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# MS-7505 ATX

Version: 0A

**CPU:** Intel Pentium 4 Cedar Mill / Prescott , Pentium D Smithfield / Presler and Conroe / Kentsfield family processors in LGA775 Package.

## System Chipset:

**NVIDIA MCP73**

## On Board Device:

**BIOS -- SPI Flash 8M**  
**Azalia Codec -- ALC888**  
**LPC Super I/O -- FINTEK F71882FG**  
**LAN -- Realtek RTL8211BL-GR**  
**CLOCK Gen -- Integrated in MCP73**  
**1394 Controller -- JMB381**

## Main Memory:

**SINGLE-channel DDR-II \* 4 (Max 4GB)**

## Expansion Slots:

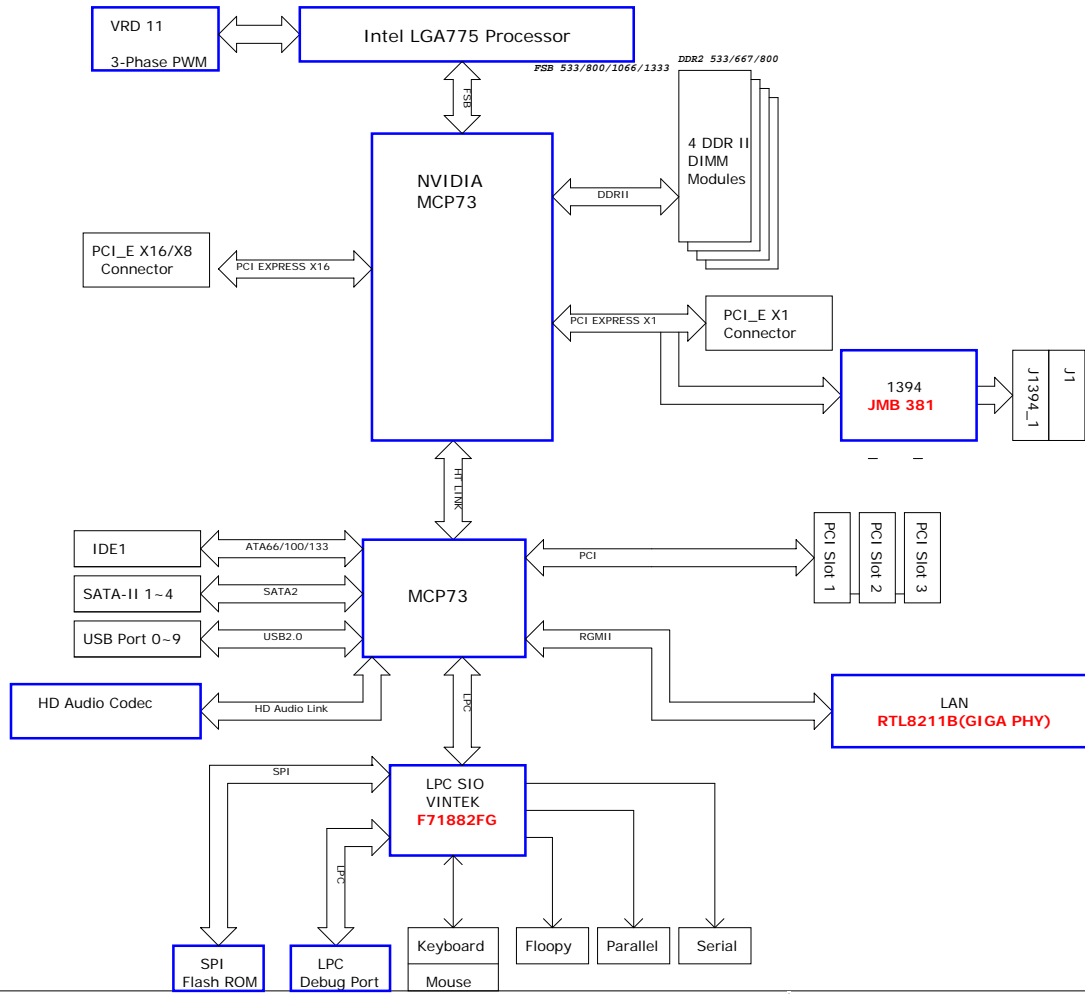
**PCI EXPRESS X16 SLOT \*1**  
**PCI EXPRESS X1 SLOT \* 1**  
**PCI SLOT \* 4**

## Intersil PWM

OPT	Function	Orcad Configure	BOM
PV	MCP73PV (HDMI+DVI) / F71882FG/ALC888/RTL8211BL/JMB381	cfg-7505-PV	601-7505-A10

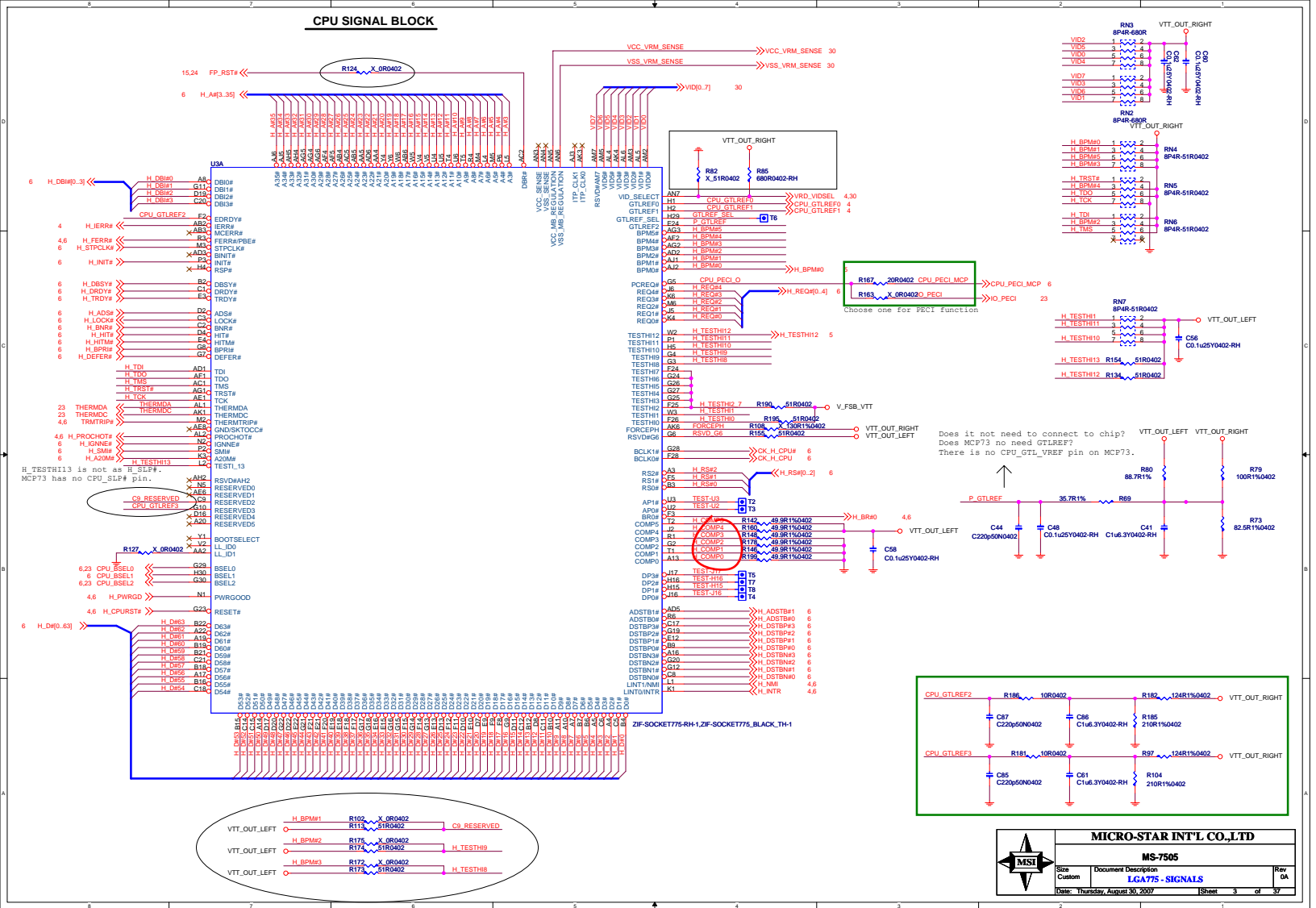
<b>MICRO-STAR INT'L CO.,LTD</b>			
<b>MS-7366</b>			
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Custom	COVER SHEET	0A	
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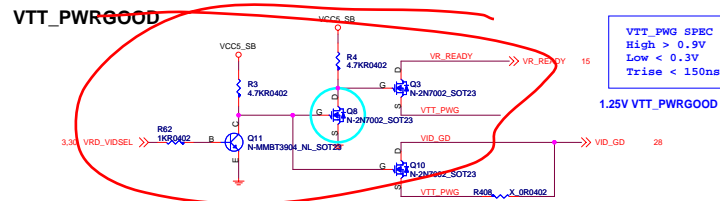
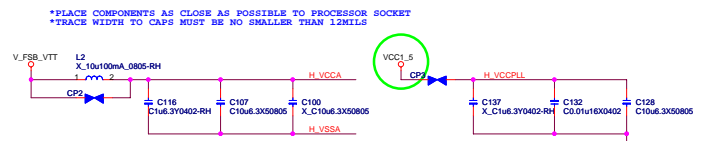
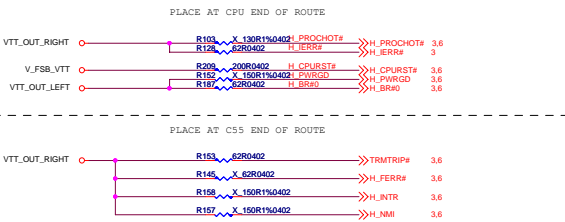
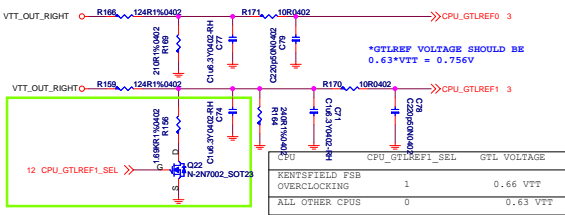
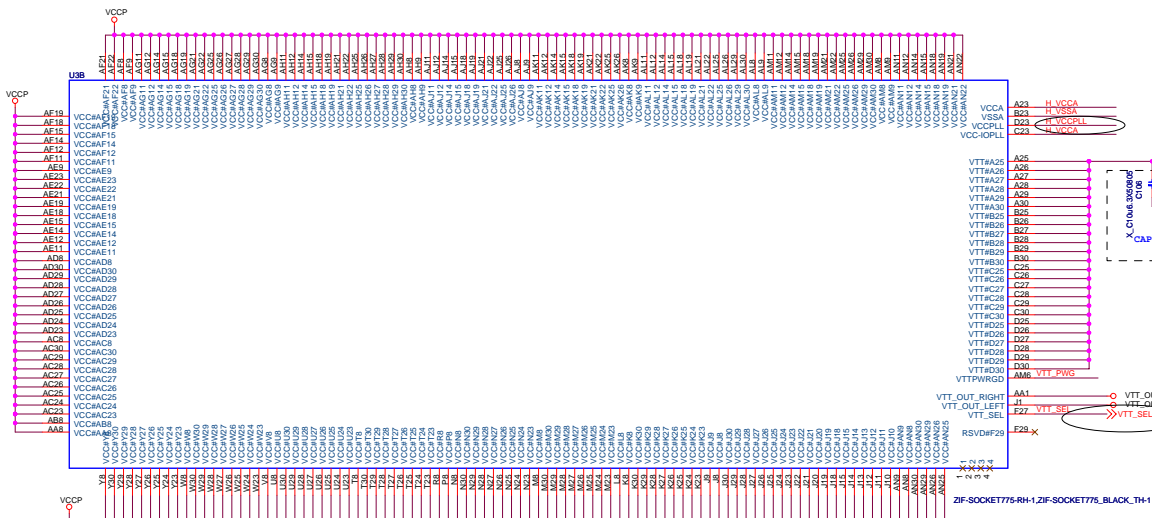
# Block Diagram



