

IH611-MHS V7.0全固 + Gbe LAN
H61MGV3

IH612-MHS V7.0半固 + 10/100M LAN
H61MLV3

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CPU:
Intel Sandy/Ivy Bridge processors in LGA1155 Package 95W

System Chipset:
Intel H61

Main Memory:
Dual Channel/DDR-III*2(Max 16GB) 1066/1333


Onboard Device:
Super I/O:IT8772E
LAN:REALTEK 8111G/8106E
HD Codec:VT1705CF 3 jacks

Power solution:
CPU Voltage Regulators:2phase by ISL6363
AXG voltage Regulators:1phase by ISL6363
VTT voltage Regulators:1Phase by FP6326
DDR voltage Regulators:1Phase by FP6326

Expansion Slots:
PCI EXPRESS 16X SLOT*1
PCI EXPRESS 1X SLOT*1

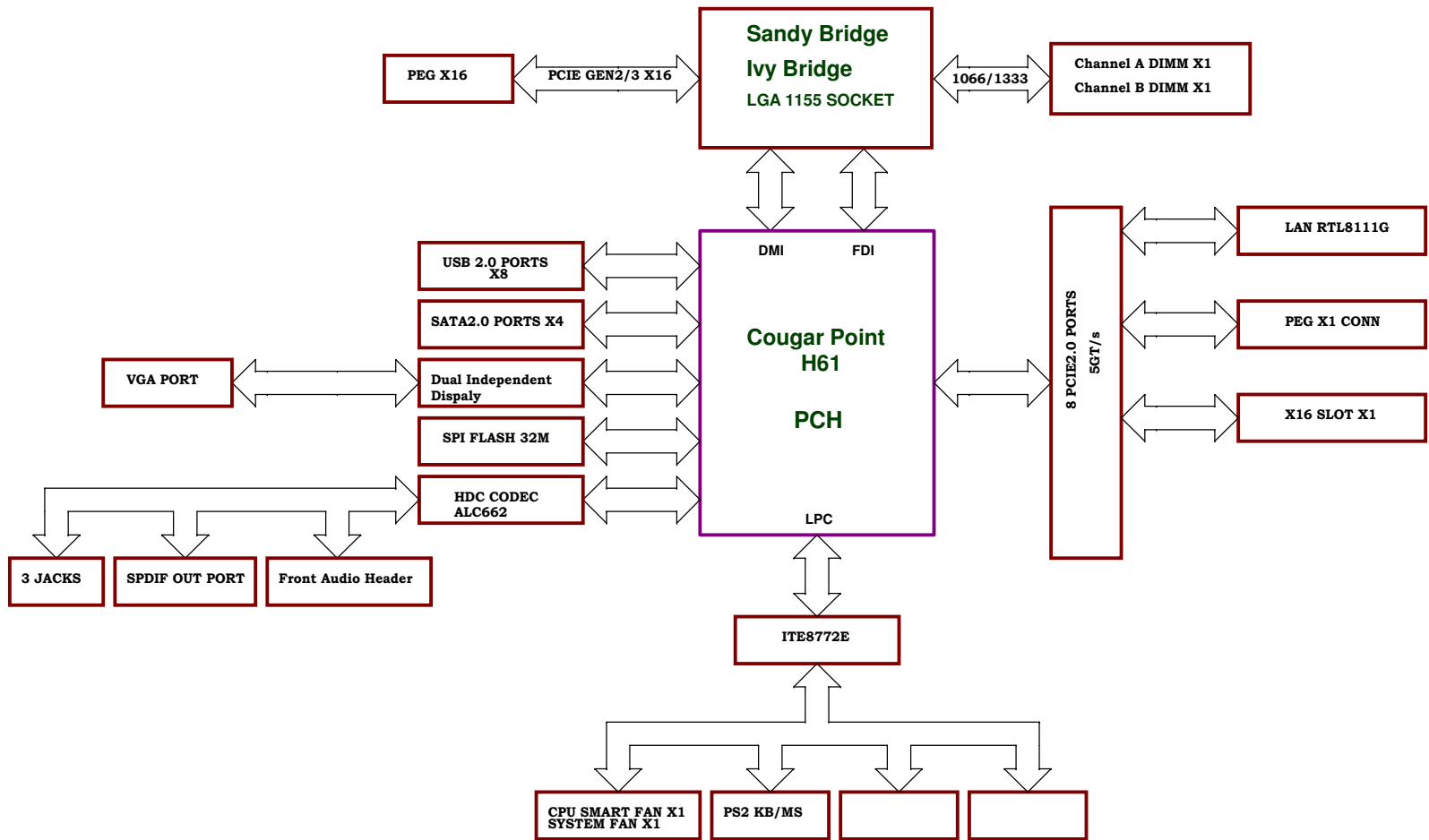
REAR IO:
PS/2 KB/MS
VGA
2 layer USB2.0 Ports
2 layer USB2.0 + RJ-45 Ports
Audio Jackets

Front I/O:
SATA2 * 4
USB Header * 2
CPU /System1
Front Audio Header
COM1




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| | | |
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| Feature Set | SKU Name(s) | | | | | |
|--|-----------------------|----------------|-----------------|------------------|------------------|------------------|
| | Q67 | Q65 | B65 | H67 | P67 | H61 |
| PCI Express* 2.0 Ports | 8 | 8 | 8 | 8 | 8 | 6 ⁹ |
| PCI Interface | Yes | Yes | Yes | No ¹⁰ | No ¹⁰ | No ¹⁰ |
| USB 2.0 Ports | 14 | 14 | 12 ⁶ | 14 | 14 | 10 ⁷ |
| Total number of SATA ports | 6 | 6 | 6 | 6 | 6 | 4 |
| • SATA Ports (6 Gb/s, 3 Gb/s, and 1.5 Gb/s) | 2 ⁴ | 1 ⁵ | 1 ⁵ | 2 ⁴ | 2 ⁴ | 0 |
| • SATA Ports (3 Gb/s and 1.5 Gb/s only) | 4 | 5 | 5 | 4 | 4 | 4 ⁸ |
| HDMI/DVI/VGA/DisplayPort*/eDP* | Yes | Yes | Yes | Yes | No | Yes |
| Integrated Graphics Support with PAVP | Yes | Yes | Yes | Yes | No | Yes |
| Intel® Rapid Storage Technology | AHCI | Yes | Yes | Yes | Yes | No |
| | RAID 0/1/5/10 Support | Yes | No | No | Yes | No |
| Intel® AT | Yes | Yes | No | No | No | No |
| Intel® AMT 7.0 | Yes | No | No | No | No | No |
| Intel® Remote PC Assist Technology - Proactive | Yes | No | Yes | No | No | No |
| Intel® Remote PC Assist Technology - Reactive | No | No | Yes | Yes | No | No |



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Title

BLOCK DIAGRAM

Size

Document Number

Rev

Custom

IH611-MHS

7.0

Date:

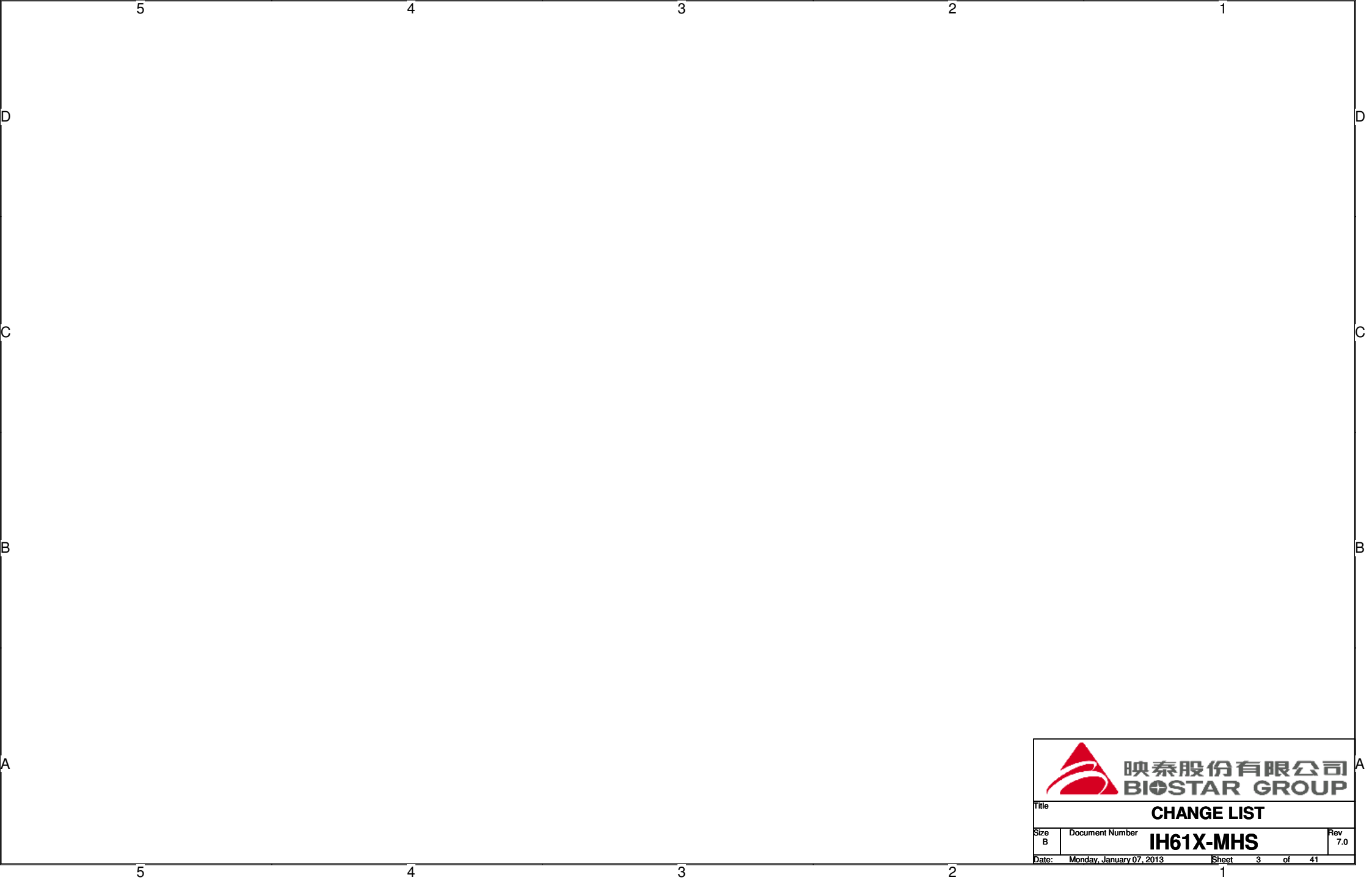
Monday, January 07, 2013


Sheet

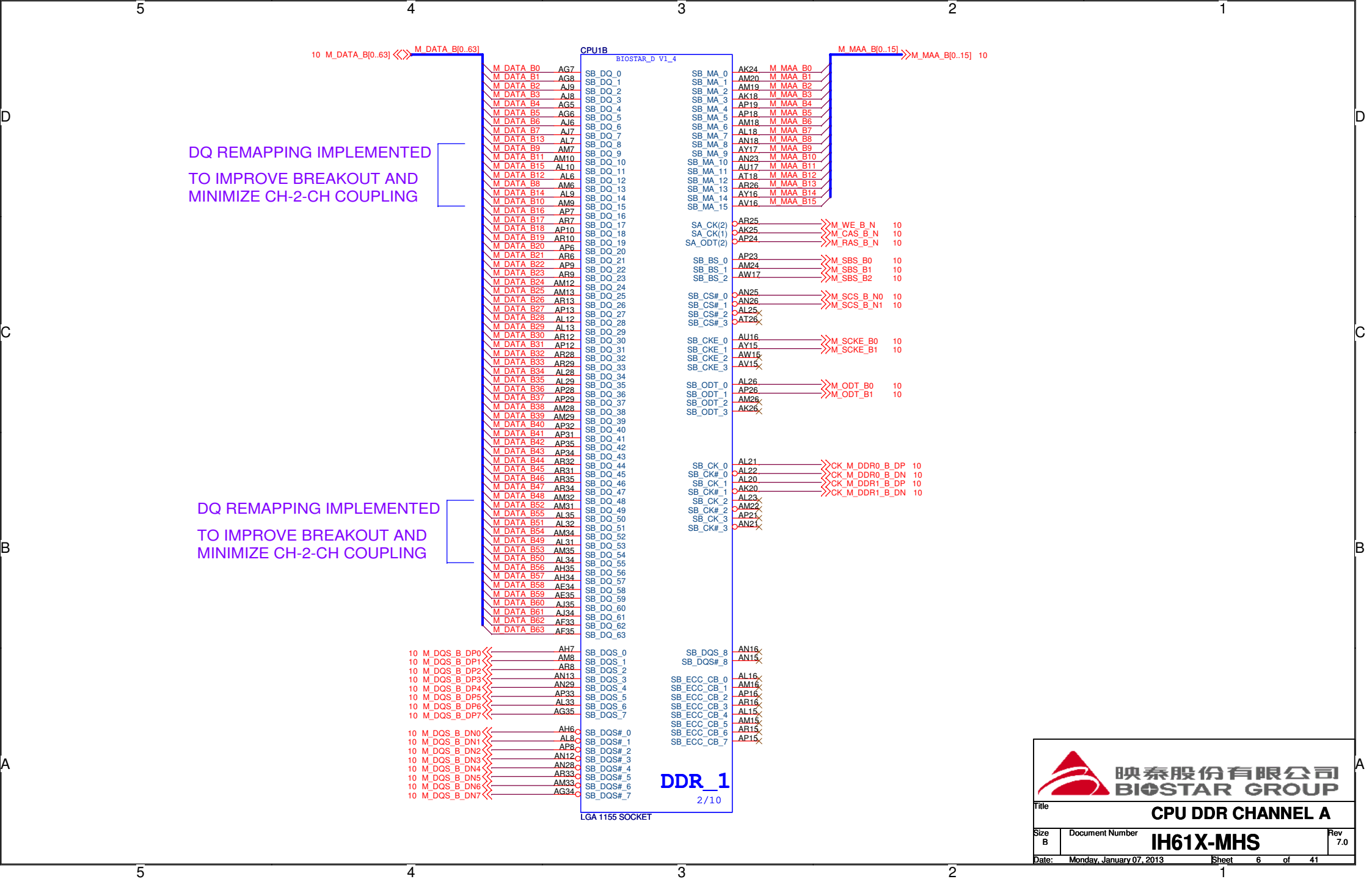
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| | | |
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FROM CLK GEN.

