

SHEET

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SHEET

TITLE

29	ISL95858 VCCGT-IRON
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34	DISCRETE POWER
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36	ATX POWER , A -PROCHOT
37	KB_MS_USB
38	DVI CONN
39	RTD2168 - DP to VGA - IC
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41	HDMI / DP CONN
42	INTEL I219
43	USB30_LAN CONNECTOR-I219
44	Realtek ALC892
45	REAR AUDIO JACK
46	ADUIO LED
47	F_USB30
48	F_USB
49	R_USB30
50	F_PANEL
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Gigabyte Technology

Title			Cover Sheet
Size	Document Number	GA-B250M-D3H	
Custom			Rev 1.0
Date	Monday, December 12, 2016	Sheet 1 of 56	

rev1.0

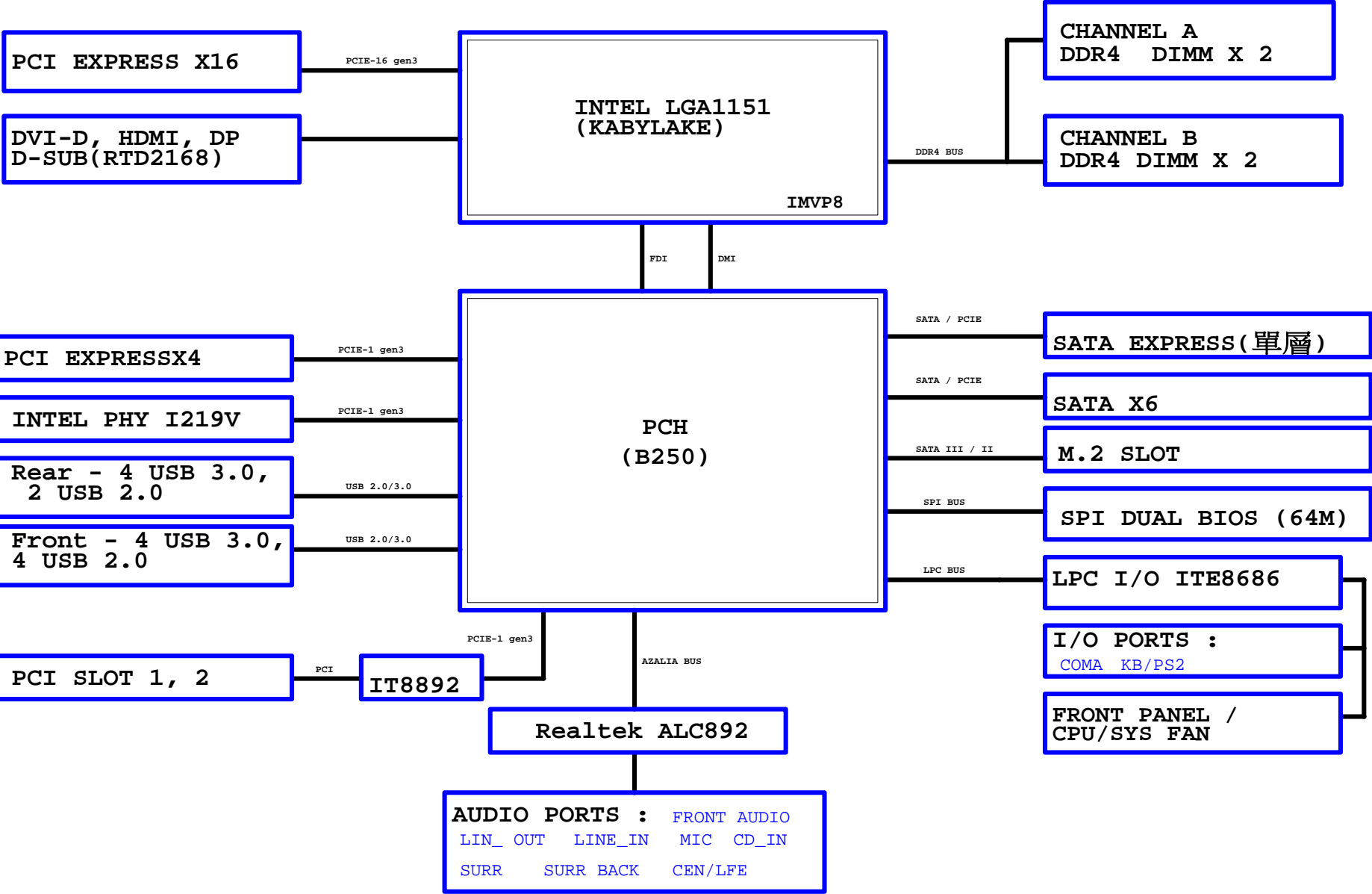
Circuit or PCB layout change

Component value change history

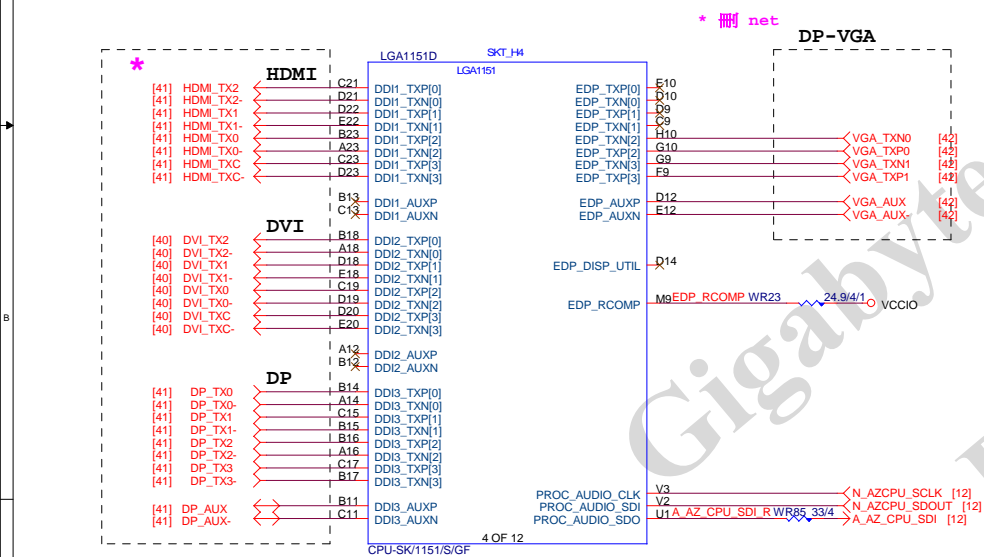
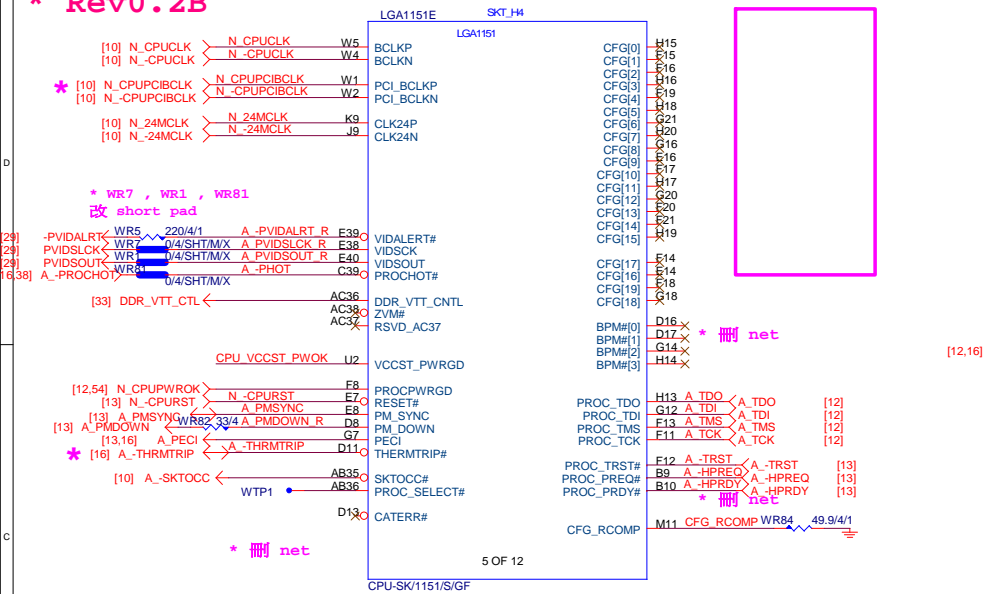
2016/10/24

[illegible][illegible]

BLOCK DIAGRAM



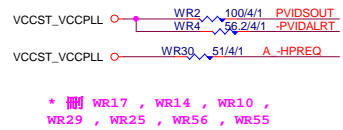
*** Rev0.2B**



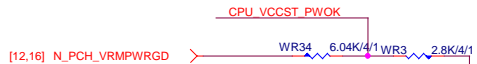
```
G-15u : (CPU-SK/1151/S/15)
10SC1-F01151-11R / 10SC1-F01151-12R
G-FL : (CPU-SK/1151/S/GF)
10SC1-F01151-21R / 10SC1-F01151-22R
```

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

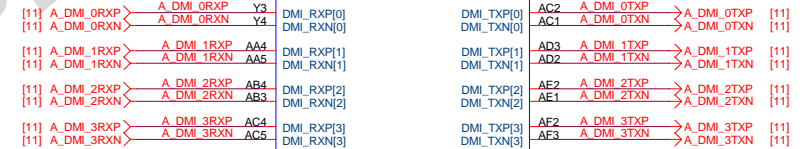
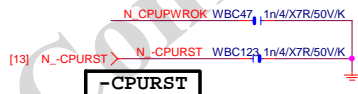
Impedance=85 +- 15%



