

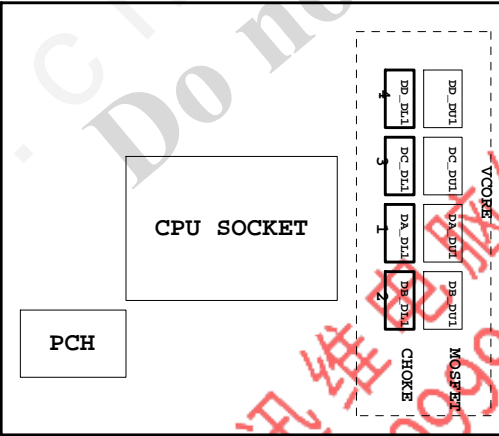


SHEET TITLE Rev 1.0

01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	CPU_LGA1151-A
05	CPU_LGA1151-B-DDR4
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	SATA
22	IT8892E/FX
23	PCI SLOT
24	ISL95858_856 PWM
25	ISL95858_856 MOS_VCORE
26	ISL95858_856 MOS_VCCGT
27	VCCSA_VCCIO_VCCPLL
28	RT8237_DDR_BEAD
29	RT8068A_VPP_TRON
30	RT8237_PCH-BEAD
31	DISCRETE POWER
32	ATX POWER , -PROCHOT
33	KB_MS_USB
34	DVI

SHEET TITLE

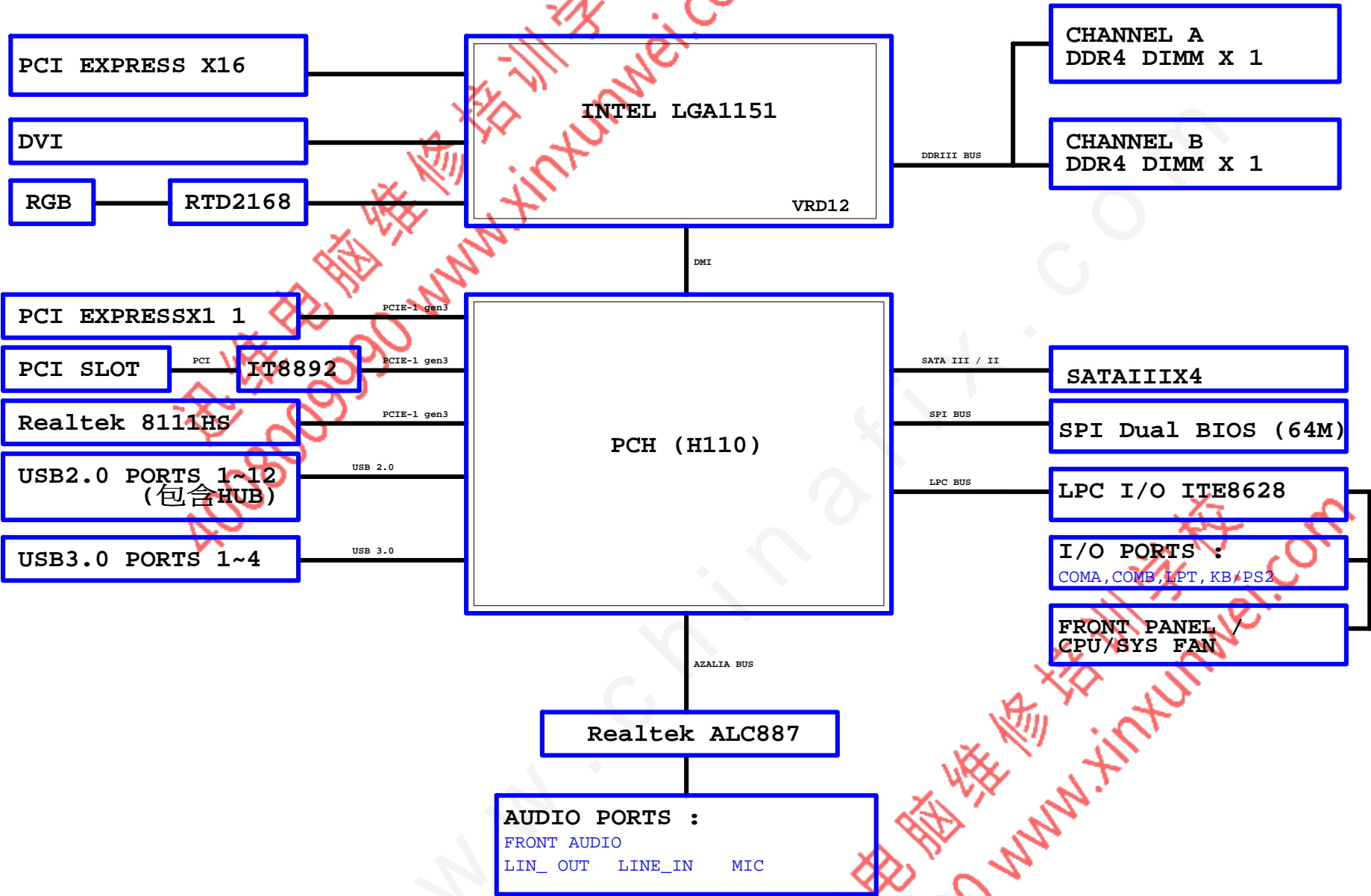
35	RTD2168 - DP to VGA - IC
36	RTD2168 - DP to VGA - Conn
37	R_USB30
38	Realtek 8111G
39	USB30_LAN CONNECTOR-8111HS
40	ALC887-VD2 CODEC
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44	COM , LPT
45	F_PANEL
46	USB20 HUB , ESD
47	POWER MAP
48	POWER 零件使用表
49	TABLE LIST



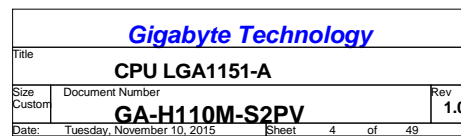
Circuit or PCB layout change

[illegible]

BLOCK DIAGRAM



LGA1151E SKT_H4



LGA1151

DDR1_CKP[0]
DDR1_CKN[0]
DDR1_CKP[1]
DDR1_CKN[1]
DDR1_CKP[2]
DDR1_CKN[2]
DDR1_CKP[3]
DDR1_CKN[3]

DDR1_CKE[0]
DDR1_CKE[1]
DDR1_CKE[2]
DDR1_CKE[3]

DDR1_CS[0]
DDR1_CS[1]
DDR1_CS[2]
DDR1_CS[3]

DDR1_ODT[0]
DDR1_ODT[1]
DDR1_ODT[2]
DDR1_ODT[3]

DDR1_RAS#/DDR1_CAB[3]/DDR1_MAJ[6]
DDR1_WE#/DDR1_CAB[2]/DDR1_MAJ[4]
DDR1_CAS#/DDR1_CAB[1]/DDR1_MAJ[5]

DDR1_BA[0]/DDR1_CAB[4]/DDR1_BA[0]
DDR1_BA[1]/DDR1_CAB[5]/DDR1_BA[1]
DDR1_BA[2]/DDR1_CAA[5]/DDR1_BG[0]

DDR1_MAJ[0]/DDR1_CAB[9]/DDR1_MAJ[0]
DDR1_MAJ[1]/DDR1_CAB[8]/DDR1_MAJ[1]
DDR1_MAJ[2]/DDR1_CAB[5]/DDR1_MAJ[2]
DDR1_MAJ[3]
DDR1_MAJ[4]
DDR1_MAJ[5]/DDR1_CAA[0]/DDR1_MAJ[5]
DDR1_MAJ[6]/DDR1_CAA[1]/DDR1_MAJ[6]
DDR1_MAJ[7]/DDR1_CAA[4]/DDR1_MAJ[7]
DDR1_MAJ[8]/DDR1_CAA[3]/DDR1_MAJ[8]
DDR1_MAJ[9]/DDR1_CAA[11]/DDR1_MAJ[9]
DDR1_MAJ[10]/DDR1_CAB[7]/DDR1_MAJ[10]
DDR1_MAJ[11]/DDR1_CAA[7]/DDR1_MAJ[11]
DDR1_MAJ[12]/DDR1_CAA[6]/DDR1_MAJ[12]
DDR1_MAJ[13]/DDR1_CAB[0]/DDR1_MAJ[13]
DDR1_MAJ[14]/DDR1_CAA[9]/DDR1_BG[1]
DDR1_MAJ[15]/DDR1_CAA[8]/DDR1_ACT#

DDR1_PAR
DDR1_ALERT#

DDR1_DQS[N][0]/DDR0_DQS[N][2]
DDR1_DQS[N][1]/DDR0_DQS[N][3]
DDR1_DQS[N][2]/DDR0_DQS[N][6]
DDR1_DQS[N][3]/DDR0_DQS[N][7]
DDR1_DQS[N][4]/DDR1_DQS[N][2]
DDR1_DQS[N][5]/DDR1_DQS[N][3]
DDR1_DQS[N][6]
DDR1_DQS[N][7]

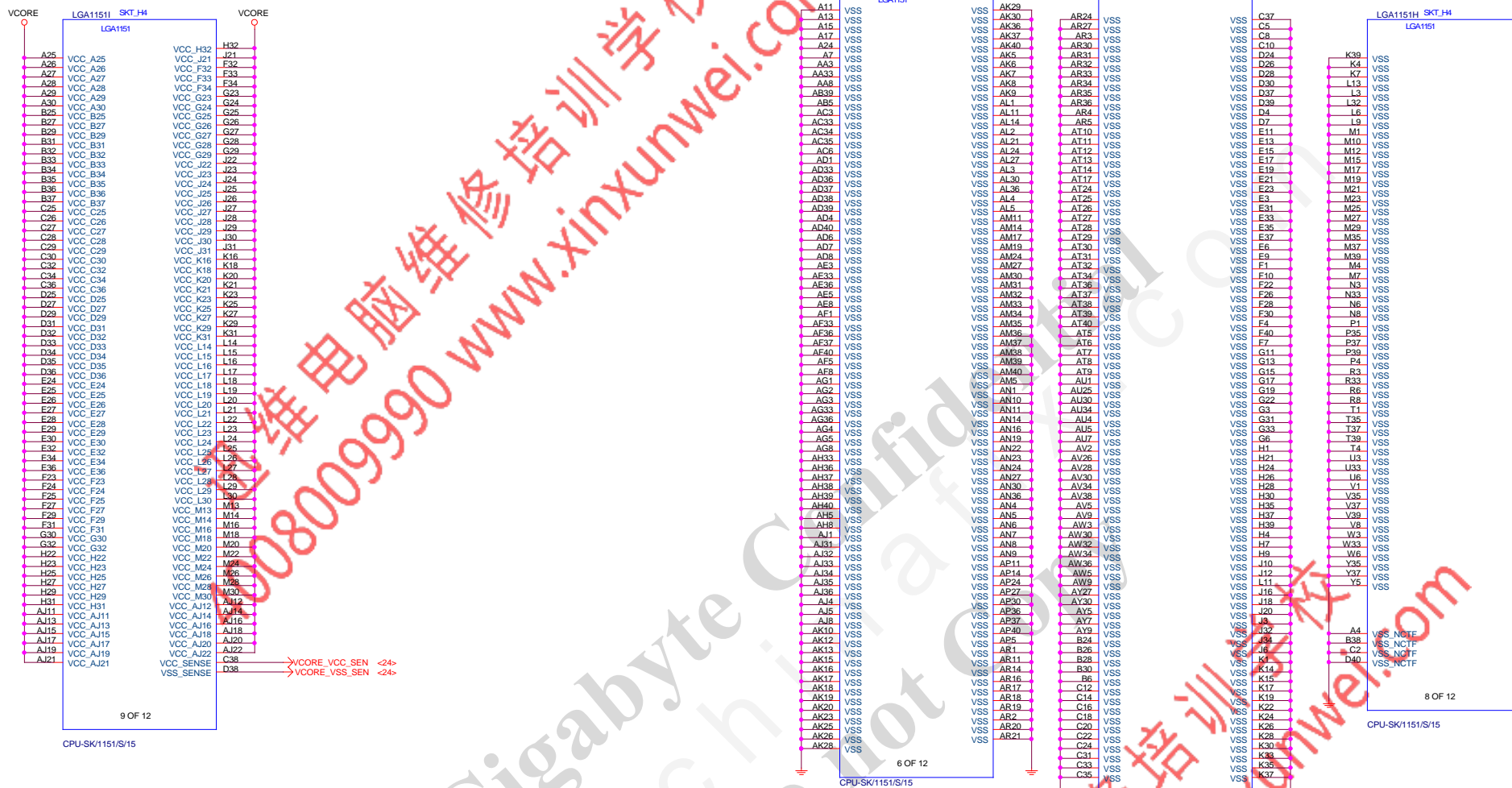
DDR1_DQS[P][0]/DDR0_DQS[P][2]
DDR1_DQS[P][1]/DDR0_DQS[P][3]
DDR1_DQS[P][2]/DDR0_DQS[P][6]
DDR1_DQS[P][3]/DDR0_DQS[P][7]
DDR1_DQS[P][4]/DDR1_DQS[P][2]
DDR1_DQS[P][5]/DDR1_DQS[P][3]
DDR1_DQS[P][6]
DDR1_DQS[P][7]

DDR1_DQS[N][8]
DDR1_DQS[N][9]

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Need check the new CPU ME

<i>Gigabyte Technology</i>				
Title				
CPU LGA1151-B				
Size Custom	Document Number			Rev
	GA-H110M-S2PV			1.0
Date:	Tuesday, November 10, 2015		Sheet	5 of 49

