

Model Name: GA-H81M-DS2

Revision
3.0

SHEET

TITLE

| | |
|----|----------------------------|
| 01 | COVER SHEET |
| 02 | BOM & PCB MODIFY HISTORY |
| 03 | BLOCK DIAGRAM |
| 04 | CPU_LGA1150-A |
| 05 | CPU_LGA1150-B |
| 06 | CPU_LGA1150-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 | PCI EXPRESS*16 SLOT |
| 15 | PCI EXPRESS X1 *2 SLOT |
| 16 | ITE 8620 LPC IO |
| 17 | COM,KB_MS_USB,USB30_20 |
| 18 | HWM,FAN CTRL,OV,-PROCHOT |
| 19 | DUAL BIOS |
| 20 | FP,FUSB,SPK,SATALED |
| 21 | Realtek ALC887-VD2 |
| 22 | REAR AUDIO JACK |
| 23 | REALTEK RTL8111G |
| 24 | DISCRETE POWER |
| 25 | ATX , CLOCK GEN |
| 26 | VCORE ISL95812_1 |
| 27 | VCORE ISL95812_2 |

SHEET

TITLE

| | |
|----|------------------|
| 28 | RT8120_DDR POWER |
| 29 | LPT |
| | |

Gigabyte Technology

Cover Sheet

| | | |
|----------------|---------------------------------------|-------------------|
| Size Custom | Document Number GA-H81M-DS2 | Rev 3.0 |
| Date: | Tuesday, August 19, 2014 | Sheet 1 of 29 |

Revision
3.0

Component value change history

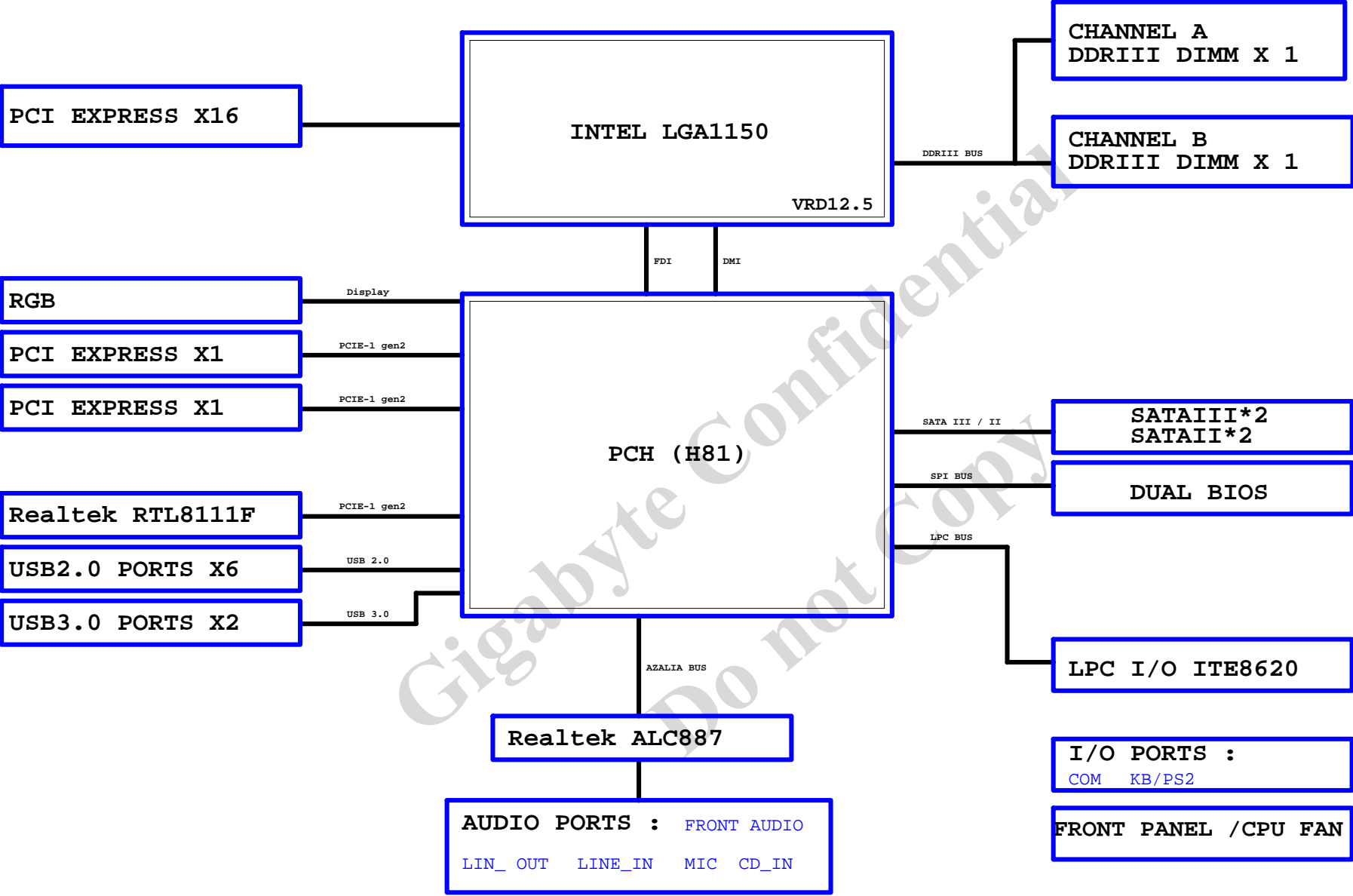
2013/06/27

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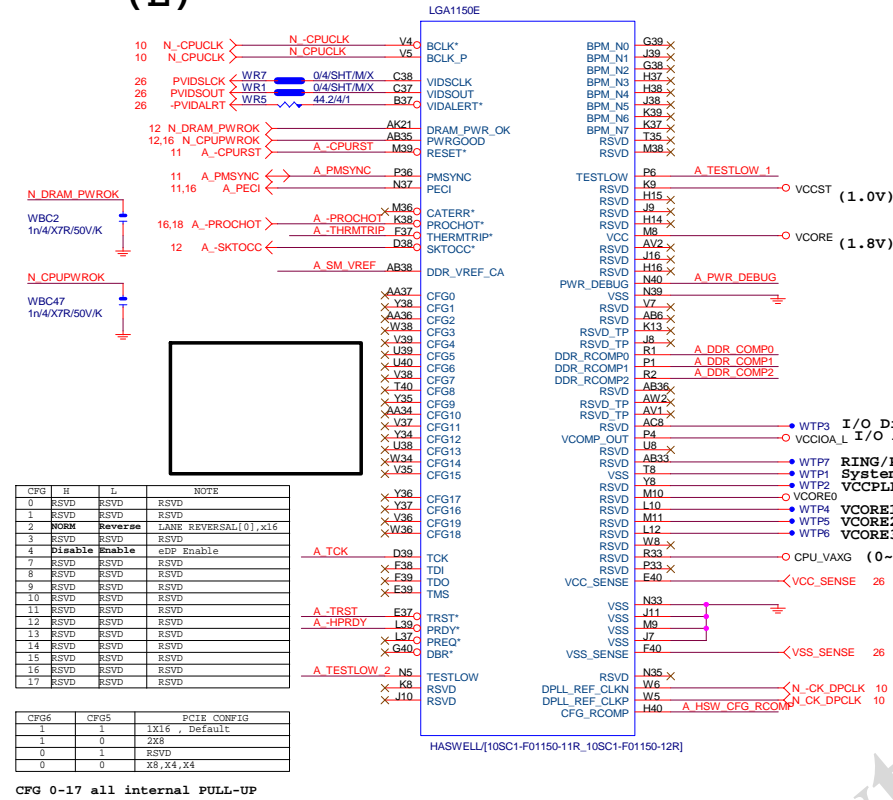
Circuit or PCB layout change

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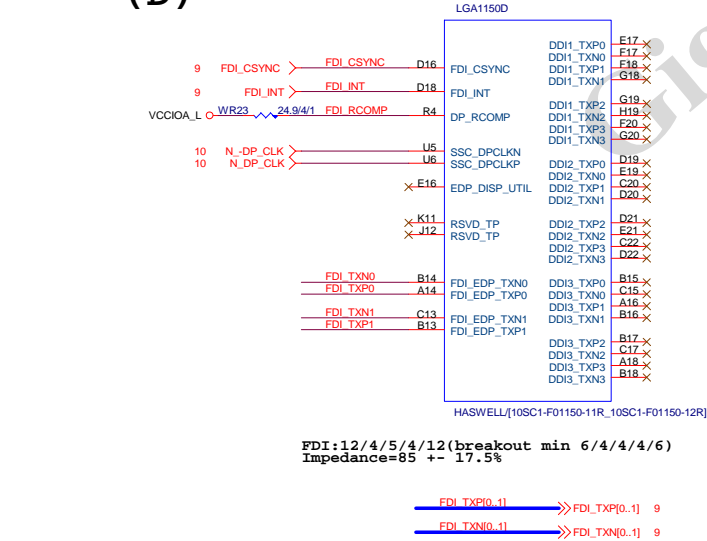
BLOCK DIAGRAM



LGA1150 (E)



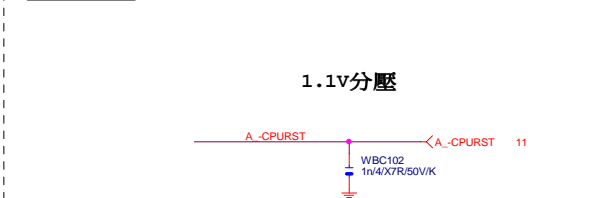
LGA1150 (D)



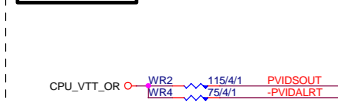
LGA1155 (C)



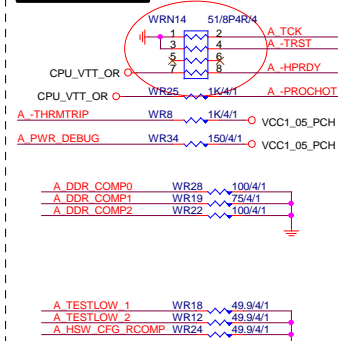
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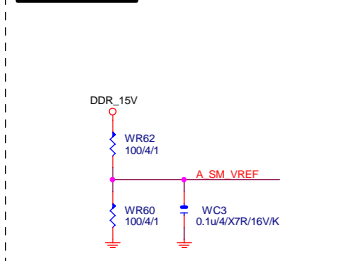
CPU SVID



CPU PU/PD



SM REF



A_THRMTrip



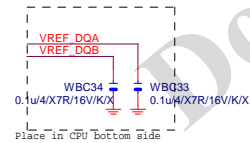
LGA1150 (A)

LGA1150 (B)

LGA1150 (CR)

