

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
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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 EXPRESS*4 SLOT
21	
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23	SATA EXPRESS
24	IT8892E/JX
25	PCI SLOT 1&2
26	IT8892 LDO POWER
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	NCT3933
36	ATX POWER , A_-PROCHOT
37	KB_MS_USB
38	DVI CONN
39	RTD2168 - DP to VGA - IC
40	RTD2168 - DP to VGA - Conn
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
51	M.2 X4 (Q)
52	M.2X4_S5 SWITCH
53	COM, LPT, TPM, THB
54	EMI-ESD
55	POWER MAP
56	NTC MAP

Gigabyte Technology

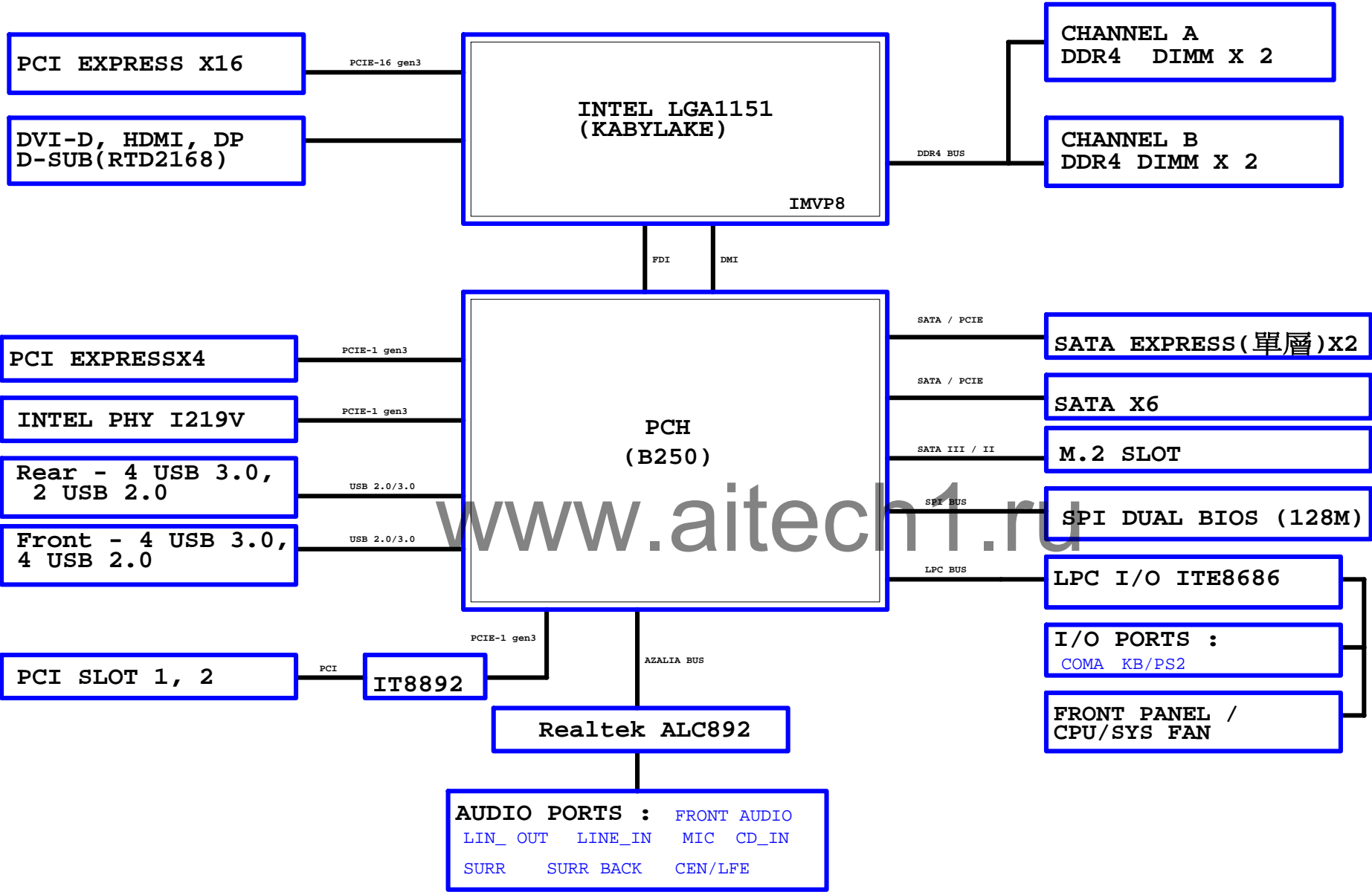
Title			Cover Sheet
Size	Document Number	GA-H270M-DS3H	
Custom			Rev 1.0
Date	Wednesday, November 30, 2016	Sheet 1 of 56	

rev 1.0 Circuit or PCB layout change

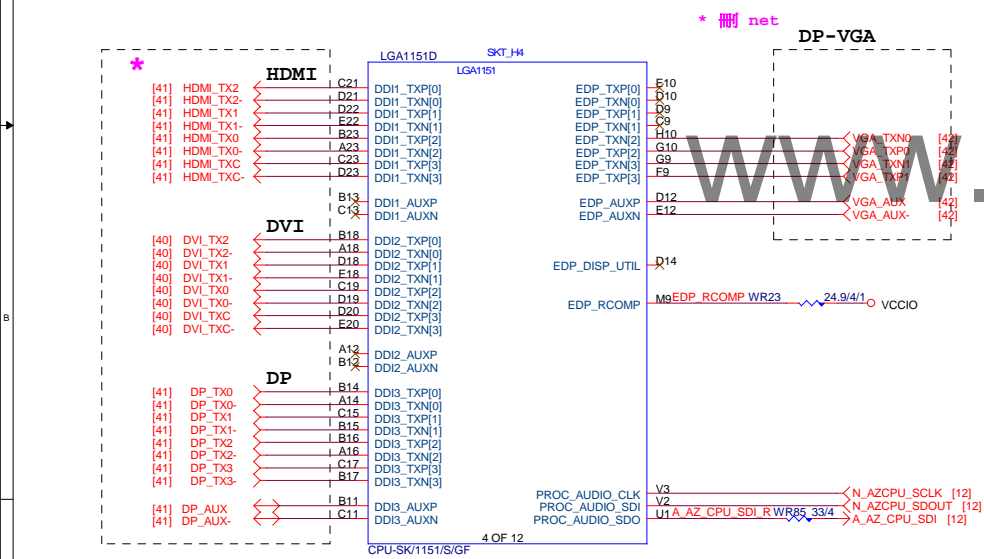
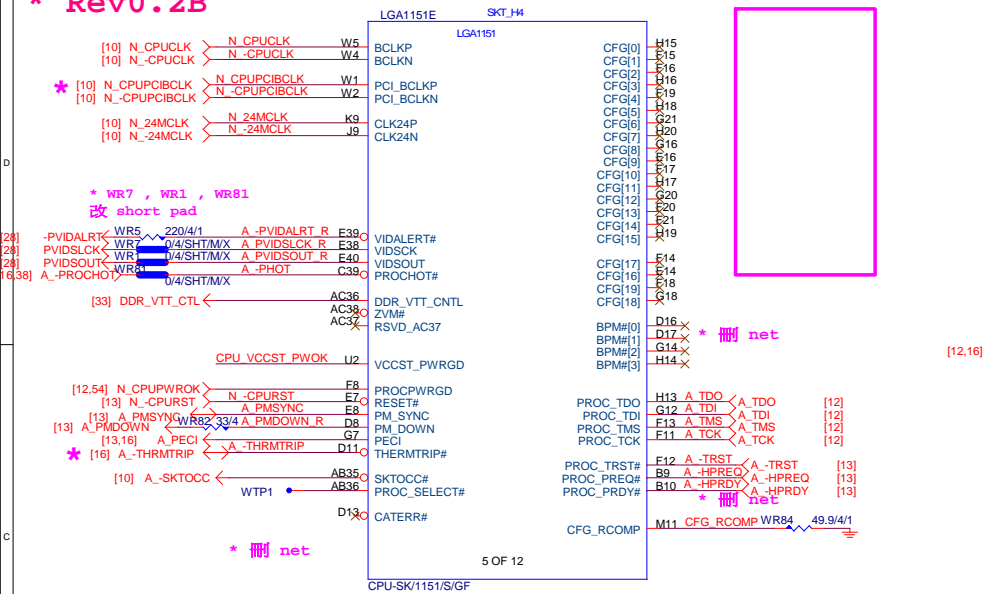
2016/11/17

[illegible]

BLOCK DIAGRAM



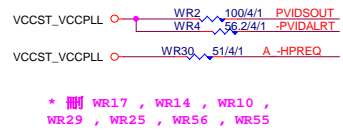
* Rev0.2B



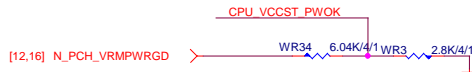
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G-15u : (CPU-SK/1151/S/15)
10SC1-F01151-11R / 10SC1-F01151-12R
G-FL : (CPU-SK/1151/S/GF)
10SC1-F01151-21R / 10SC1-F01151-22R
```

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

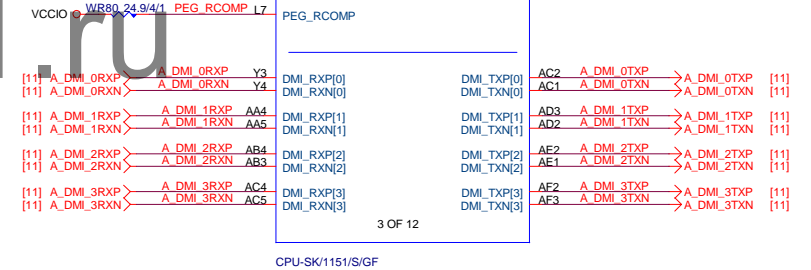
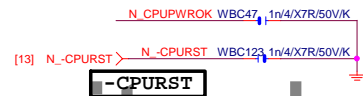
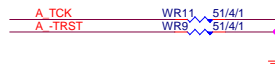
Impedance=85 +- 15%



* 删除 WR91



```
* 删除 net N_CPU_VCCST_PWOK
```



PA EXP TXP[0..15] >> PA_EXP_TXP[0..15] [19]
PA EXP TXN[0..15] >> PA_EXP_TXN[0..15] [19]
PA EXP RXP[0..15] >> PA_EXP_RXP[0..15] [19]
PA EXP RXN[0..15] >> PA_EXP_RXN[0..15] [19]

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

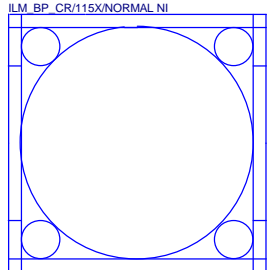
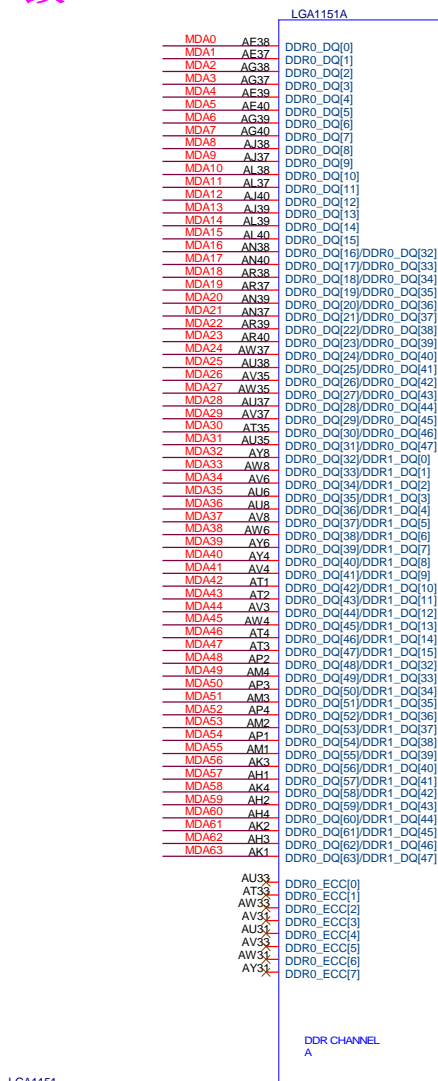
Impedance=85 +- 15%

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

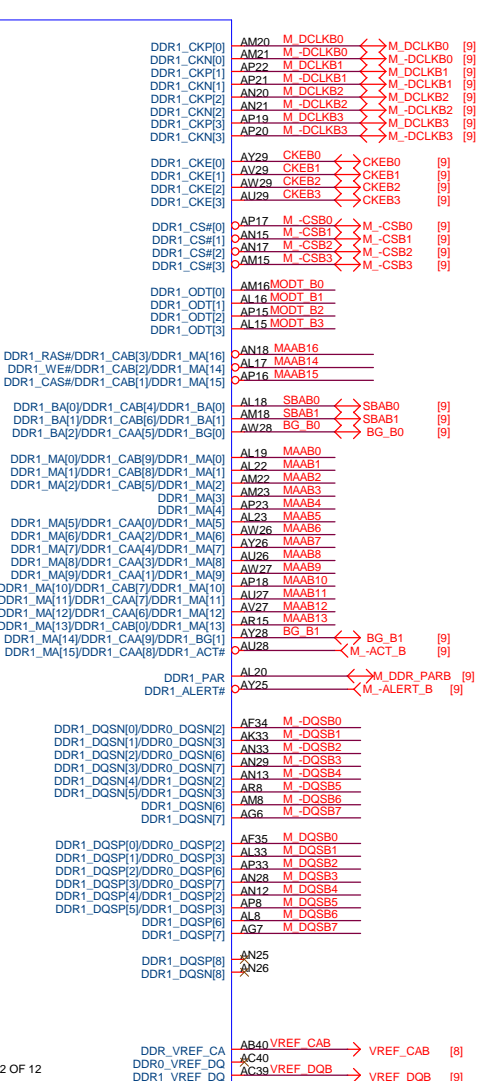
FOR BIOS			
Bifurcation Config.	Signals Lanes		
	CFG[6]	CFG[5]	CFG[2]
1x16	1	1	1
1x16 Reversed	1	1	0
2x8	1	0	1
2x8 Reversed	1	0	0
1x8+2x4	0	0	1
1x8+2x4 Reversed	0	0	0

<i>Gigabyte Technology</i>			
Title			
CPU LGA1151-A			
Size Custom	Document Number		Rev
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* 改DDR4 net



Need check the new CPU ME



- [8] MODT_A[0..3] <=> MODT_A10..31
- [9] MODT_B[0..3] <=> MODT_B10..31
- [8] MDA[0..63] <=> MDA10..631
- [9] MDB[0..63] <=> MDB10..631
- [8] M_DQSA[0..7] <=> M_DQSA10..71
- [8] M_-DQSA[0..7] <=> M_-DQSA10..71
- [8] MAA[0..16] <=> MAA10..161
- [9] MAA[0..16] <=> MAA10..161
- [9] M_DQSB[0..7] <=> M_DQSB10..71
- [9] M_-DQSB[0..7] <=> M_-DQSB10..71

Gigabyte Technology

Title

CPU LGA1151-B

Size

Custom

Date:

Wednesday, November 30, 2016

Document Number

GA-H270M-DS3H

Sheet

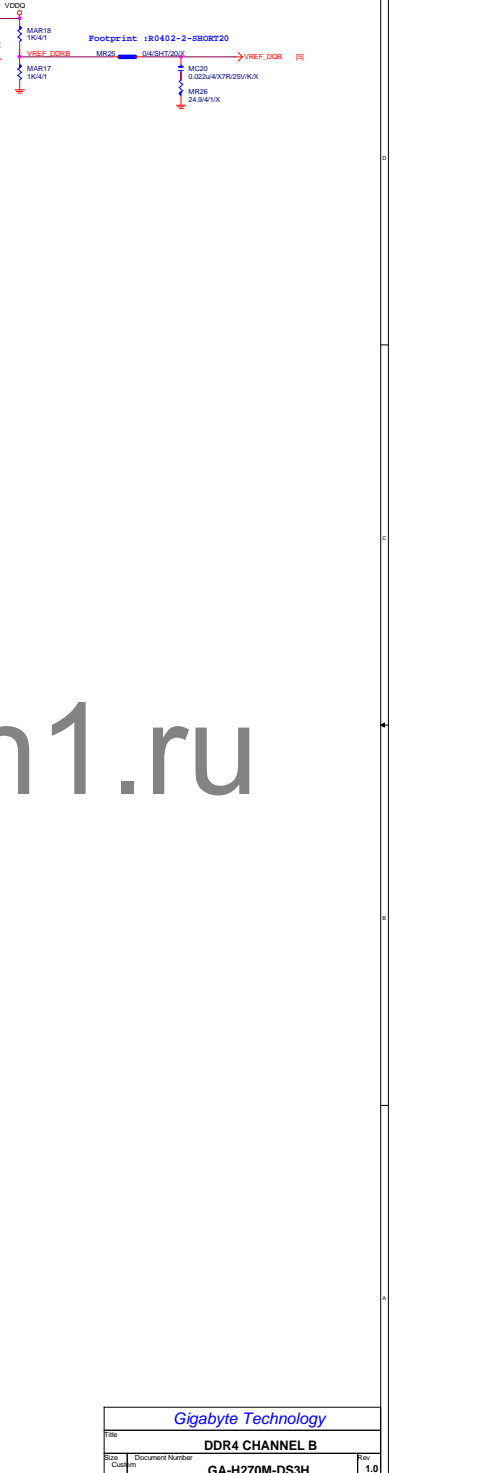
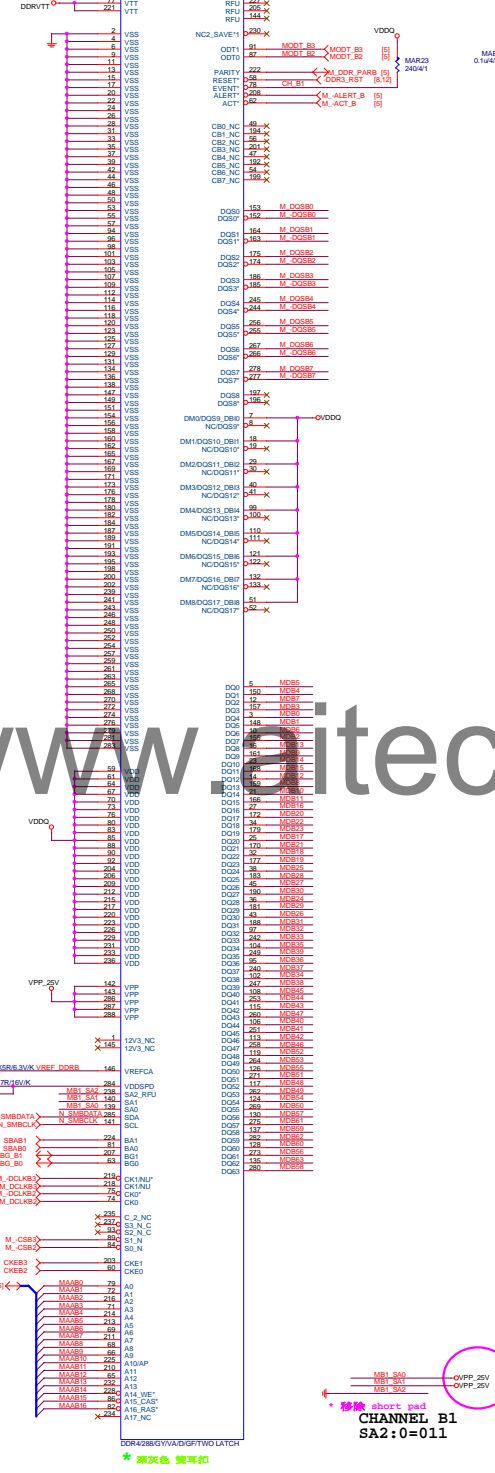
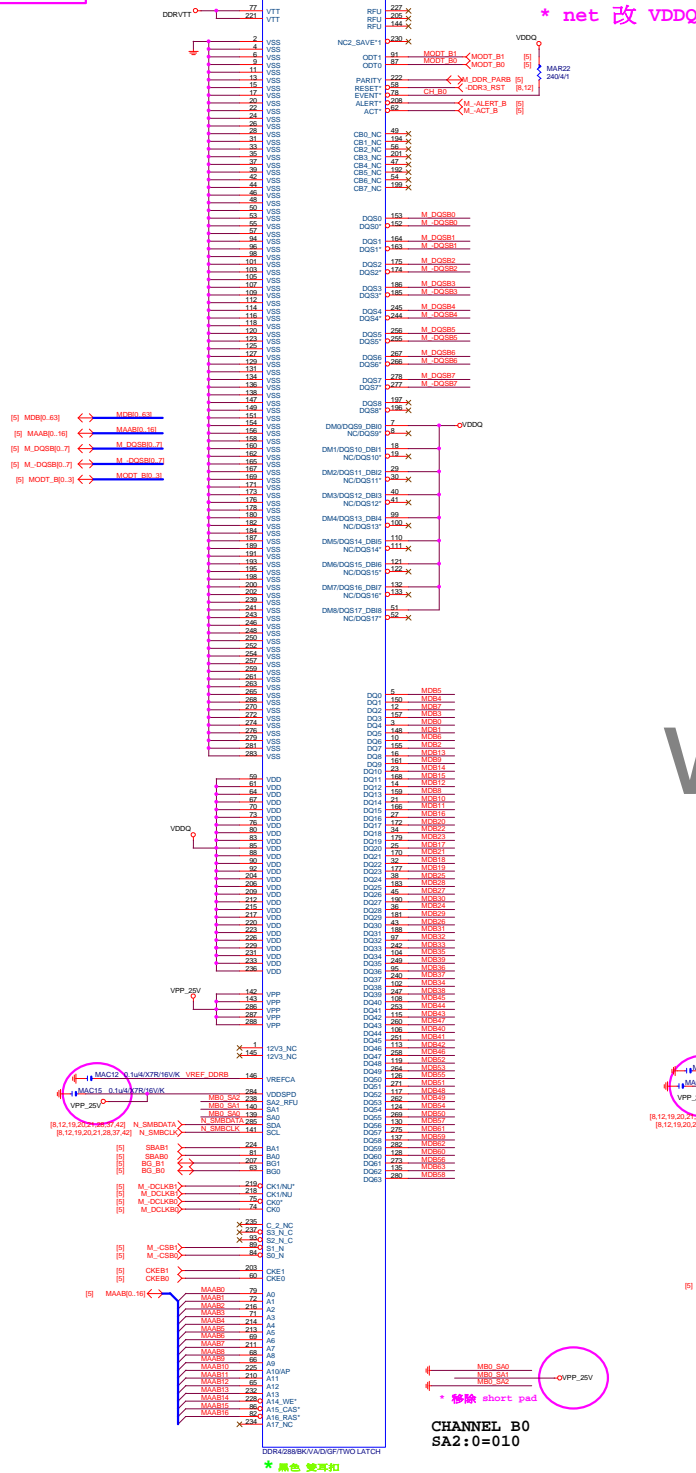
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of

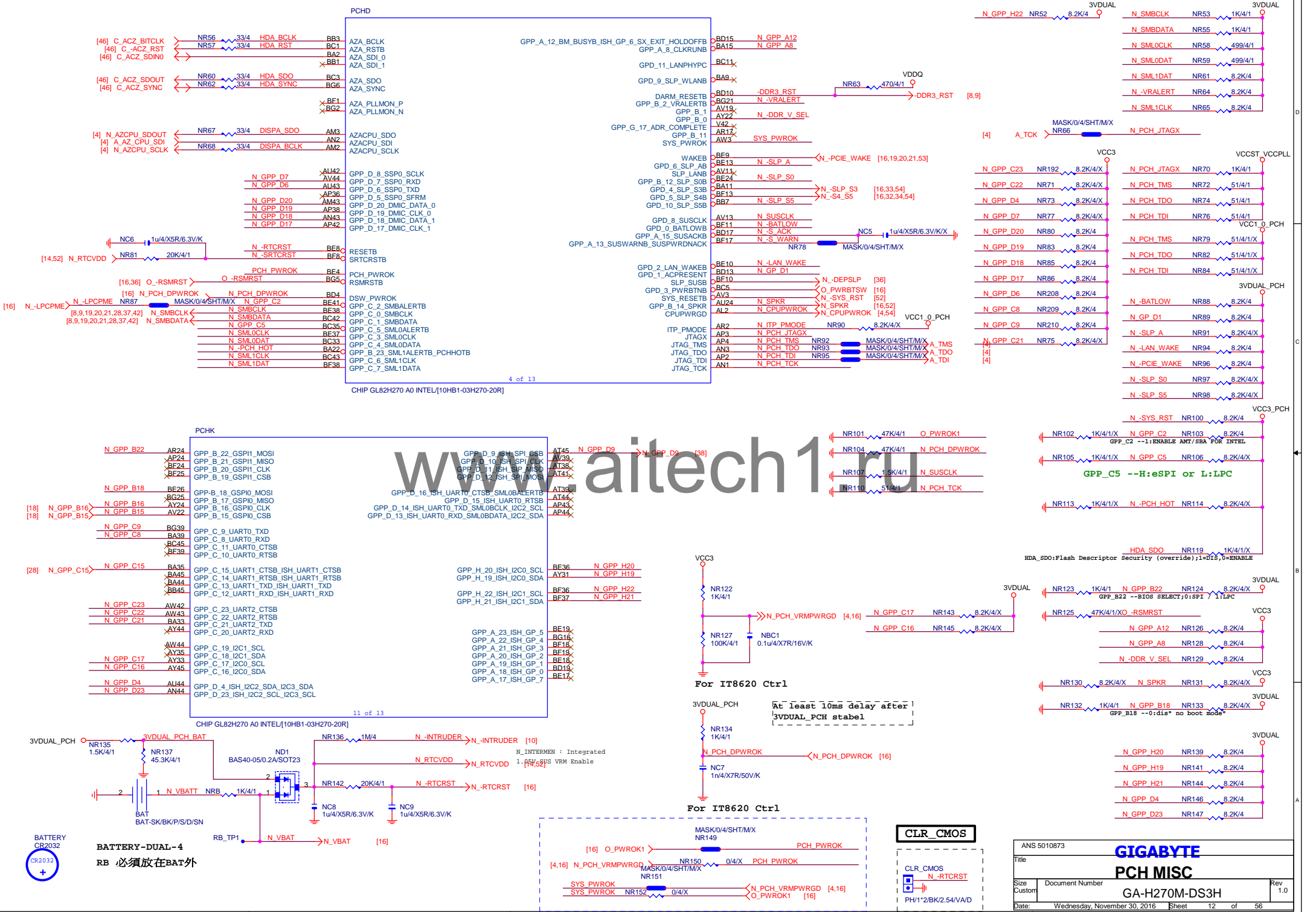
56

Rev

1.0

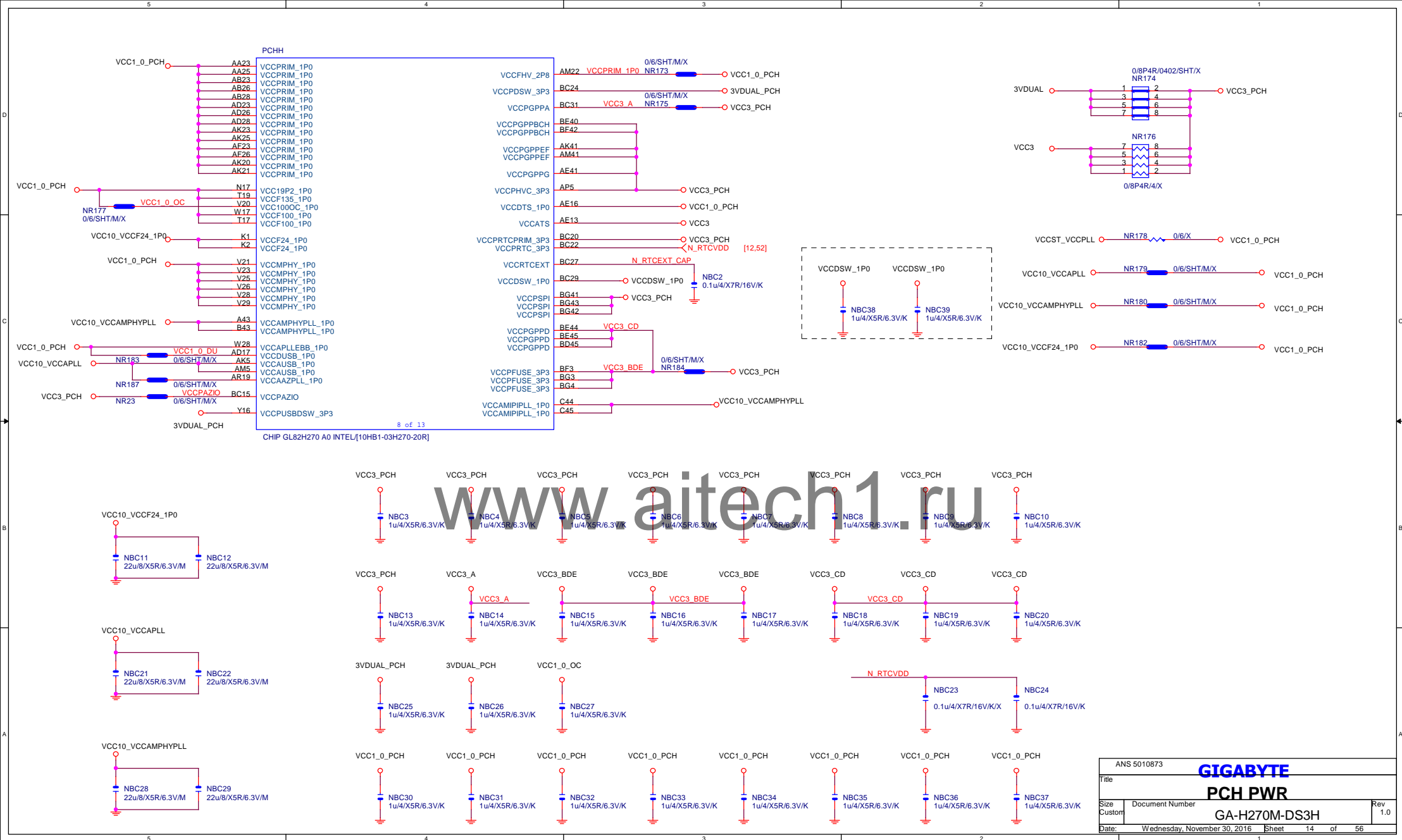






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ANS 5010873		GIGABYTE	
Title		PCH MISC	
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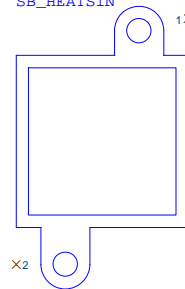
A25	VSS	A42	VSS
A30	VSS	D45	VSS
P22	VSS	BG44	VSS
AV38	VSS	BE44	VSS
AV45	VSS	BF45	VSS
AV8	VSS	BF2	VSS
AY11	VSS	W29	VSS
AY19	VSS	A35	VSS
AY37	VSS	A40	VSS
AY4	VSS	AA1	VSS
AY42	VSS	AA17	VSS
AY8	VSS	AA18	VSS
B25	VSS	AA20	VSS
B3	VSS	AA21	VSS
B30	VSS	AA26	VSS
B35	VSS	AA28	VSS
B4	VSS	AA29	VSS
B41	VSS	AB17	VSS
BA13	VSS	AC32	VSS
BA17	VSS	AE4	VSS
BA37	VSS	AE8	VSS
BA4	VSS	AF18	VSS
BA42	VSS	AF20	VSS
BA44	VSS	AF21	VSS
BA42	VSS	AF25	VSS
BC38	VSS	AF28	VSS
BC40	VSS	AF29	VSS
BC9	VSS	AF4	VSS
BD11	VSS	AF42	VSS
BD16	VSS	AG18	VSS
BD2	VSS	AG20	VSS
BD21	VSS	AG21	VSS
BD25	VSS	AG23	VSS
F2	VSS	AG25	VSS
F31	VSS	AG26	VSS
E6	VSS	AG28	VSS
E8	VSS	AG28	VSS
F39	VSS	AH11	VSS
F43	VSS	AH13	VSS
G4	VSS	AH30	VSS
G40	VSS	AH32	VSS
G42	VSS	AH33	VSS
F6	VSS	AH38	VSS
G9	VSS	AJ17	VSS
H11	VSS	AJ18	VSS
H13	VSS	AJ20	VSS
