

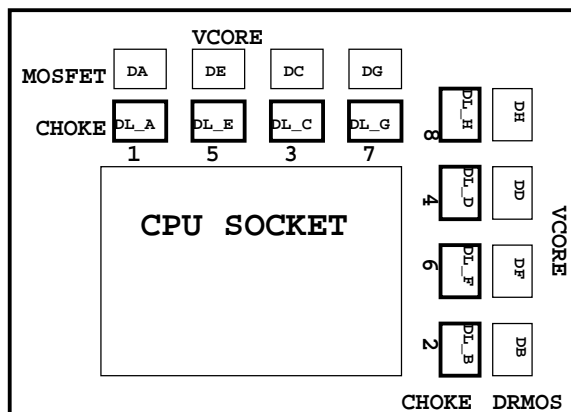
Model Name: GA-Z87X-UD3H

SHEET TITLE

| | |
|----|----------------------------|
| 01 | COVER SHEET |
| 02 | BOM & PCB MODIFY HISTORY |
| 03 | BLOCK DIAGRAM |
| 04 | CPU_LGA1155-A |
| 05 | CPU_LGA1155-B |
| 06 | CPU_LGA1155-C |
| 07 | DDR III CHANNEL A |
| 08 | DDR III CHANNEL B |
| 09 | PCH_FDI,DMI,USB,PCIE,NVRAM |
| 10 | PCH_DP,CLK BUFFER |
| 11 | PCH_HOST,SATA,PCI |
| 12 | PCH_GPIO,CTRL,AUDIO |
| 13 | PCH_PWR,GND |
| 14 | PCH HDMI/DP |
| 15 | PCI EXPRESS*16 SLOT |
| 16 | PCI EXPRESS*8 SLOT |
| 17 | PCI EXPRESS*16/*8 SWITCH |
| 18 | PCI EXPRESS*1 SLOTS X3 |
| 19 | PCI EXPRESS*4 SLOT |
| 20 | ITE 8892 |
| 21 | PCI SLOT 1 |
| 22 | Dual BIOS |
| 23 | ALC898 |
| 24 | REAR AUDIO JACK |
| 25 | AMPLIFIER |
| 26 | IR3563A PWM |
| 27 | IR3550-VCORE |

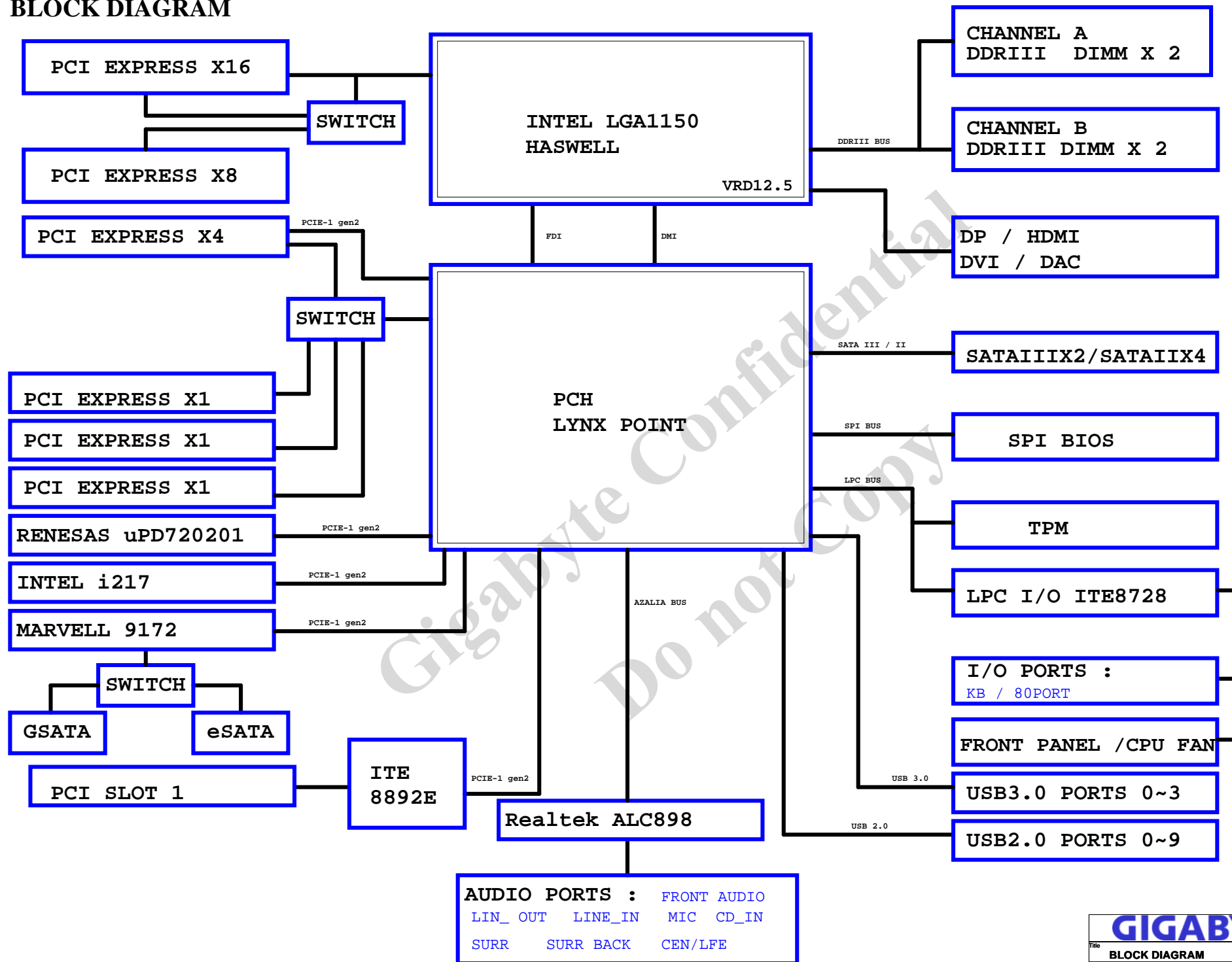
SHEET TITLE

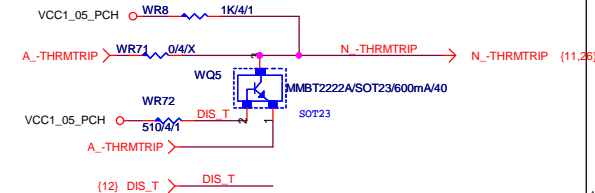
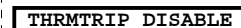
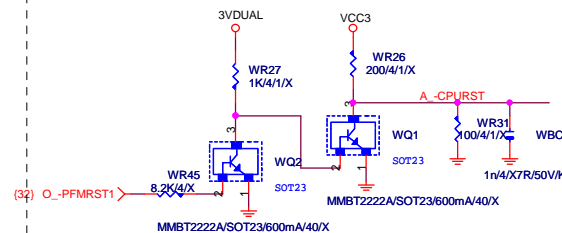
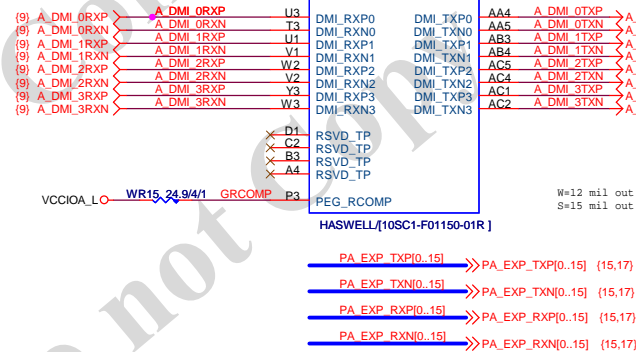
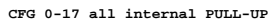
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| 28 | IR3570-DDR PWM |
| 29 | IR3598-DDR POWER |
| 30 | 5VDUAL, 3VDAUL, ERP |
| 31 | PCH1.05V, PCH1.5V, VCC3_DAC |
| 32 | I/O ITE8728 |
| 33 | USB3_ESATA,KB/USB3 |
| 34 | F_PANEL , F_USB , PHOT |
| 35 | F_USB 2.0 |
| 36 | F_USB 3.0 |
| 37 | ATX POWER, CLOCK GEN |
| 38 | HWM, FAN CTRL |
| 39 | INTEL I217 |
| 40 | Marvell 9172 |
| 41 | SATA SWITCH |
| 42 | RST, PWR, CLR_CMOS |
| 43 | USB 3.0 uPD720201 |
| 44 | USB 3.0 uPD720201 POWER |
| 45 | TABLE LIST |
| 46 | |



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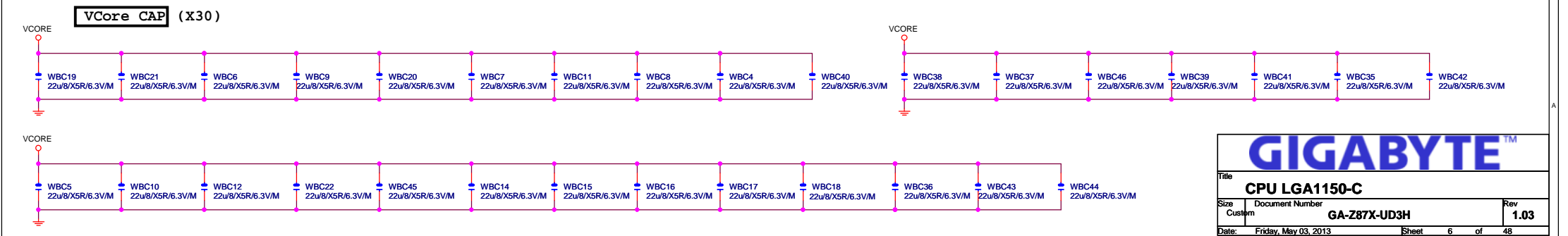
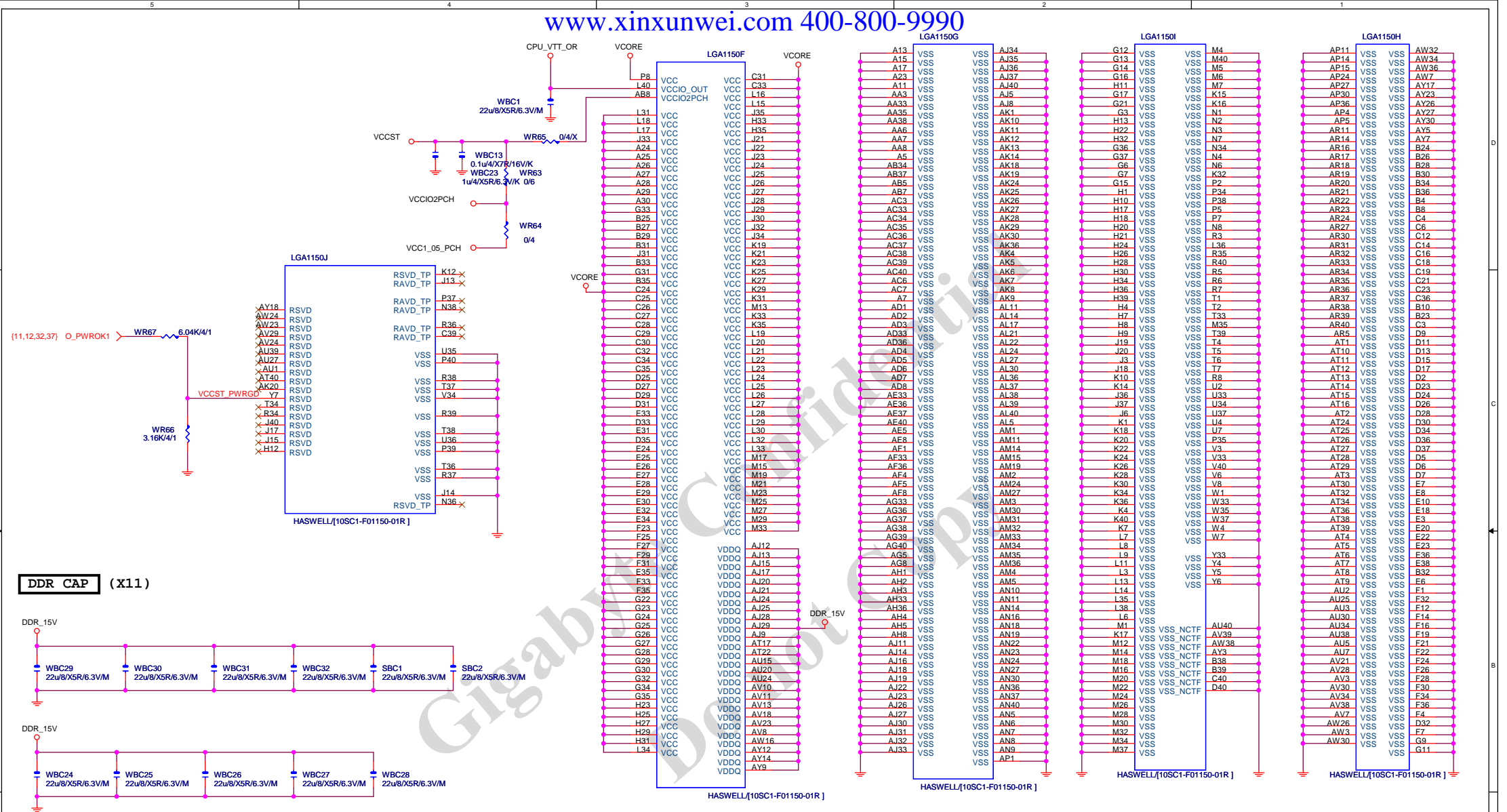
BLOCK DIAGRAM





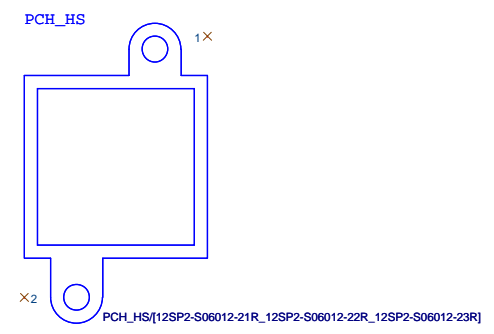
LGA1150A

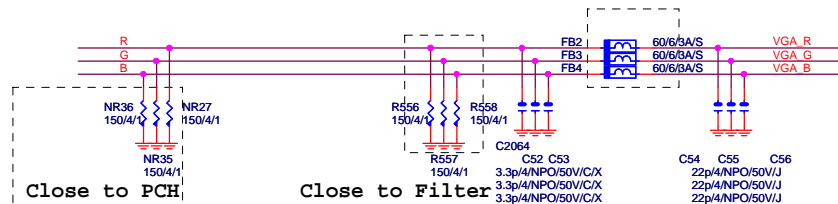
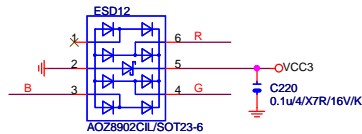
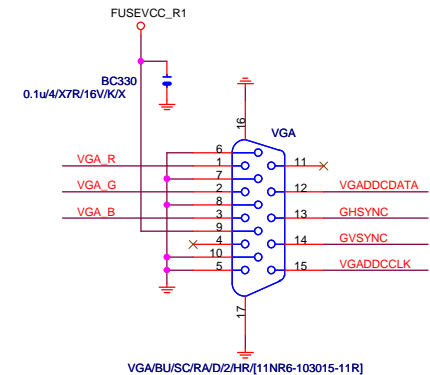
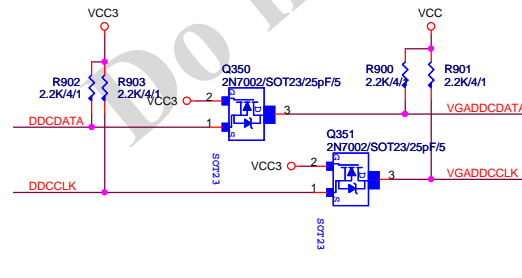
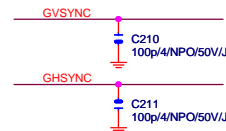
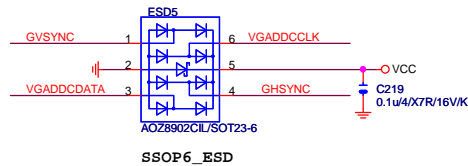
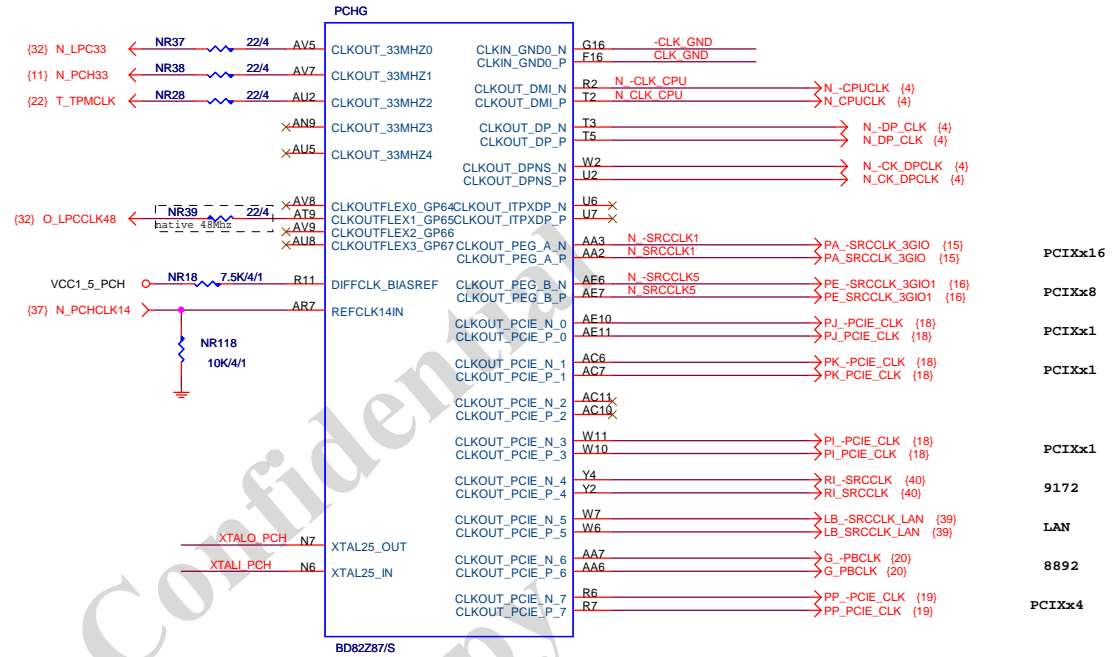
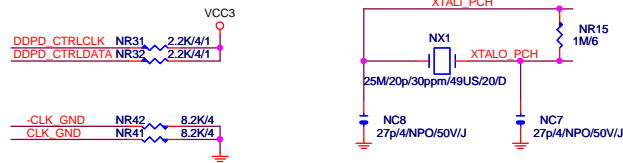
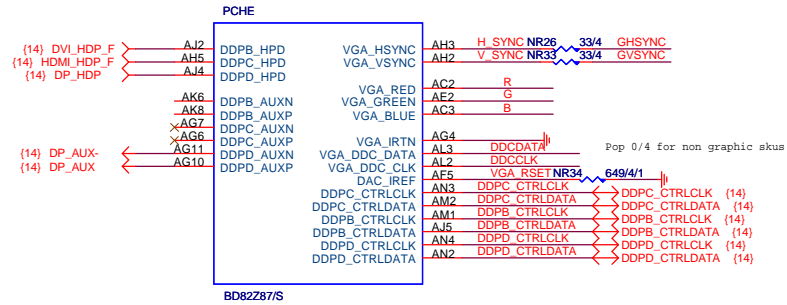
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| MAAA2 | AU16 | DDR0_DQ2 | AF38 | MDA2 |
| MAAA3 | AW17 | DDR0_DQ3 | AF39 | MDA3 |
| MAAA4 | AU17 | DDR0_DQ4 | AD37 | MDA4 |
| MAAA5 | AW18 | DDR0_DQ5 | AD40 | MDA5 |
| MAAA6 | AV17 | DDR0_DQ6 | AF37 | MDA6 |
| MAAA7 | AT18 | DDR0_DQ7 | AF40 | MDA7 |
| MAAA8 | AU18 | DDR0_DQ8 | AH40 | MDA8 |
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| MAAA10 | AW11 | DDR0_DQ10 | AK38 | MDA10 |
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| MAAA14 | AT20 | DDR0_DQ14 | AK37 | MDA14 |
| MAAA15 | AU21 | DDR0_DQ15 | AK40 | MDA15 |
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| MODT_A2 | AW9 | DDR0_DQ18 | AP38 | MDA18 |
| MODT_A3 | AU8 | DDR0_DQ19 | AP39 | MDA19 |
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| | | DDR0_DQ21 | AM38 | MDA21 |
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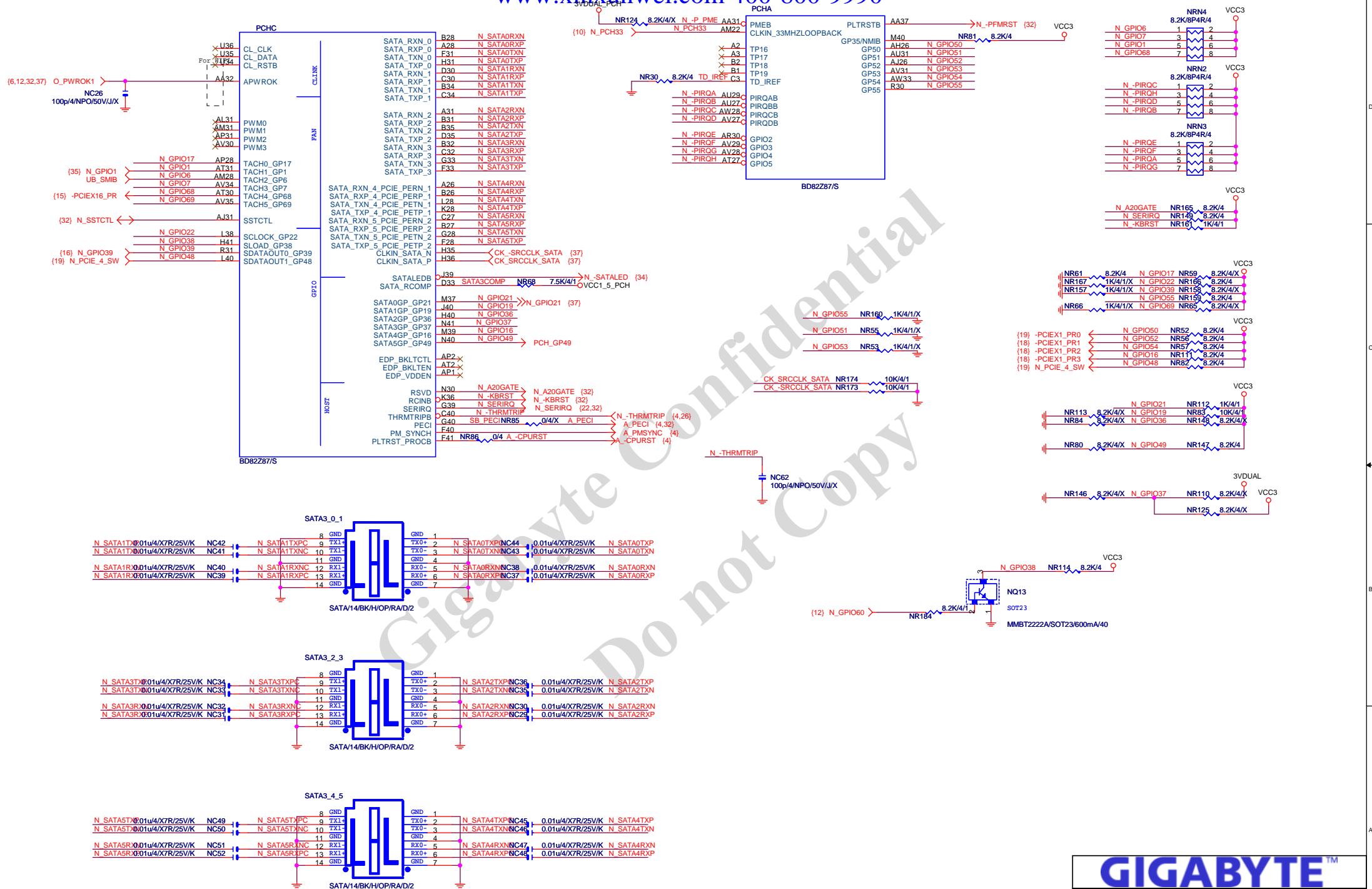


