

Model Name: H110M-D2P-WG

SHEET

TITLE

01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	CPU_LGA1151-A
05	CPU_LGA1151-B-DDR4
06	CPU_LGA1151-C
07	CPU_LGA1150-D
08	DDR3 CHANNEL A
09	DDR3 CHANNEL B
10	PCH_CLK BUFFER
11	PCH_DMI,USB,PCIE
12	PCH_MISC
13	PCH SATA,PCIE,SATA_EXPRESS
14	PCH_PWR,GND
15	Dual BIOS
16	ITE 8628 LPC IO
17	HWM
18	FAN CTRL--SIO
19	PCI EXPRESS*16 SLOT
20	PCI EXPRESS*4 SLOT
21	PCI EXPRESS*1 SLOT
22	SATA
23	ISL95858_856 PWM
24	ISL95858_856 MOS_VCORE
25	ISL95858_856 MOS_VCCGT
26	VCCSA_VCCIO_VCCPLL
27	RT8237_DDR_VDDQ

rev 1.0

SHEET

TITLE

28	RT8068_VPP
29	DISCRETE POWER
30	RT8237_PCH_VCC1_0_PCH
31	ATX POWER , A_-PROCHOT
32	PTN3356-DP to VGA-IC
33	PTN3356-DP to VGA-Conn
34	KB_MS_USB
35	R_USB30
36	REALTEK - RTL8111H
37	USB20_LAN CONNECTOR-RTL8111H
38	Realtek ALC887
39	REAR AUDIO JACK
40	F_USB30
41	F_USB20
42	COM , LPT , TPM
43	F_PANEL
44	DP
45	DVI
46	EMI/ESD
47	POWER MAP
48	TABLE LIST
49	NTC MAP
50	
51	

Gigabyte Technology

Title			
Cover Sheet			
Size	Document Number	Rev	
Custom	GA-H110M-D2P-WG	1.0	
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rev:1.0

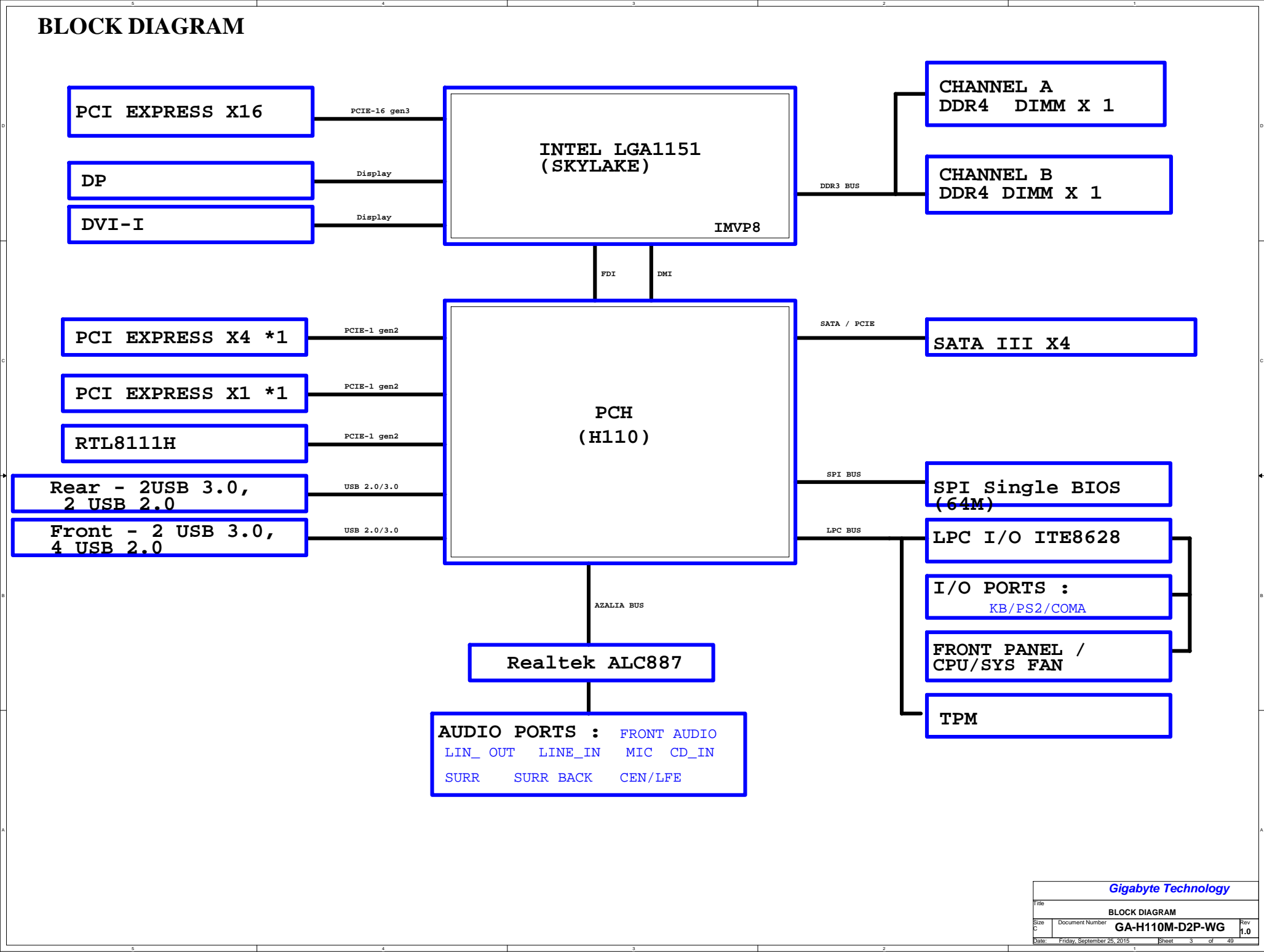
Circuit or PCB layout change

Component value change history

2015/08/31

[illegible][illegible]

BLOCK DIAGRAM



* Rev0.2B

D
23
23
23
16,31
C
B
A

* WR7, WR1, WR81
改 short pad

-PVIDALRT# WR5 220/4/1 A_PVIDALRT E39
PVIDSLCK# WR7 0/4/SHT/M/X A_PVIDSLCK E38
PVIDSOUT# WR1 0/4/SHT/M/X A_PVIDSOUT E40
16,31 A_PROCHOT# WR3 0/4/SHT/M/X A_PROCHOT C39

27 DDR_VTT_CTL# AC36
AC38
AC39

CPU_VCCST_PWOK U2

12,16,46 N_CPUWROK# N_CPUWROK E7
13 N_CPUURST# N_CPUURST E7
13 A_PMSYNC# WR8 33/4 A_PMSYNC E8
13 A_PMDOWN# WR8 33/4 A_PMDOWN R D8
16 A_PECI# G7
16 A_THRMTRIP# A_THRMTRIP D10

* A_SKT0CC AC35
AB36
WTP1

* 删除 net

DP

44 DP_TX0 C21
44 DP_TX0- D21
44 DP_TX1 D22
44 DP_TX1- E22
44 DP_TX2 B23
44 DP_TX2- A23
44 DP_TX3 C23
44 DP_TX3- D23

DVI

45 DVI_TX2 B18
45 DVI_TX2- A18
45 DVI_TX1 D18
45 DVI_TX1- E18
45 DVI_TX0 C19
45 DVI_TX0- D19
45 DVI_TXC D20
45 DVI_TXC- E20

DP-VGA

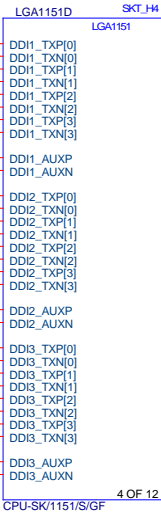
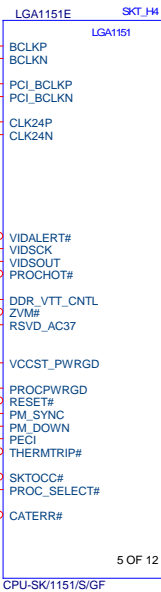
32 VGA_TXP0 B14
32 VGA_TXN0 A14
32 VGA_TXP1 B15
32 VGA_TXN1 A15

32 VGA_AUX B11
32 VGA_AUX- C11

G-15u : (CPU-SK/1151/S/15)
10SC1-F01151-11R / 10SC1-F01151-12R
G-FL : (CPU-SK/1151/S/GF)
10SC1-F01151-21R / 10SC1-F01151-22R

4 layer HDMI/DP/eDP/=====4/4/4//15
6 layer HDMI/DP/eDP/=====4/5.5/4//15

Impedance=85 +- 15%



检查组态 / 不用可删除

VCCST_VCCPLL WR2 100/4/1 PVIDSOUT
WR4 50/2/4/1 -PVIDALRT
VCCST_VCCPLL WR30 51/4/1 A_HPREQ

* 删除 WR17, WR14, WR10, WR29, WR25, WR56, WR55
note.53

VCCST_VCCPLL WR25 1K/4/1 A_PHOT
WR70 1K/4/1 A_THRMTRIP

* 删除 WR91

CPU_VCCST_PWOK

12,16 N_PCH_VRMPWRGD WR34 6.04K/4/1 WR3 2.8K/4/1

* 删除 net N_CPU_VCCST_PWOK

A_TCK WR11 51/4/1
A_TRST WR9 51/4/1

N_CPUWROK WBC47 1n/4/X7R/50V/K
13 N_CPUURST# N_CPUURST WBC123 1n/4/X7R/50V/K
-CPURST

VCCIO WR80 24.9/4/1 PEG_RCOMP L7

11 A_DMI_0RXP A_DMI_0RXP Y3
11 A_DMI_0RXN A_DMI_0RXN Y4
11 A_DMI_1RXP A_DMI_1RXP AA4
11 A_DMI_1RXN A_DMI_1RXN AA5
11 A_DMI_2RXP A_DMI_2RXP AB4
11 A_DMI_2RXN A_DMI_2RXN AB3
11 A_DMI_3RXP A_DMI_3RXP AC4
11 A_DMI_3RXN A_DMI_3RXN AC5

PA_EXP_TXP[0..15] >>> PA_EXP_TXP[0..15] 19
PA_EXP_TXN[0..15] >>> PA_EXP_TXN[0..15] 19
PA_EXP_RXP[0..15] >>> PA_EXP_RXP[0..15] 19
PA_EXP_RXN[0..15] >>> PA_EXP_RXN[0..15] 19

4 layer PEG/DMI=====4/4/4//15
6 layer PEG/DMI=====4/5.5/4//15

Impedance=85 +- 15%

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

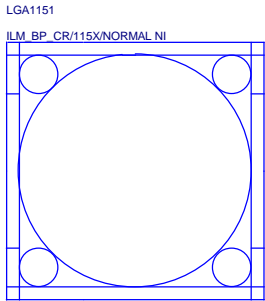
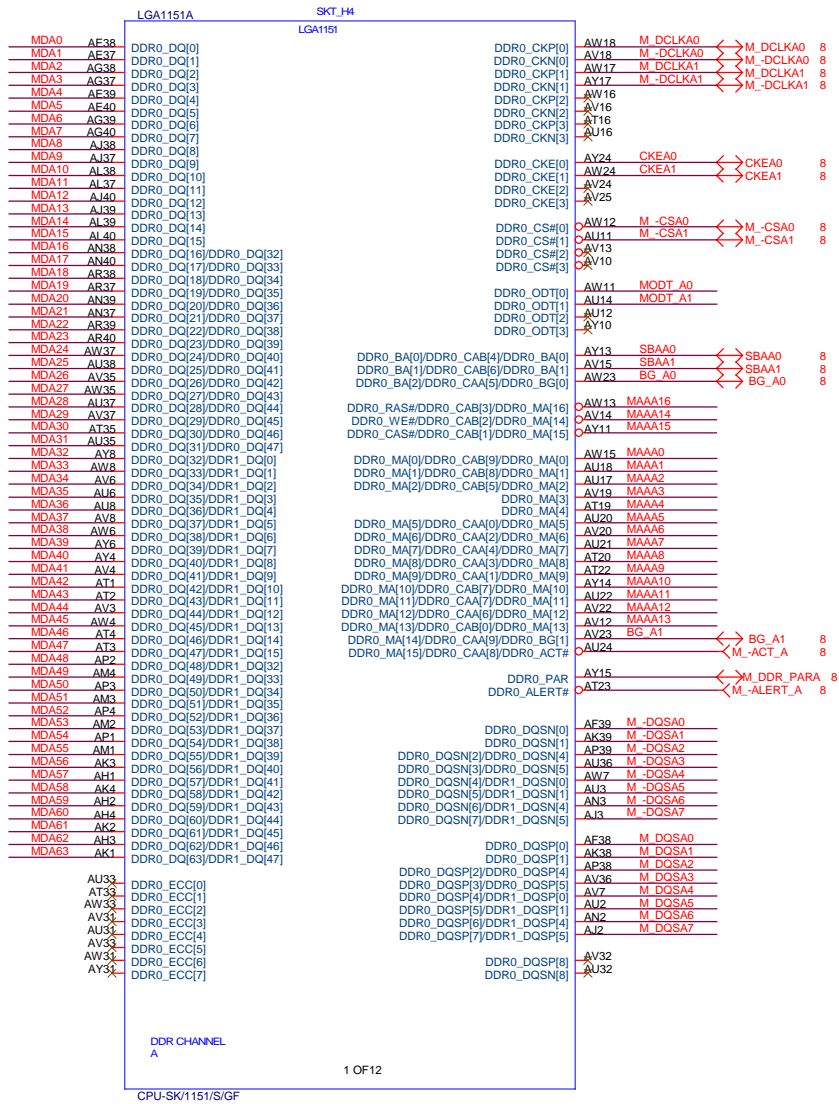
CFG[2]:x16 Lane Numbering
Reversal. 1= NORMAL;0=reversal
CFG[4]: eDP
enable:1:disable/0=enable
CFG[6:5]:PCI Express* Bifurcation; 1l= 1 x16 PCI Express;10=2x8 PCI Express
CFG[7]: PEG Training;1=(default) PEG Train immediately following RESET#;0=PEG Wait for BIOS

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

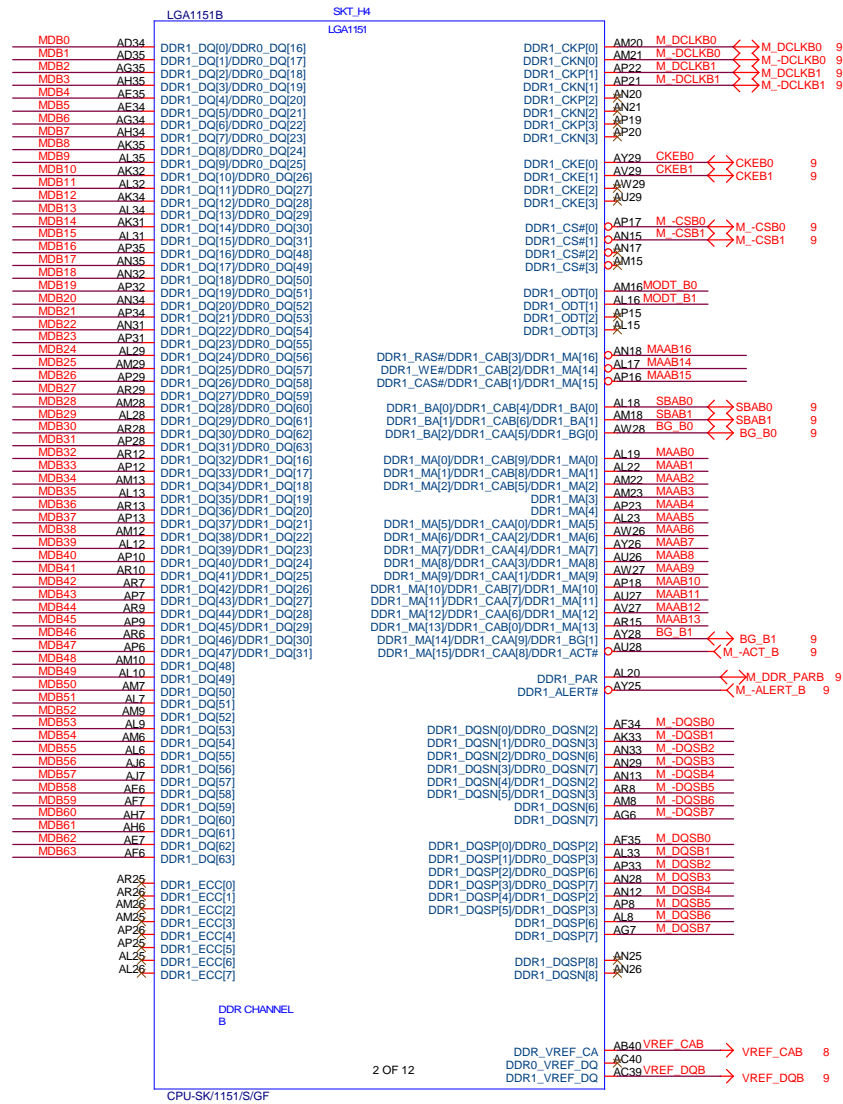
Gigabyte Technology		
CPU LGA1151-A		
Size Custom	Document Number GA-H110M-D2P-WG	Rev 1.0
Date: Friday, September 25, 2015	Sheet 4	of 49

D
23
23
23
16,31
C
B
A

* 改DDR4 net



Need check the new CPU MB



DDR CHANNEL B

2 OF 12

MDA0 AE38 DDR0_DQ[0]

MDA1 AE37 DDR0_DQ[1]

MDA2 AG38 DDR0_DQ[2]

MDA3 AG37 DDR0_DQ[3]

MDA4 AE38 DDR0_DQ[4]

MDA5 AE40 DDR0_DQ[5]

MDA6 AG38 DDR0_DQ[6]

MDA7 AG40 DDR0_DQ[7]

MDA8 AJ38 DDR0_DQ[8]

MDA9 AJ37 DDR0_DQ[9]

MDA10 AL38 DDR0_DQ[10]

MDA11 AL37 DDR0_DQ[11]

MDA12 AL40 DDR0_DQ[12]

MDA13 AJ38 DDR0_DQ[13]

MDA14 AL39 DDR0_DQ[14]

MDA15 AL40 DDR0_DQ[15]

MDA16 AX38 DDR0_DQ[16]

MDA17 AN40 DDR0_DQ[17]

MDA18 AR38 DDR0_DQ[18]

MDA19 AR37 DDR0_DQ[19]

MDA20 AN39 DDR0_DQ[20]

MDA21 AN37 DDR0_DQ[21]

Gigabyte Technology			
CPU LGA1151-B			
GA-H110M-D2P-WG			
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CPU-SK/1151/S/GF