H17	VSS	AJ21	VSS
H19	VSS	AJ23	VSS
H22	VSS	AJ26	VSS
H24	VSS	AJ26	VSS
H27	VSS	AJ28	VSS
H29	VSS	AJ29	VSS
H33	VSS	AJ45	VSS
H35	VSS	AK10	VSS
H38	VSS	AK14	VSS
H4	VSS	AK16	VSS
H42	VSS	AK17	VSS
H9	VSS	AK18	VSS
J4	VSS	AK26	VSS
M36	VSS	AK28	VSS
M4	VSS	AM14	VSS
M8	VSS	AN14	VSS
M9	VSS	AP19	VSS
N13	VSS	AR22	VSS
N15	VSS	AR27	VSS
N19	VSS	AU29	VSS
N22	VSS	AU33	VSS
N24	VSS	AV1	VSS
N31	VSS	AV10	VSS
N42	VSS	AV15	VSS
P10	VSS	AV24	VSS
P12	VSS	AV27	VSS
AV35	VSS	AV33	VSS

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CHIP GL82H270 A0 INTEL[10HB1-03H270-20R]

BD34	VSS[70]	AB18	VSS[1]
BD39	VSS[71]	AB20	VSS[2]
BD7	VSS[72]	AB21	VSS[3]
BE2	VSS[73]	AB25	VSS[4]
BF43	VSS[74]	AB29	VSS[5]
BF5	VSS[75]	AB4	VSS[6]
BG18	VSS[76]	AB42	VSS[7]
BG23	VSS[77]	AC10	VSS[8]
BG28	VSS[78]	AC14	VSS[9]
BG32	VSS[79]	AC16	VSS[10]
BG37	VSS[80]	AC18	VSS[11]
BG40	VSS[81]	AC38	VSS[12]
BG9	VSS[83]	AC4	VSS[13]
C1	VSS[84]	AC5	VSS[14]
A12	VSS[85]	AC7	VSS[15]
C2	VSS[86]	AC8	VSS[16]
C37	VSS[87]	AD1	VSS[17]
A6	VSS[88]	AD18	VSS[18]
C9	VSS[89]	AD20	VSS[19]
D1	VSS[90]	AD21	VSS[20]
D10	VSS[91]	AD25	VSS[21]
D12	VSS[92]	AD29	VSS[22]
D15	VSS[93]	AD45	VSS[23]
D16	VSS[94]	AE11	VSS[24]
B12	VSS[95]	AE14	VSS[25]
D19	VSS[96]	AE32	VSS[26]
D21	VSS[97]	AE33	VSS[27]
D24	VSS[98]	AK29	VSS[28]
D25	VSS[99]	AK30	VSS[29]
D29	VSS[100]	AK32	VSS[30]
AG20	VSS[101]	AK35	VSS[31]
D33	VSS[102]	AK39	VSS[32]
D35	VSS[103]	AL4	VSS[33]
D36	VSS[104]	AL42	VSS[34]
D39	VSS[105]	AM10	VSS[35]
D44	VSS[106]	AM11	VSS[36]
D7	VSS[107]	AM13	VSS[37]
P13	VSS[108]	AM17	VSS[38]
P15	VSS[109]	AM19	VSS[39]
P17	VSS[110]	AM24	VSS[40]
P19	VSS[111]	AM27	VSS[41]
P31	VSS[112]	AM29	VSS[42]
P33	VSS[113]	AM32	VSS[43]
P35	VSS[114]	AM33	VSS[44]
AJ17	VSS[115]	AM4	VSS[45]
P4	VSS[116]	AN45	VSS[46]
P42	VSS[117]	AP10	VSS[47]
P8	VSS[118]	AP11	VSS[48]
R1	VSS[119]	AP13	VSS[49]
R32	VSS[120]	AP15	VSS[50]
T10	VSS[121]	AP22	VSS[51]
T14	VSS[122]	AP27	VSS[52]
T22	VSS[123]	AP31	VSS[53]
T29	VSS[124]	AP33	VSS[54]
T32	VSS[125]	AP34	VSS[55]
T36	VSS[126]	AP39	VSS[56]
T38	VSS[127]	V16	VSS[57]
Y4	VSS[128]	V17	VSS[58]
Y8	VSS[129]	V18	VSS[59]
T42	VSS[130]	V30	VSS[60]
T5	VSS[131]	V32	VSS[61]
U4	VSS[132]	V33	VSS[62]
U42	VSS[133]	V38	VSS[63]
V10	VSS[134]	V4	VSS[64]
V14	VSS[135]	V8	VSS[65]
W3	VSS[136]	W18	VSS[66]
AR13	VSS[137]	W20	VSS[67]
AR31	VSS[138]	W21	VSS[68]
AR33	VSS[139]	W23	VSS[69]
AR4	VSS[140]	W25	VSS[70]
AT10	VSS[141]	A44	VSS[71]
AT13	VSS[142]	BE1	VSS[72]
AT35	VSS[143]	BD1	VSS[73]
AT37	VSS[144]	B1	VSS[74]
AT42	VSS[145]	B2	VSS[75]
AU11	VSS[146]	A3	VSS[76]
AU17	VSS[147]	A4	VSS[77]
BD30	VSS[148]	B44	VSS[78]
W45	VSS[149]	B45	VSS[79]
Y13	VSS[150]		
Y14	VSS[151]		
Y30	VSS[152]		
Y32	VSS[153]		
Y33	VSS[154]		
BG14	VSS[155]		

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CHIP GL82H270 A0 INTEL[10HB1-03H270-20R]

SB_HEATSIN



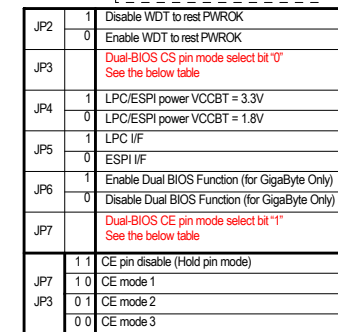
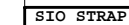
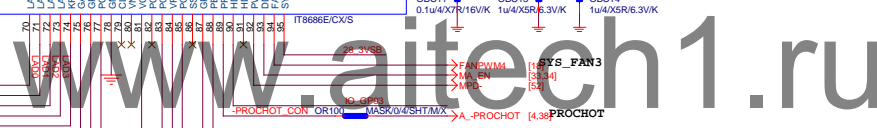
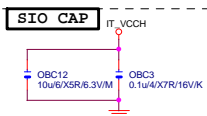
Heatsink

LOW COST ICH7 HEATSINK
BGAHSINK_SB-N

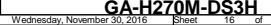
PCH_HS
PCH_HS/[12SP2-030005-51R_12SP2-030005-52R_12SP2-030005-53R]

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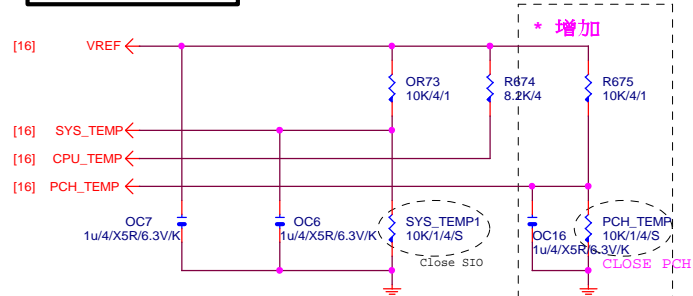
ANS 5010873			
GIGABYTE			
PCH GND			
GA-H270M-DS3H			
Size	Document Number	Rev	
Custom		1.0	
Date:	Wednesday, November 30, 2016	Sheet	15 of 56

DUAL BIOS OPT STRAP

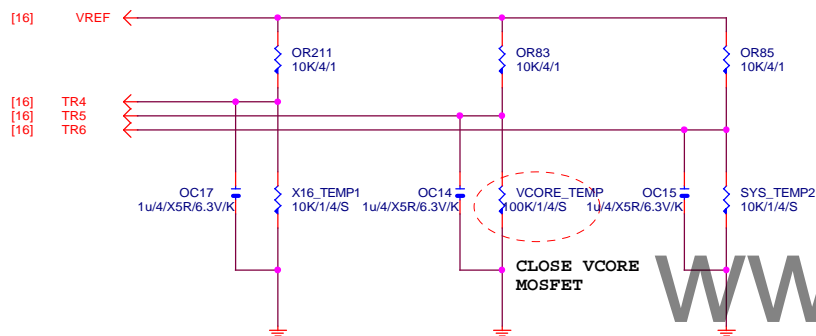
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TEMP H/W MONITOR

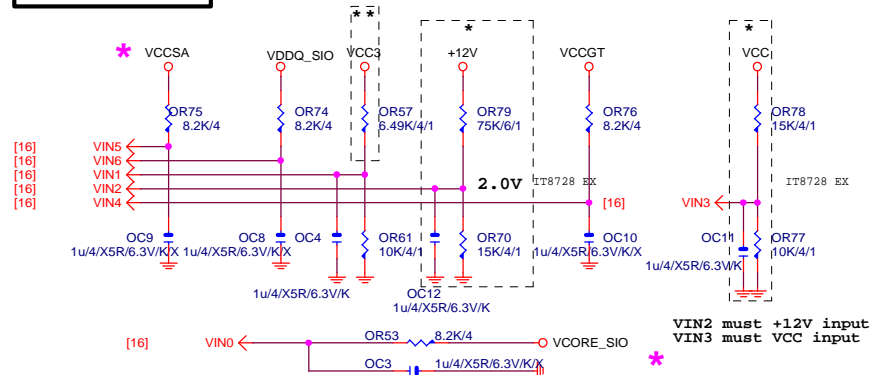


5個FAN時使用

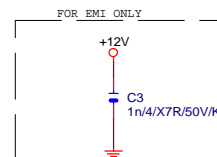
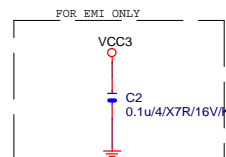


VOLTAGE-- H/W MONITOR

* IT8728 BX
** IT8728 CX



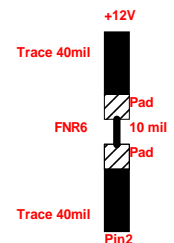
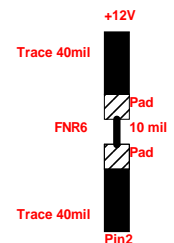
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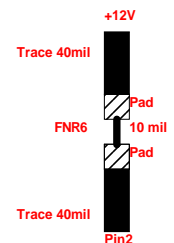
Gigabyte Technology

Title			HWM,KB/MS, FAN CTRL
Size	Document Number		Rev
Custom	GA-H270M-DS3H		1.0
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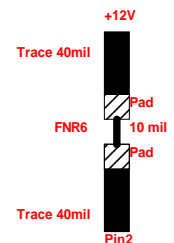
Rev: 0.8



B.

