Model Name: GA-B250M-D2VX-SI *rev 1.0*

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	DDR4 CHANNEL A
09	DDR4 CHANNEL B
10	PCH_CLK BUFFER
11	PCH_DMI,USB,PCIE
12	PCH_MISC
13	PCH SATA,PCIE,SATA_EXPRESS
14	PCH PWR
15	PCH GND
16	ITE 8686 LPC IO
17	HWM
18	FAN CTRL--SIO
19	PCI EXPRESS*16 SLOT
20	PCI EXPRESSX1 SLOT *2
21	Single BIOS
22	M.2 X4 (Q)
23	M.2X4_S5 SWITCH
24	IT8892E/JX(NA)
25	PCI SLOT(NA)
26	LED POWER(NA)
27	ISL95858 PWM-IRON
28	ISL95858 VCORE-IRON

SHEET	TITLE
29	ISL95858 VCCGT-IRON
30	VCCSA_VCCIO_VCCPLL
31	RT8237_DDR_BEAD
32	RT8068A_VPP
33	RT8237_PCH-BEAD
34	DISCRETE POWER
35	ATX POWER , A_-PROCHOT
36	KB_MS/PS2
37	DVI CONN
38	RTD2168 - DP to VGA - IC
39	RTD2168 - DP to VGA - Conn
40	REALTEK 8111G
41	USB30_LAN CONNECTOR-8111G
42	Realtek ALC887
43	REAR AUDIO JACK
44	ADUIO LED
45	R_USB30_1
46	R_USB30_2
47	F_USB30
48	F_USB
49	F_PANEL
50	COM, TPM
51	EMI-ESD
52	POWER MAP
53	NTC MAP
54	
55	
56	

Gigabyte Technology

Title: **Cover Sheet**

Size	Document Number	Rev
Custom	GA-B250M-D2VX-SI	1.0

Date: Monday, November 14, 2016 Sheet 1 of 53

Model Name: GA-B250M-D2VX-SI *rev1.0*

Component value change history

Data	Change Item	Reason
2016/11/02	1. remove DANTC2 . DANTC3 . NR6 2. NPR16改30K/4/1 3. NPR17改56K/4/1 4. NPC9改2.2u/4 5. X16_TEMP1 . NR6	BOM=10A

Circuit or PCB layout change

DATE	Change Item	Reason
2016/10/12	Modify from B250M-EVO_01B 1. M.2 SLOT MASK	PCB:0.1
2016/11/02	1. ADD DCC51.DCC55.DCC56 for VIN 2. DVR18 MASK打開	PCB:1.0

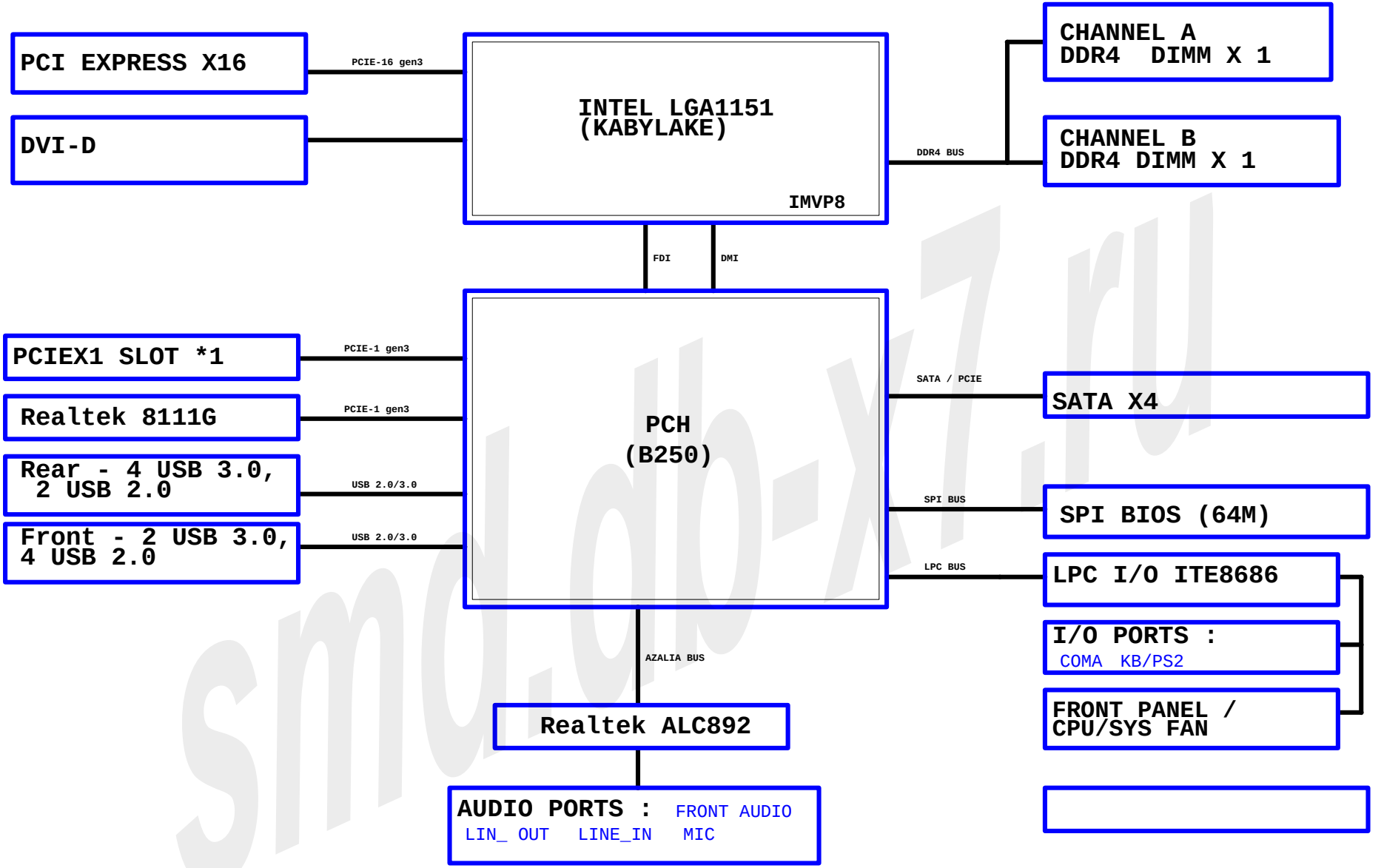
GIGABYTE™

Title: BOM & PCB MODIFY HISTORY

Size: Custom | Document Number: GA-B250M-D2VX-SI | Rev: 1.0

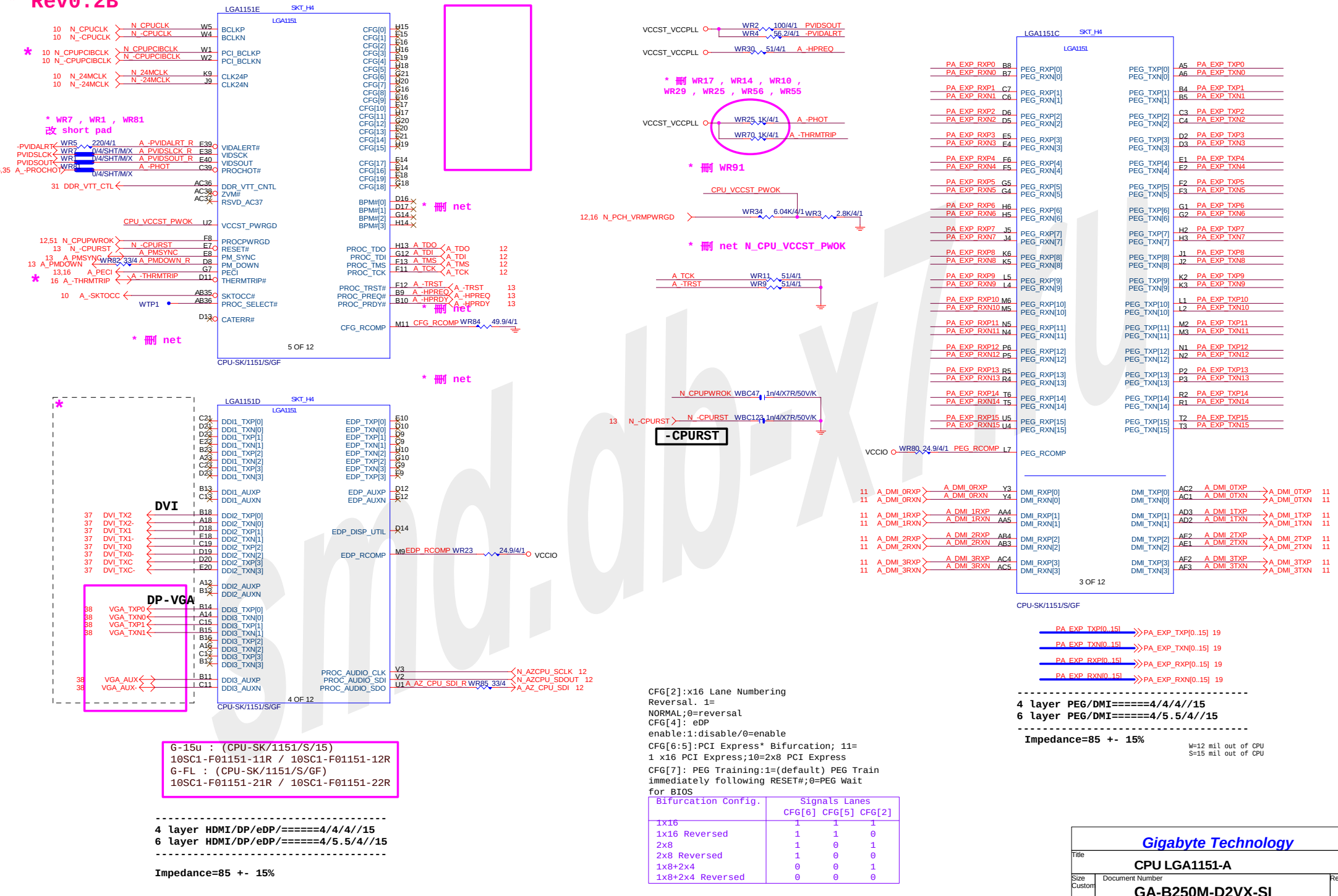
Date: Monday, November 14, 2016 | Sheet 2 of 53

BLOCK DIAGRAM



Gigabyte Technology		
Title: BLOCK DIAGRAM		
Size: C	Document Number: GA-B250M-D2VX-SI	Rev: 1.0
Date: Monday, November 14, 2016	Sheet 3 of 53	

* Rev0.2B



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

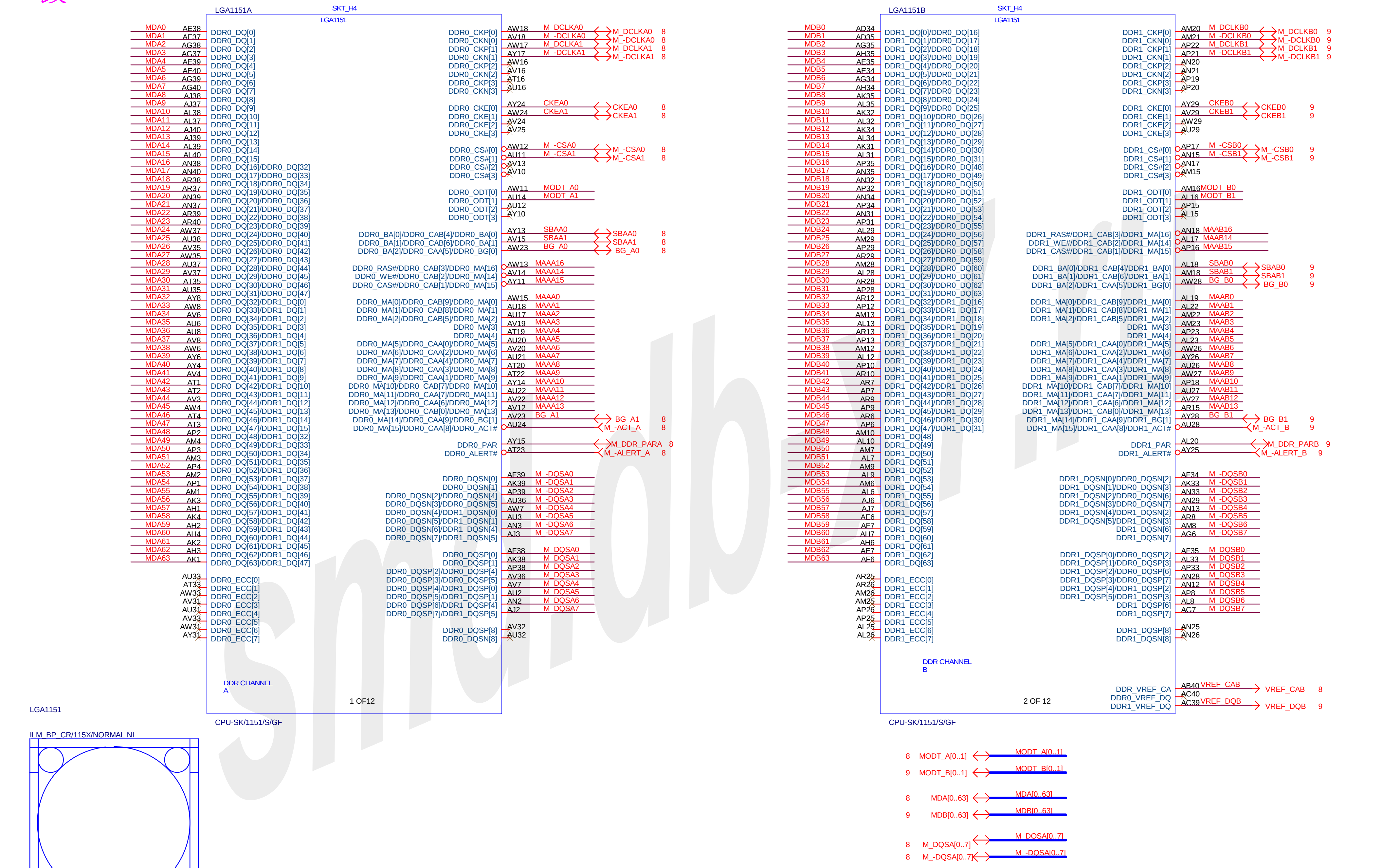
Gigabyte Technology

Title: CPU LGA1151-A

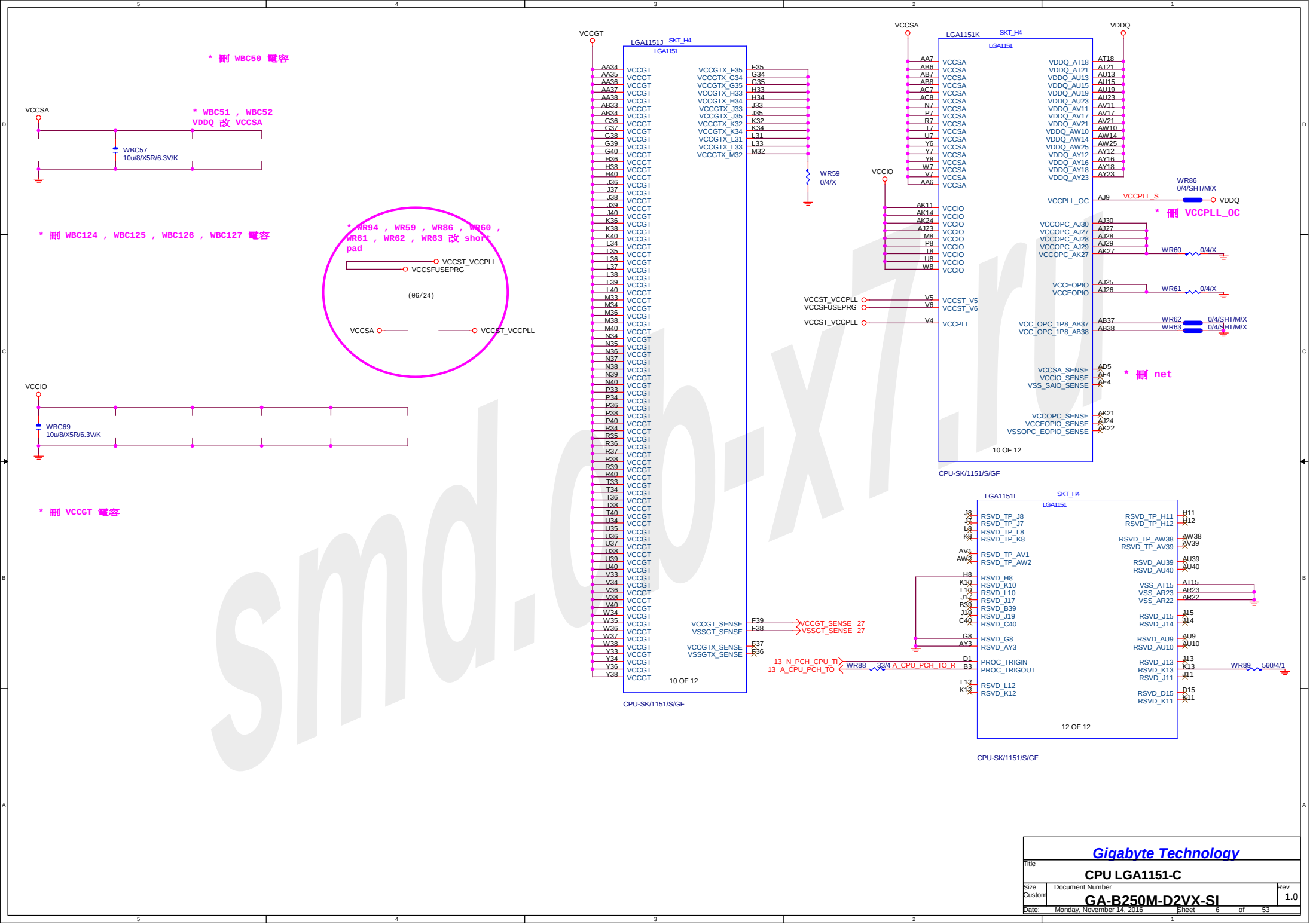
Size: Custom | Document Number: GA-B250M-D2VX-SI | Rev: 1.0

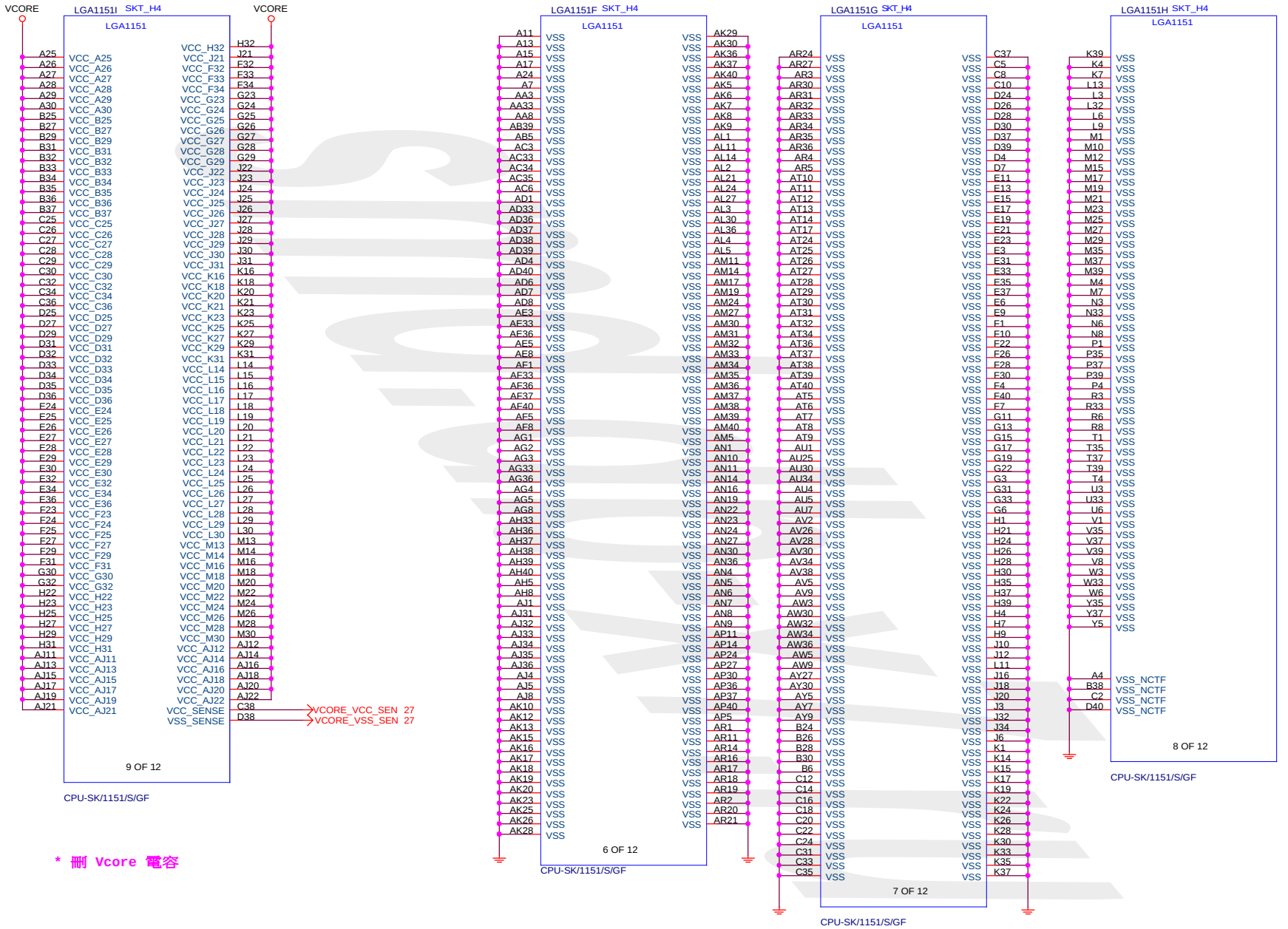
Date: Monday, November 14, 2016 | Sheet 4 of 53

* 改DDR4 net



Gigabyte Technology		
Title: CPU LGA1151-B		
Size: Custom	Document Number: GA-B250M-D2VX-SI	Rev: 1.0
Date: Monday, November 14, 2016	Sheet 5 of 53	


* 刪 WBC50 電容
VCCSA
* WBC51 , WBC52
VDDQ 改 VCCSA
WBC57
10u/8/X5R/6.3V/K
* 刪 WBC124 , WBC125 , WBC126 , WBC127 電容
* WR94 , WR59 , WR86 , WR60 ,
WR61 , WR62 , WR63 改 short
pad
VCCST_VCCPLL
VCCSFUSEPRG
(06/24)
VCCSA
VCCST_VCCPLL
VCCIO
WBC69
10u/8/X5R/6.3V/K
* 刪 VCCGT 電容
VCCGT
LGA1151J SKT_H4
LGA1151
AA34 AA35 AA36 AA37 AA38 AB33 AB34 G36 G37 G38 G39 G40 H36 H38 H40 J36 J37 J38 J39 J40 K36 K38 K40 L34 L35 L36 L37 L38 L39 L40 M33 M34 M36 M38 M40 N34 N35 N36 N37 N38 N39 N40 P33 P34 P36 P38 P40 R34 R35 R36 R37 R38 R39 R40 T33 T34 T36 T38 T40 U34 U35 U36 U37 U38 U39 U40 V33 V34 V36 V38 V40 W34 W35 W36 W37 W38 Y33 Y34 Y36 Y38
VCCGT
VCCGTX_F35 VCCGTX_G34 VCCGTX_G35 VCCGTX_H33 VCCGTX_H34 VCCGTX_J33 VCCGTX_J35 VCCGTX_K32 VCCGTX_K34 VCCGTX_L31 VCCGTX_L33 VCCGTX_M32
F35 G34 G35 H33 H34 J33 J35 K32 K34 L31 L33 M32
WR59
0/4/X
VCCGT_SENSE
VSSGT_SENSE
VCCGTX_SENSE
VSSGTX_SENSE
F39 F38 F37 F36
VCCGT_SENSE 27
VSSGT_SENSE 27
10 OF 12
CPU-SK/1151/S/GF
VCCSA
LGA1151K SKT_H4
LGA1151
AA7 AB6 AB7 AB8 AC7 AC8 N7 P7 R7 T7 U7 Y6 Y7 Y8 W7 V7 AA6
VCCSA
VDDQ_AT18 VDDQ_AT21 VDDQ_AU13 VDDQ_AU15 VDDQ_AU19 VDDQ_AU23 VDDQ_AV11 VDDQ_AV17 VDDQ_AV21 VDDQ_AW10 VDDQ_AW14 VDDQ_AW25 VDDQ_AY12 VDDQ_AY16 VDDQ_AY18 VDDQ_AY23
AT18 AT21 AU13 AU15 AU19 AU23 AV11 AV17 AV21 AW10 AW14 AW25 AY12 AY16 AY18 AY23
VCCIO
AK11 AK14 AK24 AJ23 M8 P8 T8 U8 W8
VCCIO
VCCST_V5 VCCST_V6
VCCPLL
V5 V6 V4
VCCST_VCCPLL
VCCSFUSEPRG
VCCST_VCCPLL
VCCPLL_OC
AJ9
VCCPLL_S
VDDQ
WR86
0/4/SHT/M/X
* 刪 VCCPLL_OC
VCCOPC_AJ30 VCCOPC_AJ27 VCCOPC_AJ28 VCCOPC_AJ29 VCCOPC_AK27
AJ30 AJ27 AJ28 AJ29 AK27
WR60 0/4/X
VCCEOPIO VCCEOPIO
AJ25 AJ26
WR61 0/4/X
VCC_OPC_1P8_AB37 VCC_OPC_1P8_AB38
AB37 AB38
WR62 0/4/SHT/M/X
WR63 0/4/SHT/M/X
VCCSA_SENSE VCCIO_SENSE VSS_SAIO_SENSE
AD5 AF4 AE4
* 刪 net
VCCOPC_SENSE VCCEOPIO_SENSE VSSOPC_EOPIO_SENSE
AK21 AJ24 AK22
10 OF 12
CPU-SK/1151/S/GF
LGA1151L SKT_H4
LGA1151
J8 J7 L8 K8 AV1 AW2 H8 K10 L10 J17 B39 J19 C40 G8 AY3 D1 B3 L12 K12
RSVD_TP_J8 RSVD_TP_J7 RSVD_TP_L8 RSVD_TP_K8 RSVD_TP_AV1 RSVD_TP_AW2 RSVD_H8 RSVD_K10 RSVD_L10 RSVD_J17 RSVD_B39 RSVD_J19 RSVD_C40 RSVD_G8 RSVD_AY3 PROC_TRIGIN PROC_TRIGOUT RSVD_L12 RSVD_K12
RSVD_TP_H11 RSVD_TP_H12 RSVD_TP_AW38 RSVD_TP_AV39 RSVD_AU39 RSVD_AU40 VSS_AT15 VSS_AR23 VSS_AR22 RSVD_J15 RSVD_J14 RSVD_AU9 RSVD_AU10 RSVD_J13 RSVD_K13 RSVD_J11 RSVD_D15 RSVD_K11
H11 H12 AW38 AV39 AU39 AU40 AT15 AR23 AR22 J15 J14 AU9 AU10 J13 K13 J11 D15 K11
13 N_PCH_CPU_TI
13 A_CPU_PCH_TO
WR88 33/4 A_CPU_PCH_TO_R
WR89 560/4/1
12 OF 12
CPU-SK/1151/S/GF
Gigabyte Technology
Title
CPU LGA1151-C
Size Custom
Document Number
GA-B250M-D2VX-SI
Rev 1.0
Date: Monday, November 14, 2016
Sheet 6 of 53