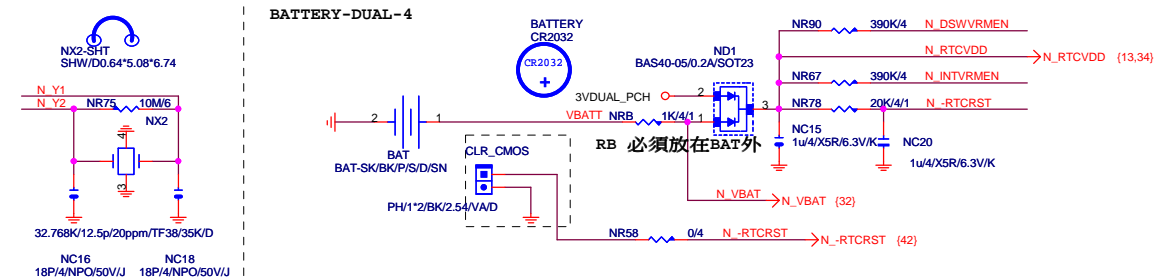
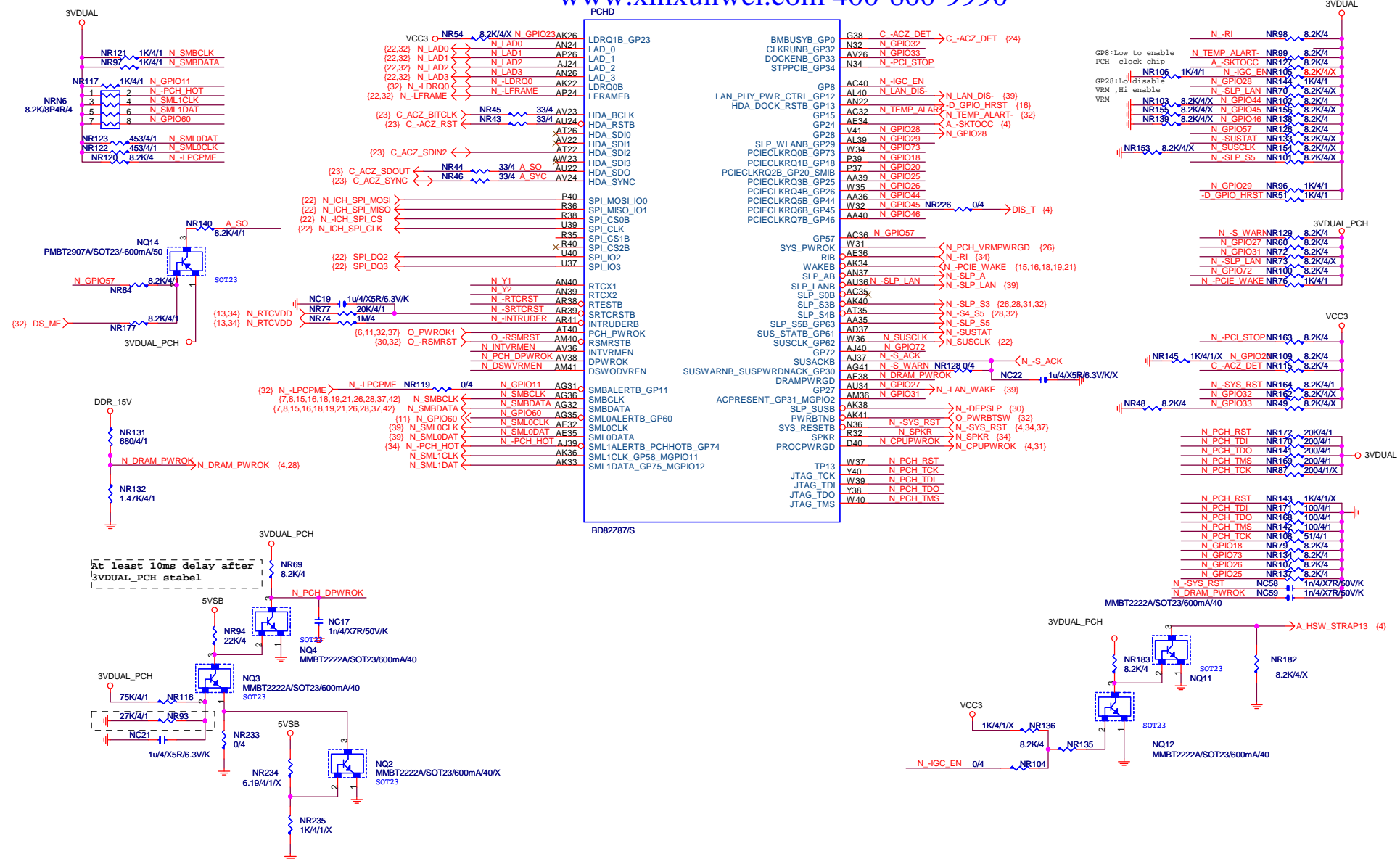


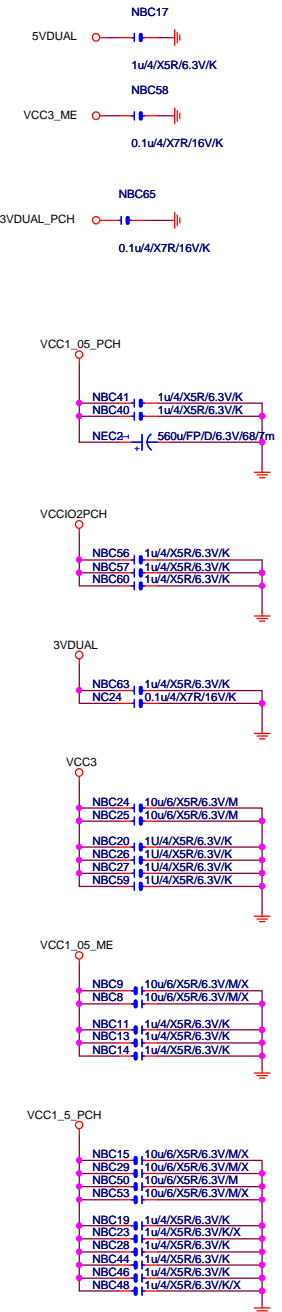
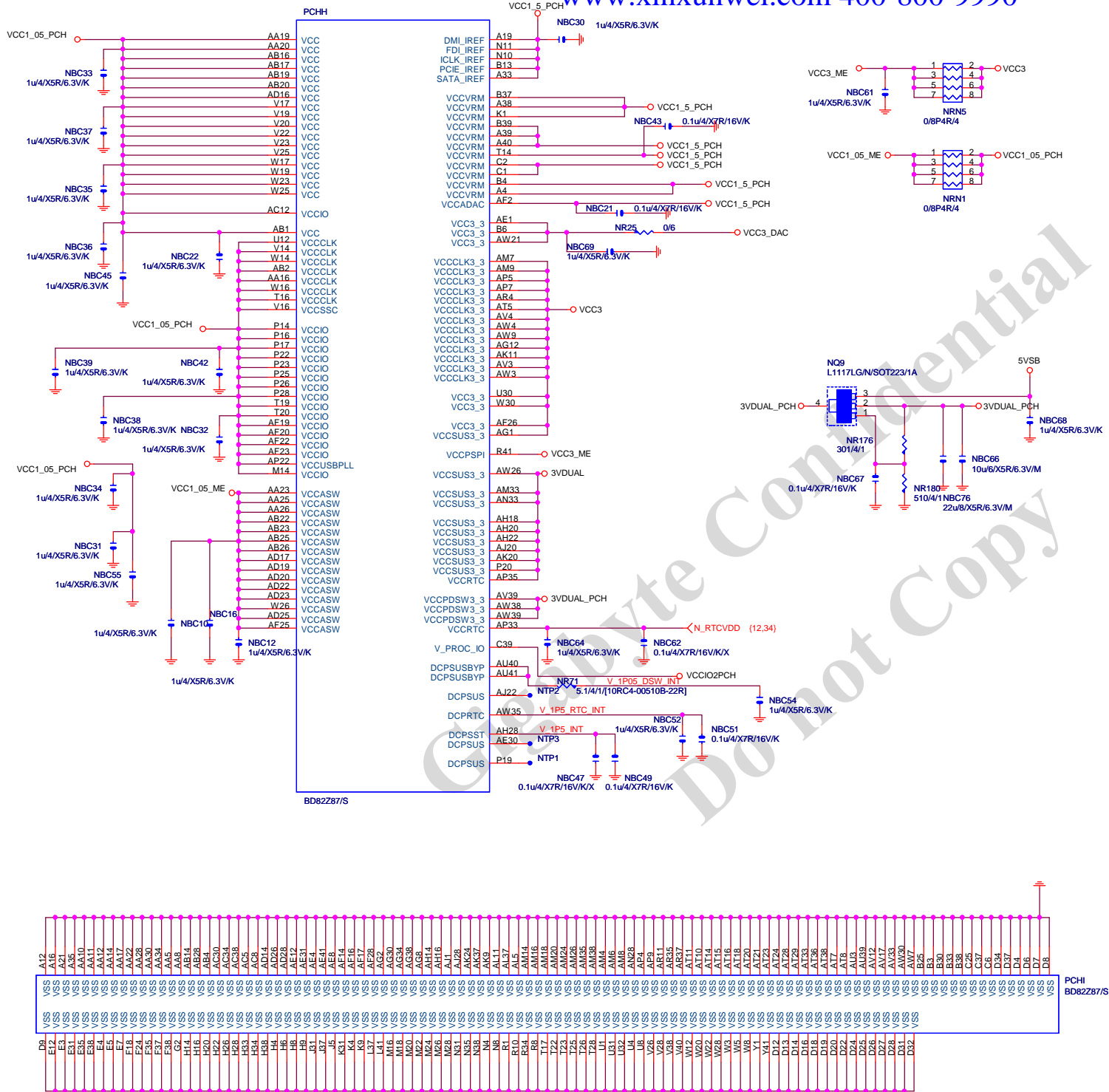


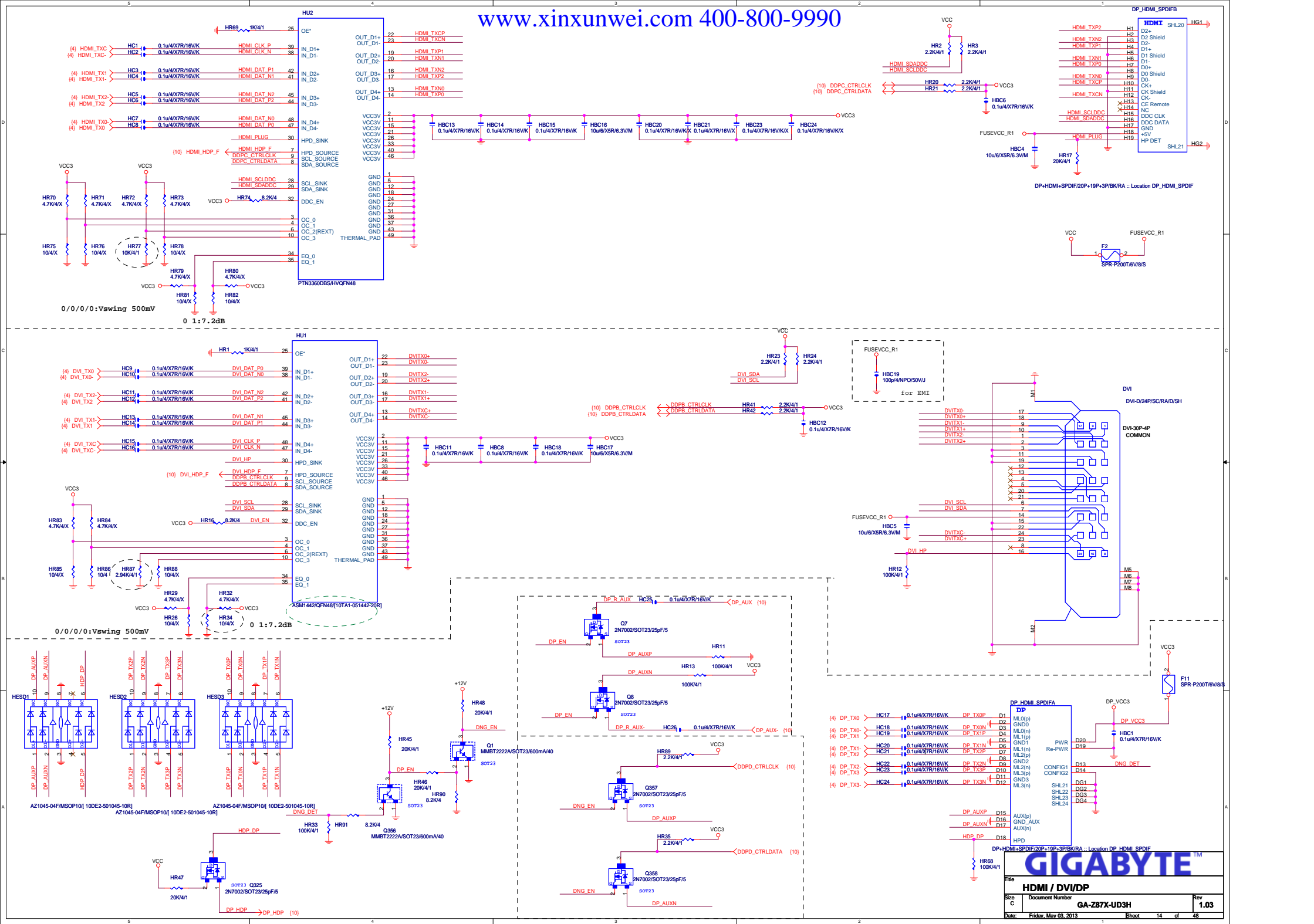


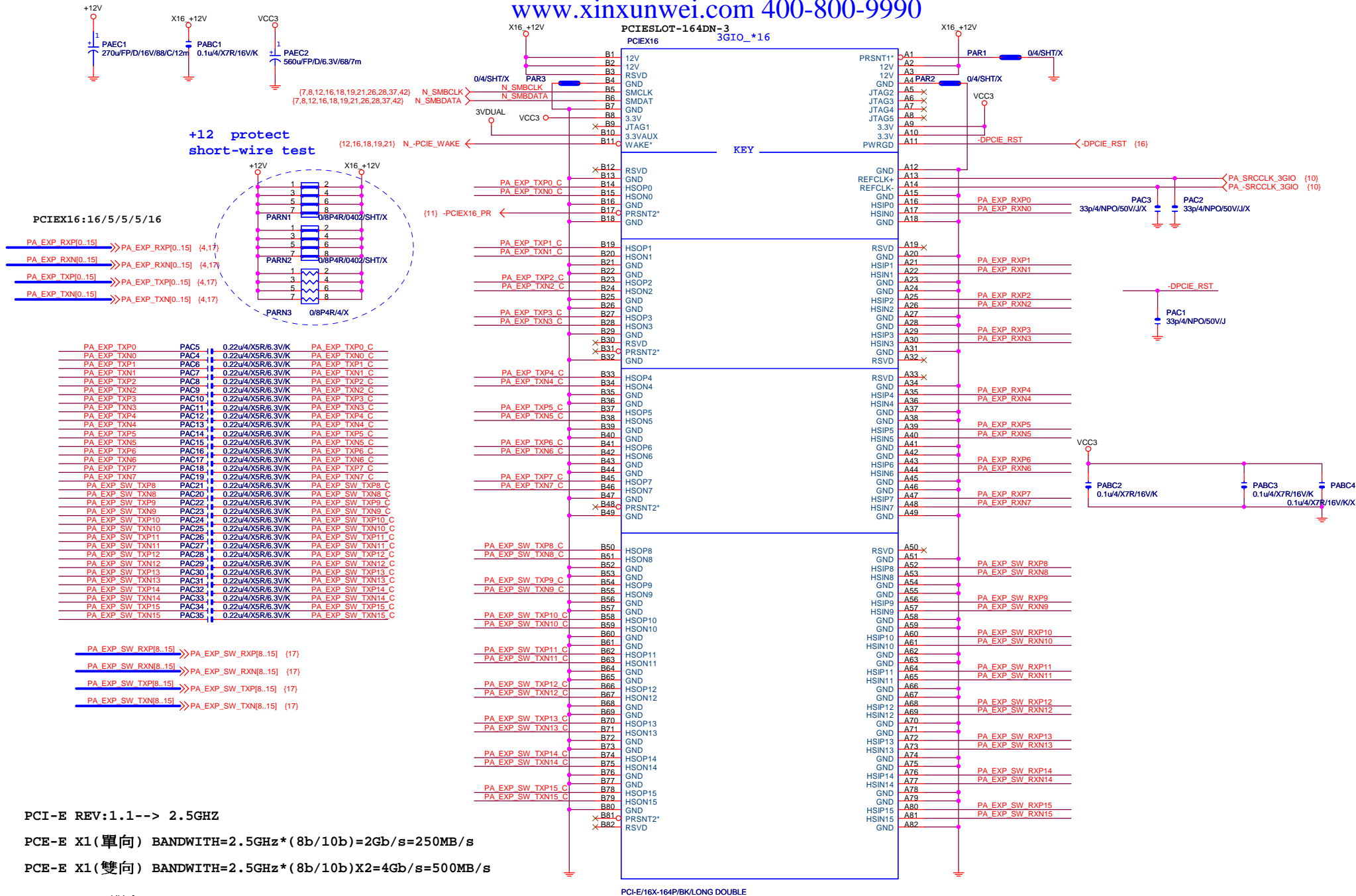












PCI-E REV:1.1--> 2.5GHZ

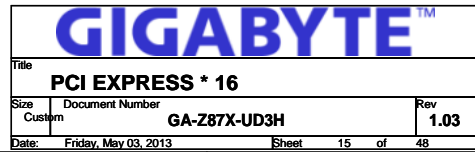
PCE-E X1(單向) BANDWIDTH=2.5GHz*(8b/10b)=2Gb/s=250MB/s

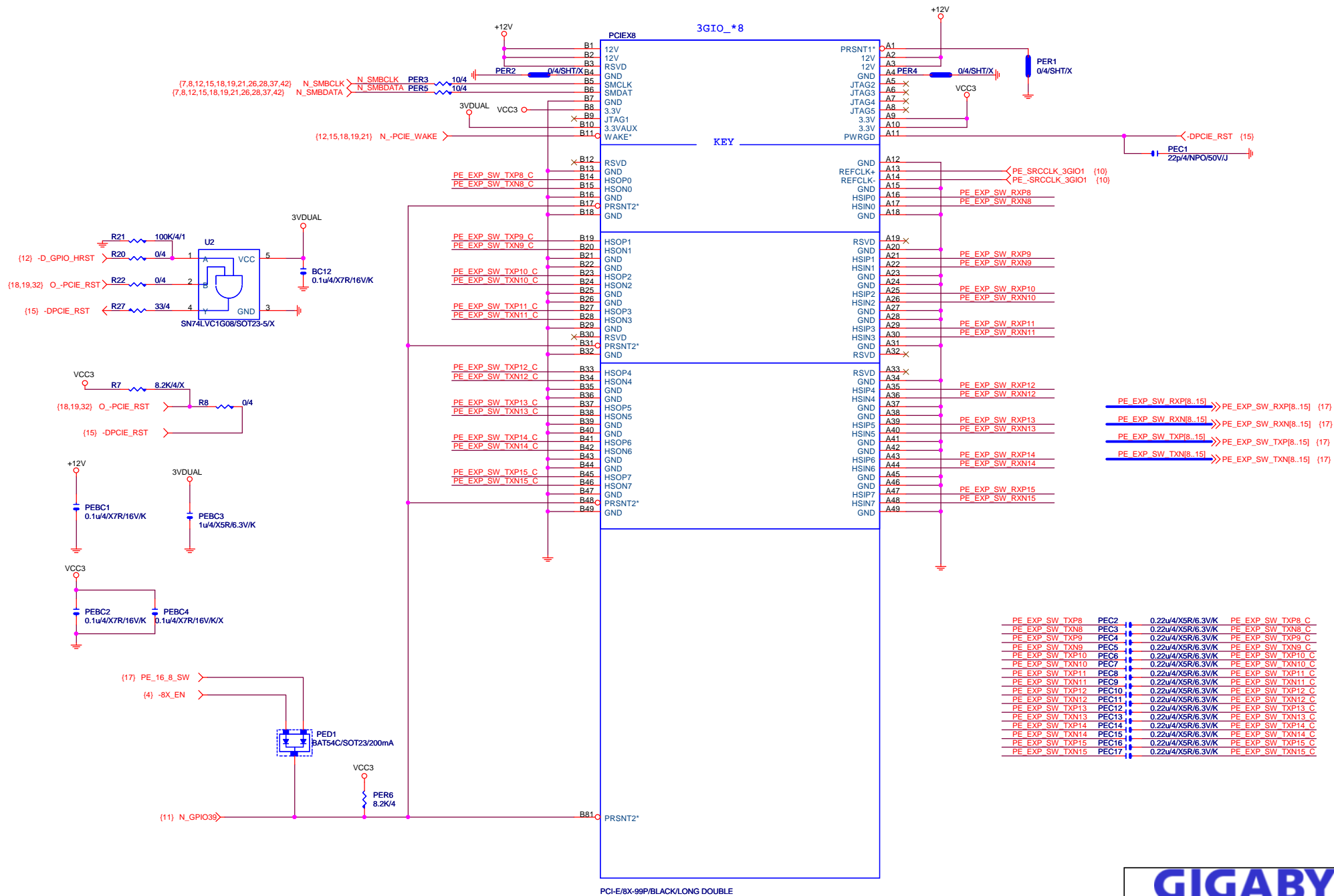
PCE-E X1(雙向) BANDWIDTH=2.5GHz*(8b/10b)X2=4Gb/s=500MB/s

