

SHEET	TITLE
01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	CPU_LGA1151-A
05	CPU_LGA1151-B_DDR4
06	CPU_LGA1151-C
07	CPU_LGA1151-D
08	DDR4 CHANNEL A 1,2
09	DDR4 CHANNEL B 1,2
10	PCH_RGB,CLK BUFFER
11	PCH DMI,USB,PCIE
12	PCH MISC
13	PCH SATA,PCIE,SATA_EXPRESS
14	PCH_PWR,GND
15	PCH_GND
16	PCI EXPRESS X16 SLOT
17	PCI EXPRESS X8 SLOT(CPU)
18	PCI EXPRESS X16 SWITCH
19	PCI EXPRESS X4 SLOT(PCH)
20	PCIEX1 SLOT & PCIEX4 SWITCH
21	SATA EXPRESS
22	M2P_32A
23	Realtek ALC1220
24	Rear Audio Jack
25	DUAL BIOS
26	ITE 8686 LPC IO
27	HMW
28	FAN CTRL--SIO
29	ISL95856 PWM
30	ISL95856 MOS_VCORE
31	ISL95856 MOS_VCCGT
32	VCCSA_VCCIO
33	RT8120_DDR
34	RT8120_VPP
35	RT8120_PCH

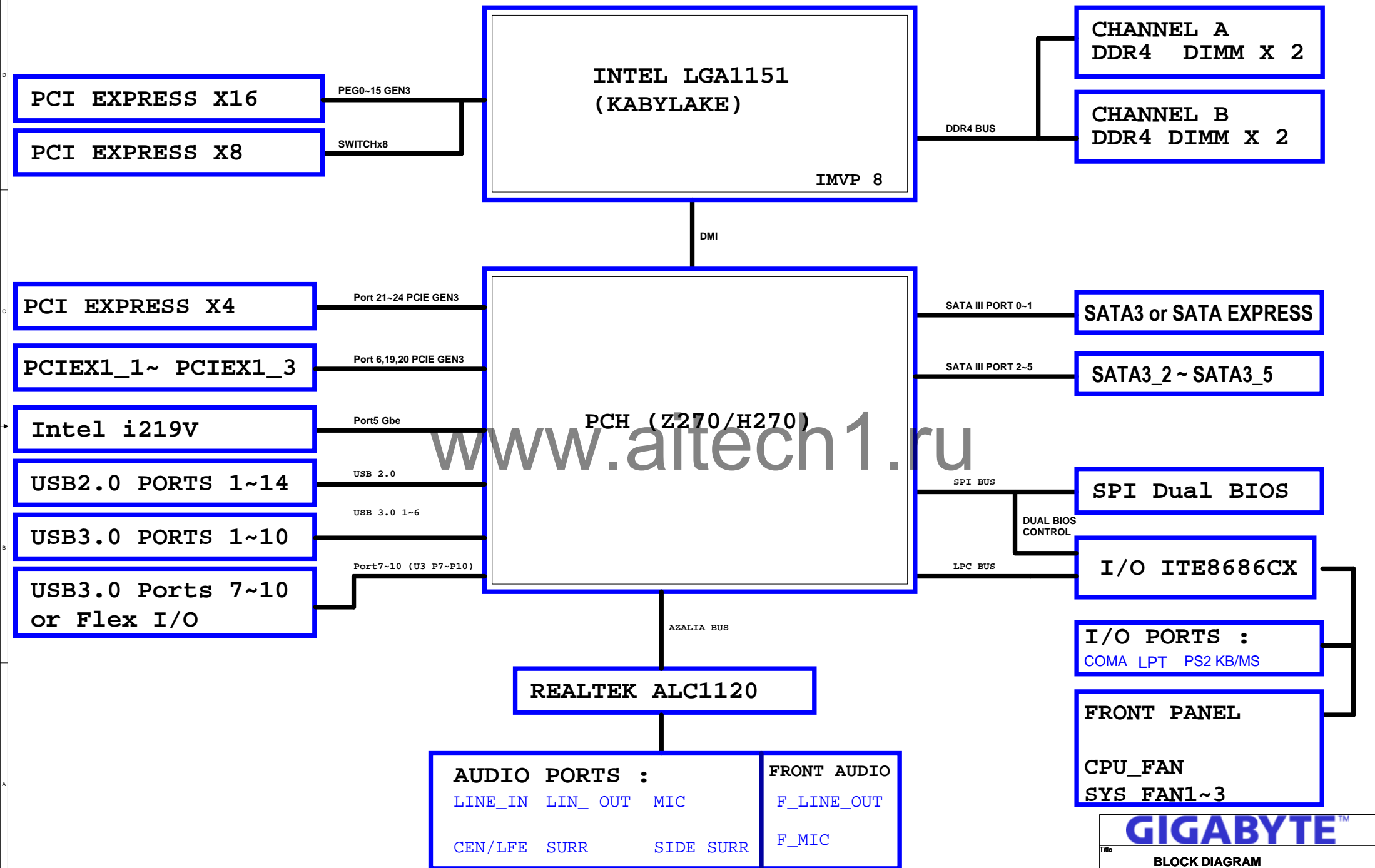
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## Circuit or PCB layout change

U16142-0  
TIP/TOP : 9MZ27XUD3-00

[illegible]

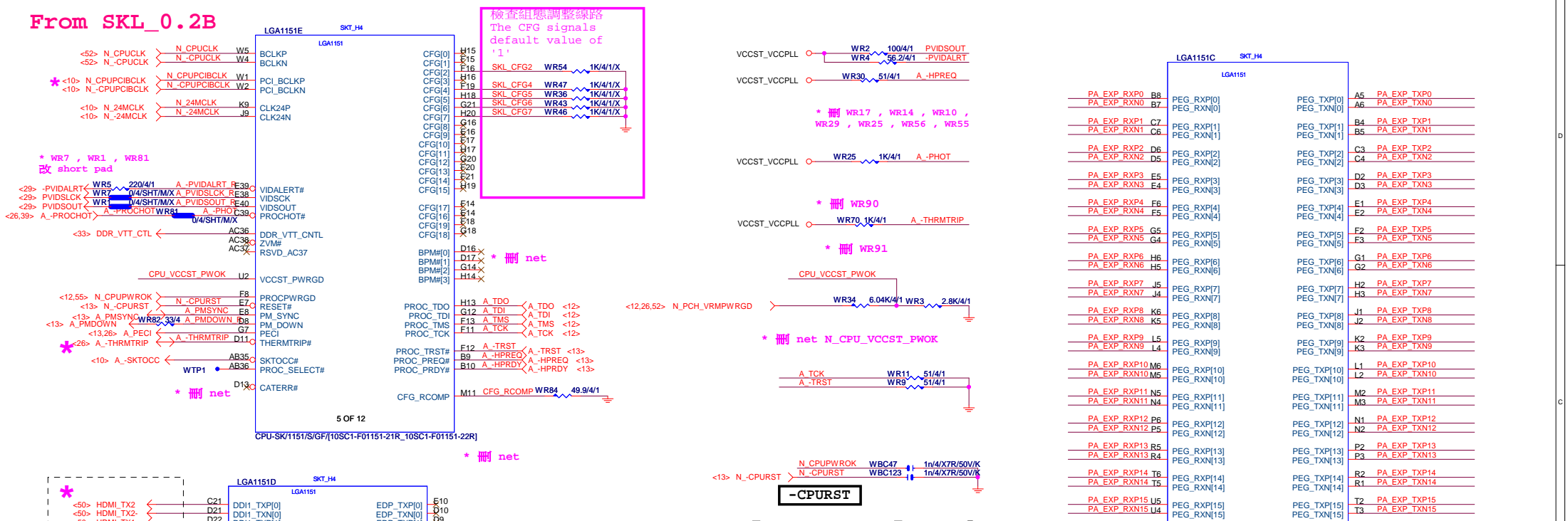
# BLOCK DIAGRAM



**GIGABYTE™**

Title			
BLOCK DIAGRAM			
Size	Document Number	Rev	
Custom	GA-Z270X-UD3	1.0	
Date:	Friday, November 04, 2016	Sheet	3 of 59

From SKL\_0.2B



www.aitech1.ru



```
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
```

CFG 5:  
L : 8/8            H: 16/0

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

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

<b>GIGABYTE™</b>			
Title <b>CPU LGA1151-A</b>			
Size Custom	Document Number <b>GA-Z270X-UD3</b>		Rev <b>1.0</b>
Date:	Thursday, October 27, 2016	Sheet 4 of	59



# \* 改DDR4 net

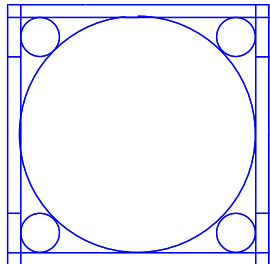
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LGA1151	LGA1151
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MDA2 AG38	DDR0_DQ[2]
MDA3 AG37	DDR0_DQ[3]
MDA4 AE39	DDR0_DQ[4]
MDA5 AE40	DDR0_DQ[5]
MDA6 AG39	DDR0_DQ[6]
MDA7 AG40	DDR0_DQ[7]
MDA8 AJ38	DDR0_DQ[8]
MDA9 AJ37	DDR0_DQ[9]
MDA10 AL38	DDR0_DQ[10]
MDA11 AL37	DDR0_DQ[11]
MDA12 AJ40	DDR0_DQ[12]
MDA13 AJ39	DDR0_DQ[13]
MDA14 AL39	DDR0_DQ[14]
MDA15 AL40	DDR0_DQ[15]
MDA16 AN38	DDR0_DQ[16]/DDR0_DQ[32]
MDA17 AN40	DDR0_DQ[17]/DDR0_DQ[33]
MDA18 AR38	DDR0_DQ[18]/DDR0_DQ[34]
MDA19 AR37	DDR0_DQ[19]/DDR0_DQ[35]
MDA20 AN39	DDR0_DQ[20]/DDR0_DQ[36]
MDA21 AN37	DDR0_DQ[21]/DDR0_DQ[37]
MDA22 AR40	DDR0_DQ[22]/DDR0_DQ[38]
MDA23 AR40	DDR0_DQ[23]/DDR0_DQ[39]
MDA24 AW37	DDR0_DQ[24]/DDR0_DQ[40]
MDA25 AU38	DDR0_DQ[25]/DDR0_DQ[41]
MDA26 AV35	DDR0_DQ[26]/DDR0_DQ[42]
MDA27 AW35	DDR0_DQ[27]/DDR0_DQ[43]
MDA28 AU37	DDR0_DQ[28]/DDR0_DQ[44]
MDA29 AV37	DDR0_DQ[29]/DDR0_DQ[45]
MDA30 AT35	DDR0_DQ[30]/DDR0_DQ[46]
MDA31 AU35	DDR0_DQ[31]/DDR0_DQ[47]
MDA32 AY8	DDR0_DQ[32]/DDR1_DQ[0]
MDA33 AW8	DDR0_DQ[33]/DDR1_DQ[1]
MDA34 AV6	DDR0_DQ[34]/DDR1_DQ[2]
MDA35 AU6	DDR0_DQ[35]/DDR1_DQ[3]
MDA36 AU8	DDR0_DQ[36]/DDR1_DQ[4]
MDA37 AV8	DDR0_DQ[37]/DDR1_DQ[5]
MDA38 AW6	DDR0_DQ[38]/DDR1_DQ[6]
MDA39 AV6	DDR0_DQ[39]/DDR1_DQ[7]
MDA40 AY4	DDR0_DQ[40]/DDR1_DQ[8]
MDA41 AV4	DDR0_DQ[41]/DDR1_DQ[9]
MDA42 AT1	DDR0_DQ[42]/DDR1_DQ[10]
MDA43 AT2	DDR0_DQ[43]/DDR1_DQ[11]
MDA44 AV3	DDR0_DQ[44]/DDR1_DQ[12]
MDA45 AW4	DDR0_DQ[45]/DDR1_DQ[13]
MDA46 AT3	DDR0_DQ[46]/DDR1_DQ[14]
MDA47 AT3	DDR0_DQ[47]/DDR1_DQ[15]
MDA48 AP2	DDR0_DQ[48]/DDR1_DQ[16]
MDA49 AM4	DDR0_DQ[49]/DDR1_DQ[17]
MDA50 AP3	DDR0_DQ[50]/DDR1_DQ[18]
MDA51 AM3	DDR0_DQ[51]/DDR1_DQ[19]
MDA52 AP4	DDR0_DQ[52]/DDR1_DQ[20]
MDA53 AM2	DDR0_DQ[53]/DDR1_DQ[21]
MDA54 AP1	DDR0_DQ[54]/DDR1_DQ[22]
MDA55 AM1	DDR0_DQ[55]/DDR1_DQ[23]
MDA56 AK3	DDR0_DQ[56]/DDR1_DQ[24]
MDA57 AK4	DDR0_DQ[57]/DDR1_DQ[25]
MDA58 AH2	DDR0_DQ[58]/DDR1_DQ[26]
MDA59 AH2	DDR0_DQ[59]/DDR1_DQ[27]
MDA60 AH4	DDR0_DQ[60]/DDR1_DQ[28]
MDA61 AK2	DDR0_DQ[61]/DDR1_DQ[29]
MDA62 AH3	DDR0_DQ[62]/DDR1_DQ[30]
MDA63 AK1	DDR0_DQ[63]/DDR1_DQ[31]
AU33	DDR0_ECC[0]
AT33	DDR0_ECC[1]
AW33	DDR0_ECC[2]
AV33	DDR0_ECC[3]
AV33	DDR0_ECC[4]
AW33	DDR0_ECC[5]
AV33	DDR0_ECC[6]
AW33	DDR0_ECC[7]

DDR CHANNEL A

1 OF 12

CPU-SK/1151/S/G/F/[10SC1-F01151-21R\_10SC1-F01151-22R]

LGA1151



ILM\_BP\_C1R/115X/NORMAL\_N/[12KRC-0F0001-52R\_12KRC-0F0001-51R]

\* 52R/51R鍍普通鍍FOXCONN\_LOTES

61R/62R 鍍黑鍍 FOXCONN\_LOTES

Need check the new CPU ME

DDR0_CKP[0]	AW18 M_DCLKA0	M_DCLKA0 <8>
DDR0_CKN[0]	AW18 M_DCLKA0	M_DCLKA0 <8>
DDR0_CKP[1]	AW17 M_DCLKA1	M_DCLKA1 <8>
DDR0_CKN[1]	AW17 M_DCLKA1	M_DCLKA1 <8>
DDR0_CKP[2]	AW16 M_DCLKA2	M_DCLKA2 <8>
DDR0_CKN[2]	AW16 M_DCLKA2	M_DCLKA2 <8>
DDR0_CKP[3]	AW16 M_DCLKA3	M_DCLKA3 <8>
DDR0_CKN[3]	AW16 M_DCLKA3	M_DCLKA3 <8>
DDR0_CKE[0]	AY24 CKEA0	CKEA0 <8>
DDR0_CKE[1]	AW24 CKEA1	CKEA1 <8>
DDR0_CKE[2]	AY24 CKEA2	CKEA2 <8>
DDR0_CKE[3]	AW25 CKEA3	CKEA3 <8>
DDR0_CS#0	AW12 M-CSA0	M-CSA0 <8>
DDR0_CS#1	AW11 M-CSA1	M-CSA1 <8>
DDR0_CS#2	AW13 M-CSA2	M-CSA2 <8>
DDR0_CS#3	AW10 M-CSA3	M-CSA3 <8>
DDR0_ODT[0]	AW11 MODT_A0	MODT_A0
DDR0_ODT[1]	AU14 MODT_A1	MODT_A1
DDR0_ODT[2]	AU12 MODT_A2	MODT_A2
DDR0_ODT[3]	AY10 MODT_A3	MODT_A3
DDR0_BA[0]/DDR0_CAB[4]/DDR0_BA[0]	AY13 SBAA0	SBAA0 <8>
DDR0_BA[1]/DDR0_CAB[6]/DDR0_BA[1]	AY15 SBAA1	SBAA1 <8>
DDR0_BA[2]/DDR0_CAA[5]/DDR0_BG[0]	AW23 BG_A0	BG_A0 <8>
DDR0_RAS#/DDR0_CAB[3]/DDR0_MA[16]	AW13 MAAA16	MAA16
DDR0_WE#/DDR0_CAB[2]/DDR0_MA[14]	AW14 MAAA14	MAA14
DDR0_CAS#/DDR0_CAB[1]/DDR0_MA[15]	AW11 MAAA15	MAA15
DDR0_MA[0]/DDR0_CAB[9]/DDR0_MA[0]	AW15 MAAA0	MAA0
DDR0_MA[1]/DDR0_CAB[8]/DDR0_MA[1]	AU18 MAAA1	MAA1
DDR0_MA[2]/DDR0_CAB[5]/DDR0_MA[2]	AU17 MAAA2	MAA2
DDR0_MA[3]	AU19 MAAA3	MAA3
DDR0_MA[4]	AT19 MAAA4	MAA4
DDR0_MA[5]/DDR0_CAA[0]/DDR0_MA[5]	AU20 MAAA5	MAA5
DDR0_MA[6]/DDR0_CAA[2]/DDR0_MA[6]	AU20 MAAA6	MAA6
DDR0_MA[7]/DDR0_CAA[4]/DDR0_MA[7]	AT20 MAAA7	MAA7
DDR0_MA[8]/DDR0_CAA[3]/DDR0_MA[8]	AT22 MAAA9	MAA9
DDR0_MA[9]/DDR0_CAA[1]/DDR0_MA[9]	AU14 MAAA10	MAA10
DDR0_MA[10]/DDR0_CAB[7]/DDR0_MA[10]	AU22 MAAA11	MAA11
DDR0_MA[11]/DDR0_CAA[7]/DDR0_MA[11]	AV22 MAAA12	MAA12
DDR0_MA[12]/DDR0_CAA[6]/DDR0_MA[12]	AU12 MAAA13	MAA13
DDR0_MA[13]/DDR0_CAB[0]/DDR0_MA[13]	AV23 BG_A1	BG_A1 <8>
DDR0_MA[14]/DDR0_CAA[9]/DDR0_BG[1]	AU24	M_ACT_A <8>
DDR0_MA[15]/DDR0_CAA[8]/DDR0_ACT#	AY15	M_DDR_PARA <8>
DDR0_PAR	AT23	M_ALERT_A <8>
DDR0_ALERT#	AF38 M-DQSA0	M-DQSA0
DDR0_DQSN[0]	AK38 M-DQSA1	M-DQSA1
DDR0_DQSN[1]	AP38 M-DQSA2	M-DQSA2
DDR0_DQSN[2]/DDR0_DQSN[4]	AV36 M-DQSA3	M-DQSA3
DDR0_DQSN[3]/DDR0_DQSN[5]	AV7 M-DQSA4	M-DQSA4
DDR0_DQSN[6]/DDR1_DQSN[7]	AU2 M-DQSA5	M-DQSA5
DDR0_DQSN[7]	AN2 M-DQSA6	M-DQSA6
DDR0_DQSN[8]	AJ2 M-DQSA7	M-DQSA7
DDR0_DQSP[0]	AF38 M-DQSA0	M-DQSA0
DDR0_DQSP[1]	AK38 M-DQSA1	M-DQSA1
DDR0_DQSP[2]/DDR0_DQSP[4]	AP38 M-DQSA2	M-DQSA2
DDR0_DQSP[3]/DDR0_DQSP[5]	AV7 M-DQSA3	M-DQSA3
DDR0_DQSP[6]/DDR1_DQSP[7]	AU2 M-DQSA4	M-DQSA4
DDR0_DQSP[7]	AN2 M-DQSA5	M-DQSA5
DDR0_DQSP[8]	AJ2 M-DQSA6	M-DQSA6
DDR0_DQSP[9]	AV32	M-DQSA7
DDR0_DQSP[10]	AV32	M-DQSA8

MDB0 AD34	DDR1_DQ[0]/DDR0_DQ[16]
MDB1 AD35	DDR1_DQ[1]/DDR0_DQ[17]
MDB2 AG35	DDR1_DQ[2]/DDR0_DQ[18]
MDB3 AH35	DDR1_DQ[3]/DDR0_DQ[19]
MDB4 AE35	DDR1_DQ[4]/DDR0_DQ[20]
MDB5 AE34	DDR1_DQ[5]/DDR0_DQ[21]
MDB6 AH34	DDR1_DQ[6]/DDR0_DQ[22]
MDB7 AH34	DDR1_DQ[7]/DDR0_DQ[23]
MDB8 AK35	DDR1_DQ[8]/DDR0_DQ[24]
MDB9 AL35	DDR1_DQ[9]/DDR0_DQ[25]
MDB10 AK32	DDR1_DQ[10]/DDR0_DQ[26]
MDB11 AL32	DDR1_DQ[11]/DDR0_DQ[27]
MDB12 AK34	DDR1_DQ[12]/DDR0_DQ[28]
MDB13 AL34	DDR1_DQ[13]/DDR0_DQ[29]
MDB14 AK31	DDR1_DQ[14]/DDR0_DQ[30]
MDB15 AL31	DDR1_DQ[15]/DDR0_DQ[31]
MDB16 AP35	DDR1_DQ[16]/DDR0_DQ[32]
MDB17 AN35	DDR1_DQ[17]/DDR0_DQ[33]
MDB18 AN32	DDR1_DQ[18]/DDR0_DQ[34]
MDB19 AP32	DDR1_DQ[19]/DDR0_DQ[35]
MDB20 AN34	DDR1_DQ[20]/DDR0_DQ[36]
MDB21 AP34	DDR1_DQ[21]/DDR0_DQ[37]
MDB22 AN31	DDR1_DQ[22]/DDR0_DQ[38]
MDB23 AP31	DDR1_DQ[23]/DDR0_DQ[39]
MDB24 AL29	DDR1_DQ[24]/DDR0_DQ[40]
MDB25 AM29	DDR1_DQ[25]/DDR0_DQ[41]
MDB26 AP29	DDR1_DQ[26]/DDR0_DQ[42]
MDB27 AR29	DDR1_DQ[27]/DDR0_DQ[43]
MDB28 AM28	DDR1_DQ[28]/DDR0_DQ[44]
MDB29 AL28	DDR1_DQ[29]/DDR0_DQ[45]
MDB30 AR28	DDR1_DQ[30]/DDR0_DQ[46]
MDB31 AP28	DDR1_DQ[31]/DDR0_DQ[47]
MDB32 AR12	DDR1_DQ[32]/DDR1_DQ[0]
MDB33 AP12	DDR1_DQ[33]/DDR1_DQ[1]
MDB34 AM13	DDR1_DQ[34]/DDR1_DQ[2]
MDB35 AR13	DDR1_DQ[35]/DDR1_DQ[3]
MDB37 AP13	DDR1_DQ[36]/DDR1_DQ[4]
MDB38 AM12	DDR1_DQ[37]/DDR1_DQ[5]
MDB39 AP10	DDR1_DQ[38]/DDR1_DQ[6]
MDB40 AR10	DDR1_DQ[39]/DDR1_DQ[7]
MDB41 AR10	DDR1_DQ[40]/DDR1_DQ[8]
MDB42 AR7	DDR1_DQ[41]/DDR1_DQ[9]
MDB43 AP7	DDR1_DQ[42]/DDR1_DQ[10]
MDB44 AR9	DDR1_DQ[43]/DDR1_DQ[11]
MDB45 AP9	DDR1_DQ[44]/DDR1_DQ[12]
MDB46 AR6	DDR1_DQ[45]/DDR1_DQ[13]
MDB47 AP6	DDR1_DQ[46]/DDR1_DQ[14]
MDB48 AM10	DDR1_DQ[47]/DDR1_DQ[15]
MDB49 AL10	DDR1_DQ[48]
MDB50 AM7	DDR1_DQ[49]
MDB51 AR7	DDR1_DQ[50]
MDB52 AM9	DDR1_DQ[51]
MDB53 AL9	DDR1_DQ[52]
MDB54 AM6	DDR1_DQ[53]
MDB55 AL6	DDR1_DQ[54]
MDB56 AJ6	DDR1_DQ[55]
MDB57 AJ7	DDR1_DQ[56]
MDB58 AE6	DDR1_DQ[57]
MDB59 AF7	DDR1_DQ[58]
MDB60 AH7	DDR1_DQ[59]
MDB61 AH6	DDR1_DQ[60]
MDB62 AE7	DDR1_DQ[61]
MDB63 AF6	DDR1_DQ[62]
AR25	DDR1_ECC[0]
AR26	DDR1_ECC[1]
AM26	DDR1_ECC[2]
AM25	DDR1_ECC[3]
AP26	DDR1_ECC[4]
AP25	DDR1_ECC[5]
AL26	DDR1_ECC[6]
AL26	DDR1_ECC[7]

