



AMD 940 Athlon 64/Athlon 64 FX

NVIDIA MCP 55P

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

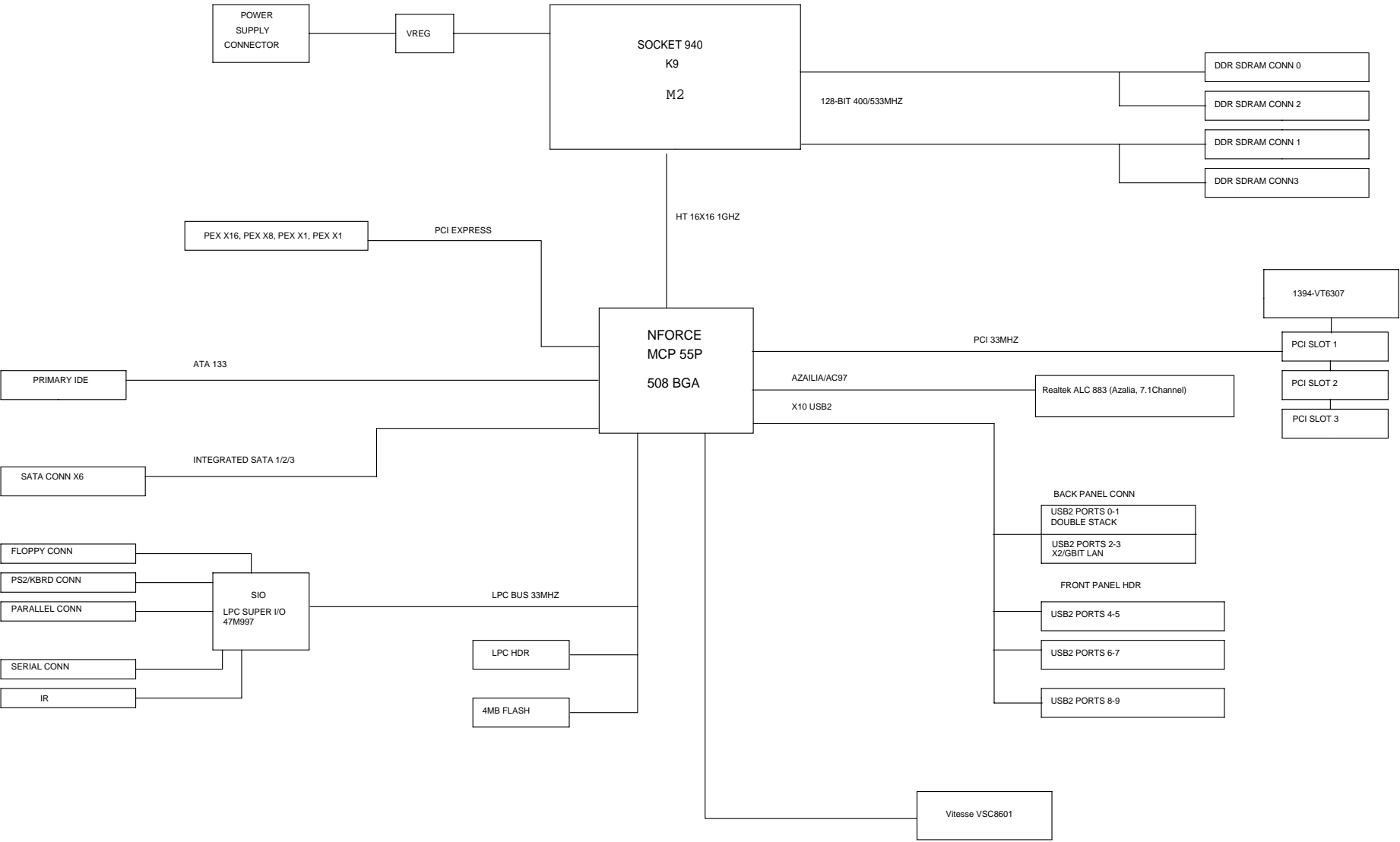
DDRII * 4 (Max 4GB)

