

## 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_LGA1150-D                   |
| 08 | DDR4 CHANNEL A (Rev 0.)         |
| 09 | DDR4 CHANNEL B                  |
| 10 | PCH_CLK BUFFER (Rev 0.4)        |
| 11 | PCH_DMI,USB,PCIE                |
| 12 | PCH_MISC                        |
| 13 | PCH SATA,PCIE,SATA_EXPRESS      |
| 14 | PCH_PWR,GND                     |
| 15 | PCH_GND                         |
| 16 | ITE 8686 LPC IO (Rev 0.1)       |
| 17 | HWM                             |
| 18 | FAN CTRL--SIO (Rev 0.1)         |
| 19 | PCI EXPRESS*16 SLOT (Rev 0.2)   |
| 20 | PCI EXPRESS*4 SLOT              |
| 21 | PCI EXPRESS*1 SLOT/SW           |
| 22 | Single BIOS (Rev 0.1)           |
| 23 | SATA EXPRESS (Rev 0.7)          |
| 24 | ITE8892E/JX PCI BRIDGE (Rev 0.) |
| 25 | PCI SLOT 1                      |
| 26 | ITE8892E/JX LDO PWR             |
| 27 | ISL95858 PWM-IRON (Rev 0.)      |

## SHEET

## TITLE

|    |                                 |
|----|---------------------------------|
| 28 | ISL95858 VCORE-IRON             |
| 29 | ISL95858 VCCGT-IRON             |
| 30 | VCCSA_VCCIO_VCCPLL (Rev 0.)     |
| 31 | RT8237_DDR_BEAD (Rev 0.)        |
| 32 | RT8068A_VPP (Rev 0.)            |
| 33 | RT8237_PCH-BEAD (Rev 0.)        |
| 34 | DISCRETE POWER (Rev 0.)         |
| 35 | NCT3933                         |
| 36 | ATX POWER , A_-PROCHOT          |
| 37 | KB_MS_USB (Rev 0.61)            |
| 38 | DVI CONN (Rev 0.61)             |
| 39 | RTD2168 - DP to VGA - IC (Rev ) |
| 40 | RTD2168 - DP to VGA - Conn      |
| 41 | DUAL DP PORT (Rev 0.61)         |
| 42 | INTEL I219 (Rev 1.09)           |
| 43 | USB30_LAN CONNECTOR-I219        |
| 44 | Realtek ALC892 (Rev 0.4)        |
| 45 | REAR AUDIO JACK                 |
| 46 | F_USB30 (Rev 0.61)              |
| 47 | F_USB (Rev 0.61)                |
| 48 | R_USB30 (Rev 0.61)              |
| 49 | F_PANEL                         |
| 50 | M.2QX4 (Rev 0.)                 |
| 51 | M.2X4_S5 SWITCH (Rev 0.)        |
| 52 | COM, TPM, THB (Rev 0.61)        |
| 53 | EMI-ESD                         |
| 54 | Audio LED                       |

Gigabyte Technology

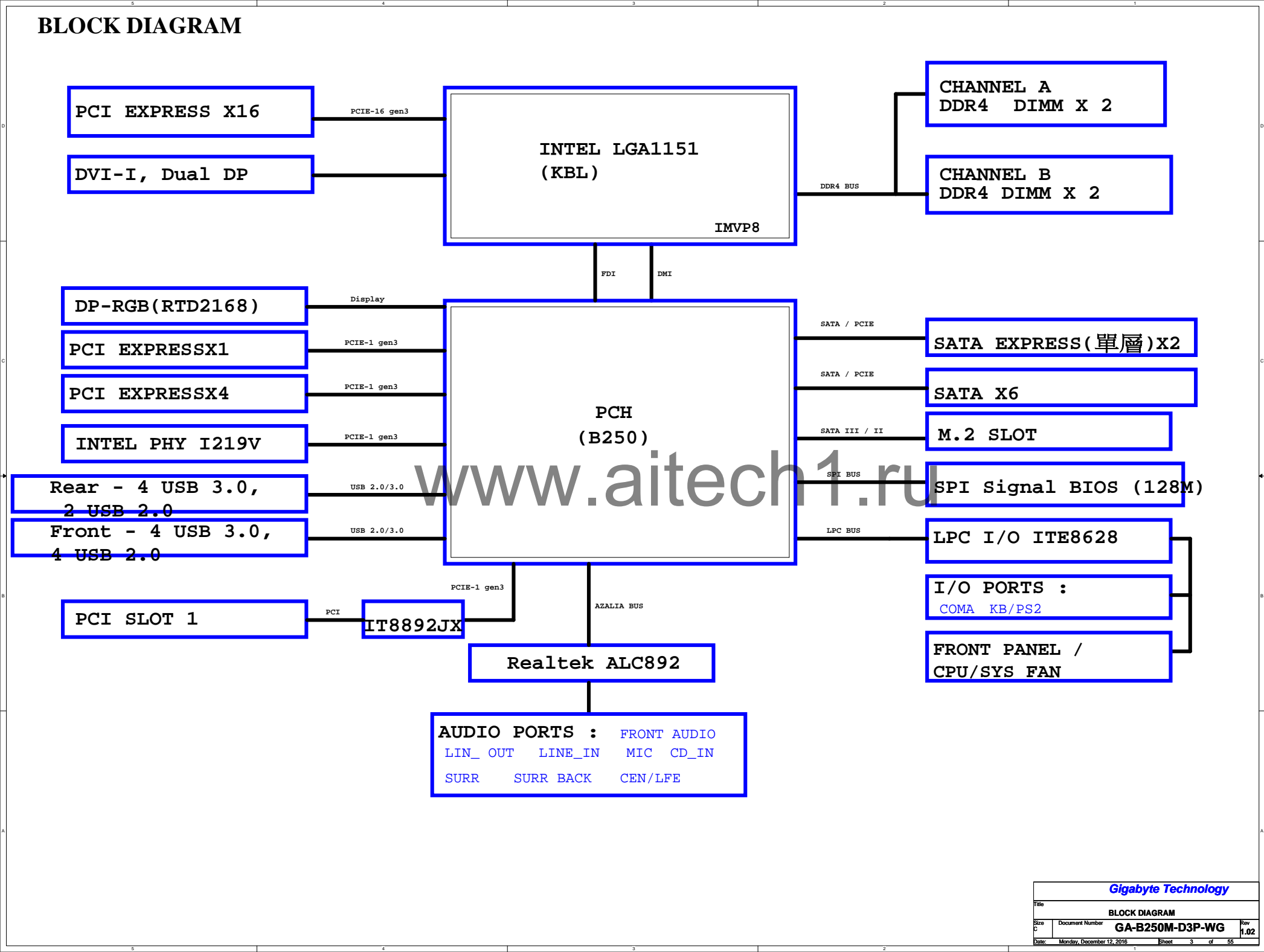
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|--------|---------------------------|-----------------|---------|
| Title  |                           | Cover Sheet     |         |
| Size   | Document Number           | GA-B250M-D3P-WG | Rev     |
| Custom |                           |                 | 1.02    |
| Date:  | Monday, December 12, 2016 | Sheet           | 1 of 55 |

rev1.02    Circuit or PCB layout change

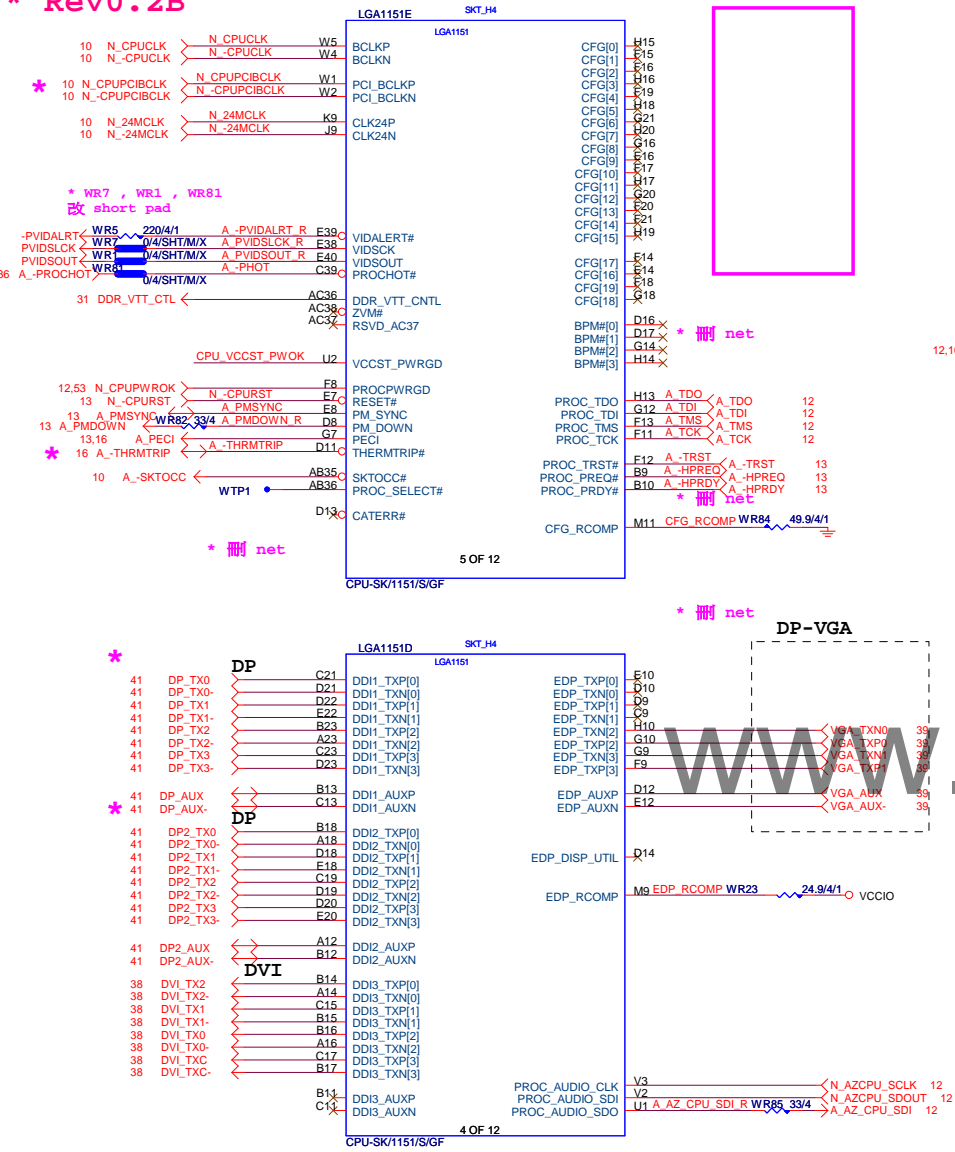
## 2015/08/19

[illegible]

BLOCK DIAGRAM



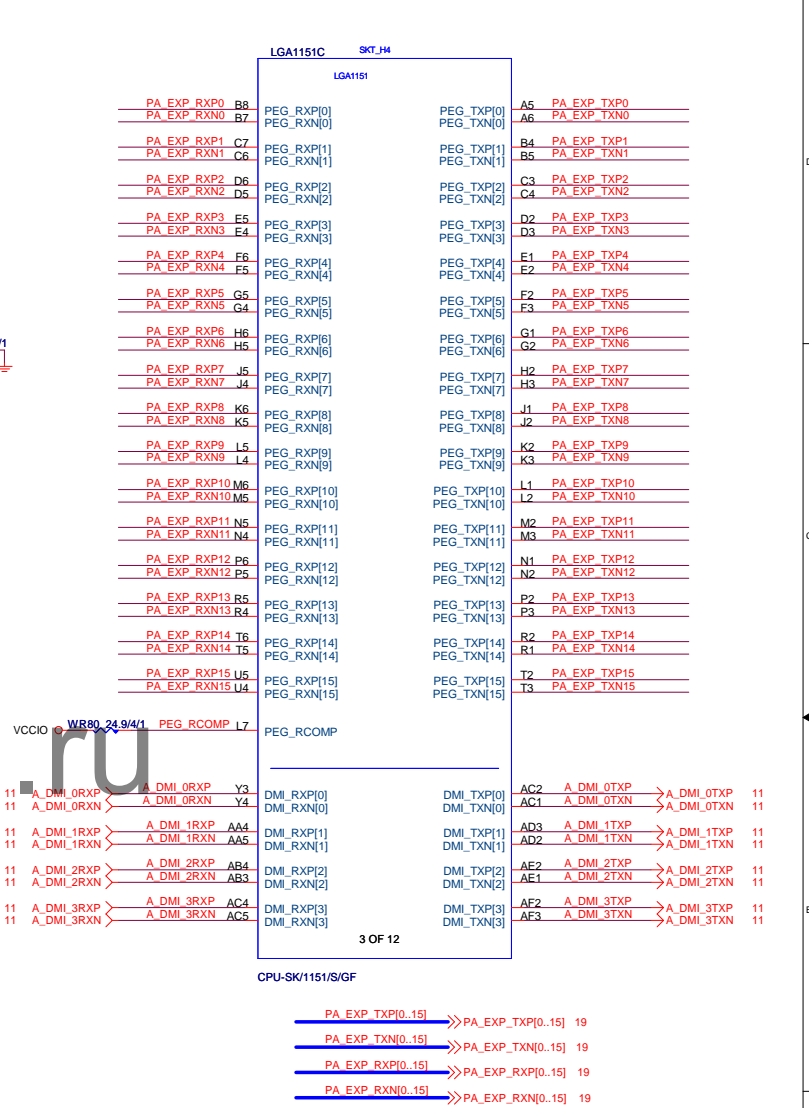
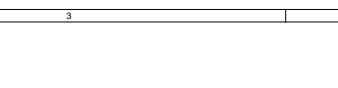
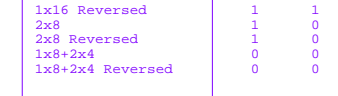
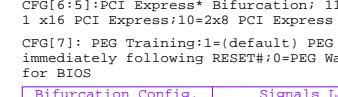
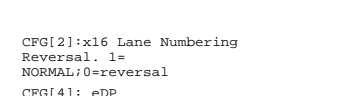
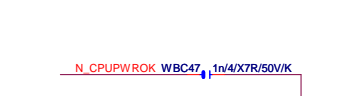
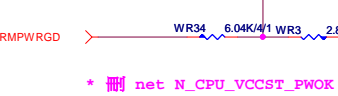
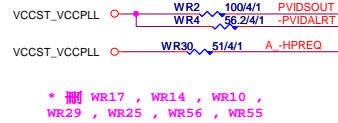
\* Rev0.2B



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

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

Impedance=85 +- 15%



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

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

|                     |                           |       |         |
|---------------------|---------------------------|-------|---------|
| Gigabyte Technology |                           |       |         |
| CPU LGA1151-A       |                           |       |         |
| Size                | Document Number           | Rev   | 1.02    |
| Custom              | GA-B250M-D3P-WG           |       |         |
| Date:               | Monday, December 12, 2016 | Sheet | 4 of 55 |



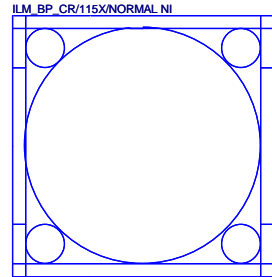
# \* 改DDR4 net

| LGA1151A   | SKT_H4                  |
|------------|-------------------------|
| LGA1151    | LGA1151                 |
| MDA0 AE38  | DDR0_DQ[0]              |
| MDA1 AE37  | DDR0_DQ[1]              |
| 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 AW38 | 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]             |
| AU33       | DDR0_ECC[4]             |
| AW33       | DDR0_ECC[5]             |
| AV33       | DDR0_ECC[6]             |
| AW33       | DDR0_ECC[7]             |

DDR CHANNEL A

1 OF 12

CPU-SK1151/S/GF

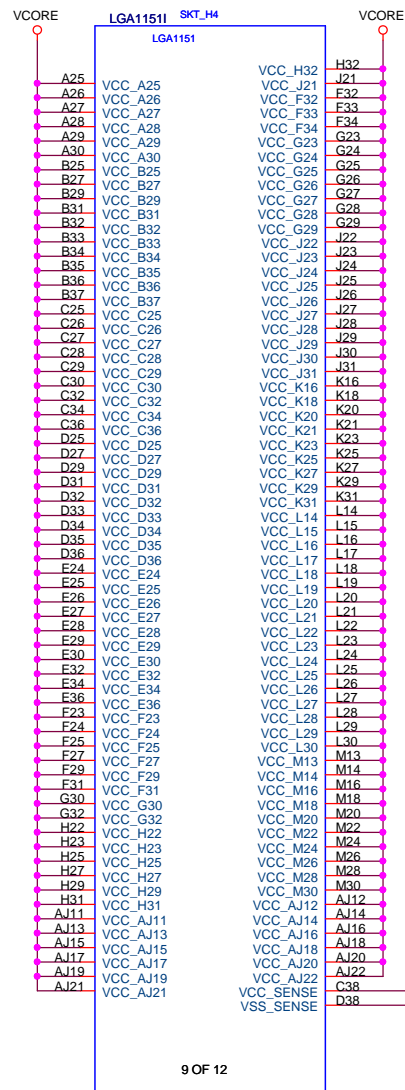


Need check the new CPU ME

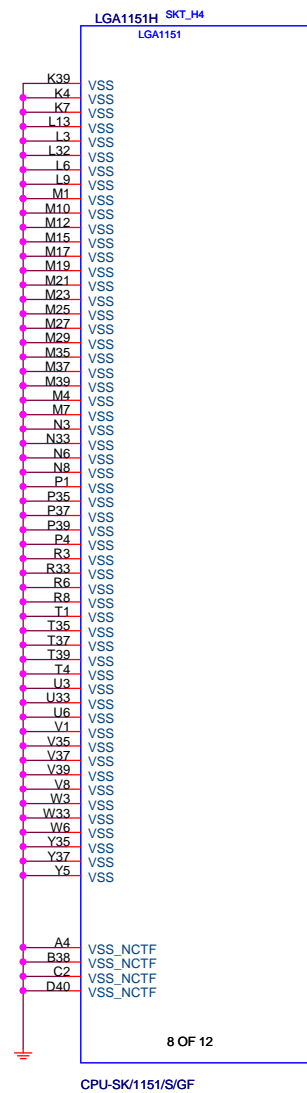
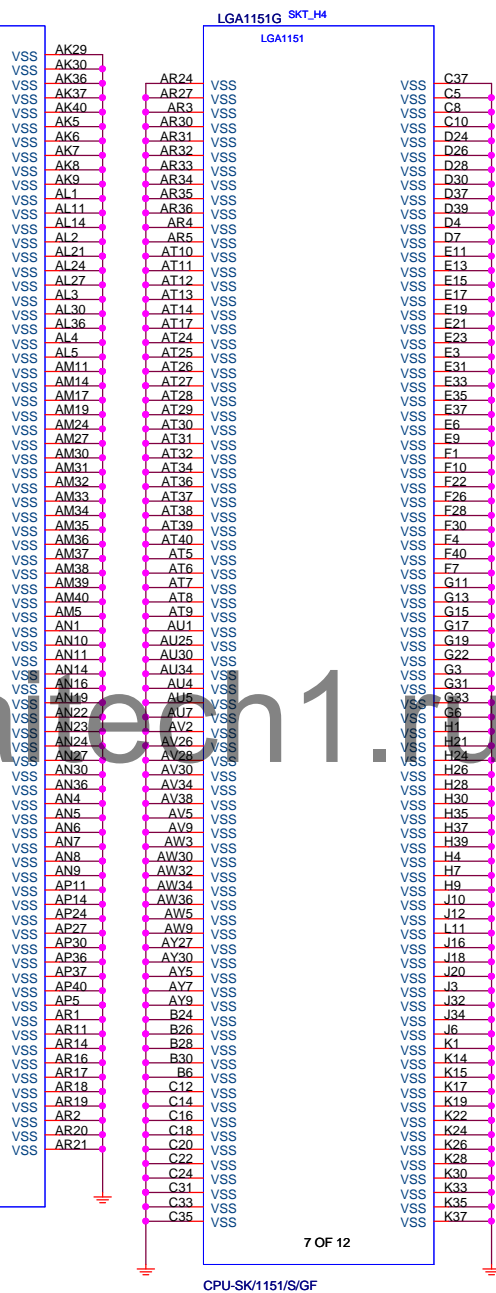
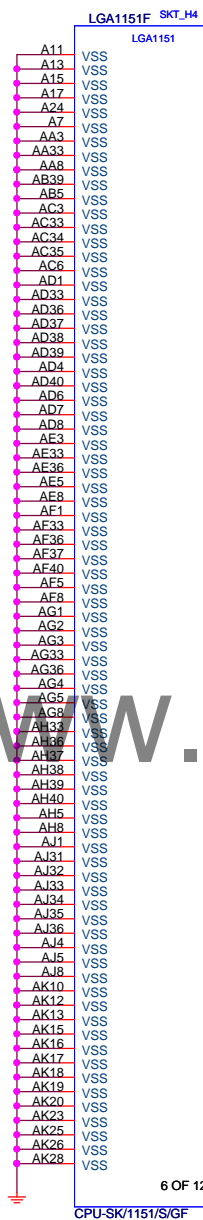
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| DDR0_CKP[0]                         | AW18 M -DCLKA0   | M -DCLKA0   | 8 |
| DDR0_CKN[0]                         | AW18 M -DCLKA0   | M -DCLKA0   | 8 |
| DDR0_CKP[1]                         | AW17 M -DCLKA1   | M -DCLKA1   | 8 |
| DDR0_CKN[1]                         | 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]                         | AV25 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     | 8 |
| DDR0_ODT[1]                         | AW14 MODT A1     | MODT A1     | 8 |
| DDR0_ODT[2]                         | AW12 MODT A2     | MODT A2     | 8 |
| DDR0_ODT[3]                         | AY10 MODT A3     | MODT A3     | 8 |
| DDR0_BA[0]/DDR0_CAB[4]/DDR0_BA[0]   | AY13 SBA00       | SBA00       | 8 |
| DDR0_BA[1]/DDR0_CAB[6]/DDR0_BA[1]   | AY15 SBA01       | SBA01       | 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 MAA016      | MAA016      | 8 |
| DDR0_WE#/DDR0_CAB[2]/DDR0_MA[14]    | AW14 MAA014      | MAA014      | 8 |
| DDR0_CAS#/DDR0_CAB[1]/DDR0_MA[15]   | AW11 MAA015      | MAA015      | 8 |
| DDR0_MA[0]/DDR0_CAB[9]/DDR0_MA[0]   | AW15 MAA00       | MAA00       | 8 |
| DDR0_MA[1]/DDR0_CAB[8]/DDR0_MA[1]   | AW18 MAA01       | MAA01       | 8 |
| DDR0_MA[2]/DDR0_CAB[5]/DDR0_MA[2]   | AW17 MAA02       | MAA02       | 8 |
| DDR0_MA[3]                          | AW19 MAA03       | MAA03       | 8 |
| DDR0_MA[4]                          | AW20 MAA04       | MAA04       | 8 |
| DDR0_MA[5]/DDR0_CAA[0]/DDR0_MA[5]   | AW21 MAA05       | MAA05       | 8 |
| DDR0_MA[6]/DDR0_CAA[2]/DDR0_MA[6]   | AW22 MAA06       | MAA06       | 8 |
| DDR0_MA[7]/DDR0_CAA[4]/DDR0_MA[7]   | AW23 MAA07       | MAA07       | 8 |
| DDR0_MA[8]/DDR0_CAA[3]/DDR0_MA[8]   | AW24 MAA08       | MAA08       | 8 |
| DDR0_MA[9]/DDR0_CAA[1]/DDR0_MA[9]   | AW25 MAA09       | MAA09       | 8 |
| DDR0_MA[10]/DDR0_CAB[7]/DDR0_MA[10] | AW26 MAA10       | MAA10       | 8 |
| DDR0_MA[11]/DDR0_CAA[7]/DDR0_MA[11] | AW27 MAA11       | MAA11       | 8 |
| DDR0_MA[12]/DDR0_CAA[6]/DDR0_MA[12] | AW28 MAA12       | MAA12       | 8 |
| DDR0_MA[13]/DDR0_CAB[0]/DDR0_MA[13] | AW29 MAA13       | MAA13       | 8 |
| DDR0_MA[14]/DDR0_CAA[9]/DDR0_BG[1]  | AW30 BG A1       | BG A1       | 8 |
| DDR0_MA[15]/DDR0_CAA[8]/DDR0_ACT#   | AW31 M -ACT_A    | M -ACT_A    | 8 |
| DDR0_PAR                            | AY15 M -DDR_PARA | M -DDR_PARA | 8 |
| DDR0_ALERT#                         | AT23 M -ALERT_A  | M -ALERT_A  | 8 |
| DDR0_DQSN[0]                        | AF38 M -DQSA0    | M -DQSA0    | 8 |
| DDR0_DQSN[1]                        | AK38 M -DQSA1    | M -DQSA1    | 8 |
| DDR0_DQSN[2]/DDR0_DQSN[4]           | AP38 M -DQSA2    | M -DQSA2    | 8 |
| DDR0_DQSN[3]/DDR0_DQSN[5]           | AV36 M -DQSA3    | M -DQSA3    | 8 |
| DDR0_DQSN[4]/DDR1_DQSN[0]           | AV7 M -DQSA4     | M -DQSA4    | 8 |
| DDR0_DQSN[5]/DDR1_DQSN[1]           | AU2 M -DQSA5     | M -DQSA5    | 8 |
| DDR0_DQSN[6]/DDR1_DQSN[2]           | AN3 M -DQSA6     | M -DQSA6    | 8 |
| DDR0_DQSN[7]/DDR1_DQSN[3]           | AJ3 M -DQSA7     | M -DQSA7    | 8 |
| DDR0_DQSP[0]                        | AF38 M -DQSA0    | M -DQSA0    | 8 |
| DDR0_DQSP[1]                        | AK38 M -DQSA1    | M -DQSA1    | 8 |
| DDR0_DQSP[2]/DDR0_DQSP[4]           | AP38 M -DQSA2    | M -DQSA2    | 8 |
| DDR0_DQSP[3]/DDR0_DQSP[5]           | AV7 M -DQSA3     | M -DQSA3    | 8 |
| DDR0_DQSP[4]/DDR1_DQSP[0]           | AU2 M -DQSA4     | M -DQSA4    | 8 |
| DDR0_DQSP[5]/DDR1_DQSP[1]           | AN3 M -DQSA5     | M -DQSA5    | 8 |
| DDR0_DQSP[6]/DDR1_DQSP[2]           | AJ2 M -DQSA6     | M -DQSA6    | 8 |
| DDR0_DQSP[7]/DDR1_DQSP[3]           | AV32 M -DQSA7    | M -DQSA7    | 8 |
| DDR0_DQSP[8]                        | AV32 M -DQSA8    | M -DQSA8    | 8 |

