

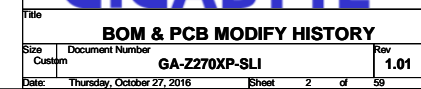
Rev : 1.01

| 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 |

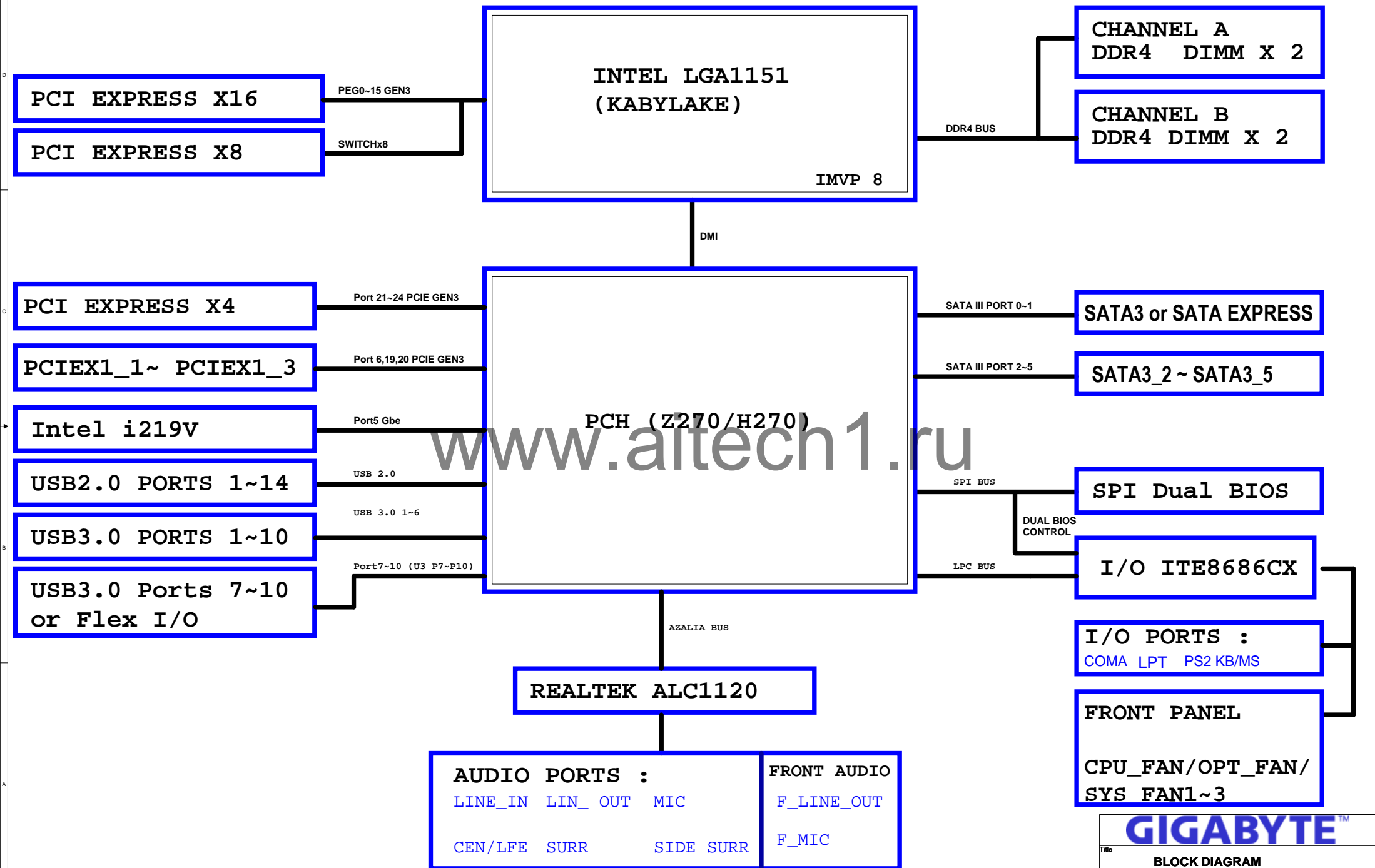
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Circuit or PCB layout change

U16076-0
9MZ27XPSL-00

[illegible]

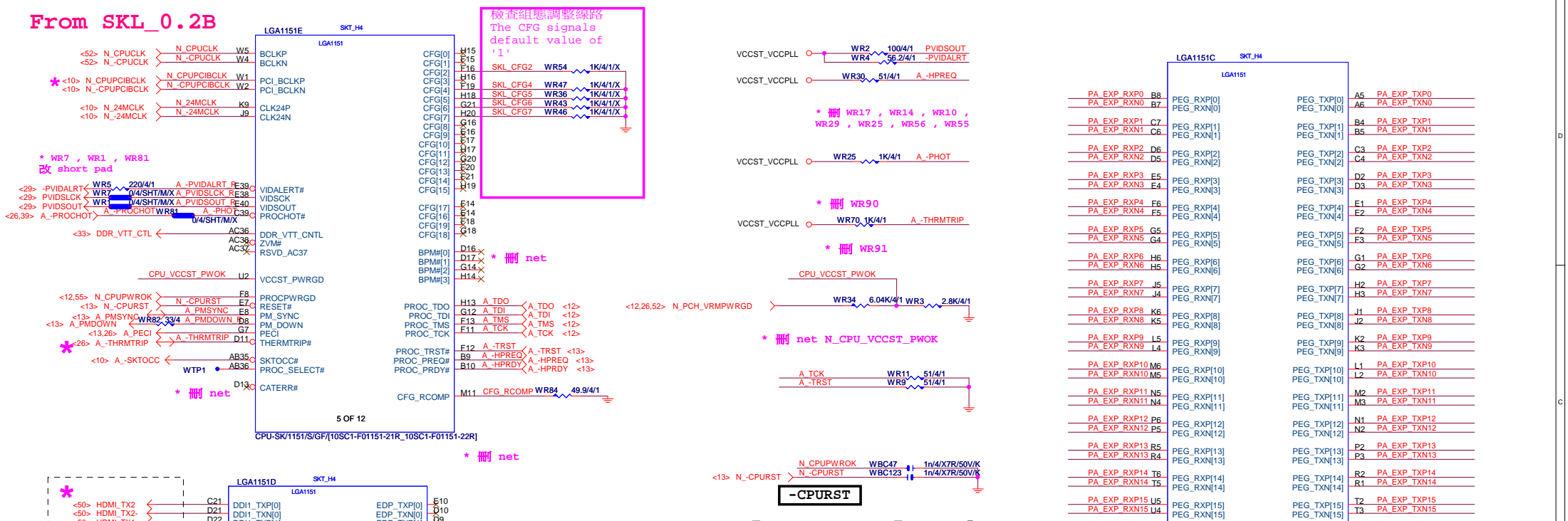
BLOCK DIAGRAM



GIGABYTE™

| | | | |
|---------------|----------------------------|-------|---------|
| Title | | | |
| BLOCK DIAGRAM | | | |
| Size | Document Number | Rev | |
| Custom | GA-Z270XP-SLI | 1.01 | |
| Date: | Thursday, October 27, 2016 | Sheet | 3 of 59 |

From SKL_0.2B



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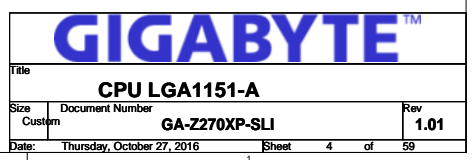


```
G-15u : (CPU-SK/1151/S/15)
10SC1-F01151-11R / 10SC1-F01151-12R
G-FL : (CPU-SK/1151/S/GF)
10SC1-F01151-21R / 10SC1-F01151-22R
```

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



* 改DDR4 net

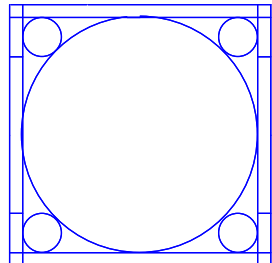
| LGA1151A | | SKT_H4 | |
|------------|-------------------------|-------------------------------------|------------------------------------|
| | | LGA1151 | |
| MDA0 AE38 | DDR0_DQ[0] | DDR0_CKP[0] | AW18 M_DCLKA0 <-> M_DCLKA0 <-> |
| MDA1 AE37 | DDR0_DQ[1] | DDR0_CKN[0] | AW18 M_DCLKA0 <-> M_DCLKA0 <-> |
| MDA2 AG38 | DDR0_DQ[2] | DDR0_CKP[1] | AW17 M_DCLKA1 <-> M_DCLKA1 <-> |
| MDA3 AG37 | DDR0_DQ[3] | DDR0_CKN[1] | AW17 M_DCLKA1 <-> M_DCLKA1 <-> |
| MDA4 AE39 | DDR0_DQ[4] | DDR0_CKP[2] | AW16 M_DCLKA2 <-> M_DCLKA2 <-> |
| MDA5 AE40 | DDR0_DQ[5] | DDR0_CKN[2] | AW16 M_DCLKA2 <-> M_DCLKA2 <-> |
| MDA6 AG39 | DDR0_DQ[6] | DDR0_CKP[3] | AW16 M_DCLKA3 <-> M_DCLKA3 <-> |
| MDA7 AG40 | DDR0_DQ[7] | DDR0_CKN[3] | AW16 M_DCLKA3 <-> M_DCLKA3 <-> |
| MDA8 AJ38 | DDR0_DQ[8] | | |
| MDA9 AJ37 | DDR0_DQ[9] | | |
| MDA10 AL38 | DDR0_DQ[10] | DDR0_CKE[0] | AY24 CKEA0 <-> CKEA0 <-> |
| MDA11 AL37 | DDR0_DQ[11] | DDR0_CKE[1] | AY24 CKEA1 <-> CKEA1 <-> |
| MDA12 AJ40 | DDR0_DQ[12] | DDR0_CKE[2] | AY24 CKEA2 <-> CKEA2 <-> |
| MDA13 AJ39 | DDR0_DQ[13] | DDR0_CKE[3] | AY25 CKEA3 <-> CKEA3 <-> |
| MDA14 AL39 | DDR0_DQ[14] | | |
| MDA15 AL40 | DDR0_DQ[15] | DDR0_CS#0 | AW12 M-CSA0 <-> M-CSA0 <-> |
| MDA16 AN38 | DDR0_DQ[16]/DDR0_DQ[32] | DDR0_CS#1 | AW11 M-CSA1 <-> M-CSA1 <-> |
| MDA17 AN40 | DDR0_DQ[17]/DDR0_DQ[33] | DDR0_CS#2 | AW13 M-CSA2 <-> M-CSA2 <-> |
| MDA18 AR38 | DDR0_DQ[18]/DDR0_DQ[34] | DDR0_CS#3 | AW10 M-CSA3 <-> M-CSA3 <-> |
| MDA19 AR37 | DDR0_DQ[19]/DDR0_DQ[35] | | |
| MDA20 AN39 | DDR0_DQ[20]/DDR0_DQ[36] | DDR0_ODT[0] | AW11 MODT_A0 |
| MDA21 AN37 | DDR0_DQ[21]/DDR0_DQ[37] | DDR0_ODT[1] | AU14 MODT_A1 |
| MDA22 AR40 | DDR0_DQ[22]/DDR0_DQ[38] | DDR0_ODT[2] | AU12 MODT_A2 |
| MDA23 AR40 | DDR0_DQ[23]/DDR0_DQ[39] | DDR0_ODT[3] | AY10 MODT_A3 |
| MDA24 AW37 | DDR0_DQ[24]/DDR0_DQ[40] | | |
| MDA25 AU38 | DDR0_DQ[25]/DDR0_DQ[41] | DDR0_BA[0]/DDR0_CAB[4]/DDR0_BA[0] | AY13 SBA00 <-> SBA00 <-> |
| MDA26 AV35 | DDR0_DQ[26]/DDR0_DQ[42] | DDR0_BA[1]/DDR0_CAB[6]/DDR0_BA[1] | AY15 SBA11 <-> SBA11 <-> |
| MDA27 AW35 | DDR0_DQ[27]/DDR0_DQ[43] | DDR0_BA[2]/DDR0_CAA[5]/DDR0_BG[0] | AW23 BG_A0 <-> BG_A0 <-> |
| MDA28 AU37 | DDR0_DQ[28]/DDR0_DQ[44] | | |
| MDA29 AJ37 | DDR0_DQ[29]/DDR0_DQ[45] | DDR0_RAS#/DDR0_CAB[3]/DDR0_MA[16] | AW13 MAAA16 |
| MDA30 AT35 | DDR0_DQ[30]/DDR0_DQ[46] | DDR0_WE#/DDR0_CAB[2]/DDR0_MA[14] | AW14 MAAA14 |
| MDA31 AU35 | DDR0_DQ[31]/DDR0_DQ[47] | DDR0_CAS#/DDR0_CAB[1]/DDR0_MA[15] | AW11 MAAA15 |
| MDA32 AY8 | DDR0_DQ[32]/DDR1_DQ[0] | | |
| MDA33 AW8 | DDR0_DQ[33]/DDR1_DQ[1] | DDR0_MA[0]/DDR0_CAB[9]/DDR0_MA[0] | AW15 MAAA0 |
| MDA34 AJ6 | DDR0_DQ[34]/DDR1_DQ[2] | DDR0_MA[1]/DDR0_CAB[8]/DDR0_MA[1] | AU18 MAAA1 |
| MDA35 AJ6 | DDR0_DQ[35]/DDR1_DQ[3] | DDR0_MA[2]/DDR0_CAB[5]/DDR0_MA[2] | AU17 MAAA2 |
| MDA36 AJ8 | DDR0_DQ[36]/DDR1_DQ[4] | DDR0_MA[3] | AU19 MAAA3 |
| MDA37 AV8 | DDR0_DQ[37]/DDR1_DQ[5] | DDR0_MA[4] | AT19 MAAA4 |
| MDA38 AW6 | DDR0_DQ[38]/DDR1_DQ[6] | DDR0_MA[5]/DDR0_CAA[0]/DDR0_MA[5] | AU20 MAAA5 |
| MDA39 AY6 | DDR0_DQ[39]/DDR1_DQ[7] | DDR0_MA[6]/DDR0_CAA[2]/DDR0_MA[6] | AU21 MAAA6 |
| MDA40 AY4 | DDR0_DQ[40]/DDR1_DQ[8] | DDR0_MA[7]/DDR0_CAA[4]/DDR0_MA[7] | AT20 MAAA7 |
| MDA41 AV4 | DDR0_DQ[41]/DDR1_DQ[9] | DDR0_MA[8]/DDR0_CAA[3]/DDR0_MA[8] | AT22 MAAA9 |
| MDA42 AT1 | DDR0_DQ[42]/DDR1_DQ[10] | DDR0_MA[9]/DDR0_CAA[1]/DDR0_MA[9] | AU14 MAAA10 |
| MDA43 AT2 | DDR0_DQ[43]/DDR1_DQ[11] | DDR0_MA[10]/DDR0_CAB[7]/DDR0_MA[10] | AU22 MAAA11 |
| MDA44 AV3 | DDR0_DQ[44]/DDR1_DQ[12] | DDR0_MA[11]/DDR0_CAA[7]/DDR0_MA[11] | AV22 MAAA12 |
| MDA45 AW4 | DDR0_DQ[45]/DDR1_DQ[13] | DDR0_MA[12]/DDR0_CAA[6]/DDR0_MA[12] | AU12 MAAA13 |
| MDA46 AT3 | DDR0_DQ[46]/DDR1_DQ[14] | DDR0_MA[13]/DDR0_CAB[0]/DDR0_MA[13] | AV23 BG_A1 <-> BG_A1 <-> |
| MDA47 AT3 | DDR0_DQ[47]/DDR1_DQ[15] | DDR0_MA[14]/DDR0_CAA[9]/DDR0_BG[1] | AU24 M-AACT_A <-> M-AACT_A <-> |
| MDA48 AP2 | DDR0_DQ[48]/DDR1_DQ[16] | DDR0_MA[15]/DDR0_CAA[8]/DDR0_ACT# | |
| MDA49 AM4 | DDR0_DQ[49]/DDR1_DQ[17] | | |
| MDA50 AP3 | DDR0_DQ[50]/DDR1_DQ[18] | DDR0_PAR | AY15 M-DDR_PARA <-> M-DDR_PARA <-> |
| MDA51 AM3 | DDR0_DQ[51]/DDR1_DQ[19] | DDR0_ALERT# | AT23 M-ALERT_A <-> M-ALERT_A <-> |
| MDA52 AP4 | DDR0_DQ[52]/DDR1_DQ[20] | | |
| MDA53 AM2 | DDR0_DQ[53]/DDR1_DQ[21] | DDR0_DQSN[0] | AF38 M-DQSA0 |
| MDA54 AP1 | DDR0_DQ[54]/DDR1_DQ[22] | DDR0_DQSN[1] | AK38 M-DQSA1 |
| MDA55 AM1 | DDR0_DQ[55]/DDR1_DQ[23] | DDR0_DQSN[2] | AP39 M-DQSA2 |
| MDA56 AK3 | DDR0_DQ[56]/DDR1_DQ[24] | DDR0_DQSN[3] | AU36 M-DQSA3 |
| MDA57 AK4 | DDR0_DQ[57]/DDR1_DQ[25] | DDR0_DQSN[4] | AW7 M-DQSA4 |
| MDA58 AH2 | DDR0_DQ[58]/DDR1_DQ[26] | DDR0_DQSN[5] | AU3 M-DQSA5 |
| MDA59 AH2 | DDR0_DQ[59]/DDR1_DQ[27] | DDR0_DQSN[6] | AN3 M-DQSA6 |
| MDA60 AH4 | DDR0_DQ[60]/DDR1_DQ[28] | DDR0_DQSN[7] | AJ3 M-DQSA7 |
| MDA61 AK2 | DDR0_DQ[61]/DDR1_DQ[29] | | |
| MDA62 AH3 | DDR0_DQ[62]/DDR1_DQ[30] | DDR0_DQSP[0] | AF38 M-DQSA0 |
| MDA63 AK1 | DDR0_DQ[63]/DDR1_DQ[31] | DDR0_DQSP[1] | AK38 M-DQSA1 |
| | | DDR0_DQSP[2] | AP38 M-DQSA2 |
| | | DDR0_DQSP[3] | AV36 M-DQSA3 |
| | | DDR0_DQSP[4] | AV7 M-DQSA4 |
| | | DDR0_DQSP[5] | AU2 M-DQSA5 |
| | | DDR0_DQSP[6] | AN2 M-DQSA6 |
| | | DDR0_DQSP[7] | AJ2 M-DQSA7 |
| | | | |
| | | DDR0_DQSP[8] | AV32 M-DQSA8 |
| | | DDR0_DQSN[8] | AV32 M-DQSA8 |

DDR CHANNEL A

1 OF 12

CPU-SK/1151/S/G/F/[10SC1-F01151-21R_10SC1-F01151-22R]

LGA1151



ILM_BP_C1R/115X/NORMAL_NI/(12KRC-0F0001-52R_12KRC-0F0001-51R)

* 52R/51R 鍍普通鍍線 FOXCONN_LOTES

61R/62R 鍍黑鍍線 FOXCONN_LOTES

Need check the new CPU ME

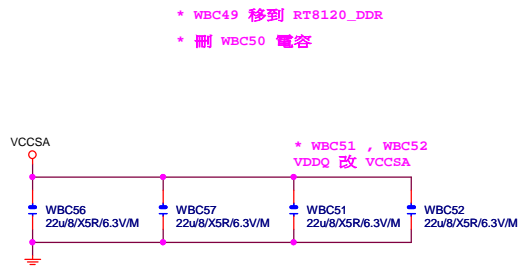
| LGA1151B | | SKT_H4 | |
|------------|-------------------------|-------------------------------------|------------------------------------|
| | | LGA1151 | |
| MDB0 AD34 | DDR1_DQ[0]/DDR0_DQ[16] | DDR1_CKP[0] | AM20 M_DCLKB0 <-> M_DCLKB0 <-> |
| MDB1 AD35 | DDR1_DQ[1]/DDR0_DQ[17] | DDR1_CKN[0] | AM21 M_DCLKB0 <-> M_DCLKB0 <-> |
| MDB2 AG35 | DDR1_DQ[2]/DDR0_DQ[18] | DDR1_CKP[1] | AP22 M_DCLKB1 <-> M_DCLKB1 <-> |
| MDB3 AH35 | DDR1_DQ[3]/DDR0_DQ[19] | DDR1_CKN[1] | AP21 M_DCLKB1 <-> M_DCLKB1 <-> |
| MDB4 AE35 | DDR1_DQ[4]/DDR0_DQ[20] | DDR1_CKP[2] | AN20 M_DCLKB2 <-> M_DCLKB2 <-> |
| MDB5 AE34 | DDR1_DQ[5]/DDR0_DQ[21] | DDR1_CKN[2] | AN21 M_DCLKB2 <-> M_DCLKB2 <-> |
| MDB6 AH34 | DDR1_DQ[6]/DDR0_DQ[22] | DDR1_CKP[3] | AP23 M_DCLKB3 <-> M_DCLKB3 <-> |
| MDB7 AH34 | DDR1_DQ[7]/DDR0_DQ[23] | DDR1_CKN[3] | AP20 M_DCLKB3 <-> M_DCLKB3 <-> |
| MDB8 AK35 | DDR1_DQ[8]/DDR0_DQ[24] | | |
| MDB9 AL35 | DDR1_DQ[9]/DDR0_DQ[25] | DDR1_CKE[0] | AY29 CKEB0 <-> CKEB0 <-> |
| MDB10 AK32 | DDR1_DQ[10]/DDR0_DQ[26] | DDR1_CKE[1] | AY29 CKEB1 <-> CKEB1 <-> |
| MDB11 AL32 | DDR1_DQ[11]/DDR0_DQ[27] | DDR1_CKE[2] | AY29 CKEB2 <-> CKEB2 <-> |
| MDB12 AK34 | DDR1_DQ[12]/DDR0_DQ[28] | DDR1_CKE[3] | AY29 CKEB3 <-> CKEB3 <-> |
| MDB13 AL34 | DDR1_DQ[13]/DDR0_DQ[29] | | |
| MDB14 AK31 | DDR1_DQ[14]/DDR0_DQ[30] | DDR1_CS#0 | AP17 M-CSB0 <-> M-CSB0 <-> |
| MDB15 AL31 | DDR1_DQ[15]/DDR0_DQ[31] | DDR1_CS#1 | AN15 M-CSB1 <-> M-CSB1 <-> |
| MDB16 AP35 | DDR1_DQ[16]/DDR0_DQ[32] | DDR1_CS#2 | AN17 M-CSB2 <-> M-CSB2 <-> |
| MDB17 AH35 | DDR1_DQ[17]/DDR0_DQ[33] | DDR1_CS#3 | AM15 M-CSB3 <-> M-CSB3 <-> |
| MDB18 AN32 | DDR1_DQ[18]/DDR0_DQ[34] | | |
| MDB19 AP32 | DDR1_DQ[19]/DDR0_DQ[35] | DDR1_ODT[0] | AM16 MODT_B0 |
| MDB20 AN34 | DDR1_DQ[20]/DDR0_DQ[36] | DDR1_ODT[1] | AL16 MODT_B1 |
| MDB21 AP34 | DDR1_DQ[21]/DDR0_DQ[37] | DDR1_ODT[2] | AP15 MODT_B2 |
| MDB22 AN31 | DDR1_DQ[22]/DDR0_DQ[38] | DDR1_ODT[3] | AL15 MODT_B3 |
| MDB23 AP31 | DDR1_DQ[23]/DDR0_DQ[39] | | |
| MDB24 AL29 | DDR1_DQ[24]/DDR0_DQ[40] | DDR1_RAS#/DDR1_CAB[3]/DDR1_MA[16] | AN18 MAAB16 |
| MDB25 AM29 | DDR1_DQ[25]/DDR0_DQ[41] | DDR1_WE#/DDR1_CAB[2]/DDR1_MA[14] | AL17 MAAB14 |
| MDB26 AP29 | DDR1_DQ[26]/DDR0_DQ[42] | DDR1_CAS#/DDR1_CAB[1]/DDR1_MA[15] | AP16 MAAB15 |
| MDB27 AR29 | DDR1_DQ[27]/DDR0_DQ[43] | | |
| MDB28 AM28 | DDR1_DQ[28]/DDR0_DQ[44] | DDR1_BA[0]/DDR1_CAB[4]/DDR1_BA[0] | AL18 SBA00 <-> SBA00 <-> |
| MDB29 AR28 | DDR1_DQ[29]/DDR0_DQ[45] | DDR1_BA[1]/DDR1_CAB[6]/DDR1_BA[1] | AM18 SBA11 <-> SBA11 <-> |
| MDB30 AR28 | DDR1_DQ[30]/DDR0_DQ[46] | DDR1_BA[2]/DDR1_CAA[5]/DDR1_BG[0] | AW28 BG_B0 <-> BG_B0 <-> |
| MDB31 AP28 | DDR1_DQ[31]/DDR0_DQ[47] | | |
| MDB32 AR12 | DDR1_DQ[32]/DDR1_DQ[0] | DDR1_MA[0]/DDR1_CAB[9]/DDR1_MA[0] | AL19 MAAB0 |
| MDB33 AP12 | DDR1_DQ[33]/DDR1_DQ[1] | DDR1_MA[1]/DDR1_CAB[8]/DDR1_MA[1] | AL22 MAAB1 |
| MDB34 AM13 | DDR1_DQ[34]/DDR1_DQ[2] | DDR1_MA[2]/DDR1_CAB[5]/DDR1_MA[2] | AM22 MAAB2 |
| MDB35 AL13 | DDR1_DQ[35]/DDR1_DQ[3] | DDR1_MA[3] | AM23 MAAB3 |
| MDB37 AP13 | DDR1_DQ[36]/DDR1_DQ[4] | DDR1_MA[4] | AP23 MAAB4 |
| MDB38 AM12 | DDR1_DQ[37]/DDR1_DQ[5] | DDR1_MA[5]/DDR1_CAA[0]/DDR1_MA[5] | AL23 MAAB5 |
| MDB39 AP10 | DDR1_DQ[38]/DDR1_DQ[6] | DDR1_MA[6]/DDR1_CAA[2]/DDR1_MA[6] | AW26 MAAB6 |
| MDB40 AR10 | DDR1_DQ[39]/DDR1_DQ[7] | DDR1_MA[7]/DDR1_CAA[4]/DDR1_MA[7] | AY26 MAAB7 |
| MDB41 AR10 | DDR1_DQ[40]/DDR1_DQ[8] | DDR1_MA[8]/DDR1_CAA[3]/DDR1_MA[8] | AY27 MAAB8 |
| MDB42 AR7 | DDR1_DQ[41]/DDR1_DQ[9] | DDR1_MA[9]/DDR1_CAA[1]/DDR1_MA[9] | AP18 MAAB9 |
| MDB43 AP7 | DDR1_DQ[42]/DDR1_DQ[10] | DDR1_MA[10]/DDR1_CAB[7]/DDR1_MA[10] | AL27 MAAB11 |
| MDB44 AR9 | DDR1_DQ[43]/DDR1_DQ[11] | DDR1_MA[11]/DDR1_CAA[7]/DDR1_MA[11] | AY27 MAAB12 |
| MDB45 AP9 | DDR1_DQ[44]/DDR1_DQ[12] | DDR1_MA[12]/DDR1_CAA[6]/DDR1_MA[12] | AL15 MAAB13 |
| MDB46 AR6 | DDR1_DQ[45]/DDR1_DQ[13] | DDR1_MA[13]/DDR1_CAB[0]/DDR1_MA[13] | AY28 BG_B1 <-> BG_B1 <-> |
| MDB47 AP6 | DDR1_DQ[46]/DDR1_DQ[14] | DDR1_MA[14]/DDR1_CAA[9]/DDR1_BG[1] | AY28 M-AACT_B <-> M-AACT_B <-> |
| MDB48 AM10 | DDR1_DQ[47]/DDR1_DQ[15] | DDR1_MA[15]/DDR1_CAA[8]/DDR1_ACT# | |
| MDB49 AL10 | DDR1_DQ[48] | | |
| MDB50 AM7 | DDR1_DQ[49] | DDR1_PAR | AL20 M-DDR_PARB <-> M-DDR_PARB <-> |
| MDB51 AL7 | DDR1_DQ[50] | DDR1_ALERT# | AY25 M-ALERT_B <-> M-ALERT_B <-> |
| MDB52 AM9 | DDR1_DQ[51] | | |
| MDB53 AL9 | DDR1_DQ[52] | DDR1_DQSN[0] | AF34 M-DQSB0 |
| MDB54 AM6 | DDR1_DQ[53] | DDR1_DQSN[1] | AK33 M-DQSB1 |
| MDB55 AL6 | DDR1_DQ[54] | DDR1_DQSN[2] | AN33 M-DQSB2 |
| MDB57 AJ6 | DDR1_DQ[55] | DDR1_DQSN[3] | AN29 M-DQSB3 |
| MDB58 AE6 | DDR1_DQ[56] | DDR1_DQSN[4] | AN28 M-DQSB4 |
| MDB59 AF7 | DDR1_DQ[57] | DDR1_DQSN[5] | AR8 M-DQSB5 |
| MDB60 AH7 | DDR1_DQ[58] | DDR1_DQSN[6] | AM8 M-DQSB6 |
| MDB61 AH6 | DDR1_DQ[59] | DDR1_DQSN[7] | AG6 M-DQSB7 |
| MDB62 AE7 | DDR1_DQ[60] | | |
| MDB63 AF6 | DDR1_DQ[61] | DDR1_DQSP[0] | AF35 M-DQSB0 |
| | DDR1_DQ[62] | DDR1_DQSP[1] | AL33 M-DQSB1 |
| | DDR1_DQ[63] | DDR1_DQSP[2] | AP33 M-DQSB2 |
| | | DDR1_DQSP[3] | AN28 M-DQSB3 |
| | | DDR1_DQSP[4] | AN12 M-DQSB4 |
| | | DDR1_DQSP[5] | AP8 M-DQSB5 |
| | | DDR1_DQSP[6] | AL8 M-DQSB6 |
| | | DDR1_DQSP[7] | AG7 M-DQSB7 |
| | | | |
| | | DDR1_DQSP[8] | AN25 M-DQSB8 |
| | | DDR1_DQSN[8] | AN26 M-DQSB8 |

