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Gigabyte Technology

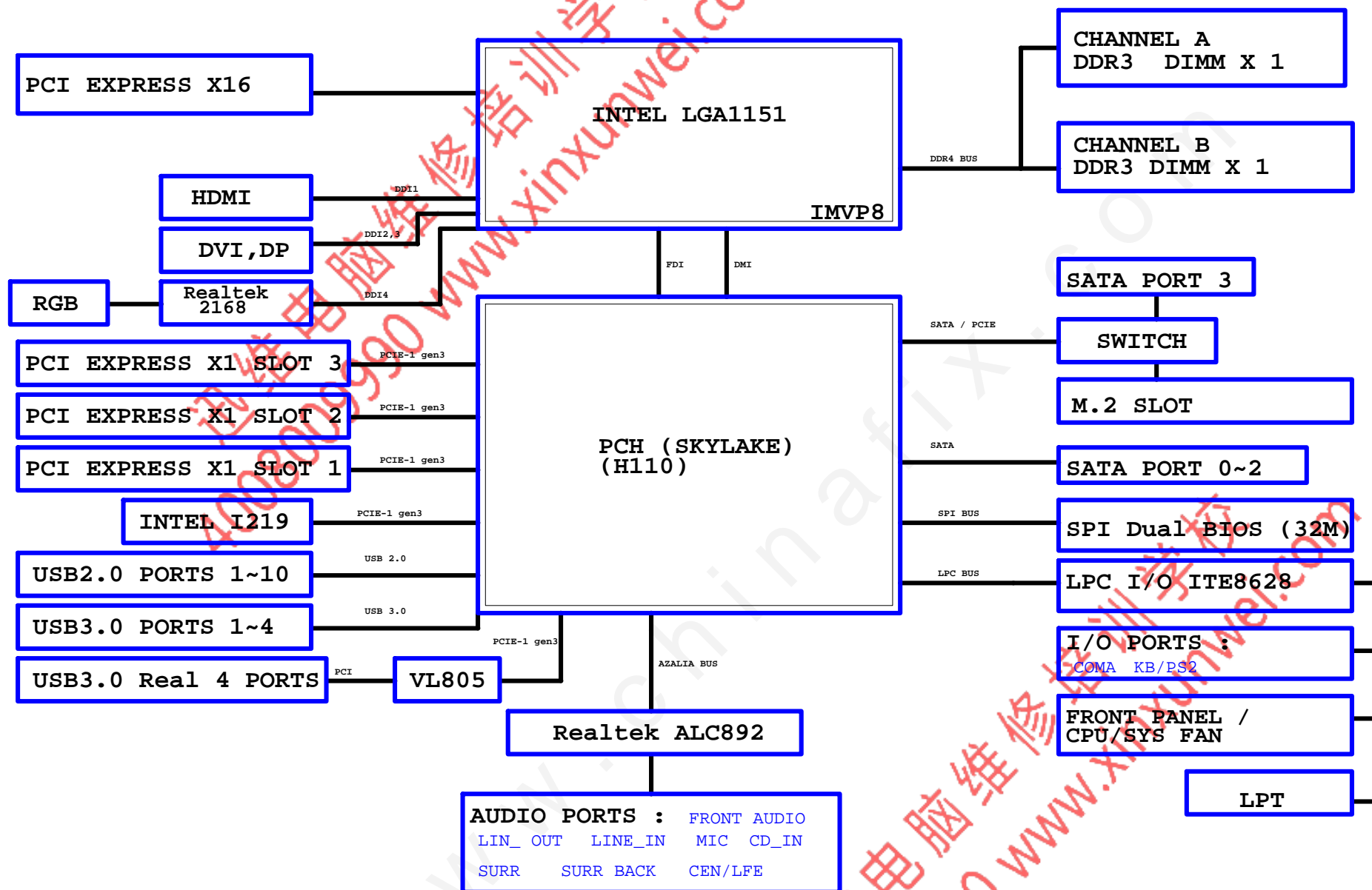
File			Cover Sheet
Size	Document Number	GA-H110M-HD3 DDR3	Rev 1.0
Custom			
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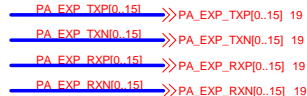
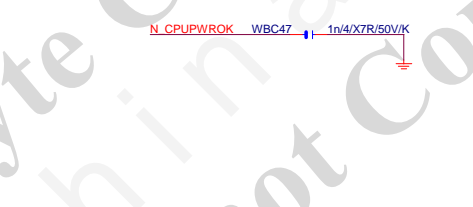
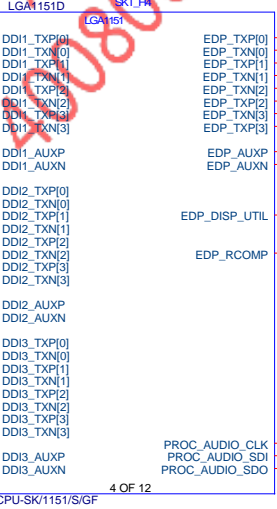
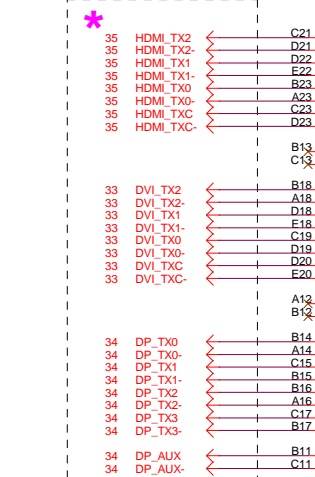
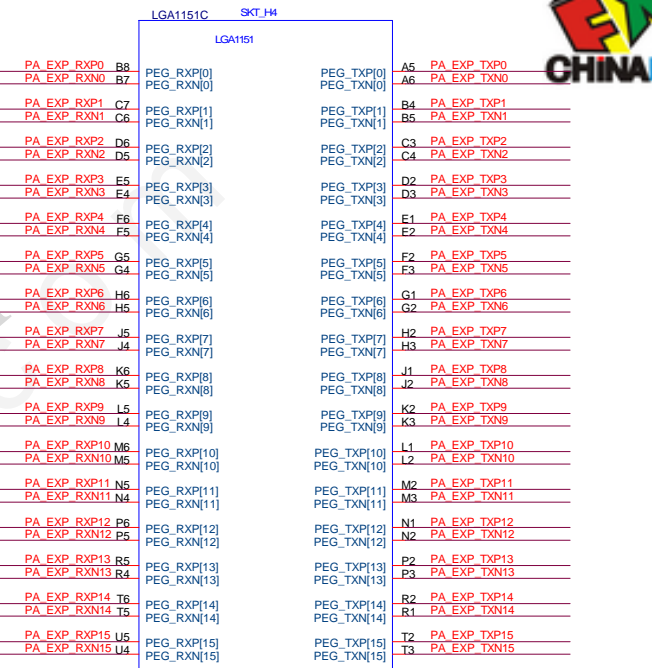
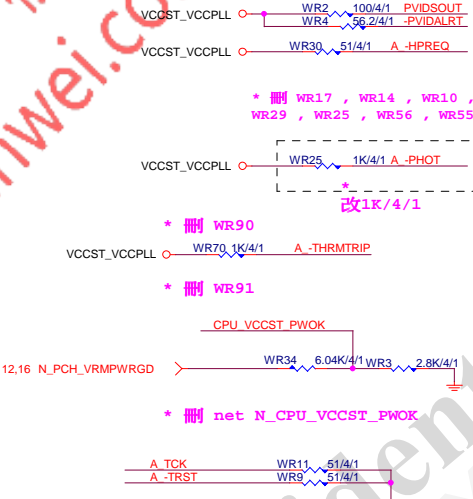
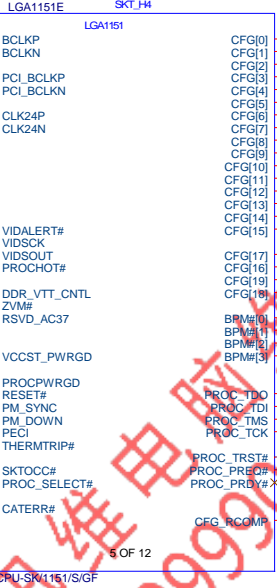
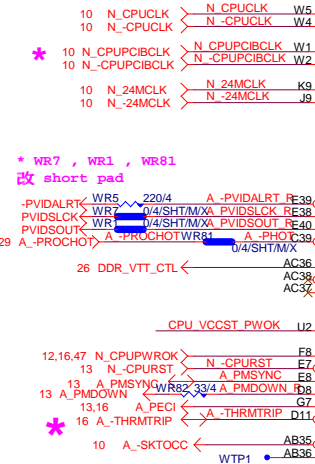
Circuit or PCB layout change

[illegible][illegible]

BLOCK DIAGRAM

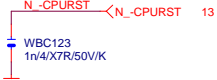
www.xinxunwei.com 400-800-9990





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

-CPURST

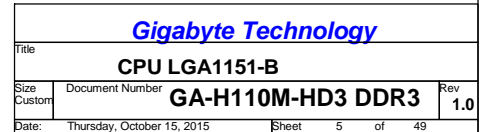
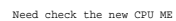


CFG[2]:x16 Lane Numbering
Reversal. 1= NORMAL;0=reversal
CFG[4]: eDP enable:1:disable/0=enable
CFG[6:5]:PCI Express* Bifurcation: 11= 1 x16 PCI Express;10=2x8 PCI Express
CFG[7]: PEG Training:1=(default) PEG Train immediately following RESET#;0=PEG Wait for BIOS

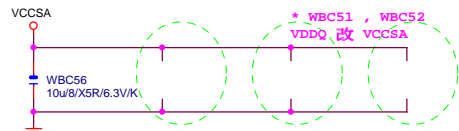
Bifurcation Config.	Signals Lanes		
	CFG[6]	CFG[5]	CFG[4]
1x16	1	1	1
1x16 Reversed	1	1	1
2x8	1	0	1
2x8 Reversed	1	0	0
1x8+2x4	0	0	1
1x8+2x4 Reversed	0	0	0

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

Gigabyte Technology		
CPU LGA1151-A		
Size Custom	Document Number	Rev 1.0
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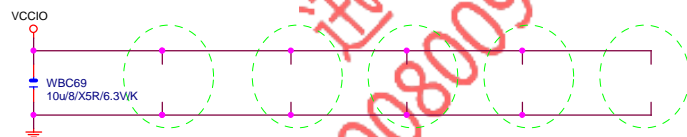


* WBC49 移到 RT8120_DDR
* 删 WBC50 电容

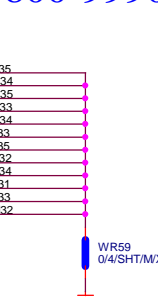
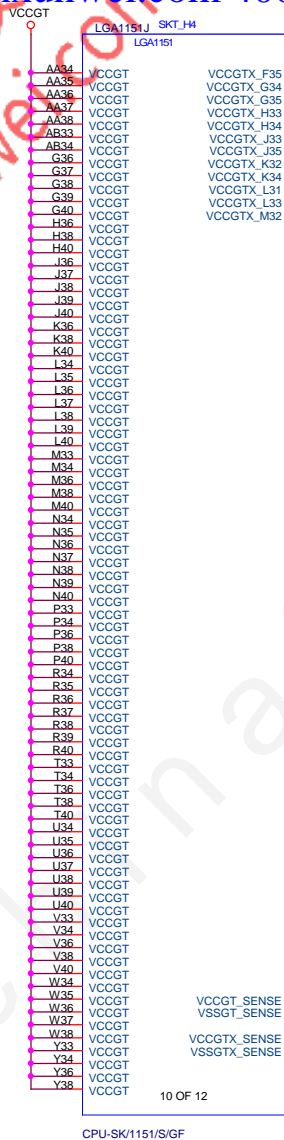


* 删 WBC124, WBC125, WBC126, WBC127 电容

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



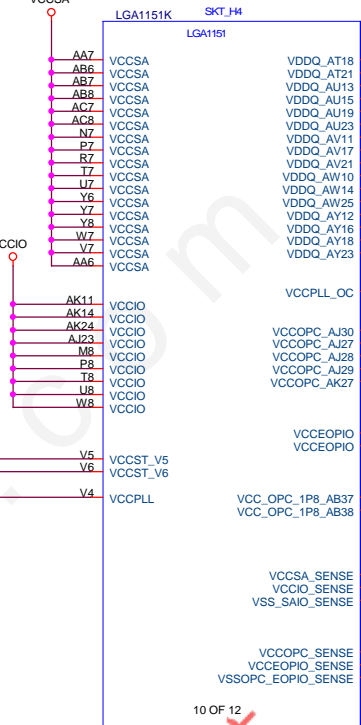
* 删 VCCGT 电容



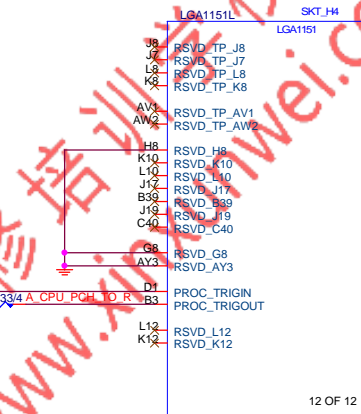
VCCST_VCCPLL
VCCSFUSEPRG
VCCST_VCCPLL

F39 VCCGT_SENSE 22
F38 VSSGT_SENSE 22
F37
F36

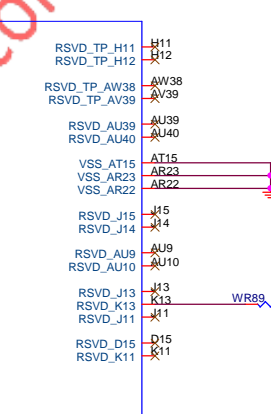
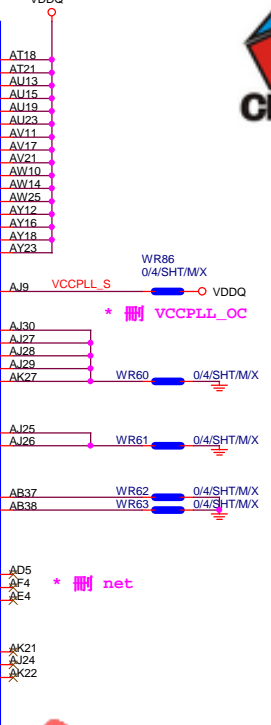
13 N_PCH_CPU_PCH_TO_2 WR88 334 A_CPU_PCH_TO_R