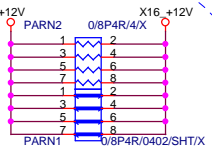


C.



Title			
FAN CTRL			
Size	Document Number	Rev	
Custom	GA-H270M-DS3H	1.0	
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Rev 0.2

+12V_protect
short-wire test

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

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

PCIE16:16/5/5/5/16

PCI-E REV:1.1--> 2.5GHZ

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

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

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

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

PCI-E REV:2.0--> 5GHZ

PCIESLOT-164P

3GIO_*16

[8,9,12,20,21,28,37,42] N_SMBCLK
[8,9,12,20,21,28,37,42] N_SMBDATA

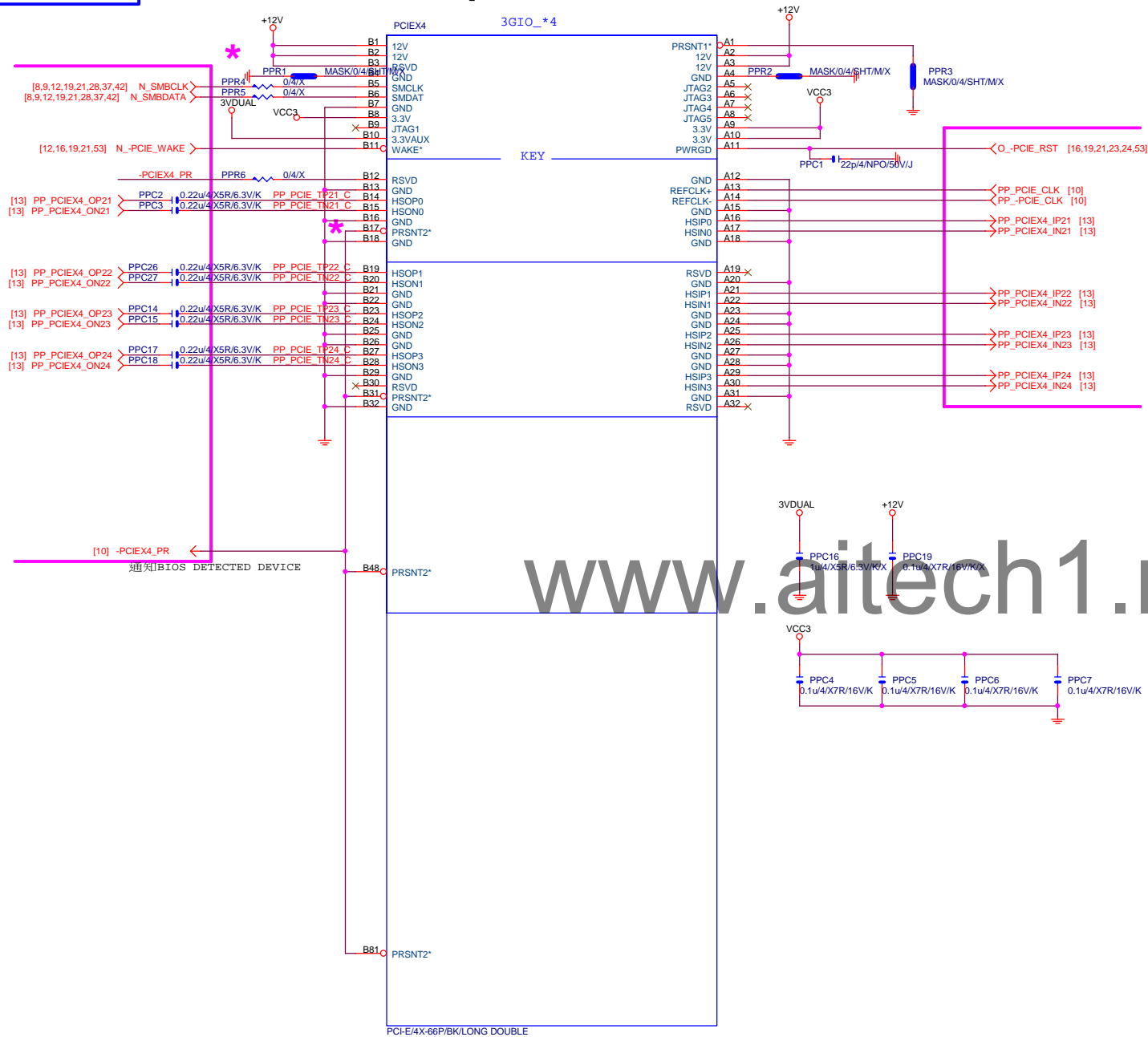
[12,16,20,21,53] N_-PCIE_WAKE

[10] -PCIE16_PR

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

黑色

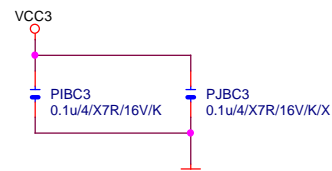
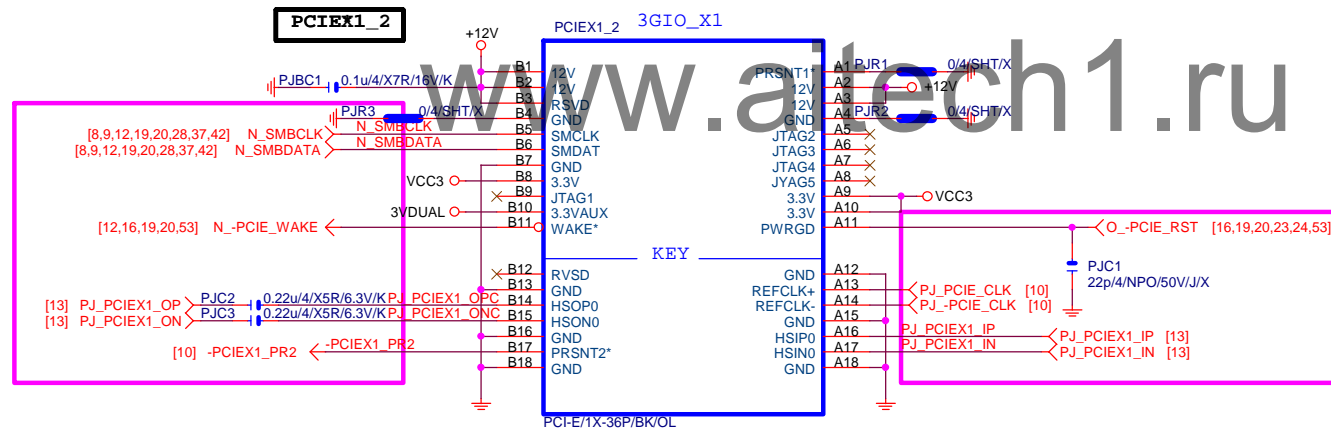
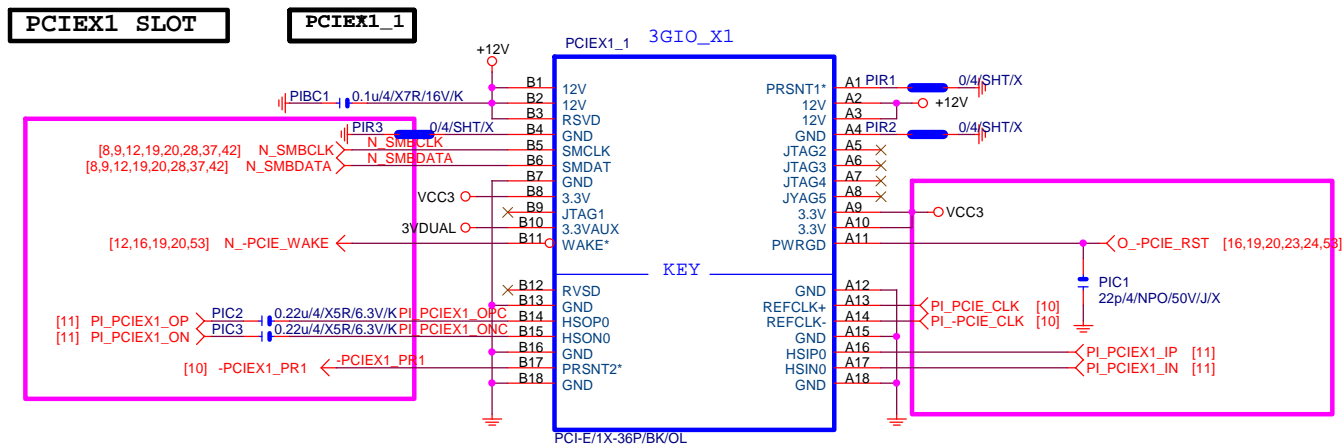
Gigabyte Technology		
Title		
PCI EXPRESS * 16		
Size	Document Number	Rev
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黑色

Gigabyte Technology

Title		
PCIE_X4		
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Gigabyte Technology

Title

PCIE_X4

Size
Custom

Document Number

GA-B250M-DS3H

Rev
1.0

Date: Wednesday, November 30, 2016

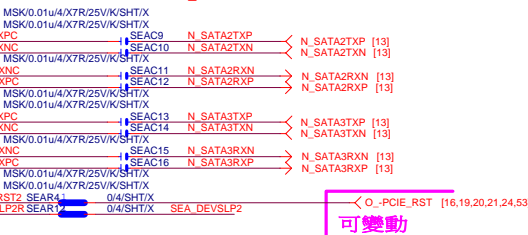
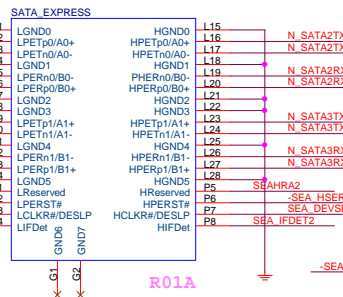
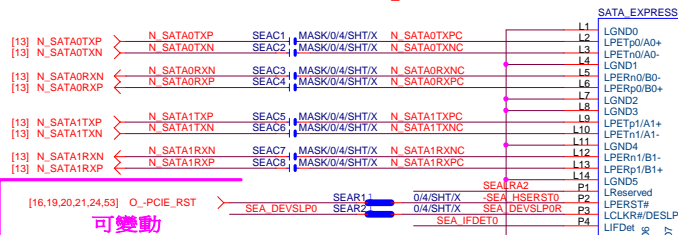
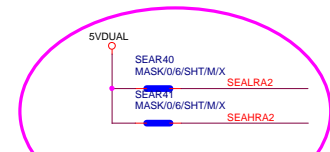
Sheet 21 of 56



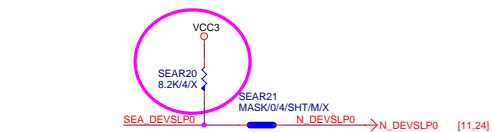
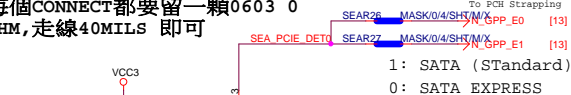
* 試産先上 , PVT 移除

SATA EXPRESS 下層 To SATA3 port0/1

SATA EXPRESS 上層 To SATA3 port2/3



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

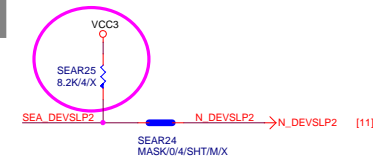
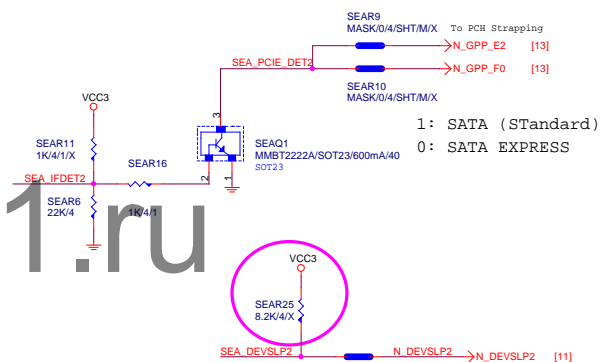
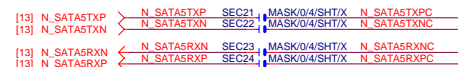
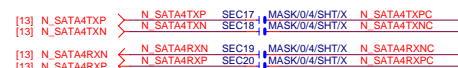
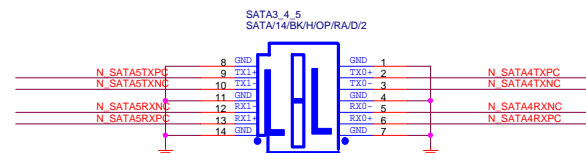


SATA EXPRESS料號

雙層:TBD

單層+2SATA:11NR6-C10236-03R

單層:11NR6-C10118-03R



SATA EXPRESS 文字面

SATA 5
SATA 4

SATA 3	SATA 2
SATA 1	SATA 0

Gigabyte Technology			
SATA EXPRESS			
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M.2 Lane4 from PCH port18

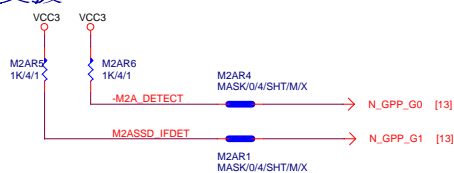
M.2 Lane3 from PCH port17

M.2 Lane2 from PCH port16

M.2 Lane1 from PCH port15

需與M2_-CLKREQ對應

支援SATA and M.2 function



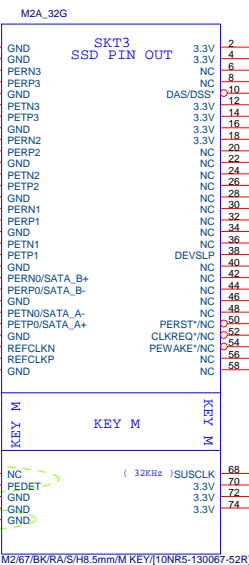
SATA : GND

PCIE : NC

M2插卡時為Low

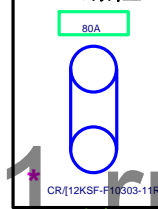