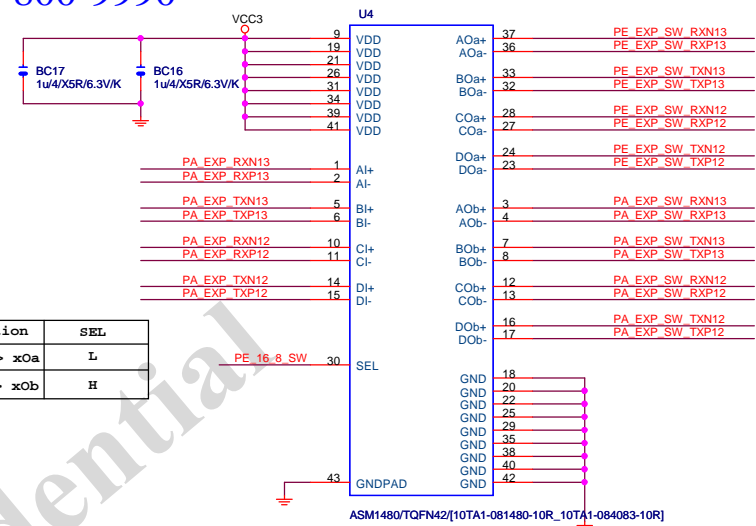
PCE-E X16(單向) BANDWIDTH=2.5GHz*(8b/10b)X16=32Gb/s=4GB/s

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

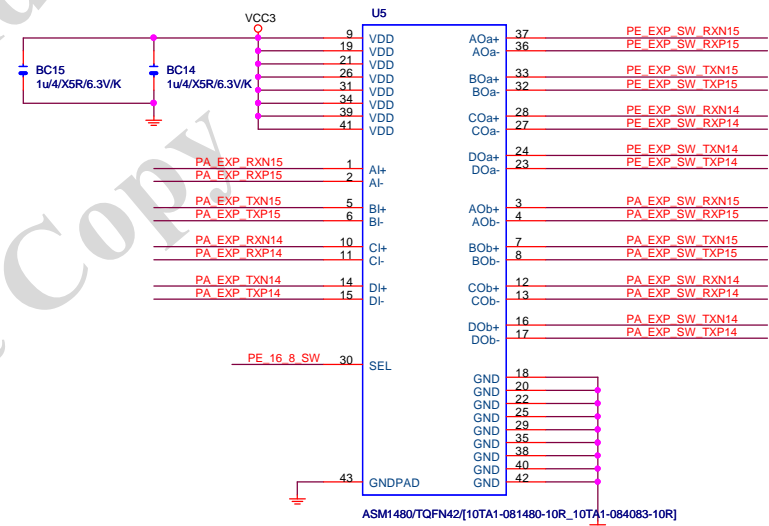
PCI-E REV:2.0--> 5GHZ

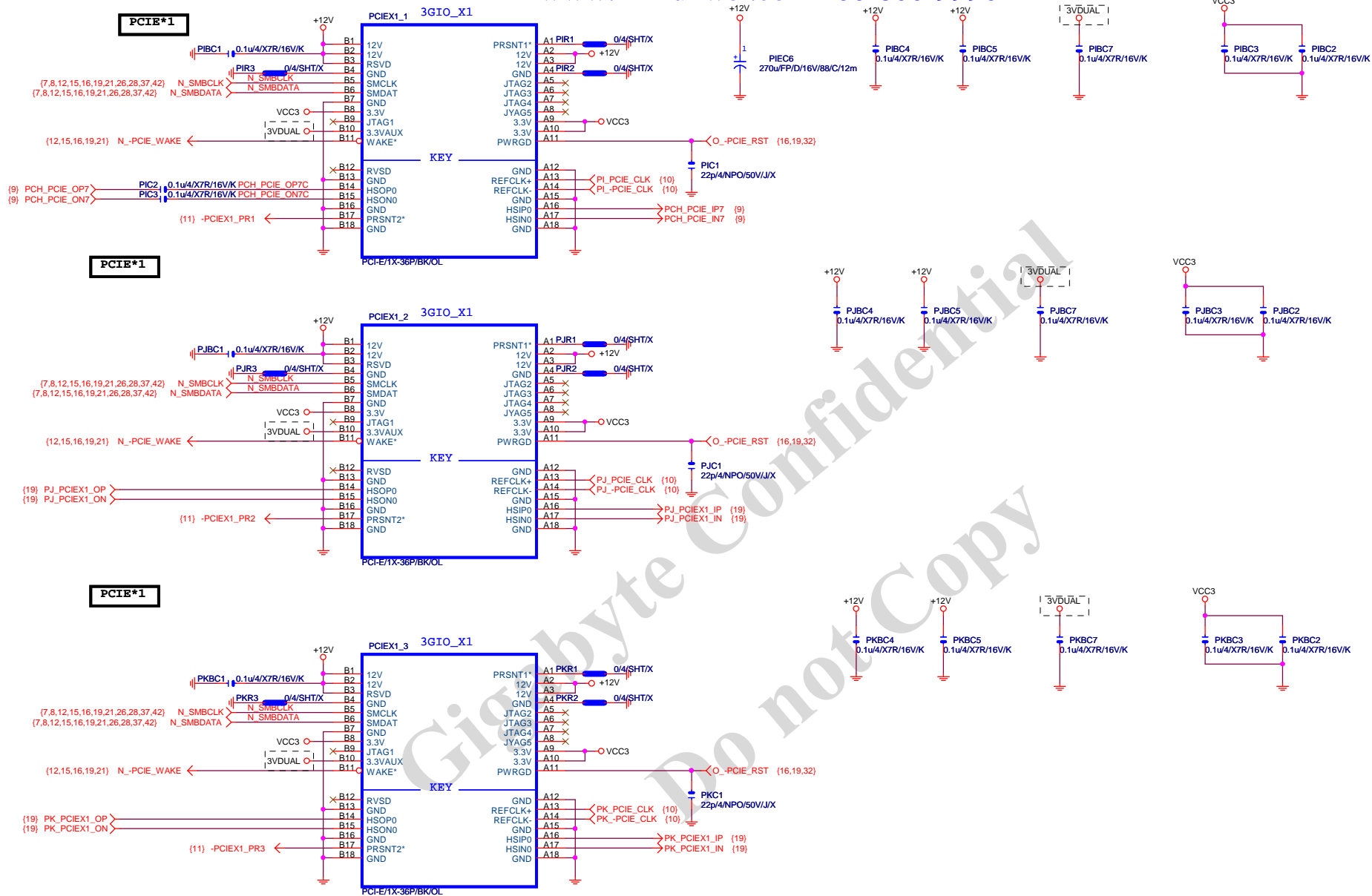


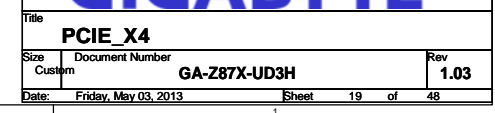


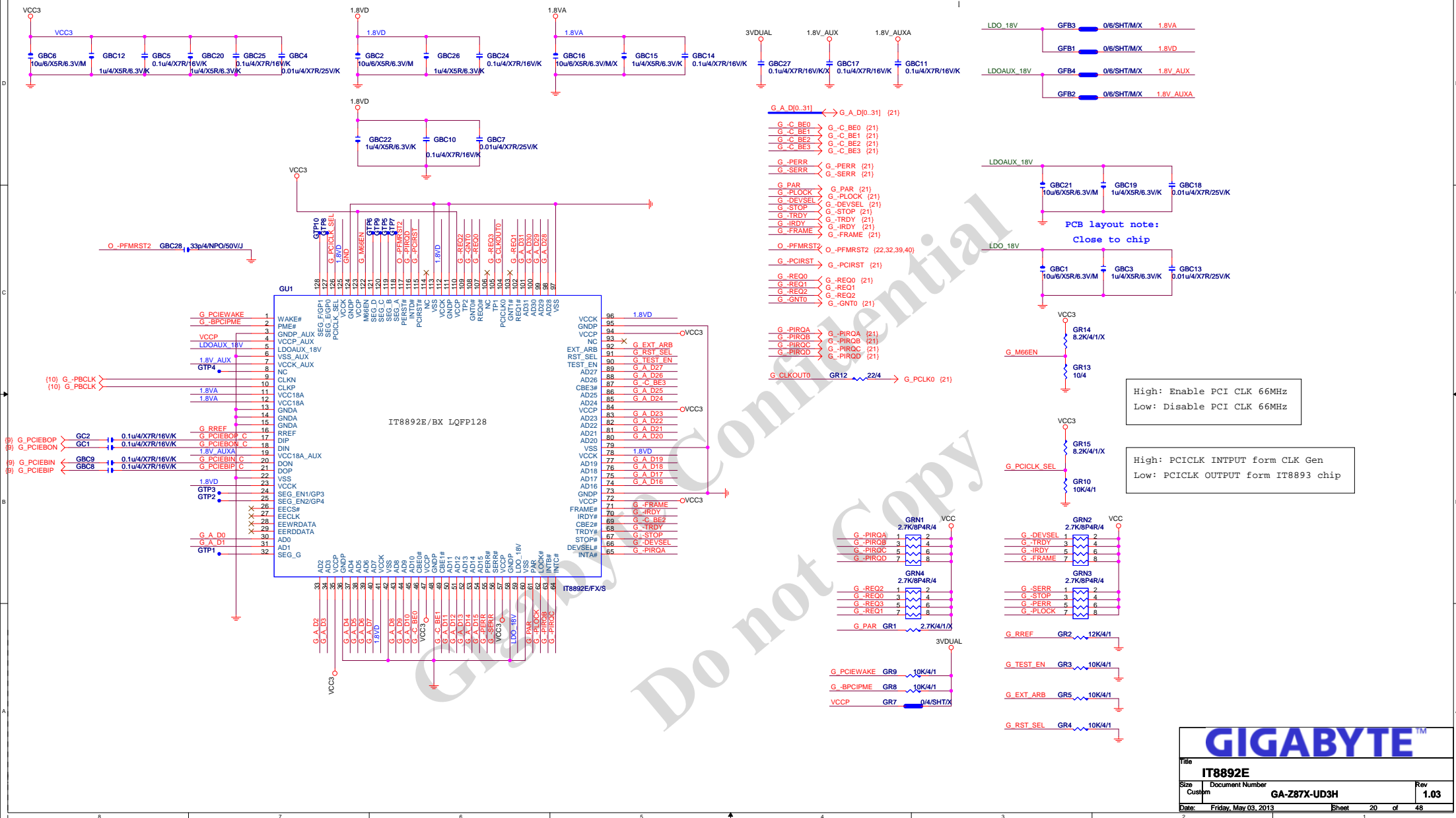


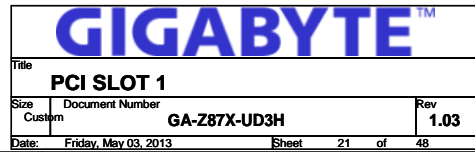
| | | |
|----------------------|----------------------|--------|
| PA EXP SW_RXP[8..15] | PA_EXP_SW_RXP[8..15] | {15} |
| PA EXP SW_RXN[8..15] | PA_EXP_SW_RXN[8..15] | {15} |
| PA EXP SW_TXP[8..15] | PA_EXP_SW_TXP[8..15] | {15} |
| PA EXP SW_TXN[8..15] | PA_EXP_SW_TXN[8..15] | {15} |
| PE EXP SW_RXP[8..15] | PE_EXP_SW_RXP[8..15] | {16} |
| PE EXP SW_RXN[8..15] | PE_EXP_SW_RXN[8..15] | {16} |
| PE EXP SW_TXP[8..15] | PE_EXP_SW_TXP[8..15] | {16} |
| PE EXP SW_TXN[8..15] | PE_EXP_SW_TXN[8..15] | {16} |
| PA EXP_RXP[0..15] | PA_EXP_RXP[0..15] | {4,15} |
| PA EXP_RXN[0..15] | PA_EXP_RXN[0..15] | {4,15} |
| PA EXP_TXP[0..15] | PA_EXP_TXP[0..15] | {4,15} |
| PA EXP_TXN[0..15] | PA_EXP_TXN[0..15] | {4,15} |

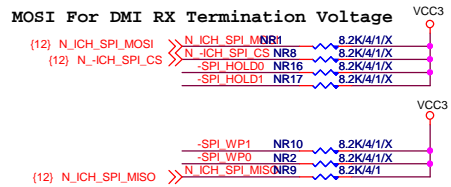
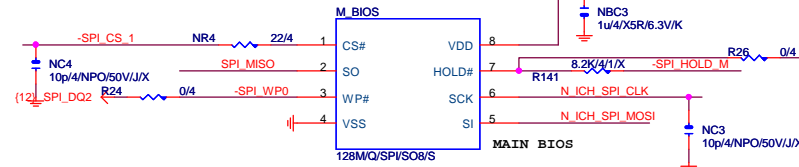










[illegible]

VCC3

R236 1K/4/1

R235 330/4

-SPI_CS_2

Q58 MMBT2222A/SOT23/600mA/40[10IT1-002222-11R]

SOT23

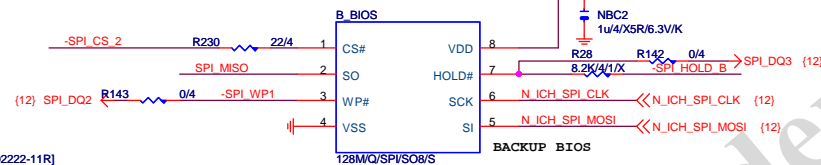
N -ICH_SPI_CS

Q59 MMBT2222A/SOT23/600mA/40[10IT1-002222-11R]

SOT23

-SPI_HOLD_M

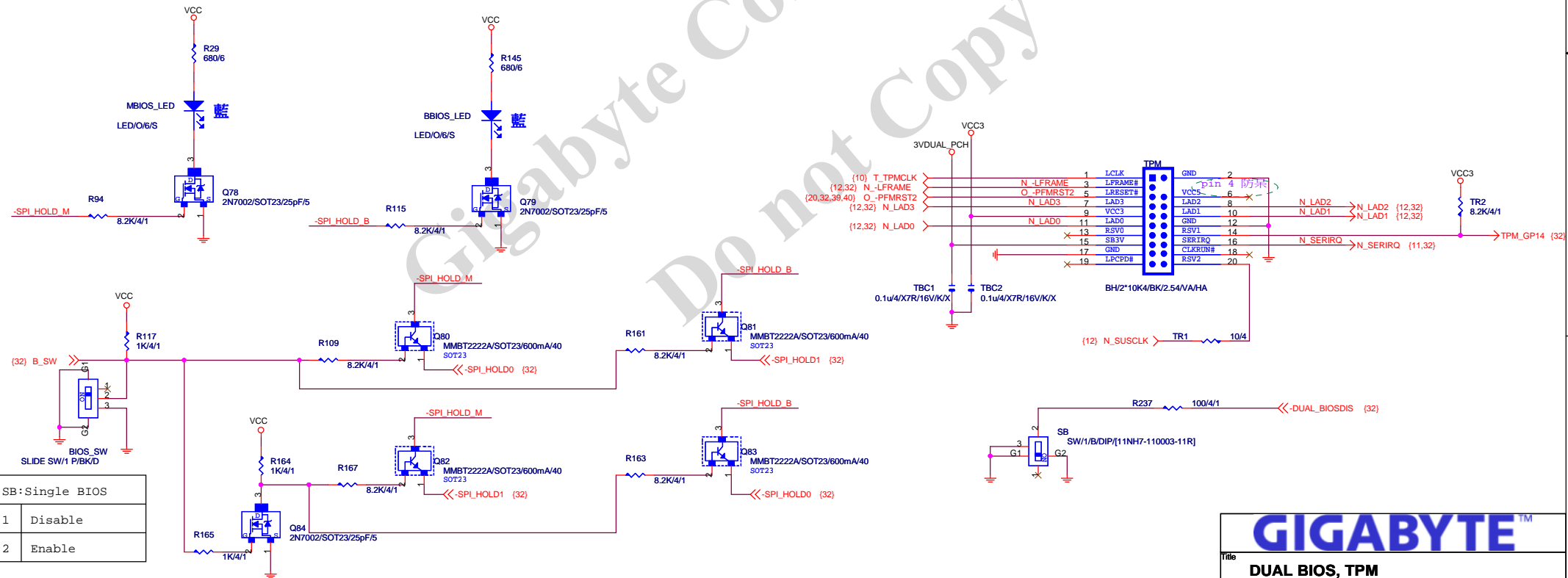
R229 8.2K/4



1 means floating
0 means PD 1K

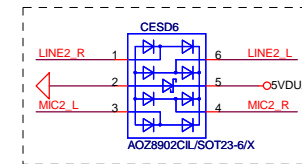
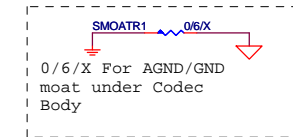
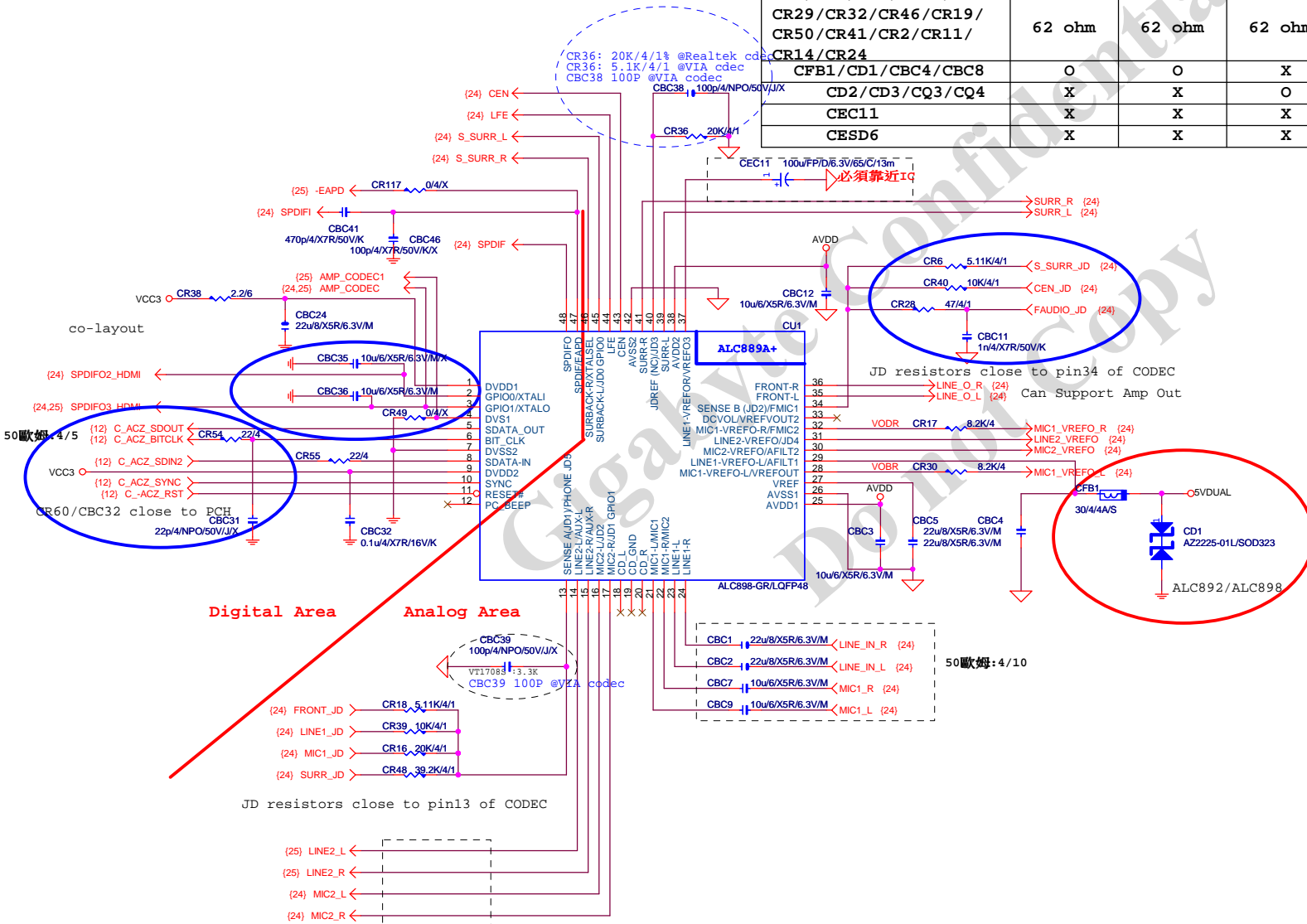


| BOOT DEVICE | GNT0 | GNT1 |
|----------------|------|------|
| LPC | 0 | 0 |
| PCI | 0 | 1 |
| NAND | 1 | 0 |
| SPI | 1 | 1 |

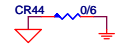
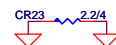


| | |
|----------------|---------|
| SB:Single BIOS | |
| 1 | Disable |
| 2 | Enable |

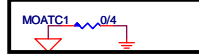
| | ALC662 | ALC887-VD2 | ALC889 | VT1708S-CD | VT1708S-CE | VT2021 | ALC898/ALC892 |
|---|-----------|------------|-----------|------------|------------|-----------|---------------|
| CR49 | X | X | O | O | X | O | X |
| CBC36 | O | O | X | X | O | X | O |
| CR28/CBC11 | 47ohm+1nF | 47ohm+1nF | 47ohm+1nF | 22ohm+100P | 22ohm+100P | 47ohm+1nF | 47ohm+1nF |
| CR52 | X | O | O | O | O | O | O |
| CR57 | O | X | X | X | X | X | X |
| CBC1/CBC2 | 10uF/X5R | 10uF/X5R | 22uF/X5R | 10uF/X5R | 10uF/X5R | 10uF/X5R | 22uF/X5R |
| CR36 | 20K/4/1 | 20K/4/1 | 20K/4/1 | 5.1K/4/1 | 20K/4/1 | 5.1K/4/1 | 20K/4/1 |
| CR17/CR30/ CR25/CR15/CR12/CR3/ | 8.2K/4 | 8.2K/4 | 8.2K/4 | 3.3K/4/1 | 3.3K/4/1 | 3.3K/4/1 | 8.2K/4 |
| CBC38/CBC39 | X | X | X | 100P/4 | 100P/4 | X | X |
| CR10/CR8/CR20/CR45/ CR42/CR51/CR27/CR26 | 22K/4 | 22K/4 | 22K/4 | 10K/4/1 | 10K/4/1 | 10K/4/1 | 22K/4 |
| CR7/CR9/CR5/CR13/ CR29/CR32/CR46/CR19/ CR50/CR41/CR2/CR11/ CR14/CR24 | 62 ohm | 62 ohm | 62 ohm | 75 ohm | 75 ohm | 75 ohm | 62 ohm |
| CFB1/CD1/CBC4/CBC8 | O | O | X | X | O | X | O |
| CD2/CD3/CQ3/CQ4 | X | X | O | O | X | O | X |
| CEC11 | X | X | X | X | X | X | O |
| CESD6 | X | X | X | O | O | O | X |



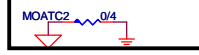
LINE-OUT



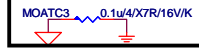
Audio jack --> USB



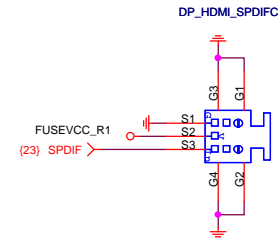
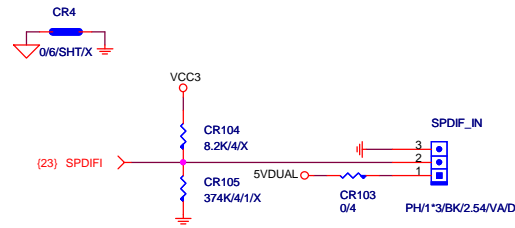
Near Audio jack left



