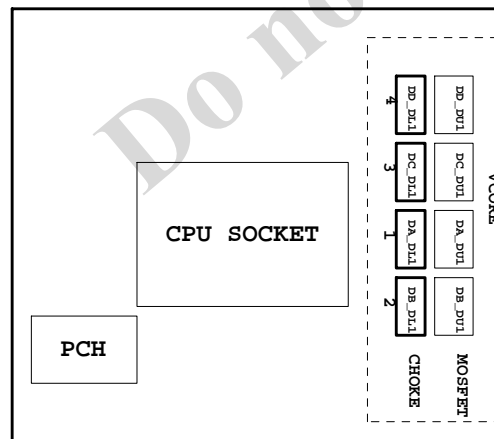


SHEET TITLE Rev 1.0

SHEET TITLE Rev 1.0

SHEET	TITLE
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SHEET	TITLE
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Rev 1.0

Component value change history

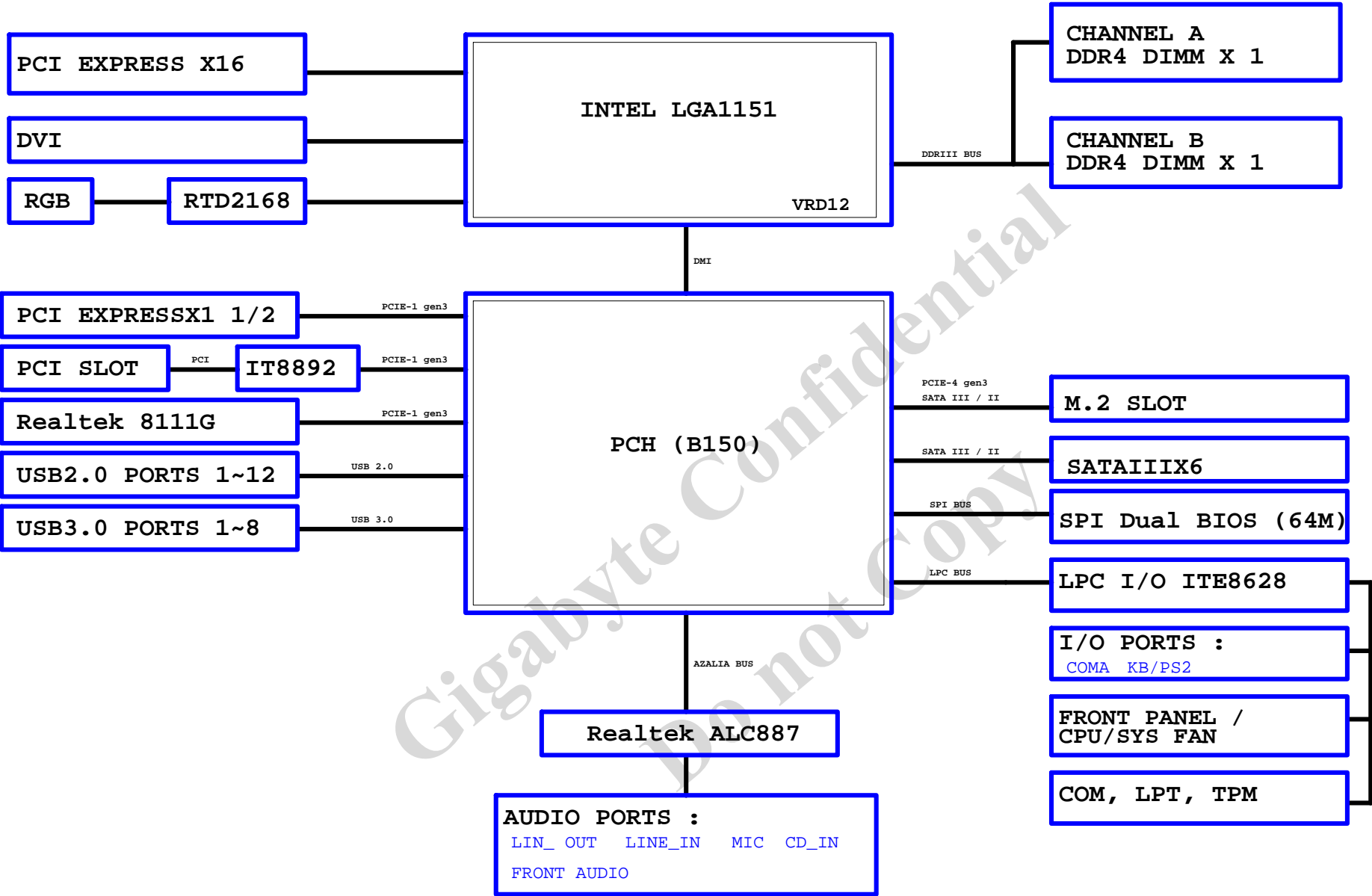
2015/09/09

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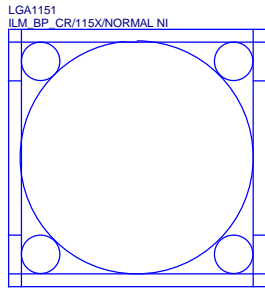
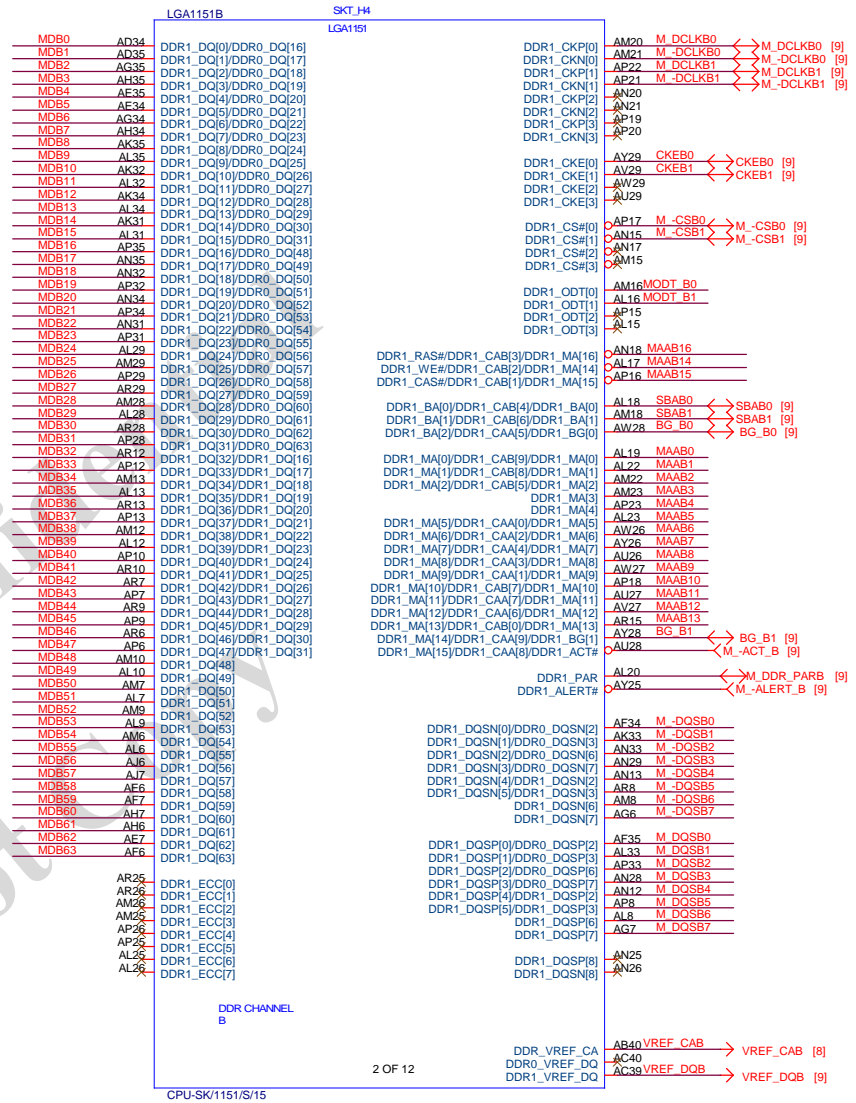
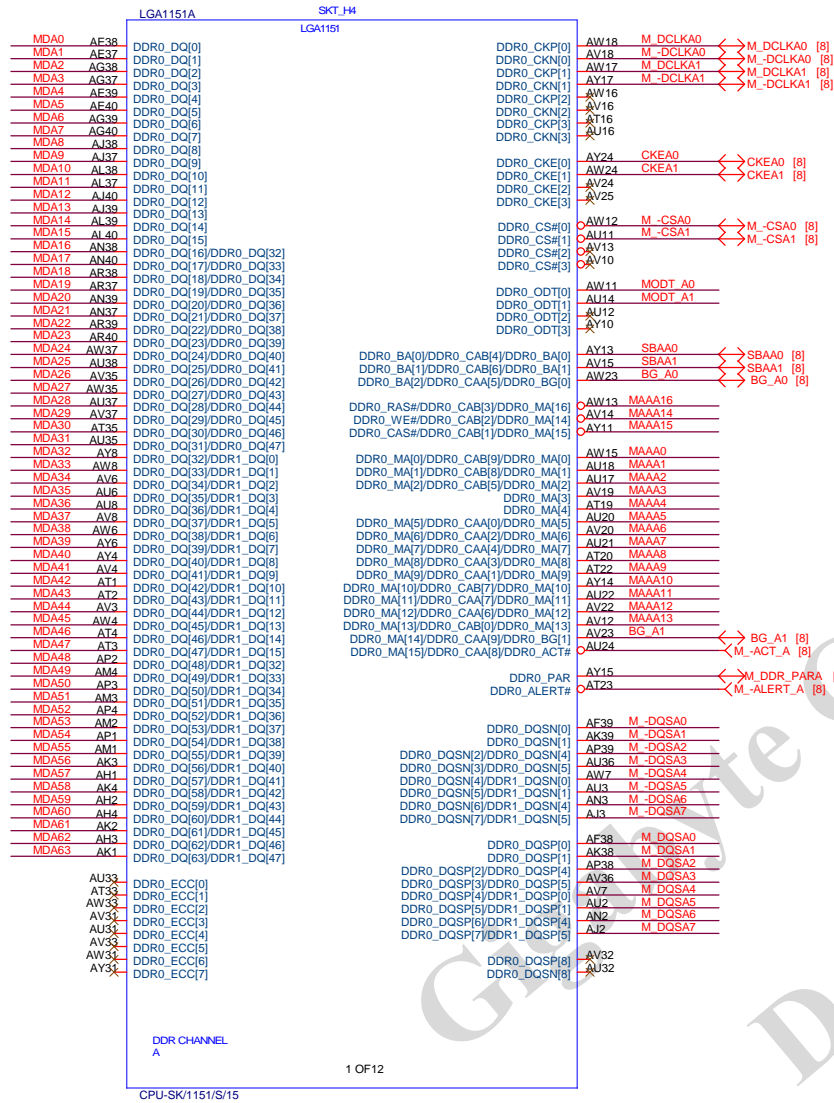
Circuit or PCB layout change

[illegible]

BLOCK DIAGRAM



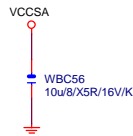
* 改DDR4 net



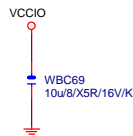
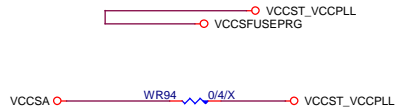
BLACK NI

- [8] MODT_A[0..1] <=> MODT_A10..11
- [9] MODT_B[0..1] <=> MODT_B10..11
- [8] MDA[0..63] <=> MDA10..63
- [9] MDB[0..63] <=> MDB10..63
- [8] M_DQSA[0..7] <=> M_DQSA10..71
- [8] M_-DQSA[0..7] <=> M_-DQSA10..71
- [8] MAAA[0..16] <=> MAAA10..161
- [9] MAAB[0..16] <=> MAAB10..161
- [9] M_DQSB[0..7] <=> M_DQSB10..71
- [9] M_-DQSB[0..7] <=> M_-DQSB10..71

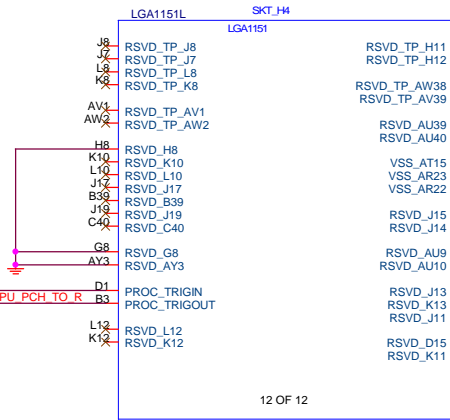
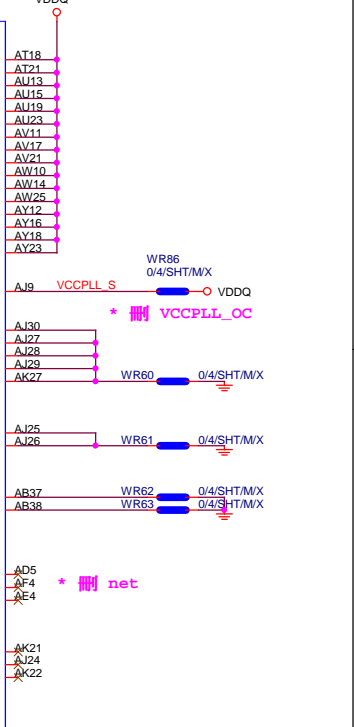
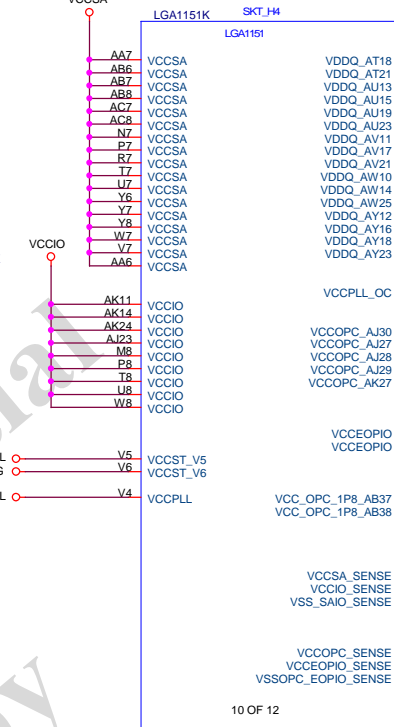
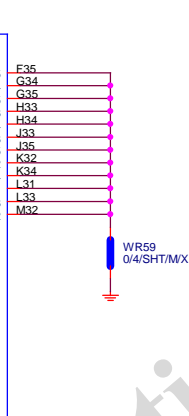
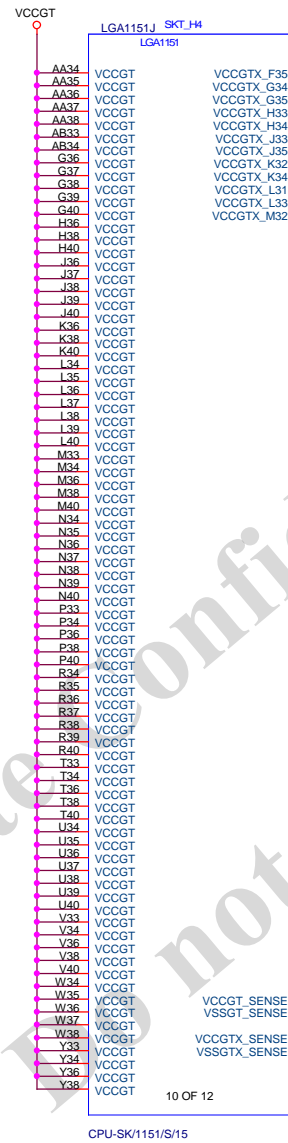
Gigabyte Technology		
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CPU LGA1151-B		
Size	Document Number	Rev
Custom	GA-B150M-D3V	1.0
Date:	Thursday, September 24, 2015	Sheet 5 of 52

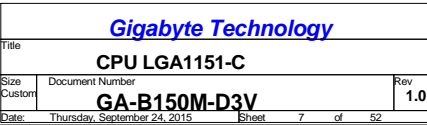


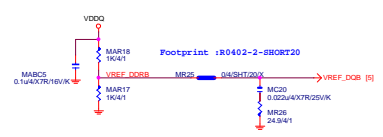
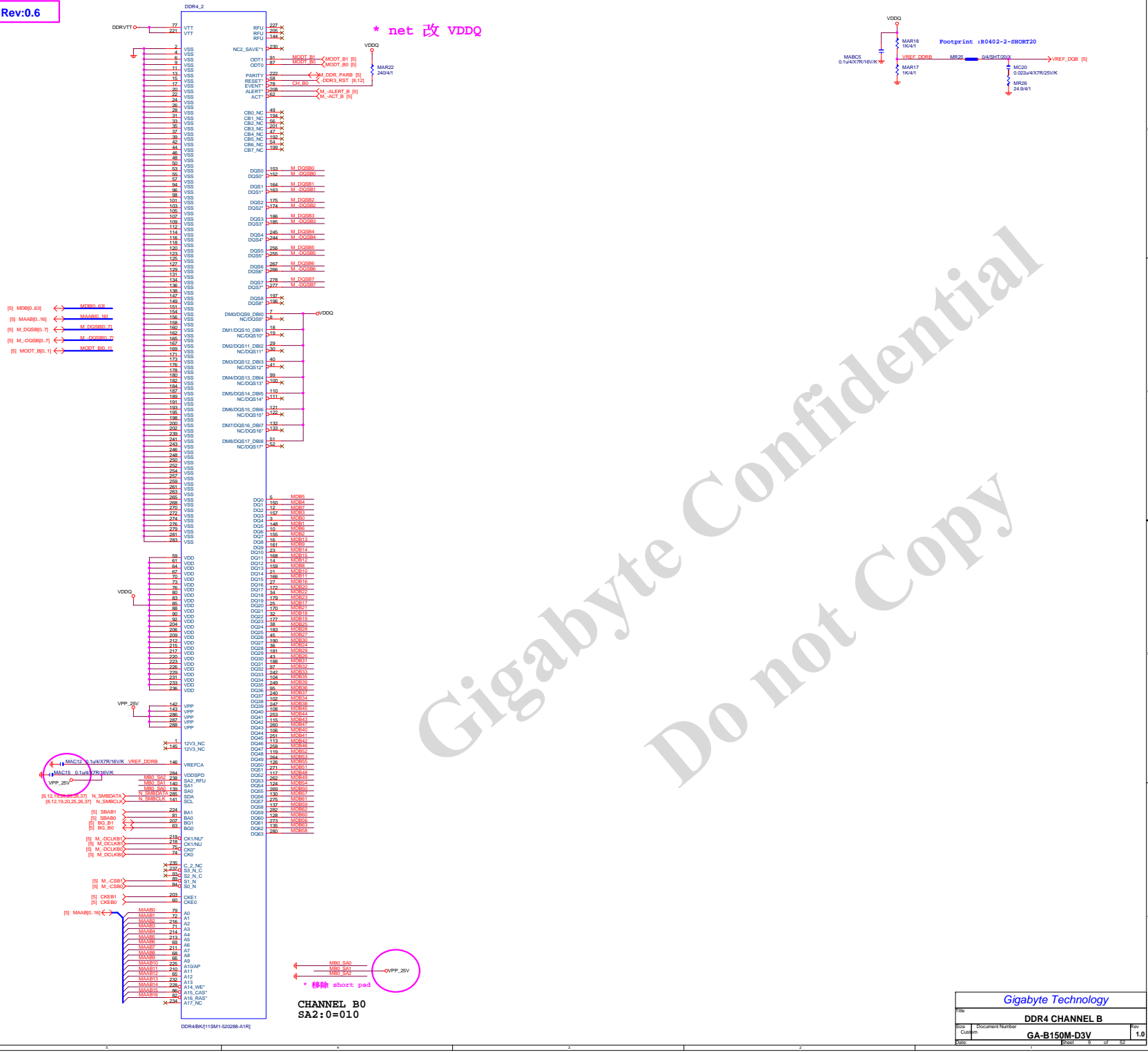
* 刪 WBC124 , WBC125 , WBC126 , WBC127 電容