DDR CHANNEL B

<8> MODT_A[0..3]	MODT_A[0..3]
<8> 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> MAA[0..16]	MAA[0..16]
<9> MAB[0..16]	MAB[0..16]
<9> M_DQSB[0..7]	M_DQSB[0..7]
<9> M_DQSB[0..7]	M_DQSB[0..7]

2 OF 12

CPU-SK/1151/S/G/F/[10SC1-F01151-21R\_10SC1-F01151-22R]

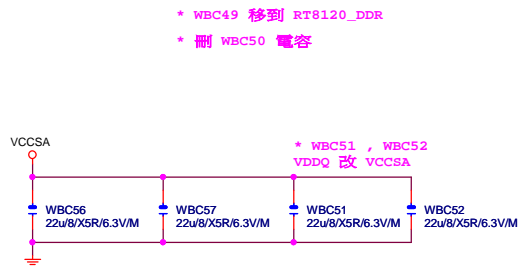
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DDR0\_VREF\_DQ

DDR1\_VREF\_DQ

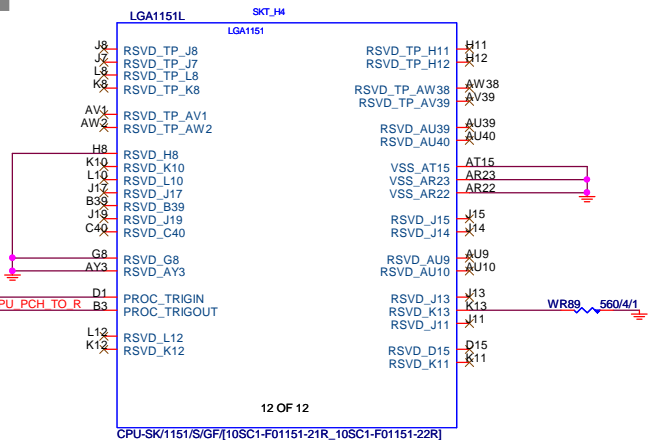
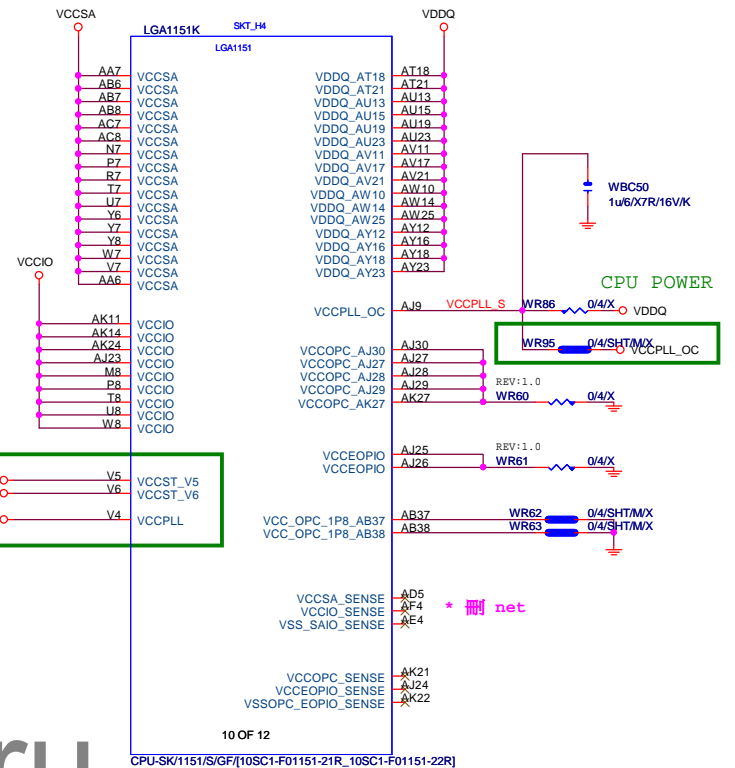
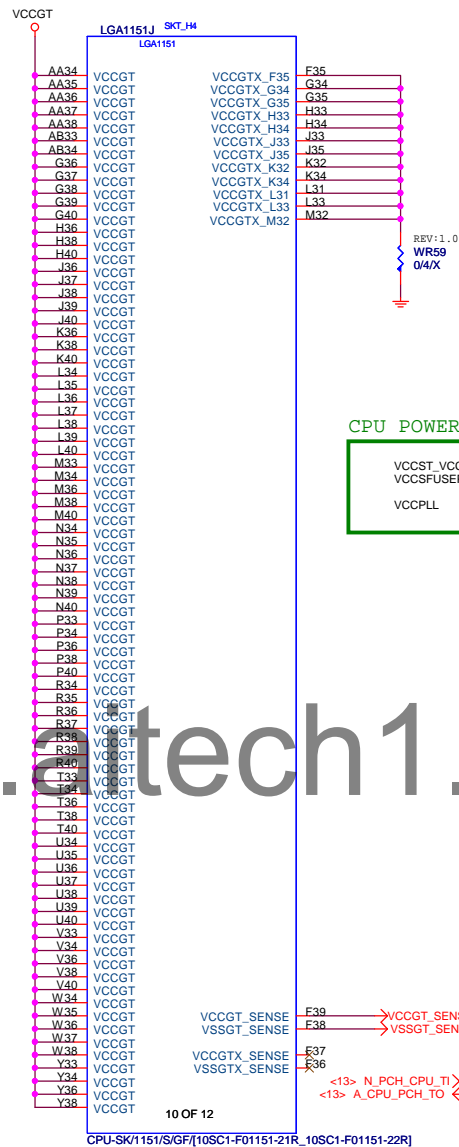
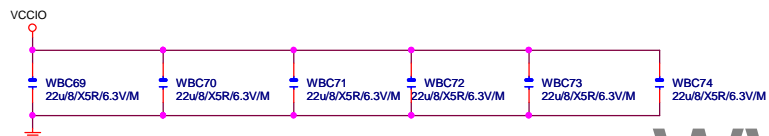
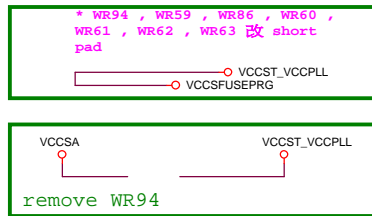
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DDR1_CKN[0]	AM21 M_DCLKB0	M_DCLKB0 <9>
DDR1_CKP[1]	AP22 M_DCLKB1	M_DCLKB1 <9>
DDR1_CKN[1]	AP21 M_DCLKB1	M_DCLKB1 <9>
DDR1_CKP[2]	AN20 M_DCLKB2	M_DCLKB2 <9>
DDR1_CKN[2]	AN21 M_DCLKB2	M_DCLKB2 <9>
DDR1_CKP[3]	AP19 M_DCLKB3	M_DCLKB3 <9>
DDR1_CKN[3]	AP20 M_DCLKB3	M_DCLKB3 <9>
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DDR1_CKE[1]	AV29 CKEB1	CKEB1 <9>
DDR1_CKE[2]	AW29 CKEB2	CKEB2 <9>
DDR1_CKE[3]	AU29 CKEB3	CKEB3 <9>
DDR1_CS#0	AP17 M-CSB0	M-CSB0 <9>
DDR1_CS#1	AN15 M-CSB1	M-CSB1 <9>
DDR1_CS#2	AN17 M-CSB2	M-CSB2 <9>
DDR1_CS#3	AM15 M-CSB3	M-CSB3 <9>
DDR1_ODT[0]	AM16 MODT_B0	MODT_B0
DDR1_ODT[1]	AL16 MODT_B1	MODT_B1
DDR1_ODT[2]	AP15 MODT_B2	MODT_B2
DDR1_ODT[3]	AL15 MODT_B3	MODT_B3
DDR1_RAS#/DDR1_CAB[3]/DDR1_MA[16]	AN18 MAAB16	MAAB16
DDR1_WE#/DDR1_CAB[2]/DDR1_MA[14]	AL17 MAAB14	MAAB14
DDR1_CAS#/DDR1_CAB[1]/DDR1_MA[15]	AP16 MAAB15	MAAB15
DDR1_BA[0]/DDR1_CAB[4]/DDR1_BA[0]	AL18 SBAB0	SBAB0 <9>
DDR1_BA[1]/DDR1_CAB[6]/DDR1_BA[1]	AM18 SBAB1	SBAB1 <9>
DDR1_BA[2]/DDR1_CAA[5]/DDR1_BG[0]	AW28 BG_B0	BG_B0 <9>
DDR1_MA[0]/DDR1_CAB[9]/DDR1_MA[0]	AL19 MAAB0	MAAB0
DDR1_MA[1]/DDR1_CAB[8]/DDR1_MA[1]	AL22 MAAB1	MAAB1
DDR1_MA[2]/DDR1_CAB[5]/DDR1_MA[2]	AM22 MAAB2	MAAB2
DDR1_MA[3]	AP23 MAAB4	MAAB4
DDR1_MA[4]	AP23 MAAB5	MAAB5
DDR1_MA[5]/DDR1_CAA[0]/DDR1_MA[5]	AW26 MAAB6	MAAB6
DDR1_MA[6]/DDR1_CAA[2]/DDR1_MA[6]	AY26 MAAB7	MAAB7
DDR1_MA[7]/DDR1_CAA[4]/DDR1_MA[7]	AU26 MAAB8	MAAB8
DDR1_MA[8]/DDR1_CAA[3]/DDR1_MA[8]	AW27 MAAB9	MAAB9
DDR1_MA[9]/DDR1_CAA[1]/DDR1_MA[9]	AP18 MAAB10	MAAB10
DDR1_MA[10]/DDR1_CAB[7]/DDR1_MA[10]	AU27 MAAB11	MAAB11
DDR1_MA[11]/DDR1_CAA[7]/DDR1_MA[11]	AV27 MAAB12	MAAB12
DDR1_MA[12]/DDR1_CAA[6]/DDR1_MA[12]	AL15 MAAB13	MAAB13
DDR1_MA[13]/DDR1_CAB[0]/DDR1_MA[13]	AY28 BG_B1	BG_B1 <9>
DDR1_MA[14]/DDR1_CAA[9]/DDR1_BG[1]	AU28	M_ACT_B <9>
DDR1_MA[15]/DDR1_CAA[8]/DDR1_ACT#	AL20	M_DDR_PARB <9>
DDR1_PAR	AY25	M_ALERT_B <9>
DDR1_ALERT#	AF34 M-DQSB0	M-DQSB0
DDR1_DQSN[0]/DDR0_DQSN[2]	AK33 M-DQSB1	M-DQSB1
DDR1_DQSN[1]/DDR0_DQSN[3]	AN33 M-DQSB2	M-DQSB2
DDR1_DQSN[2]/DDR0_DQSN[6]	AN12 M-DQSB3	M-DQSB3
DDR1_DQSN[3]/DDR0_DQSN[7]	AR8 M-DQSB4	M-DQSB4
DDR1_DQSN[4]/DDR1_DQSN[2]	AM8 M-DQSB5	M-DQSB5
DDR1_DQSN[5]/DDR1_DQSN[3]	AG7 M-DQSB6	M-DQSB6
DDR1_DQSN[6]	AF35 M-DQSB7	M-DQSB7
DDR1_DQSN[7]	AF35 M-DQSB8	M-DQSB8
DDR1_DQSP[0]/DDR0_DQSP[2]	AP33 M-DQSB1	M-DQSB1
DDR1_DQSP[1]/DDR0_DQSP[3]	AN28 M-DQSB2	M-DQSB2
DDR1_DQSP[2]/DDR0_DQSP[6]	AP8 M-DQSB3	M-DQSB3
DDR1_DQSP[3]/DDR0_DQSP[7]	AL8 M-DQSB4	M-DQSB4
DDR1_DQSP[4]/DDR1_DQSP[3]	AG7 M-DQSB5	M-DQSB5
DDR1_DQSP[5]	AN25	M-DQSB6
DDR1_DQSP[6]	AN26	M-DQSB7
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DDR1_DQSP[8]		
DDR1_DQSP[9]		
DDR1_DQSP[10]		

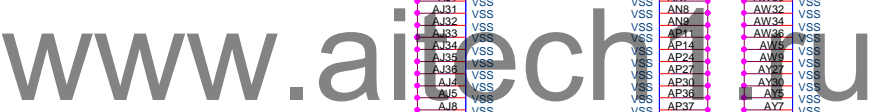
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<b>CPU LGA1151-B</b>		
Title CPU LGA1151-B	Document Number GA-Z270X-UD3	Rev 1.0
Date: Thursday, October 27, 2016		
Sheet 5 of 59		



\* 刪 WBC124, WBC125, WBC126, WBC127 電容

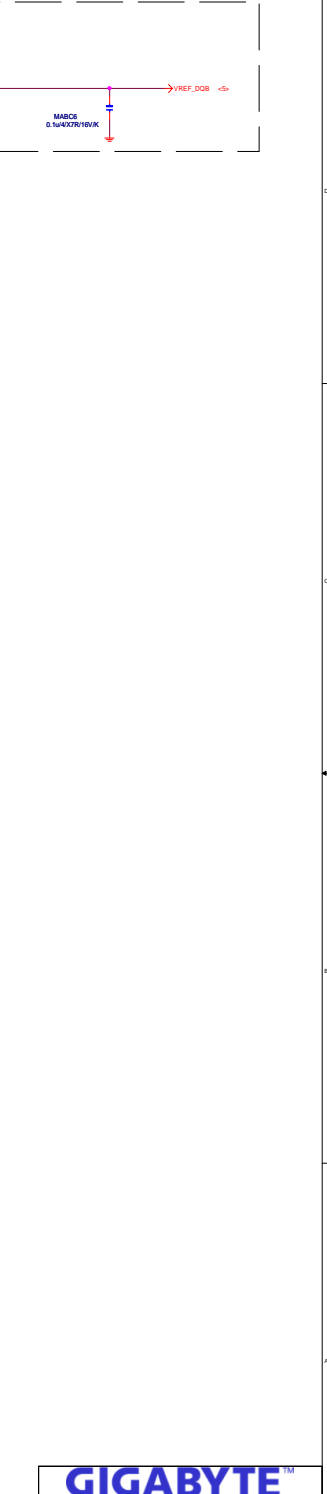
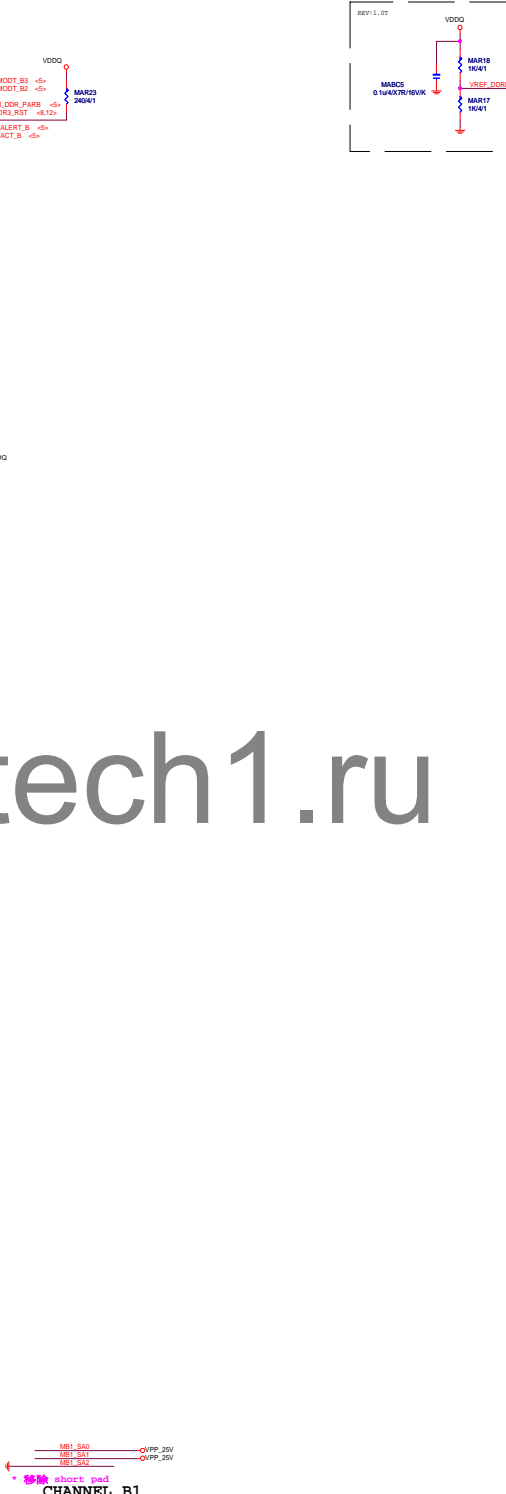
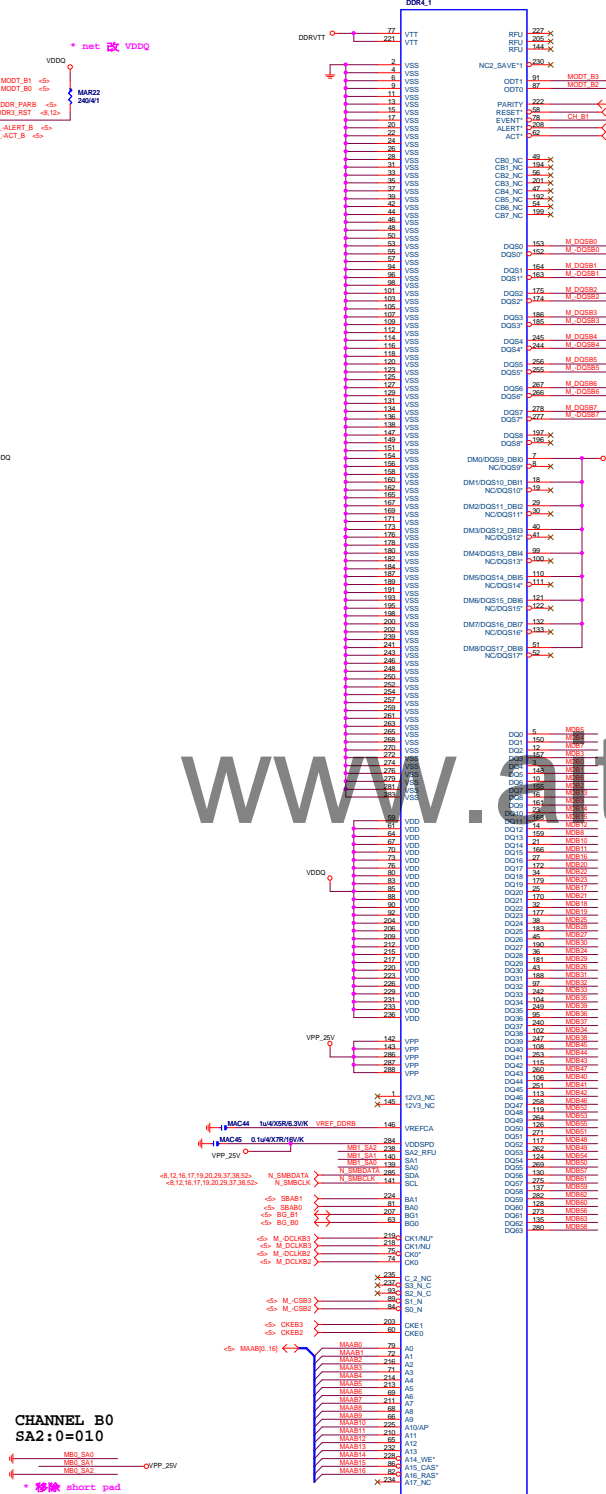
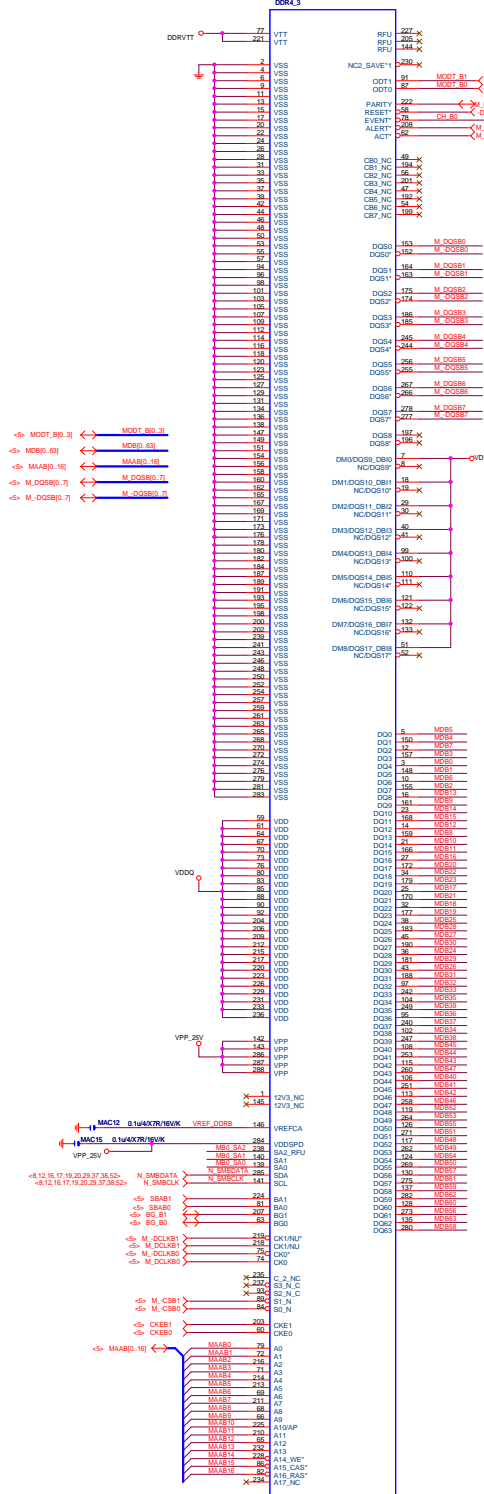
#### CPU POWER