Gigabyte Technology		
Title: CPU LGA1151-C		
Size: Custom	Document Number: GA-B250M-D2VX-SI	Rev: 1.0
Date: Monday, November 14, 2016	Sheet 7 of 53	

Rev:0.6

DDR4_1

DDRVTT

VDDQ

* net 改 VDDQ

MAR19
240/4/1

5 MDA[0..63]
5 MAA#[0..16]
5 M_DQSA[0..7]
5 M__DQSA[0..7]
5 MODT_A[0..1]

VDDQ

VPP_25V

MAC11 .1u/4X5R/6.3V/K
MAC16 .1u/4X7R/16V/K
VPP_25V

VREF_DDRA

MA0_SA2
MA0_SA1
MA0_SA0
N_SMBDATA
N_SMBCLK

9,12,19,20,27,38 N_SMBDATA
9,12,19,20,27,38 N_SMBCLK

5 SBAA1
5 SBAA0
5 BG_A1
5 BG_A0

5 M_.DCLKA1
5 M_DCLKA1
5 M_.DCLKA0
5 M_DCLKA0

5 M_.CSA1
5 M_.CSA0

5 CKEA1
5 CKEA0

5 MAAA[0..16]

DDR4/288/BK/V4/D/GF/TWO LATCH

BLK

MA0_SA0
MA0_SA1
MA0_SA2

* 移除 short pad

CHANNEL A0
SA2:0=000

VDDQ
MAR15 1K/4/1
MAR16 1K/4/1
MABC4 0.1u/4X7R/16V/K
VREF_DDRA
MR23 0/4/SHT/20/X
VREF_CAB 5
MC19 0.022u/4/X7R/25V/K/X
MR24 24.9/4/1/X
Footprint :R0402-2-SHORT20

DDR12V Decouple

MABC15 1u/4/X5R/6.3V/K
MABC38 1u/4/X5R/6.3V/K
MABC39 0.1u/4/X7R/16V/K
MASC3 1u/4/X5R/6.3V/K
MASC4 0.1u/4/X7R/16V/K
MASC2 1u/4/X5R/6.3V/K
MABC10 22u/8/X5R/6.3V/M
MABC35 1u/4/X5R/6.3V/K
MABC17 1u/4/X5R/6.3V/K
MABC36 1u/4/X5R/6.3V/K
MABC8 2.2u/4/X5R/6.3V/M
MABC19 1u/4/X5R/6.3V/K
MABC20 1u/4/X5R/6.3V/K
MABC14 1u/4/X5R/6.3V/K
MABC30 1u/4/X5R/6.3V/K
MABC12 1u/4/X5R/6.3V/K

* 電容移到 [RT8120_DDR]

DDRVTT Decouple

MABC9 22u/8/X5R/6.3V/M
MABC22 1u/4/X5R/6.3V/K
MABC24 1u/4/X5R/6.3V/K

* 新電容

* 新電容

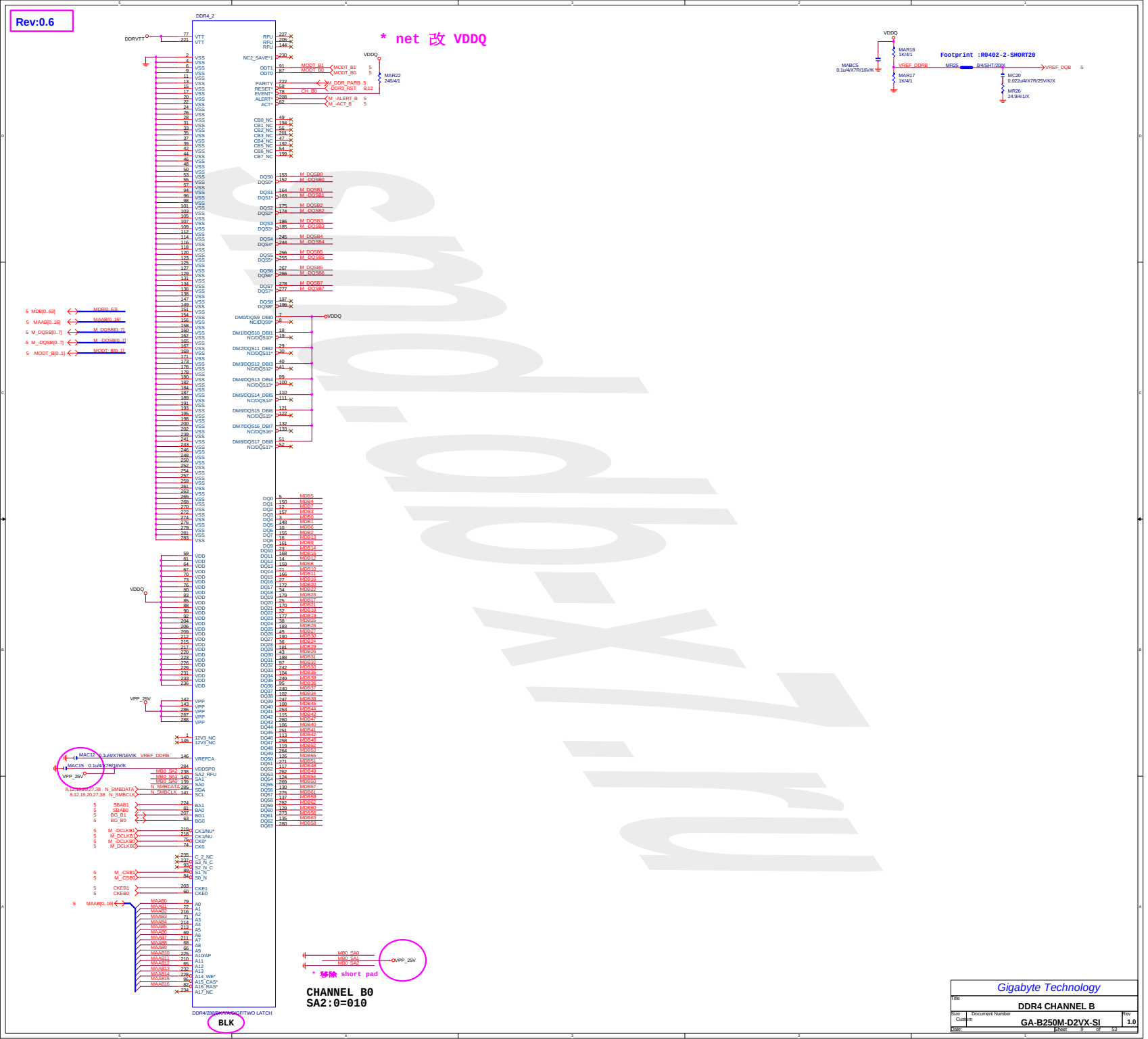
Gigabyte Technology

Title: DDR4 CHANNEL A

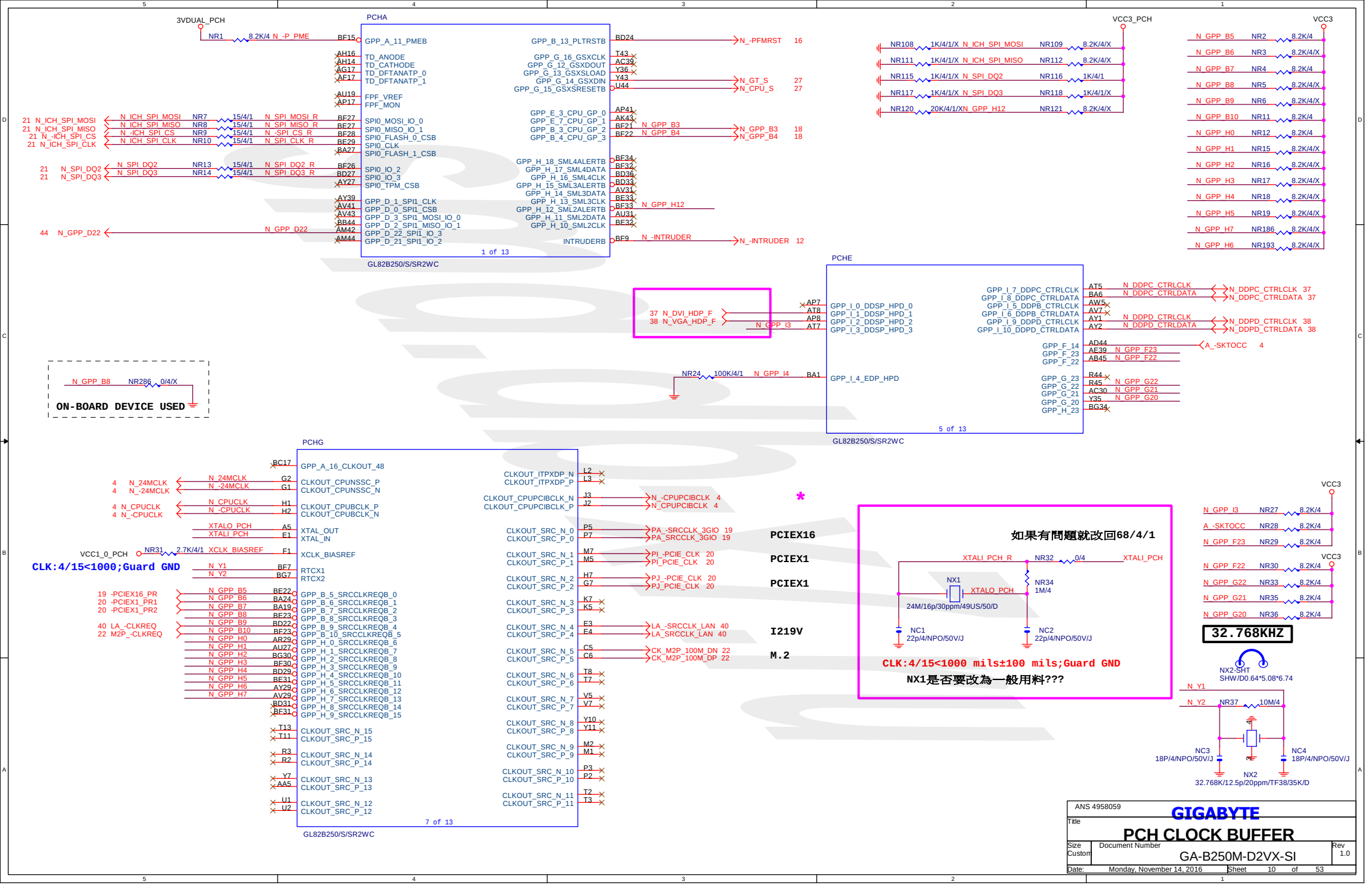
Size: Custom | Document Number: GA-B250M-D2VX-SI | Rev: 1.0

Date: | Sheet 8 of 53

Rev:0.6



Title	DDR4 CHANNEL B
Company	Gigabyte Technology
Size	Custom
Document Number	GA-B250M-D2VX-SI
Rev	1.0
Date:	
Sheet	9 of 53


3VDUAL_PCH
PCHA
GL82B250/S/SR2WC
1 of 13
VCC3_PCH
VCC3
PCHE
5 of 13
ON-BOARD DEVICE USED
PCHG
7 of 13
CLK:4/15<1000;Guard GND
PCIEX16
PCIEX1
PCIEX1
I219V
M.2
如果有問題就改回68/4/1
CLK:4/15<1000 mils±100 mils;Guard GND
NX1是否要改為一般用料???
32.768KHZ
NX2 SHT SHW/D0.64*5.08*6.74
NX2 32.768K/12.5p/20ppm/TF38/35K/D
GIGABYTE
PCH CLOCK BUFFER
GA-B250M-D2VX-SI
ANS 4958059
Monday, November 14, 2016
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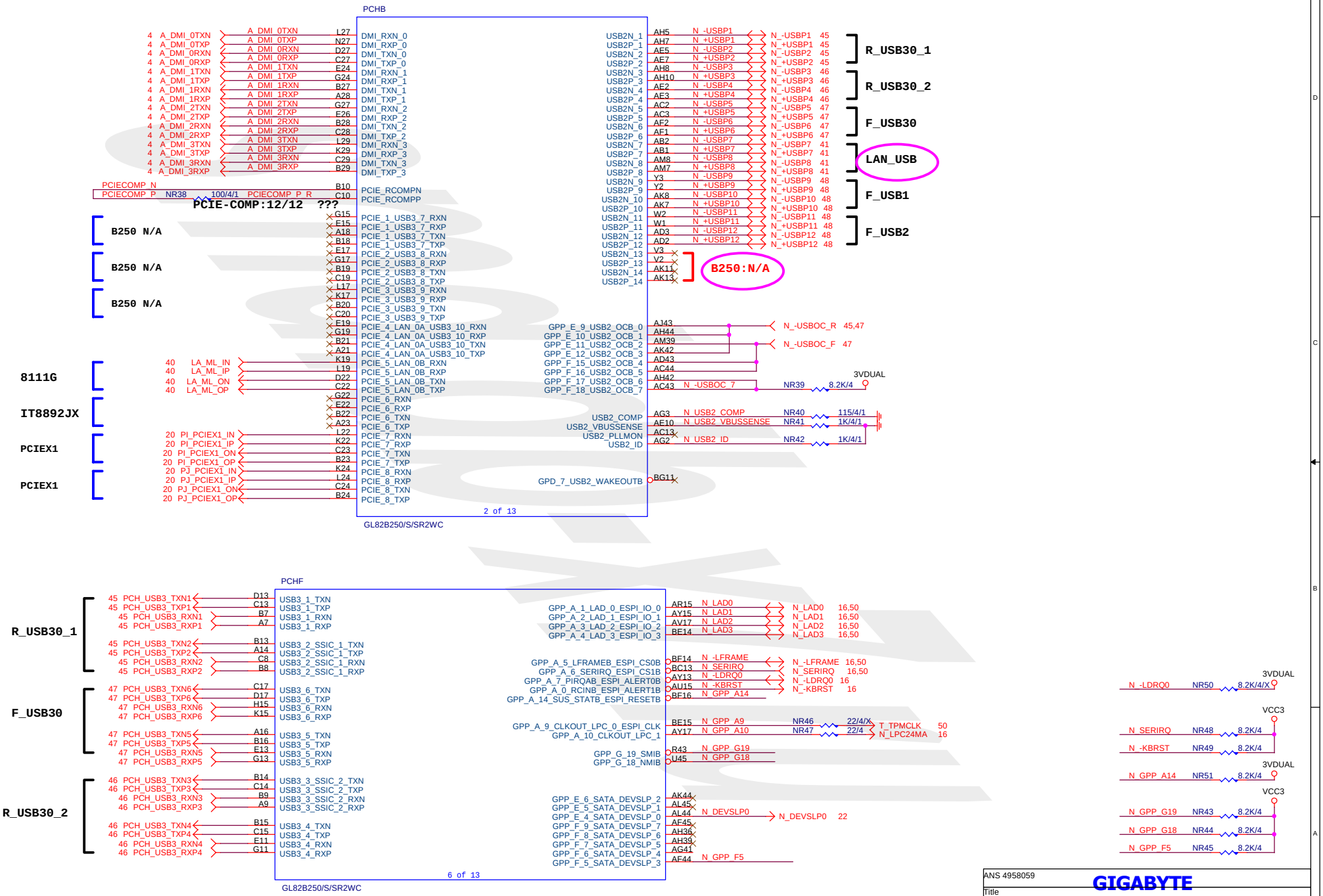

ANS	4958059
Title	PCH DMI,USB,PCIE
Size	Custom
Document Number	GA-B250M-D2VX-SI
Rev	1.0
Date:	Monday, November 14, 2016
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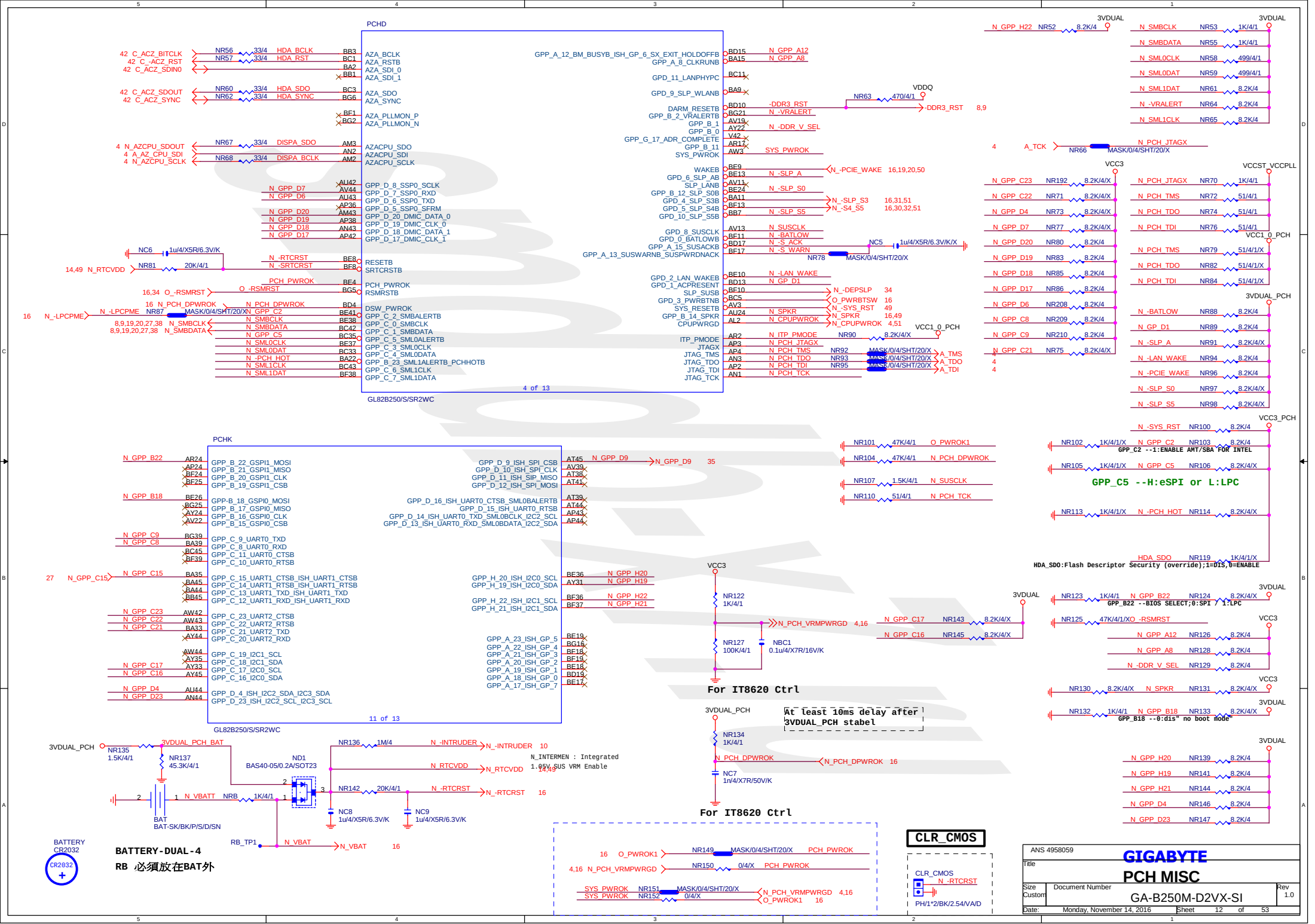
PCHD
GL82B250/S/SR2WC
4 of 13
PCHK
GL82B250/S/SR2WC
11 of 13
For IT8620 Ctrl
For IT8620 Ctrl
At least 10ms delay after 3VDUAL_PCH stabel
GPP_C2 --1:ENABLE AMT/SBA FOR INTEL
GPP_C5 --H:eSPI or L:LPC
HDA_SDO:Flash Descriptor Security (override);1=DIS,0=ENABLE
GPP_B22 --BIOS SELECT;0:SPI / 1:LPC
GPP_B18 --0:dis" no boot mode"
N_INTERMEN : Integrated 1.05V SUS VRM Enable
BATTERY-DUAL-4
RB 必須放在BAT外
CLR_CMOS
GIGABYTE
PCH MISC
GA-B250M-D2VX-SI
ANS 4958059
Monday, November 14, 2016
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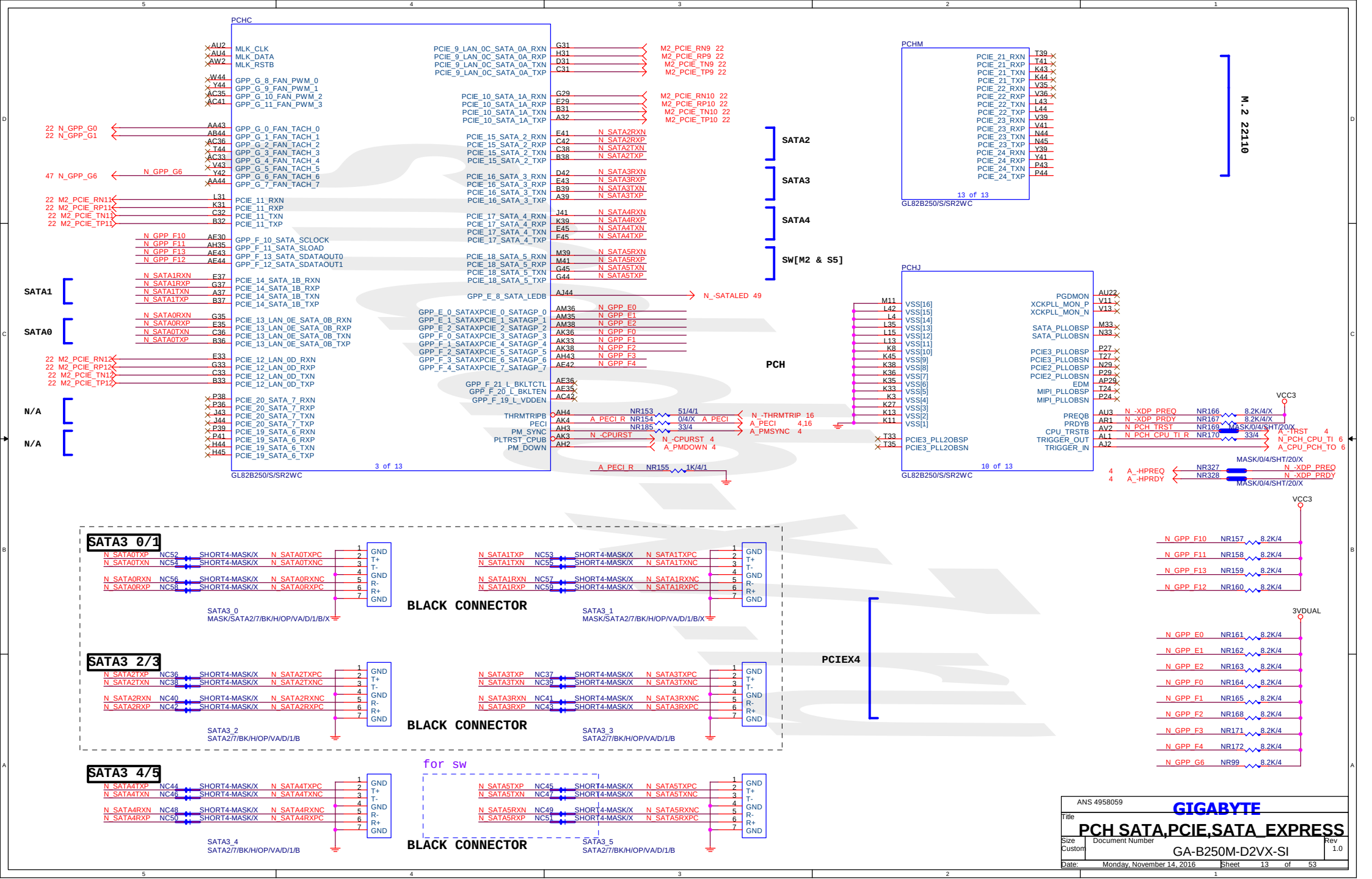
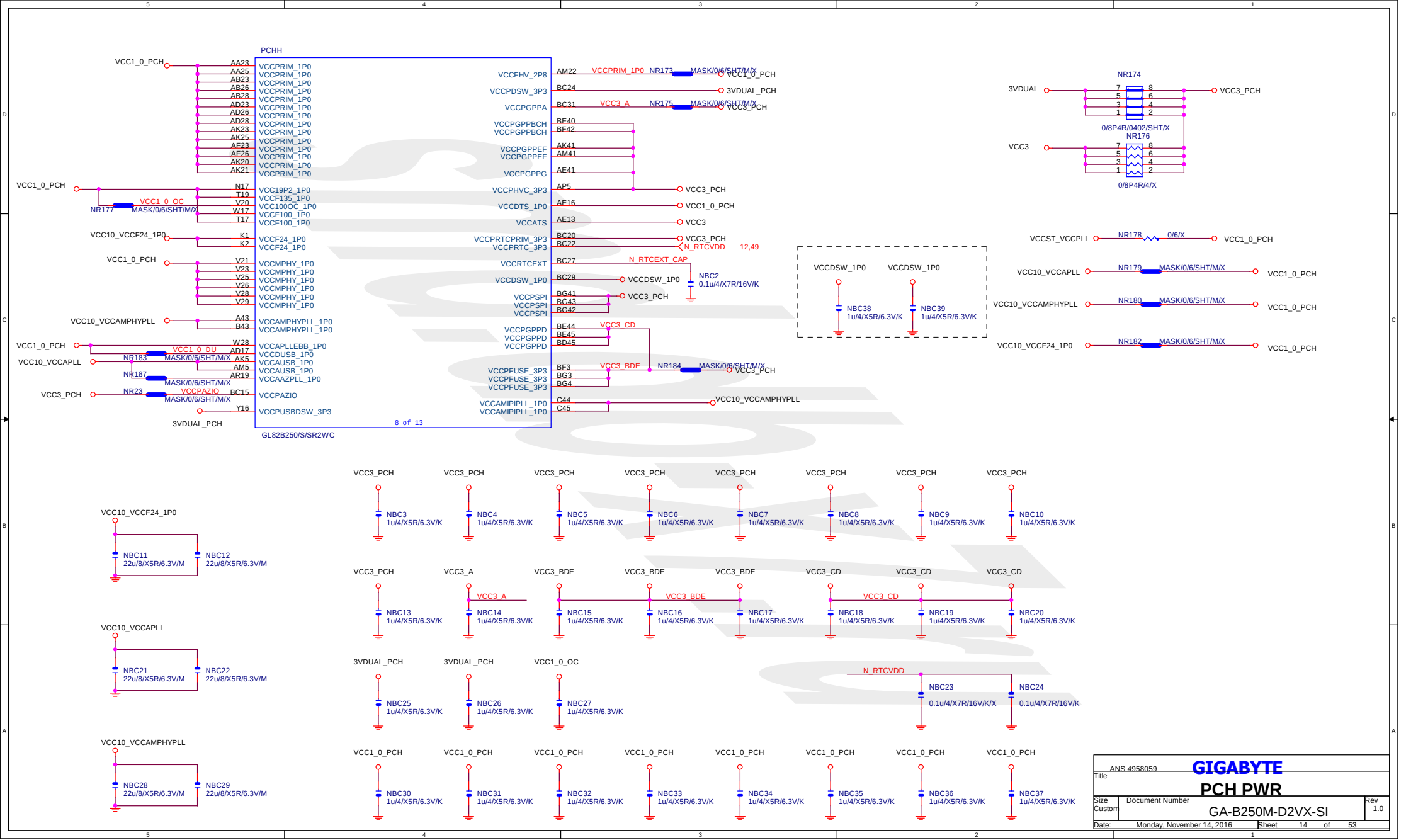