* 刪 Vcore 電容

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CPU-SK/1151/S/GF

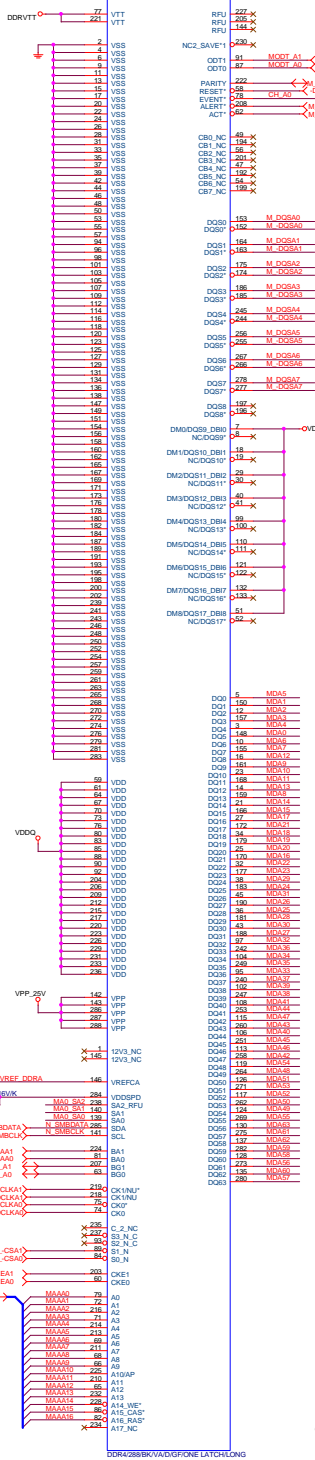
7 OF 12

CPU-SK/1151/S/GF

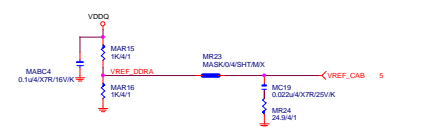
8 OF 12

CPU-SK/1151/S/GF

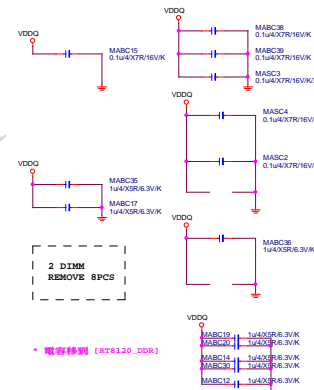
5 MDAD_R3 ← MDAD_R3
5 MAAAB_1R1 ← MAAAB_1R1
5 M_DQAB_7 ← M_DQAB_7
5 M_DQAB_7 ← M_DQAB_7
5 M_DQAB_7 ← M_DQAB_7
5 M_DQAB_7 ← M_DQAB_7



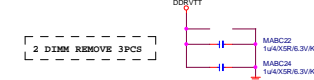
CHANNEL A0
SA2:0=000



DDR12V Decouple



DDRVT Decouple



5 MDRD_031 ← MDRD_031
5 MDRD_031 ← MDRD_031
5 MDRD_031 ← MDRD_031
5 MDRD_031 ← MDRD_031
5 MDRD_031 ← MDRD_031

VPP_25V
VPP_25V
VPP_25V
VPP_25V
VPP_25V

MAC12 0.1uA/47R/25V/K VREF_DQB
MAC15 0.1uA/47R/25V/K VREF_DQB

8,12,19,20,21,23 N_SMBDATA
8,12,19,20,21,23 N_SMBDATA

5 SBAB0
5 SBAB0
5 SBAB0
5 SBAB0
5 SBAB0

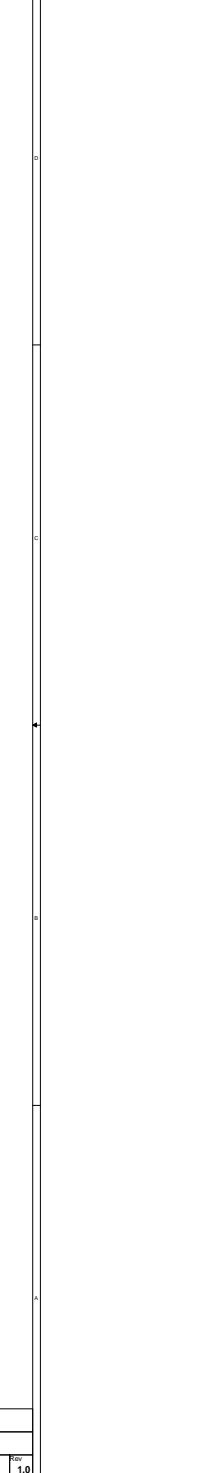
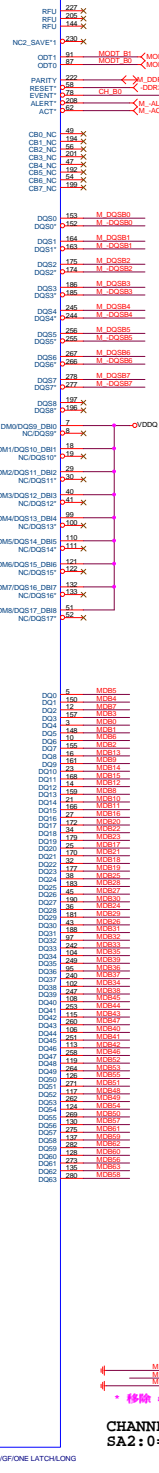
5 M_DCLK0
5 M_DCLK0
5 M_DCLK0
5 M_DCLK0
5 M_DCLK0

5 M-CSB0
5 M-CSB0
5 M-CSB0
5 M-CSB0
5 M-CSB0

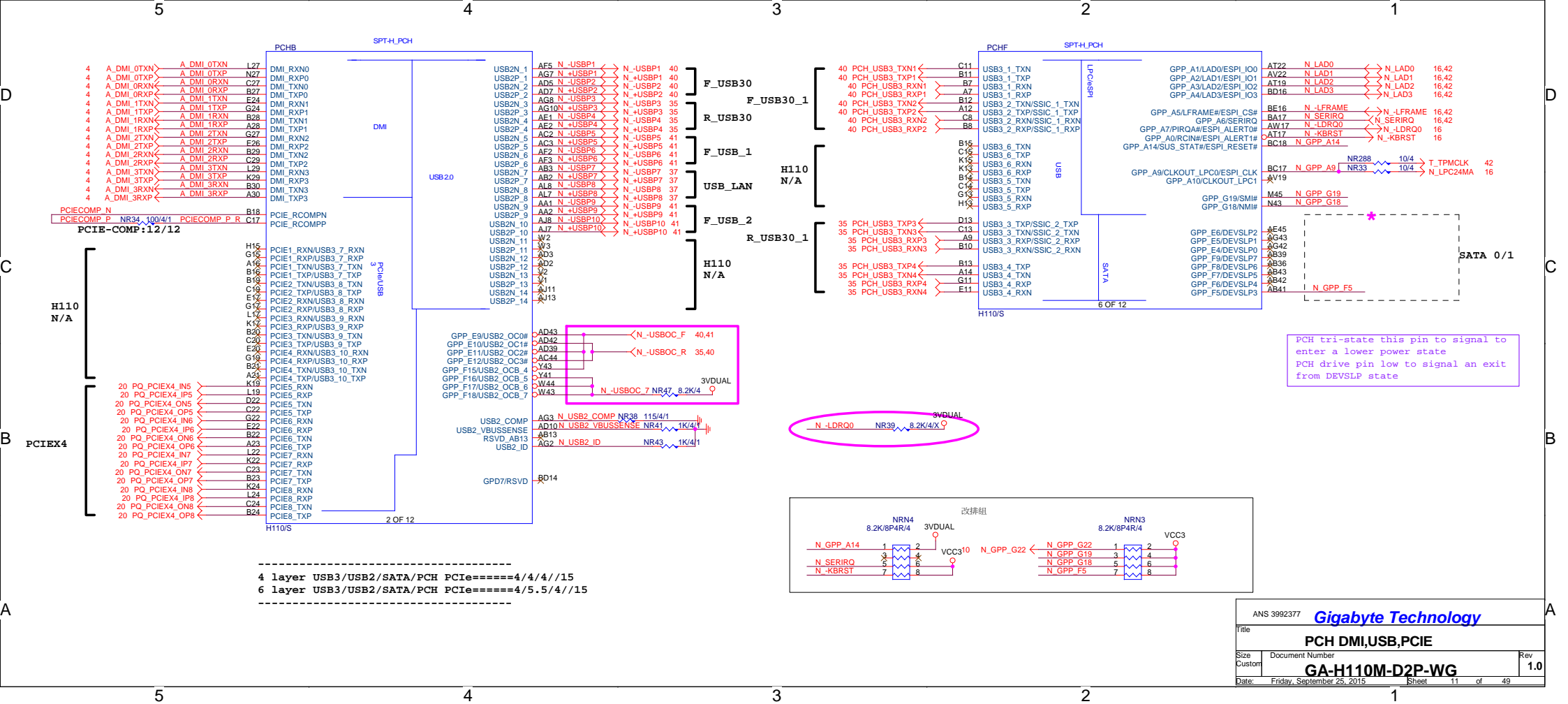
5 MDRD_031
5 MDRD_031
5 MDRD_031
5 MDRD_031
5 MDRD_031

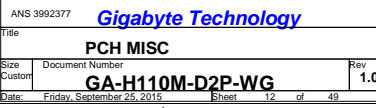
5 MDRD_031
5 MDRD_031
5 MDRD_031
5 MDRD_031
5 MDRD_031

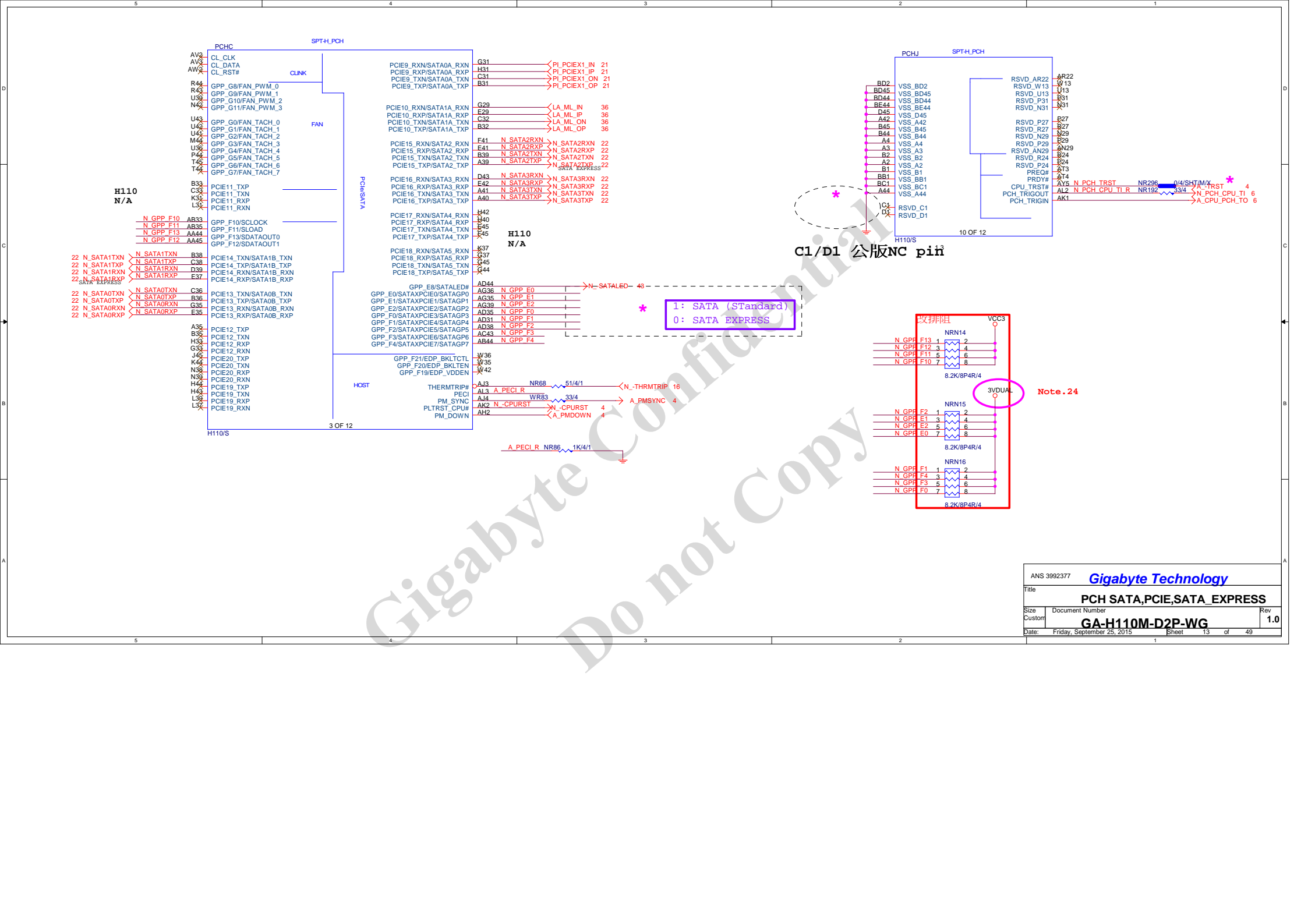
5 MDRD_031
5 MDRD_031
5 MDRD_031
5 MDRD_031
5 MDRD_031

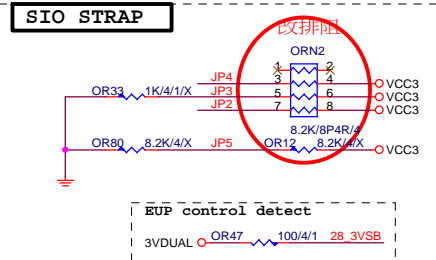


CHANNEL B0
SA2:0=010





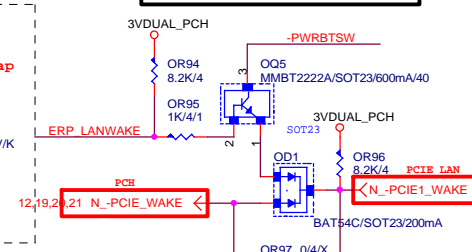




JP2	1	Disable WDT
	0	Enable WDT to rest PWROK
JP3	1	SPI-Flash Disable
	0	SPI-Flash Enable
JP4	1	k8 power sequency function is Disable
	0	k8 power sequency function is Enable
JP5	1	anti-surge Disable
	0	anti-surge Enable
JP3	1 1	The default value of EC Index 63h/6Bh/73h is 80h
	1 0	The default value of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

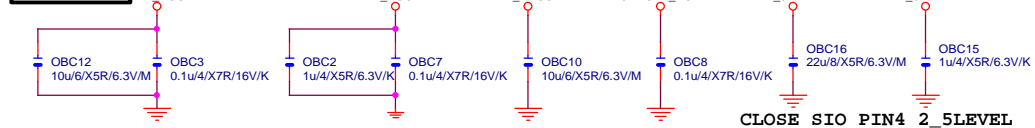
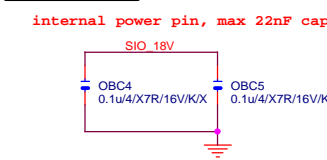
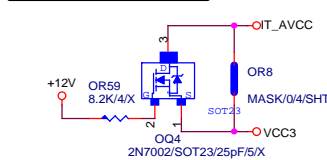
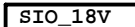
ERP WAKE on LAN	(依LAN組態選擇)
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(組態一) Realtek/ATHEROS LAN



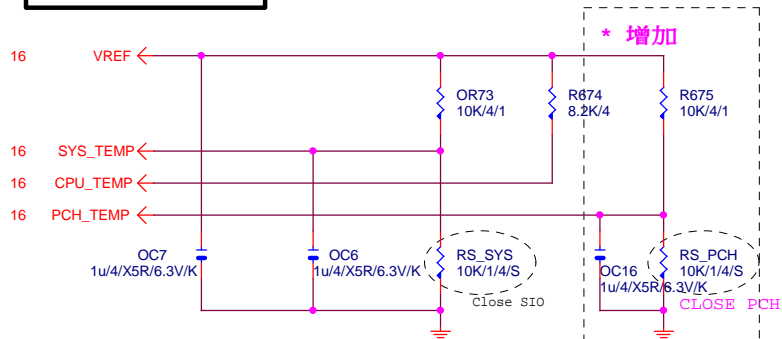
Gigabyte Technology			
Title ITE 8628 LPC IO			
Size B	Document Number GA-H110M-D2P-WG		Rev A
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IT8620E GPIO問題匯整	
PIN 50	GP26 第一次接上POWER時 會拉 Lo
PIN 90/91	DEFAULT 7 為 HDLED FUNCTION GP93 接 PASS TO GP92 高溫時 GP92 會被拉 Lo (ITE BUG)
PIN 108	GP40 --- POWER ON 時會拉 Lo
PIN 111/112	MOUSE 跟 PAN6 FUNCTION 擇一使用, 但不能會互相干擾
PIN 22	PIN22, 需高於3V, 若低於 該部分COM PORT及LPT裝置 將無法會與系統動作。

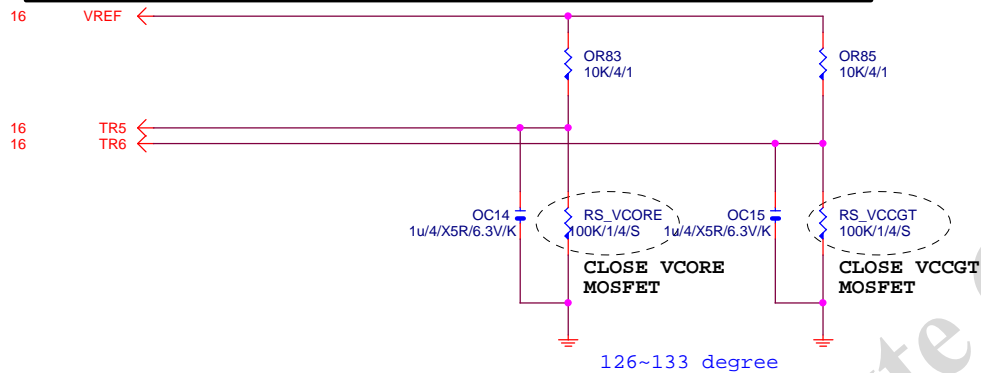


TEMP H/W MONITOR

REV 1.07



RS_VCORE ~ RS_VCCGT CLOSE CPU_VCORE & VCCGT MOSFET

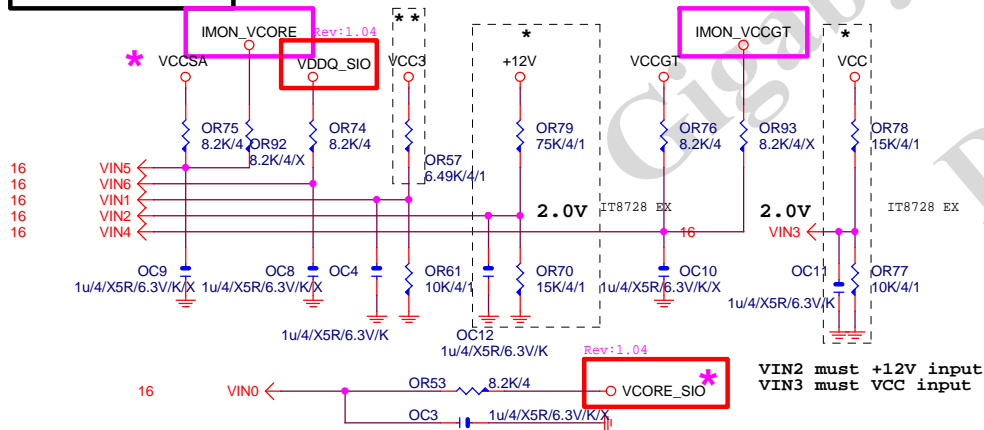
~~PROCHOT: 有mos heartsink不用prochot function~~

VOLTAGE-- H/W MONITOR

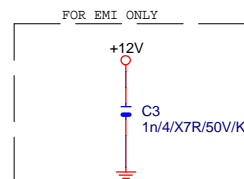
Connect to PWM

* IT8728 BX
** IT8728 CX

Connect to PWM



The division voltage of VIN2 & VIN3 must be around 2.9V

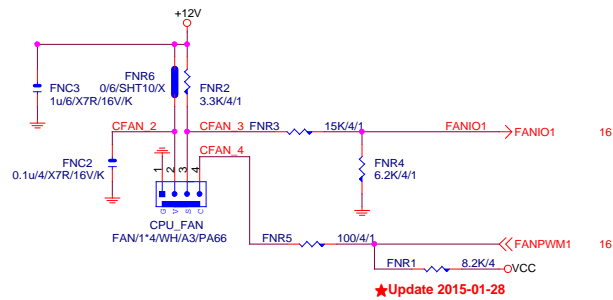


Gigabyte Technology

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

Rev: 0.51

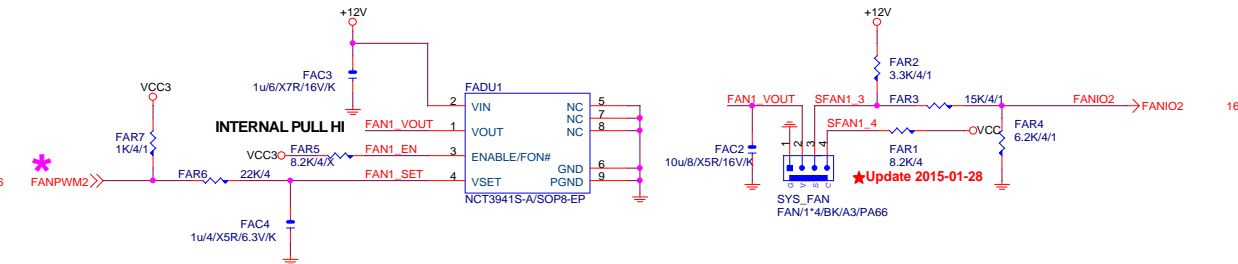


SYSTEM FAN1

Linear SYS_FAN

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

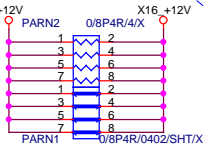
A.