MICRO-STAR INT'L CO.,LTD		
MS-7505		
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# CPU SIGNAL BLOCK

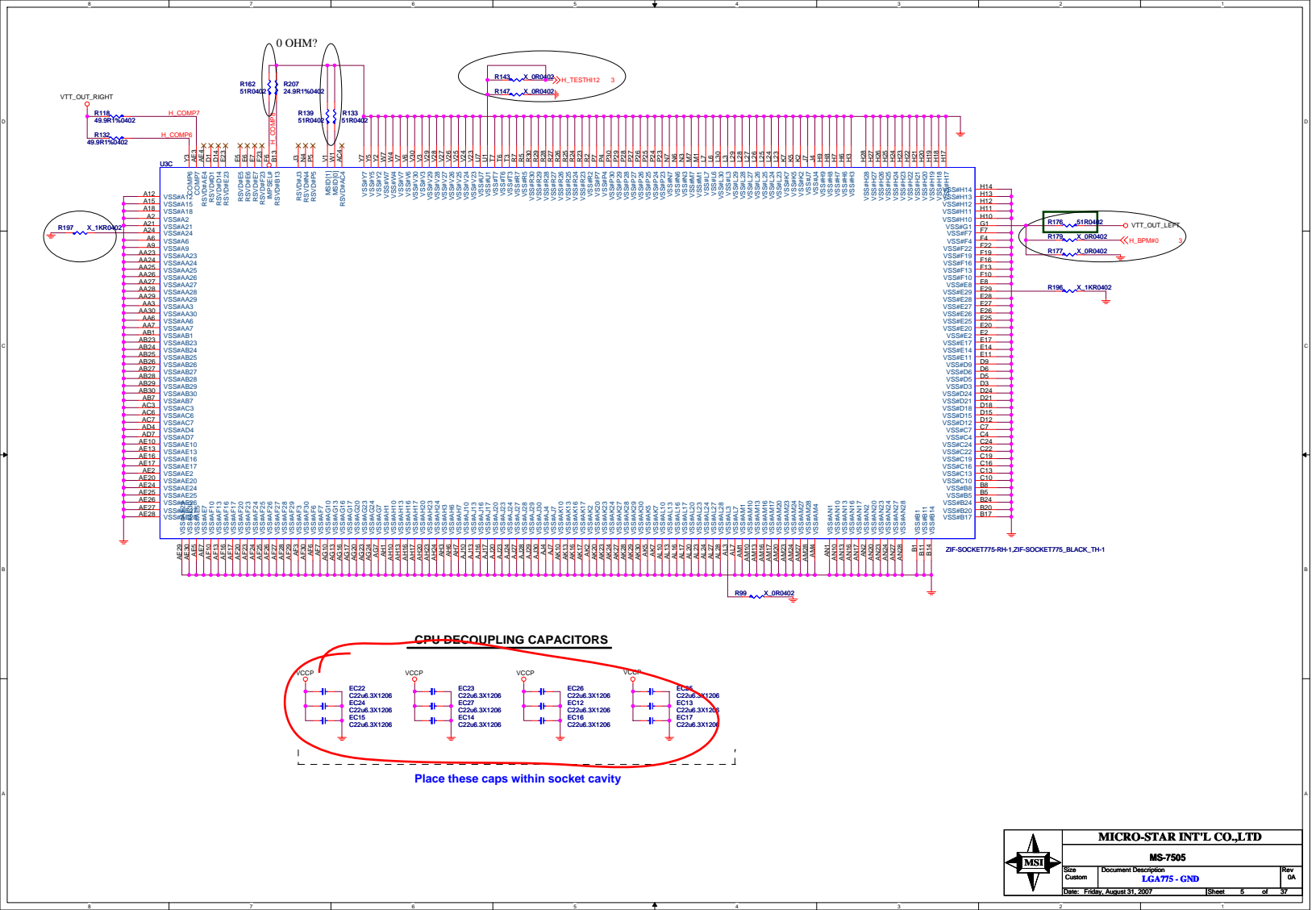


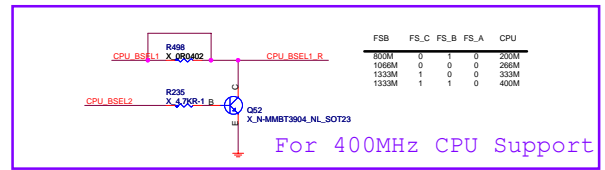
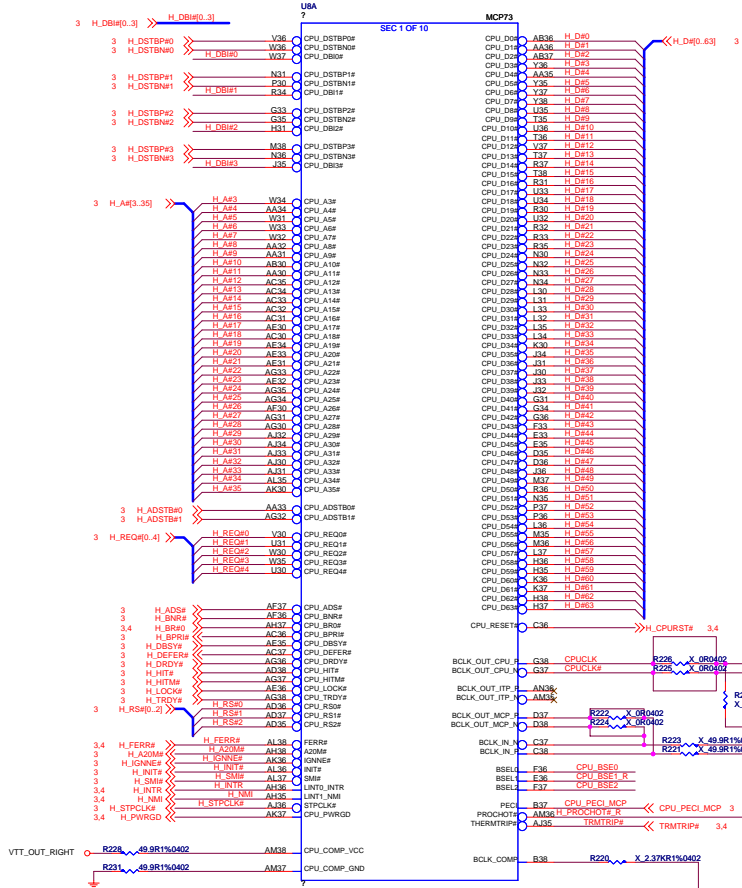


VID_SELECT	VTT_PWG	power on sequence
0 (VRM10)	VID_GD	VTT_PWG before VCCP
1 (VRM11)	VR_READY	VCCP before VTT_PWG

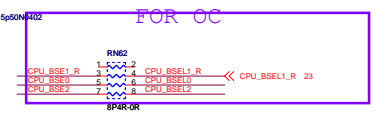
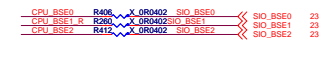
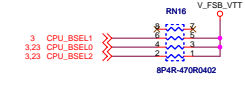
**MICRO-STAR INT'L CO.,LTD**  
**MS-7505**  
**LGA775 - POWER**  
 Date: Friday, August 31, 2007

Size: Custom  
 Document Description: LGA775 - POWER  
 Rev: 0A






BSEL[2..0]	FSB CLK (MHz)
000	266MHz
010	200MHz
100	333MHz
TBD	Reserved



If CPU processor hot cause system shutdown, remove OR.