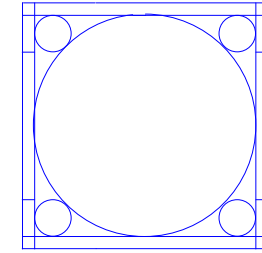
| LGA1150A | | | | | | | | | |
|----------|------|-----------|----------|------|-------|--|--|--|--|
| MAAA0 | AU13 | DDR0_MA0 | DDR0_D00 | AD38 | MDA0 | | | | |
| MAAA1 | AV16 | DDR0_MA1 | DDR0_D01 | AD39 | MDA1 | | | | |
| MAAA2 | AU16 | DDR0_MA2 | DDR0_D02 | AF38 | MDA2 | | | | |
| MAAA3 | AW17 | DDR0_MA3 | DDR0_D03 | AF39 | MDA3 | | | | |
| MAAA4 | AU17 | DDR0_MA4 | DDR0_D04 | AD37 | MDA4 | | | | |
| MAAA5 | AW18 | DDR0_MA5 | DDR0_D05 | AD40 | MDA5 | | | | |
| MAAA6 | AV17 | DDR0_MA6 | DDR0_D06 | AE37 | MDA6 | | | | |
| MAAA7 | AT18 | DDR0_MA7 | DDR0_D07 | AF40 | MDA7 | | | | |
| MAAA8 | AU18 | DDR0_MA8 | DDR0_D08 | AH40 | MDA9 | | | | |
| MAAA9 | AT19 | DDR0_MA9 | DDR0_D09 | AH39 | MDA10 | | | | |
| MAAA10 | AW11 | DDR0_MA10 | DDR0_D10 | AK38 | MDA10 | | | | |
| MAAA11 | AV19 | DDR0_MA11 | DDR0_D11 | AK39 | MDA11 | | | | |
| MAAA12 | AU19 | DDR0_MA12 | DDR0_D12 | AH37 | MDA12 | | | | |
| MAAA13 | AY10 | DDR0_MA13 | DDR0_D13 | AH38 | MDA13 | | | | |
| MAAA14 | AT20 | DDR0_MA14 | DDR0_D14 | AK37 | MDA14 | | | | |
| MAAA15 | AU21 | DDR0_MA15 | DDR0_D15 | AK40 | MDA15 | | | | |
| MODT_A0 | AW10 | DDR0_ODT0 | DDR0_D16 | AM40 | MDA17 | | | | |
| MODT_A1 | AY8 | DDR0_ODT1 | DDR0_D17 | AM39 | MDA21 | | | | |
| AW9 | | DDR0_ODT2 | DDR0_D18 | AP38 | MDA18 | | | | |
| AW8 | | DDR0_ODT3 | DDR0_D19 | AP39 | MDA19 | | | | |
| | | | DDR0_D20 | AM37 | MDA20 | | | | |
| | | | DDR0_D21 | AM38 | MDA16 | | | | |
| | | | DDR0_D22 | AM26 | MDA22 | | | | |
| | | | DDR0_D23 | AM25 | MDA23 | | | | |
| | | | DDR0_D24 | AP28 | MDA28 | | | | |
| | | | DDR0_D25 | AL26 | MDA26 | | | | |
| | | | DDR0_D26 | AL25 | MDA27 | | | | |
| | | | DDR0_D27 | AR26 | MDA28 | | | | |
| | | | DDR0_D28 | AR28 | MDA24 | | | | |
| | | | DDR0_D29 | AR28 | MDA30 | | | | |
| | | | DDR0_D30 | AW35 | MDA31 | | | | |
| | | | DDR0_D31 | AY6 | MDA33 | | | | |
| | | | DDR0_D32 | AU6 | MDA37 | | | | |
| | | | DDR0_D33 | AV4 | MDA34 | | | | |
| | | | DDR0_D34 | AW6 | MDA35 | | | | |
| | | | DDR0_D35 | AW6 | MDA32 | | | | |
| | | | DDR0_D36 | AW4 | MDA38 | | | | |
| | | | DDR0_D37 | AR4 | MDA39 | | | | |
| | | | DDR0_D38 | AR4 | MDA45 | | | | |
| | | | DDR0_D39 | AN3 | MDA42 | | | | |
| | | | DDR0_D40 | AN4 | MDA43 | | | | |
| | | | DDR0_D41 | AR2 | MDA44 | | | | |
| | | | DDR0_D42 | AR3 | MDA40 | | | | |
| | | | DDR0_D43 | AN2 | MDA46 | | | | |
| | | | DDR0_D44 | AN1 | MDA47 | | | | |
| | | | DDR0_D45 | AL1 | MDA49 | | | | |
| | | | DDR0_D46 | AL4 | MDA53 | | | | |
| | | | DDR0_D47 | AL4 | MDA50 | | | | |
| | | | DDR0_D48 | AJ4 | MDA51 | | | | |
| | | | DDR0_D49 | AL2 | MDA52 | | | | |
| | | | DDR0_D50 | AJ2 | MDA48 | | | | |
| | | | DDR0_D51 | AJ2 | MDA54 | | | | |
| | | | DDR0_D52 | AJ1 | MDA55 | | | | |
| | | | DDR0_D53 | AG1 | MDA57 | | | | |
| | | | DDR0_D54 | AG4 | MDA61 | | | | |
| | | | DDR0_D55 | AE3 | MDA58 | | | | |
| | | | DDR0_D56 | E4 | MDA59 | | | | |
| | | | DDR0_D57 | AG2 | MDA60 | | | | |
| | | | DDR0_D58 | AG3 | MDA56 | | | | |
| | | | DDR0_D59 | AE2 | MDA63 | | | | |
| | | | DDR0_D60 | AE1 | MDA62 | | | | |
| | | | DDR0_D61 | AE39 | DQSA0 | | | | |
| | | | DDR0_D62 | AJ39 | DQSA1 | | | | |
| | | | DDR0_D63 | AN39 | DQSA2 | | | | |
| | | | DDR0_D64 | AV36 | DQSA3 | | | | |
| | | | DDR0_D65 | AV5 | DQSA4 | | | | |
| | | | DDR0_D66 | AP3 | DQSA5 | | | | |
| | | | DDR0_D67 | AK3 | DQSA6 | | | | |
| | | | DDR0_D68 | AF3 | DQSA7 | | | | |
| | | | DDR0_D69 | AV32 | DQSA0 | | | | |
| | | | DDR0_D70 | AE38 | DQSA1 | | | | |
| | | | DDR0_D71 | AJ38 | DQSA2 | | | | |
| | | | DDR0_D72 | AN38 | DQSA3 | | | | |
| | | | DDR0_D73 | AJ36 | DQSA4 | | | | |
| | | | DDR0_D74 | AW5 | DQSA5 | | | | |
| | | | DDR0_D75 | AP2 | DQSA6 | | | | |
| | | | DDR0_D76 | AK2 | DQSA7 | | | | |
| | | | DDR0_D77 | AF2 | DQSA7 | | | | |
| | | | DDR0_D78 | AJ32 | | | | | |

HASWELL[10SC1-F01150-11R_10SC1-F01150-12R]



| LGA1150B | | | | | | | | | |
|----------|------|-----------|----------|------|-------|--|--|--|--|
| MAAB0 | AL19 | DDR1_MA0 | DDR1_D00 | AE34 | MDB0 | | | | |
| MAAB1 | AK23 | DDR1_MA1 | DDR1_D01 | AE35 | MDB1 | | | | |
| MAAB2 | AM22 | DDR1_MA2 | DDR1_D02 | AG35 | MDB2 | | | | |
| MAAB3 | AM23 | DDR1_MA3 | DDR1_D03 | AH35 | MDB3 | | | | |
| MAAB4 | AP23 | DDR1_MA4 | DDR1_D04 | AD34 | MDB4 | | | | |
| MAAB5 | AL23 | DDR1_MA5 | DDR1_D05 | AD35 | MDB5 | | | | |
| MAAB6 | AY24 | DDR1_MA6 | DDR1_D06 | AG34 | MDB6 | | | | |
| MAAB7 | AV25 | DDR1_MA7 | DDR1_D07 | AH34 | MDB7 | | | | |
| MAAB8 | AU26 | DDR1_MA8 | DDR1_D08 | AL34 | MDB8 | | | | |
| MAAB9 | AW25 | DDR1_MA9 | DDR1_D09 | AL35 | MDB9 | | | | |
| MAAB10 | AP18 | DDR1_MA10 | DDR1_D10 | AK31 | MDB10 | | | | |
| MAAB11 | AY25 | DDR1_MA11 | DDR1_D11 | AL31 | MDB11 | | | | |
| MAAB12 | AV26 | DDR1_MA12 | DDR1_D12 | AK34 | MDB12 | | | | |
| MAAB13 | AR15 | DDR1_MA13 | DDR1_D13 | AK35 | MDB13 | | | | |
| MAAB14 | AV27 | DDR1_MA14 | DDR1_D14 | AK32 | MDB14 | | | | |
| MAAB15 | AY28 | DDR1_MA15 | DDR1_D15 | AL32 | MDB15 | | | | |
| MODT_B0 | AM17 | DDR1_ODT0 | DDR1_D16 | AP34 | MDB17 | | | | |
| MODT_B1 | AL16 | DDR1_ODT1 | DDR1_D17 | AK31 | MDB19 | | | | |
| AM16 | | DDR1_ODT2 | DDR1_D18 | AP31 | MDB23 | | | | |
| AK15 | | DDR1_ODT3 | DDR1_D19 | AP35 | MDB20 | | | | |
| | | | DDR1_D20 | AP35 | MDB16 | | | | |
| | | | DDR1_D21 | AN32 | MDB18 | | | | |
| | | | DDR1_D22 | AP32 | MDB22 | | | | |
| | | | DDR1_D23 | AM29 | MDB25 | | | | |
| | | | DDR1_D24 | AM28 | MDB28 | | | | |
| | | | DDR1_D25 | AR29 | MDB27 | | | | |
| | | | DDR1_D26 | AR28 | MDB30 | | | | |
| | | | DDR1_D27 | AL23 | MDB34 | | | | |
| | | | DDR1_D28 | AL28 | MDB29 | | | | |
| | | | DDR1_D29 | AP29 | MDB26 | | | | |
| | | | DDR1_D30 | AP28 | MDB31 | | | | |
| | | | DDR1_D31 | AR12 | MDB32 | | | | |
| | | | DDR1_D32 | AP12 | MDB33 | | | | |
| | | | DDR1_D33 | AL13 | MDB34 | | | | |
| | | | DDR1_D34 | AL12 | MDB35 | | | | |
| | | | DDR1_D35 | AR13 | MDB36 | | | | |
| | | | DDR1_D36 | AP13 | MDB37 | | | | |
| | | | DDR1_D37 | AM13 | MDB38 | | | | |
| | | | DDR1_D38 | AM12 | MDB39 | | | | |
| | | | DDR1_D39 | AR9 | MDB45 | | | | |
| | | | DDR1_D40 | AP9 | MDB41 | | | | |
| | | | DDR1_D41 | AR6 | MDB47 | | | | |
| | | | DDR1_D42 | AP6 | MDB43 | | | | |
| | | | DDR1_D43 | AR10 | MDB44 | | | | |
| | | | DDR1_D44 | AP10 | MDB40 | | | | |
| | | | DDR1_D45 | AR7 | MDB46 | | | | |
| | | | DDR1_D46 | AP7 | MDB42 | | | | |
| | | | DDR1_D47 | AM9 | MDB52 | | | | |
| | | | DDR1_D48 | AL9 | MDB53 | | | | |
| | | | DDR1_D49 | AL6 | MDB50 | | | | |
| | | | DDR1_D50 | AL7 | MDB55 | | | | |
| | | | DDR1_D51 | AM10 | MDB48 | | | | |
| | | | DDR1_D52 | AL10 | MDB49 | | | | |
| | | | DDR1_D53 | AM6 | MDB51 | | | | |
| | | | DDR1_D54 | AM2 | MDB54 | | | | |
| | | | DDR1_D55 | AH6 | MDB61 | | | | |
| | | | DDR1_D56 | AH7 | MDB60 | | | | |
| | | | DDR1_D57 | AE6 | MDB59 | | | | |
| | | | DDR1_D58 | AE7 | MDB63 | | | | |
| | | | DDR1_D59 | AJ6 | MDB56 | | | | |
| | | | DDR1_D60 | AJ7 | MDB57 | | | | |
| | | | DDR1_D61 | AF7 | MDB58 | | | | |
| | | | DDR1_D62 | AF7 | MDB62 | | | | |
| | | | DDR1_D63 | AF35 | DQSB0 | | | | |
| | | | DDR1_D64 | AL33 | DQSB1 | | | | |
| | | | DDR1_D65 | AN28 | DQSB2 | | | | |
| | | | DDR1_D66 | AN28 | DQSB3 | | | | |
| | | | DDR1_D67 | AN12 | DQSB4 | | | | |
| | | | DDR1_D68 | AP8 | DQSB5 | | | | |
| | | | DDR1_D69 | AL8 | DQSB6 | | | | |
| | | | DDR1_D70 | AG7 | DQSB7 | | | | |
| | | | DDR1_D71 | AN25 | DQSB0 | | | | |
| | | | DDR1_D72 | AK33 | DQSB1 | | | | |
| | | | DDR1_D73 | AN33 | DQSB2 | | | | |
| | | | DDR1_D74 | AN29 | DQSB3 | | | | |
| | | | DDR1_D75 | AN13 | DQSB4 | | | | |
| | | | DDR1_D76 | AR8 | DQSB5 | | | | |
| | | | DDR1_D77 | AM8 | DQSB6 | | | | |
| | | | DDR1_D78 | AG6 | DQSB7 | | | | |
| | | | DDR1_D79 | AN26 | | | | | |

HASWELL[10SC1-F01150-11R_10SC1-F01150-12R]

CR
CPU RETENTION/X

LGA1150



ILM_BP/1156/CSP/ILM_BP/1156/CSP/[12KRC-0F0001-52R_12KRC-0F0001-51R]

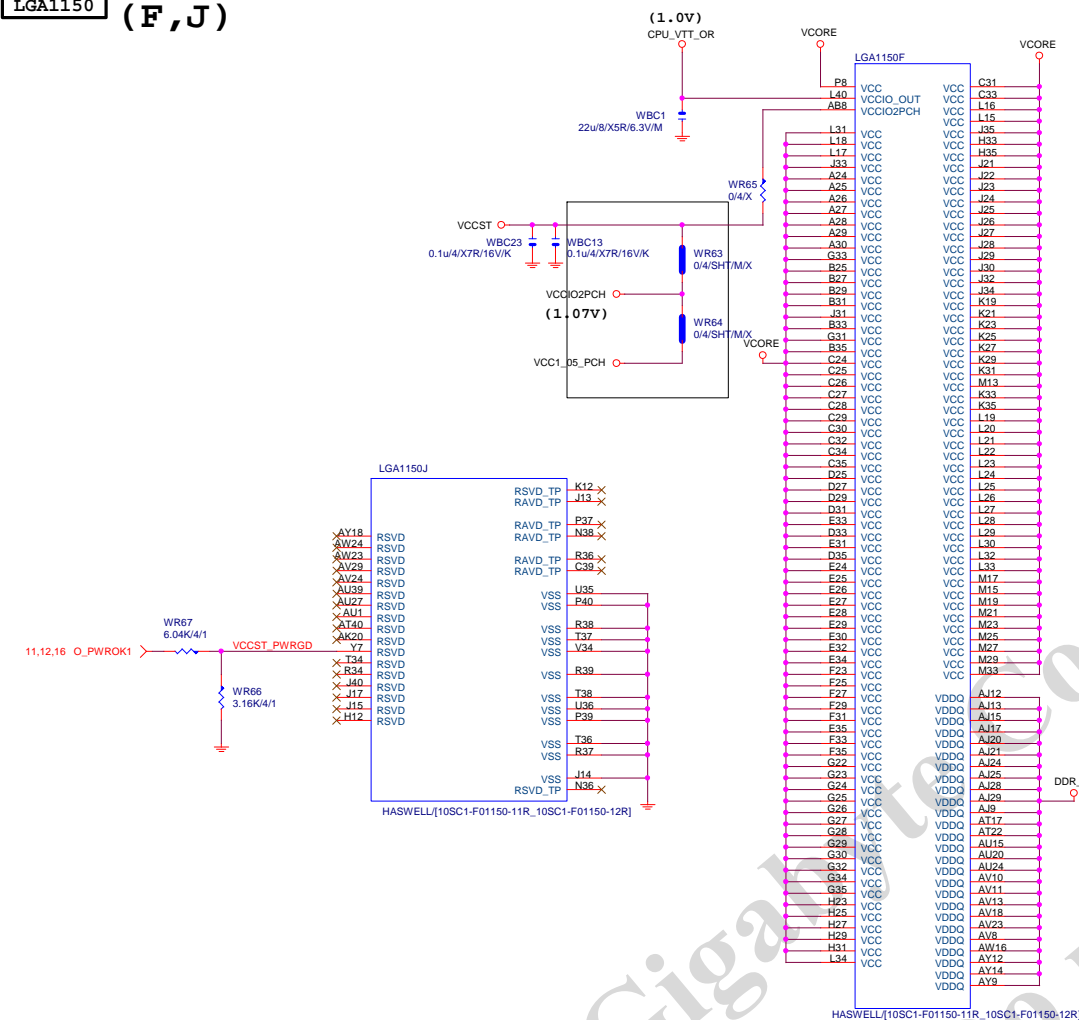
DDR BUS

| | | |
|---|--------------|------------|
| 7 | MODT_A[0..1] | MODT_A0..1 |
| 8 | MODT_B[0..1] | MODT_B0..1 |
| 7 | MDA[0..63] | MDA0..63 |
| 8 | MDB[0..63] | MDB0..63 |
| 7 | DQSA[0..7] | DQSA0..7 |
| 7 | DQSA[0..7] | DQSA0..7 |
| 7 | MAAA[0..15] | MAAA0..15 |
| 8 | MAAB[0..15] | MAAB0..15 |
| 8 | DQSB[0..7] | DQSB0..7 |
| 8 | DQSB[0..7] | DQSB0..7 |