FROM PCH

MTP1 1 CK_PE_100M_MCP_DP
MTP2 1 CK_PE_100M_MCP_DN
MTP3 1 H_PWRGD
MTP4 1 H_DRAMPWRGD
MTP5 1 PLTRST_CPU_N

NEAR CPU

VRD12 INTERFACE

38 H_VIDSCK
38 H_VIDSOUT
38 H_VIDALERT_N

V_CPU_VCCIO

TBD
NEAR PCH

V_1PB_SFR

CR14 2.2K 0402

H_SNB_N

update for Ivy bridge
DMI/FDI Termination Select

PUT INSIDE THE
CPU SOCKET

V_SM

CR18 1K 1% 0402

SNB_DDR_VREF

CR24 1K 1% 0402

CC3 0.1UF 16V Y5V 0402

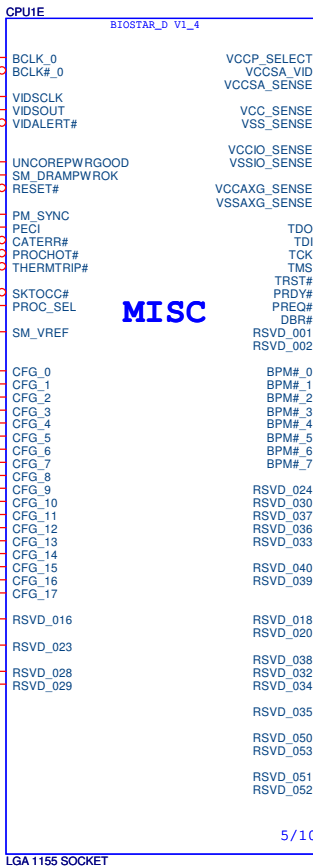
NEAR CPU

H_PWRGD CR32 1K 0402

PCH NO PECI SUPPORTED

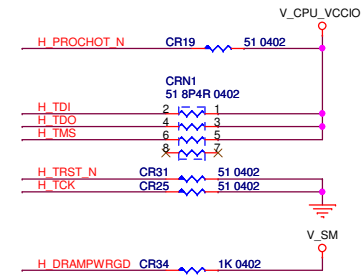
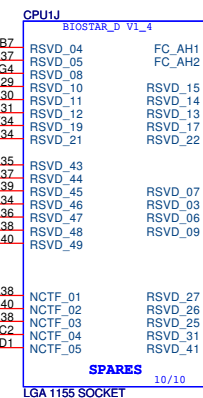
| CFG6 | CFG5 | PCIE CONFIG |
|------|------|-------------|
| 1 | 1 | 1 X 16 |
| 1 | 0 | 2 X 8 |
| 0 | 1 | RESERVED |
| 0 | 0 | X8,X4,X4 |

| CFG | H | L | DESCRIPTION |
|-----|------|----------|-------------------------|
| 2 | NORM | RESERVED | PEGLANE REVERSAL[0],X16 |
| 5 | * | * | SEL0 |
| 6 | * | * | SEL1 |

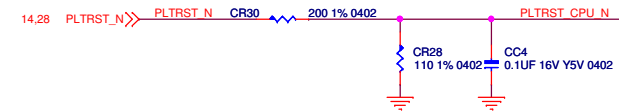


MISC

for Ivy bridge processor support



CPU RESET LOGIC

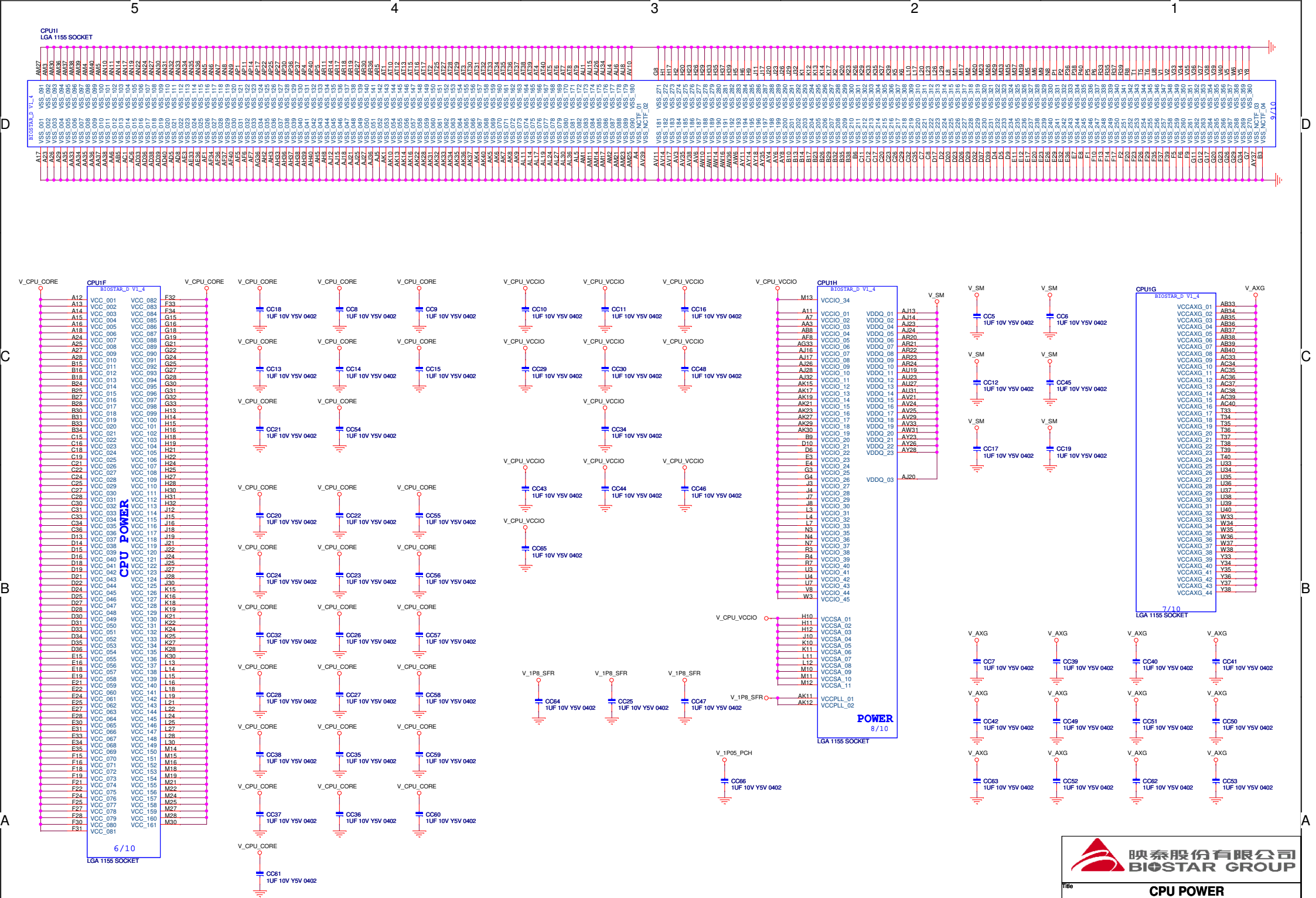


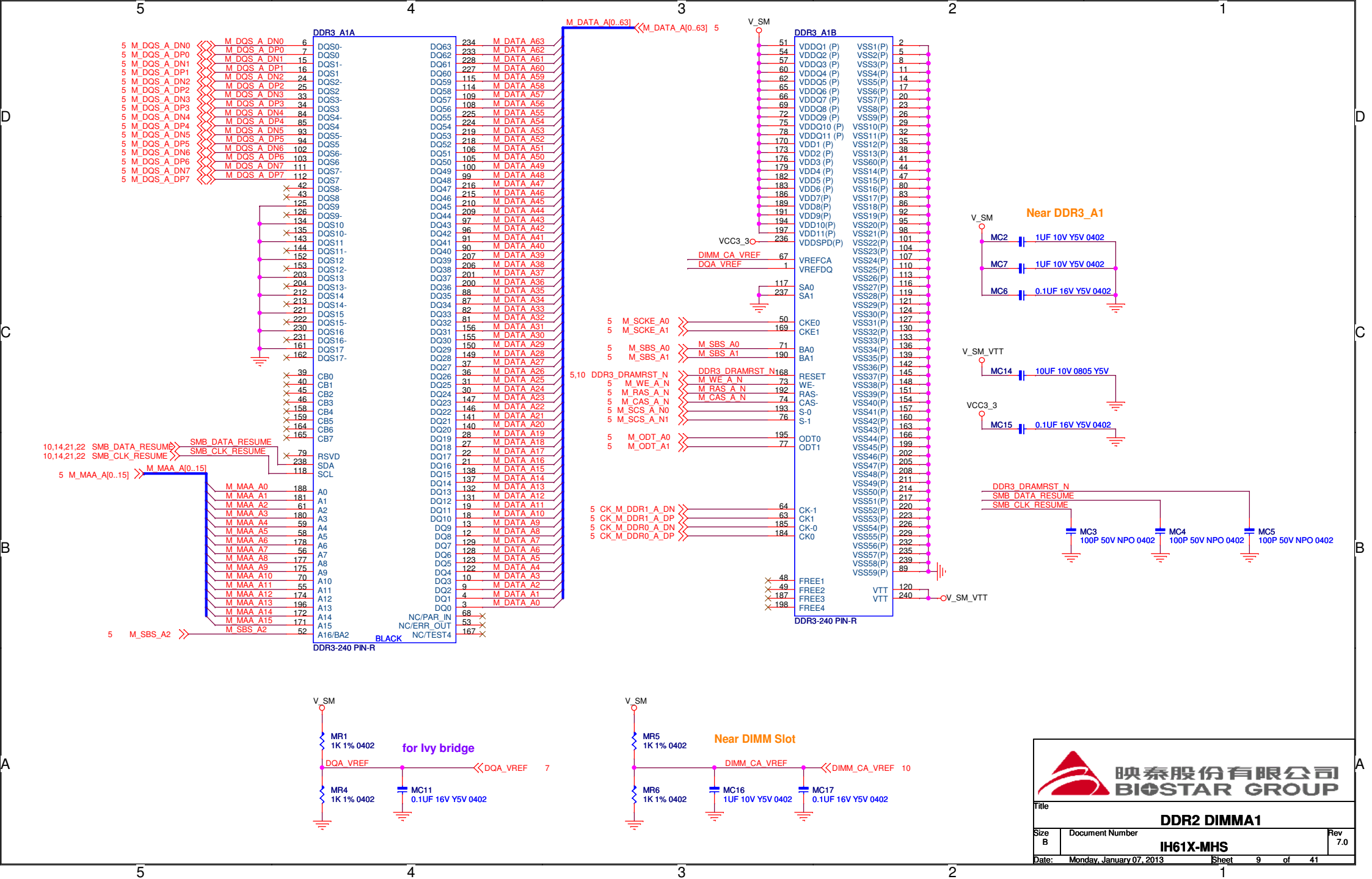
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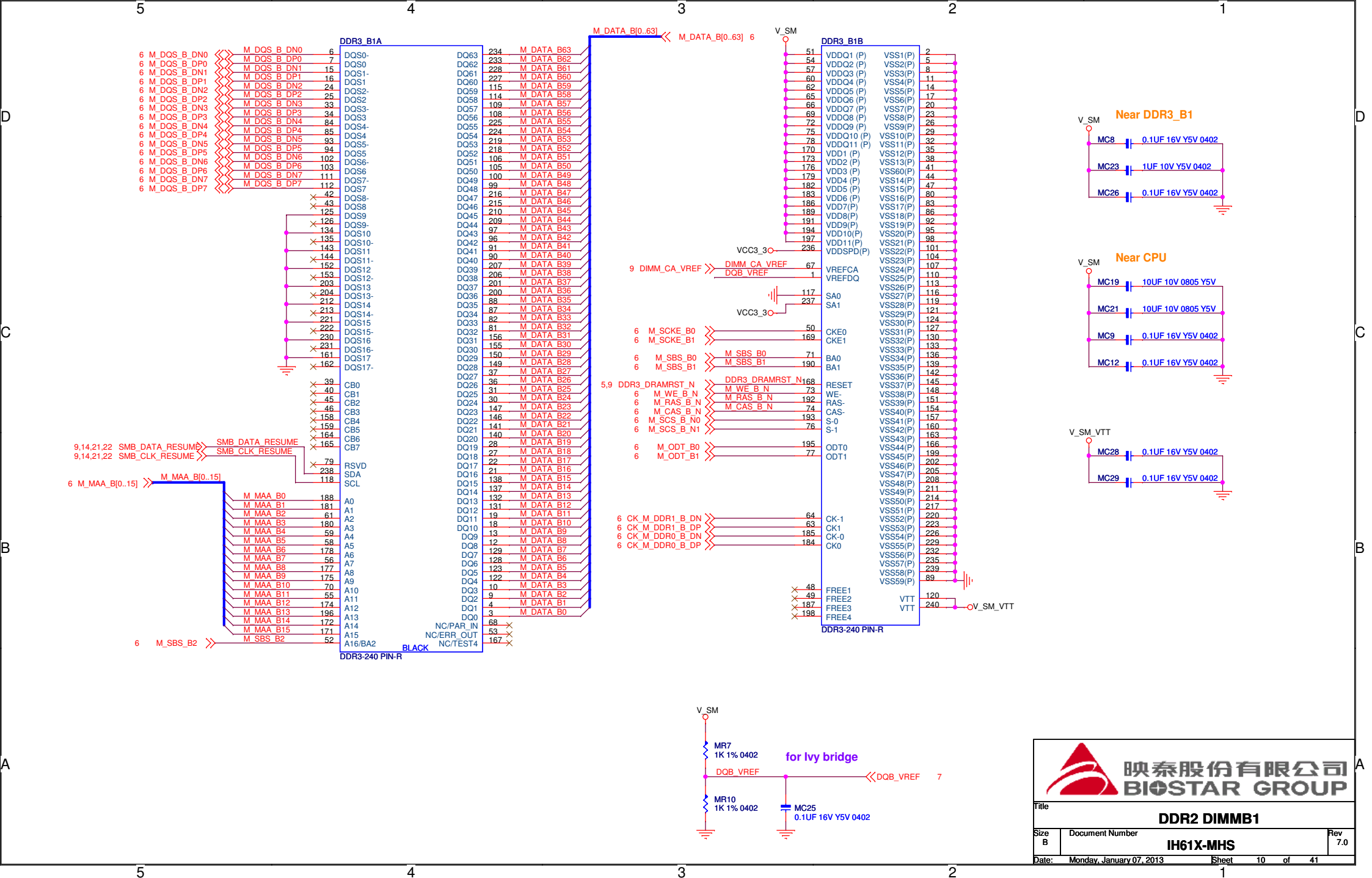
Title CPU MISC

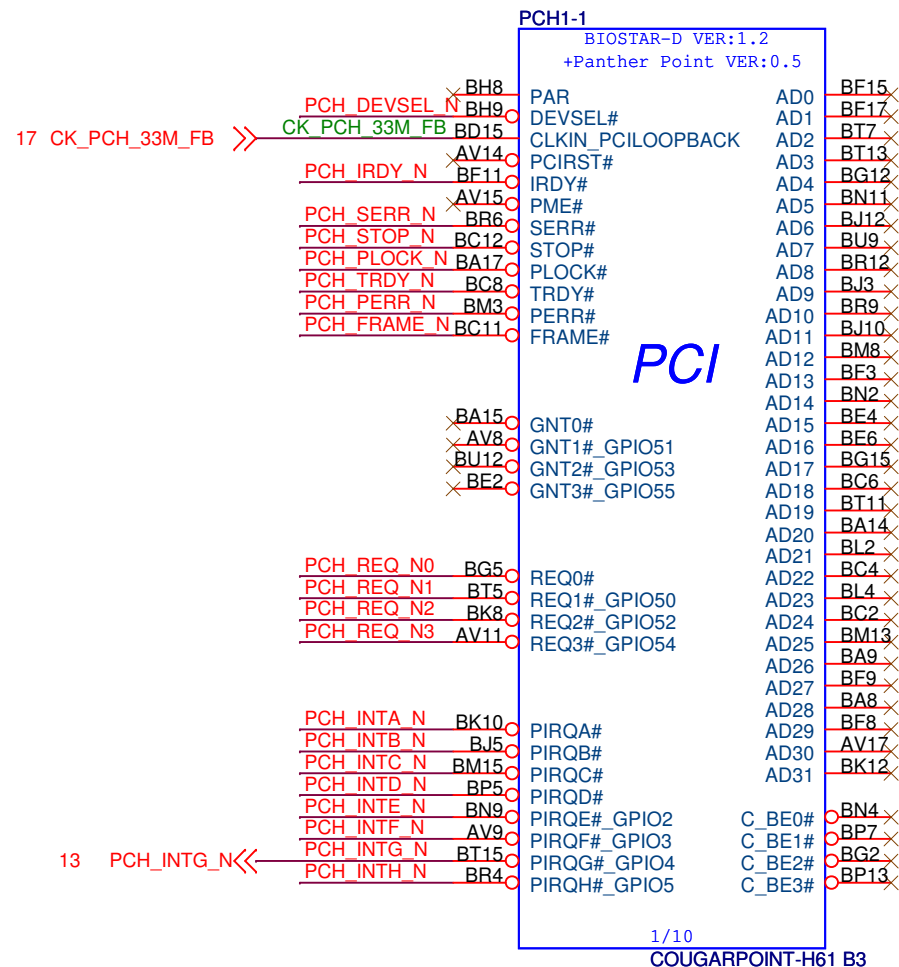
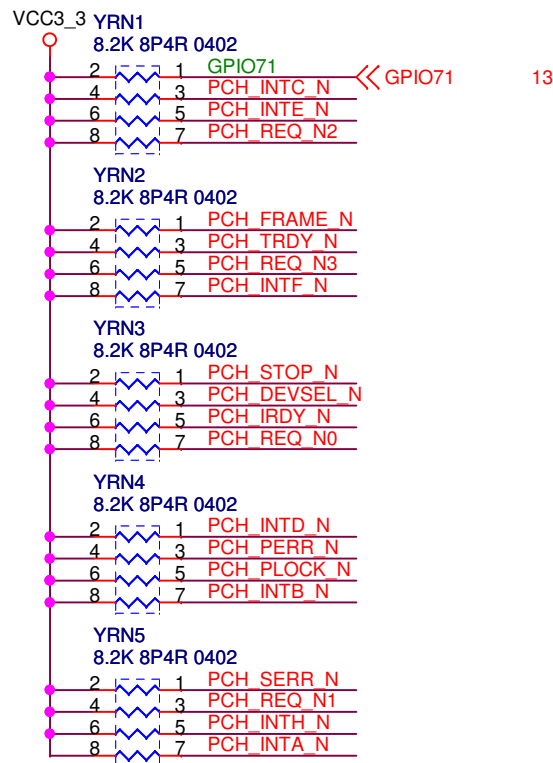
Size Custom Document Number IH611-MHS Rev 7.0

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WEAK INTERNAL PULLUPS ON GNT*.DEFAULT SPI BOOT DEVICE

| GNT1 | GNT0/SATA1GP | BOOT DEVICE |
|------|--------------|-------------|
| 0 | 0 | LPC |
| 0 | 1 | NANO |
| 1 | 0 | PCI |
| 1 | 1 | SPI |

