

Model Name: GA-H110M-DS2 DDR3 rev 1.0

SHEET

TITLE

SHEET

TITLE

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05	CPU_LGA1151-B-DDR4
06	CPU_LGA1151-C
07	CPU_LGA1150-D
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09	DDR3 CHANNEL B
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11	PCH_DMI,USB,PCIE
12	PCH_MISC
13	PCH SATA,PCIE,SATA_EXPRESS
14	PCH_PWR,GND
15	Dual BIOS
16	ITE 8628 LPC IO
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18	FAN CTRL--SIO
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20	PCI EXPRESS*1 SLOT
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24	ISL95858_856 MOS_VCCGT
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27	RT8237_PCH_VCC1_0_PCH

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32	RTD2168 - DP to VGA - Conn
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Cover Sheet			
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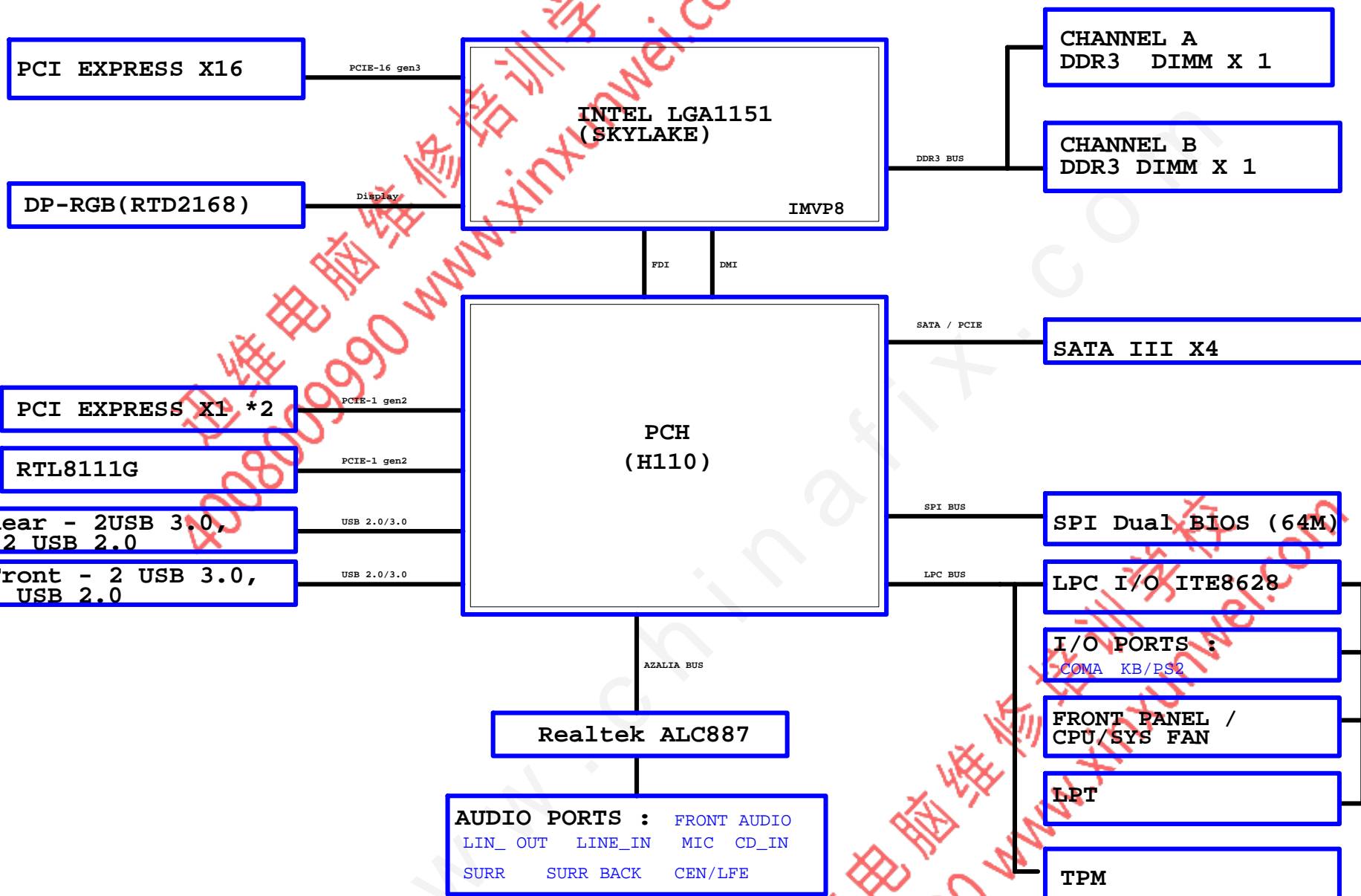
Circuit or PCB layout change

2015/03/02


[illegible]

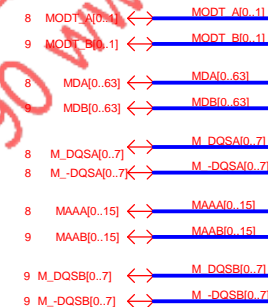
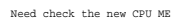
BLOCK DIAGRAM

www.xinxunwei.com 400-800-9990

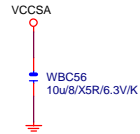


LGA1151F SKT_H4

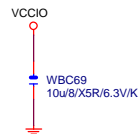
			
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CPU LGA1151-A			
Size	Document Number	Rev	
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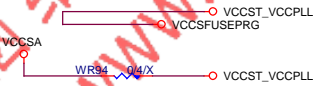
* 删 WBC50 电容

* WBC51, WBC52
VDDQ 改 VCCSA

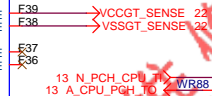
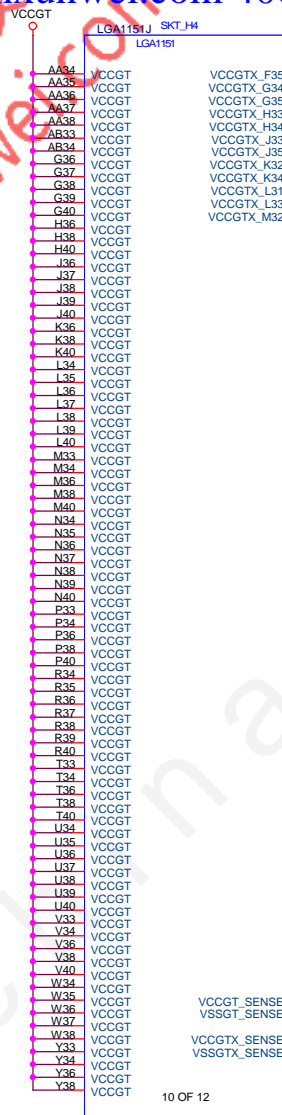
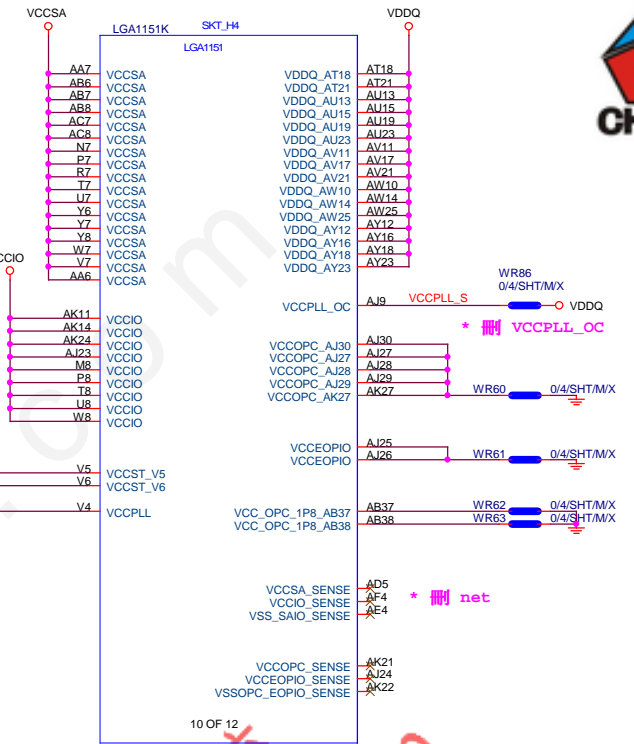
* 删 WBC124, WBC125, WBC126, WBC127 电容



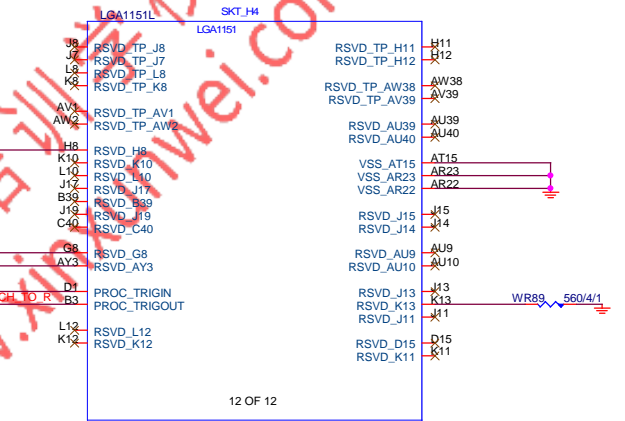
* 删 VCCGT 电容

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

Note. 67

13 N_PCH_CPU_PCH_TO_2
13 A_CPU_PCH_TO_2

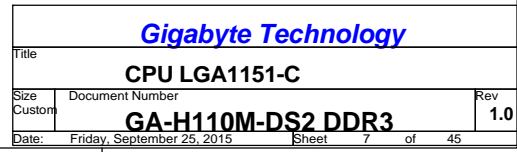
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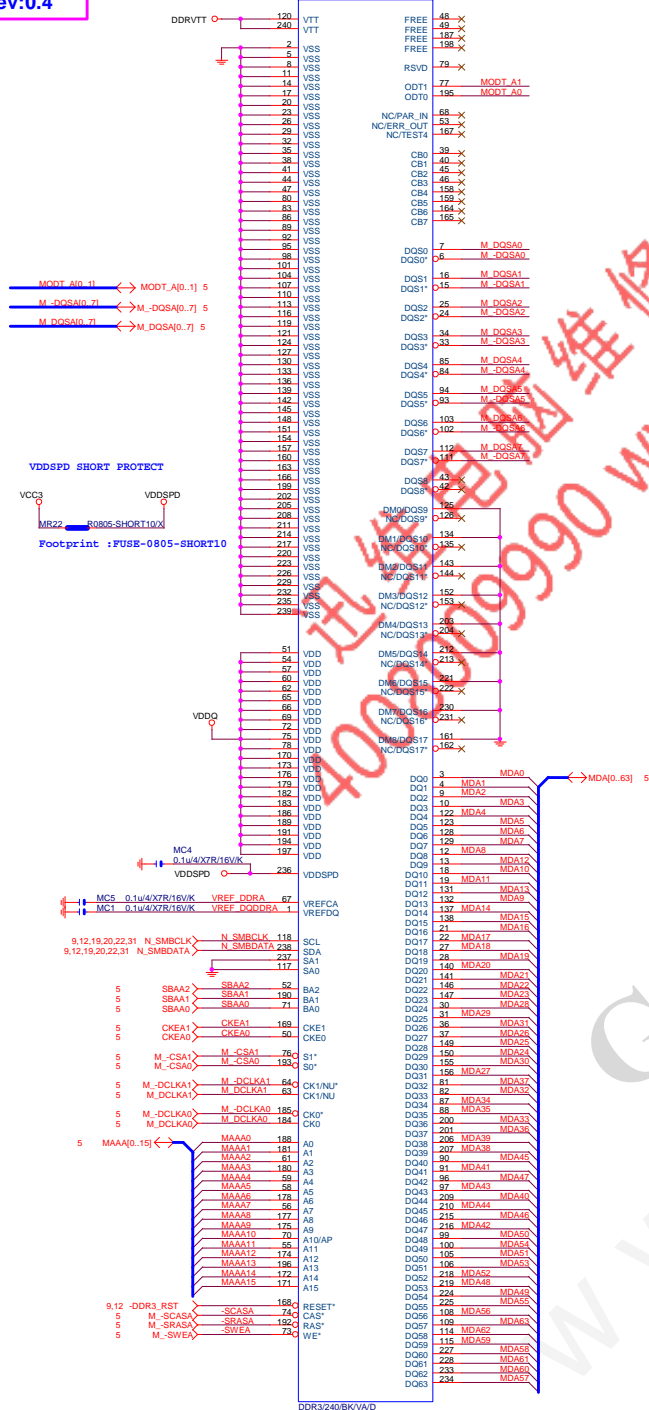


CPU-SK/1151/S/GF

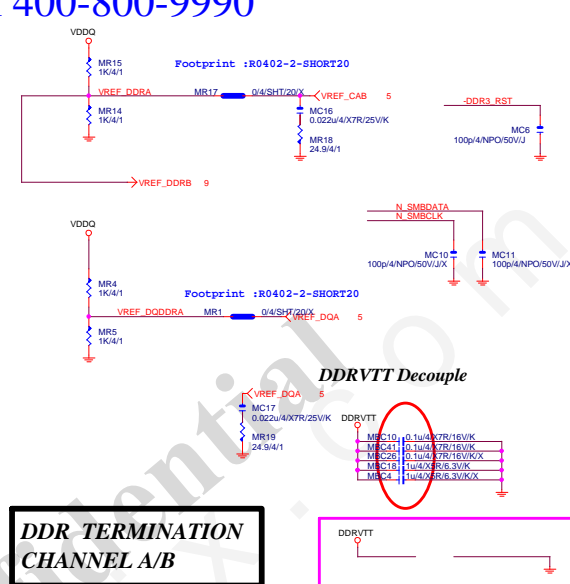
Gigabyte Technology

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CPU LGA1151-C		
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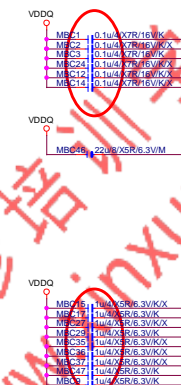


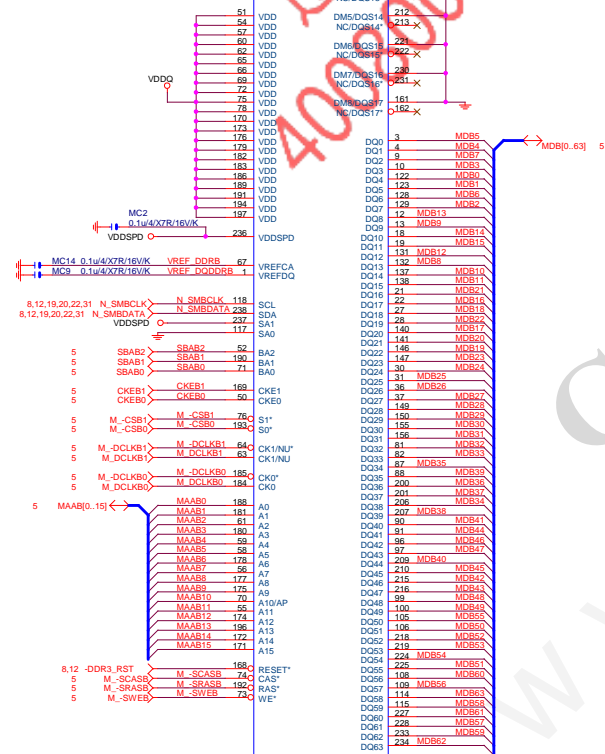
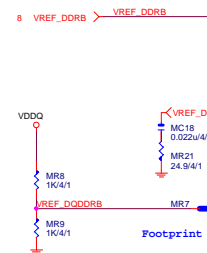


