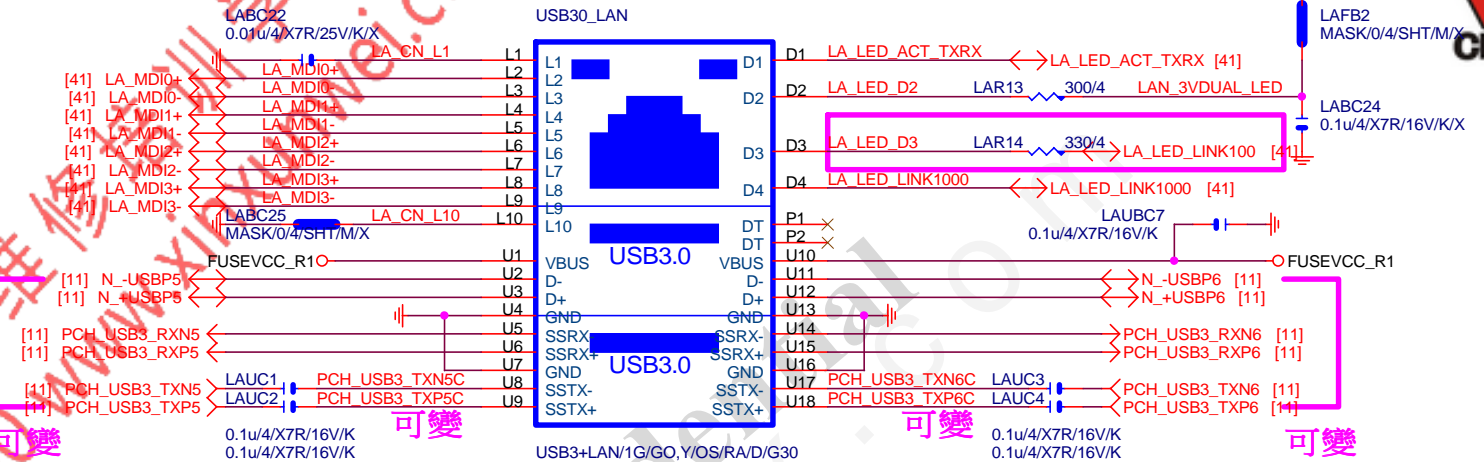
RMA ESD PROTECT note:可變更USB NAME



USB30 LAN LAYOUT示意圖

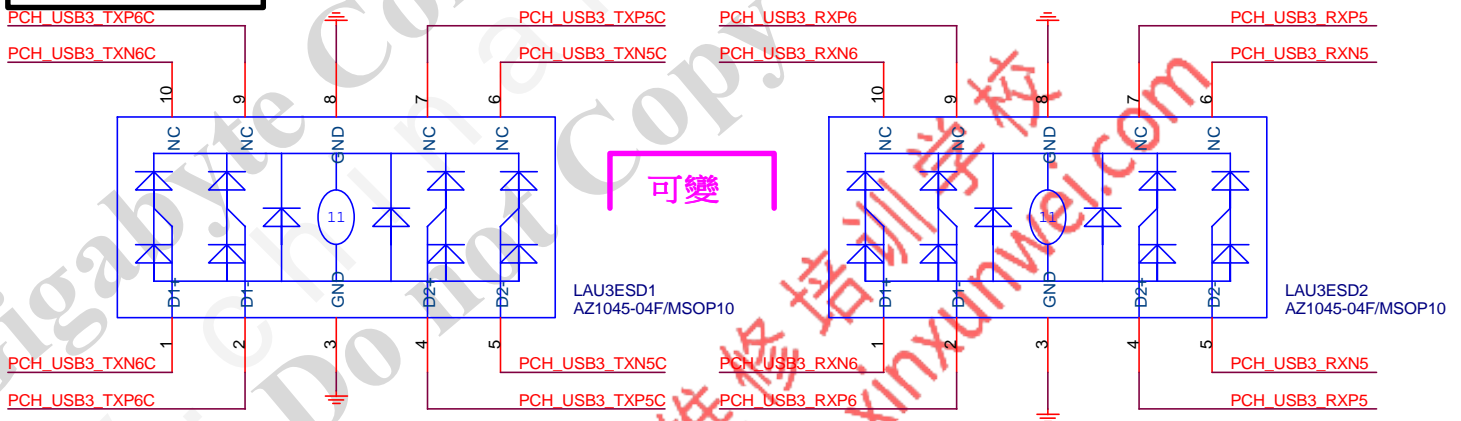


USB_LAN CONNECTOR [RTL8111G]

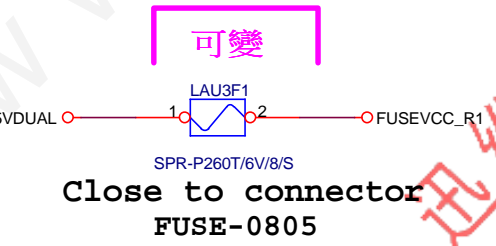


LA_MDI-->100歐姆:[20/4/8/4/20]