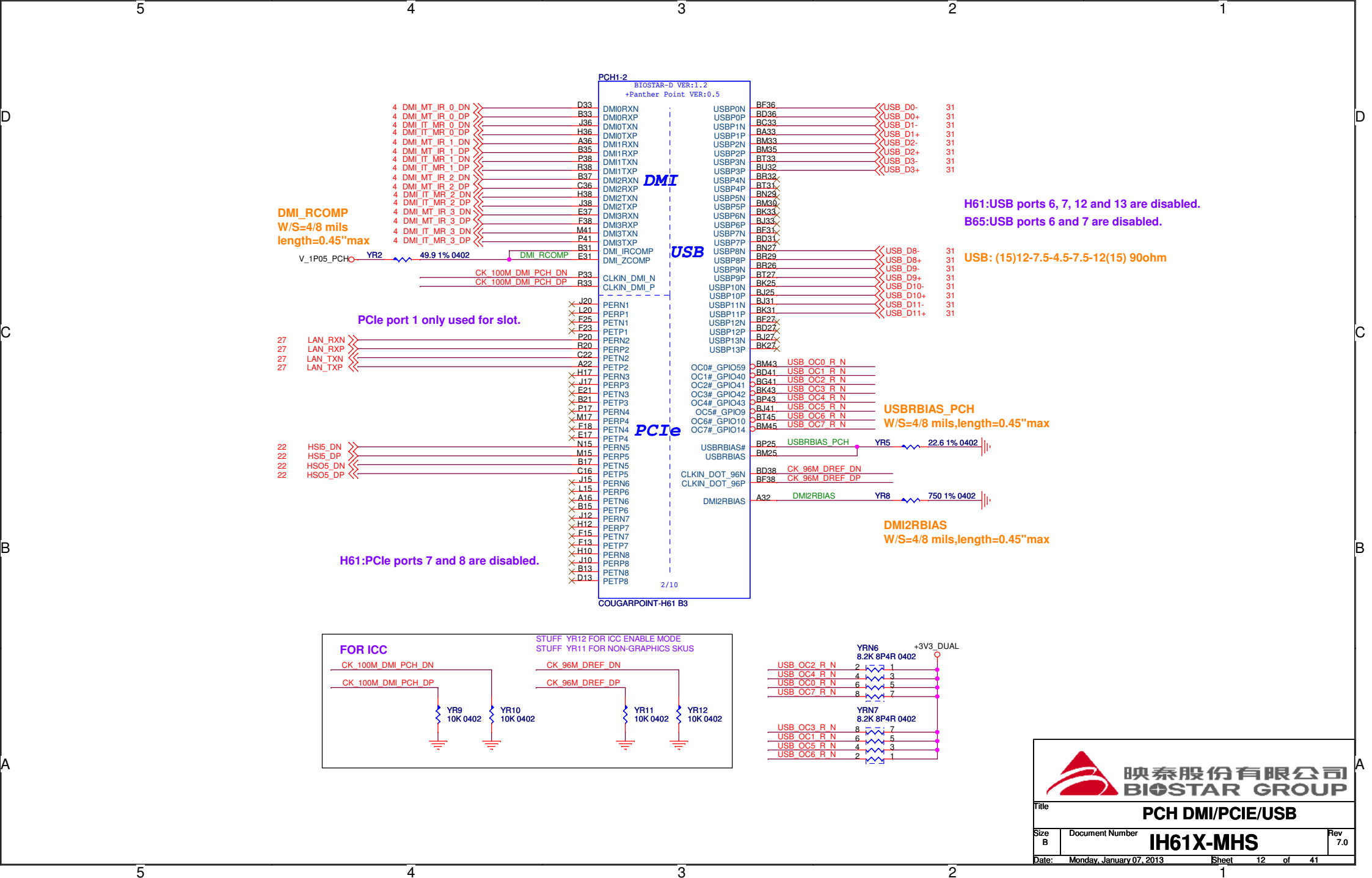


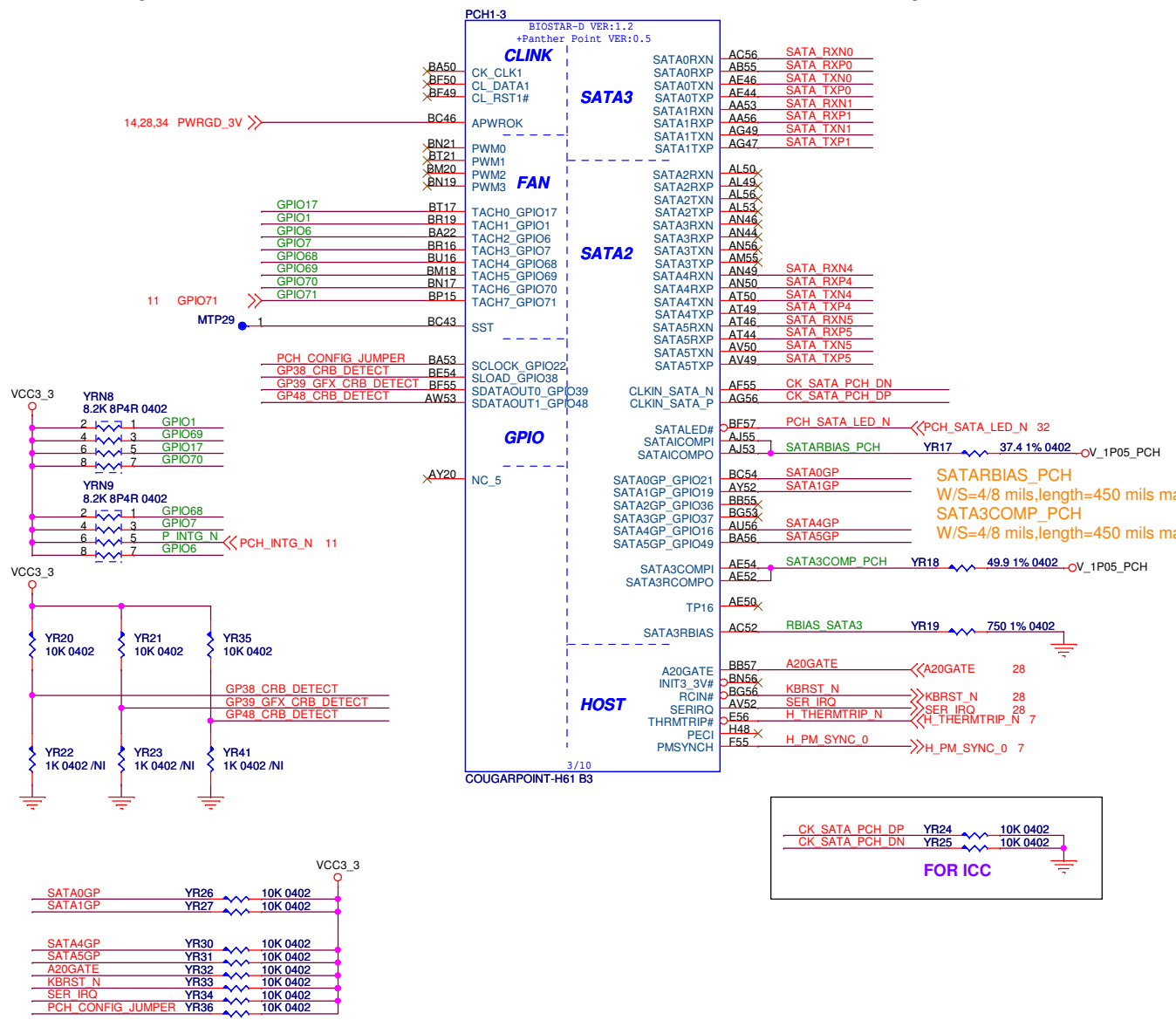
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Title: **PCH PCI**

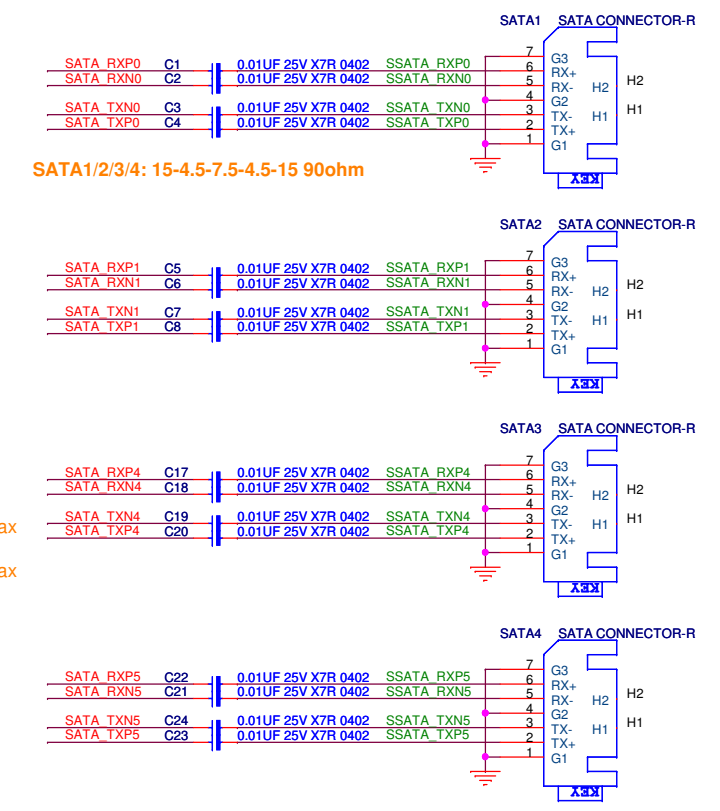
Size A Document Number: **IH61X-MHS** Rev 7.0

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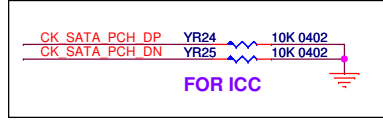




H61 SKU NOT SUPPORT SATA3.0,AHCI,RAID
H61: SATA2 & SATA3 are disable

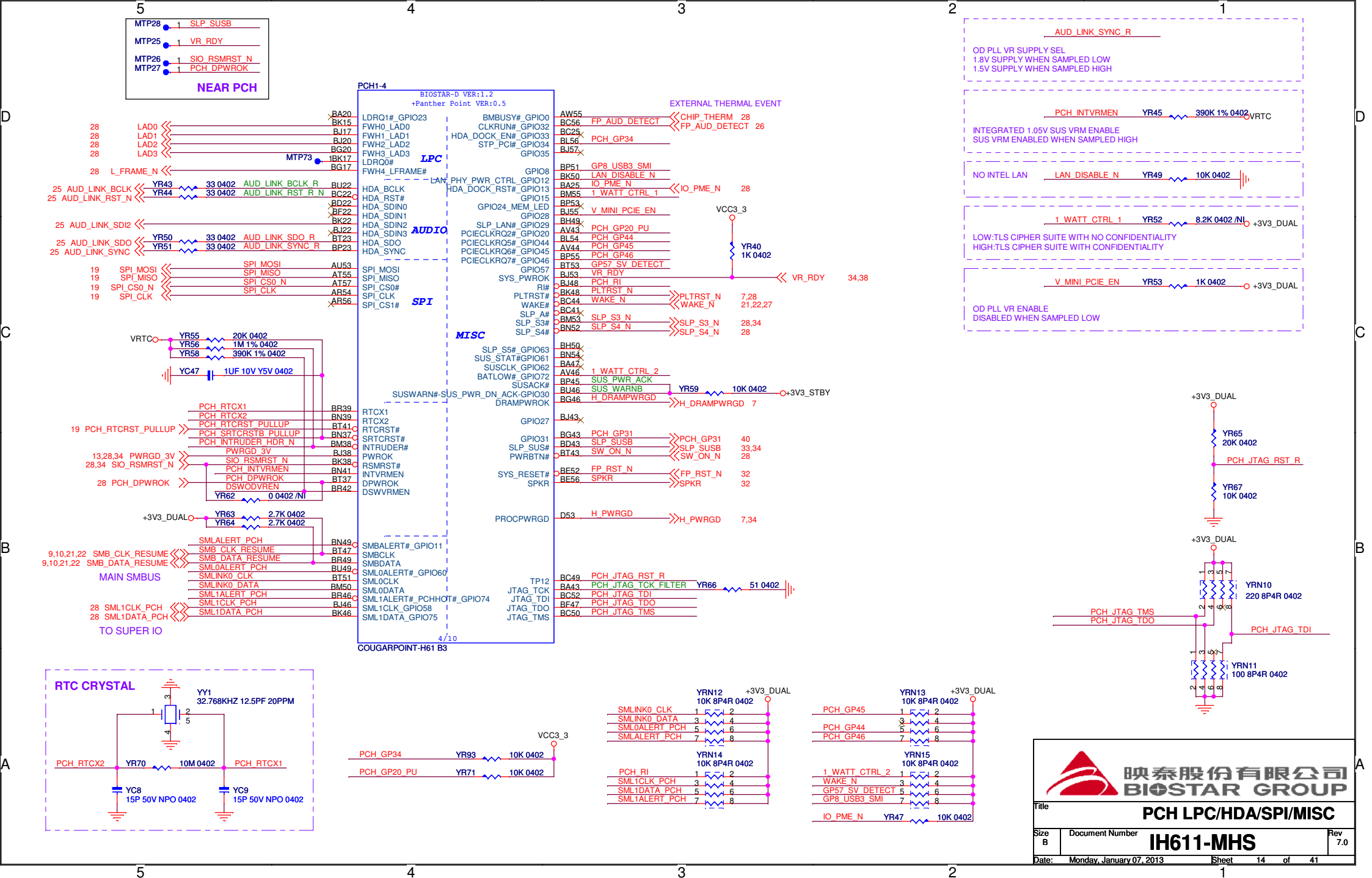


Interleaved TX and RX pairs so that no RX pair is adjacent to two TX pairs



Title **PCH CLINK/SATA/CPU HOST**

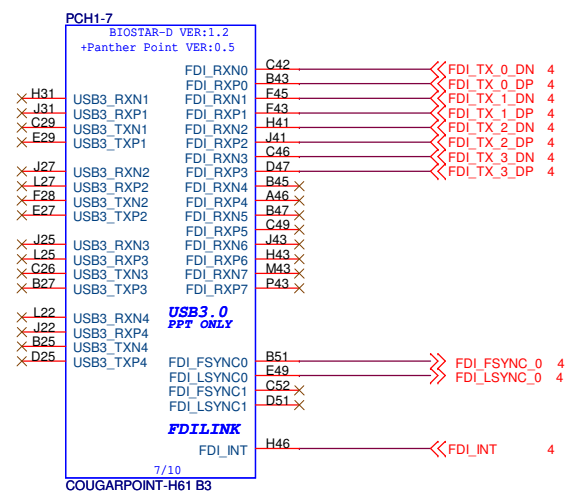
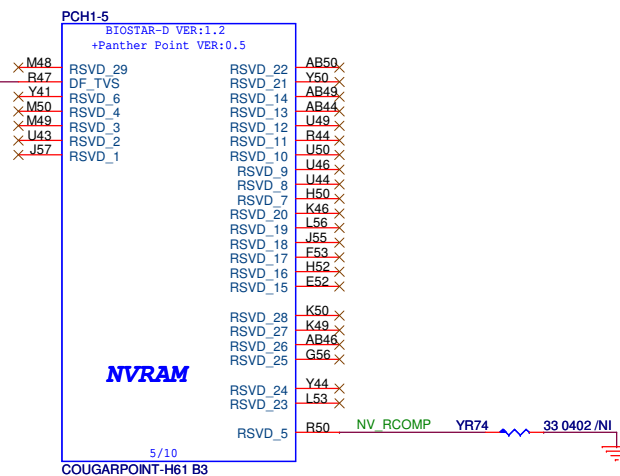
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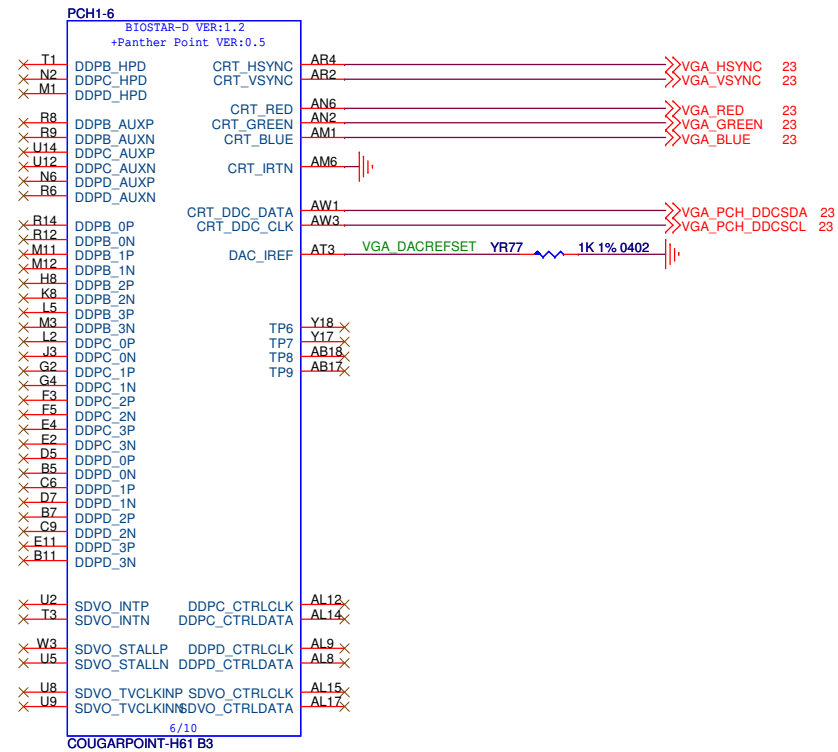
DMI/FDI Termination Select