* 删除 WR91



```
* net N_CPU_VCCST_PWOK
```




PA_EXP_TXPI[0..15] >> PA_EXP_TXP[0..15] [19]
PA_EXP_TXNI[0..15] >> PA_EXP_TXN[0..15] [19]
PA_EXP_RXPI[0..15] >> PA_EXP_RXP[0..15] [19]
PA_EXP_RXNI[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
```

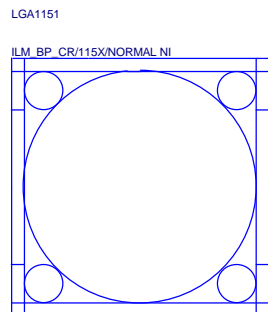
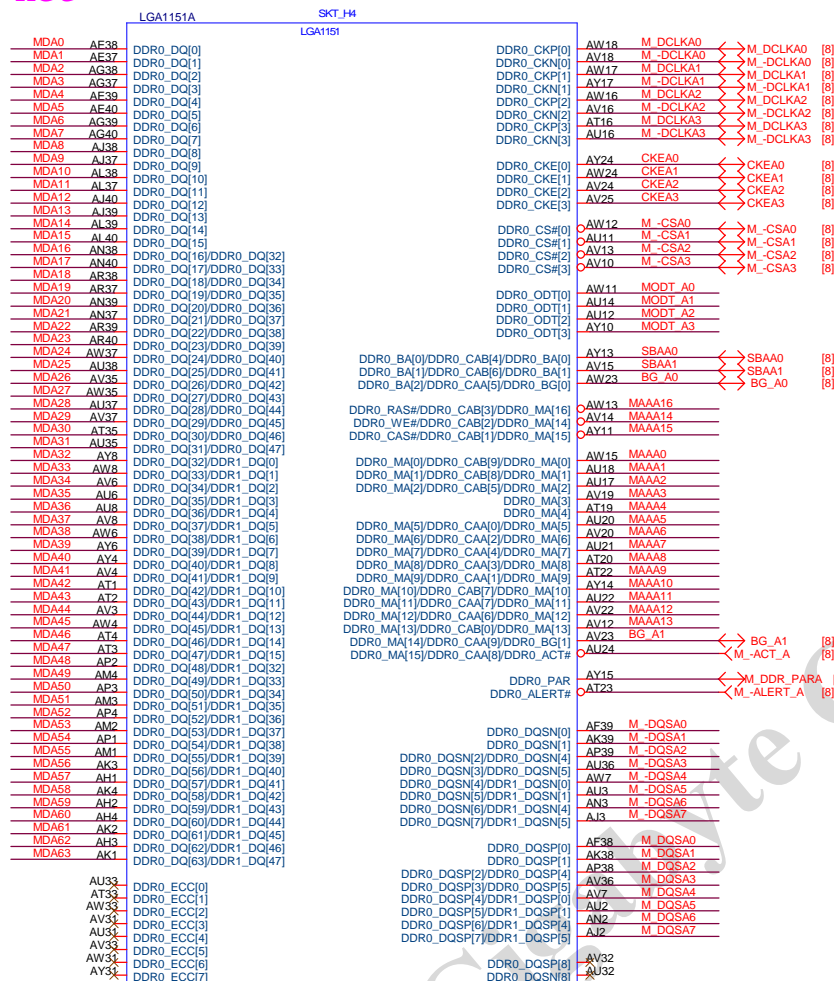
Impedance=85 +- 15%

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

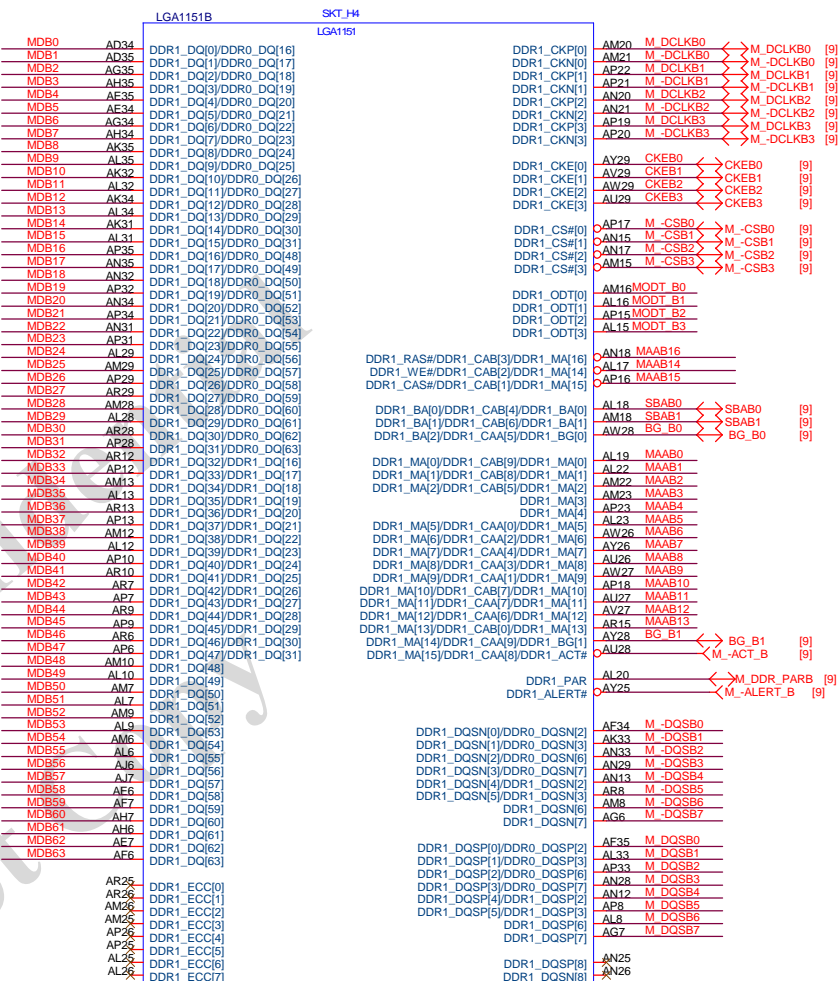
FOR BIOS			
Bifurcation Config.	Signals Lanes		
	CFG[6]	CFG[5]	CFG[2]
1x16	1	1	1
1x16 Reversed	1	1	0
2x8	1	0	1
2x8 Reversed	1	0	0
1x8+2x4	0	0	1
1x8+2x4 Reversed	0	0	0

<div style="text-align: center;">  </div>			
Title			
CPU LGA1151-A			
Size Custom	Document Number		Rev
	GA-B250M-D3H		1.0
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* 改DDR4 net



Need check the new CPU ME

DDR CHANNEL
B

[8] MODT_A[0..3] ↔ MODT_A[0..3]
 [9] MODT_B[0..3] ↔ MODT_B[0..3]
 [8] MDA[0..63] ↔ MDA[0..63]
 [9] MDB[0..63] ↔ MDB[0..63]
 [8] M_DQSA[0..7] ↔ M_DQSA[0..7]
 [8] M_-DQSA[0..7] ↔ M_-DQSA[0..7]
 [8] MAAA[0..16] ↔ MAAA[0..16]
 [9] MAAB[0..16] ↔ MAAB[0..16]
 [9] M_DQSB[0..7] ↔ M_DQSB[0..7]
 [9] M_-DQSB[0..7] ↔ M_-DQSB[0..7]

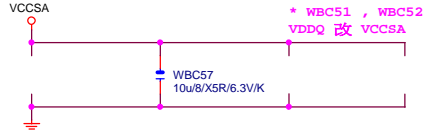
DDR_VREF_CA	AB40	VREF_CAB	→	VREF_CAB	[8]
DDR0_VREF_DQ	AC40		→		
DDR1_VREF_DQ	AC39	VREF_DQB	→	VREF_DQB	[9]

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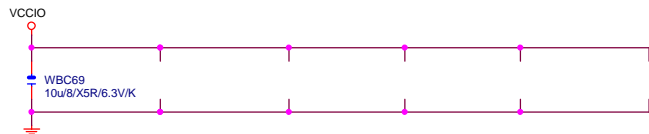
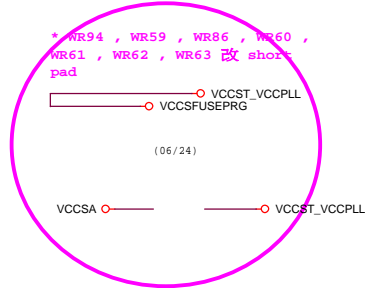
Title	CPU LGA1151-B
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Size Custom	Document Number GA-B250M-D3H	Rev 1.0
Date:	Mondav. December 12, 2016	Sheet 5 of 56

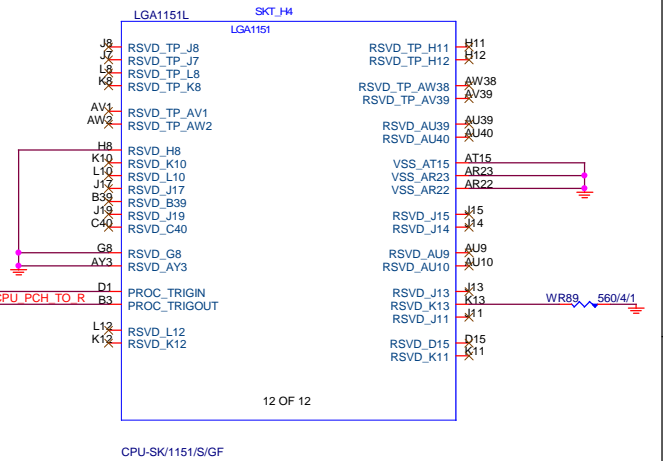
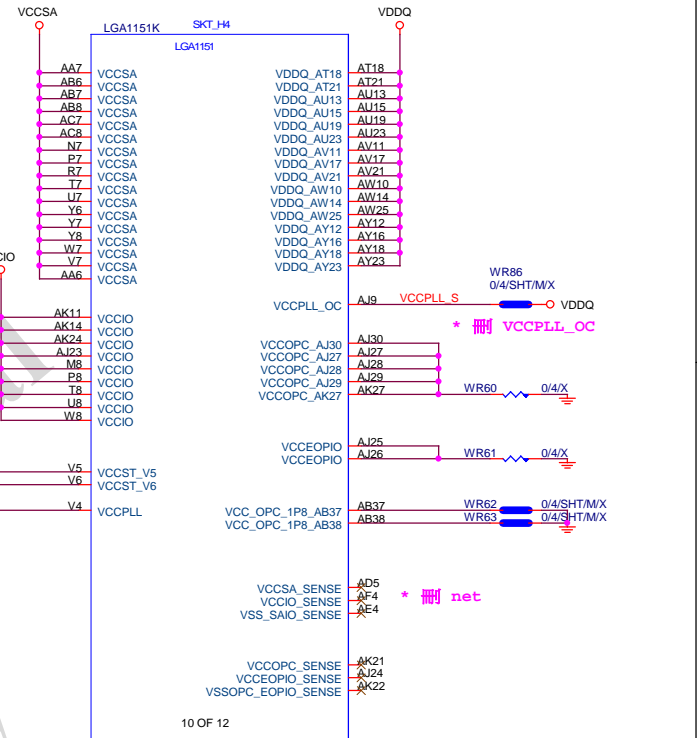
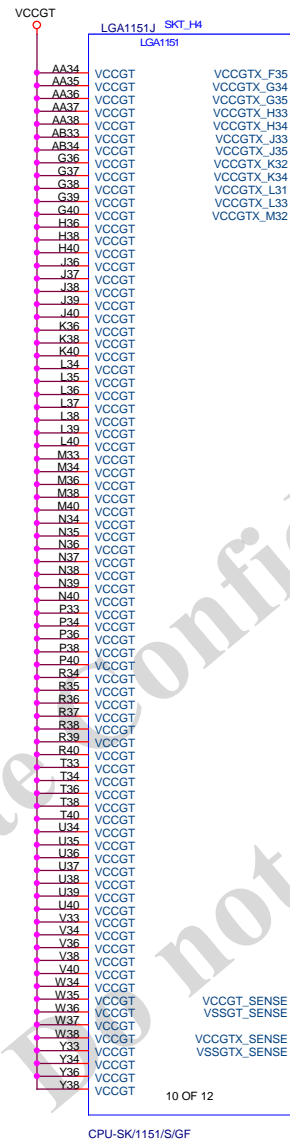
* 刪 WBC50 電容

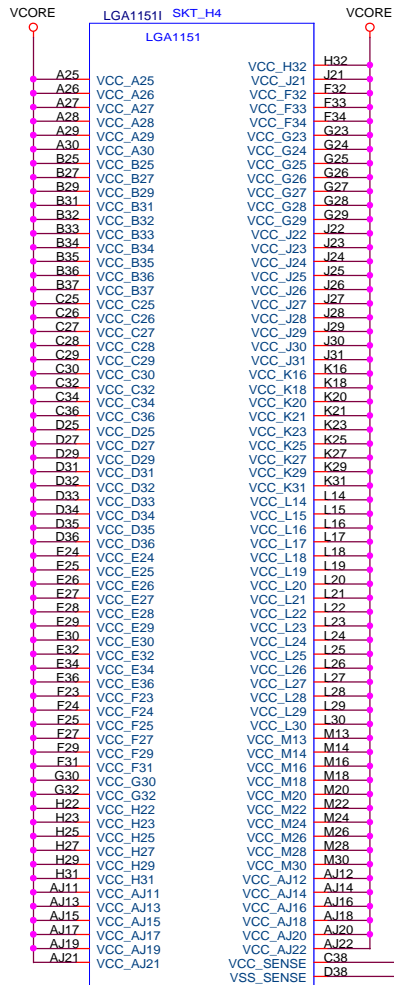


* 刪 WBC124, WBC125, WBC126, WBC127 電容



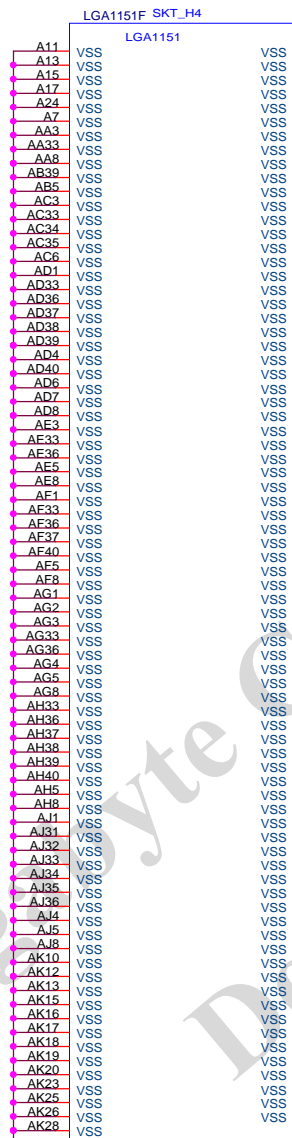
* 刪 VCCGT 電容



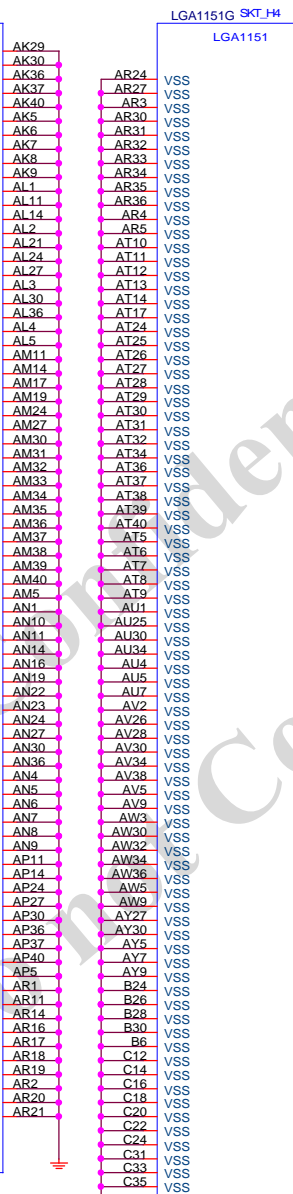


CPU-SK/1151/S/GF

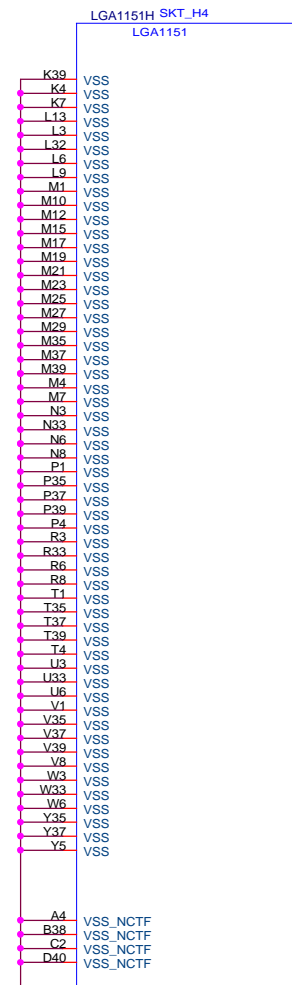
* 刪 Vcore 電容



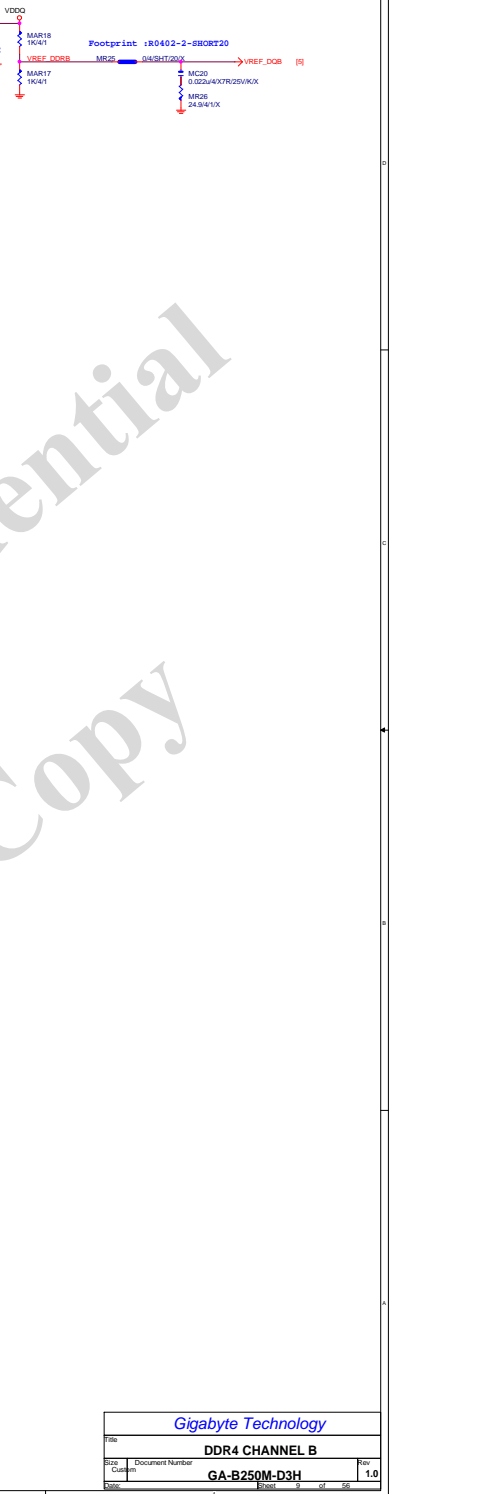
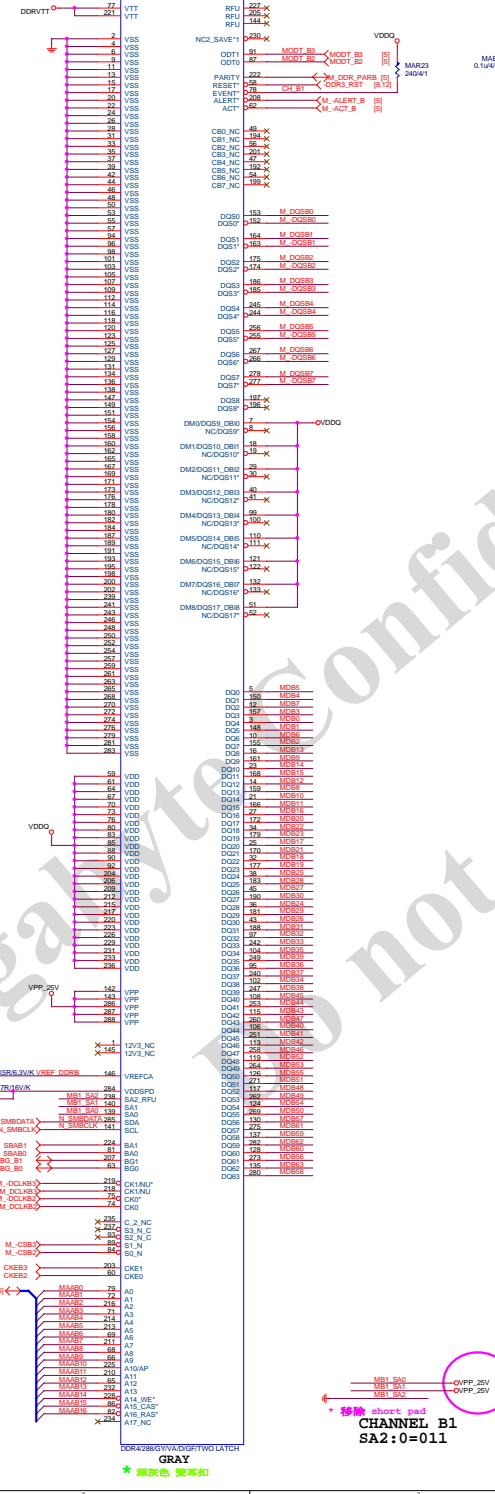
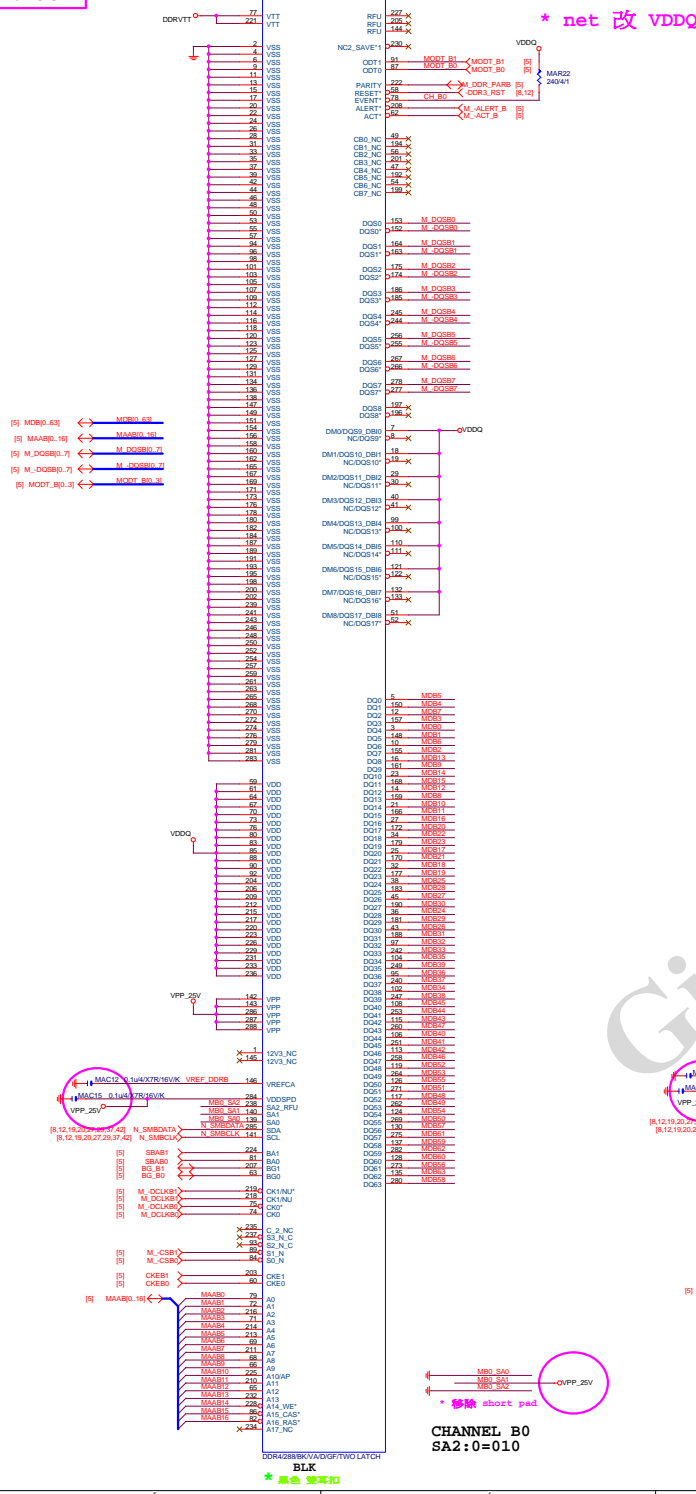
CPU-SK/1151/S/GF

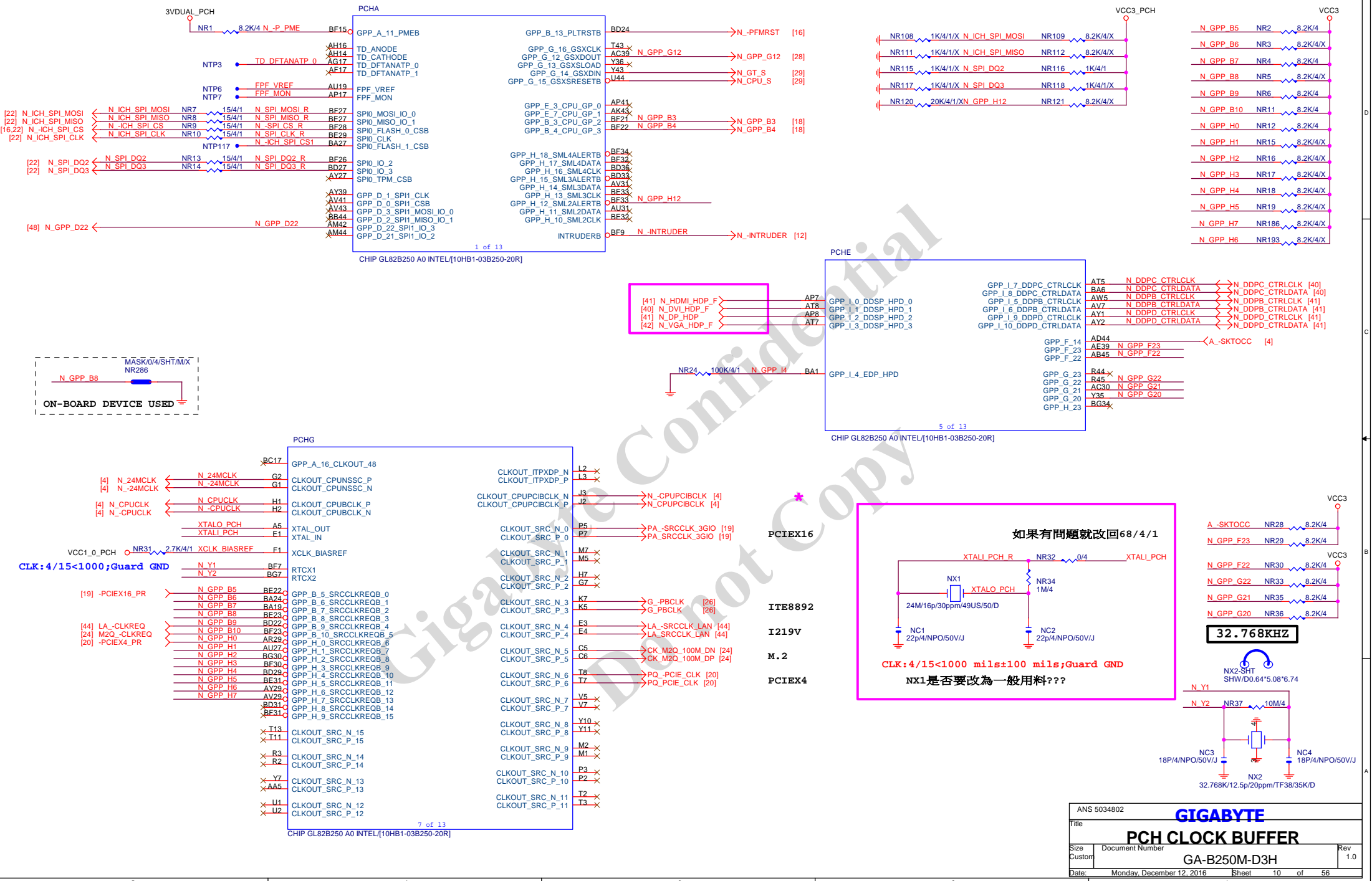


CPU-SK/1151/S/GF

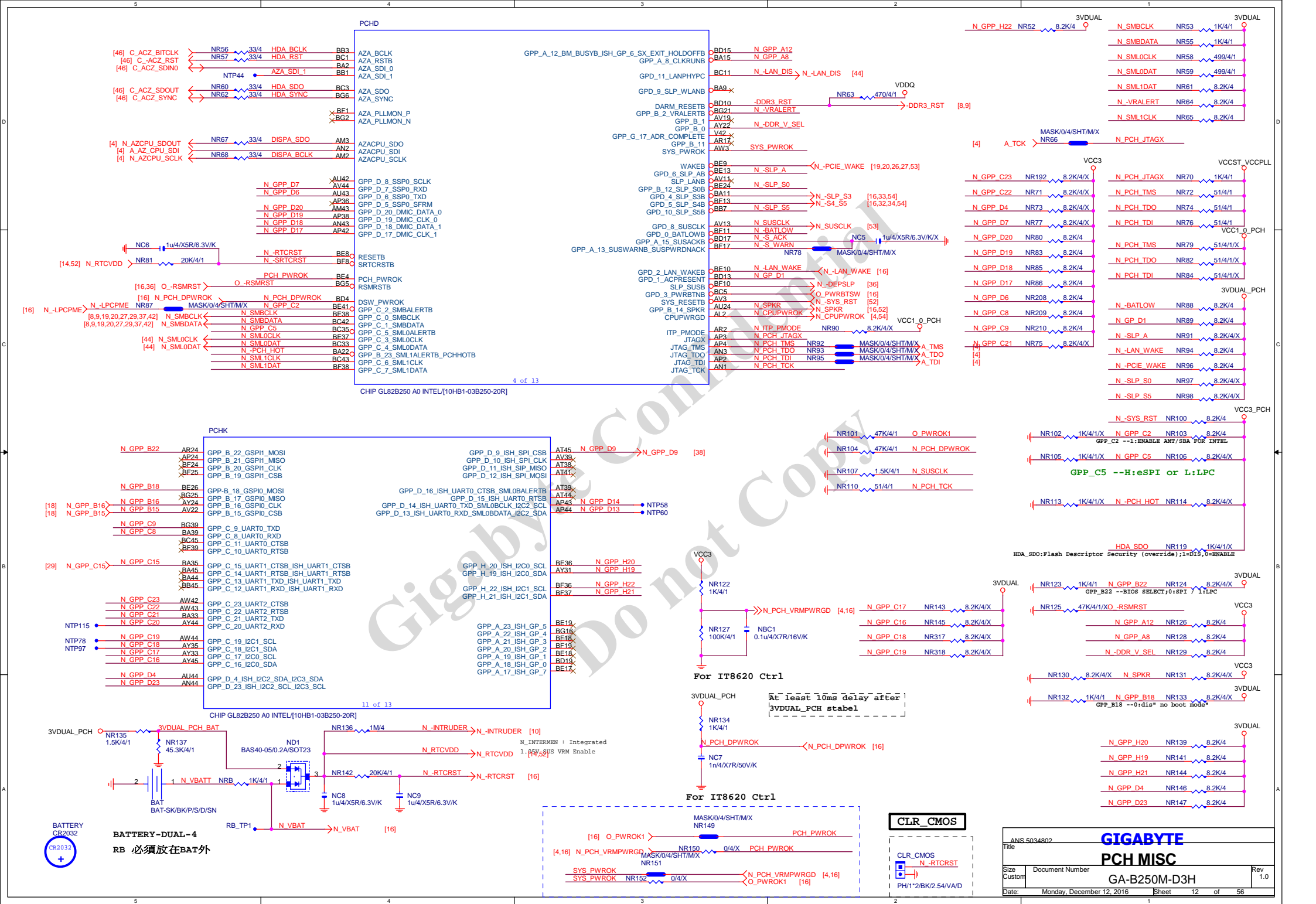


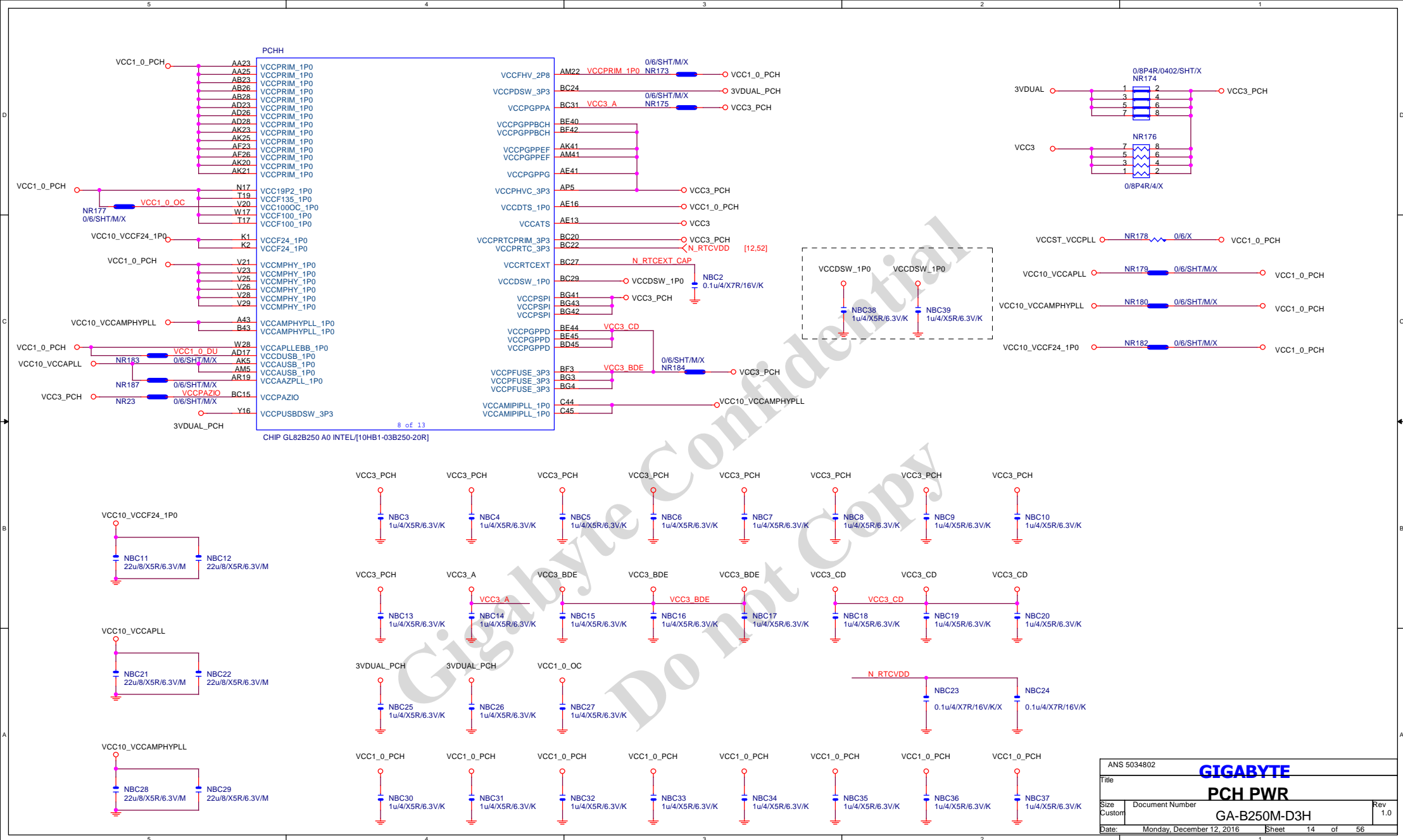
CPU-SK/1151/S/GF





ANS 5034802			
Title			
PCH CLOCK BUFFER			
Size	Document Number	Rev	
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PCHI		
A25	VSS	A42
A30	VSS	D45
P22	VSS	BG44
AV38	VSS	BE44
AV45	VSS	BF45
AV8	VSS	BF2
AY11	VSS	W29
AY19	VSS	A35
AY37	VSS	A40
AY4	VSS	AA1
AY42	VSS	AA17