CPU-SK/1151/S/GF



CPU-SK/1151/S/GF



CPU-SK/1151/S/GF

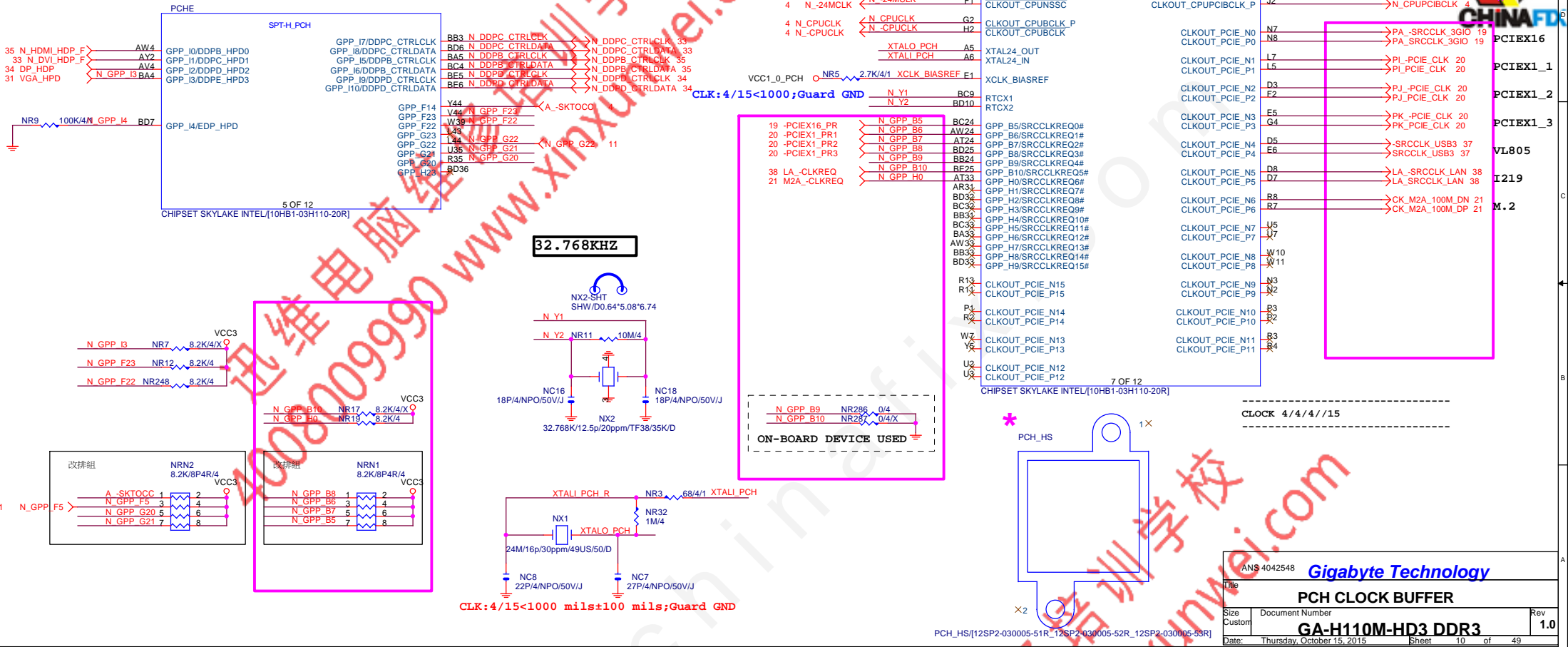
Gigabyte Technology

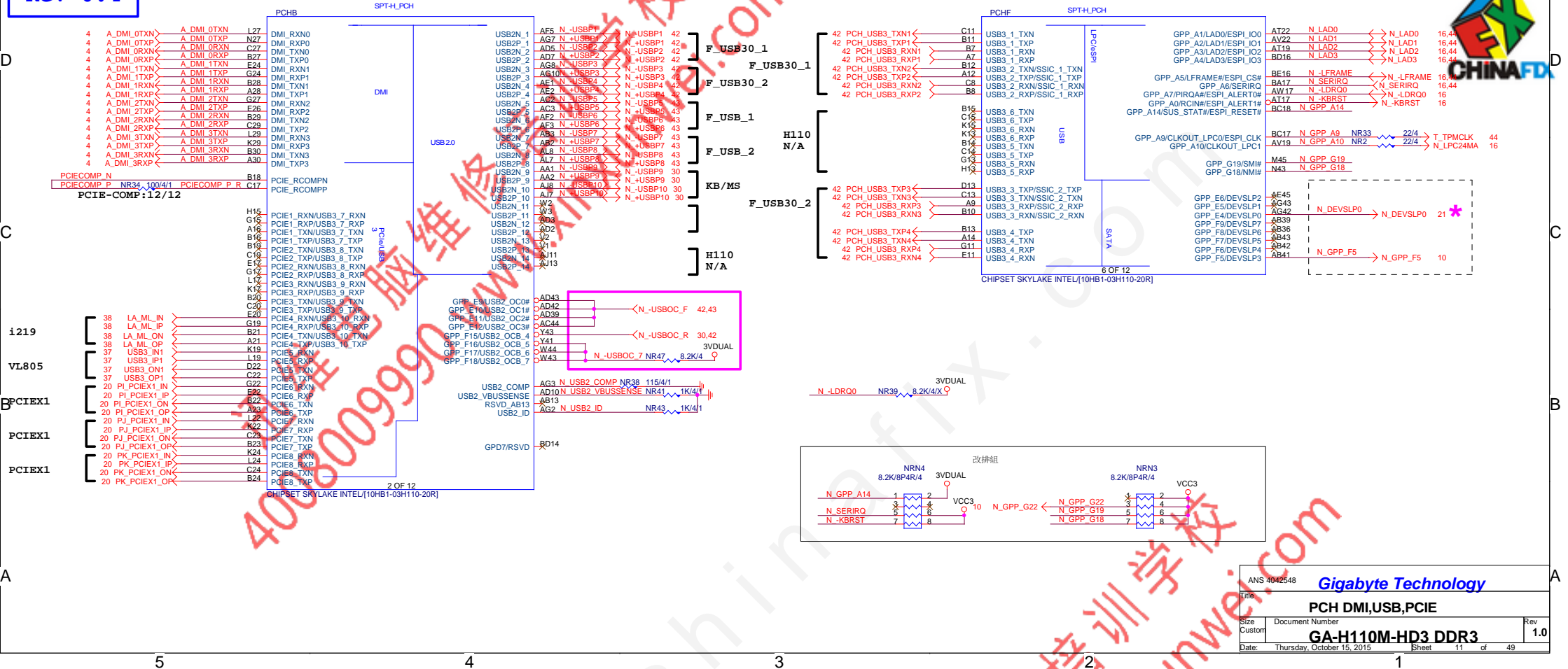
Title			CPU LGA1151-C	
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Rev	1.0			



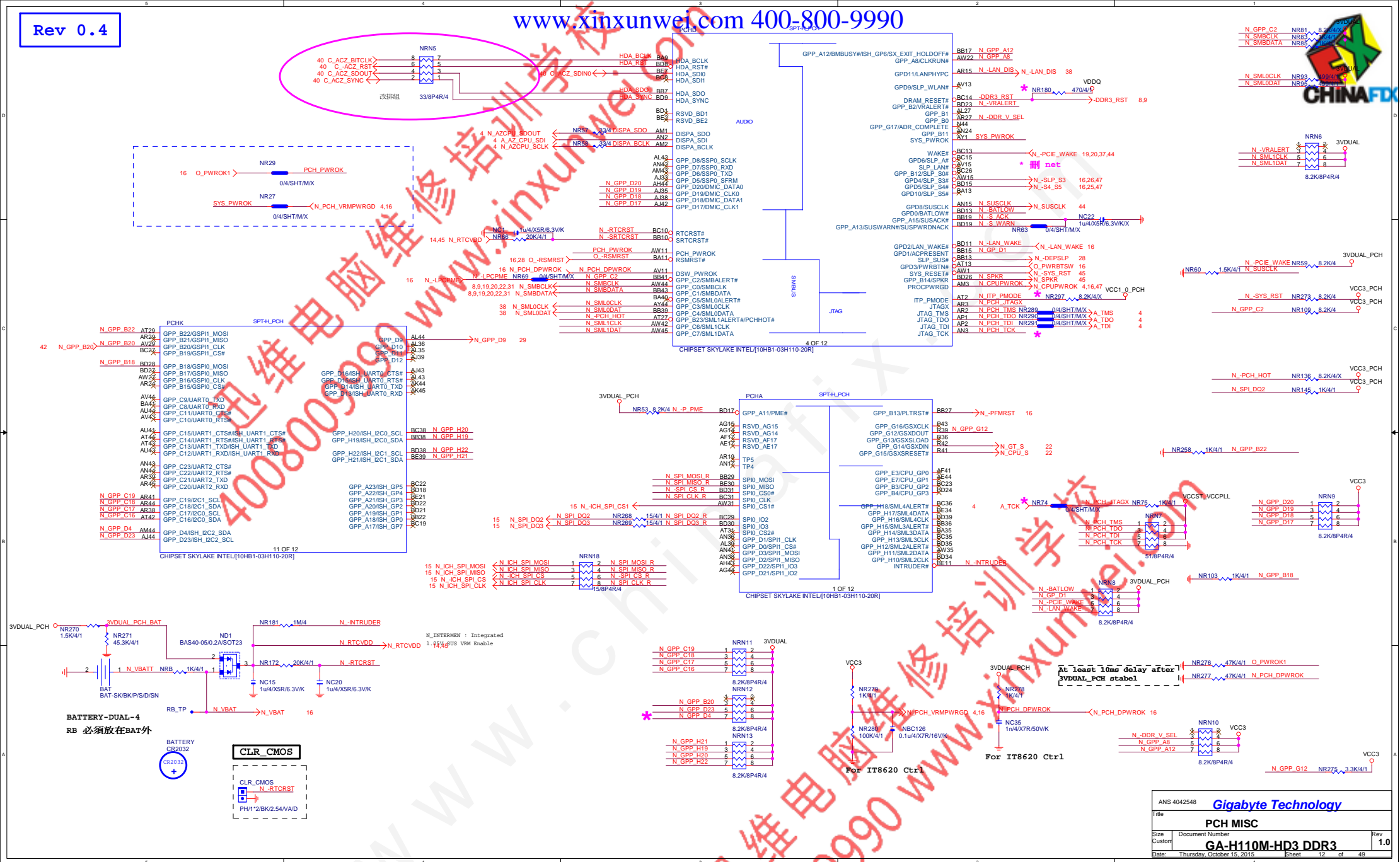
Rev 0.4

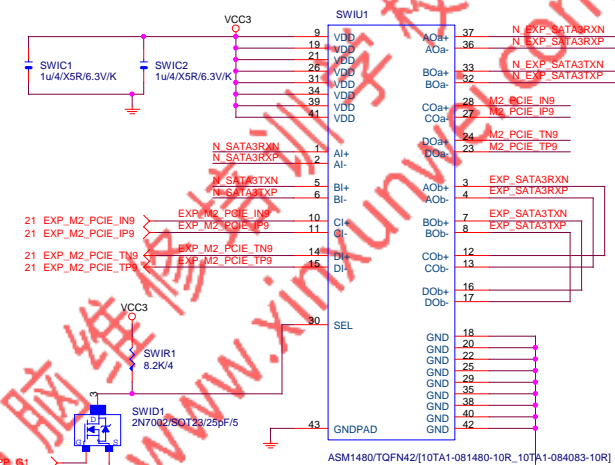
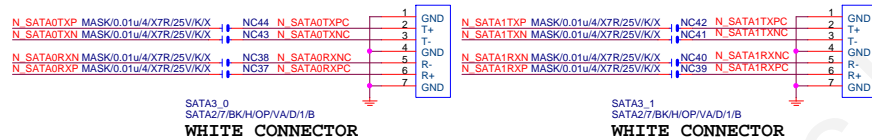
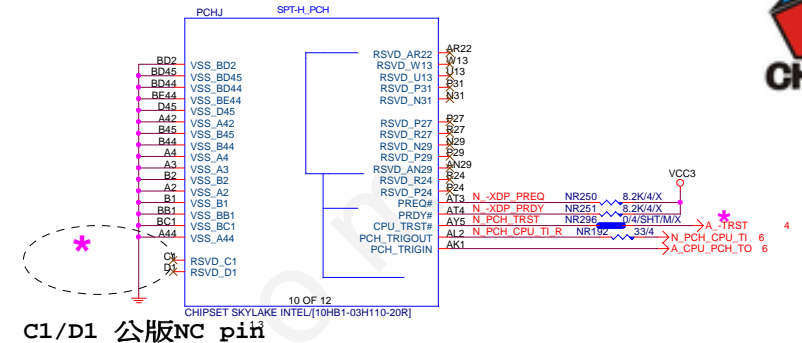
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ANS 4042548		Gigabyte Technology	
Title		PCH DMI,USB,PCIe	
Size		Document Number	
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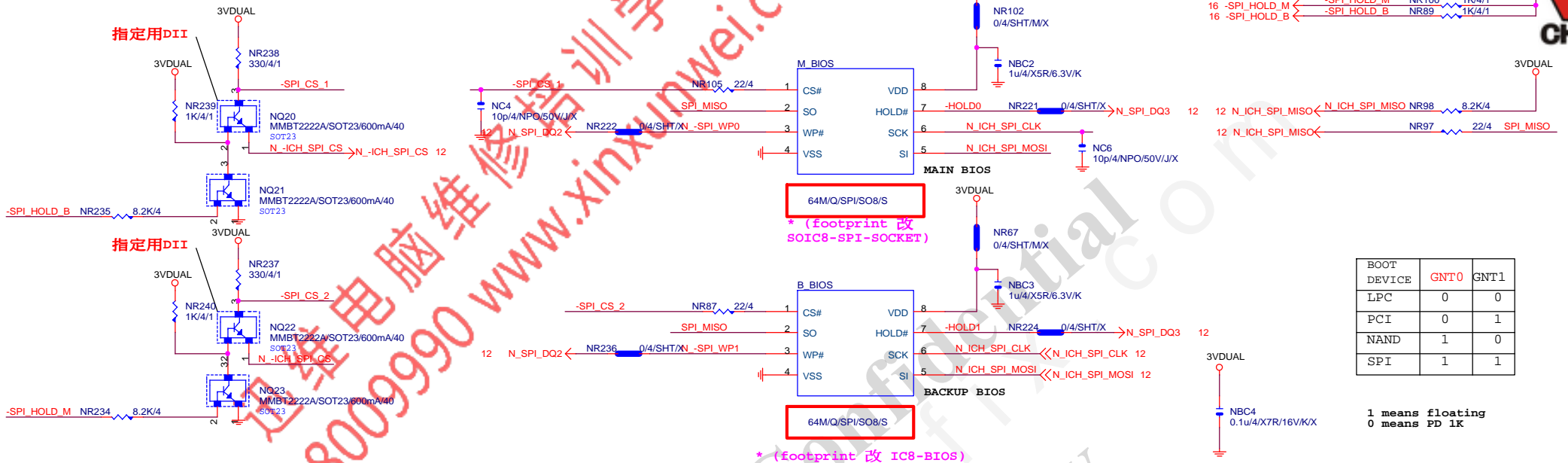




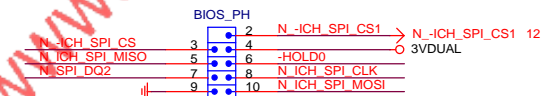




指定用DII



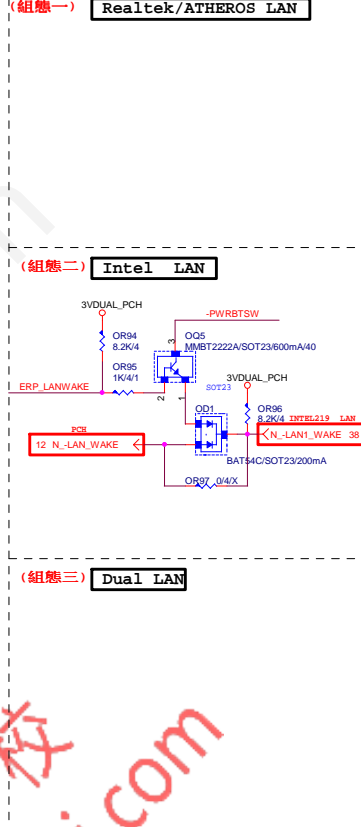
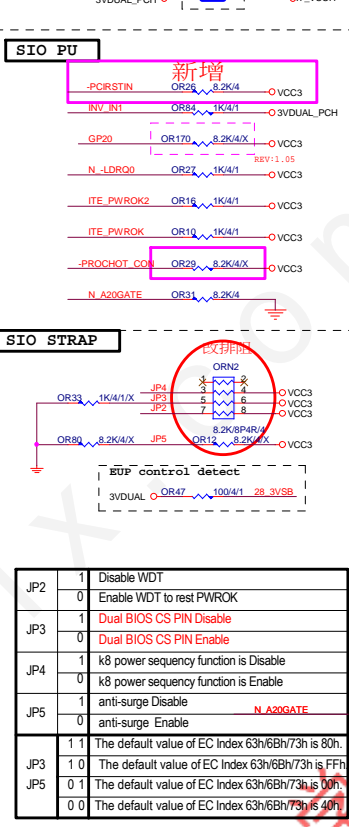
BIOS_PH

★Update
2015-01.29

PH/2*5K10/BK/2.54/VA/D/X
Footprint the same, confirmed by Graceing.
Use COM port pin header part.

