



### AMD 940 Athlon 64/Athlon 64 FX

## NVIDIA MCP 55P / MCP55 Ultra

LPC Super I/O -- Winbond 83627EHG  
LAN -- Vitesse VSC8601 X2  
AC97 Codec --ALC883  
1394 --VIA VT8237  
BIOS --LPC FLASH ROM 4M

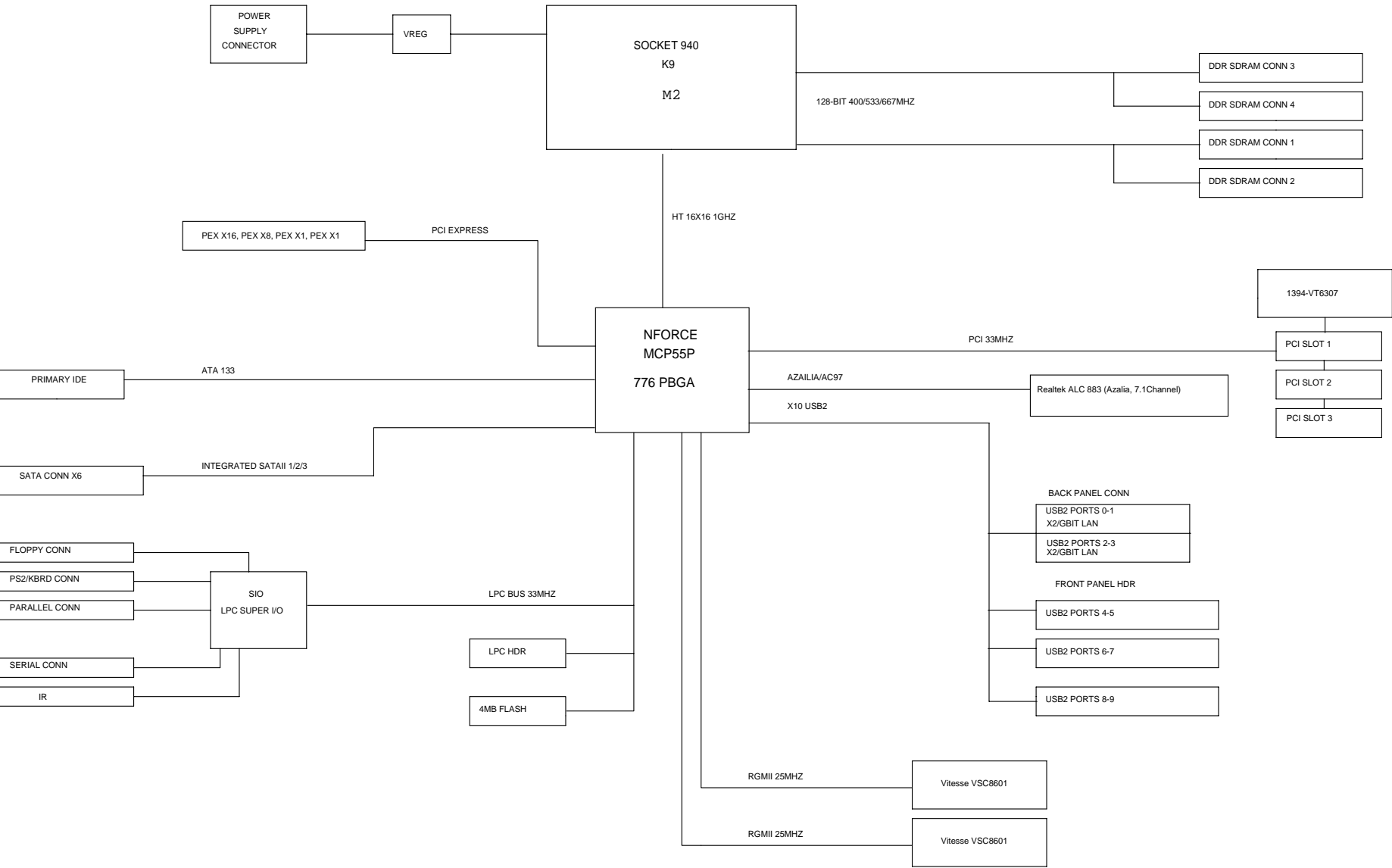
**DDRII \* 4 (Max 4GB)**

PCI-E X 16 \*2  
PCI-E X1 \*2  
PCI 2.2 Slot \* 3

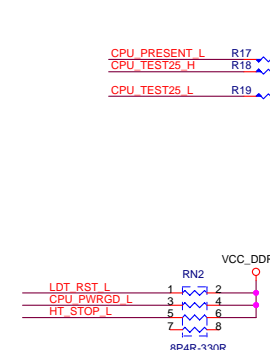
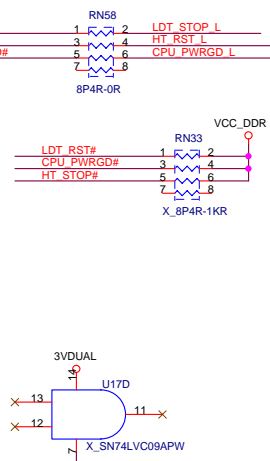
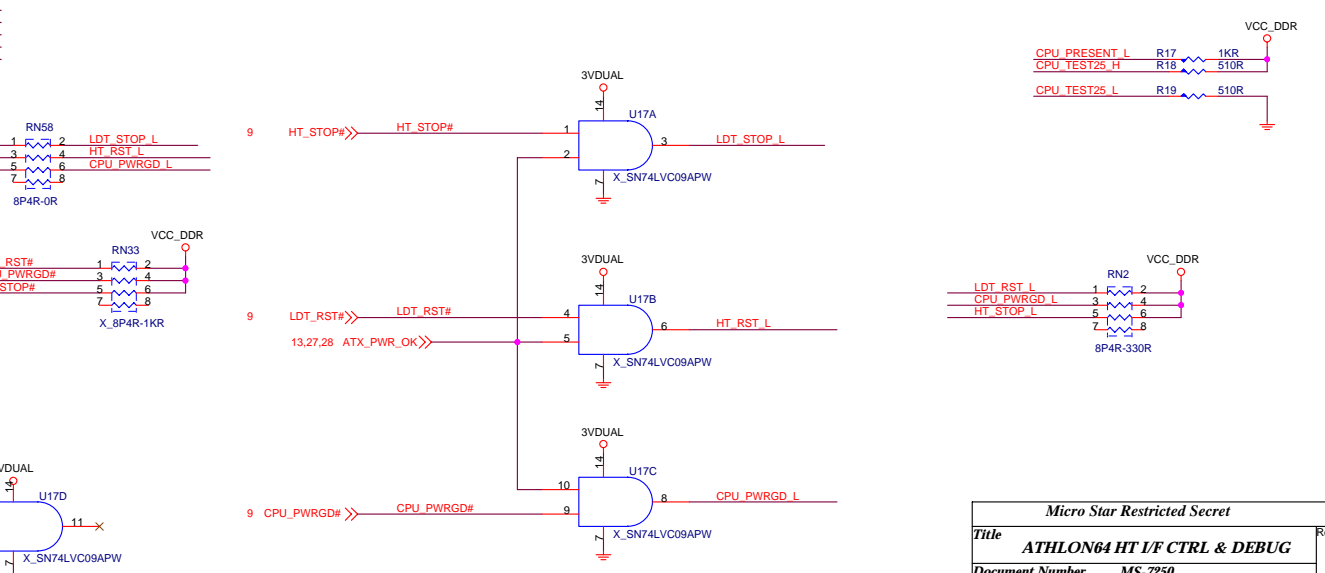
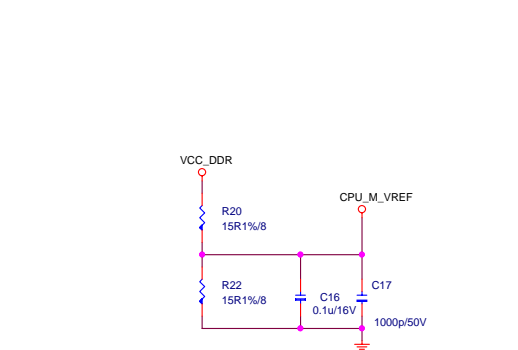
### Controller--Intersil ISL6566CR 3 Phase

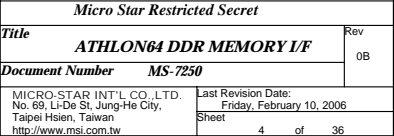
<b>Micro Star Restricted Secret</b>		
<b>Title</b>	<b>Cover Sheet</b>	Rev
<b>Document Number</b>	<b>MS-750</b>	0B
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St, Jung-Hei City, Taipei Hsien, Taiwan <a href="http://www.msi.com.tw">http://www.msi.com.tw</a>		Last Revision Date: Friday, February 10, 2006
Sheet		1 of 36

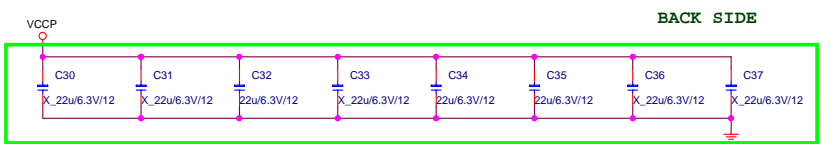
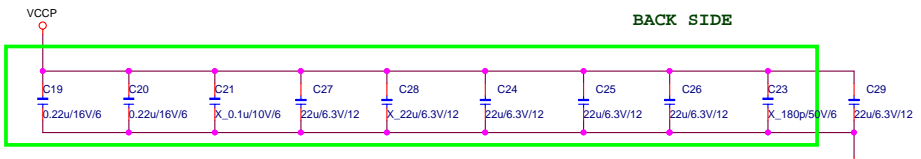
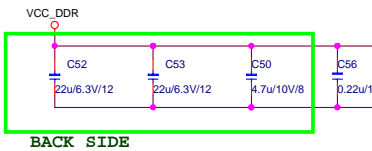
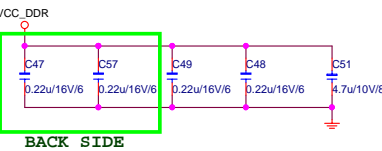
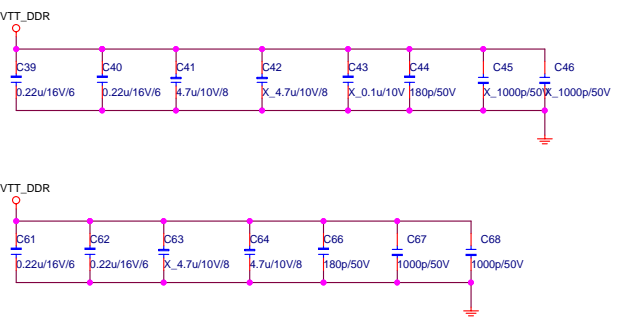
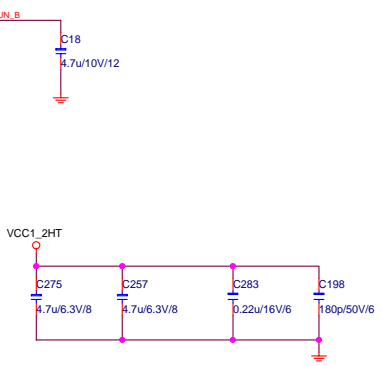
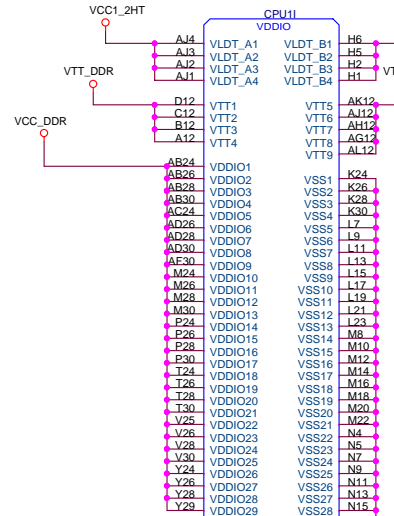
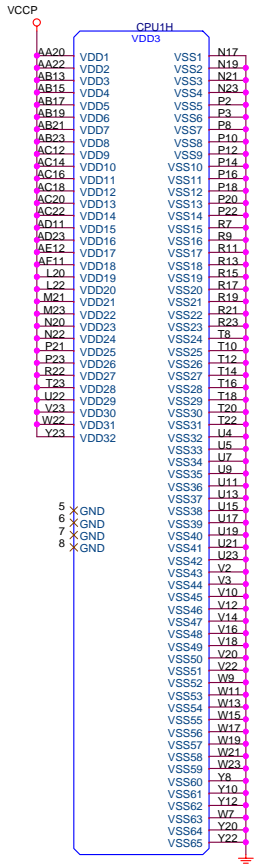
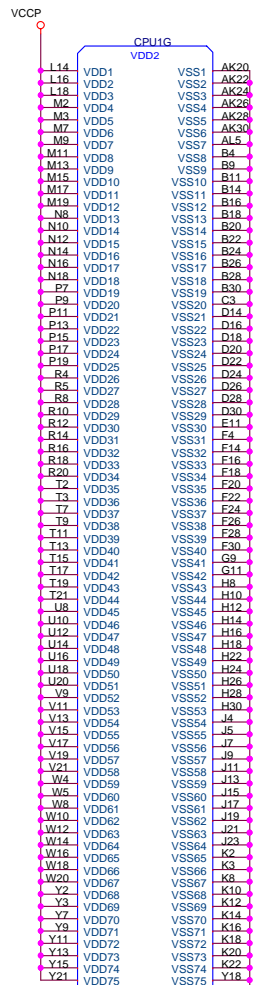
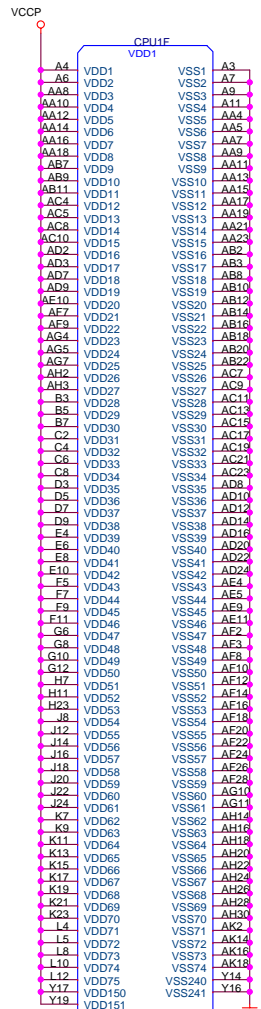
BLOCK DIAGRAM