AY8	VSS	AA18
B25	VSS	AA20
B3	VSS	AA21
B30	VSS	AA26
B35	VSS	AA28
B4	VSS	AA29
B41	VSS	AB17
BA13	VSS	AC32
BA17	VSS	AE4
BA37	VSS	AE8
BA429	VSS	AF18
BA431	VSS	AF20
BA47	VSS	AF21
BA4	VSS	AF25
BA42	VSS	AF28
BA40	VSS	AF29
BC38	VSS	AF4
BC40	VSS	AF42
BC9	VSS	AG18
BD11	VSS	AG20
BD16	VSS	AG21
BD2	VSS	AG23
BD21	VSS	AG25
BD25	VSS	AG26
F2	VSS	AG28
F31	VSS	AG28
E6	VSS	AH11
E8	VSS	AH13
F39	VSS	AH30
F43	VSS	AH32
G4	VSS	AH33
G40	VSS	AH38
G42	VSS	AJ1
F6	VSS	AJ17
G9	VSS	AJ18
H11	VSS	AJ20
H13	VSS	AJ21
H17	VSS	AJ23
H19	VSS	AJ26
H22	VSS	AJ26
H24	VSS	AJ28
H27	VSS	AJ29
H29	VSS	AJ45
H33	VSS	AK10
H35	VSS	AK14
H38	VSS	AK16
H4	VSS	AK17
H42	VSS	AK18
H9	VSS	AK26
J4	VSS	AK28
M36	VSS	AM14
M38	VSS	AN14
M4	VSS	AP19
M8	VSS	AR22
M9	VSS	AR27
N13	VSS	AU29
N15	VSS	AU33
N19	VSS	AV1
N22	VSS	AV10
N24	VSS	AV15
N31	VSS	AV24
N42	VSS	AV27
P10	VSS	AV33
P12	VSS	
AV35	VSS	

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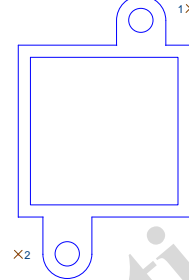
CHIP GL82B250 A0 INTEL[10HB1-03B250-20R]

PCHL		
BD34	VSS[70]	AB18
BD39	VSS[71]	AB20
BD7	VSS[72]	AB21
BE2	VSS[73]	AB25
BF43	VSS[74]	AB29
BF5	VSS[75]	AB4
BG18	VSS[76]	AB42
BG23	VSS[77]	AC10
BG28	VSS[78]	AC14
BG32	VSS[79]	AC16
BG37	VSS[80]	AC38
BG40	VSS[81]	AC4
BG9	VSS[83]	AC5
C1	VSS[84]	AC7
A12	VSS[85]	AC8
C2	VSS[86]	AD1
C37	VSS[87]	AD18
A6	VSS[88]	AD20
C9	VSS[89]	AD21
D1	VSS[90]	AD25
D10	VSS[91]	AD29
D12	VSS[92]	AD45
D15	VSS[93]	AE11
D16	VSS[94]	AE14
B12	VSS[95]	AE32
D19	VSS[96]	AE33
D21	VSS[97]	AK29
D24	VSS[98]	AK30
D25	VSS[99]	AK32
D29	VSS[100]	AK35
AG20	VSS[101]	AK39
AG21	VSS[102]	AL4
D33	VSS[103]	AL42
D35	VSS[104]	AM10
D36	VSS[105]	AM11
D39	VSS[106]	AM13
D44	VSS[107]	AM17
D7	VSS[108]	AM19
P13	VSS[109]	AM24
P15	VSS[110]	AM27
P17	VSS[111]	AM29
P19	VSS[112]	AM32
P31	VSS[113]	AM33
P33	VSS[114]	AM4
P35	VSS[115]	AN45
AJ17	VSS[116]	AP10
P4	VSS[117]	AP11
P42	VSS[118]	AP13
P48	VSS[119]	AP15
R1	VSS[120]	AP22
R32	VSS[121]	AP27
T10	VSS[122]	AP31
T14	VSS[123]	AP33
T22	VSS[124]	AP34
T29	VSS[125]	AP39
AJ45	VSS[126]	T4
AK10	VSS[127]	W26
AK14	VSS[128]	V16
AK16	VSS[129]	V17
AK17	VSS[130]	V18
AK18	VSS[131]	V30
AK26	VSS[132]	V32
AK28	VSS[133]	V33
AM14	VSS[134]	V38
AN14	VSS[135]	V4
AP19	VSS[136]	V8
AR22	VSS[137]	W18
AR27	VSS[138]	W20
AU29	VSS[139]	W21
AU33	VSS[140]	W23
AV1	VSS[141]	W25
AV10	VSS[142]	
AV15	VSS[143]	A44
AV24	VSS[144]	BE1
AV27	VSS[145]	BD1
AV33	VSS[146]	B1
	VSS[147]	A2
	VSS[148]	B2
	VSS[149]	A3
	VSS[150]	A4
	VSS[151]	B44
	VSS[152]	B45
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	VSS[199]	
	VSS[200]	

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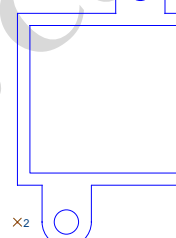
CHIP GL82B250 A0 INTEL[10HB1-03B250-20R]

