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SHEET

TITLE

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Gigabyte Technology

Title			Cover Sheet
Size	Document Number	GA-Z170XP-SLI	Rev
Custom			1.0
Date:	Tuesday, July 14, 2015	Sheet 1 of 66	

GIGABYTE

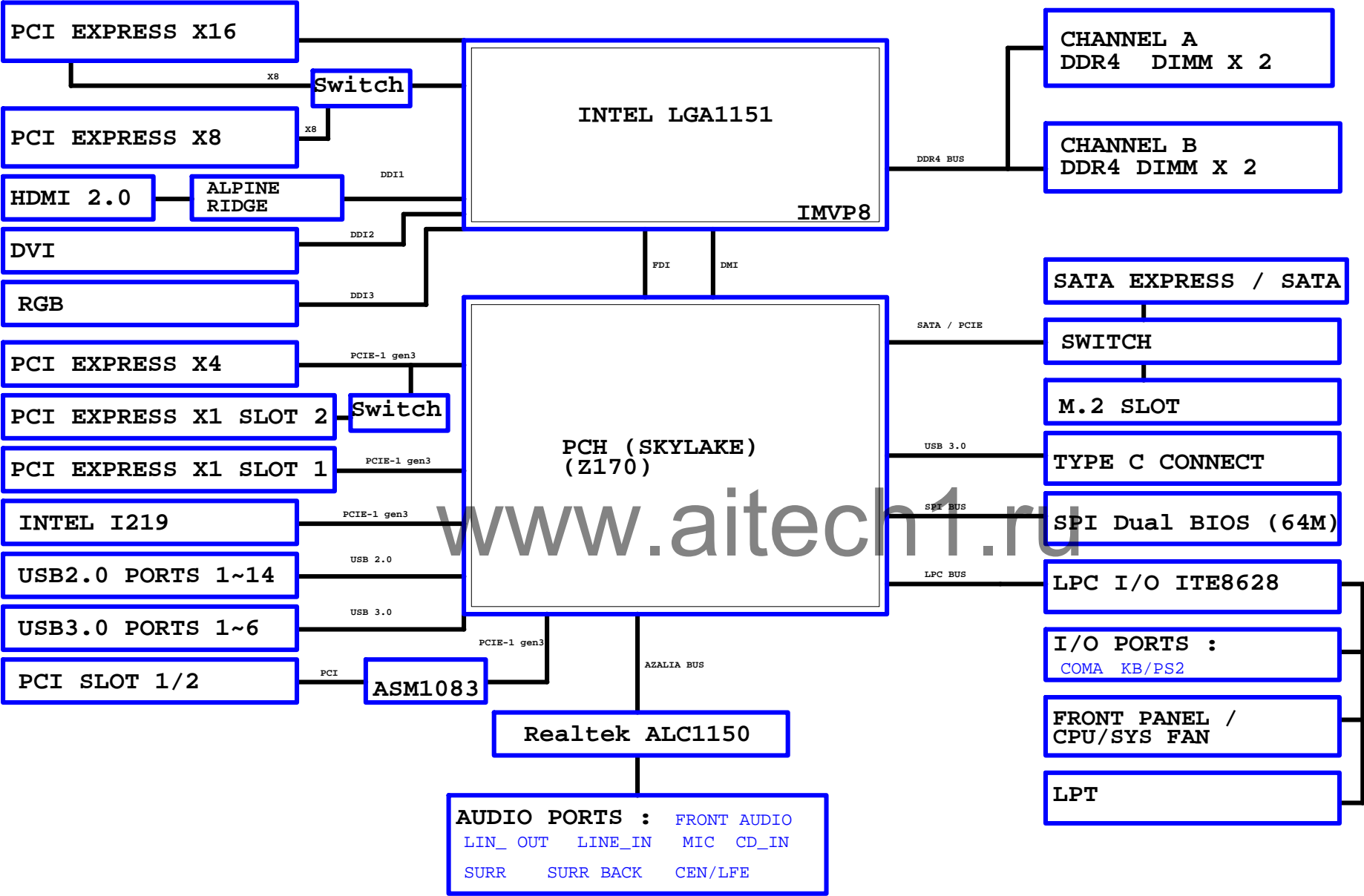
## Component value change history

[illegible]

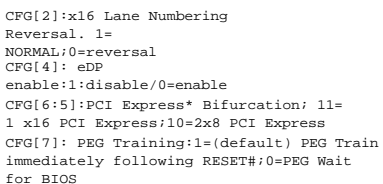
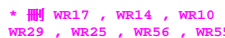
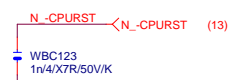
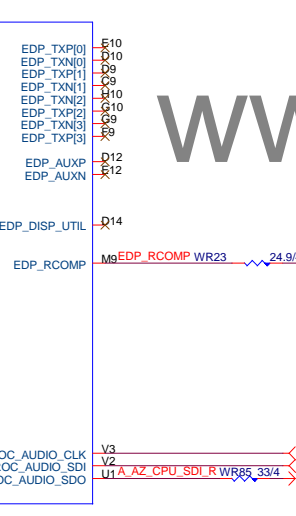
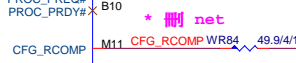
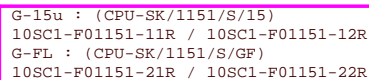
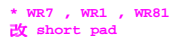
## Circuit or PCB layout change

DATE	Change Item	Reason
2014/10/28	1.PCB first release 2.線路由GA-Z1704-HD3-01-1027_1700.DSN來修改	REV 0.1
2015/01/19	1. Remove NR61 2. SIO 更正pin name 3. SIO add TPM_GP93 4. PCIEX4 PRSNT circuit update 5. PWM add DAR129,DAR130 6. DCR6改接5VSB 7. Update DDR power sequency MAR105 改100K/4,add MAC9 1u/6 8. UAR1改接5VDUAL 9. TPM add pin13 TPM_GP93 10. F_PANEL change to F_PANEL-100 11. CKU1 add 0ohm at RESET pin 12. TYPE C修改CC_EN跟OC線路 13. 工廠DFM修改 a. QAU1, CKU1, OVU1極性標示▲與周圍零件文字框 重疊無法辨識, 建議移至空位處標示	REV 0.2
2015/03/23	1. 由GA-Z1704X-SLI_R02_0323A.DSN來修改 2. Model Name改為Z1704X-D3H REV 0.1 3. 加入TBT	REV 0.1
2015/06/03	1.由Z170X-D3H REV 0.1來修改 2.TYPEC 線路改為RJ179S+D 3.PCH POWER 改為+12V 輸入 4.Remove NR294 & NR295 5.M.2 文字面42,60,80改為42A,60A,80A 6.Add VD1,DVD1 7.刪除NR300、NR301、NR302、NR303 8.線路統一,刪RAU3EC1,把LAEC1放在現在RAU3EC1的位置 9.Remove USB_LAN_HS 10.NX1 依照最新LAYOUT RULE 11.Model name rename to Z170XP-SLI	REV 0.2
2015/06/26	1.Remove A.R. 2.Add ASM1142 3.Remove MR22,Net VDDSPD change to VPP_25V 4.Add NPC10 close to choke 5.NPR22改為0805 6.WR94改為0 ohm 7.Add MA_DR9 close to MA_DQ3 8.Add MA_DR10 close to MAU2 9.Remove RAU3D4 10.Add NFC3	REV 0.3
2015/07/03	1. 0 ohm 改0 ohm short pad 2. BIOS_PH改mask 3. DO_DU1極性標示▲不易辨識, 建議移至空位處標示 4. Add DFR4 5. Add MAC10	GA-Z170XP-SLI Rev 1.0

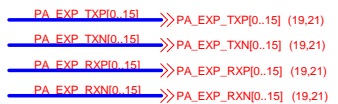
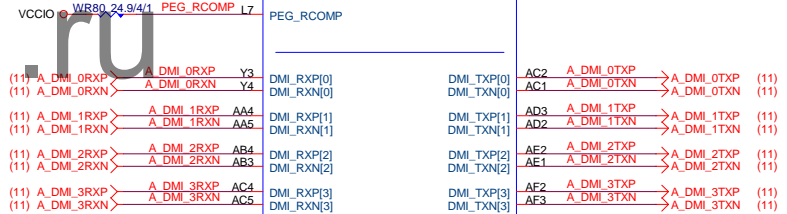
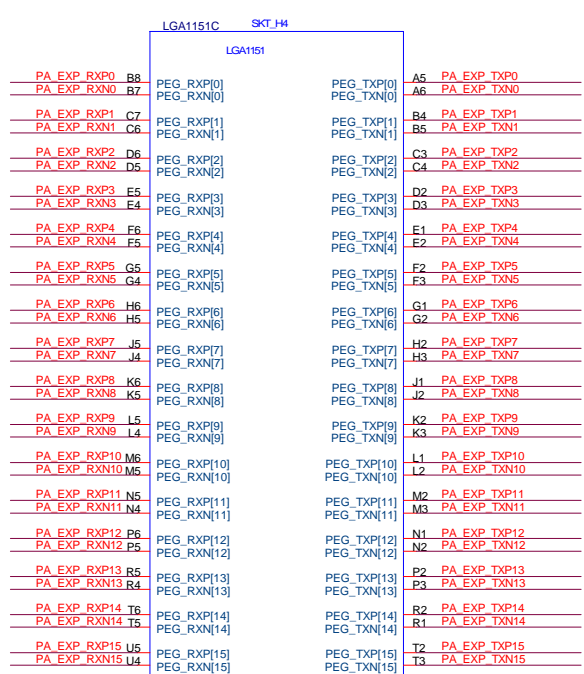
BLOCK DIAGRAM




檢查組態調整線路	
The CFG signals	
default value of '1'	



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

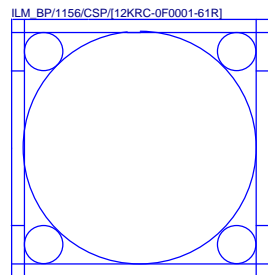


```
W=12 mil out of CPU
S=15 mil out of CPU
```

			
Title			
CPU LGA1151-A			
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\* 改DDR4 net



Need check the new CPU ME



(8) MODT\_A[0..3] ↔ MODT\_A[0..3]

(9) MODT\_B[0..3] ↔ MODT\_B[0..3]

(8) MDA[0..63] ↔ MDA[0..63]

(9) MDB[0..63] ↔ MDB[0..63]

(8) M\_DQSA[0..7] ↔ M\_DQSA[0..7]

(8) M\_DQSA[0..7] ↔ M\_DQSA[0..7]

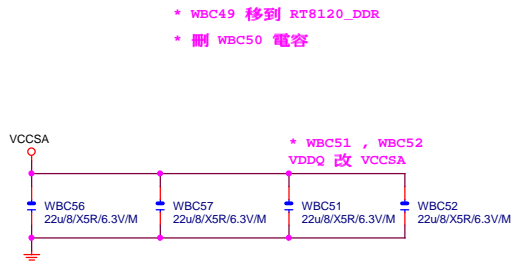
(8) MAAA[0..16] ↔ MAAA[0..16]

(9) MAAB[0..16] ↔ MAAB[0..16]

(9) M\_DQSB[0..7] ↔ M\_DQSB[0..7]

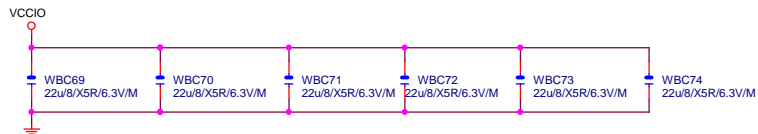
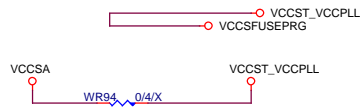
(9) M\_DQSB[0..7] ↔ M\_DQSB[0..7]

<b>Intel CRB</b>			
Title			
<b>CPU LGA1151-B</b>			
Size Custom	Document Number		Rev
	<b>GA-Z170XP-SLI</b>		<b>1.0</b>
Date:	Tuesday, July 14, 2015	Sheet	5 of 66

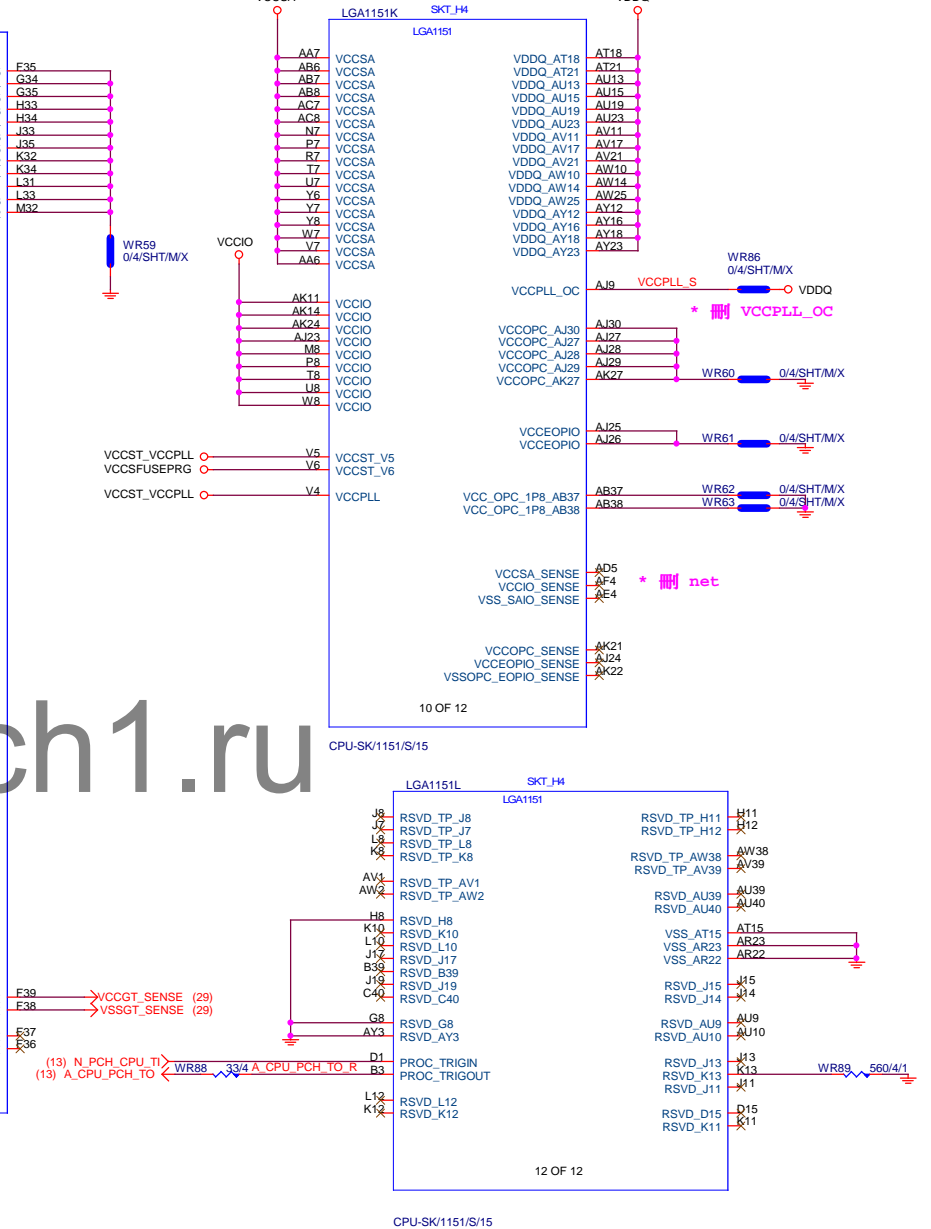
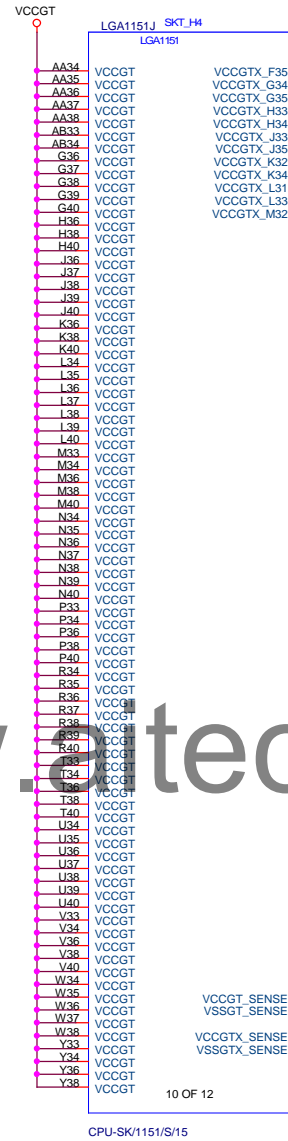


