

# MS-7720 VER: 1.1

## CPU:

AMD FT1

## System Chipset:

AMD HUDSON-D1

## On Board Chipset:

Super I/O -- Fintek F71889AD

LAN -- RTL8111E

HD Codec -- ALC887 co-lay 892

BIOS -- SPI ROM 4M

## Main Memory:

DDR III X 2 (Max 8GB)

## Expansion Slots:

PCI-E X 16 \*1

PCI-E X 1 \*2

PCI X 1

## Clock Generator:

FCH Internal CLK GEN

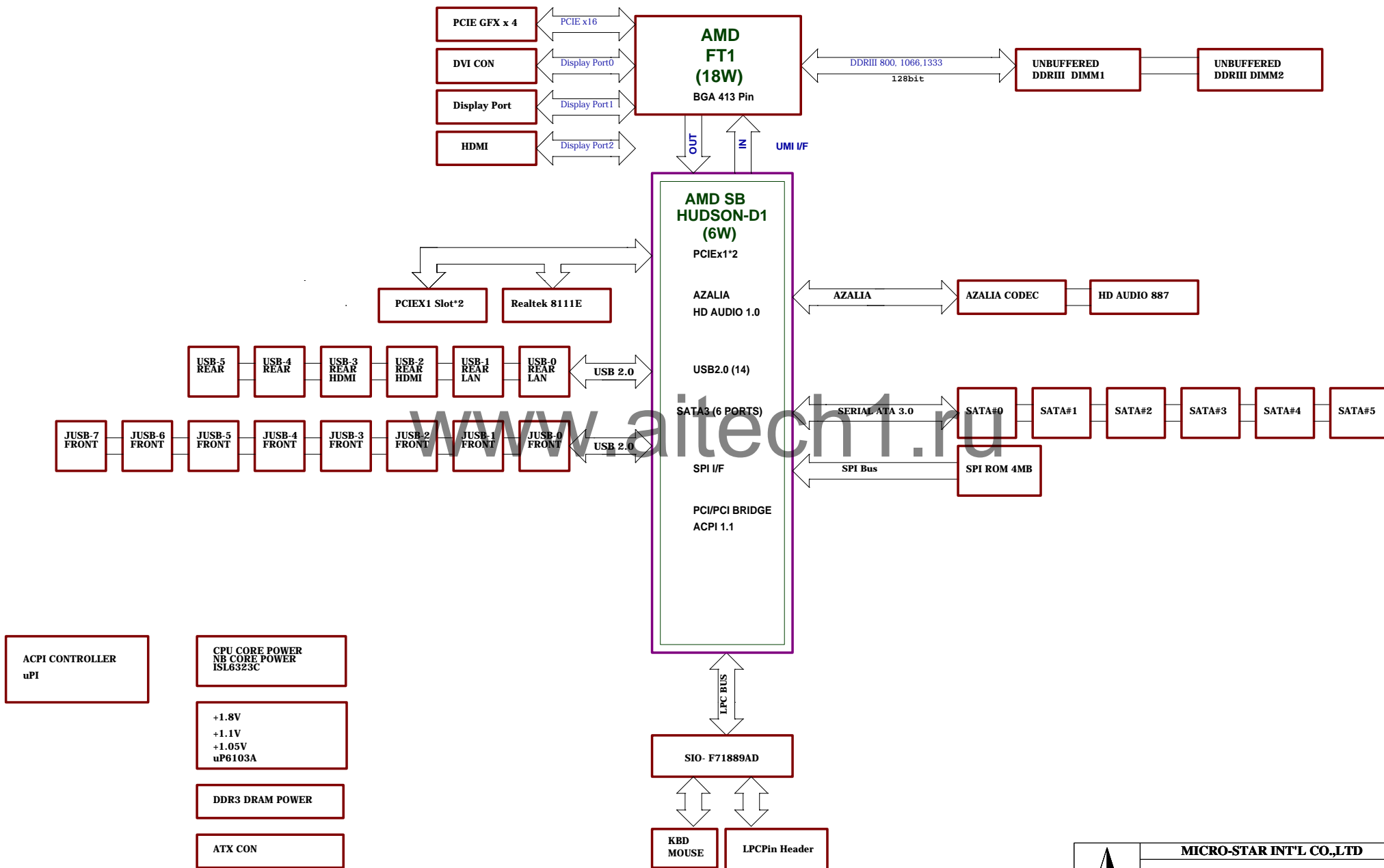
## PWM:

Controller -- Intersil ISL6323C

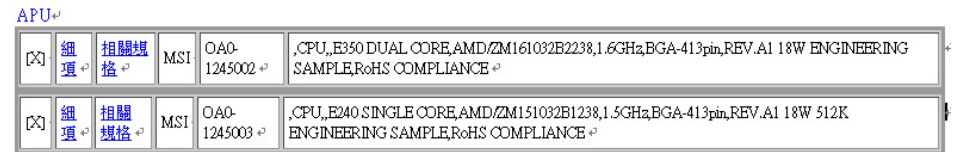
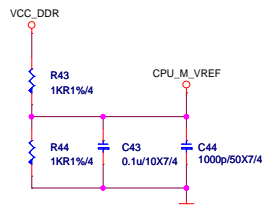



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# Project MS-7720 BLOCK DIAGRAM





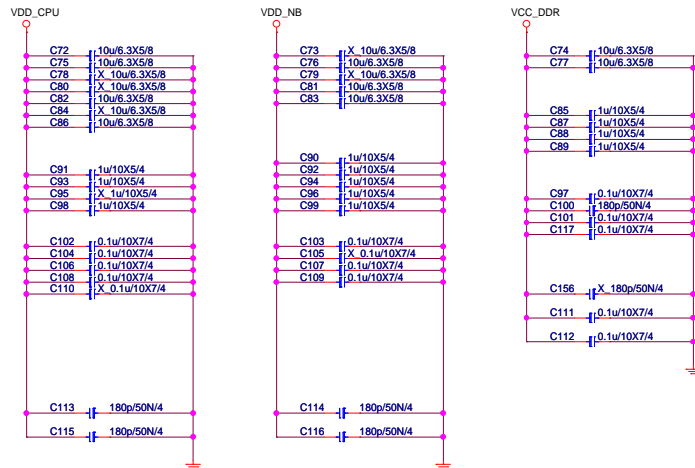
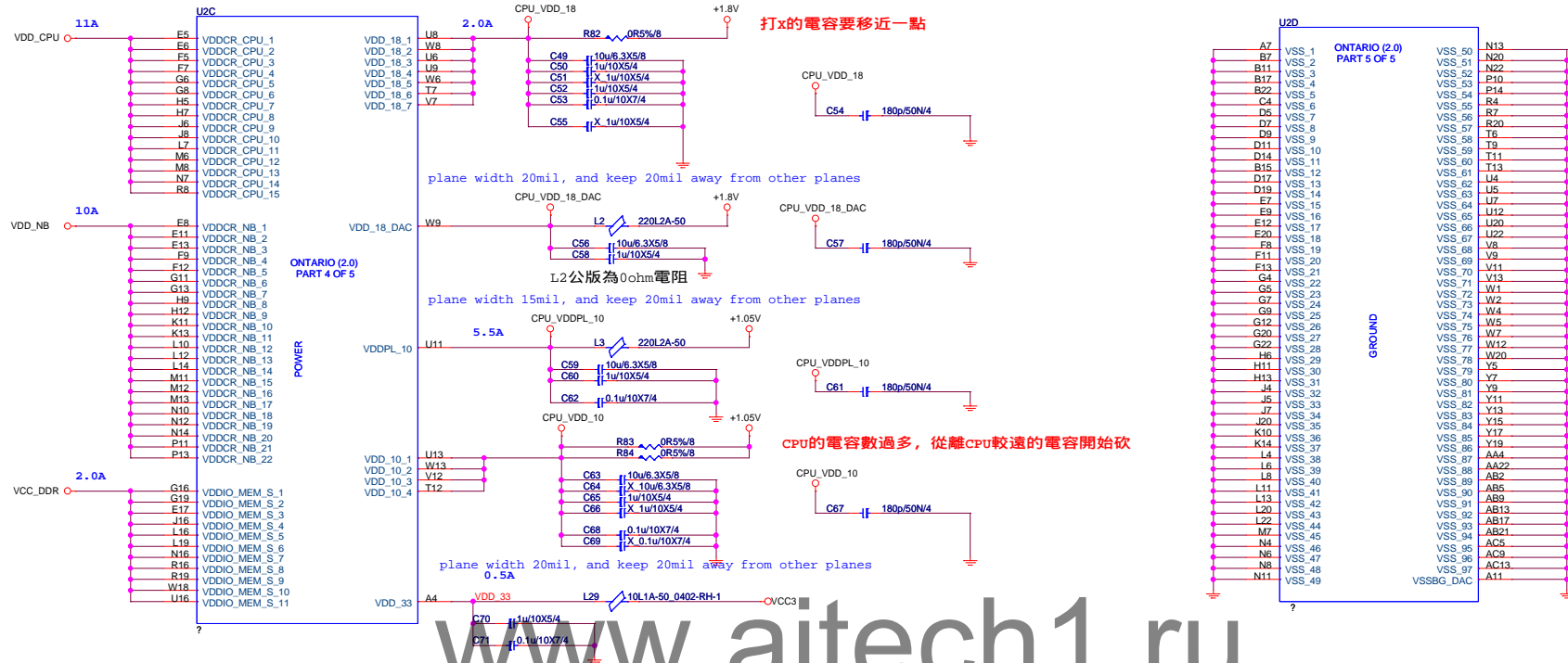


|   |                                 |   |               |
|---|---------------------------------|---|---------------|
|  | <b>MICRO-STAR INT'L CO.,LTD</b> |   |               |
|   | <b>MS-7720</b>                  |   |               |
|   | Size<br>Custom                  | Document Description<br><b>CPU FM1 DDRIII(A) MEMORY I/F</b> | Rev<br>1.1    |
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# CPU AM3 PWR & GND