* Footprint : NGFF-M-75P-11CM-3-SMD

M.2 有插卡 /沒插卡 GPP_G0	M.2插何種卡? GPP_G1	SATA Express 插何種硬碟? GPP_E0/E2/F1	I015 (S0)	I016 (S1)	I017	I018	I019 (S0)	IP20 (S1)
有插卡 (Low)	SATA Mode (Low)	SATA (Hi)	SATA (M.2)	PCIE x1	PCIE x1	PCIE x1	PCIE x1	SATA
		SATA Express (Low)	SATA (M.2)	PCIE x1	PCIE x1	PCIE x1	SATA Express	
	PCIE Mode (Hi)	SATA (Hi)	PCIE x4 (For M.2)				SATA	SATA
		SATA Express (Low)	PCIE x4 (For M.2)				SATA Express	
沒插卡 (Hi)	Don't Care (Hi)	SATA (Hi)	PCIE x4				SATA	SATA
		SATA Express (Low)	PCIE x4				SATA Express	

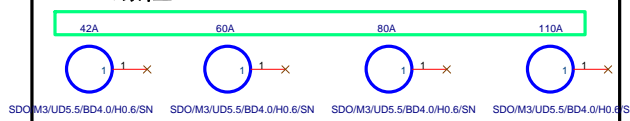


M2ASATAE_PERST_N

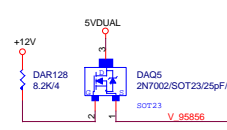
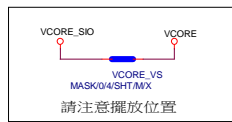
DIP螺柱



SMD螺柱



* Footprint : HOLE_C236D165-A

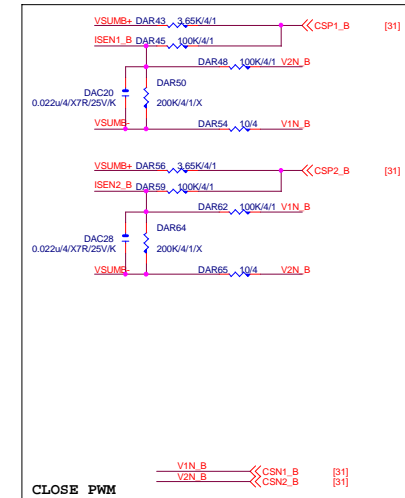
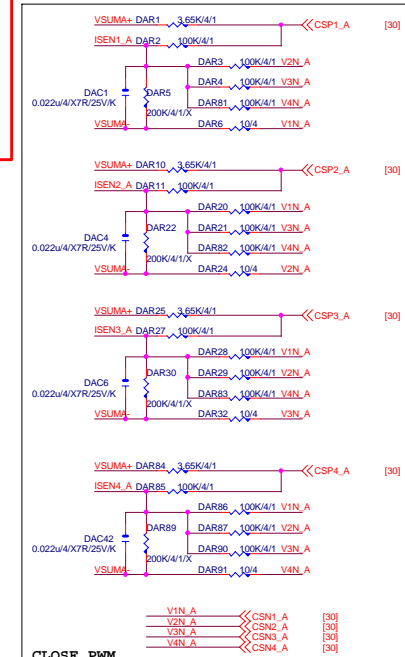
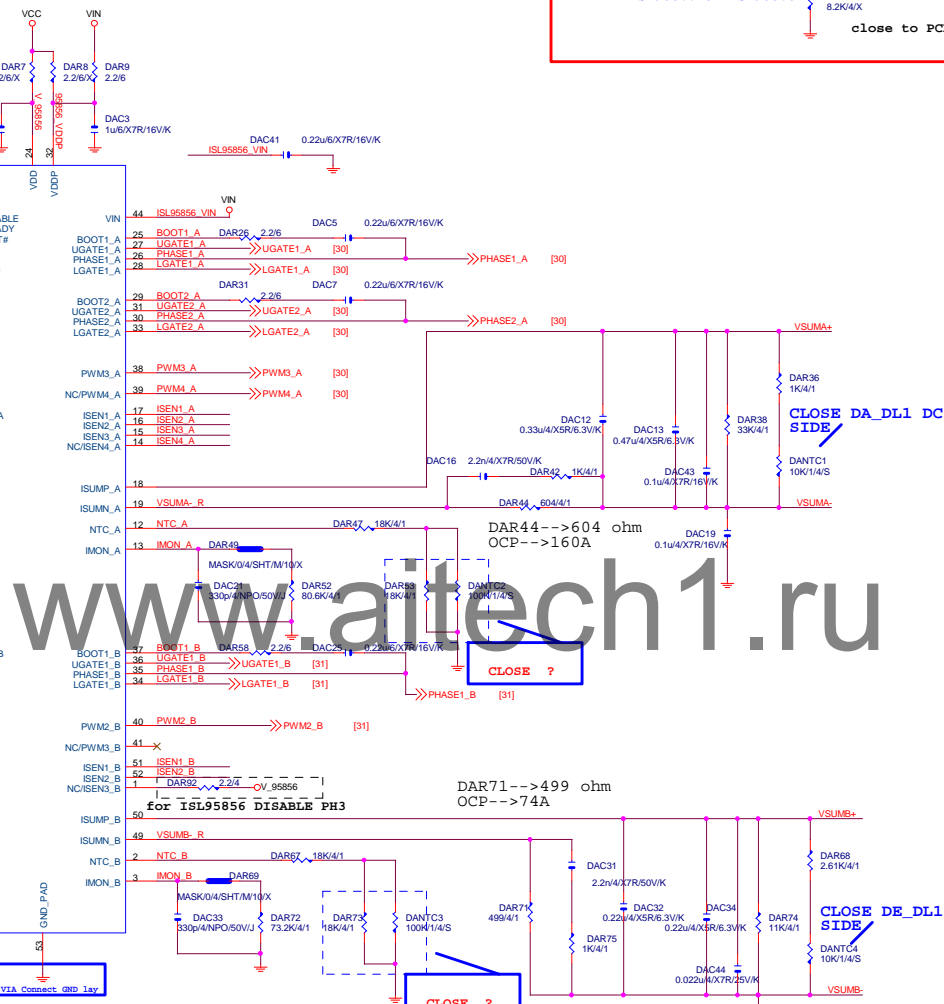
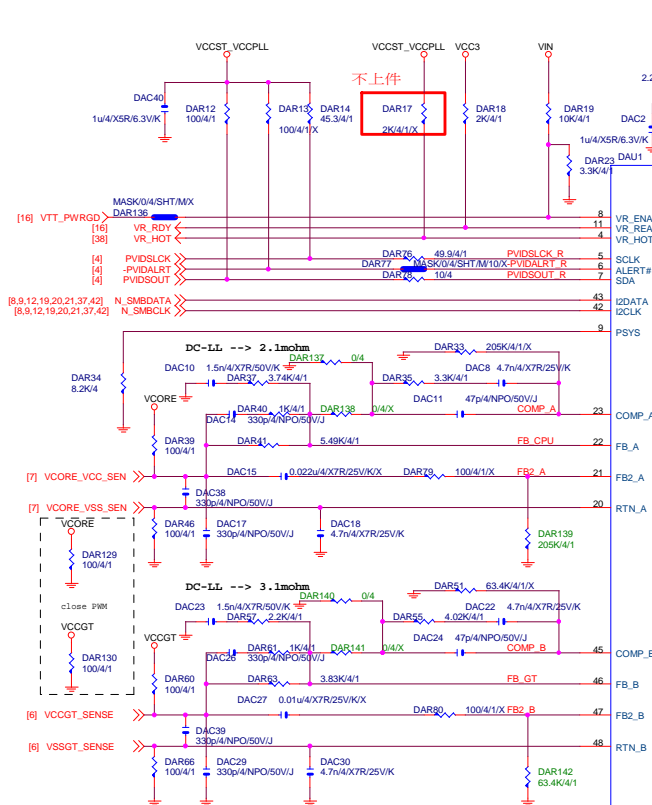


H: ISL95856 or ISL95858

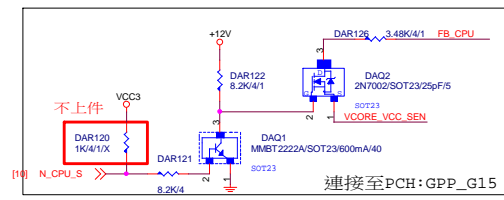
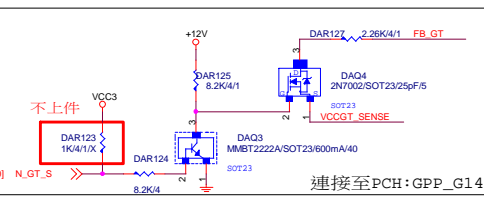
L: ISL95866 or ISL95868



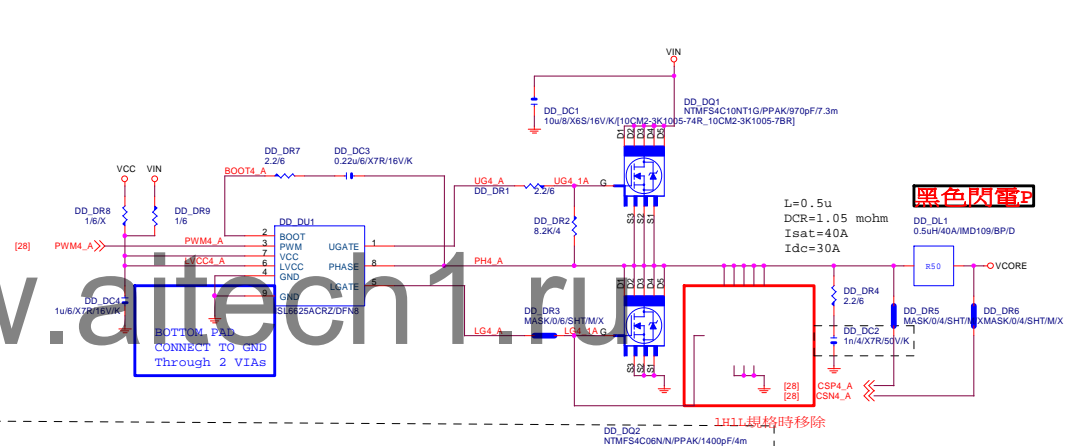
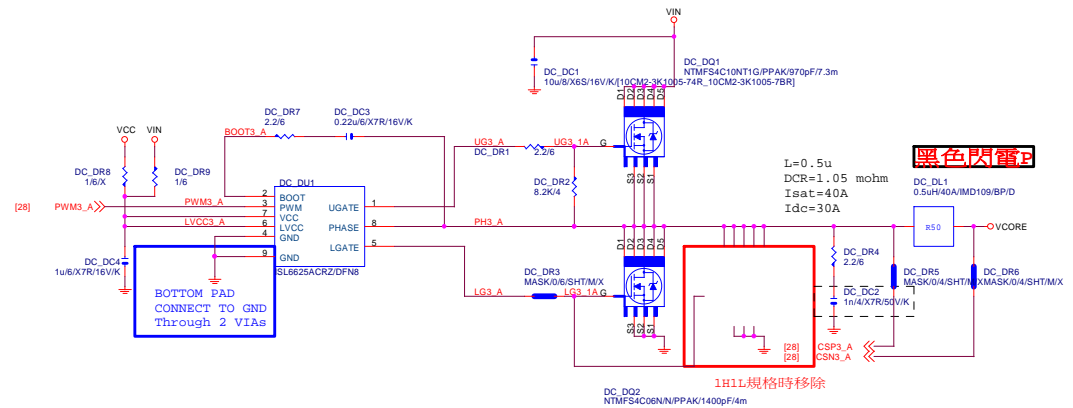
close to PCH



VCORE	ISL95856	ISL95866	VCCGT	ISL95856	ISL95866
DAR137	X	V	DAR140	X	V
DAR138	V	X	DAR141	V	X
DAR139	X	V	DAR142	X	V
DAC15	V	X	DAC27	V	X
DAR79	V	X	DAR80	V	X
DAR33	V	X	DAR51	V	X



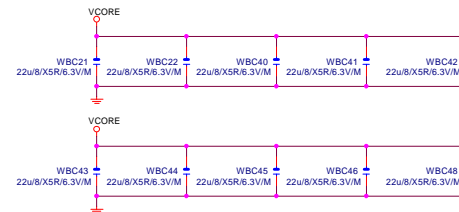
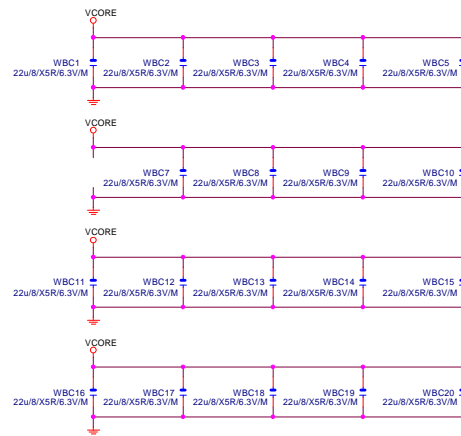
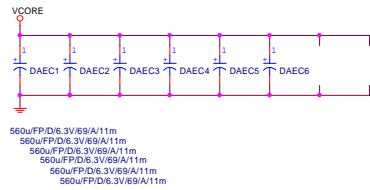
VCORE



VCORE CAP

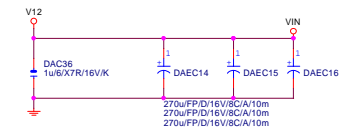
* 客戶指定，不拿掉

560u*8PCS
22u*29PCS



VIN CAP 270u*3PCS

黑色閃電P



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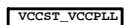
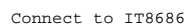
Title			
ISL95868_MOS			
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D

560u*5PCS
22u*15PCS



6



Sheet 32

REV:0.1

DDR4

CHOKE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CHOKE--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

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

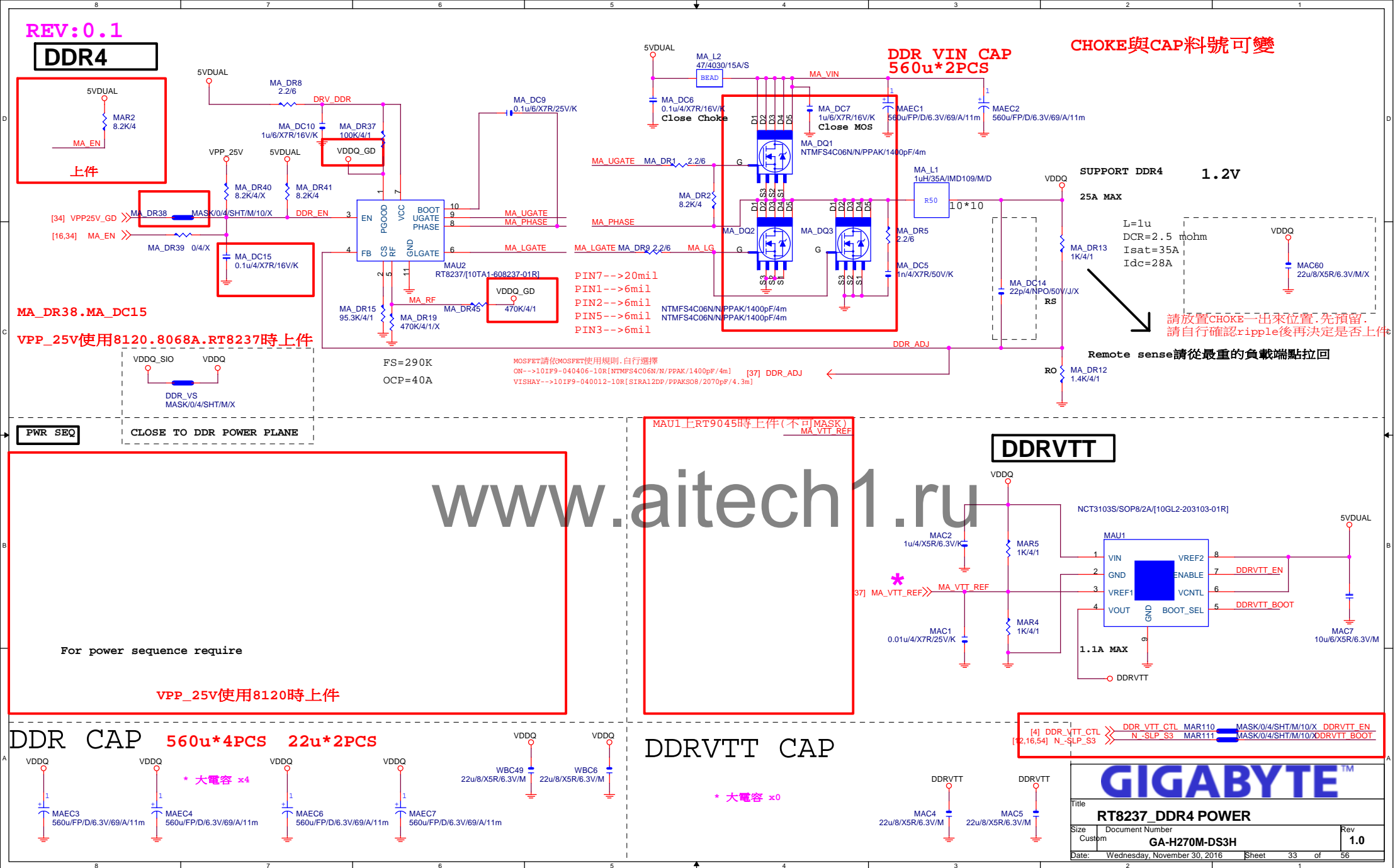
DDRVTT

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

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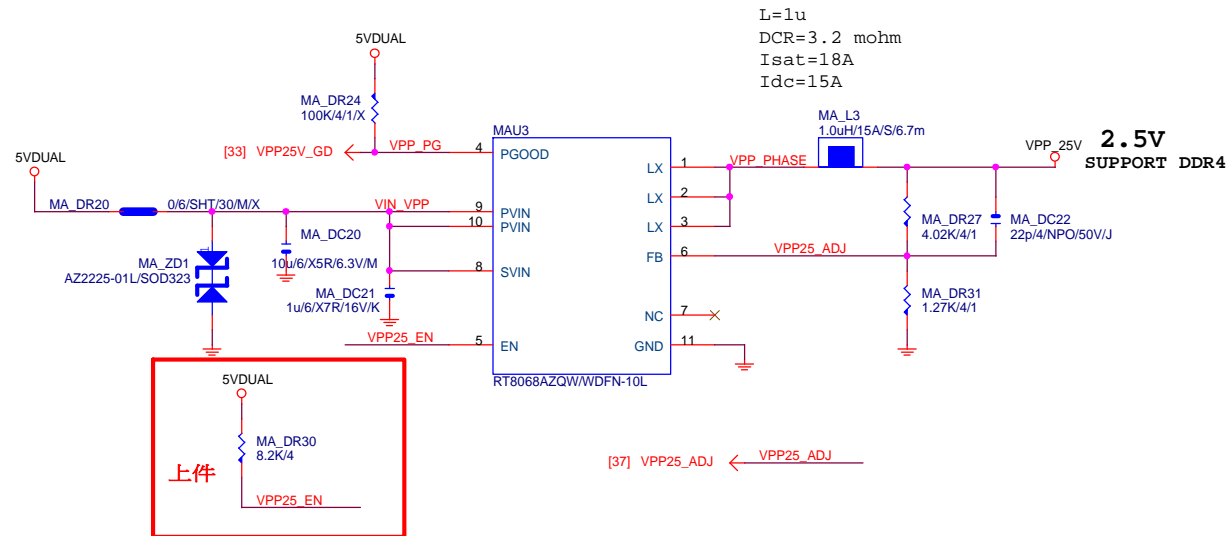
RT8237_DDR4 POWER		
Size	Document Number	Rev
Custom	GA-H270M-DS3H	1.0
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REV:0.1

VPP_25V

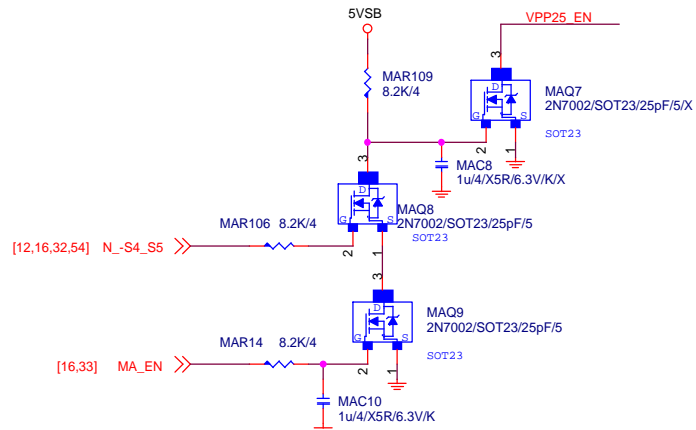
CHOKE與CAP料號可變



www.aitech1.ru

PWR_SEQ

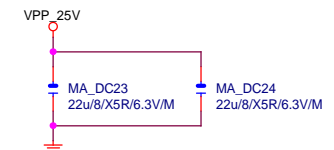
* 刪 MA_DR32



