

SHEET

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06	CPU_LGA1150-C
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09	DDR4 CHANNEL B 1,2
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11	PCH DMI,USB,PCIE
12	PCH MISC
13	PCH SATA,PCIE,SATA_EXPRESS
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16	ITE 8628 LPC IO
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27	PCI SLOT 1&2
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32	VCCSA_VCCIO_VCCPLL

SHEET

TITLE

33	RT8120_DDR
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36	DISCRETE POWER
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38	ATX POWER , A_-PROCHOT
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40	DVI CONN
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42	PTN3356 - DP to VGA - Conn
43	NA
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45	INTEL I219
46	USB30_LAN CONNECTOR-I219
47	Realtek ALC1150
48	REAR AUDIO JACK
49	Audio Power
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51	F_USB_BOX Header
52	COM,LPT,TPM ,THB
53	F_PANEL
54	TABLE LIST
55	IDT6V41510_CLK BUFFER
56	NA
57	NA
58	NA
59	EMI-ESD
60	POWER零件使用表
61	NTC MAP
62	ALPINE RIDGE CIO & DP
63	ALPINE RIDGE POWER
64	Etron EJ179S&D_A
65	TBT HDMI 2.0

Gigabyte Technology

Title			Cover Sheet
Size	Document Number	GA-Z170XP-SLI	Rev
Custom			1.01
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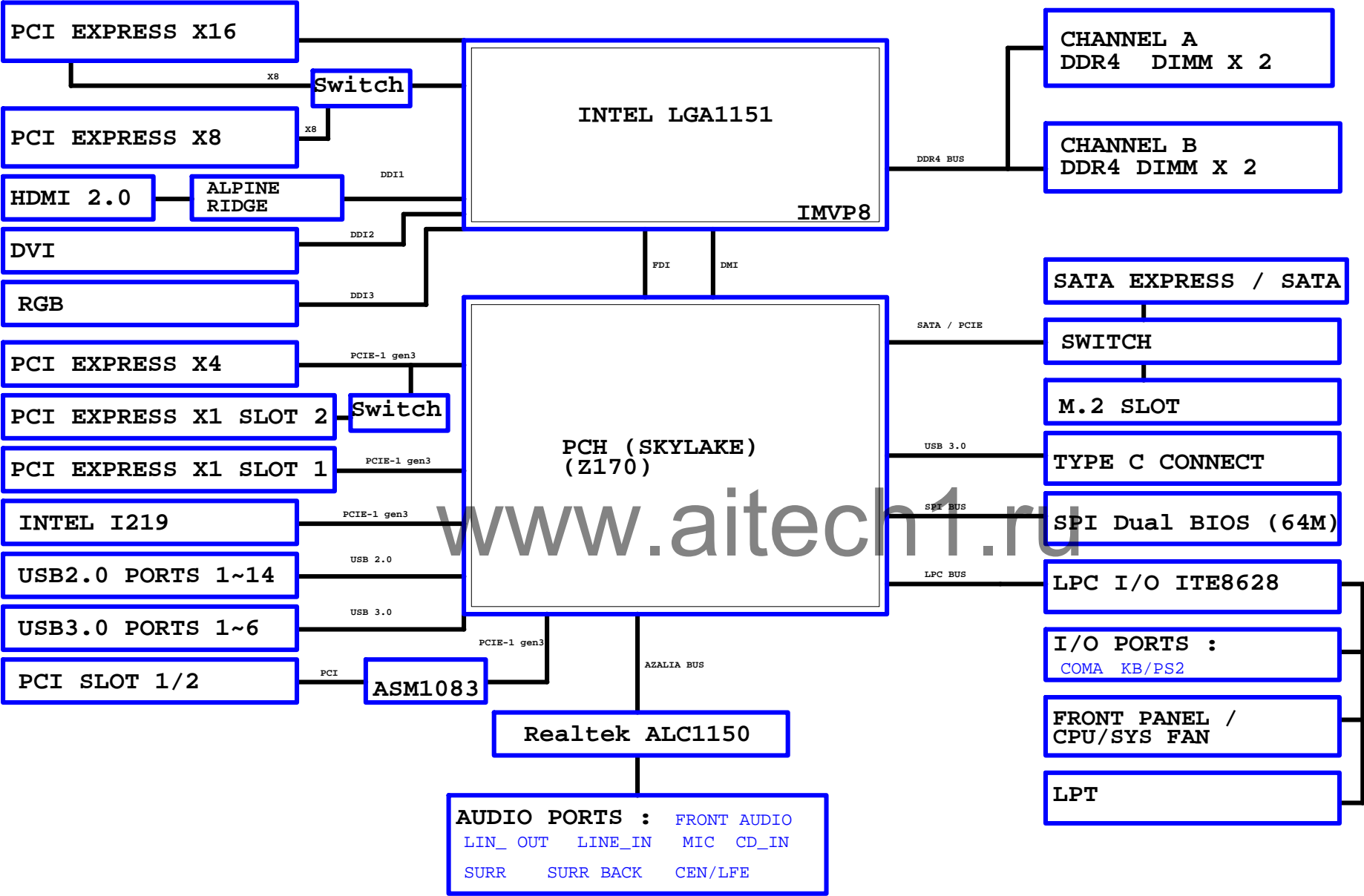
GIGABYTE

Component value change history

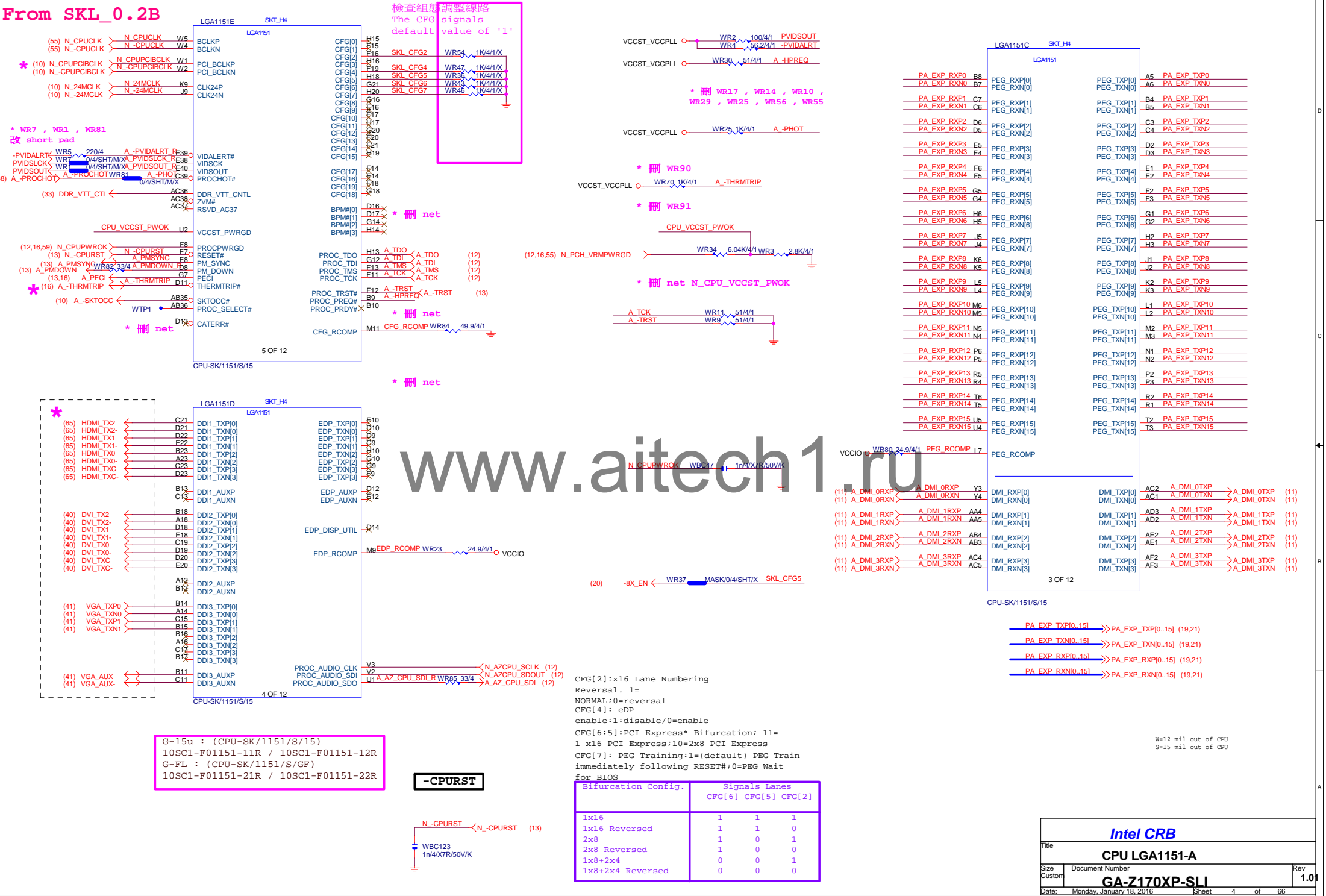
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DATE	Change Item	Reason
2014/10/28	1.PCB first release 2.線路由GA-Z1704-HD3-01-1027_1700.DSN來修改	REV 0.1
2015/01/19	1. Remove NR61 2. SIO 更正 pin name 3. SIO add TFM_GP93 4. PCIEX4 PRSNT circuit update 5. PWM add DARI29,DARI30 6. DCR6改接5VSB 7. Update DDR power sequency MAR105 改100K/4,add MAC9 1u/6 8. UAR1改接5VDUAL 9. TFM 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EJ179S+D 3.PCH POWER 路改為+12V 輸入 4.Remove NR294 & NR295 5.M.2 文字面 42,60,80改為42A,60A,80A 6.Add VDI,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 NFC10 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
2015/21/21	1. Move DAC42 like to Z170-Gaming 3	GA-Z170XP-SLI Rev 1.01

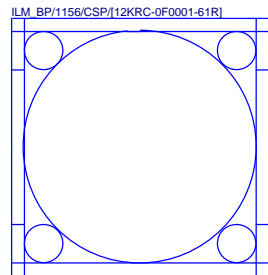
BLOCK DIAGRAM



From SKL_0.2B



* 改DDR4 net

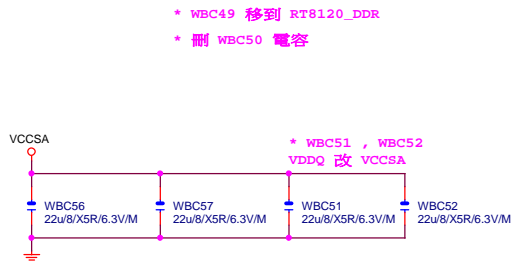


Need check the new CPU ME



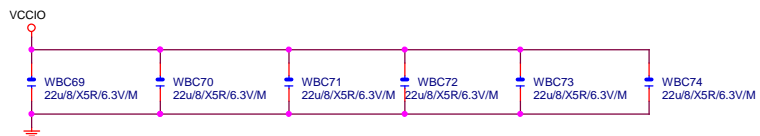
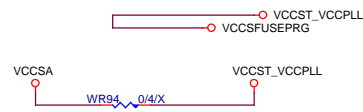
(8) MODT_A[0..3] ↔ MODT_A[0..3]
 (9) MODT_B[0..3] ↔ MODT_B[0..3]
 (8) MDA[0..63] ↔ MDA[0..63]
 (9) MDB[0..63] ↔ MDB[0..63]
 (8) M_DQSA[0..7] ↔ M_DQSA[0..7]
 (8) M_-DQSA[0..7] ↔ M_-DQSA[0..7]
 (9) MAA[A][0..16] ↔ MAA[A][0..16]
 (9) MAA[B][0..16] ↔ MAA[B][0..16]
 (9) M_DQSB[0..7] ↔ M_DQSB[0..7]
 (9) M_-DQSB[0..7] ↔ M_-DQSB[0..7]

Intel CRB			
Title			
CPU LGA1151-B			
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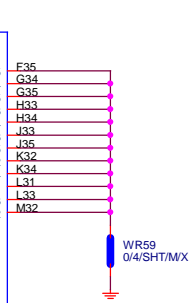
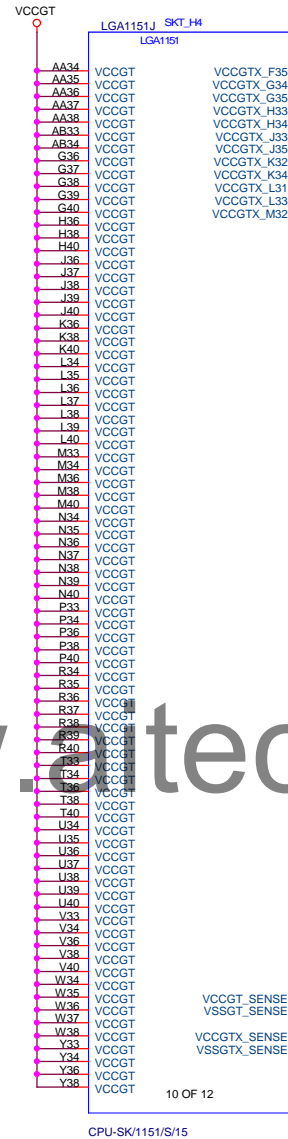