| LGA1151B                | SKT_H4                              |
|-------------------------|-------------------------------------|
| LGA1151                 | LGA1151                             |
| DDR1_DQ[0]/DDR0_DQ[16]  | DDR1_CKPN1                          |
| DDR1_DQ[1]/DDR0_DQ[17]  | DDR1_CKPN1                          |
| DDR1_DQ[2]/DDR0_DQ[18]  | DDR1_CKPN1                          |
| DDR1_DQ[3]/DDR0_DQ[19]  | DDR1_CKPN1                          |
| DDR1_DQ[4]/DDR0_DQ[20]  | DDR1_CKPN1                          |
| DDR1_DQ[5]/DDR0_DQ[21]  | DDR1_CKPN1                          |
| DDR1_DQ[6]/DDR0_DQ[22]  | DDR1_CKPN1                          |
| DDR1_DQ[7]/DDR0_DQ[23]  | DDR1_CKPN1                          |
| DDR1_DQ[8]/DDR0_DQ[24]  |                                     |
| DDR1_DQ[9]/DDR0_DQ[25]  | DDR1_CKE1                           |
| DDR1_DQ[10]/DDR0_DQ[26] | DDR1_CKE1                           |
| DDR1_DQ[11]/DDR0_DQ[27] | DDR1_CKE1                           |
| DDR1_DQ[12]/DDR0_DQ[28] | DDR1_CKE1                           |
| DDR1_DQ[13]/DDR0_DQ[29] |                                     |
| DDR1_DQ[14]/DDR0_DQ[30] | DDR1_CS#1                           |
| DDR1_DQ[15]/DDR0_DQ[31] | DDR1_CS#1                           |
| DDR1_DQ[16]/DDR0_DQ[32] | DDR1_CS#1                           |
| DDR1_DQ[17]/DDR0_DQ[33] | DDR1_CS#1                           |
| DDR1_DQ[18]/DDR0_DQ[34] |                                     |
| DDR1_DQ[19]/DDR0_DQ[35] | DDR1_ODT1                           |
| DDR1_DQ[20]/DDR0_DQ[36] | DDR1_ODT1                           |
| DDR1_DQ[21]/DDR0_DQ[37] | DDR1_ODT1                           |
| DDR1_DQ[22]/DDR0_DQ[38] | DDR1_ODT1                           |
| DDR1_DQ[23]/DDR0_DQ[39] |                                     |
| DDR1_DQ[24]/DDR0_DQ[40] | DDR1_RAS#/DDR1_CAB[3]/DDR1_MA[1]    |
| DDR1_DQ[25]/DDR0_DQ[41] | DDR1_WE#/DDR1_CAB[2]/DDR1_MA[1]     |
| DDR1_DQ[26]/DDR0_DQ[42] | DDR1_CAS#/DDR1_CAB[1]/DDR1_MA[1]    |
| DDR1_DQ[27]/DDR0_DQ[43] |                                     |
| DDR1_DQ[28]/DDR0_DQ[44] | DDR1_BA[0]/DDR1_CAB[4]/DDR1_BA[0]   |
| DDR1_DQ[29]/DDR0_DQ[45] | DDR1_BA[1]/DDR1_CAB[6]/DDR1_BA[1]   |
| DDR1_DQ[30]/DDR0_DQ[46] | DDR1_BA[2]/DDR1_CAA[5]/DDR1_BG[0]   |
| DDR1_DQ[31]/DDR0_DQ[47] |                                     |
| DDR1_DQ[32]/DDR1_DQ[0]  | DDR1_MA[0]/DDR1_CAB[9]/DDR1_MA[0]   |
| DDR1_DQ[33]/DDR1_DQ[1]  | DDR1_MA[1]/DDR1_CAB[8]/DDR1_MA[1]   |
| DDR1_DQ[34]/DDR1_DQ[2]  | DDR1_MA[2]/DDR1_CAB[5]/DDR1_MA[2]   |
| DDR1_DQ[35]/DDR1_DQ[3]  | DDR1_MA[3]                          |
| DDR1_DQ[36]/DDR1_DQ[4]  | DDR1_MA[4]                          |
| DDR1_DQ[37]/DDR1_DQ[5]  | DDR1_MA[5]/DDR1_CAA[0]/DDR1_MA[5]   |
| DDR1_DQ[38]/DDR1_DQ[6]  | DDR1_MA[6]/DDR1_CAA[2]/DDR1_MA[6]   |
| DDR1_DQ[39]/DDR1_DQ[7]  | DDR1_MA[7]/DDR1_CAA[4]/DDR1_MA[7]   |
| DDR1_DQ[40]/DDR1_DQ[8]  | DDR1_MA[8]/DDR1_CAA[3]/DDR1_MA[8]   |
| DDR1_DQ[41]/DDR1_DQ[9]  | DDR1_MA[9]/DDR1_CAA[1]/DDR1_MA[9]   |
| DDR1_DQ[42]/DDR1_DQ[10] | DDR1_MA[10]/DDR1_CAB[7]/DDR1_MA[10] |
| DDR1_DQ[43]/DDR1_DQ[11] | DDR1_MA[11]/DDR1_CAA[7]/DDR1_MA[11] |
| DDR1_DQ[44]/DDR1_DQ[12] | DDR1_MA[12]/DDR1_CAA[6]/DDR1_MA[12] |
| DDR1_DQ[45]/DDR1_DQ[13] | DDR1_MA[13]/DDR1_CAB[0]/DDR1_MA[13] |
| DDR1_DQ[46]/DDR1_DQ[14] | DDR1_MA[14]/DDR1_CAA[8]/DDR1_BG[1]  |
| DDR1_DQ[47]/DDR1_DQ[15] | DDR1_MA[15]/DDR1_CAA[9]/DDR1_ACT1   |
| DDR1_DQ[48]             |                                     |
| DDR1_DQ[49]             | DDR1_PAS1                           |
| DDR1_DQ[50]             | DDR1_ALERT1                         |
| DDR1_DQ[51]             |                                     |
| DDR1_DQ[52]             |                                     |
| DDR1_DQ[53]             |                                     |
| DDR1_DQ[54]             | DDR1_DQS[N]0/DDR0_DQS[N]0           |
| DDR1_DQ[55]             | DDR1_DQS[N]1/DDR0_DQS[N]1           |
| DDR1_DQ[56]             | DDR1_DQS[N]2/DDR0_DQS[N]2           |
| DDR1_DQ[57]             | DDR1_DQS[N]3/DDR0_DQS[N]3           |
| DDR1_DQ[58]             | DDR1_DQS[N]4/DDR1_DQS[N]4           |
| DDR1_DQ[59]             | DDR1_DQS[N]5/DDR1_DQS[N]5           |
| DDR1_DQ[60]             | DDR1_DQS[N]6/DDR1_DQS[N]6           |
| DDR1_DQ[61]             |                                     |
| DDR1_DQ[62]             | DDR1_DQS[P]0/DDR0_DQS[P]0           |
| DDR1_DQ[63]             | DDR1_DQS[P]1/DDR0_DQS[P]1           |
|                         | DDR1_DQS[P]2/DDR0_DQS[P]2           |
|                         | DDR1_DQS[P]3/DDR0_DQS[P]3           |
|                         | DDR1_DQS[P]4/DDR1_DQS[P]4           |
|                         | DDR1_DQS[P]5/DDR1_DQS[P]5           |
| DDR1_ECC[0]             | DDR1_DQS[P]6/DDR1_DQS[P]6           |
| DDR1_ECC[1]             | DDR1_DQS[P]7/DDR1_DQS[P]7           |
| DDR1_ECC[2]             | DDR1_DQS[P]8/DDR1_DQS[P]8           |
| DDR1_ECC[3]             | DDR1_DQS[P]9/DDR1_DQS[P]9           |
| DDR1_ECC[4]             | DDR1_DQS[P]10/DDR1_DQS[P]10         |
| DDR1_ECC[5]             | DDR1_DQS[P]11/DDR1_DQS[P]11         |
| DDR1_ECC[6]             | DDR1_DQS[P]12/DDR1_DQS[P]12         |
| DDR1_ECC[7]             | DDR1_DQS[P]13/DDR1_DQS[P]13         |
|                         | DDR1_DQS[P]14/DDR1_DQS[P]14         |
|                         | DDR1_DQS[P]15/DDR1_DQS[P]15         |
|                         | DDR1_DQS[P]16/DDR1_DQS[P]16         |
|                         | DDR1_DQS[P]17/DDR1_DQS[P]17         |
|                         | DDR1_DQS[P]18/DDR1_DQS[P]18         |
|                         | DDR1_DQS[P]19/DDR1_DQS[P]19         |
|                         | DDR1_DQS[P]20/DDR1_DQS[P]20         |
|                         | DDR1_DQS[P]21/DDR1_DQS[P]21         |
|                         | DDR1_DQS[P]22/DDR1_DQS[P]22         |
|                         | DDR1_DQS[P]23/DDR1_DQS[P]23         |
|                         | DDR1_DQS[P]24/DDR1_DQS[P]24         |
|                         | DDR1_DQS[P]25/DDR1_DQS[P]25         |
|                         | DDR1_DQS[P]26/DDR1_DQS[P]26         |
|                         | DDR1_DQS[P]27/DDR1_DQS[P]27         |
|                         | DDR1_DQS[P]28/DDR1_DQS[P]28         |
|                         | DDR1_DQS[P]29/DDR1_DQS[P]29         |
|                         | DDR1_DQS[P]30/DDR1_DQS[P]30         |
|                         | DDR1_DQS[P]31/DDR1_DQS[P]31         |
|                         | DDR1_DQS[P]32/DDR1_DQS[P]32         |
|                         | DDR1_DQS[P]33/DDR1_DQS[P]33         |
|                         | DDR1_DQS[P]34/DDR1_DQS[P]34         |
|                         | DDR1_DQS[P]35/DDR1_DQS[P]35         |
|                         | DDR1_DQS[P]36/DDR1_DQS[P]36         |
|                         | DDR1_DQS[P]37/DDR1_DQS[P]37         |
|                         | DDR1_DQS[P]38/DDR1_DQS[P]38         |
|                         | DDR1_DQS[P]39/DDR1_DQS[P]39         |
|                         | DDR1_DQS[P]40/DDR1_DQS[P]40         |
|                         | DDR1_DQS[P]41/DDR1_DQS[P]41         |
|                         | DDR1_DQS[P]42/DDR1_DQS[P]42         |
|                         | DDR1_DQS[P]43/DDR1_DQS[P]43         |
|                         | DDR1_DQS[P]44/DDR1_DQS[P]44         |
|                         | DDR1_DQS[P]45/DDR1_DQS[P]45         |
|                         | DDR1_DQS[P]46/DDR1_DQS[P]46         |
|                         | DDR1_DQS[P]47/DDR1_DQS[P]47         |
|                         | DDR1_DQS[P]48/DDR1_DQS[P]48         |
|                         | DDR1_DQS[P]49/DDR1_DQS[P]49         |
|                         | DDR1_DQS[P]50/DDR1_DQS[P]50         |
|                         | DDR1_DQS[P]51/DDR1_DQS[P]51         |
|                         | DDR1_DQS[P]52/DDR1_DQS[P]52         |
|                         | DDR1_DQS[P]53/DDR1_DQS[P]53         |
|                         | DDR1_DQS[P]54/DDR1_DQS[P]54         |
|                         | DDR1_DQS[P]55/DDR1_DQS[P]55         |
|                         | DDR1_DQS[P]56/DDR1_DQS[P]56         |
|                         | DDR1_DQS[P]57/DDR1_DQS[P]57         |
|                         | DDR1_DQS[P]58/DDR1_DQS[P]58         |
|                         | DDR1_DQS[P]59/DDR1_DQS[P]59         |
|                         | DDR1_DQS[P]60/DDR1_DQS[P]60         |
|                         | DDR1_DQS[P]61/DDR1_DQS[P]61         |
|                         | DDR1_DQS[P]62/DDR1_DQS[P]62         |
|                         | DDR1_DQS[P]63/DDR1_DQS[P]63         |
|                         | DDR1_DQS[P]64/DDR1_DQS[P]64         |
|                         | DDR1_DQS[P]65/DDR1_DQS[P]65         |
|                         | DDR1_DQS[P]66/DDR1_DQS[P]66         |
|                         | DDR1_DQS[P]67/DDR1_DQS[P]67         |
|                         | DDR1_DQS[P]68/DDR1_DQS[P]68         |
|                         | DDR1_DQS[P]69/DDR1_DQS[P]69         |
|                         | DDR1_DQS[P]70/DDR1_DQS[P]70         |
|                         | DDR1_DQS[P]71/DDR1_DQS[P]71         |
|                         | DDR1_DQS[P]72/DDR1_DQS[P]72         |
|                         | DDR1_DQS[P]73/DDR1_DQS[P]73         |
|                         | DDR1_DQS[P]74/DDR1_DQS[P]74         |
|                         | DDR1_DQS[P]75/DDR1_DQS[P]75         |
|                         | DDR1_DQS[P]76/DDR1_DQS[P]76         |
|                         | DDR1_DQS[P]77/DDR1_DQS[P]77         |
|                         | DDR1_DQS[P]78/DDR1_DQS[P]78         |
|                         | DDR1_DQS[P]79/DDR1_DQS[P]79         |
|                         | DDR1_DQS[P]80/DDR1_DQS[P]80         |
|                         | DDR1_DQS[P]81/DDR1_DQS[P]81         |
|                         | DDR1_DQS[P]82/DDR1_DQS[P]82         |
|                         | DDR1_DQS[P]83/DDR1_DQS[P]83         |
|                         | DDR1_DQS[P]84/DDR1_DQS[P]84         |
|                         | DDR1_DQS[P]85/DDR1_DQS[P]85         |
|                         | DDR1_DQS[P]86/DDR1_DQS[P]86         |
|                         | DDR1_DQS[P]87/DDR1_DQS[P]87         |
|                         | DDR1_DQS[P]88/DDR1_DQS[P]88         |
|                         | DDR1_DQS[P]89/DDR1_DQS[P]89         |
|                         | DDR1_DQS[P]90/DDR1_DQS[P]90         |
|                         | DDR1_DQS[P]91/DDR1_DQS[P]91         |
|                         | DDR1_DQS[P]92/DDR1_DQS[P]92         |
|                         | DDR1_DQS[P]93/DDR1_DQS[P]93         |
|                         | DDR1_DQS[P]94/DDR1_DQS[P]94         |
|                         | DDR1_DQS[P]95/DDR1_DQS[P]95         |
|                         | DDR1_DQS[P]96/DDR1_DQS[P]96         |
|                         | DDR1_DQS[P]97/DDR1_DQS[P]97         |
|                         | DDR1_DQS[P]98/DDR1_DQS[P]98         |
|                         | DDR1_DQS[P]99/DDR1_DQS[P]99         |
|                         | DDR1_DQS[P]100/DDR1_DQS[P]100       |
|                         | DDR1_DQS[P]101/DDR1_DQS[P]101       |
|                         | DDR1_DQS[P]102/DDR1_DQS[P]102       |
|                         | DDR1_DQS[P]103/DDR1_DQS[P]103       |
|                         | DDR1_DQS[P]104/DDR1_DQS[P]104       |
|                         | DDR1_DQS[P]105/DDR1_DQS[P]105       |
|                         | DDR1_DQS[P]106/DDR1_DQS[P]106       |
|                         | DDR1_DQS[P]107/DDR1_DQS[P]107       |
|                         | DDR1_DQS[P]108/DDR1_DQS[P]108       |
|                         | DDR1_DQS[P]109/DDR1_DQS[P]109       |
|                         | DDR1_DQS[P]110/DDR1_DQS[P]110       |
|                         | DDR1_DQS[P]111/DDR1_DQS[P]111       |
|                         | DDR1_DQS[P]112/DDR1_DQS[P]112       |
|                         | DDR1_DQS[P]113/DDR1_DQS[P]113       |
|                         | DDR1_DQS[P]114/DDR1_DQS[P]114       |
|                         | DDR1_DQS[P]115/DDR1_DQS[P]115       |
|                         | DDR1_DQS[P]116/DDR1_DQS[P]116       |
|                         | DDR1_DQS[P]117/DDR1_DQS[P]117       |
|                         | DDR1_DQS[P]118/DDR1_DQS[P]118       |
|                         | DDR1_DQS[P]119/DDR1_DQS[P]119       |
|                         | DDR1_DQS[P]120/DDR1_DQS[P]120       |
|                         | DDR1_DQS[P]121/DDR1_DQS[P]121       |
|                         | DDR1_DQS[P]122/DDR1_DQS[P]122       |
|                         | DDR1_DQS[P]123/DDR1_DQS[P]123       |
|                         | DDR1_DQS[P]124/DDR1_DQS[P]124       |
|                         | DDR1_DQS[P]125/DDR1_DQS[P]125       |
|                         | DDR1_DQS[P]126/DDR1_DQS[P]126       |
|                         | DDR1_DQS[P]127/DDR1_DQS[P]127       |
|                         | DDR1_DQS[P]128/DDR1_DQS[P]128       |
|                         | DDR1_DQS[P]129/DDR1_DQS[P]129       |
|                         | DDR1_DQS[P]130/DDR1_DQS[P]130       |
|                         | DDR1_DQS[P]131/DDR1_DQS[P]131       |
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|                         | DDR1_DQS[P]133/DDR1_DQS[P]133       |
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|                         | DDR1_DQS[P]135/DDR1_DQS[P]135       |
|                         | DDR1_DQS[P]136/DDR1_DQS[P]136       |
|                         | DDR1_DQS[P]137/DDR1_DQS[P]137       |
|                         | DDR1_DQS[P]138/DDR1_DQS[P]138       |
|                         | DDR1_DQS[P]139/DDR1_DQS[P]139       |
|                         | DDR1_DQS[P]140/DDR1_DQS[P]140       |
|                         | DDR1_DQS[P]141/DDR1_DQS[P]141       |
|                         | DDR1_DQS[P]142/DDR1_DQS[P]142       |
|                         | DDR1_DQS[P]143/DDR1_DQS[P]143       |
|                         | DDR1_DQS[P]144/DDR1_DQS[P]144       |
|                         | DDR1_DQS[P]145/DDR1_DQS[P]145       |
|                         | DDR1_DQS[P]146/DDR1_DQS[P]146       |
|                         | DDR1_DQS[P]147/DDR1_DQS[P]147       |
|                         | DDR1_DQS[P]148/DDR1_DQS[P]148       |
|                         | DDR1_DQS[P]149/DDR1_DQS[P]149       |
|                         | DDR1_DQS[P]150/DDR1_DQS[P]150       |
|                         | DDR1_DQS[P]151/DDR1_DQS[P]151       |
|                         | DDR1_DQS[P]152/DDR1_DQS[P]152       |
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|                         | DDR1_DQS[P]154/DDR1_DQS[P]154       |
|                         | DDR1_DQS[P]155/DDR1_DQS[P]155       |
|                         | DDR1_DQS[P]156/DDR1_DQS[P]156       |
|                         | DDR1_DQS[P]157/DDR1_DQS[P]157       |
|                         | DDR1_DQS[P]158/DDR1_DQS[P]158       |
|                         | DDR1_DQS[P]159/DDR1_DQS[P]159       |
|                         | DDR1_DQS[P]160/DDR1_DQS[P]160       |
|                         | DDR1_DQS[P]161/DDR1_DQS[P]161       |
|                         | DDR1_DQS[P]162/DDR1_DQS[P]162       |
|                         | DDR1_DQS[P]163/DDR1_DQS[P]163       |
|                         | DDR1_DQS[P]164/DDR1_DQS[P]164       |
|                         | DDR1_DQS[P]165/DDR1_DQS[P]165       |
|                         | DDR1_DQS[P]166/DDR1_DQS[P]166       |
|                         | DDR1_DQS[P]167/DDR1_DQS[P]167       |
|                         | DDR1_DQS[P]168/DDR1_DQS[P]168       |
|                         | DDR1_DQS[P]169/DDR1_DQS[P]169       |
|                         | DDR1_DQS[P]170/DDR1_DQS[P]170       |
|                         | DDR1_DQS[P]171/DDR1_DQS[P]171       |
|                         | DDR1_DQS[P]172/DDR1_DQS[P]172       |
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|                         | DDR1_DQS[P]174/DDR1_DQS[P]174       |
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|                         | DDR1_DQS[P]176/DDR1_DQS[P]176       |
|                         | DDR1_DQS[P]177/DDR1_DQS[P]177       |
|                         | DDR1_DQS[P]178/DDR1_DQS[P]178       |
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|                         | DDR1_DQS[P]182/DDR1_DQS[P]182       |
|                         | DDR1_DQS[P]183/DDR1_DQS[P]183       |
|                         | DDR1_DQS[P]184/DDR1_DQS[P]184       |
|                         | DDR1_DQS[P]185/DDR1_DQS[P]185       |
|                         | DDR1_DQS[P]186/DDR1_DQS[P]186       |
|                         | DDR1_DQS[P]187/DDR1_DQS[P]187       |
|                         | DDR1_DQS[P]188/DDR1_DQS[P]188       |
|                         | DDR1_DQS[P]189/DDR1_DQS[P]189       |
|                         | DDR1_DQS[P]190/DDR1_DQS[P]190       |
|                         | DDR1_DQS[P]191/DDR1_DQS[P]191       |
|                         | DDR1_DQS[P]192/DDR1_DQS[P]192       |
|                         | DDR1_DQS[P]193/DDR1_DQS[P]193       |
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|                         | DDR1_DQS[P]197/DDR1_DQS[P]197       |
|                         | DDR1_DQS[P]198/DDR1_DQS[P]198       |
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|                         | DDR1_DQS[P]257/DDR1_DQS[P]257       |
|                         | DDR1_DQS[P]258/DDR1_DQS[P]258       |
|                         | DDR1_DQS[P]259/DDR1_DQS[P]259       |
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|                         | DDR1_DQS[P]264/DDR1_DQS[P]264       |
|                         | DDR1_DQS[P]265/DDR1_DQS[P]265       |
|                         | DDR1_DQS[P]266/DDR1_DQS[P]266       |
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|                         | DDR1_DQS[P]270/DDR1_DQS[P]270       |
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|                         | DDR1_DQS[P]273/DDR1_DQS[P]273       |
|                         | DDR1_DQS[P]274/DDR1_DQS[P]274       |
|                         | DDR1_DQS[P]275/DDR1_DQS[P]275       |
|                         | DDR1_DQS[P]276/DDR1_DQS[P]276       |
|                         | DDR1_DQS[P]277/DDR1_DQS[P]277       |
|                         | DDR1_DQS[P]278/DDR1_DQS[P]278       |
|                         | DDR1_DQS[P]279/DDR1_DQS[P]279       |
|                         | DDR1_DQS[P]280/DDR1_DQS[P]280       |
|                         | DDR1_DQS[P]281/DDR1_DQS[P]281       |
|                         | DDR1_DQS[P]282/DDR1_DQS[P]282       |
|                         | DDR1_DQS[P]283/DDR1_DQS[P]283       |
|                         | DDR1_DQS[P]284/DDR1_DQS[P]284       |
|                         | DDR1_DQS[P]285/DDR1_DQS[P]285       |
|                         | DDR1_DQS[P]286/DDR1_DQS[P]286       |
|                         | DDR1_DQS[P]287/DDR1_DQS[P]287       |
|                         | DDR1_DQS[P]288/DDR1_DQS[P]288       |
|                         | DDR1_DQS[P]289/DDR1_DQS[P]289       |
|                         | DDR1_DQS[P]290/DDR1_DQS[P]290       |
|                         | DDR1_DQS[P]291/DDR1_DQS[P]291       |
|                         | DDR1_DQS[P]292/DDR1_DQS[P]292       |
|                         | DDR1_DQS[P]293/DDR1_DQS[P]293       |
|                         | DDR1_DQS[P]294/DDR1_DQS[P]294       |
|                         | DDR1_DQS[P]295/DDR1_DQS[P]295       |
|                         | DDR1_DQS[P]296/DDR1_DQS[P]296       |
|                         | DDR1_DQS[P]297/DDR1_DQS[P]297       |
|                         | DDR1_DQS[P]298/DDR1_DQS[P]298       |
|                         | DDR1_DQS[P]299/DDR1_DQS[P]299       |
|                         | DDR1_DQS[P]300/DDR1_DQS[P]300       |
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|                         | DDR1_DQS[P]302/DDR1_DQS[P]302       |
|                         | DDR1_DQS[P]303/DDR1_DQS[P]303       |
|                         | DDR1_DQS[P]304/DDR1_DQS[P]304       |
|                         | DDR1_DQS[P]305/DDR1_DQS[P]305       |
|                         | DDR1_DQS[P]306/DDR1_DQS[P]306       |
|                         | DDR1_DQS[P]307/DDR1_DQS[P]307       |
|                         | DDR1_DQS[P]308/DDR1_DQS[P]308       |
|                         | DDR1_DQS[P]309/DDR1_DQS[P]309       |
|                         | DDR1_DQS[P]310/DDR1_DQS[P]310       |
|                         | DDR1_DQS[P]311/DDR1_DQS[P]311       |
|                         | DDR1_DQS[P]312/DDR1_DQS[P]312       |
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|                         | DDR1_DQS[P]319                      |