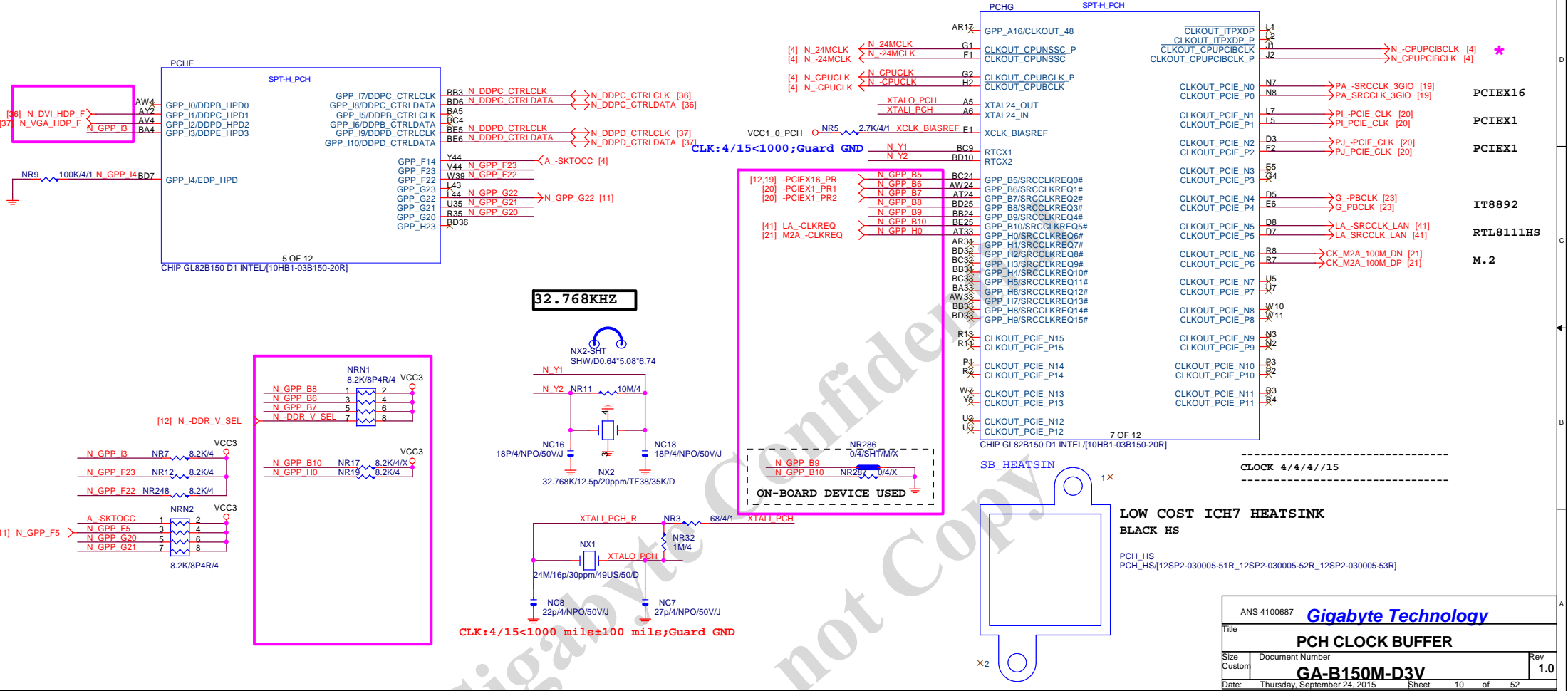


* 刪 VCCGT 電容

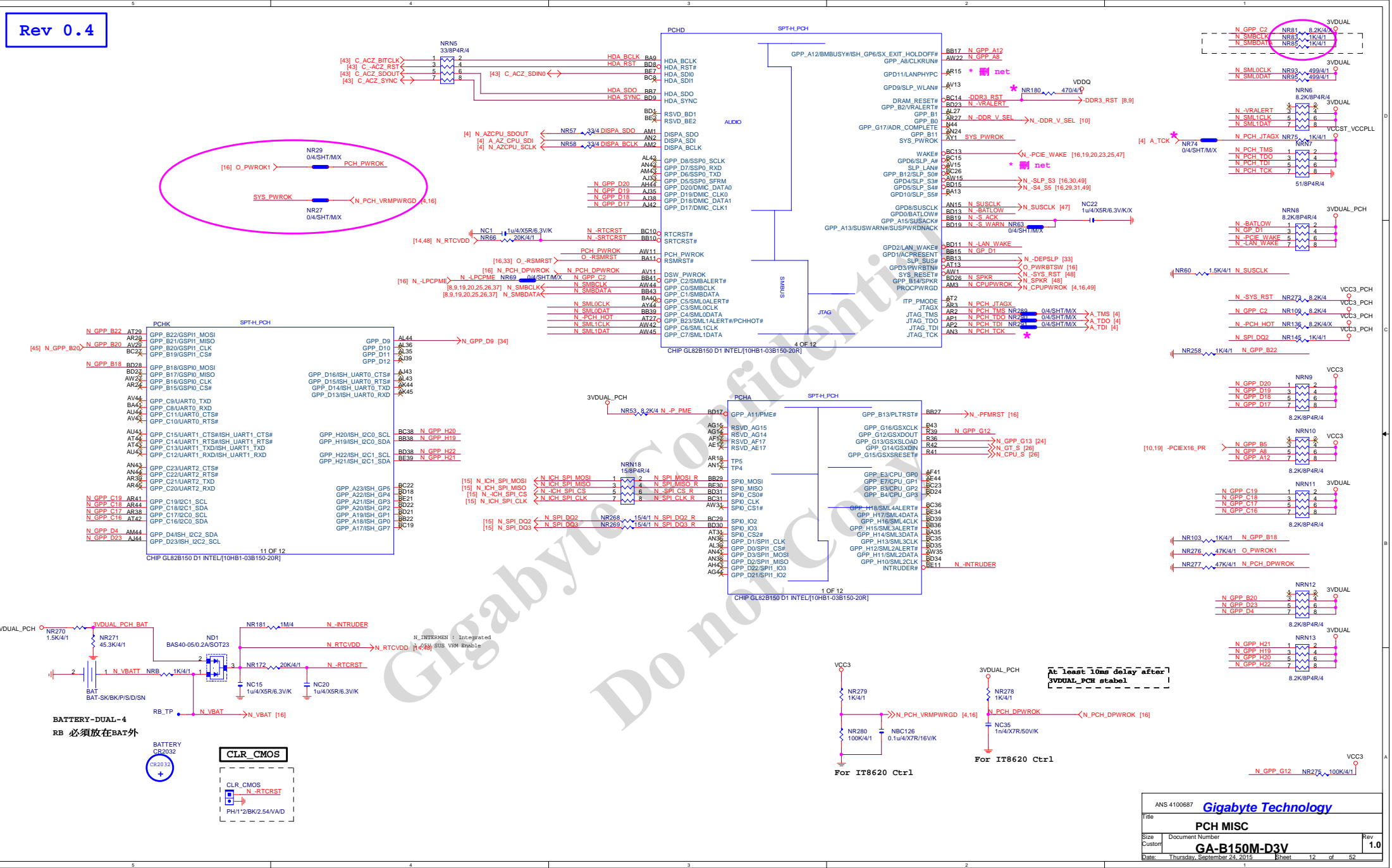


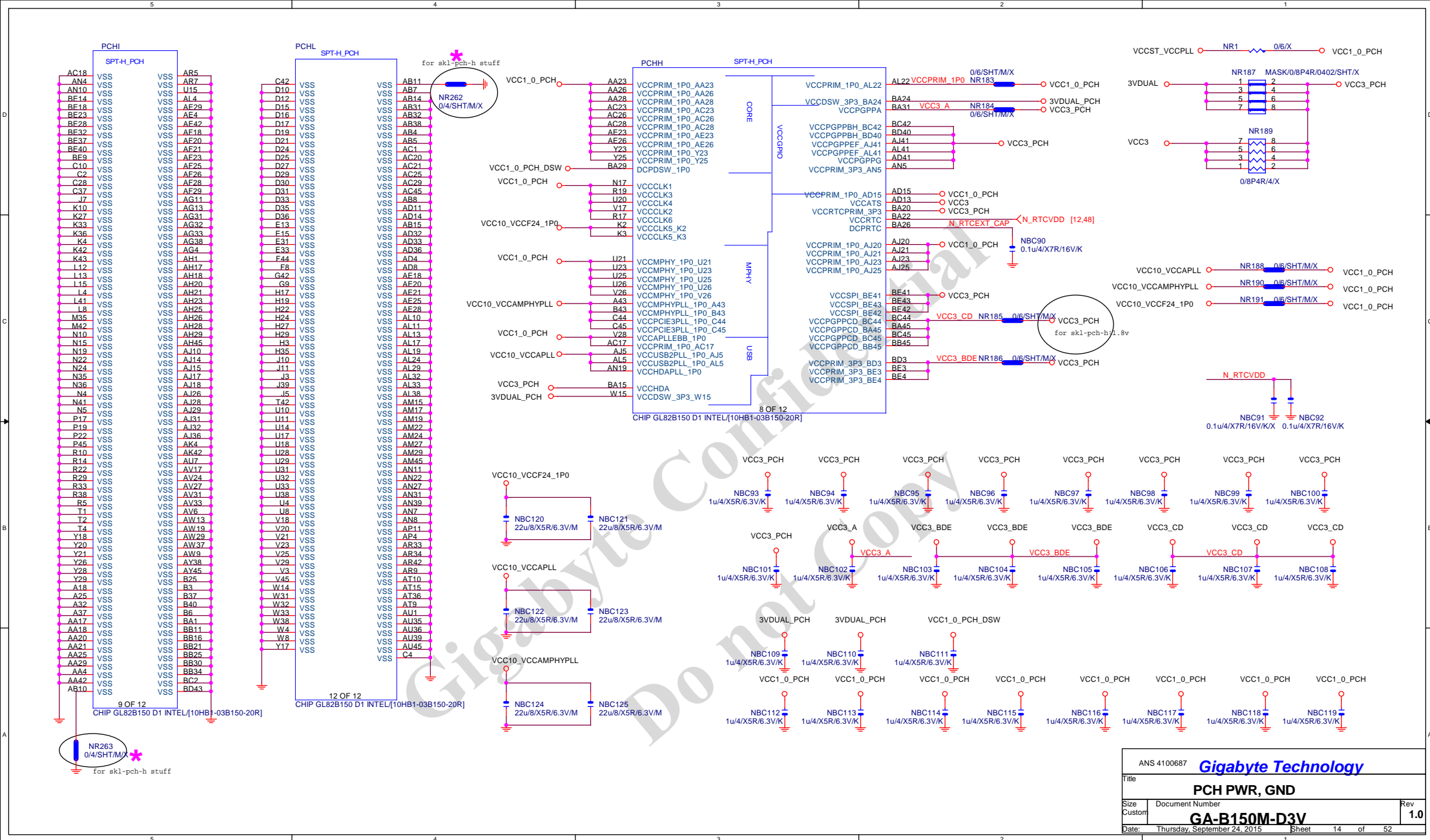






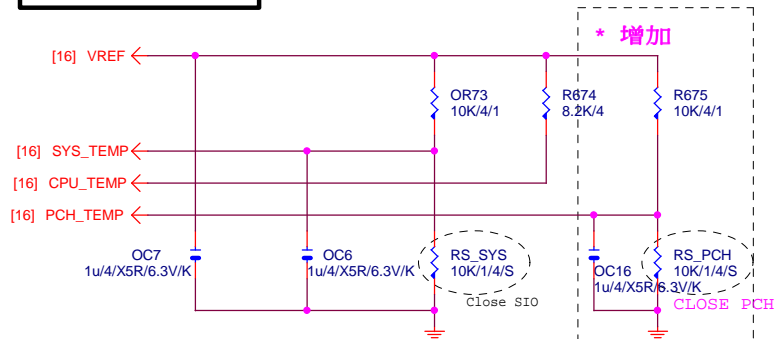
ANS 4100687		Gigabyte Technology	
Title		PCH CLOCK BUFFER	
Size	Document Number	Rev	
Custom	GA-B150M-D3V	1.0	
Date:	Thursday, September 24, 2015	Sheet	10 of 52



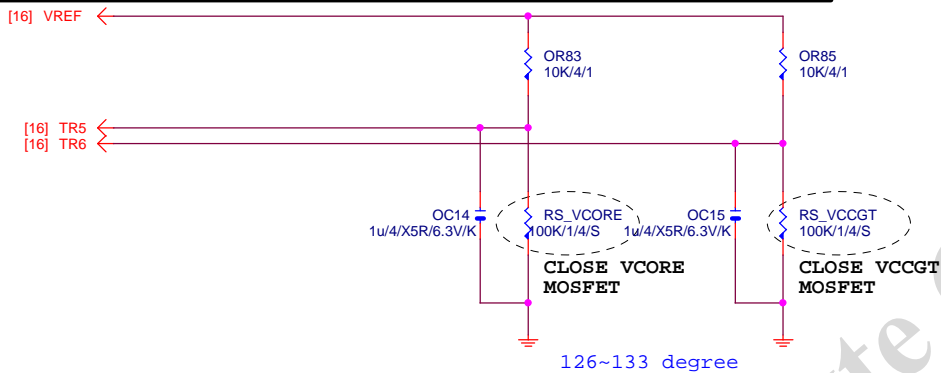


TEMP H/W MONITOR

REV 1.04



RS_VCORE, RS_VCCGT, CLOSE CPU_VCORE & VCCGT MOSFET

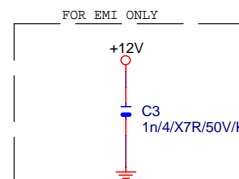
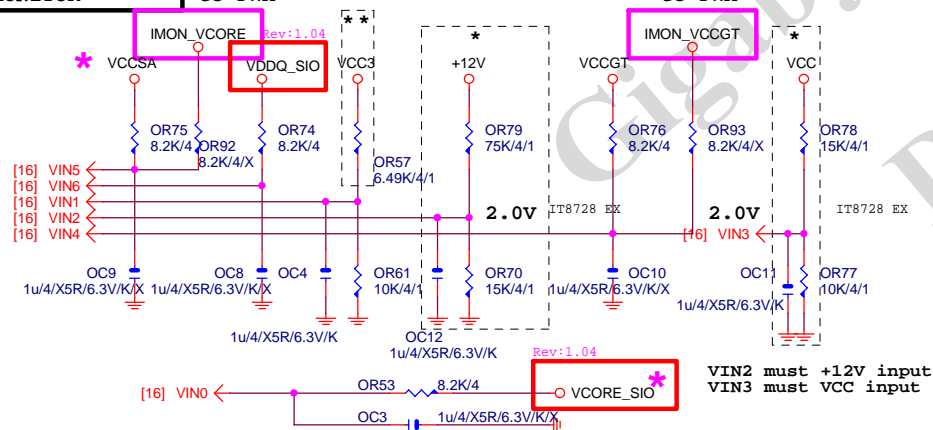
~~PROCHOT: 有mos heartsink不用prochot function~~

VOLTAGE-- H/W MONITOR

Connect to PWM

* IT8728 BX
** IT8728 CX

Connect to PWM



Gigabyte Technology

Title

HWM,KB/MS, FAN CTRL

Size

Document Number

Rev

Custom

GA-B150M-D3V

1.0

Date:

Thursday, September 24, 2015

Sheet

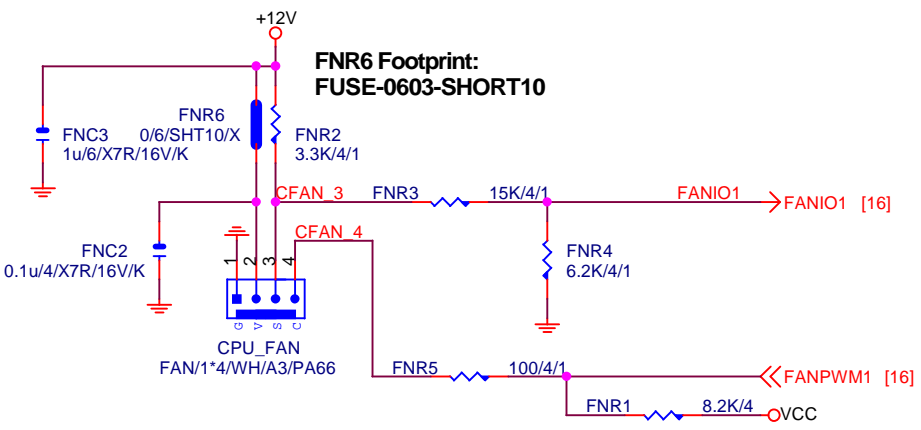
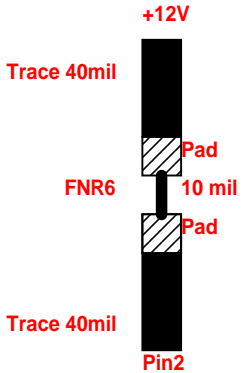
17

of

52

CPU SMART FAN

Rev: 0.53

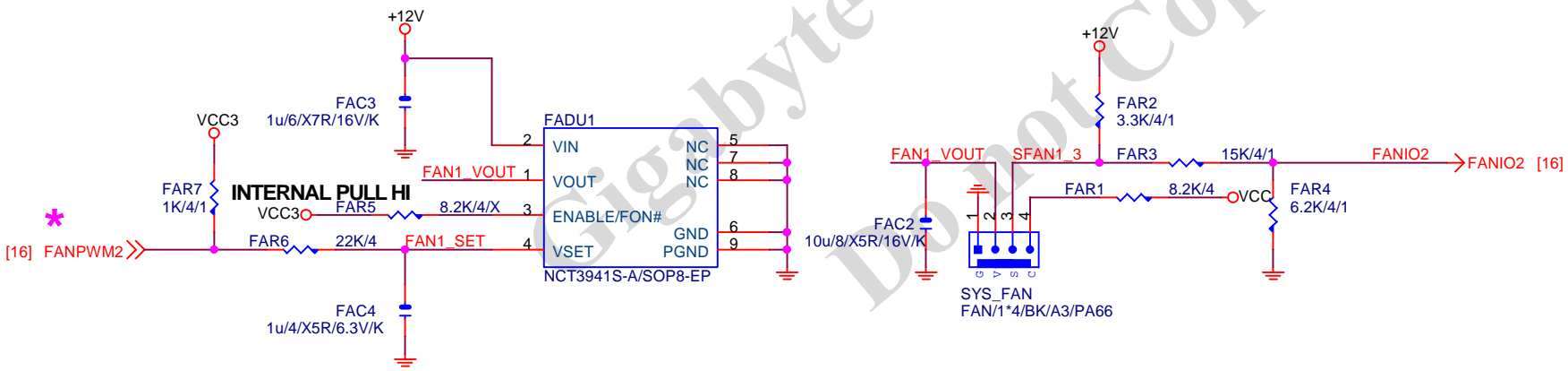


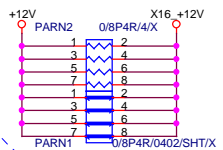
SYSTEM FAN1

Linear SYS_FAN

Enable Function (NCT3941S)