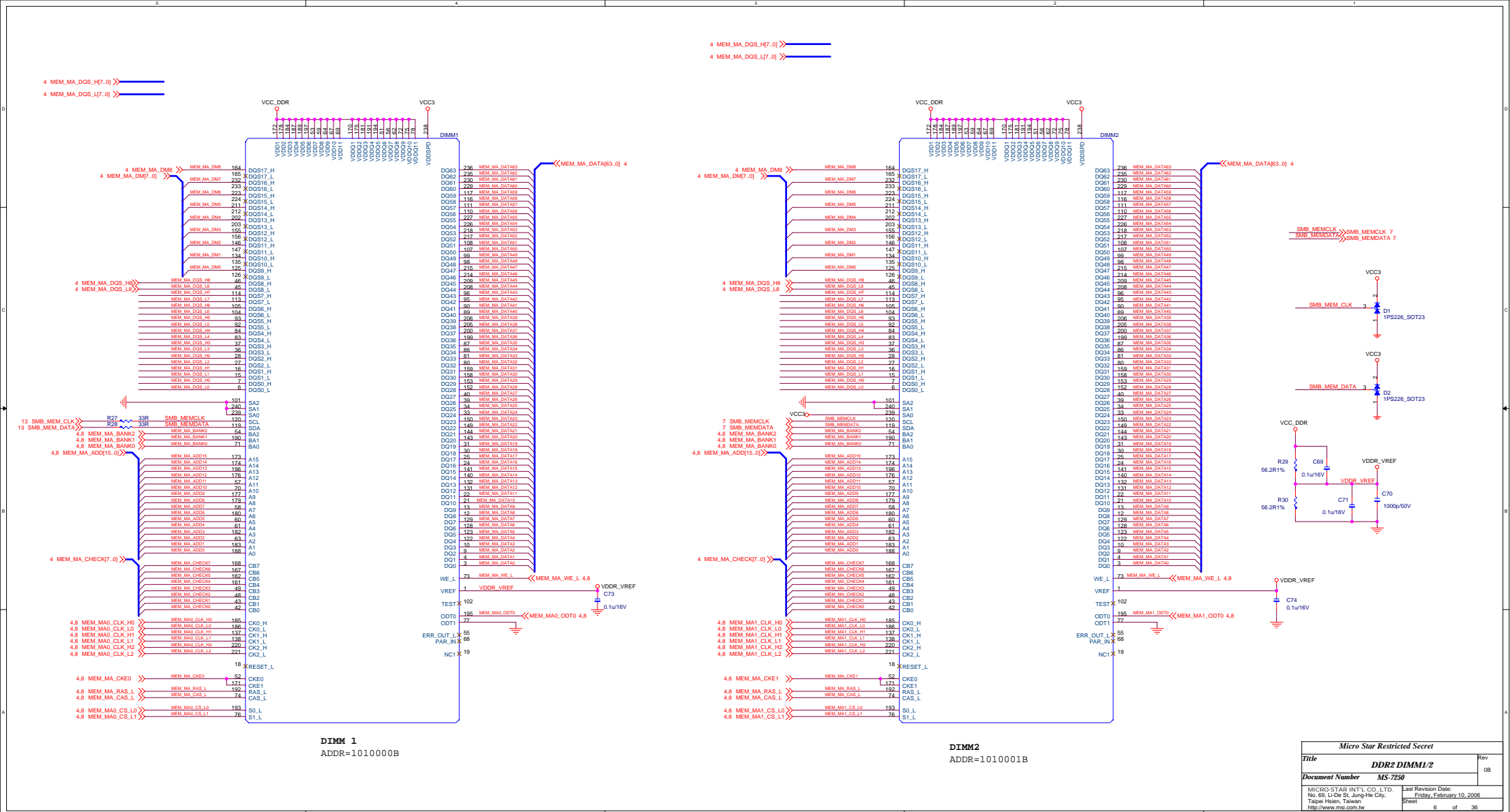


Micro Star Restricted Secret		
Title	Block Diagram	Rev
Document Number	MS-7250	0B
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St, Jung-Ho City, Taipei Hsien, Taiwan <a href="http://www.msi.com.tw">http://www.msi.com.tw</a>		Last Revision Date: Friday, February 10, 2006
Sheet		2 of 36

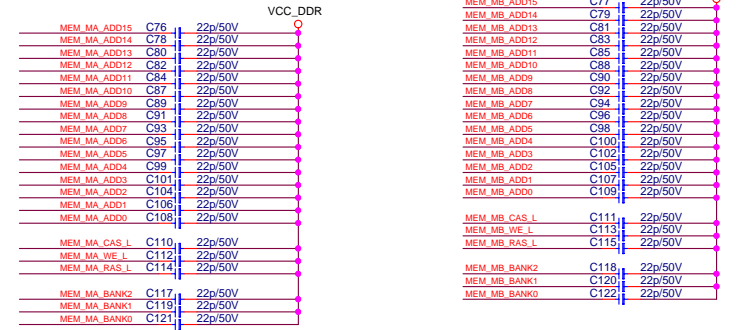
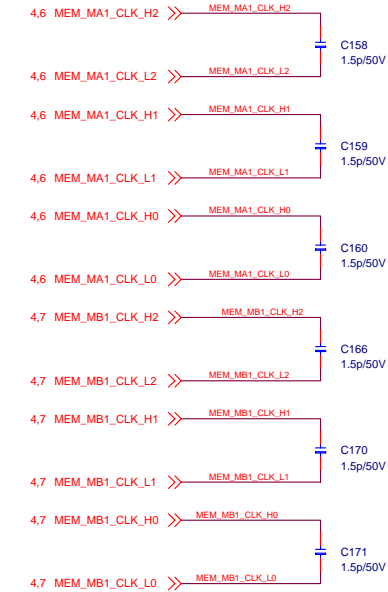
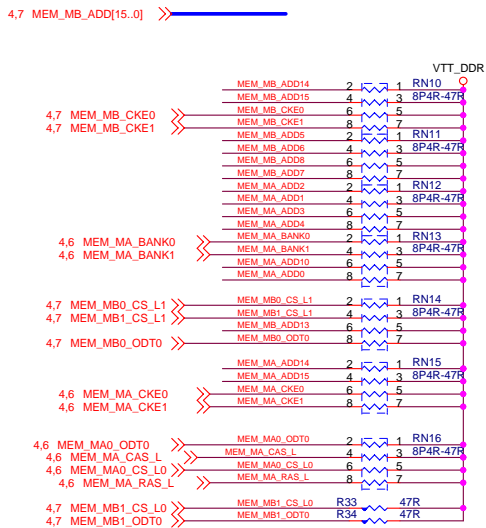
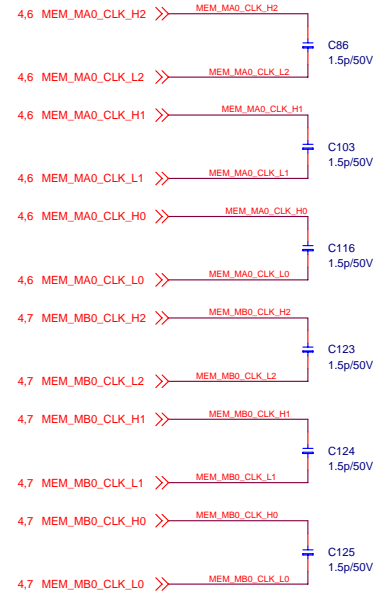
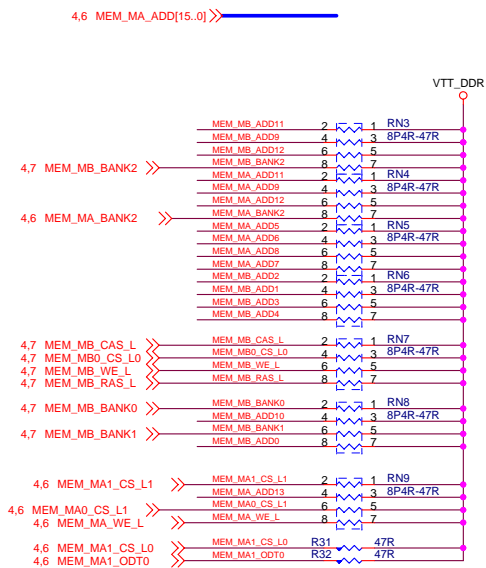






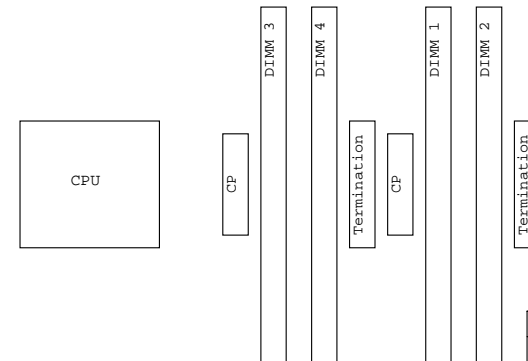
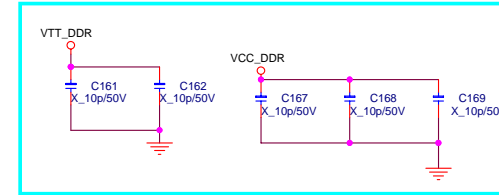
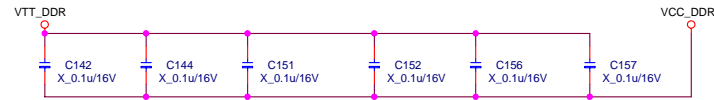
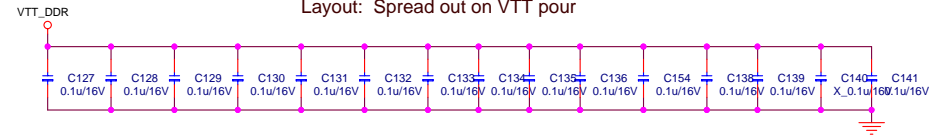