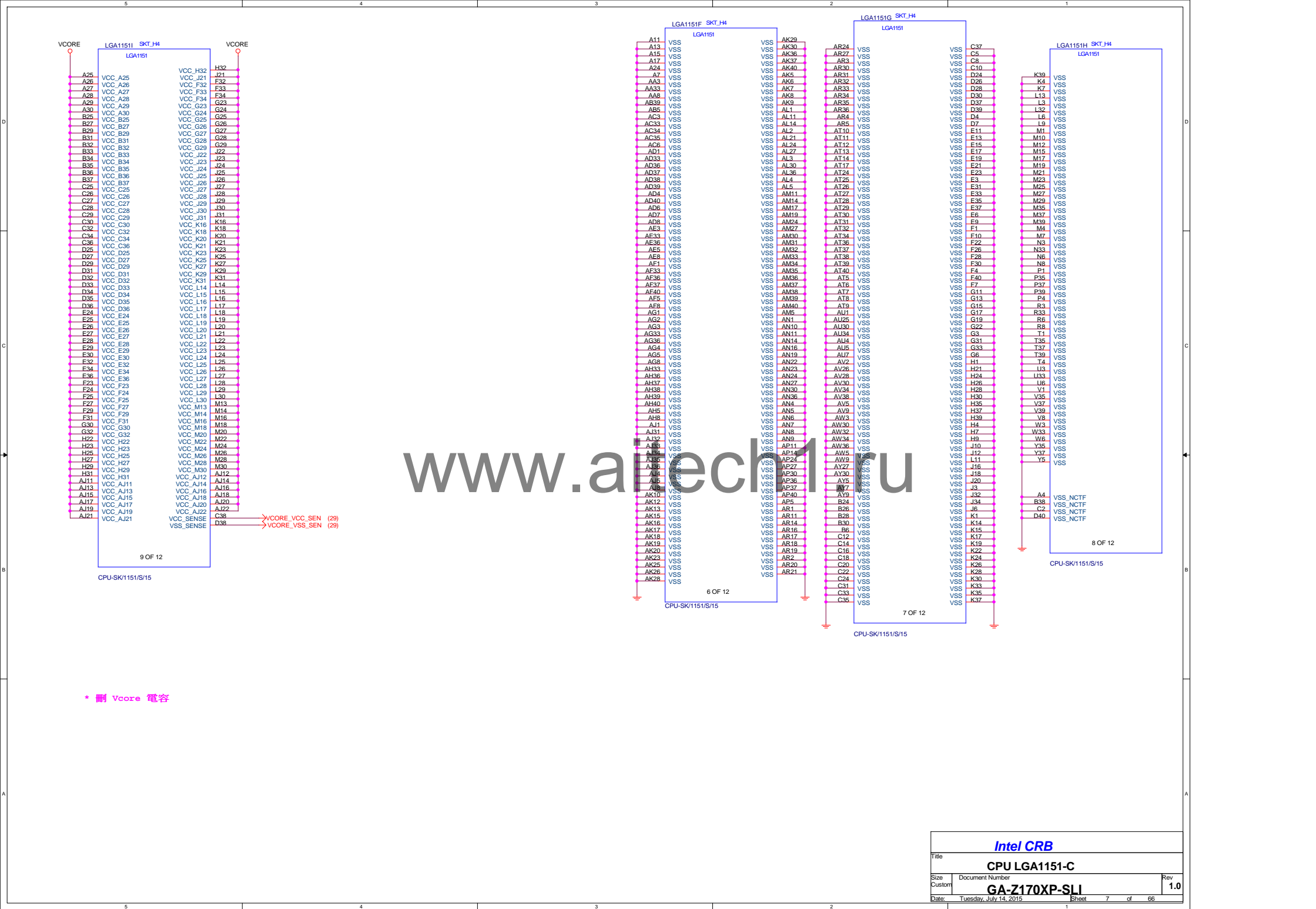
\* 刪 WBC124, WBC125, WBC126, WBC127 電容

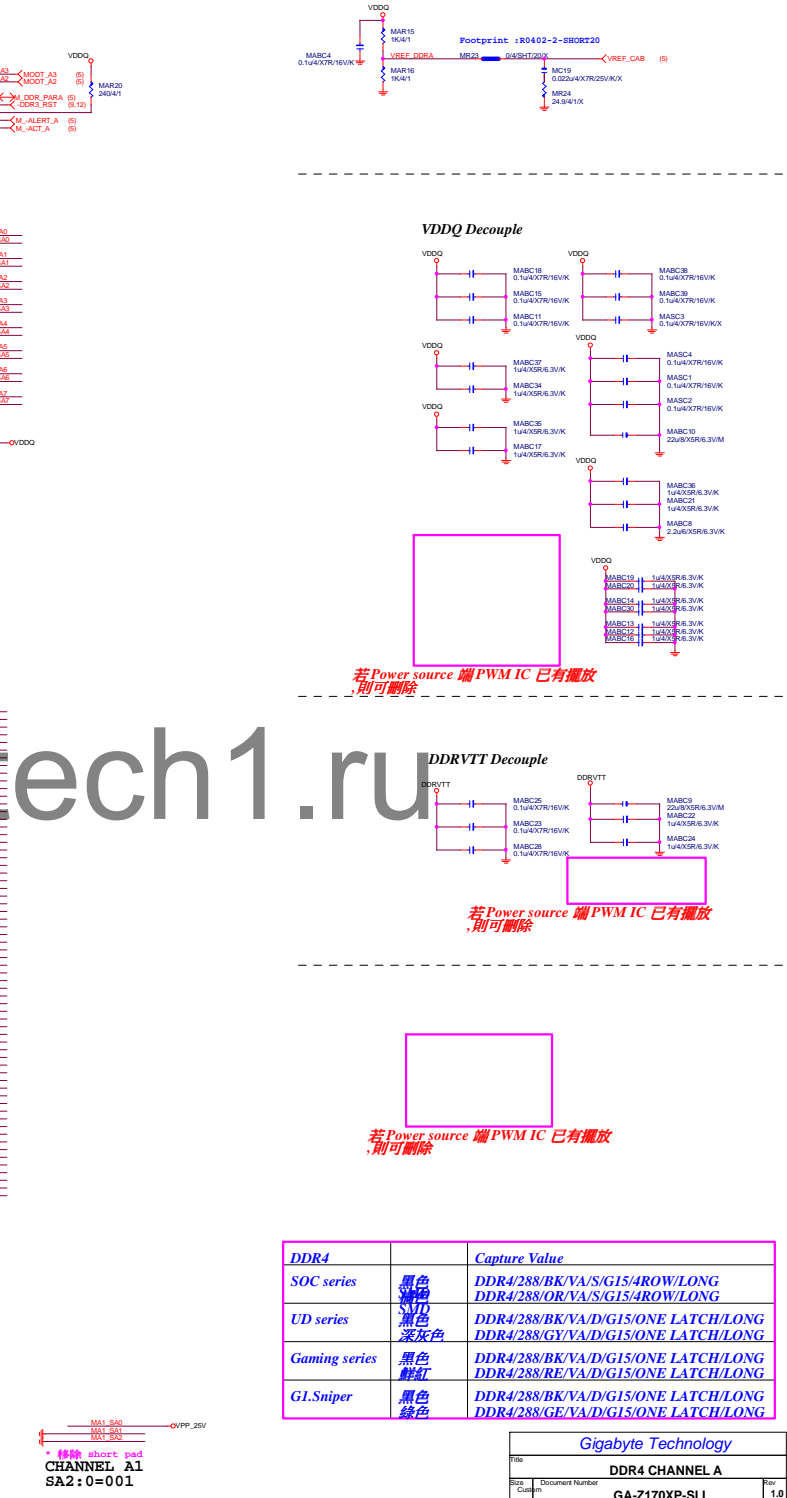
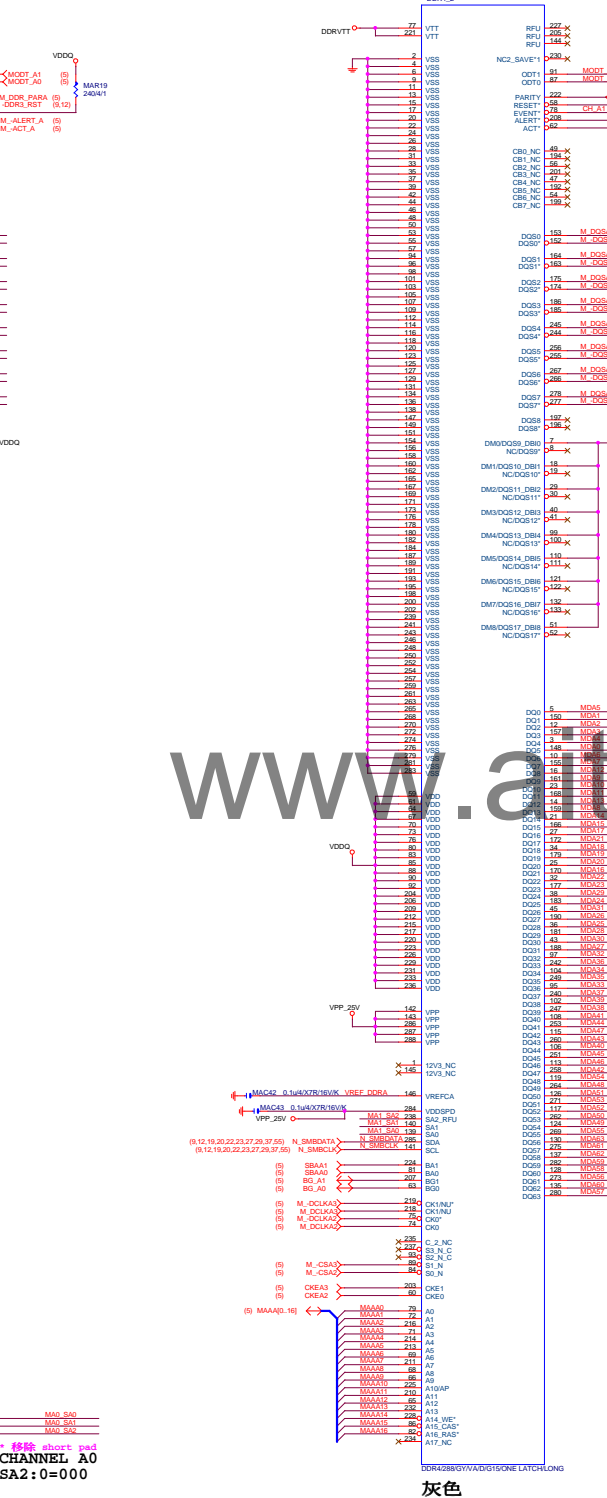
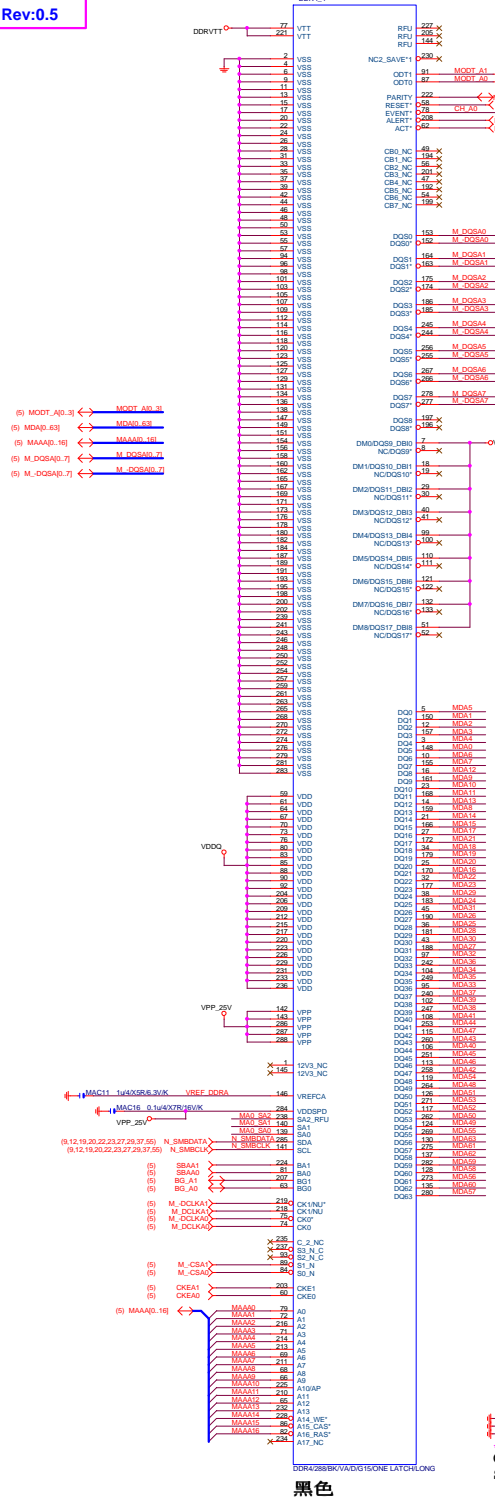
\* WR94, WR59, WR86, WR60,  
WR61, WR62, WR63 改 short  
pad

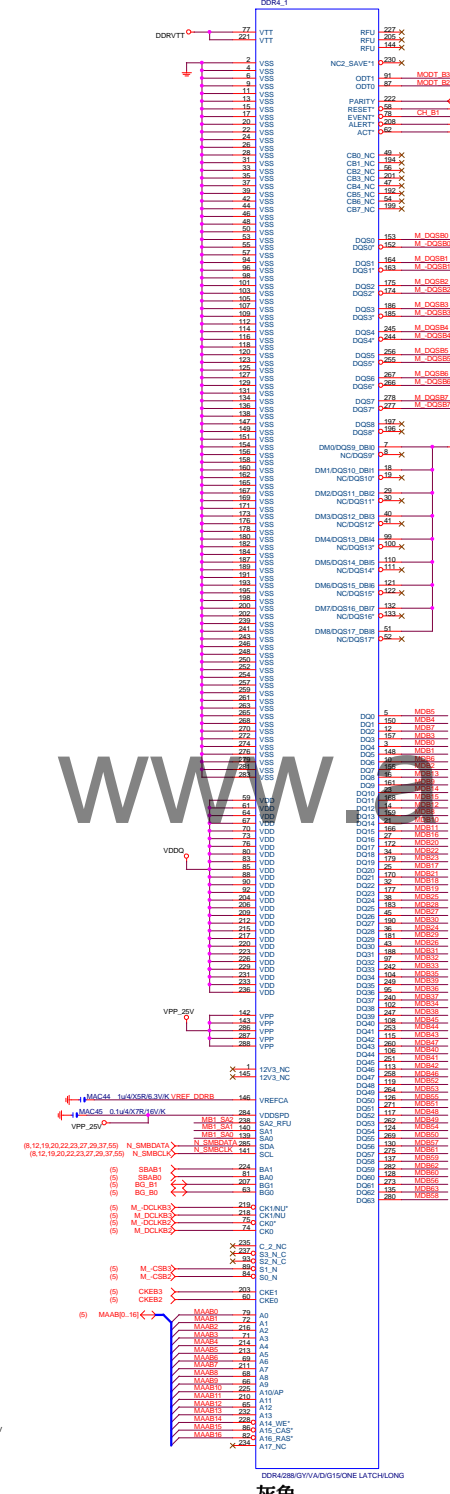


\* 刪 VCCGT 電容

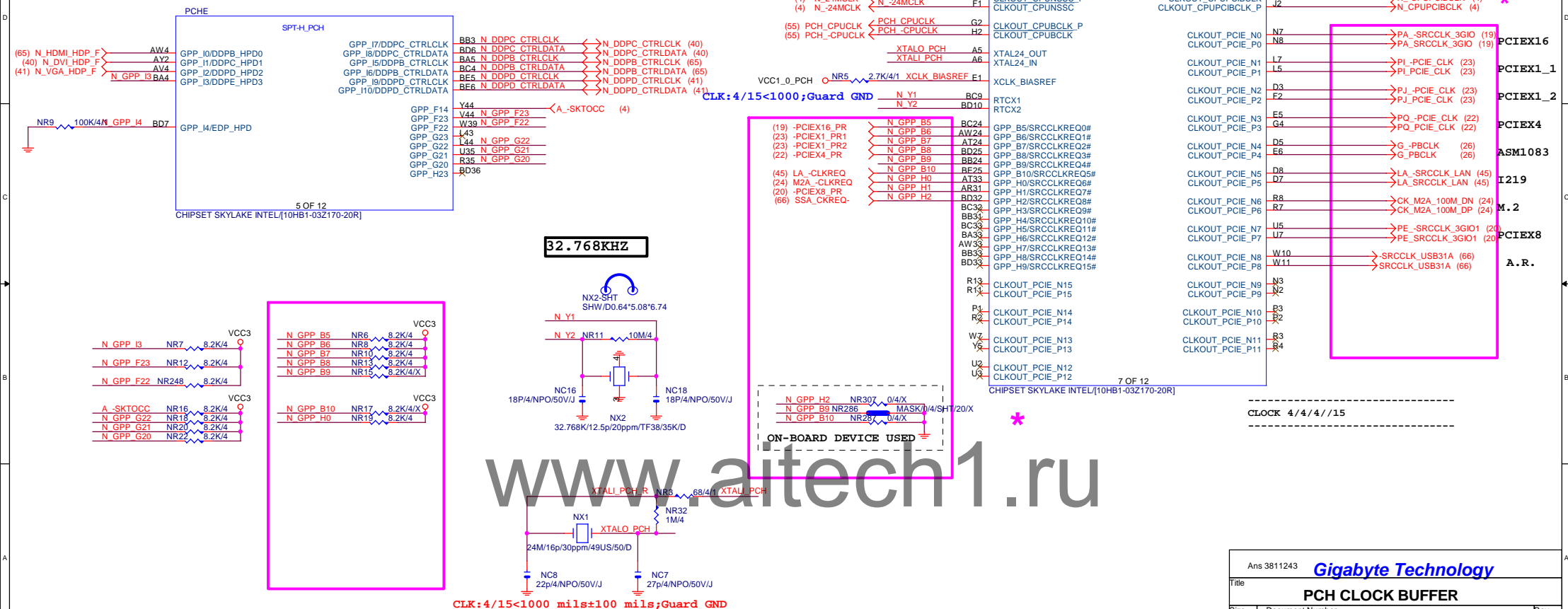






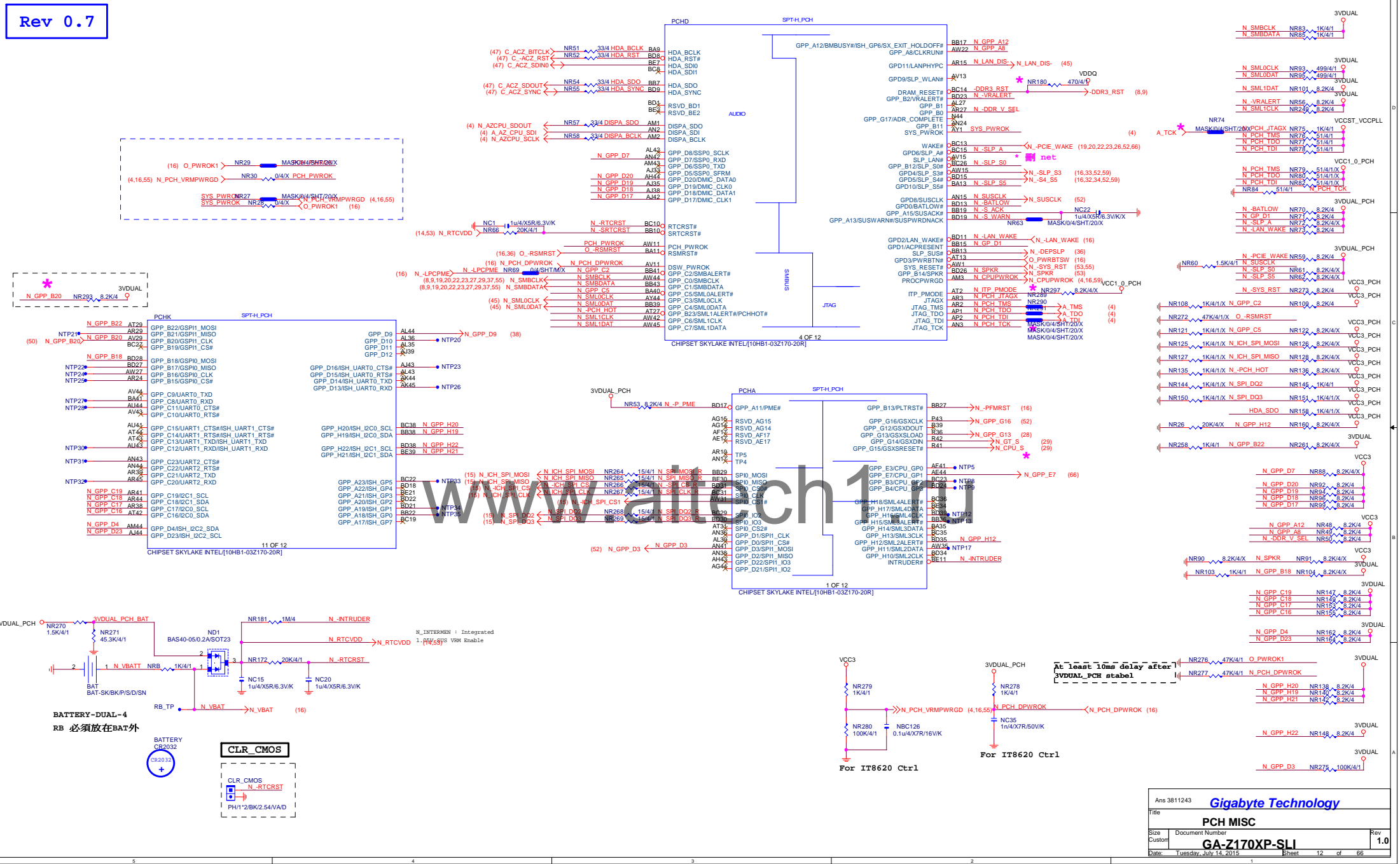


Rev 0.7



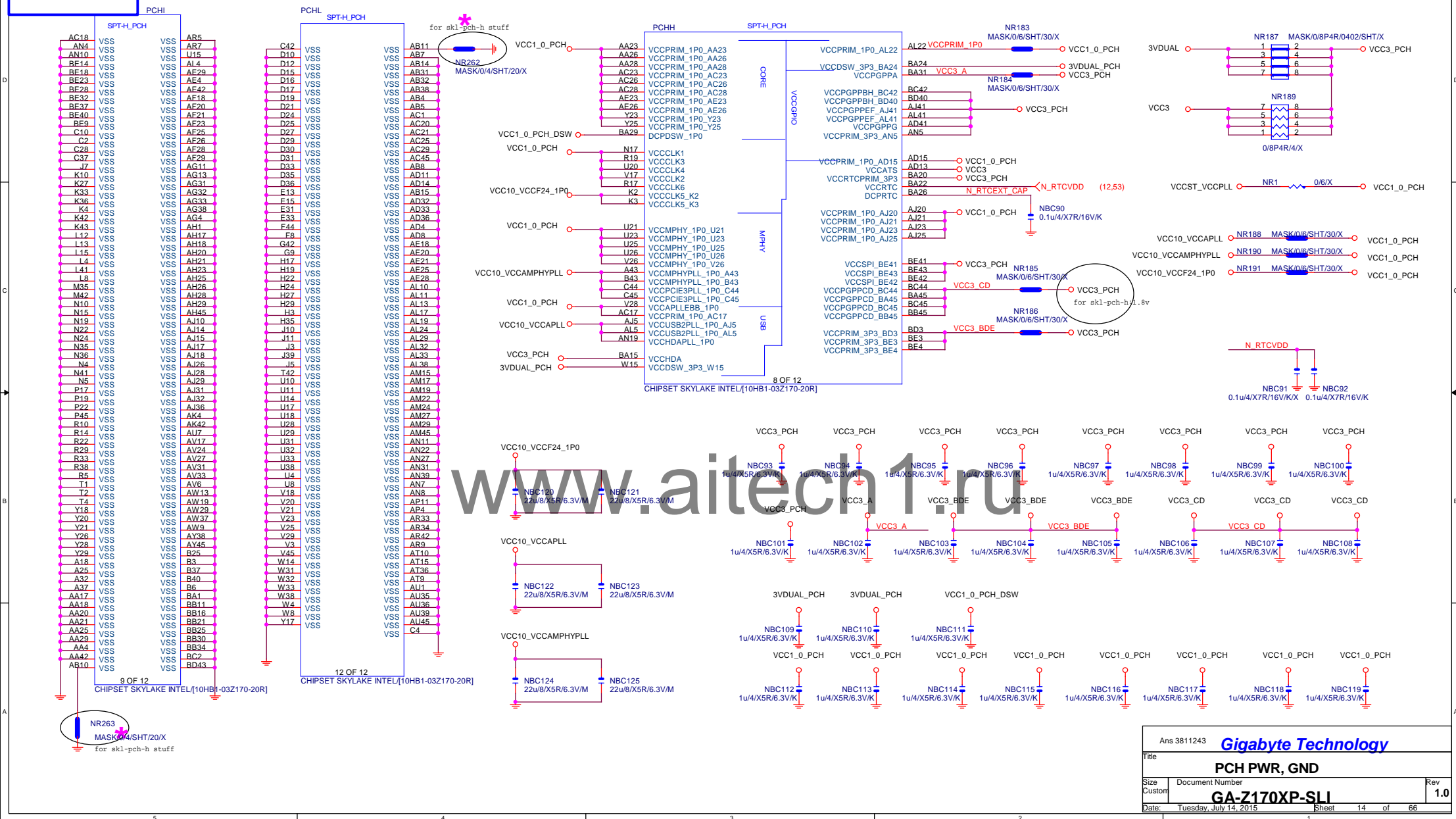




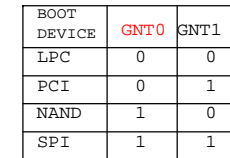








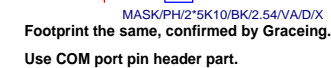
## MOSI For DMI RX Termination Voltage

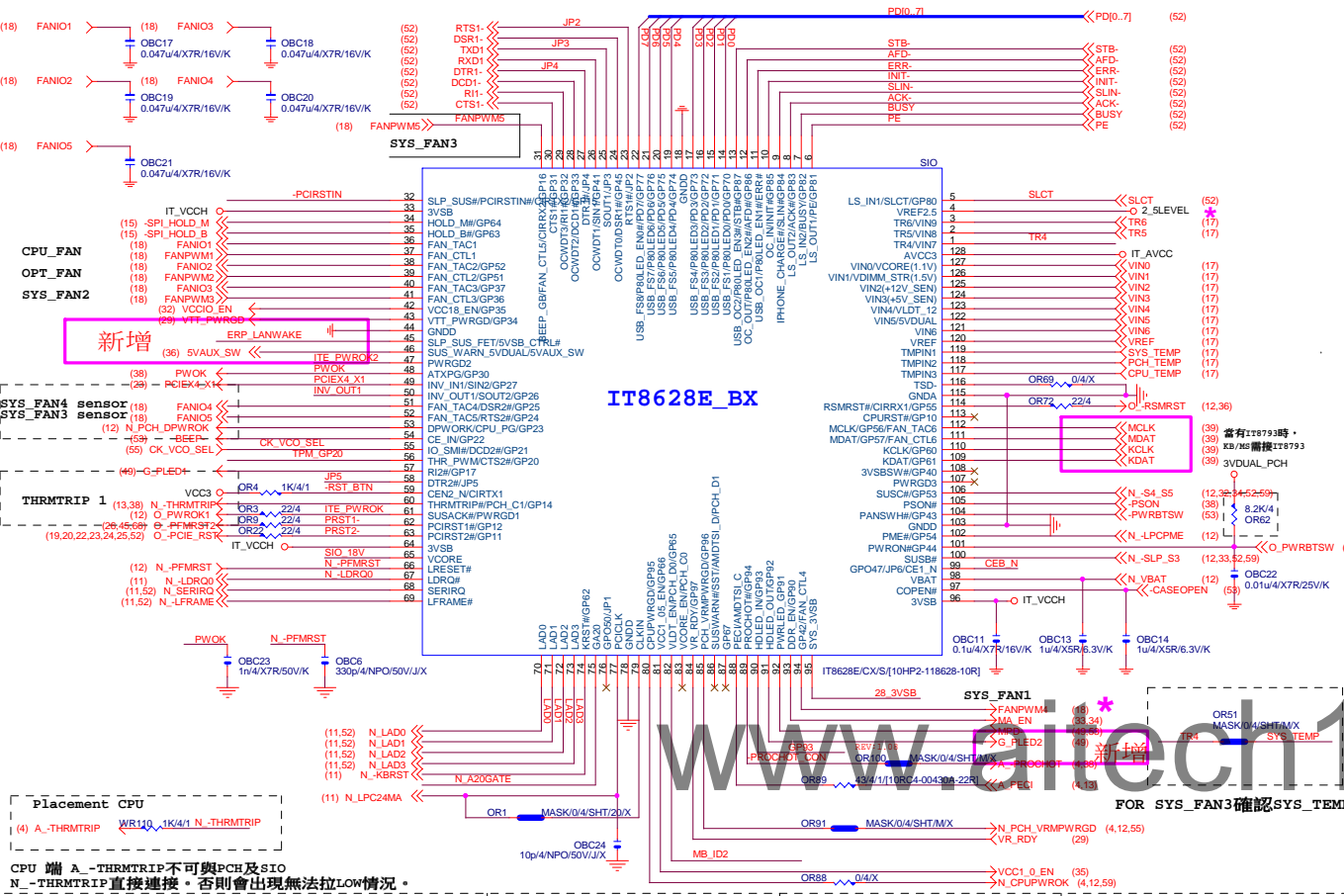


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★Update  
2015-01.29

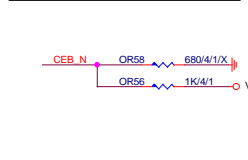




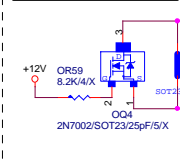
FAN TABLE	
CPU_FAN	FAN_CTL1 FAN_TAC1
SYS_FAN1	FAN_CTL4 FAN_TAC4
SYS_FAN2	FAN_CTL3 FAN_TAC3
SYS_FAN3	FAN_CTL5 FAN_TAC5
OPT_FAN	FAN_CTL2 FAN_TAC2
THRMTrip1	YES PIN60

IT8628BX GPIO問題匯整	
PIN 50	GP26-第一次接上POWER時會拉LO
PIN 90/91	DEFAULT為HDLed FUNCTION, GP93 BYPASS TO GP92 高運時 GP92 會被拉Lo(ITE BUG)
PIN 108	GP40--- POWER ON 時會拉 LO
PIN 111/112	MOUSE 跟PAN6 FUNCTION 擇一使用, 不然會互相干擾
PIN 22	PIN22-, 需高於3V-, 若低於此部分COM PORT及LPT裝置 蜂鳴器會異常動作。

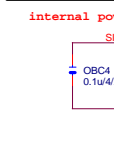
DUAL BIOS OPT STRAP



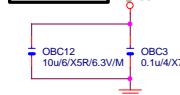
Power leakage



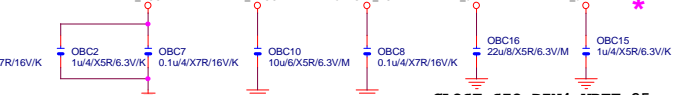
SIO\_18V



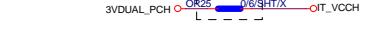
SIO CAP



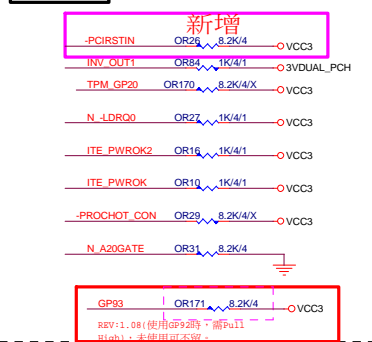
CLOSE SIO PIN4 VREF\_25



PWR SHT



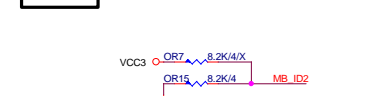
SIO PU



SIO STRAP

JP2	1	Disable WDT
	0	Enable WDT to rest PWROK
JP3	1	Dual BIOS CS PIN Disable
	0	Dual BIOS CS PIN Enable
JP4	1	k8 power sequency function is Disable
	0	k8 power sequency function is Enable
JP5	1	anti-surge Disable
	0	anti-surge Enable
JP5	1 1	The default value of EC Index 63h/6Bh/73h is 80h.
	1 0	The default value of EC Index 63h/6Bh/73h is FFh.
JP5	0 1	The default value of EC Index 63h/6Bh/73h is 00h.
	0 0	The default value of EC Index 63h/6Bh/73h is 40h.