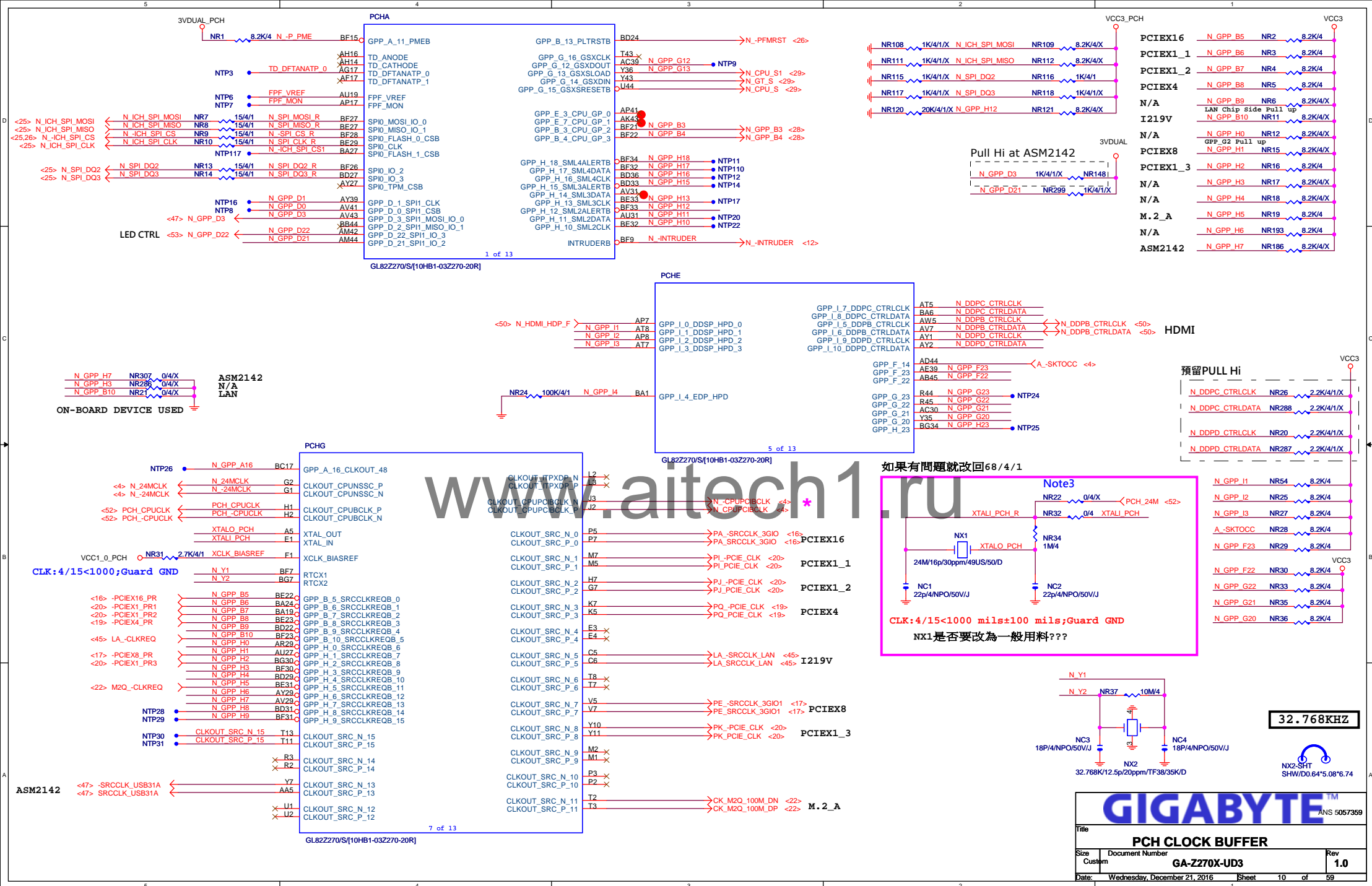


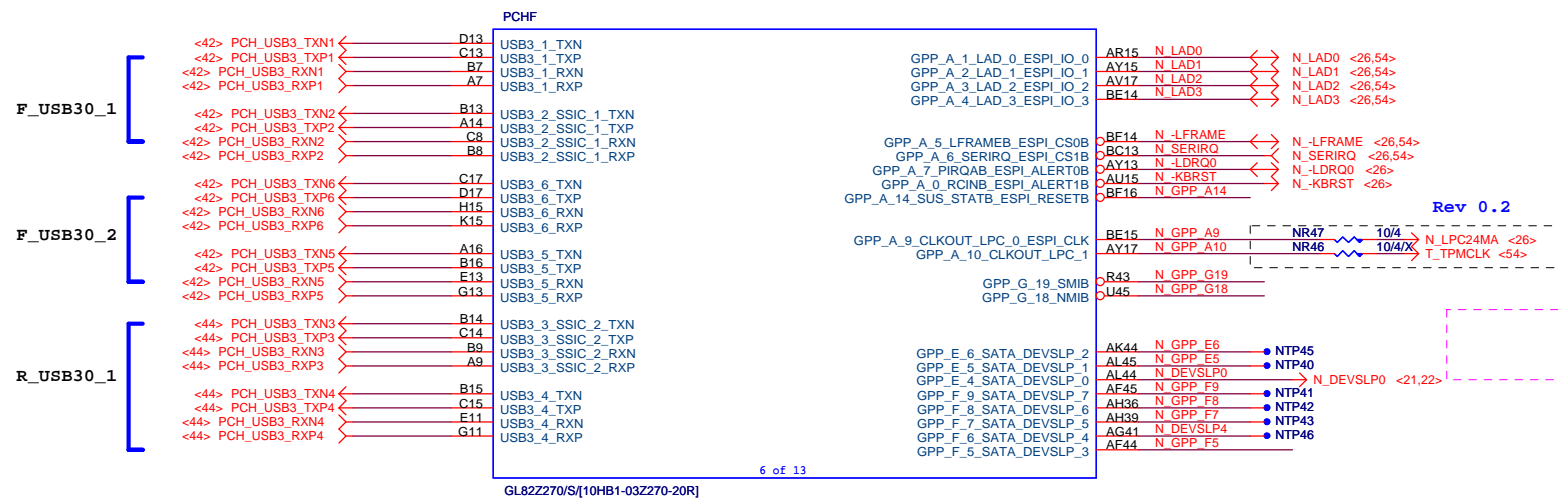
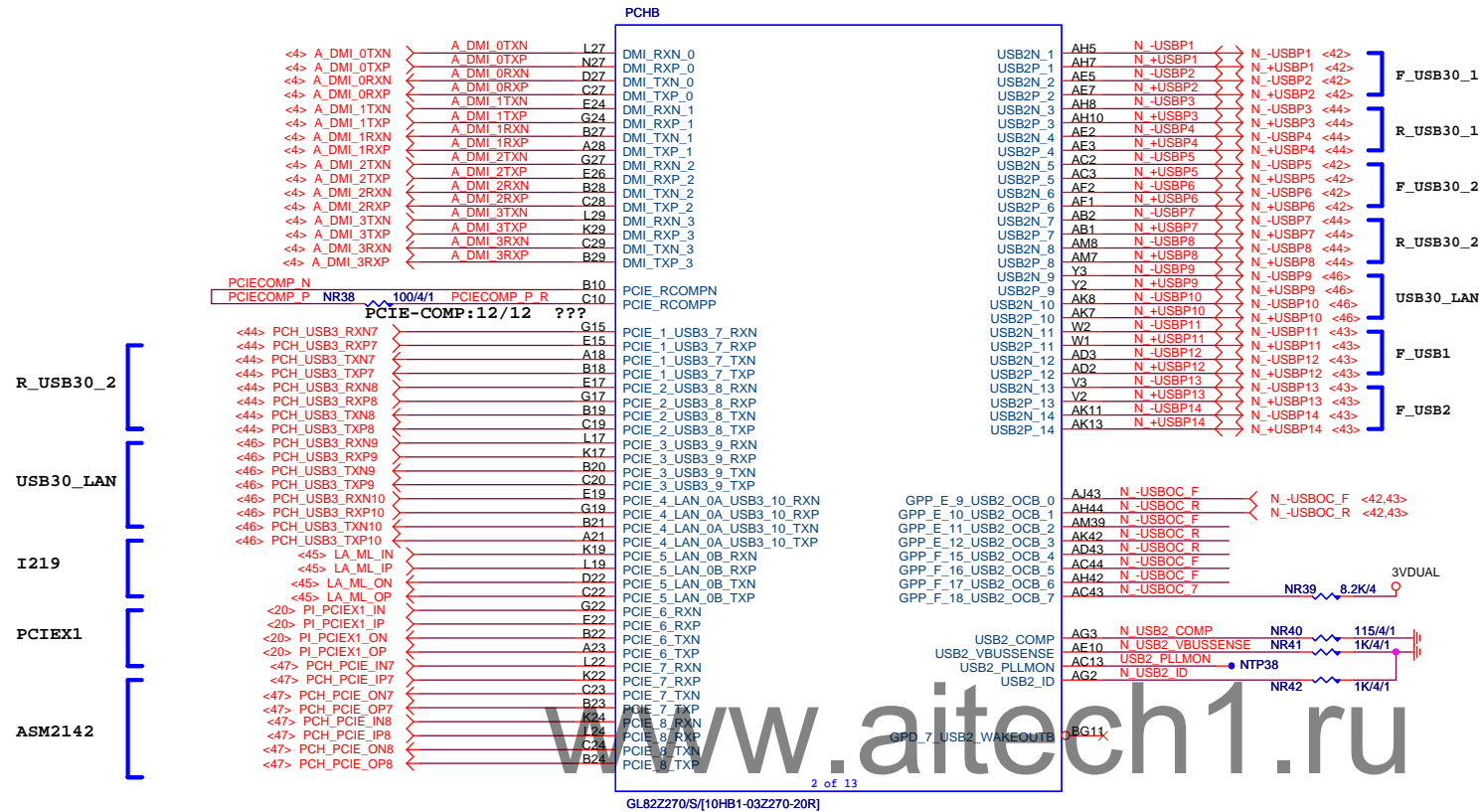
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Title			
<b>CPU LGA1151-D</b>			
Size	Document Number	Rev	
Custom	<b>GA-Z270X-UD3</b>	<b>1.0</b>	
Date:	Thursday, October 27, 2016	Sheet	7 of 59

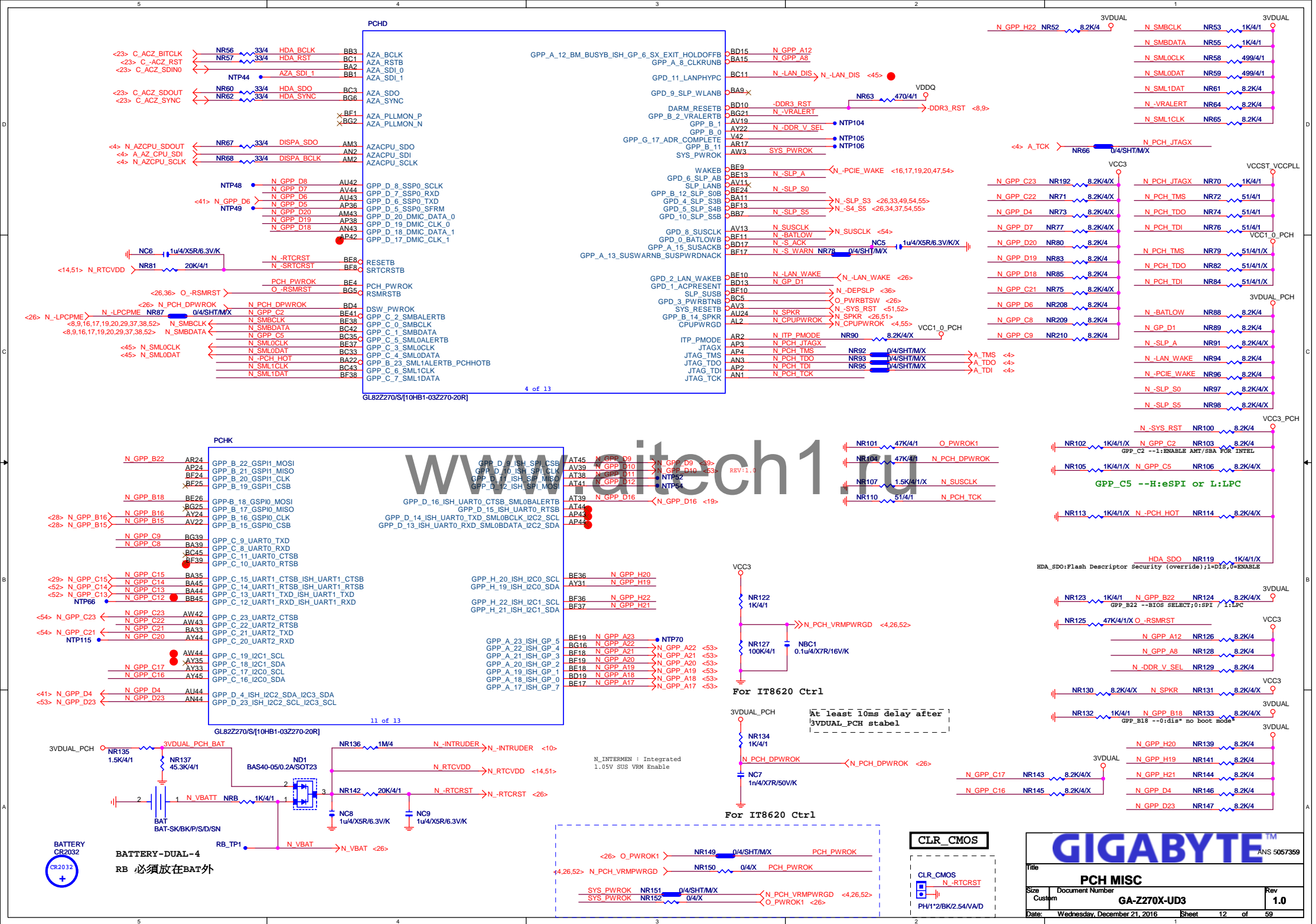




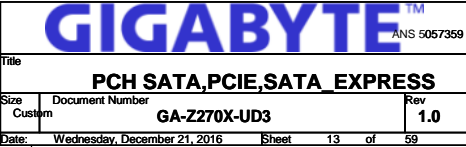


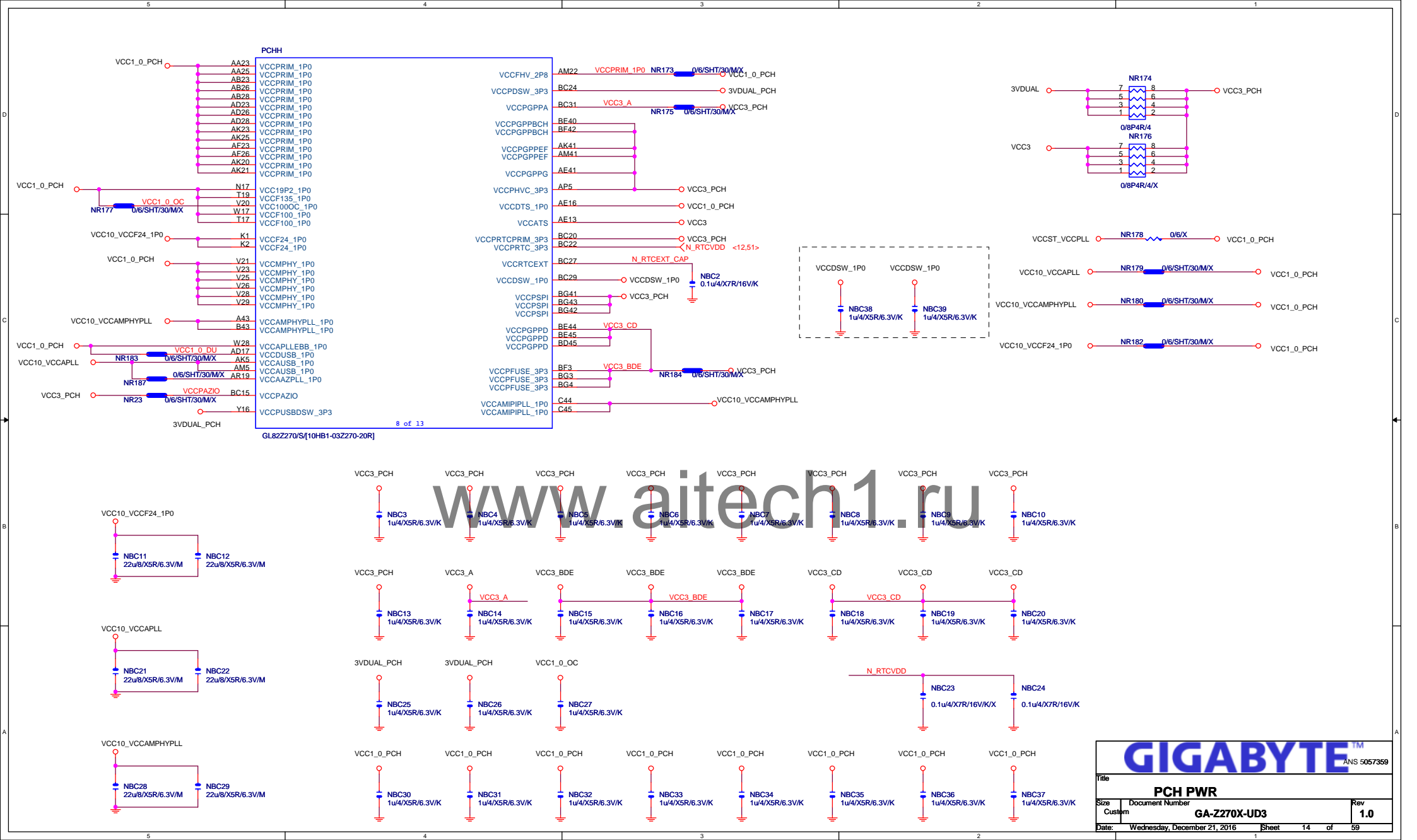










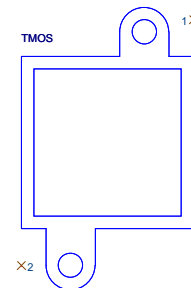


PCHI		
A25	VSS	VSS
A30	VSS	VSS
P22	VSS	VSS
AV38	VSS	VSS
AV45	VSS	VSS
AV8	VSS	VSS
AY11	VSS	VSS
AY19	VSS	VSS
AY37	VSS	VSS
AY4	VSS	VSS
AY42	VSS	VSS
AY8	VSS	VSS
B25	VSS	VSS
B3	VSS	VSS
B30	VSS	VSS
B35	VSS	VSS
B4	VSS	VSS
B41	VSS	VSS
BA13	VSS	VSS
BA17	VSS	VSS
BA37	VSS	VSS
BA29	VSS	VSS
BA31	VSS	VSS
BA37	VSS	VSS
BA4	VSS	VSS
BA42	VSS	VSS
B840	VSS	VSS
BC38	VSS	VSS
BC40	VSS	VSS
BC9	VSS	VSS
BD11	VSS	VSS
BD16	VSS	VSS
BD2	VSS	VSS
BD21	VSS	VSS
BD25	VSS	VSS
F2	VSS	VSS
F31	VSS	VSS
E6	VSS	VSS
E8	VSS	VSS
F39	VSS	VSS
F43	VSS	VSS
G4	VSS	VSS
G40	VSS	VSS
G42	VSS	VSS
F6	VSS	VSS
G9	VSS	VSS
H11	VSS	VSS
H13	VSS	VSS
H17	VSS	VSS
H19	VSS	VSS
H22	VSS	VSS
H24	VSS	VSS
H27	VSS	VSS
H29	VSS	VSS
H33	VSS	VSS
H35	VSS	VSS
H38	VSS	VSS
H4	VSS	VSS
H42	VSS	VSS
H9	VSS	VSS
J4	VSS	VSS
M36	VSS	VSS
M4	VSS	VSS
M8	VSS	VSS
M9	VSS	VSS
N13	VSS	VSS
N15	VSS	VSS
N19	VSS	VSS
N22	VSS	VSS
N24	VSS	VSS
N31	VSS	VSS
N42	VSS	VSS
P10	VSS	VSS
P12	VSS	VSS
AV35	VSS	VSS

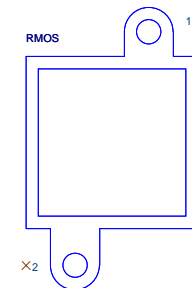
9 of 13  
GL82270/S[10HB1-032270-20R]

PCHL		
BD34	VSS[70]	AB18
BD39	VSS[71]	AB20
BD7	VSS[72]	AB21
BE2	VSS[73]	AB25
BF43	VSS[74]	AB29
BF2	VSS[75]	AB4
BG18	VSS[76]	AB42
A35	VSS[77]	AC10
BG23	VSS[78]	AC14
AG28	VSS[79]	AC16
BG32	VSS[80]	AC38
BG37	VSS[81]	AC4
BG40	VSS[82]	AC5
AG9	VSS[83]	AC7
C1	VSS[84]	AC8
A12	VSS[85]	AD1
C2	VSS[86]	AD18
CA29	VSS[87]	AD20
AG6	VSS[88]	AD21
C9	VSS[89]	AD25
D1	VSS[90]	AD29
AE8	VSS[91]	AE11
D10	VSS[92]	AE14
D12	VSS[93]	AE32
D15	VSS[94]	AE33
AF20	VSS[95]	AK29
AF21	VSS[96]	AK30
B12	VSS[97]	AK32
D19	VSS[98]	AK35
D21	VSS[99]	AK39
D24	VSS[100]	AL4
AF42	VSS[101]	AL42
D29	VSS[102]	AM10
AG20	VSS[103]	AM11
AG21	VSS[104]	AM13
AG23	VSS[105]	AM17
AG25	VSS[106]	AM19
AG26	VSS[107]	AM24
AG28	VSS[108]	AM27
AG29	VSS[109]	AM29
AH11	VSS[110]	AM32
AH13	VSS[111]	AM33
AH30	VSS[112]	AM4
AH32	VSS[113]	AN45
AH33	VSS[114]	AP10
AH38	VSS[115]	AP11
AJ1	VSS[116]	AP15
AJ17	VSS[117]	AP22
AJ18	VSS[118]	AP27
AJ20	VSS[119]	AP31
AJ21	VSS[120]	AP33
AJ23	VSS[121]	AP34
AJ26	VSS[122]	AP39
AJ28	VSS[123]	Y4
AJ29	VSS[124]	Y8
AJ45	VSS[125]	T42
AK10	VSS[126]	T5
AK14	VSS[127]	U4
AK16	VSS[128]	U42
AK17	VSS[129]	V10
AK18	VSS[130]	V14
AK26	VSS[131]	W3
AK28	VSS[132]	AR13
AM14	VSS[133]	AR31
AN14	VSS[134]	AR33
AP19	VSS[135]	AR4
AR22	VSS[136]	AT10
AR27	VSS[137]	AT13
AV10	VSS[138]	AT35
AV15	VSS[139]	AT37
AV24	VSS[140]	AT42
AV27	VSS[141]	AU11
AV33	VSS[142]	AU17
		BD30
		W45
		Y13
		Y14
		Y30
		Y32
		Y33
		VSS_2
		VSS_BG14
		VSS_3

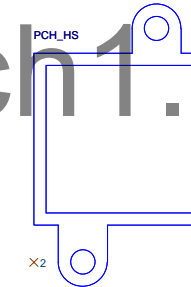
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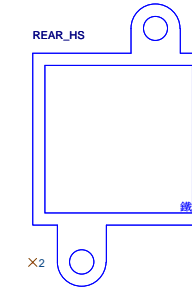
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Footprint :  
MOSHSINK-MOSHSINK-SNIPERB8-T  
UD: 12SP2-S09425-51R\_52R\_-53R



HEAT SINK[12SP2-S08025-51R\_12SP2-S08025-52R\_12SP2-S08025-53R]  
Footprint :  
MOSHSINK-SNIPERB8-R  
UD: 12SP2-S08025-51R\_52R\_53R



HEAT SINK[12SP2-S05511-41R\_12SP2-S05511-42R\_12SP2-S05511-43R]  
Footprint :  
BGAHSINK-BGAHSINK-SNIPER\_B7  
UD: 2SP2-S05511-41R\_42R\_43R



HEAT SINK[12KRC-0H0008-01R]  
Footprint :  
Z270\_UD\_BASE\_COVER (20R)  
UD:12SP2-S05511-41R/42R/43R

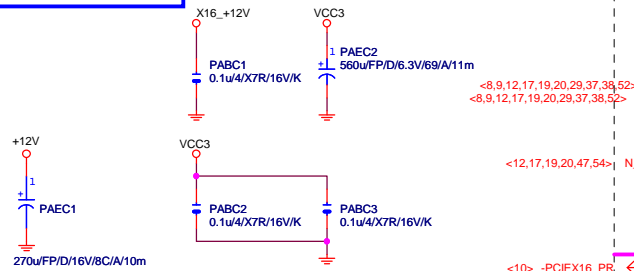
CHECK with Mechanical

GIGABYTE <sup>TM</sup>		
ANS 5057359		
Title		
PCH GND		
Size	Document Number	Rev
Custom	GA-Z270X-UD3	1.0
Date:	Wednesday, December 21, 2016	Sheet 15 of 59