## Decoupling Between Processor and DIMMs (CP)

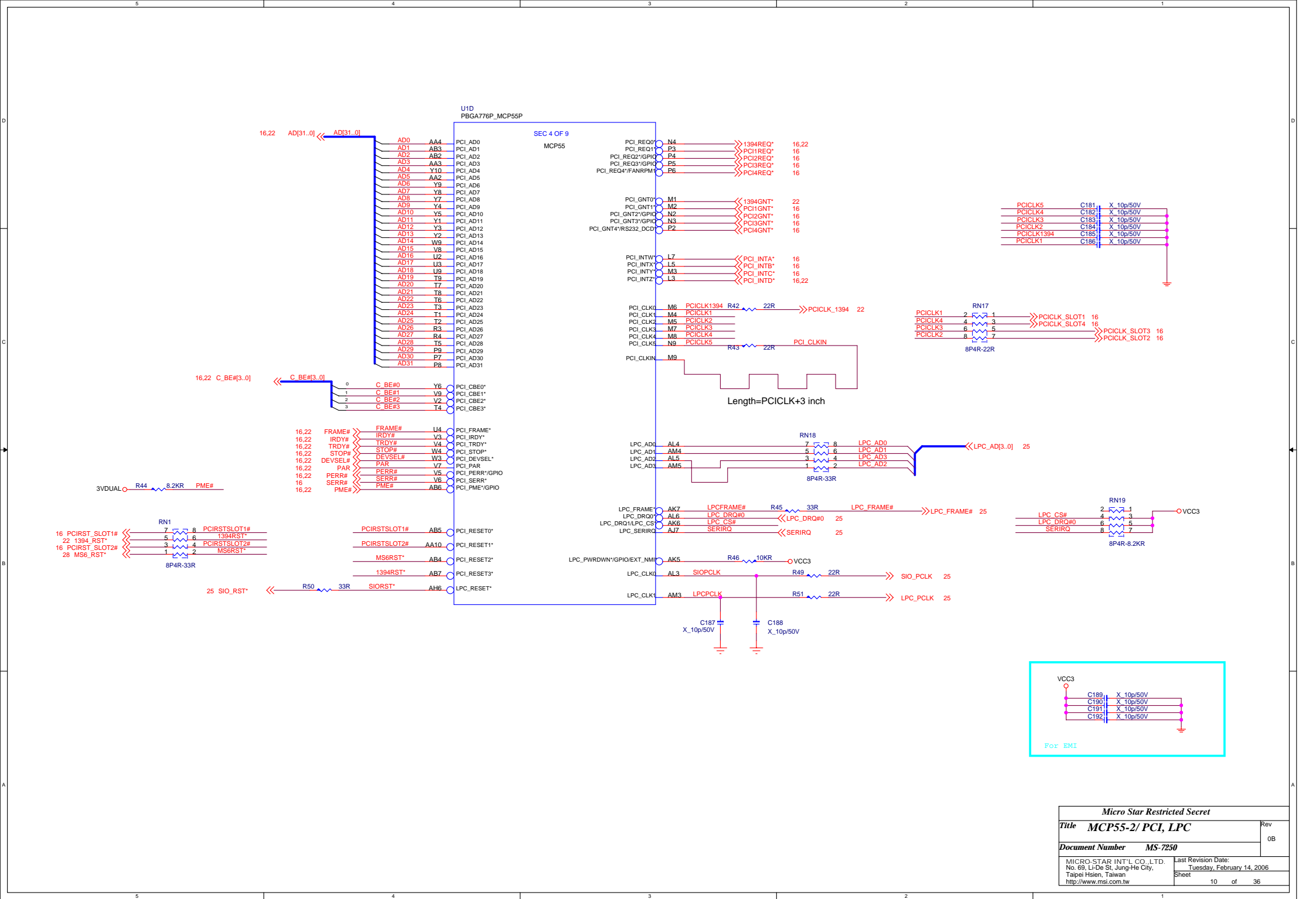
Layout: Spread out on VTT pour

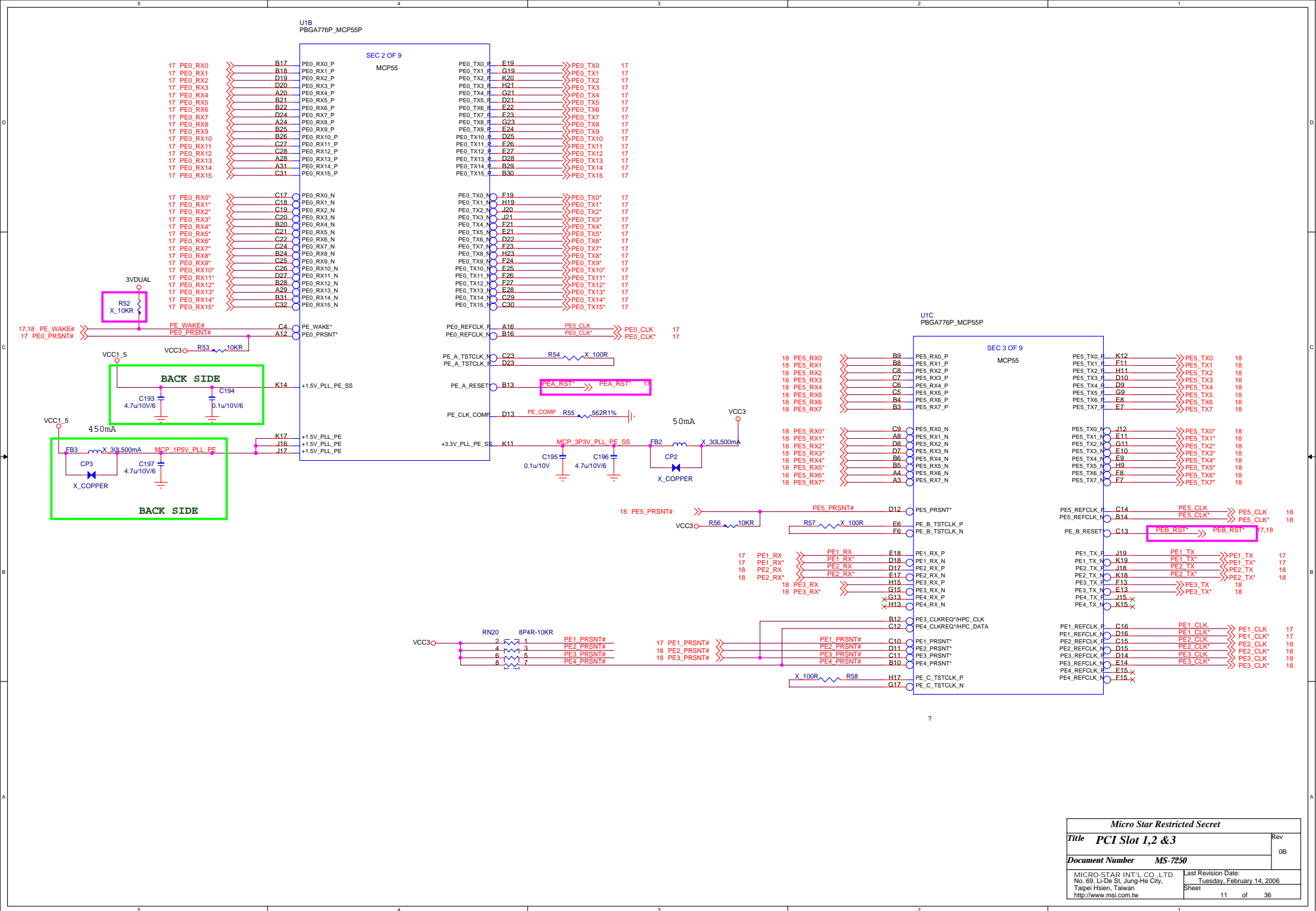


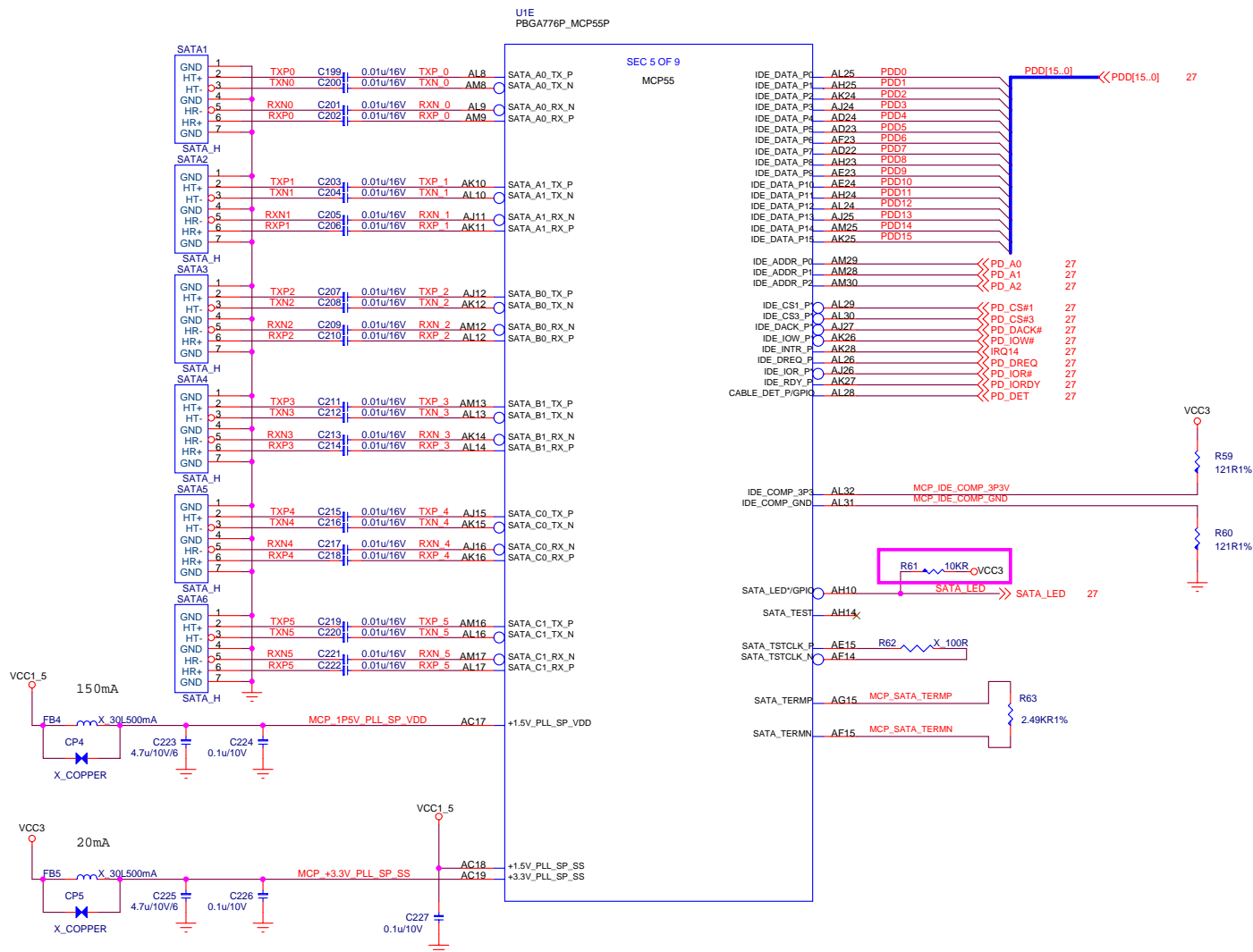
<b>Micro Star Restricted Secret</b>		
<b>Title</b>	<b>DDR Termination</b>	Rev
<b>Document Number</b>	<b>MS-7250</b>	0B
MICRO-STAR INT'L CO. LTD. No. 69, Li-De St, Jung-Hua City, Taipei Hsien, Taiwan <a href="http://www.msi.com.tw">http://www.msi.com.tw</a>		Last Revision Date: Friday, February 10, 2006 Sheet 8 of 36

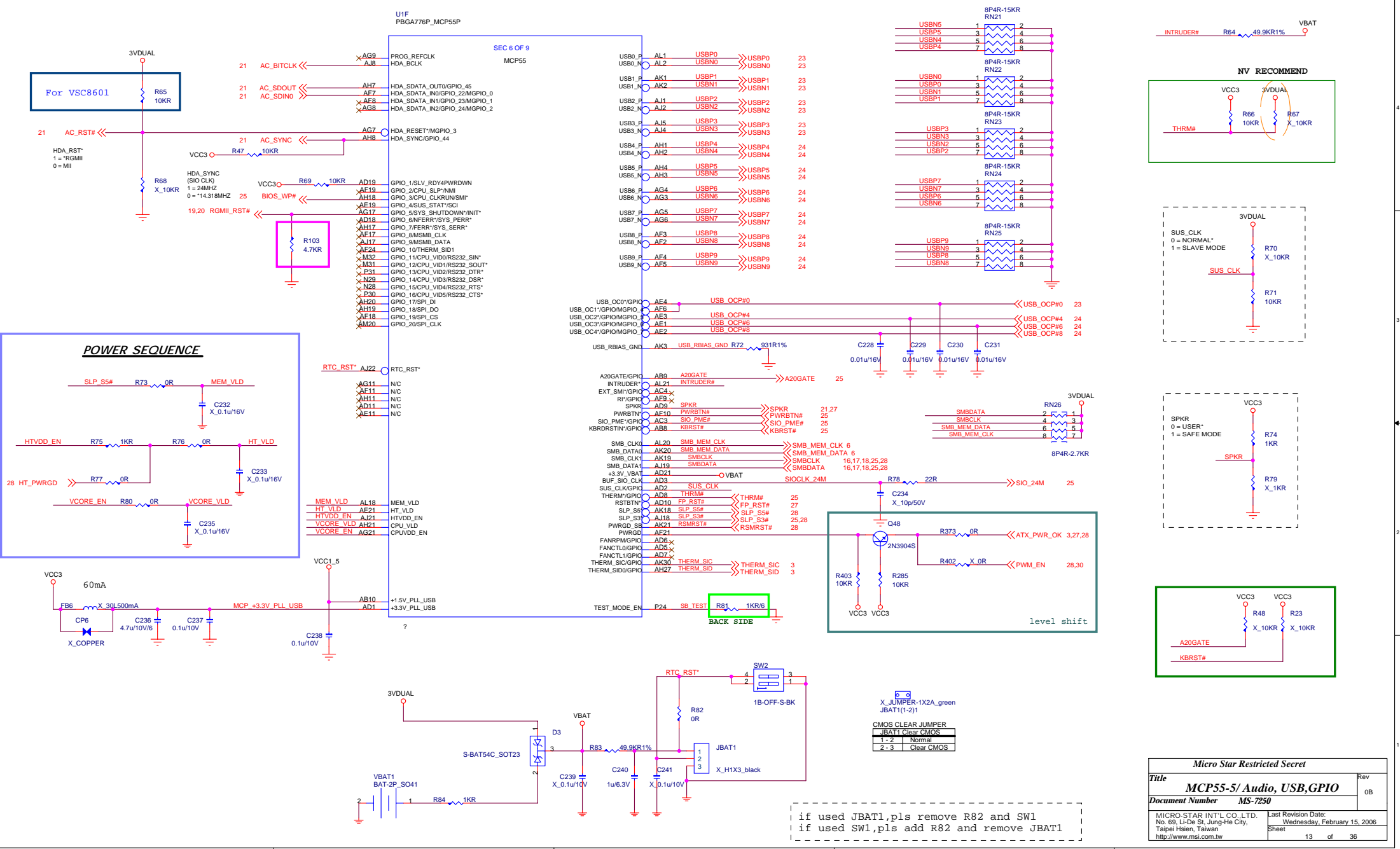












MII\_RXD / MII\_RXCTL  
0 OHM IF ROUTED 7/15 (60 OHM), Length<8"  
22 OHM IF ROUTED 5/10 (60 OHM), Length<12"

MII\_RXCLK  
0 OHM IF ROUTED 7/20 (60 OHM), Length<8"  
22 OHM IF ROUTED 5/10 (60 OHM), Length<12"

MII\_TXD / MII\_TXCTL  
0 OHM IF ROUTED 7/15 (60 OHM), Length<8"  
22 OHM IF ROUTED 5/10 (60 OHM), Length<12"

MII\_TXCLK  
0 OHM IF ROUTED 7/20 (60 OHM), Length<8"  
22 OHM IF ROUTED 5/10 (60 OHM), Length<12"

U1G  
PBGAT76P\_MCP55P

SEC 7 OF 9

MCP55

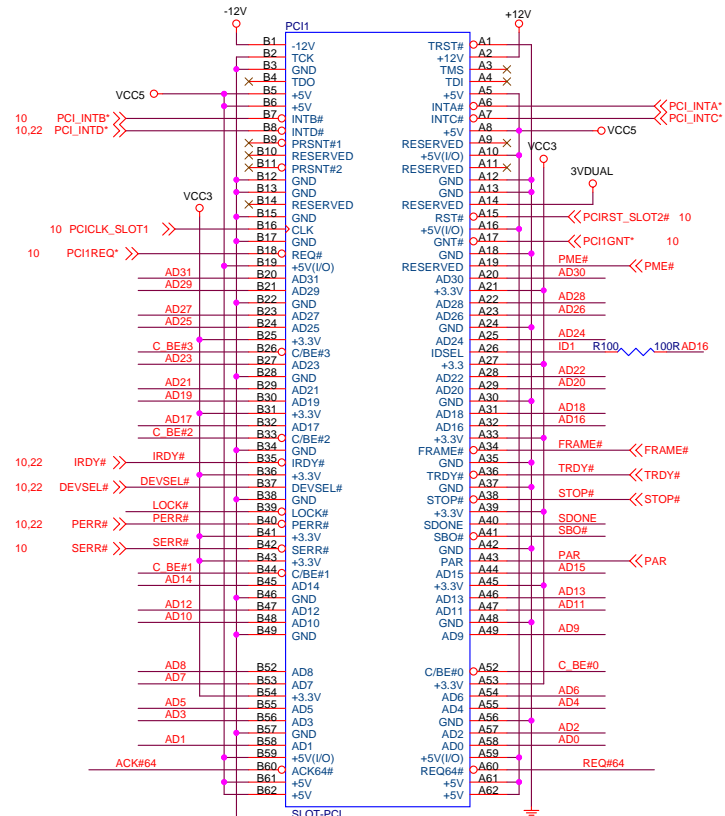
BACK SIDE

Micro Star Restricted Secret		
Title	MCP55-6/ RGMII	Rev 0B
Document Number	MS-7250	
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St, Jung-Hsi City, Tapei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Tuesday, February 14, 2006 Sheet 14 of 36