Gigabyte Technology

Title		
FAN CTRL		
Size	Document Number	Rev
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Rev 0.2

+12V_protect
short-wire test

PA_EXP_RXP0_15] >> PA_EXP_RXP0[0..15] 4
PA_EXP_RXN0_15] >> PA_EXP_RXN0[0..15] 4
PA_EXP_TXP0_15] >> PA_EXP_TXP0[0..15] 4
PA_EXP_TXN0_15] >> PA_EXP_TXN0[0..15] 4

PA_EXP_TXP0	PAC5	0.22u/4/X5R/6.3V/K	PA_EXP_TXP0 C
PA_EXP_TXN0	PAC4	0.22u/4/X5R/6.3V/K	PA_EXP_TXN0 C
PA_EXP_TXP1	PAC6	0.22u/4/X5R/6.3V/K	PA_EXP_TXP1 C
PA_EXP_TXN1	PAC7	0.22u/4/X5R/6.3V/K	PA_EXP_TXN1 C
PA_EXP_TXP2	PAC8	0.22u/4/X5R/6.3V/K	PA_EXP_TXP2 C
PA_EXP_TXN2	PAC9	0.22u/4/X5R/6.3V/K	PA_EXP_TXN2 C
PA_EXP_TXP3	PAC10	0.22u/4/X5R/6.3V/K	PA_EXP_TXP3 C
PA_EXP_TXN3	PAC11	0.22u/4/X5R/6.3V/K	PA_EXP_TXN3 C
PA_EXP_TXP4	PAC12	0.22u/4/X5R/6.3V/K	PA_EXP_TXP4 C
PA_EXP_TXN4	PAC13	0.22u/4/X5R/6.3V/K	PA_EXP_TXN4 C
PA_EXP_TXP5	PAC14	0.22u/4/X5R/6.3V/K	PA_EXP_TXP5 C
PA_EXP_TXN5	PAC15	0.22u/4/X5R/6.3V/K	PA_EXP_TXN5 C
PA_EXP_TXP6	PAC16	0.22u/4/X5R/6.3V/K	PA_EXP_TXP6 C
PA_EXP_TXN6	PAC17	0.22u/4/X5R/6.3V/K	PA_EXP_TXN6 C
PA_EXP_TXP7	PAC18	0.22u/4/X5R/6.3V/K	PA_EXP_TXP7 C
PA_EXP_TXN7	PAC19	0.22u/4/X5R/6.3V/K	PA_EXP_TXN7 C
PA_EXP_TXP8	PAC21	0.22u/4/X5R/6.3V/K	PA_EXP_TXP8 C
PA_EXP_TXN8	PAC20	0.22u/4/X5R/6.3V/K	PA_EXP_TXN8 C
PA_EXP_TXP9	PAC22	0.22u/4/X5R/6.3V/K	PA_EXP_TXP9 C
PA_EXP_TXN9	PAC23	0.22u/4/X5R/6.3V/K	PA_EXP_TXN9 C
PA_EXP_TXP10	PAC24	0.22u/4/X5R/6.3V/K	PA_EXP_TXP10 C
PA_EXP_TXN10	PAC25	0.22u/4/X5R/6.3V/K	PA_EXP_TXN10 C
PA_EXP_TXP11	PAC26	0.22u/4/X5R/6.3V/K	PA_EXP_TXP11 C
PA_EXP_TXN11	PAC27	0.22u/4/X5R/6.3V/K	PA_EXP_TXN11 C
PA_EXP_TXP12	PAC28	0.22u/4/X5R/6.3V/K	PA_EXP_TXP12 C
PA_EXP_TXN12	PAC29	0.22u/4/X5R/6.3V/K	PA_EXP_TXN12 C
PA_EXP_TXP13	PAC30	0.22u/4/X5R/6.3V/K	PA_EXP_TXP13 C
PA_EXP_TXN13	PAC31	0.22u/4/X5R/6.3V/K	PA_EXP_TXN13 C
PA_EXP_TXP14	PAC32	0.22u/4/X5R/6.3V/K	PA_EXP_TXP14 C
PA_EXP_TXN14	PAC33	0.22u/4/X5R/6.3V/K	PA_EXP_TXN14 C
PA_EXP_TXP15	PAC34	0.22u/4/X5R/6.3V/K	PA_EXP_TXP15 C
PA_EXP_TXN15	PAC35	0.22u/4/X5R/6.3V/K	PA_EXP_TXN15 C

PCIE16:16/5/5/5/16

PCI-E REV:1.1--> 2.5GHZ

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

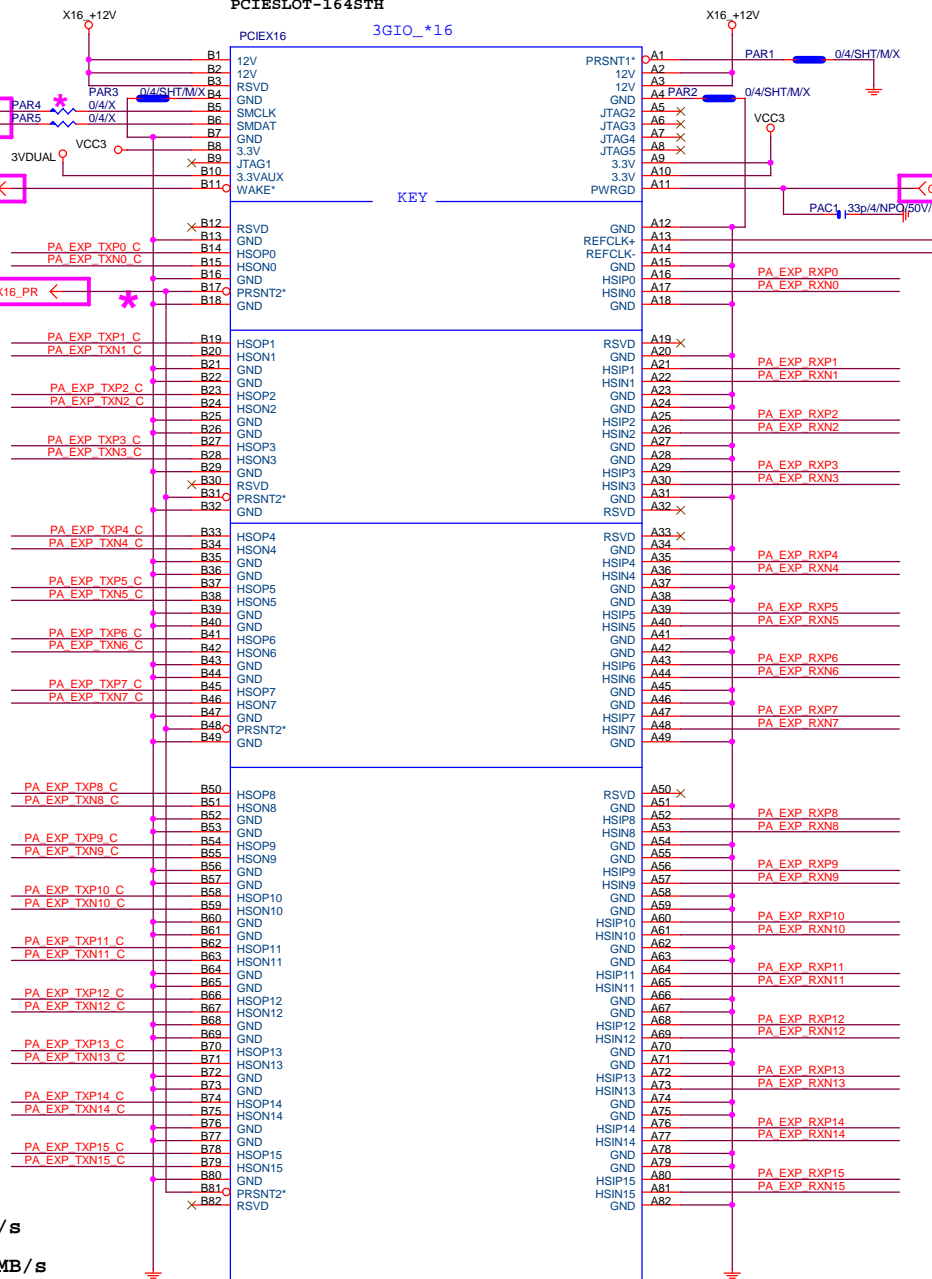
PCE-E X1(雙向) BANDWIDTH=2.5GHz*(8b/10b)X2=4Gb/s=500MB/s

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

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

PCI-E REV:2.0--> 5GHZ

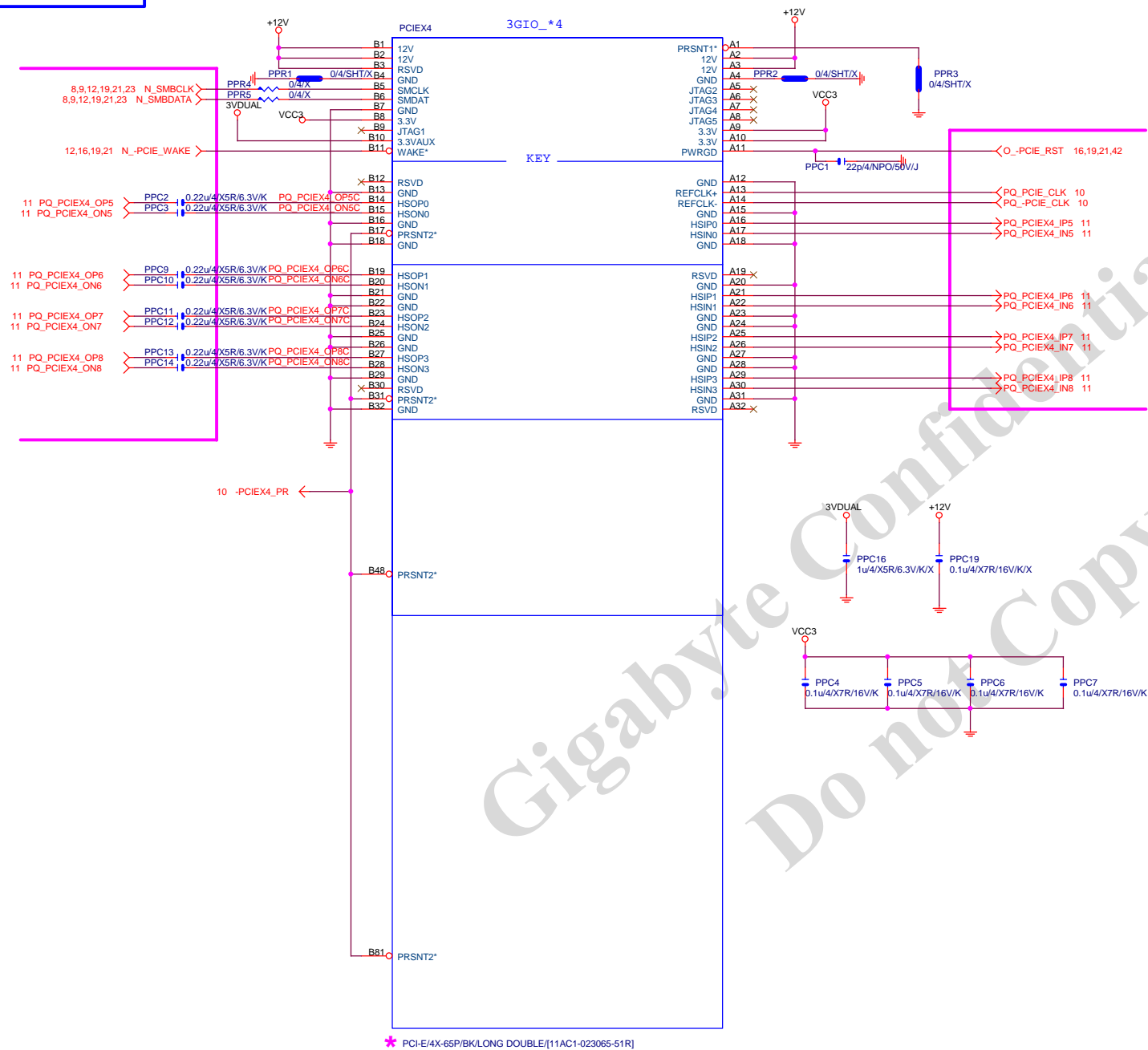
PCIESLOT-1645TH



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

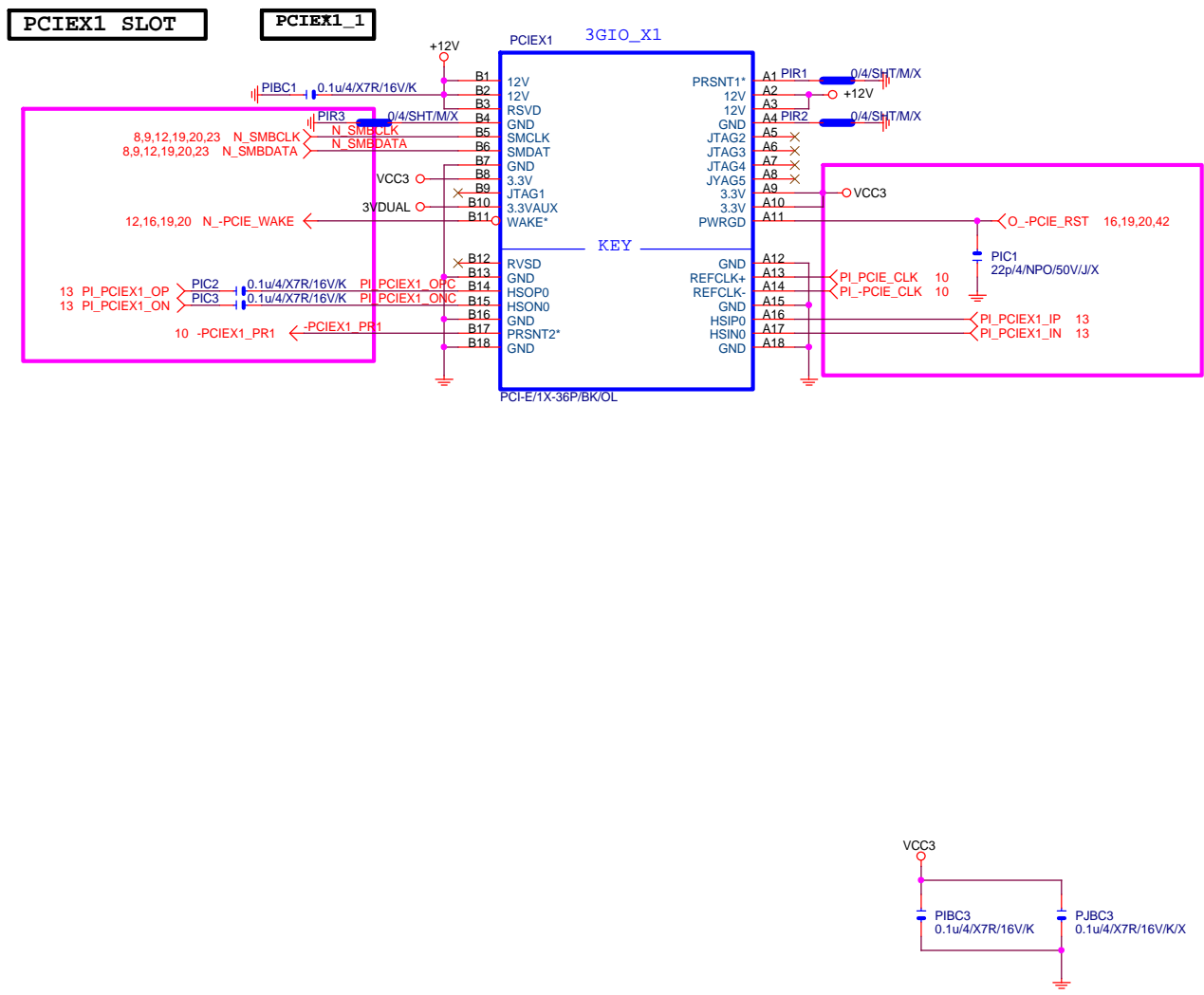
Gigabyte Technology

Title			PCI EXPRESS * 16	
Size	Custom	Document Number	Rev 1.0	
Date:		Friday, September 25, 2015	Sheet 19	of 49

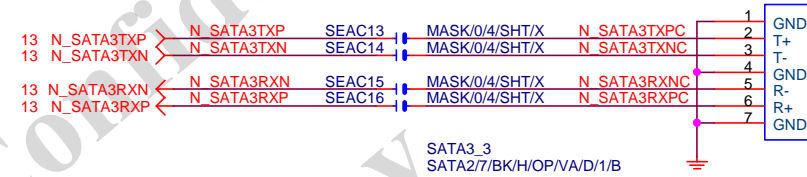
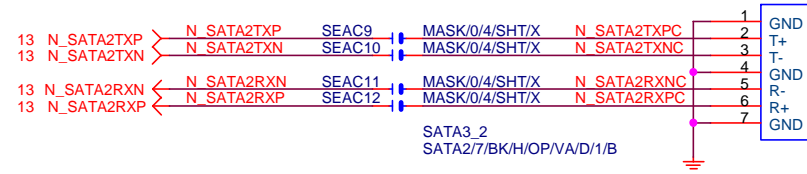
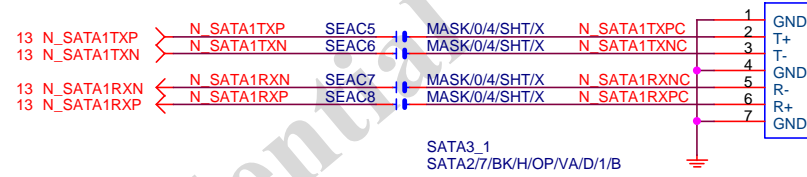
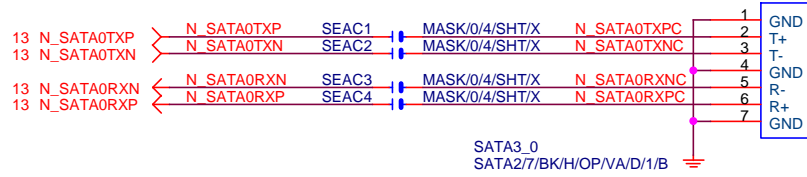