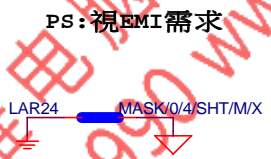
RMA ESD PROTECT note:可變更USB NAME



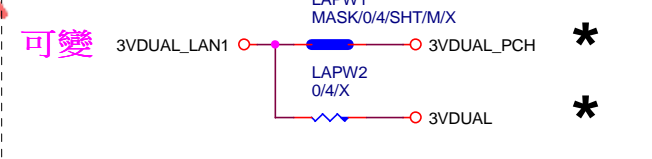
USB POWER note:可變更FUSE



EMI SHORT PAD PS:視EMI需求

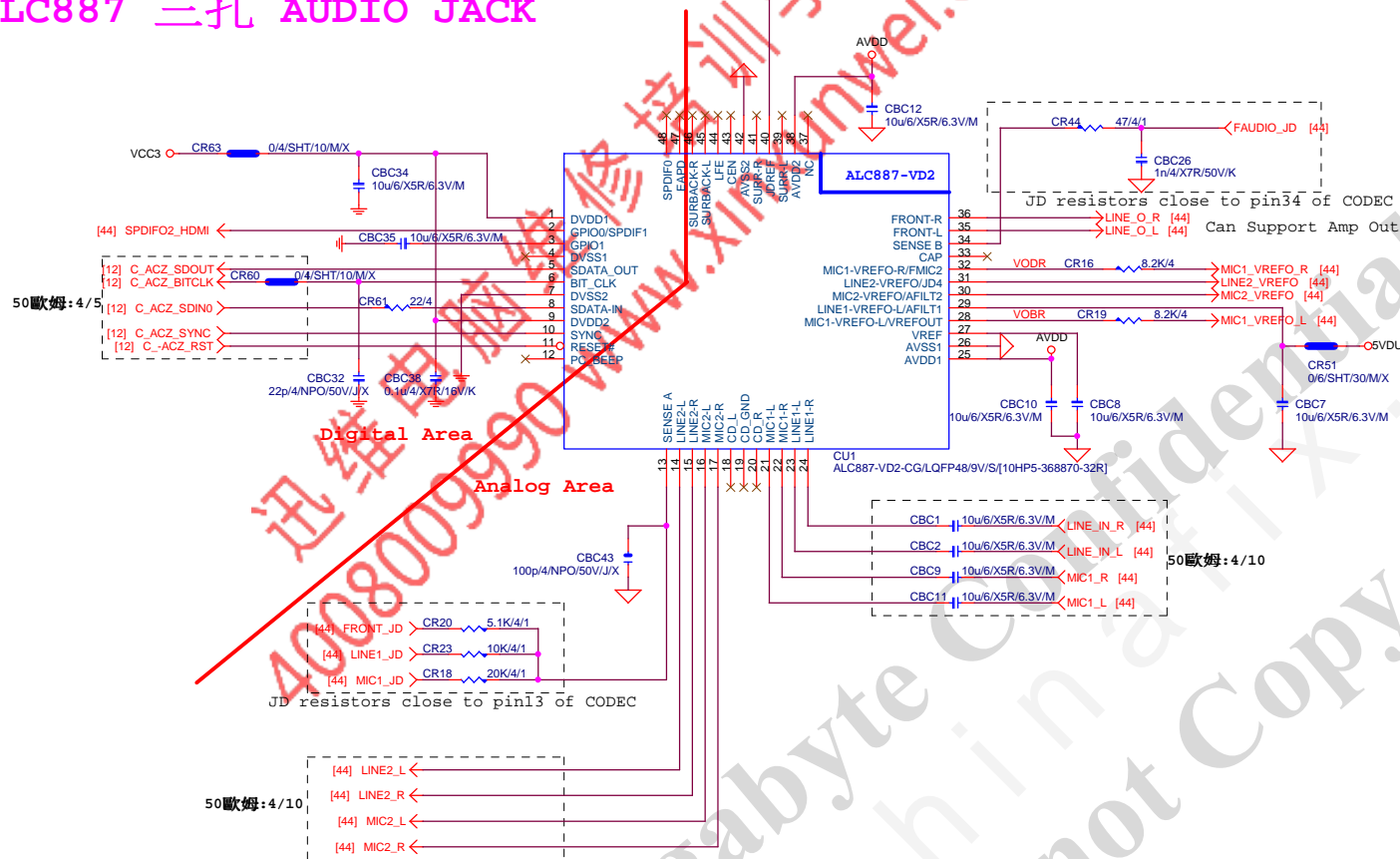


LAN POWER note:lan power連接及電流



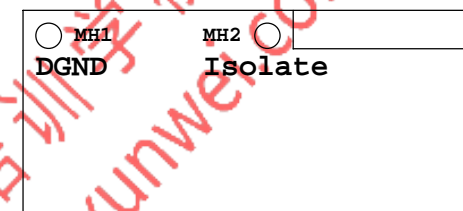
Gigabyte Technology			
LAN CONNECTOR-RTL8111G			
Title	Document Number	Rev	1.1
Size	Custom	GA-B150M-D3VX-SI	
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ALC887 三孔 AUDIO JACK