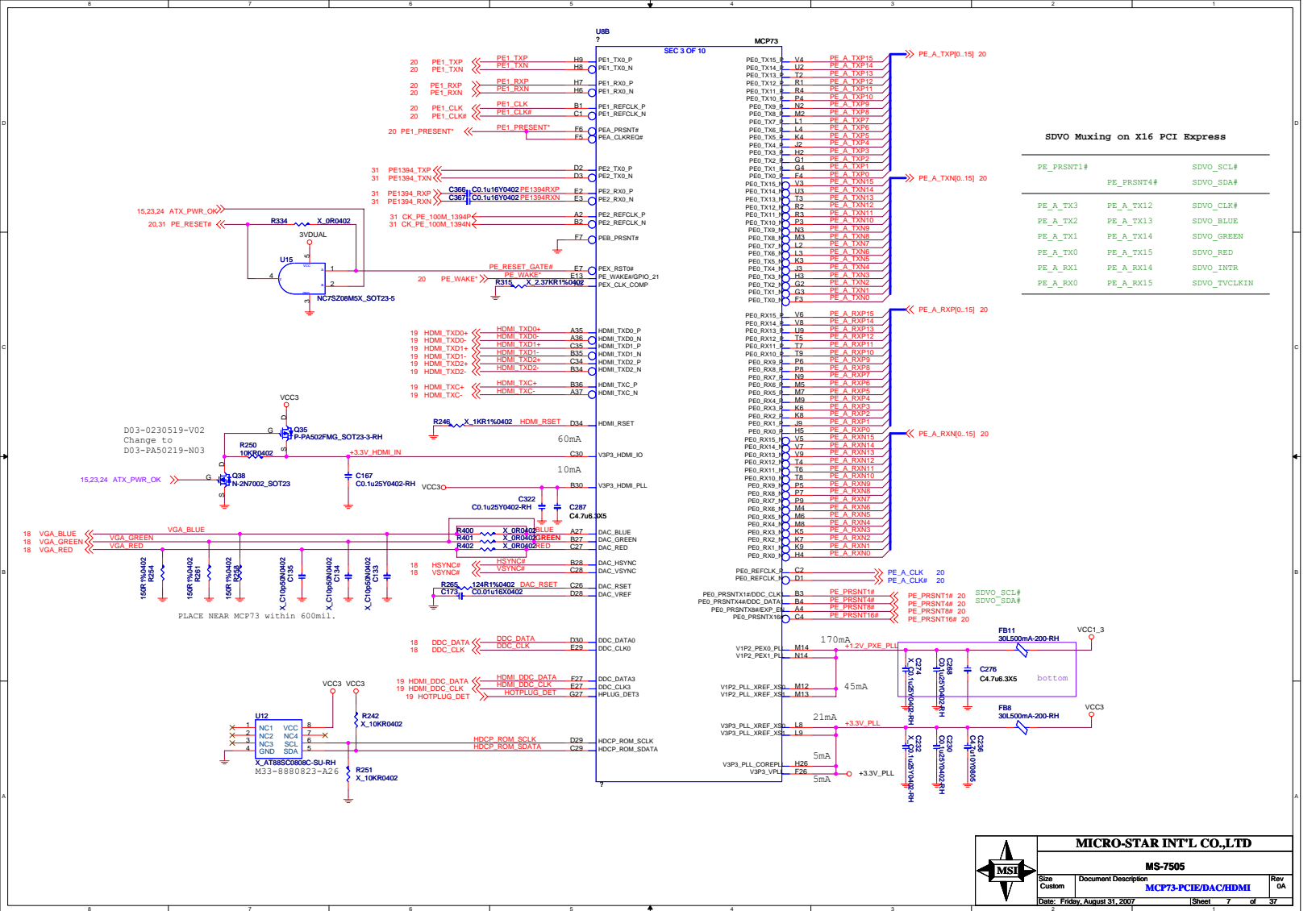


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**MS-7505**

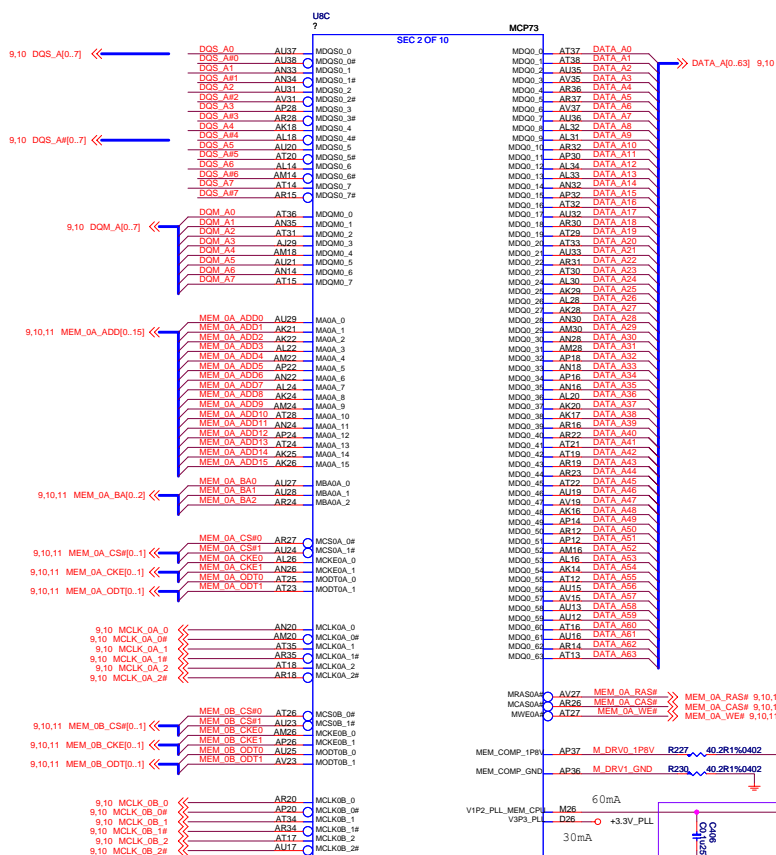
**MCP73-CPU**

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DATA 0 DIMM 1 ADDR 0A / CNTL 0A  
DIMM 2 ADDR 0B / CNTL 0B

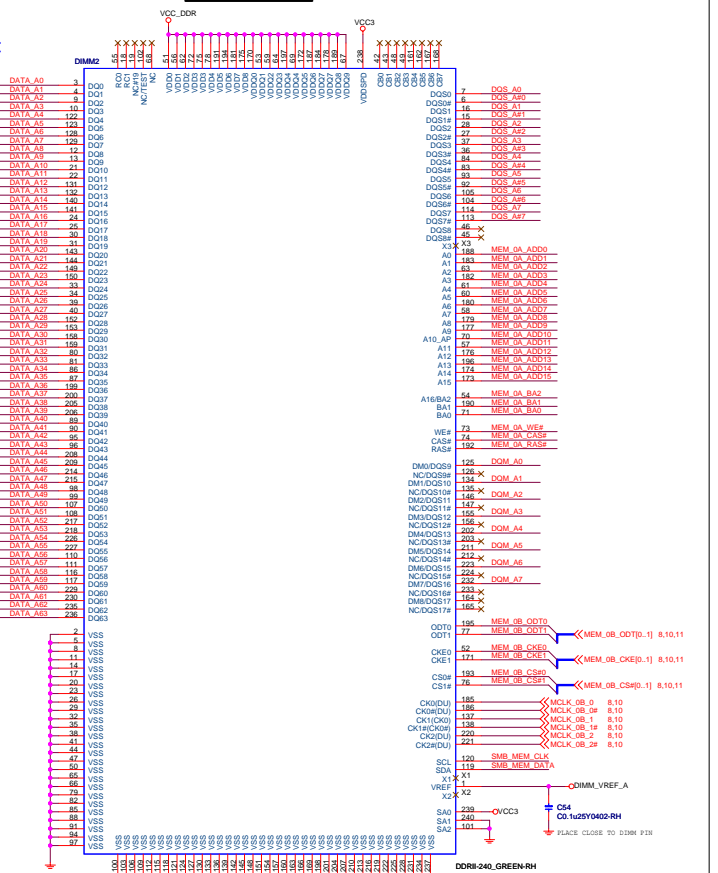
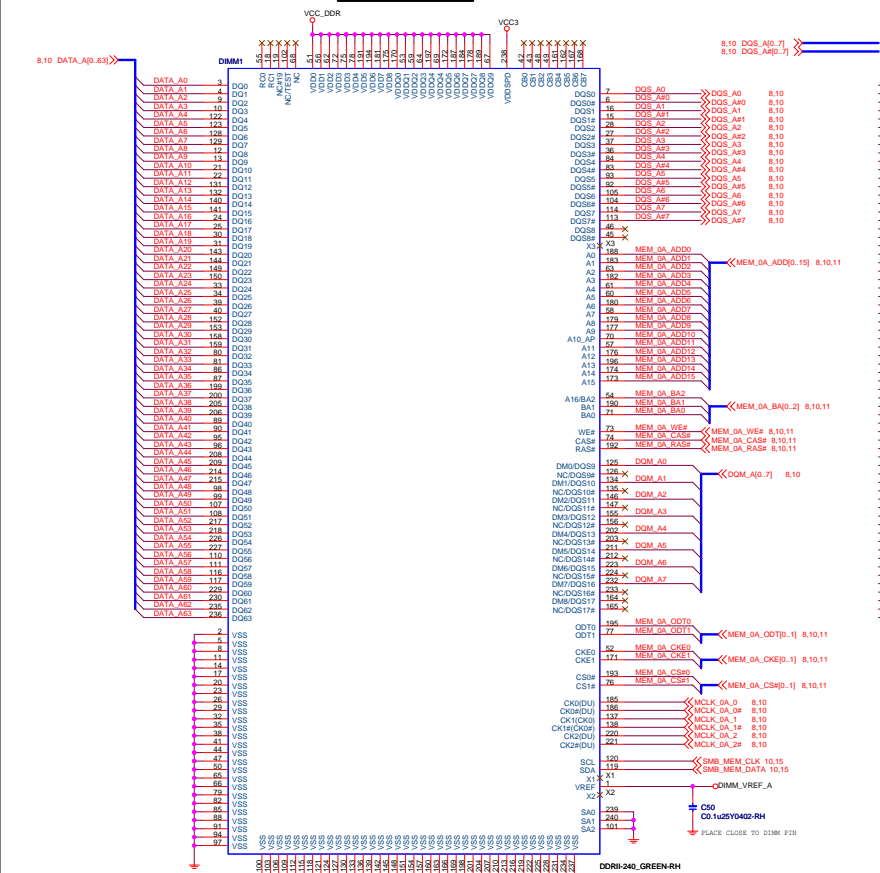
# DIMM 0A





