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# MS-7519

ATX Version: 2.0

**CPU:** Intel Pentium 4, Pentium D, Core2 Duo, Wolfdale, Kentsfield and Yorkfield processors in LGA775 Package.

## System Chipset:

Intel Eaglelake - G/P (G, P3North Bridge)  
Intel ICH10 (South Bridge)

## On Board Device:

CLOCK Gen -- ICS 9LPRS113A  
LPC Super I/O -- Fintek F71882F  
LAN -- Realtek 8111C (PCIE)  
HD Audio Codec -- RTL888  
1394 Controller -- JMB381  
PCIE to PATA/SATA Bridge -- JMB368


## Main Memory:

Dual-channel DDR-III \* 4

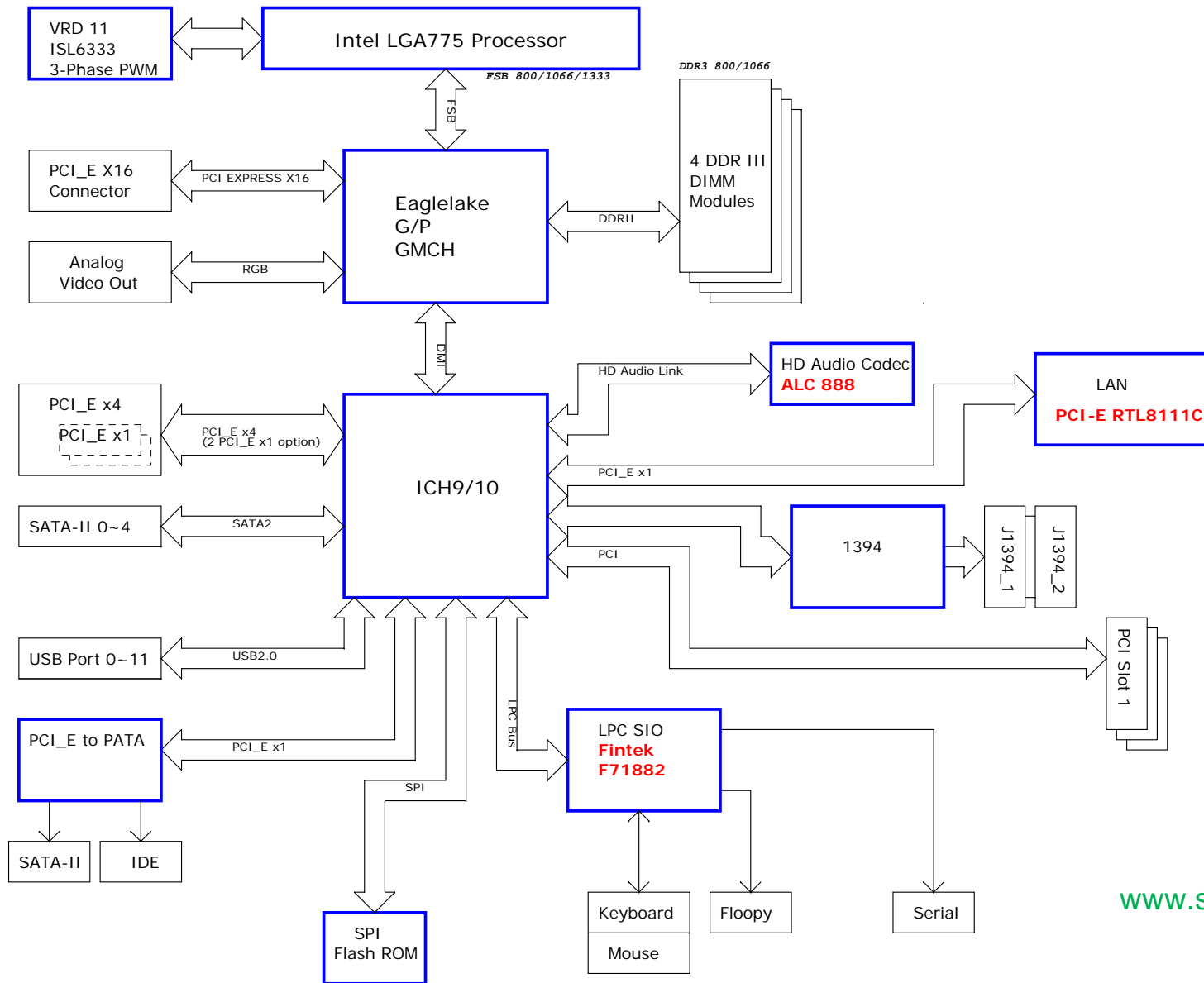
## Expansion Slots:

PCI EXPRESS X16 SLOT \*1  
PCI EXPRESS X1 SLOT \* 2  
PCI SLOT \* 3

**PWM:** ISL6333

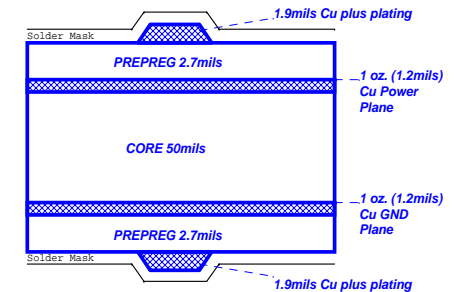
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			MS-7519			
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# Block Diagram



## Board Stack-up

(1080 Prepreg Considerations)

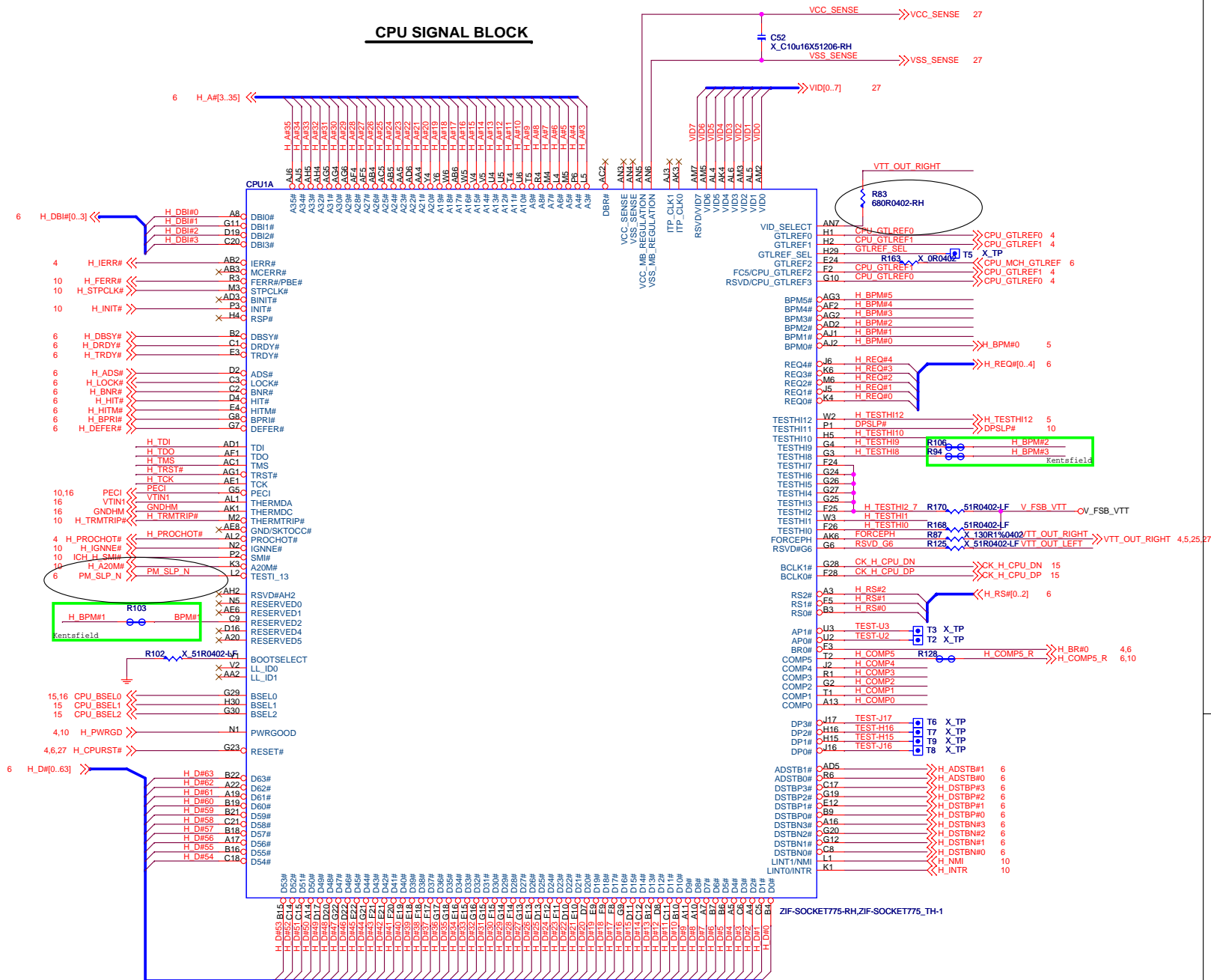


Single End 50ohm Top/Bottom : 4mils  
 USB2.0 - 90ohm : 15/4.5/7.5/4.5/15  
 SATA - 95ohm : 15/4/8/4/15  
 LAN - 100ohm : 15/4/8/4/15  
 PCIE - 95ohm : 15/4/8/4/15  
 IEEE1394 - 110ohm : 15/4/9/4/15  
 IDE : 15/4/8/4/15

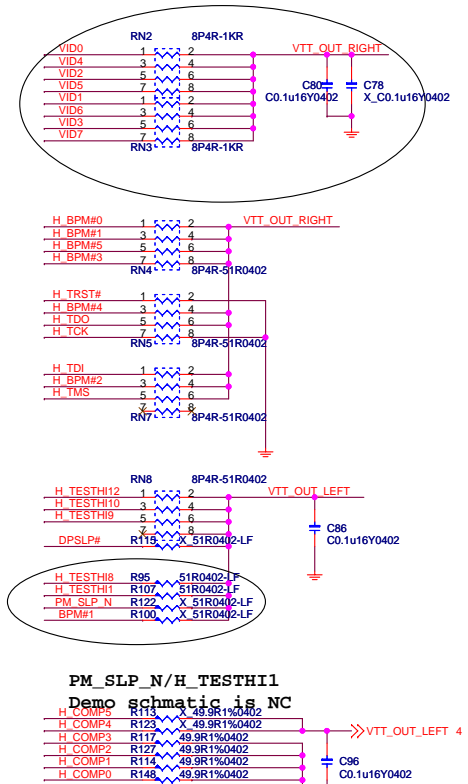
[www.schematic-x.blogspot.com](http://www.schematic-x.blogspot.com)