* 刪 WBC124, WBC125, WBC126, WBC127 電容

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



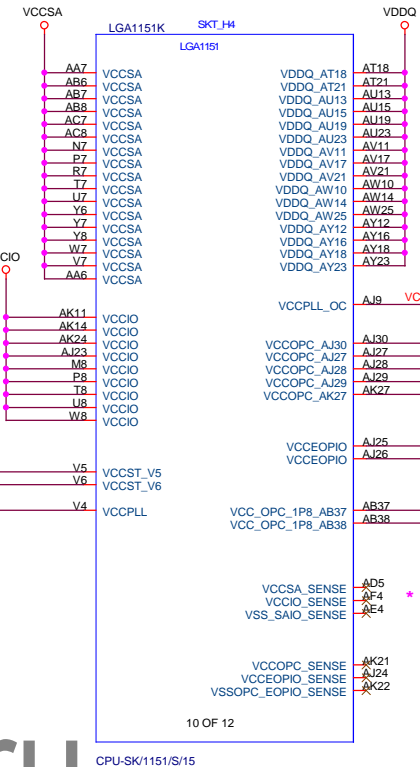
* 刪 VCCGT 電容



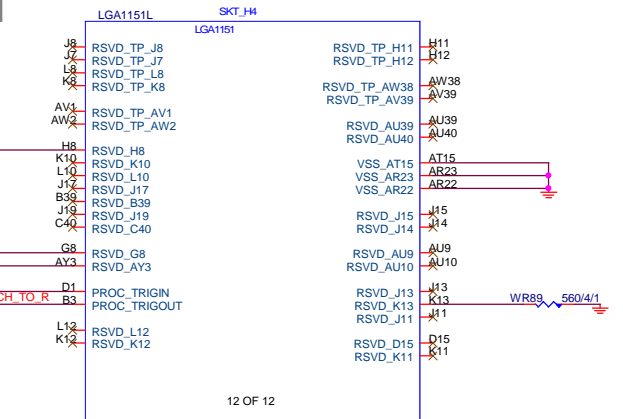
VCCST_VCCPLL
VCCSFUSEPRG
VCCST_VCCPLL

F39 VCCGT_SENSE (29)
F38 VSSGT_SENSE (29)
F37
F36

(13) N_PCH_CPU_T1
(13) A_CPU_PCH_TO

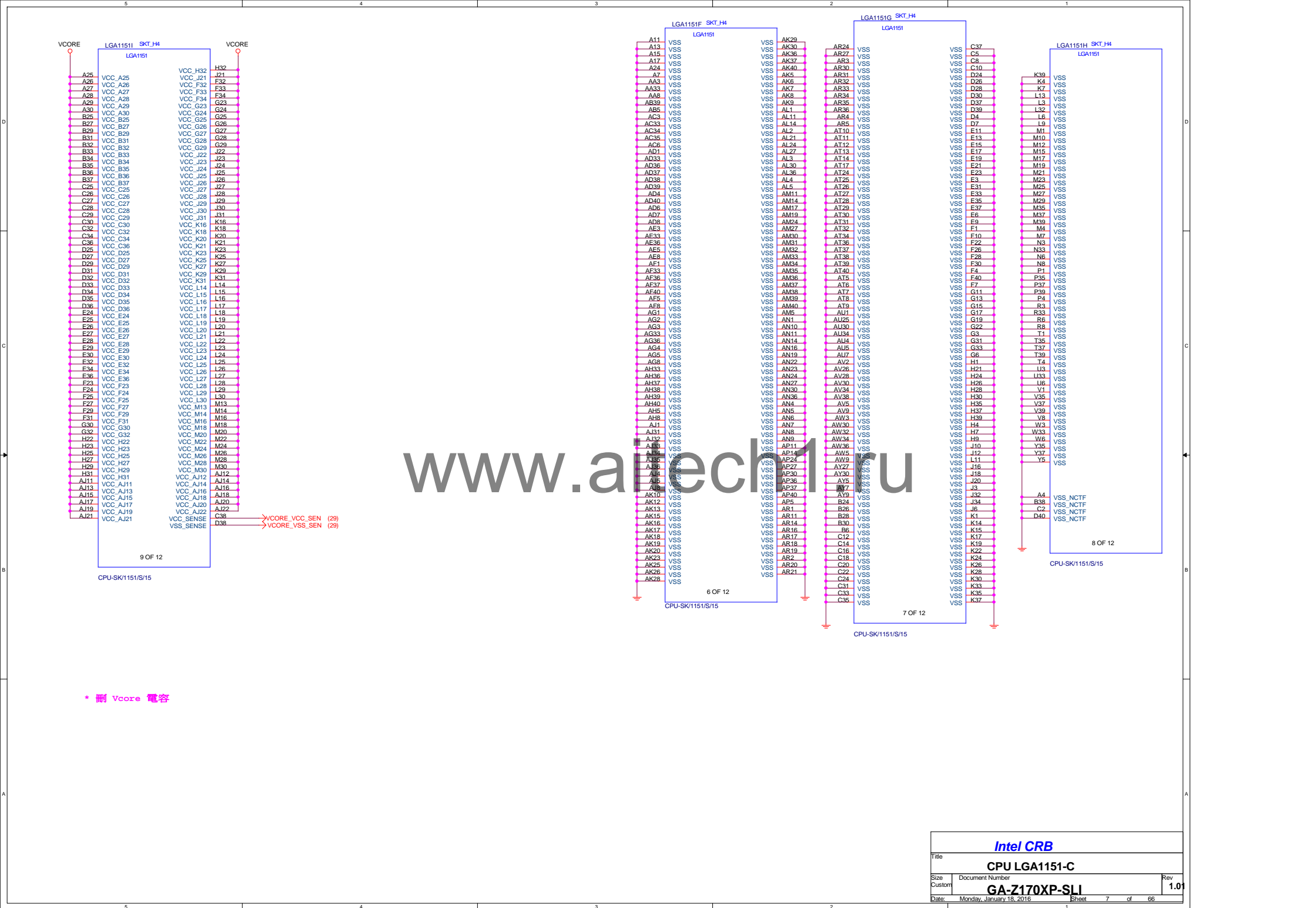


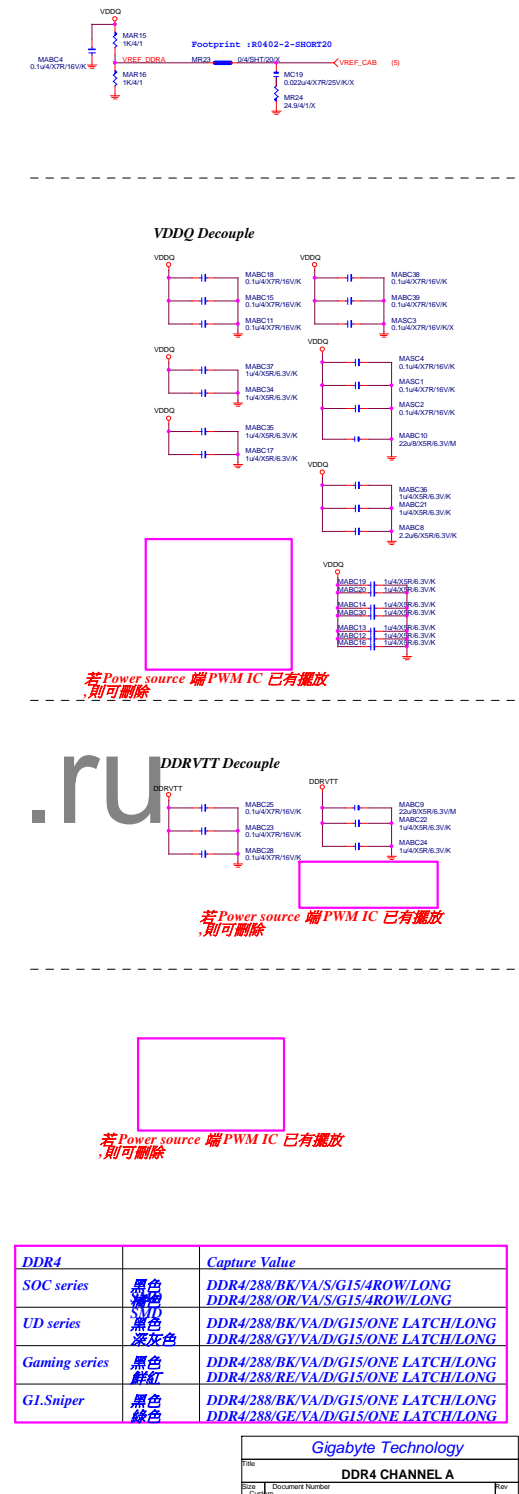
CPU-SK/1151/S/15



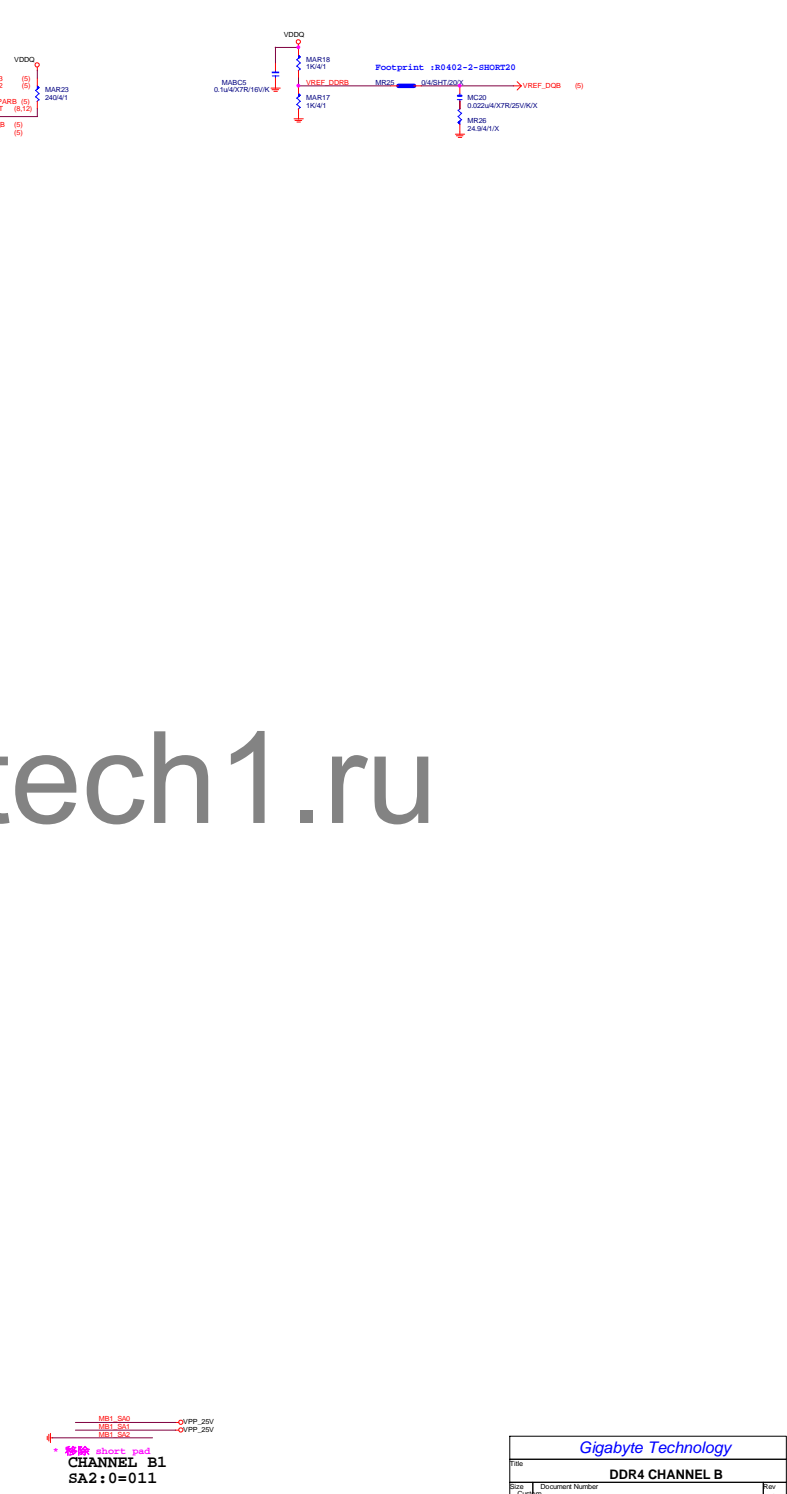
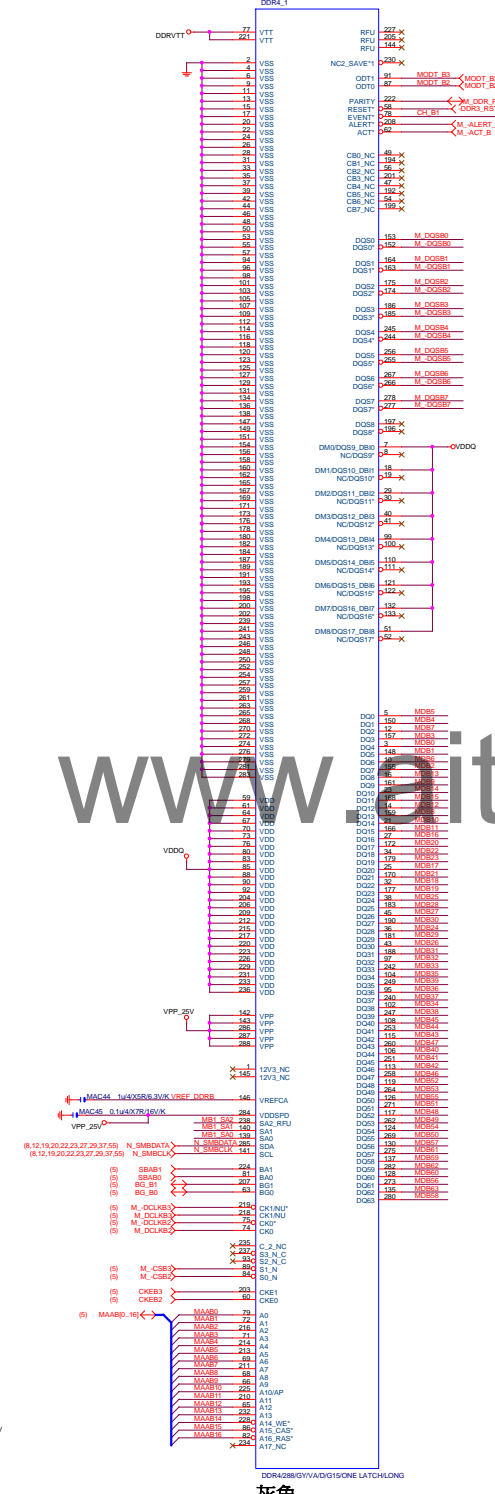
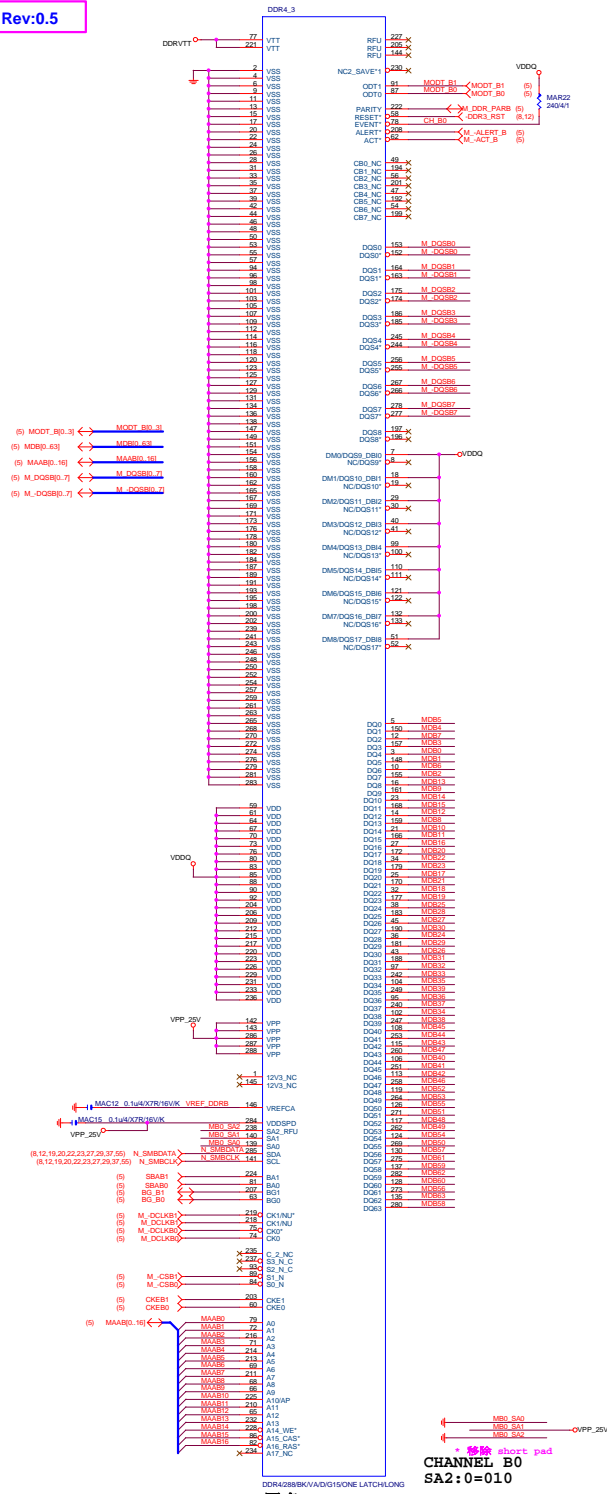
CPU-SK/1151/S/15

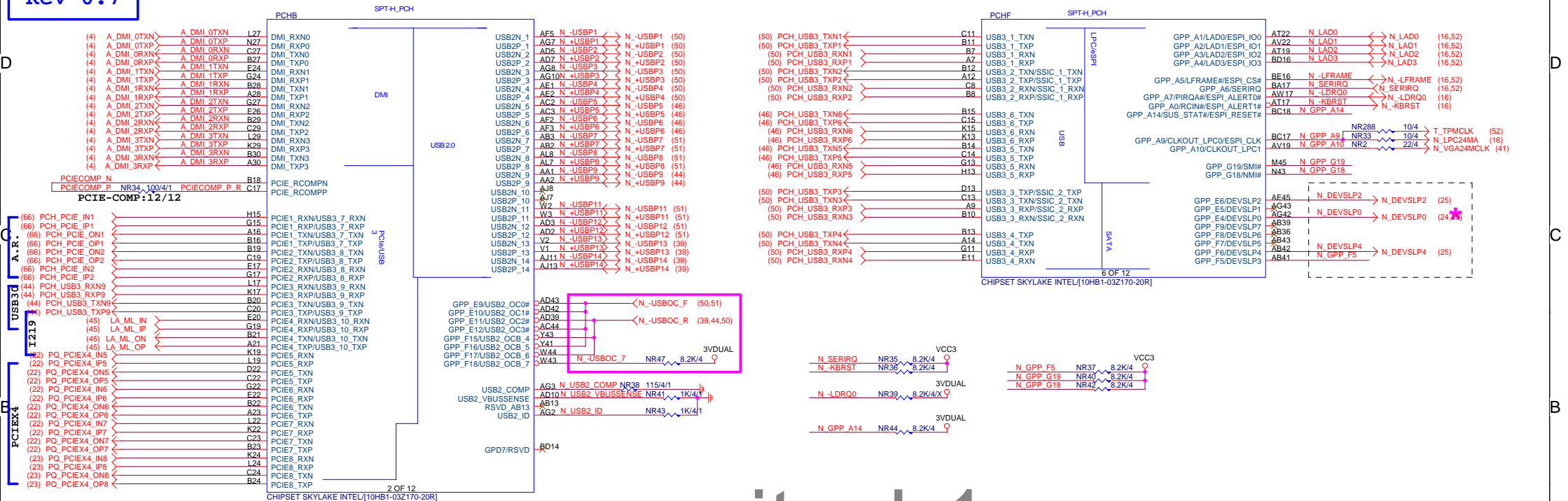
Intel CRB			
Title			
CPU LGA1151-C			
Size	Document Number	Rev	
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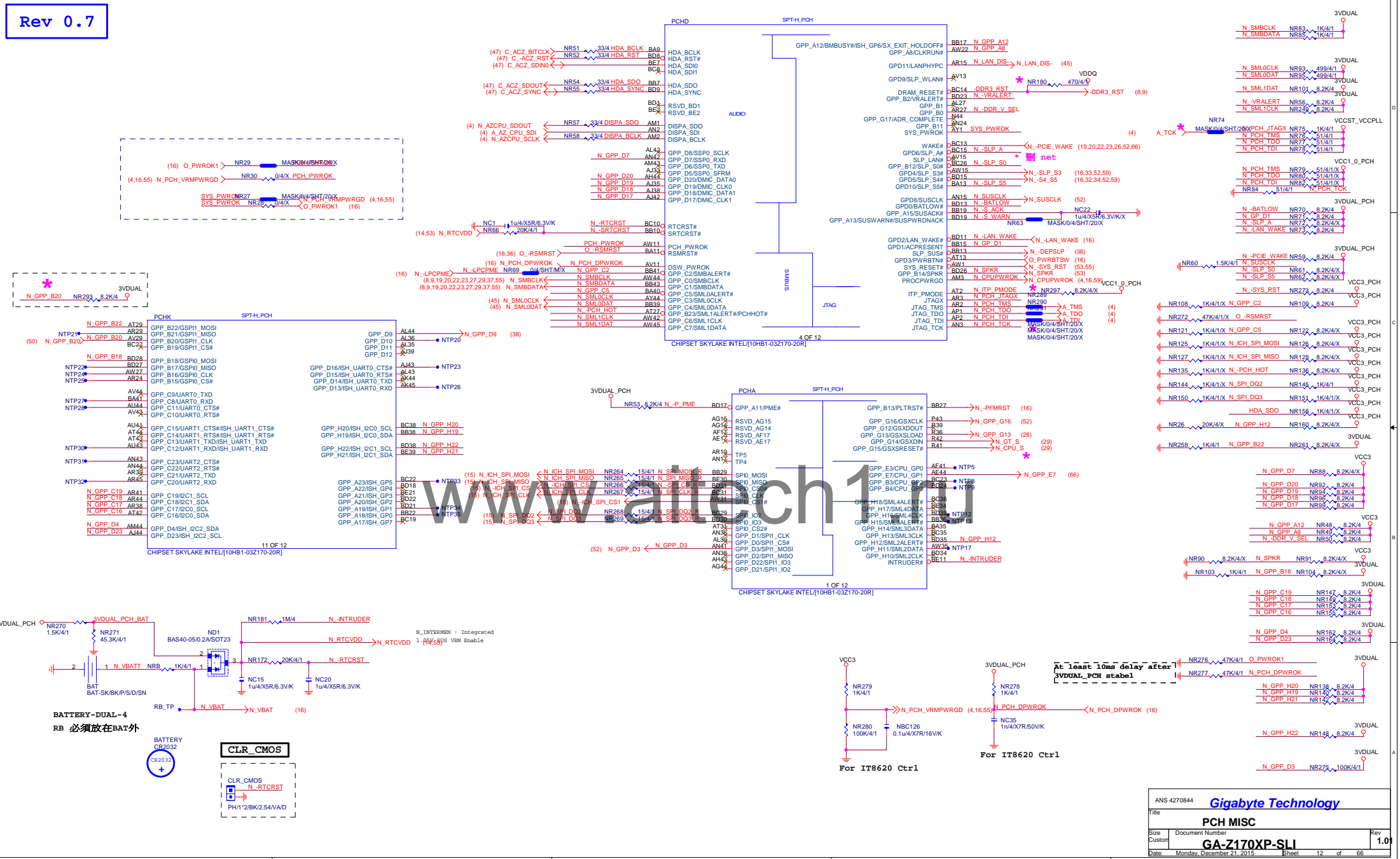


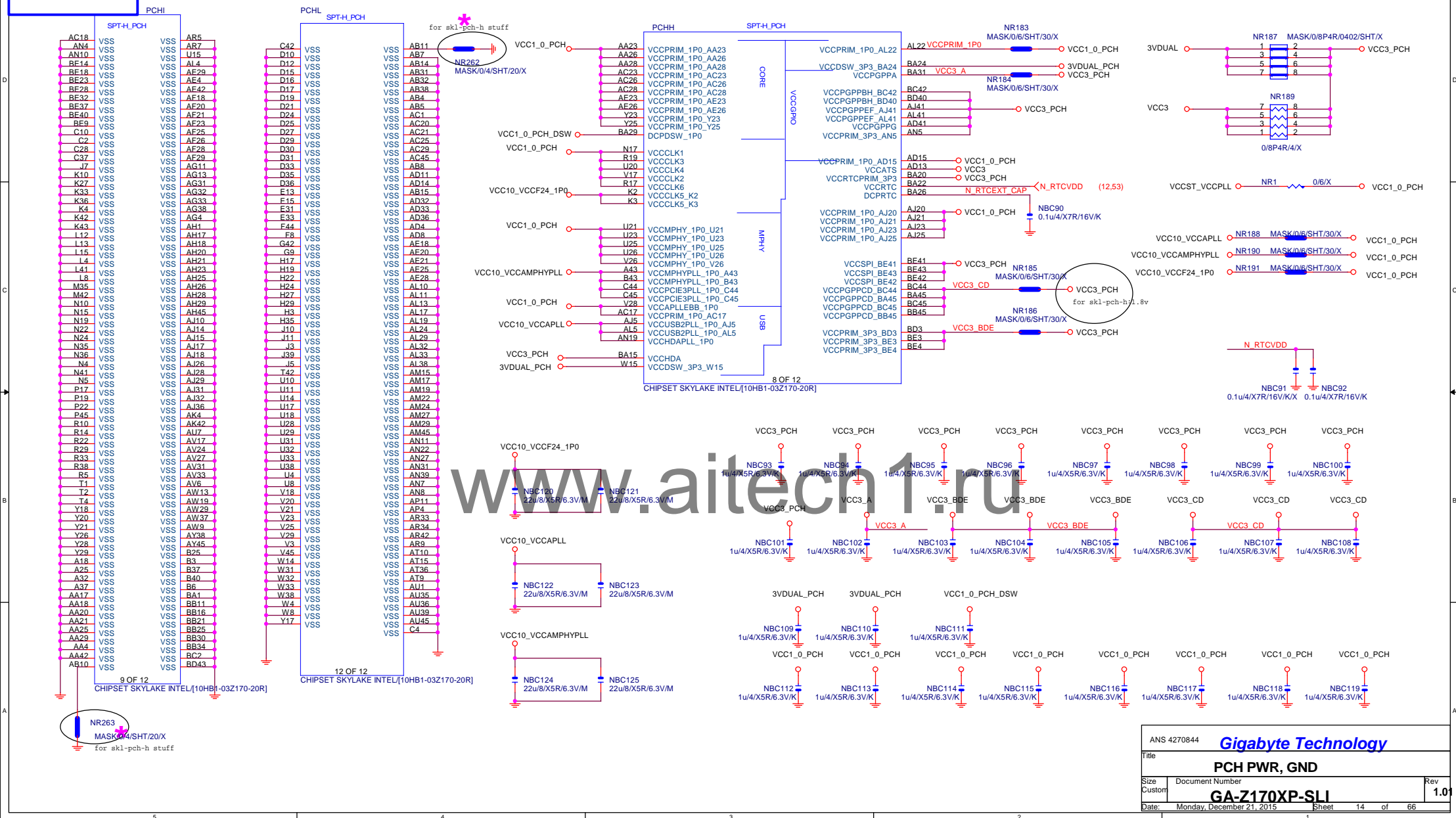
<i>DDR4</i>		<i>Capture Value</i>
<i>SOC series</i>	黑色 S/D 黑色	DDR4/288/BK/VA/S/G15/4ROW/LONG DDR4/288/OR/VA/S/G15/4ROW/LONG
<i>UD series</i>	黑色 漆灰色	DDR4/288/BK/VA/D/G15/ONE LATCH/LONG DDR4/288/GY/VA/D/G15/ONE LATCH/LONG
<i>Gaming series</i>	黑色 鮮紅	DDR4/288/BK/VA/D/G15/ONE LATCH/LONG DDR4/288/RE/VA/D/G15/ONE LATCH/LONG
<i>G1.Sniper</i>	黑色 綠色	DDR4/288/BK/VA/D/G15/ONE LATCH/LONG DDR4/288/GE/VA/D/G15/ONE LATCH/LONG



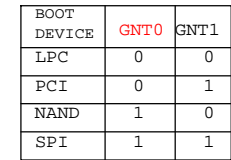


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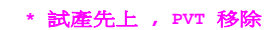




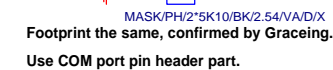
MOSI For DMI RX Termination Voltage

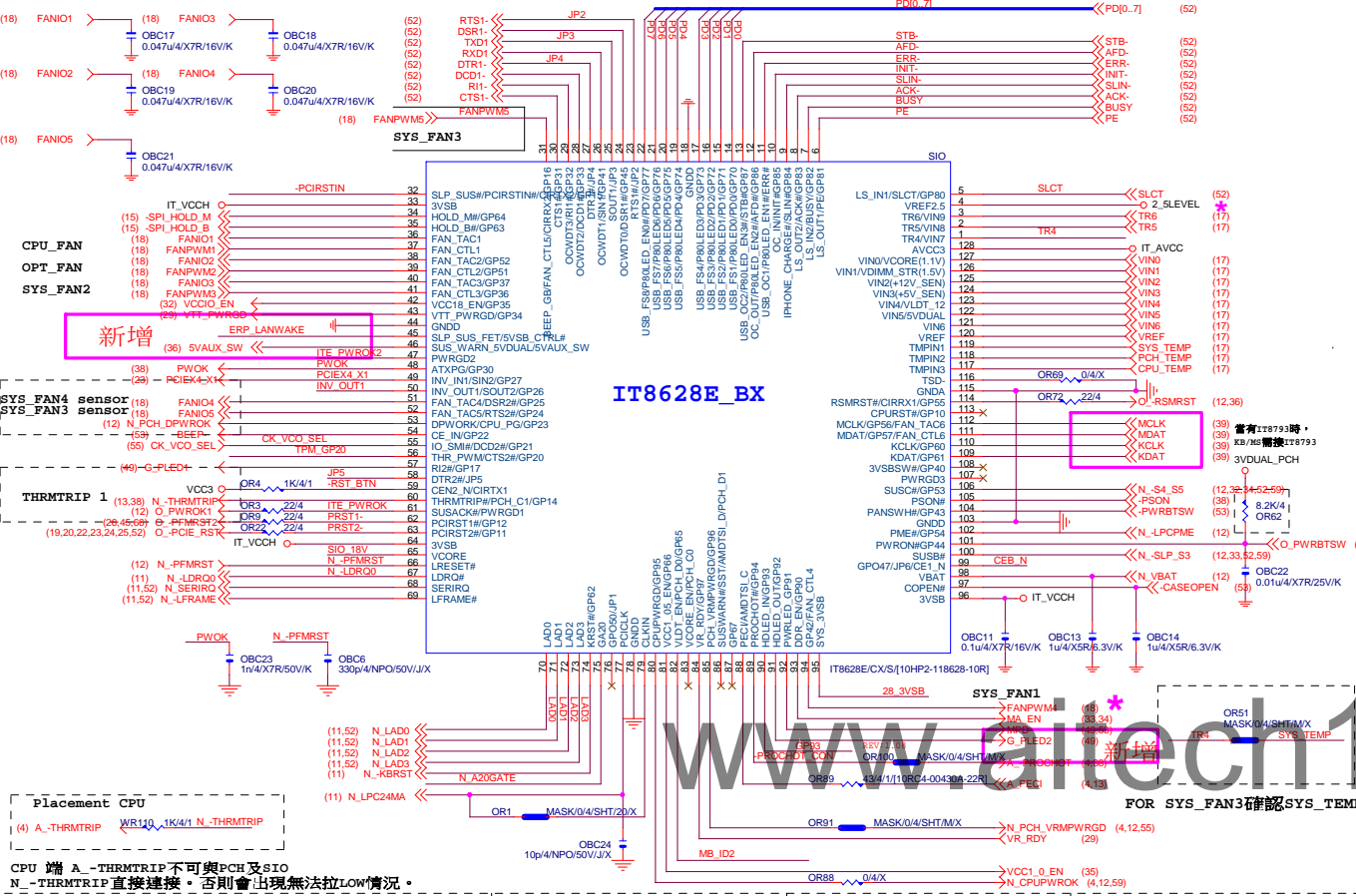


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★Update
2015-01.29

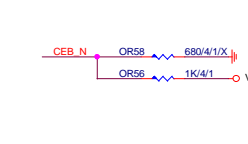




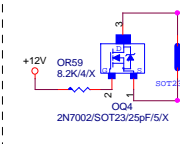
FAN TABLE	
CPU_FAN	FAN_CTL1 FAN_TAC1
SYS_FAN1	FAN_CTL4 FAN_TAC4
SYS_FAN2	FAN_CTL3 FAN_TAC3
SYS_FAN3	FAN_CTL5 FAN_TAC5
OPT_FAN	FAN_CTL2 FAN_TAC2
THRMTrip1	YES PIN60

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 高溫時 GP92 會被拉LO(ITE BUG)
PIN 108	GP40--- POWER ON 時會拉LO
PIN 111/112	MOUSE 跟FAN6 FUNCTION 擇一使用, 不然會互相干擾
PIN 22	PIN22, 需高於3V, 若低於此部分COM PORT及LPT將會異常動作。

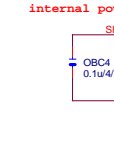
DUAL BIOS OPT STRAP



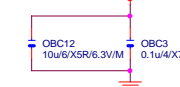
Power leakage



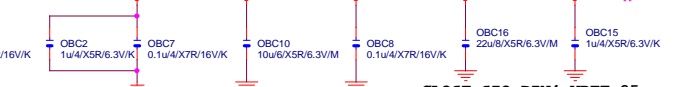
SIO_18V



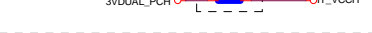
SIO CAP



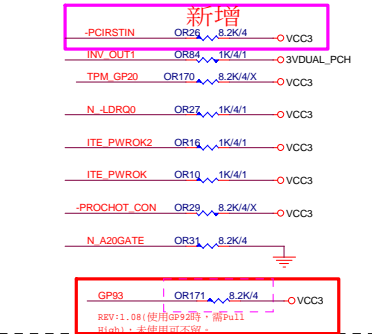
CLOSE SIO PIN4 VREF_25



PWR SHT



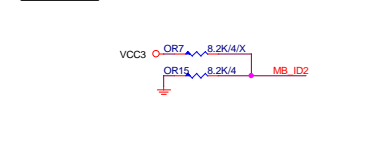
SIO PU



SIO STRAP

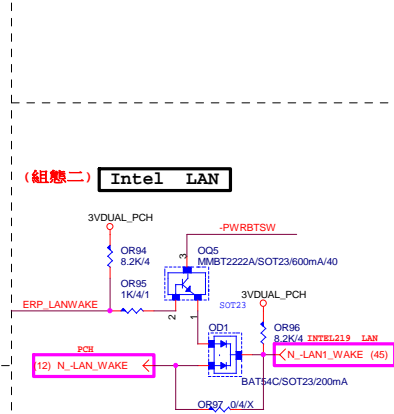
JP2	1	Disable WDT
JP2	0	Enable WDT to rest PWROK
JP3	1	Dual BIOS CS PIN Disable
JP3	0	Dual BIOS CS PIN Enable
JP4	0	k8 power sequency function is Disable
JP4	1	k8 power sequency function is Enable
JP5	1	anti-surge Disable
JP5	0	anti-surge Enable
JP5	1 1	The default value of EC Index 63h/6Bh/73h is 80h.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



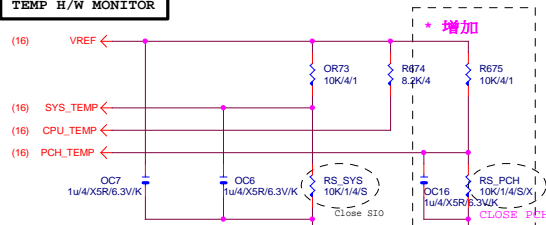
(組態三) Dual LAN

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	組態三
	Intel 219+Intel 210	組態三
BOM不上		N/A