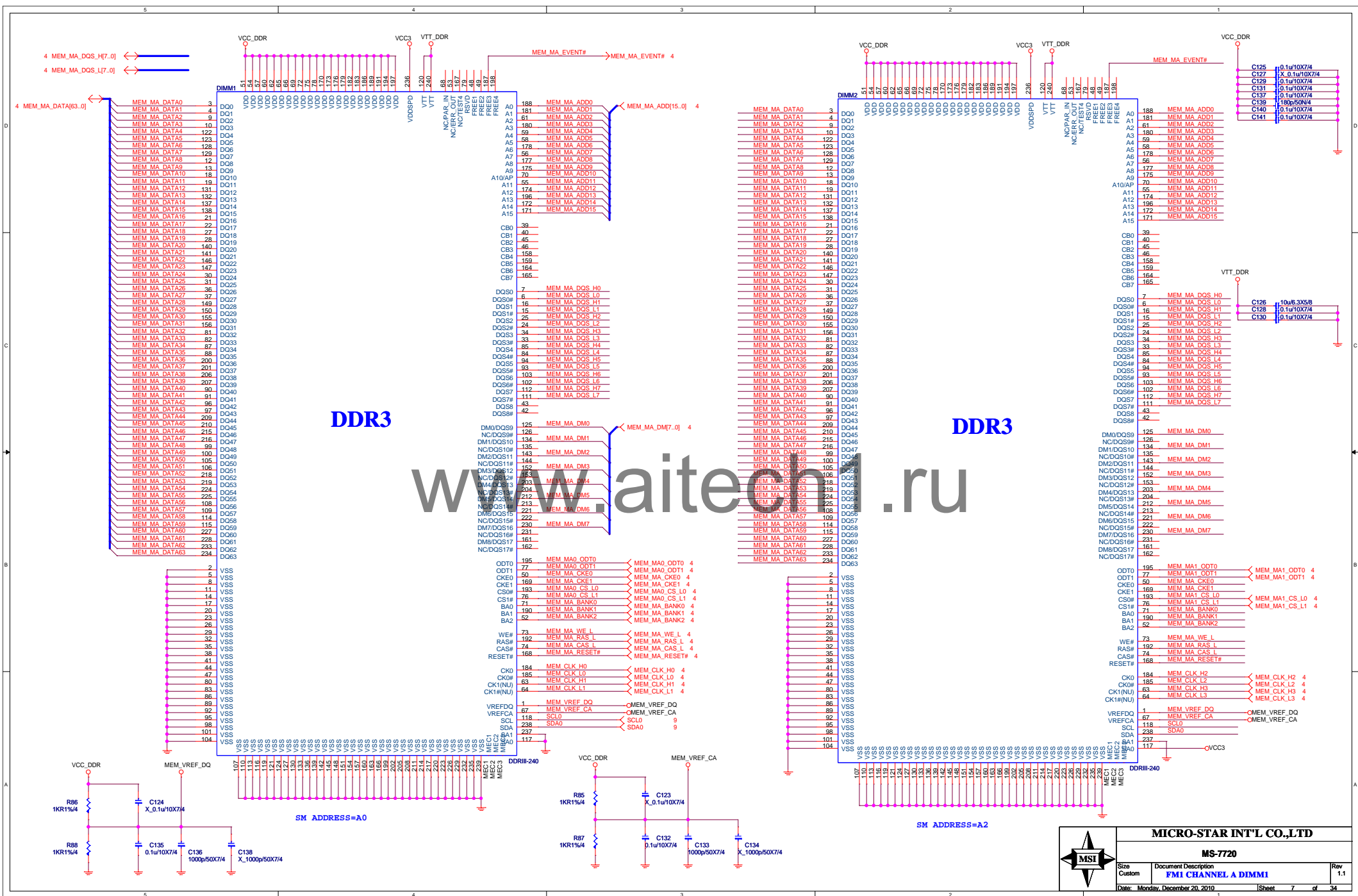


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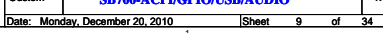
MS-7720

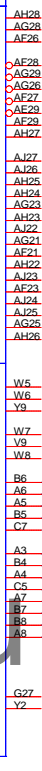
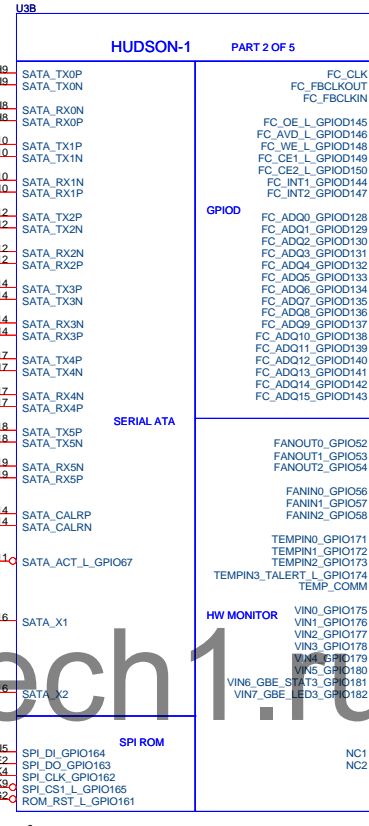
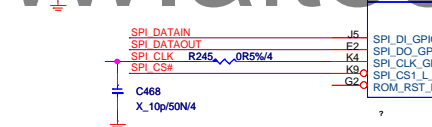
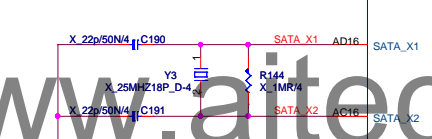
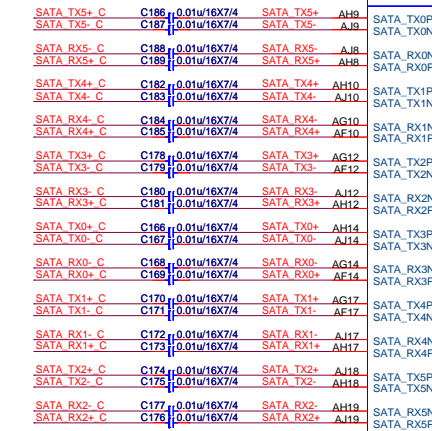
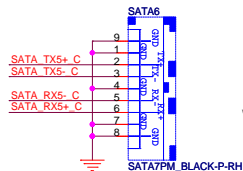
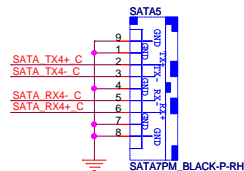
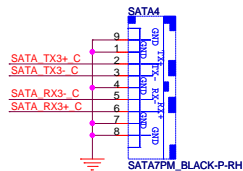
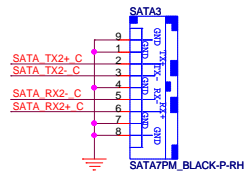
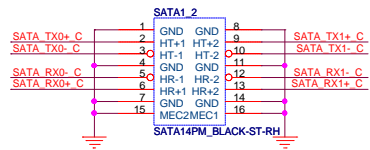
Size Custom Document Description CPUFMI PWR&GND Rev 1.1

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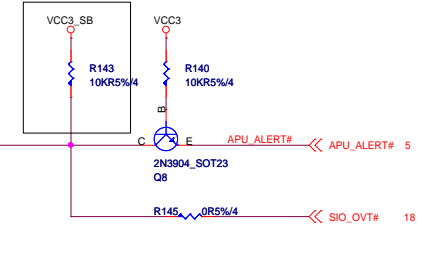




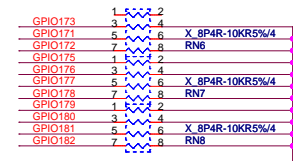




公板沒有pull high, 但是datasheet沒有內部pull high

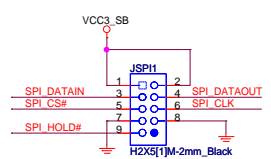


BIOS po 成output, 回來測試ok後拔掉!



