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AA70K-M2S Model Name: Hi-Fi A70U3P

2014/10/15 VER 6.0

CPU: AMD FM2/FM2+

System

Chipset: FCH-D2/D3/D4

Main

Memory: Dual Channel/DDR-III*2(Max 16GB) 800/1066/1333/1600/1866

Onboard Device:

Super I/O:ITE8772E

LAN : RTL8111G/RTL8106E

HD Codec:Hi-Fi ALC662VC 3 jacks

Power solution:

CPU Voltage Regulators:3phase by ISL62773

VDDNB voltage Regulators:2phase by ISL62773

APU_VDDR/P_RUN voltage Regulators:LDO

DDR voltage Regulators:1Phase by UPI1514

Expansion Slots:

PCI EXPRESS 16X SLOT*1

PCI EXPRESS 1X SLOT*1

PCI SLOT*1

REAR I/O:

PS/2 KBMS*1

VGA Port*1

2 layer USB3.0 (2.0)*1

2 layer USB2.0 (2.0)+ RJ45 Ports*1

Audio Jackets 3jets*1

Front I/O:

USB3.0 Header*1

SATA3 Connectors*4

USB2.0 Header*2


CPU FAN*1

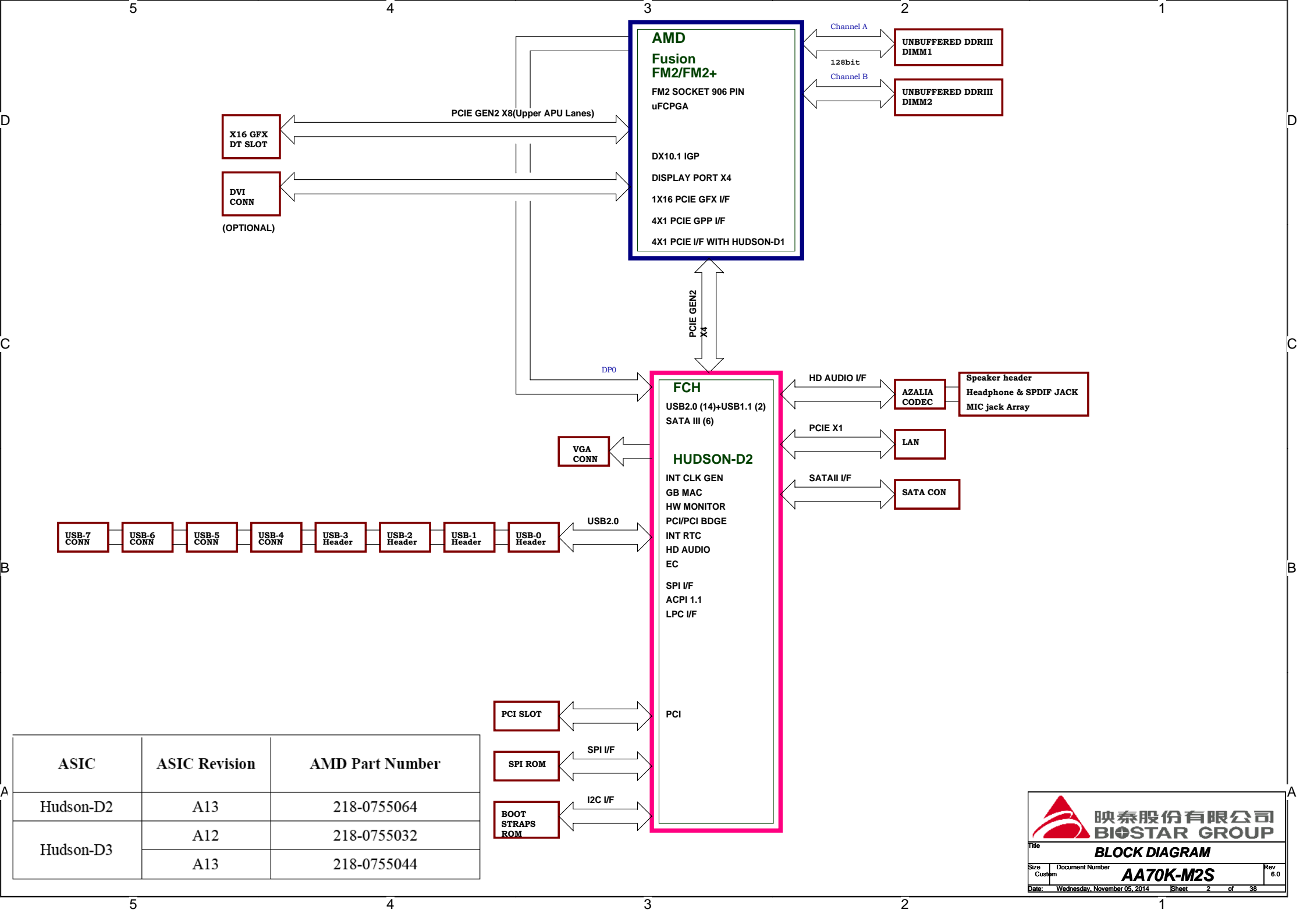
System1 FAN*1

Serial header*1

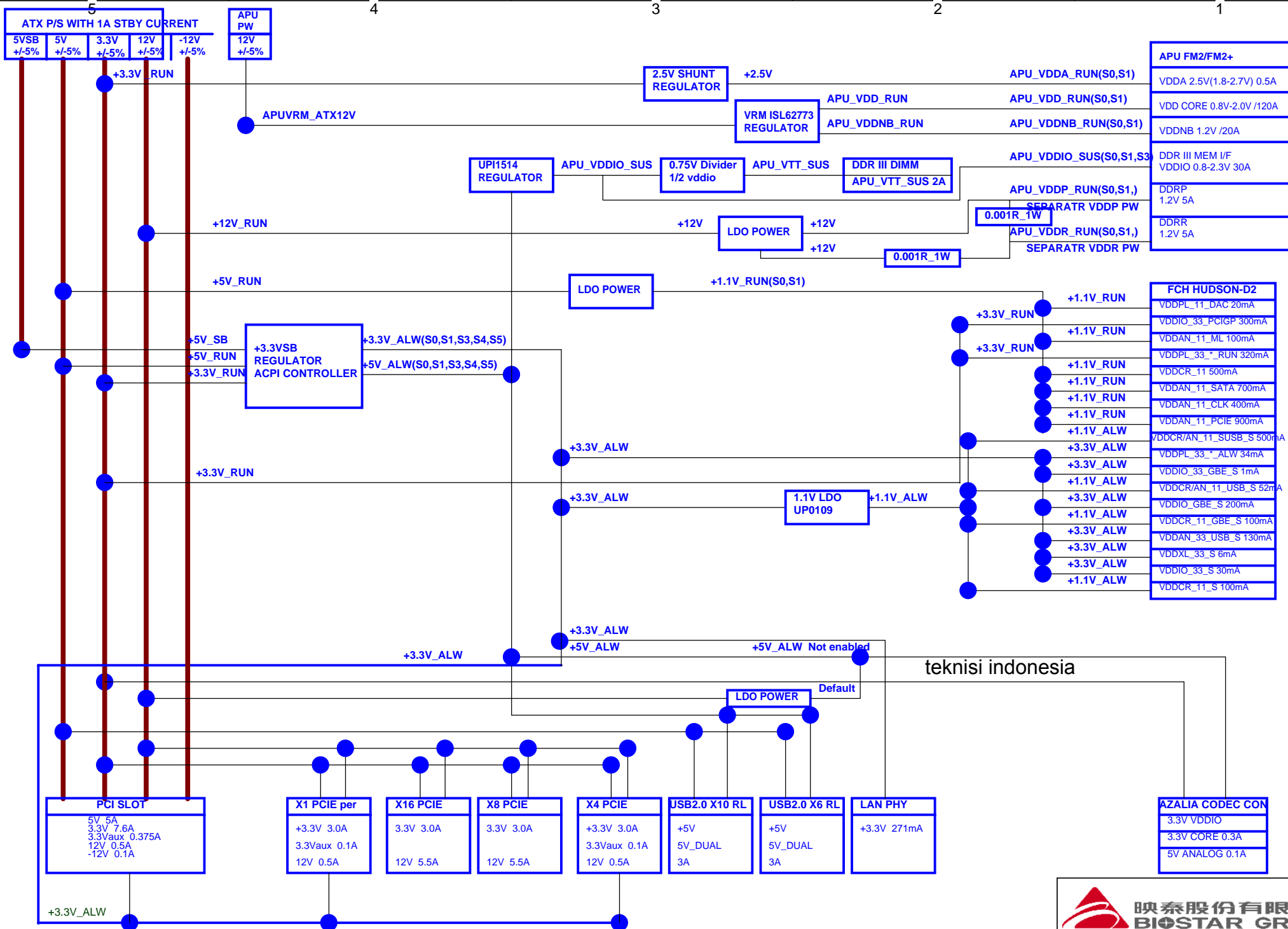
Front Audio Header*1

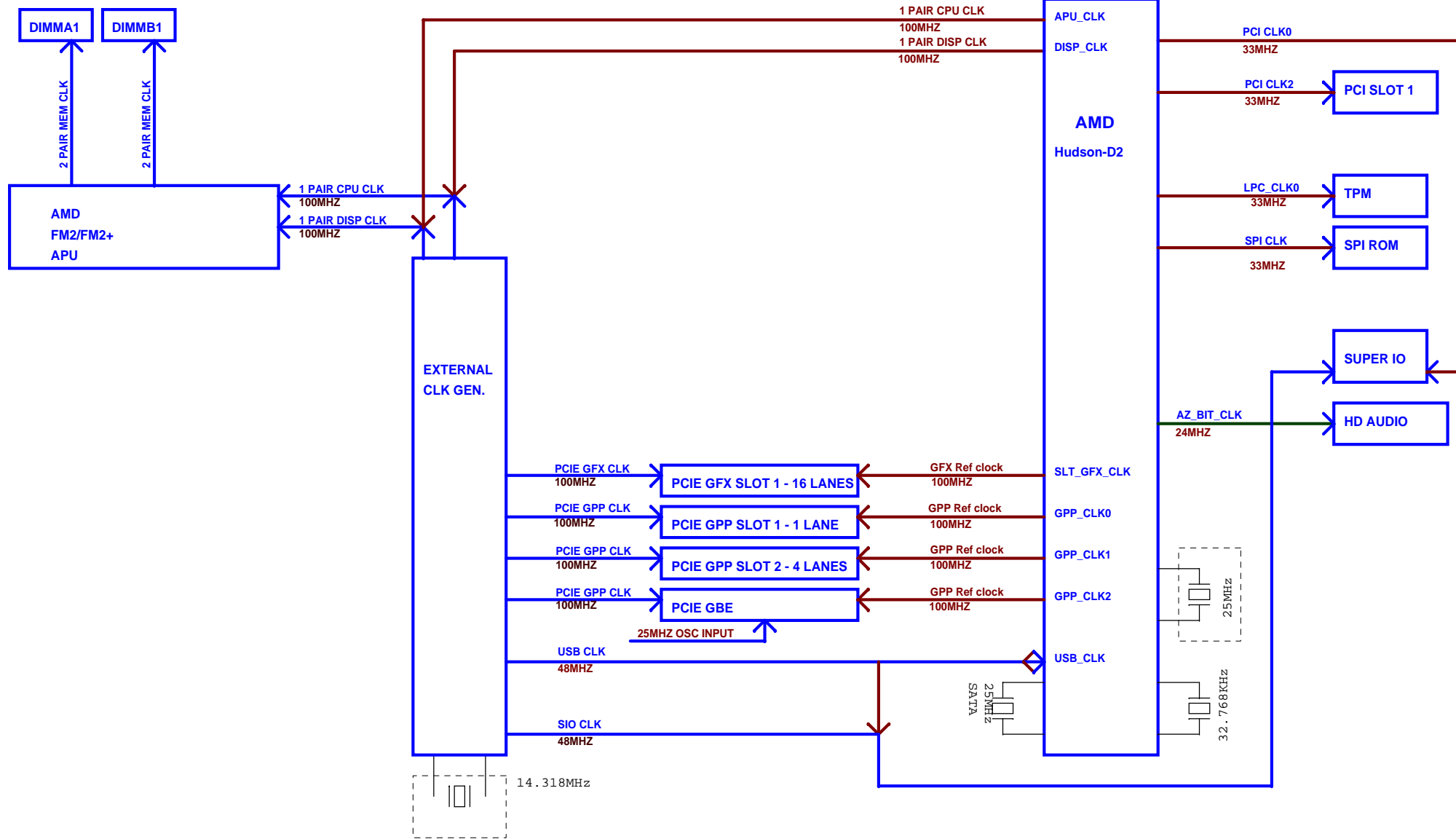
Front Panel Header*1

| | |
|---|----------------------------|
| HW Engineer: | Date: |
| HW Leader1: | Date: |
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|  映泰股份有限公司 BIOSTAR GROUP COVER | |
| Size: Custom | Document Number: AA70K-M2S |
| Date: Wednesday, November 05, 2014 | Sheet 1 of 38 |



| ASIC | ASIC Revision | AMD Part Number |
|-----------|---------------|-----------------|
| Hudson-D2 | A13 | 218-0755064 |
| Hudson-D3 | A12 | 218-0755032 |
| | A13 | 218-0755044 |





External clock mode
Internal clock mode

Vinafix.com

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Title
CLOCK DISTRIBUTION

| | | |
|---------------------------------------|-------------------------------------|------------|
| Size Custom | Document Number AA70K-M2S | Rev 6.0 |
| Date: Wednesday, November 05, 2014 | Sheet 4 | of 38 |

5
4
3
2
1
AA70K-M2S-V0.6 changelist
Based on AA70H-M2S-V0.6
2014/08/25

- 1.Page24/25: Add PCI bridge ASM1083 & PCI Slot*1
2.Page34/25: Dummy ISL62773 PWM LSGATE 220pF caps
3.Page07/19: Change HDMI from DP2--->DP1

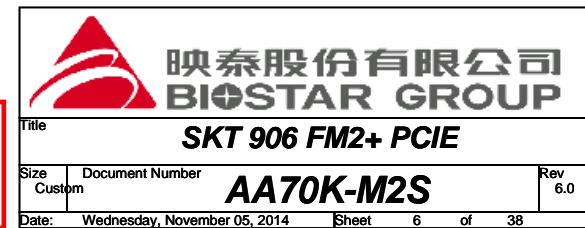
AA70K-M2S-V0.61 changelist
Based on AA70K-M2S-V0.6
2014/09/21

- 1.Page24/25: Remove PCI bridge ASM1083,Connect PCI to FCH

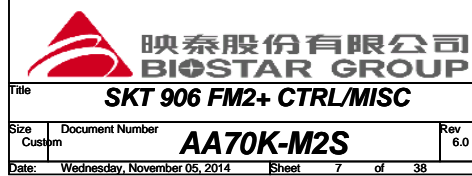
AA70K-M2S-V6.0 Changelist
Based on AA70K-M2S-V0.66
2014/10/15