# DIMM1 / 0A

# DIMM2 / 0B



ADDRESS: 000  
0xA0



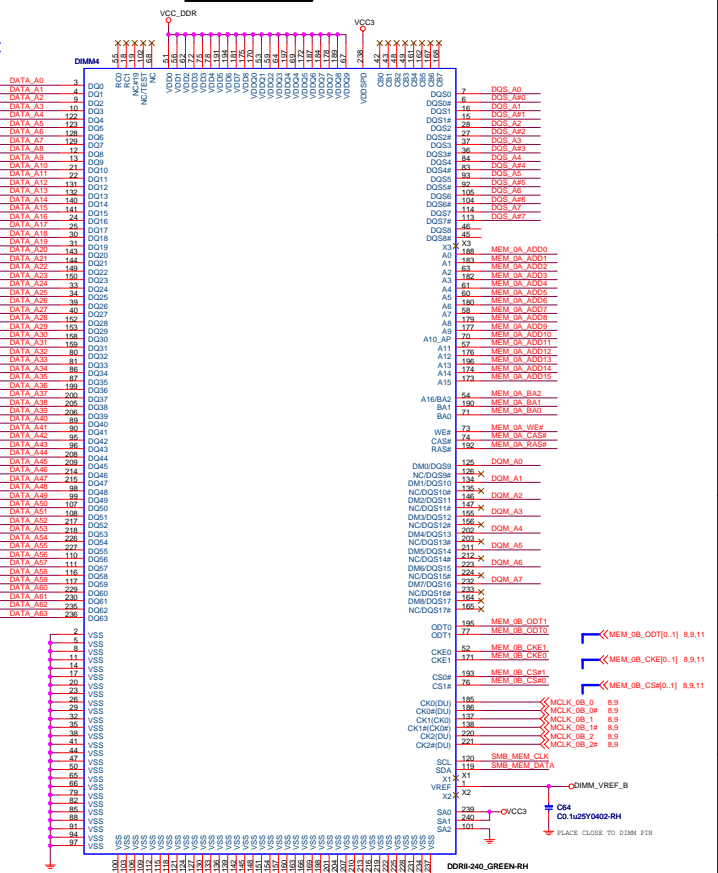
ADDRESS: 001  
0xA2

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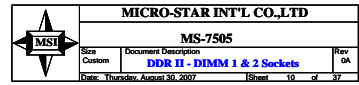
**MS-7505**

Doc Custom Document Description **DDR II - DIMM 1 & 2 Sockets** Rev GA

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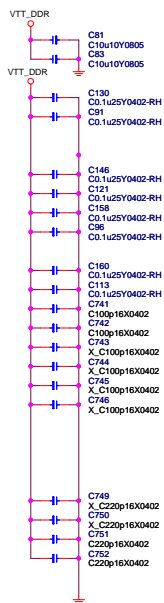


**ADDRESS: 011**

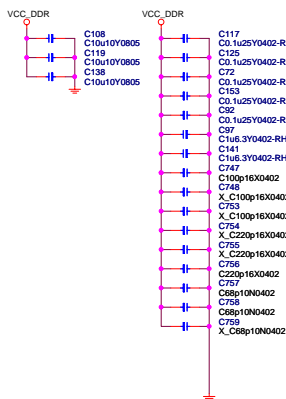
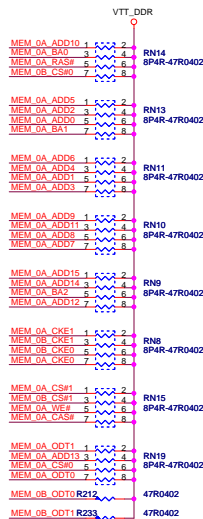


# CHANNEL A VTT\_DDR DECOUPLING CAPS

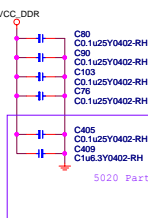
# CHANNEL A ----- 0A , 0B



8,9,10 MEM\_OA\_ADD[0..15] >>>  
 8,9,10 MEM\_OA\_BA[0..2] >>>  
 8,9,10 MEM\_OA\_CS[0..1] >>>  
 8,9,10 MEM\_OA\_CKE[0..1] >>>  
 8,9,10 MEM\_OA\_ODT[0..1] >>>  
 8,9,10 MEM\_OA\_RAS# >>>  
 8,9,10 MEM\_OA\_CAS# >>>  
 8,9,10 MEM\_OA\_WE# >>>  
 8,9,10 MEM\_OB\_CS[0..1] >>>  
 8,9,10 MEM\_OB\_CKE[0..1] >>>  
 8,9,10 MEM\_OB\_ODT[0..1] >>>

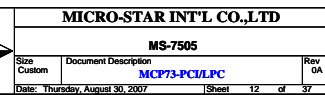
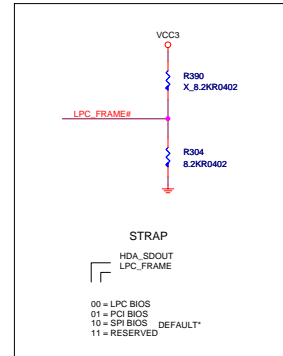


Demo Board with 0.1u X5, 1uX3, 10uX3 for Single Channel  
 Dual Channel Must x2

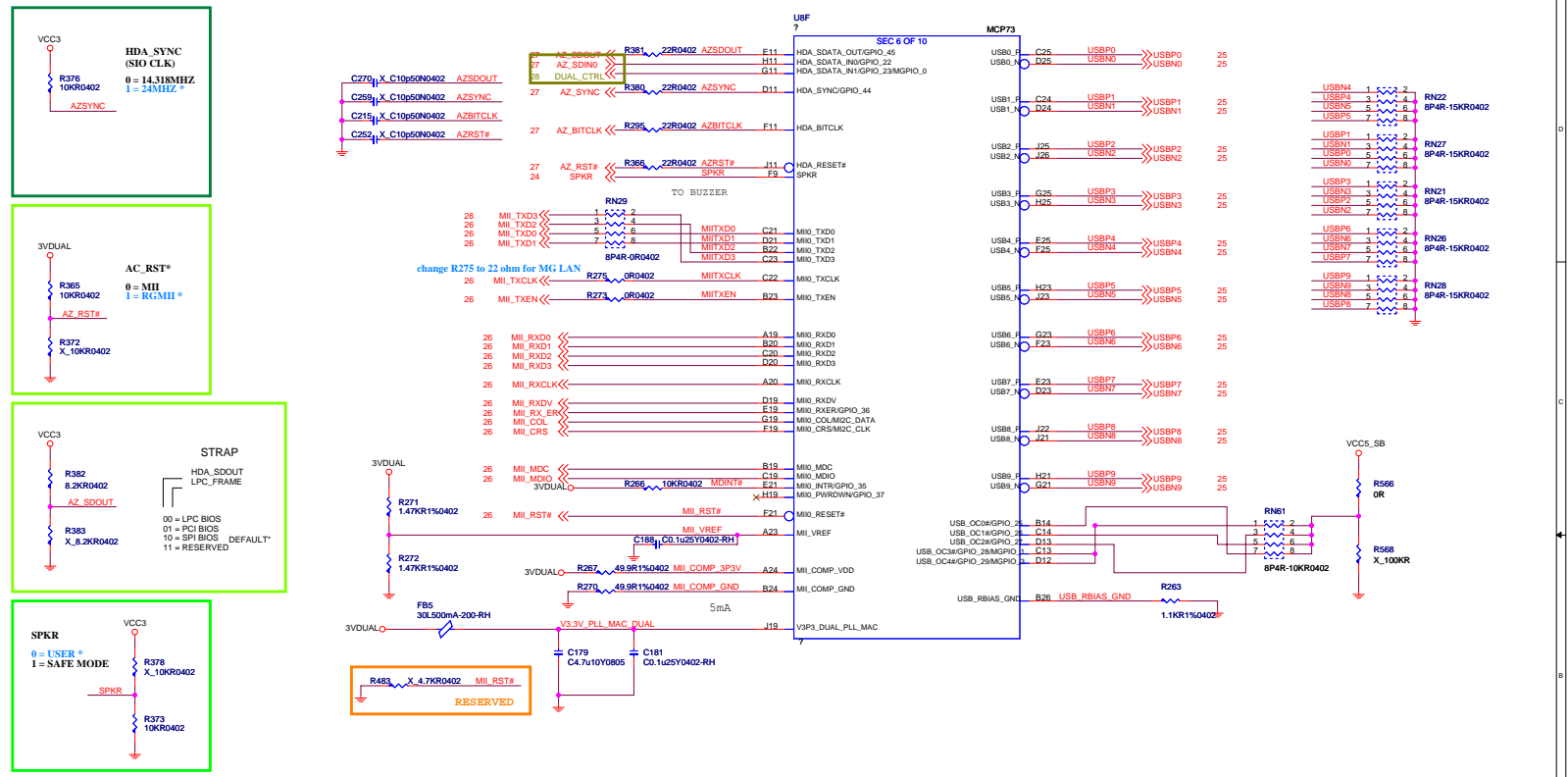


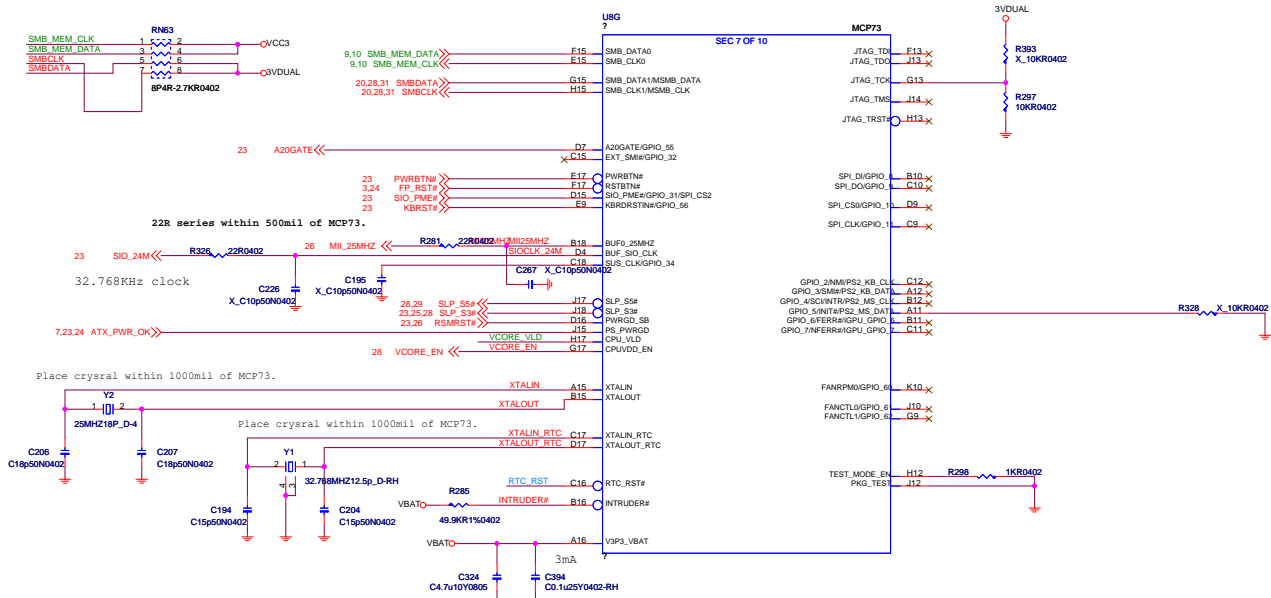
5020 Parts

MICRO-STAR INT'L CO.,LTD			
MS-7505			
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Custom	DDR II VTT Termination & Decoupling		
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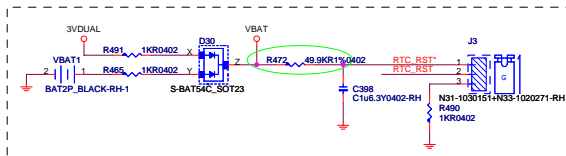
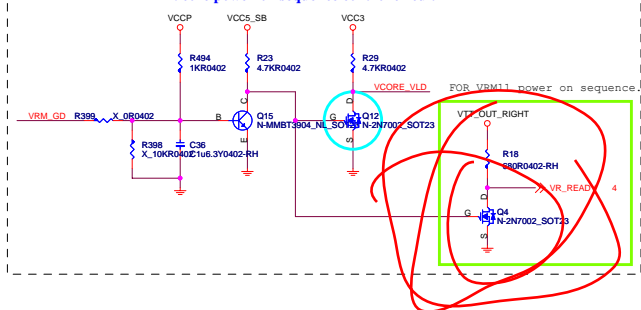