H:For Sandy Bridge

L:For Ivy Bridge



| | | |
|---|-------------------------------------|----------------|
|  | | |
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| Title PCH NVRAM & FDI LINK | | |
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| | FUNCTION |
|-------|--------------|
| PORTB | DVI OR SDVO |
| PORTC | DISPLAY PORT |
| PORTD | HDMI/DVI/eDP |

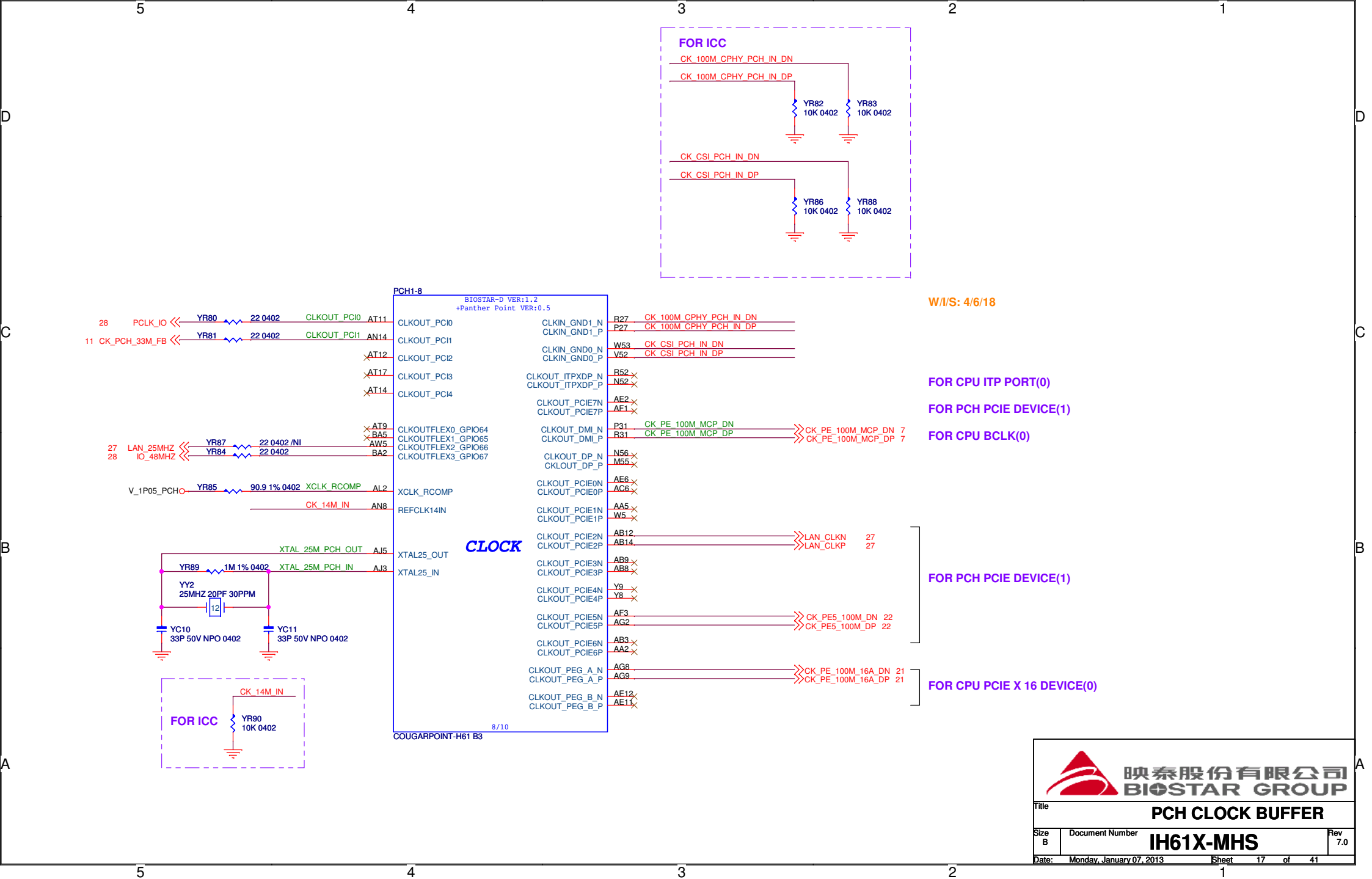
REMOVE LEVEL SHIFTER WHEN TRACE
 LENGHT LESS THAN 9.25 INCHES

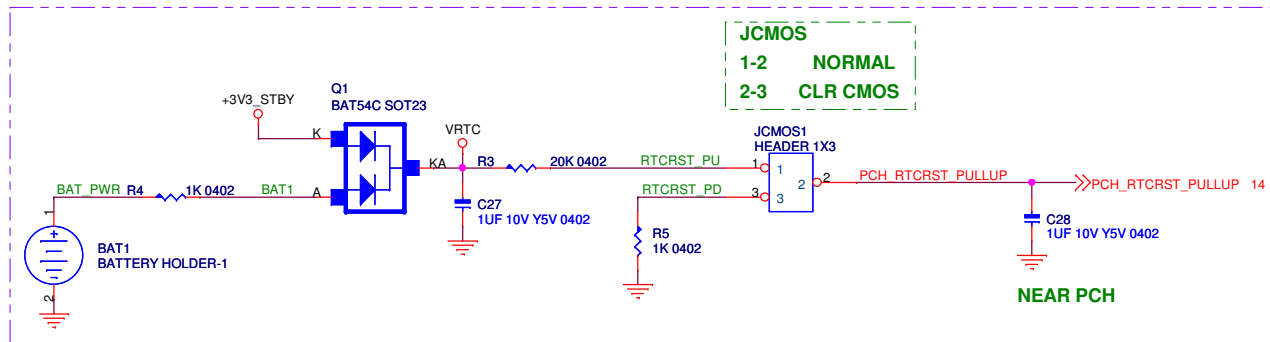
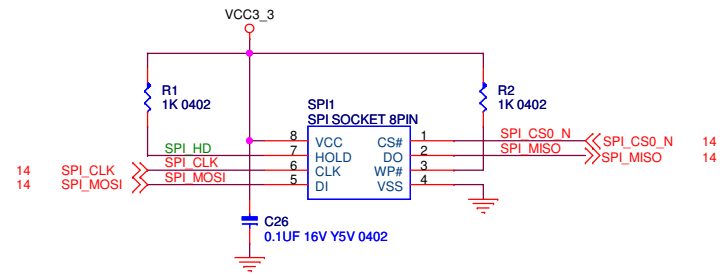
If DisplayPort interface is not implemented,
 the Main Link, aux channel differential
 signals and HPD signals can be left as No
 Connects./DG108

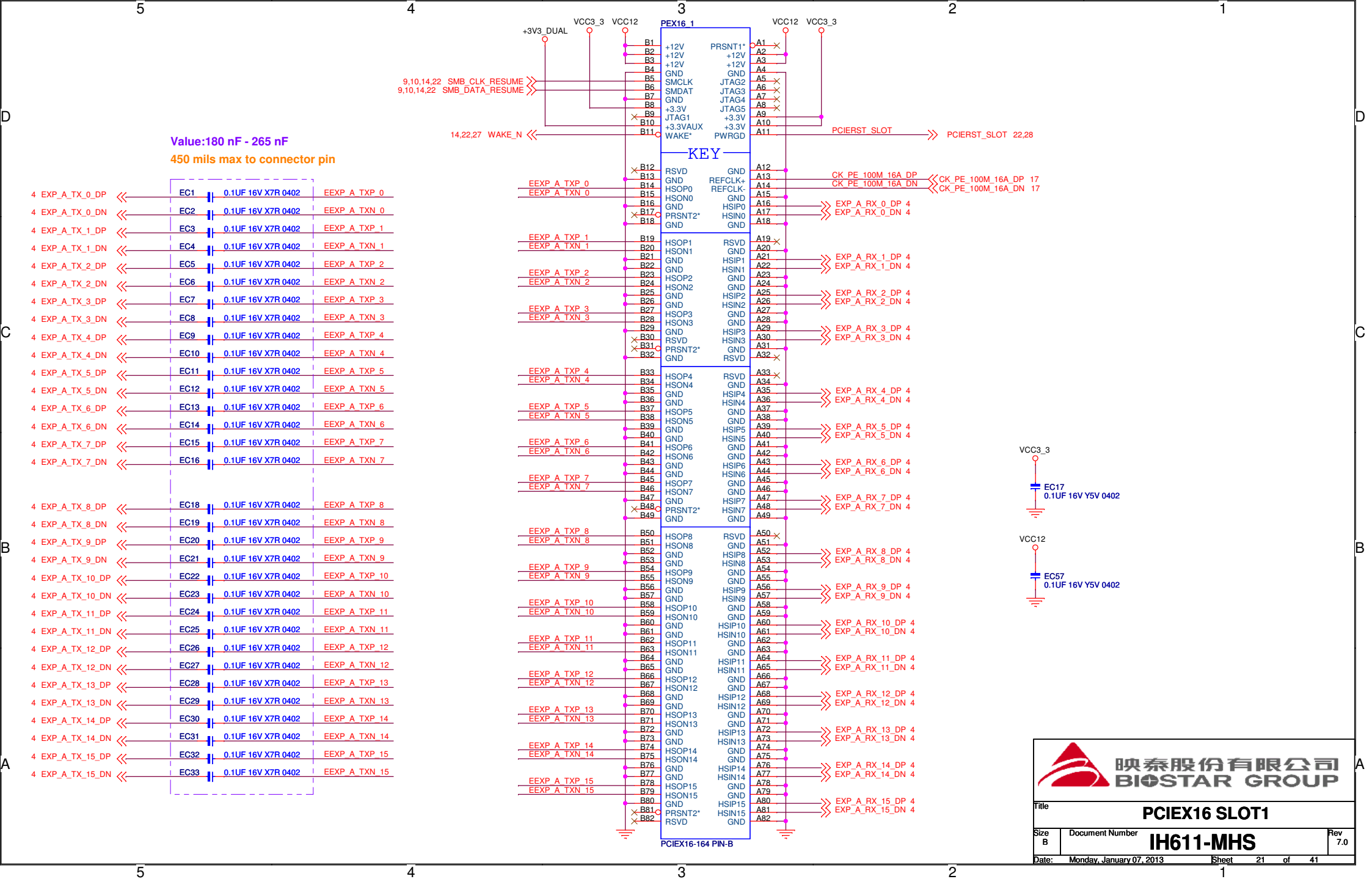
Title **PCH VGA/DISPLAY PORT**

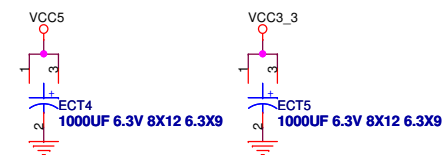
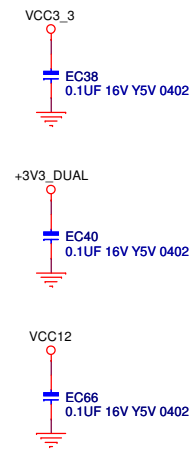
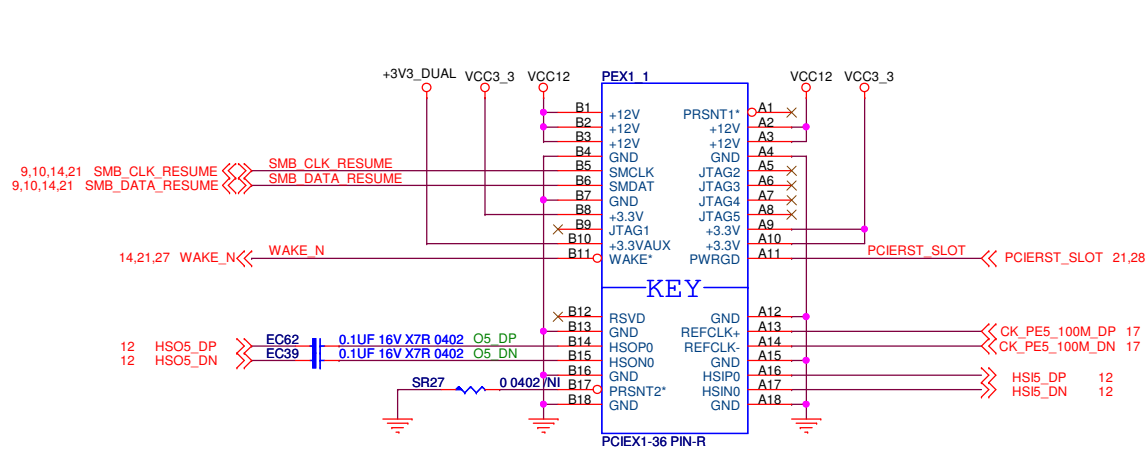
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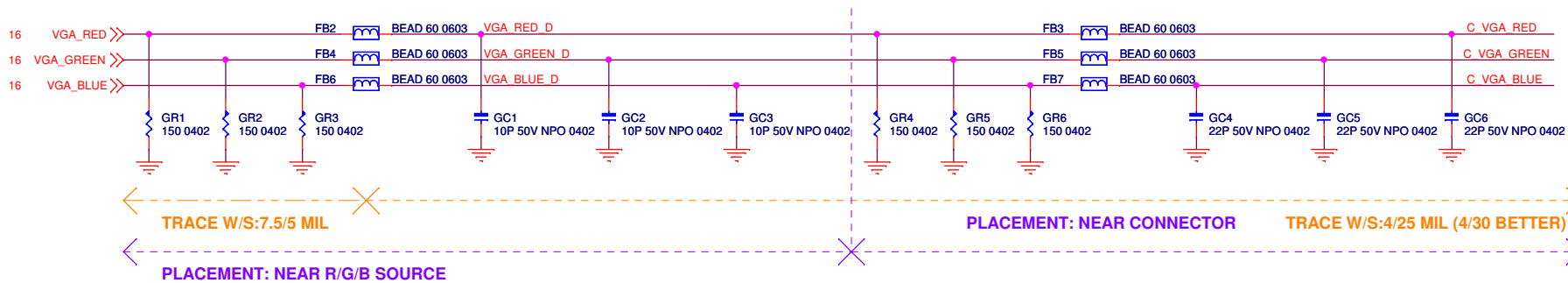




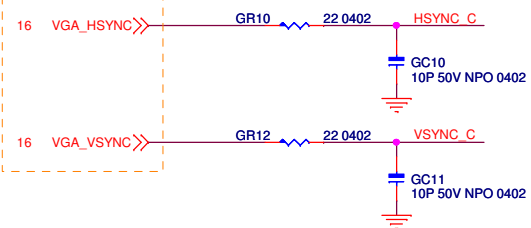




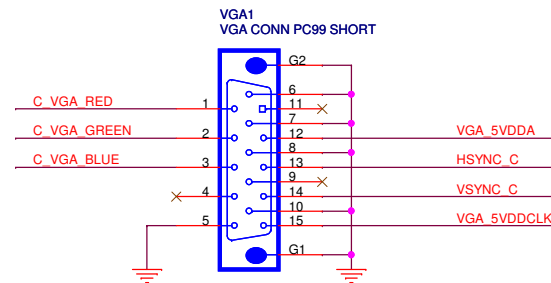
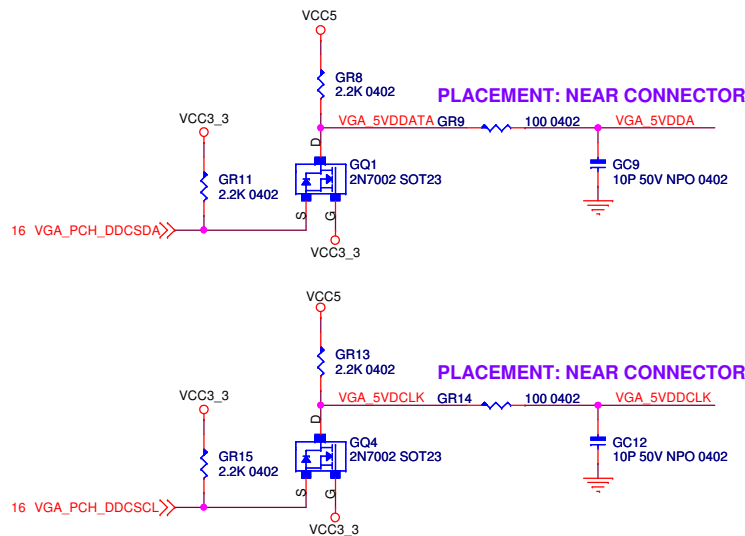
ECT4,ECT5
NETIN: 1000UF 6.3V 8X12 6.3X9
BOM: 1000UF 6.3V 8X12 6.3X9---電解
560UF-S 6.3V 6.3X9 APAQ---固態