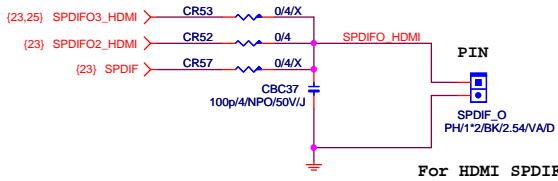
Codec --> Audio jack



F_AUDIO



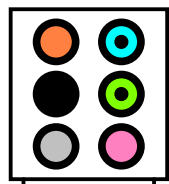
DP+HDMI+SPDIF/20P+19P+3P/BK/RA :: Location DP_HDMI_SPDIF



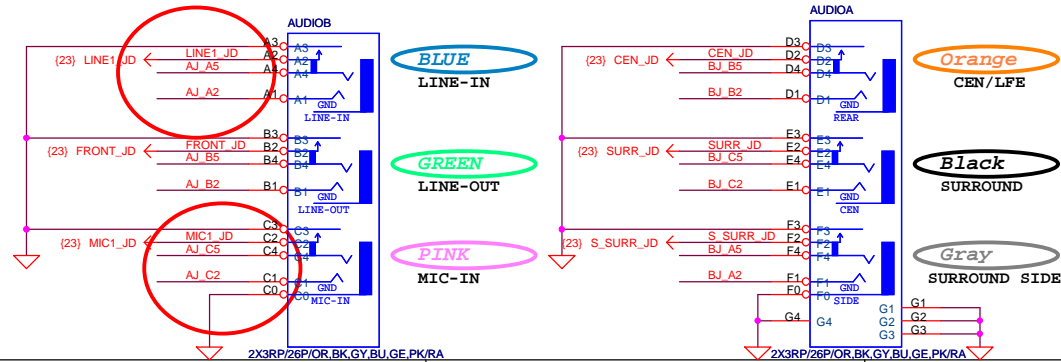
For HDMI SPDIF

AZALIA JACK

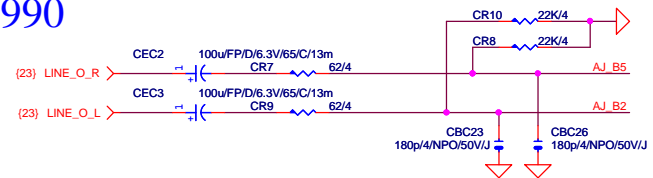
BTX AZALIA CONNECTOR



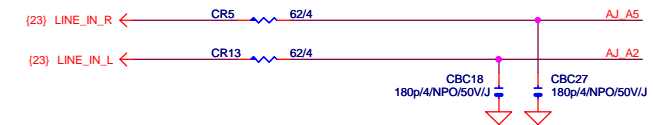
11NR6-403007-21R



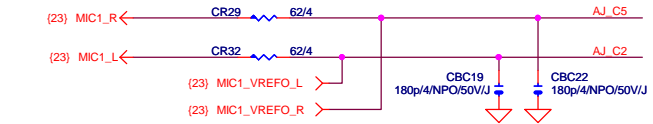
MIC-IN



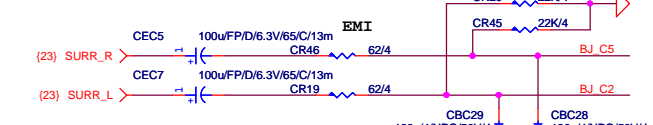
SURROUND



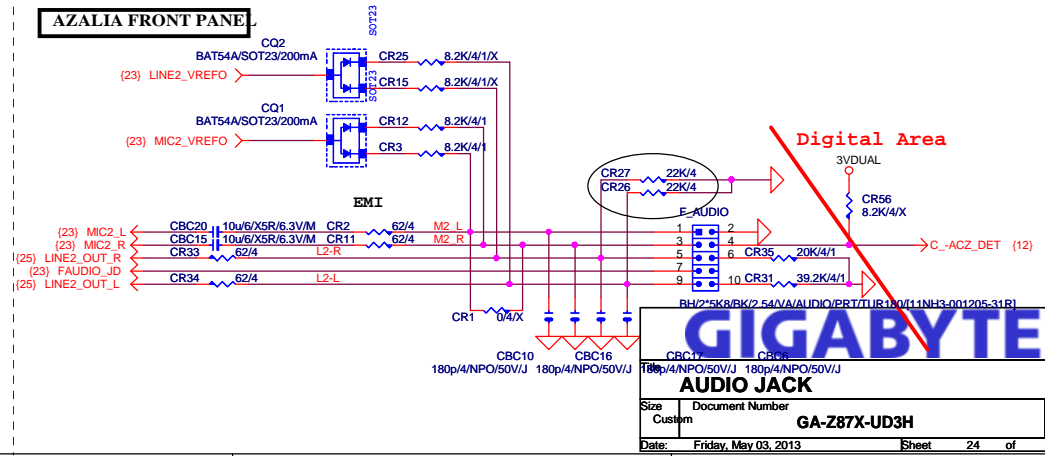
CEN/LFE



SURR BACK



AZALIA FRONT PANE



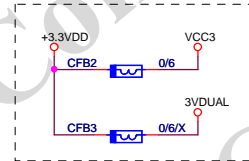
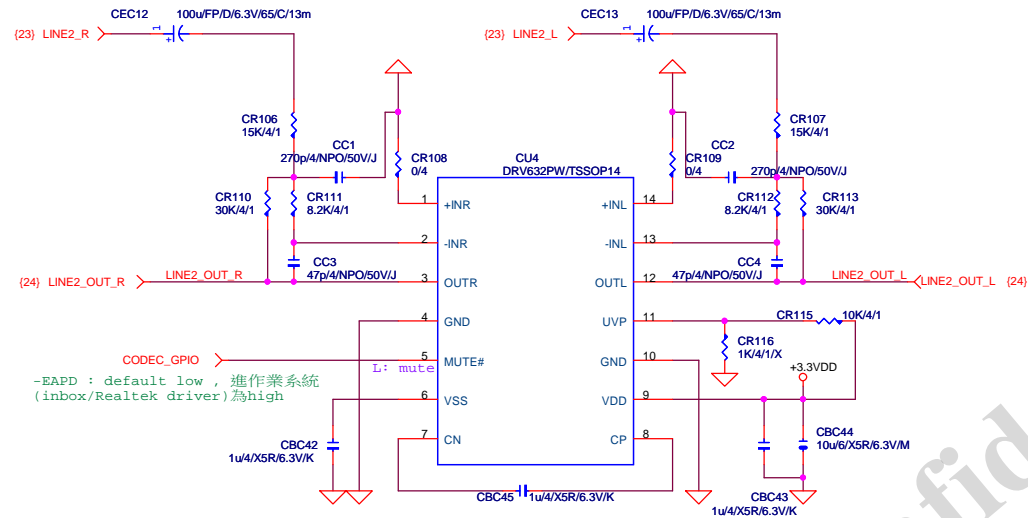
GIGABYTE™

AUDIO JACK

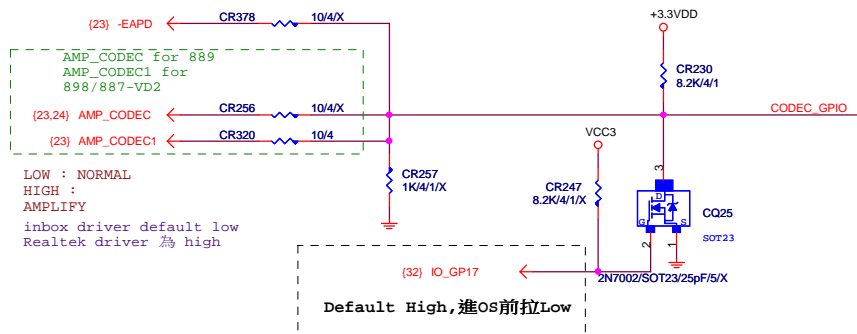
Size: Custom Document Number: **GA-Z87X-UD3H** Rev: **1.03**

Date: Friday, May 03, 2013 Sheet: 24 of 48

HEADPHONE

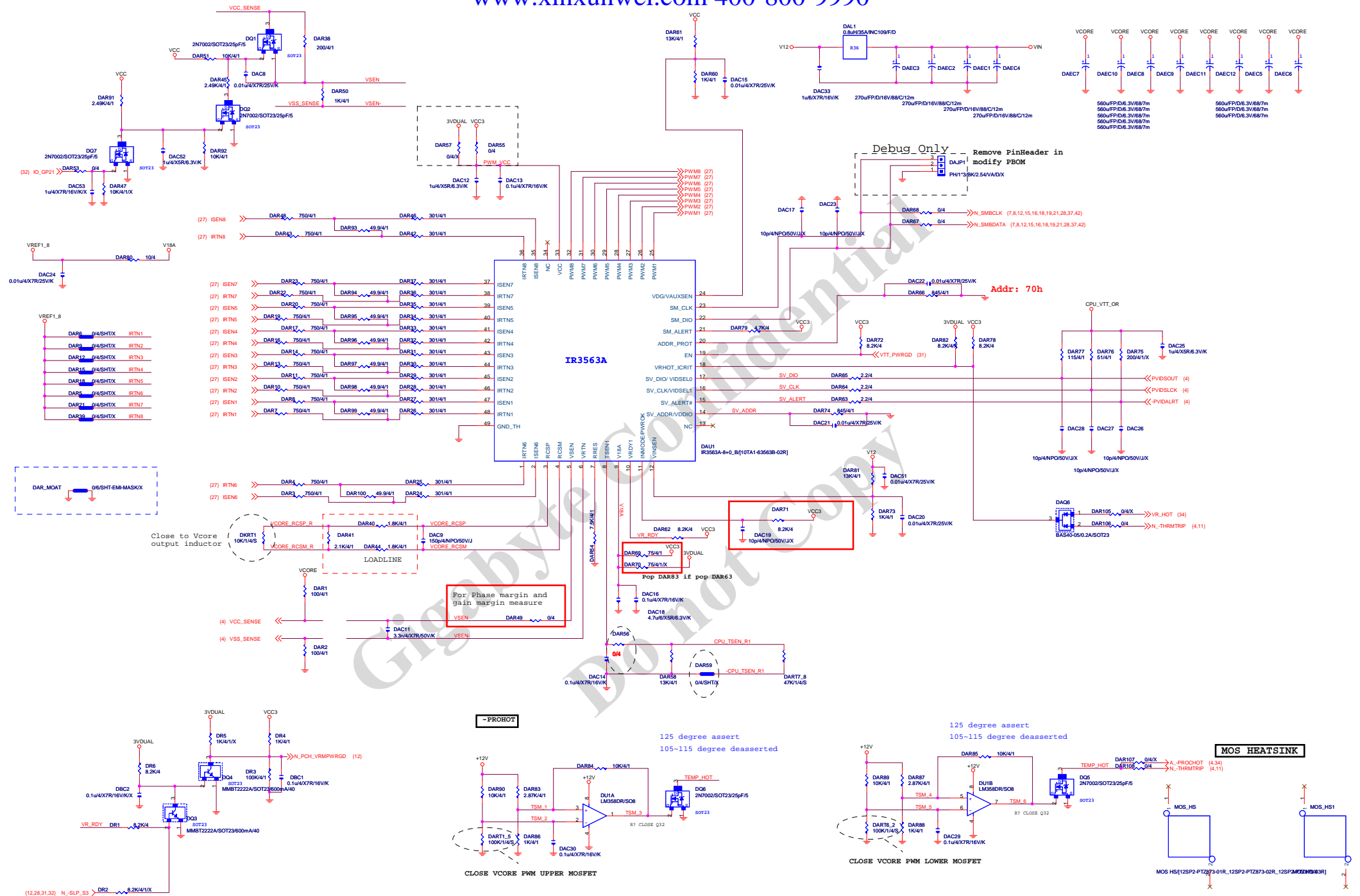


HEADPHONE

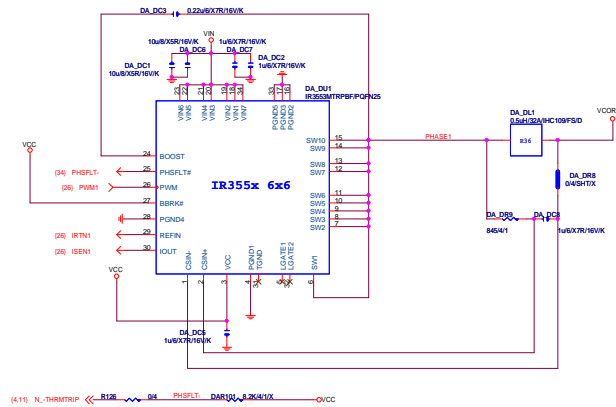


GIGABYTE™

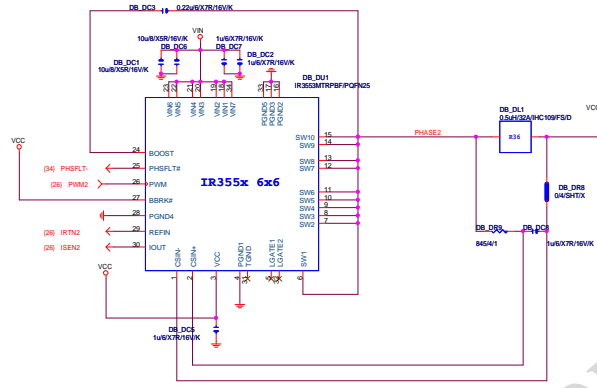
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|-----------------|----------------------|----------------|
| Title | | |
| Audio Amplifier | | |
| Size | Document Number | Rev |
| Custom | GA-Z87X-UD3H | 1.03 |
| Date: | Friday, May 03, 2013 | Sheet 25 of 48 |



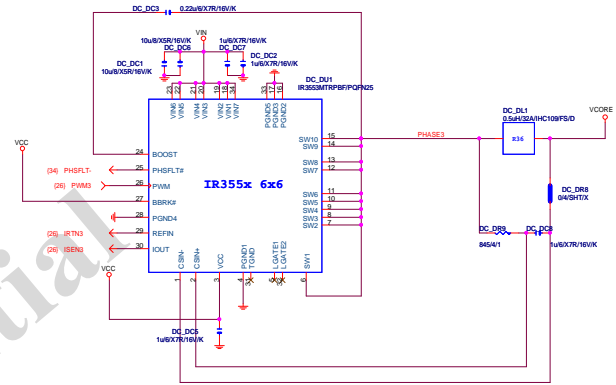
VCORE-PHASE1



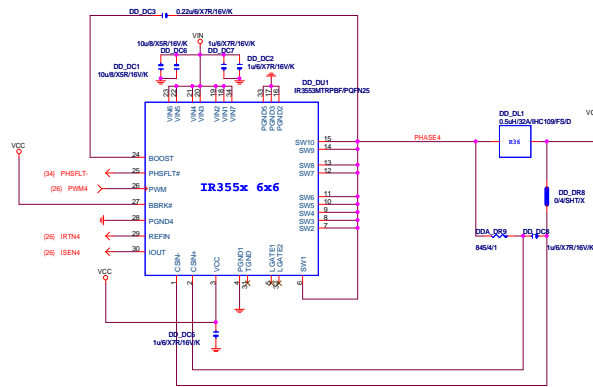
VCORE-PHASE2



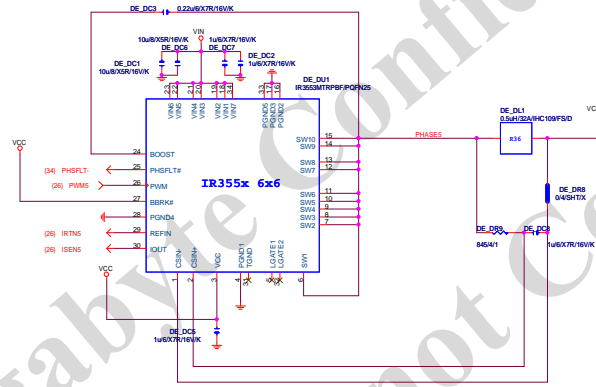
VCORE-PHASE3



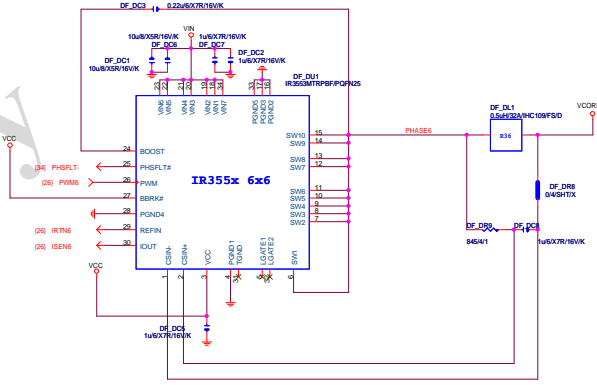
VCORE-PHASE4



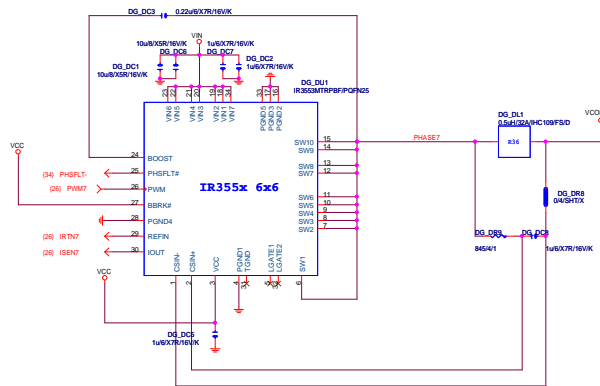
VCORE-PHASE5



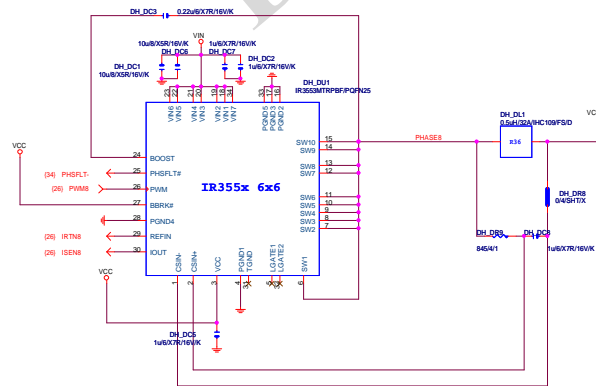
VCORE-PHASE6

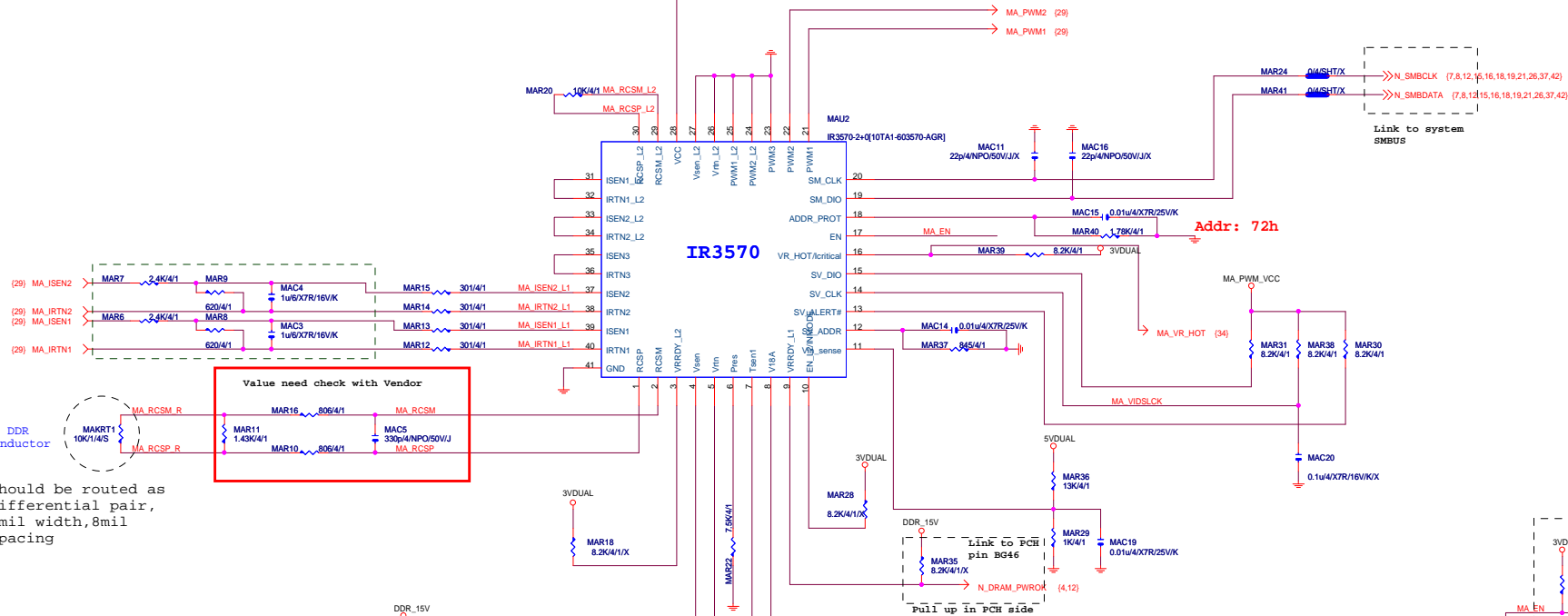
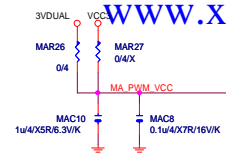
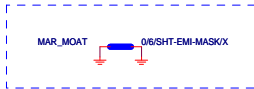


VCORE-PHASE7



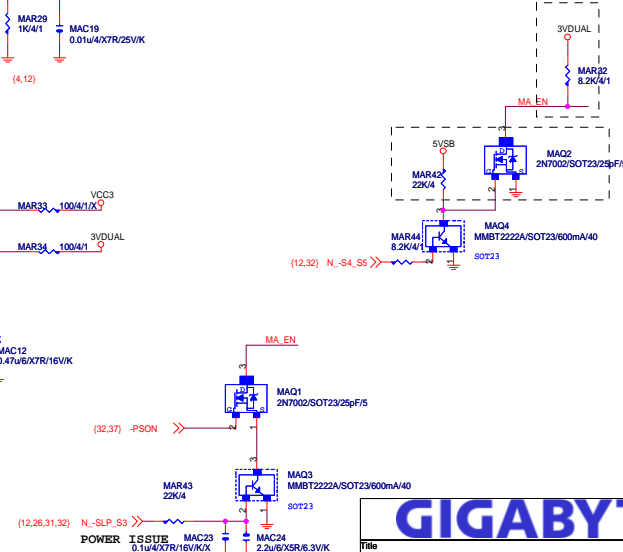
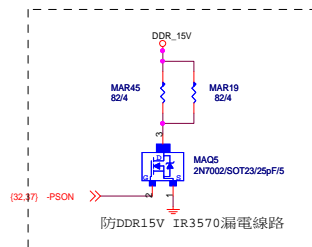
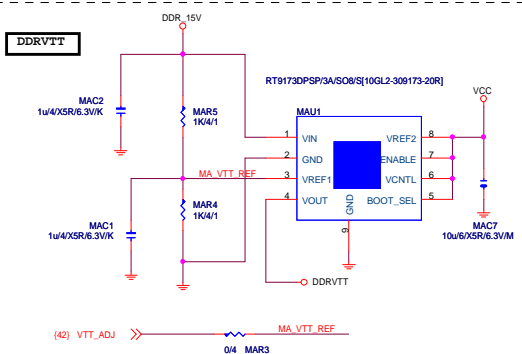
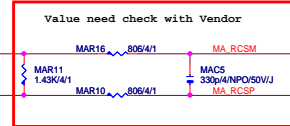
VCORE-PHASE8



