

## Model Name: GA-Z270M-D3H

rev 1.0

SHEET

TITLE

01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	CPU_LGA1151-A
05	CPU_LGA1151-B-DDR4
06	CPU_LGA1151-C-Z系列 (REV0.21)
07	CPU_LGA1150-D
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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	Single BIOS (REV0.3)
17	ITE 8686 LPC IO (REV0.3)
18	HWM
19	FAN CTRL--SIO (REV0.81)
20	PCI EXPRESS*16 SLOT (REV0.2)
21	PCI EXPRESS*4 SLOT (REV0.51)
22	PCI EXPRESS*1 SLOT/SW
23	M.2X4 (REV0.6)
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25	IT8892E_JX (REV0.1)
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28	ISL95866 PWM-IRON (REV0.11)
29	ISL95866 VCORE-IRON

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TITLE

30	ISL95866 VCCGT-IRON
31	VCCSA_VCCIO-IRON-Z系列 (REV0.21)
32	RT8120_DDR_BEAD (REV0.1)
33	RT8068A_VPP (REV0.1)
34	RT8120_PCH-BEAD (REV0.1)
35	DISCRETE POWER (REV0.51)
36	NCT3933
37	ATX POWER , A_-PROCHOT
38	KB_MS_USB (REV0.81)
39	DVI CONN (REV0.81)
40	Dual DP (REV0.81)
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42	R_USB30 (REV0.81)
43	INTEL I219 (REV1.11)
44	USB30_LAN CONNECTOR-I219
45	Realtek ALC892 (REV0.1)
46	REAR AUDIO JACK
47	AUDIO LED (REV0.1)
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49	F_USB (REV0.81)
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rev 1.0    Circuit or PCB layout change

## 2016/10/13

[illegible]

# BLOCK DIAGRAM

PCI EXPRESS X16

PCIe-16 gen3

Dual DP

DDI1 , DDI2

DVI-D

DDI3

INTEL LGA1151  
(SKYLAKE or KABYLAKE)

IMVP8

DMI

CHANNEL A  
DDR4 DIMM X 2

CHANNEL B  
DDR4 DIMM X 2

DDR4 BUS

PCI EXPRESSX1

PCIe-1 gen3

PCI EXPRESSX4

PCIe-4 gen3

INTEL PHY I219V

PCIe-1 gen3

USB 2.0 PORTS 1 ~ 14

USB 2.0

USB 3.0 PORTS 1 ~ 8

USB 3.0

PCH  
(Z270)

SATA / PCIE

SATA / PCIE

SATA III / II

SPI BUS

LPC BUS

SATA EXPRESS(單層)X2

SATA EXPRESS(雙層)X4

M.2 SLOT

SPI Single BIOS (128M)

LPC I/O ITE8628

I/O PORTS :  
COMA KB/MS/PS2

FRONT PANEL /  
CPU/SYS FAN

PCI SLOT 1

8892JX

PCIe-1 gen3

PCI

AZALIA BUS

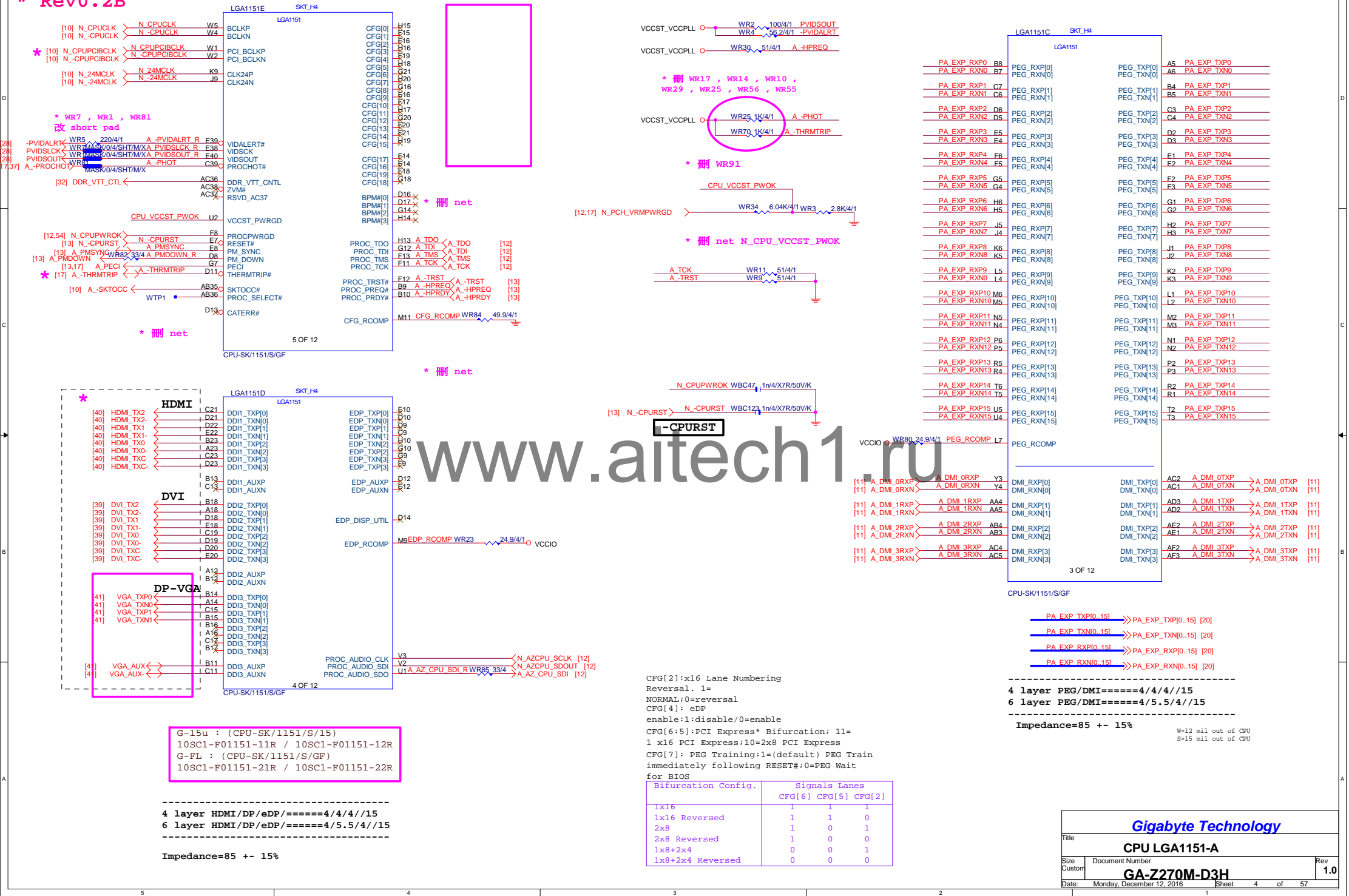
Realtek ALC892

AUDIO PORTS : FRONT AUDIO  
LIN\_ OUT LINE\_IN MIC CD\_IN  
SURR SURR BACK CEN/LFE

Gigabyte Technology

BLOCK DIAGRAM			
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\* 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%

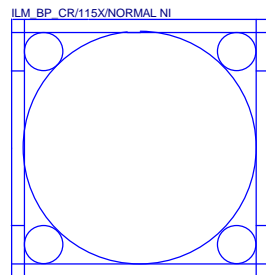
```
CFG[2]:x16 Lane Numbering
Reversal. 1=
NORMAL;0=reversal
CFG[4]: eDP
enable:1:disable/0=enable
CFG[6:5]:PCI Express* Bifurcation; 1l=
1 x16 PCI Express;10=2x8 PCI Express
CFG[7]: PEG Training;1=(default) PEG Train
immediately following RESET#;0=PEG Wait
for BIOS
```

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

4 layer PEG/DMI=====4/4/4//15  
6 layer PEG/DMI=====4/5.5/4//15  
Impedance=85 +- 15%

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CPU LGA1151-A		
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\* 改DDR4 net



Need check the new CPU ME



[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]  $\longleftrightarrow$  MAAA[0..16]  
[9] MAAB[0..16]  $\longleftrightarrow$  MAAB[0..16]

[9] M\_DQSB[0..7]  $\longleftrightarrow$  M\_DQSB[0..7]  
[9] M\_-DQSB[0..7]  $\longleftrightarrow$  M\_-DQSB[0..7]

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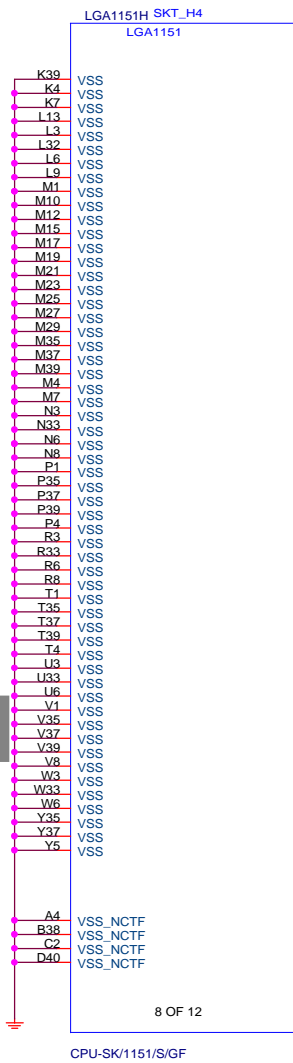
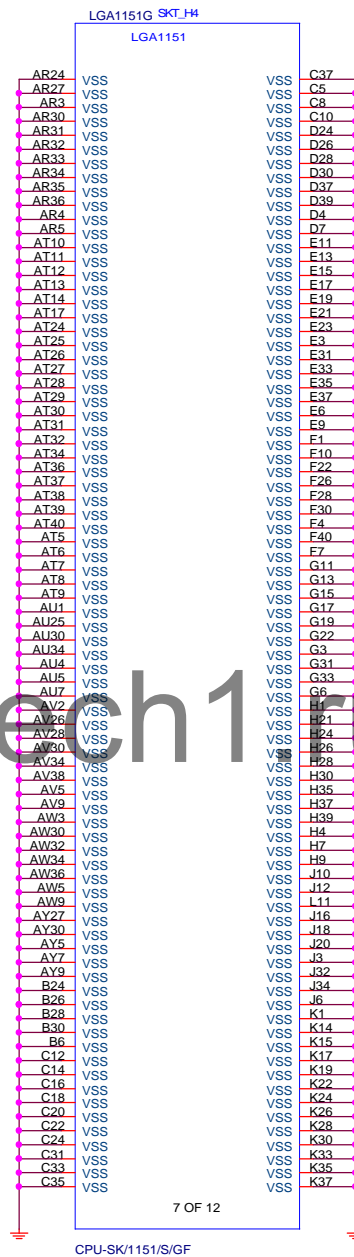
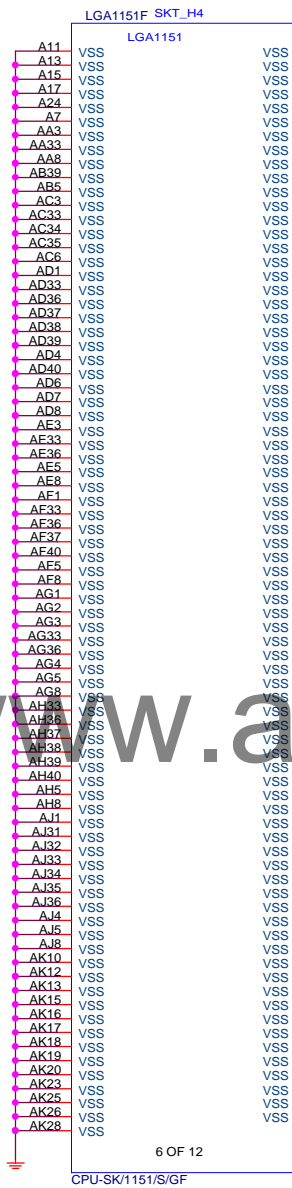
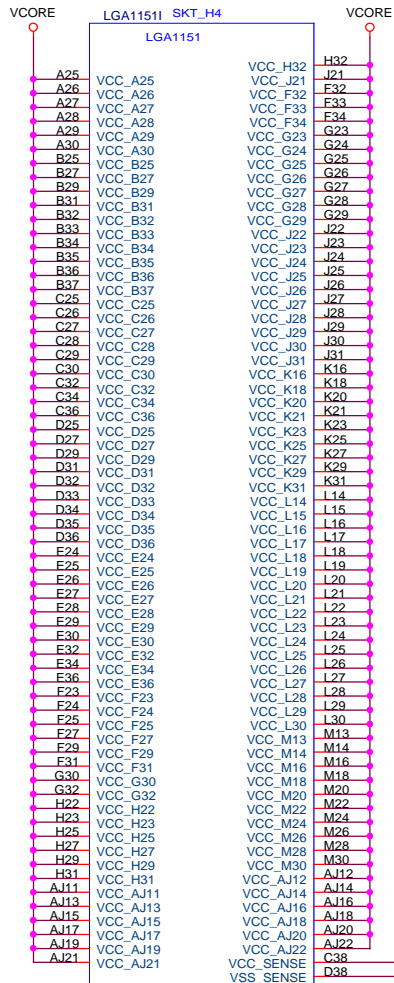


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## Gigabyte Technology

Title				
CPU LGA1151-B				
Size Custom	Document Number			Rev
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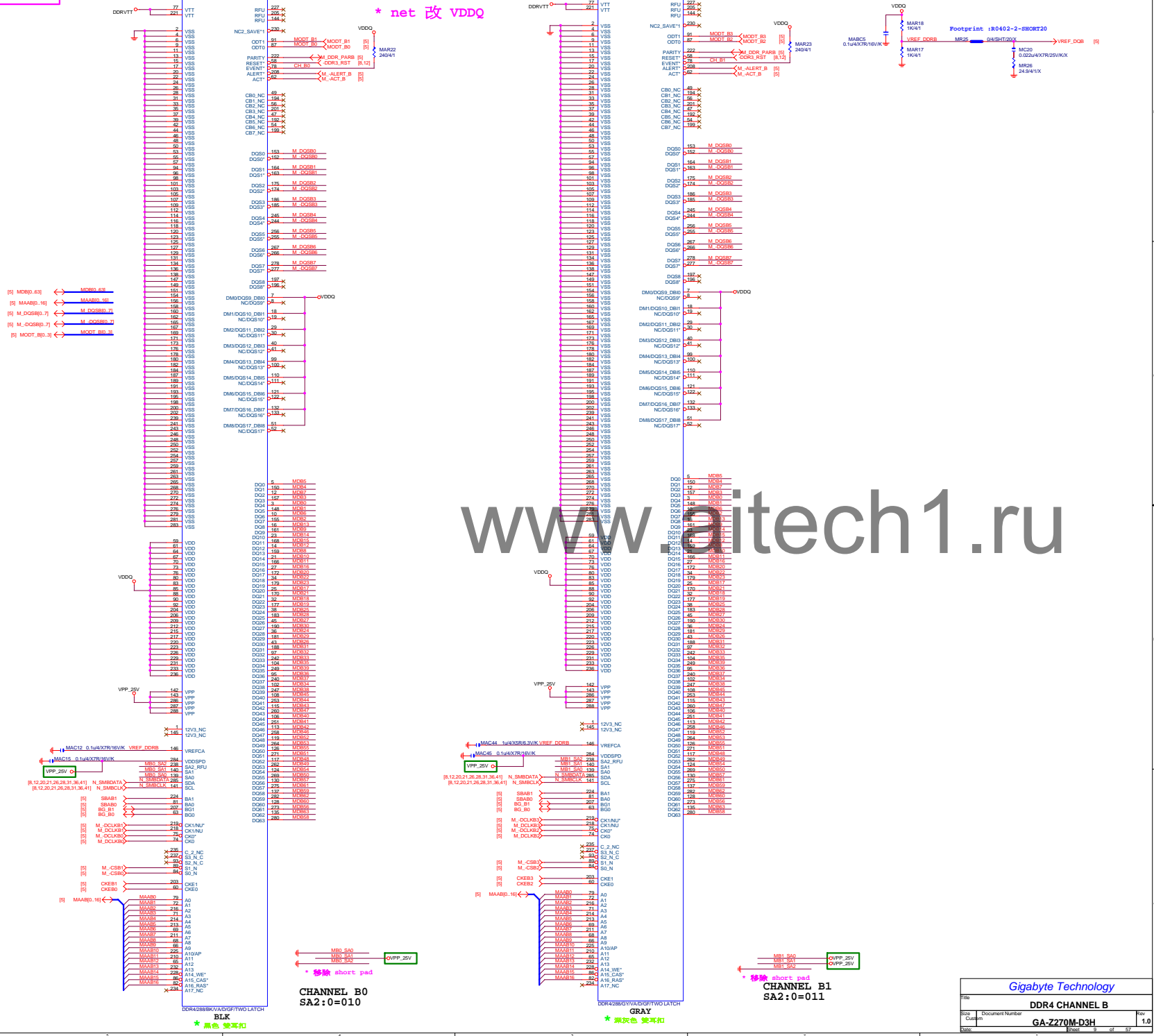


\* 刪 Vcore 電容

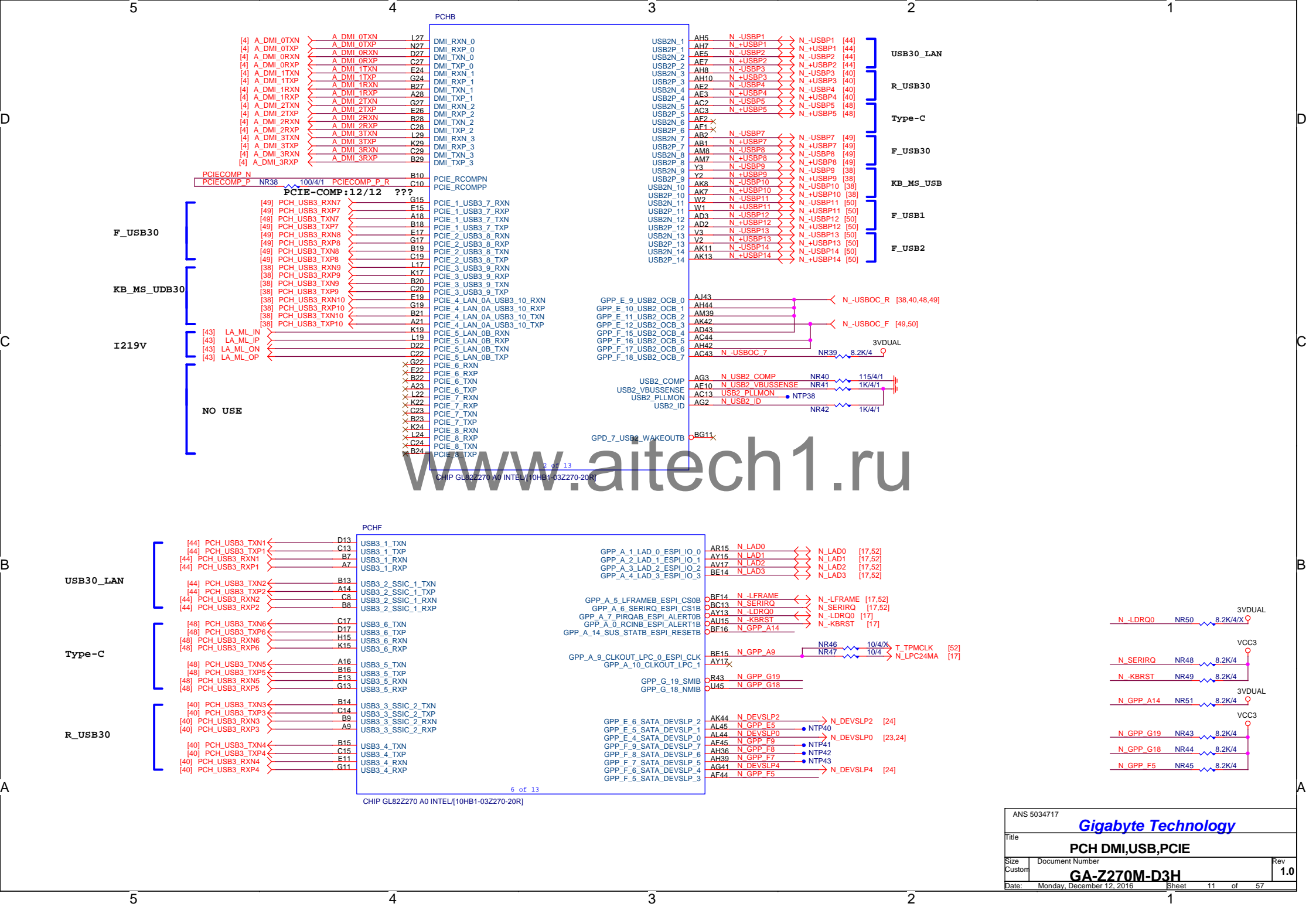


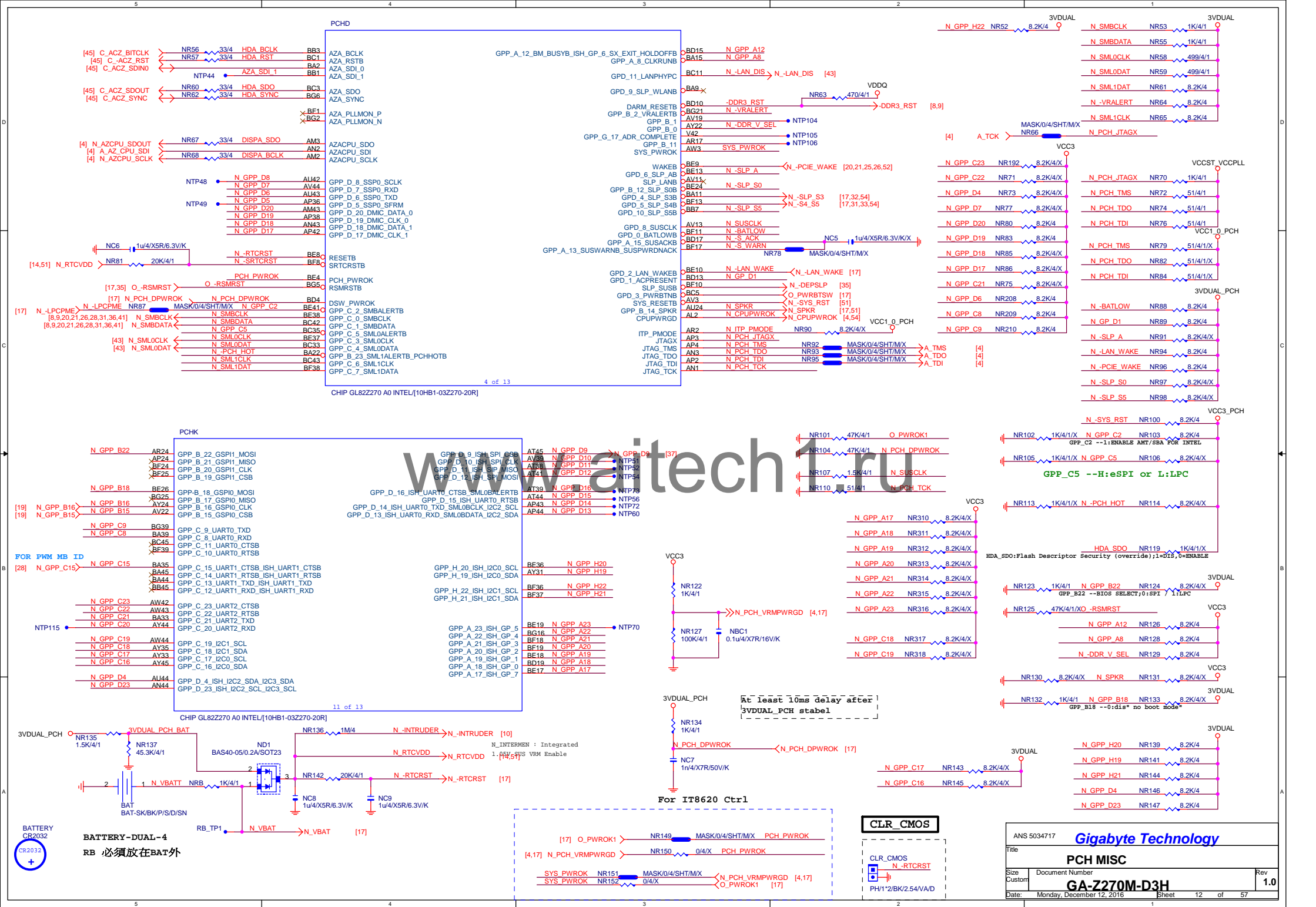






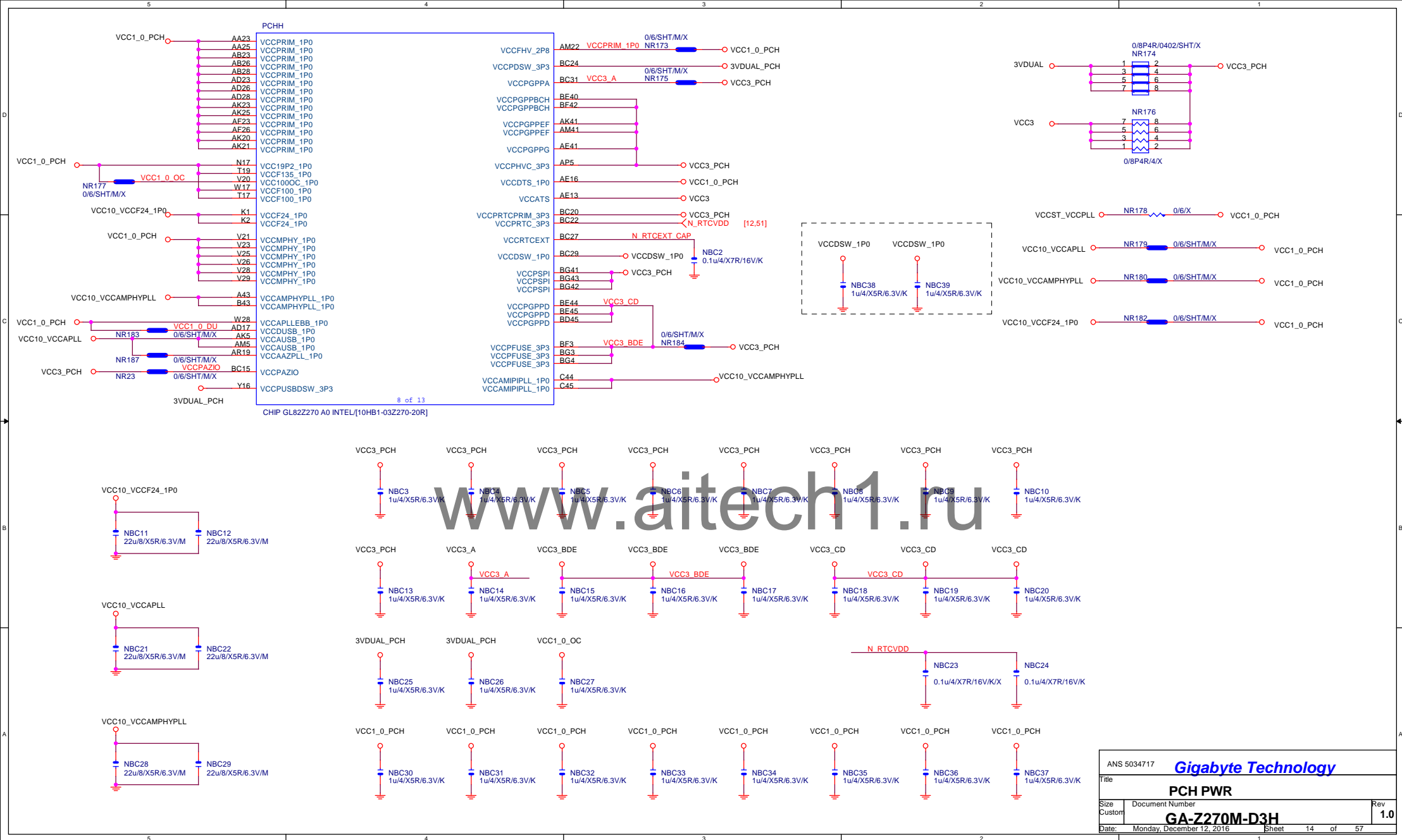










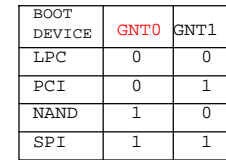


PCHI		
A25	VSS	A42
A30	VSS	D45
P22	VSS	BG44
AV38	VSS	BF44
AV45	VSS	BF45
AV8	VSS	BF2
AY11	VSS	W29
AY19	VSS	A35
AY37	VSS	A40
AY4	VSS	A41
AY42	VSS	AA17
AY8	VSS	AA18
B25	VSS	AA20
B3	VSS	AA21
B30	VSS	AA26
B38	VSS	AA28
B4	VSS	AA29
B41	VSS	AB17
BA13	VSS	AC32
BA17	VSS	AE4
BA25	VSS	AE8
BA31	VSS	AF18
BA37	VSS	AF20
BA4	VSS	AF21
BA42	VSS	AF25
BB40	VSS	AF28
BC38	VSS	AF29
BC40	VSS	AF4
BD11	VSS	AF42
BD16	VSS	AG18
BD2	VSS	AG20
BD21	VSS	AG21
BD28	VSS	AG23
F2	VSS	AG25
E31	VSS	AG26
E6	VSS	AG28
F39	VSS	AG29
F43	VSS	AH11
G4	VSS	AH13
G40	VSS	AH30
G42	VSS	AH32
F6	VSS	AH33
G9	VSS	AH38
H11	VSS	AJ1
H13	VSS	AJ17
H17	VSS	AJ18
H19	VSS	AJ20
H22	VSS	AJ21
H24	VSS	AJ23
H27	VSS	AJ25
H29	VSS	AJ26
H33	VSS	AJ28
H35	VSS	AJ29
H38	VSS	AJ45
H4	VSS	AK10
H42	VSS	AK14
H9	VSS	AK16
M36	VSS	AK17
M38	VSS	AK18
M4	VSS	AK26
M8	VSS	AK28
M9	VSS	AM14
N13	VSS	AN14
N15	VSS	AP19
N19	VSS	AR22
N22	VSS	AR27
N24	VSS	AR13
N31	VSS	AR31
N42	VSS	AR33
P10	VSS	AV10
P12	VSS	AV15
AV35	VSS	AV24
	VSS	AV27
	VSS	AV33
	VSS	

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CHIP GL82Z270 A0 INTEL(10HB1-03Z270-20R)