MASK/0/4/SHT/M/X
 MAR114
 VPP25_EN
 [16] VPP25_EN_IO

VPP CAP 22u*1PCS

* 大電容 x0

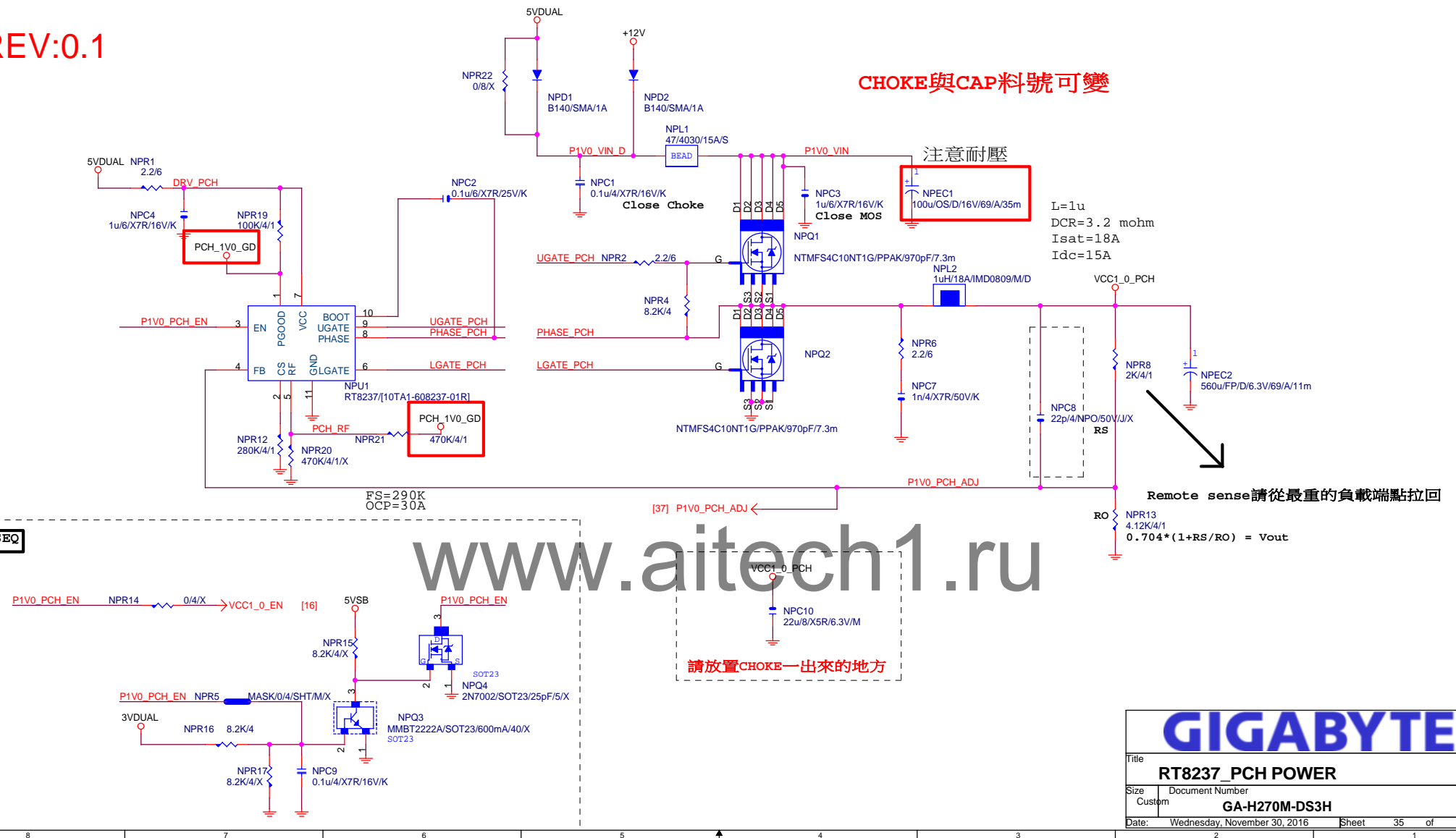


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Title		
RT8068A_VPP25 POWER		
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REV:0.1

CHOKE與CAP料號可變



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Title
RT8237_PCH POWER

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[16] 5VAUX_SW >>

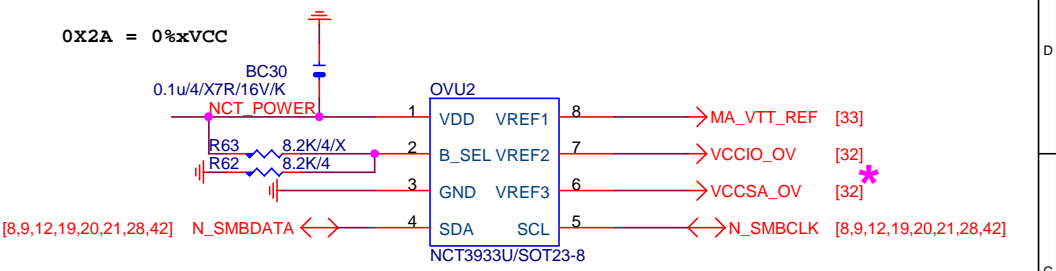
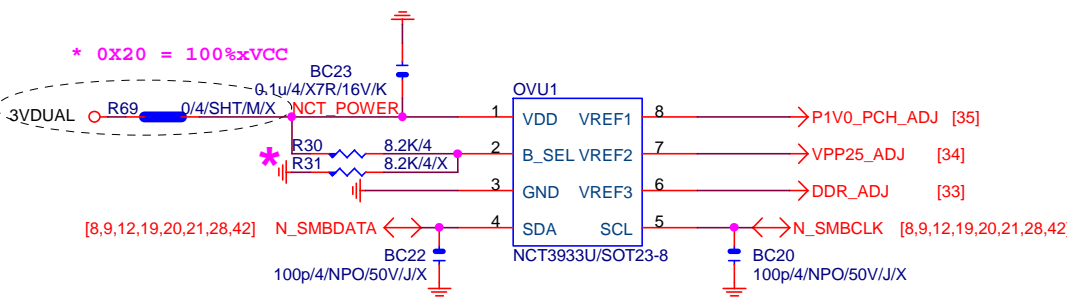


0-RSMRST (不上件)



Title			
DISCRETE POWER			
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OVER VOLTAGE



0X22 = 75%xVCC

* 删除 OVU3

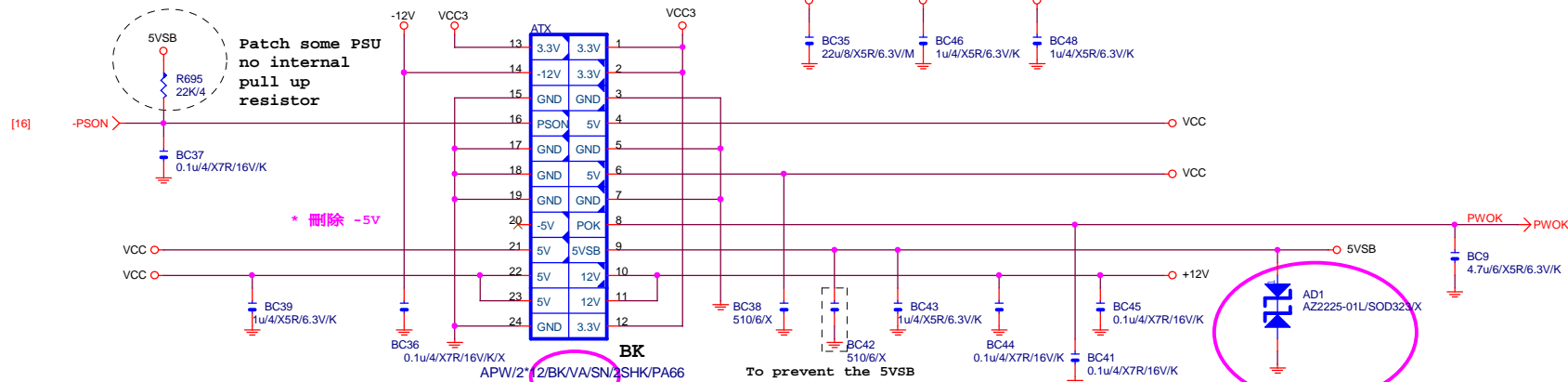
NCT3933	0X2A	0X20	0X22
VREF1	DDRVTT	VREF_DDRA_DQ	PCH Core
VREF2	VREF_DDRA_CA	N/A	VCCL_5_PCH
VREF3	VREF_DDRA_CA	VREF_DDRB_DQ	SMREF

Gigabyte Technology

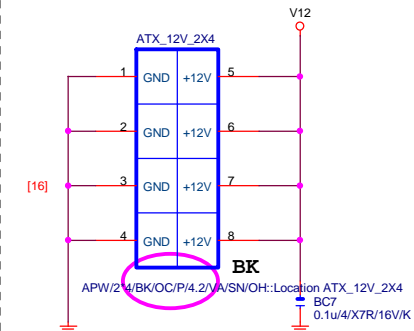
Title: CPU CORE VR-2

Size Custom	Document Number	Rev 1.0
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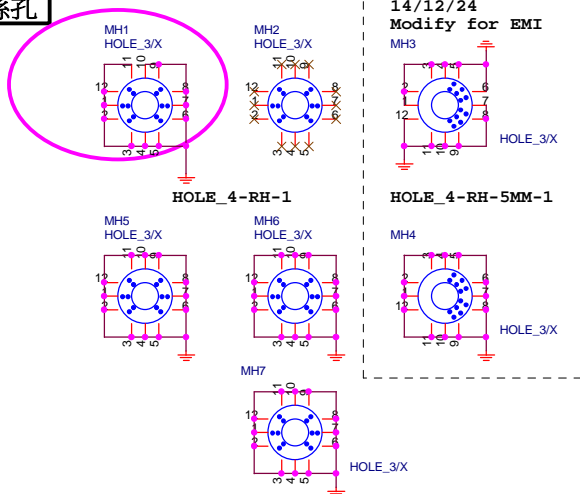
ATXX24 POWER CONNECTOR



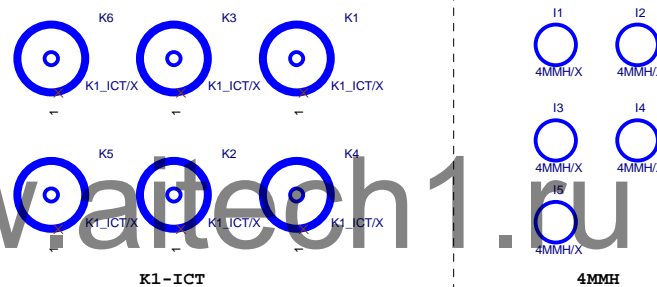
ATXX4 POWER CONNECTOR



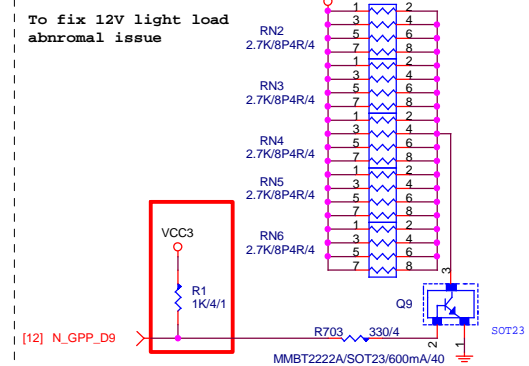
螺絲孔



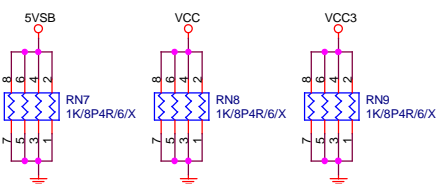
固定孔/光學點



+12V DUMMY LOAD



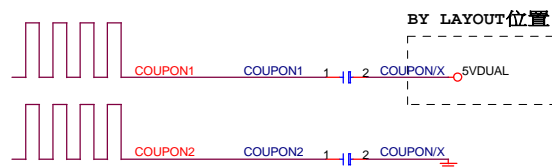
DUMMY LOAD



-PROHOT

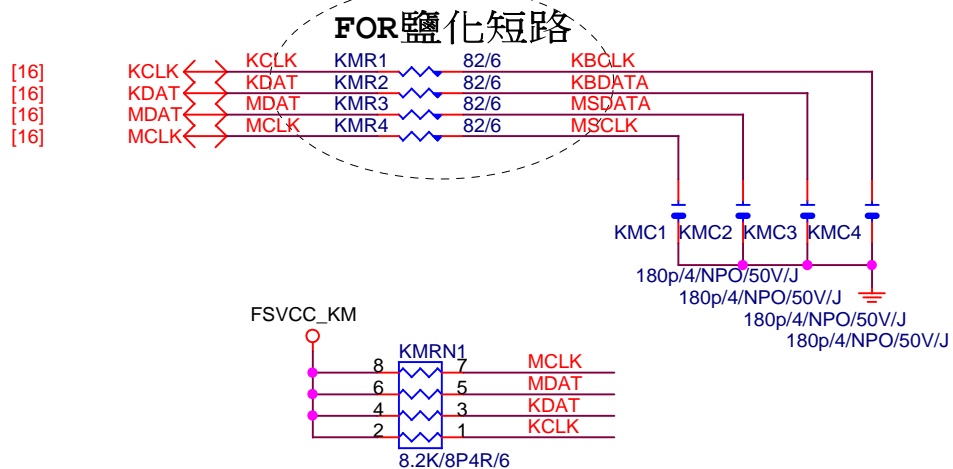
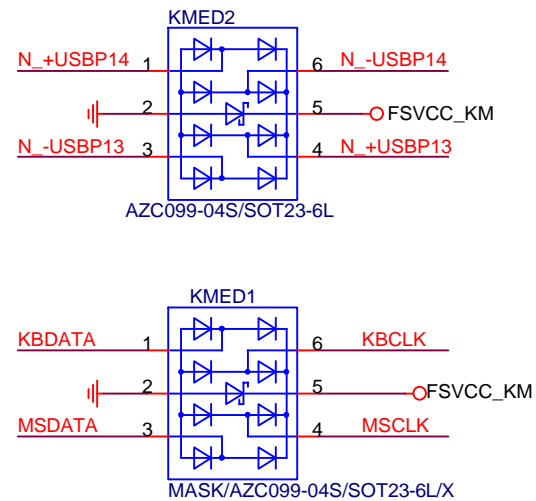
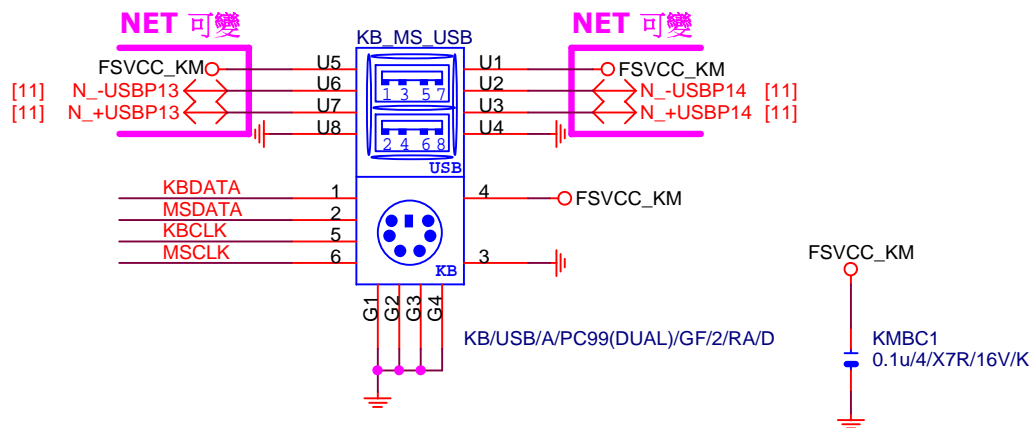


COUPON

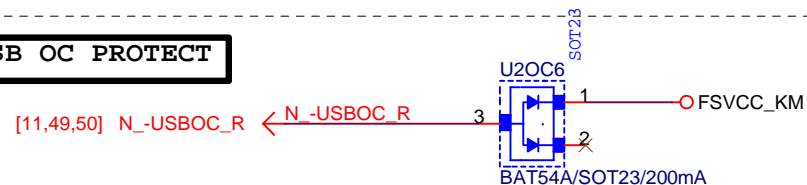
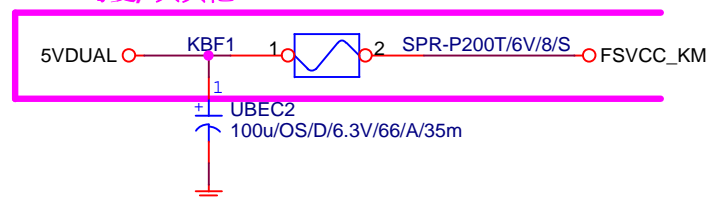


Gigabyte Technology

ATX POWER CONNECTOR			
GA-H270M-DS3H			
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	2		1



NET 可變, 與其他USB SHARE



Gigabyte Technology

Title

KB_MS_USB

Size
A

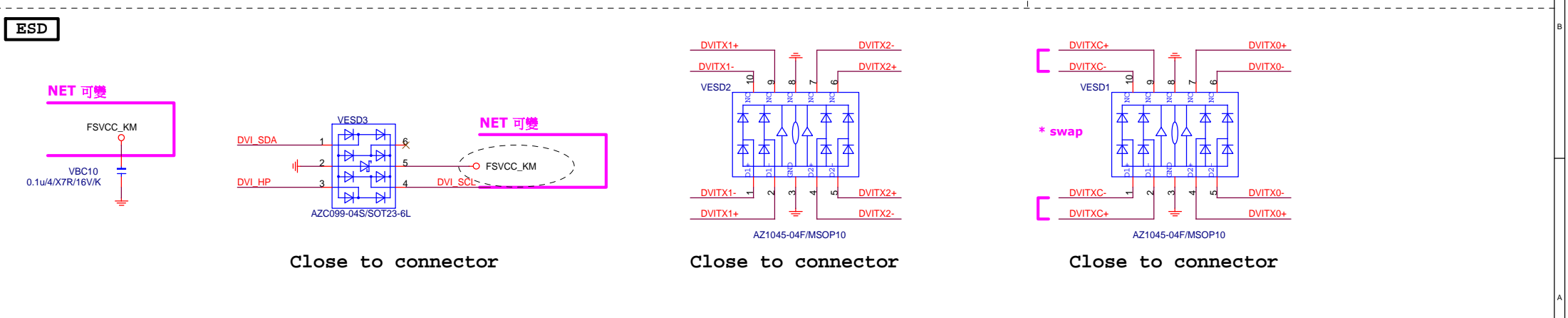
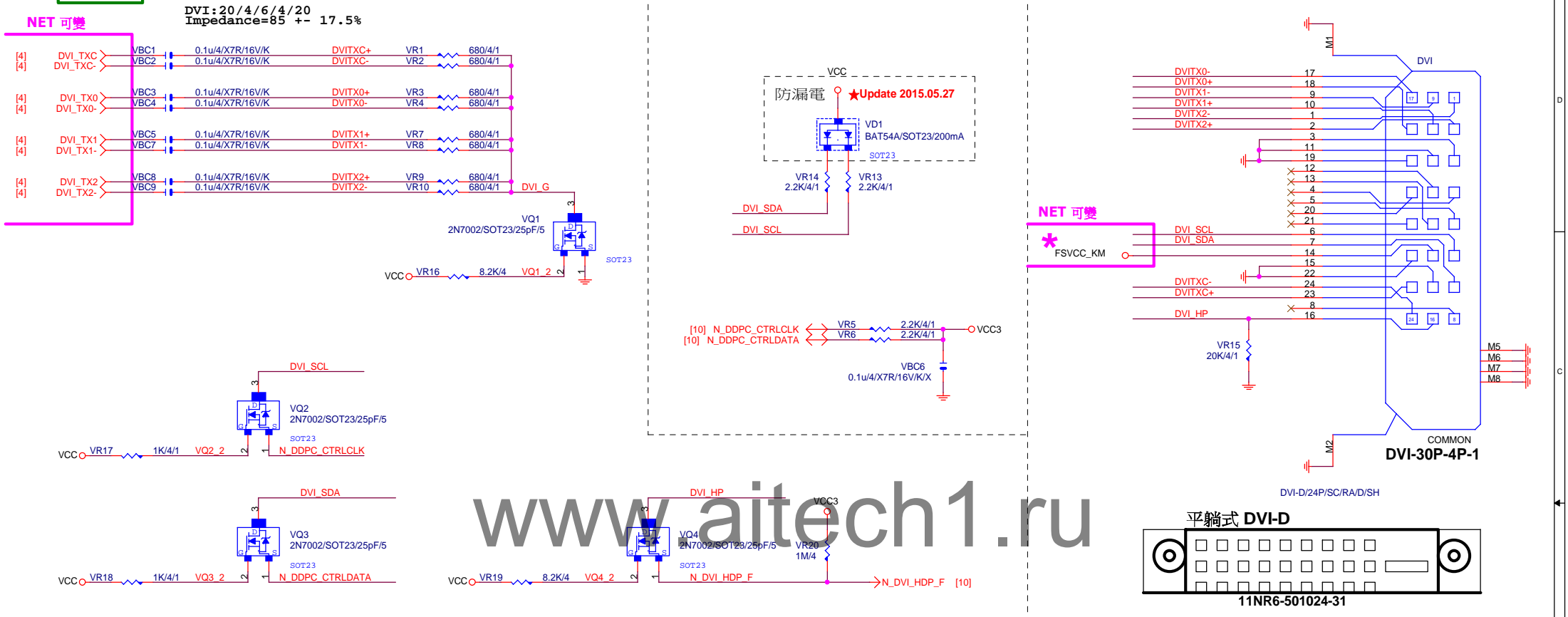
Document Number

GA-H270M-DS3H

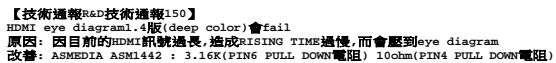
Rev
1.0

Date: Wednesday, November 30, 2016

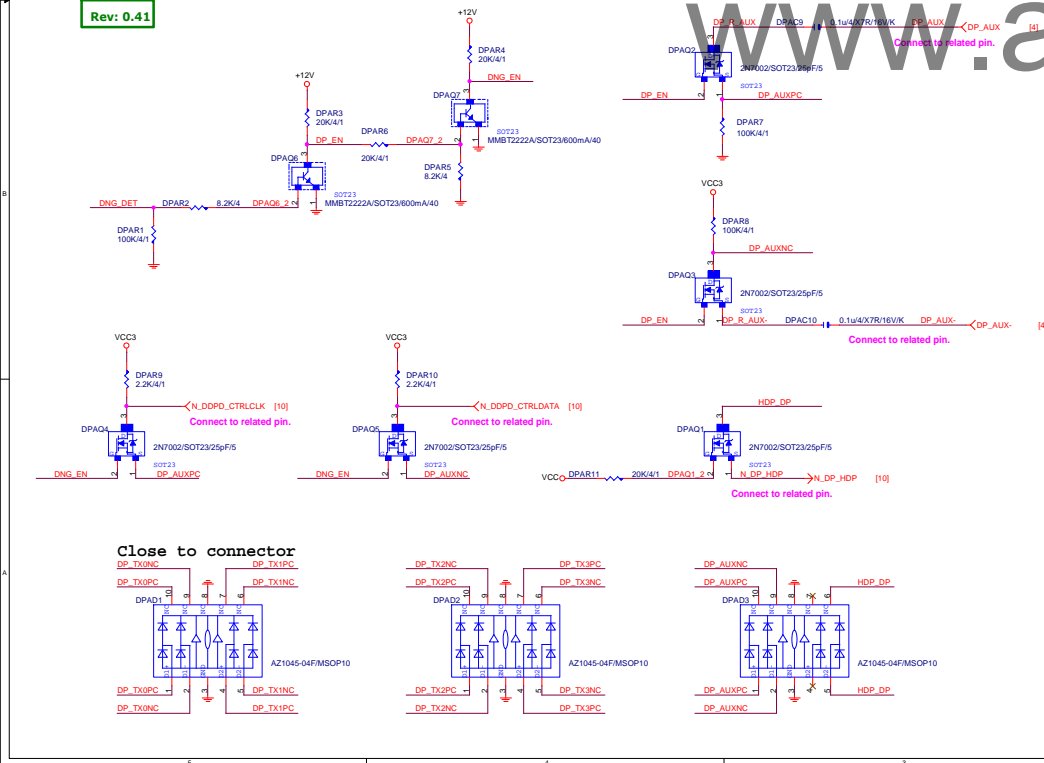
Sheet 39 of 56



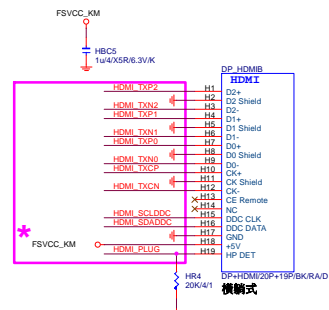
Rev: 0.7



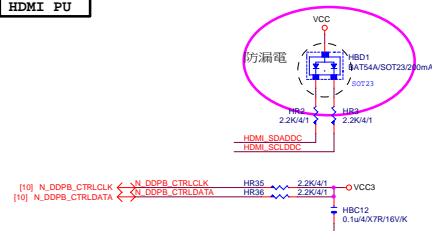
Rev: 0.41



HDMI CONN



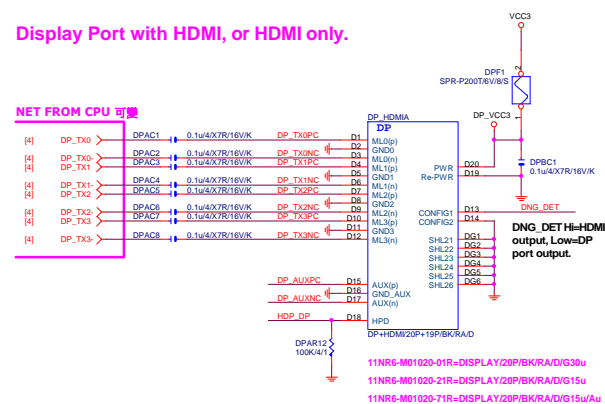
HDMI PU

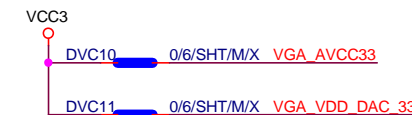
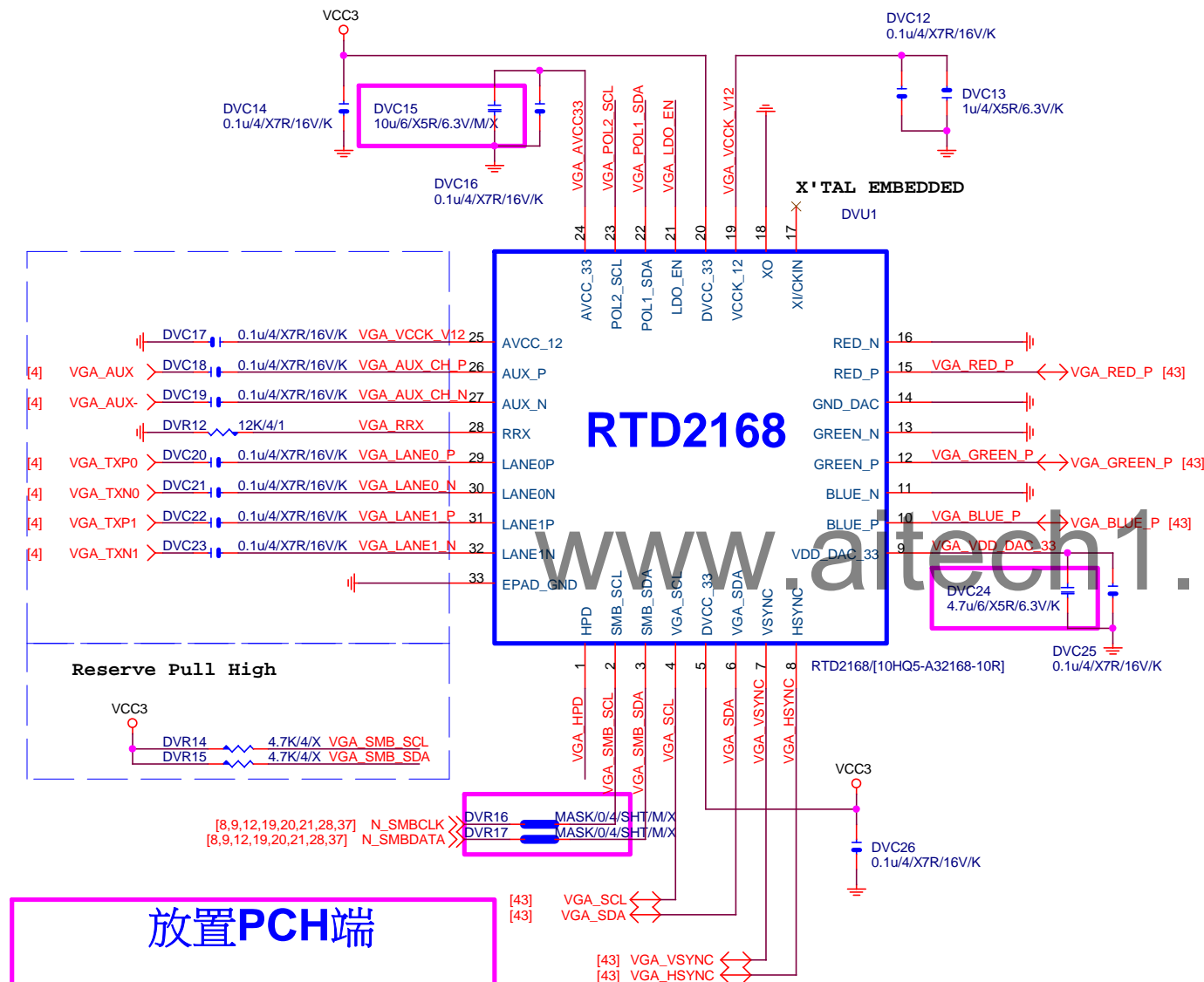


Pin 40 connection diagram for the 24P02/SOT23 package. Pin 40 is labeled 'DP_AUX' and is connected to 'DP_AUX' of the 24P02/SOT23 package. A note indicates 'Connect to related pin.' and a label 'SINGLE Display Port' is present.