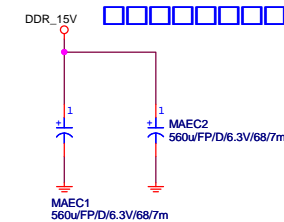
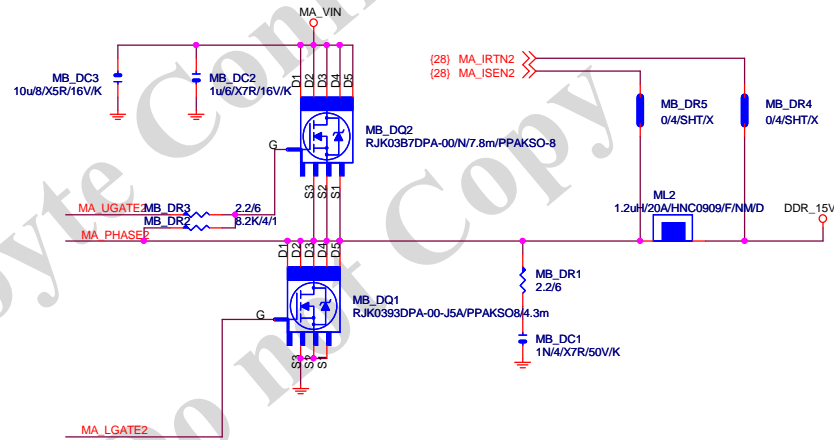
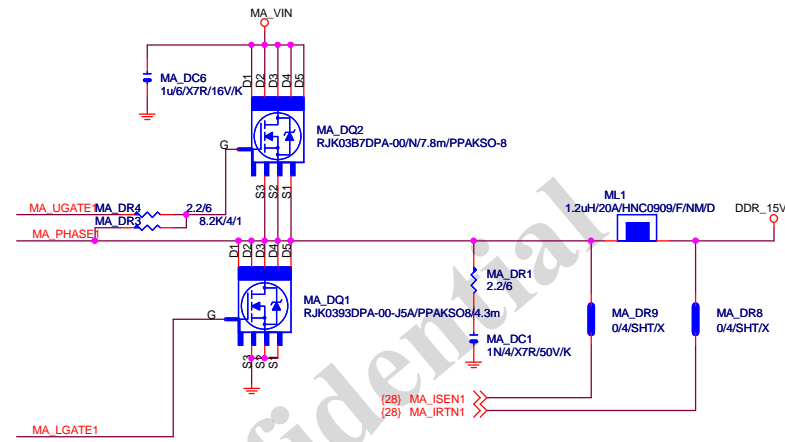
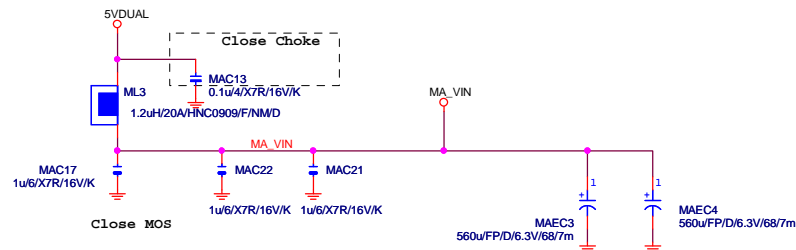
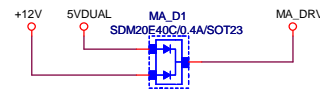
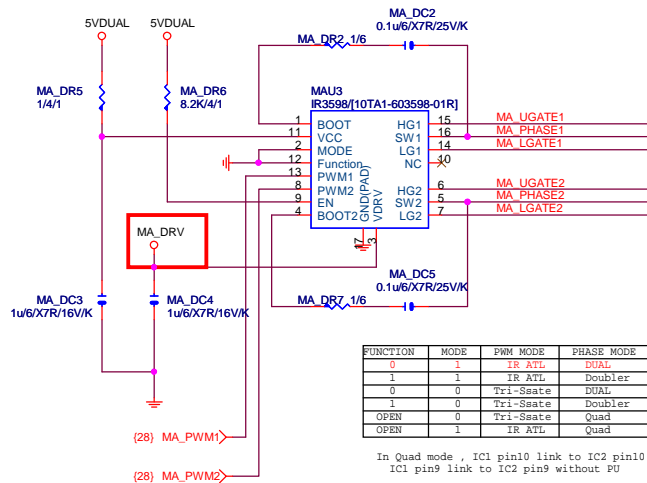


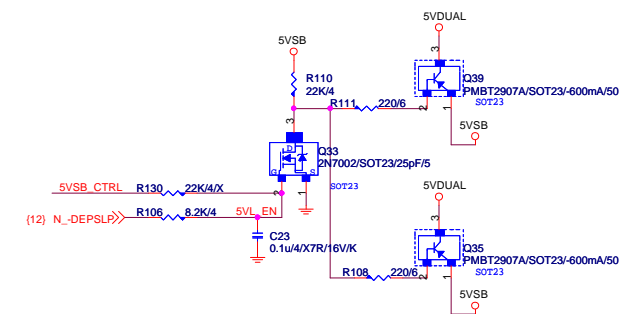
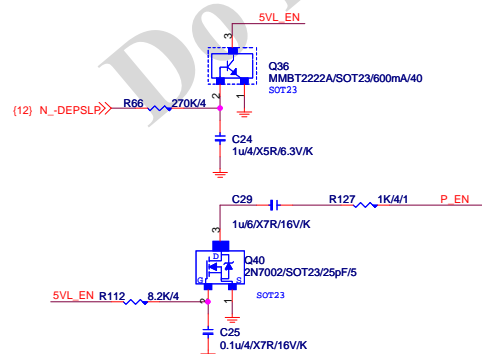
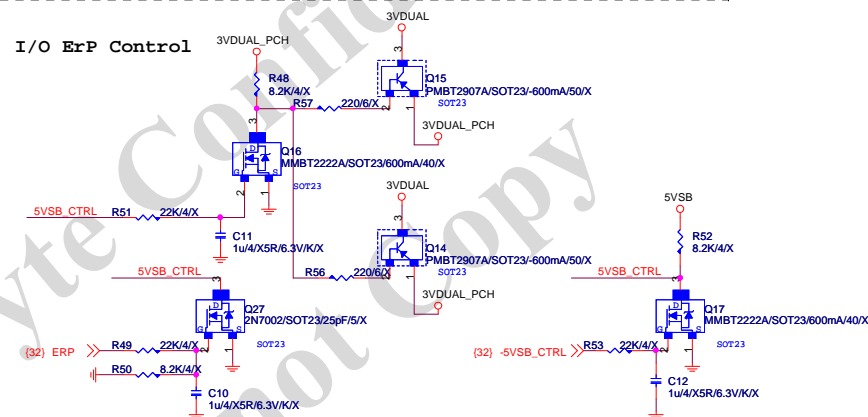
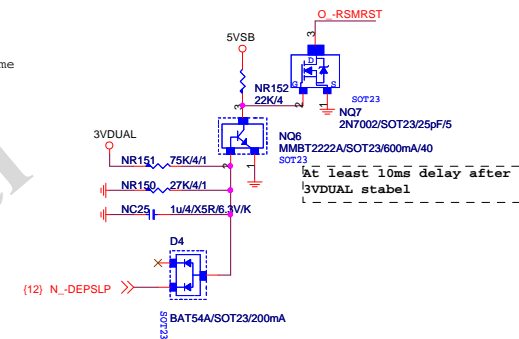
Close to DDR
output inductor

should be routed as
differential pair,
7mil width, 8mil
spacing

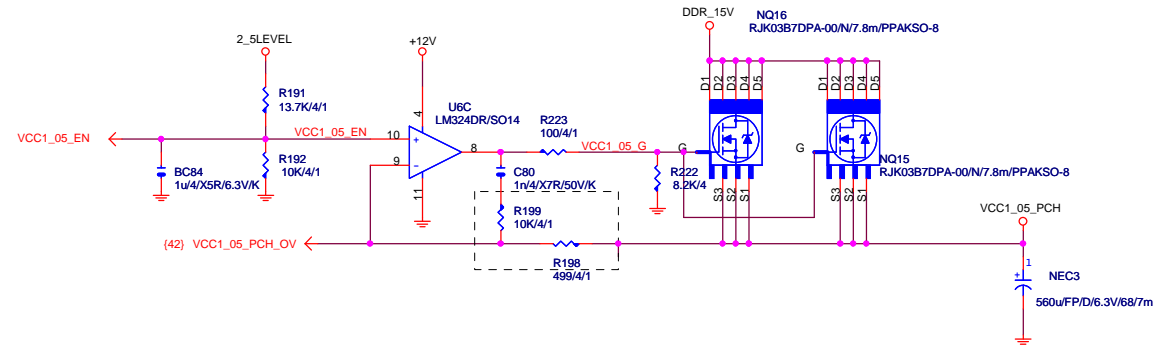


DDR_15V

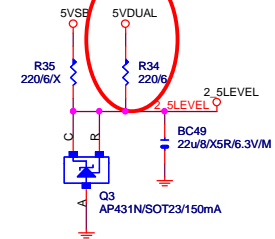




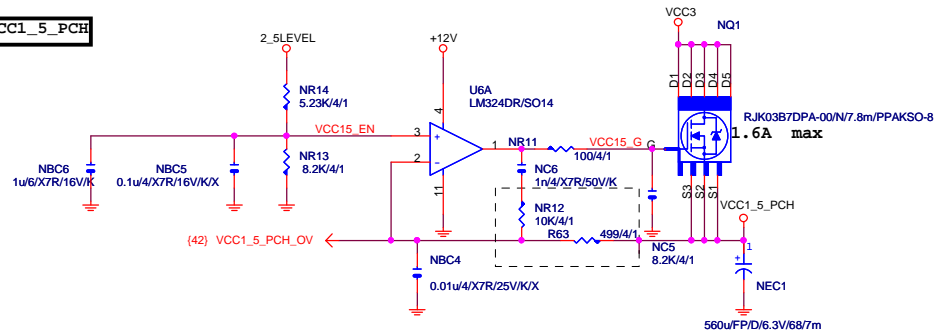
VCC1_05_PCH



ErP



VCC1_5_PCH



Rise/Fall max 50us

Rise:20% - 80%

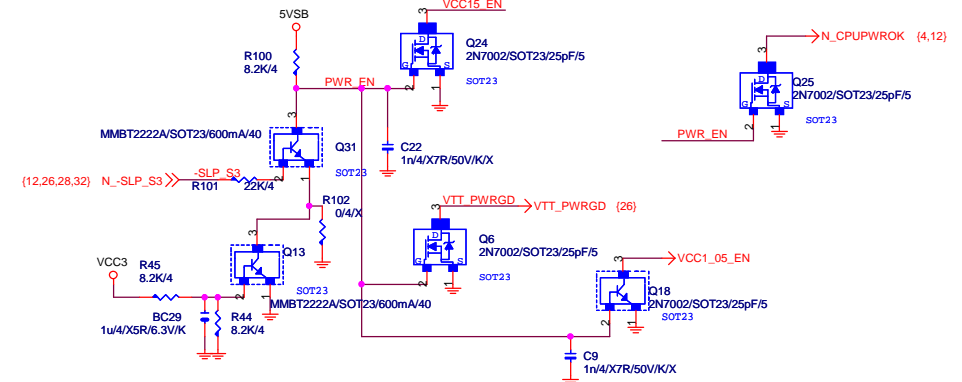
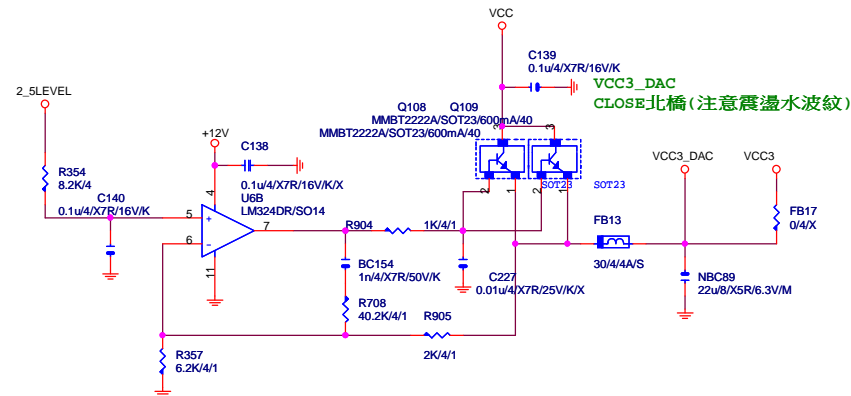
Fall :2V- 0.8V

At least 10ms delay after 3VDUAL ready

Pop when PCH & SIO both use 3VDUAL-PCH

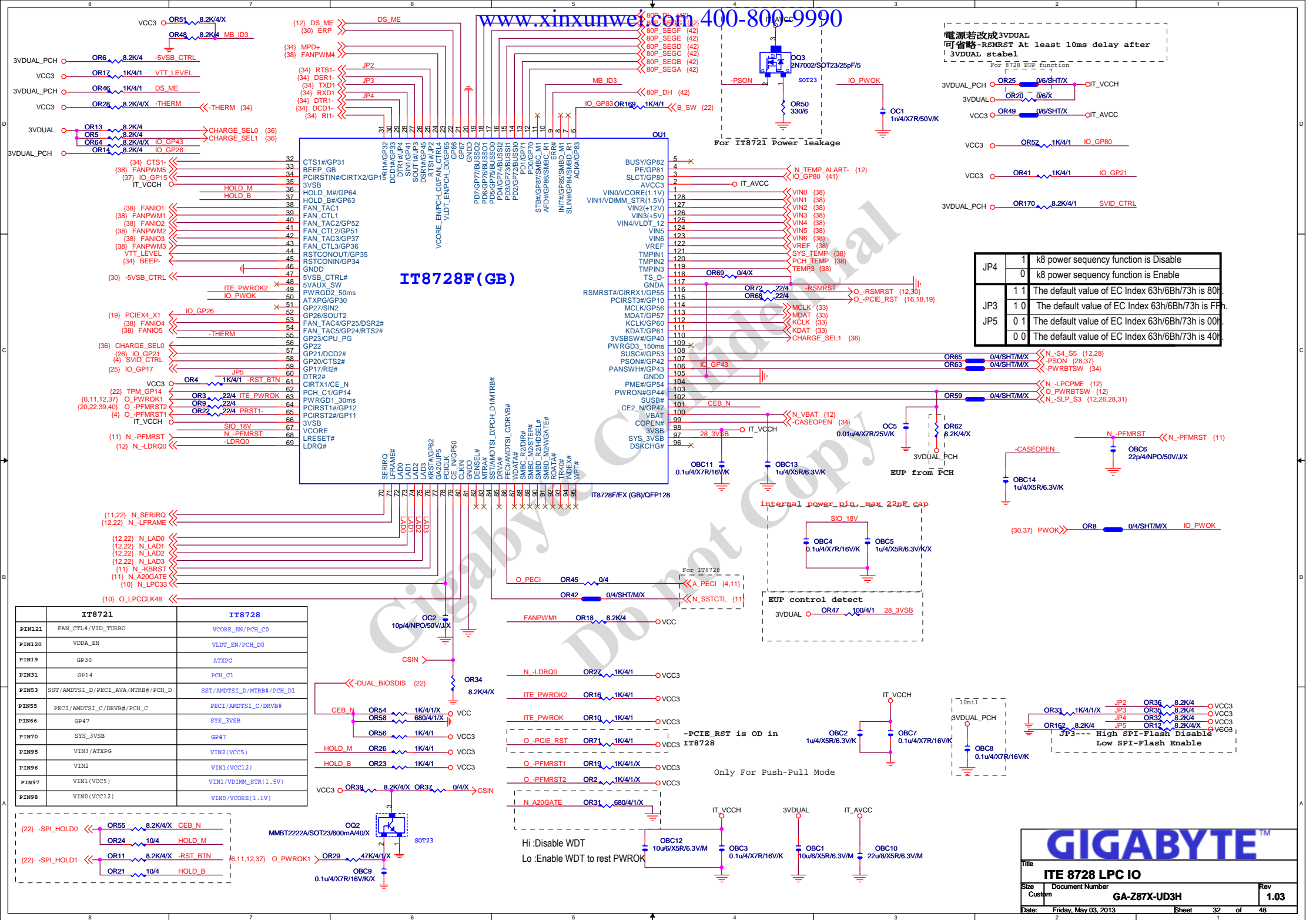
VCC3_DAC

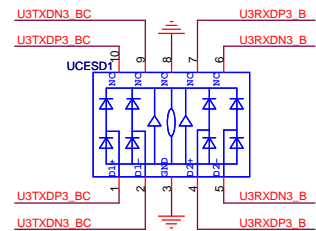
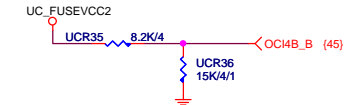
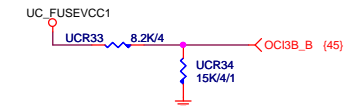
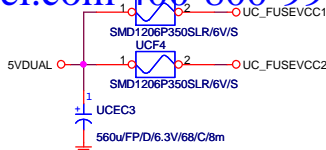
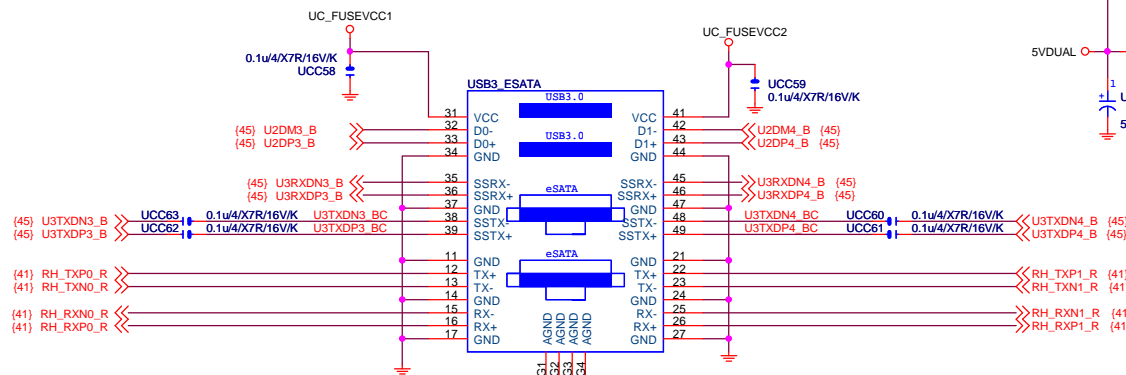
(3.3V/70mA+360uA)



GIGABYTE™

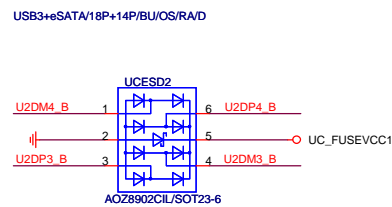
| Title | | | |
|-----------------------------------|----------------------|-------|----------|
| VCC 1.05 PCH, VCC1.5 PCH, CC3 DAC | | | |
| Size | Document Number | Rev | |
| Custom | GA-Z87X-UD3H | 1.03 | |
| Date: | Friday, May 03, 2013 | Sheet | 31 of 48 |



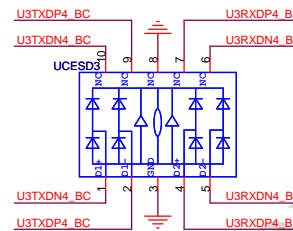


AZ1045-04F/MSOP10

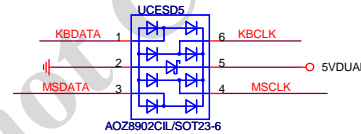
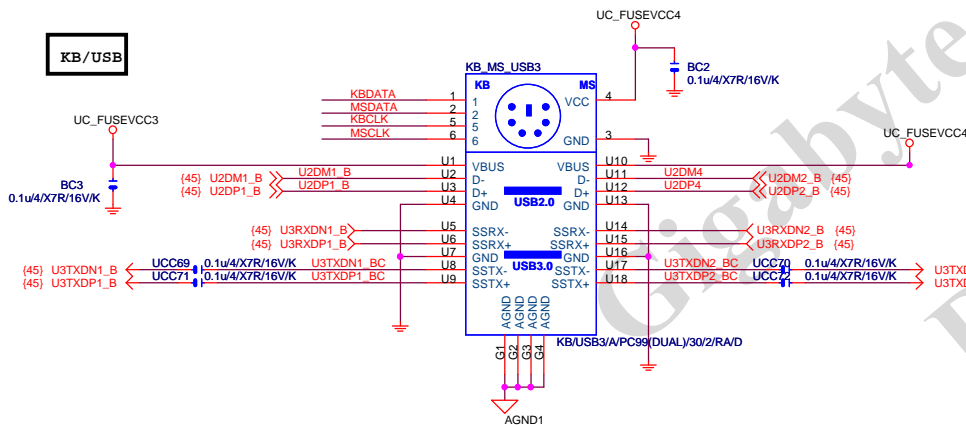
Close to connector



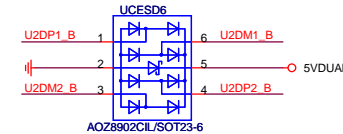
Close to connector



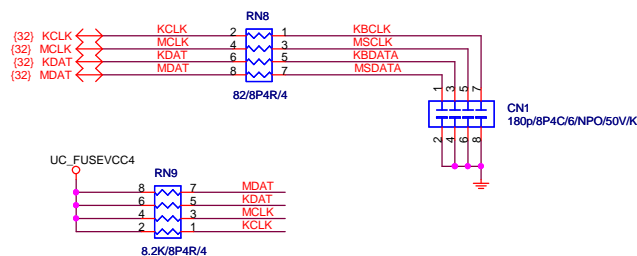
Close to connector



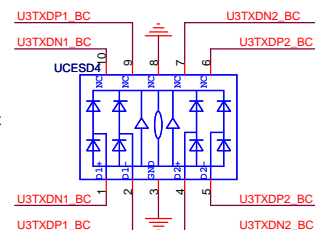
Close to connector



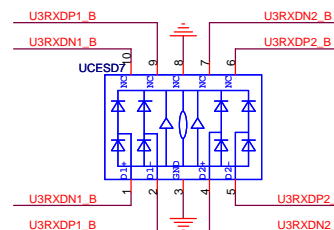
Close to connector



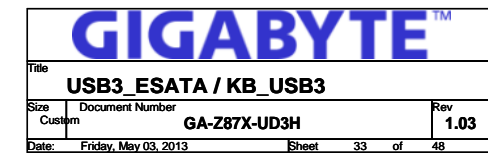
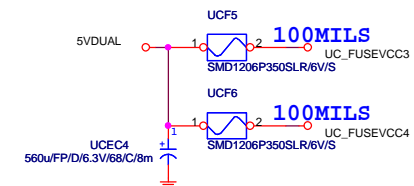
Close to connector