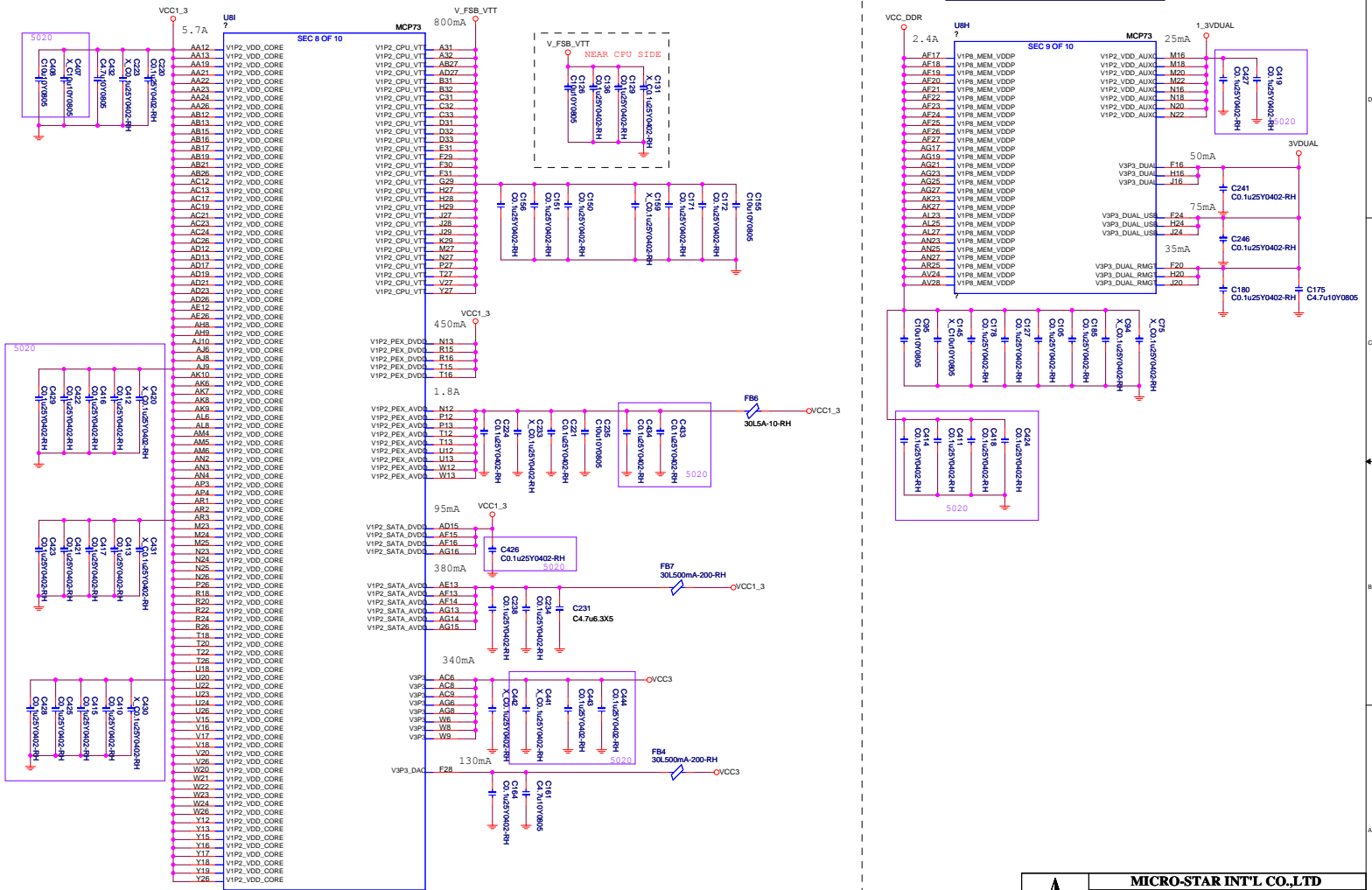
#### Vcore power-on sequence control circuit