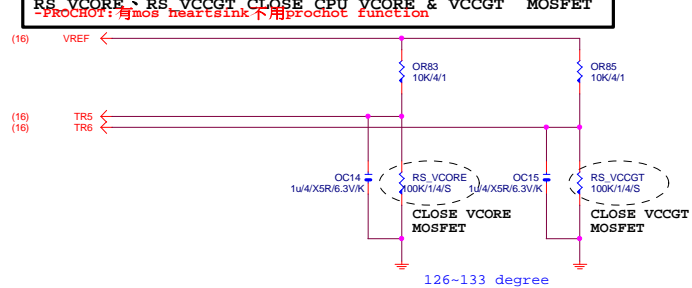
Gigabyte Technology

Title			ITE 8620 LPC IO
Size	Document Number	GA-Z170XP-SLI	
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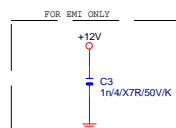
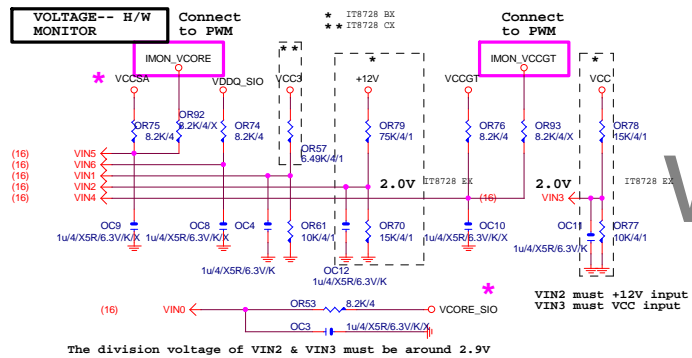
TEMP H/W MONITOR



RS_VCORE、RS_VCCGT、CLOSE CPU_VCORE & VCCGT MOSFET



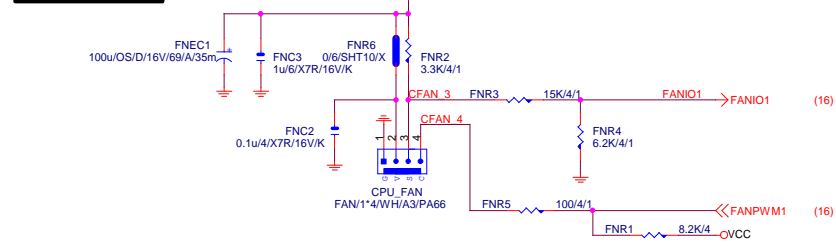
VOLTAGE-- H/W MONITOR



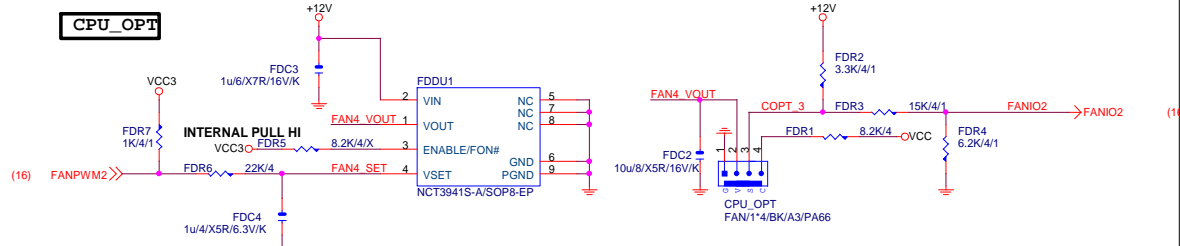
Gigabyte Technology

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



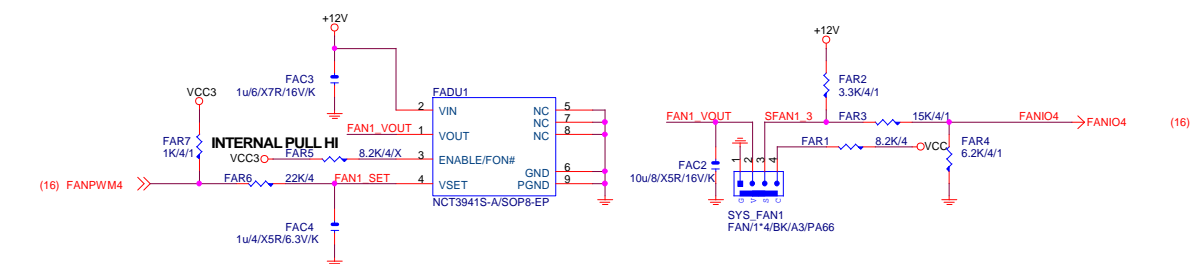
CPU_OPT



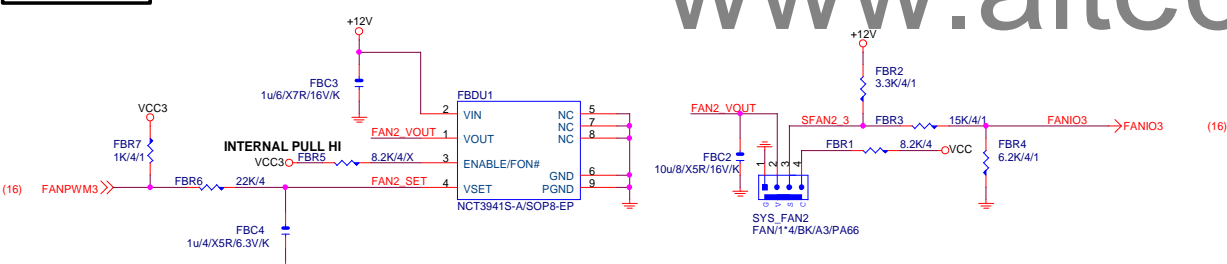
SYSTEM FAN1

Linear SYS_FAN

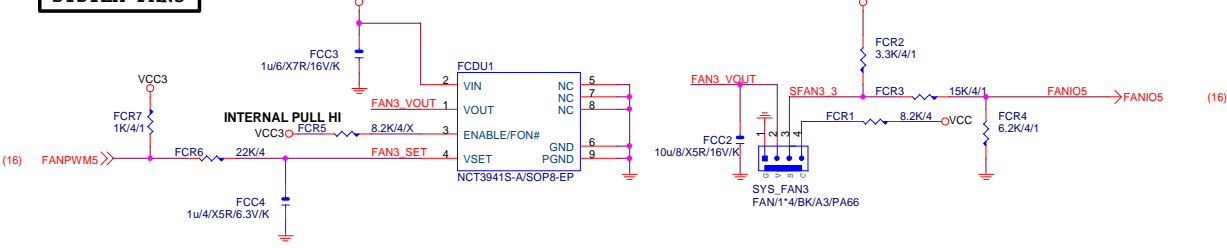
Enable Function (NCT3941S)
Full Turn On Function (NCT3941S-A)



SYSTEM FAN2



SYSTEM FAN3



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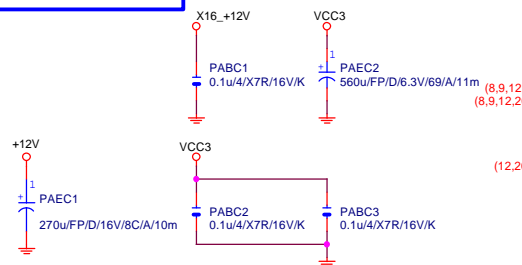
GIGABYTE

Title			HWM,KB/MS, FAN CTRL		
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Rev
1.01

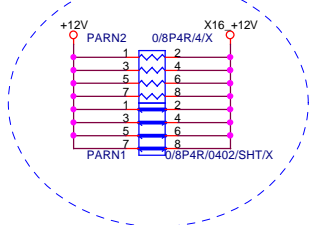
Rev 0.3

PCIEX16 CAP



PCIEX16 PROTECT SHT

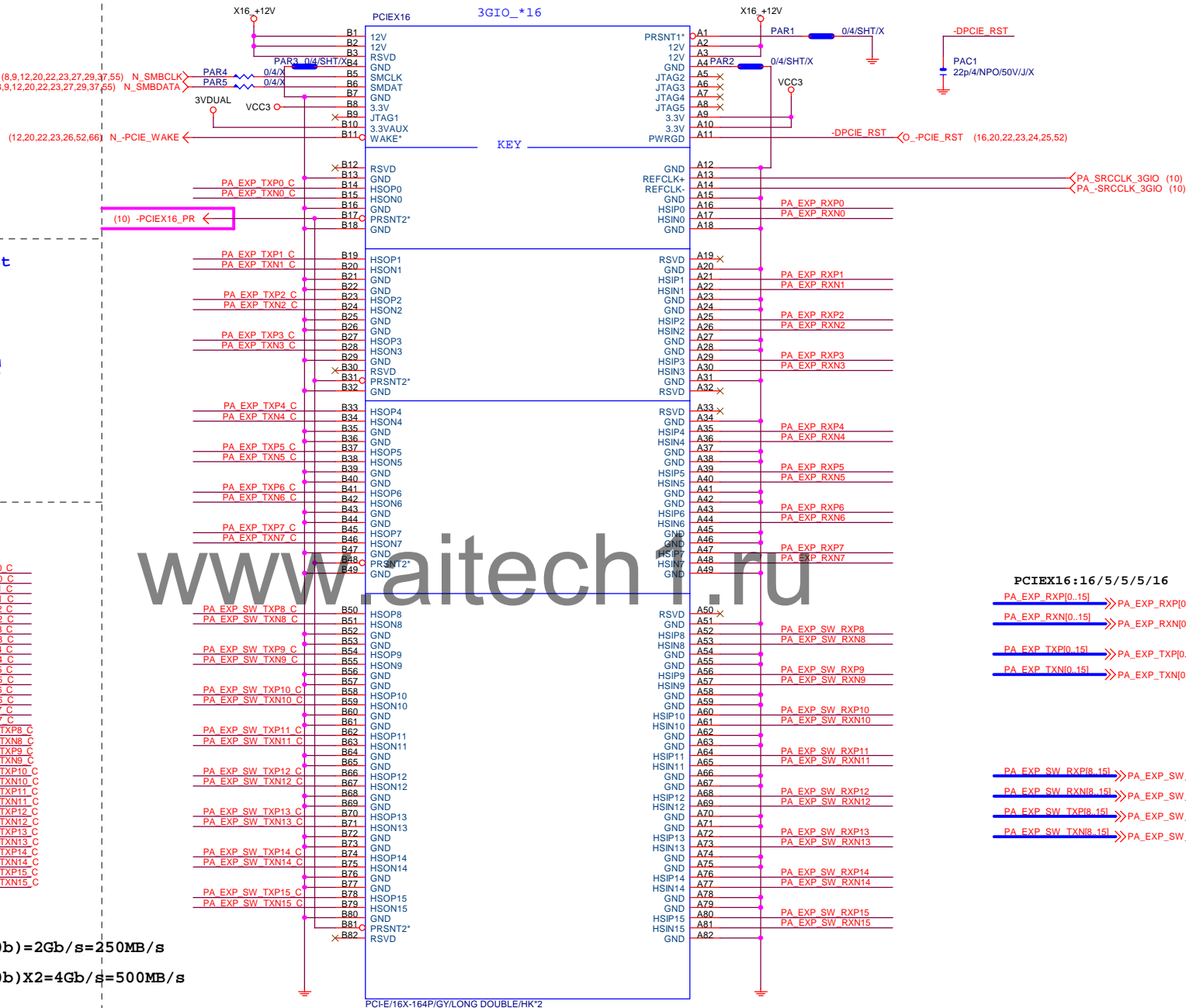
+12 protect short-wire test



PCIEX16 AC CAP

PA EXP TXP0	PAC5	0.22uF/4X5R/6.3V/K	PA EXP TXP0 C
PA EXP TXN0	PAC4	0.22uF/4X5R/6.3V/K	PA EXP TXN0 C
PA EXP TXP1	PAC6	0.22uF/4X5R/6.3V/K	PA EXP TXP1 C
PA EXP TXN1	PAC7	0.22uF/4X5R/6.3V/K	PA EXP TXN1 C
PA EXP TXP2	PAC8	0.22uF/4X5R/6.3V/K	PA EXP TXP2 C
PA EXP TXN2	PAC9	0.22uF/4X5R/6.3V/K	PA EXP TXN2 C
PA EXP TXP3	PAC10	0.22uF/4X5R/6.3V/K	PA EXP TXP3 C
PA EXP TXN3	PAC11	0.22uF/4X5R/6.3V/K	PA EXP TXN3 C
PA EXP TXP4	PAC12	0.22uF/4X5R/6.3V/K	PA EXP TXP4 C
PA EXP TXN4	PAC13	0.22uF/4X5R/6.3V/K	PA EXP TXN4 C
PA EXP TXP5	PAC14	0.22uF/4X5R/6.3V/K	PA EXP TXP5 C
PA EXP TXN5	PAC15	0.22uF/4X5R/6.3V/K	PA EXP TXN5 C
PA EXP TXP6	PAC16	0.22uF/4X5R/6.3V/K	PA EXP TXP6 C
PA EXP TXN6	PAC17	0.22uF/4X5R/6.3V/K	PA EXP TXN6 C
PA EXP TXP7	PAC18	0.22uF/4X5R/6.3V/K	PA EXP TXP7 C
PA EXP TXN7	PAC19	0.22uF/4X5R/6.3V/K	PA EXP TXN7 C
PA EXP SW TXP8	PAC20	0.22uF/4X5R/6.3V/K	PA EXP SW TXP8 C
PA EXP SW TXN8	PAC21	0.22uF/4X5R/6.3V/K	PA EXP SW TXN8 C
PA EXP SW TXP9	PAC22	0.22uF/4X5R/6.3V/K	PA EXP SW TXP9 C
PA EXP SW TXN9	PAC23	0.22uF/4X5R/6.3V/K	PA EXP SW TXN9 C
PA EXP SW TXP10	PAC24	0.22uF/4X5R/6.3V/K	PA EXP SW TXP10 C
PA EXP SW TXN10	PAC25	0.22uF/4X5R/6.3V/K	PA EXP SW TXN10 C
PA EXP SW TXP11	PAC26	0.22uF/4X5R/6.3V/K	PA EXP SW TXP11 C
PA EXP SW TXN11	PAC27	0.22uF/4X5R/6.3V/K	PA EXP SW TXN11 C
PA EXP SW TXP12	PAC28	0.22uF/4X5R/6.3V/K	PA EXP SW TXP12 C
PA EXP SW TXN12	PAC29	0.22uF/4X5R/6.3V/K	PA EXP SW TXN12 C
PA EXP SW TXP13	PAC30	0.22uF/4X5R/6.3V/K	PA EXP SW TXP13 C
PA EXP SW TXN13	PAC31	0.22uF/4X5R/6.3V/K	PA EXP SW TXN13 C
PA EXP SW TXP14	PAC32	0.22uF/4X5R/6.3V/K	PA EXP SW TXP14 C
PA EXP SW TXN14	PAC33	0.22uF/4X5R/6.3V/K	PA EXP SW TXN14 C
PA EXP SW TXP15	PAC34	0.22uF/4X5R/6.3V/K	PA EXP SW TXP15 C
PA EXP SW TXN15	PAC35	0.22uF/4X5R/6.3V/K	PA EXP SW TXN15 C

PCIEX16 SLOT



PCIEX16:16/5/5/5/16

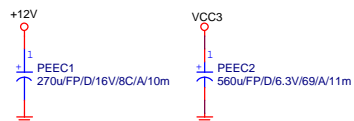
PA EXP_RXP[0..15]	>>>PA_EXP_RXP[0..15] (4,21)
PA EXP_RXN[0..15]	>>>PA_EXP_RXN[0..15] (4,21)
PA EXP_TXP[0..15]	>>>PA_EXP_TXP[0..15] (4,21)
PA EXP_TXN[0..15]	>>>PA_EXP_TXN[0..15] (4,21)
PA EXP_SW_RXP[8..15]	>>>PA_EXP_SW_RXP[8..15] (21)
PA EXP_SW_RXN[8..15]	>>>PA_EXP_SW_RXN[8..15] (21)
PA EXP_SW_TXP[8..15]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

Gigabyte Technology

PCI EXPRESS * 16

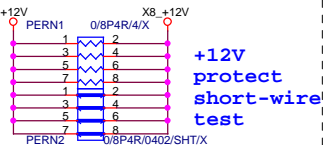
Size	Document Number	Rev
Custom	GA-Z170XP-SLI	1.01
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Rev 0.3

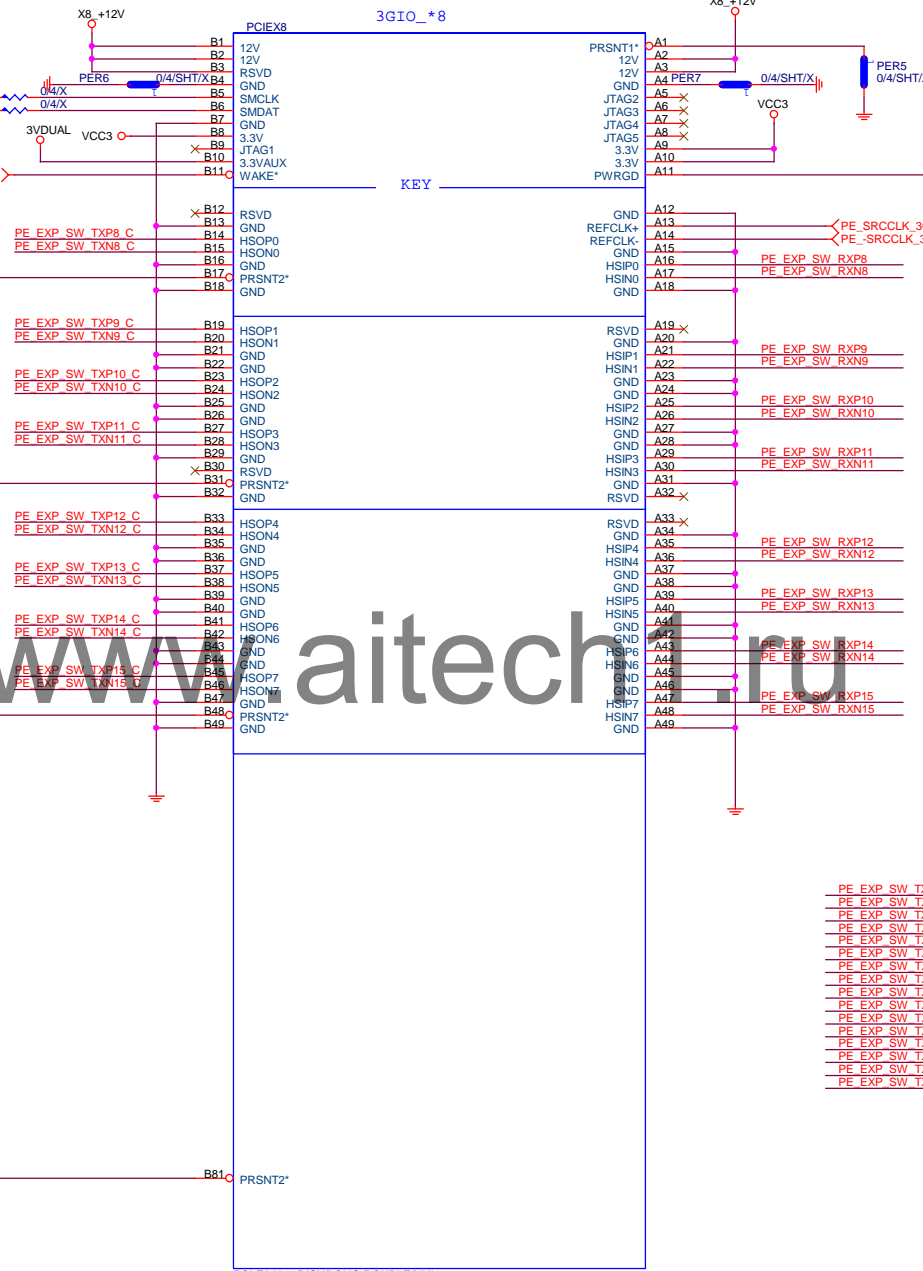


(8,9,12,19,22,23,27,29,37,55) N_SMBCLK N_SMBCLK PER8 0/4/X
(8,9,12,19,22,23,27,29,37,55) N_SMBDATA N_SMBDATA PER9 0/4/X

PCIEX8 PROTECT SHT

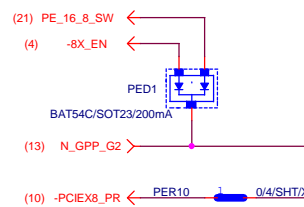


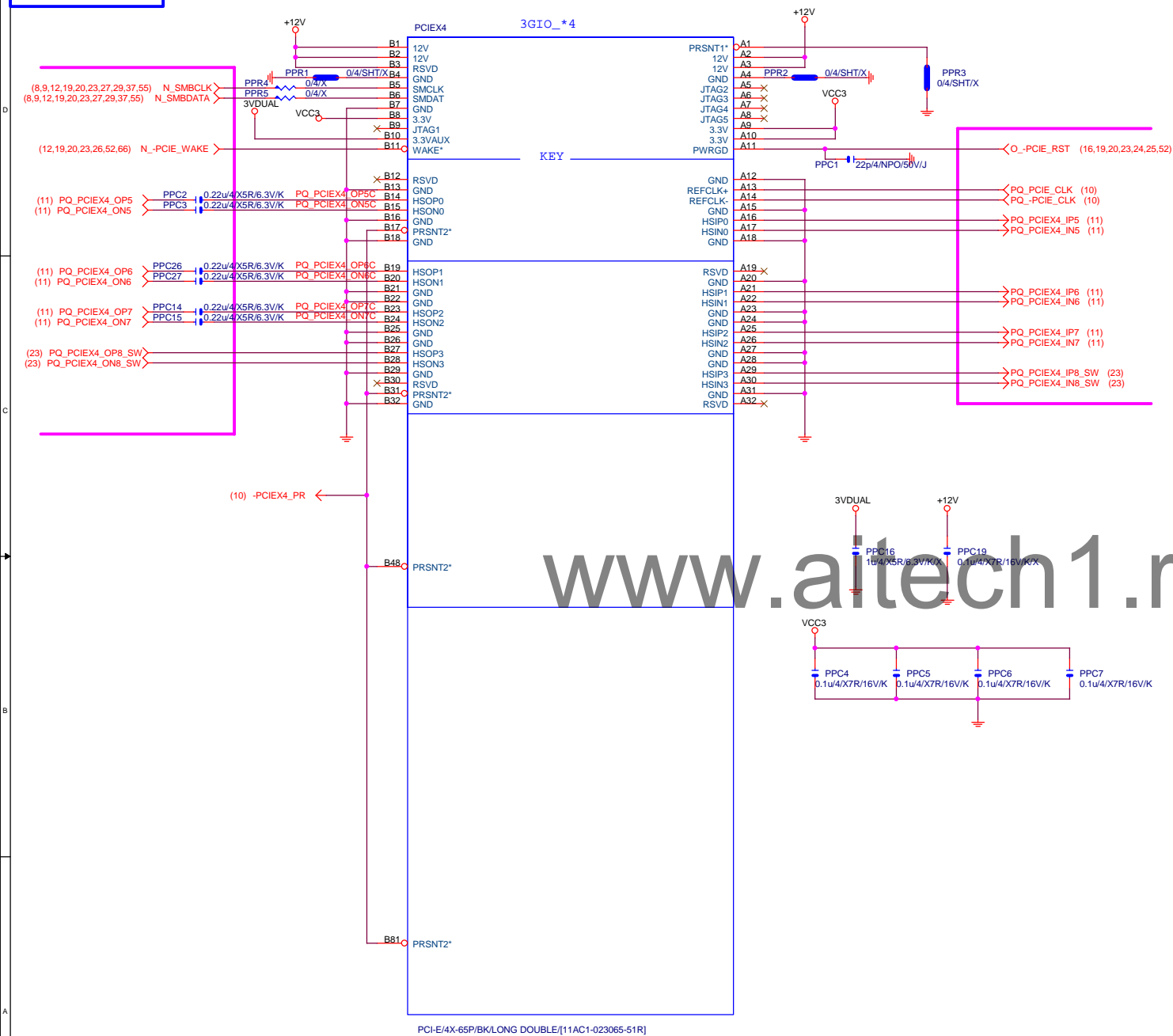
(12,19,22,23,26,52,66) N_-PCIE_WAKE



PE EXP SW RXP8.15] >>> PE_EXP_SW_RXP[8..15] (21)
PE EXP SW RXN8.15] >>> PE_EXP_SW_RXN[8..15] (21)
PE EXP SW TXP8.15] >>> PE_EXP_SW_TXP[8..15] (21)
PE EXP SW TXN8.15] >>> 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