PCIEX16 CAP

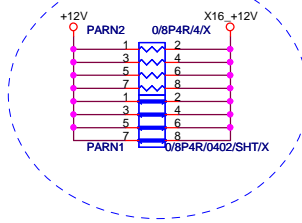
PCIEX16 SLOT

3GIO\_\*16



## PCIEX16 PROTECT SHT

```
+12 protect
short-wire test
```



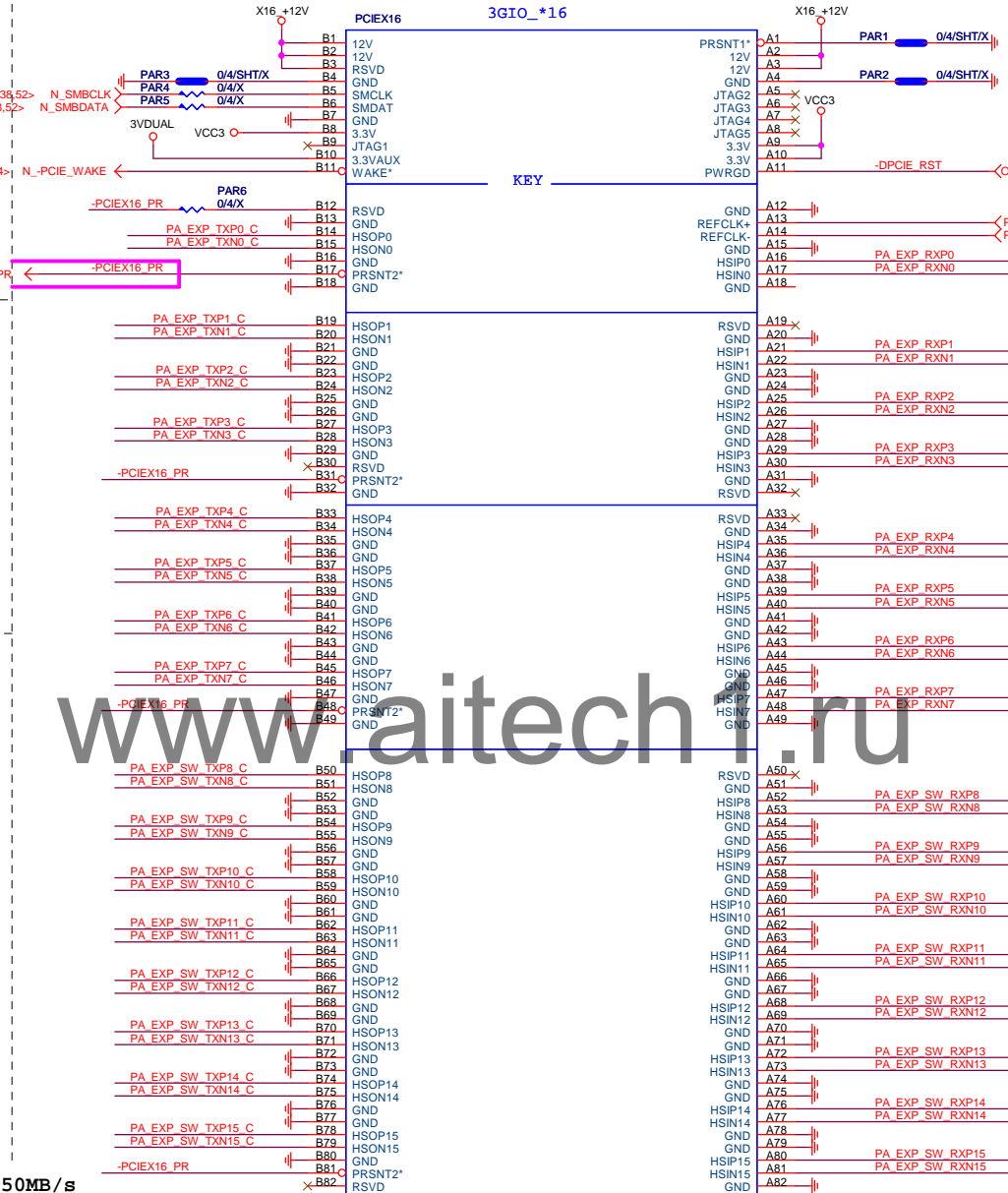
PCIEX16	AC	CAP
---------	----	-----

PA EXP TXPO	PAC5	0.22u4X5R6/3VK	PA EXP TXPO C
PA EXP TXNP	PAC4	0.22u4X5R6/3VK	PA EXP TXNO C
PA EXP TXPI	PAC6	0.22u4X5R6/3VK	PA EXP TXPI C
PA EXP TXNI	PAC7	0.22u4X5R6/3VK	PA EXP TXNI C
PA EXP TXP2	PAC8	0.22u4X5R6/3VK	PA EXP TXP2 C
PA EXP TXN2	PAC9	0.22u4X5R6/3VK	PA EXP TXN2 C
PA EXP TXPN	PAC10	0.22u4X5R6/3VK	PA EXP TXPN C
PA EXP TXNP	PAC11	0.22u4X5R6/3VK	PA EXP TXNP C
PA EXP TXP4	PAC12	0.22u4X5R6/3VK	PA EXP TXP4 C
PA EXP TXN4	PAC13	0.22u4X5R6/3VK	PA EXP TXN4 C
PA EXP TXP5	PAC14	0.22u4X5R6/3VK	PA EXP TXP5 C
PA EXP TXPN	PAC15	0.22u4X5R6/3VK	PA EXP TXPN C
PA EXP TXP6	PAC16	0.22u4X5R6/3VK	PA EXP TXP6 C
PA EXP TXN6	PAC17	0.22u4X5R6/3VK	PA EXP TXN6 C
PA EXP TXP7	PAC18	0.22u4X5R6/3VK	PA EXP TXP7 C
PA EXP TXN7	PAC19	0.22u4X5R6/3VK	PA EXP TXN7 C
PA EXP SW TP8	PAC21	0.22u4X5R6/3VK	PA EXP SW TP8 C
PA EXP SW TXN8	PAC20	0.22u4X5R6/3VK	PA EXP SW TXN8 C
PA EXP SW TP9	PAC22	0.22u4X5R6/3VK	PA EXP SW TP9 C
PA EXP SW TXN9	PAC23	0.22u4X5R6/3VK	PA EXP SW TXN9 C
PA EXP SW TP10	PAC24	0.22u4X5R6/3VK	PA EXP SW TP10 C
PA EXP SW TXN10	PAC25	0.22u4X5R6/3VK	PA EXP SW TXN10 C
PA EXP SW TP11	PAC26	0.22u4X5R6/3VK	PA EXP SW TP11 C
PA EXP SW TXN11	PAC27	0.22u4X5R6/3VK	PA EXP SW TXN11 C
PA EXP SW TP12	PAC28	0.22u4X5R6/3VK	PA EXP SW TP12 C
PA EXP SW TXN12	PAC29	0.22u4X5R6/3VK	PA EXP SW TXN12 C
PA EXP SW TP13	PAC30	0.22u4X5R6/3VK	PA EXP SW TP13 C
PA EXP SW TXN13	PAC31	0.22u4X5R6/3VK	PA EXP SW TXN13 C
PA EXP SW TP14	PAC32	0.22u4X5R6/3VK	PA EXP SW TP14 C
PA EXP SW TXN14	PAC33	0.22u4X5R6/3VK	PA EXP SW TXN14 C
PA EXP SW TP15	PAC34	0.22u4X5R6/3VK	PA EXP SW TP15 C
PA EXP SW TXN15	PAC35	0.22u4X5R6/3VK	PA EXP SW TXN15 C