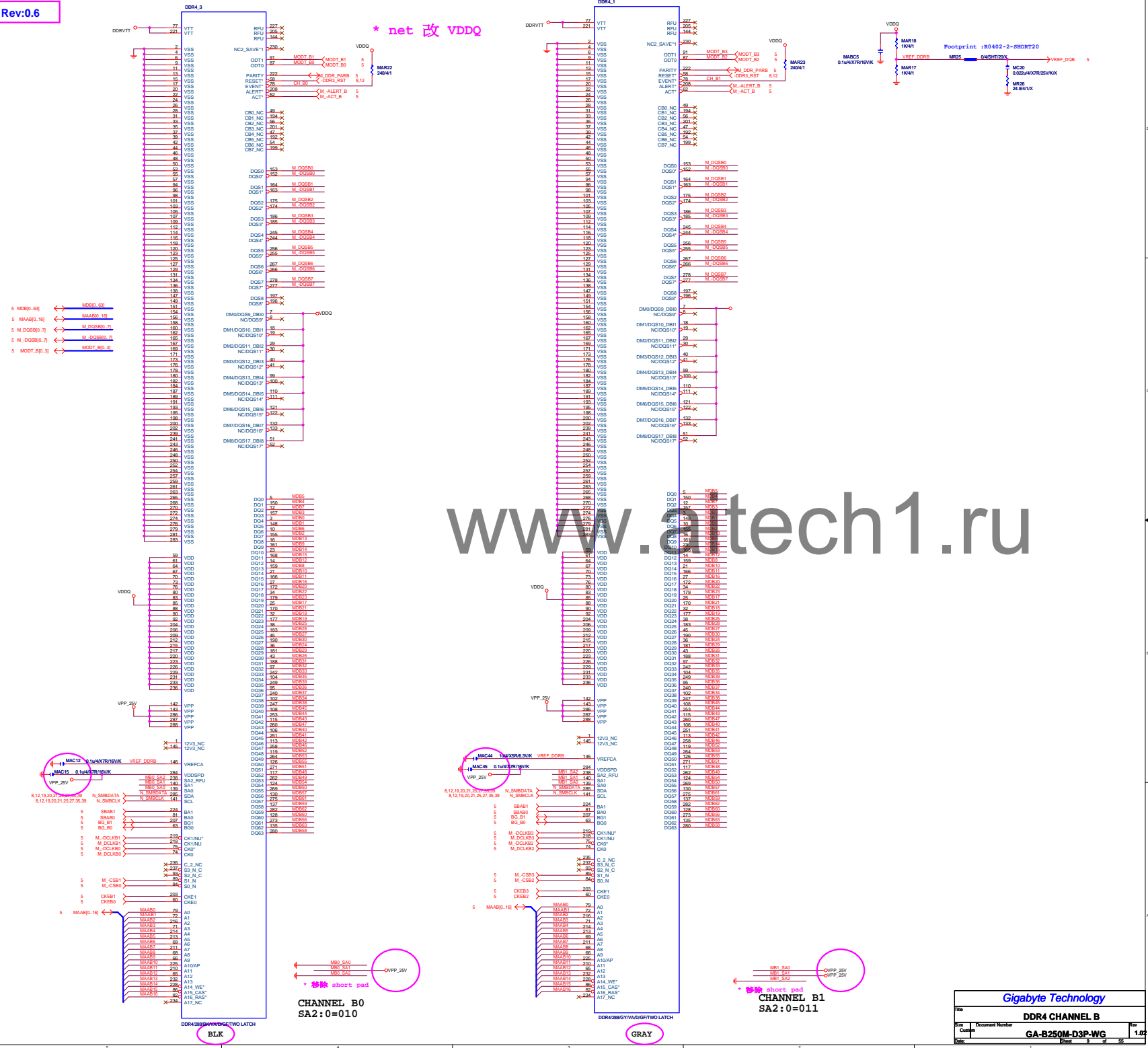




\* 刪 Vcore 電容

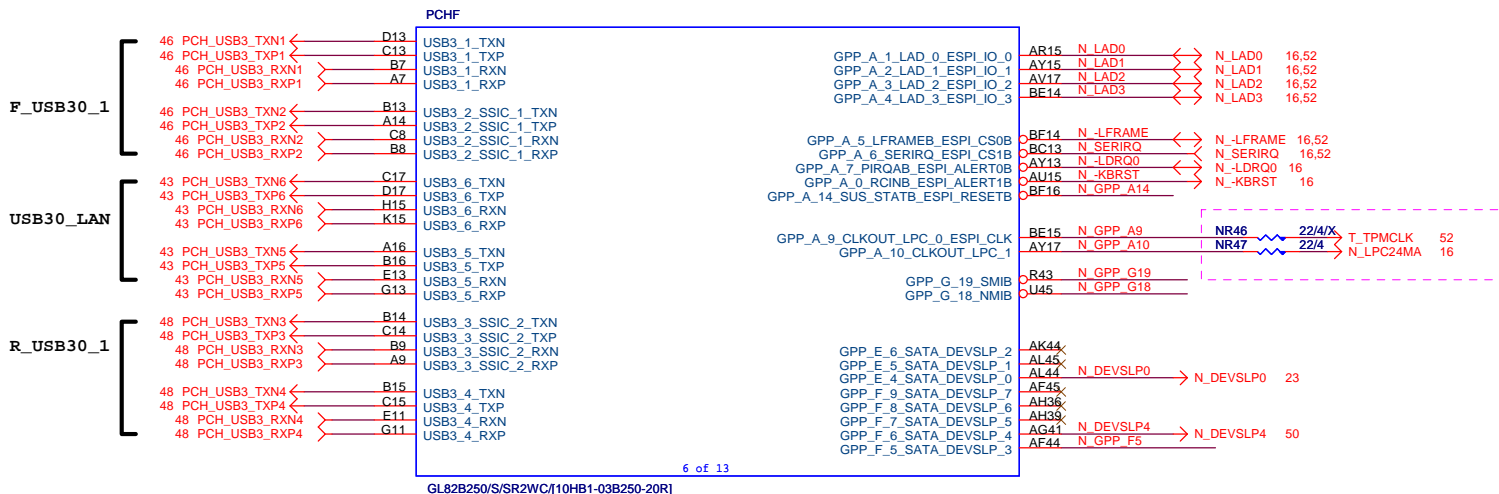
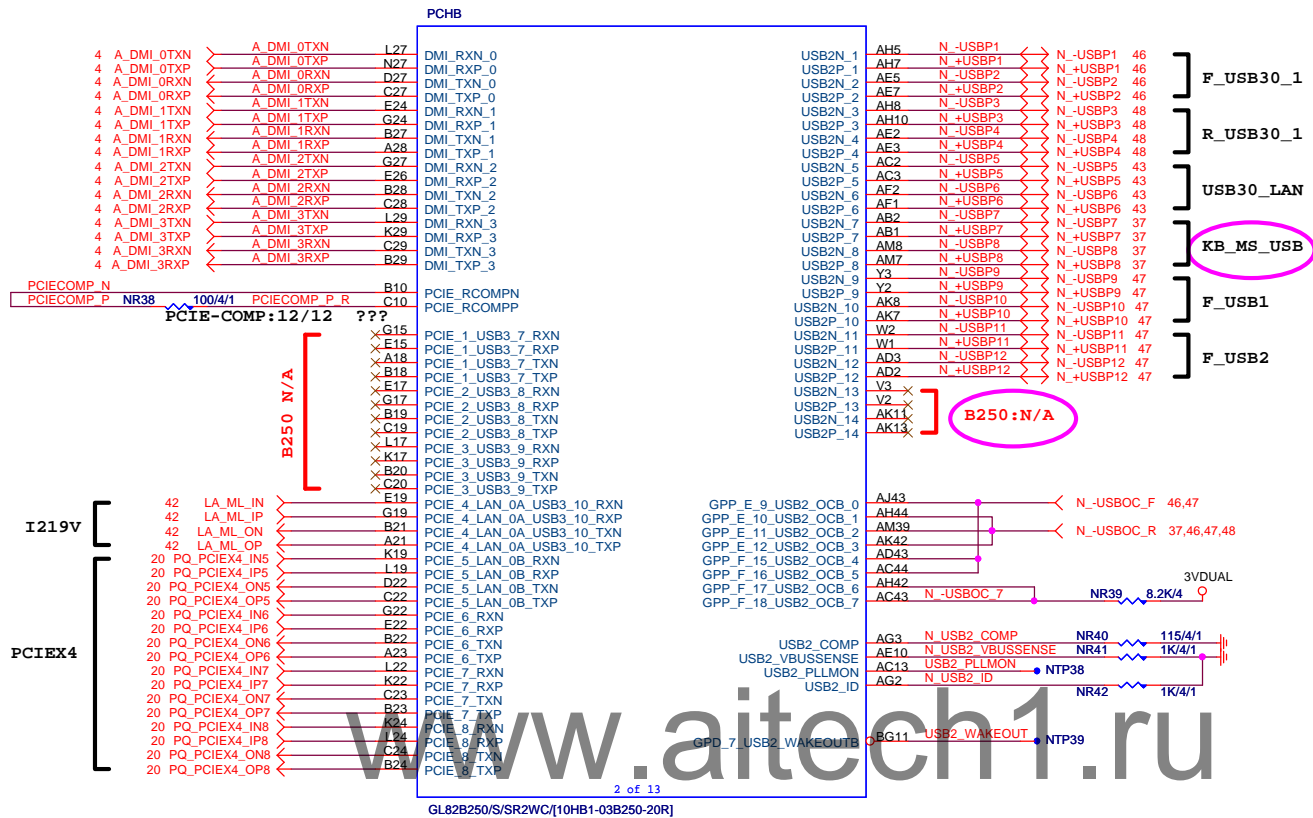








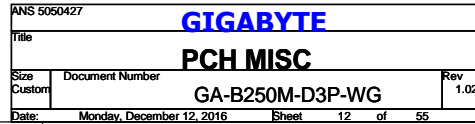




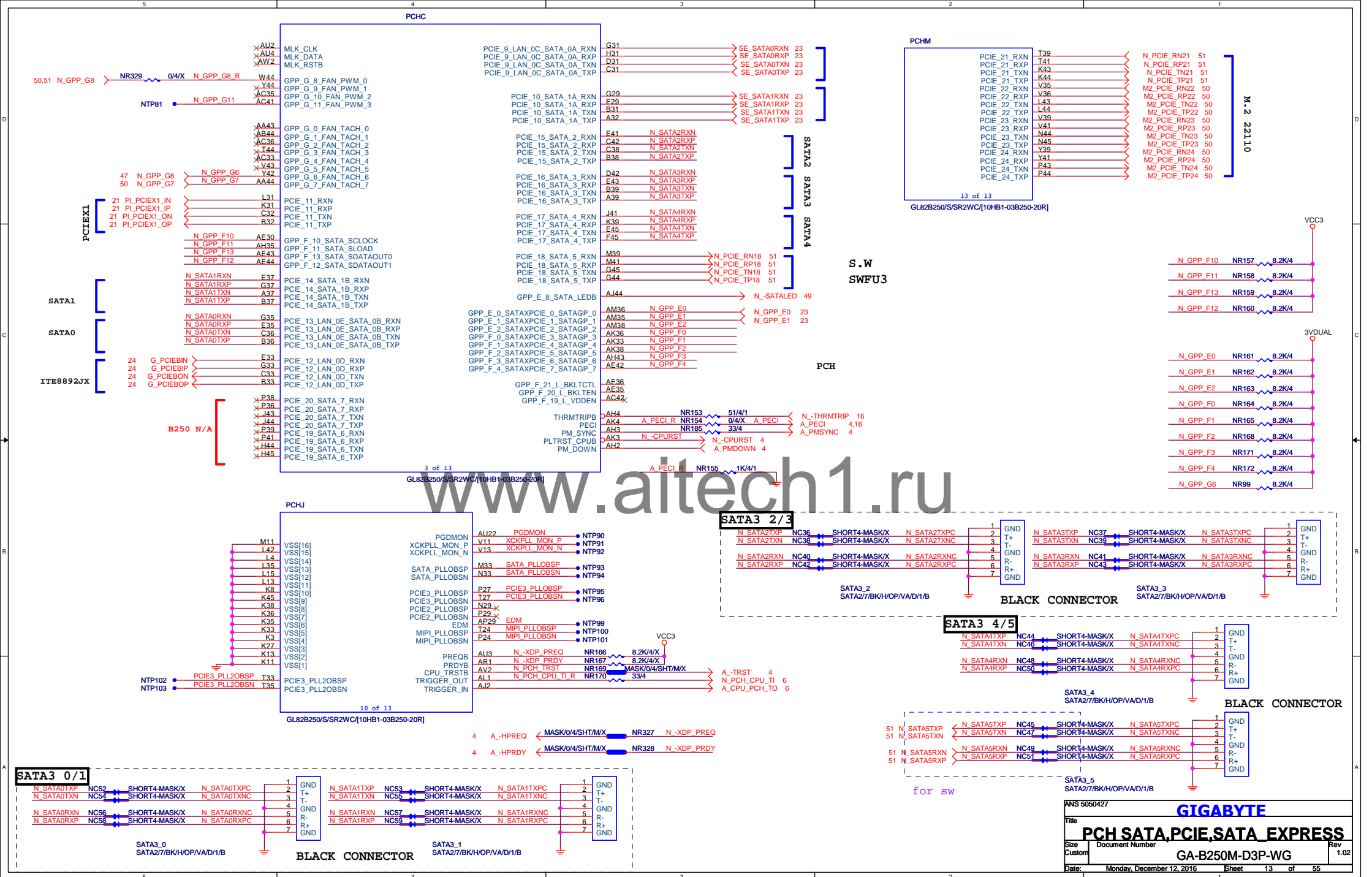
ANS 5050427

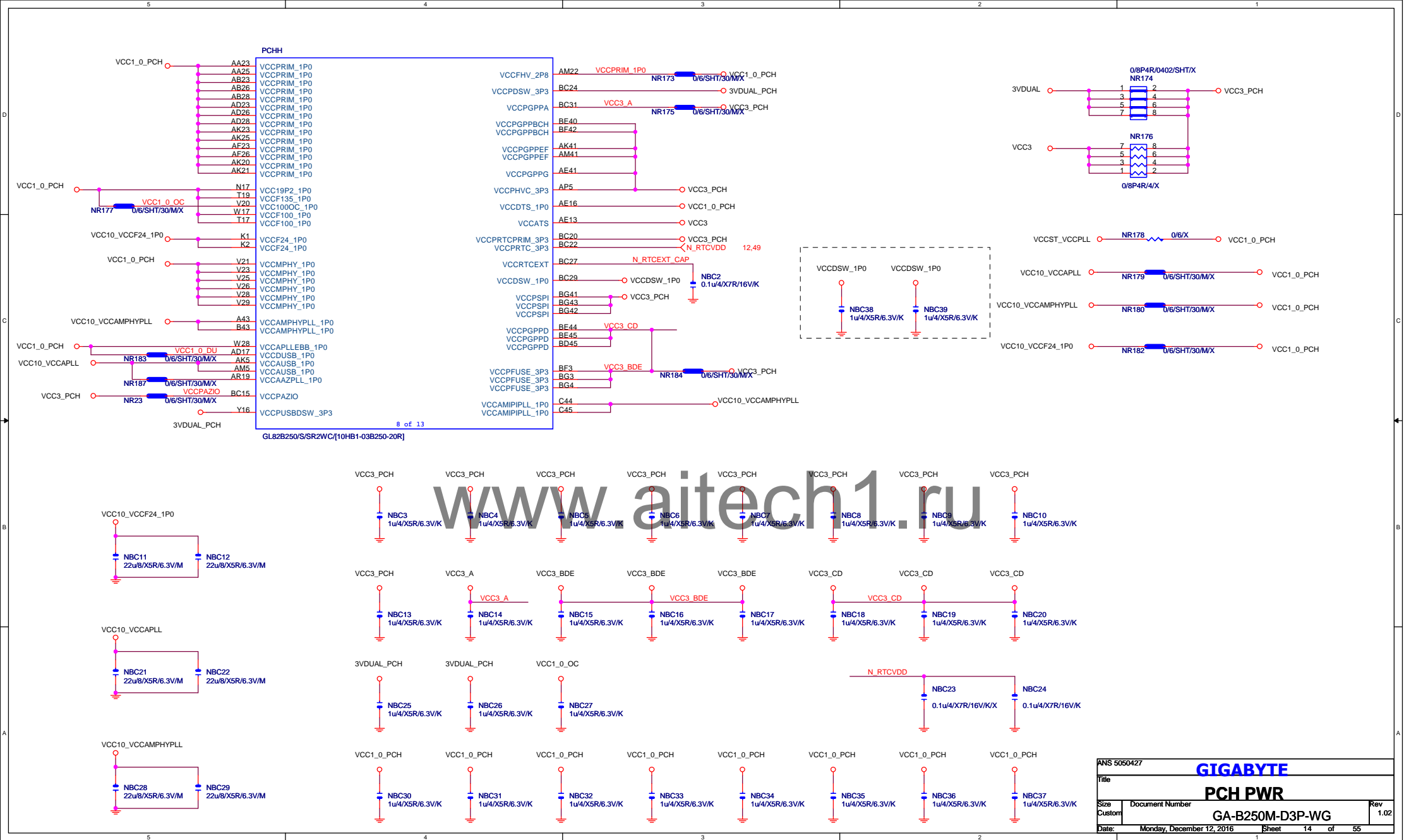
**GIGABYTE**

|       |                           |                  |                 |
|-------|---------------------------|------------------|-----------------|
| Title |                           | PCH DMI,USB,PCIE |                 |
| Size  | Custom                    | Document Number  | GA-B250M-D3P-WG |
| Date: | Monday, December 12, 2016 | Sheet            | 11 of 55        |









| PCH1 |     |     |
|------|-----|-----|
| 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 |
| BB40 | 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 |
| 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

GL82B250/S/SR2WC[10HB1-03B250-20R]

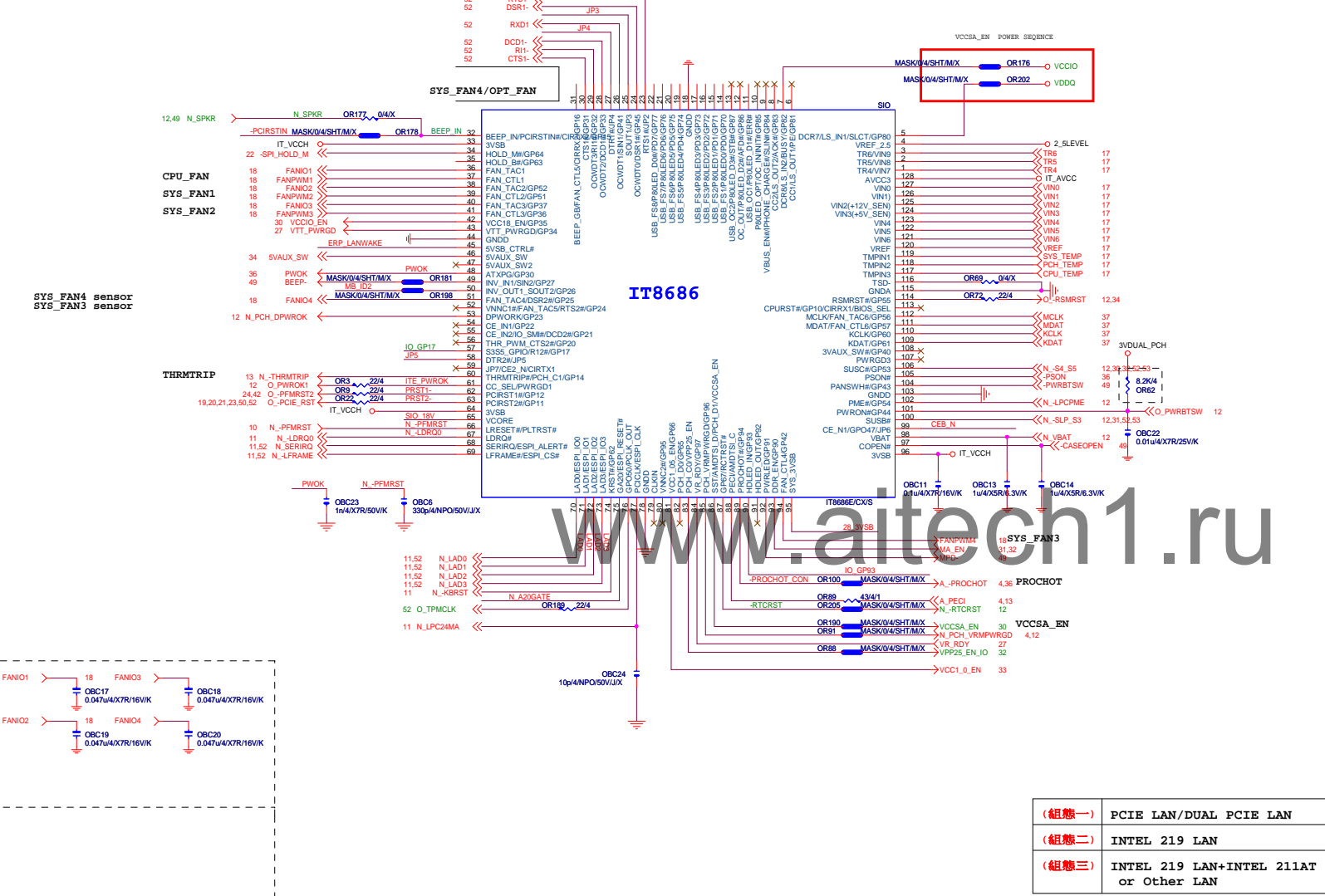
| PCHL |          |      |
|------|----------|------|
| BD34 | VSS[70]  | AB18 |
| BD39 | VSS[71]  | AB20 |
| BD7  | VSS[72]  | AB21 |
| BE2  | VSS[73]  | AB25 |
| BF43 | VSS[74]  | AB29 |
| BF2  | VSS[75]  | AB4  |
| BG18 | VSS[76]  | AB42 |
| A35  | VSS[77]  | AC10 |
| AG23 | VSS[78]  | AC16 |
| AG28 | VSS[79]  | AC38 |
| AG32 | VSS[80]  | AC4  |
| AG37 | VSS[81]  | AC5  |
| AG40 | VSS[82]  | AC7  |
| AA21 | VSS[83]  | AC8  |
| AA17 | VSS[84]  | AD1  |
| AA18 | VSS[85]  | AD18 |
| AA20 | VSS[86]  | AD20 |
| AA22 | VSS[87]  | AD21 |
| AA28 | VSS[88]  | AD25 |
| AA29 | VSS[89]  | AD29 |
| AB17 | VSS[90]  | AD45 |
| AC32 | VSS[91]  | AE11 |
| AE4  | VSS[92]  | AE14 |
| AE8  | VSS[93]  | AE32 |
| AF18 | VSS[94]  | AE33 |
| AF20 | VSS[95]  | AK29 |
| AF21 | VSS[96]  | AK30 |
| AF25 | VSS[97]  | AK32 |
| AF28 | VSS[98]  | AK35 |
| AF29 | VSS[99]  | AK39 |
| AF4  | VSS[100] | AL4  |
| AF42 | VSS[101] | AL42 |
| AG18 | 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 |
| AG32 | VSS[110] | AM32 |
| AG37 | VSS[111] | AM33 |
| AG40 | VSS[112] | AM4  |
| AH11 | VSS[113] | AN45 |
| AH13 | VSS[114] | AP10 |
| AH30 | VSS[115] | AP11 |
| AH32 | VSS[116] | AP13 |
| AH33 | VSS[117] | AP15 |
| AH38 | VSS[118] | AP22 |
| AJ1  | VSS[119] | AP27 |
| AJ17 | VSS[120] | AP31 |
| AJ18 | VSS[121] | AP33 |
| AJ20 | VSS[122] | AP34 |
| AJ21 | VSS[123] | AP39 |
| AJ23 | VSS[124] | Y4   |
| AJ26 | VSS[125] | Y8   |
| AJ28 | VSS[126] | Y16  |
| AJ29 | VSS[127] | Y17  |
| AJ45 | VSS[128] | Y18  |
| AK10 | VSS[129] | Y30  |
| AK16 | VSS[130] | Y32  |
| AK17 | VSS[131] | Y33  |
| AK18 | VSS[132] | Y38  |
| AK26 | VSS[133] | Y4   |
| AK28 | VSS[134] | Y8   |
| AM14 | VSS[135] | W18  |
| AN14 | VSS[136] | W20  |
| AP19 | VSS[137] | W21  |
| AR22 | VSS[138] | W23  |
| AR27 | VSS[139] | W25  |
| AU29 | VSS[140] | A44  |
| AU33 | VSS[141] | BE1  |
| AV1  | VSS[142] | BD1  |
| AV10 | VSS[143] | B1   |
| AV15 | VSS[144] | A2   |
| AV24 | VSS[145] | A3   |
| AV27 | VSS[146] | A4   |
| AV33 | VSS[147] | B44  |
|      | VSS[148] | B45  |
|      | VSS[149] |      |
|      | VSS[150] |      |
|      | VSS_2    |      |
|      | VSS_3    |      |

12 of 13

GL82B250/S/SR2WC[10HB1-03B250-20R]

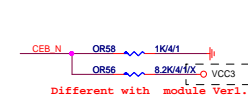


|             |  |  |                           |                |
|-------------|--|--|---------------------------|----------------|
| ANS 5050427 |  |  | <b>GIGABYTE</b>           |                |
| Title       |  |  | <b>PCH GND</b>            |                |
| Size        |  |  | Document Number           |                |
| Custom      |  |  | GA-B250M-D3P-WG           |                |
| Date:       |  |  | Monday, December 12, 2016 | Sheet 15 of 55 |
|             |  |  | Rev 1.02                  |                |

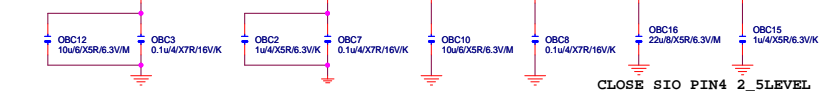


| FAN TABLE              |                      |
|------------------------|----------------------|
| CPU_FAN                | FAN_CTL1<br>FAN_TAC1 |
| SYS_FAN1               | FAN_CTL2<br>FAN_TAC2 |
| SYS_FAN2               | FAN_CTL3<br>FAN_TAC3 |
| SYS_FAN3               | FAN_CTL4<br>FAN_TAC4 |
| OPT_FAN or<br>SYS_FAN4 | FAN_CTL5<br>FAN_TAC5 |
| THRMTRIP               | PIN56                |
| PROCHOT                | PIN89                |

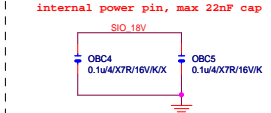
DUAL BIOS OPT STRAP



SIO CAP



SIO\_18V

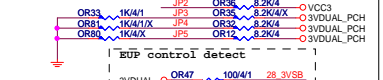


Placement CPU  
4 A-THRMTRIP <WR10\_1K/41 N-THRMTRIP  
CPU 端 A-THRMTRIP不可與PCH及SIO  
N-THRMTRIP直接連接。  
否則會出現無法拉LOW情況。

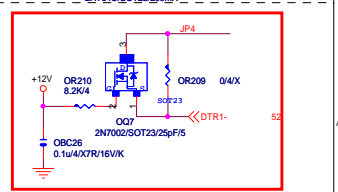
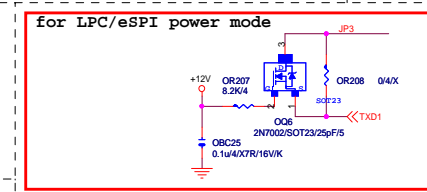
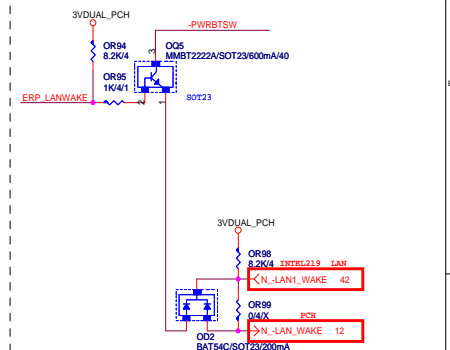
|       |   |
|-------|---|
| (組態一) | PCIE LAN/DUAL PCIE LAN                    |
| (組態二) | INTEL 219 LAN                             |
| (組態三) | INTEL 219 LAN+INTEL 211AT<br>or Other LAN |

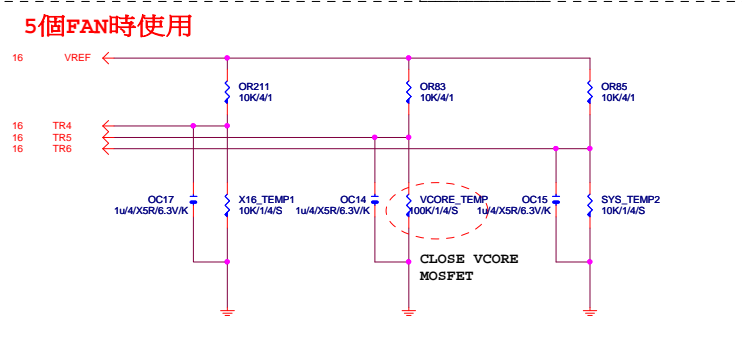
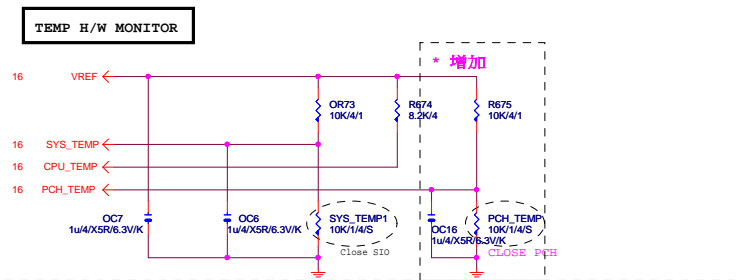


SIO STRAP

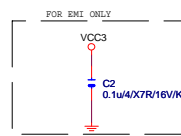
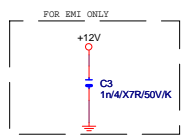
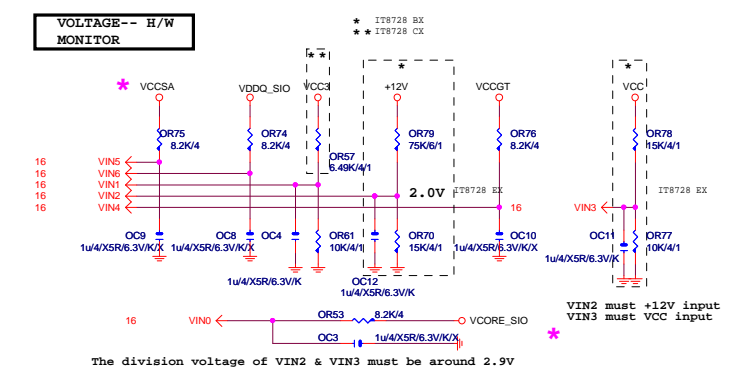


|     |     |   |
|-----|-----|---|
| JP2 | 1   | Disable WDT to rest PWROK                                   |
|     | 0   | Enable WDT to rest PWROK                                    |
| JP3 |     | Dual-BIOS CS pin mode select bit "0"<br>See the below table |
| JP4 | 1   | LPC/ESPI power VCCBT = 3.3V                                 |
|     | 0   | LPC/ESPI power VCCBT = 1.8V                                 |
| JP5 | 0   | ESPI I/F  |
| JP6 | 1   | Enable Dual BIOS Function (for GigaByte Only)               |
|     | 0   | Disable Dual BIOS Function (for GigaByte Only)              |
| JP7 |     | Dual-BIOS CE pin mode select bit "1"<br>See the below table |
|     | 1 1 | CE pin disable (Hold pin mode)                              |
| JP7 | 1 0 | CE mode 1   |
| JP3 | 0 1 | CE mode 2   |
|     | 0 0 | CE mode 3   |



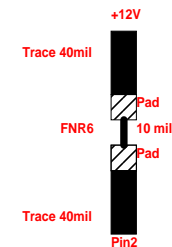


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★Update 2015-04-24

| Gigabyte Technology |                           |       |          |
|---------------------|---------------------------|-------|----------|
| Title               |                           |       |          |
| HWM,KB/MS, FAN CTRL |                           |       |          |
| Size                | Document Number           | Rev   |          |
| Custom              | GA-Z250M-D3P-WG           | 1.02  |          |
| Date:               | Monday, December 12, 2016 | Sheet | 17 of 55 |