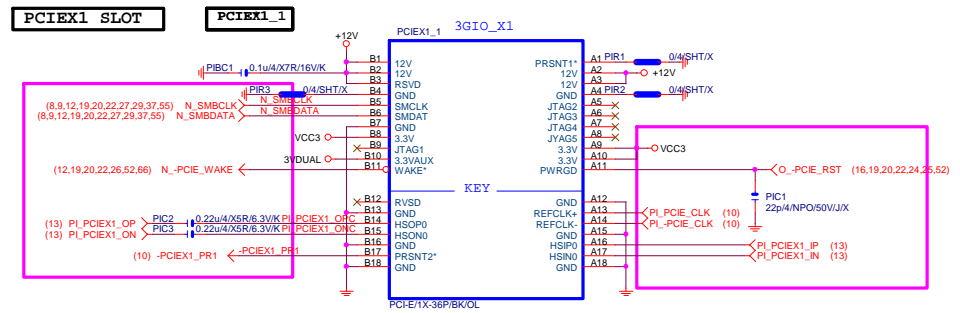




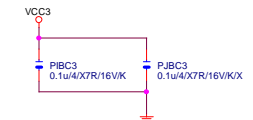
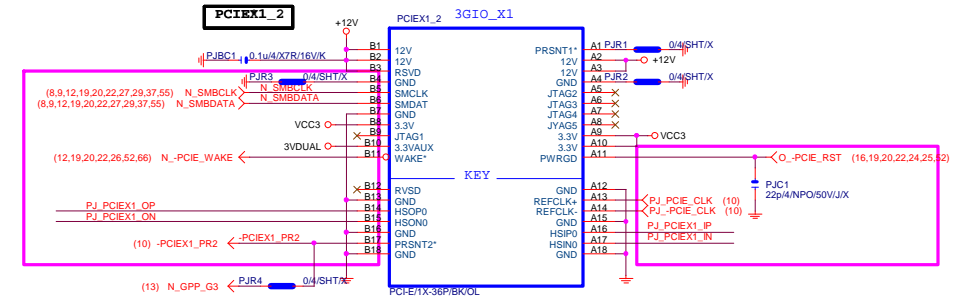
GIGABYTE

Title		
PCIE_X4		
Size	Document Number	Rev
Custom	GA-Z170XP-SLI	1.0
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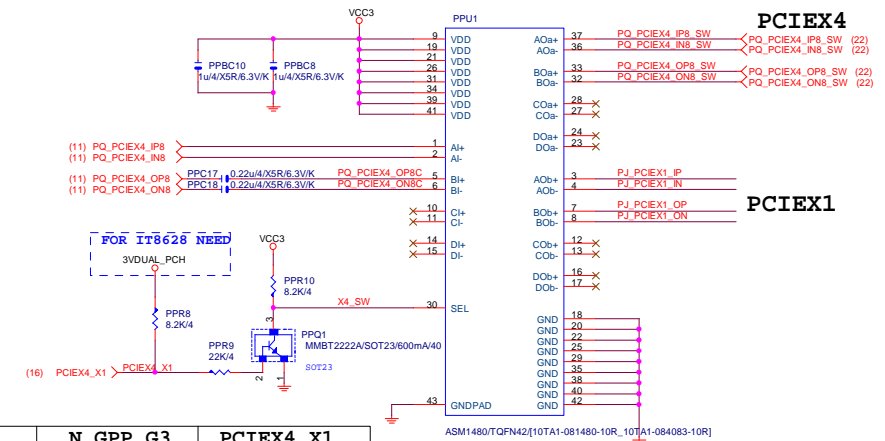
PCIE1 SLOT



PCIE1_2



PCIE4/X1 SWITCH



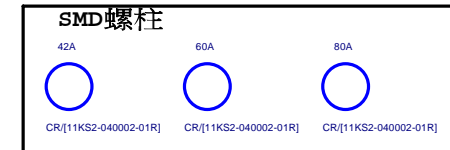
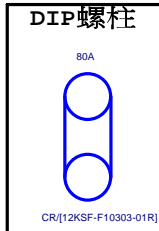
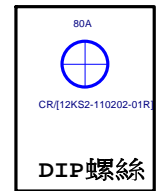
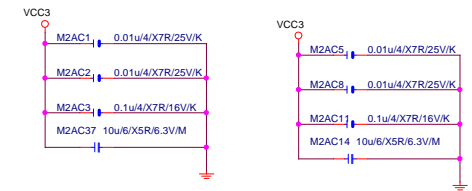
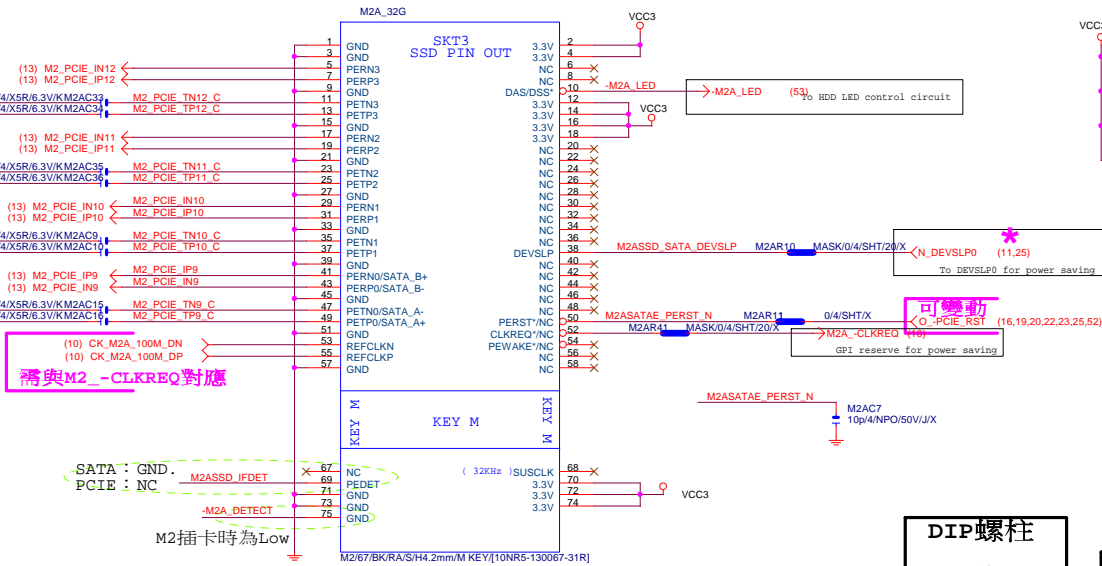
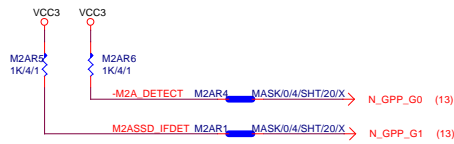
	N_GPP_G3 (PCH GPP_G3)	PCIE4_X1 (SIO_GPIO27)
PCIE4 -> X4 M2_WIFI -> N/A PCIE1_1/2 -> N/A (Default)	H	H
PCIE4 -> X1 M2_WIFI -> X1 PCIE1_1/2 -> X1	L	L

Function	SEL
XI--> x0a	L; PCIE4 SLOT-->X4
XI--> x0b	H; PCIE4 SLOT-->X1

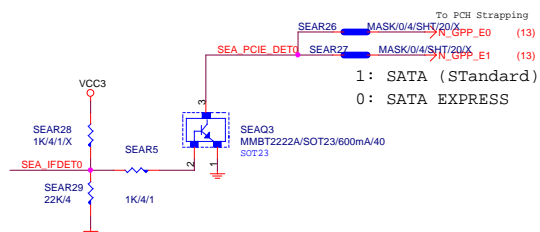
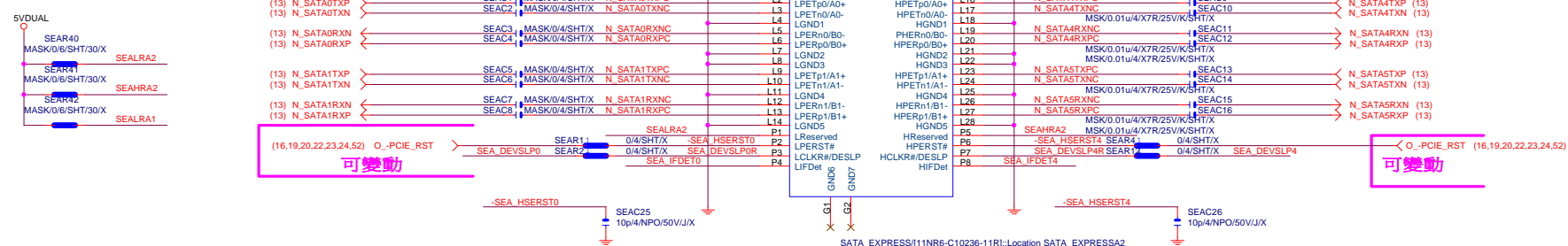
Gigabyte Technology

File	PCIE X1 1,2	Rev	1.01
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支援SATA and M.2 function



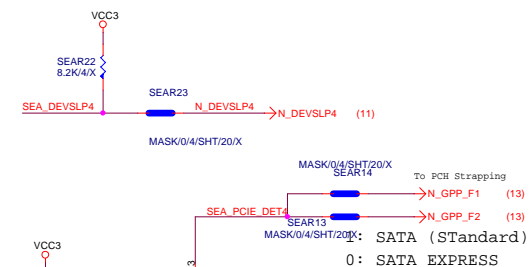
M.2 有插卡 /沒插卡 GPP_G0	M.2插何種卡？ GPP_G1	SATA Express 插何種硬碟？ GPP_E0/E2/F1	I/O15 (S0)	I/O16 (S1)	I/O17	I/O18	I/O19 (S0)	I/O20 (S1)
有插卡 (Low)	SATA Mode (Low)	SATA (Hi)	SATA (M.2)	PCIe x1	PCIe x1	PCIe x1	PCIe x1	SATA
		SATA Express (Low)	SATA (M.2)	PCIe x1	PCIe x1	PCIe x1	SATA Express	
	PCIe Mode (Hi)	SATA (Hi)	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	



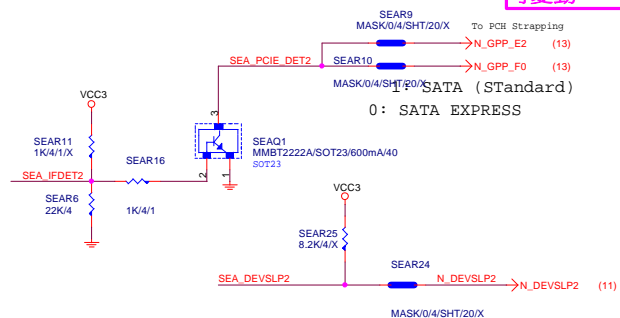
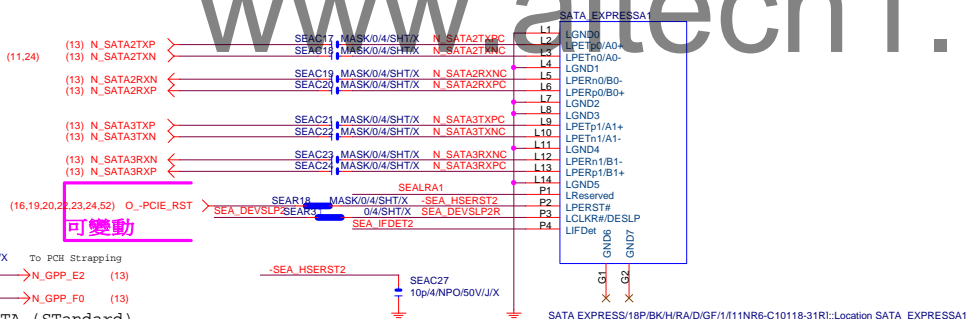
雙層:TBD

單層+2SATA:11NR6-C10236-03R

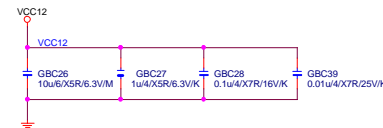
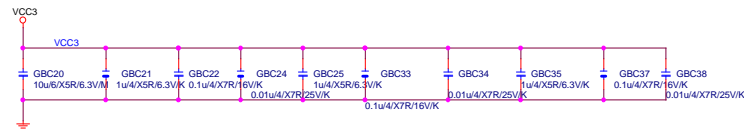
單層: 11NR6-C10118-03R



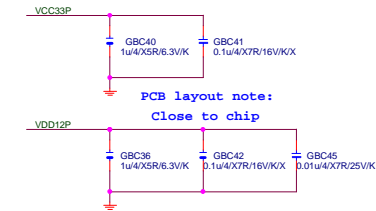
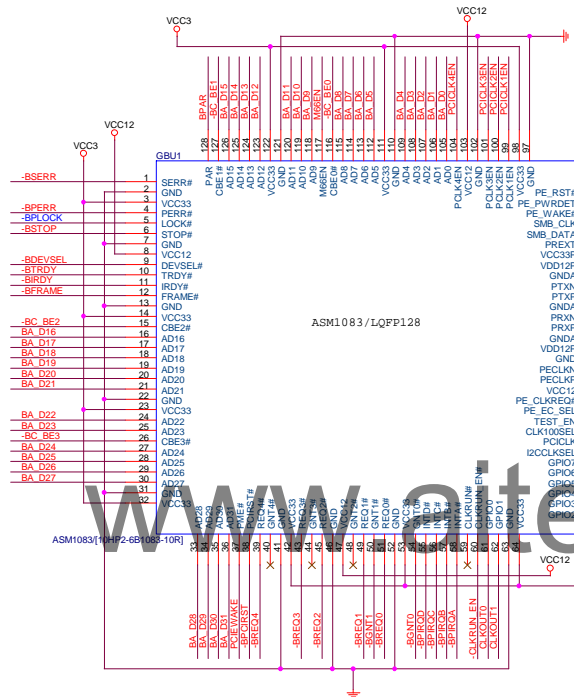
To SATA3
port2/3



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)

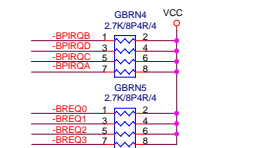


BA D10_311 → BA_D[0..31] (27)
 -BC BE0 (27)
 -BC BE1 (27)
 -BC BE2 (27)
 -BC BE3 (27)
 -BPERR BSERR (27)
 -BPAR BPAR (27)
 -BDEVEL BDEVEL (27)
 -BSTOP BSTOP (27)
 -BTRDY BTRDY (27)
 -BIRDY BIRDY (27)
 -BFRAME BFRAME (27)
 O_PFMIRST2 O_PFMIRST2 (16,45,66)
 -BPCIRST BPCIRST (27)
 -BREQ0 BREQ0 (27)
 -BREQ1 BREQ1 (27)
 -BGNT0 BGNT0 (27)
 -BGNT1 BGNT1 (27)
 -BPIRQA BPIRQA (27)
 -BPIRQB BPIRQB (27)
 -BPIRQC BPIRQC (27)
 -BPIRQD BPIRQD (27)



PCB layout note:
Close to chip

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

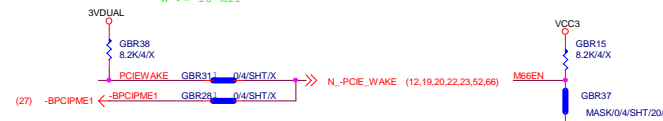
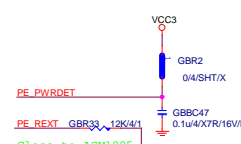
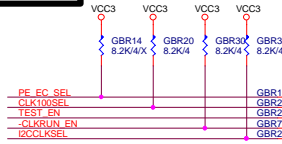
PE_EC_SEL-
 "H" for Express Card mode
 "L" for PCIe Riser Card mode

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

TEST_EN-
 "H" for Test Mode Enable
 "L" for Test Mode Disable

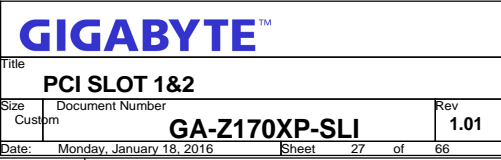
-CLKRUN_EN-
 "H" for CLKRUN Mode Disable
 "L" for CLKRUN Mode Enable

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

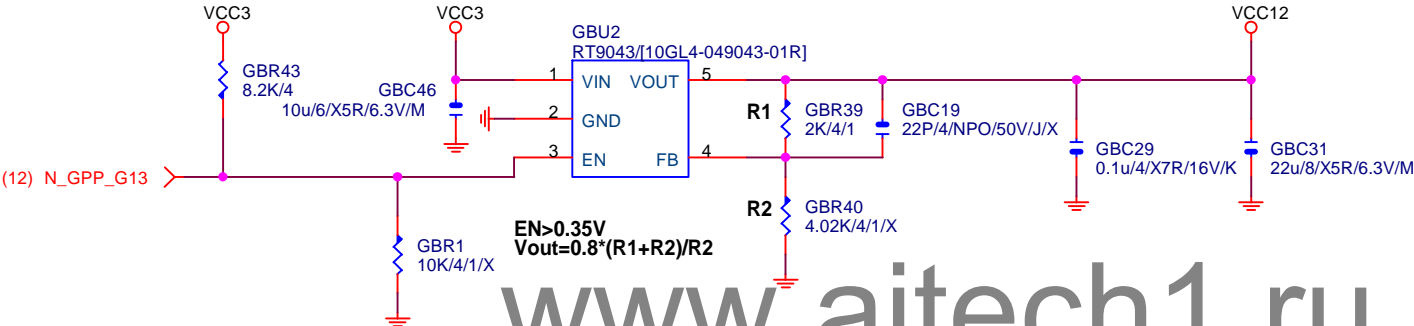


PCI SLOT 1

PCI SLOT 2



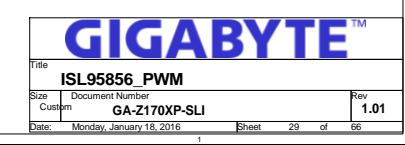
Rev 0.8

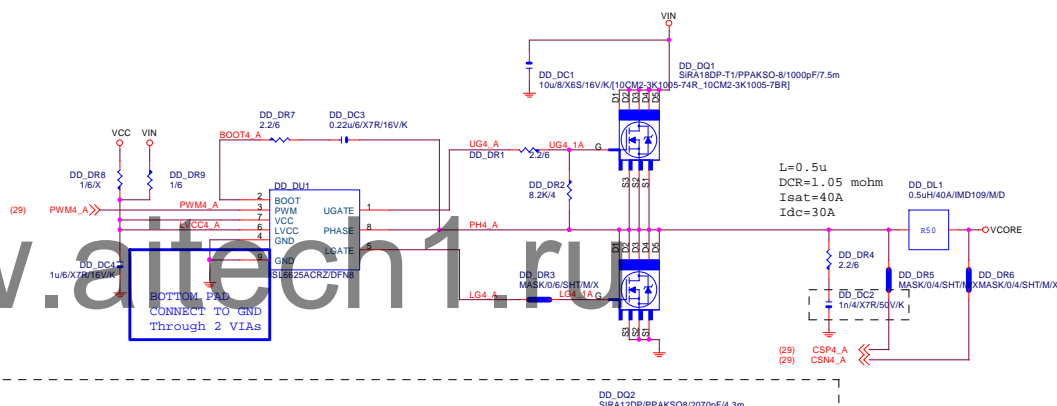
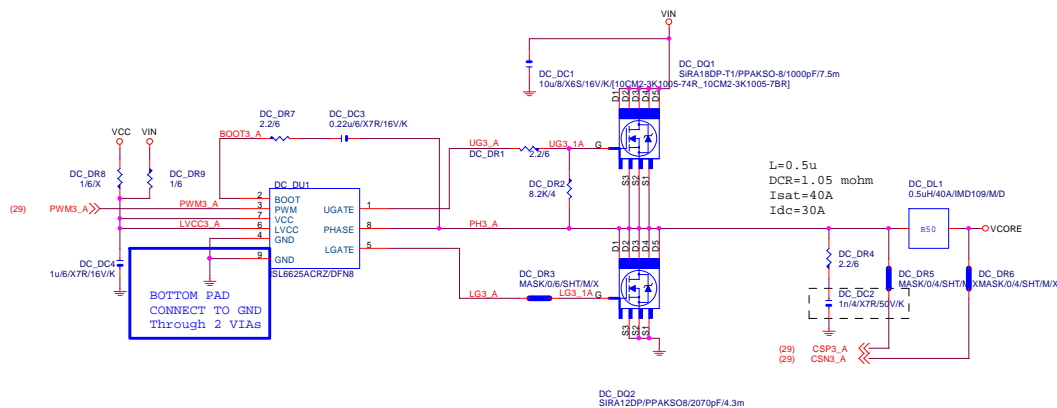
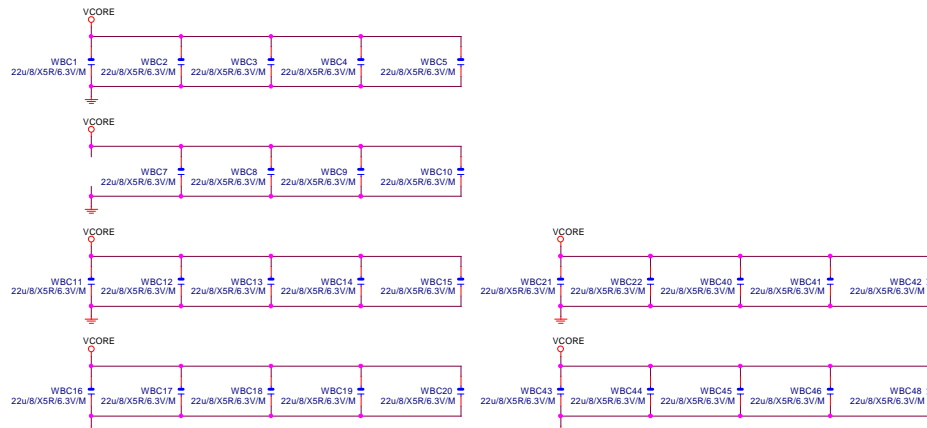
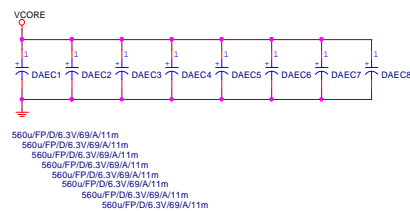


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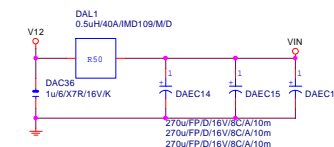
Gigabyte Technology

Title		
ASM1085 POWER		
Size	Document Number	Rev
Custom	GA-Z170XP-SLI	1.01
Date:	Monday, January 18, 2016	Sheet 28 of 66



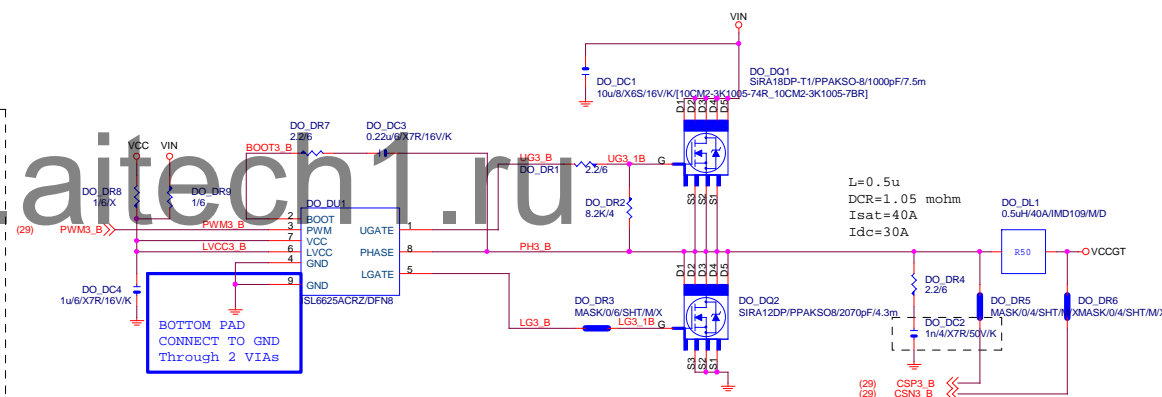
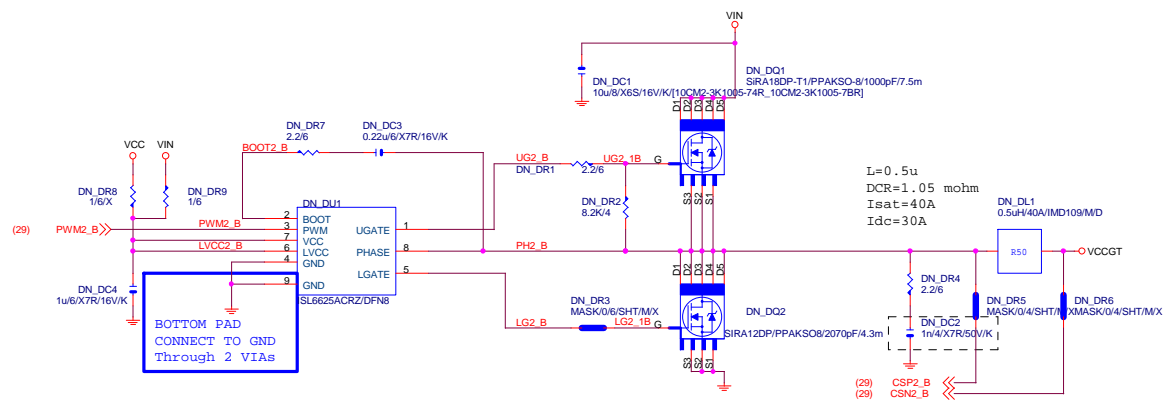
VCORE CAP 560u*8PCS
22u*29PCS