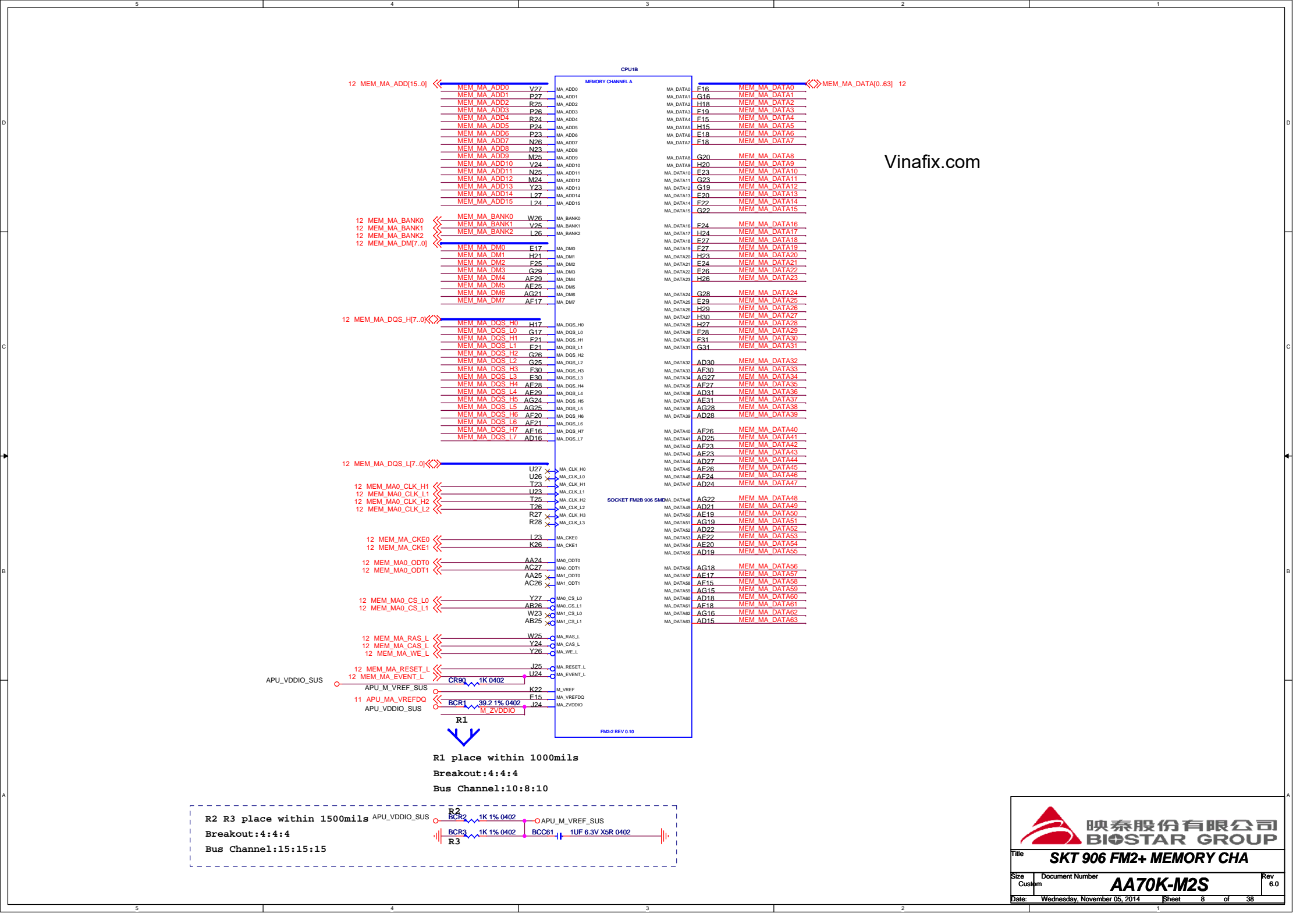
- 1.Page36: C72,C93 0.1UF--->1UF for Inrush current issue
2.Page14: Add YC21 "100P 50V NPO 0402" For PCI_RST#
3.Modify layout for Q39,U7 thermal issue

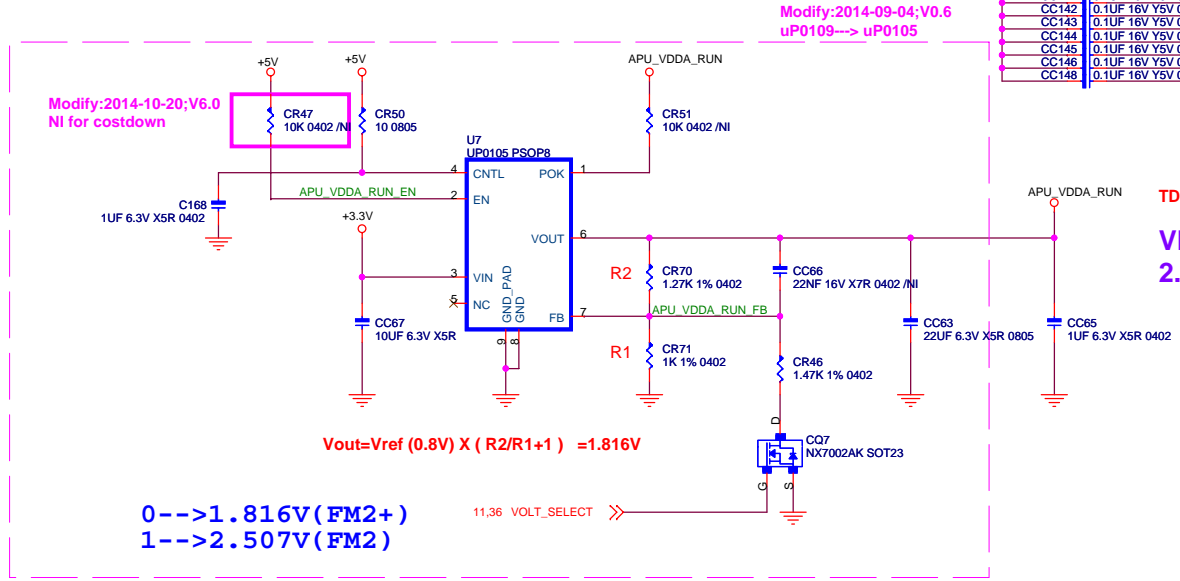
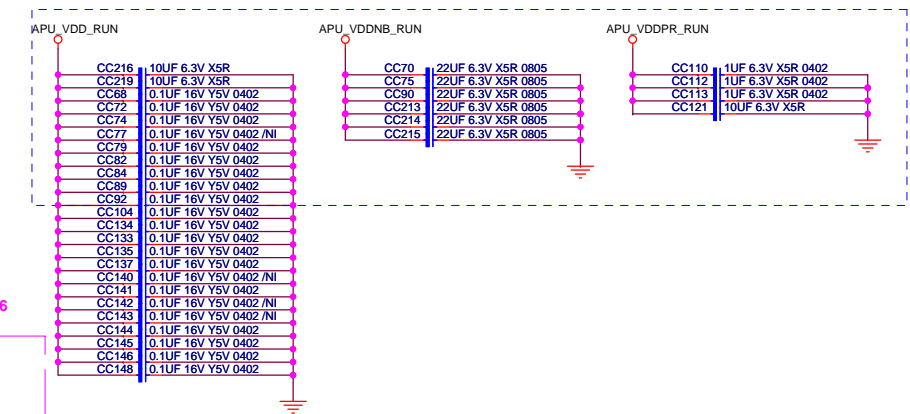
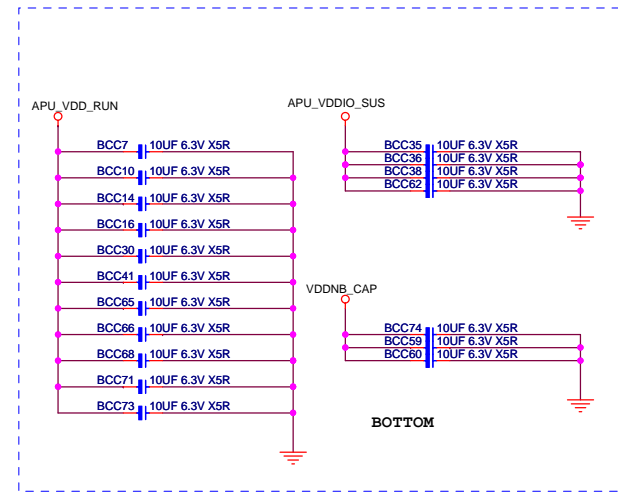
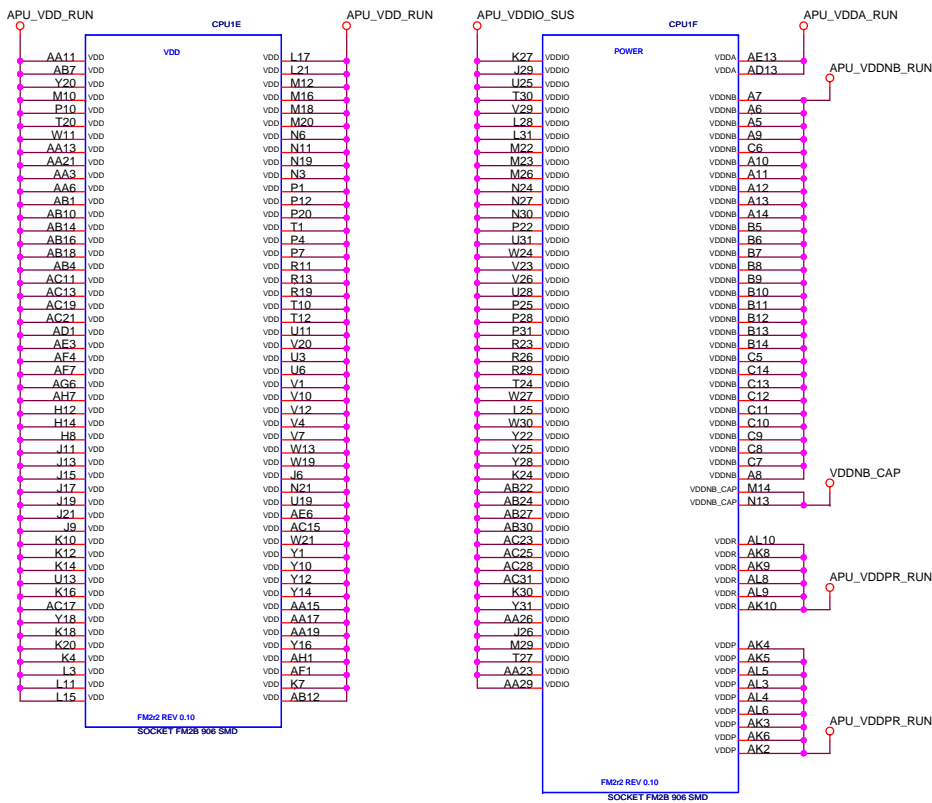
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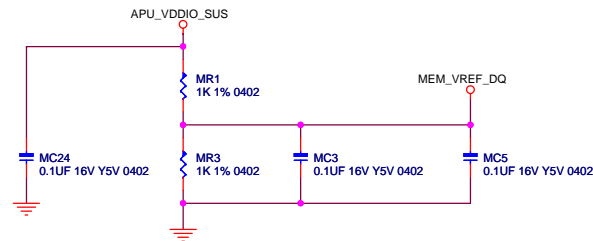
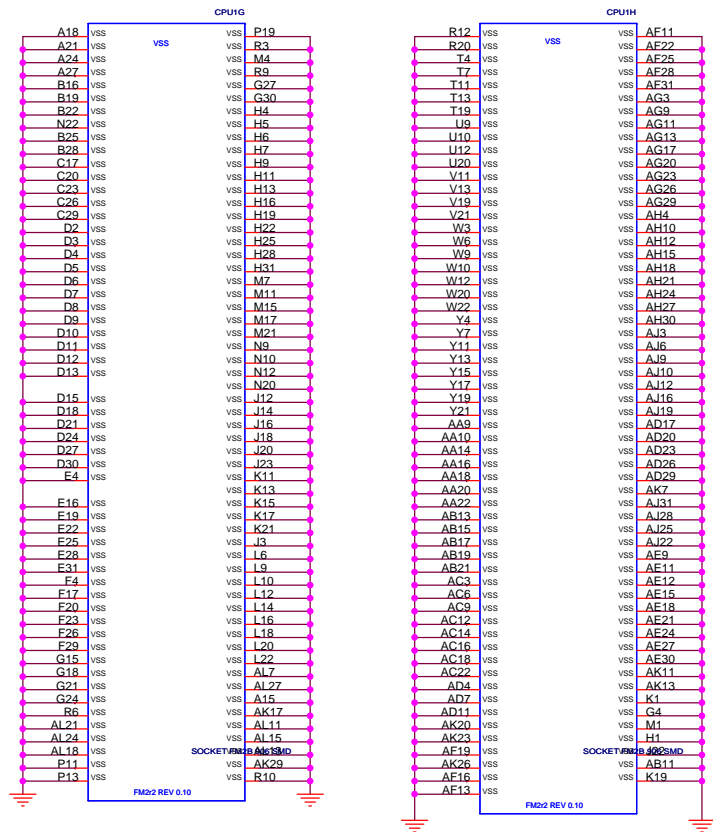
BIOSTAR STANDARD
NO:2011_AMD_FM1_01
2011-03-21





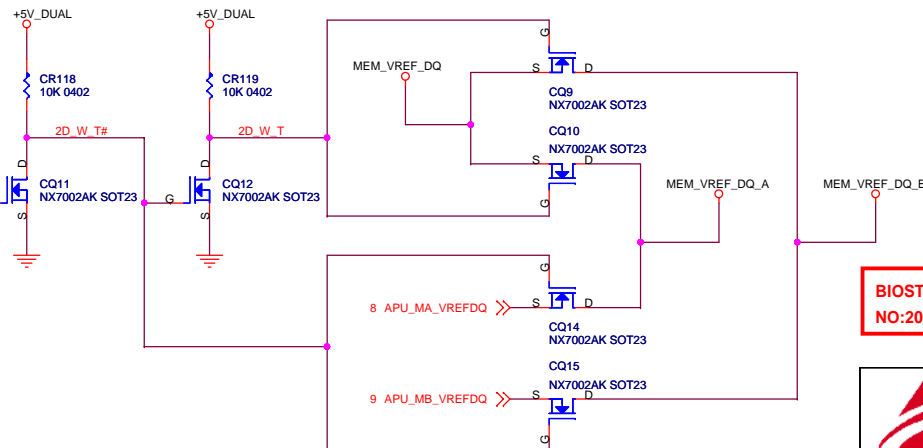
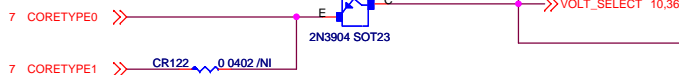


VDDA
2.5V/1.8V 0.9A/0.5A



CORE TYPE LOGIC

| | CORETYPE0 | CORETYPE1 |
|---------------------------|-----------|-----------|
| FM2 | 1 | 1 |
| FM2+ | 0 | 1 |
| Family 15h Models 60h-6Fh | 1 | 0 |