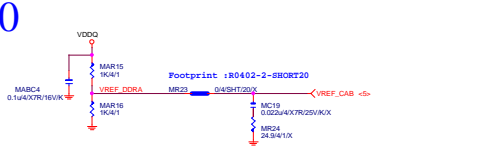


* 刪 Vcore 電容

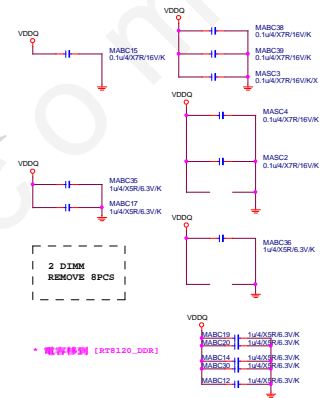


迅维电脑维修培训学校
4008009990 www.xinxunwei.com

Gigabyte Technology
Do not Copy



DDR12V Decouple

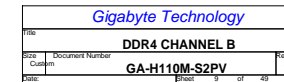


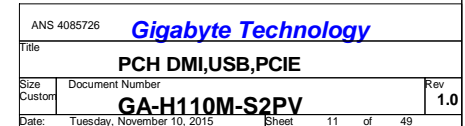
DDRVTT Decouple

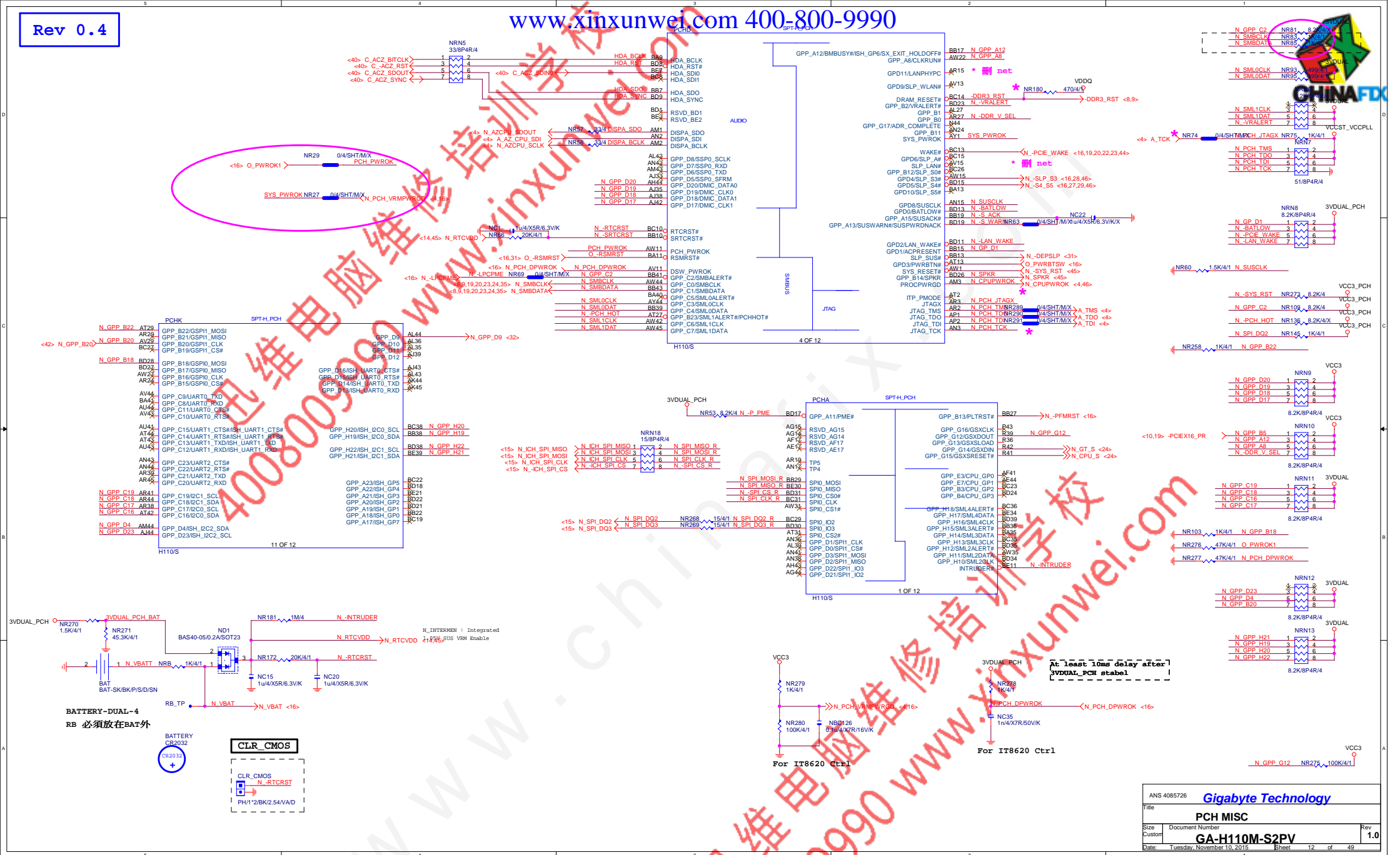


DDR4	Capture Value
SOC series	DDR4/288/BK/VA/S/G15/4ROW/LONG DDR4/288/OR/VA/S/G15/4ROW/LONG
UD series	DDR4/288/BK/VA/D/G15/ONE LATCH/LONG DDR4/288/GY/VA/D/G15/ONE LATCH/LONG
Gaming series	DDR4/288/BK/VA/D/G15/ONE LATCH/LONG DDR4/288/RE/VA/D/G15/ONE LATCH/LONG
G1.Sniper	DDR4/288/BK/VA/D/G15/ONE LATCH/LONG DDR4/288/GE/VA/D/G15/ONE LATCH/LONG

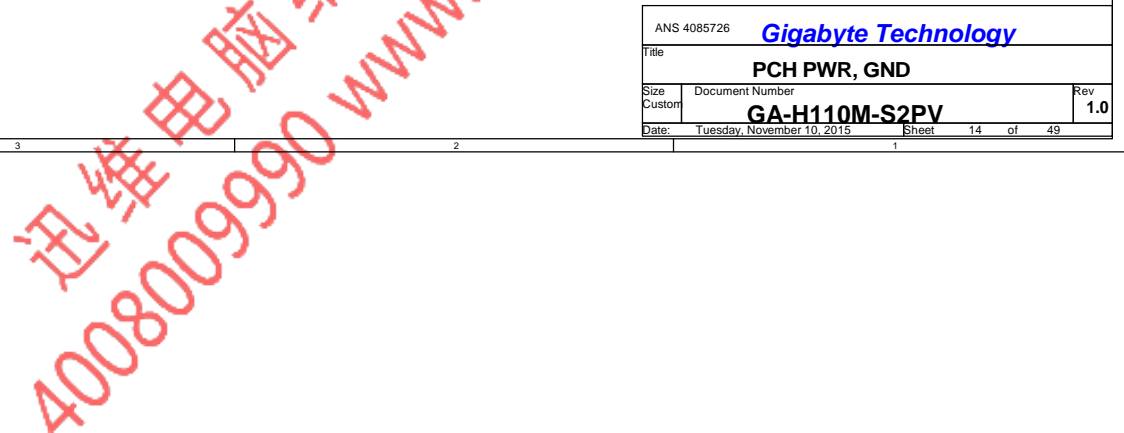
Gigabyte Technology		
DDR4 CHANNEL A		
Docu	Document Number	Rev
GA-H110M-S2PV		1.0

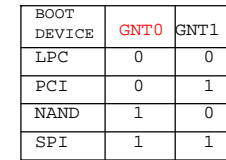




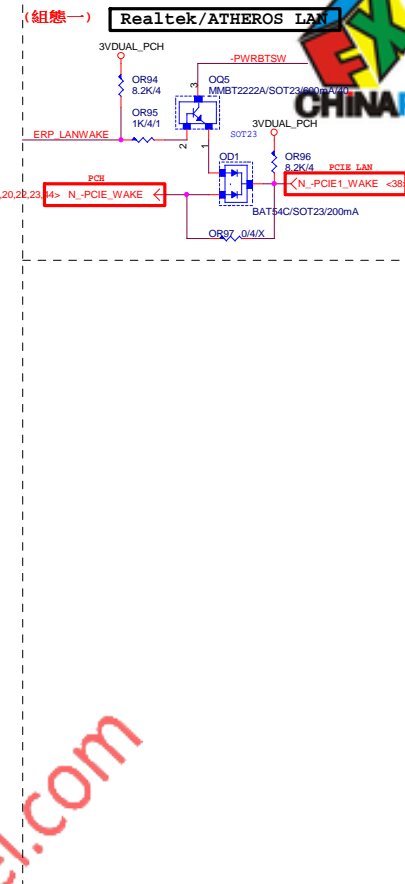
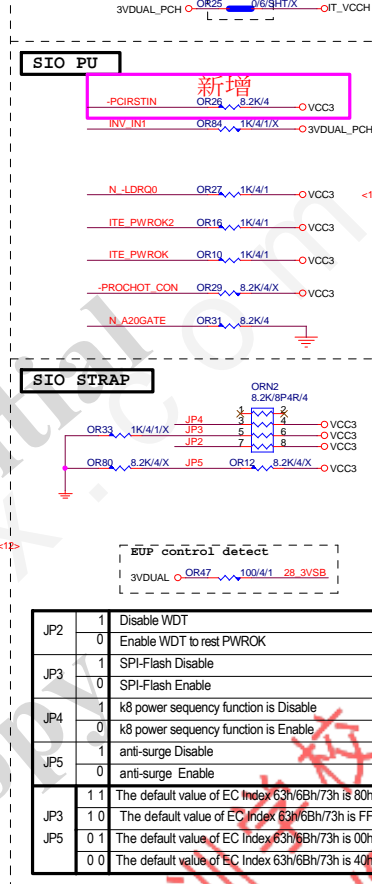








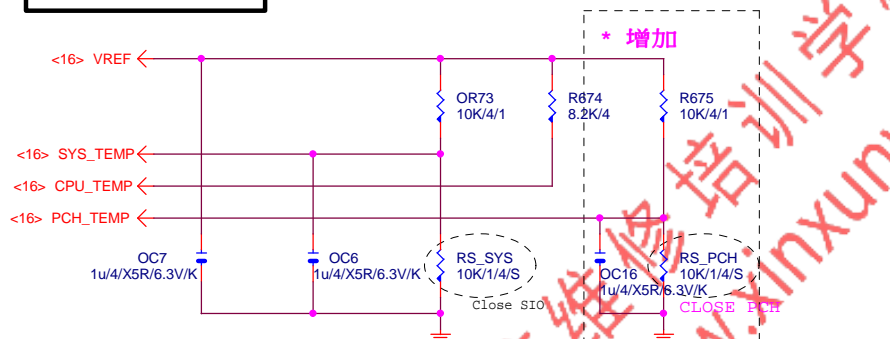
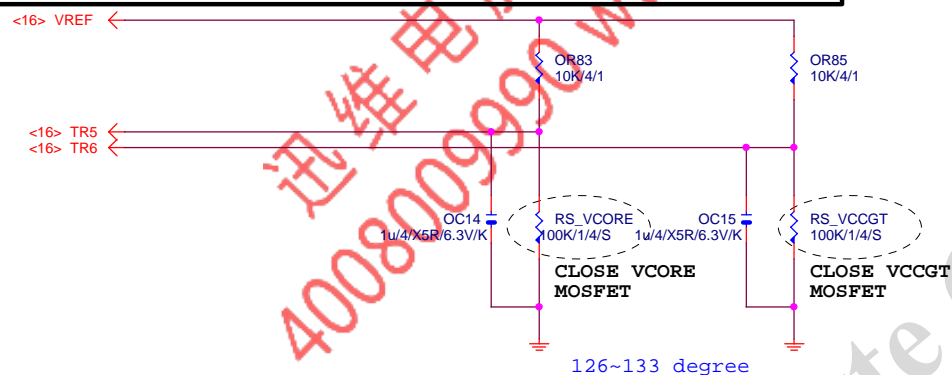
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Size	Document Number						Rev
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Title			
ITE 8628 LPC IO			
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TEMP H/W MONITOR

REV 1.04

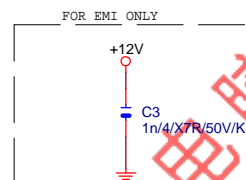
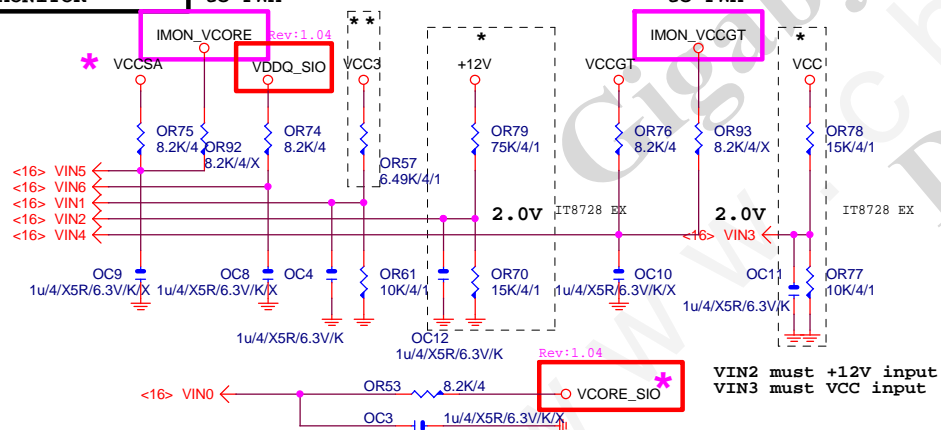

RS_VCORE, RS_VCCGT, CLOSE CPU_VCORE & VCCGT MOSFET
~~PROCHOT: 有mos heartsink不用prochot function~~


VOLTAGE-- H/W MONITOR

Connect to PWM

 * IT8728 BX
 ** IT8728 CX

Connect to PWM

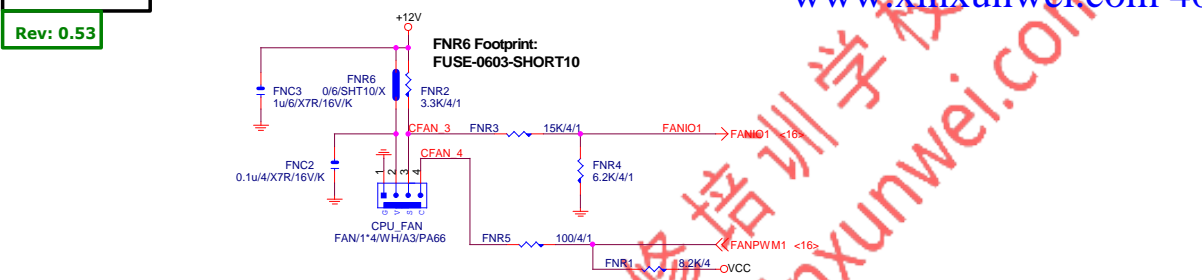


Gigabyte Technology

Title			HWM,KB/MS, FAN CTRL	
Size	Document Number	Rev		
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CPU SMART FAN

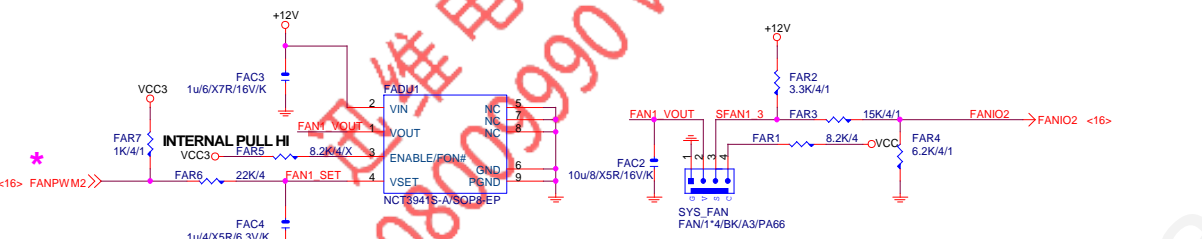
Rev: 0.53



SYSTEM FAN1

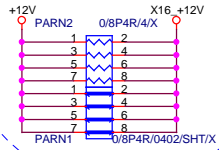
Linear SYS_FAN

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



Gigabyte Technology

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

<8,9,12,20,23,24,35> N_SMBCLK
<8,9,12,20,23,24,35> N_SMBDATA
<12,16,20,22,23,44> N_-PCIE_WAKE

PA_EXP_RXP0_15I >> PA_EXP_RXP[0..15] <4>
PA_EXP_RXN0_15I >> PA_EXP_RXN[0..15] <4>
PA_EXP_TXP0_15I >> PA_EXP_TXP[0..15] <4>
PA_EXP_TXN0_15I >> 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	PAC21	0.22u/4/X5R/6.3V/K	PA_EXP_TXP8_C
PA_EXP_TXN8	PAC20	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