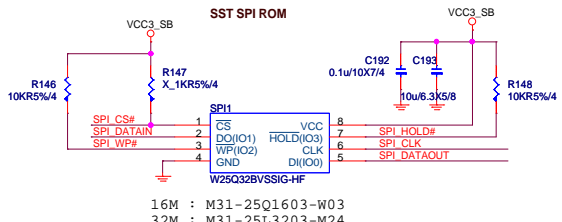
# SPI DEBUG PORT

Place close to SPI ROM



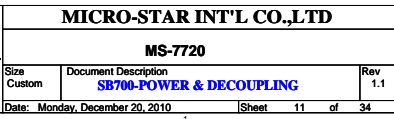
# SPI 4/32M FLASH ROM

內部有pull high, 但是公板有r147上件



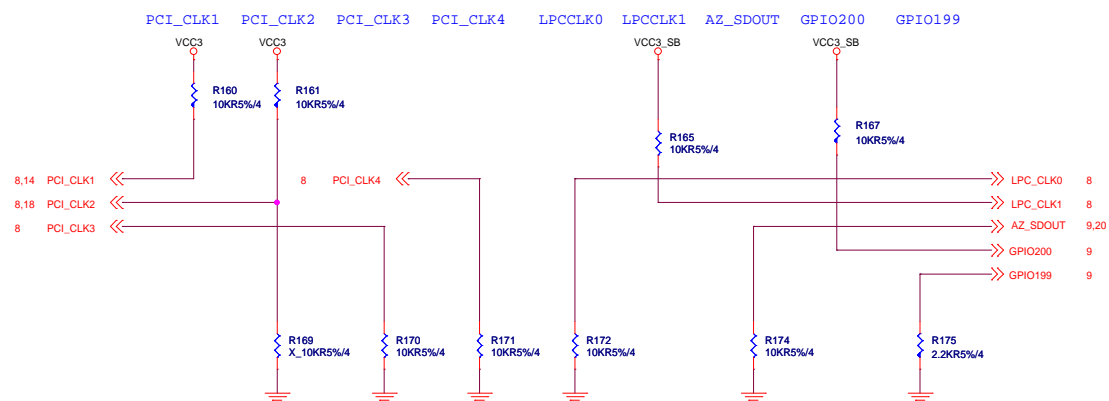
16M : M31-25Q1603-W03  
32M : M31-25L3203-M24





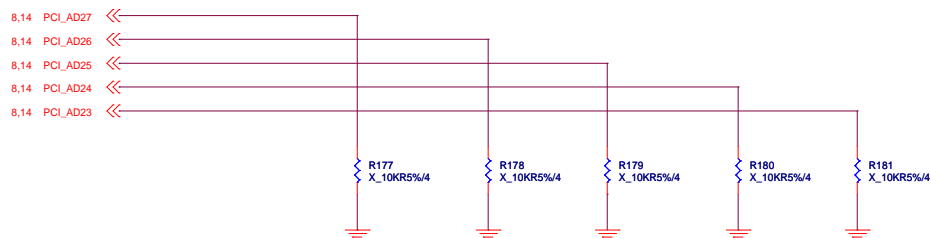


## REQUIRED STRAPS



|           | PCI_CLK1             | PCI_CLK2                   | PCI_CLK3                        | PCI_CLK4                         | LPC_CLK0              | LPC_CLK1                       | AZ_SDOUT   | GPIO200 | GPIO199 |
|-----------|----------------------|----------------------------|---------------------------------|----------------------------------|-----------------------|--------------------------------|--|---------|---------|
| PULL HIGH | PCIE GEN2<br>DEFAULT | WatchDog Enable<br>DEFAULT | Debug Straps Enable             | NON-Fusion APU clock mode        | EC ENABLE             | Internal clock mode<br>DEFAULT | Reserved<br>(as low power mode is not supported) | 1       | 0       |
| PULL LOW  | PCIE GEN1            | WatchDog Disable           | Debug Straps Disable<br>DEFAULT | Fusion APU clock mode<br>DEFAULT | EC DISABLE<br>DEFAULT | External clock mode<br>DEFAULT | Required setting (performance mode)<br>DEFAULT   | SPI ROM |         |

INTERNAL Pull-Up FOR PCI\_AD[23/24/26/27]



## FCH DEBUG STRAPS

|           | PCI_AD27               | PCI_AD26                       | PCI_AD25                           | PCI_AD24                         | PCI_AD23                        |
|-----------|------------------------|--------------------------------|------------------------------------|----------------------------------|---------------------------------|
| PULL HIGH | USE PCI PLL<br>DEFAULT | ILA AUTORUN DISABLE<br>DEFAULT | Use Internal PLL FC Clk<br>DEFAULT | Disable I2C ROM<br>DEFAULT       | DISABLE PCI MEM BOOT<br>DEFAULT |
| PULL LOW  | BYPASS PCI PLL         | ILA AUTORUN ENABLE             | Bypass internal FC Clk             | Getting the value from I2C EPROM | ENABLE PCI MEM BOOT             |



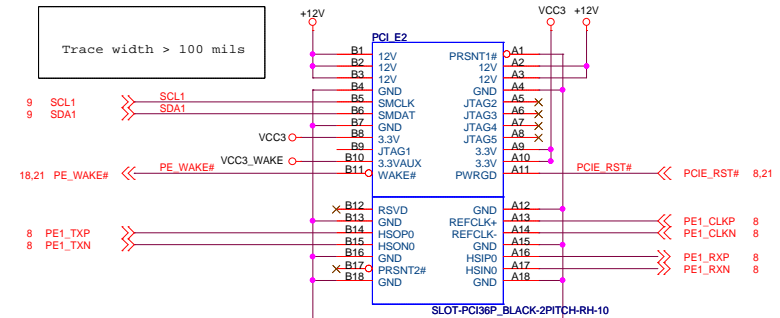
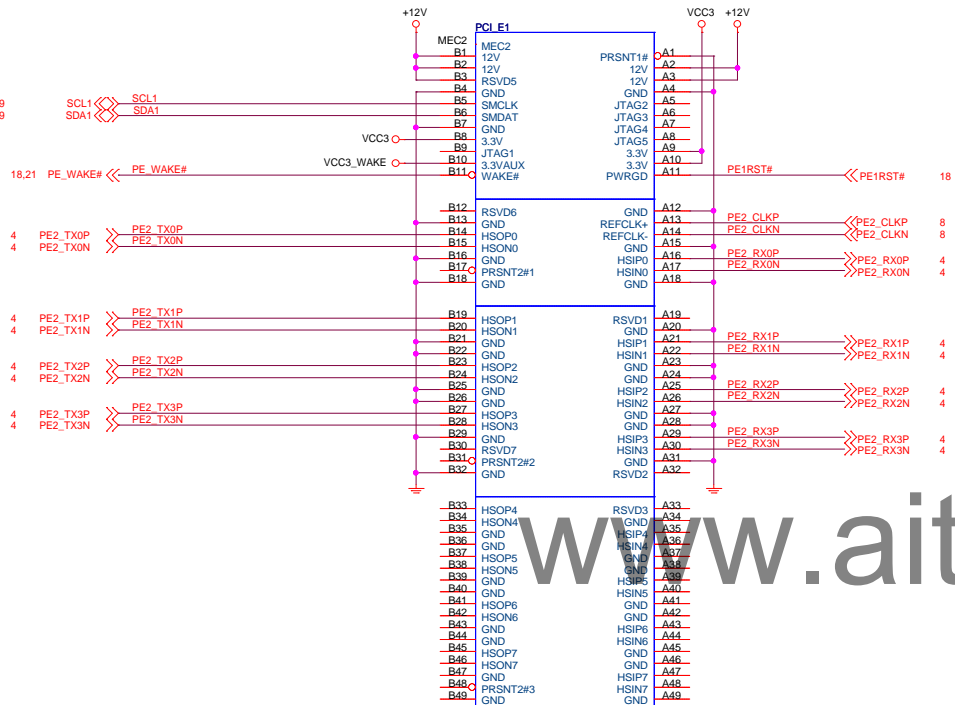
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MS-7720

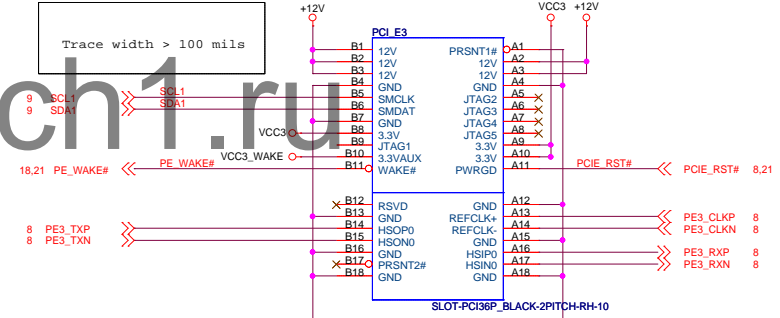
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|---------------------------------|--------------------------------------|------------|
| Size<br>Custom                  | Document Description<br>SB700-STRAPS | Rev<br>1.1 |
| Date: Monday, December 20, 2010 | Sheet 12 of 34                       |            |