DDR CHANNEL B

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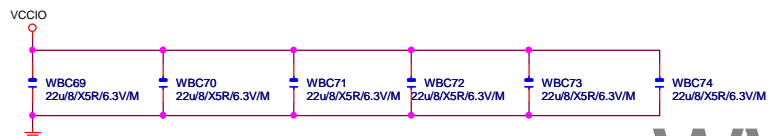
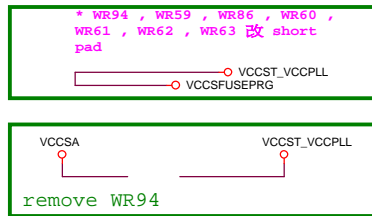
| | |
|------------------|--------------|
| <-> MODT_A[0..3] | MODT_A[0..3] |
| <-> MODT_B[0..3] | MODT_B[0..3] |
| <-> MDA[0..63] | MDA[0..63] |
| <-> MDB[0..63] | MDB[0..63] |
| <-> M_DQSA[0..7] | M_DQSA[0..7] |
| <-> M_DQSA[0..7] | M_DQSA[0..7] |
| <-> M_DQSA[0..7] | M_DQSA[0..7] |
| <-> M_DQSA[0..7] | M_DQSA[0..7] |
| <-> M_DQSA[0..7] | M_DQSA[0..7] |
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| GIGABYTE™ | | | |
| Title CPU LGA1151-B | | | |
| Size | Document Number | Rev | |
| Custom | GA-Z270XP-SLI | 1.01 | |
| Date: | Thursday, October 27, 2016 | Sheet | 5 of 59 |

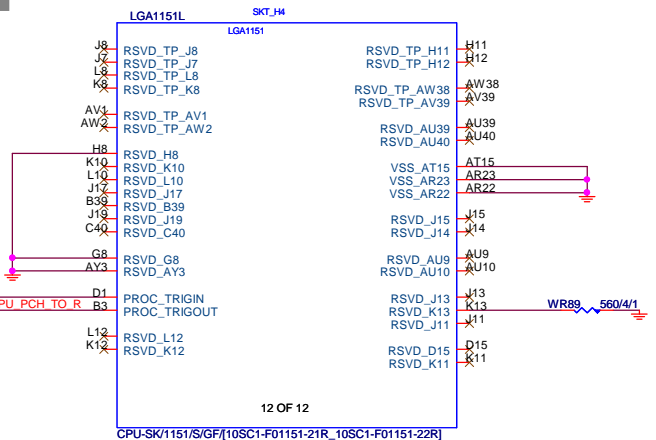
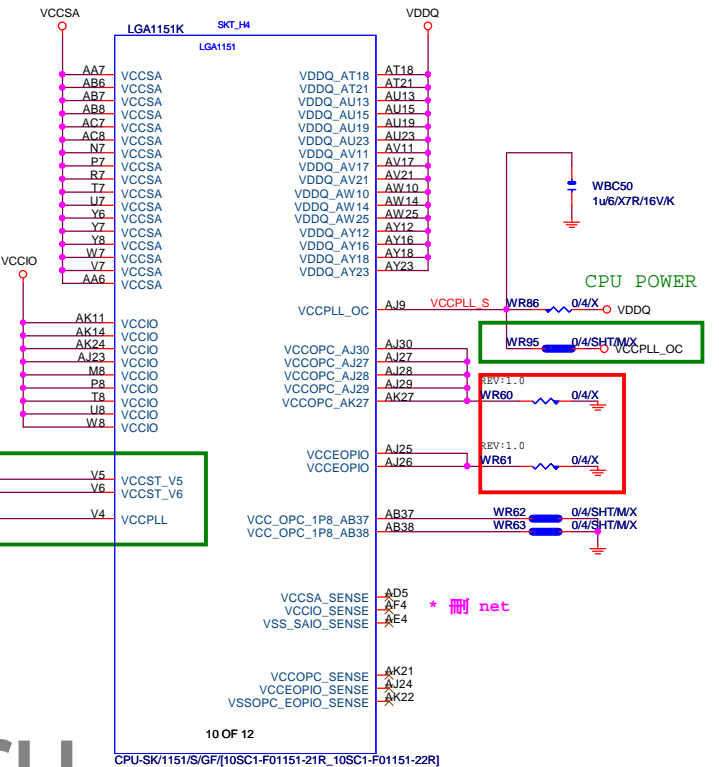
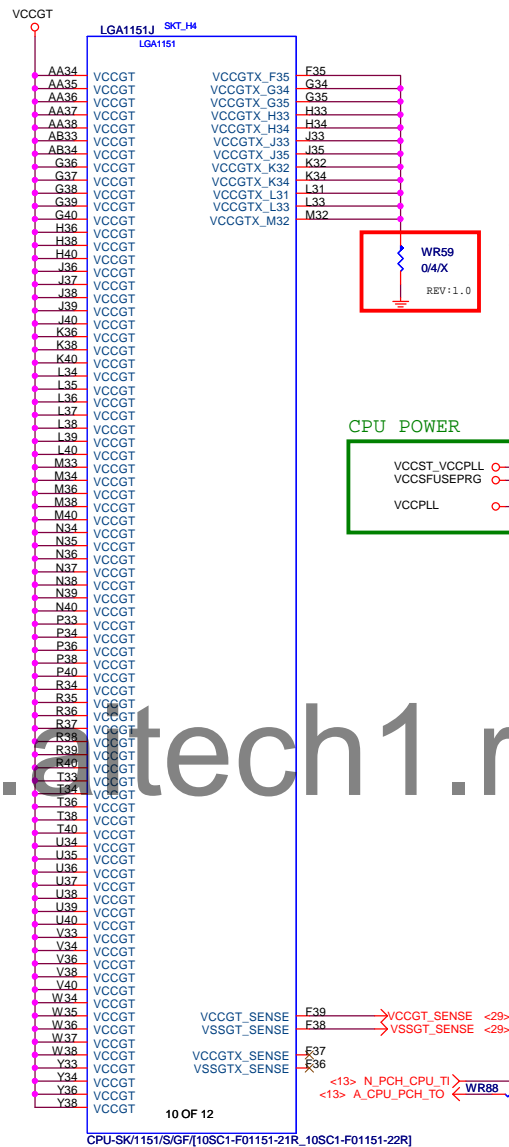


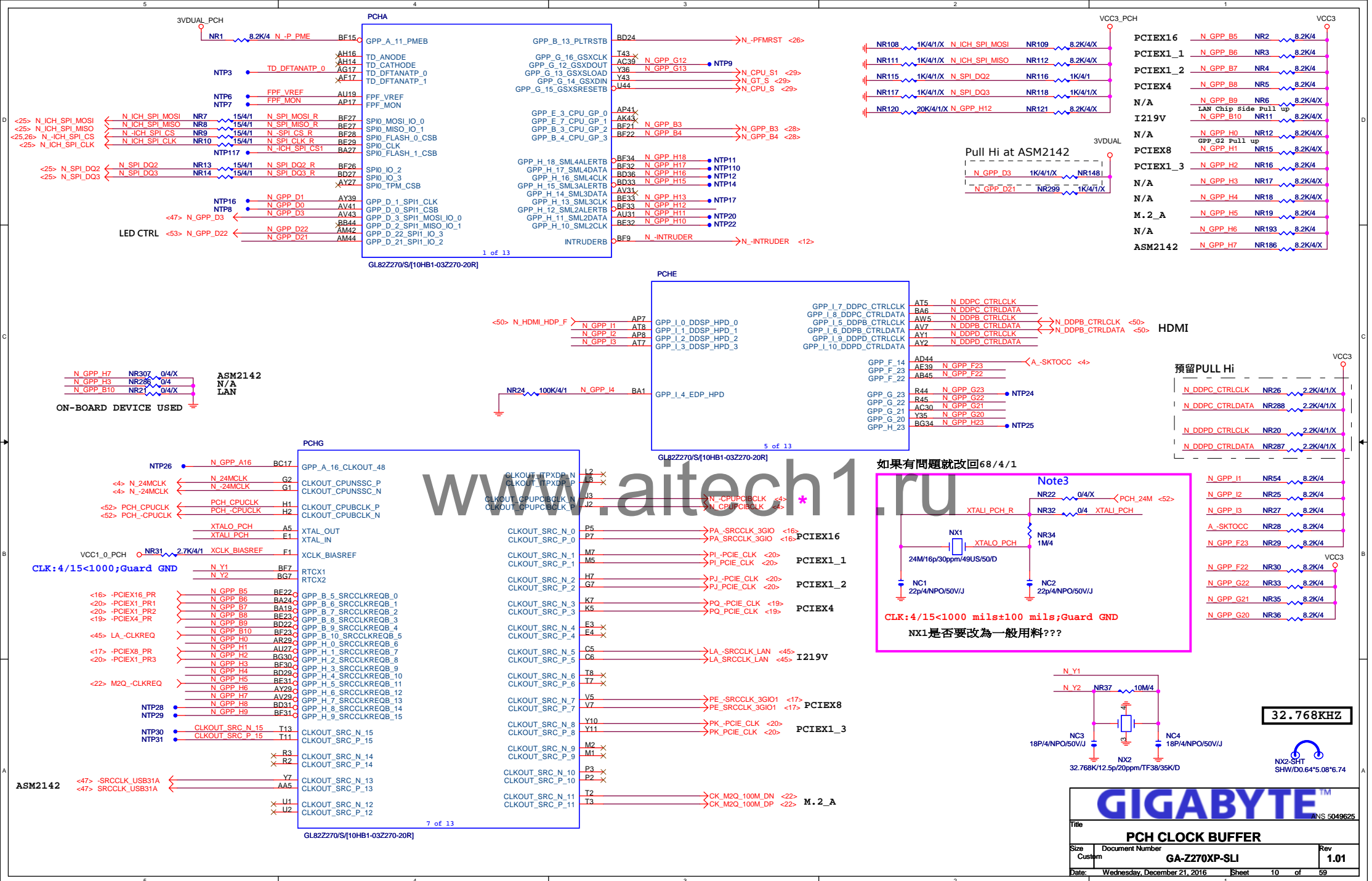
* 刪 WBC124, WBC125, WBC126, WBC127 電容

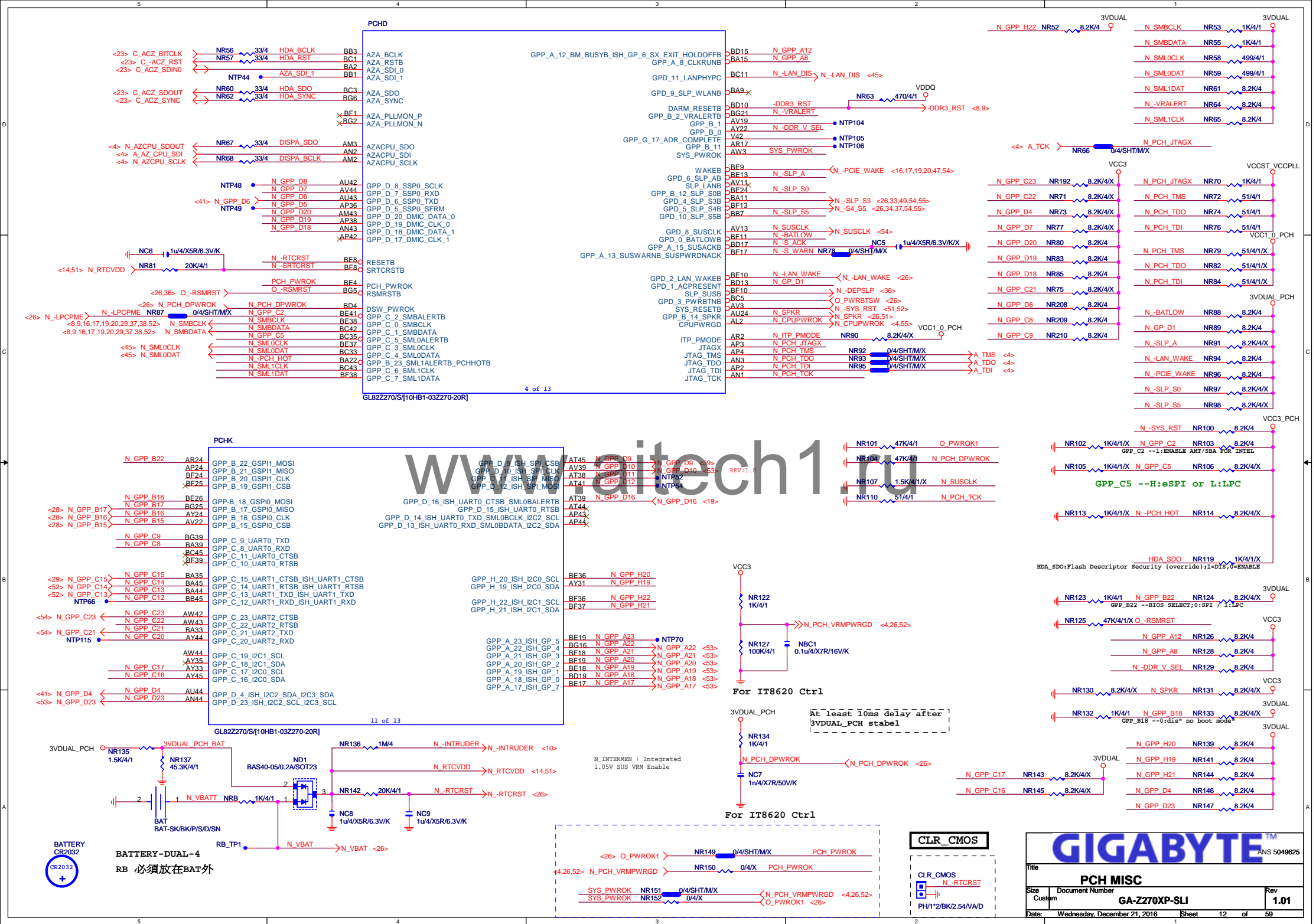
CPU POWER

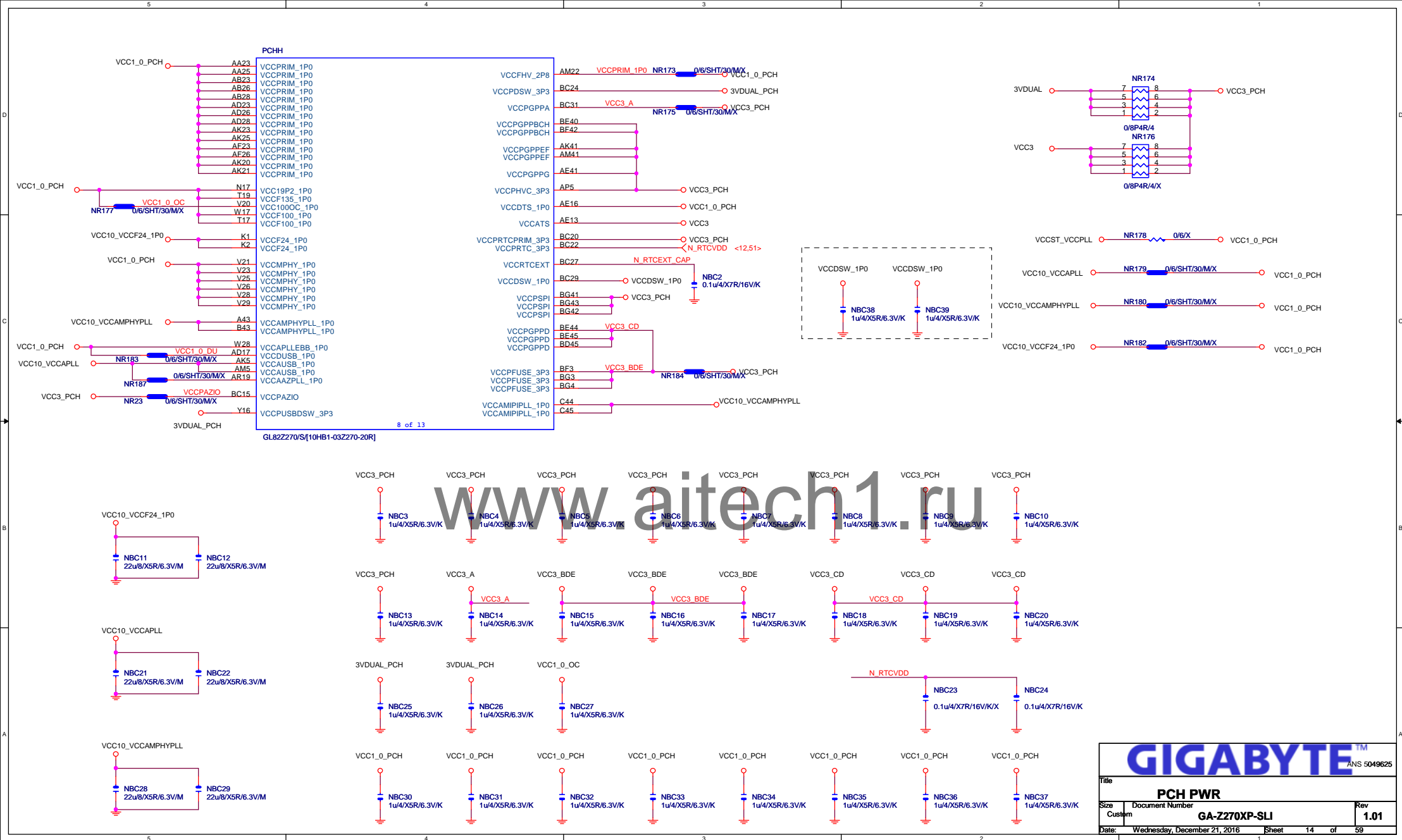


* 刪 VCCGT 電容









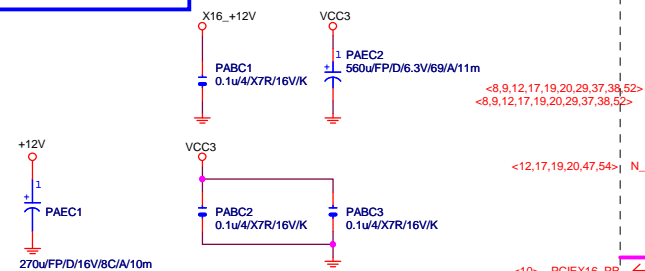
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| A25 | VSS | A42 |
| A30 | VSS | D45 |
| P22 | VSS | BG44 |
| AV38 | VSS | BE44 |
| AV45 | VSS | BF43 |
| AV8 | VSS | BF2 |
| AY11 | VSS | W29 |
| AY19 | VSS | A35 |
| AY37 | VSS | BG23 |
| AY4 | VSS | A40 |
| AY42 | VSS | AA1 |
| AY8 | VSS | AA17 |
| B25 | VSS | AA18 |
| B3 | VSS | AA20 |
| B30 | VSS | C1 |
| B35 | VSS | AA26 |
| B4 | VSS | AA28 |
| B41 | VSS | AA29 |
| BA13 | VSS | AB17 |
| BA17 | VSS | AC32 |
| BA37 | VSS | AE4 |
| BA29 | VSS | AE8 |
| BA31 | VSS | AF18 |
| BA37 | VSS | AF20 |
| BA4 | VSS | AF21 |
| BA42 | VSS | AF25 |
| B840 | VSS | AF28 |
| BC38 | VSS | AF29 |
| BC40 | VSS | AF4 |
| BC9 | VSS | AF42 |
| BD11 | VSS | AG18 |
| BD16 | VSS | AG20 |
| BD2 | VSS | AG21 |
| BD21 | VSS | AG23 |
| BD25 | VSS | AG25 |
| F2 | VSS | AG26 |
| F31 | VSS | AG28 |
| E6 | VSS | AG28 |
| E8 | VSS | AH11 |
| F39 | VSS | AH13 |
| F43 | VSS | AH30 |
| G4 | VSS | AH32 |
| G40 | VSS | AH33 |
| G42 | VSS | AH38 |
| F6 | VSS | AJ1 |
| G9 | VSS | AJ17 |
| H11 | VSS | AJ18 |
| H13 | VSS | AJ20 |
| H17 | VSS | AJ21 |
| H19 | VSS | AJ23 |
| H22 | VSS | AJ26 |
| H24 | VSS | AJ26 |
| H27 | VSS | AJ28 |
| H29 | VSS | AJ29 |
| H33 | VSS | AJ45 |
| H35 | VSS | AK10 |
| H38 | VSS | AK14 |
| H4 | VSS | AK16 |
| H42 | VSS | AK17 |
| H9 | VSS | AK18 |
| J4 | VSS | AK26 |
| M36 | VSS | AK28 |
| M4 | VSS | AM14 |
| M8 | VSS | AN14 |
| M9 | VSS | AP19 |
| N13 | VSS | AR22 |
| N15 | VSS | AR27 |
| N19 | VSS | AU29 |
| N22 | VSS | AU33 |
| N24 | VSS | AV1 |
| N31 | VSS | AV10 |
| N42 | VSS | AV15 |
| P10 | VSS | AV24 |
| P12 | VSS | AV27 |
| AV35 | VSS | AV33 |