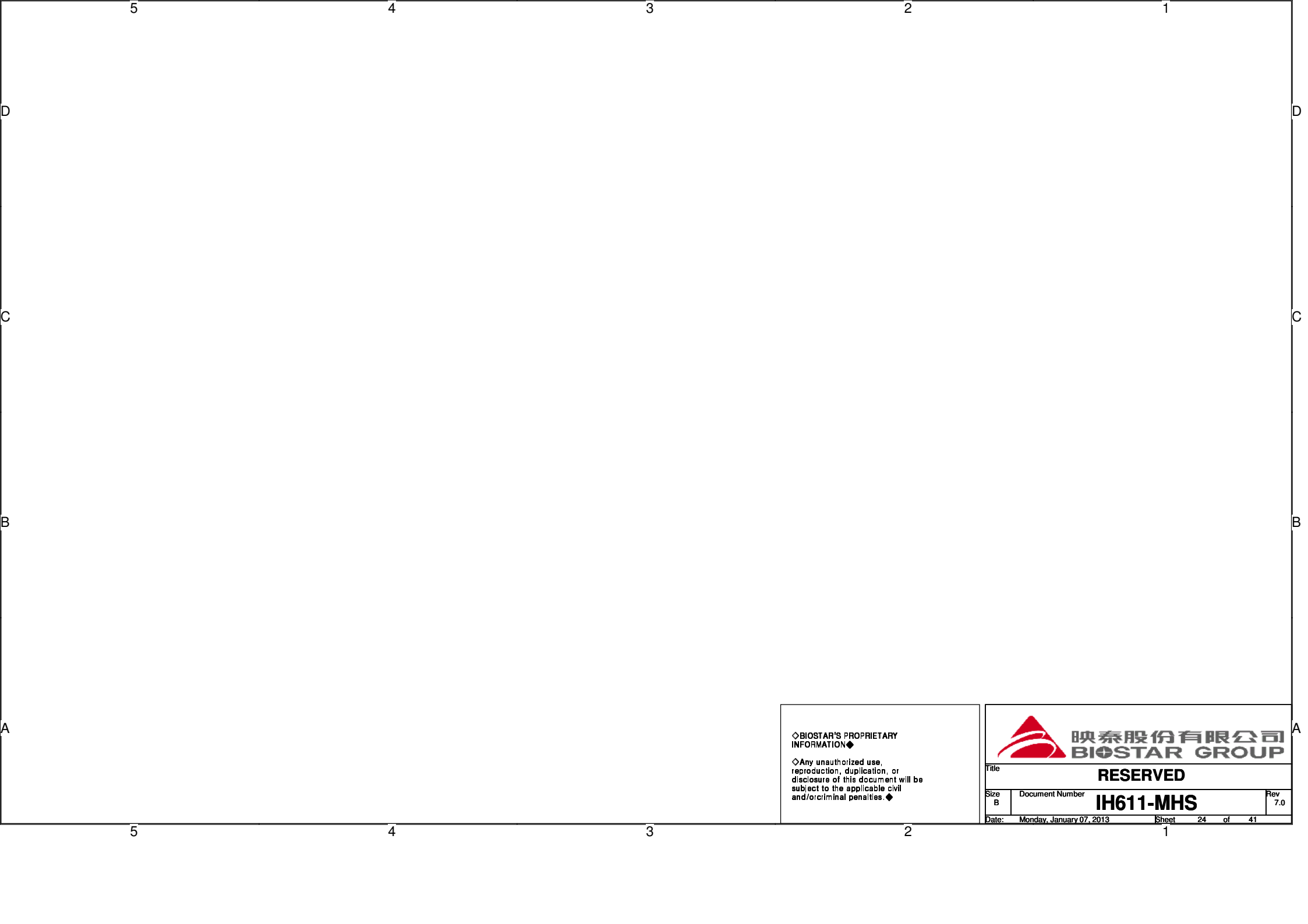


TRACE W/S:4/10 MIL PLACEMENT: NEAR CONNECTOR



D_SUB





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Title

RESERVED

Size
B

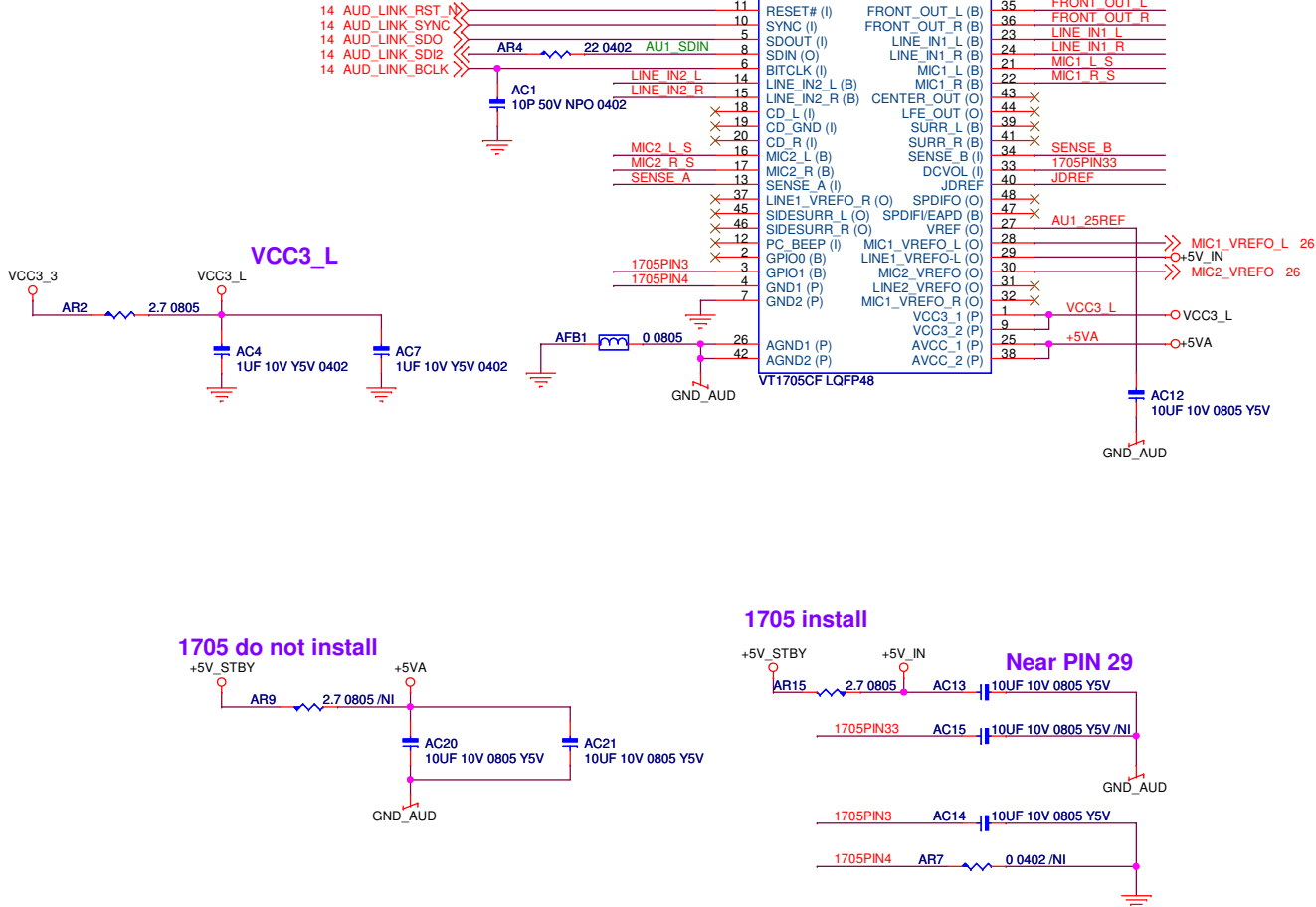
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AUDIO PART: A+Reference



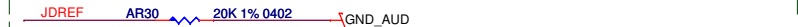
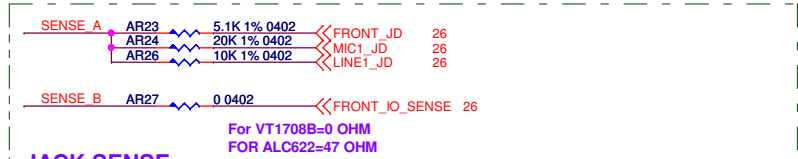
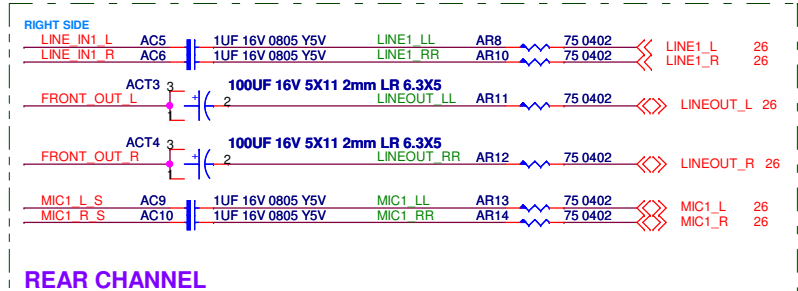
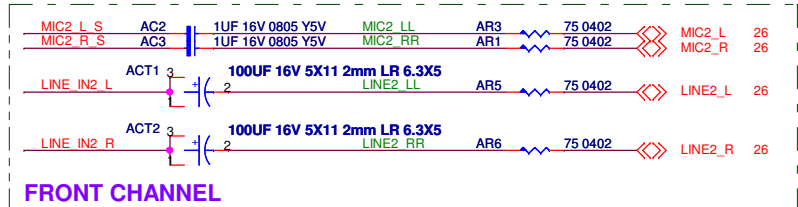
COMPONENT CONTRAST LIST

| AUDIO | AR15 | AC13 | AC14 | AC15 | AR7 | AR9 | AC20 | AC21 | AR27 | AR30 |
|----------|------|------|------|------|--------|----------|-------------------|-------------------|--------|------|
| VT1705CF | 2.7 | O | O | X | X | X | 10UF 10V 0805 Y5V | 10UF 10V 0805 Y5V | 0 OHM | 20K |
| VT1708 | X | X | X | X | 0 0402 | 2.7 0805 | 1UF 16V 0805 Y5V | 1UF 16V 0805 Y5V | 0 OHM | 5.1K |
| ALC662CG | X | X | X | X | 0 0402 | 2.7 0805 | 1UF 16V 0805 Y5V | 1UF 16V 0805 Y5V | 47 OHM | 20K |



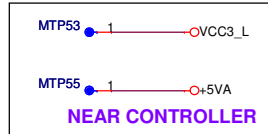
NETIN: 100UF 16V 5X11 2MM LR 6.3X5

BOM: 100UF 16V 5X11 2MM LR 6.3X5---電解
100UF-S 16V 6.3X5 5X11---固態



FOR VT1708B LQFP48: AR30=5.1K

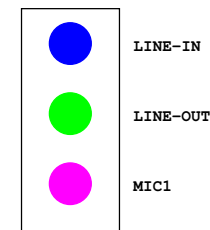
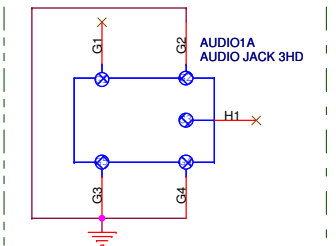
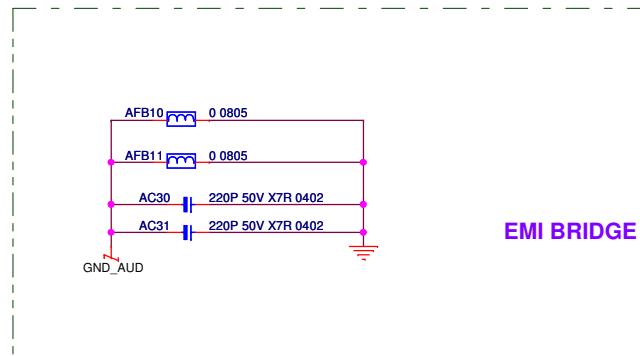
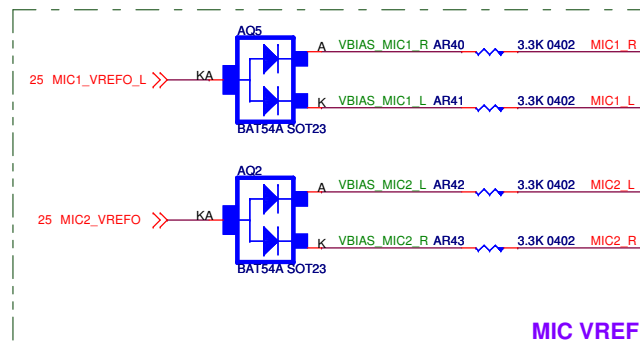
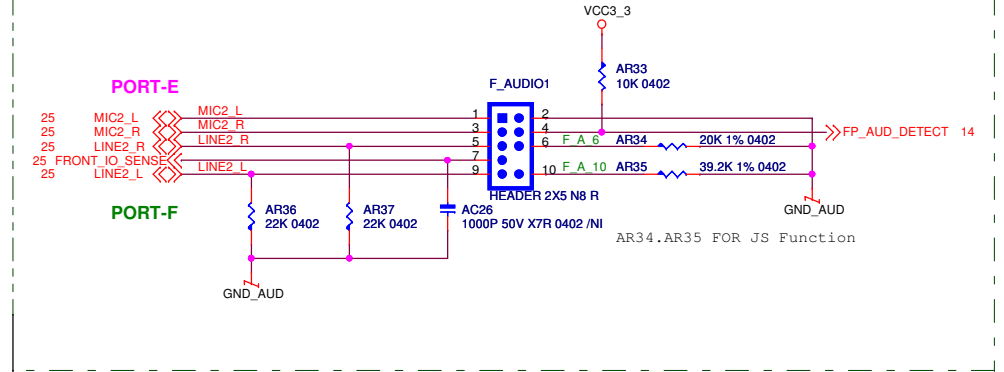
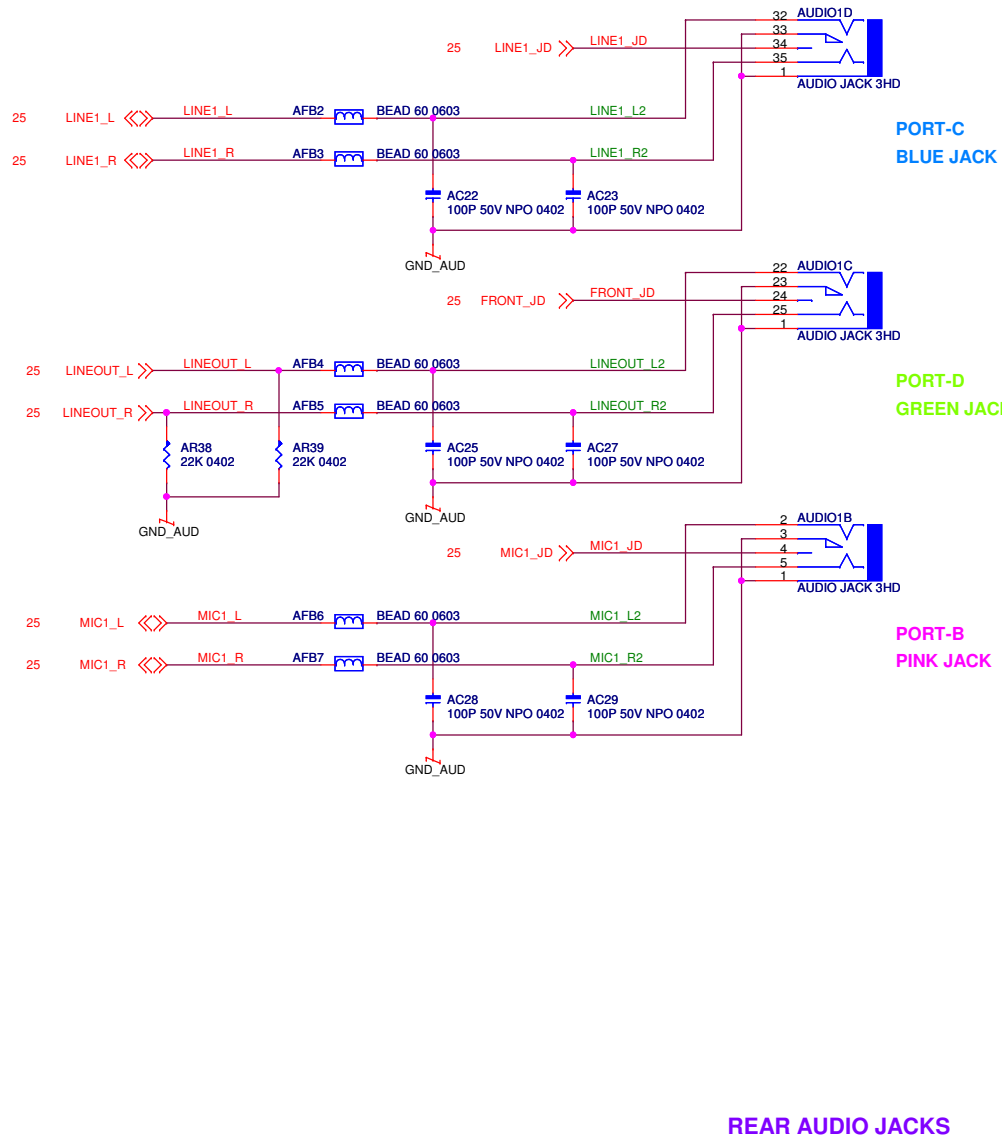
FOR ALC662 LQFP48: AR30=20K