VIN CAP 270u*3PCS




GIGABYTE

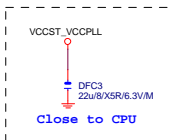
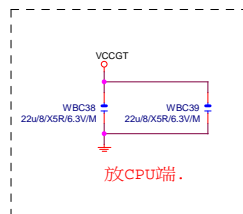
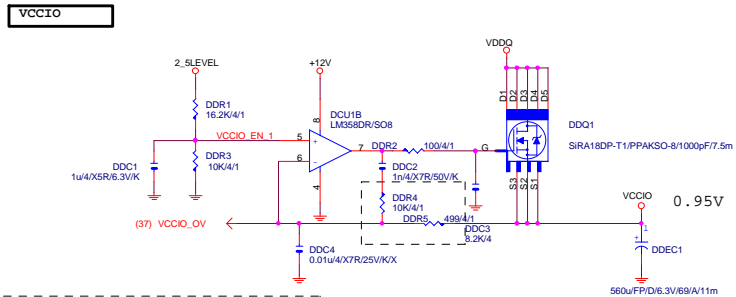
Title				ISL95856_MOS			
Size	Document Number					Rev	
Custom	GA-Z170XP-SLI						1.01
Date:	Monday, January 18, 2016			Sheet	30	of	66



560uF/6.3V/69A/11m
560uF/6.3V/69A/11m
560uF/6.3V/69A/11m
560uF/6.3V/69A/11m
560uF/6.3V/69A/11m

				
Title				
ISL95856_MOS				
Size	Document Number			Rev
Custom	GA-Z170XP-SLI			1.01
Date:	Monday, January 18, 2016	Sheet	31	of 66

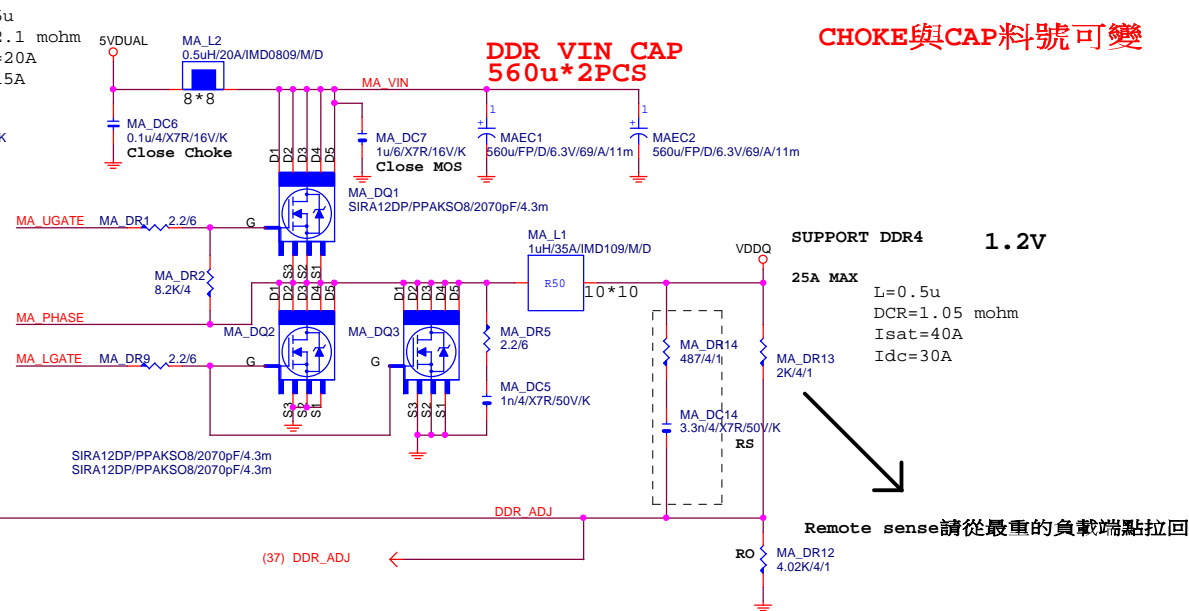
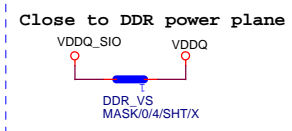
VCCSA



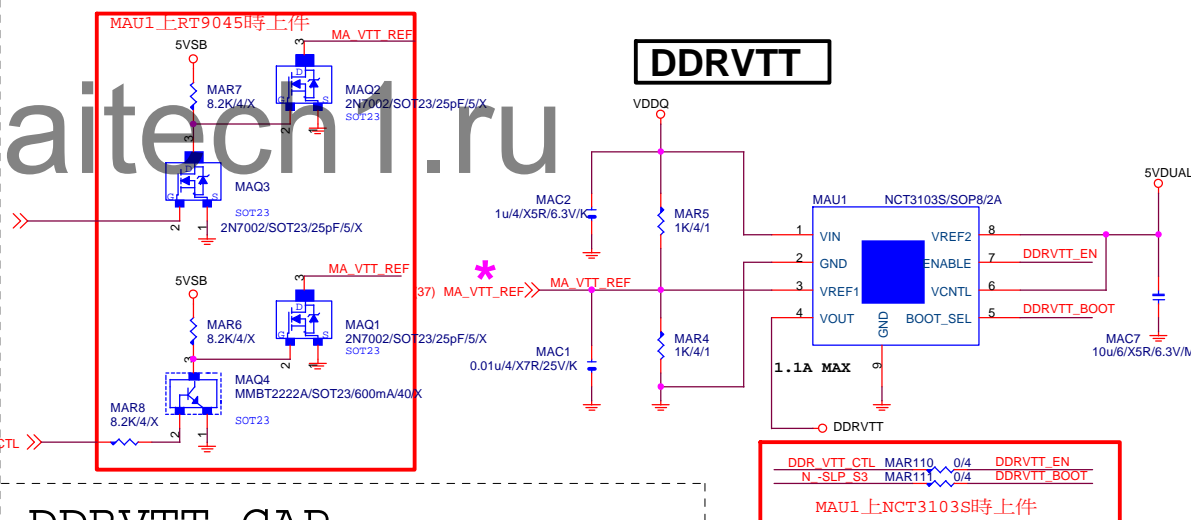
2-01R

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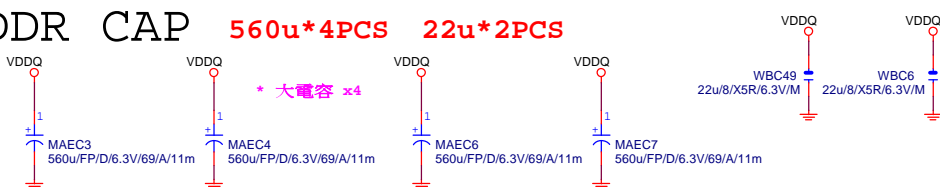
DDR4



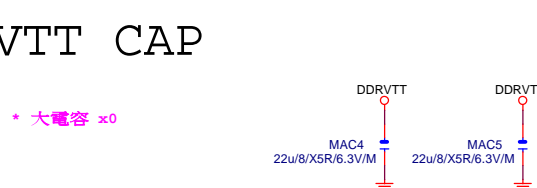
For power sequence require



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

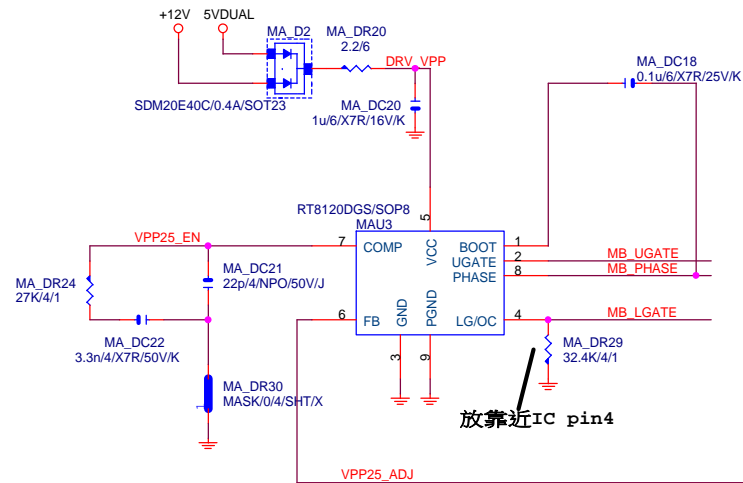


GIGABYTE™

Title			
RT8120_ DDR4 POWER			
Size	Document Number	Rev	
Custom	GA-Z170XP-SLI	1.01	
Date:	Monday, January 18, 2016	Sheet	33 of 66

REV:0.83

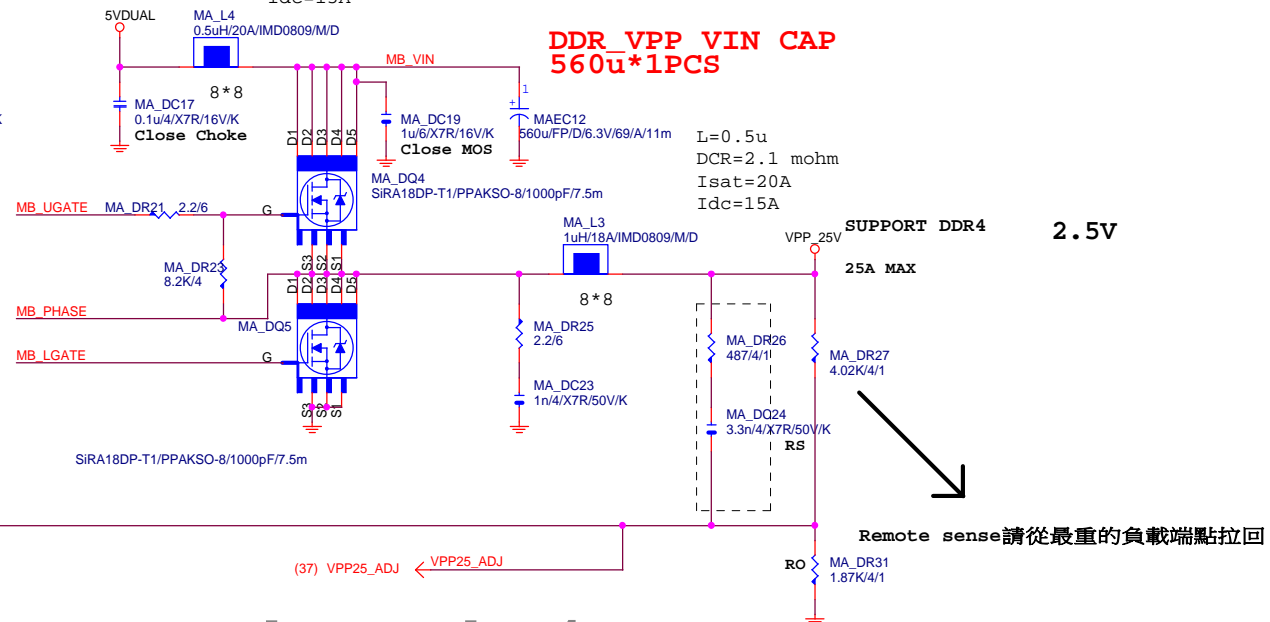
VPP_25V



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

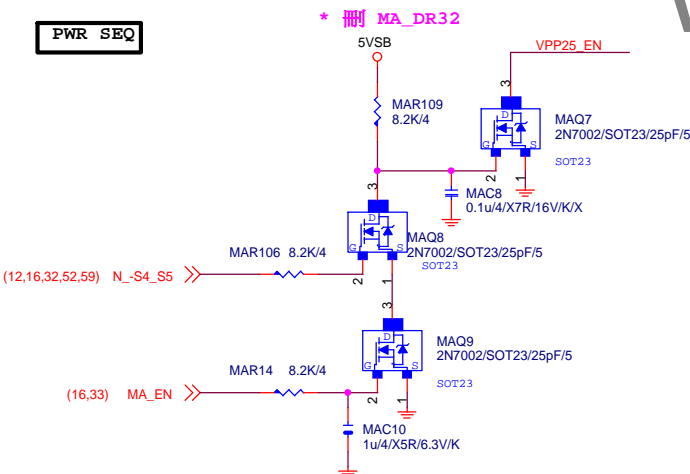
CHOKE與CAP料號可變

DDR_VPP VIN CAP
560u*1PCS

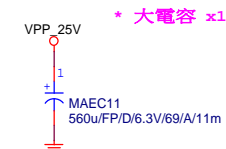


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PWR_SEQ



VPP CAP 560u*1PCS



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Title		
RT8120_VPP25 POWER		
Size	Document Number	Rev
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Date:	Monday, January 18, 2016	Sheet 34 of 66

REV:0.64

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

CHOKES與CAP料號可變

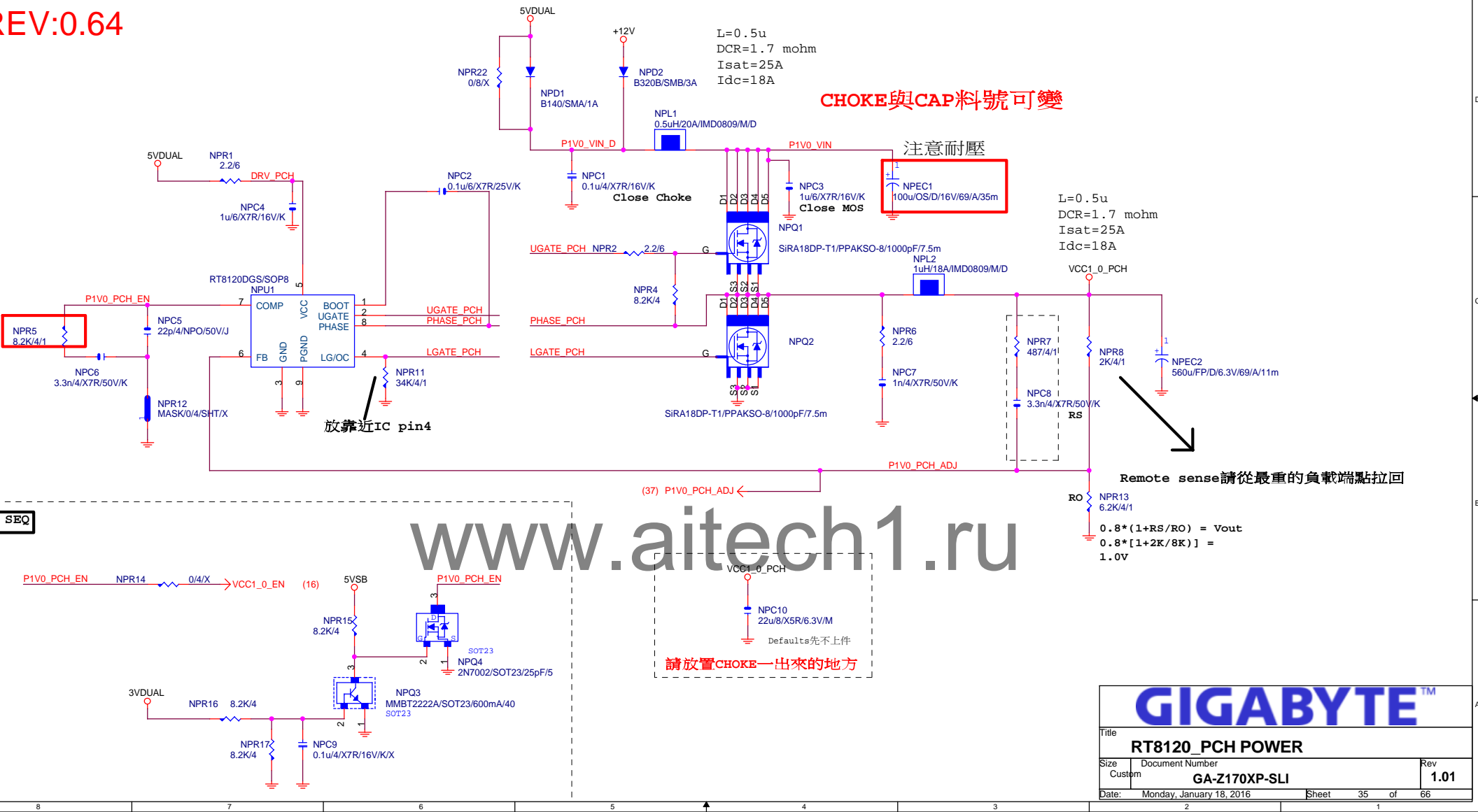
注意耐壓

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

Remote sense請從最重的負載端點拉回

GIGABYTE™			
Title RT8120_PCH POWER			
Size Custom	Document Number GA-Z170XP-SLI		Rev 1.01
Date: Monday, January 18, 2016	Sheet 35	of 66	

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(37) P1V0_PCH_ADJ ←

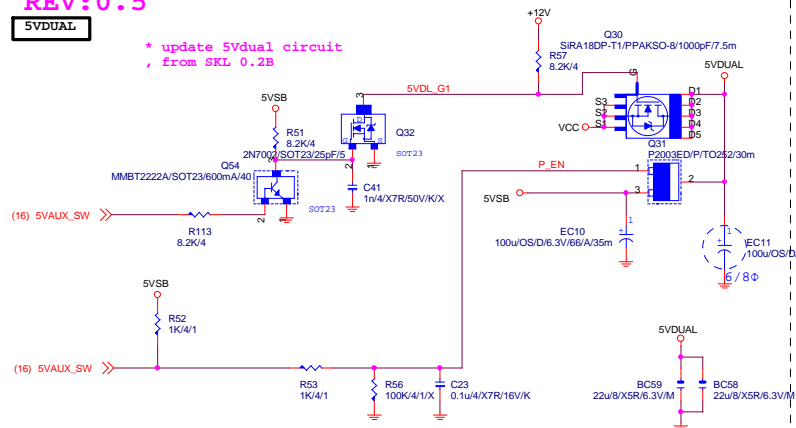
$$0.8 \cdot (1 + RS/RO) = V_{out}$$

$$0.8 \cdot [1 + 2K/8K] = 1.0V$$

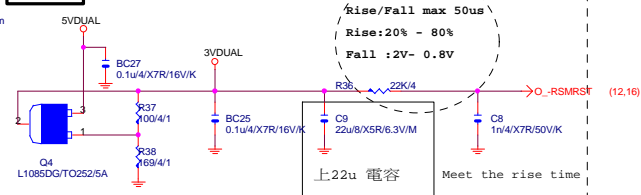
Defaults先不上件
請放置CHOKES—出來的地方

5VDUAL

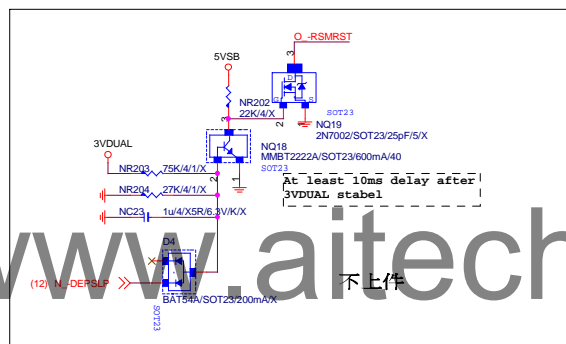
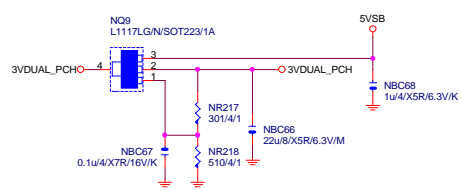
```
* update 5Vdual circuit
, from SKL 0.2B
```



3VDUAL

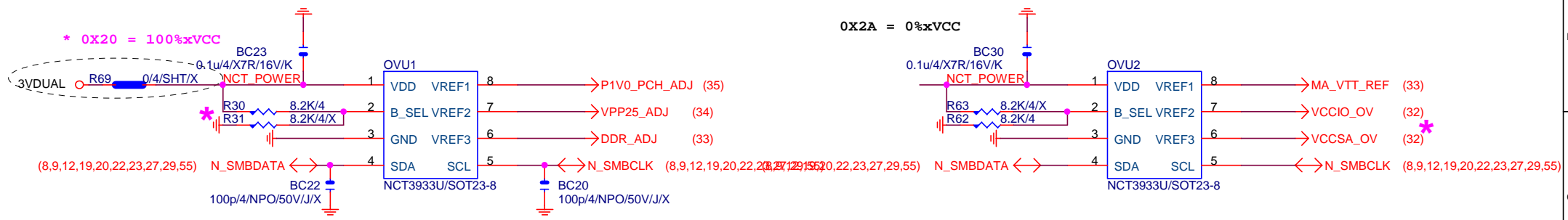


3VDUAL_PCH



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OVER VOLTAGE



* 删除 OVU3

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

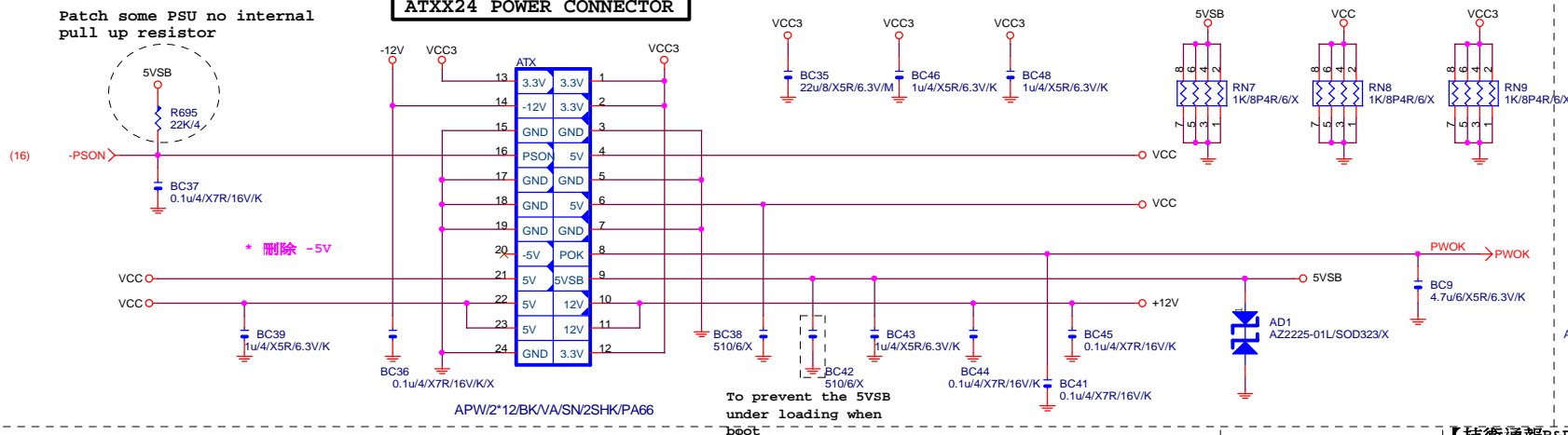
Rev 1.01

Date: Monday, January 18, 2016

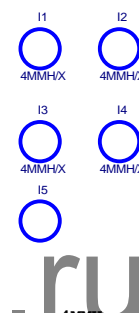
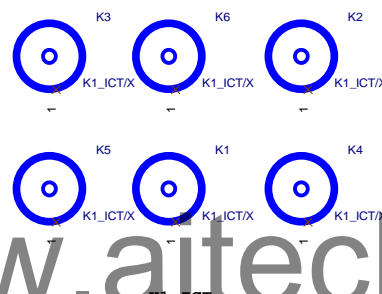
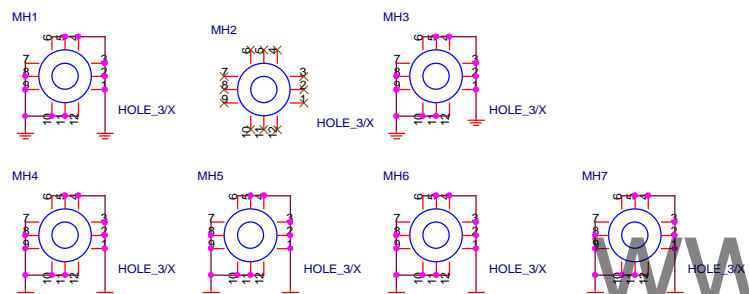
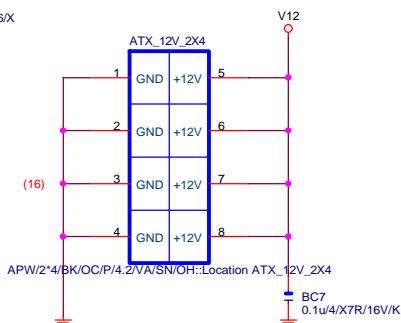
Sheet 37 of 66