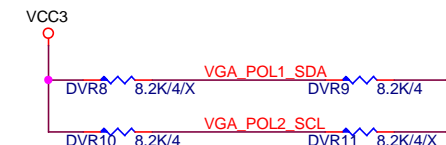
SINGLE Display Port

Display Port with HDMI, or HDMI only.



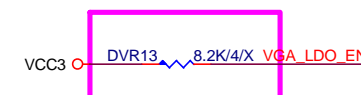


Power on latch



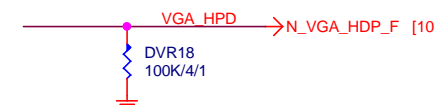
		POL1_SDA(PIN22)	
		0	1
POL2_SCL (PIN23)	0	X	EP MODE
	1	ROM ONLY MODE	EEPROM MODE

Embedded LDO



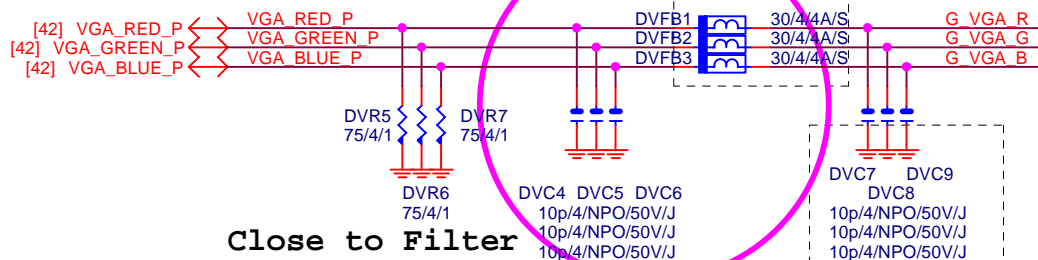
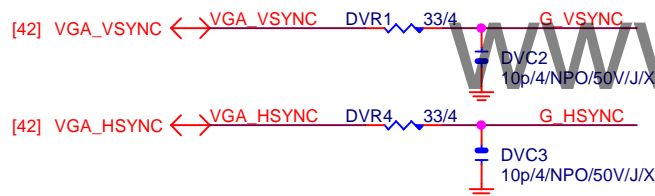
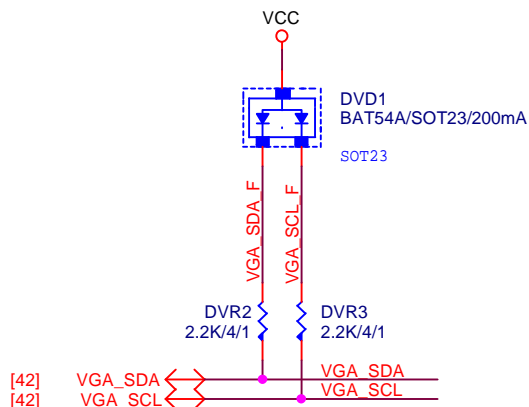
LDO_EN(PIN21)	
0	1
VCK V12 from External 1.2V	VCK V12 from Embedded LDO

DP HPD



Gigabyte Technology
NXP-PTN3356

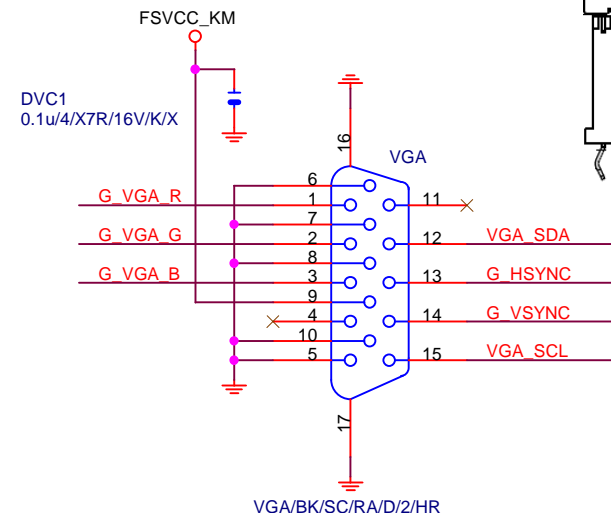
VGA SIGNAL R1.03



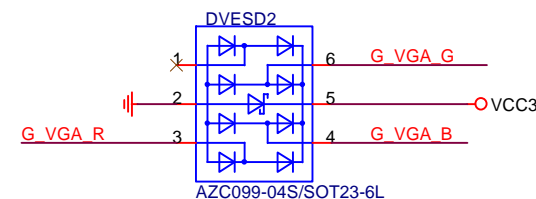
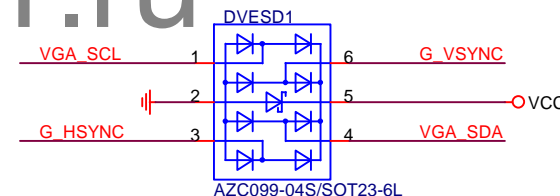
Close to Filter

FOR EMI

VGA CONN. 架高型VGA (BLACK)



VGA ESD



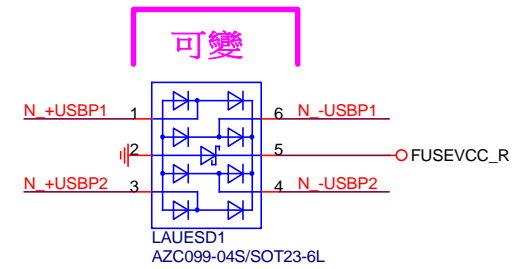
Gigabyte Technology
DP-VGA RTD2168

Title	Document Number	Rev
Size	Custom	1.0
Date:	Wednesday, November 30, 2016	Sheet 43 of 56

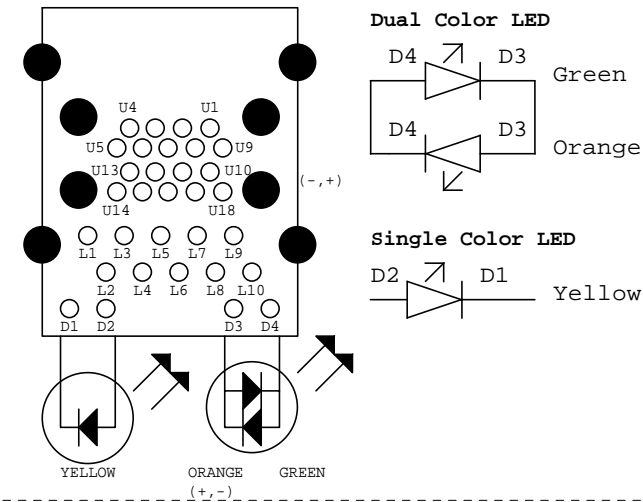


USB_LAN CONNECTOR R1.1

RMA ESD PROTECT note:可變更USB NAME



USB30 LAN LAYOUT示意圖



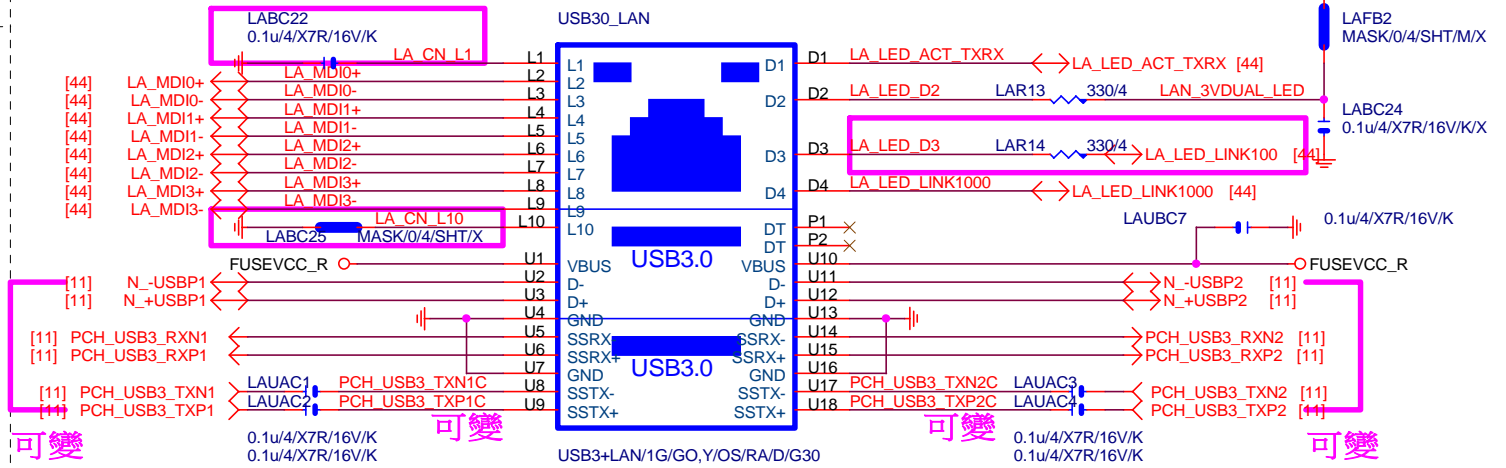
LAN_COVER FOOT PRINT:LAN_COVER

可變
[視SPEC需求]

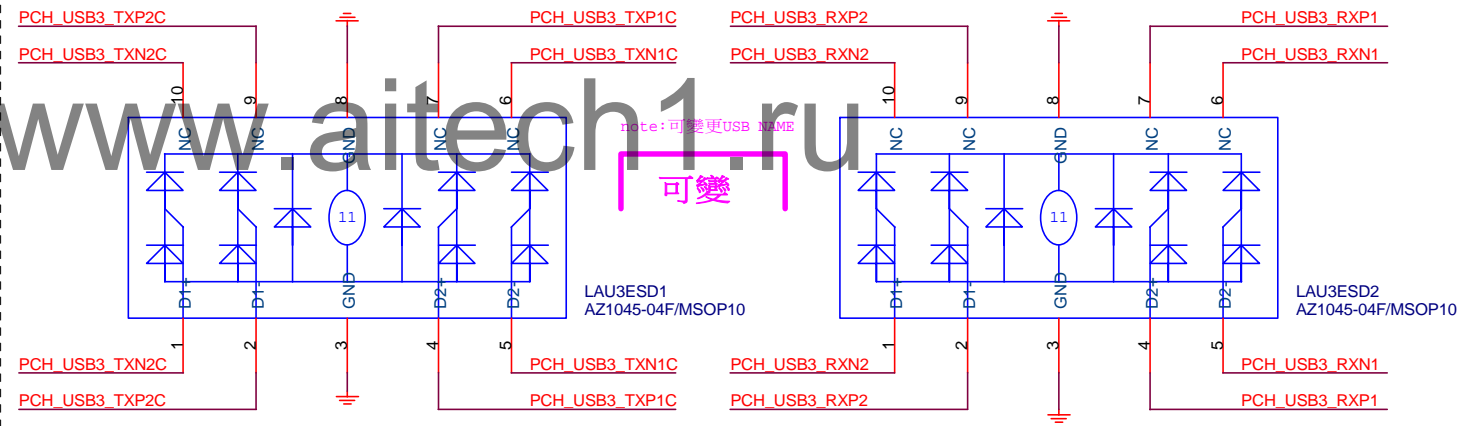
[-D3H不加蓋]

USB_LAN CONNECTOR note:可變更USB NAME

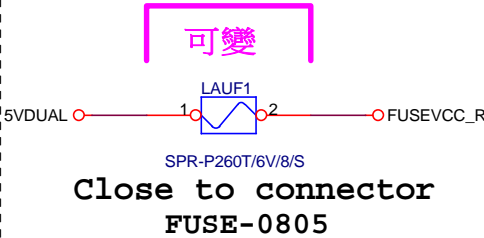
[I219]



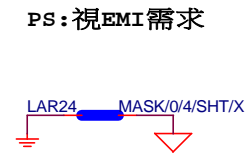
LA MDI-->100歐姆:[20/4/8/4/20]



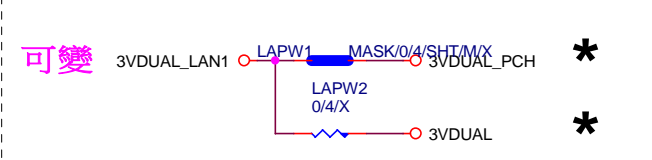
USB POWER note:可變更FUSE



EMI SHORT PAD PS:視EMI需求



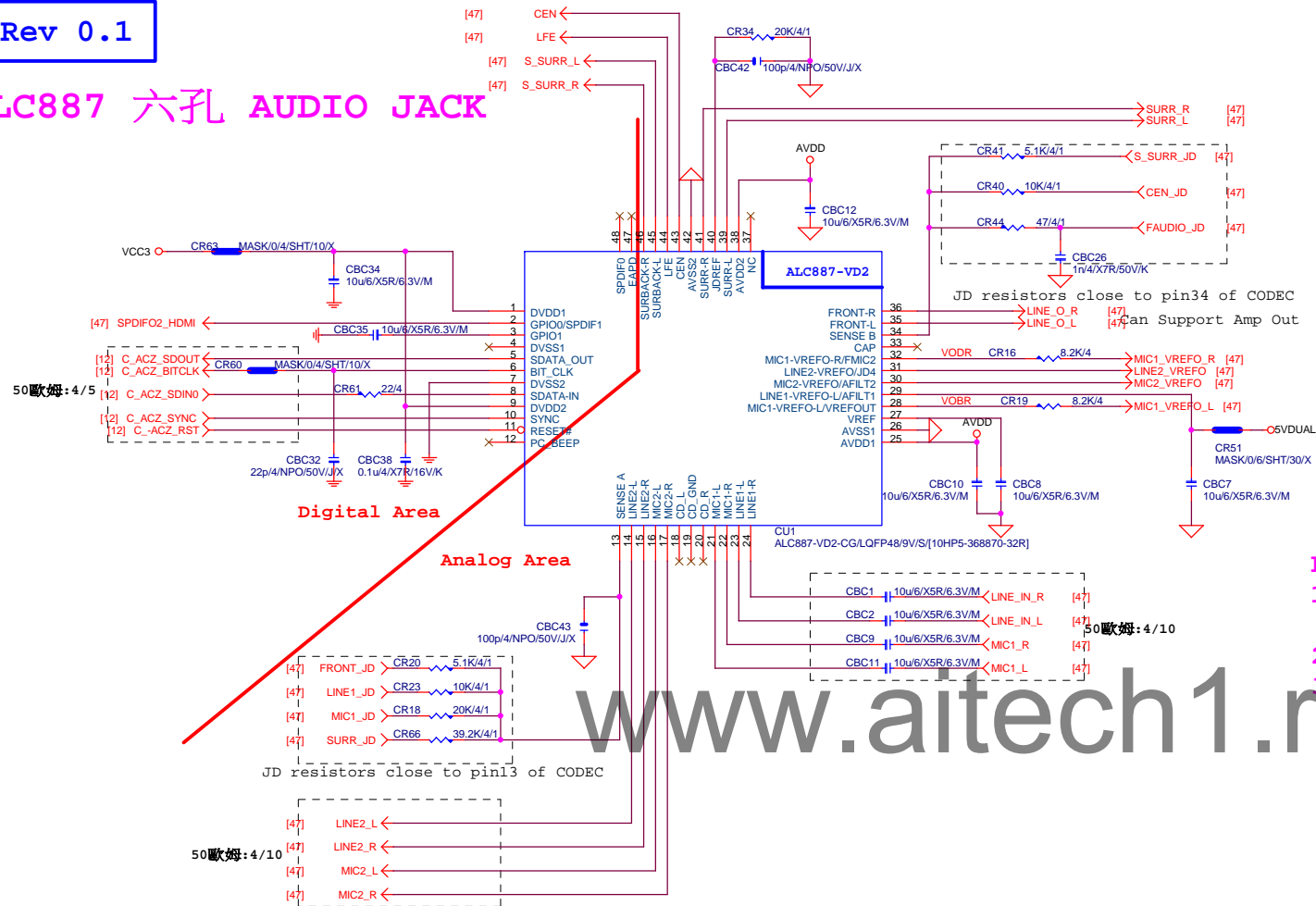
LAN POWER note:lan power連接及電流



Gigabyte Technology			
LAN CONNECTOR-I219			
Title		Rev 1.0	
Size	Document Number	Rev 1.0	
Custom	GA-B230M-DS3H		
Date:	Wednesday, November 30, 2016	Sheet 45 of 56	

Rev 0.1

ALC887 六孔 AUDIO JACK



LAYOUT注意: 螺絲孔下GND方式

1. MH1空間夠, 下DGND
空間不夠, 才改為Isolate
2. MH2一律改為Isolate
3. Codec下方, 第二層必須參考GND

○ MH1
DGND

MH2 ○
Isolate

LAYOUT注意: 要加