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GL82Z270/S(10HB1-03Z270-20R)

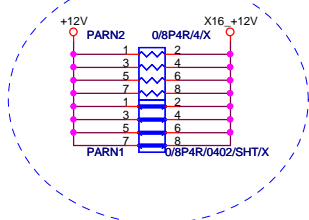
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| BE2 | VSS[73] | AB25 |
| BF43 | VSS[74] | AB29 |
| BF5 | VSS[75] | AB4 |
| BG18 | VSS[76] | AB42 |
| BG23 | VSS[77] | AC10 |
| BG28 | VSS[78] | AC11 |
| BG32 | VSS[79] | AC14 |
| BG37 | VSS[80] | AC16 |
| BG40 | VSS[81] | AC38 |
| BG9 | VSS[83] | AC4 |
| C1 | VSS[84] | AC4 |
| A12 | VSS[85] | AC7 |
| C2 | VSS[86] | AC8 |
| C37 | VSS[87] | AD1 |
| A6 | VSS[88] | AD18 |
| C9 | VSS[89] | AD20 |
| D1 | VSS[90] | AD21 |
| D10 | VSS[91] | AD25 |
| D12 | VSS[92] | AD29 |
| D15 | VSS[93] | AD45 |
| D16 | VSS[94] | AE11 |
| B12 | VSS[95] | AE14 |
| D19 | VSS[96] | AE32 |
| D21 | VSS[97] | AE33 |
| D24 | VSS[98] | AK38 |
| D25 | VSS[99] | AK39 |
| D29 | VSS[100] | AK30 |
| D30 | VSS[101] | AK32 |
| D33 | VSS[102] | AK32 |
| D35 | VSS[103] | AK35 |
| D36 | VSS[104] | AK39 |
| D39 | VSS[105] | AL4 |
| D44 | VSS[106] | AL42 |
| D7 | VSS[107] | AM10 |
| P13 | VSS[108] | AM11 |
| P15 | VSS[109] | AM13 |
| P17 | VSS[110] | AM17 |
| P19 | VSS[111] | AM40 |
| P31 | VSS[112] | AM24 |
| P33 | VSS[113] | AM27 |
| P35 | VSS[114] | AM29 |
| P4 | VSS[115] | AM32 |
| P42 | VSS[116] | AM33 |
| P8 | VSS[117] | AM4 |
| R1 | VSS[118] | AN45 |
| R32 | VSS[119] | AP10 |
| T10 | VSS[120] | AP11 |
| T14 | VSS[121] | AP13 |
| T22 | VSS[122] | AP15 |
| T29 | VSS[123] | AP22 |
| T32 | VSS[124] | AP27 |
| T36 | VSS[125] | AP31 |
| T38 | VSS[126] | AP33 |
| Y38 | VSS[127] | AP34 |
| Y4 | VSS[128] | AP39 |
| Y8 | VSS[129] | AP39 |
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| T5 | VSS[131] | Y16 |
| U4 | VSS[132] | Y17 |
| U42 | VSS[133] | Y18 |
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| V14 | VSS[135] | V32 |
| W3 | VSS[136] | V33 |
| AR13 | VSS[137] | V38 |
| AR31 | VSS[138] | V4 |
| AR33 | VSS[139] | V8 |
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| AT42 | VSS[145] | W25 |
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| AU17 | VSS[147] | W25 |
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Rev 0.3

PCIEX16 CAP



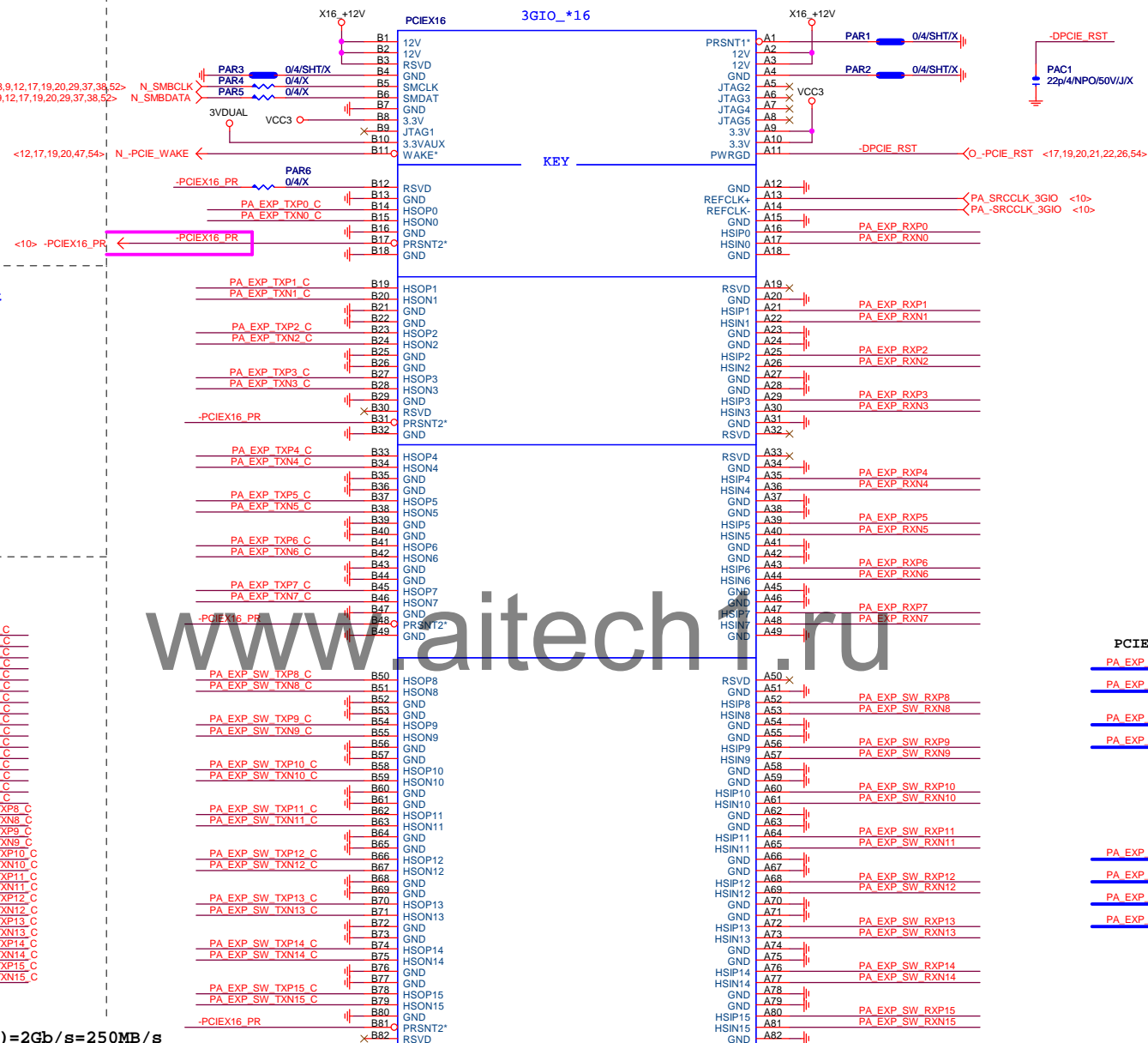
PCIEX16 PROTECT SHT

+12 protect
short-wire test

PCIEX16 AC CAP

| | | | |
|-----------------|-------|-------------------|-------------------|
| PA EXP TXP0 | PAC5 | 0.22u/4X5R/6.3V/K | PA EXP TXP0 C |
| PA EXP TXN0 | PAC4 | 0.22u/4X5R/6.3V/K | PA EXP TXN0 C |
| PA EXP TXP1 | PAC6 | 0.22u/4X5R/6.3V/K | PA EXP TXP1 C |
| PA EXP TXN1 | PAC7 | 0.22u/4X5R/6.3V/K | PA EXP TXN1 C |
| PA EXP TXP2 | PAC8 | 0.22u/4X5R/6.3V/K | PA EXP TXP2 C |
| PA EXP TXN2 | PAC9 | 0.22u/4X5R/6.3V/K | PA EXP TXN2 C |
| PA EXP TXP3 | PAC10 | 0.22u/4X5R/6.3V/K | PA EXP TXP3 C |
| PA EXP TXN3 | PAC11 | 0.22u/4X5R/6.3V/K | PA EXP TXN3 C |
| PA EXP TXP4 | PAC12 | 0.22u/4X5R/6.3V/K | PA EXP TXP4 C |
| PA EXP TXN4 | PAC13 | 0.22u/4X5R/6.3V/K | PA EXP TXN4 C |
| PA EXP TXP5 | PAC14 | 0.22u/4X5R/6.3V/K | PA EXP TXP5 C |
| PA EXP TXN5 | PAC15 | 0.22u/4X5R/6.3V/K | PA EXP TXN5 C |
| PA EXP TXP6 | PAC16 | 0.22u/4X5R/6.3V/K | PA EXP TXP6 C |
| PA EXP TXN6 | PAC17 | 0.22u/4X5R/6.3V/K | PA EXP TXN6 C |
| PA EXP TXP7 | PAC18 | 0.22u/4X5R/6.3V/K | PA EXP TXP7 C |
| PA EXP TXN7 | PAC19 | 0.22u/4X5R/6.3V/K | PA EXP TXN7 C |
| PA EXP SW TXP8 | PAC21 | 0.22u/4X5R/6.3V/K | PA EXP SW TXP8 C |
| PA EXP SW TXN8 | PAC20 | 0.22u/4X5R/6.3V/K | PA EXP SW TXN8 C |
| PA EXP SW TXP9 | PAC22 | 0.22u/4X5R/6.3V/K | PA EXP SW TXP9 C |
| PA EXP SW TXN9 | PAC23 | 0.22u/4X5R/6.3V/K | PA EXP SW TXN9 C |
| PA EXP SW TXP10 | PAC24 | 0.22u/4X5R/6.3V/K | PA EXP SW TXP10 C |
| PA EXP SW TXN10 | PAC25 | 0.22u/4X5R/6.3V/K | PA EXP SW TXN10 C |
| PA EXP SW TXP11 | PAC26 | 0.22u/4X5R/6.3V/K | PA EXP SW TXP11 C |
| PA EXP SW TXN11 | PAC27 | 0.22u/4X5R/6.3V/K | PA EXP SW TXN11 C |
| PA EXP SW TXP12 | PAC28 | 0.22u/4X5R/6.3V/K | PA EXP SW TXP12 C |
| PA EXP SW TXN12 | PAC29 | 0.22u/4X5R/6.3V/K | PA EXP SW TXN12 C |
| PA EXP SW TXP13 | PAC30 | 0.22u/4X5R/6.3V/K | PA EXP SW TXP13 C |
| PA EXP SW TXN13 | PAC31 | 0.22u/4X5R/6.3V/K | PA EXP SW TXN13 C |
| PA EXP SW TXP14 | PAC32 | 0.22u/4X5R/6.3V/K | PA EXP SW TXP14 C |
| PA EXP SW TXN14 | PAC33 | 0.22u/4X5R/6.3V/K | PA EXP SW TXN14 C |
| PA EXP SW TXP15 | PAC34 | 0.22u/4X5R/6.3V/K | PA EXP SW TXP15 C |
| PA EXP SW TXN15 | PAC35 | 0.22u/4X5R/6.3V/K | PA EXP SW TXN15 C |

PCIEX16 SLOT



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

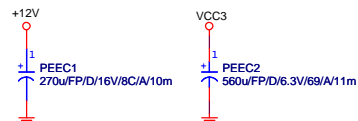
黑色

PCIEX16:16/5/5/5/16

| | | |
|----------------------|------------------------|------|
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| PA EXP RXN[0..7] | >>PA_EXP_RXN[0..7] | << |
| PA EXP TXP[0..7] | >>PA_EXP_TXP[0..7] | << |
| PA EXP TXN[0..7] | >>PA_EXP_TXN[0..7] | << |
| PA EXP SW RXP[8..15] | >>PA_EXP_SW_RXP[8..15] | <18> |
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| PA EXP SW TXP[8..15] | >>PA_EXP_SW_TXP[8..15] | <18> |
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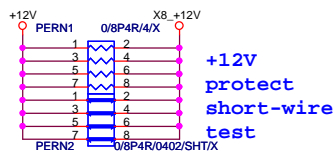
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| Size Custom | Document Number GA-Z270XP-SLI | Rev 1.01 |
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Rev 0.3



<8,9,12,16,19,20,29,37,38,52> N_SMBCLK
<8,9,12,16,19,20,29,37,38,52> N_SMBDATA

PCIEX8 PROTECT SHT



<12,16,19,20,47,54> N_-PCIE_WAKE

PER11 0/4/X

PE EXP SW TXP8 C

PE EXP SW TXN8 C

PE EXP SW TXP9 C

PE EXP SW TXN9 C

PE EXP SW TXP10 C

PE EXP SW TXN10 C

PE EXP SW TXP11 C

PE EXP SW TXN11 C

PE EXP SW TXP12 C

PE EXP SW TXN12 C

PE EXP SW TXP13 C

PE EXP SW TXN13 C

PE EXP SW TXP14 C

PE EXP SW TXN14 C

PE EXP SW TXP15 C

PE EXP SW TXN15 C

+12V

PEBC5
0.1u4/X7R/16V/K

3VDUAL

PEBC6
1u4/X5R/6.3V/K

VCC3

PEBC7
0.1u4/X7R/16V/K

PEBC8
0.1u4/X7R/16V/K/X

<18> PE_16_8_SW

<4> -8X_EN

BAT54C/SOT23/200mA

<13> N_GPP_G2

Pull up @PCH Side

<10> -PCIE8_PR PER10 0/4/SHT/X

PCIESLOT-988TH

3GIO_*8

KEY

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

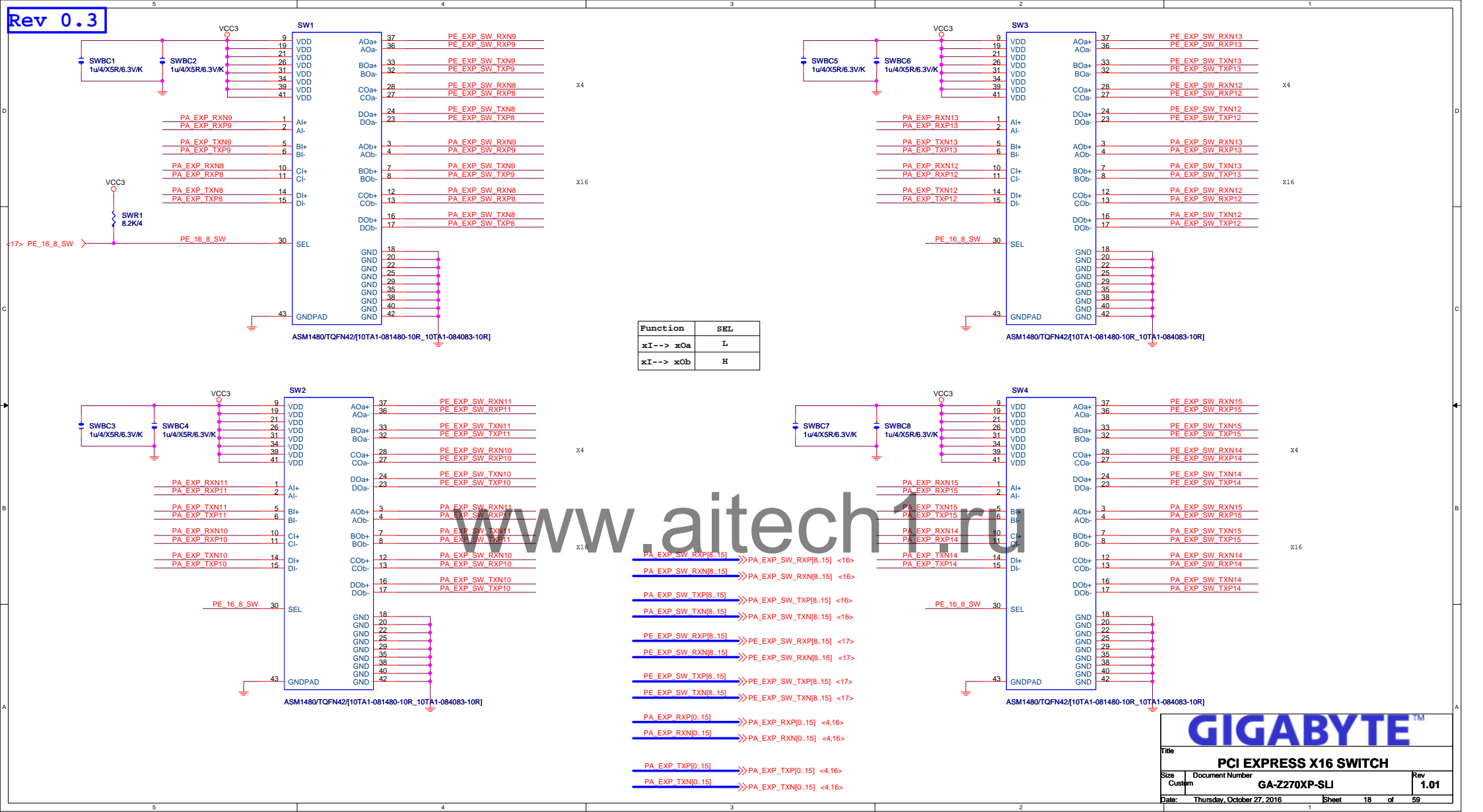
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| | | | |
|-----------------|-------|-------------------|-------------------|
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| PE EXP SW TXN8 | PEC8 | 0.22u4/X5R/6.3V/K | PE EXP SW TXN8 C |
| PE EXP SW TXP9 | PEC9 | 0.22u4/X5R/6.3V/K | PE EXP SW TXP9 C |
| PE EXP SW TXN9 | PEC10 | 0.22u4/X5R/6.3V/K | PE EXP SW TXN9 C |
| PE EXP SW TXP10 | PEC11 | 0.22u4/X5R/6.3V/K | PE EXP SW TXP10 C |
| PE EXP SW TXN10 | PEC12 | 0.22u4/X5R/6.3V/K | PE EXP SW TXN10 C |
| PE EXP SW TXP11 | PEC13 | 0.22u4/X5R/6.3V/K | PE EXP SW TXP11 C |
| PE EXP SW TXN11 | PEC14 | 0.22u4/X5R/6.3V/K | PE EXP SW TXN11 C |
| PE EXP SW TXP12 | PEC15 | 0.22u4/X5R/6.3V/K | PE EXP SW TXP12 C |
| PE EXP SW TXN12 | PEC16 | 0.22u4/X5R/6.3V/K | PE EXP SW TXN12 C |
| PE EXP SW TXP13 | PEC17 | 0.22u4/X5R/6.3V/K | PE EXP SW TXP13 C |
| PE EXP SW TXN13 | PEC18 | 0.22u4/X5R/6.3V/K | PE EXP SW TXN13 C |
| PE EXP SW TXP14 | PEC19 | 0.22u4/X5R/6.3V/K | PE EXP SW TXP14 C |
| PE EXP SW TXN14 | PEC20 | 0.22u4/X5R/6.3V/K | PE EXP SW TXN14 C |
| PE EXP SW TXP15 | PEC21 | 0.22u4/X5R/6.3V/K | PE EXP SW TXP15 C |
| PE EXP SW TXN15 | PEC22 | 0.22u4/X5R/6.3V/K | PE EXP SW TXN15 C |

PE EXP SW RXP[8..15] >>> PE_EXP_SW_RXP[8..15] <18>
PE EXP SW RXN[8..15] >>> PE_EXP_SW_RXN[8..15] <18>
PE EXP SW TXP[8..15] >>> PE_EXP_SW_TXP[8..15] <18>
PE EXP SW TXN[8..15] >>> PE_EXP_SW_TXN[8..15] <18>

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| | | | |
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| Size | Document Number | Rev | |
| Custom | GA-Z270XP-SLI | 1.01 | |
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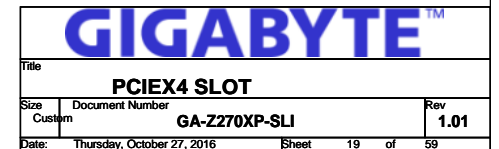
GIGABYTE™

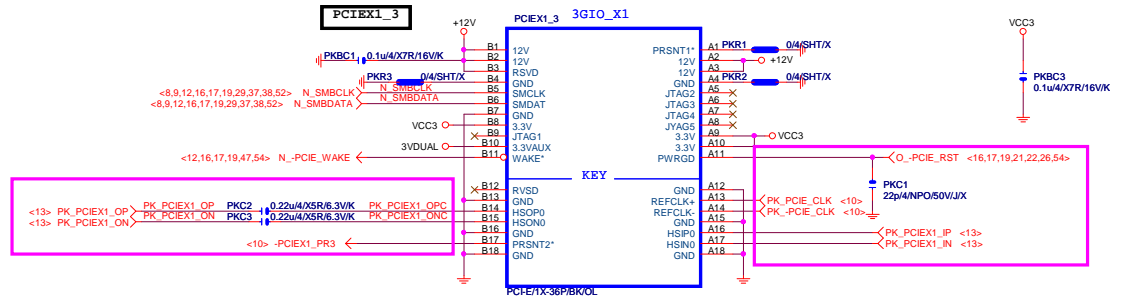
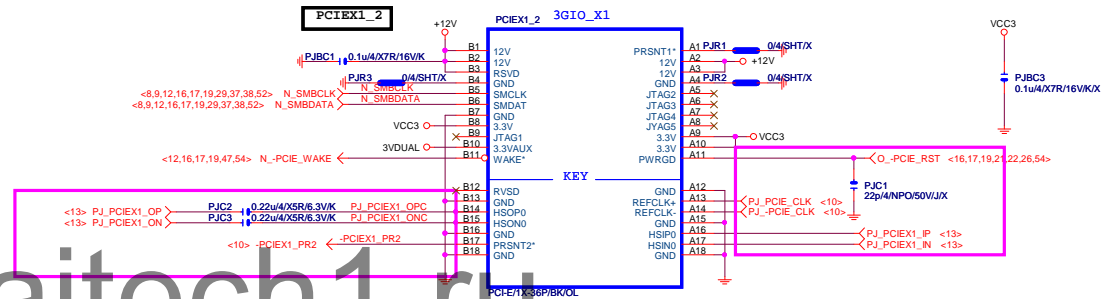
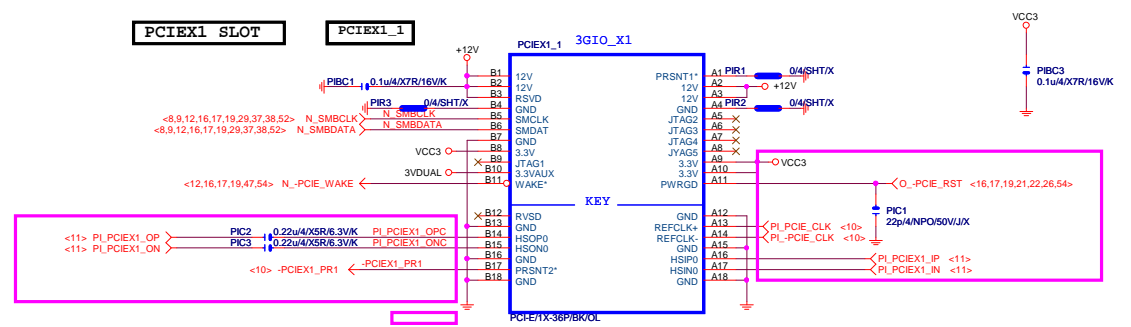
PCI EXPRESS X16 SWITCH