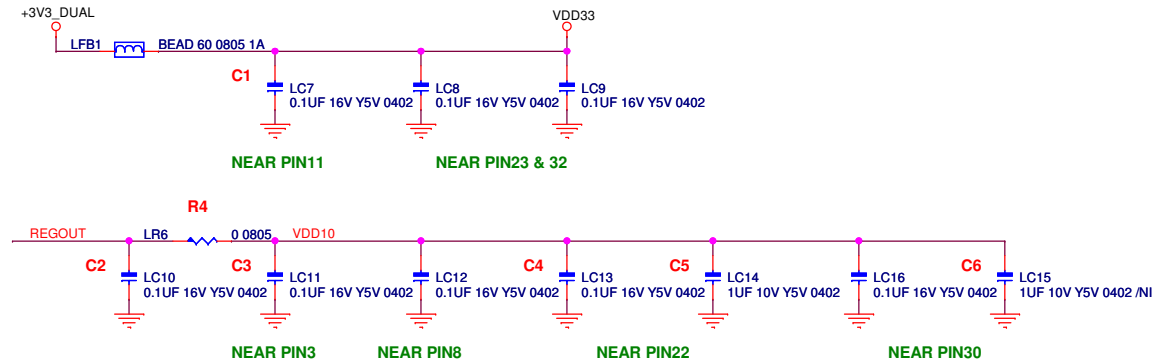
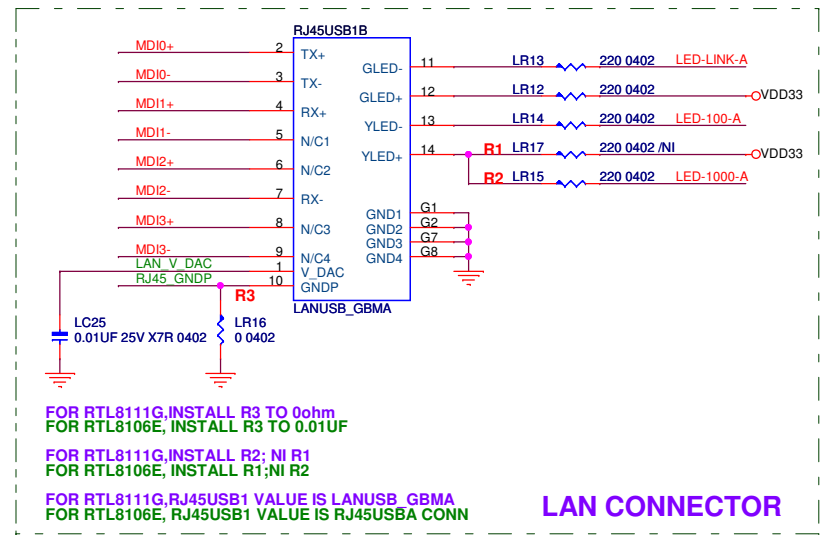
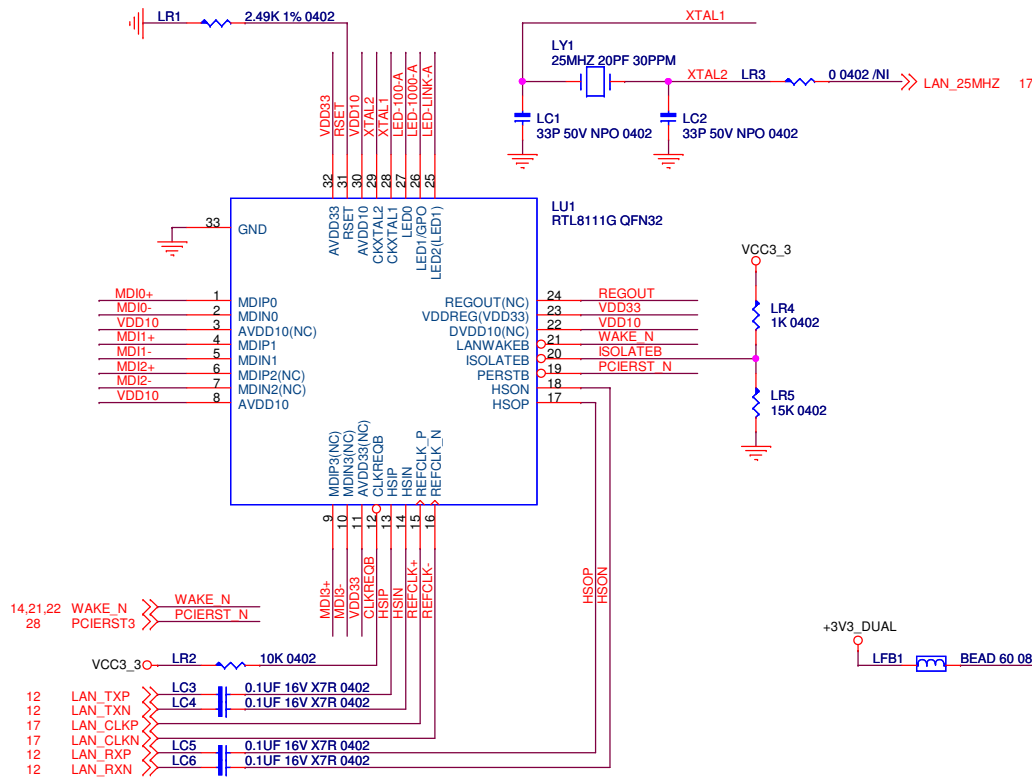


| | |
|-------|-----------------------|
| Title | CODEC ALC662CG |
|-------|-----------------------|

| | | |
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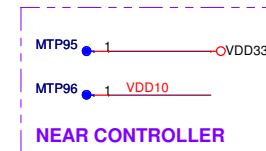
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COMPONENT CONTRAST LIST

| LAN PARTS | R1 | R2 | R3 | R4 | C1 | C2 | C3 | C4 | C5 | C6 | RJ45_CONN |
|-----------|----|----|--------|----|----|----|----|----|----|----|---------------|
| RTL8111G | X | O | 0ohm | O | O | O | O | O | O | X | LANUSB_GBMA |
| RTL8106E | O | X | 0.01uF | X | X | X | X | X | X | O | RJ45USBA_CONN |



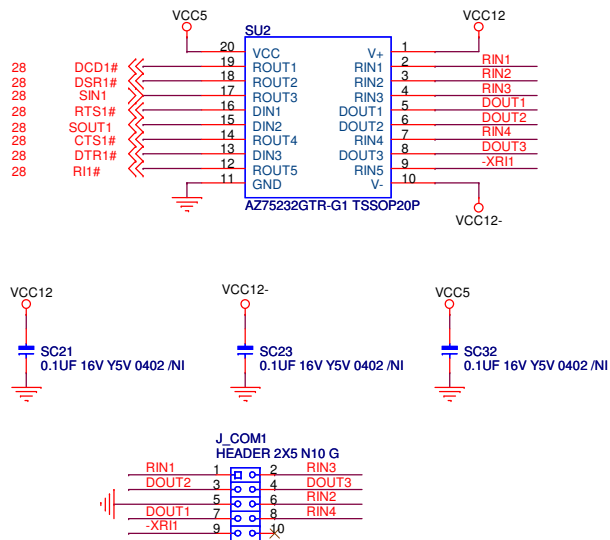
RTL8111G/8106E

IH611-MHS

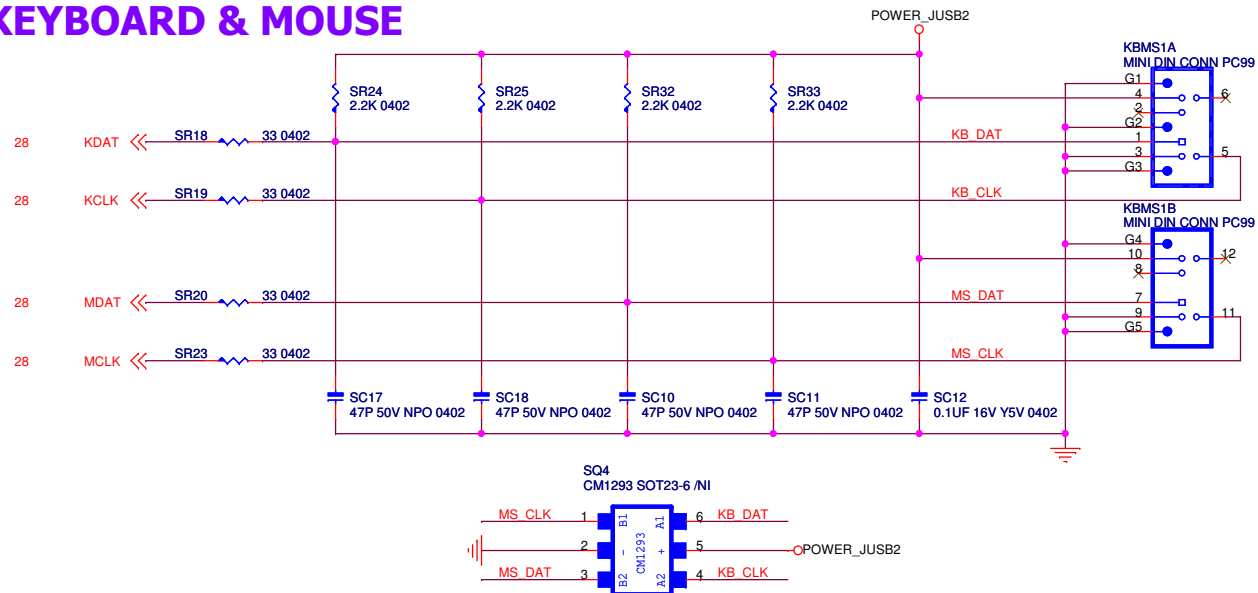
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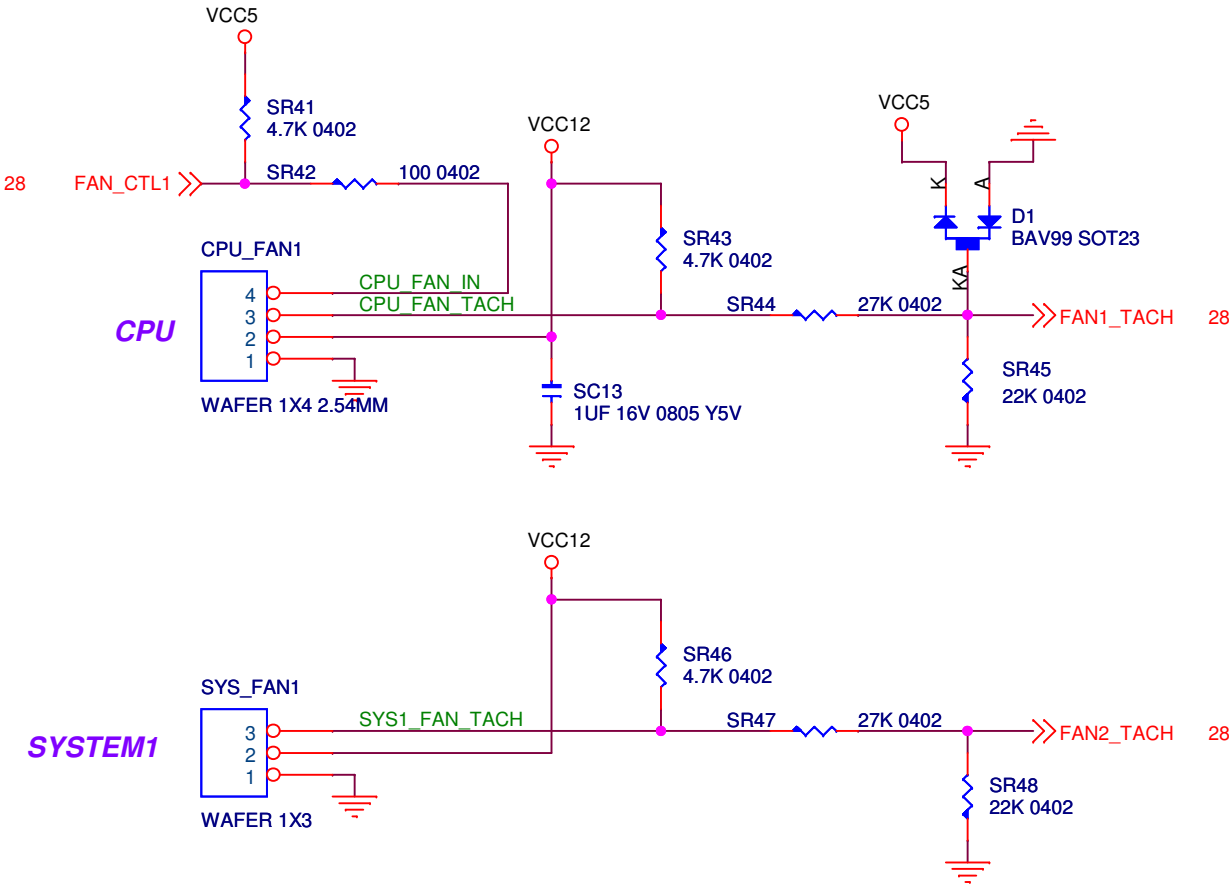
COM PORT




KEYBOARD & MOUSE



CPU FAN/SYSTEM FAN1





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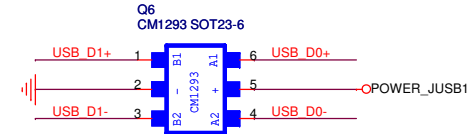
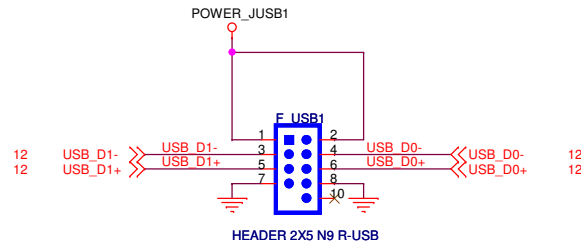
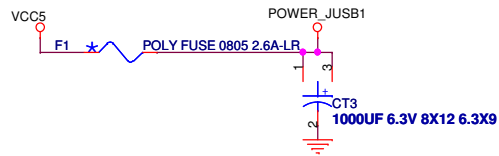
Title

HW MONITOR/FAN CONTROL

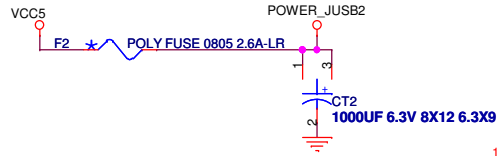
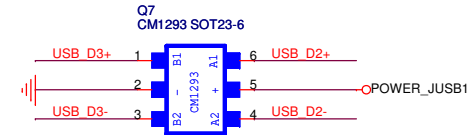
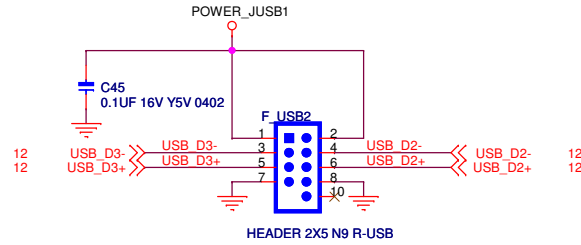
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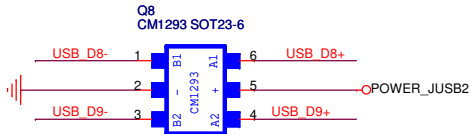
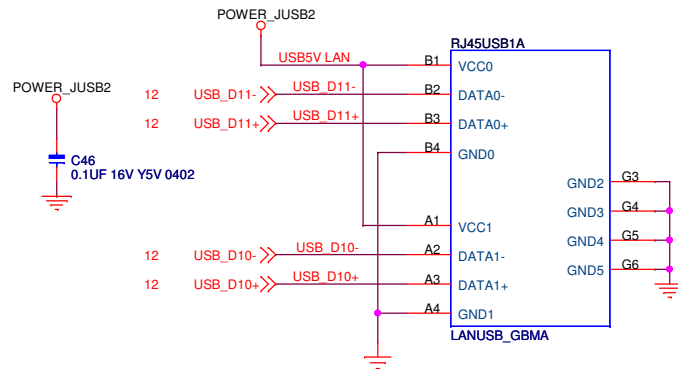
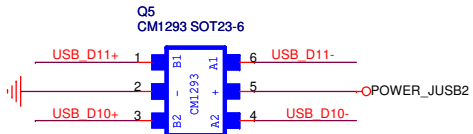
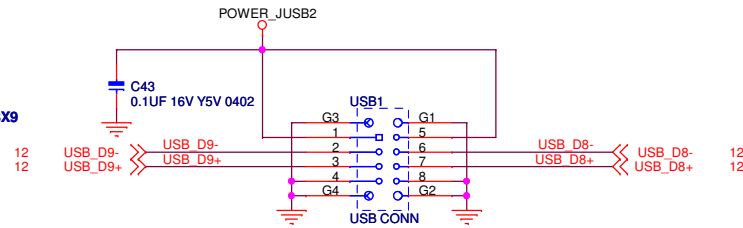
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CT2,CT3
NETIN: 1000UF 6.3V 8X12 6.3X9
BOM: 1000UF 6.3V 8X12 6.3X9---電解
560UF-S 6.3V 6.3X9 APAQ---固態