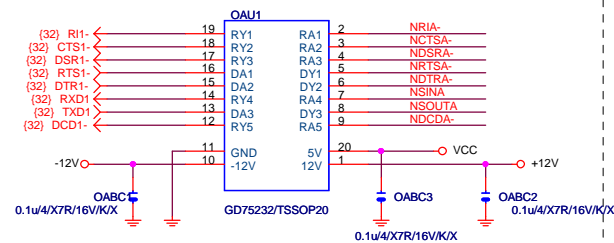
AZ1045-04F/MSOP10



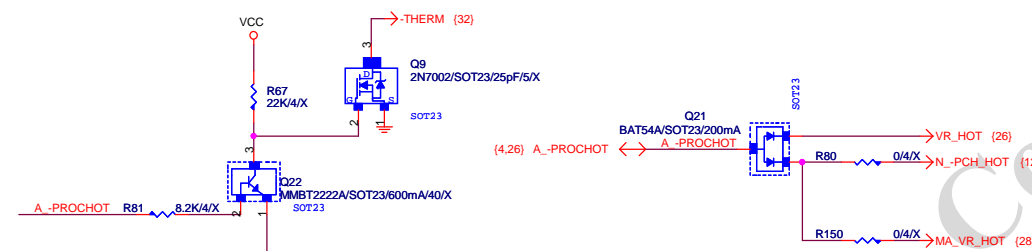
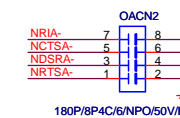
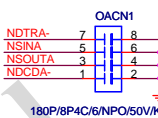
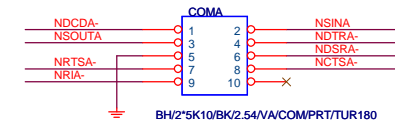
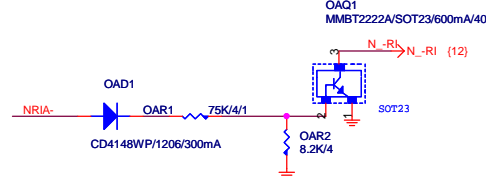
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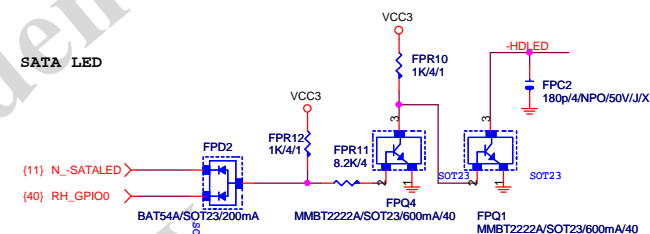
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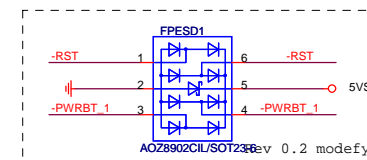
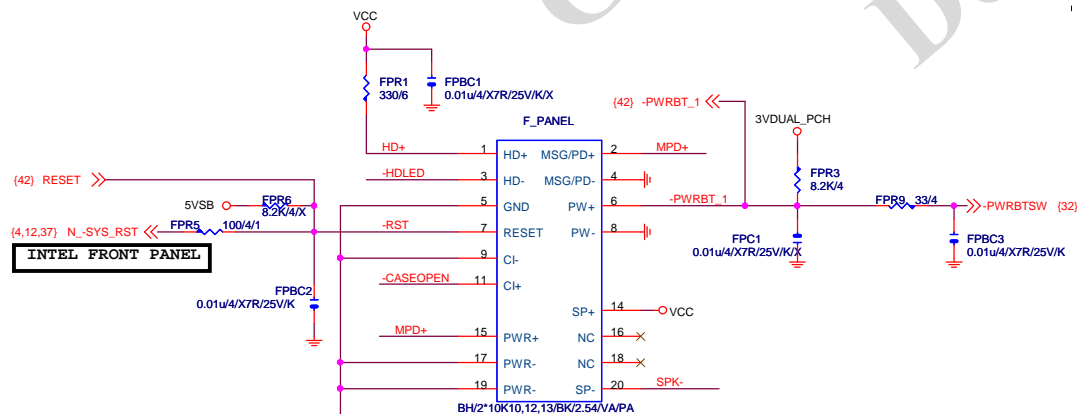
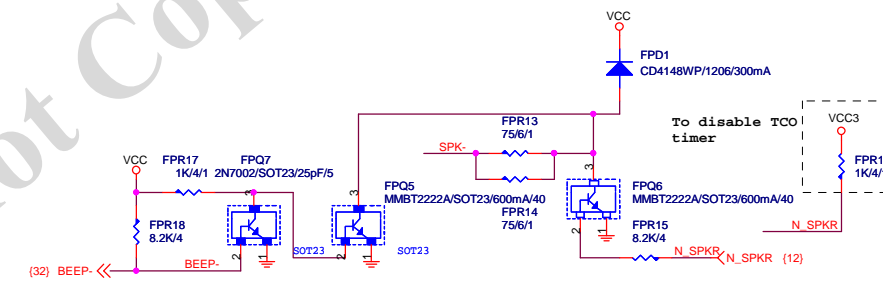
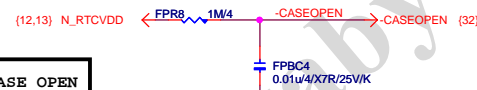
COM RI



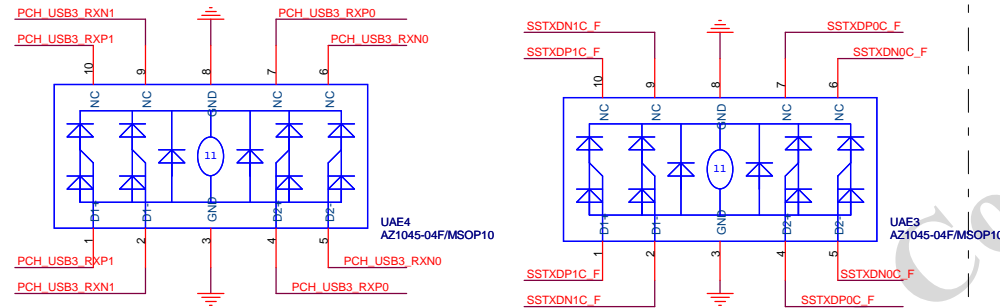
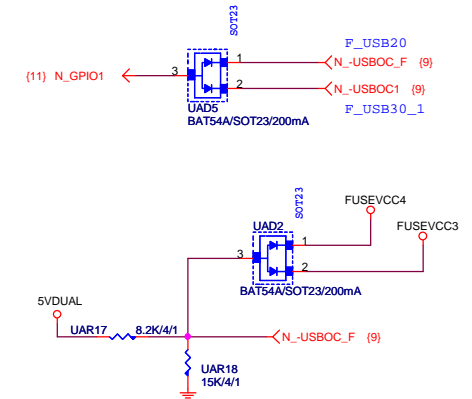
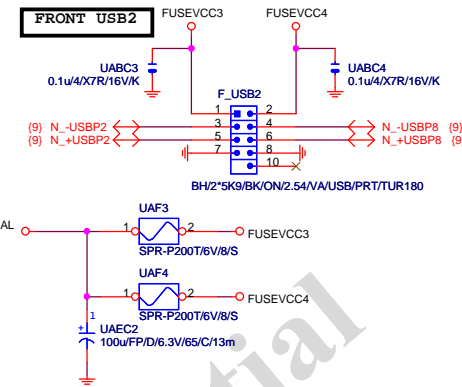
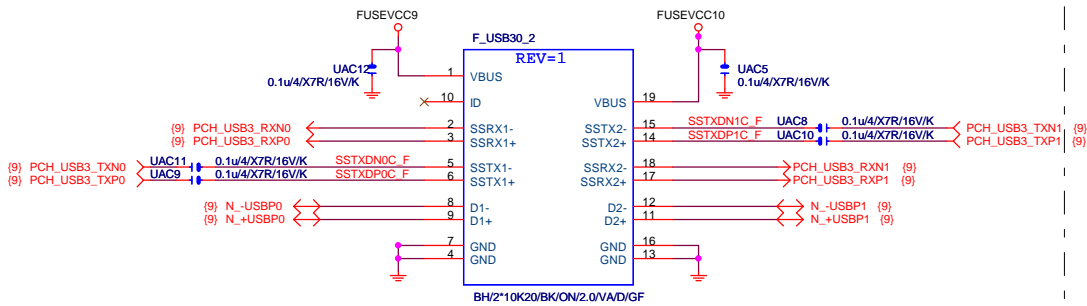
SATA LED



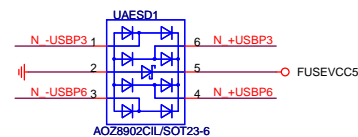
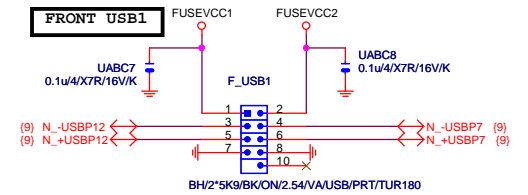
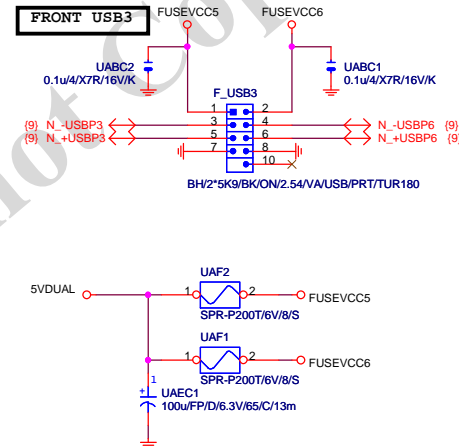
CASE OPEN



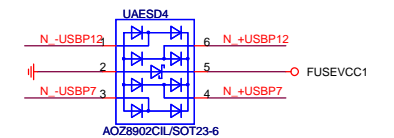
Close to connector

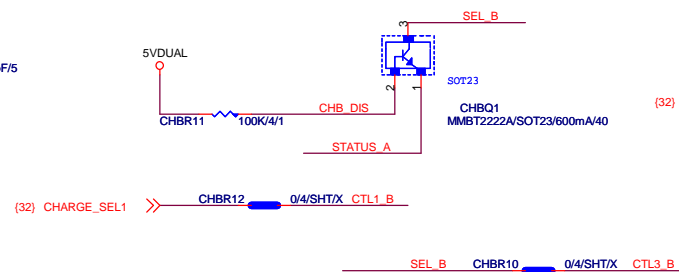
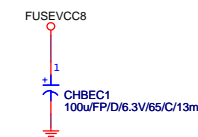
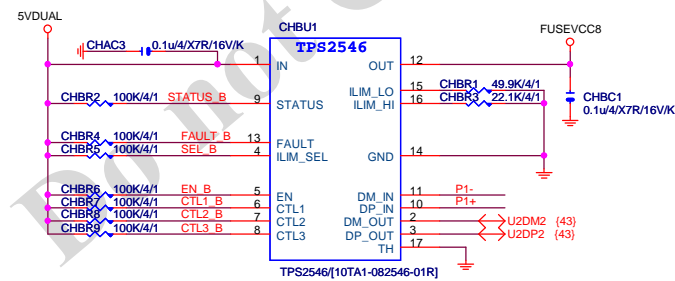
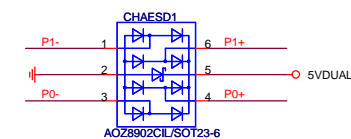
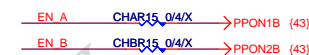
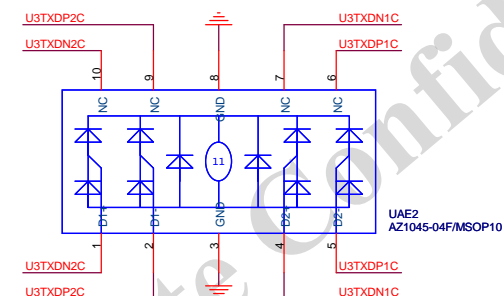
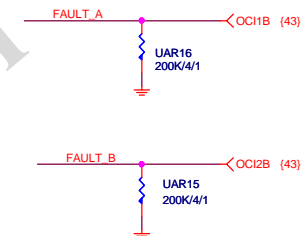


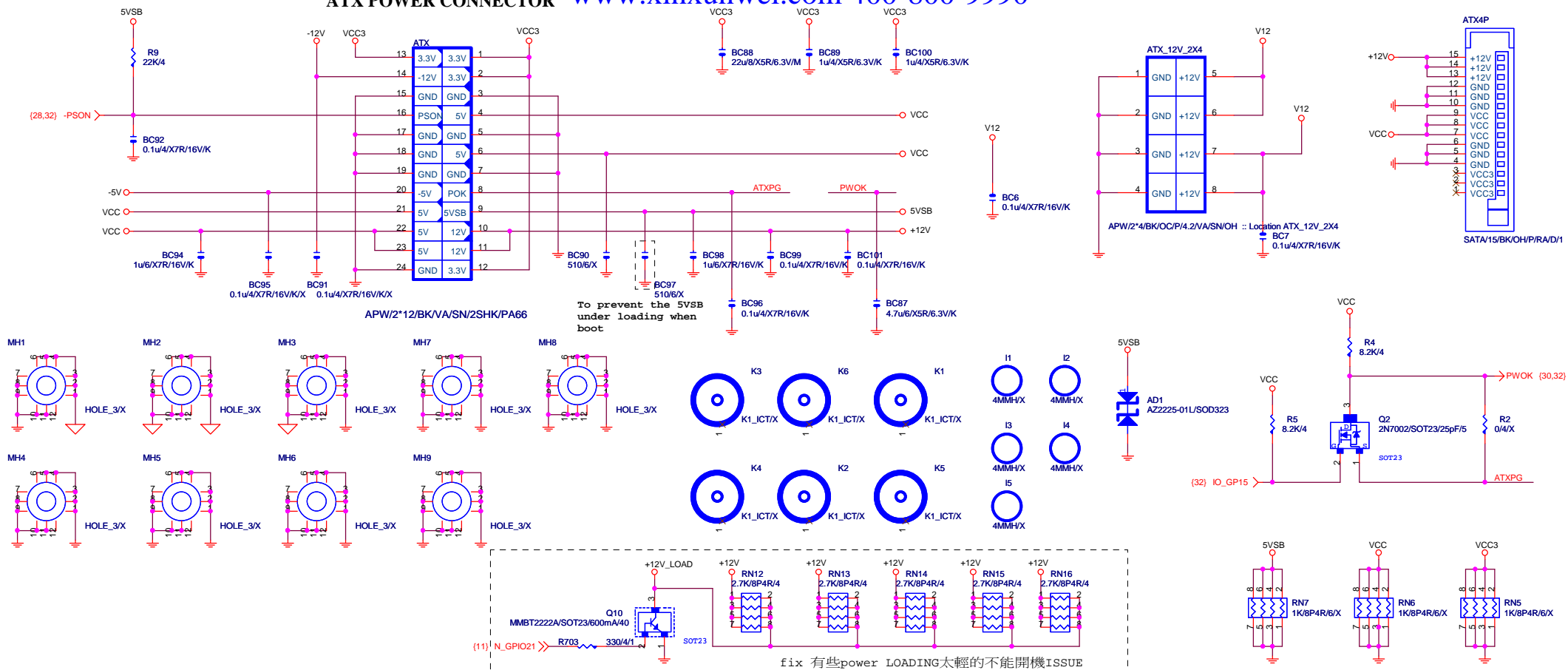
Close to connector



Close to connector



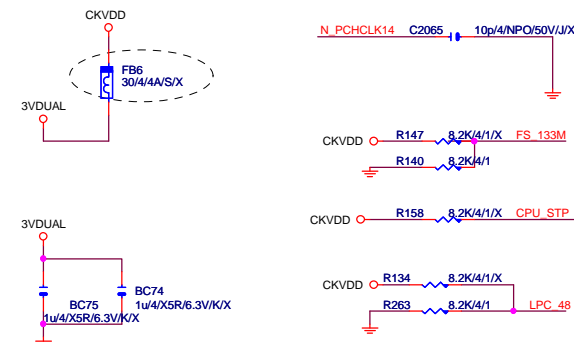
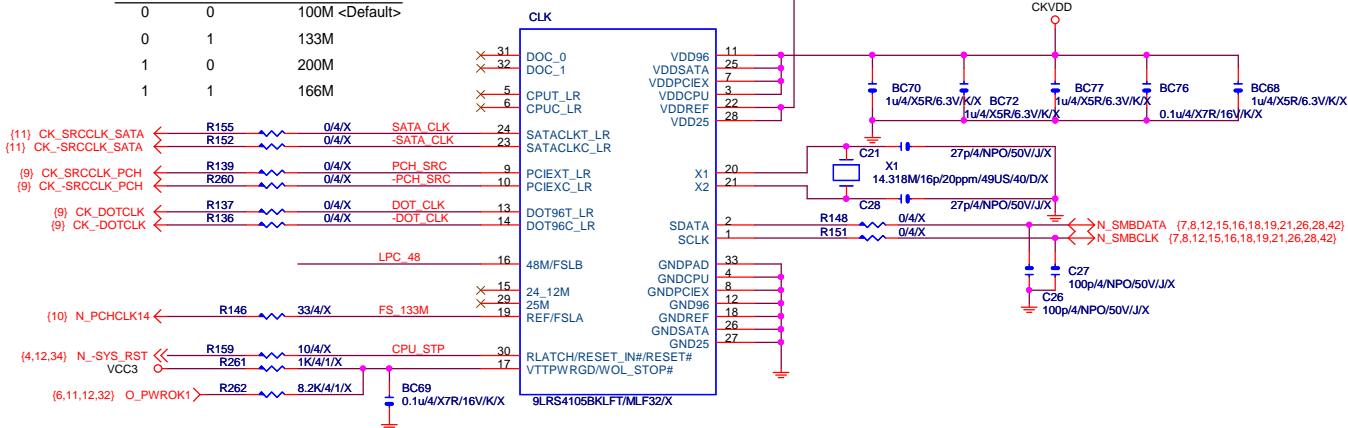




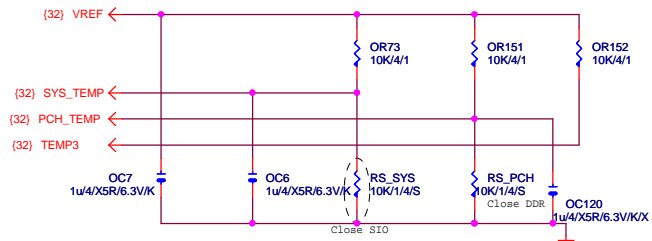
CLK GEN CK505

CPU Frequency Selection

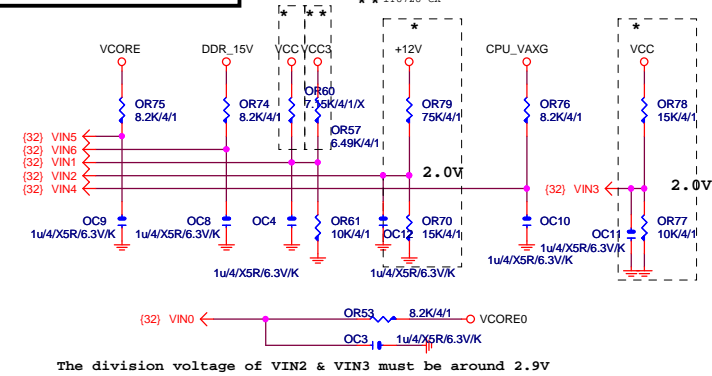
| FSLB | FSLA | CPU |
|------|------|----------------|
| 0 | 0 | 100M <Default> |
| 0 | 1 | 133M |
| 1 | 0 | 200M |
| 1 | 1 | 166M |



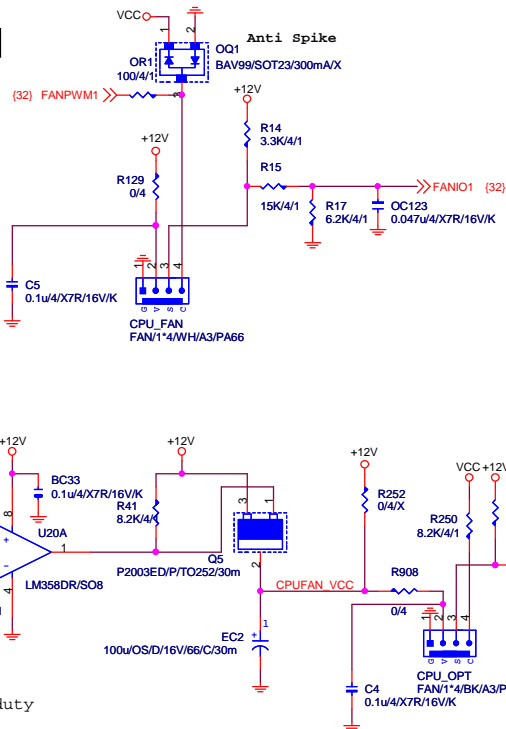
TEMP H/W MONITOR



VOLTAGE-- H/W MONITOR

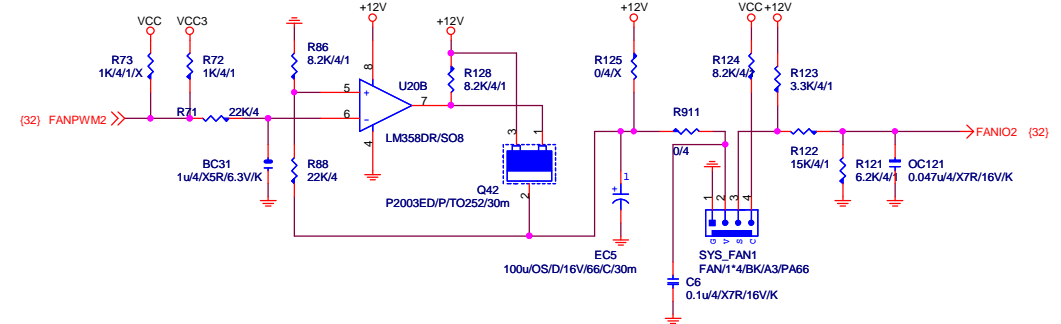


CPU SMART FAN

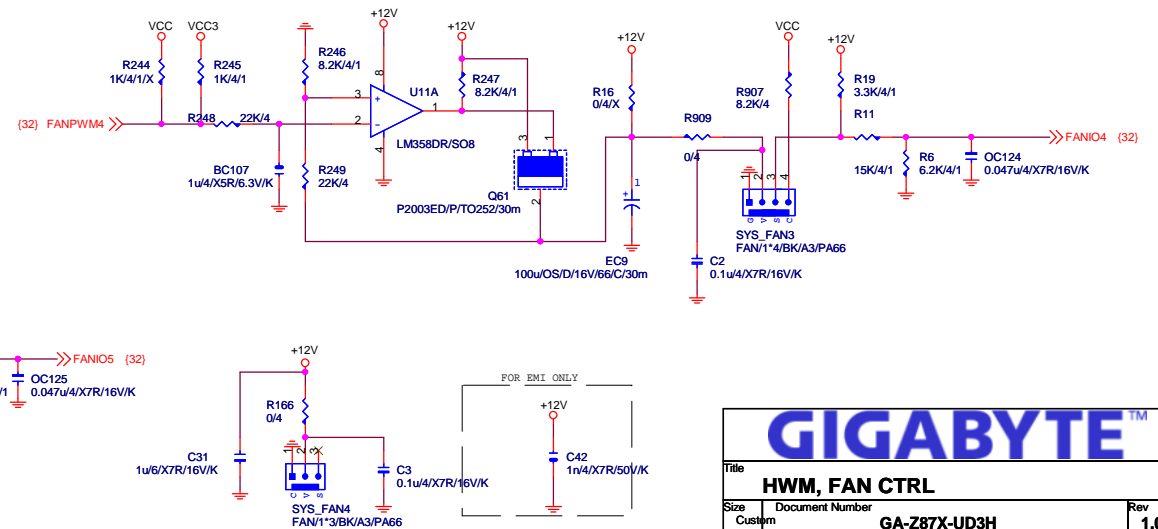
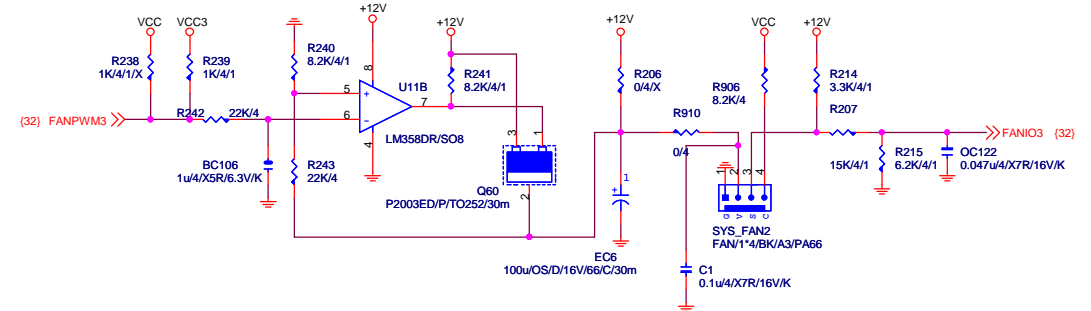