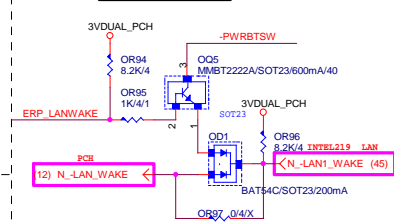
MB ID



ERP WAKE on LAN (依LAN組態選擇)

(組態一) Realtek/ATHEROS LAN

(組態二) Intel LAN

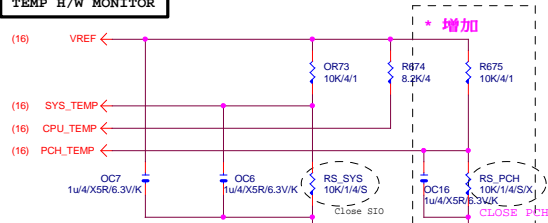


(組態三) Dual LAN



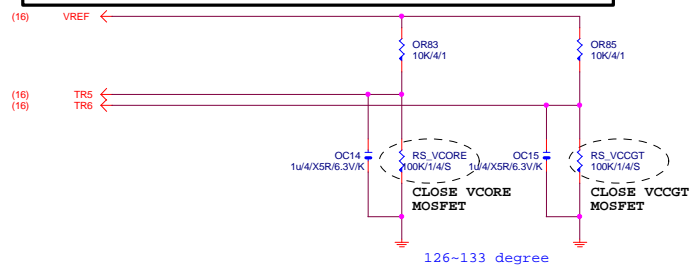
ERP Wake on LAN		
Single LAN	Realtek	組態一
	Atheros	組態一
Dual LAN	Intel 219	組態二
	Atheros+Athertos	組態一
No Support ERP	Intel 219+Athertos	組態一
	Intel 219+Intel 210	組態三
BOM不上		N/A

## TEMP H/W MONITOR

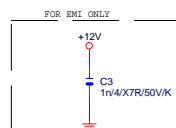
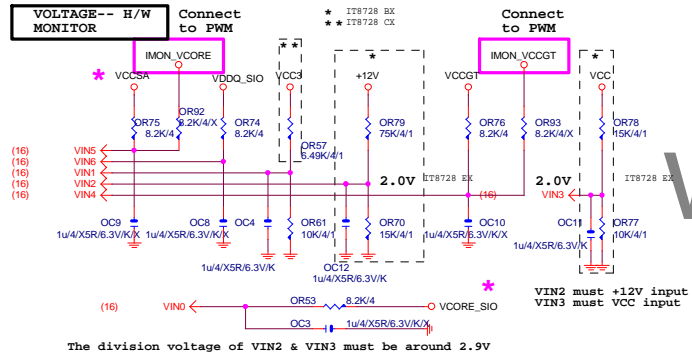


## RS\_VCORE、RS\_VCCGT、CLOSE CPU\_VCORE &amp; VCCGT MOSFET

-PROCHOT:有mos meartsink不用prochot function



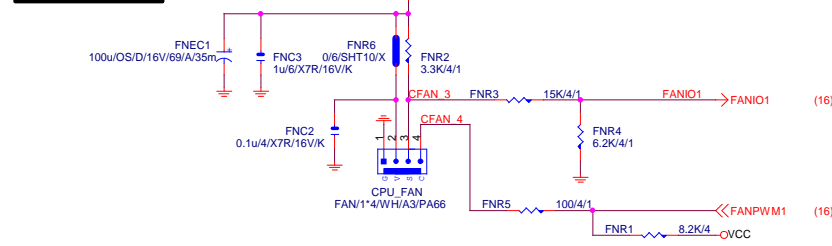
## VOLTAGE-- H/W MONITOR



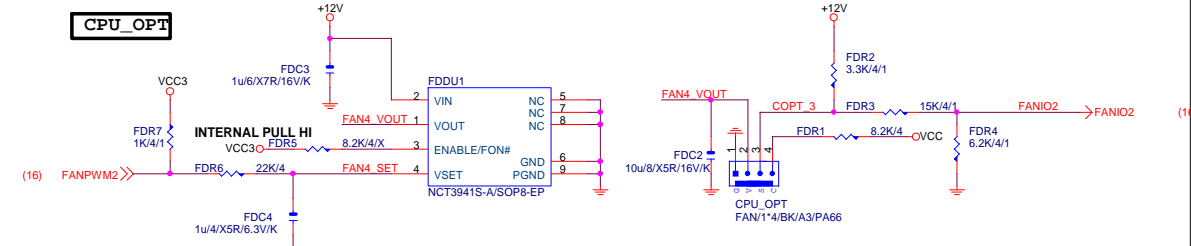
Gigabyte Technology

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

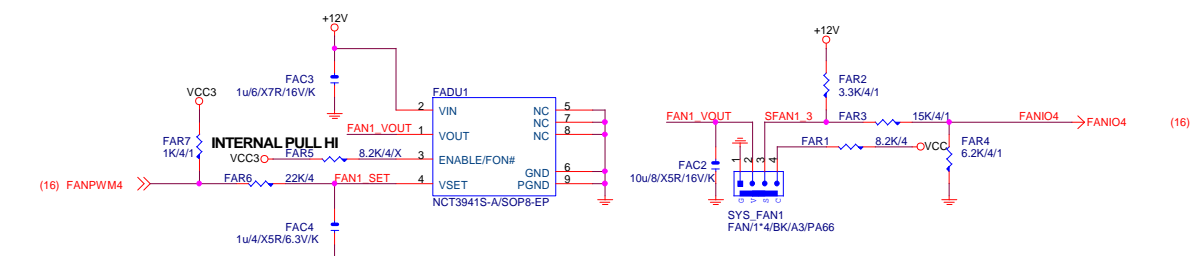


CPU\_OPT

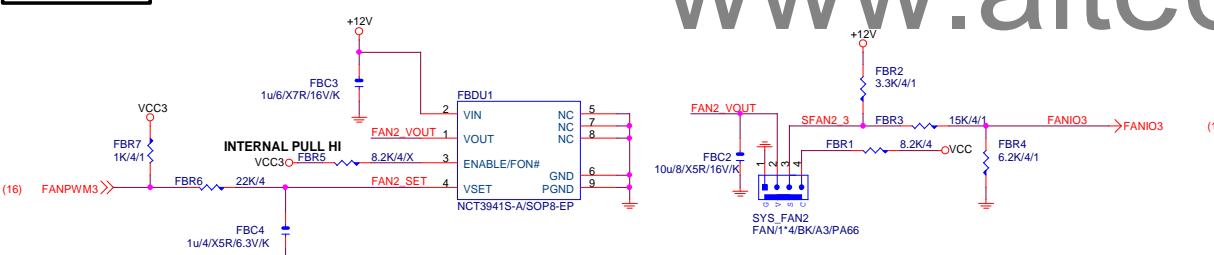


SYSTEM FAN1

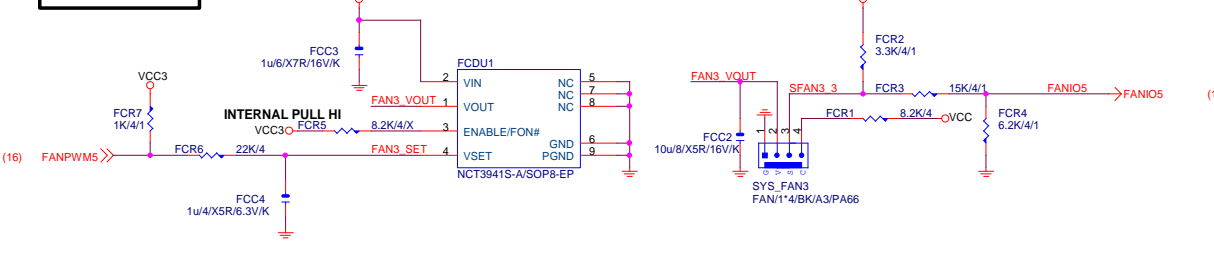
Linear SYS\_FAN  
Enable Function (NCT3941S)  
Full Turn On Function (NCT3941S-A)



SYSTEM FAN2



SYSTEM FAN3

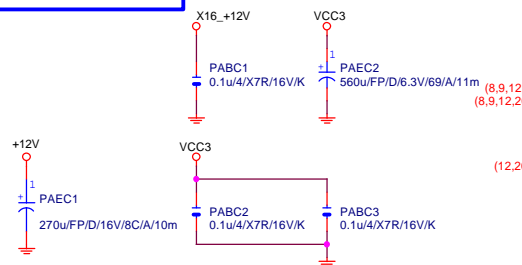


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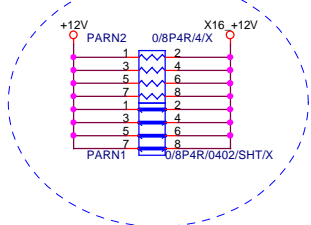
GIGABYTE			
Title			
HWM,KB/MS, FAN CTRL			
Size	Document Number	Rev	
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Rev 0.3

## 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 SW TXP8	PAC20	0.22u/4/X5R/6.3V/K	PA EXP SW TXP8 C
PA EXP SW TXN8	PAC21	0.22u/4/X5R/6.3V/K	PA EXP SW TXN8 C
PA EXP SW TXP9	PAC22	0.22u/4/X5R/6.3V/K	PA EXP SW TXP9 C
PA EXP SW TXN9	PAC23	0.22u/4/X5R/6.3V/K	PA EXP SW TXN9 C
PA EXP SW TXP10	PAC24	0.22u/4/X5R/6.3V/K	PA EXP SW TXP10 C
PA EXP SW TXN10	PAC25	0.22u/4/X5R/6.3V/K	PA EXP SW TXN10 C
PA EXP SW TXP11	PAC26	0.22u/4/X5R/6.3V/K	PA EXP SW TXP11 C
PA EXP SW TXN11	PAC27	0.22u/4/X5R/6.3V/K	PA EXP SW TXN11 C
PA EXP SW TXP12	PAC28	0.22u/4/X5R/6.3V/K	PA EXP SW TXP12 C
PA EXP SW TXN12	PAC29	0.22u/4/X5R/6.3V/K	PA EXP SW TXN12 C
PA EXP SW TXP13	PAC30	0.22u/4/X5R/6.3V/K	PA EXP SW TXP13 C
PA EXP SW TXN13	PAC31	0.22u/4/X5R/6.3V/K	PA EXP SW TXN13 C
PA EXP SW TXP14	PAC32	0.22u/4/X5R/6.3V/K	PA EXP SW TXP14 C
PA EXP SW TXN14	PAC33	0.22u/4/X5R/6.3V/K	PA EXP SW TXN14 C
PA EXP SW TXP15	PAC34	0.22u/4/X5R/6.3V/K	PA EXP SW TXP15 C
PA EXP SW TXN15	PAC35	0.22u/4/X5R/6.3V/K	PA EXP SW TXN15 C

PCI-E REV:1.1--&gt; 2.5GHZ

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

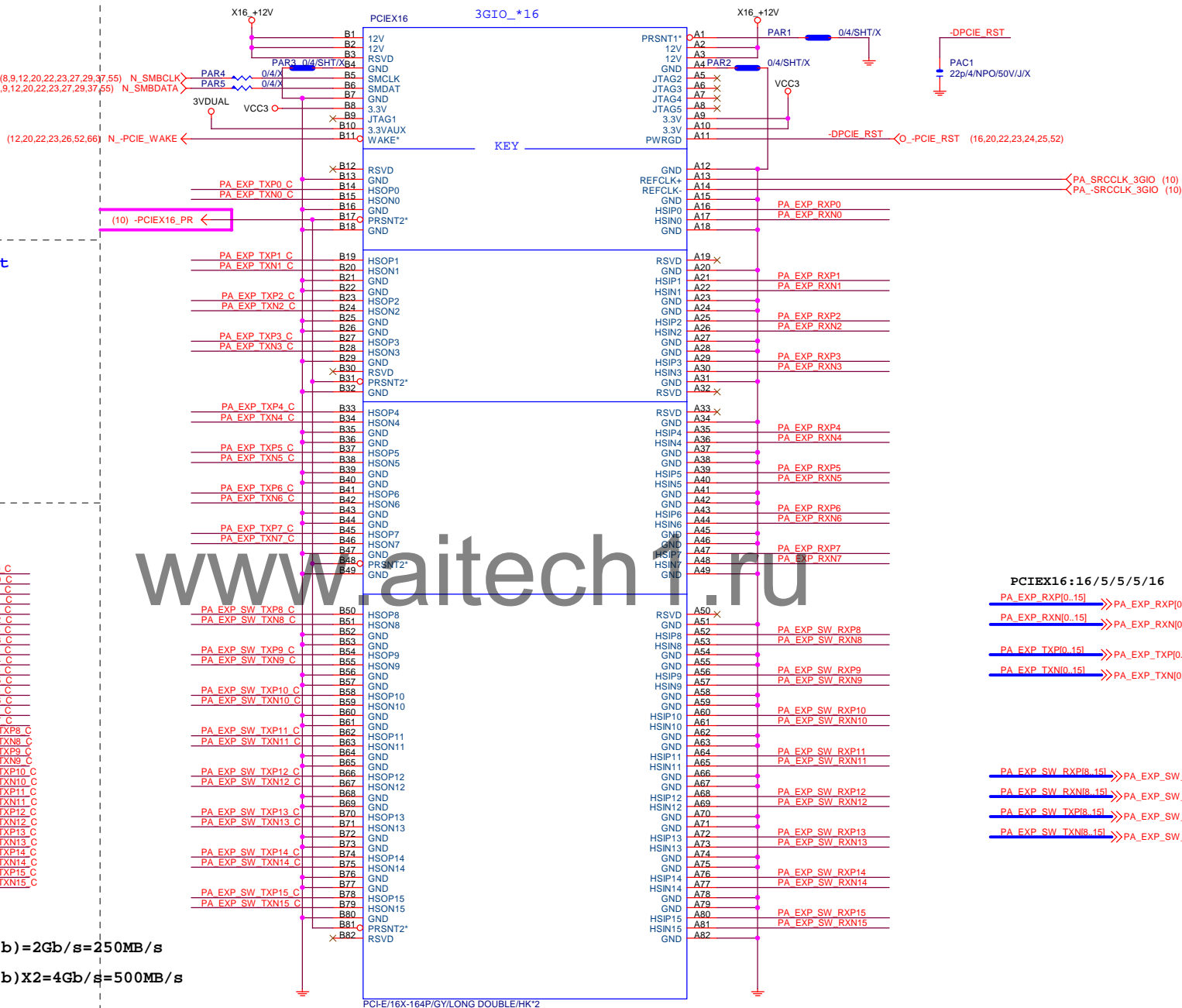
PCE-E X1(雙向) BANDWITH=2.5GHz\*(8b/10b)X2=4Gb/s=500MB/s

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--&gt; 5GHZ

## PCIEX16 SLOT



## PCIEX16:16/5/5/5/16

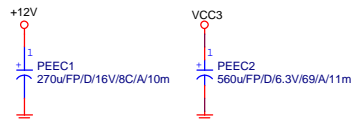
PA EXP_RXP[0..15]	>>>PA_EXP_RXP[0..15] (4,21)
PA EXP_RXN[0..15]	>>>PA_EXP_RXN[0..15] (4,21)
PA EXP_TXP[0..15]	>>>PA_EXP_TXP[0..15] (4,21)
PA EXP_TXN[0..15]	>>>PA_EXP_TXN[0..15] (4,21)
PA EXP_SW_RXP[8..15]	>>>PA_EXP_SW_RXP[8..15] (21)
PA EXP_SW_RXN[8..15]	>>>PA_EXP_SW_RXN[8..15] (21)
PA EXP_SW_TXP[8..15]	>>>PA_EXP_SW_TXP[8..15] (21)
PA EXP_SW_TXN[8..15]	>>>PA_EXP_SW_TXN[8..15] (21)

Gigabyte Technology

Title			PCI EXPRESS * 16
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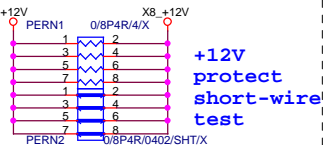


Rev 0.3

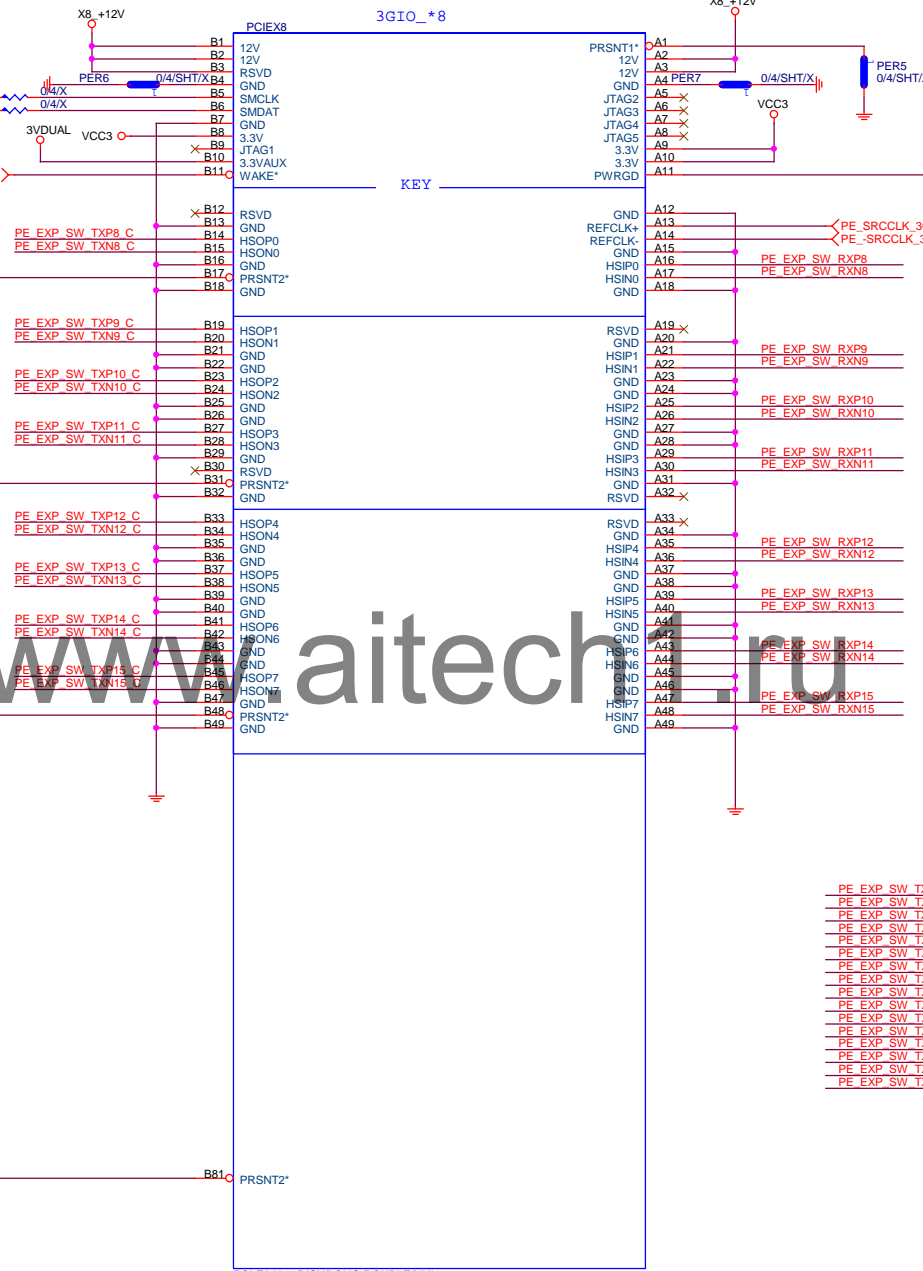


(8,9,12,19,22,23,27,29,37,55) N\_SMBCLK N\_SMBCLK PER8 0/4/X  
(8,9,12,19,22,23,27,29,37,55) N\_SMBDATA N\_SMBDATA PER9 0/4/X

### PCIEX8 PROTECT SHT

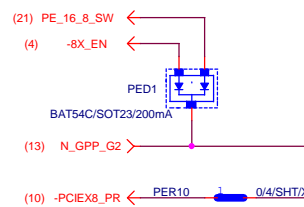


(12,19,22,23,26,52,66) N\_-PCIE\_WAKE



PE\_EXP\_SW\_RXP[8..15] >> PE\_EXP\_SW\_RXP[8..15] (21)  
PE\_EXP\_SW\_RXN[8..15] >> PE\_EXP\_SW\_RXN[8..15] (21)  
PE\_EXP\_SW\_TXP[8..15] >> PE\_EXP\_SW\_TXP[8..15] (21)  
PE\_EXP\_SW\_TXN[8..15] >> PE\_EXP\_SW\_TXN[8..15] (21)

PE_EXP_SW_TXP8	PEC7	0.22u4/X5R/6.3V/K	PE_EXP_SW_TXP8_C
PE_EXP_SW_TXN8	PEC8	0.22u4/X5R/6.3V/K	PE_EXP_SW_TXN8_C
PE_EXP_SW_TXP9	PEC9	0.22u4/X5R/6.3V/K	PE_EXP_SW_TXP9_C
PE_EXP_SW_TXN9	PEC10	0.22u4/X5R/6.3V/K	PE_EXP_SW_TXN9_C
PE_EXP_SW_TXP10	PEC11	0.22u4/X5R/6.3V/K	PE_EXP_SW_TXP10_C
PE_EXP_SW_TXN10	PEC12	0.22u4/X5R/6.3V/K	PE_EXP_SW_TXN10_C
PE_EXP_SW_TXP11	PEC13	0.22u4/X5R/6.3V/K	PE_EXP_SW_TXP11_C
PE_EXP_SW_TXN11	PEC14	0.22u4/X5R/6.3V/K	PE_EXP_SW_TXN11_C
PE_EXP_SW_TXP12	PEC15	0.22u4/X5R/6.3V/K	PE_EXP_SW_TXP12_C
PE_EXP_SW_TXN12	PEC16	0.22u4/X5R/6.3V/K	PE_EXP_SW_TXN12_C
PE_EXP_SW_TXP13	PEC17	0.22u4/X5R/6.3V/K	PE_EXP_SW_TXP13_C
PE_EXP_SW_TXN13	PEC18	0.22u4/X5R/6.3V/K	PE_EXP_SW_TXN13_C
PE_EXP_SW_TXP14	PEC19	0.22u4/X5R/6.3V/K	PE_EXP_SW_TXP14_C
PE_EXP_SW_TXN14	PEC20	0.22u4/X5R/6.3V/K	PE_EXP_SW_TXN14_C
PE_EXP_SW_TXP15	PEC21	0.22u4/X5R/6.3V/K	PE_EXP_SW_TXP15_C
PE_EXP_SW_TXN15	PEC22	0.22u4/X5R/6.3V/K	PE_EXP_SW_TXN15_C