Gigabyte Technology

| Title | | | |
|---------------|--------------------------|-------|---------|
| CPU LGA1150-B | | | |
| Size | Document Number | Rev | |
| Custom | GA-H81M-DS2 | 3.0 | |
| Date: | Tuesday, August 19, 2014 | Sheet | 5 of 29 |

LGA1150 (F,J)

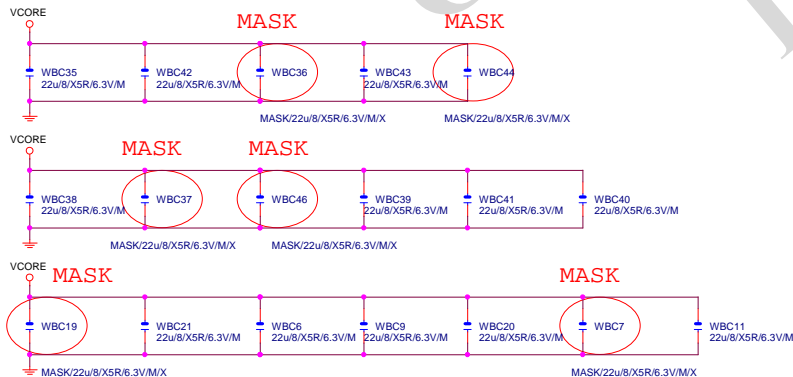


LGA1155 (G,H,I)



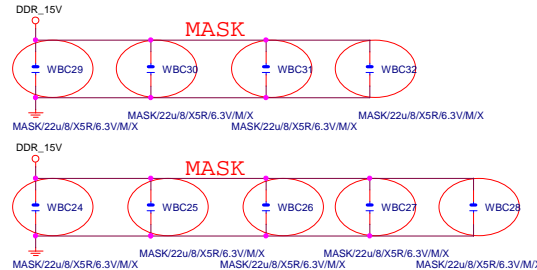
VCore CAP

(X18)



DDR CAP

(x9)



Gigabyte Technology

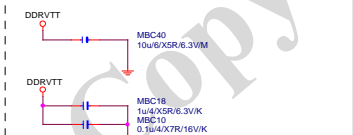
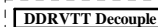
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|-------|----------------|
| Title | CPU I GA1150-C |
|-------|----------------|

| | | |
|------|-----------------|-------------|
| Size | Document Number | GA-H81M-DS2 |
|------|-----------------|-------------|

Date: Tuesday, August 19, 2014 Sheet

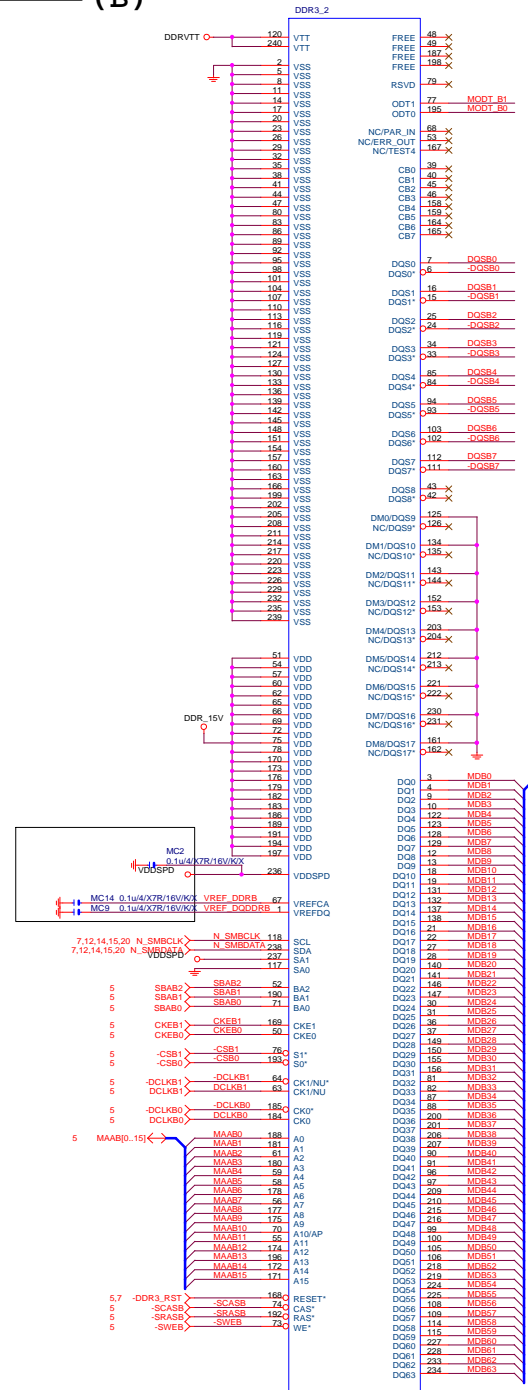
Rev
3.0

(A)

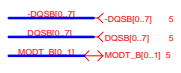


DDR3

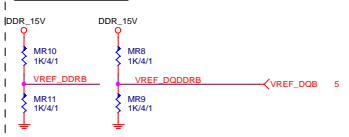
(B)



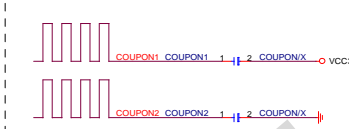
DDR3_240/BK/VA/D
BLACK CONNECTOR



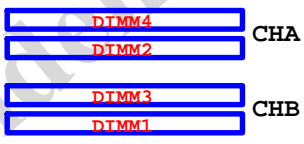
DDR3 VREF



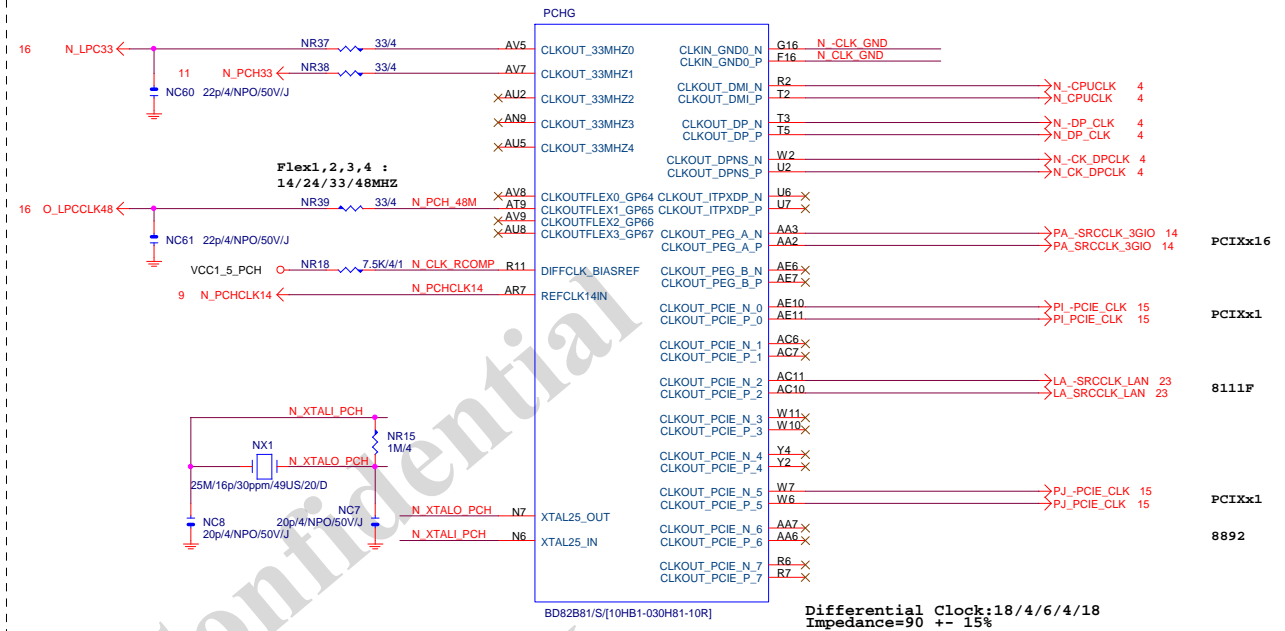
COUPON



CPU

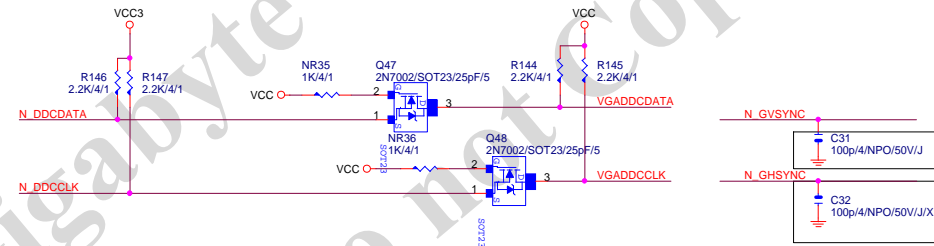


PCH (G)

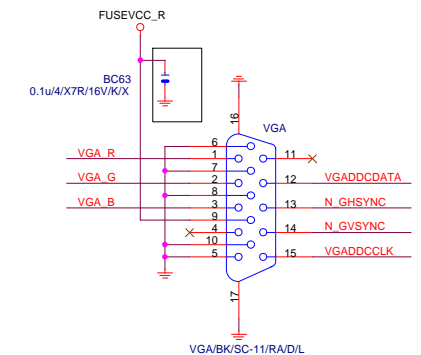
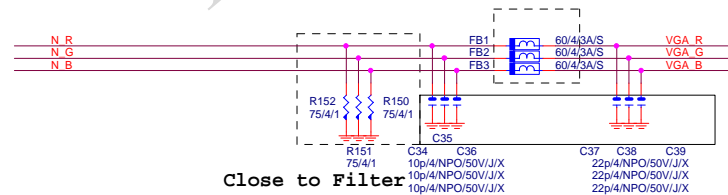


Differential Clock:18/4/6/4/18
Impedance=90 +- 15%

VGA CONNECTOR



VGA DDC



BLACK CONNECTOR

Gigabyte Technology

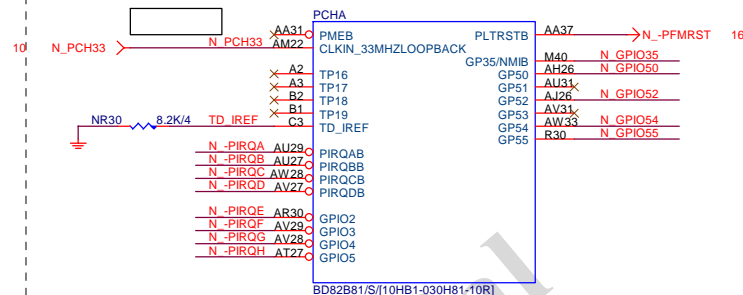
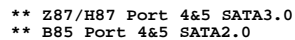
PCH DISPLAY ,CLK BUFFER

GA-H81M-DS2

| | |
|-----|--|
| ev | |
| 3.0 | |

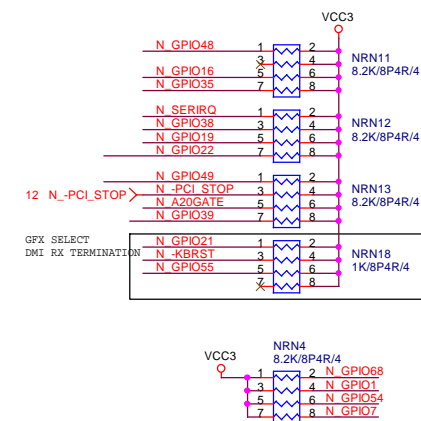
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SATA3 : 20/7.5/4.5/7.5/20 (breakout min 8/4/4/4/8)
Impedance=90 +- 17.5%
SATA2 : 15/7.5/4.5/7.5/15 (breakout min 8/4/4/4/8)
Impedance=90 +- 17.5%



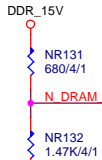
CK_SRCCLK_SATA NR174 8.2K/4
CK_SRCCLK_SATA NR173 8.2K/4

Mount for integrated clock Generation Mode

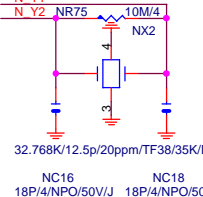
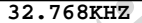


9

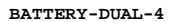
(D)