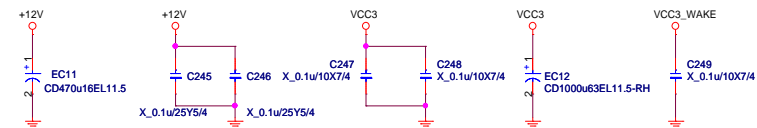
# PCI EXPRESS x16 Slot



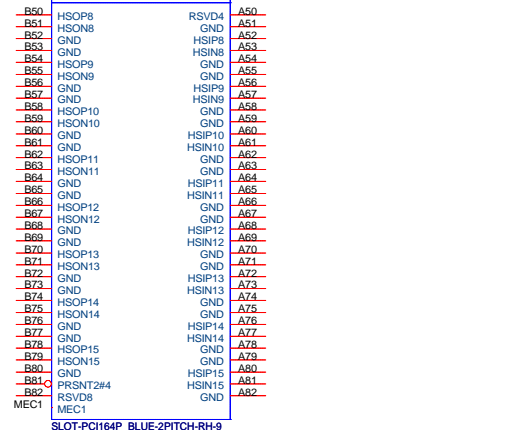
N11-0360281-K06



N11-0360281-K07

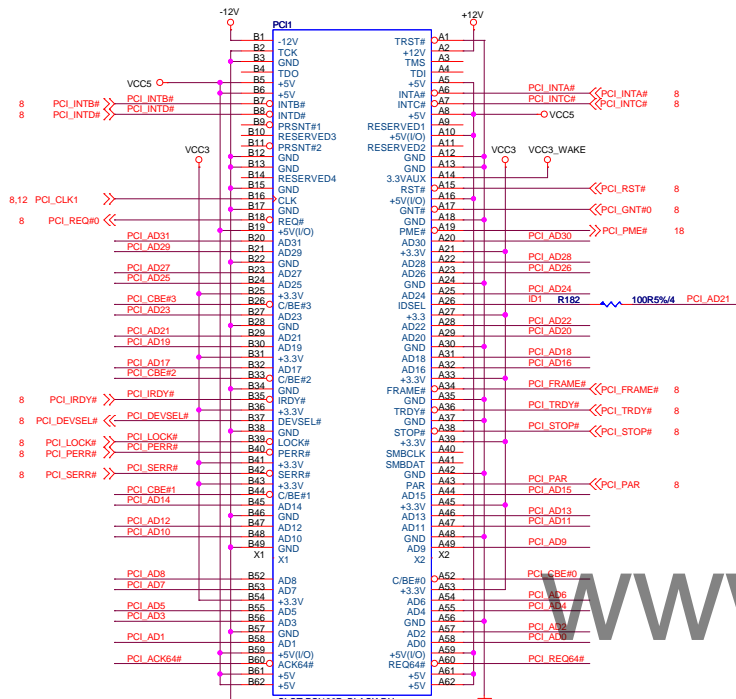


| PCI Express X4 slot(X1)  |         |
|--------------------------|---------|
| +12V                     | - 2.2 A |
| +3.3Vaux (wake)          | - 375mA |
| +3.3Vaux (no wake)       | - 20mA  |
| +3.3V                    | - 3.0A  |
| PCI Express X1 slot (X2) |         |
| +12V                     | - 1 A   |
| +3.3Vaux (wake)          | - 750mA |
| +3.3Vaux (no wake)       | - 40mA  |
| +3.3V                    | - 6.0A  |



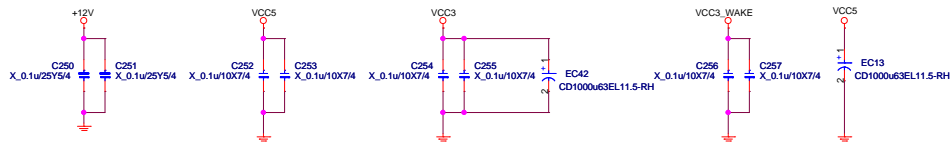
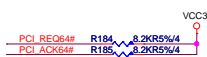
8,12 PCI\_AD[31..0] << PCI\_AD[31..0]  
8 PCI\_CBE[3..0] << PCI\_CBE[3..0]

# PCI SLOT 1 (PCI VER: 2.2 COMPLY)

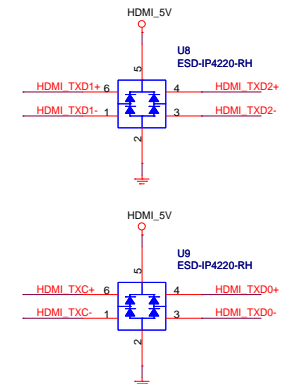
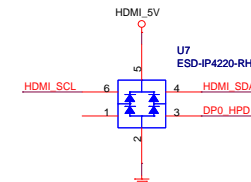
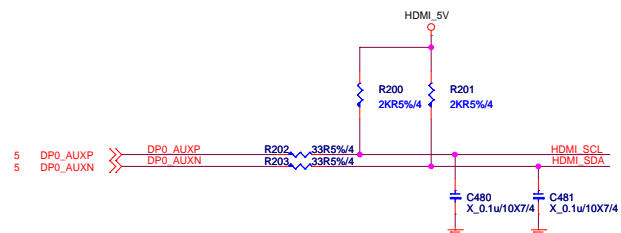
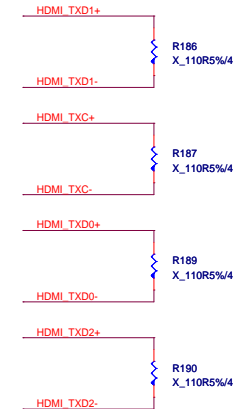
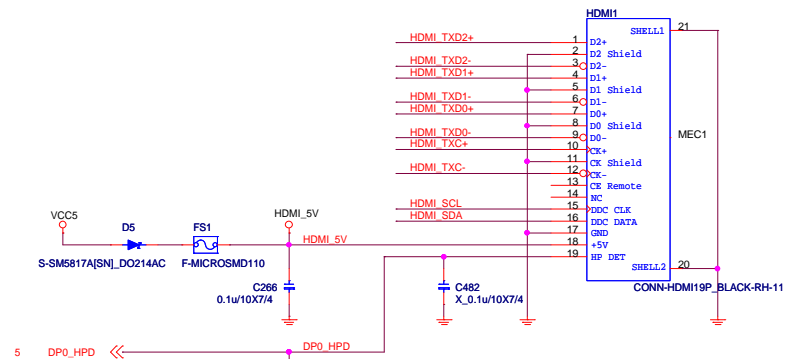


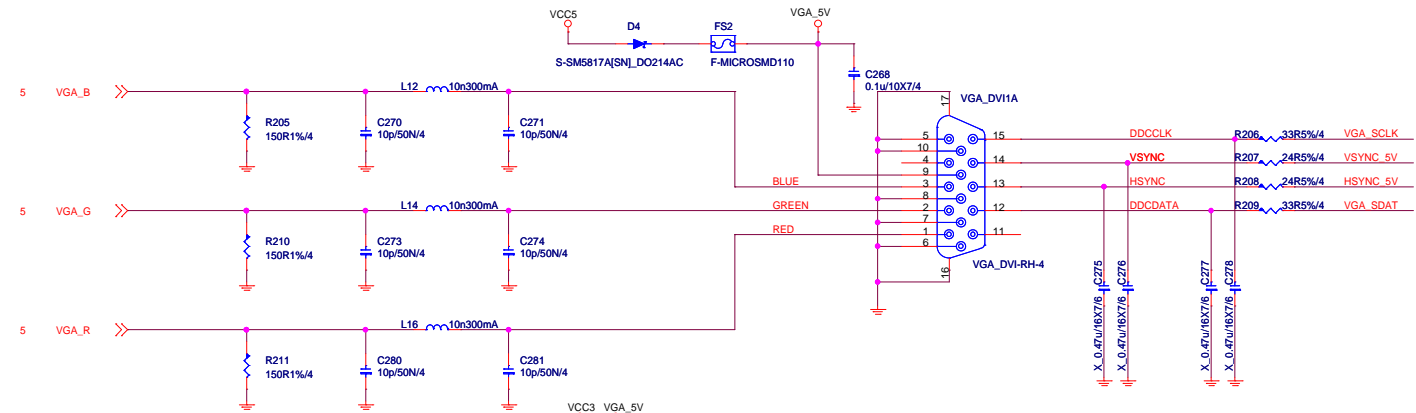
| PCI slot (X1) |           |         |
|---------------|-----------|---------|
| +3.3Vaux      | (wake)    | - 375mA |
| +3.3Vaux      | (no wake) | - 20mA  |
| +3.3V         |           | - 7.6A  |
| +5V           |           | - 5A    |
| +12V          |           | - 0.5A  |