PCI-E/8X-99P/GY/LONG DOUBLE/HK\*2

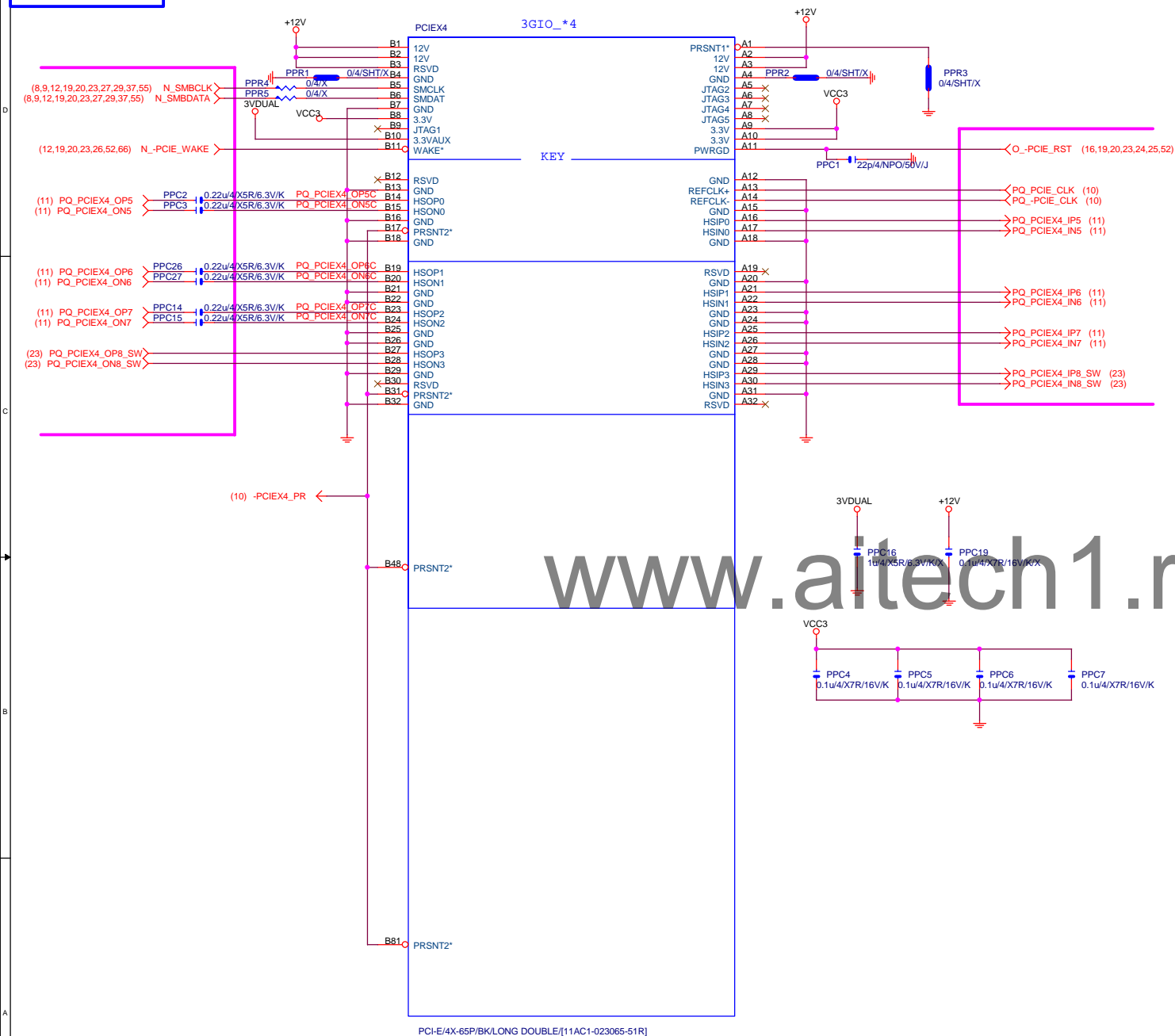
Gigabyte Technology			
Title			
PCI EXPRESS X8			
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Rev 0.3

PCIE\*4

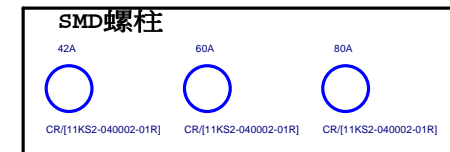
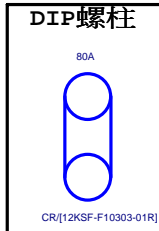
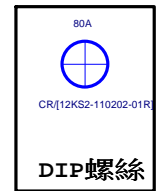
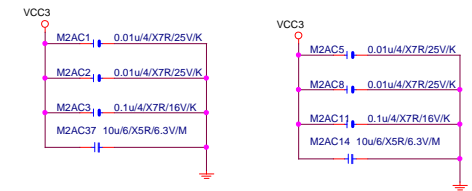
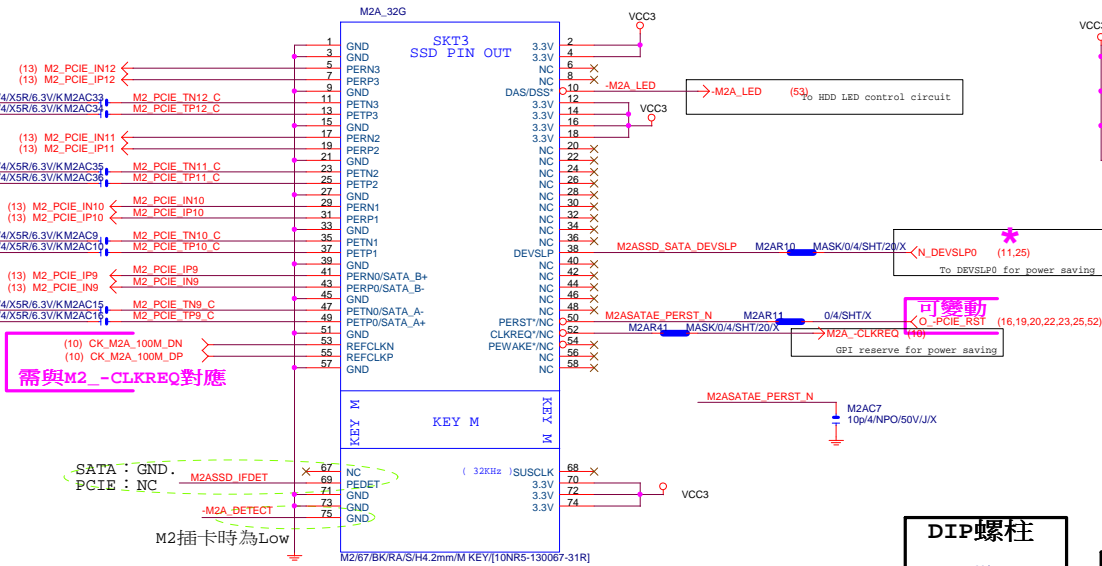
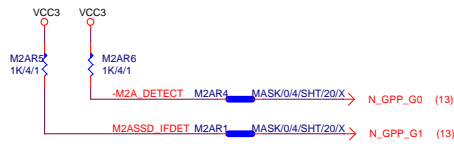


GIGABYTE

Title		
PCIE_X4		
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支援SATA and M.2 function



M.2 有插卡 /沒插卡 GPP_G0	M.2插何種卡？ GPP_G1	SATA Express 插何種硬碟？ GPP_E0/E2/F1	I/O15 (S0)	I/O16 (S1)	I/O17	I/O18	I/O19 (S0)	I/O20 (S1)
有插卡 (Low)	SATA Mode (Low)	SATA (Hi)	SATA (M.2)	PCIe x1	PCIe x1	PCIe x1	PCIe x1	SATA
		SATA Express (Low)	SATA (M.2)	PCIe x1	PCIe x1	PCIe x1	SATA Express	
	PCIe Mode (Hi)	SATA (Hi)	PCIe x4 (For M.2)				SATA	SATA
		SATA Express (Low)	PCIe x4 (For M.2)				SATA Express	
沒插卡 (Hi)	Don't Care (Hi)	SATA (Hi)	PCIe x4				SATA	SATA
		SATA Express (Low)	PCIe x4				SATA Express	

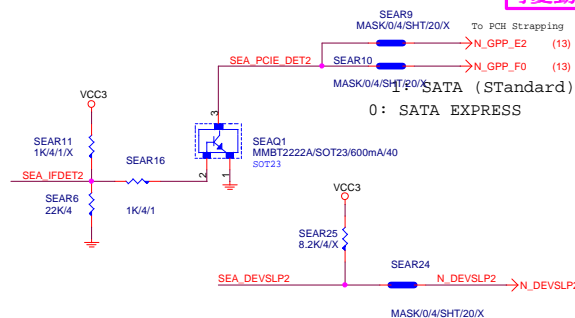
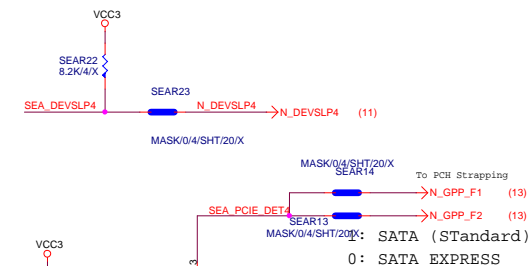
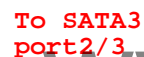
SATA EXPRESS 上層 To SATA3 port4/5



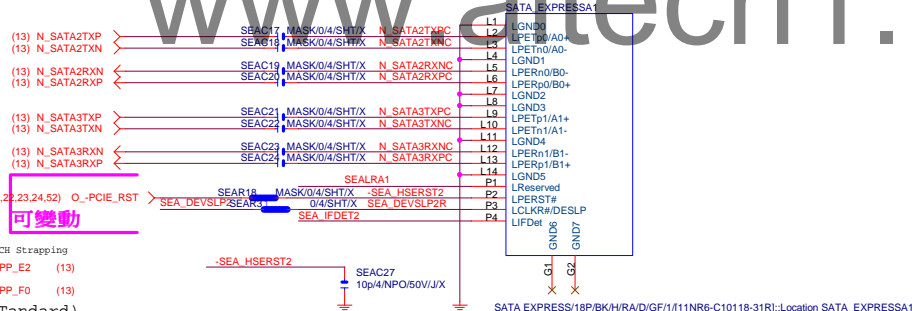
雙層：TBD

單層+2SATA:11NR6-C10236-03R

單層: 11NR6-C10118-03R



可變動



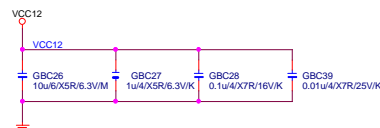
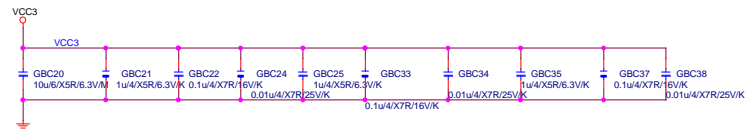
SATA EXPRESS/18P/BK/H/RA/D/GF/1/[11NR6-C10118-31R]::Location SATA\_EXPRESSA1

SATA 5	(文字面寫SATA 1)
SATA 4	(文字面寫SATA 0)
SATA 3	
SATA 2	
SATA 1	(文字面寫SATA 5)
SATA 0	(文字面寫SATA 4)

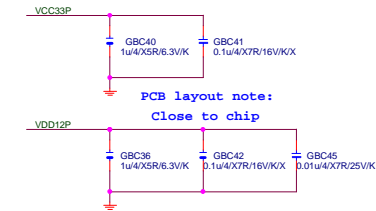
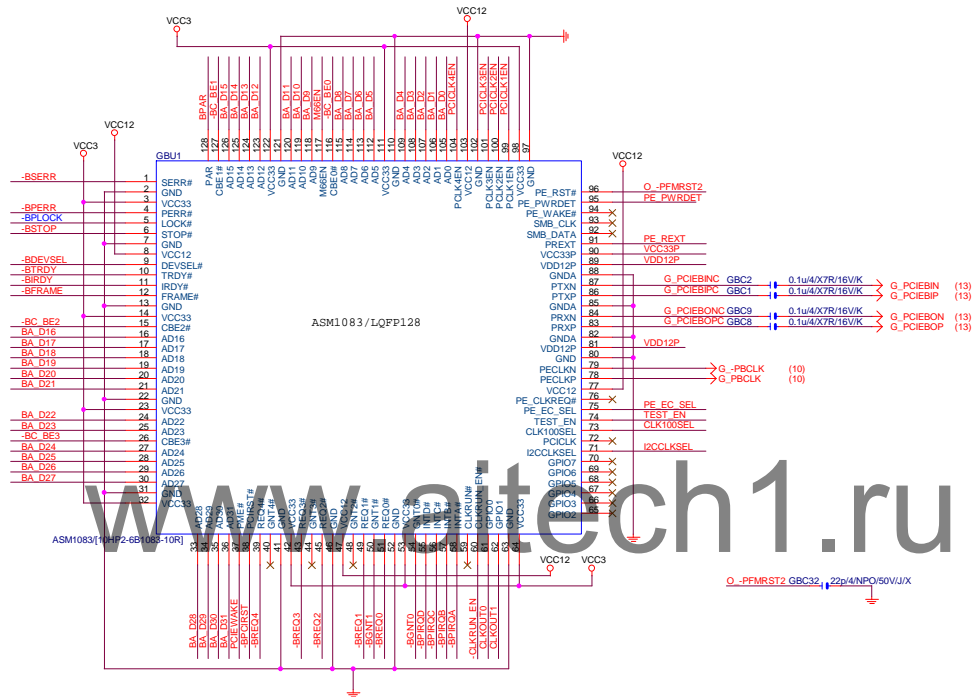
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## SATA EXPRESS

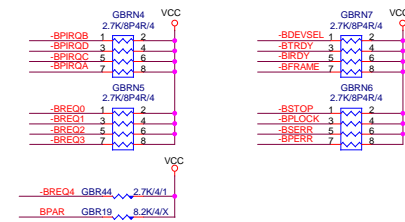
Size	Document Number	Rev
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BA D10\_311 → BA\_D[0..31] (27)  
 -BC BE0 (27)  
 -BC BE1 (27)  
 -BC BE2 (27)  
 -BC BE3 (27)  
 -BPERR BSERR (27)  
 -BPAR BPAR (27)  
 -BDESEL BDESEL (27)  
 -BSTOP BSTOP (27)  
 -BTRDY BTRDY (27)  
 -BIRDY BIRDY (27)  
 -BFRAME BFRAME (27)  
 O\_PFMIRST2 O\_PFMIRST2 (16,45,66)  
 -BPCIRST BPCIRST (27)  
 -BREQ0 BREQ0 (27)  
 -BREQ1 BREQ1 (27)  
 -BGNT0 BGNT0 (27)  
 -BGNT1 BGNT1 (27)  
 -BPIRQA BPIRQA (27)  
 -BPIRQB BPIRQB (27)  
 -BPIRQC BPIRQC (27)  
 -BPIRQD BPIRQD (27)



CLKOUT0 GBR11 224 → BPCLK0 (27)  
 CLKOUT1 GBR12 224 → BPCLK1 (27)



### CLK100SEL Strapping Set

CLK100SEL	H	L
PCIe CLK	100M +/-N%	100M +/-N%
PCICLK_IN	X	33M
PCICLK0	33M +/-N%	33M

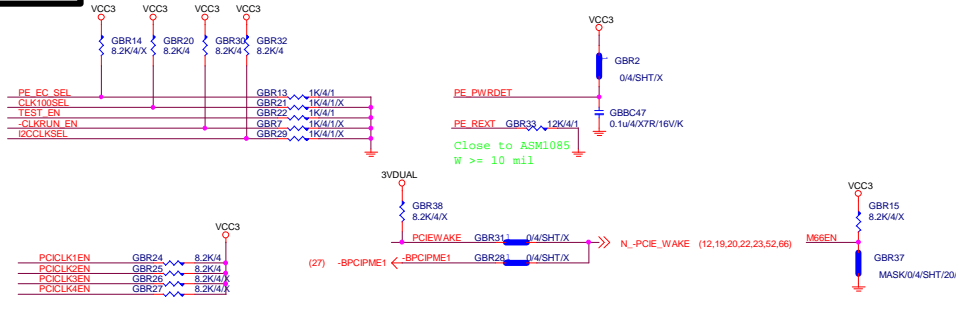
PE\_EC\_SEL-  
 "H" for Express Card mode  
 "L" for PCIe Riser Card mode

CLK100SEL-  
 "H" for PECLK input only  
 "L" for PECLK & PCICLK input

TEST\_EN-  
 "H" for Test Mode Enable  
 "L" for Test Mode Disable

-CLKRUN\_EN-  
 "H" for CLKRUN Mode Disable  
 "L" for CLKRUN Mode Enable

I2CCLKSEL-  
 "H" is 135KHz I2CCLK  
 "L" is 67.5KHz I2CCLK



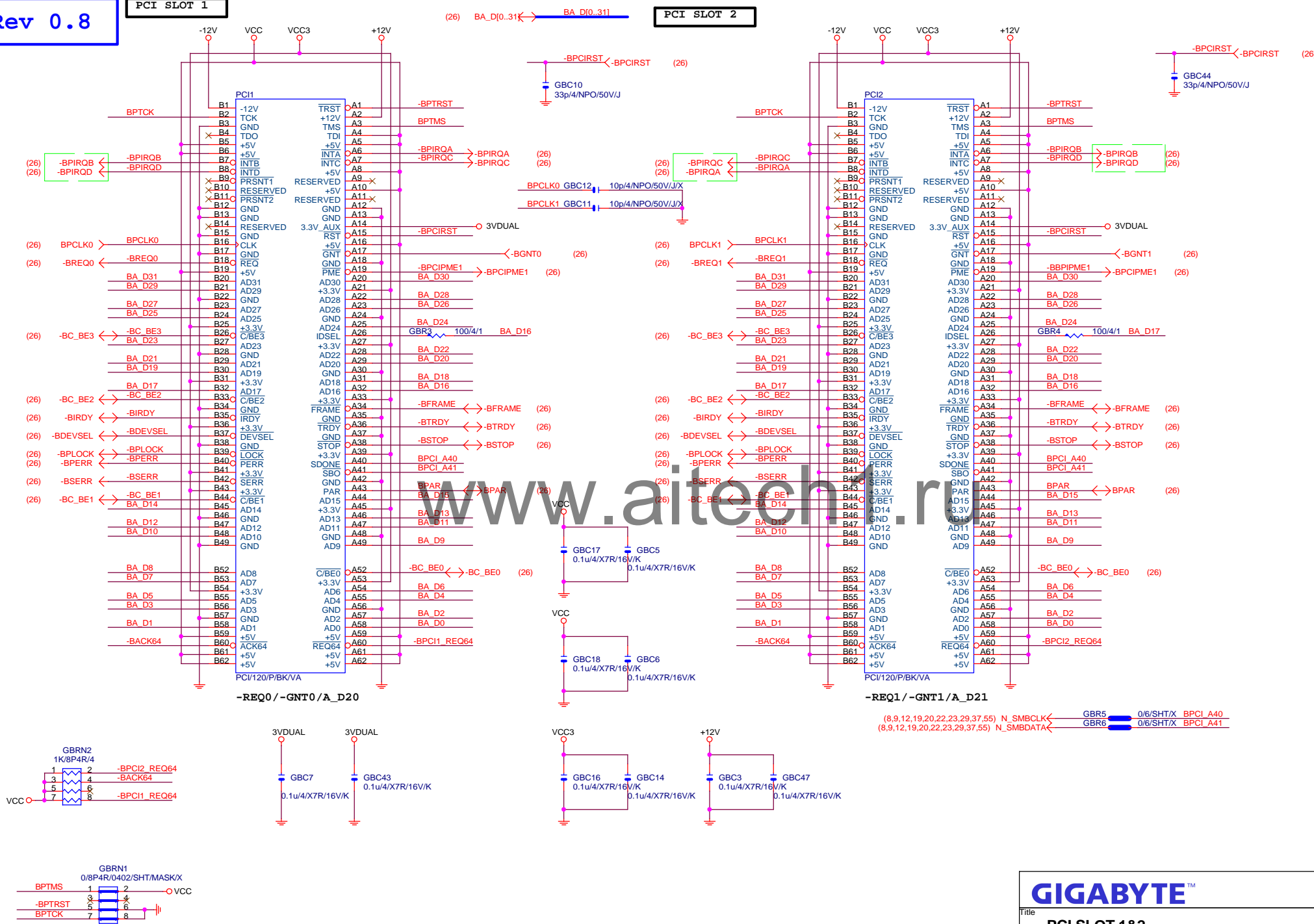
Gigabyte Technology


ASM1085

Size Custom Document Number GA-Z170XP-SLI Rev 1.0  
 Date: Tuesday, July 14, 2015 Sheet 26 of 66

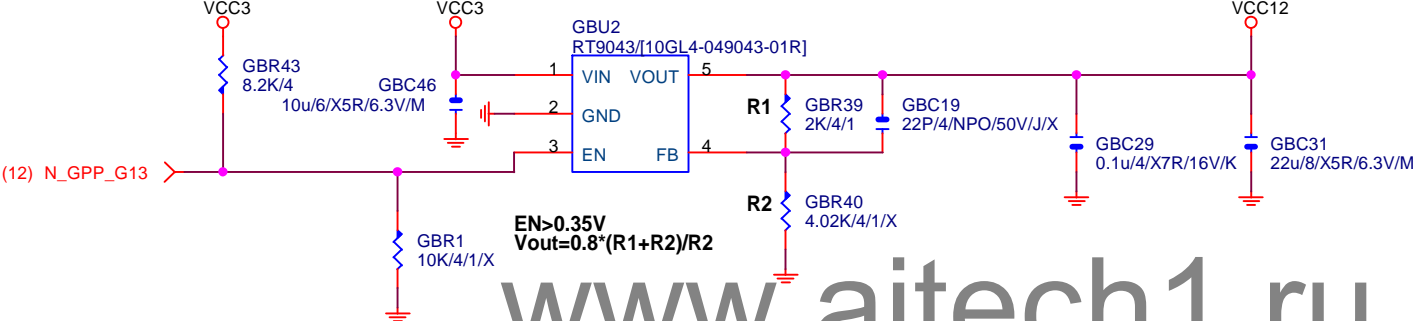
PCI SLOT 1

PCI SLOT 2
------------



			
Title: <b>PCI SLOT 1&amp;2</b>			
Size	Document Number	Rev	
Custom	<b>GA-Z170XP-SLI</b>	<b>1.0</b>	
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Rev 0.8