Patch some PSU no internal pull up resistor

ATXX24 POWER CONNECTOR

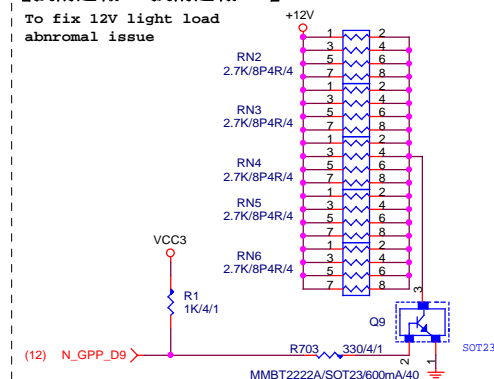


ATXX4 POWER CONNECTOR

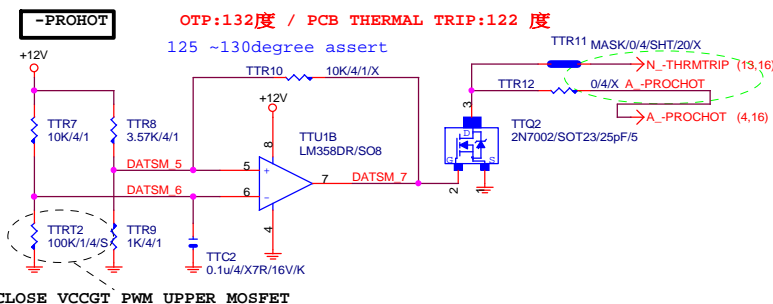
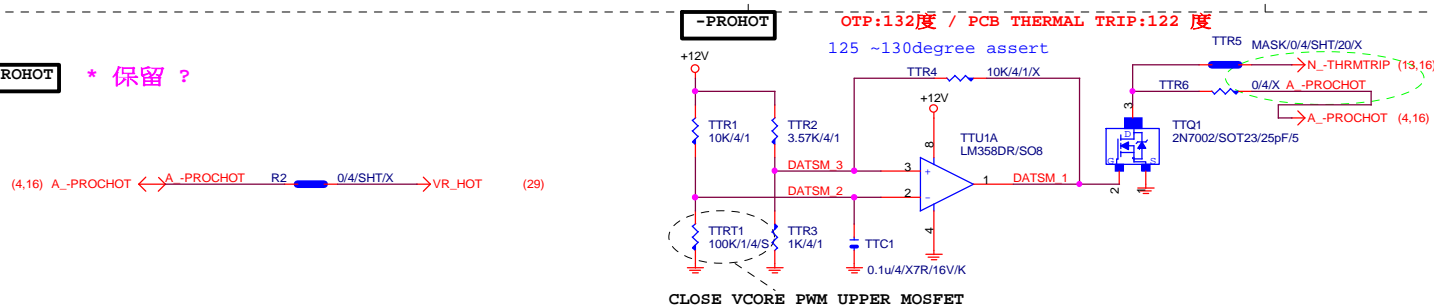


【技術通報R&D技術通報153】

To fix 12V light load abnormal issue

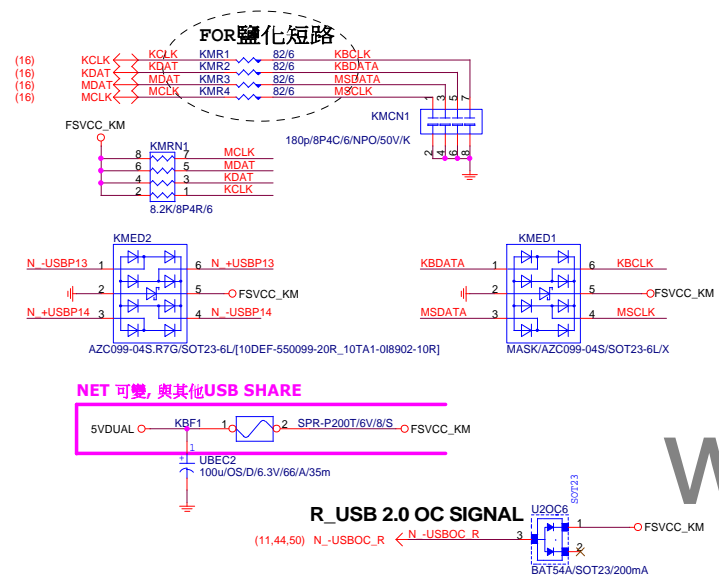
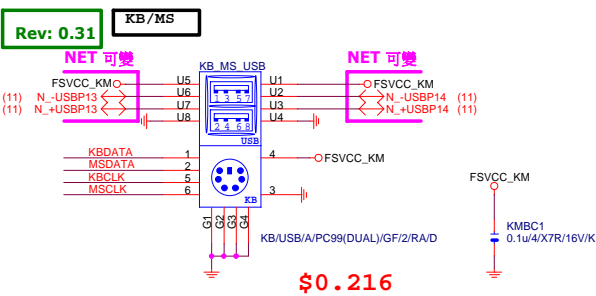


-PROHOT * 保留 ?



Gigabyte Technology

Title				
ATX POWER CONNECTOR				
Size	Document Number			Rev
Custom	GA-Z170XP-SLI			1.01
Date:	Monday, January 18, 2016	Sheet	38 of 66	

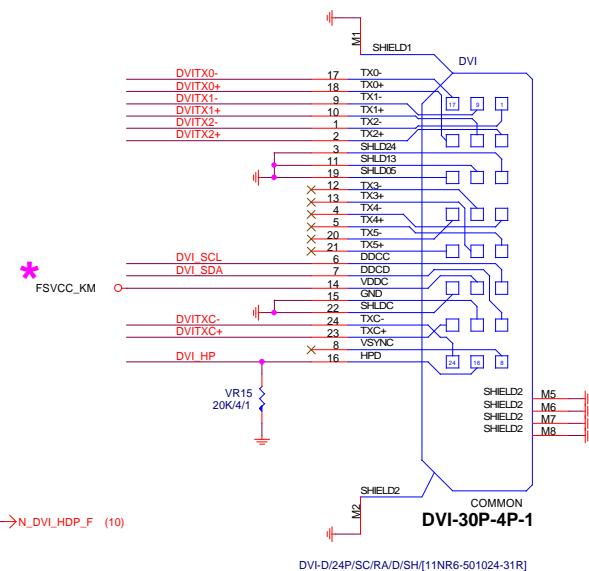
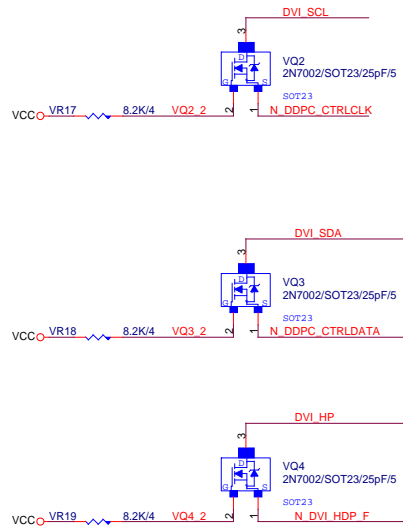
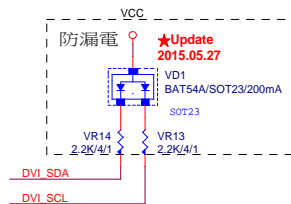
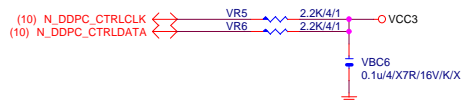
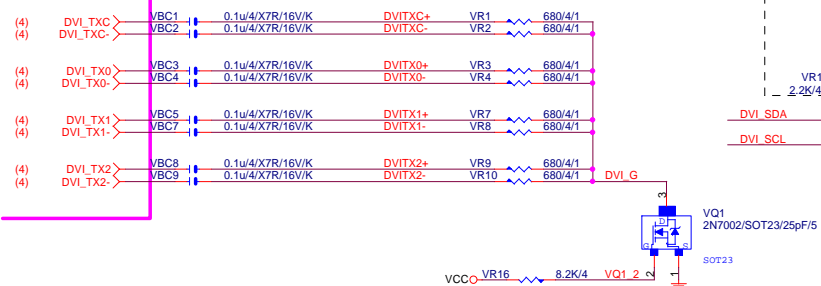


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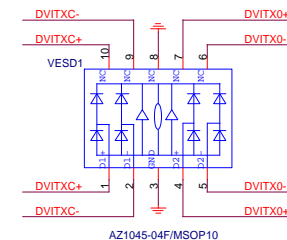
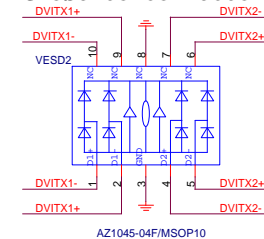
Gigabyte Technology			
Title			
AUDIO JACK			
Size	Document Number	GA-Z170XP-SLI	Rev
Custom			1.01
Date:	Monday, January 18, 2016	Sheet	39 of 66

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

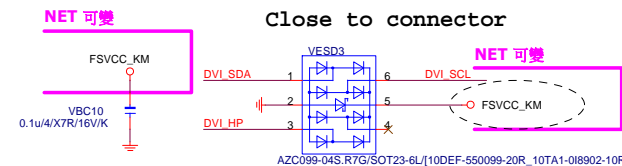
NET 可變



Close to connector



Close to connector



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

Gigabyte Technology

Title			
FP,F_USB,USB PWR,BZ			
Size Custom	Document Number	GA-Z170XP-SLI	Rev 1.01
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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]

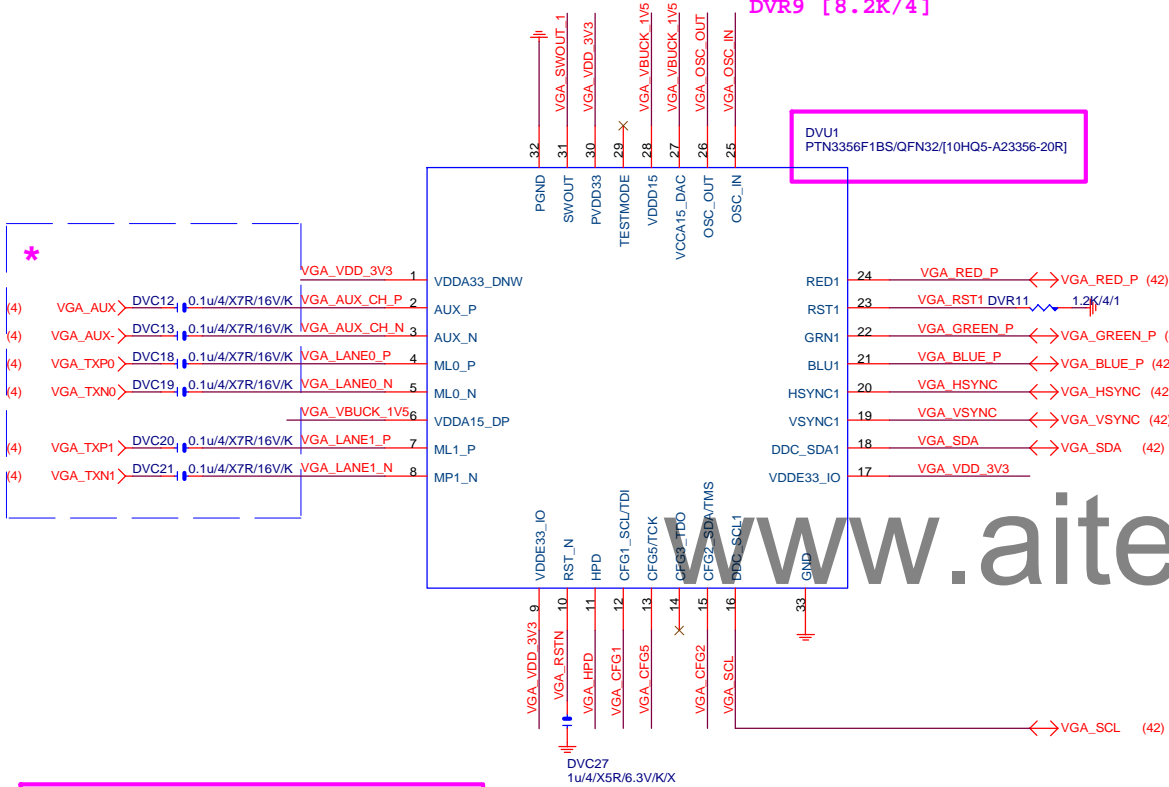
DVC11 [10p/4/NPO/50V/J]~修改值
DVR10 [8.2K/4]

2. 删除:

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

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

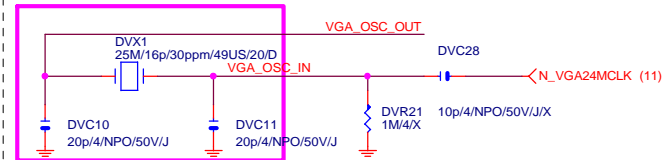
DVR9 [8.2K/4]



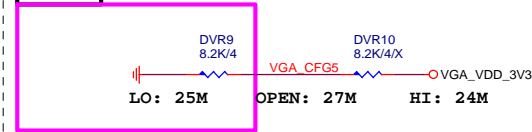
放置PCH端

(10) N_DDPD_CTRLCLK ↔ DVR19 2.2K/4/1 → VCC3
(10) N_DDPD_CTRLDATA ↔ DVR20 2.2K/4/1 → VCC3

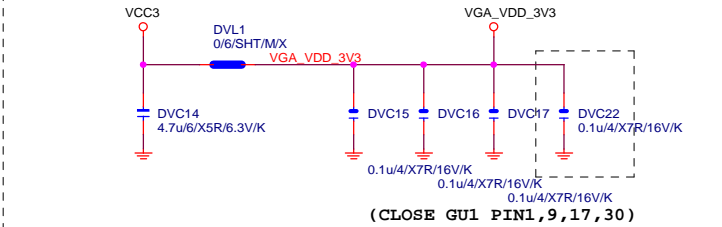
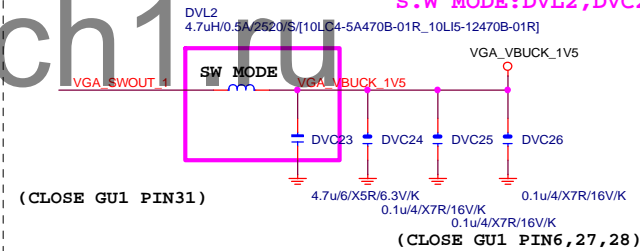
25M Crystal FROM PCH 24MHZ ISSUE



CFG5 For Crystal Less

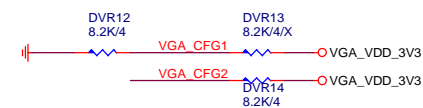


ADAPTER POWER

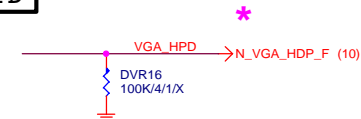
LDO MODE: DVL2, DVC23-->X
S.W MODE: DVL2, DVC23-->O

CFG1&2

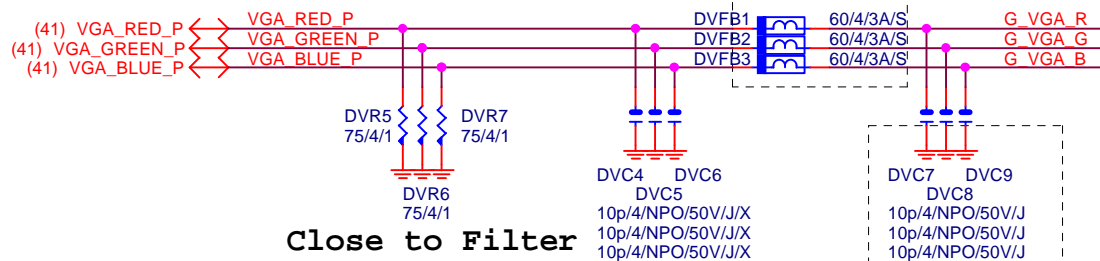
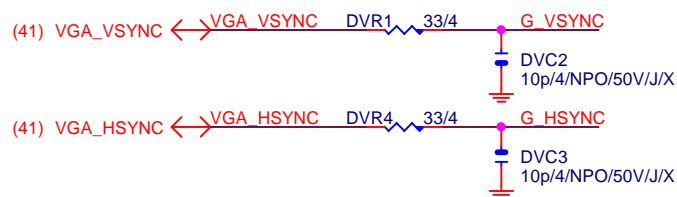
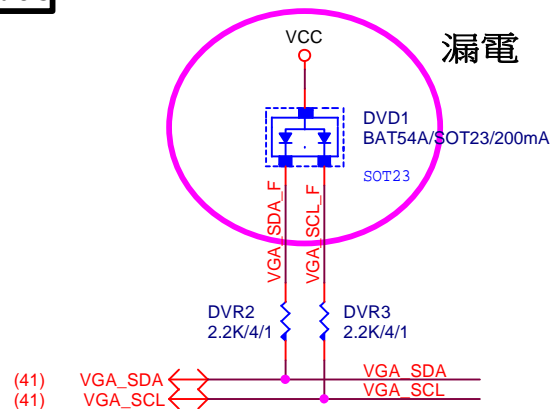
Non-Compliant



HPD

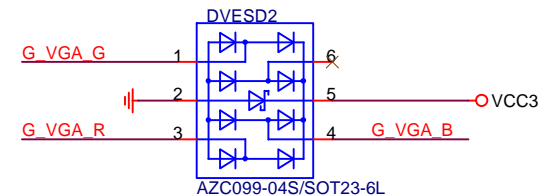
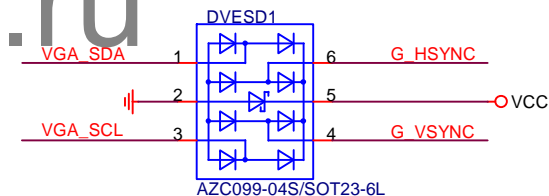
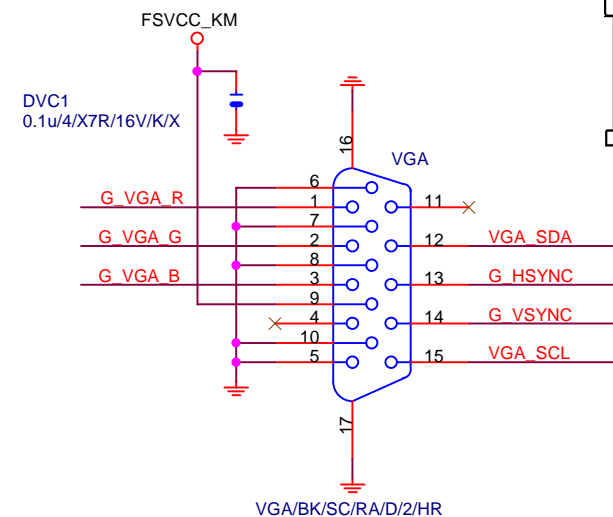
Gigabyte Technology
NXP-PTN3356

Title	GA-Z170XP-SLI	Rev	1.01
Size	Document Number	GA-Z170XP-SLI	
Custom			
Date:	Monday, January 18, 2016	Sheet	41 of 66



Close to Filter

FOR EMI



Gigabyte Technology
NXP-PTN3356

Title

Size
Custom

Document Number

GA-Z170XP-SLI

Rev
1.01

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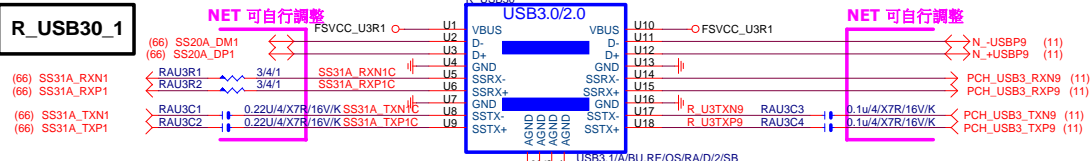
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Gigabyte Technology			
Title			
HDMI20 MCDP2800-BA			
Size	Document Number		Rev
C	GA-Z170XP-SLI		1.01
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Rev: 0.7

R_USB30_1

NET 可自行調整

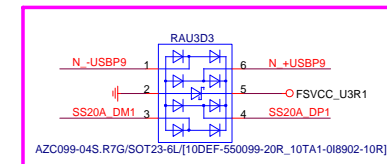


NET 可自行調整

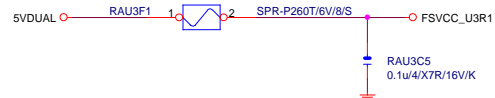
NET 可自行調整

NET 可自行調整

NET 可自行調整



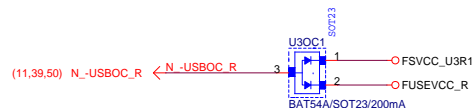
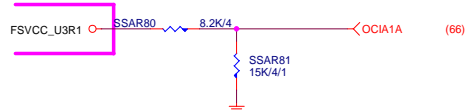
FUSE 2 Port 1 Fuse 2.6A



* swap

* swap

POWER 可自行調整



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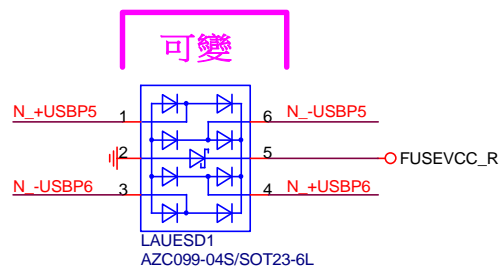
Gigabyte Technology

Title			R_USB30,F_USB30, USB OC
Size	Document Number		GA-Z170XP-SLI
	Rev		1.01
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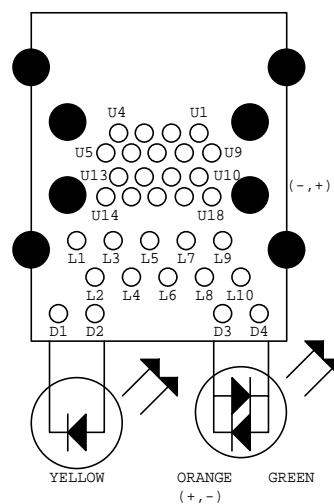
R1.08

RMA ESD PROTECT

note:可變更USB NAME



USB30_LAN LAYOUT示意圖



Dual Color LED

Single Color LED

D2 / D1 Yellow

LAN COVER

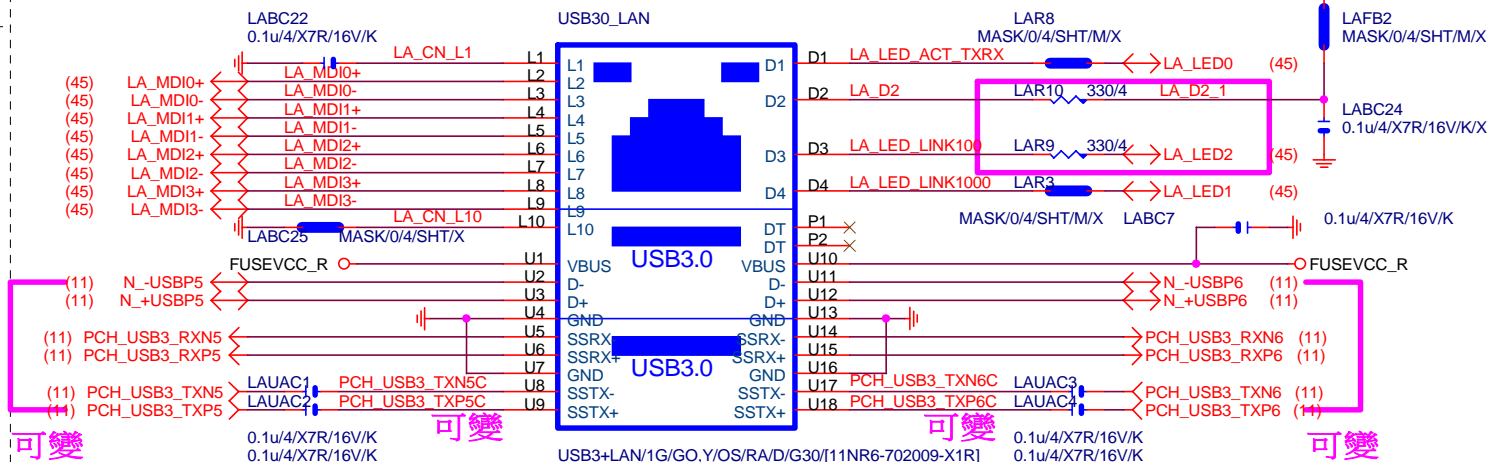
FOOT PRINT:LAN COVER

可變 [視SPEC需求]