GIGABYTE

Title		
PCIE_X4		
Size	Document Number	Rev
Custom	GA-H110M-D2P-WG	1.0
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Rev 0.6

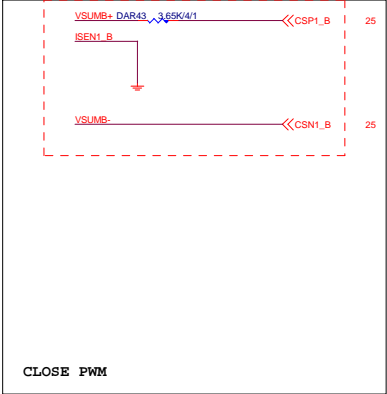
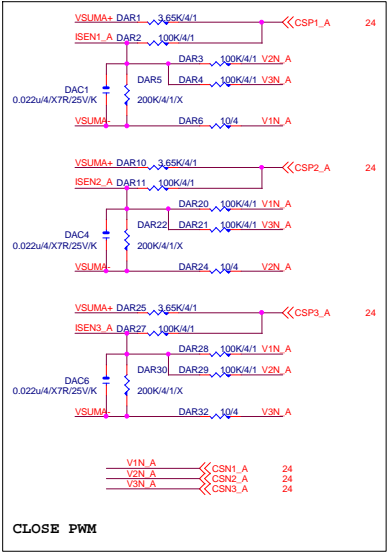
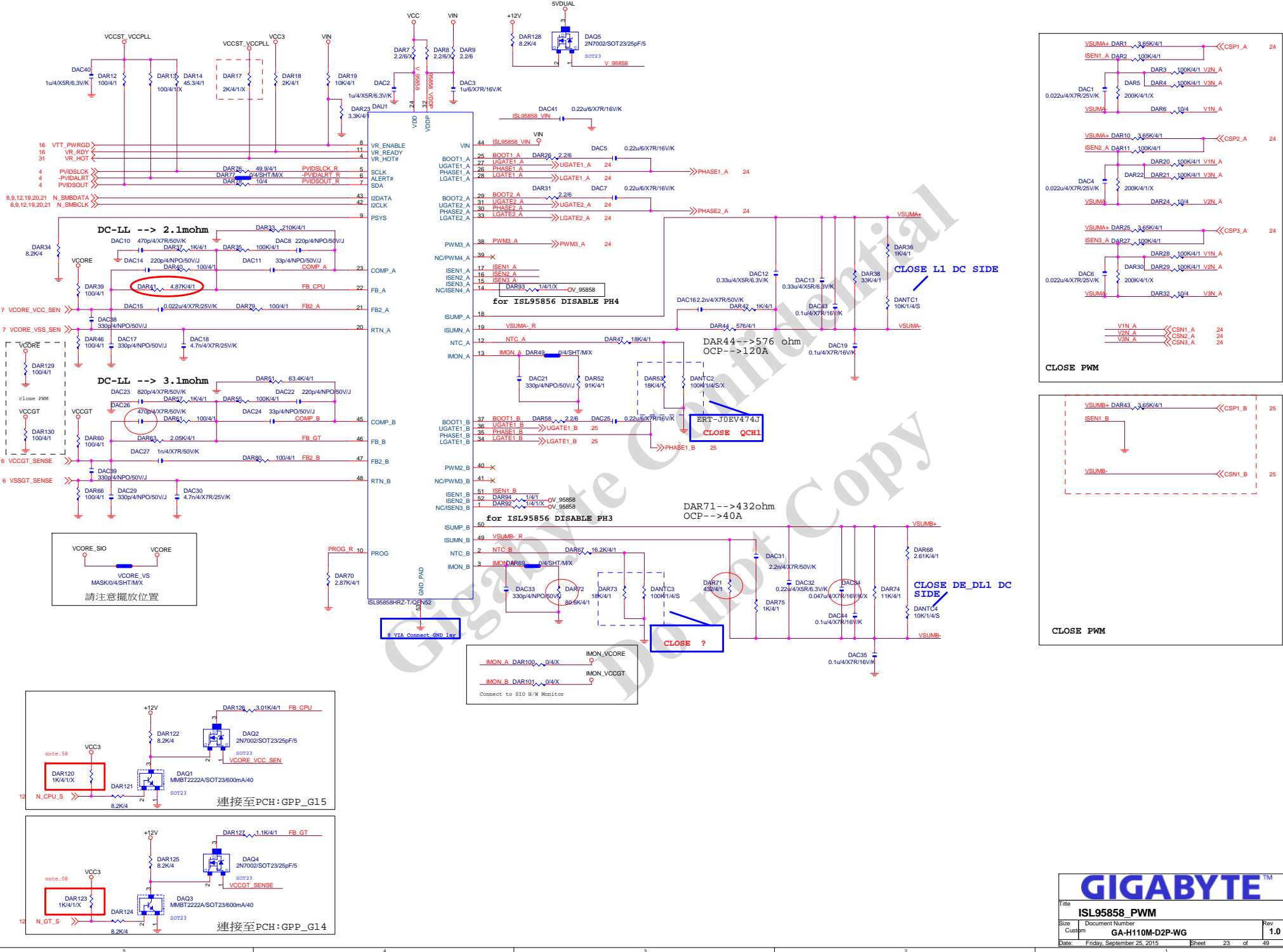


Gigabyte Technology

Title
SATA EXPRESS

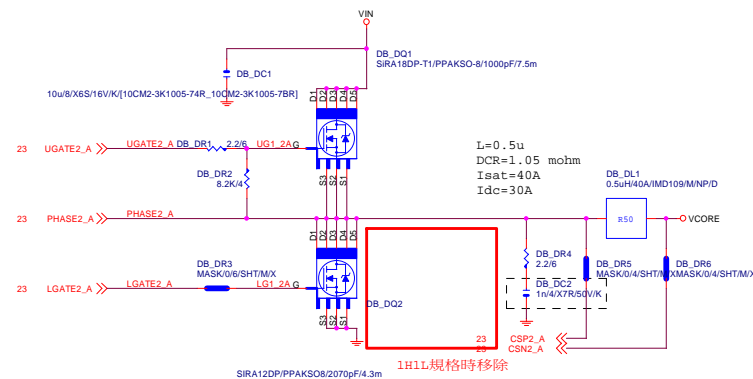
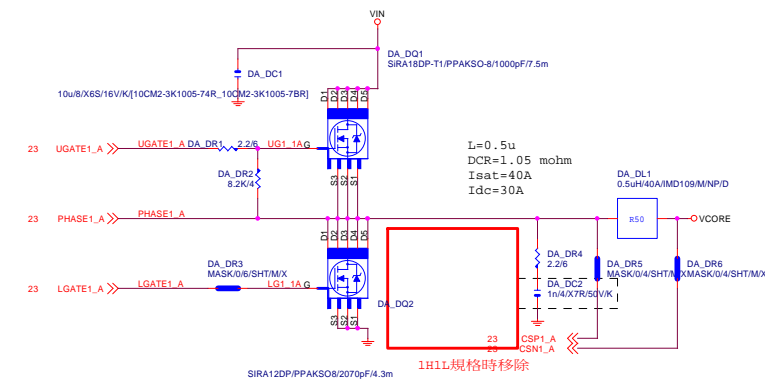
Size Custom Document Number
GA-H110M-D2P-WG Rev 1.0

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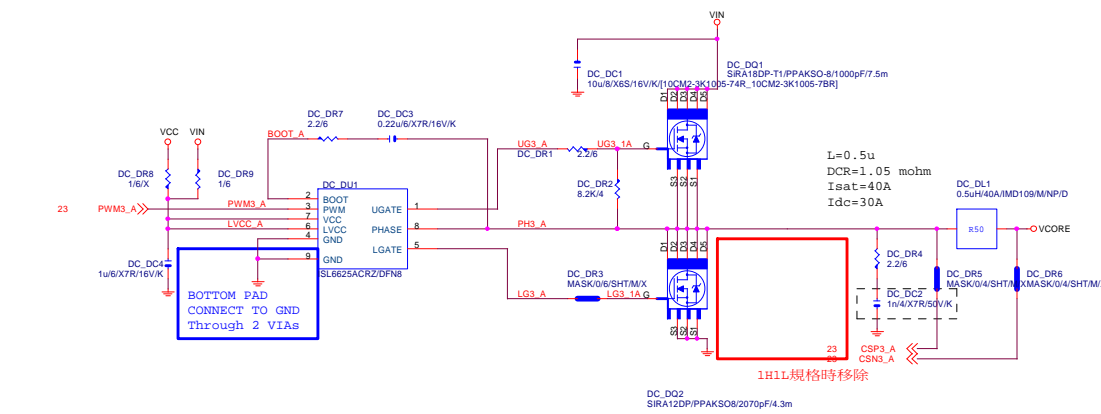
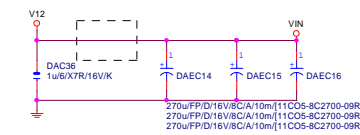


REV:0.91

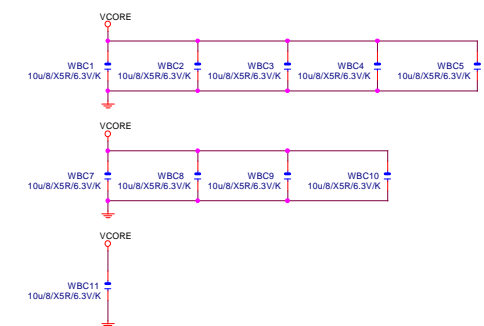
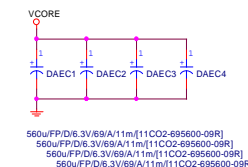
VCORE



VIN CAP 270u*3PCS

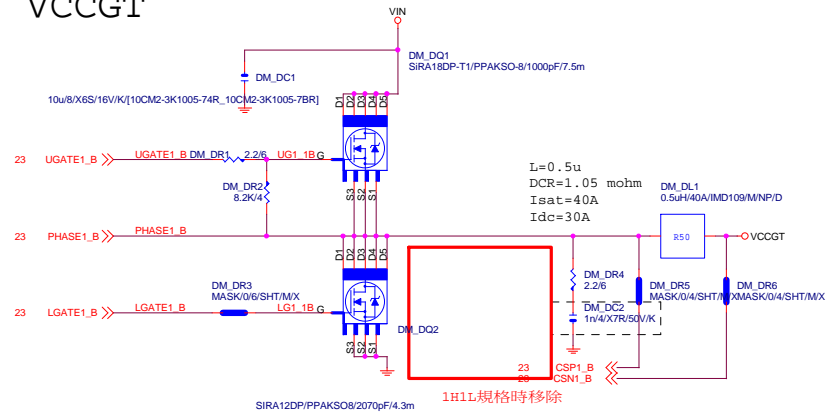
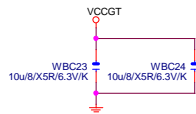
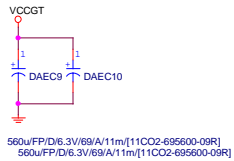


VCORE CAP 560u*4PCS 22u*10PCS



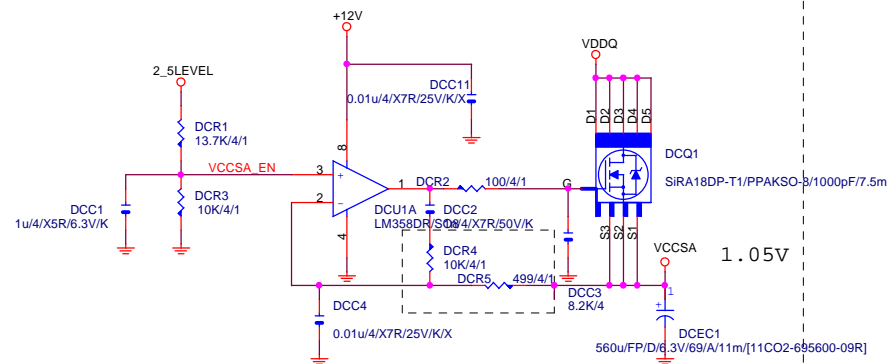
GIGABYTE™			
Title			
ISL95858_MOS			
Size	Document Number	Rev	
Custm	GA-H110M-D2P-WG	1.0	
Date:	Friday, September 25, 2015	Sheet	24 of 49

VCCGT

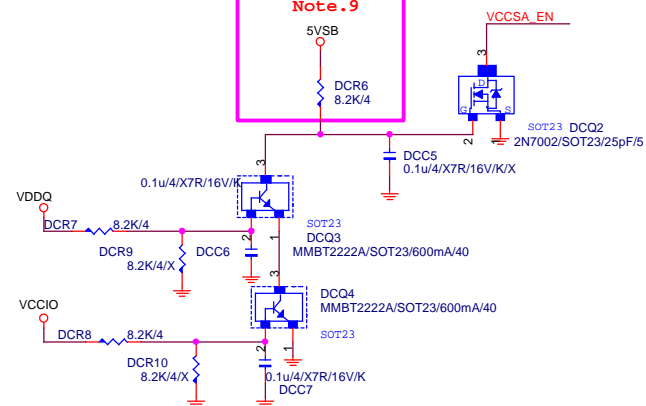
VCCGT CAP 560u*2PCS
22u*2PCS

VCCSA

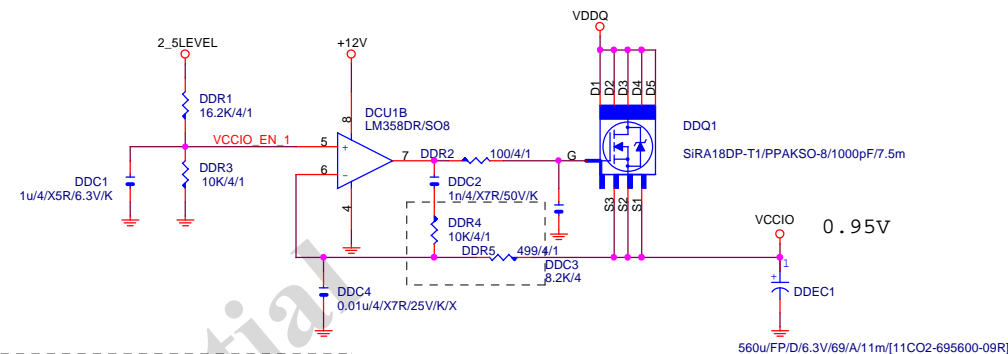
REV:0.4



Note.9



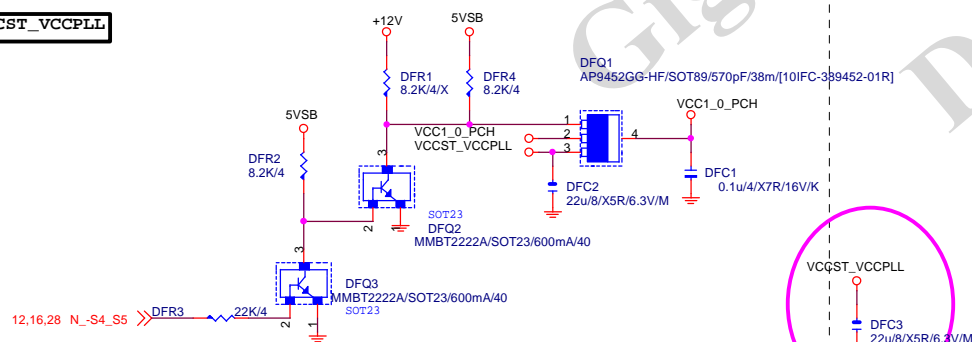
VCCIO



VCCIO_EN 1 DDR10 0/4/SHT/M/X VCCIO_EN 16

Connect to IT8620

VCCST_VCCPLL



GIGABYTE™			
Title VCCSA_VCCIO			
Size	Document Number	Rev	
Custom	GA-H110M-D2P-WG	1.0	
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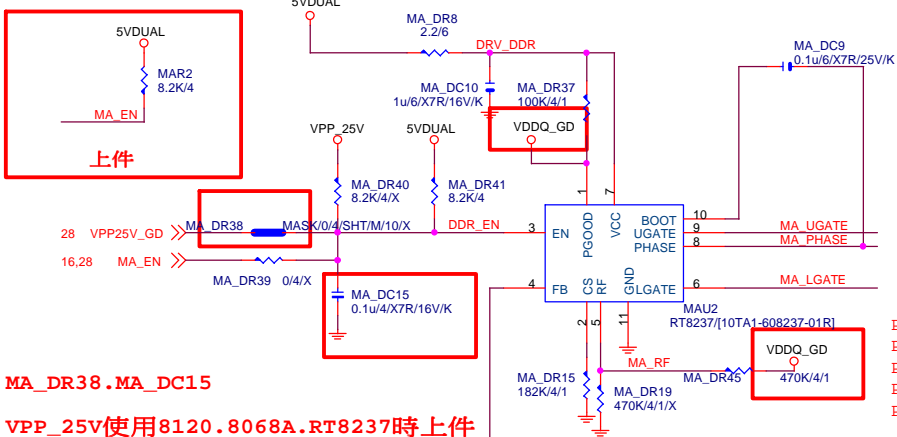
REV: 0.39

DDR4

DDR VIN CAP
560u*1PCS

CHOKE與CAP料號可變

上件

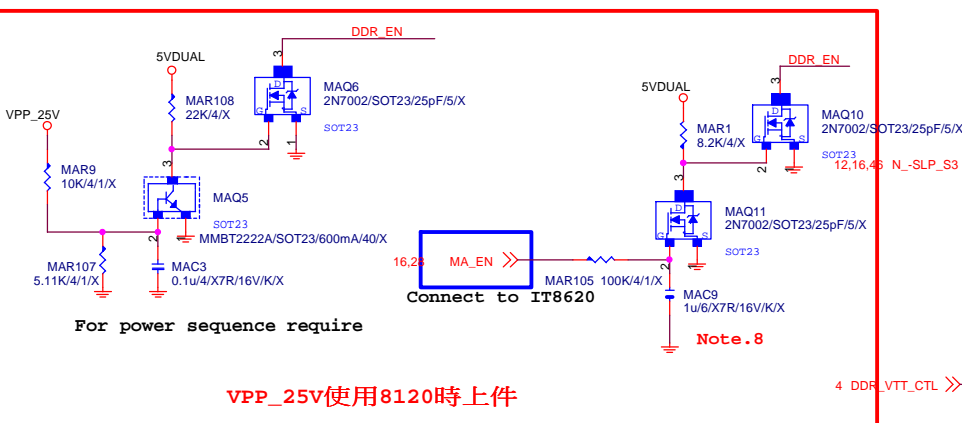


MA_DR38.MA_DC15

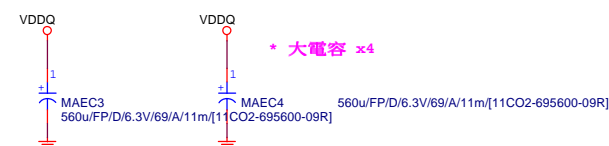
VPP_25V使用8120.8068A.RT8237時上件

PWR SEQ

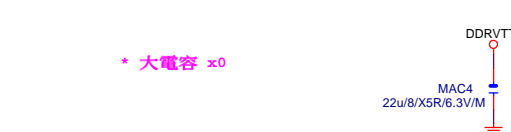
CLOSE TO DDR POWER PLANE



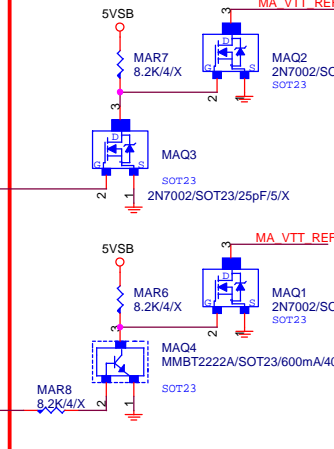
DDR CAP 560u*4PCS 22u*2PCS



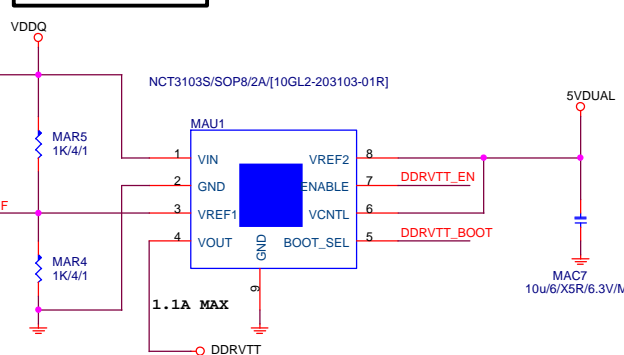
DDR VTT CAP

PIN7-->20mil
PIN1-->6mil
PIN2-->6mil
PIN5-->6mil
PIN3-->6milFS=290K
OCP=40AMOSFET請依MOSFET使用規則,自行選擇
ON-->10IP9-040406-10R[NTMFS4C06N/N/PPAK/1400pF/4m]
VISHAY-->10IP9-040012-10R[SIRA12DP/PPAKS08/2070pF/4.3m]