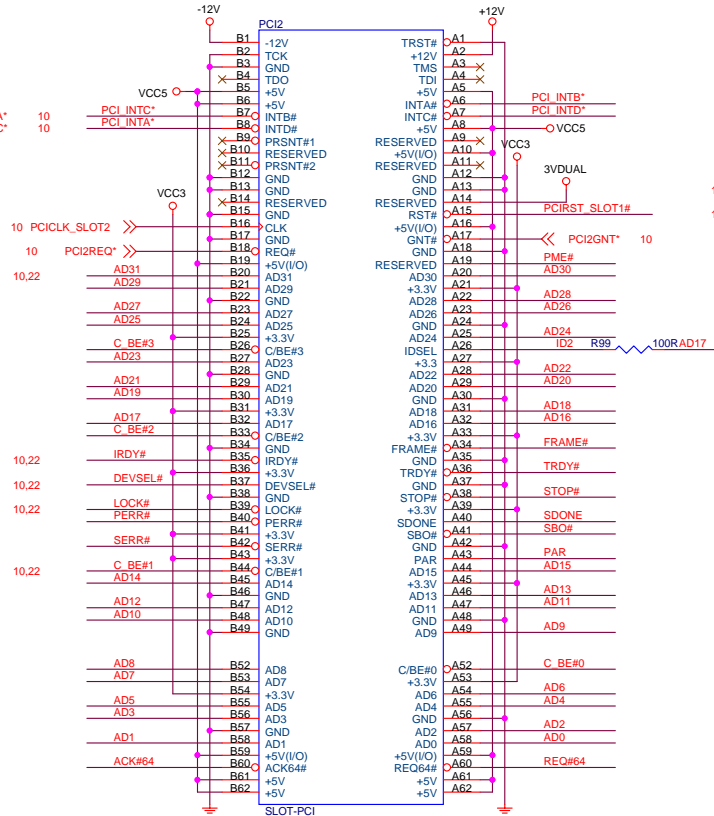
10.22 AD[31..0] >> AD[31..0]  
10.22 C\_BE#[3..0] >> C\_BE#[3..0]

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



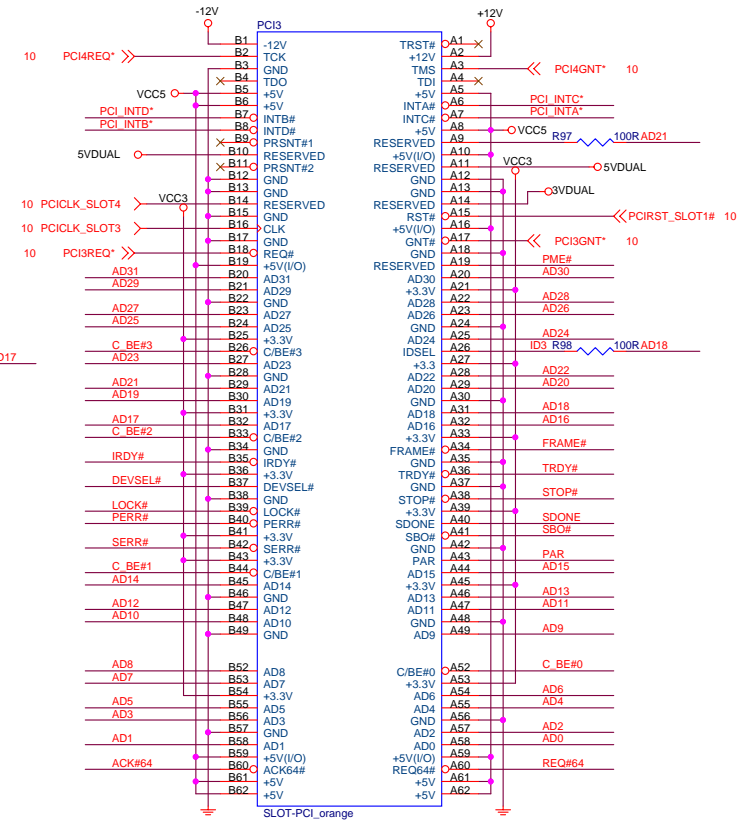
IDSEL = AD16  
MASTER = PCI1REQ\*  
PCI1GNT\*

### PCI SLOT 2 (PCI VER: 2.2 COMPLY)



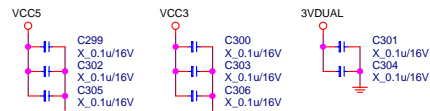
IDSEL = AD17  
MASTER = PCI2REQ\*  
PCI2GNT\*

### PCI SLOT 3 (PCI VER: 2.2 COMPLY)

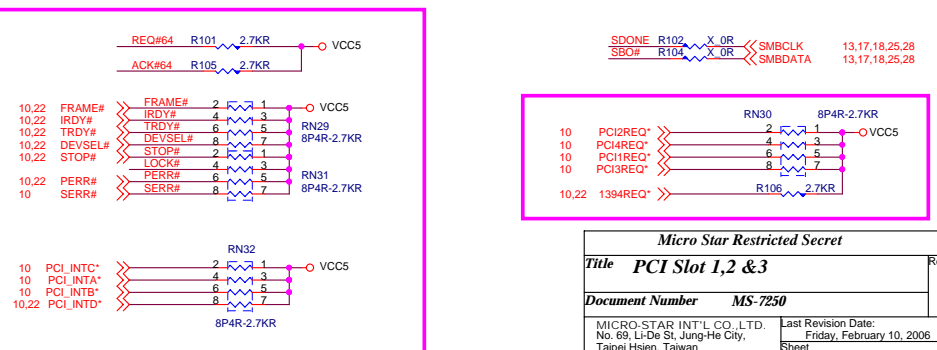


IDSEL = AD21  
MASTER = PCI3REQ\*  
PCI3GNT\*

### PCI SLOT DECOUPLING CAPACITORS



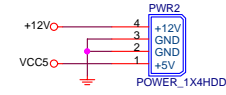
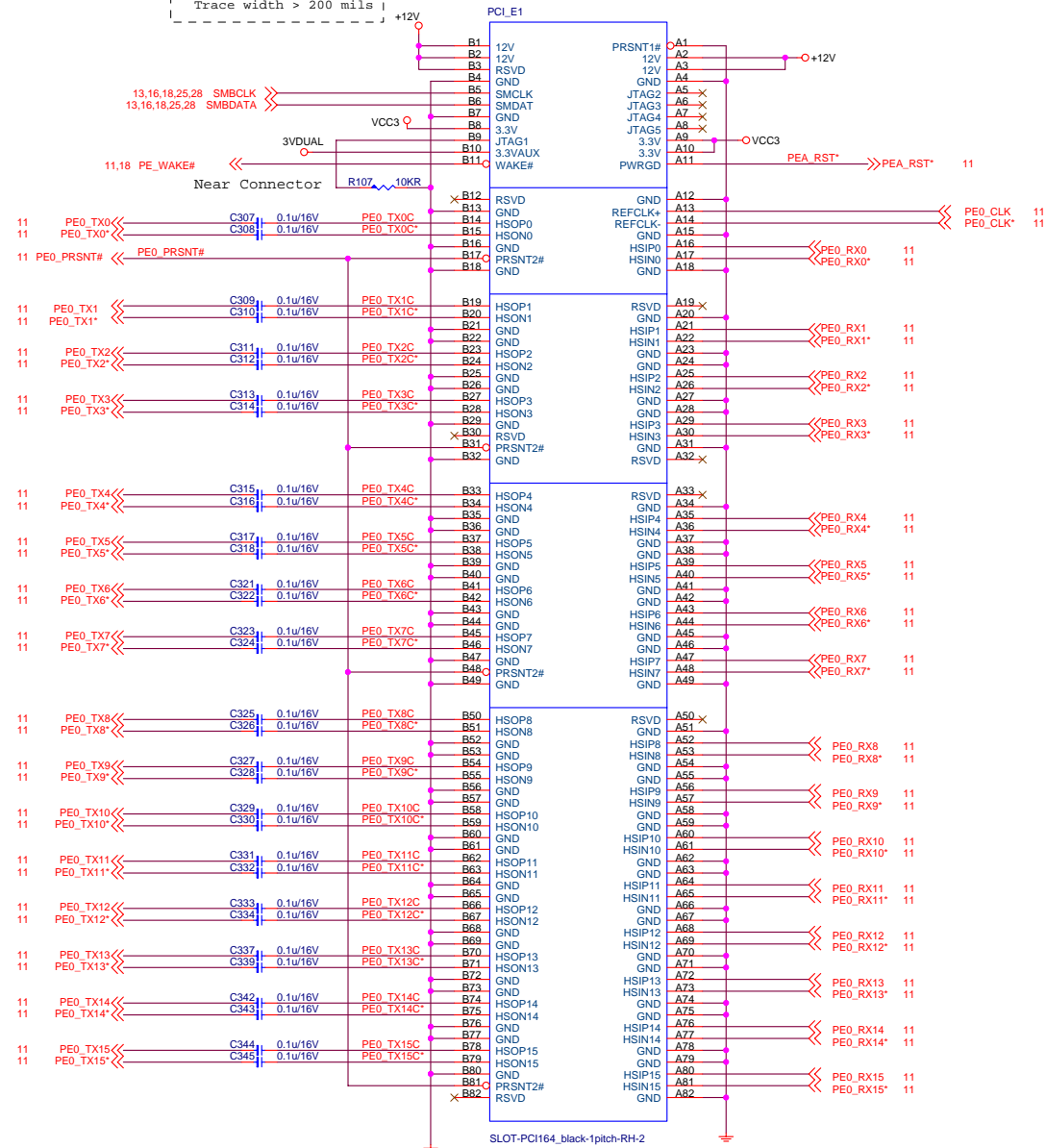
### PCI PULL-UP / DOWN RESISTORS



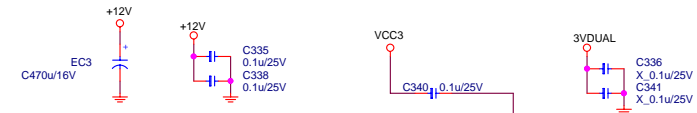
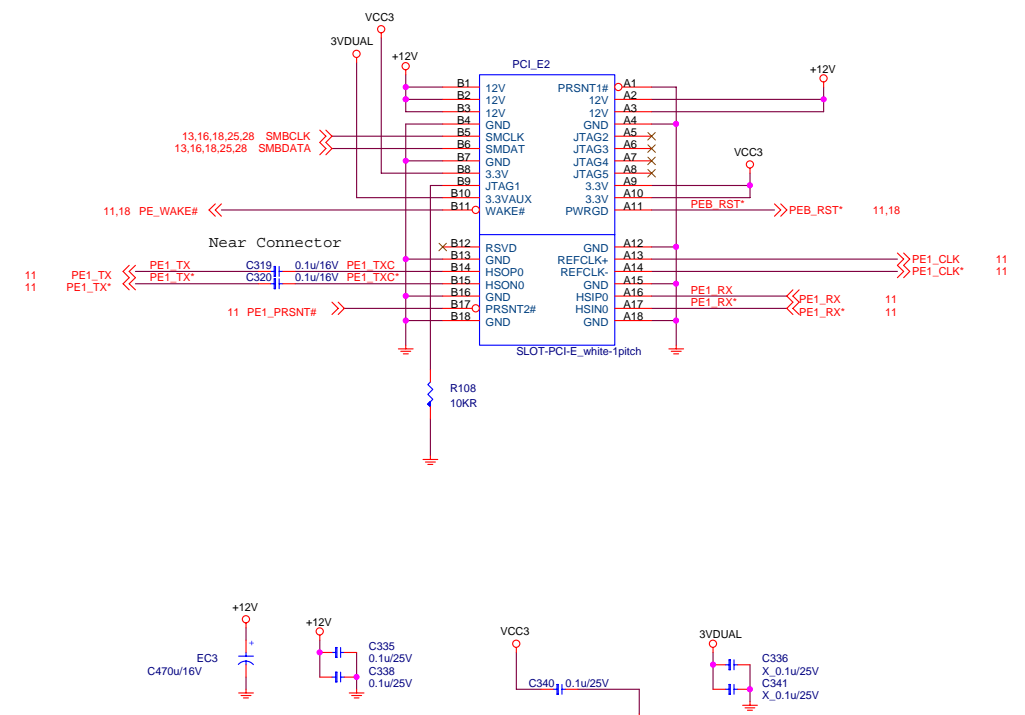