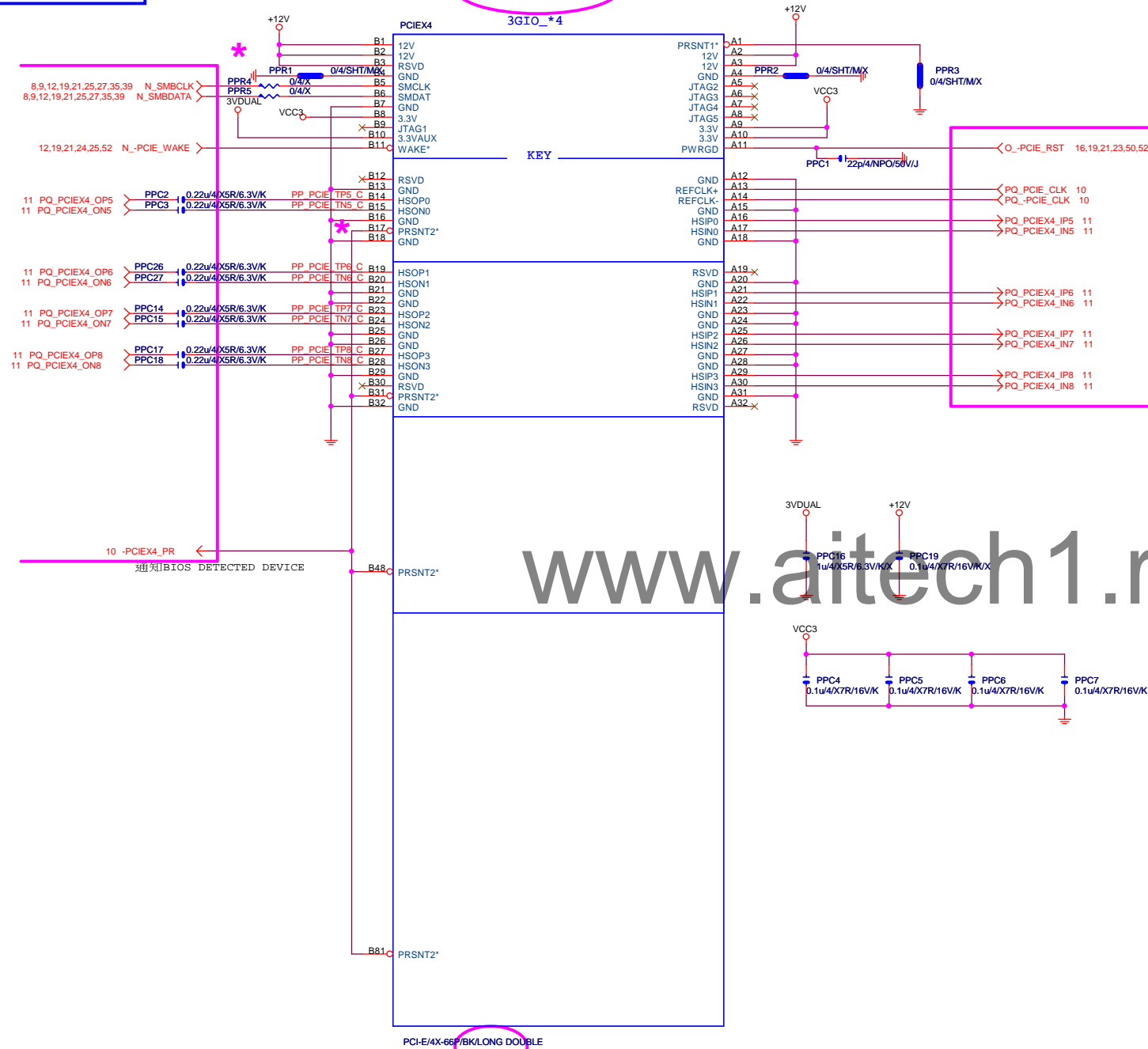
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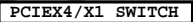
## Gigabyte Technology

|          |                           |       |          |
|----------|---------------------------|-------|----------|
| Title    |                           |       |          |
| FAN CTRL |                           |       |          |
| Size     | Document Number           |       | Rev      |
| Custom   | GA-B250M-D3P-WG           |       | 1.0      |
| Date:    | Monday, December 12, 2016 | Sheet | 18 of 55 |





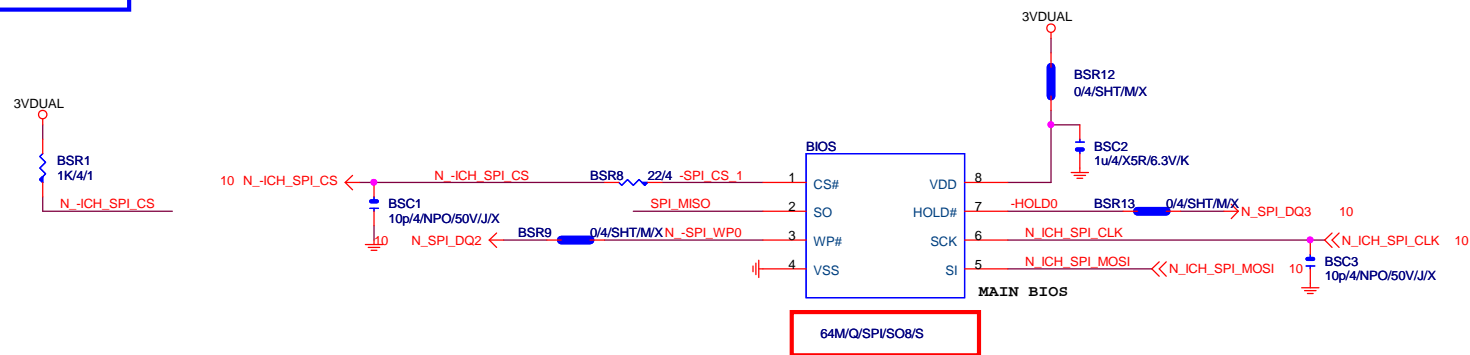




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Rev 0.1

### MOSI For DMI RX Termination Voltage



```
* (footprint 改
SOIC8-SPI-SOCKET)

* (MP footprint 改 IC8-BIOS)
```

| BOOT<br>DEVICE | GNT0 | GNT1 |
|----------------|------|------|
| LPC            | 0    | 0    |
| PCI            | 0    | 1    |
| NAND           | 1    | 0    |
| SPI            | 1    | 1    |

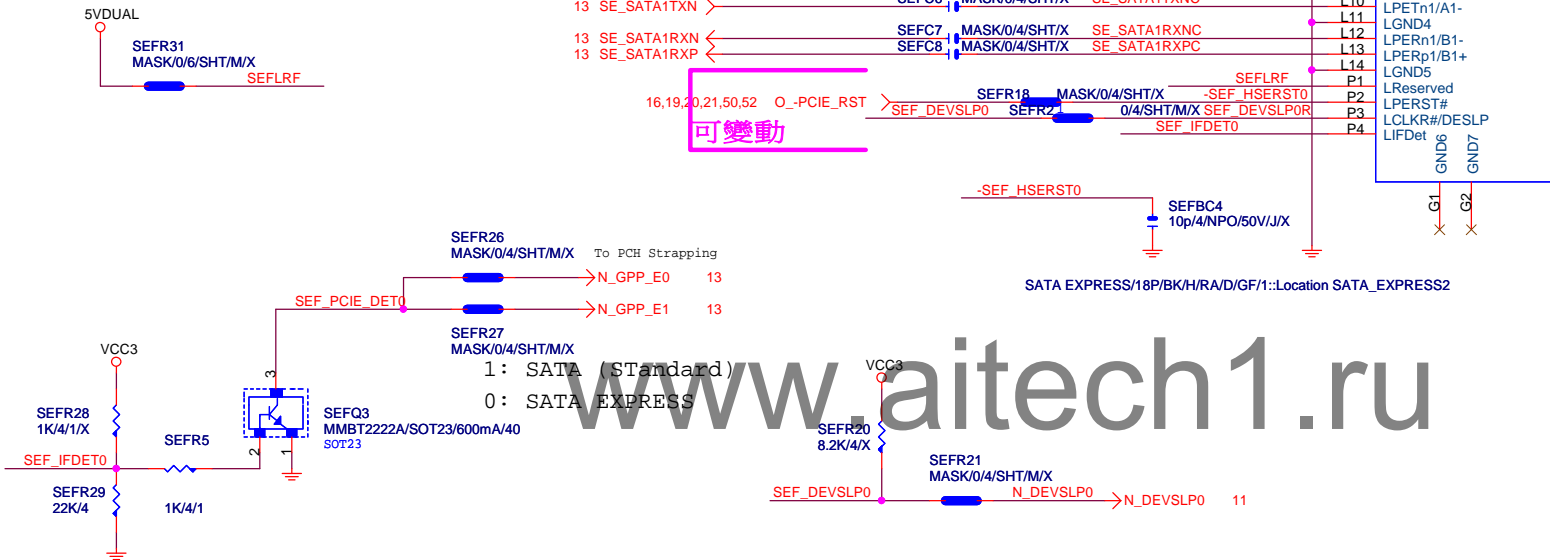
1 means floating  
0 means PD 1K

\* 試産先上 , PVT 移除

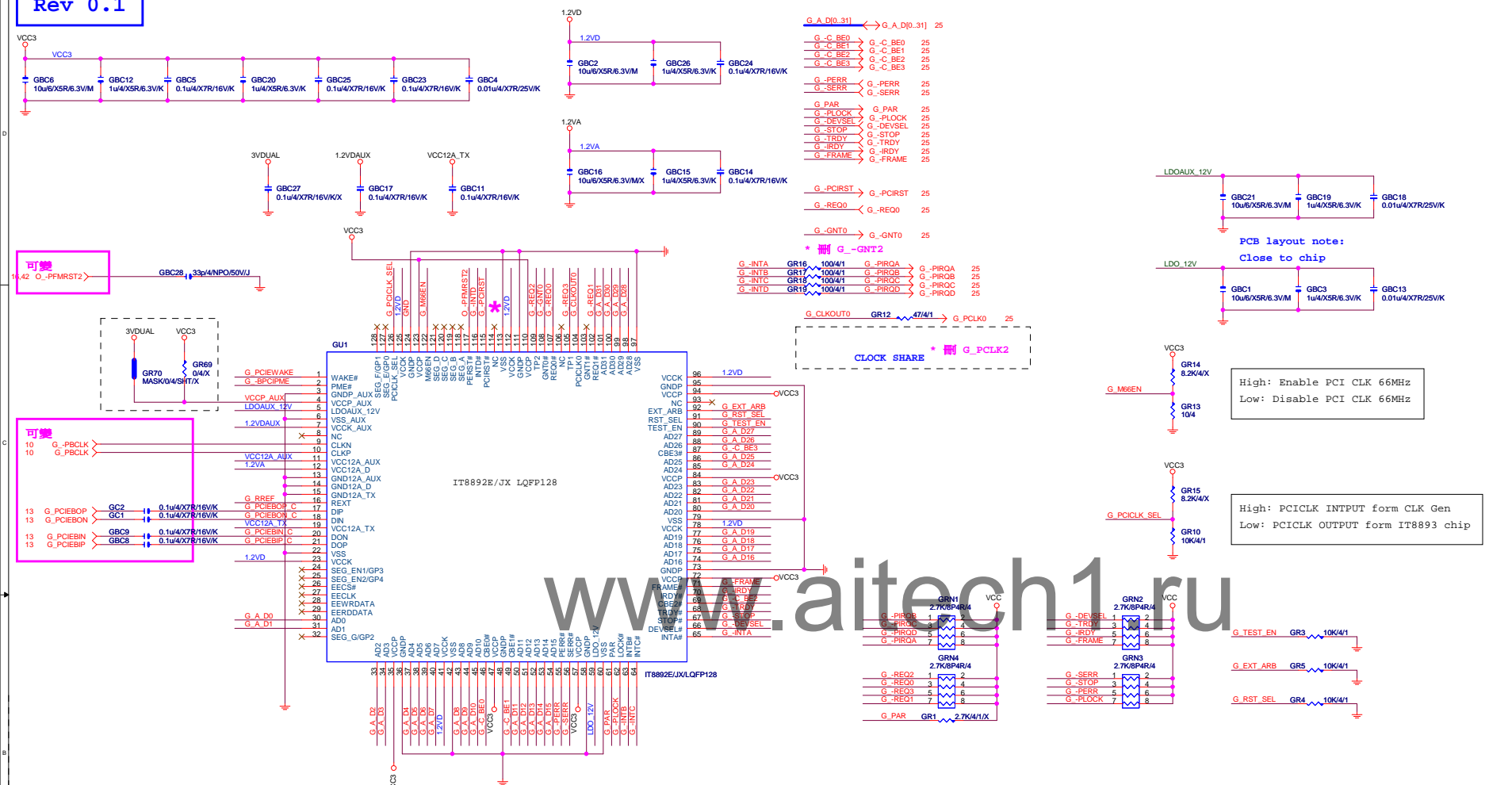
BIOS\_PH

Rev 0.7

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

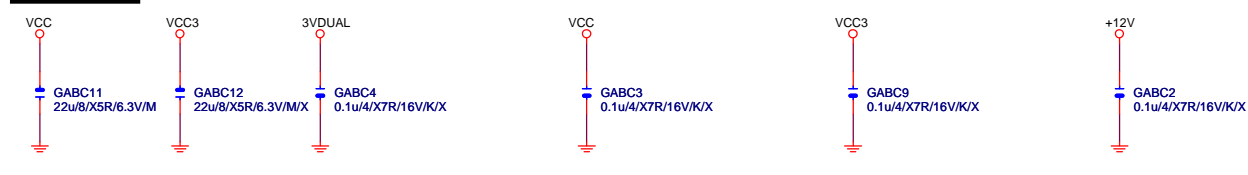
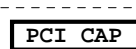
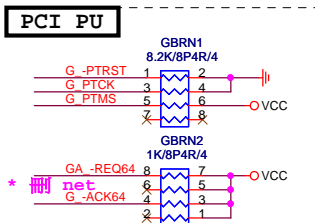
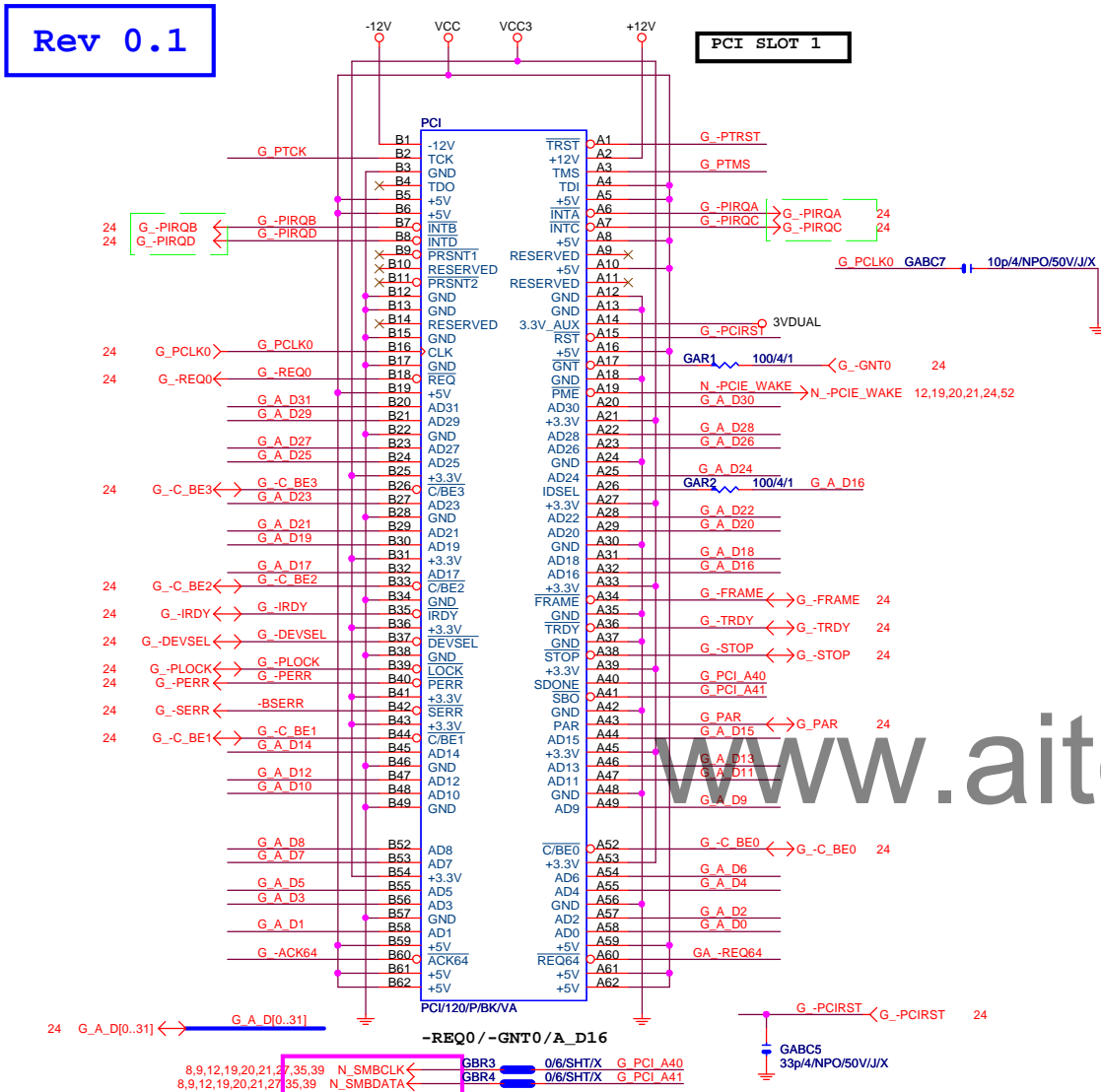


|                                   |                           |       |             |
|-----------------------------------|---------------------------|-------|-------------|
| <b><i>Gigabyte Technology</i></b> |                           |       |             |
| Title                             |                           |       |             |
| <b>SATA EXPRESS</b>               |                           |       |             |
| Size<br>Custom                    | Document Number           |       | Rev<br>1.02 |
| <b>GA-B250M-D3P-WG</b>            |                           |       |             |
| Date:                             | Monday, December 12, 2016 | Sheet | 23 of 55    |



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

Rev 0.1



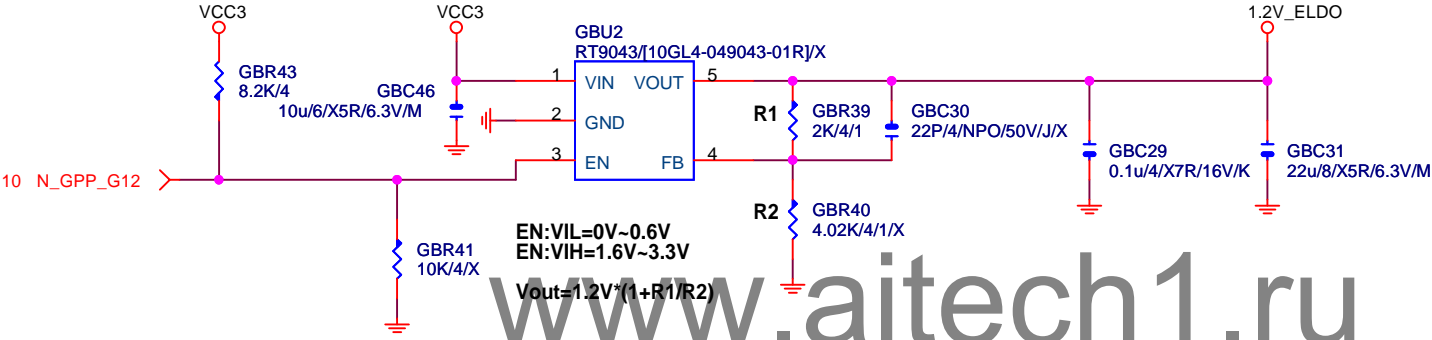
**GIGABYTE™**

| Title | PCI SLOT 1&2 |
|-------|--------------|
|-------|--------------|

|                |   |                    |
|----------------|---|--------------------|
| Size<br>Custom | Document Number<br><b>GA-B250M-D3P-WG</b> | Rev<br><b>1.02</b> |
|----------------|---|--------------------|

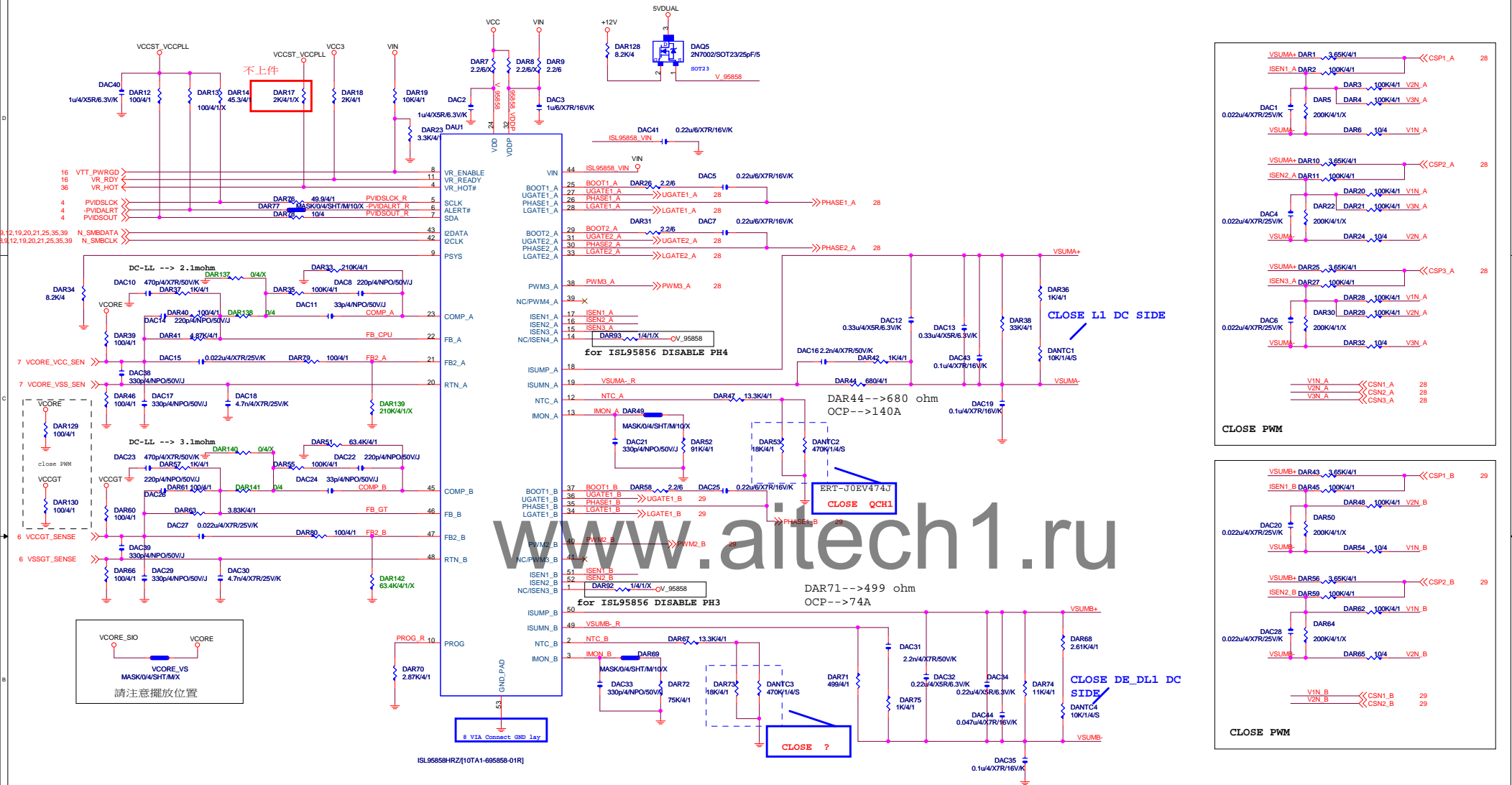
Date: Monday, December 12, 2016 Sheet 25 of 55

Rev 0.1

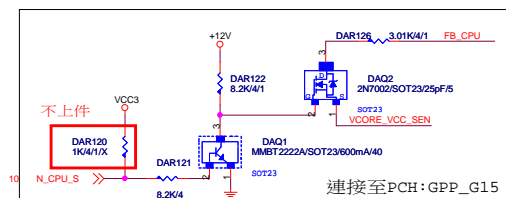
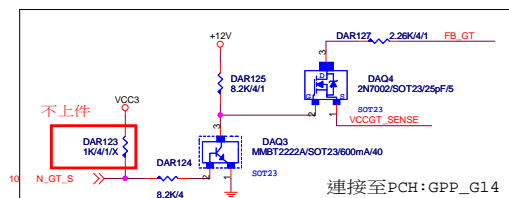


Gigabyte Technology

|               |                           |  |                |
|---------------|---------------------------|--|----------------|
| Title         |                           |  |                |
| ASM1085 POWER |                           |  |                |
| Size          | Document Number           |  | Rev            |
| Custom        | GA-B250M-D3P-WG           |  | 1.02           |
| Date:         | Monday, December 12, 2016 |  | Sheet 26 of 55 |

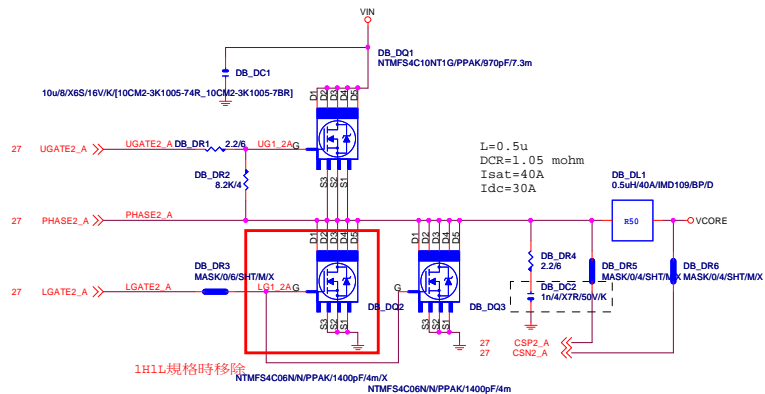
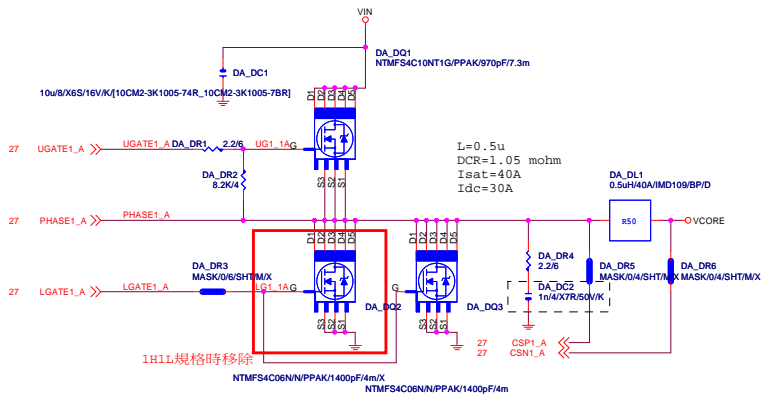


| <b>VCORE</b> | ISL95858 | ISL95868 | <b>VCCGT</b> | ISL95858 | ISL95868 |
|--------------|----------|----------|--------------|----------|----------|
| DAR137       | X        | V        | DAR140       | X        | V        |
| DAR138       | V        | X        | DAR141       | V        | X        |
| DAR139       | X        | V        | DAR142       | X        | V        |
| DAC15        | V        | X        | DAC27        | V        | X        |
| DAR79        | V        | X        | DAR80        | V        | X        |
| DAR33        | V        | X        | DAR51        | V        | X        |