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### CPU SIGNAL BLOCK

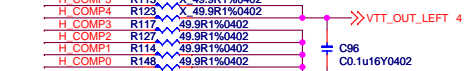


### PULL HIGHT PULL DOWN



PM\_SLP\_N/H\_TESTHI1  
Demo schmatic is NC

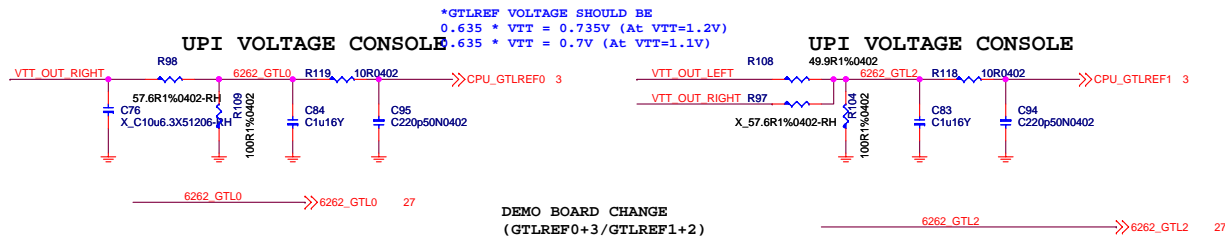
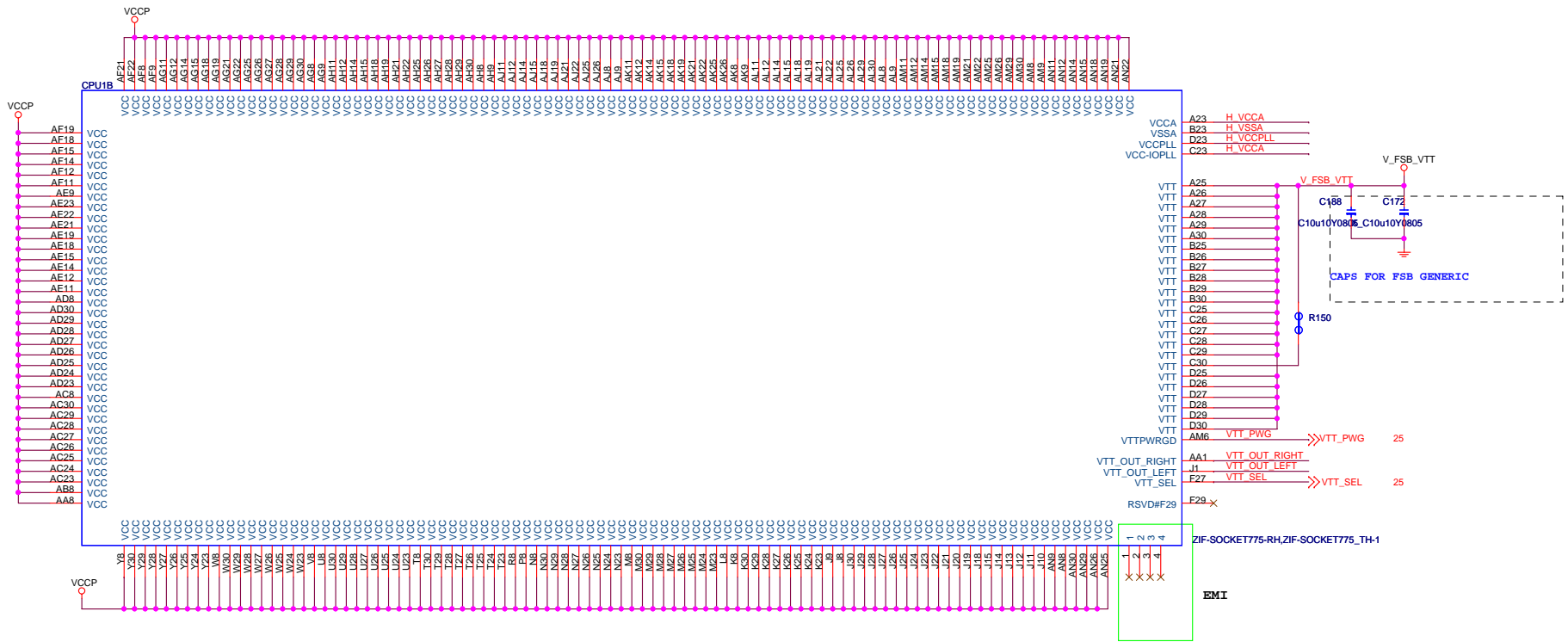
Demo schematic is NC



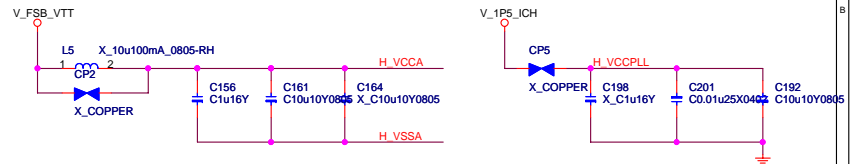
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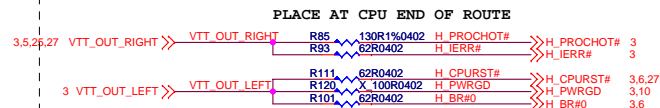
Size Custom	Document Description <b>LGA775 - Signal</b>	Rev 2.0
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\*PLACE COMPONENTS AS CLOSE AS POSSIBLE TO PROCESSOR SOCKET  
\*TRACE WIDTH TO CAPS MUST BE NO SMALLER THAN 12MILS



## VTT PWRGOOD



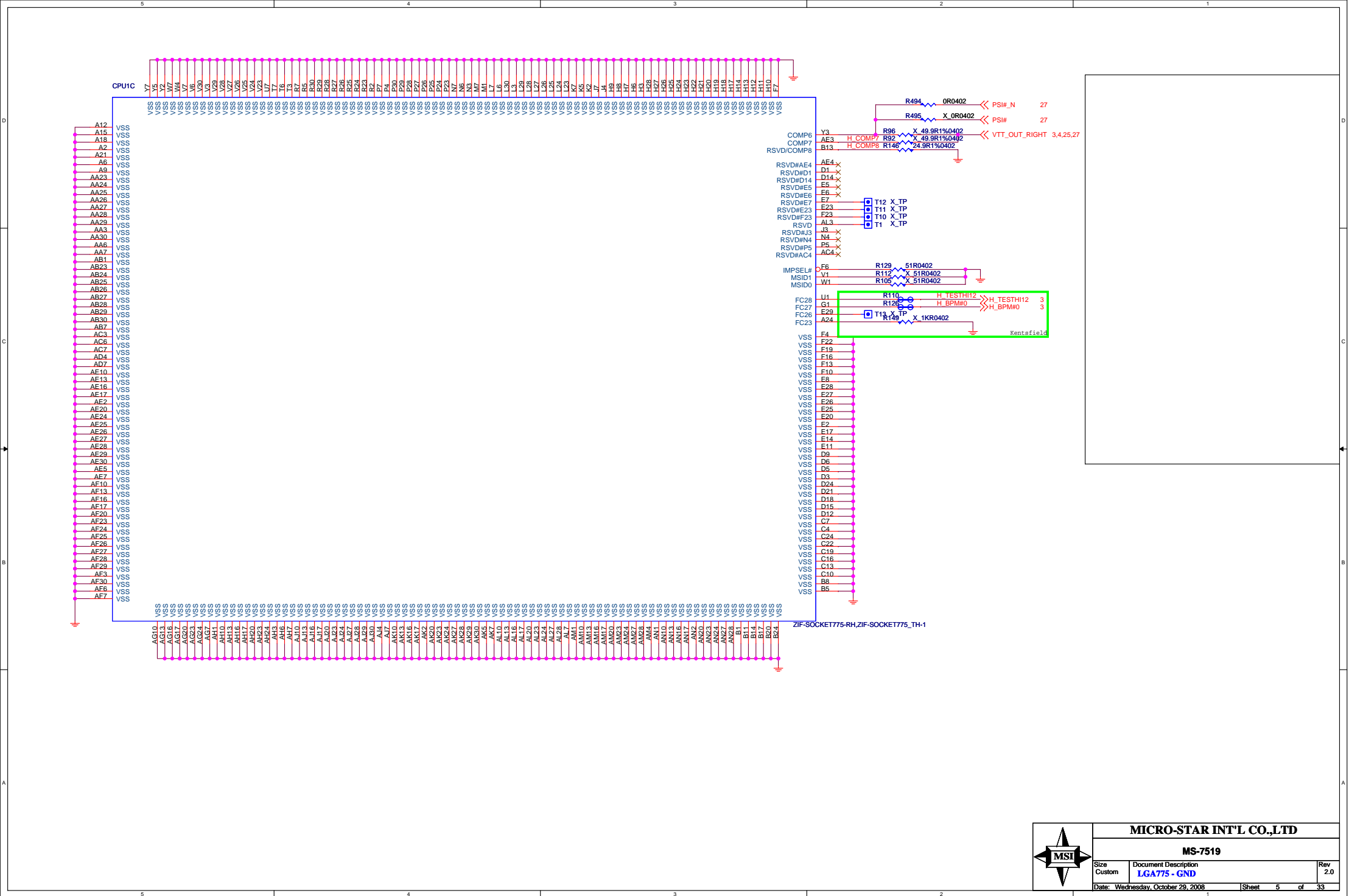
VTT\_PWG SPEC :  
High > 0.9V  
Low < 0.3V  
Trise < 150ns