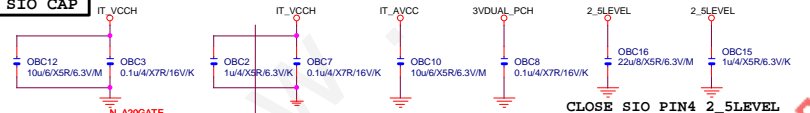
Gigabyte Technology

Title			BIOS
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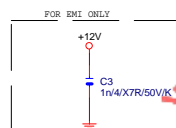
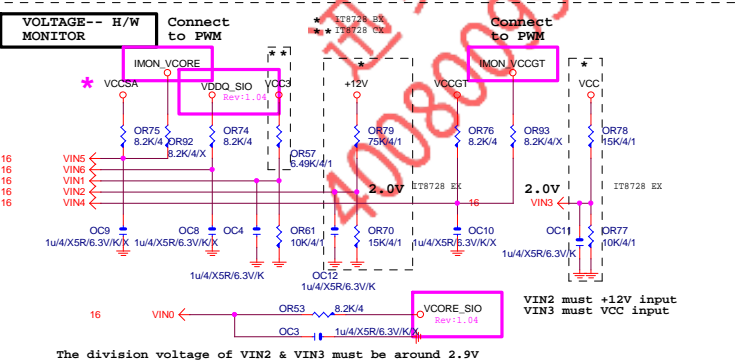
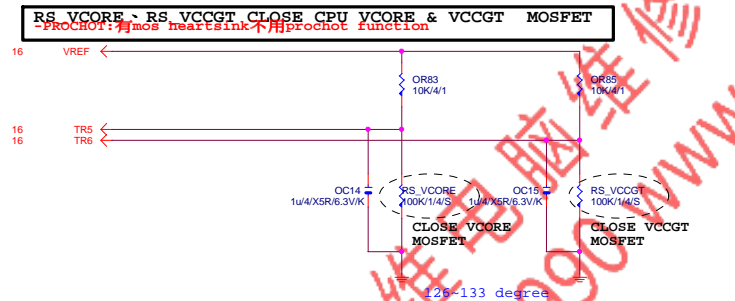
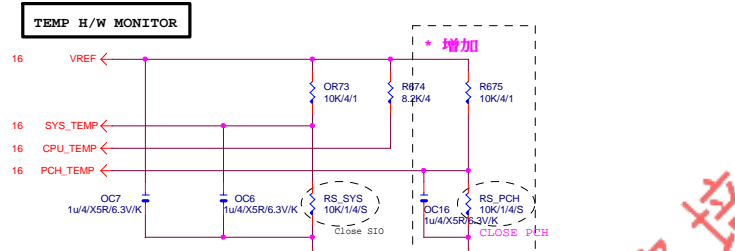


internal power pin, max 22nF cap

Schematic diagram of the internal power pin circuit. It shows a loop with two capacitors, OBC4 and OBC5, connected to a common ground. OBC4 is labeled "0.1u4/X7R/16V/K/X" and OBC5 is labeled "0.1u4/X7R/16V/K". A label "SIO_18V" is placed above the loop, and a ground symbol is at the bottom.



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



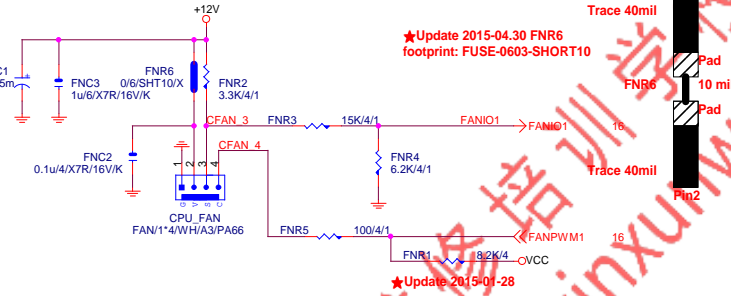
Gigabyte Technology

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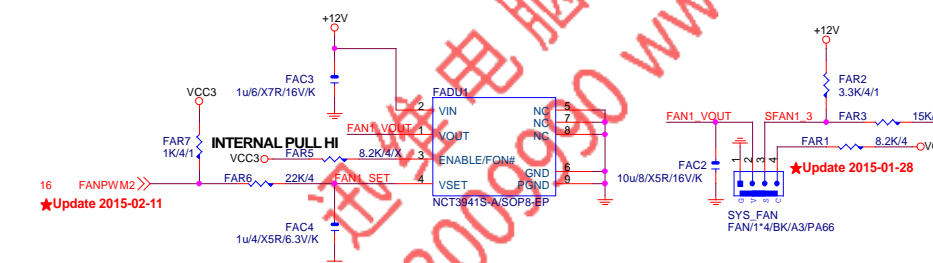
CPU SMART FAN

★Update 2015-04.02 FNEC1 only for Z170/H170 series, B150 or H110 don't keep footprint.



SYSTEM FAN1

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



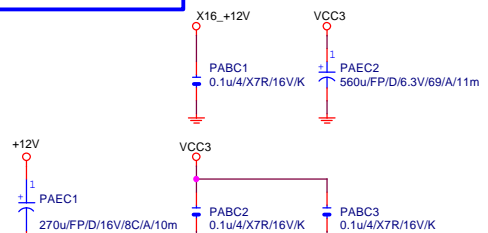
SYSTEM FANX

SYSTEM FAN2

SYSTEM FAN3

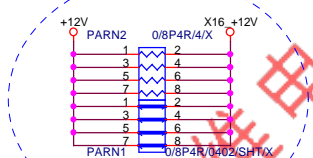
Rev 0.3

PCIEX16 CAP



PCIEX16 PROTECT SHT

+12 protect short-wire test



PCIEX16 AC CAP

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

PCI-E REV:1.1--> 2.5GHZ

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

PCE-E X1(雙向) BANDWITH=2.5GHz*(8b/10b)X2=4Gb/s=500MB/s

PCE-E X16(單向) BANDWITH=2.5GHz*(8b/10b)X16=32Gb/s=4GB/s

PCE-E X16(雙向) BANDWITH=2.5GHz*(8b/10b)X16X2=64Gb/s=8GB/s

PCI-E REV:2.0--> 5GHZ

PCIEX16 SLOT



11AC1-023164-D1R

PCI-E/16X-164P/BK/LONG DOUBLE(11AC1-023164-D1R_11AC1-023164-D2R)

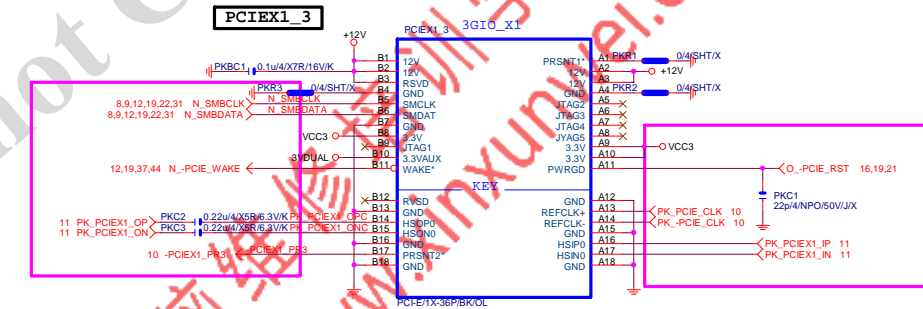
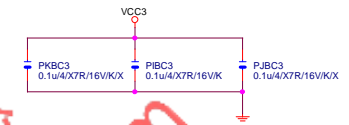
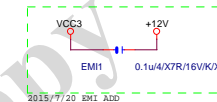
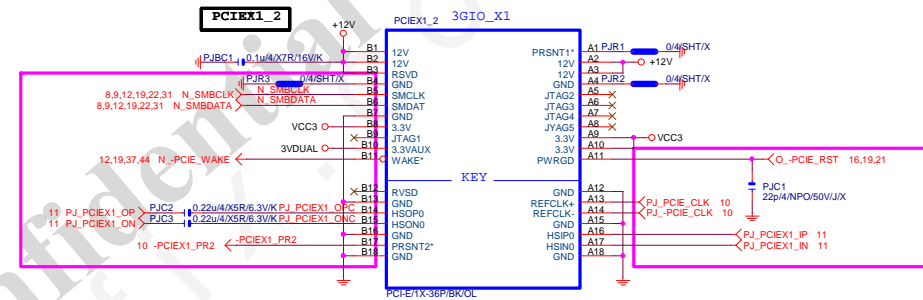
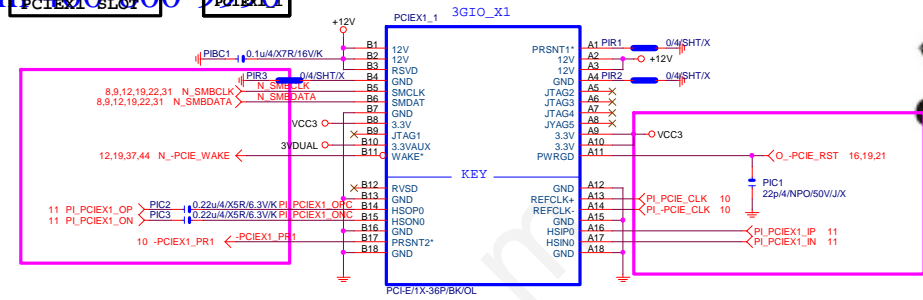


PCIEX16:16/5/5/5/16

PA EXP TXP0.151 >> PA_EXP_RXP0[0..15] 4
PA EXP TXN0.151 >> PA_EXP_RXN0[0..15] 4
PA EXP TXP1.151 >> PA_EXP_TXP1[0..15] 4
PA EXP TXN1.151 >> PA_EXP_TXN1[0..15] 4

Gigabyte Technology

Title			PCI EXPRESS * 16
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M.2 Lane3 from PCH port17

M.2 Lane2 from PCH port16

M.2 Lane2 from PCH port15

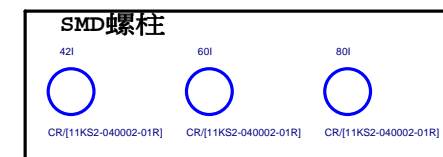
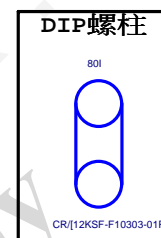
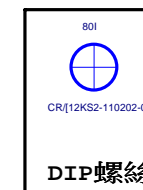
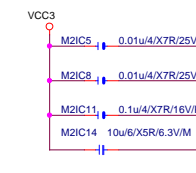
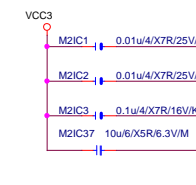
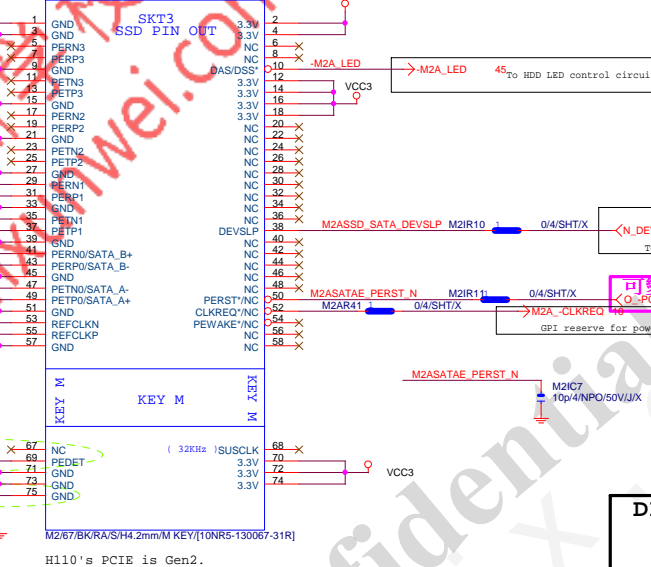


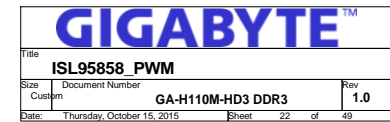
支援SATA and M.2 function



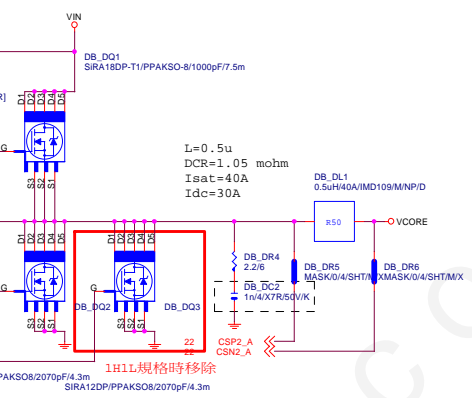
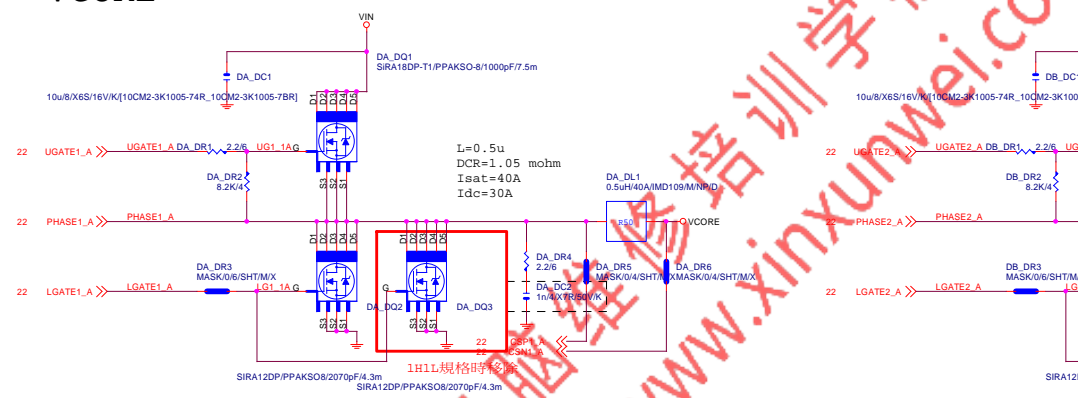
SATA 與 PCIE 切換 with switch