PCHL		
BD34	VSS[70]	VSS[1]
BD39	VSS[71]	VSS[2]
BD7	VSS[72]	VSS[3]
BE2	VSS[73]	VSS[4]
BF43	VSS[74]	VSS[5]
BF5	VSS[75]	VSS[6]
BG18	VSS[76]	VSS[7]
BG23	VSS[77]	VSS[8]
BG28	VSS[78]	VSS[9]
BG32	VSS[79]	VSS[10]
BG37	VSS[80]	VSS[11]
BG40	VSS[81]	VSS[12]
BG9	VSS[83]	VSS[13]
C1	VSS[84]	VSS[14]
A12	VSS[85]	VSS[15]
C2	VSS[86]	VSS[16]
C37	VSS[87]	VSS[17]
A6	VSS[88]	VSS[18]
C9	VSS[89]	VSS[19]
D1	VSS[90]	VSS[20]
D10	VSS[91]	VSS[21]
D12	VSS[92]	VSS[22]
D15	VSS[93]	VSS[23]
D16	VSS[94]	VSS[24]
B12	VSS[95]	VSS[25]
D19	VSS[96]	VSS[26]
D21	VSS[97]	VSS[27]
D24	VSS[98]	VSS[28]
D25	VSS[99]	VSS[29]
D29	VSS[100]	VSS[30]
D30	VSS[101]	VSS[31]
D33	VSS[102]	VSS[32]
D35	VSS[103]	VSS[33]
D36	VSS[104]	VSS[34]
D39	VSS[105]	VSS[35]
D44	VSS[106]	VSS[36]
D7	VSS[107]	VSS[37]
P13	VSS[108]	VSS[38]
P15	VSS[109]	VSS[39]
P17	VSS[110]	VSS[40]
P19	VSS[111]	VSS[41]
P21	VSS[112]	VSS[42]
P33	VSS[113]	VSS[43]
P35	VSS[114]	VSS[44]
P4	VSS[115]	VSS[45]
P42	VSS[116]	VSS[46]
P8	VSS[117]	VSS[47]
R1	VSS[118]	VSS[48]
R32	VSS[119]	VSS[49]
T10	VSS[120]	VSS[50]
T14	VSS[121]	VSS[51]
T22	VSS[122]	VSS[52]
T29	VSS[123]	VSS[53]
T32	VSS[124]	VSS[54]
T36	VSS[125]	VSS[55]
T38	VSS[126]	VSS[56]
Y38	VSS[127]	VSS[57]
Y4	VSS[128]	VSS[127]
Y8	VSS[129]	VSS[128]
T42	VSS[130]	VSS[129]
T5	VSS[131]	VSS[130]
U4	VSS[132]	VSS[131]
U42	VSS[133]	VSS[132]
V10	VSS[134]	VSS[133]
V14	VSS[135]	VSS[134]
W3	VSS[136]	VSS[135]
AR13	VSS[137]	VSS[136]
AR31	VSS[138]	VSS[137]
AR33	VSS[139]	VSS[138]
AR4	VSS[140]	VSS[139]
AT10	VSS[141]	VSS[140]
AT13	VSS[142]	VSS[141]
AT36	VSS[143]	VSS[142]
AT37	VSS[144]	VSS[143]
AT42	VSS[145]	VSS[144]
AU11	VSS[146]	VSS[145]
AU17	VSS[147]	VSS[146]
BD30	VSS[148]	VSS[147]
W45	VSS[149]	VSS[148]
Y13	VSS[150]	VSS[149]
Y14	VSS[151]	VSS[150]
Y30	VSS[152]	VSS[151]
Y32	VSS[153]	VSS[152]
Y33	VSS[154]	VSS[153]
Y34	VSS[155]	VSS[154]
Y35	VSS[156]	VSS[155]
Y36	VSS[157]	VSS[156]
Y37	VSS[158]	VSS[157]
Y38	VSS[159]	VSS[158]
Y39	VSS[160]	VSS[159]
Y40	VSS[161]	VSS[160]
Y41	VSS[162]	VSS[161]
Y42	VSS[163]	VSS[162]
Y43	VSS[164]	VSS[163]
Y44	VSS[165]	VSS[164]
Y45	VSS[166]	VSS[165]
Y46	VSS[167]	VSS[166]
Y47	VSS[168]	VSS[167]
Y48	VSS[169]	VSS[168]
Y49	VSS[170]	VSS[169]
Y50	VSS[171]	VSS[170]
Y51	VSS[172]	VSS[171]
Y52	VSS[173]	VSS[172]
Y53	VSS[174]	VSS[173]
Y54	VSS[175]	VSS[174]
Y55	VSS[176]	VSS[175]
Y56	VSS[177]	VSS[176]
Y57	VSS[178]	VSS[177]
Y58	VSS[179]	VSS[178]
Y59	VSS[180]	VSS[179]
Y60	VSS[181]	VSS[180]
Y61	VSS[182]	VSS[181]
Y62	VSS[183]	VSS[182]
Y63	VSS[184]	VSS[183]
Y64	VSS[185]	VSS[184]
Y65	VSS[186]	VSS[185]
Y66	VSS[187]	VSS[186]
Y67	VSS[188]	VSS[187]
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Y70	VSS[191]	VSS[190]
Y71	VSS[192]	VSS[191]
Y72	VSS[193]	VSS[192]
Y73	VSS[194]	VSS[193]
Y74	VSS[195]	VSS[194]
Y75	VSS[196]	VSS[195]
Y76	VSS[197]	VSS[196]
Y77	VSS[198]	VSS[197]
Y78	VSS[199]	VSS[198]
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Y80	VSS[201]	VSS[200]
Y81	VSS[202]	VSS[201]
Y82	VSS[203]	VSS[202]
Y83	VSS[204]	VSS[203]
Y84	VSS[205]	VSS[204]
Y85	VSS[206]	VSS[205]
Y86	VSS[207]	VSS[206]
Y87	VSS[208]	VSS[207]
Y88	VSS[209]	VSS[208]
Y89	VSS[210]	VSS[209]
Y90	VSS[211]	VSS[210]
Y91	VSS[212]	VSS[211]
Y92	VSS[213]	VSS[212]
Y93	VSS[214]	VSS[213]
Y94	VSS[215]	VSS[214]
Y95	VSS[216]	VSS[215]
Y96	VSS[217]	VSS[216]
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Y98	VSS[219]	VSS[218]
Y99	VSS[220]	VSS[219]
Y00	VSS[221]	VSS[220]
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Y03	VSS[224]	VSS[223]
Y04	VSS[225]	VSS[224]
Y05	VSS[226]	VSS[225]
Y06	VSS[227]	VSS[226]
Y07	VSS[228]	VSS[227]
Y08	VSS[229]	VSS[228]
Y09	VSS[230]	VSS[229]
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Y14	VSS[235]	VSS[234]
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Y16	VSS[237]	VSS[236]
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Y26	VSS[247]	VSS[246]
Y27	VSS[248]	VSS[247]
Y28	VSS[249]	VSS[248]
Y29	VSS[250]	VSS[249]
Y30	VSS[251]	VSS[250]
Y31	VSS[252]	VSS[251]
Y32	VSS[253]	VSS[252]
Y33	VSS[254]	VSS[253]
Y34	VSS[255]	VSS[254]
Y35	VSS[256]	VSS[255]
Y36	VSS[257]	VSS[256]
Y37	VSS[258]	VSS[257]
Y38	VSS[259]	VSS[258]
Y39	VSS[260]	VSS[259]
Y40	VSS[261]	VSS[260]
Y41	VSS[262]	VSS[261]
Y42	VSS[263]	VSS[262]
Y43	VSS[264]	VSS[263]
Y44	VSS[265]	VSS[264]
Y45	VSS[266]	VSS[265]
Y46	VSS[267]	VSS[266]
Y47	VSS[268]	VSS[267]
Y48	VSS[269]	VSS[268]
Y49	VSS[270]	VSS[269]
Y50	VSS[271]	VSS[270]
Y51	VSS[272]	VSS[271]
Y52	VSS[273]	VSS[272]
Y53	VSS[274]	VSS[273]
Y54	VSS[275]	VSS[274]
Y55	VSS[276]	VSS[275]
Y56	VSS[277]	VSS[276]
Y57	VSS[278]	VSS[277]
Y58	VSS[279]	VSS[278]
Y59	VSS[280]	VSS[279]
Y60	VSS[281]	VSS[280]
Y61	VSS[282]	VSS[281]
Y62	VSS[283]	VSS[282]
Y63	VSS[284]	VSS[283]
Y64	VSS[285]	VSS[284]
Y65	VSS[286]	VSS[285]
Y66	VSS[287]	VSS[286]
Y67	VSS[288]	VSS[287]
Y68	VSS[289]	VSS[288]
Y69	VSS[290]	VSS[289]
Y70	VSS[291]	VSS[290]
Y71	VSS[292]	VSS[291]
Y72	VSS[293]	VSS[292]
Y73	VSS[294]	VSS[293]
Y74	VSS[295]	VSS[294]
Y75	VSS[296]	VSS[295]
Y76	VSS[297]	VSS[296]
Y77	VSS[298]	VSS[297]
Y78	VSS[299]	VSS[298]
Y79	VSS[300]	VSS[299]
Y80	VSS[301]	VSS[300]
Y81	VSS[302]	VSS[301]
Y82	VSS[303]	VSS[302]
Y83	VSS[304]	VSS[303]
Y84	VSS[305]	VSS[304]
Y85	VSS[306]	VSS[305]
Y86	VSS[307]	VSS[306]
Y87	VSS[308]	VSS[307]
Y88	VSS[309]	VSS[308]
Y89	VSS[310]	VSS[309]
Y90	VSS[311]	VSS[310]
Y91	VSS[312]	VSS[311]
Y92	VSS[313]	VSS[312]
Y93	VSS[314]	VSS[313]
Y94	VSS[315]	VSS[314]
Y95	VSS[316]	VSS[315]
Y96	VSS[317]	VSS[316]
Y97	VSS[318]	VSS[317]
Y98	VSS[319]	VSS[318]
Y99	VSS[320]	VSS[319]
Y00	VSS[321]	VSS[320]
Y01	VSS[322]	VSS[321]
Y02	VSS[323]	VSS[322]
Y03	VSS[324]	VSS[323]
Y04	VSS[325]	VSS[324]
Y05	VSS[326]	VSS[325]
Y06	VSS[327]	VSS[326]
Y07	VSS[328]	VSS[327]
Y08	VSS[329]	VSS[328]
Y09	VSS[330]	VSS[329]
Y10	VSS[331]	VSS[330]
Y11	VSS[332]	VSS[331]
Y12	VSS[333]	VSS[332]
Y13	VSS[334]	VSS[333]
Y14	VSS[335]	VSS[334]
Y15	VSS[336]	VSS[335]
Y16	VSS[337]	VSS[336]
Y17	VSS[338]	VSS[337]
Y18	VSS[339]	VSS[338]
Y19	VSS[340]	VSS[339]
Y20	VSS[341]	VSS[340]
Y21	VSS[342]	VSS[341]
Y22	VSS[343]	VSS[342]
Y23	VSS[344]	VSS[343]
Y24	VSS[345]	VSS[344]
Y25	VSS[346]	VSS[345]
Y26	VSS[347]	VSS[346]
Y27	VSS[348]	VSS[347]
Y28	VSS[349]	VSS[348]
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Y32	VSS[353]	VSS[352]
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Y34	VSS[355]	VSS[354]
Y35	VSS[356]	VSS[355]
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Y40	VSS[361]	VSS[360]
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Y42	VSS[363]	VSS[362]
Y43	VSS[364]	VSS[363]
Y44	VSS[365]	VSS[364]
Y45	VSS[366]	VSS[365]
Y46	VSS[367]	VSS[366]
Y47	VSS[368]	VSS[367]
Y48	VSS[369]	VSS[368]
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Y53	VSS[374]	VSS[373]
Y54	VSS[375]	VSS[374]
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Y56	VSS[377]	VSS[376]
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Y72	VSS[393]	VSS[392]
Y73	VSS[394]	VSS[393]
Y74	VSS[395]	VSS[394]
Y75	VSS[396]	VSS[395]
Y76	VSS[397]	VSS[396]
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Y78	VSS[399]	VSS[398]
Y79	VSS[400]	VSS[399]
Y80	VSS[401]	VSS[400]
Y81	VSS[402]	VSS[401]
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Y87	VSS[408]	VSS[407]
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Y91	VSS[412]	VSS[411]
Y92	VSS[413]	VSS[412]
Y93	VSS[414]	VSS[413]
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Y95	VSS[416]	VSS[415]
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Y00	VSS[421]	VSS[420]
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Y02	VSS[423]	VSS[422]
Y03	VSS[424]	VSS[423]
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Y06	VSS[427]	VSS[426]
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Y37	VSS[458]	VSS[457]
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Y41	VSS[46	





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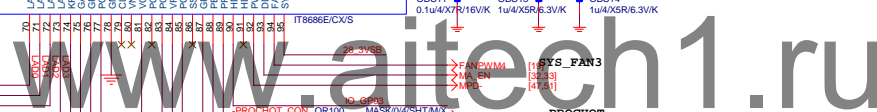


**Gigabyte Technology**

Title	BIOS
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Size	Document Number	GA-Z270M-D3H
Custom		

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DUAL BIOS OPT STRAP

CPU 端 A\_THRMTRIP不可與PCH及SIO  
N\_THRMTRIP直接連接。  
否則會出現無法拉LOW情況。

internal power pin, max 22nF cap

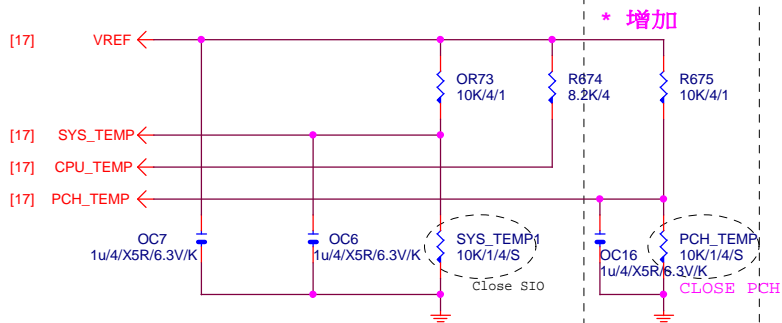


MB ID



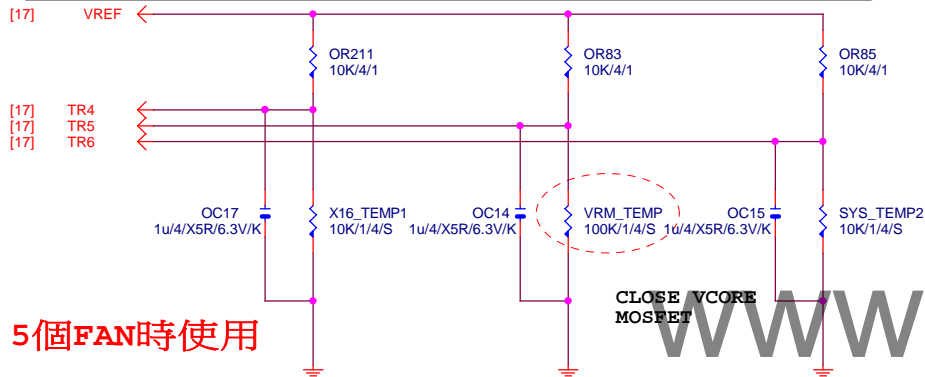
Title			
ITE 8686 LPC IO			
Size	Document Number		Rev
Custom	GA-Z270M-D3H		1.0
Date:	Monday, December 12, 2016	Sheet	17 of 57

# TEMP H/W MONITOR

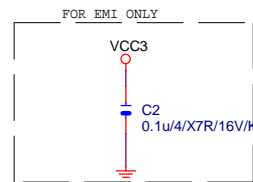
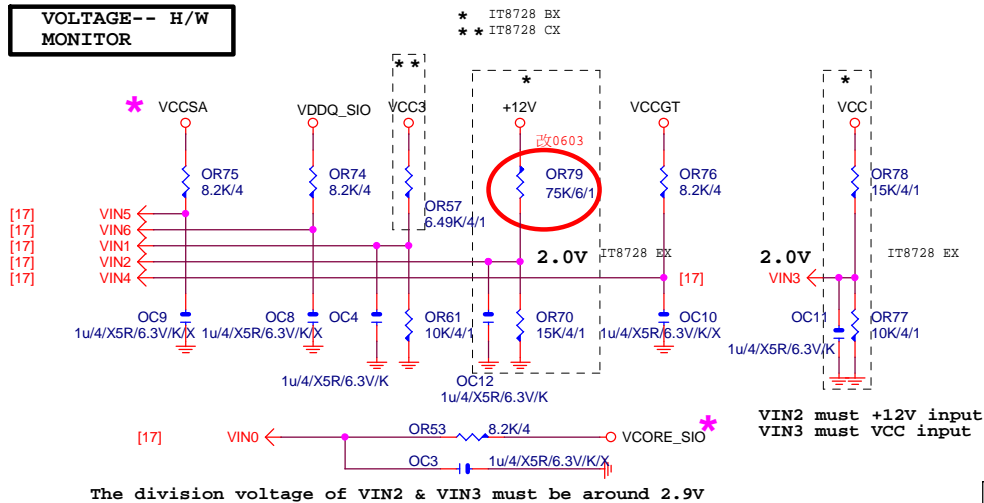


# RS\_VCORE > RS\_VCCGT CLOSE CPU\_VCORE & VCCGT MOSFET

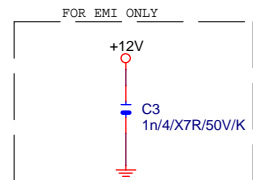
~~PROCHOT: 有mos heartsink不用prochot function~~



# VOLTAGE-- H/W MONITOR



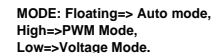
★Update 2015-04.24



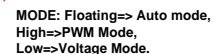
VIN2 must +12V input  
VIN3 must VCC input

# Gigabyte Technology

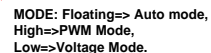
Title			HWM,KB/MS, FAN CTRL		
Size	Document Number				Rev
Custom	GA-Z270M-D3H				1.0
Date:	Monday, December 12, 2016	Sheet	18	of	57



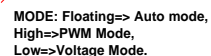
A.



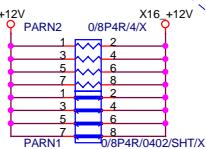
## B.



## C.



Title			
FAN CTRL			
Size	Document Number		Rev
Custom	GA-Z270M-D3H		1.0
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+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	0.22u4/X5R/6.3V/K	PA_EXP_TXP0 C
PA_EXP_TXN0	PAC4	0.22u4/X5R/6.3V/K	PA_EXP_TXN0 C
PA_EXP_TXP1	PAC6	0.22u4/X5R/6.3V/K	PA_EXP_TXP1 C
PA_EXP_TXN1	PAC7	0.22u4/X5R/6.3V/K	PA_EXP_TXN1 C
PA_EXP_TXP2	PAC8	0.22u4/X5R/6.3V/K	PA_EXP_TXP2 C
PA_EXP_TXN2	PAC9	0.22u4/X5R/6.3V/K	PA_EXP_TXN2 C
PA_EXP_TXP3	PAC10	0.22u4/X5R/6.3V/K	PA_EXP_TXP3 C
PA_EXP_TXN3	PAC11	0.22u4/X5R/6.3V/K	PA_EXP_TXN3 C
PA_EXP_TXP4	PAC12	0.22u4/X5R/6.3V/K	PA_EXP_TXP4 C
PA_EXP_TXN4	PAC13	0.22u4/X5R/6.3V/K	PA_EXP_TXN4 C
PA_EXP_TXP5	PAC14	0.22u4/X5R/6.3V/K	PA_EXP_TXP5 C
PA_EXP_TXN5	PAC15	0.22u4/X5R/6.3V/K	PA_EXP_TXN5 C
PA_EXP_TXP6	PAC16	0.22u4/X5R/6.3V/K	PA_EXP_TXP6 C
PA_EXP_TXN6	PAC17	0.22u4/X5R/6.3V/K	PA_EXP_TXN6 C
PA_EXP_TXP7	PAC18	0.22u4/X5R/6.3V/K	PA_EXP_TXP7 C
PA_EXP_TXN7	PAC19	0.22u4/X5R/6.3V/K	PA_EXP_TXN7 C
PA_EXP_TXP8	PAC21	0.22u4/X5R/6.3V/K	PA_EXP_TXP8 C
PA_EXP_TXN8	PAC20	0.22u4/X5R/6.3V/K	PA_EXP_TXN8 C
PA_EXP_TXP9	PAC22	0.22u4/X5R/6.3V/K	PA_EXP_TXP9 C
PA_EXP_TXN9	PAC23	0.22u4/X5R/6.3V/K	PA_EXP_TXN9 C
PA_EXP_TXP10	PAC24	0.22u4/X5R/6.3V/K	PA_EXP_TXP10 C
PA_EXP_TXN10	PAC25	0.22u4/X5R/6.3V/K	PA_EXP_TXN10 C
PA_EXP_TXP11	PAC26	0.22u4/X5R/6.3V/K	PA_EXP_TXP11 C
PA_EXP_TXN11	PAC27	0.22u4/X5R/6.3V/K	PA_EXP_TXN11 C
PA_EXP_TXP12	PAC28	0.22u4/X5R/6.3V/K	PA_EXP_TXP12 C
PA_EXP_TXN12	PAC29	0.22u4/X5R/6.3V/K	PA_EXP_TXN12 C
PA_EXP_TXP13	PAC30	0.22u4/X5R/6.3V/K	PA_EXP_TXP13 C
PA_EXP_TXN13	PAC31	0.22u4/X5R/6.3V/K	PA_EXP_TXN13 C
PA_EXP_TXP14	PAC32	0.22u4/X5R/6.3V/K	PA_EXP_TXP14 C
PA_EXP_TXN14	PAC33	0.22u4/X5R/6.3V/K	PA_EXP_TXN14 C
PA_EXP_TXP15	PAC34	0.22u4/X5R/6.3V/K	PA_EXP_TXP15 C
PA_EXP_TXN15	PAC35	0.22u4/X5R/6.3V/K	PA_EXP_TXN15 C

PCIEX16:16/5/5/5/16

PCI-E REV:1.1--&gt; 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--&gt; 5GHZ

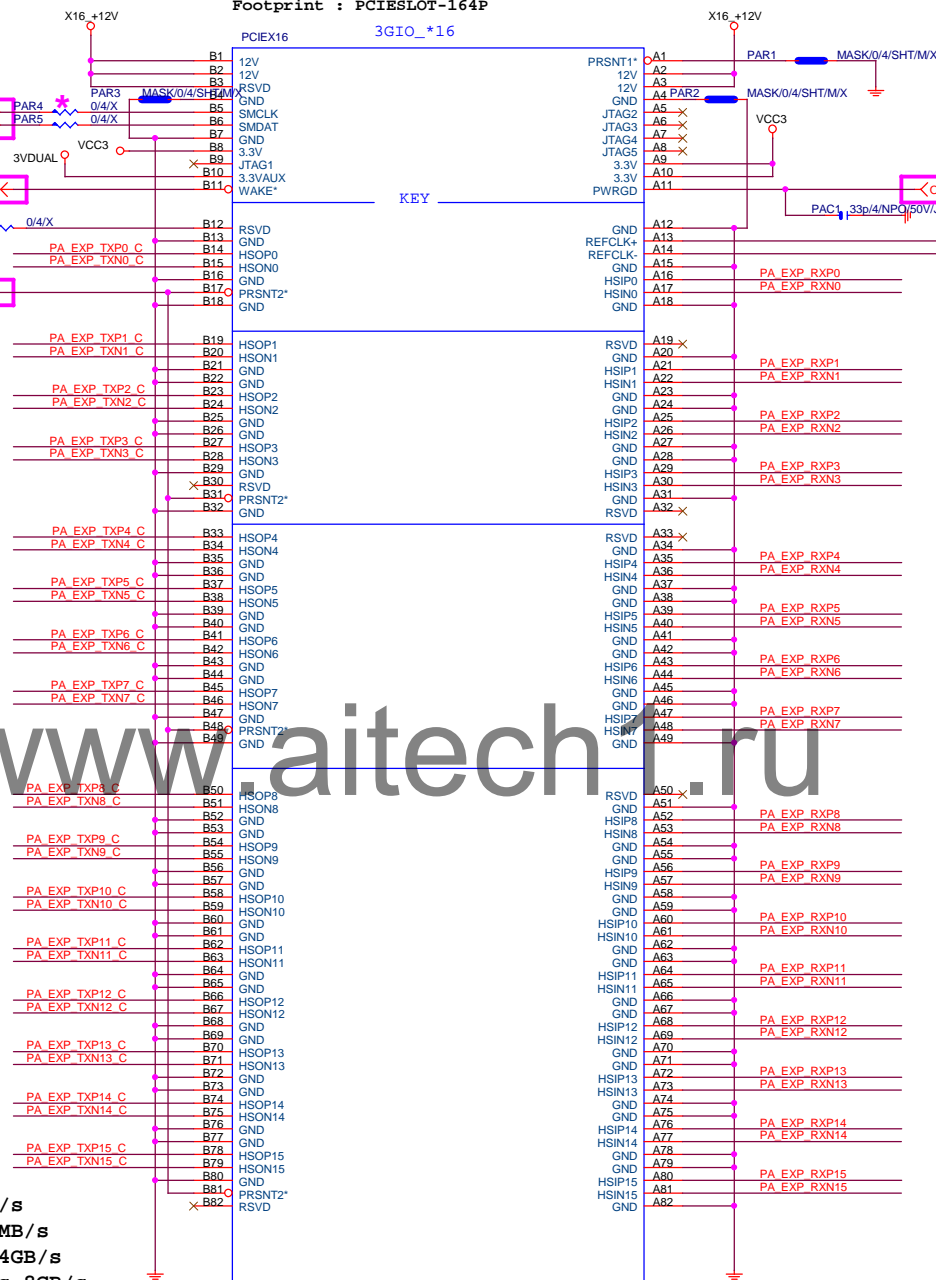
PCE-E X1(單向) BANDWIDTH=5GHz\*(8b/10b)=4Gb/s=500MB/s

PCI-E REV:3.0--&gt; 8GHZ

PCE-E X1(單向) BANDWIDTH=8GHz\*(128b/130b)=8Gb/s=1GB/s

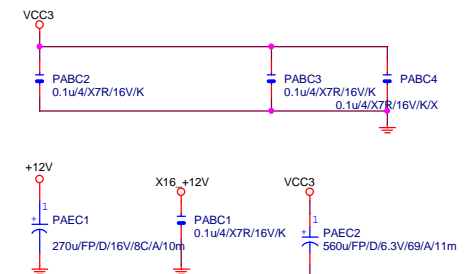
Footprint : PCIESLOT-164P

3GIO\_\*16



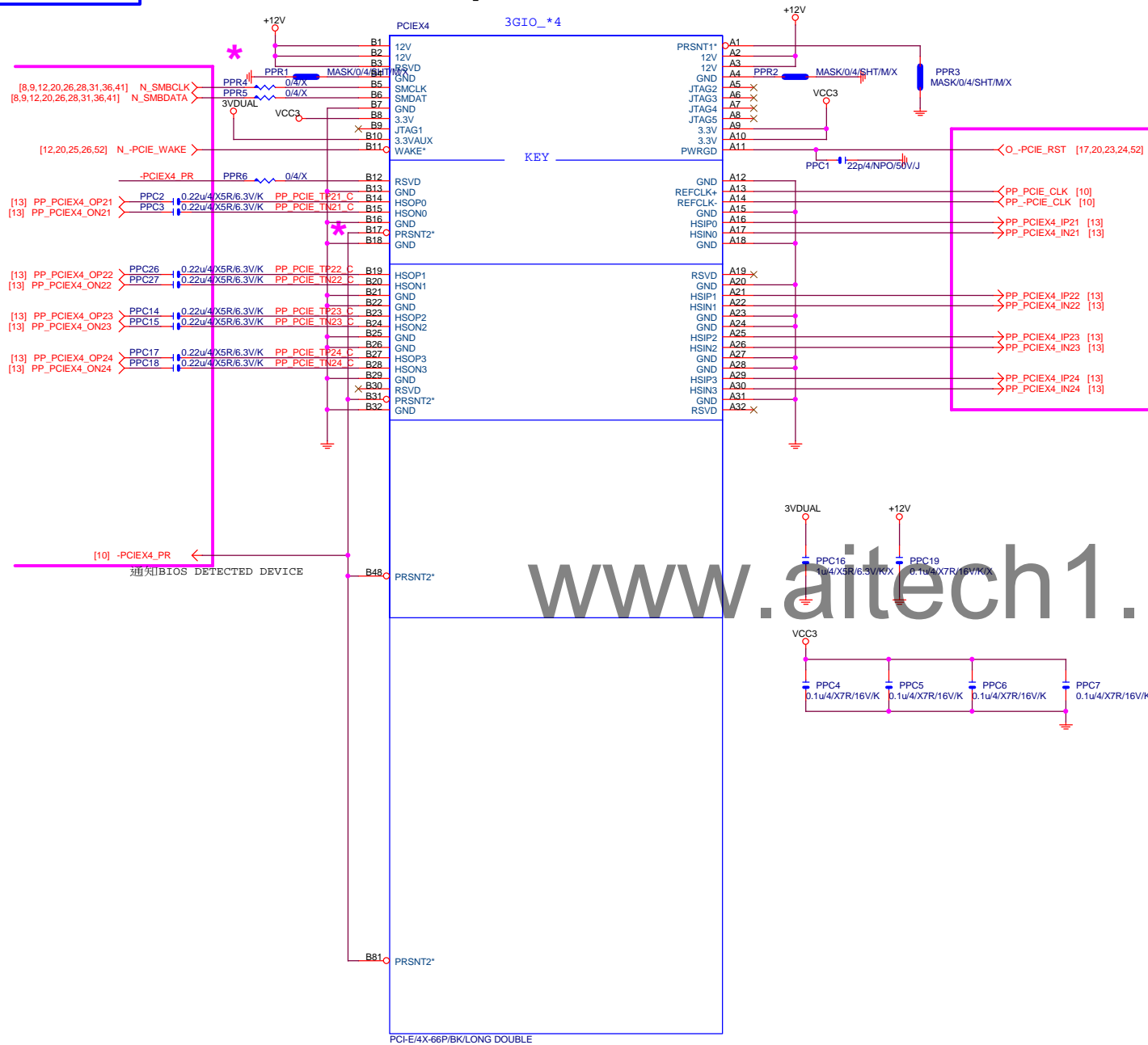
PCI-E/16x-164P/BK/LONG DOUBLE

黑色SLOT



Gigabyte Technology

Title				
PCI EXPRESS * 16				
Size	Document Number			Rev
Custom	GA-Z270M-D3H			1.0
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黑色

Gigabyte Technology

Title		
PCIE_X4		
Size	Document Number	Rev
Custom	GA-Z270M-D3H	1.0
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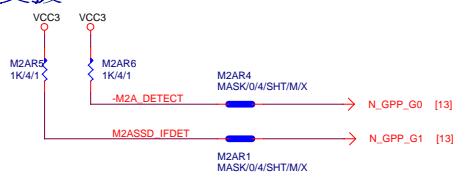
M.2 Lane4 from PCH port18

M.2 Lane3 from PCH port17

M.2 Lane2 from PCH port16

M.2 Lane1 from PCH port15

支援SATA and M.2 function



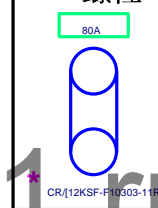
需與M2-CLKREQ對應

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

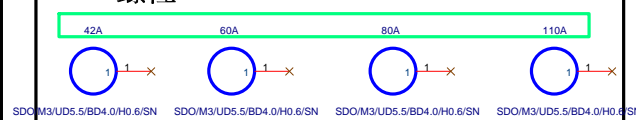
M.2 有插卡 /沒插卡 GPP_G0	M.2插何種卡? GPP_G1	SATA Express 插何種硬碟? GPP_E0/E2/F1	IO15 (S0)	IO16 (S1)	IO17	IO18	IO19 (S0)	IP20 (S1)
有插卡 (Low)	SATA Mode (Low)	SATA (Hi)	SATA (M.2)	PCIE x1	PCIE x1	PCIE x1	PCIE x1	SATA
		SATA Express (Low)	SATA (M.2)	PCIE x1	PCIE x1	PCIE x1	SATA Express	
	PCIE Mode (Hi)	SATA (Hi)	PCIE 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	