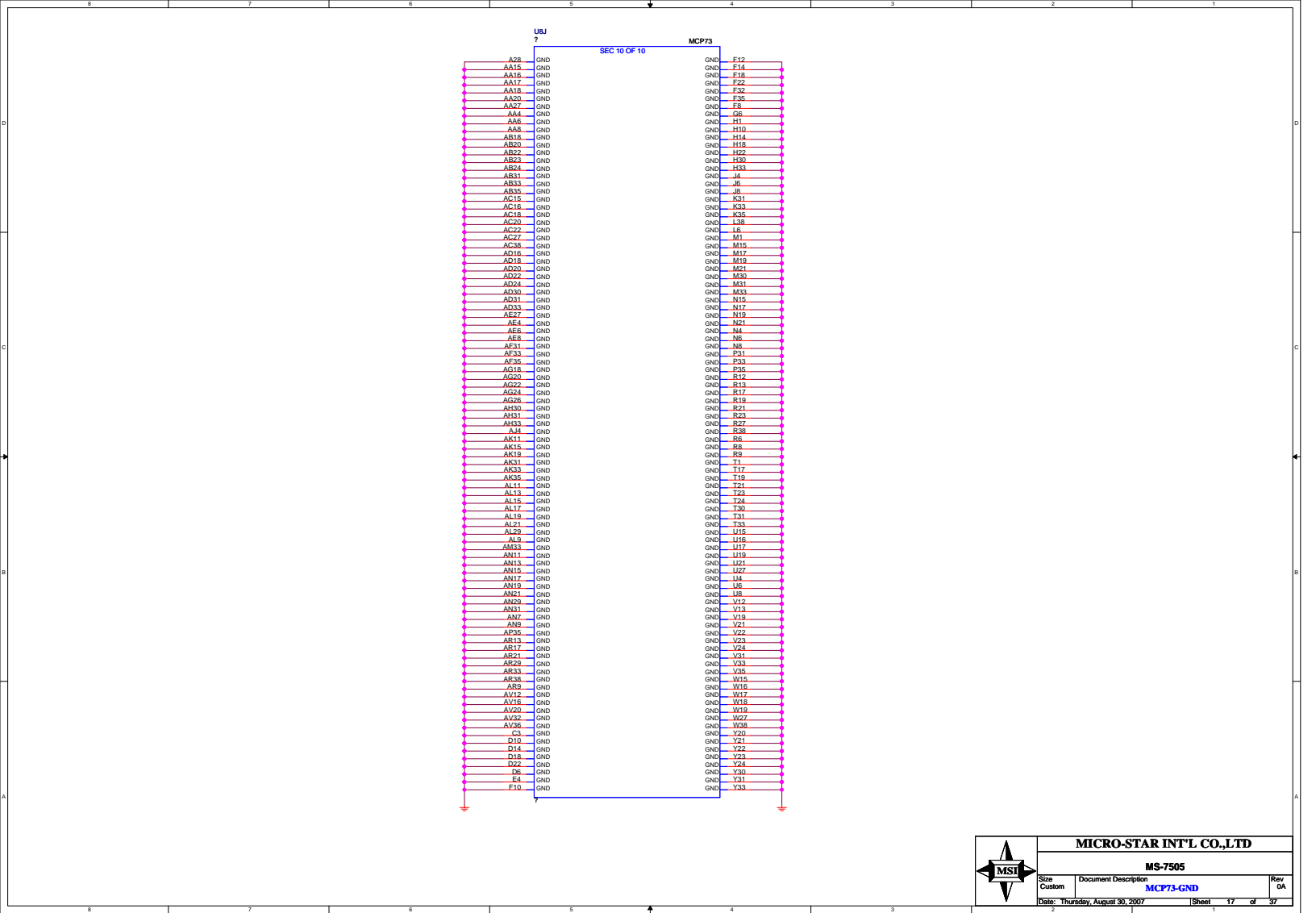
MICRO-STAR INT'L CO.,LTD

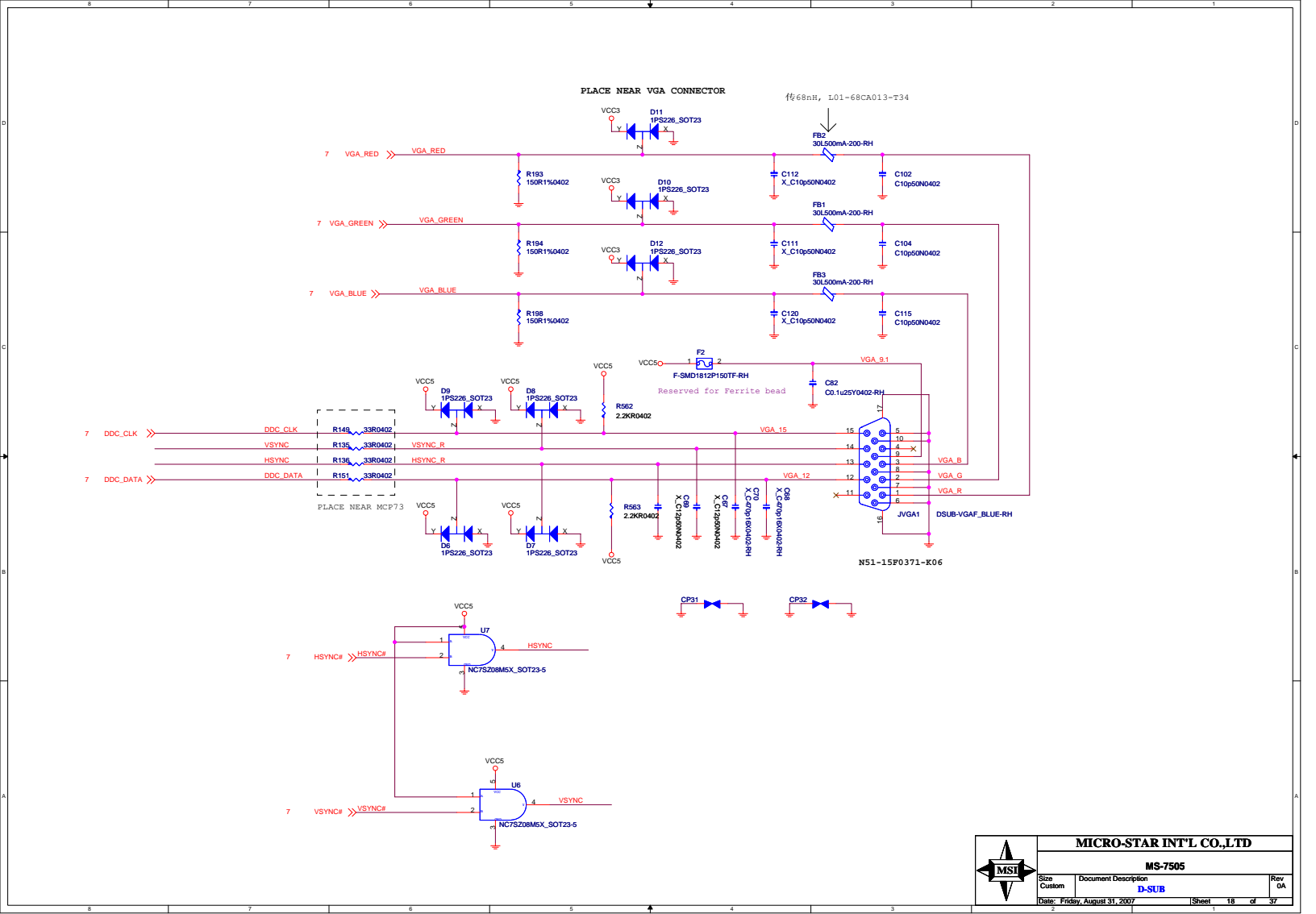
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Custom	MCP51-SPI/SMB	0A
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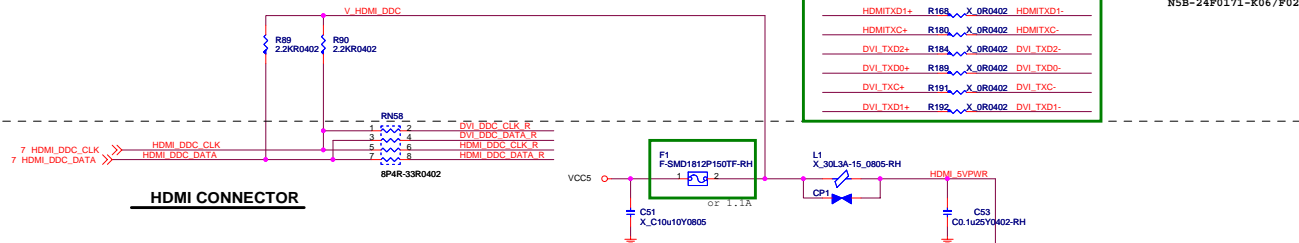
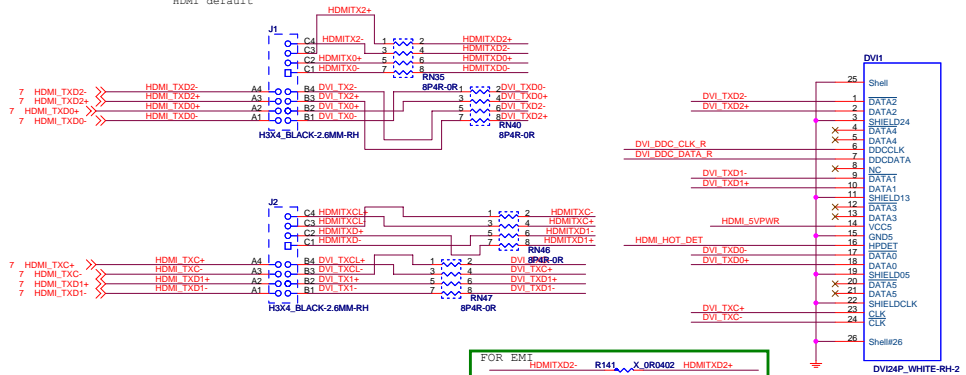






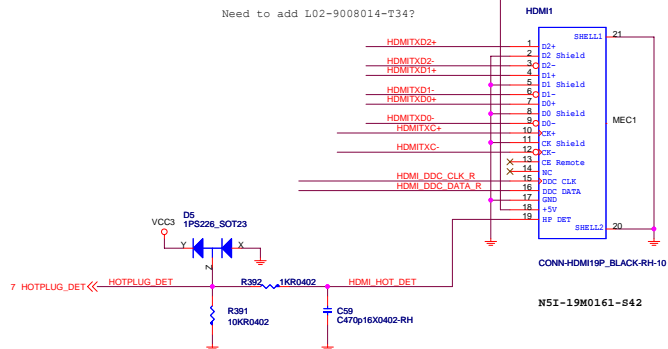
### DVI CONNECTOR

HDMI default



## HDMI CONNECTOR

Need to add L02-9008014-T34?

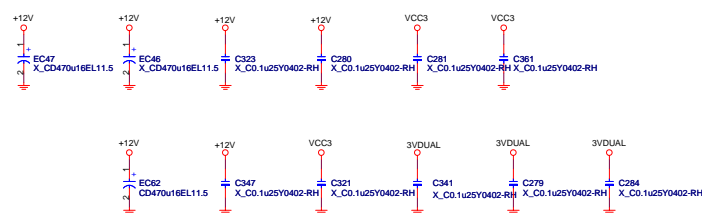
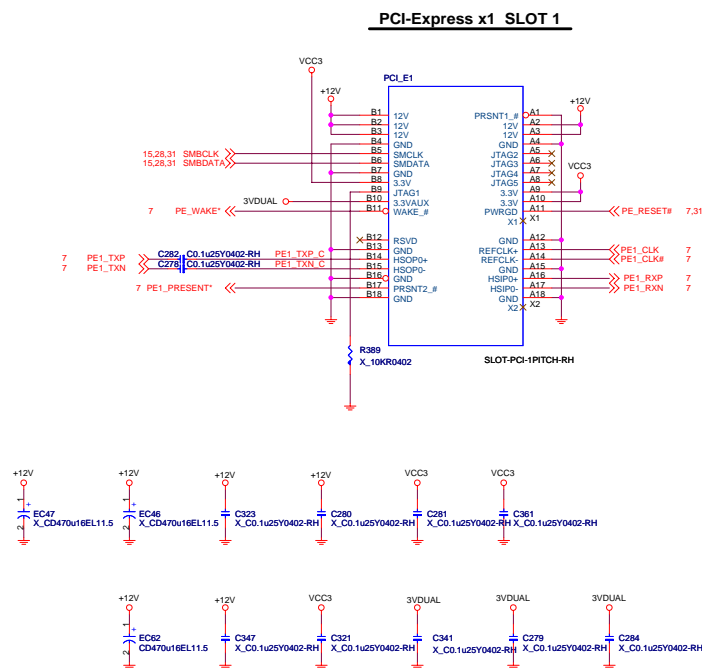
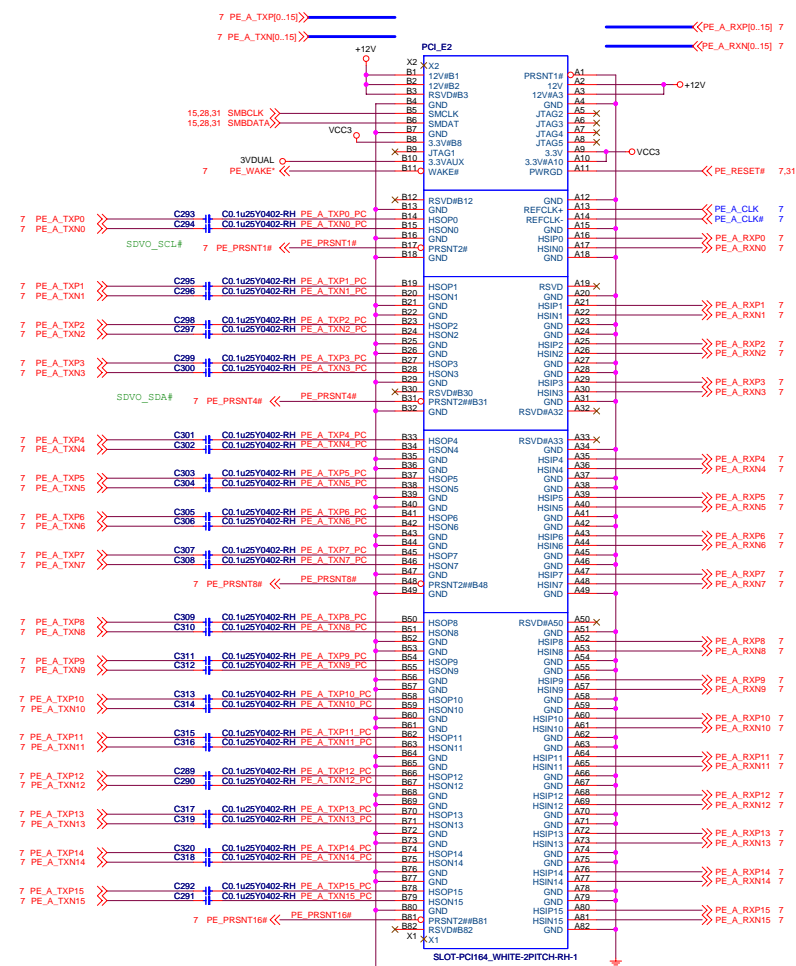


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Size Custom	Document Description <b>HDMI/DVI</b>	Rev 0A
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**PCI-Express X16 Primary Slot X16/X8**