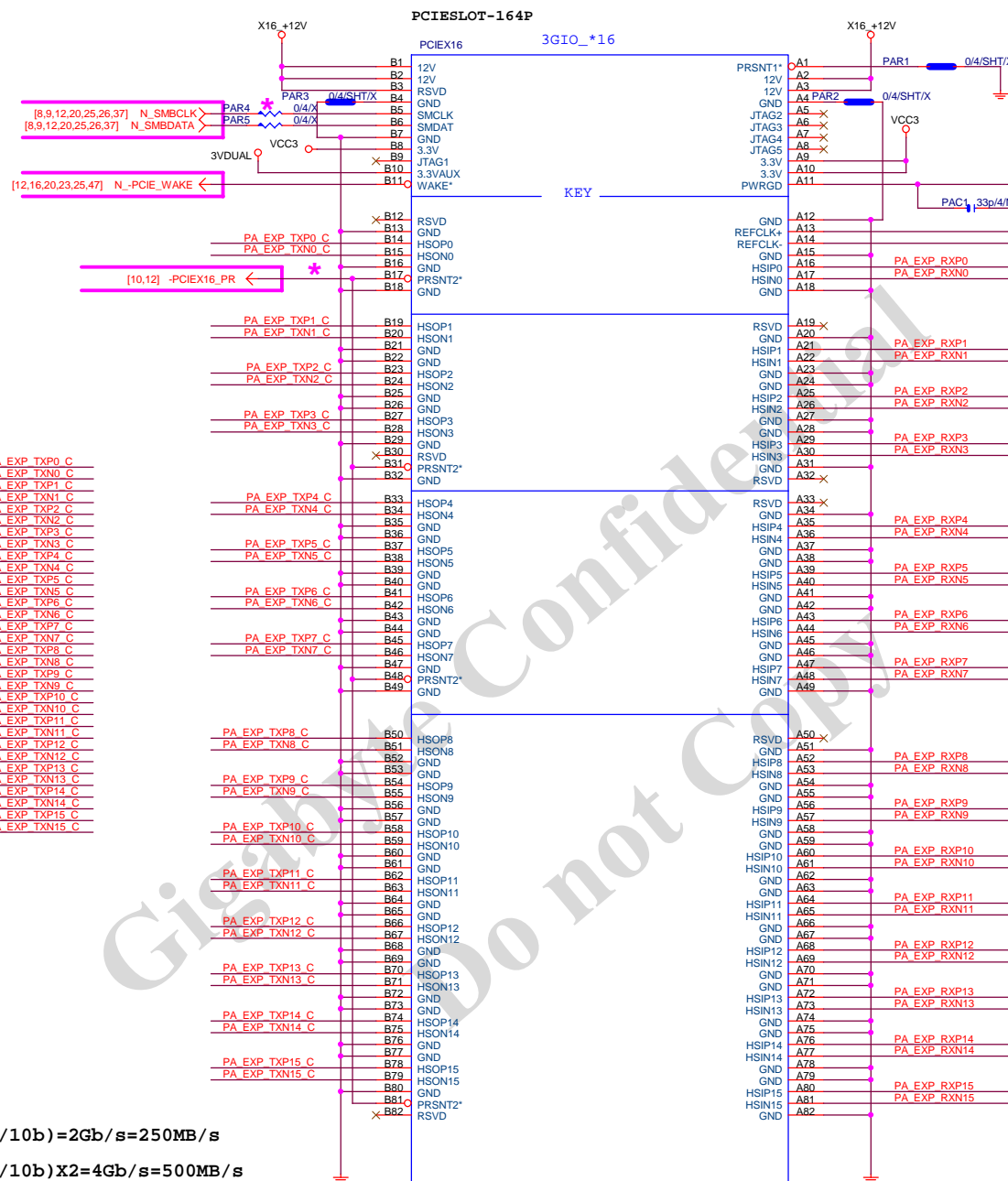
Full Turn On Function
(NCT3941S-A)



* +12 protect
short-wire test

PA_EXP_RXP0_15] >> PA_EXP_RXP[0..15] [4]
PA_EXP_RXN0_15] >> PA_EXP_RXN[0..15] [4]
PA_EXP_TXP0_15] >> PA_EXP_TXP[0..15] [4]
PA_EXP_TXN0_15] >> PA_EXP_TXN[0..15] [4]

PA_EXP_TXP0	PAC5	0.22u4/X5R/6.3V/K	PA_EXP_TXP0 C
PA_EXP_TXN0	PAC4	0.22u4/X5R/6.3V/K	PA_EXP_TXN0 C
PA_EXP_TXP1	PAC6	0.22u4/X5R/6.3V/K	PA_EXP_TXP1 C
PA_EXP_TXN1	PAC7	0.22u4/X5R/6.3V/K	PA_EXP_TXN1 C
PA_EXP_TXP2	PAC8	0.22u4/X5R/6.3V/K	PA_EXP_TXP2 C
PA_EXP_TXN2	PAC9	0.22u4/X5R/6.3V/K	PA_EXP_TXN2 C
PA_EXP_TXP3	PAC10	0.22u4/X5R/6.3V/K	PA_EXP_TXP3 C
PA_EXP_TXN3	PAC11	0.22u4/X5R/6.3V/K	PA_EXP_TXN3 C
PA_EXP_TXP4	PAC12	0.22u4/X5R/6.3V/K	PA_EXP_TXP4 C
PA_EXP_TXN4	PAC13	0.22u4/X5R/6.3V/K	PA_EXP_TXN4 C
PA_EXP_TXP5	PAC14	0.22u4/X5R/6.3V/K	PA_EXP_TXP5 C
PA_EXP_TXN5	PAC15	0.22u4/X5R/6.3V/K	PA_EXP_TXN5 C
PA_EXP_TXP6	PAC16	0.22u4/X5R/6.3V/K	PA_EXP_TXP6 C
PA_EXP_TXN6	PAC17	0.22u4/X5R/6.3V/K	PA_EXP_TXN6 C
PA_EXP_TXP7	PAC18	0.22u4/X5R/6.3V/K	PA_EXP_TXP7 C
PA_EXP_TXN7	PAC19	0.22u4/X5R/6.3V/K	PA_EXP_TXN7 C
PA_EXP_TXP8	PAC21	0.22u4/X5R/6.3V/K	PA_EXP_TXP8 C
PA_EXP_TXN8	PAC20	0.22u4/X5R/6.3V/K	PA_EXP_TXN8 C
PA_EXP_TXP9	PAC22	0.22u4/X5R/6.3V/K	PA_EXP_TXP9 C
PA_EXP_TXN9	PAC23	0.22u4/X5R/6.3V/K	PA_EXP_TXN9 C
PA_EXP_TXP10	PAC24	0.22u4/X5R/6.3V/K	PA_EXP_TXP10 C
PA_EXP_TXN10	PAC25	0.22u4/X5R/6.3V/K	PA_EXP_TXN10 C
PA_EXP_TXP11	PAC26	0.22u4/X5R/6.3V/K	PA_EXP_TXP11 C
PA_EXP_TXN11	PAC27	0.22u4/X5R/6.3V/K	PA_EXP_TXN11 C
PA_EXP_TXP12	PAC28	0.22u4/X5R/6.3V/K	PA_EXP_TXP12 C
PA_EXP_TXN12	PAC29	0.22u4/X5R/6.3V/K	PA_EXP_TXN12 C
PA_EXP_TXP13	PAC30	0.22u4/X5R/6.3V/K	PA_EXP_TXP13 C
PA_EXP_TXN13	PAC31	0.22u4/X5R/6.3V/K	PA_EXP_TXN13 C
PA_EXP_TXP14	PAC32	0.22u4/X5R/6.3V/K	PA_EXP_TXP14 C
PA_EXP_TXN14	PAC33	0.22u4/X5R/6.3V/K	PA_EXP_TXN14 C
PA_EXP_TXP15	PAC34	0.22u4/X5R/6.3V/K	PA_EXP_TXP15 C
PA_EXP_TXN15	PAC35	0.22u4/X5R/6.3V/K	PA_EXP_TXN15 C



PCI-E/16X-164P/GY/LONG DOUBLE/HK*2

R01A

PCIE16:16/5/5/5/16

PCI-E REV:1.1--> 2.5GHZ

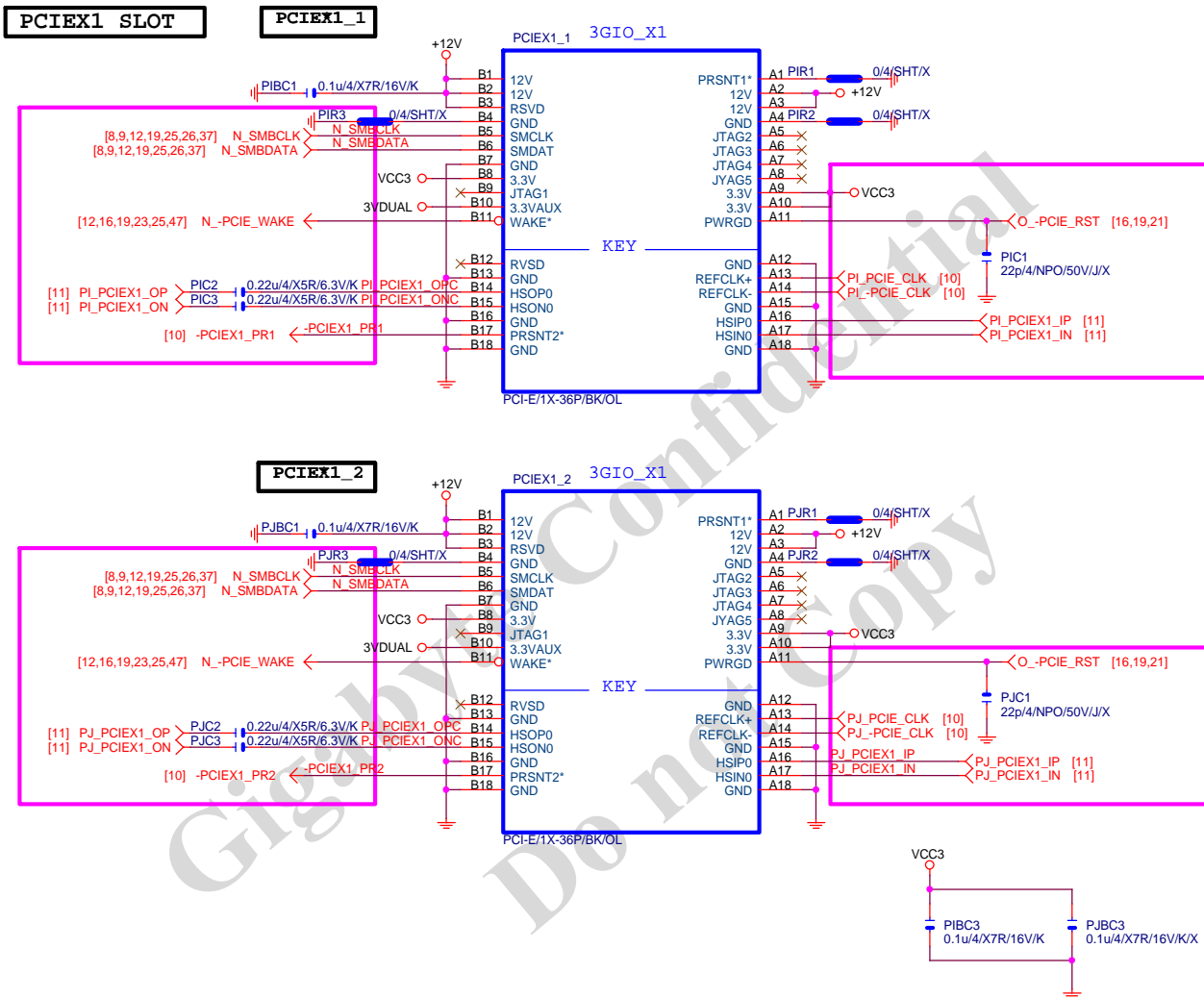
PCE-E X1(單向) BANDWIDTH=2.5GHz*(8b/10b)=2Gb/s=250MB/s

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

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

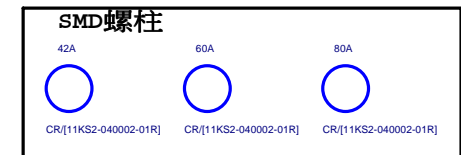
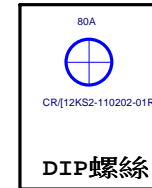
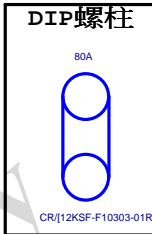
PCE-E X16(雙向) BANDWIDTH=2.5GHz*(8b/10b)X16X2=64Gb/s=8GB/s

PCI-E REV:2.0--> 5GHZ

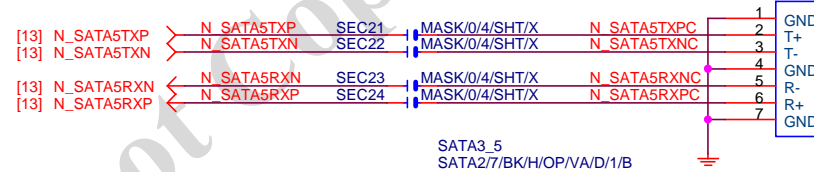
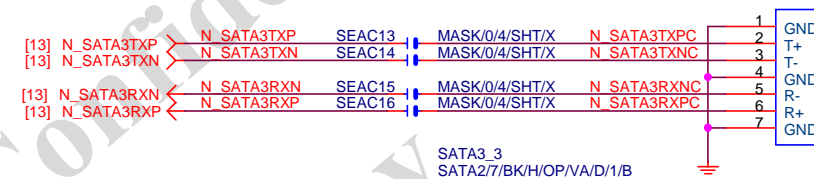
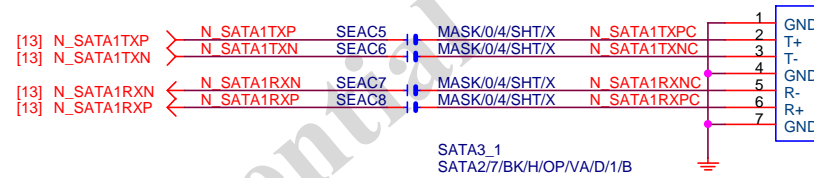
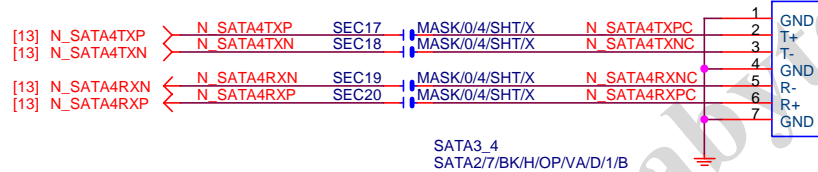
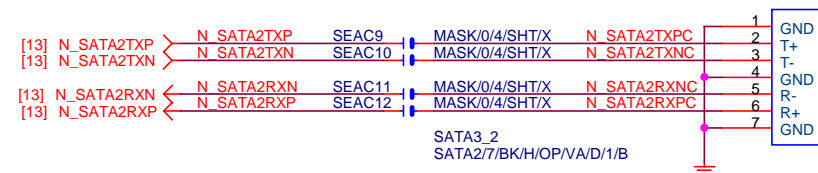
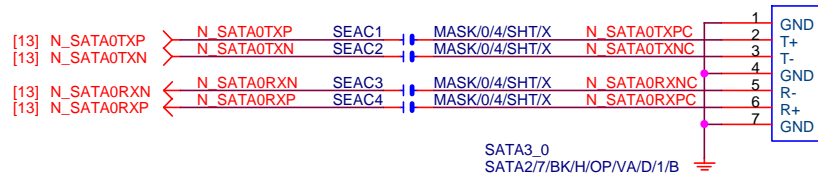


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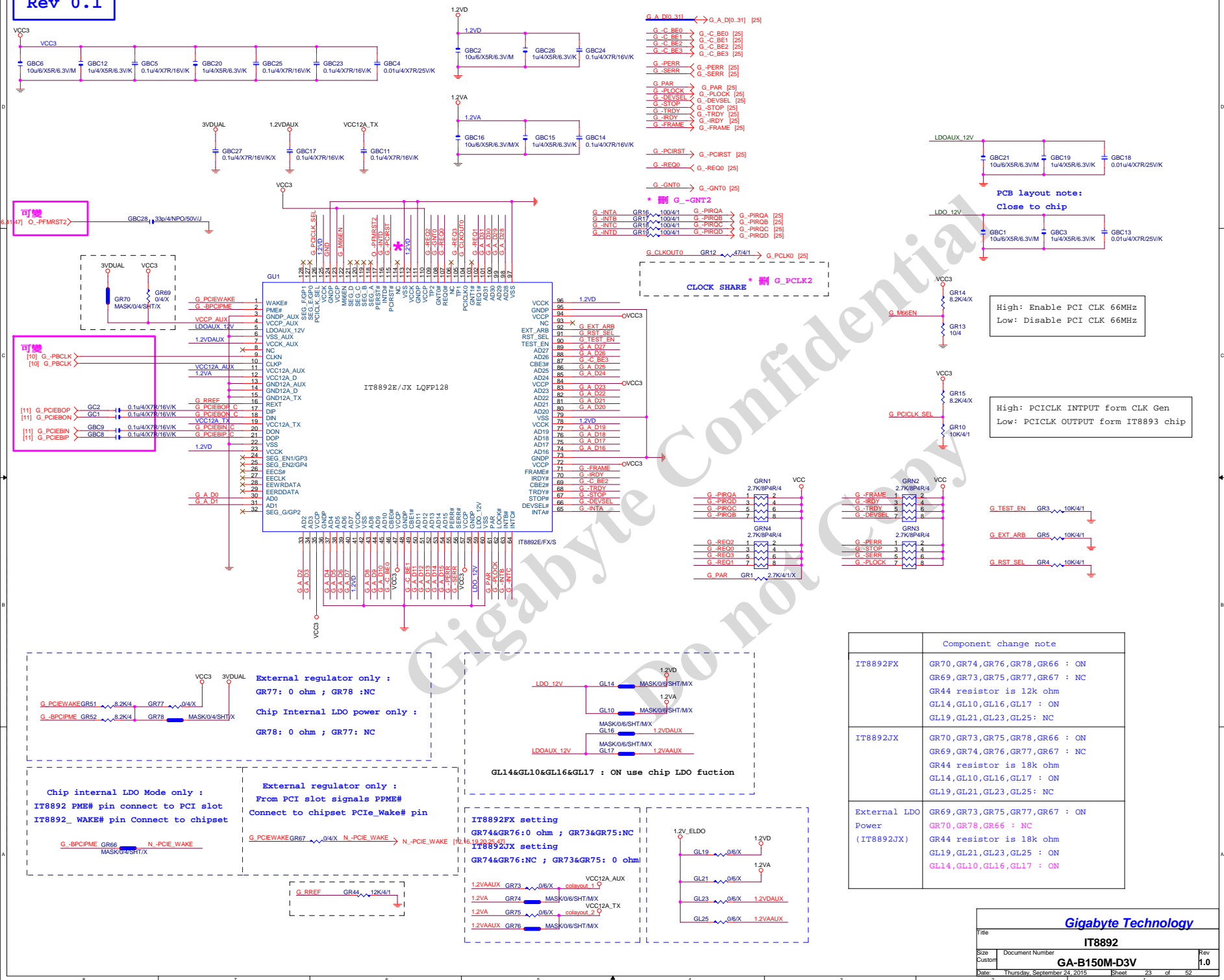
Title		PCIE_X1 1,2	Rev 1.0
Size	Document Number	GA-B150M-D3V	
Date:	Thursday, September 24, 2015	Sheet 20 of 52	



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	I015 (S0)	I016 (S1)	I017	I018	I019 (S0)	IP20 (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	

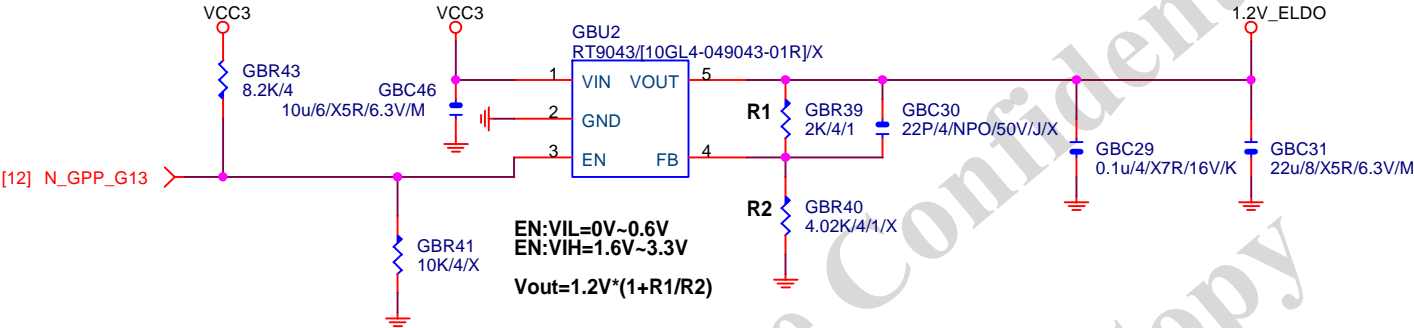
**Gigabyte Technology**

Title		
SATA EXPRESS		
Size	Document Number	Rev
Custom	GA-B150M-D3V	1.0
Date:	Thursday, September 24, 2015	Sheet 1 of 52