	G0	G1
PCIE	0	0
SATA	0	1
沒插卡	1	X

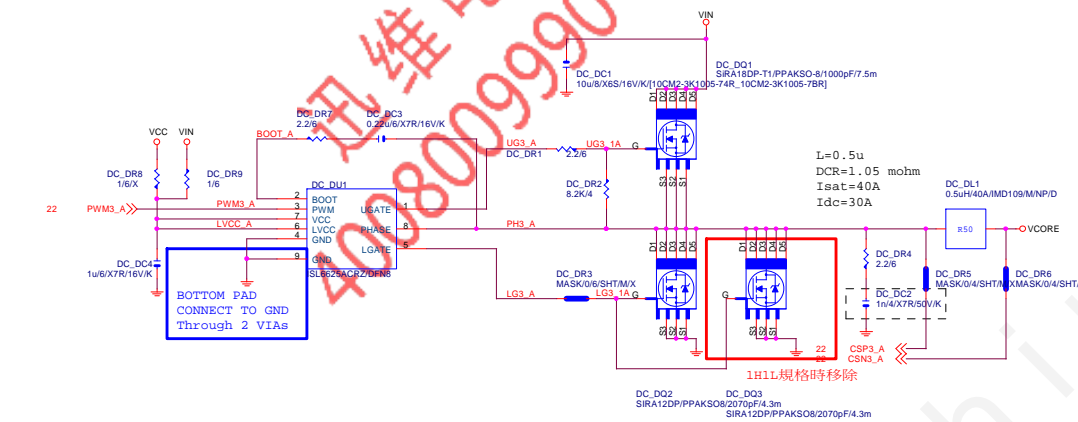
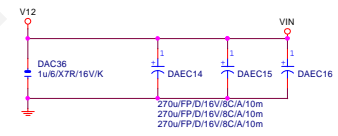




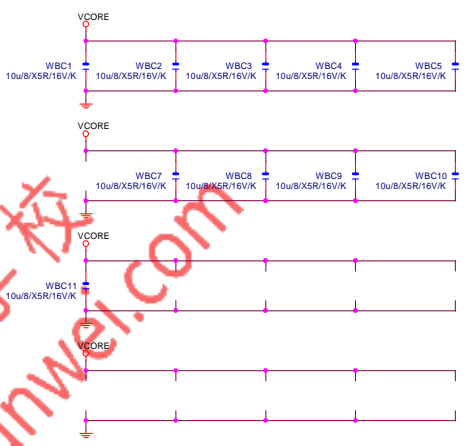
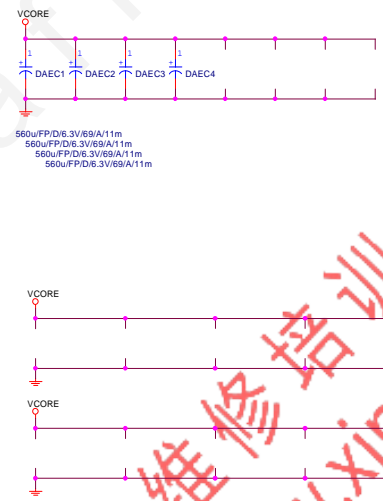
VCORE



VIN CAP 270u*3PCS

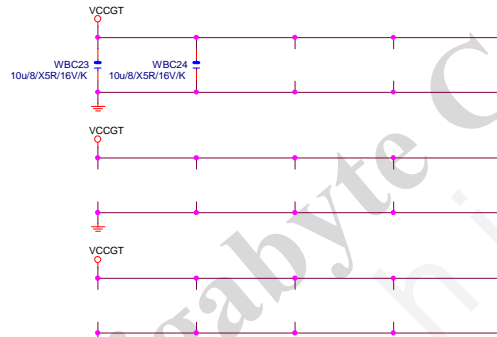


VCORE CAP 560u*4PCS 10u*10PCS



GIGABYTE™

Title			ISL95858_MOS
Size	Document Number	GA-H110M-HD3 DDR3	
	Custom	Rev 1.0	
Date	Thursday, October 15, 2015	Sheet	23 of 49

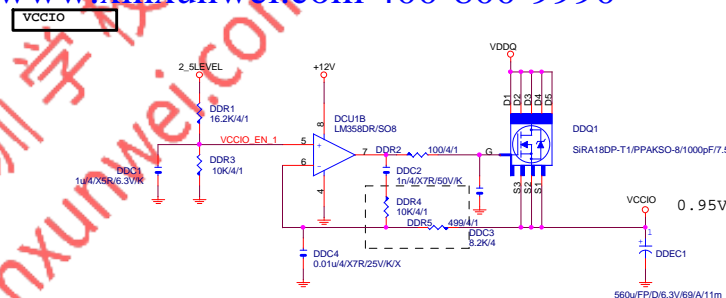
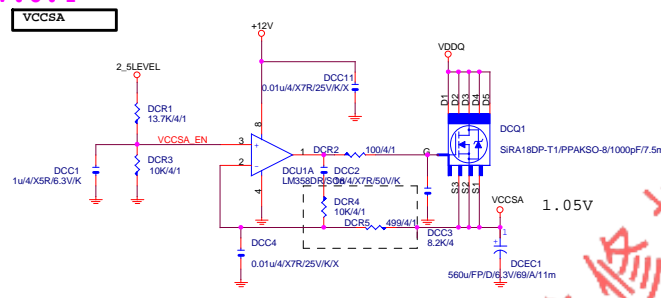


Not a
Copy

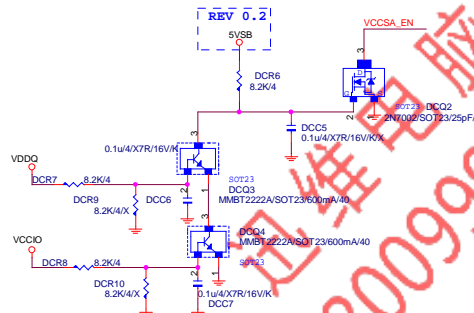
迅维电脑维修培训学校
4008009990 www.xinxunwei.com

	
Title	
ISL95858 M	
Size	Document Number
Custom	GA-H
Date:	Thursday, October 1

REV: 0.4

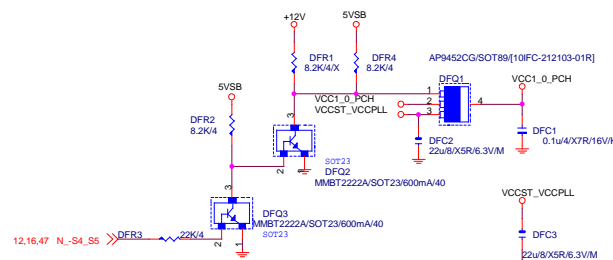


Connect to IT8620



VCCST_VCCPLL

REV: 0.2



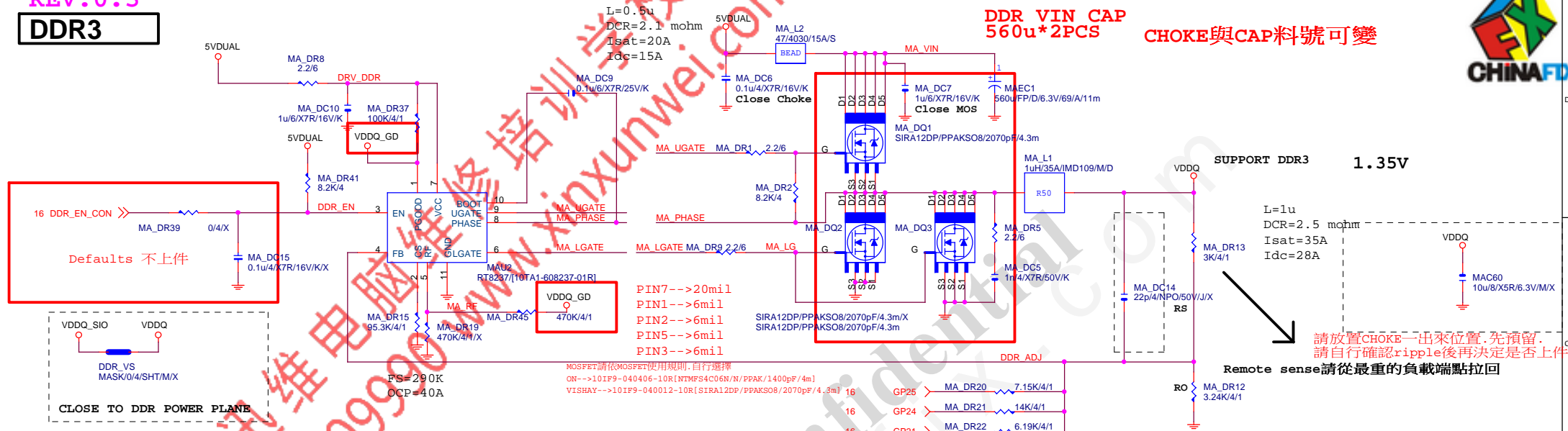
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VCCSA VCCIO no 44E

Size	Document Number	Rev
Custom	GA-H110M-HD3 DDR3	1.0

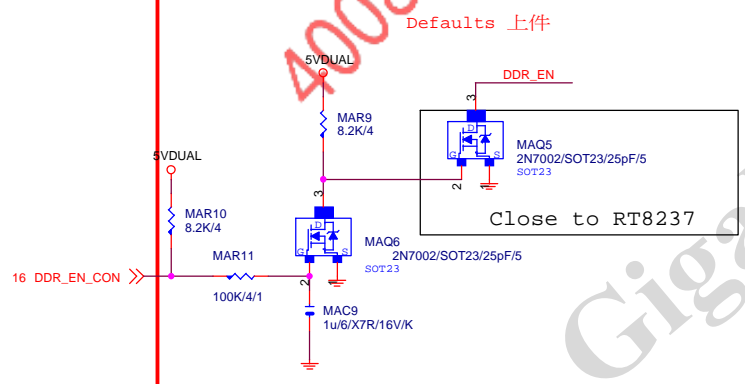
GA-HITUM-HD3 DDR3

Date: Thursday, October 15, 2015 Sheet 25 of 49

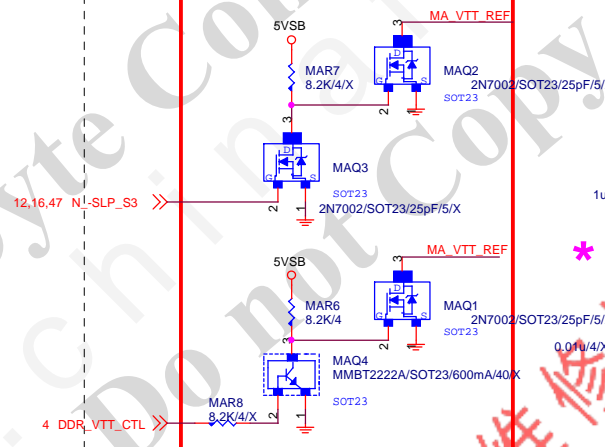
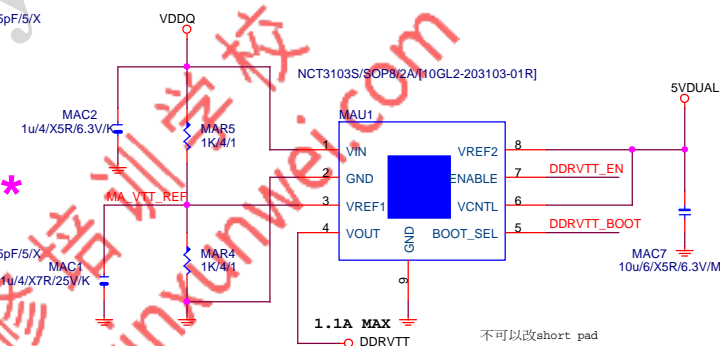
DDR3



PWR SEQ

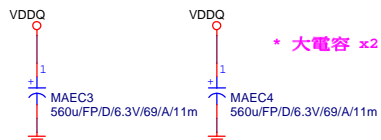


MAU1上RT9045時上件(不可MASK)

**DDRVTT**

MAU1上NCT3103S時上件(不可以改short pad)

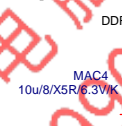
DDR CAP 560u*2PCS




22u*2PCS



DDR VTT CAP



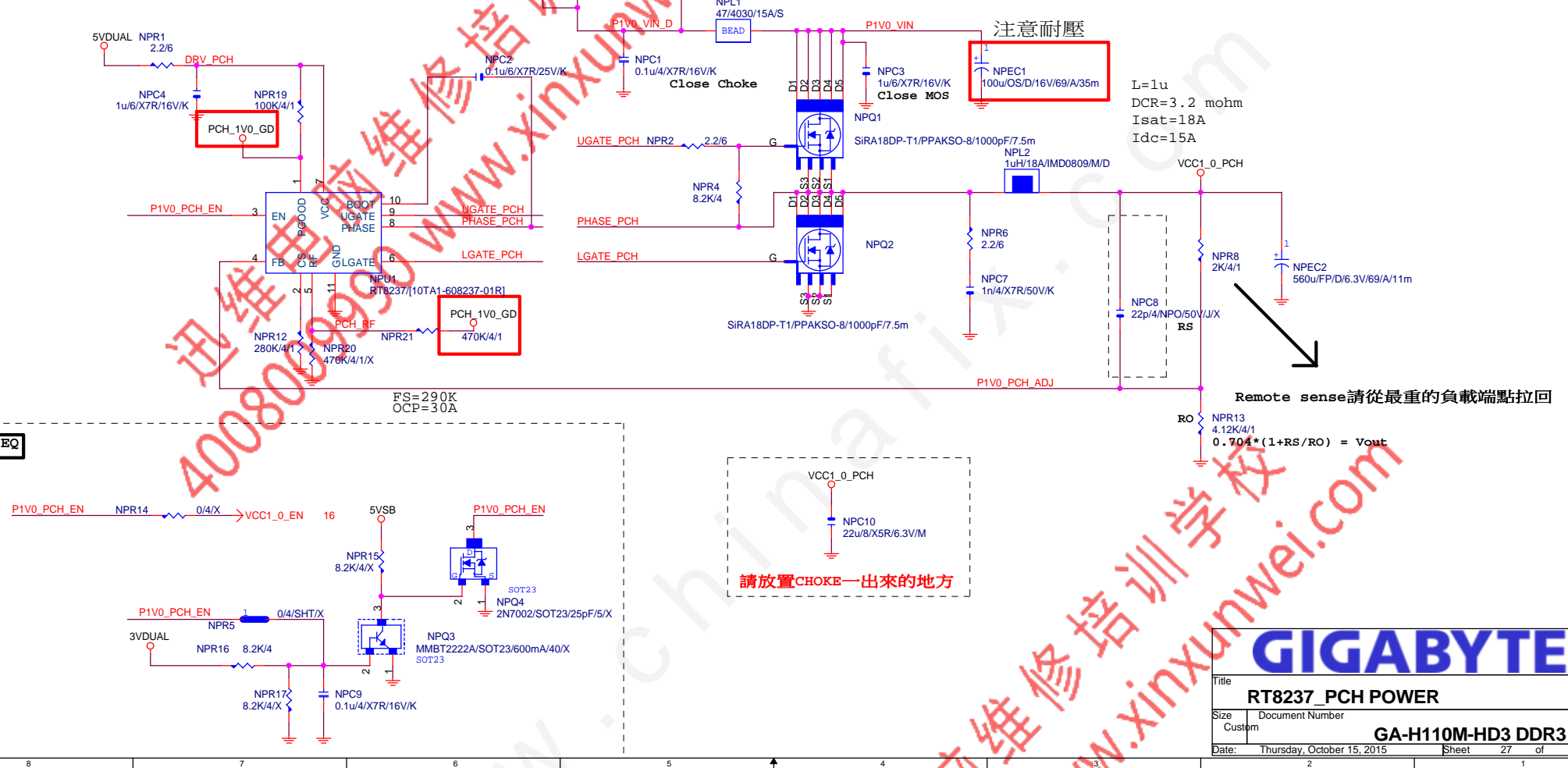
			
Title			
RT8237_DDR3 POWER			
Size	Document Number		Rev
Custom	GA-H110M-HD3 DDR3		1.0
Date:	Thursday, October 15, 2015	Sheet 26 of 49	