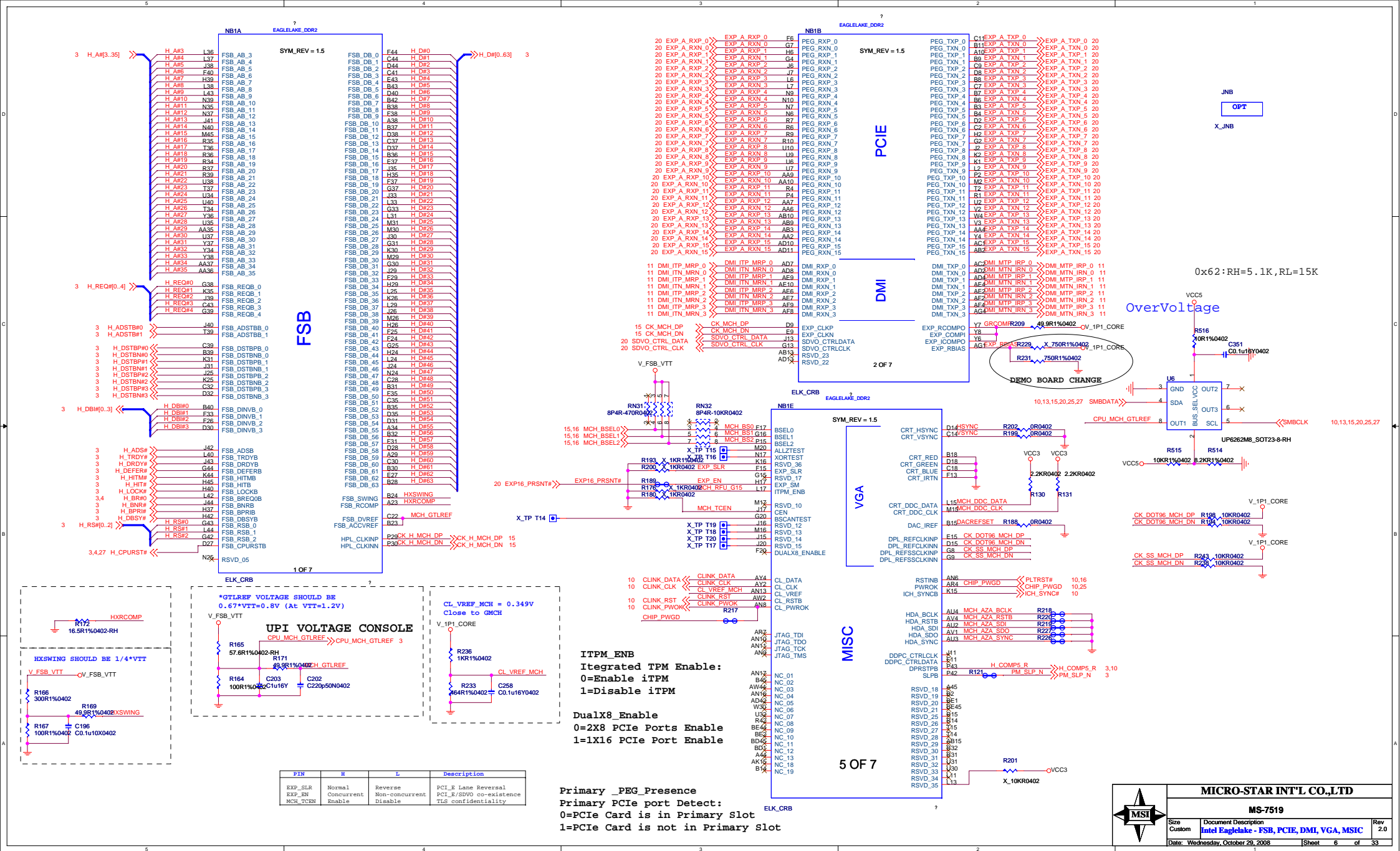


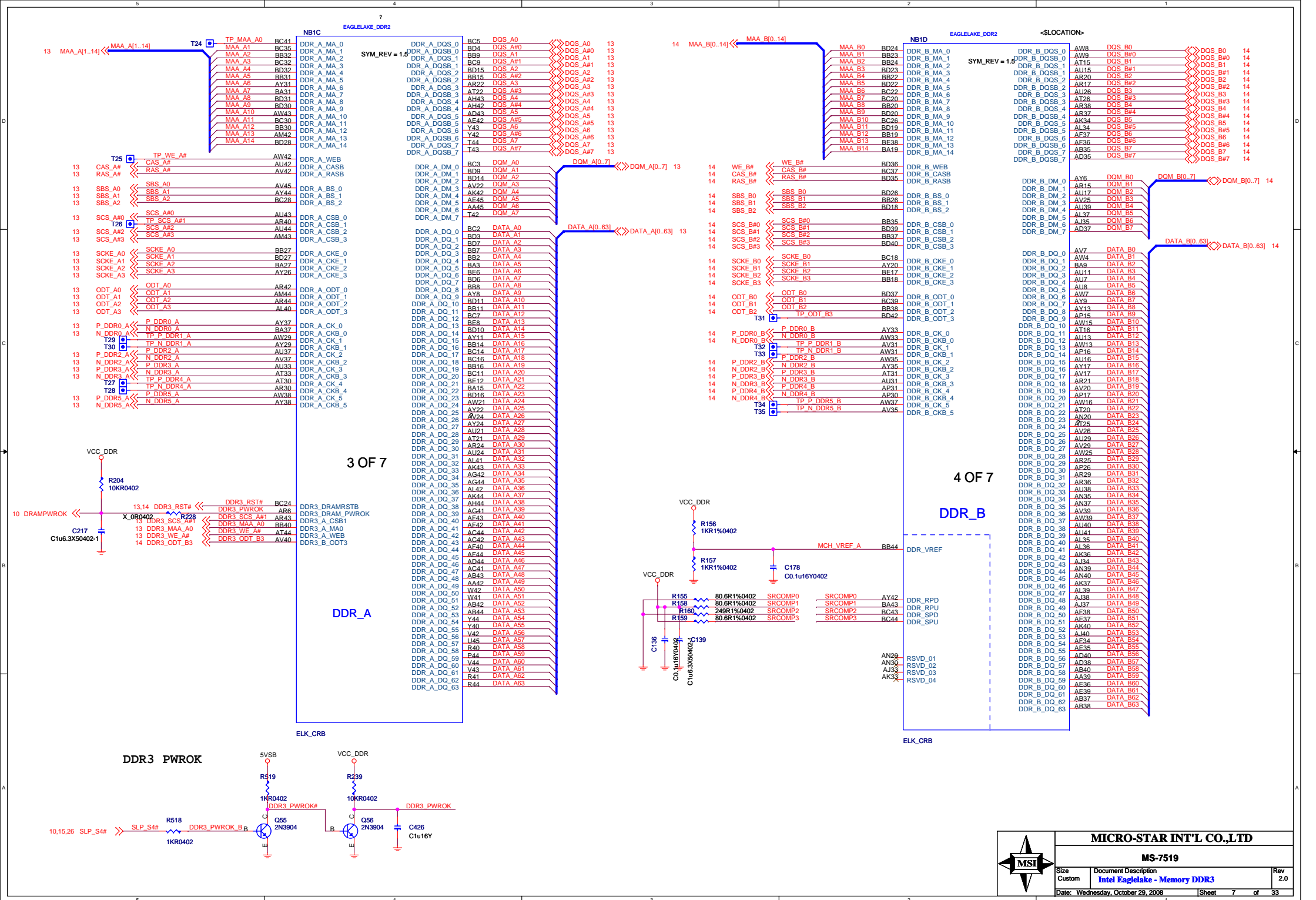
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Custom	LGA775 - Power	2.0
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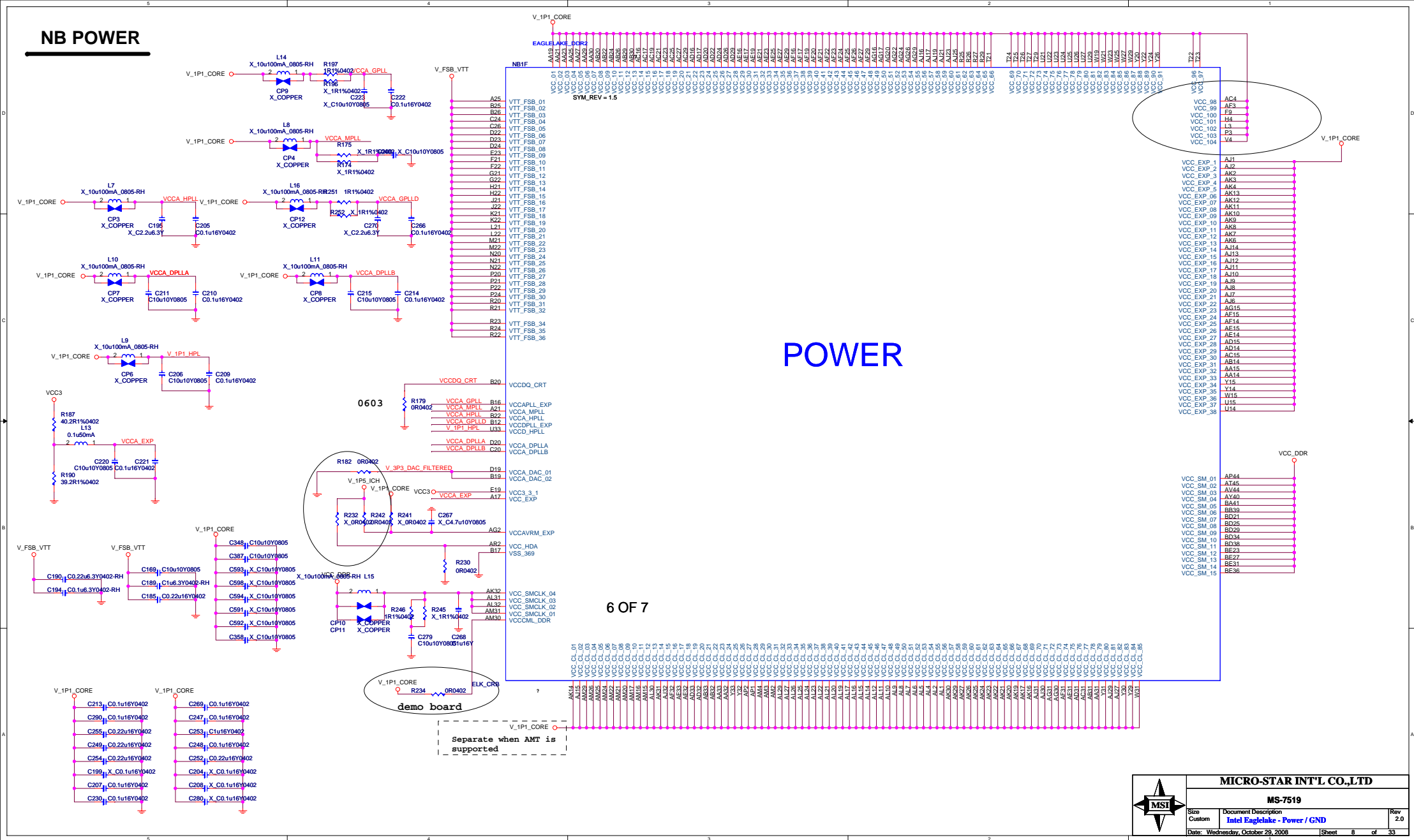