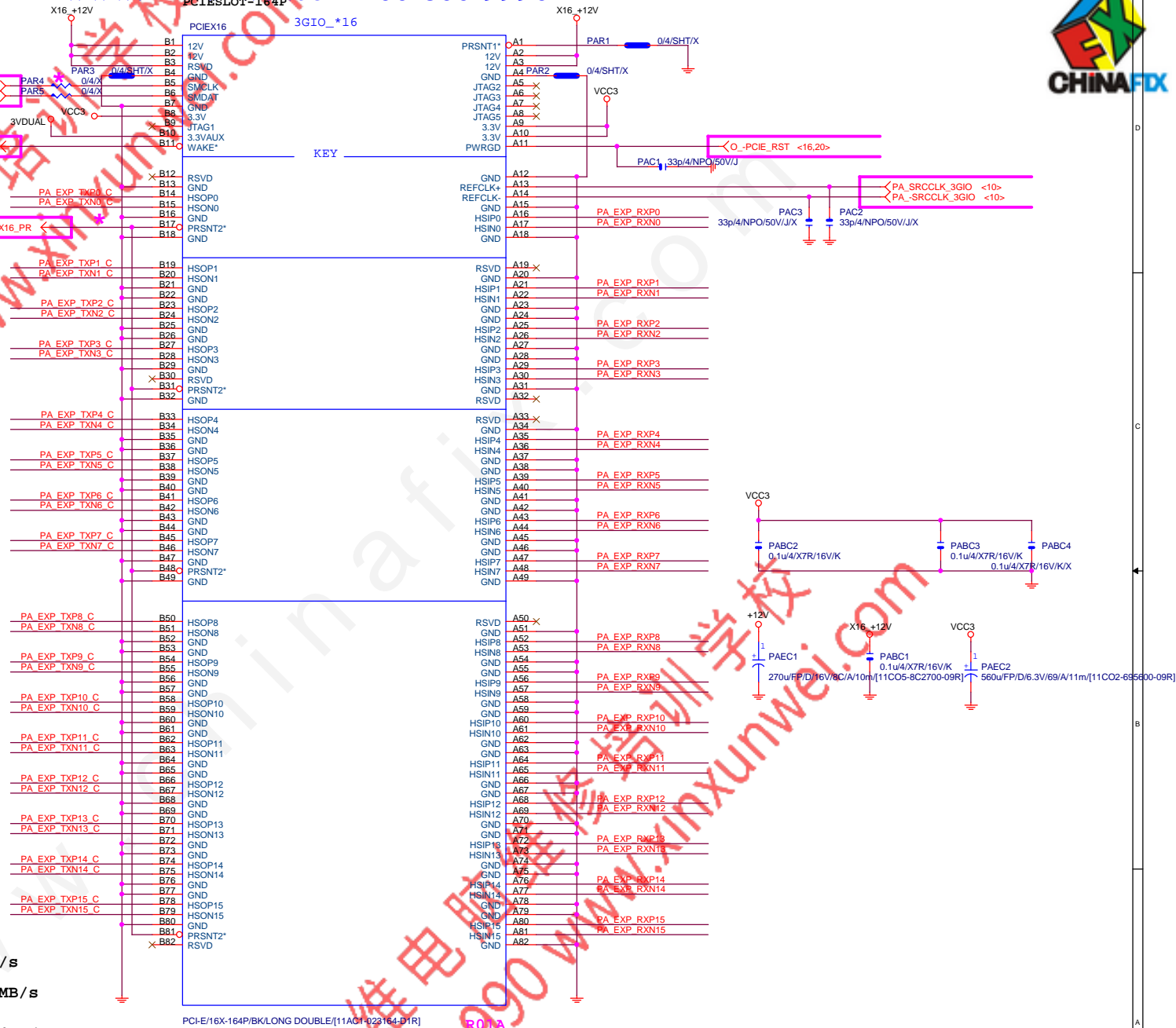
PCE-E X1(單向) BANDWIDTH=2.5GHz*(8b/10b)=2Gb/s=250MB/s

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

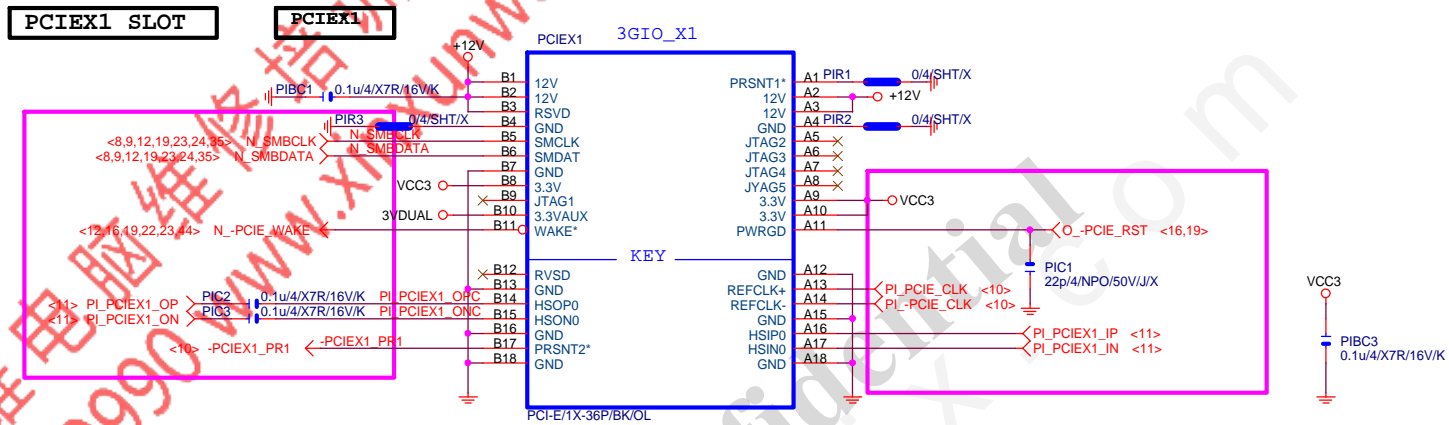


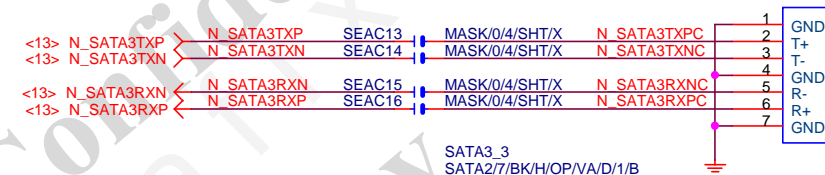
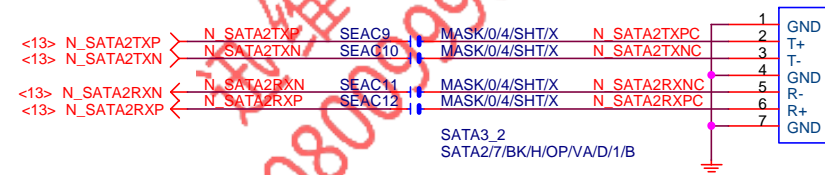
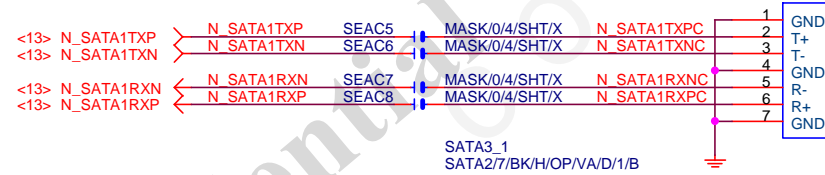
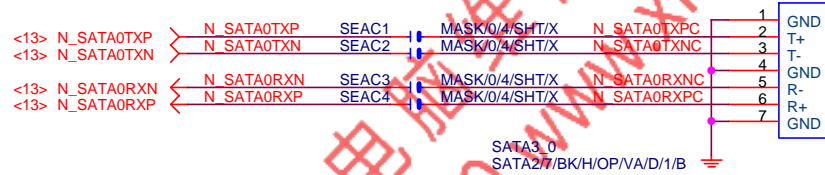
PCI-E/16X-164P/BK/LONG DOUBLE(11AC1-923164-D1R)

R01A

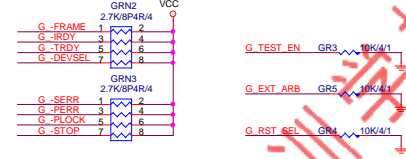
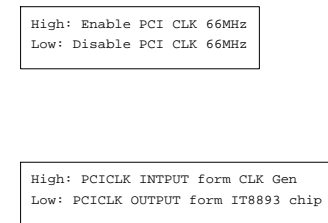
Gigabyte Technology

Title			PCI EXPRESS * 16	
Size	Document Number	GA-H110M-S2PV		Rev
Custom				1.0
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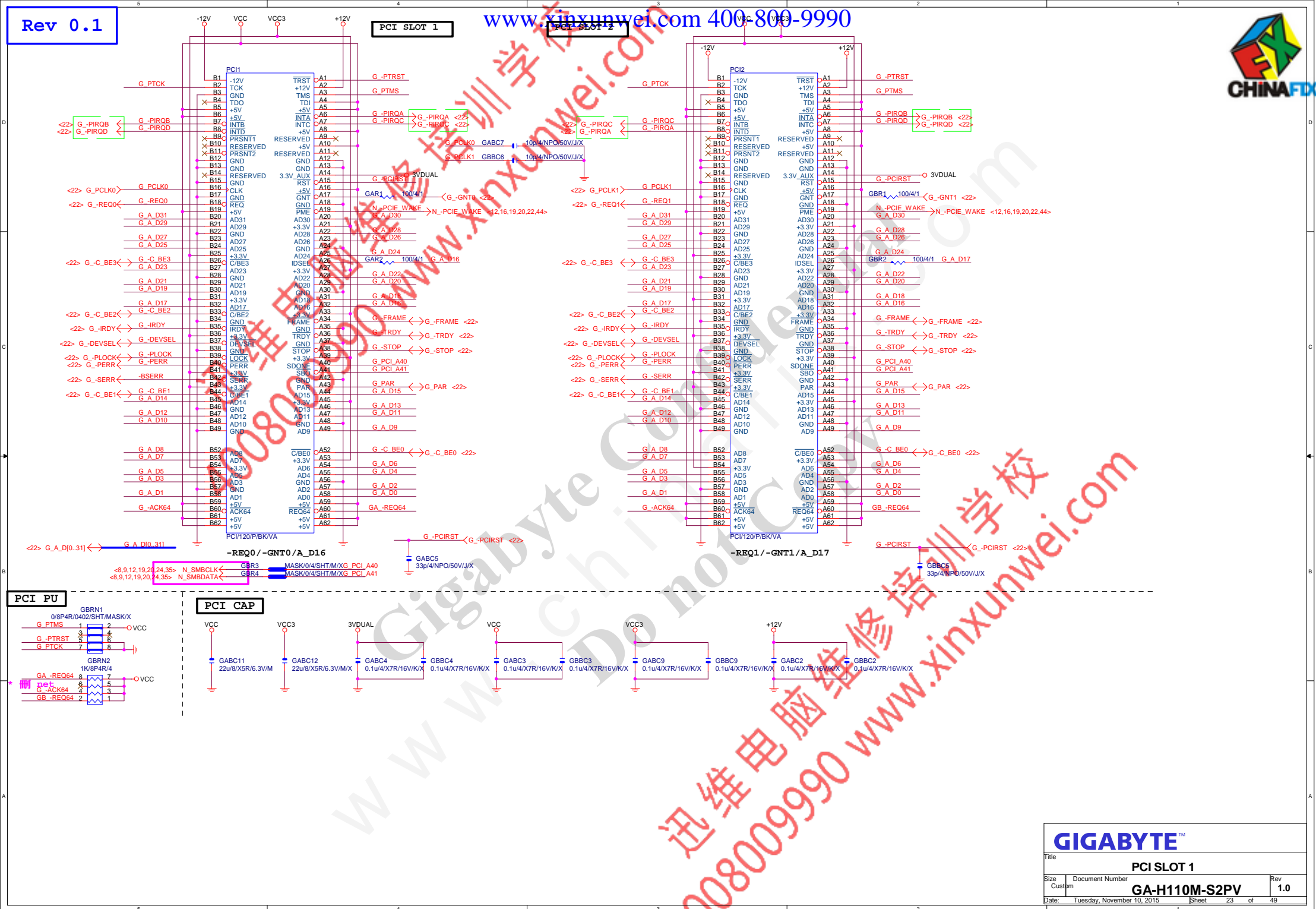
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SATA EXPRESSSize Custom Document Number
GA-H110M-S2PVRev
1.0

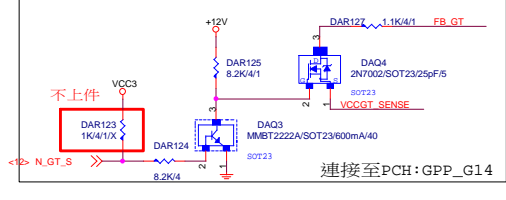
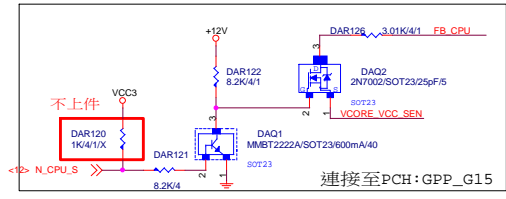
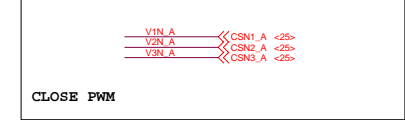
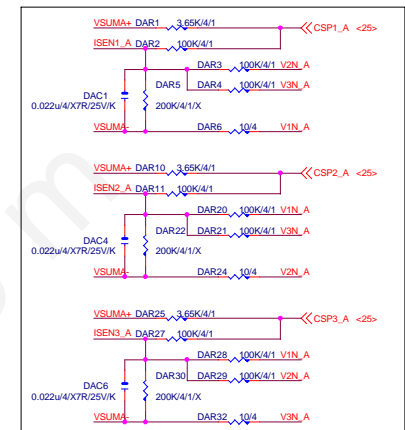
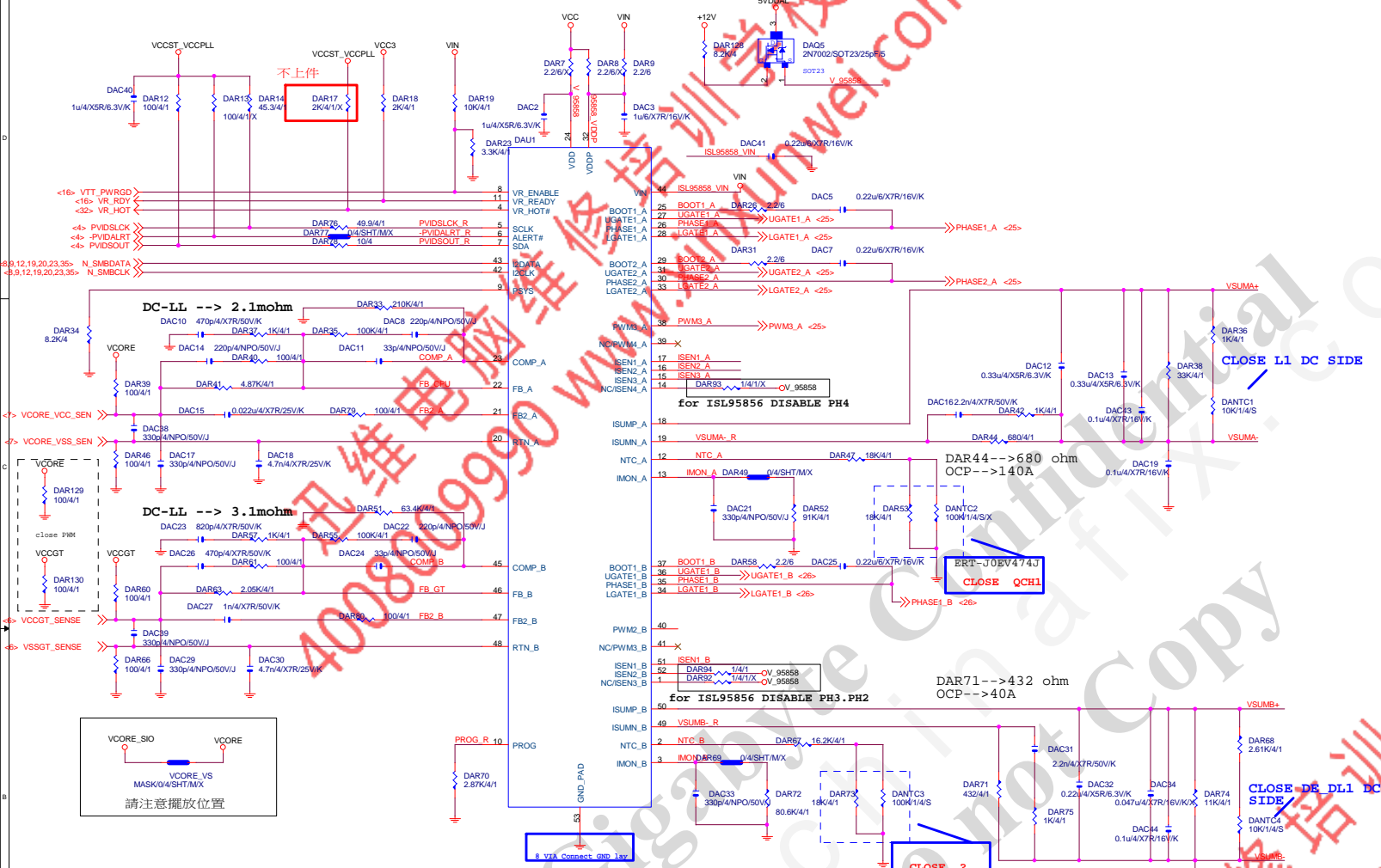
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Gigabyte Technology