	Component change note
IT8892FX	GR70, GR74, GR76, GR78, GR66 : ON GR69, GR73, GR75, GR77, GR67 : NC GR44 resistor is 12k ohm GL14, GL10, GL16, GL17 : ON GL19, GL21, GL23, GL25 : NC
IT8892JX	GR70, GR73, GR75, GR78, GR66 : ON GR69, GR74, GR76, GR77, GR67 : NC GR44 resistor is 18k ohm GL14, GL10, GL16, GL17 : ON GL19, GL21, GL23, GL25 : NC
External LDO Power (IT8892JX)	GR69, GR73, GR75, GR77, GR67 : ON GR70, GR78, GR66 : NC GR44 resistor is 18k ohm GL19, GL21, GL23, GL25 : ON GL14, GL10, GL16, GL17 : ON

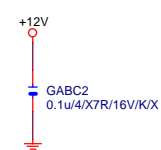
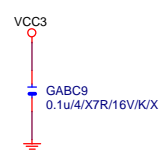
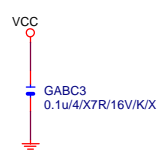
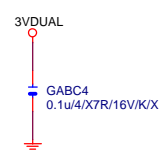
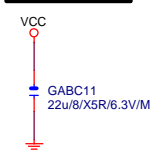
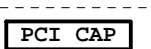
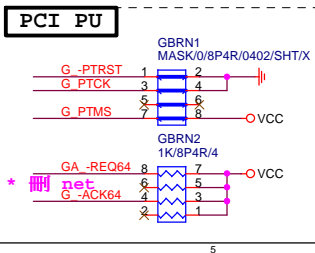
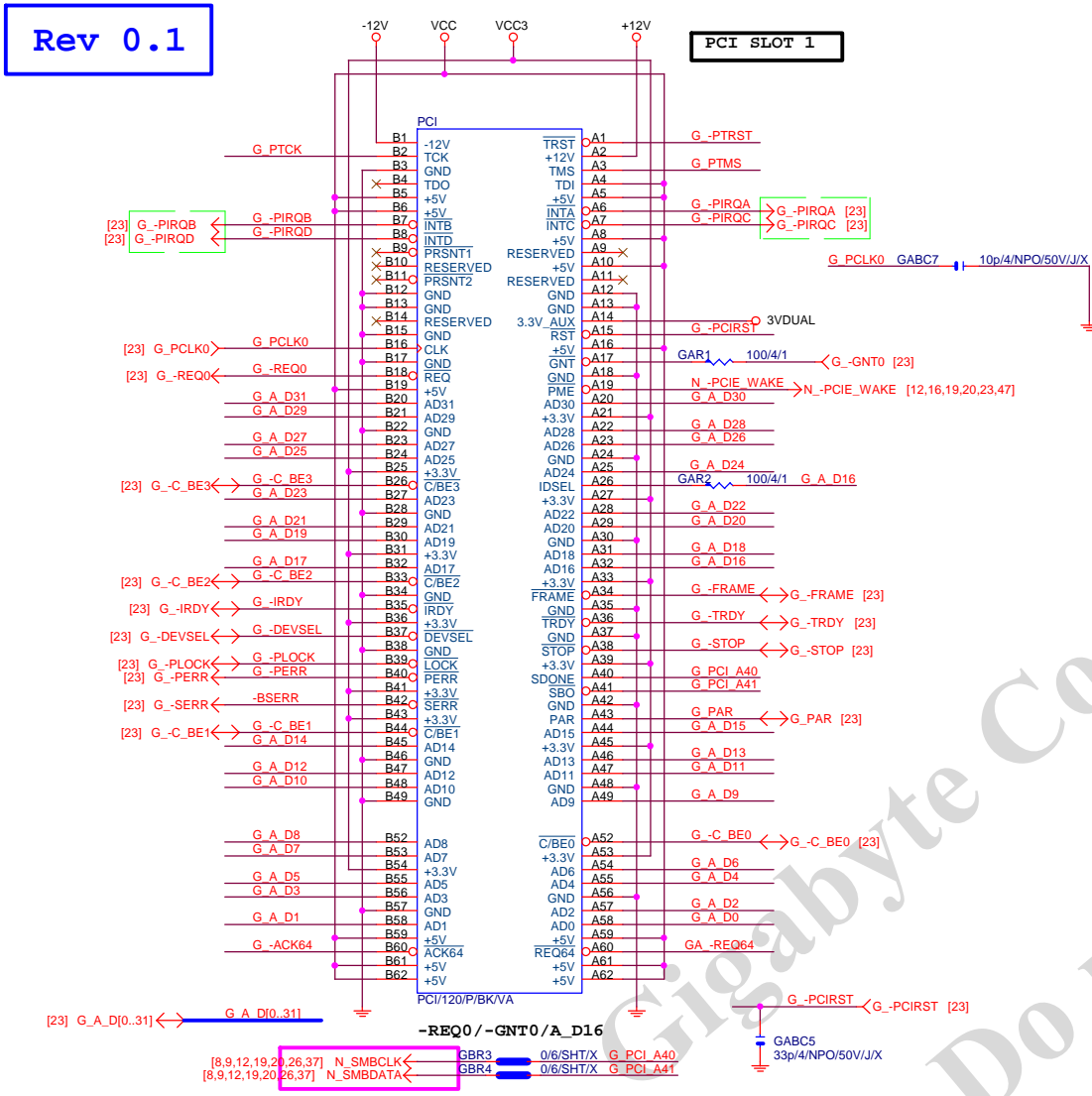
Rev 0.1



Gigabyte Technology

Title		
ASM1085 POWER		
Size	Document Number	Rev
Custom	GA-B150M-D3V	1.0
Date:	Thursday, September 24, 2015	Sheet 24 of 52

Rev 0.1



GIGABYTE™

Title	PCI SLOT 1
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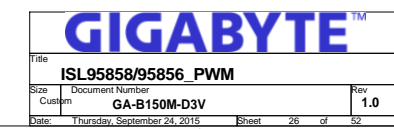
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Size	Document Number	Rev
Custom	GA-B150M-D3V	1.0

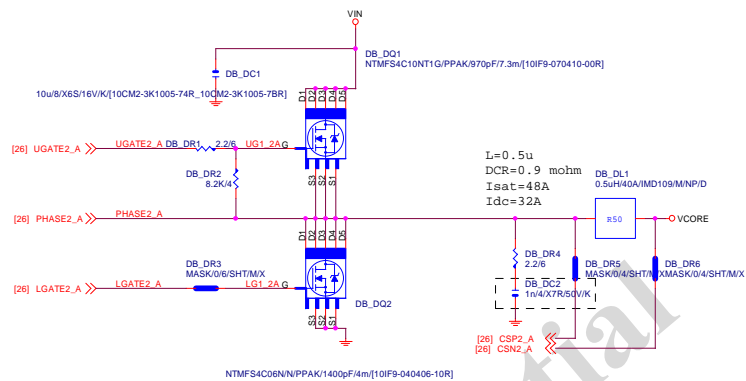
Size	Document Number	Rev
Custom	GA-B150M-D3V	1.0

Date:	Thursday, September 24, 2015	Sheet	25	of	52
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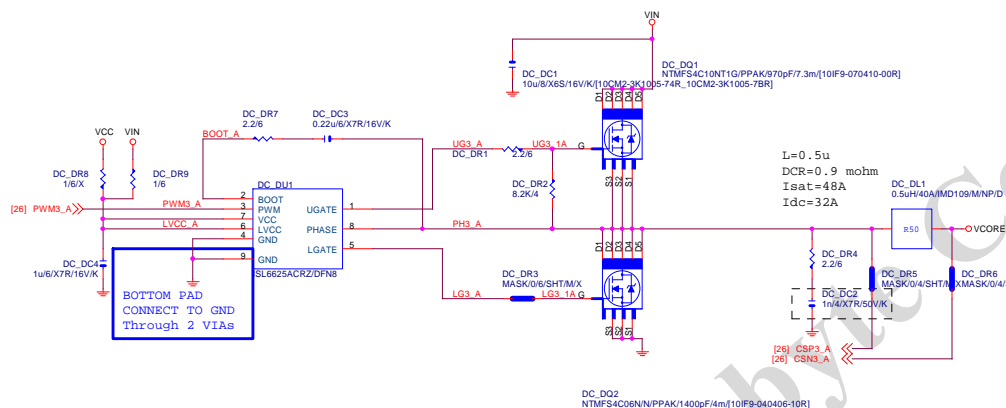
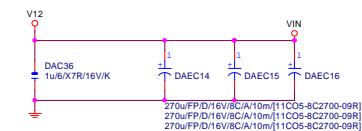
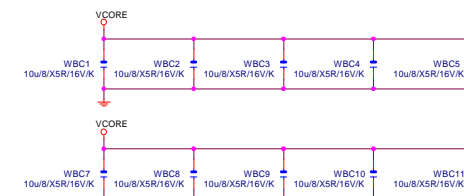
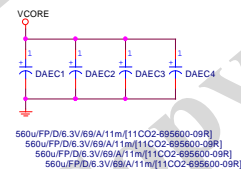
Date:	Thursday, September 24, 2015	Sheet	25	of	52
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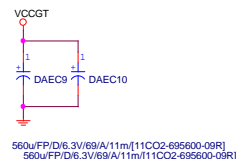


VCORE



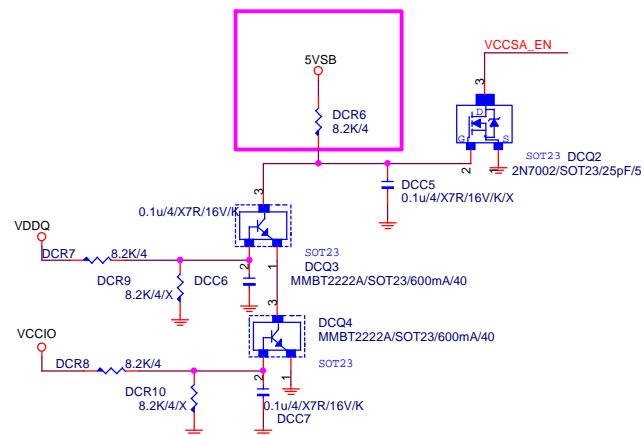
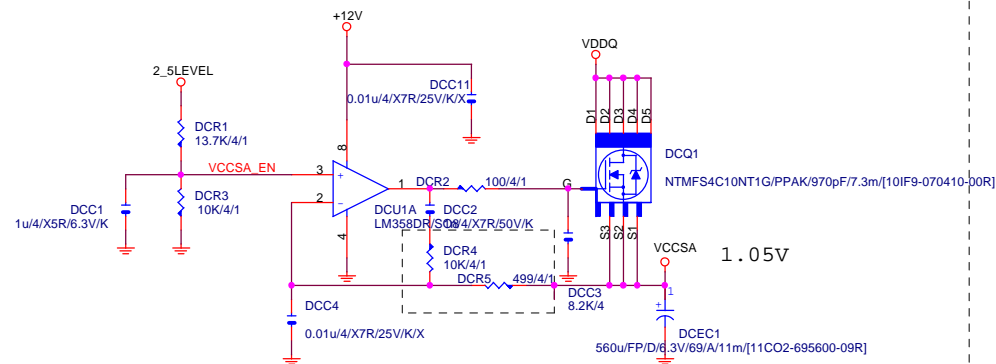
VIN CAP 270u*3PCS

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

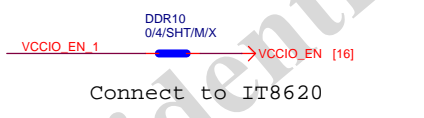
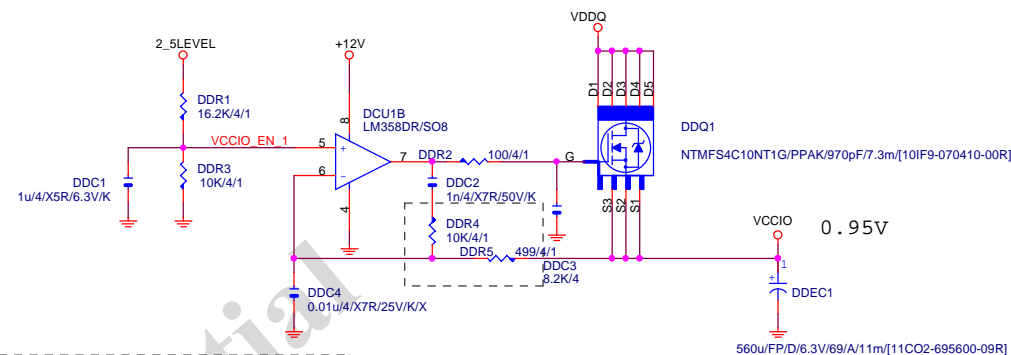


VCCSA

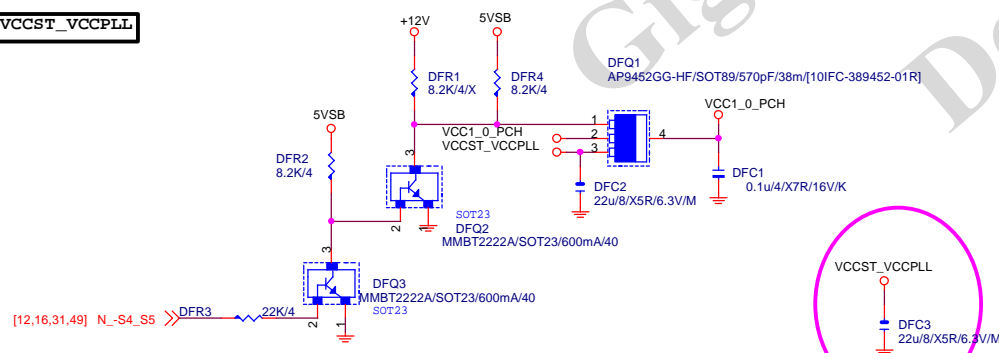
REV:0.4



VCCIO



VCCST_VCCPLL



GIGABYTE™			
Title			
VCCSA_VCCIO			
Size	Document Number	Rev	
Custom	GA-B150M-D3V	1.0	
Date:	Thursday, September 24, 2015	Sheet	29 of 52

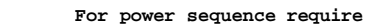


SUPPORT DDR4 1.2V

$L = 0.5 \mu$
 $DCR = 1.05 \text{ mohm}$
 $I_{sat} = 40 \text{ A}$
 $I_{dc} = 30 \text{ A}$

請放置CHOKE一出來位置.先預留.
請自行確認ripple後再決定是否上件

Remote sense請從最重的負載端點拉回



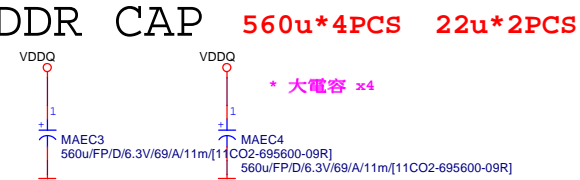
VPP_25V使用8120時上件



DDR_VTT_CTL MAR110 0/4 DDRVTT_EN
N -SLP S3 MAR111 0/4 DDRVTT_BOOT

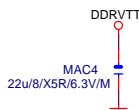
MAU1上NCT3103S時上件(不可以改short pad)

DDRVTT CAP



* 大電容 x4

* 大電容 x0



GIGABYTE™

Title	RT8120_DDR_POWER
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Size	Document Number
Custom	GA-B150M-D3V

Rev	1.0
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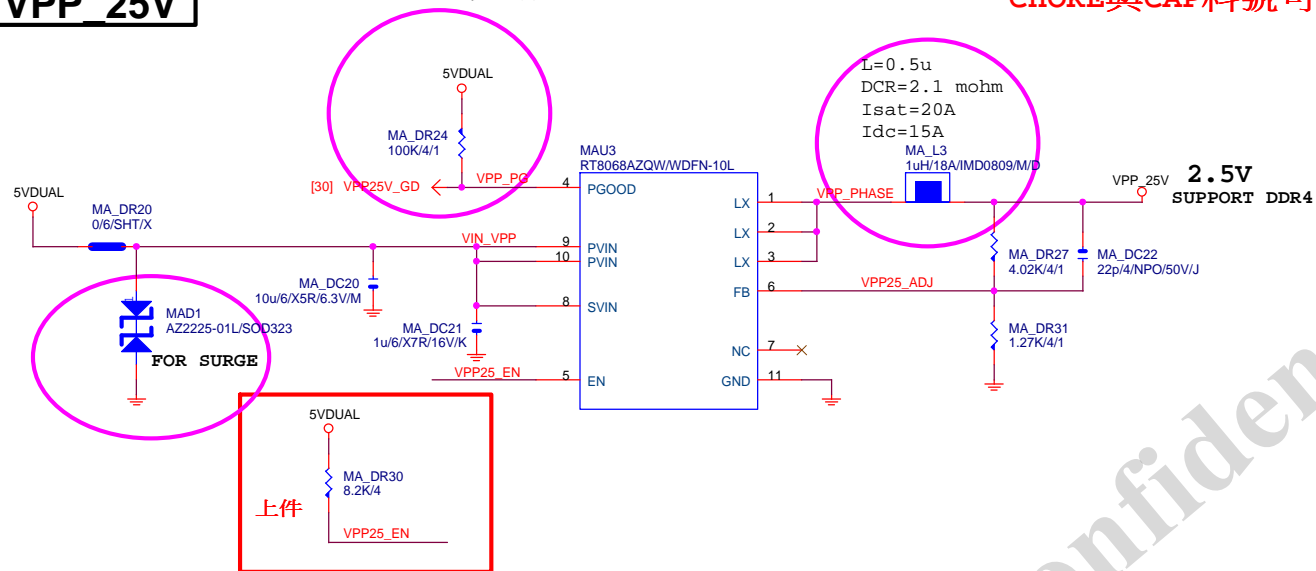
Date: Thursday, September 24, 2015 Sheet 30 of 52