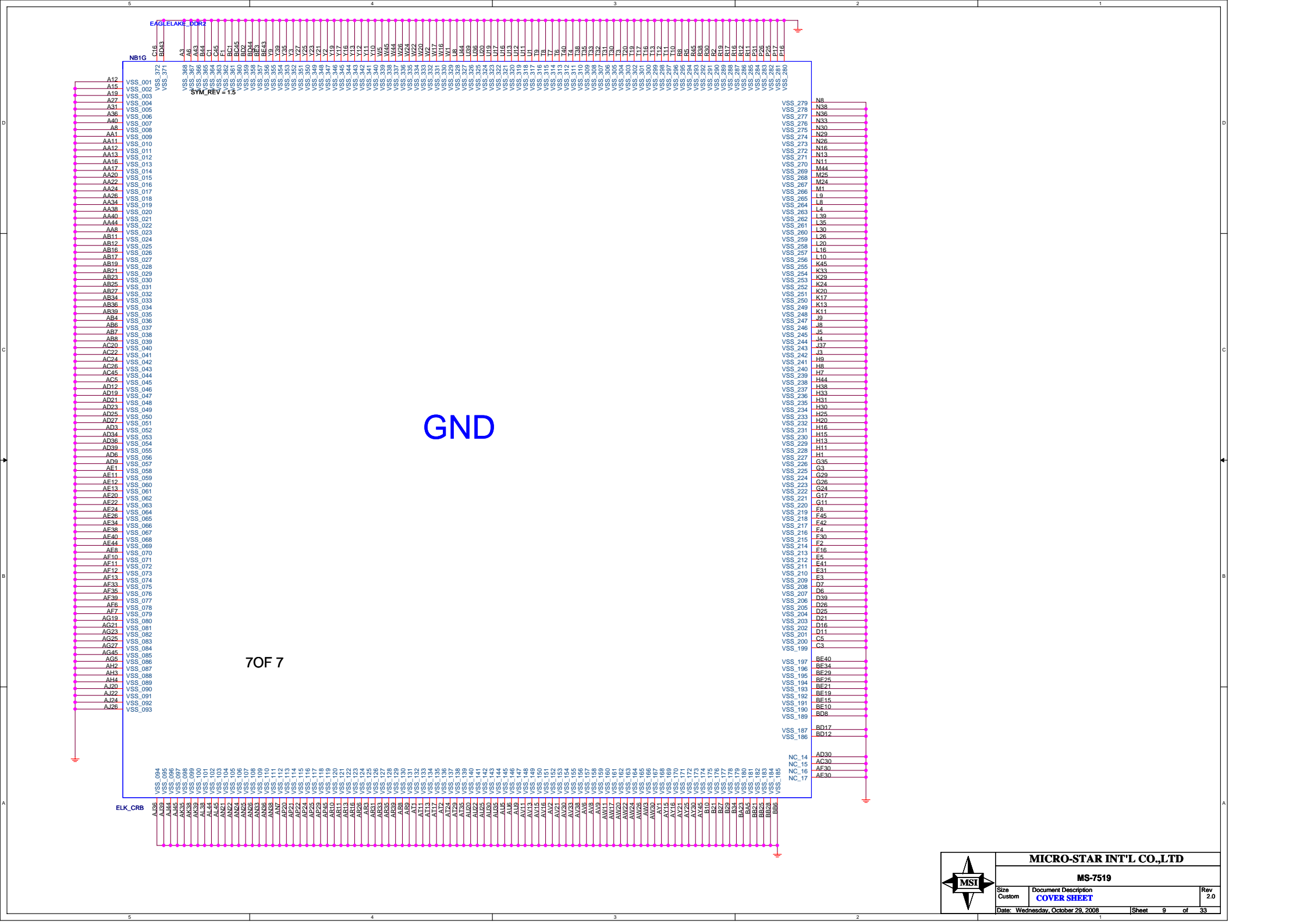


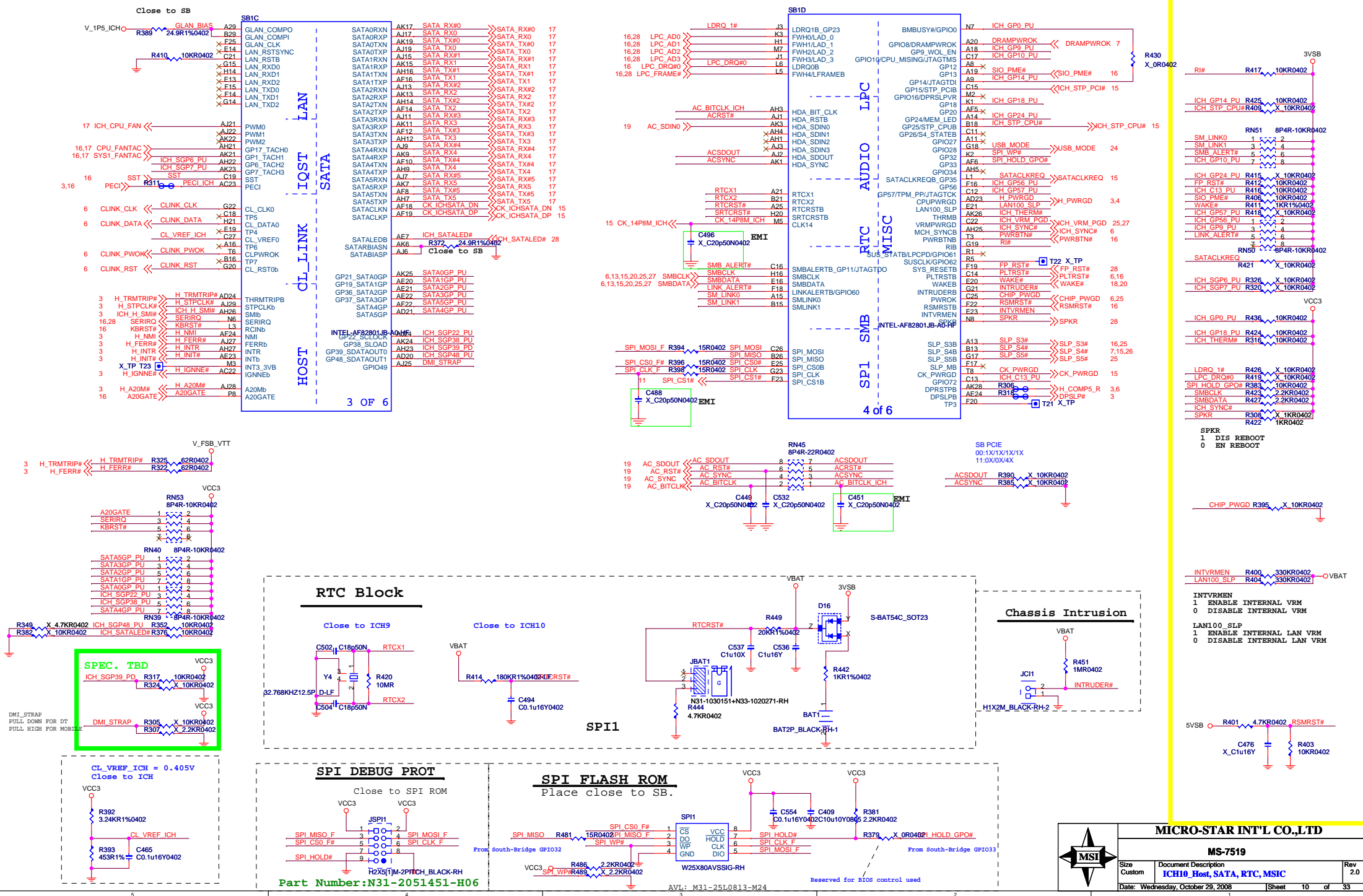


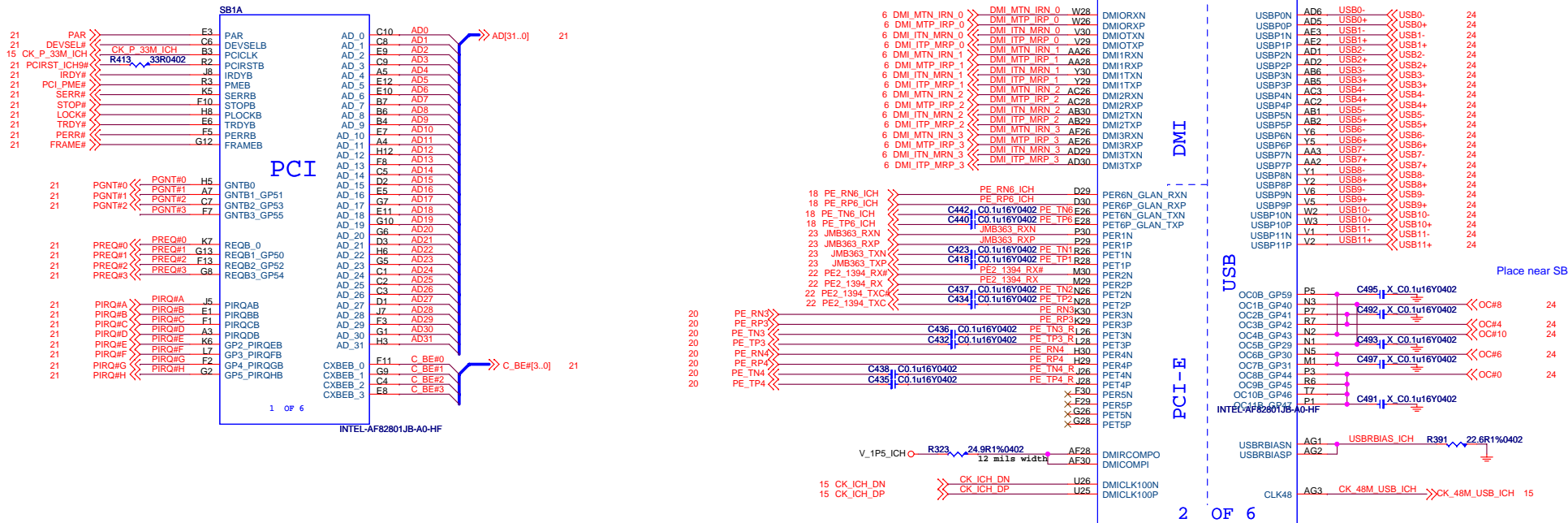
**NB POWER**



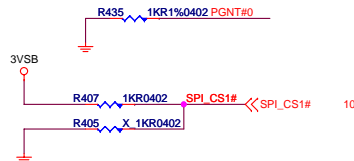




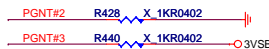




## SB STRAPPING RESISTOR



BOOT SELECT STRAPS		
BOOT DEVICE	GNT#0	SPI_CS1#
FWH	1	1
SPI	0	X
PCI	1	0



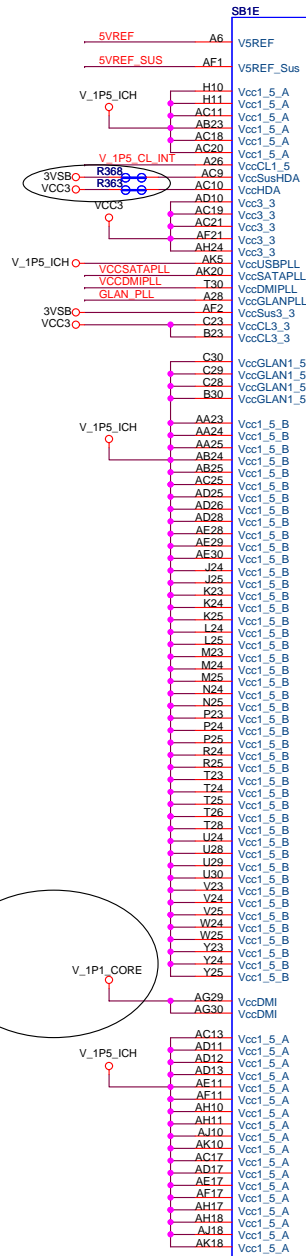
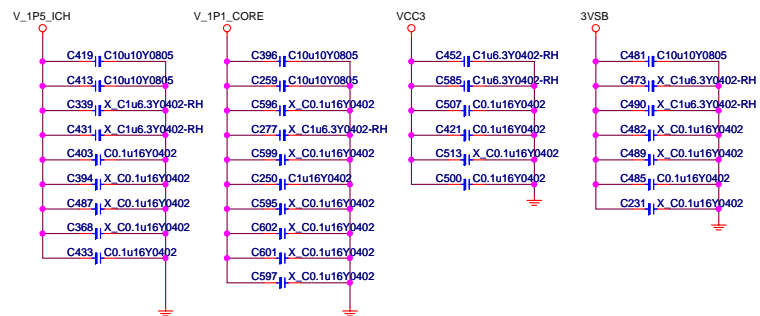
SIGNAL	H	L	DES.
GNT 3	DIS	EN	A16 OVERRIDE
GNT 2	N/A	SET BIT	PCIE PORT CONFIG 2 BIT 0 (5-6)



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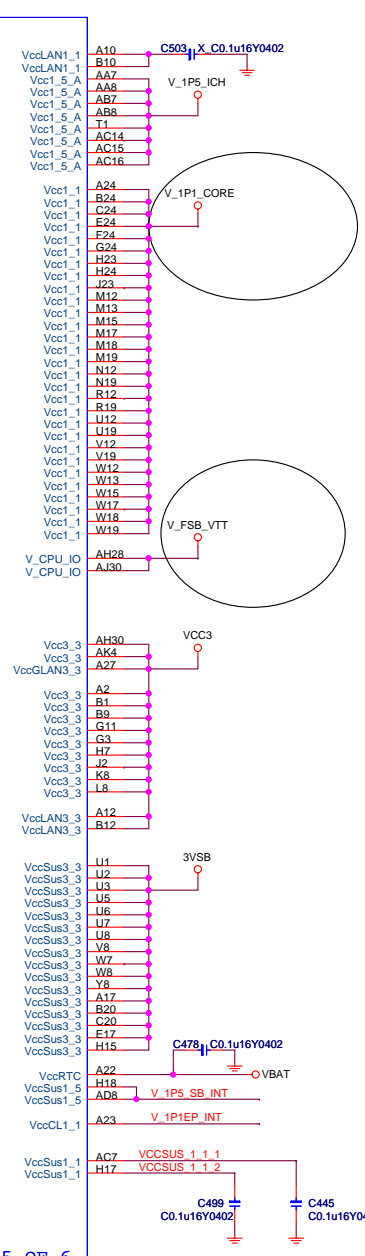
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Size	Document Description	Rev
Custom	ICH10_PCI, USB, DMI, PCIe1	2.0
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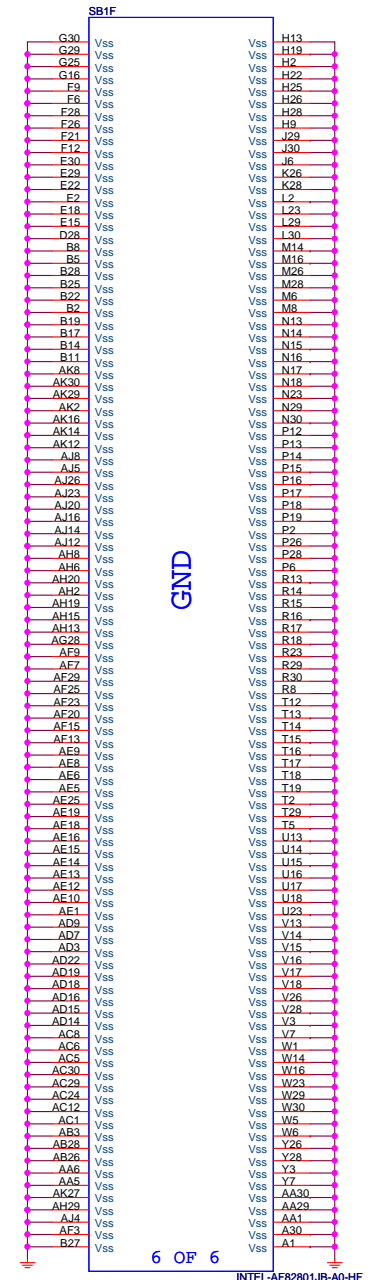


## POWER

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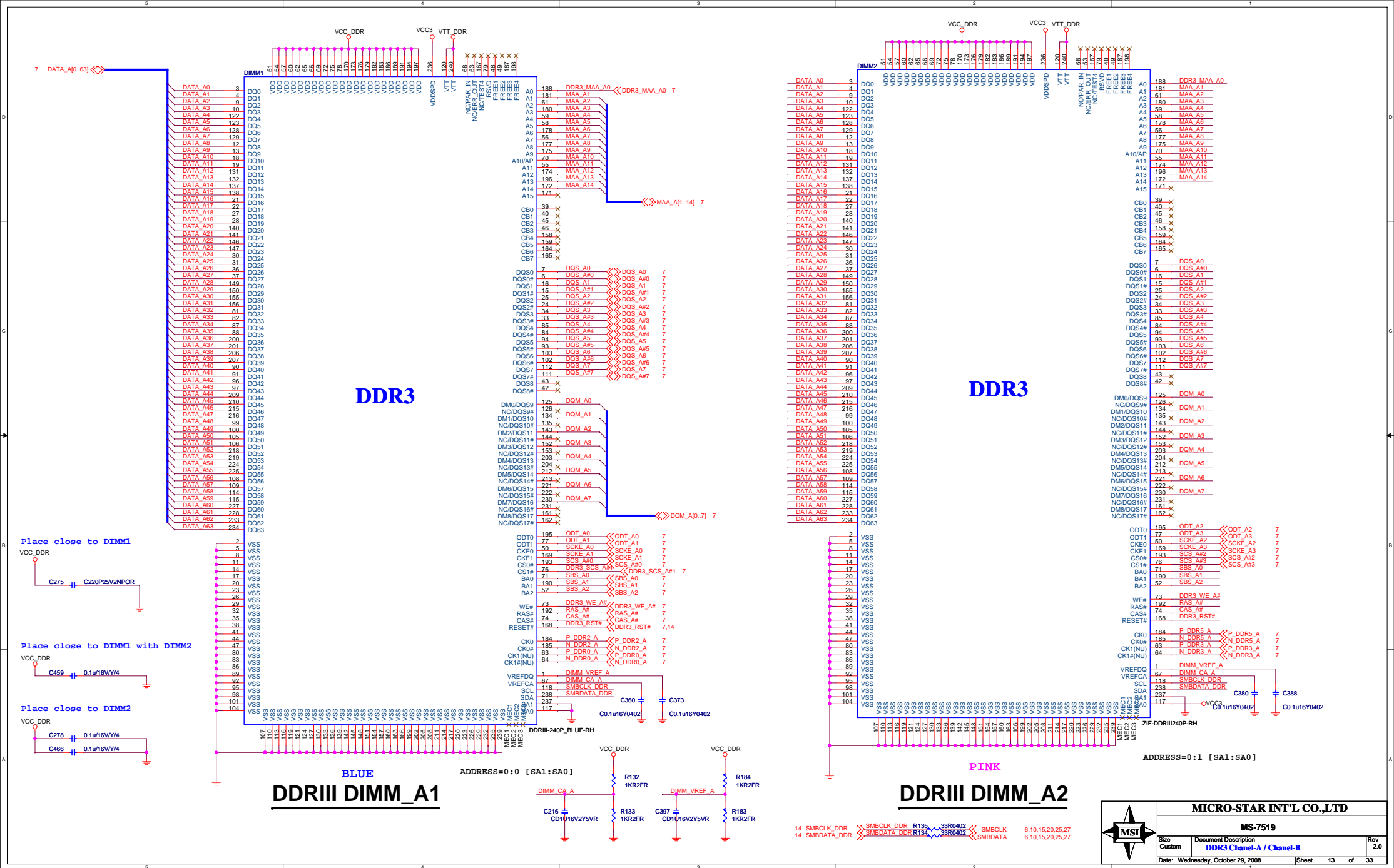