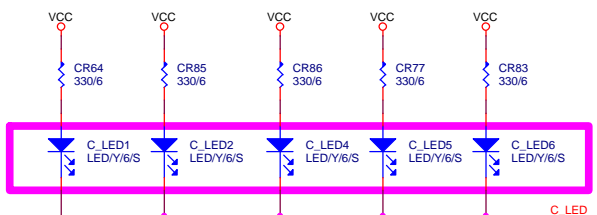


LAYOUT注意:螺絲孔下GND方式

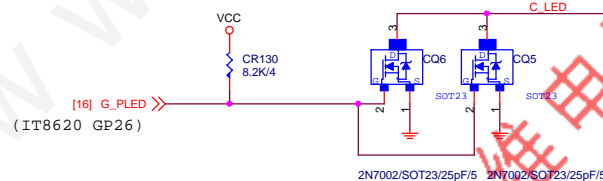
1. MH1空間夠,下DGND
空間不夠,改為Isolate
2. MH2一律改為Isolate



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



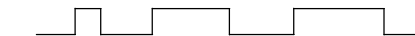
GREEN(綠色)



*LAYOUT與否,依照各Model spec

LAYOUT注意:要加

GND切割線



音效區域印刷



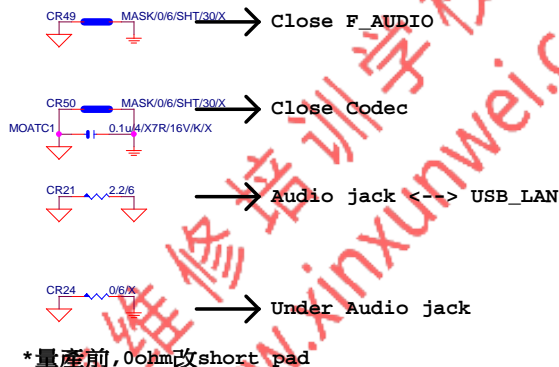
BOM OPTION : 1. Chemicon 音效電容
2. 金屬外罩 Reserve (上件與否, 依照各Model spec)
3. LED Reserve (上件與否和LED顏色, 依照各Model spec)

Gigabyte Technology

Title			
HD AUDIO ALC887			
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Rev 0.5

www.xinxunwei.com 400-800-9990



LINE-OUT

LINE-IN

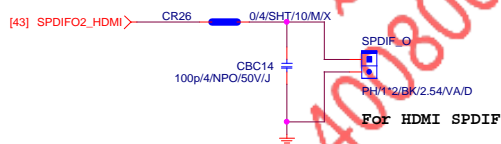
MIC-IN

SURROUND

CEN/LFE

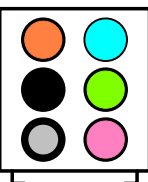
SURRBACK

SPDIF_OUT

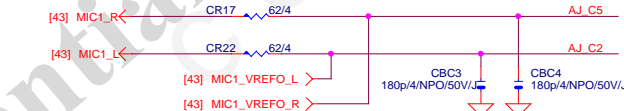
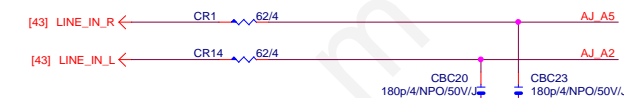
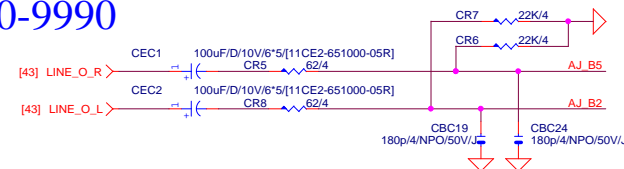
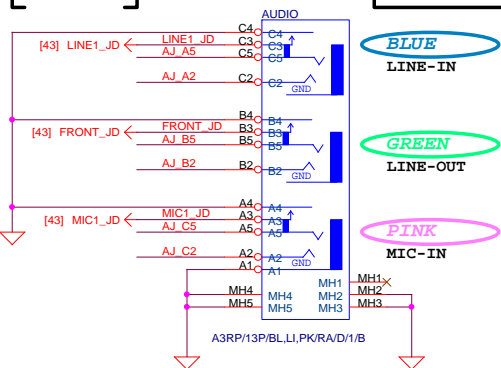


SPDIF_IN

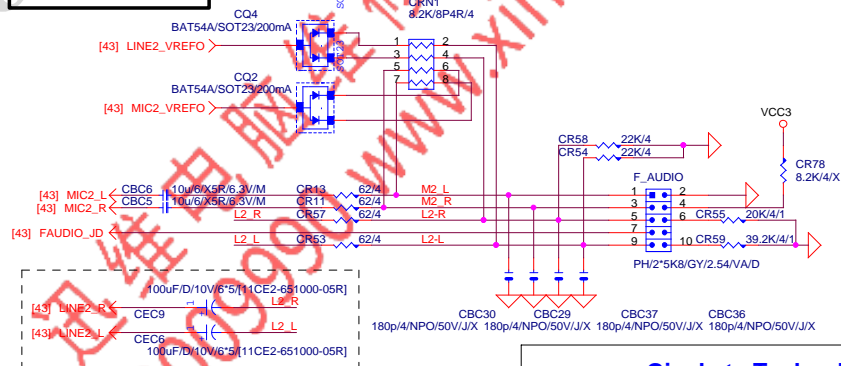
AZALIA JACK



AZALIA JACK



AZALIA FRONT PANEL



Gigabyte Technology

AUDIO JACK

Title	Document Number	Rev
	GA-B150M-D3VX-SI	1.1
Size	Custom	
Date:	Monday, November 16, 2015	Sheet 44 of 52