HSW_STRAP13



CLR_CMOS



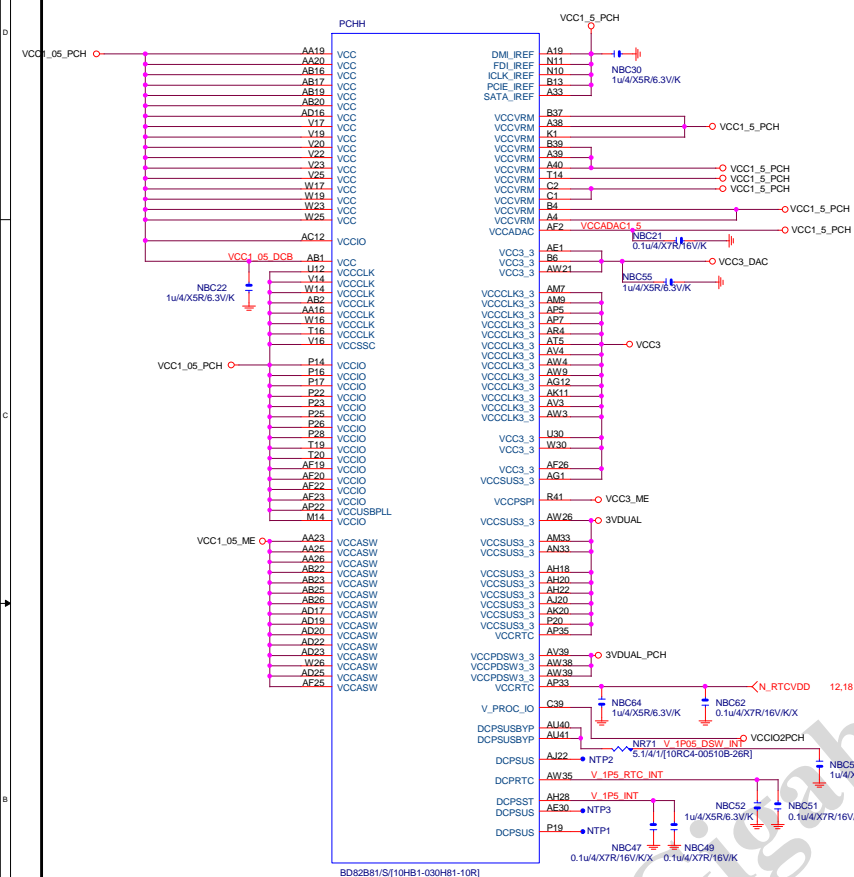
ACZ_SDOUT



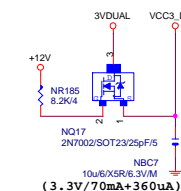
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| 2 | 0.0000 | 0.0000 |
| 3 | 0.0000 | 0.0000 |
| 4 | 0.0000 | 0.0000 |
| 5 | 0.0000 | 0.0000 |
| 6 | 0.0000 | 0.0000 |
| 7 | 0.0000 | 0.0000 |
| 8 | 0.0000 | 0.0000 |
| 9 | 0.0000 | 0.0000 |
| 10 | 0.0000 | 0.0000 |
| 11 | 0.0000 | 0.0000 |
| 12 | 0.0000 | 0.0000 |
| 13 | 0.0000 | 0.0000 |
| 14 | 0.0000 | 0.0000 |
| 15 | 0.0000 | 0.0000 |
| 16 | 0.0000 | 0.0000 |
| 17 | 0.0000 | 0.0000 |
| 18 | 0.0000 | 0.0000 |
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| 24 | 0.0000 | 0.0000 |
| 25 | 0.0000 | 0.0000 |
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| 27 | 0.0000 | 0.0000 |
| 28 | 0.0000 | 0.0000 |
| 29 | 0.0000 | 0.0000 |
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| 32 | 0.0000 | 0.0000 |
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| 79 | 0.0000 | 0.0000 |
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| 81 | 0.0000 | 0.0000 |
| 82 | 0.0000 | 0.0000 |
| 83 | 0.0000 | 0.0000 |
| 84 | 0.0000 | 0.0000 |
| 85 | 0.0000 | 0.0000 |
| 86 | 0.0000 | 0.0000 |
| 87 | 0.0000 | 0.0000 |
| 88 | 0.0000 | 0.0000 |
| 89 | 0.0000 | 0.0000 |
| 90 | 0.0000 | 0.0000 |
| 91 | 0.0000 | 0.0000 |
| 92 | 0.0000 | 0.0000 |
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| 94 | 0.0000 | 0.0000 |
| 95 | 0.0000 | 0.0000 |
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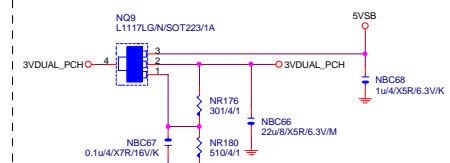
PCH (H)



VCC3_DAC



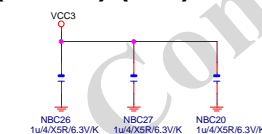
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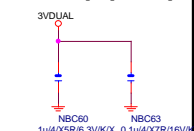
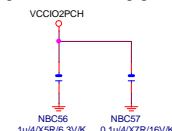
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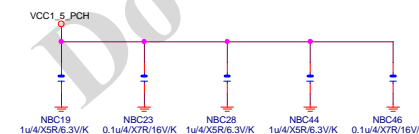
CAP



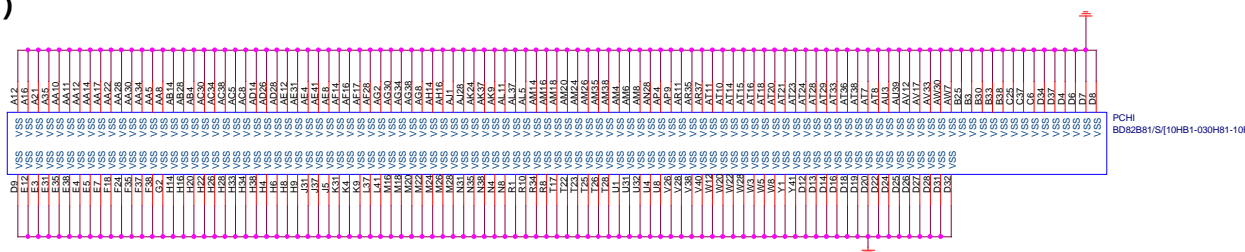
→ (1.05V)(x2) (3.3V) (x2)



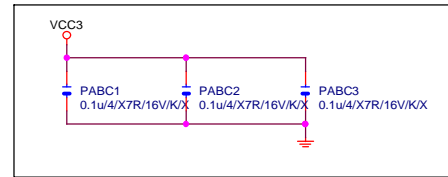
(1.05V) (x10)



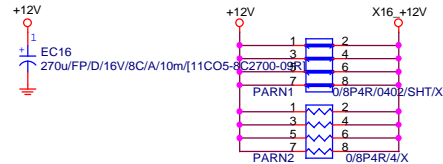
PCH (I)



PCIEX16 CAP



PCIEX16 PROTECT SHT



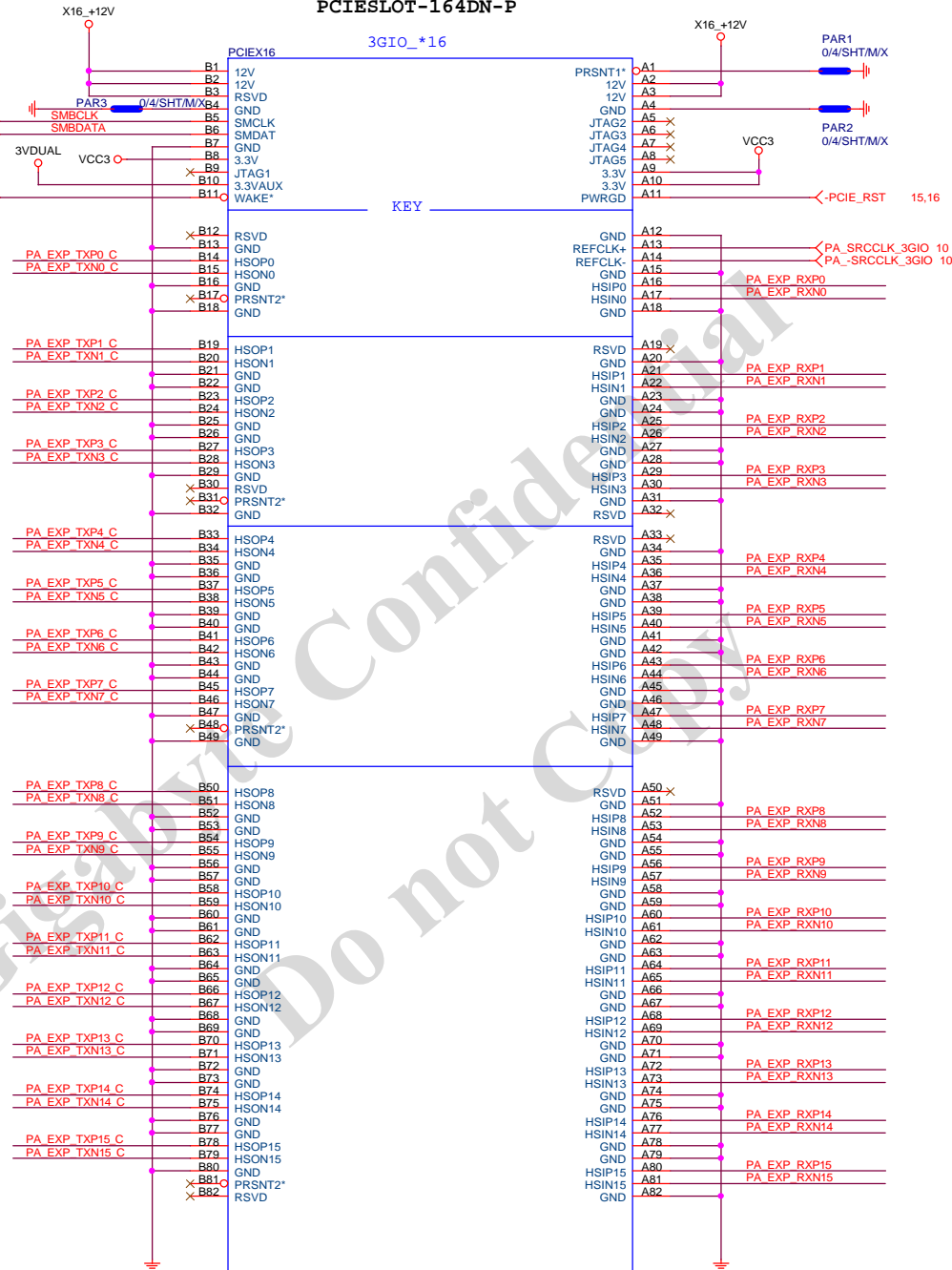
PCIEX16 AC CAP

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

PA EXP RXIP0.[15] >> PA_EXP_RXIP[0..15] 4
PA EXP RXN0.[15] >> PA_EXP_RXN[0..15] 4
PA EXP TXIP0.[15] >> PA_EXP_TXIP[0..15] 4
PA EXP TXN0.[15] >> PA_EXP_TXN[0..15] 4

PCIEX16 SLOT

PCIESLOT-164DN-P



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

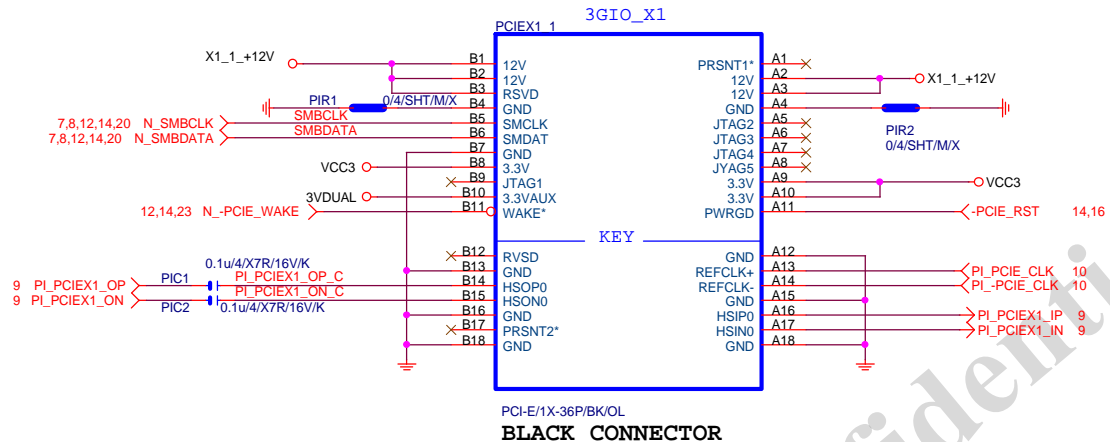
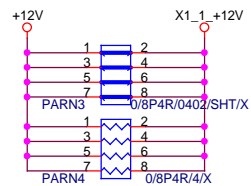
BLACK CONNECTOR