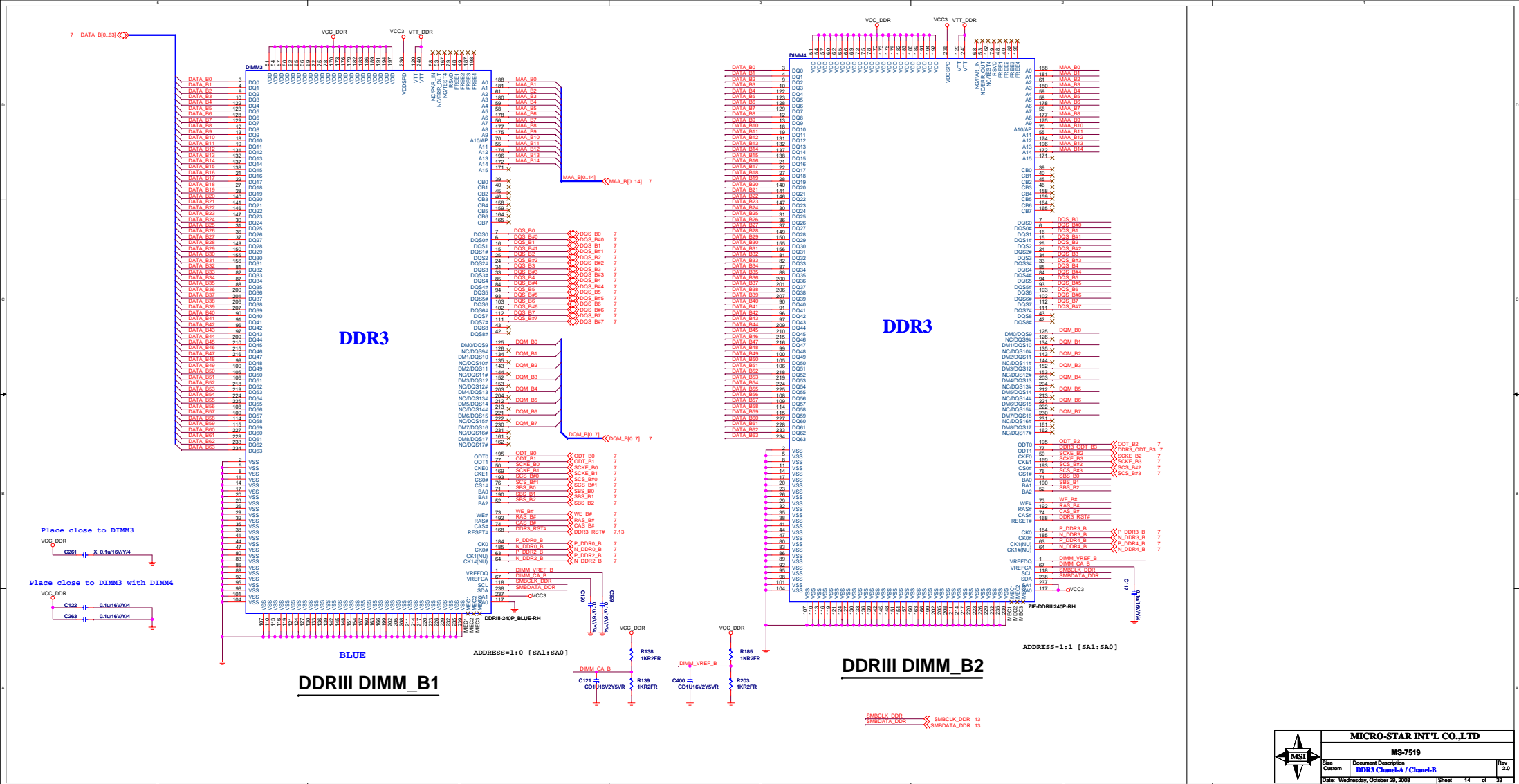
AF82801JB A0-HF  
AC7, H17 & H18, AD8  
spec TBD



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Size Custom	Document Description <b>ICH9/10 - Power, GND</b>	Rev 2.0
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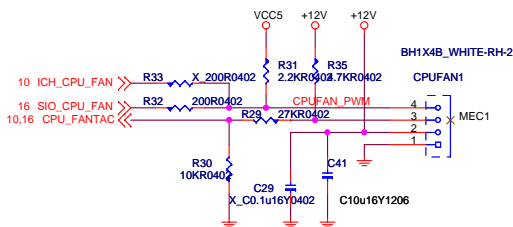
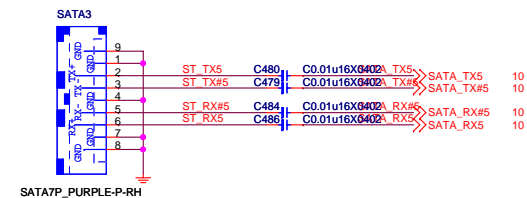
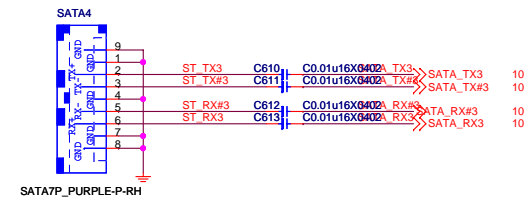
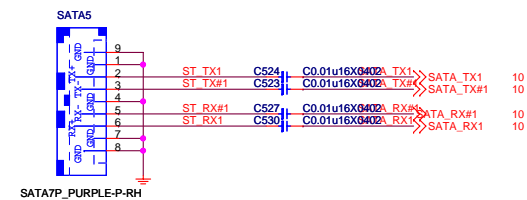












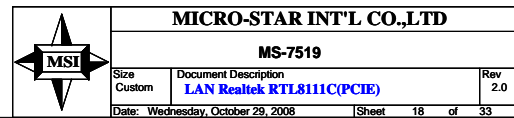
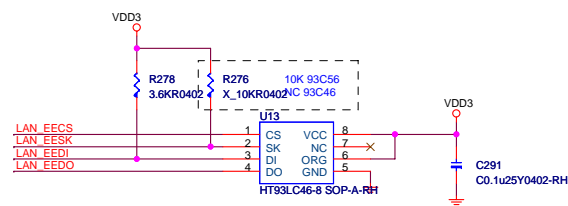
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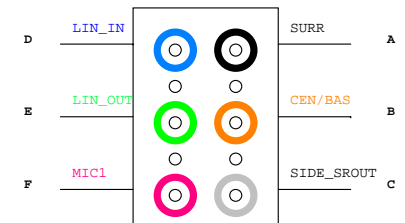
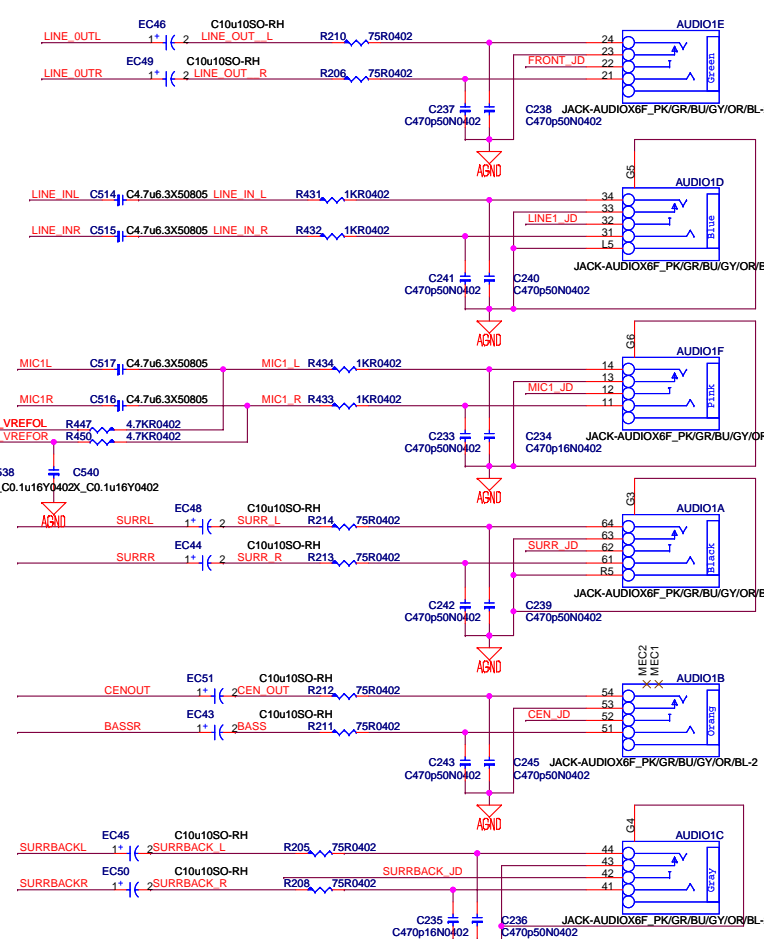
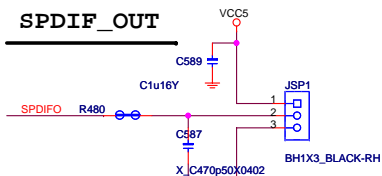
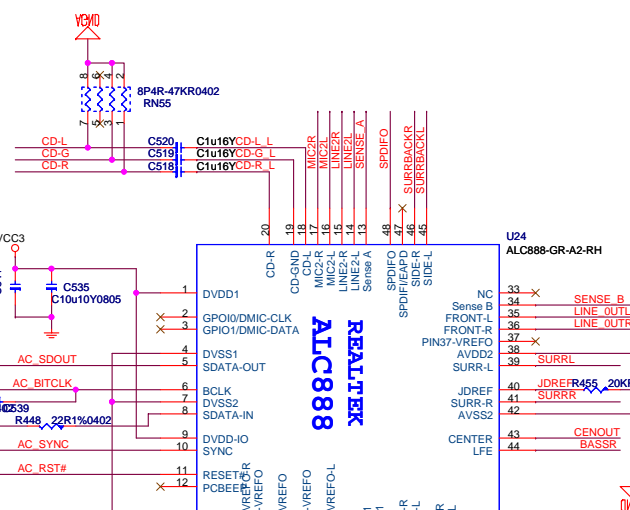
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Size Custom	Document Description <b>SATA &amp; e-SATA Ports and Fan Control</b>	Rev 2.0
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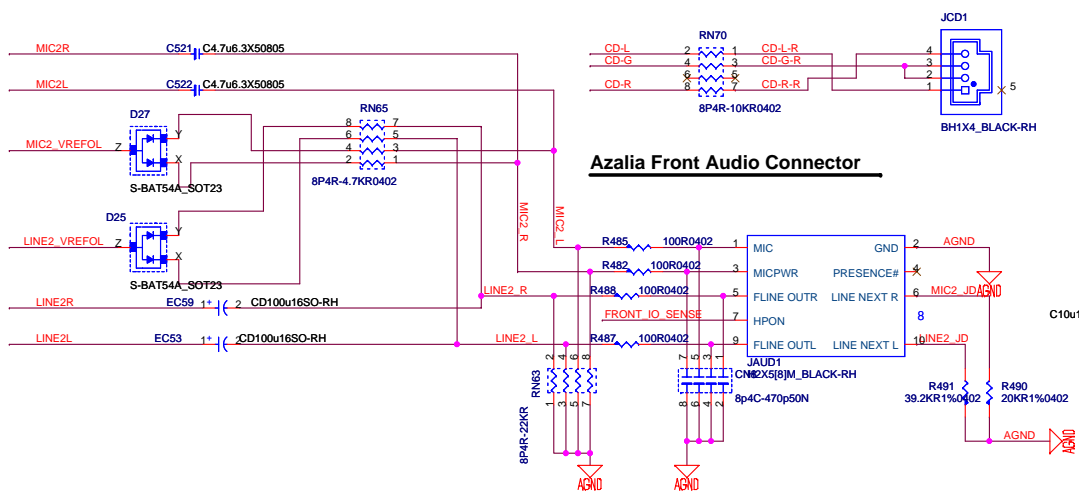
VDD33 40mil width R270 0R0805/VDDSR C330 C220 C346 C347