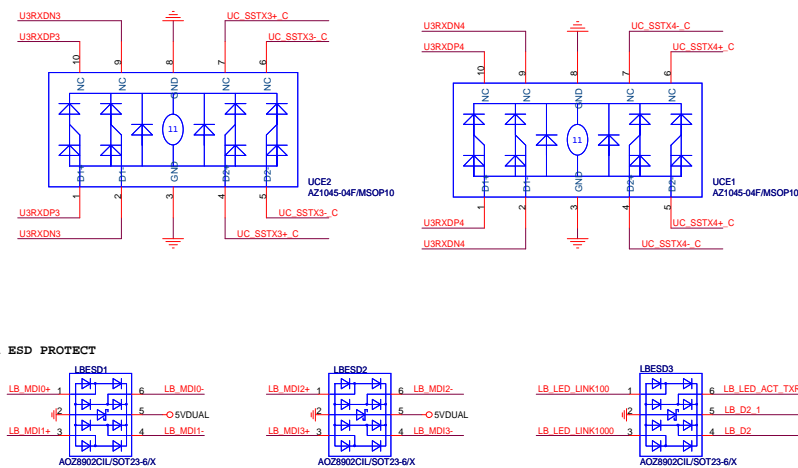
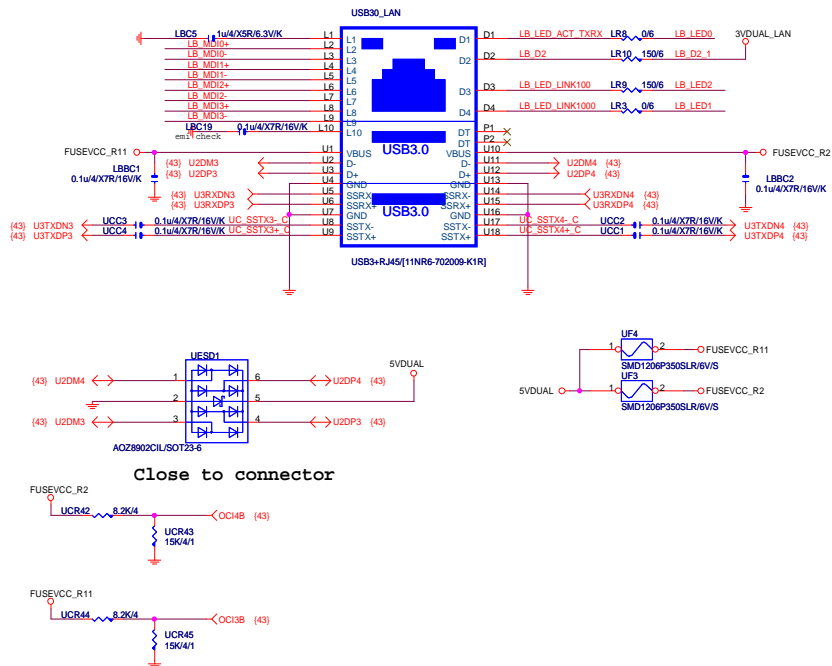
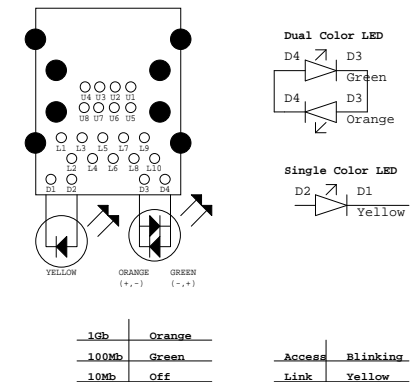
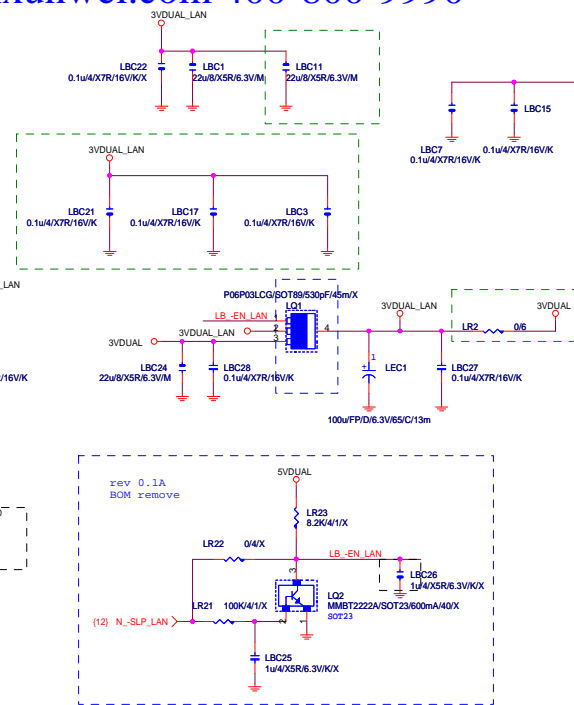
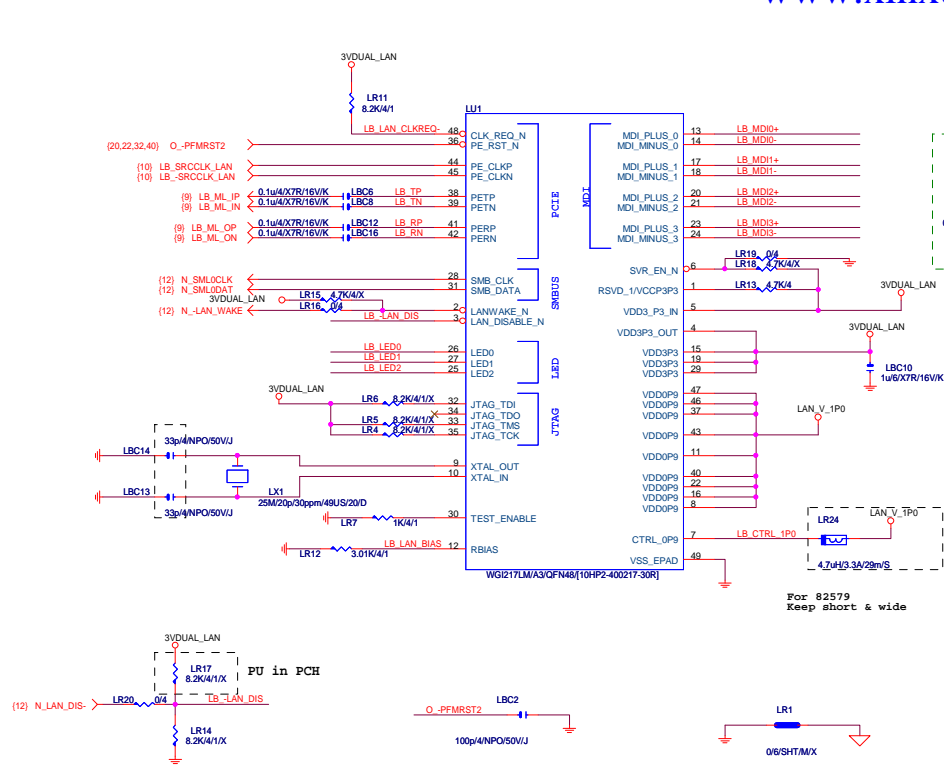
CTL5 (follow 1), default 100% duty

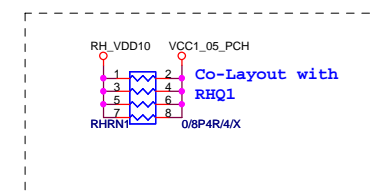
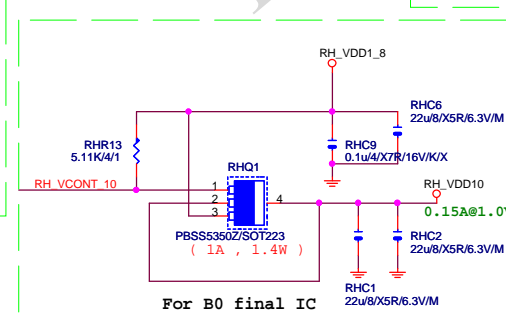
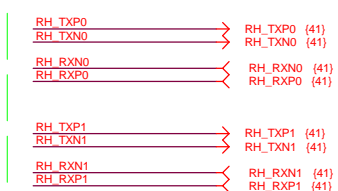
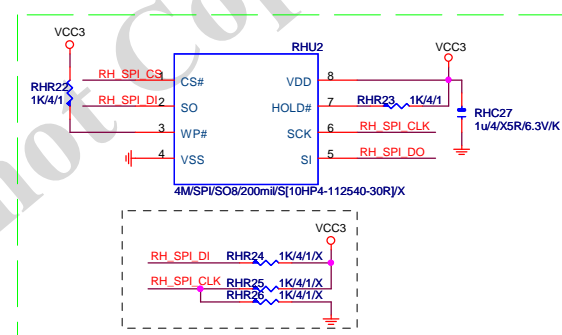
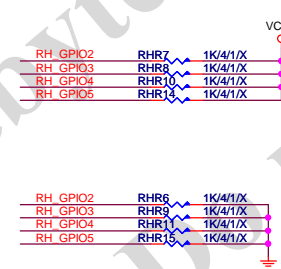
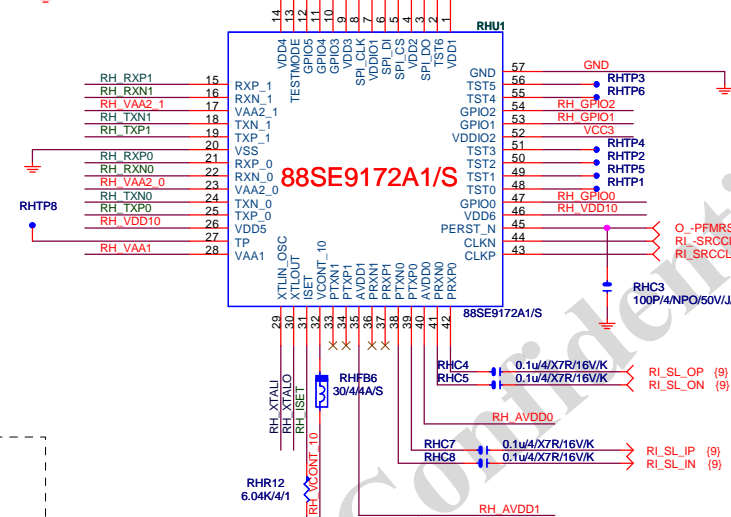
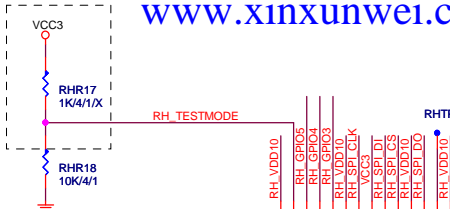
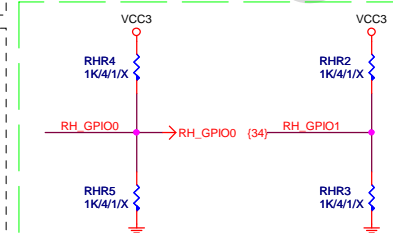
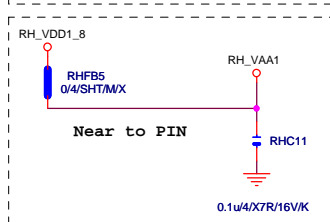
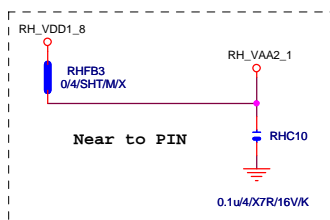
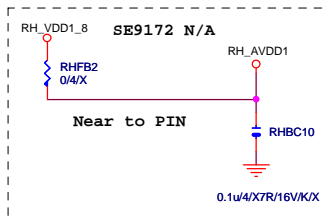
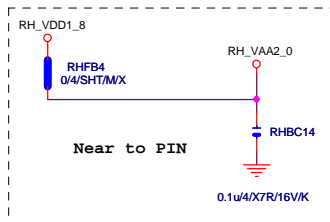
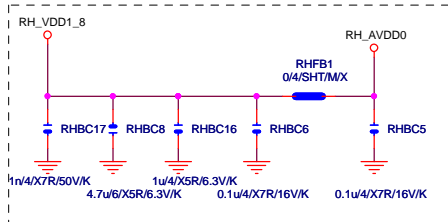
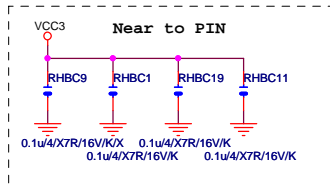
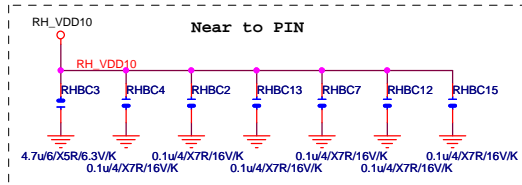
Linear SYS_FAN




Linear SYS_FAN

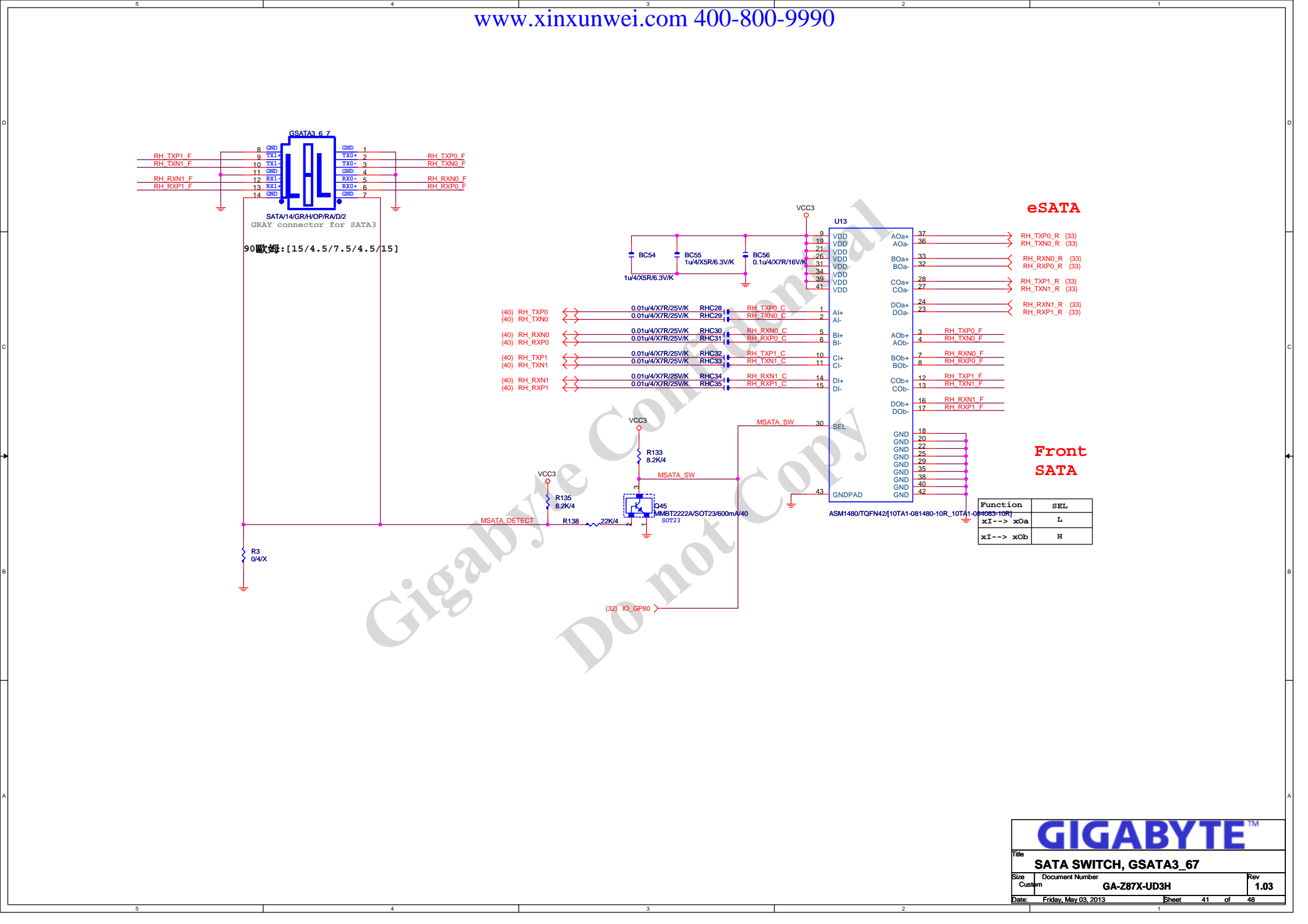


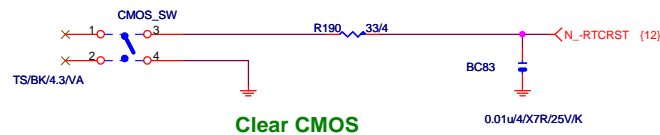
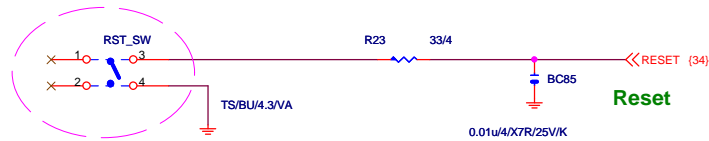
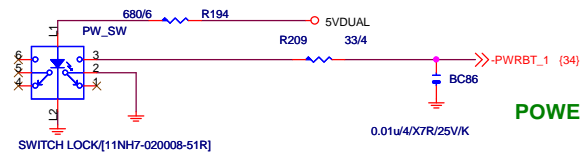




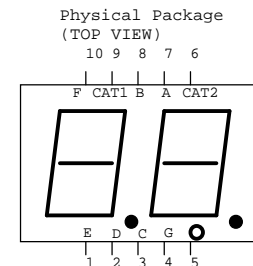
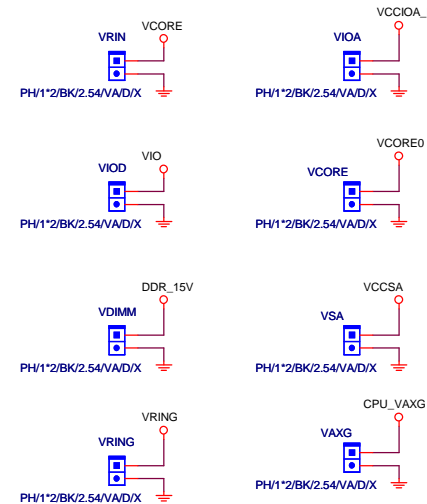
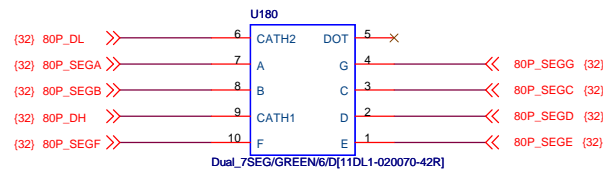
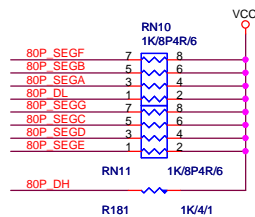
Marvell 9172 Power Requirements
Analog 1.8V 230mA
Core 1.0V 900mA
I/O 3.3V 50mA