SB_HEATSIN



PCH_HS
PCH HS/BLACK/UD LOGO/KG/[12SP2-S04207-81R_12SP2-S04207-82R_12SP2-S04207-83R]

TMOS

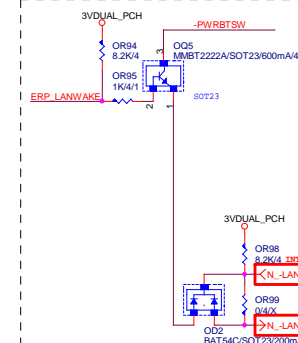


Footprint :
MOSHSINK-Z1704-HD3

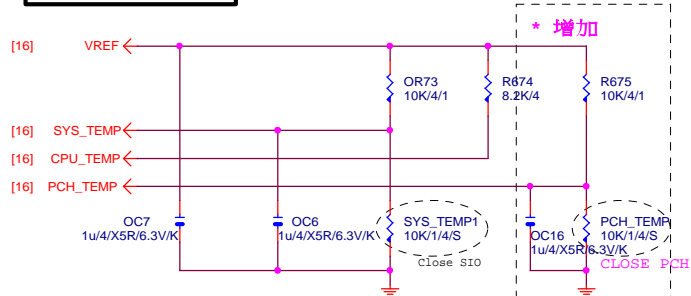
TMOS HS/BLACK/GBT LOGO/KG/[12SP2-S09425-91R_12SP2-S09425-92R_12SP2-S09425-93R]

ANS 5034802			
Title		GIGABYTE	
Size		PCH GND	
Custom		GA-B250M-D3H	
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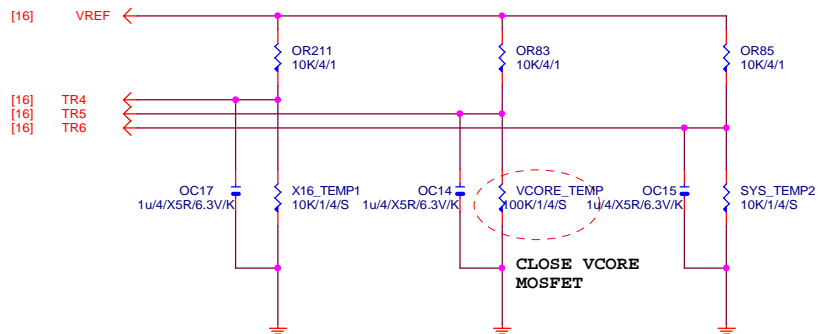
Title		IT8686	
Size C	Document Number		Re 1.
		GA-B250M-D3H	
Date:	Monday, December 12, 2016	Sheet	16 of 56



TEMP H/W MONITOR

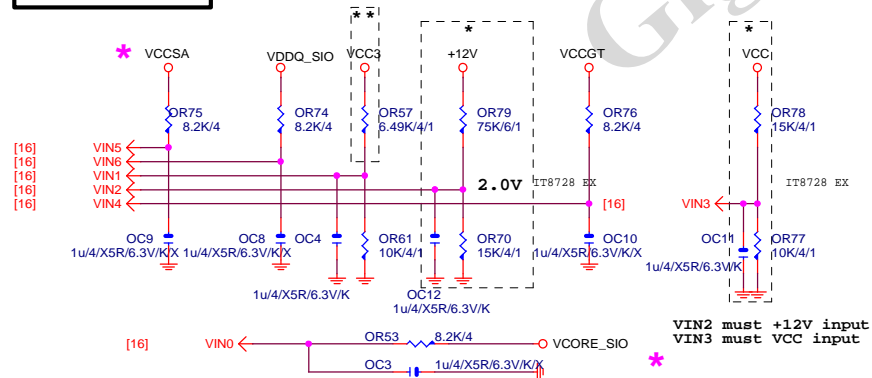


5個FAN時使用

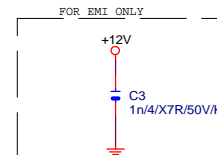
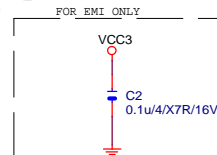


VOLTAGE-- H/W MONITOR

* IT8728 BX
** IT8728 CX



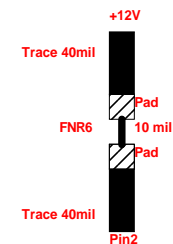
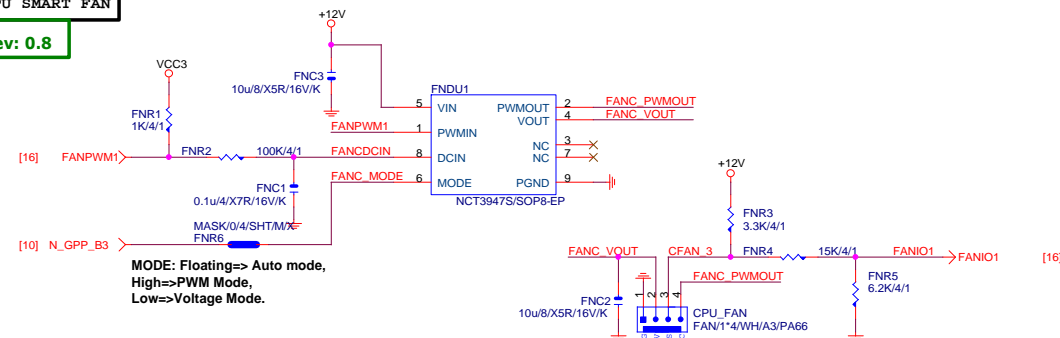
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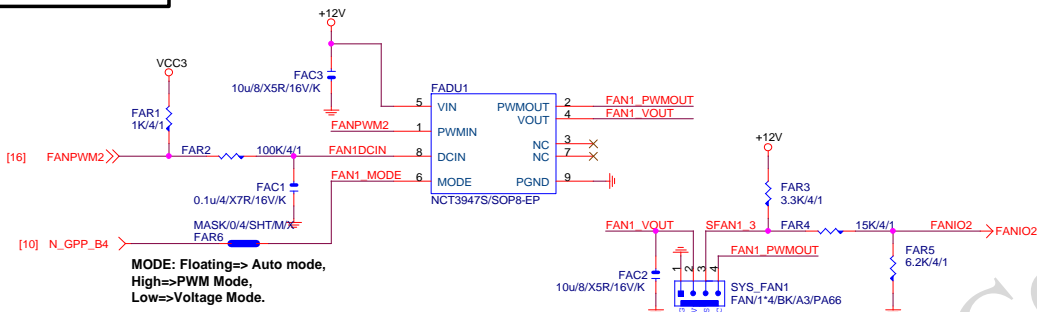
Gigabyte Technology

Title		
HWM,KB/MS, FAN CTRL		
Size	Document Number	Rev
Custom	GA-B250M-D3H	1.0
Date:	Monday, December 12, 2016	Sheet 17 of 56

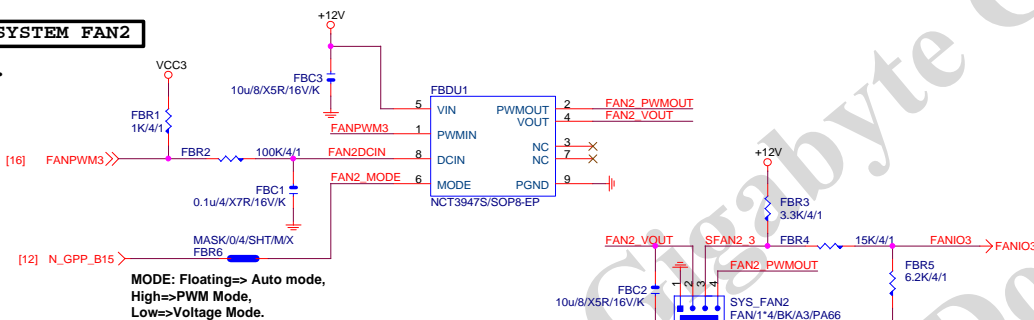
Rev: 0.8



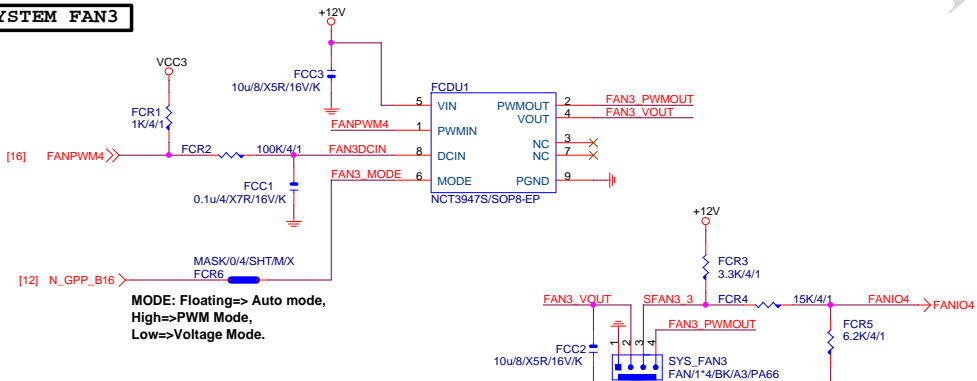
A. SYSTEM FAN1



SYSTEM FAN2



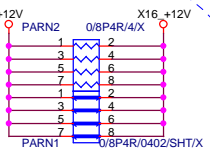
SYSTEM FAN3



Gigabyte Technology

Title				
FAN CTRL				
Size	Document Number			Rev
Custom	GA-B250M-D3H			1.0
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Rev 0.2

+12V_protect
short-wire test[8,9,12,20,27,29,37,42] N_SMBCLK
[8,9,12,20,27,29,37,42] N_SMBDATA

[12,20,26,27,53] N_-PCIE_WAKE

[10] -PCIE16_PR

PA_EXP_RXP0..15] >> PA_EXP_RXP[0..15] [4]
 PA_EXP_RXN0..15] >> PA_EXP_RXN[0..15] [4]
 PA_EXP_TXP0..15] >> PA_EXP_TXP[0..15] [4]
 PA_EXP_TXN0..15] >> PA_EXP_TXN[0..15] [4]

PA_EXP_TXP0	PAC5	0.22u/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-164P

3GIO_*16

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

黑色SLOT

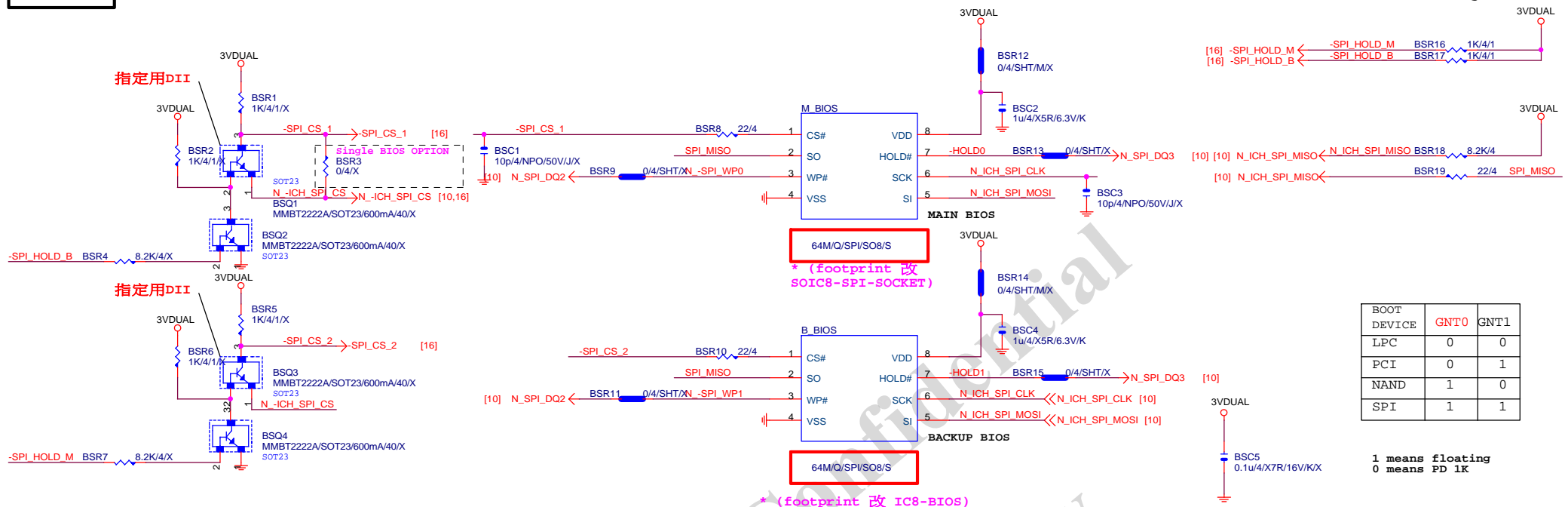
Gigabyte Technology		
Title		
PCI EXPRESS * 16		
Size	Document Number	Rev
Custom	GA-B250M-D3H	1.0
Date:	Monday, December 12, 2016	Sheet 19 of 56

PCIESLOT-64P-1

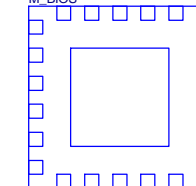


DUAL BIOS

MOSI For DMI RX Termination Voltage



M_BIOS



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

* 試産先上, PVT 移除

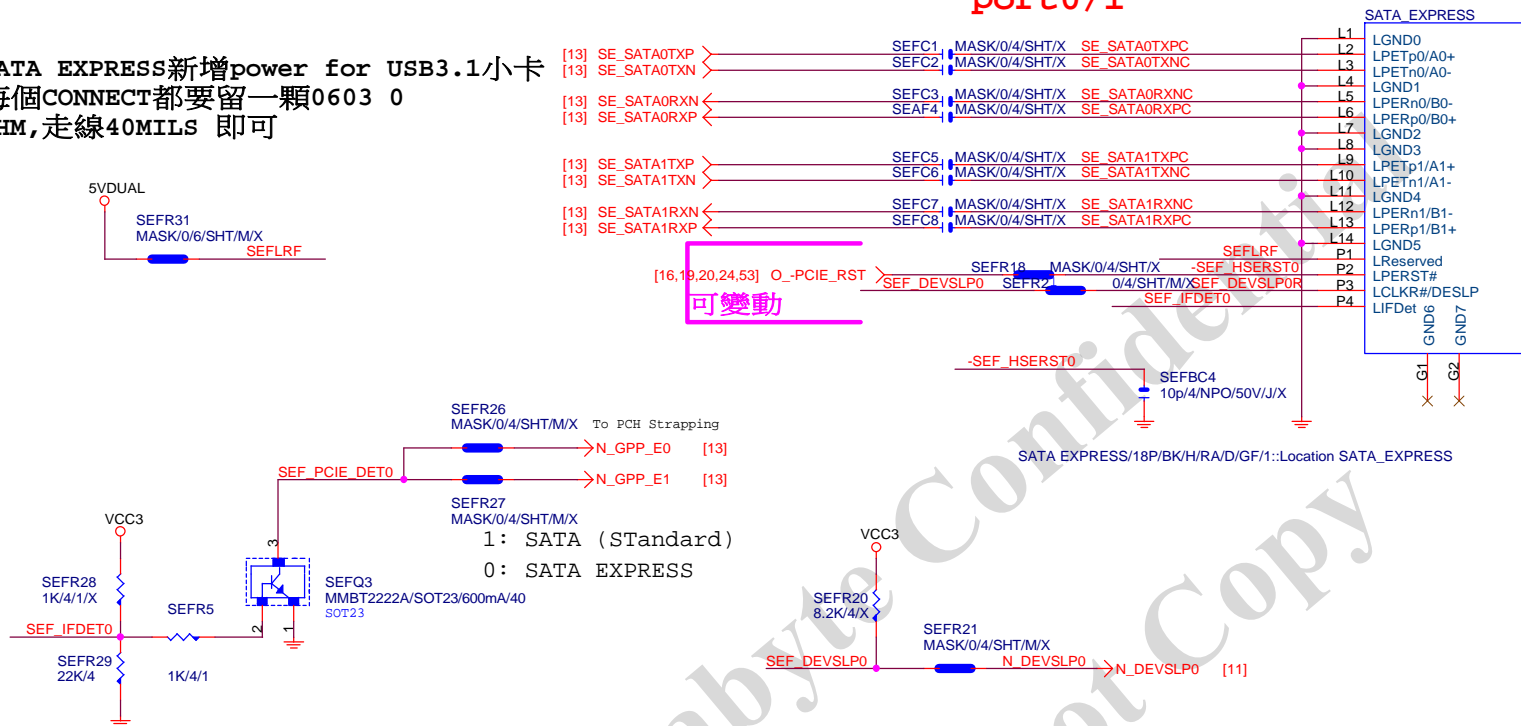
Gigabyte Technology

Title			BIOS
Size	Document Number	GA-B250M-D3H	
Custom		Rev	1.0
Date:	Monday, December 12, 2016	Sheet	22 of 56

Rev 0.7

SATA EXPRESS新增power for USB3.1小卡
每個CONNECT都要留一顆0603 0
OHM,走線40MILS 即可

To SATA3
port0/1



Gigabyte Technology

Title			