Gigabyte Technology

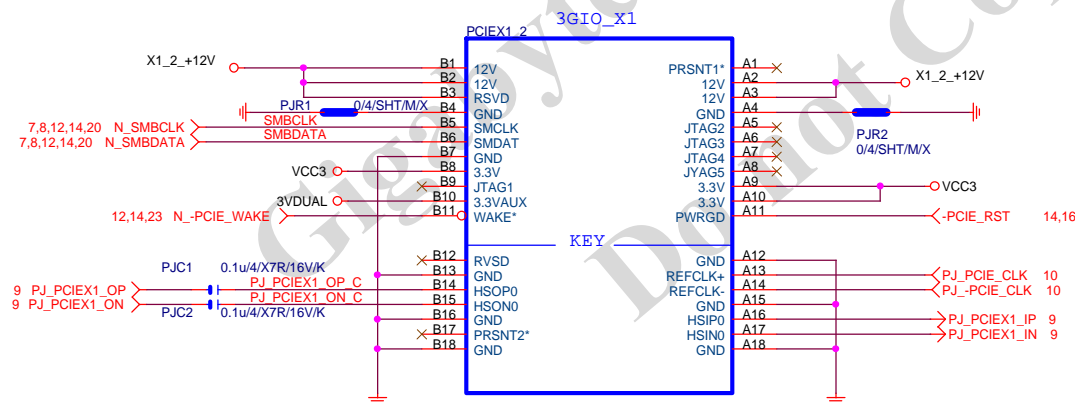
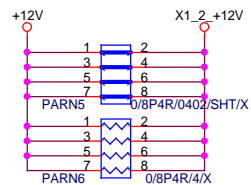
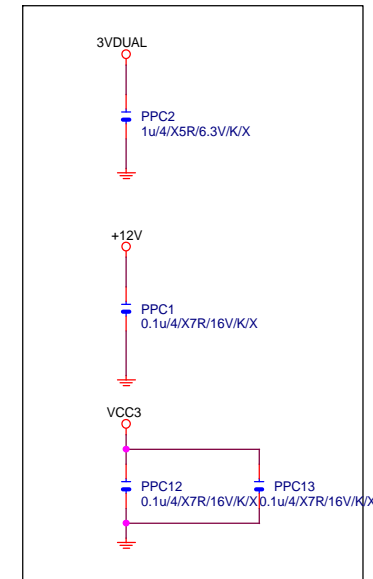
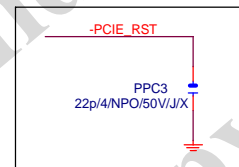
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| Title | | | PCI EXPRESS * 16 | |
| Size | | | GA-H81M-DS2 | |
| Custom | | | Rev 3.0 | |
| Date: | | | Tuesday, August 19, 2014 | |
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PCIEX1 SLOT

PCIEX1 PROTECT SHT



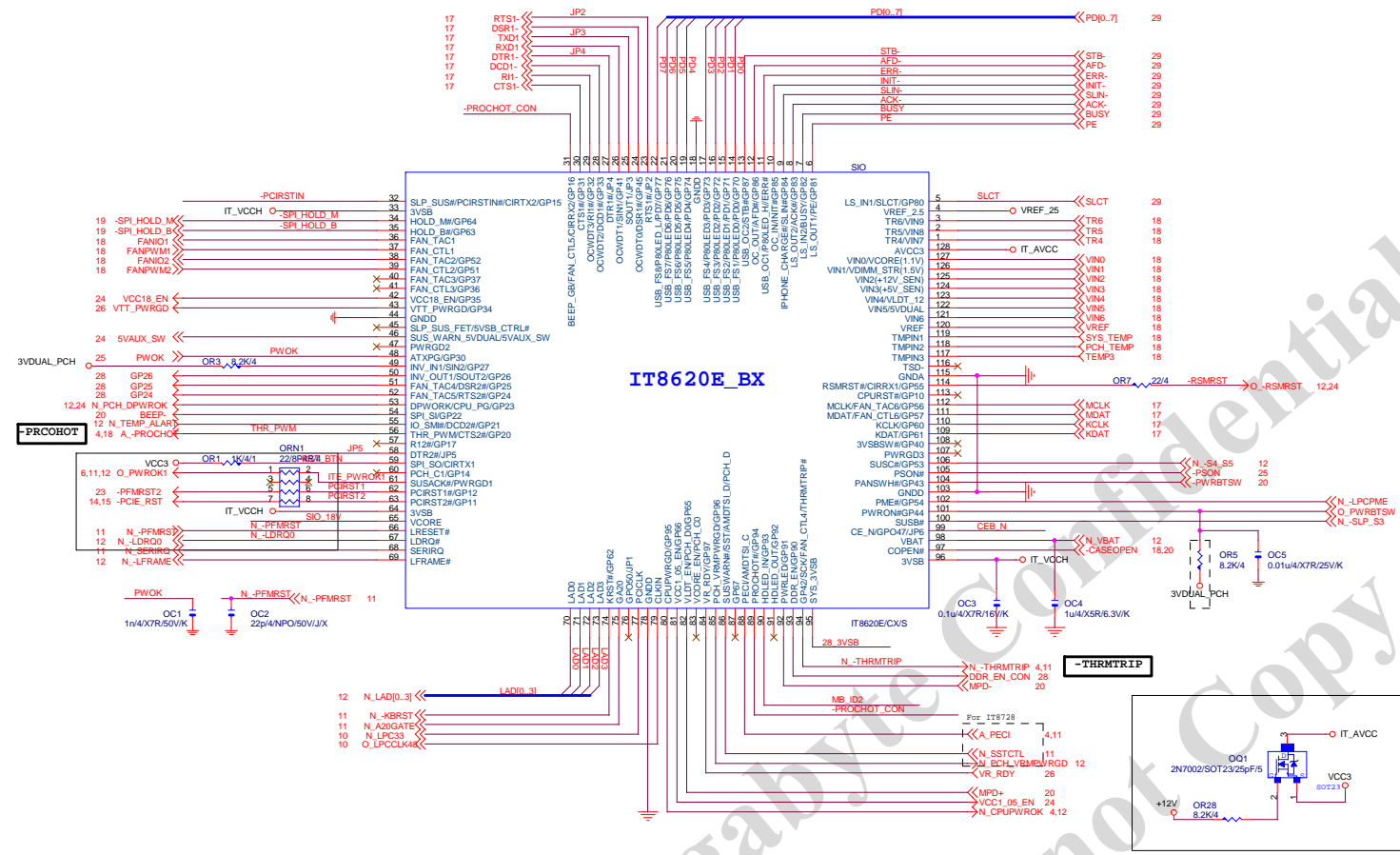
PCI-E/1X-36P/BK/OL
BLACK CONNECTOR



PCI-E/1X-36P/BK/OL
BLACK CONNECTOR

| Gigabyte Technology | | | |
|----------------------|--------------------------|-------------|----------|
| PCI EXPRESS X 1 PORT | | | |
| Title | Document Number | Rev | 3.0 |
| Size | Custom | GA-H81M-DS2 | |
| Date: | Tuesday, August 19, 2014 | Sheet | 15 of 29 |

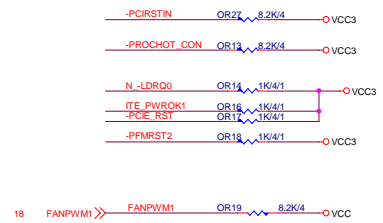
SIO IT8620



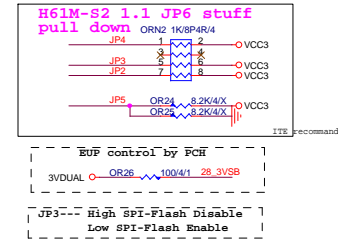
PWR SHT



SIO PU



SIO STRAP



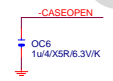
Power leakage



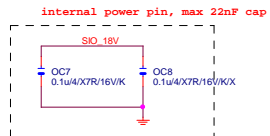
MB ID



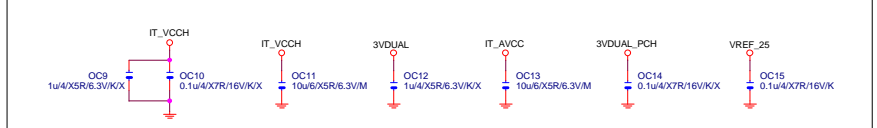
DUAL BIOS OPT STRAP



SIO 18V

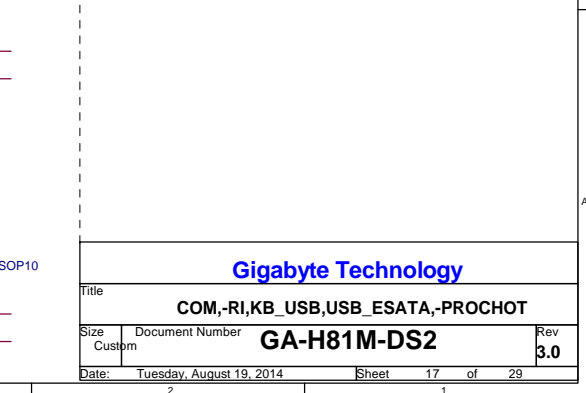
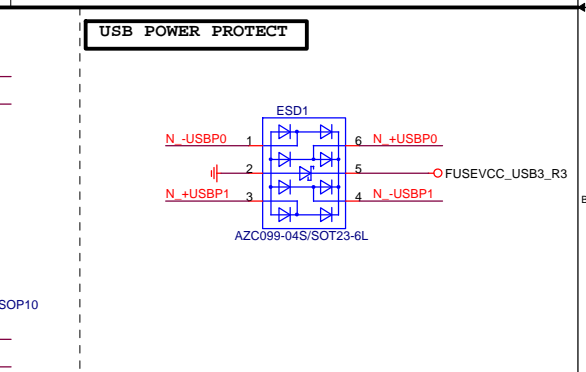
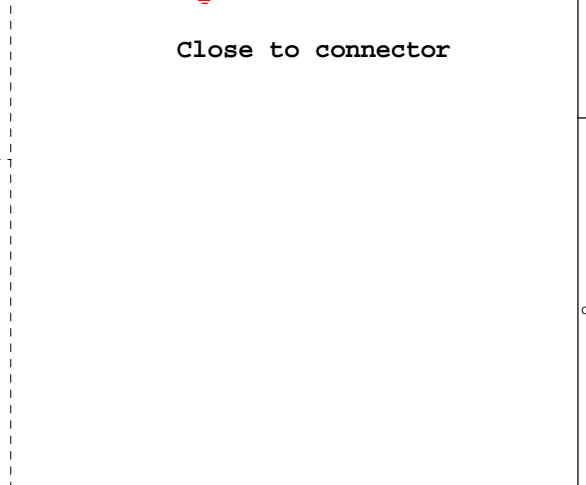
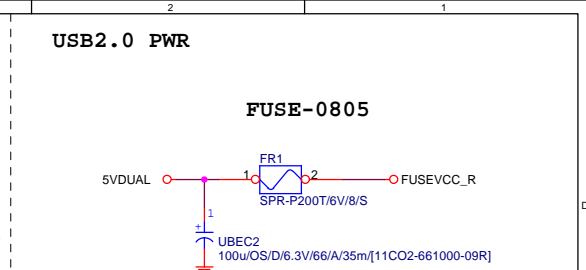


SIO CAP

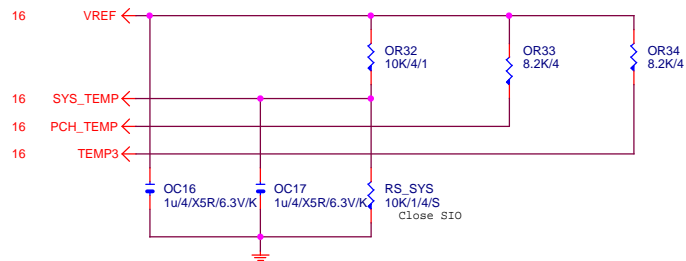


Gigabyte Technology

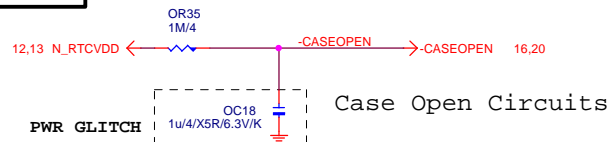
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| Title | | | PCH GPIO , CTRL , AUDIO |
| Size | Document Number | GA-H81M-DS2 | |
| C | | | Rev 3.0 |
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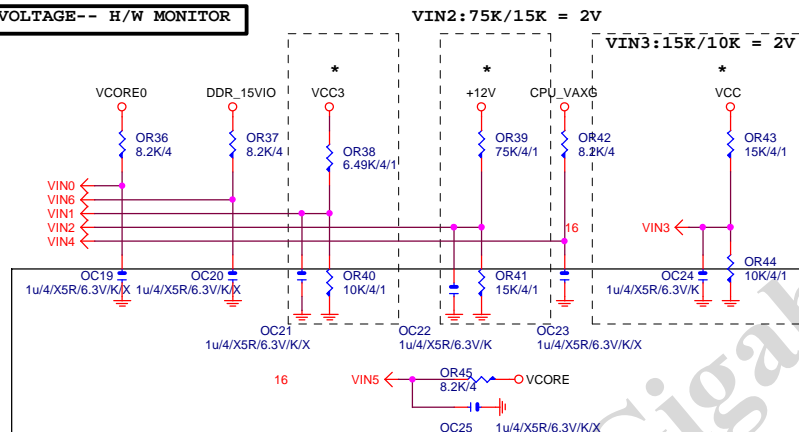
TEMP H/W MONITOR