PCHC
MLK_CLK
MLK_DATA
MLK_RSTB
GPP_G_8_FAN_PWM_0
GPP_G_9_FAN_PWM_1
GPP_G_10_FAN_PWM_2
GPP_G_11_FAN_PWM_3
GPP_G_0_FAN_TACH_0
GPP_G_1_FAN_TACH_1
GPP_G_2_FAN_TACH_2
GPP_G_3_FAN_TACH_3
GPP_G_4_FAN_TACH_4
GPP_G_5_FAN_TACH_5
GPP_G_6_FAN_TACH_6
GPP_G_7_FAN_TACH_7
PCIE_11_RXN
PCIE_11_RXP
PCIE_11_TXN
PCIE_11_TXP
GPP_F_10_SATA_SCLOCK
GPP_F_11_SATA_SLOAD
GPP_F_13_SATA_SDATAOUT0
GPP_F_12_SATA_SDATAOUT1
PCIE_14_SATA_1B_RXN
PCIE_14_SATA_1B_RXP
PCIE_14_SATA_1B_TXN
PCIE_14_SATA_1B_TXP
PCIE_13_LAN_0E_SATA_0B_RXN
PCIE_13_LAN_0E_SATA_0B_RXP
PCIE_13_LAN_0E_SATA_0B_TXN
PCIE_13_LAN_0E_SATA_0B_TXP
PCIE_12_LAN_0D_RXN
PCIE_12_LAN_0D_RXP
PCIE_12_LAN_0D_TXN
PCIE_12_LAN_0D_TXP
PCIE_20_SATA_7_RXN
PCIE_20_SATA_7_RXP
PCIE_20_SATA_7_TXN
PCIE_20_SATA_7_TXP
PCIE_19_SATA_6_RXN
PCIE_19_SATA_6_RXP
PCIE_19_SATA_6_TXN
PCIE_19_SATA_6_TXP
3 of 13
GL82B250/S/SR2WC
PCIE_9_LAN_0C_SATA_0A_RXN
PCIE_9_LAN_0C_SATA_0A_RXP
PCIE_9_LAN_0C_SATA_0A_TXN
PCIE_9_LAN_0C_SATA_0A_TXP
PCIE_10_SATA_1A_RXN
PCIE_10_SATA_1A_RXP
PCIE_10_SATA_1A_TXN
PCIE_10_SATA_1A_TXP
PCIE_15_SATA_2_RXN
PCIE_15_SATA_2_RXP
PCIE_15_SATA_2_TXN
PCIE_15_SATA_2_TXP
PCIE_16_SATA_3_RXN
PCIE_16_SATA_3_RXP
PCIE_16_SATA_3_TXN
PCIE_16_SATA_3_TXP
PCIE_17_SATA_4_RXN
PCIE_17_SATA_4_RXP
PCIE_17_SATA_4_TXN
PCIE_17_SATA_4_TXP
PCIE_18_SATA_5_RXN
PCIE_18_SATA_5_RXP
PCIE_18_SATA_5_TXN
PCIE_18_SATA_5_TXP
GPP_E_8_SATA_LEDB
GPP_E_0_SATAXPCIE_0_SATAGP_0
GPP_E_1_SATAXPCIE_1_SATAGP_1
GPP_E_2_SATAXPCIE_2_SATAGP_2
GPP_F_0_SATAXPCIE_3_SATAGP_3
GPP_F_1_SATAXPCIE_4_SATAGP_4
GPP_F_2_SATAXPCIE_5_SATAGP_5
GPP_F_3_SATAXPCIE_6_SATAGP_6
GPP_F_4_SATAXPCIE_7_SATAGP_7
GPP_F_21_L_BKLTCTL
GPP_F_20_L_BKLTEN
GPP_F_19_L_VDDEN
THRMTRIPB
PECI
PM_SYNC
PLTRST_CPUB
PM_DOWN
PCH
SATA2
SATA3
SATA4
SW[M2 & S5]
SATA1
SATA0
N/A
N/A
PCHM
PCIE_21_RXN
PCIE_21_RXP
PCIE_21_TXN
PCIE_21_TXP
PCIE_22_RXN
PCIE_22_RXP
PCIE_22_TXN
PCIE_22_TXP
PCIE_23_RXN
PCIE_23_RXP
PCIE_23_TXN
PCIE_23_TXP
PCIE_24_RXN
PCIE_24_RXP
PCIE_24_TXN
PCIE_24_TXP
13 of 13
GL82B250/S/SR2WC
M.2 22110
PCHJ
VSS[16]
VSS[15]
VSS[14]
VSS[13]
VSS[12]
VSS[11]
VSS[10]
VSS[9]
VSS[8]
VSS[7]
VSS[6]
VSS[5]
VSS[4]
VSS[3]
VSS[2]
VSS[1]
PCIE3_PLL2OBSP
PCIE3_PLL2OBSN
PGDMON
XCKPLL_MON_P
XCKPLL_MON_N
SATA_PLLOBSP
SATA_PLLOBSN
PCIE3_PLLOBSP
PCIE3_PLLOBSN
PCIE2_PLLOBSP
PCIE2_PLLOBSN
EDM
MIPI_PLLOBSP
MIPI_PLLOBSN
PREQB
PRDYB
CPU_TRSTB
TRIGGER_OUT
TRIGGER_IN
10 of 13
GL82B250/S/SR2WC
VCC3
3VDUAL
SATA3 0/1
SATA3 2/3
SATA3 4/5
BLACK CONNECTOR
SATA3_0
SATA3_1
SATA3_2
SATA3_3
SATA3_4
SATA3_5
MASK/SATA2/7/BK/H/OP/VA/D/1/B/X
SATA2/7/BK/H/OP/VA/D/1/B
PCIEX4
for sw
ANS 4958059
GIGABYTE
PCH SATA,PCIE,SATA_EXPRESS
GA-B250M-D2VX-SI
Rev 1.0
Monday, November 14, 2016
Sheet 13 of 53


PCHH
VCC1_0_PCH
VCCPRIM_1P0
VCC19P2_1P0
VCCF135_1P0
VCC100OC_1P0
VCCF100_1P0
VCC1_0_OC
MASK/0/6/SHT/M/X
VCC10_VCCF24_1P0
VCCF24_1P0
VCCMPHY_1P0
VCC10_VCCAMPHYPLL
VCCAMPHYPLL_1P0
VCCAPLLEBB_1P0
VCCDUSB_1P0
VCCAUSB_1P0
VCCAAZPLL_1P0
VCC1_0_DU
VCC10_VCCAPLL
VCC3_PCH
VCCPAZIO
VCCPUSBDSW_3P3
3VDUAL_PCH
8 of 13
GL82B250/S/SR2WC
VCCFHV_2P8
VCCPDSW_3P3
VCCPGPPA
VCCPGPPBCH
VCCPGPPEF
VCCPGPPG
VCCPHVC_3P3
VCCDTS_1P0
VCCATS
VCCPRTCPRIM_3P3
VCCPRTC_3P3
VCCRTCEXT
VCCDSW_1P0
VCCPSPI
VCCPGPPD
VCCPFUSE_3P3
VCCAMIPIPLL_1P0
VCCPRIM_1P0
NR173
NR175
VCC3_A
VCC3_CD
VCC3_BDE
NR184
N_RTCVDD
12,49
N_RTCEXT_CAP
NBC2
0.1u/4/X7R/16V/K
NBC38
1u/4/X5R/6.3V/K
NBC39
1u/4/X5R/6.3V/K
NR174
NR176
0/8P4R/0402/SHT/X
0/8P4R/4/X
VCCST_VCCPLL
NR178
0/6/X
VCC10_VCCAPLL
NR179
VCC10_VCCAMPHYPLL
NR180
VCC10_VCCF24_1P0
NR182
NBC3
NBC4
NBC5
NBC6
NBC7
NBC8
NBC9
NBC10
NBC11
22u/8/X5R/6.3V/M
NBC12
NBC13
NBC14
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NBC21
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NBC24
0.1u/4/X7R/16V/K/X
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NBC37
ANS 4958059
GIGABYTE
Title
PCH PWR
Size
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Document Number
GA-B250M-D2VX-SI
Rev
1.0
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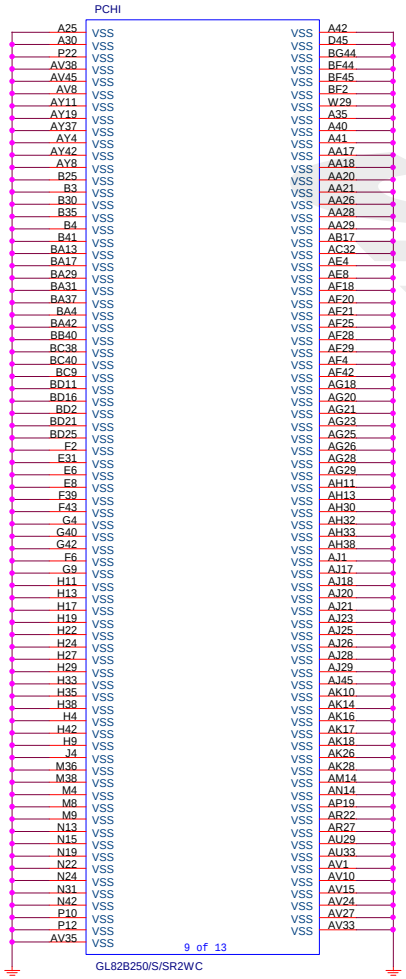
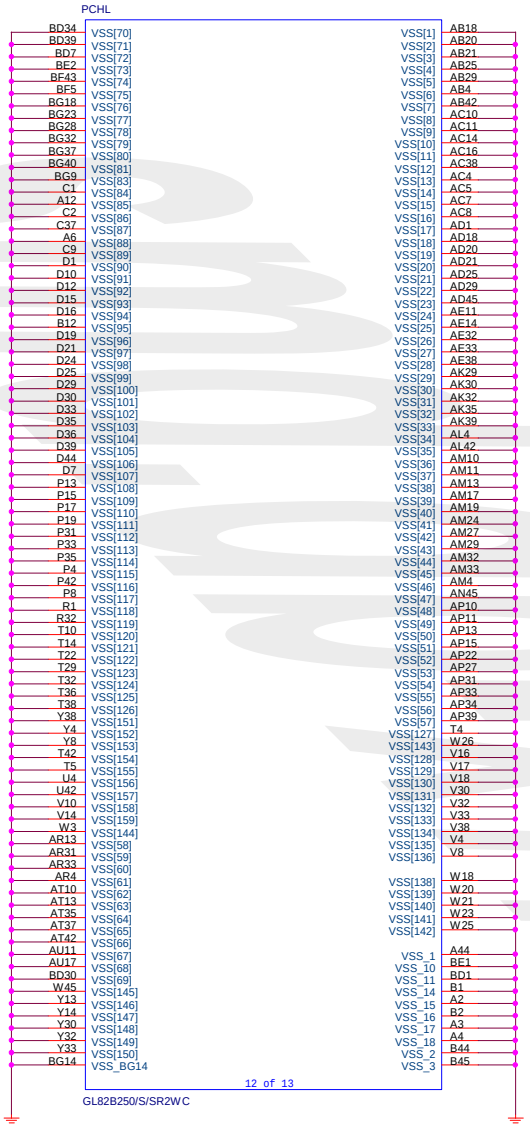
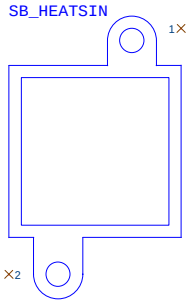
53







Heatsink

LOW COST ICH7 HEATSINK
BGAHSINK_SB-N

PCH_HS
PCH_HS/[12SP2-030005-51R_12SP2-030005-52R_12SP2-030005-53R]

ANS 4958059

GIGABYTE

Title
PCH GND

Size	Document Number	Rev
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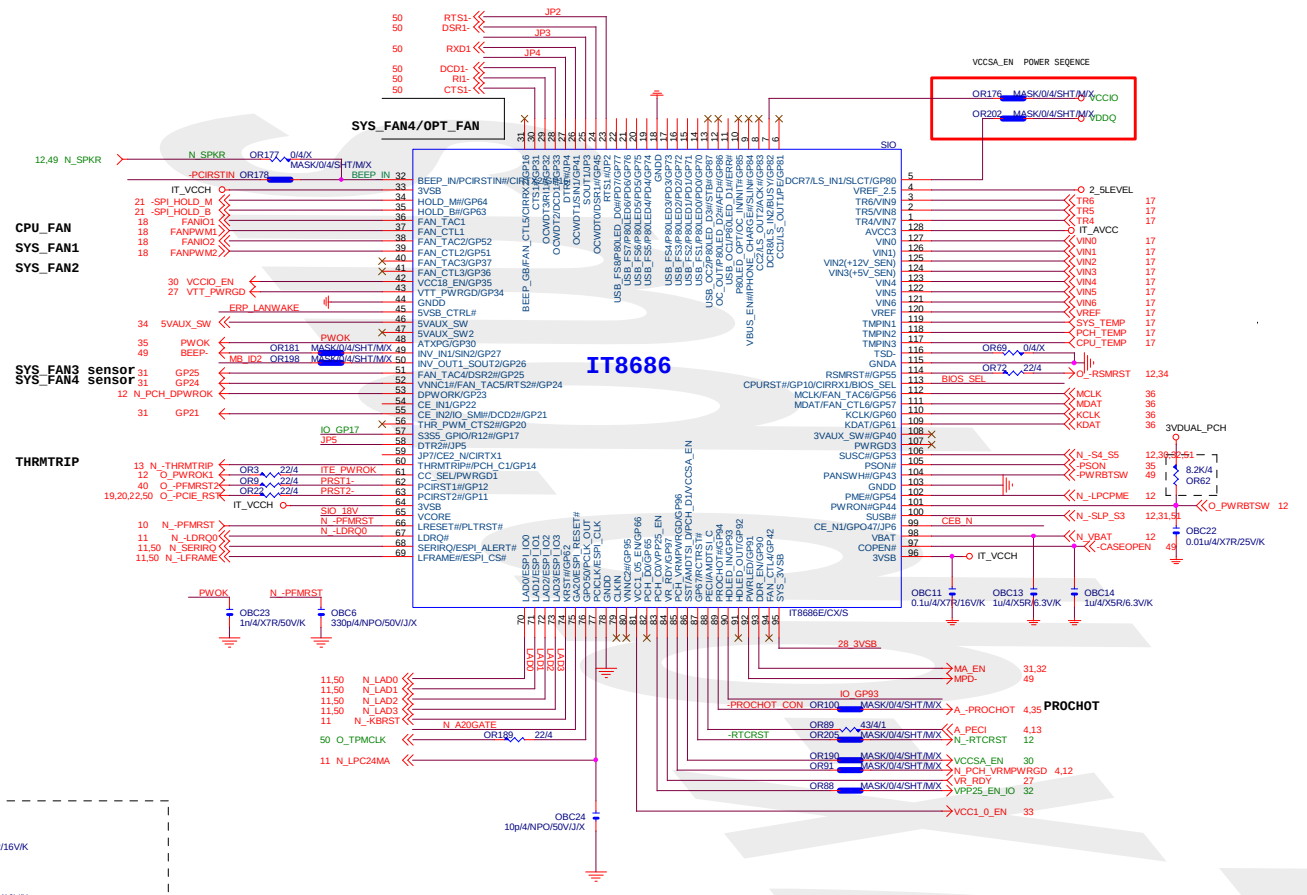
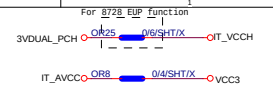
SIO IT8686 REV:0.1

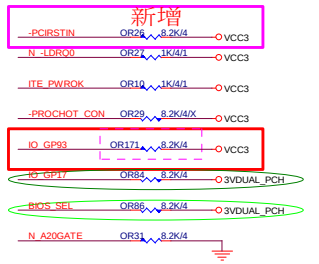
IT8686 LPT+COMA



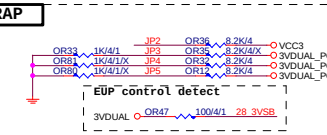
PWR SHT



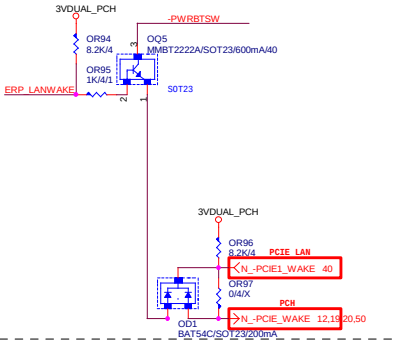
SIO PU



SIO STRAP



JP2	1	Disable WDT to rest PWROK
	0	Enable WDT to rest PWROK
JP3		Dual-BIOS CS pin mode select bit "0" See the below table
JP4	1	LPC/ESPI power VCCBT = 3.3V
	0	LPC/ESPI power VCCBT = 1.8V
JP5	1	LPC I/F
	0	ESPI I/F
JP6	1	Enable Dual BIOS Function (for GigaByte Only)
	0	Disable Dual BIOS Function (for GigaByte Only)
JP7		Dual-BIOS CE pin mode select bit "1" See the below table
JP7 JP3	1 1	CE pin disable (Hold pin mode)
	1 0	CE mode 1
	0 1	CE mode 2
	0 0	CE mode 3



FANIO1 OBC17 0.047u/4/X7R/16V/K

FANIO2 OBC19 0.047u/4/X7R/16V/K

Sngle bios Del

FAN TABLE	
CPU_FAN	FAN_CTL1 FAN_TAC1
SYS_FAN1	FAN_CTL2 FAN_TAC2
SYS_FAN2	FAN_CTL3 FAN_TAC3
SYS_FAN3	FAN_CTL4 FAN_TAC4
OPT_FAN or SYS_FAN4	FAN_CTL5 FAN_TAC5
THRMTRIP	PIN56
PROCHOT	PIN89

DUAL BIOS OPT STRAP

Placement CPU

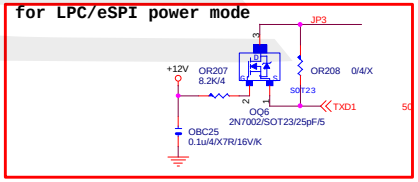
4 A_-THRMTRIP WR110 1K/4/1 N_-THRMTRIP

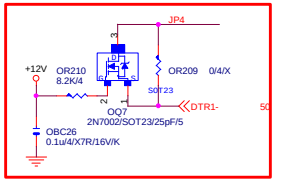
CPU 端 A_-THRMTRIP不可與PCH及SIO N_-THRMTRIP直接連接。
否則會出現無法拉LOW情況。

SIO_18V

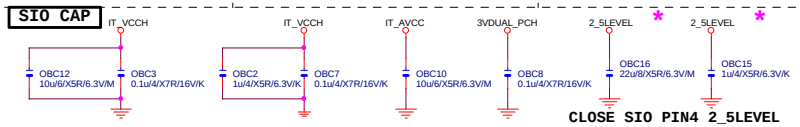
internal power pin, max 22nF cap

for LPC/eSPI power mode





SIO CAP



CLOSE SIO PIN4 2_5LEVEL

MB ID

Gigabyte Technology

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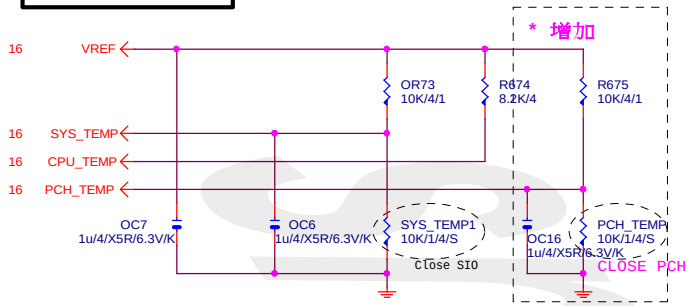
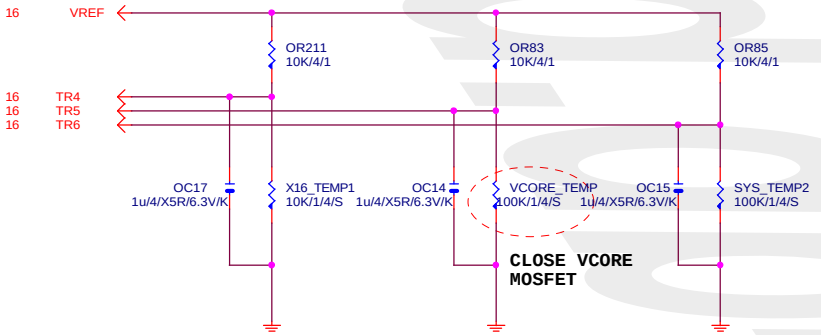
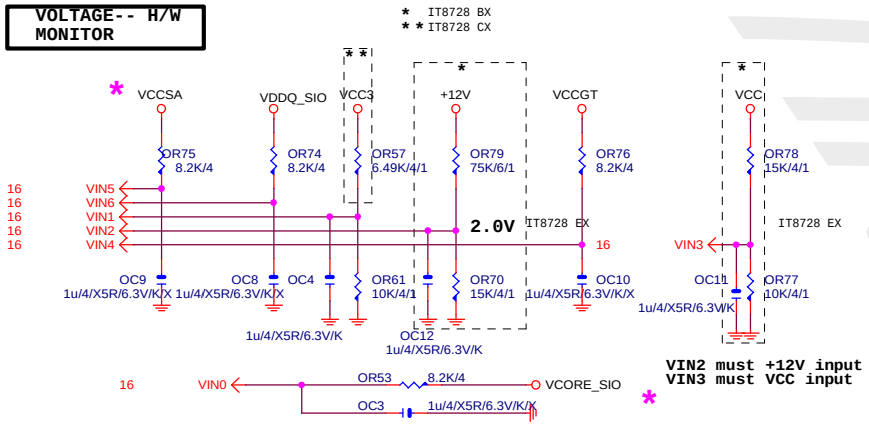
TEMP H/W MONITOR