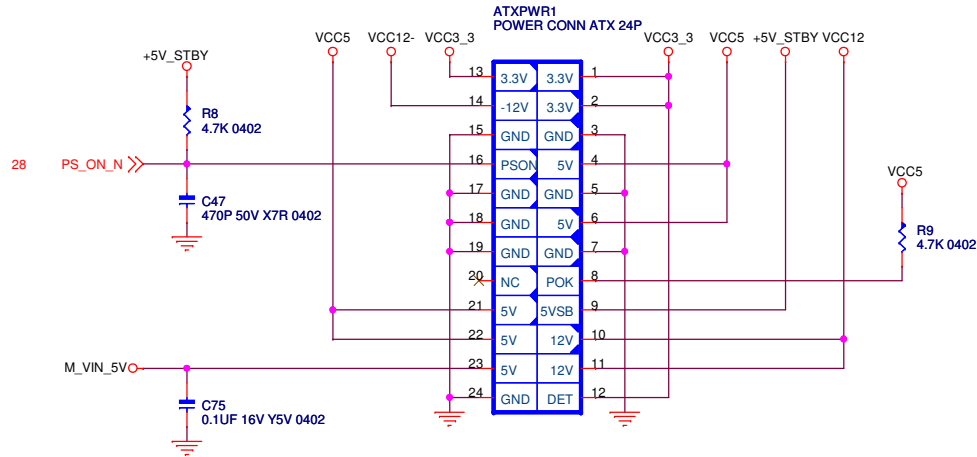


BACK PANEL USB
PLACE NEAR CONN

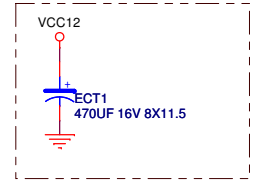
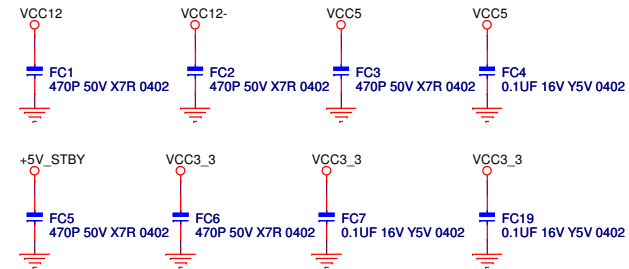


24 PIN POWER CONNECTOR

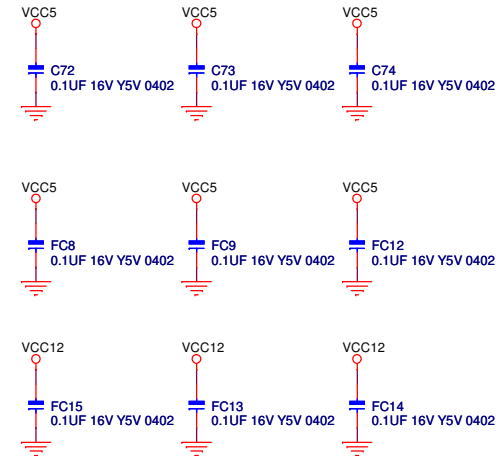
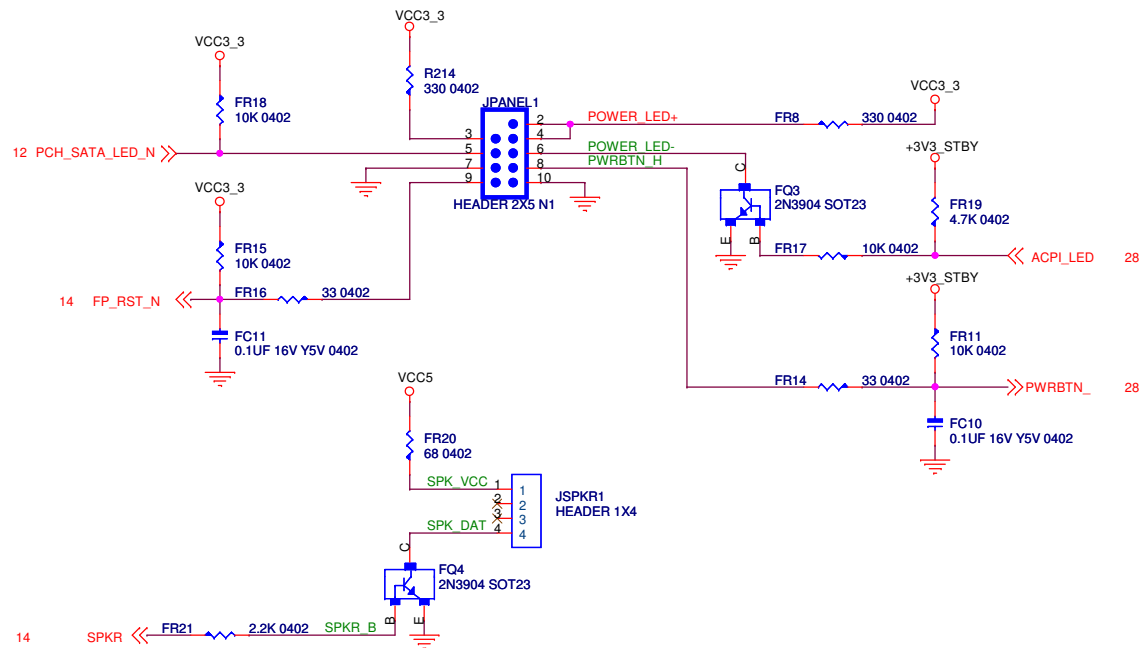
JATXPWR



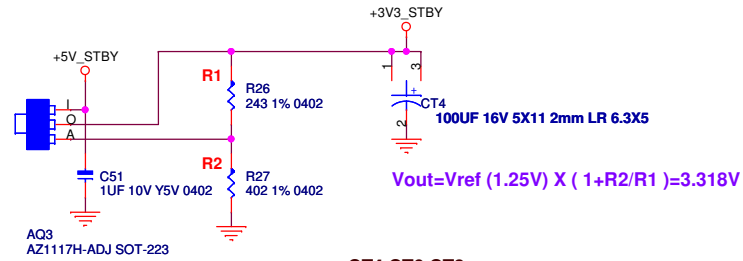
FOR EMI



FRONT PANEL HEADER



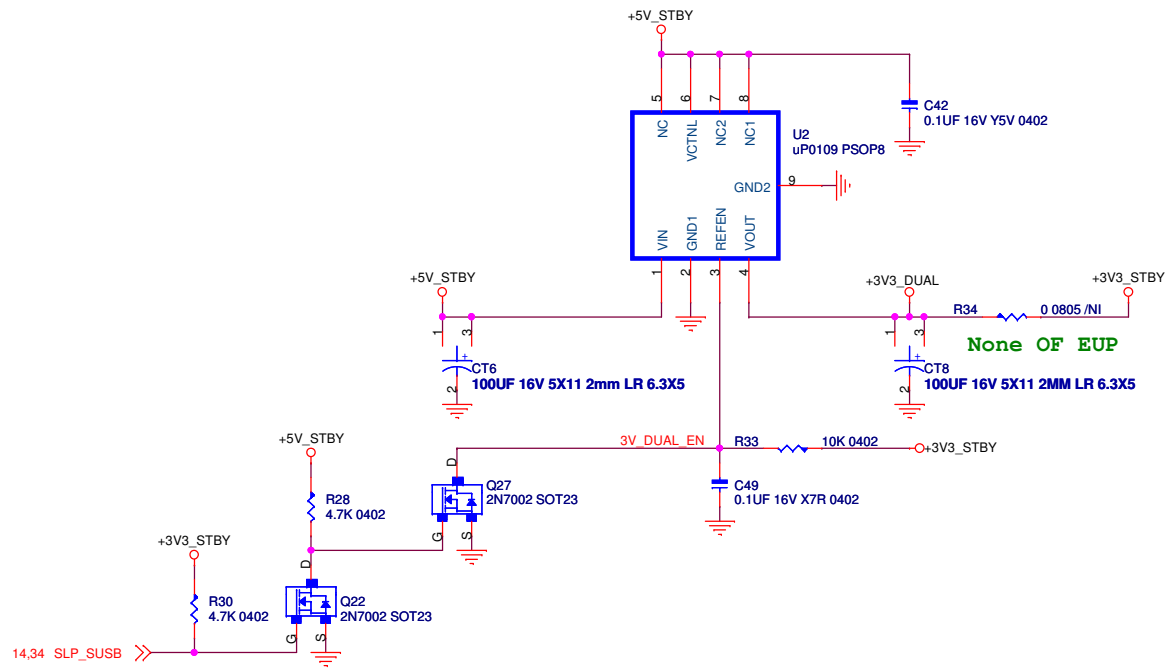
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| Title 24PIN POWER CONN&FP | | |
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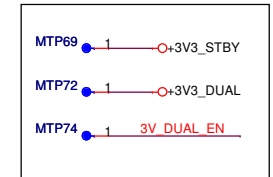
CT4,CT6,CT8

NETIN: 100UF 16V 5X11 2MM LR 6.3X5

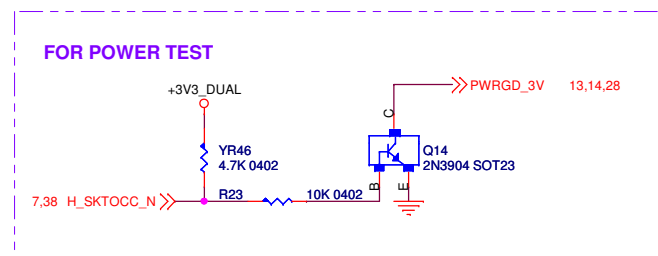
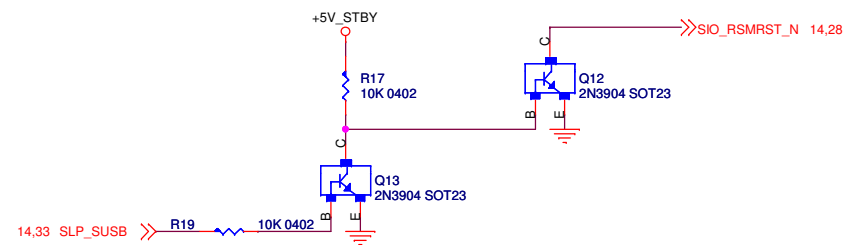
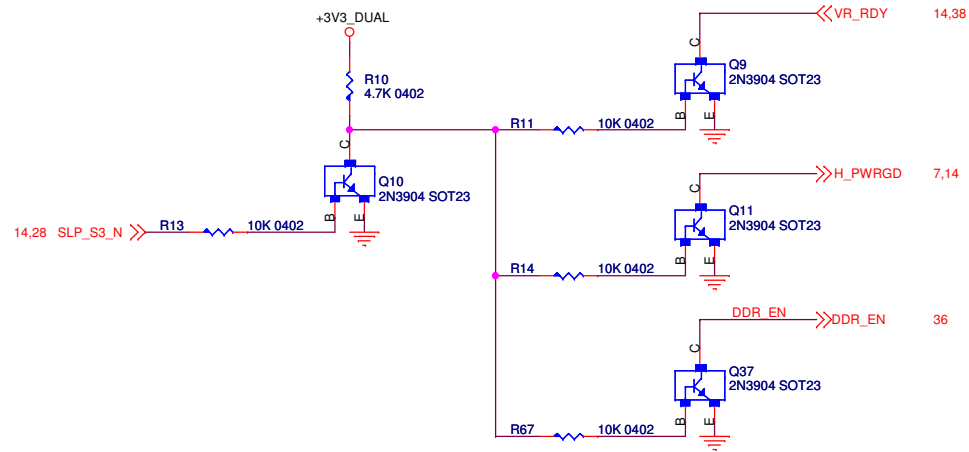
BOM: 100UF 16V 5X11 2MM LR 6.3X5---電解
100UF-S 16V 6.3X5 5X11---固態