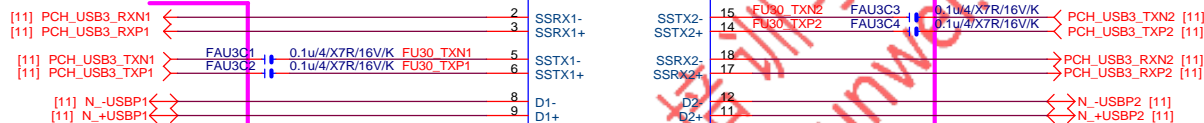
Rev: 0.53

Front USB3.0

F_USB30

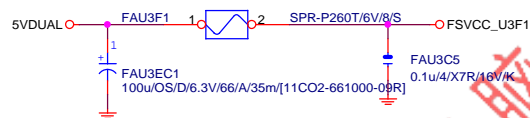
REV=1

NET 自行調整

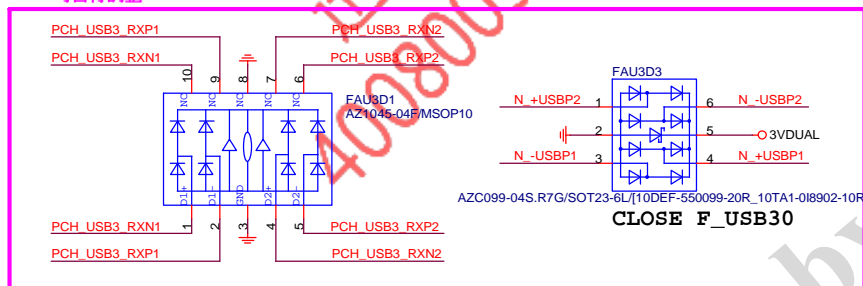


NET 可自行調整

F_USB30 PWR



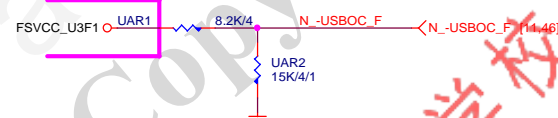
NET 可自行調整



CLOSE F_USB30

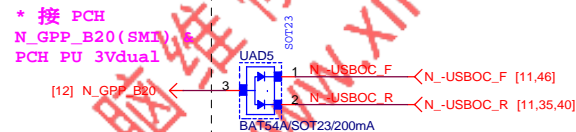
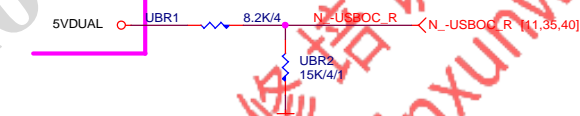
-USBOC_F

POWER 可自行調整



-USBOC_R

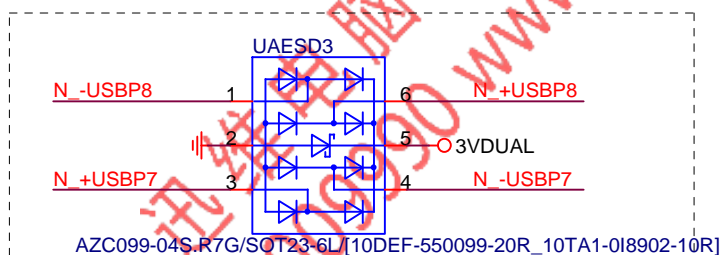
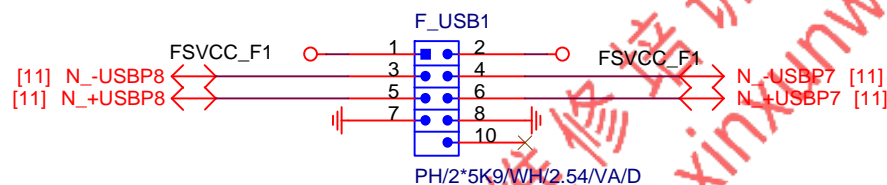
POWER 可自行調整



Gigabyte Technology

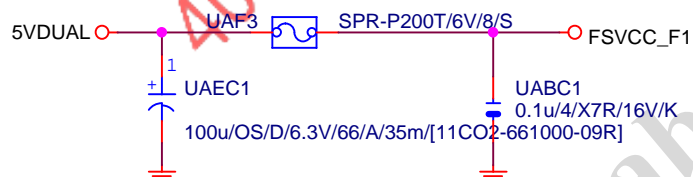
Title		R_USB30,F_USB30, USB_OC	
Size	Document Number	GA-B150M-D3VX-S	
Custom		Rev 1.1	
Date:	Monday, November 16, 2015	Sheet	45 of 52