REV:0.33

VPP_25V

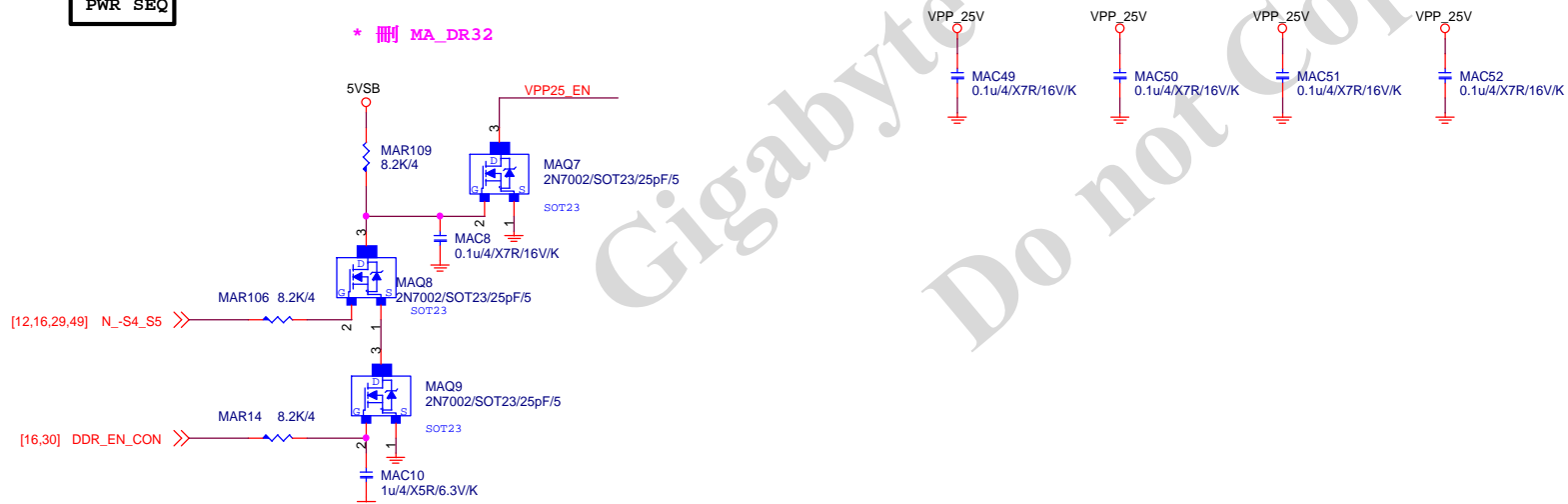
VPP25V_GD不能使用會亂打

CHOKER與CAP料號可變



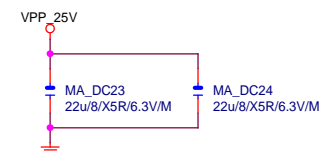
PWR_SEQ

* 刪 MA_DR32



VPP CAP 22u*1PCS

* 大電容 x0

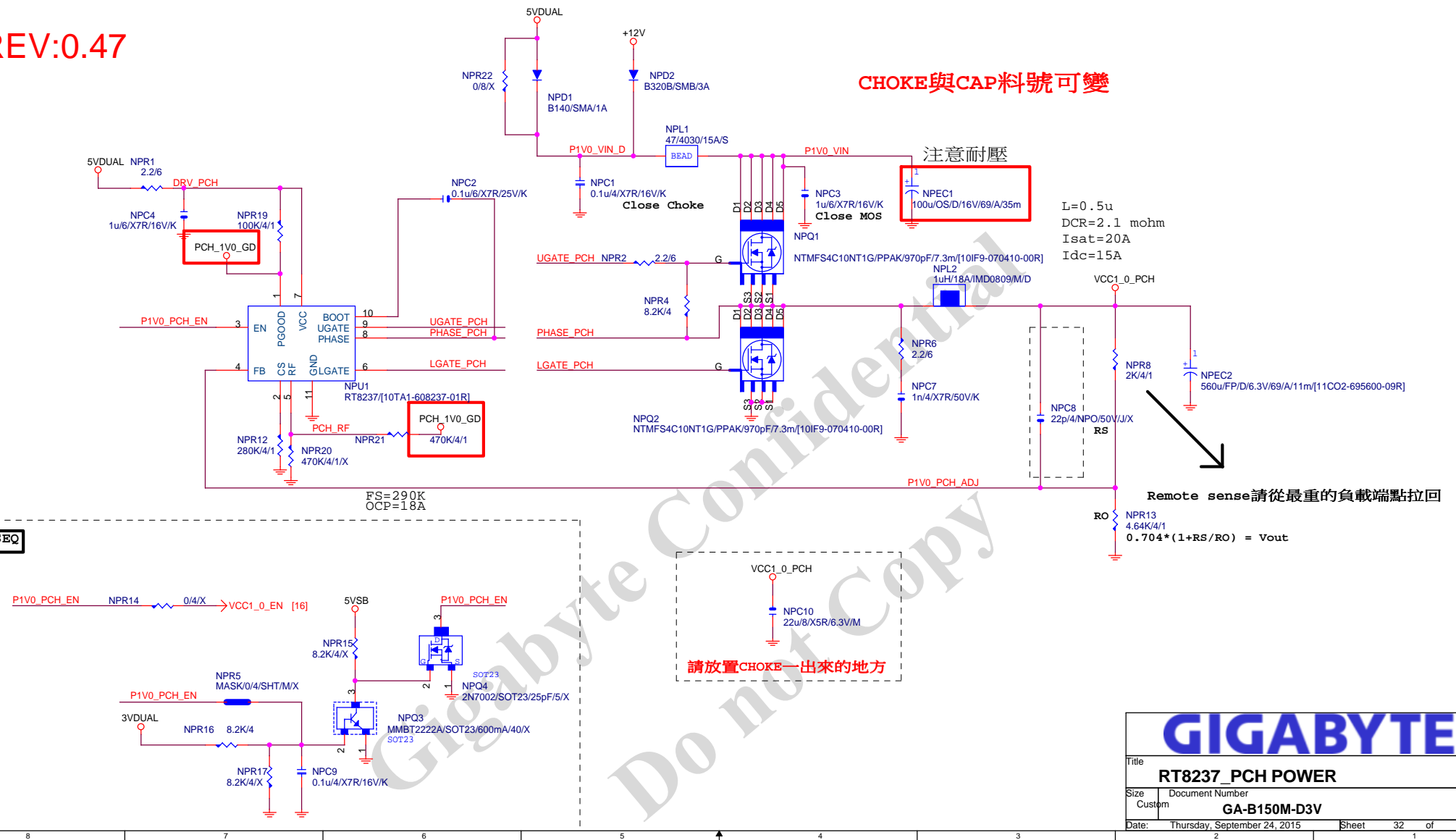


GIGABYTE™

Title		
RT8068A_VPP25 POWER		
Size	Document Number	Rev
Custom	GA-B150M-D3V	1.0
Date:	Thursday, September 24, 2015	Sheet 31 of 52

REV:0.47

CHOKE與CAP料號可變



GIGABYTE™

Title		
RT8237_PCH POWER		
Size	Document Number	Rev
Custom	GA-B150M-D3V	1.0
Date: Thursday, September 24, 2015		
Sheet 32 of 52		

* 5Vdual , update
from SKL 0.2B

[16] 5VAUX_SW

[16] 5VAUX_SW

3VDUAL

[12] N_-DEPSLP

Gigabyte Technology

Title			
DISCRETE POWER			
Size	Document Number	GA-B150M-D3V	Rev 1.0
Custom			
Date:	Thursday, September 24, 2015	Sheet 33 of 52	

Rise/Fall max 50us

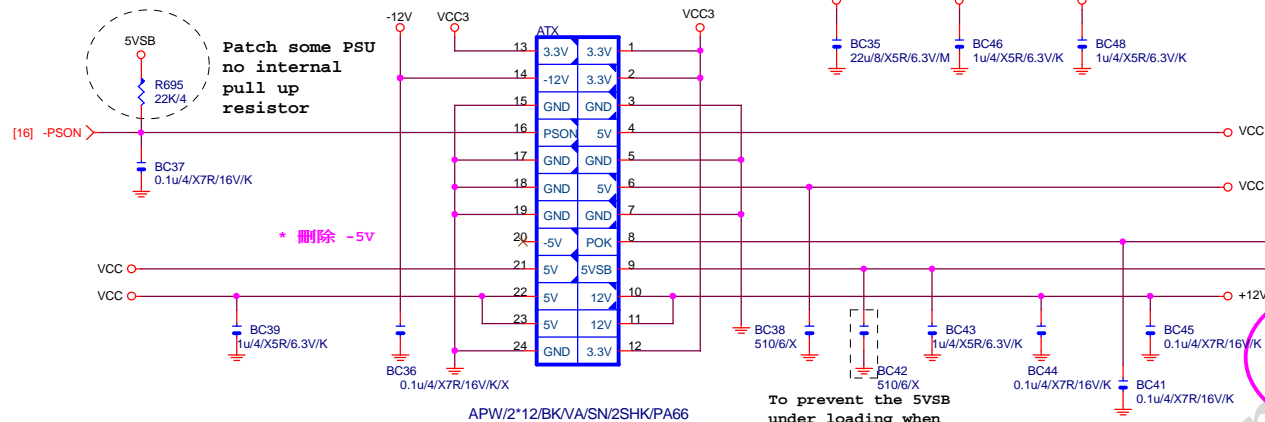
Rise:20% - 80%

Fall :2V- 0.8V

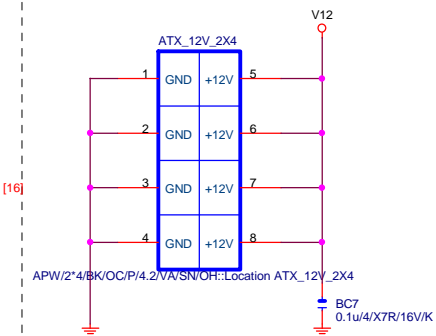
上22u 电容

Meet the rise time

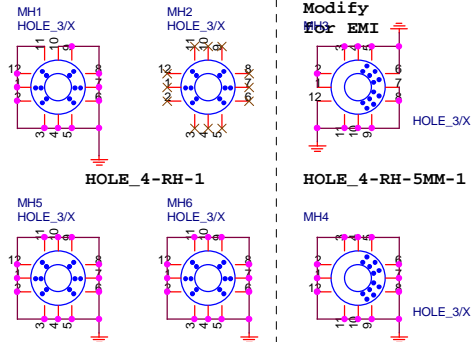
ATXX24 POWER CONNECTOR



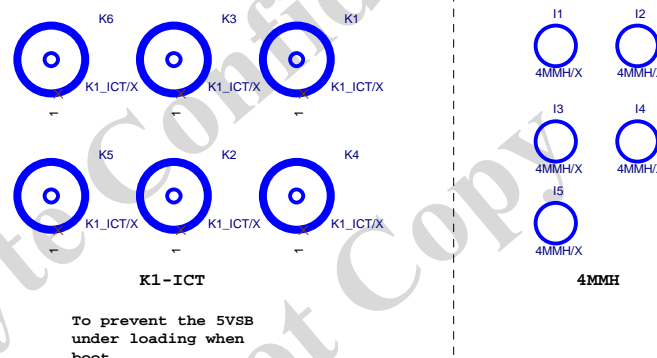
ATXX4 POWER CONNECTOR



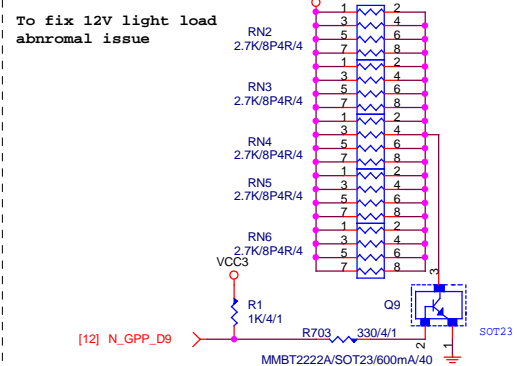
螺絲孔



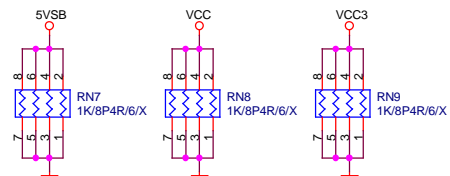
固定孔/光學點



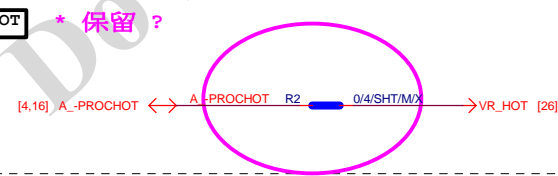
+12V DUMMY LOAD



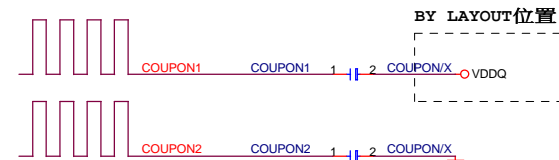
DUMMY LOAD



-PROHOT

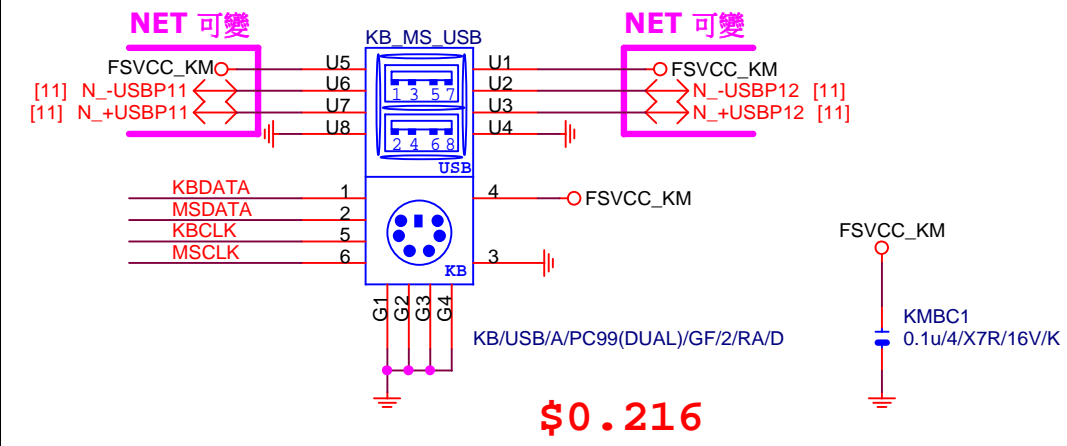


COUPON

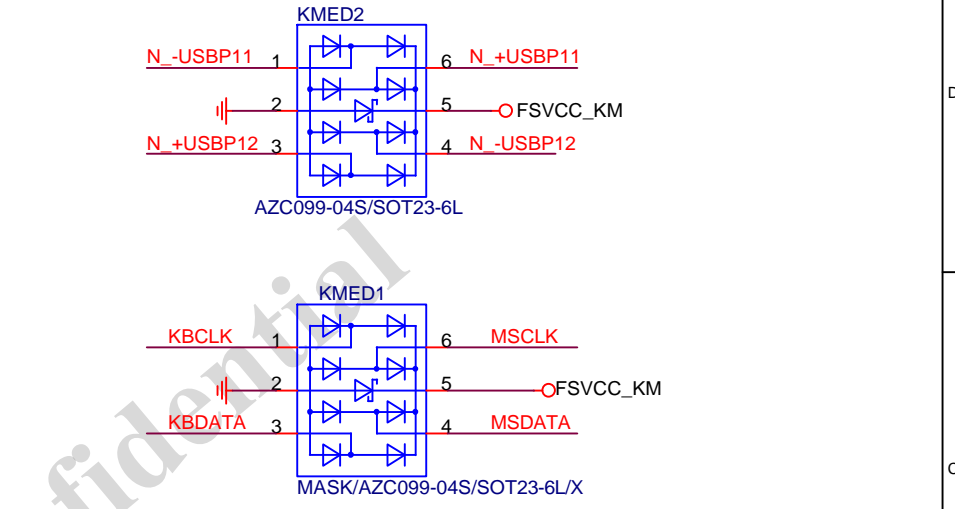


Gigabyte Technology

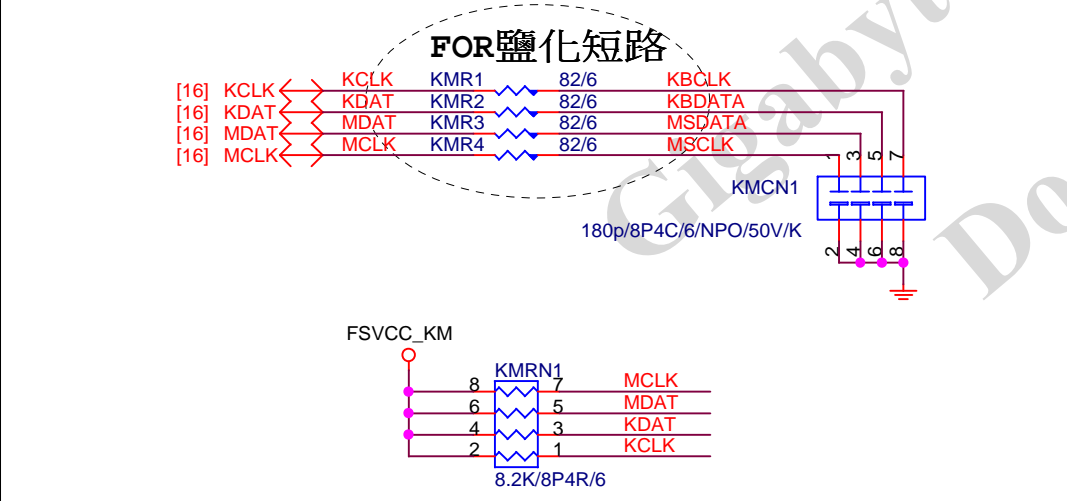
Title		
ATX POWER CONNECTOR		
Size	Document Number	Rev
Custom	GA-B150M-D3V	1.0
Date:	Thursday, September 24, 2015	Sheet 34 of 52