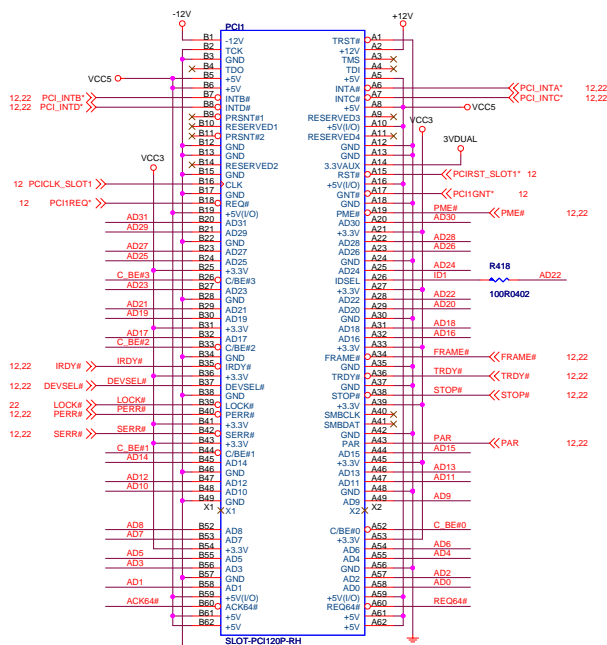


**MICRO-STAR INT'L CO.,LTD**

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Size Custom	Document Description <b>PCI-E X16/X1 Slot</b>	Rev 0A
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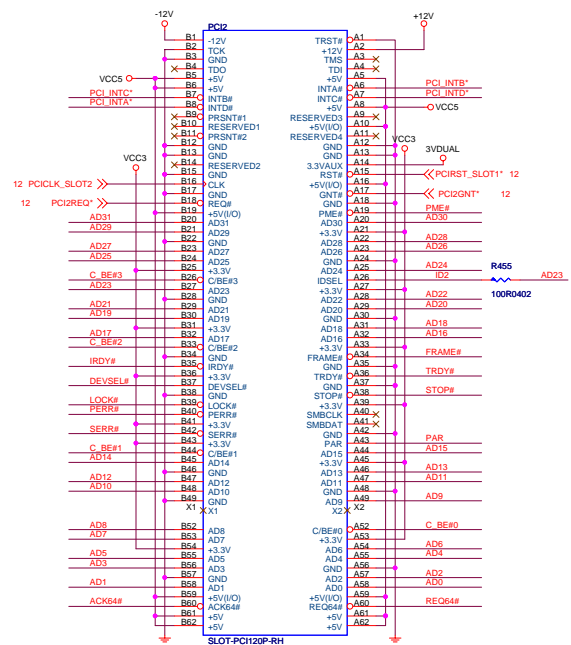
# PCI SLOT 1 (PCI VER: 2.2 COMPLY)



**IDSEL = AD22**  
**MASTER = PCI1REQ\***  
**PCI1GNT\***

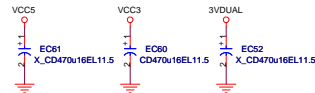
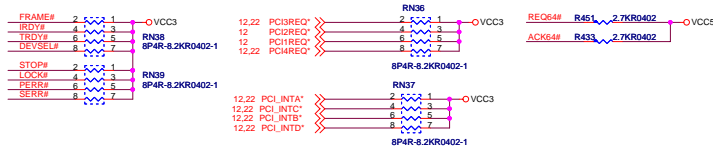
12.22 AD[31:0] >> AD31\_0I  
12.22 C\_BE#3[3:0] >> C\_BE#3\_0I

# PCI SLOT 2 (PCI VER: 2.2 COMPLY)



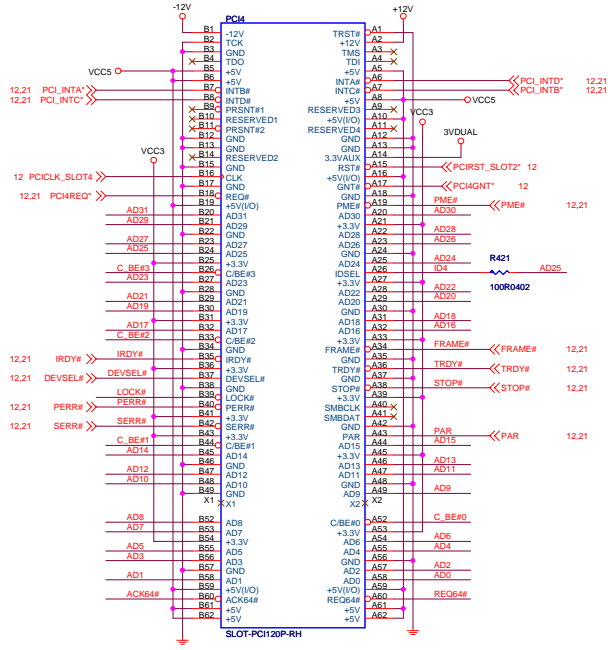
**IDSEL = AD23**  
**MASTER = PCI2REQ\***  
**PCI2GNT\***

## PCI PULL-UP / DOWN RESISTORS



MICRO-STAR INT'L CO.,LTD			
MS-7505			
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Custom	PCI Slot 1 & 2 & 3	DA	
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## PCI SLOT 1 (PCI VER: 2.2 COMPLY)



```
IDSEL = AD25
MASTER = PCI4REQ*
PCI4GNT*
```



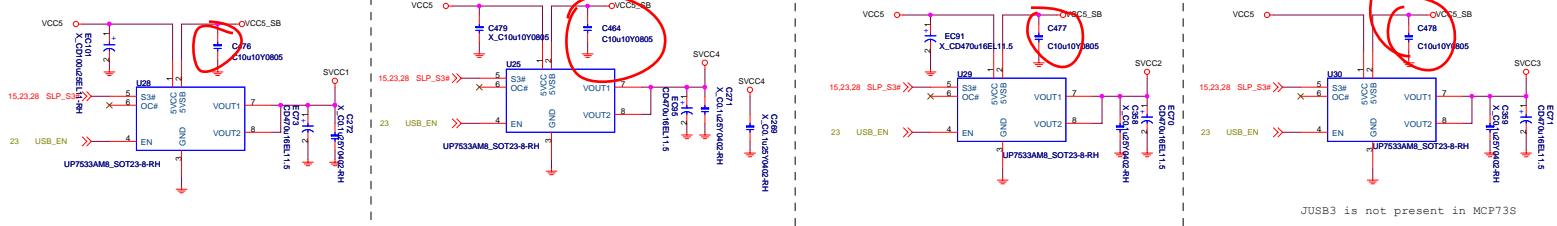
**MS-7366**

Size Custom	Document Description <b>PCI Slot 4 &amp; 3</b>	Rev 0A
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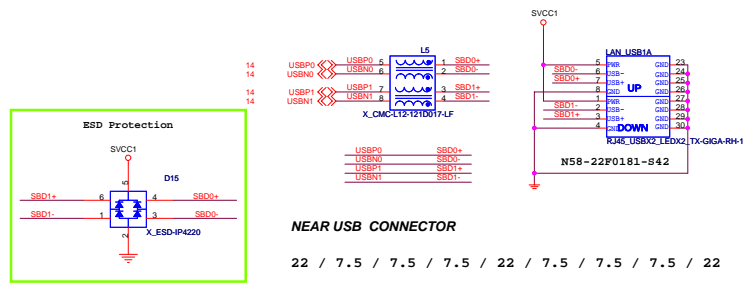




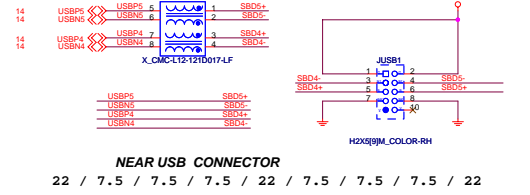




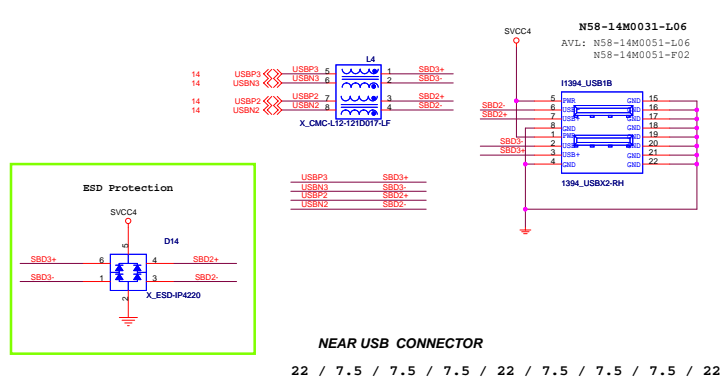
#### REAR PANEL USB CONNECTOR FOR USB PORT 0,1



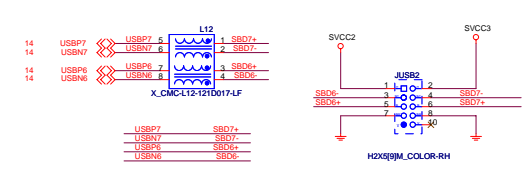
#### FRONT PANEL USB CONNECTOR FOR USB PORT 4,5



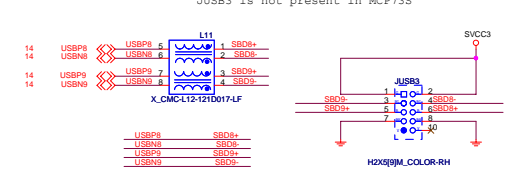
#### REAR PANEL USB CONNECTOR FOR USB PORT 2,3



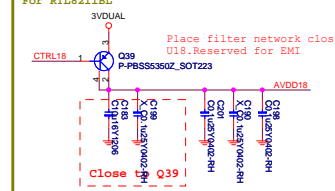
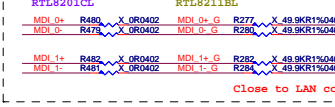
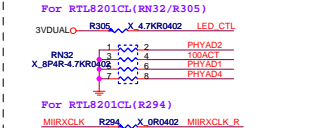
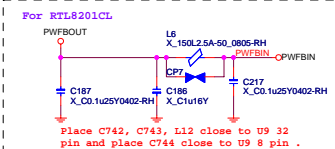
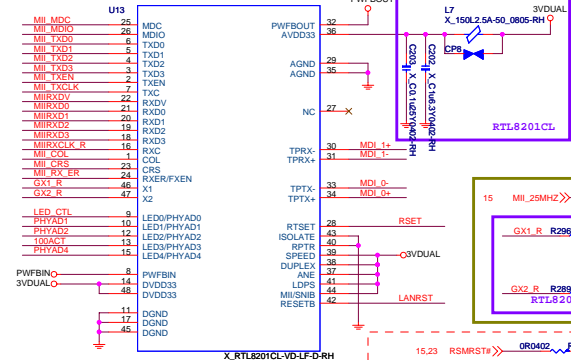
#### FRONT PANEL USB CONNECTOR FOR USB PORT 6,7