SLOT-PCI120P\_BLACK-RH  
N11-1200391-F02 (Black)  
IDSEL = AD21  
MASTER = PCI\_REQ#0  
PCI\_GNT#0

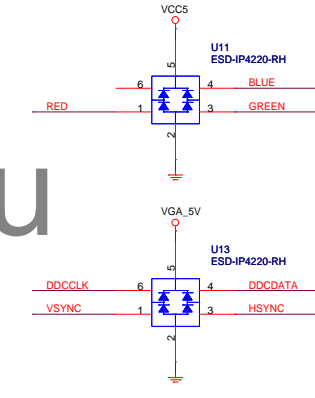
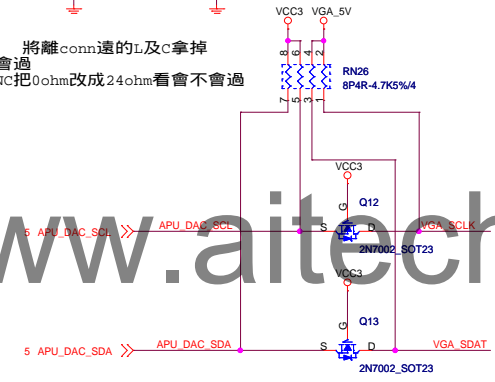
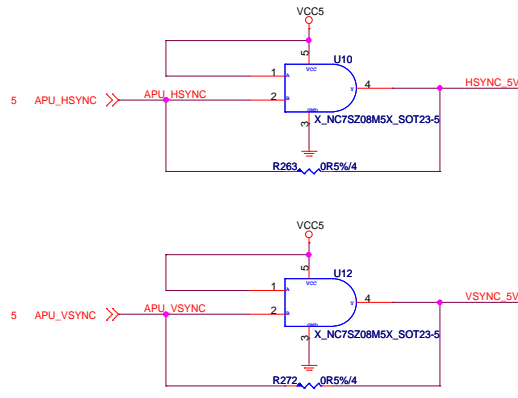


| MICRO-STAR INT'L CO.,LTD                         |                      |     |
|--|----------------------|-----|
| MS-7720  |                      |     |
| Size   | Document Description | Rev |
| Custom   | PCI X2               | 1.1 |
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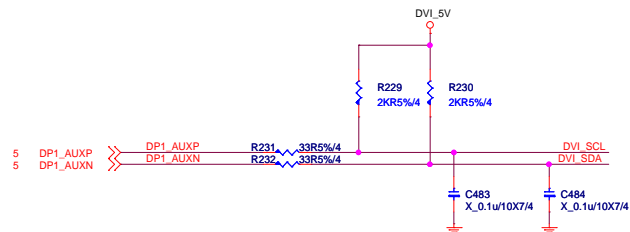
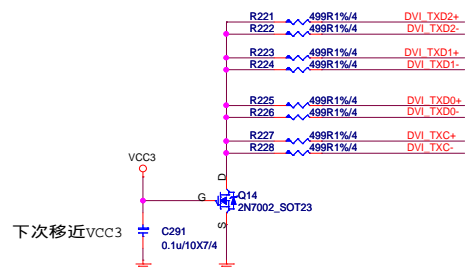
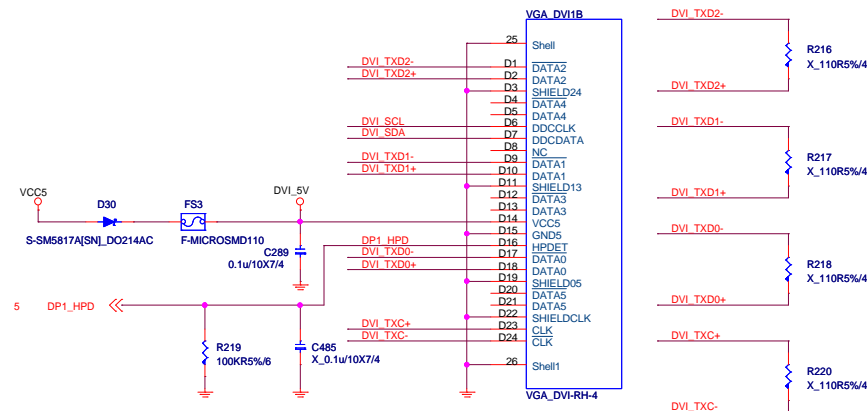
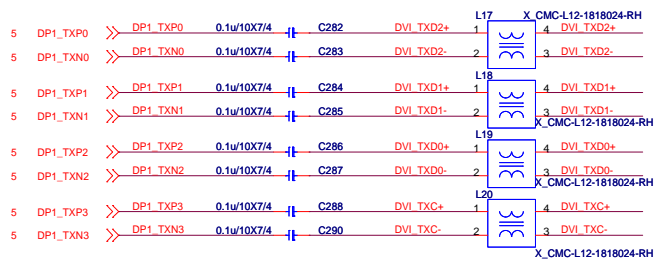




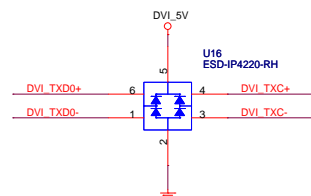
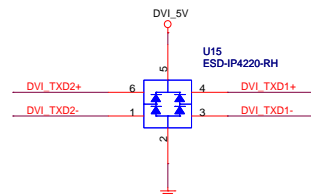
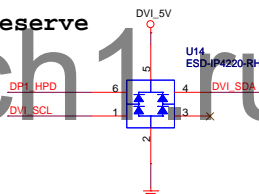
1. 雙pi型電路 將離conn遠的L及C拿掉  
再看會不會過
2. HSYNC與VSYNC把0ohm改成24ohm看會不會過