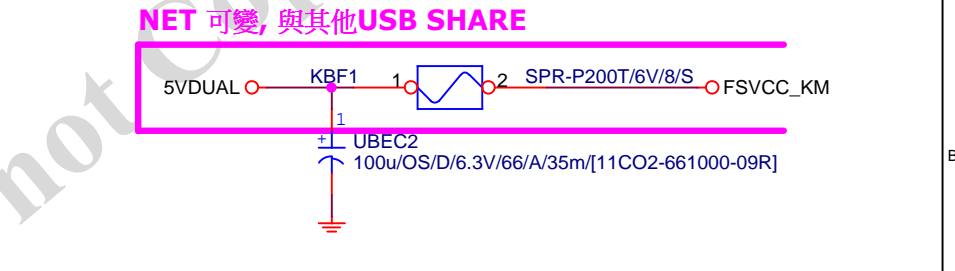
ESD



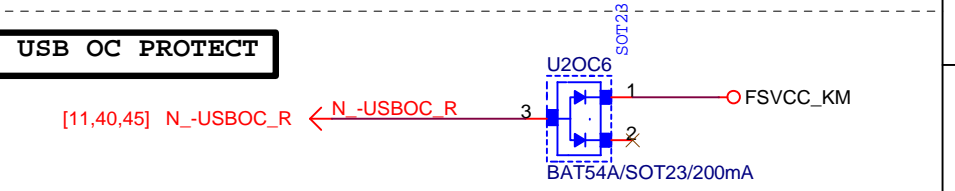
KB_MS_USB DAMPING/PU



KB_MS_USB PWR

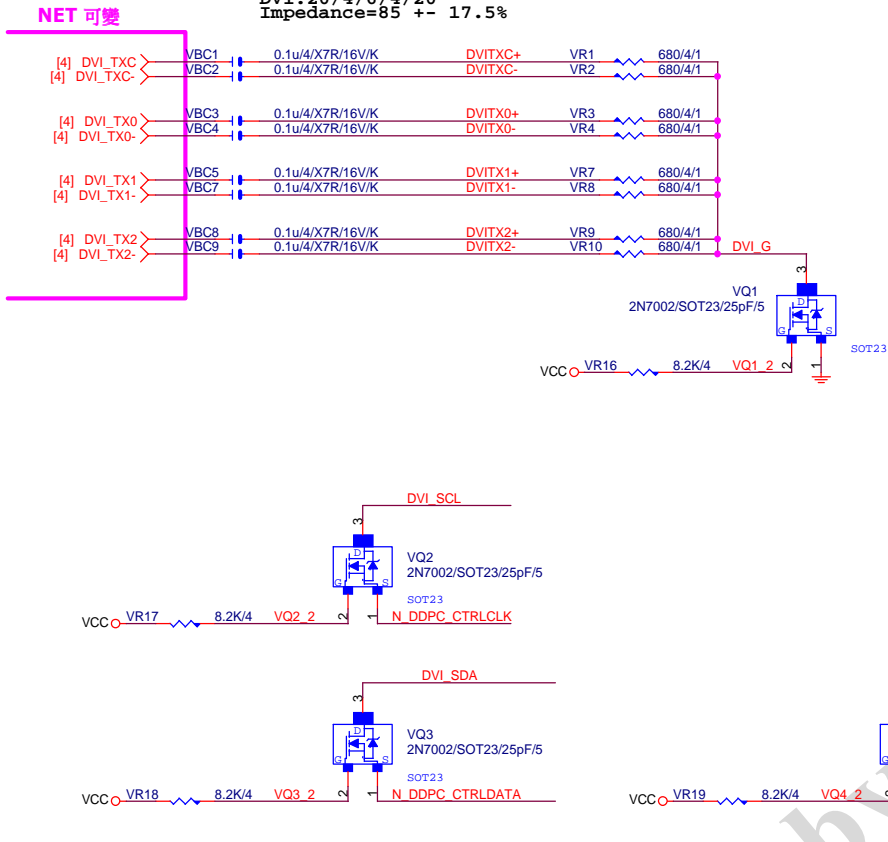


USB OC PROTECT

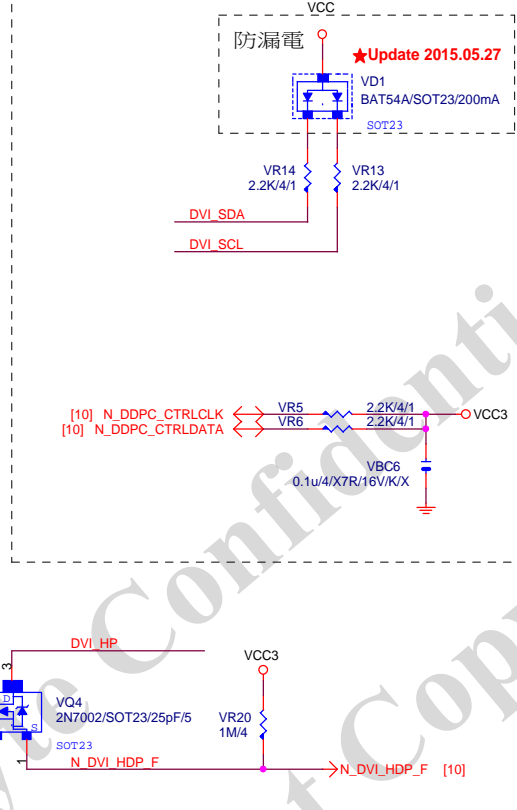


DVI

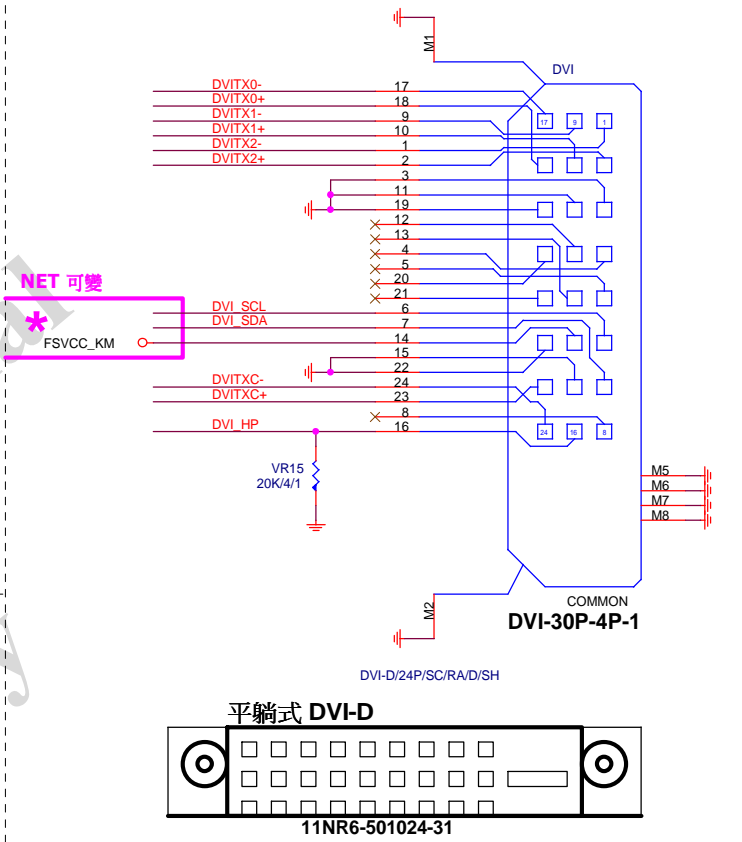
DVI: 20/4/6/4/20
Impedance=85 +- 17.5%



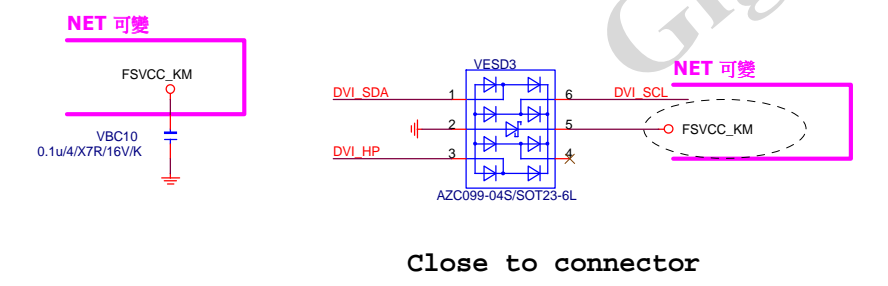
DVI PU



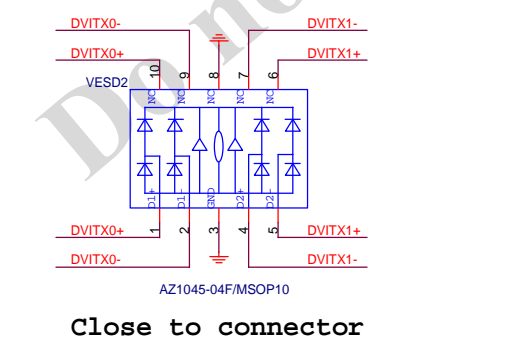
DVI CONN



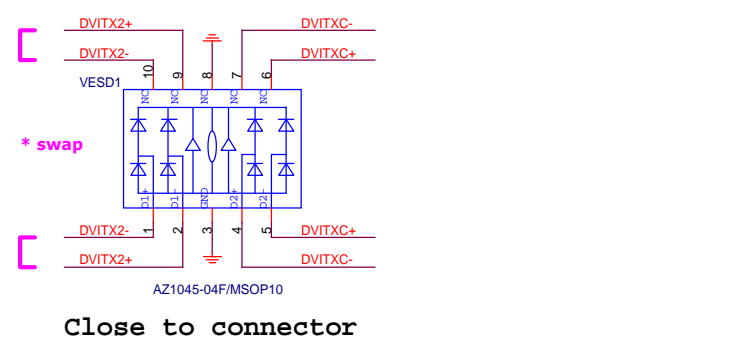
ESD



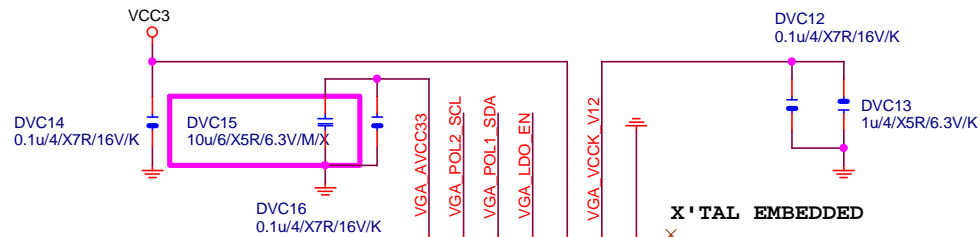
Close to connector



Close to connector



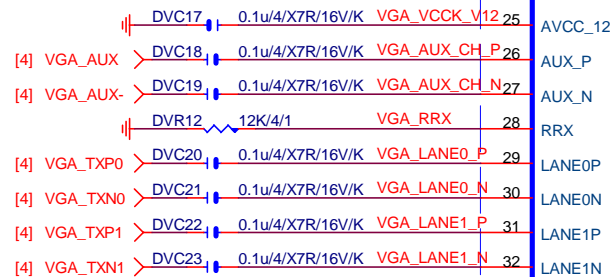
Close to connector



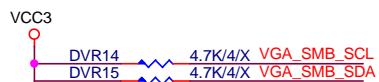
RTD2168

X'TAL EMBEDDED

DVU1



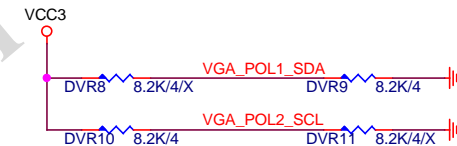
Reserve Pull High



放置PCH端

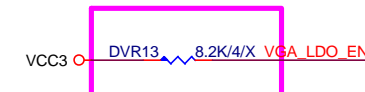
[38] VGA_SCL
[38] VGA_SDA[38] VGA_VSYNC
[38] VGA_HSYNC

Power on latch



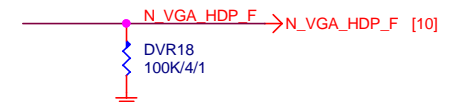
		POL1_SDA(PIN22)	
		0	1
POL2_SCL (PIN23)	0	X	EP MODE
	1	ROM ONLY MODE	EEPROM MODE

Embedded LDO

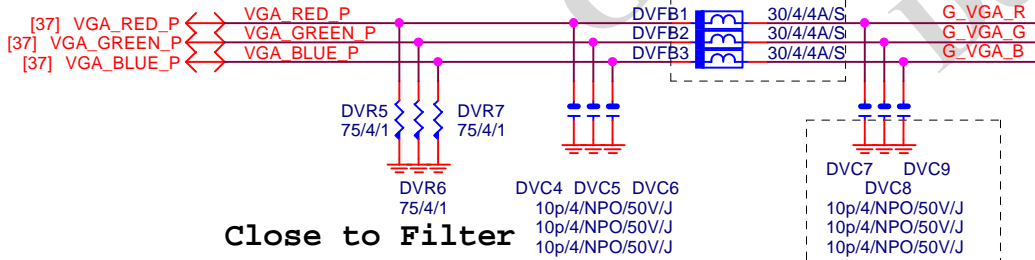
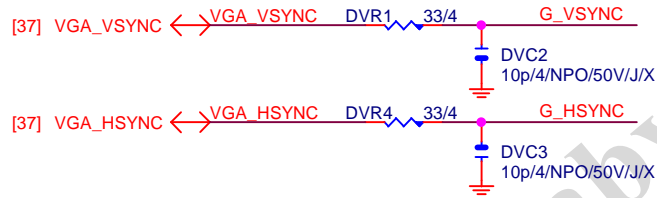
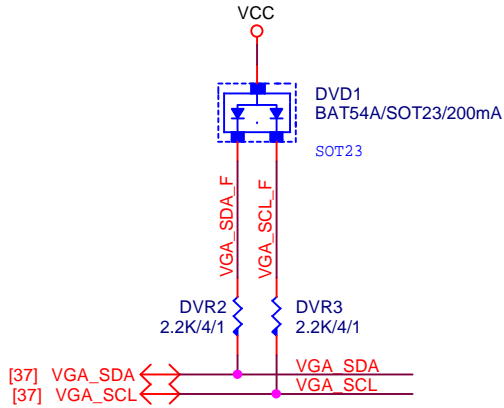


LDO_EN(PIN21)	
0	1
VCC3_V12 from External 1.2V	VCC3_V12 from Embedded LDO

DP HPD

Gigabyte Technology
DP-VGA RTD2168

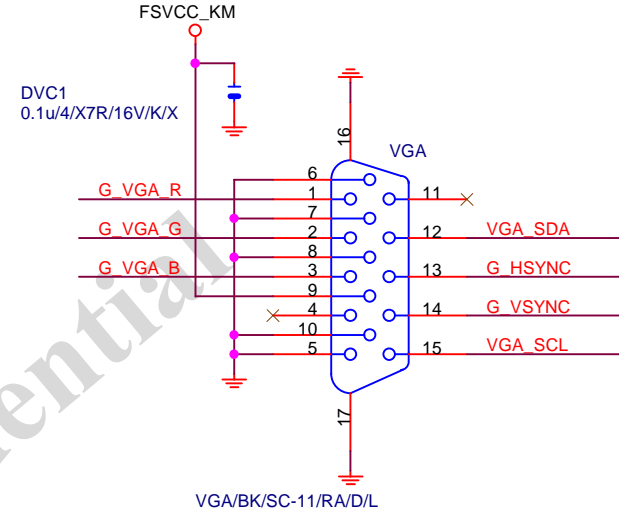
VGA SIGNAL R1.03



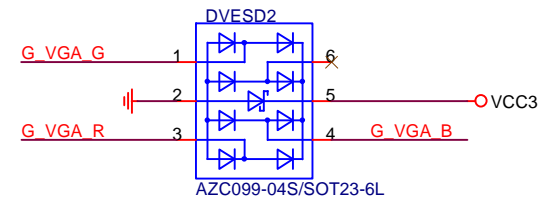
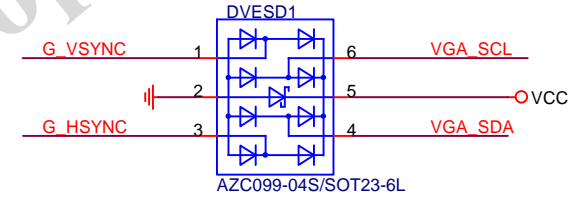
Close to Filter

FOR EMI

VGA CONN.

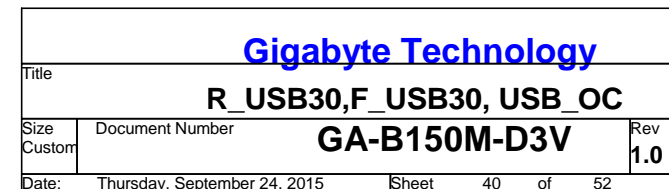


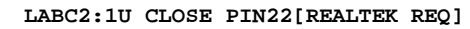
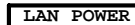
VGA ESD



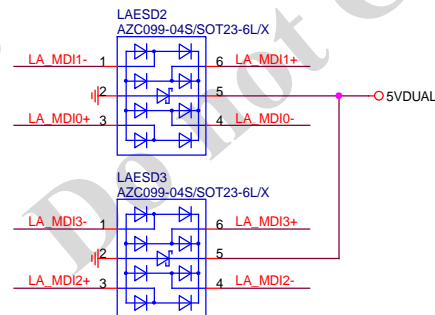
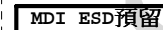
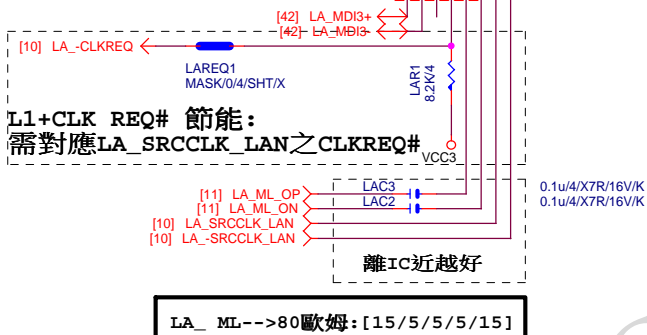
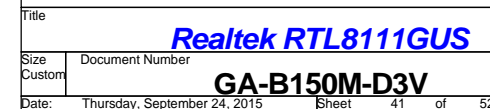
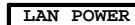
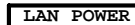
Gigabyte Technology			
DP-VGA RTD2168			
Title	GA-B150M-D3V		
Size	Document Number	Rev	
Custom		1.0	
Date:	Thursday, September 24, 2015	Sheet	38 of 52

ESD 可自行SWAP PIN ,CONN端 NET 名稱 不可



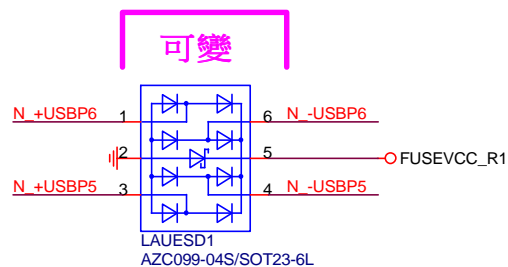


(CLOSE LAU1 PIN23)



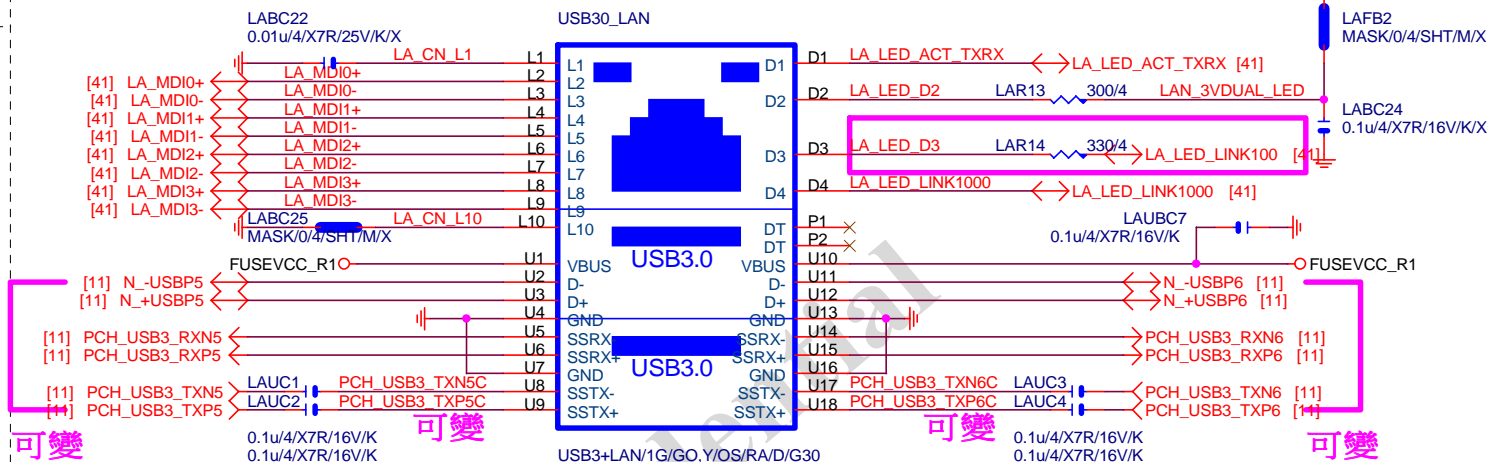
R1.06

note:可變更USB NAME



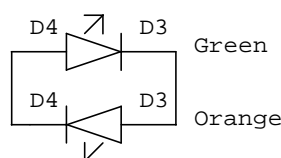
note:可變更USB NAME

USB30_LAN

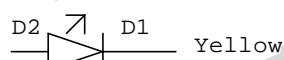


LA MDI-->100歐姆:[20/4/8/4/20]

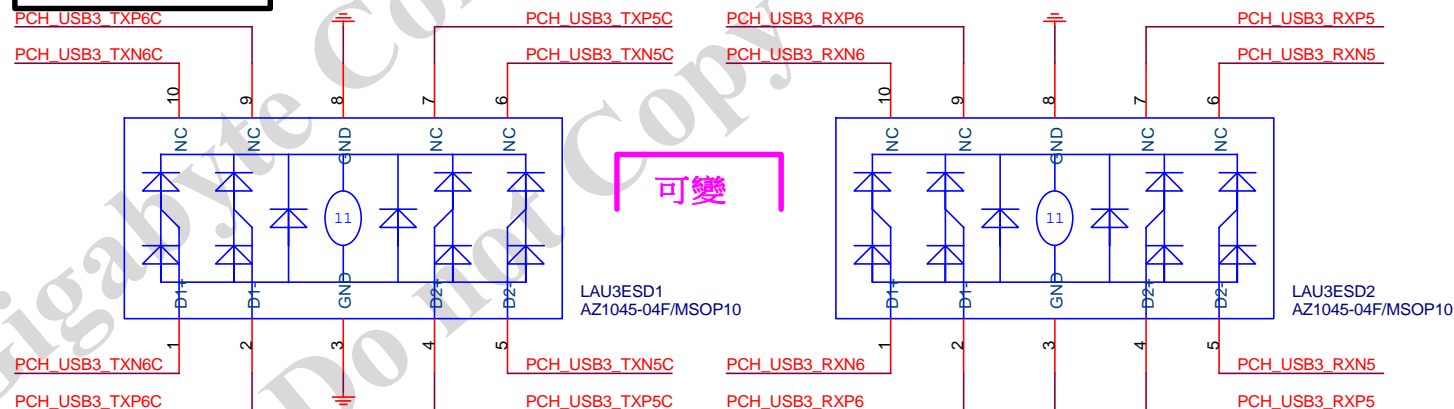
Dual Color LED



Single Color LED

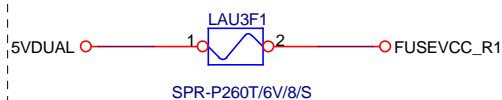


note:可變更USB NAME



note:可變更FUSE

可變



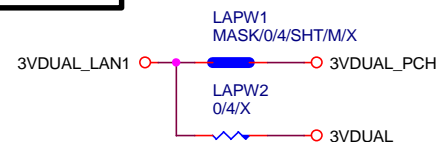
Close to connector
FUSE-0805

PS:視EMI需求



note: lan power連接及電流

可變



Gigabyte Technology

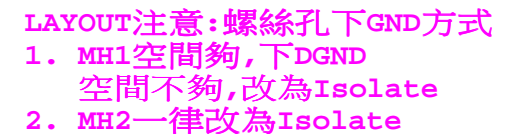
LAN CONNECTOR-RTL8111G

Size	Document Number
Custom	

GA-B150M-D3V

Rev	1.0
-----	-----

Date: Thursday, September 24, 2015 Sheet 42 of 52



<input type="radio"/> MH1 DGND	<input type="radio"/> MH2 Isolate	
-----------------------------------	--------------------------------------	--