Title			
IT8892			
Size	Document Number		
Custom	GA-H110M-S2PV		
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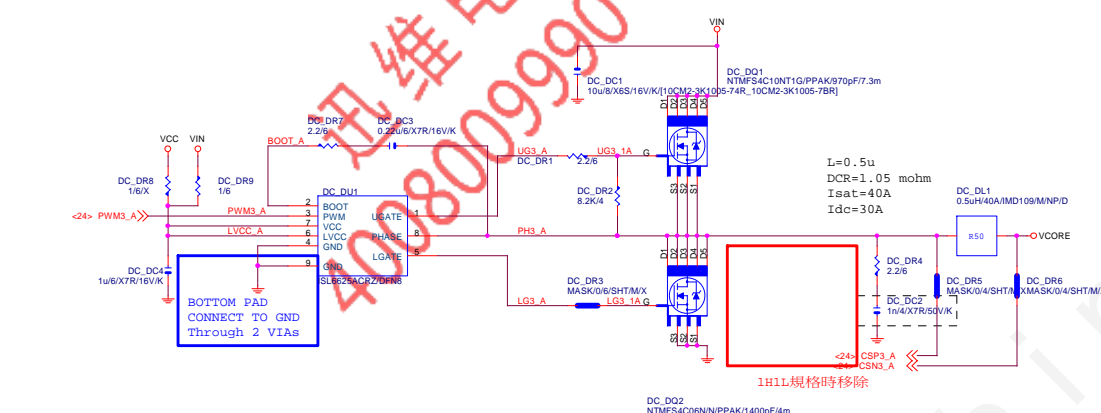
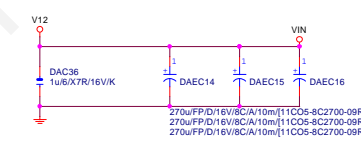


GIGABYTE™		
ISL95858/95856_PWM		
Size	Document Number	Rev
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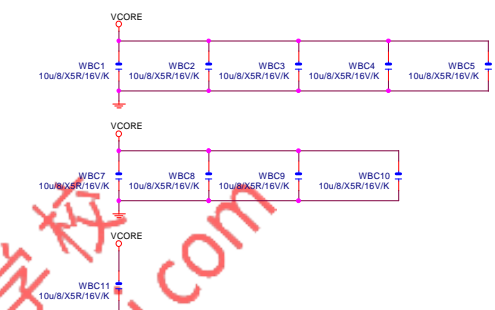
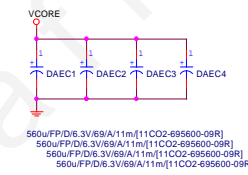
VCORE



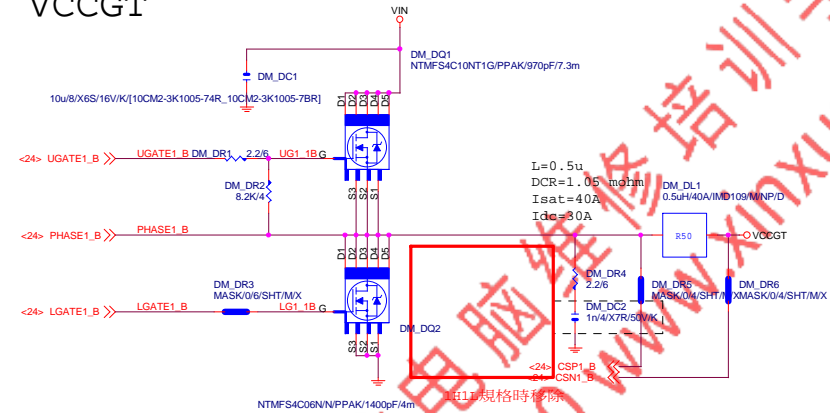
VIN CAP 270u*3PCS



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

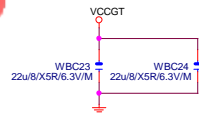
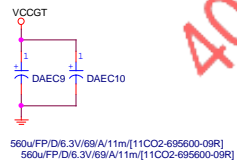


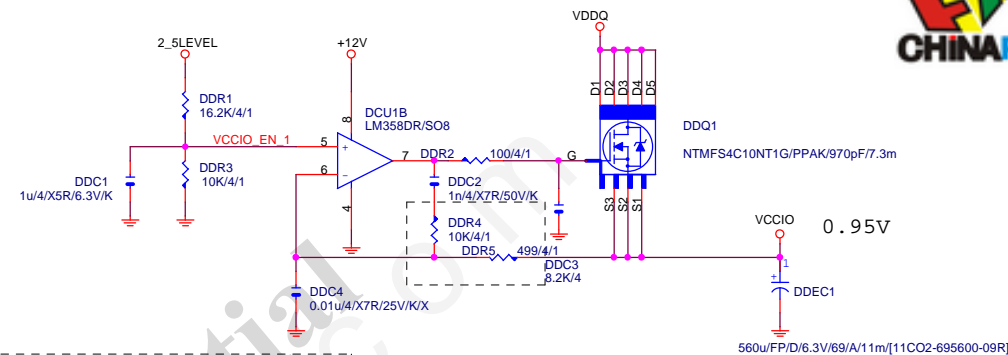
GIGABYTE™			
Title			
ISL95858_MOS			
Size	Document Number	Rev	
Custom	GA-H110M-S2PV	1.0	
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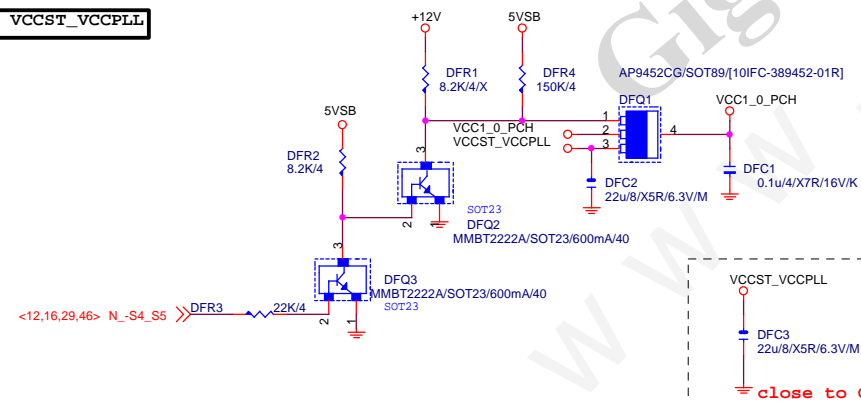
VCCGT CAP

560u*2PCS
22u*2PCS





Connect to IT8620



 close to CPU

GIGABYTE™

Title			
VCCSA_VCCIO			
Size	Document Number	Rev	
Custom	GA-H110M-S2PV	1.0	
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DDR4

CHOKES與CAP料號可變

DDR VIN CAP
560u*2PCS

1.2V

SUPPORT DDR4

25A MAX

 $L=1\mu$
 $DCR=2.5\text{mohm}$
 $I_{sat}=35A$
 $I_{dc}=28A$ 請放置CHOKES--出來位置.先預留.
請自行確認ripple後再決定是否上件

Remote sense請從最重的負載端點拉回

DDRVTT

DDRVTT CAP

DDR VTT_CTL MAR110 0/4 DDRVTT EN
N-SLP_S3 MAR111 0/4 DDRVTT_BOOT
MAU1上NCT3103時上件

GIGABYTE™

RT8120_DDR POWER

Title	Document Number	Rev
Custom	GA-H110M-S2PV	1.0
Date:	Tuesday, November 10, 2015	Sheet 28 of 49

DDR CAP 560u*4PCS 22u*2PCS

* 大電容 x4

* 大電容 x0

PWR SEQ

CLOSE TO DDR POWER PLANE

MA_DR38.MA_DC15

VPP_25V使用8120.8068A.RT8237時上件

PIN7-->20mil
PIN1-->6mil
PIN2-->6mil
PIN5-->6mil
PIN3-->6mil

1H1L規格移除

DDR_ADJ1

<16> GP93	MA_DR20 9.1K/4/1	1.35V
<16> GP95	MA_DR21 26.1K/4/1	1.25V
<16> GP67	MA_DR22 6.8K/4/1	1.4V

上件

VDDQ_SIO
VDDQ
DDR_VS
MASK/0/4/SHT/M/XES=290K
OCP=40A

<12,16,46> N-SLP_S3

<4> DDR_VTT_CTL

MAC2
1u/4/X5R/6.3V/KMAC1
0.01u/4/X7R/25V/K

5VDUAL

MAC7
10u/6/X5R/6.3V/M

5VDUAL

MAC7
10u/6/X5R/6.3V/M

5VDUAL

MAC7
10u/6/X5R/6.3V/M

5VDUAL

MAC7
10u/6/X5R/6.3V/M

5VDUAL

MAC7
10u/6/X5R/6.3V/M

5VDUAL

MAC7
10u/6/X5R/6.3V/M

5VDUAL

MAC7
10u/6/X5R/6.3V/M

5VDUAL

MAC7
10u/6/X5R/6.3V/M

5VDUAL

MAC7
10u/6/X5R/6.3V/M

5VDUAL

MAC7
10u/6/X5R/6.3V/M

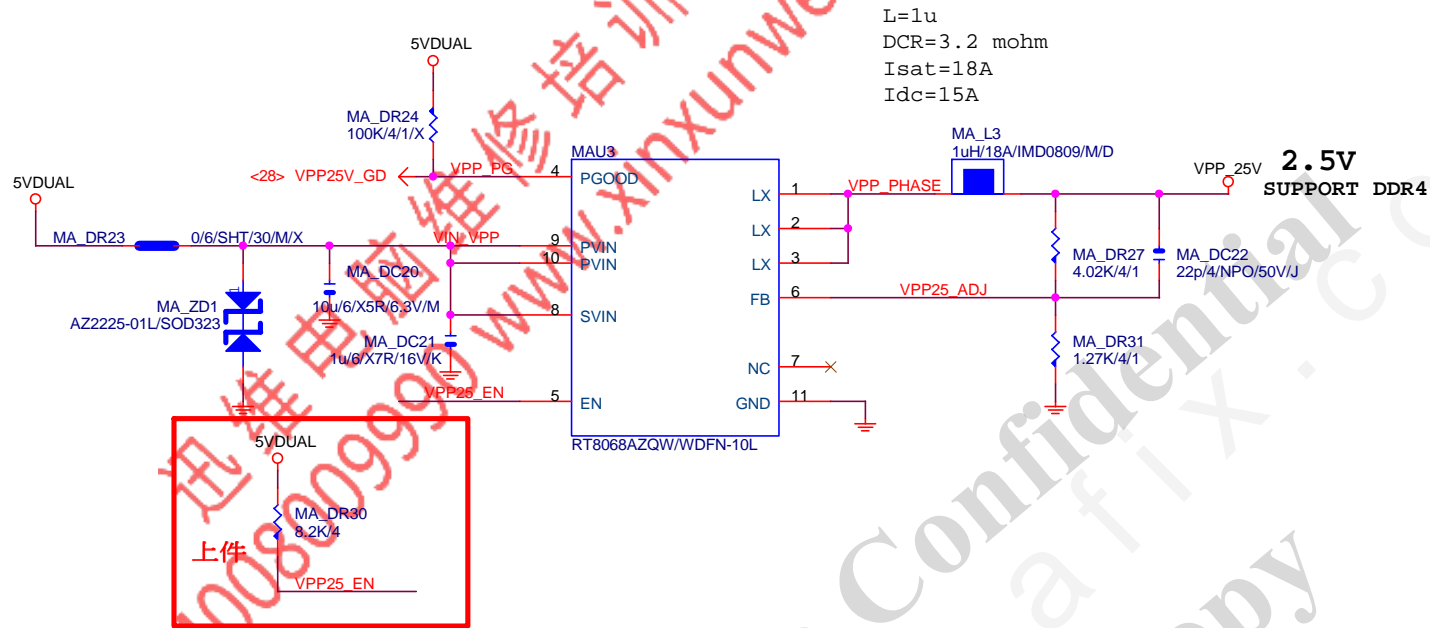
REV:0.4

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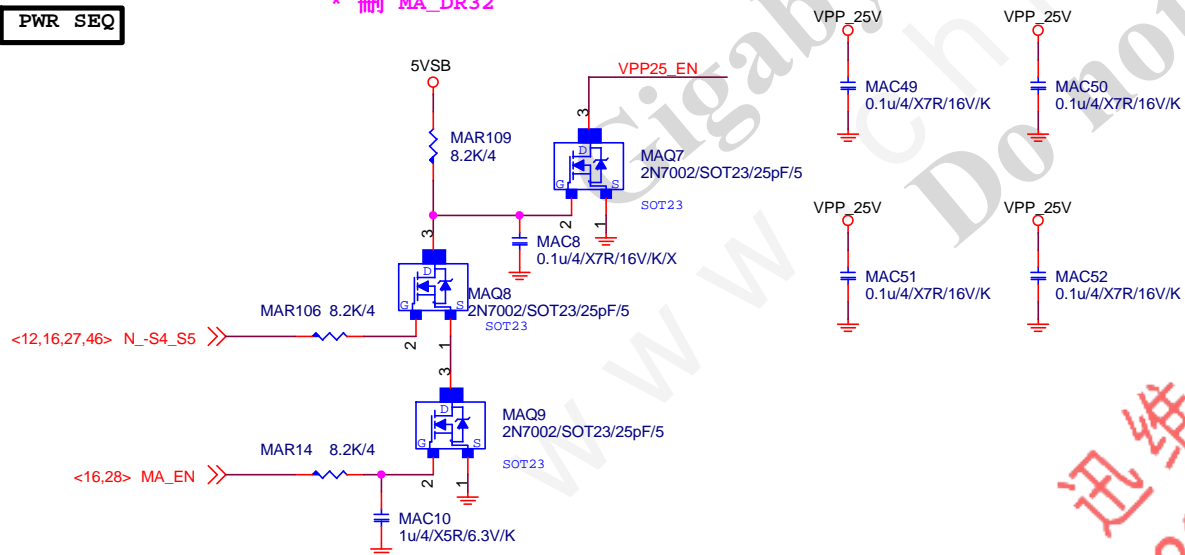
VPP 25V