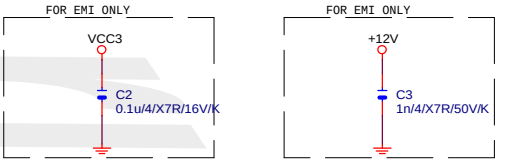
5個FAN時使用



VOLTAGE-- H/W MONITOR



★Update 2015-04.24



Gigabyte Technology		
Title: HWM,KB/MS, FAN CTRL		
Size: Custom	Document Number: GA-B250M-D2VX-SI	Rev: 1.0
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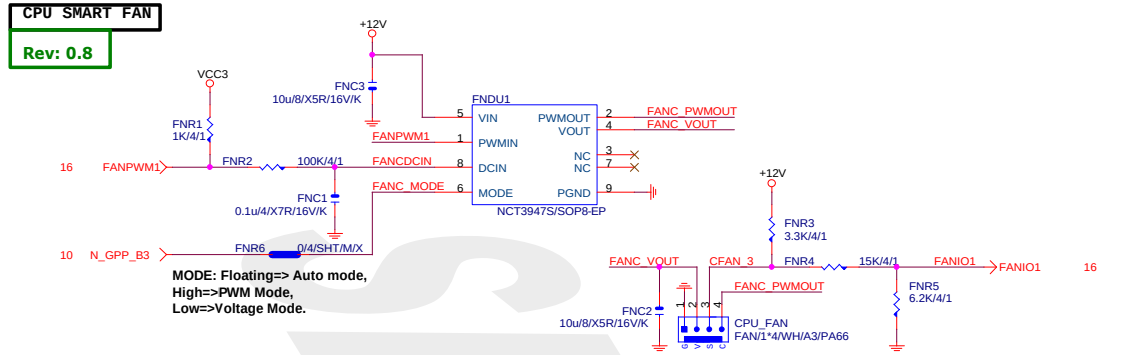
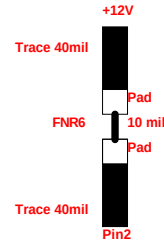
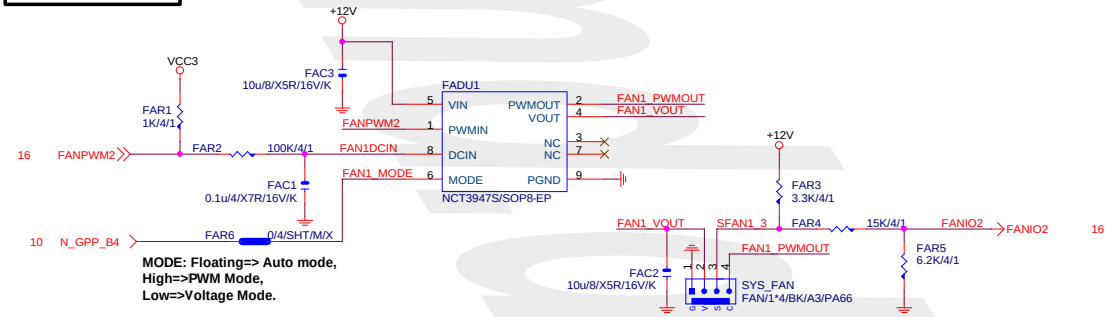
CPU SMART FAN

Rev: 0.8





A. SYSTEM FAN1



Gigabyte Technology		
Title: FAN CTRL		
Size: Custom	Document Number: GA-B250M-D2VX-SI	Rev: 1.0
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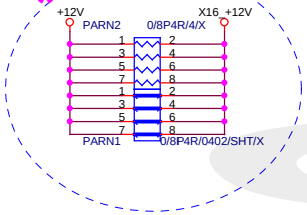
Rev 0.2

+12_protect short-wire test



PCIESLOT-164P

PCIEX16 3GIO_*16

KEY

PA_EXP_RXP[0..15] → PA_EXP_RXP[0..15] 4
PA_EXP_RXN[0..15] → PA_EXP_RXN[0..15] 4
PA_EXP_TXP[0..15] → PA_EXP_TXP[0..15] 4
PA_EXP_TXN[0..15] → PA_EXP_TXN[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

8,9,12,20,27,38 N_SMBCLK
8,9,12,20,27,38 N_SMBDATA
PAR4 0/4/X
PAR5 0/4/X
PAR3 0/4/SHT/M/X
3VDUAL
VCC3
12,16,20,50 N_-PCIE_WAKE
10 -PCIEX16_PR

PAR1 0/4/SHT/M/X
PAR2 0/4/SHT/M/X
VCC3
O_-PCIE_RST 16,20,22,50
PAC1 33p/4/NPO/50V/J
PA_SRCCLK_3GIO 10
PA_-SRCCLK_3GIO 10

VCC3
PABC2 0.1u/4/X7R/16V/K
PABC3 0.1u/4/X7R/16V/K
PABC4 0.1u/4/X7R/16V/K/X
+12V
PAEC1 270u/FP/D/16V/8C/A/10m
X16_+12V
PABC1 0.1u/4/X7R/16V/K
VCC3
PAEC2 560u/FP/D/6.3V/69/A/11m

PCI-E/16X-164P/BK/LONG DOUBLE

PCIEX16:16/5/5/5/16

PCI-E REV:1.1--> 2.5GHZ

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

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

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

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

PCI-E REV:2.0--> 5GHZ

Gigabyte Technology

Title: PCI EXPRESS * 16

Size: Custom | Document Number: GA-B250M-D2VX-SI | Rev: 1.0

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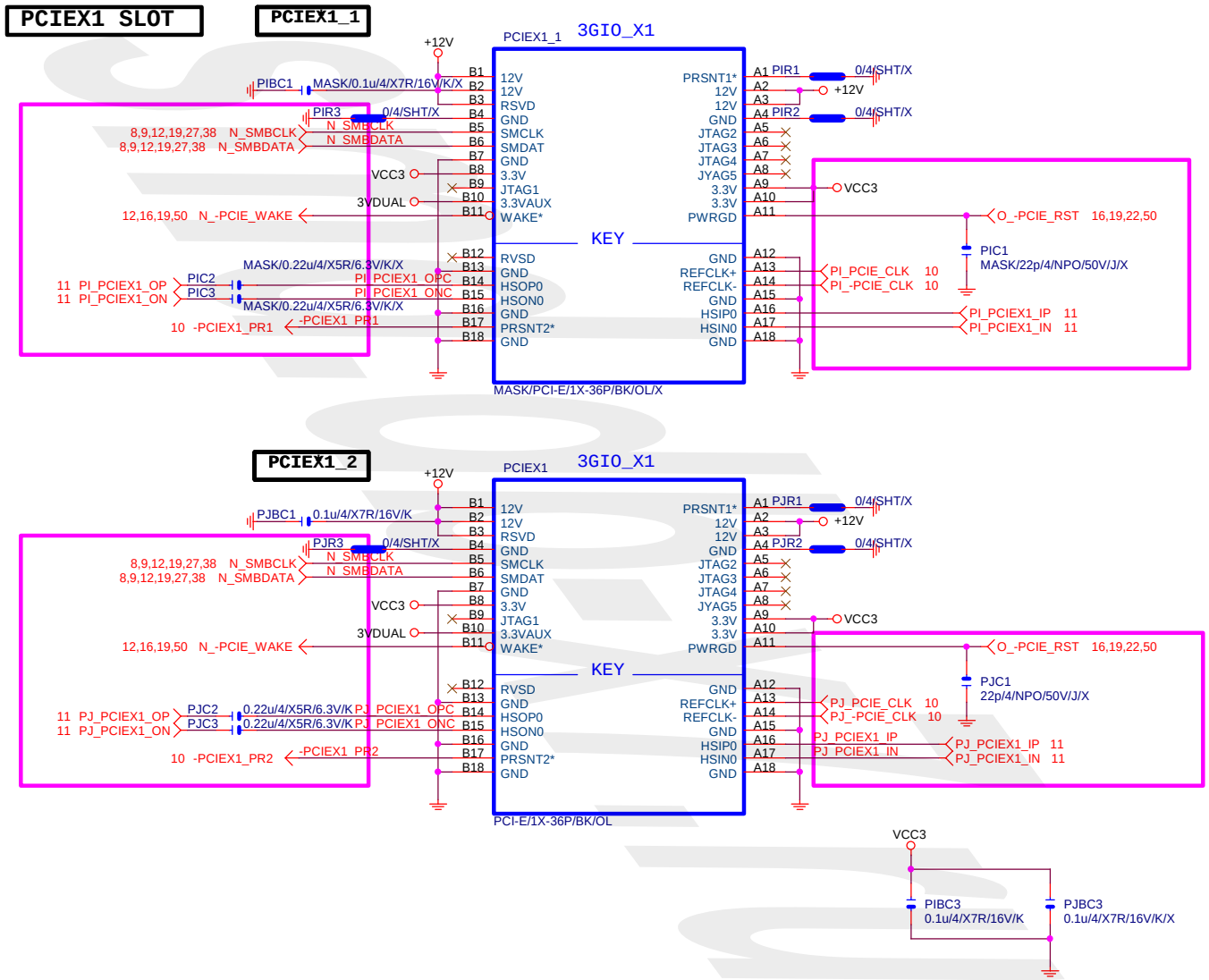
Rev 0.51



Gigabyte Technology		
Title: PCIE_X4		
Size: Custom	Document Number: GA-B250M-D2VX-SI	Rev: 1.0
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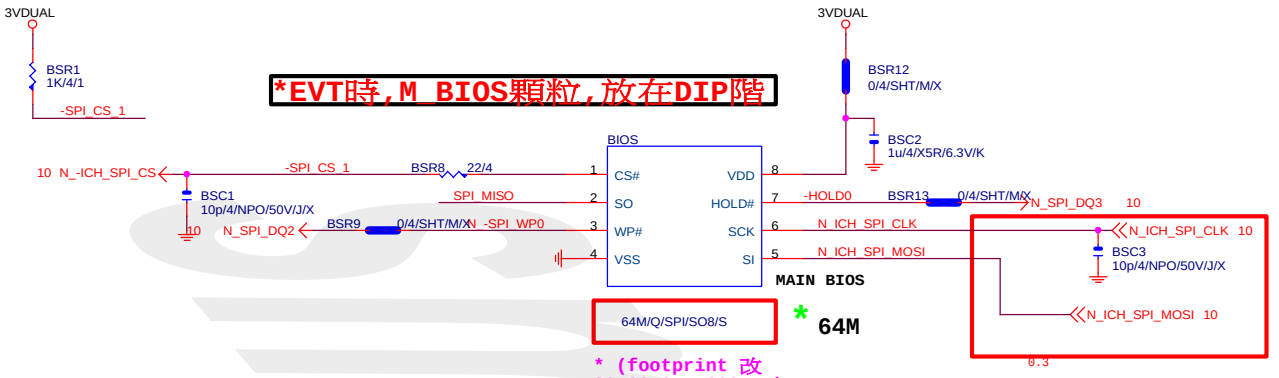
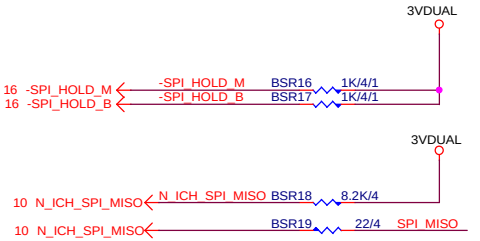
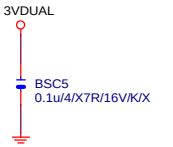
Rev 0.3

MOSI For DMI RX Termination Voltage

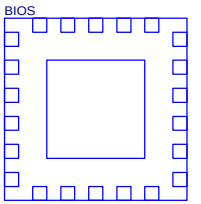




BOOT DEVICE	GNT0	GNT1
LPC	0	0
PCI	0	1
NAND	1	0
SPI	1	1



1 means floating
0 means PD 1K



LCP/G-FL/1.27mm/200MIL/WHITE[10SL2-000008-31R]/X

* 試產先上 , PVT 移除

Gigabyte Technology			
Title: BIOS			
Size: Custom	Document Number: GA-B250M-D2VX-SI		Rev: 1.0
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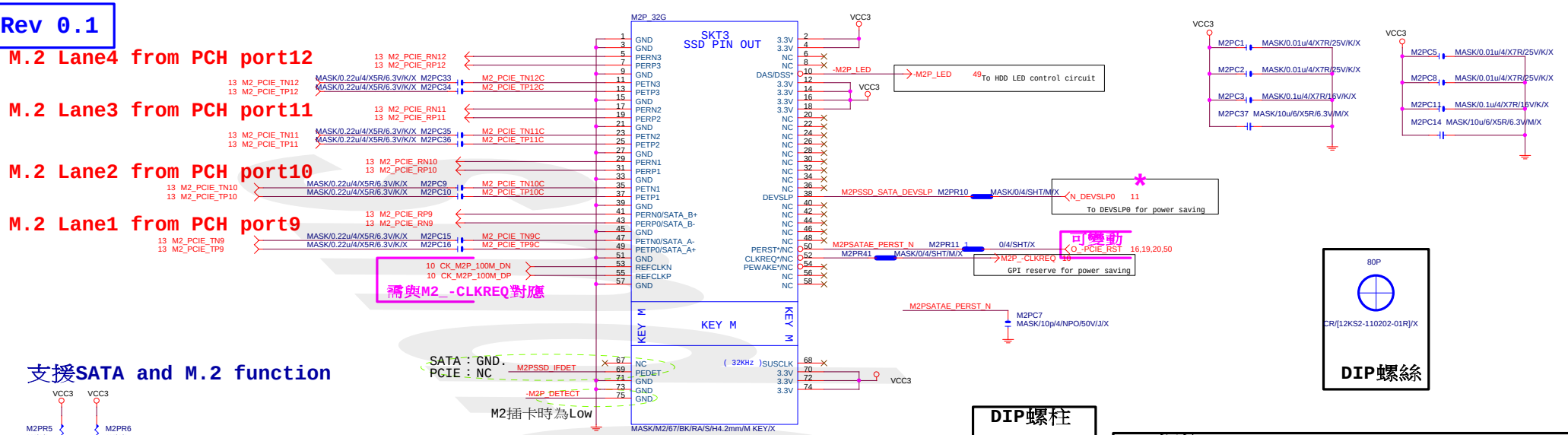
Rev 0.1

M.2 Lane4 from PCH port12

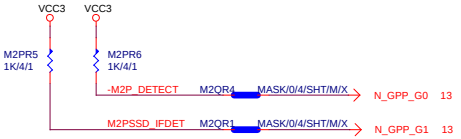
M.2 Lane3 from PCH port11

M.2 Lane2 from PCH port10

M.2 Lane1 from PCH port9



支援SATA and M.2 function



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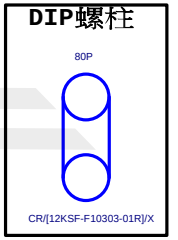
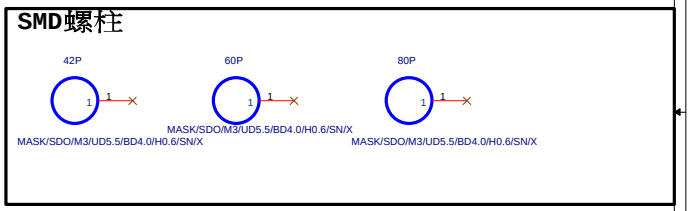


DIP螺絲

SMD螺柱



Gigabyte Technology		
Title: M.2 X4		
Size: Custom	Document Number: GA-B250M-D2VX-SI	Rev: 1.0
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Gigabyte Technology			
Title: M.2X4_S4~S5 SWITCH			
Size: Custom	Document Number: GA-B250M-D2VX-SI		Rev: 1.0
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	Gigabyte Technology		
Title	IT8892E		
Size: Custom	Document Number: GA-B250M-D2VX-SI		Rev: 1.0
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GIGABYTE™

Title
PCI SLOT 1&2

Size	Document Number	Rev
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Rev 0.1

Gigabyte Technology			
Title: ASM1085 POWER			
Size: Custom	Document Number: GA-B250M-D2VX-SI		Rev: 1.0
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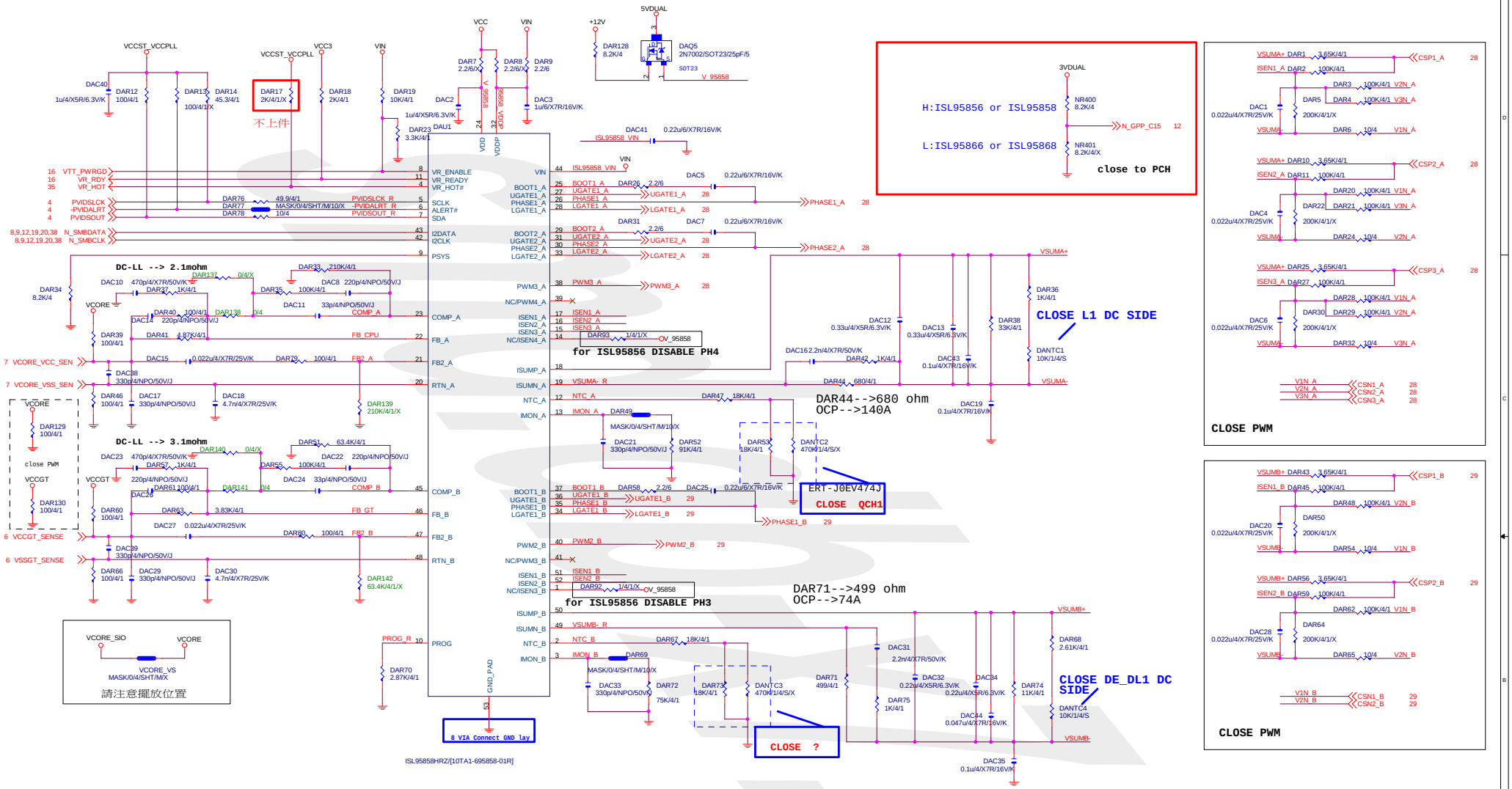
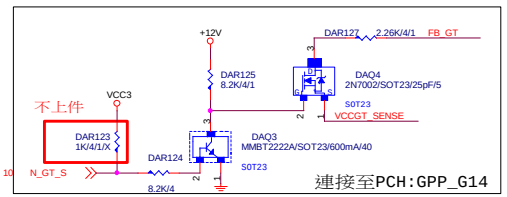
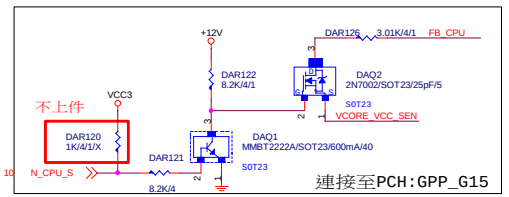
REV:0.1



VCORE	ISL95858	ISL95868
DAR137	X	V
DAR138	V	X
DAR139	X	V
DAC15	V	X
DAR79	V	X
DAR33	V	X

VCCGT	ISL95858	ISL95868
DAR140	X	V
DAR141	V	X
DAR142	X	V
DAC27	V	X
DAR80	V	X
DAR51	V	X





GIGABYTE™

Title	ISL95868_PWM	
Size: Custom	Document Number: GA-B250M-D2VX-SI	Rev: 1.0
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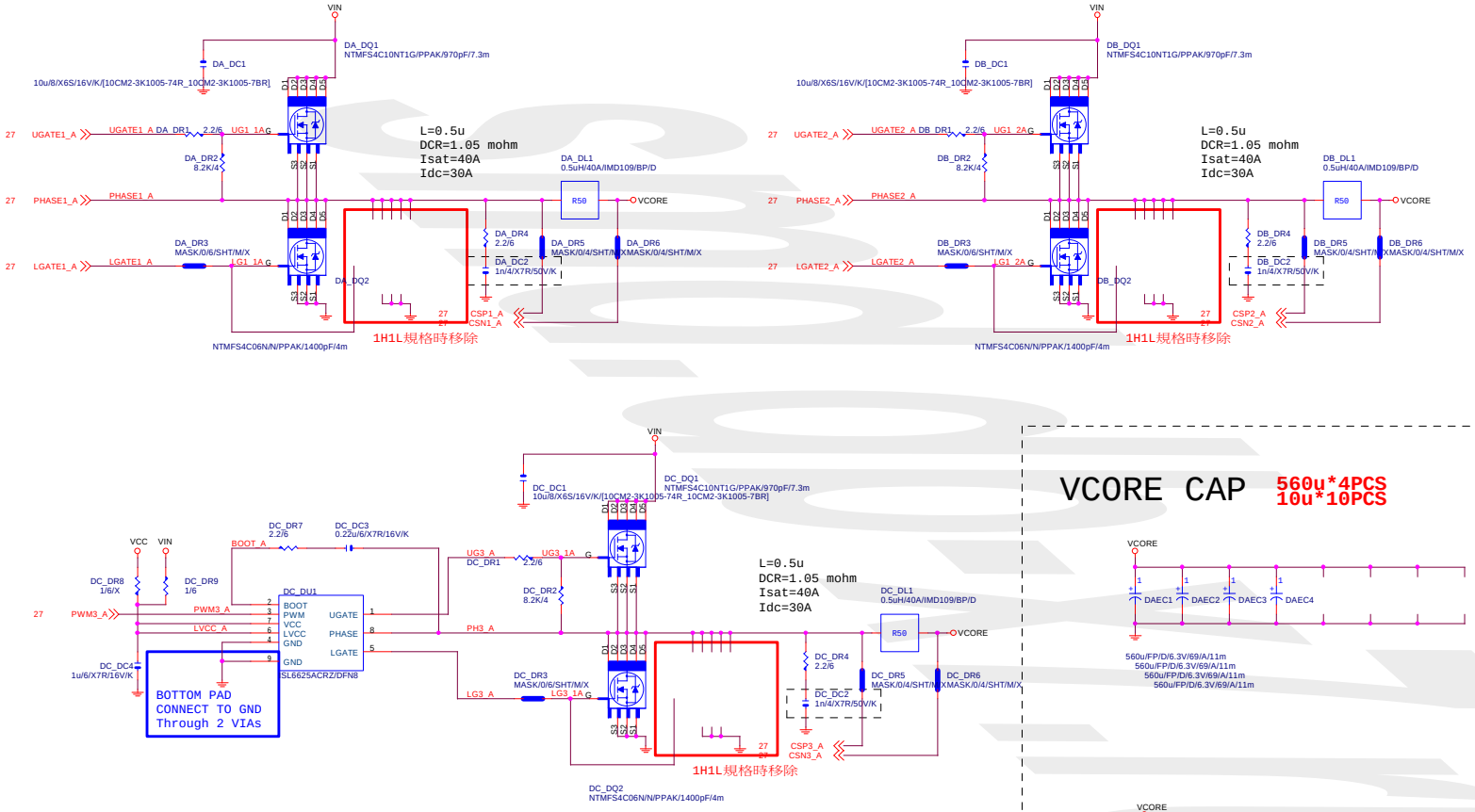
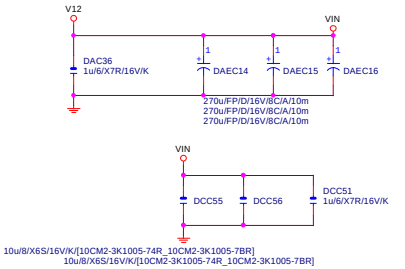
REV:0.1