SATA EXPRESS			
Size Custom	Document Number		Rev
	GA-B250M-D3H		1.0
Date:	Monday, December 12, 2016	Sheet	23 of 56

Rev 0.1

M.2 Lane4 from PCH port24

[13] M2_PCIE_TP24

M.2 Lane3 from PCH port23

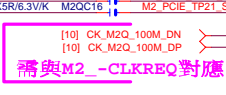
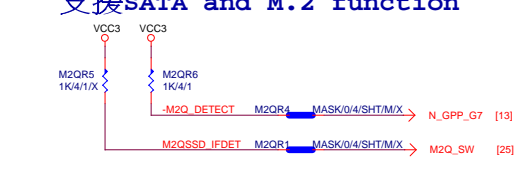
[13] M2_PCIE_IN23

M.2 Lane2 from PCH port22

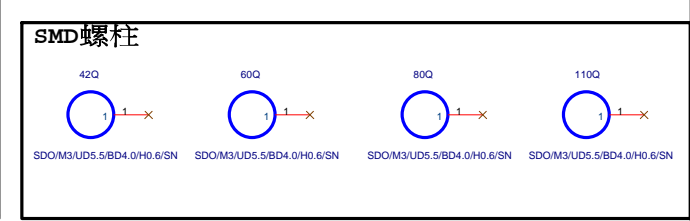
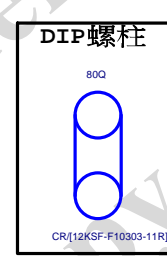
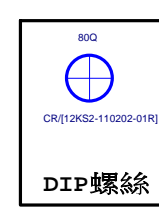
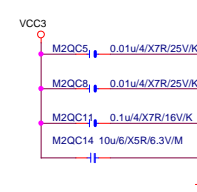
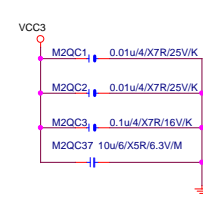
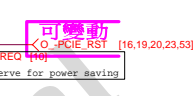
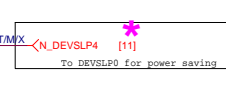
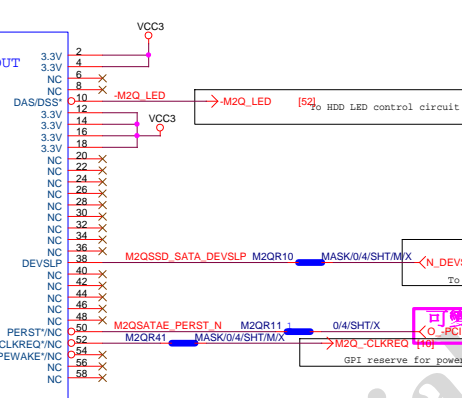
M.2 Lane2 from PCH port21

[25]	M2_PCIE_TN21_SW	}	_____
[25]	M2_PCIE_TP21_SW		

支援SATA and M.2 function



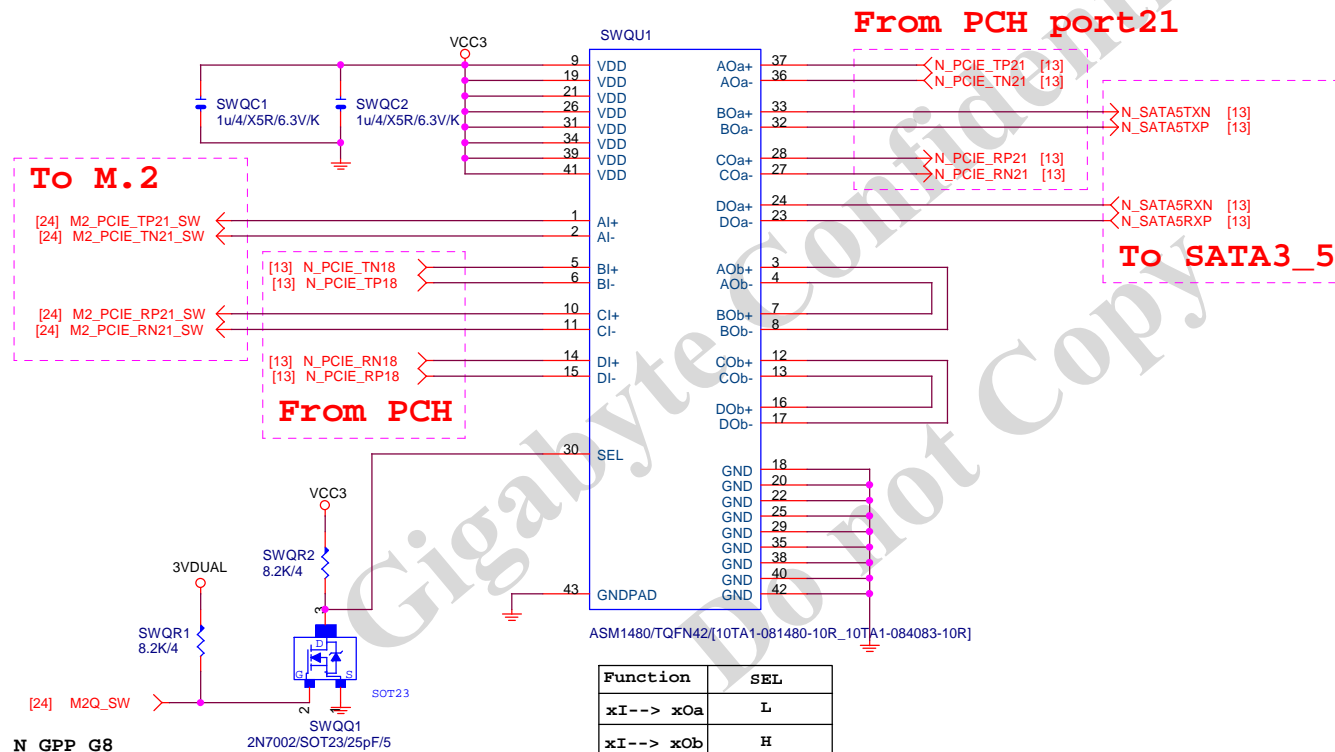
M2/67/BK/RA
架高

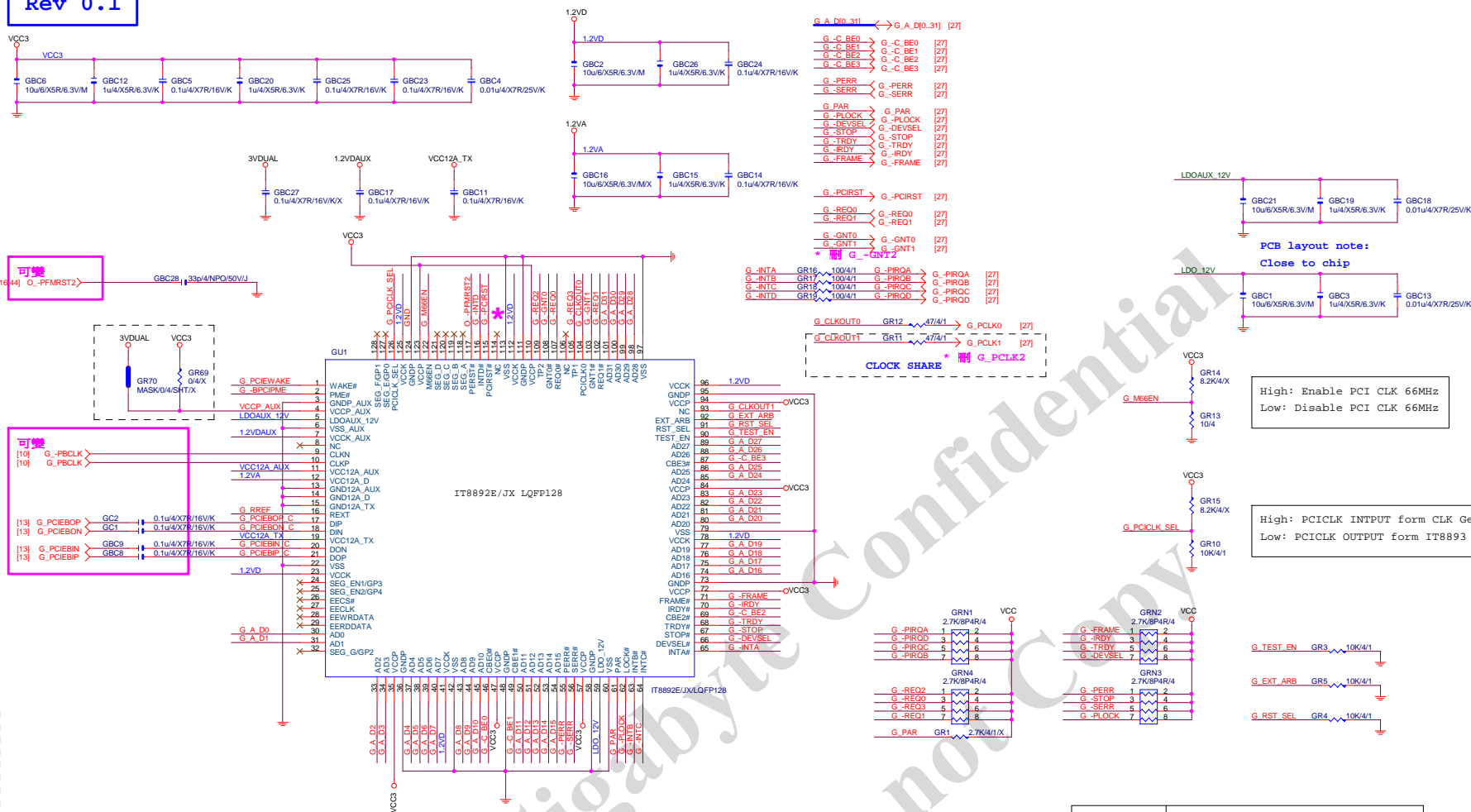


Rev 0.1

(Q)TYPE

舊的Switch,價格低





High: Enable PCI CLK 66MHz
Low: Disable PCI CLK 66MHz

High: PCICLK INPUT form CLK Gen
Low: PCICLK OUTPUT form IT8893 chip

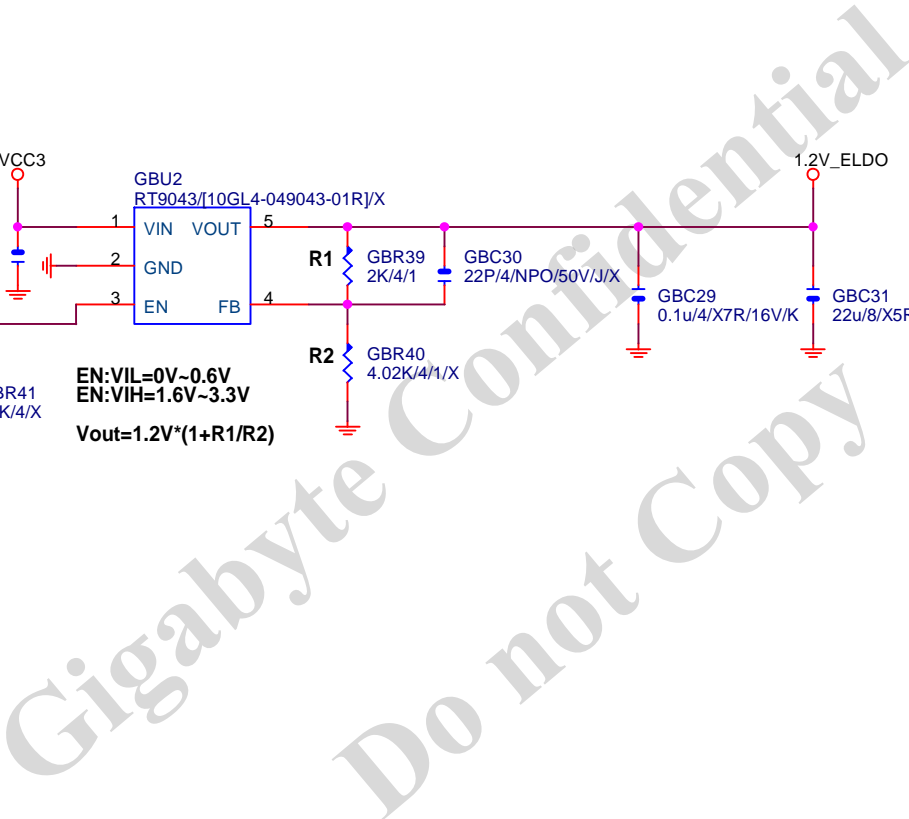
Component change note

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

Gigabyte Technology

Title			IT8892E
Size	Document Number	Rev	
Custom		GA-B250M-D3H	
Date	Monday, December 12, 2016	Sheet	26 of 56

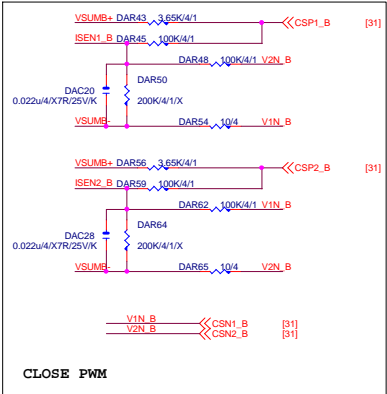
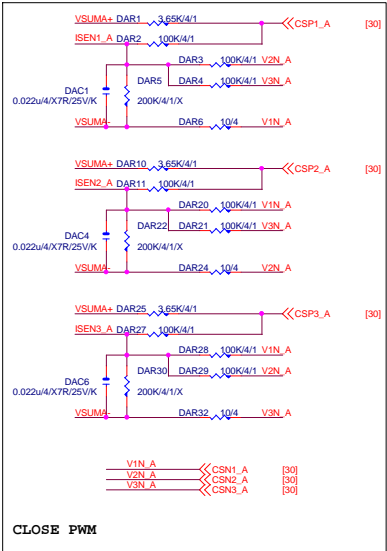
Rev 0.1



Gigabyte Technology			
Title			
ASM1085 POWER			
Size Custom	Document Number GA-B250M-D3H		Rev 1.0
Date:	Monday, December 12, 2016	Sheet 28 of 56	

GA-B250M-D3H

Rev	1.0
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不上件

VCC3

N_GTS

DAR123 2.26K/4/1

DAQ4 2N7002/SOT23/25P/F5

DAQ3 2N7002/SOT23/25P/F5

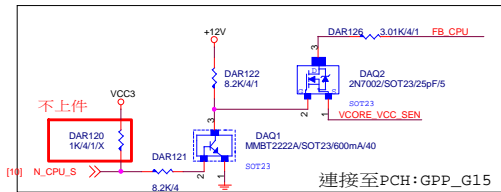
DAQ5 2N7002/SOT23/25P/F5

DAR124 2.2K/4/1

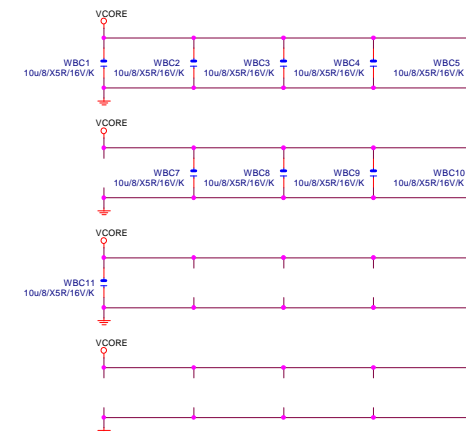
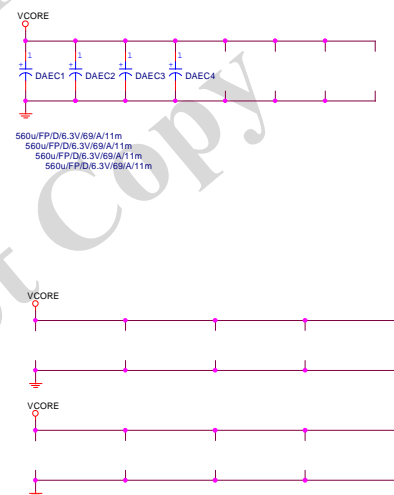
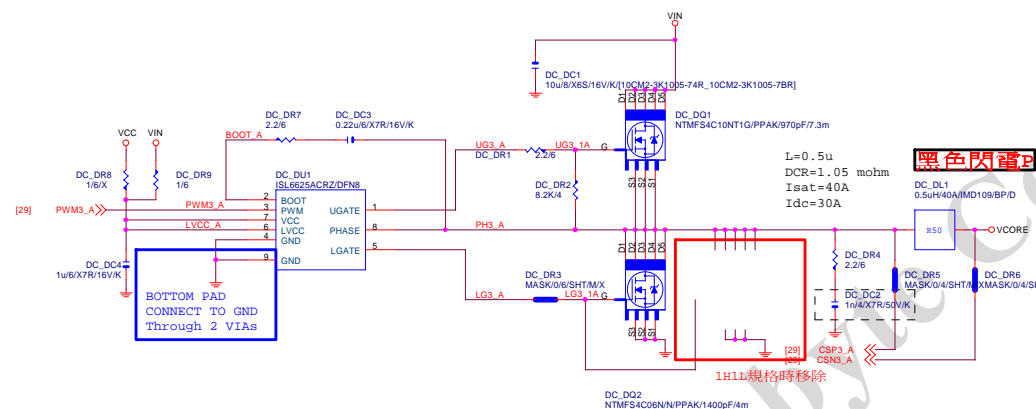
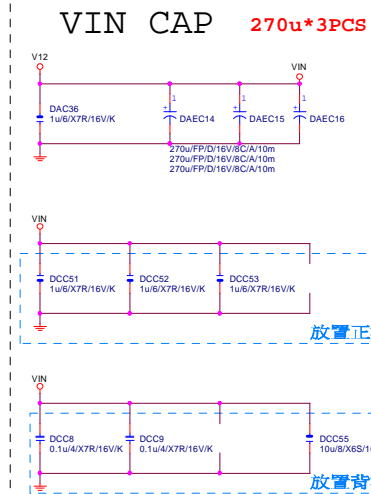
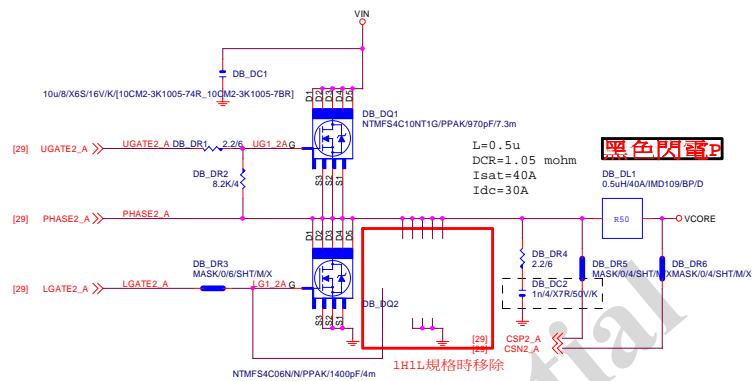
FB_GT

VCCGT_SENSE

連接至PCH:GPP_G14

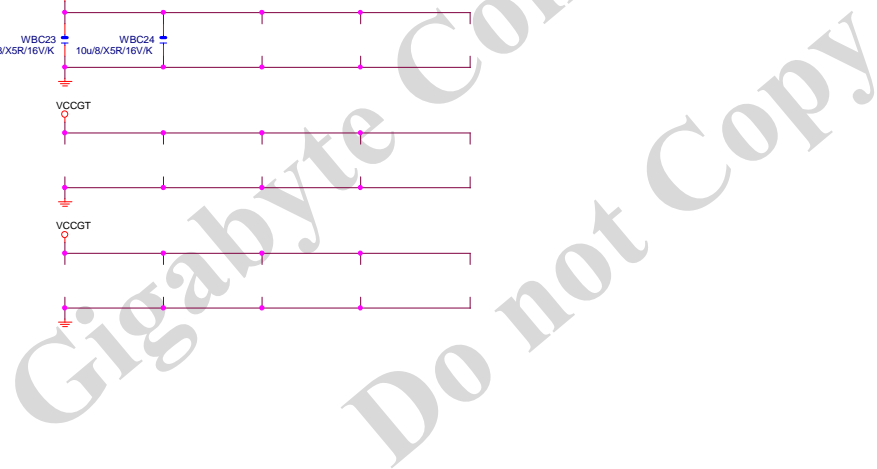


VCORE

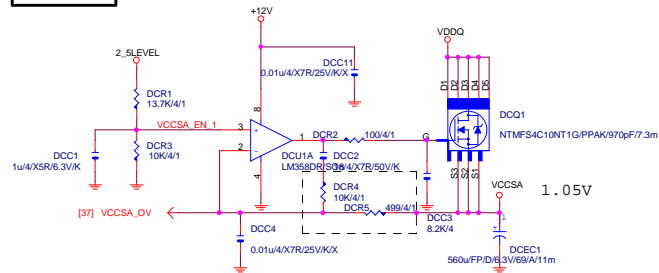


GIGABYTE™

Title			
ISL95868_MOS			
Size	Document Number		Rev
Custom	GA-B250M-D3H		1.0
Date:	Monday, December 12, 2016	Sheet	30 of 56

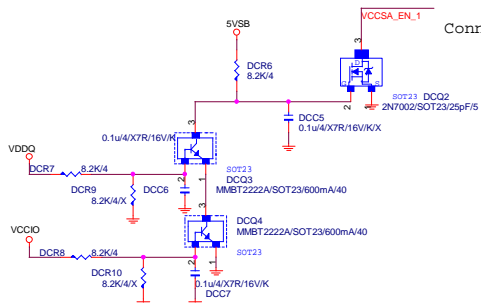


VCCSA

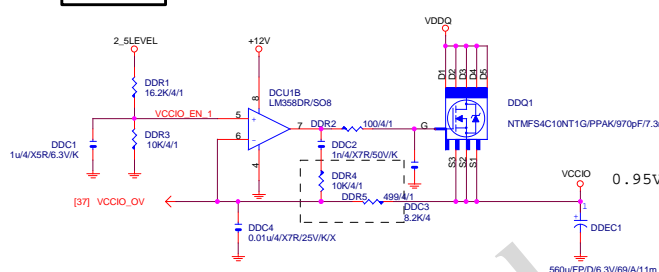


Connect to IT8793

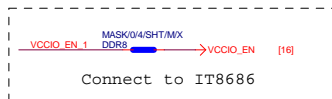
Connect to IT8686



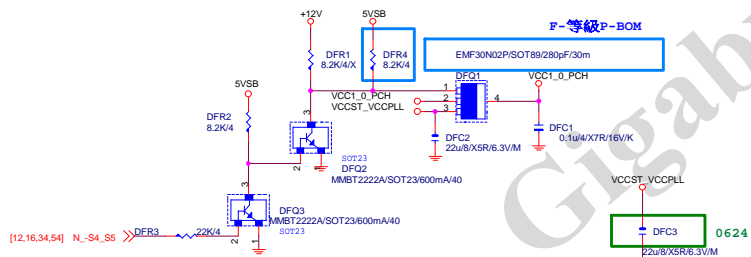
VCCIO



Connect to IT8686



VCCST_VCCPLL



GIGABYTE

Title		VCCSA_VCCIO_no 44E
Size	Document Number	GA-B250M-D3H
Customer	Rev	1.0
Date	Monday, December 12, 2016	Sheet 32 of 56