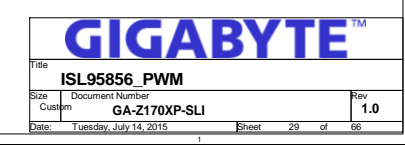


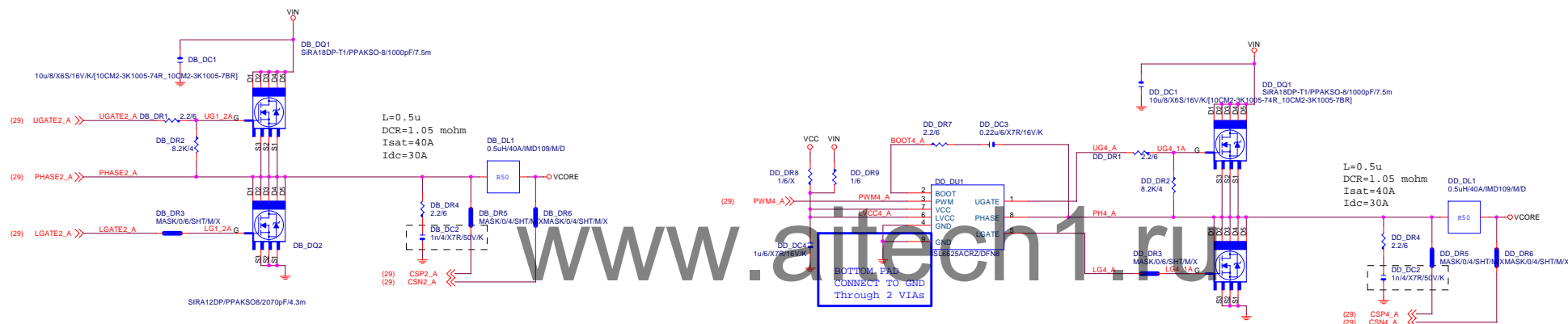
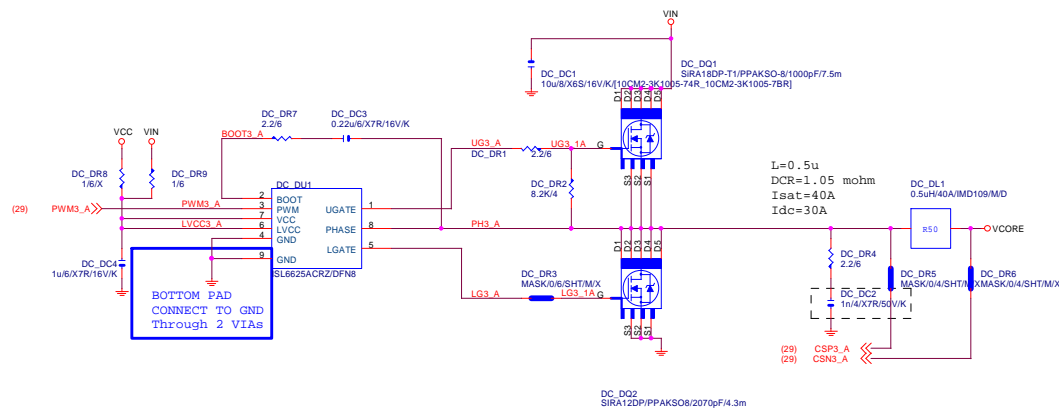
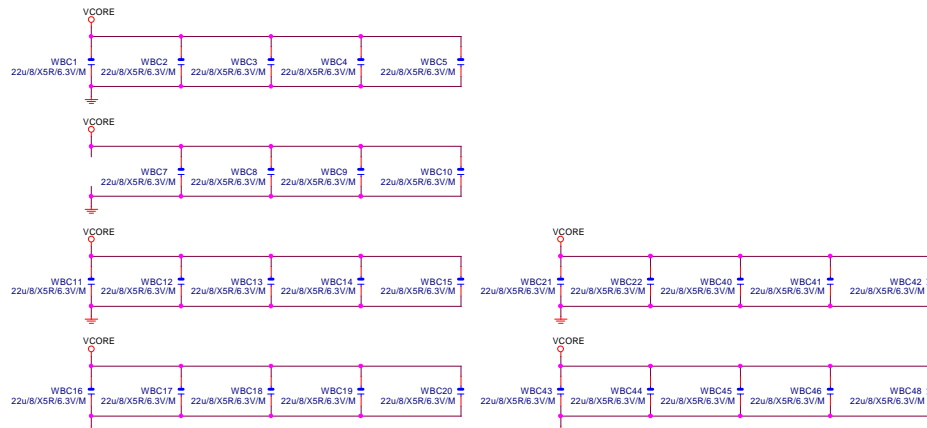
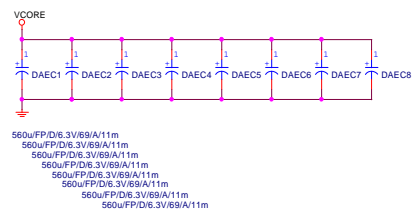
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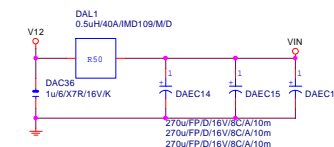
Title			
ASM1085 POWER			
Size	Document Number		Rev
Custom	GA-Z170XP-SLI		1.0
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VCORE CAP 560u\*8PCS  
22u\*29PCS

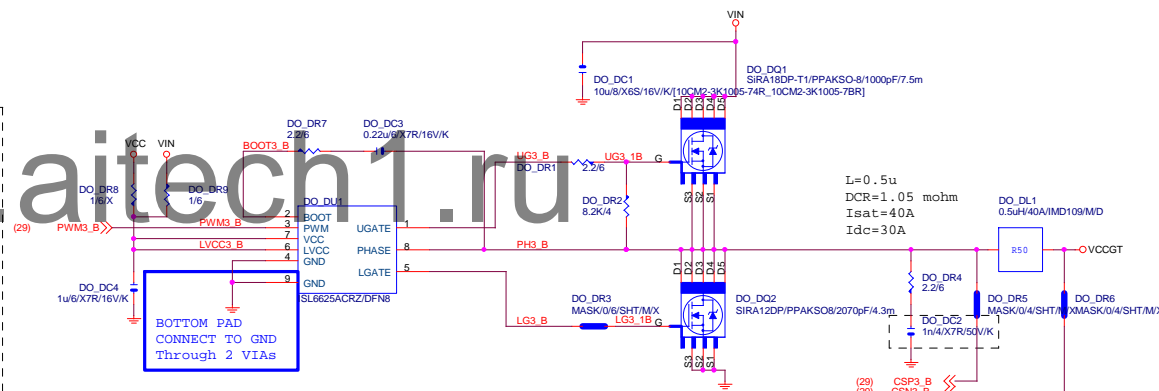
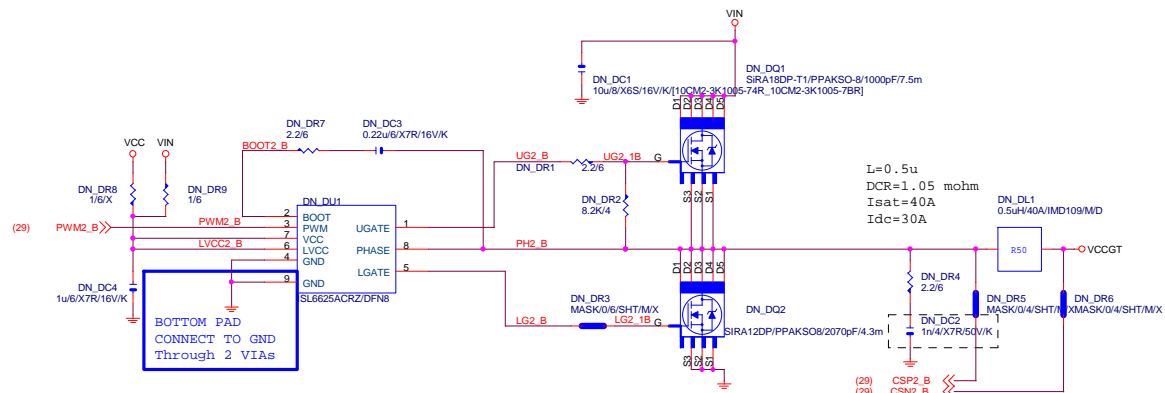
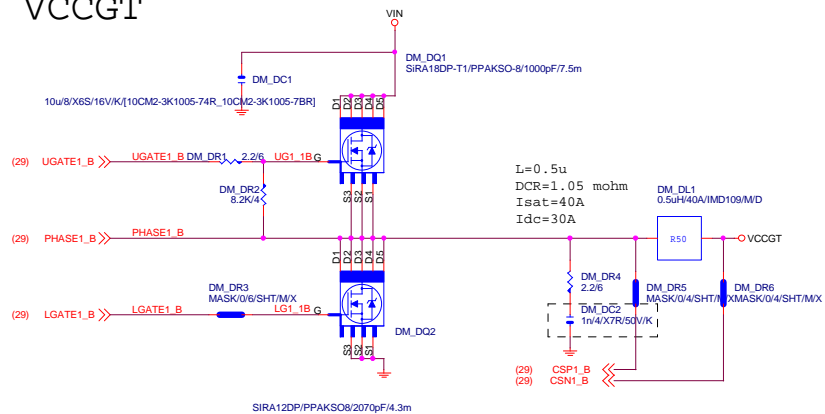
## VIN CAP 270u\*3PCS



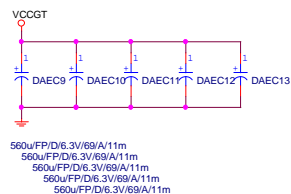
# GIGABYTE


Title			
ISL95856_MOS			
Size	Document Number		Rev
Custom	GA-Z170XP-SLI		1.0
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## VCCGT

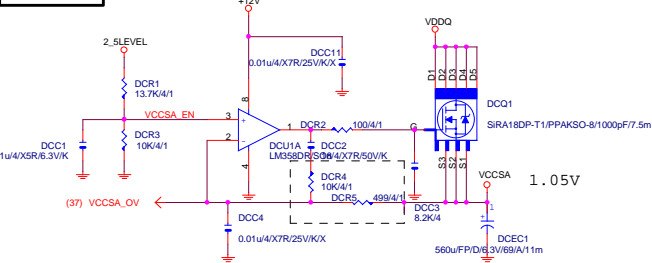


VCCGT	CAP	560u*5PCS 22u*15PCS
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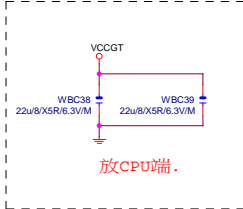
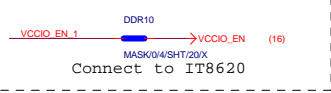
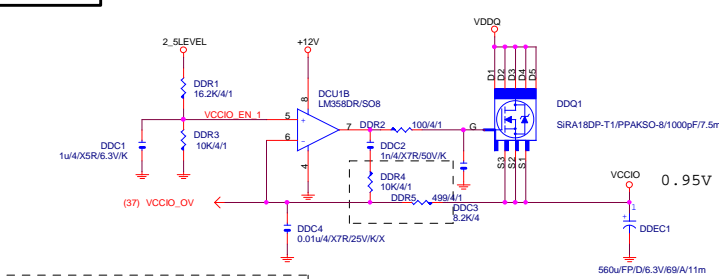


			
Title			
ISL95856_MOS			
Size	Document Number	Rev	
Custom	GA-Z170XP-SLI	1.0	
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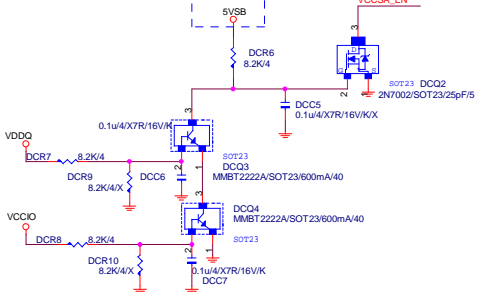
VCCSA



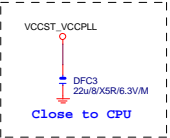
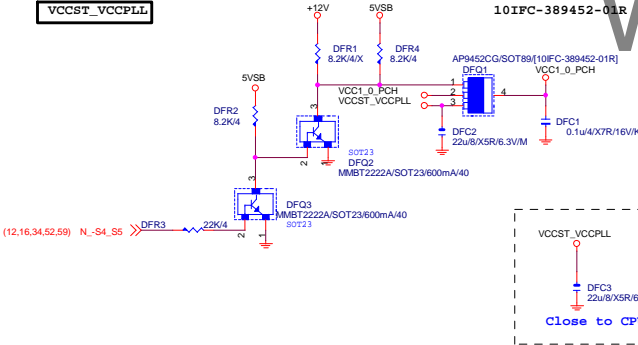
VCCIO



REV 0.2

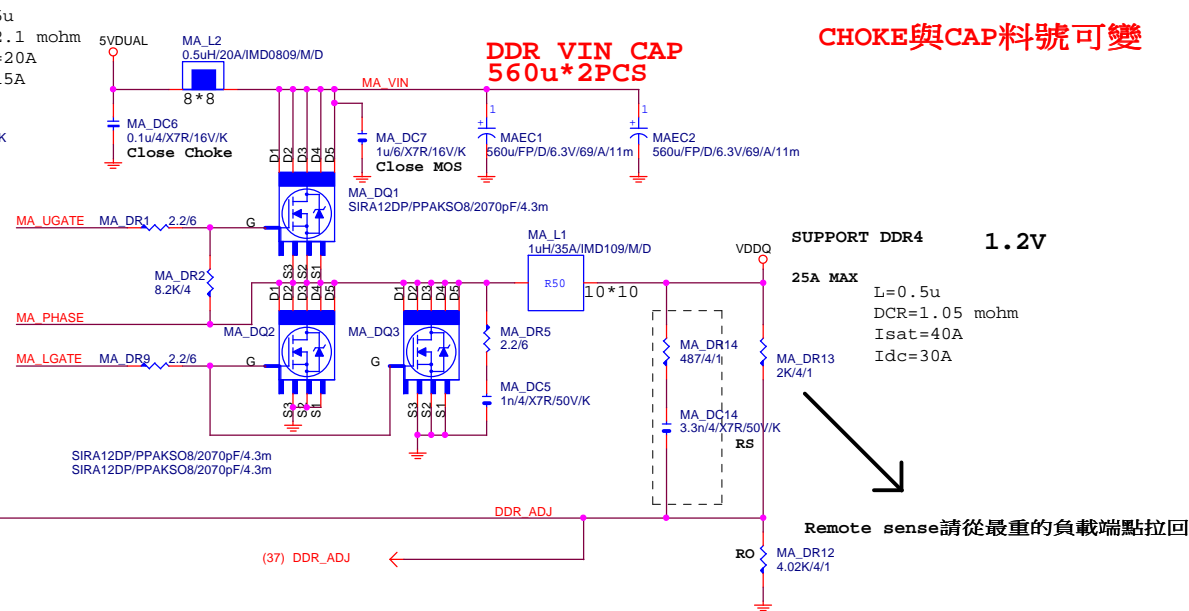
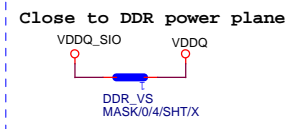
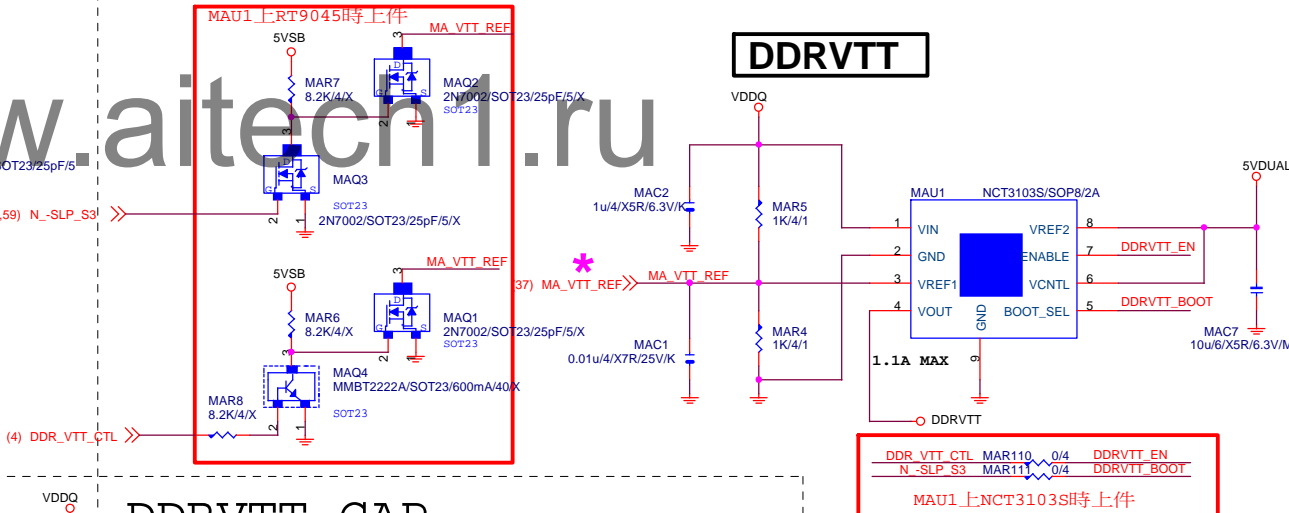


VCCST\_VCCPLL



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## DDR4

[illegible]

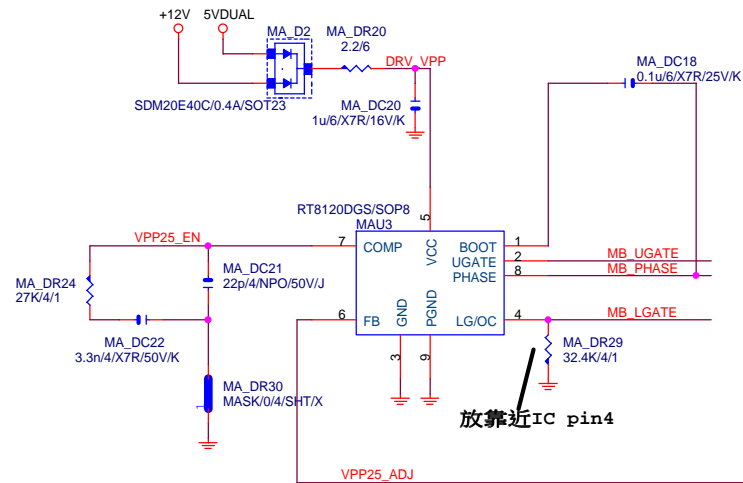
DDRVTT CAP

**GIGABYTE™**

Title			
<b>RT8120_DDR4 POWER</b>			
Size	Document Number	Rev	
Custom	<b>GA-Z170XP-SLI</b>	<b>1.0</b>	
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REV:0.83

VPP\_25V



放靠近IC pin4

VPP25\_ADJ

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

CHOKE與CAP料號可變

DDR\_VPP VIN CAP  
560u\*1PCS

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

SUPPORT DDR4 2.5V

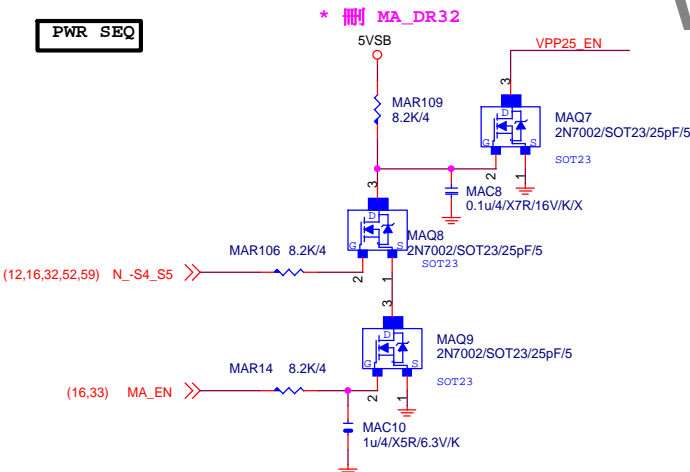
25A MAX

Remote sense請從最重的負載端點拉回

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PWR\_SEQ

\* 刪 MA\_DR32



VPP\_25V

MAC49  
0.1u/4/X7R/16V/K

VPP\_25V

MAC50  
0.1u/4/X7R/16V/K

VPP\_25V

MAC51  
0.1u/4/X7R/16V/K

VPP\_25V

MAC52  
0.1u/4/X7R/16V/K

VPP CAP 560u\*1PCS

\* 大電容 x1

VPP\_25V

MAEC11  
560u/FP/D/6.3V/69/A/11m

GIGABYTE™

Title		
RT8120_VPP25 POWER		
Size	Document Number	Rev
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REV:0.64

L=0.5u  
DCR=1.7 mohm  
Isat=25A  
Idc=18A

CHOKES與CAP料號可變

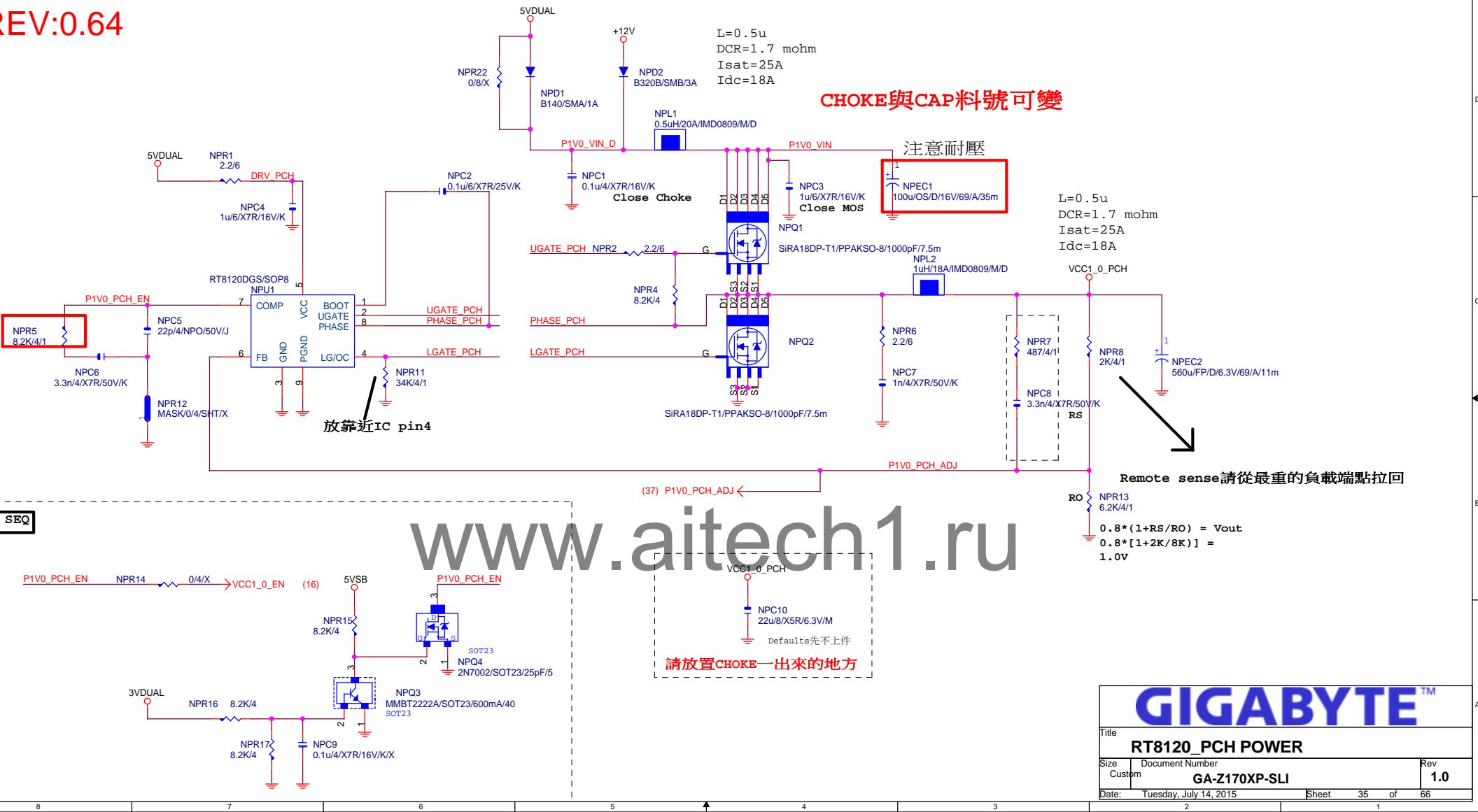
注意耐壓

L=0.5u  
DCR=1.7 mohm  
Isat=25A  
Idc=18A

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GIGABYTE™			
Title RT8120_PCH POWER			
Size Custom	Document Number GA-Z170XP-SLI		Rev 1.0
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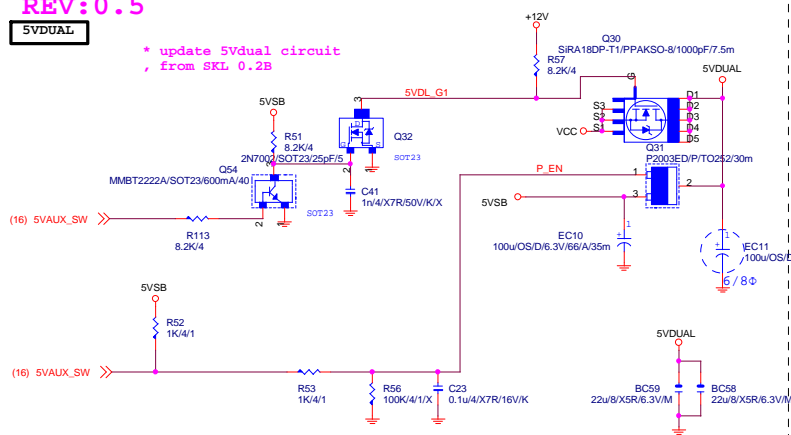
www.aitech1.ru