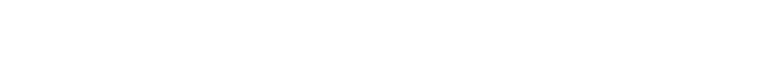
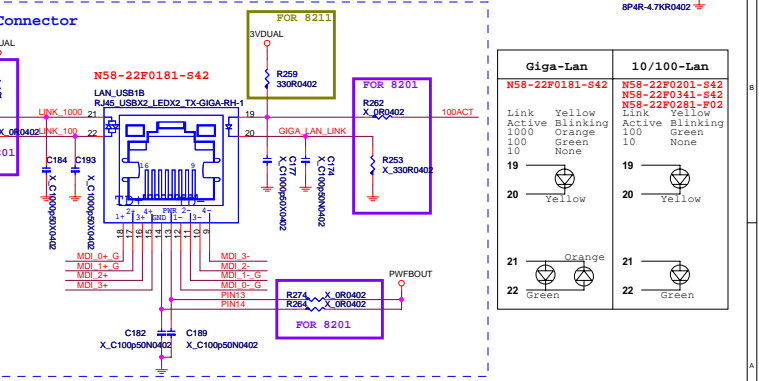
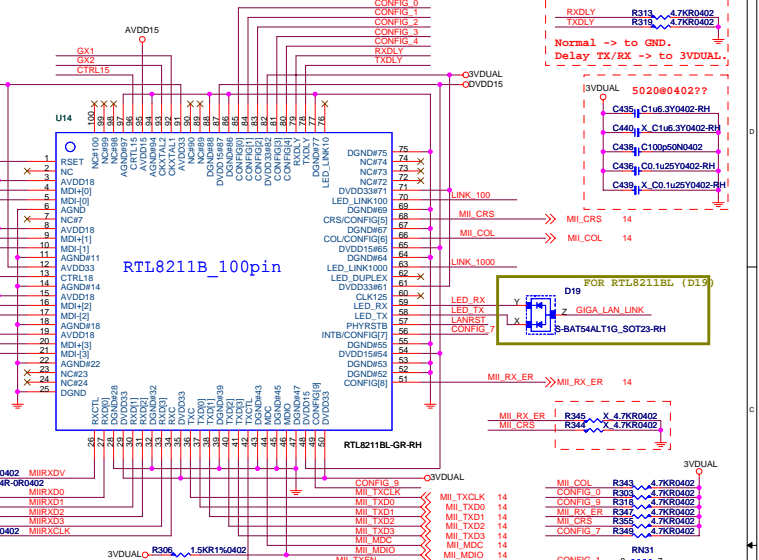
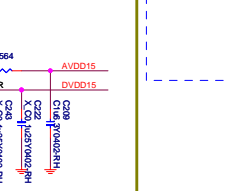
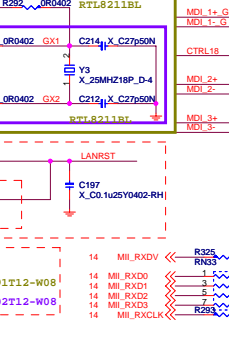
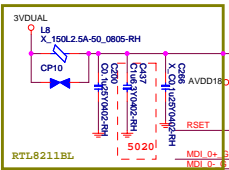
#### FRONT PANEL USB CONNECTOR FOR USB PORT 8,9



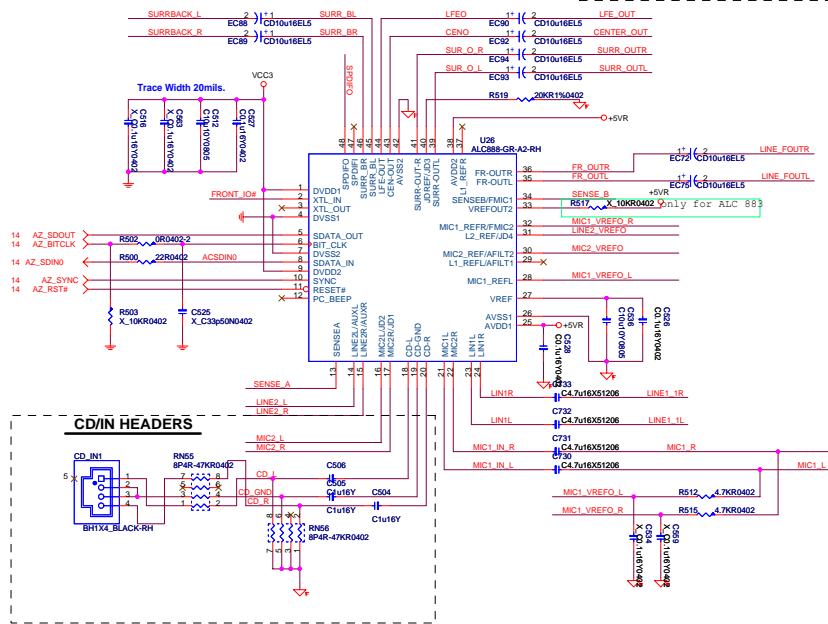
# RTL8201CL



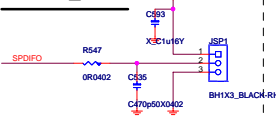
# RTL8211BL



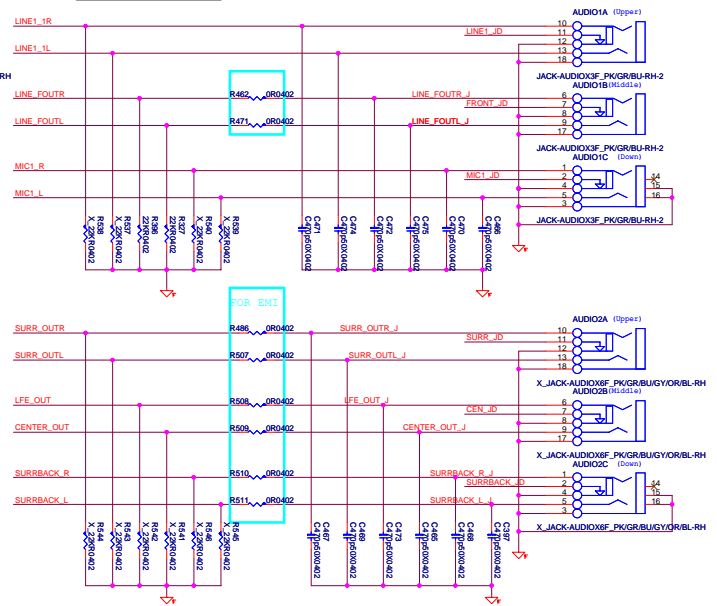
# ALC888 CODEC



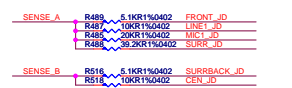
## SPDIF\_OUT



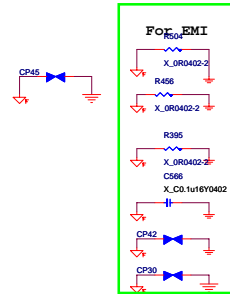
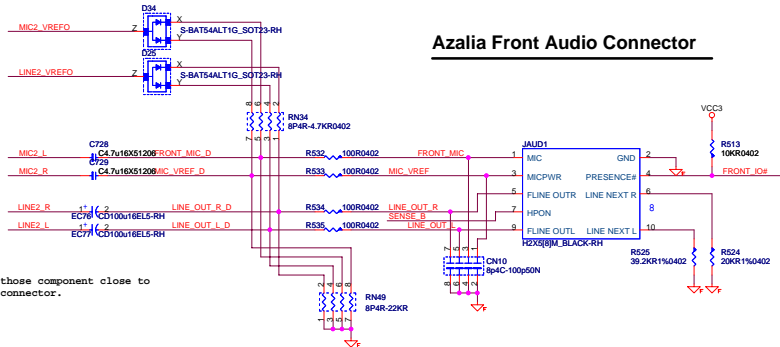
## ALC883 JACK



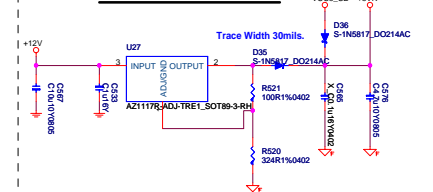
## ALC883 JACK DETECT



## Azalia Front Audio Connector

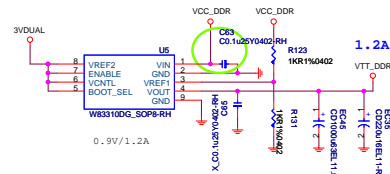
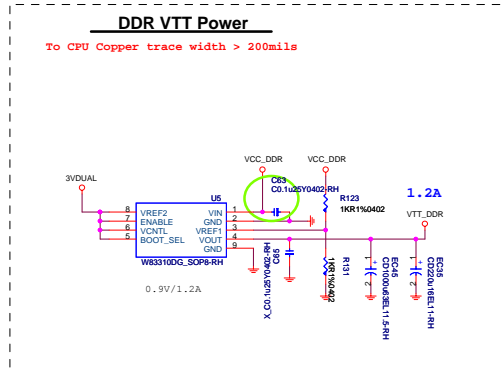
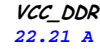


## AUDIO CODE REGULATORS



MICRO-STAR INT'L CO.,LTD			
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Custom	Azalia CODEC(ALC888&alc883)	0A	
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$$\begin{aligned} I_{ripple} &= 22.21 \times 0.6 \times 0.8 / 1 = 10.66A \\ 2.35 \times 3 \times 1.7 &= 11.985A > 10.08A \end{aligned}$$


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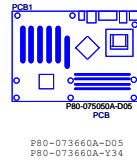
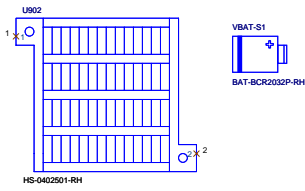
Size Custom	Document Description <b>uP6103/VTT/REGULATOR</b>
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Size Custom	Document Description <b>uP6103/VTT/REGULATOR</b>
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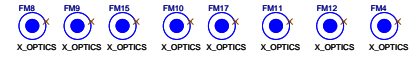




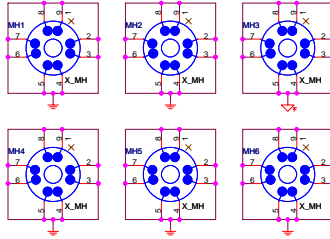
#### Optics Orientation Holes (F\_PAD\_M100)



#### Optics Orientation Holes (F\_PAD\_M120)



#### Mounting Holes



#### Simulation



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