# PCI EXPRESS\_16

Trace width > 200 mils

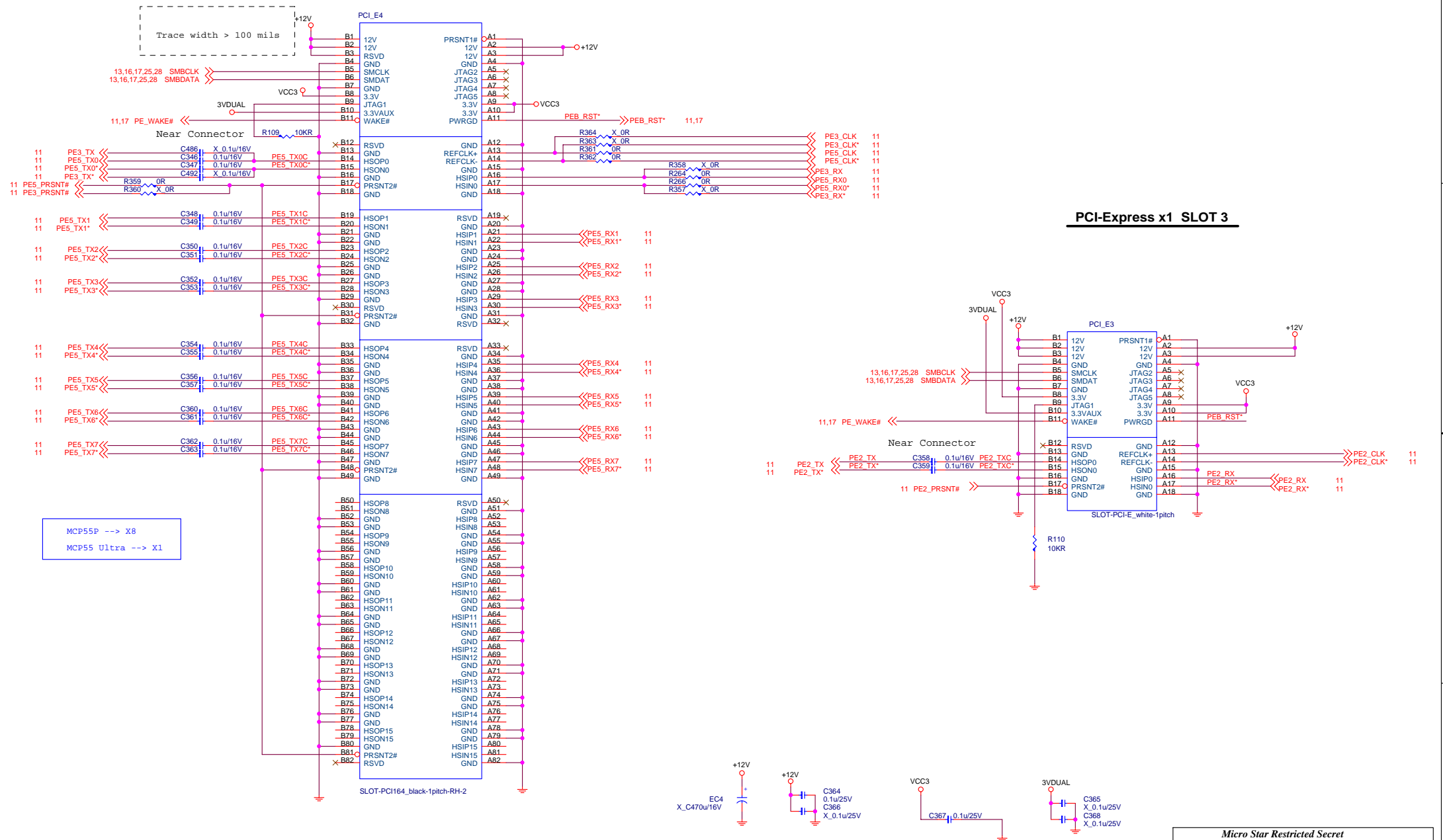


## PCI-Express x1 SLOT 1

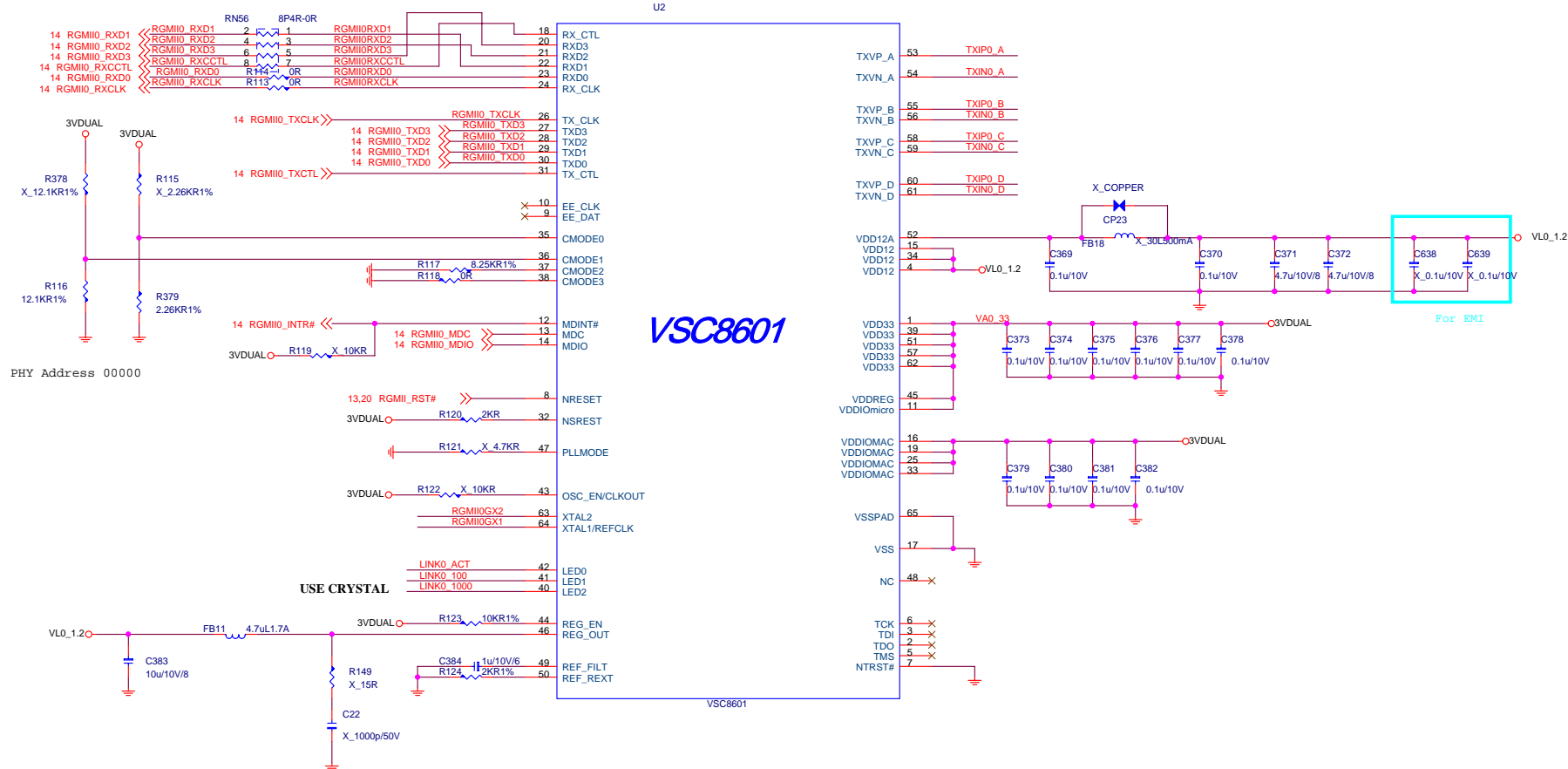


Micro Star Restricted Secret		
Title	PCI-E X16 , X1 Slot-1	Rev
Document Number	MS-7250	OB
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan		Last Revision Date: Friday, February 10, 2006
http://www.msi.com.tw		Sheet 17 of 36

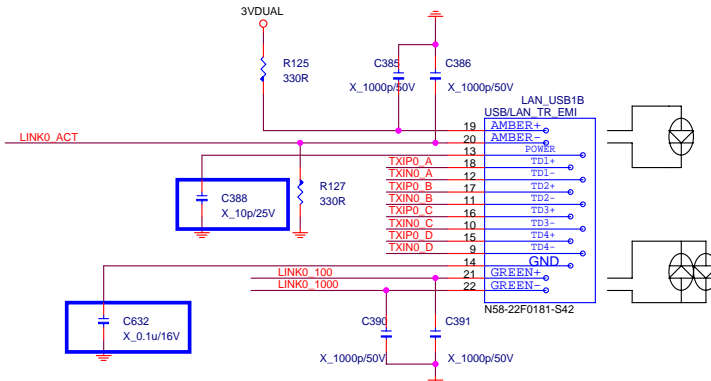
PCI EXPRESS\_16



<b>Micro Star Restricted Secret</b>			
<b>Title</b>	<b>PCI-E X16 , X1 Slot-2</b>		<b>Rev</b>  <b>0B</b>
<b>Document Number</b>	<b>MS-7250</b>		
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan <a href="http://www.msi.com.tw">http://www.msi.com.tw</a>		Last Revision Date: <b>Friday, February 10, 2006</b>	
		Sheet 18 of 36	

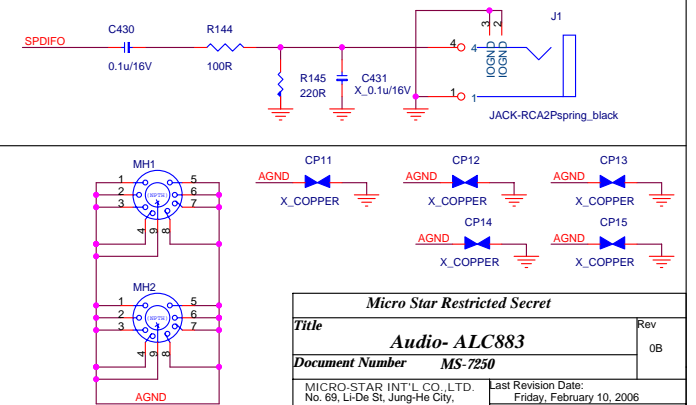
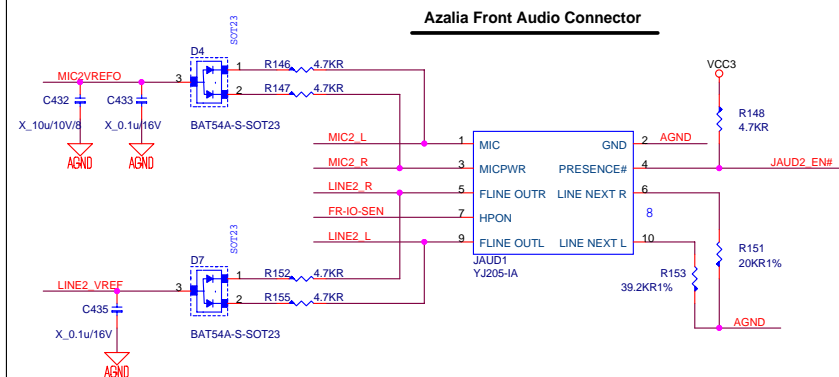
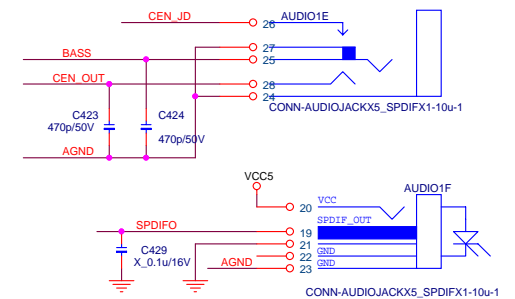
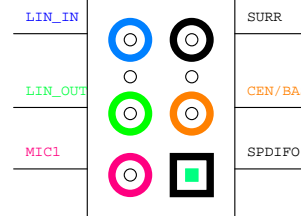
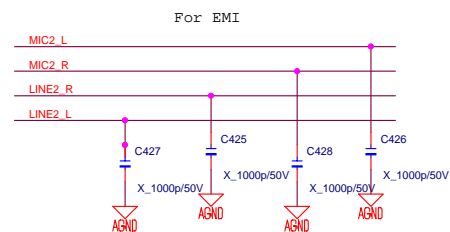
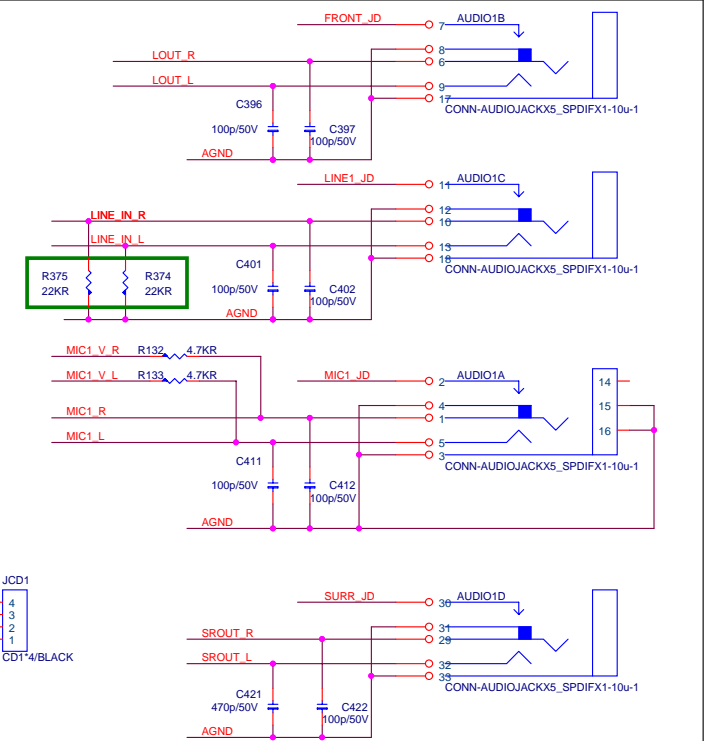