黑色

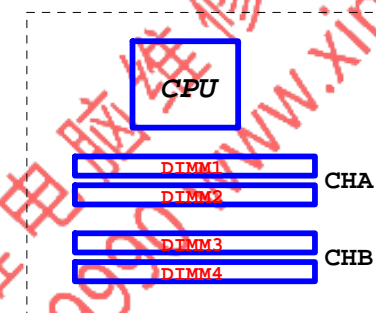


若Power source 端PWM IC
已有擺放,則可刪除



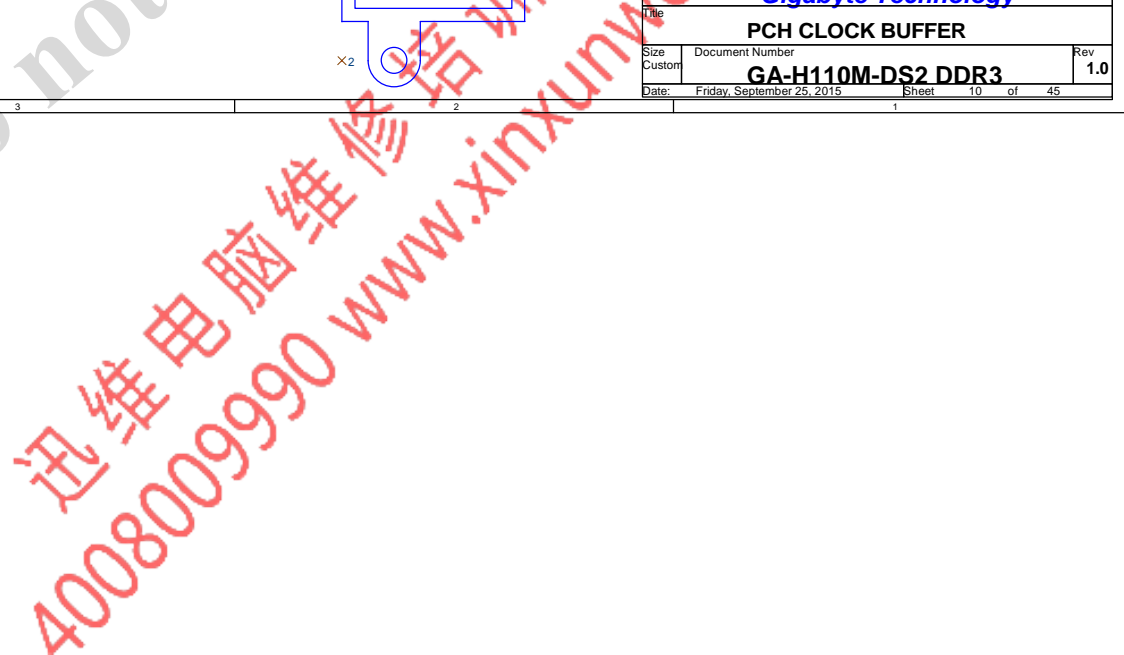


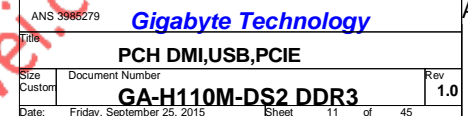
DDR3/240/BK/VA/D
黑色

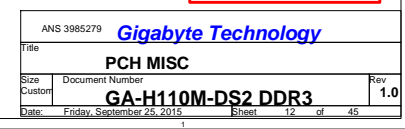


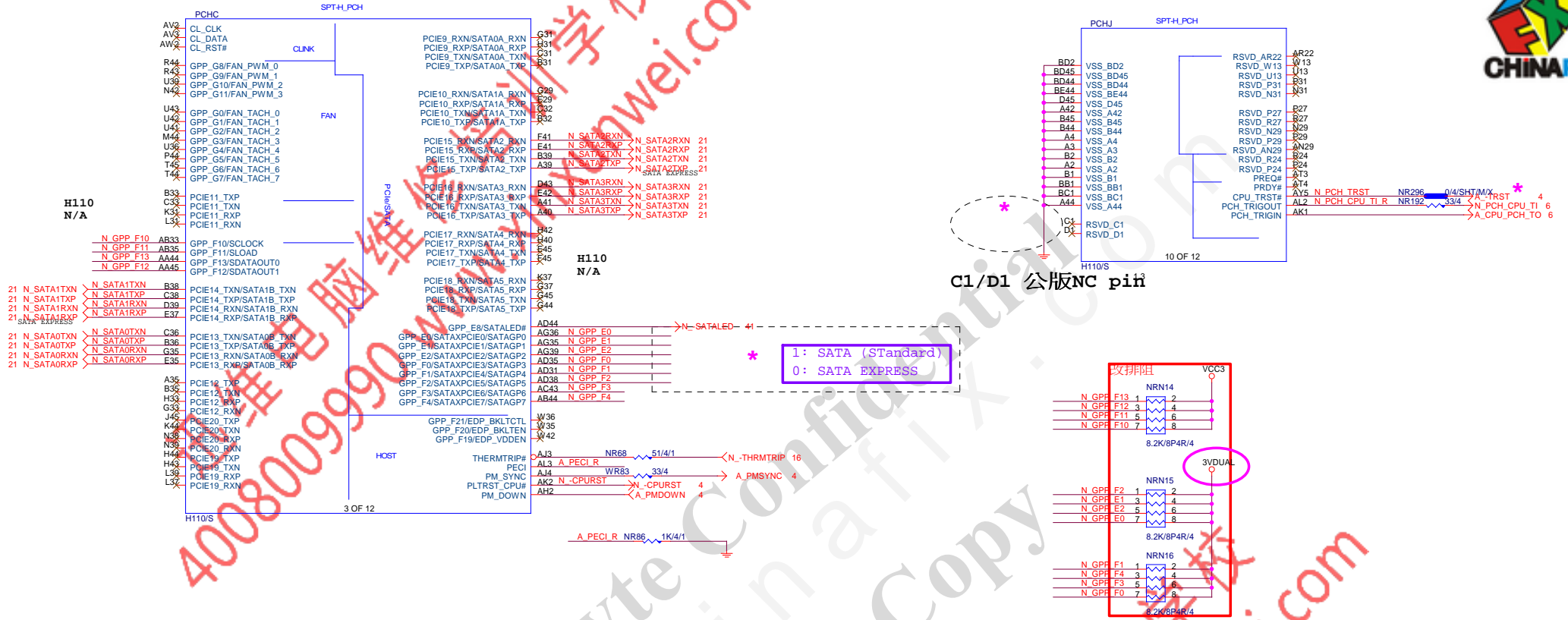
Gigabyte Technology

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Size	Document Number	GA-H110M-DS2 DDR3	Rev
Custom			

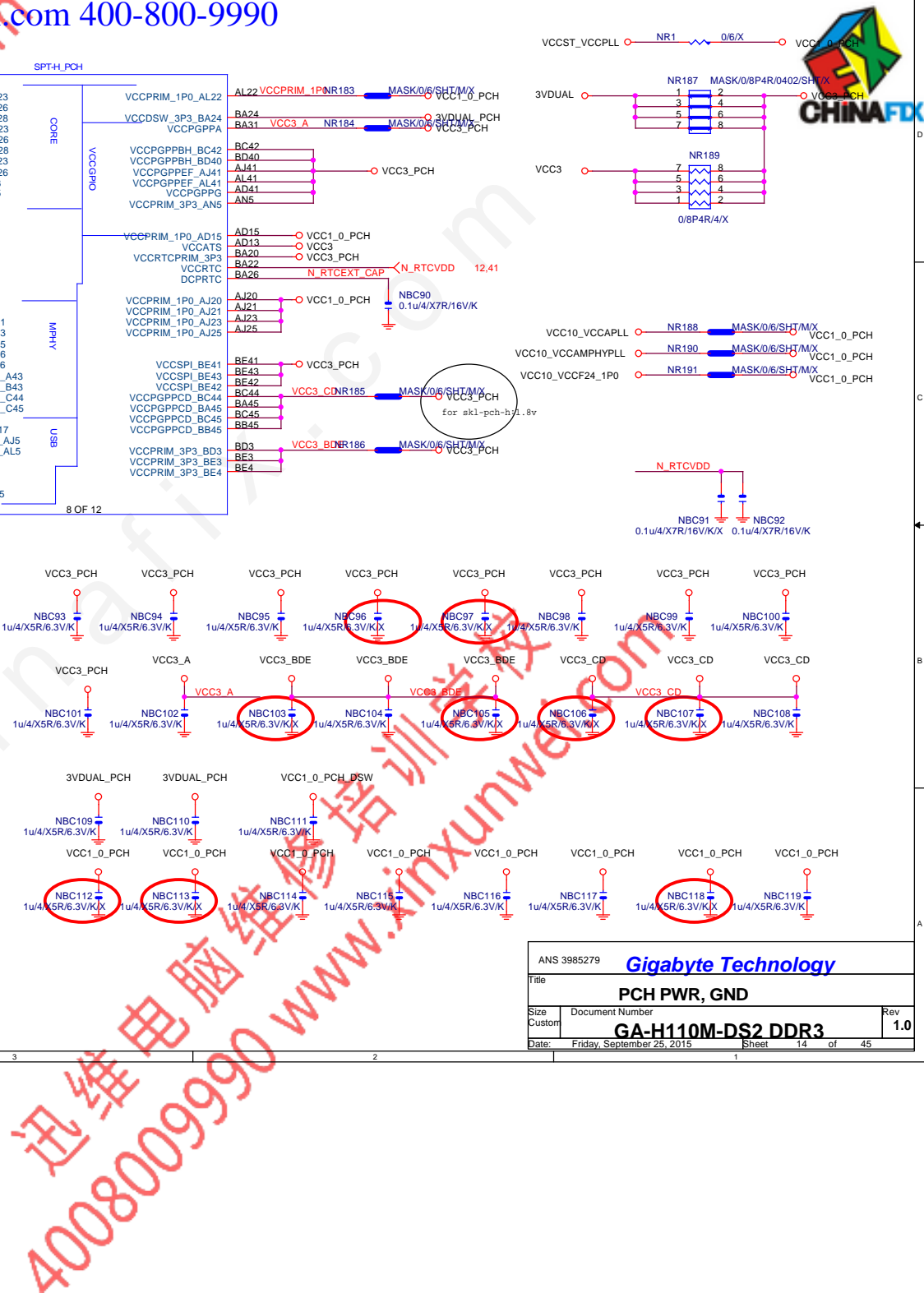


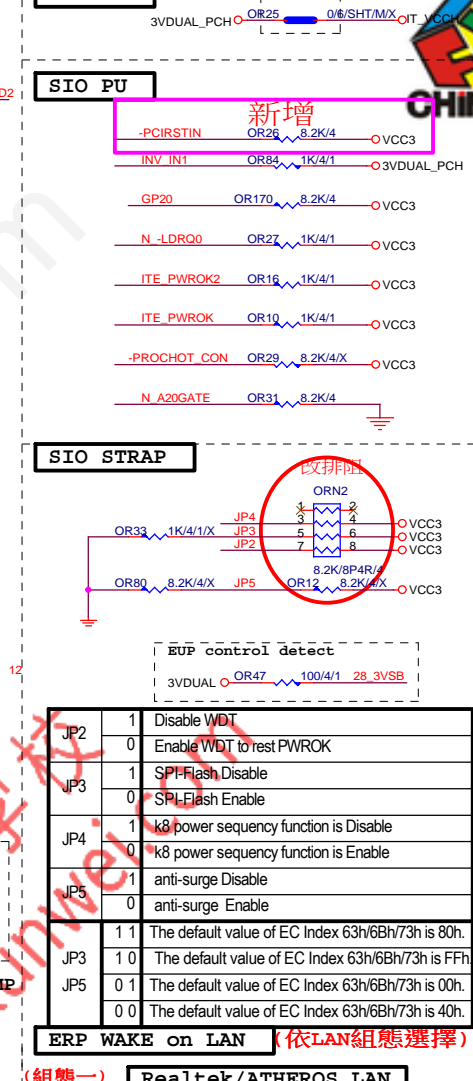




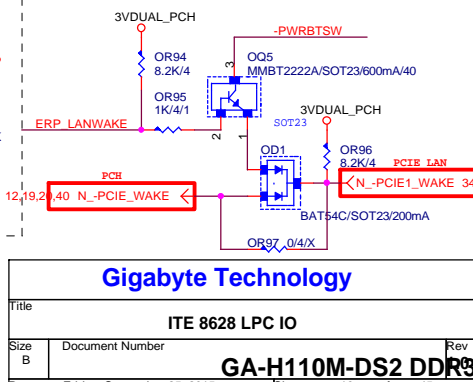
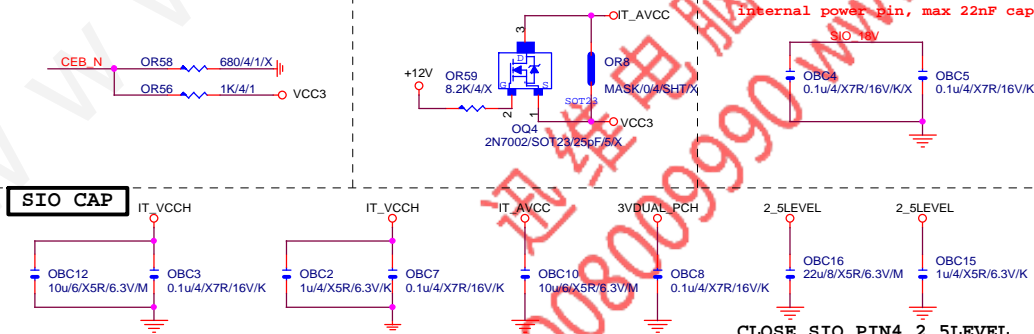


ANS 3985279		Gigabyte Technology	
Title		PCH SATA,PCIE,SATA EXPRESS	
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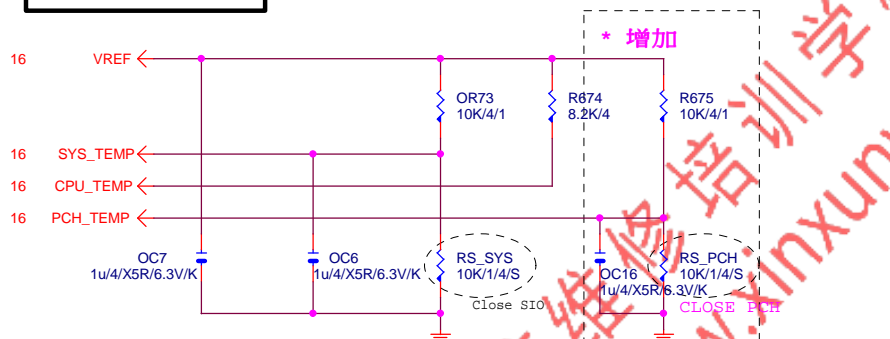