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

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

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



黑色

PCIEX16:16/5/5/5/16

```

PA_EXP_RXP[0..7]      >>> PA_EXP_RXP[0..7]  <<<
PA_EXP_RXN[0..7]      >>> PA_EXP_RXN[0..7]  <<<
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PA_EXP_TXN[0..7]      >>> PA_EXP_TXN[0..7]  <<<

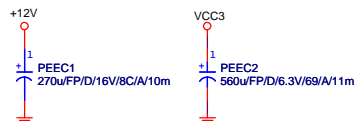
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PA_EXP_SW_RXN[8..15]  >>> PA_EXP_SW_RXN[8..15]  <<<
PA_EXP_SW_TXP[8..15]  >>> PA_EXP_SW_TXP[8..15]  <<<
PA_EXP_SW_TXN[8..15]  >>> PA_EXP_SW_TXN[8..15]  <<<

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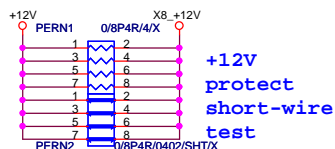
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Size	Document Number	Rev	
Custom	<b>GA-Z270X-UD3</b>	<b>1.0</b>	
Date:	Thursday, October 27, 2016	Sheet	16 of 59

Rev 0.3

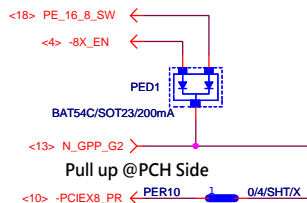
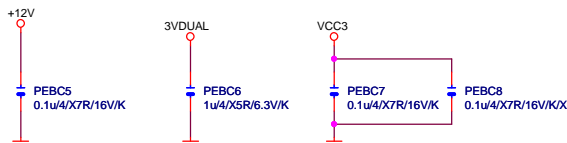


<8,9,12,16,19,20,29,37,38,52> N\_SMBCLK N\_SMBDATA  
<8,9,12,16,19,20,29,37,38,52> N\_SMBCLK N\_SMBDATA

### PCIEX8 PROTECT SHT



+12V  
protect  
short-wire  
test



### PCIESLOT-988TH

3GIO\_\*8

X8 +12V

B1

B2

B3

B4

B5

B6

B7

B8

B9

B10

B11

B12

B13

B14

B15

B16

B17

B18

B19

B20

B21

B22

B23

B24

B25

B26

B27

B28

B29

B30

B31

B32

B33

B34

B35

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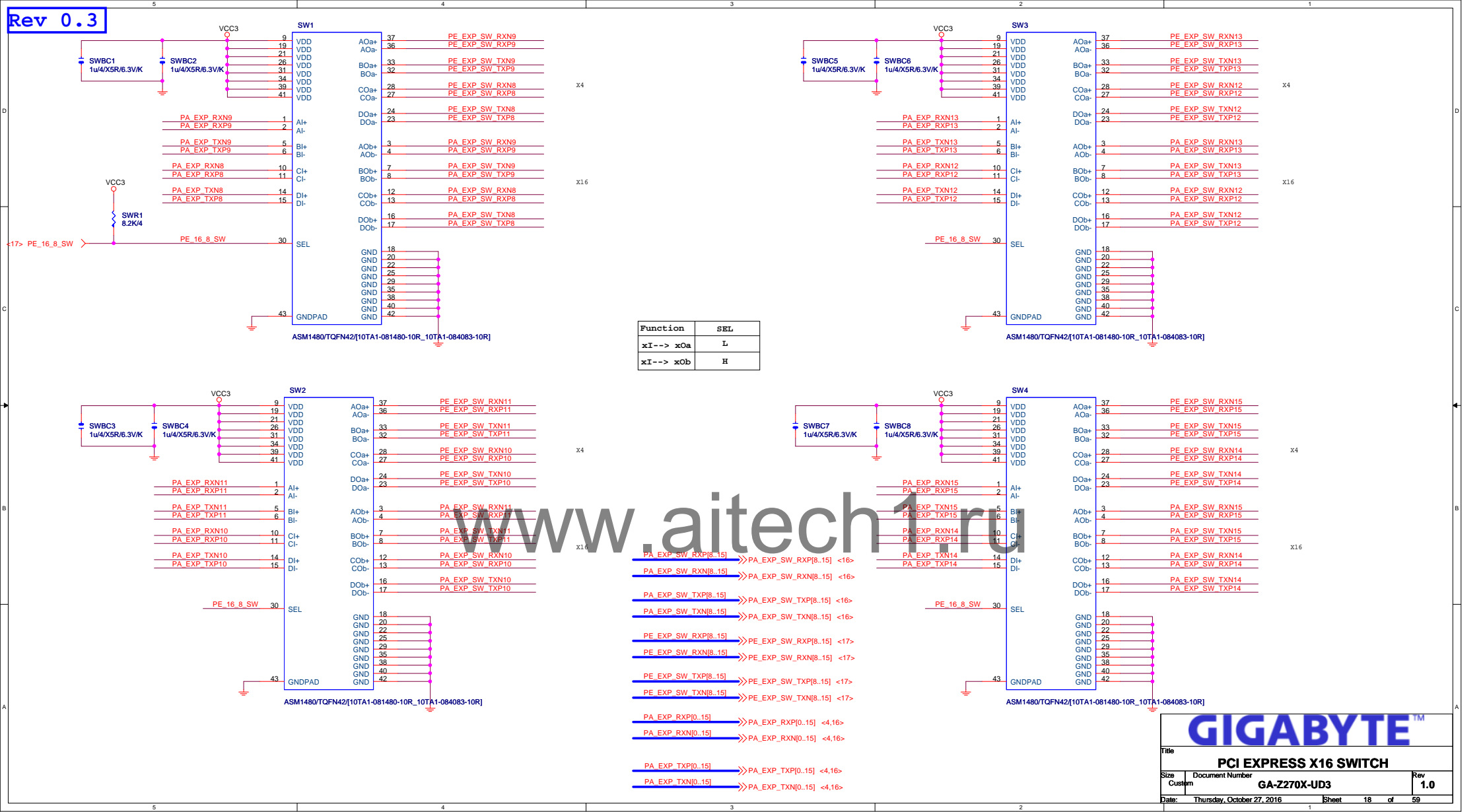
B70

PCI-E/8X-99P/BK/LONG DOUBLE

黑色

PE EXP SW TXP8	PEC7	0.22u/4X5R/6.3V/K	PE EXP SW TXP8 C
PE EXP SW TXN8	PEC8	0.22u/4X5R/6.3V/K	PE EXP SW TXN8 C
PE EXP SW TXP9	PEC9	0.22u/4X5R/6.3V/K	PE EXP SW TXP9 C
PE EXP SW TXN9	PEC10	0.22u/4X5R/6.3V/K	PE EXP SW TXN9 C
PE EXP SW TXP10	PEC11	0.22u/4X5R/6.3V/K	PE EXP SW TXP10 C
PE EXP SW TXN10	PEC12	0.22u/4X5R/6.3V/K	PE EXP SW TXN10 C
PE EXP SW TXP11	PEC13	0.22u/4X5R/6.3V/K	PE EXP SW TXP11 C
PE EXP SW TXN11	PEC14	0.22u/4X5R/6.3V/K	PE EXP SW TXN11 C
PE EXP SW TXP12	PEC15	0.22u/4X5R/6.3V/K	PE EXP SW TXP12 C
PE EXP SW TXN12	PEC16	0.22u/4X5R/6.3V/K	PE EXP SW TXN12 C
PE EXP SW TXP13	PEC17	0.22u/4X5R/6.3V/K	PE EXP SW TXP13 C
PE EXP SW TXN13	PEC18	0.22u/4X5R/6.3V/K	PE EXP SW TXN13 C
PE EXP SW TXP14	PEC19	0.22u/4X5R/6.3V/K	PE EXP SW TXP14 C
PE EXP SW TXN14	PEC20	0.22u/4X5R/6.3V/K	PE EXP SW TXN14 C
PE EXP SW TXP15	PEC21	0.22u/4X5R/6.3V/K	PE EXP SW TXP15 C
PE EXP SW TXN15	PEC22	0.22u/4X5R/6.3V/K	PE EXP SW TXN15 C

Title		GIGABYTE™	
Size		PCI EXPRESS X8	
Custom	Document Number	Rev 1.0	
GA-Z270X-UD3			
Date:	Thursday, October 27, 2016	Sheet	17 of 59











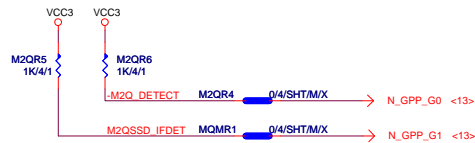
## M.2 Lane4 from PCH port18

## M.2 Lane3 from PCH port17

## M.2 Lane2 from PCH port16

## M.2 Lane2 from PCH port15

## 支援SATA and M.2 function



需與M2\_-CLKREQ對應



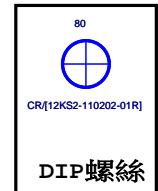
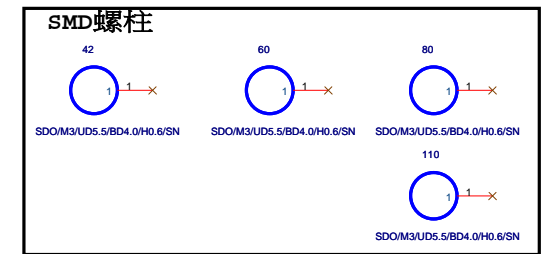
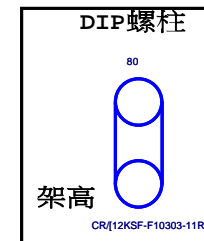
架高

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	

M2/67/BK/RA/S/H/8.5mm/M KEY

架高

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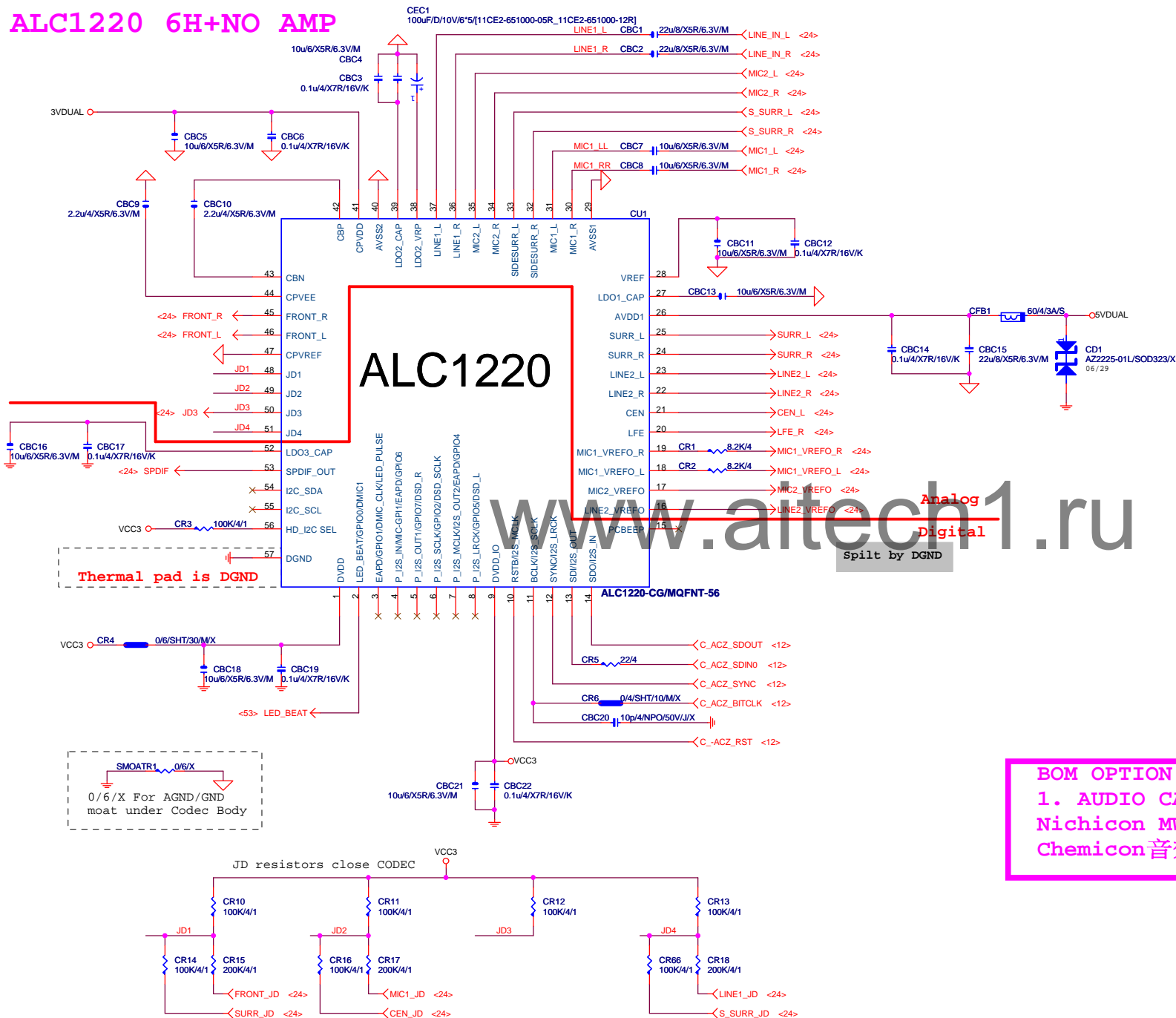
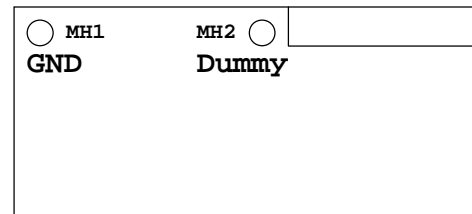
DIP螺絲

GIGABYTE™		
Title	M.2(A) X4 2280	
Size	Document Number	Rev
Custom	GA-Z270X-UD3	1.0
Date:	Thursday, October 27, 2016	Sheet 22 of 59

Rev 0.53

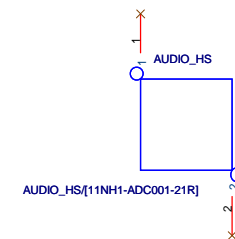
# ALC1220 6H+NO AMP

LAYOUT注意:螺絲孔下AGND方式



LAYOUT注意:要加  
GND切割線

音效區域印刷



BOM OPTION :

1. AUDIO CAP

Nichicon MW音效電容 : 11CE1-651000-12R

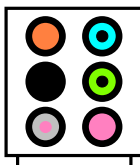
Chemicon音效電容 : 11CE2-651000-05R

**GIGABYTE**™

Title	ALC1220		
Size	Document Number	Rev	
Custom	GA-Z270X-UD3	1.0	
Date:	Thursday, October 27, 2016	Sheet	23 of 59

Rev 0.54

AZALIA JACK



CR19 2.2K/X → Audio jack -> USB  
(各打2 VIA hole)

CR22 0K → Under Audio jack  
(各打2 VIA hole)

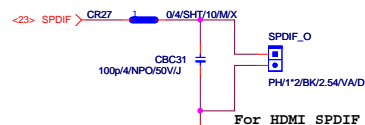
MOATR1 0/4  
MDATC1 0.1u4/X7R/16V/K → Near F\_AUDIO  
(各打2 VIA hole)

MOATR2 0/4/X  
MDATC2 0.1u4/X7R/16V/K → Near Codec  
(各打2 VIA hole)

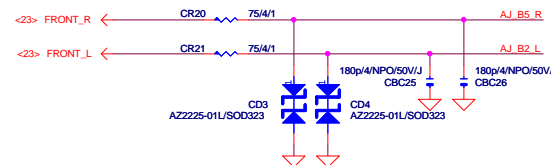