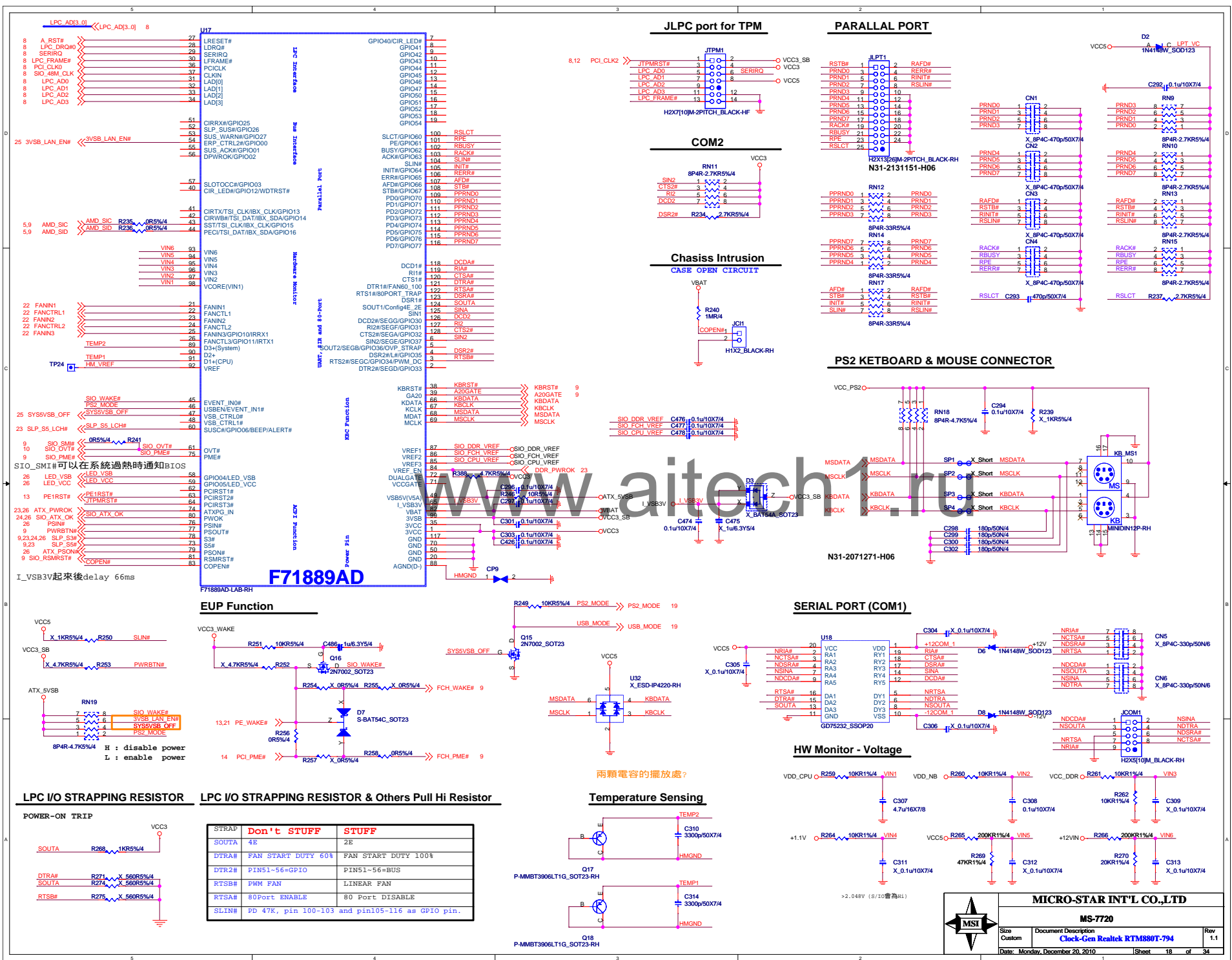


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reserve





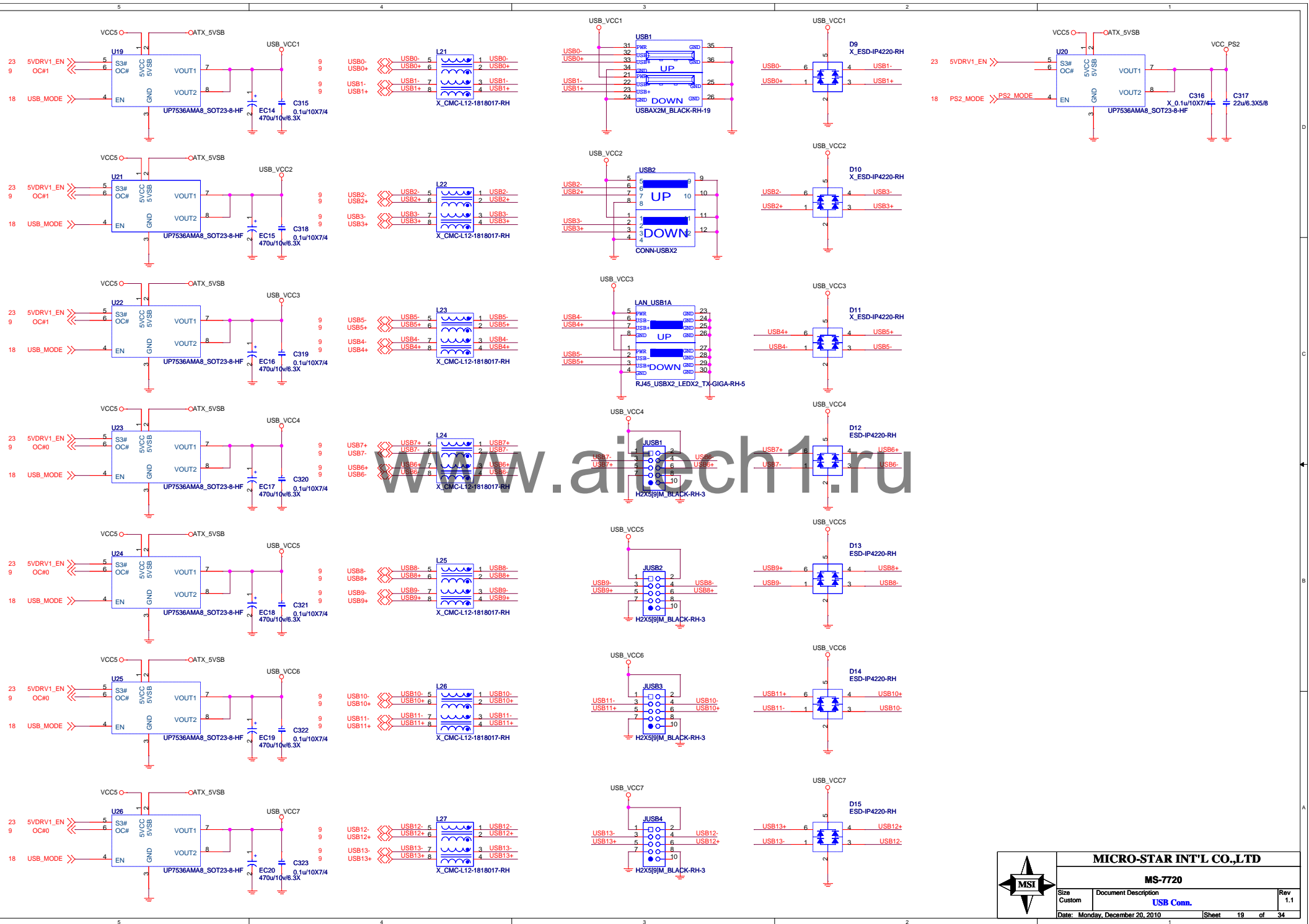
| STRAP | Don't STUFF                                     | STUFF               |
|-------|---|---------------------|
| SOUTA | 4E  | 2E                  |
| DTRA# | FAN START DUTY 60%                              | FAN START DUTY 100% |
| DTR2# | PIN51-56=GPIO                                   | PIN51-56=BUS        |
| RTSB# | PWM FAN   | LINEAR FAN          |
| RTS#  | 80Port ENABLE                                   | 80 Port DISABLE     |
| SLIN# | PD 47K, pin 100-103 and pin105-116 as GPIO pin. |                     |



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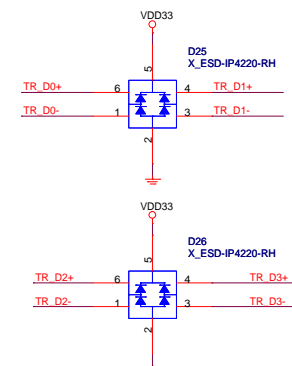
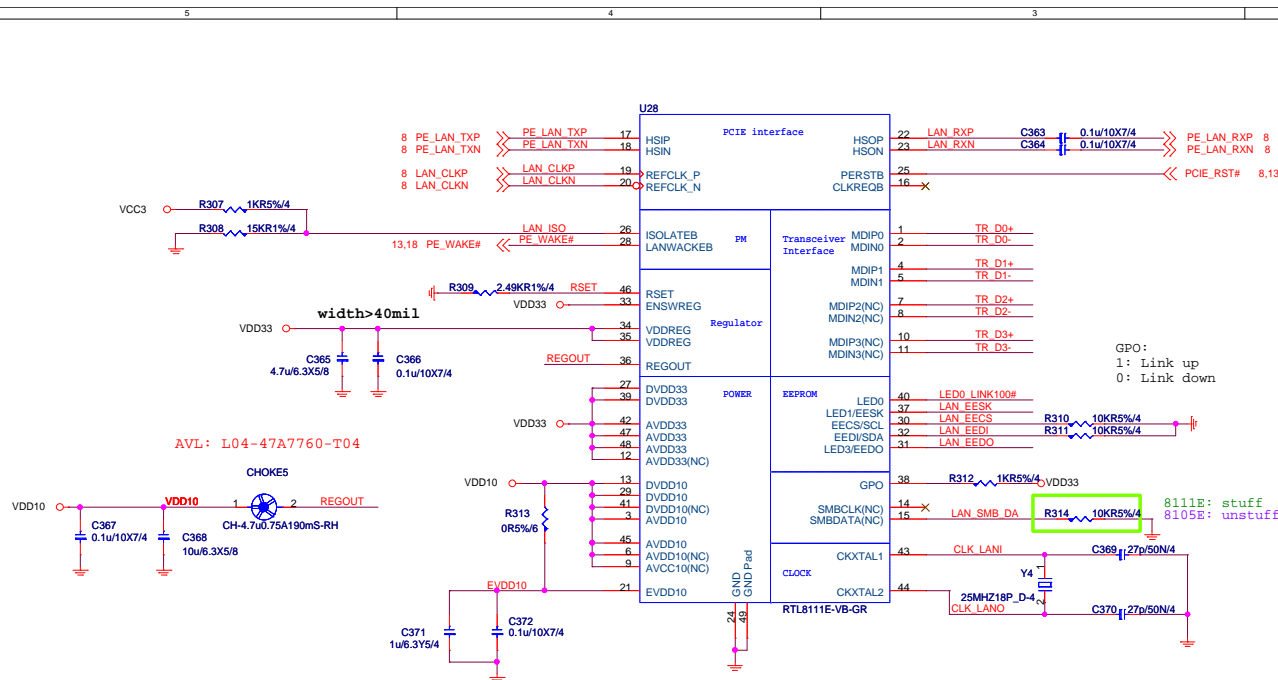
MS-7720

|                                 |                               |          |
|---------------------------------|-------------------------------|----------|
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| Custom                          | Check-Gen Realtek RTM880T-794 | 1.1      |
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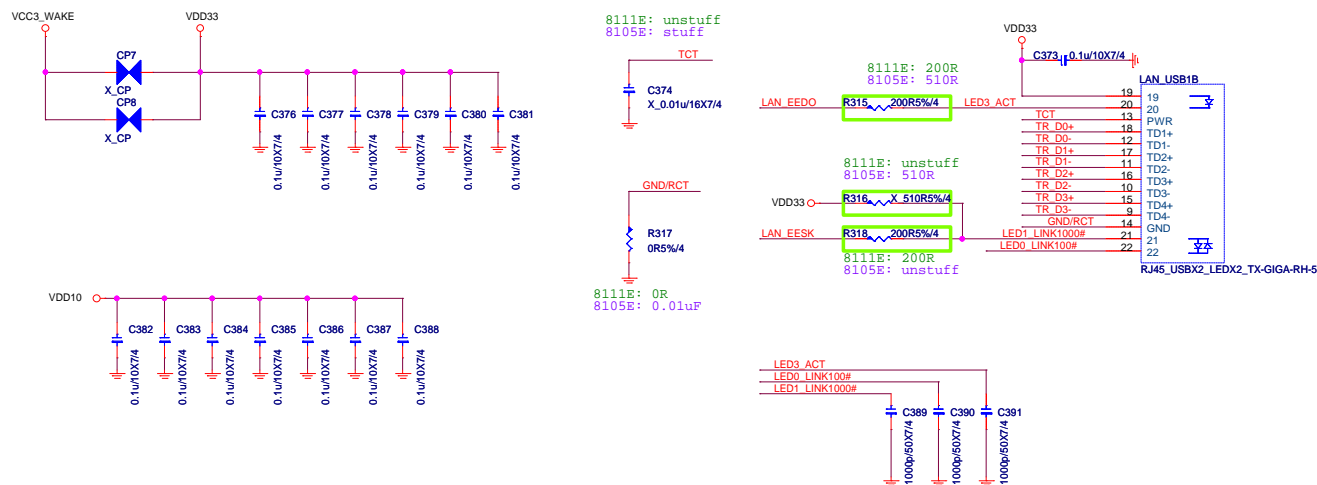