MAU1上RT9045時上件(不可MASK)



DDR VTT

DDR VTT CTL MAR110 0/4 DDR VTT EN
N-SLP_S3 MAR11 0/4 DDR VTT BOOT
MAU1上NCT3103S時上件(不可以改short pad)

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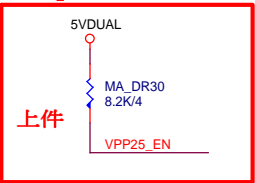
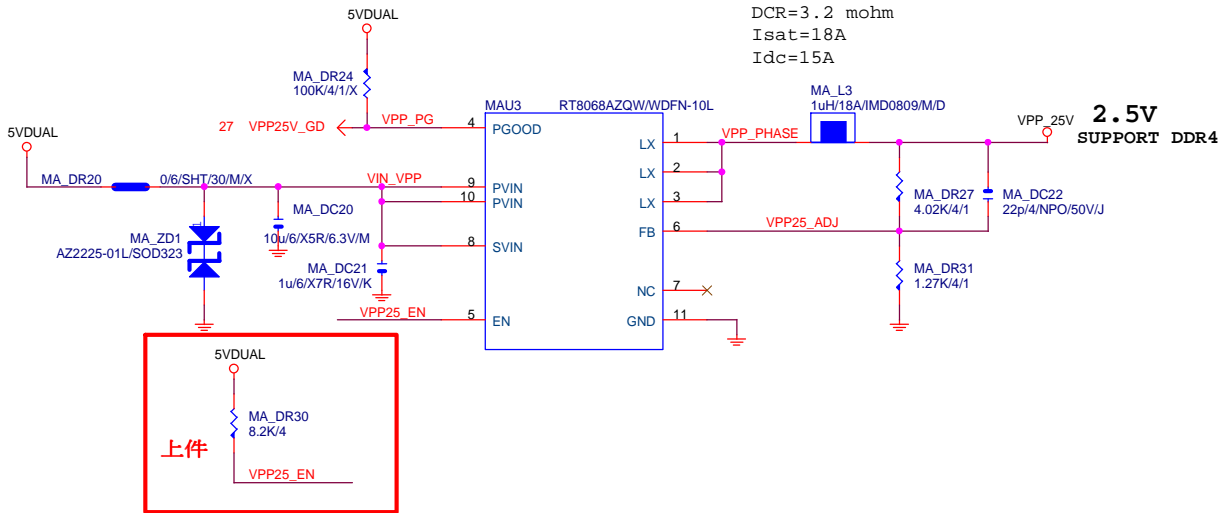
Title		
RT8237_DDR4 POWER		
Size	Document Number	Rev
Custom	GA-H110M-D2P-WG	1.0
Date:	Friday, September 25, 2015	Sheet 27 of 49

REV:0.4

VPP_25V

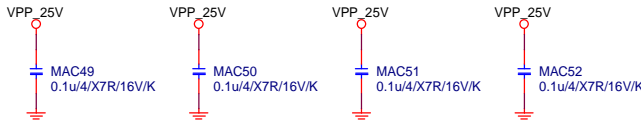
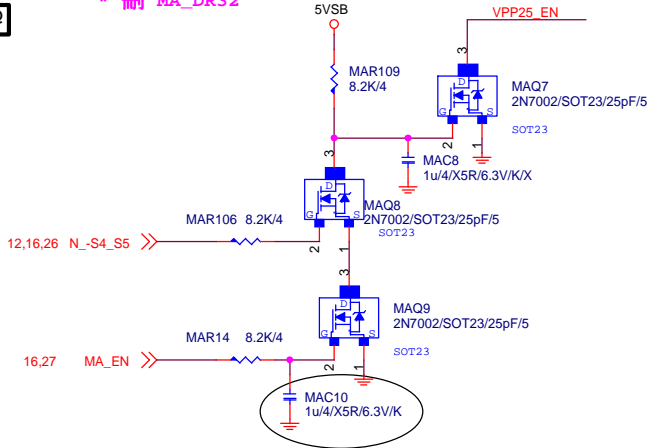
CHOKE與CAP料號可變

L=1u
DCR=3.2 mohm
Isat=18A
Idc=15A



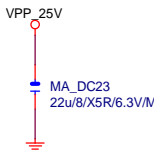
PWR_SEQ

* 刪 MA_DR32



VPP CAP 22u*1PCS

* 大電容 x0



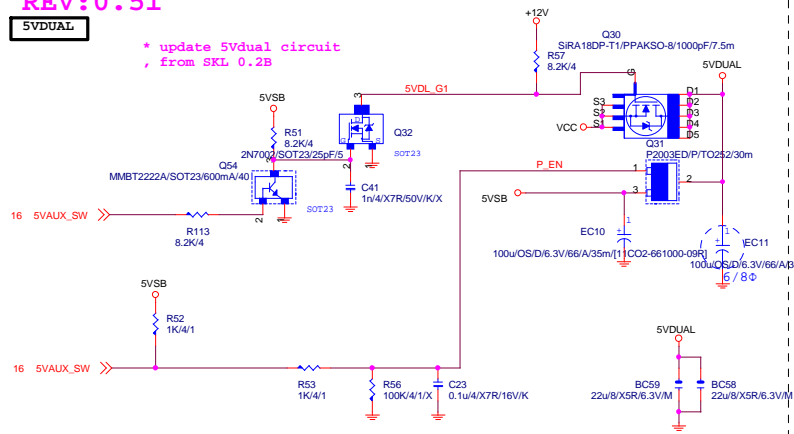
GIGABYTE™

Title		
RT9018_VPP25 POWER		
Size	Document Number	Rev
Custom	GA-H110M-D2P-WG	1.0
Date:	Friday, September 25, 2015	Sheet 28 of 49

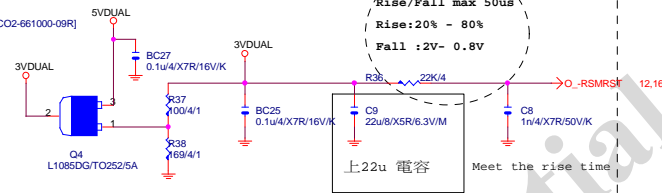
REV:0.51

5VDUAL

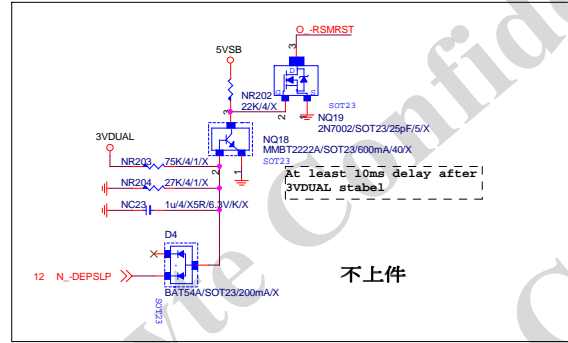
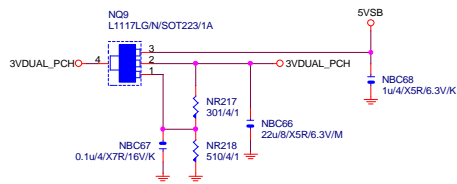
* update 5Vdual circuit
from SKL 0.2B



3VDUAL



3VDUAL_PCH



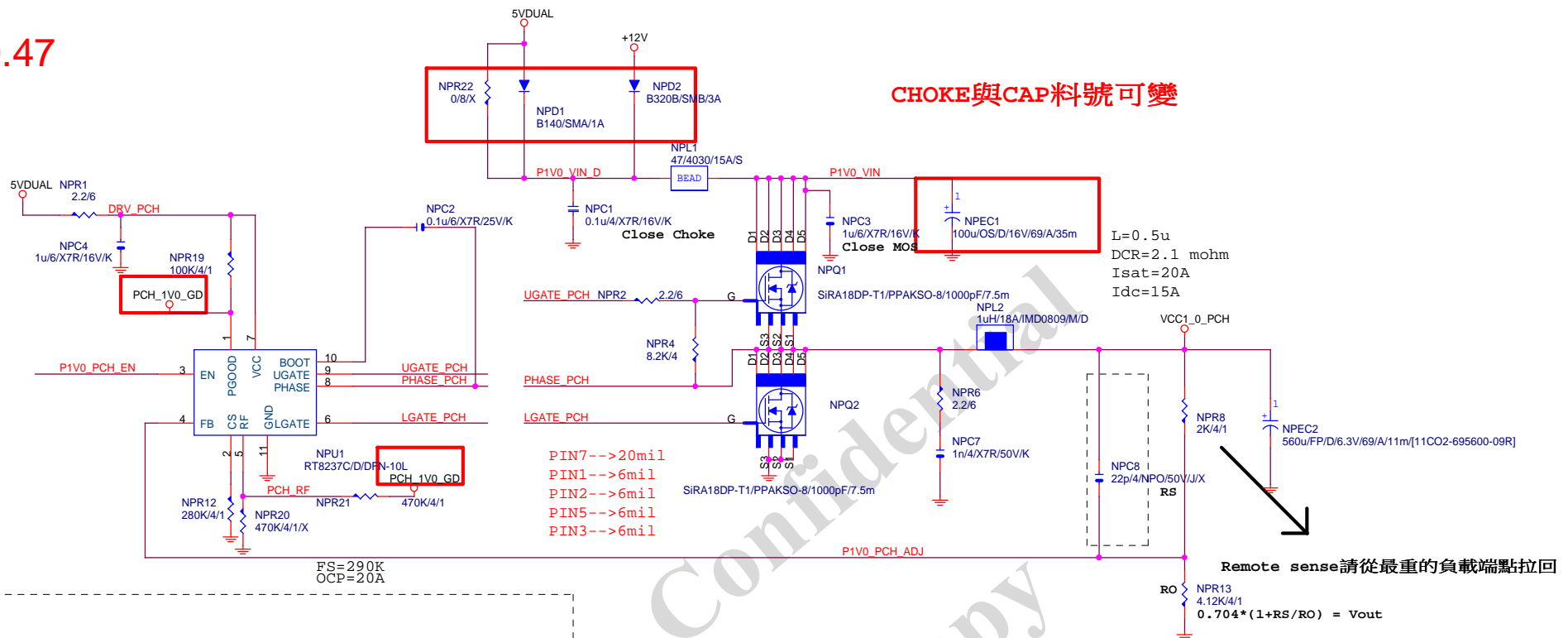
不上件

Gigabyte Technology

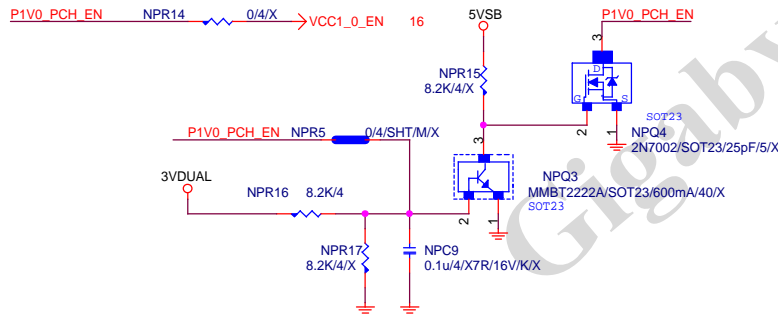
Title			
DISCRETE POWER			
Size	Document Number	GA-H110M-D2P-WG	
Custom			Rev 1.0
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REV:0.47

CHOKE與CAP料號可變



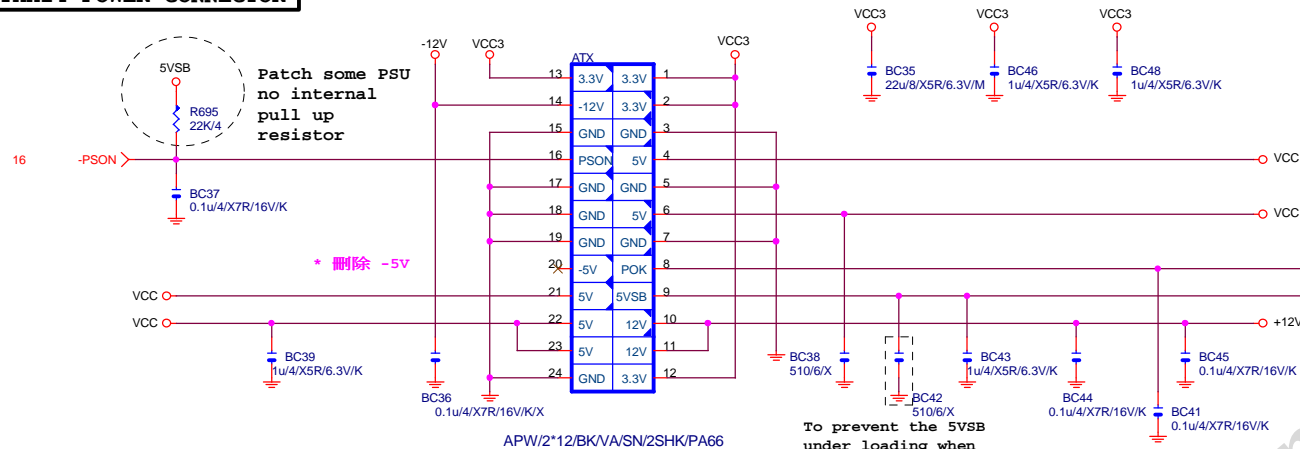
PWR_SEQ



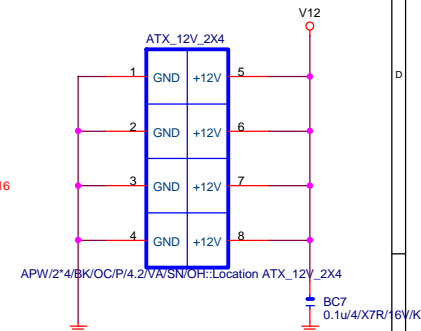
GIGABYTE™

Title		
RT8237_PCH POWER		
Size	Document Number	Rev
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ATXX24 POWER CONNECTOR

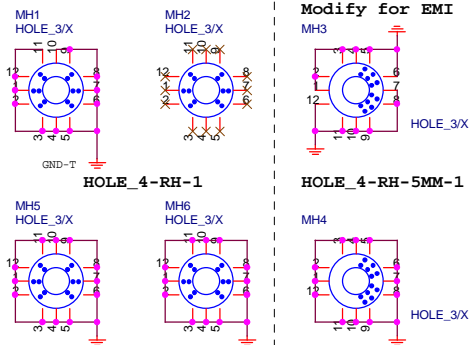


ATXX4 POWER CONNECTOR

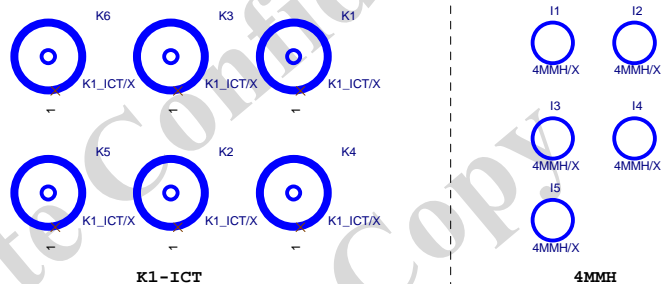


螺絲孔

MH1:GND-T
FOR EMI
TEST驗證



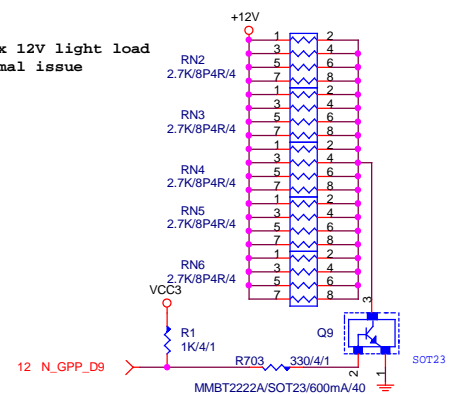
固定孔/光學點



To prevent the 5VSB
under loading when
boot

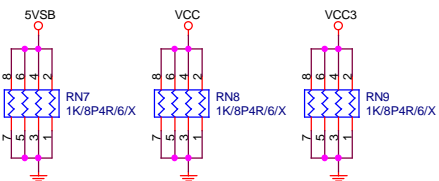
+12V DUMMY LOAD

To fix 12V light load
abnormal issue

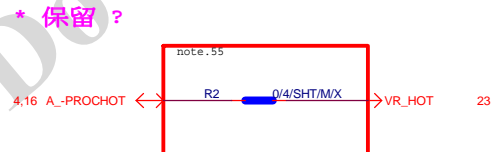


【技術通報R&D技術通報153】

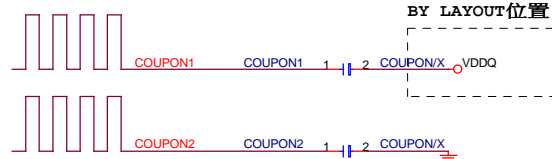
DUMMY LOAD



-PROHOT



COUPON



Gigabyte Technology

Title				
ATX POWER CONNECTOR				
Size	Document Number			Rev
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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]