BIOSTAR STANDARD
NO:2013_AMD_FM2+_01

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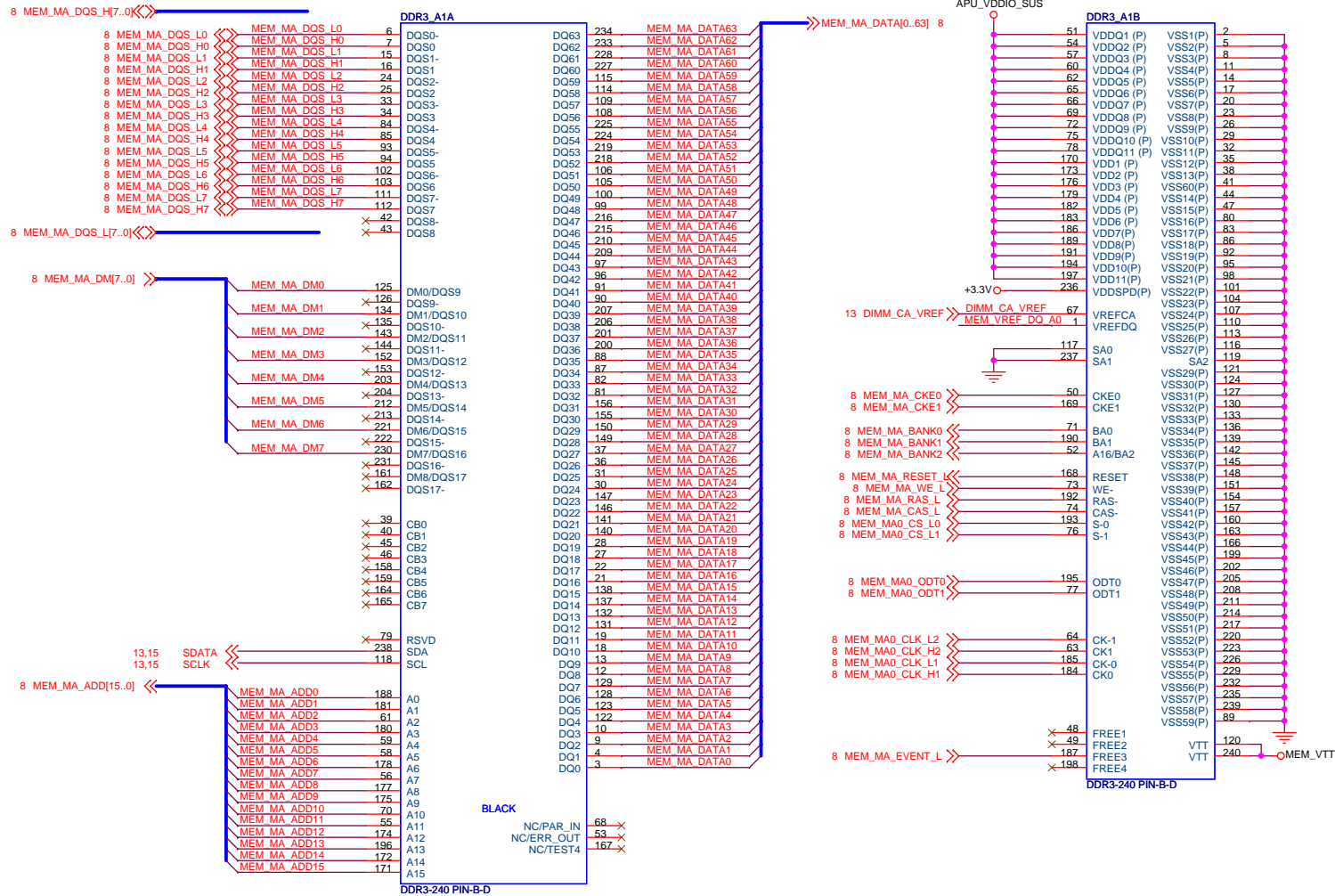
Title: **SKT 906 FM2+ GND**

Size: Custom Document Number: **AA70K-M2S** Rev: 6.0

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2D writing training switcher

DDR3_A0



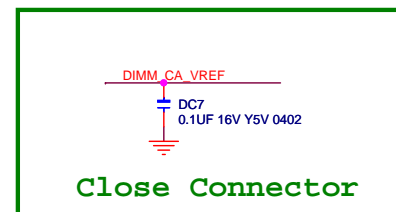
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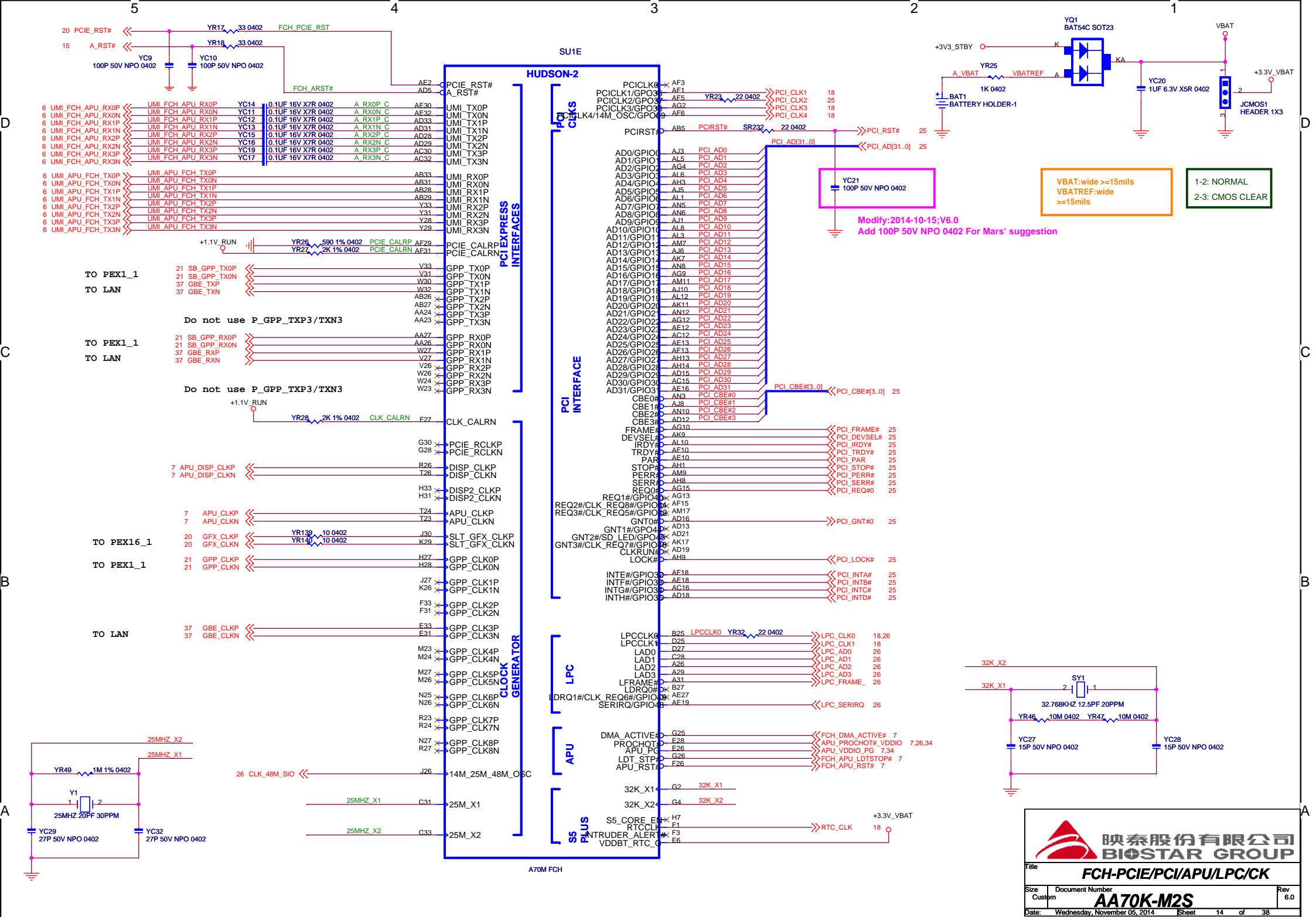
Title: **DDR DIMM-A1**

Size: Custom Document Number: **AA70K-M2S** Rev: 6.0

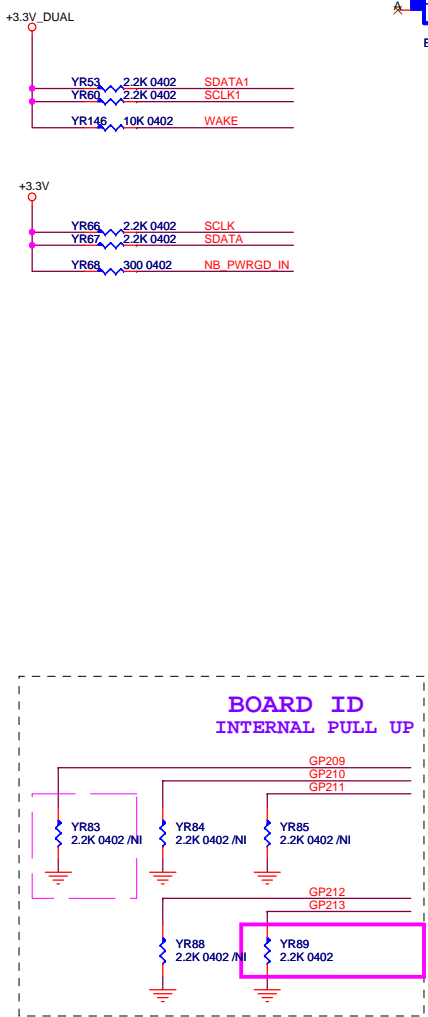
Date: Wednesday, November 05, 2014 Sheet: 12 of 38

1



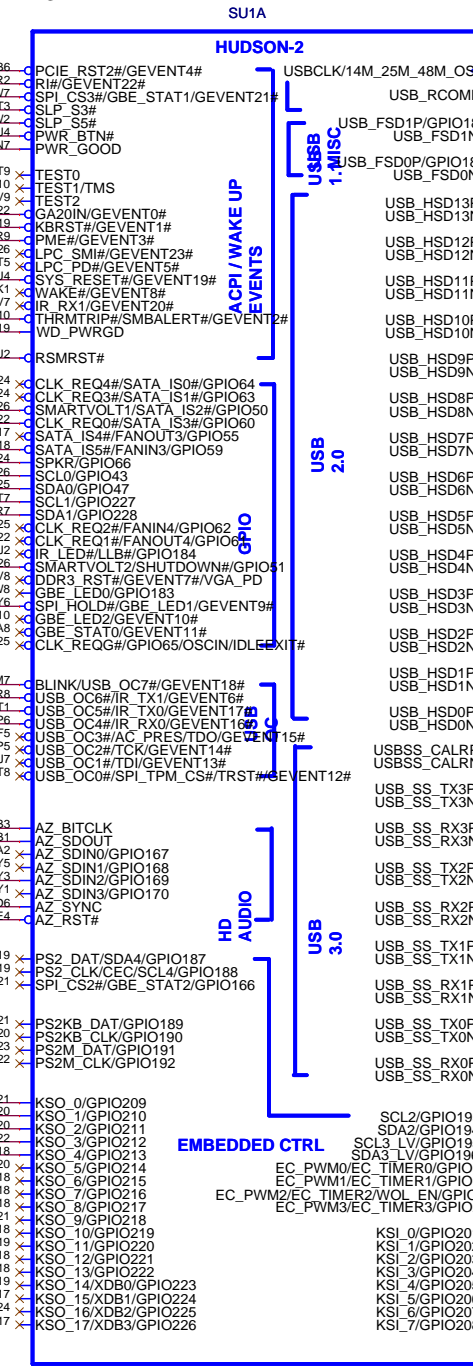
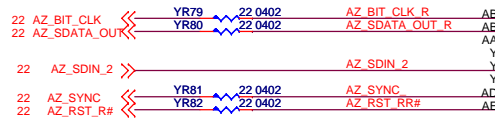