2pF  
D0G-0200529-A68  
D0G-0303309-C12

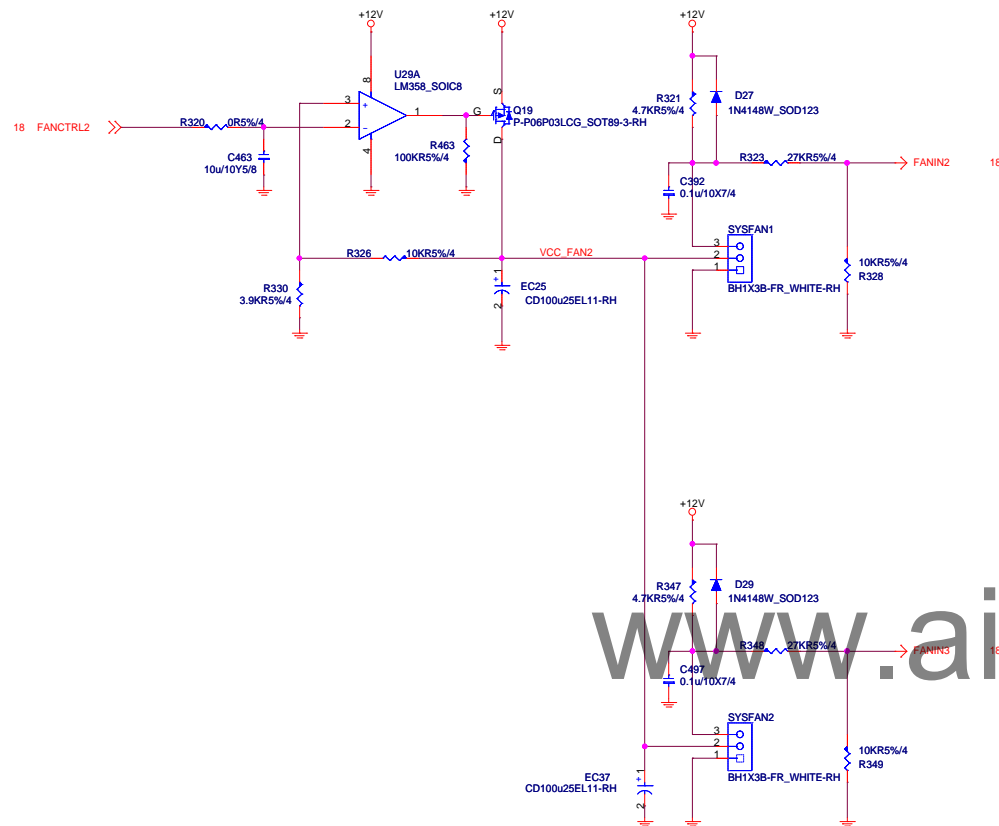
1pF  
D0G-0422003-P03  
D0G-0422003-N47

| LAN    |       |   |       |
|--------|-------|---|-------|
| +3.3V  | VDD33 | - | 70mA  |
| +1.05V | VDD10 | - | 300mA |

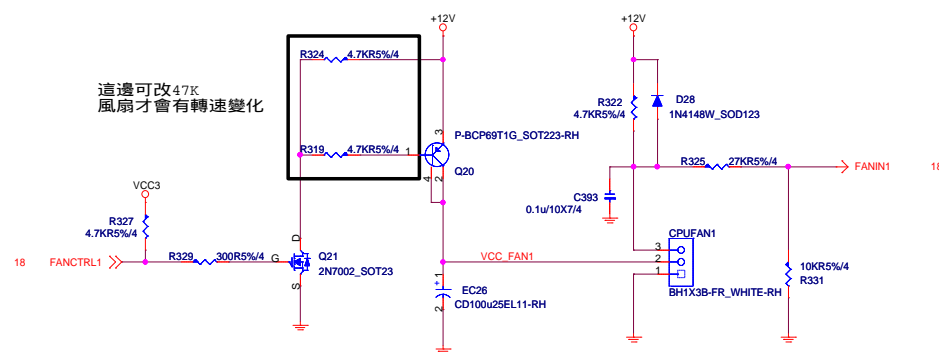
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| Giga-Lan  | 10/100-Lan   |
|---|--|
| <b>N58-22F0731</b><br>Link Yellow<br>Active Blinking<br>1000 Orange<br>100 Green<br>10 None | <b>N58-22F0771</b><br>Link Yellow<br>Active Blinking<br>100 Green<br>10 None |
| 19<br>20<br>21<br>22  | 19<br>20<br>21<br>22   |



這邊可改47K  
風扇才會有轉速變化



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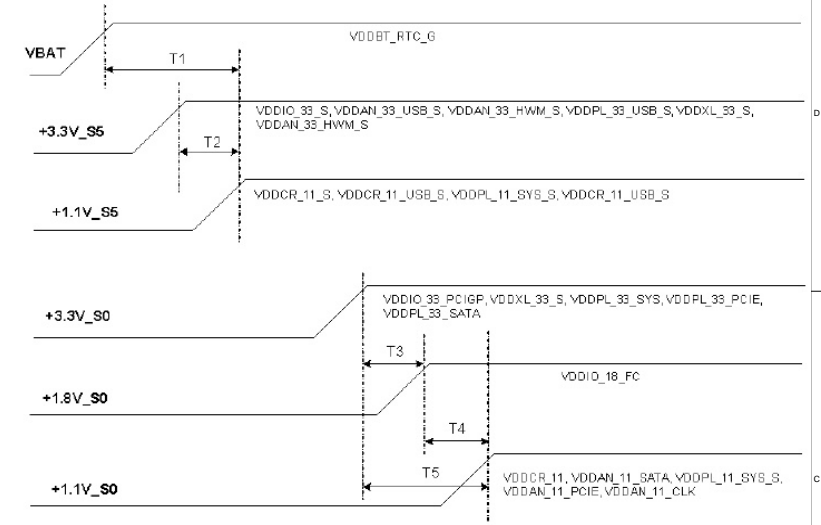
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MS-7720