REV:0.1

DDR4

CHOKES與CAP料號可變

DDR VIN CAP
560u*2PCS

SUPPORT DDR4 1.2V

25A MAX

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

請放置CHOKES——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

上件

MA_DR38.MA_DC15

VPP_25V使用8120.8068A.RT8237時上件

PWR SEQ

CLOSE TO DDR POWER PLANE

For power sequence require

VPP_25V使用8120時上件

MAU1上RT9045時上件(不可MASK)
MA_VTT_REF

DDRVTT

DDRVTT CAP

[4] DDR_VTT_CTL MAR110 MASK/0/4/SHT/M/10/X_DDRVTT_EN
[2,16,54] N_SLP_S3 MAR111 MASK/0/4/SHT/M/10/X_DDRVTT_BOOT

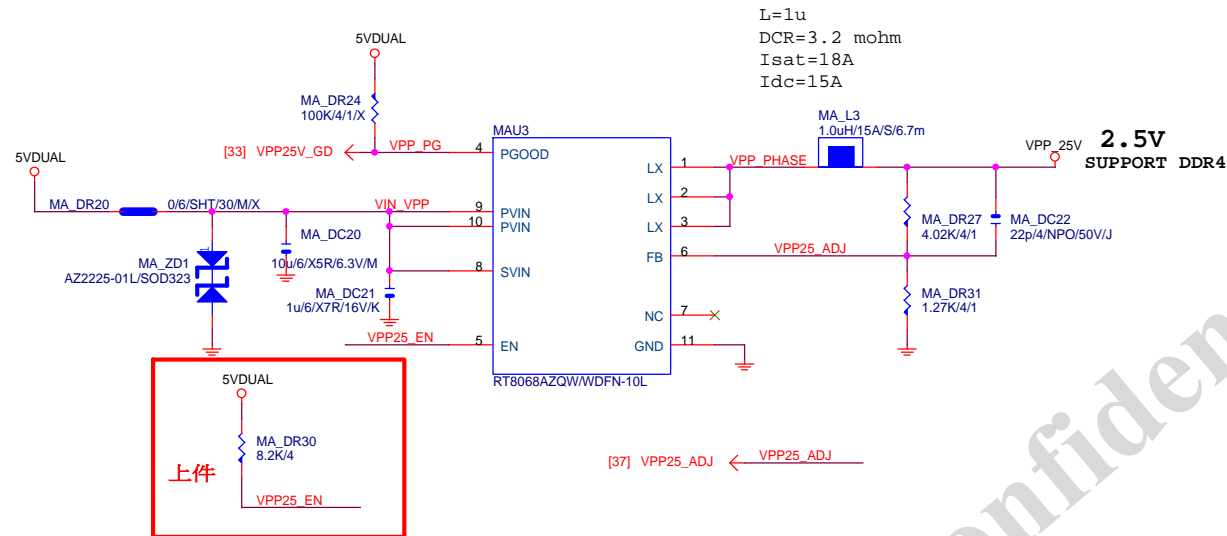
GIGABYTE™

Title		
RT8237_DDR4 POWER		
Size	Document Number	Rev
Custom	GA-B250M-D3H	1.0
Date:	Monday, December 12, 2016	Sheet 33 of 56

REV:0.1

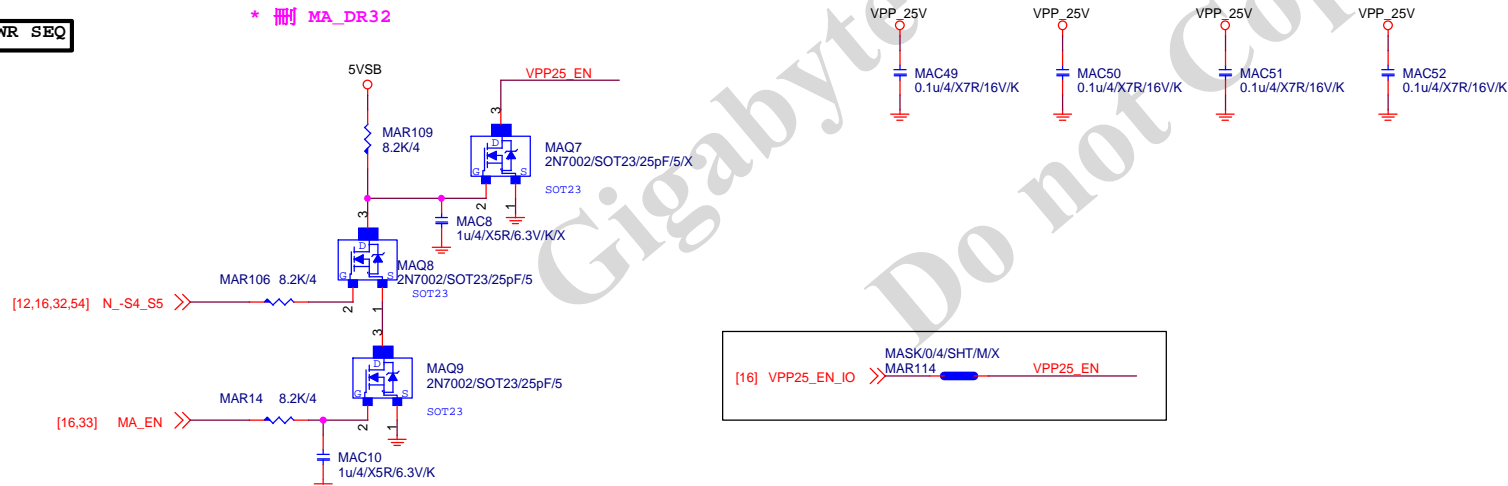
VPP_25V

CHOKER與CAP料號可變



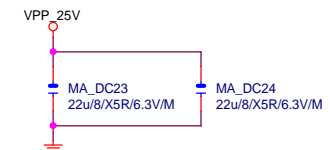
PWR_SEQ

* 刪 MA_DR32



VPP CAP 22u*1PCS

* 大電容 x0

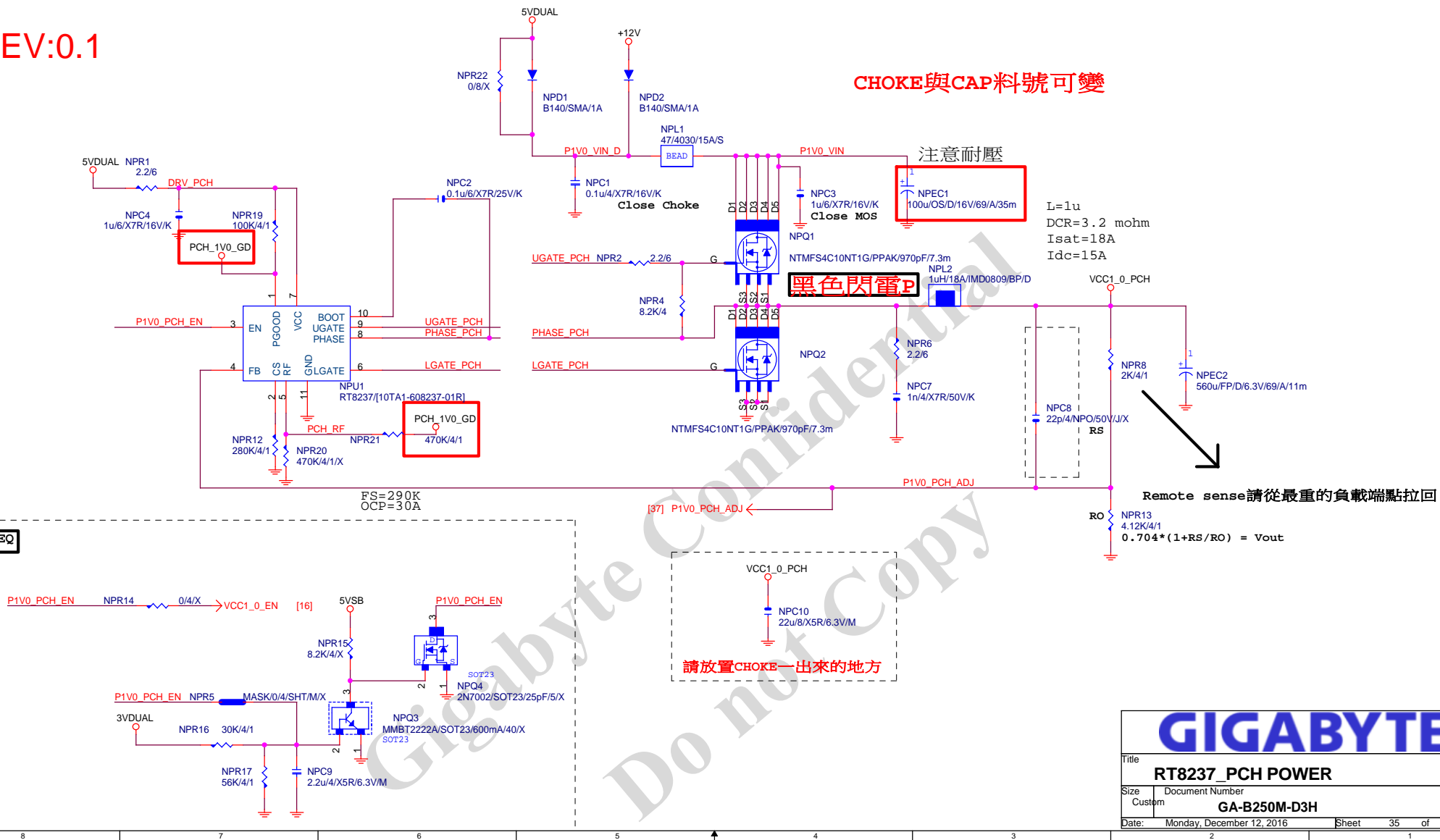


GIGABYTE™

Title				RT8068A_VPP25 POWER			
Size	Document Number					Rev	
Custom	GA-B250M-D3H					1.0	
Date:	Monday, December 12, 2016			Sheet	34	of	56

REV:0.1

CHOKE與CAP料號可變



GIGABYTE™			
Title			
RT8237_PCH POWER			
Size	Document Number	Rev	
Custom	GA-B250M-D3H	1.0	
Date:	Monday, December 12, 2016	Sheet	35 of 56

REV: 0.51

[16] 5VAUX_SW >>

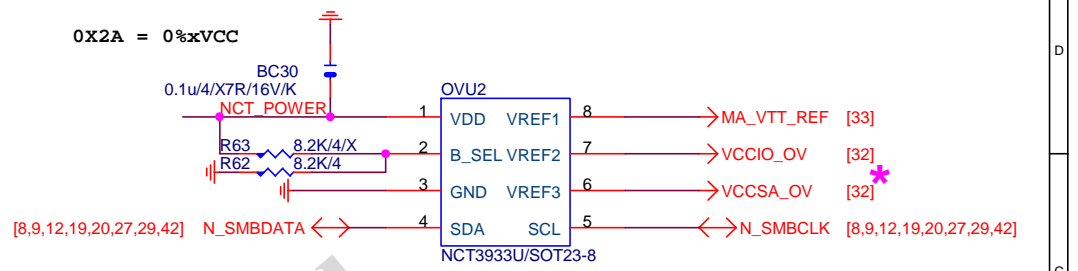
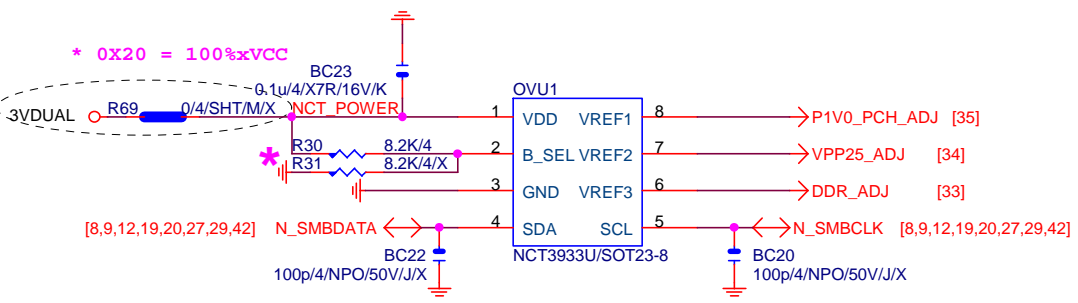


5[illegible]

[12] N_DEPSLP >>

Title			
DISCRETE POWER			
Size	Document Number		Rev
Custom	GA-B250M-D3H		1.0
Date:	Monday, December 12, 2016	Sheet	36 of 56

OVER VOLTAGE



0X22 = 75%xVCC

* 删除 OVU3

NCT3933	0X2A	0X20	0X22
VREF1	DDRVTT	VREF_DDRA_DQ	PCH Core
VREF2	VREF_DDRA_CA	N/A	VCC1_5_PCH
VREF3	VREF_DDRA_CA	VREF_DDRB_DQ	SMREF

Gigabyte Technology

TitleCPU CORE VR-2

Size Custom

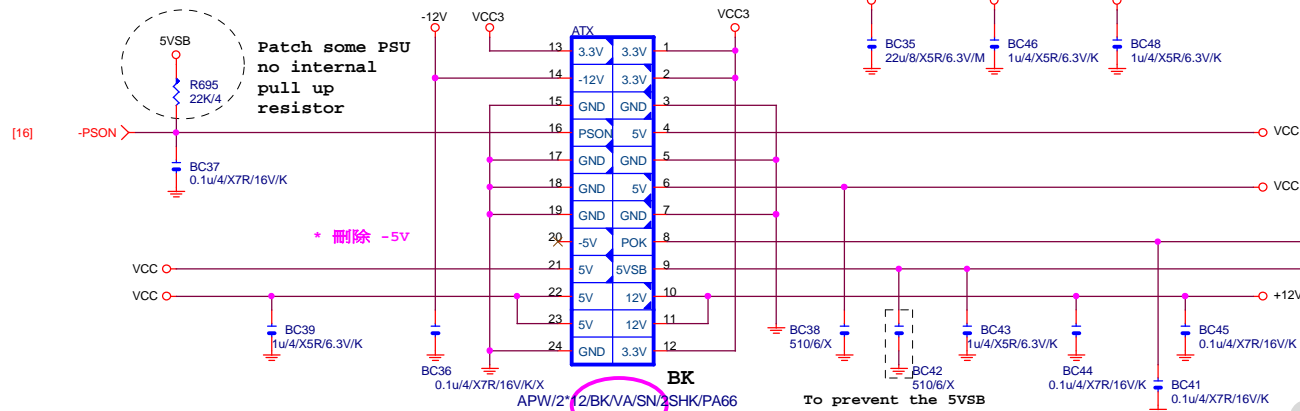
Document Number

Rev1.0

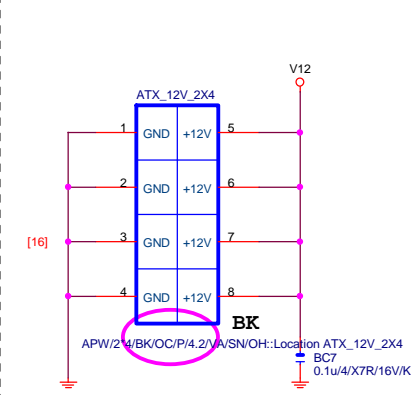
Date:Monday, December 12, 2016

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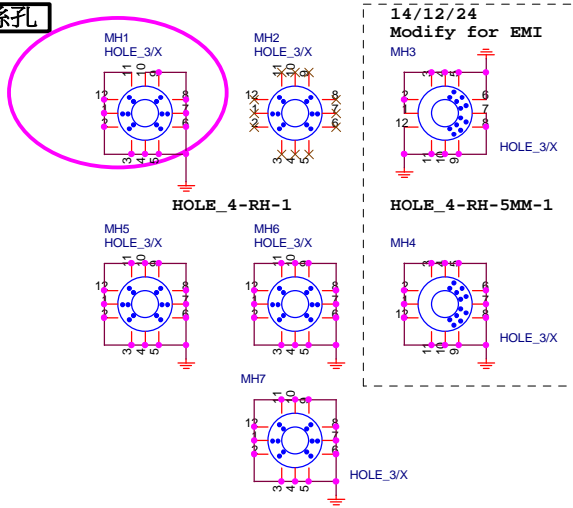
ATXX24 POWER CONNECTOR



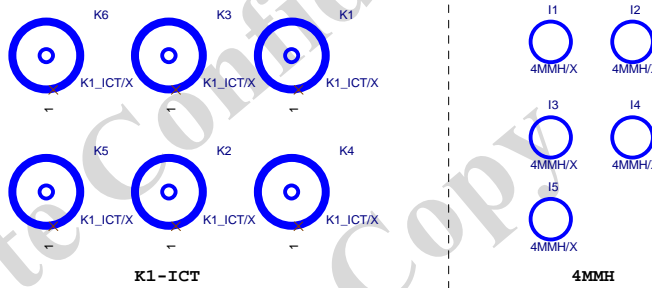
ATXX4 POWER CONNECTOR



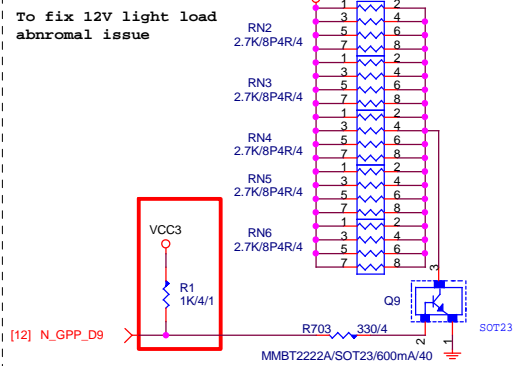
螺絲孔



固定孔/光學點

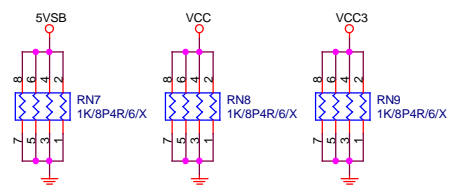


+12V DUMMY LOAD



【技術通報R&D技術通報153】

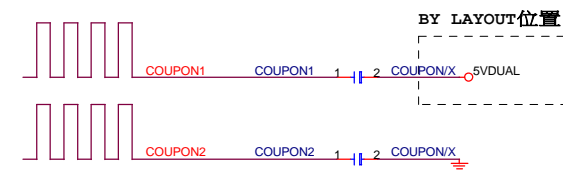
DUMMY LOAD



-PROHOT

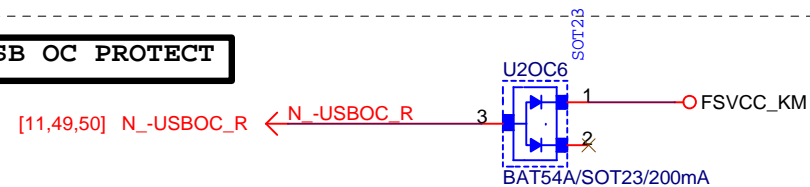
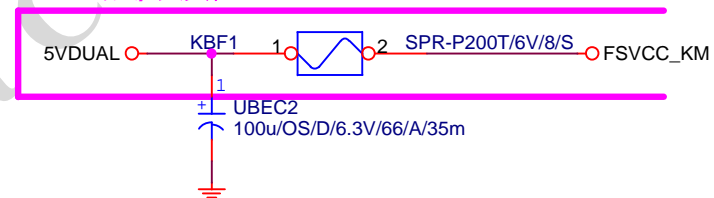
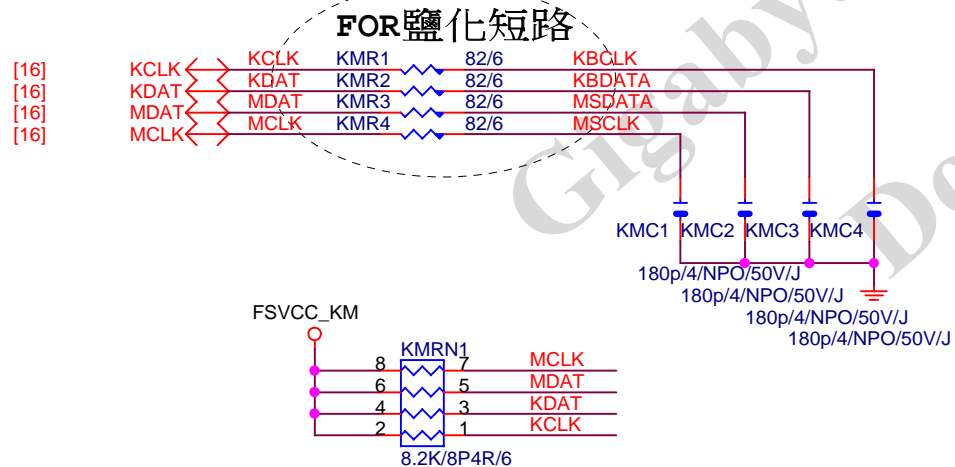
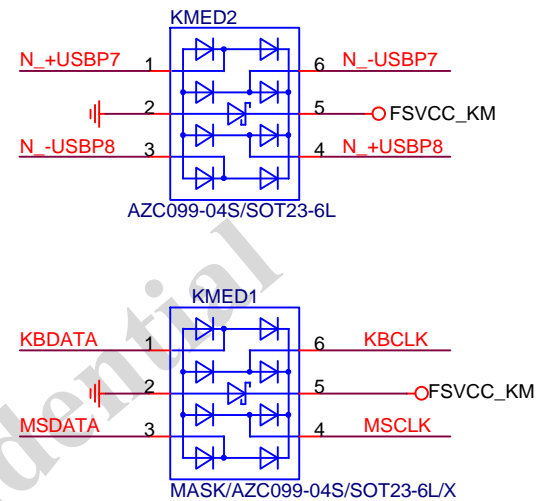
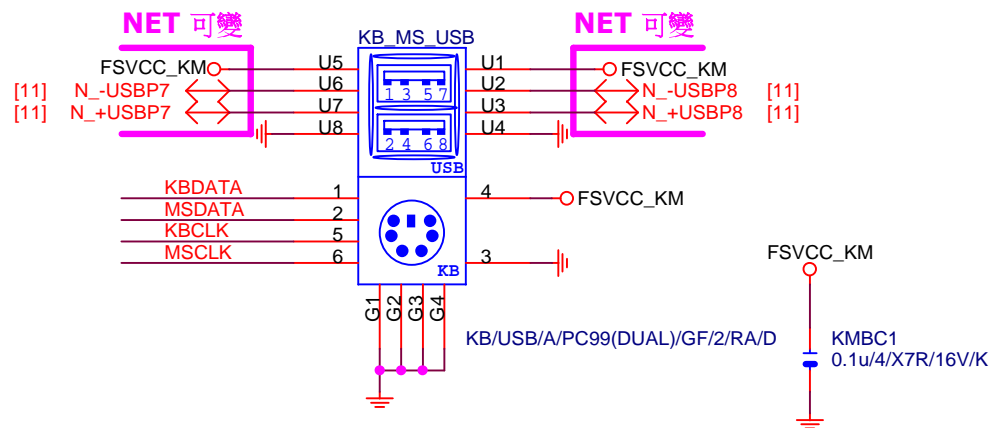


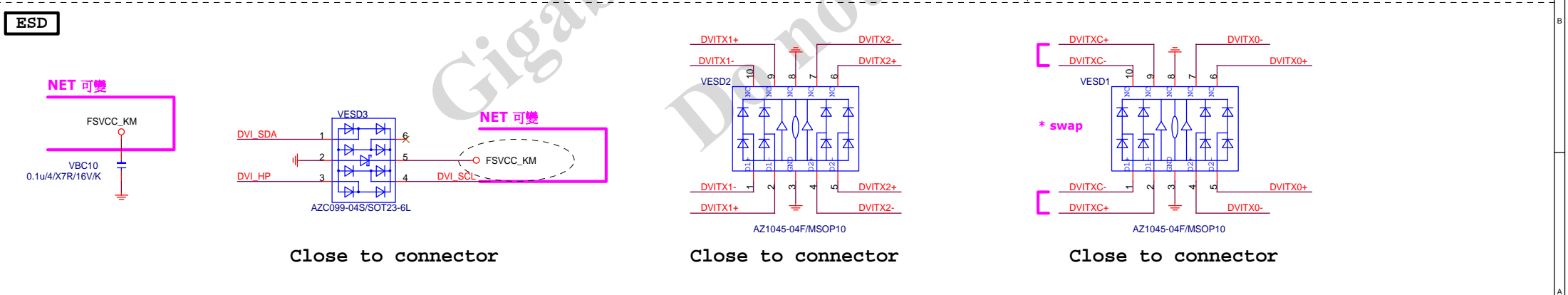
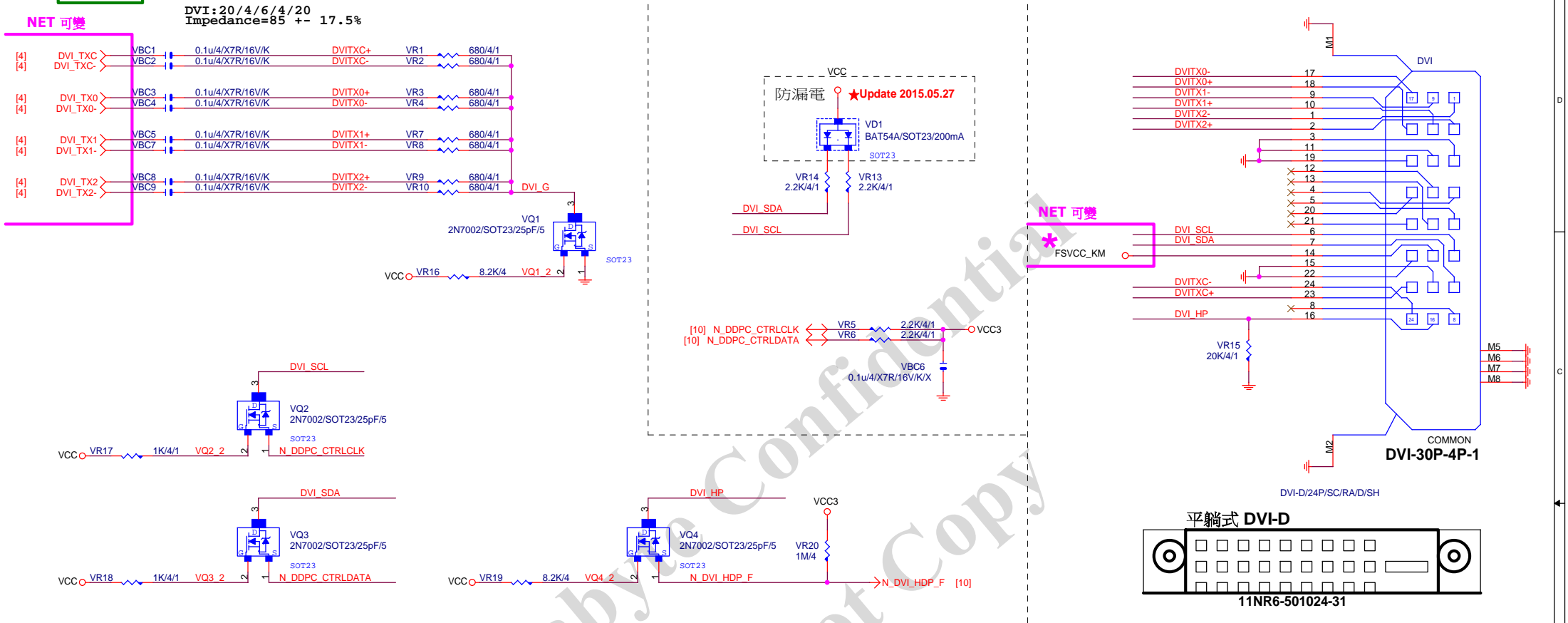
COUPON



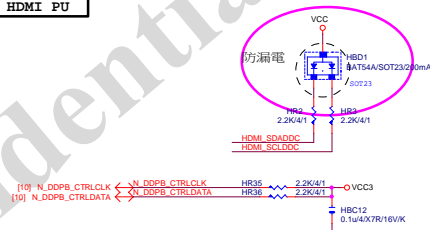