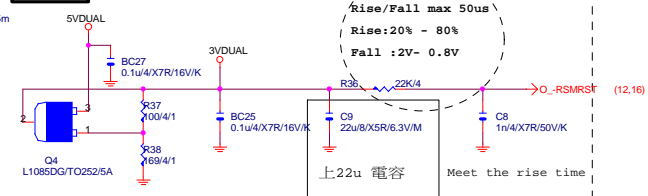
REV:0.5

5VDUAL

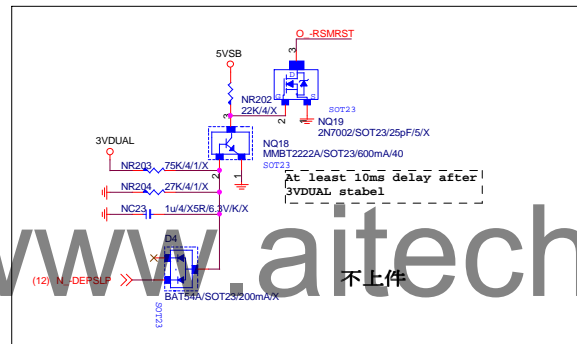
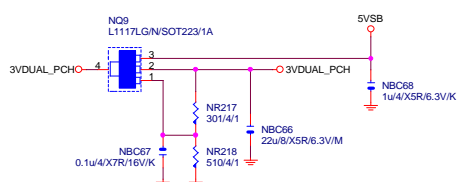
\* update 5Vdual circuit  
from SKL 0.2B



3VDUAL



3VDUAL\_PCH



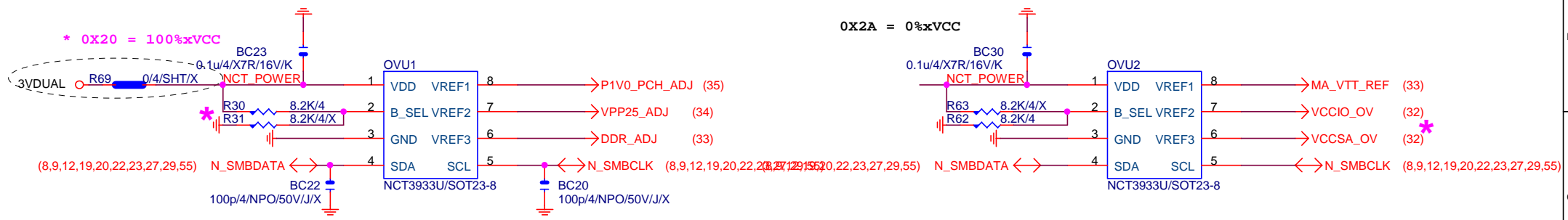
www.aitech1.ru

Gigabyte Technology

Title			
DISCRETE POWER			
Size	Document Number		Rev
Custom	GA-Z170XP-SLI		1.0
Date:	Tuesday, July 14, 2015	Sheet	36 of 66



OVER VOLTAGE



NCT3933	0X2A	0X20	0X22
VREF1	DDRVTT	VREF_DDRA_DQ	PCH Core
VREF2	VREF_DDRA_CA	N/A	VCCL_5_PCH
VREF3	VREF_DDRA_CA	VREF_DDRB_DQ	SMREF

Gigabyte Technology

Title

CPU CORE VR-2

Size Custom

Document Number

GA-Z170XP-SLI

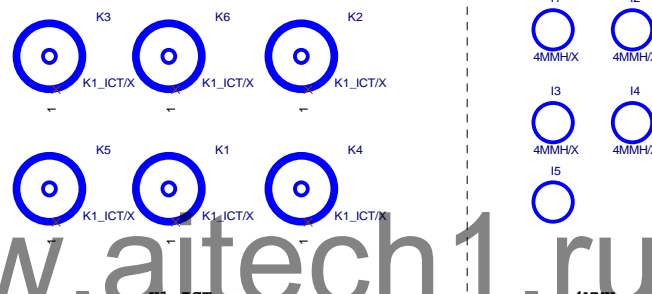
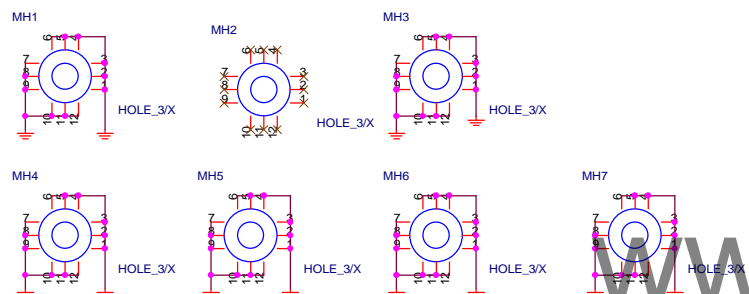
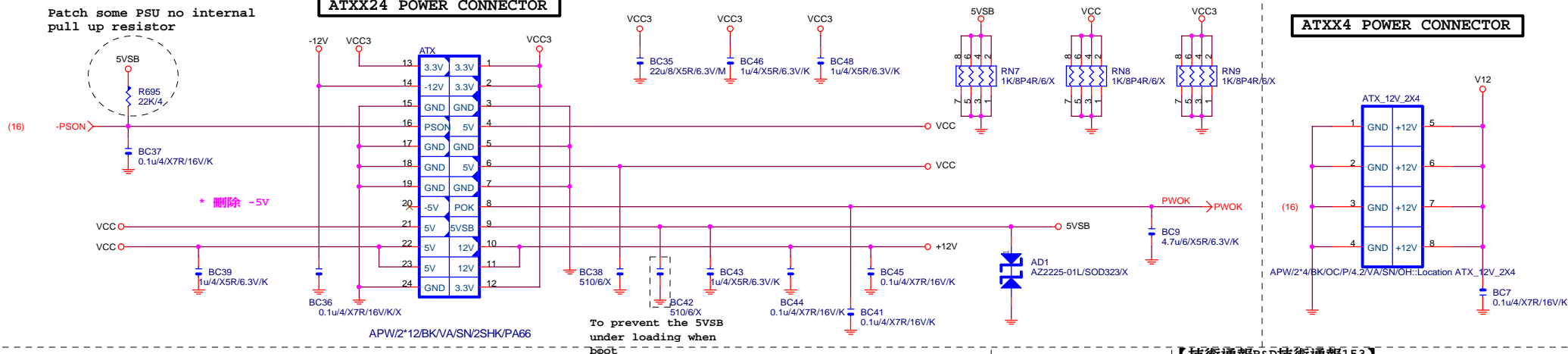
Rev 1.0

Date: Tuesday, July 14, 2015

Sheet 37 of 66

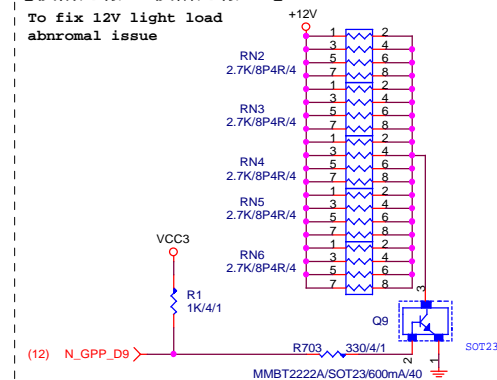
**ATXX4 POWER CONNECTOR**

(1)

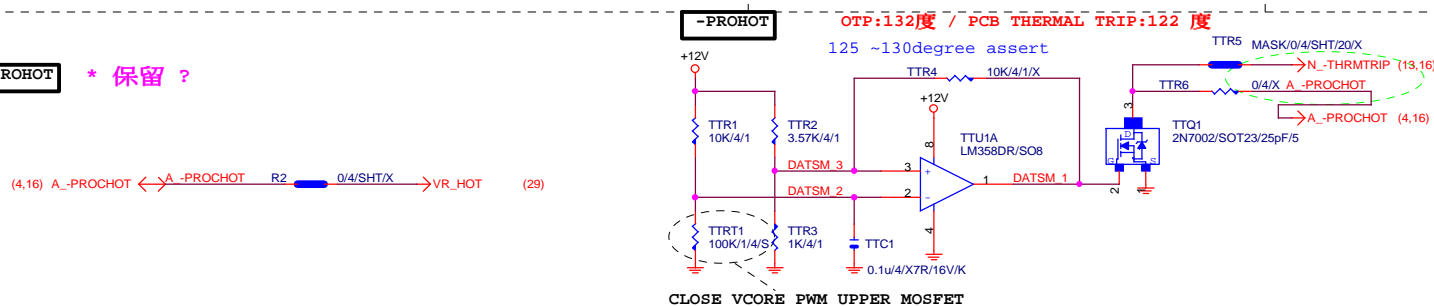


【技術通報R&amp;D技術通報153】

To fix 12V light load  
abnromal issue



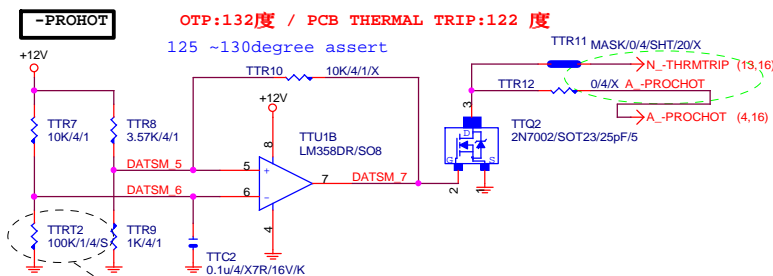
**-PROHOT** \* 保留 ?



CLOSE VCORE PWM UPPER MOSFET

**-PROHOT**

OTP:132度 / PCB THERMAL TRIP:122 度  
125 ~130degree assert

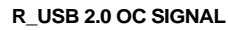


CLOSE VCCGT PWM UPPER MOSFET



## Gigabyte Technology

Title			
<b>ATX POWER CONNECTOR</b>			
Size Custom	Document Number	<b>GA-Z170XP-SLI</b>	Rev <b>1.0</b>
Date:	Tuesday, July 14, 2015	Sheet 38 of 66	



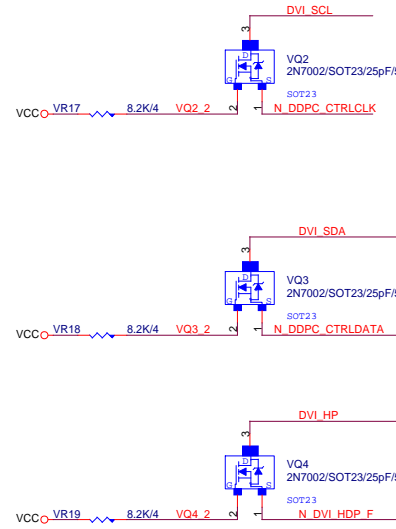
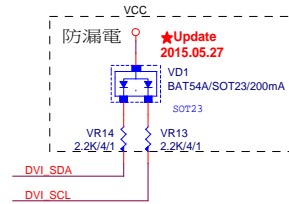
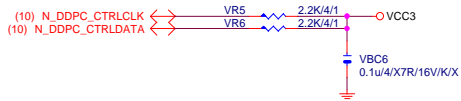
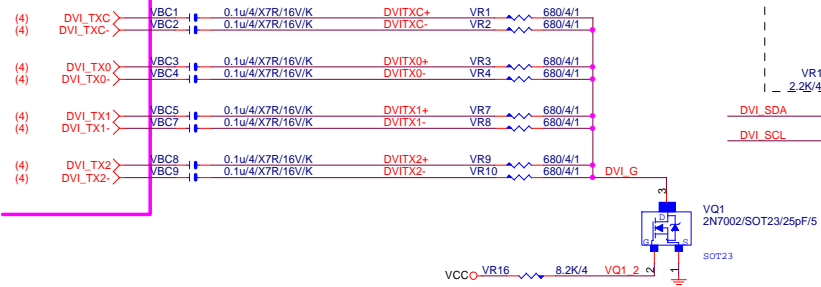
www.aitech1.ru

Rev: 0.62

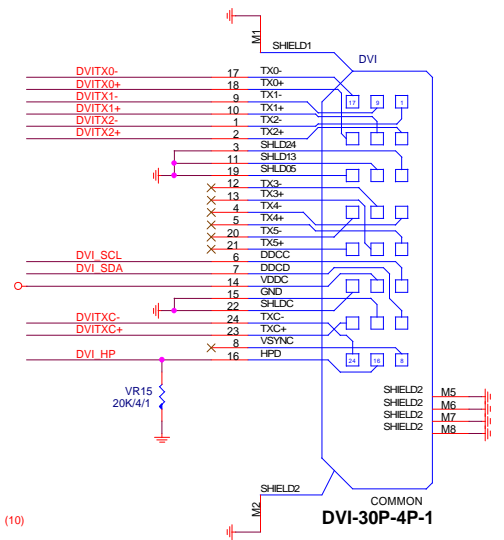
DVI\_CONN

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

NET 可變

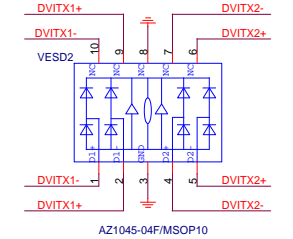


\* FSVCC\_KM

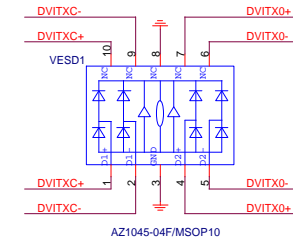


DVI-D/24P/SC/R/D/SH[11NR6-501024-31R]

Close to connector

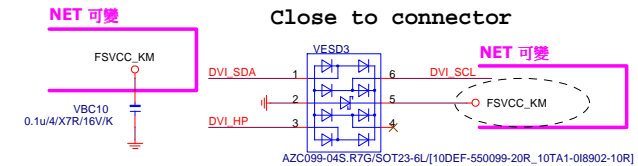


AZ1045-04F/MSOP10



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-Z170XP-SLI	
Custom		Rev 1.0	
Date:	Tuesday, July 14, 2015	Sheet	40 of 66

ROM PART: PTN3356R1BS/[10HQ5-A23356-10R]  
FLASH PART: PTN3356F1BS/[10HQ5-A23356-20R]

省X'TAL COST DOWN:

1. 上件:

DVC28 [10p/4/NPO/50V/J]

DVC11 [10p/4/NPO/50V/J]~修改值  
DVR10 [8.2K/4]

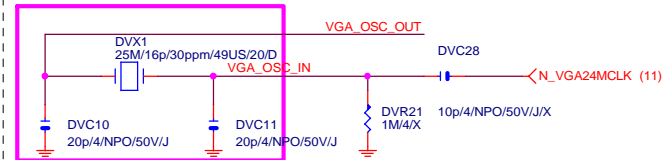
2. 删除:

DVX1 [25M/16p/30ppm/49US/20/D]

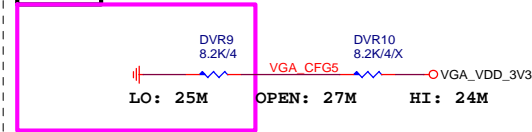
DVC10 [20p/4/NPO/50V/J]

DVR9 [8.2K/4]

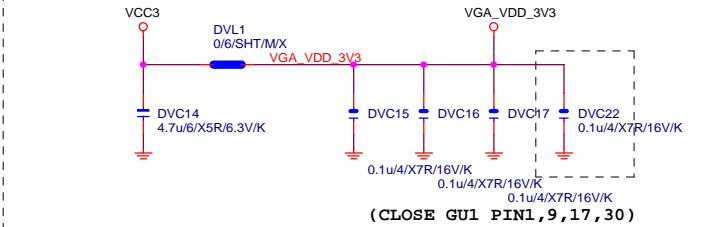
25M Crystal FROM PCH 24MHZ ISSUE



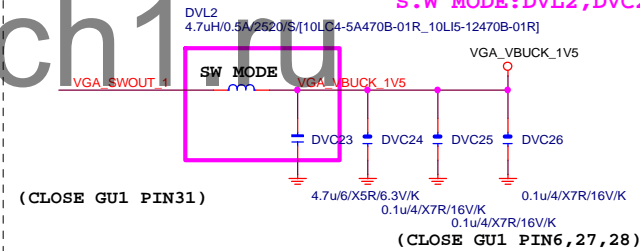
CFG5 For Crystal Less



ADAPTER POWER



(CLOSE GU1 PIN1,9,17,30)  
LDO MODE: DVL2, DVC23-->X  
S.W MODE: DVL2, DVC23-->O

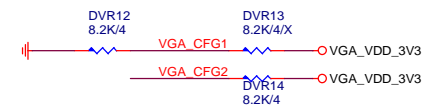


(CLOSE GU1 PIN31)

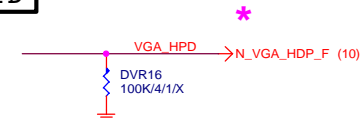
(CLOSE GU1 PIN6,27,28)

CFG1&amp;2

Non-Compliant



HPD

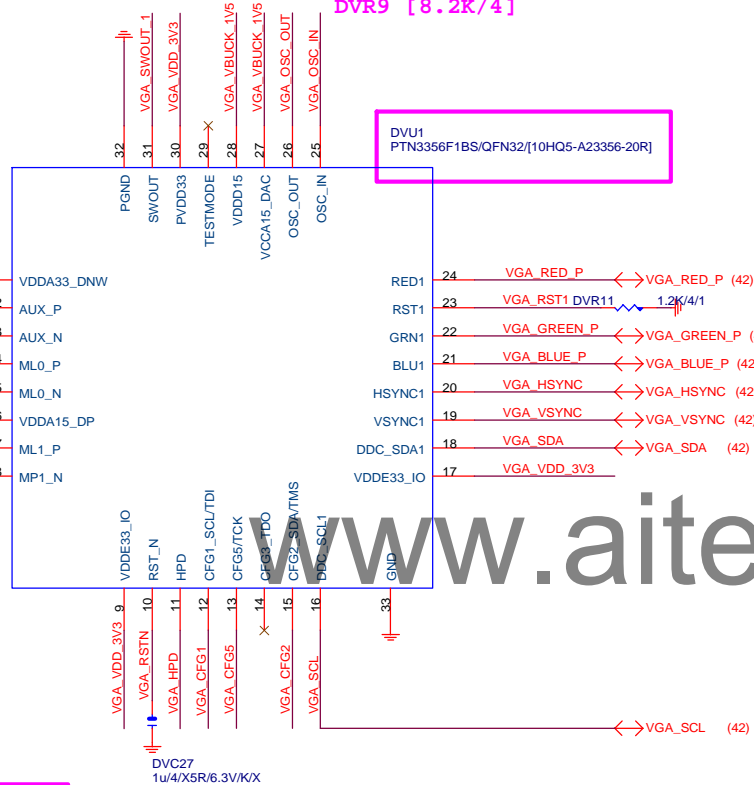


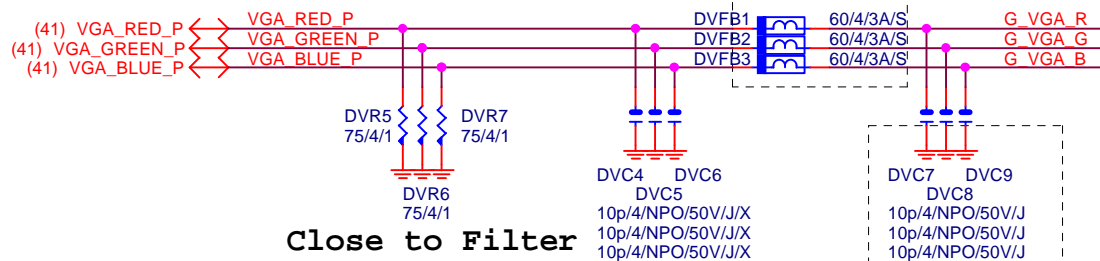
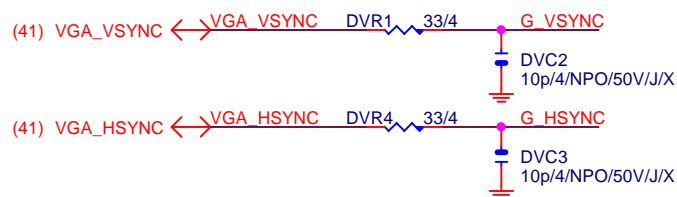
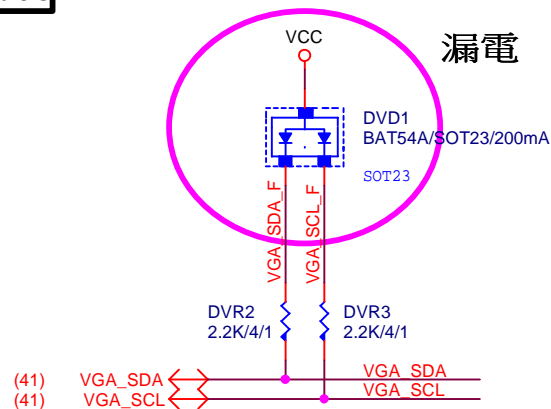
Gigabyte Technology  
NXP-PTN3356

Title	GA-Z170XP-SLI	Rev	1.0
Size	Document Number		
Custom			
Date:	Tuesday, July 14, 2015	Sheet	41 of 66