IT8620E GPIO問題匯整	
PIN 50	GP26-第一次接上POWER時會拉 Lo
PIN 90/91	DEFAULT為HDLED FUNCTION, GP93 BYPASS TO GP92 高溫時 GP92 會被拉Lo(ITE BUG)
PIN 108	GP40--- POWER ON 時會拉 Lo
PIN 111/112	MOUSE 跟FAN6 FUNCTION 擇一使用, 不然會互相干擾
PIN 22	PIN22, 需高於3V, 若低於此部分CM PORT及LPT裝置時馬達會異常動作。



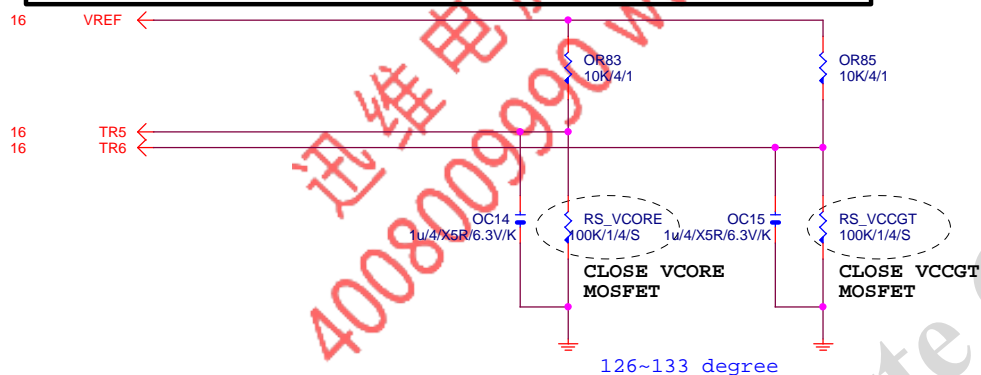
TEMP H/W MONITOR

REV 1.04



RS_VCORE ~ RS_VCCGT CLOSE CPU_VCORE & VCCGT MOSFET

-PROCHOT:有mos heartsink不用prochot function

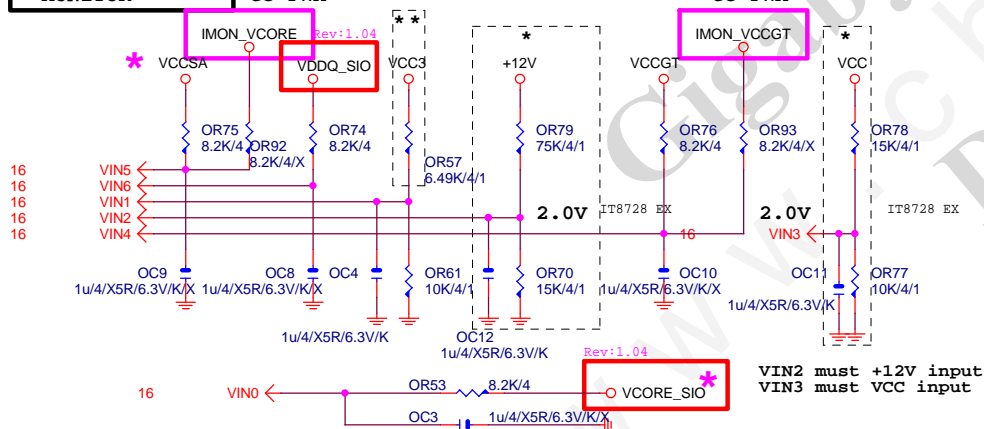


VOLTAGE-- H/W MONITOR

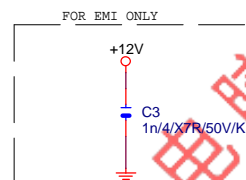
Connect to PWM

* IT8728 BX
** IT8728 CX

Connect to PWM



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



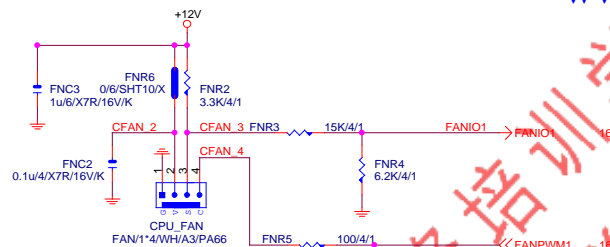
Gigabyte Technology

Title					HWM,KB/MS, FAN CTRL					
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CPU SMART FAN

Rev: 0.53

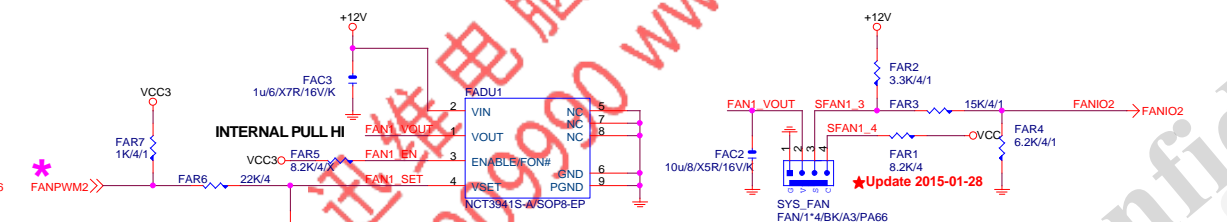


SYSTEM FAN1

Linear SYS_FAN

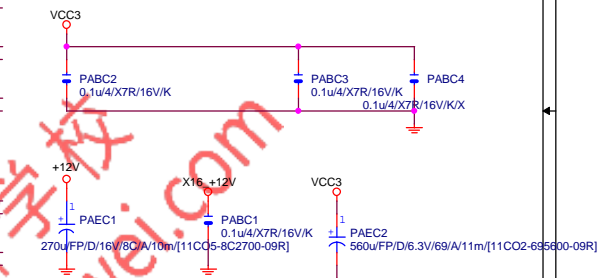
Enable Function (NCT3941S)
Full Turn On Function (NCT3941S-A)

A.



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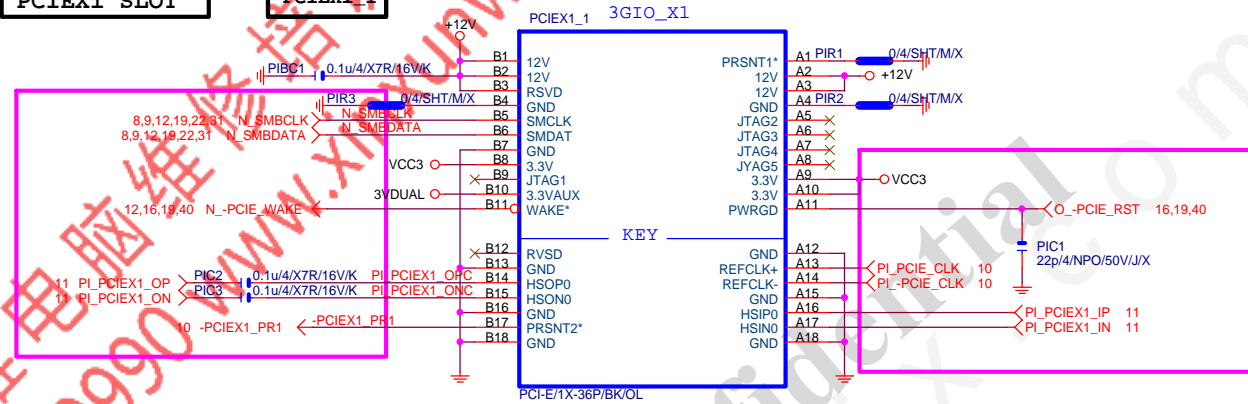
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FAN CTRL		
Size	Document Number	Rev
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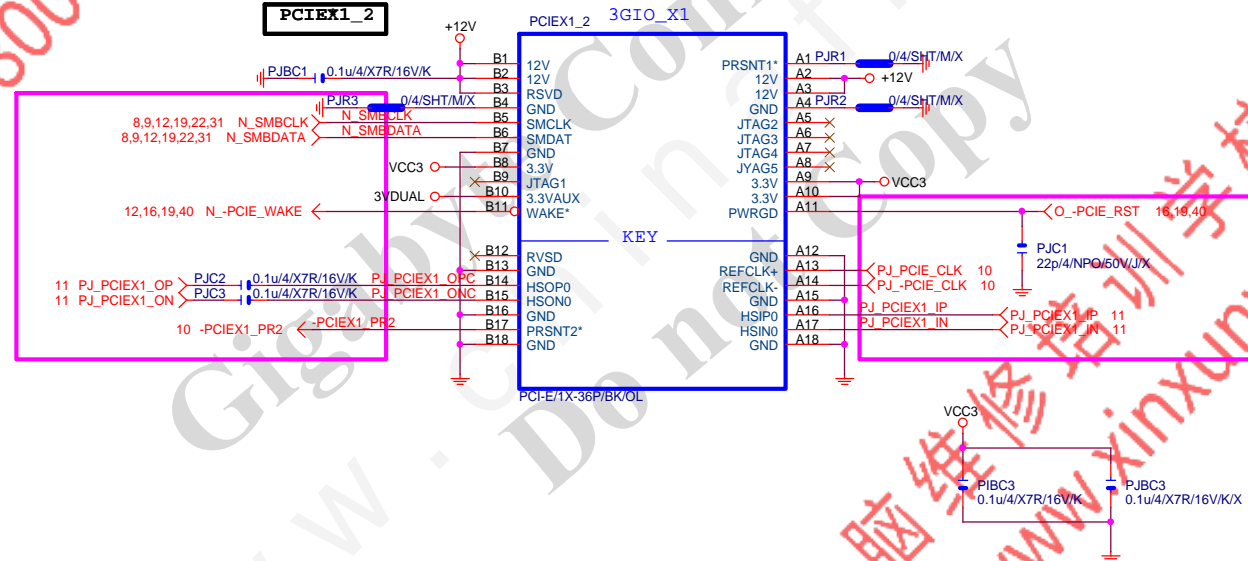
PCI-E REV:2.0--> 5GHZ

PCIEX1 SLOT

PCIEX1_1

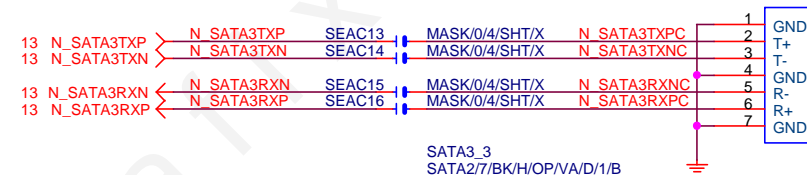
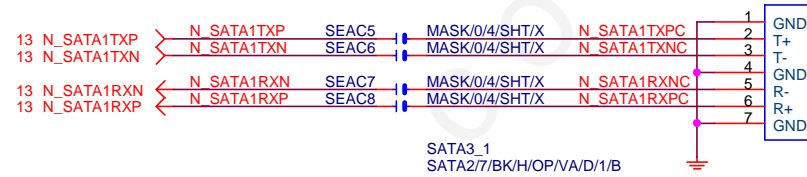
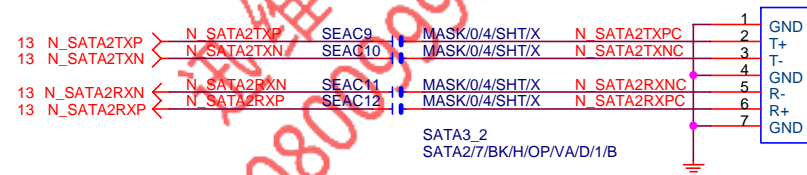
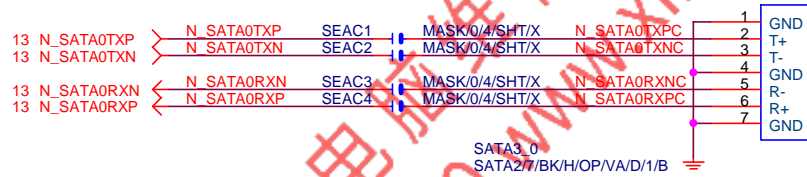


PCIEX1_2

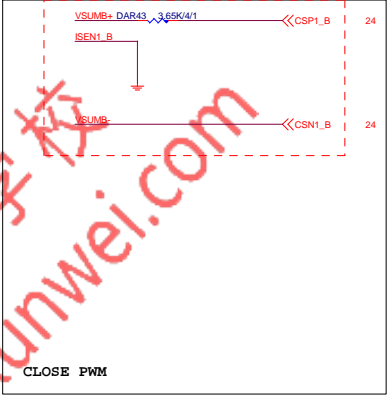
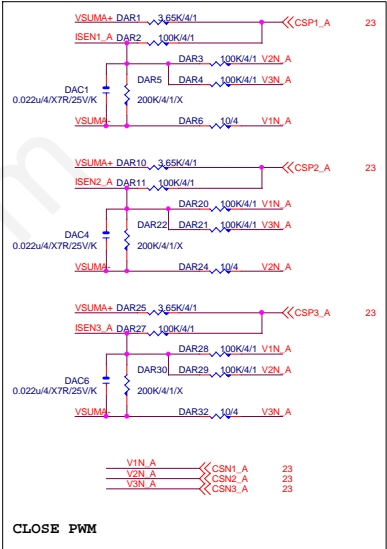
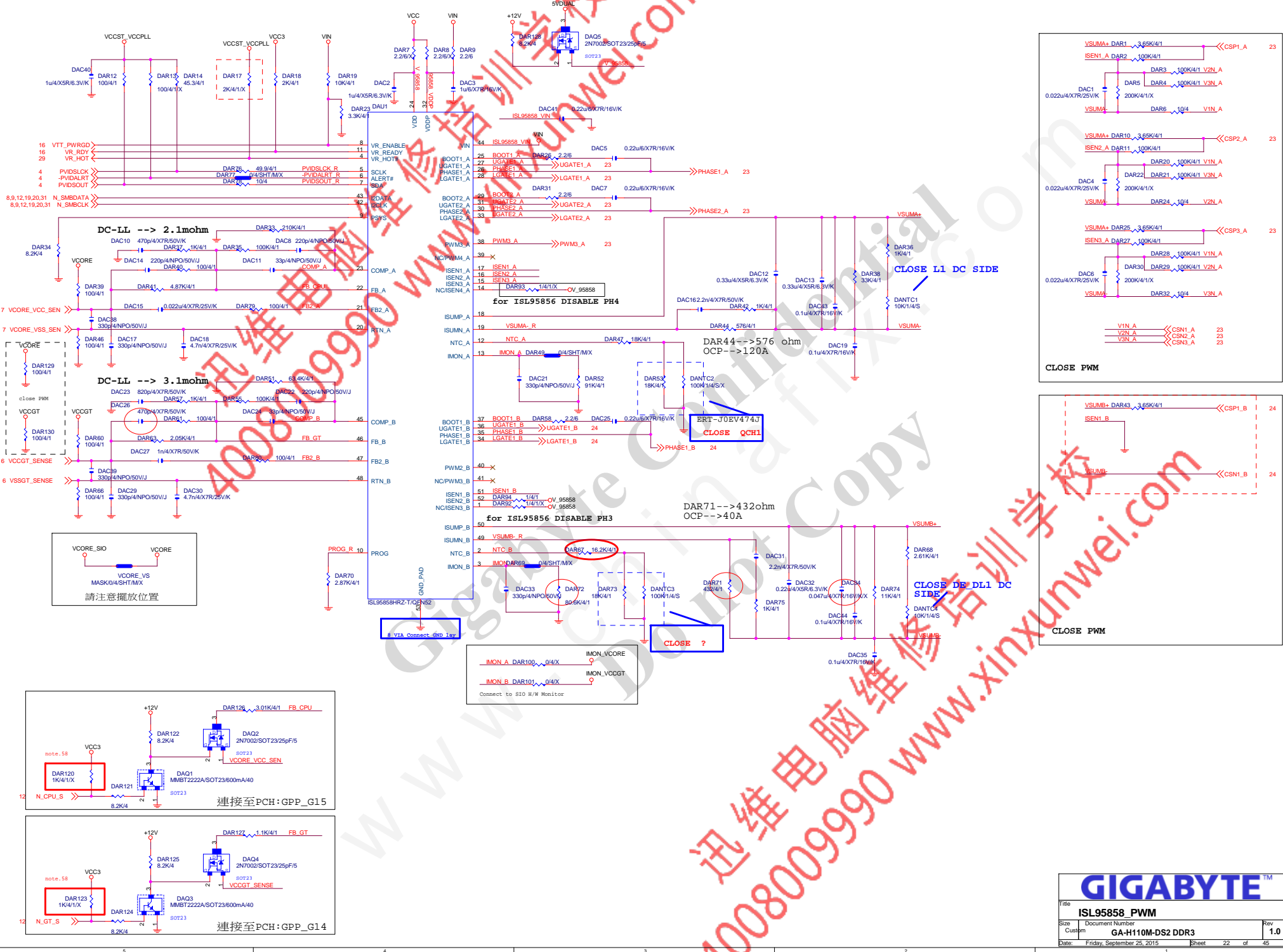