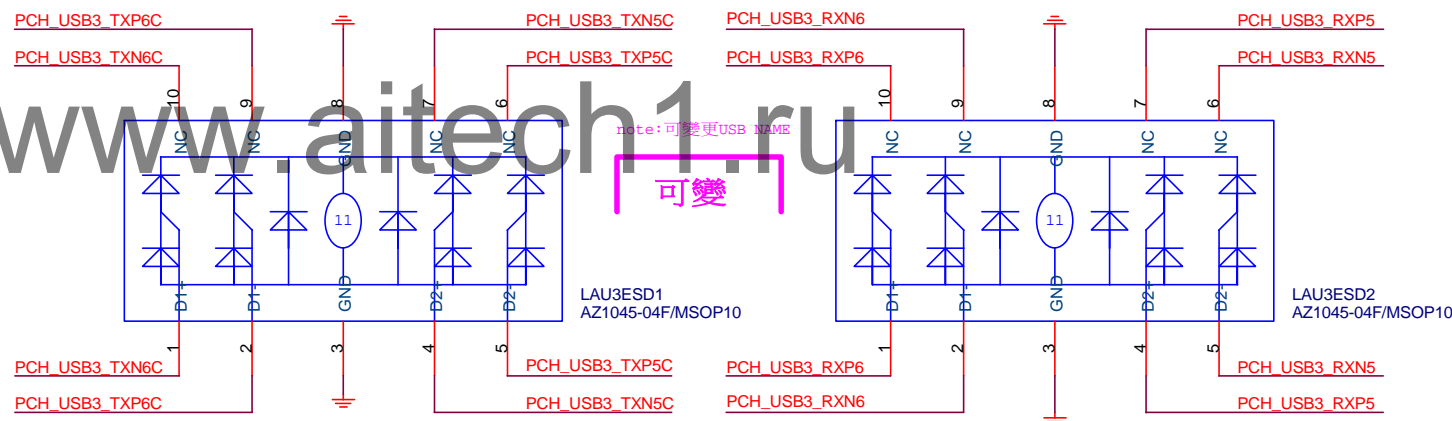
USB_LAN CONNECTOR

note:可變更USB NAME

[I219]

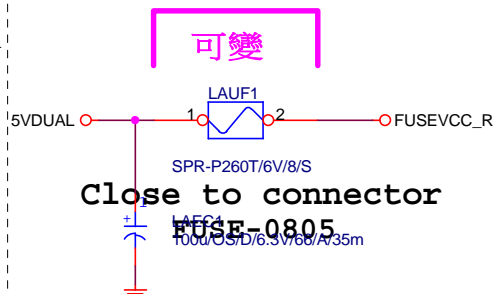


LA MDI-->100歐姆:[20/4/8/4/20]



USB POWER

note:可變更FUSE



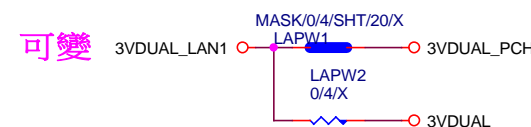
EMI SHORT PAD

PS:視EMI需求



LAN POWER

note: lan power連接及電流



Gigabyte Technology
LAN CONNECTOR-I219

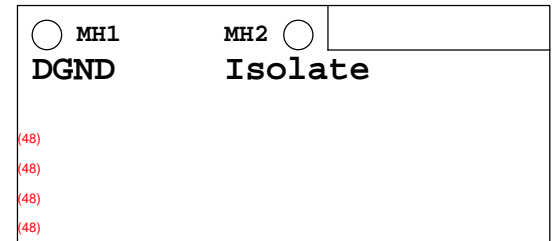
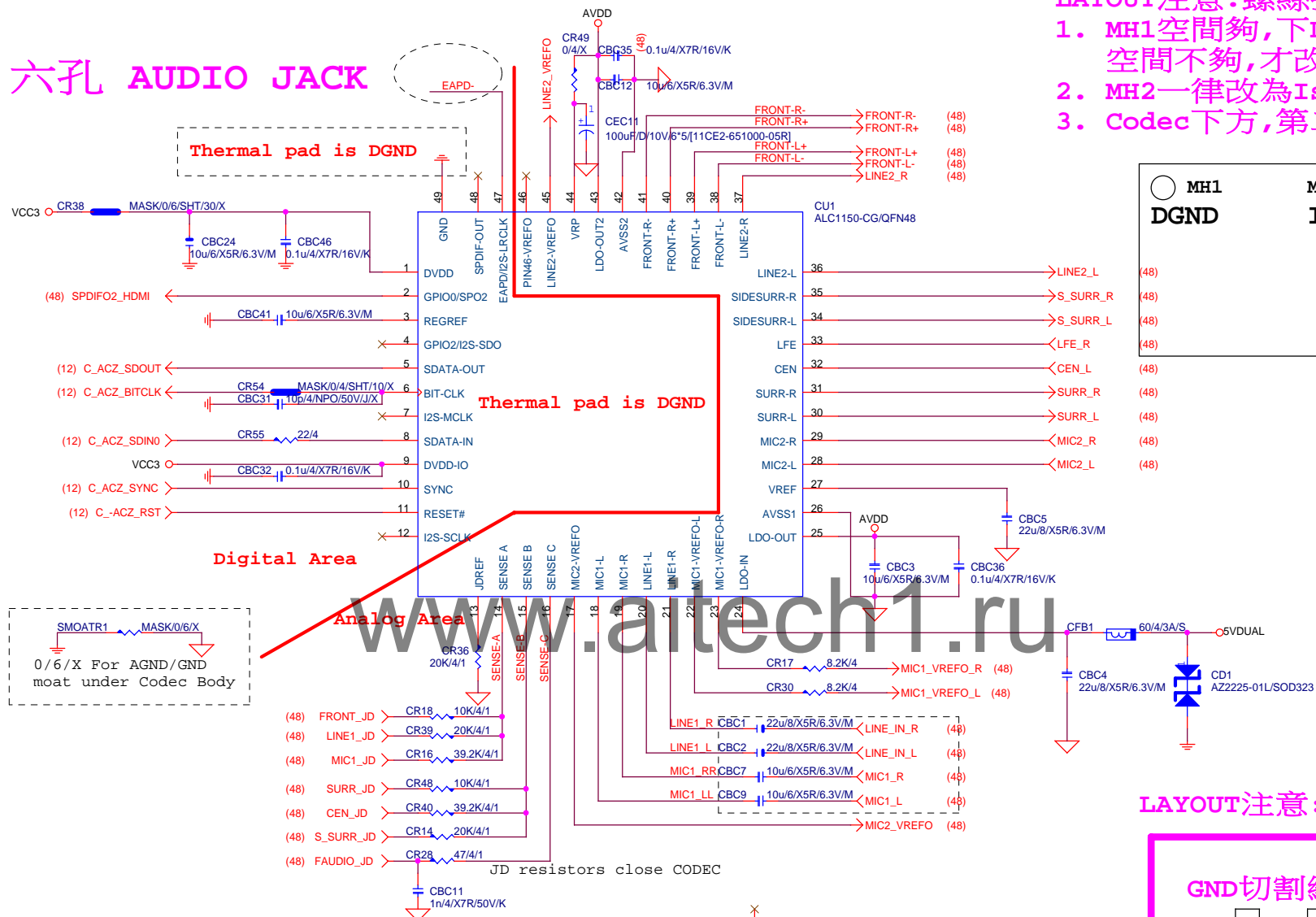
Size Custom	Document Number GA-Z170XP-SLI	Rev 1.01
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Rev 0.93

ALC1150 六孔 AUDIO JACK

LAYOUT注意:螺絲孔下GND方式

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



LAYOUT注意:要加

GND切割線

音效區域印刷

Gigabyte Technology

ALC1150

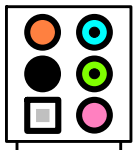
Document Number: GA-Z170XP-SLI

Title	ALC1150	Rev	1.01
Size	Document Number	GA-Z170XP-SLI	
Custom			
Date	Monday, January 18, 2016	Sheet	47 of 66

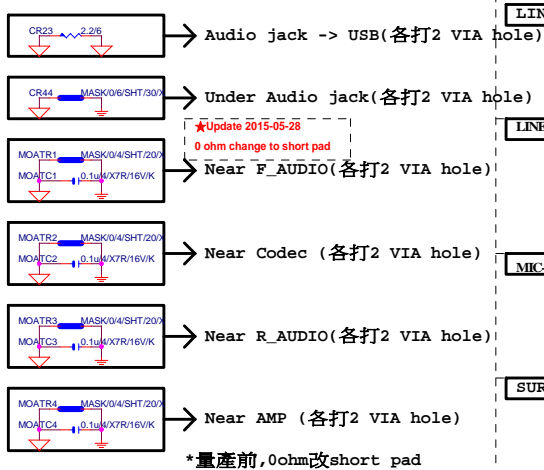
AUDIO_HS[11NH1-ADC001-21R]
★Update 2015-03-06
更新AUDIO_HS料號:11NH1-ADC001-21R

Rev 0.93

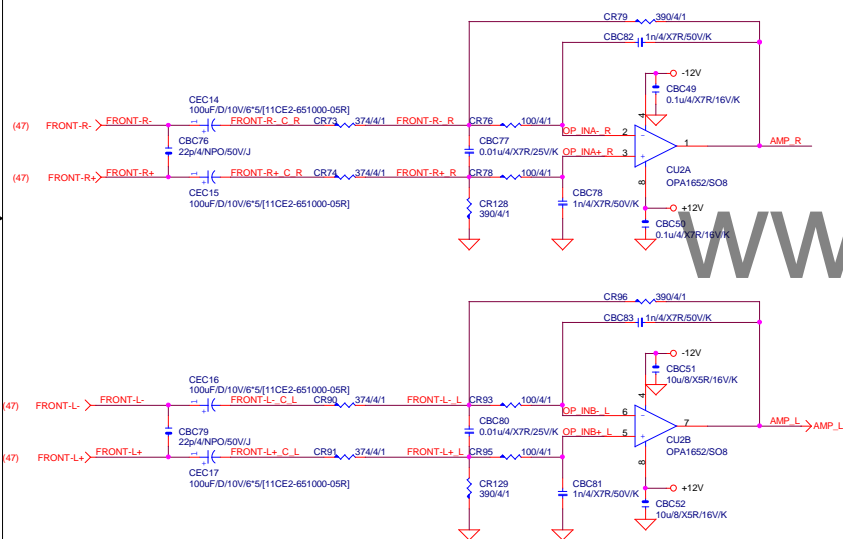
AZALIA JACK



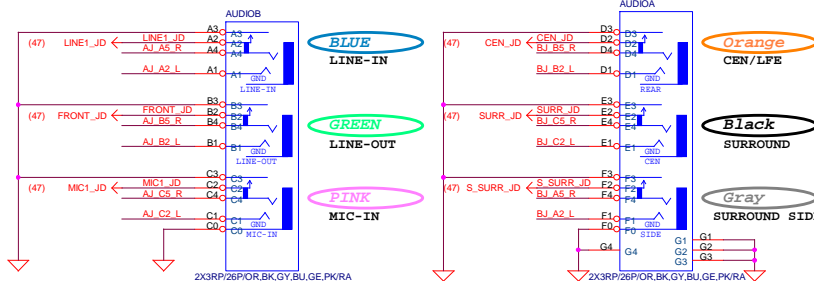
SPDIF_OUT



Differential to Single-End AMPLIFIED



AZALIA JACK



LINE-OUT

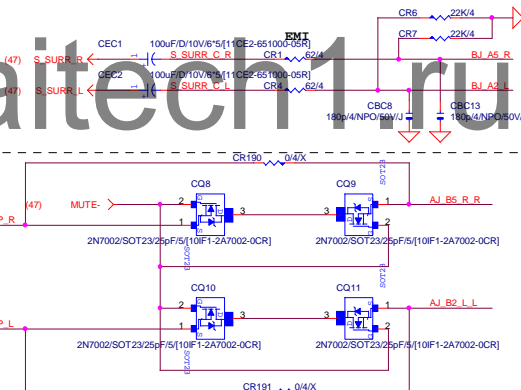
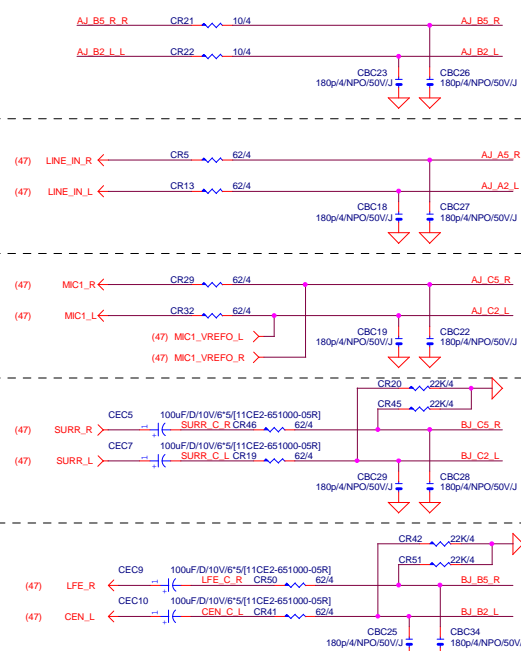
LINE-IN

MIC-IN

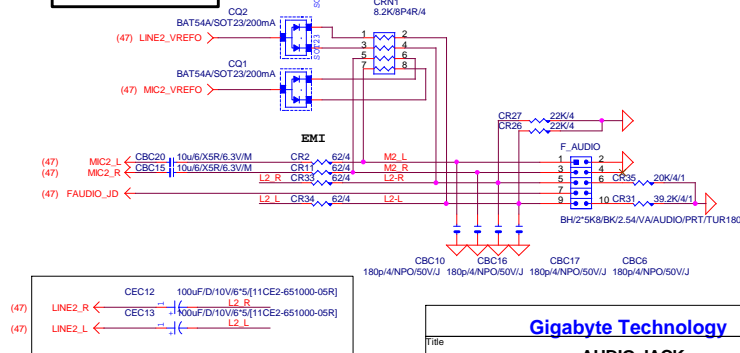
SURROUND

CEN/LFE

SURR BACK



AZALIA FRONT PANEL



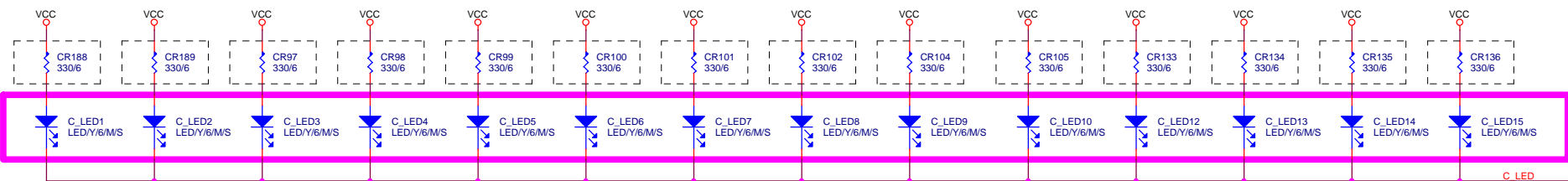
Gigabyte Technology

AUDIO JACK

GA-Z170XP-SLI

Rev 1.01

Title	Document Number	Rev
GA-Z170XP-SLI	GA-Z170XP-SLI	1.01
Date	Monday, January 18, 2016	Sheet 48 of 66

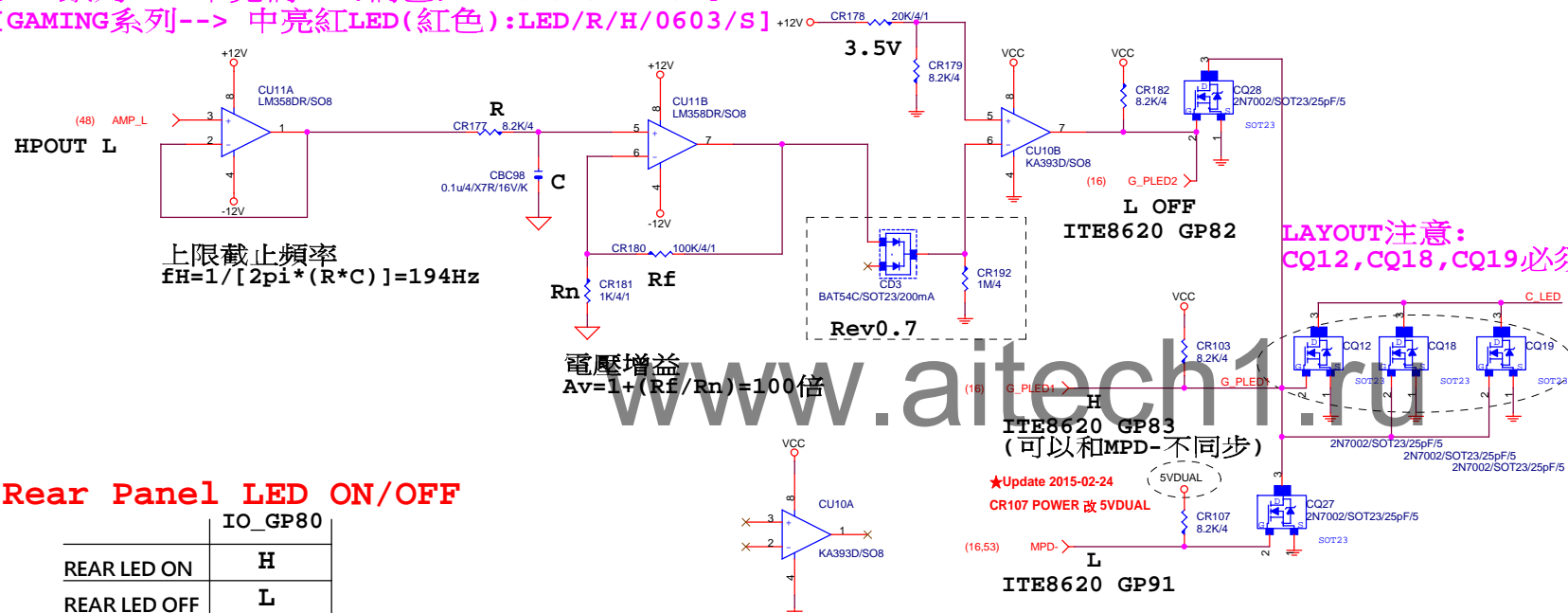


VALUE可變,LED顏色請自行修改

[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

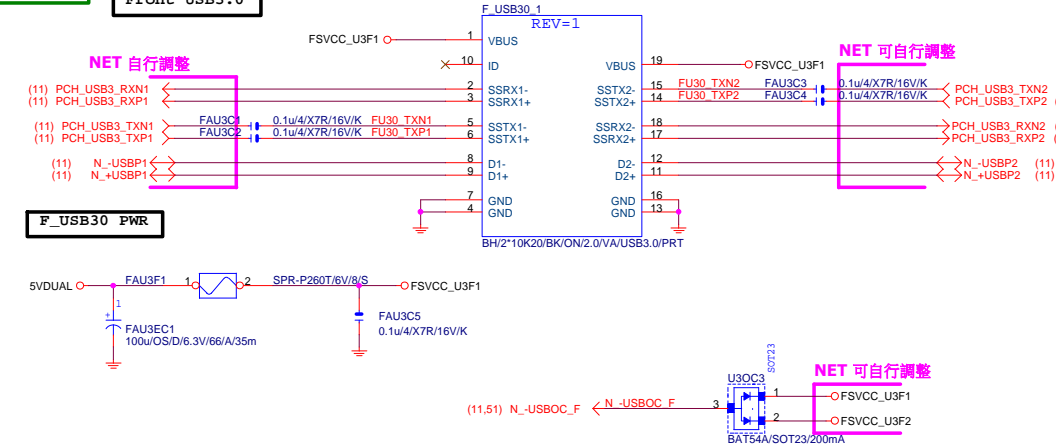
AUDIO LED Control (沒有LPT model)

	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

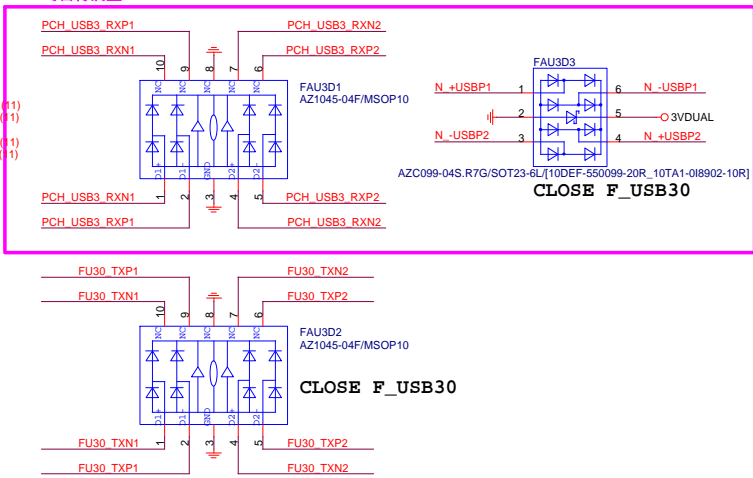
AUDIO LED Control (有LPT model)

	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

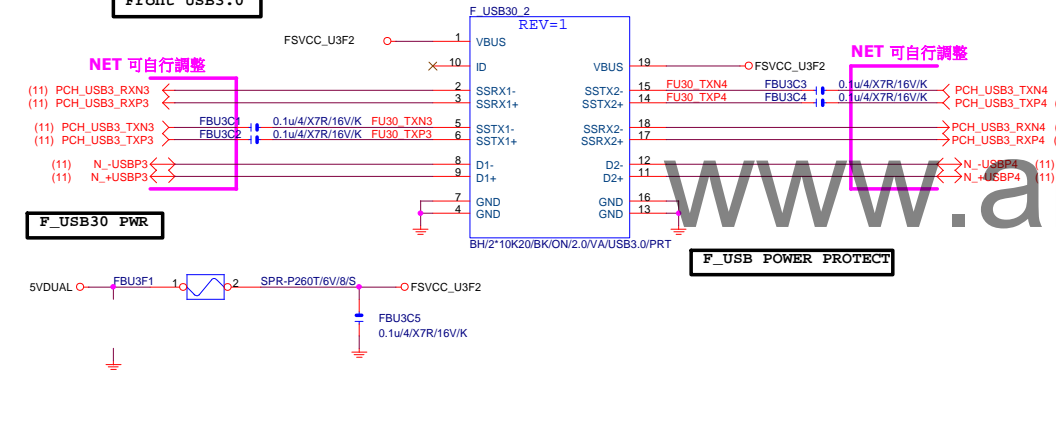
Front USB3.0



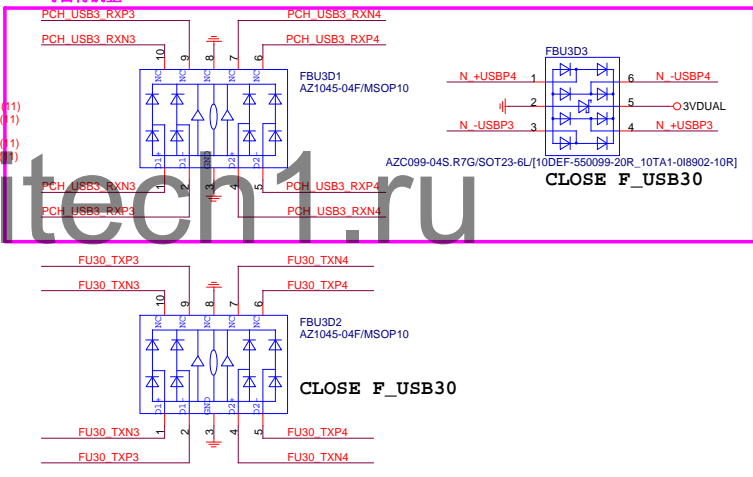
NET 可自行調整



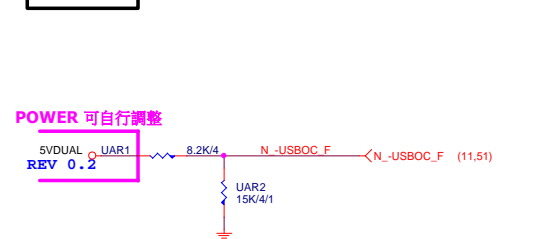
Front USB3.0



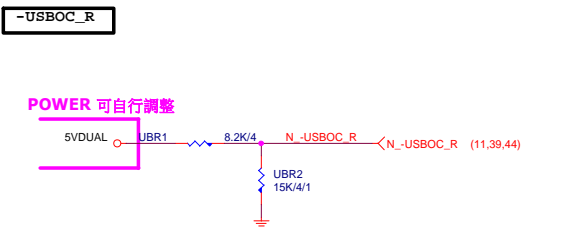
NET 可自行調整



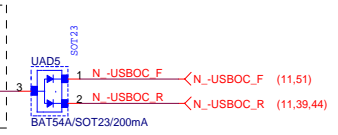
-USBOC_F



-USBOC_R

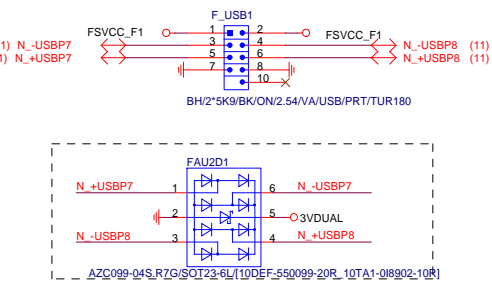


* 接 PCH
N_GPP_B20 (SMI) &
PCH PU 3Vdual

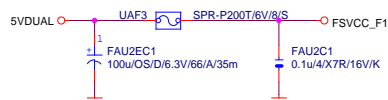


FRONT USB1

NET 可變

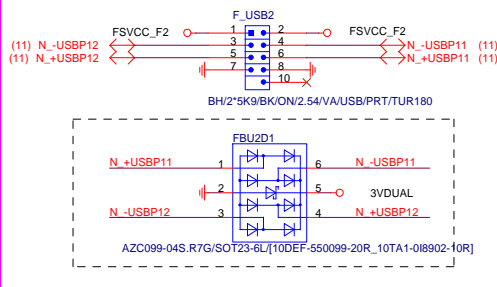


Close to connector
FUSE 2 Port 1 Fuse 2A

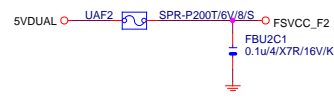


FRONT USB2

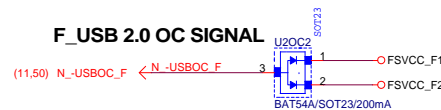
NET 可變



Close to connector
FUSE 2 Port 1 Fuse 2A



F_USB 2.0 OC SIGNAL



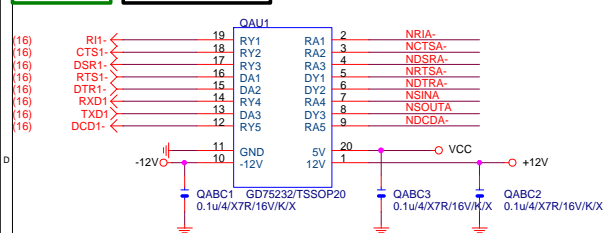
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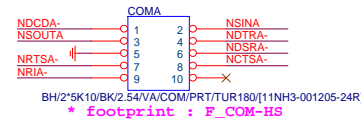
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USB2.0			
Size	Document Number	GA-Z170XP-SLI	Rev
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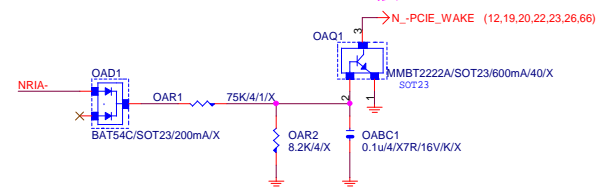
COM PORT