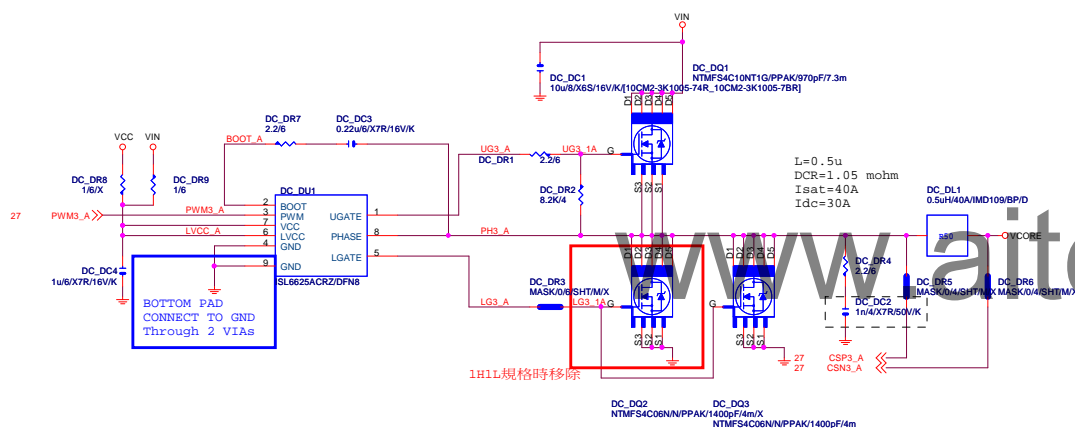
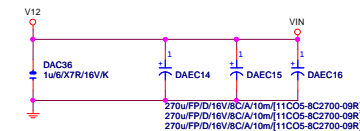


REV:0.1

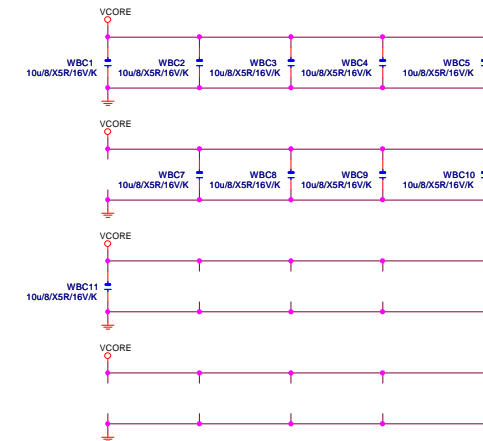
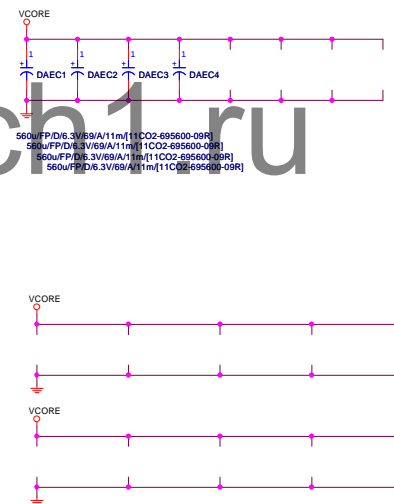
## VCORE



VIN CAP 270u\*3PCS



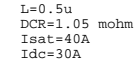
VCORE CAP 560u\*4PCS  
10u\*10PCS



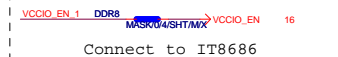
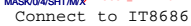
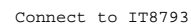
| GIGABYTE™ |                           |       |          |
|-----------|---------------------------|-------|----------|
| File      | ISL95868_MOS              |       |          |
| Size      | Document Number           | Rev   | 1.02     |
| Custom    | GA-B250M-D3P-WG           |       |          |
| Date      | Monday, December 12, 2016 | Sheet | 28 of 55 |



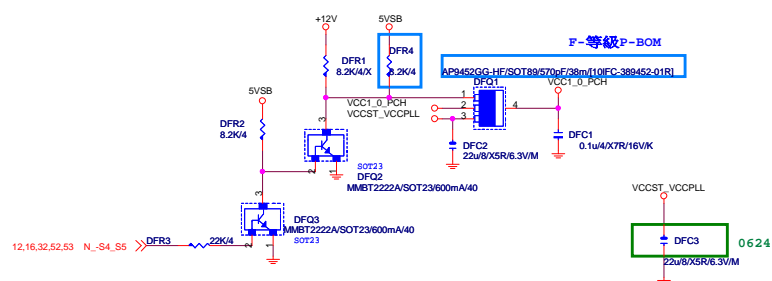
27



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VCCST\_VCCPLL



REV:0.1

DDR4

CHOKE與CAP料號可變

DDR VIN CAP  
560u\*2PCS

1.2V

SUPPORT DDR4

25A MAX

 $L=1\mu$   
 $DCR=2.5\text{ mohm}$   
 $I_{sat}=35A$   
 $I_{dc}=28A$ 

請放置CHOKE一出來位置.先預留.  
請自行確認ripple後再決定是否上件

Remote sense請從最重的負載端點拉回

PIN7-->20mil  
 PIN1-->6mil  
 PIN2-->6mil  
 PIN5-->6mil  
 PIN3-->6mil

MOSFET請依MOSFET使用規則,自行選擇  
 ON-->10IF9-040406-10R[NTMFS4C06N/N/PPAK/1400pF/4m]  
 VISHAY-->10IF9-040012-10R[SIRA12DP/PPAKS08/2070pF/4,3m]

FS=290K

OCP=40A

35 DDR\_ADJ

上件

MA\_DR38.MA\_DC15

VPP\_25V使用8120.8068A.RT8237時上件

PWR SEQ

CLOSE TO DDR POWER PLANE

For power sequence require

VPP\_25V使用8120時上件

MAU1上RT9045時上件(不可MASK)

DDRVTT

DDRVTT CAP

4 DDR\_VTT\_CTL MAR110 MASK/0/4/SHT/M/10/X DDRVTT\_EN  
 12, 6,52,53 N\_SLP\_S3 MAR111 MASK/0/4/SHT/M/10/X DDRVTT\_BOOT

GIGABYTE™

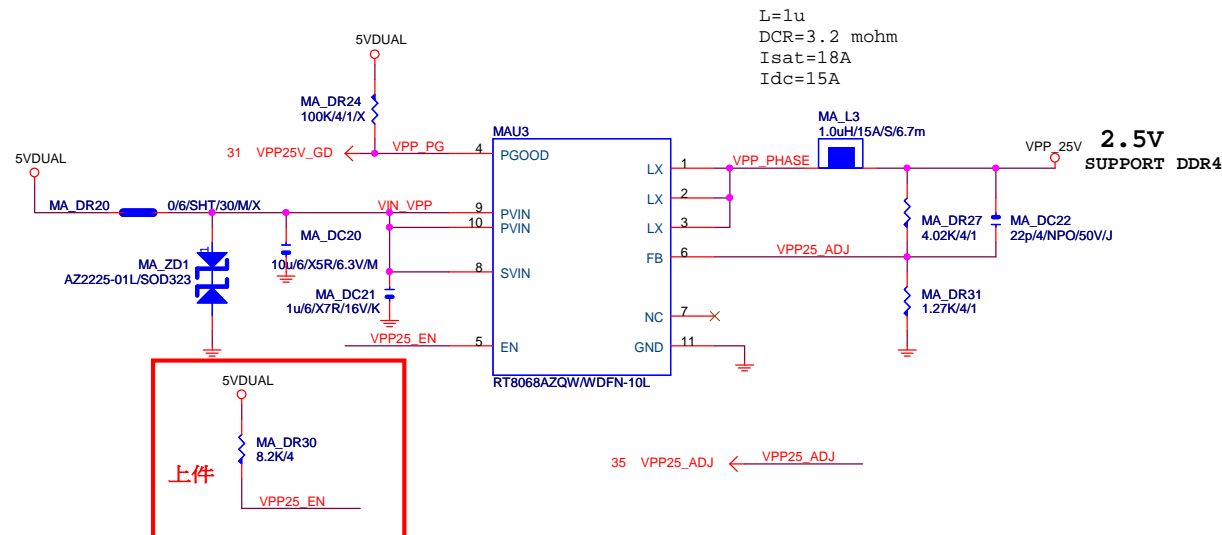
RT8237\_DDR4 POWER

Size Custom Document Number GA-B250M-D3P-WG Rev 1.02  
 Date: Monday, December 12, 2016 Sheet 31 of 55

REV:0.1

VPP\_25V

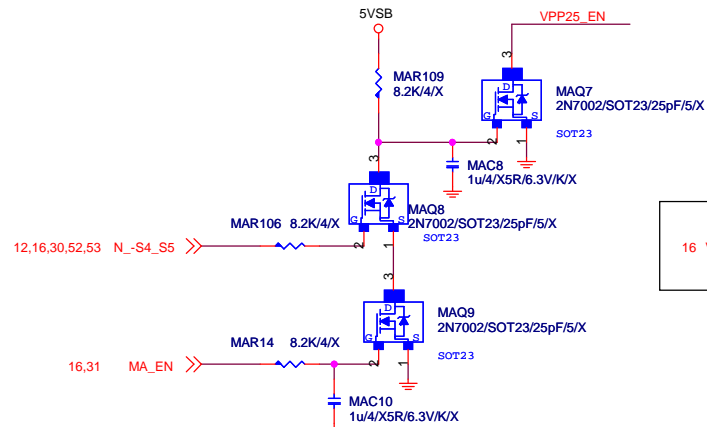
CHOKER與CAP料號可變



PWR\_SEQ

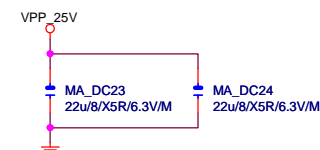
\* 耐 MA\_DR32

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VPP CAP 22u\*1PCS

\* 大電容 x0

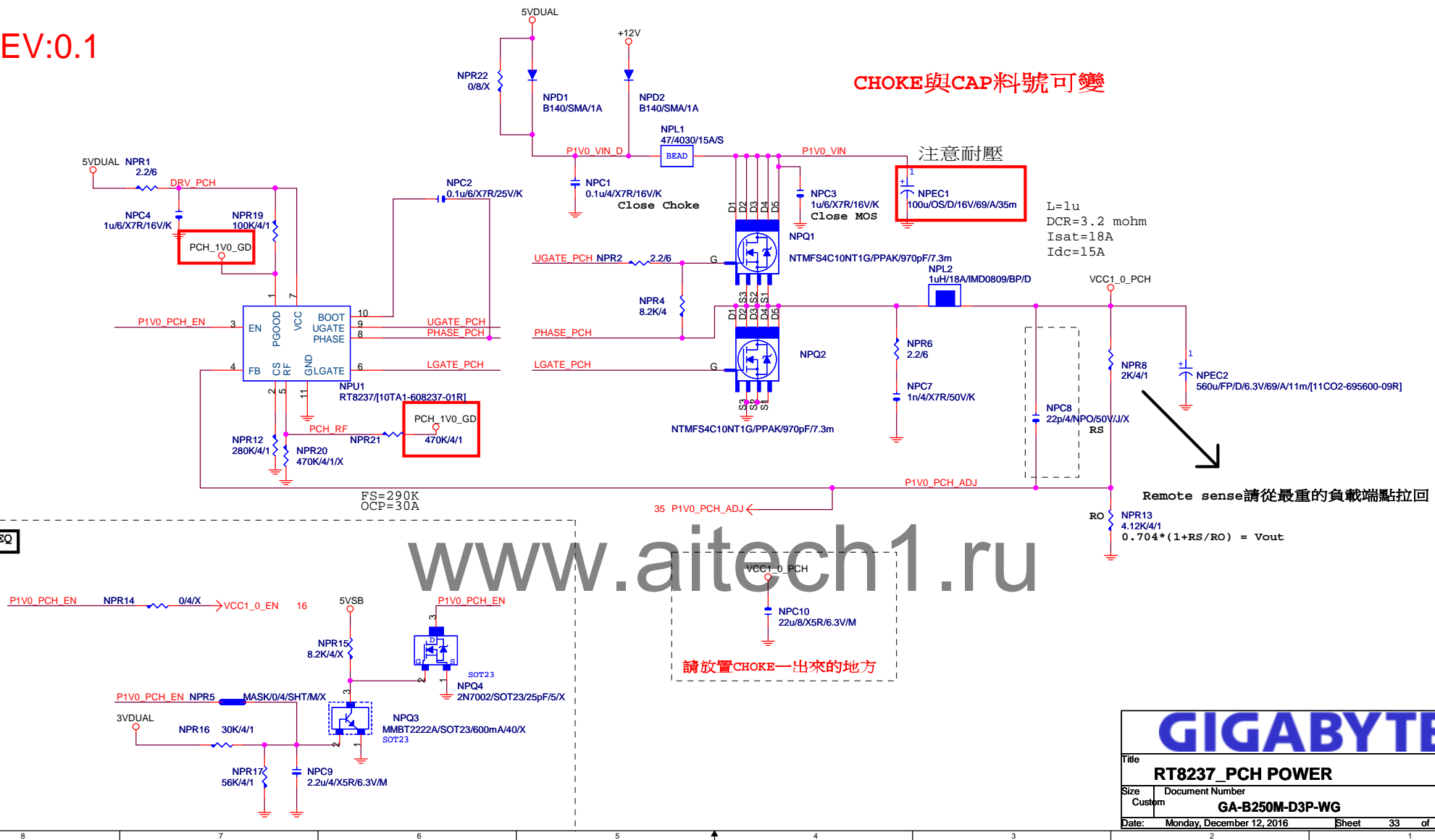


GIGABYTE™

|                     |                           |                |
|---------------------|---------------------------|----------------|
| Title               |                           |                |
| RT8068A_VPP25 POWER |                           |                |
| Size                | Document Number           | Rev            |
| Custom              | GA-B250M-D3P-WG           | 1.02           |
| Date:               | Monday, December 12, 2016 | Sheet 32 of 55 |

REV:0.1

CHOKES與CAP料號可變



**GIGABYTE™**

|                  |                           |       |          |
|------------------|---------------------------|-------|----------|
| Title            |                           |       |          |
| RT8237_PCH POWER |                           |       |          |
| Size             | Document Number           | Rev   |          |
| Custom           | GA-B250M-D3P-WG           | 1.02  |          |
| Date:            | Monday, December 12, 2016 | Sheet | 33 of 55 |

## REV: 0.51

[illegible]

5VDUAL

3VDUAL

BC27  
0.1u/4/X7R/16V/K

R37  
100/4/1

R38  
169/4/1

Q4  
L1085DG/TO252/5A

3VDUAL

BC25  
0.1u/4/X7R/16V/K

R36  
22K/4

C9  
22u/8/X5R/6.3V/M

C8  
1n/4/X7R/50V/K

O\_-RSMRST 12,16

上22u 電容

Meet the rise time

Rise/Fall Max 500us  
Rise: 20% - 80%  
Fall : 2V- 0.8V

5VSB

NR202 22K/4/X

NR203 75K/4/1/X

NR204 27K/4/1/X

NC23 1u/4/X5R/6.3V/K/X

3VDUAL

D4 BAT54A/SOT23/200mA/X

NQ18 MMBT2222A/SOT23/600mA/40/X SOT23

NQ19 2N7002/SOT23/25pF/5/X

O-RSMRST

At least 10ms delay after 3VDUAL stabel

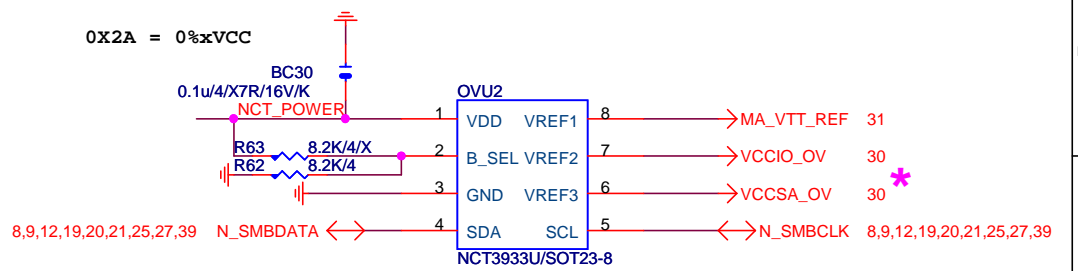
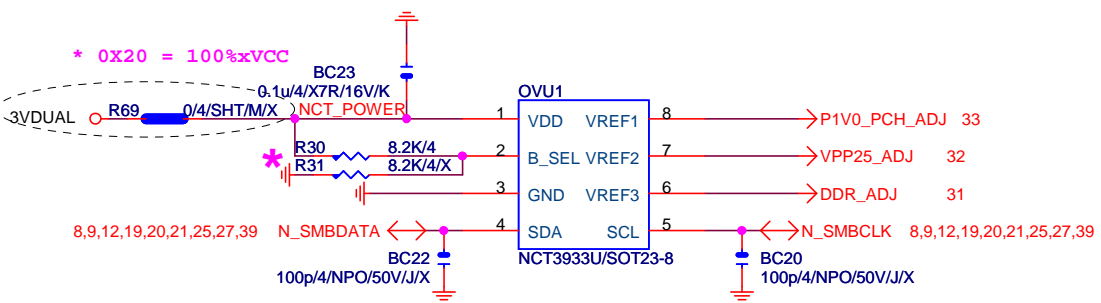
12 N\_-DEPSLP

Gigabyte

## Gigabyte Technology

|                       |                           |       |             |
|-----------------------|---------------------------|-------|-------------|
| Title                 |                           |       |             |
| <b>DISCRETE POWER</b> |                           |       |             |
| Size                  | Document Number           |       | Rev         |
| Custom                | <b>GA-B250M-D3P-WG</b>    |       | <b>1.02</b> |
| Date:                 | Monday, December 12, 2016 | Sheet | 34 of 55    |

OVER VOLTAGE



0X22 = 75%xVCC

\* 删除 OVU3

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

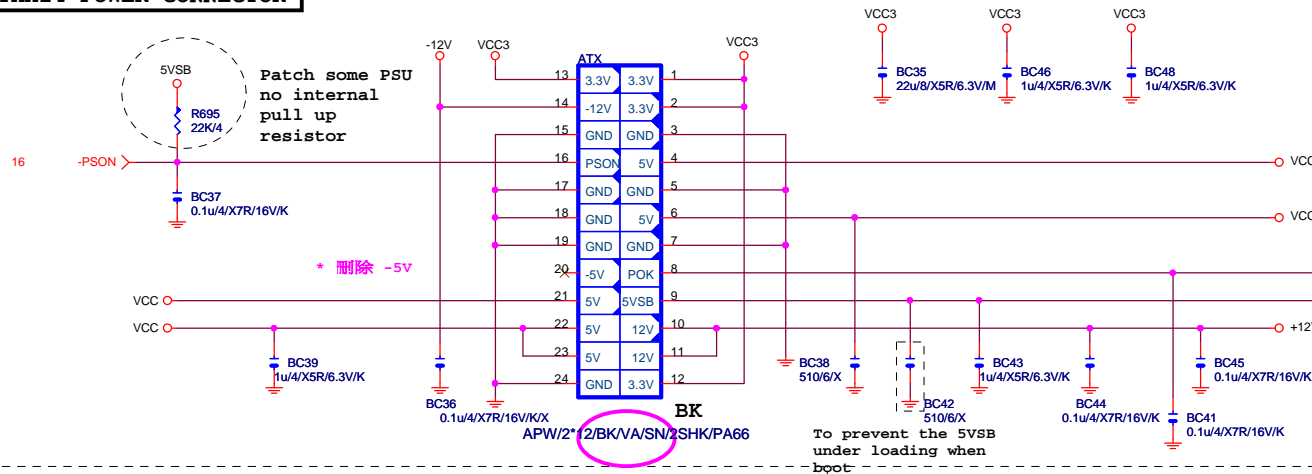
**Gigabyte Technology**

Title CPU CORE VR-2

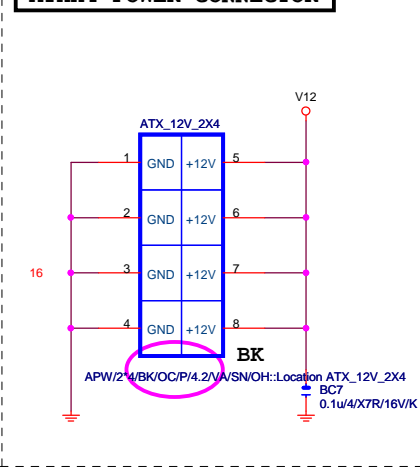
Size Custom Document Number GA-B250M-D3P-WG Rev 1.02

Date: Monday, December 12, 2016 Sheet 35 of 55

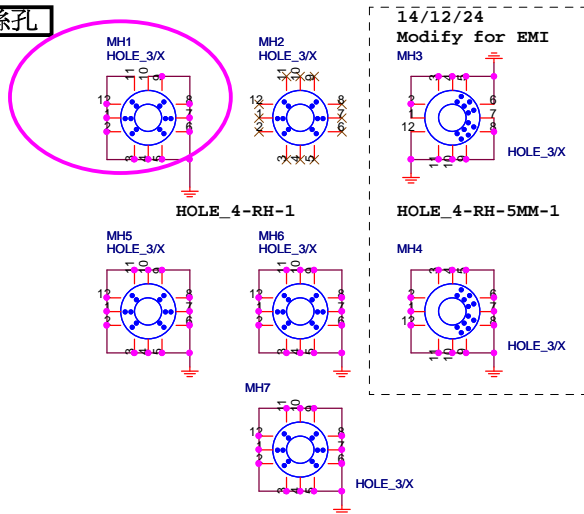
## ATXX24 POWER CONNECTOR



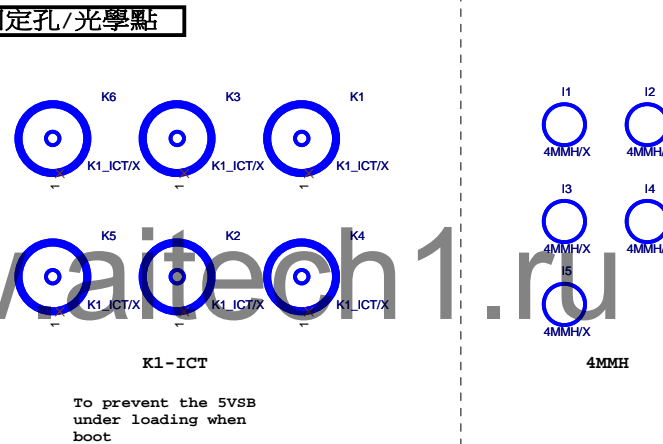
## ATXX4 POWER CONNECTOR



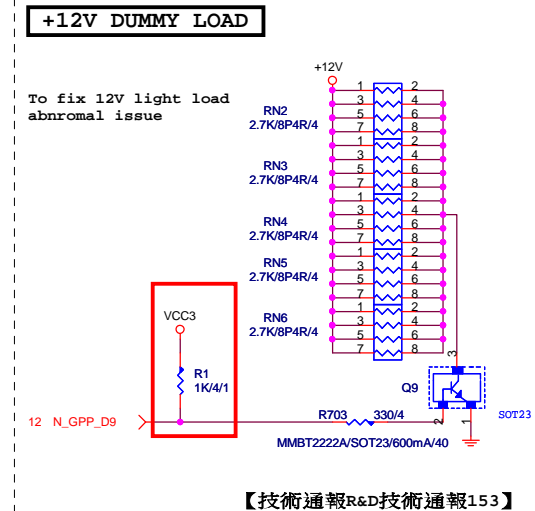
## 螺絲孔



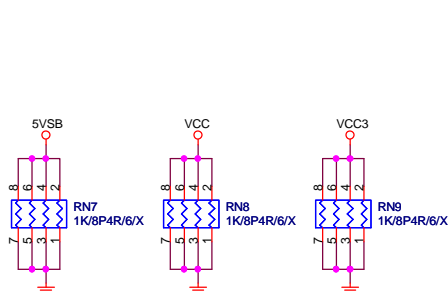
## 固定孔/光學點



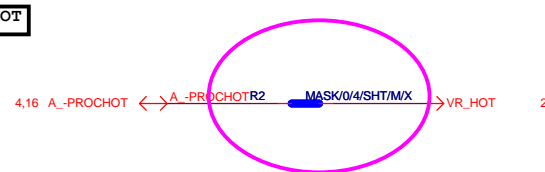
## +12V DUMMY LOAD



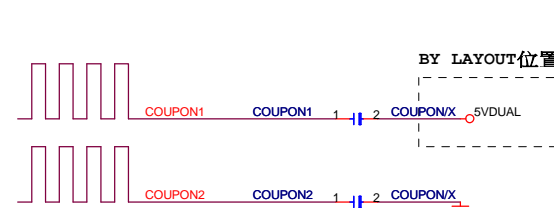
## DUMMY LOAD



## -PROHOT



## COUPON



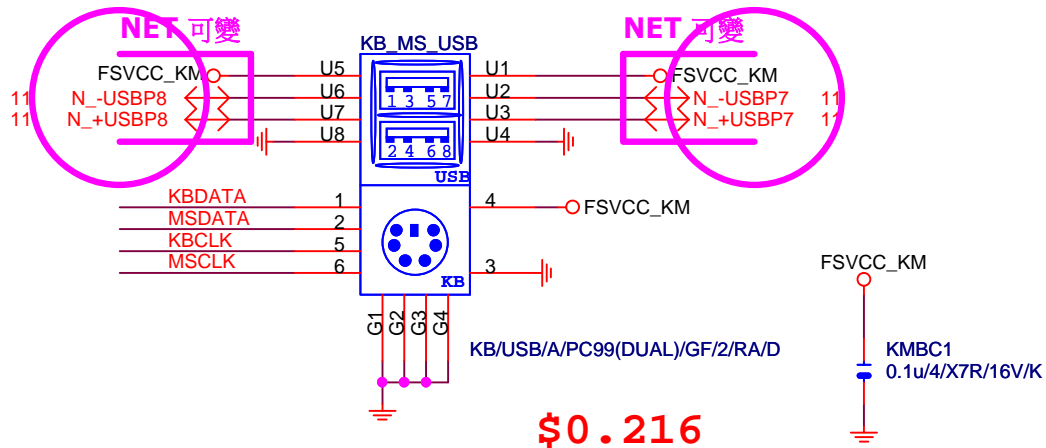
## Gigabyte Technology

| Title               |                           |                 |          |
|---------------------|---------------------------|-----------------|----------|
| ATX POWER CONNECTOR |                           |                 |          |
| Size                | Document Number           | GA-B250M-D3P-WG |          |
| Custom              |                           | Rev 1.02        |          |
| Date:               | Monday, December 12, 2016 | Sheet           | 36 of 55 |