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DIP螺柱



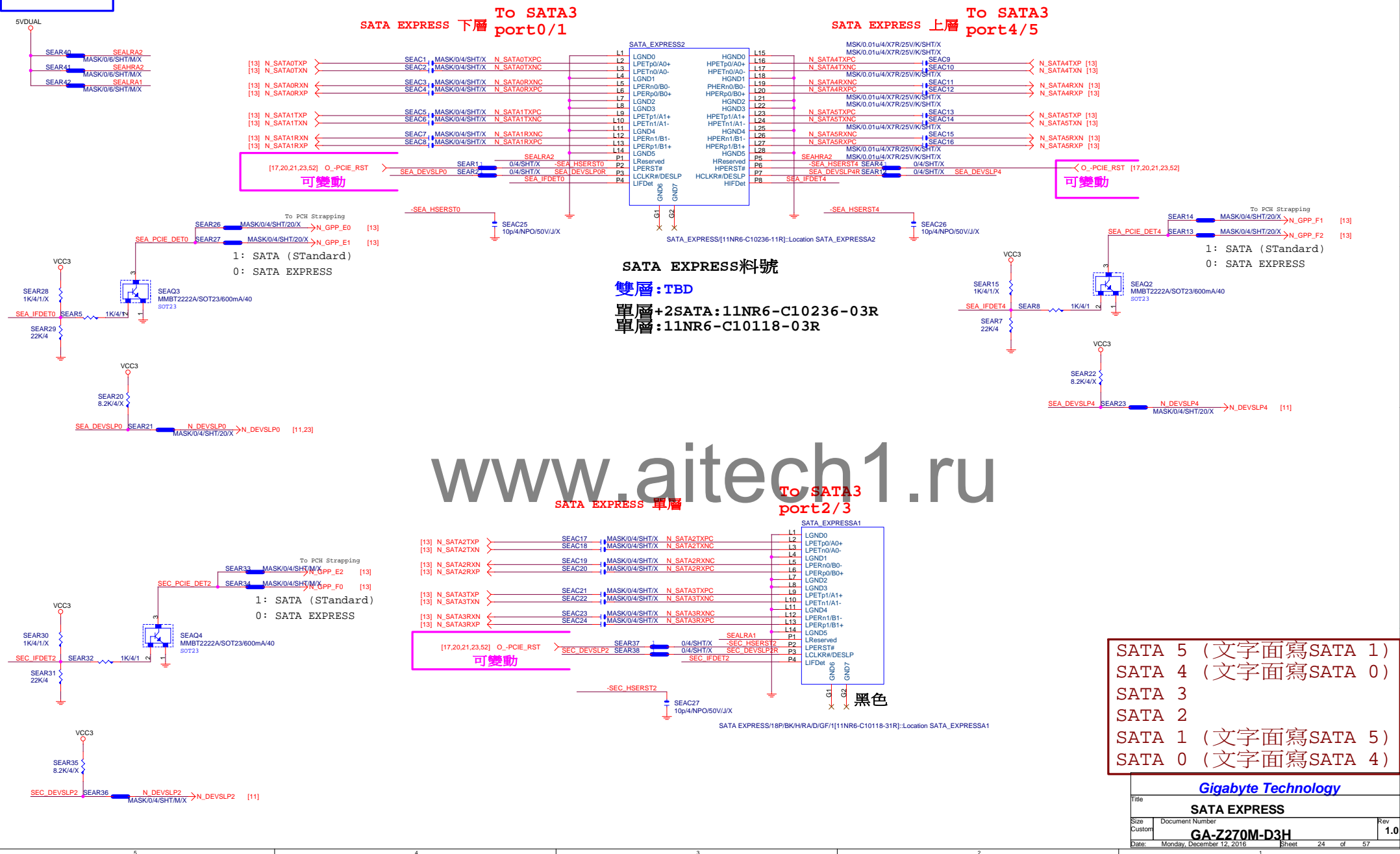
SMD螺柱

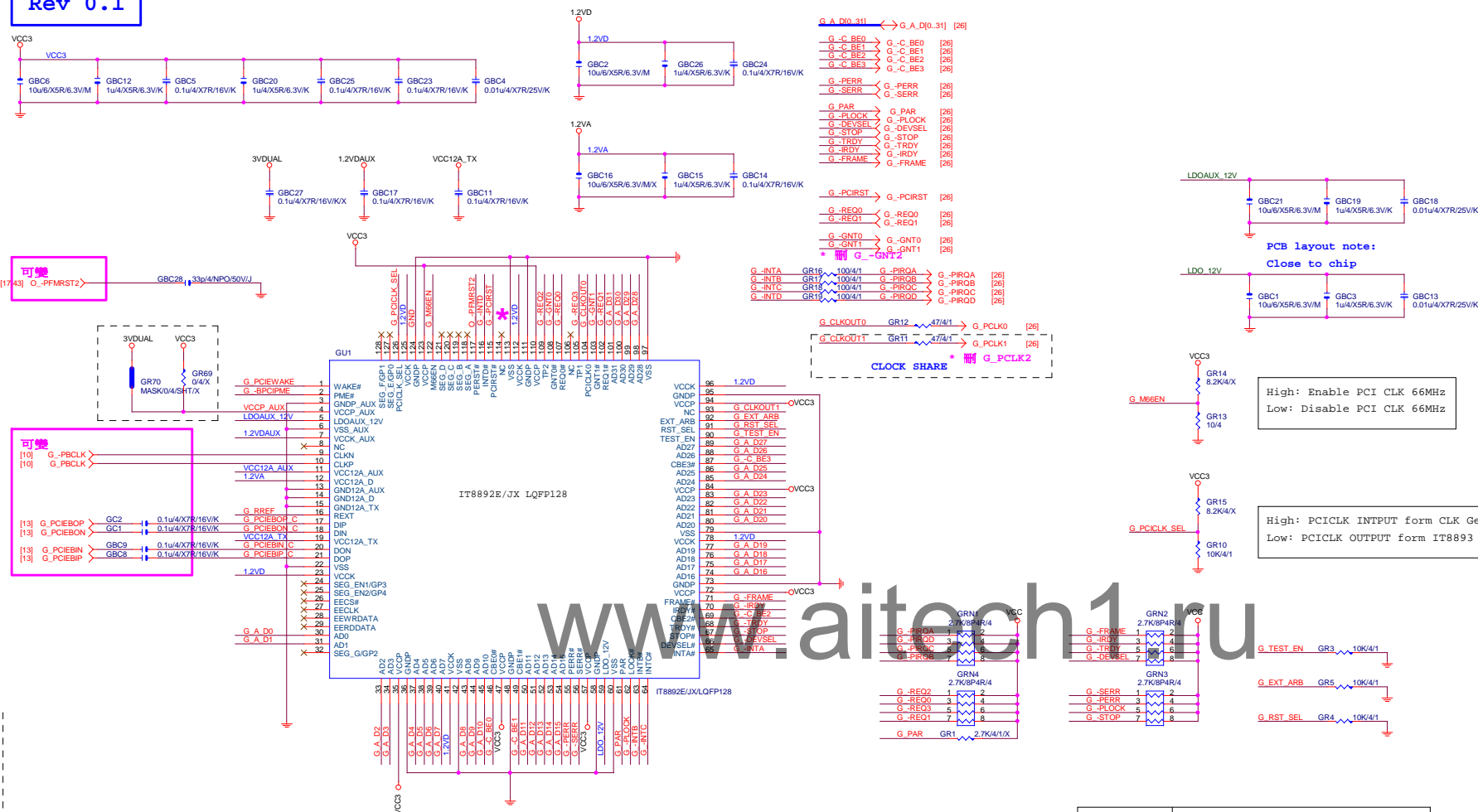


\* Footprint : HOLE\_C236D165-A



Rev 0.5





	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

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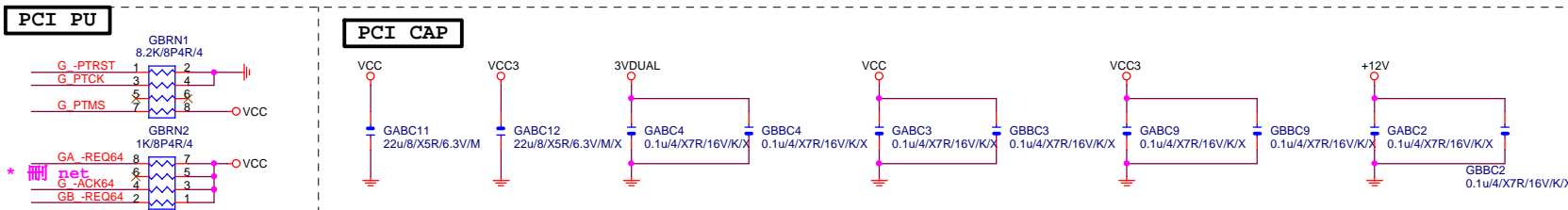
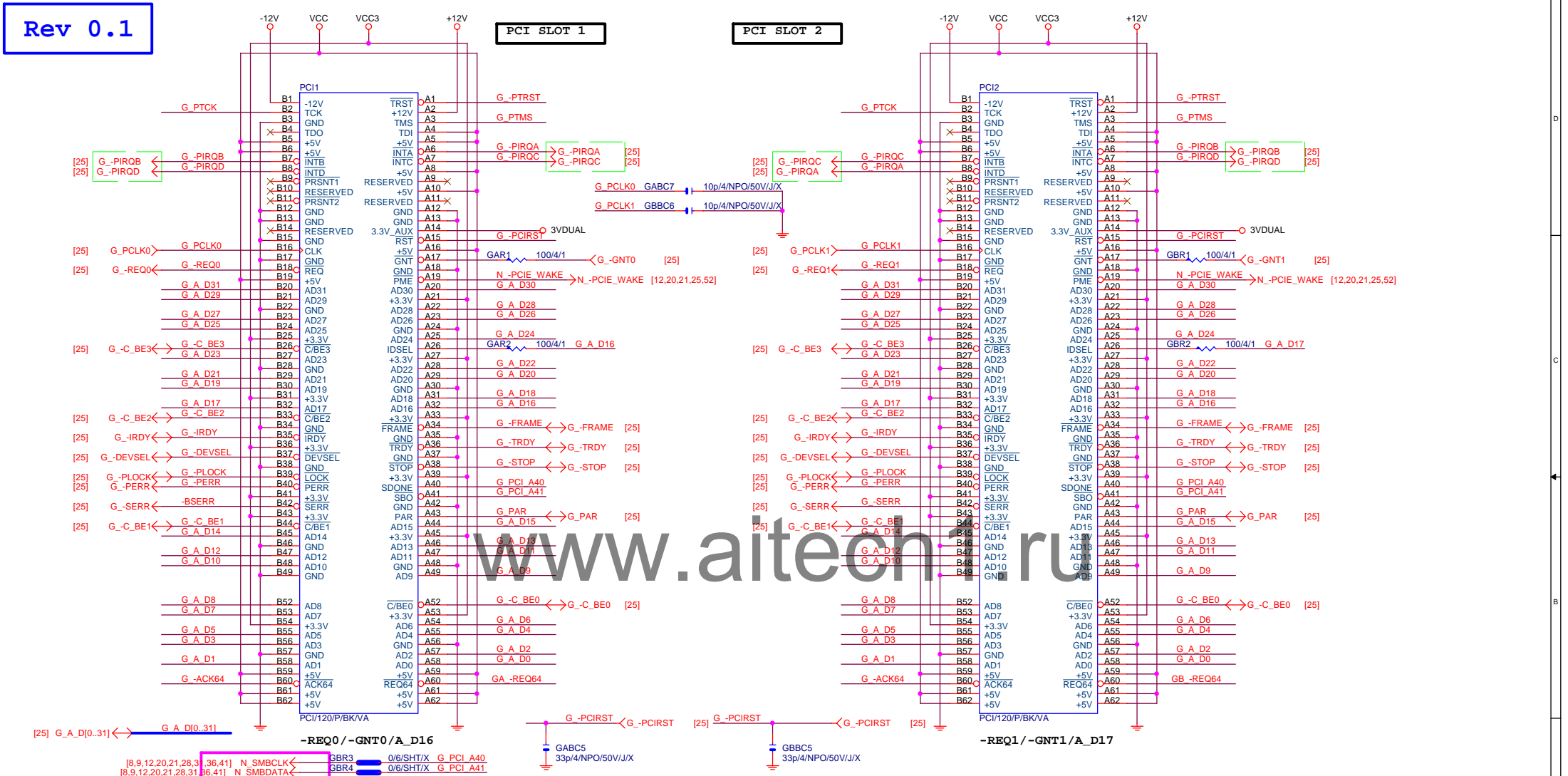
IT8892E JX

GA-Z270M-D3H

Rev	1.0
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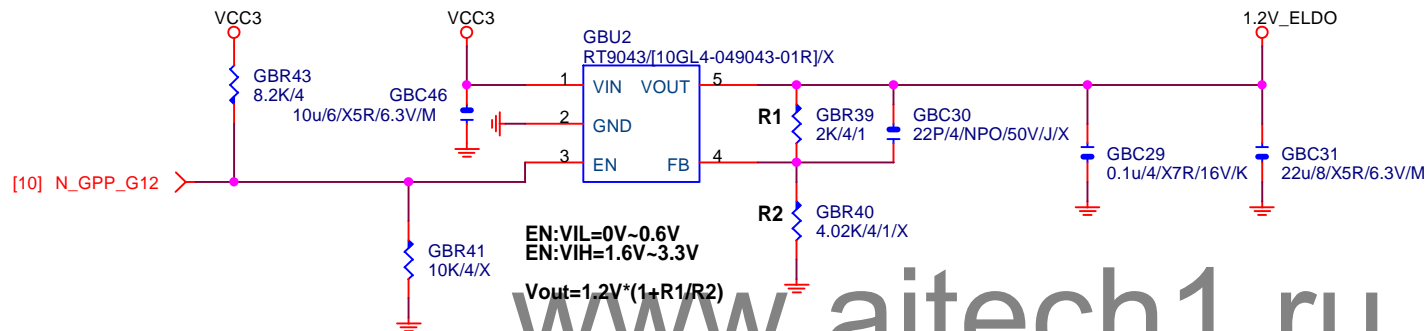
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Size		Document Number						1.0	
Custom		GA-Z270M-D3H							
Date: Monday, December 12, 2016				Sheet		25		of 57	

Rev 0.1



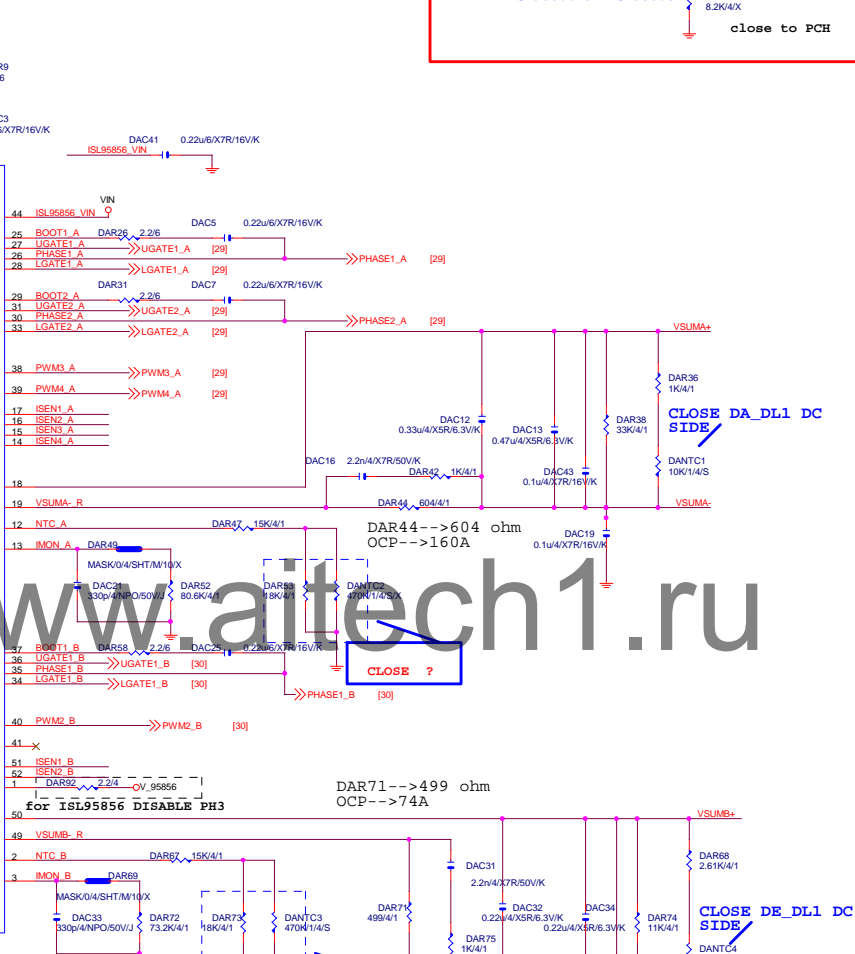
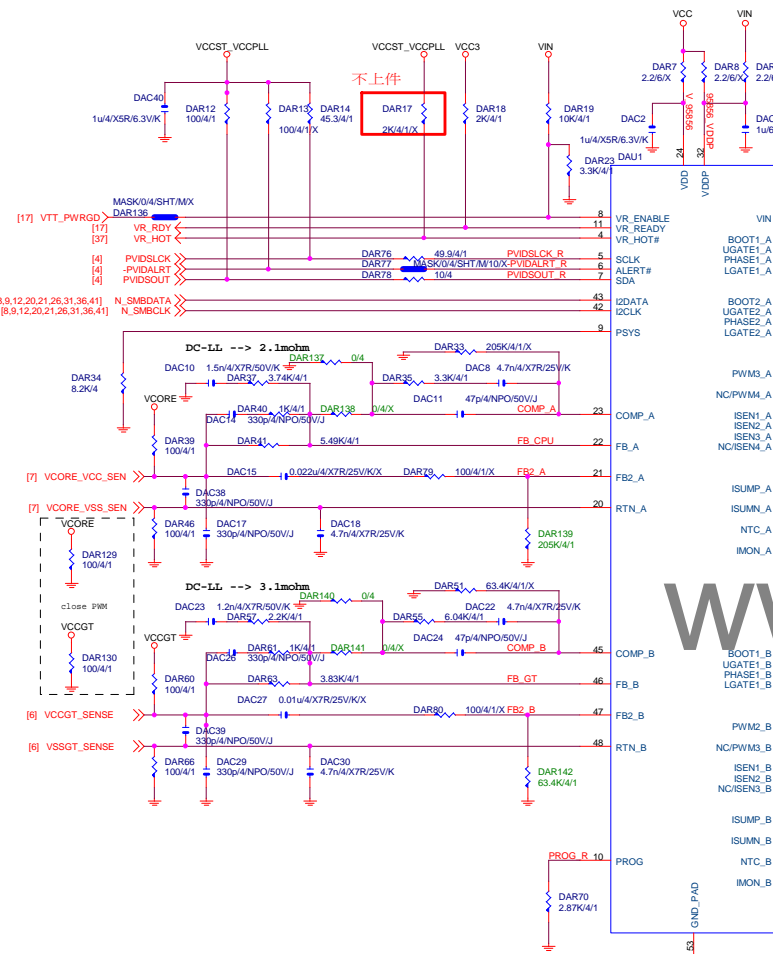
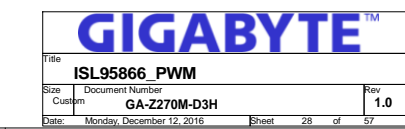
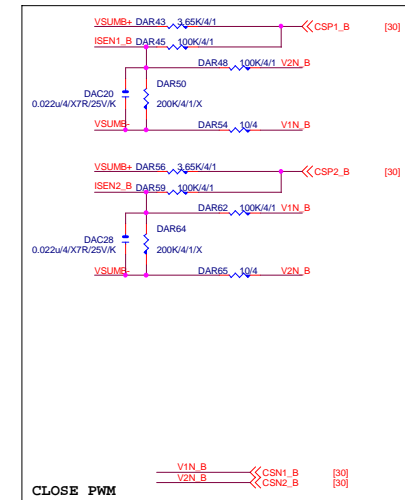
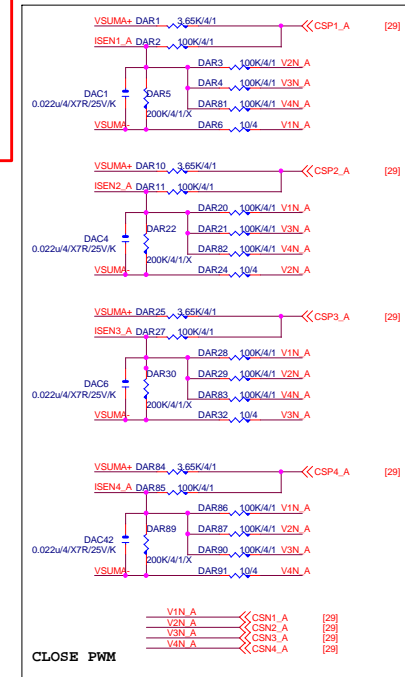
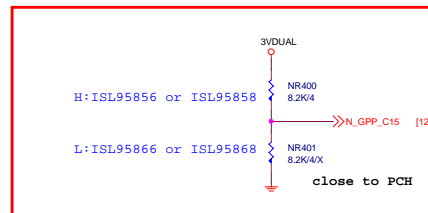
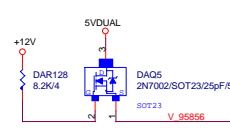
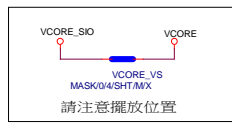
<b>GIGABYTE™</b>			
<b>PCI SLOT 1&amp;2</b>			
Size Custom	Document Number <b>GA-Z270M-D3H</b>		Rev <b>1.0</b>
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Rev 0.1

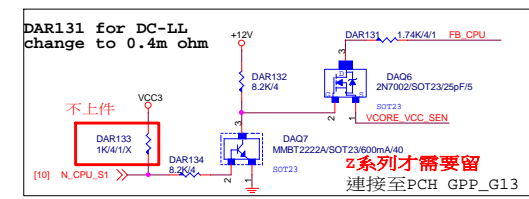
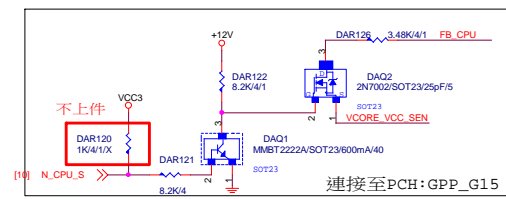
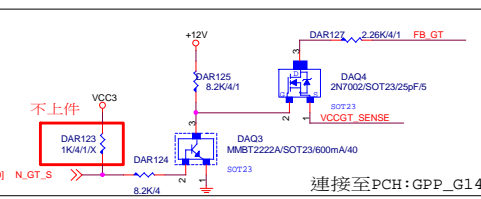


Gigabyte Technology

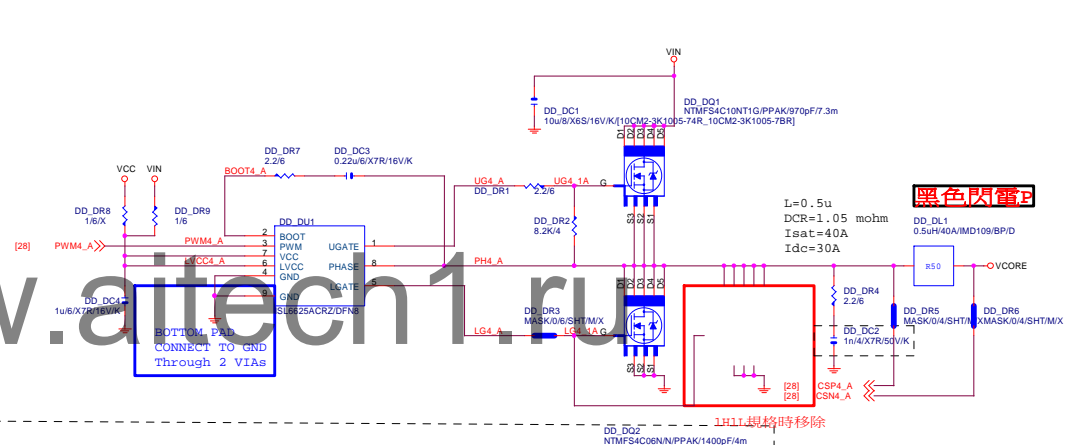
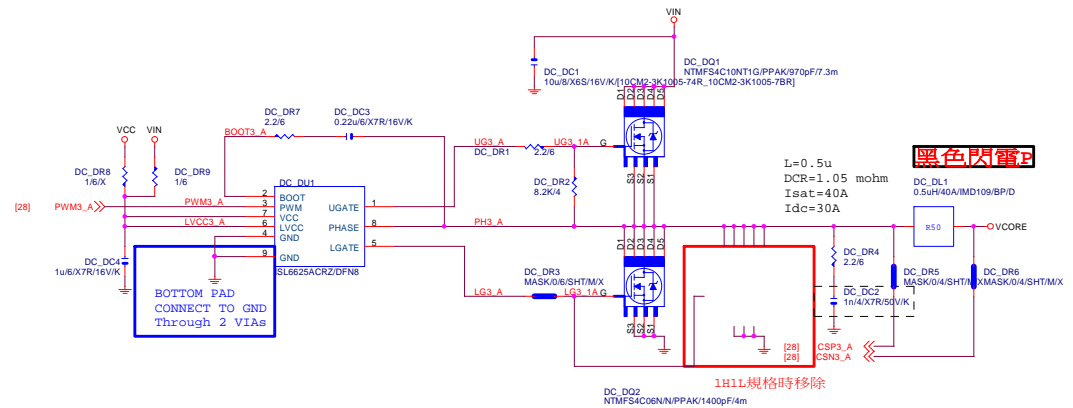
Title		
LDO POWER		
Size	Document Number	Rev
Custom	GA-Z270M-D3H	1.0
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Vcore	ISL95856	ISL95866	VCCGT	ISL95856	ISL95866
DAR137	X	V	DAR140	X	V
DAR138	V	X	DAR141	V	X
DAR139	X	V	DAR142	X	V
DAC15	V	X	DAC27	V	X
DAR79	V	X	DAR80	V	X
DAR33	V	X	DAR51	V	X



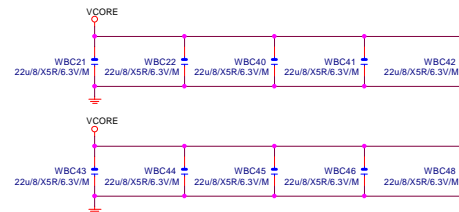
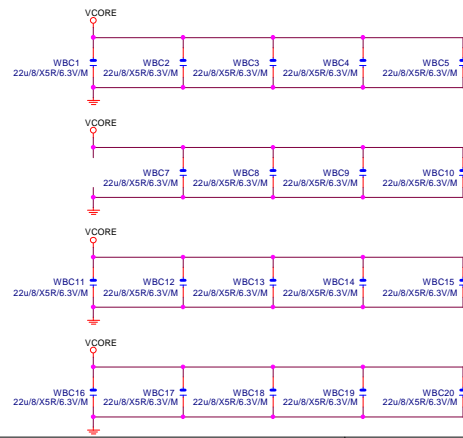
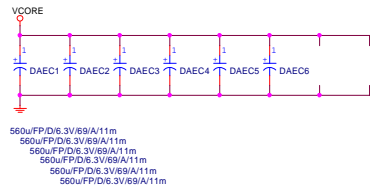
## VCORE



## VCORE CAP

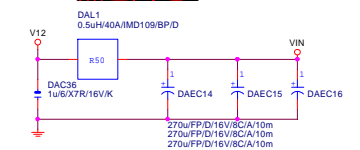
\* 客戶指定，不拿掉

560u\*8PCS  
22u\*29PCS



## VIN CAP 270u\*3PCS

**黑色閃電P**

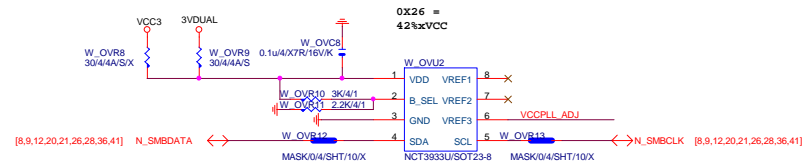
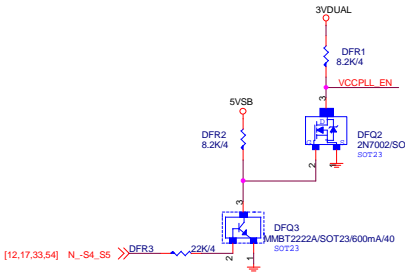
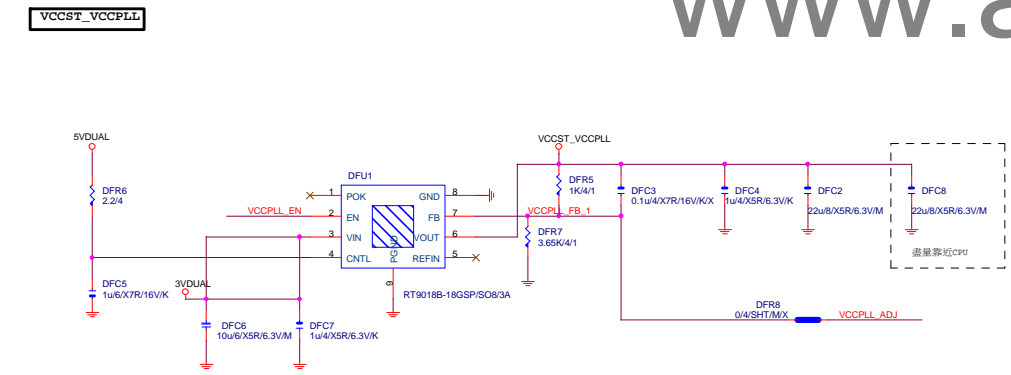
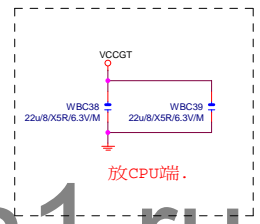
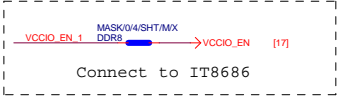
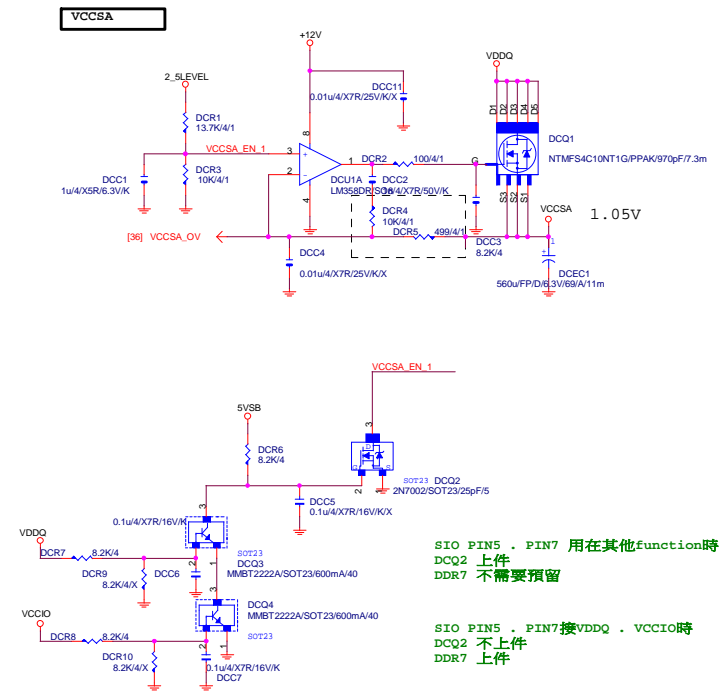


GIGABYTE™

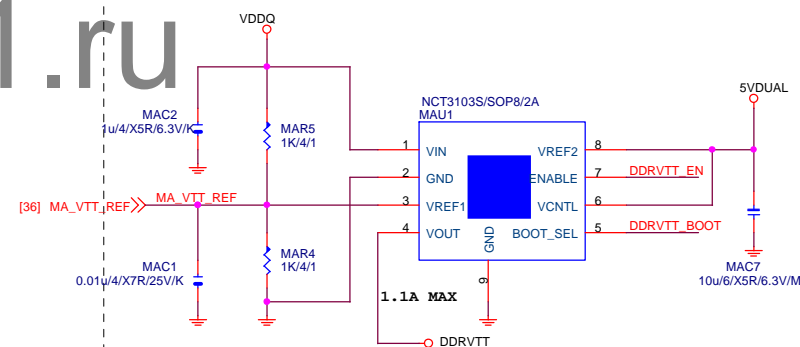
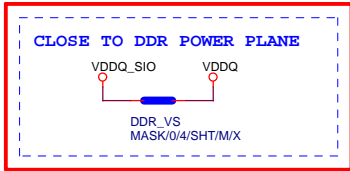
Title			
ISL95866_MOS_VCORE			
Size	Document Number	Rev	
Custom	GA-Z270M-D3H	1.0	
Date:	Monday, December 12, 2016	Sheet	29 of 57