D
C
B
A



Modify:2014-11-05;V6.0
Board ID 11111-->11110
For ISL62773-->ISL62773A

PCIE_RST# FOR FCH PCIE DEVICE

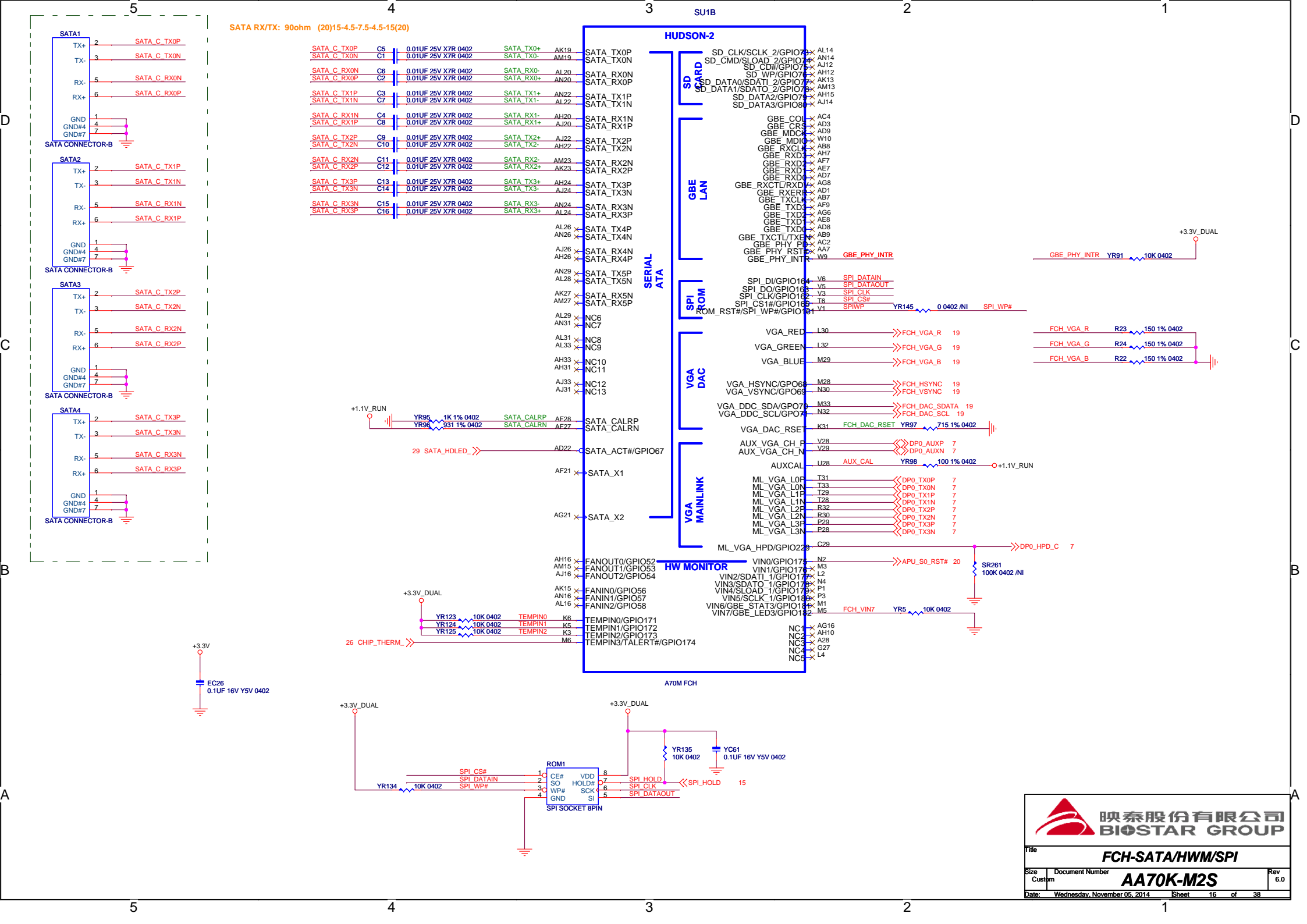


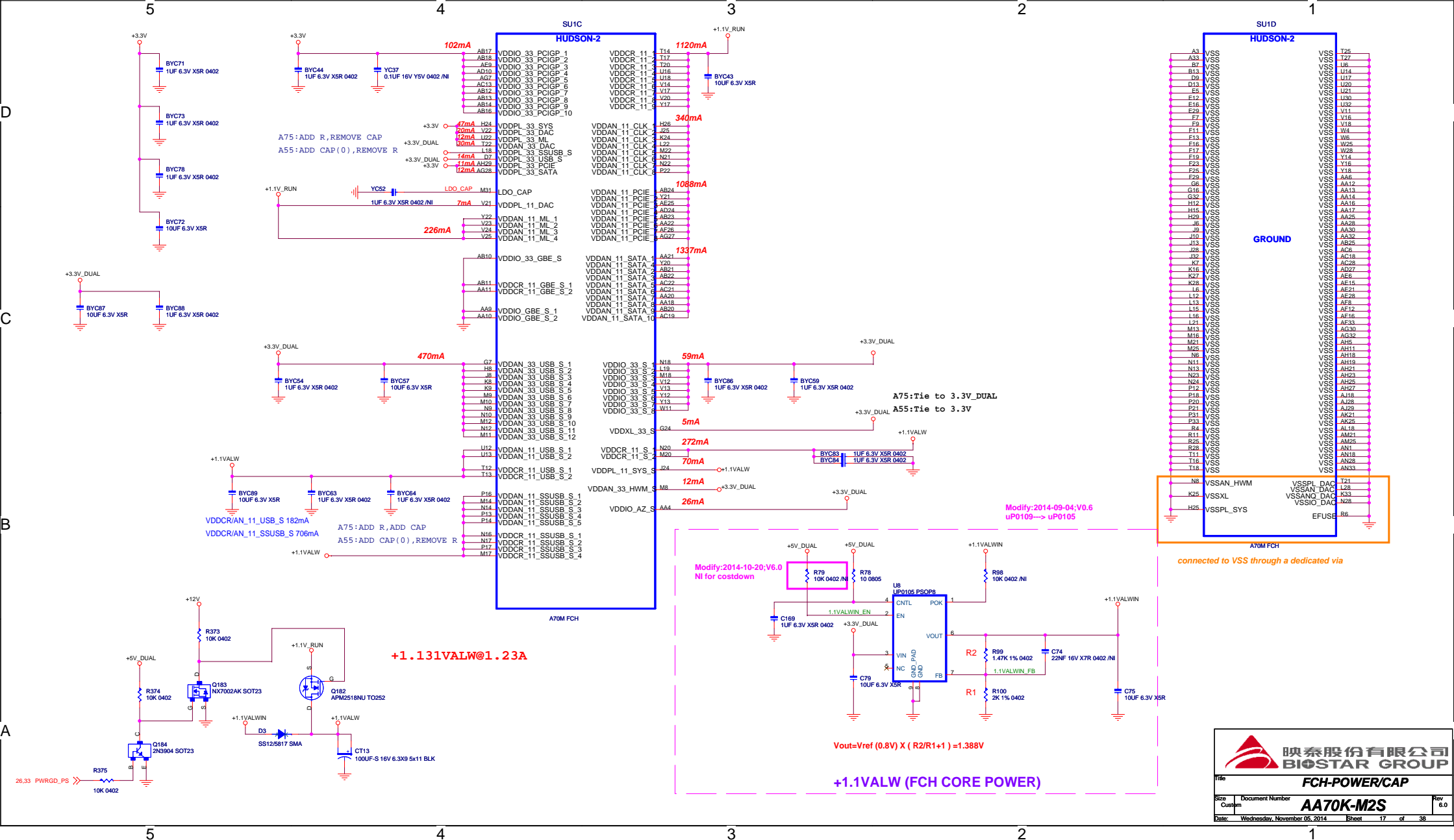
A70M FCH

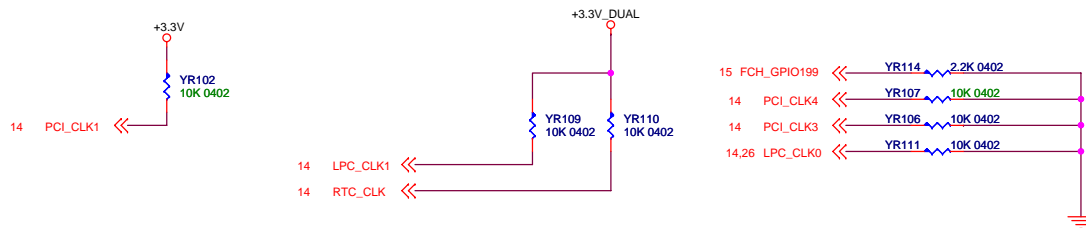
Title: **FCH-ACPI/GPIO/USB/AZ**

| | | |
|------------------------------------|-----------------------------------|----------------|
| Size: Custom | Document Number: AA70K-M2S | Rev: 6.0 |
| Date: Wednesday, November 05, 2014 | | Sheet 15 of 38 |

D
C
B
A





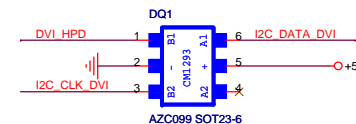
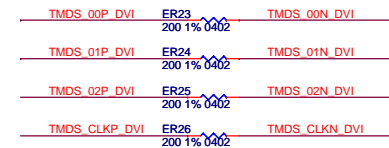
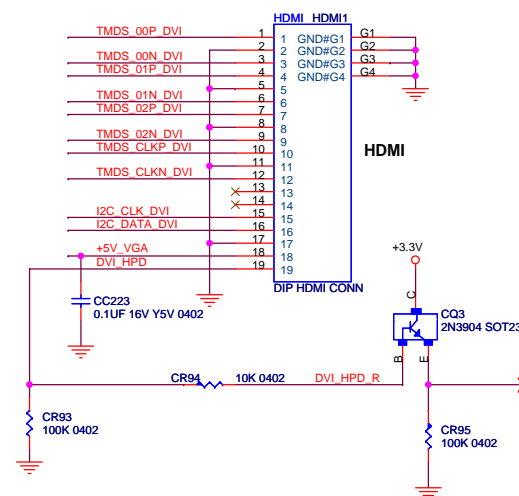
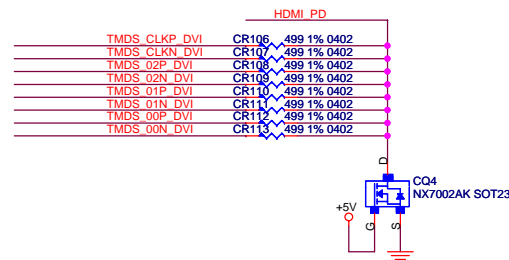
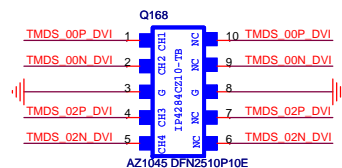
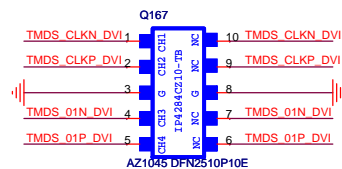
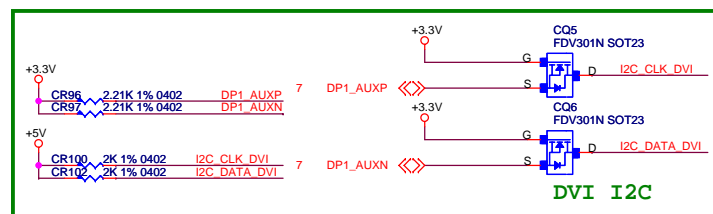
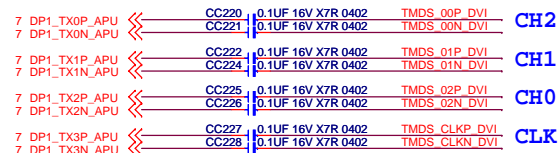
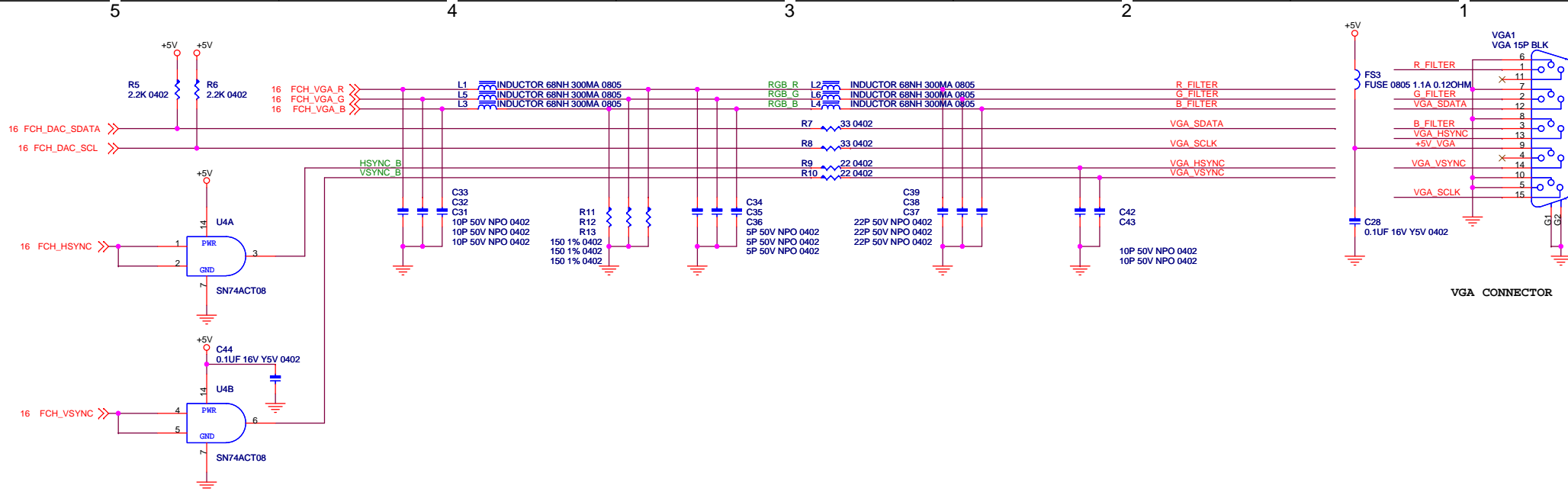


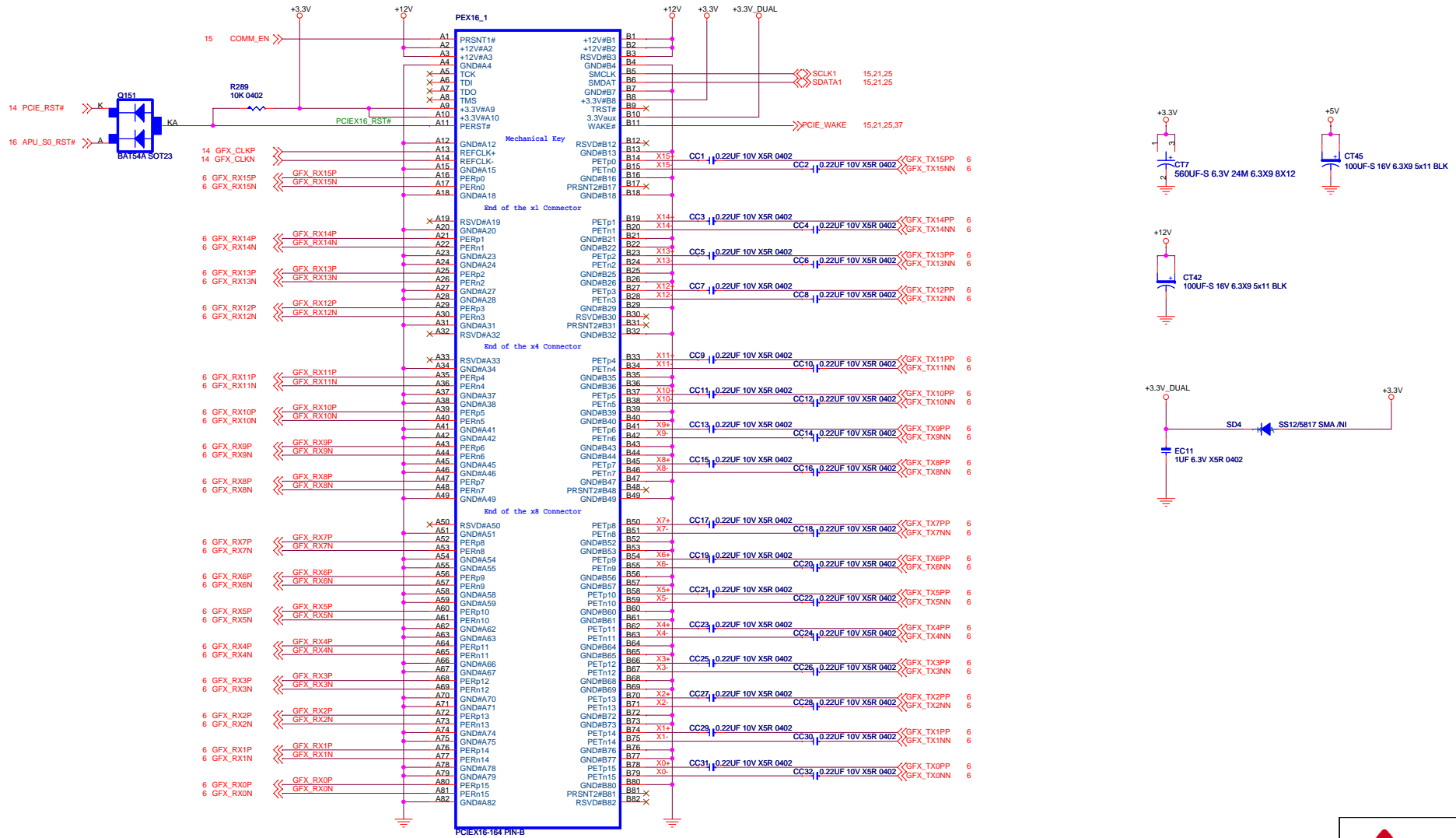
REQUIRED STRAPS

| | RTC_CLK | PCI_CLK1 | PCI_CLK3 | PCI_CLK4 | LPC_CLK0 | LPC_CLK1 | GPIO199 |
|------------------|------------------------|----------------------------|--------------------------------|--|---------------------------|------------------------------|-------------------------|
| PULL HIGH | S5+ DISABLE DEFAULT | ALLOW PCIE GEN2 DEFAULT | USE DEBUG STRAPS | CPU clk /DISP clk disable for External clock mode | EC ENABLED | CLKGEN ENABLED DEFAULT | ROM TYPE: H =LPC ROM |
| PULL LOW | S5+ ENABLE | FORCE PCIE GEN1 | IGNORE DEBUG STRAPS DEFAULT | CPU clk /DISP clk enable for integrated clock mode DEFAULT | EC DISABLED DEFAULT | CLKGEN DISABLED | L = SPI ROM DEFAULT |