NET 可變

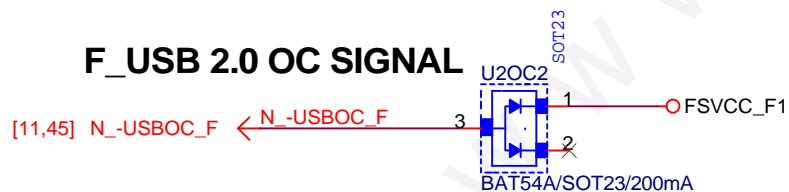


Close to connector

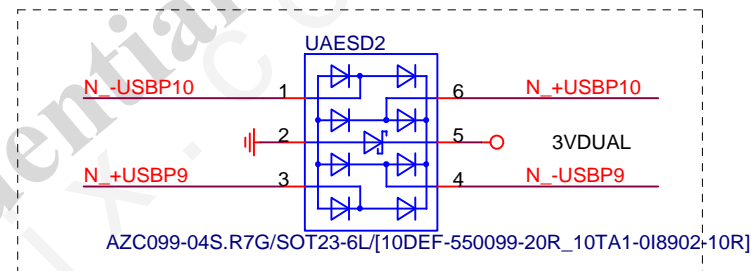
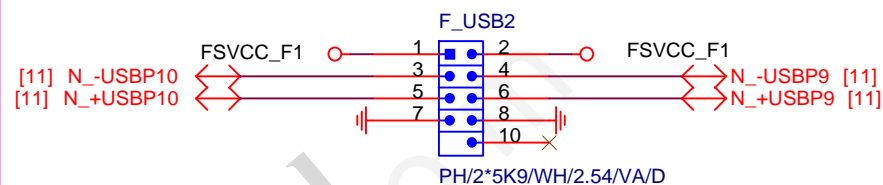
FUSE 2 Port 1 Fuse 2A



F_USB 2.0 OC SIGNAL



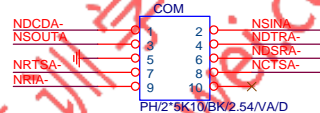
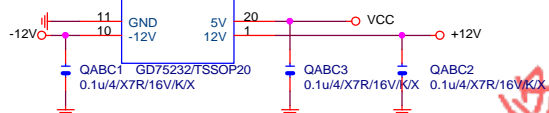
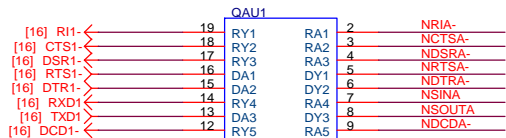
NET 可變



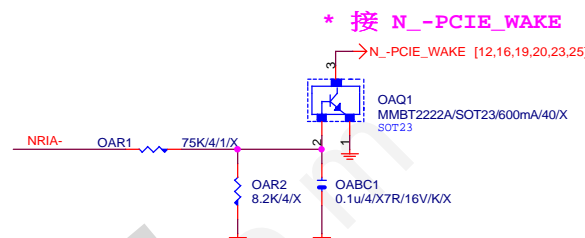
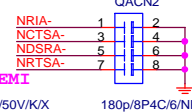
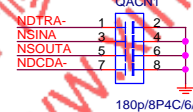
Gigabyte Technology

USB2.0

Title		GA-B150M-D3VX-S1	
Size	Document Number	Rev	
Custom		1.1	
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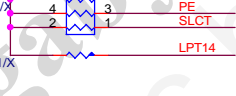
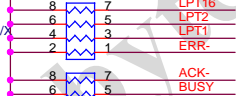
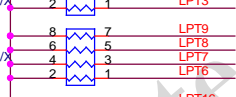
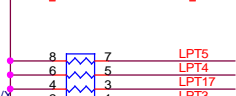
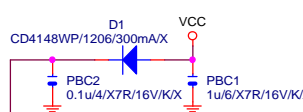
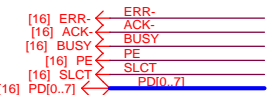
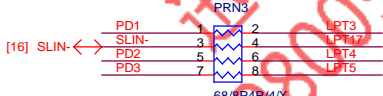
* footprint :
PIN2X5-CUT10-COM



* 接 N_-PCIE_WAKE

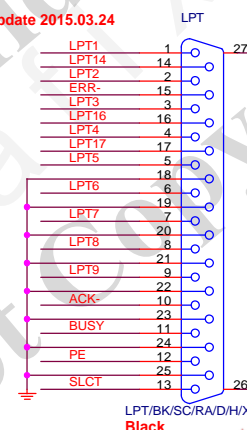
N_-PCIE_WAKE [12,16,19,20,23,25]

LPT PORT



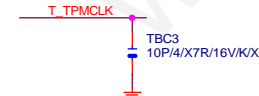
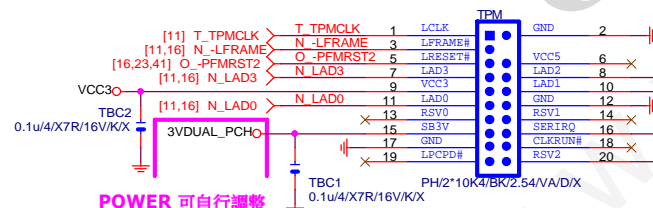
R&D技術通報151 有使用PRINT PORT的
MODEL，需使用新料號：10HP2-118728-72R。(CHIP IT8728F/EX (GB) ITE/SMD
QFP128 PRINTPORT SORTING)料件。串電阻33 ohm改為68 ohm。