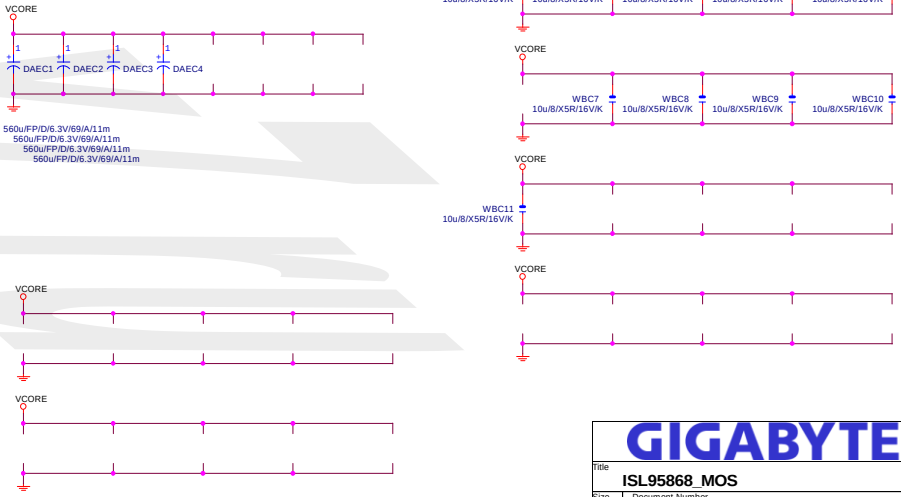
VCORE



VIN CAP 270u*3PCS



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



GIGABYTE™

Title	ISL95868_MOS	
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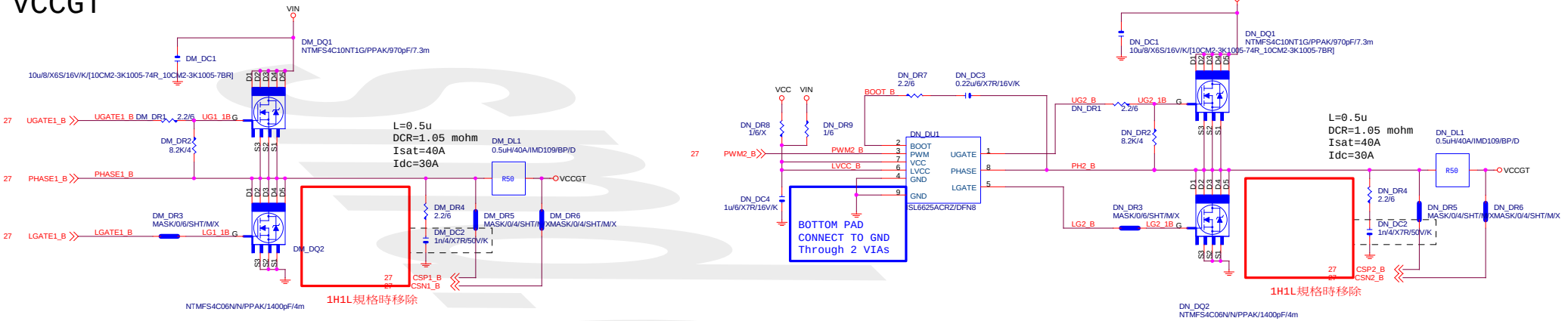
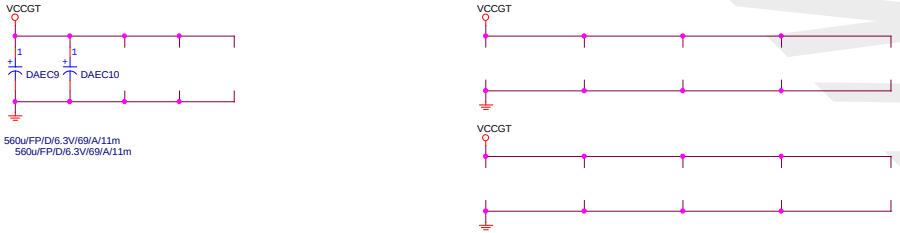
REV:0.1

VCCGT



VCCGT CAP 560u*2PCS 10u*2PCS



GIGABYTE™

Title	ISL95868_MOS	
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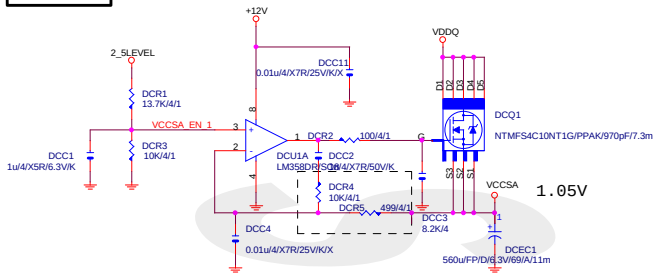
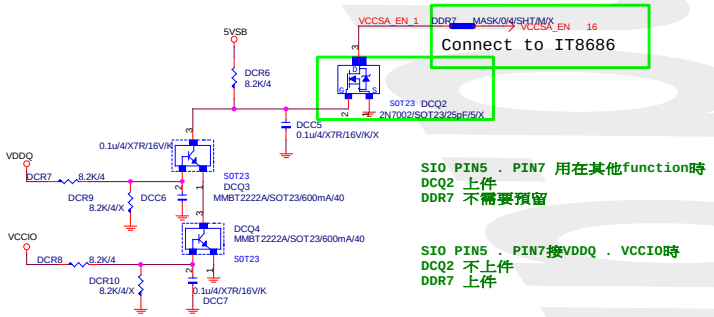
VCCSA

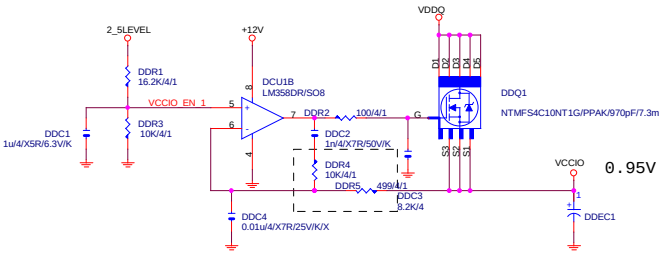


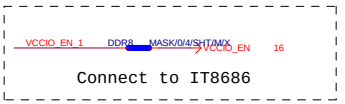


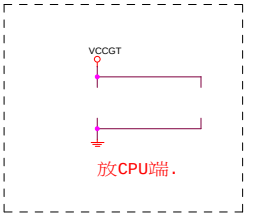
SIO PIN5 . PIN7 用在其他function時
DCQ2 上件
DDR7 不需要預留

SIO PIN5 . PIN7接VDDQ . VCCIO時
DCQ2 不上件
DDR7 上件

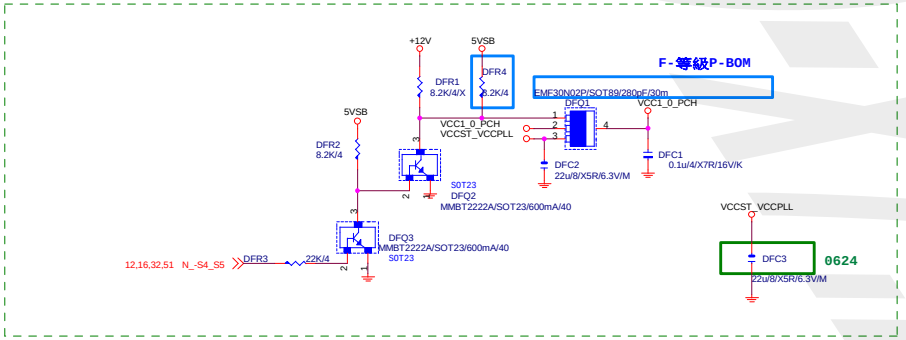
VCCIO







VCCST_VCCPLL



GIGABYTE™

Title: VCCSA_VCCIO_no 44E		
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REV:0.2

DDR4

5VDUAL
MAR2
8.2K/4
MA_EN
上件

MA_DR38.MA_DC15

VPP_25V使用8120.8068A.RT8237時上件

VDDQ_SIO VDDQ
DDR_VS
MASK/0/4/SHT/M/X

PWR SEQ

CLOSE TO DDR POWER PLANE

For power sequence require

VPP_25V使用8120時上件

5VDUAL
MA_DR8 2.2/6
DRV_DDR
MA_DC10 1u/6/X7R/16V/K
MA_DR37 100K/4/1
VDDQ_GD
VPP_25V
MA_DR40 8.2K/4/X
MA_DR41 8.2K/4
32 VPP25V_GD
MA_DR38
MASK/0/4/SHT/M/10/X
DDR_EN
16,32 MA_EN
MA_DR39 0/4/X
MA_DC15 0.1u/4/X7R/16V/K
MA_DC9 0.1u/6/X7R/25V/K
MAU2
RT8237/[10TA1-608237-01R]
EN PGOOD VCC BOOT UGATE PHASE FB CS RF GND LGATE
MA_UGATE
MA_PHASE
MA_LGATE
MA_RF
MA_DR45
VDDQ_GD
470K/4/1
MA_DR15 182K/4/1
MA_DR19 470K/4/1/X

PIN7-->20mil
PIN1-->6mil
PIN2-->6mil
PIN5-->6mil
PIN3-->6mil

FS=290K
OCP=40A

MOSFET請依MOSFET使用規則.自行選擇
ON-->10IF9-040406-10R[NTMFS4C06N/N/PPAK/1400pF/4m]
VISHAY-->10IF9-040012-10R[SIRA12DP/PPAKSO8/2070pF/4.3m]

5VDUAL
MA_L2 47/4030/15A/S
BEAD
MA_VIN
MA_DC6 0.1u/4/X7R/16V/K
Close Choke
MA_DC7 1u/6/X7R/16V/K
Close MOS
MAEC1 560u/FP/D/6.3V/69/A/11m
MA_DQ1 NTMFS4C06N/N/PPAK/1400pF/4m
MA_UGATE MA_DR1 2.2/6
MA_DR2 8.2K/4
MA_PHASE
MA_DQ2
MA_LGATE MA_DR9 2.2/6
MA_LG
MA_DR5 2.2/6
MA_DC5 1n/4/X7R/50V/K
NTMFS4C06N/N/PPAK/1400pF/4m
MA_L1 1uH/35A/IMD109/BP/D
R50
10*10
VDDQ
MA_DC14 22p/4/NPO/50V/J/X
RS
MA_DR13 2K/4/1
RO
MA_DR12 2.8K/4/1
DDR_ADJ
16 GP25 MA_DR46 9.1K/4/1 1.35V
16 GP24 MA_DR21 26.1K/4/1 1.25V
16 GP21 MA_DR22 6.8K/4/1 1.4V

DDR_VIN_CAP
560u*2PCS

CHOKE與CAP料號可變

SUPPORT DDR4 1.2V

25A MAX

L=1u
DCR=2.5 mohm
Isat=35A
Idc=28A

MAC60 22u/8/X5R/6.3V/M/X

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

MAU1上RT9045時上件(不可MASK)
MA_VTT_REF

DDRVTT

VDDQ
NCT3103S/SOP8/2A/[10GL2-203103-01R]
MAU1
MAC2 1u/4/X5R/6.3V/K
MAR5 1K/4/1
MA_VTT_REF
MAR4 1K/4/1
MAC1 0.01u/4/X7R/25V/K
VIN GND VREF1 VOUT VREF2 ENABLE VCNTL BOOT_SEL
DDRVTT_EN
DDRVTT_BOOT
1.1A MAX
DDRVTT
5VDUAL
MAC7 10u/6/X5R/6.3V/M

DDR CAP

560u*4PCS 22u*2PCS

VDDQ
* 大電容 x4
MAEC3 560u/FP/D/6.3V/69/A/11m
MAEC4 560u/FP/D/6.3V/69/A/11m
WBC49 22u/8/X5R/6.3V/M

DDRVTT CAP

* 大電容 x0
DDRVTT
MAC4 22u/8/X5R/6.3V/M

4 DDR_VTT_CTL
12,16,51 N_-SLP_S3
DDR_VTT_CTL MAR110 MASK/0/4/SHT/M/10/X DDRVTT_EN
N_-SLP_S3 MAR111 MASK/0/4/SHT/M/10/X DDRVTT_BOOT

GIGABYTE

Title	RT8237_DDR4 POWER	
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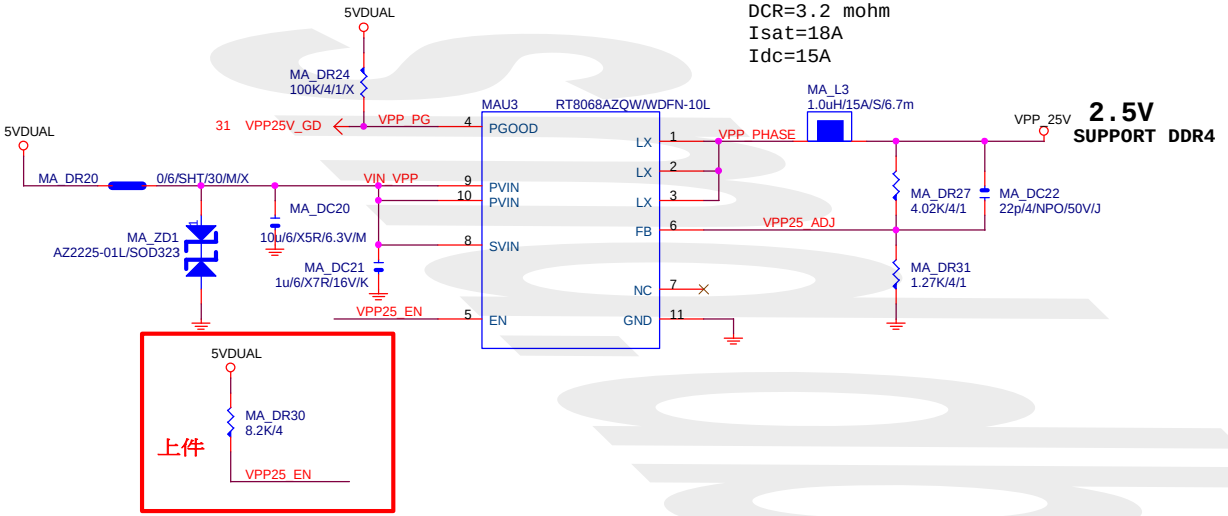
REV:0.1

VPP_25V

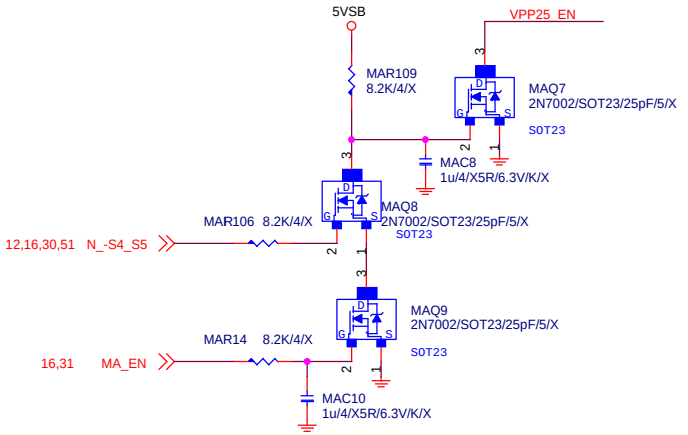
CHOKE與CAP料號可變

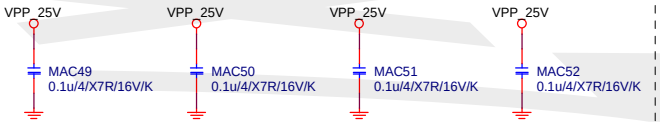
L=1u
DCR=3.2 mohm
Isat=18A
Idc=15A



PWR SEQ

* 刪 MA_DR32

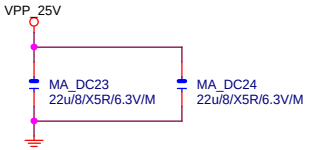




16 VPP25_EN_IO — MAR114 MASK/0/4/SHT/M/X VPP25_EN

VPP CAP 22u*1PCS

* 大電容 x0



GIGABYTE™

Title: RT8068A_VPP25 POWER

Size	Document Number	Rev
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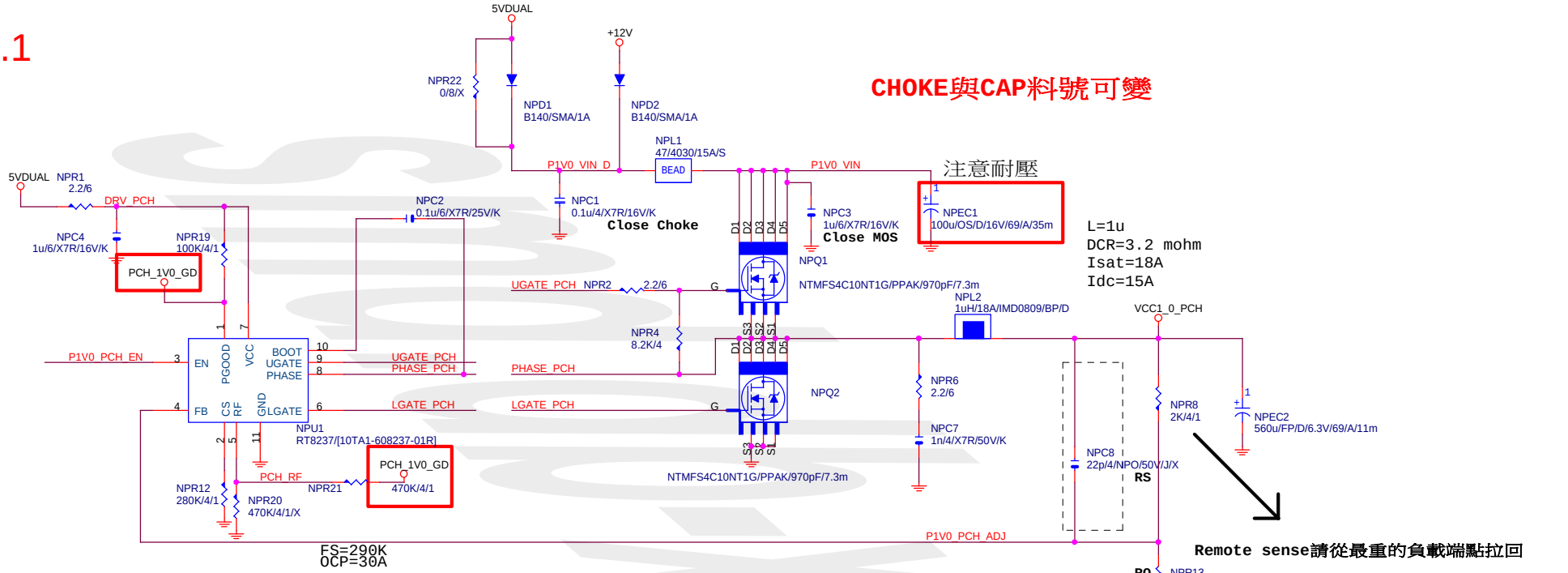
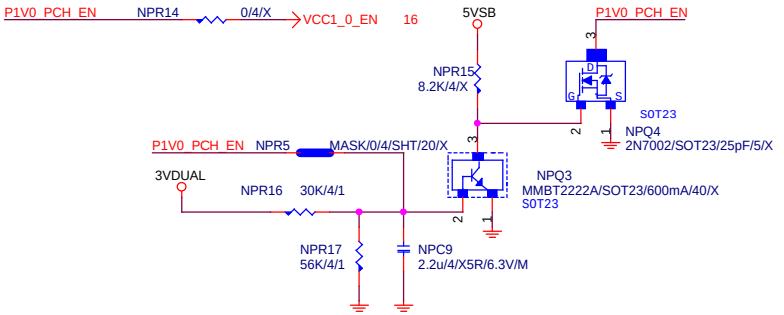
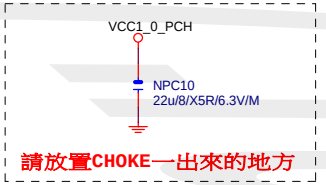
REV:0.1



PWR SEQ





GIGABYTE™

Title	RT8237_PCH POWER	
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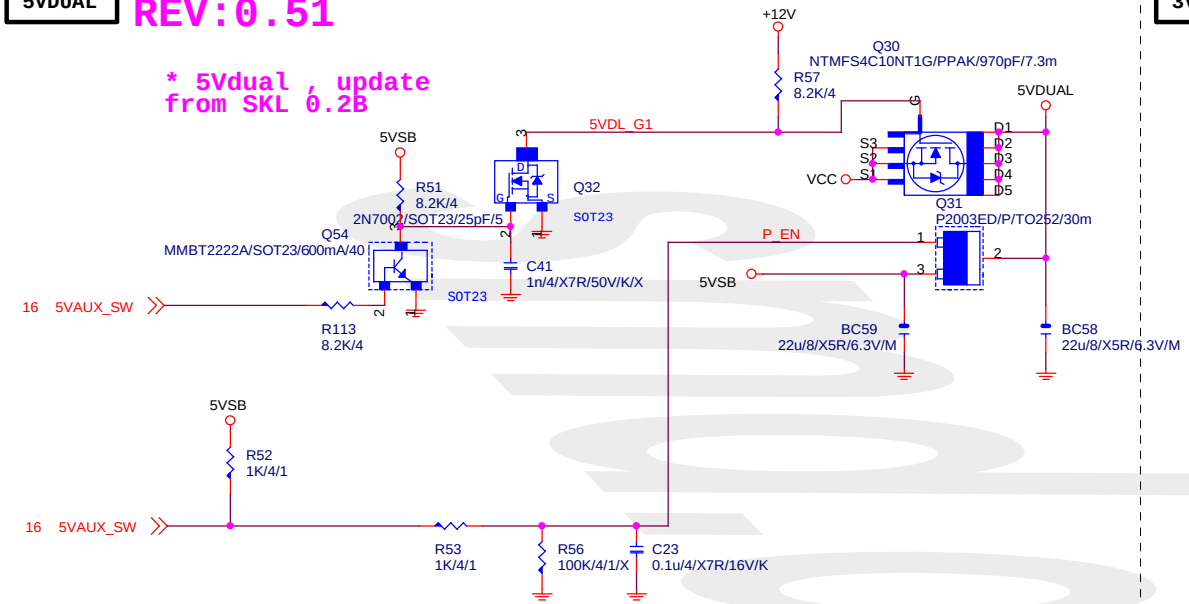
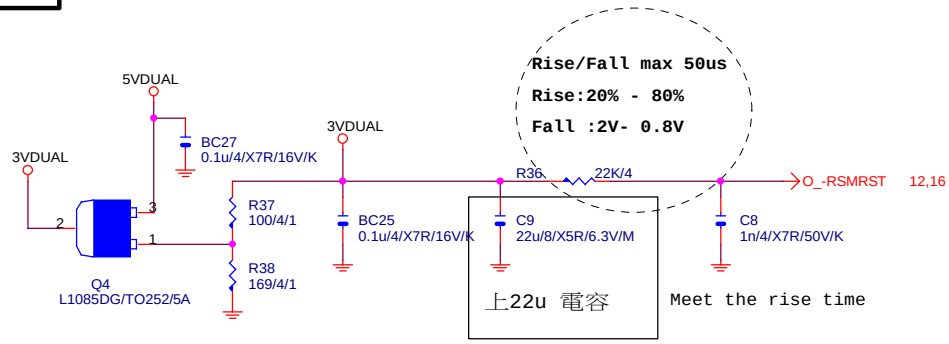
5VDUAL

REV:0.51

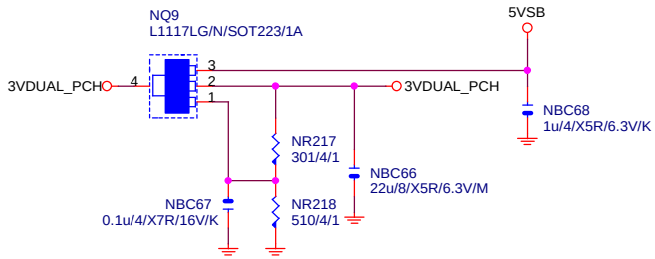
* 5Vdual , update from SKL 0.2B



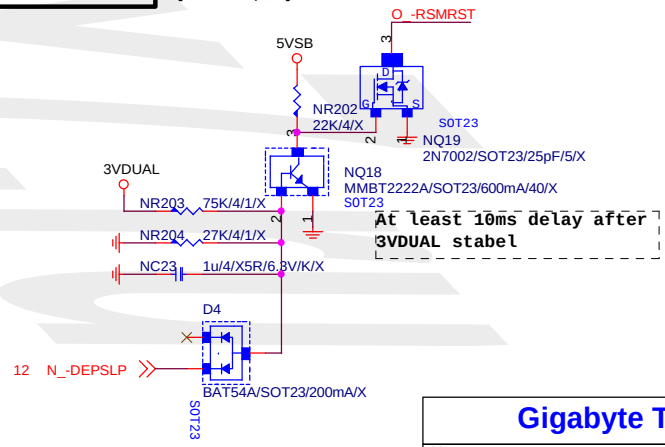
3VDUAL



3VDUAL_PCH



O_-RSMRST (不上件)