VSC8601

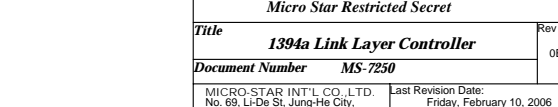
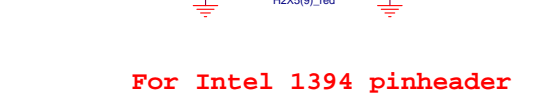
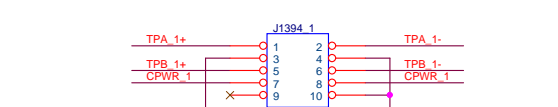
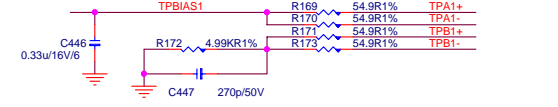
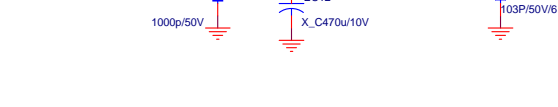
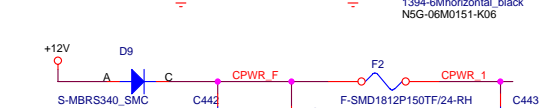
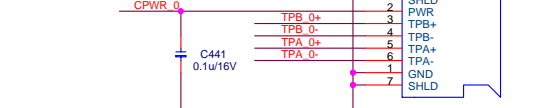
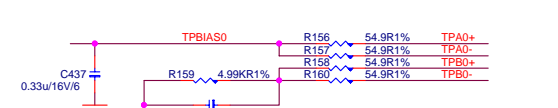
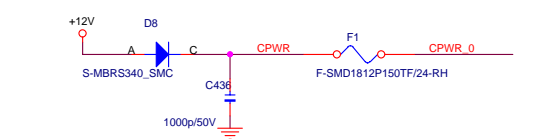
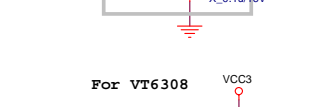
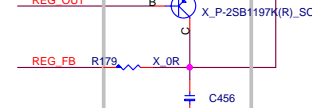
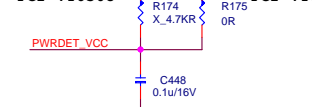
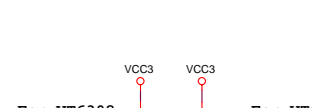
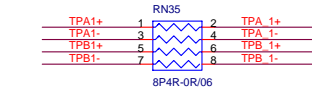
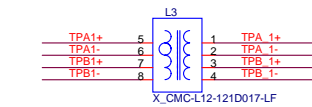
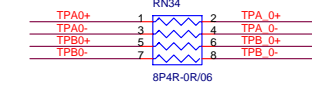
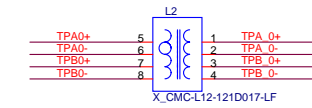
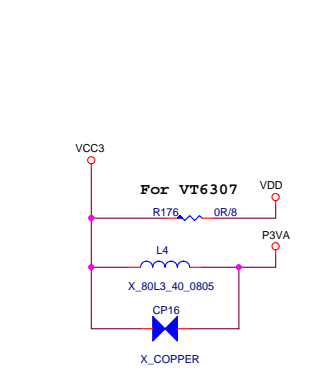
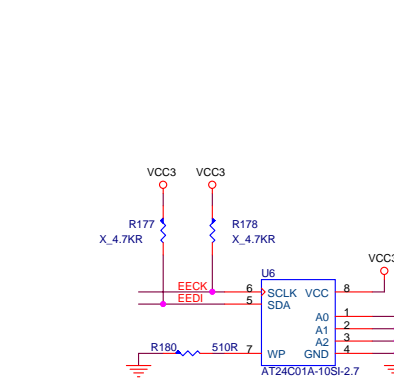
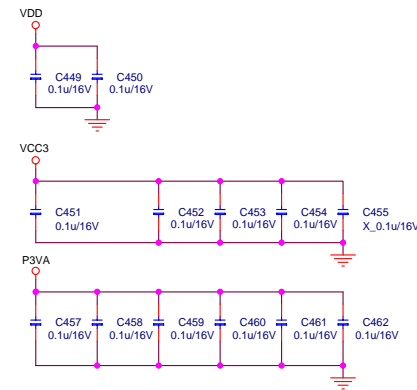
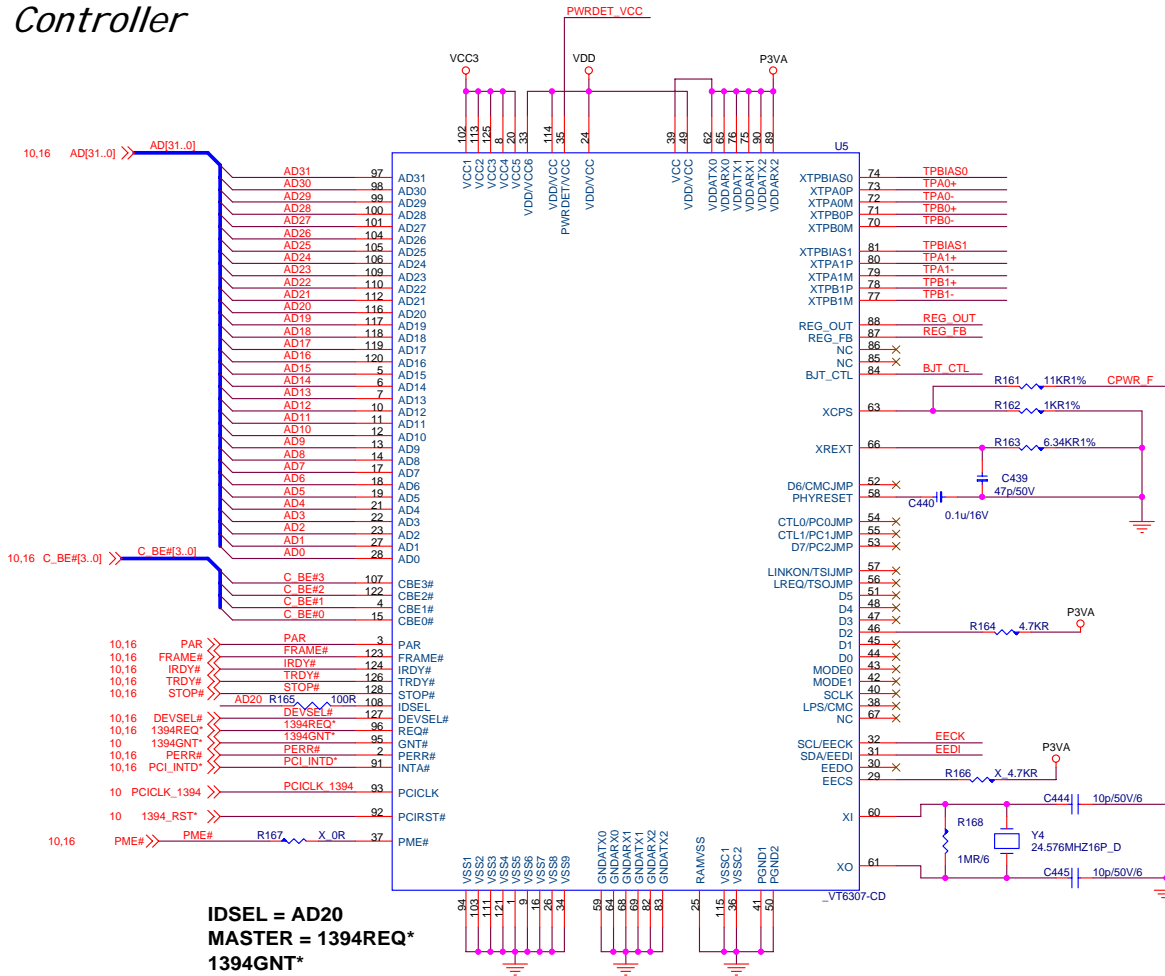


Giga-Lan	
N58-22F0081-S42	
Link	Yellow
Active	Blinking
1000	Orange
100	Green
10	None
19	Yellow
20	Yellow
21	Orange
22	Green





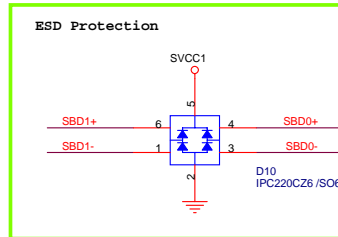
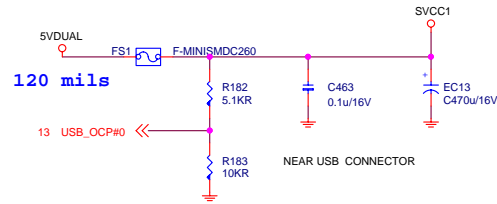
# 1394a OHCI Link Layer Controller



For Intel 1394 pinheader

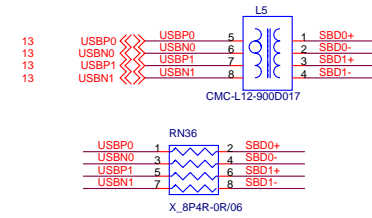
Micro Star Restricted Secret		
Title		Rev
1394a Link Layer Controller		0B
Document Number		MS-7250
MICRO-STAR INT'L CO., LTD.		Last Revision Date:
No. 69, Li-De St, Jung-He City,		Friday, February 10, 2006
Taipei Hsien, Taiwan		Sheet
http://www.msi.com.tw		22 of 36

## POWER CIRCUIT FOR USB PORT 0,1,2,3



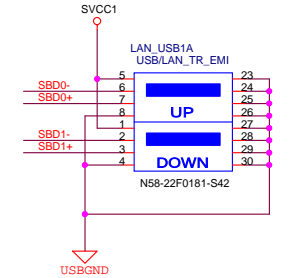
## REAR PANEL USB CONNECTOR FOR USB PORT 0,1

Should be 67 OHM, but no have...><



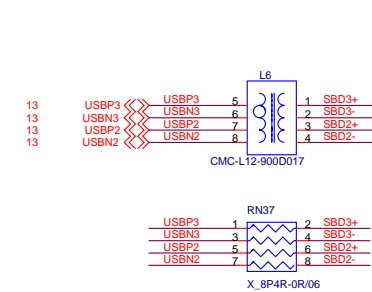
### NEAR USB CONNECTOR

22 / 7.5 / 7.5 / 7.5 / 22 / 7.5 / 7.5 / 7.5 / 22



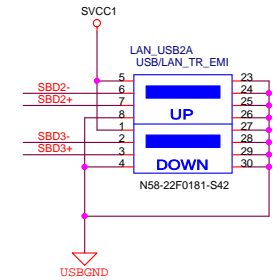
N53-08M0011-F02

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



### NEAR USB CONNECTOR

22 / 7.5 / 7.5 / 7.5 / 22 / 7.5 / 7.5 / 7.5 / 22

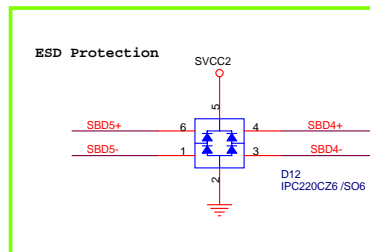
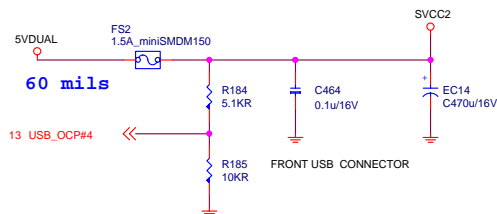


## EMI TEST

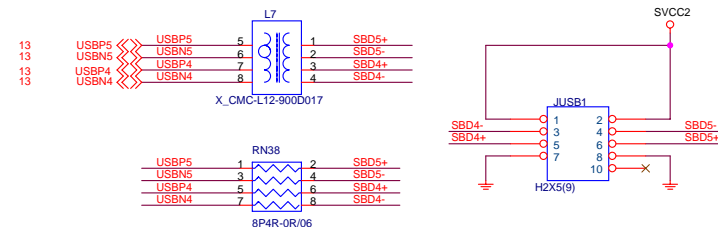


Micro Star Restricted Secret		
Title	REAR USB PORTS	Rev
Document Number	MS-7250	0B
MICRO-STAR INT'L CO.,LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan <a href="http://www.msi.com.tw">http://www.msi.com.tw</a>		Last Revision Date: Friday, February 10, 2006 Sheet 23 of 36

### POWER CIRCUIT FOR USB PORT 4,5



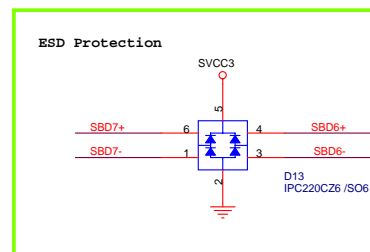
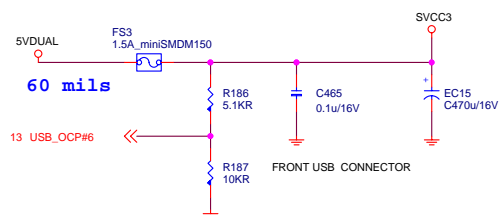
### FRONT PANEL USB CONNECTOR FOR USB PORT 4,5



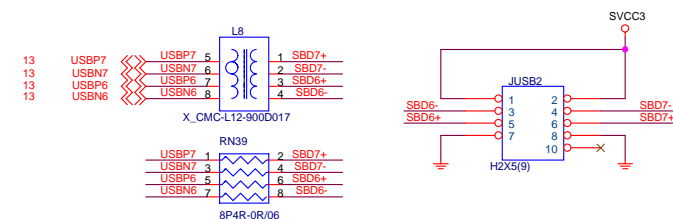
#### NEAR USB CONNECTOR

22 / 7.5 / 7.5 / 7.5 / 22 / 7.5 / 7.5 / 7.5 / 22

### POWER CIRCUIT FOR USB PORT 6,7



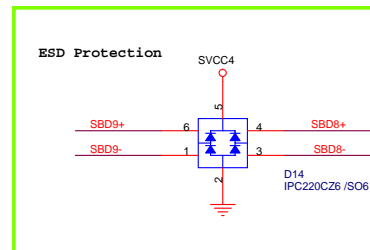
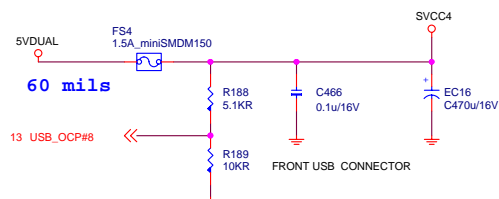
### FRONT PANEL USB CONNECTOR FOR USB PORT 6,7