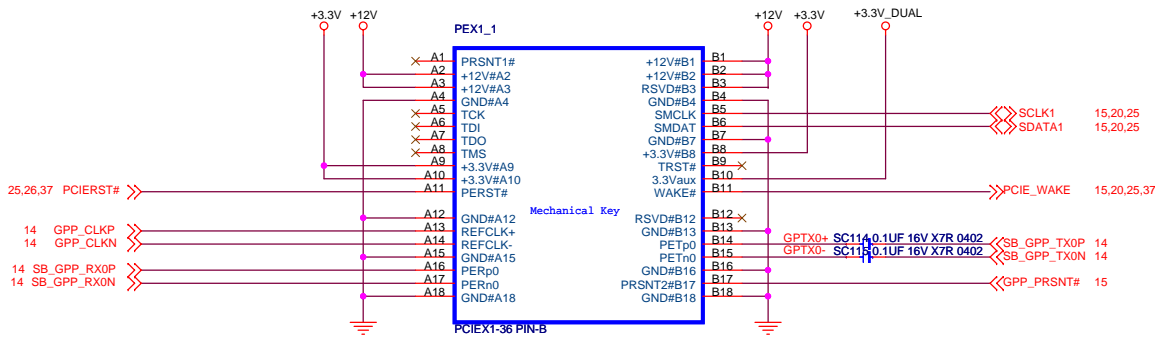
NOTE: HUDSON-D1 HAS INTERNAL 15K PULL UP RESISTOR FOR PCI_AD[30:23]

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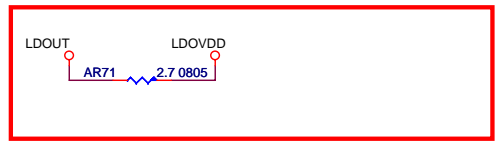
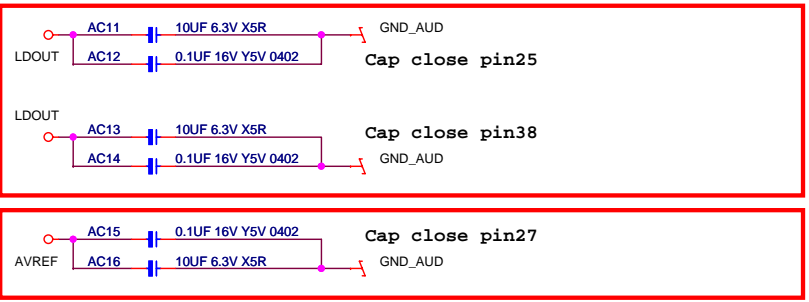
Vinafix.com



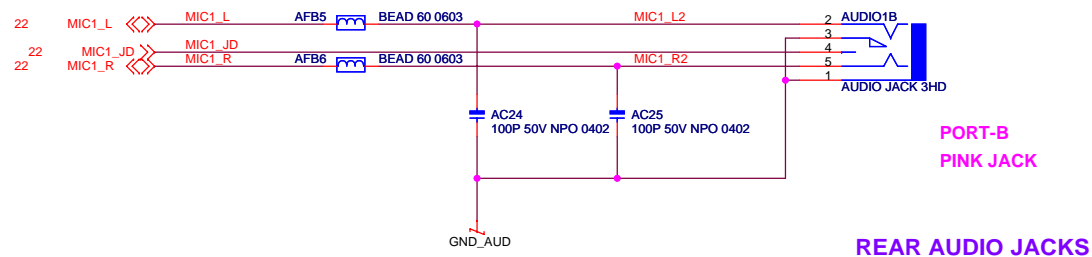
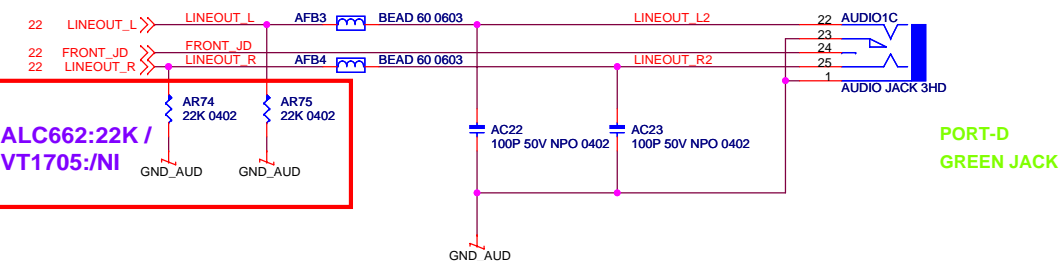
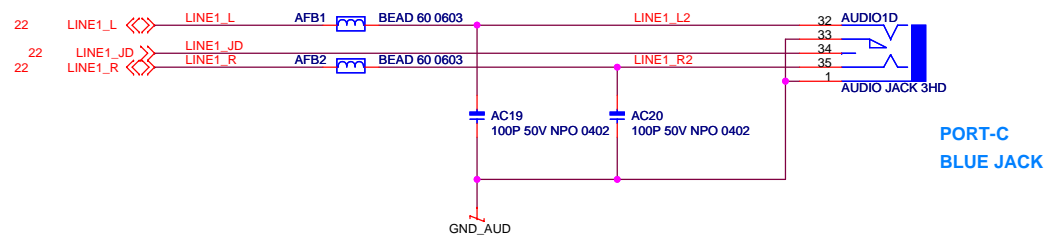
15 AZ_BIT_CLK

AC28
22P 50V NPO 0402 /NI

15 AZ_RST_R#
15 AZ_SYNC
15 AZ_SDATA_OUT
15 AZ_SDIN_2
15 AZ_BIT_CLK

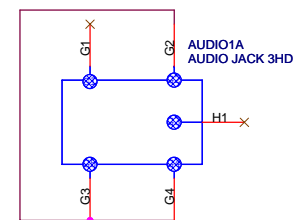
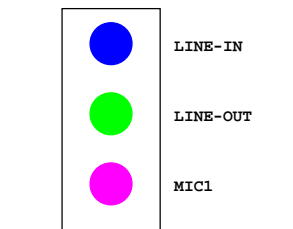
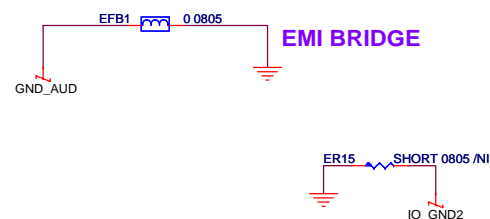
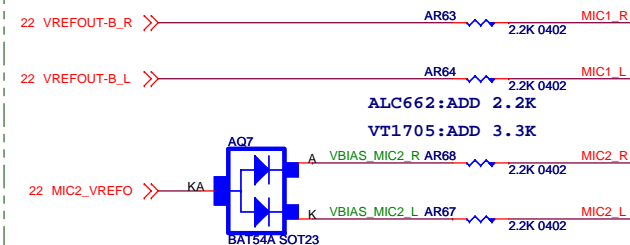
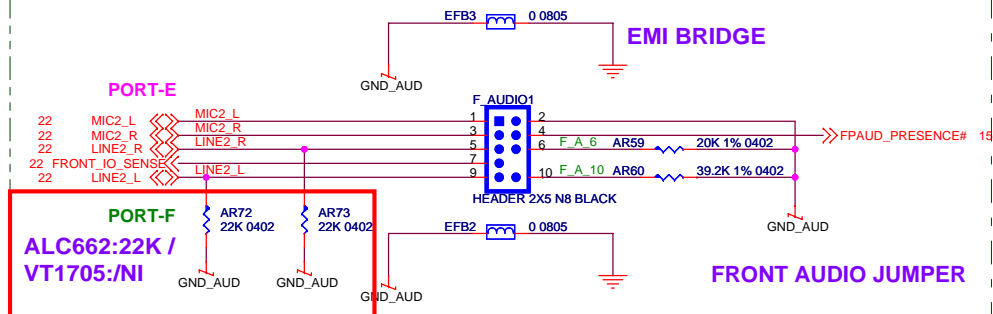
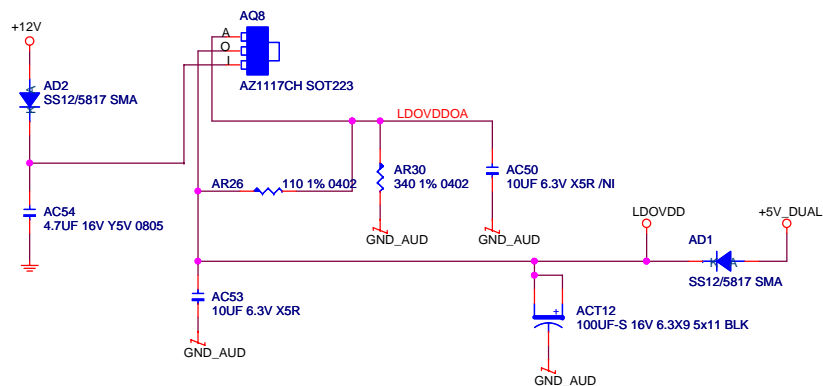


| | | | |
|-----------|------------------------------|-----------|------------|
| Title | | | |
| ALC662VC | | | |
| Size B | Document Number | AA70K-M2S | Rev 6.0 |
| Date: | Wednesday, November 05, 2014 | Sheet | 22 of 38 |



REAR AUDIO JACKS

AUDIO ANALOG POWER



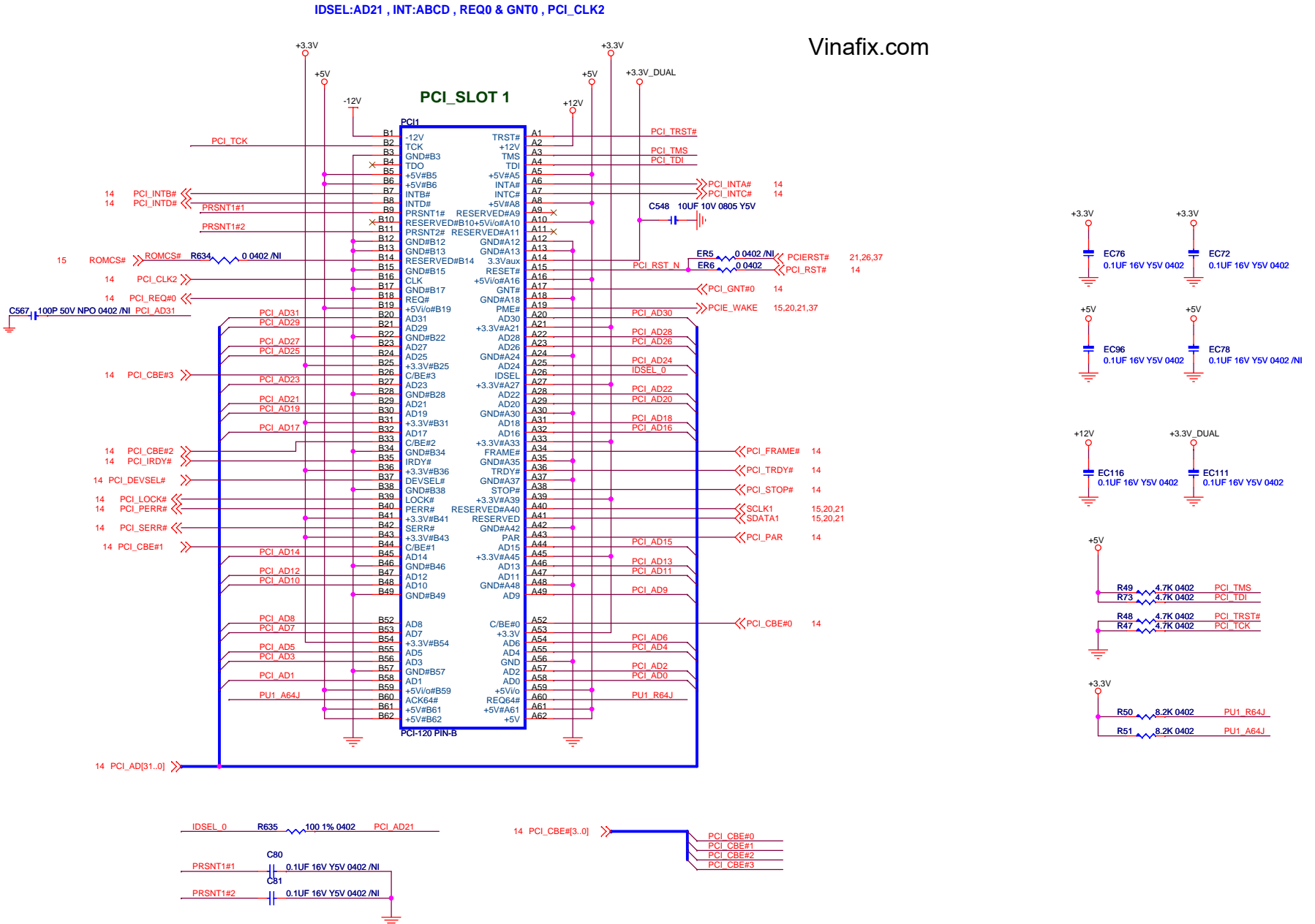
Change CODEC to ALC662(2013-03-28)

| | | | |
|------------------------------------|-----------------|------------------|---------|
| | | | |
| Title AUDIO CONNECTOR | | | |
| Size Custom | Document Number | AA70K-M2S | |
| Date: Wednesday, November 05, 2014 | Sheet | 23 of 38 | Rev 6.0 |