MOATR3 0/4  
MDATC3 0.1u4/X7R/16V/K → Near R\_AUDIO  
(各打2 VIA hole)

MOATR4 0/4/X  
MDATC4 0.1u4/X7R/16V/K → Near AMP  
(各打2 VIA hole)

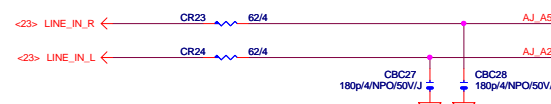
SPDIF\_OUT



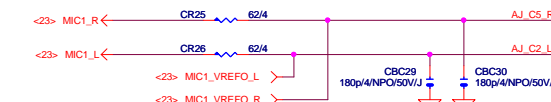
LINE-OUT



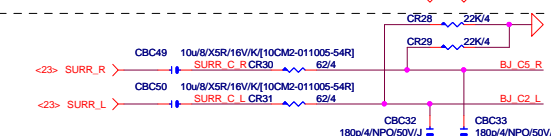
LINE-IN



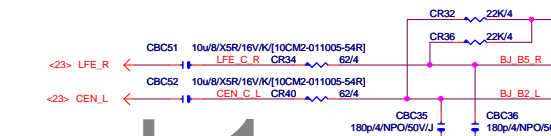
MIC-IN



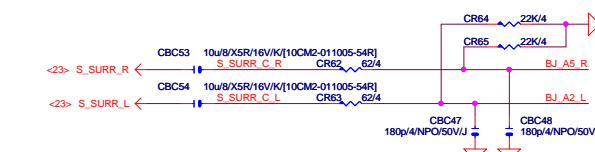
SURROUND



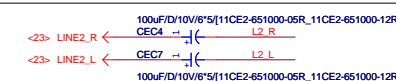
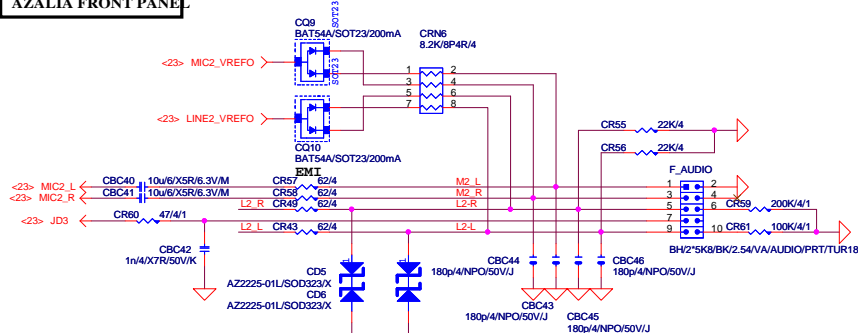
CEN/LFE



SURR BACK



AZALIA FRONT PANE



GIGABYTE™		
AUDIO JACK		
File	Document Number	Rev
Size	GA-Z270X-UD3	1.0
Custom		
Date	Thursday, October 27, 2016	Sheet 24 of 59

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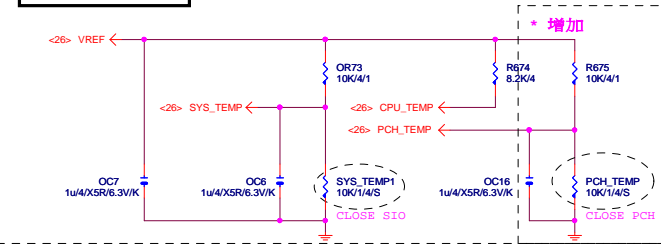
### MOSI For DMI RX Termination Voltage



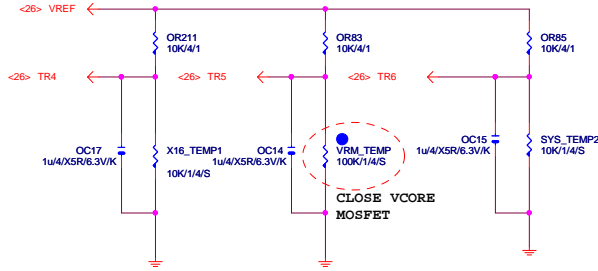
\* 試產先上，PVT 移除



# TEMP H/W MONITOR



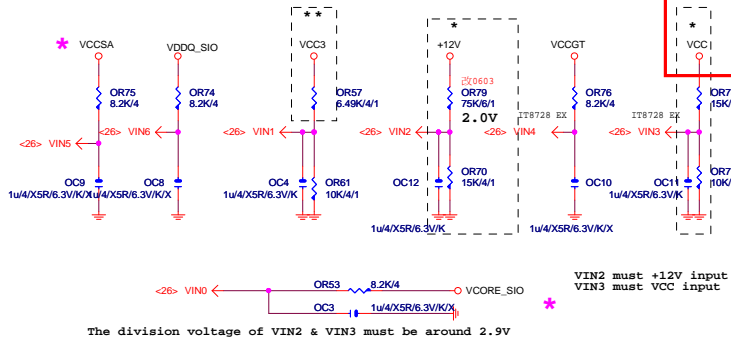
## 5個FAN時使用



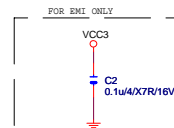
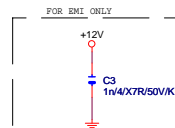
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# VOLTAGE-- H/W MONITOR

★ IT8728 BX  
★ IT8728 CX

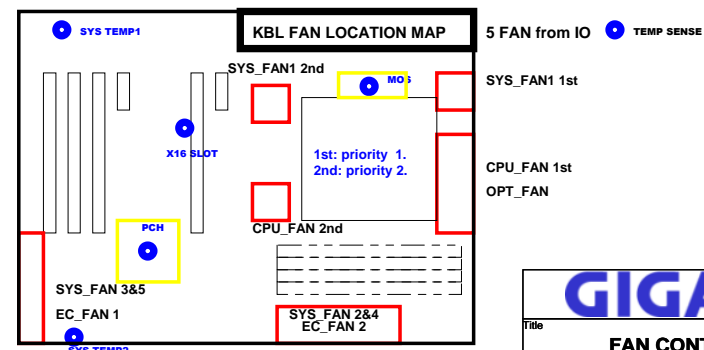
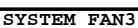
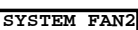


(靠近ATX CONNECTOR)



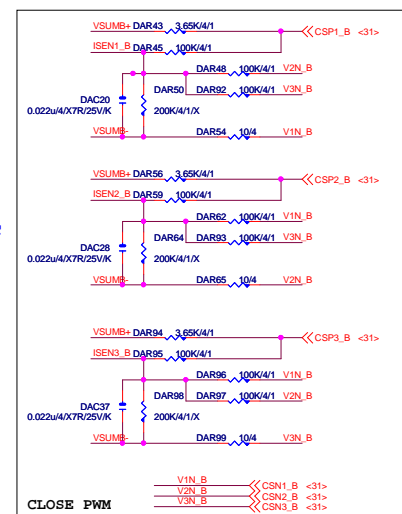
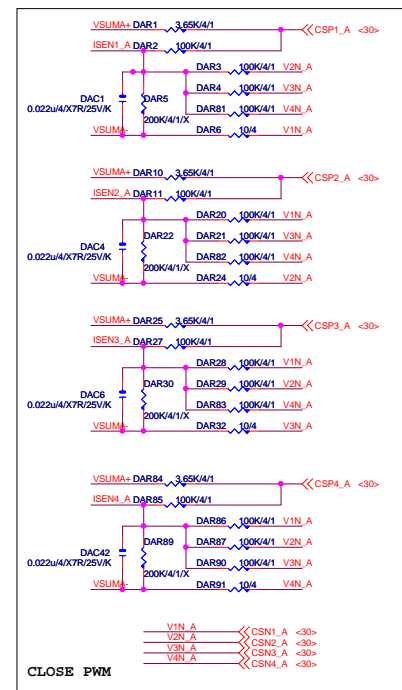
★Update 2015-04.24


GIGABYTE™			
Title			
HWM,KB/MS, FAN CTRL			
Size	Document Number	Rev	
Custom	GA-Z270X-UD3	1.0	
Date:	Thursday, October 27, 2016	Sheet	27 of 59

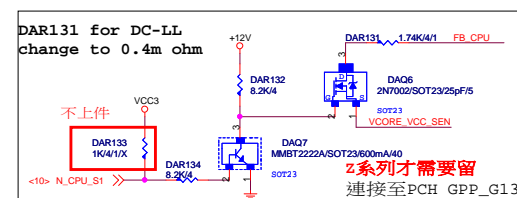
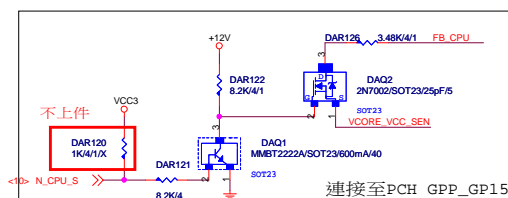
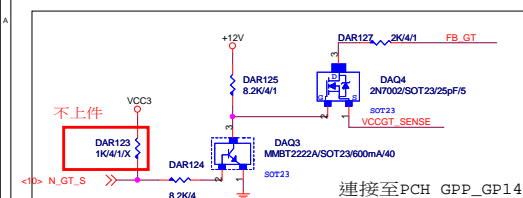


**KBL FAN LOCATION MAP REFER TO PAGE.27**

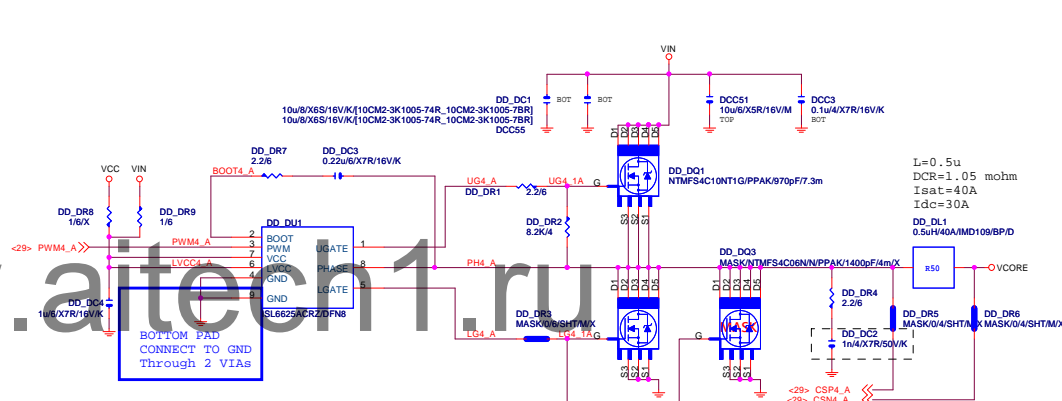
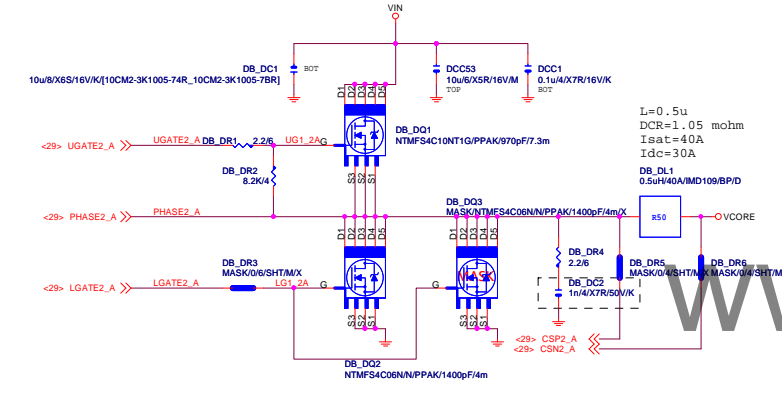
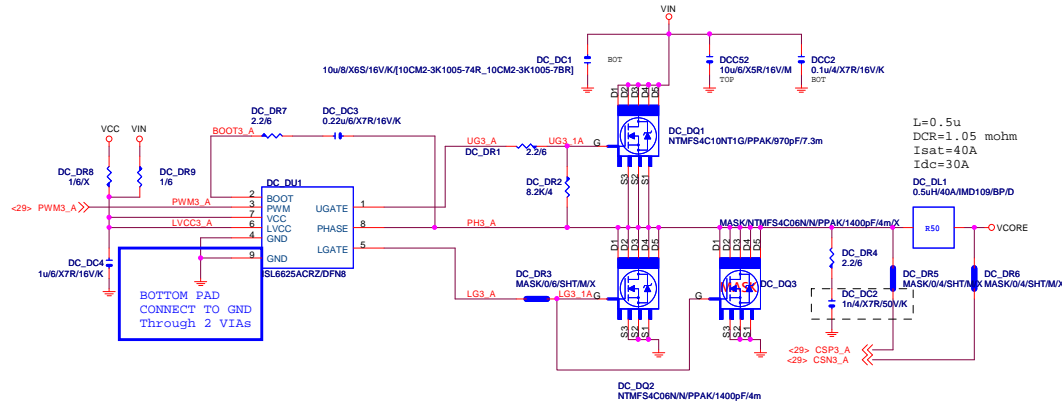
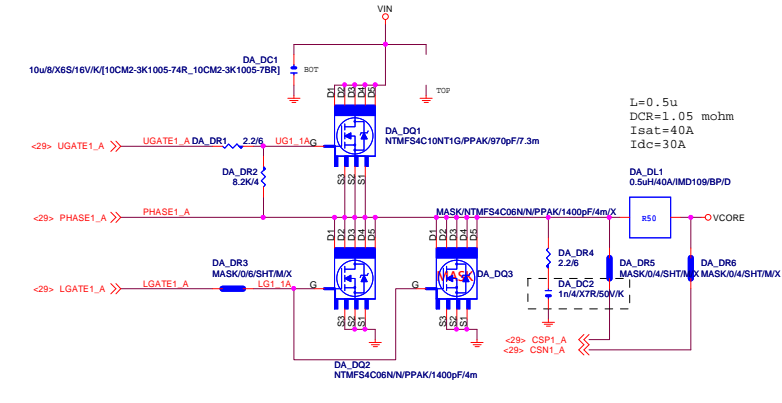




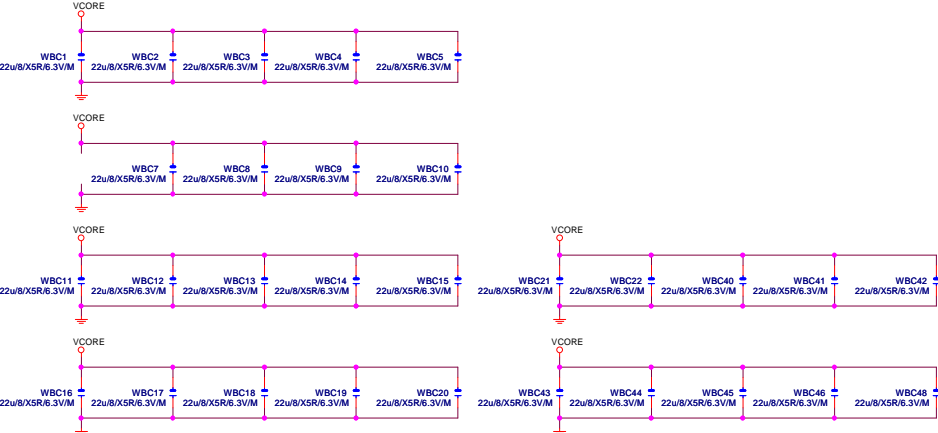
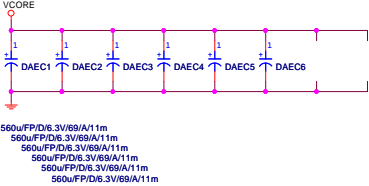
			
Title			
ISL95866 PWM			
Size	Document Number		Rev
Custom	GA-Z270X-UD3		1.0
Date:	Thursday, October 27, 2016	Sheet	29 of 59



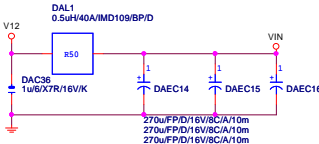
VCORE

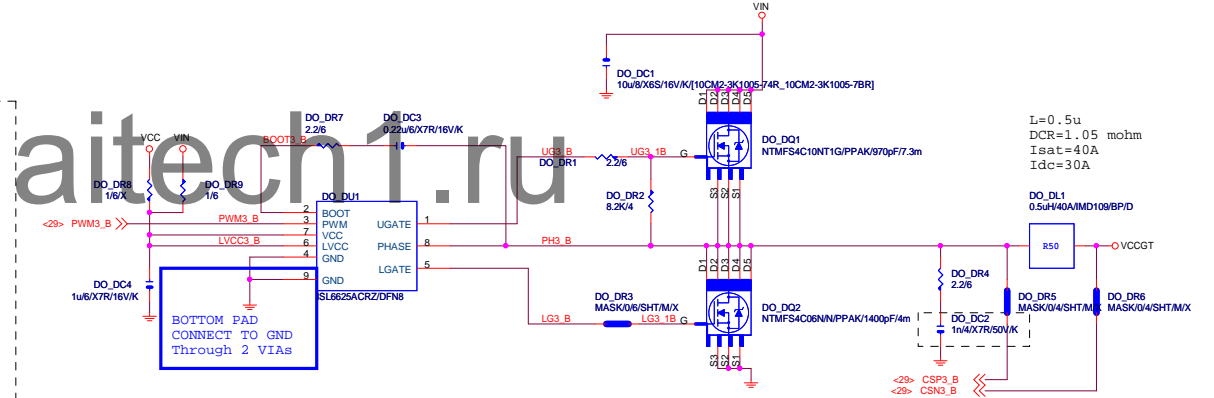
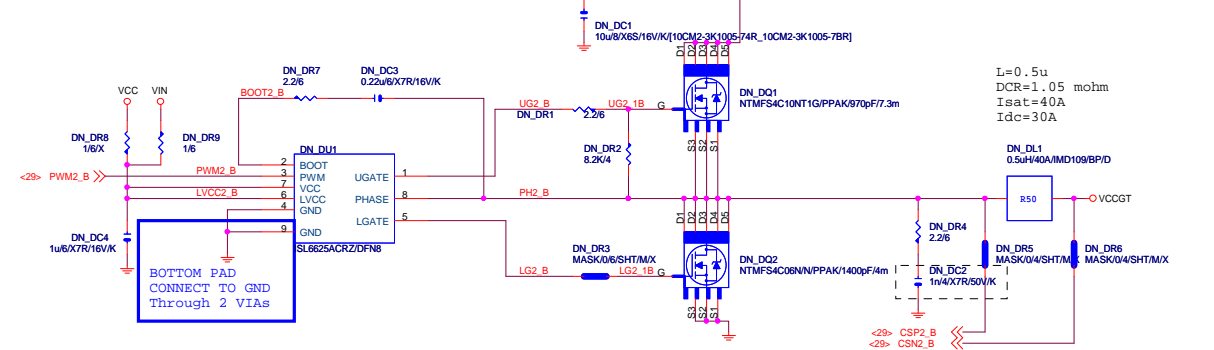


VCORE CAP 560u\*8PCS  
22u\*29PCS



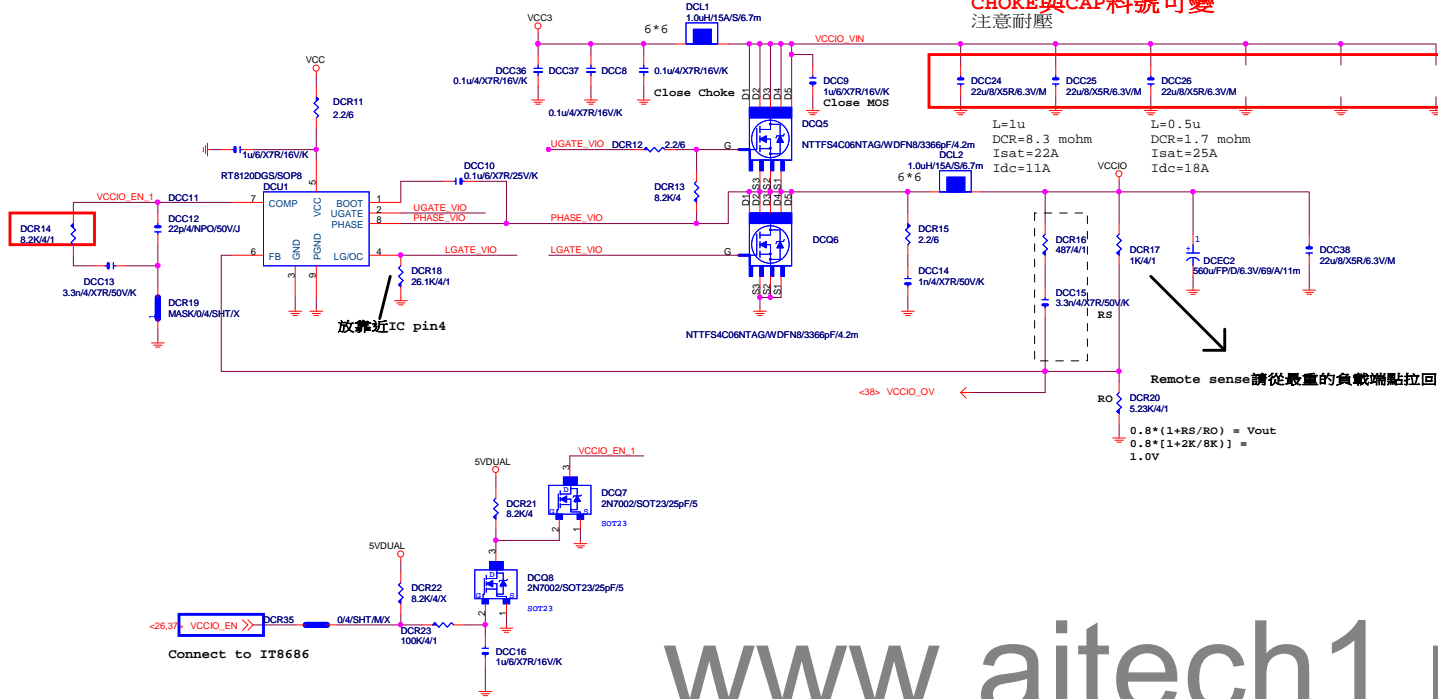
VIN CAP 270u\*3PCS



[illegible]

L=1u  
DCR=8.3 mohm  
Isat=22A  
Idc=11A

CHOKE與CAP料號可變  
注意耐壓

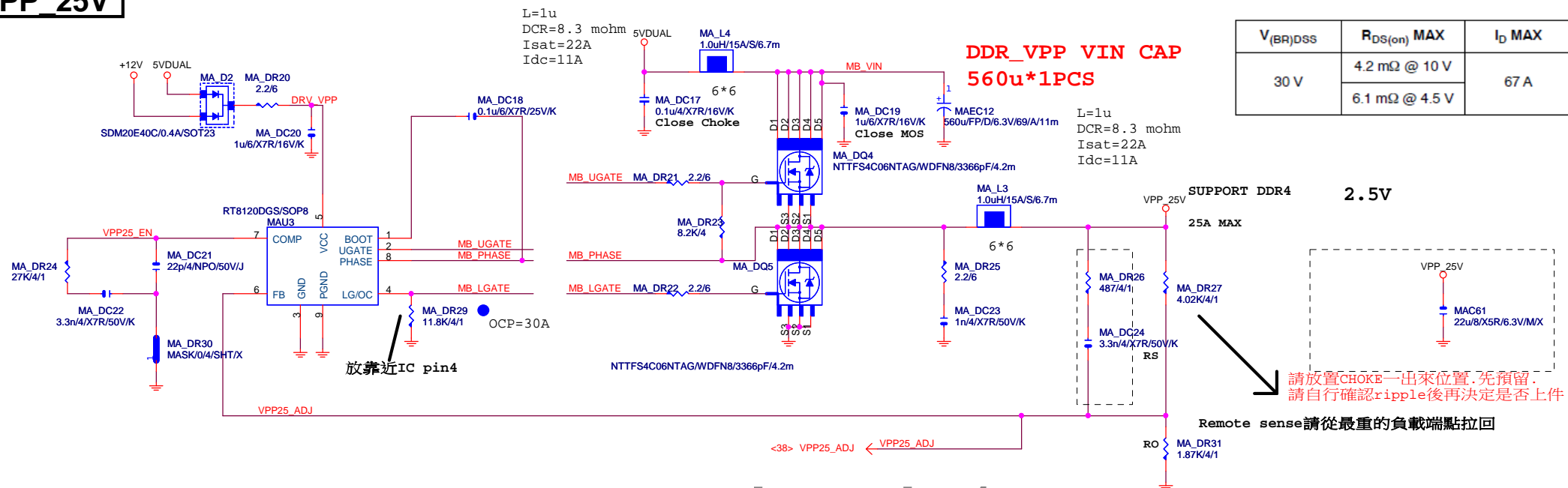




**VPP\_25V**

DDR\_VPP VIN CAP  
560u\*1PCS

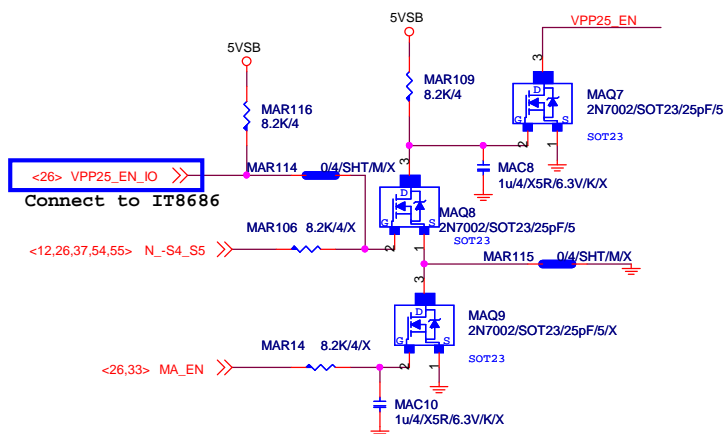
$V_{(BR)DSS}$	$R_{DS(on)} \text{ MAX}$	$I_D \text{ MAX}$
30 V	4.2 mΩ @ 10 V	67 A
	6.1 mΩ @ 4.5 V	



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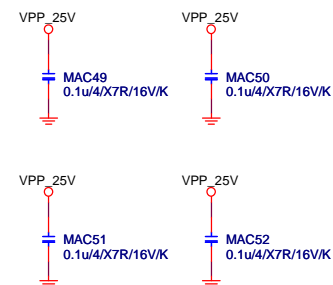
PWR SEQ

\*  MA\_DR32



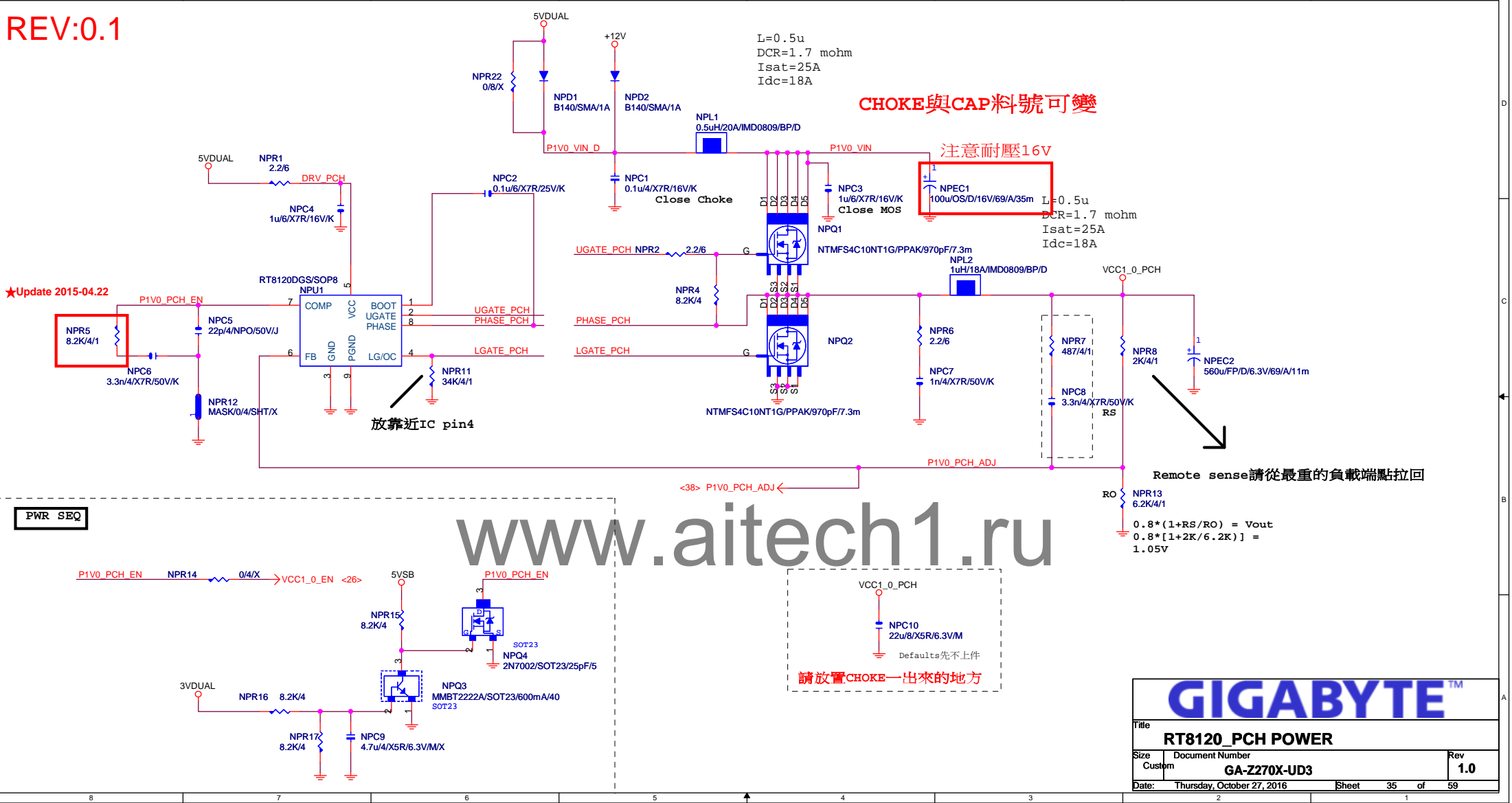
VPP CAP 560u\*1PCS

\* 大電容 x1

**GIGABYTE™**

Title			
RT8120_VPP25 POWER			
Size	Document Number	Rev	
Custom	GA-Z270X-UD3	1.0	
Date:	Thursday, October 27, 2016	Sheet	34 of 59

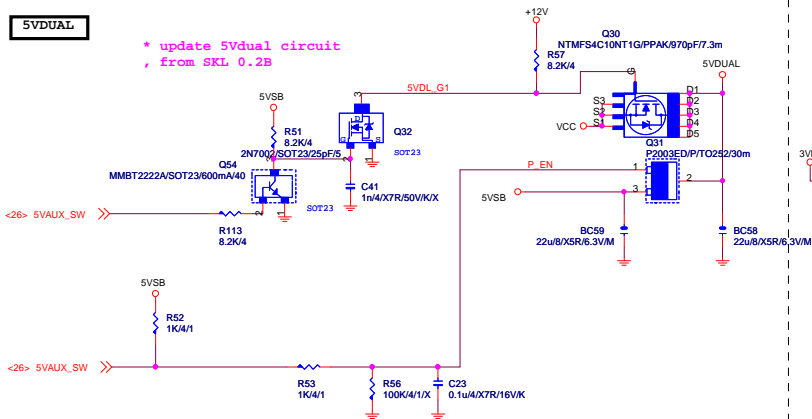
REV:0.1



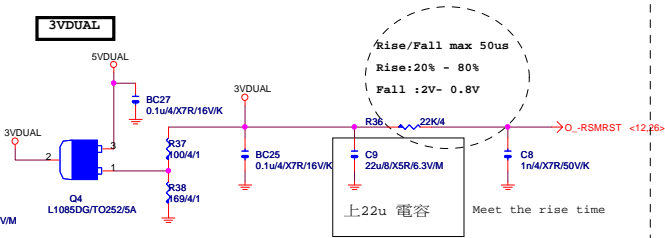
GIGABYTE™			
Title			
RT8120_PCH POWER			
Size	Document Number	Rev	
Custom	GA-Z270X-UD3	1.0	
Date:	Thursday, October 27, 2016	Sheet	35 of 59

# 5VDUAL

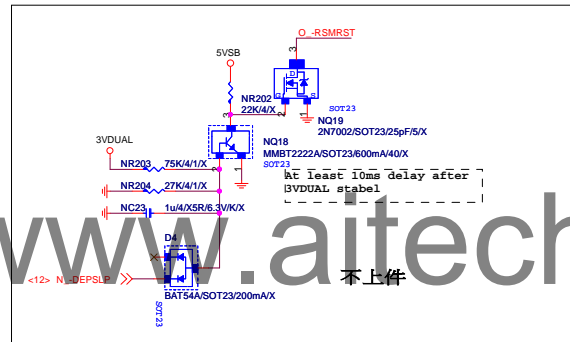
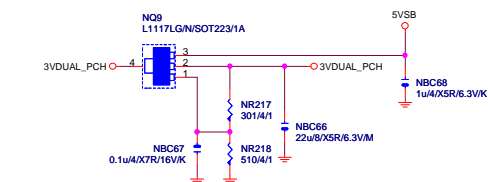
\* update 5Vdual circuit  
from SKL 0.2B



# 3VDUAL



# 3VDUAL\_PCH

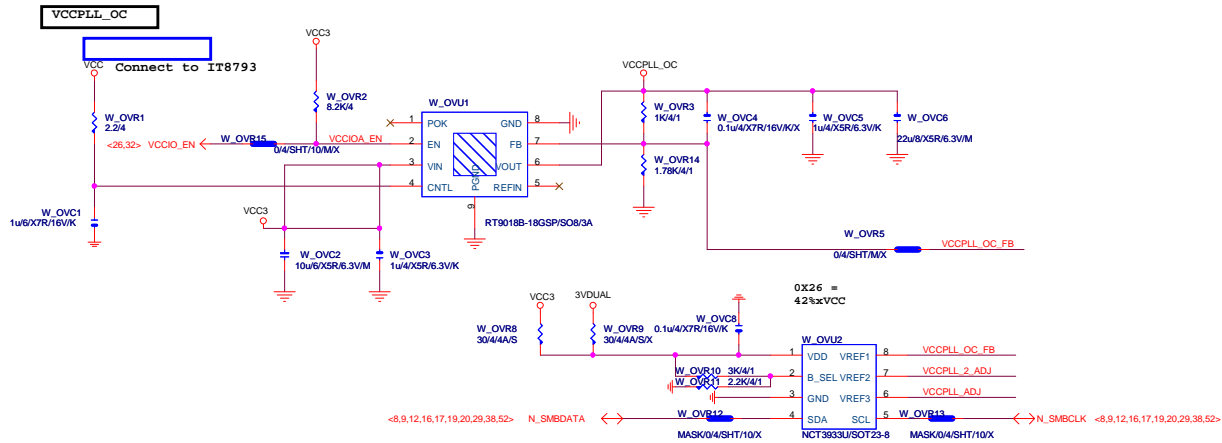
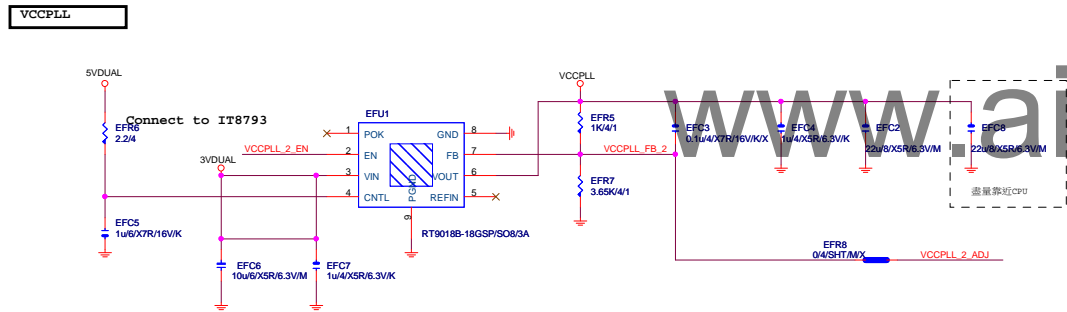
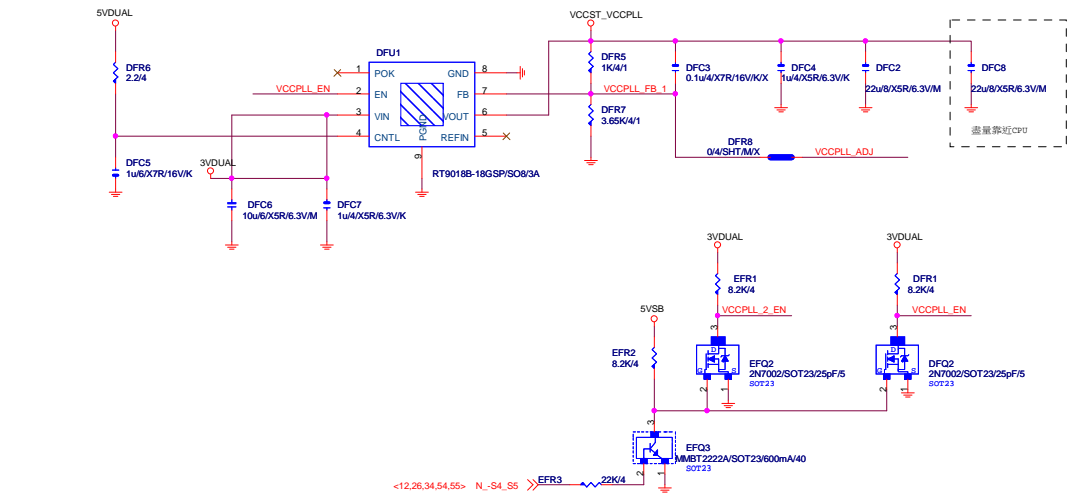


**GIGABYTE™**

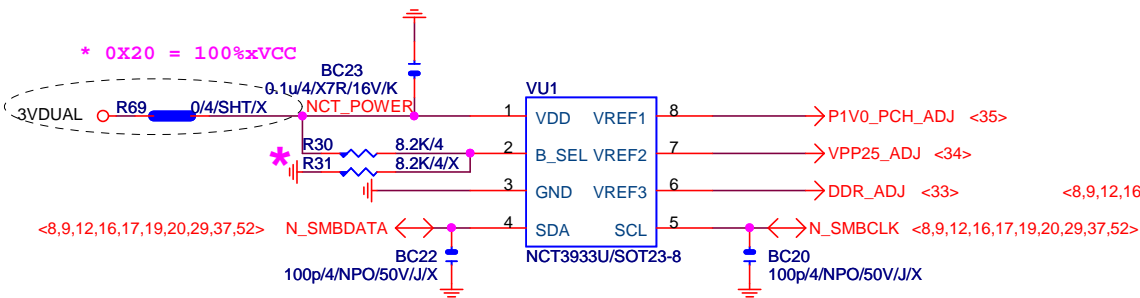
Title			DISCRETE POWER
Size	Document Number	Rev	
Custom	GA-Z270X-UD3	1.0	
Date:	Thursday, October 27, 2016	Sheet	36 of 59



VCCST\_VCCPLL 替換原先MOS開關線路



# OVER VOLTAGE



0X2A = 0%xVCC

BC30  
0.1u/4/X7R/16V/K

NCT POWER

R63 8.2K/4/X

R62 8.2K/4

BC30

0.1u/4/X7R/16V/K

NCT POWER

R63 8.2K/4/X

R62 8.2K/4

BC30

0.1u/4/X7R/16V/K

NCT POWER

R63 8.2K/4/X

R62 8.2K/4

BC30

0.1u/4/X7R/16V/K

NCT POWER

R63 8.2K/4/X

R62 8.2K/4

BC30

0.1u/4/X7R/16V/K

NCT POWER

R63 8.2K/4/X