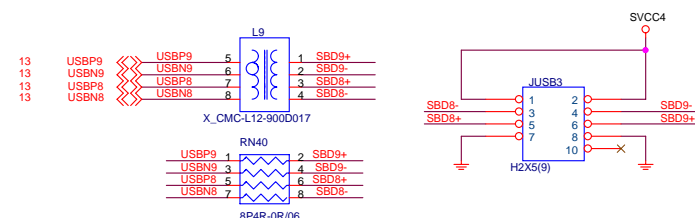
#### NEAR USB CONNECTOR

22 / 7.5 / 7.5 / 7.5 / 22 / 7.5 / 7.5 / 7.5 / 22

### POWER CIRCUIT FOR USB PORT 8,9



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



#### NEAR USB CONNECTOR

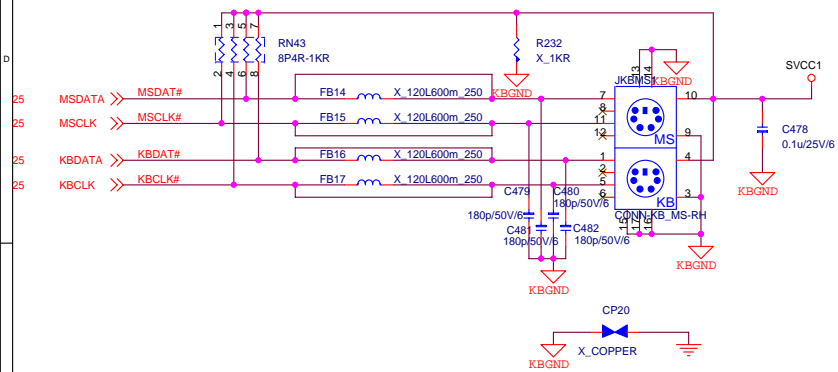
22 / 7.5 / 7.5 / 7.5 / 22 / 7.5 / 7.5 / 7.5 / 22

Micro Star Restricted Secret		
Title	FRONT USB PORT	Rev
Document Number	MS-7250	0B
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan <a href="http://www.msi.com.tw">http://www.msi.com.tw</a>		Last Revision Date: Friday, February 10, 2006 Sheet 24 of 36

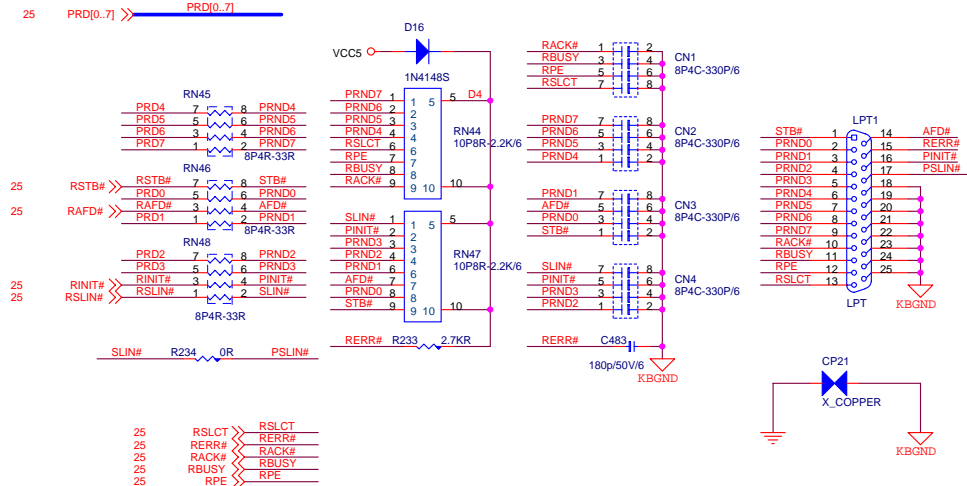




## PS2 KEYBOARD & MOUSE CONNECTOR

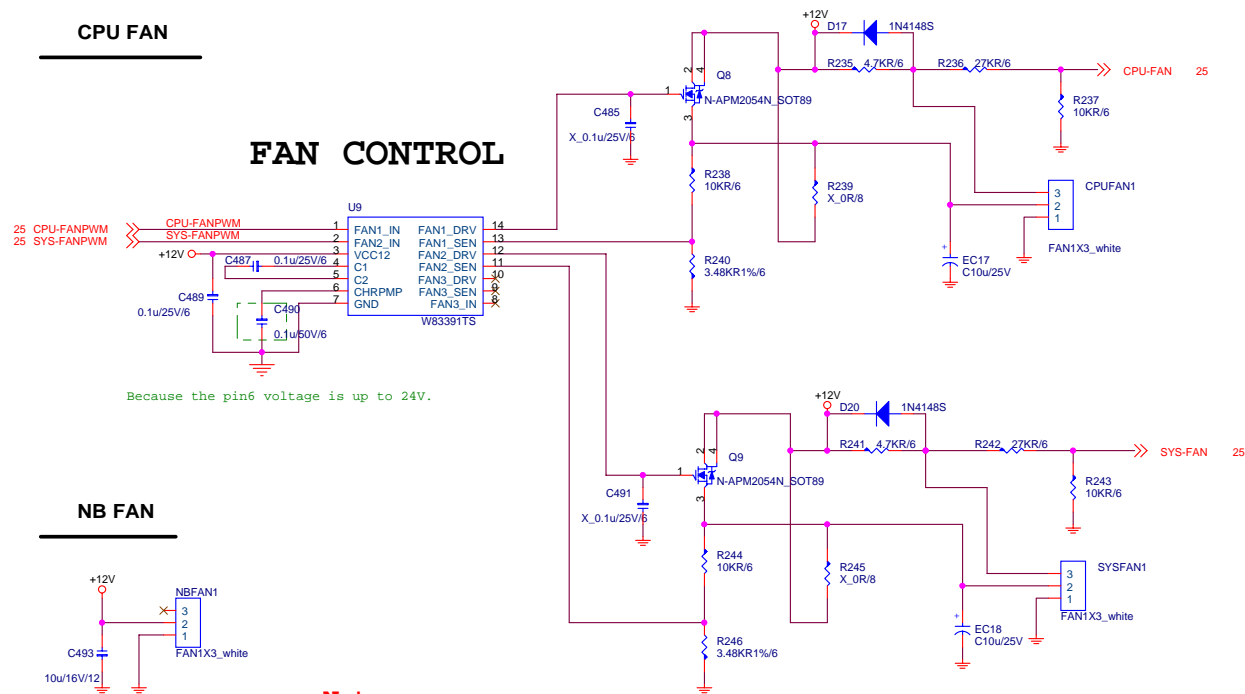


## PARALLAL PORT



## CPU FAN

## FAN CONTROL



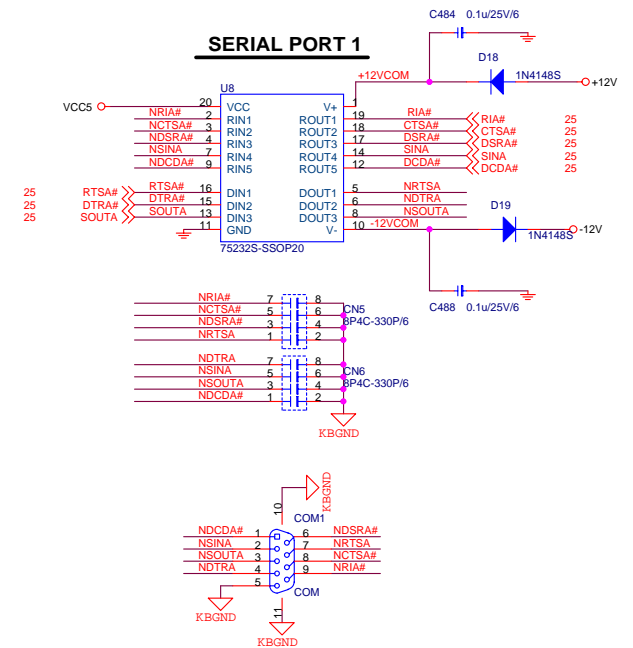
### Note:

CPU-FANPWM connect to 627EHF pin 120; default is DC mode

SYS-PWM connect to 627EHF pin 116; default is DC mode

It has a undefine state when power on if used pin115 to control CPU fan. Bios must to programing CR24(Bit3,4) to DC mode.

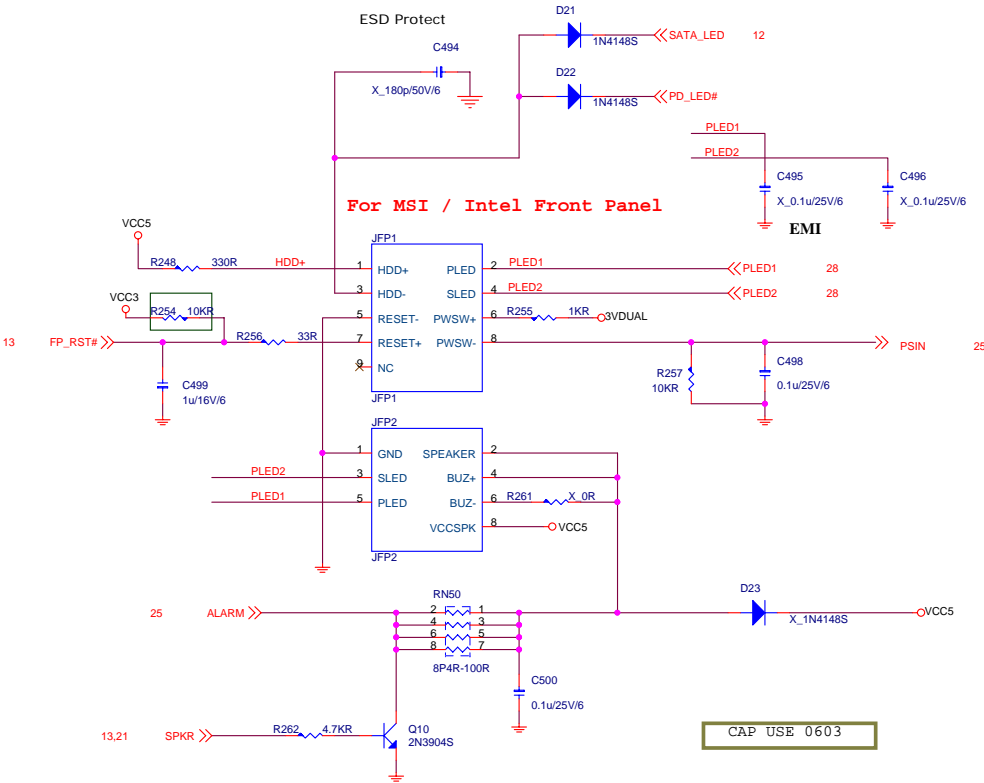
## SERIAL PORT 1



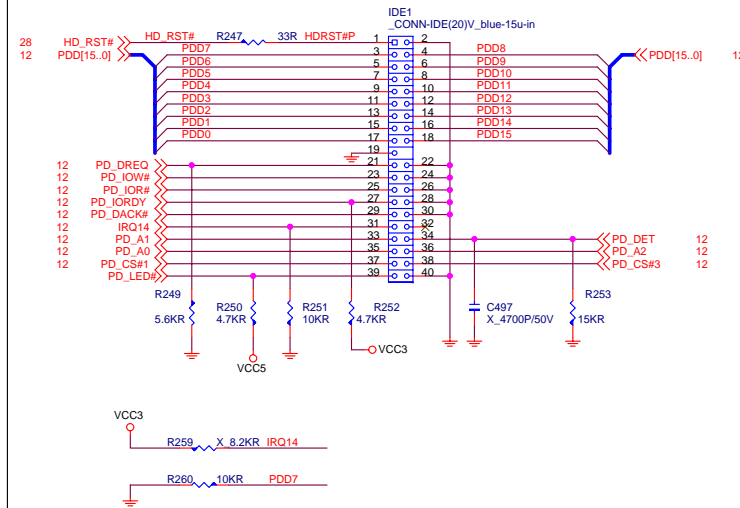
Micro Star Restricted Secret

Title		Rev
PS2 KB/MS, LPT. COM & FAN		0B
Document Number	MS-7250	
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan		Last Revision Date: Tuesday, February 14, 2006
http://www.msi.com.tw		Sheet 26 of 36