CHOKE與CAP料號可變



PWR SEQ

* 刪 MA_DR32



VPP CAP-22u*1PCS

* 大電容 x0



GIGABYTE™

RT8068A VPP POWER

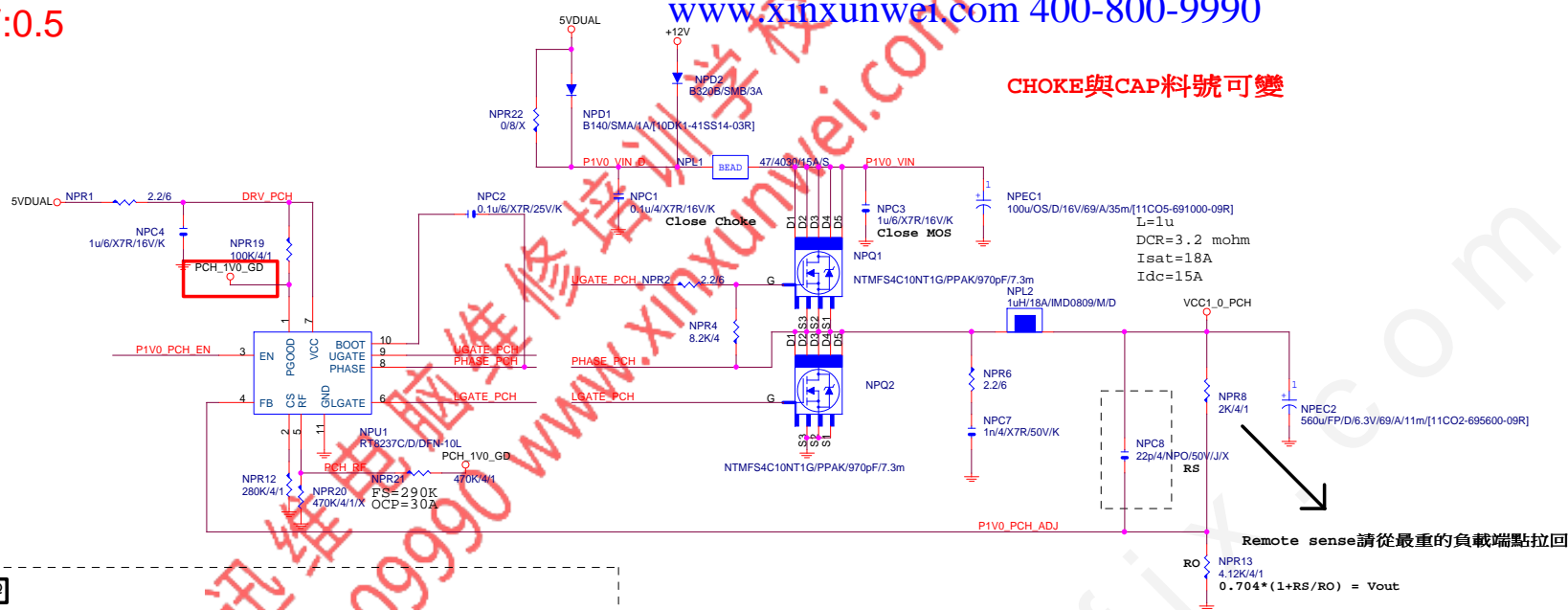
Size	Document Number	Rev
Custom	GA-H110M-S2PV	0.1
Date:	Tuesday, November 10, 2015	Sheet 29 of 49

REV:0.5

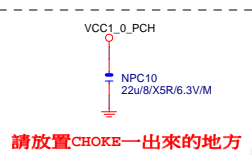
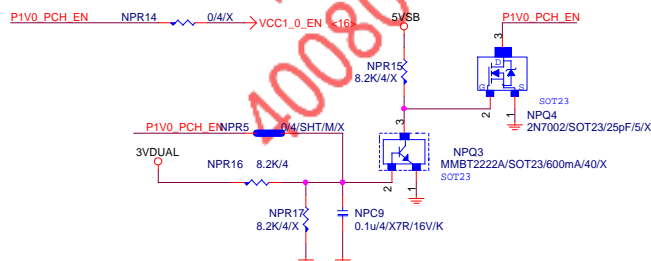
www.xinxunwei.com 400-800-9990



CHOKE與CAP料號可變



PWR SEQ



請放置CHOKE——出來的地方

GIGABYTE™

Title RT8237_PCH POWER

Size Document Number GA-H110M-S2PV

Date: Tuesday, November 10, 2015

Sheet 30

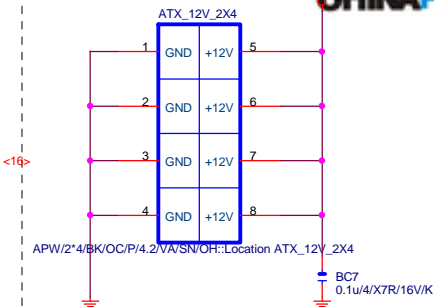
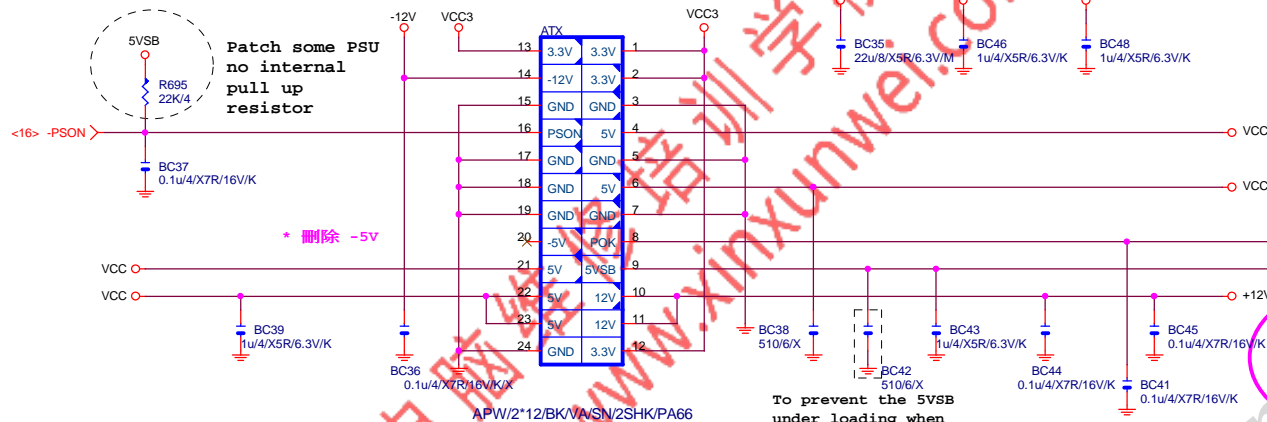
of 49

Rev 1.0

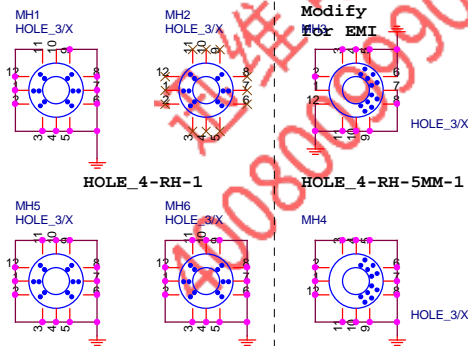
ATXX24 POWER CONNECTOR

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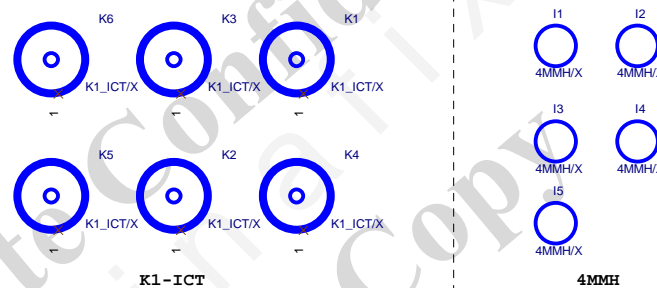
ATXX4 POWER CONNECTOR



螺絲孔

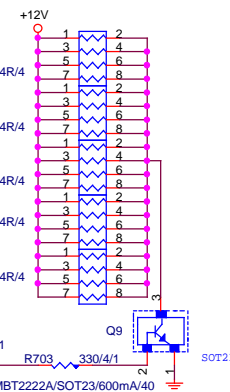


固定孔/光學點



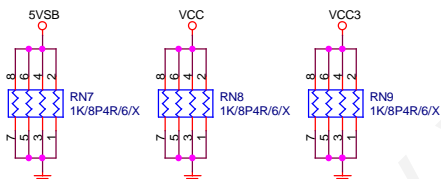
+12V DUMMY LOAD

To fix 12V light load abnormal issue

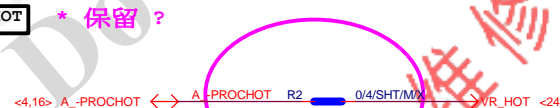


【技術通報R&D技術通報153】

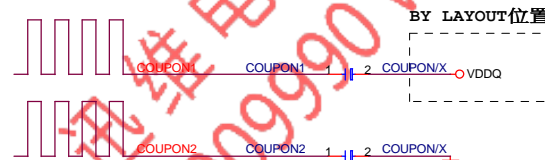
DUMMY LOAD



-PROHOT

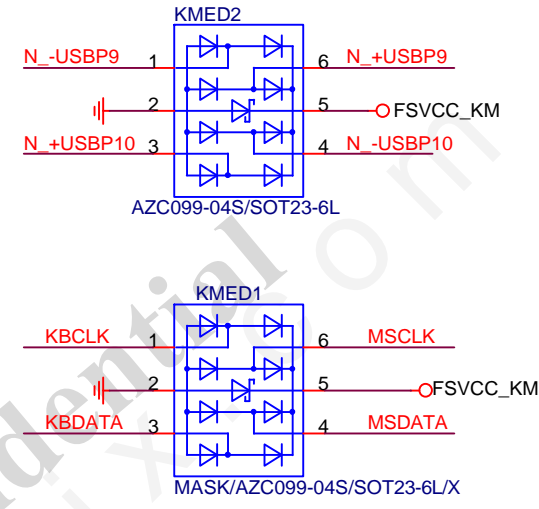
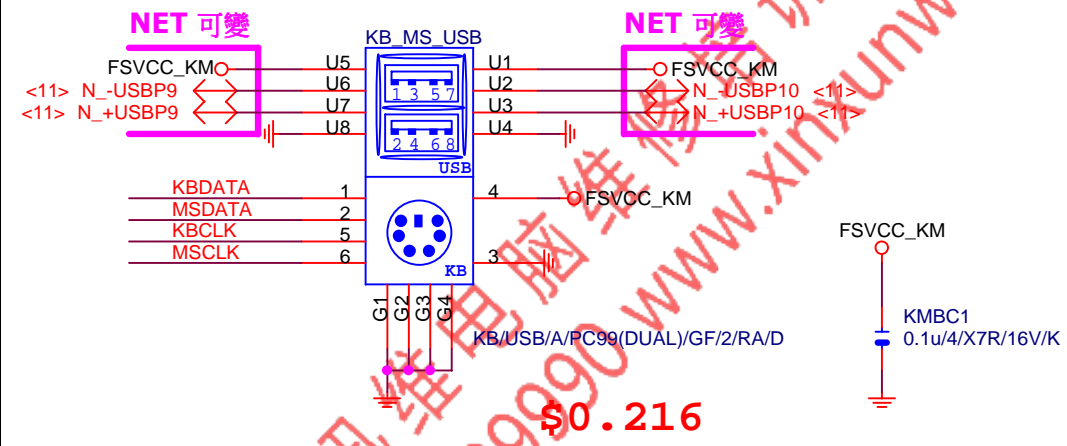


COUPON

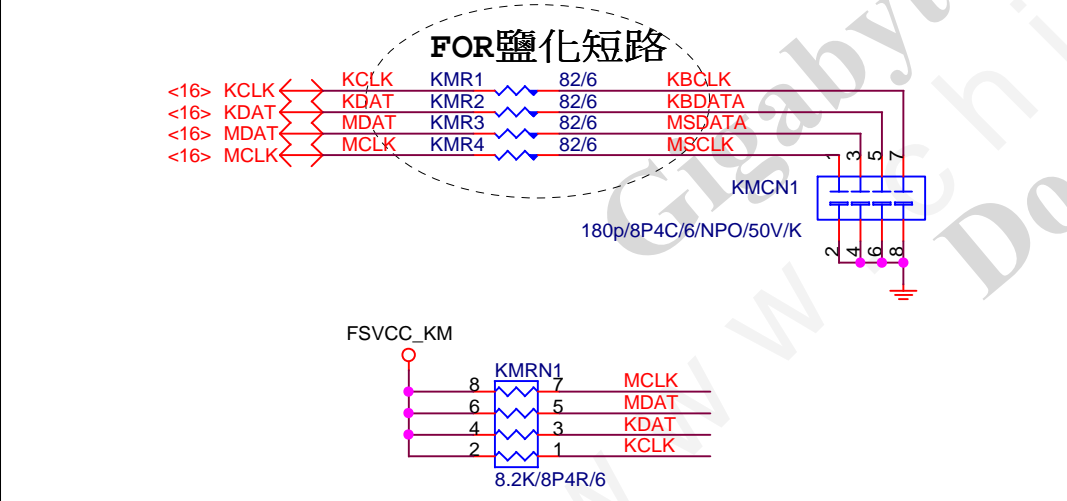


Gigabyte Technology

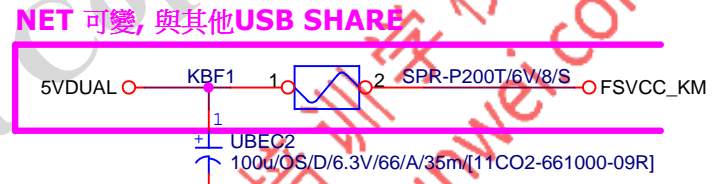
Title		
ATX POWER CONNECTOR		
Size	Document Number	Rev
Custom	GA-H110M-S2PV	1.0
Date:	Tuesday, November 10, 2015	Sheet 32 of 49