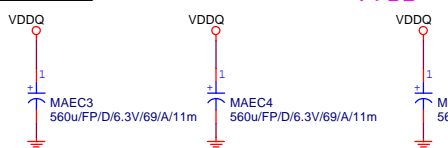




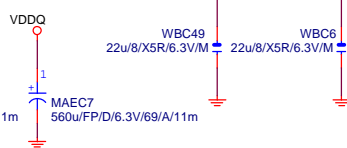
REV:0.1 (IRON CHOKE)



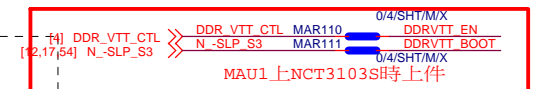
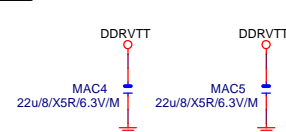
560u\*4PCS \* 大電容 x4



22u\* 2PCS



\* 大電容 x0

**GIGABYTE™**

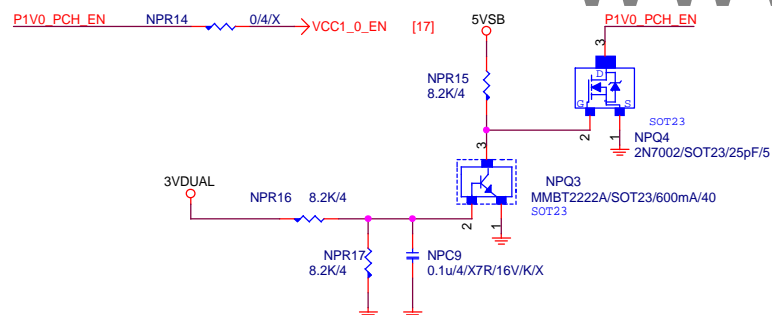
Title			
RT8120_DDR POWER			
Size	Document Number	Rev	
Custom	GA-Z270M-D3H	1.0	
Date:	Monday, December 12, 2016	Sheet	32 of 57

REV:0.1 (IRON CHOKE)

## CHOKES與CAP料號可變



Title			
RT8068A_VPP25 POWER			
Size	Document Number	Rev	
Custom	GA-Z270M-D3H	1.0	
Date:	Monday, December 12, 2016	Sheet	33 of 57



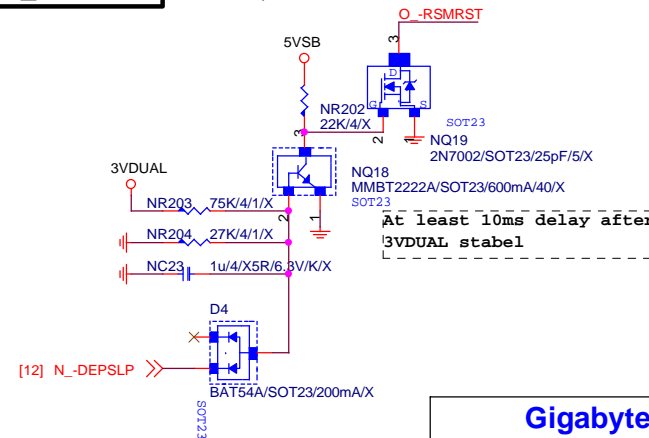
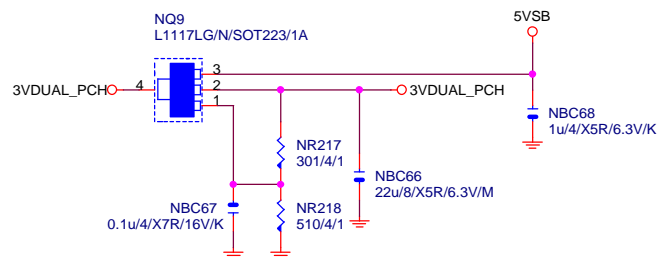
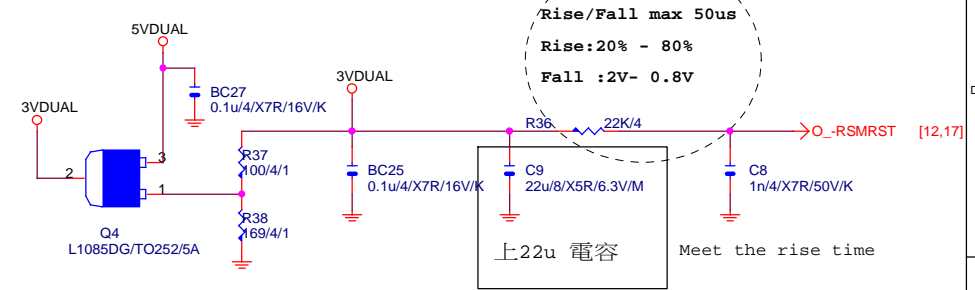
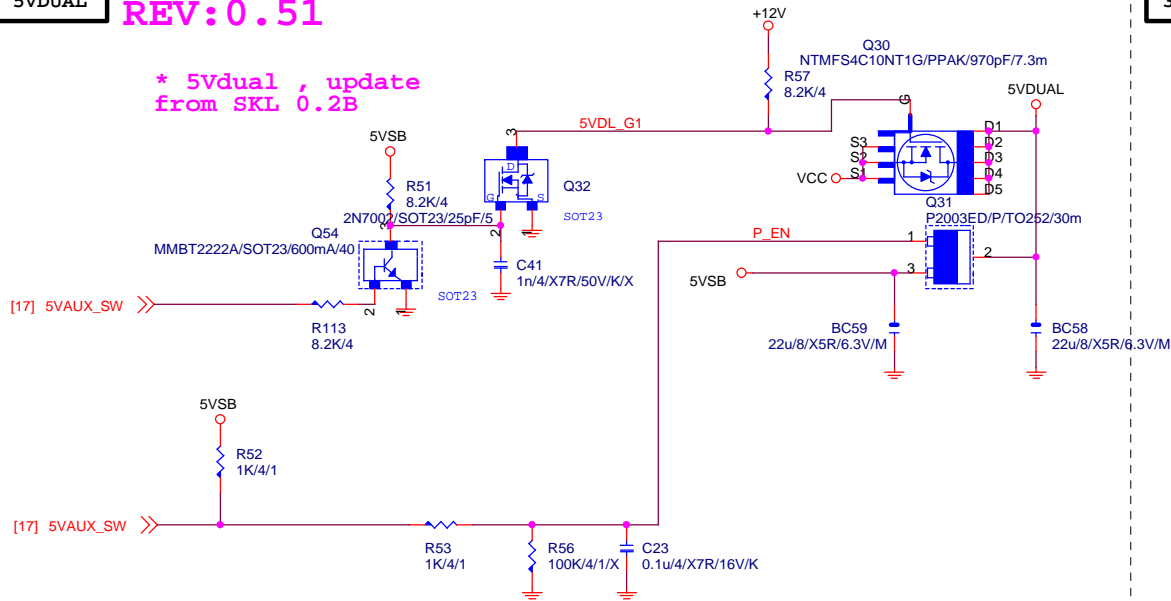
www.aitech1.ru

請放置CHOKE一出來的地方

**GIGABYTE™**

Title			
RT8120_PCH POWER			
Size	Document Number	Rev	
Custom	GA-Z270M-D3H	1.0	
Date:	Monday, December 12, 2016	Sheet	34 of 57

\* 5Vdual , update  
from SKL 0.2B

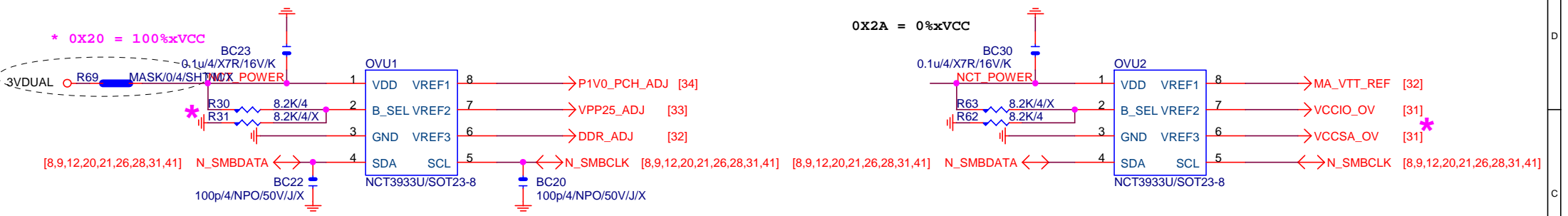


Gigabyte Technology

Title			
DISCRETE POWER			
Size	Document Number	GA-Z270M-D3H	
Custom		Rev 1.0	
Date:	Monday, December 12, 2016	Sheet	35 of 57

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OVER VOLTAGE

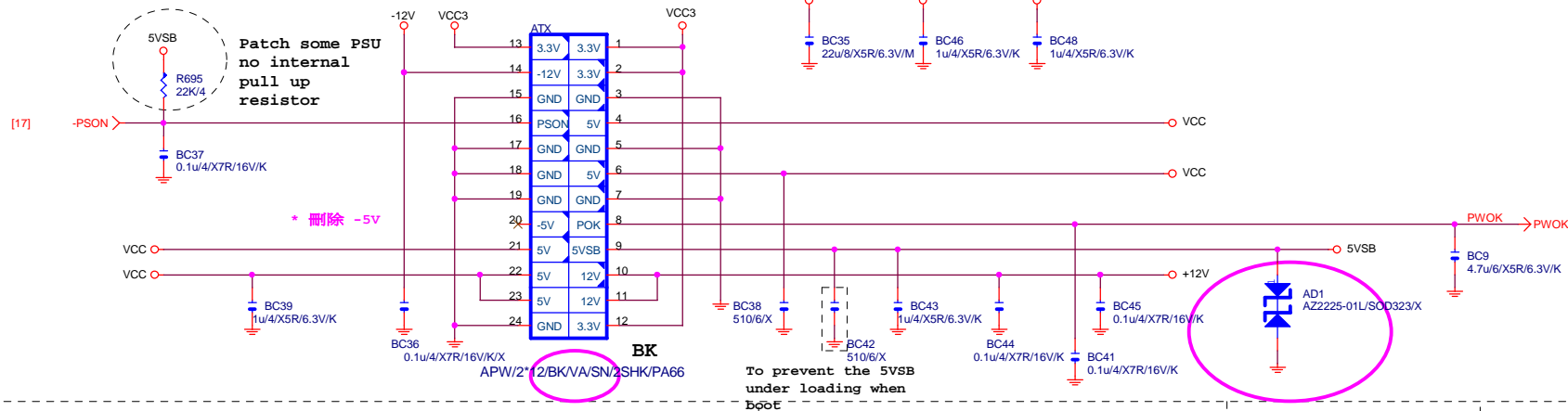


NCT3933	0X20	0X2A
VREF1	VCC1_0_PCH	DDRVTT
VREF2	VPP_25V	VCCIO
VREF3	VDDQ	VCCSA

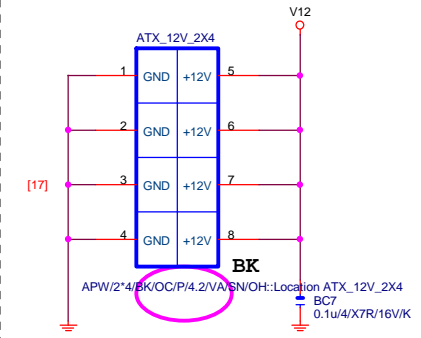
**Gigabyte Technology**

Title		
CPU CORE VR-2		
Size	Document Number	Rev
Custom	<b>GA-Z270M-D3H</b>	<b>1.0</b>
Date:	Monday, December 12, 2016	Sheet 36 of 57

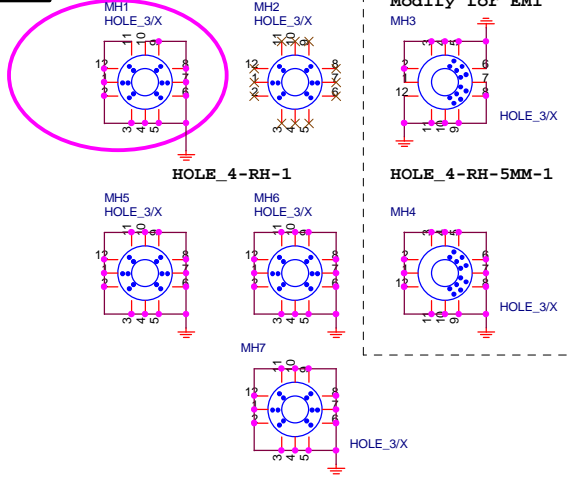
## ATXX24 POWER CONNECTOR



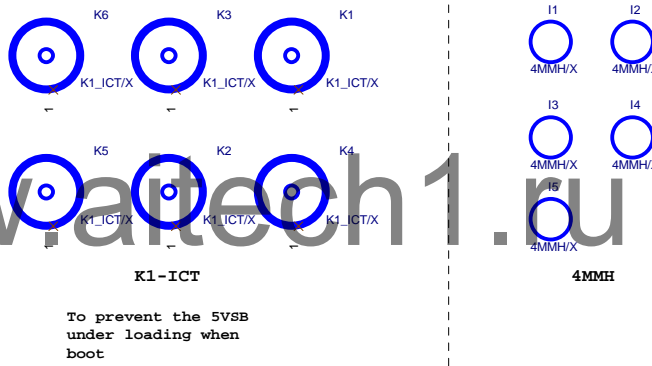
## ATXX4 POWER CONNECTOR



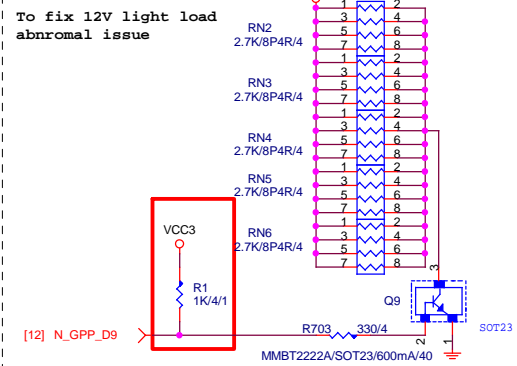
## 螺絲孔



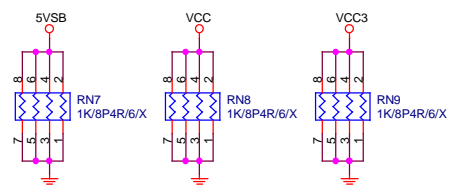
## 固定孔/光學點



## +12V DUMMY LOAD



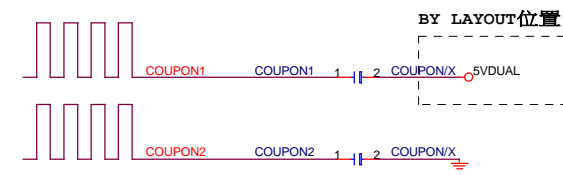
## DUMMY LOAD



## -PROHOT



## COUPON



## Gigabyte Technology

Title		
ATX POWER CONNECTOR		
Size	Document Number	Rev
Custom	GA-Z270M-D3H	1.0
Date:	Monday, December 12, 2016	Sheet 37 of 57

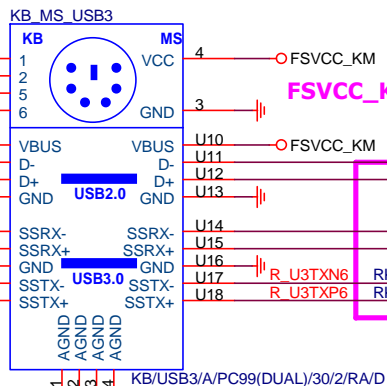


# KB\_MS\_USB3

USB 電容前後NET 可自行調整

[11] PCH\_USB3\_RXN9  
[11] PCH\_USB3\_RXP9  
[11] PCH\_USB3\_TXN9  
[11] PCH\_USB3\_TXP9

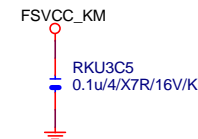
RKU3C1 0.1u/4/X7R/16V/K R\_U3TXN5  
RKU3C2 0.1u/4/X7R/16V/K R\_U3TXP5



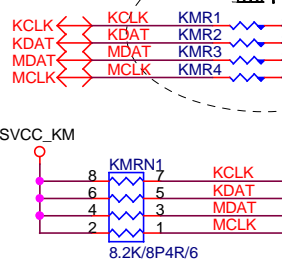
FSVCC\_KM 請確認是否要用 USB\_DAC(Page.12) power.

USB 電容前後NET 可自行調整

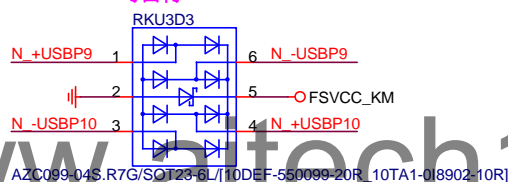
[11] PCH\_USB3\_RXN10  
[11] PCH\_USB3\_RXP10  
[11] PCH\_USB3\_TXN10  
[11] PCH\_USB3\_TXP10



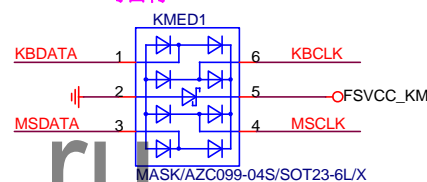
FOR 鹽化短路



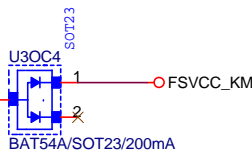
ESD 可自行SWAP PIN



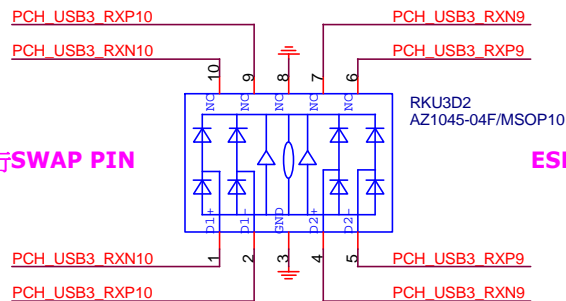
ESD 可自行SWAP PIN



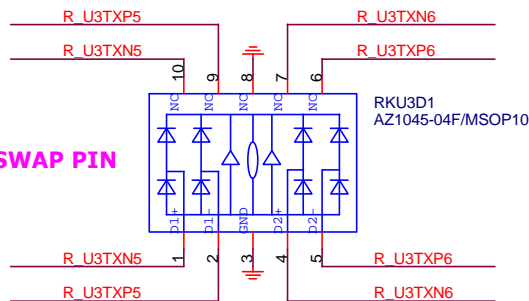
[11,40,48,49] N\_USBOC\_R



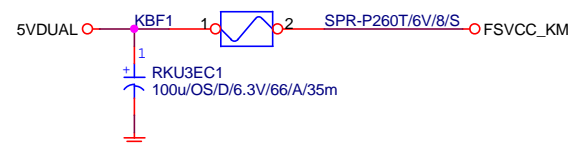
ESD 可自行SWAP PIN



ESD 可自行SWAP PIN



FUSE 2 Port 1 Fuse 2.6A



Gigabyte Technology

KB\_MS\_USB

GA-Z270M-D3H

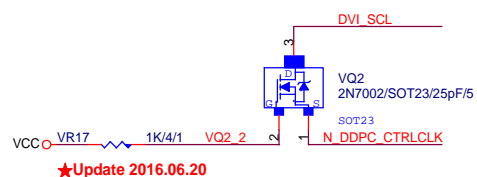
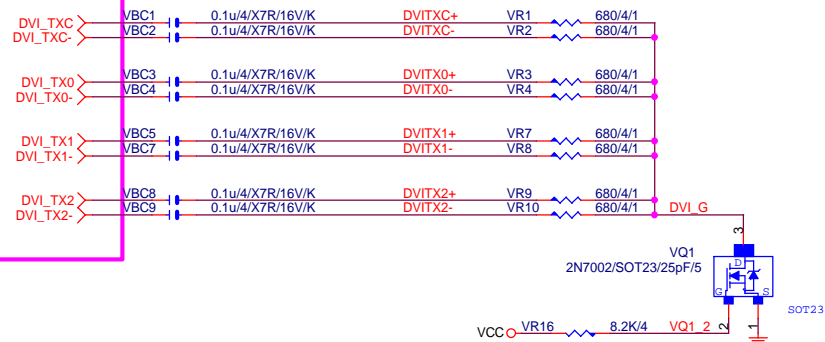
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## DVI

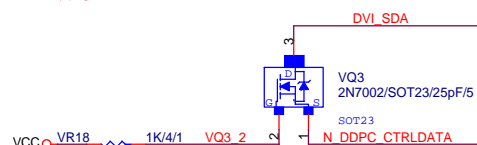
**Rev: 0.81**

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

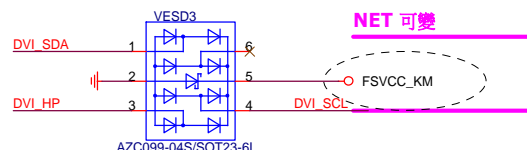
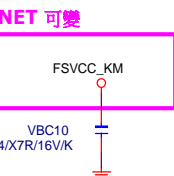
NET 可變



★Update 2016.06.20

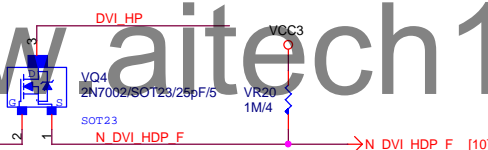
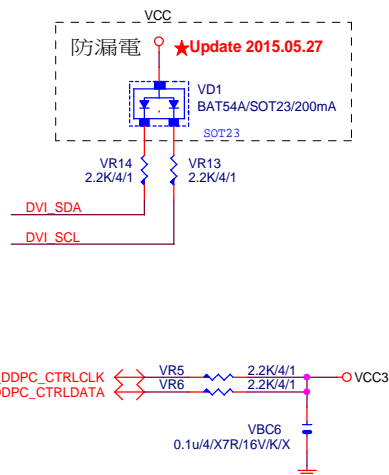


★Update 2016.06.20



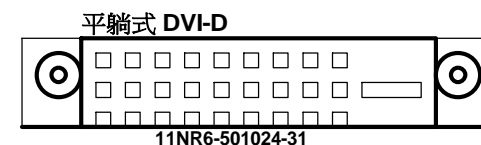
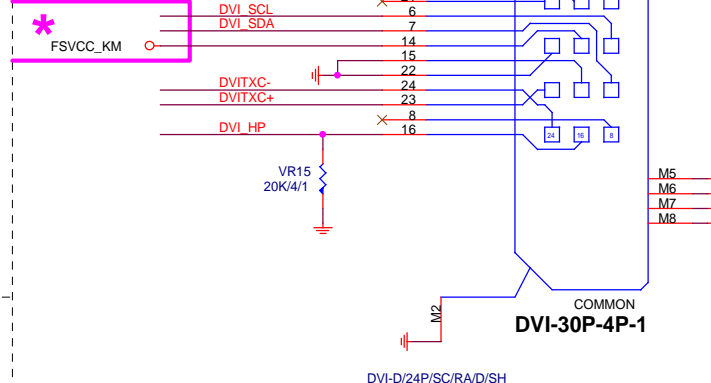
Close to connector

DVI PU



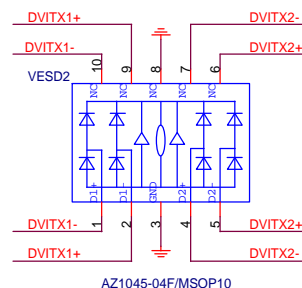
## DVI CONN

NET 可變

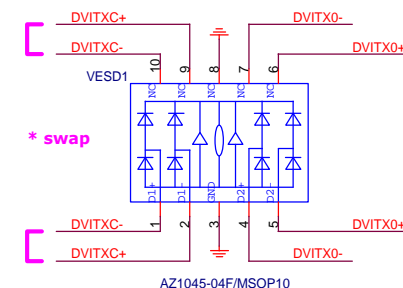


**ESD**

NET 可變



Close to connector



Close to connector

## Gigabyte Technology

Title
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## DVI

GA-Z270M-D3H

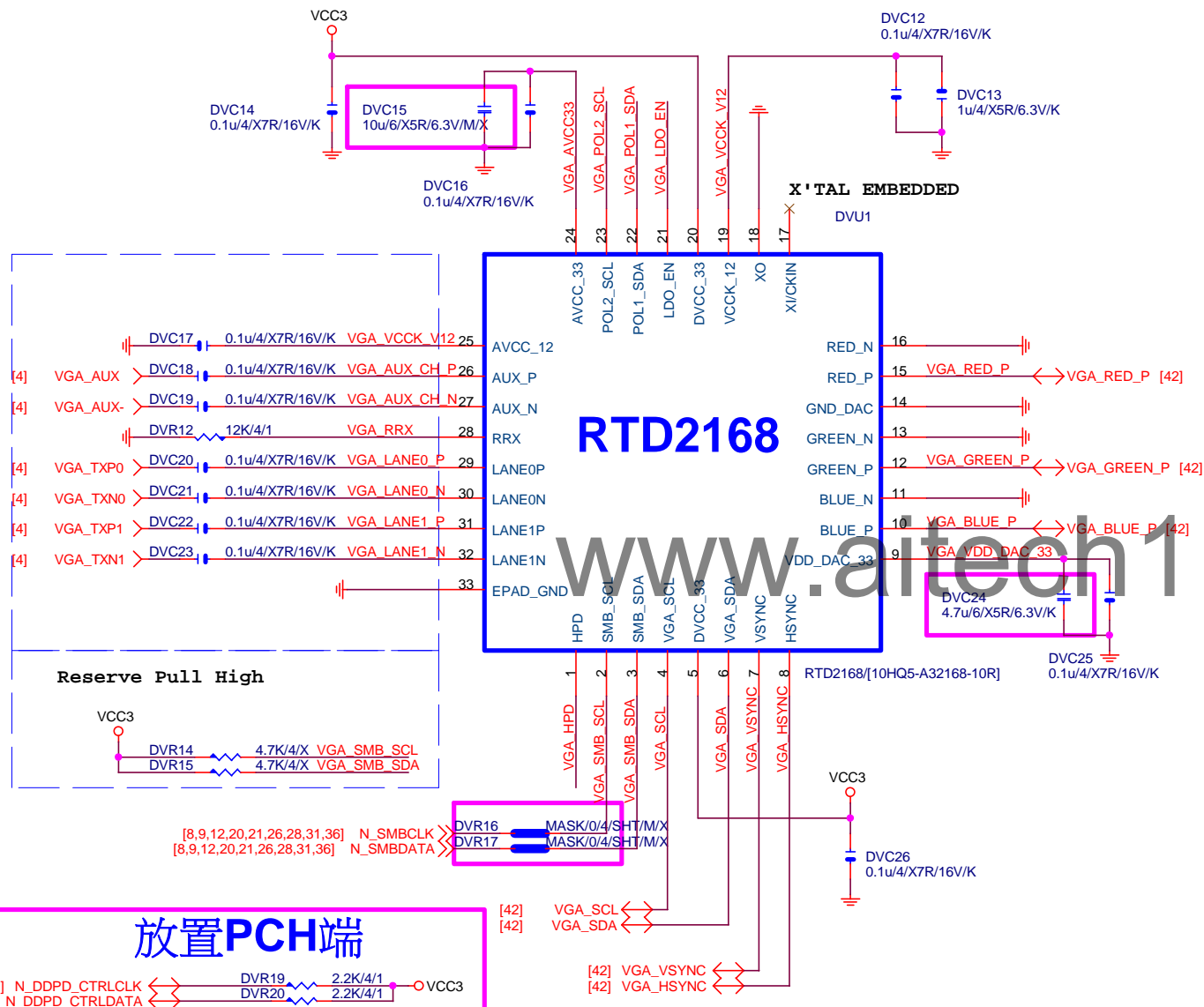
Rev
<b>1.0</b>

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1

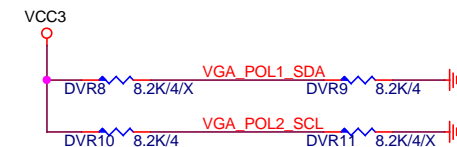




## POWER

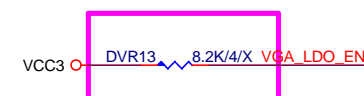


Power on latch



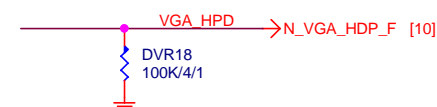
		POL1_SDA(PIN22)	
		0	1
POL2_SCL (PIN23)	0	X	EP MODE
	1	<b>ROM ONLY MODE</b>	<b>EEPROM MODE</b>

## Embedded LDO

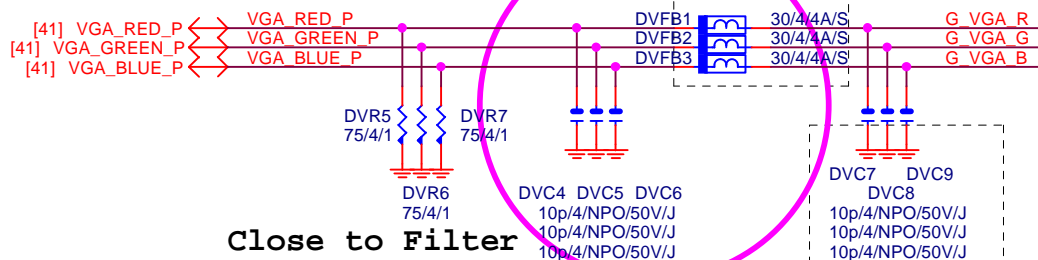
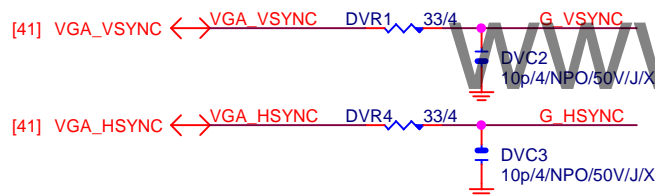
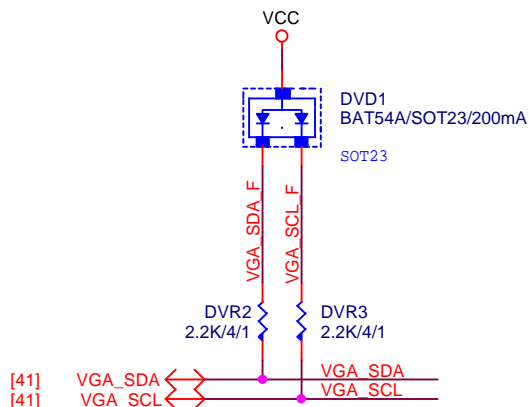


LDO_EN(PIN21)	
0	1
VCCK_V12 from External 1.2V	VCCK_V12 from Embedded LDO

## DP HPD



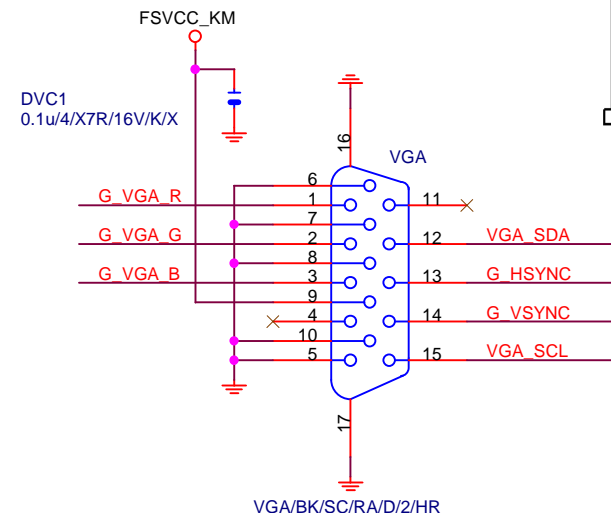
# VGA SIGNAL R1.03



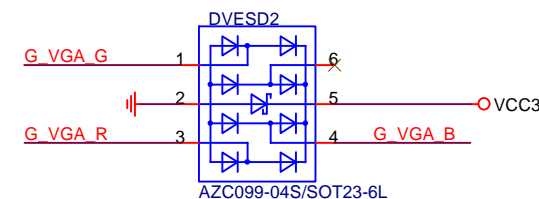
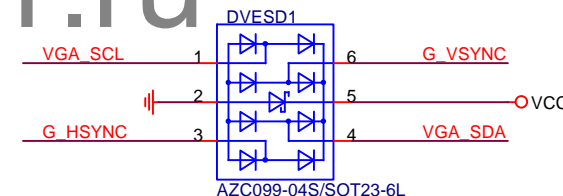
Close to Filter