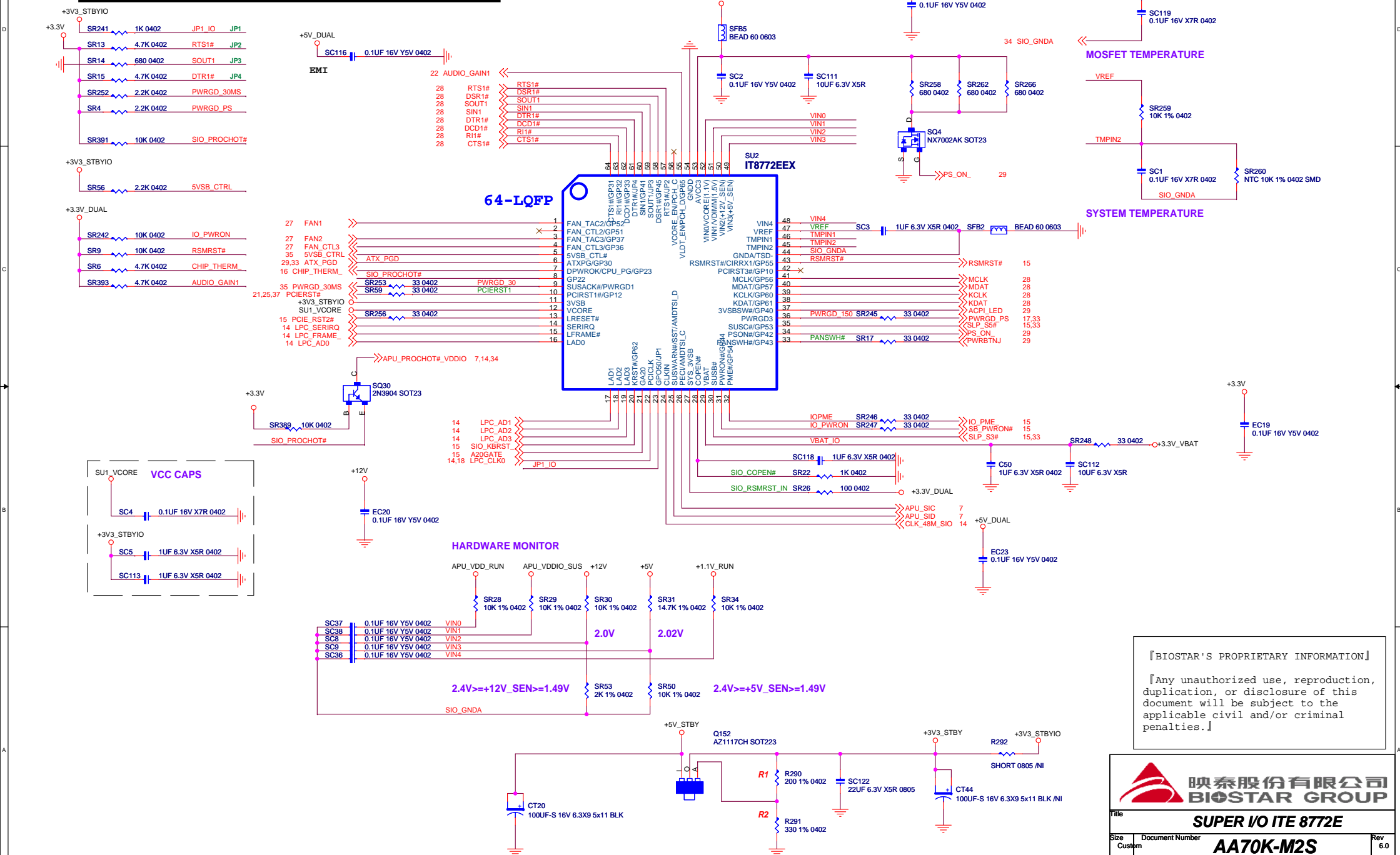
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| | | | | | | | |
|-------|------------------------------|--|--|---------------------------|----|----|-----|
| Title | | | | PCI BRIDGE ASM1083 | | | |
| Size | Document Number | | | | | | Rev |
| C | AA70K-M2S | | | | | | 6. |
| Date: | Wednesday, November 05, 2014 | | | Sheet | 24 | of | 38 |



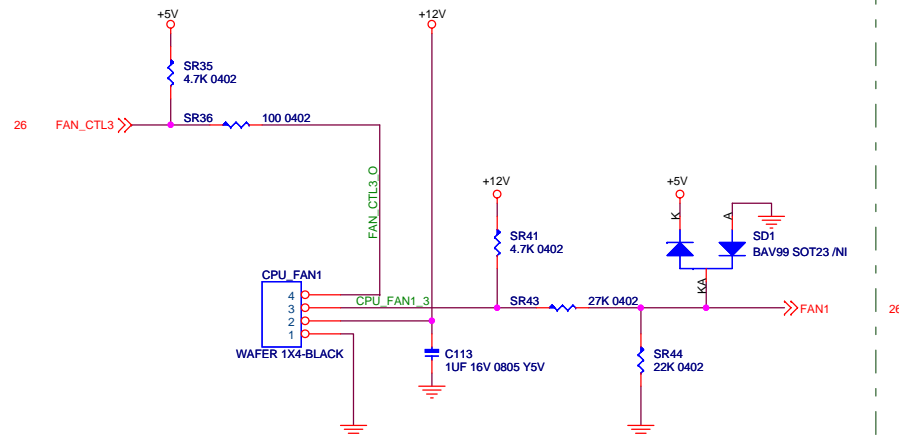
| | Symbol | Value | Description |
|--------|-------------|-------|--|
| JP1 | DSW_EUP_SEL | 1 | EUP(default) |
| Pin-23 | | 0 | DSW |
| JP2 | WDT_EN | 1 | Disable WDT to reset PWROK(default) |
| Pin-57 | | 0 | Enable WDT to reset PWROK |
| JP3 | FAN_CTL_SEL | 1 | EC Input 56h/73h default = 80h(Fan off) |
| Pin-59 | | 0 | EC Input 56h/73h default = 00h(Full speed) |
| JP4 | K8PWR_EN | 1 | Disable K8 Power Sequence(default) |
| Pin-61 | | 0 | Enable K8 Power Sequence |



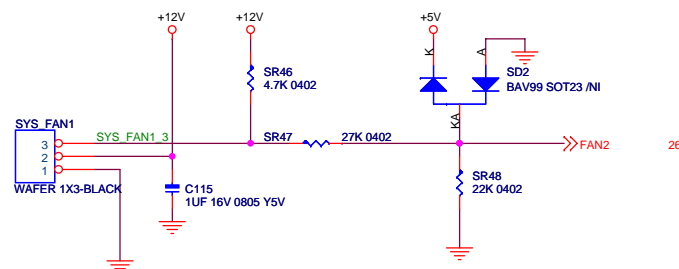
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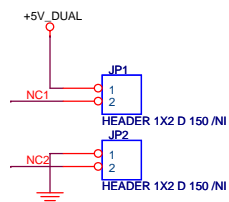
| | | | | | | | |
|--------|------------------------------|--|--|----------------------------|----------|--|-----|
| Title | | | | SUPER I/O ITE 8772E | | | |
| Size | Document Number | | | AA70K-M2S | | | Rev |
| Custom | | | | | | | 6. |
| Date: | Wednesday, November 05, 2014 | | | Sheet | 26 of 38 | | |

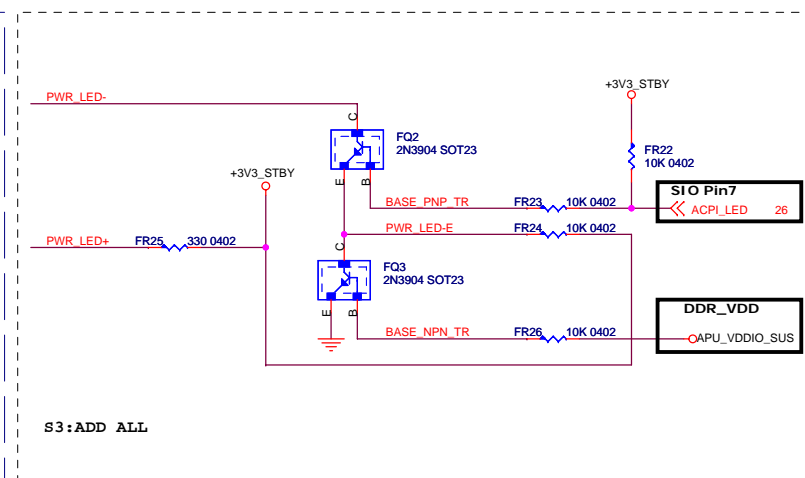
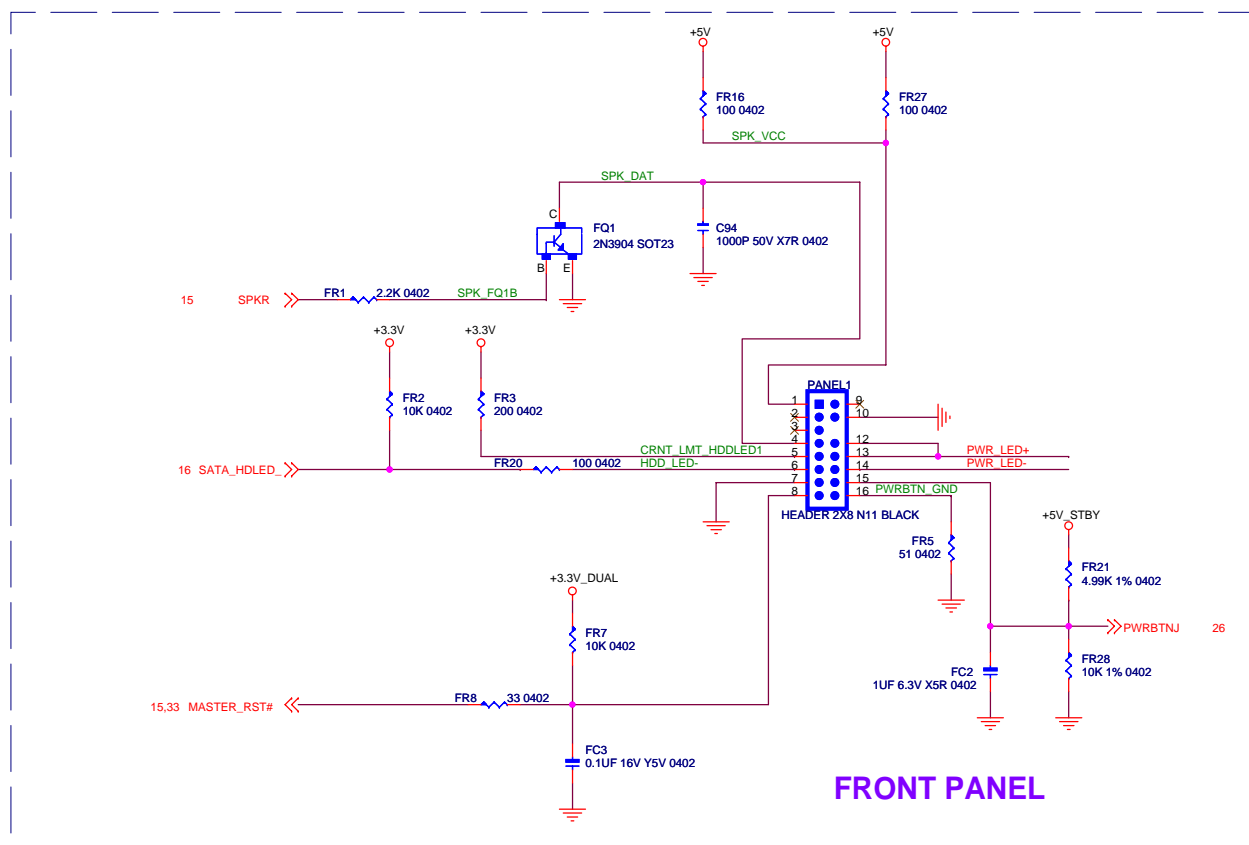
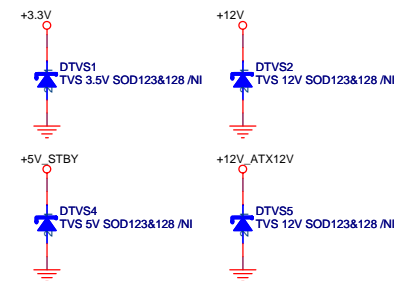
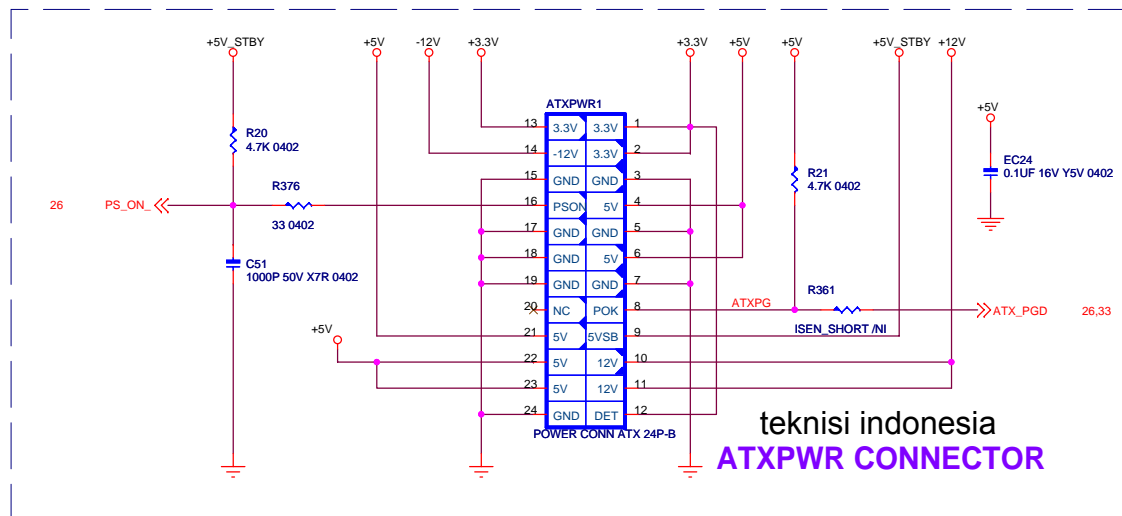


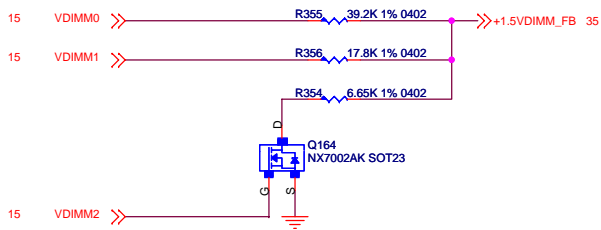
CPU FAN CONTROL



SYSTEM1 FAN

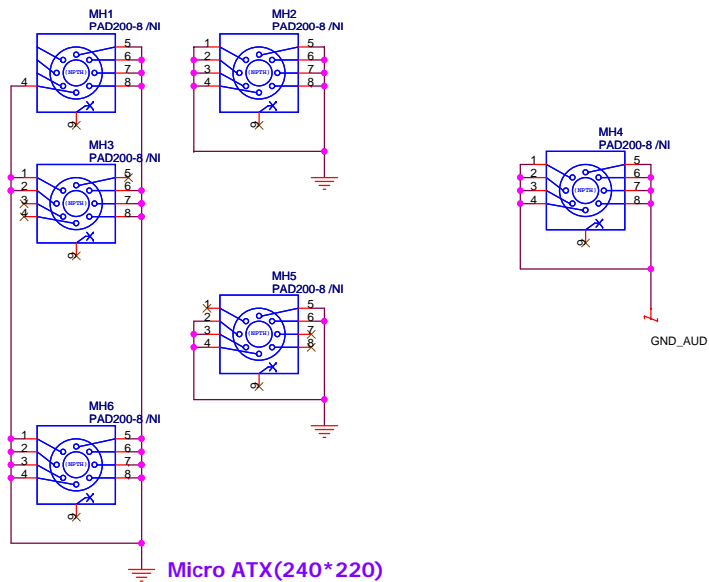


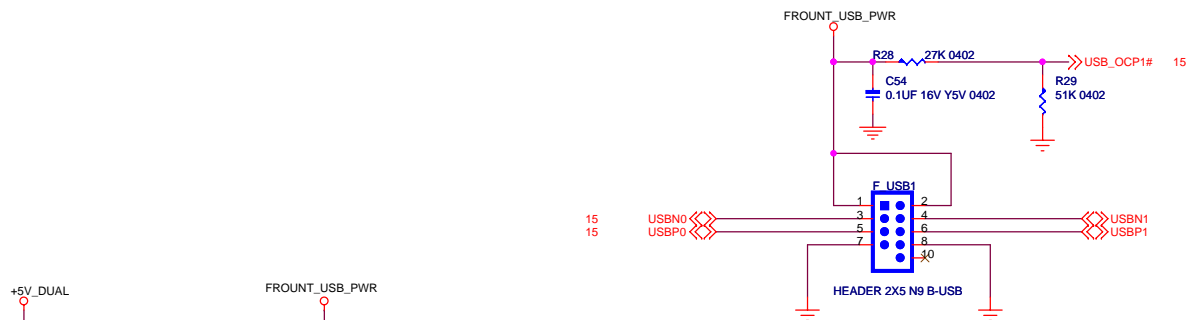




| +1.5VDIMM_FB | VDIMM2 | VDIMM1 | VDIMM0 |
|----------------|--------|--------|--------|
| 1.260V | 0 | 1 | 1 |
| 1.301V | 0 | 1 | 0 |
| 1.350V | 0 | 0 | 1 |
| 1.390V | 0 | 0 | 0 |
| Default 1.500V | 1 | 1 | 1 |
| 1.541V | 1 | 1 | 0 |
| 1.590V | 1 | 0 | 1 |
| 1.631V | 1 | 0 | 0 |