LAYOUT注意:要加
GND切割線

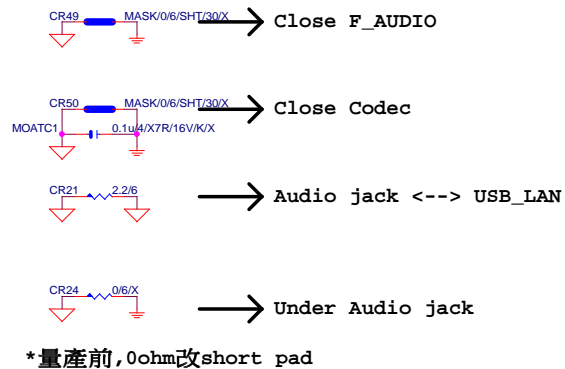
音效區域印刷

*LAYOUT與否,依照各Model spec

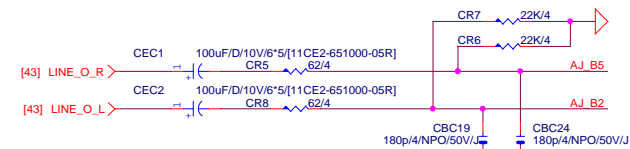
VALUE可變,LED顏色請自行修改
(預設:低亮度黃色LED:LED/Y/6/S)

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

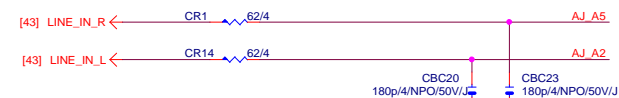
Rev 0.5



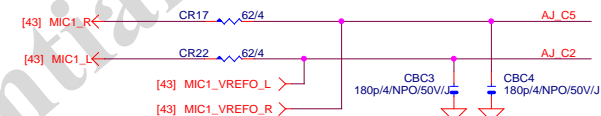
LINE-OUT



LINE-IN



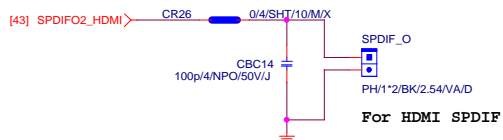
MIC-IN



SURROUND

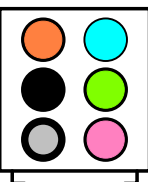
CEN/LFE

SPDIF_OUT

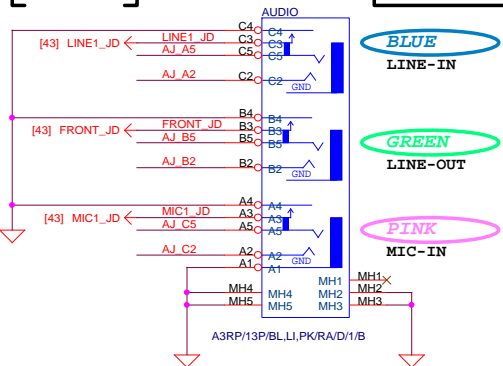


SPDIF_IN

AZALIA JACK

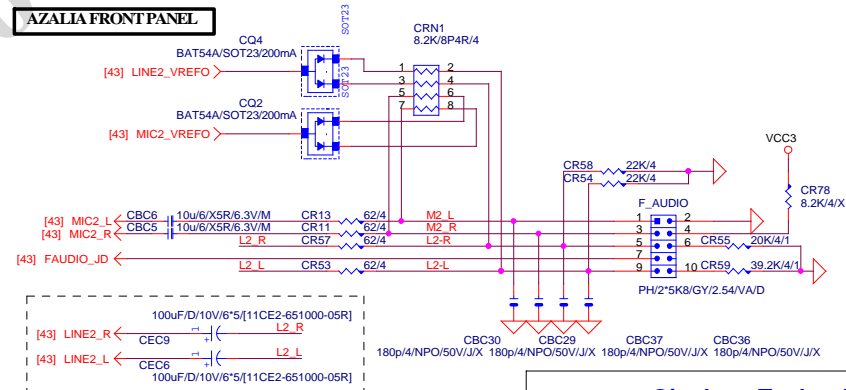


AZALIA JACK



SURRBACK

AZALIA FRONT PANEL

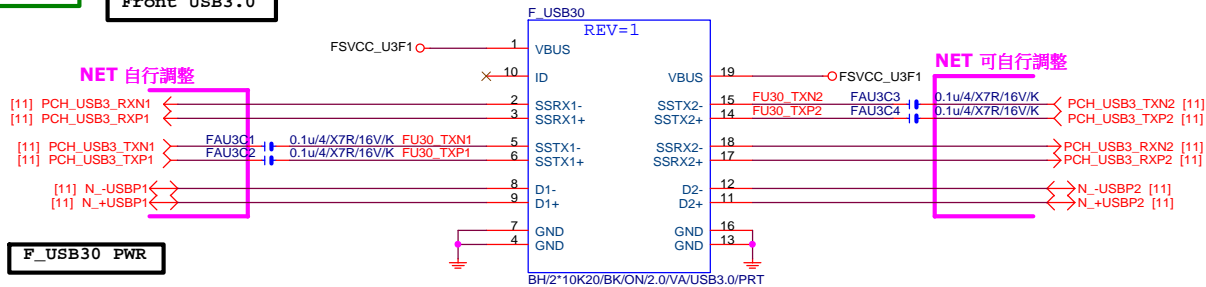


Gigabyte Technology

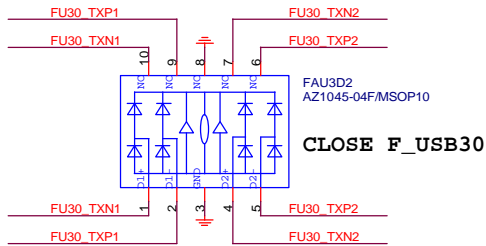
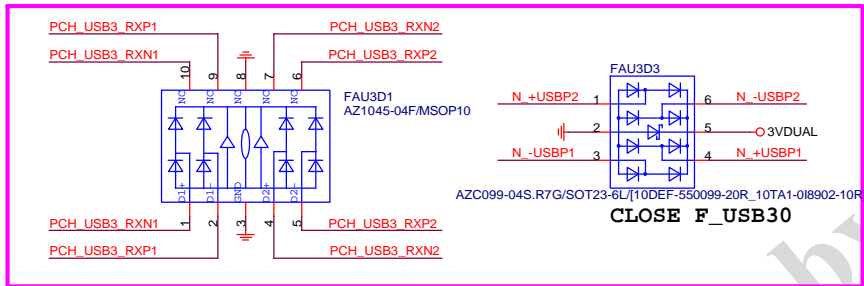
Title			AUDIO JACK
Size			GA-B150M-D3V
Date:			Thursday, September 24, 2015
Sheet			44 of 52
Rev			1.0

Rev: 0.53

Front USB3.0

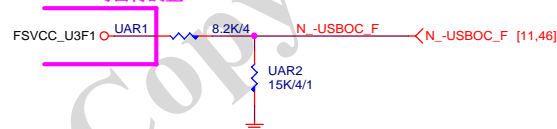


NET 可自行調整



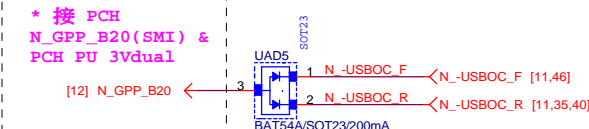
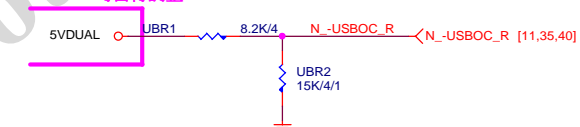
-USBOC_F

POWER 可自行調整



-USBOC_R

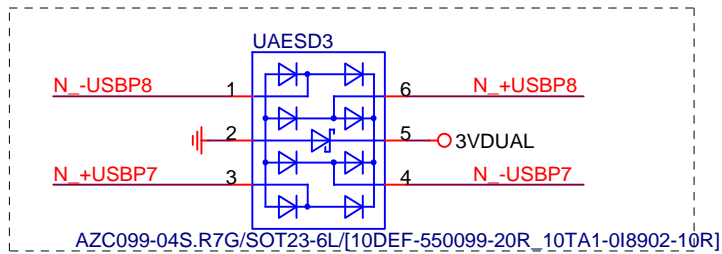
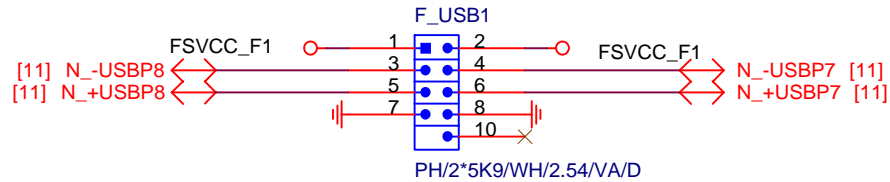
POWER 可自行調整



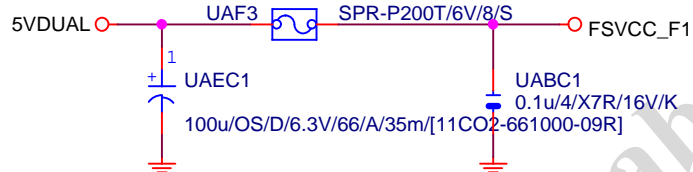
Gigabyte Technology

Title			
R_USB30,F_USB30,USB_OC			
Size	Document Number	GA-B150M-D3V	
Custom		Rev 1.0	
Date:	Thursday, September 24, 2015	Sheet	45 of 52

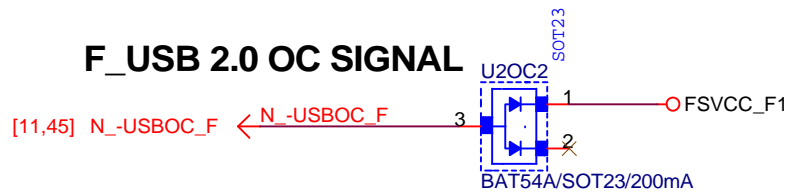
NET 可變



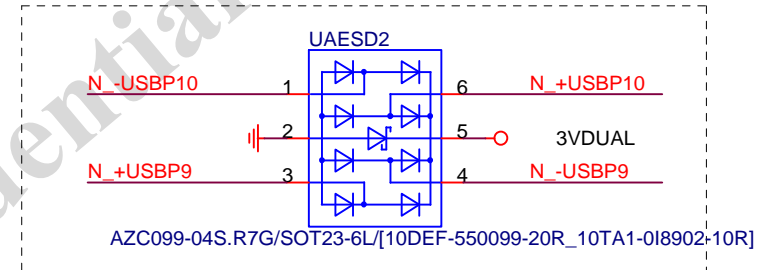
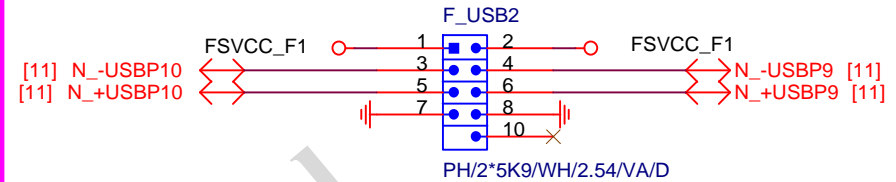
Close to connector
FUSE 2 Port 1 Fuse 2A



F_USB 2.0 OC SIGNAL



NET 可變



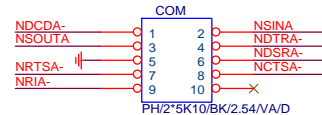
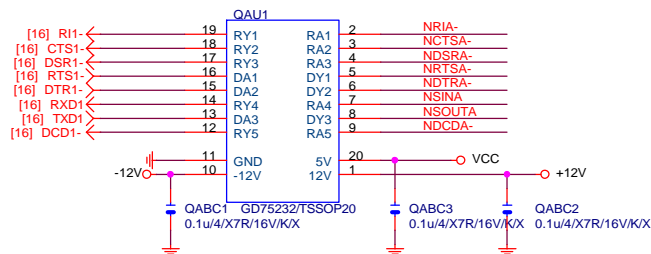
Gigabyte Technology

USB2.0

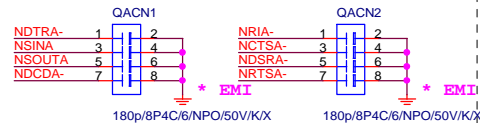
Size Custom	Document Number	GA-B150M-D3V	Rev 1.0
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Rev: 0.53

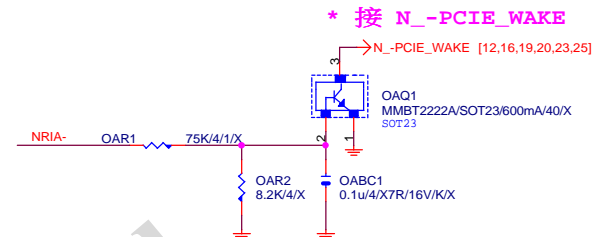
COM PORT



* footprint :
PIN2X5-CUT10-COM



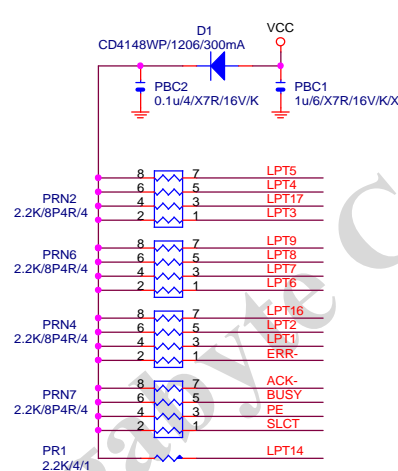
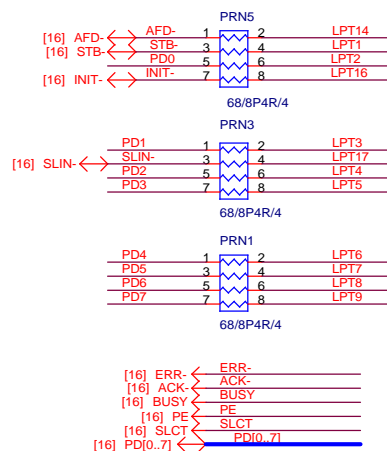
COM RI



* 接 N_-PCIE_WAKE

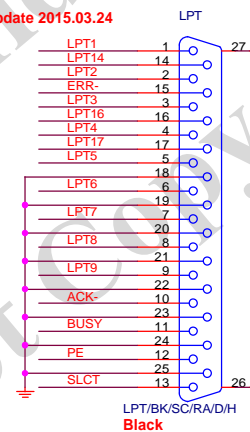
N_-PCIE_WAKE [12,16,19,20,23,25]

LPT PORT



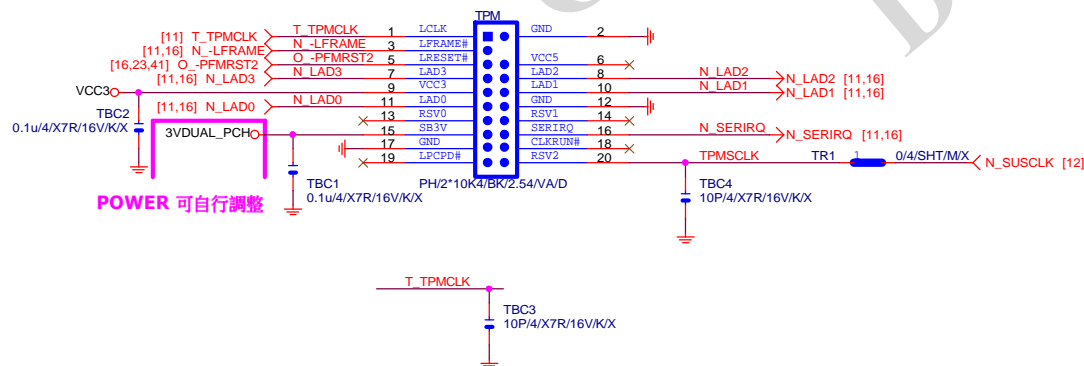
R&D技術通報151 有使用PRINT PORT的
MODEL, 需使用新料號:10HP2-118728-72R。(CHIP IT8728F/EX (GB) ITE/SMD
QFP128 PRINTPORT SORTING)料件。串電阻33 ohm改為68 ohm。

★Update 2015.03.24



TPM CONNECTOR

PH2X10-CUT4_TPM

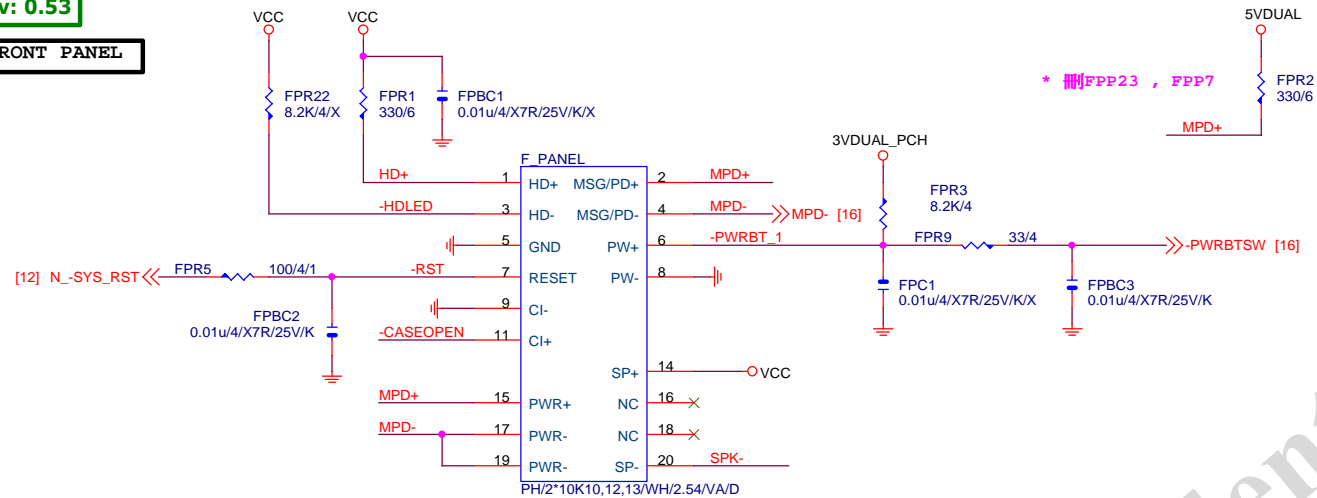


POWER 可自行調整

Gigabyte Technology			
Title			
FP,F_USB,USB PWR,BZ			
Size	Document Number	GA-B150M-D3V	
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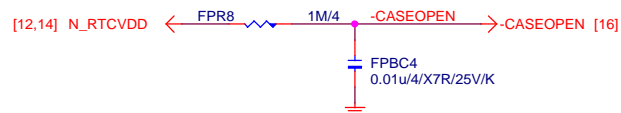
Rev: 0.53