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Title				
PCIE_X1 1,2				
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**Gigabyte Technology**Title
SATA EXPRESSSize Custom Document Number
GA-H110M-DS2 DDR3 Rev 1.0

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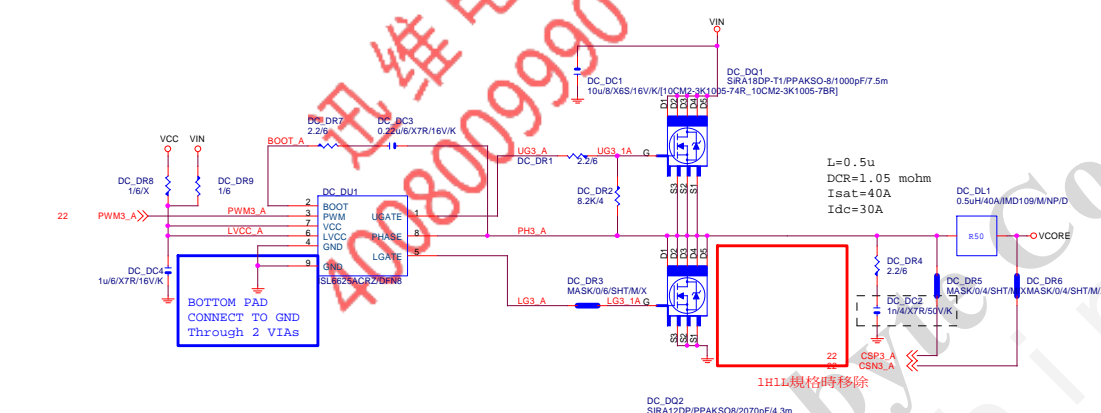
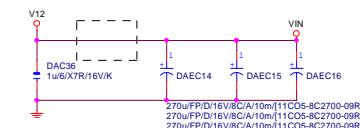


GIGABYTE™		
Title		
ISL95858_PWM		
Size		
Document Number		
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GA-H110M-DS2 DDR3		
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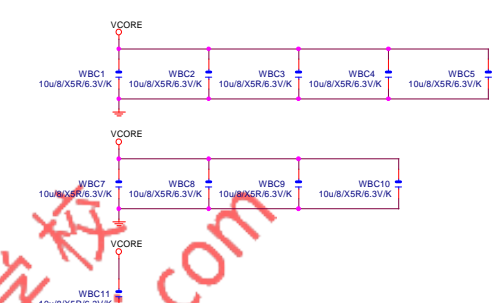
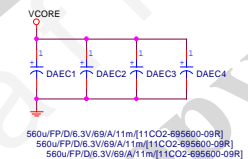
VCORE



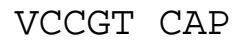
VIN CAP 270u*3PCS



VCORE CAP 560u*4PCS
22u*10PCS



GIGABYTE™			
ISL95858_MOS			
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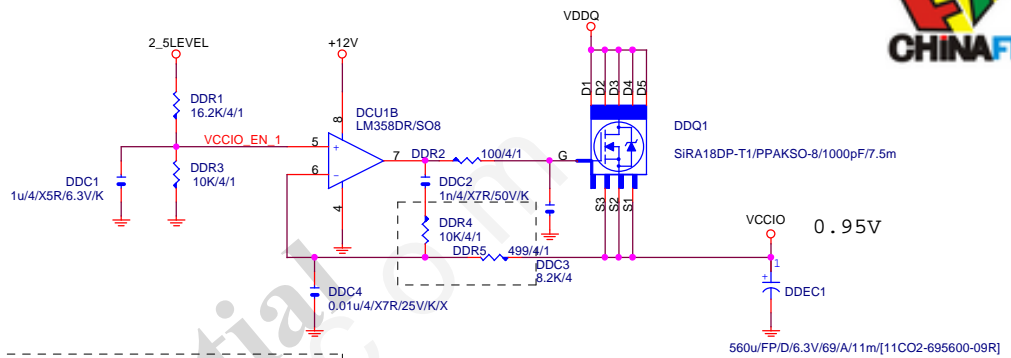
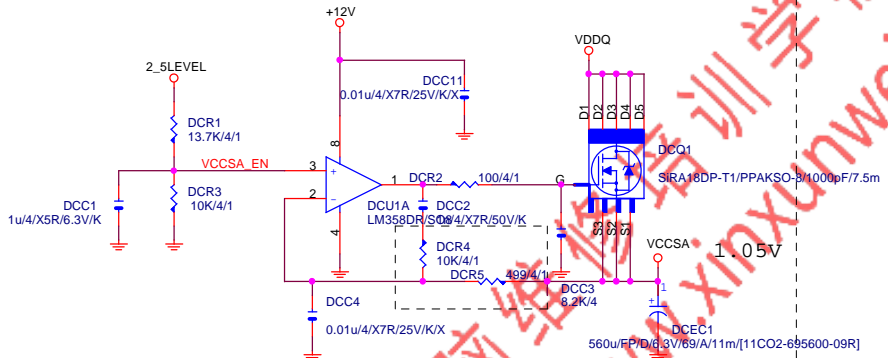


560u/FP/D/6.3V/69/A/11m/[11CO2-695600-09R]
560u/FP/D/6.3V/69/A/11m/[11CO2-695600-09R]

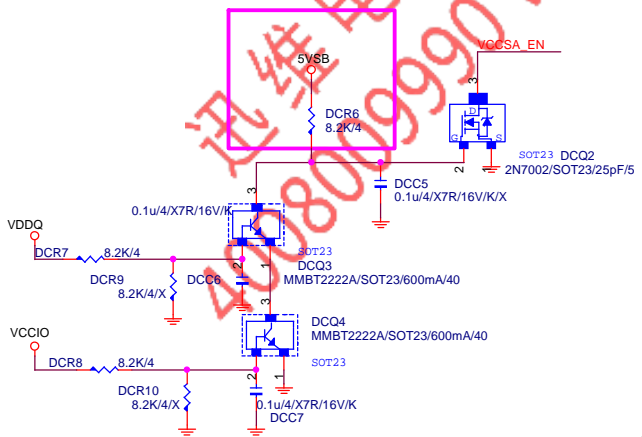


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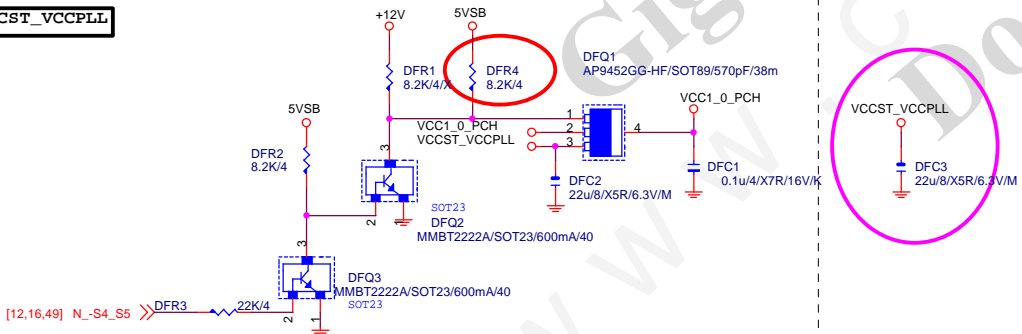
Size Custom	Document Number GA-H110M-DS2 DDR3	Rev 1.0
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VCCIO_EN 1 DDR10 0/4/SHT/M/X VCCIO_EN 16
Connect to IT8620

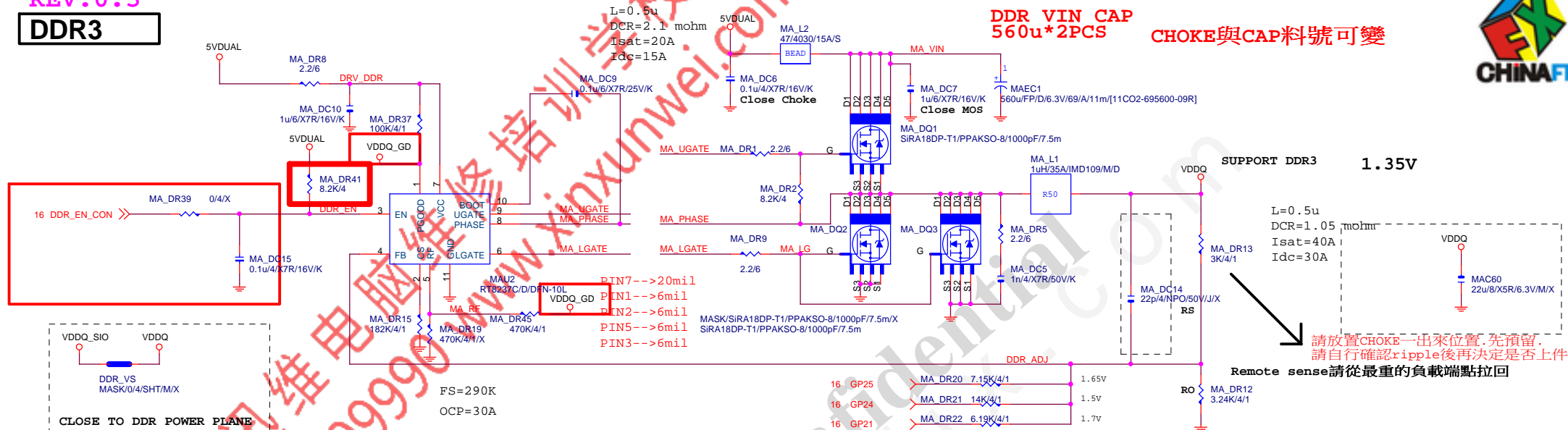


VCCST_VCCPLL

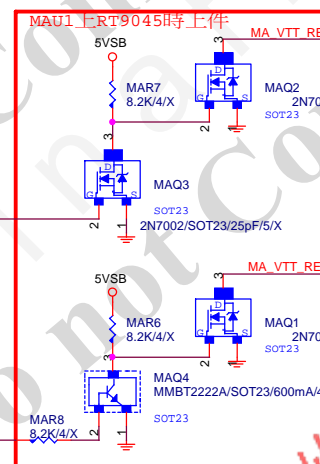
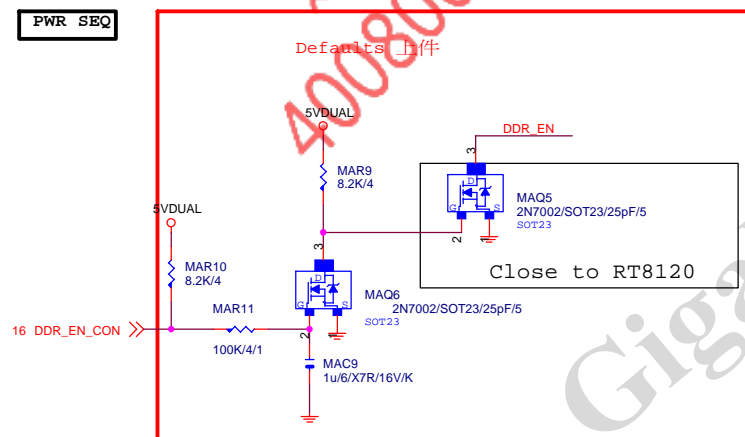
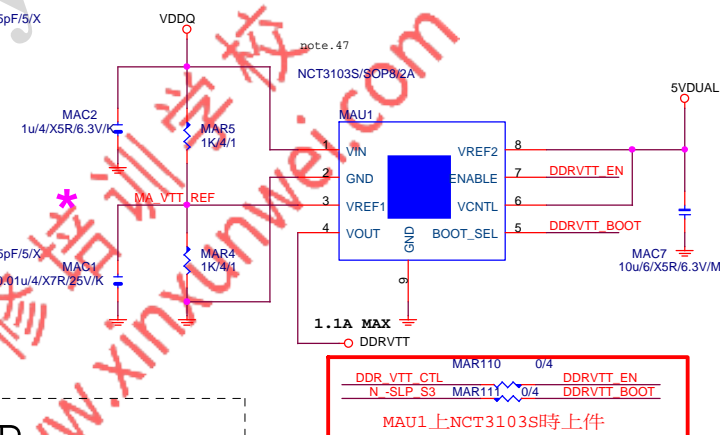


GIGABYTE™			
Title VCCSA_VCCIO			
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DDR3

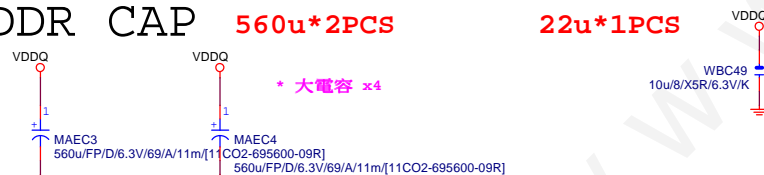


PWR SEQ

**DDRVTT**

DDR	CAP	560u*2PCS
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22u*1PCS



DDRVTT CAP

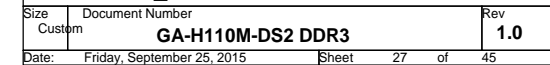
**GIGABYTE™**

Title	RT8237_DDR3 POWER
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Size	Document Number
Custom	GA-H110M-DS2 DDR3