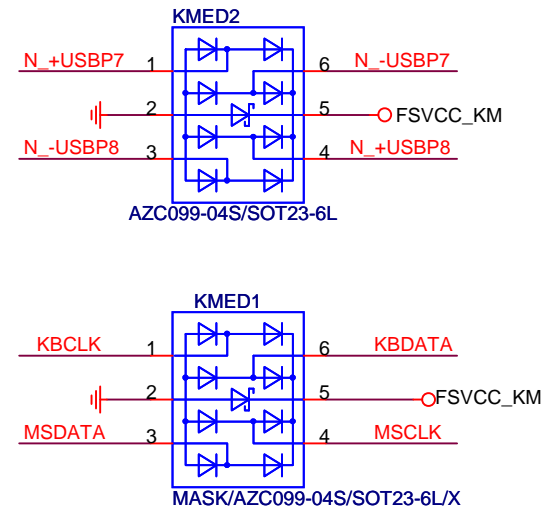


KB\_MS\_USB

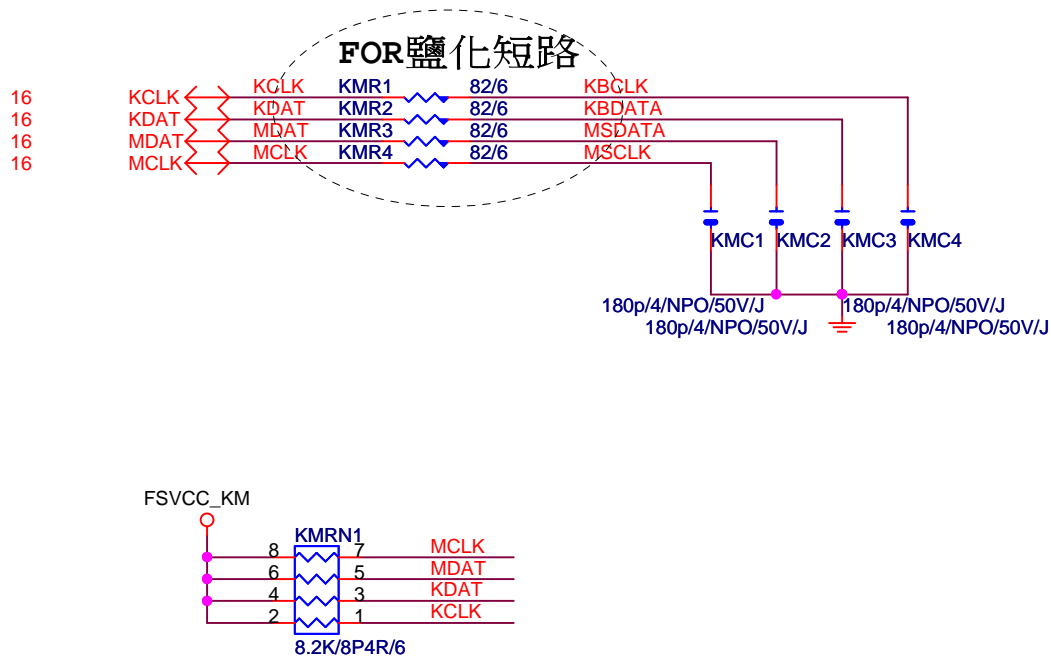
Rev: 0.7



ESD

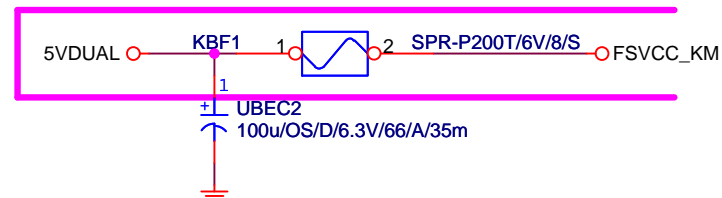


KB\_MS\_USB DAMPING/PU

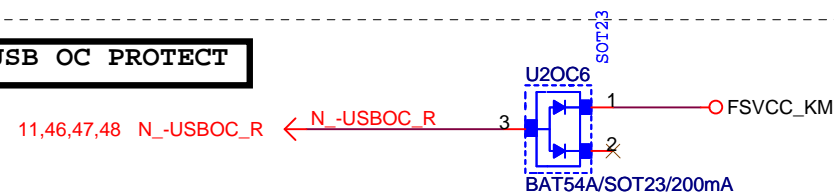


KB\_MS\_USB PWR

NET 可變, 與其他USB SHARE



USB OC PROTECT



Gigabyte Technology

Title

KB\_MS\_USB

Size

Document Number

GA-B250M-D3P-WG

Rev

1.02

Date:

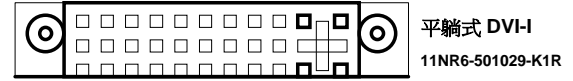
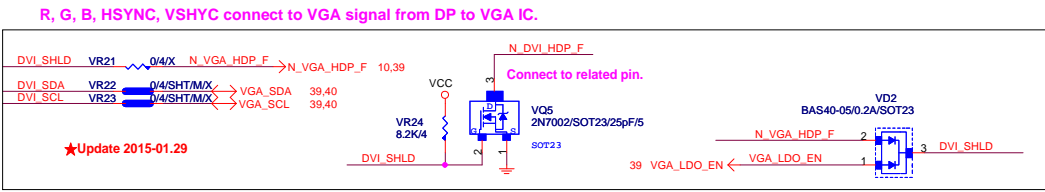
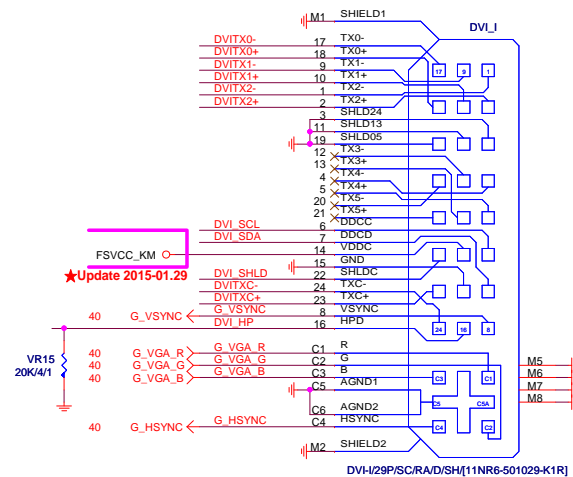
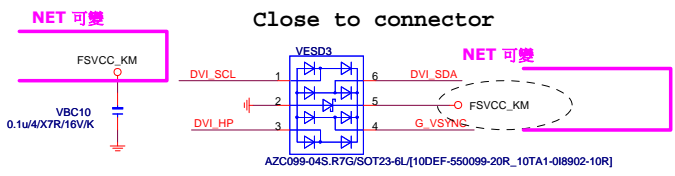
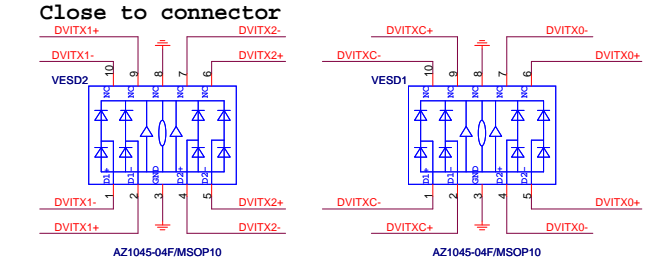
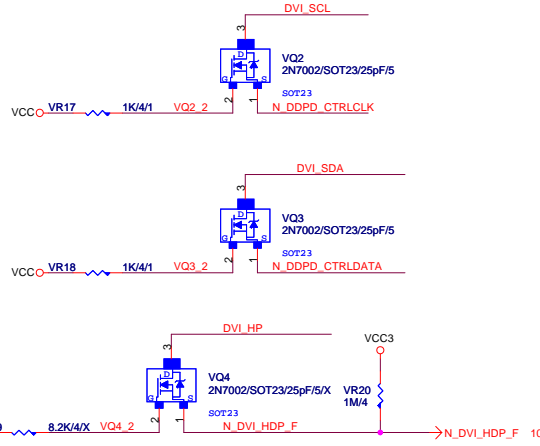
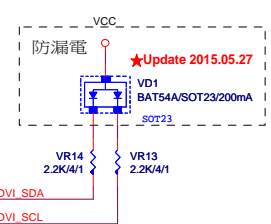
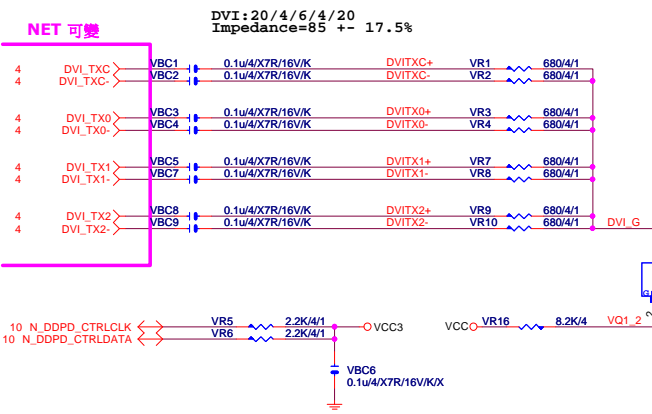
Monday, December 12, 2016

Sheet

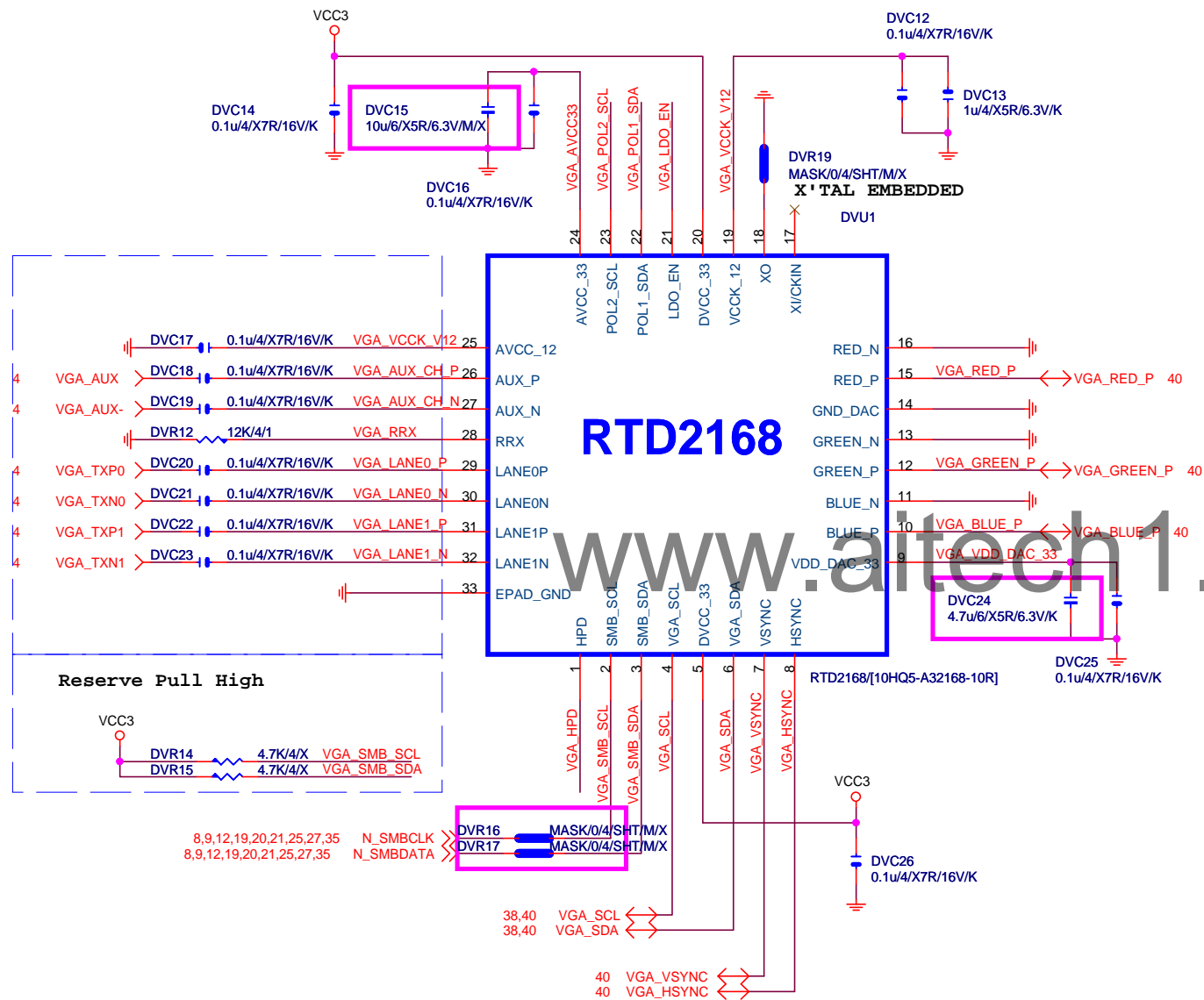
37

of

55



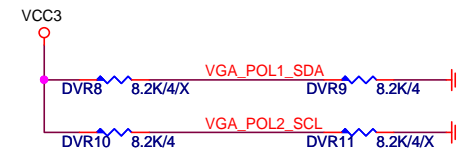
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## POWER



## Power on latch



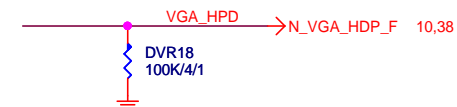
|                  |   | POL1_SDA(PIN22) |             |
|------------------|---|-----------------|-------------|
|                  |   | 0               | 1           |
| POL2_SCL (PIN23) | 0 | X               | EP MODE     |
|                  | 1 | ROM ONLY MODE   | EEPROM MODE |

## Embedded LDO

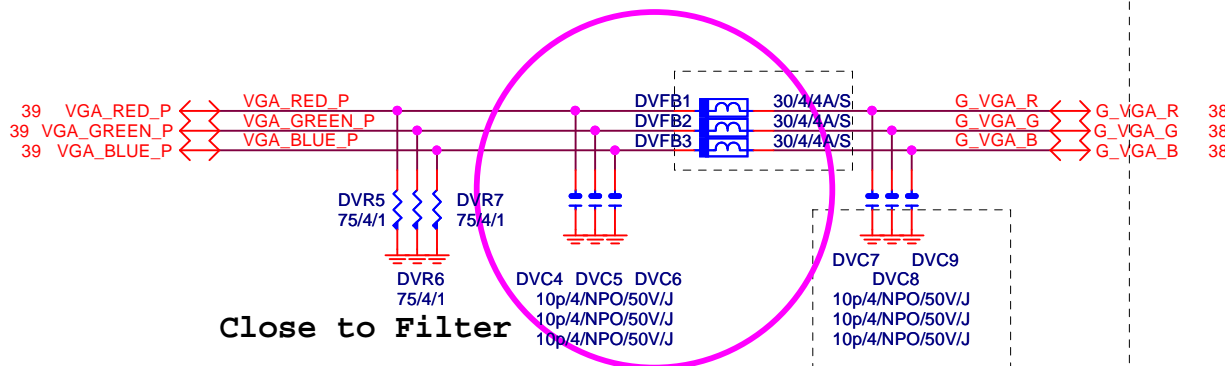
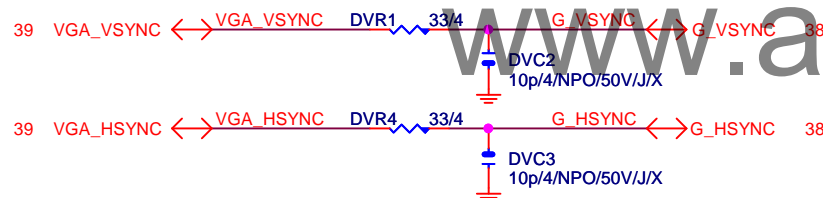
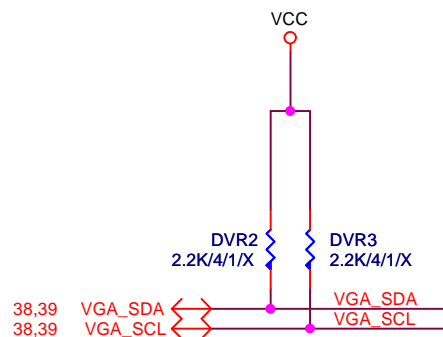
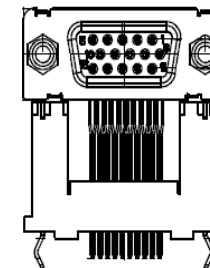


| LDO_EN(PIN21) |              |
|---------------|--------------|
| 0             | 1            |
| VCC3          | VCC3         |
| External 1.2V | Embedded LDO |

## DP HPD



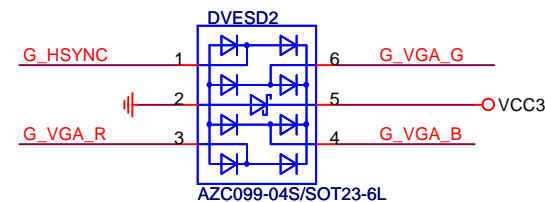
Gigabyte Technology  
DP-VGA RTD2168



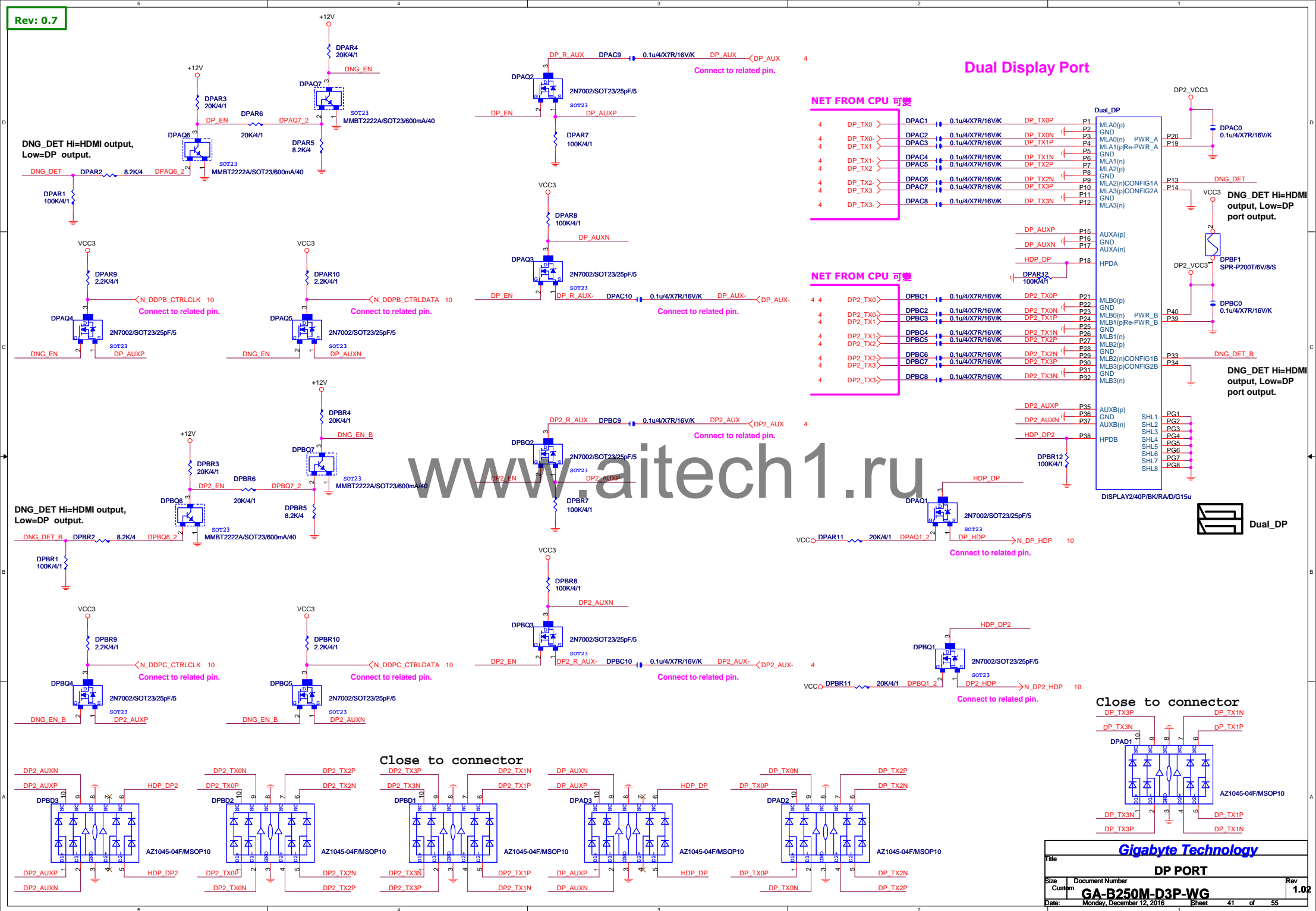
Close to Filter

FOR EMI

VGA ESD



|                      |                           |                 |          |
|----------------------|---------------------------|-----------------|----------|
| Gigabyte Technology  |                           |                 |          |
| Title DP-VGA RTD2168 |                           |                 |          |
| Size Custom          | Document Number           | GA-B250M-D3P-WG |          |
| Date:                | Monday, December 12, 2016 | Sheet           | 40 of 55 |
|                      |                           |                 | Rev 1.02 |