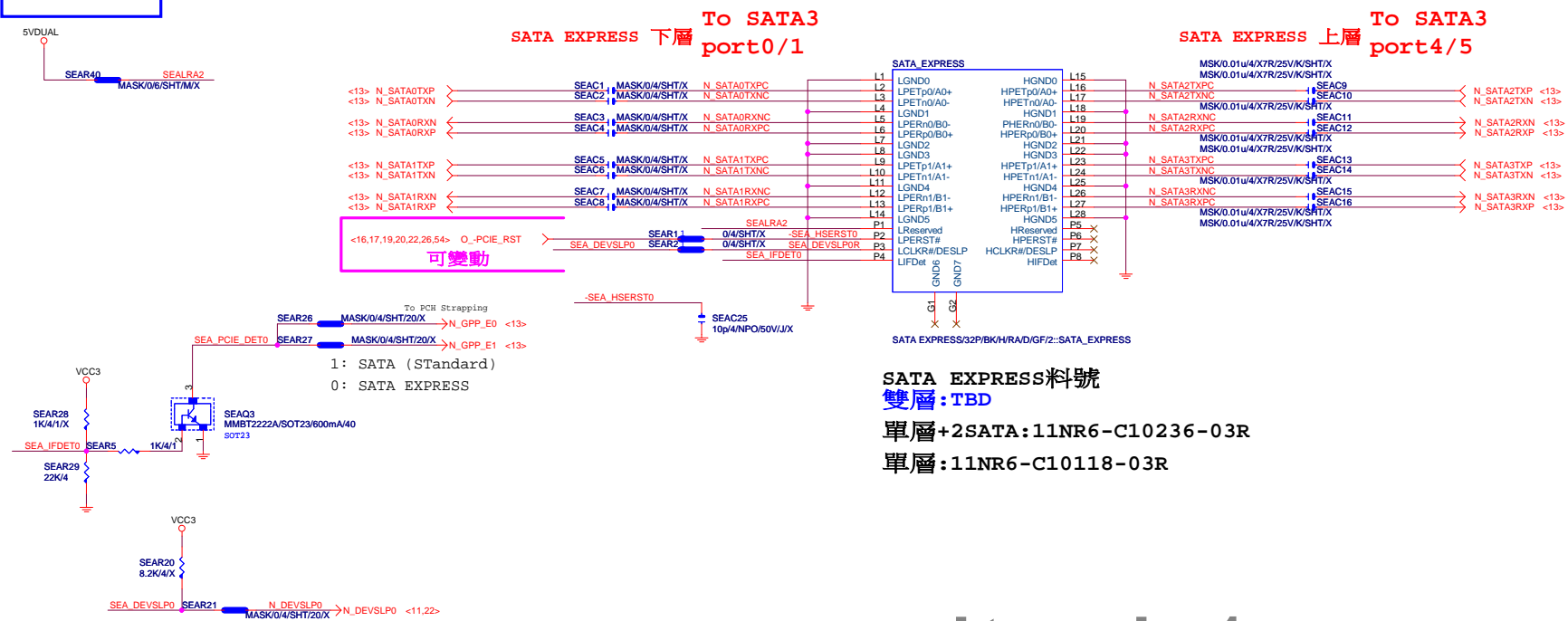
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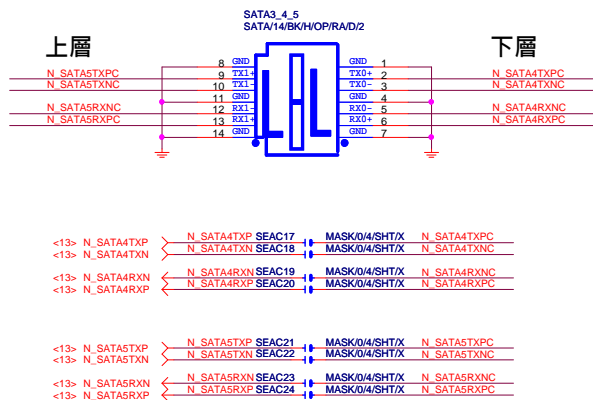
3GIO_*4







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Rev 0.6

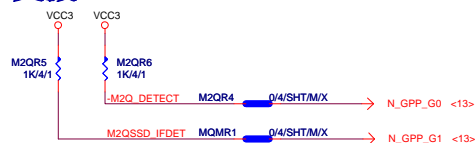
M.2 Lane4 from PCH port18

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



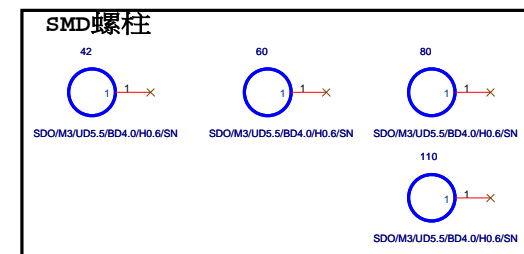
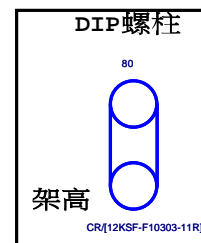
需與M2_-CLKREQ對應



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 | |

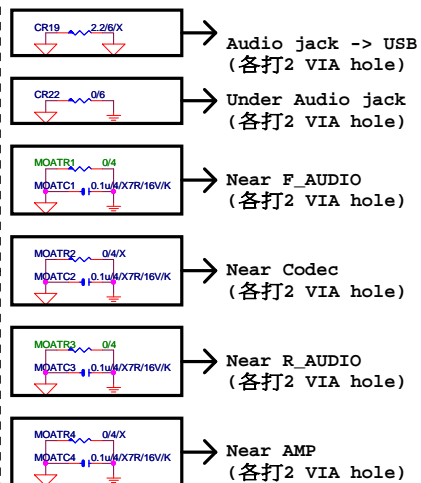
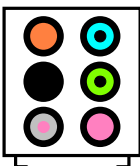
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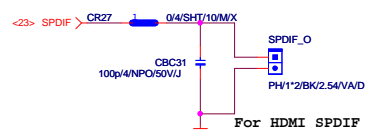
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Rev 0.54

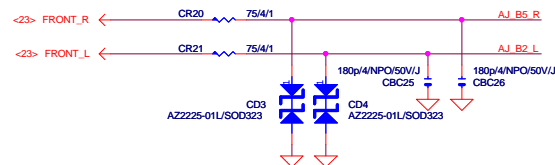
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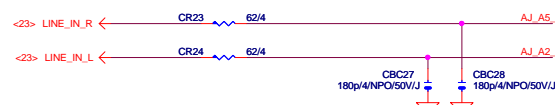
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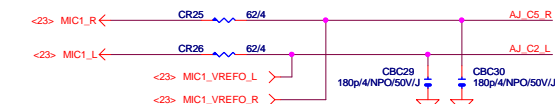
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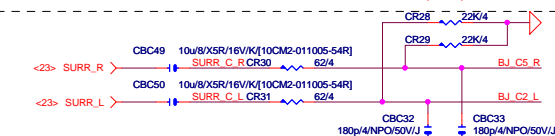
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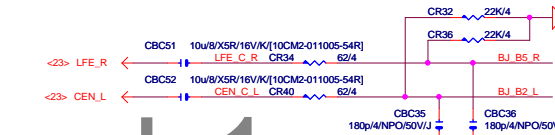
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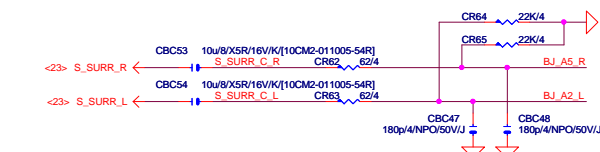
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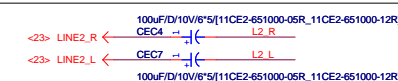
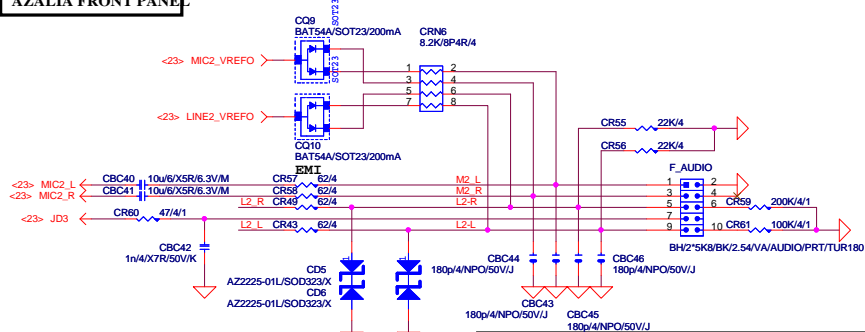
CEN/LFE



SURR BACK



AZALIA FRONT PANE



GIGABYTE™

AUDIO JACK

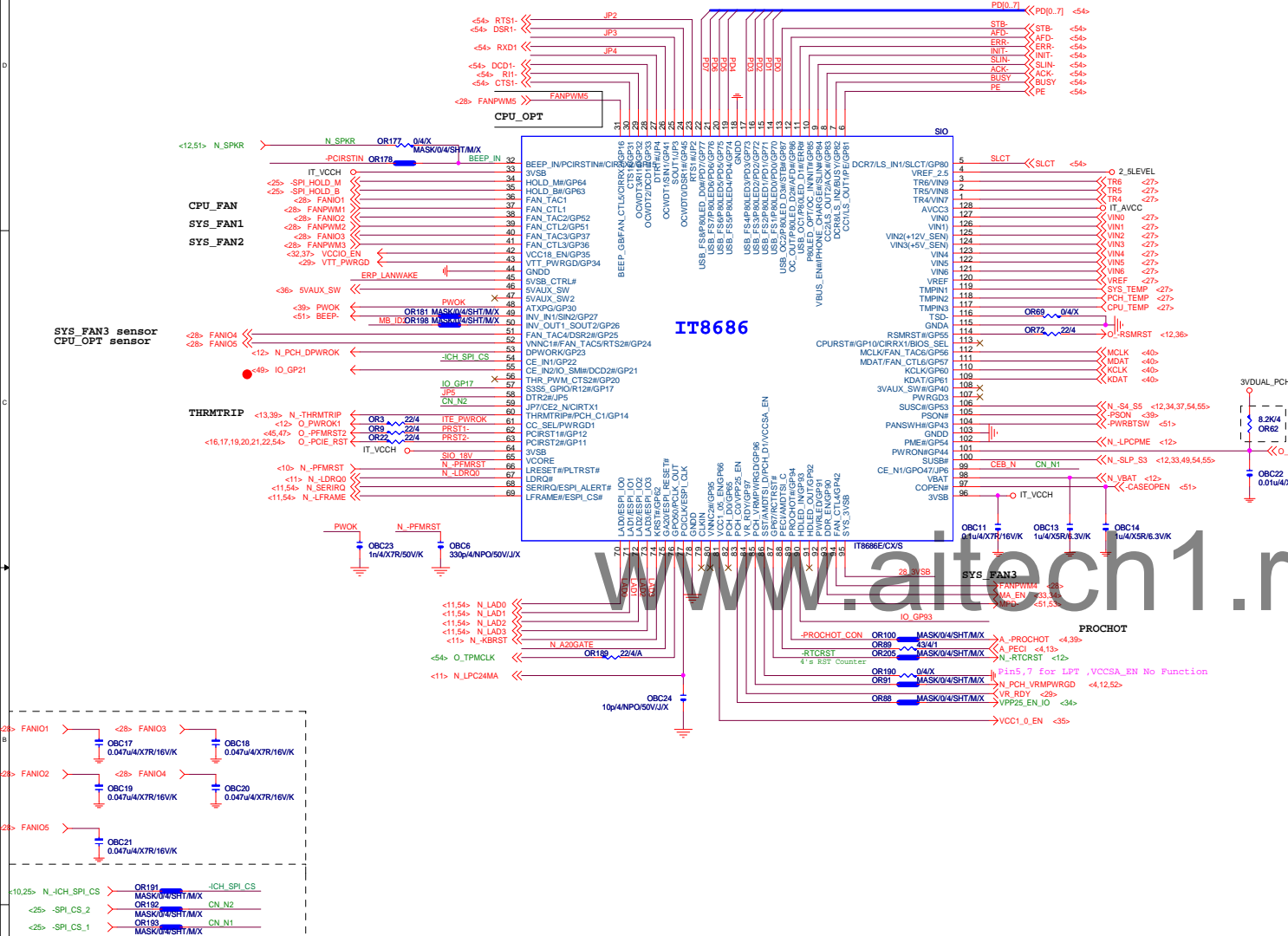
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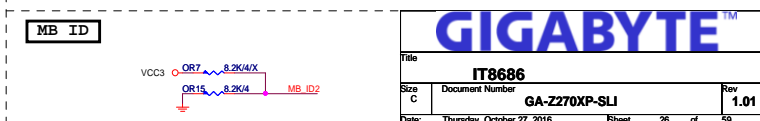
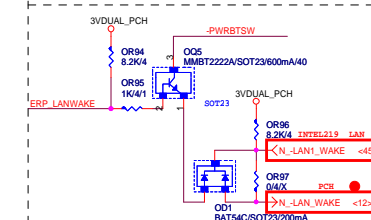
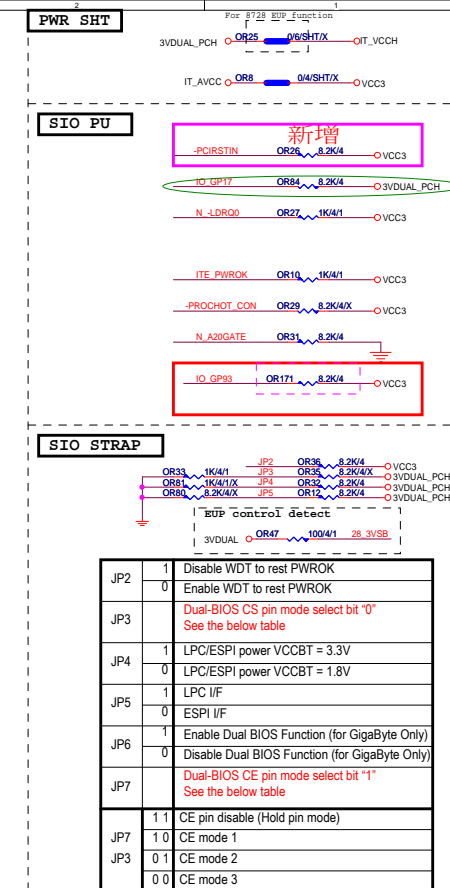
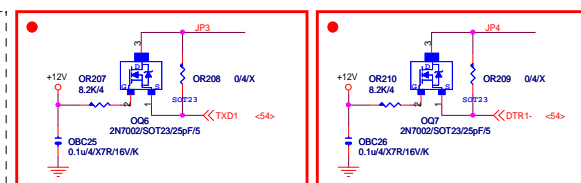
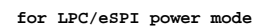
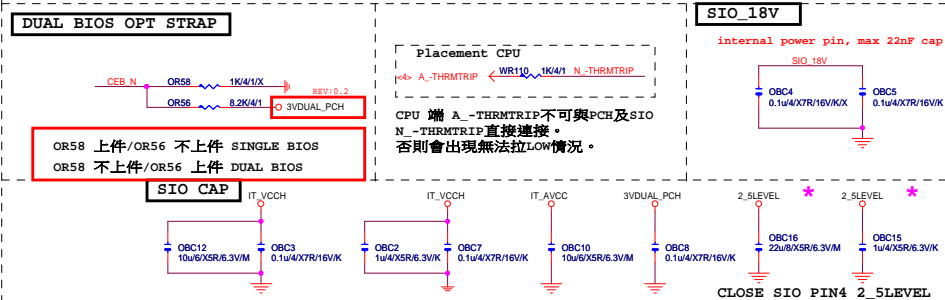
MOSI For DMI RX Termination Voltage



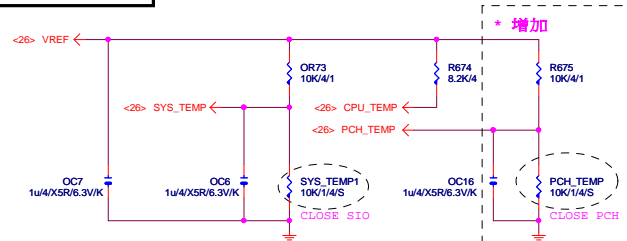
* 試産先上 , PVT 移除



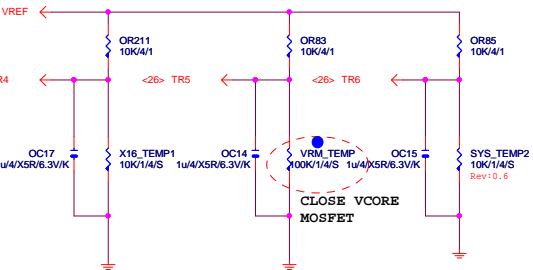
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| CPU_FAN | FAN_CTL1 FAN_TAC1 |
| SYS_FAN1 | FAN_CTL2 FAN_TAC2 |
| SYS_FAN2 | FAN_CTL3 FAN_TAC3 |
| SYS_FAN3 | FAN_CTL4 FAN_TAC4 |
| OPT_FAN OR SYS_FAN4 | FAN_CTL5 FAN_TAC5 |
| THRMTRIP | PIN56 |
| PROCHOT | PIN89 |



TEMP H/W MONITOR



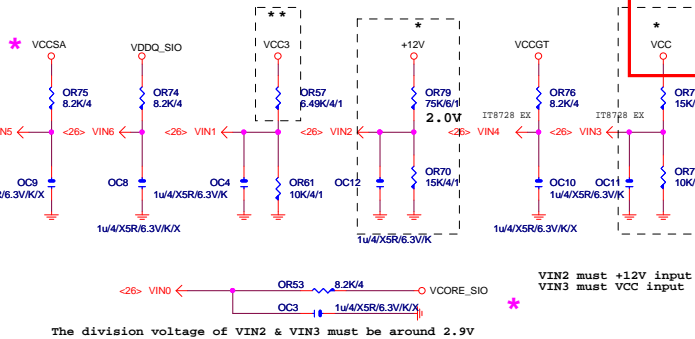
5個FAN時使用



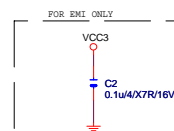
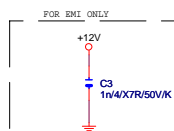
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VOLTAGE-- H/W MONITOR

* IT8728 BX
** IT8728 CX

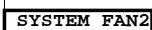
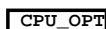


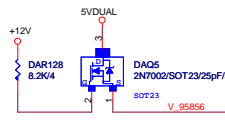
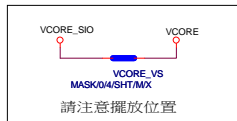
(靠近ATX CONNECTOR)



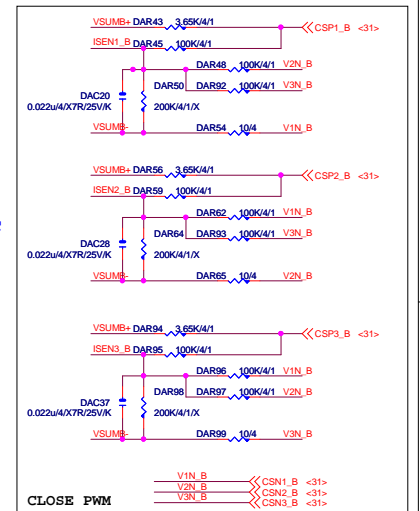
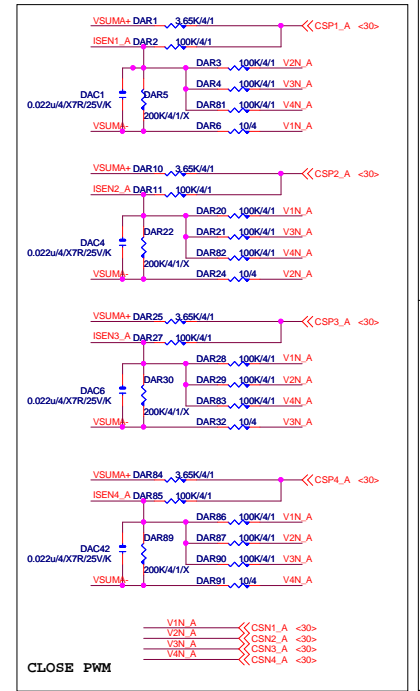
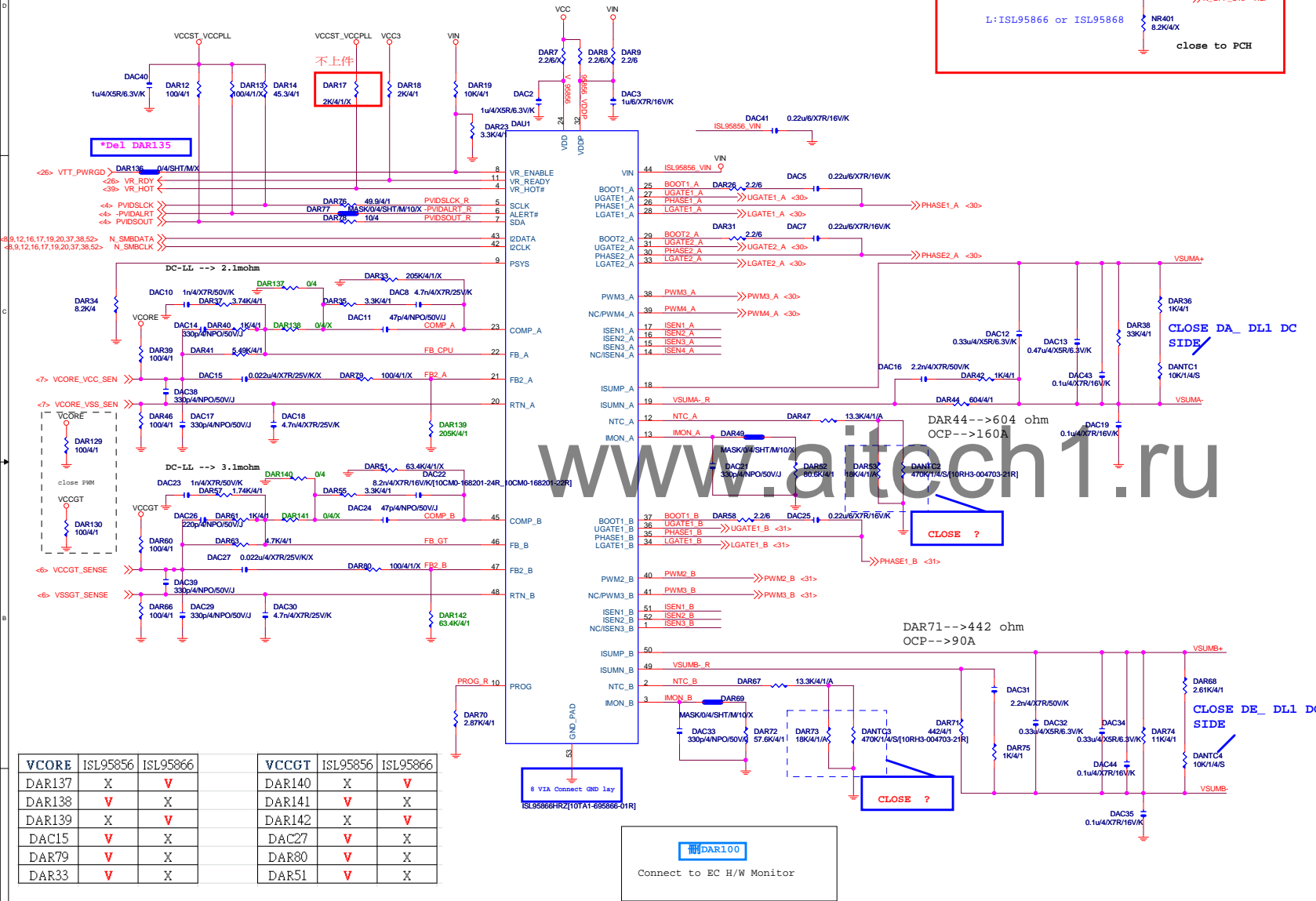
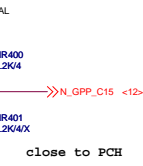
★Update 2015-04.24

| GIGABYTE™ | | | |
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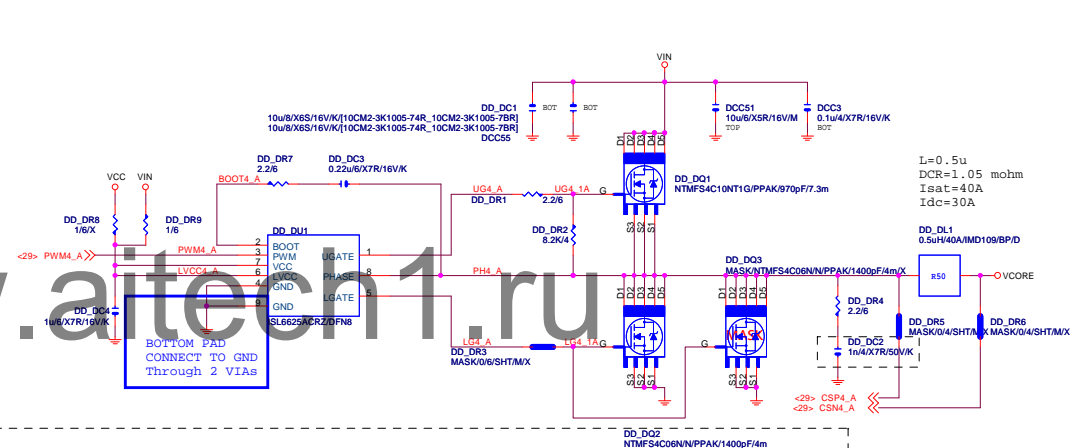
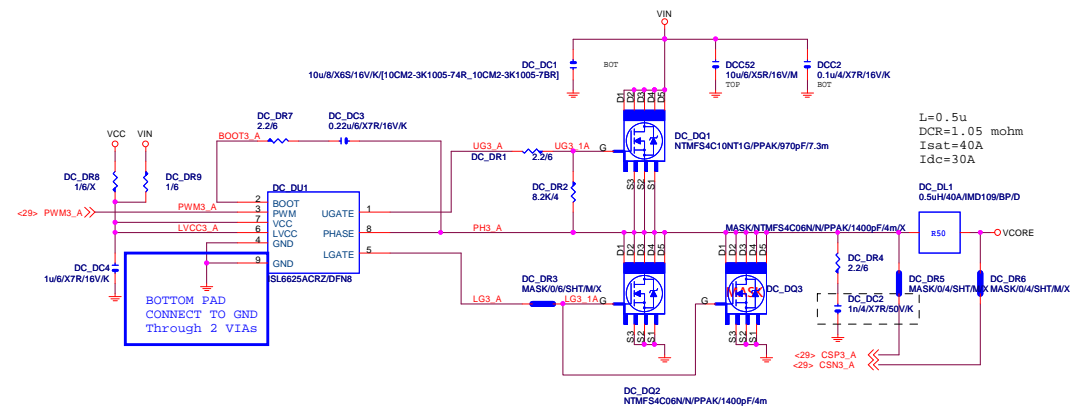
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L: ISL95866 or ISL95868