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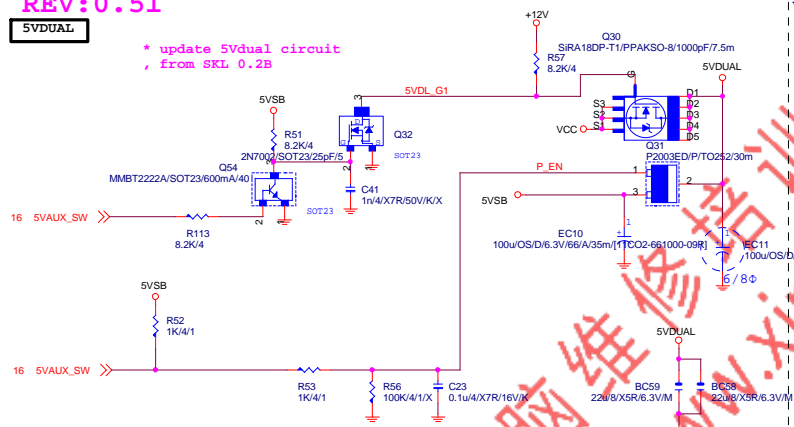
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REV: 0.51

5VDUAL

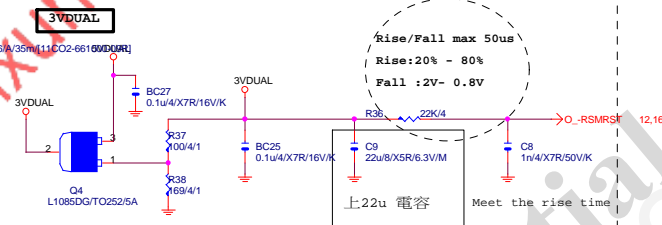
* update 5Vdual circuit
from SKL 0.2B



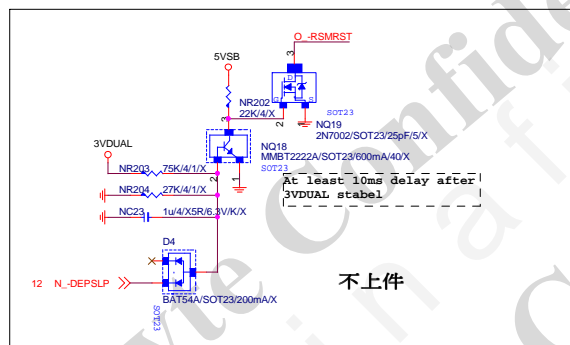
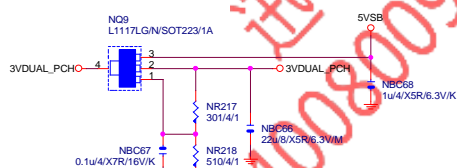
www.xinxunwei.com 400-800-9990



3VDUAL



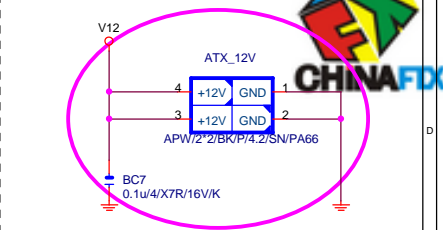
3VDUAL_PCH



不上件

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Title		DISCRETE POWER	
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MH1
HOLE_3/X

12 1 2 3 4 5 6 7 8 9 10 11

GND-T

HOLE_4-RH-1

MH2
HOLE_3/X

12 1 2 3 4 5 6 7 8 9 10 11

GND-T

HOLE_4-RH-5MM-1

MH3
HOLE_3/X

12 1 2 3 4 5 6 7 8 9 10 11

GND-T

HOLE_4-RH-5MM-1

MH4
HOLE_3/X

12 1 2 3 4 5 6 7 8 9 10 11

GND-T

HOLE_3/X

MH5
HOLE_3/X

12 1 2 3 4 5 6 7 8 9 10 11

GND-T

MH6
HOLE_3/X

12 1 2 3 4 5 6 7 8 9 10 11

GND-T

HOLE_3/X

To prevent the 5VSB from dropping under loading when boot

4.16 A_PROCHOT <=> R2 0/4/SHT/MX >=> VR_HOT

BY LAYOUT位置

COUPON1

COUPON1 1 2 COUPON/X VDDQ

COUPON2

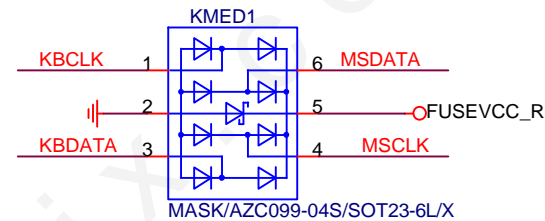
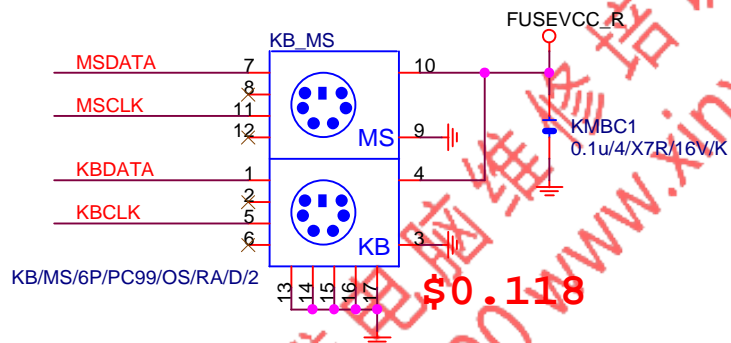
COUPON2 1 2 COUPON/X



KB_MS_USB

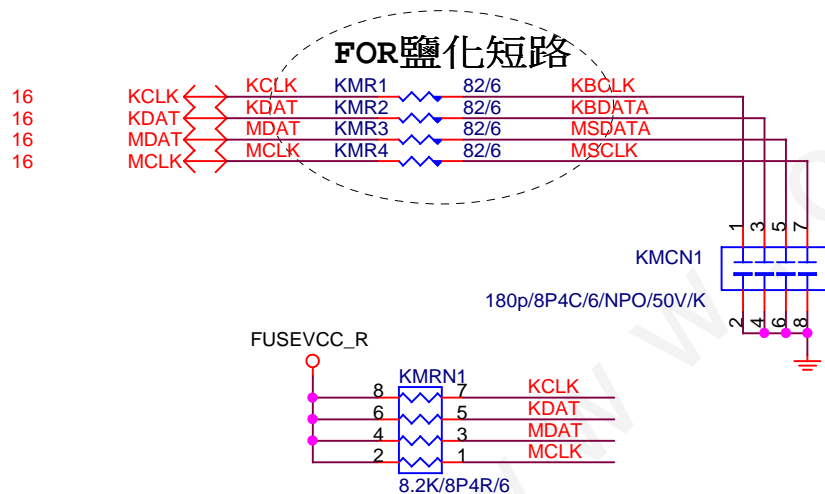
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ESD



KB_MS_USB DAMPING/PU

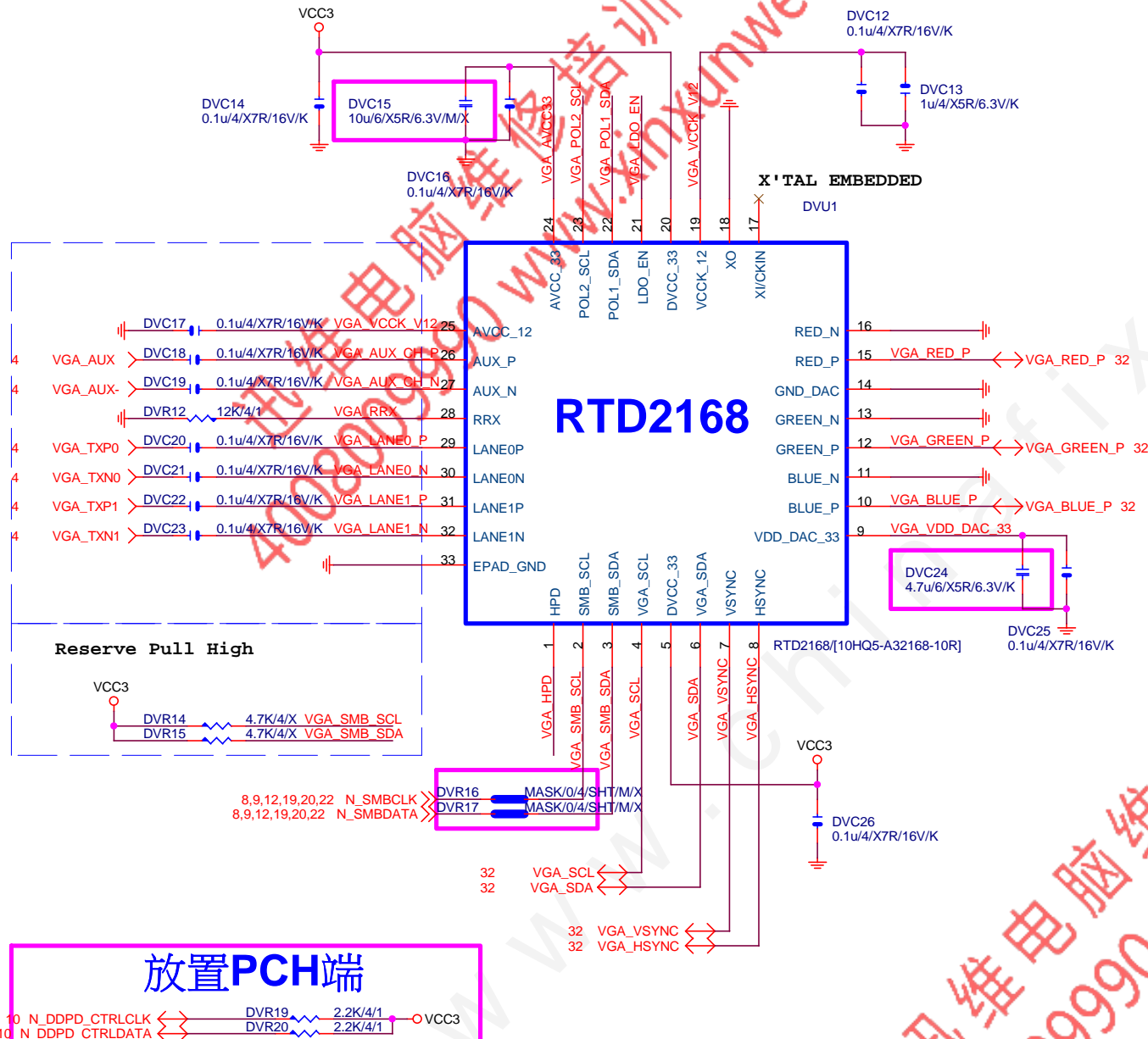
KB_MS_USB PWR



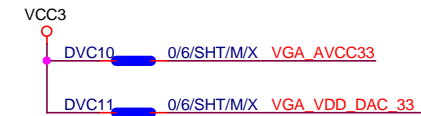
Gigabyte Technology

KB_MS_USB

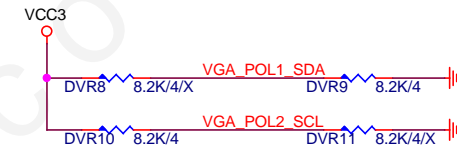
GA-H110M-DS2 DDR3 1.0



POWER

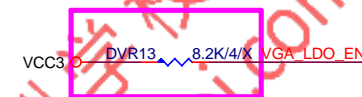


Power on latch



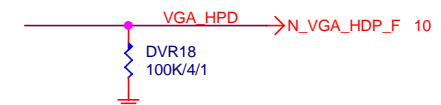
		POL1_SDA(PIN22)	
		0	1
POL2_SCL (PIN23)	0	X	EP MODE
	1	ROM ONLY MODE	EEPROM MODE

Embedded LDO



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

DP HPD

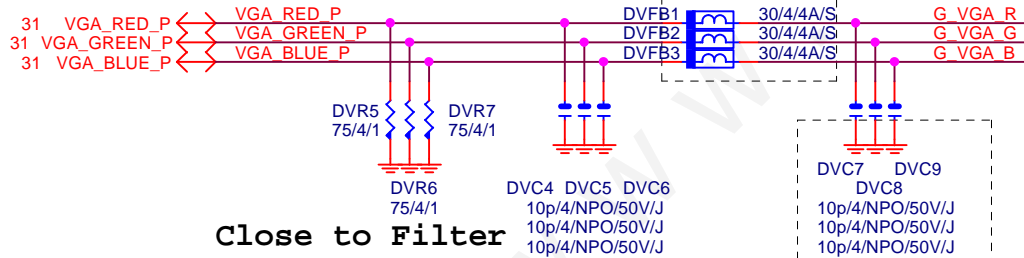
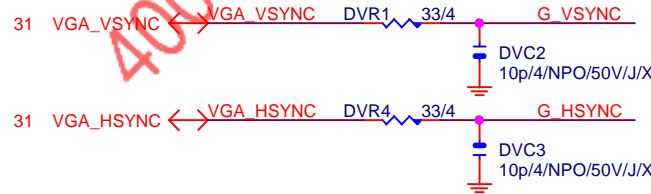


放置PCH端



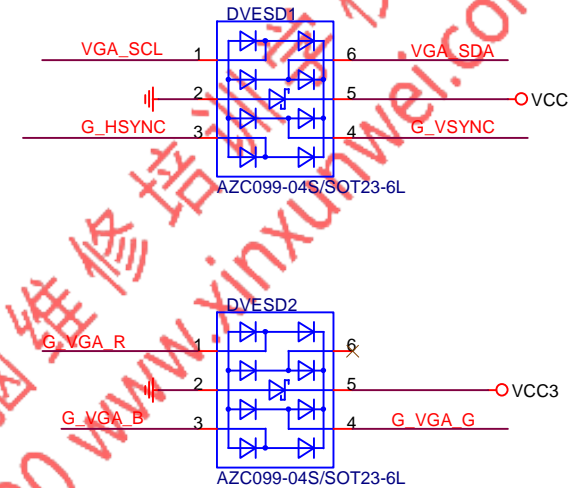
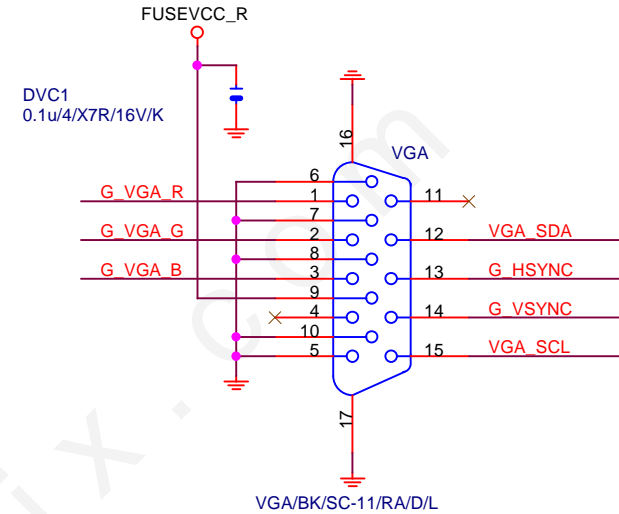
DVR2 2.2K/4/1
DVR3 2.2K/4/1