COMA

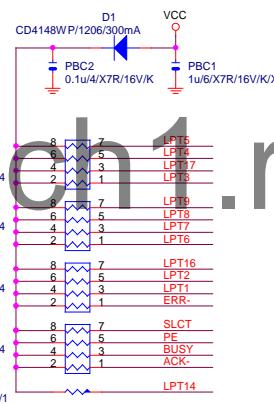
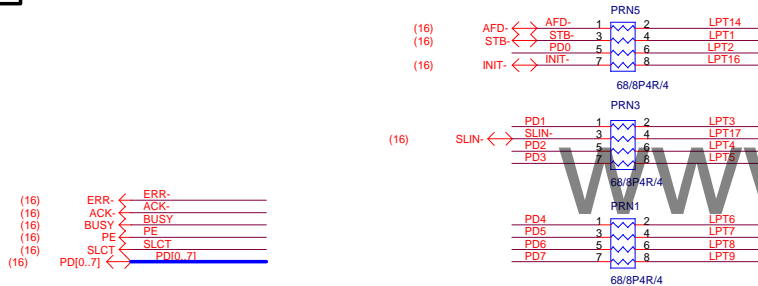


* 接 N_-PCIE_WAKE

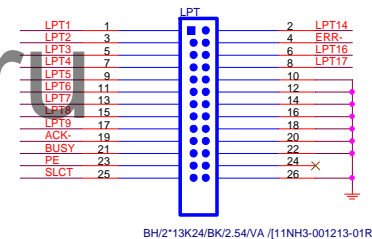


Rev: 0.3

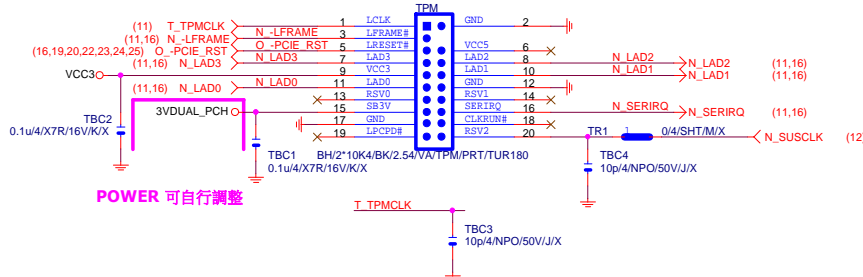
LPT PORT



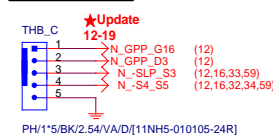
R&D技術通報151 有使用PRINT PORT的
MODEL・需使用新料號:10HP2-118728-72R。(CHIP IT8728F/EX (GB) ITE/SMD
QFP128 PRINTPORT SORTING)料件。串電阻33 ohm改為68 ohm。



TPM CONNECT



Thunderbolt

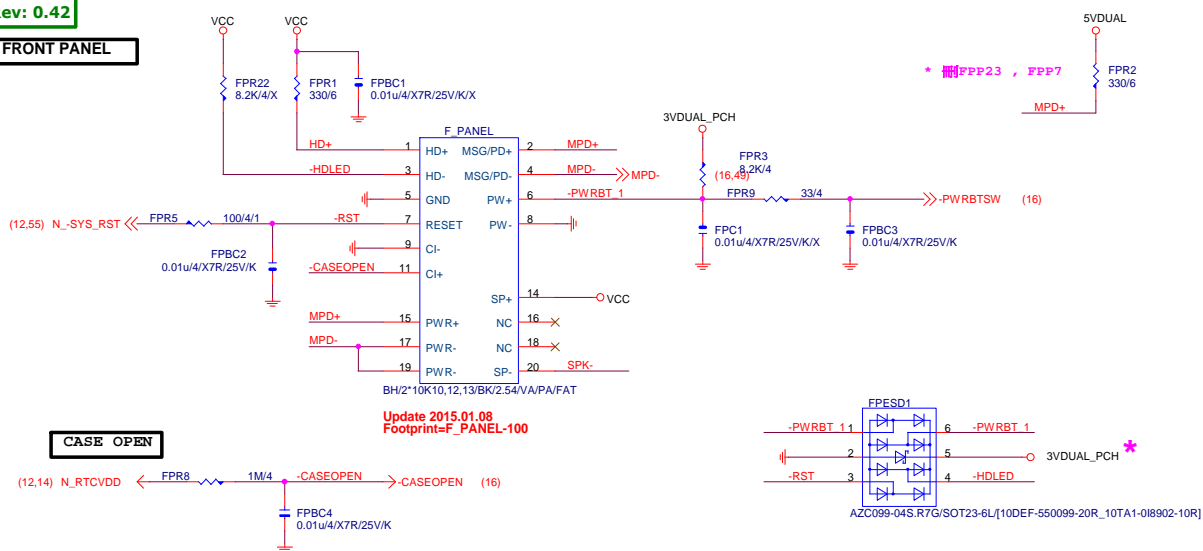


Gigabyte Technology

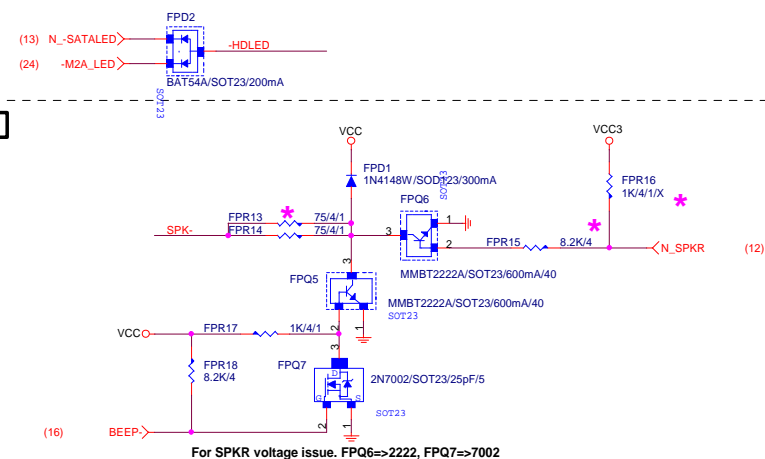
Title			FP,F_USB,USB PWR,BZ
Size	Document Number	GA-Z170XP-SLI	
Custom		Rev	1.01
Date:	Monday, January 18, 2016	Sheet	52 of 66

Rev: 0.42

FRONT PANEL



SATA LED SATALED# signal open-collector,pull-up (8.2 kΩ to 10 kΩ) to Vcc3 3



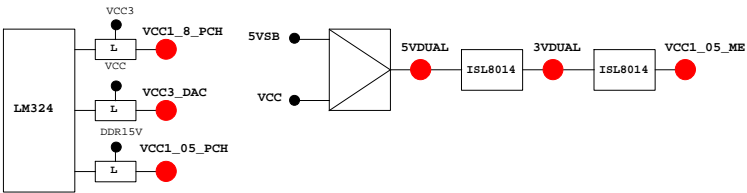
www.aitech1.ru

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

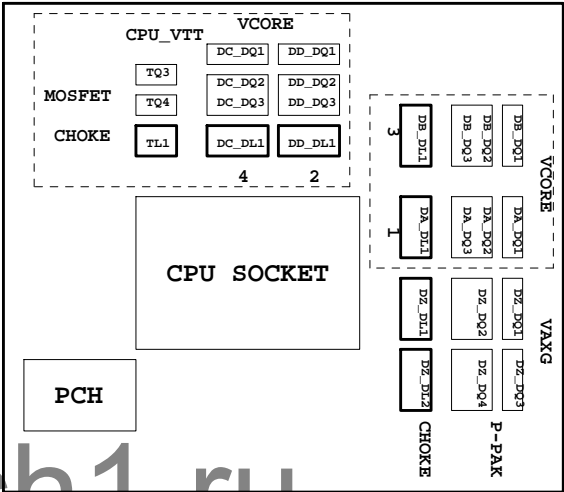
Super I/O ITE8720 GPIO Table

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	-PCIE_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	
PANSWH#/GP43	PWRBTSW	
KDAT/GP61	-PWRBTSW	
KCLK/GP60	KDAT	
MDAT/GP57	KCLK	
MACL/GP56	MDAT	
GP66/VLDT_EN/GB_02	NBT_LED1_C	MCLK
SVD/PCIRSTIN#/CIRTX/GP15	PWM2_CR	
KDAT/GP61	PWM2_CR	
GP67/CPU_PG/GB_03	EN_LOADLINE	IT_GP67/-EN_PWM2
SLIN#/GP84/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：

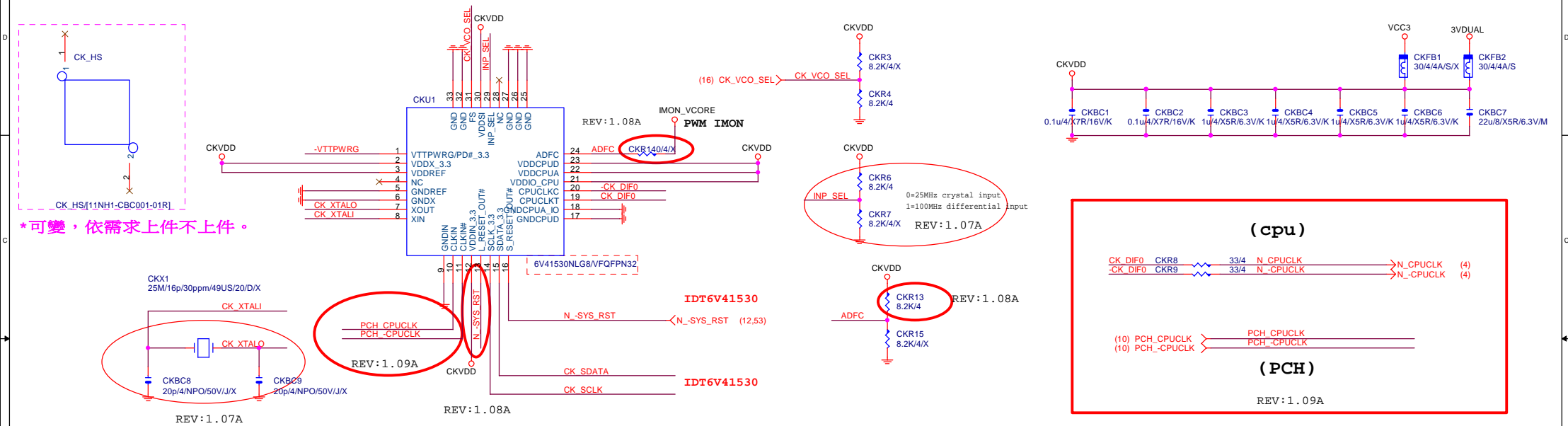
線路圖名稱	BIOS選項
Vcore	CPU Vcore
CPU_VTT	CPU Termination
CPU_VAXG	CPU Graphic Core
VCC1_8_PCH	CPU PLL
VCC1_05_PCH	PCH core
3VDUAL	3VDUAL
DDR15V	DRAM voltage
DDRVTT	DRAM Terminatio
VREF_CA_A/VREF_CA_B	DRAM Address Ref
VREF_DQ_A/VREF_DQ_B	DRAM Data Ref

散熱模組料號：

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

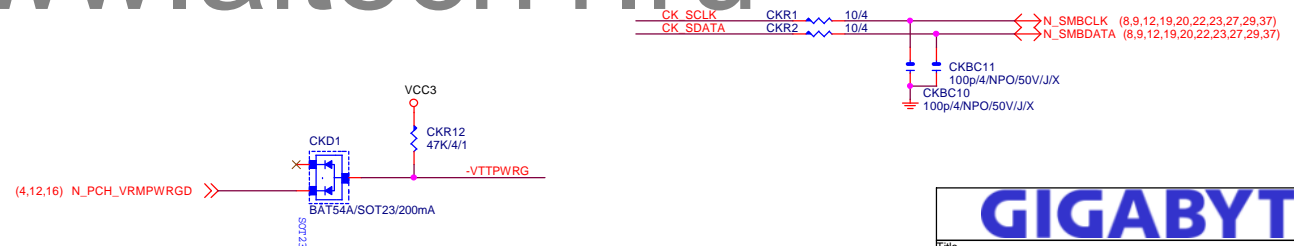
IDT6V41530



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INP_SEL	Input
0	Crystal
1	CLK_INP/N

CK_VCO_SEL	VCO
0	400M
1	1200M

**GIGABYTE™**

IDT6V41530_CLK BUFFER

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Title

Etron EJ179V

Size

Custom

Document Number

GA-Z170XP-SLI

Rev

1.01

Date:

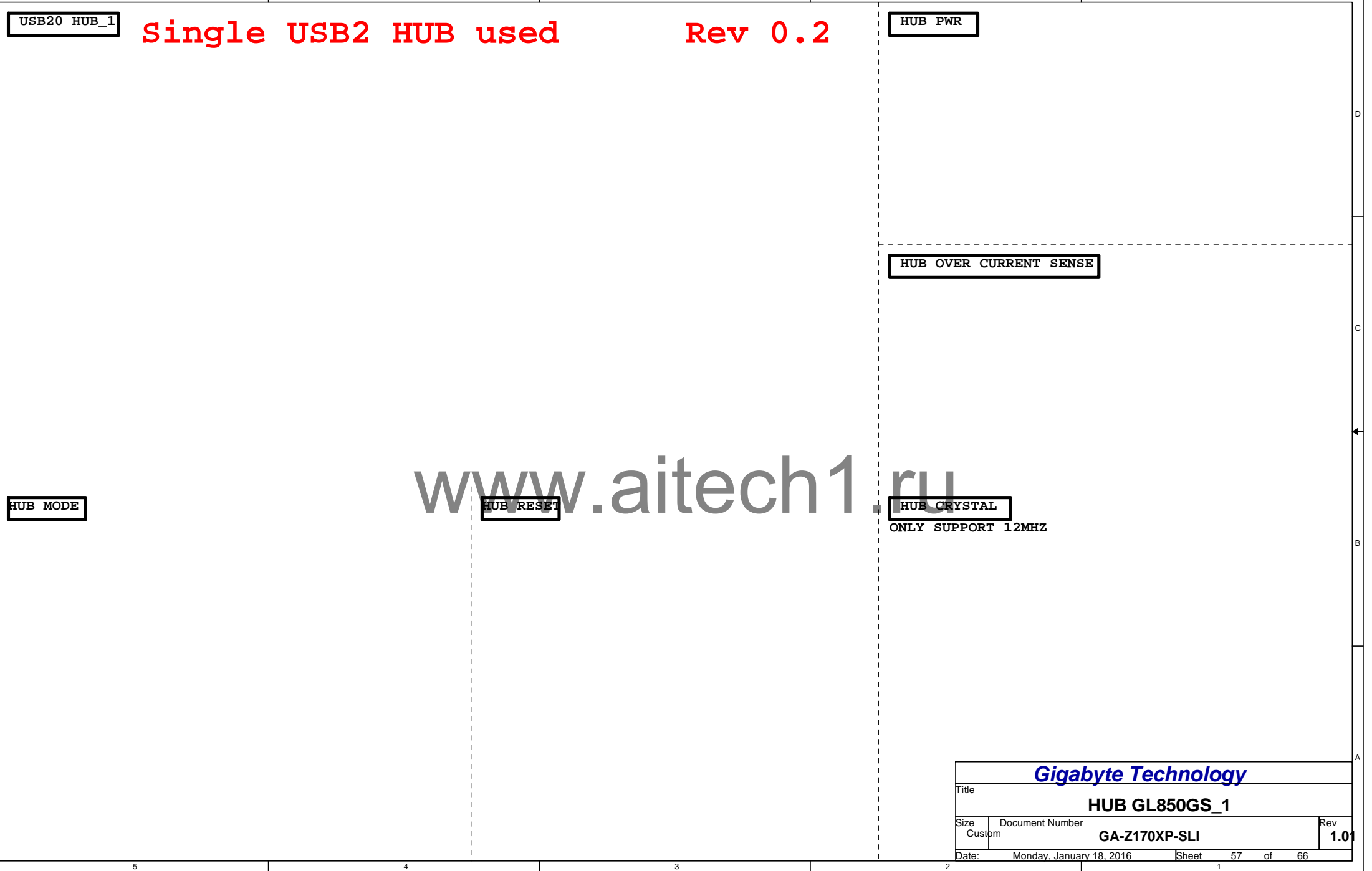
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
Display Port with HDMI, or HDMI only.



DP
HDMI

Footprint:DP_HDMI-2,
P/N:11NR6-H04039-02R

OR

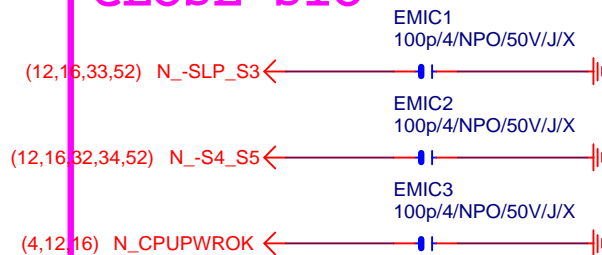


HDMI only

Footprint:DP_HDMI-2, Capture
Value:HDMI/19P/BK/S/RA/INTEL

GIGABYTE			
Title			
DP PORT			
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CLOSE SIO



CLOSE PCH



CLOSE AUDIO



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Title

EMI/ESD

Size
A

Document Number

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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

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Title

RT8120_DDR4 POWER

Size Custom

Document Number

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1.01

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

RS_VCCGT TTRT2

DANTC3

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

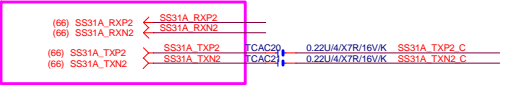
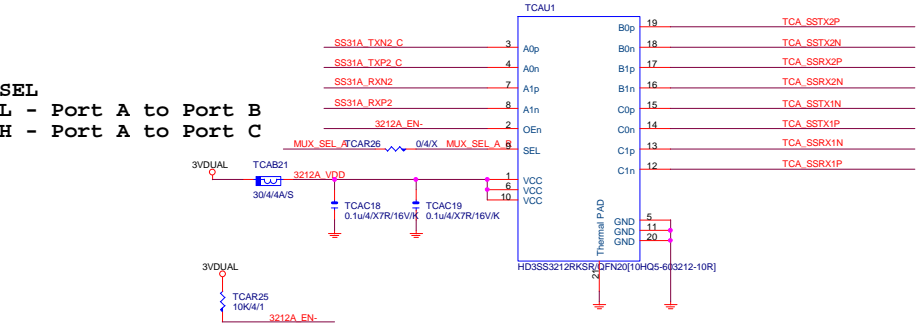
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GIGABYTE™		
Title ALPINE RIDGE CIO & DP		
Size C	Document Number GA-Z170XP-SLI	Rev 1.01
Date: Monday, January 18, 2016 Sheet 62 of 66		

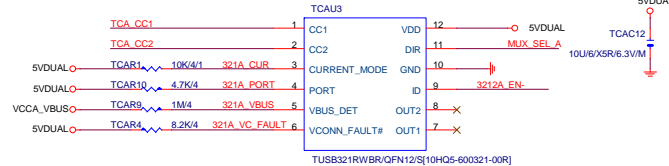
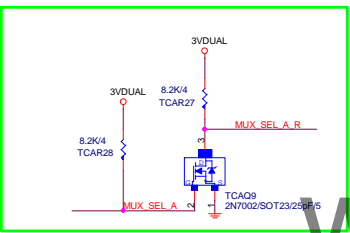
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GIGABYTE™		
Title ALPINE RIDGE POWER		
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SEL
L - Port A to Port B
H - Port A to Port C



USB 3.x SuperSpeed

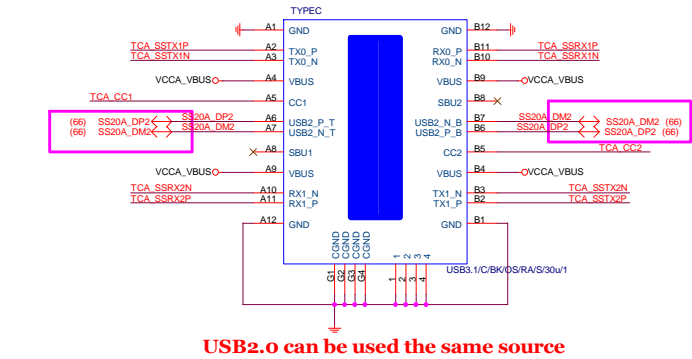


MUX_SEL
H - TypeC plug position 2
L - TypeC plug position 1

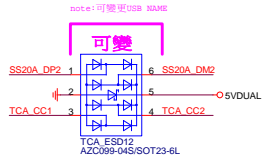
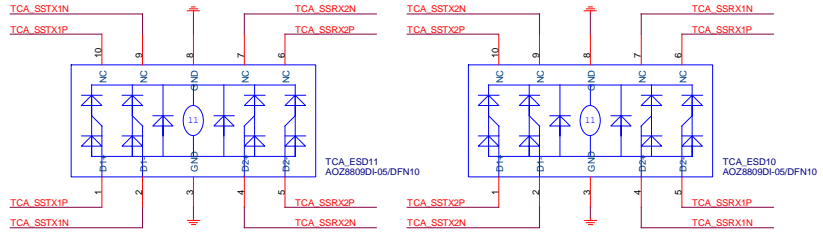
CURRENT MODE
L - Default current / Pull down to GND or NC
M - Medium (1.5A) current / Pull up to VDD 500K
H - High (3.0A) current / Pull up to VDD 10K

PORT
H - HOST
L - Device
NC - Dual Role

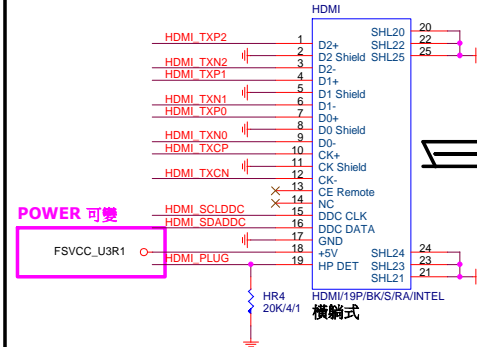
Color markers can be changed by model



USB2.o can be used the same source



GIGABYTE™		
Title		
TI HD3SS3212		
Size		
C		
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【技術通報R&D技術通報150】
HDMI eye diagram1.4版(deep color)會fail
原因: eye目前的HDMI訊號過長,造成RISING TIME過慢,而會壓到eye diagram
改善: ASMEDIA ASM1442 : 3.16K(PIN6 PULL DOWN電阻) 10ohm(PIN4 PULL DOWN電阻)

ASM1142 USB3.1

GIGABYTE™			
Title ASM1142 USB3.1A			
Size	Document Number		Rev
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