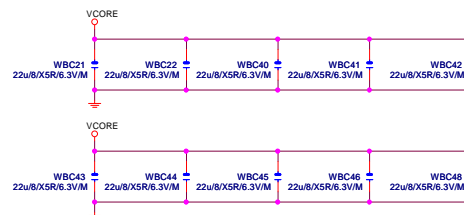
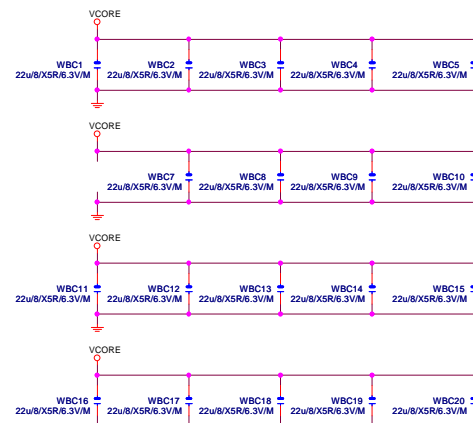
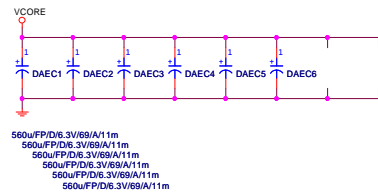
DAR131 for DC-LL
change to 0.4m ohm

Z系列才需要留
連接至PCH GPP_G13

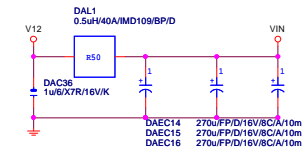
GIGABYTE



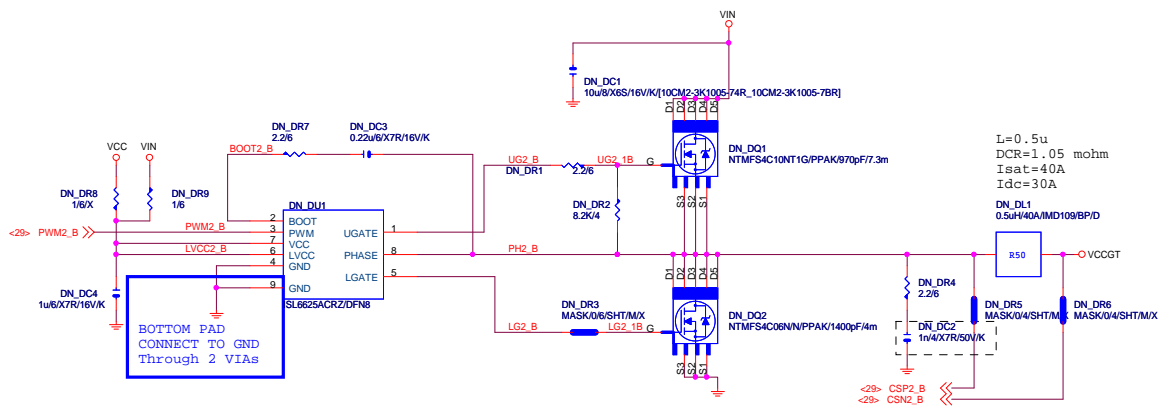
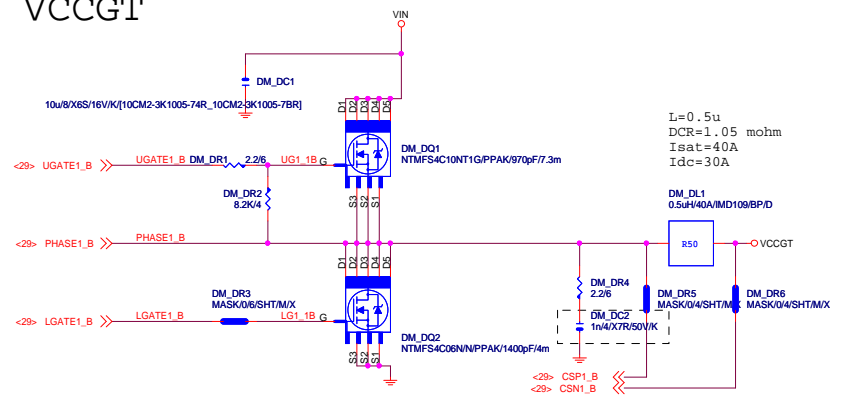
| | | |
|-------|-----|-----------|
| VCORE | CAP | 560u*8PCS |
| | | 22u*29PCS |



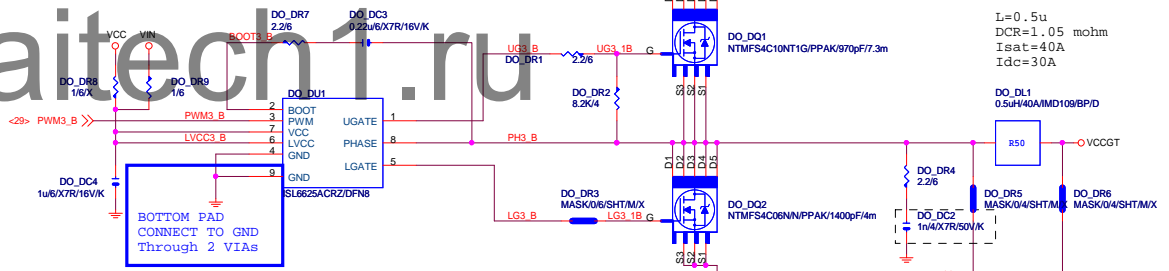
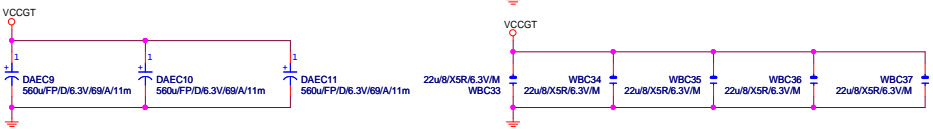
| | | |
|-----|-----|-----------|
| VIN | CAP | 270u*3PCS |
|-----|-----|-----------|



VCCGT



VCCGT CAP 560u*5PCS
22u*15PCS



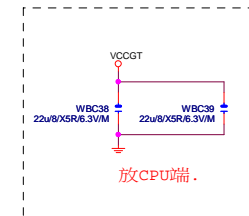
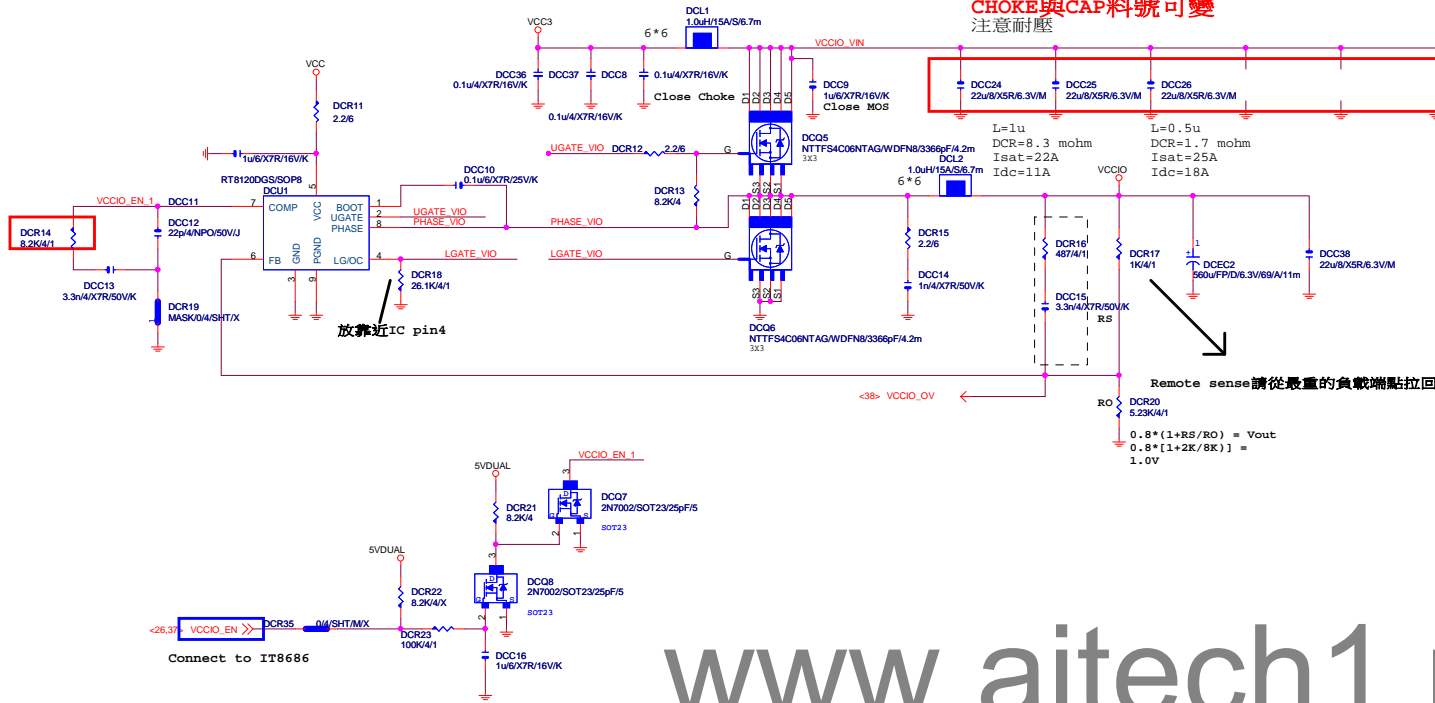
| | | |
|--------------|----------------------------|----------------|
| Title | | |
| ISL95866_MOS | | |
| Size | Document Number | Rev |
| Custm | GA-Z270XP-SLI | 1.01 |
| Date: | Thursday, October 27, 2016 | Sheet 31 of 59 |

VCCIO

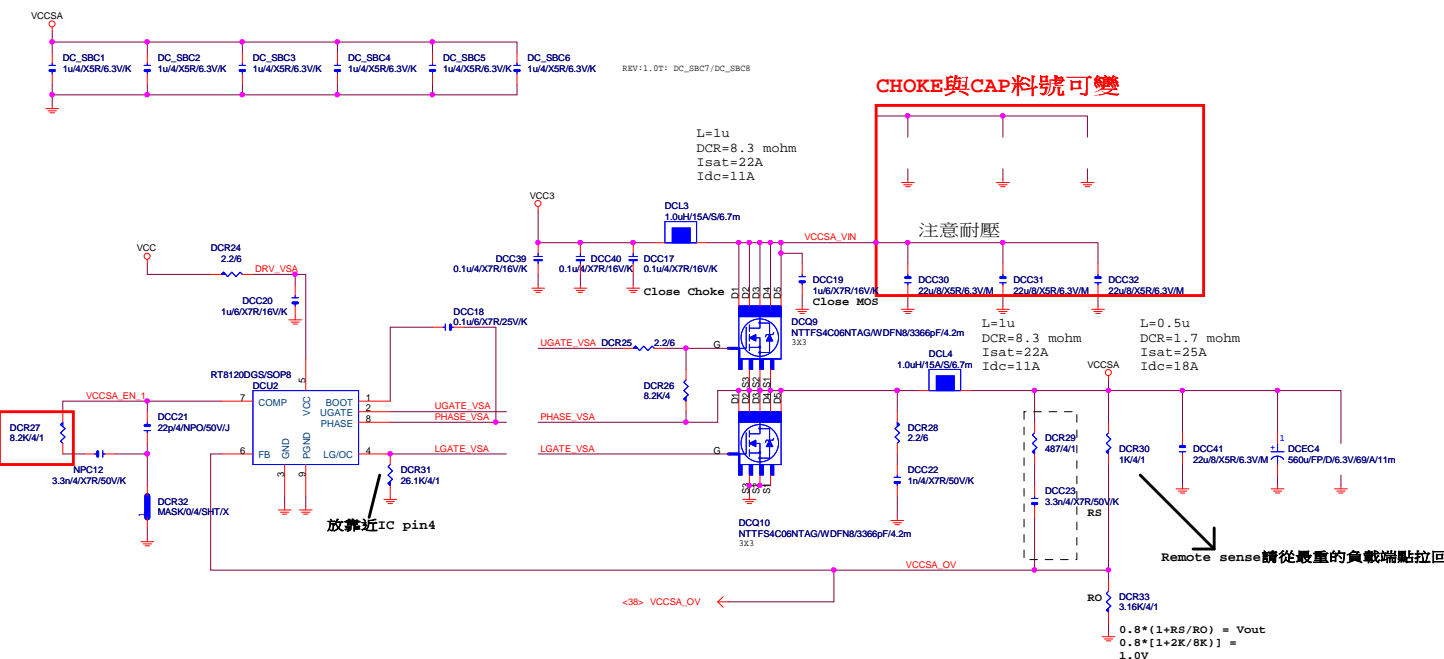
REV:0.21

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

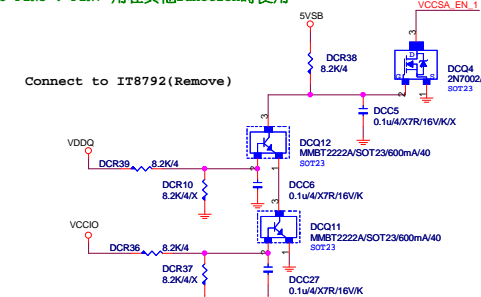
CHOKE與CAP料號可變
注意耐壓



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SIO PIN5 . PIN7 用在其他function時使用



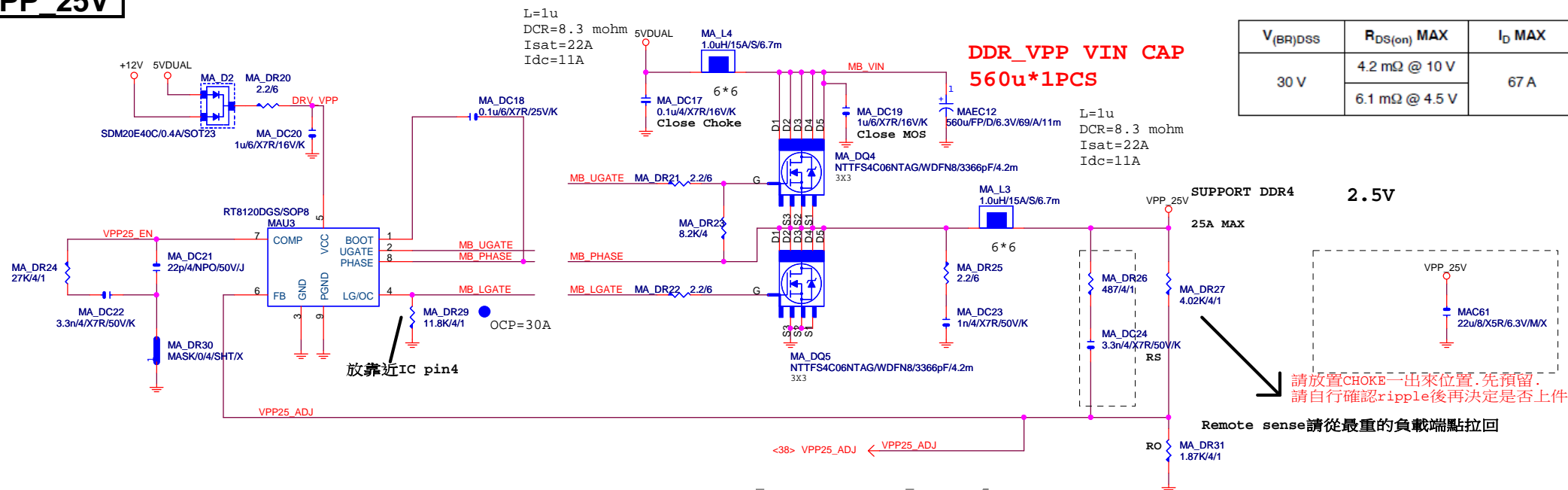
GIGABYTE™

| | | | |
|--------|----------------------------|-------|----------|
| File | VCCIO_VCCSA | Rev | 1.01 |
| Size | Document Number | | |
| Custom | GA-Z270XP-SLI | | |
| Date | Thursday, October 27, 2016 | Sheet | 32 of 58 |

VPP 25V

DDR_VPP VIN CAP
560u*1PCS

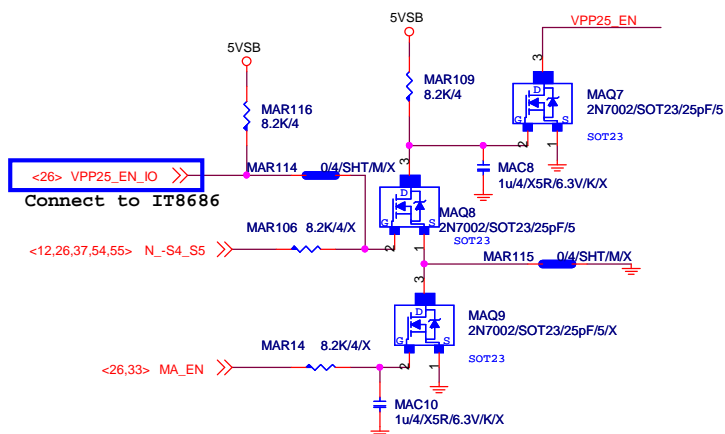
| $V_{(BR)DSS}$ | $R_{DS(on)} \text{ MAX}$ | $I_D \text{ MAX}$ |
|---------------|--------------------------|-------------------|
| 30 V | 4.2 mΩ @ 10 V | 67 A |
| | 6.1 mΩ @ 4.5 V | |



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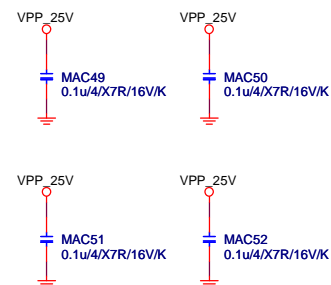
PWR SEQ