FOR EMI

# VGA CONN. 架高型VGA (BLACK)

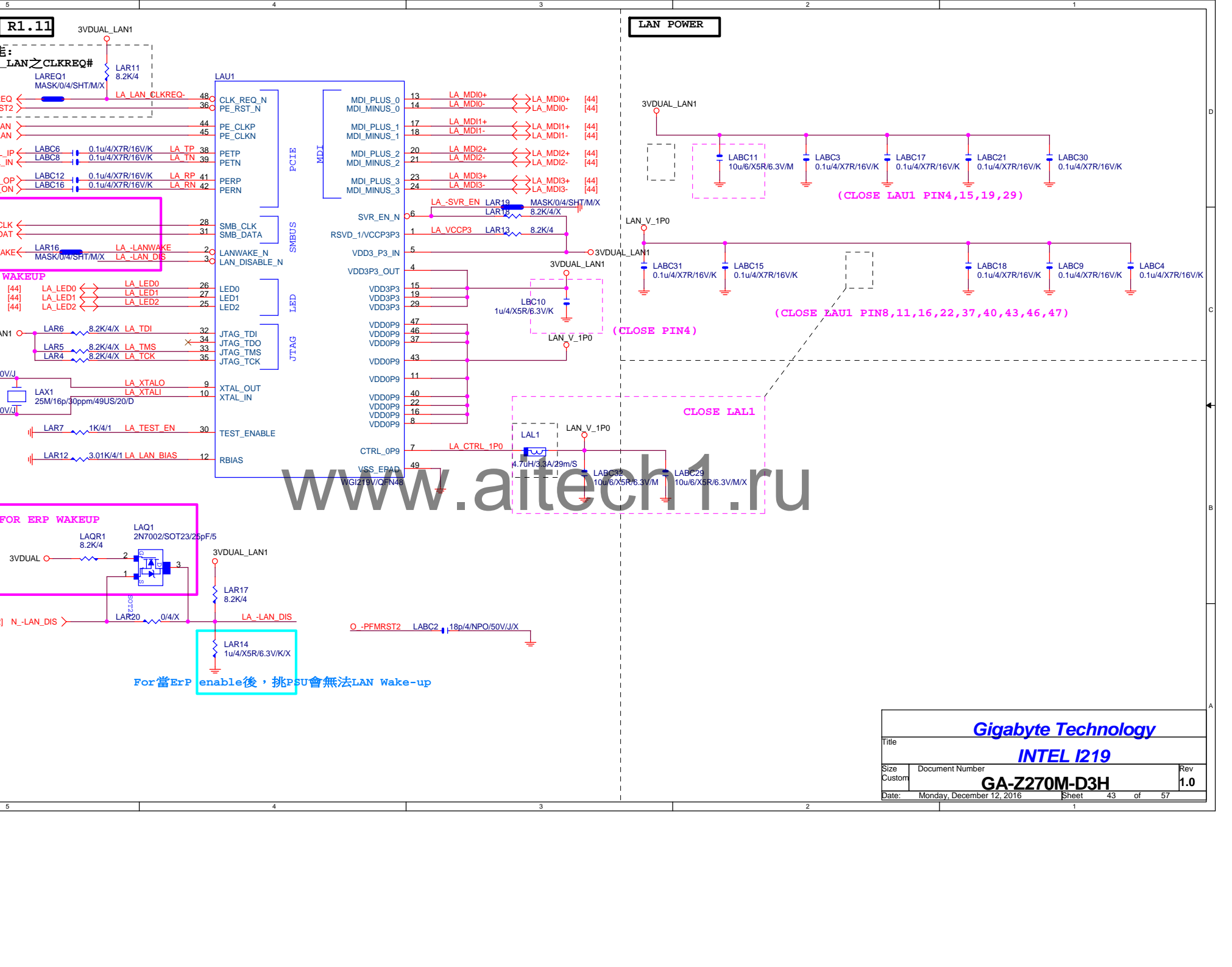
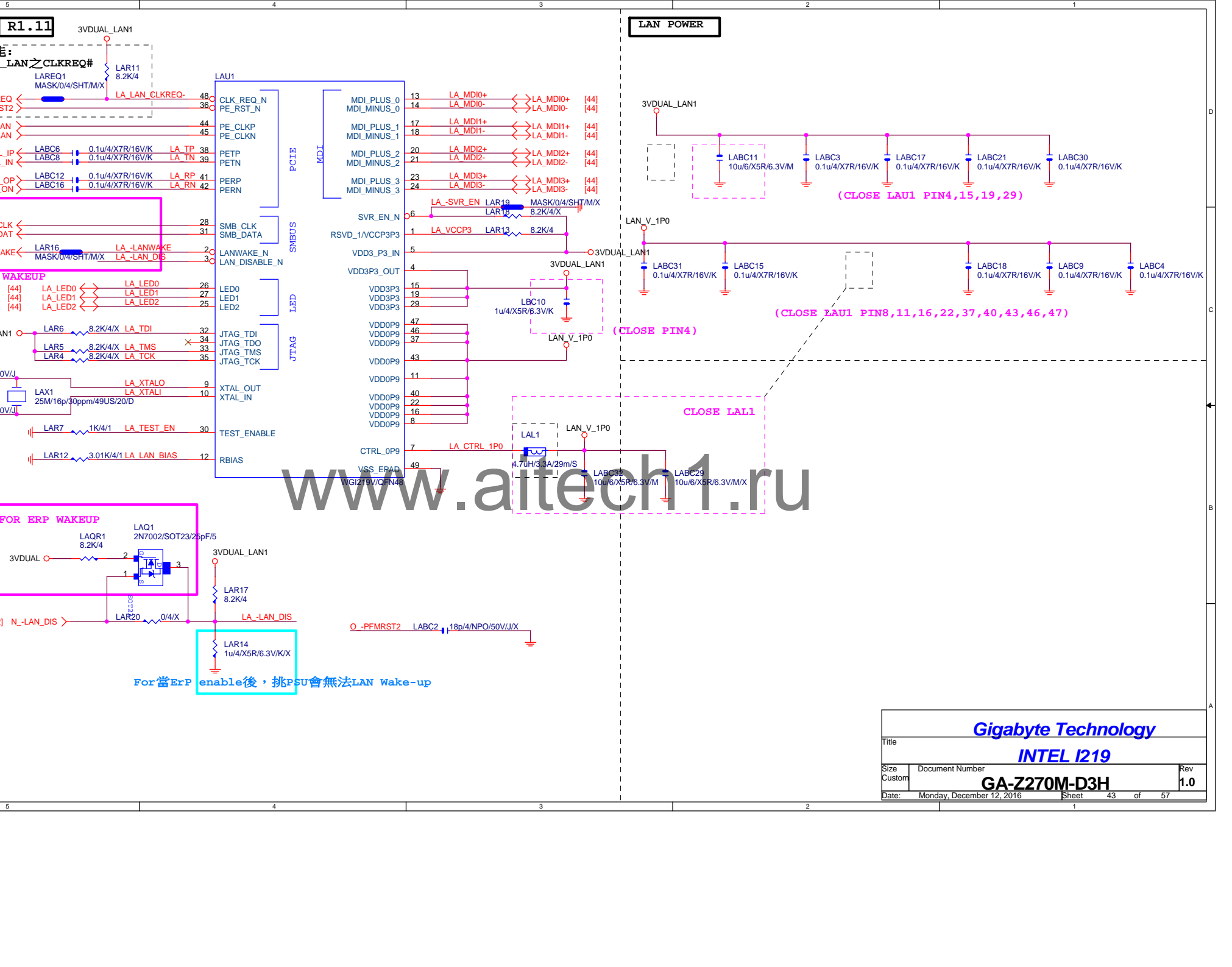
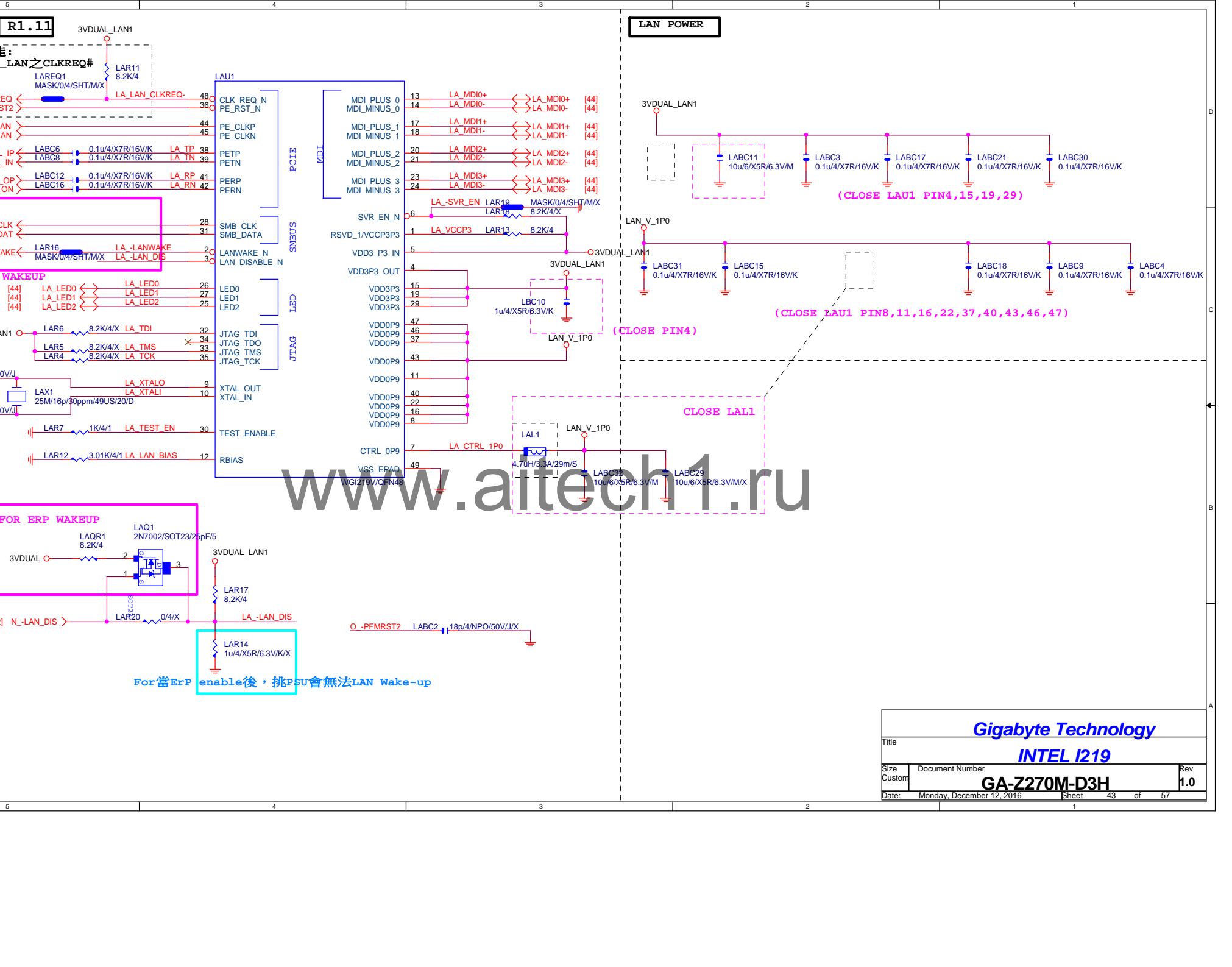
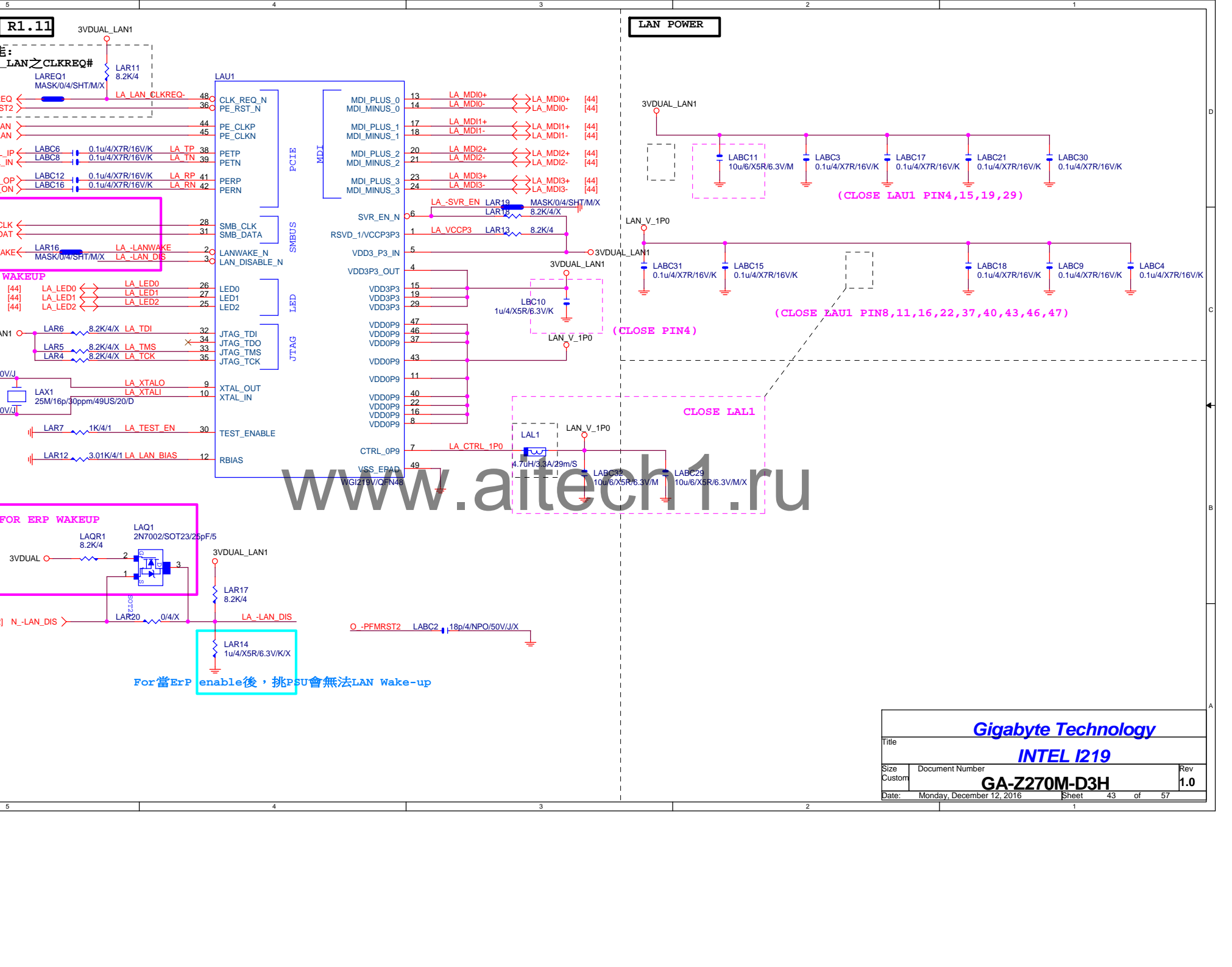
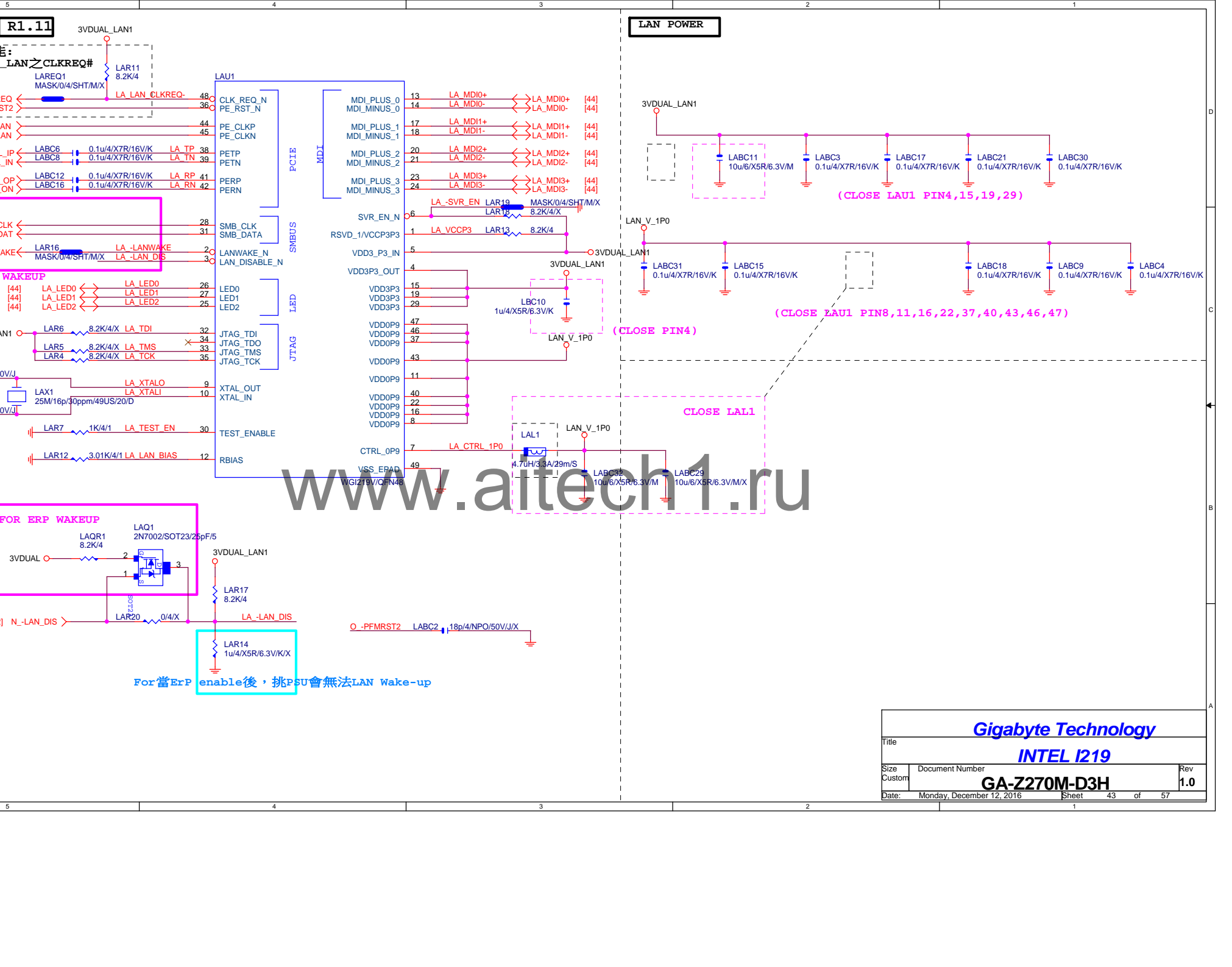
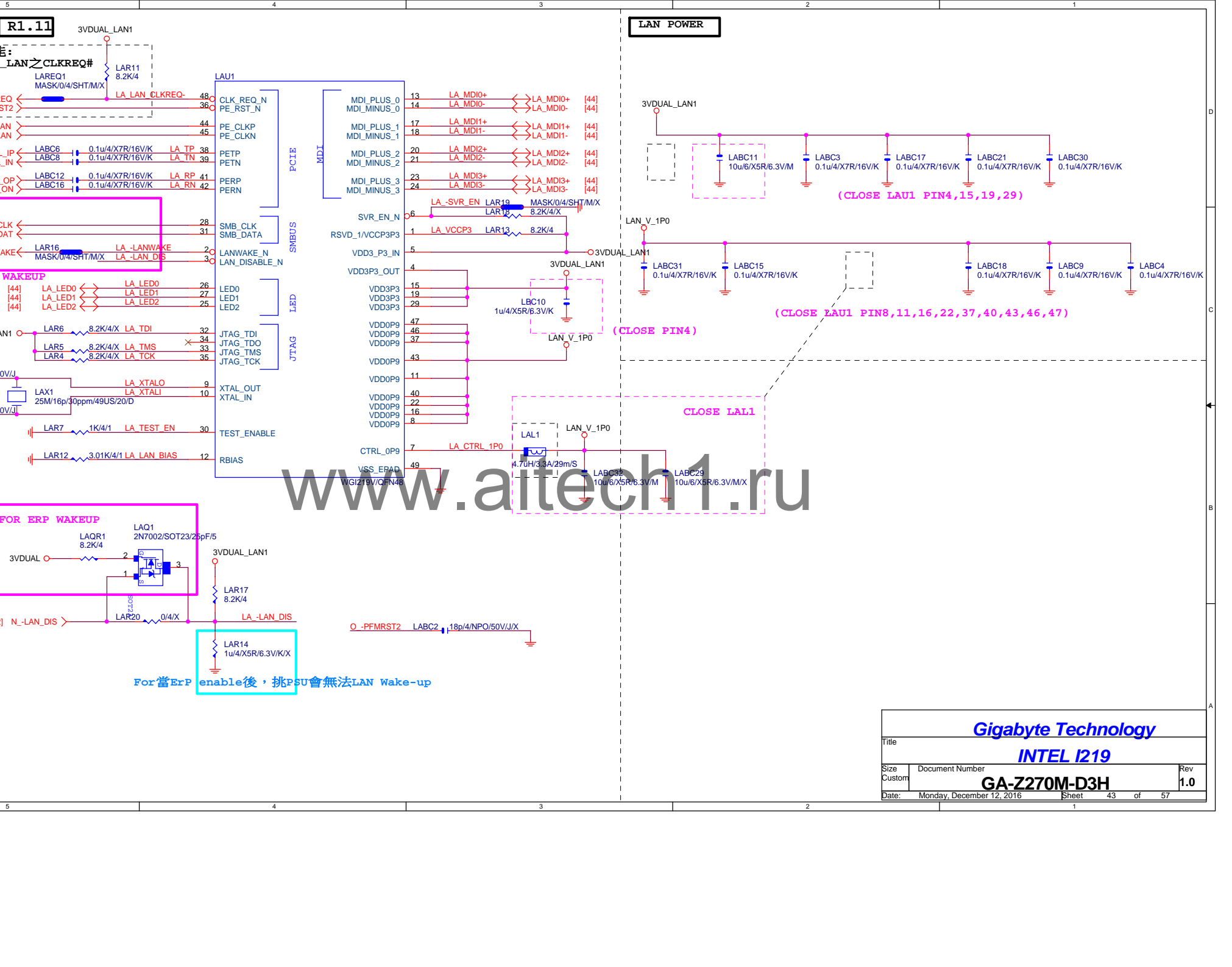
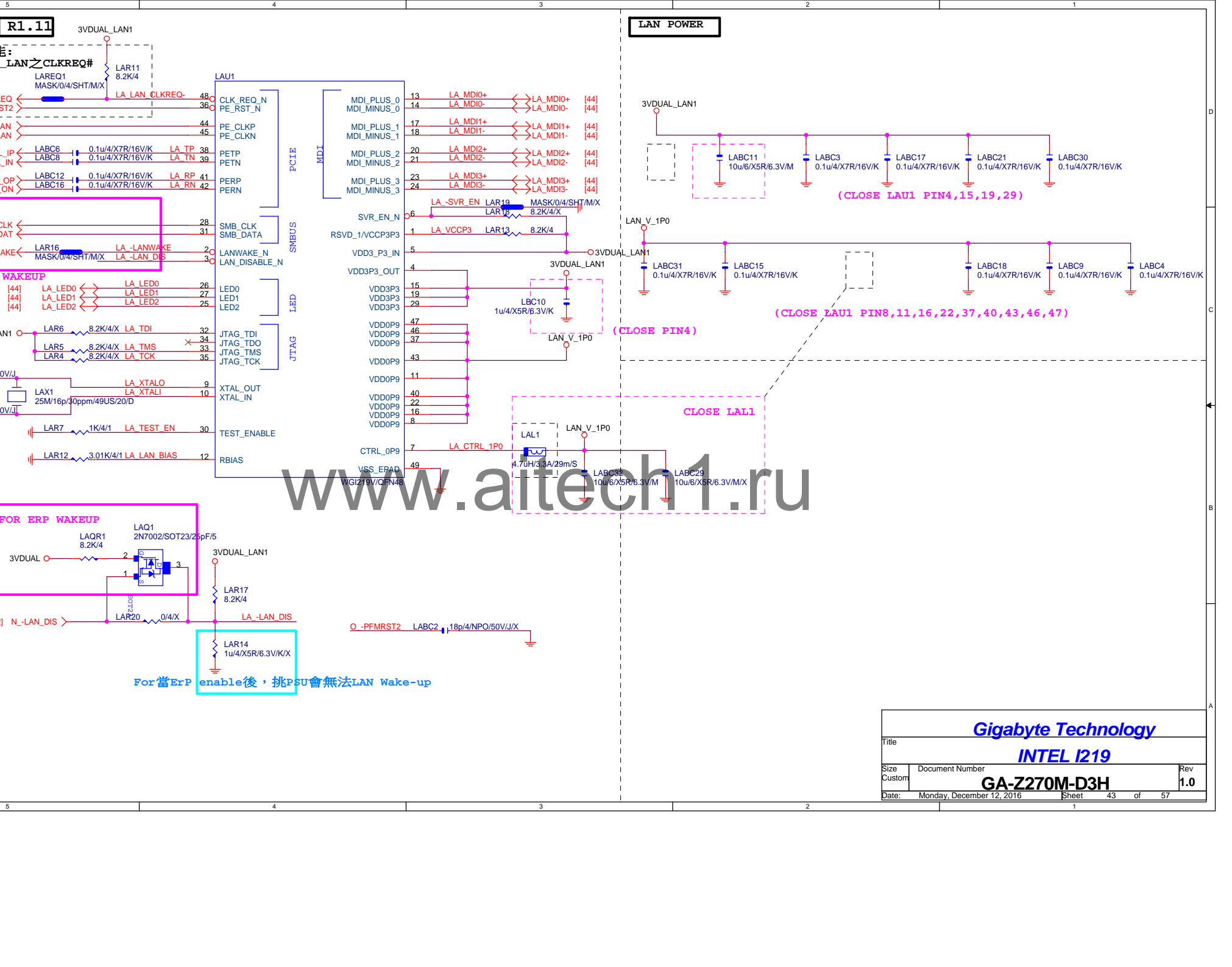
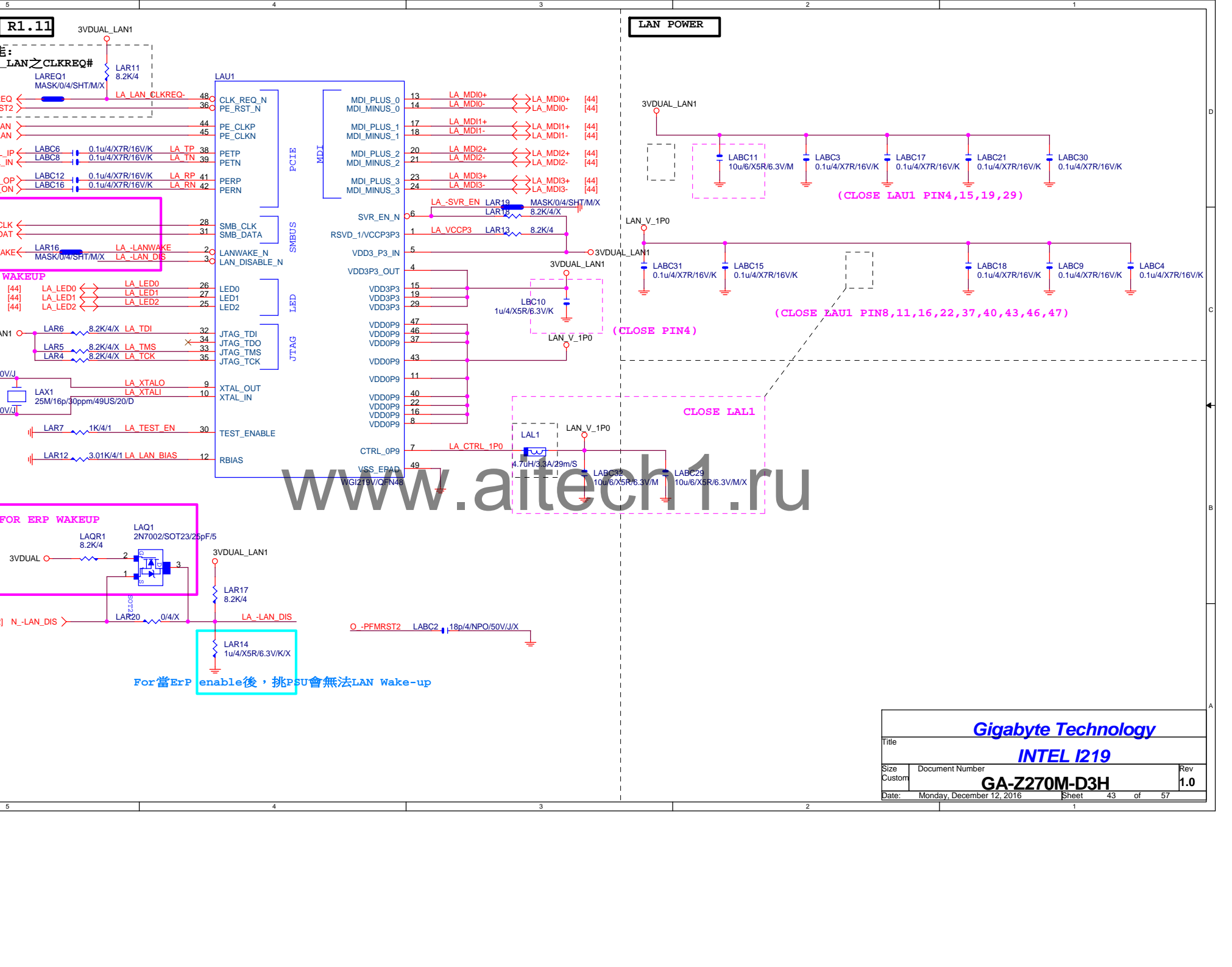
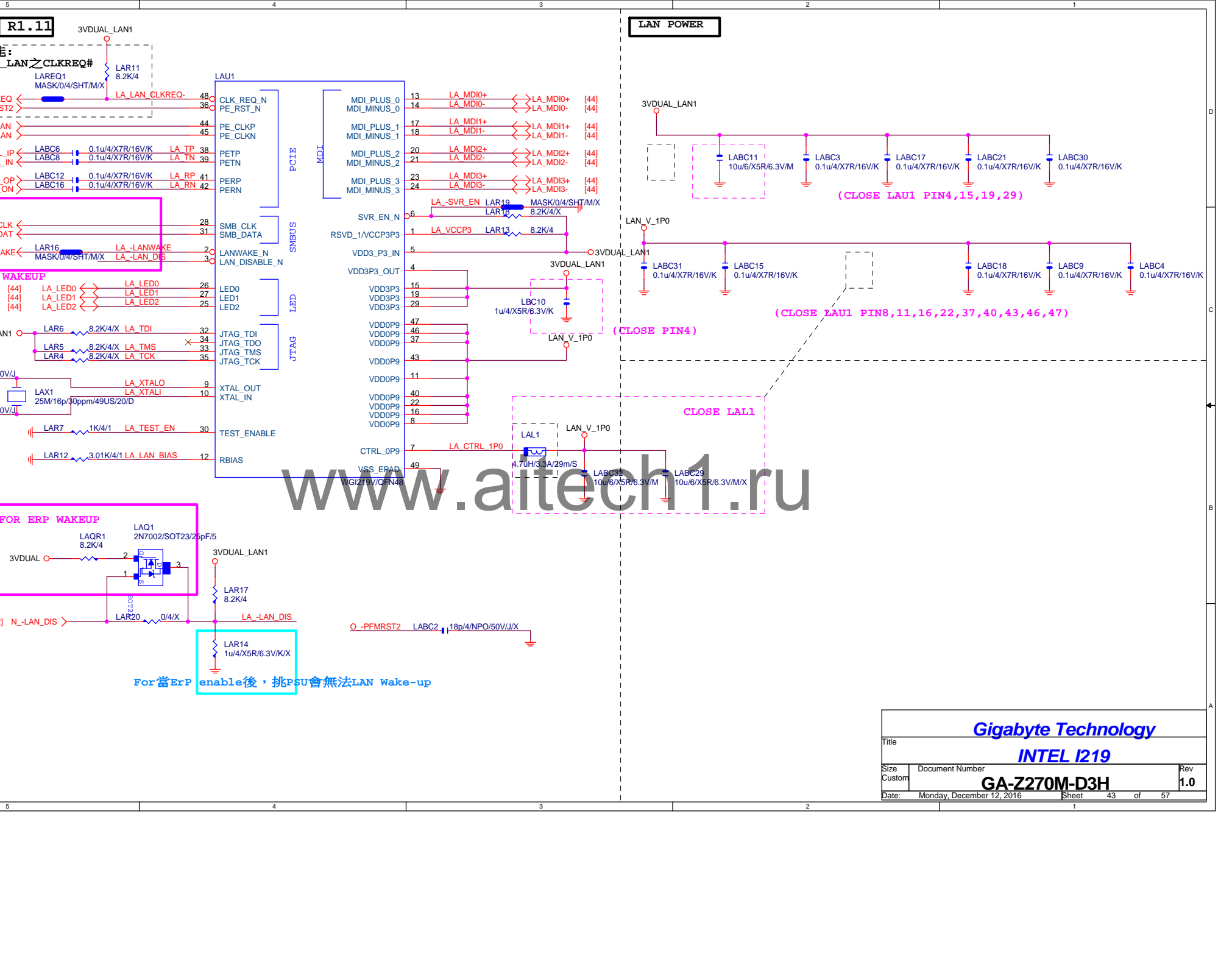