C657 C346 near Pin63 200mil, C346 must be nearly Pin63



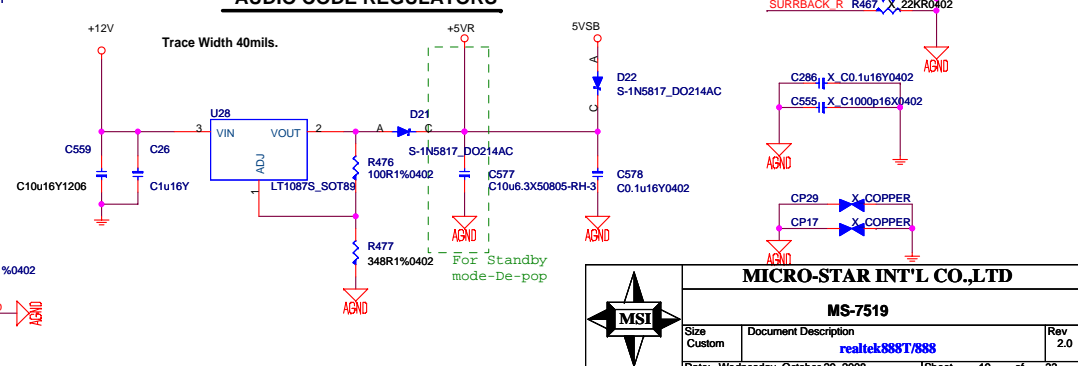


### CD\_IN

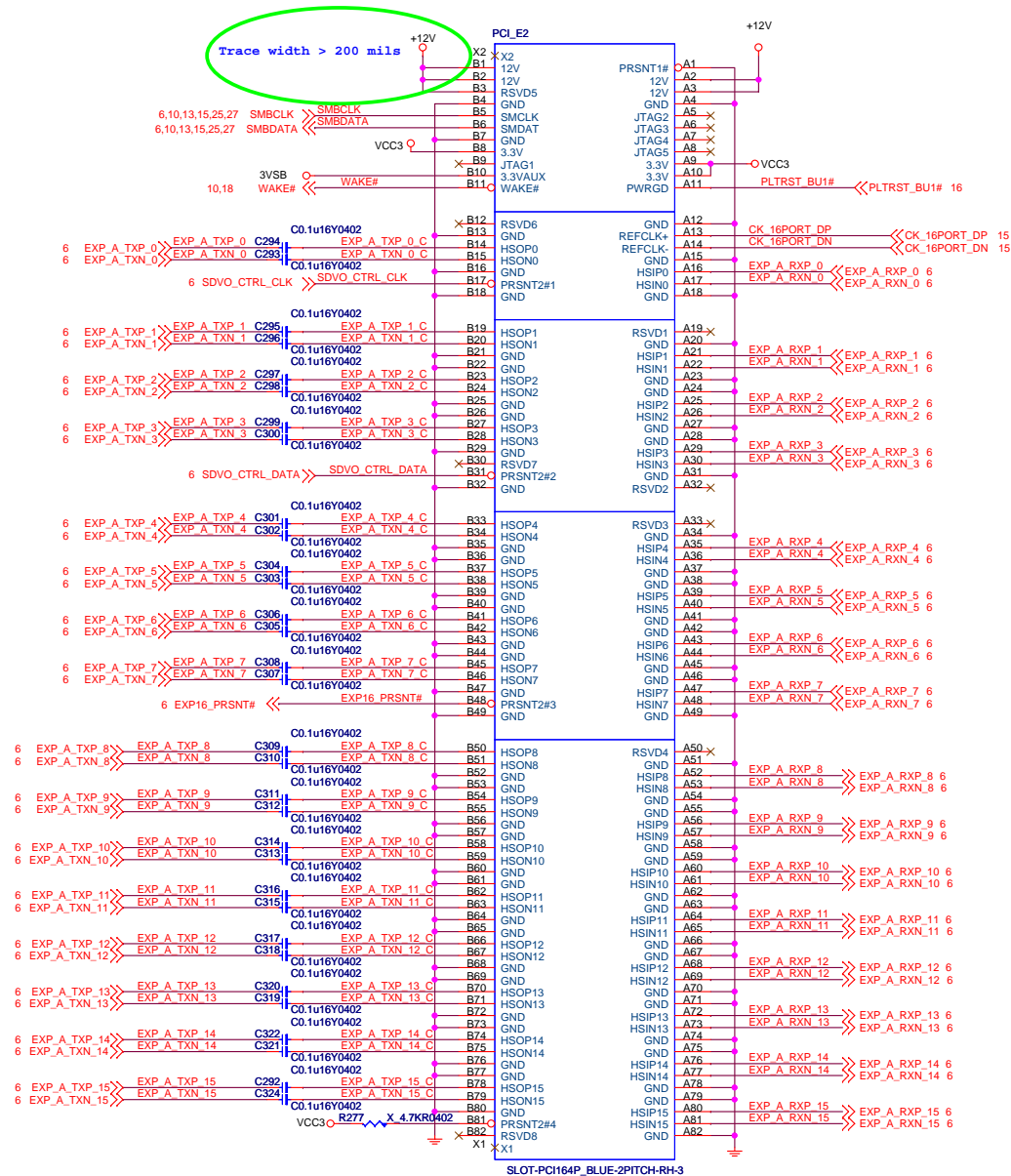


### Azalia Front Audio Connector

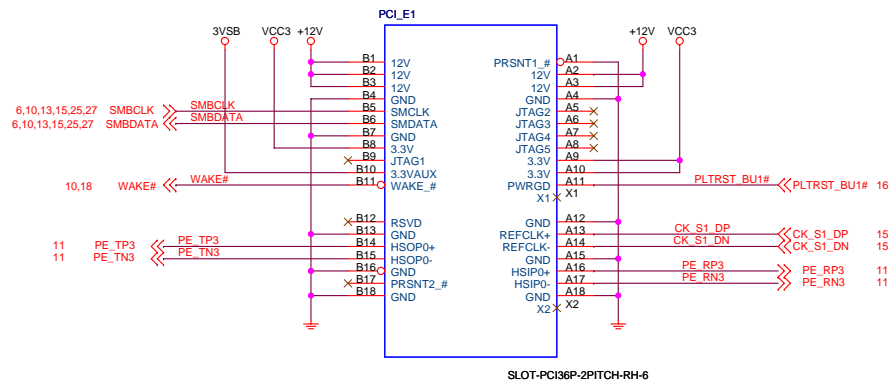
### AUDIO CODE REGULATORS



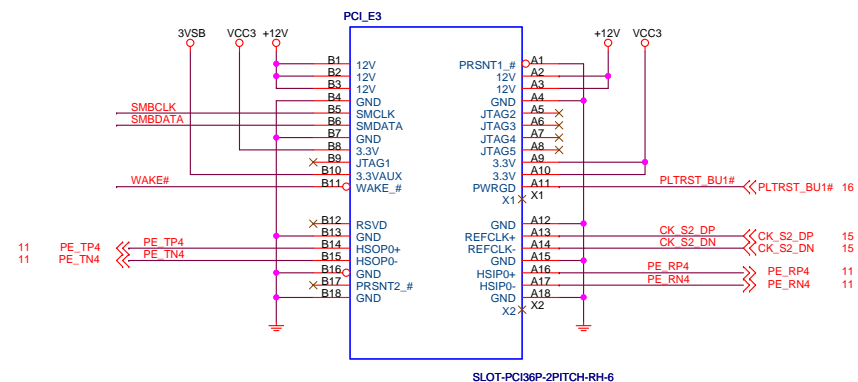
PCI\_Express X16 Slot



**PCI EXPRESS x1-PORT**



**PCI EXPRESS x1-PORT**

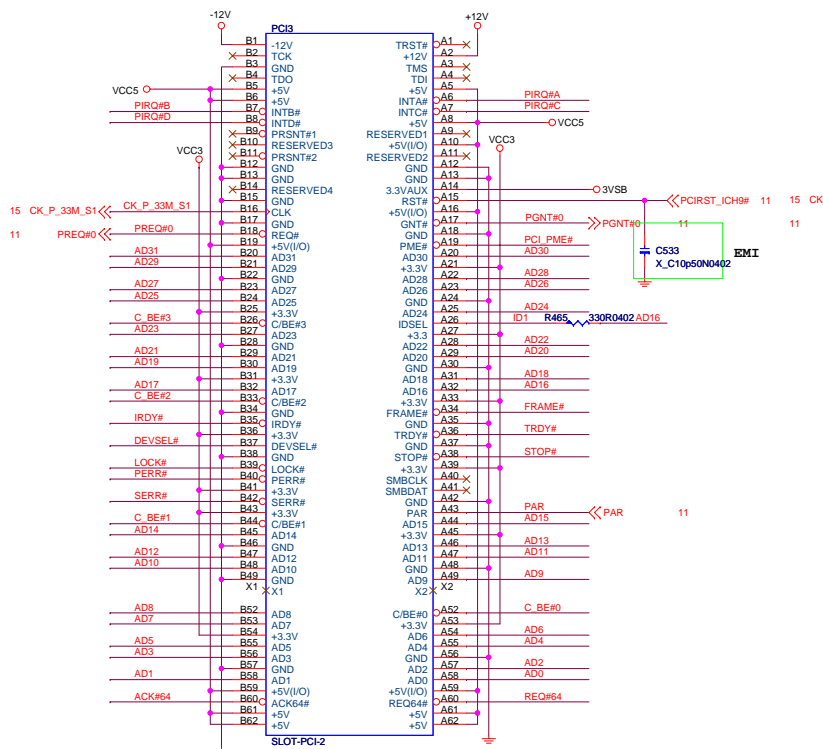


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PCI SLOT 3 (PCI VER: 2.2 COMPLY)

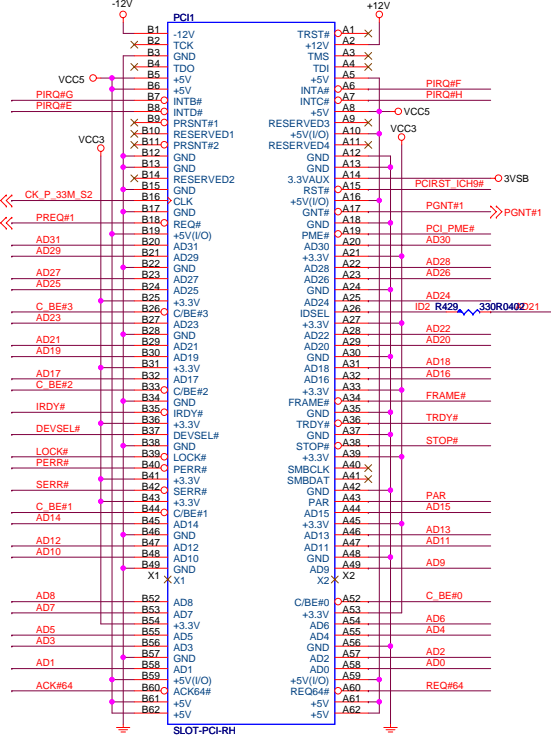


MASTER = PREQ#0  
PIRQ#A

11 AD[31..0] << AD[31..0]

11 C\_BE#[3..0] << C\_BE#[3..0]

**PCI SLOT 1 (PCI VER: 2.2 COMPLY)**



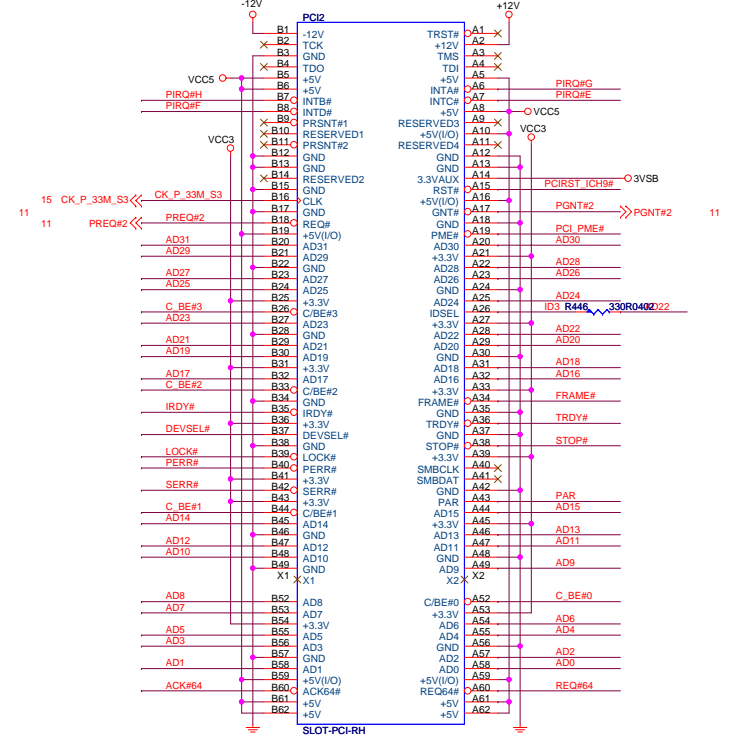
MASTER = PREQ#1  
PIRQ#F

```

IDSEL = AD21
MASTER = PREQ#1
PIRQ#F

```

PCI SLOT 2 (PCI VER: 2.2 COMPLY)