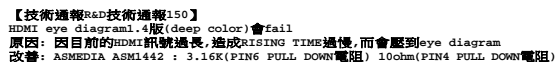
Gigabyte Technology

Title		
ATX POWER CONNECTOR		
Size	Document Number	Rev
Custom	GA-B250M-D3H	1.0
Date:	Monday, December 12, 2016	Sheet 38 of 56

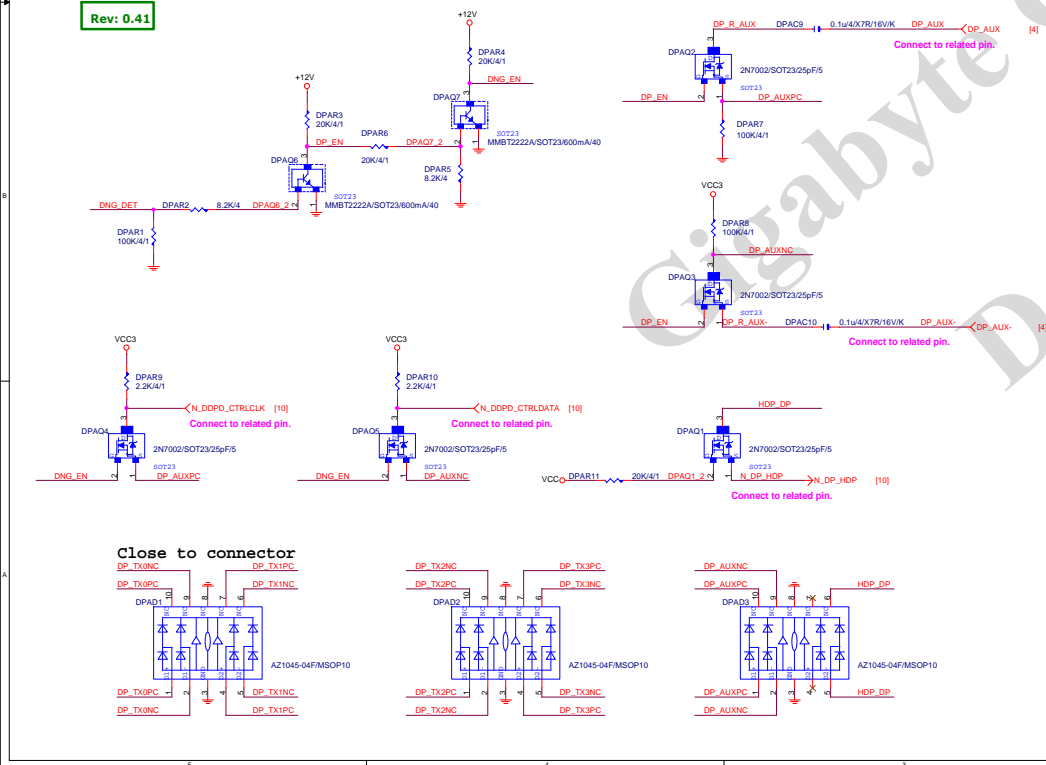




Rev: 0.7



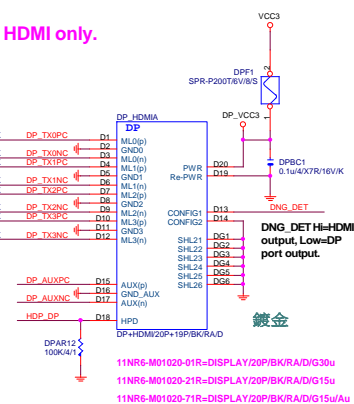
Rev: 0.41

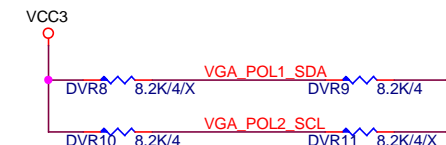
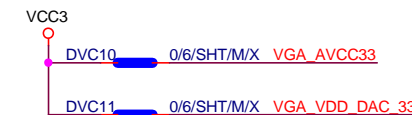
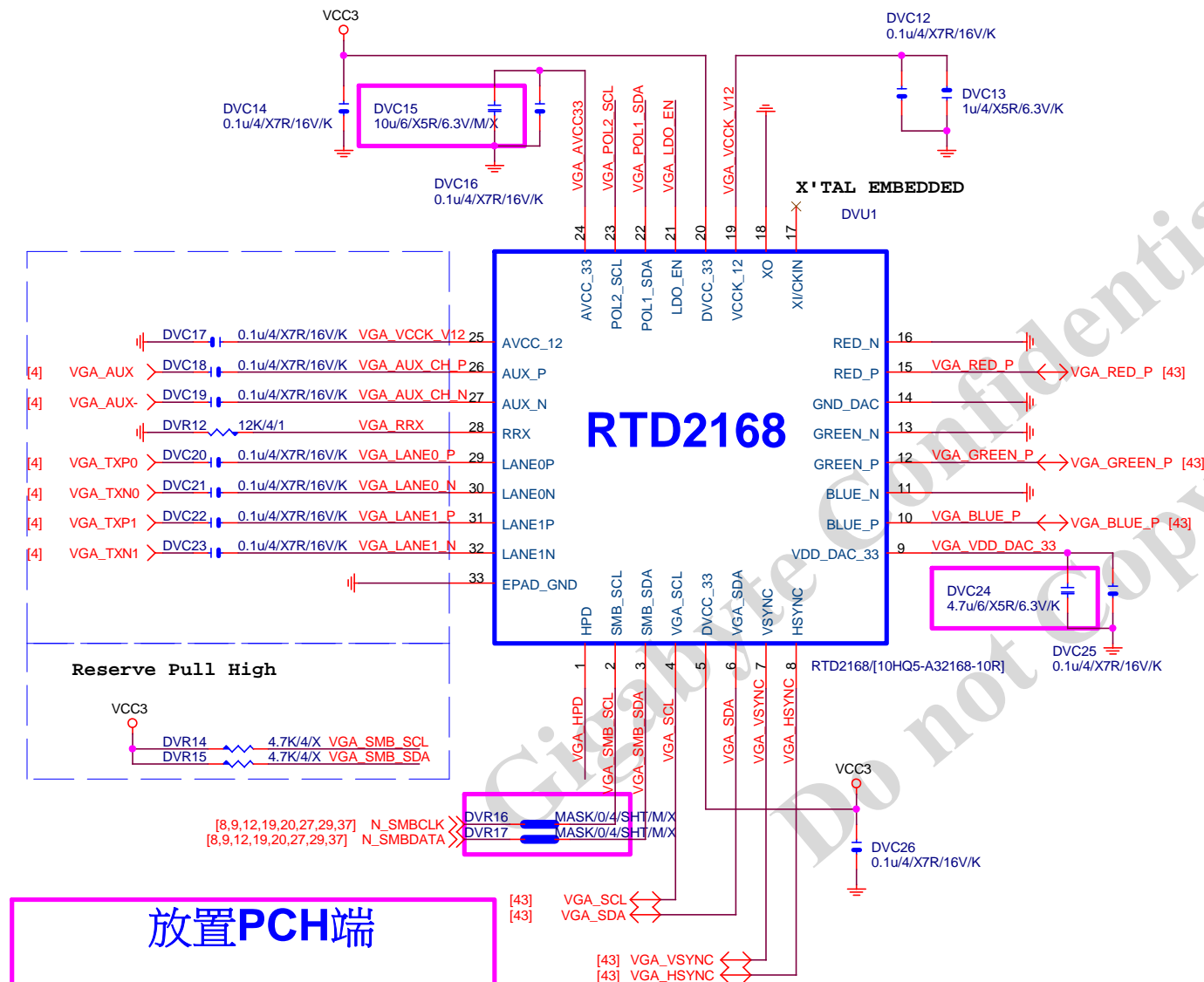


SINGLE Display Port

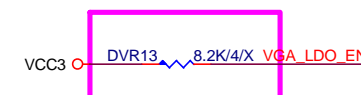
Display Port with HDMI, or HDMI only.

NET FROM CPU 可變

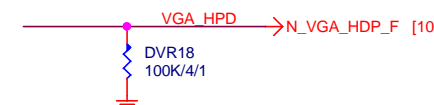




		POL1_SDA(PIN22)	
		0	1
POL2_SCL (PIN23)	0	X	EP MODE
	1	ROM ONLY MODE	EEPROM MODE

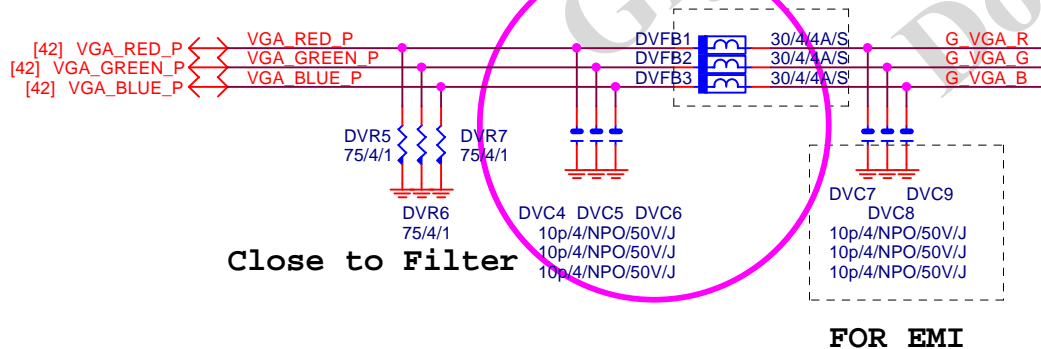
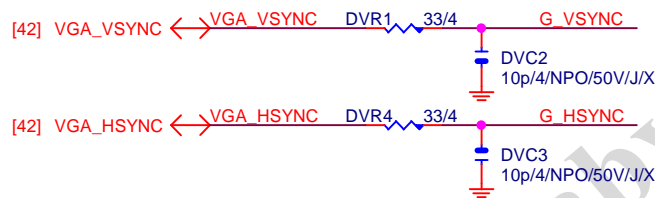
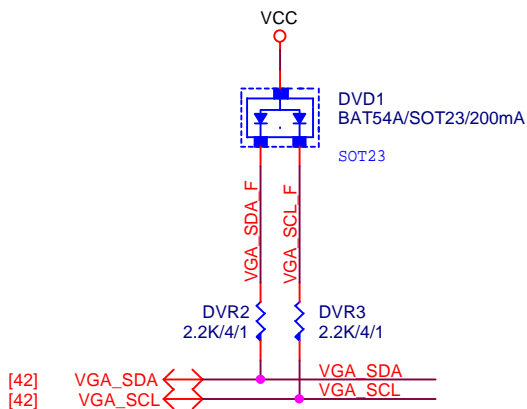


LDO_EN(PIN21)	
0	1
VCCCK_V12 from External 1.2V	VCCCK_V12 from Embedded LDO

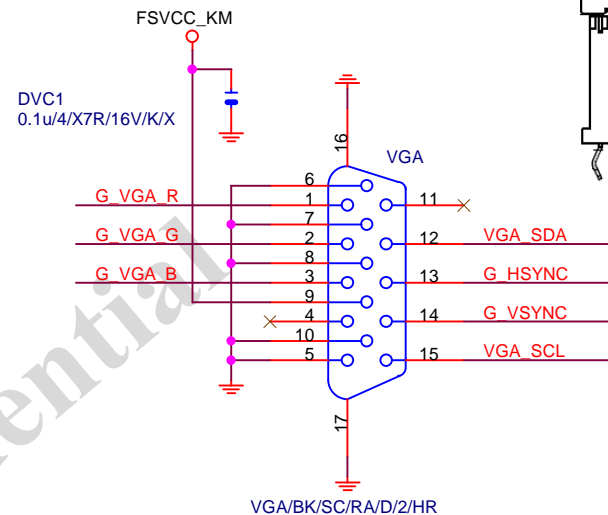


Gigabyte Technology
NXP-PTN3356

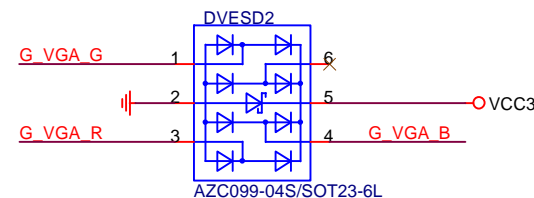
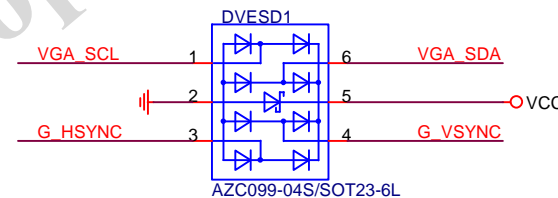
VGA SIGNAL R1.03



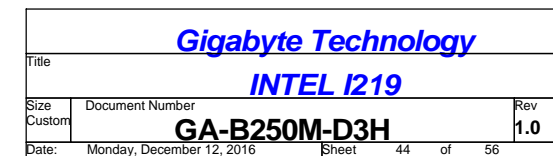
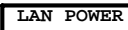
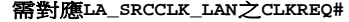
VGA CONN. 架高型VGA (BLACK)



VGA ESD

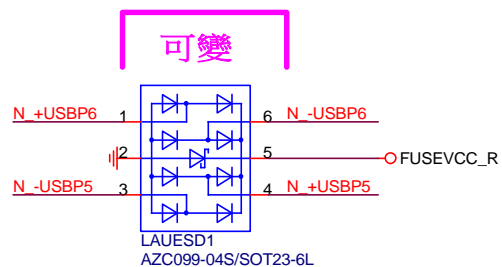


Gigabyte Technology		
DP-VGA RTD2168		
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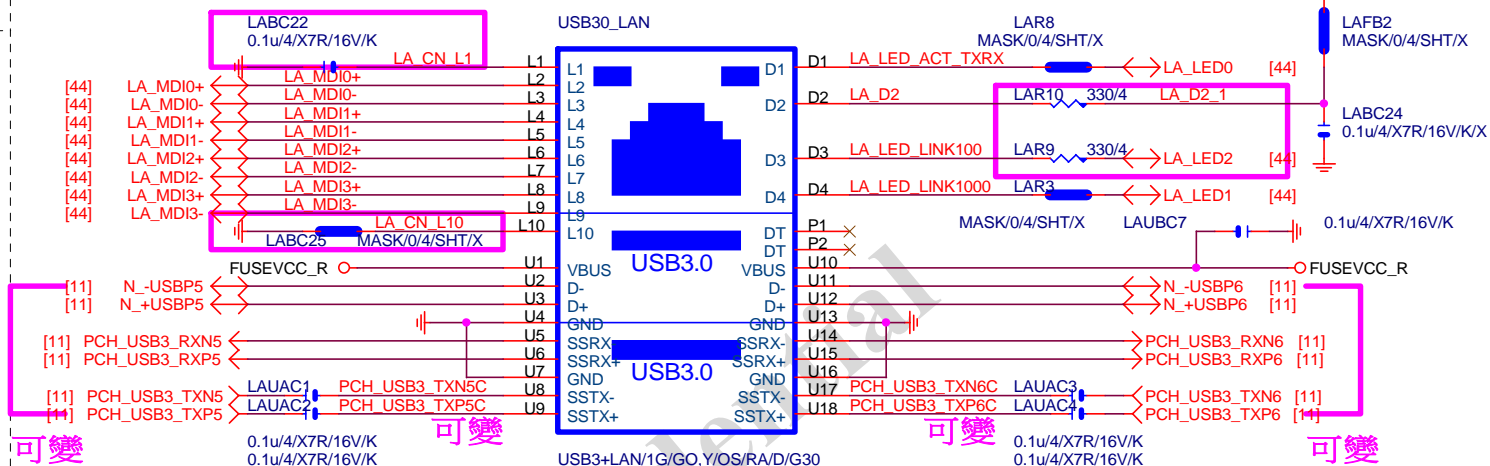
R1.1

note:可變更USB NAME



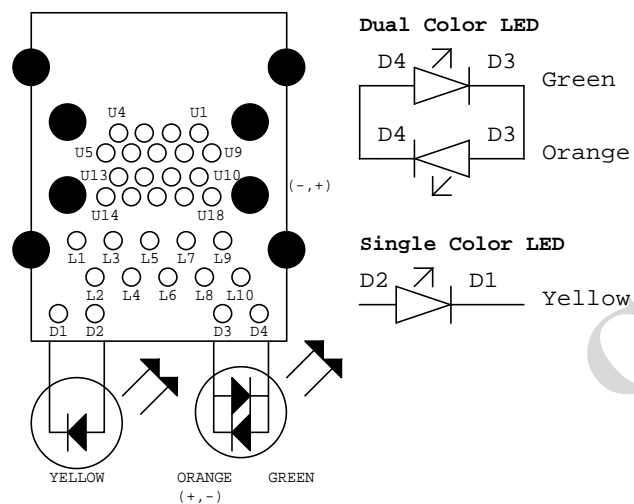
note:可變更USB NAME

[I219]



LA_MDI-->100歐姆:[20/4/8/4/20]

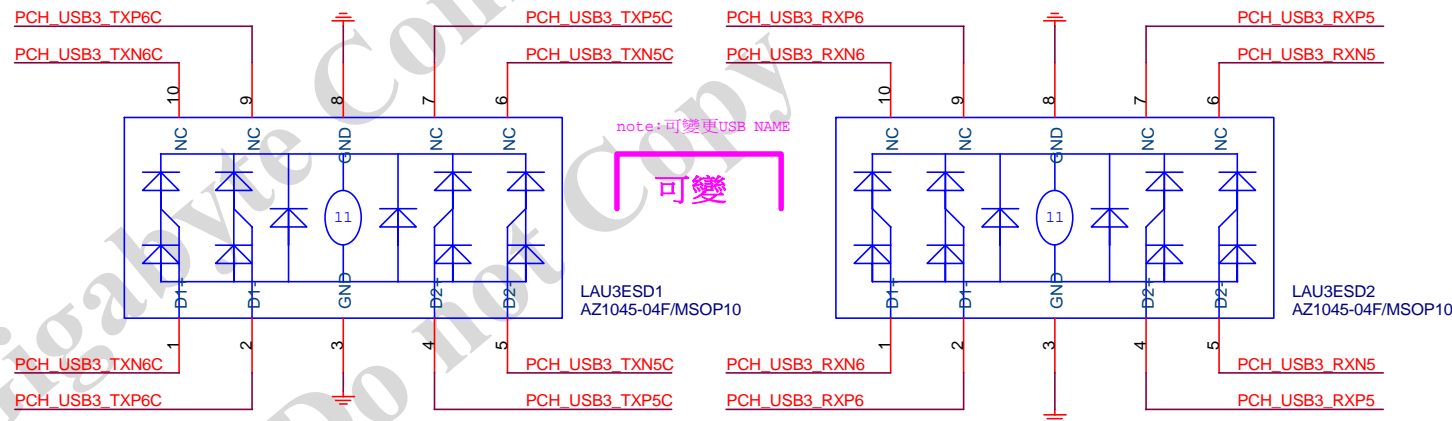
Dual Color LED



FOOT PRINT:LAN COVER

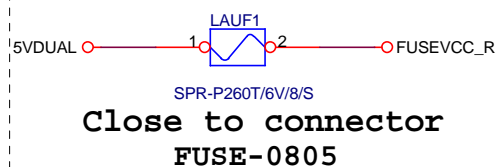
可變 [視SPEC需求]

[-D3H不加蓋]



note:可變更FUSE

可變



PS:視EMI需求

LAR24 MASK/0/4/SHT/X

note: lan power連接及電流

可變



Gigabyte Technology

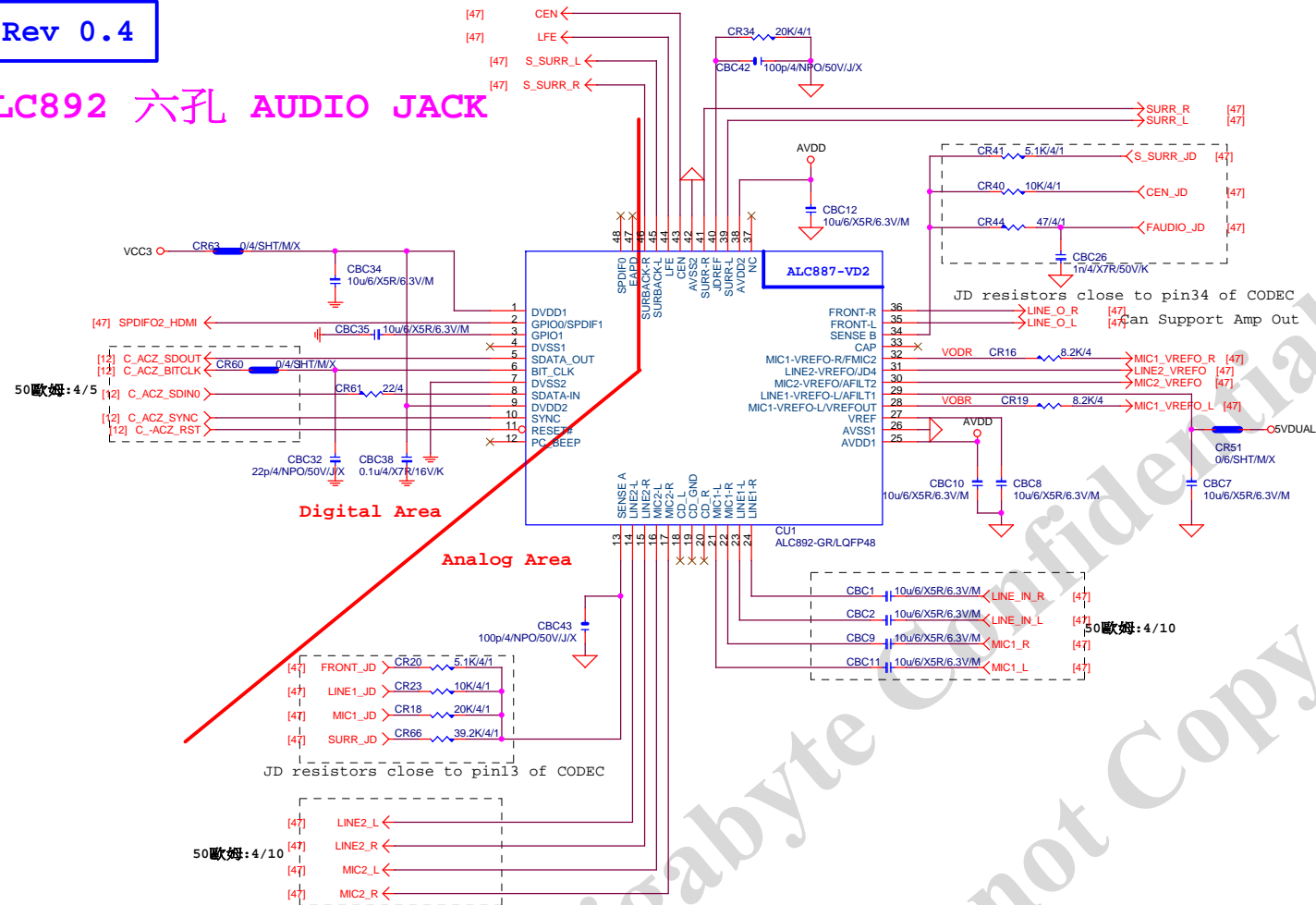
LAN CONNECTOR-I219

GA-B250M-D3H

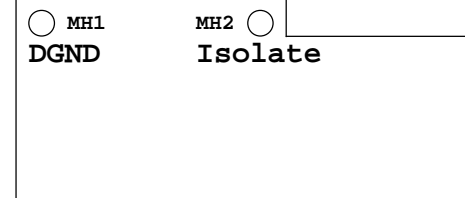
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REV
1.0

ALC892 六孔 AUDIO JACK



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

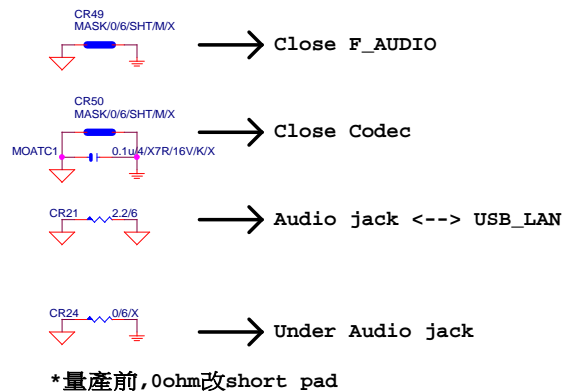


LAYOUT注意: 要加
GND切割線

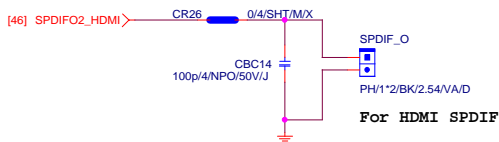
音效區域印刷



*料號後補

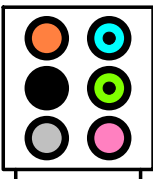


SPDIF_OUT



SPDIF_IN

AZALIA JACK



AZALIA JACK

BLUE

LINE-IN

GREEN

LINE-OUT

PINK

MIC-IN

AUDIOB

A3

A2

A4

A1

A0

GND

LINE-IN

B3

B2

B4

B1

B0

GND

LINE-OUT

C3

C2

C4

C1

C0

GND

MIC-IN

2X3RP/26P/OR,BK,GY,BU,GE,PK/RA

AUDIOA

D3

D2

D4

D1

D0

GND

FEAR

E3

E2

E4

E1

E0

GND

CEN

F3

F2

F4

F1

F0

GND

SIDE

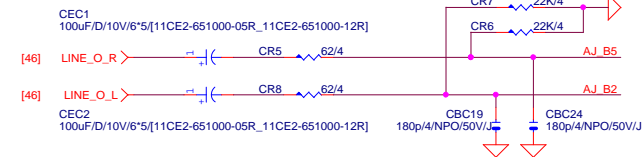
G1

G2

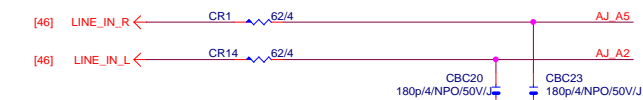