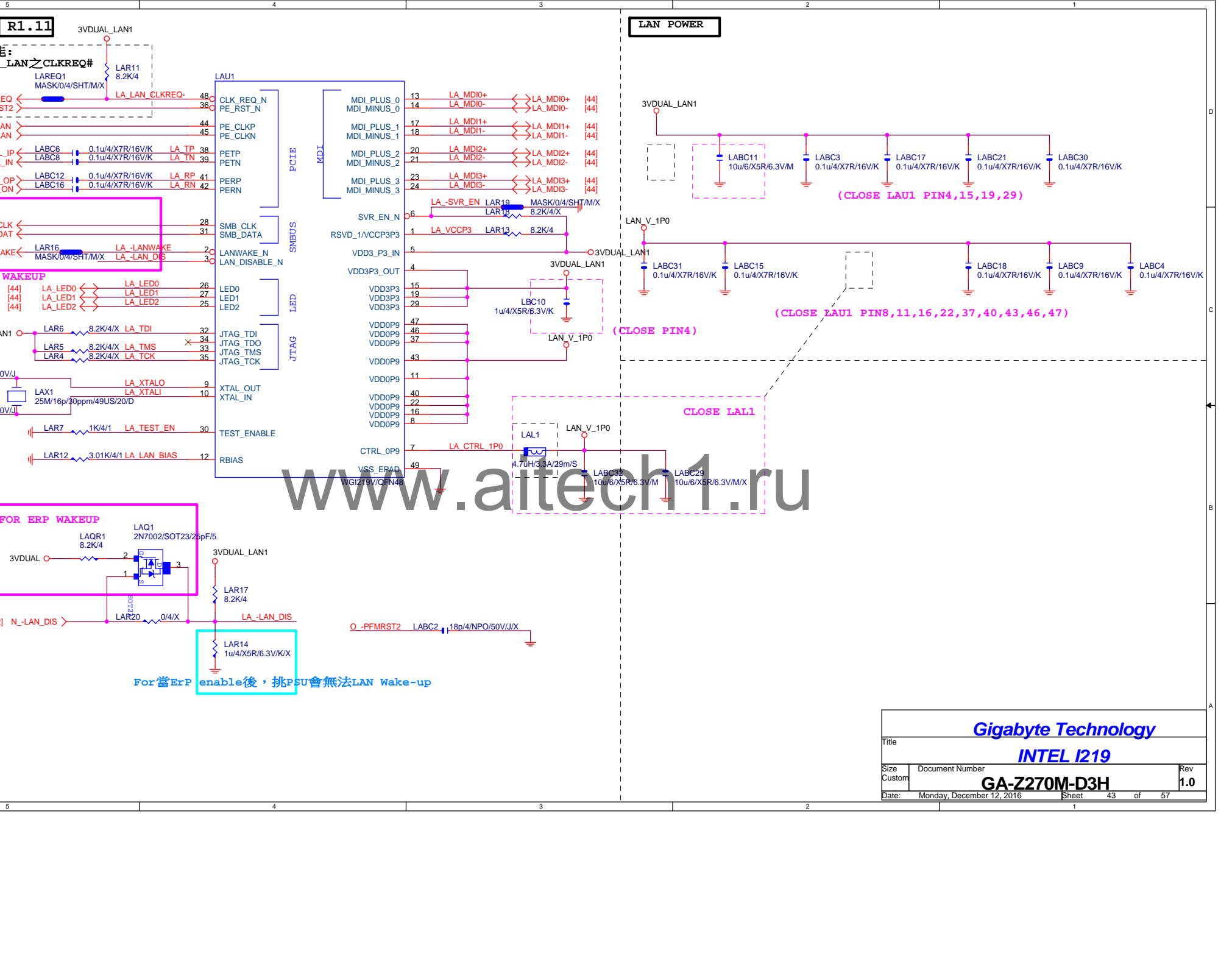
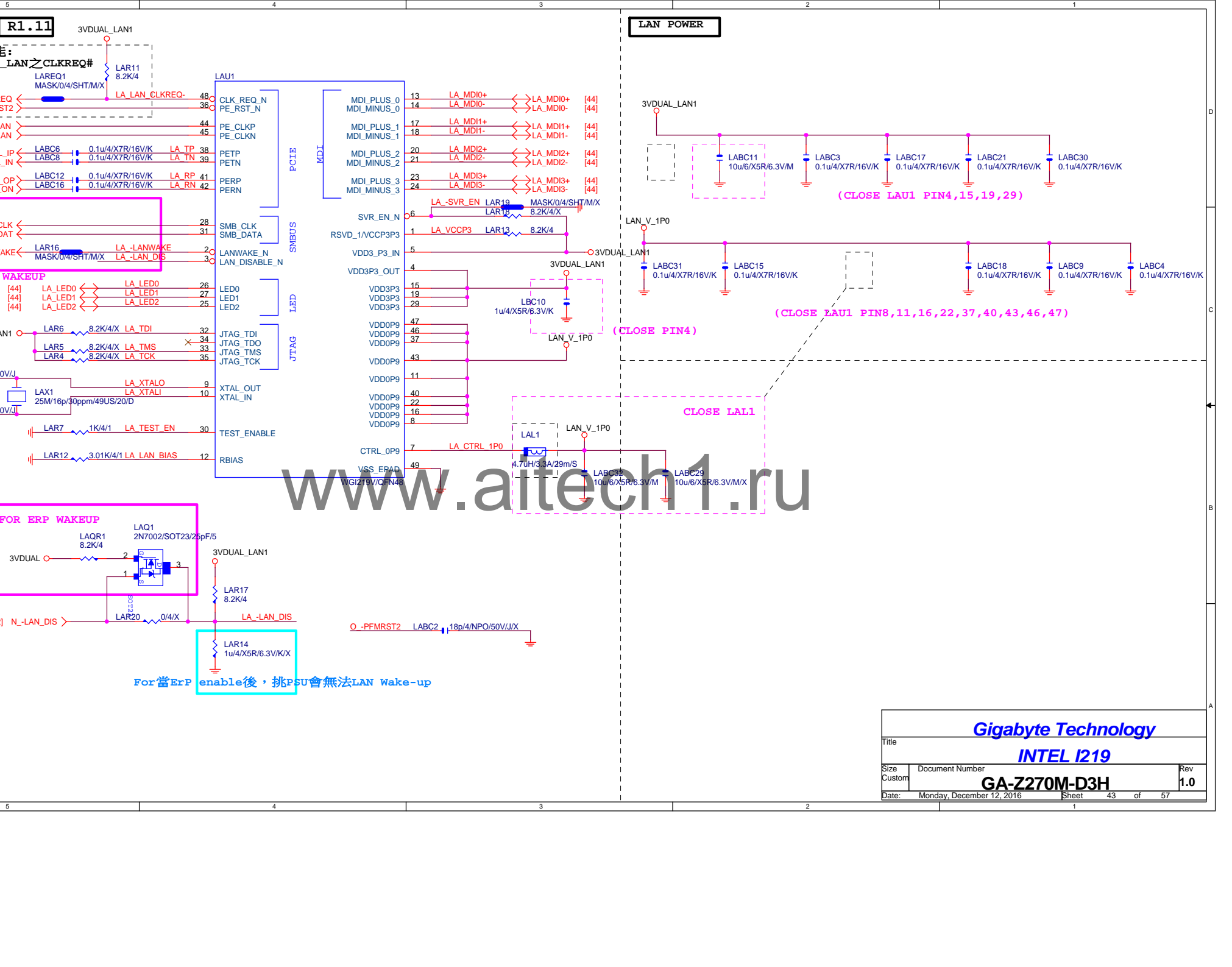
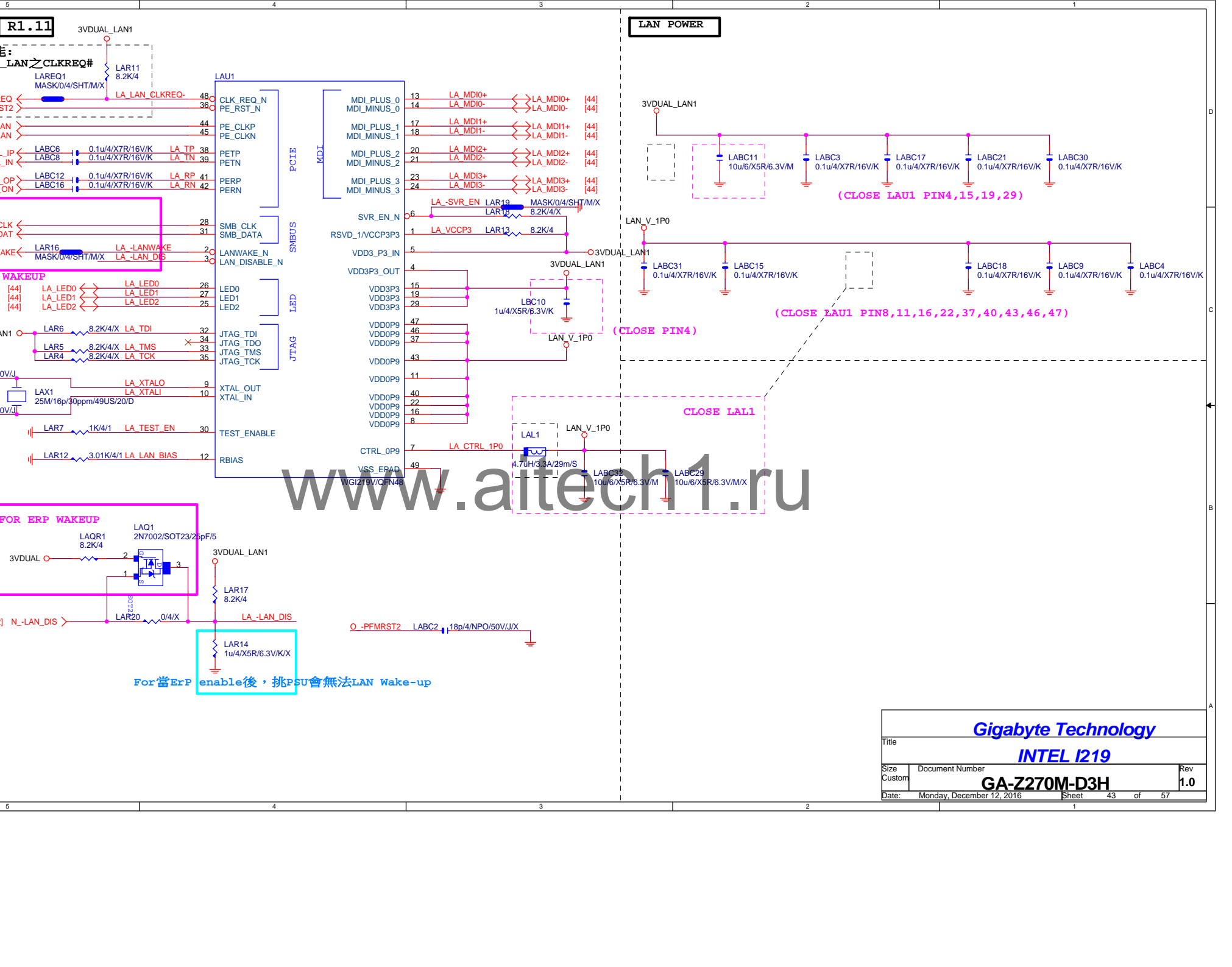
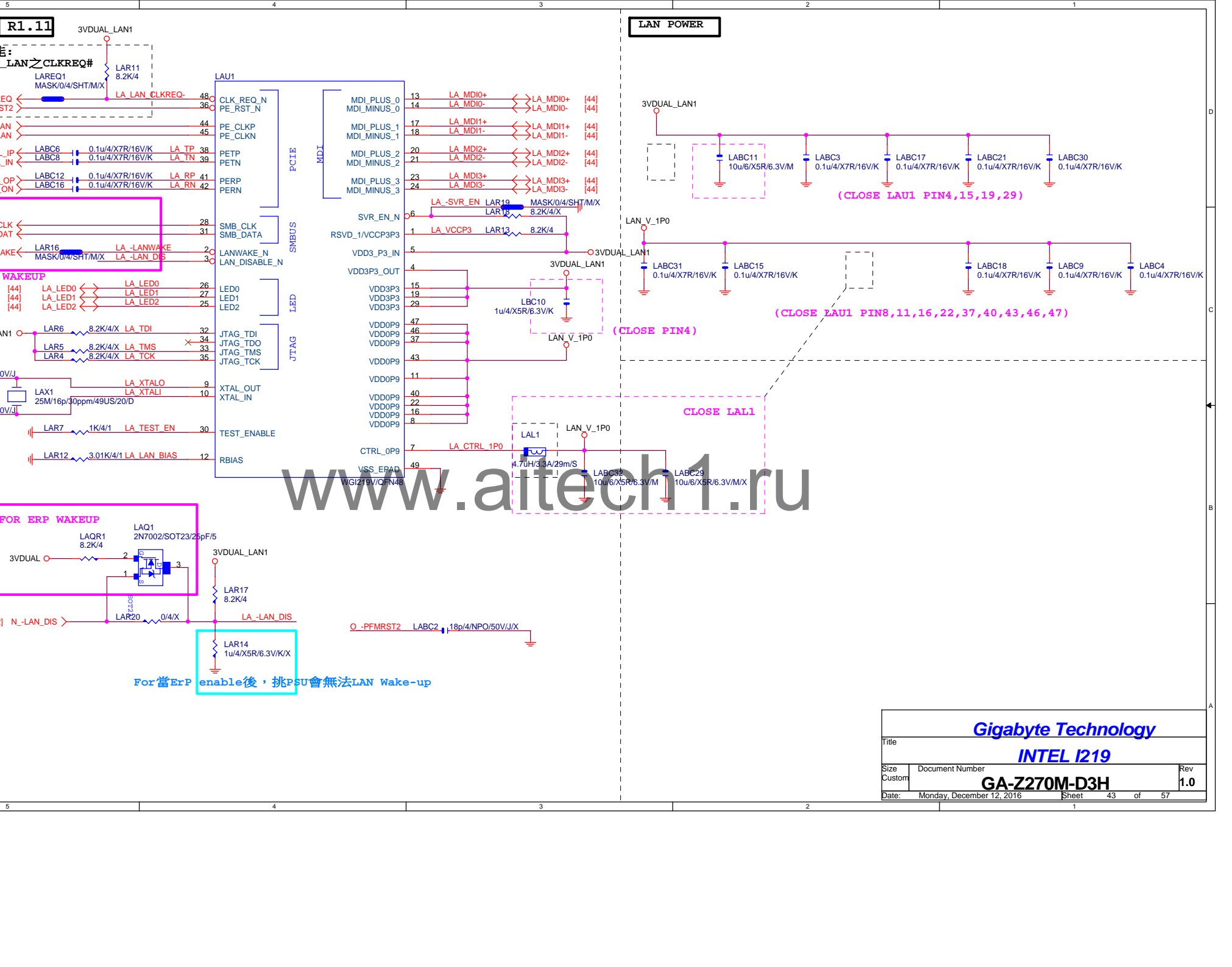
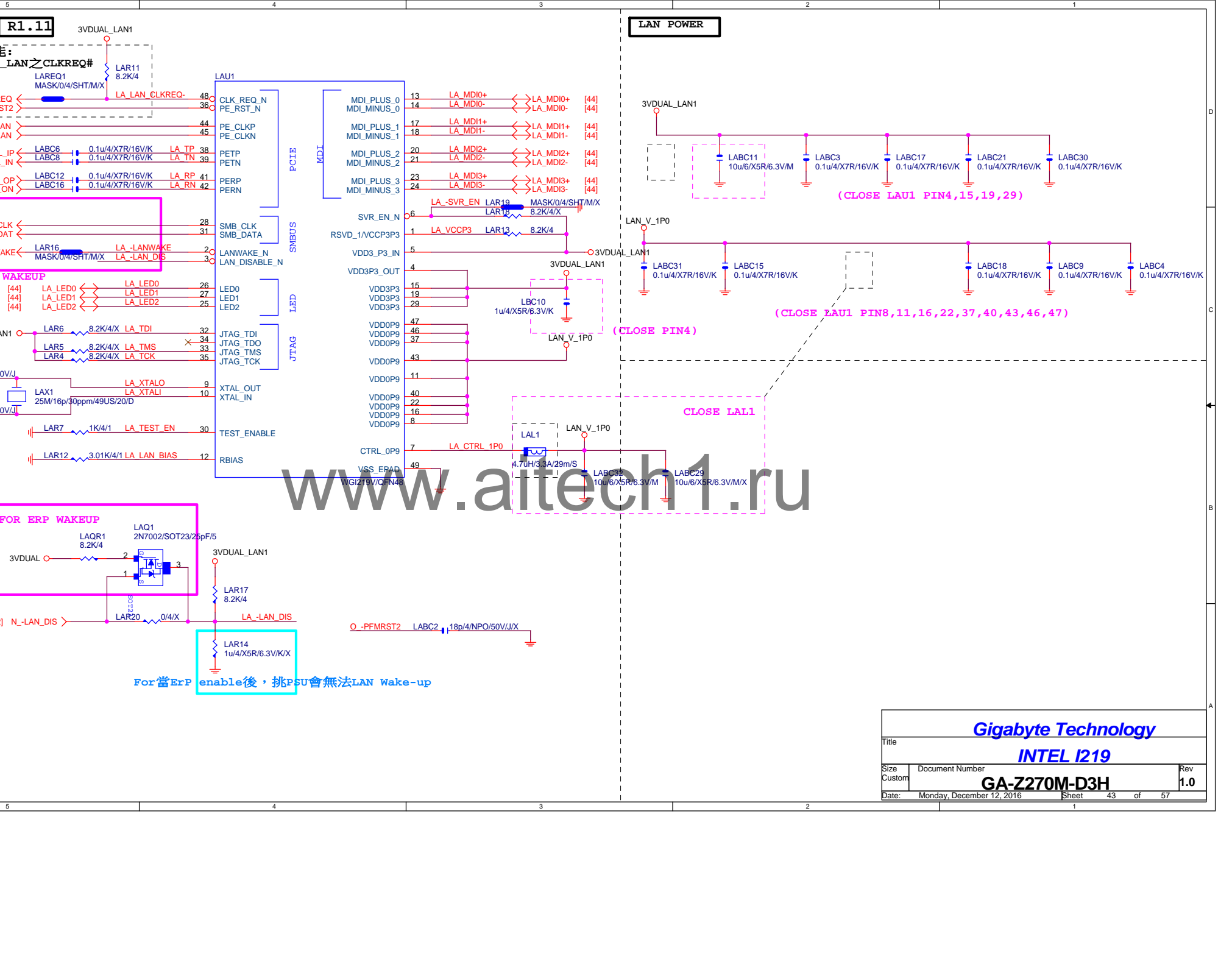
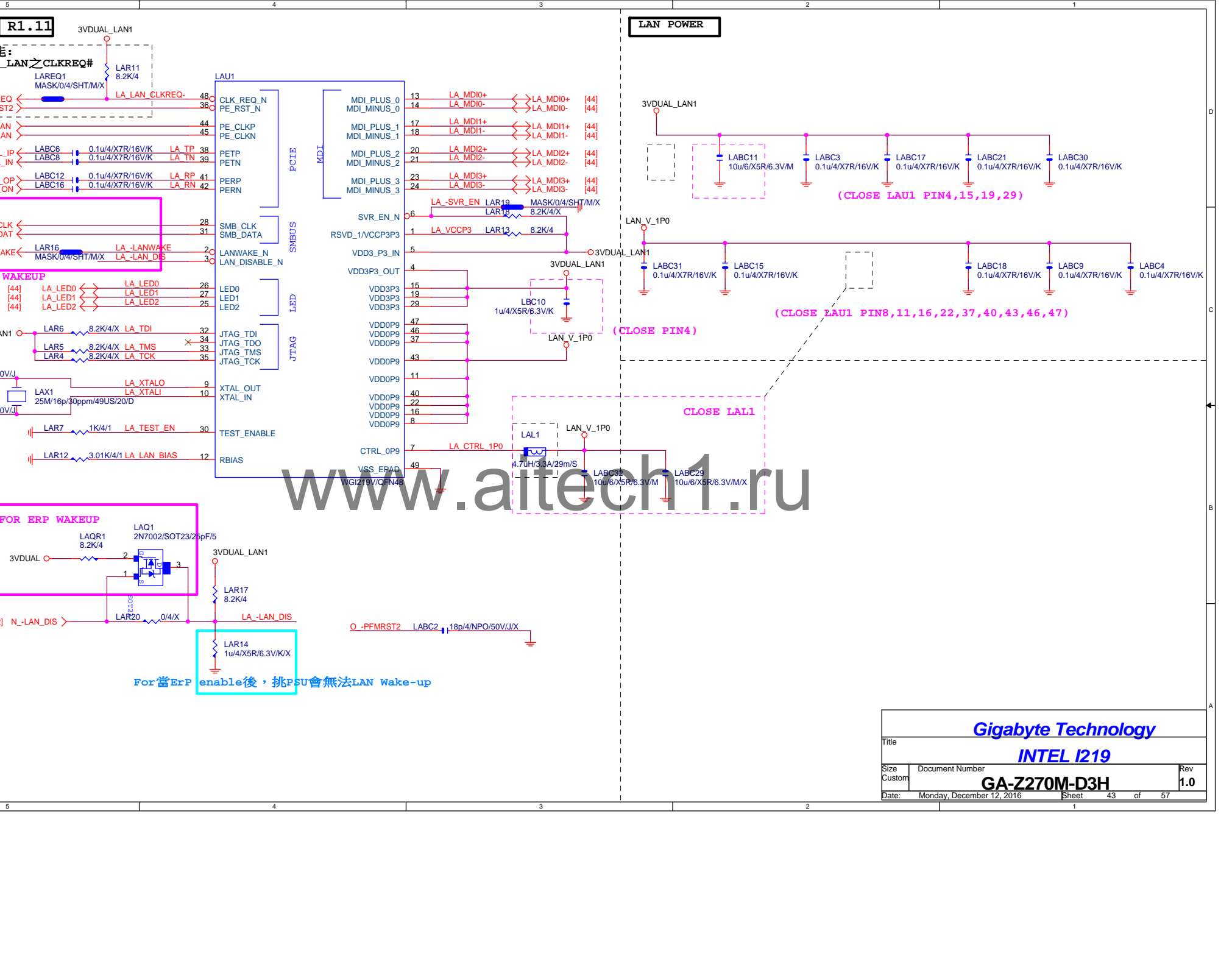
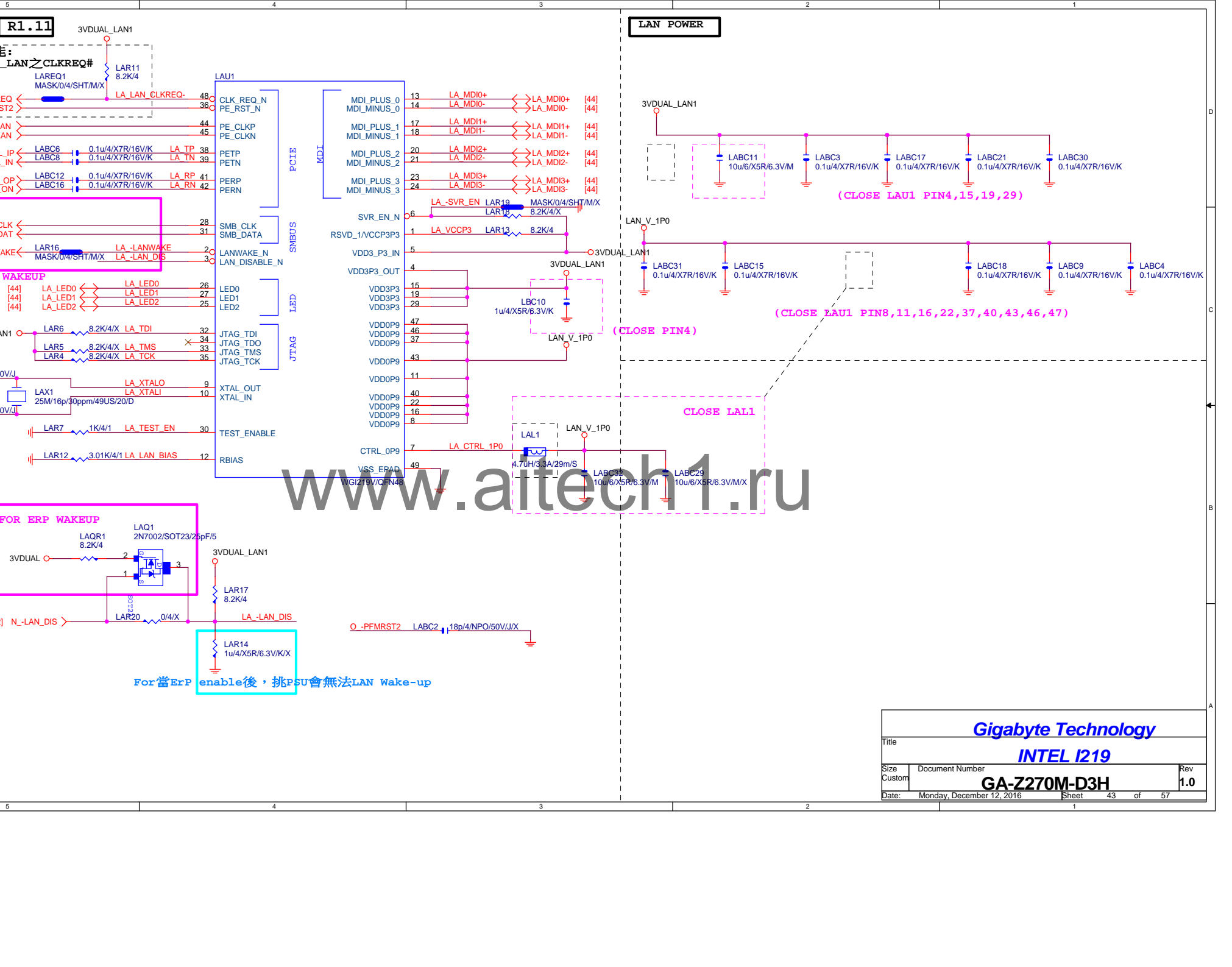
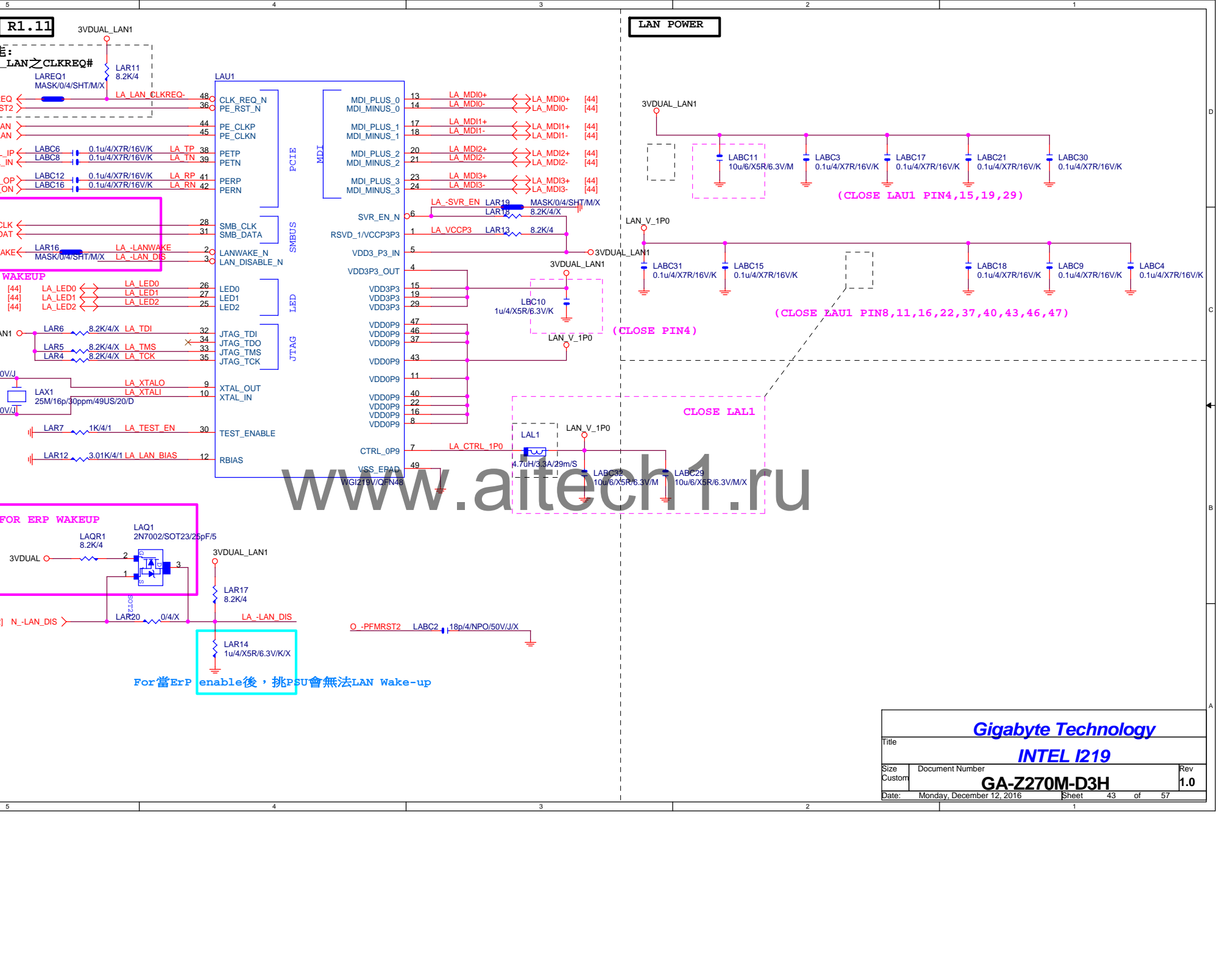
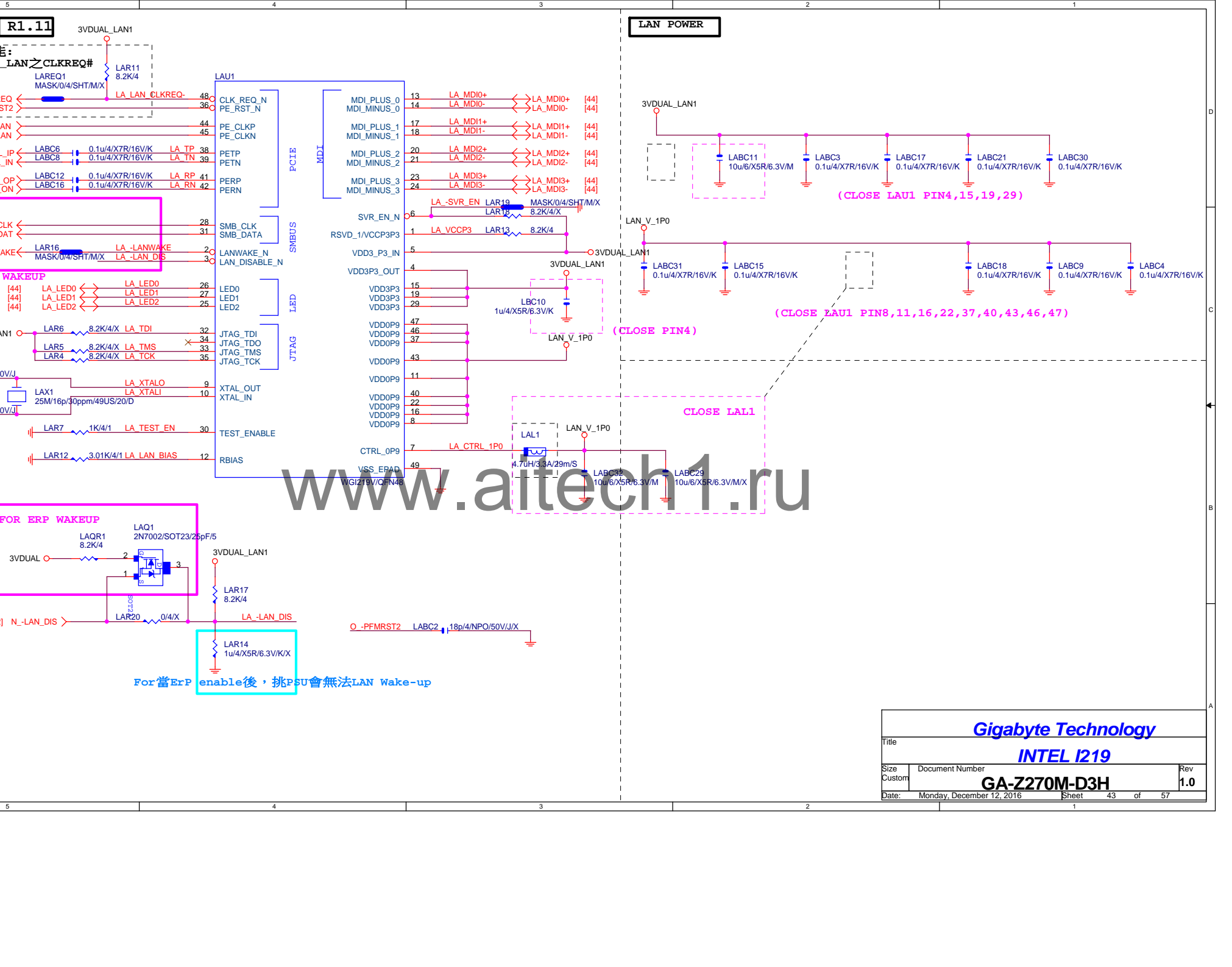