31 VGA_SDA <-> VGA_SDA
31 VGA_SCL <-> VGA_SCL



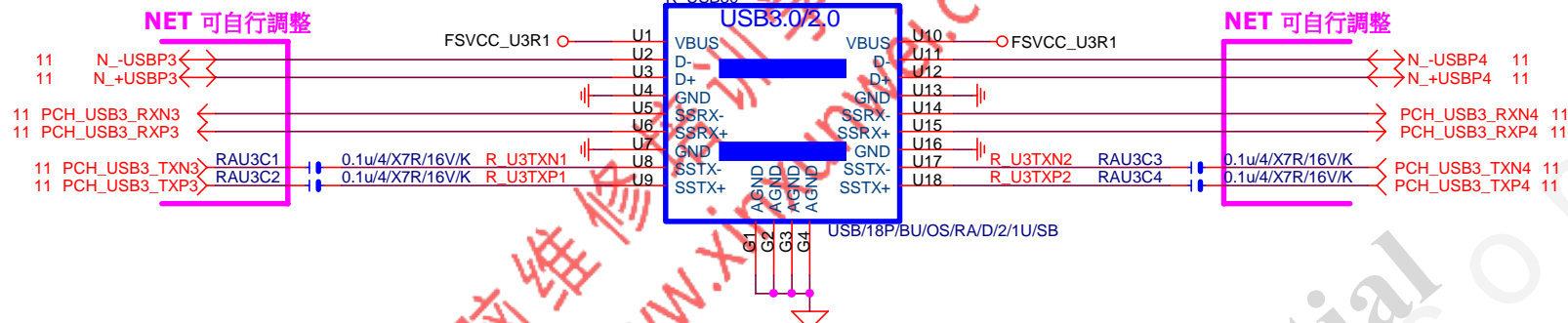
Close to Filter

FOR EMI



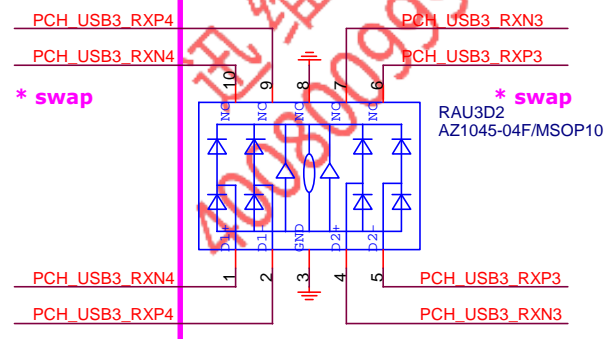
Gigabyte Technology
NXP-PTN3356

Title		
Size	Document Number	Rev
Custom	GA-H110M-DS2 DDR3	1.0
Date:	Friday, September 25, 2015	Sheet 32 of 45

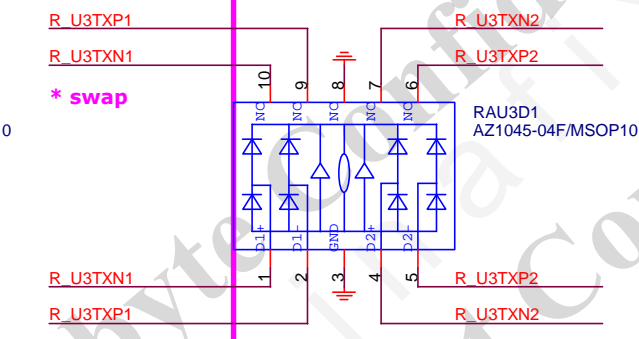


ESD

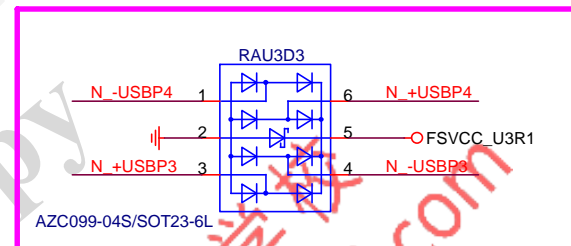
NET 可自行調整



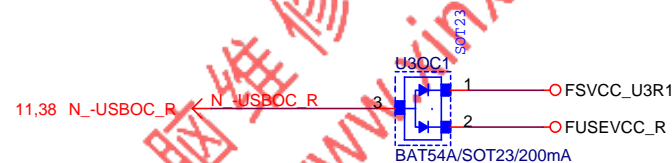
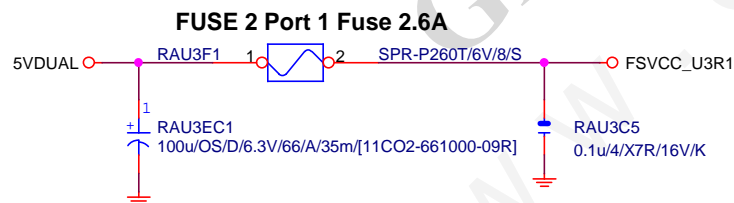
NET 可自行調整



NET 可自行調整

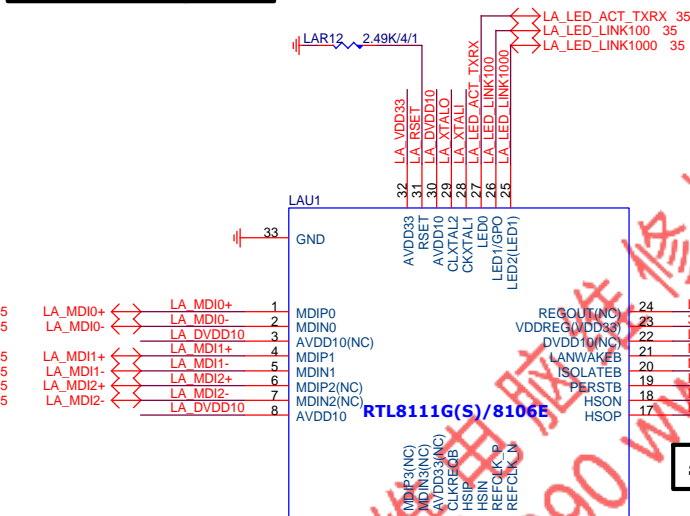


FUSE

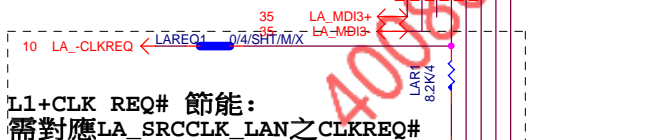


Gigabyte Technology

Title		R_USB30,USB_OC	
Size		Document Number	
Custom		GA-H110M-DS2 DDR3	
Date:		Friday, September 25, 2015	Sheet 33 of 45



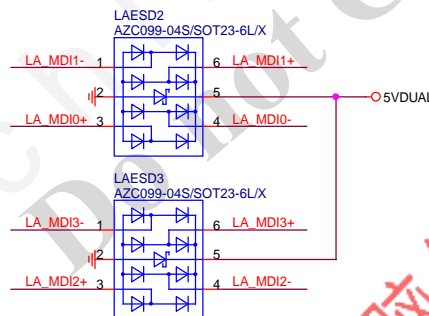
SRCCLK-->50歐姆:[18/4/10/4/18]

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

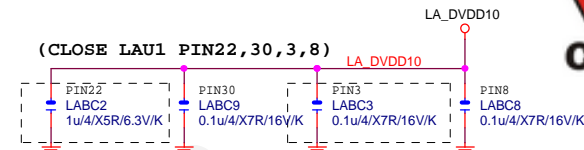
離IC近越好

LA_ML-->80歐姆:[15/5/5/5/15]

MDI ESD預留 *



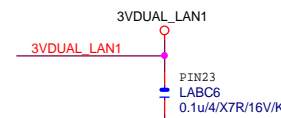
LAN POWER



LABC2:1U CLOSE PIN22[REALTEK REQ]

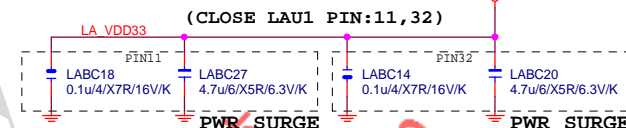
LAN POWER

note: lan power連接及電流

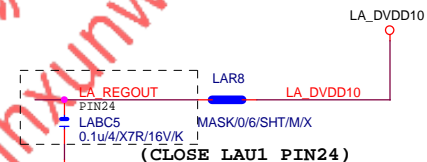


(CLOSE LAU1 PIN23)

LAN POWER

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

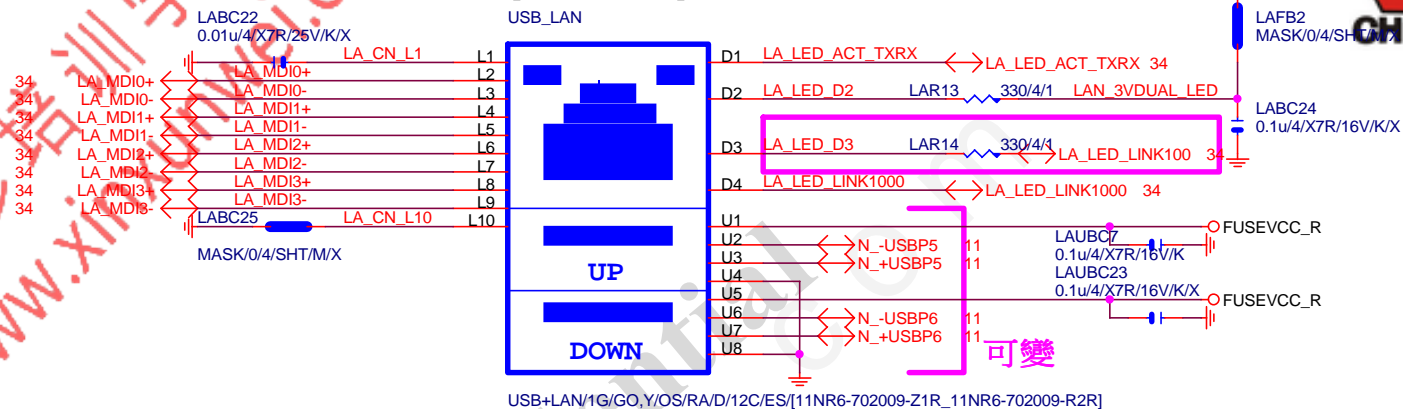
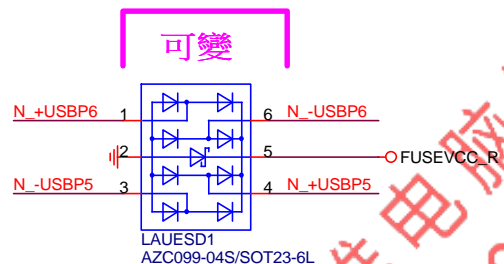
LAN POWER



Gigabyte Technology

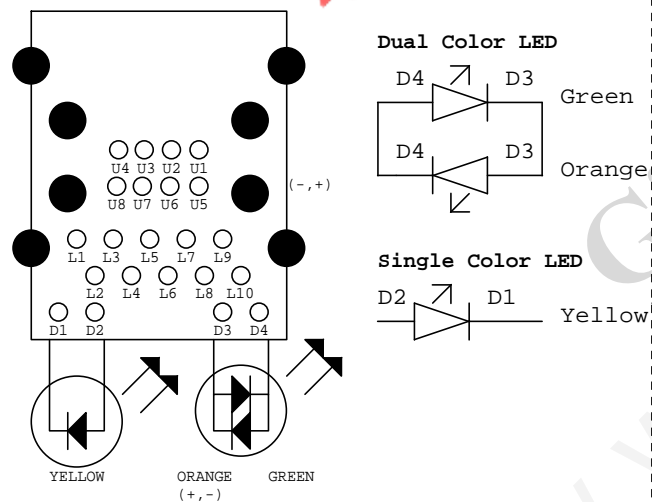
Title		
Realtek RTL8111GUS		
Size	Document Number	Rev
Custom	GA-H110M-DS2 DDR3.0	
Date:	Friday, September 25, 2015	Sheet 34 of 45

note:可變更USB NAME



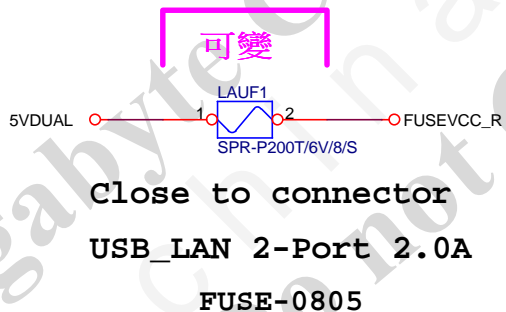
LA MDI-->100歐姆:[20/4/8/4/20]