R62 8.2K/4

BC30

0.1u/4/X7R/16V/K

NCT POWER

R63 8.2K/4/X

R62 8.2K/4

BC30

0.1u/4/X7R/16V/K

NCT POWER

R63 8.2K/4/X

R62 8.2K/4

BC30

0.1u/4/X7R/16V/K

NCT POWER

R63 8.2K/4/X

R62 8.2K/4

BC30

0.1u/4/X7R/16V/K

NCT POWER

R63 8.2K/4/X

R62 8.2K/4

BC30

0.1u/4/X7R/16V/K

NCT POWER

R63 8.2K/4/X

R62 8.2K/4

BC30

0.1u/4/X7R/16V/K

NCT POWER

R63 8.2K/4/X

R62 8.2K/4

BC30

0.1u/4/X7R/16V/K

0X22 = 75%xVCC

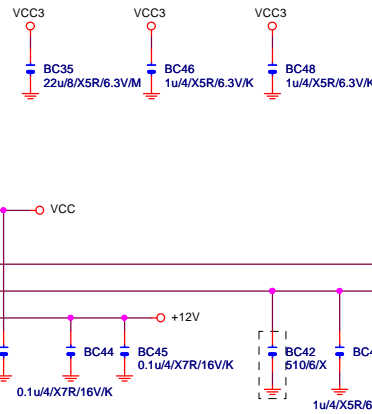
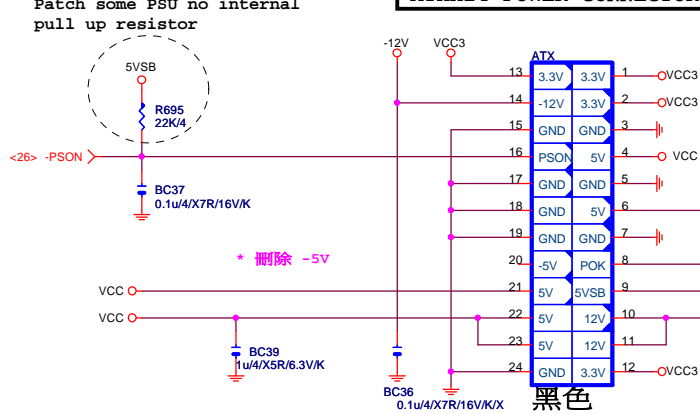
\* 删除 ovu3

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

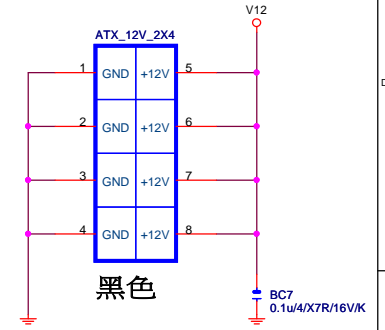
GIGABYTE™		
Title		
CPU CORE VR (NCT3933)		
Size	Document Number	Rev
Custom	GA-Z270X-UD3	1.0
Date:	Thursday, October 27, 2016	Sheet 38 of 59

Patch some PSU no internal pull up resistor

## ATXX24 POWER CONNECTOR



## ATXX4 POWER CONNECTOR

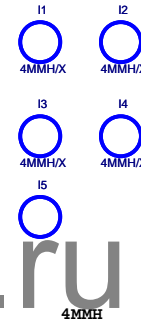
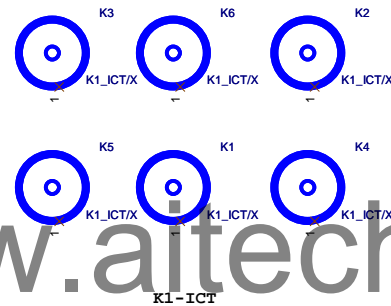
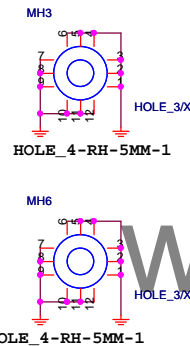
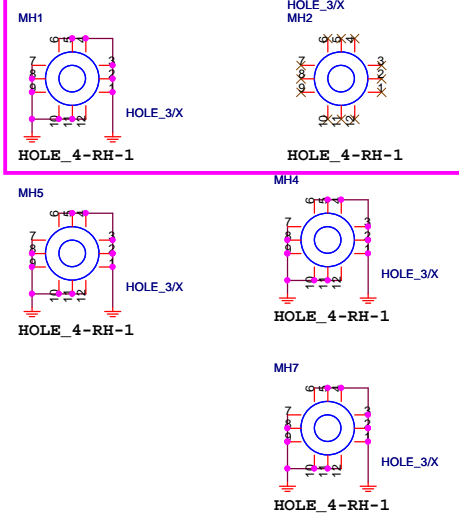


APW/2\*12/BK/VA/SN/2SHK/PA66/[11NH4-020024-11R\_11NH4-020024-12R]

To prevent the 5VSB under loading when boot

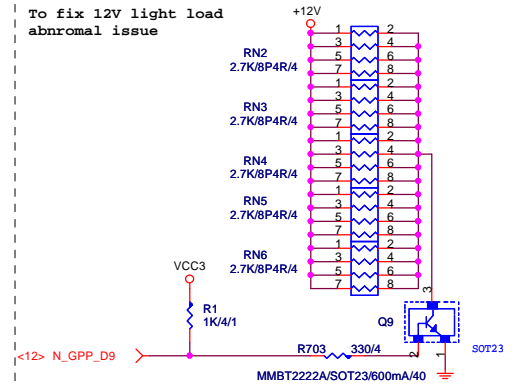
APW/2\*4/BK/OC/P/4.2/VA/SN/OH/[11NH4-020008-B1R\_11NH4-020008-B4R ]:Location ATX\_12V\_2X4

## FOR AUDIO 切割



## 【技術通報R&D技術通報153】

To fix 12V light load abnormal issue

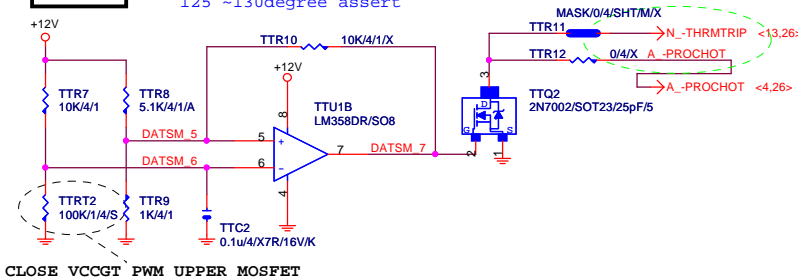


-PROHOT \* 保留 ?

<4.26> A\_-PROCHOT <-> A\_-PROCHOT R2 0/4/SHT/X >VR\_HOT <29>

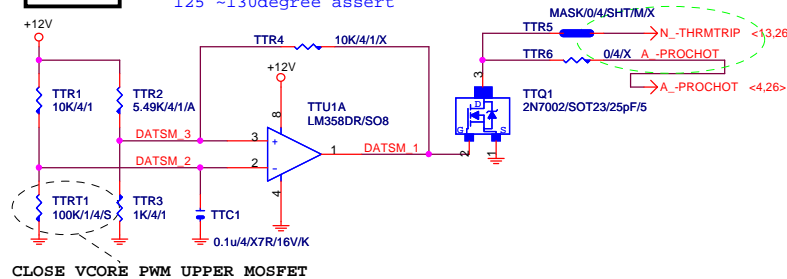
-PROHOT

OTP:130度 / PCB THERMAL TRIP:129 度  
125 ~130degree assert



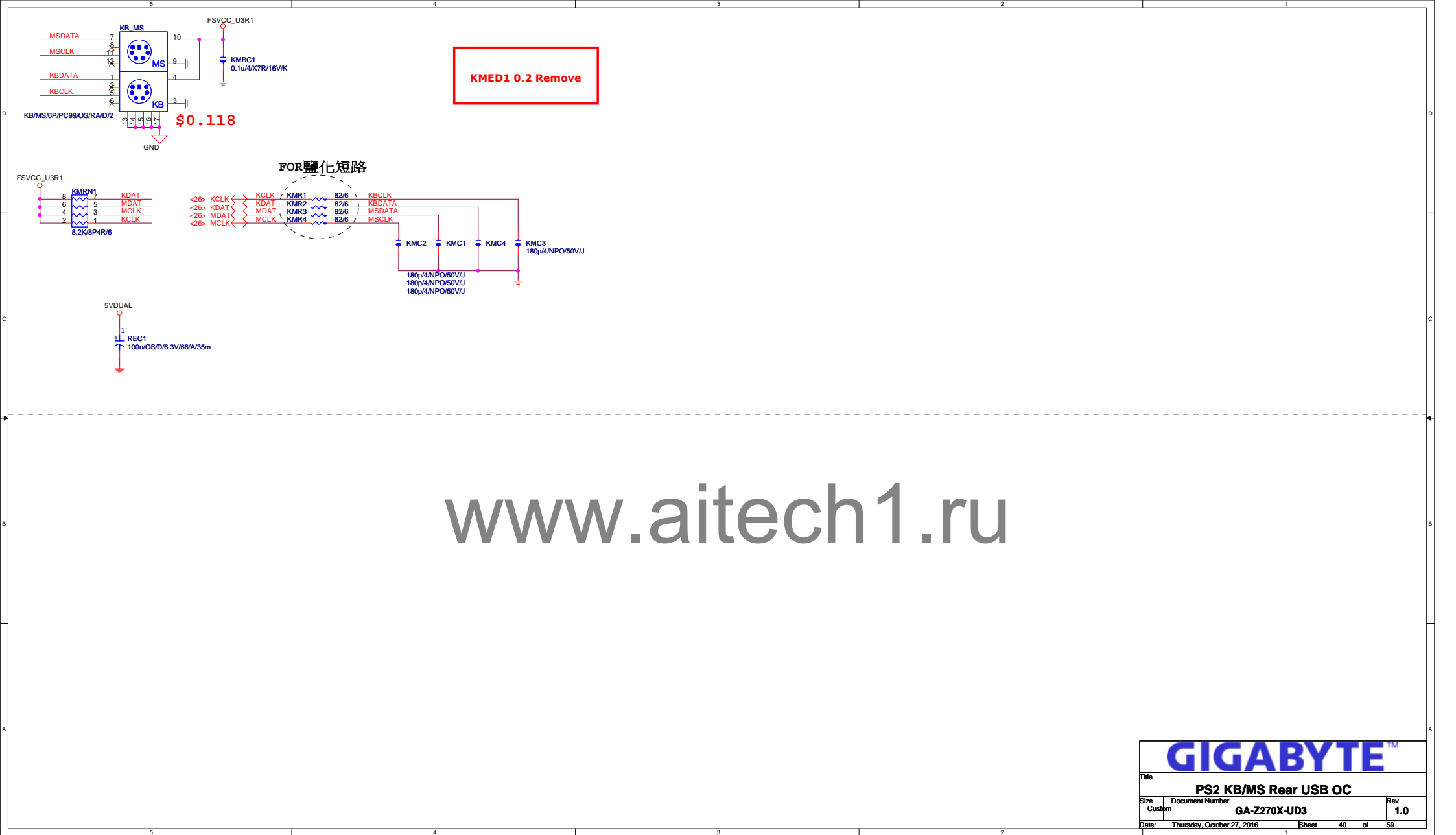
-PROHOT

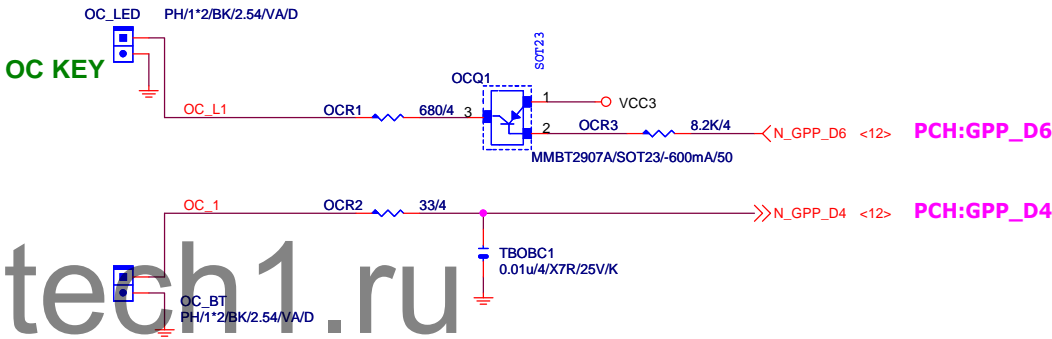
OTP:130度 / PCB THERMAL TRIP:128 度  
125 ~130degree assert



GIGABYTE™

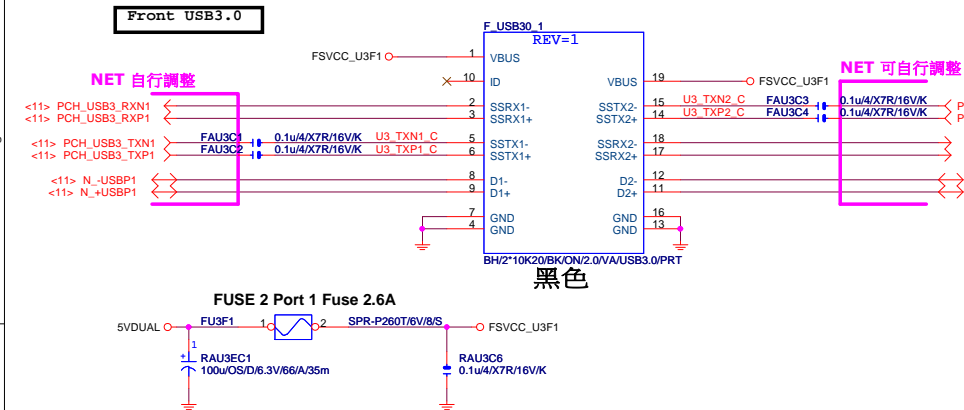
ATX POWER CONNECTOR			
Title	Document Number	Rev	1.0
Size	Custom	GA-Z270X-UD3	
Date	Thursday, October 27, 2016	Sheet 39 of 59	



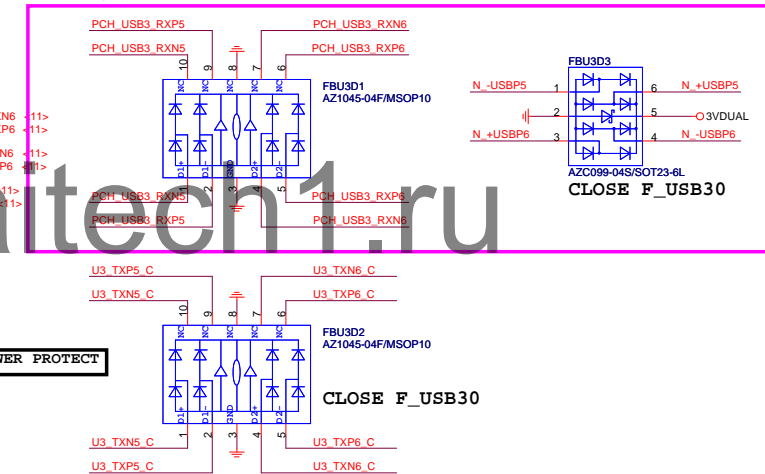


**GIGABYTE™**

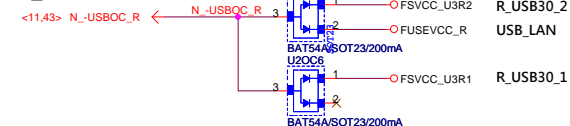
Title		
OC BOTTOM		
Size	Document Number	Rev
Custom	GA-Z270X-UD3	1.0
Date:	Thursday, October 27, 2016	Sheet 41 of 59



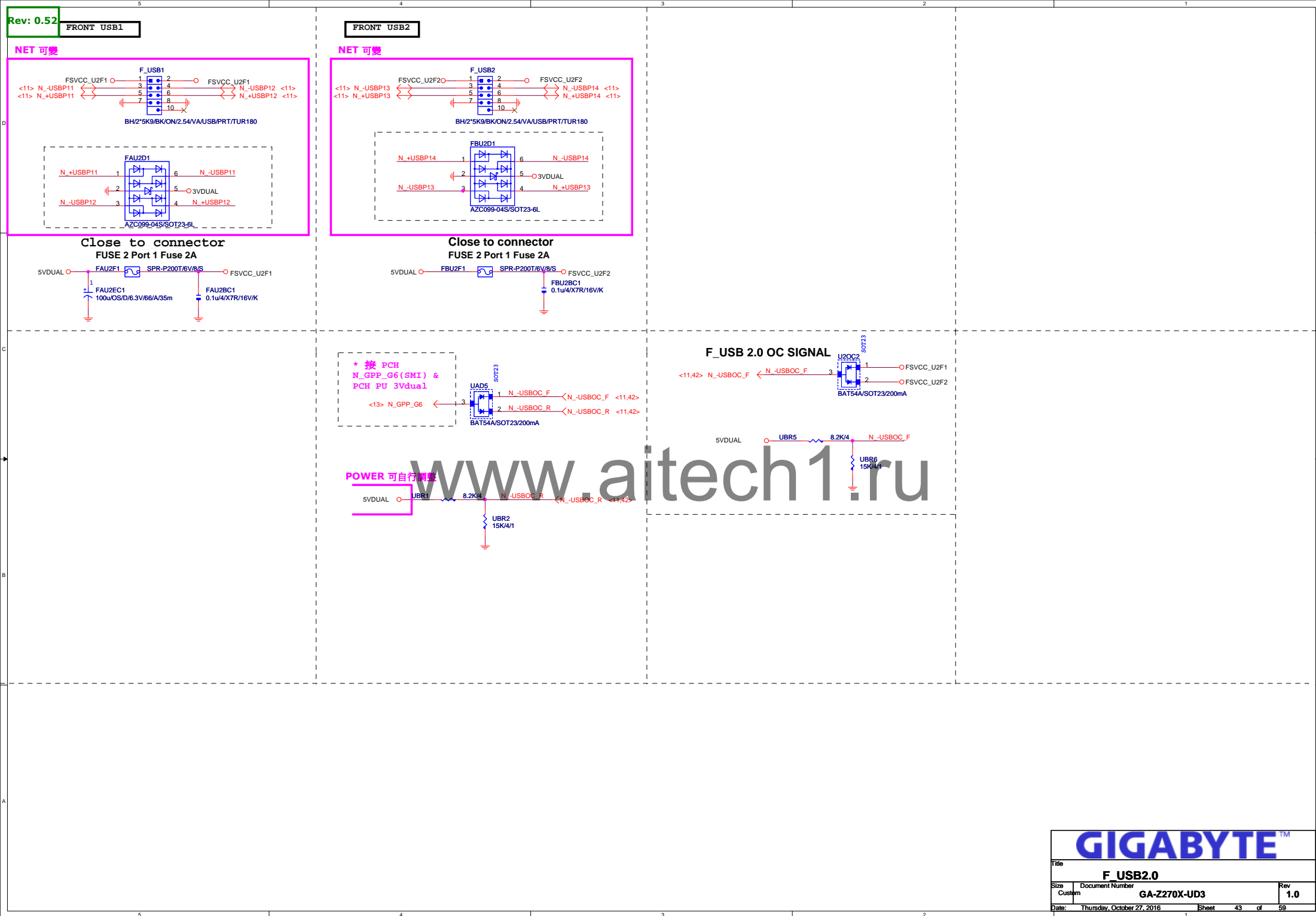
NET 可自行調整



R\_USB 3.0 OC SIGNAL

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Title			<b>F_USB30</b>
Size	Document Number	Rev	
Custom	<b>GA-Z270X-UD3</b>	<b>1.0</b>	
Date:	Thursday, October 27, 2016	Sheet	42 of 59



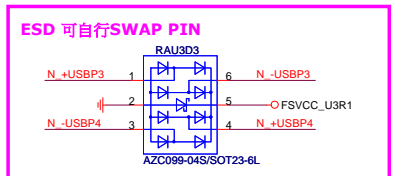
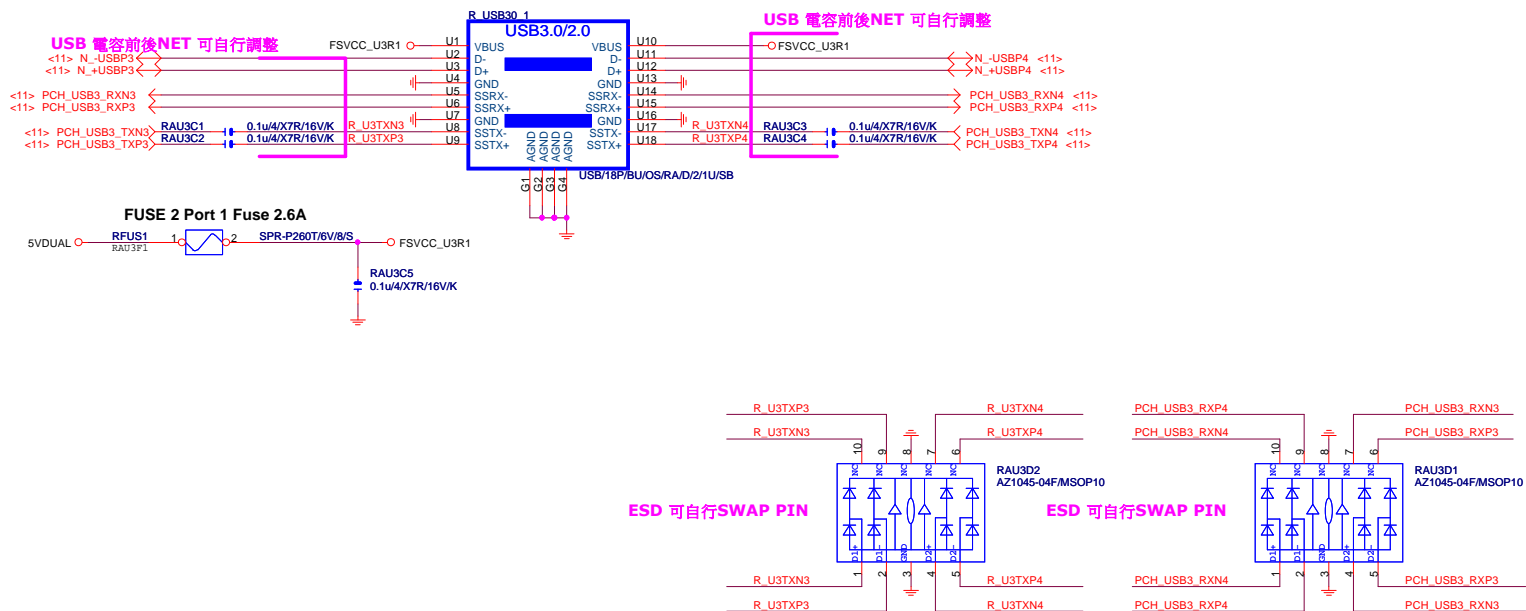
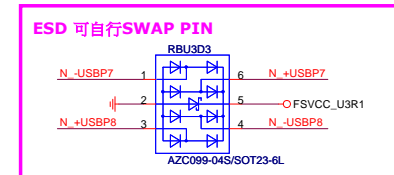
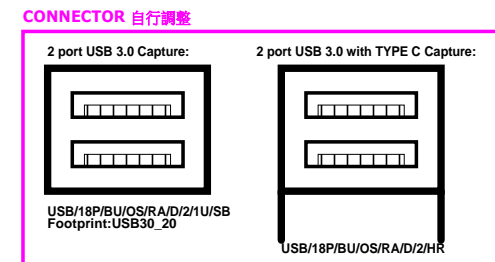
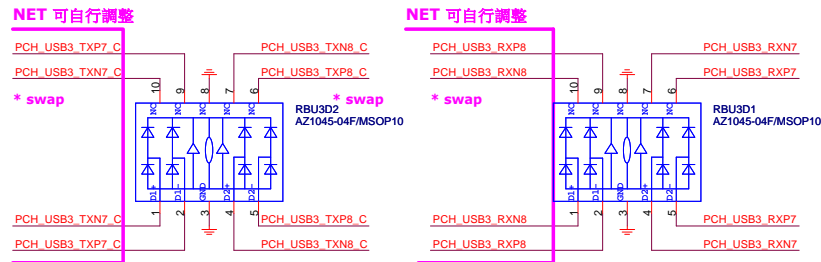
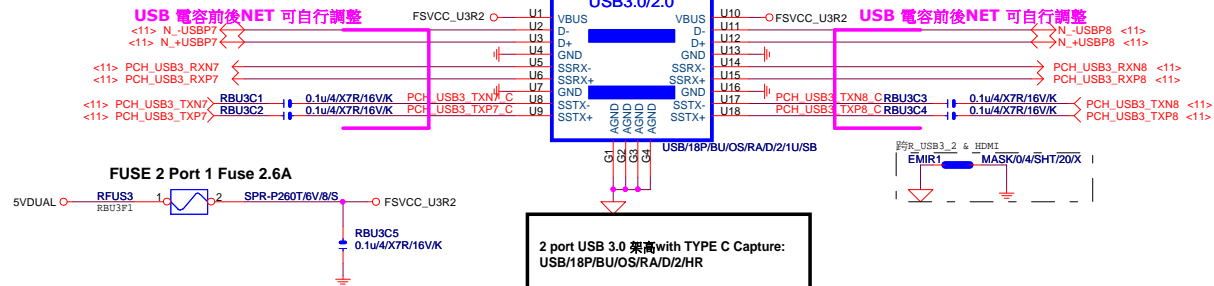
GIGABYTE™

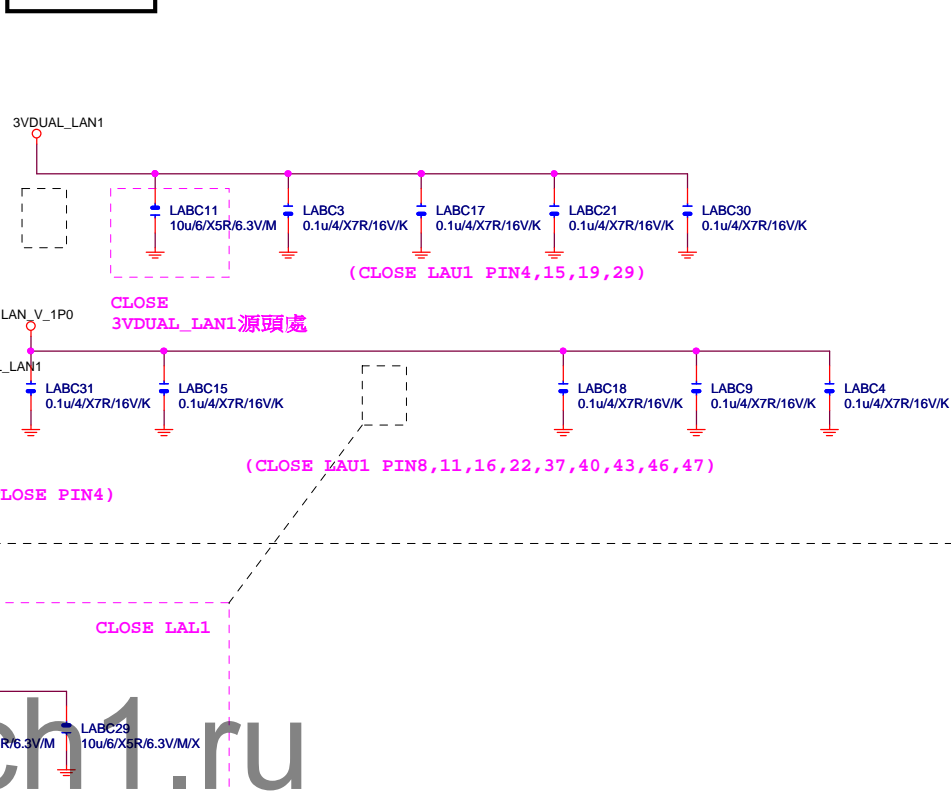
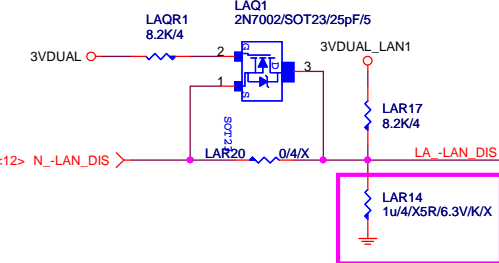
Title			F_USB2.0		
Size	Document Number				Rev
Custom	GA-Z270X-UD3				1.0
Date:	Thursday, October 27, 2016	Sheet	43	of	59



**USB3.0/2.0**

VBUS		VBUS
D-		D-
D+		D+
GND		GND
SSRX-		SSRX-
SSRX+		SSRX+
GND		GND
SSTX-		SSTX-
SSTX+		SSTX+
AGND		AGND
AGND		AGND
AGND		AGND
AGND		AGND





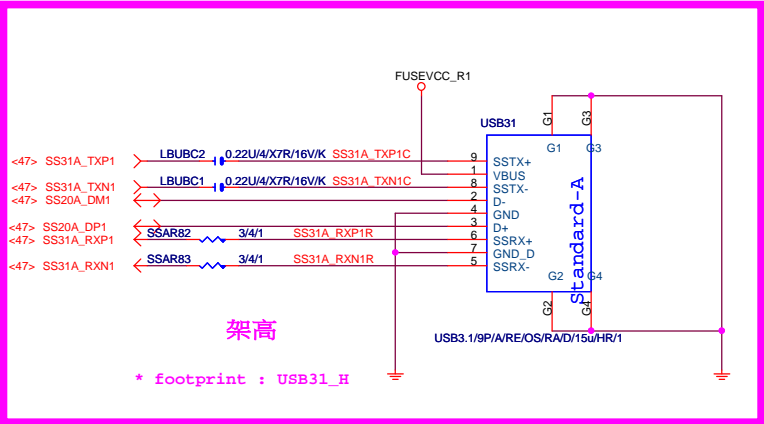


Title			
ASM1142 & ASM2142 co-lay			
Size	Document Number	Rev	
Custom	GA-Z270X-UD3	1.0	
Date:	Thursday, October 27, 2016	Sheet	47 of 59

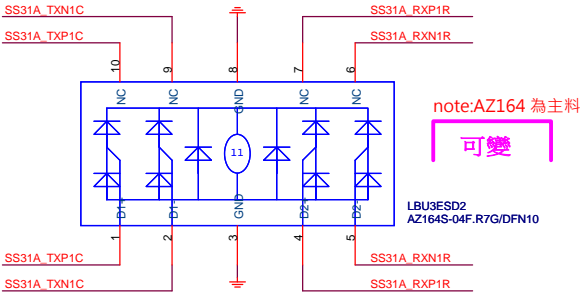
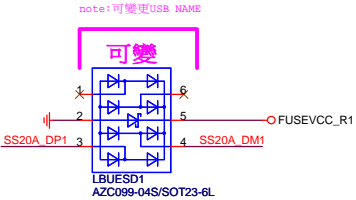
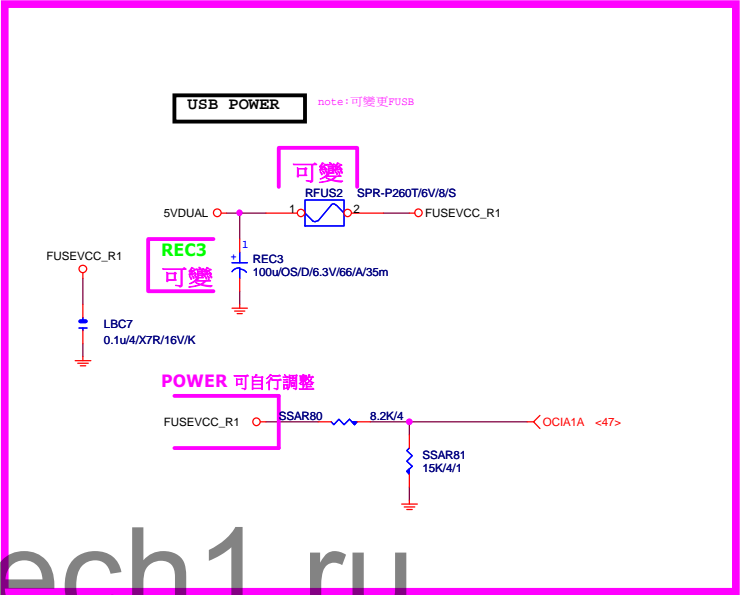
ASM2142 USB3 Host Rev0.3  
TI HD3SS3220\_B

PCIE Gen3 X2

後窗Rule : (後窗由左至右)  
DIP電容 : REC1, REC3, REC2  
FUSE : RFUS1, RFUS2, RFUS3, RFUS4...

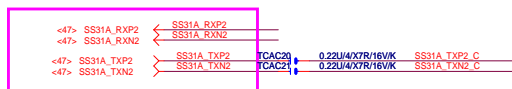


USB31 TYPE A Connector which chooses for project demand

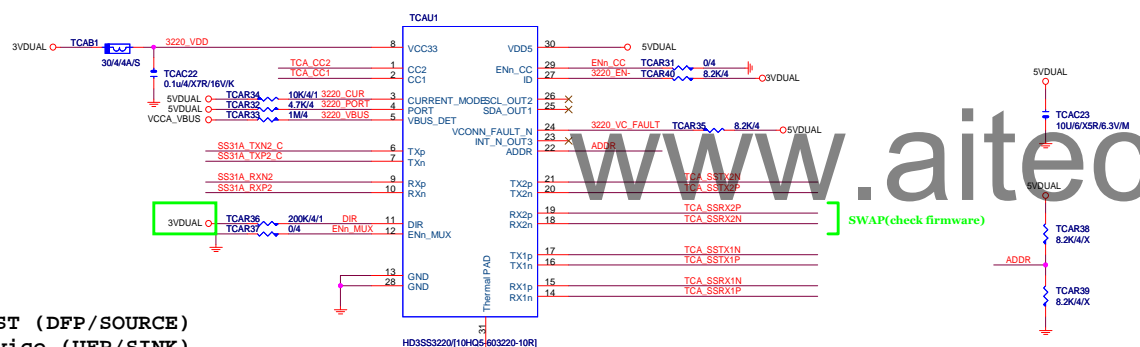
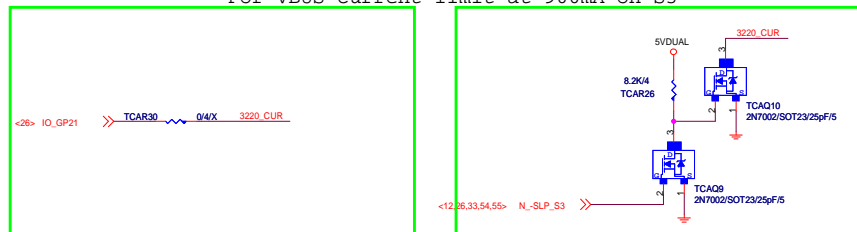


**ASM2142 USB3 Host Rev0.2**  
**TI HD3SS3220\_B**

USB 3.x SuperSpeed



For VBUS current limit at 900mA on S3



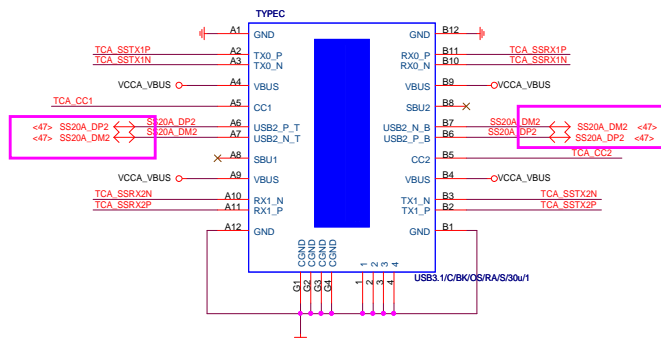
PORT

H - HOST (DFP/SOURCE)  
L - Device (UFP/SINK)  
NC - Dual Role (DRP)

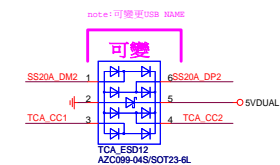
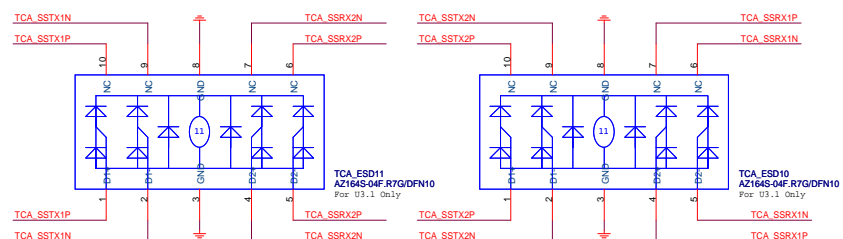
CURRENT MODE

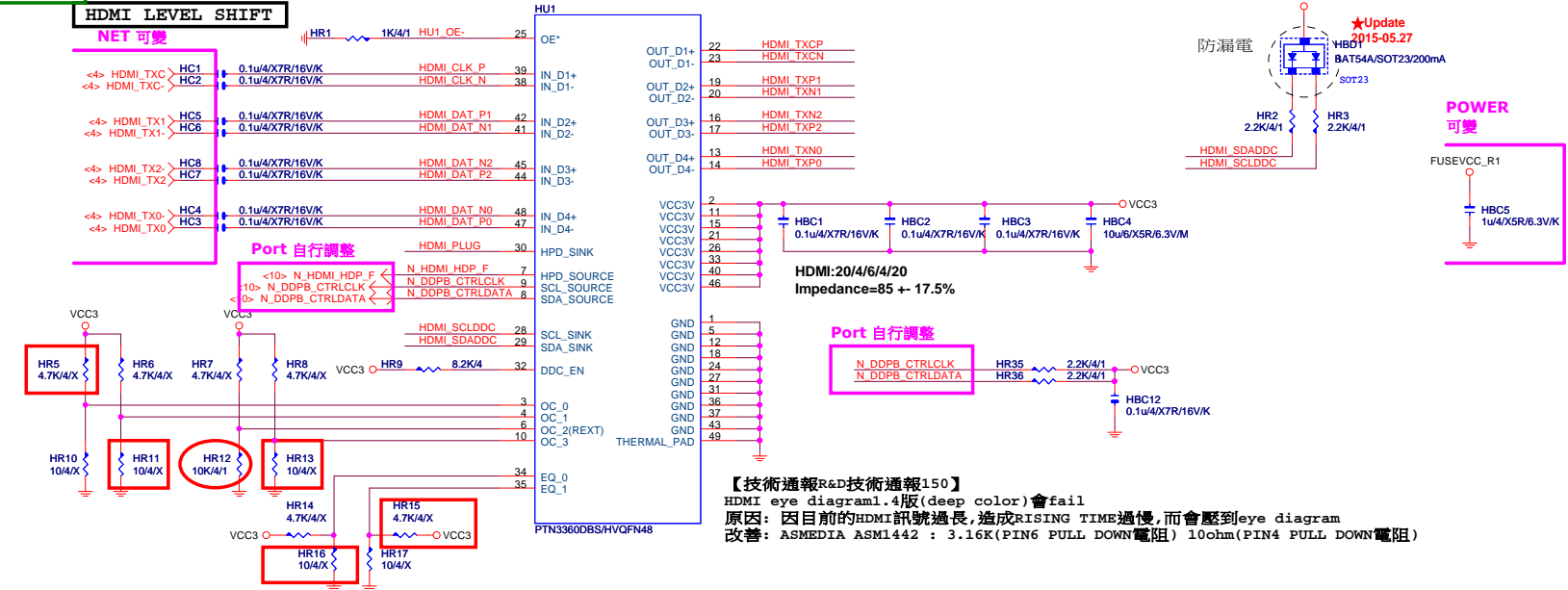