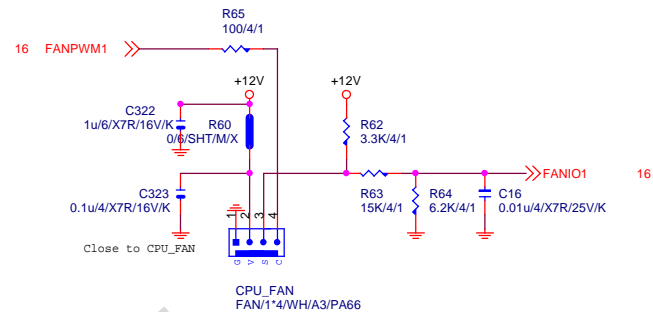
CASE OPEN



VOLTAGE-- H/W MONITOR



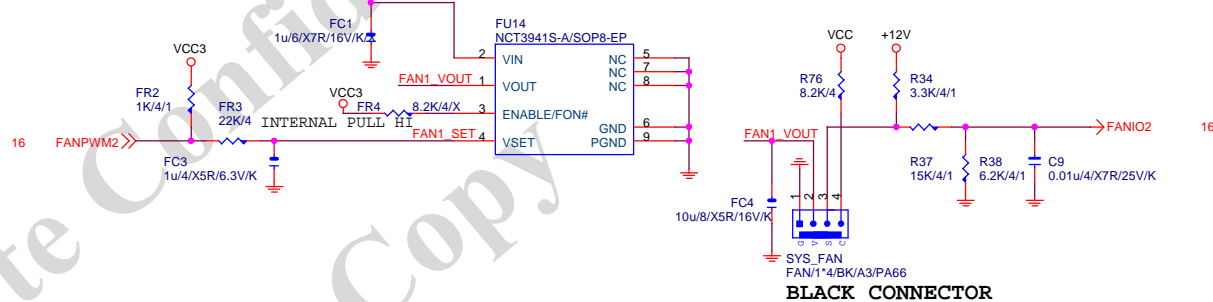
CPU SMART FAN



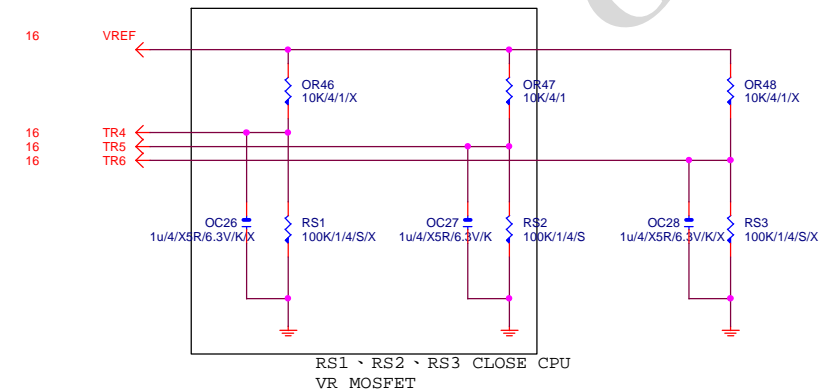
SYS SMART FAN

Linear SYS_FAN

Enable Function (NCT3941S)
Full Turn On Function
(NCT3941S-A)

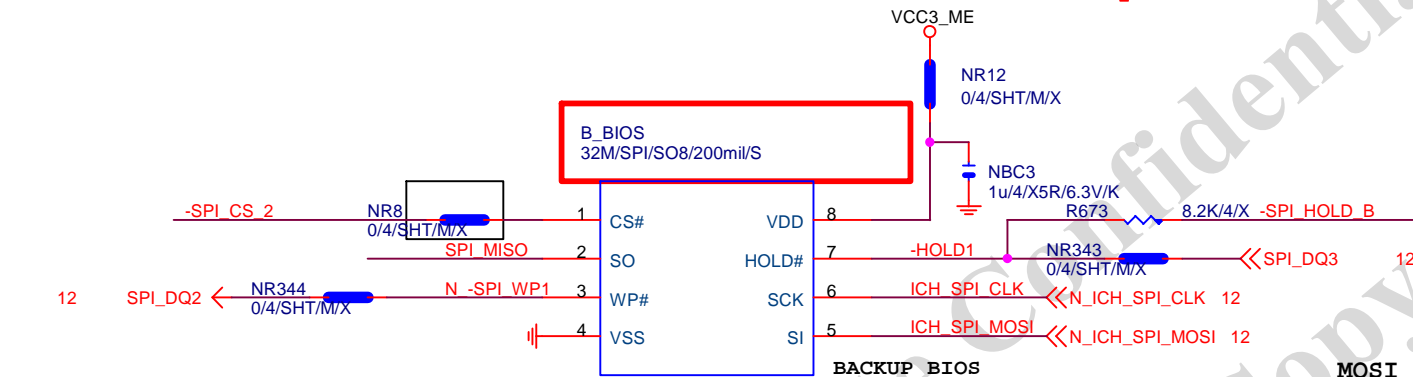
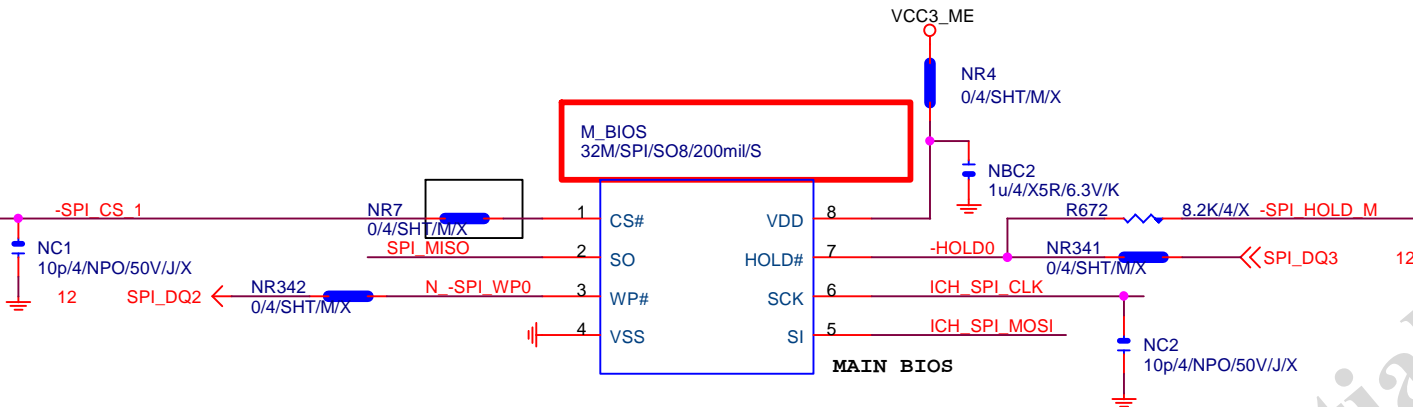


PROHOT



Gigabyte Technology

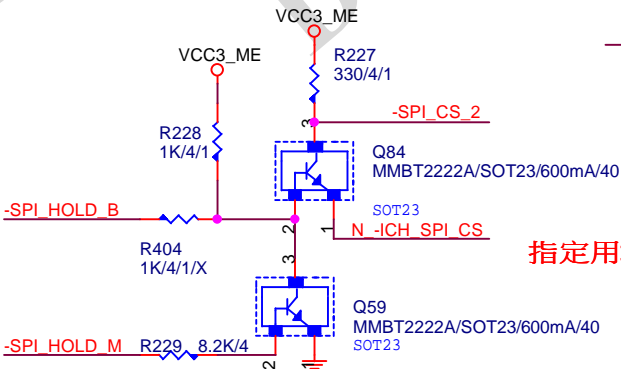
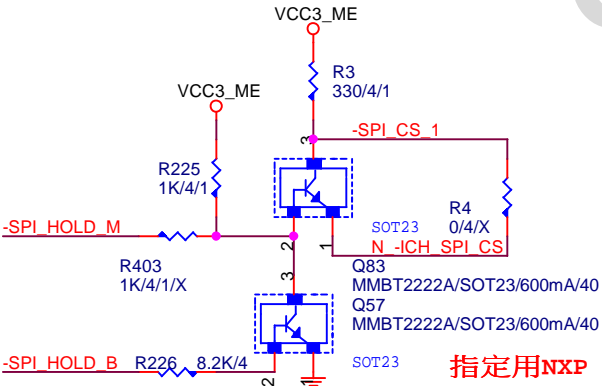
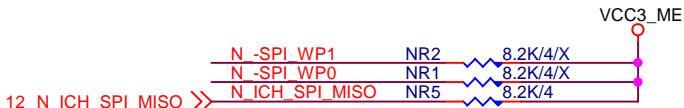
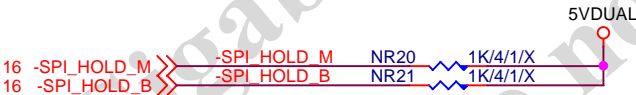
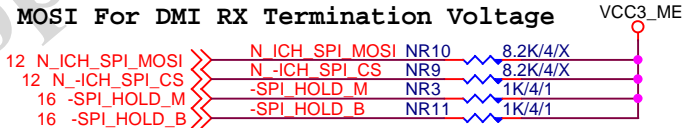
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| Title | | | HWM,FAN CTRL,OV |
| Size | Document Number | GA-H81M-DS2 | |
| Custom | | Rev 3.0 | |
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| BOOT DEVICE | GNT0 | GNT1 |
|-------------|------|------|
| LPC | 0 | 0 |
| PCI | 0 | 1 |
| NAND | 1 | 0 |
| SPI | 1 | 1 |

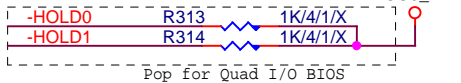
1 means floating
0 means PD 1K

MOSI For DMI RX Termination Voltage



指定用NXP

CHECK



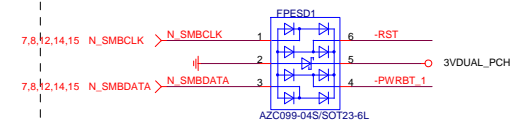
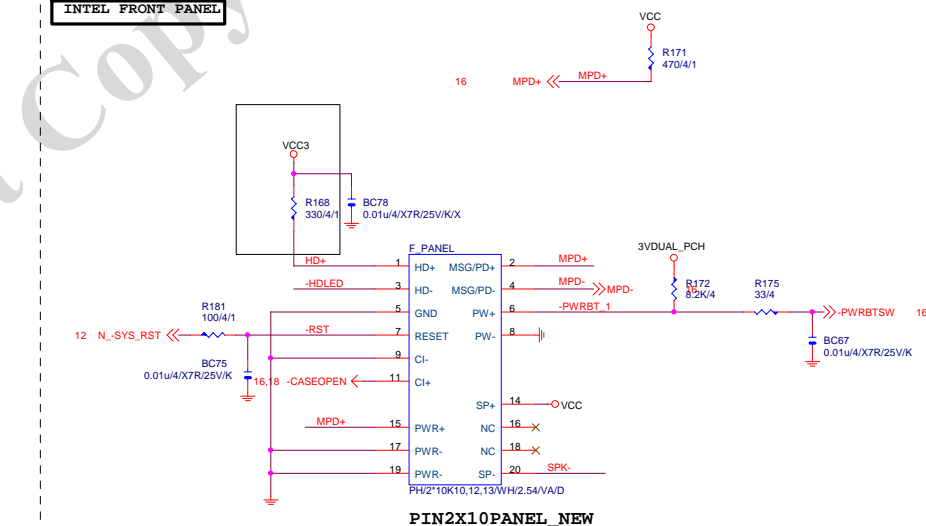
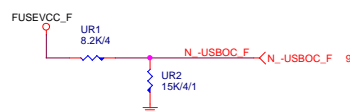
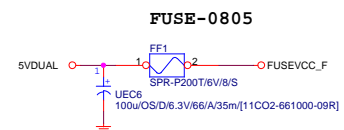
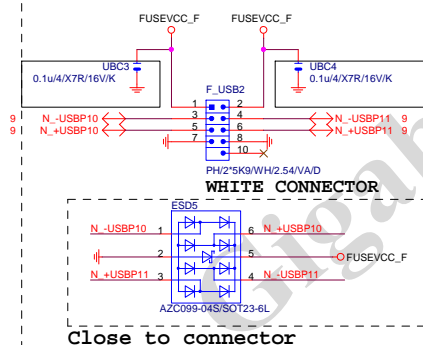
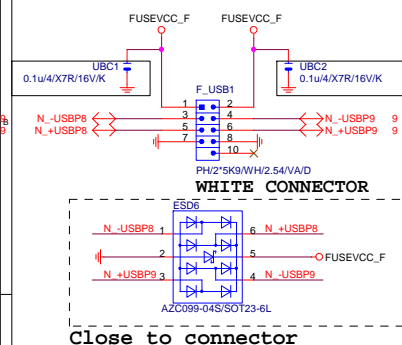
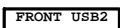
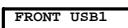
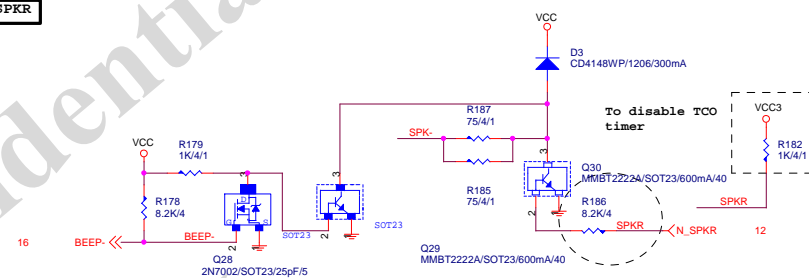
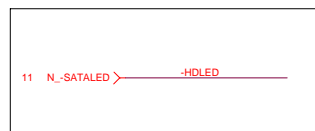
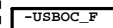
Gigabyte Technology