Gigabyte Technology

Title	DISCRETE POWER	
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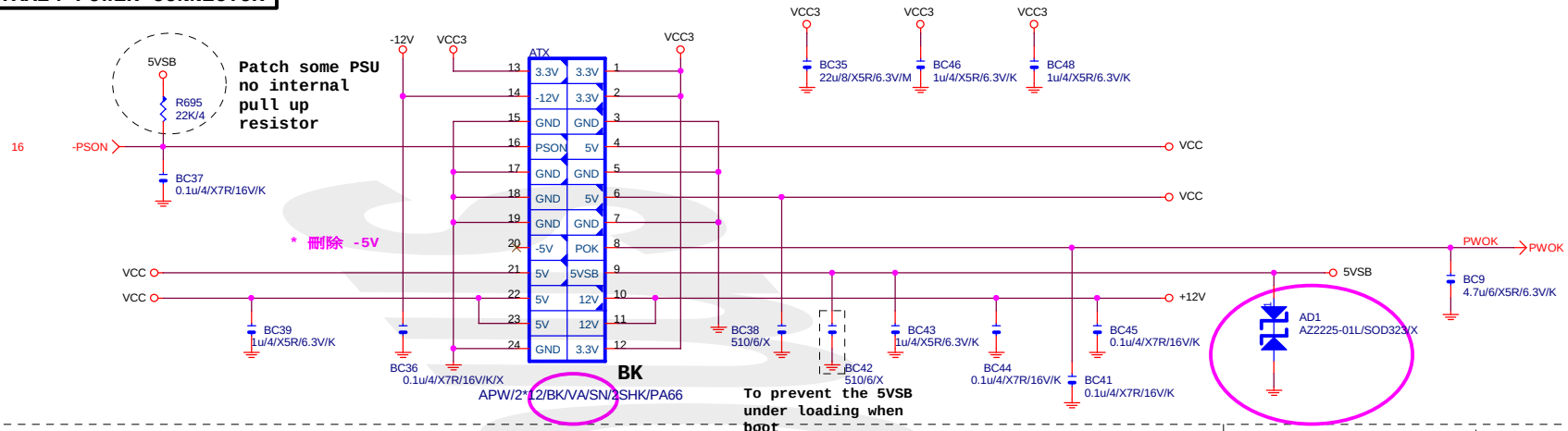
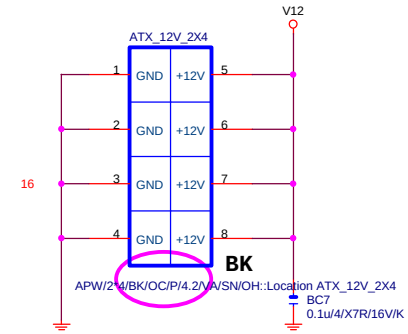
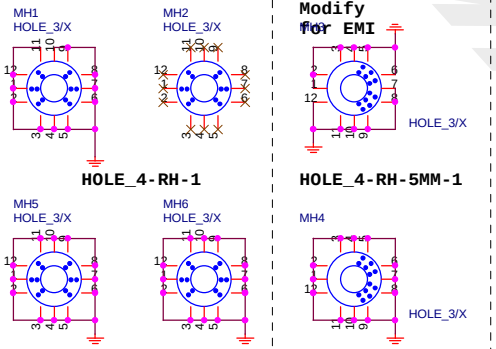
ATXX24 POWER CONNECTOR



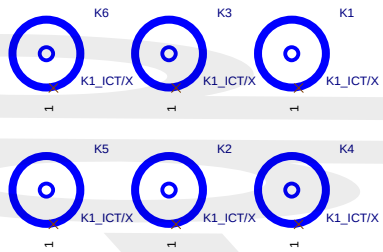
ATXX4 POWER CONNECTOR

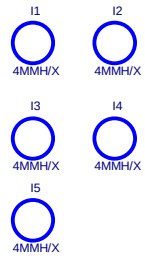


螺絲孔

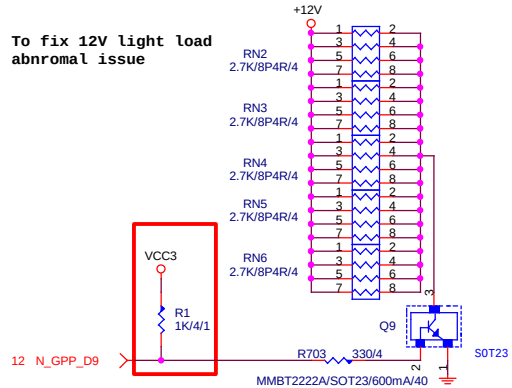


固定孔/光學點



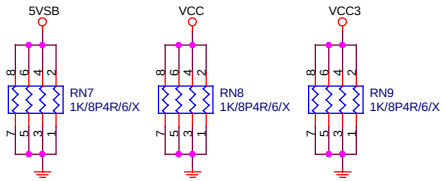


+12V DUMMY LOAD

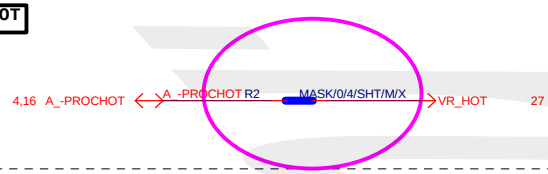


【技術通報R&D技術通報153】

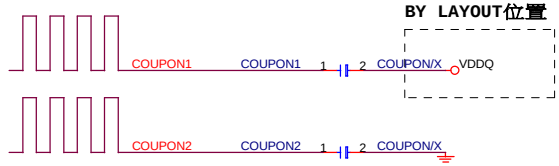
DUMMY LOAD



-PROHOT



COUPON



Gigabyte Technology		
Title: ATX POWER CONNECTOR		
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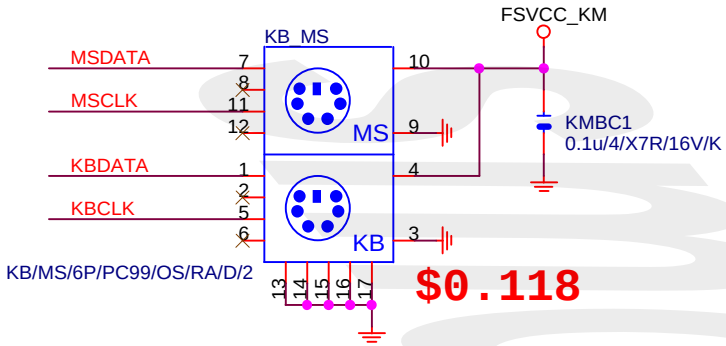
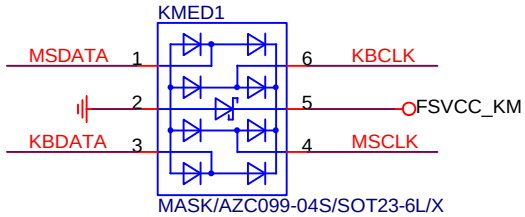
KB_MS_USB

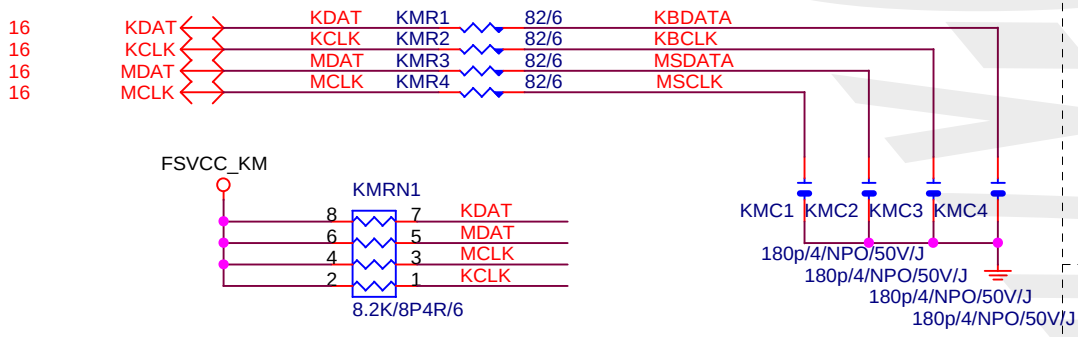
Rev: 81



ESD



KB_MS_USB DAMPING/PU



KB_MS_USB PWR

USB OC PROTECT

Gigabyte Technology		
Title: KB_MS_USB		
Size: A	Document Number: GA-B250M-D2VX-SI	Rev: 1.0
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DVI

Rev: 0.8

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

NET 可變

4 DVI_TXC
4 DVI_TXC-
VBC1 0.1u/4/X7R/16V/K DVITXC+ VR1 680/4/1
VBC2 0.1u/4/X7R/16V/K DVITXC- VR2 680/4/1

4 DVI_TX0
4 DVI_TX0-
VBC3 0.1u/4/X7R/16V/K DVITX0+ VR3 680/4/1
VBC4 0.1u/4/X7R/16V/K DVITX0- VR4 680/4/1

4 DVI_TX1
4 DVI_TX1-
VBC5 0.1u/4/X7R/16V/K DVITX1+ VR7 680/4/1
VBC7 0.1u/4/X7R/16V/K DVITX1- VR8 680/4/1

4 DVI_TX2
4 DVI_TX2-
VBC8 0.1u/4/X7R/16V/K DVITX2+ VR9 680/4/1
VBC9 0.1u/4/X7R/16V/K DVITX2- VR10 680/4/1

DVI_G

VQ1
2N7002/SOT23/25pF/5
SOT23
VCC VR16 8.2K/4 VQ1_2

DVI_SCL
VQ2
2N7002/SOT23/25pF/5
SOT23
VCC VR17 1K/4/1 VQ2_2 N_DDPC_CTRLCLK

DVI_SDA
VQ3
2N7002/SOT23/25pF/5
SOT23
VCC VR18 1K/4/1 VQ3_2 N_DDPC_CTRLDATA

DVI PU

VCC
防漏電 ★Update 2015.05.27
VD1
BAT54A/SOT23/200mA
SOT23
VR14 2.2K/4/1
VR13 2.2K/4/1
DVI_SDA
DVI_SCL

10 N_DDPC_CTRLCLK VR5 2.2K/4/1 VCC3
10 N_DDPC_CTRLDATA VR6 2.2K/4/1
VBC6
0.1u/4/X7R/16V/K/X

DVI_HP
VQ4
2N7002/SOT23/25pF/5
SOT23
VCC3
VR20 1M/4
VCC VR19 8.2K/4 VQ4_2 N_DVI_HDP_F 10 N_DVI_HDP_F

DVI CONN

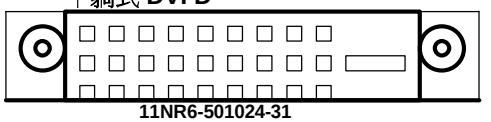
NET 可變
FSVCC_KM

DVITX0-
DVITX0+
DVITX1-
DVITX1+
DVITX2-
DVITX2+
DVI_SCL
DVI_SDA
DVITXC-
DVITXC+
DVI_HP
VR15 20K/4/1

M1 M2 M5 M6 M7 M8
DVI
COMMON
DVI-30P-4P-1

DVI-D/24P/SC/RA/D/SH

平躺式 DVI-D



11NR6-501024-31

ESD

NET 可變
FSVCC_KM
VBC10
0.1u/4/X7R/16V/K

VESD3
DVI_HP
DVI_SCL
DVI_SDA
NET 可變
FSVCC_KM
AZC099-04S/SOT23-6L

Close to connector

VESD2
DVITX1+
DVITX1-
DVITX2-
DVITX2+
AZ1045-04F/MSOP10

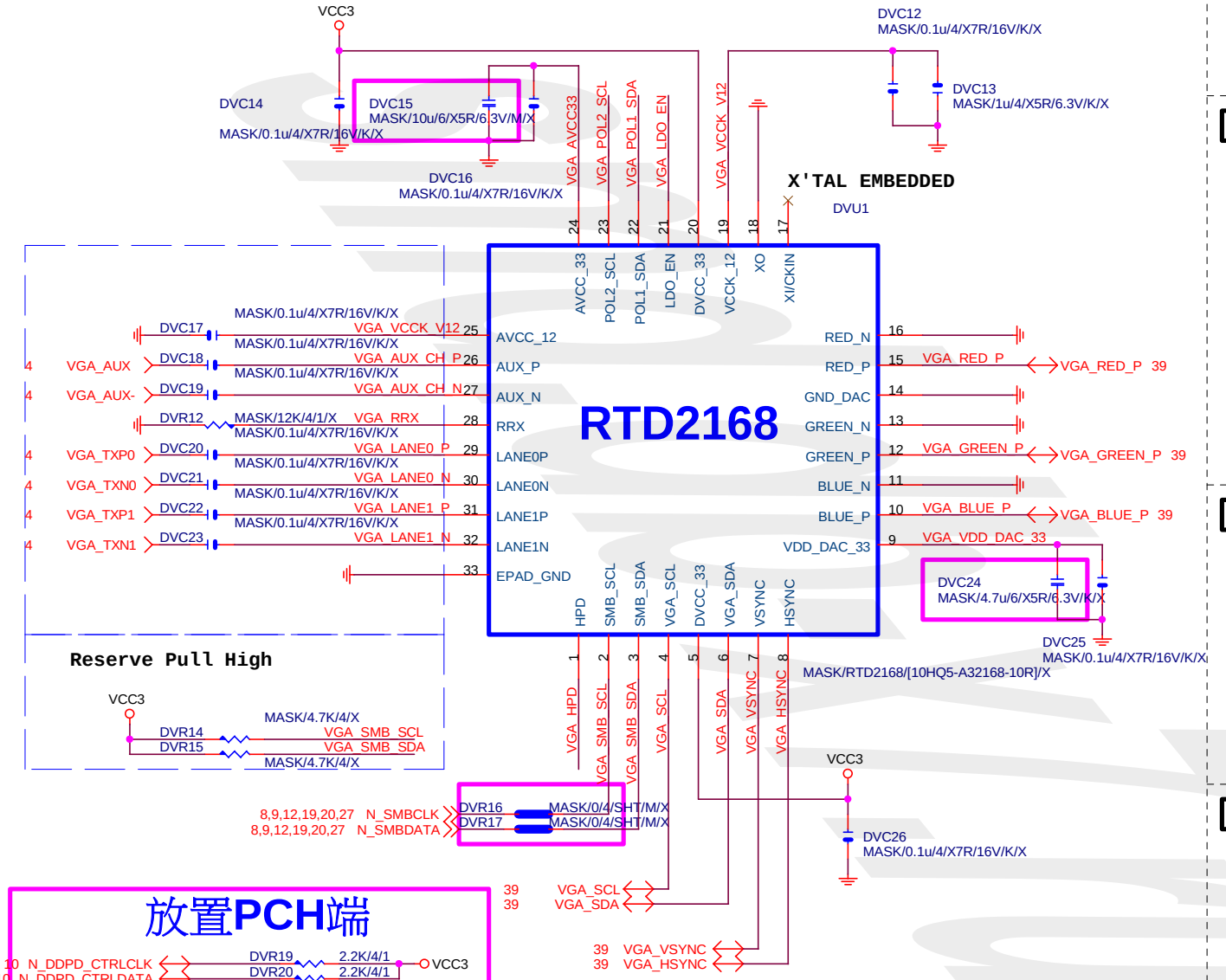
Close to connector

VESD1
DVITXC-
DVITXC+
DVITX0+
DVITX0-
* swap
AZ1045-04F/MSOP10

Close to connector

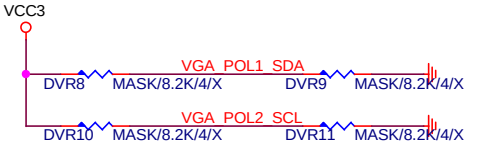
Gigabyte Technology		
Title: DVI		
Size: Custom	Document Number: GA-B250M-D2VX-SI	Rev: 1.0
Date: Monday, November 14, 2016	Sheet 37 of 53	

RTD2168 | R1.03



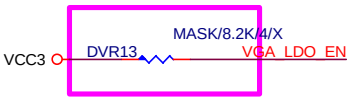
POWER

Power on latch



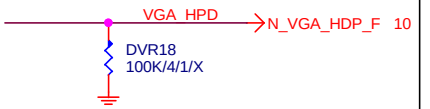
POL2_SCL (PIN23) \ POL1_SDA(PIN22)	0	1
0	X	EP MODE
1	ROM ONLY MODE	EEPROM MODE

Embedded LDO



LDO_EN(PIN21)	
0	1
VCCK_V12 from External 1.2V	VCCK_V12 from Embedded LDO

DP HPD



Gigabyte Technology			
Title: NXP-PTN3356			
Size: Custom	Document Number: GA-B250M-D2VX-SI		Rev: 1.0
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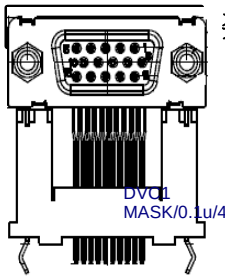
VGA SIGNAL R1.03



架高型VGA(BLACK)

VCC
DVD1
MASK/BAT54A/SOT23/200mA/X
S0T23
VGA_SDA_F
VGA_SCL_F
DVR2
MASK/2.2K/4/1/X
DVR3
MASK/2.2K/4/1/X
38 VGA_SDA
38 VGA_SCL
VGA_SDA
VGA_SCL

FSVCC_KM
DVC1
MASK/0.1u/4/X7R/16V/K/X
VGA
G_VGA_R
G_VGA_G
G_VGA_B
VGA_SDA
G_HSYNC
G_VSYNC
VGA_SCL
MASK/VGA/BK/SC/RA/D/2/HR/X

38 VGA_VSYNC
VGA_VSYNC
DVR1
MASK/33/4/X
G_VSYNC
DVC2
MASK/10p/4/NPO/50V/J/X
38 VGA_HSYNC
VGA_HSYNC
DVR4
MASK/33/4/X
G_HSYNC
DVC3
MASK/10p/4/NPO/50V/J/X

38 VGA_RED_P
38 VGA_GREEN_P
38 VGA_BLUE_P
VGA_RED_P
VGA_GREEN_P
VGA_BLUE_P
DVFB1
DVFB2
DVFB3
MASK/30/4/4A/S/X
G_VGA_R
G_VGA_G
G_VGA_B
DVR5
MASK/75/4/1/X
DVR7
MASK/75/4/1/X
DVR6
MASK/75/4/1/X
DVC4 DVC5 DVC6
MASK/10p/4/NPO/50V/J/X
MASK/10p/4/NPO/50V/J/X
MASK/10p/4/NPO/50V/J/X
DVC7 DVC9
DVC8
MASK/10p/4/NPO/50V/J/X
MASK/10p/4/NPO/50V/J/X
MASK/10p/4/NPO/50V/J/X

Close to Filter

FOR EMI

VGA ESD

DVESD1
G_VSYNC
G_HSYNC
VGA_SCL
VCC
VGA_SDA
MASK/AZC099-04S/SOT23-6L/X

DVESD2
G_VGA_G
G_VGA_R
VCC3
G_VGA_B
MASK/AZC099-04S/SOT23-6L/X

Title	Gigabyte Technology DP-VGA RTD2168		
Size: Custom	Document Number: GA-B250M-D2VX-SI		Rev: 1.0
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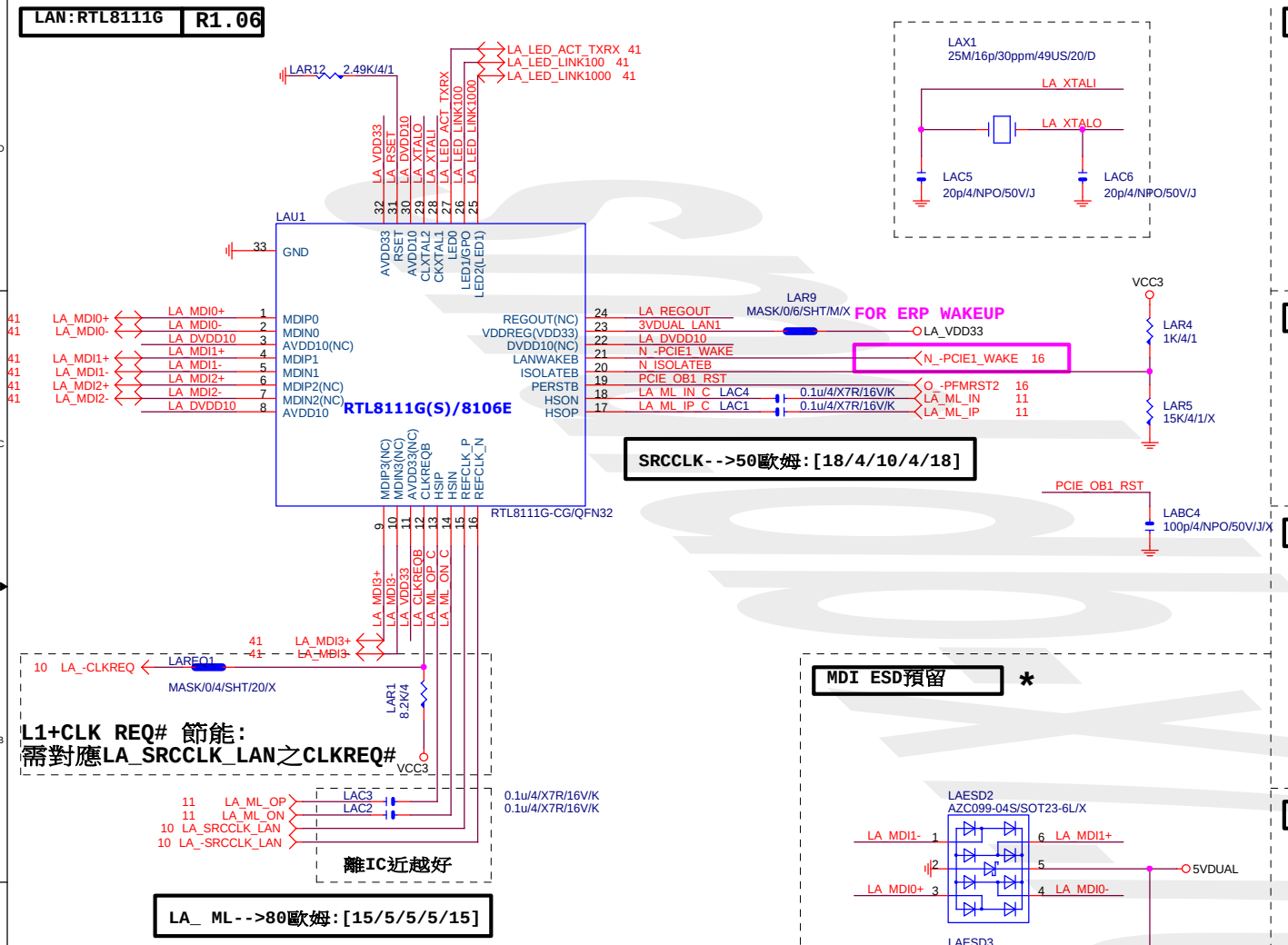
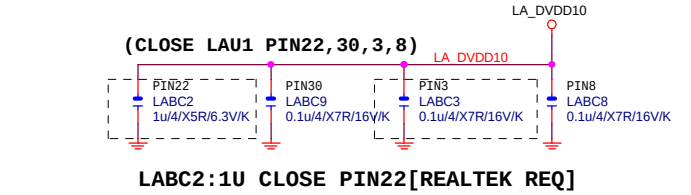
LAN:RTL8111G R1.06



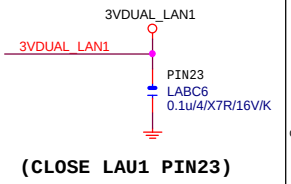
MDI ESD預留 *

LAN POWER

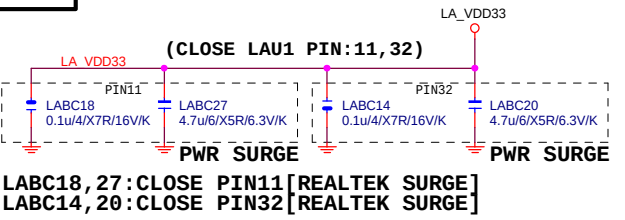


LAN POWER

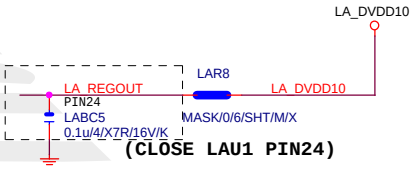
note: lan power連接及電流



LAN POWER



LAN POWER



Gigabyte Technology

Realtek RTL8111G

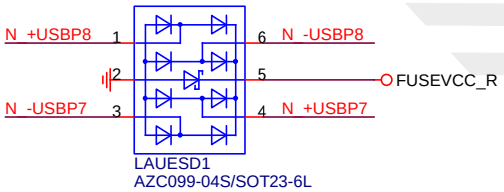
Size	Document Number	Rev
Custom	GA-B250M-D2VX-SI	1.0
Date: Monday, November 14, 2016	Sheet 40 of 53	