REV:0.5

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CHOKE與CAP料號可變



5VDUAL

5V AUX SW

R113
8.2K/4

5VSB

R52
1K/4/1

16 5V AUX SW

R53
1K/4/1

R56
100K/4/1/X

C23
0.1u/4/X7R/16V/K

EC10
100uOS/D/6.3V/66A/35m

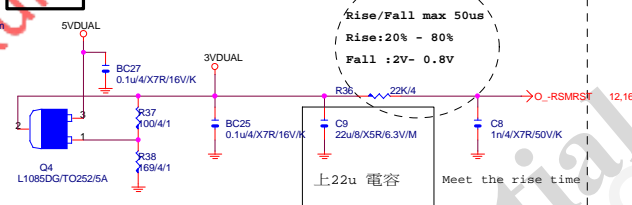
EC11
100uOS/16/8

5V DUAL

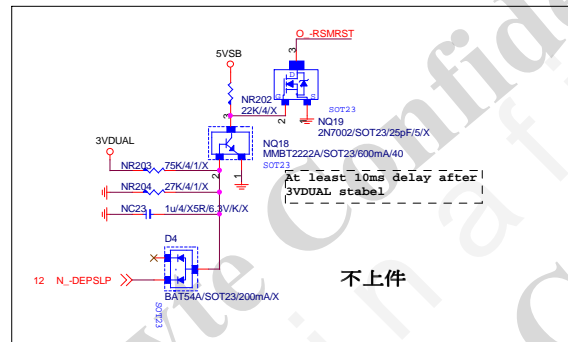
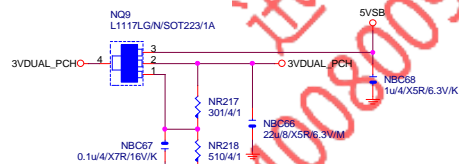
BC59
22uB/XSR/6.3V/M

BC59
22uB/XSR/6.3V/M

3VDUAL



3VDUAL_PCH

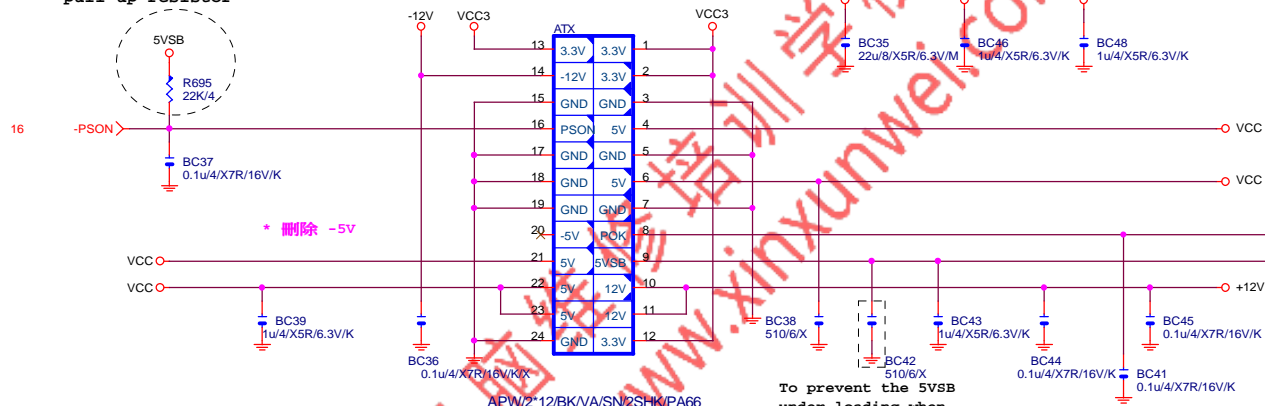


不上件

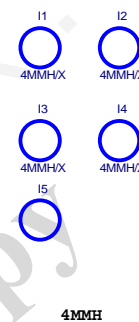
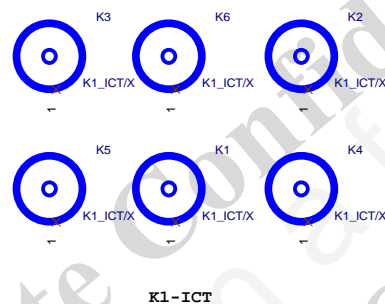
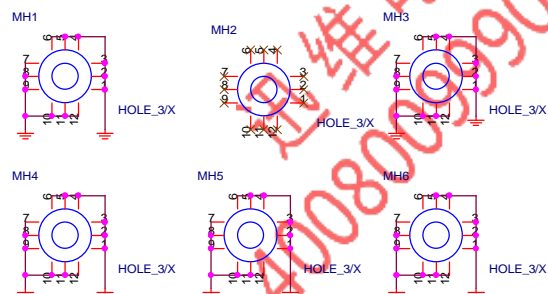
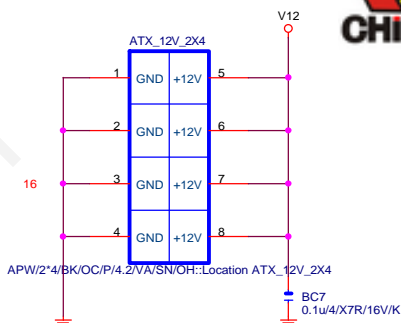


ATXX24 POWER CONNECTOR

Patch some PSU no internal pull up resistor

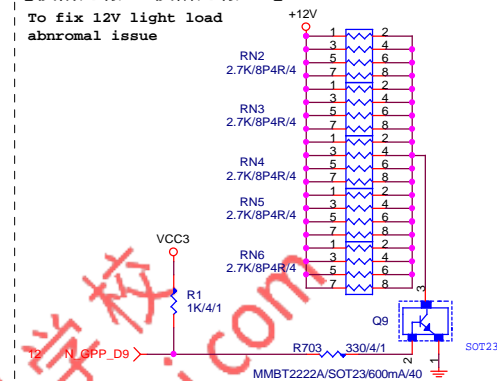


ATXX4 POWER CONNECTOR



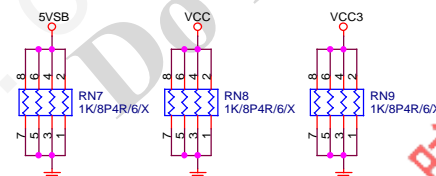
【技術通報R&D技術通報153】

To fix 12V light load abnormal issue



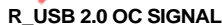
-PROHOT * 保留 ?

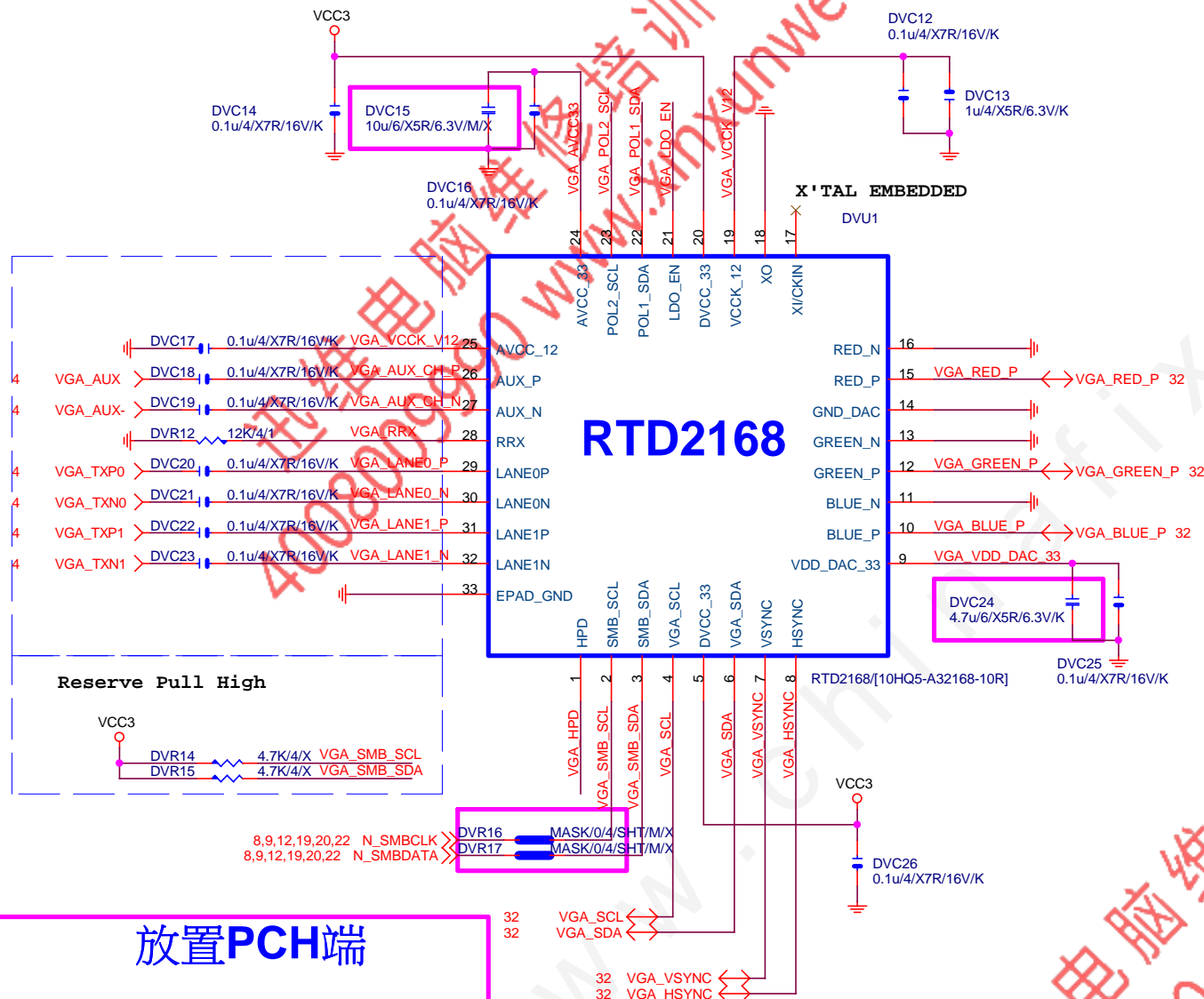
4,16 A_PROCHOT ← A_PROCHOT R2 0/4/SHT/X → VR_HOT 22



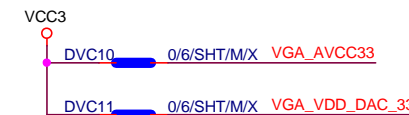
Gigabyte Technology

Title		ATX POWER CONNECTOR	
Size	Document Number	GA-H110M-HD3 DDR3	
Custom		Rev 1.0	
Date:	Thursday, October 15, 2015	Sheet	29 of 49

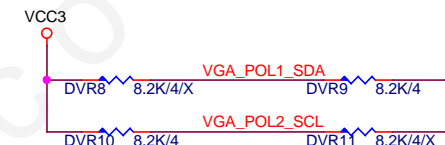




POWER

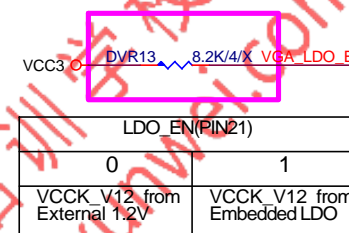


Power on latch

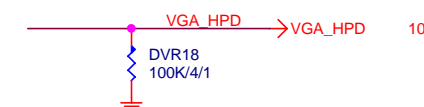


		POL1_SDA(PIN22)	
		0	1
POL2_SCL (PIN23)	0	X	EP MODE
	1	ROM ONLY MODE	EEPROM MODE

Embedded LDO

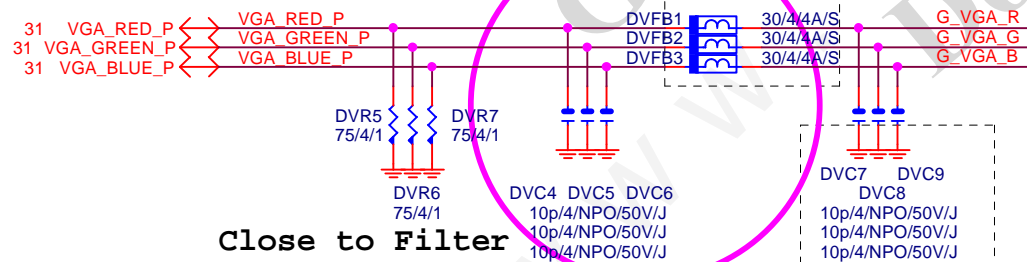
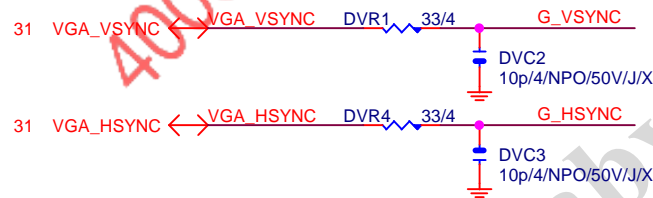
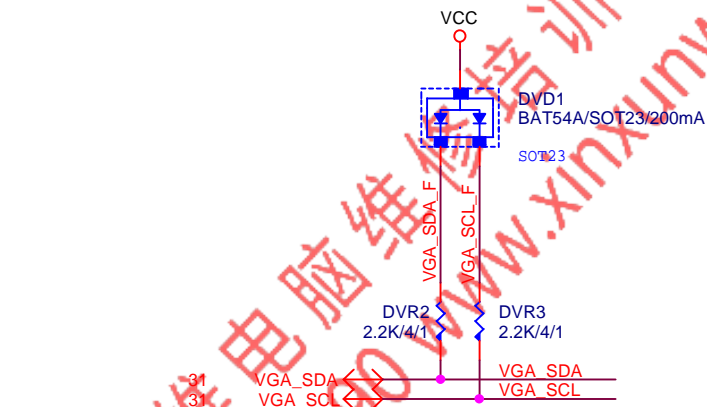
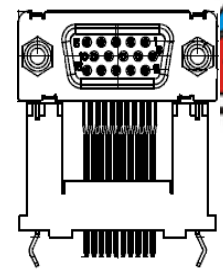


DP HPD



Gigabyte Technology
DP-VGA RTD2168

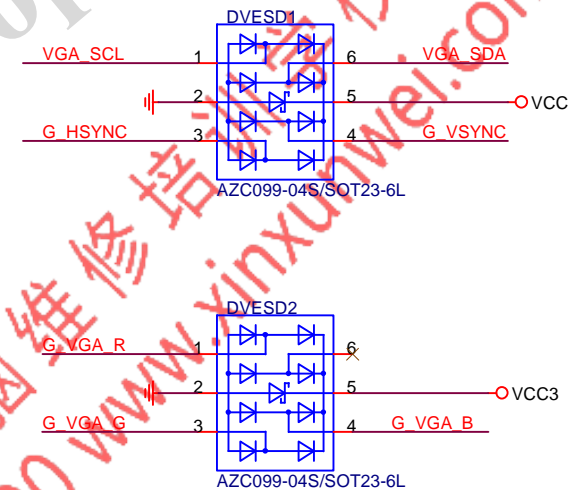
Size	Document Number	GA-H110M-HD3 DDR3	Rev
Custom			1.
Date:	Thursday, October 15, 2015	Sheet	31 of 49