*  MA_DR32



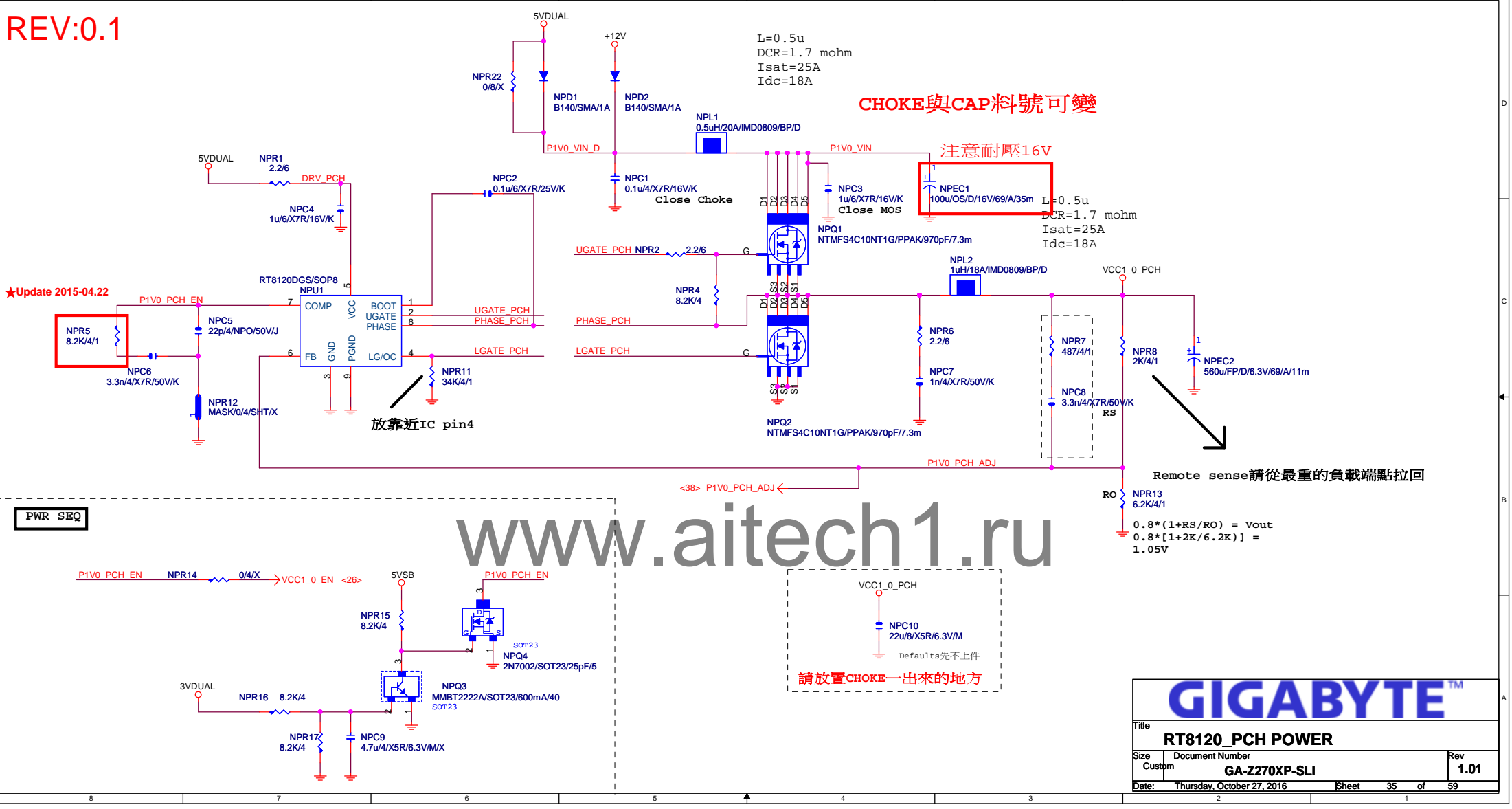
VPP CAP 560u*1PCS

* 大電容 x1

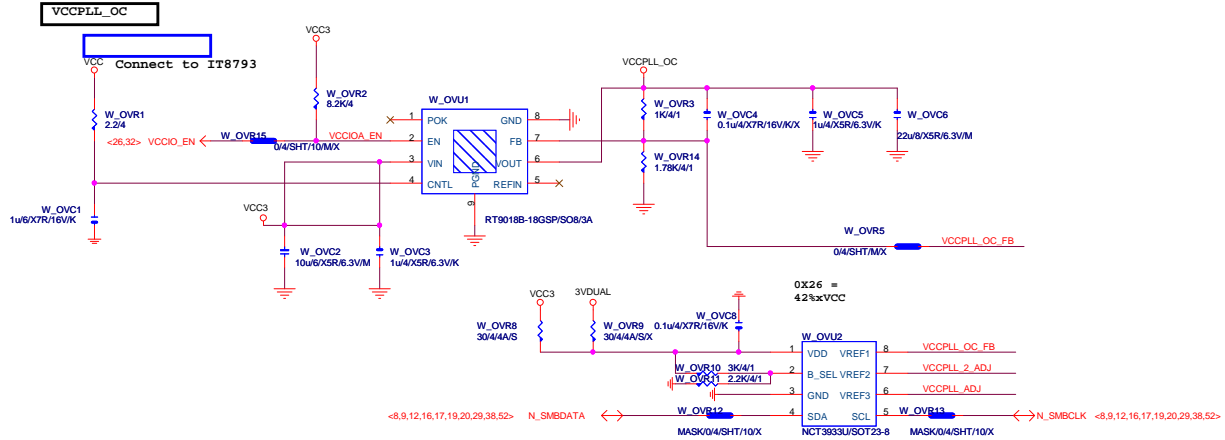
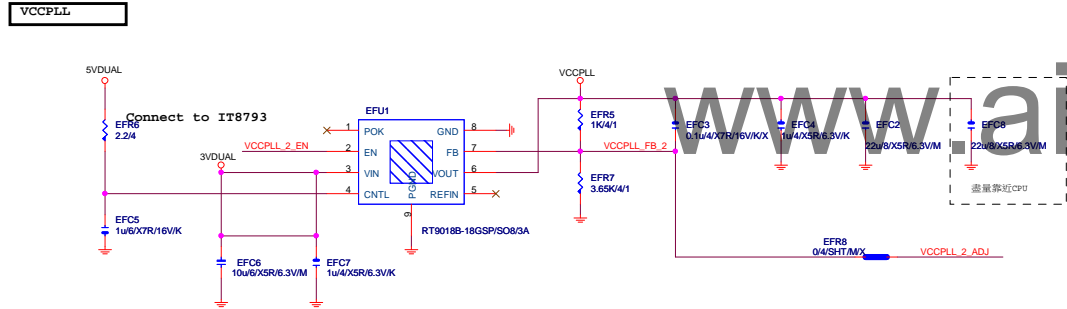
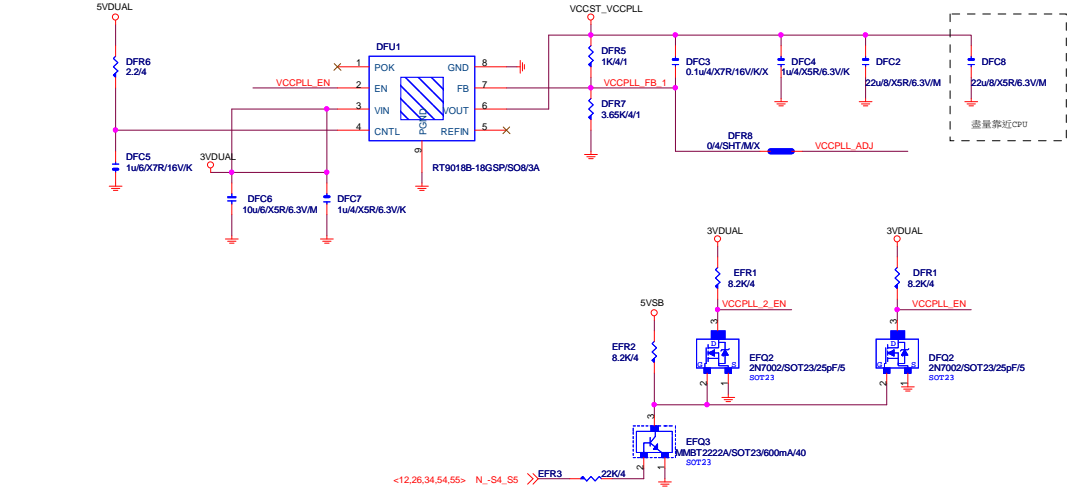
**GIGABYTE™**

| | | | |
|--------------------|----------------------------|-------|----------|
| Title | | | |
| RT8120_VPP25 POWER | | | |
| Size | Document Number | Rev | |
| Custom | GA-Z270XP-SLI | 1.01 | |
| Date: | Thursday, October 27, 2016 | Sheet | 34 of 59 |

REV:0.1



VCCST_VCCPLL 替換原先MOS開關線路



OVER VOLTAGE



| 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 |

Title

CPU CORE VR (NCT3933)

Size

Custom

Document Number

GA-Z270XP-SLI

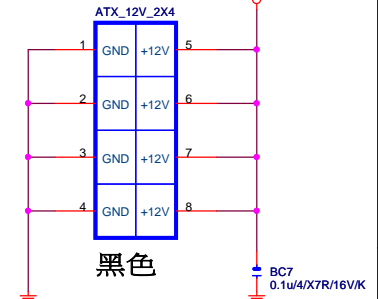
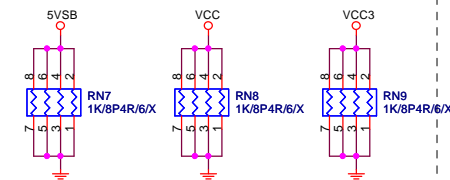
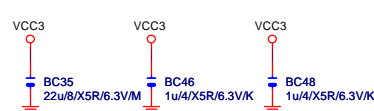
Rev

1.01

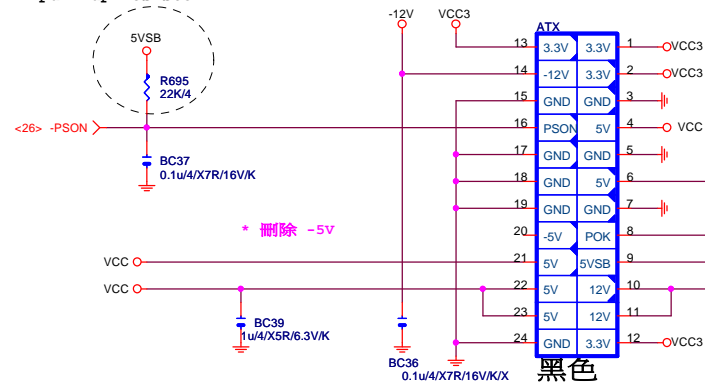
Date: Thursday, October 27, 2016

Sheet 38 of 59

ATXX4 POWER CONNECTOR



黑色



APW/2*12/BK/VA/SN/2SHK/PA66/[11NH4-020024-11R_11NH4-020024-12R

```

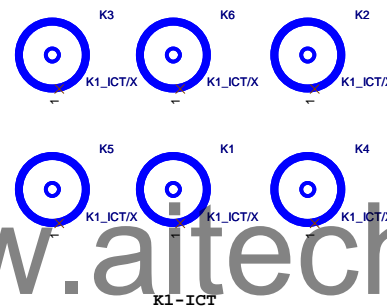
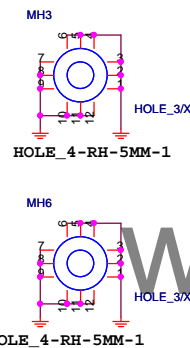
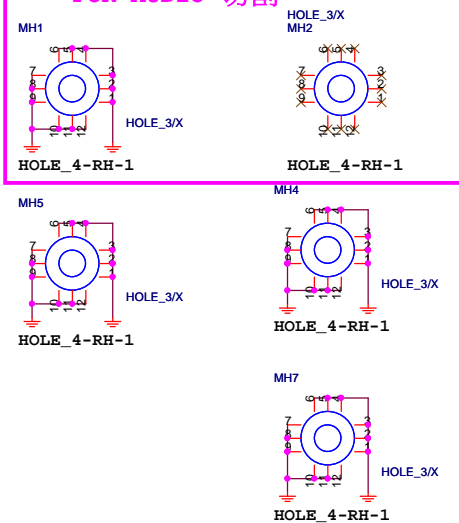
To prevent the 5VSR
2R1 under loading when
- boot - - - - -

```

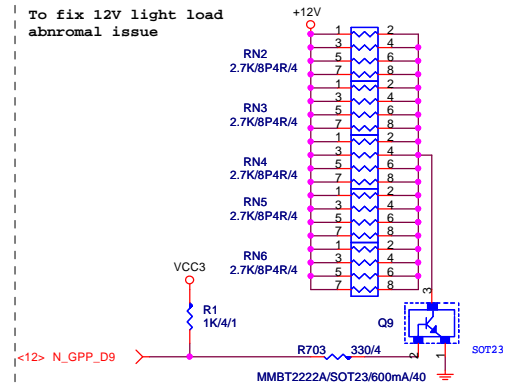
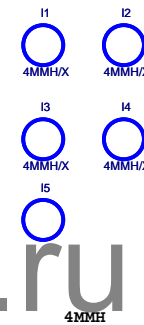
APW/2*4/BK/OC/P/4.2/VA/SN/OH/[11NH4-020008-B1R_11NH4-020008-B4R]::Location ATX_12V_2X4

【技術通報R&D技術通報153】

```
| To fix 12V light load
| abnormal issue
```

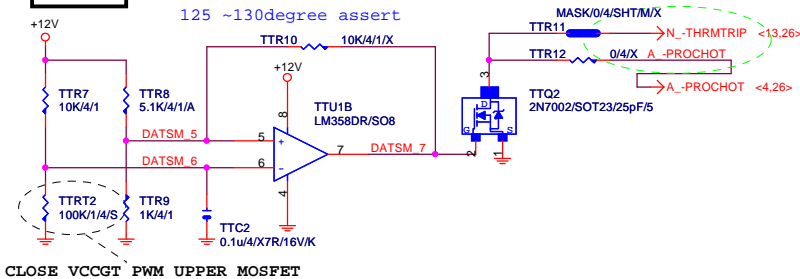


-PROHOT * 保留 ?

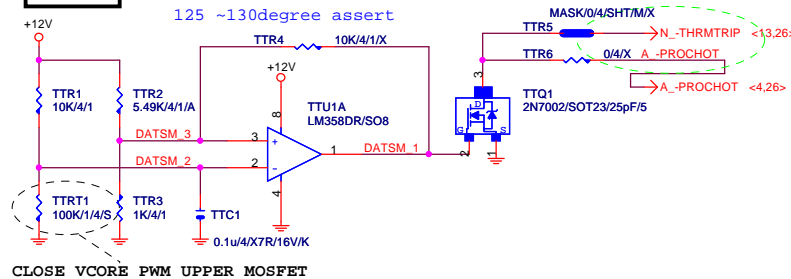


-PROHOT

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



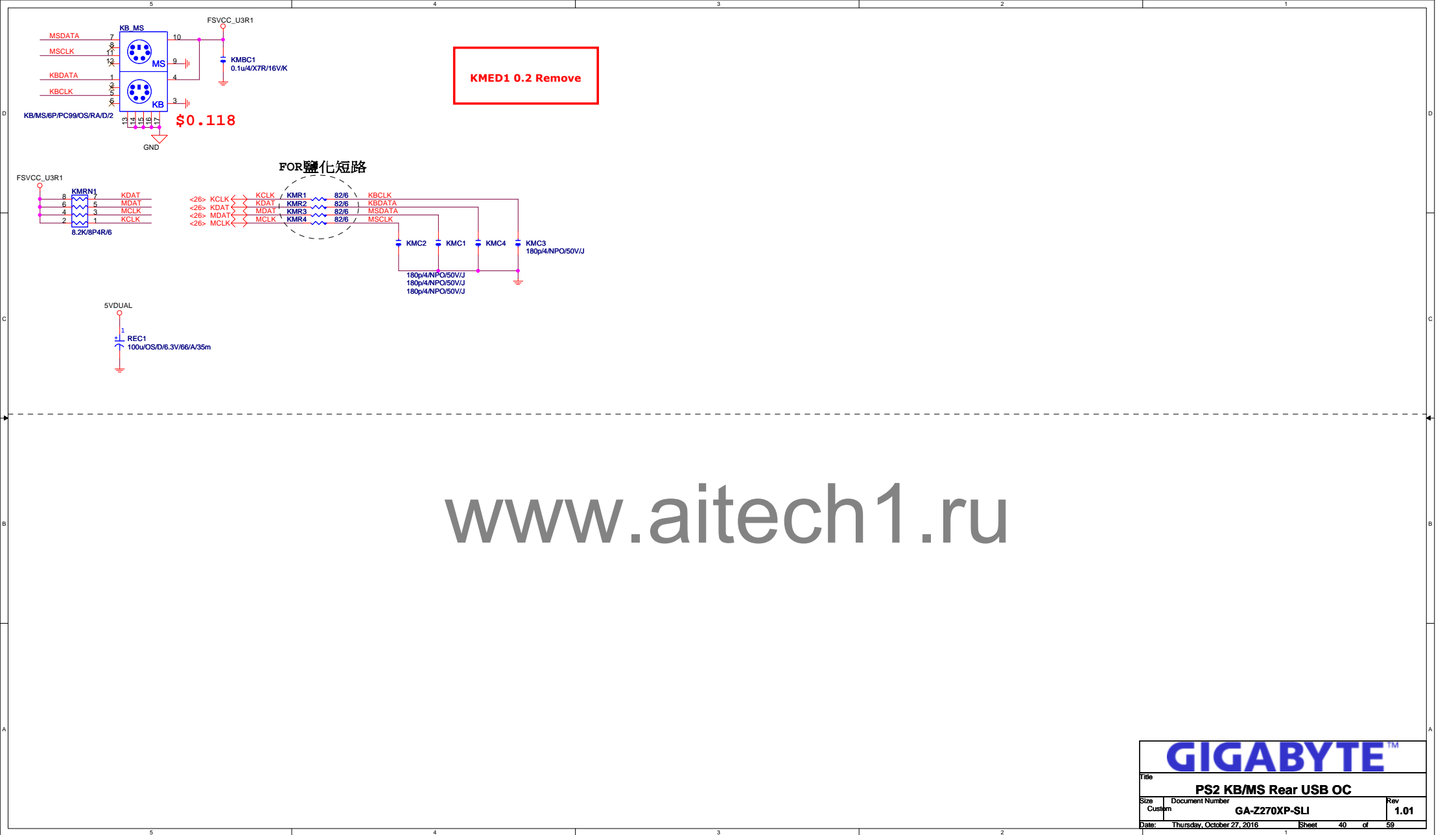
CLOSE VCCGT PWM UPPER MOSFET

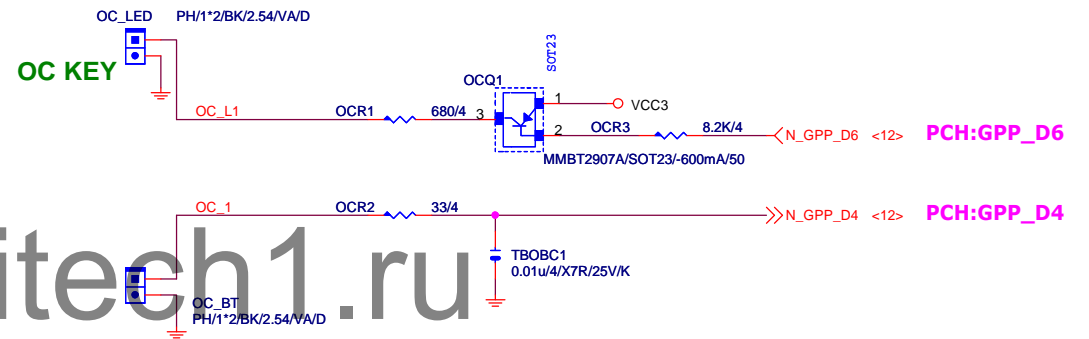


CLOSE VCORE PWM UPPER MOSFET

**GIGABYTE™**

| | | | |
|----------------------------|----------------------------|-------------|----------|
| Title | | | |
| ATX POWER CONNECTOR | | | |
| Size | Document Number | Rev | |
| Custom | GA-Z270XP-SLI | 1.01 | |
| Date: | Thursday, October 27, 2016 | Sheet | 39 of 59 |

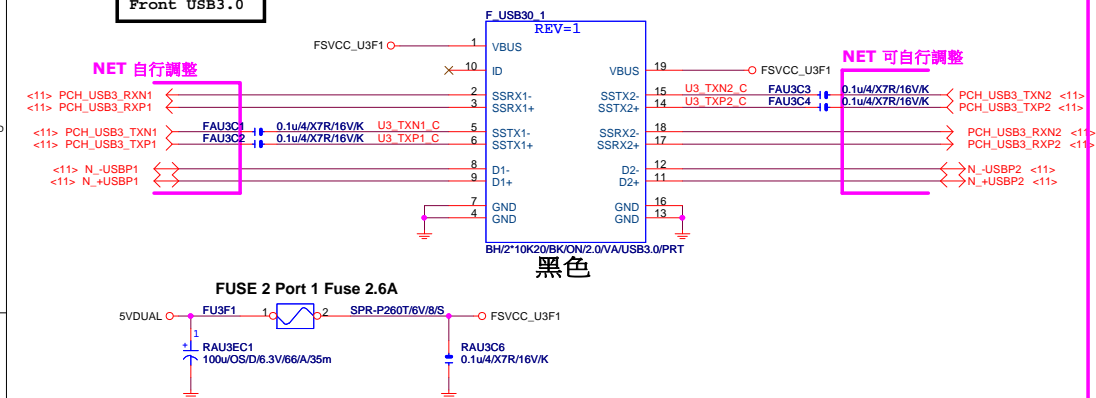




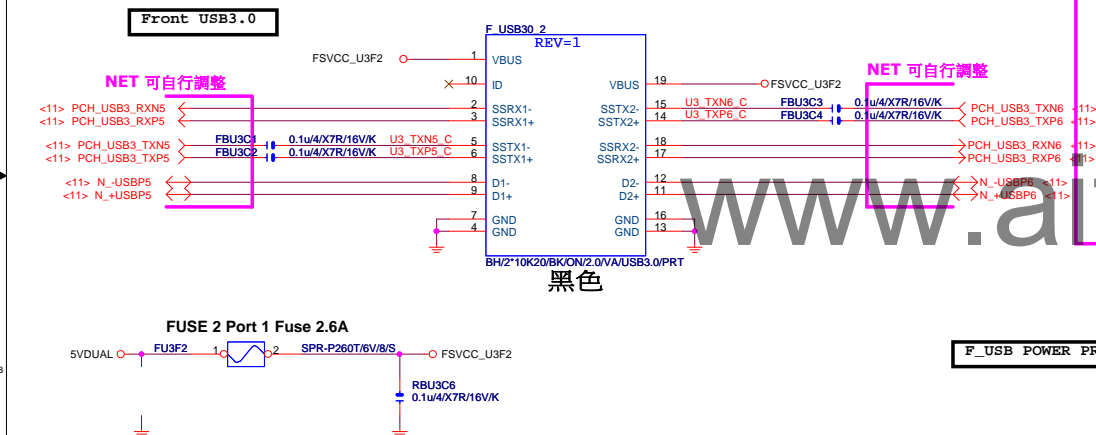
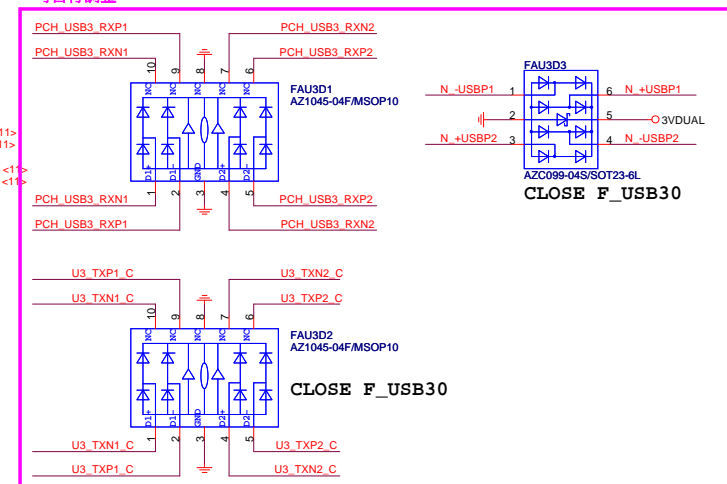
www.aitech1.ru

| | | | |
|-----------|----------------------------|--|----------------|
| GIGABYTE™ | | | |
| Title | | | |
| OC BOTTOM | | | |
| Size | Document Number | | Rev |
| Custom | GA-Z270XP-SLI | | 1.01 |
| Date: | Thursday, October 27, 2016 | | Sheet 41 of 59 |

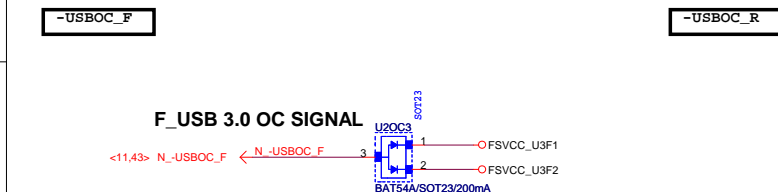
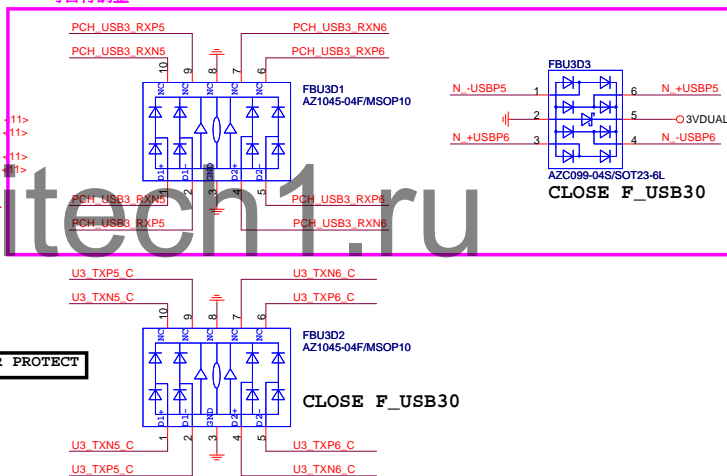
Front USB3.0



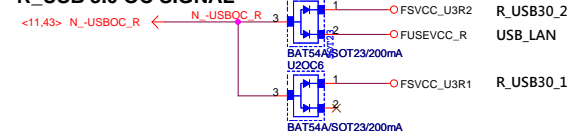
NET 可自行調整



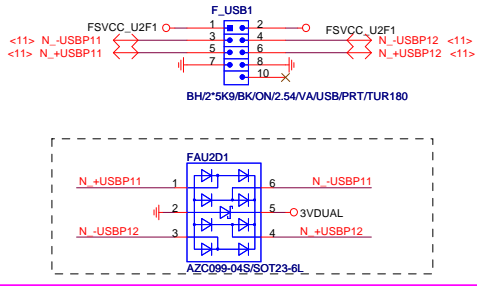
NET 可自行調整



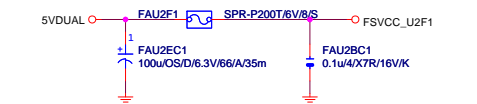
R_USB 3.0 OC SIGNAL



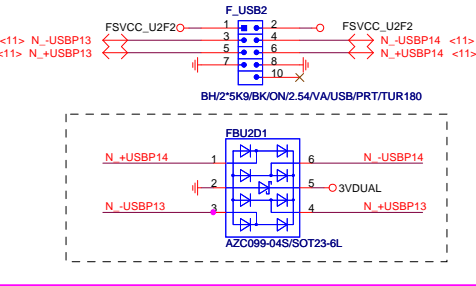
NET 可變



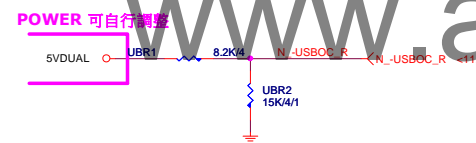
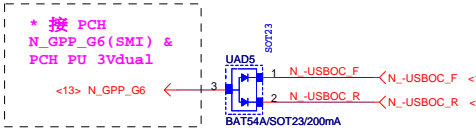
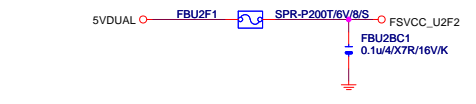
Close to connector
FUSE 2 Port 1 Fuse 2A