★Update 2015.03.24



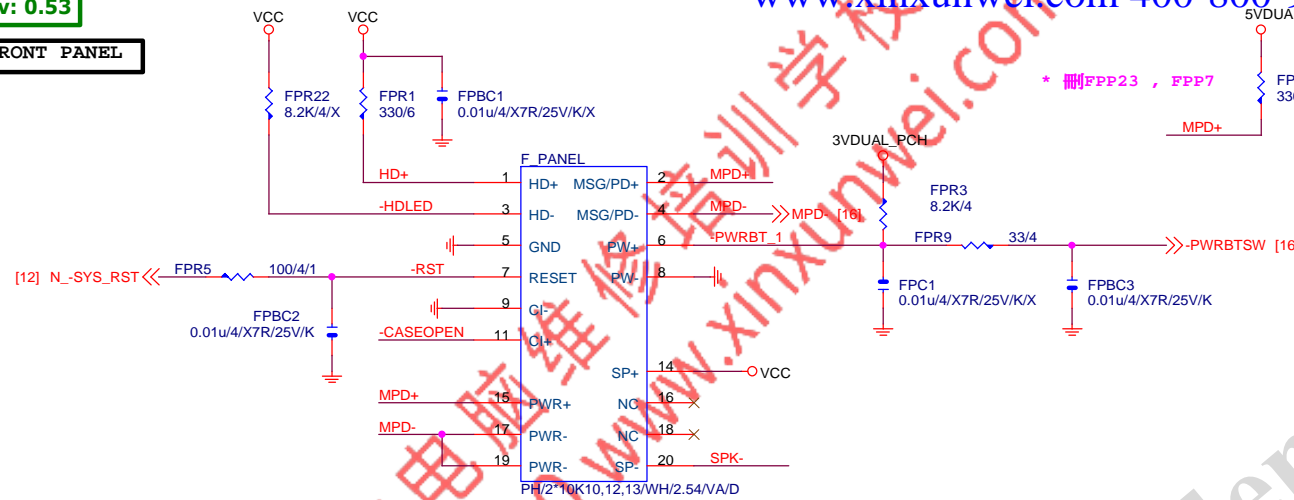
TPM CONNECTOR

PH2X10-CUT4_TPM



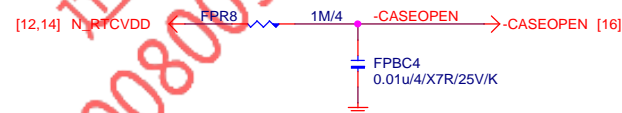
Gigabyte Technology			
Title			
FP,F_USB,USB PWR,BZ			
Size	Document Number	GA-B150M-D3VX-S	
Custom		Rev 1.1	
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FRONT PANEL