# VGA ESD



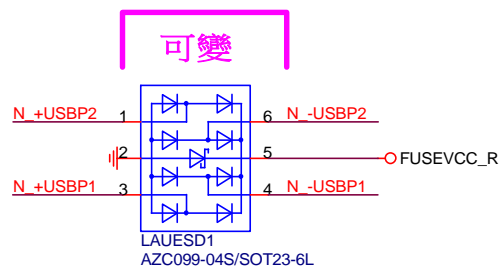
Gigabyte Technology  
DP-VGA RTD2168

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[illegible]

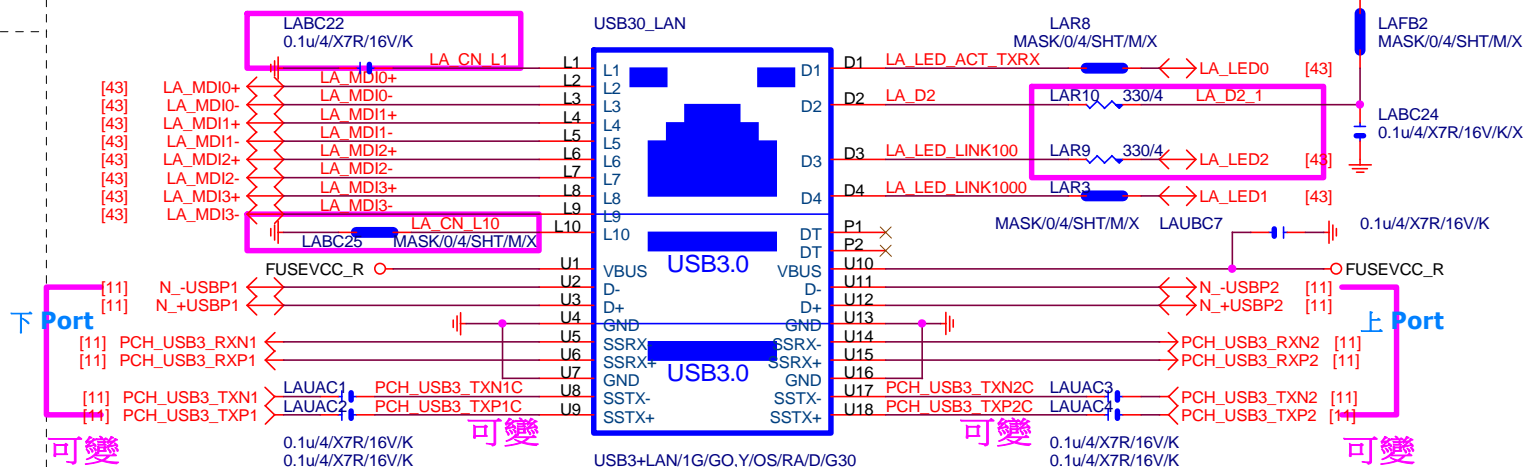
## R1.11

note:可變更USB NAME



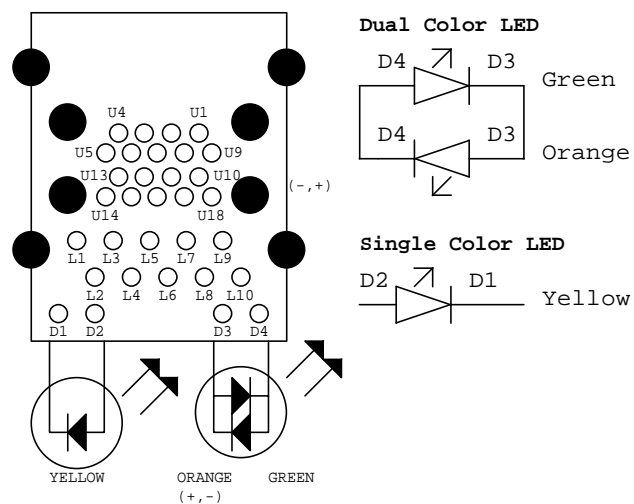
note:可變更USB NAME

[I219]



LA\_MDI-->100歐姆:[20/4/8/4/20]

## Dual Color LED

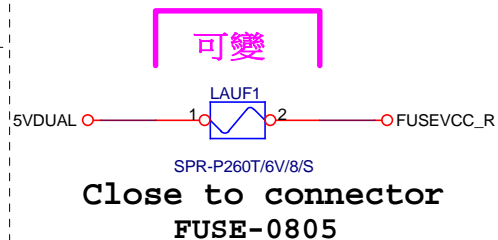


FOOT PRINT:LAN COVER

## 可變 [視SPEC需求]

\*Del USB LAN HS

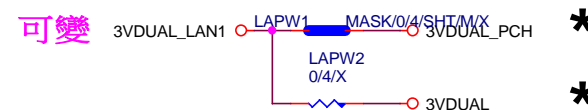
note:可變更FUSE



PS:視EMI需求

LAR24 MASK/0/4/SHT/M/X

note: lan power連接及電流



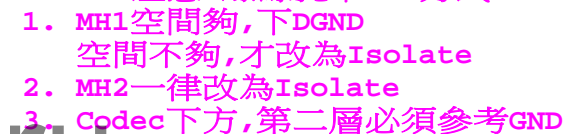
***Gigabyte Technology***

## LAN CONNECTOR-I219

Size	Document Number	Rev
Custom	CA 3230M D3H	1.0

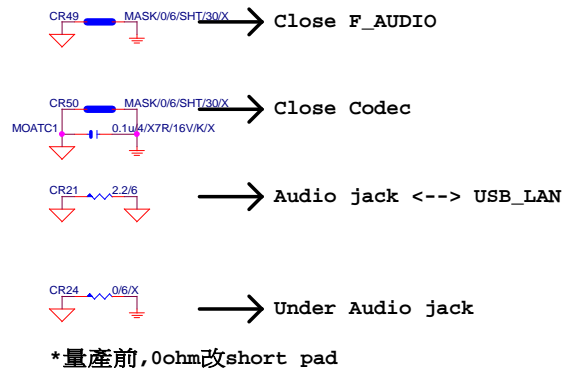
Date: Monday, December 12, 2016 Sheet 44 of 57



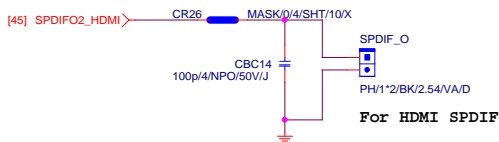


BOM OPTION : 1. Chemicon音效電容  
2. 金屬外罩 Reserve (LAYOUT 上件與否, 依照各Model spec)  
3. LED Reserve (上件與否和LED顏色, 依照各Model spec)

Rev 0.1

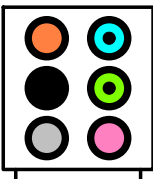


### SPDIF\_OUT



### SPDIF\_IN

### AZALIA JACK



### AZALIA JACK

BLUE

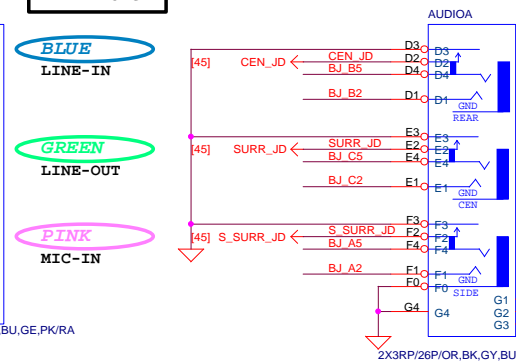
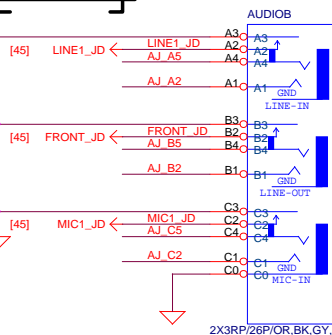
LINE-IN

GREEN

LINE-OUT

PINK

MIC-IN



Orange

CEN/LFE

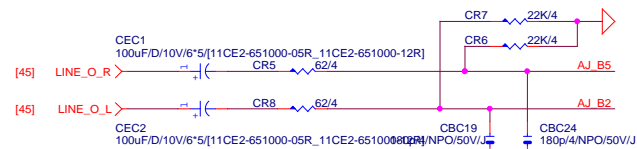
Black

SURROUND

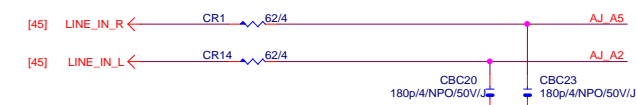
Gray

SURROUND SIDE

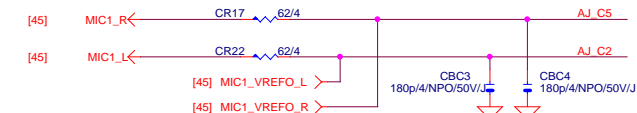
### LINE-OUT



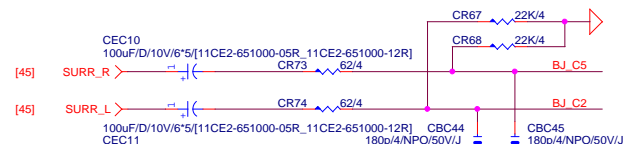
### LINE-IN



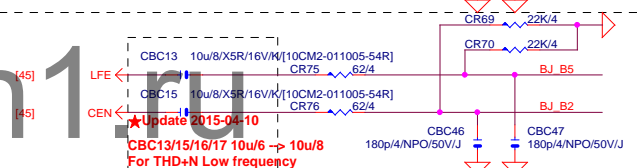
### MIC-IN



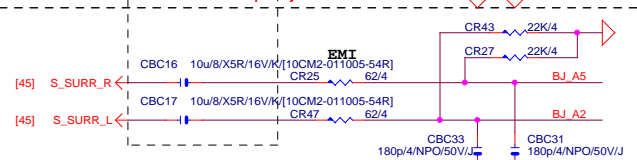
### SURROUND



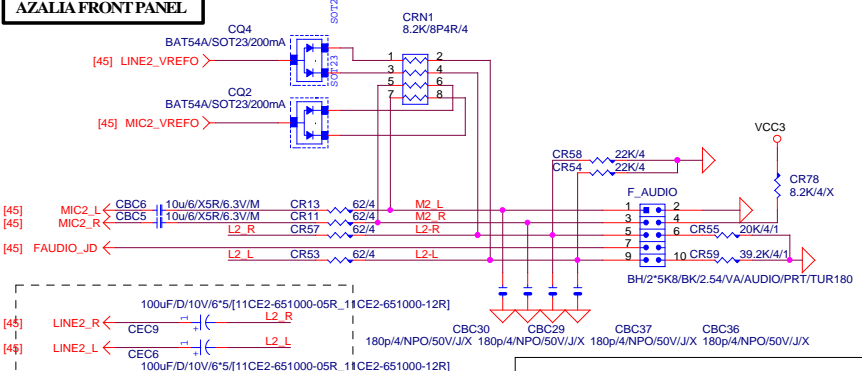
### CEN/LFE



### SURRBACK

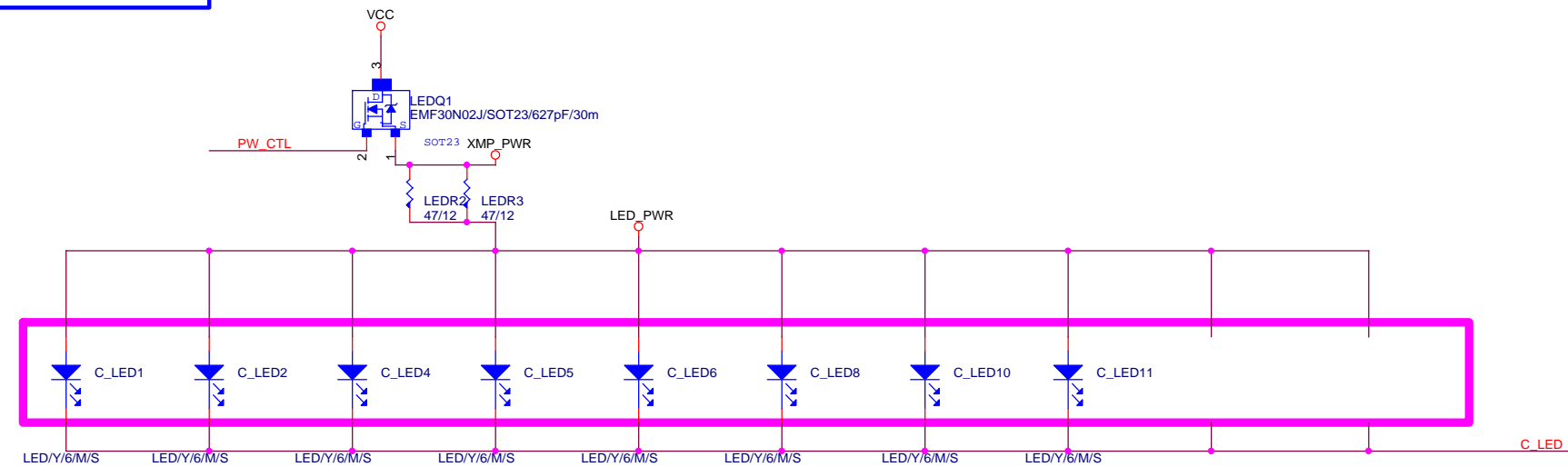


### AZALIA FRONT PANEL



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Title				Rev	
AUDIO JACK					
Size	Document Number	GA-Z270M-D3H			
Custom		1.0			
Date:	Monday, December 12, 2016	Sheet	46	of	57

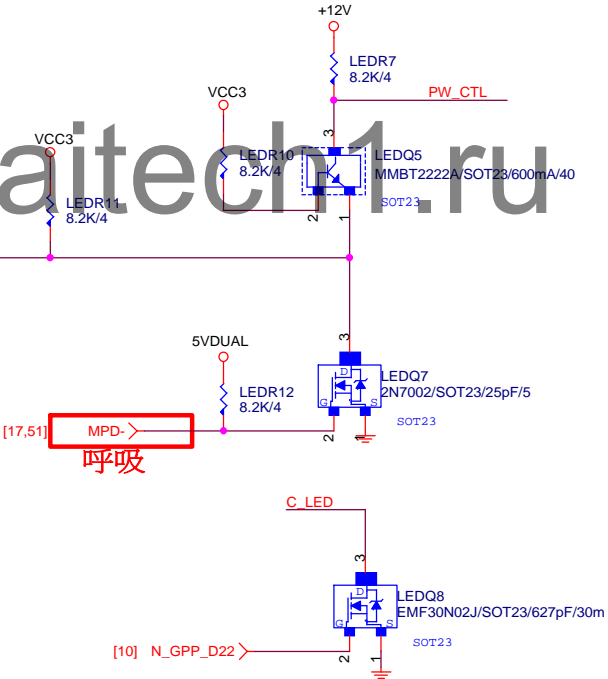


Ambient LED Control

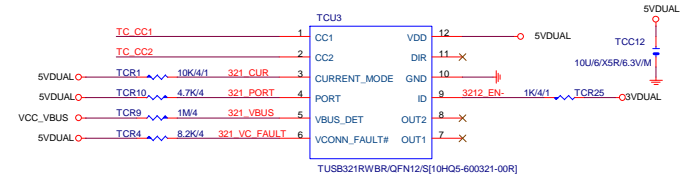
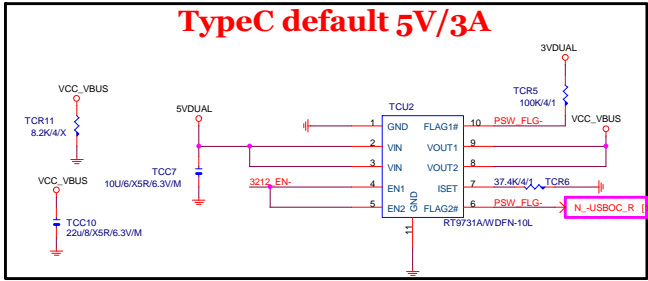
	N_GPP_D22	IO_GP91
Still Mode	H	L
OFF Mode	L	L
Pluse Mode	H	BREATH

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[1] N\_GPP\_D22  
ON/OFF



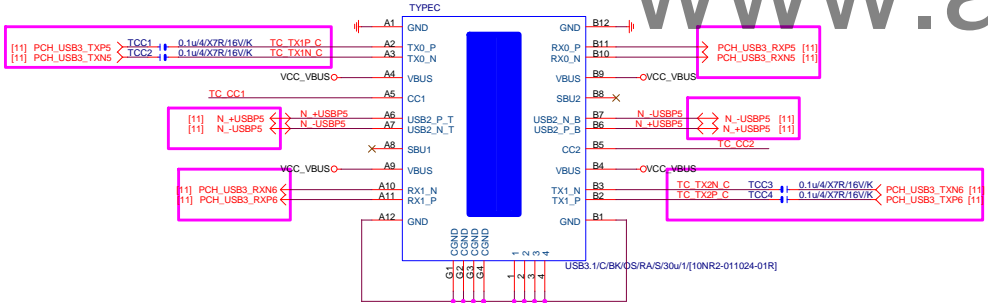
[17,51] MPD-  
呼吸



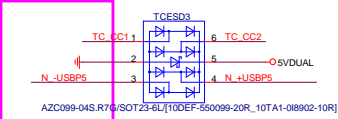
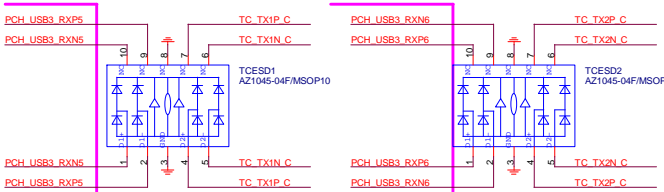
**CURRENT MODE**  
L - Default current / Pull down to GND or NC  
M - Medium (1.5A) current / Pull up to VDD 500K  
H - High (3.0A) current / Pull up to VDD 10K

**PORT**  
H - HOST  
L - Device  
NC - Dual Role

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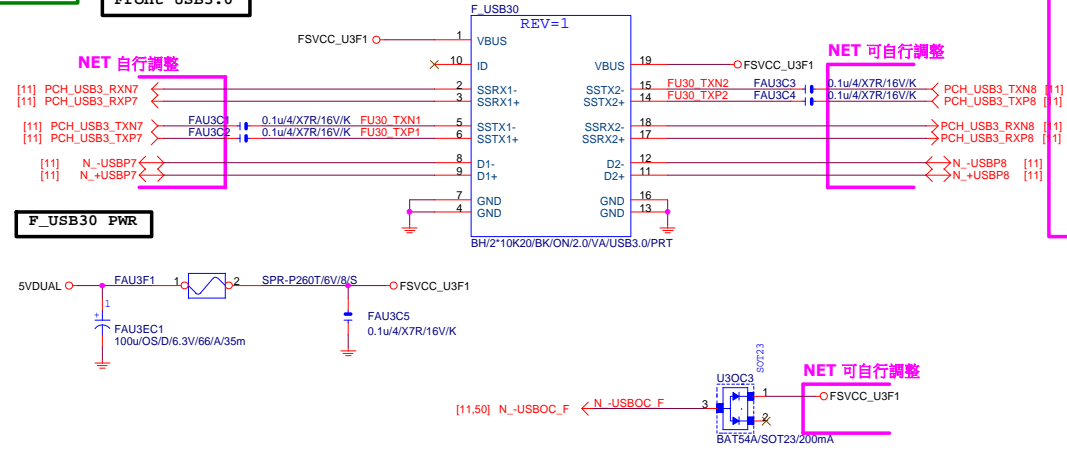


USB2.0 can be used the same source

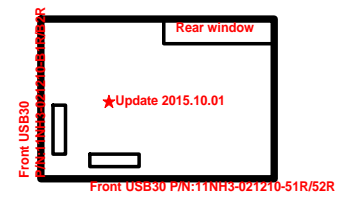
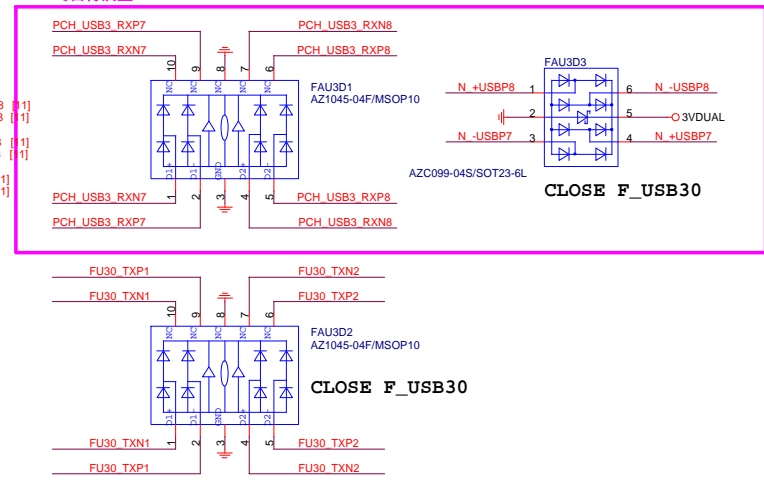


Color markers can be changed by model

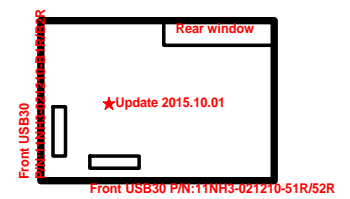
Front USB3.0



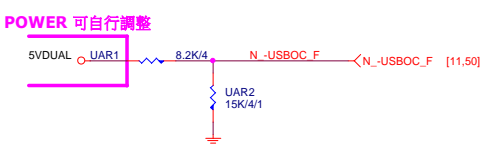
NET 可自行調整



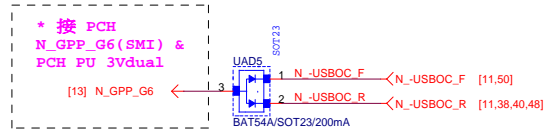
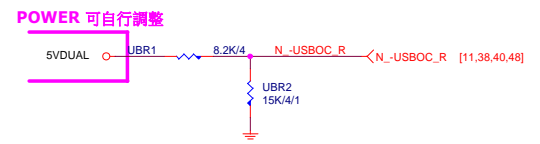
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-USBOC\_F



-USBOC\_R

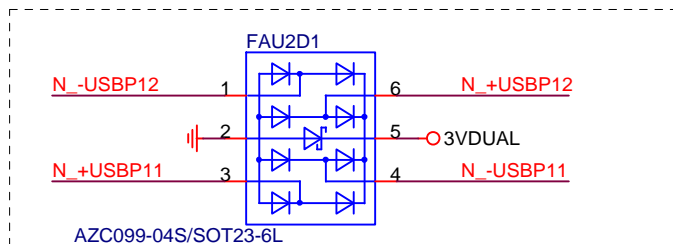
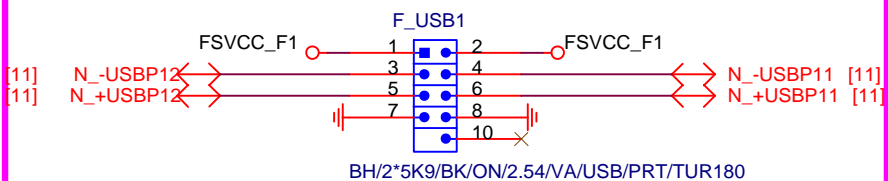


Rev: 0.81

## FRONT USB1

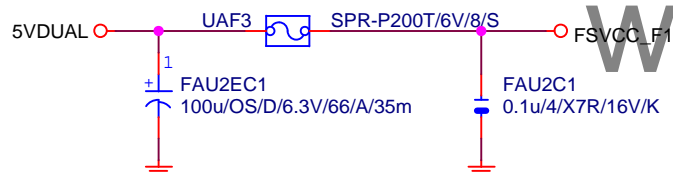
NET 可變

## FUSB2X5-HS



Close to connector

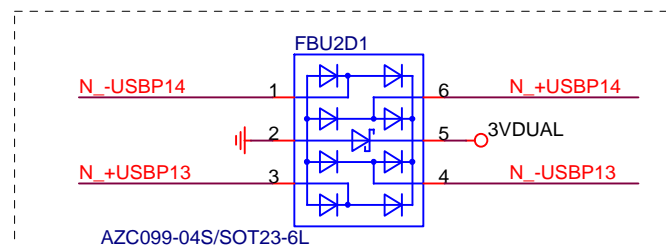
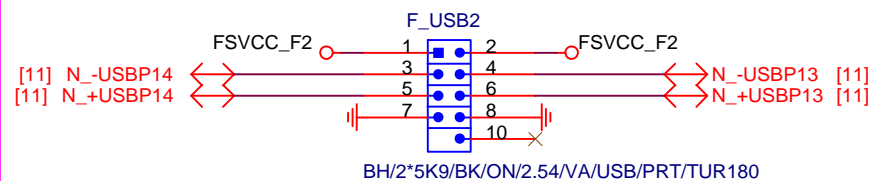
FUSE 2 Port 1 Fuse 2A



## FRONT USB2

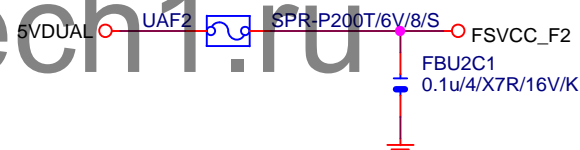
NET 可變

## FUSB2X5-HS

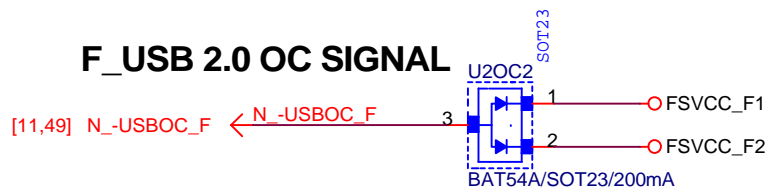


Close to connector

FUSE 2 Port 1 Fuse 2A



## F\_USB 2.0 OC SIGNAL



Gigabyte Technology

Title

USB2.0

Size  
A

Document Number

GA-Z270M-D3H

Rev  
1.0

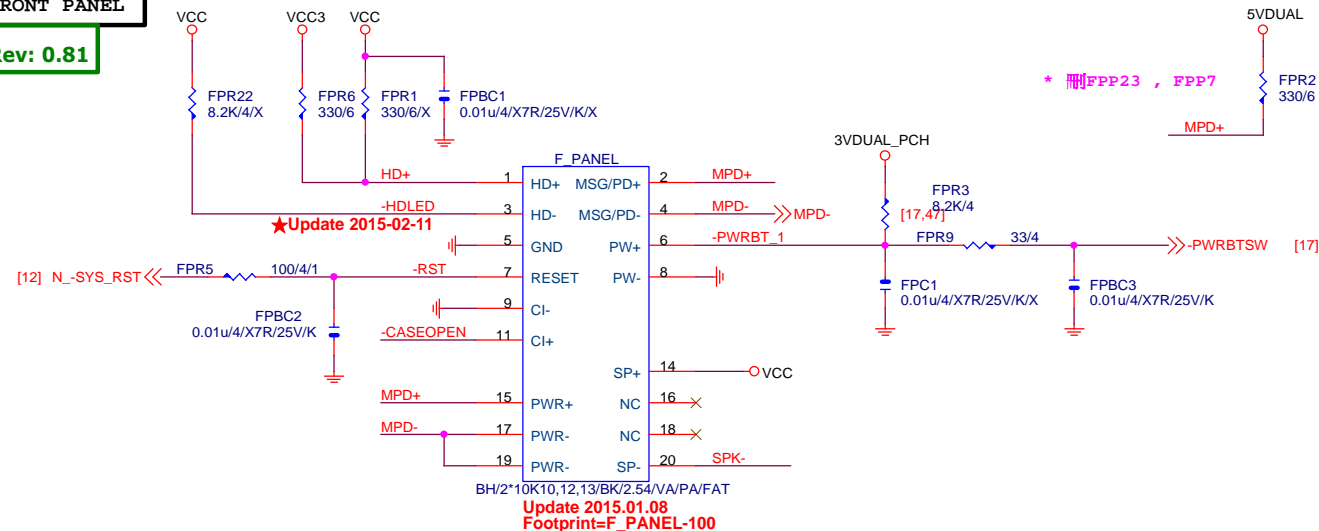
Date: Monday, December 12, 2016

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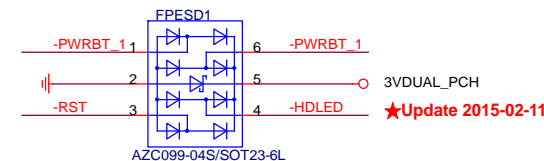
# FRONT PANEL