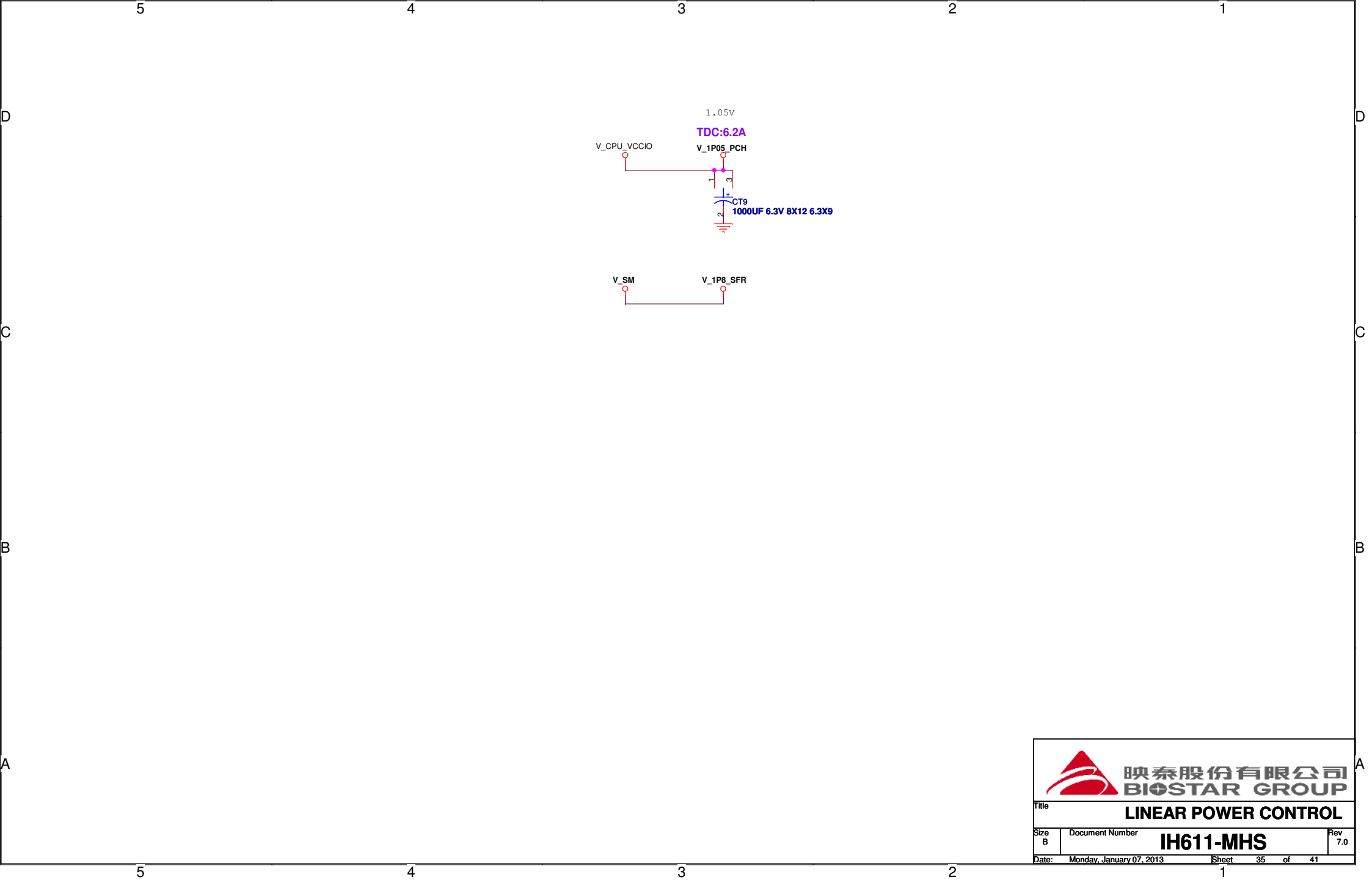


L:Disable +3V3_DUAL
 H:Enable +3V3_DUAL
 FOR INTEL EUP

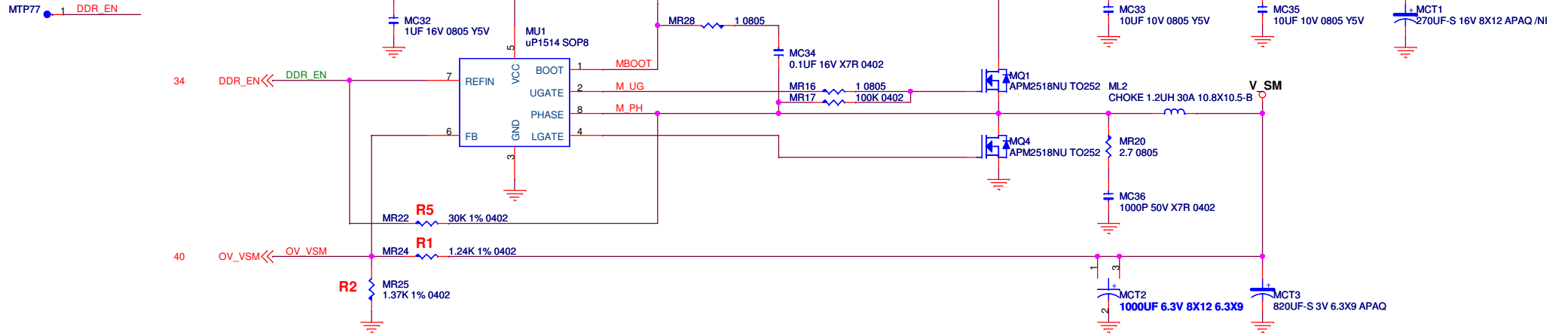


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| Title ACPI POWER CONTROL | |
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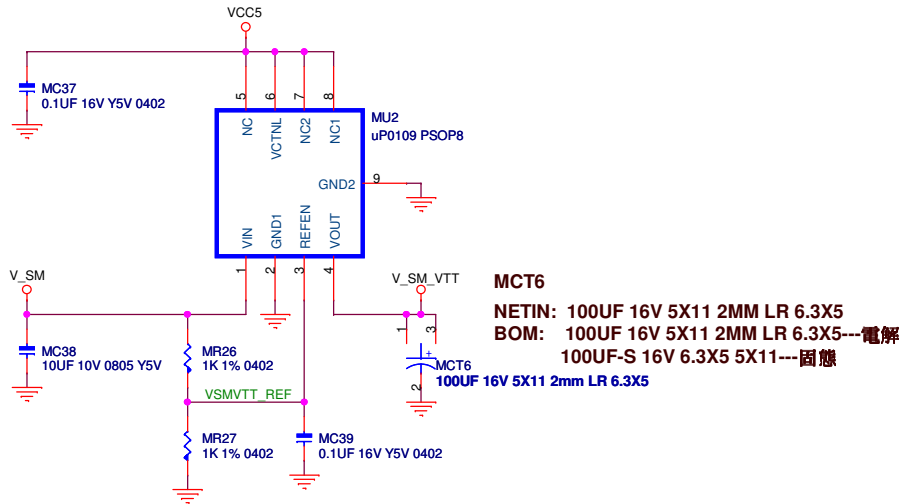


MEMORY VLOTAGE CONTROL CIRCUIT FOR INTEL PLATFORM

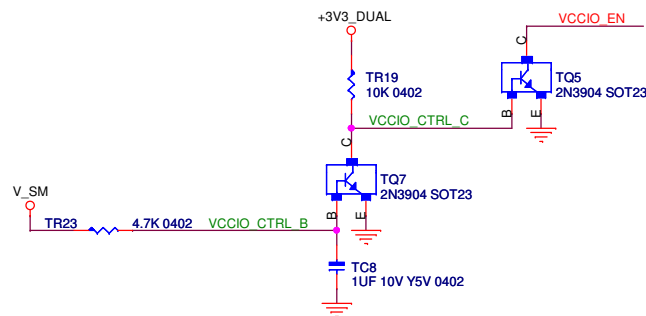
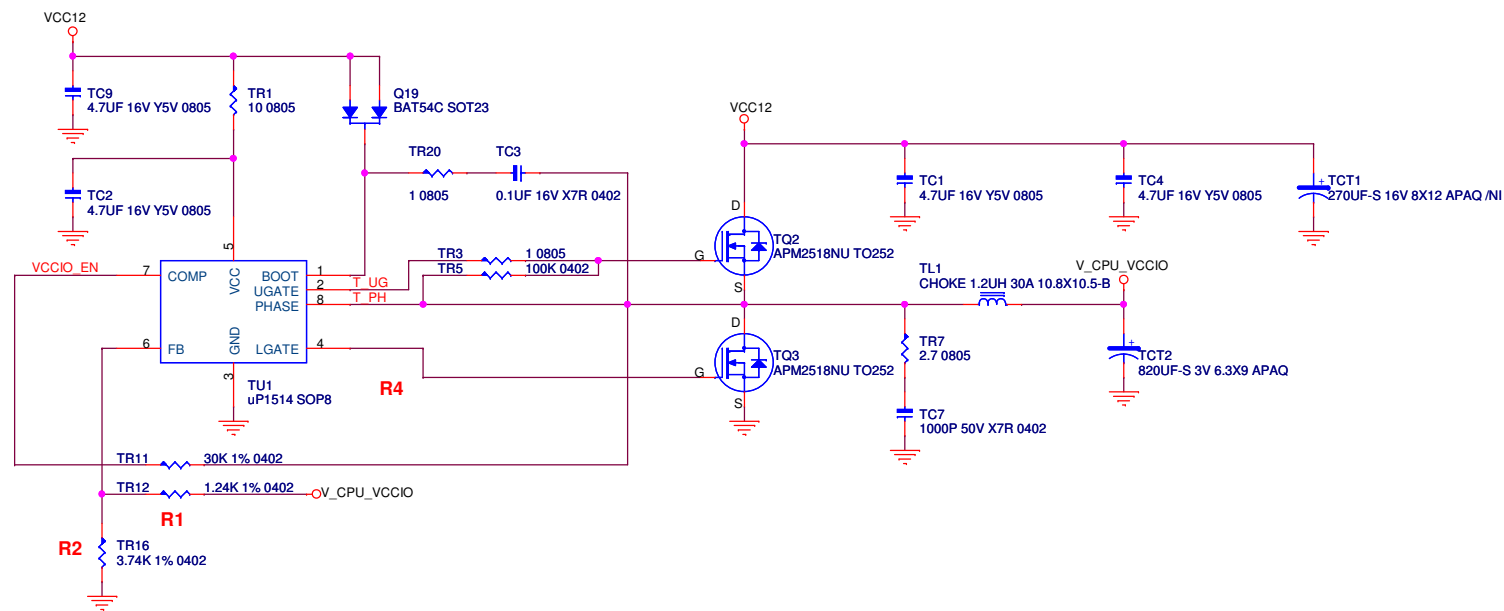


$V_SM = 0.8(1 + R1/R2) = 1.524V$ ($R1 = 1.24K$ $R2 = 1.37K$)
R5 Only For FP6326 **R4 Only For UP6109**
 $(40\mu A \cdot R5 - 0.4V) / Rds = loc$ **OCF Set : 31A**
FOR ONE LS MOSFET, R5=14.7K 1% FOR ONE LS MOSFET, P0603BDL : R4=42.2K 1%

MCT2
NETIN: 1000UF 6.3V 8X12 6.3X9
BOM: 1000UF 6.3V 8X12 6.3X9---電解
820UF-S 3V 6.3X9 APAQ---固態



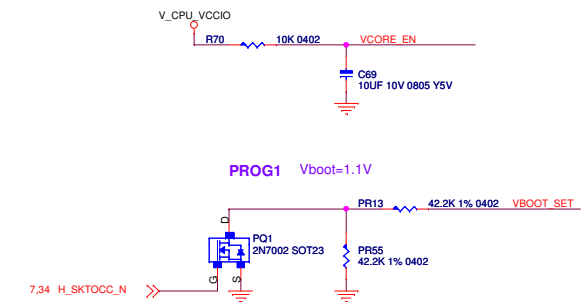
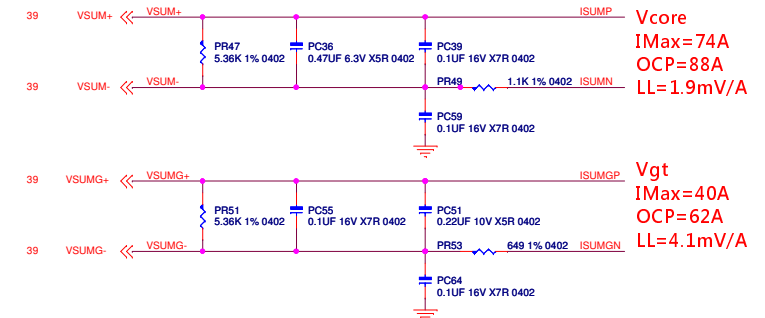
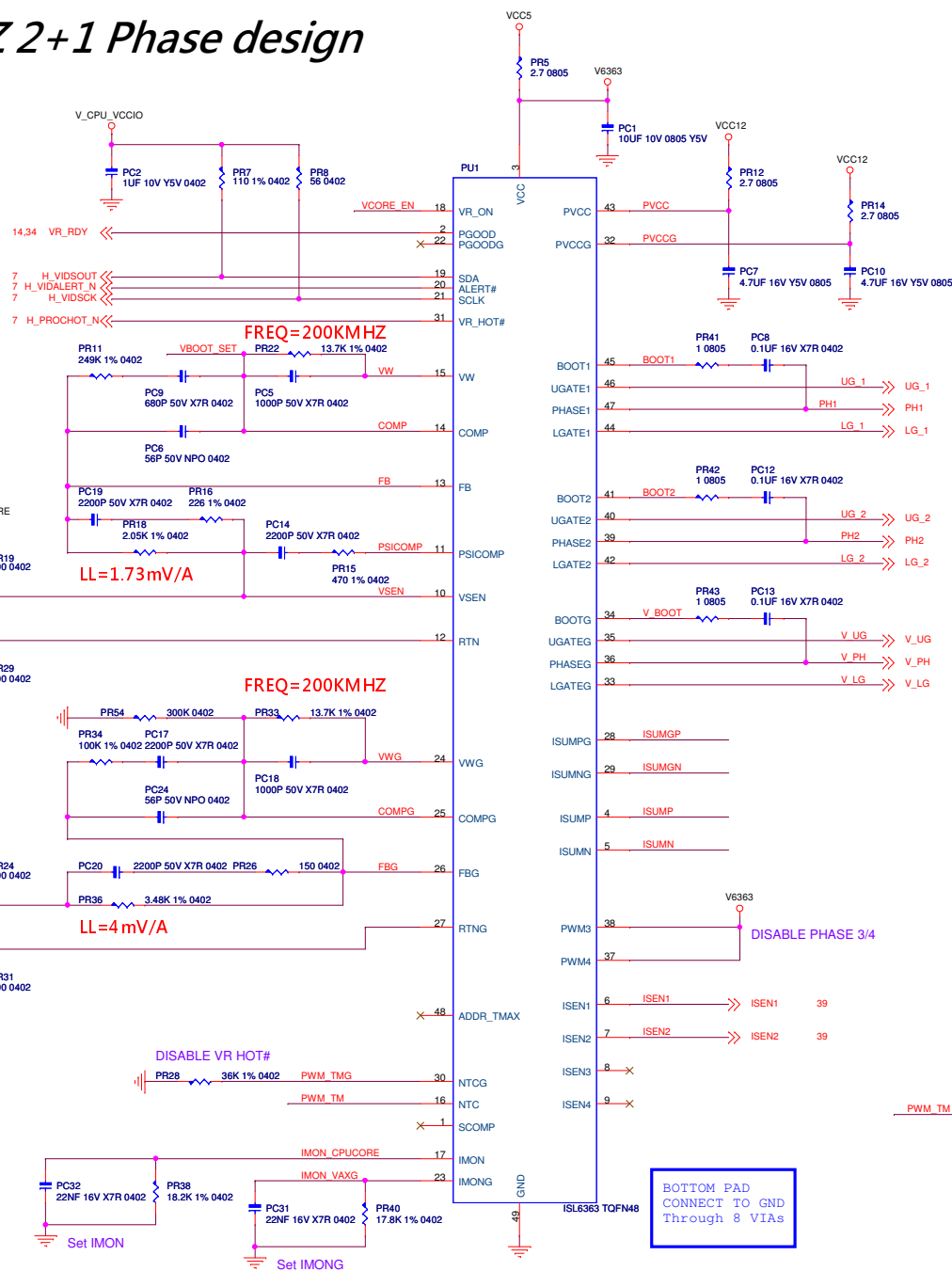
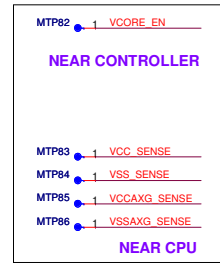
MCT6
NETIN: 100UF 16V 5X11 2MM LR 6.3X5
BOM: 100UF 16V 5X11 2MM LR 6.3X5---電解
100UF-S 16V 6.3X5 5X11---固態



MTP78 1 VCCIO_EN

NEAR CONTROLLER

ISL6363CRZ 2+1 Phase design




| V_CPU_CORE | OV_CPU0 | OV_CPU1 |
|------------|---------|---------|
| DEFAULT | 1 | 1 |
| +5% | 0 | 1 |
| +10% | 1 | 0 |
| +15% | 0 | 0 |

| V_AXG | OV_AXG | OV_AXG1 |
|---------|--------|---------|
| DEFAULT | 1 | 1 |
| +5% | 0 | 1 |
| | | |
| | | |

| V_CPU_VCCIO | OV_VCCIO0 | OV_VCCIO1 |
|----------------|-----------|-----------|
| 1.05V(DEFAULT) | 1 | 1 |
| 1.1V | 0 | 1 |
| 1.15V | 1 | 0 |
| 1.2V | 0 | 0 |

| V_SM | OV_VSM0 |
|---------------|---------|
| 1.5V(DEFAULT) | 1 |
| 1.6V | 0 |

14 PCH_GP31 >> R20 7.5K 1% 0402 << OV_VSM 36



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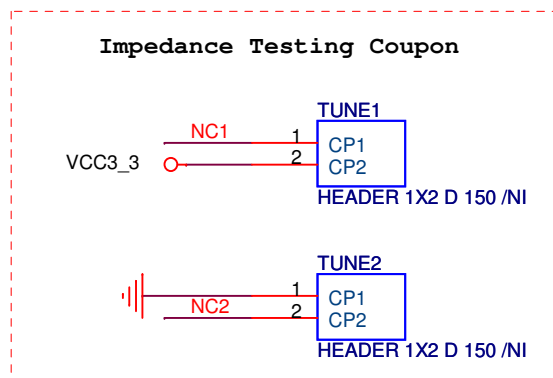
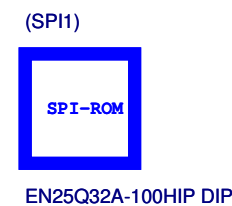
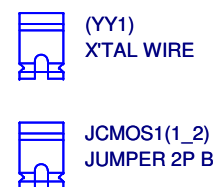
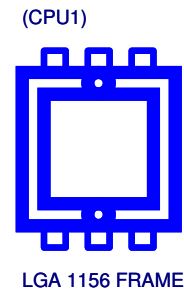
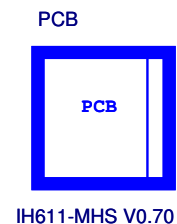
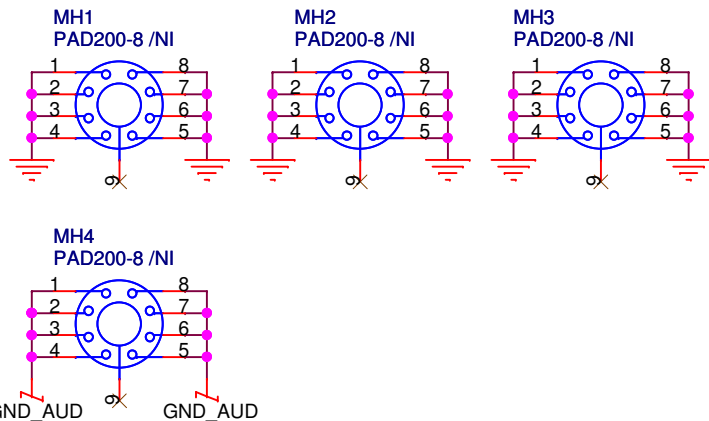
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