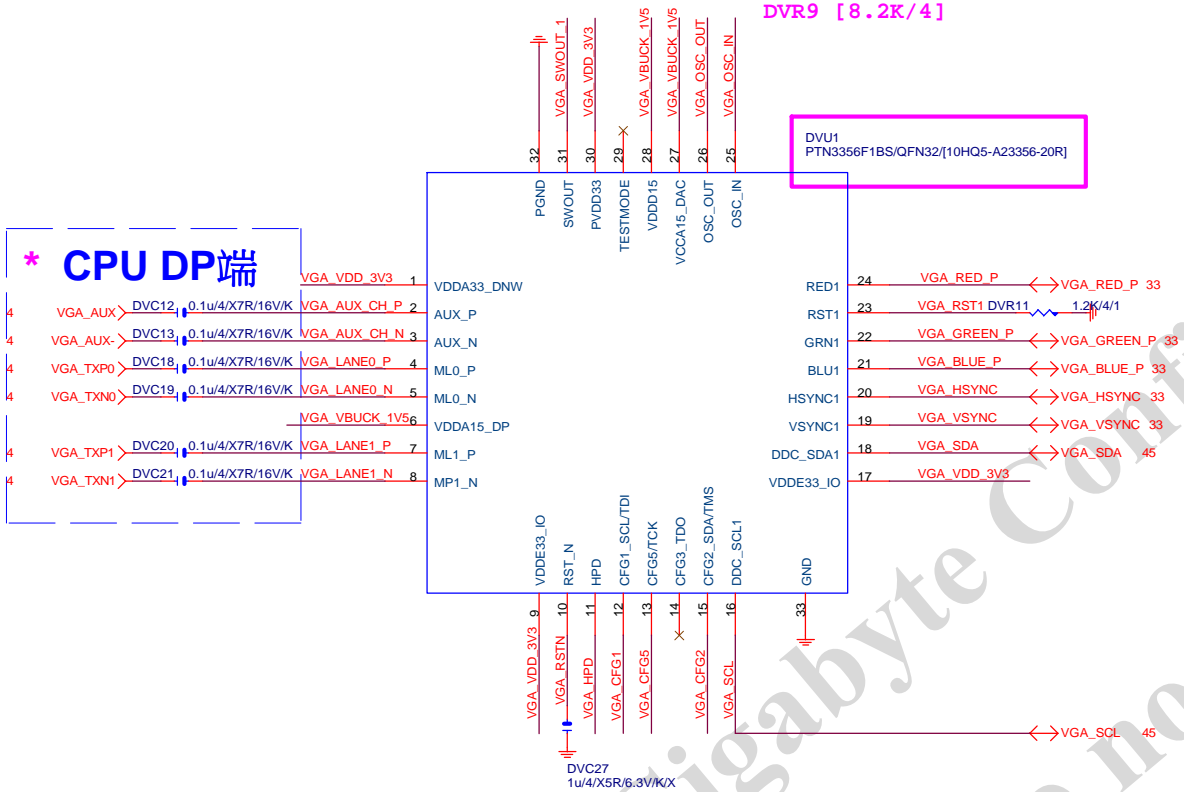
DVC11 [10p/4/NPO/50V/J]~修改值
DVR10 [8.2K/4]

2. 删除:

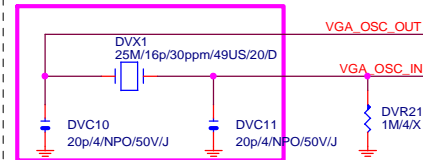
DVX1 [25M/16p/30ppm/49US/20/D]

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

DVR9 [8.2K/4]



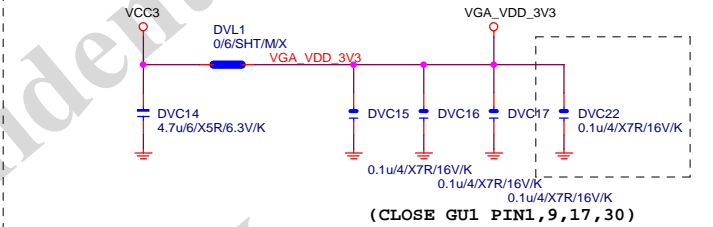
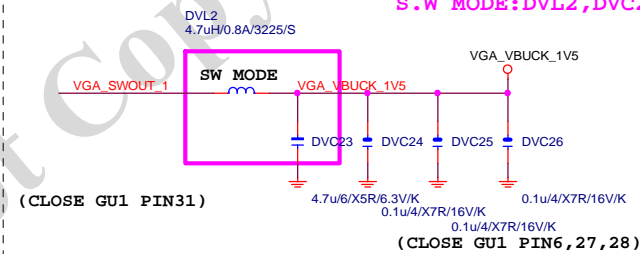
25M Crystal FROM PCH 24MHZ ISSUE



CFG5 For Crystal Less

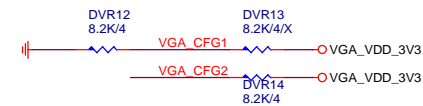


ADAPTER POWER

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

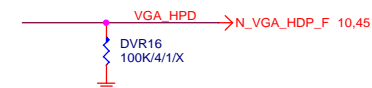
CFG1&2

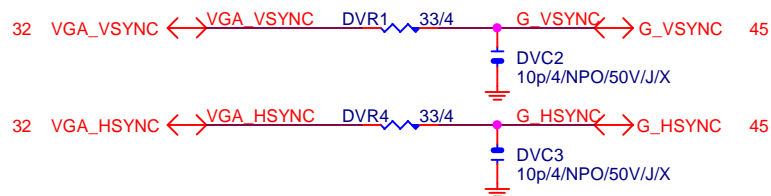
Non-Compliant



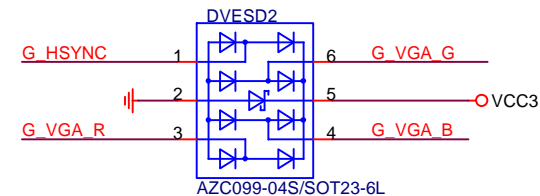
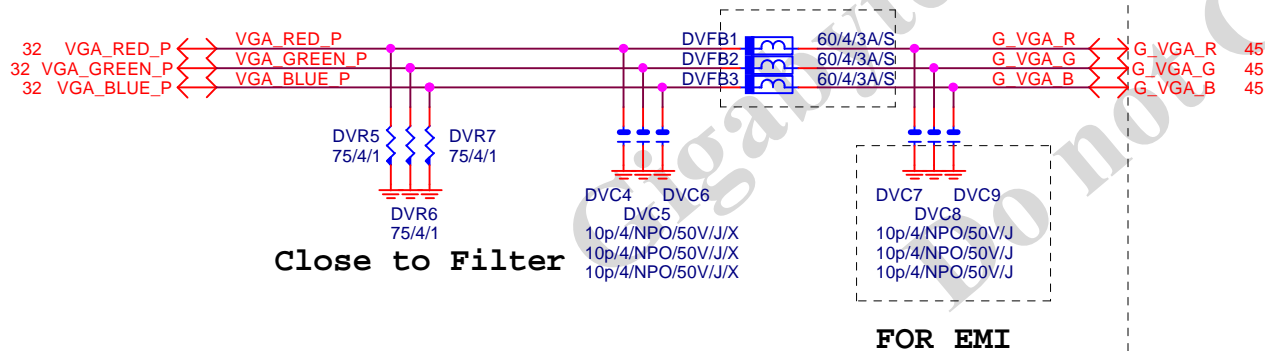
HPD

PCH端 *

Gigabyte Technology
NXP-PTN3356



VGA ESD



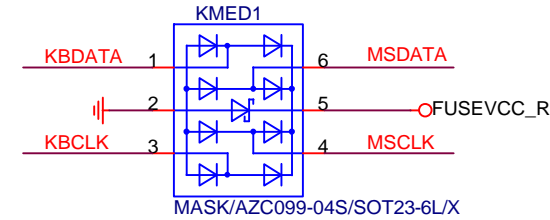
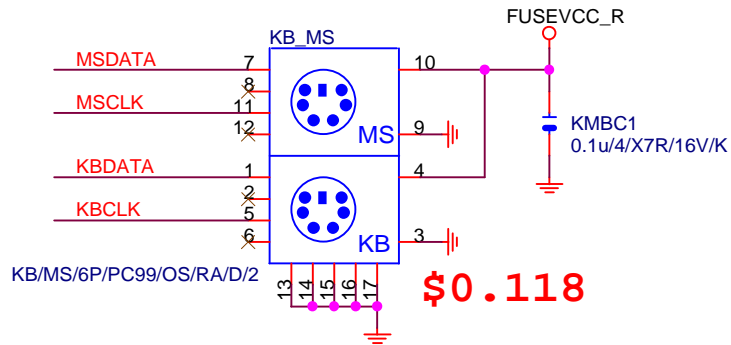
Gigabyte Technology
NXP-PTN3356

Title		
Size	Document Number	Rev
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KB_MS_USB

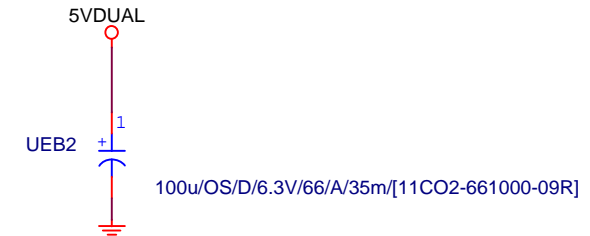
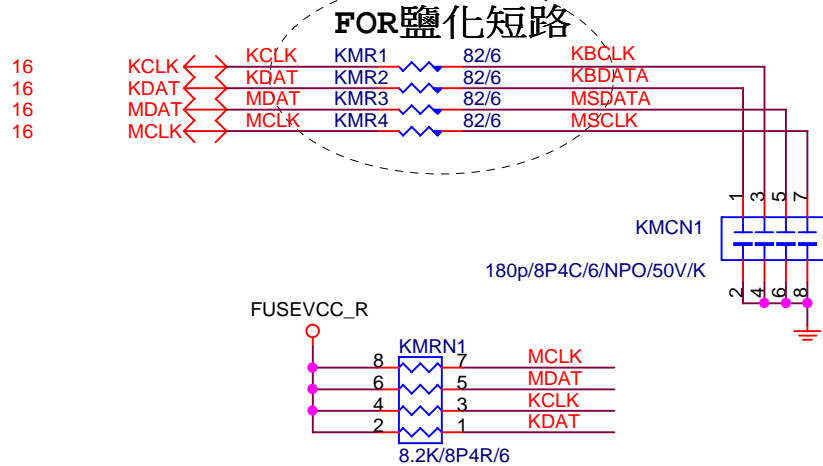
Rev: 0.51

ESD



KB_MS_USB DAMPING/PU

KB_MS_USB PWR



Gigabyte Technology

Title

KB_MS_USB

Size
A

Document Number

GA-H110M-D2P-WG

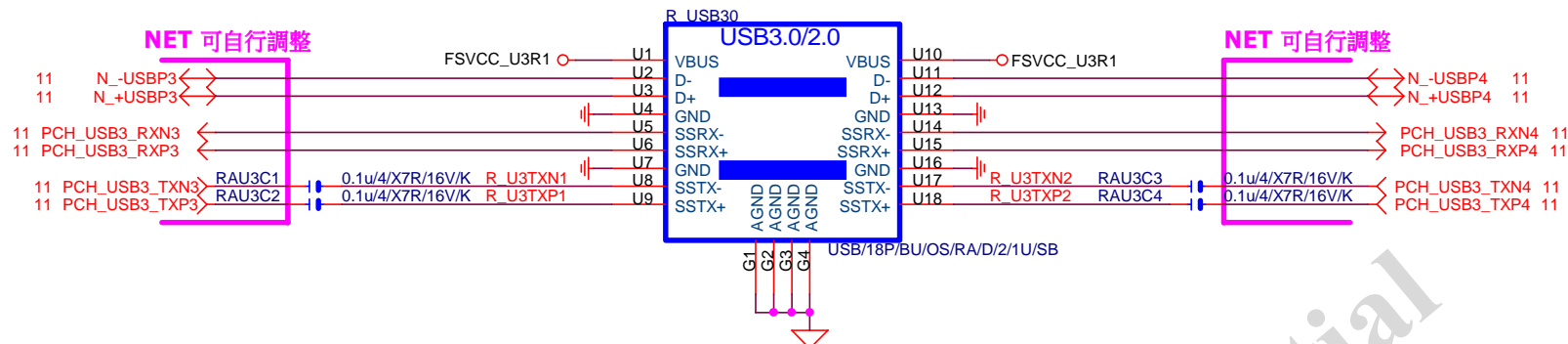
Rev
1.0

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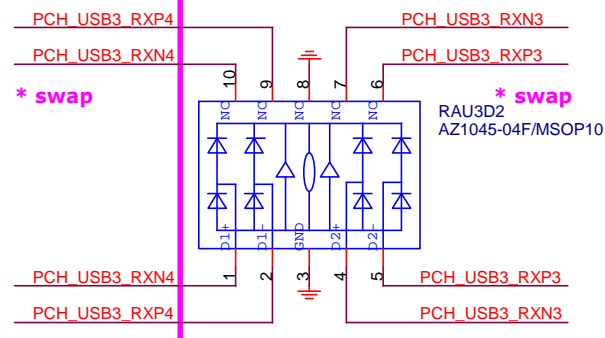
Rev: 0.7

ESD 可自行SWAP PIN ,CONN端 NET 名稱 不可

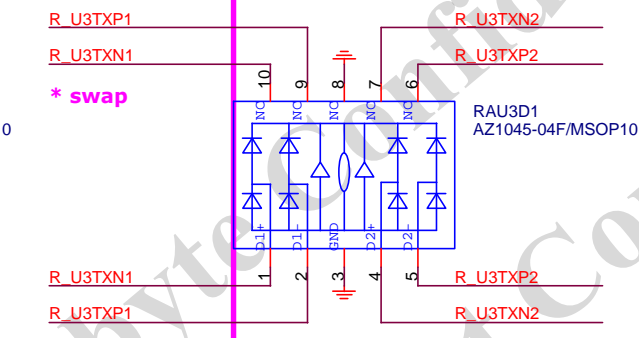


ESD

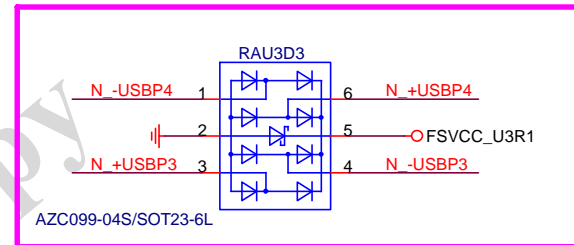
NET 可自行調整



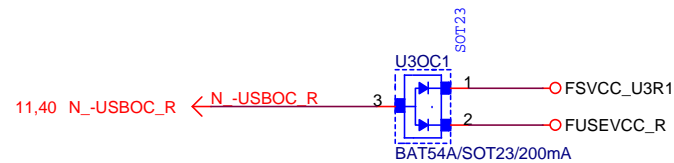
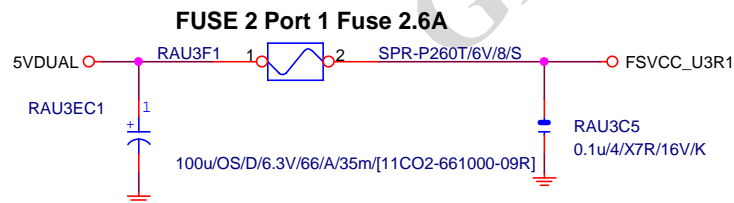
NET 可自行調整



NET 可自行調整

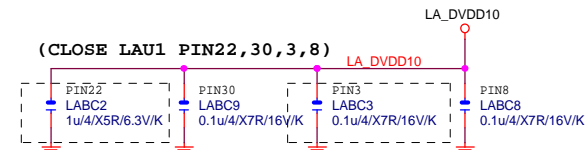
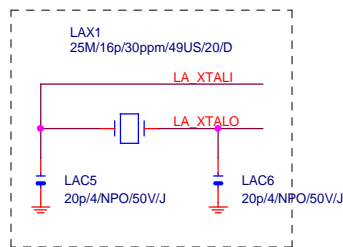


FUSE

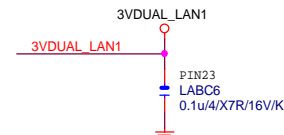
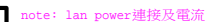


Gigabyte Technology

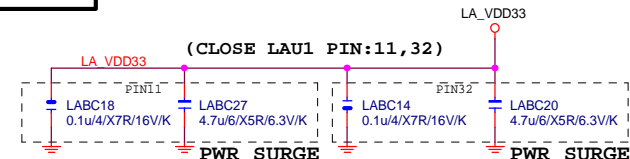
Title		R_USB30,USB_OC	
Size	Document Number	GA-H110M-D2P-WG	
Custom		Rev 1.0	
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LABC2:1U CLOSE PIN22[REALTEK REQ]