L - Default (900mA) / Pull down to GND or NC  
M - Medium (1.5A) / Pull up to VDD 500K  
H - High (3.0A) / Pull up to VDD 10K

## Color markers can be changed by model



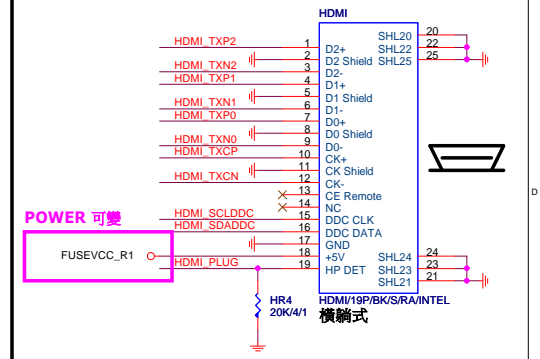
## USB2.0 can be used the same source





PTN3360:PIN 4/10/34/35 NC PIN,都不上值;只上HR12:10K  
ASM1442:紅色框要上,HR12:3.16K

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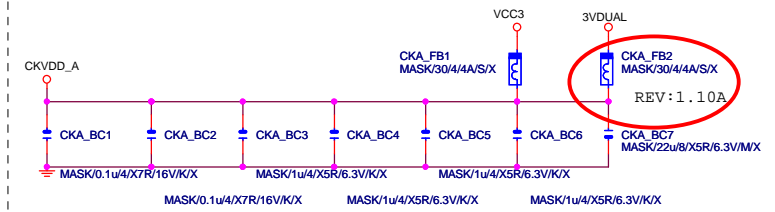


直立式  
P/N:11NR6-H01019-K1R

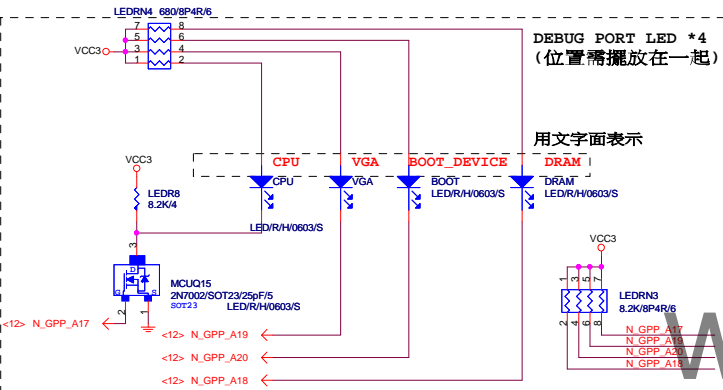
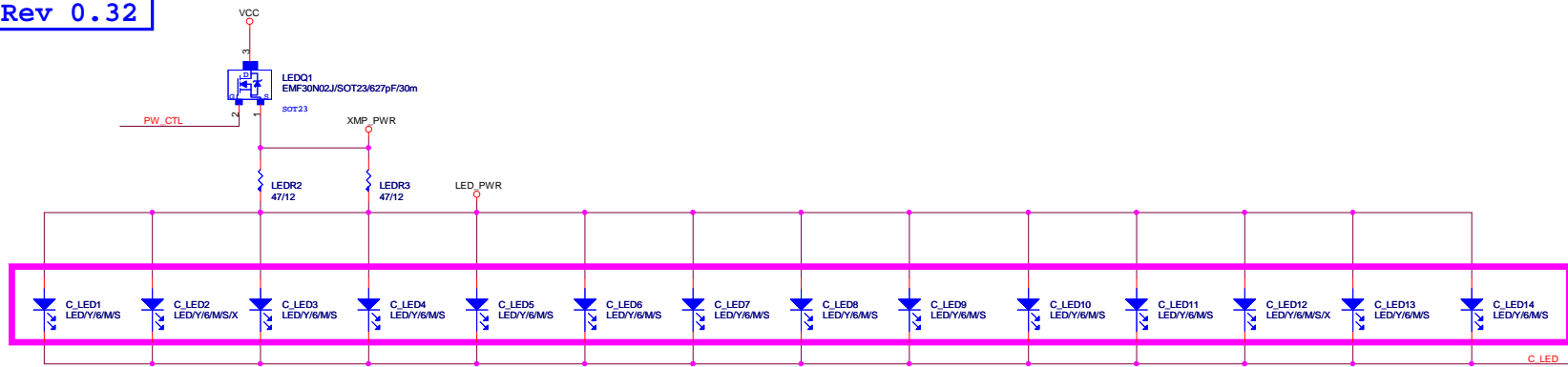




IDT6V41630

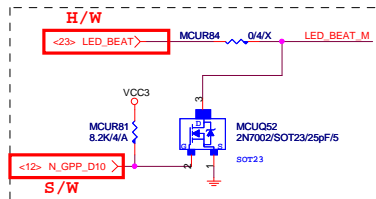


\*可變，依需求上件不上件。

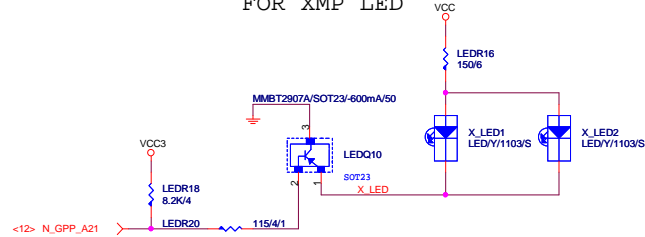


### Ambient LED Control

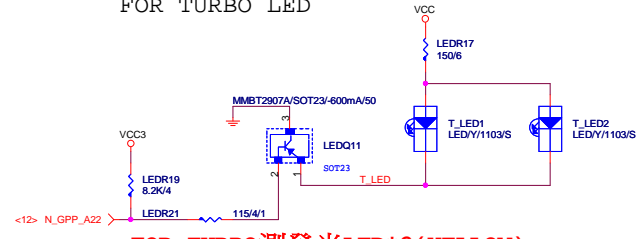
	N_GPP_D22	N_GPP_D23	IO GP91
Still Mode	H	L	L
OFF Mode	L	L	L
Pluse Mode	H	L	BREATH
Beat Mode	H	OD	L

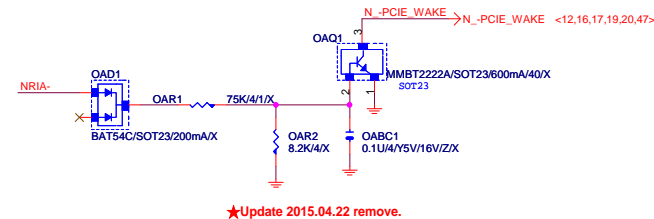
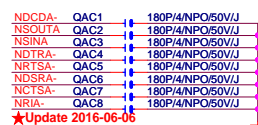
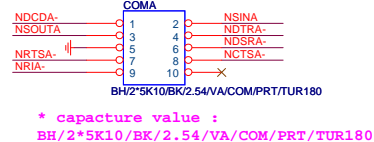


### FOR XMP LED

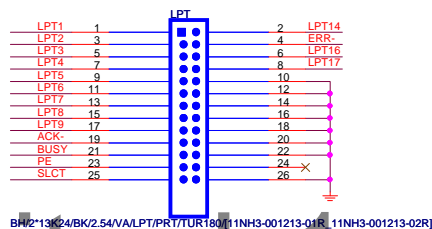
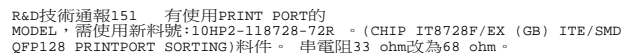
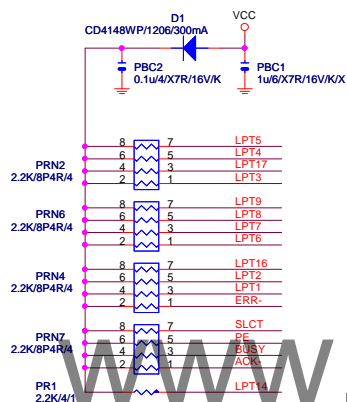
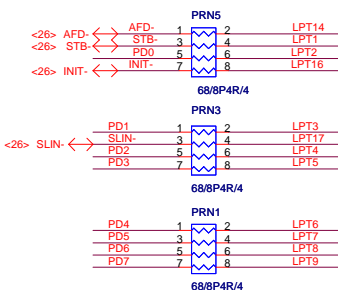
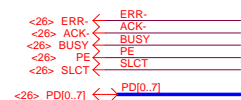


### FOR TURBO LED

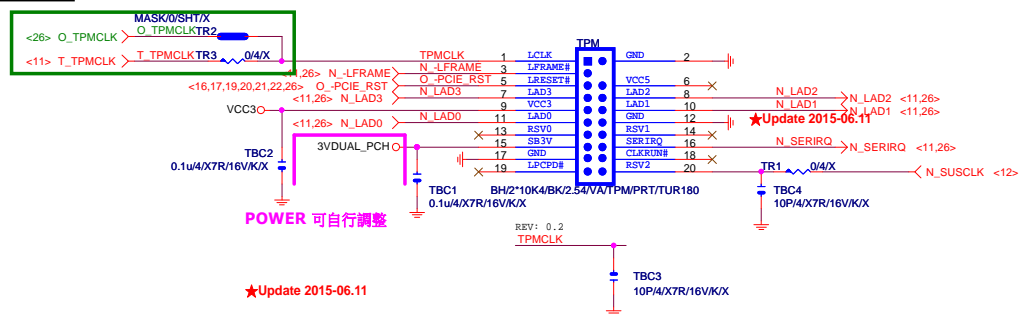




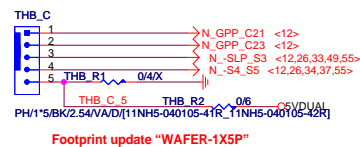
LPT PORT
----------



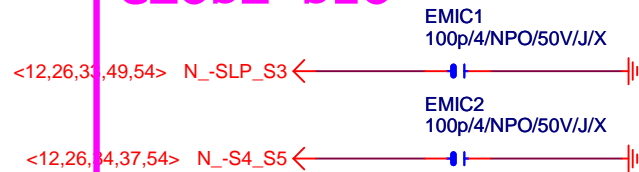
## TPM CONNECT



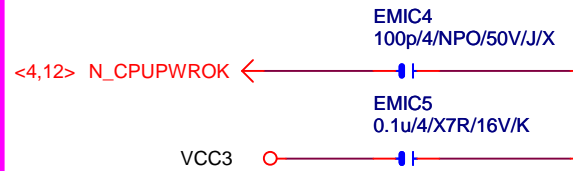
## Thunderbolt



## CLOSE SIO



## CLOSE PCH



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**GIGABYTE™**

Title

**EMI/ESD**

Size  
A

Document Number

**GA-Z270X-UD3**

Rev

**1.0**

Date: Thursday, October 27, 2016

Sheet

55

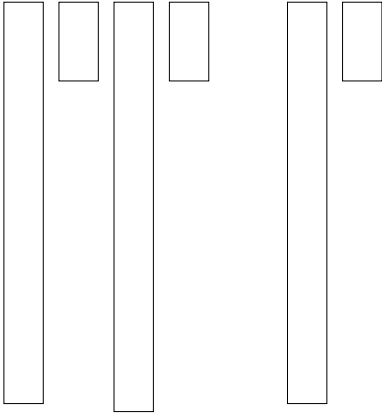
of

59

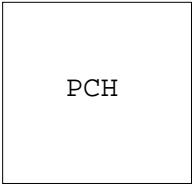
REAR IO

RS\_SYS  
F\_AUDIO

AUDIO



SIO

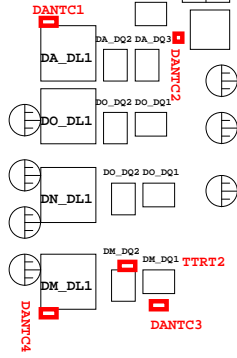
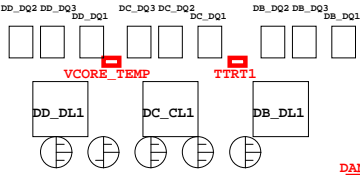


PCH

RS\_PCH



CPU



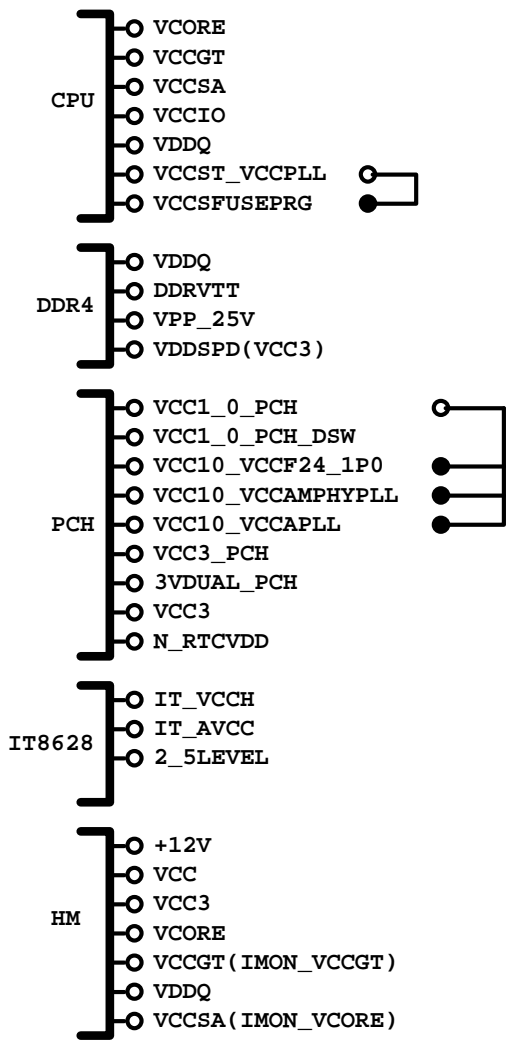
RS\_VCCGT



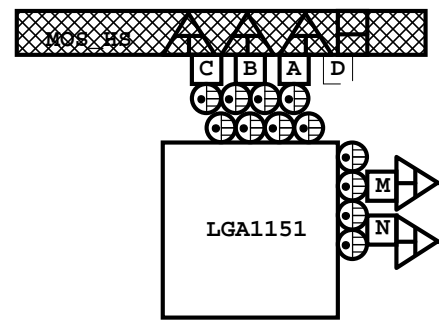
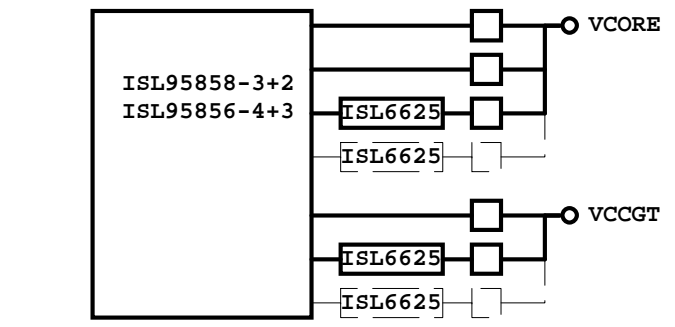
SATA\_EXPRESS

熱敏電阻	擺放靠近位置	走線方式
DANTC1	DA_DL2	Differential
DANTC2	DA_DQ3	Differential
DANTC3	DM_DQ2	Differential
DANTC4	DM_DL1	Differential
RS_VCORE	DC_DQ4	N/A
RS_VCCGT	DM_DQ2	N/A
TTRT1	DC_DQ2	N/A
TTRT2	DN_DQ2	N/A
RS_PCH	PCH	N/A
RS_SYS	F_AUDIO	N/A

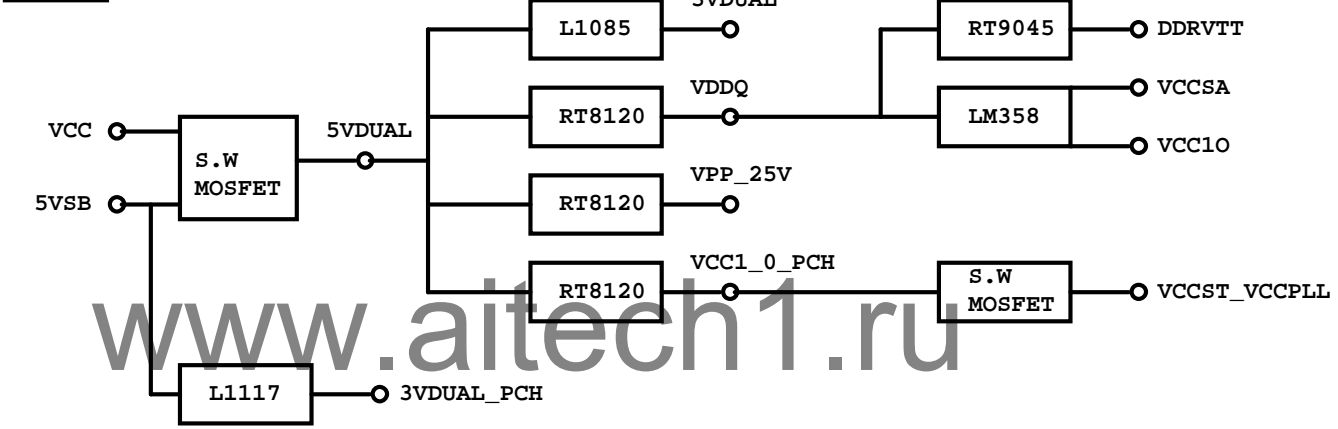
POWER BLOCK MAP



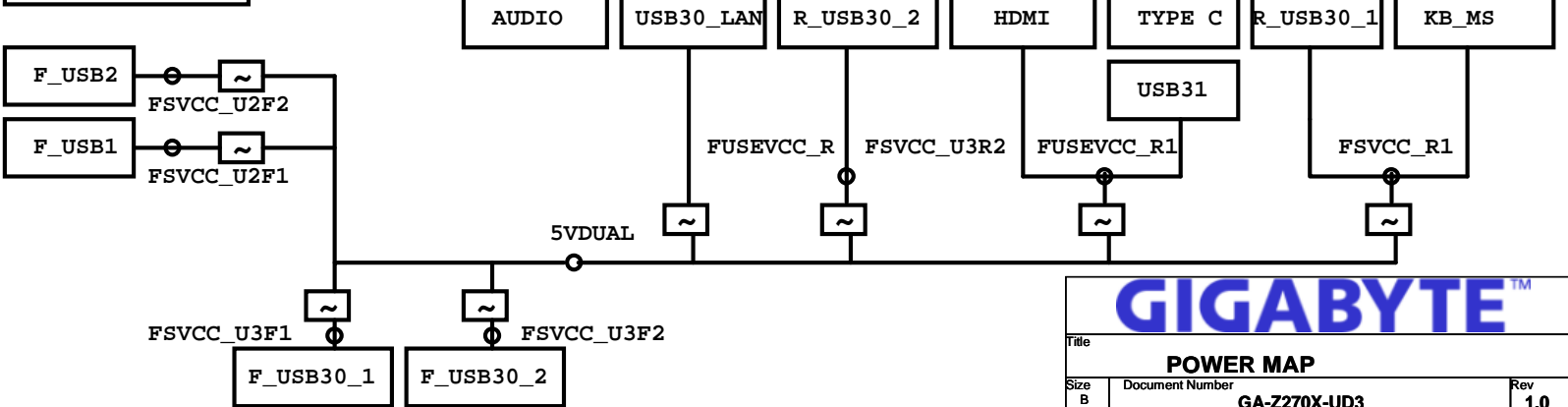
VCORE/VCCGT



POWER



FUSE POWER F/R



**GIGABYTE™**

Title		
POWER MAP		
Size B	Document Number	Rev
	GA-Z270X-UD3	1.0
Date:	Thursday, October 27, 2016	Sheet 57 of 59



## 固態電容料號.請自行修改

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

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

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

## IRON CHOKE

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

Skylake Iron Choke閃電P導入機種如下:  
[1] Z170/H170 機種全部導入  
[2] B150/H110Gaming機種導入, 其餘不導入

## Ferrite

	料號	Capture Value	SIZE	Footprint
DIP	11LC5-F3500C-11R	0.5uH/32A/INCG109/FSI/D	10*10	CHOKE05U-40A-1PQ-3
DIP	11LC5-F2500C-11R	0.5uH/25A/INC0809/F/D	8*8	CHOKE1U-R50M-IF
SMD	10LC5-F4300C-01R	0.3uH/40A/SIUC/FR/S	10*7	CHOKE11X8MM-SMD

## BEAD

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

## PWM料號

		料號	Capture Value	Footprint
PWM	ISL95856	10TA1-695856-01R		IC52QFN-6x6-G
PWM	ISL95858	10TA1-695858-01R		IC52QFN-6x6-G
PWM	IR35201	10TA1-635201-00R		IC56QFN-9VRS4339
PWM	IR3570	10TA1-603570-00R		IC40MLFP-ISL95835
PWM	RT8237C/D	10TA1-608237-01R		IC10DFN-NIS5132

## REGULATOR

		料號	Capture Value	Footprint
	NCT3103S	10GL2-203103-01R	NCT3103S/SOP8/2A	IC8-EPSOIC


GIGABYTE™			
Title RT8120_DDR4 POWER			
Size Custom	Document Number GA-Z270X-UD3		Rev 1.0
Date: Thursday, October 27, 2016	Sheet 58	of 59	

1

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Z77-D3H :  
PCH :  
12SP2-S05511-01R/02R/03R  
MOSFET :  
12SP2-S08924-01R/02R/03R

			
Title			
<p align="center"><b>TABLE LIST</b></p>			
Size C	Document Number		Rev
	GA-Z270X-UD3		1.0
Date:	Thursday, October 27, 2016	Sheet	59 of 59