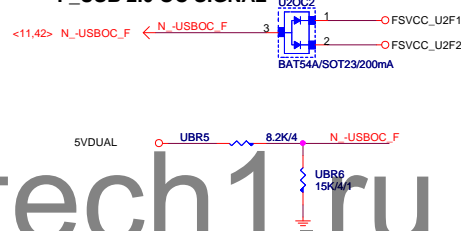
NET 可變



Close to connector
FUSE 2 Port 1 Fuse 2A

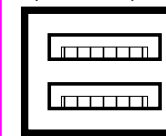
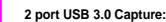
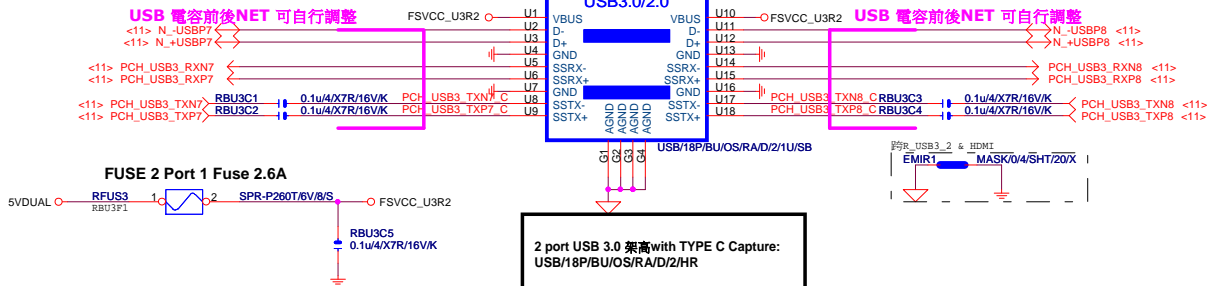


F_USB 2.0 OC SIGNAL

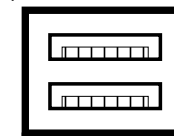
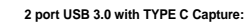


USB3.0/2.0

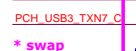
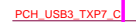
| | | |
|-------|--|-------|
| VBUS | | VBUS |
| D- | | D- |
| D+ | | D+ |
| GND | | GND |
| SSRX- | | SSRX- |
| SSRX+ | | SSRX+ |
| GND | | GND |
| SSTX- | | SSTX- |
| SSTX+ | | SSTX+ |
| AGND | | AGND |
| AGND | | AGND |
| AGND | | AGND |
| AGND | | AGND |



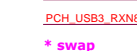
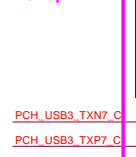
USB/18P/BU/OS/RA/D/2/1U/SB
Footprint:USB30_20



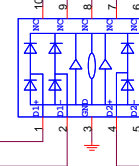
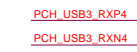
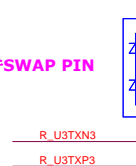
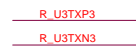
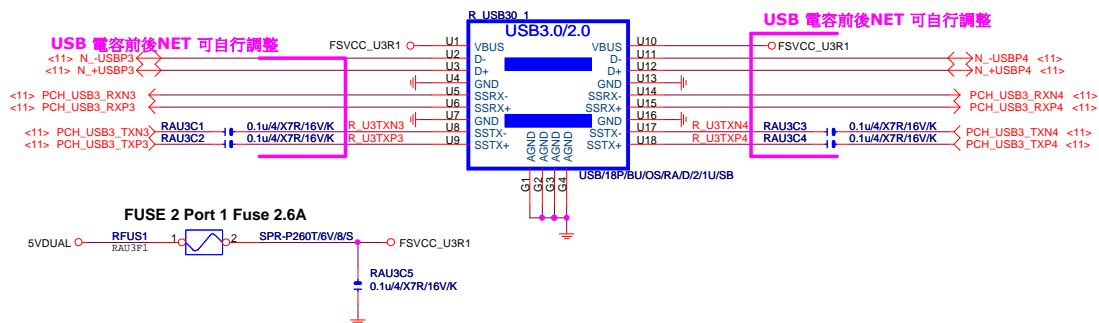
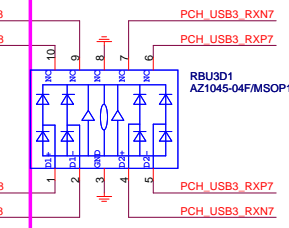
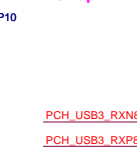
USB/18P/BU/OS/RA/D/2/HR



* swap

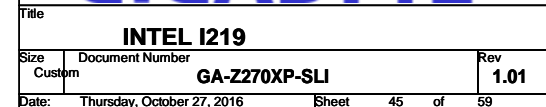
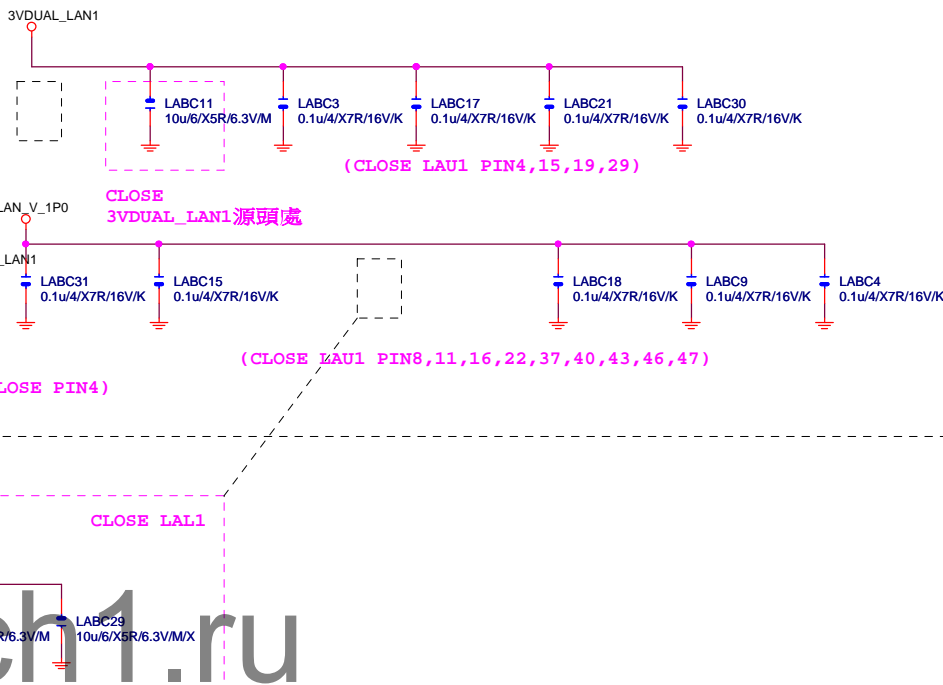
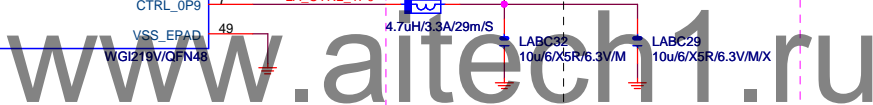


* 5





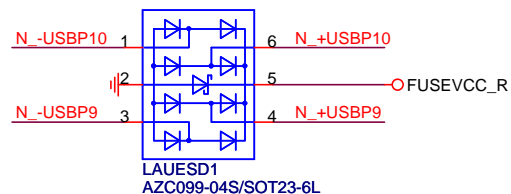
LAR1



RMA ESD PROTECT

note:可變更USB NAME

可變

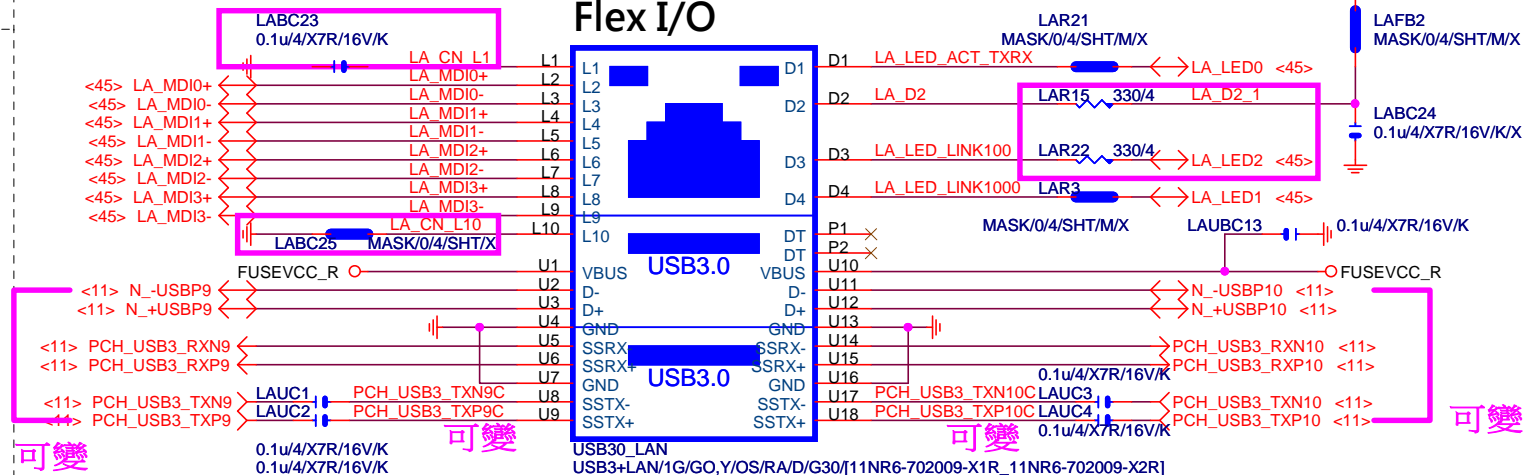


USB LAN CONNECTOR

note:可變更USB NAME

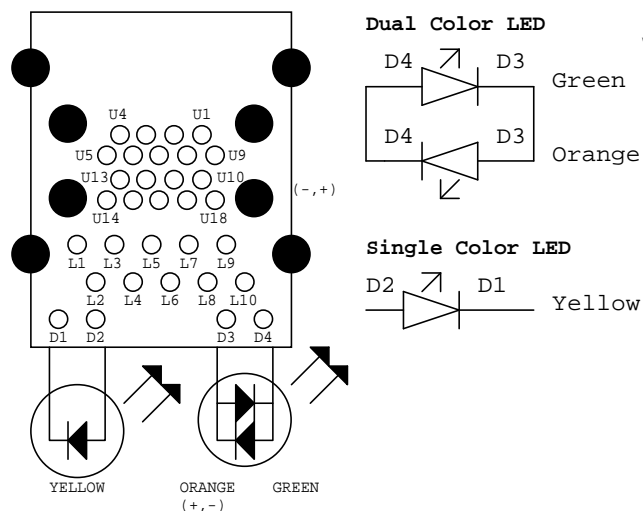
[I219V]

Flex I/O



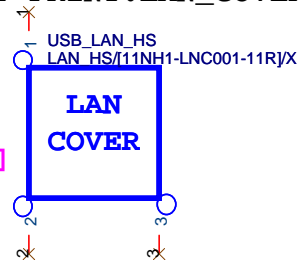
LA MDI-->100歐姆:[20/4/8/4/20]

USB30_LAN LAYOUT示意圖



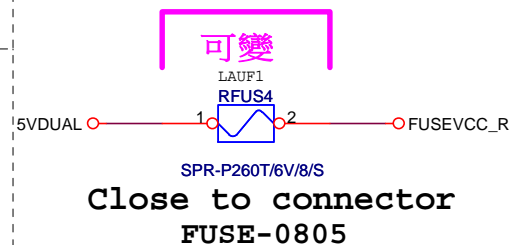
LAN COVER

FOOT PRINT:LAN COVER



USB POWER

note:可變更FUSE

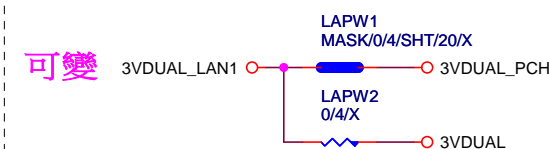


EMI SHORT PAD

PS:視EMI需求



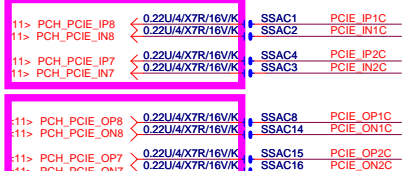
LAN POWER

**GIGABYTE™**

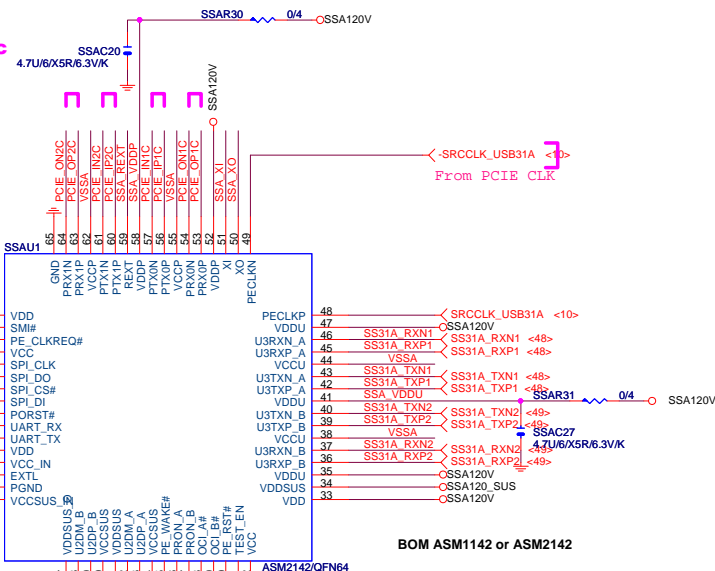
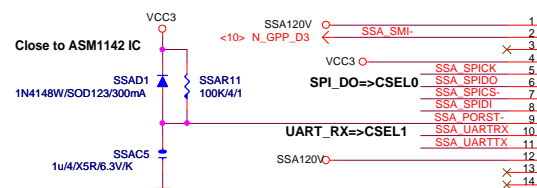
| | | | |
|---------------------------|----------------------------|-------------|----------|
| Title | | | |
| LAN CONNECTOR-I219 | | | |
| Size | Document Number | Rev | |
| Custom | GA-Z270XP-SLI | 1.01 | |
| Date: | Thursday, October 27, 2016 | Sheet | 46 of 59 |

Change to 0402

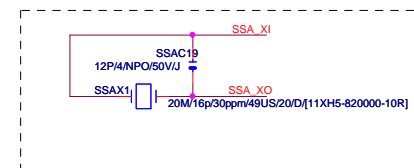
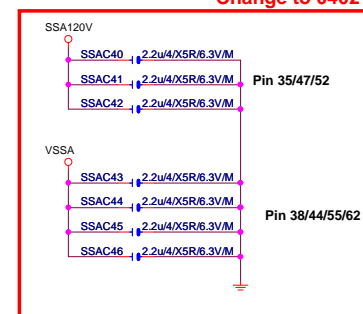
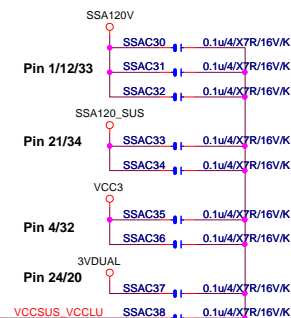
PCH PCIe* Controller Lane Reversal / base on spec
To PCIe host.



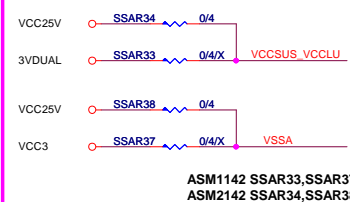
From PCIe host.



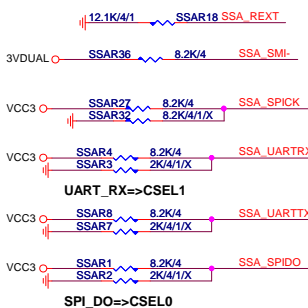
To USB Conn



ASM 2142 / 1142 Option

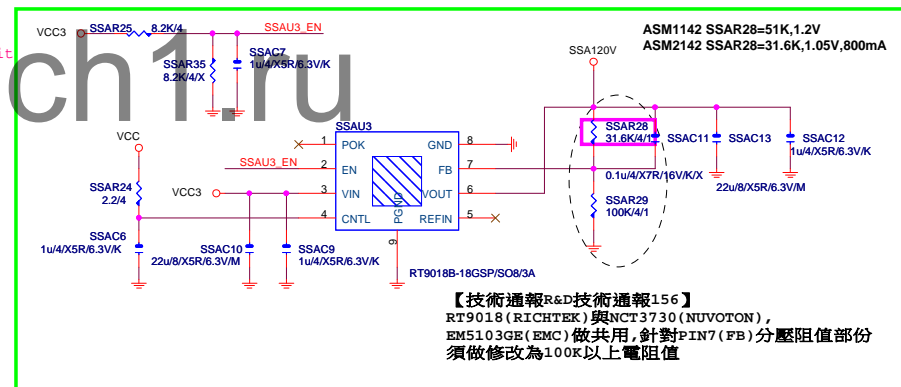
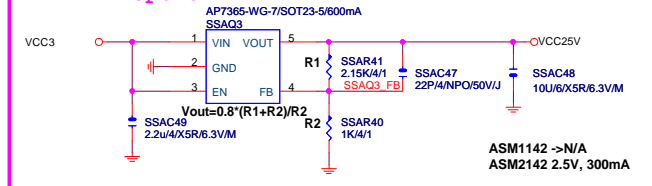


To USB Conn

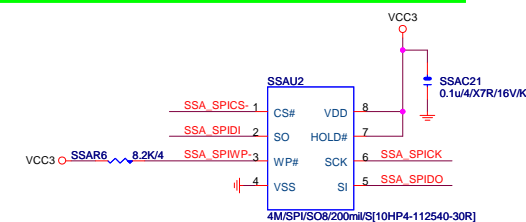


| CSEL1 | CSEL0 | |
|-------|-------|---------------------------------------|
| 1 | 1 | External 20MHz Crystal (Asynchronous) |
| 0 | 1 | 48MHz clock input (Synchronous) |
| X | 0 | Reserved for Test |

ASM2142 Option



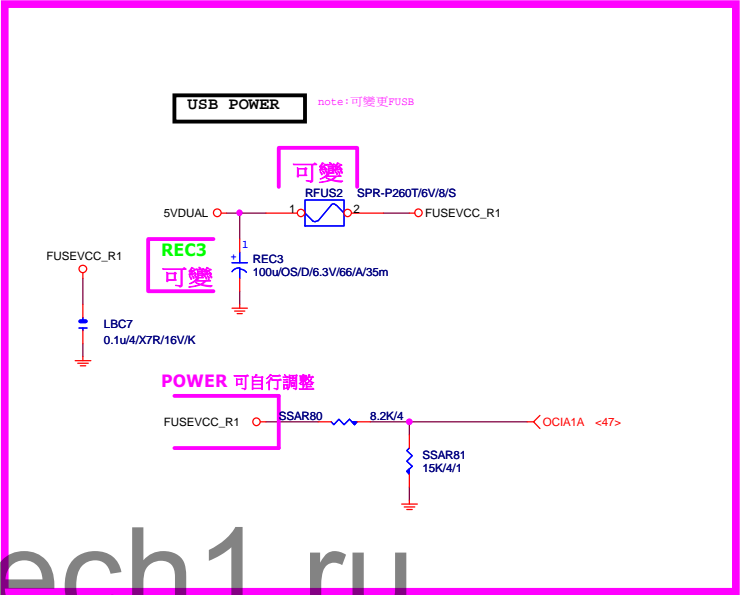
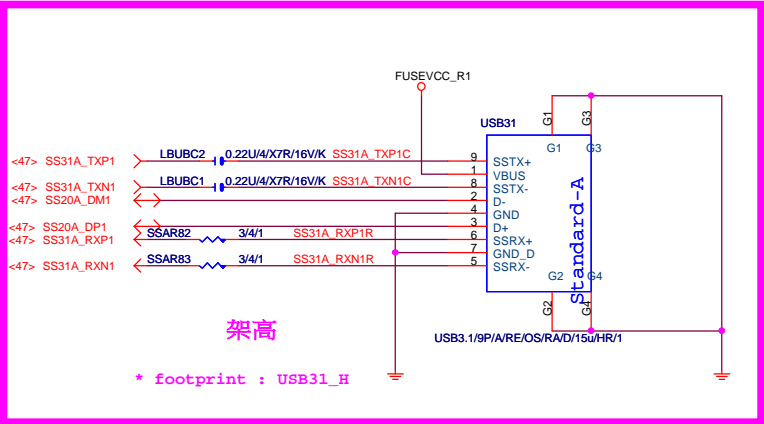
【技術通報R&D技術通報156】
RT9018(RICHTEK)與NCT3730(NUVOTON),
EM5103GE(EMC)做共用,針對PIN7(FB)分壓阻值部份
須做修改為100K以上電阻值



ASM2142 USB3 Host Rev0.3
TI HD3SS3220_B

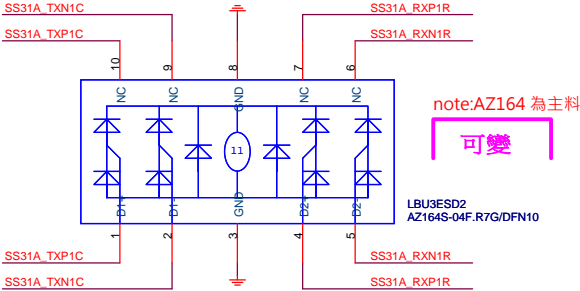
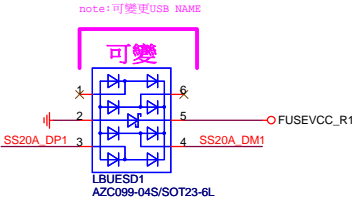
PCIE Gen3 X2

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



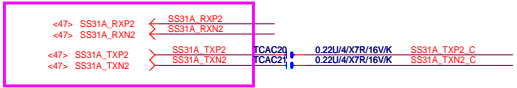
USB31 TYPE A Connector which chooses for project demand

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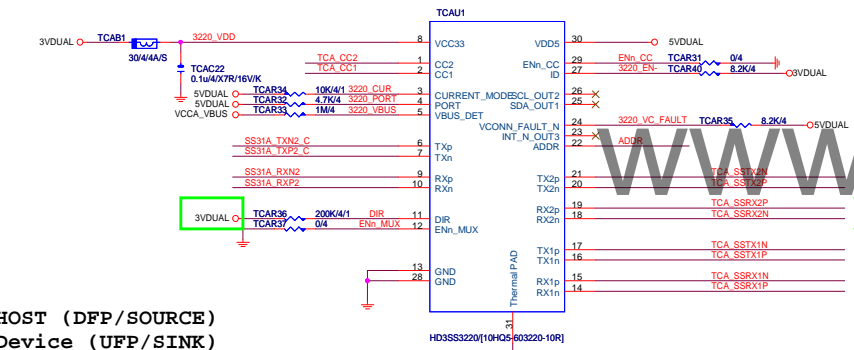
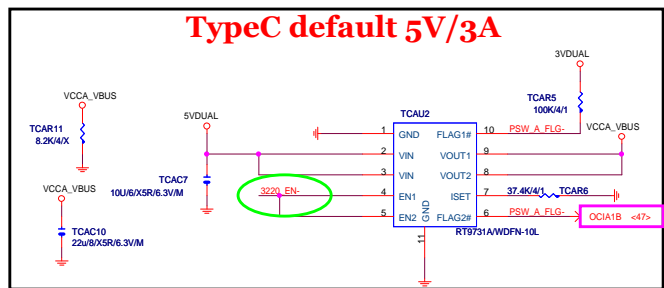


ASM2142 USB3 Host Rev0.2
TI HD3SS3220_B

USB 3.x SuperSpeed



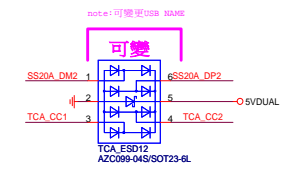
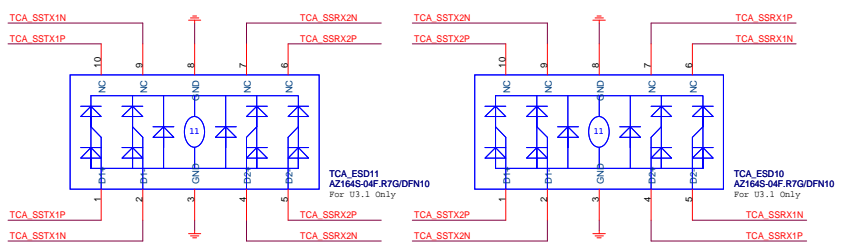
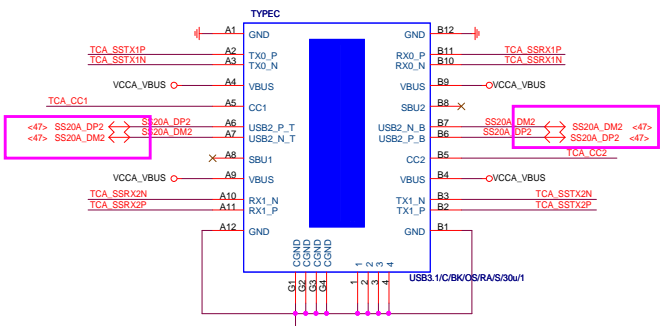
For VBUS current limit at 900mA on S3