USB_LAN CONNECTOR R1.06

RMA ESD PROTECT

note:可變更USB NAME

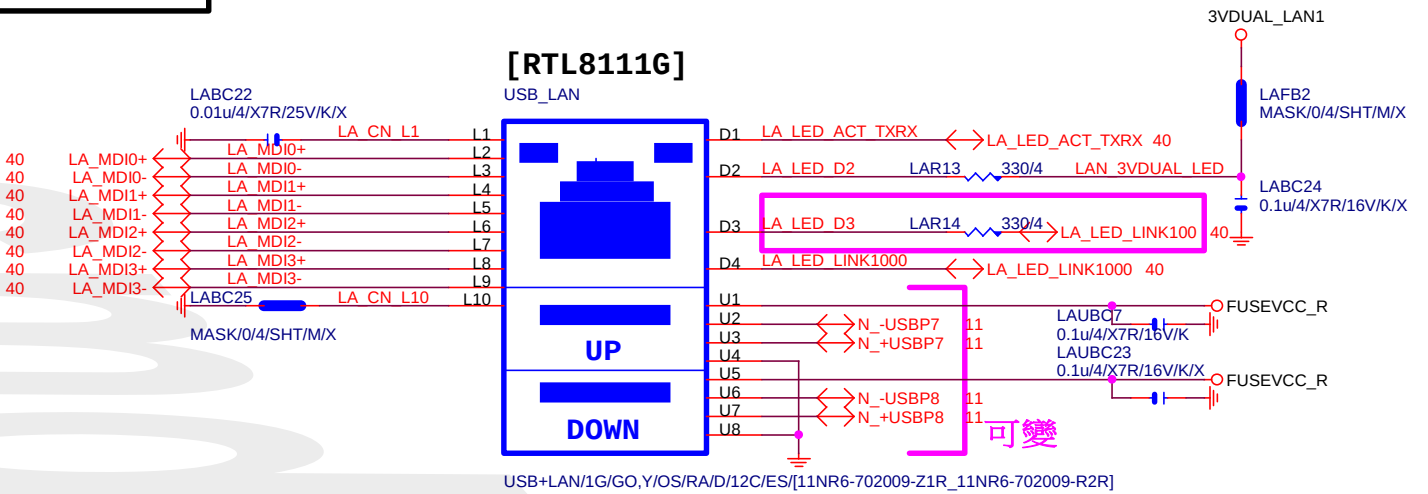
可變



USB_LAN CONNECTOR

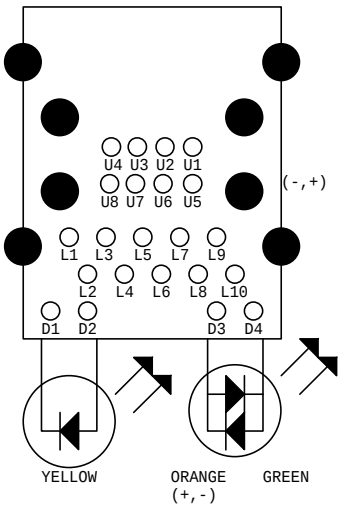
note:可變更USB NAME

[RTL8111G]

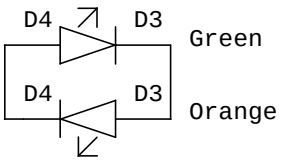


LA_MDI-->100歐姆:[20/4/8/4/20]

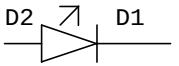
USB_LAN LAYOUT示意圖



Dual Color LED



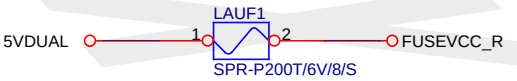
Single Color LED



USB POWER

note:可變更FUSE

可變



Close to connector

USB_LAN 2-Port 2.0A

FUSE-0805

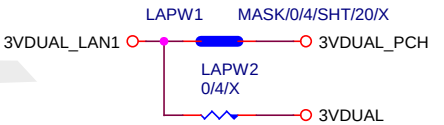
EMI SHORT PAD

PS:視EMI需求

LAN POWER

note: lan power連接及電流

可變



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*

Gigabyte Technology

Title: LAN CONNECTOR-RTL8111HS

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Custom	GA-B250M-D2VX-SI	1.0

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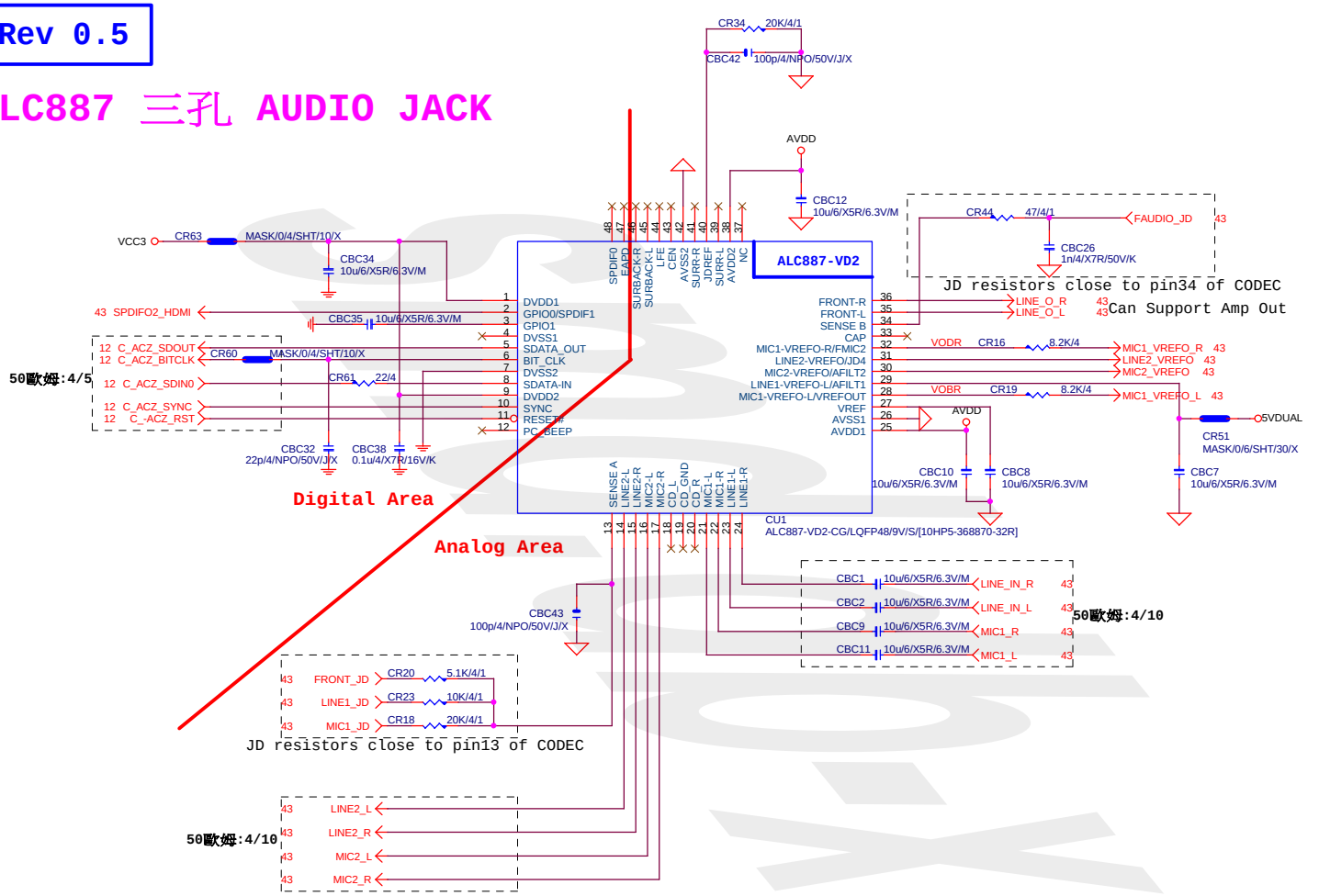
Rev 0.5

ALC887 三孔 AUDIO JACK



LAYOUT注意:螺絲孔下GND方式
1. MH1空間夠,下DGND
   空間不夠,改為Isolate
2. MH2一律改為Isolate

MH1	MH2
DGND	Isolate

LAYOUT注意:要加
GND切割線

音效區域印刷

Gigabyte Technology		
Title: HD AUDIO ALC887		
Size: Custom	Document Number: GA-B250M-D2VX-SI	Rev: 1.0
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Rev 0.5

CR49 MASK/0/6/SHT/30/X → Close F_AUDIO

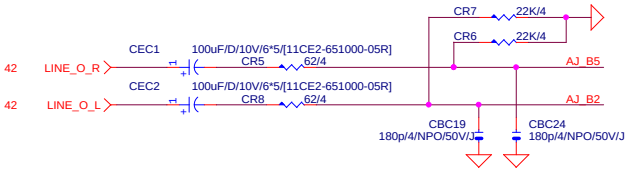
CR50 MASK/0/6/SHT/30/X, MOATC1 0.1u/4/X7R/16V/K/X → Close Codec

CR21 2.2/6 → Audio jack <--> USB_LAN

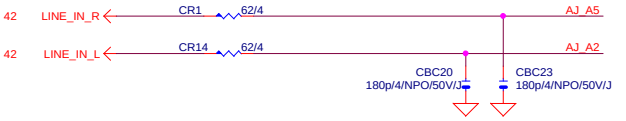
CR24 0/6/X → Under Audio jack

*量產前,0ohm改short pad

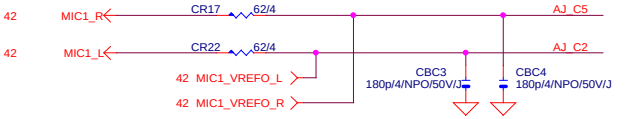
LINE-OUT



LINE-IN



MIC-IN

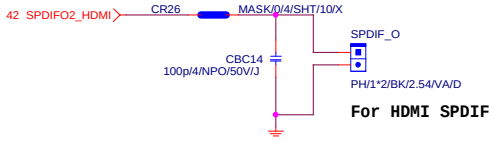


SURROUND

CEN/LFE

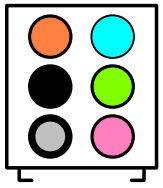
SURR BACK

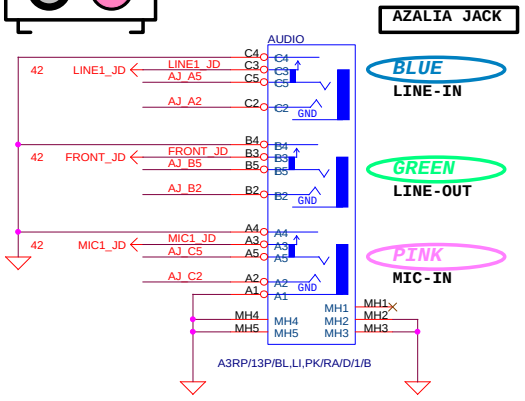
SPDIF_OUT



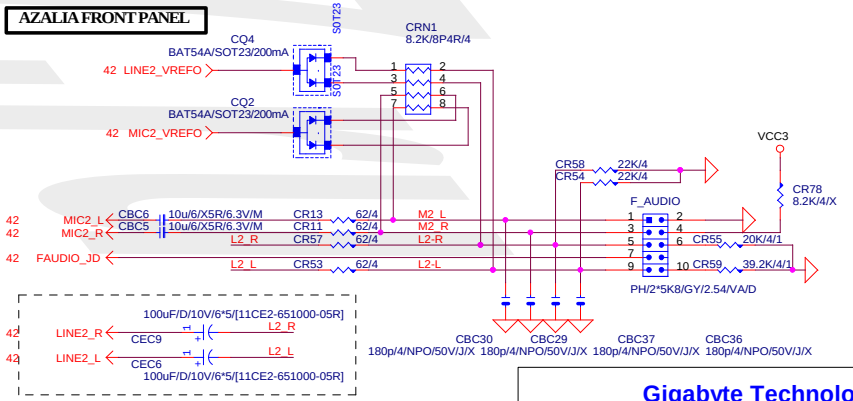
SPDIF_IN

AZALIA JACK





AZALIA FRONT PANEL



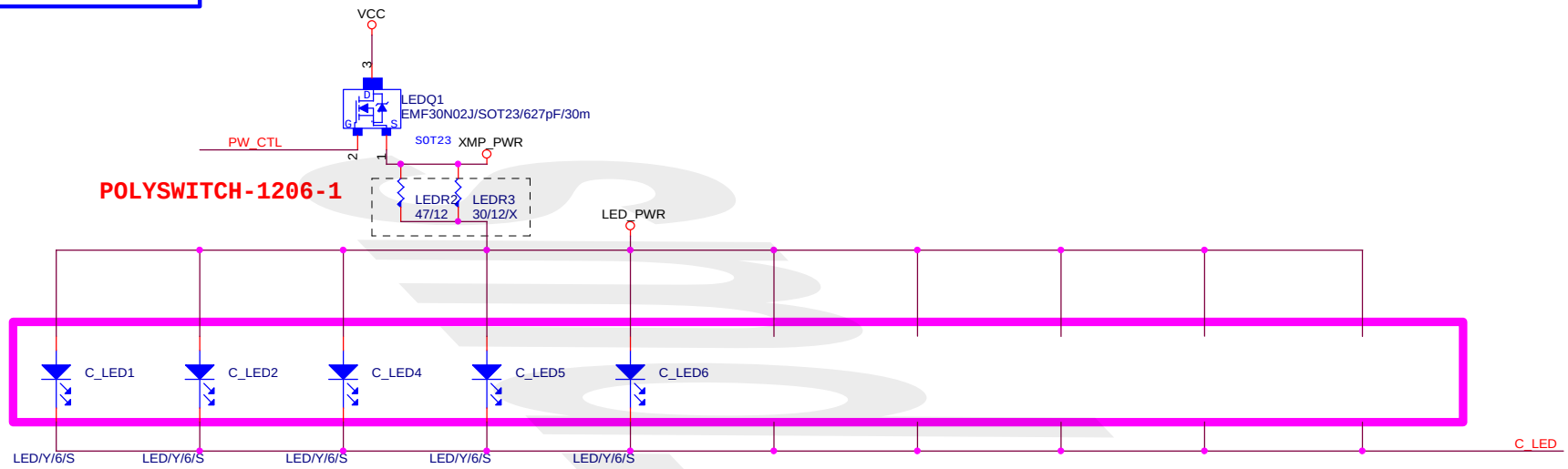
Gigabyte Technology

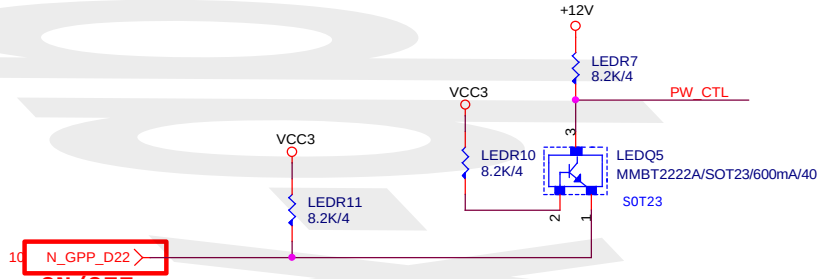
Title: AUDIO JACK

Size: Custom | Document Number: GA-B250M-D2VX-SI | Rev: 1.0

Date: Monday, November 14, 2016 | Sheet 43 of 53

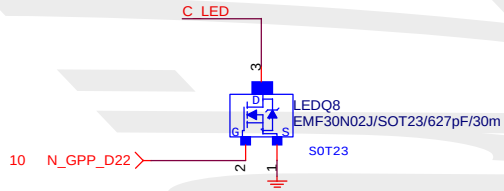
Rev 0.1





Ambient LED Control

	N_GPP_D22
Still Mode	H
OFF Mode	L



GIGABYTE™

Title	Amient Single LED	
Size: Custom	Document Number: GA-B250M-D2VX-SI	Rev: 1.0
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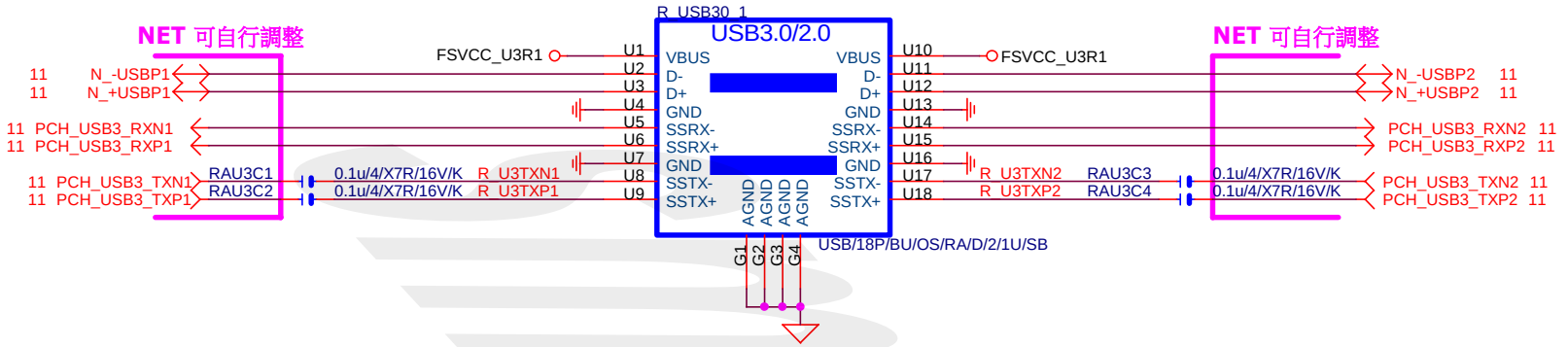
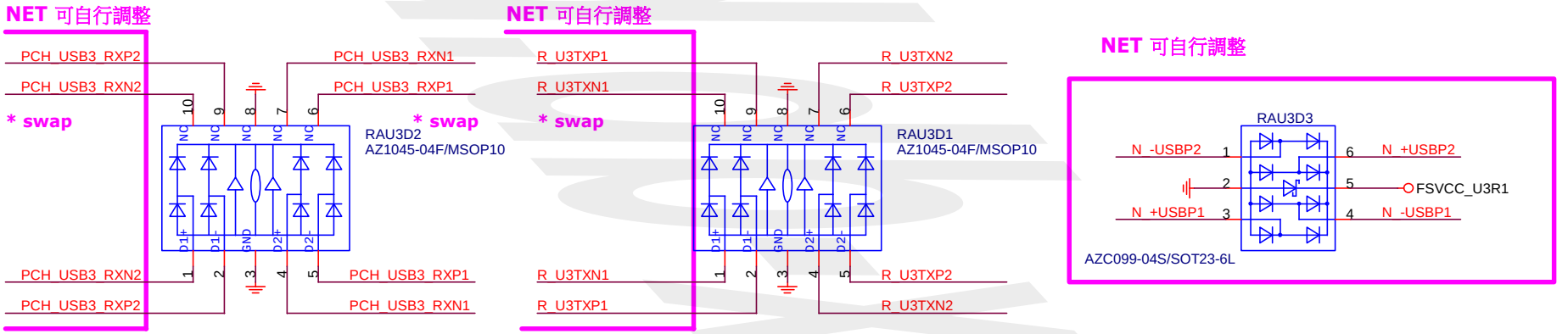
Rev: 0.53

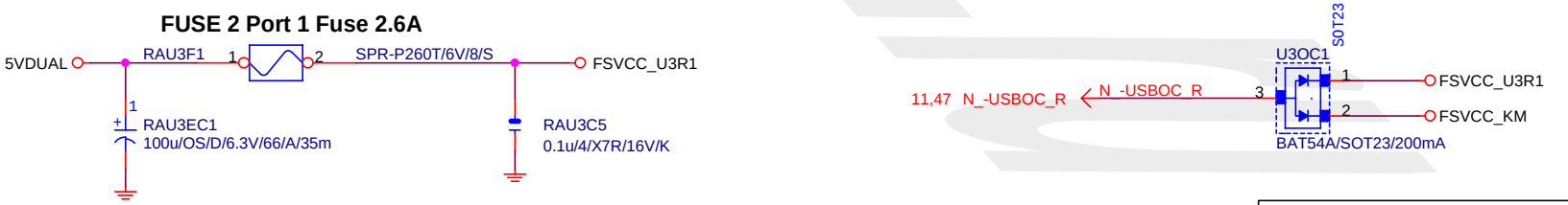
ESD 可自行SWAP PIN ,CONN端 NET 名稱 不可



ESD



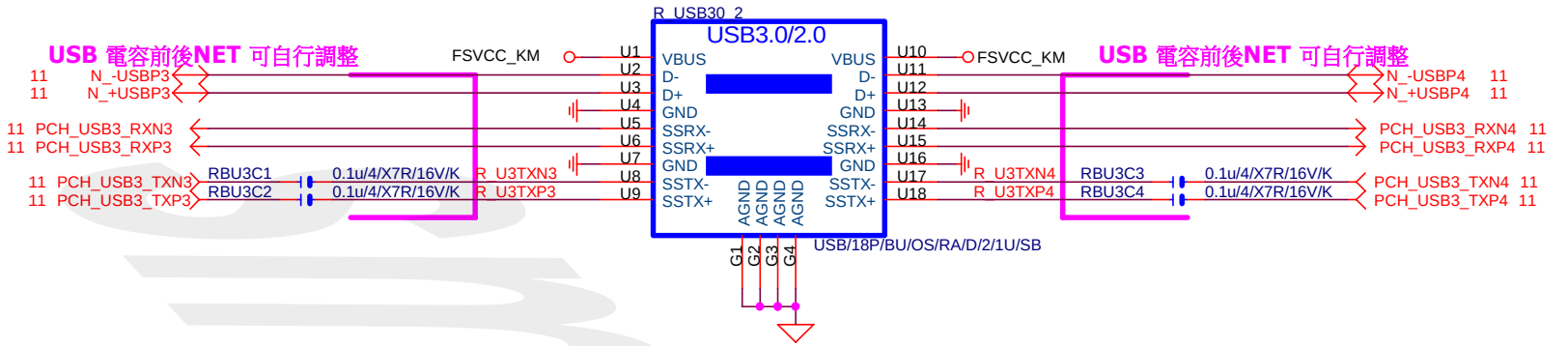
FUSE



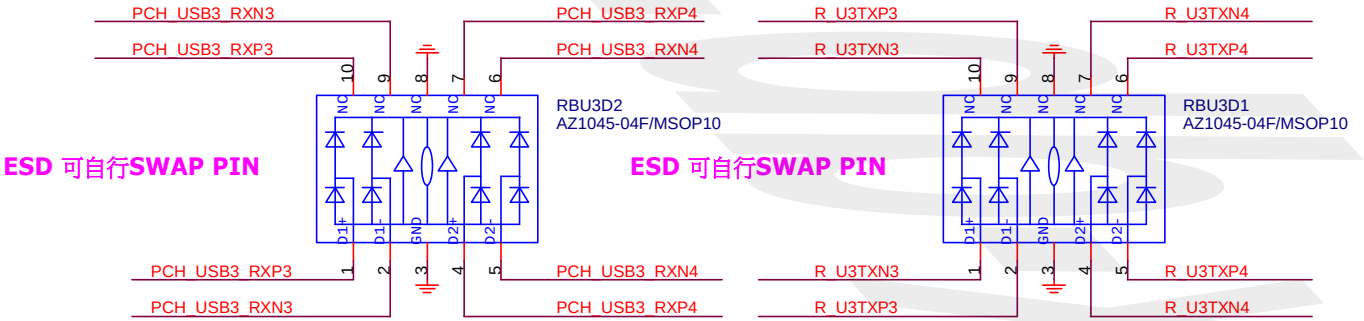
Gigabyte Technology

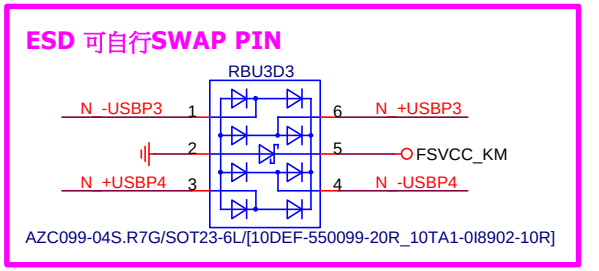
Title	R_USB30,USB_OC	
Size: Custom	Document Number: GA-B250M-D2VX-SI	Rev: 1.0
Date: Monday, November 14, 2016	Sheet 45 of 53	