Rev: 0.81

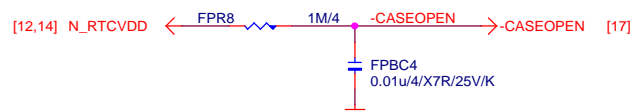
★Update 2016.06.15



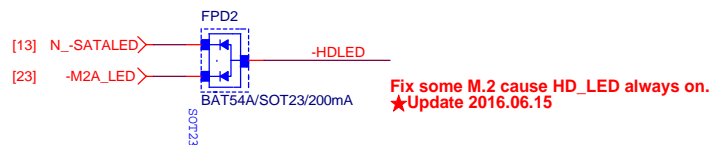
# ESD



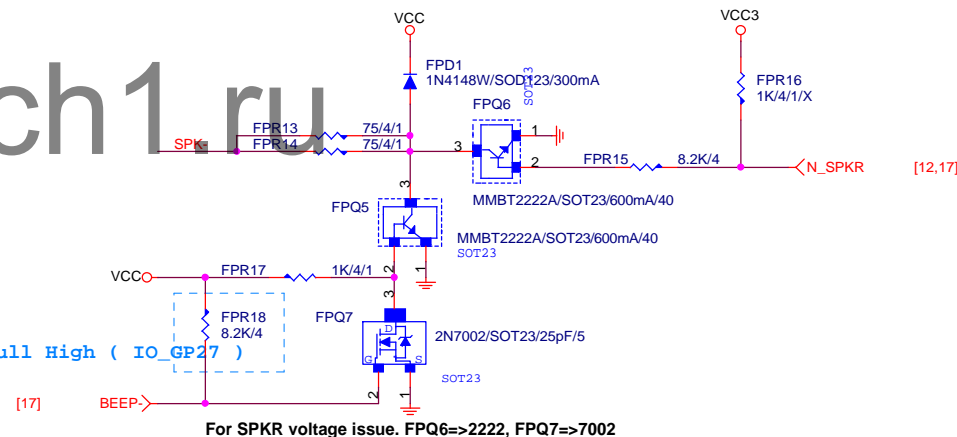
# CASE OPEN



# SATA/M.2 LED



# SPKR W/O EC



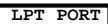
Now , inport , Pull High ( IO\_GP27 ) ,IO\_GP26 ouport

Gigabyte Technology

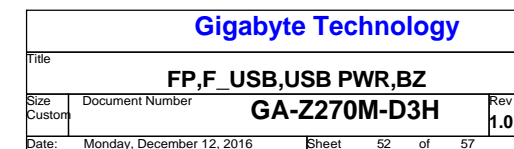
FRONT PANEL			
Title		GA-Z270M-D3H	
Size	Document Number	Rev	1.0
Custom			
Date:	Monday, December 12, 2016	Sheet	51 of 57



## Rev: 0.81



## TPM CONNECT



## CLOSE SIO

EMIC1  
100p/4/NPO/50V/J/X

[12,17,32] N\_SLP\_S3 <

EMIC2  
100p/4/NPO/50V/J/X

[12,17,31,33] N\_S4\_S5 <

\*Del EMIC3

## CLOSE PCH

EMIC4  
100p/4/NPO/50V/J/X

[4,12] N\_CPUPWROK <

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VCC3

EMIC5

1n/4/X7R/50V/K

# GIGABYTE™

Title

EMI/ESD

Size  
A

Document Number

GA-Z270M-D3H

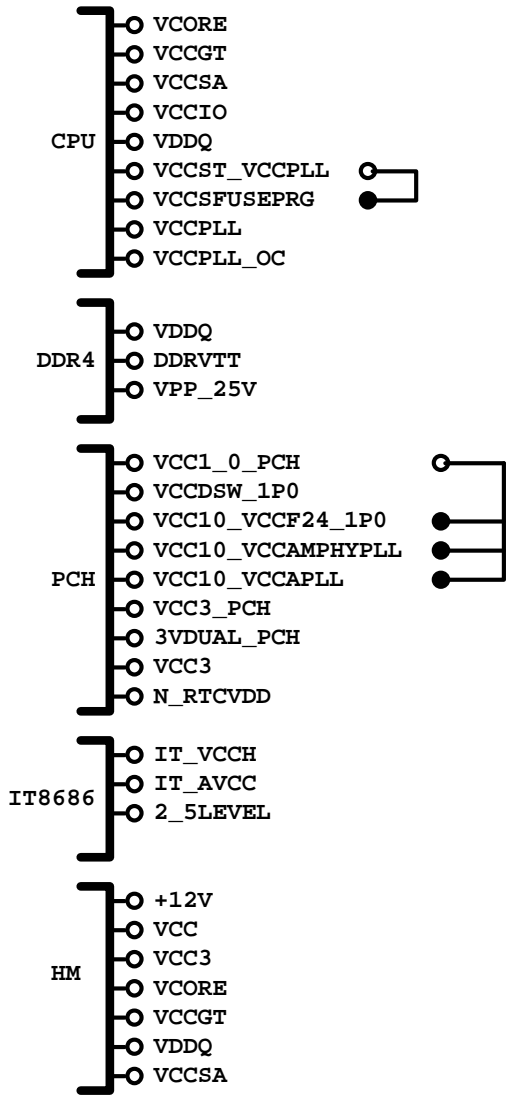
Rev

1.0

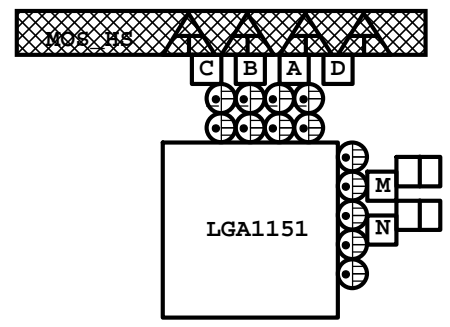
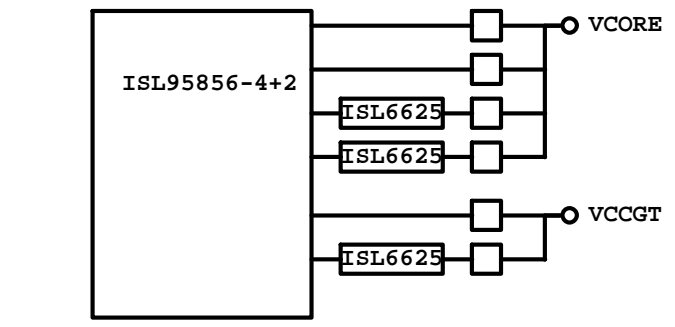
Date: Monday, December 12, 2016

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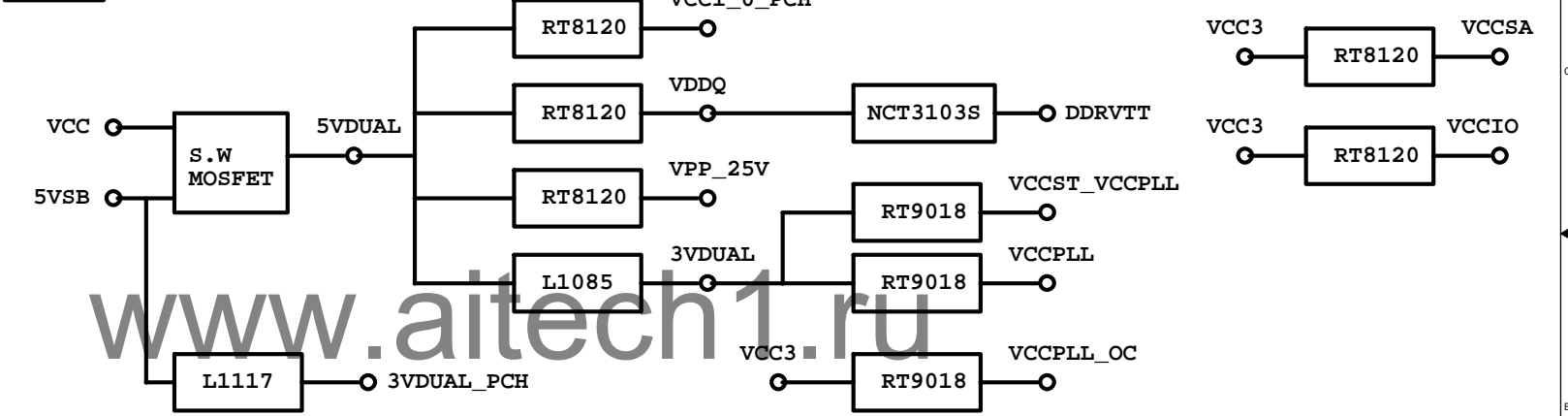
POWER BLOCK MAP



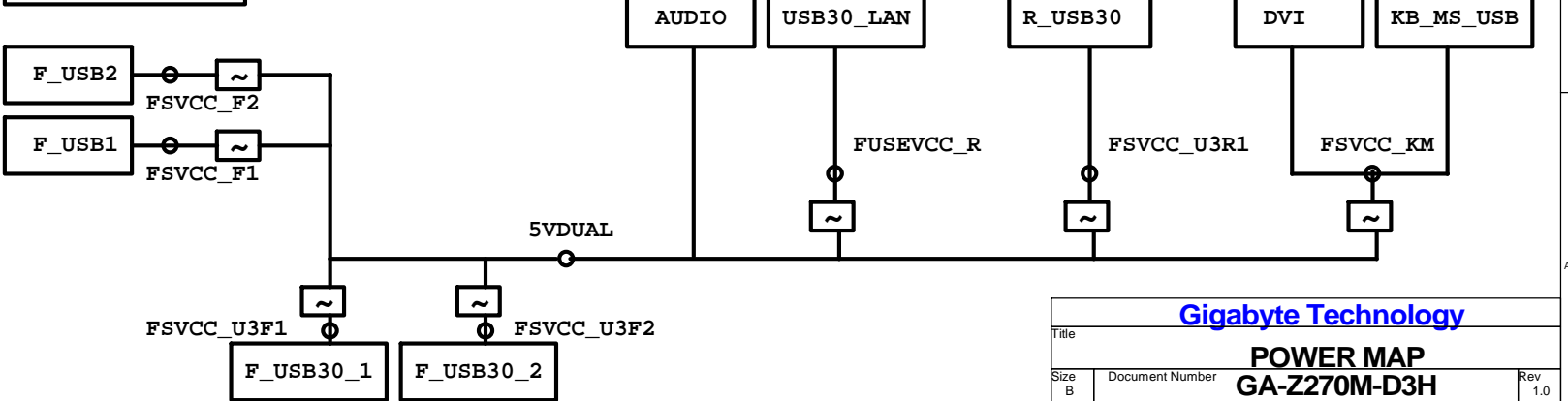
VCORE/VCCGT

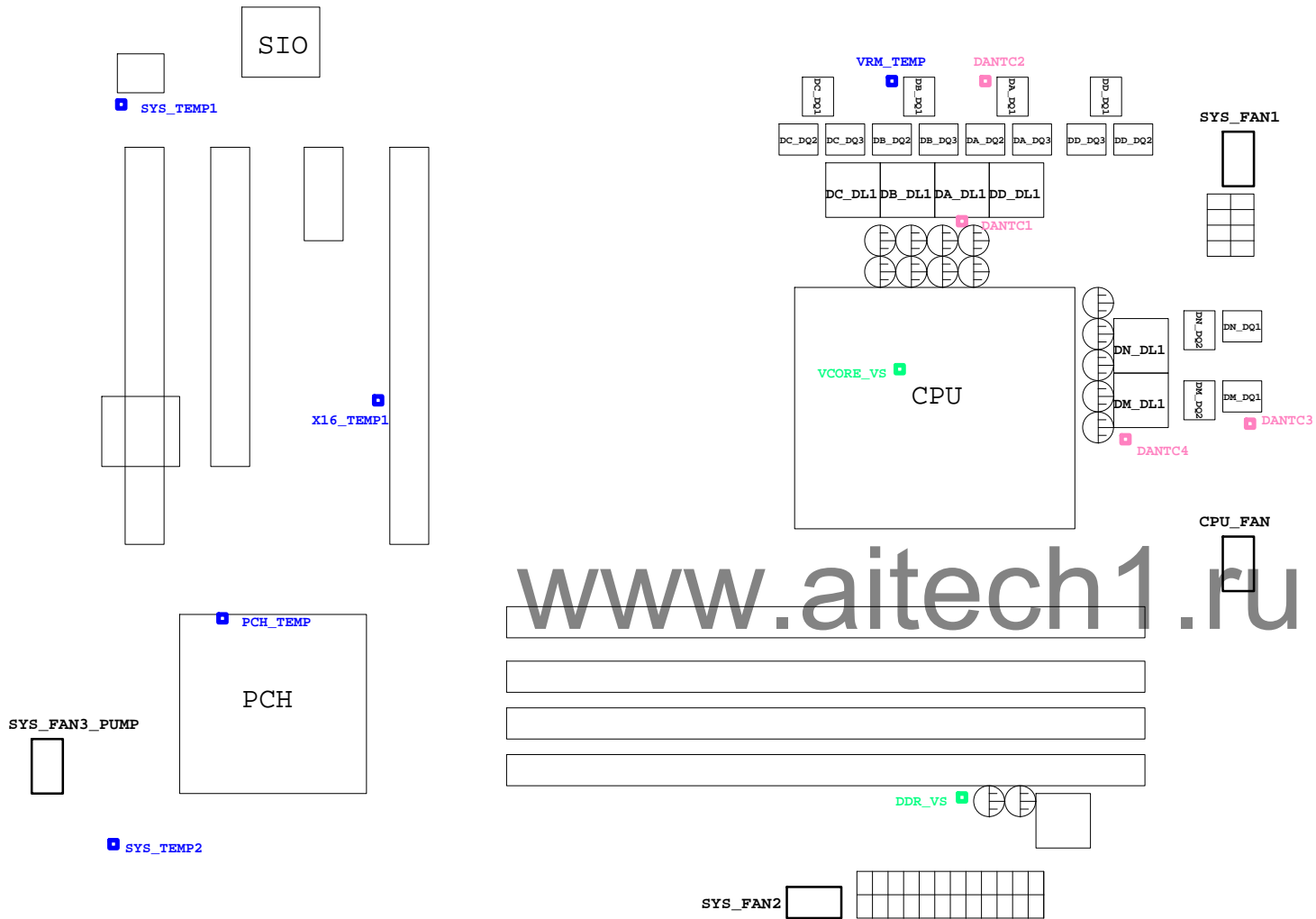


POWER



FUSE POWER F/R





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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_DQ2	N/A
DANTC4	DM_DL1	Differential
Vcore_TEMP	DB_DQ1	N/A
X16_TEMP1	PCIEX16	N/A
PCH_TEMP	PCH	N/A
SYS_TEMP1	CU1	N/A
SYS_TEMP2	N/A	N/A

■ SIO RS

■ SIO VIN

■ PWM RS

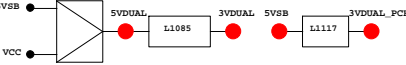
FAN

LN	NAME	PWR	PRM	Default	USAGE	NOTE
GPP_A0	MAIN-N	R2	DCNIN	N_KBRST		P/U 8.2K VCC3
GPP_A1	MAIN-N	R2	LAD0	N_LAD0		N/A
GPP_A2	MAIN-N	R2	LAD1	N_LAD1		N/A
GPP_A3	MAIN-N	R2	LAD2	N_LAD2		N/A
GPP_A4	MAIN-N	R2	LAD3	N_LAD3		N/A
GPP_A5	MAIN-N	R2	SRAMPB	N_SRAMPB		N/A
GPP_A6	MAIN-N	R2	SRIRIQ	N_SRIRIQ		P/U 8.2K VCC3
GPP_A7	MAIN-N	R2	PI2QA#	N_LDORG0		P/U 8.2K VCC3
GPP_A8	MAIN-N	R2	CLKOUT	N_GPP_A8		P/U 8.2K VCC3
GPP_A9	MAIN-N	R2	CLKOUT	T_TPMCLK_N_LPC2464		N/A
GPP_A11	MAIN-N	R2	PM08	N_P_PME		P/U 8.2K 3VDDAL_P0
GPP_A12	MAIN-N	R2	GPI	N_GPP_A12		P/U 8.2K 3VDDAL
GPP_A13	MAIN-N	R2	WARMN#	N_WARM		N/A
GPP_A14	MAIN-N	R2	PTA78	N_GPP_A14		P/U 8.2K 3VDDAL
GPP_A15	MAIN-N	R2	ACK8	N_A_ACK		P/U 8.2K 3VDDAL
GPP_B0	MAIN-N	R2	DPO	N_DDR_V_SEL		P/U 8.2K VCC3
GPP_B2	MAIN-N	R2	GPI	N_VRALEST		P/U 8.2K 3VDDAL
GPP_B3	MAIN-N	R2	GPI	N_GPP_B3		N/A
GPP_B4	MAIN-N	R2	GPI	N_GPP_B4		N/A
GPP_B5	MAIN-N	R2	GPI	N_PCIEX16_PR		P/U 8.2K VCC3
GPP_B6	MAIN-N	R2	GPI	N_PCIEX1_PRL		P/U 8.2K VCC3
GPP_B8	MAIN-N	R2	GPI	N_PCIEX4_PR		P/U 8.2K VCC3
GPP_B9	MAIN-N	R2	GPI	N_GPP_B9		P/U 8.2K VCC3
GPP_B10	MAIN-N	R2	GPI	N_LDA		P/U 8.2K VCC3
GPP_B12	MAIN-N	R2	SLP_S0	N_SLP_S0		N/A
GPP_B13	MAIN-N	R2	PLTRST	N_PPFRST		N/A
GPP_B14	MAIN-N	R2	GPI	N_SFRK		N/A
GPP_B15	MAIN-N	R2	GPI	N_GPP_B15		N/A
GPP_B16	MAIN-N	R2	GPI	N_GPP_B16		N/A
GPP_B22	MAIN-N	R2	GPI	N_GPP_B22		P/D 1K GND
GPP_B23	MAIN-N	R2	GPI	N_PCH_HOT		N/A
GPP_C0	MAIN-N	R2	SMNCLK	N_SMNCLK		P/U 1K 3VDDAL
GPP_C1	MAIN-N	R2	SMNDATA	N_SMDATA		P/U 1K 3VDDAL
GPP_C2	MAIN-N	R2	GPI	N_LPCPCE		N/A
GPP_C3	MAIN-N	R2	SMNCLK	N_SMNCLK		P/U 499 3VDDAL
GPP_C4	MAIN-N	R2	SMNDATA	N_SMDATA		P/U 499 3VDDAL
GPP_C5	MAIN-N	R2	GPI	N_GPP_C5		N/A
GPP_C6	MAIN-N	R2	GPI	N_SMNCLK		P/U 8.2K 3VDDAL
GPP_C7	MAIN-N	R2	GPI	N_SMDATA		P/U 8.2K 3VDDAL
GPP_C22	MAIN-N	R2	GPI	N_GPP_C22		N/A
GPP_C23	MAIN-N	R2	GPI	N_GPP_C23		N/A
GPP_D4	MAIN-N	R2	GPI	N_GPP_D4		P/U 8.2K 3VDDAL
GPP_D7	MAIN-N	R2	GPI	N_GPP_D7		N/A
GPP_D8	MAIN-N	R2	GPI	N_GPP_D8		N/A
GPP_D9	MAIN-N	R2	GPI	N_GPP_D9		P/U 1K VCC3
GPP_D10	MAIN-N	R2	GPI	N_GPP_D10		N/A
GPP_D13	MAIN-N	R2	GPI	N_GPP_D13		N/A
GPP_D23	MAIN-N	R2	GPI	N_GPP_D23		P/U 8.2K 3VDDAL
GPP_D0	MAIN-N	R2	GPI	N_GPP_D0		P/U 8.2K 3VDDAL
GPP_E1	MAIN-N	R2	GPI	N_GPP_E1		P/U 8.2K 3VDDAL
GPP_E2	MAIN-N	R2	GPI	N_GPP_E2		P/U 8.2K 3VDDAL
GPP_E3	MAIN-N	R2	GPI	N_GPP_E3		N/A
GPP_E4	MAIN-N	R2	GPI	N_DEVSLP0		N/A
GPP_E6	MAIN-N	R2	GPI	N_DEVSLP2		N/A
GPP_E8	MAIN-N	R2	GPI	N_SATALED		N/A
GPP_E9	MAIN-N	R2	GPI	N_USBC0_F		N/A
GPP_E10	MAIN-N	R2	GPI	N_USBC0_E		N/A
GPP_E11	MAIN-N	R2	GPI	N_USBC0_E		N/A
GPP_E12	MAIN-N	R2	GPI	N_USBC0_F		N/A
GPP_F0	MAIN-N	R2	GPI	N_GPP_F0		P/U 8.2K 3VDDAL
GPP_F1	MAIN-N	R2	GPI	N_GPP_F1		P/U 8.2K 3VDDAL
GPP_F2	MAIN-N	R2	GPI	N_GPP_F2		P/U 8.2K 3VDDAL
GPP_F3	MAIN-N	R2	GPI	N_GPP_F3		P/U 8.2K 3VDDAL
GPP_F4	MAIN-N	R2	GPI	N_GPP_F4		P/U 8.2K 3VDDAL
GPP_F5	MAIN-N	R2	GPI	N_GPP_F5		P/U 8.2K VCC3
GPP_F6	MAIN-N	R2	GPI	N_DEVSLP4		N/A
GPP_F10	MAIN-N	R2	GPI	N_GPP_F10		P/U 8.2K VCC3
GPP_F11	MAIN-N	R2	GPI	N_GPP_F11		P/U 8.2K VCC3
GPP_F12	MAIN-N	R2	GPI	N_GPP_F12		P/U 8.2K VCC3
GPP_F13	MAIN-N	R2	GPI	N_GPP_F13		P/U 8.2K VCC3
GPP_F14	MAIN-N	R2	GPI	A_SKT0CC		P/U 8.2K VCC3
GPP_F15	MAIN-N	R2	GPI	N_USBC0_F		N/A
GPP_F16	MAIN-N	R2	GPI	N_USBC0_F		N/A
GPP_F17	MAIN-N	R2	GPI	N_USBC0_F		P/U 8.2K 3VDDAL
GPP_F18	MAIN-N	R2	GPI	N_USBC0_F		P/U 8.2K 3VDDAL
GPP_F22	MAIN-N	R2	GPI	N_GPP_F22		P/U 8.2K VCC3
GPP_F23	MAIN-N	R2	GPI	N_GPP_F23		P/U 8.2K VCC3
GPP_G11	MAIN-N	R2	FAW0402	N_G12		N/A
GPP_G12	MAIN-N	R2	GPI	N_GPP_G12		N/A
GPP_G13	MAIN-N	R2	GPI	N_CPU_S1		N/A
GPP_G14	MAIN-N	R2	GPI	N_GT_S0		N/A
GPP_G15	MAIN-N	R2	GPI	N_CPU_S0		N/A
GPP_G18	MAIN-N	R2	GPI	N_GPP_G18		P/U 8.2K VCC3
GPP_G19	MAIN-N	R2	GPI	N_GPP_G19		P/U 8.2K VCC3
GPP_G20	MAIN-N	R2	GPI	N_GPP_G20		P/U 8.2K VCC3
GPP_G21	MAIN-N	R2	GPI	N_GPP_G21		P/U 8.2K VCC3
GPP_G22	MAIN-N	R2	GPI	N_GPP_G22		P/U 8.2K VCC3
GPP_H0	MAIN-N	R2	GPI	M2A_CLKREQ0		P/U 8.2K VCC3
GPP_H12	MAIN-N	R2	GPI	N_GPP_H12		N/A
GPP_H19	MAIN-N	R2	GPI	N_GPP_H19		P/U 8.2K 3VDDAL
GPP_H20	MAIN-N	R2	GPI	N_GPP_H20		P/U 8.2K 3VDDAL
GPP_H21	MAIN-N	R2	GPI	N_GPP_H21		P/U 8.2K 3VDDAL
GPP_H22	MAIN-N	R2	GPI	N_GPP_H22		P/U 8.2K 3VDDAL
GPP_I0	MAIN-N	R2	GPI	N_DP_HDP		N/A
GPP_I1	MAIN-N	R2	GPI	N_DP2_HDP		N/A

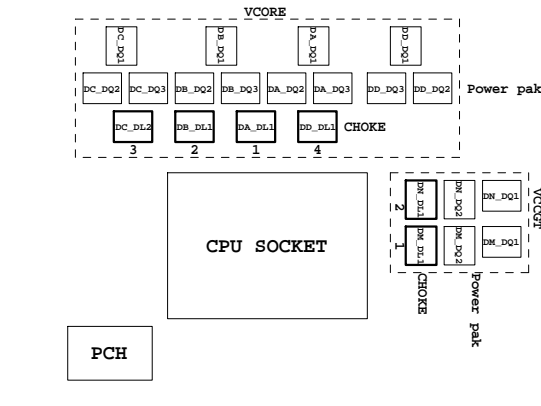
Pin Name	PWR	Default	USAGE	Note
GPP_13	MAIN	GPI	N_GPP_13	F/U 8.2K VCC3
GPP_14	MAIN	N-Z	GPI	F/D 100K GND
GPP_15	MAIN	N-Z	GPI	F/D 2.2K VCC
GPP_16	MAIN	GPO	N_DDBP_CTLRLCK	F/U 2.2K VCC3
GPP_17	MAIN	N-Z	GPI	F/D 2.2K VCC3
GPP_18	MAIN	GPO	N_DDBP_CTLRLCK	F/U 2.2K VCC3
GPP_19	MAIN	N-Z	GPI	F/D 2.2K VCC3
GPP_110	MAIN	GPO	N_DDBP_CTLRLCK	F/U 2.2K VCC3
GDQ0	STBY	BATLOW	N_BATLOW	P/F 8.2K 3VDDUAL_PCH
GDQ1	STBY	APRESSENT	N_GP_DI	P/F 8.2K 3VDDUAL_PCH
GDQ2	STBY	LAN_WAKE	N_LAN_WAKE	P/F 8.2K 3VDDUAL_PCH
GDQ3	STBY	PWRBTN	O_PWRBTN	P/F 8.2K 3VDDUAL_PCH
GDQ4	STBY	SPLP_S3	N_SPL_S3	N/A
GDQ5	STBY	SPLP_S4	N_SPL_S4	N/A
GDQ6	STBY	SPLP_A	N_SPL_A	N/A
GDQ8	STBY	SUSCLK	N_SUSCLK	P/D 1.5K GND
GDQ10	STBY	SUSLE	N_SUSLE	N/A

## Super I/O ITE8686 GPIO Table

PIN NAME	USAGE	NOTE
PCIRST32#/GP10	N/A	
PCIRST28#/GP11	O_-PCIE_RST	
PCIRST18#/GP12	O_-PPMRST2	
SVC_PRCI_RQ#/GP14	N_-THMRTRIP	
LP_SUB#/PCIRST18#/CIRKX2/GP15	PCIRSTIN	
FSI_1/FAN_CTL5/CIRKX2/GP16	<a href="#">IO PIN</a>	
R12#/GP17	<a href="#">IO</a> GP17	
TRM_PWRK_CTS28#/GP20	<a href="#">IO PIN</a>	
IO_SMIWDCCD28#/GP21	<a href="#">IO PIN</a>	
SP1_S1/GP22	WEEP-	
DPWROK/CPU_PG/GP23	N_PCH_DPWROK	
FAN_TAC5/RTS28#/GP24	FANFIO5	
FAN_TAC4/DSR28#/GP25	<a href="#">IO PIN</a>	
INV_OUT1_SOUT2/GP26	<a href="#">Q</a> PLED	
INV_IN1/SIN2/GP27	INV_IN1	
ATXP0/GP30	PWOK	
CTS1/GP31	CTS1-	
OCMDT3/R118/GP32	R11-	
OCMDT2/DCD18#/GP33	DCD1-	
VTT_PWRGD/GP34	VTT_PWRGD	
VCC18_EN/GP35	VCC18_EN	
FAN_CTL3/GP36	FANPM3	
FAN_TAC3/GP37	FANIO3	
3VBSW#/GP40	<a href="#">IO PIN</a>	
OCMDT1/SIN1/GP41	RXD1	
GP42/SCK/FAN_CTL4	FANPM4	
PANSHB#/GP43	-PWRDTS	
PWRONB#/GP44	O_PWRDTS	
OCMDT0/DSR18#/GP45	DSR1-	
CE2_N/GP47/JP6	CEB_N	
GP50/JP1	O_TPMCLK	
FAN_CTL2/GP51	FANPM2	
FAN_TAC2/GP52	FANIO2	
SUSC#/GP53	N_-S4_S5	
PWEX/GP54	N_-LPCPWE	
RENDRST#/CIRKX1/GP55	O_-RSMRST	
MCLK/FAN_TAC6/GP56	MCLK	
MDAT/FAN_CTL6/GP57	MDAT	
KCLK/GP60	KCLK	
KDAT/GP61	KDAT	
KRST#/GP62	N_-KRST	
HOLD_B#/GP63	<a href="#">IO PIN</a>	
HOLD_B#/GP64	-SPT_HOLD_N	
VLD7_EN/PCR_D0/GP65	MR_D1	
VCC1_05_EN/GP66	VCC1_0_EN	
GP67	N_-RTCENST	
USB_F51/PD0/GP70	<a href="#">IO PIN</a>	
USB_F52/PD1/GP71	<a href="#">IO PIN</a>	
USB_F53/PD2/GP72	<a href="#">IO PIN</a>	
USB_F53/PD3/GP73	<a href="#">IO PIN</a>	
USB_F55/PD4/GP74	<a href="#">IO PIN</a>	
USB_F56/PD5/GP75	<a href="#">IO PIN</a>	
USB_F57/PD7/GP76	<a href="#">IO PIN</a>	
USB_F58/PD8/GP77	<a href="#">IO PIN</a>	
LS_IN1/SLCT/GP80	VDQ0	
LS_OUT1/PE/GP81	<a href="#">IO PIN</a>	
LS_IN2/BSU/GP82	VCCIO	
LS_OUT2/ACK#/GP83	<a href="#">IO PIN</a>	
IPHONE_CHARGE#/SLIN#/GP84	<a href="#">IO PIN</a>	
OC_IN/IN17#/GP85	<a href="#">IO PIN</a>	
OC_OUT/AFD#/GP86	<a href="#">IO PIN</a>	
USB_OC2/STB#/GP87	<a href="#">IO PIN</a>	
DDR_EN/GP90	MA_EN	
PWRLED/GP91	MPD-	
HOLD_OUT/GP92	<a href="#">IO PIN</a>	
HDLED_IN/GP93	GP93	
PROCHOT#/GP94	A_-PROCHOT	
CPUPWRGD/GP95	<a href="#">IO PIN</a>	
PCH_VRMPPWRGD/GP96	N_PCH_VRMPPWRGD	



WM各相位的擺法如下：



### IOS超電壓對應表:

散熱模組料號:

270M-D3P-WG :  
CH : 12SP2-S04907-01R/02R/03R  
OS : 12SP2-S09325-31R/32R/33R

線路圖名稱	BIOS選項
Vcore	CPU Vcore
VCGGT	CPU Graphic Voltage
VCCSA	CPU System Agent Voltage
VCCIO	CPU I/O Voltage
VCC1.8_PCH	PCH core
VDDQ	DRAM voltage
VPP_25V	DRAM VPP voltage
DDRVRTT	DRAM Termination
REF_0Q, A4REF, DQ_B	DRAM Data Ref

	3 pin FAN control	4 pin FAN control	FAN speed	Controller
CPU FAN	FANPWM1	VCC	FANIO1	IT8686
	FANC_VOUT	N/A	N/A	NCT3947
SYS FAN1	FANPWM2	VCC	FANIO2	IT8686
	FAN1_VOUT	N/A	N/A	NCT3947
SYS FAN2	FANPWM3	VCC	FANIO3	IT8686
	FAN2_VOUT	N/A	N/A	NCT3947
SYS_FAN3_PUMP	FANPWM4	VCC	FANIO4	IT8686
	FAN3_VOUT	N/A	N/A	NCT3947

<b>Gigabyte Technology</b>		
<b>TABLE LIST</b>		
Document Number	GA-Z270M-D3H	Rev 1.0