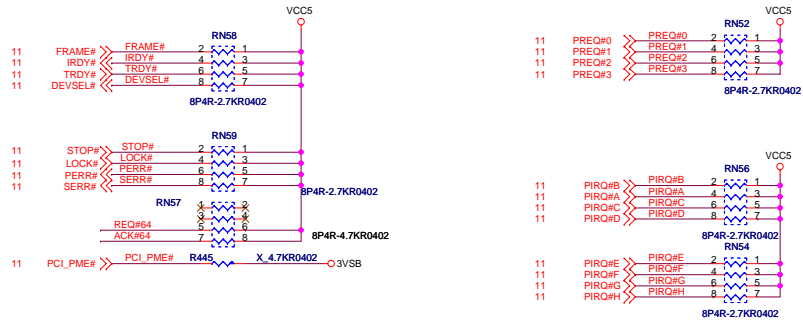


```

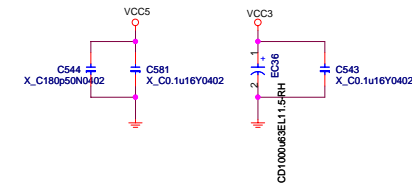
IDSEL = AD22
MASTER = PREQ#2
PIRQ#G

```

## PCI PULL-UP / DOWN RESISTORS



## PCI SLOT DECOUPLING CAPACITORS



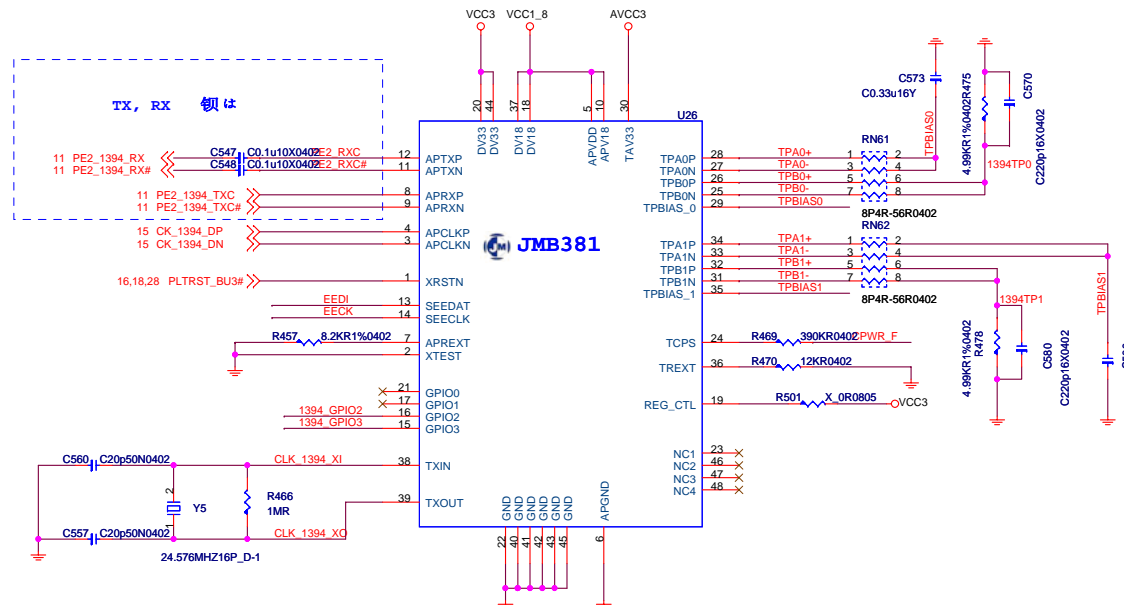
**MICRO-STAR INT'L CO.,LTD**

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# 1394 CONTROLLER

## Rear 1394 port



Place near JMB381

width 60mil

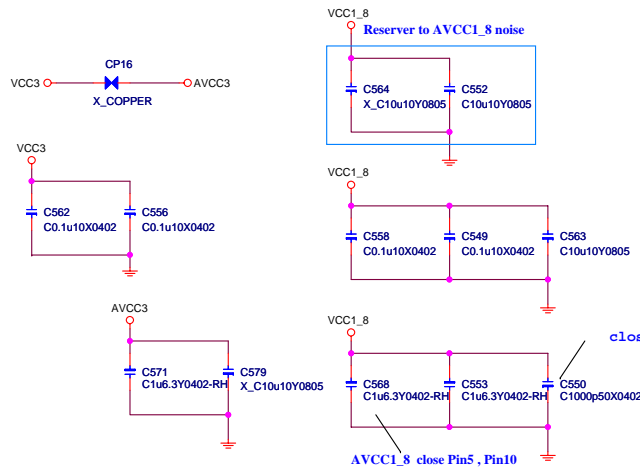
## Front 1394 pin header

Place near JMB381

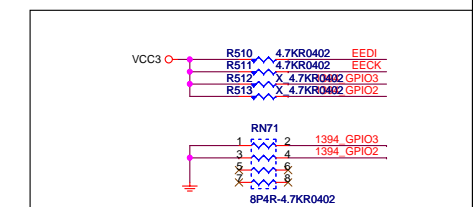
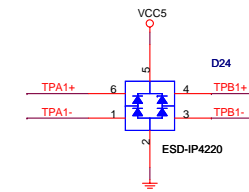
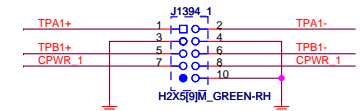
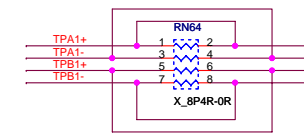
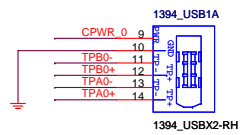
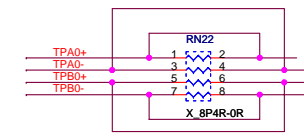
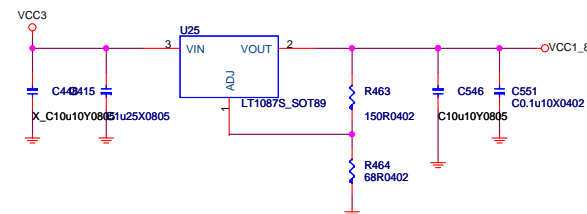
width 60mil

361.3 mA

For Intel 1394 pinheader



## A1117 CO-LAY SOT223 (TO\_261) PNP BJT

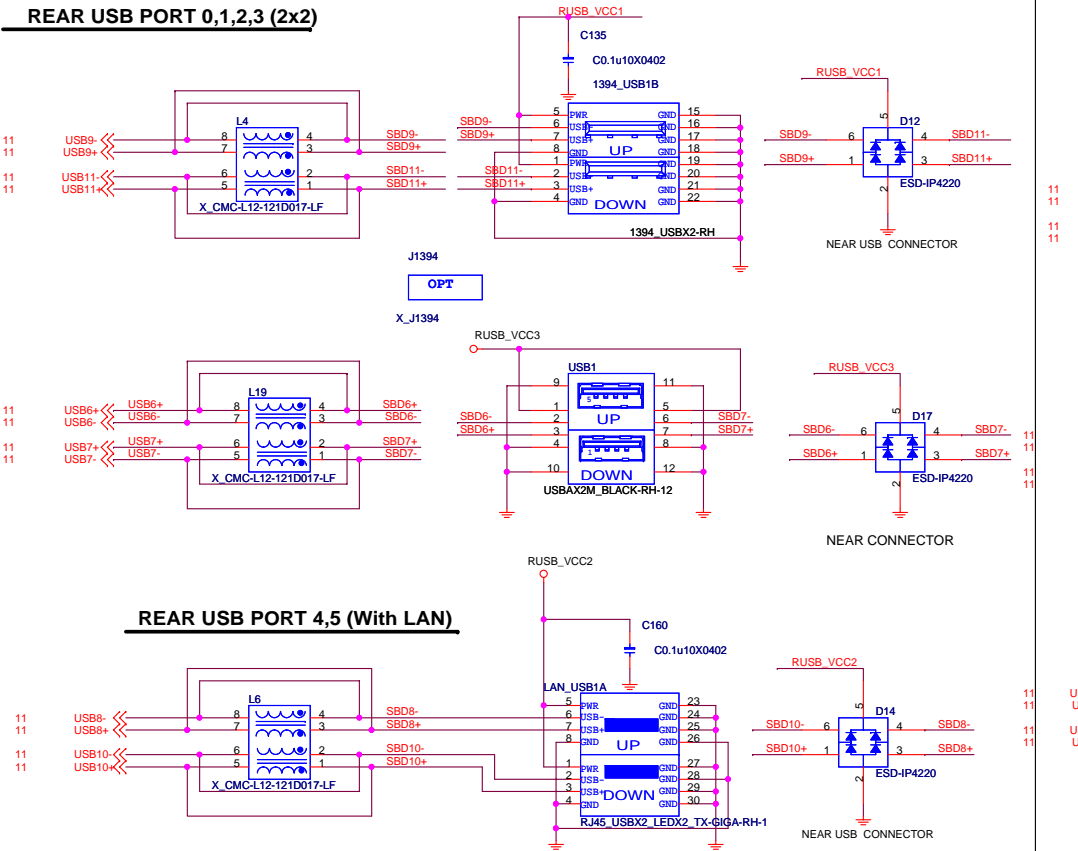
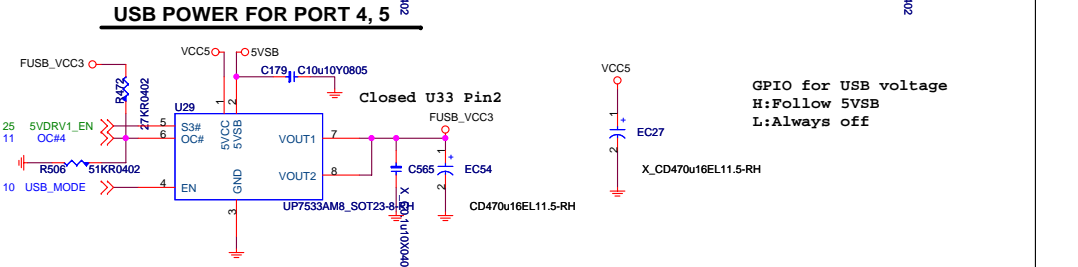
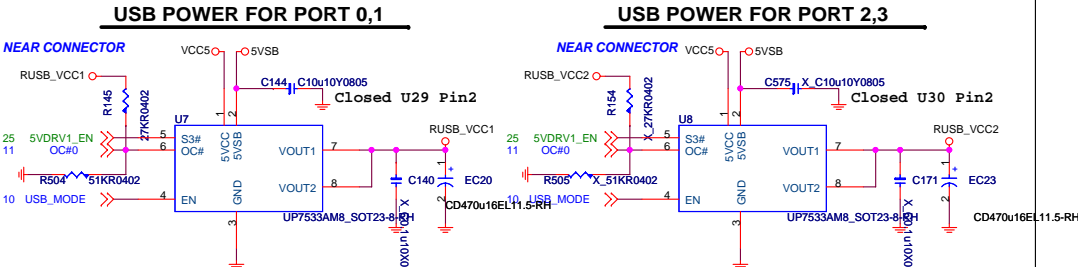