USB_LAN LAYOUT示意圖



USB POWER

note:可變更FUSE

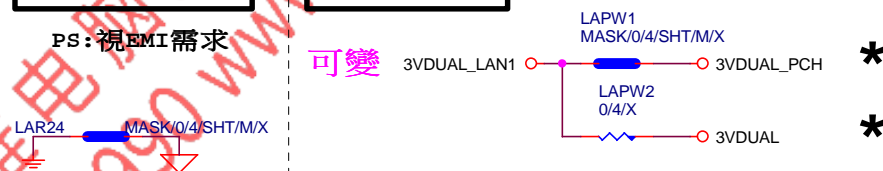


EMI SHORT PAD

PS:視EMI需求

LAN POWER

note: lan power連接及電流



Gigabyte Technology

LAN CONNECTOR-RTL8111G

Size	Document Number
Custom	

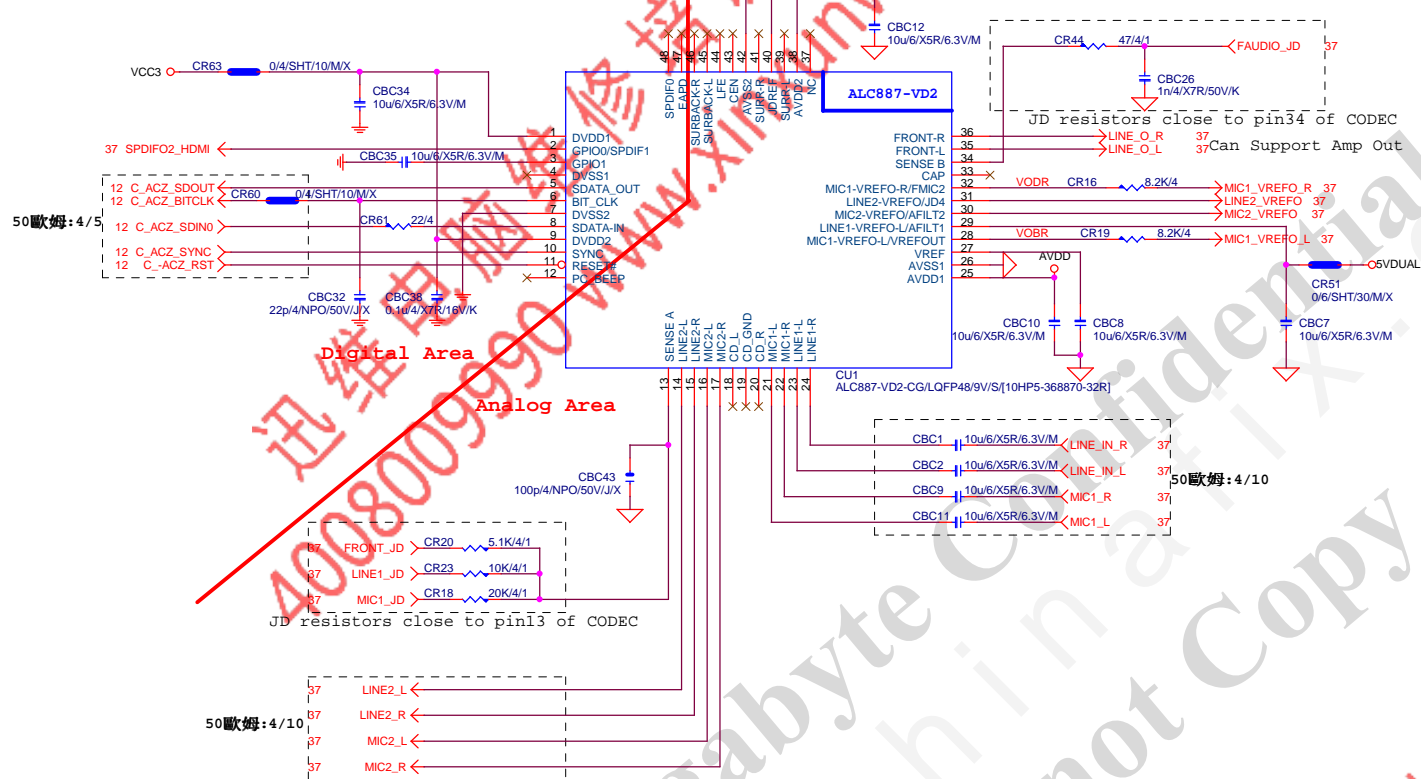
GA-H110M-DS2 DDR3

Date: Friday, September 25, 2015

Sheet 35 of 45

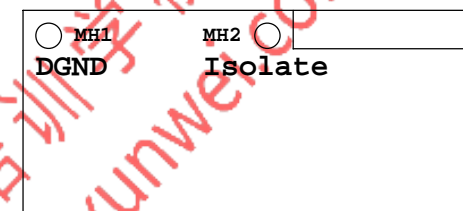
Rev
1.0

ALC887 三孔 AUDIO JACK

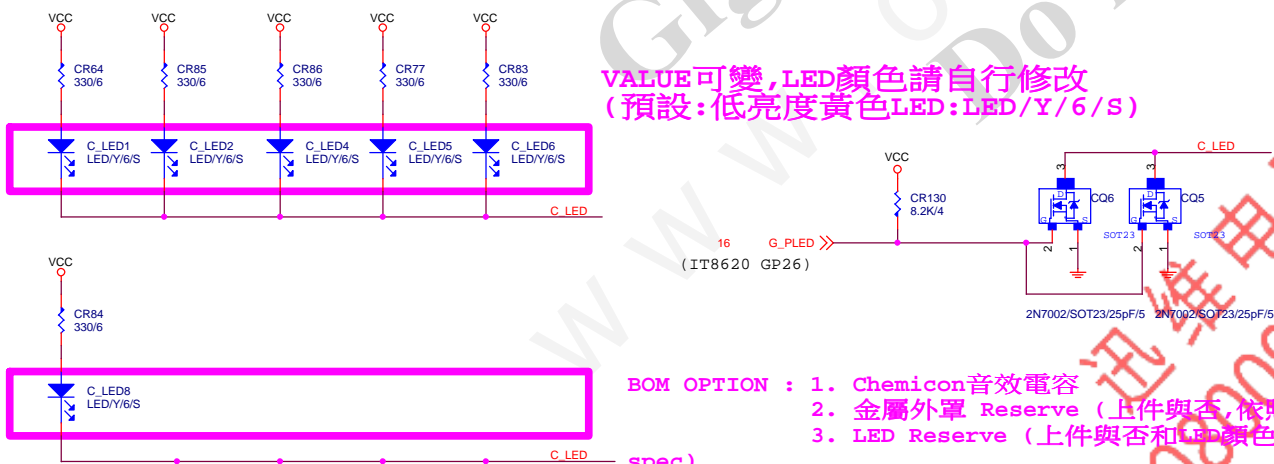


LAYOUT注意:螺絲孔下GND方式

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



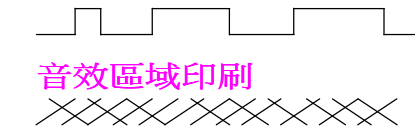
VALUE可變,LED顏色請自行修改
(預設:低亮度黃色LED:LED/Y/6/S)




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)

LAYOUT注意:要加

GND切割線

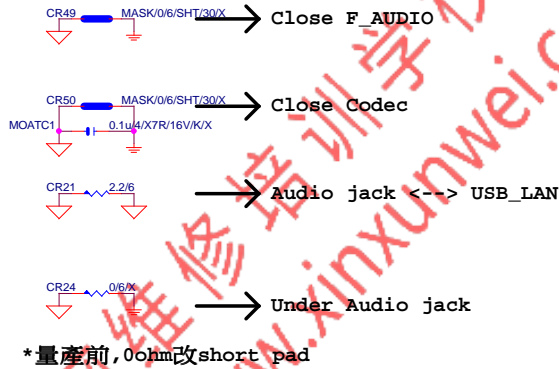


音效區域印刷

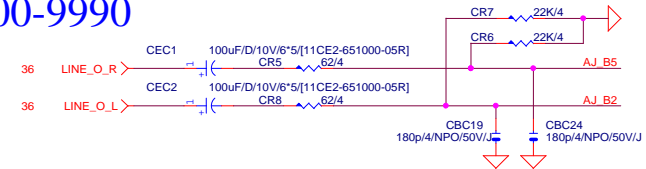
<div style="text-align: center;">  </div>			
<div style="text-align: center;"> HD AUDIO ALC887 </div>			
Size Custom	Document Number	<div style="text-align: center;"> GA-H110M-DS2 DDR3 </div>	
Date:	Friday, September 25, 2015	Sheet	36 of 45

Rev 0.5

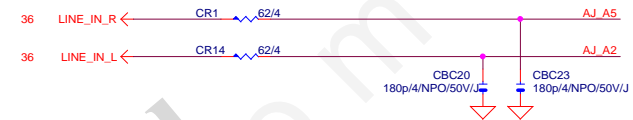
www.xinxunwei.com 400-800-9990



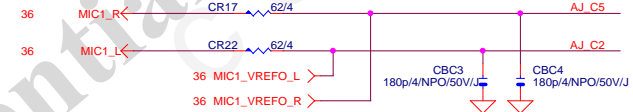
LINE-OUT



LINE-IN



MIC-IN

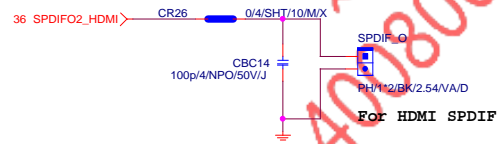


SURROUND

CEN/LFE

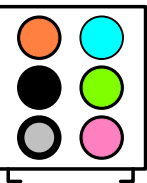
SURRBACK

SPDIF_OUT



SPDIF_IN

AZALIA JACK

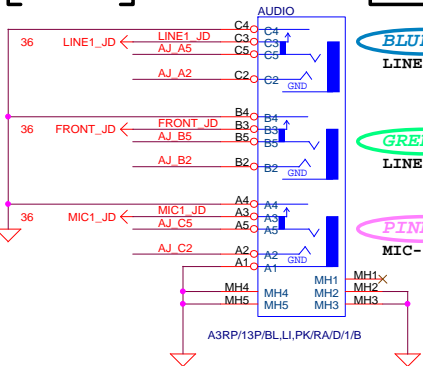


AZALIA JACK

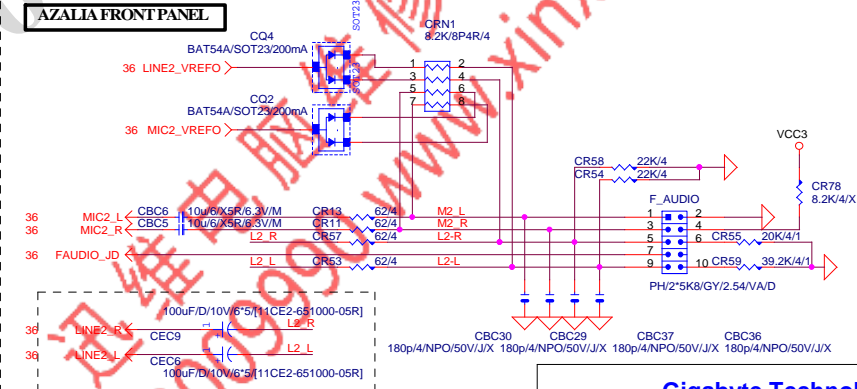
BLUE
LINE-IN

GREEN
LINE-OUT

PINK
MIC-IN



AZALIA FRONT PANEL

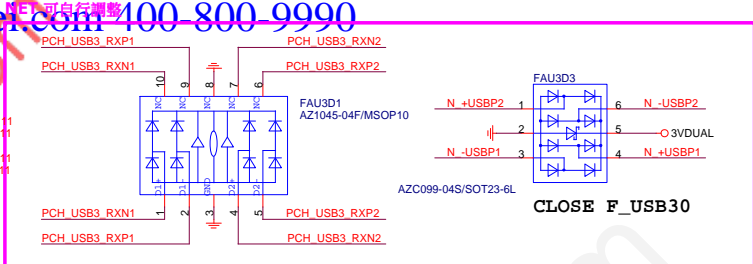
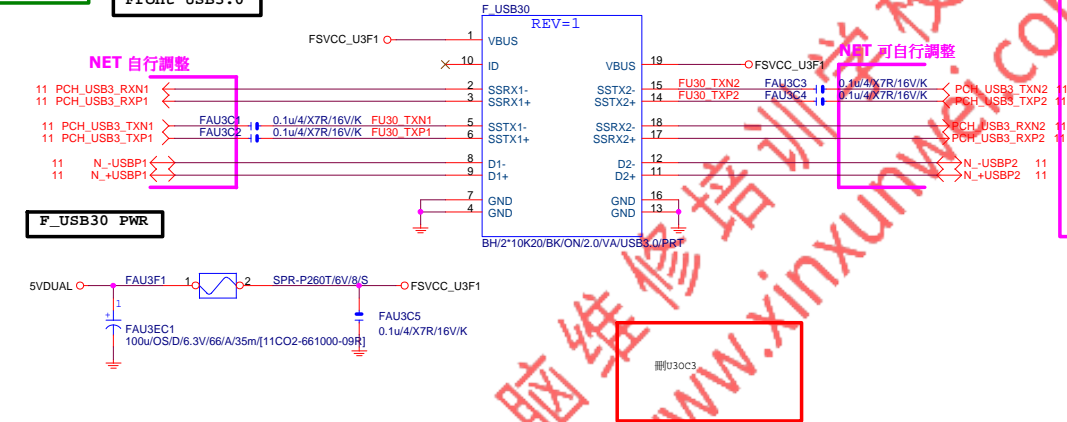


Gigabyte Technology

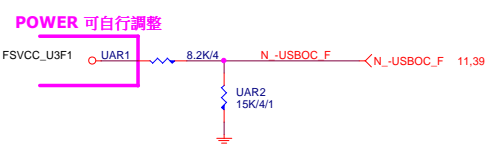
AUDIO JACK

Title	Document Number	GA-H110M-DS2 DDR3	Rev
Size	Custom	1.0	
Date:	Friday, September 25, 2015	Sheet	37 of 45

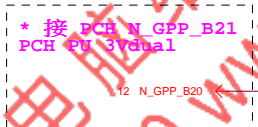
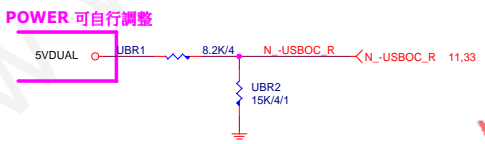
Front USB3.0



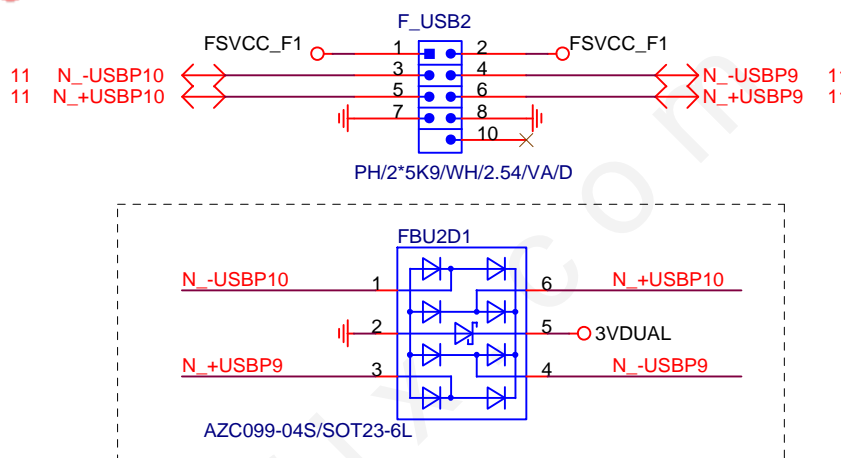
-USBOC_F



-USBOC_R

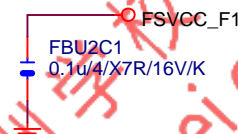


FUSB2X5-HS

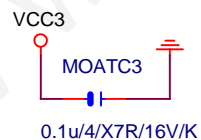
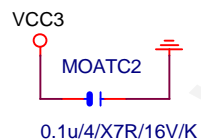


Close to connector

FUSE 2 Port 1 Fuse 2A



U2OC2
BAT54A/SOT23

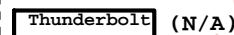
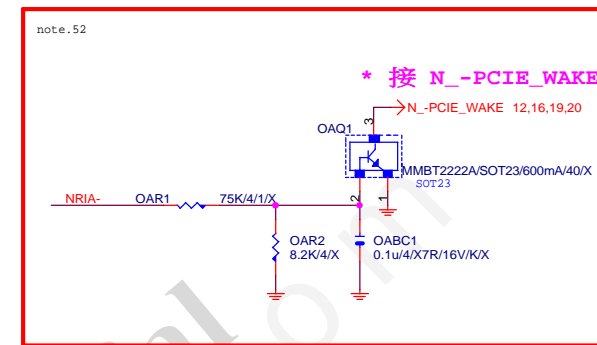