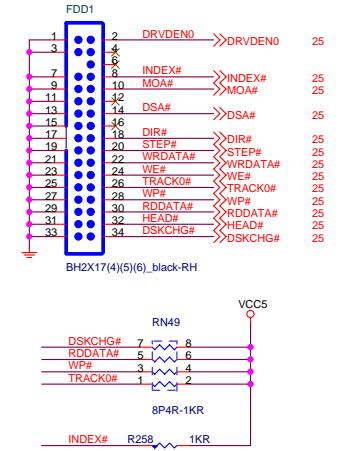
## Intel Front Panel



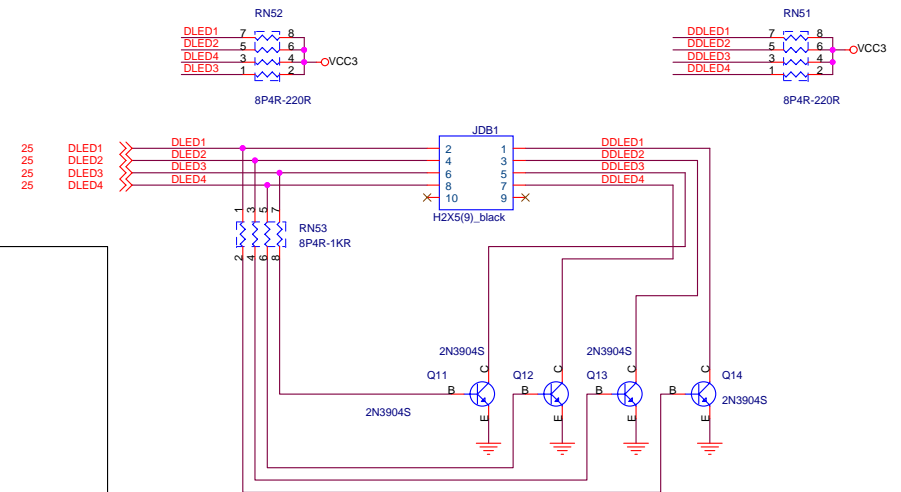
## IDE 1



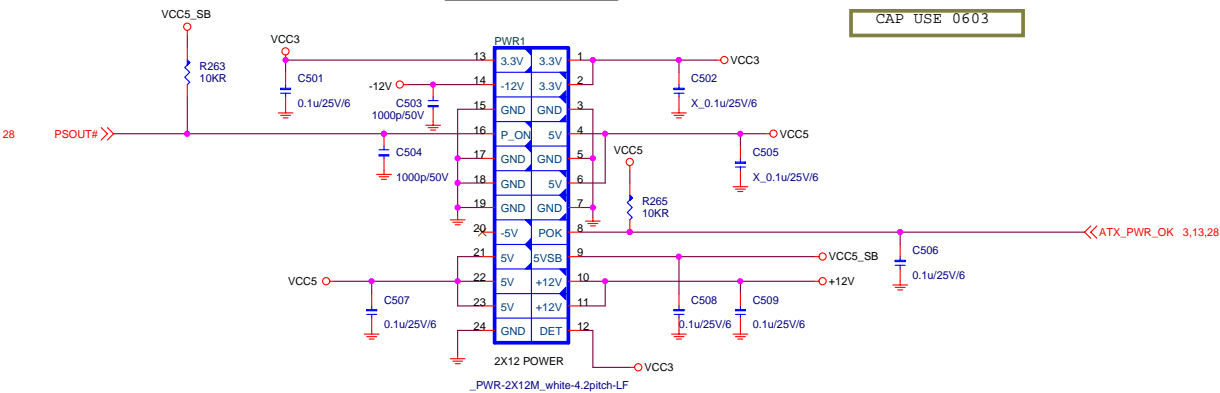
## Floppy



## D-Bracket



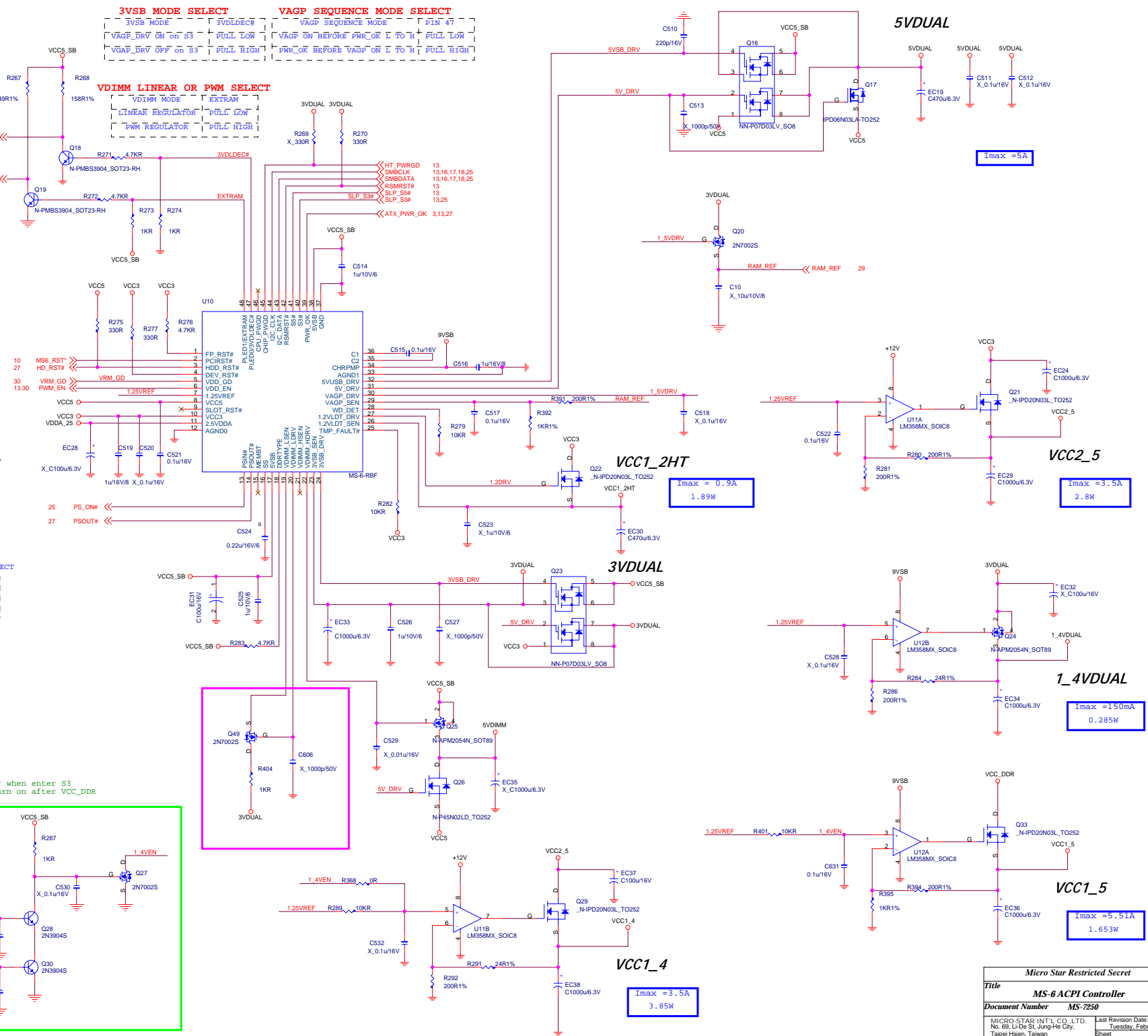
## ATX Connector



## Micro Star Restricted Secret

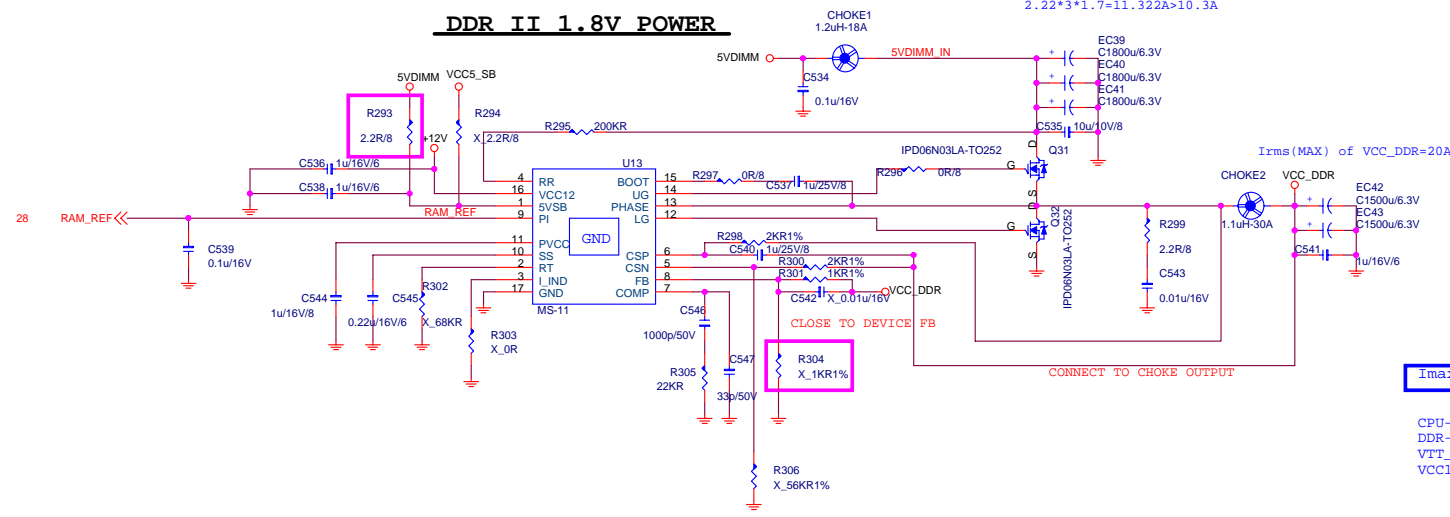
Title		Rev
ATX conn / FP/IDE/FDD/ D-LED		0B
Document Number		MS-7250
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan <a href="http://www.msi.com.tw">http://www.msi.com.tw</a>		Last Revision Date: Friday, February 10, 2006 Sheet 27 of 36

### *ACPI Controller*



<i><b>Micro Star Restricted Secret</b></i>		
<i><b>Title</b></i>	<i><b>MS-6 ACPI Controller</b></i>	Rev 0B
<i><b>Document Number</b></i>	<i><b>MS-7250</b></i>	
MICRO-STAR INT'L CO. LTD. No. 69, L-De St. Jung-He City, Taipei Hsien, Taiwan <a href="http://www.msi.com.tw">http://www.msi.com.tw</a>		Last Revision Date: Tuesday, February 14, 2006 Sheet 28 of 36

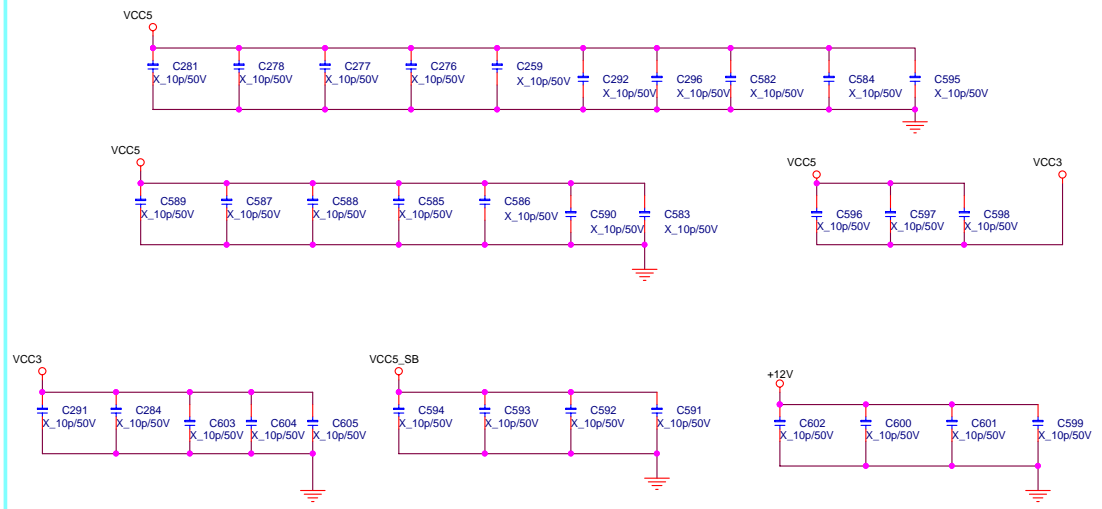
## DDR II 1.8V POWER



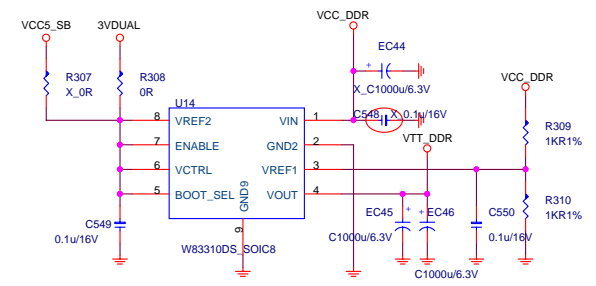
**Imax = 21.46A**

CPU--> 3.6A  
 DDR--> 9.4A  
 VTT\_DDR--> 2.95A  
 VCC1\_5--> 5.51A

For EMI



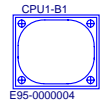
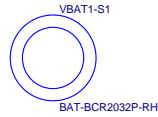
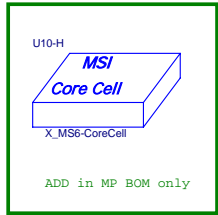
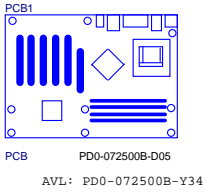
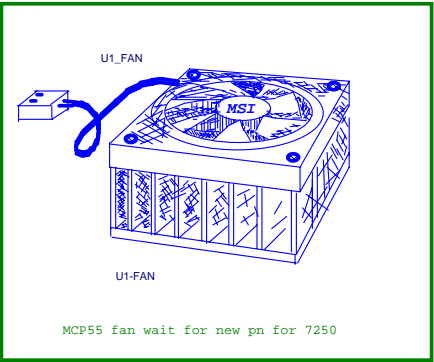
## DDR II VTT POWER



**Imax = 2.95A**

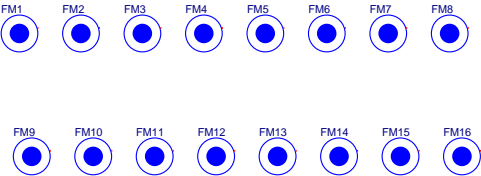
Micro Star Restricted Secret		
Title	MS-11 DDR2 Power	Rev
Document Number	MS-7250	0B
MICRO-STAR INT'L CO.,LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Friday, February 10, 2006 Sheet 29 of 36



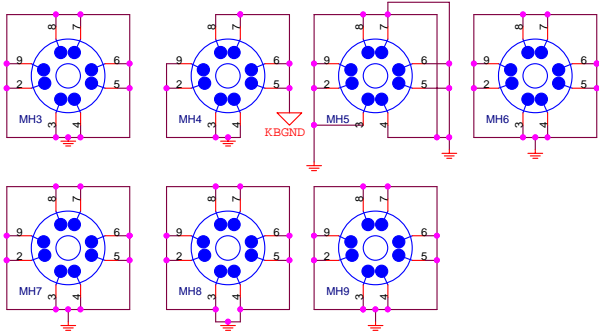


AVL: E95-0000004-A21

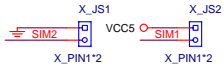
**Optics Orientation Holes**



**Mounting Holes**



**Simulation**



Model option table

Model type	Function	BOM Config	ERP BOM No.
MS-7250	MCP55/ VSC6801x2/ ALC883/ VT6307/ W83627EHG/ ISL6566CR	Cfg-A	601-7250-B10
MS-7250	MCP55 Ultra/ VSC6801x2/ ALC883/ VT6307/ W83627EHG/ ISL6566CR	Cfg-B	601-7250-???