GND切割線

音效區域印刷

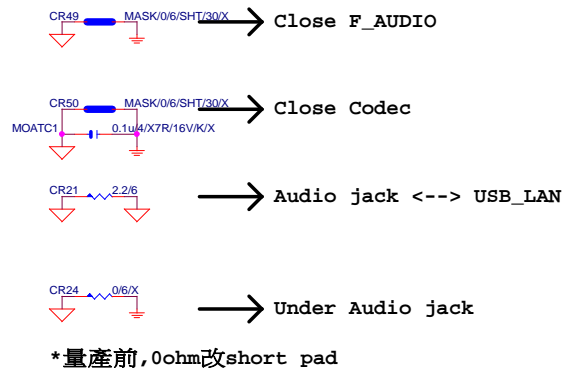


BOM OPTION : 1. Chemicon音效電容
2. 金屬外罩 Reserve (LAYOUT上件與否, 依照各Model spec)
3. LED Reserve (上件與否和LED顏色, 依照各Model spec)

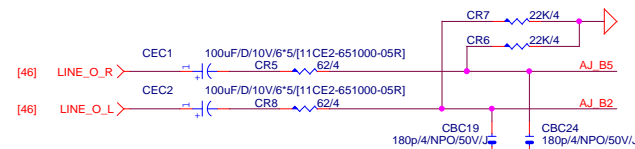
Gigabyte Technology

Title			
HD AUDIO ALC892			
Size	Document Number	GA-H270M-DS3H	
Custom			Rev 1.0
Date:	Wednesday, November 30, 2016	Sheet 46	of 56

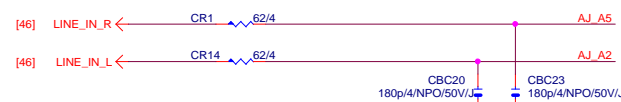
Rev 0.1



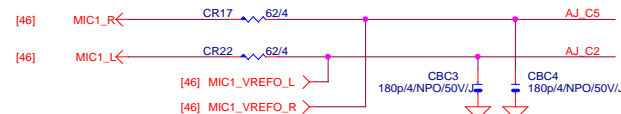
LINE-OUT



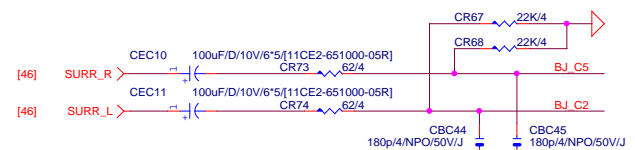
LINE-IN



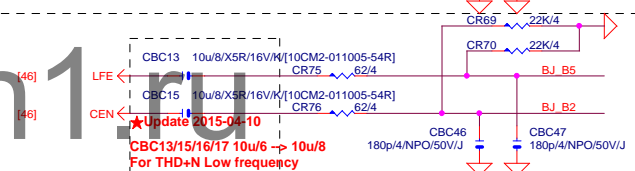
MIC-IN



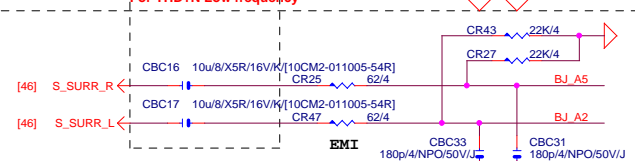
SURROUND



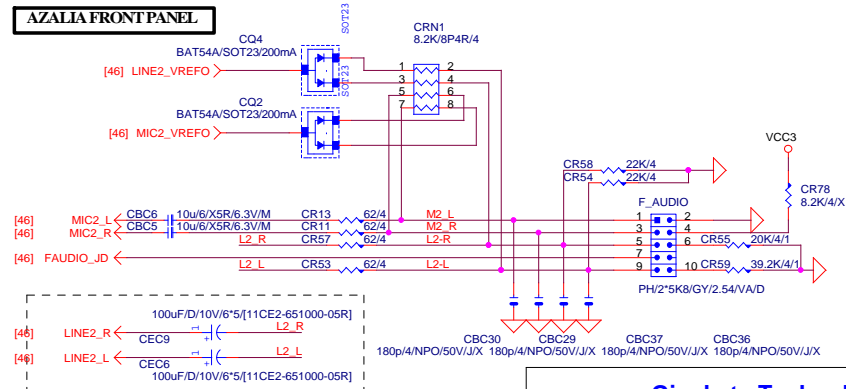
CEN/LFE



SURRBACK



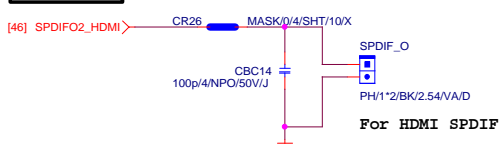
AZALIA FRONT PANEL



Gigabyte Technology

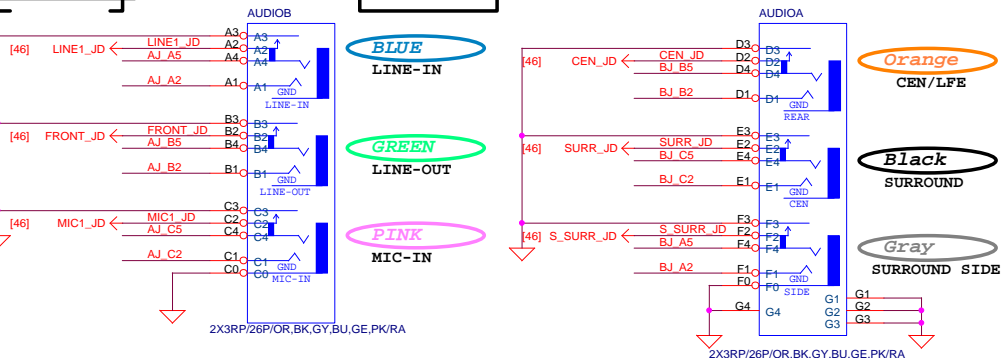
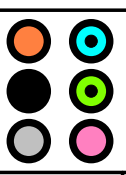
Title		
AUDIO JACK		
Size	Document Number	Rev
Custom	GA-H270M-DS3H	1.0
Date:	Wednesday, November 30, 2016	Sheet 47 of 56

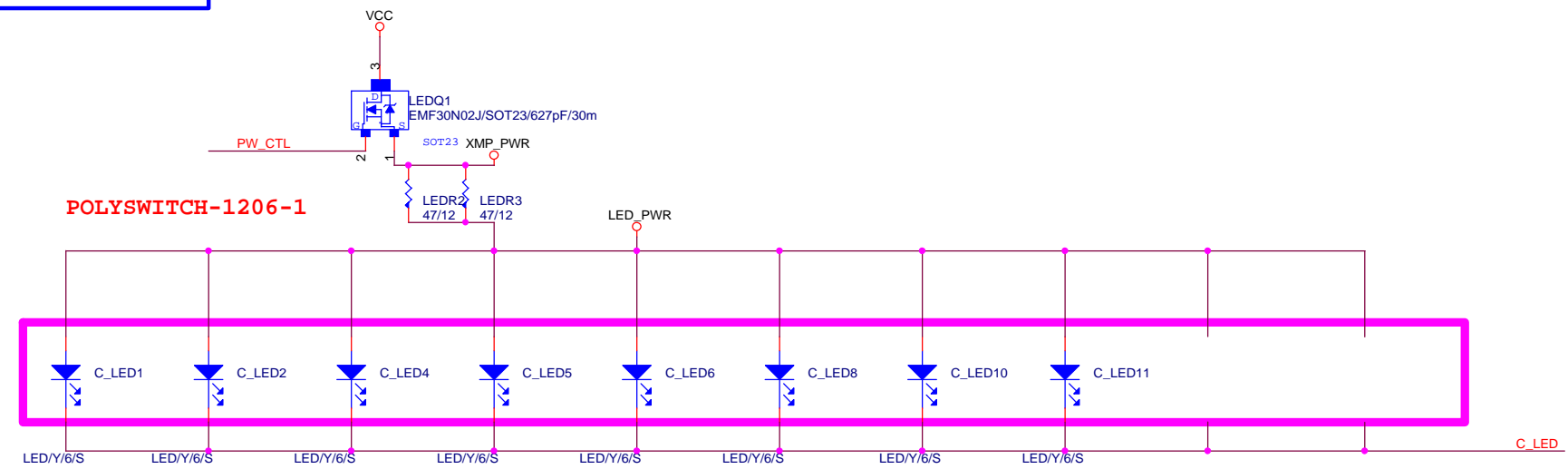
SPDIF_OUT



SPDIF_IN

AZALIA JACK



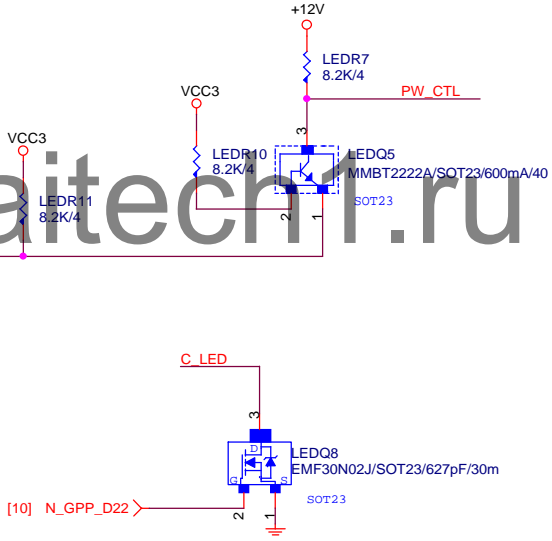


Ambient LED Control

	N_GPP_D22
Still Mode	H
OFF Mode	L

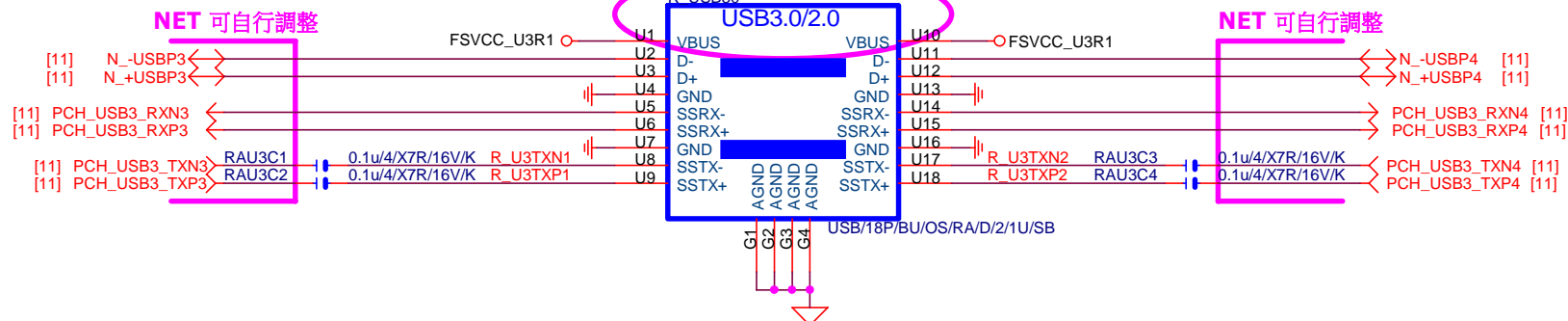
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[1] N_GPP_D22
ON/OFF



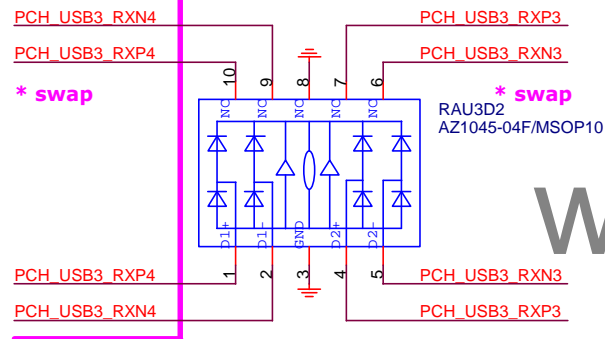
Rev: 0.7

ESD 可自行SWAP PIN ,CONN端 NET 名稱 不可

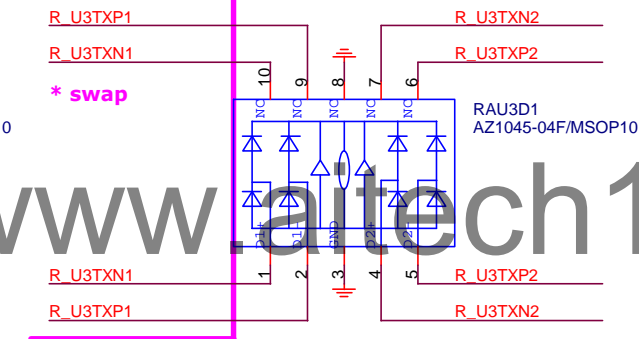


ESD

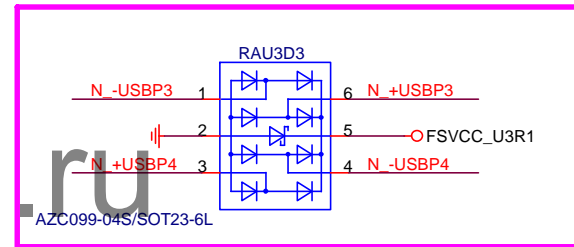
NET 可自行調整



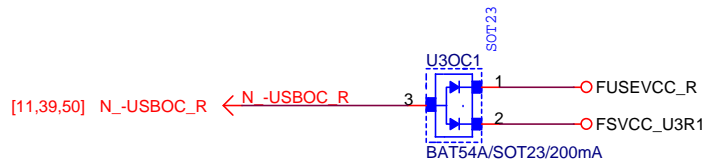
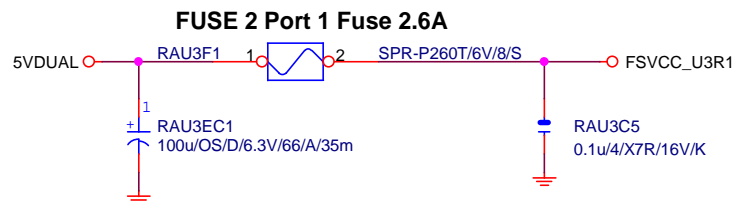
NET 可自行調整



NET 可自行調整



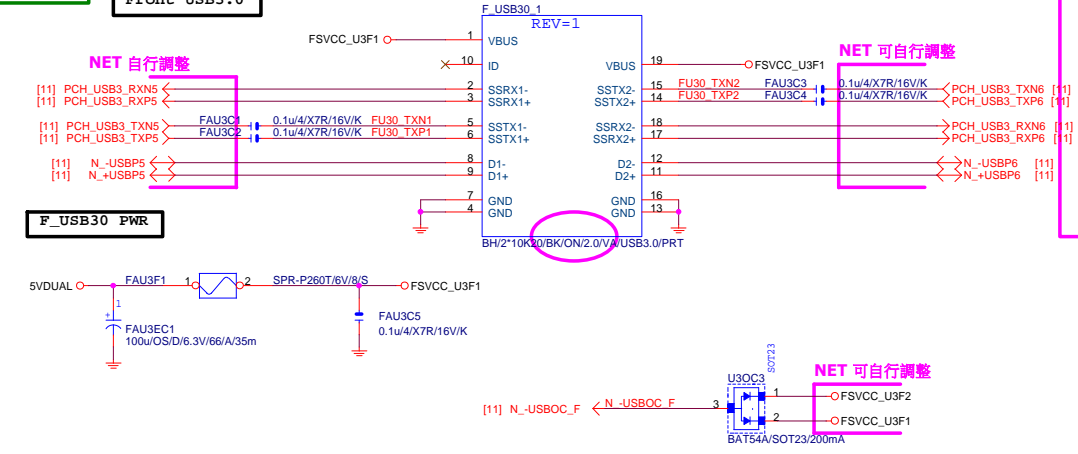
FUSE



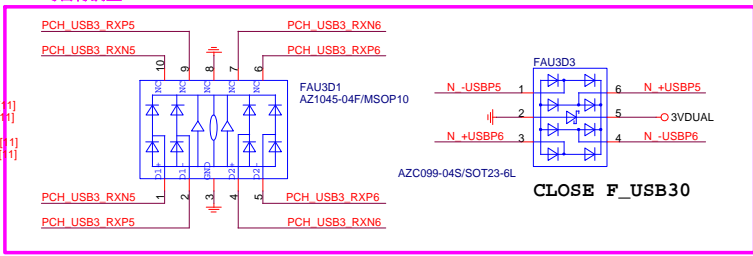
Gigabyte Technology

Title			
R_USB30,USB_OC			
Size	Document Number	GA-H270M-DS3H	
Custom			Rev 1.0
Date:	Wednesday, November 30, 2016	Sheet	49 of 56

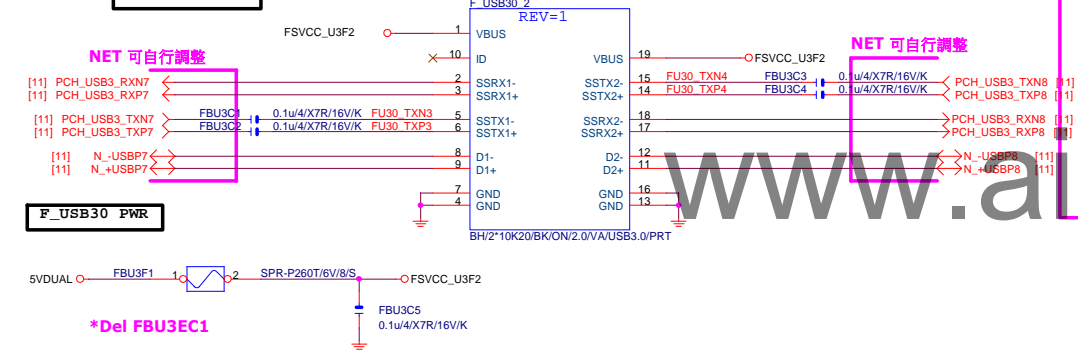