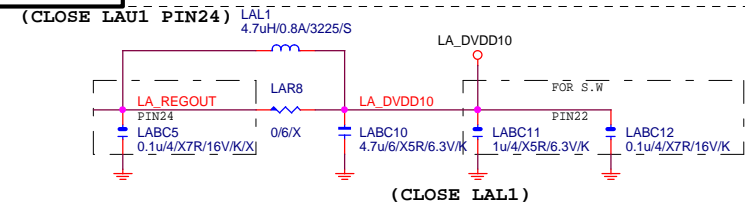


(CLOSE LAU1 PIN23)



```
LABC18,27:CLOSE PIN11[REALTEK SURGE]
LABC14,20:CLOSE PIN32[REALTEK SURGE]
```

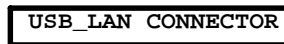
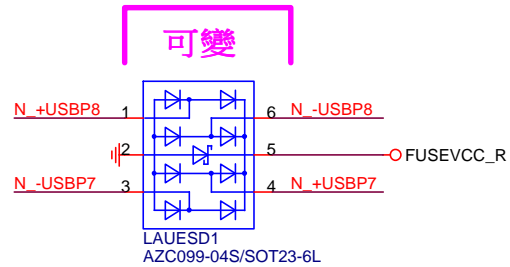
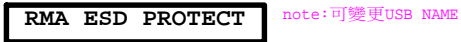
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LABC18,27:CLOSE PIN11[REALTEK SURGE]
LABC14,20:CLOSE PIN32[REALTEK SURGE]
```



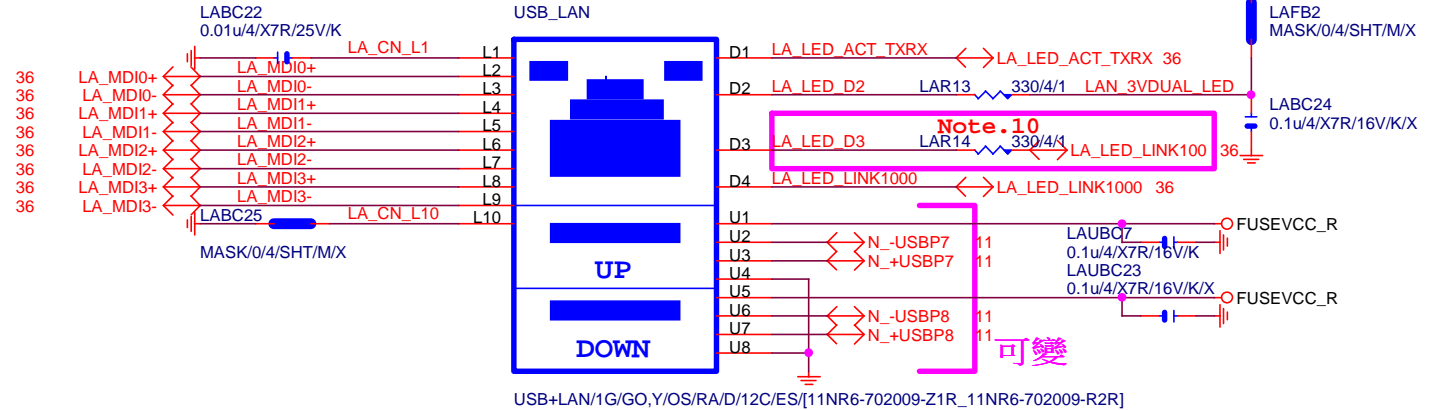
RT8106E:PIN3,11,22,24-->NC

LABC2LABC3,LABC5,LABC18,LABC27-->N/A

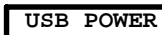
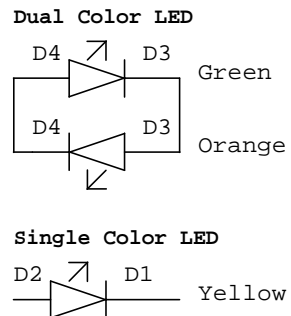
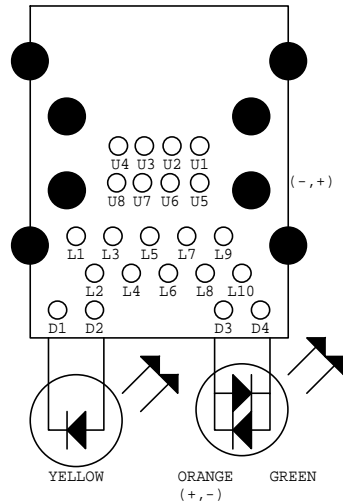
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Title				Realtek RTL811HS			
Size	Document Number					Rev	
Custom						1.0	
Date:	Friday, September 25, 2015			GA-H110M-D2P-WG			
		Sheet	36	of	49		



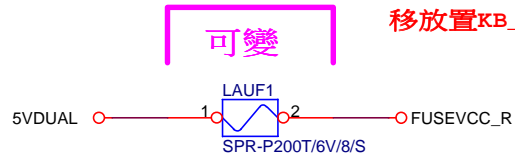
note:可變更USB NAME



LA_MDI-->100歐姆:[20/4/8/4/20]



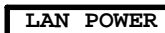
note:可變更FUSE



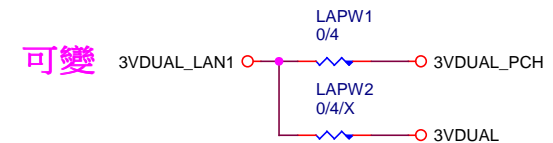
Close to connector
USB_LAN 2-Port 2.0A
FUSE-0805



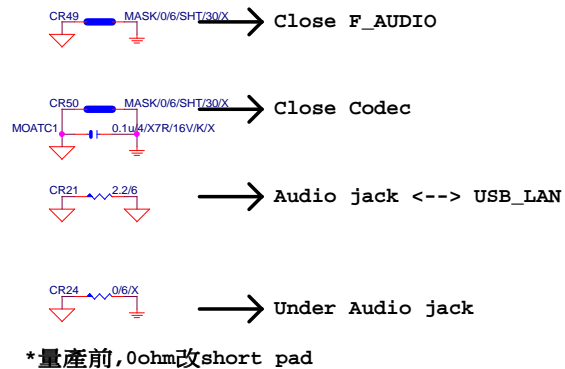
PS:視EMI需求



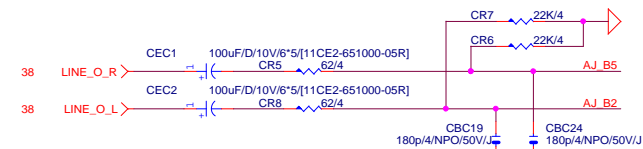
note: lan power連接及電流



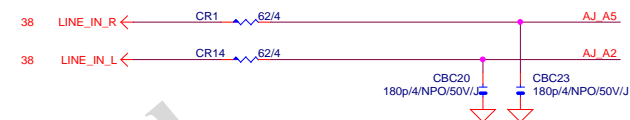
Rev 0.5



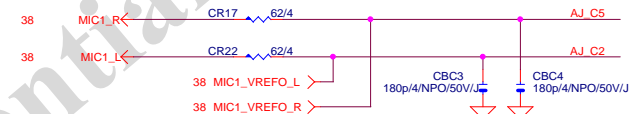
LINE-OUT



LINE-IN



MIC-IN

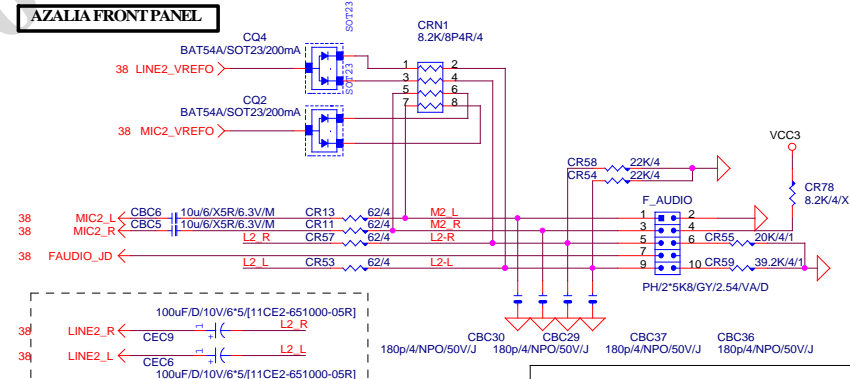


SURROUND

CEN/LFE

SURRBACK

AZALIA FRONT PANEL

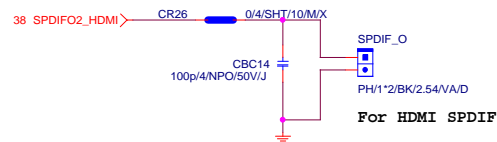


Gigabyte Technology

AUDIO JACK

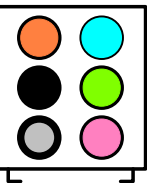
Title	Document Number	Rev
	GA-H110M-D2P-WG	1.0
Size Custom		
Date: Friday, September 25, 2015	Sheet 39 of 49	

SPDIF_OUT



SPDIF_IN

AZALIA JACK



AZALIA JACK

BLUE

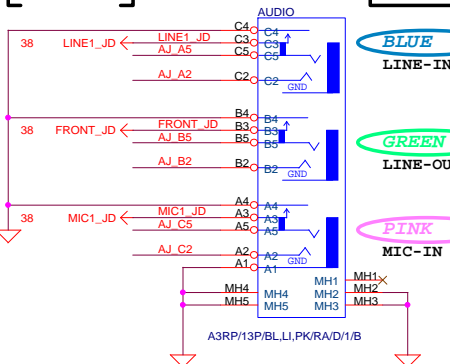
LINE-IN

GREEN

LINE-OUT

PINK

MIC-IN

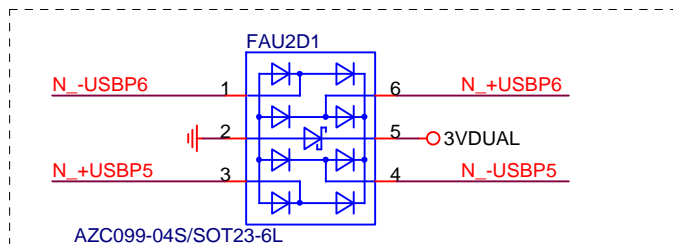
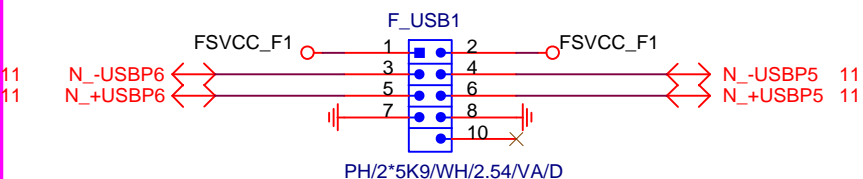


Rev: 0.7

FRONT USB1

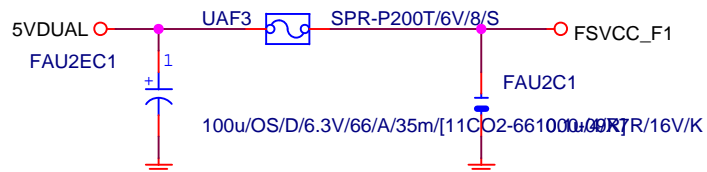
NET 可變

FUSB2X5-HS



Close to connector

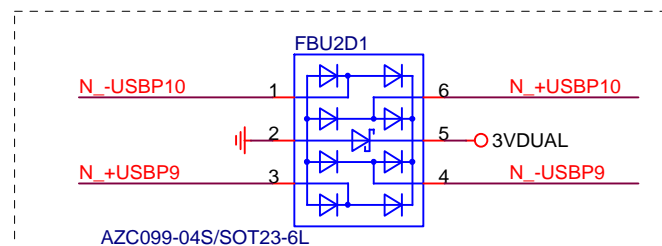
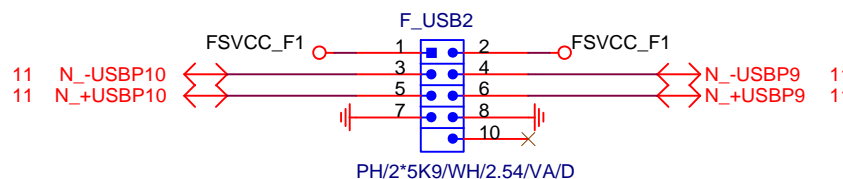
FUSE 4 Port 1 Fuse 2A



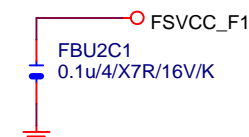
FRONT USB2

NET 可變

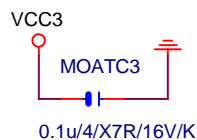
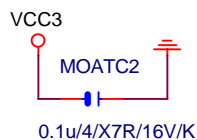
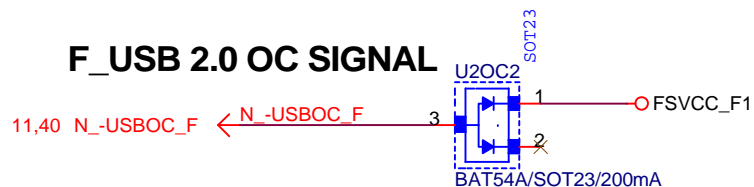
FUSB2X5-HS



Close to connector



F_USB 2.0 OC SIGNAL



Gigabyte Technology

Title

USB2.0

Size
A

Document Number

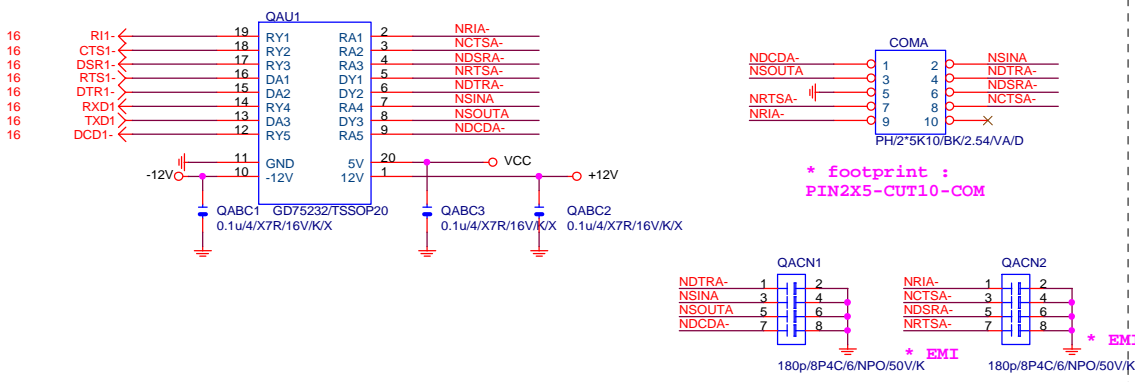
GA-H110M-D2P-WG1.0

Date: Friday, September 25, 2015

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COM PORT

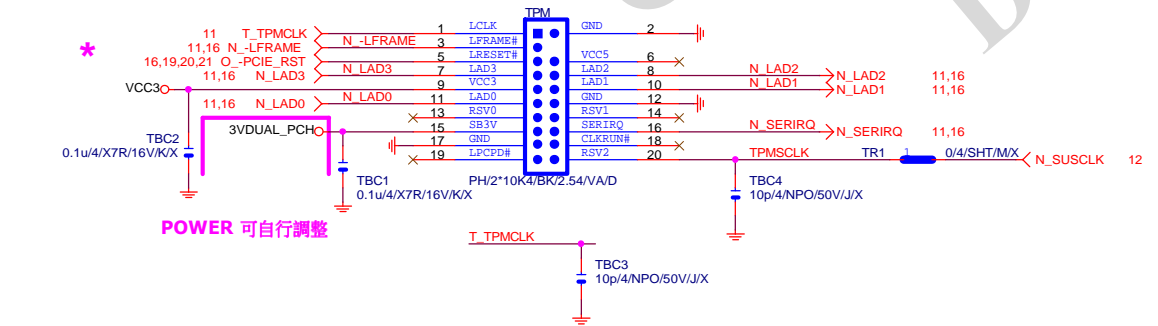
Rev: 0.7



COM RI

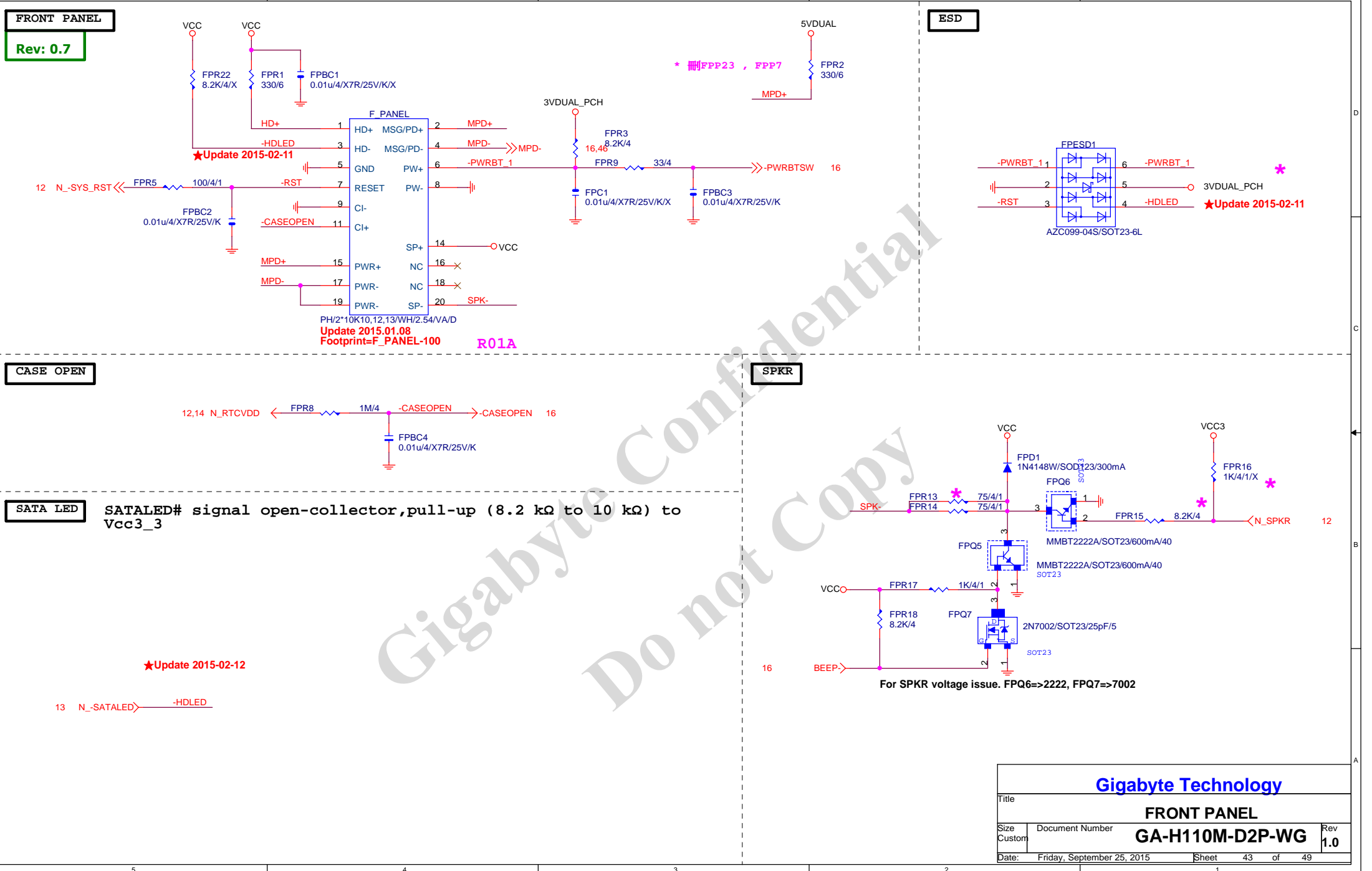
LPT PORT

TPM CONNECT

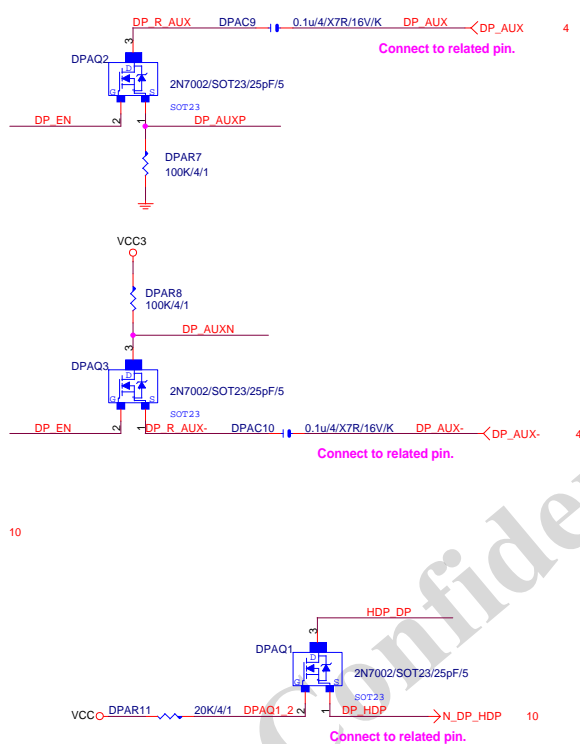
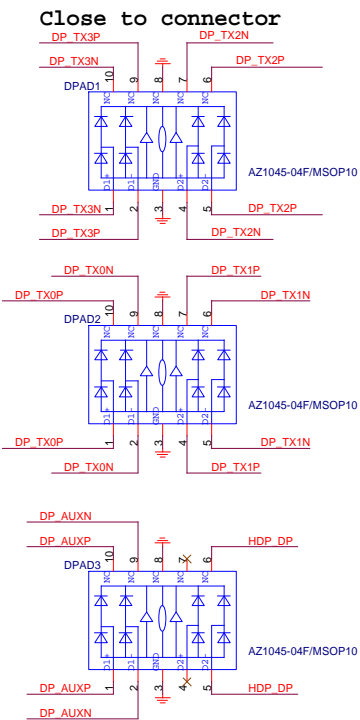
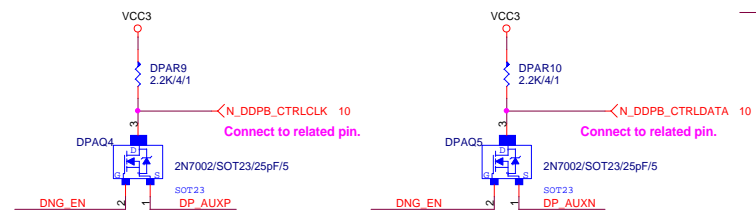
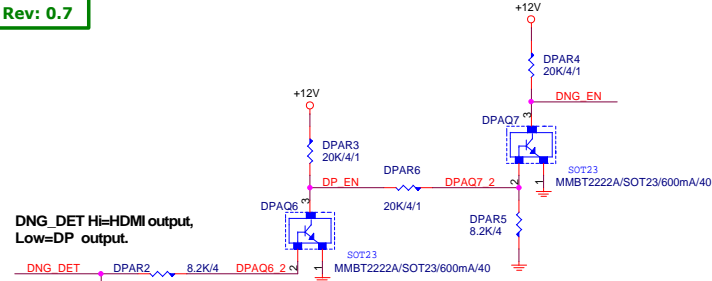


Thunderbolt

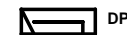
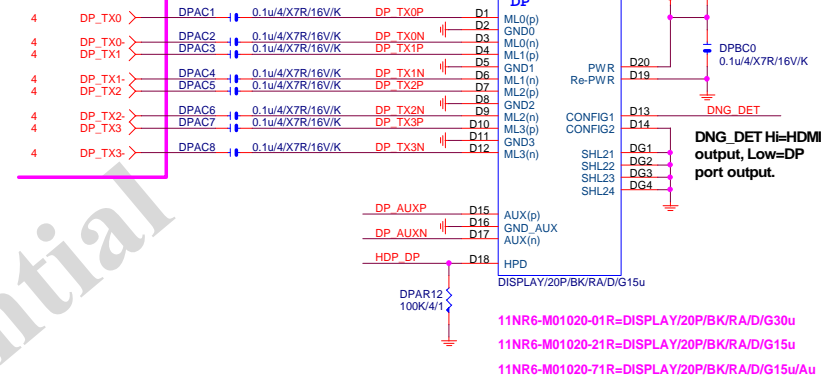
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Title	
FRONT PANEL	
Size	Document Number
Custom	GA-H110M-D2P-WG
Date:	Friday, September 25, 2015