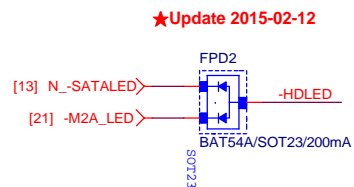
FOOTPRINT: PIN2X10PANEL-NEW

CASE OPEN

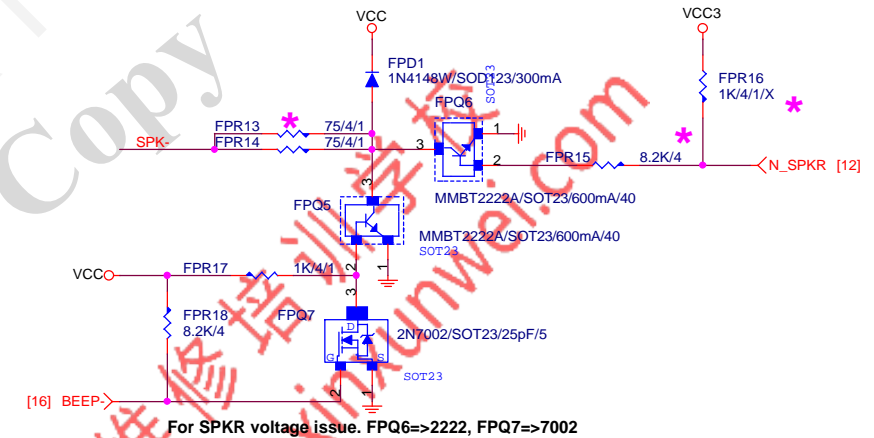


SATA LED

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



SPKR



Gigabyte Technology

FRONT PANEL

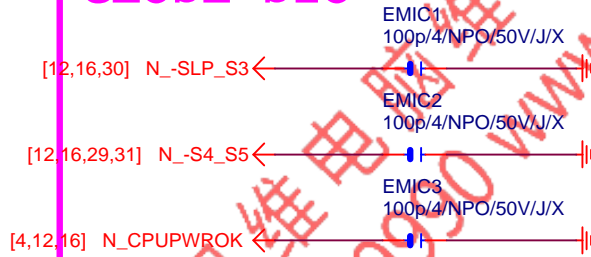
GA-B150M-D3VX-SI

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1.1	

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Project	10	31	32
1			

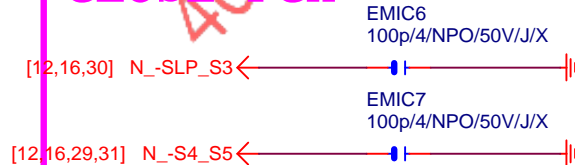
CLOSE SIO



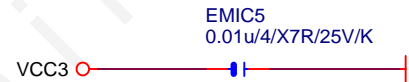
CLOSE PCH



CLOSE PCH



For H1703M-HD3 USB



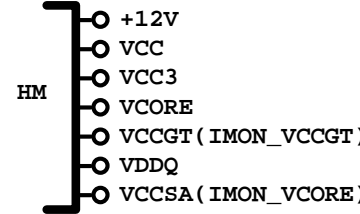
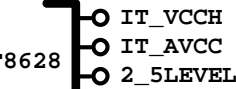
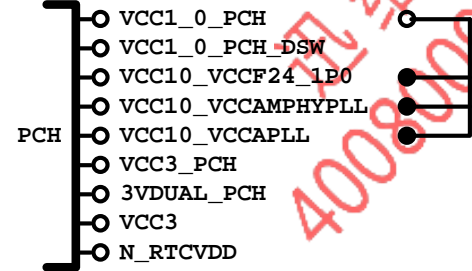
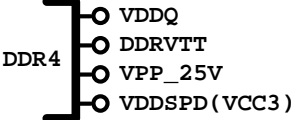
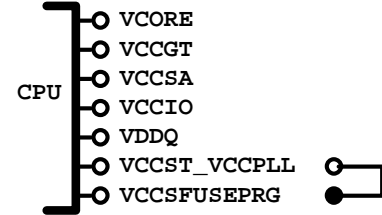
GIGABYTE™

Title		
EMI/ESD		
Size A	Document Number GA-B150M-D3VX-SI	Rev 1.1
Date:	Monday, November 16, 2015	Sheet 49 of 52