Rev: 0.53

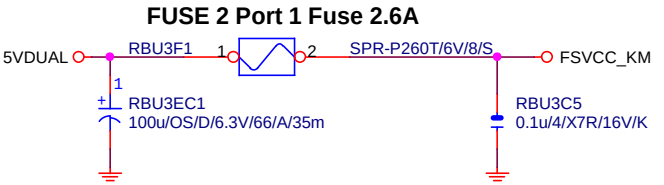


ESD





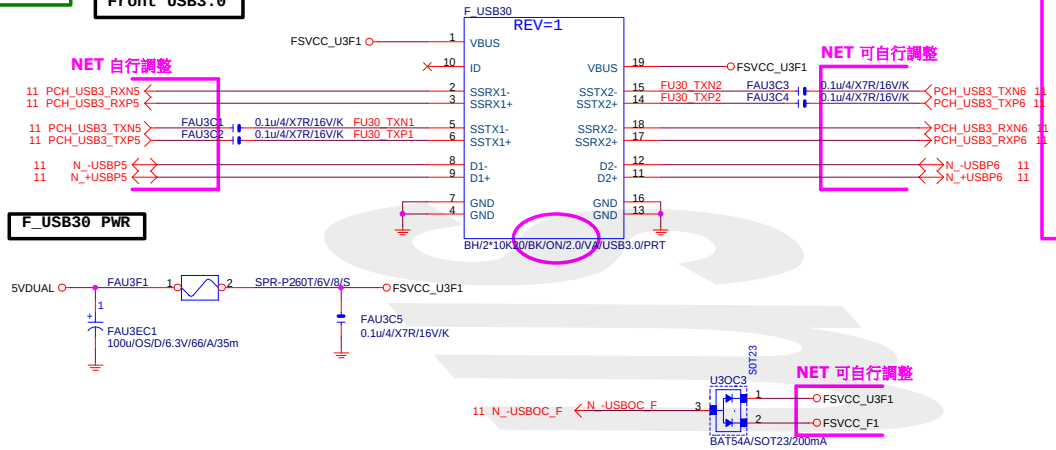
FUSE



Gigabyte Technology			
Title: R_USB30,USB_OC			
Size: Custom	Document Number: GA-B250M-D2VX-SI		Rev: 1.0
Date: Monday, November 14, 2016		Sheet 46 of 53	

Rev: 0.7

Front USB3.0



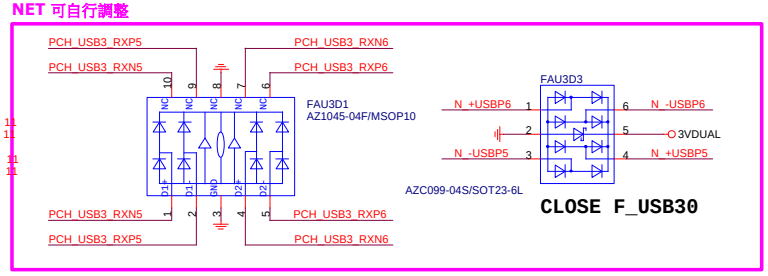
NET 自行調整

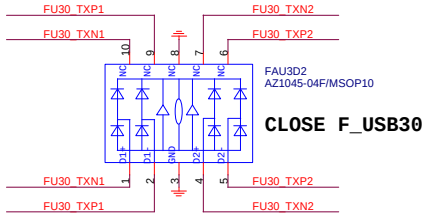
NET 可自行調整

NET 可自行調整

F_USB30 PWR

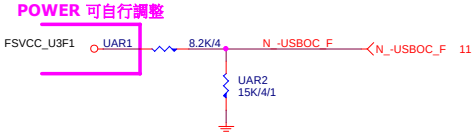
NET 可自行調整





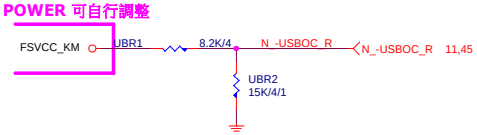
-USBOC_F

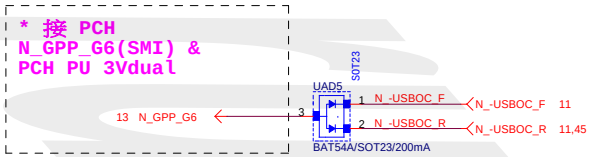
POWER 可自行調整



-USBOC_R

POWER 可自行調整





Gigabyte Technology		
Title: R_USB30,F_USB30, USB_OC		
Size: Custom	Document Number: GA-B250M-D2VX-S1	Rev: 1.0
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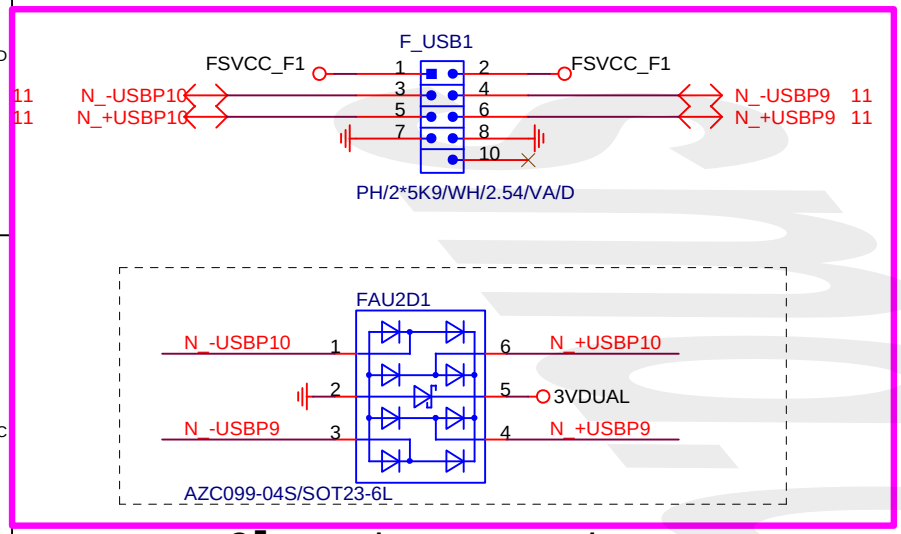
Rev: 0.7

FRONT USB1

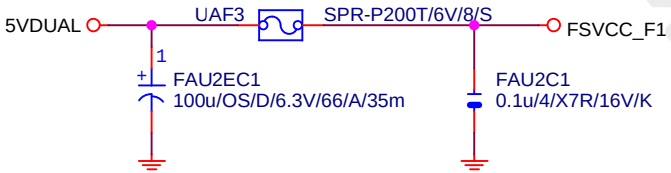
NET 可變

FUSB2X5-HS



Close to connector

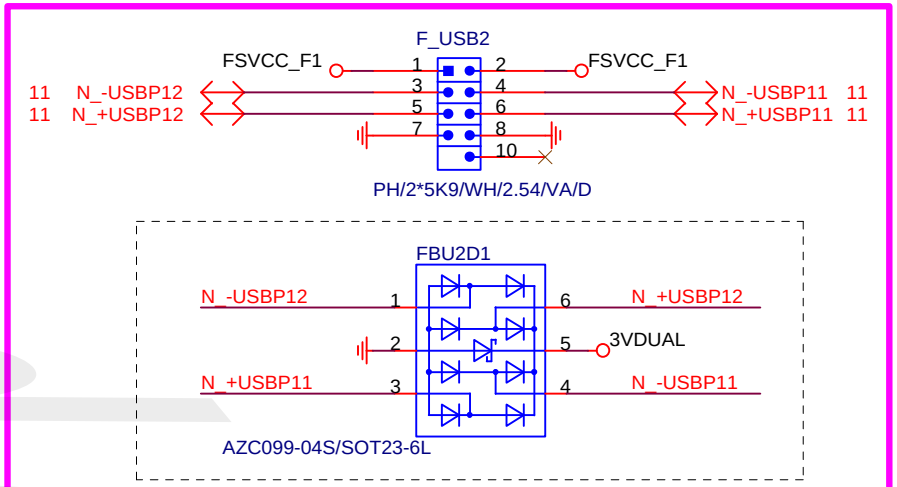
FUSE 2 Port 1 Fuse 2A



FRONT USB2

NET 可變

FUSB2X5-HS



Close to connector

FUSE 2 Port 1 Fuse 2A

F_USB 2.0 OC SIGNAL

Gigabyte Technology

Title: USB2.0		
Size: A	Document Number: GA-B250M-D2VX-SI	Rev: 1.0
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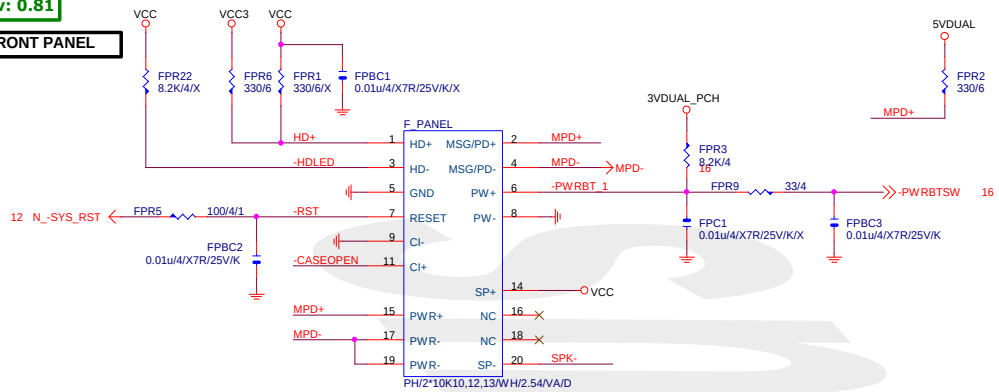
Rev: 0.81

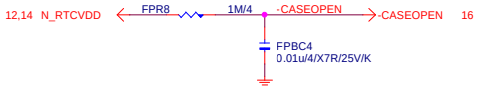
FRONT PANEL

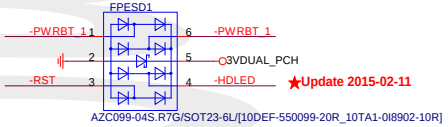
★Update 2016.06.15



FOOTPRINT:PIN2X10PANEL-NEW

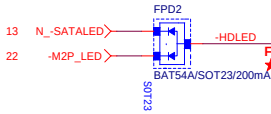
CASE OPEN





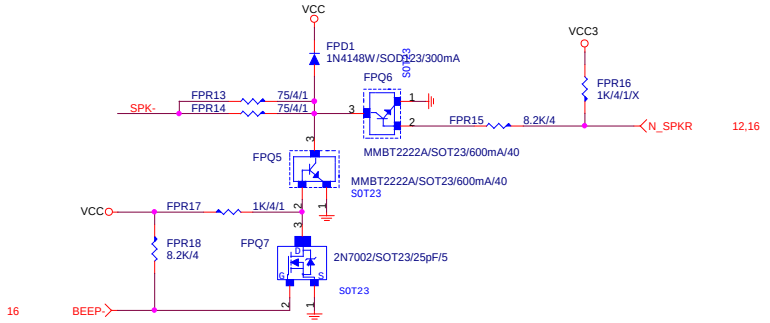
★Update 2015-02-11

SATA/M.2 LED



Fix some M.2 cause HD_LED always on.
★Update 2016.06.15

SPKR



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

FRONT PANEL SHORT

Gigabyte Technology		
Title: FRONT PANEL		
Size: Custom	Document Number: GA-B250M-D2VX-SI	Rev: 1.0
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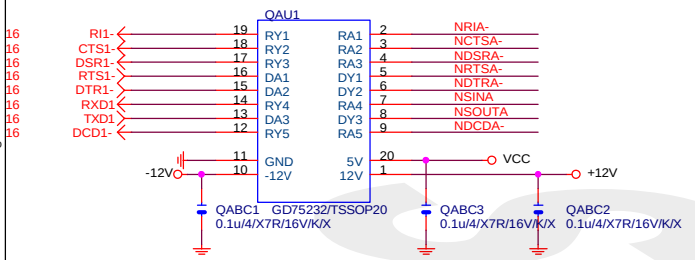
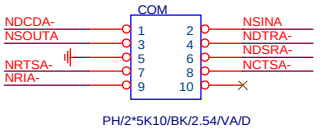
COM PORT

Rev: 0.7



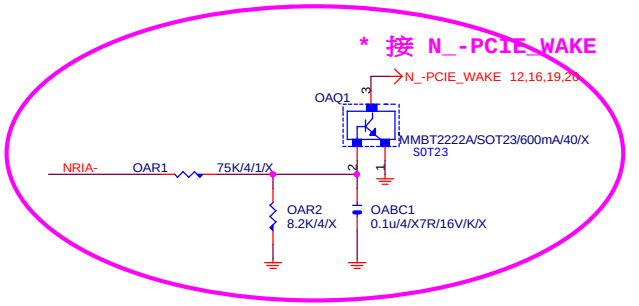


F_COM-HS

NDCDA-	QAC1	180P/4/NPO/50V/J
NSOUTA	QAC2	180P/4/NPO/50V/J
NSINA	QAC3	180P/4/NPO/50V/J
NDTRA-	QAC4	180P/4/NPO/50V/J
NRTSA-	QAC5	180P/4/NPO/50V/J
NDSRA-	QAC6	180P/4/NPO/50V/J
NCTSA-	QAC7	180P/4/NPO/50V/J
NRIA-	QAC8	180P/4/NPO/50V/J

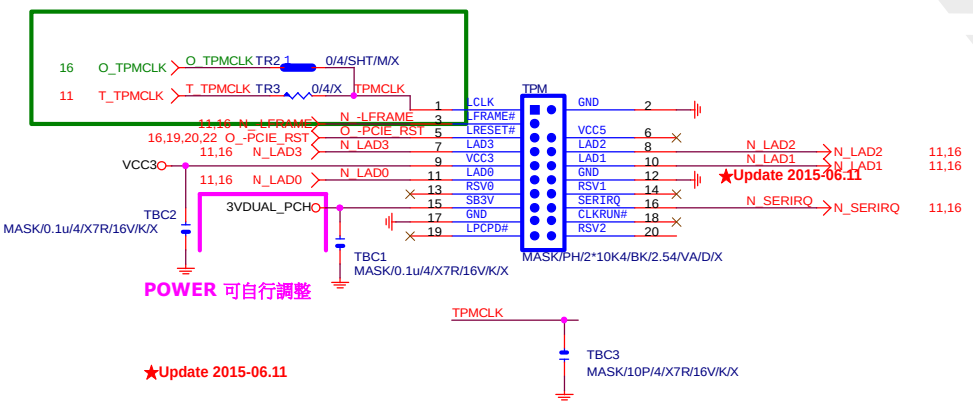
★Update 2016-06-06

COM RI N/A



LPT PORT

TPM CONNECT



Thunderbolt

★Update 2015-12-29

Gigabyte Technology		
Title: FP,F_USB,USB PWR,BZ		
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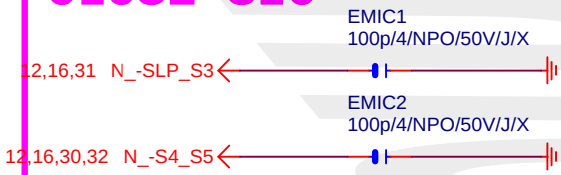
EMI/ESD R0.1

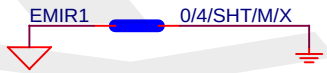
CLOSE SIO



CLOSE PCH

close to PCH (NR17)

R_USB30_2 & DVI 之間



close to FRONT PANEL

GIGABYTE™

Title: EMI/ESD		
Size: A	Document Number: GA-B250M-D2VX-SI	Rev: 1.0
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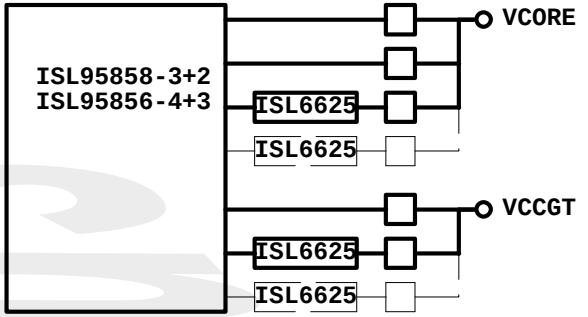
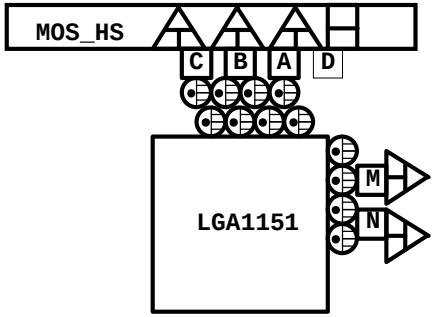
POWER BLOCK MAP

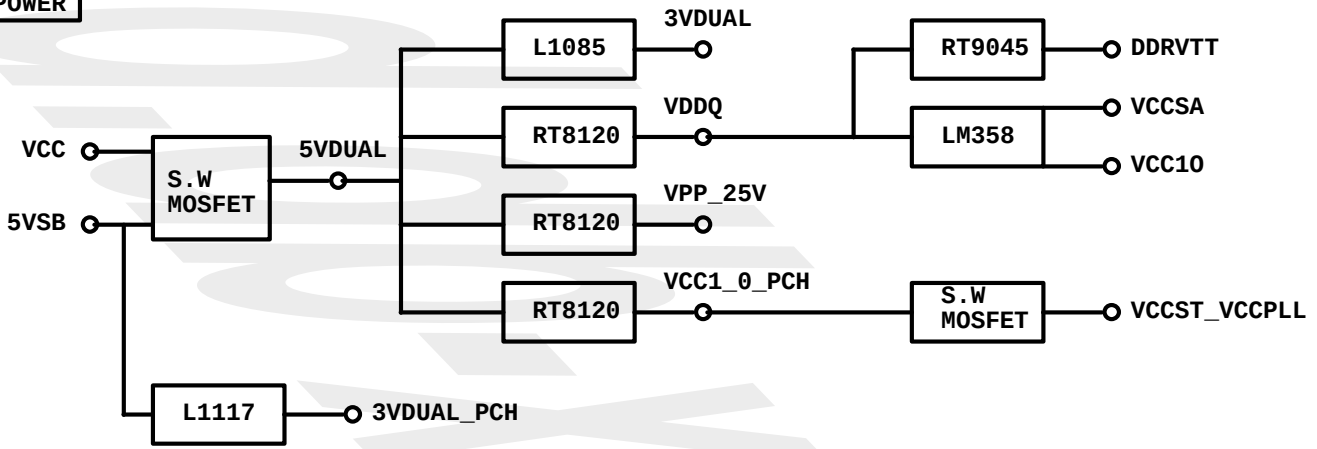
- CPU: VCORE, VCCGT, VCCSA, VCCIO, VDDQ, VCCST_VCCPLL, VCCSFUSEPRG
- DDR4: VDDQ, DDRVTT, VPP_25V, VDDSPD(VCC3)
- PCH: VCC1_0_PCH, VCC1_0_PCH_DSW, VCC10_VCCF24_1P0, VCC10_VCCAMPHYPLL, VCC10_VCCAPLL, VCC3_PCH, 3VDUAL_PCH, VCC3, N_RTCVDD
- IT8628: IT_VCCH, IT_AVCC, 2_5LEVEL
- HM: +12V, VCC, VCC3, VCORE, VCCGT(IMON_VCCGT), VDDQ, VCCSA(IMON_VCORE)

VCORE/VCCGT

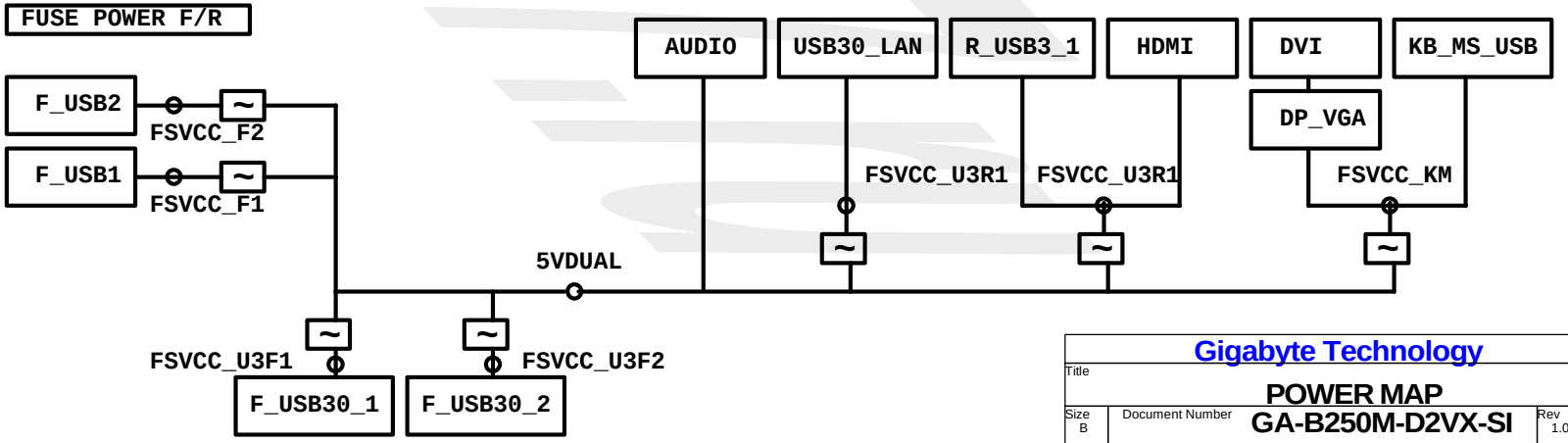




POWER



FUSE POWER F/R



Gigabyte Technology

Title	POWER MAP	
Size B	Document Number GA-B250M-D2VX-SI	Rev 1.0
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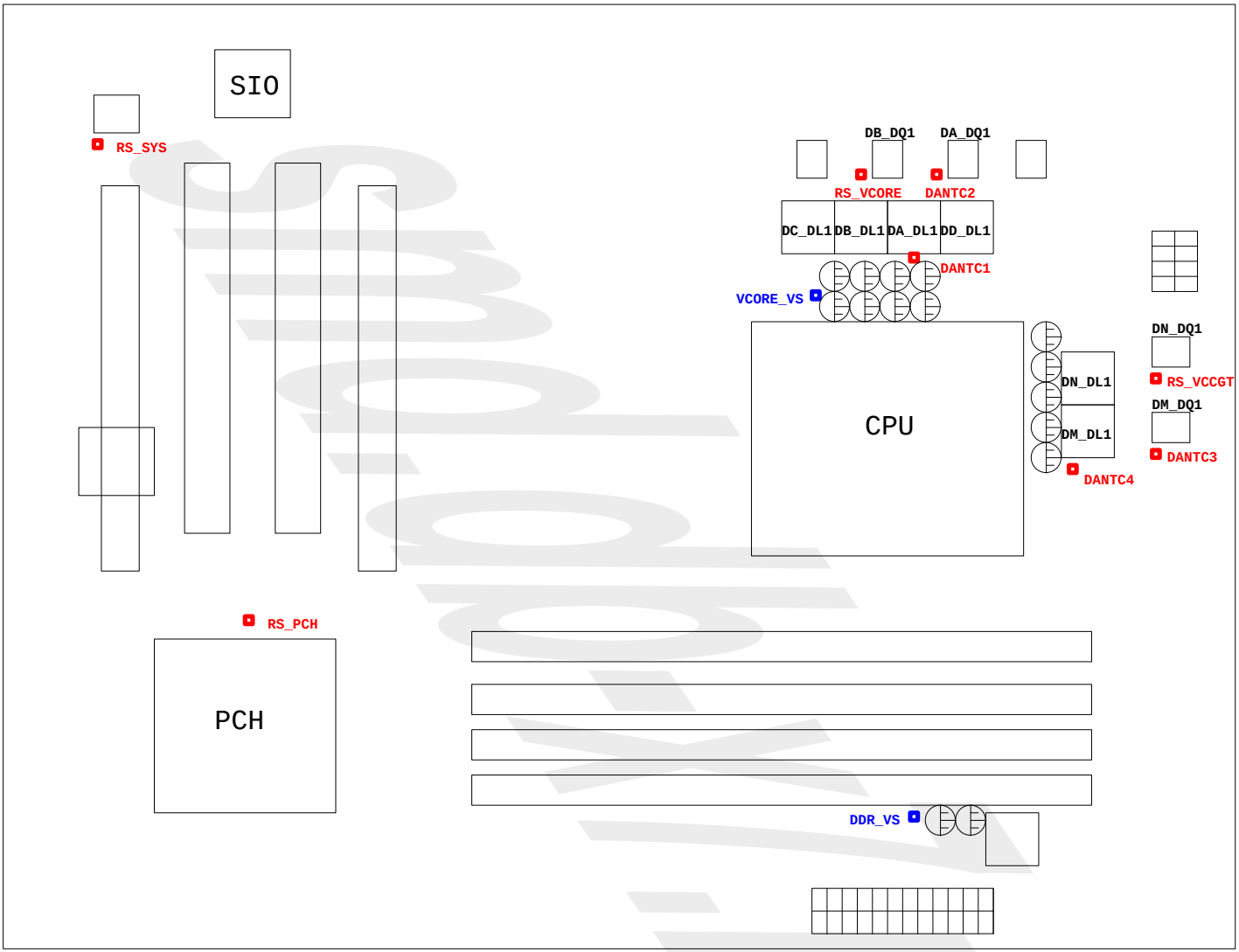

熱敏電阻	擺放靠近位置	走線方式
DANTC1	DA_DL1	N/A
DANTC2	DA_DQ1	Differential
DANTC3	DM_DQ1	N/A
DANTC4	DM_DL1	Differential
RS_VCORE	DB_DQ1	N/A
RS_VCCGT	DN_DQ1	N/A
RS_PCH	PCH	N/A
RS_SYS	CU1	N/A

Gigabyte Technology

Title: NTC MAP

Size: Custom | Document Number: GA-B250M-D2VX-SI | Rev: 1.0

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