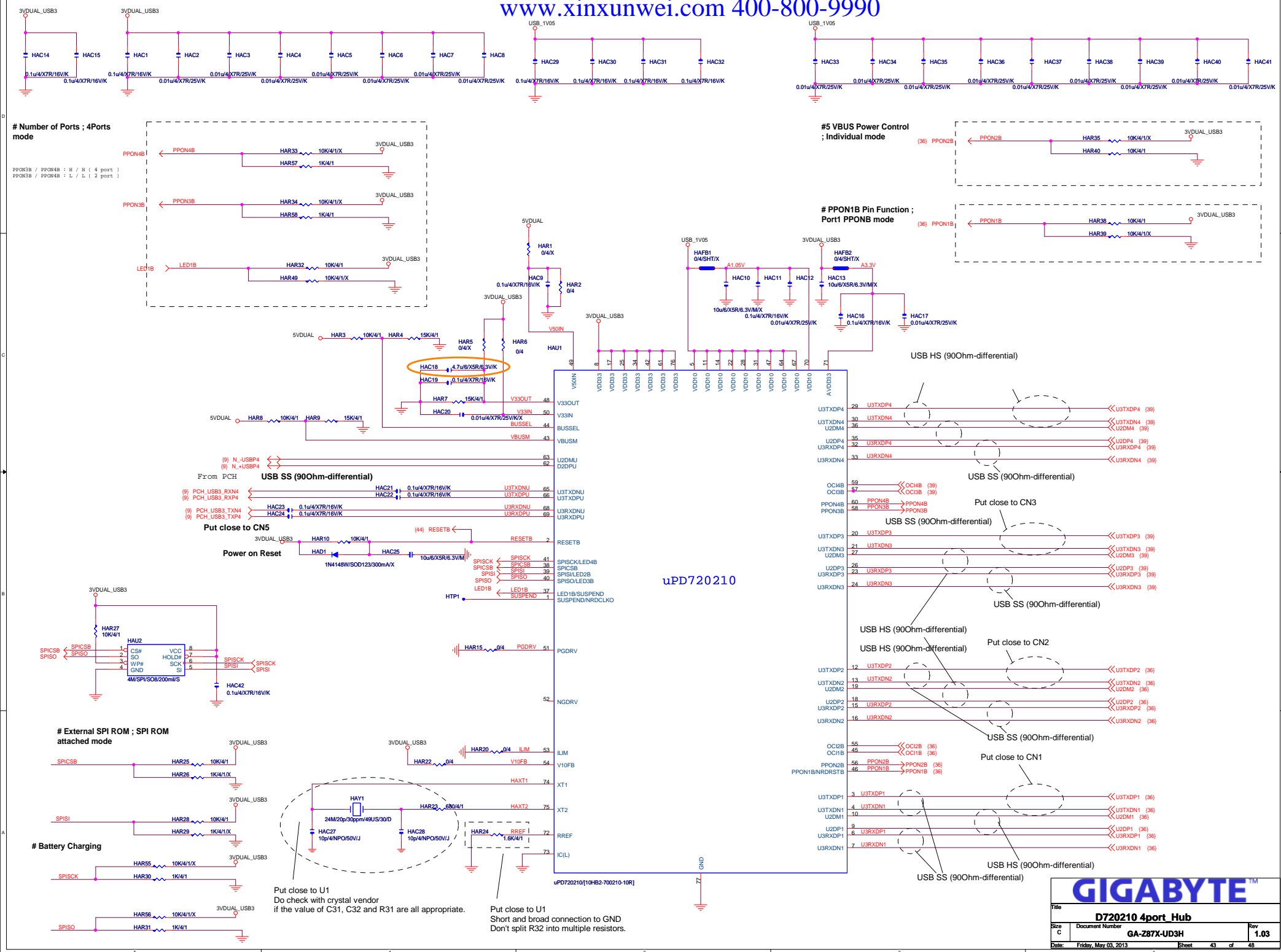
| | | | |
|---|----------------------|-------|----------|
|  | | | |
| Title | | | |
| Marvell 9172 SATA 3.0 | | | |
| Size | Document Number | Rev | |
| Custom | GA-Z87X-UD3H | 1.03 | |
| Date: | Friday, May 03, 2013 | Sheet | 40 of 48 |

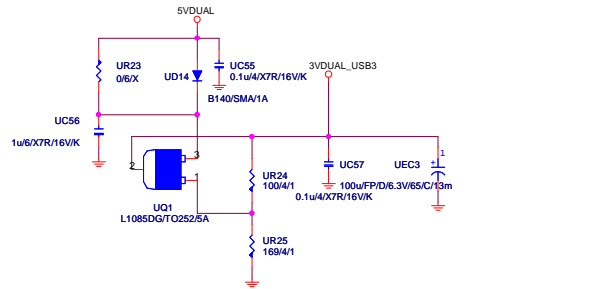




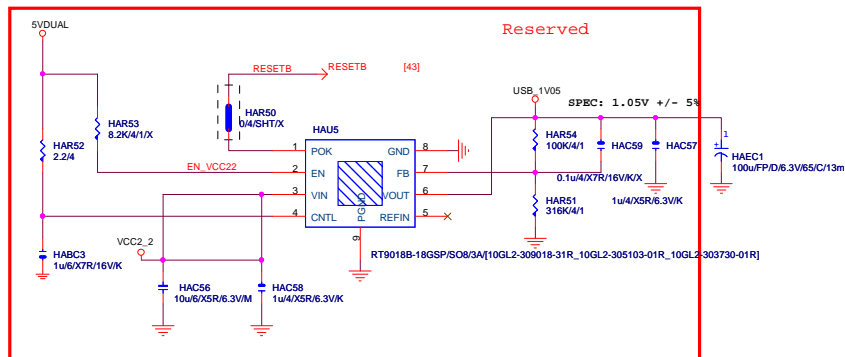
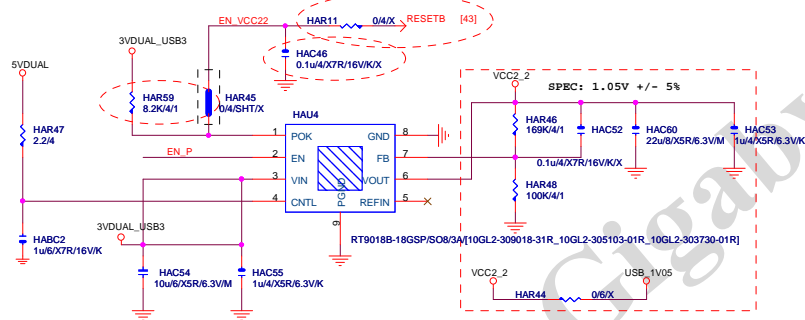
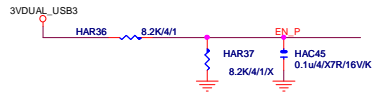
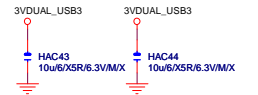
80 PORT







USB1_05V power consumption is 0.7A (w/o onchip regulators)

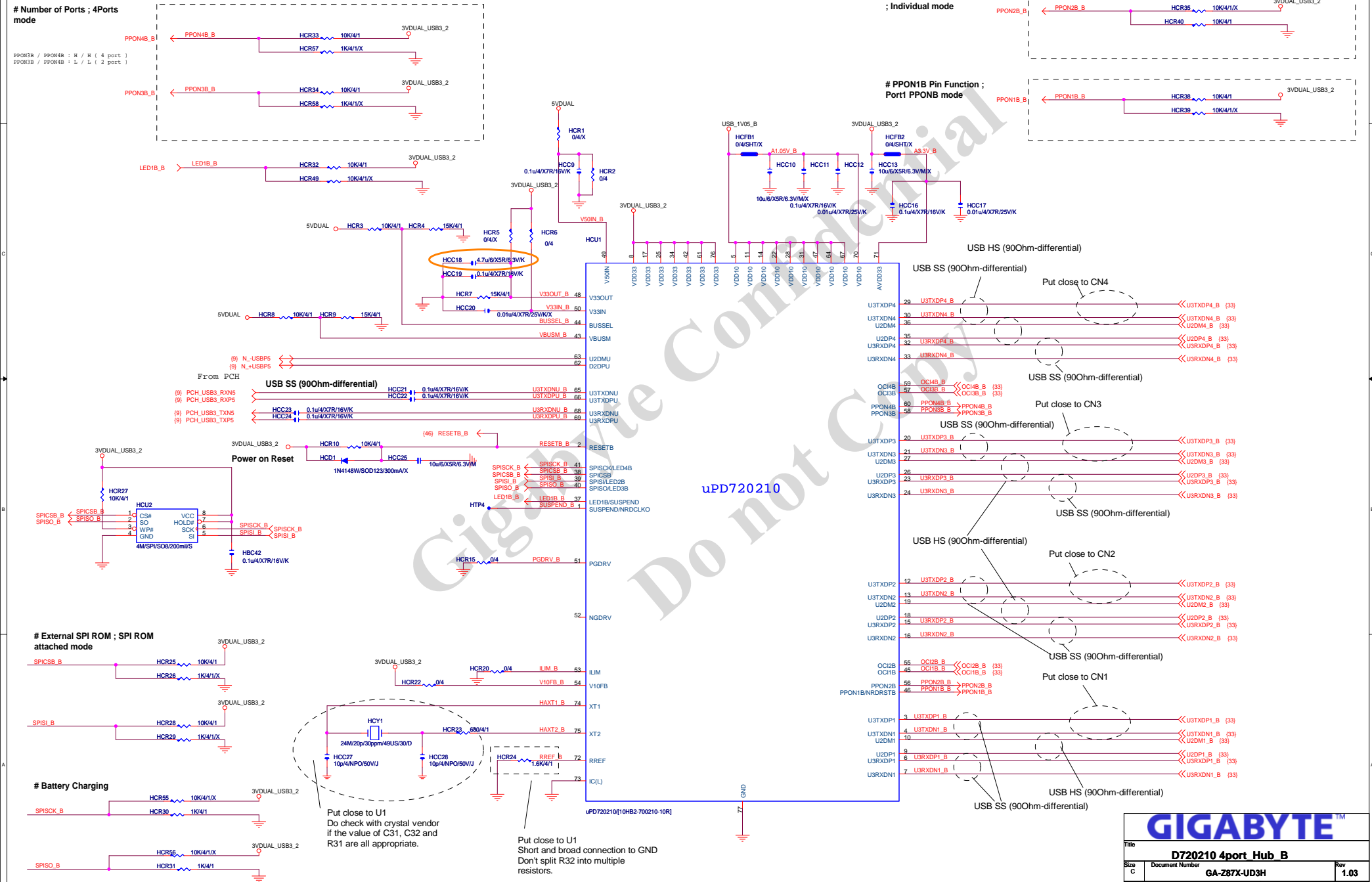


GIGABYTE™

| | | | |
|--------|----------------------|-------|-------------------|
| Title | | | D720210 4port Hub |
| Size | Document Number | Rev | |
| Custom | GA-Z87X-UD3H | 1.03 | |
| Date: | Friday, May 03, 2013 | Sheet | 44 of 48 |

Number of Ports ; 4Ports mode

PPON3B / PPON4B : H / H (4 port)
 PPON3B / PPON4B : L / L (2 port)

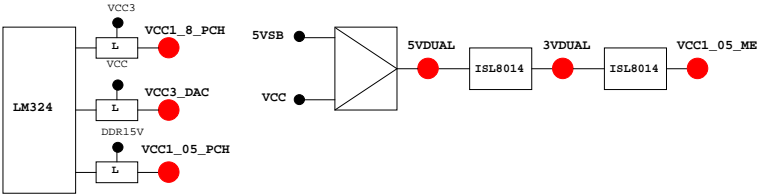


| PCH GPIO LIST TABLE | | | | | |
|---------------------|------|---------|--------|------------------|-----------------|
| PIN NAME | PWR | Default | USAGE | NOTE | |
| GP0 | MAIN | H-Z | GPI | -PECI_REQ | N/A |
| GP1/TACH1 | MAIN | | GPI | ICH_FAN_TACH1 | N/A |
| GP2/PIRQE# | MAIN | | GPI | -PIRQE | P/U 8.2K VCC3 |
| GP3/PIRQF# | MAIN | | GPI | -PIRQF | P/U 8.2K VCC3 |
| GP4/PIRQG# | MAIN | | GPI | -PIRQG | P/U 8.2K VCC3 |
| GP5/PIRQH# | MAIN | | GPI | -PIRQH | P/U 8.2K VCC3 |
| GP6/TACH2 | MAIN | | GPI | ICH_FAN_TACH2 | N/A |
| GP7/TACH3 | MAIN | | GPI | ICH_FAN_TACH3 | N/A |
| GP8 | STBY | H | GPO | GPIO8 | P/U 8.2K 3VDUAL |
| GP9/OC5# | STBY | | NATIVE | OC5# | N/A |
| GP10/OC6# | STBY | | NATIVE | OC6# | N/A |
| GP11/SMBALERT# | STBY | | NATIVE | -SMBALERT | P/U 8.2K 3VDUAL |
| GP12 | STBY | L | GPI | LAN_PHY_PWR_CTRL | P/U 8.2K 3VDUAL |
| GP13 | STBY | L | GPI | GPIO13 | P/U 8.2K 3VDUAL |
| GP14/OC7# | STBY | | NATIVE | OC7# | N/A |
| GP15 | STBY | L | GPO | GPIO15 | N/A |
| GP16 | MAIN | | GPI | -SKTOCC | P/U 8.2K VCC3 |
| GP17/TACH0 | MAIN | | GPI | ICH_FAN_TACH0 | N/A |
| GP18 | MAIN | | NATIVE | MB_ID0 | P/D 8.2K GND |
| GP19 | MAIN | | GPI | -LAN1_ISO | P/U 8.2K VCC3 |
| GP20 | MAIN | | NATIVE | LED_CTL | P/U 1K VCC3 |
| GP21 | MAIN | | GPI | VCC18_PCH_OV2 | P/U 8.2K VCC3 |
| GP22 | MAIN | H-Z | GPI | VCORE_OV3 | P/U 8.2K VCC3 |
| GP23 | MAIN | | NATIVE | -LDRQ1 | P/U 8.2K VCC3 |
| GP24 | STBY | L | GPO | TLS | P/U 8.2K 3VDUAL |
| GP25 | STBY | | NATIVE | -CPU_STOP | P/U 8.2K 3VDUAL |
| GP26 | STBY | | NATIVE | -AC2_DET | P/U 8.2K 3VDUAL |
| GP27 | STBY | H | GPO | GPIO27 | P/U 8.2K 3VDUAL |
| GP28 | STBY | H | GPO | GPIO28 | P/U 8.2K 3VDUAL |
| GP29 | STBY | L | GPI | GPIO29 | N/A |
| GP30 | STBY | H-Z | GPI | S_PWR_ACK | P/U 100K 3VDUAL |
| GP31 | STBY | H-Z | GPI | N/A(Reverse) | P/U 8.2K VCC3 |
| GP32 | MAIN | H | GPO | MB_ID1 | P/D 8.2K GND |
| GP33 | MAIN | H | GPO | LOAD-LINE | P/U 1K VCC3 |
| GP34 | MAIN | H-Z | GPI | -PCI_STOP | P/U 8.2K VCC3 |
| GP35 | MAIN | L | GPO | GPIO35 | P/U 8.2K VCC3 |
| GP36 | MAIN | | GPI | -LAN1_DSM | P/U 8.2K VCC3 |
| GP37 | MAIN | | GPI | N/A | P/U 8.2K VCC3 |
| GP38 | MAIN | H-Z | GPI | VCORE_OV2 | P/U 8.2K VCC3 |
| GP39 | MAIN | H-Z | GPI | -LAN_DSM | P/U 8.2K VCC3 |
| GP40 | STBY | | NATIVE | OC1# | N/A |
| GP41 | STBY | | NATIVE | OC2# | N/A |
| GP42 | STBY | | NATIVE | OC3# | N/A |
| GP43 | STBY | | NATIVE | OC4# | N/A |
| GP44 | STBY | L | NATIVE | N/A | P/U 8.2K 3VDUAL |
| GP45 | STBY | | NATIVE | -LPCPME | P/U 8.2K 3VDUAL |
| GP46 | STBY | L | NATIVE | PWR_LED | P/U 8.2K 3VDUAL |
| GP47 | STBY | | NATIVE | PSI_LED | P/U 8.2K 3VDUAL |
| GP48 | MAIN | H-Z | IN | EN_PWM | P/U 8.2K VCC3 |
| GP49 | MAIN | H-Z | IN | VCC18_OV1 | P/U 8.2K VCC3 |
| GP50 | MAIN | | NATIVE | -REQ1 | P/U 2.2K VCC |
| GP51 | MAIN | H | NATIVE | -GNT1 | N/A |
| GP52 | MAIN | | NATIVE | -REQ2 | P/U 2.2K VCC |
| GP53 | MAIN | H | NATIVE | -GNT2 | N/A |
| GP54 | MAIN | | NATIVE | -REQ3 | P/U 2.2K VCC |
| GP55 | MAIN | H | NATIVE | -GNT3 | N/A |
| GP56 | STBY | | NATIVE | N/A(Reverse) | P/U 8.2K 3VDUAL |
| GP57 | STBY | H-Z | IN | VCORE_OV1 | P/U 8.2K 3VDUAL |
| GP58 | STBY | H-Z | NATIVE | F_USB_OC | P/U 8.2K 3VDUAL |
| GP59 | STBY | | NATIVE | USB_OC0# | N/A |
| GP60 | STBY | H-Z | NATIVE | N/A(Reverse) | P/U 8.2K 3VDUAL |
| GP61 | STBY | L | NATIVE | -SUSTAT | N/A |
| GP62 | STBY | L | NATIVE | SUSCLK | N/A |
| GP63 | STBY | L | NATIVE | GPIO63 | N/A |
| GP64 | MAIN | L | NATIVE | CLKOUTFLEX0 | N/A |
| GP65 | MAIN | L | NATIVE | CLKOUTFLEX1 | N/A |
| GP66 | MAIN | L | NATIVE | CLKOUTFLEX2 | N/A |
| GP67 | MAIN | L | NATIVE | CLKOUTFLEX3 | N/A |
| GP72 | STBY | H-Z | NATIVE | VCORE_OV4 | P/U 8.2K 3VDUAL |
| GP73 | STBY | | NATIVE | 1_05V_OV1 | P/U 8.2K 3VDUAL |
| GP74 | STBY | H-Z | NATIVE | 1_05V_OV2 | P/U 8.2K 3VDUAL |
| GP75 | STBY | H-Z | NATIVE | N/A(Reverse) | P/U 8.2K 3VDUAL |

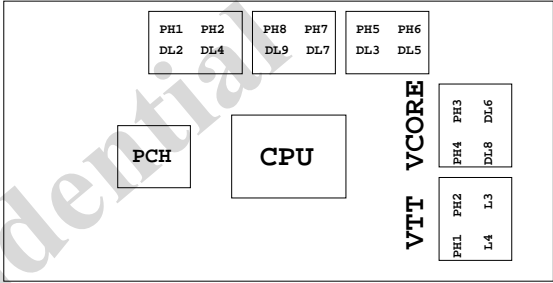
Super I/O ITE8720 GPIO Table

| PIN NAME | USAGE | NOTE |
|----------------------------|------------------|------|
| SVC/PECI_RQT/GP14 | -PECI_REQ | |
| PWROK1/GP13 | PWROK1/ITE_PWROK | |
| KRST#/GP62 | -KRST | |
| SO/GP50 | -ICH_SPI_CS | |
| IRTX/GP47/CE2_N/JP7 | CEB_N | |
| GP46/IRRX | -LAN2_DSM | |
| PSION#/GP42 | -PSON | |
| PWROK2#/GP41 | PECI_CTL | |
| PCIRST3#/GP10/VDIMM_STR_EN | -PCIE_RST | |
| RSMRST#CIRRX1/GP55 | -RSMRST | |
| PME#/GP54 | -LPCPME | |
| PD5/GP75/BUSS00 | N/A | |

| PIN NAME | USAGE | NOTE |
|-----------------------------|-------------------|------------------|
| FAN_TAC2/GP52 | FANIO2 | |
| FAN_TAC3/GP37 | FANIO3 | |
| VIDO3/FAN_TAC4/GP25/DSR2# | FANIO4 | |
| FAN_CTL2/GP51 | FANPWM2 | |
| FAN_CTL3/GP36 | FANPWM3 | |
| VID4/GP34 | BEEP- | |
| VID3/GP33 | TURBO1 | |
| VID2/GP32 | TURBO0 | |
| VCORE_GOOD/VID6/GP63 | CPUT_LED1_C | |
| VID5/GP35 | CPUT_LED2_C | |
| VID1/GP31 | CPUT_LED3_C | |
| VID0/GP30 | -LAN1_DSM | NBT_LED1_C |
| SLCT/GP80 | CPU_LED1_C | |
| PE/GP81 | CPU_LED2_C | |
| BUSY/GP82 | CPU_LED3_C | |
| PD3/GP73/BUSS11 | SB_LED1_C | |
| PD4/GP74/BUSS12 | SB_LED2_C | |
| VCORE_EN/VID7/GP64 | IT_GP64 | SB_LED3_C |
| PD0/GP70 | NB_LED1_C | |
| PD1/GP71 | NB_LED2_C | |
| PD2/GP72/BUSS10 | NB_LED3_C | |
| GP22/SCK | LOW_PWR_1 | |
| VIDO5/GP27/SIN2 | LOW_PWR_2 | |
| PCIRST2#/GP11 | -PFMRST1 | |
| PCIRST1#/GP12 | -PFMRST2 | |
| 3VBSBW#/GP40 | CSI_F0 | BSEL166_1 |
| SUSCH#/GP53 | CSI_F1 | BSEL166_2 |
| GP23/SI | BSEL166_3/CSISBSL | |
| VIDO0/GP20/CTS2# | CPUT_LED1_C | BSEL166_4 |
| GP65/VDVA_EN/GB_01 | MB_ID2 | |
| PD6/GP76/BUSS01 | MB_ID3 | |
| PD7/GP77/BUSS02 | MB_ID4 | |
| AFD#/GP86/SMB_C_R | W_PIN | FST_2X8 |
| INIT#/GP85/SMBD_M | SEC_2x8 | GTLREF_AD2 |
| ACK#/GP83 | DDR_LED1_C | |
| VIDO1/GP21/DCD2# | DDR_LED2_C | |
| STB#/GP87/SMB_C_M | DDR_LED3_C | |
| PWRON#GP44 | VCORE_OV1 | |
| PANSWH#/GP43 | PWRBTSW | |
| KDAT/GP61 | -PWRBTSW | |
| KCLK/GP60 | KDAT | |
| MDAT/GP57 | KCLK | |
| MACL/GP56 | MDAT | |
| GP66/VLDT_EN/GB_02 | NBT_LED1_C | MCLK |
| SVD/PCIRSTIN#/CIRTX/GP15 | PWM2_CR | |
| KDAT/GP61 | PWM2_CR | |
| GP67/CPU_PG/GB_03 | EN_LOADLINE | IT_GP67/-EN_PWM2 |
| SLIN#/GP84/SMBD_R | -EN_PWM2 | |
| PSI_L/FAN_CLT15/CIRRX2/GP16 | -THERM | |
| VIDO4/GP26/SOUT2 | DDR18V_PH2_EN | |
| VIDO2/FAN_TAC5/GP24/DSR2# | DDR18V_LED | |
| VIDO6/GP17/RI2# | 1_1V_PH_EN | |
| VIDO7/JP6/DTR2# | JP6 | |
| PD5/GP75/BUSS00 | SB_LED3_C | |



PWM各相位的擺法如下：



BIOS超電壓對應表：

| 線路圖名稱 | BIOS選項 |
|--------------------|------------------|
| Vcore | CPU Vcore |
| CPU_VTT | CPU Termination |
| CPU_VAXG | CPU Graphic Core |
| VCC1_8_PCH | CPU PLL |
| VCC1_05_PCH | PCH core |
| 3VDUAL | 3VDUAL |
| DDR15V | DRAM voltage |
| DDRVTT | DRAM Terminatio |
| VREF_CA_AVREF_CA_B | DRAM Address Ref |
| VREF_DQ_AVREF_DQ_B | DRAM Data Ref |

散熱模組料號：

8IBP：
1.12SP2-01A001-Y1R/Y2R
2.12SP2-01A001-Z1R/Z2R
(HIBRID模組)包材階

| | 3 pin FAN control | 4 pin FAN control | FAN speed | Controller |
|---------|-------------------|-------------------|---------------|------------|
| CPU FAN | FANPWM1 | FANPWM3 | FANIO1 | IT8720 |
| | ICH_FAN_PWM2 | ICH_FAN_PWM0 | ICH_FAN_TACH0 | PCH |
| SYS FAN | FANPWM2 | N/A | FANIO2 | IT8720 |
| | ICH_FAN_PWM1 | N/A | ICH_FAN_TACH1 | PCH |
| PWR FAN | N/A | N/A | FANIO3 | IT8720 |
| | | | ICH_FAN_TACH2 | PCH |

| GIGABYTE™ | | | |
|---------------------|---------------------------------|-------|-------------|
| Title TABLE LIST | | | |
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