DUAL BIOS

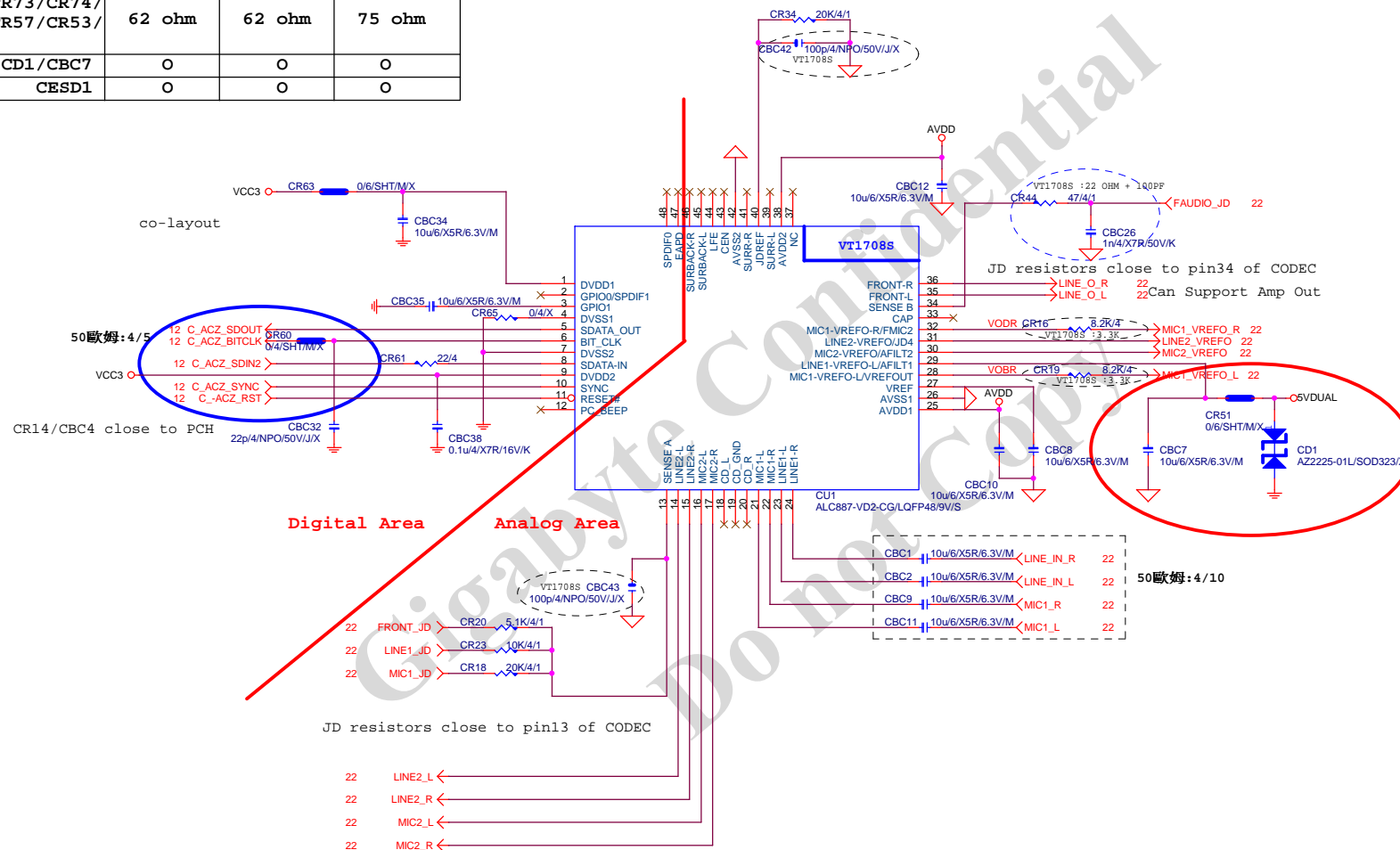
GA-H81M-DS2

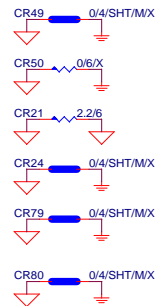
Rev 3.0

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|-------|--------------------------|-----------------|----|-------|
| Title | | Document Number | | Rev |
| | | GA-H81M-DS2 | | 3.0 |
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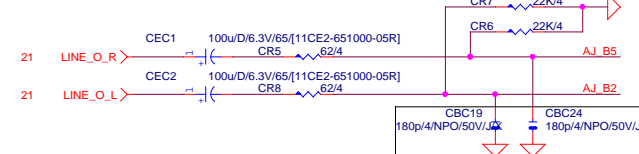


| | ALC892 | ALC887-VD2 | VT1708S-CE |
|--|-----------|------------|------------|
| CR44/CBC26 | 47ohm+1nF | 47ohm+1nF | 22ohm+100P |
| CBC42/CBC43 | X | X | 100P/4 |
| CR6/CR7/CR58/CR54/ CR67/CR68/CR69/CR70 | 22K/4 | 22K/4 | 10K/4/1 |
| CR5/CR8/CR1/CR14/ CR17/CR22/CR73/CR74/ CR13/CR11/CR57/CR53/ CR75/CR76 | 62 ohm | 62 ohm | 75 ohm |
| CR51/CD1/CBC7 | O | O | O |
| CESD1 | O | O | O |





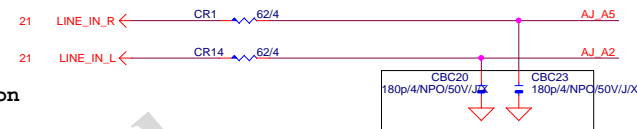
LINE-OUT



LINE-IN

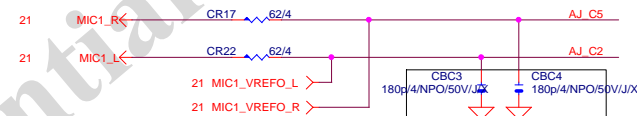
Verify MIC function
in LINE-in

Only reserved for ALC888

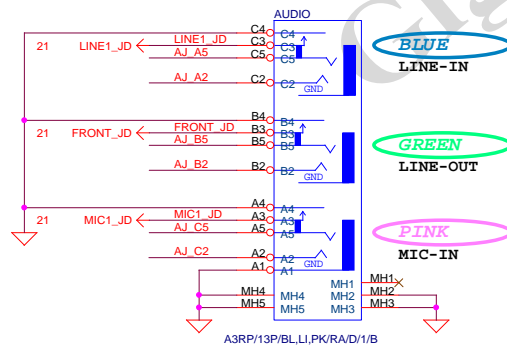


For 889A/888

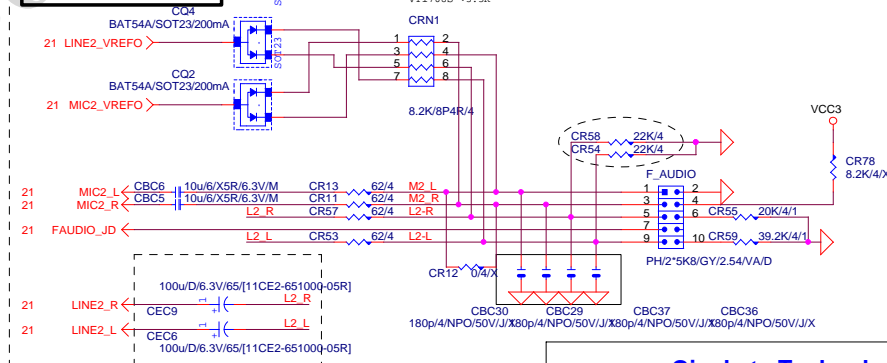
MIC-IN



SPDIF_OUT

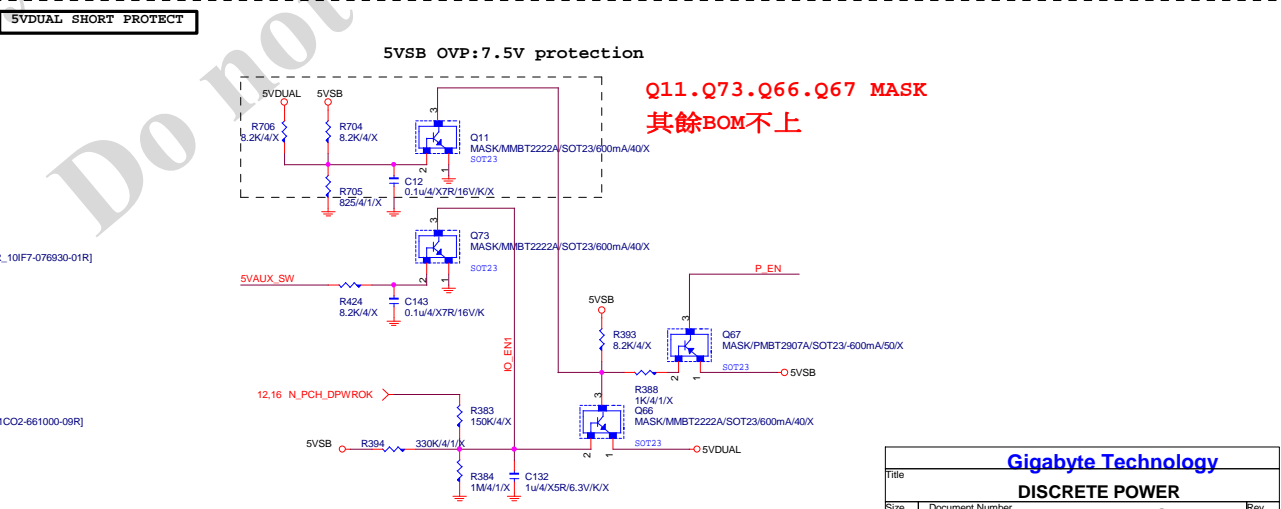
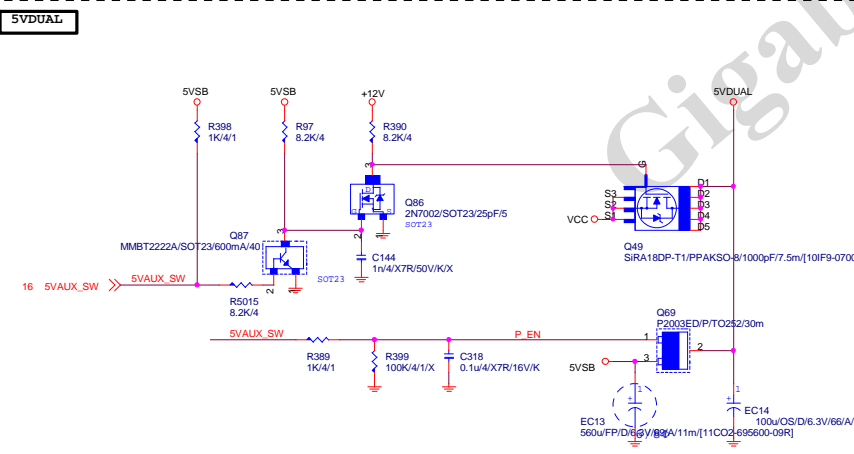
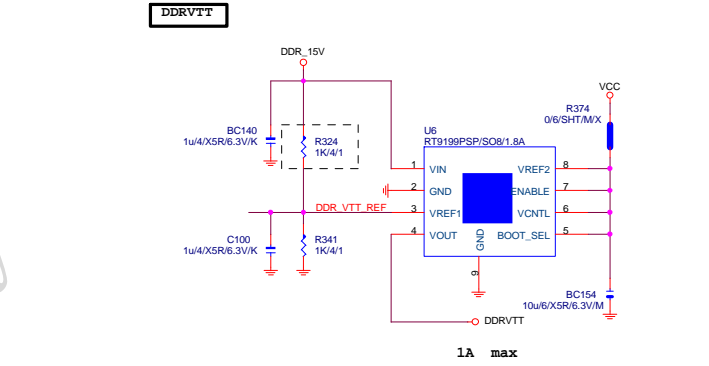
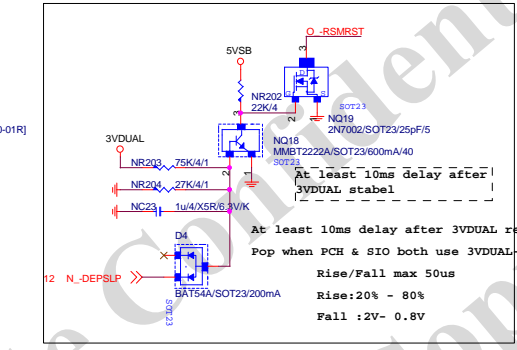
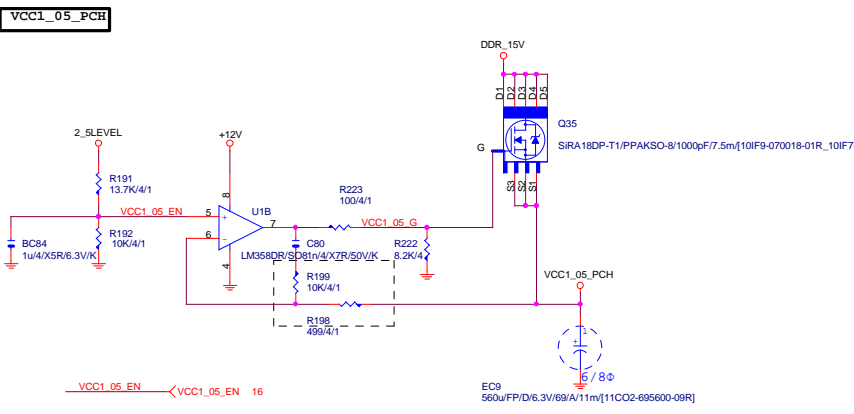
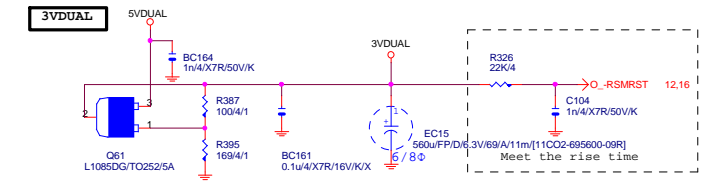
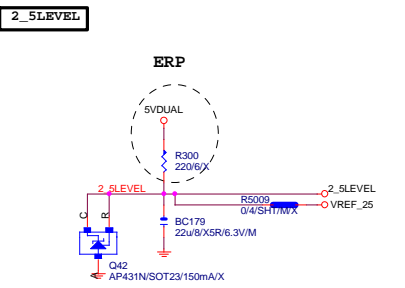
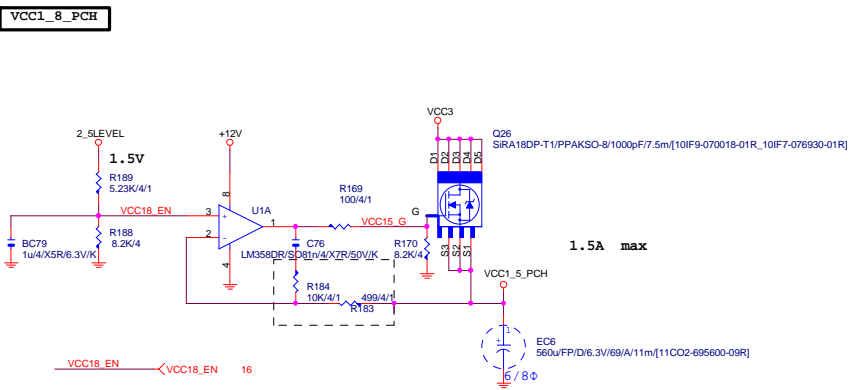