FRONT PANEL



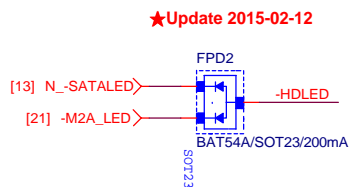
FOOTPRINT: PIN2X10PANEL-NEW

CASE OPEN

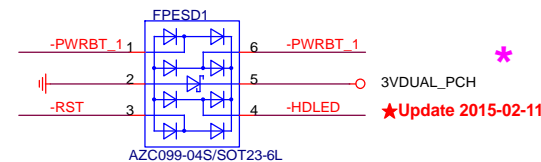


SATA LED

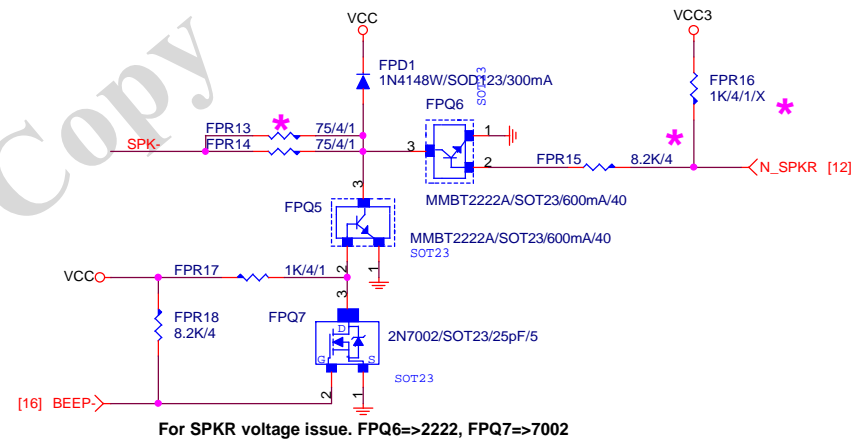
SATALED# signal open-collector, pull-up (8.2 kΩ to 10 kΩ) to Vcc3_3



ESD



SPKR

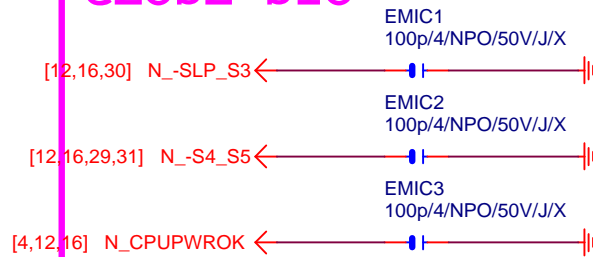


For SPKR voltage issue. FPQ6=>2222, FPQ7=>7002

Gigabyte Technology

Title		
FRONT PANEL		
Size Custom	Document Number	Rev
	GA-B150M-D3V	1.0
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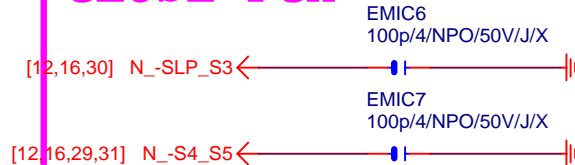
CLOSE SIO



CLOSE PCH



CLOSE PCH



For H1703M-HD3 USB

**GIGABYTE™**

Title

EM/ESDSize
A

Document Number

GA-B150M-D3V

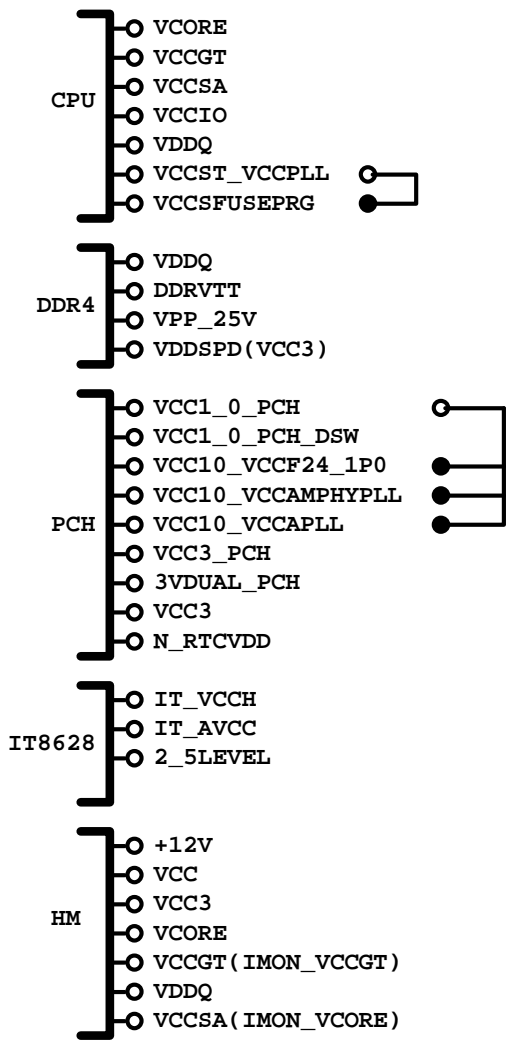
Rev

1.0

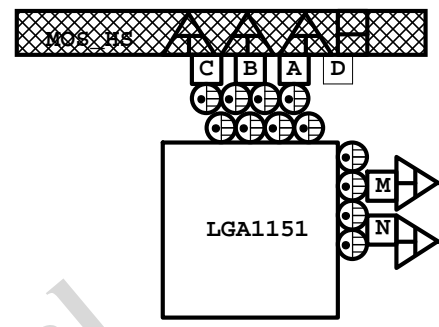
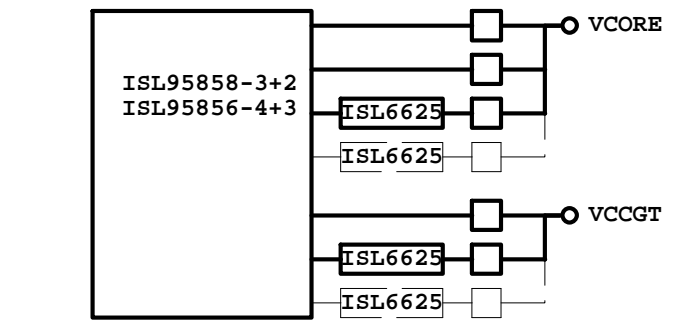
Date: Thursday, September 24, 2015

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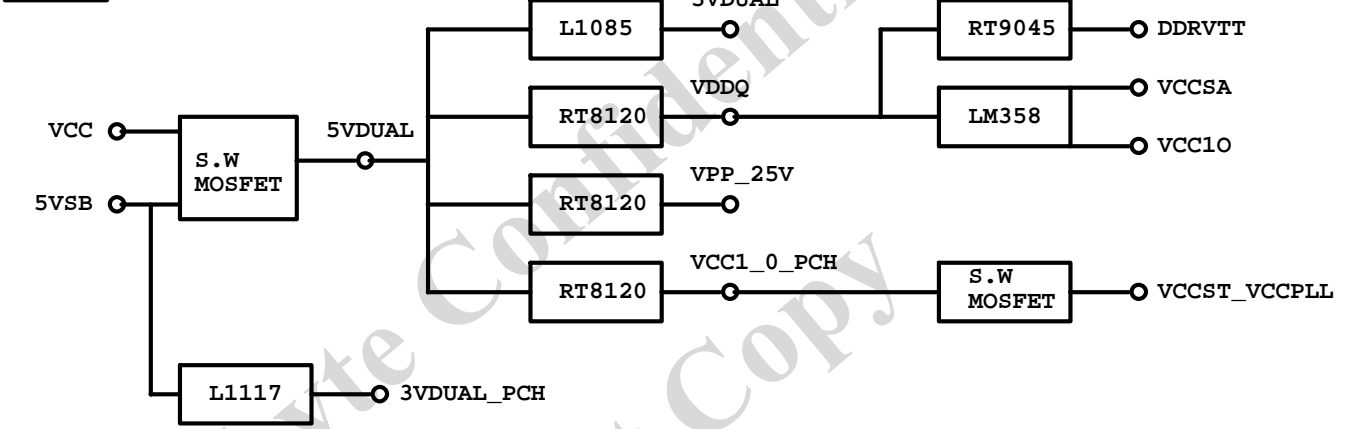
POWER BLOCK MAP



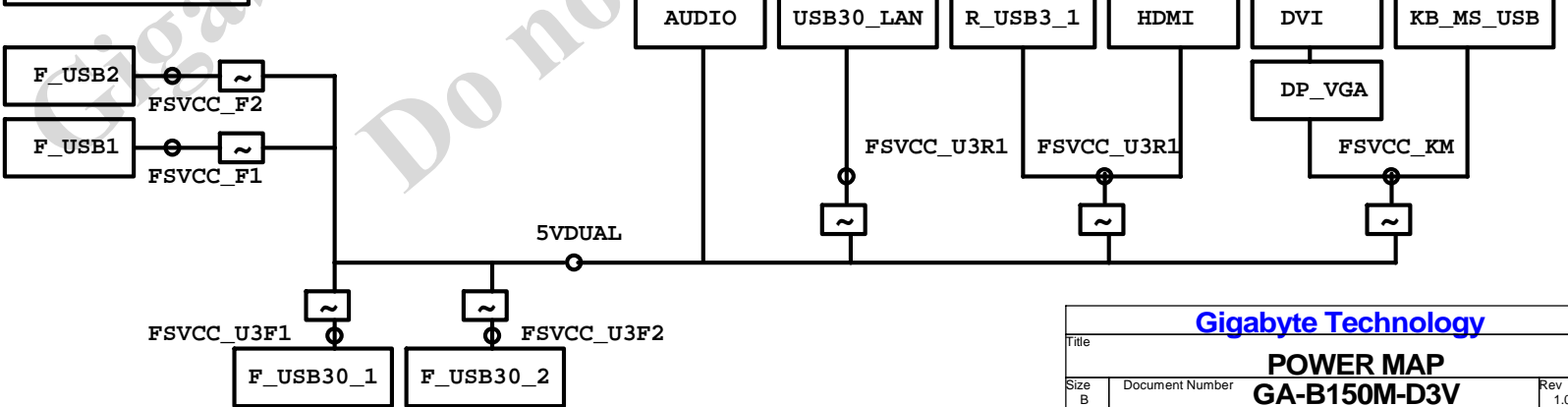
VCORE/VCCGT



POWER



FUSE POWER F/R



Gigabyte Technology			
Title			
POWER MAP			
Size	Document Number	Rev	
B	GA-B150M-D3V	1.0	
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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
11CO2-685600-01R	560u/FP/D/6.3V/68/8m
11CO5-882700-01R	270u/FP/D/16V/88/12m
11CO5-661000-03R	100u/OS/D/16V/66/30m
11CO2-651000-02R	100u/OS/D/6.3V/66/30m

台系固態	Capture Value
11CO2-661000-09R	100u/OS/D/6.3V/66/A/35m
11CO5-691000-09R	100u/OS/D/16V/69/A/35m
11CO5-8C2700-09R	270u/FP/D/16V/8C/A/10m
11CO2-695600-09R	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

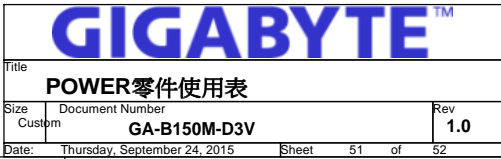
	料號	Capture Value	SIZE	Footprint
DIP	11LC5-F3500C-11R	0.5uH/32A/INCG109/FSI/D	10*10	CHOKE05U-40A-1PQ-3
DIP	11LC5-F2500C-11R	0.5uH/25A/INC0809/F/D	8*8	CHOKE1U-R50M-IF
SMD	未建(SIUC1007-R30M-JJ1W)		10*7	CHOKE11X8MM-SMD

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

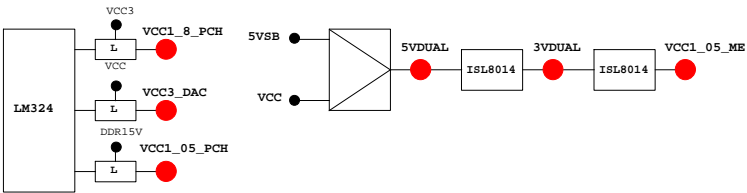


PCH GPIO LIST TABLE					
PIN NAME	PWR	Default	USAGE	NOTE	
GP0	MAIN	H-Z	GPI	GPIO0	N/A
GP1/TACH1	MAIN		GPI	GPIO1	N/A
GP2/PIRQE#	MAIN		GPI	-PIRQE	P/U 8.2K VCC3
GP3/PIRQF#	MAIN		GPI	-PIRQF	P/U 8.2K VCC3
GP4/PIRQG#	MAIN		GPI	-PIRQG	P/U 8.2K VCC3
GP5/PIRQH#	MAIN		GPI	-PIRQH	P/U 8.2K VCC3
GP6/TACH2	MAIN		GPI	PCIEX1 Detect	P/U 8.2K VCC3
GP7/TACH3	MAIN		GPI	GPIO7	P/U 8.2K VCC3
GP8	STBY	H	GPI	GPIO8	N/A
GP9/OC5#	STBY		NATIVE	USB OC5#	N/A
GP10/OC6#	STBY		NATIVE	USB OC6#	N/A
GP11/SMBALERT#	STBY		NATIVE	USB PWR protect	P/U 8.2K 3VDUAL
GP12	STBY	L	GPI	GPIO12	N/A
GP13	STBY	L	GPI	LPCPME#	P/U 8.2K 3VDUAL
GP14/OC7#	STBY		NATIVE	USB OC7#	N/A
GP15	STBY	L	GPI	GPIO15(TLS Enable)	P/U 8.2K 3VDUAL
GP16	MAIN		GPI	GPIO16	P/U 8.2K VCC3
GP17/TACH0	MAIN		GPI	GPIO17	P/U 8.2K VCC3
GP18	MAIN		GPI	Mobile Only	N/A
GP19	MAIN		GPI	GPIO19	P/U 8.2K VCC3
GP20	MAIN		GPI	GPIO20	P/U 8.2K VCC3
GP21	MAIN		GPI	GPIO21	P/U 8.2K VCC3
GP22	MAIN	H-Z	GPI	GPIO22	P/U 8.2K VCC3
GP23	MAIN		GPI	GPIO23	N/A
GP24	STBY	L	GPI	SKTOCC#	N/A
GP25	STBY			Mobile Only	N/A
GP26	STBY			Mobile Only	N/A
GP27	STBY	H	GPO	GPIO27	P/U 8.2K 3VDUAL
GP28	STBY	H	GPO	PWR LED	P/U 8.2K 3VDUAL
GP29	STBY	L	GPI	GPIO29	N/A
GP30	STBY	H-Z	GPI	Mobile Only	N/A
GP31	STBY	H-Z	GPI	Mobile Only	N/A
GP32	MAIN	H	GPO	N/A	N/A
GP33	MAIN	H	GPO	N/A	N/A
GP34	MAIN	H-Z	GPI	-PCI_STOP	P/U 8.2K VCC3
GP35	MAIN	L	GPO	-ACZ_DET	P/U 8.2K VCC3
GP36	MAIN		GPI	N/A	N/A
GP37	MAIN		GPI	N/A	N/A
GP38	MAIN	H-Z	GPI	PCIEX4 Detect	P/U 8.2K VCC3
GP39	MAIN	H-Z	GPI	GPIO39	P/U 8.2K VCC3
GP40	STBY		NATIVE	USB OC1#	N/A
GP41	STBY		NATIVE	USB OC2#	N/A
GP42	STBY		NATIVE	USB OC3#	N/A
GP43	STBY		NATIVE	USB OC4#	N/A
GP44	STBY	L	NATIVE	GPIO44	P/U 8.2K 3VDUAL
GP45	STBY		NATIVE	GPIO45	P/U 8.2K 3VDUAL
GP46	STBY	L	NATIVE	GPIO46	P/U 8.2K 3VDUAL
GP47	STBY			Mobile Only	N/A
GP48	MAIN	H-Z	IN	GPIO48	P/U 8.2K 3VDUAL
GP49	MAIN	H-Z	IN	GPIO49	P/U 8.2K 3VDUAL
GP50	MAIN		NATIVE	-REQ1	P/U 2.2K VCC
GP51	MAIN	H	NATIVE	-GNT1	N/A
GP52	MAIN		NATIVE	-REQ2	P/U 2.2K VCC
GP53	MAIN	H	NATIVE	-GNT2	N/A
GP54	MAIN		NATIVE	-REQ3	P/U 2.2K VCC
GP55	MAIN	H	NATIVE	-GNT3	N/A
GP56	STBY		NATIVE	Mobile Only	N/A
GP57	STBY	H-Z	IN	VCORE_OV1	P/U 8.2K 3VDUAL
GP58	STBY	H-Z	NATIVE	F_USB_OC	P/U 8.2K 3VDUAL
GP59	STBY		NATIVE	USB_OC0#	N/A
GP60	STBY	H-Z	NATIVE	N/A(Reverse)	P/U 8.2K 3VDUAL
GP61	STBY	L	NATIVE	-SUSTAT	N/A
GP62	STBY	L	NATIVE	SUSCLK	N/A
GP63	STBY	L	NATIVE	GPIO63	N/A
GP64	MAIN	L	NATIVE	CLKOUTFLEX0	N/A
GP65	MAIN	L	NATIVE	CLKOUTFLEX1	N/A
GP66	MAIN	L	NATIVE	CLKOUTFLEX2	N/A
GP67	MAIN	L	NATIVE	CLKOUTFLEX3	N/A
GP72	STBY	H-Z	NATIVE	VCORE_OV4	P/U 8.2K 3VDUAL
GP73	STBY			Mobile Only	N/A
GP74	STBY	H-Z	NATIVE	1_05V_OV2	P/U 8.2K 3VDUAL
GP75	STBY	H-Z	NATIVE	N/A(Reverse)	P/U 8.2K 3VDUAL

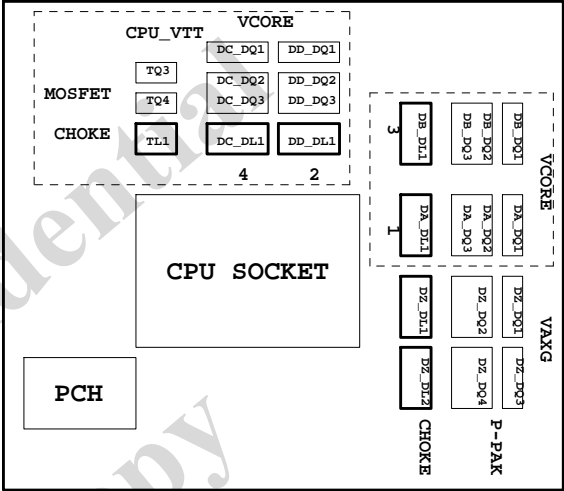
Super I/O ITE8720 GPIO Table

PIN NAME	USAGE	NOTE
SVC/PECI_RQT/GP14	-PECI_REQ	
PWROK1/GP13	PWROK1/ITE_PWROK	
KRST#/GP62	-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/BUSSIO	NB_LED3_C	
GP22/SCK	LOW_PWR_1	
VIDO5/GP27/SIN2	LOW_PWR_2	
PCIRST2#/GP11	-PFMRST1	
PCIRST1#/GP12	-PFMRST2	
3VBSBW#/GP40	CSI_F0	BSEL166_1
SUSC#/GP53	CSI_F1	BSEL166_2
GP23/SI	BSEL166_3/CSISBSL	
VIDO0/GP20/CTS2#	CPUT_LED1_C	BSEL166_4
GP65/VDDA_EN/GB_01	MB_ID2	
PD6/GP76/BUSSO1	MB_ID3	
PD7/GP77/BUSSO2	MB_ID4	
AFD#/GP86/SMBC_R	SEC_PIN	FST_2X8
INIT#/GP85/SMBD_M	SEC_2x8	GTLREF_AD2
ACK#/GP83	DDR_LED1_C	
VIDO1/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		
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	
VIDO4/GP26/SOUT2	DDR18V_PH2_EN	
VIDO2/FAN_TAC5/GP24/DSR2#	DDR18V_LED	
VIDO6/GP17/RI2#	1_1V_PH_EN	
VIDO7/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

Gigabyte Technology			
Title	TABLE LIST		
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