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

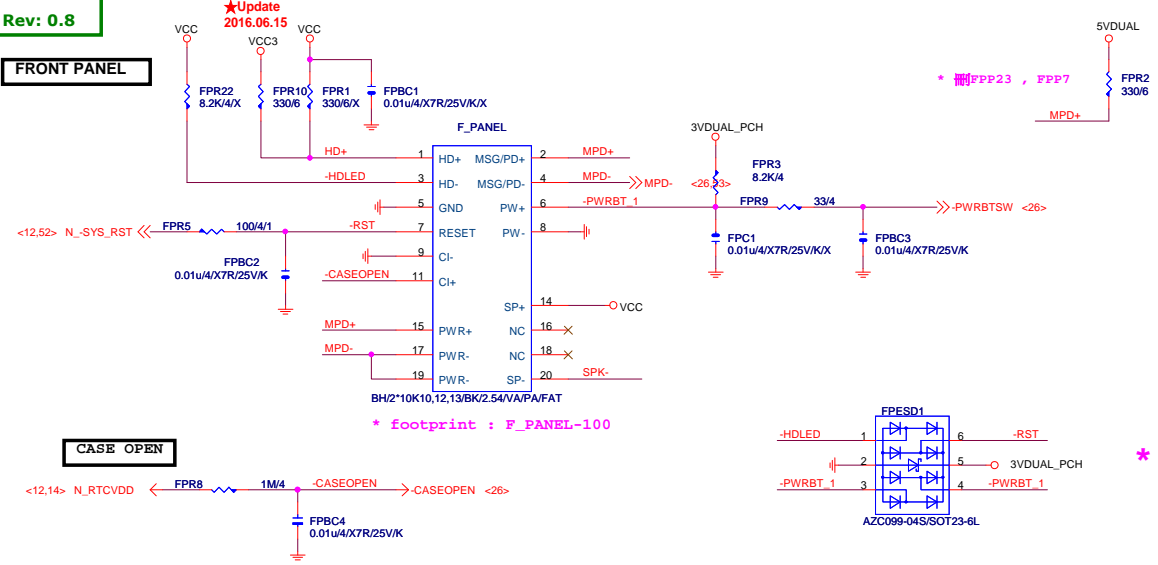
CURRENT MODE
L - Default (900mA) / Pull down to GND or NC
M - Medium (1.5A) / Pull up to VDD 500K
H - High (3.0A) / Pull up to VDD 10K

Color markers can be changed by model

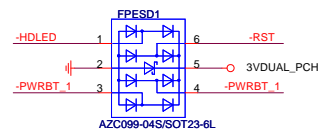
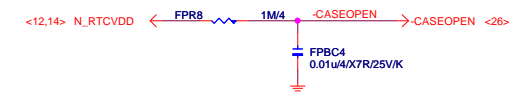


USB2.0 can be used the same source

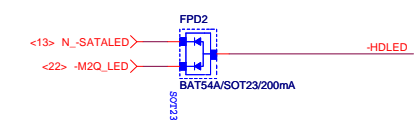
FRONT PANEL



CASE OPEN

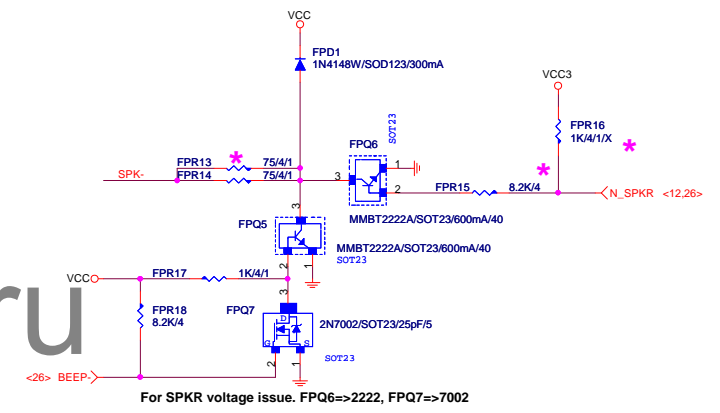


SATA LED SATALED# signal open-collector, pull-up (8.2 kΩ to 10 kΩ) to Vcc3_3



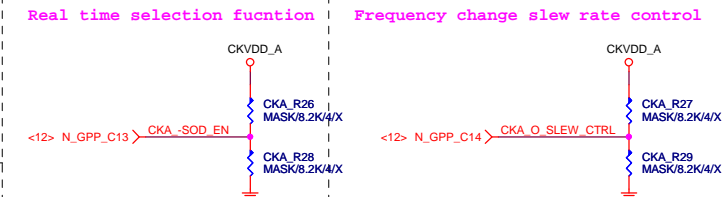
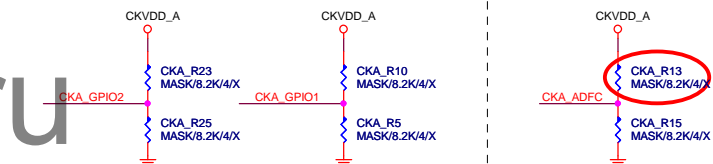
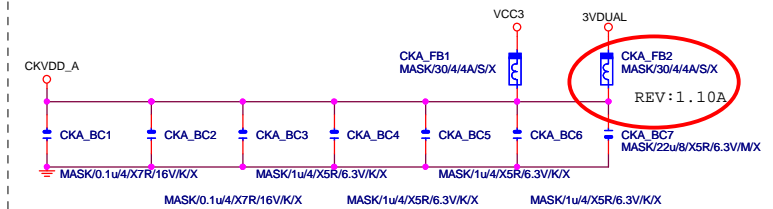
SPEAKER


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

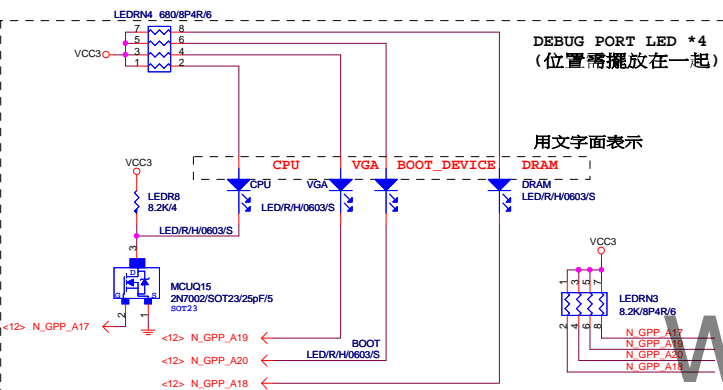
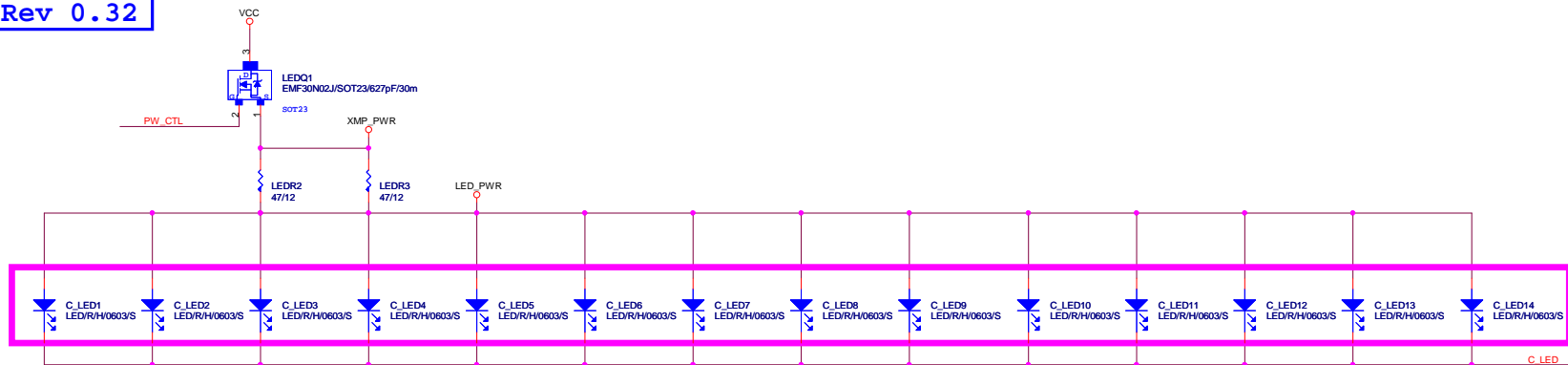


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IDT6V41630

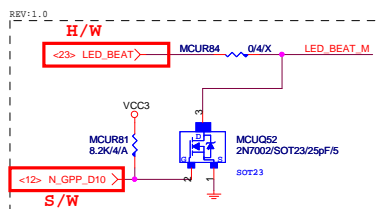
[illegible]

| | |
|---|--|
|  | |
| IDT6V41530_CLK BUFFER | |
| Size Custom | Document Number GA-Z270XP-SLI |
| Date: Thursday, October 27, 2016 | Rev 1.01 |
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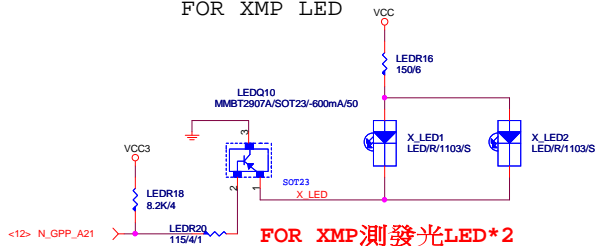


Ambient LED Control

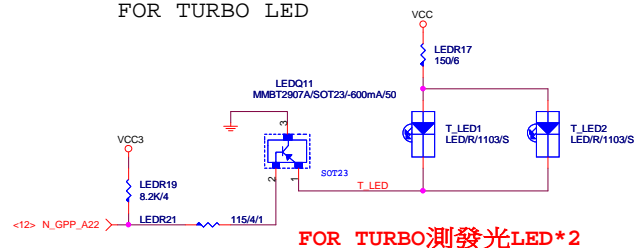
| | N_GPP_D22 | N_GPP_D23 | IO GP91 |
|------------|-----------|-----------|---------|
| Still Mode | H | L | L |
| OFF Mode | L | L | L |
| Pluse Mode | H | L | BREATH |
| Beat Mode | H | OD | L |



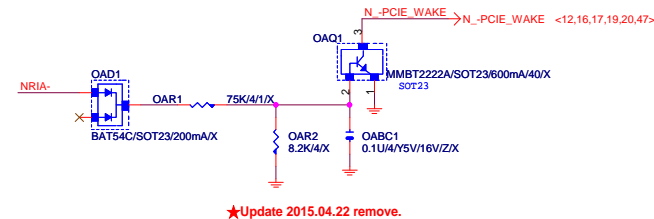
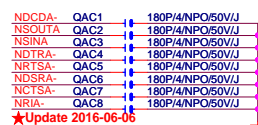
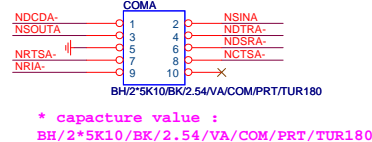
FOR XMP LED



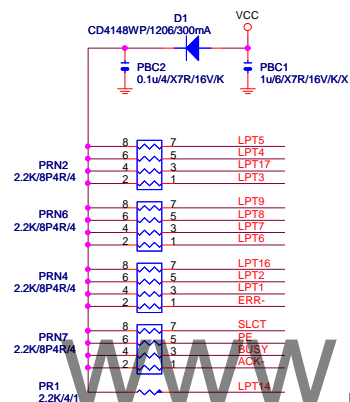
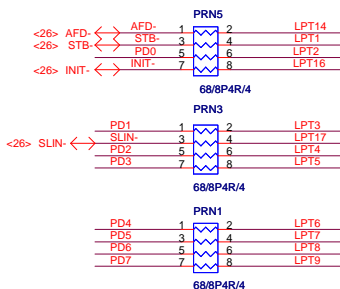
FOR TURBO LED



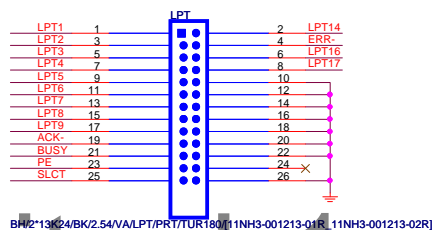
GIGABYTE™



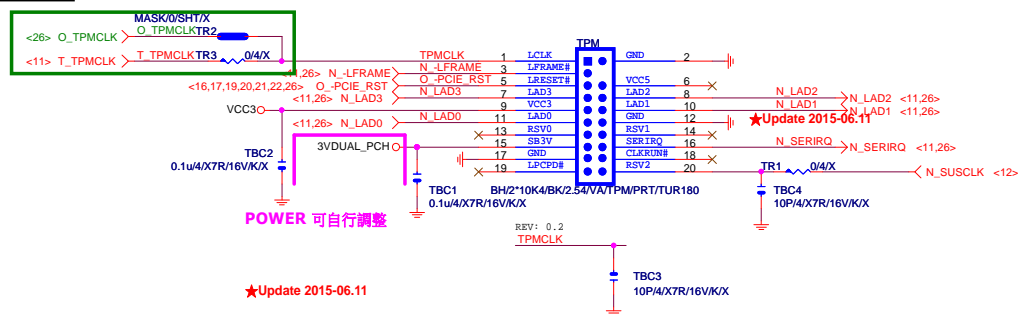
| |
|----------|
| LPT PORT |
|----------|



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

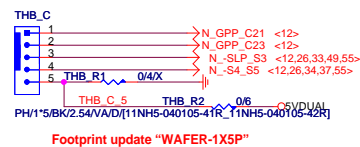


TPM CONNECT

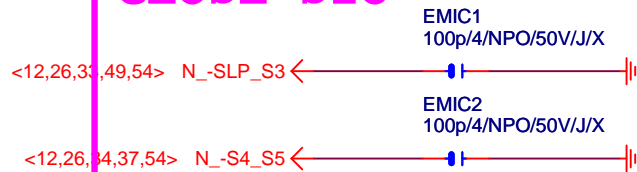


Thunderbolt

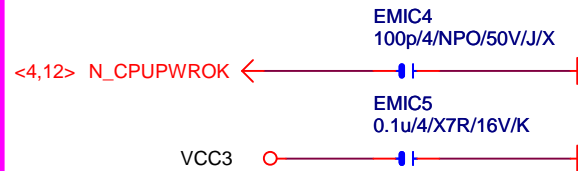
★Update 2015-12-29



CLOSE SIO



CLOSE PCH



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Title

EMI/ESD

Size
A

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Sheet

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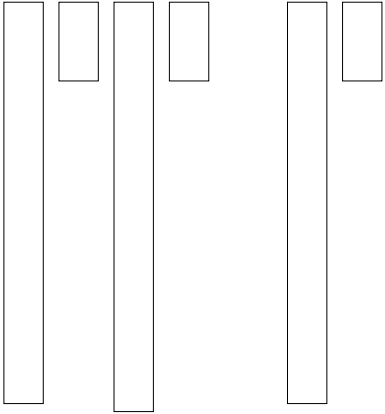
of

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REAR IO

RS_SYS
F_AUDIO

AUDIO

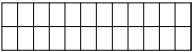


SIO

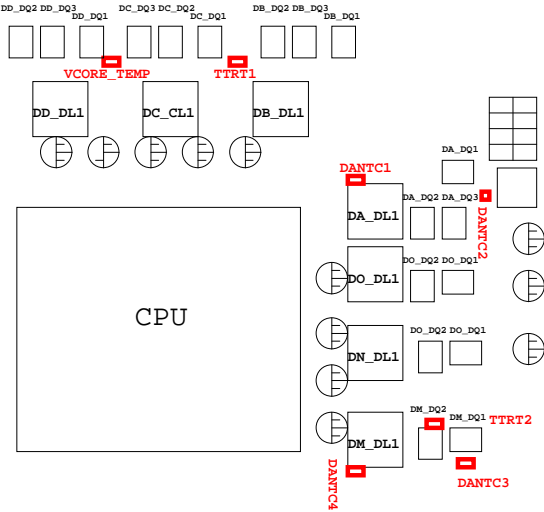
PCH

RS_PCH

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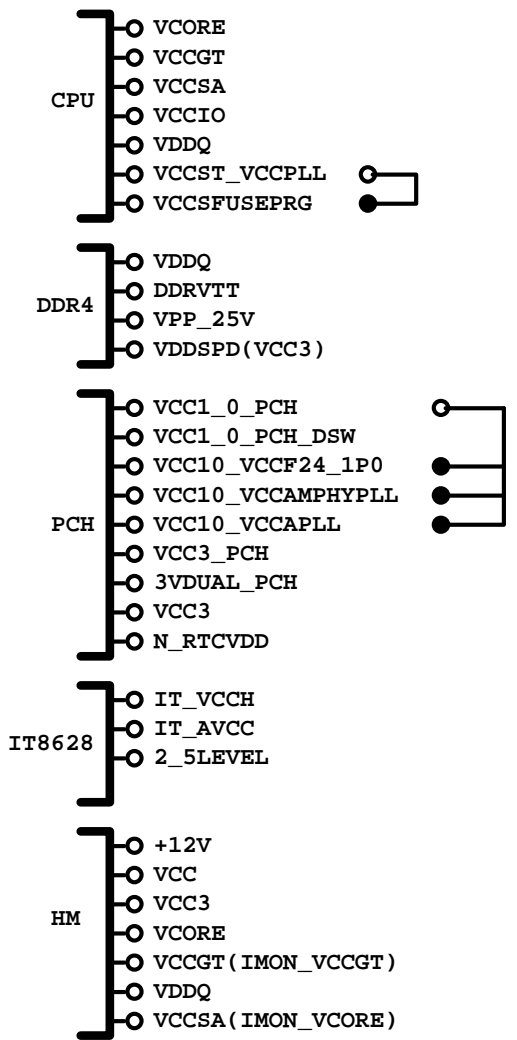


SATA_EXPRESS

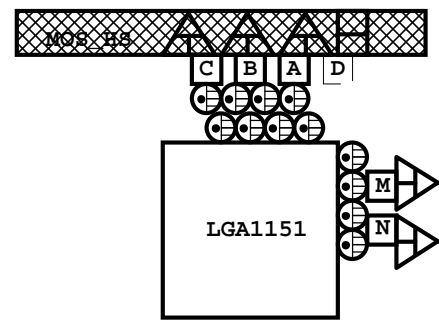
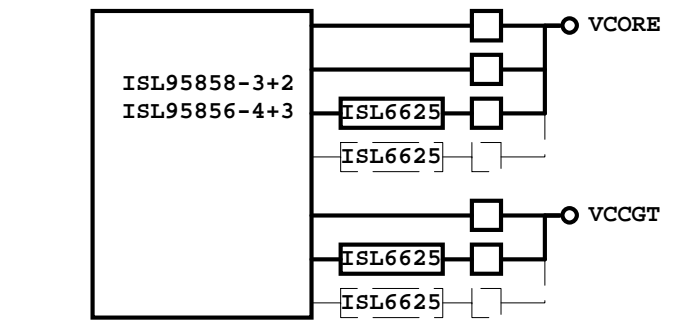


| 熱敏電阻 | 擺放靠近位置 | 走線方式 |
|----------|---------|--------------|
| DANTC1 | DA_DL2 | Differential |
| DANTC2 | DA_DQ3 | Differential |
| DANTC3 | DM_DQ2 | Differential |
| DANTC4 | DM_DL1 | Differential |
| RS_VCORE | DC_DQ4 | N/A |
| RS_VCCGT | DM_DQ2 | N/A |
| TTRT1 | DC_DQ2 | N/A |
| TTRT2 | DN_DQ2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

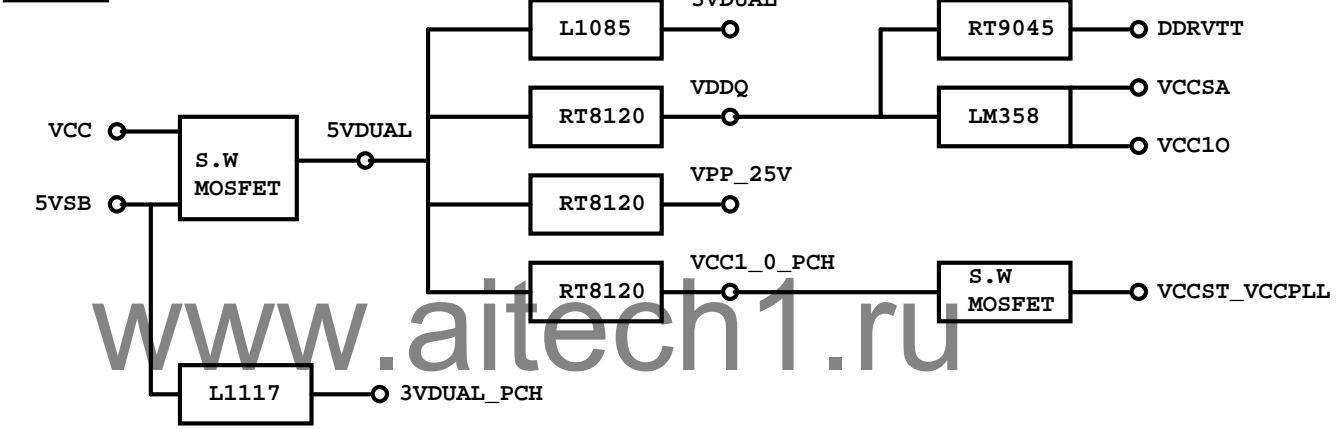
POWER BLOCK MAP



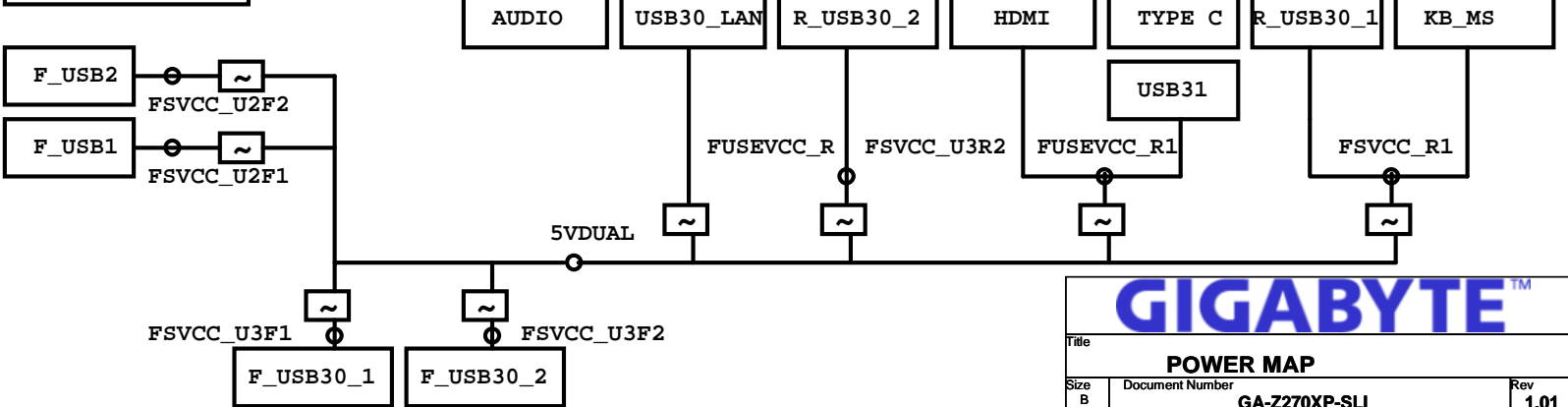
VCORE/VCCGT



POWER



FUSE POWER F/R



GIGABYTE™

| | | |
|-----------|----------------------------|----------------|
| Title | | |
| POWER MAP | | |
| Size B | Document Number | Rev |
| | GA-Z270XP-SLI | 1.01 |
| 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-Z270XP-SLI | | Rev 1.01 |
| Date: Thursday, October 27, 2016 | Sheet 58 | of 59 | |