放置PCH端

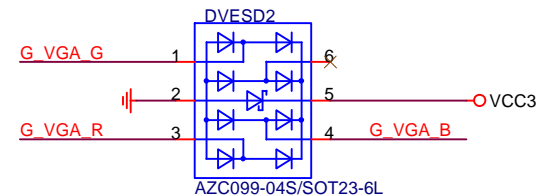
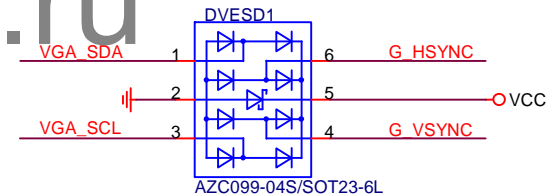
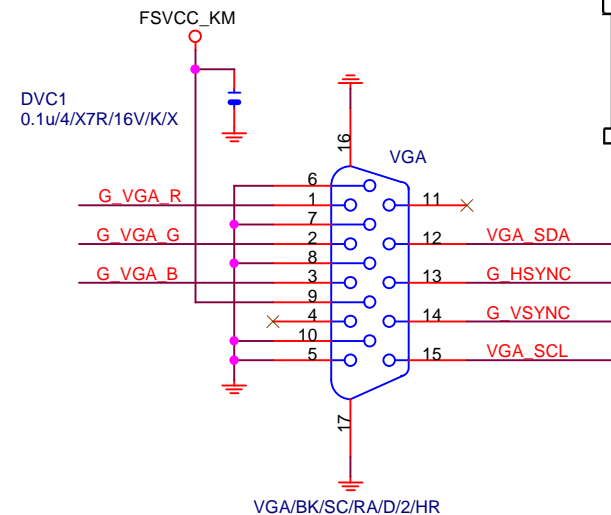
(10) N\_DDPD\_CTRLCLK <--> DVR19 2.2K/4/1 <--> VCC3  
(10) N\_DDPD\_CTRLDATA <--> DVR20 2.2K/4/1 <--> VCC3





Close to Filter

FOR EMI



Gigabyte Technology  
NXP-PTN3356

Size Custom Document Number GA-Z170XP-SLI

Rev 1.0

Date: Tuesday, July 14, 2015 Sheet 42 of 66

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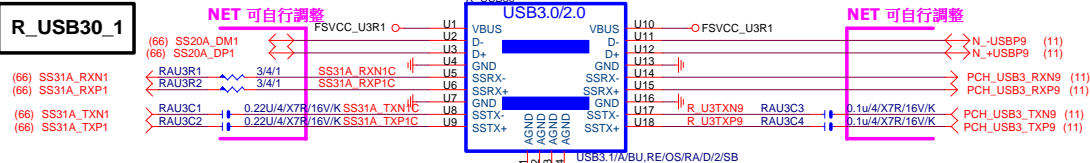
Gigabyte Technology		
Title		
HDMI20 MCDP2800-BA		
Size	Document Number	Rev
C	GA-Z170XP-SLI	1.0
Date:	Tuesday, July 14, 2015	Sheet 43 of 66



Rev: 0.7

R\_USB30\_1

NET 可自行調整

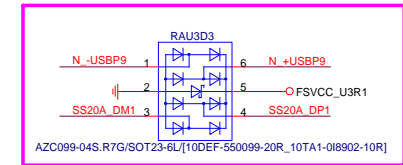
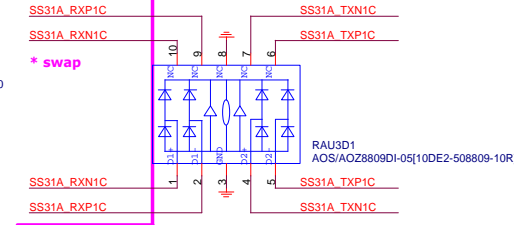
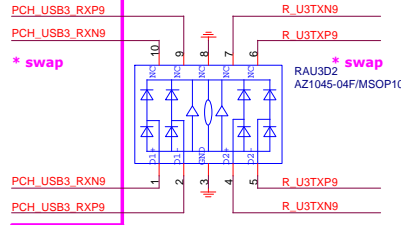
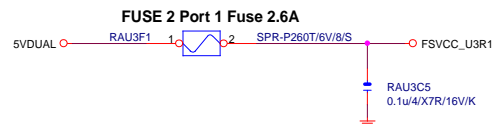


NET 可自行調整

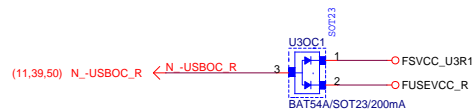
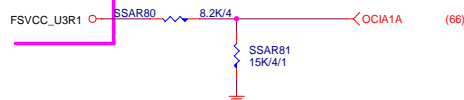
NET 可自行調整

NET 可自行調整

NET 可自行調整



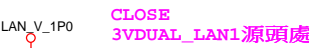
POWER 可自行調整



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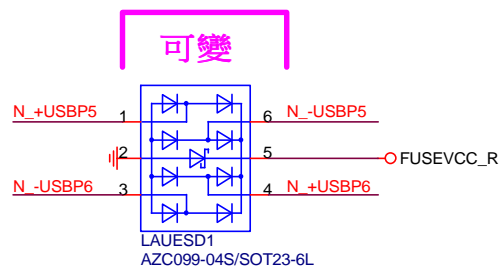
Gigabyte Technology

Title			R_USB30,F_USB30, USB OC
Size	Document Number		GA-Z170XP-SLI
	Rev		1.0
Date:	Tuesday, July 14, 2015	Sheet	44 of 66



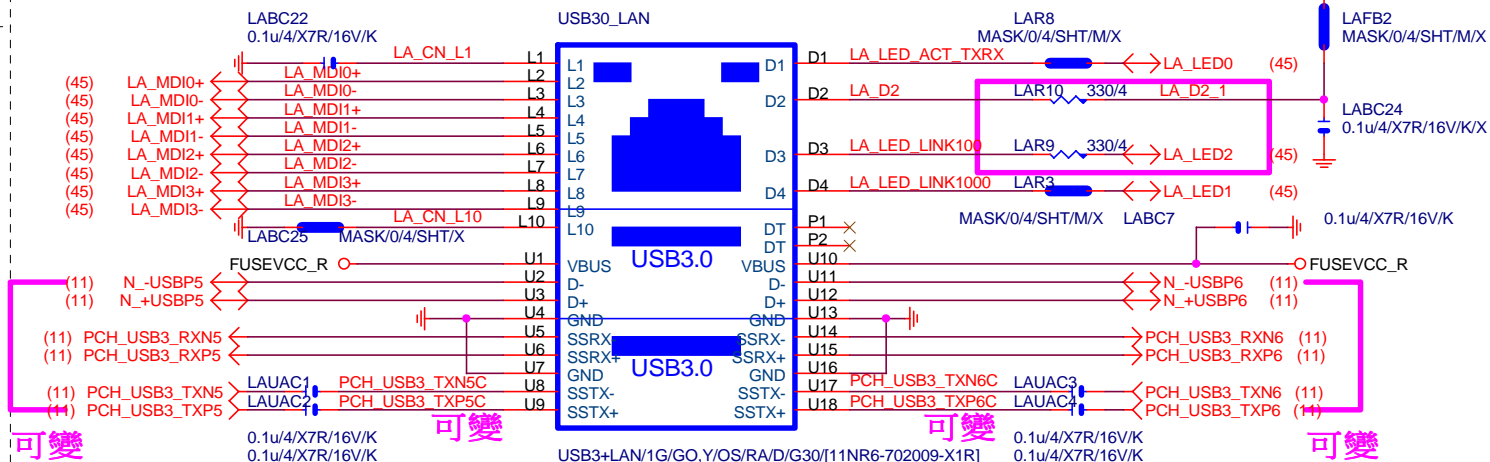
## R1.08

note:可變更USB NAME



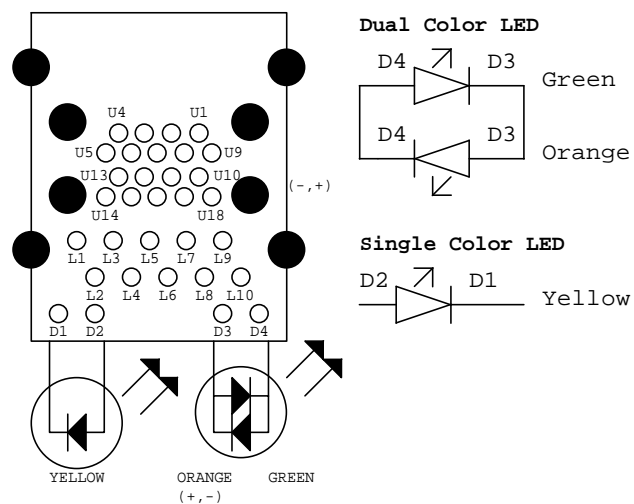
note:可變更USB NAME

[I219]



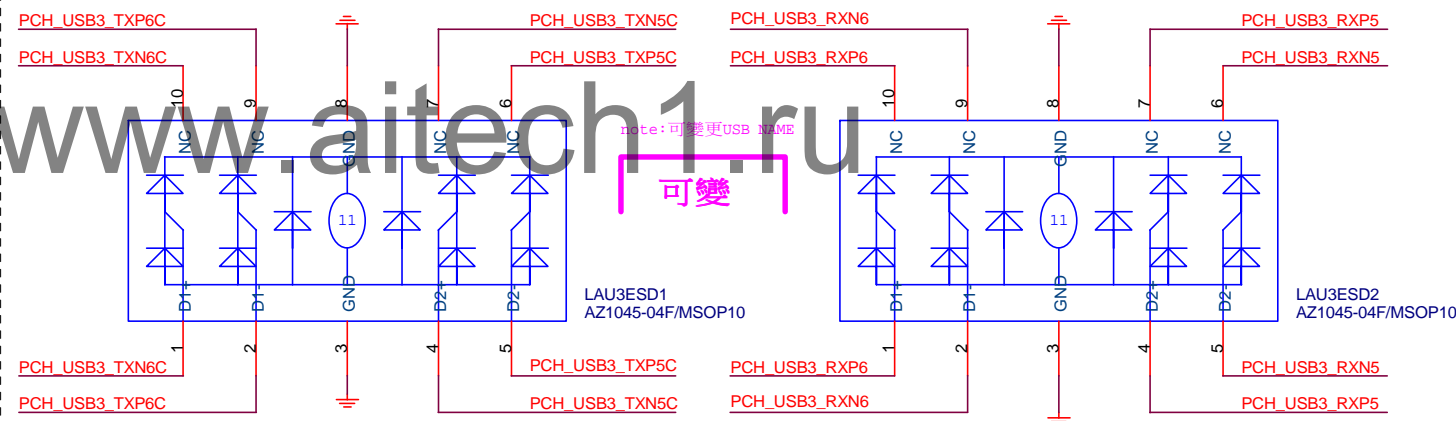
LA\_MDI-->100歐姆:[20/4/8/4/20]

### USB30\_LAN LAYOUT示意圖

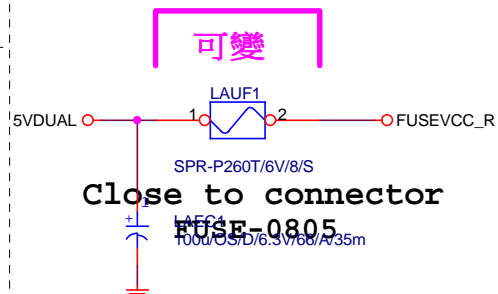


FOOT PRINT:LAN COVER

可變  
[視SPEC需求]



note:可變更FUSE



PS:視EMI需求



note: lan power連接及電流



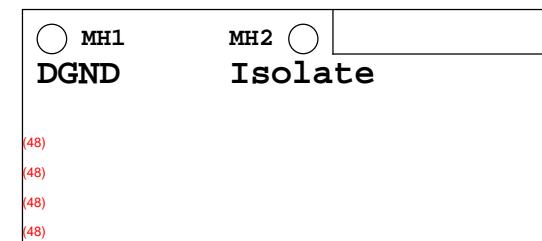
**Gigabyte Technology**  
**LAN CONNECTOR-I219**

## GA-Z170XP-SLI

Size Custom	Document Number <b>GA-Z170XP-SLI</b>	Rev 1.0
Date: Tuesday, July 14, 2015	Sheet 46 of 66	

## ALC1150 六孔 AUDIO JACK

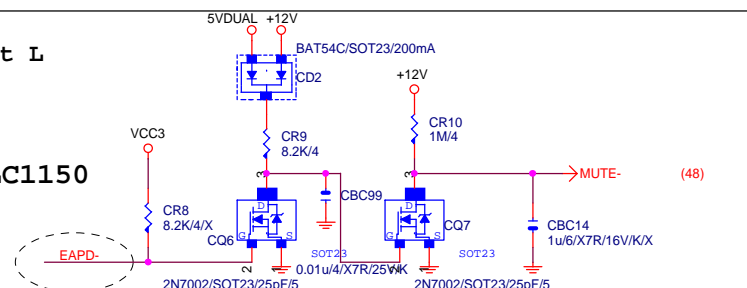
1. MH1空間夠,下DGND  
空間不夠,才改為Isolate
2. MH2一律改為Isolate
3. Codec下方,第二層必須參考GND



## 音效區域印刷

Size Custom	Document Number <b>GA-Z170XP-SLI</b>	Rev <b>1.0</b>
Date:	Tuesday, July 14, 2015	Sheet 47 of 66

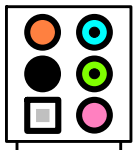
Close to ALC1150



更新AUDIO\_HS料號:11NH1-ADC001-21R

Rev 0.93

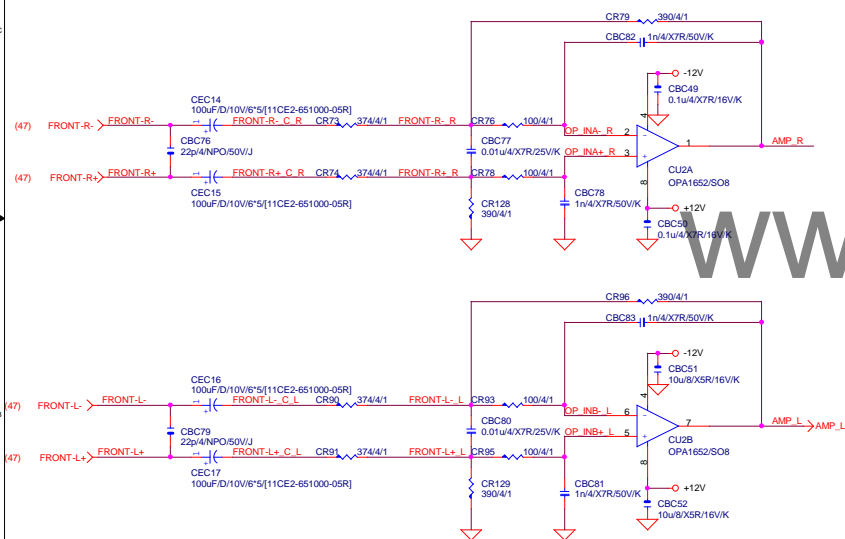
AZALIA JACK



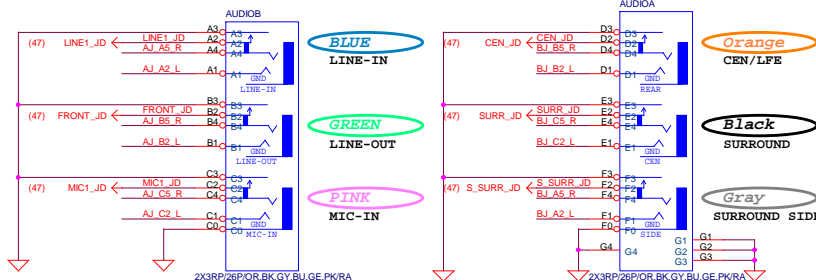
SPDIF\_OUT



## Differential to Single-End AMPLIFIED



AZALIA JACK



LINE-OUT

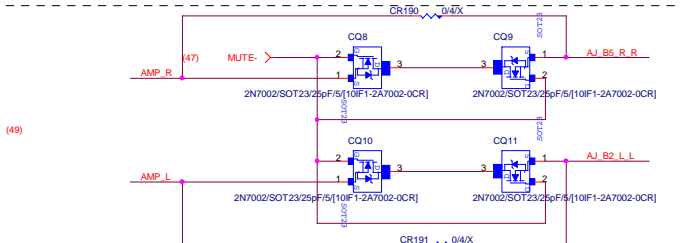
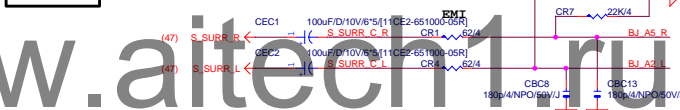
LINE-IN

MIC-IN

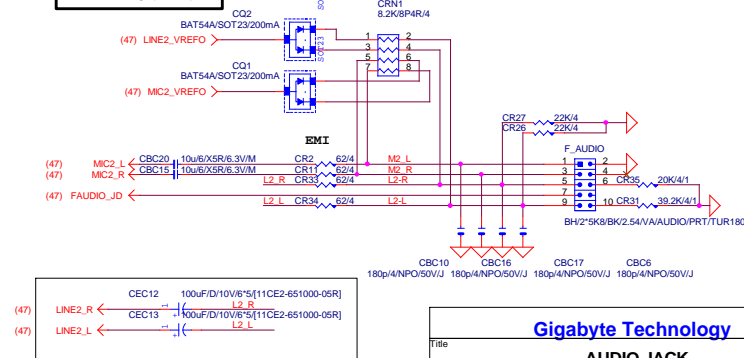
SURROUND

CEN/LFE

SURR BACK

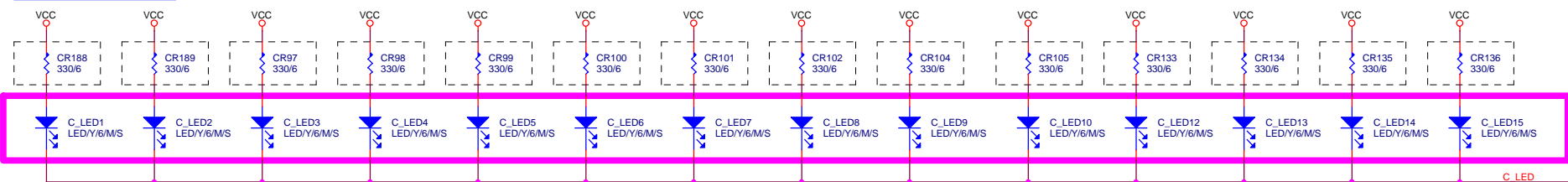


AZALIA FRONT PANEL



Gigabyte Technology

Title					Rev 1.0
AUDIO JACK					
Size Custom	Document Number GA-Z170XP-SLI				
Date:	Tuesday, July 14, 2015			Sheet 48 of 66	

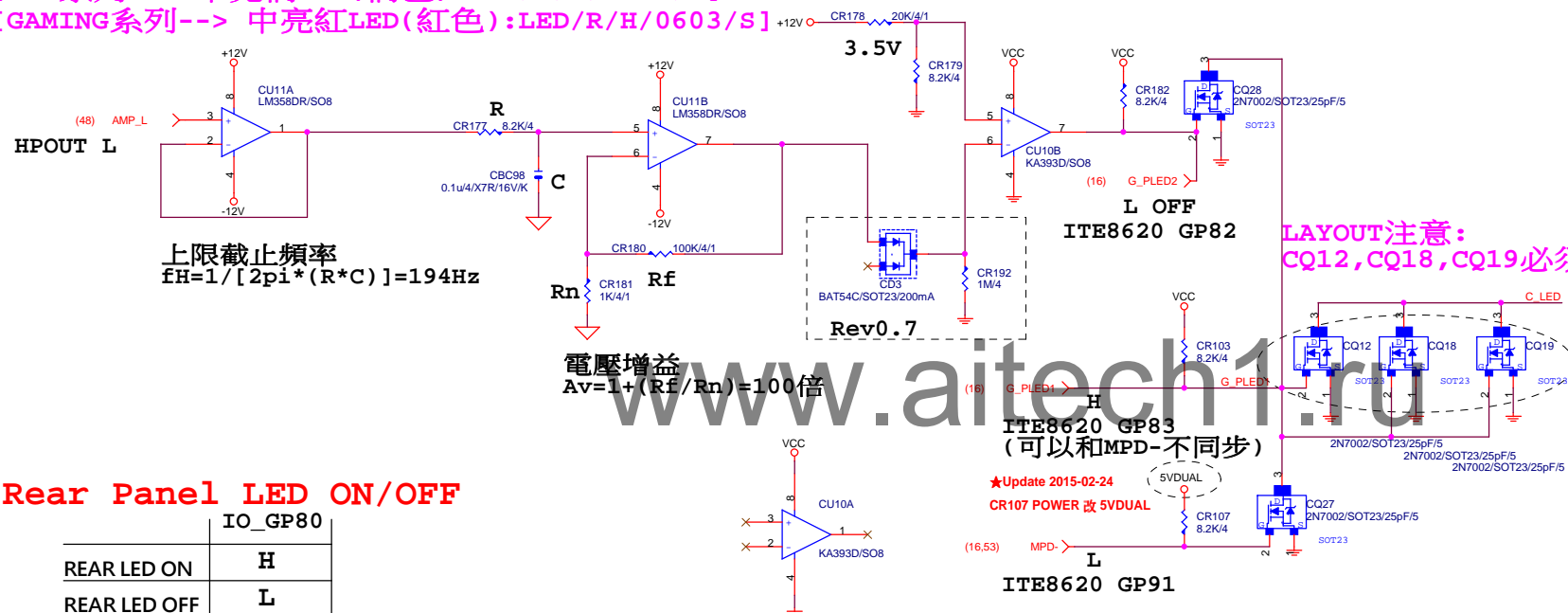


VALUE可變,LED顏色請自行修改

[UD系列--> 中亮黃LED(黃色):LED/Y/6/M/S]

[SOC系列--> 中亮橘LED(橘色):LED/O/M/0603/S]

[GAMING系列--> 中亮紅LED(紅色):LED/R/H/0603/S]



## Rear Panel LED ON/OFF

IO_GP80	
REAR LED ON	H
REAR LED OFF	L

CLOSE TO AUDIO JACK

ITE8620 GP80

LAYOUT OPTION : SOC/UD7系列要LAYOUT,  
 其餘UD系列機種不留LAYOUT

## AUDIO LED Control (沒有LPT model)

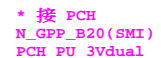
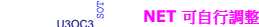
	IO_GP82	IO_GP83	IO_GP91
Still Mode	L	H	L
OFF Mode	L	L	L
Pluse Mode	L	H	BREATH
Beat Mode	OD	H	L

## AUDIO LED Control (有LPT model)

	IO_GP92	IO_GP17	IO_GP91
Still Mode	L	H	L
OFF Mode	L	L	L
Pluse Mode	L	H	BREATH
Beat Mode	OD	H	L

**GIGABYTE™**

Title <b>AUDIO LED</b>		
Size Custom	Document Number <b>GA-Z170XP-SLI</b>	Rev <b>1.0</b>
Date: Tuesday, July 14, 2015	Sheet 49	of 66



Title			
R_USB30,F_USB30, USB_OC			
Size	Document Number		Rev
Custom	GA-Z170XP-SLI		1.0
Date:	Tuesday, July 14, 2015	Sheet	50 of 66

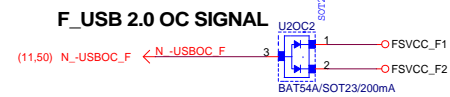
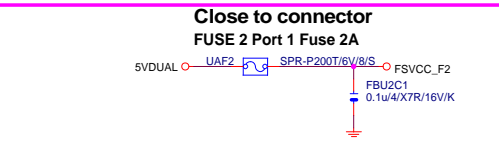
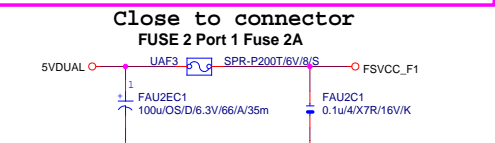
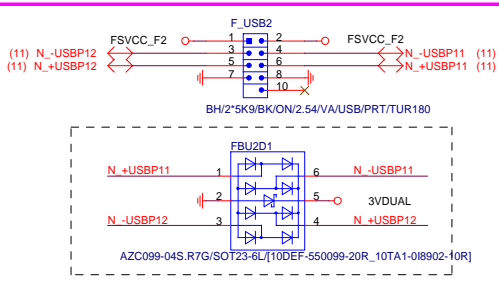
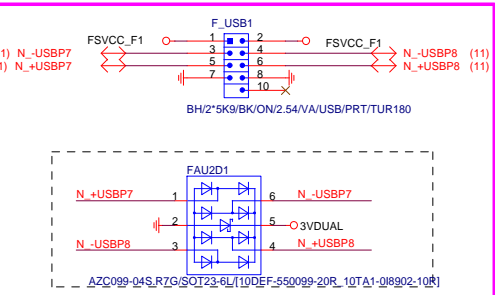