Close to Filter

FOR EMI

VGA ESD



Gigabyte Technology

DP-VGA RTD2168

Size	Document Number	Rev
Custom	GA-H110M-HD3 DDR3	1.0

Date: Thursday, October 15, 2015 Sheet 32 of 49

DVI_CONN

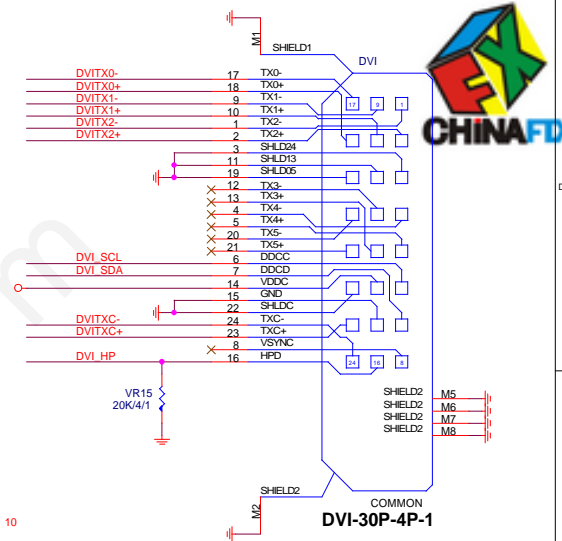
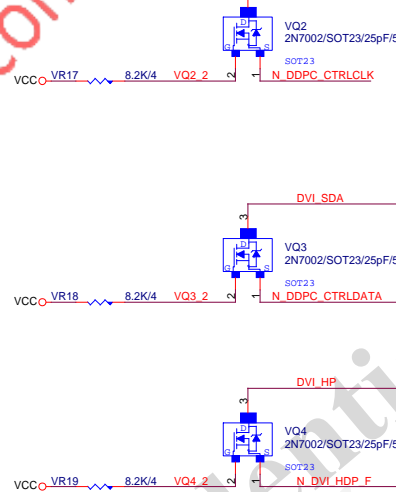
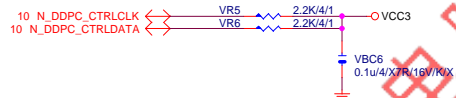
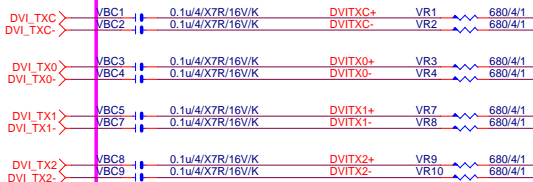
NET 可變

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

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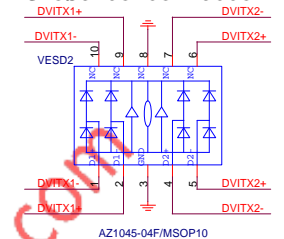
防漏電

★Update 2015.05.27

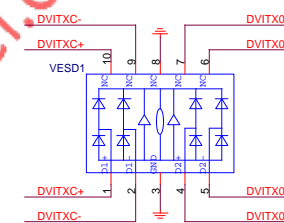


DVI-D/24P/SC/RA/D/SH[11NR6-501024-31R_11NR6-501024-34R_11NR6-501024-33R]

Close to connector

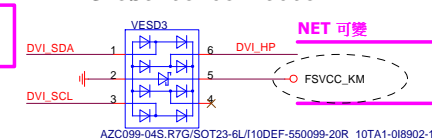


AZ1045-04F/MSOP10



AZ1045-04F/MSOP10

Close to connector



AZC099-04S/R7G/SOT23-6L[10DEF-550099-20R_10TA1-0I8902-10R]

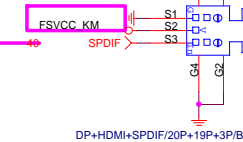
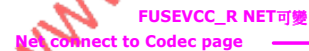
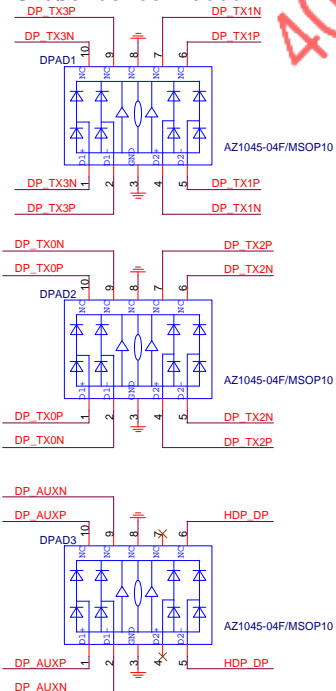
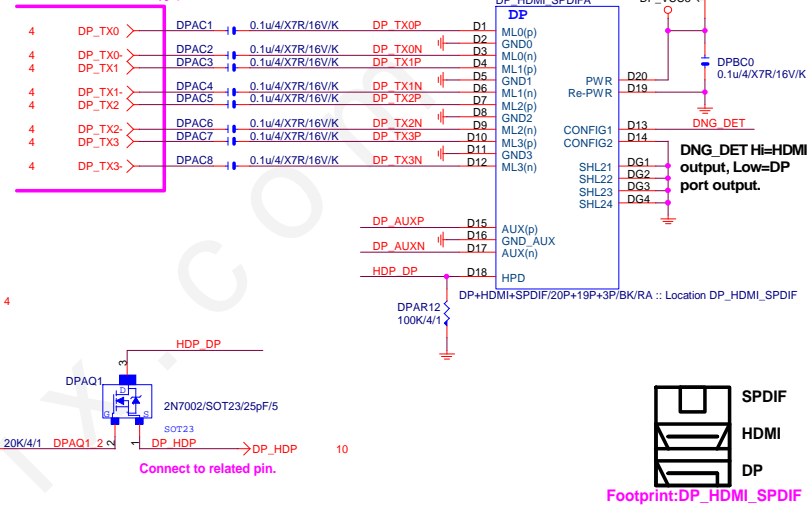
Gigabyte Technology


Title			
FP,F_USB,USB PWR,BZ			
Size	Document Number	GA-H110M-HD3 DDR3	
Custom			Rev 1.0
Date:	Thursday, October 15, 2015	Sheet	33 of 49

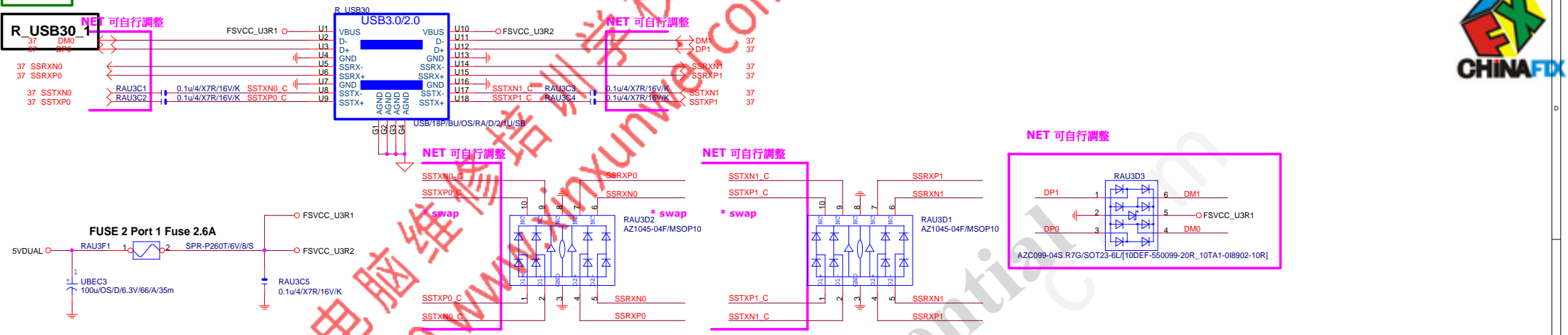


DP+HDMI+SPDIF/20P+19P

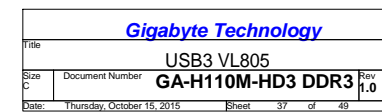
Pin	Signal	Component	Value
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2	DP_TX0P	DPAC2	0.1u/4/X7R/16V/K
3	DP_TX1	DPAC3	0.1u/4/X7R/16V/K
4	DP_TX1P	DPAC4	0.1u/4/X7R/16V/K
5	DP_TX2	DPAC5	0.1u/4/X7R/16V/K
6	DP_TX2P	DPAC6	0.1u/4/X7R/16V/K
7	DP_TX3	DPAC7	0.1u/4/X7R/16V/K
8	DP_TX3P	DPAC8	0.1u/4/X7R/16V/K
9	DP_TX0N	DPAC9	0.1u/4/X7R/16V/K
10	DP_TX0NP	DPAC10	0.1u/4/X7R/16V/K
11	DP_TX1N	DPAC11	0.1u/4/X7R/16V/K
12	DP_TX1NP	DPAC12	0.1u/4/X7R/16V/K
13	DP_TX2N	DPAC13	0.1u/4/X7R/16V/K
14	DP_TX2NP	DPAC14	0.1u/4/X7R/16V/K
15	DP_TX3N	DPAC15	0.1u/4/X7R/16V/K
16	DP_TX3NP	DPAC16	0.1u/4/X7R/16V/K
17	DP_TX0N	DPAC17	0.1u/4/X7R/16V/K
18	DP_TX0NP	DPAC18	0.1u/4/X7R/16V/K
19	DP_TX1N	DPAC19	0.1u/4/X7R/16V/K
20	DP_TX1NP	DPAC20	0.1u/4/X7R/16V/K
21	DP_TX2N	DPAC21	0.1u/4/X7R/16V/K
22	DP_TX2NP	DPAC22	0.1u/4/X7R/16V/K
23	DP_TX3N	DPAC23	0.1u/4/X7R/16V/K
24	DP_TX3NP	DPAC24	0.1u/4/X7R/16V/K
25	DP_TX0N	DPAC25	0.1u/4/X7R/16V/K
26	DP_TX0NP	DPAC26	0.1u/4/X7R/16V/K
27	DP_TX1N	DPAC27	0.1u/4/X7R/16V/K
28	DP_TX1NP	DPAC28	0.1u/4/X7R/16V/K
29	DP_TX2N	DPAC29	0.1u/4/X7R/16V/K
30	DP_TX2NP	DPAC30	0.1u/4/X7R/16V/K
31	DP_TX3N	DPAC31	0.1u/4/X7R/16V/K
32	DP_TX3NP	DPAC32	0.1u/4/X7R/16V/K
33	DP_TX0N	DPAC33	0.1u/4/X7R/16V/K
34	DP_TX0NP	DPAC34	0.1u/4/X7R/16V/K
35	DP_TX1N	DPAC35	0.1u/4/X7R/16V/K
36	DP_TX1NP	DPAC36	0.1u/4/X7R/16V/K
37	DP_TX2N	DPAC37	0.1u/4/X7R/16V/K
38	DP_TX2NP	DPAC38	0.1u/4/X7R/16V/K
39	DP_TX3N	DPAC39	0.1u/4/X7R/16V/K
40	DP_TX3NP	DPAC40	0.1u/4/X7R/16V/K
41	DP_TX0N	DPAC41	0.1u/4/X7R/16V/K
42	DP_TX0NP	DPAC42	0.1u/4/X7R/16V/K
43	DP_TX1N	DPAC43	0.1u/4/X7R/16V/K
44	DP_TX1NP	DPAC44	0.1u/4/X7R/16V/K
45	DP_TX2N	DPAC45	0.1u/4/X7R/16V/K
46	DP_TX2NP	DPAC46	0.1u/4/X7R/16V/K
47	DP_TX3N	DPAC47	0.1u/4/X7R/16V/K
48	DP_TX3NP	DPAC48	0.1u/4/X7R/16V/K
49	DP_TX0N	DPAC49	0.1u/4/X7R/16V/K
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53	DP_TX2N	DPAC53	0.1u/4/X7R/16V/K
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55	DP_TX3N	DPAC55	0.1u/4/X7R/16V/K
56	DP_TX3NP	DPAC56	0.1u/4/X7R/16V/K
57	DP_TX0N	DPAC57	0.1u/4/X7R/16V/K
58	DP_TX0NP	DPAC58	0.1u/4/X7R/16V/K
59	DP_TX1N	DPAC59	0.1u/4/X7R/16V/K
60	DP_TX1NP	DPAC60	0.1u/4/X7R/16V/K
61	DP_TX2N	DPAC61	0.1u/4/X7R/16V/K
62	DP_TX2NP	DPAC62	0.1u/4/X7R/16V/K
63	DP_TX3N	DPAC63	0.1u/4/X7R/16V/K
64	DP_TX3NP	DPAC64	0.1u/4/X7R/16V/K
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66	DP_TX0NP	DPAC66	0.1u/4/X7R/16V/K
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68	DP_TX1NP	DPAC68	0.1u/4/X7R/16V/K
69	DP_TX2N	DPAC69	0.1u/4/X7R/16V/K
70	DP_TX2NP	DPAC70	0.1u/4/X7R/16V/K
71	DP_TX3N	DPAC71	0.1u



			
Title			
DP, HDMI, SPDIF			
Size	Document Number	Rev	
Custom	GA-H110M-HD3 DDR3	1.0	
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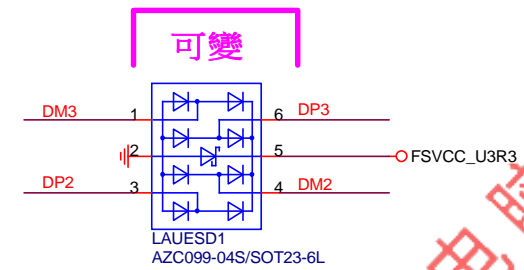
Gigabyte Technology			
Title R_USB30,F_USB30, USB_OC			
Size Custom	Document Number	GA-H110M-HD3 DDR3	Rev 1.0
Date:	Thursday, October 15, 2015	Sheet	36 of 49