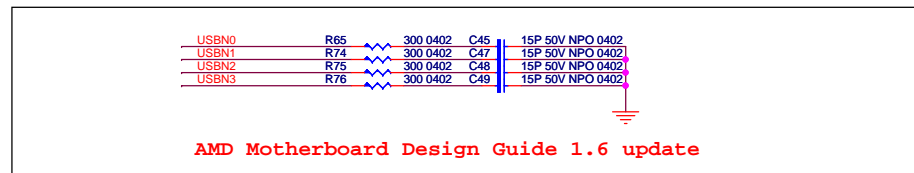
DDR OVER VOLTAGE TABLE



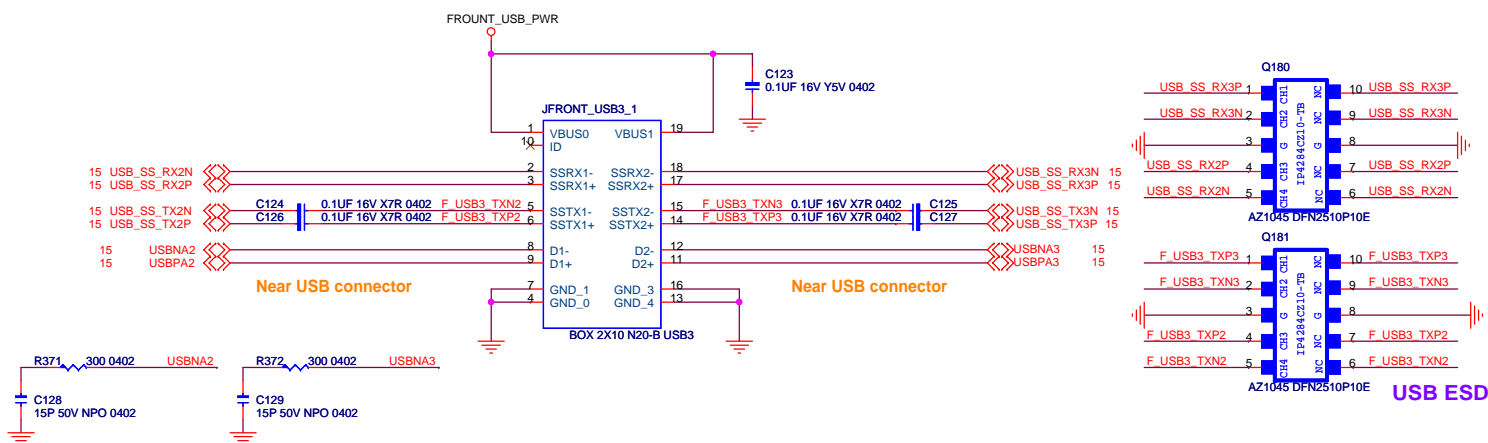


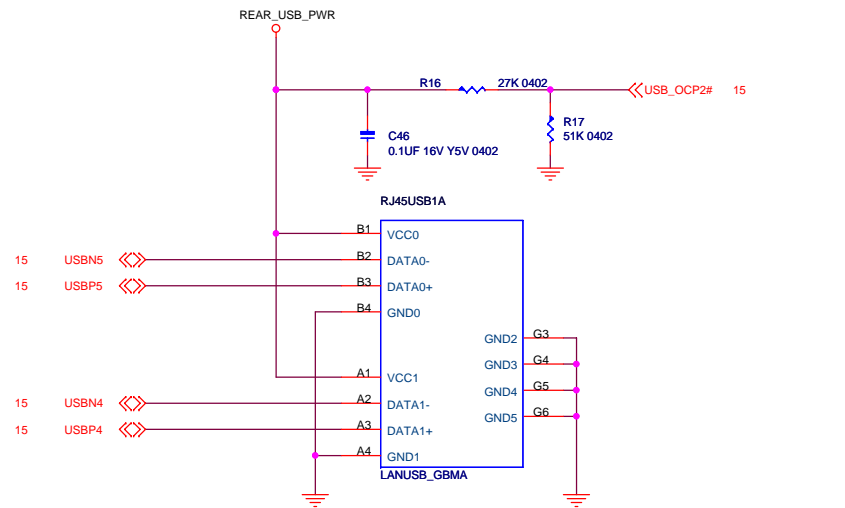
FRONT USB POWER

FRONT USB HEADER

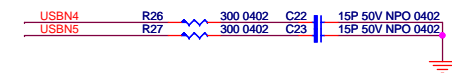


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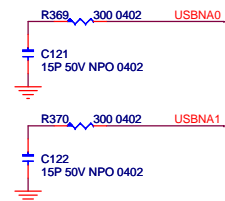
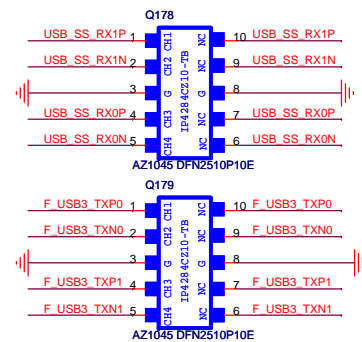
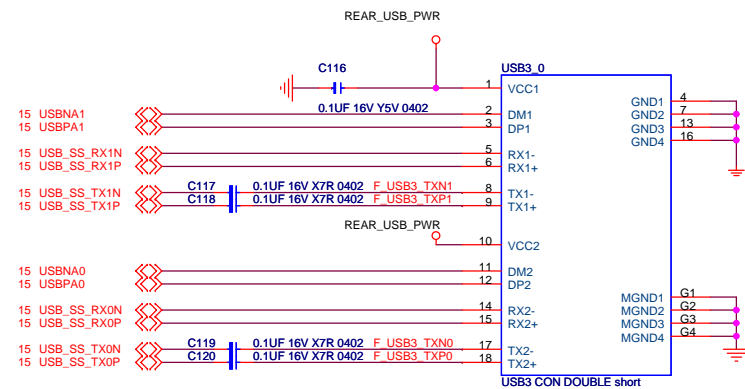
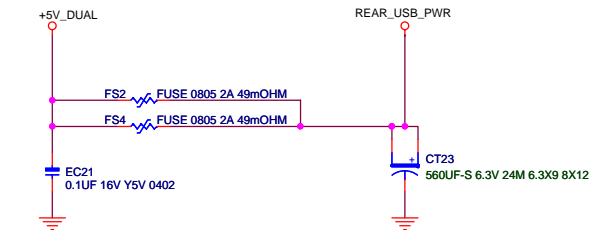


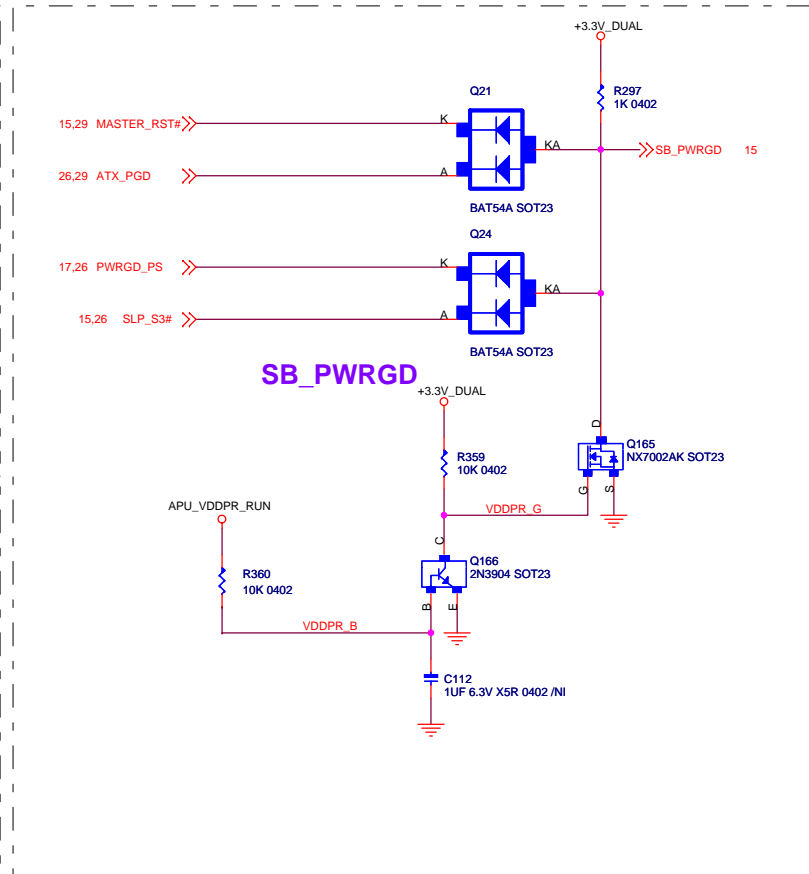
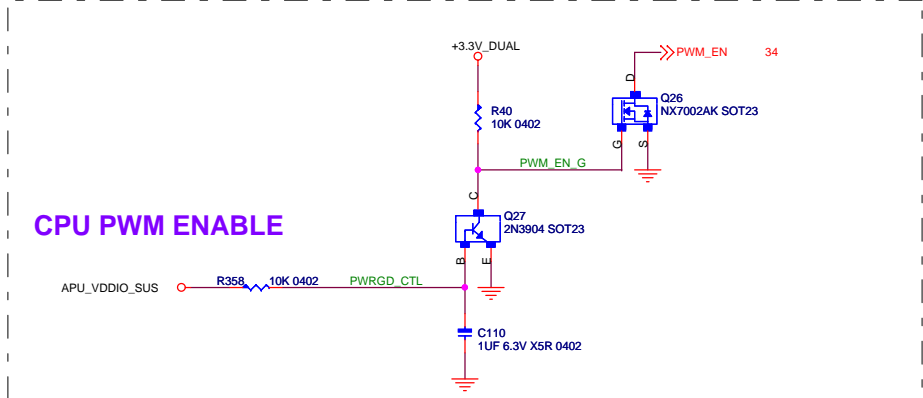
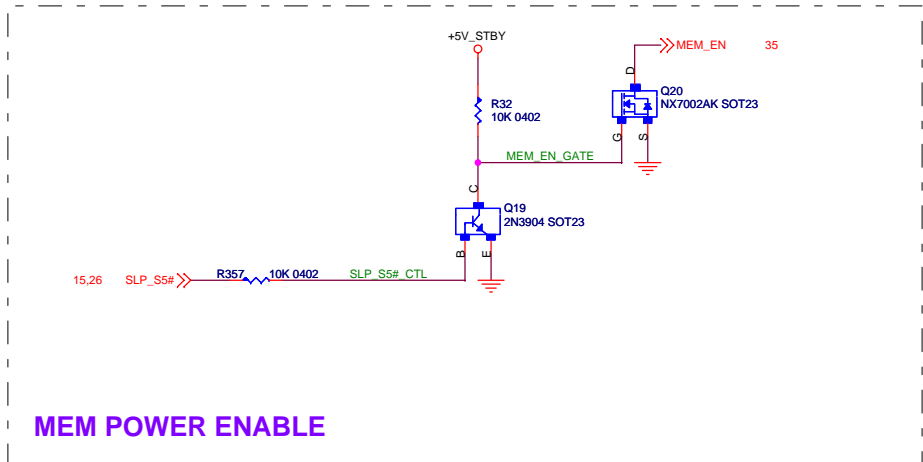