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Rev	1.0



SINGLE Display Port

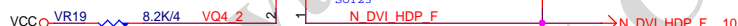
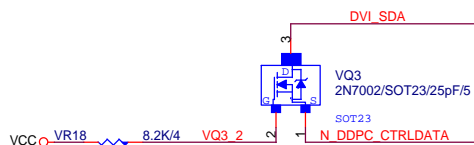
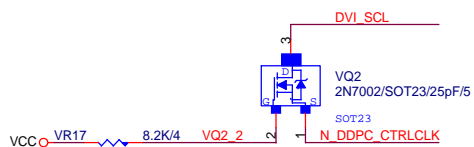
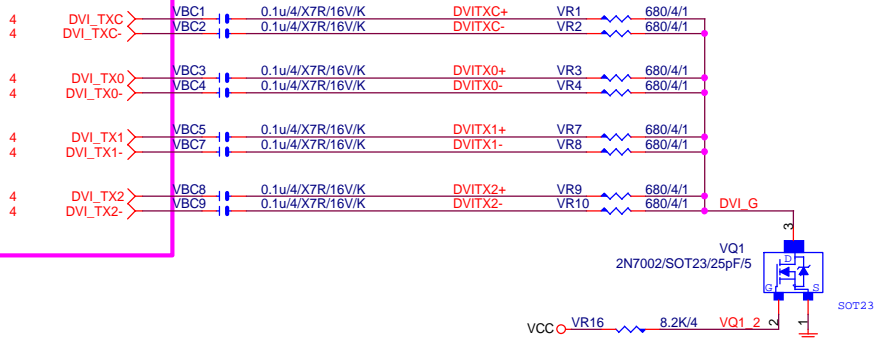


DVI

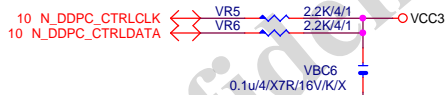
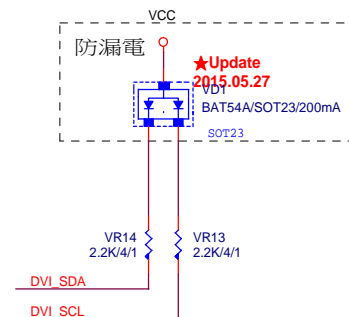
Rev:0.7

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

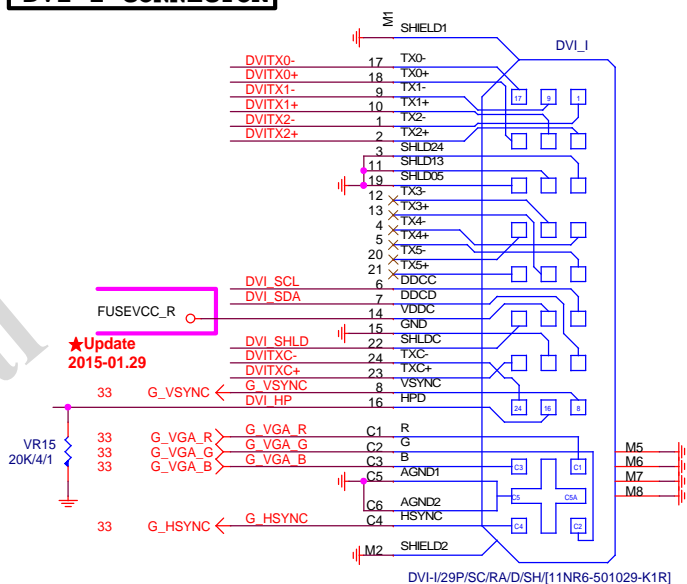
NET 可變



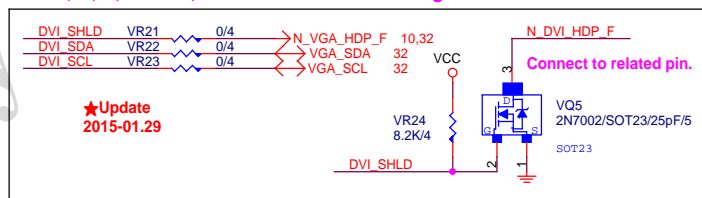
DVI PU



DVI-I CONNECTOR

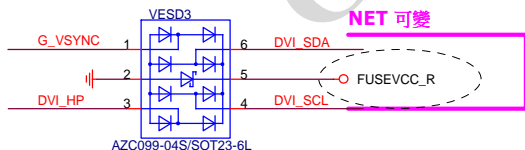
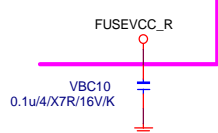


R, G, B, HSYNC, VSHYC connect to VGA signal from DP to VGA IC.

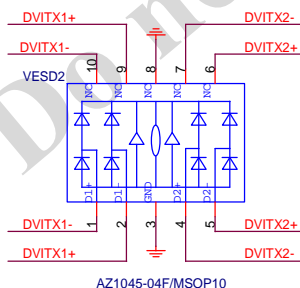


ESD

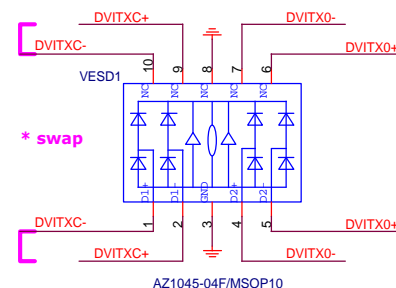
NET 可變



Close to connector



Close to connector



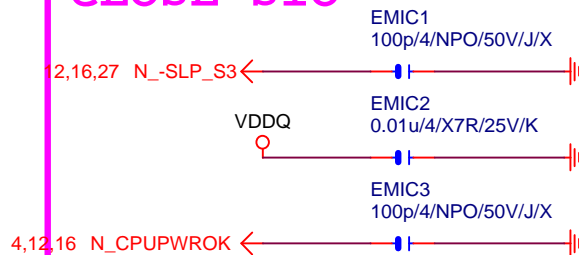
Close to connector

Gigabyte Technology

Title		DVI	
Size	Custom	Document Number	GA-H110M-D2P-WG
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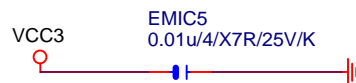
CLOSE SIO



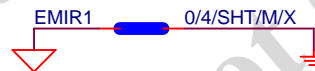
CLOSE PCH



close to PCH (NR17)



R_USB30_2 & DVI 之間



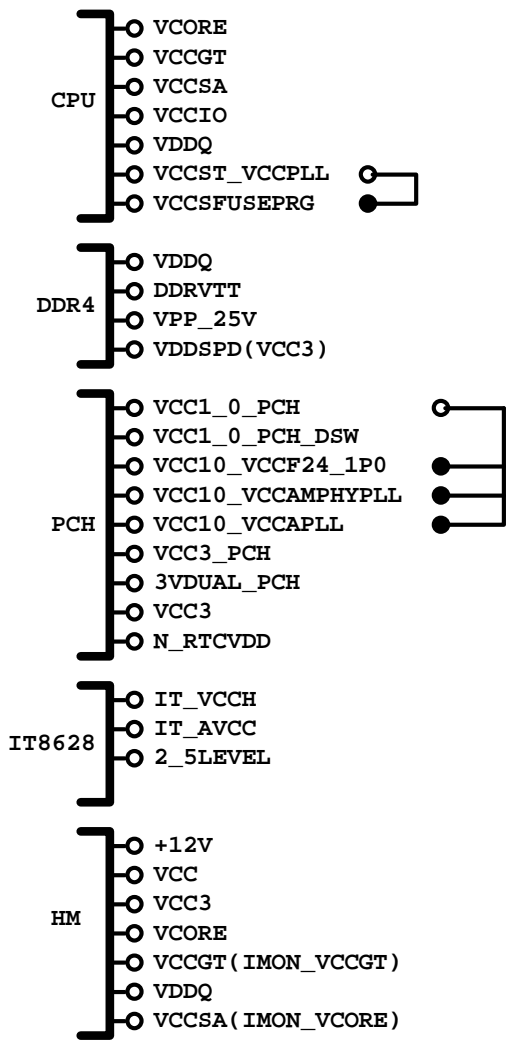
close to F_PANEL MPD-



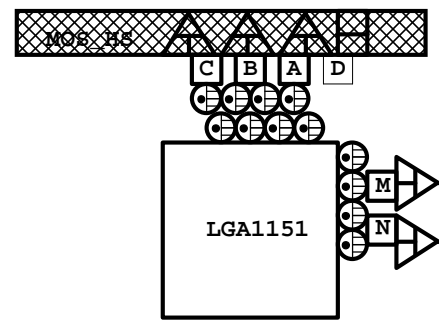
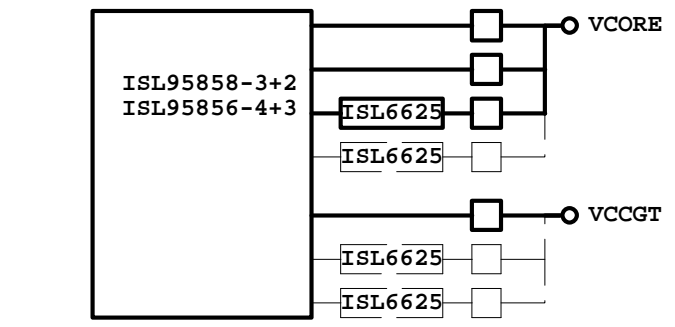
GIGABYTE™

Title			EM/ESD	
Size	Document Number		Rev	
A	GA-H110M-D2P-WG		1.0	
Date:		Friday, September 25, 2015	Sheet	46 of 49

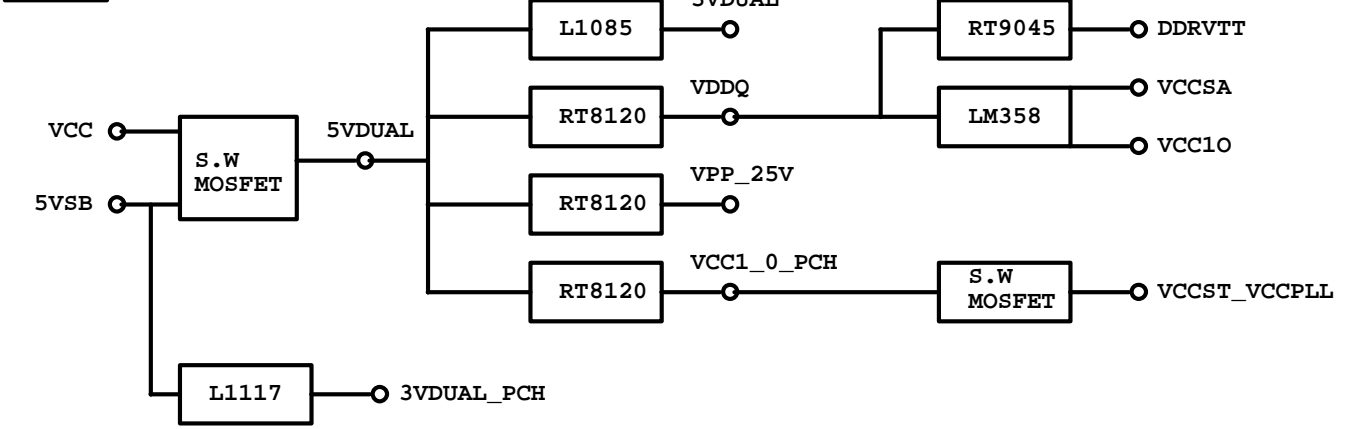
POWER BLOCK MAP



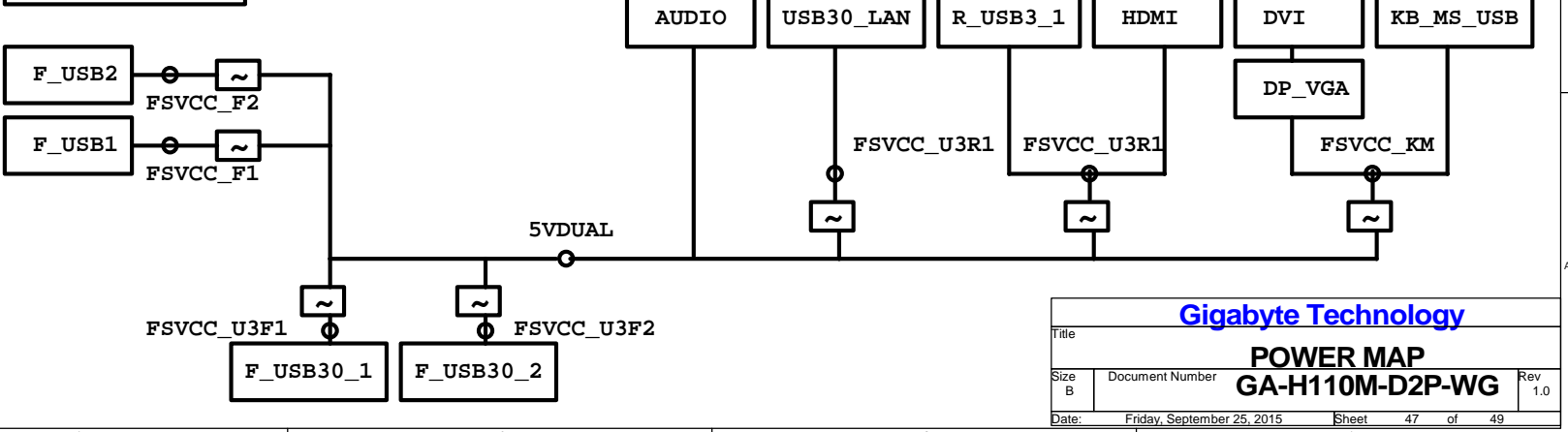
VCORE/VCCGT



POWER



FUSE POWER F/R



固態電容料號.請自行修改

日系黑色固態	Capture Value
11C02-C85600-01R	560u/FP/D/6.3V/68/C/8m
11C05-C82700-01R	270u/FP/D/16V/88/C/12m
11C05-C61000-01R	100u/OS/D/16V/66/C/30m
11C02-C51000-01R	100u/FP/D/6.3V/65/C/13m

日系一般固態	Capture Value
11C02-685600-01R	560u/FP/D/6.3V/68/8m
11C05-882700-01R	270u/FP/D/16V/88/12m
11C05-661000-03R	100u/OS/D/16V/66/30m
11C02-651000-02R	100u/OS/D/6.3V/66/30m

台系固態	Capture Value
11C02-661000-09R	100u/OS/D/6.3V/66/A/35m
11C05-691000-09R	100u/OS/D/16V/69/A/35m
11C05-8C2700-09R	270u/FP/D/16V/8C/A/10m
11C02-695600-09R	560u/FP/D/6.3V/69/A/11m

IRON CHOKE

	料號	Capture Value	SIZE	Footprint
DIP	11LC5-M4500C-01R	0.5uH/40A/IMD109/M/D	10*10	CHOKE05U-40A-1PQ-3
DIP	11LC5-M2500C-01R	0.5uH/20A/IMD0809/M/D	8*8	CHOKE1U-R50M-IF

Ferrite

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

BEAD

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

PWM料號

		料號	Capture Value	Footprint
PWM	ISL95856	10TA1-695856-01R		IC52QFN-6x6-G
PWM	ISL95858	10TA1-695858-01R		IC52QFN-6x6-G
PWM	IR35201	10TA1-635201-00R		IC56QFN-9VRS4339
PWM	IR3570	10TA1-603570-00R		IC40MLFP-ISL95835

GIGABYTE™

Title

RT8120_DDR4 POWER

Size Custom

Document Number

GA-H110M-D2P-WG

Date:

Friday, September 25, 2015

Sheet

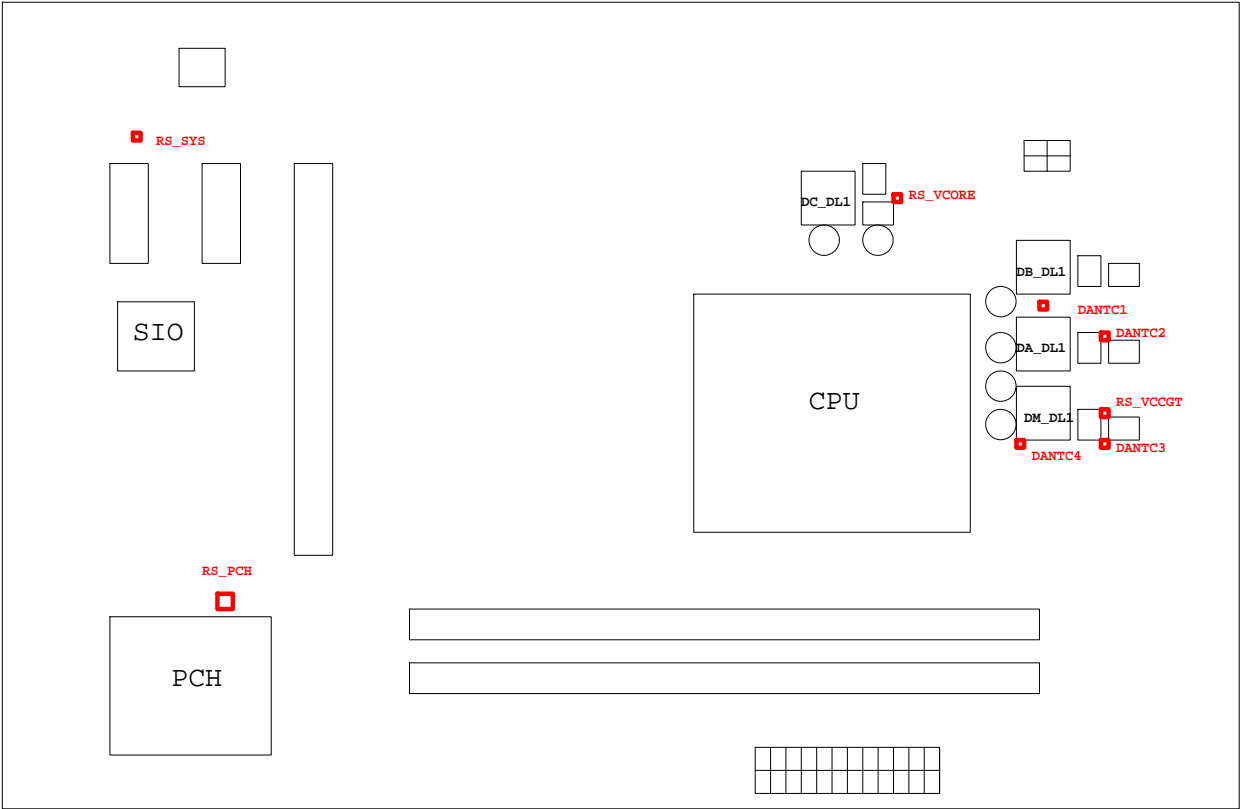
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Rev

1.0



熱敏電阻	擺放靠近位置	走線方式
DANTC4	DM_DL1	Differential
DANTC1	DA_DL1	Differential
DANTC3	DM_DQ1	Differential
DANTC2	DA_DQ1	Differential
RS_VCORE	DA_DQ1	N/A
RS_VCCGT	DM_DQ1	N/A
RS_PCH	PCH	N/A
RS_SYS	CU1	N/A