**R1.1**

3VDUAL\_LAN1

LAN CLKREQ#

LAREQ1 MASK/0/4/SHT/X

LAU1

CLK\_REQ\_N

PE\_RST\_N

PE\_CLKP

PE\_CLKN

PETP

PETN

PERP

PERN

LAN\_WAKE\_N

LAN\_DISABLE\_N

WAKEUP

LA\_LED0

LA\_LED1

LA\_LED2

LA\_TDI

LA\_TMS

LA\_TCK

LA\_XTALO

LA\_XTALI

LA\_TEST\_EN

LA\_LAN\_BIAS

LAU1

MDI\_PLUS\_0

MDI\_MINUS\_0

MDI\_PLUS\_1

MDI\_MINUS\_1

MDI\_PLUS\_2

MDI\_MINUS\_2

MDI\_PLUS\_3

MDI\_MINUS\_3

SVR\_EN\_N

RSVD\_1/VCCP3P3

VDD3\_P3\_IN

VDD3\_P3\_OUT

VDD3P3

VDD0P9

CTRL\_0P9

VSS\_ERAD

WG1219/QFN48

LAU1

MDI

PCIE

SMBUS

LED

JTAG

LAN POWER

3VDUAL\_LAN1

LAN\_V\_1P0

LAR11 8.2K/4

LAR12 8.2K/4

LAR13 8.2K/4

LAR14 1u/4/X5R/6.3V/K/X

LAR15 8.2K/4

LAR16 MASK/0/4/SHT/X

LAR17 8.2K/4

LAR18 8.2K/4

LAR19 MASK/0/4/SHT/X

LAR20 0/4/X

LAR21 10u/6/X5R/6.3V/M

LAR22 0.1u/4/X7R/16V/K

LAR23 0.1u/4/X7R/16V/K

LAR24 0.1u/4/X7R/16V/K

LAR25 0.1u/4/X7R/16V/K

LAR26 0.1u/4/X7R/16V/K

LAR27 0.1u/4/X7R/16V/K

LAR28 0.1u/4/X7R/16V/K

LAR29 10u/6/X5R/6.3V/M

LAR30 0.1u/4/X7R/16V/K

LAR31 0.1u/4/X7R/16V/K

LAR32 10u/6/X5R/6.3V/M

LAR33 0.1u/4/X7R/16V/K

LAR34 0.1u/4/X7R/16V/K

LAR35 0.1u/4/X7R/16V/K

LAR36 0.1u/4/X7R/16V/K

LAR37 0.1u/4/X7R/16V/K

LAR38 0.1u/4/X7R/16V/K

LAR39 0.1u/4/X7R/16V/K

LAR40 0.1u/4/X7R/16V/K

LAR41 0.1u/4/X7R/16V/K

LAR42 0.1u/4/X7R/16V/K

LAR43 0.1u/4/X7R/16V/K

LAR44 0.1u/4/X7R/16V/K

LAR45 0.1u/4/X7R/16V/K

LAR46 0.1u/4/X7R/16V/K

LAR47 0.1u/4/X7R/16V/K

LAR48 0.1u/4/X7R/16V/K

LAR49 0.1u/4/X7R/16V/K

LAR50 0.1u/4/X7R/16V/K

LAR51 0.1u/4/X7R/16V/K

LAR52 0.1u/4/X7R/16V/K

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LAR57 0.1u/4/X7R/16V/K

LAR58 0.1u/4/X7R/16V/K

LAR59 0.1u/4/X7R/16V/K

LAR60 0.1u/4/X7R/16V/K

LAR61 0.1u/4/X7R/16V/K

LAR62 0.1u/4/X7R/16V/K

LAR63 0.1u/4/X7R/16V/K

LAR64 0.1u/4/X7R/16V/K

LAR65 0.1u/4/X7R/16V/K

LAR66 0.1u/4/X7R/16V/K

LAR67 0.1u/4/X7R/16V/K

LAR68 0.1u/4/X7R/16V/K

LAR69 0.1u/4/X7R/16V/K

LAR70 0.1u/4/X7R/16V/K

LAR71 0.1u/4/X7R/16V/K

LAR72 0.1u/4/X7R/16V/K

LAR73 0.1u/4/X7R/16V/K

LAR74 0.1u/4/X7R/16V/K

LAR75 0.1u/4/X7R/16V/K

LAR76 0.1u/4/X7R/16V/K

LAR77 0.1u/4/X7R/16V/K

LAR78 0.1u/4/X7R/16V/K

LAR79 0.1u/4/X7R/16V/K

LAR80 0.1u/4/X7R/16V/K

LAR81 0.1u/4/X7R/16V/K

LAR82 0.1u/4/X7R/16V/K

LAR83 0.1u/4/X7R/16V/K

LAR84 0.1u/4/X7R/16V/K

LAR85 0.1u/4/X7R/16V/K

LAR86 0.1u/4/X7R/16V/K

LAR87 0.1u/4/X7R/16V/K

LAR88 0.1u/4/X7R/16V/K

LAR89 0.1u/4/X7R/16V/K

LAR90 0.1u/4/X7R/16V/K

LAR91 0.1u/4/X7R/16V/K

LAR92 0.1u/4/X7R/16V/K

LAR93 0.1u/4/X7R/16V/K

LAR94 0.1u/4/X7R/16V/K

LAR95 0.1u/4/X7R/16V/K

LAR96 0.1u/4/X7R/16V/K

LAR97 0.1u/4/X7R/16V/K

LAR98 0.1u/4/X7R/16V/K

LAR99 0.1u/4/X7R/16V/K

LAR100 0.1u/4/X7R/16V/K

LAQ1 2N7002/SOT23/25pF/5

LAQR1 8.2K/4

LAU1

MDI

PCIE

SMBUS

LED

JTAG

LAN POWER

3VDUAL\_LAN1

LAN\_V\_1P0

LAR11 8.2K/4

LAR12 8.2K/4

LAR13 8.2K/4

LAR14 1u/4/X5R/6.3V/K/X

LAR15 8.2K/4

LAR16 MASK/0/4/SHT/X

LAR17 8.2K/4

LAR18 8.2K/4

LAR19 MASK/0/4/SHT/X

LAR20 0/4/X

LAR21 10u/6/X5R/6.3V/M

LAR22 0.1u/4/X7R/16V/K

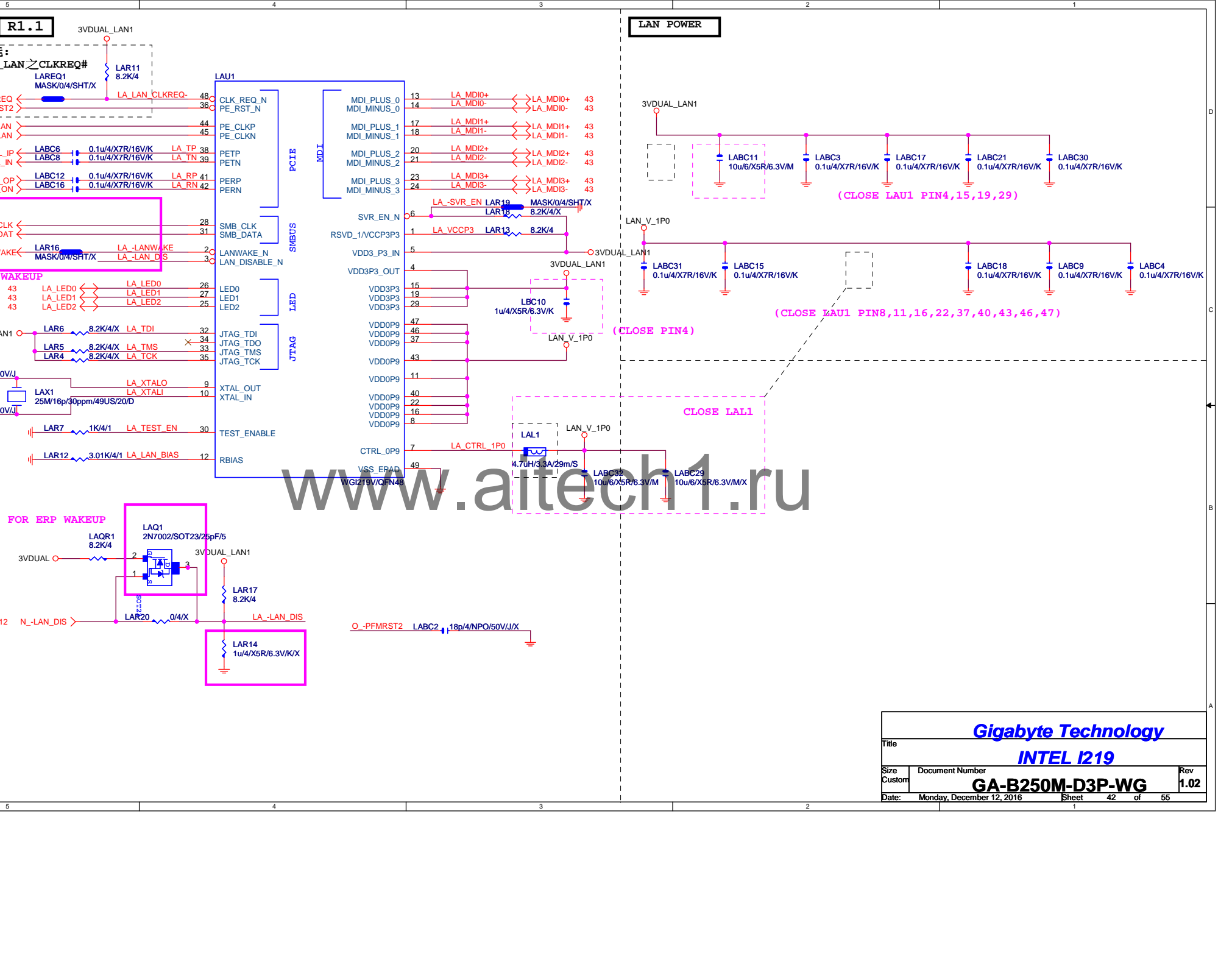
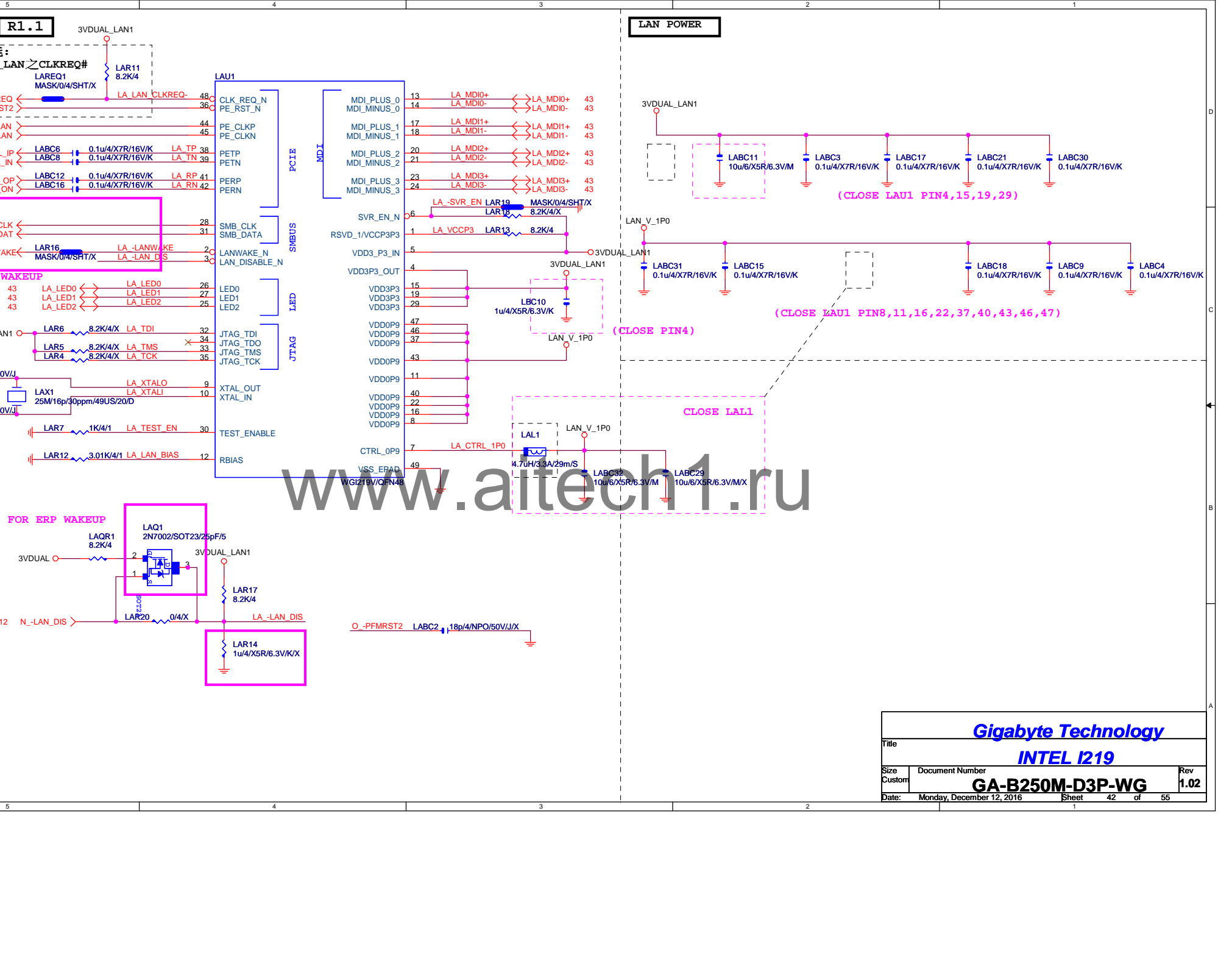
LAR23 0.1u/4/X7R/16V/K

LAR24 0.1u/4/X7R/16V/K

LAR25 0.1u/4/X7R/16V/K

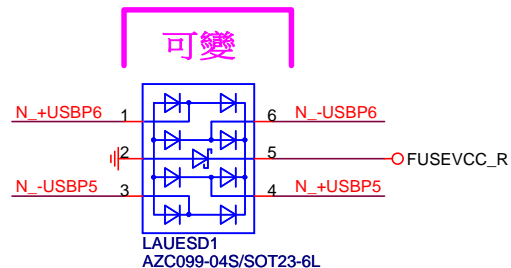
LAR26 0.1u/4/X7R/16V/K

LAR27 0.1u/4/X7R/16V/K

[illegible][illegible][illegible][illegible][illegible]

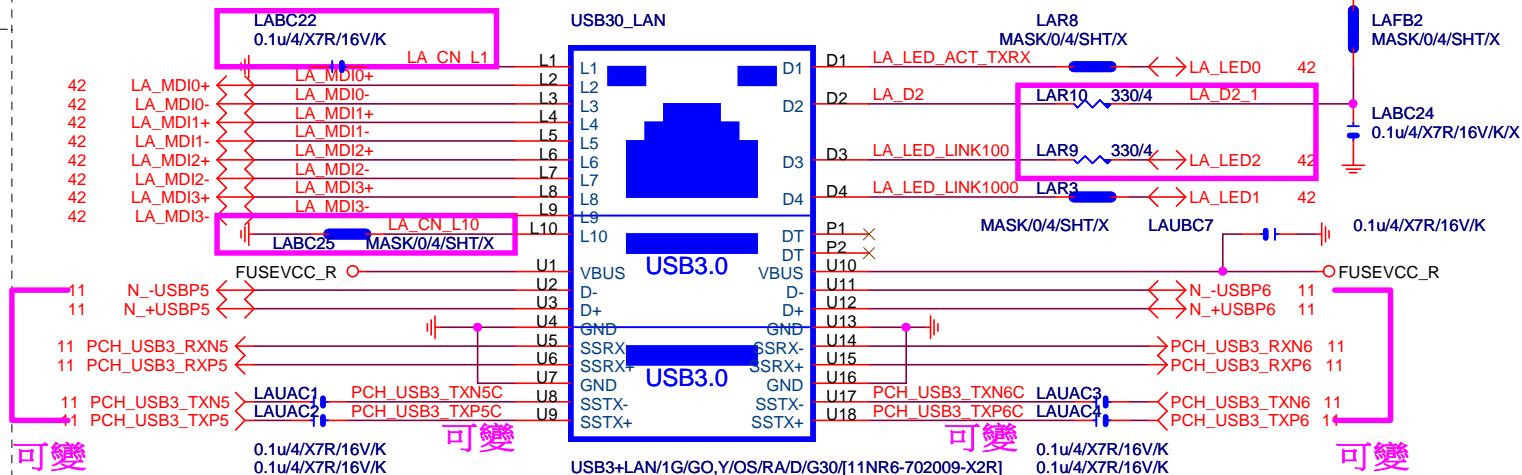
## R1.1

note:可變更USB NAME



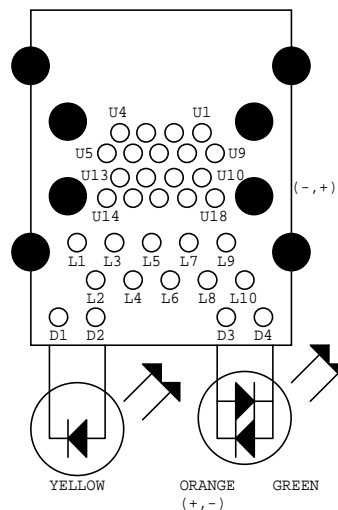
note:可變更USB NAME

[ I219 ]



LA MDI-->100歐姆:[20/4/8/4/20]

## Dual Color LED




**Dual Color LED**

D4 D3 Green

D4 D3 Orange

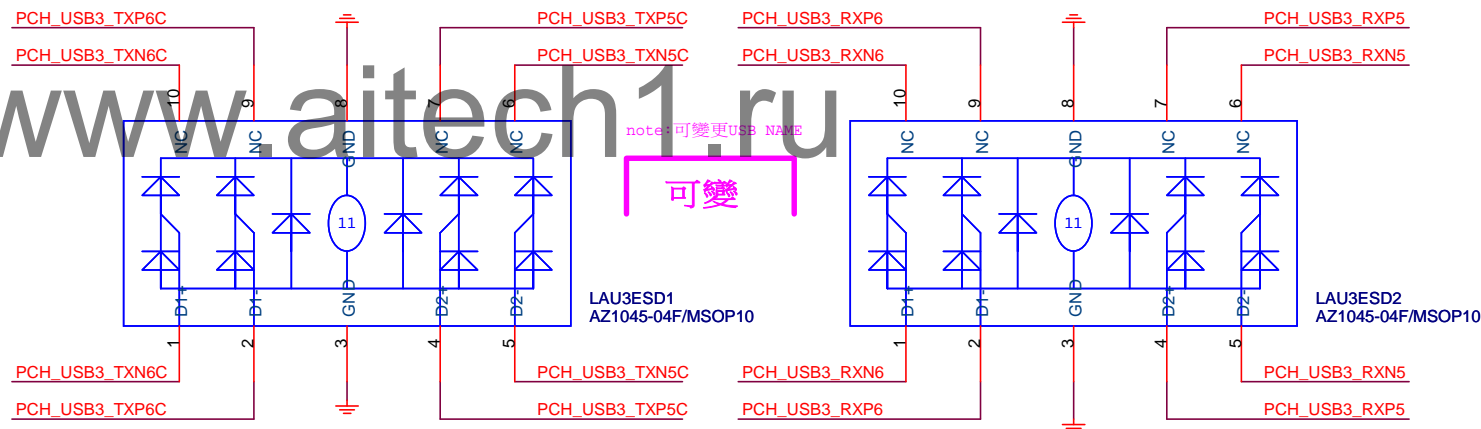
Single Color LED

D2  D1 Yellow

FOOT PRINT:LAN COVER

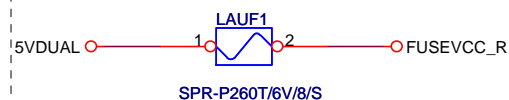
## 可變 [視SPEC需求]

[-D3H不加蓋]



note:可變更FUSE

## 可變

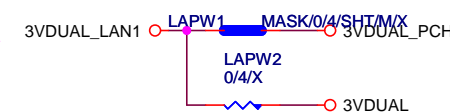


Close to connector  
FUSE-0805

PS:視EMI需求

note: lan power連接及電流

可修

\*  
\*

## Gigabyte Technology

## LAN CONNECTOR-I219

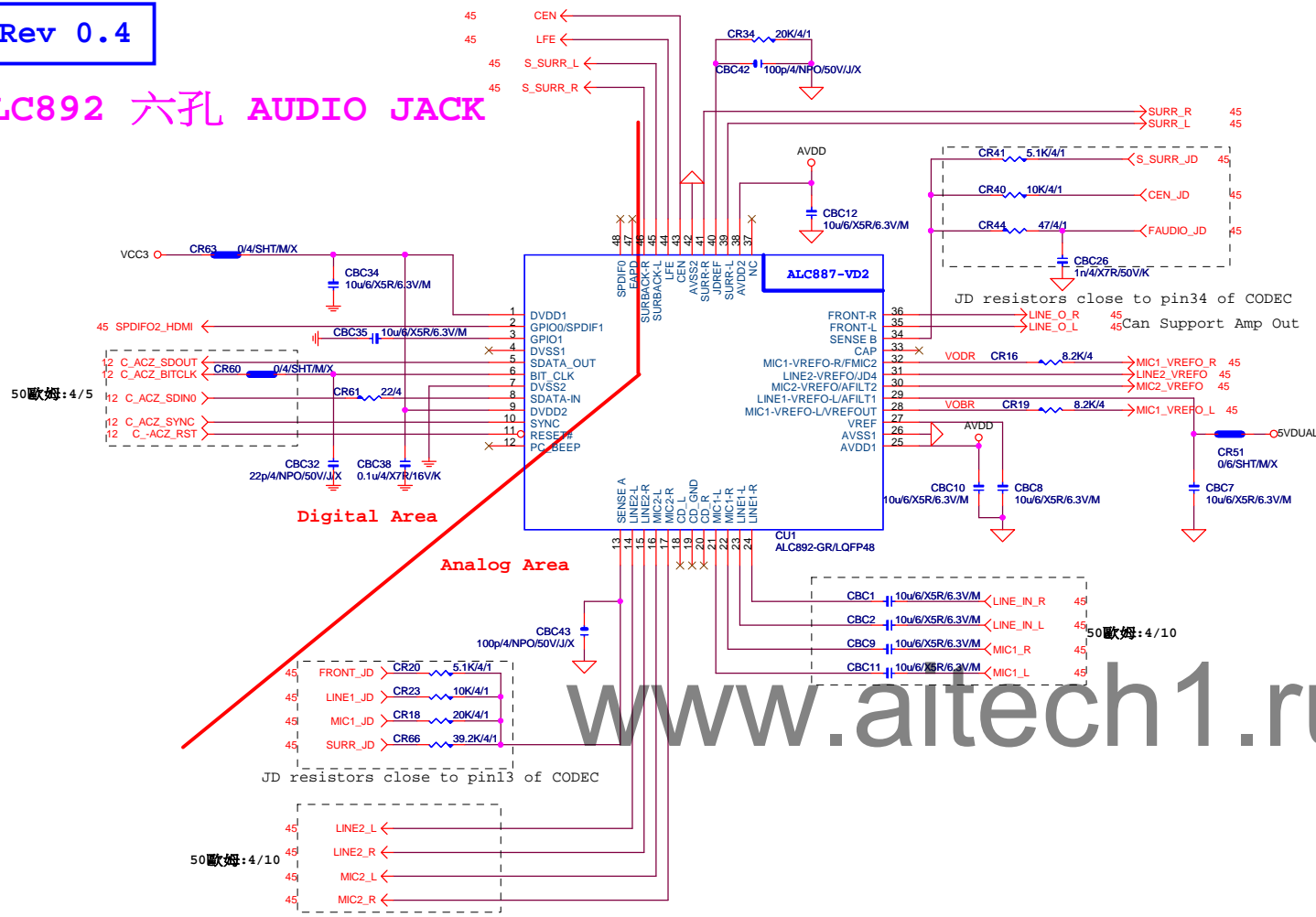
|        |                 |      |
|--------|-----------------|------|
| Size   | Document Number | Rev  |
| Custom | GA B250M D3B WC | 1.02 |

GA-B230M-D3P-WG

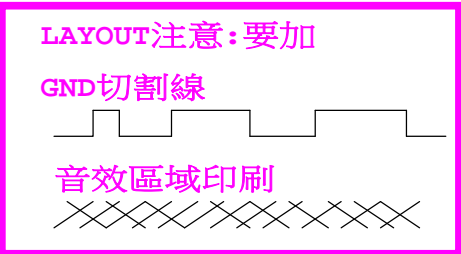
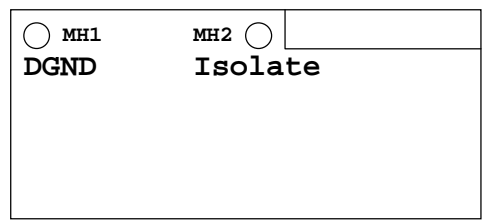
Date: Monday, December 12, 2016 Sheet 43 of 55

Rev 0.4

# ALC892 六孔 AUDIO JACK



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



VALUE可變,LED顏色請自行修改  
(預設:低亮度黃色LED:LED/Y/6/S)

\*料號後補

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

| Gigabyte Technology |                 |                           |                |
|---------------------|-----------------|---------------------------|----------------|
| HD AUDIO ALC892     |                 |                           |                |
| Title               | Document Number | GA-B250M-D3P-WG           | Rev 1.02       |
| Size Custom         | Date            | Monday, December 12, 2016 | Sheet 44 of 55 |



Rev 0.4

CR49 MASK/0/6/SHT/M/X → Close F\_AUDIO

CR50 MASK/0/6/SHT/M/X → Close Codec

MOATC1

CR21 2.2/6 → Audio jack <--> USB\_LAN

CR24 0.6/X → Under Audio jack

\*量産前, 0ohm改short pad

SPDIF\_OUT

44 SPDIFO2\_HDMI

CR26 0/4/SHT/M/X

CBC14 100p/4/NPO/50V/J

SPDIF\_O

PH/1'2/BK/2.5A/V/A/D

For HDMI SPDIF

SPDIF\_IN

AZALIA JACK

AZALIA JACK

BLUE LINE-IN

GREEN LINE-OUT

PINK MIC-IN

AUDIOB

A3 A2 A1 A0

44 LINE1\_JD

44 AJ A5

44 AJ A2

44 FRONT\_JD

44 AJ B5

44 AJ B2

44 MIC1\_JD

44 AJ C5

44 AJ C2

44 AJ C6

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

AUDIOA

D3 D2 D1 D0

44 CEN\_JD

44 BJ B5

44 BJ B2

44 SURR\_JD

44 BJ C5

44 BJ C2

44 S\_SURR\_JD

44 BJ A5

44 BJ A2

44 S\_SURR\_JD

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

LINE-OUT

LINE-OUT

44 LINE\_O\_R

44 LINE\_O\_L

CEC1 100uF/D/10V/6'5/[11CE2-651000-05R]

CEC2 100uF/D/10V/6'5/[11CE2-651000-05R]

CR5 62/4

CR8 62/4

CR7 22K/4

CR6 22K/4

CR19 180p/4/NPO/50V/J

CR24 180p/4/NPO/50V/J

LINE-IN

LINE-IN

44 LINE\_IN\_R

44 LINE\_IN\_L

CR1 62/4

CR14 62/4

CR20 180p/4/NPO/50V/J

CR23 180p/4/NPO/50V/J

MIC-IN

MIC-IN

44 MIC1\_R

44 MIC1\_L

CR17 62/4

CR22 62/4

CR3 180p/4/NPO/50V/J

CR4 180p/4/NPO/50V/J

SURROUND

SURROUND

44 SURR\_R

44 SURR\_L

CEC10 100uF/D/10V/6'5/[11CE2-651000-05R]

CEC11 100uF/D/10V/6'5/[11CE2-651000-05R]

CR7 22K/4

CR8 22K/4

CR6 22K/4

CR19 180p/4/NPO/50V/J

CR24 180p/4/NPO/50V/J

CEN/LFE

CEN/LFE

44 LFE

44 CEN

44 GEN

CBC13 10u/8/X5R/16V/K/[10CM2-011005-54R]

CBC15 10u/8/X5R/16V/K/[10CM2-011005-54R]

CR7 22K/4

CR6 22K/4

CR19 180p/4/NPO/50V/J

CR24 180p/4/NPO/50V/J

SURR BACK

SURR BACK

44 S\_SURR\_R

44 S\_SURR\_L

CBC16 10u/8/X5R/16V/K/[10CM2-011005-54R]

CBC17 10u/8/X5R/16V/K/[10CM2-011005-54R]

CR25 62/4

CR27 22K/4

CR43 22K/4

CR27 22K/4

CR33 180p/4/NPO/50V/J

CR31 180p/4/NPO/50V/J

AZALIA FRONT PANEL

AZALIA FRONT PANEL

44 LINE2\_VREF0

44 MIC2\_VREF0

44 MIC2\_L

44 MIC2\_R

44 FAUDIO\_JD

44 LINE2\_R

44 LINE2\_L

CQ4 BAT54A/SOT23/200mA

CQ2 BAT54A/SOT23/200mA

CRN1 8.2K/8P4/R4

CR58 22K/4

CR54 22K/4

CR13 62/4

CR11 62/4

CR57 62/4

CR53 62/4

CR59 39.2K/4/1

8H/2'5K/8/BK/2.54N/A/AUDIO/PRT7/TUR180

100uF/D/10V/6'5/[11CE2-651000-05R]

62/4

180p/4/NPO/50V/J

180p/4/NPO/50V/J

180p/4/NPO/50V/J

180p/4/NPO/50V/J

Gigabyte Technology

**LINE-IN**

**MIC-IN**

**SURROUND**

**CEN/LFE**

**SURR BACK**

**AZALIA FRONT PANEL**

SPDIF\_OUT

SPDIF\_IN

**AZALIA JACK**

**AZALIA JACK**

**BLUE**  
LINE-IN

**GREEN**

**PINK**  
**MIC-IN**

Orange

*Black*

*Gray*

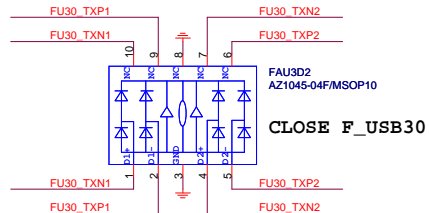
## Gigabyte Technology

## AUDIO JACK

GA-B250M-D3P-WG

|      |  |
|------|--|
| Rev  |  |
| 1.02 |  |

Date: Monday, December 12, 2016 Sheet 45 of 55



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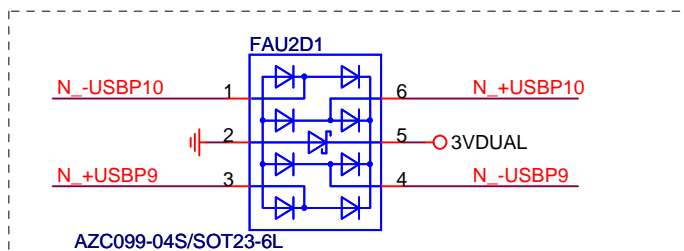
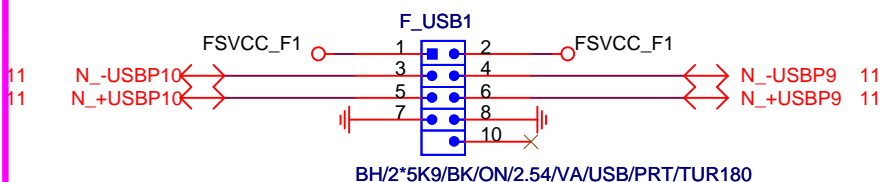


Rev: 0.7

FRONT USB1

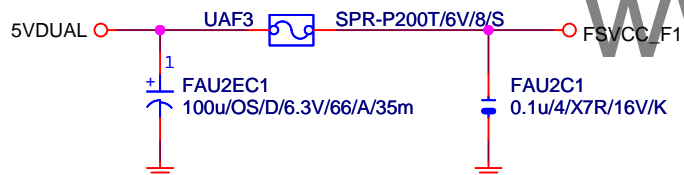
NET 可變

FUSB2X5-HS



Close to connector

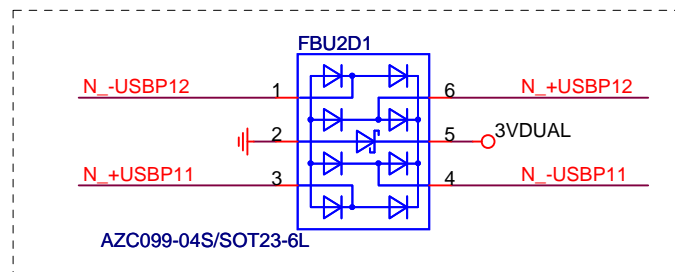
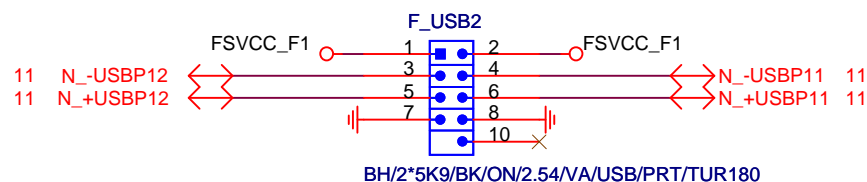
FUSE 2 Port 1 Fuse 2A



FRONT USB2

NET 可變

FUSB2X5-HS



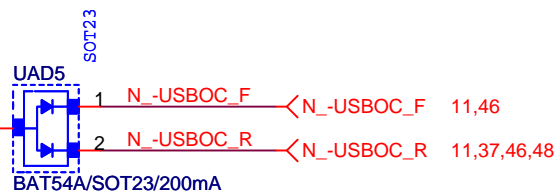
Close to connector

FUSE 2 Port 1 Fuse 2A

F\_USB 2.0 OC SIGNAL

\* 接 PCH  
N\_GPP\_G6(SMI) &  
PCH PU 3Vdual

13 N\_GPP\_G6



Gigabyte Technology

Title

USB2.0

Size  
A

Document Number

GA-B250M-D3P-WG

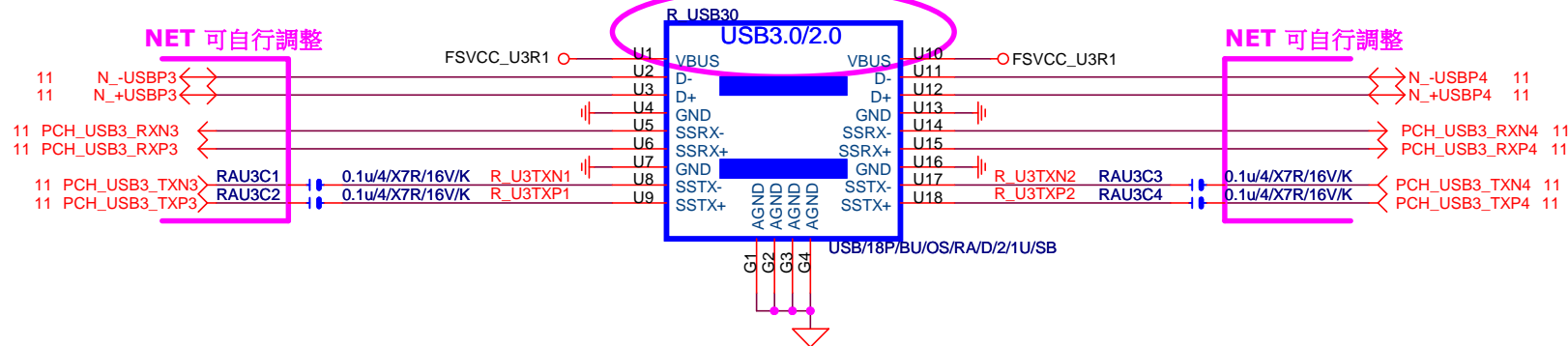
Rev  
1.02

Date: Monday, December 12, 2016

Sheet 47 of 55

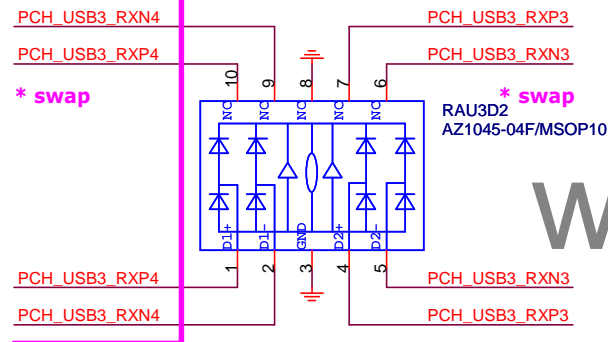
Rev: 0.7

ESD 可自行SWAP PIN ,CONN端 NET 名稱 不可

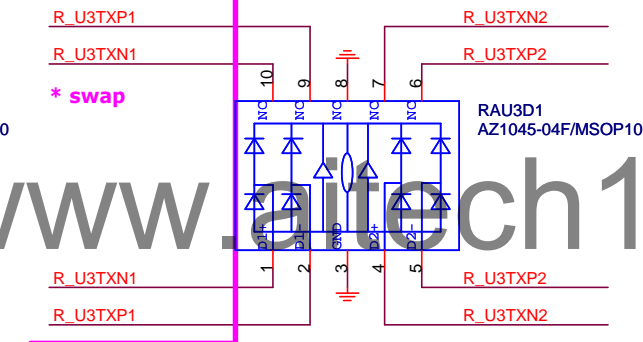


ESD

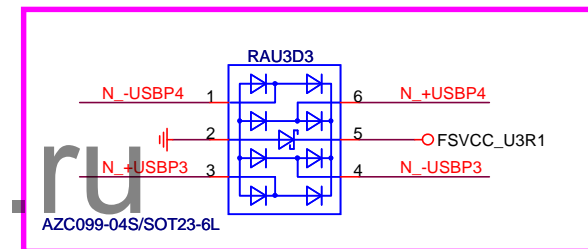
**NET 可自行調整**



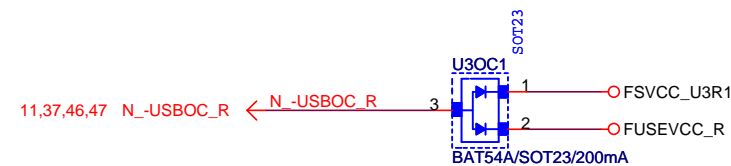
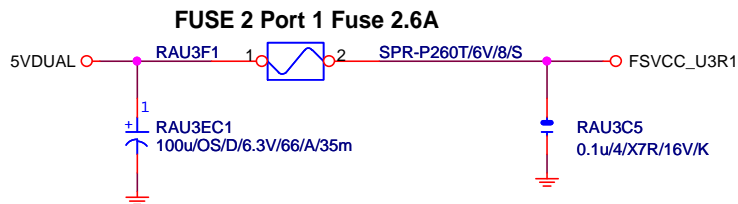
**NET 可自行調整**