G3

2X3RP/26P/OR,BK,GY,BU,GE,PK/RA

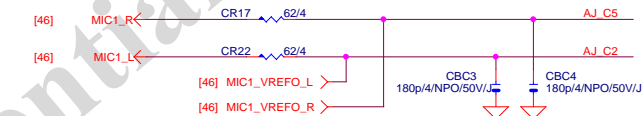
LINE-OUT



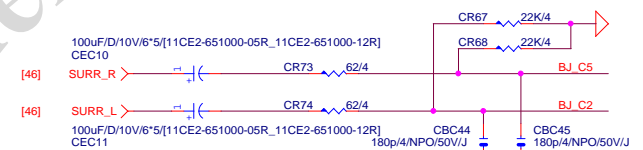
LINE-IN



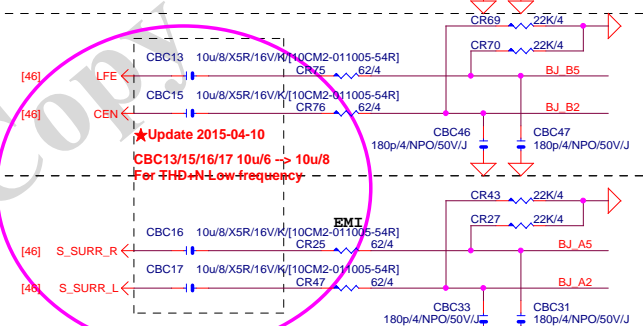
MIC-IN



SURROUND

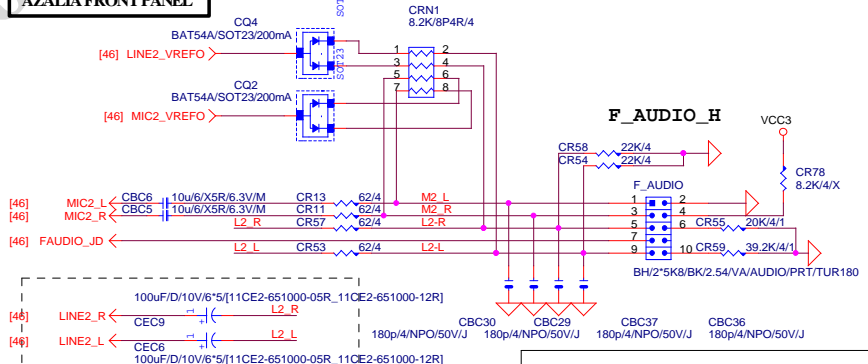


CEN/LFE



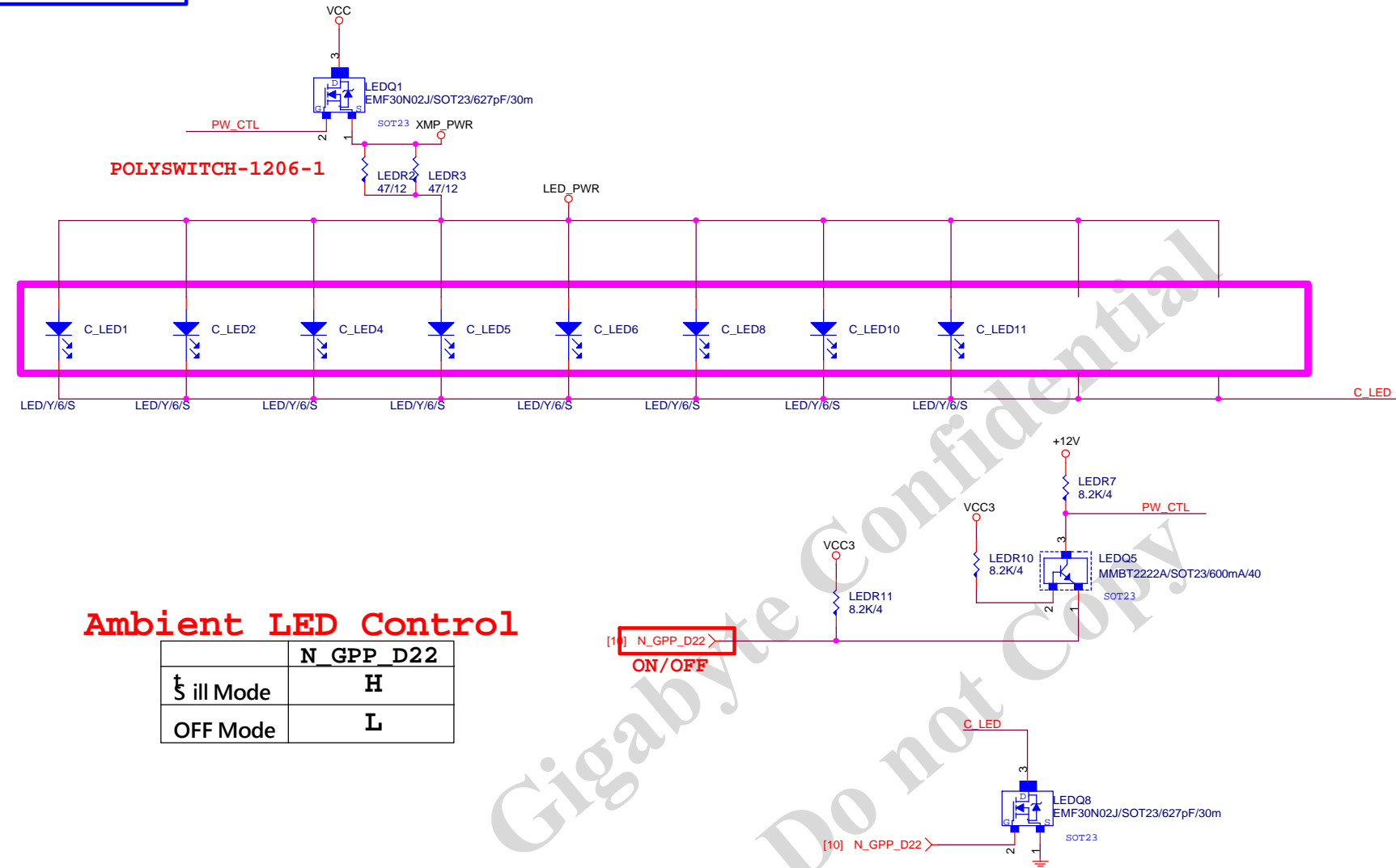
SURRBACK

AZALIA FRONT PANEL



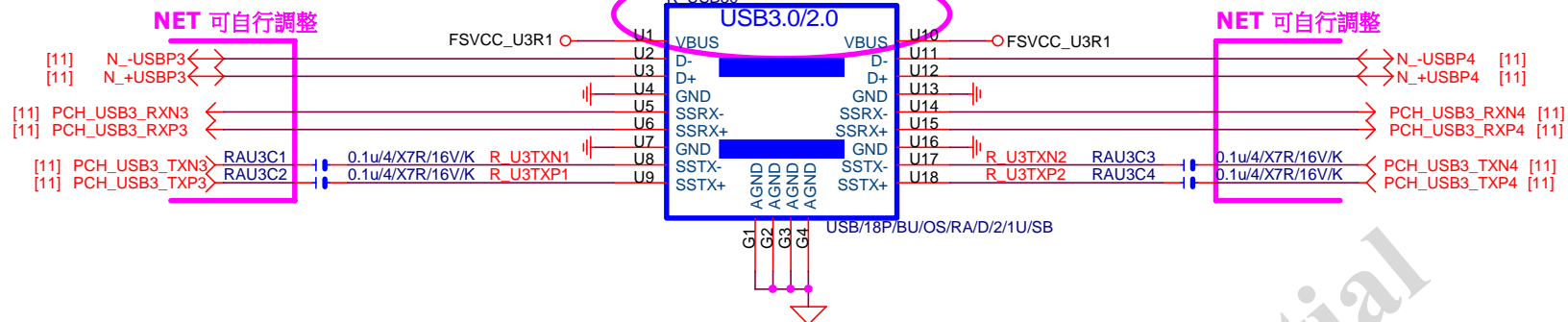
Gigabyte Technology

Title			
AUDIO JACK			
Size	Document Number	Rev	
Custom	GA-B250M-D3H	1.0	
Date:	Monday, December 12, 2016	Sheet	47 of 56



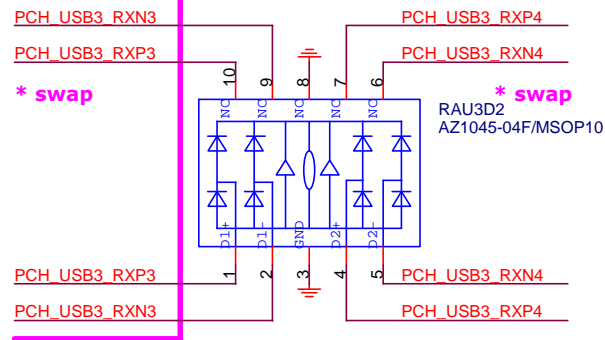
Rev: 0.7

ESD 可自行SWAP PIN ,CONN端 NET 名稱 不可

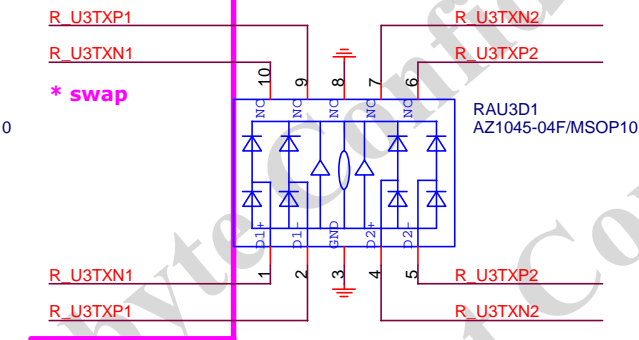


ESD

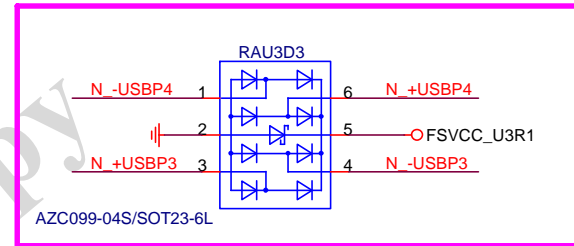
NET 可自行調整



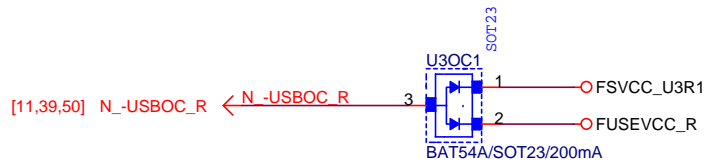
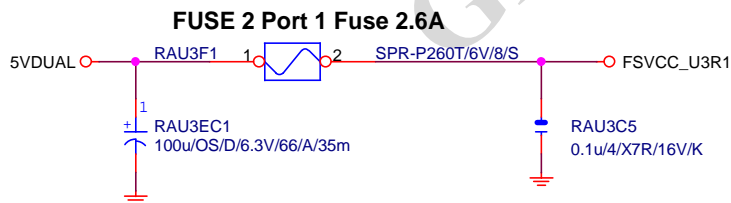
NET 可自行調整



NET 可自行調整

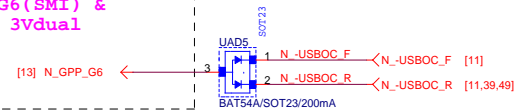
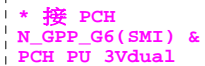


FUSE



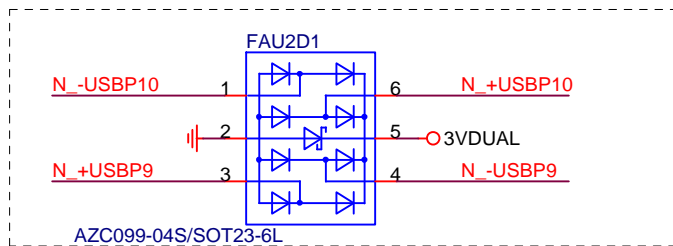
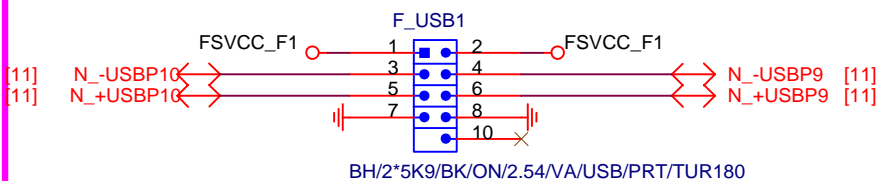
Gigabyte Technology

Title			R_USB30,USB_OC
Size	Document Number	GA-B250M-D3H	
Custom			Rev 1.0
Date:	Monday, December 12, 2016	Sheet	49 of 56



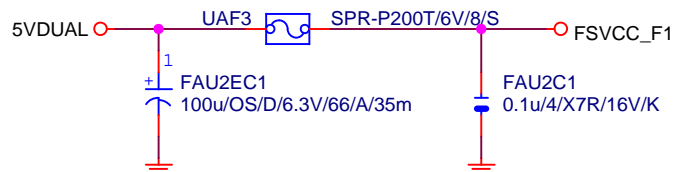
NET 可變

FUSB2X5-HS



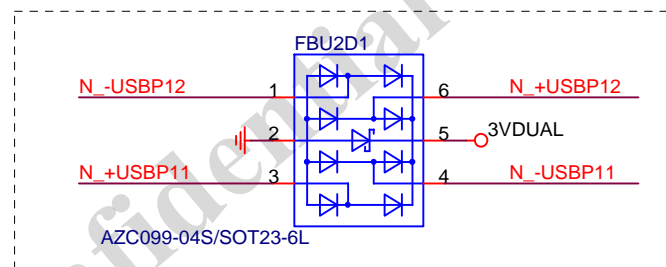
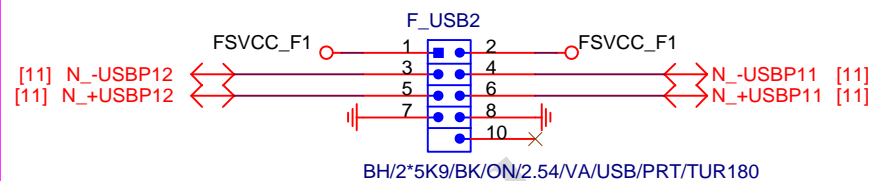
Close to connector

FUSE 2 Port 1 Fuse 2A



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

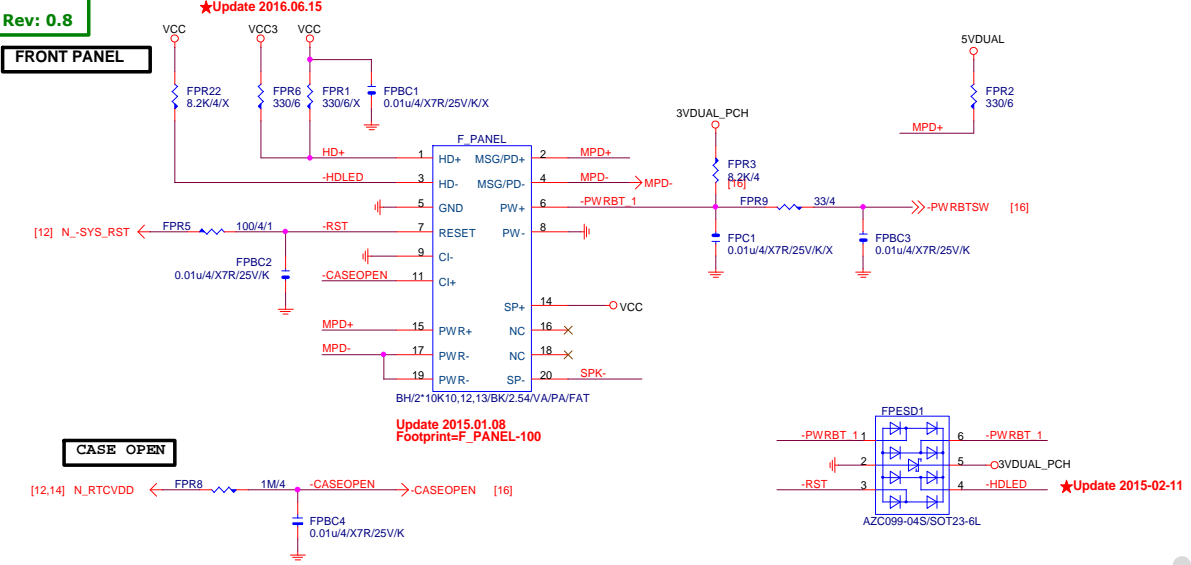
GA-B250M-D3H

Rev
1.0

Date: Monday, December 12, 2016

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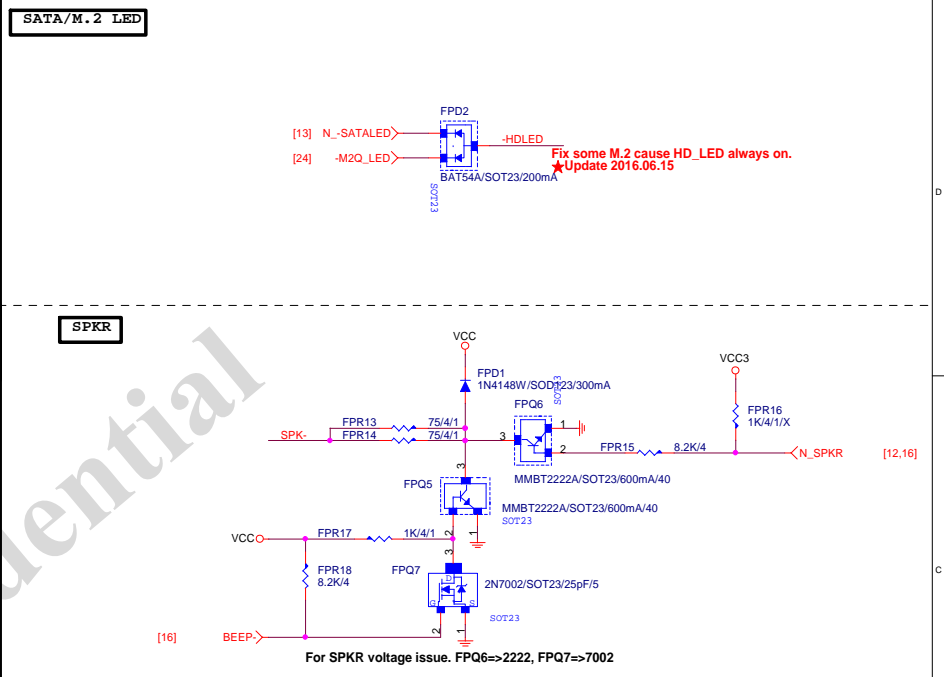
FRONT PANEL



FRONT PANEL SHORT

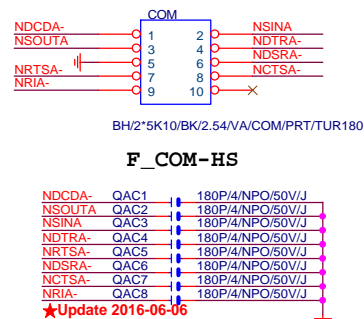
SATA/M.2 LED

SPKR

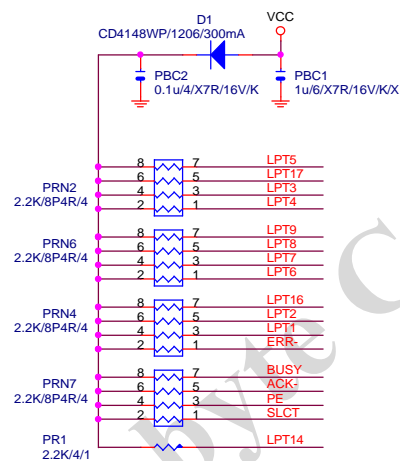


Gigabyte Confidential
Do not Copy

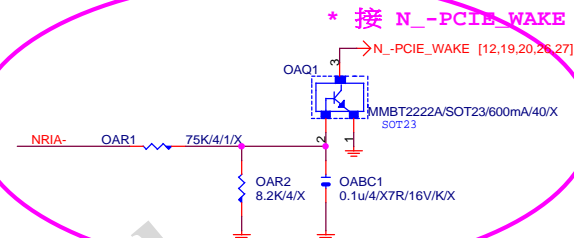
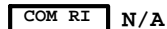
Rev: 0.7



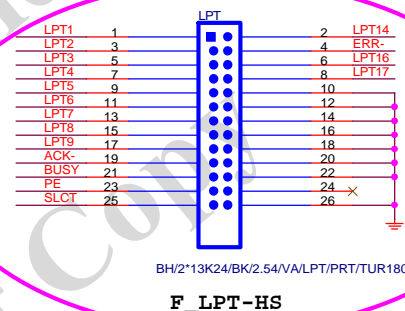
LPT PORT



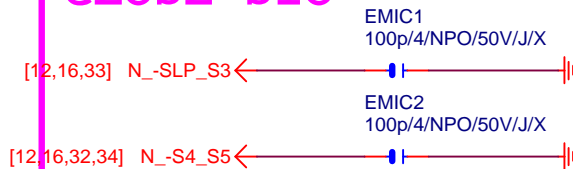
TPM CONNECT



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



CLOSE SIO



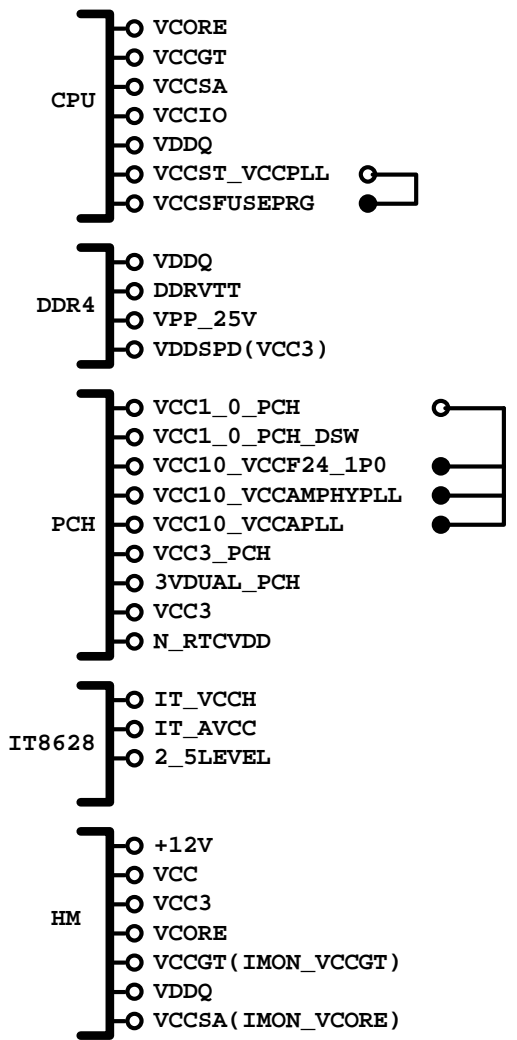
CLOSE PCH



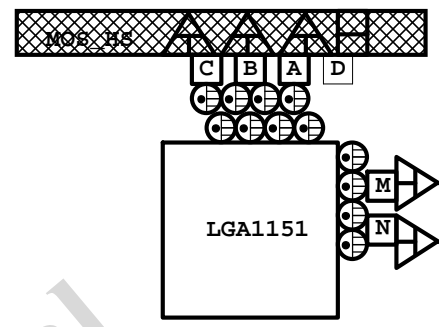
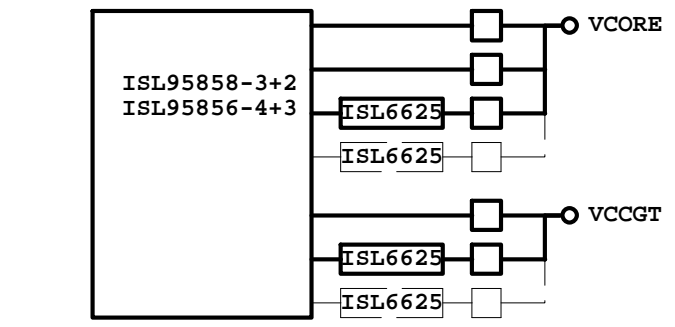
GIGABYTE™

Title		
EM/ESD		
Size A	Document Number GA-B250M-D3H	Rev 1.0
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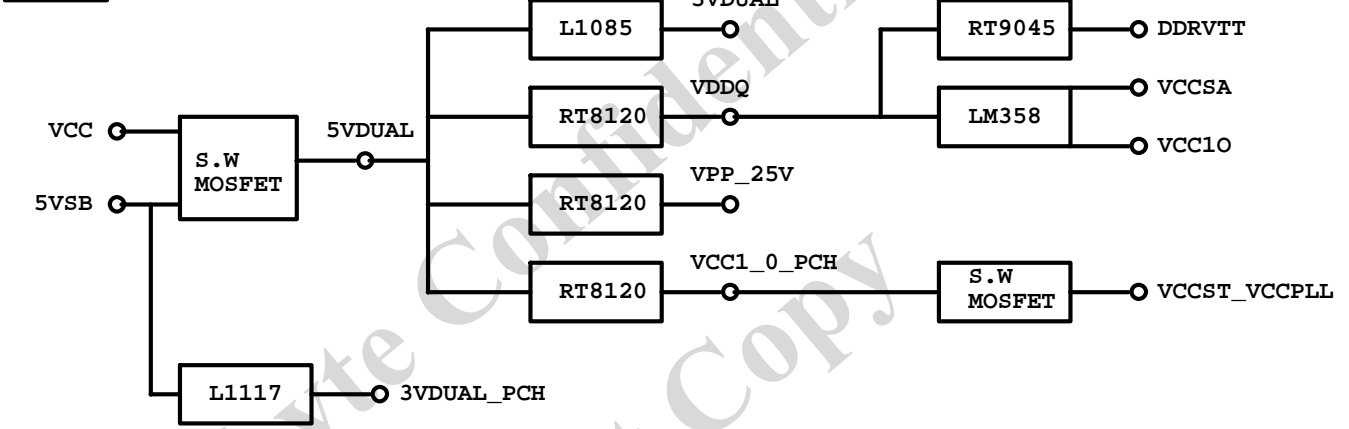
POWER BLOCK MAP



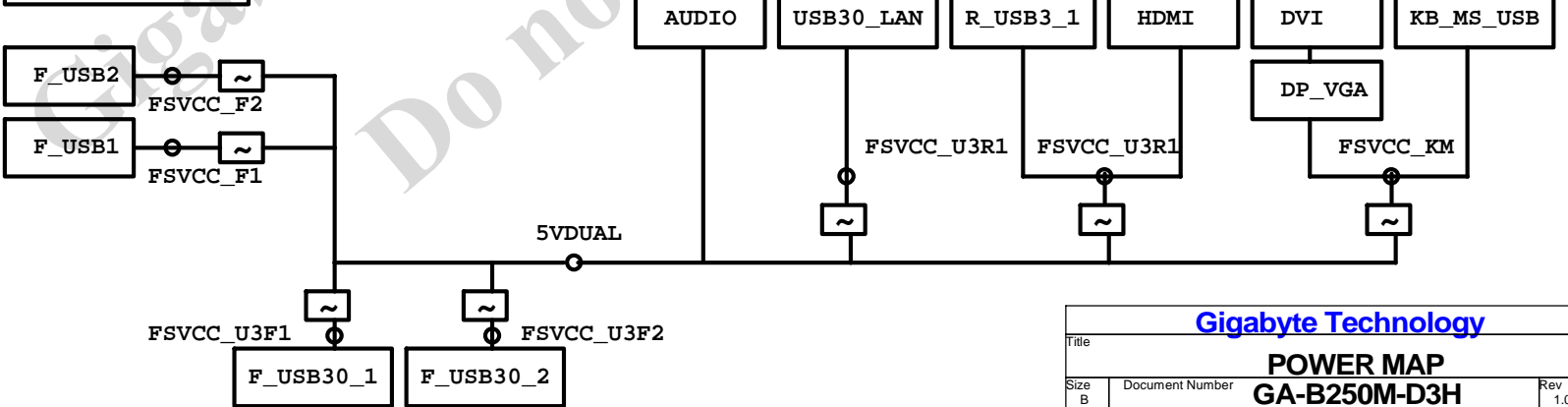
VCORE/VCCGT



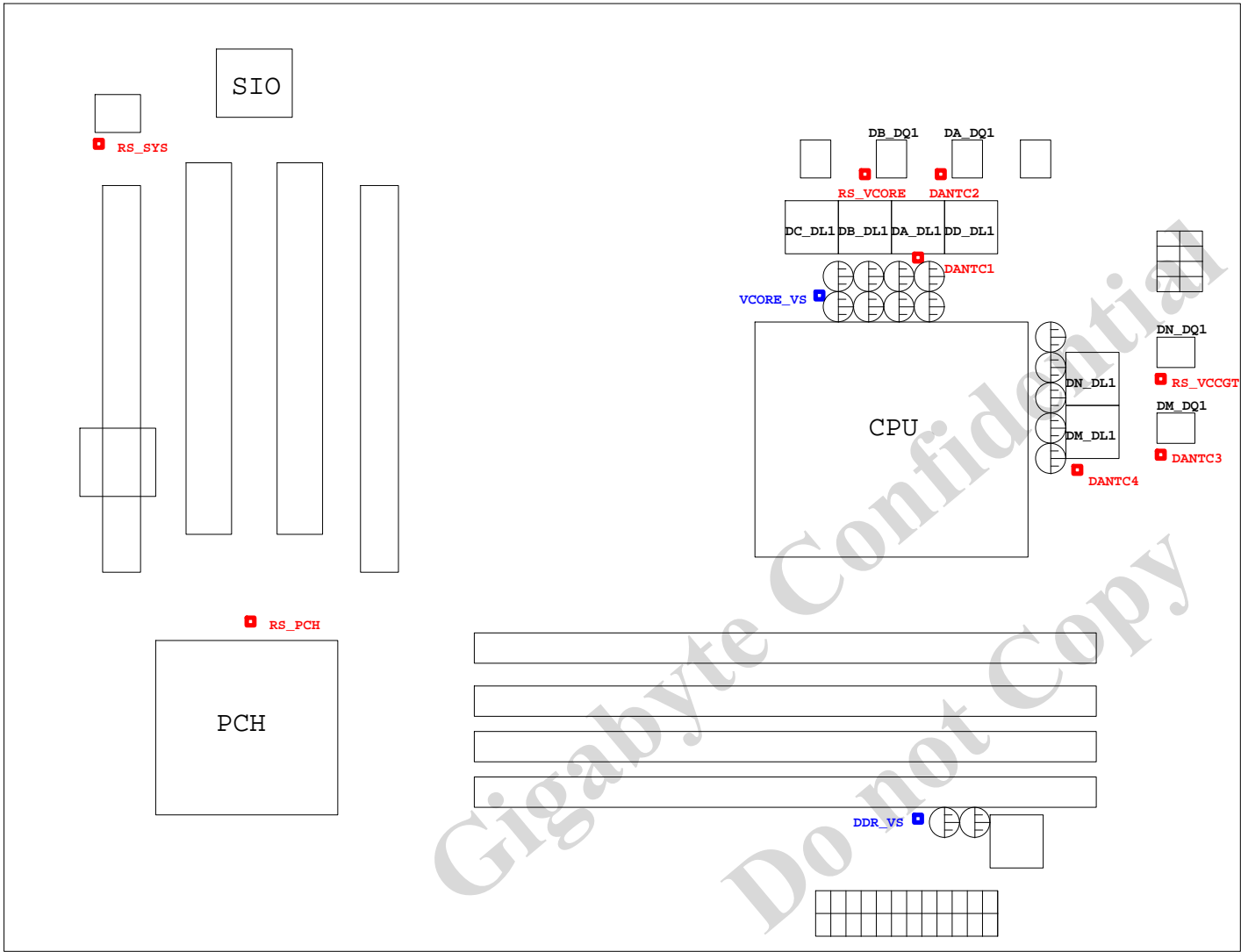
POWER



FUSE POWER F/R



Gigabyte Technology			
Title			
POWER MAP			
Size	Document Number	Rev	
B	GA-B250M-D3H	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