FRONT USB1

FRONT USB2

NET 可變

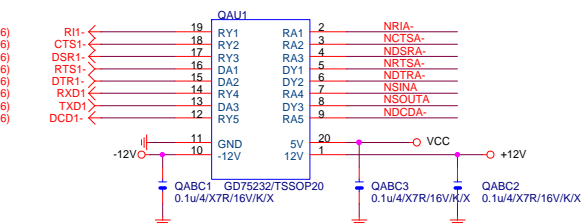
NET 可變



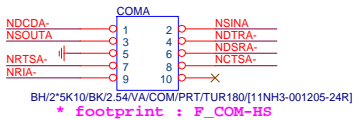
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Rev: 0.41

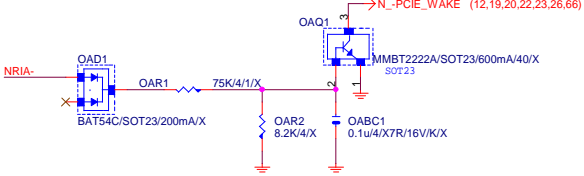
COM PORT



COMA

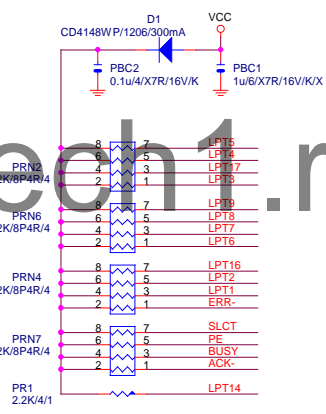
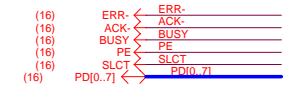
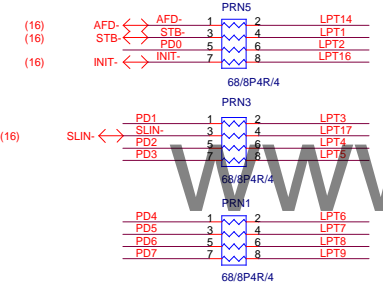


\* 接 N\_-PCIE\_WAKE

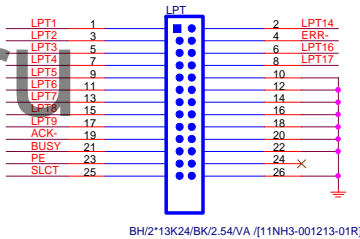


Rev: 0.3

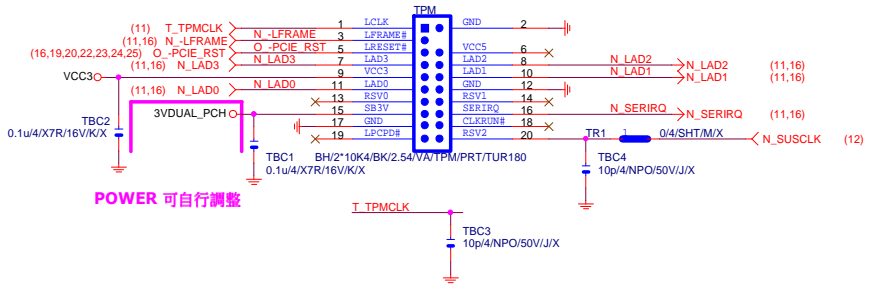
LPT PORT



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。

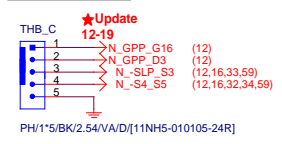


TPM CONNECT

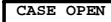


POWER 可自行調整

Thunderbolt



## FRONT PANEL



Update 2015.01.08  
Footprint=F\_PANEL-100

SPKR



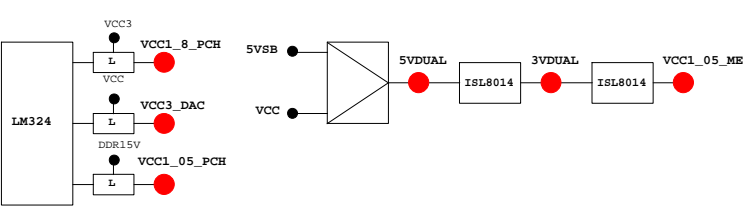
Title			
FRONT PANEL			
Size Custom	Document Number	GA-Z170XP-SLI	Rev 1.0
Date:	Tuesday, July 14, 2015	Sheet 53 of 66	

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

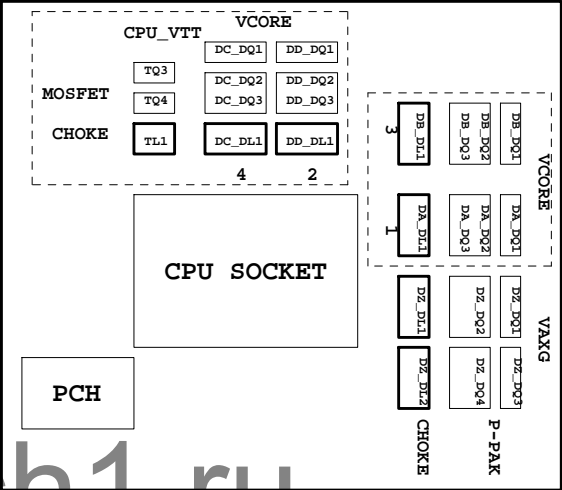
Super I/O ITE8720 GPIO Table

PIN NAME	USAGE	NOTE
SVC/PECI_RQT/GP14	-PECI_REQ	
PWROK1/GP13	PWROK1/ITE_PWROK	
KRST#/GP62	-KBRST	
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	-PCI_E_RST	
RSMRST#CIRRXL/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	-PWRST1	
PCIRST1#/GP12	-PWRST2	
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/SMBC_R	SEC_PIN	FST_2X8
INIT#/GP85/SMBD_M	SEC_2x8	GTLREF_AD2
ACK#/GP83	DDR_LED1_C	
VID01/GP21/DCD2#	DDR_LED2_C	
STB#/GP87/SMBC_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/SMBD_R	-EN_PWM2	
PSI_L/FAN_CLT5/CIRRXL2/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：

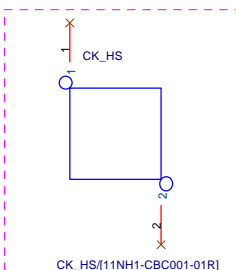
散熱模組料號：

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 Terminatio
VREF_CA_A/VREF_CA_B	DRAM Address Ref
VREF_DQ_A/VREF_DQ_B	DRAM Data Ref

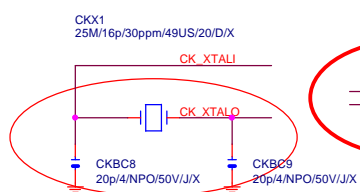
Z77-D3H :  
PCH :  
12SP2-S05511-01R/02R/03R  
MOSFET :  
12SP2-S08924-01R/02R/03R

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

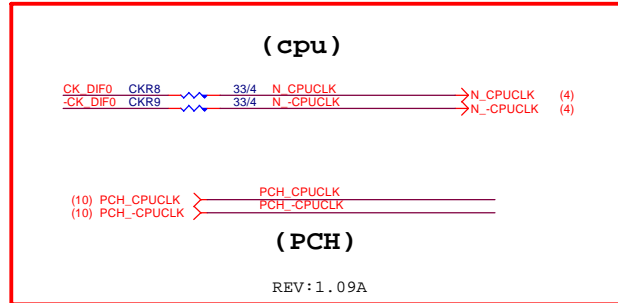
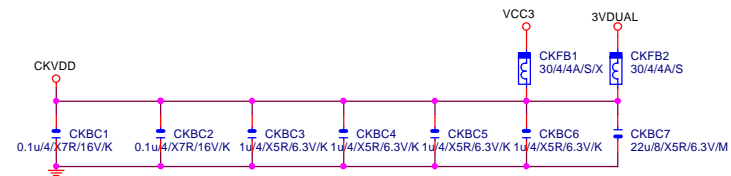
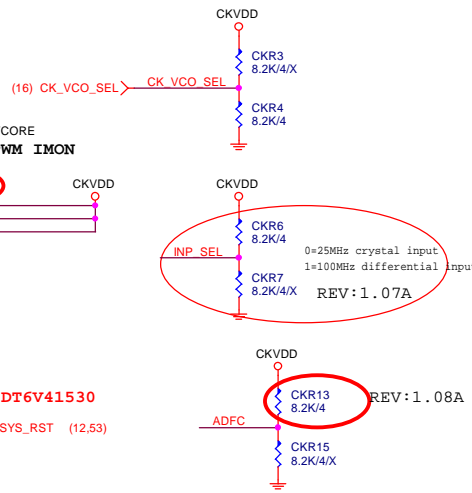
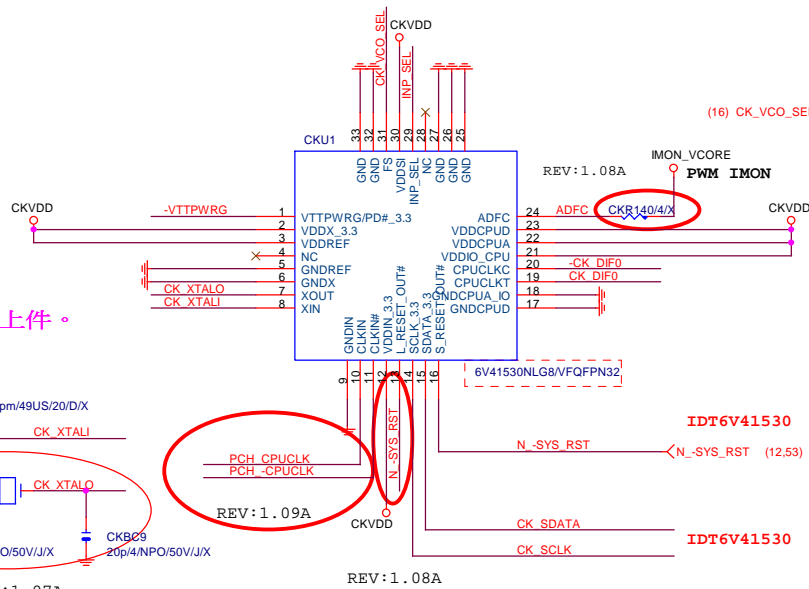
IDT6V41530



\*可變，依需求上件不上件。



REV:1.07A



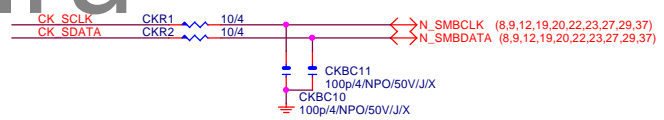
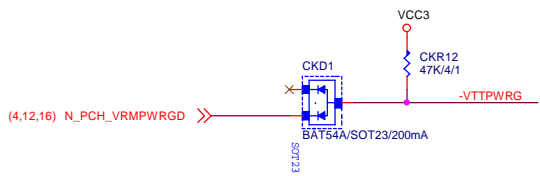
(cpu)

( PCH )


REV:1.09A

INP_SEL	Intput
0	Crystal
1	CLK_INP/M

CK_VCO_SEL	VCO
0	400M
1	1200M



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<b>Title</b> IDT6V41530_CLK BUFFER			
<b>Size</b> Custom	<b>Document Number</b> GA-Z170XP-SLI		<b>Rev</b> 1.0
<b>Date:</b> Tuesday, July 14, 2015	<b>Sheet</b> 55	<b>of</b> 66	

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**GIGABYTE™**

Title

**Etron EJ179V**

Size

Custom

**GA-Z170XP-SLI**

Rev

**1.0**

Date:

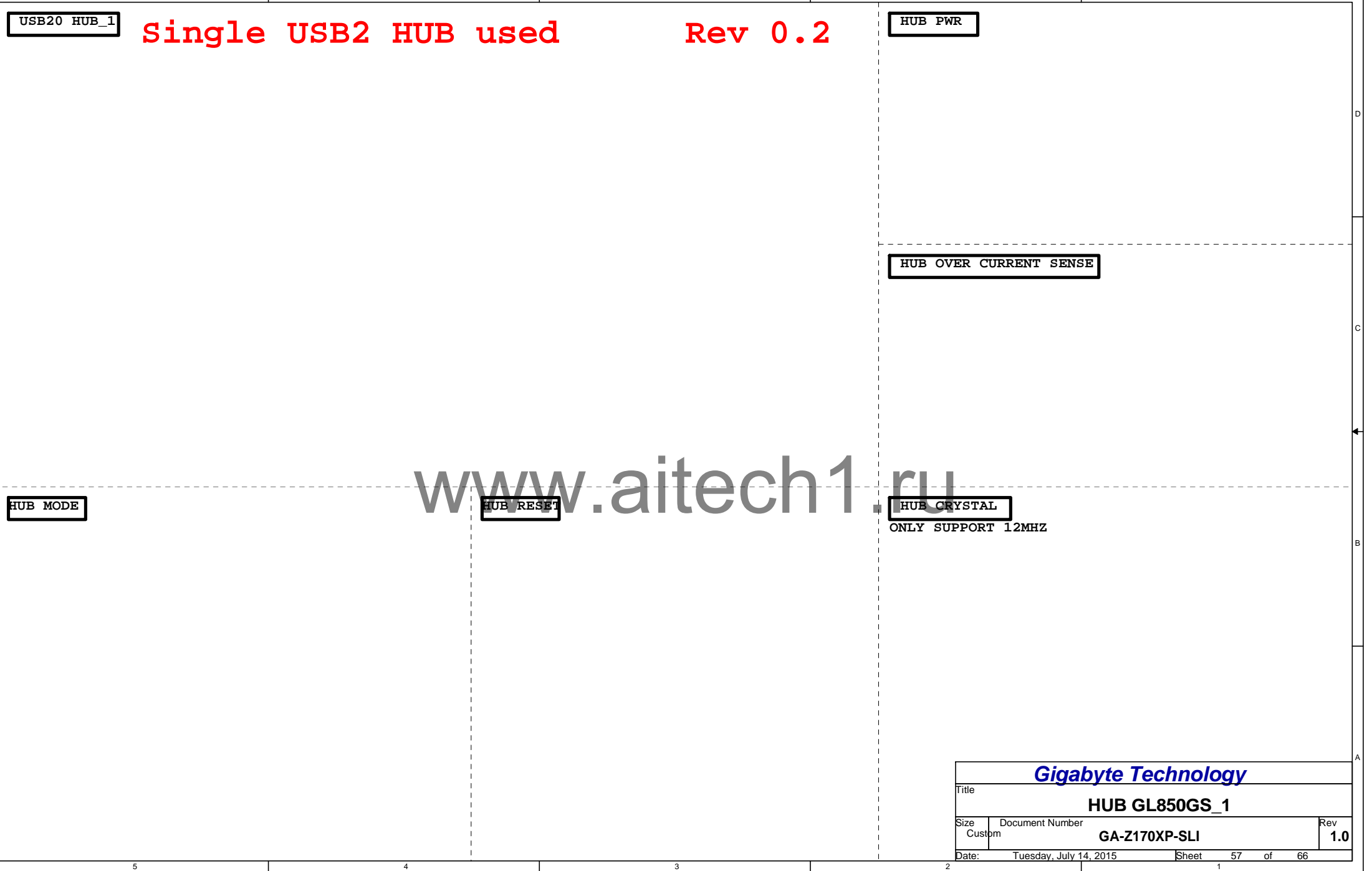
Tuesday, July 14, 2015

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Single USB2 HUB used

Rev 0.2

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Gigabyte Technology			
Title			
HUB GL850GS_1			
Size	Document Number		Rev
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
Display Port with HDMI, or HDMI only.



DP  
HDMI

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P/N:11NR6-H04039-02R

OR

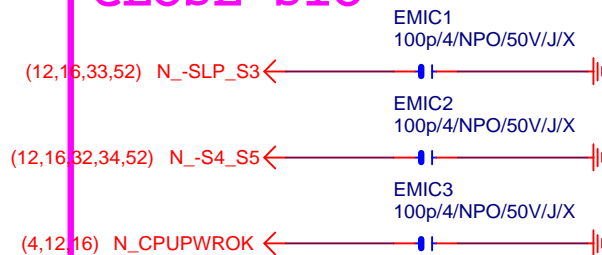


HDMI only

Footprint:DP\_HDMI-2, Capture  
Value:HDMI/19P/BK/S/RA/INTEL

GIGABYTE			
Title			
DP PORT			
Size	Document Number		Rev
Custom	GA-Z170XP-SLI		1.0
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## CLOSE SIO



## CLOSE PCH



## CLOSE AUDIO



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**GIGABYTE™**

Title

**EMI/ESD**

Size  
A

Document Number

**GA-Z170XP-SLI**

Rev

**1.0**

Date: Tuesday, July 14, 2015

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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



Title

RT8120\_DDR4 POWER

Size Custom

Document Number

GA-Z170XP-SLI

Rev

1.0

Date:

Tuesday, July 14, 2015

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REAR IO

RS\_SYS

F\_AUDIO

AUDIO

DD\_DQ2 DD\_DQ1 DC\_DQ2 DC\_DQ1 DB\_DQ2 DB\_DQ1

RS\_VCORE

TTRT1

DD\_DL1 DC\_DL1 DB\_DL1

CPU

DA\_DL1  
DO\_DL1  
DN\_DL1  
DM\_DL1

DA\_DQ1 DA\_DQ2  
DO\_DQ1 DO\_DQ2  
DN\_DQ1 DN\_DQ2  
DM\_DQ1 DM\_DQ2

DANTC2

DANTC3

RS\_VCCGT TTRT2

DANTC4

SIO

PCH

RS\_PCH

SATA\_EXPRESS

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
TTRT1	DC_DQ2	N/A
TTRT2	DN_DQ2	N/A
RS_PCH	PCH	N/A
RS_SYS	F_AUDIO	N/A

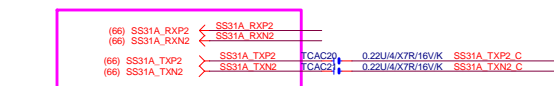
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<b>GIGABYTE™</b>		
Title <b>ALPINE RIDGE CIO &amp; DP</b>		
Size C	Document Number <b>GA-Z170XP-SLI</b>	Rev <b>1.0</b>
Date: Tuesday, July 14, 2015 Sheet 62 of 66		

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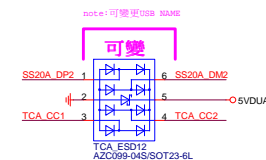
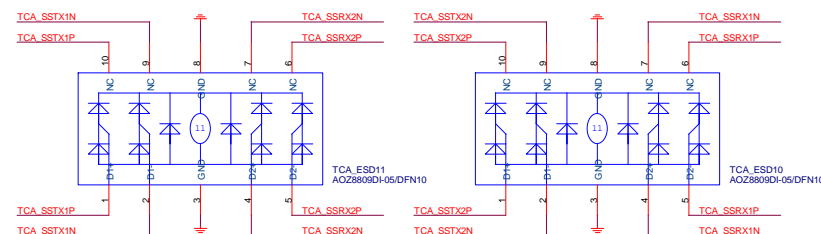
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Title <b>ALPINE RIDGE POWER</b>		
Size C	Document Number <b>GA-Z170XP-SLI</b>	Rev <b>1.0</b>
Date: Tuesday, July 14, 2015 Sheet 63 of 66		

L - Port A to Port B  
H - Port A to Port C

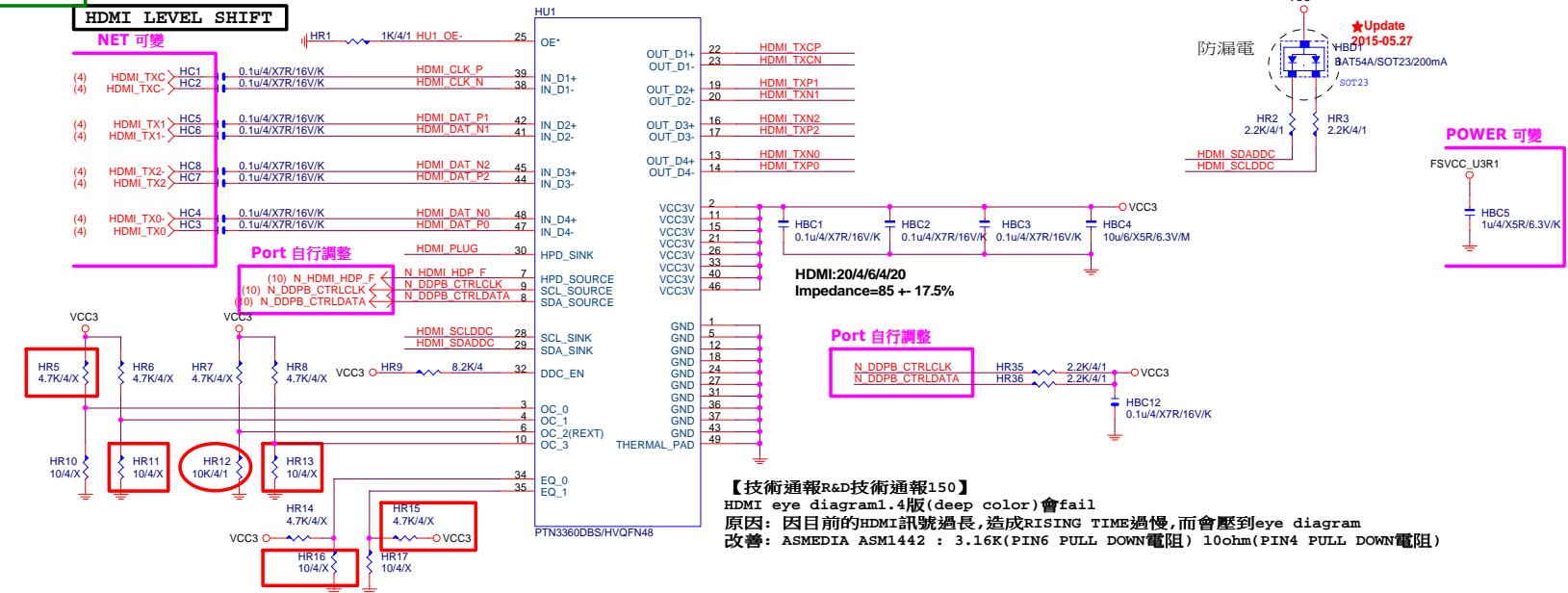
[illegible]

L - Default current / Pull down to GND or NC  
M - Medium (1.5A) current / Pull up to VDD 500K  
H - High (3.0A) current / Pull up to VDD 10K

## Color markers can be changed by model

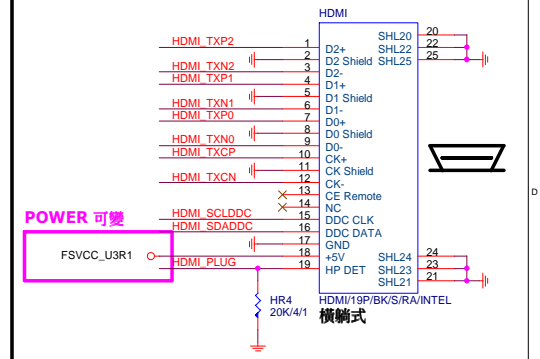






PTN3360:PIN 4/10/34/35 NC PIN,都不上值;只上HR12:10K  
ASM1442:紅色框要上,HR12:3.16K

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直立式  
P/N:11NR6-H01019-K1R

**ASM1142 USB3.1**

**Base on ASM1142 0.3 Reference SCH**