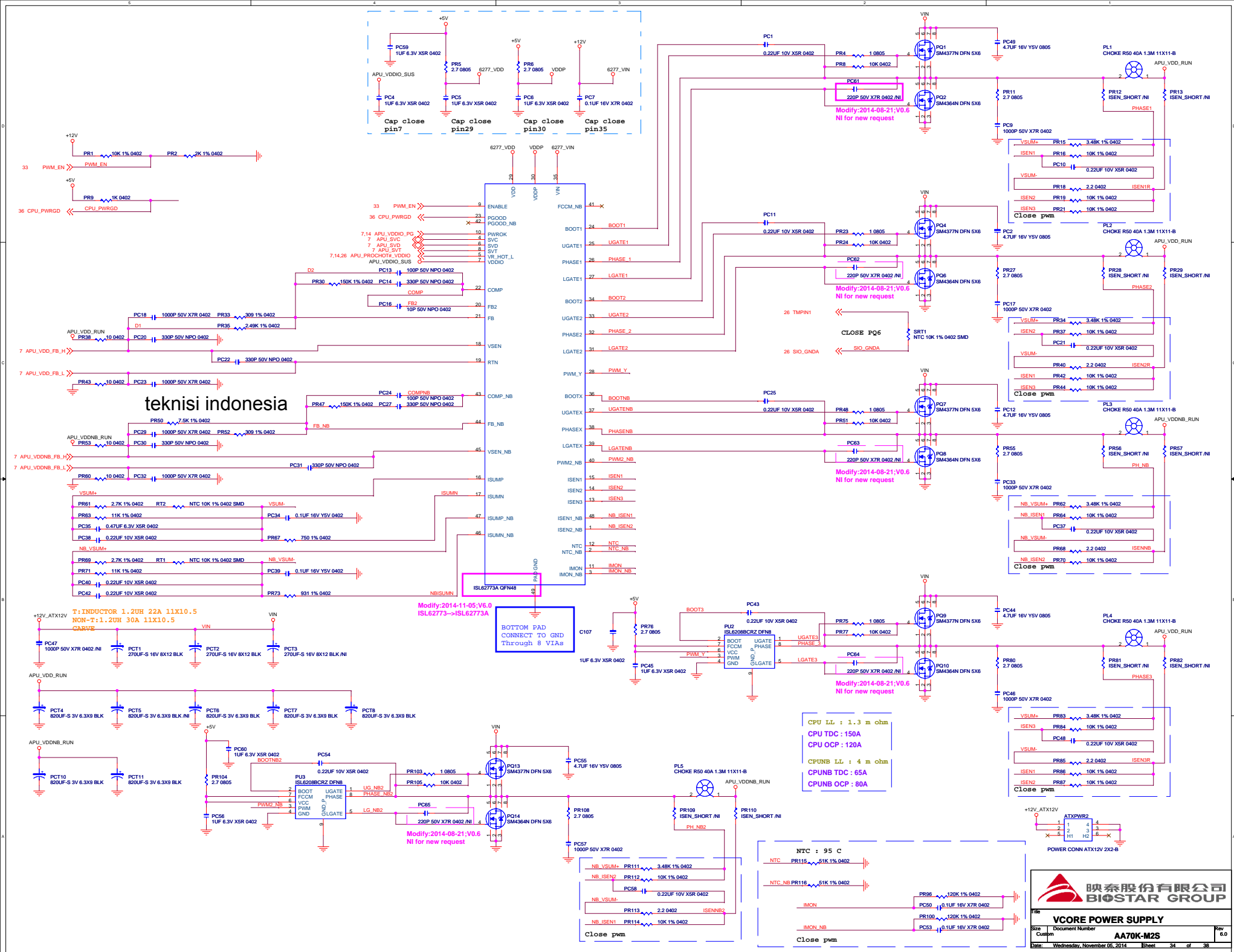
REAR USB



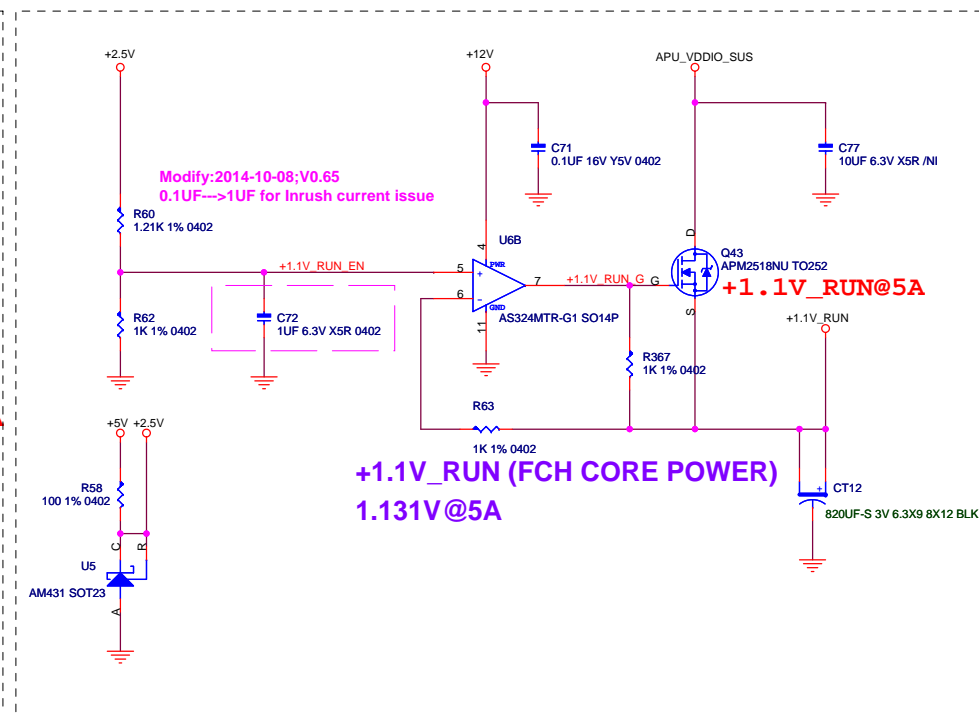
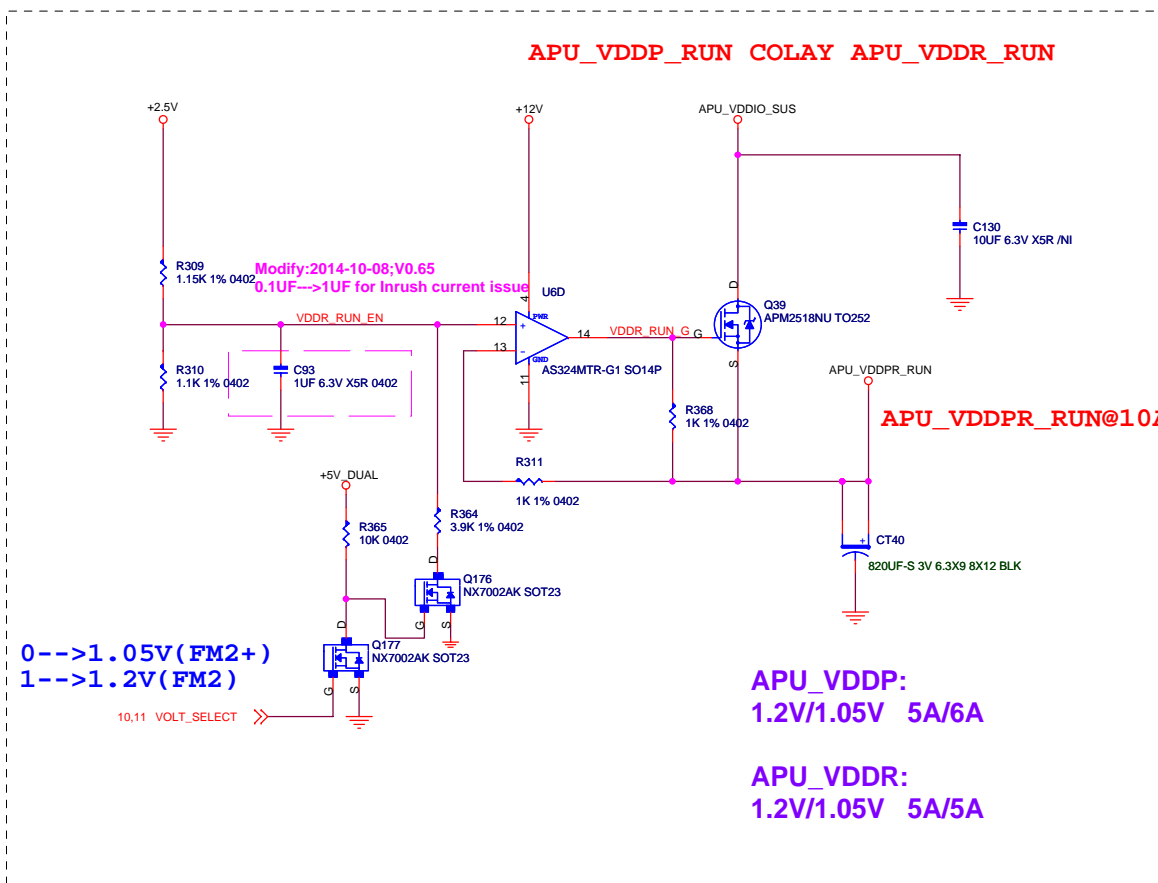
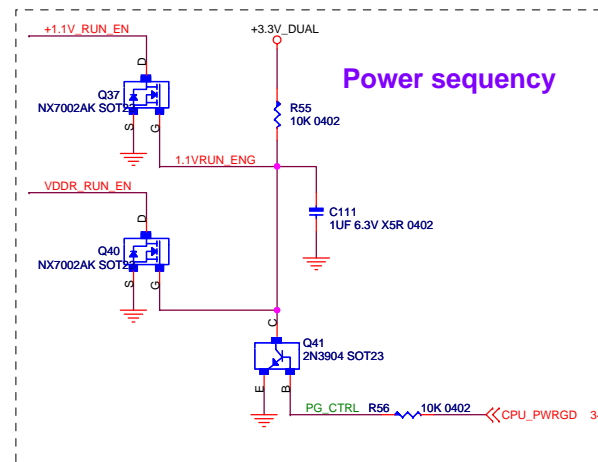
AMD Motherboard Design Guide 1.6 update

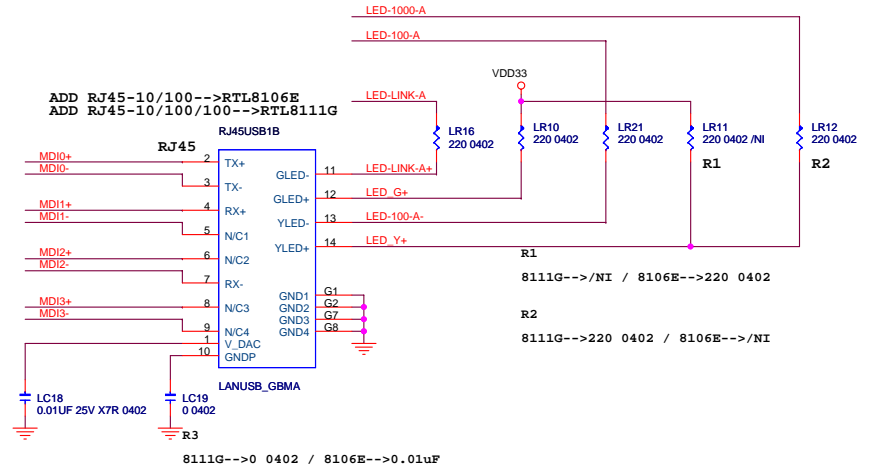
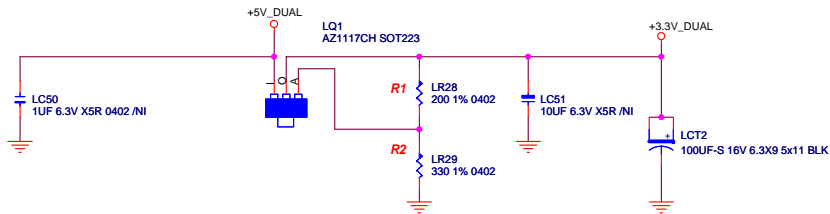
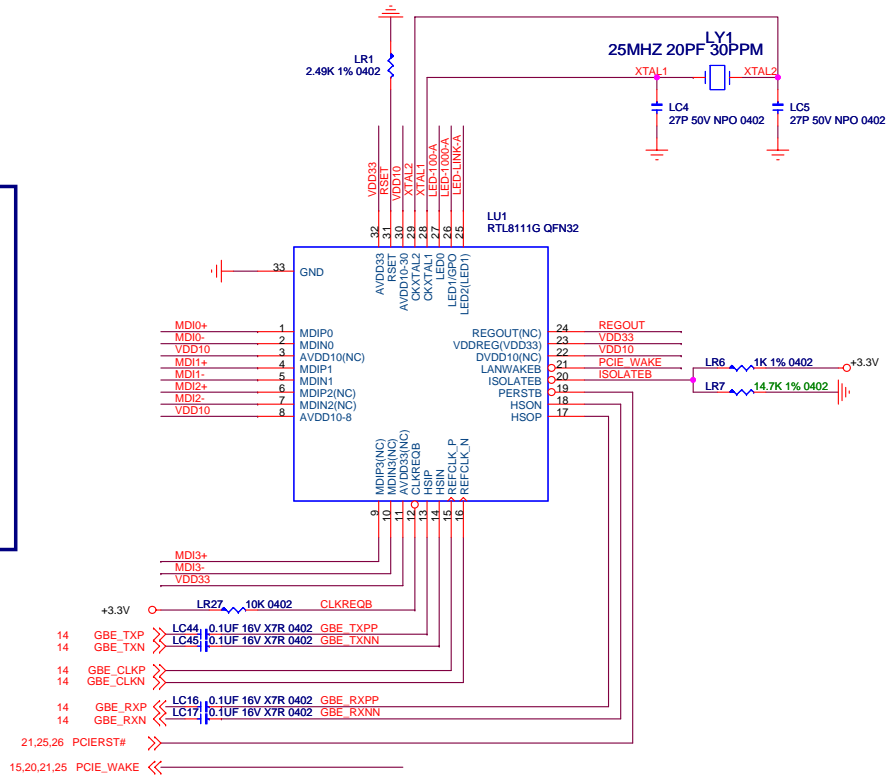
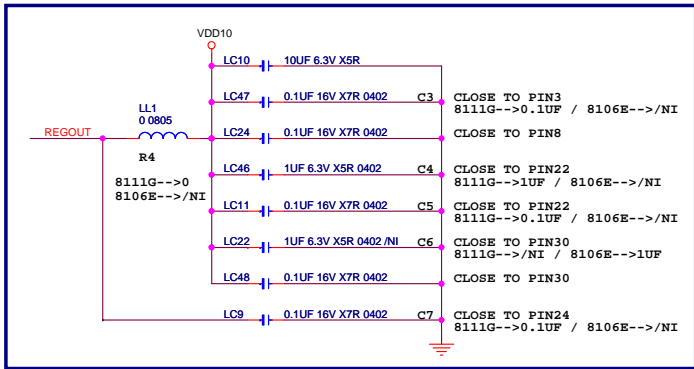
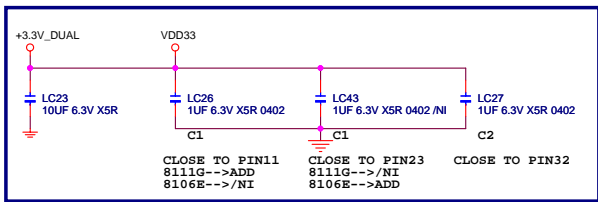






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COMPONENT CONTRAST LIST

| LAN PARTS | R1 | R2 | R3 | R4 | C1 | C2 | C3 | C4 | C5 | C6 | C7 | RJ45 CONN |
|-----------|----|----|--------|----|----------|----|----|----|----|----|----|---------------|
| RTL8111G | X | O | 0ohm | O | O(pin11) | O | O | O | O | X | O | LANUSB_GBMA |
| RTL8106E | O | X | 0.01uF | X | O(pin23) | O | X | X | X | O | X | RJ45USBA CONN |

Title: **RTL 8111G/8106E**

Size: Custom Document Number: **AA70K-M2S** Rev: 6.0

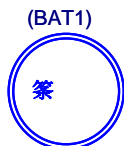
Date: Wednesday, November 05, 2014 Sheet: 37 of 38



JCMOS1(1_2)
JUMPER 2P B

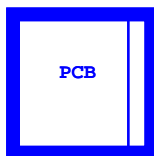


(SY1)
X'TAL WIRE



(BAT1)
3V BATTERY SONY

PCB



AA70K-M2S VER:6.0

LB1



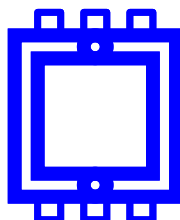
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LB2



VER6.3 10X3 LB2 /NI

(CPU1)



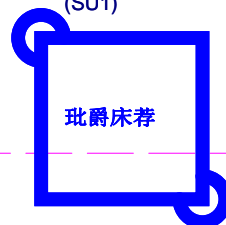
FM1RM-B-PBT

(ROM1)



SPI W25Q64 DIP

(SU1)



SBHS-AA68AM2S

15-Y11-160040R1 AA70K-M2S VER:6.0 /OSP/BLACK/((178.00*235.00*1.5)mm/4L/P&Q

86-AA70KM2S-R01P-60

96-AA70KM2S-R01P-60

86-AA70KM2S-R02P-60

96-AA70KM2S-R02P-60

Modify:2014-10-02;V0.66
SBHS-AA55D-M2S---->SBHS-AA68AM2S

20-120-362700H11---->20-120-432700H11

20-120-432700H11 HEATSINK 43.2x27.95x8mm/原色/型號後補/(HF).HOTEK



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Title

BOM

Size

Custom

Document Number

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6.0

Date:

Wednesday, November 05, 2014

Sheet

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