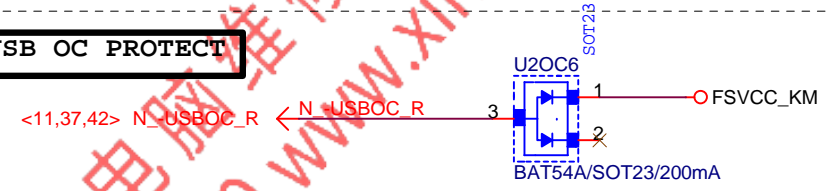
KB_MS_USB DAMPING/PU



KB_MS_USB PWR



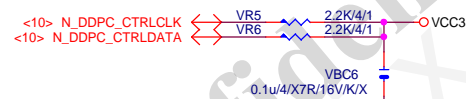
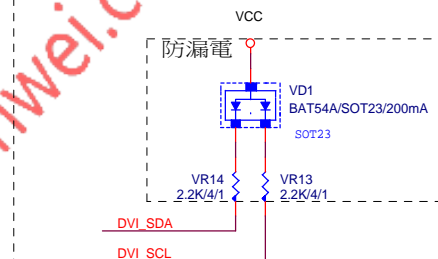
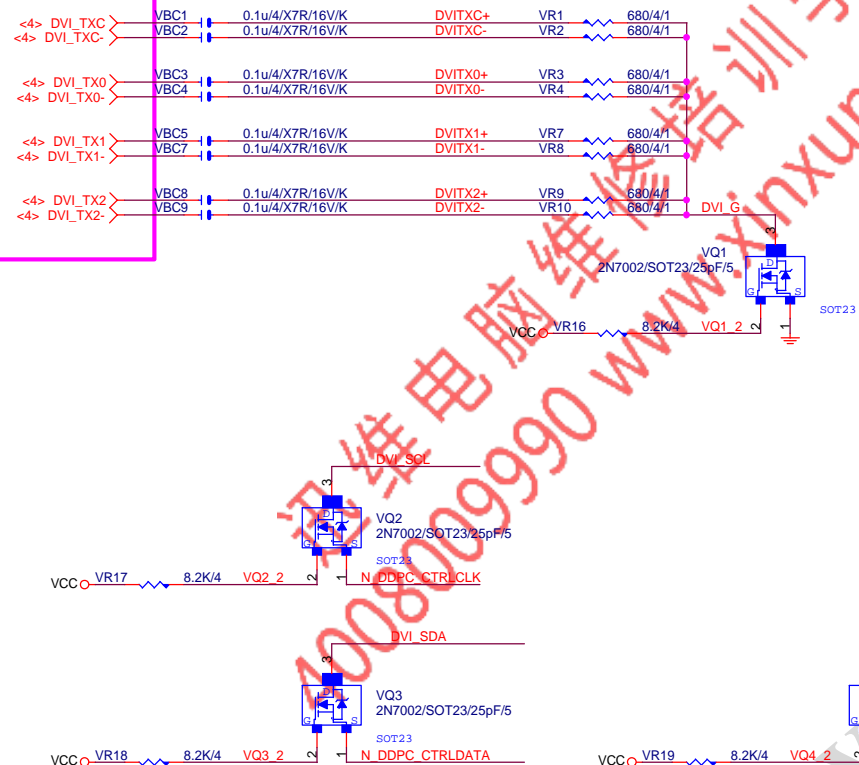
USB OC PROTECT



Gigabyte Technology			
Title			
AUDIO JACK			
Size A	Document Number	GA-H110M-S2PV	
Date: Tuesday, November 10, 2015		Sheet 33	of 49
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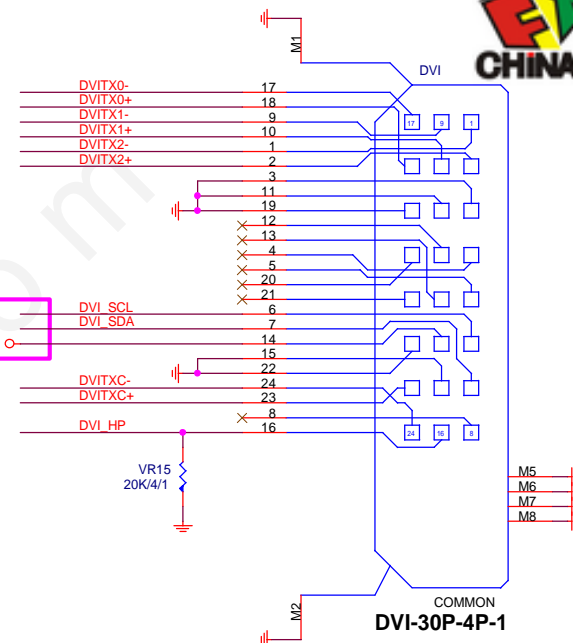


NET 可變

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

NET 可變

* FSVCC_KM

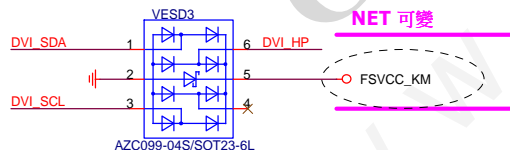
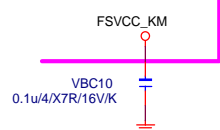


平躺式 DVI-D



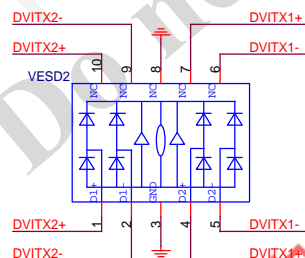
ESD

NET 可變

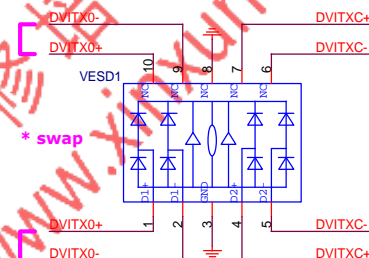


Close to connector

NET 可變



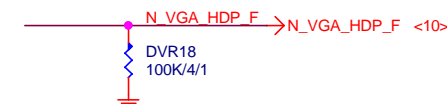
Close to connector



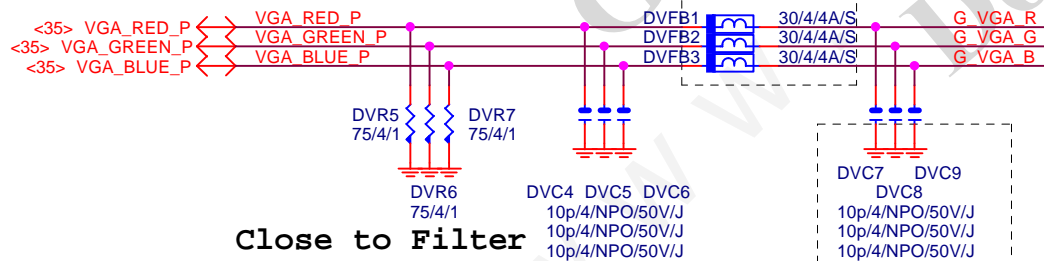
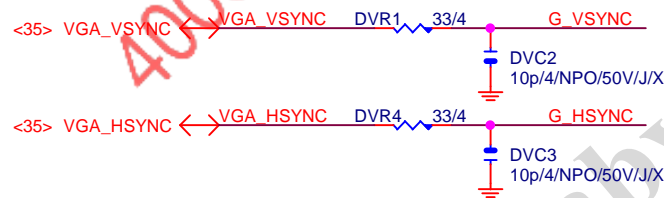
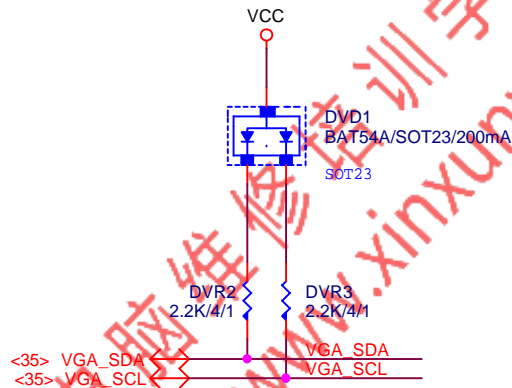
Close to connector

Gigabyte Technology

Title				FP,F_USB,USB PWR,BZ	
Size				GA-H110M-S2PV	
Date:				Tuesday, November 10, 2015	
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Rev				1.0	



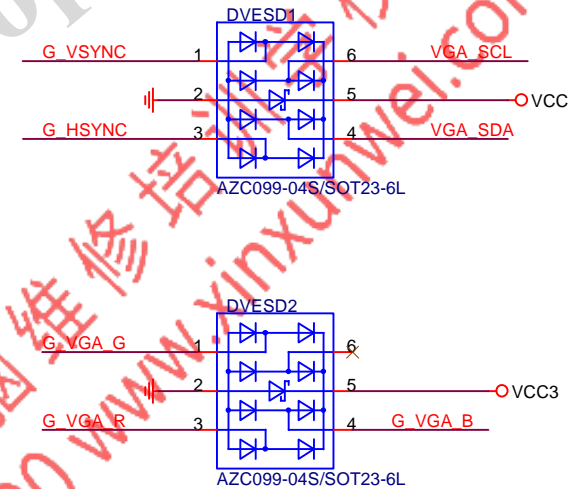
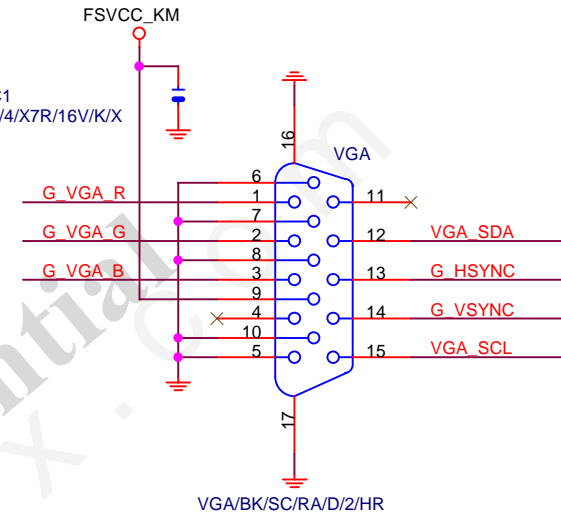
Date:	Tuesday, November 10, 2015	Sheet	35	of	49
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Close to Filter

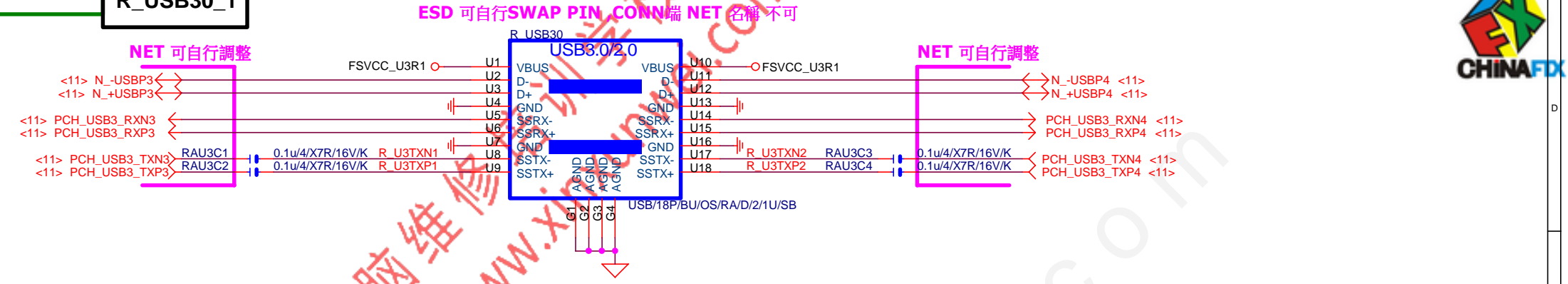
FOR EMI

VGA ESD

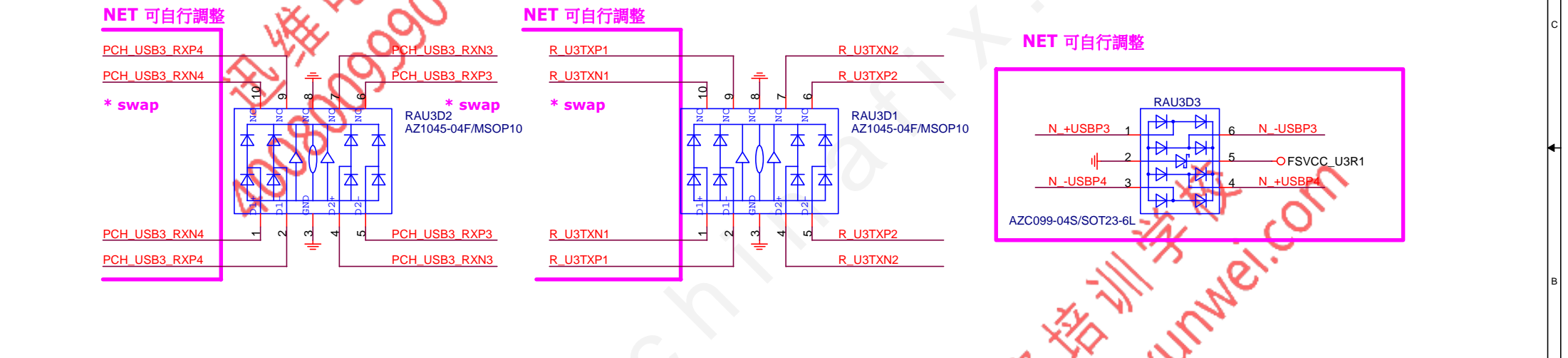


Gigabyte Technology
DP-VGA RTD2168

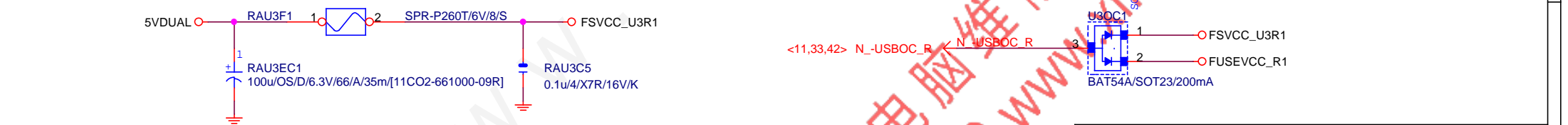
Title		
Size	Document Number	Rev
Custom	GA-H110M-S2PV	1.0
Date:	Tuesday, November 10, 2015	Sheet 36 of 49



ESD



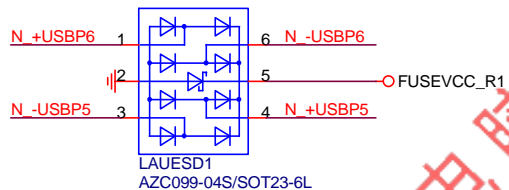
FUSE



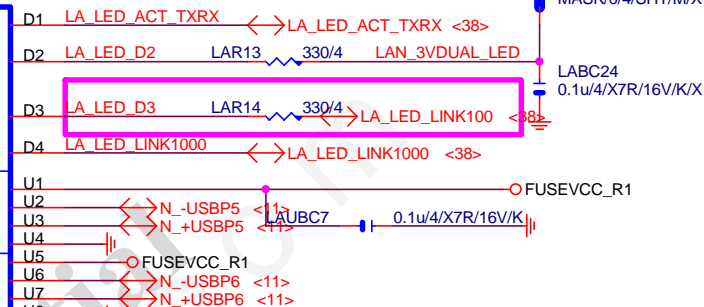
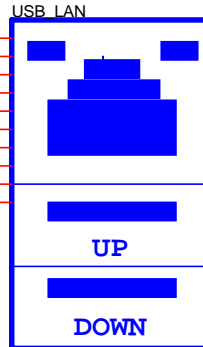
Gigabyte Technology			
Title R_USB30,F_USB30, USB_OC			
Size Custom	Document Number GA-H110M-S2PV		Rev 1.0
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note:可變更USB NAME