**NET 可自行調整**



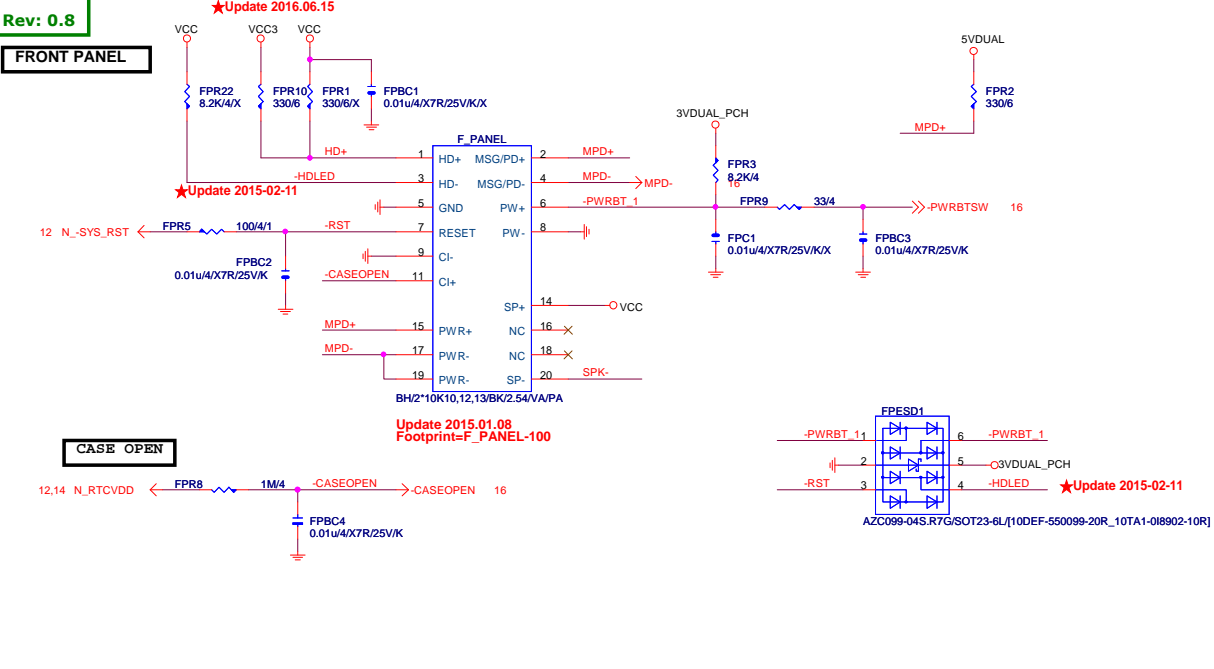
FUSE



Gigabyte Technology

|                |                           |       |          |      |
|----------------|---------------------------|-------|----------|------|
| Title          |                           |       |          |      |
| R_USB30,USB_OC |                           |       |          |      |
| Size           | Document Number           |       |          | Rev  |
| Custom         | GA-B250M-D3P-WG           |       |          | 1.02 |
| Date:          | Monday, December 12, 2016 | Sheet | 48 of 55 |      |

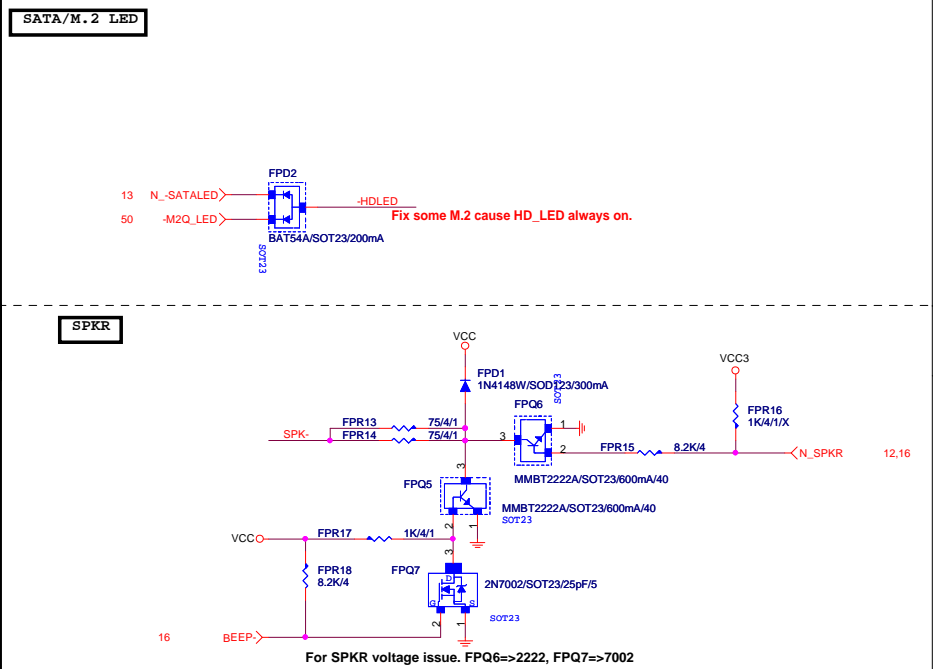
FRONT PANEL



FRONT PANEL SHORT

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SATA/M.2 LED



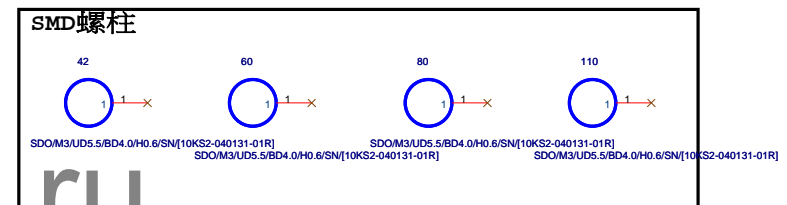
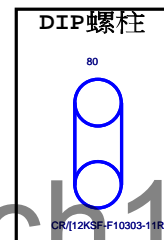
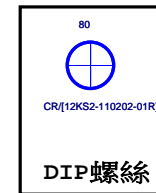
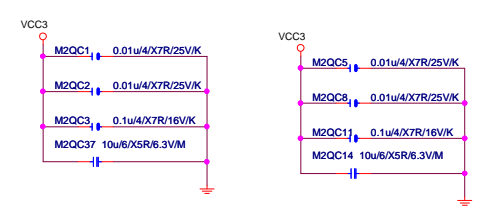
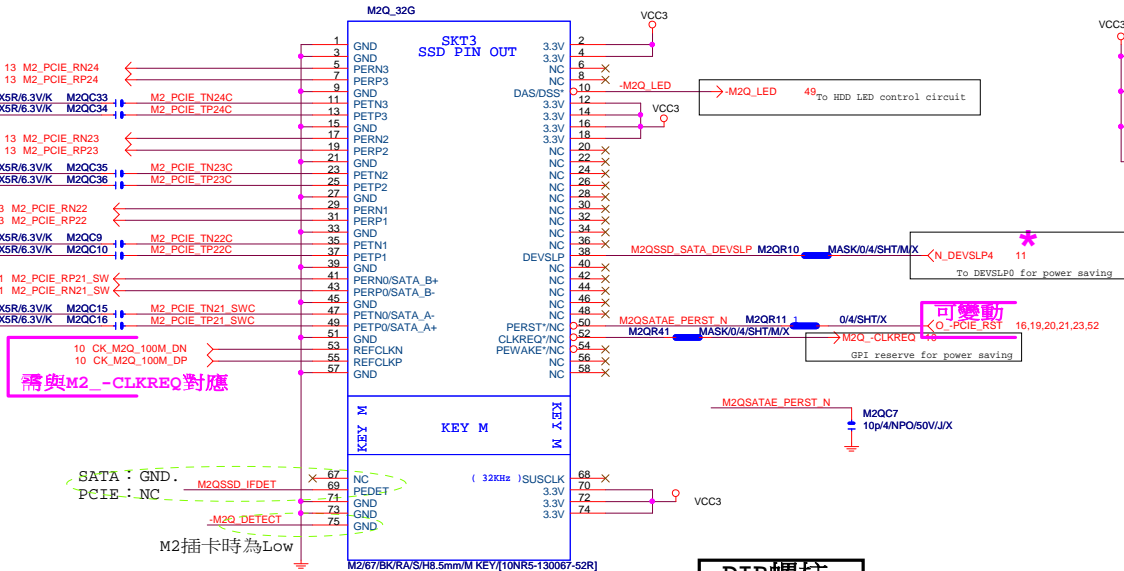
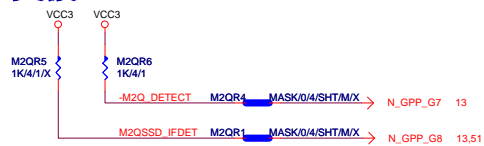
Rev 0.1

**M.2 Lane4 from PCH port24**

M.2 Lane3 from PCH port23

M.2 Lane2 from PCH port22

M.2 Lane2 from PCH port21



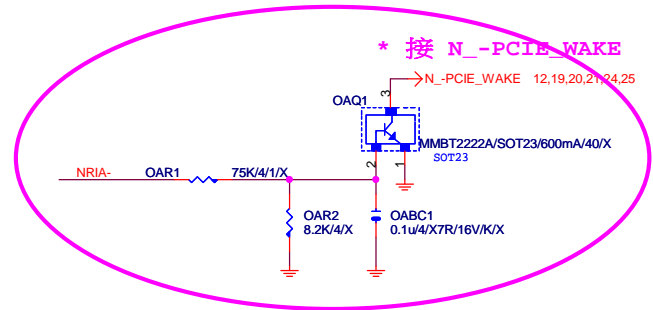
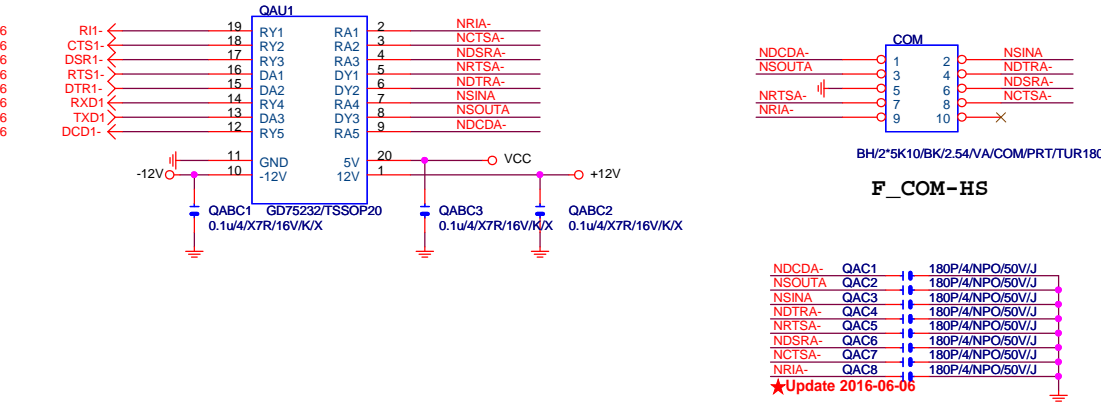
From PCH port21



| Function  | SEL |
|-----------|-----|
| xI--> x0a | L   |
| xI--> x0b | H   |

COM PORT Rev: 0.7

COM RI N/A

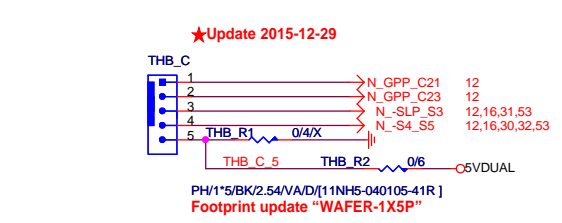
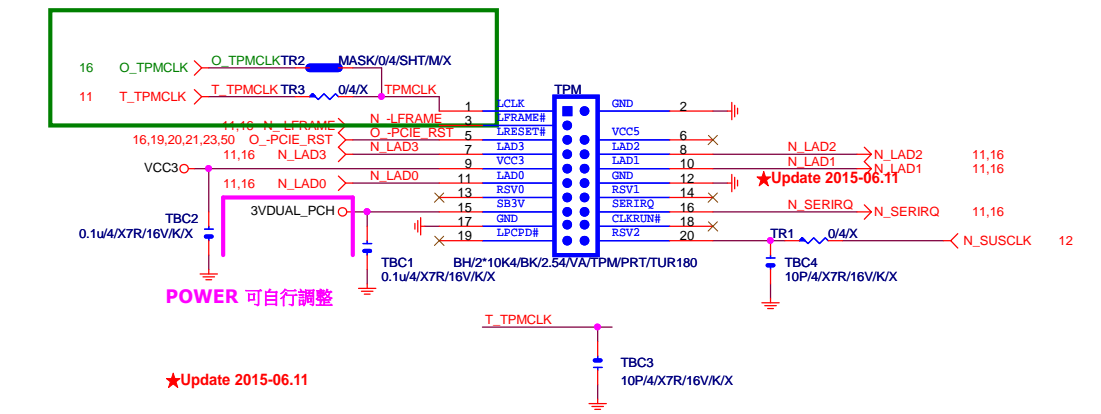


LPT PORT

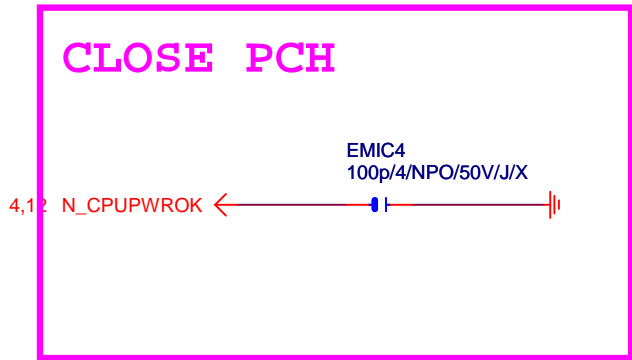
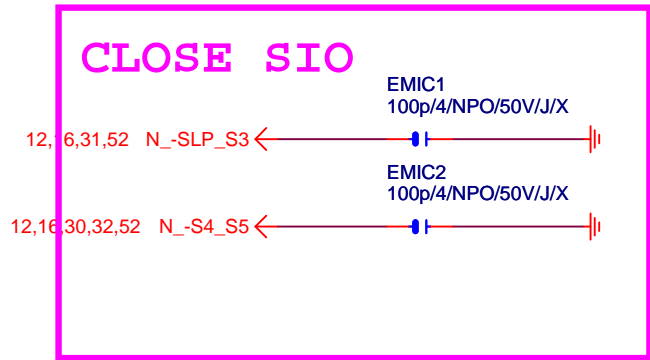
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TPM CONNECT

Thunderbolt

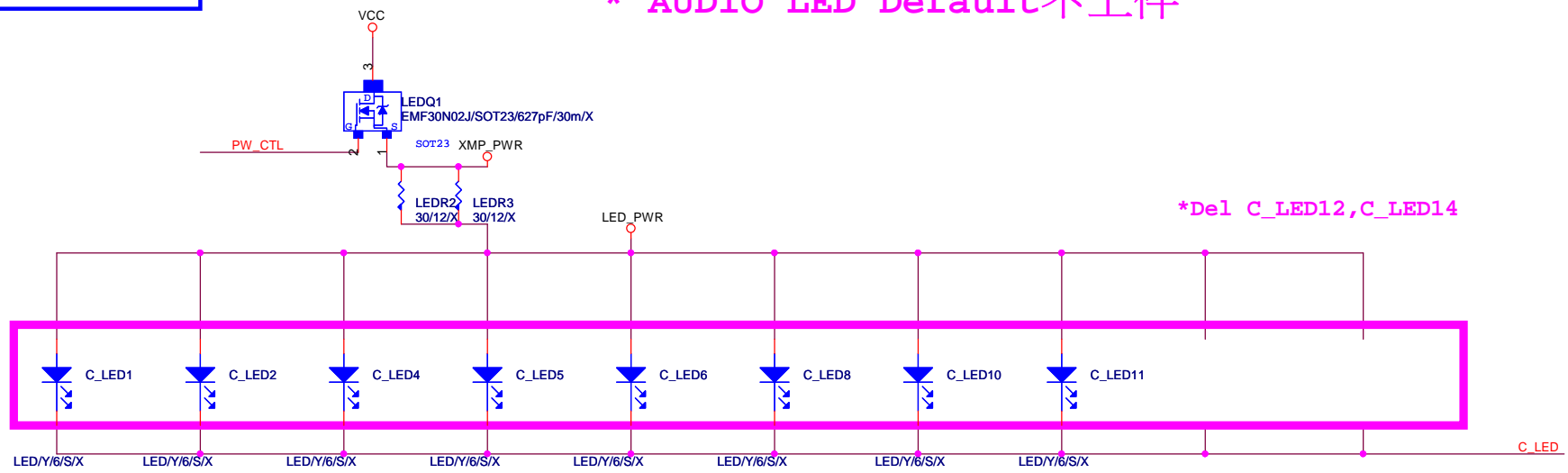






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\* AUDIO LED Default不上件

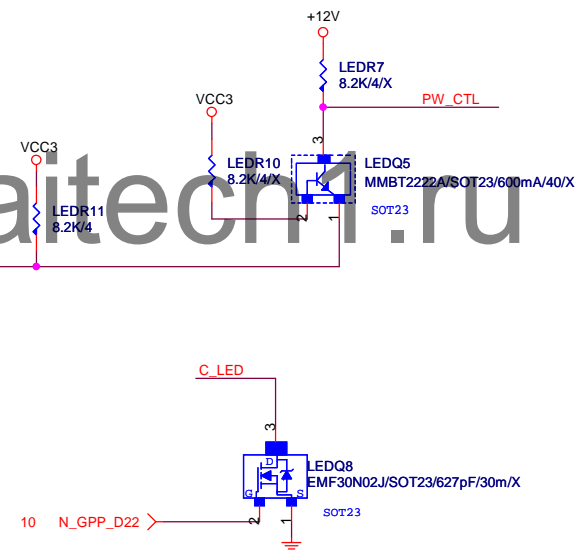


Ambient LED Control

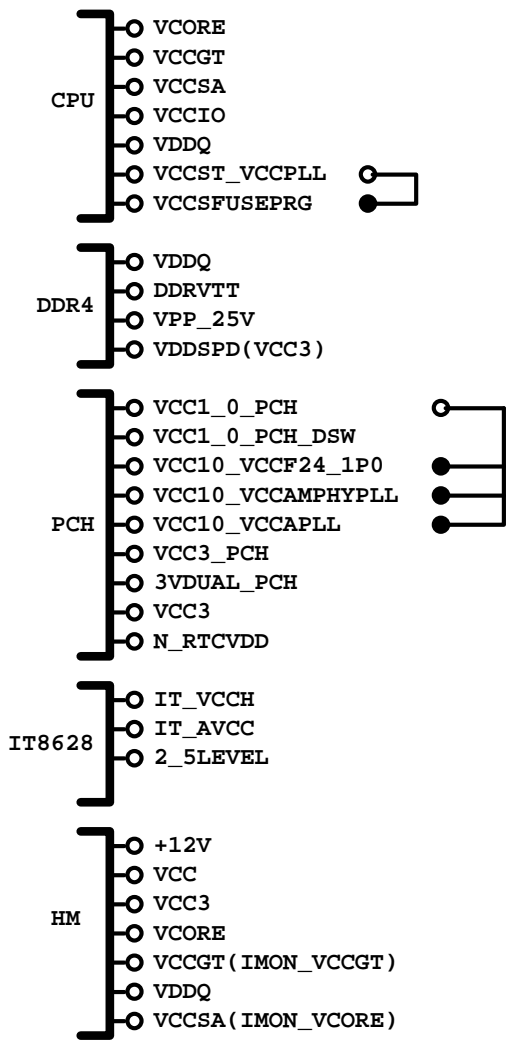
|           |           |
|-----------|-----------|
|           | N_GPP_D22 |
| Full Mode | H         |
| OFF Mode  | L         |

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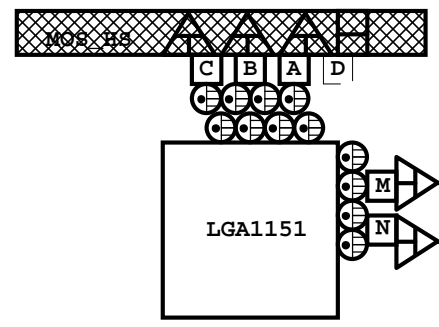
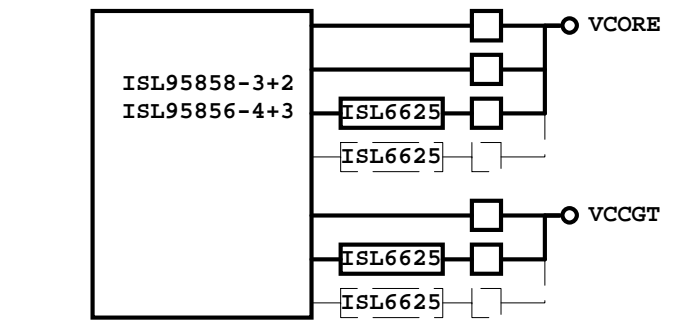
10 N\_GPP\_D22



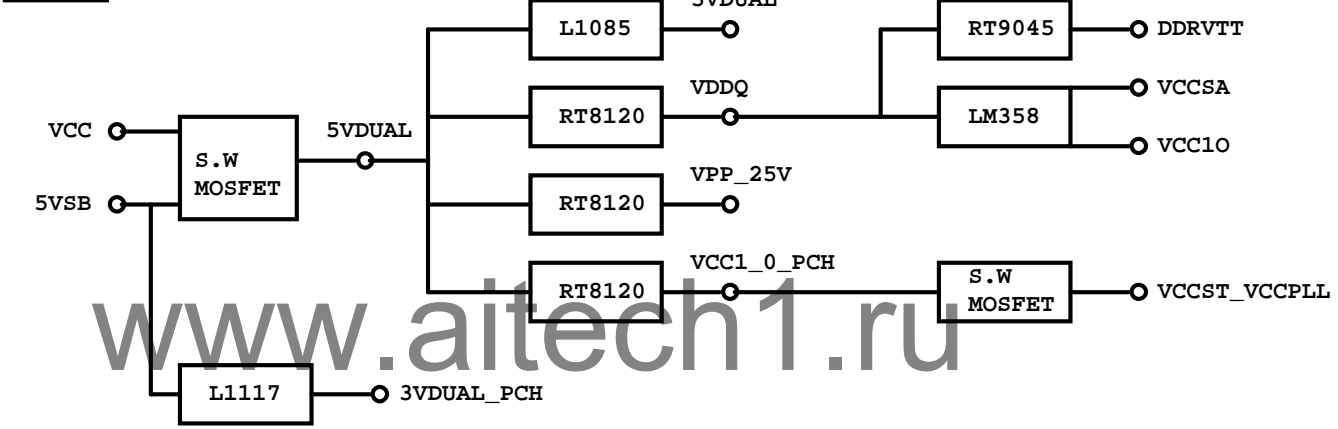
POWER BLOCK MAP



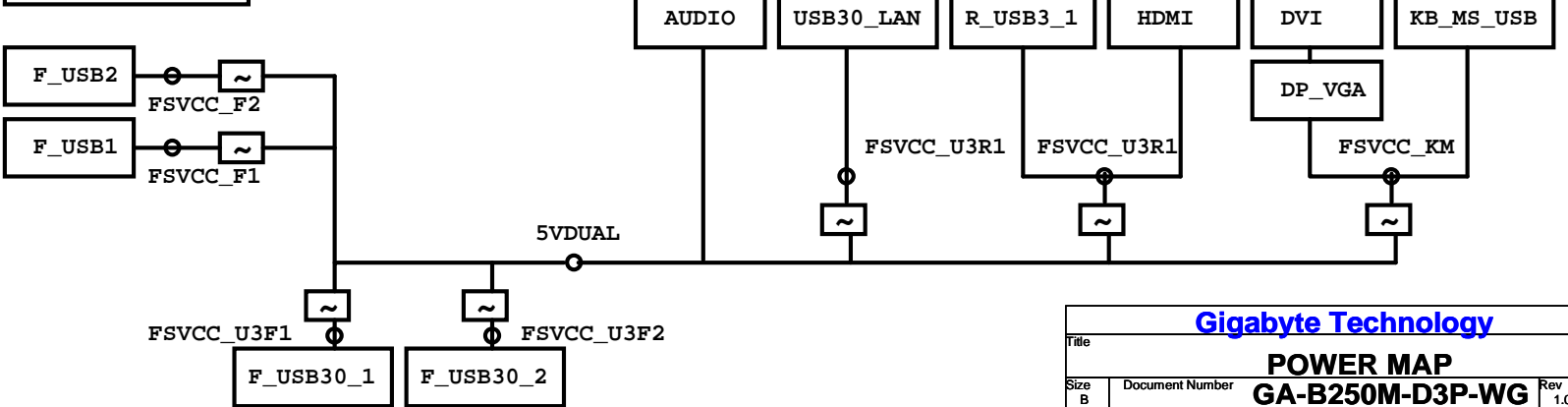
VCORE/VCCGT



POWER



FUSE POWER F/R



|                     |                           |                 |          |
|---------------------|---------------------------|-----------------|----------|
| Gigabyte Technology |                           |                 |          |
| Title               |                           |                 |          |
| POWER MAP           |                           |                 |          |
| Size B              | Document Number           | GA-B250M-D3P-WG | Rev 1.02 |
| Date:               | Monday, December 12, 2016 | Sheet           | 55 of 55 |