Front USB3.0



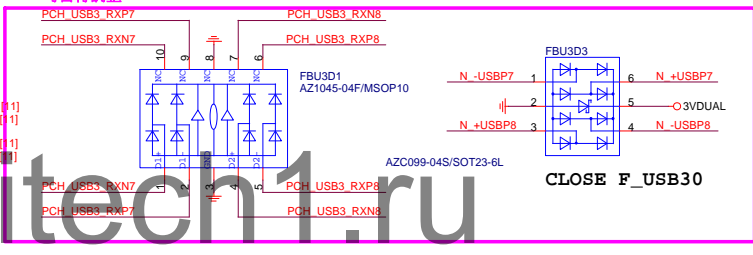
NET 可自行調整



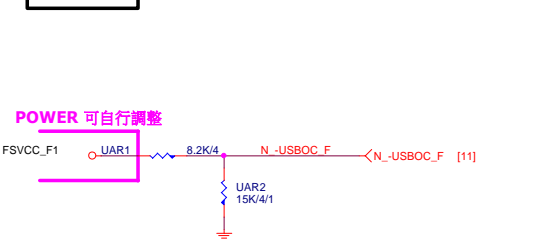
Front USB3.0



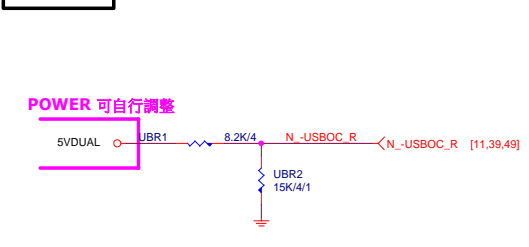
NET 可自行調整



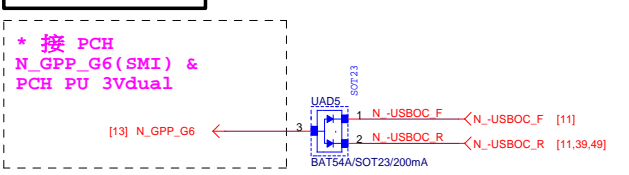
-USBOC_F



-USBOC_R



F_USB POWER PROTECT

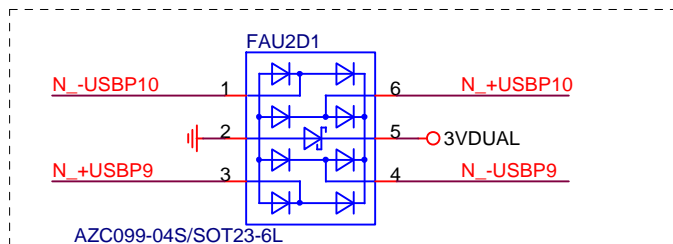
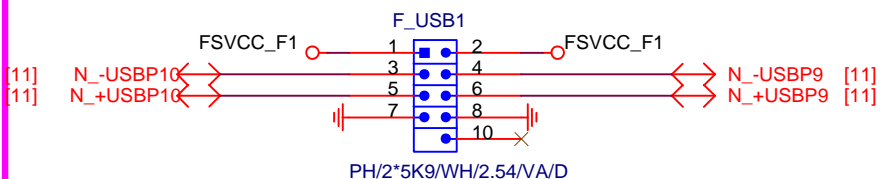


Rev: 0.7

FRONT USB1

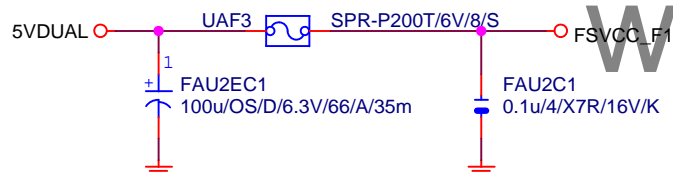
NET 可變

FUSB2X5-HS



Close to connector

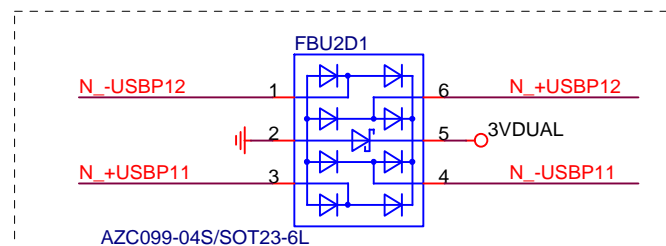
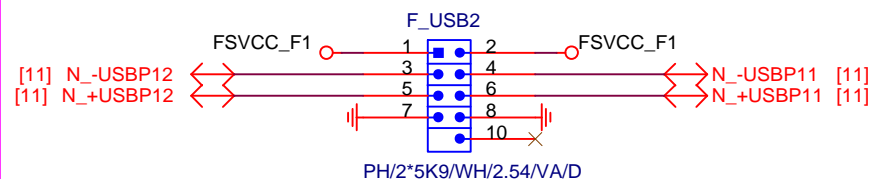
FUSE 2 Port 1 Fuse 2A



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

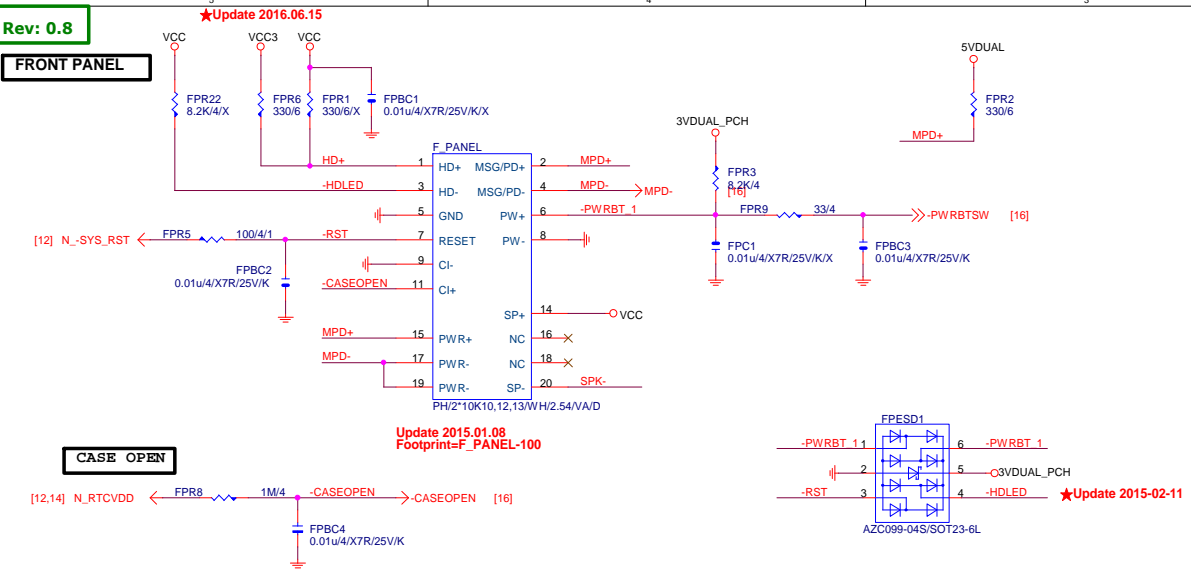
GA-H270M-DS3H

Rev
1.0

Date: Wednesday, November 30, 2016

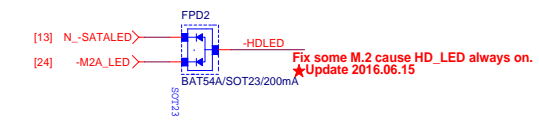
Sheet 51 of 56

FRONT PANEL

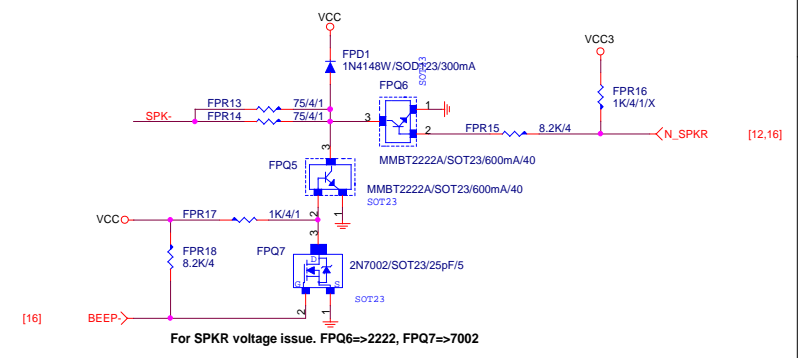


FRONT PANEL SHORT

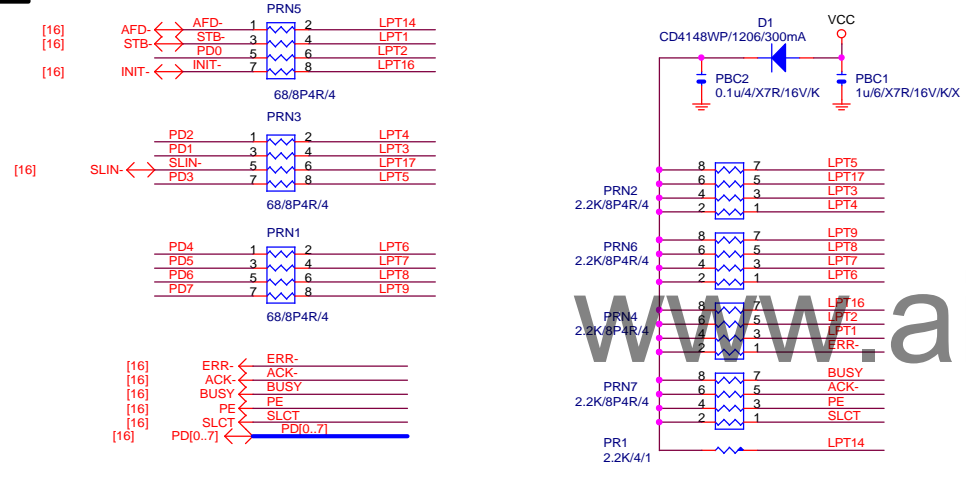
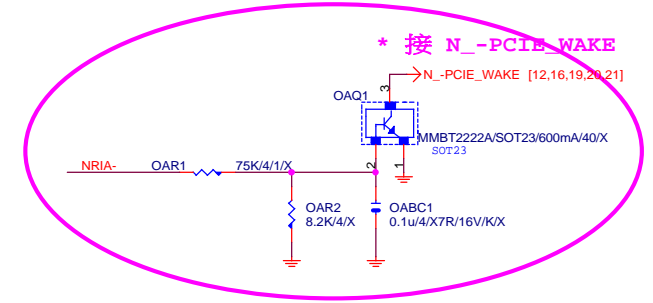
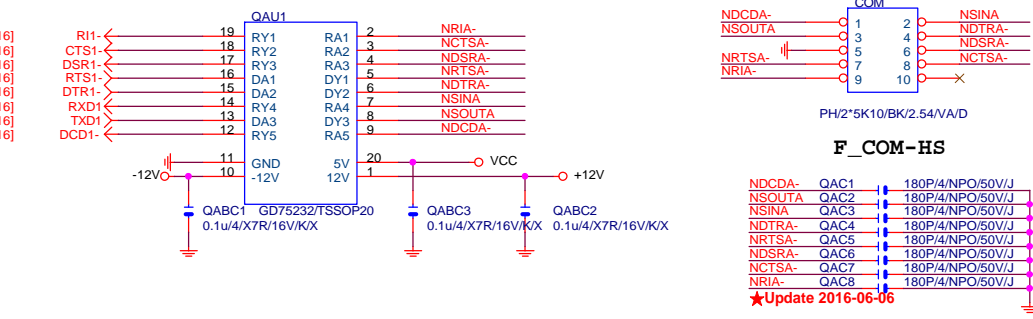
SATA/M.2 LED



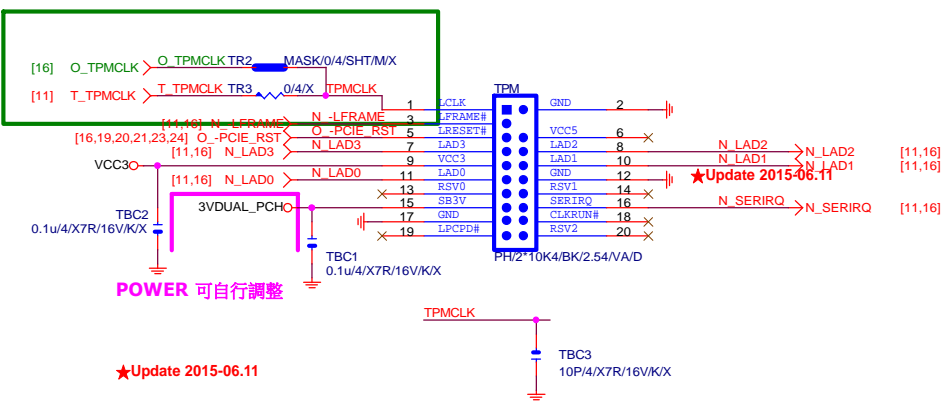
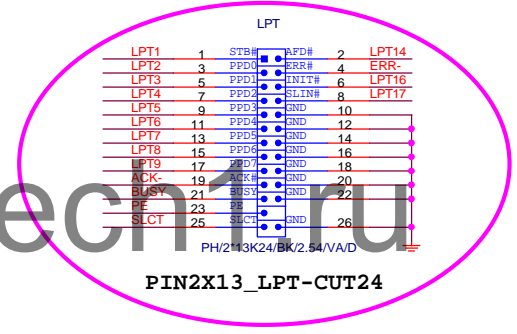
SPKR



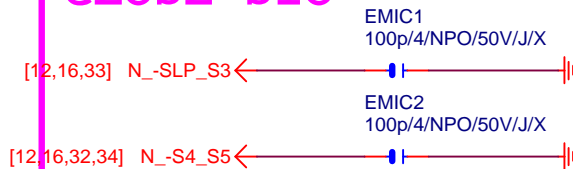
www.aitech1.ru



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



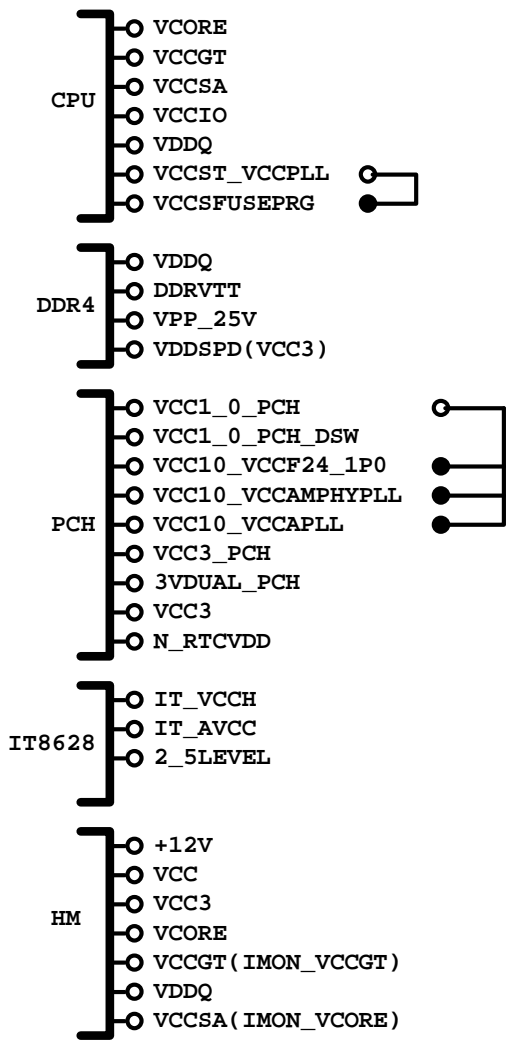
www.aitech1.ru



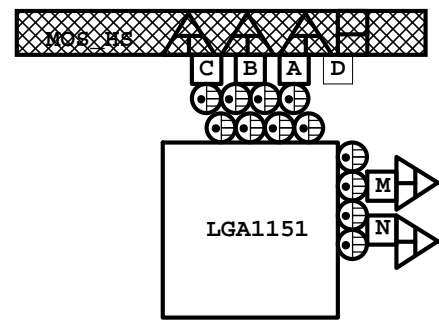
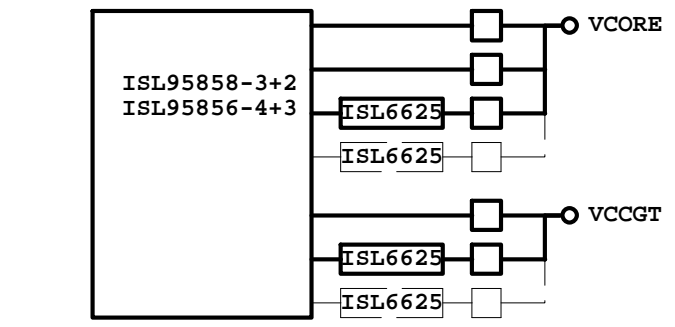
GIGABYTE™

Title		
EM/ESD		
Size A	Document Number GA-H270M-DS3H	Rev 1.0
Date:	Wednesday, November 30, 2016	Sheet 54 of 56

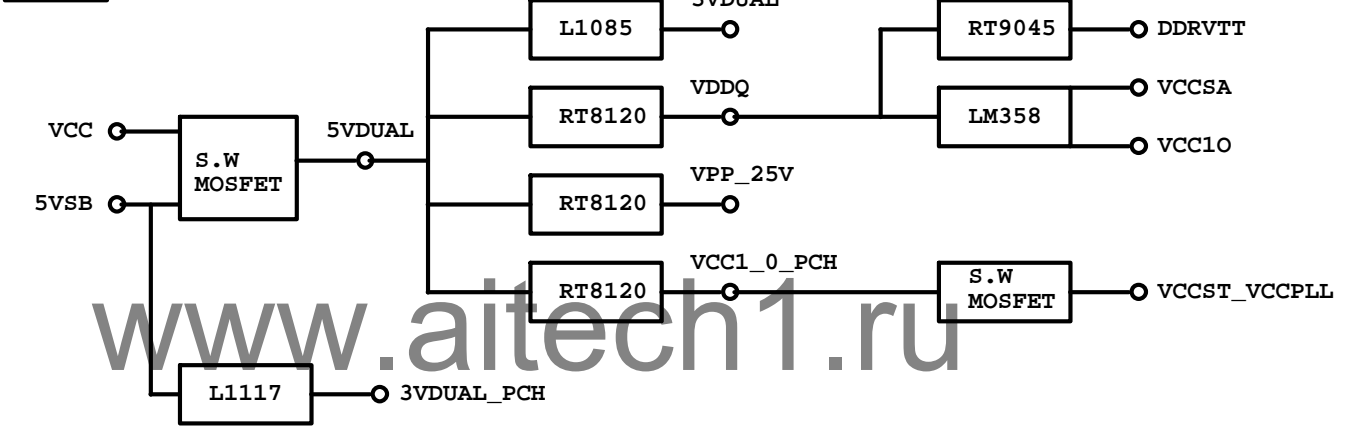
POWER BLOCK MAP



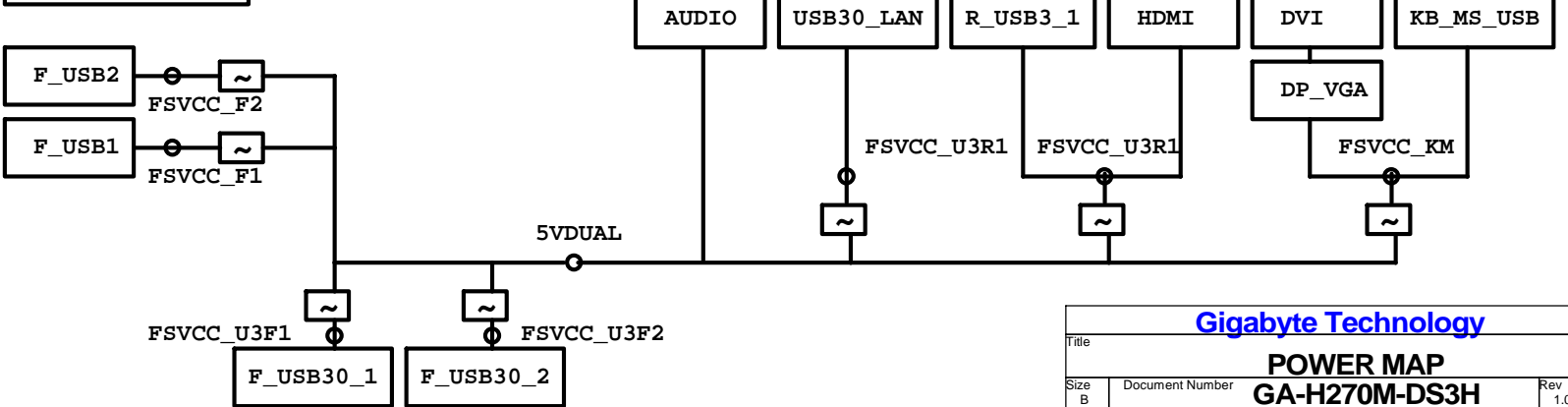
VCORE/VCCGT



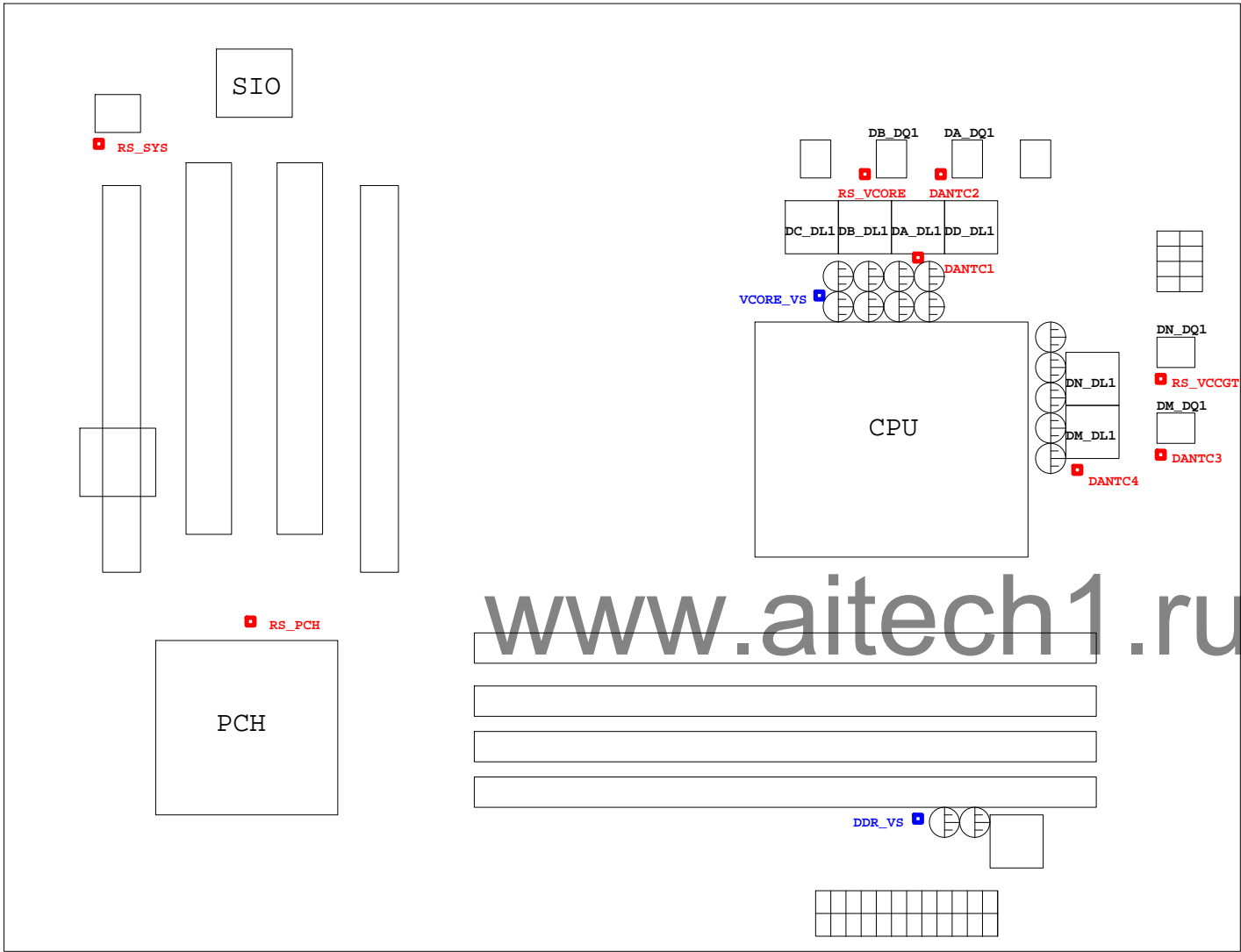
POWER



FUSE POWER F/R



Gigabyte Technology			
Title			
POWER MAP			
Size	Document Number	Rev	
B	GA-H270M-DS3H	1.0	
Date:	Wednesday, November 30, 2016	Sheet	55 of 56



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