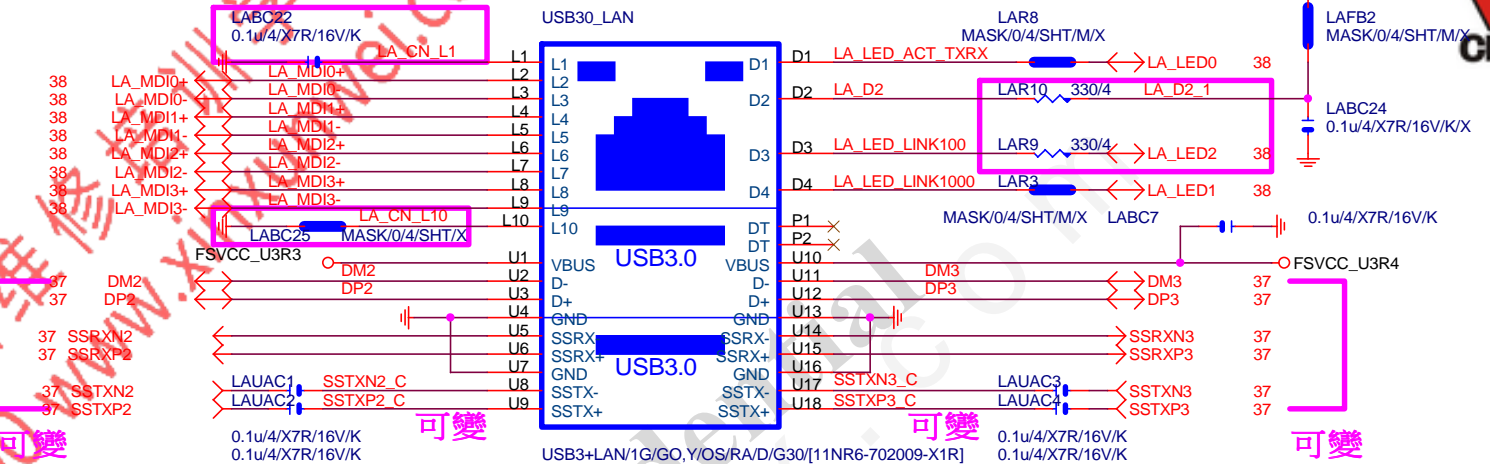
Sheet 38 of 49

USB_LAN CONNECTOR R1.1

RMA ESD PROTECT note:可變更USB NAME

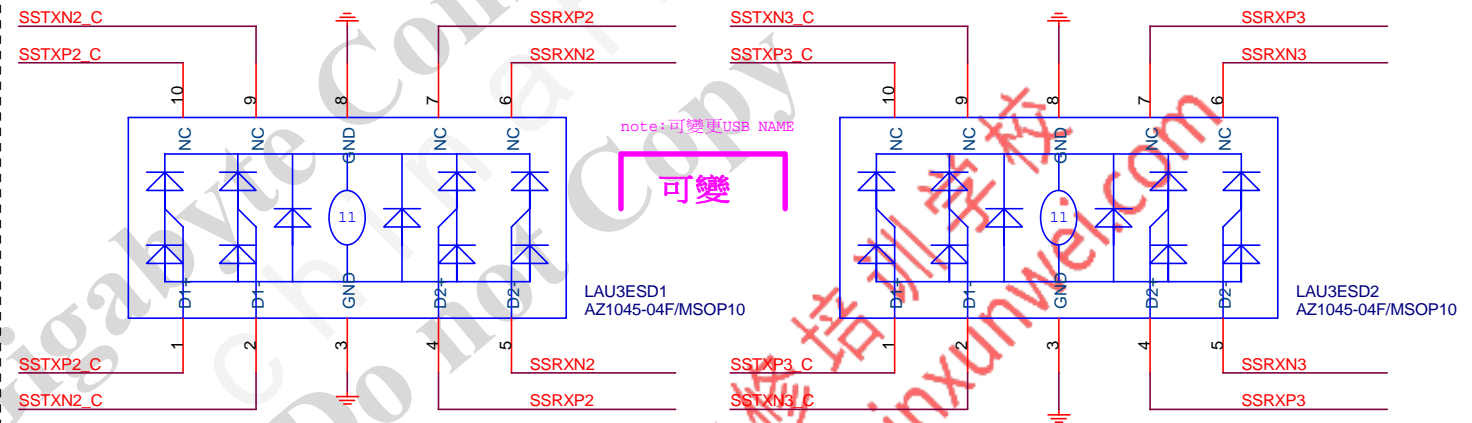
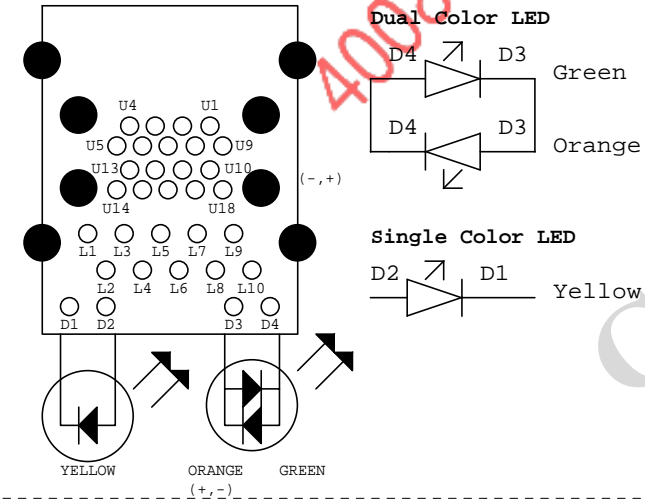


USB_LAN CONNECTOR [I219]

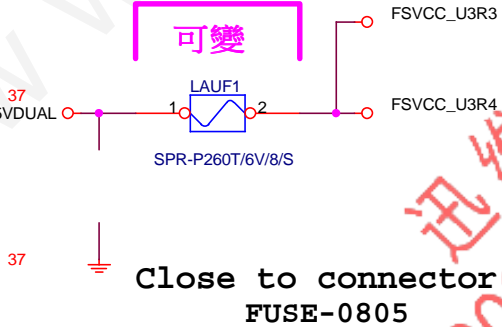


LA MDI--->100歐姆:[20/4/8/4/20]

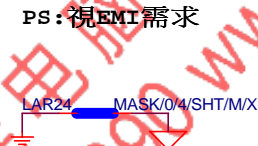
USB3.0 LAN LAYOUT示意圖



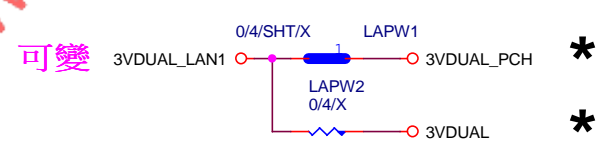
USB POWER note:可變更FUSE



EMI SHORT PAD PS:視EMI需求

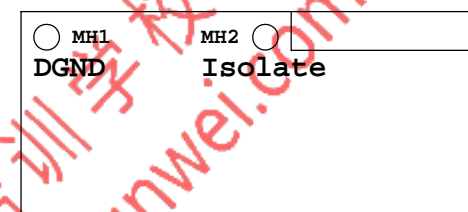
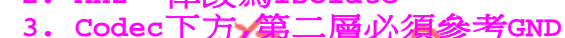


LAN POWER note:lan power連接及電流

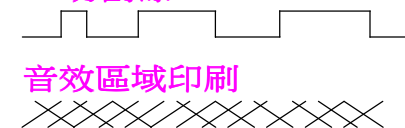


Gigabyte Technology			
LAN CONNECTOR-I219			
Title	Size	Document Number	Rev
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50歐姆: 4/5



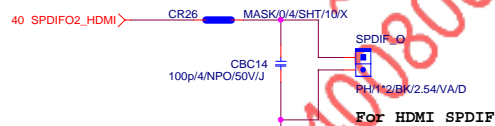
音效區域印刷



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

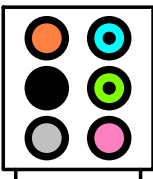


SPDIF_OUT

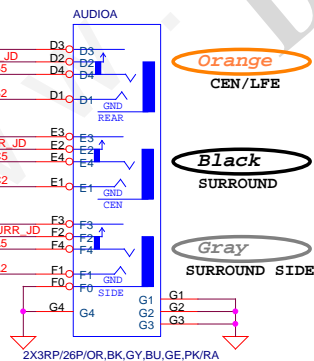
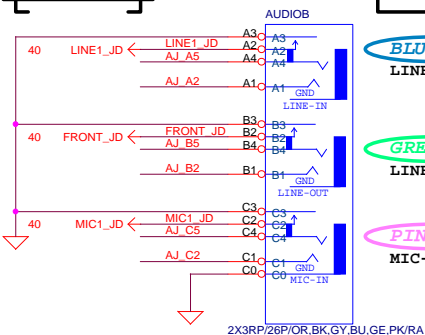


SPDIF_IN

AZALIA JACK



AZALIA JACK

BLUE
LINE-INGREEN
LINE-OUTPINK
MIC-IN

LINE-OUT

LINE-IN

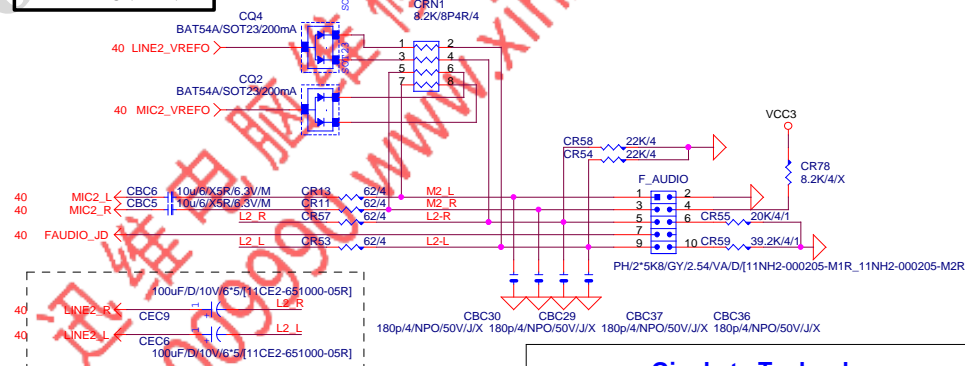
MIC-IN

SURROUND

CEN/LFE

SURRBACK

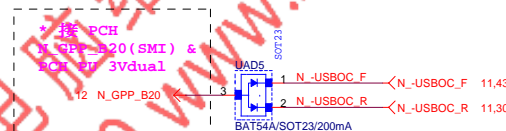
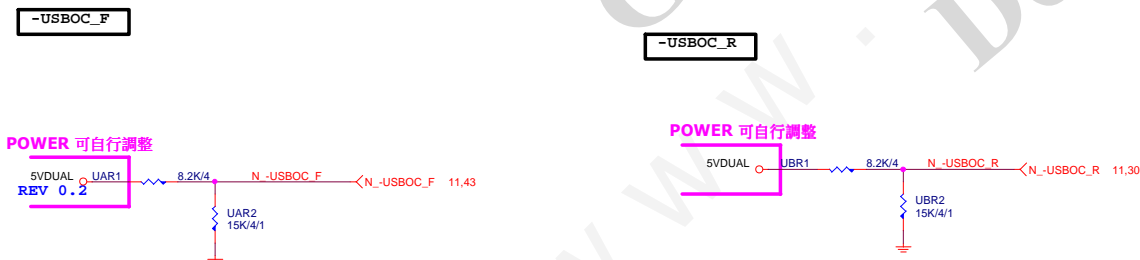
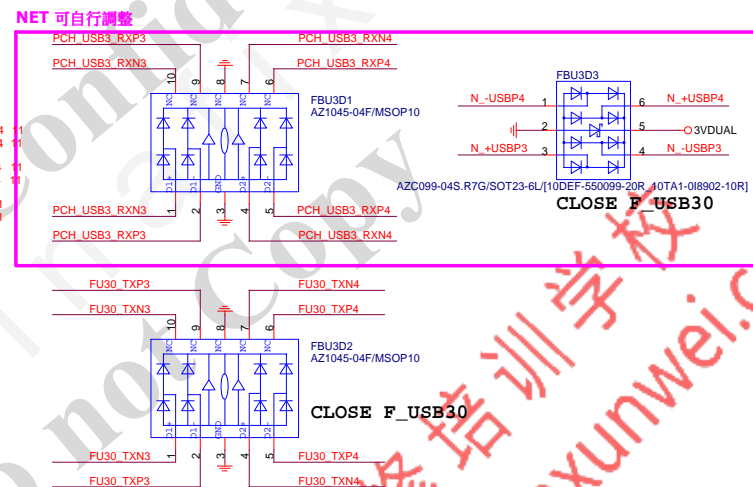
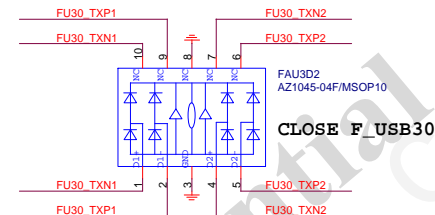
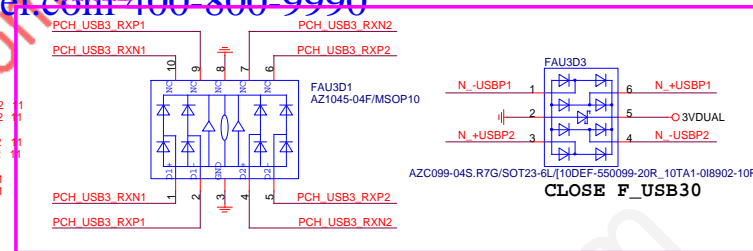
AZALIA FRONT PANEL



Gigabyte Technology

AUDIO JACK

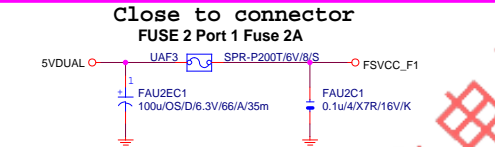
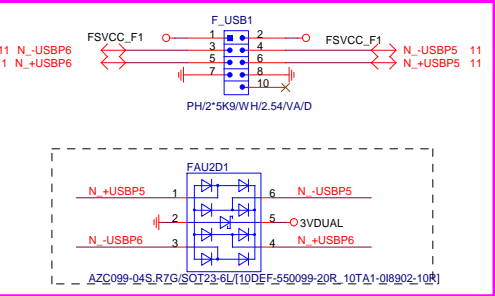
Title	Document Number	GA-H110M-HD3 DDR3	Rev
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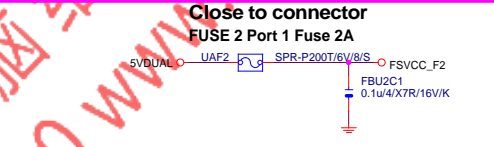
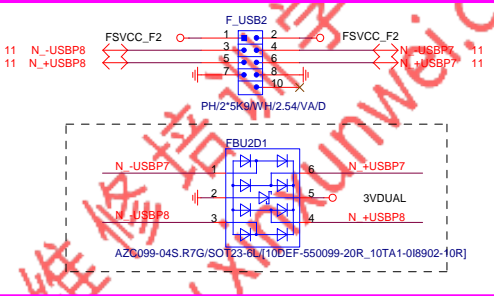
FRONT USB1

NET 可變



FRONT USB2

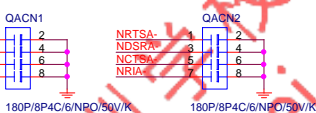
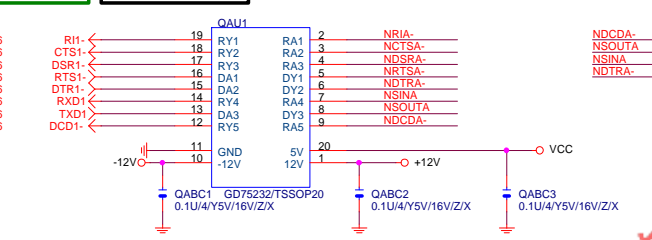
NET 可變



F_USB 2.0 OC SIGNAL

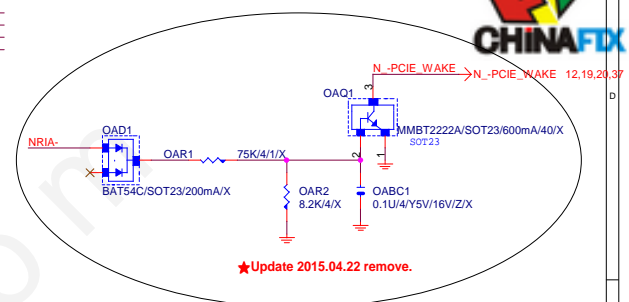
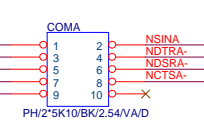