可變



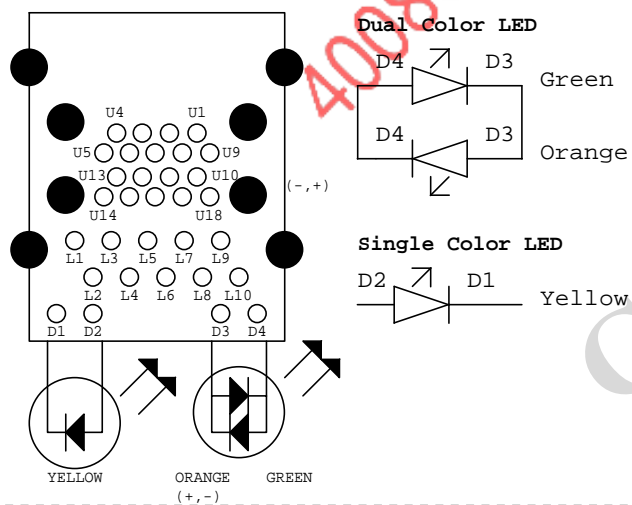
USB LAN



USB+LAN/1G/GO,Y/OS/RA/D/12C/ES/[11NR6-702009-Z1R_11NR6-702009-R2R]

LA MDI-->100歐姆:[20/4/8/4/20]

Dual Color LED



note:可變更FUSE

可變



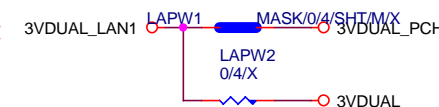
Close to connector
FUSE-0805

LAN POWER

note: lan power連接及電流

PS: 視EMI需求

可變



Gigabyte Technology

LAN CONNECTOR-RTL8111G

Size	Document Number
Custom	

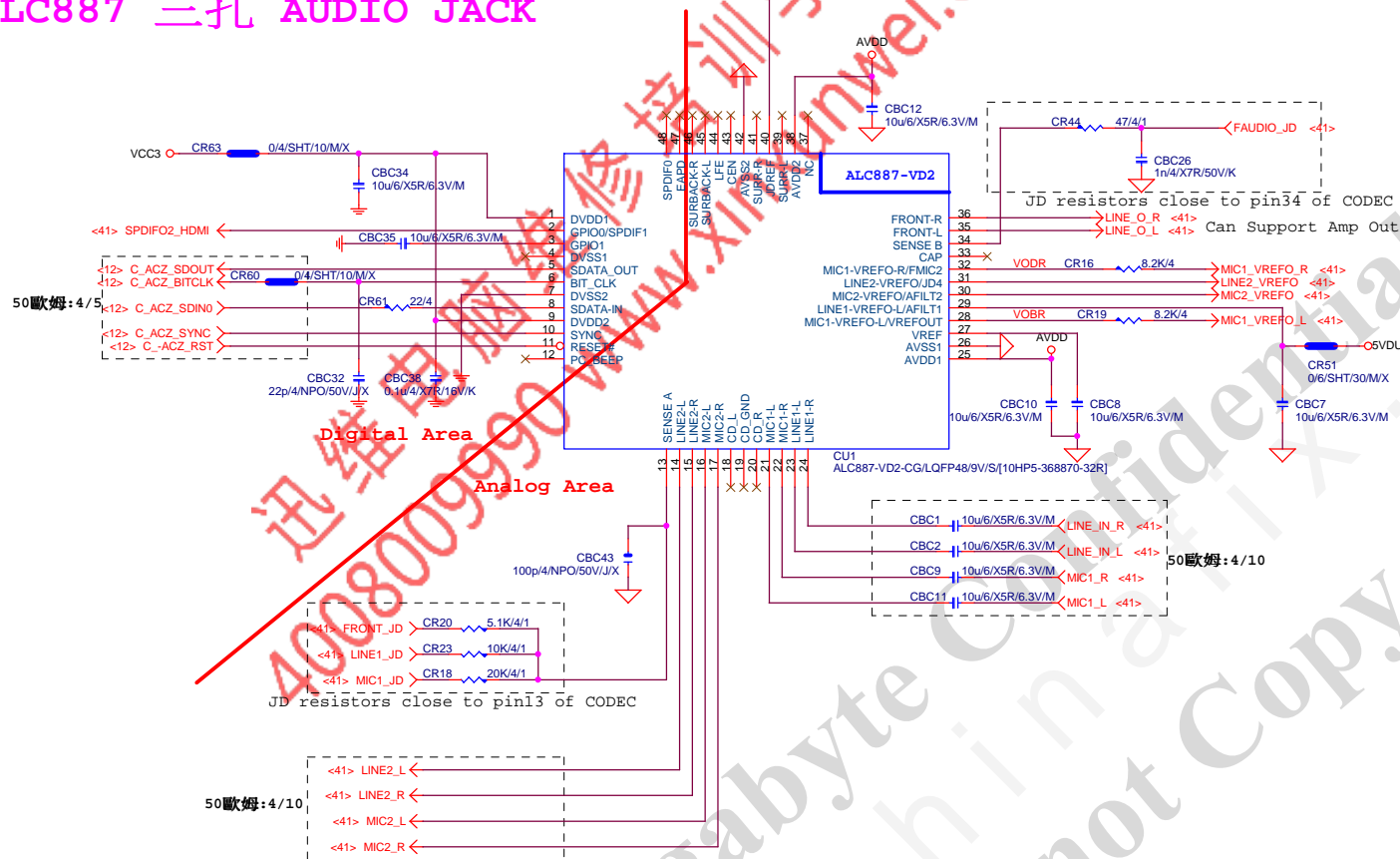
GA-H110M-S2PV

Rev
1.0

Date: Tuesday, November 10, 2015

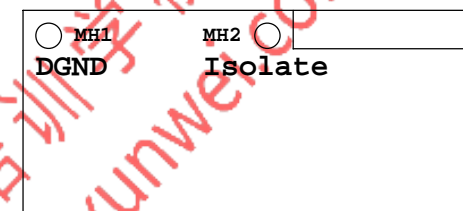
Sheet 39 of 49

ALC887 三孔 AUDIO JACK

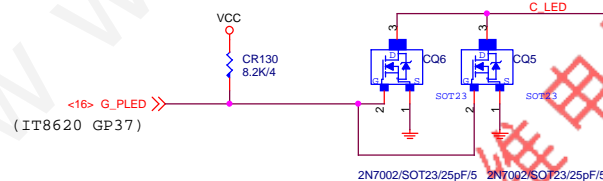
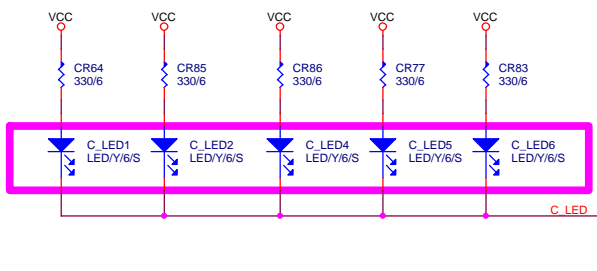


LAYOUT注意:螺絲孔下GND方式

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



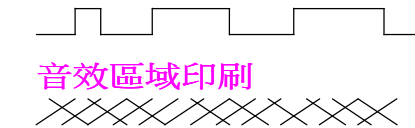
VALUE可變,LED顏色請自行修改
(預設:低亮度黃色LED:LED/Y/6/S)



*LAYOUT與否,依照各Model spec

LAYOUT注意:要加

GND切割線



音效區域印刷

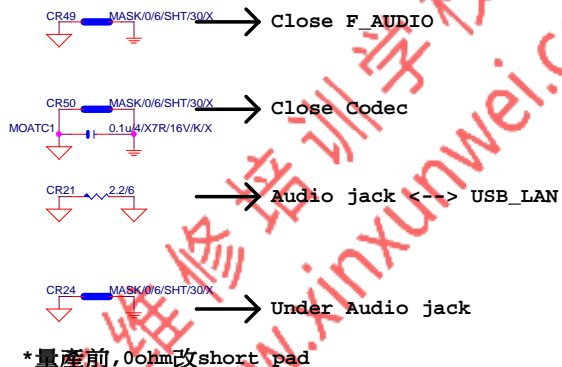
BOM OPTION : 1. Chemicon 音效電容
2. 金屬外罩 Reserve (上件與否, 依照各 Model spec)
3. LED Reserve (上件與否和 LED 顏色, 依照各 Model spec)

Gigabyte Technology

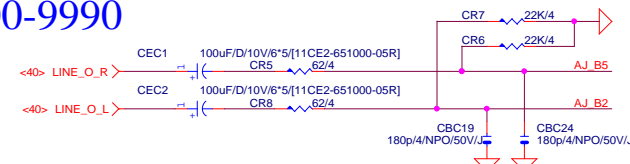
Title				HD AUDIO ALC887			
Size Custom		Document Number				Rev	
		GA-H110M-S2PV				1.0	
Date: Tuesday, November 10, 2015				Sheet 40 of 49			

Rev 0.4

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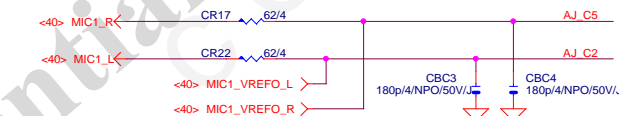
LINE-OUT



LINE-IN



MIC-IN

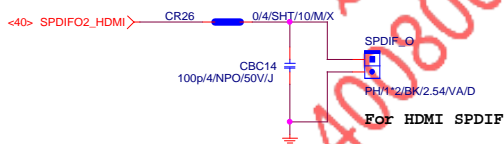


SURROUND

CEN/LFE

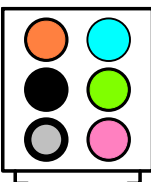
SURRBACK

SPDIF_OUT

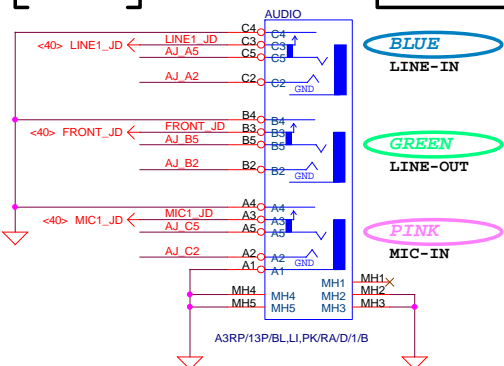


SPDIF_IN

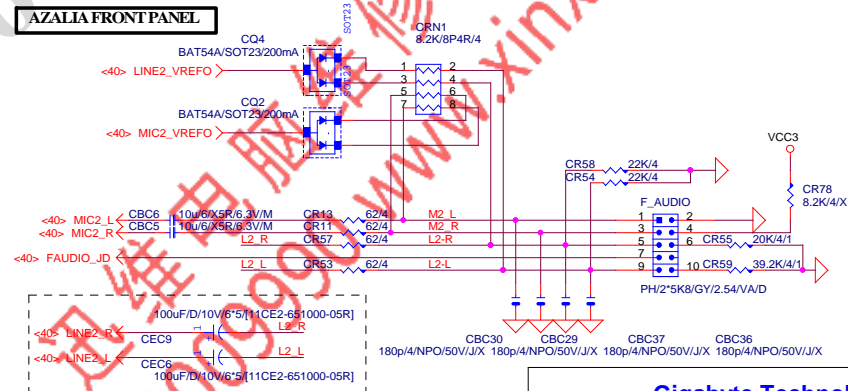
AZALIA JACK



AZALIA JACK



AZALIA FRONT PANEL



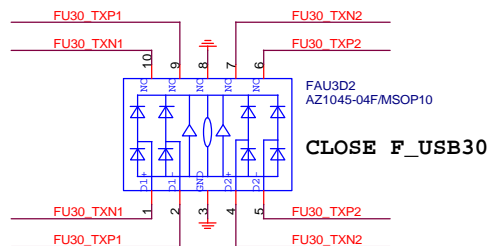
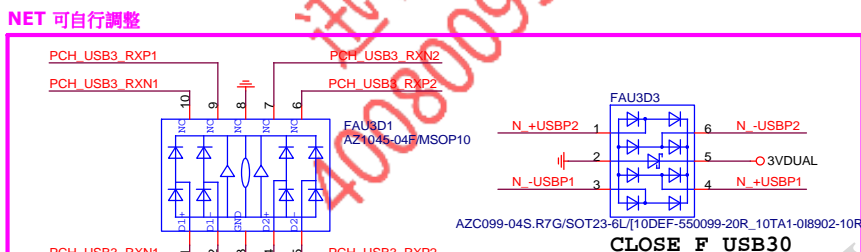
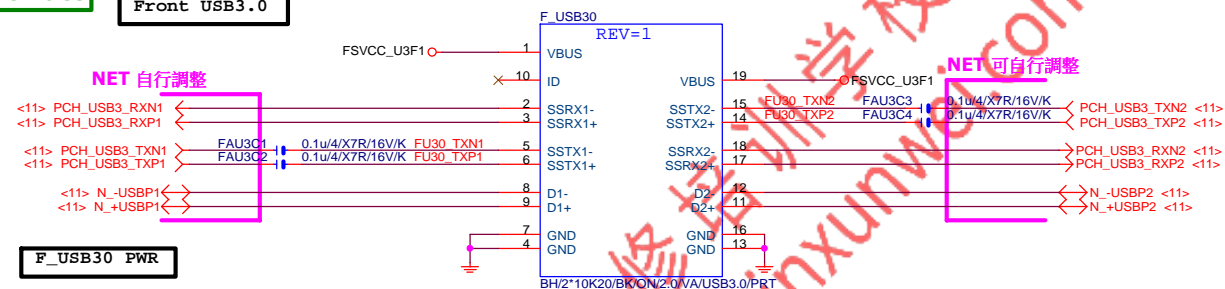
Gigabyte Technology

AUDIO JACK

Title	Document Number	Rev
	GA-H110M-S2PV	1.0
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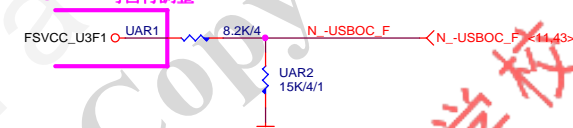
Rev: 0.53

Front USB3.0



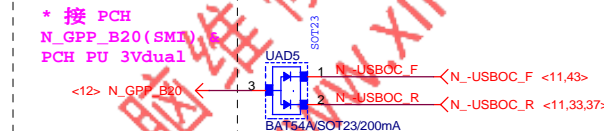
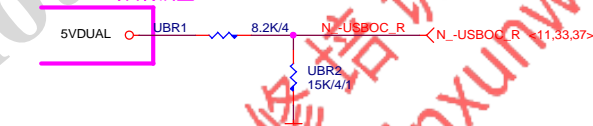
-USBOC_F

POWER 可自行調整



-USBOC_R

POWER 可自行調整

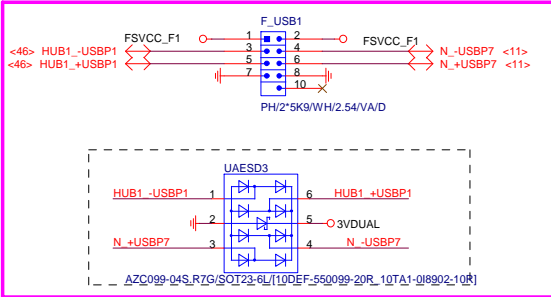


Gigabyte Technology

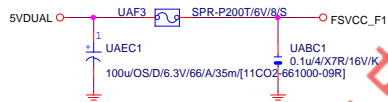
Title		
R_USB30,F_USB30,USB_OC		
Size	Document Number	Rev
Custom	GA-H110M-S2PV	1.0
Date:	Tuesday, November 10, 2015	Sheet 42 of 49