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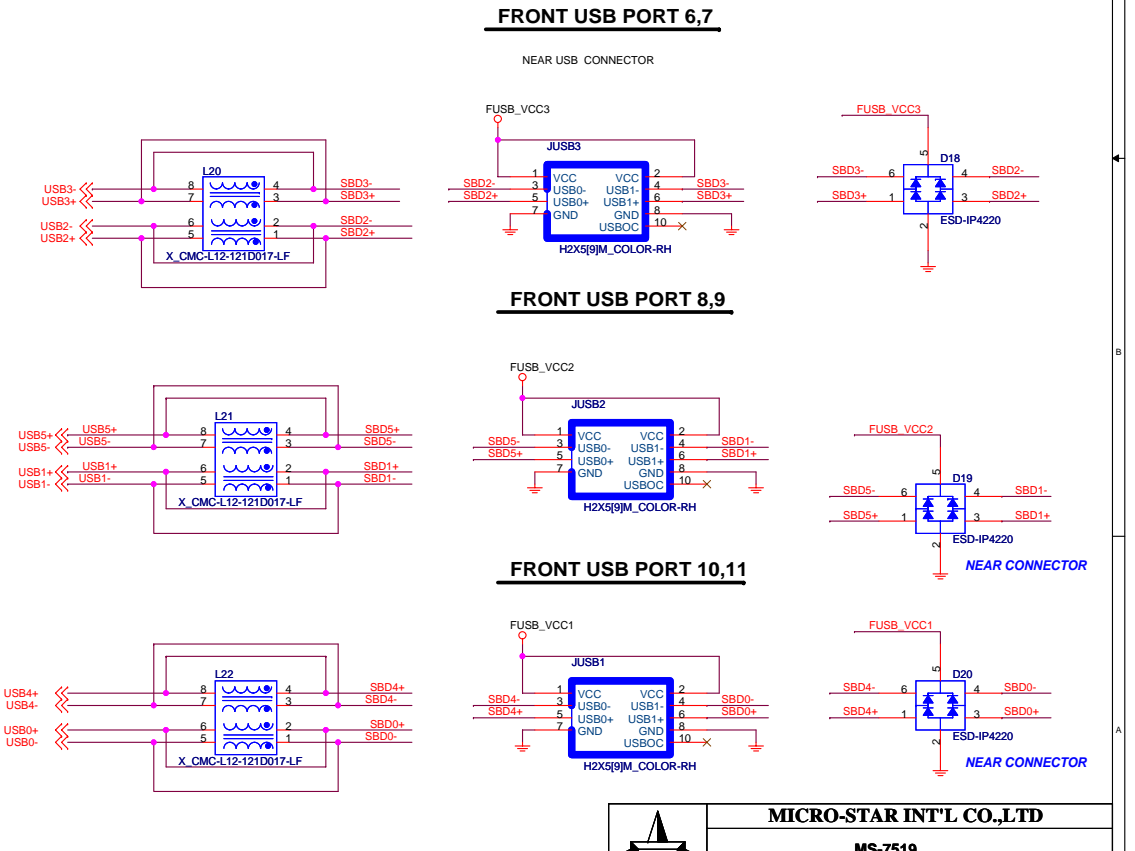
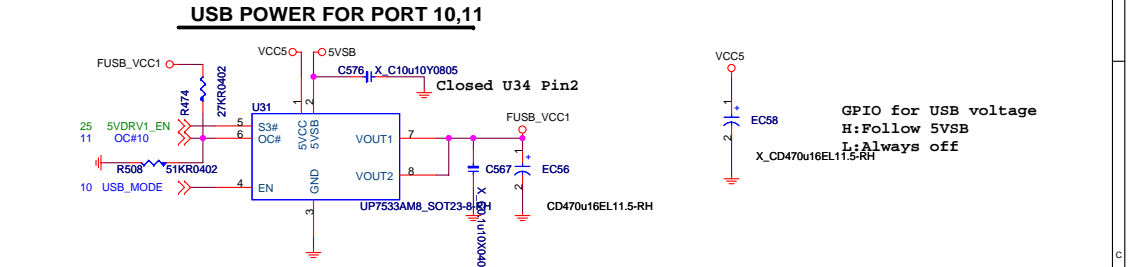
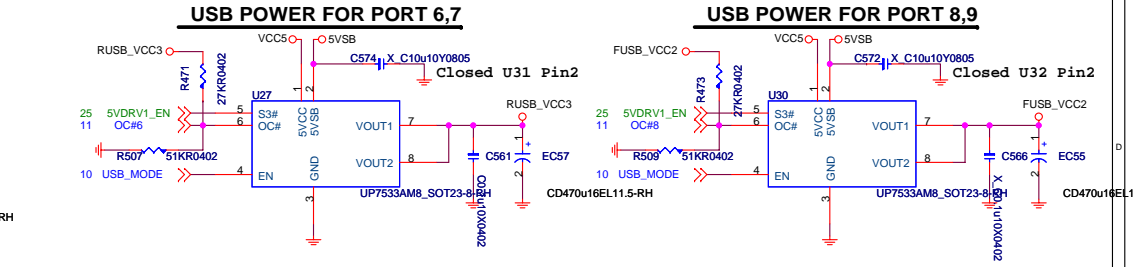




Rear USB Connector



Front USB Connector

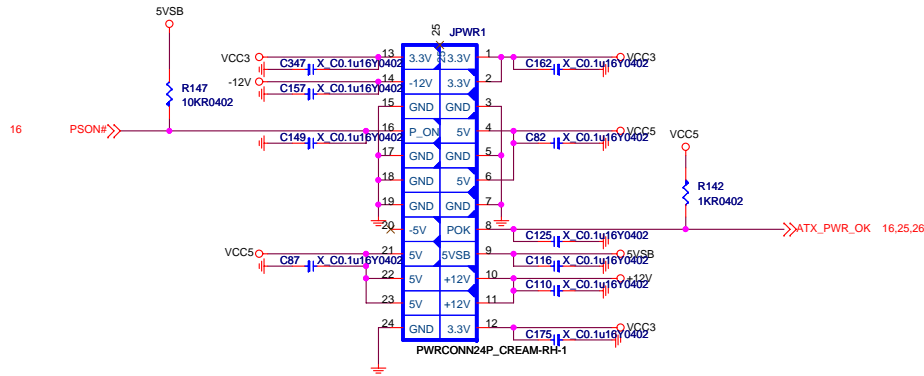




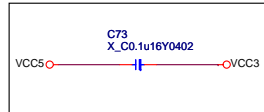




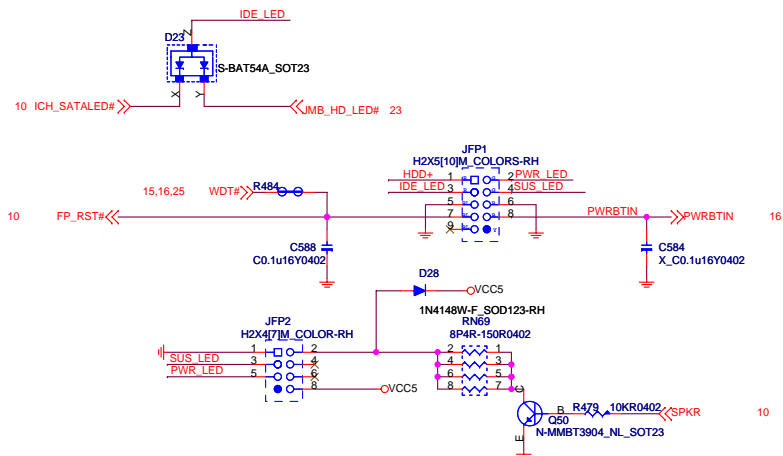
## ATX POWER CONNECTOR



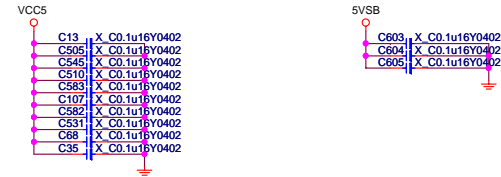
## FOR EMI



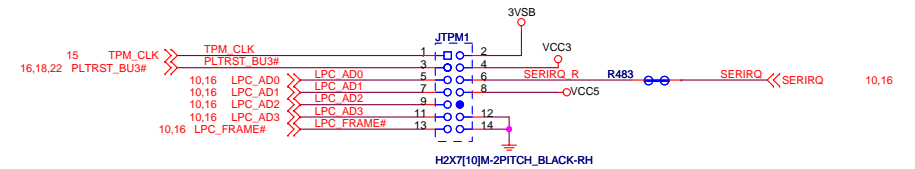
## FRONT PANNEL



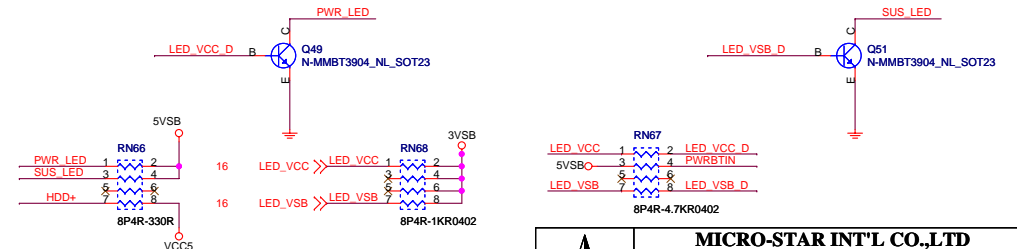
## Cap. for EMI & Power

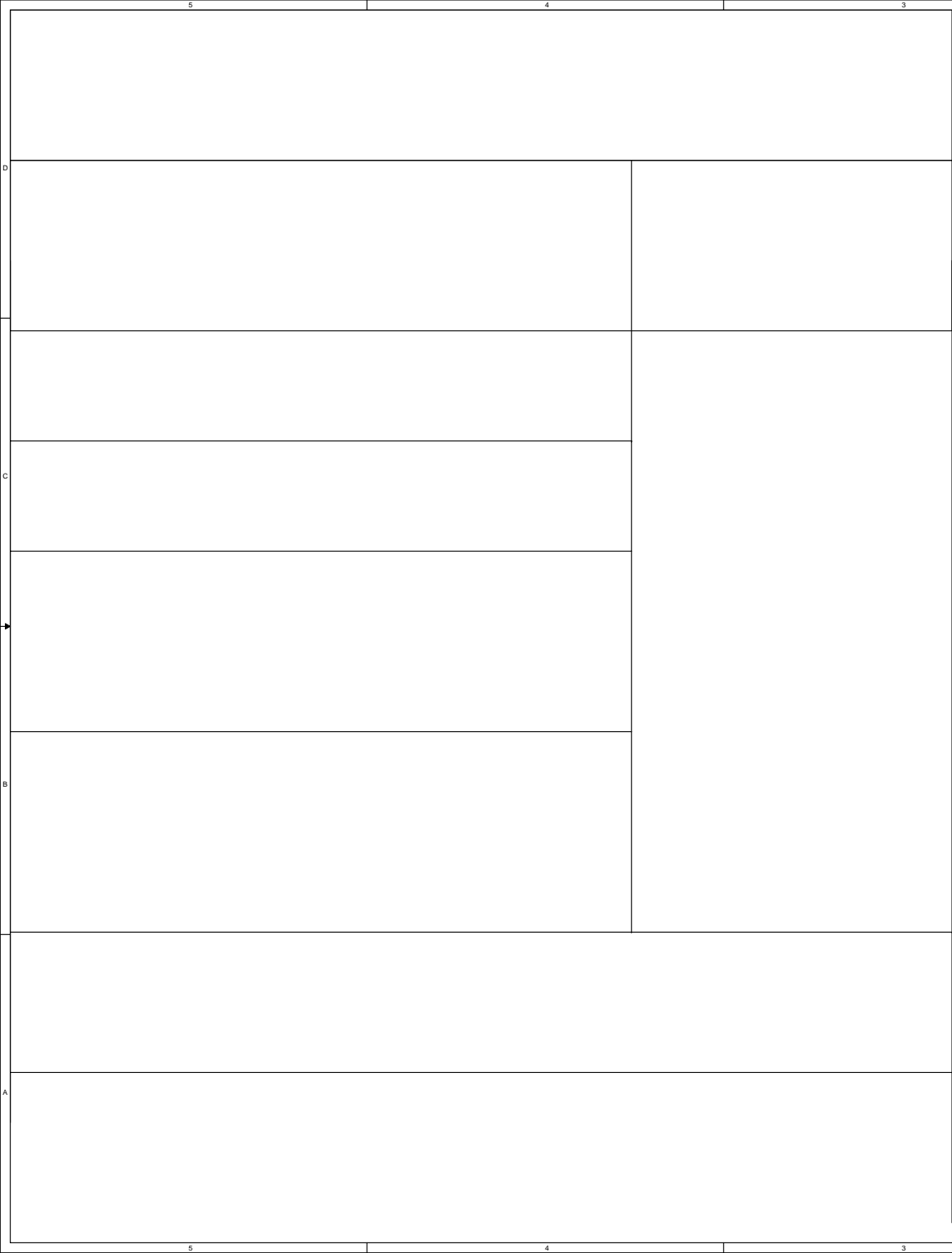


## TPM

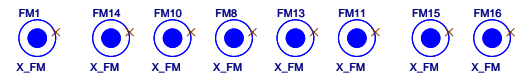


## LED ( for Fintek 71882)





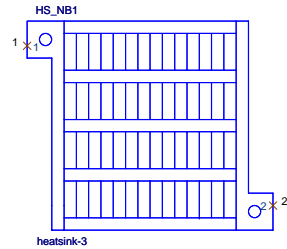
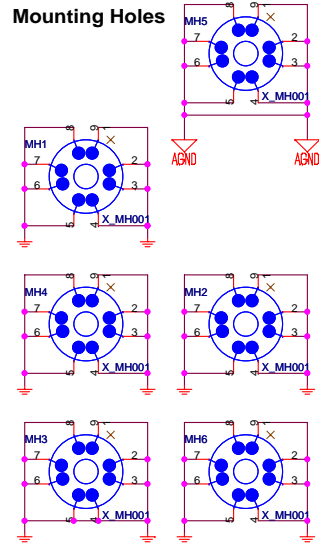
Optical Fiducial Marks-120



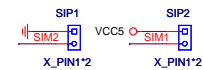
Optical Fiducial Marks-100



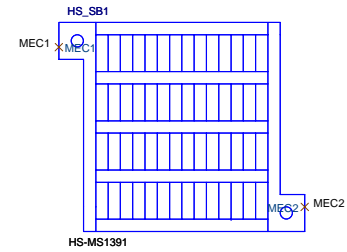
Mounting Holes



Simulation



Lable  
OPT



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