Gigabyte Technology			
Title			
USB2.0			
Size	Document Number	GA-H110M-HD3 DDR3	
Custom		Rev	1.0
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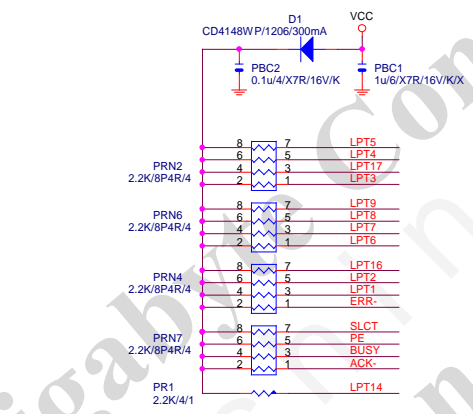
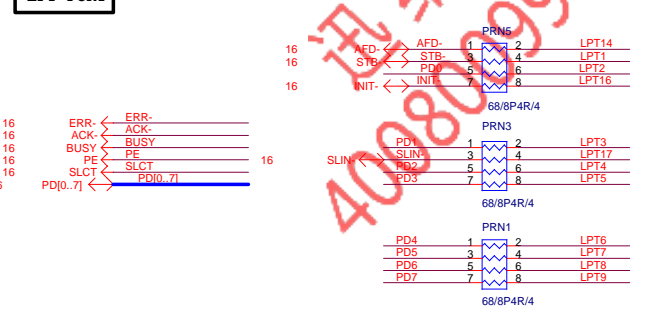


COMA 自行調整

OR

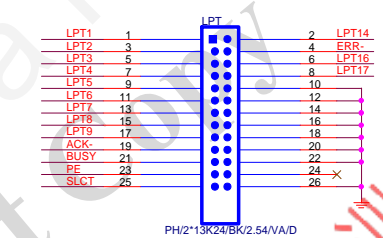


LPT PORT

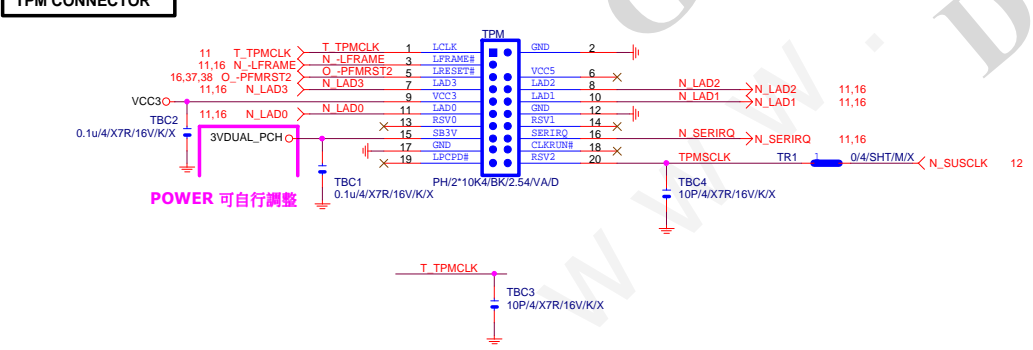


R&D技術通報151 有使用PRINT PORT的
MODEL，需使用新料號：10HP2-118728-72R (CHIP IT8728F/EX (GB) ITE/SMD
QFP128 PRINTPORT SORTING)料件。串電阻33 ohm改為68 ohm。

★Update 2015.03.24



TPM CONNECTOR

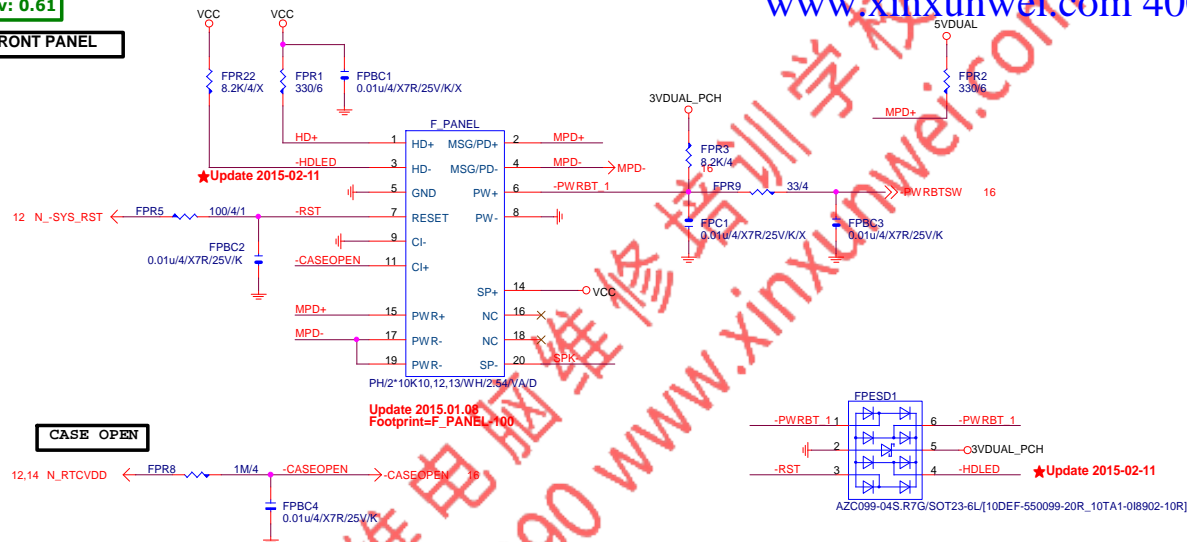


Thunderbolt

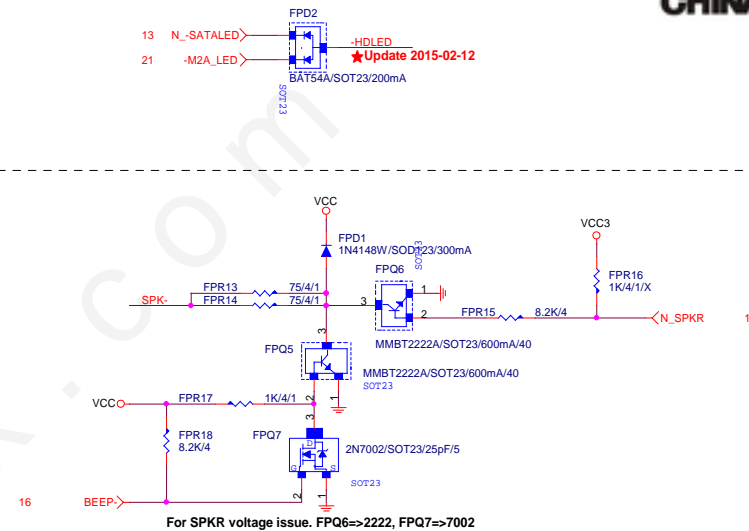
BIOS PH

Gigabyte Technology			
Title			
FP,F_USB,USB PWR,BZ			
Size	Document Number	GA-H110M-HD3 DDR3	
Custom		Rev 1.0	
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CASE OPEN



SPKR



FRONT PANEL SHORT

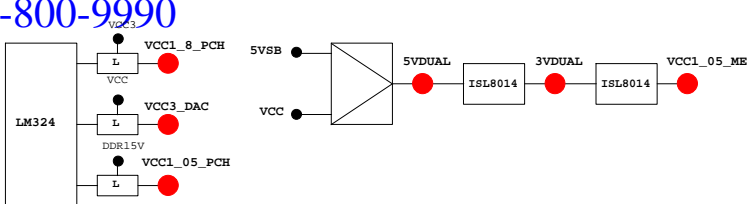


PCH GPIO LIST TABLE					
PIN NAME	PWR	Default	USAGE	NOTE	
GP0	MAIN	H-Z	GPI	GPIO0	N/A
GP1/TACH1	MAIN		GPI	GPIO1	N/A
GP2/PIRQE#	MAIN		GPI	-PIRQE	P/U 8.2K VCC3
GP3/PIRQF#	MAIN		GPI	-PIRQF	P/U 8.2K VCC3
GP4/PIRQG#	MAIN		GPI	-PIRQG	P/U 8.2K VCC3
GP5/PIRQH#	MAIN		GPI	-PIRQH	P/U 8.2K VCC3
GP6/TACH2	MAIN		GPI	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

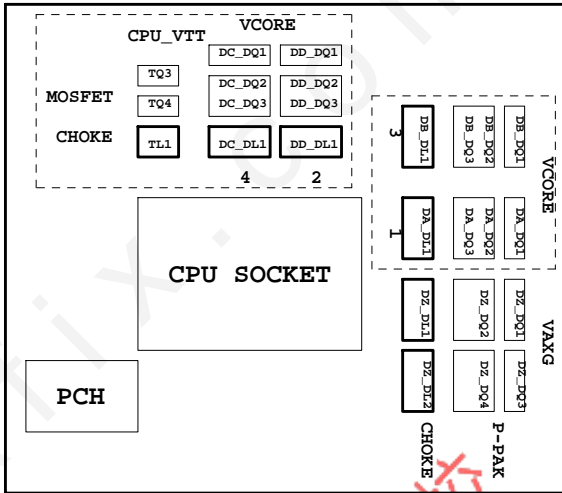
Super I/O ITE8720 GPIO Table

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#/CIRRX1/GP55	-RSMRST	
PME#/GP54	-LPCPME	
PD5/GP75/BUSS00	N/A	

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



PWM各相位的擺法如下:



BIOS超電壓對應表:

散熱模組料號:

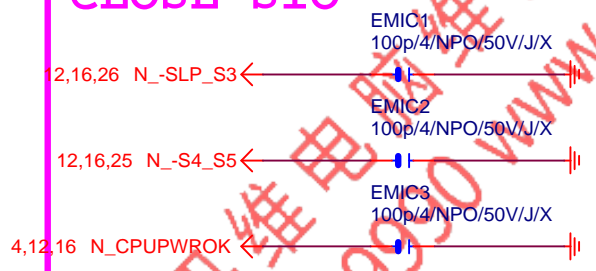
線路圖名稱	BIOS選項
Vcore	CPU Vcore
CPU_VTT	CPU Termination
CPU_VAXG	CPU Graphic Core
VCC1_8_PCH	CPU PLL
VCC1_05_PCH	PCH core
3VDUAL	3VDUAL
DDR15V	DRAM voltage
DDRVTT	DRAM Termination
VREF_CA_A/VREF_CA_B	DRAM Address Ref
VREF_DQ_A/VREF_DQ_B	DRAM Data Ref

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

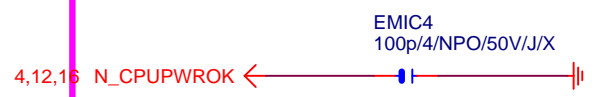
	3 pin FAN control	4 pin FAN control	FAN speed	Controller
CPU FAN	FANPWM1	FANPWM3	FANIO1	IT8720
	PWM2_CR			
	ICH_FAN_PWM2	ICH_FAN_PWM0	ICH_FAN_TACH0	PCH
SYS FAN	FANPWM2	N/A	FANIO2	IT8720
	ICH_FAN_PWM1	N/A	ICH_FAN_TACH1	PCH
PWR FAN	N/A	N/A	FANIO3	IT8720
			ICH_FAN_TACH2	PCH



CLOSE SIO



CLOSE PCH



CLOSE AUDIO



GIGABYTE™		
Title		
EM/ESD		
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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

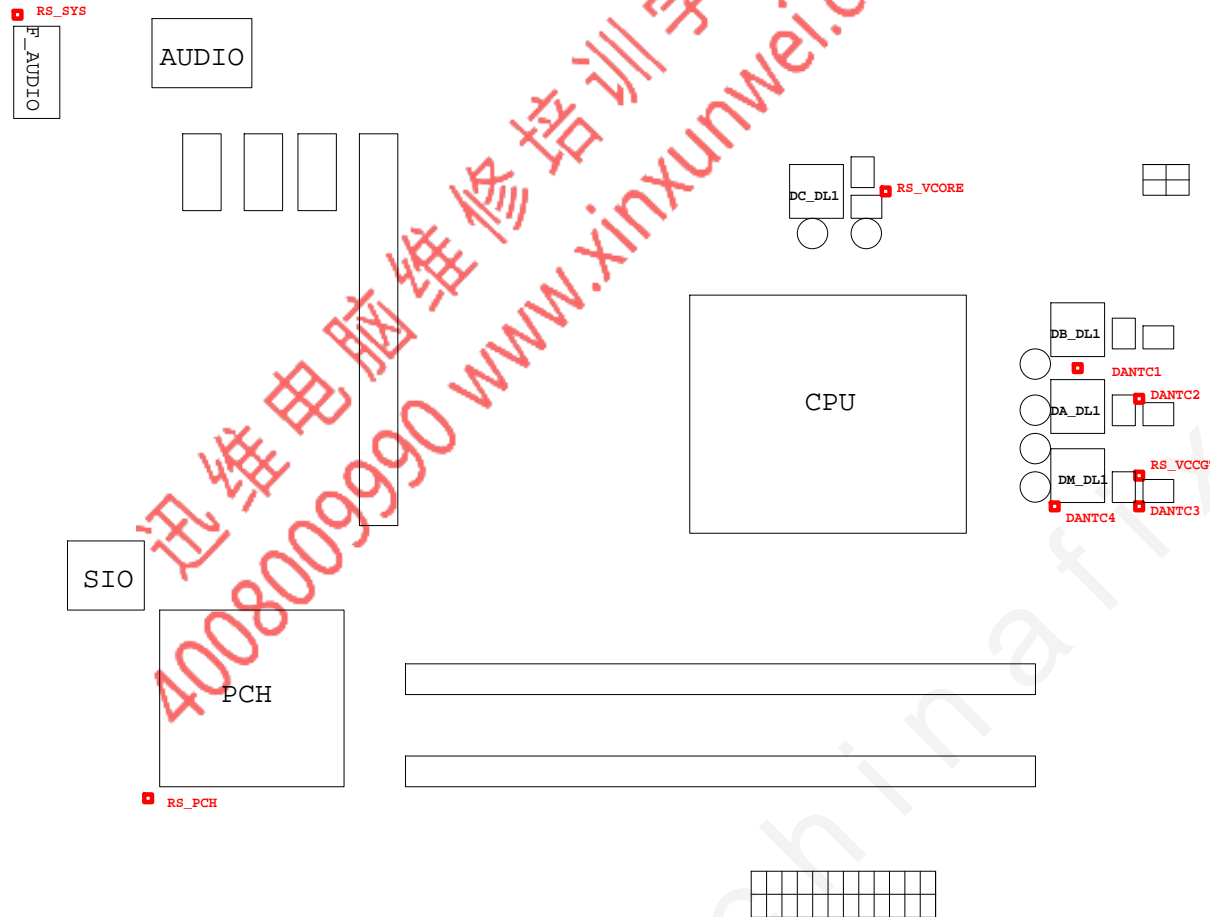
	料號	Capture Value	SIZE	Footprint
DIP	10LFB-15470A-01R	47/4030/15A/S	4*3	BEADC8B-BPH_SMD

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-HD3 DDR3		Rev 1.0
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熱敏電阻	擺放靠近位置	走線方式
DANTC1	DA_DL2	Differential
DANTC2	DA_DQ3	Differential
DANTC3	DM_DQ2	Differential
DANTC4	DM_DL1	Differential
RS_VCORE	DC_DQ4	N/A
RS_VCCGT	DM_DQ2	N/A
TTT1	DC_DQ2	N/A
TTT2	DN_DQ2	N/A
RS_PCH	PCH	N/A
RS_SYS	F_AUDIO	N/A