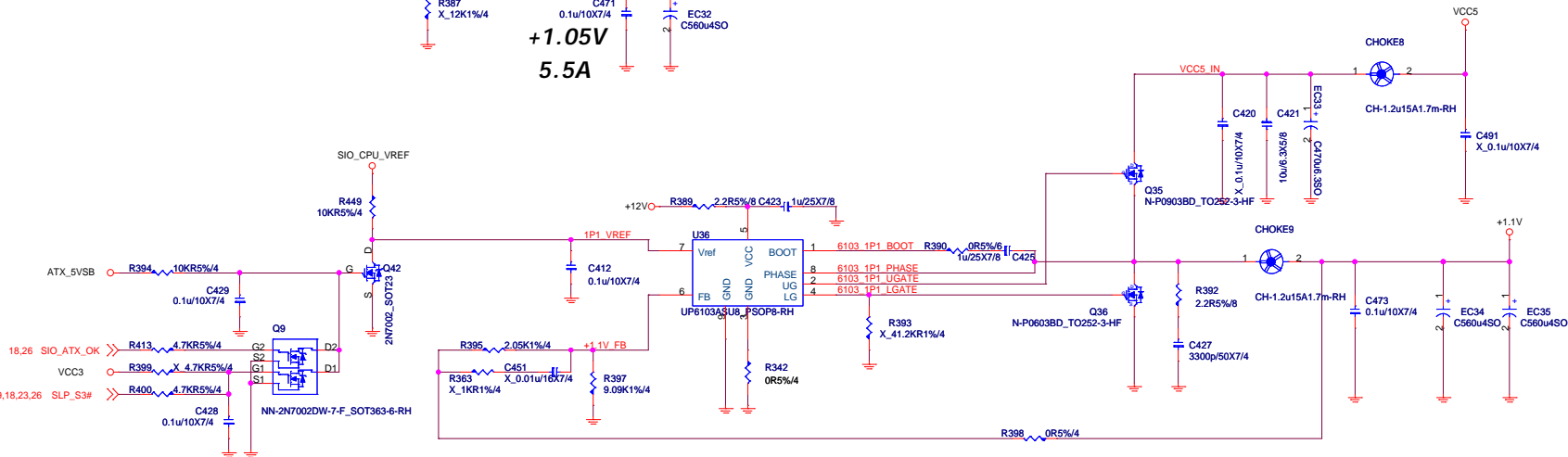
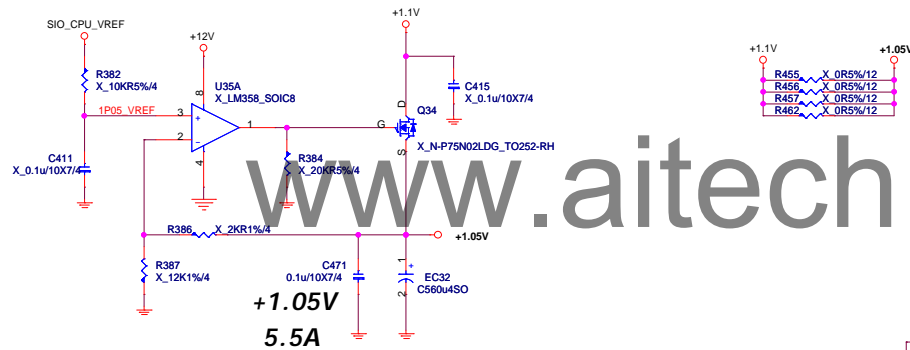
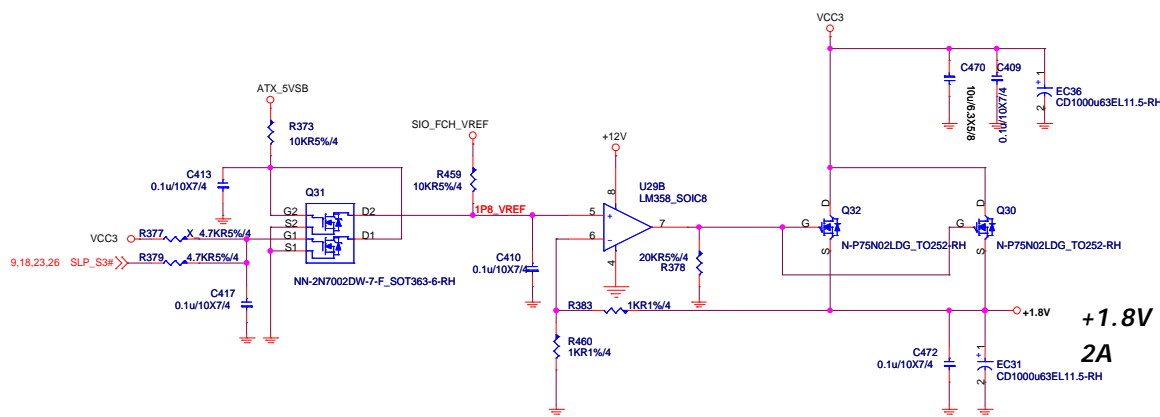
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|---------------------------------|----------------------|-----|
| Custom                          | FAN                  | 1.1 |
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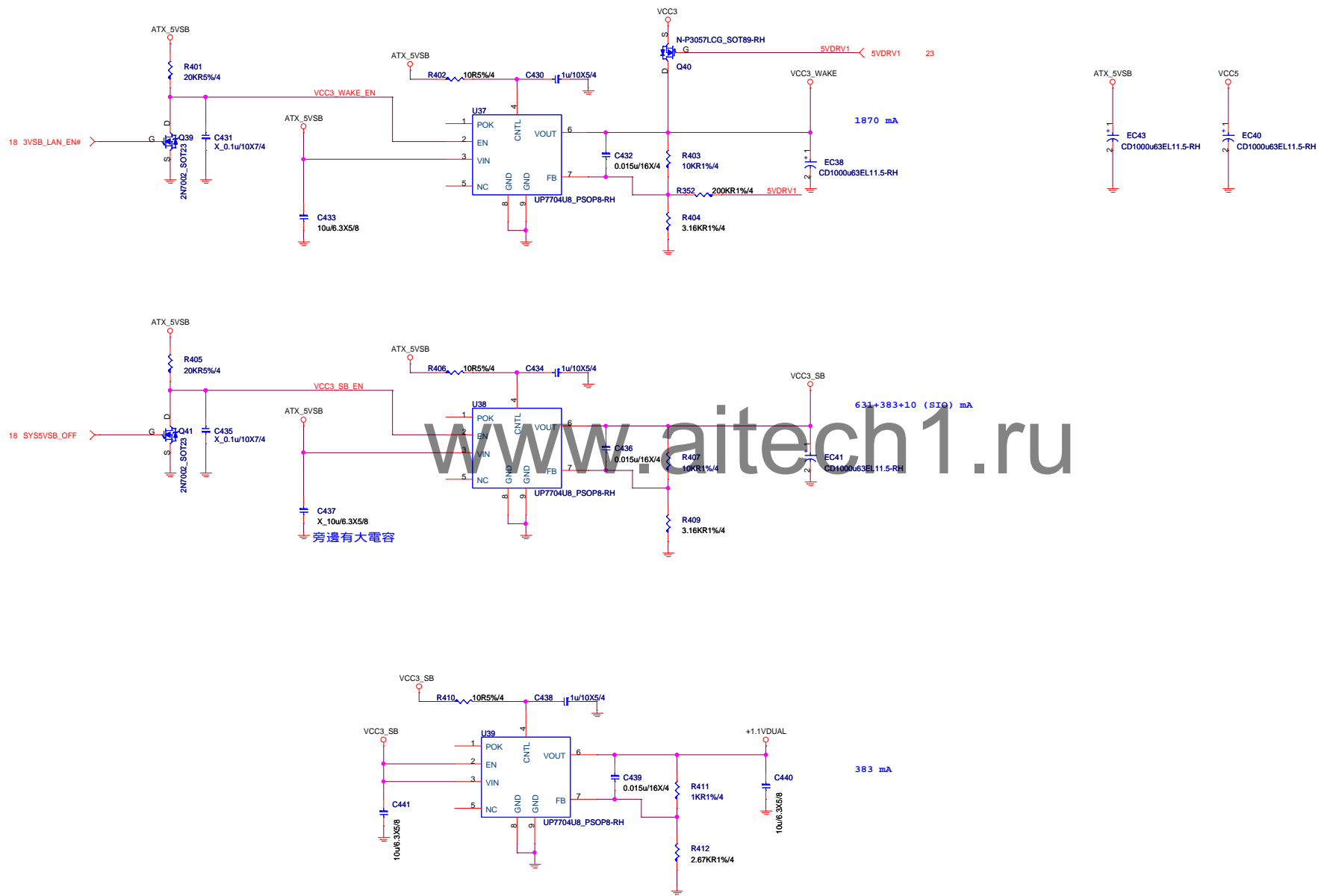
The Hudson-1 power rail power-up sequence is shown below. In general, the requirement is that lower voltages must never exceed higher voltages during power up.



注意1.05V與1.1V的拉載  
視情況要再補一些電容



**+1.1V  
10A**



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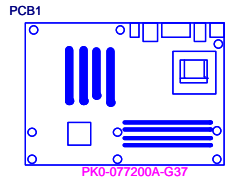
MS-7720

Size Custom Document Description LAN - Realtek RTL811E Rev 1.1

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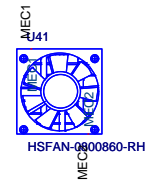
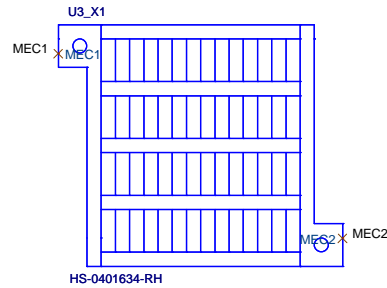
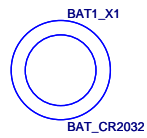


## PCB

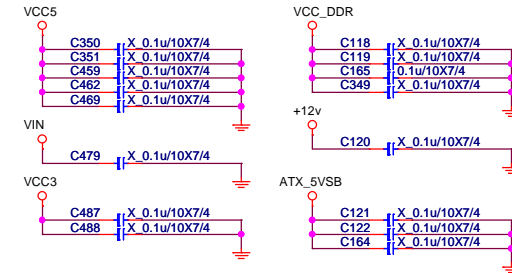


PCB : 1080  
PK0-0772011-E36

## BATTERY



## FOR EMI



**E350M-E33**

LABEL1

**LABEL**

X\_AMI-BIOS-LABEL

BUMPER1

**BUMPER**

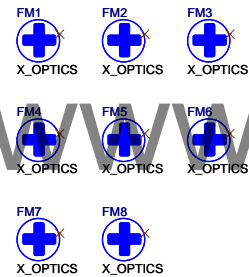
X\_BUMPER

BUMPER2

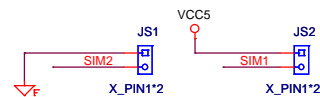
**BUMPER**

X\_BUMPER

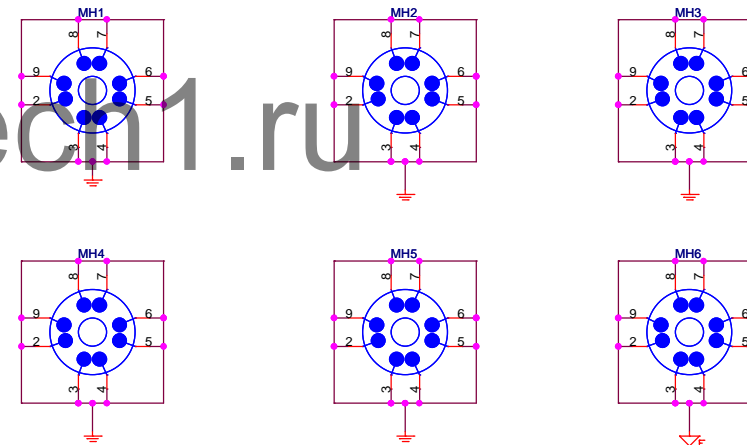
## Optics Orientation Holes



## Simulation



## Mounting Holes



**MICRO-STAR INT'L CO.,LTD**

**MS-7720**

| Size                            | Document Description | Rev |
|---------------------------------|----------------------|-----|
| Custom                          | BOM - Option Parts   | 1.1 |
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