AZALIA FRONT PANEL



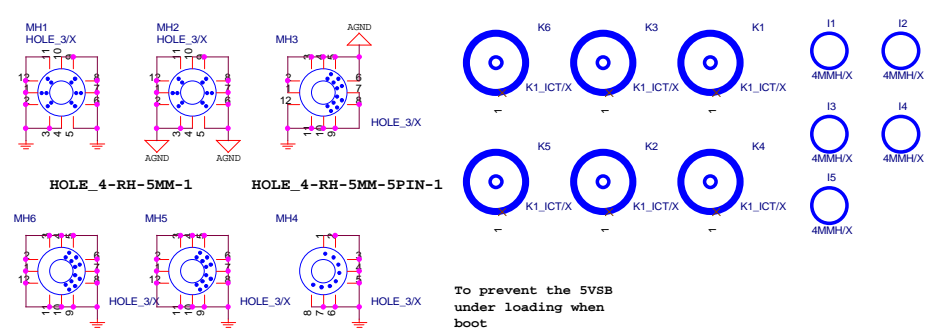
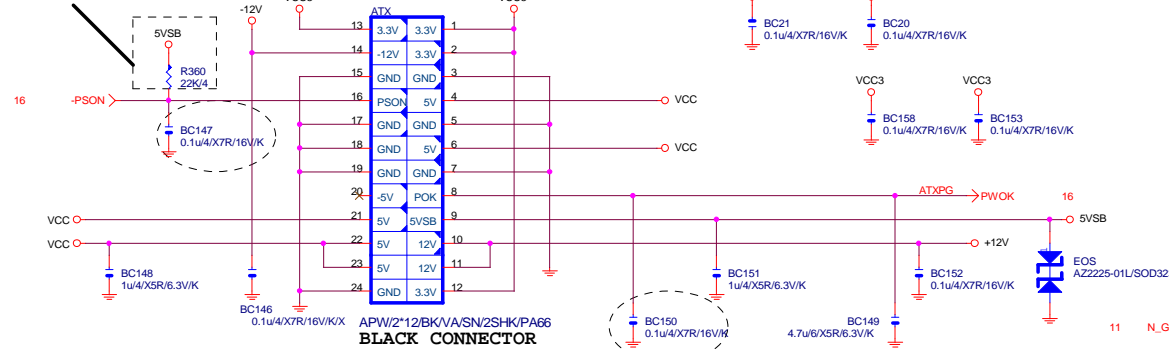
Gigabyte Technology

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| Title | | | | Rev | | |
| AUDIO JACK | | | | | | |
| Size | Document Number | | | | | |
| Custom | GA-H81M-DS2 | | | | | |
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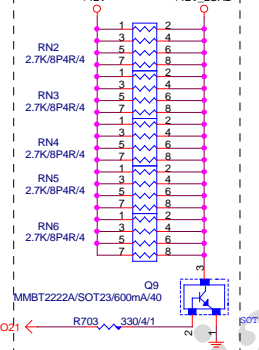
ATXX24 POWER CONNECTOR

【技術通報R&D技術通報155】



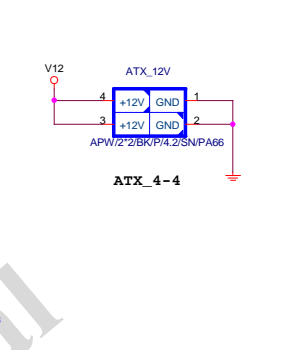
【技術通報R&D技術通報153】

To fix 12V light load abnormal issue



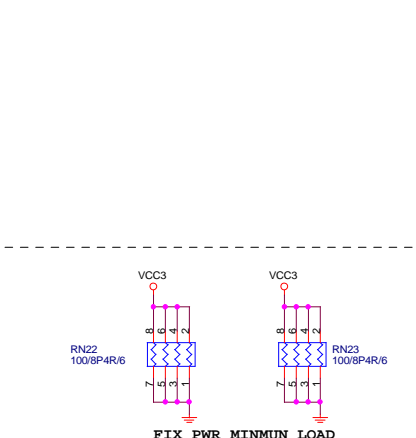
ATXX4 POWER CONNECTOR

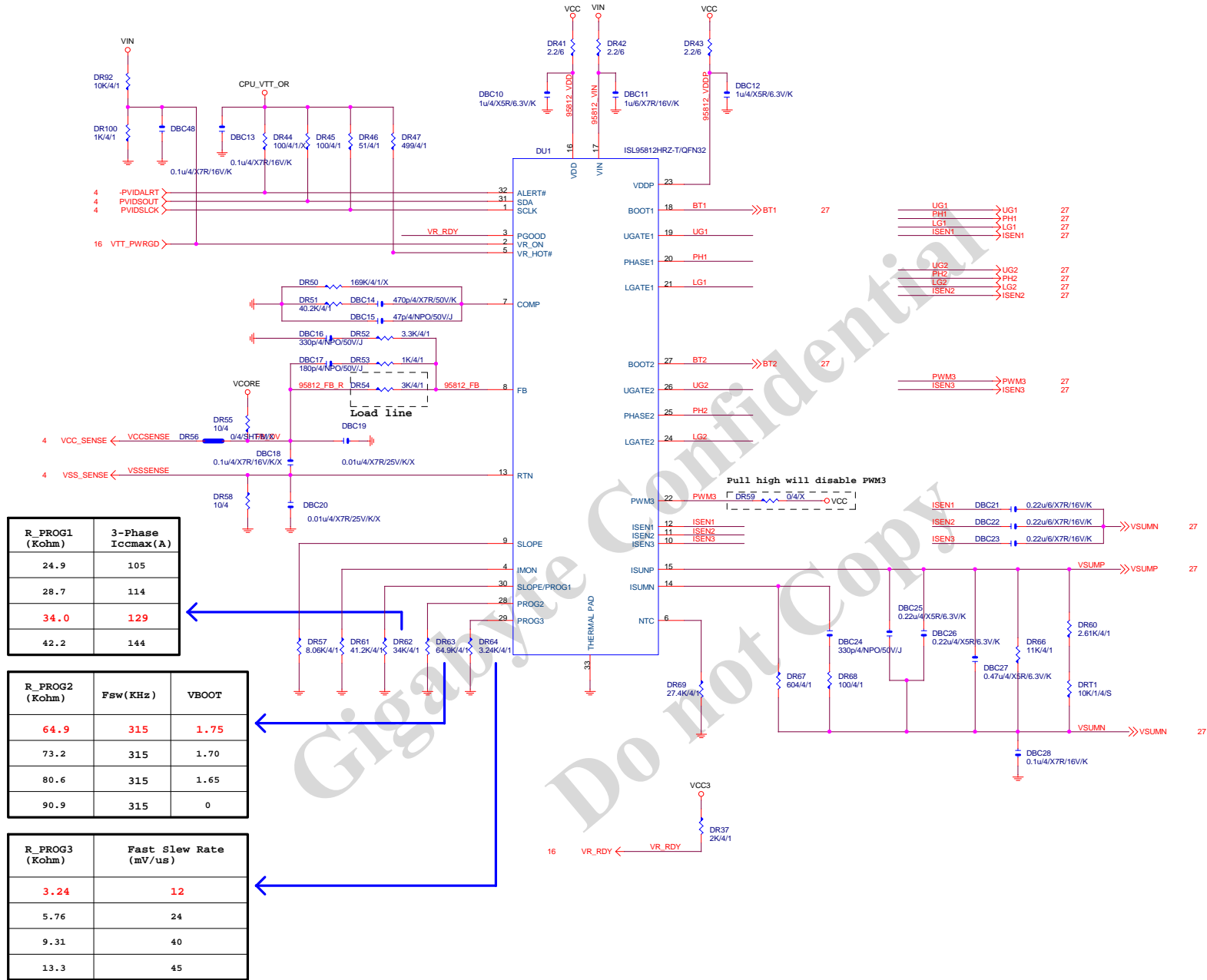
To fix 12V light load abnormal issue



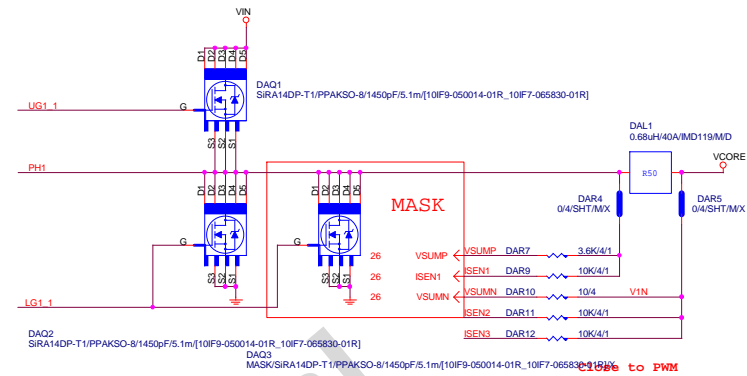
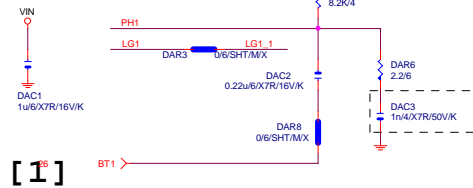
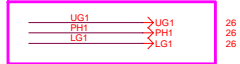
PWOK PATCH

【技術通報R&D技術通報154】

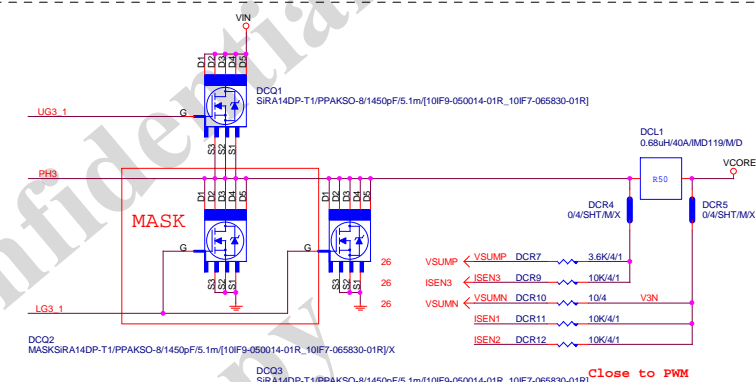
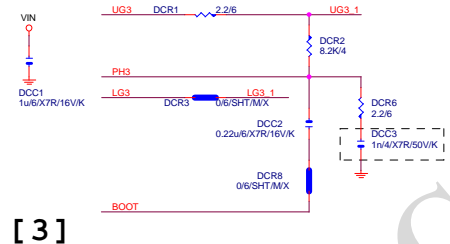
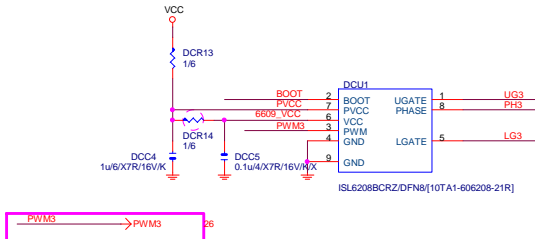




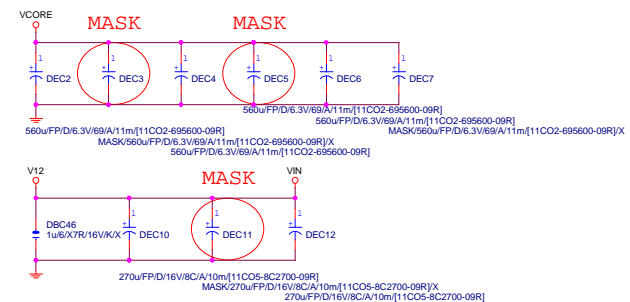
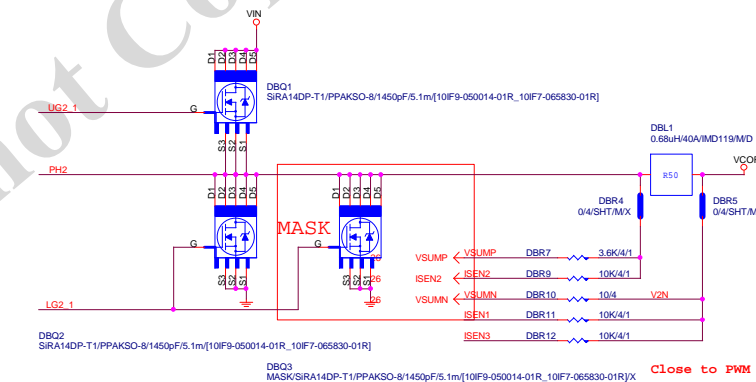
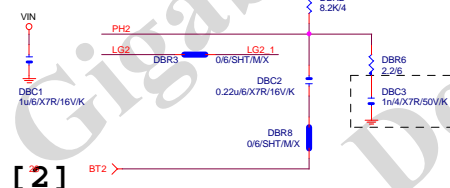
PHASE 1



PHASE 3



PHASE 2



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| Custom | | | |
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| DDR POWER | | | |
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