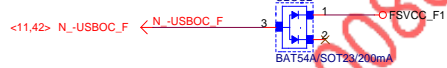
NET 可變



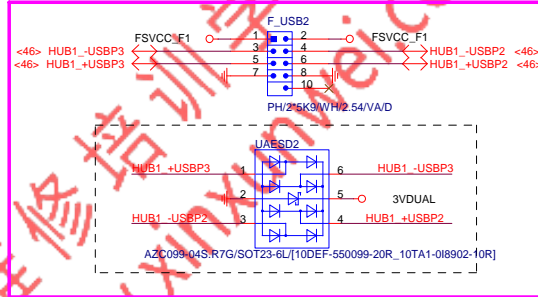
Close to connector
FUSE 2 Port 1 Fuse 2A

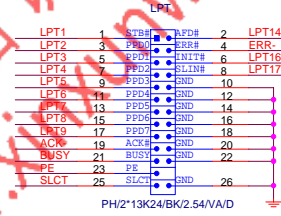
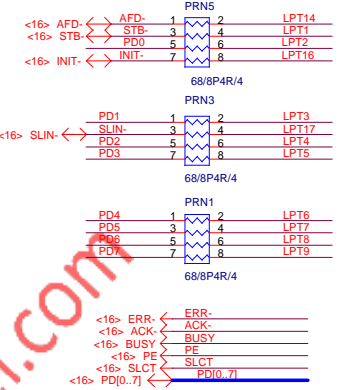
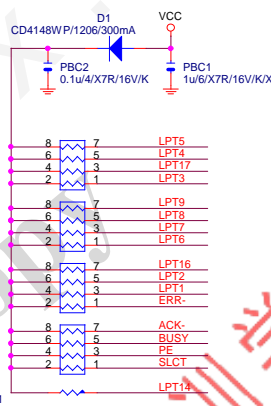
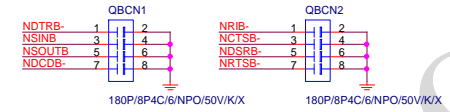
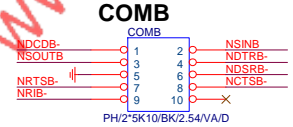
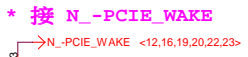


F_USB 2.0 OC SIGNAL



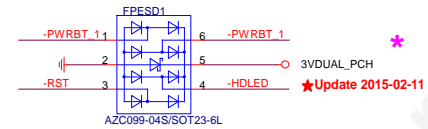
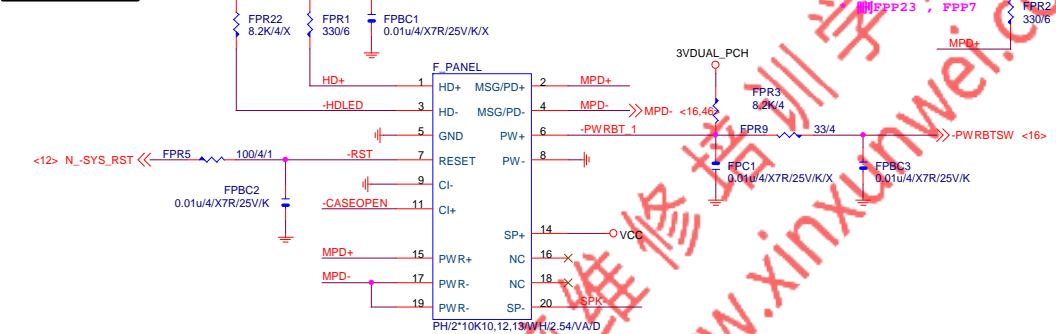
NET 可變





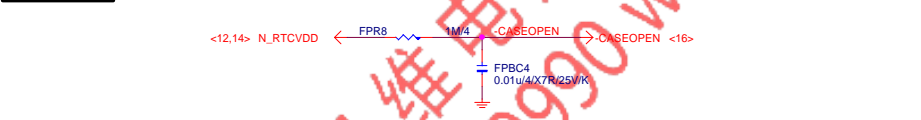


FRONT PANEL



FOOTPRINT: PIN2X10PANEL-NEW

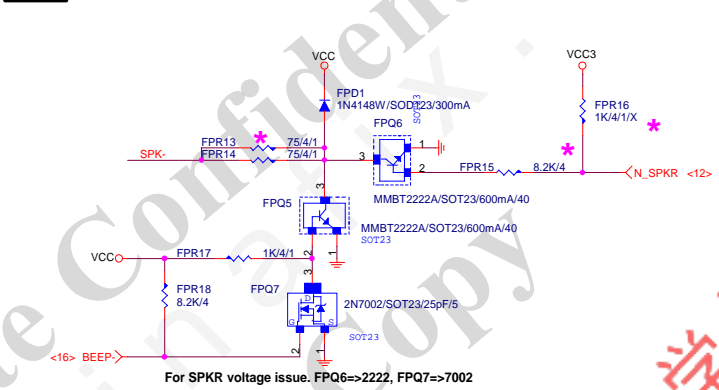
CASE OPEN



SATA LED

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

SPKR



For SPKR voltage issue. FPQ6=>2222, FPQ7=>7002

Gigabyte Technology

FRONT PANEL

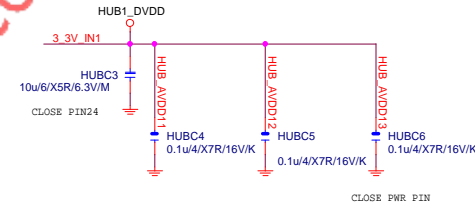
Size	Document Number	GA-H110M-S2PV	Rev	1.0
Custom	Date:	Tuesday, November 10, 2015	Sheet	45 of 49

USB20 HUB_1

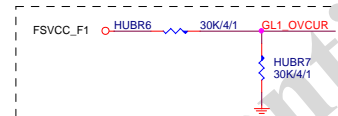
Single USB2 HUB used

Rev 0.2

HUB PWR

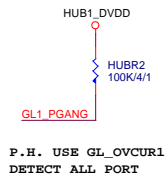


HUB OVER CURRENT SENSE

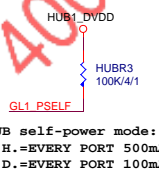


HUB MODE

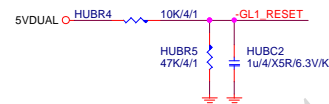
Ganged mode



PSELF

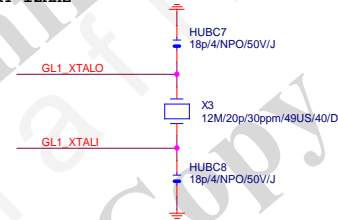


HUB RESET



HUB CRYSTAL

ONLY SUPPORT 12MHZ



EMI/ESD R0.1

CLOSE SIO



close to SIO (PIN92)MPD-



CLOSE PCH



For H1703M-HD3 USB



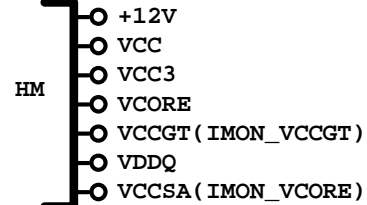
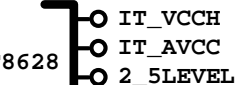
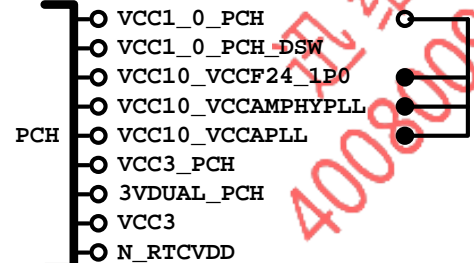
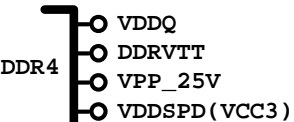
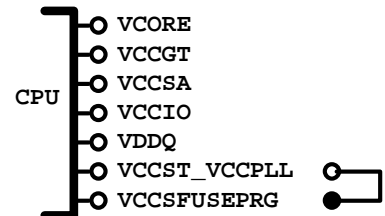
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Title			EMI/ESD
Size	Document Number	GA-H110M-S2PV	
Custom			Rev 1.0
Date:	Tuesday, November 10, 2015	Sheet 46	of 49

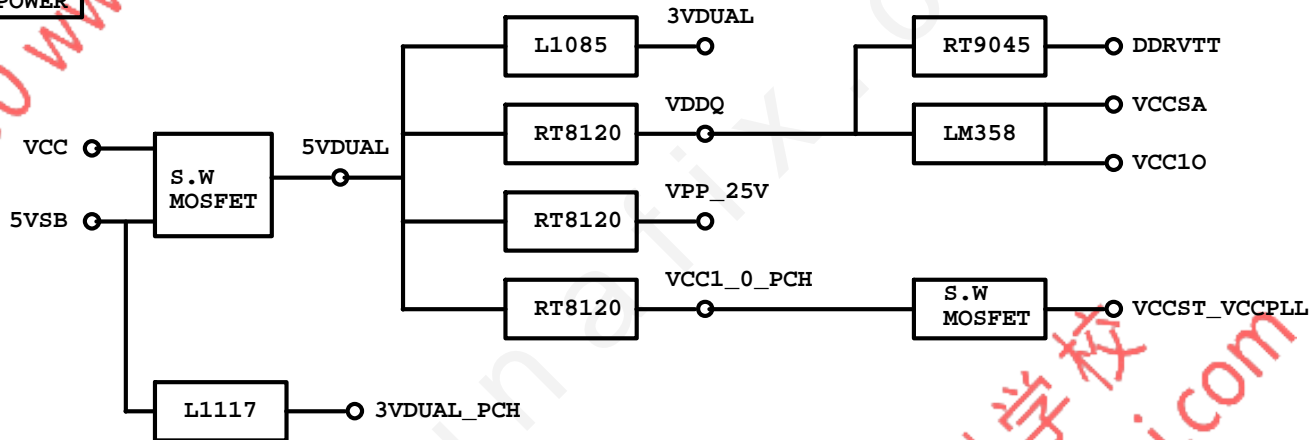
POWER BLOCK MAP

VCORE/VCCGT

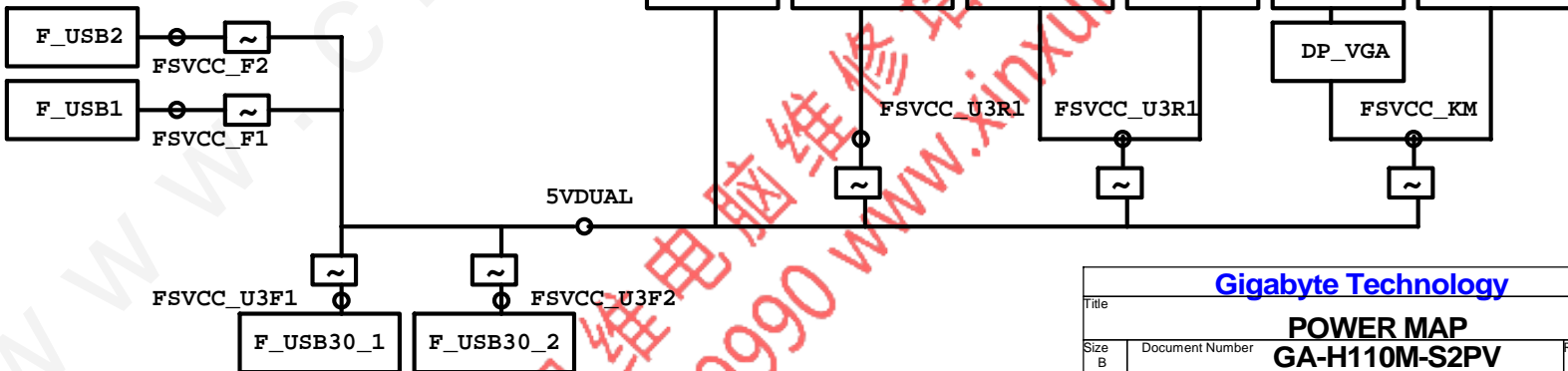
www.xinxunwei.com 400-800-9990



POWER



FUSE POWER F/R



Gigabyte Technology

Title				Rev 1.
POWER MAP				
Size B	Document Number GA-H110M-S2PV			
Date:	Tuesday, November 10, 2015	Sheet	47 of 49	

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-H110M-S2PV		Rev 1.0
Date:	Tuesday, November 10, 2015	Sheet 48 of 49	1



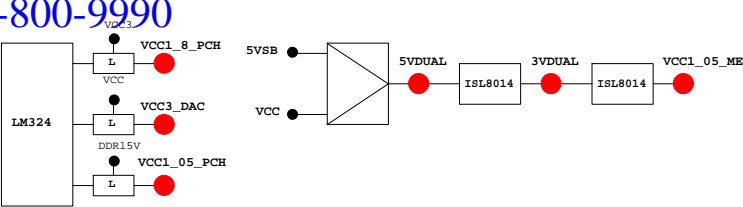


PCH GPIO LIST TABLE					
PIN NAME	PWR	Default	USAGE	NOTE	
GP0	MAIN	H-Z	GPI0	N/A	
GP1/TACH1	MAIN		GPI01	N/A	
GP2/PIRQE#	MAIN		GPI -PIRQE	P/U 8.2K VCC3	
GP3/PIRQF#	MAIN		GPI -PIRQF	P/U 8.2K VCC3	
GP4/PIRQG#	MAIN		GPI -PIRQG	P/U 8.2K VCC3	
GP5/PIRQH#	MAIN		GPI -PIRQH	P/U 8.2K VCC3	
GP6/TACH2	MAIN		GPI PCIE1 Detect	P/U 8.2K VCC3	
GP7/TACH3	MAIN		GPI07	P/U 8.2K VCC3	
GP8	STBY	H	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	GPI012	N/A	
GP13	STBY	L	GPI LPCPME#	P/U 8.2K 3VDUAL	
GP14/OC7#	STBY	NATIVE	USB OC7#	N/A	
GP15	STBY	L	GPI015(TLS Enable)	P/U 8.2K 3VDUAL	
GP16	MAIN		GPI016	P/U 8.2K VCC3	
GP17/TACH0	MAIN		GPI017	P/U 8.2K VCC3	
GP18	MAIN		GPI Mobile Only	N/A	
GP19	MAIN		GPI019	P/U 8.2K VCC3	
GP20	MAIN		GPI020	P/U 8.2K VCC3	
GP21	MAIN		GPI021	P/U 8.2K VCC3	
GP22	MAIN	H-Z	GPI022	P/U 8.2K VCC3	
GP23	MAIN		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	GPI027	P/U 8.2K 3VDUAL	
GP28	STBY	H	GPO PWR_LED	P/U 8.2K 3VDUAL	
GP29	STBY	L	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	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	

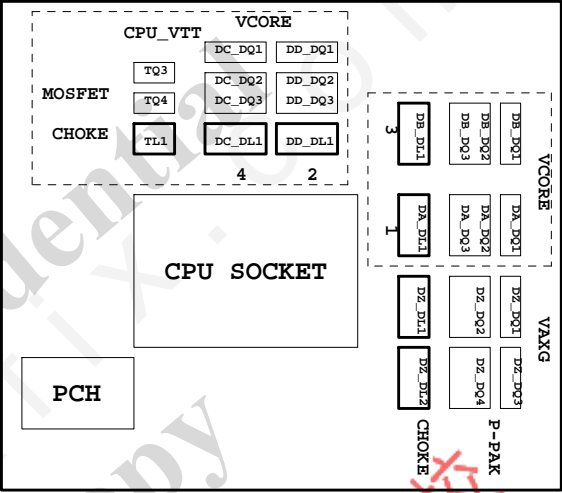
Super I/O ITE8720 GPIO Table

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#/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	
3VSBSW#/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	
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/CIRR1X2/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