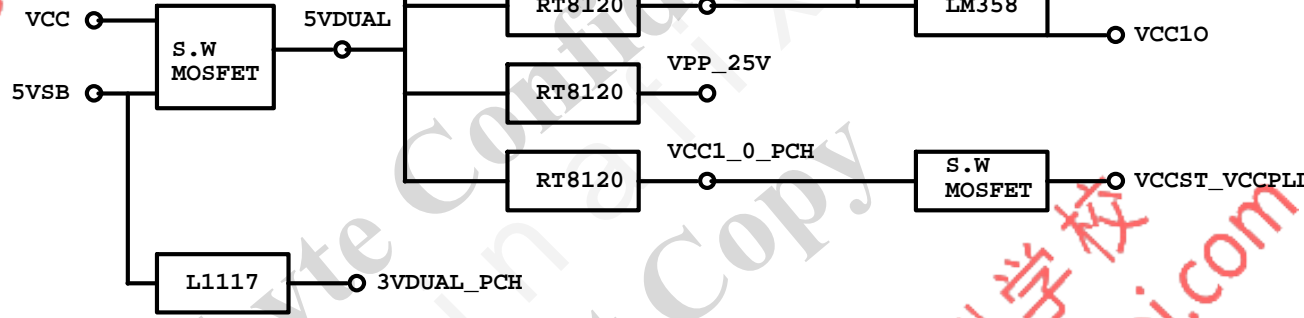
POWER BLOCK MAP

VCORE/VCCGT

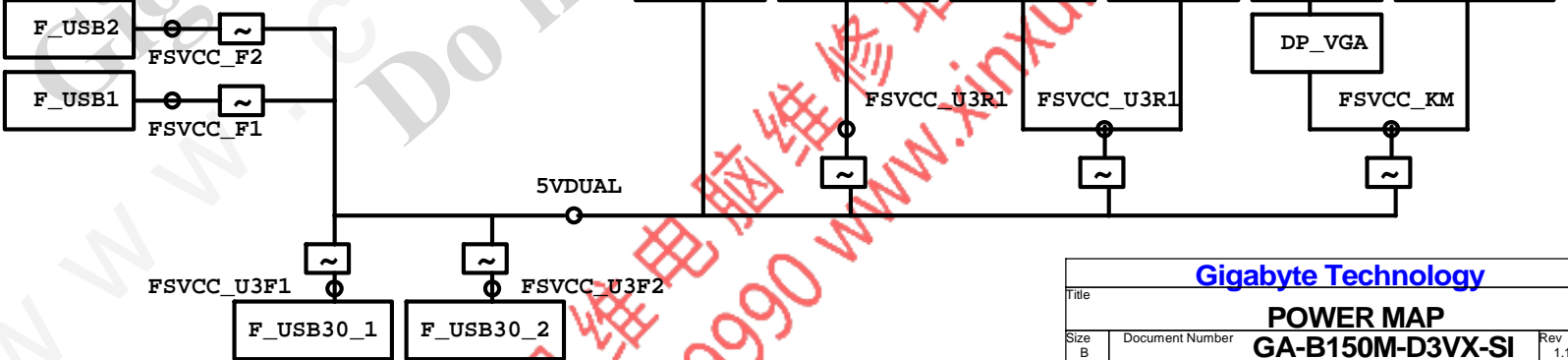
www.xinxunwei.com 400-800-9990



POWER



FUSE POWER F/R



Gigabyte Technology

Title			
POWER MAP			
Size B	Document Number		Rev 1.1
GA-B150M-D3VX-SI			
Date:	Monday, November 16, 2015	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-D3VX-SI		Rev 1.1
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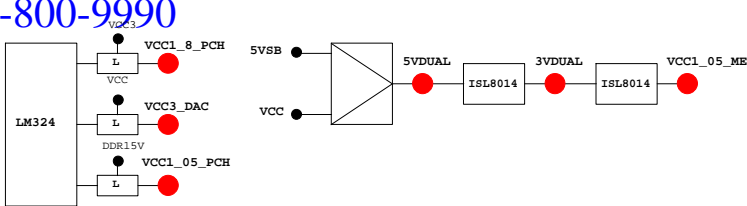


PCH GPIO LIST TABLE					
PIN NAME	PWR	Default	USAGE	NOTE	
GP0	MAIN	H-Z	GPI	GPIO0	N/A
GP1/TACH1	MAIN		GPI	GPIO1	N/A
GP2/PIRQ#	MAIN		GPI	-PIRQE	P/U 8.2K VCC3
GP3/PIRQ#	MAIN		GPI	-PIRQF	P/U 8.2K VCC3
GP4/PIRQ#	MAIN		GPI	-PIRQG	P/U 8.2K VCC3
GP5/PIRQ#	MAIN		GPI	-PIRQH	P/U 8.2K VCC3
GP6/TACH2	MAIN		GPI	PCIEX1 Detect	P/U 8.2K VCC3
GP7/TACH3	MAIN		GPI	GPIO7	P/U 8.2K VCC3
GP8	STBY	H	GPI	GPIO8	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	GPIO12	N/A
GP13	STBY	L	GPI	LPCPME#	P/U 8.2K 3VDUAL
GP14/OC7#	STBY		NATIVE	USB OC7#	N/A
GP15	STBY	L	GPI	GPIO15(TLS Enable)	P/U 8.2K 3VDUAL
GP16	MAIN		GPI	GPIO16	P/U 8.2K VCC3
GP17/TACH0	MAIN		GPI	GPIO17	P/U 8.2K VCC3
GP18	MAIN		GPI	Mobile Only	N/A
GP19	MAIN		GPI	GPIO19	P/U 8.2K VCC3
GP20	MAIN		GPI	GPIO20	P/U 8.2K VCC3
GP21	MAIN		GPI	GPIO21	P/U 8.2K VCC3
GP22	MAIN	H-Z	GPI	GPIO22	P/U 8.2K VCC3
GP23	MAIN		GPI	GPIO23	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	GPIO27	P/U 8.2K 3VDUAL
GP28	STBY	H	GPO	PWR_LED	P/U 8.2K 3VDUAL
GP29	STBY	L	GPI	GPIO29	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	GPIO39	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	GPIO44	P/U 8.2K 3VDUAL
GP45	STBY		NATIVE	GPIO45	P/U 8.2K 3VDUAL
GP46	STBY	L	NATIVE	GPIO46	P/U 8.2K 3VDUAL
GP47	STBY			Mobile Only	N/A
GP48	MAIN	H-Z	IN	GPIO48	P/U 8.2K 3VDUAL
GP49	MAIN	H-Z	IN	GPIO49	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	GPIO63	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

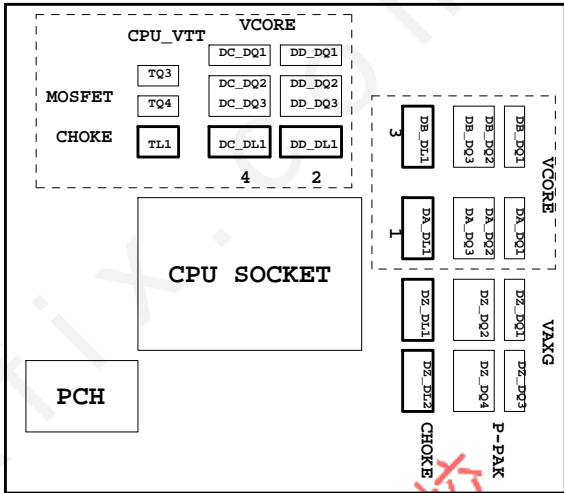
Super I/O ITE8720 GPIO Table

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#/CIRR1X/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	3V 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	
PWROK#GP44	VCORE_OV1	
PANSWH#/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/CIRR2X/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
	PWM2_CR			
	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

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Title	TABLE LIST		
Size	Document Number	GA-B150M-D3VX-SI	Rev 1.1
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