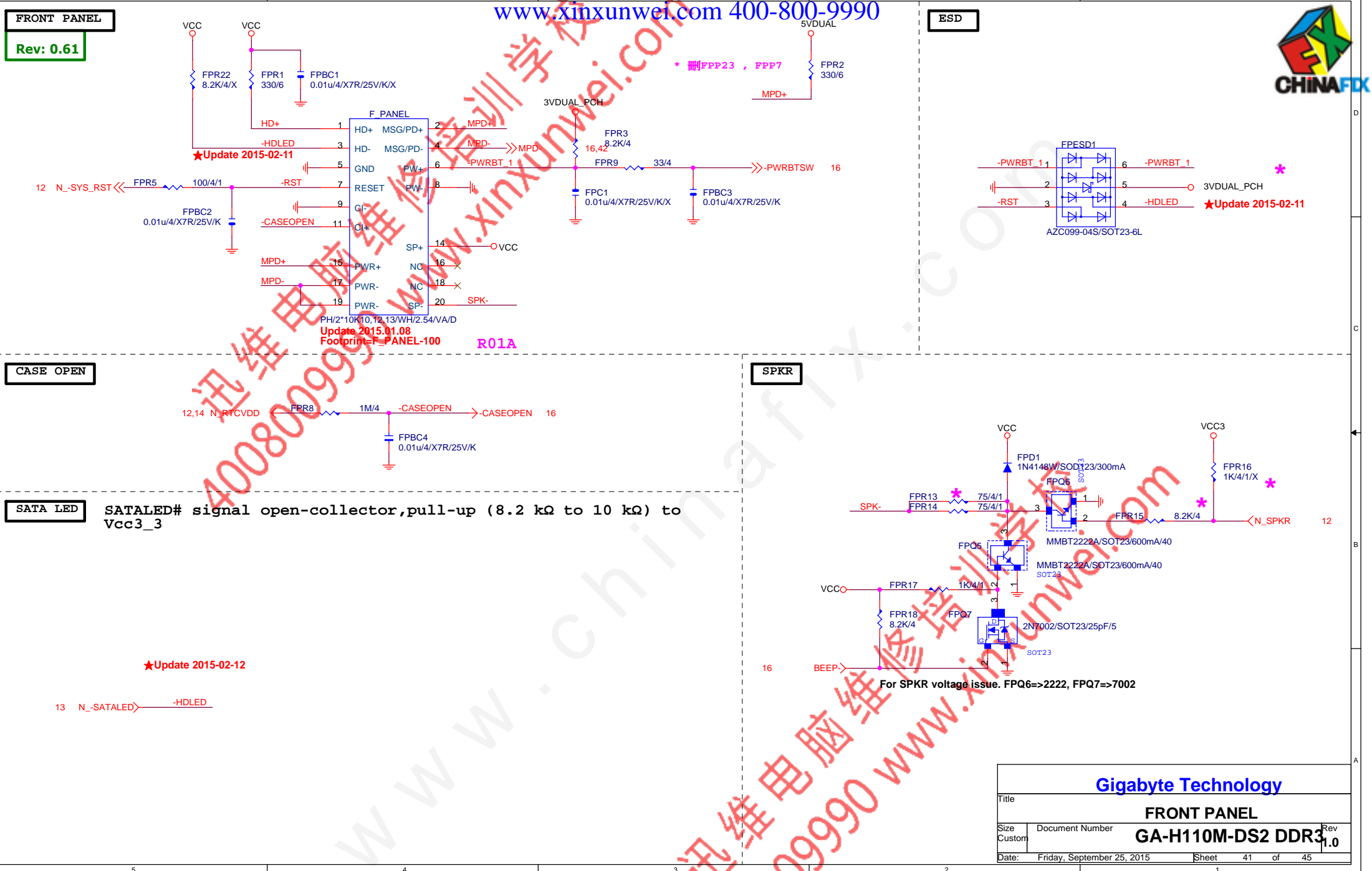
Gigabyte Technology

USB2.0

GA-H110M-DS2 DDR3

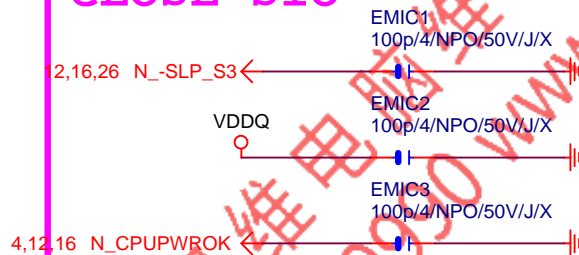
Sheet 39 of 45





Gigabyte Technology			
Title			
FRONT PANEL			
Size	Document Number	GA-H110M-DS2 DDR3	
Custom		Rev	1.0
Date:	Friday, September 25, 2015	Sheet	41 of 45

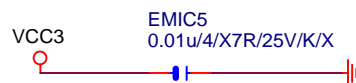
CLOSE SIO



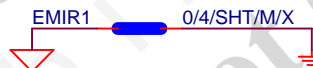
CLOSE PCH



close to PCH (NR17)



R_USB30_2 & DVI 之間



close to SIO (PIN92)MPD-

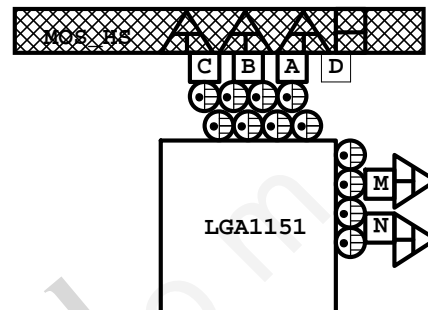
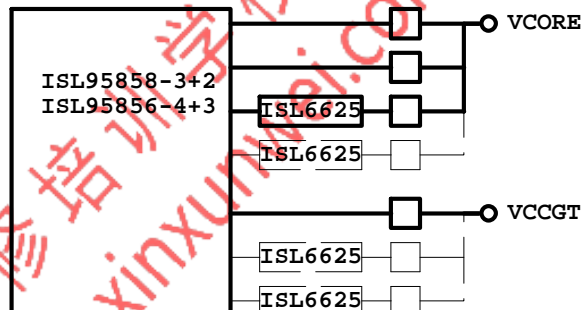
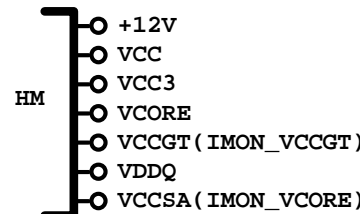
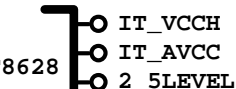
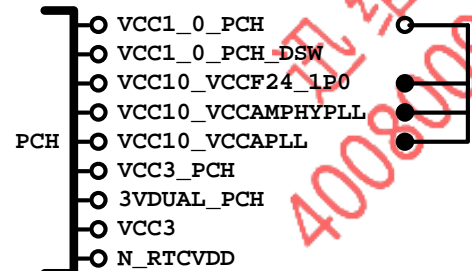
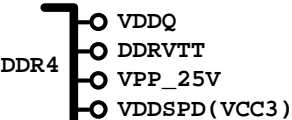
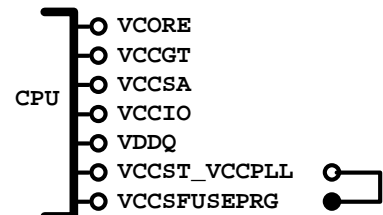
**GIGABYTE™**

Title		
EMI/ESD		
Size A	Document Number GA-H110M-DS2 DDR3	Rev 1.0
Date:	Friday, September 25, 2015	Sheet 42 of 45

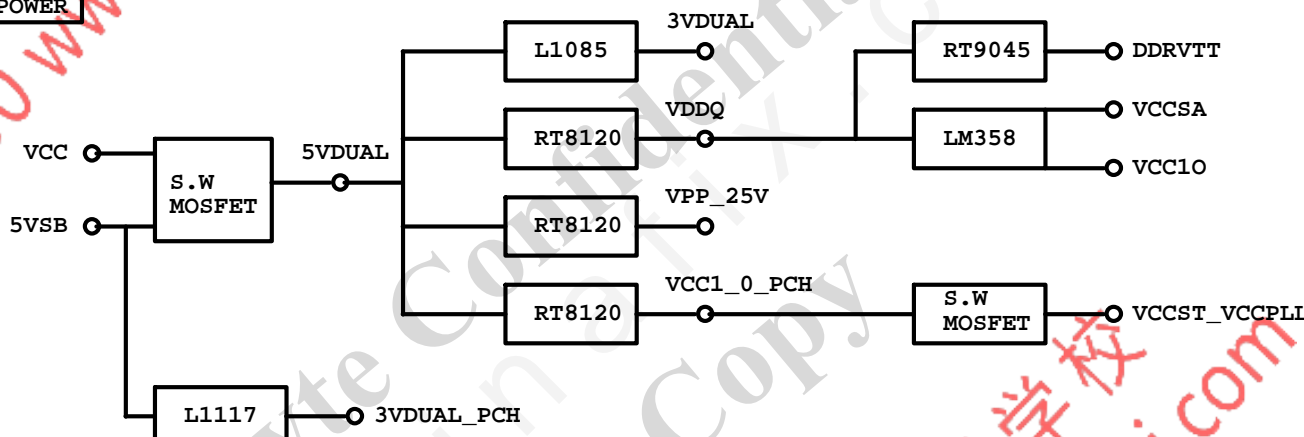
POWER BLOCK MAP

VCORE/VCCGT

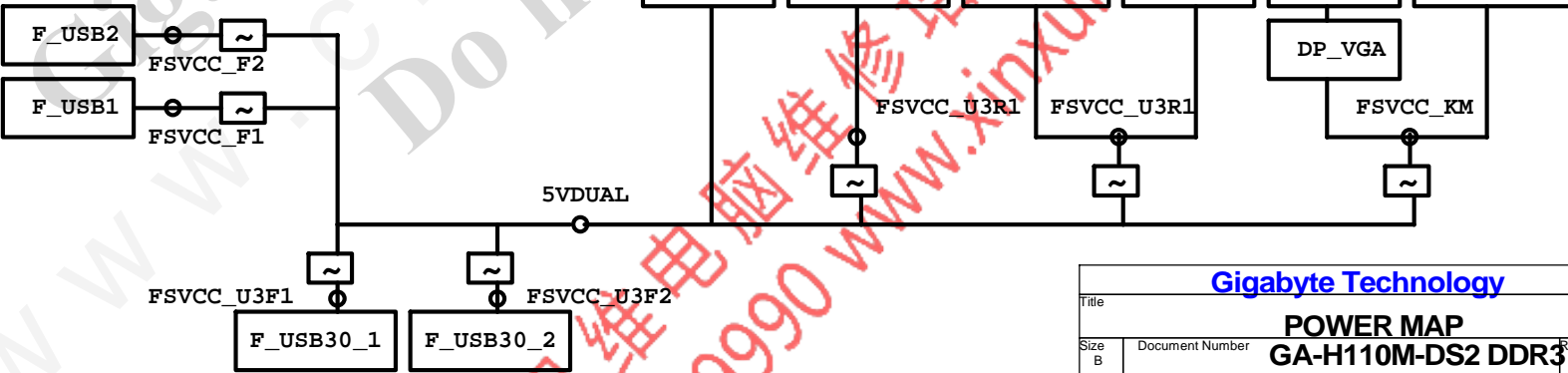
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POWER



FUSE POWER F/R



Gigabyte Technology

Title			
POWER MAP			
Size	Document Number	Rev	
B	GA-H110M-DS2 DDR3	1.0	
Date:	Friday, September 25, 2015	Sheet	43 of 45

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

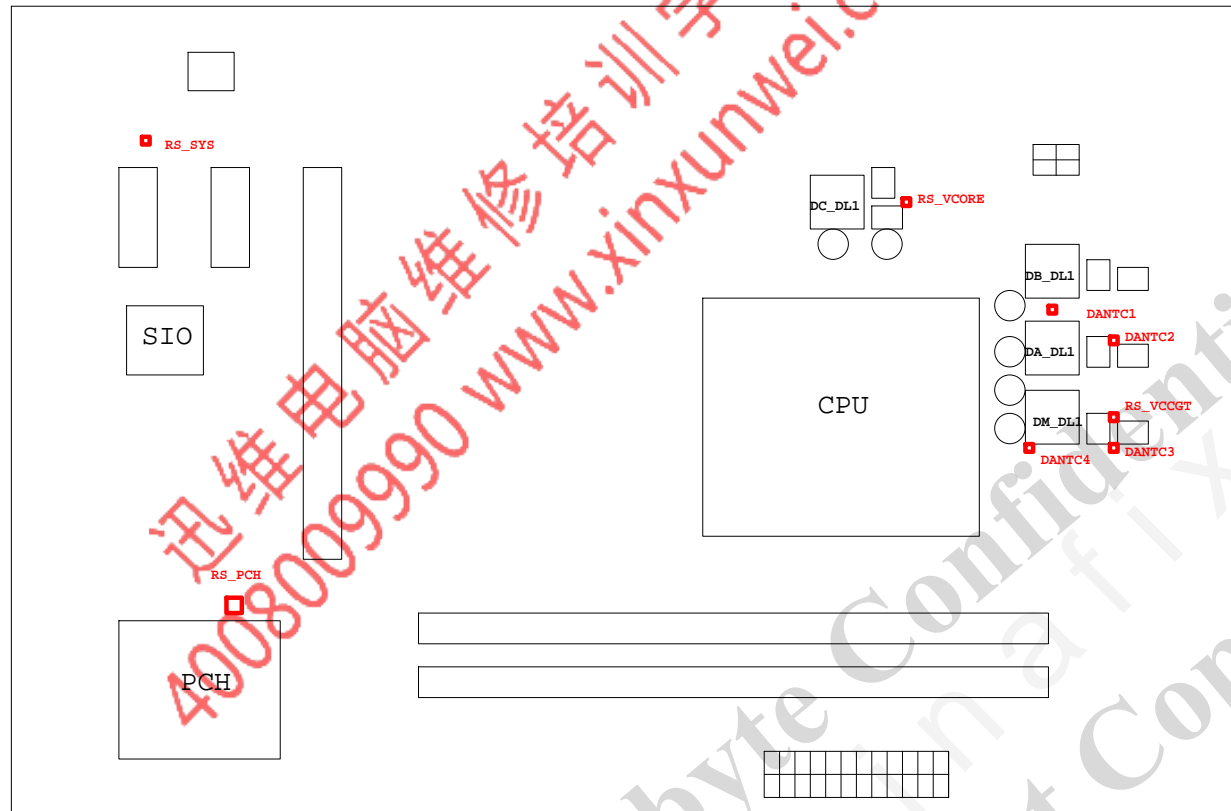
	料號	Capture Value	SIZE	Footprint
DIP	10LFB-15470A-01R	47/4030/15A/S	4*3	BEADC8B-BPH_SMD

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 RT8120_DDR4 POWER			
Size Custom	Document Number GA-H110M-DS2 DDR3		Rev 1.0
Date:	Friday, September 25, 2015	Sheet 44 of 45	



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