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

Controller--Intersil ISL6566CR 3 Phase

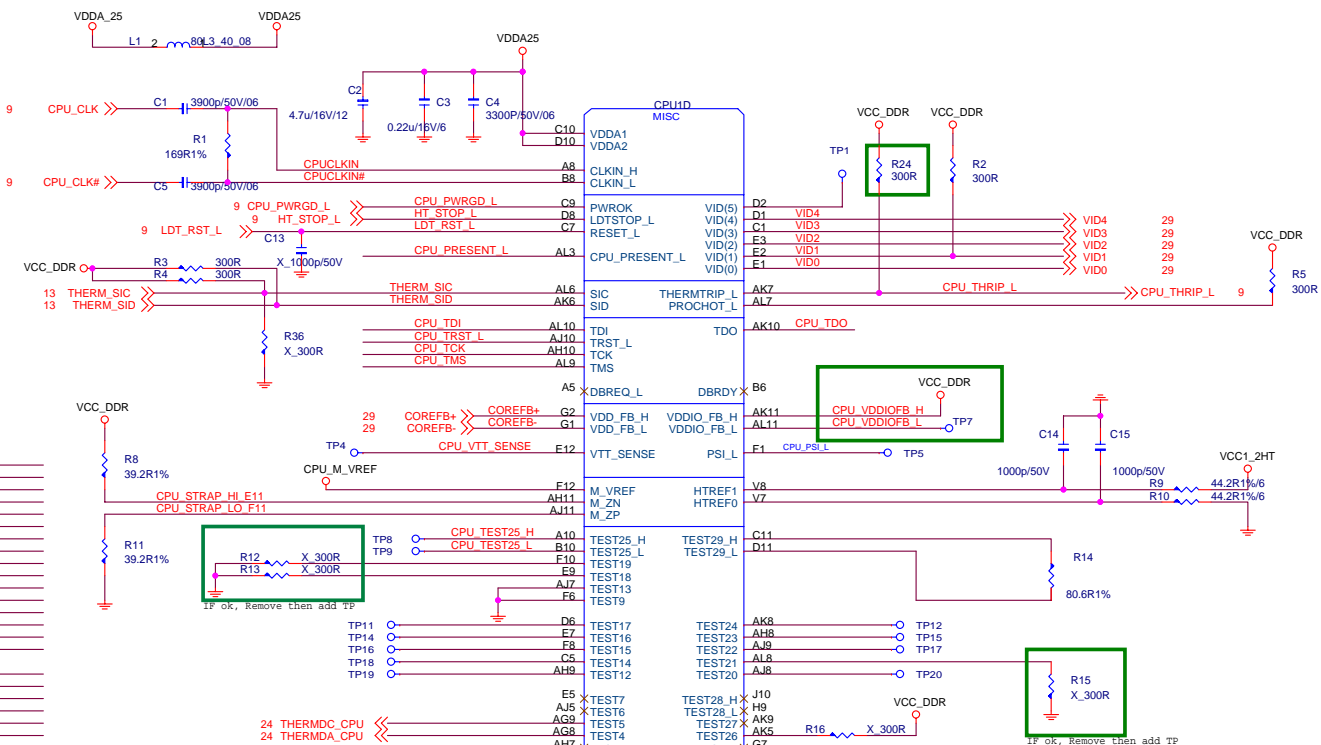
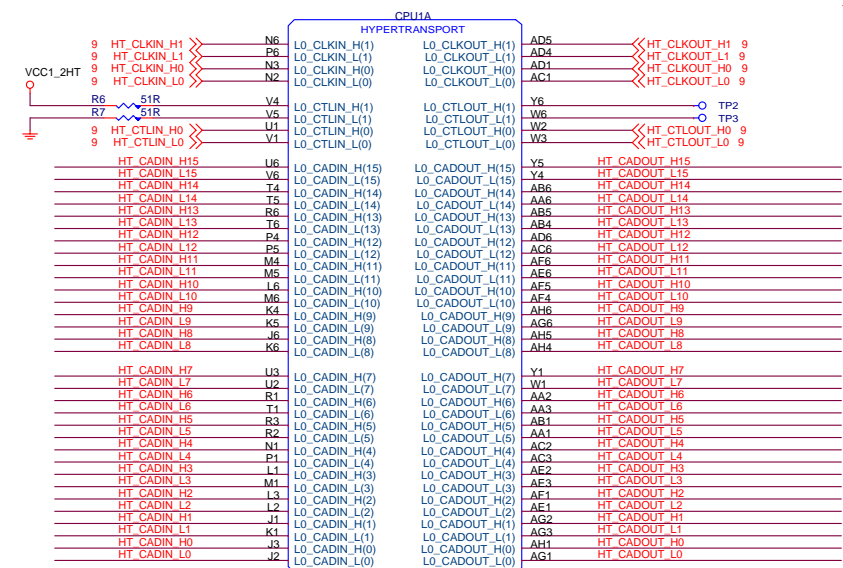
Micro Star Restricted Secret		
Title	Cover Sheet	Rev 0A
Document Number	MS-7250	
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St, Jung-Hei City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Wednesday, November 16, 2005 Sheet 1 of 35

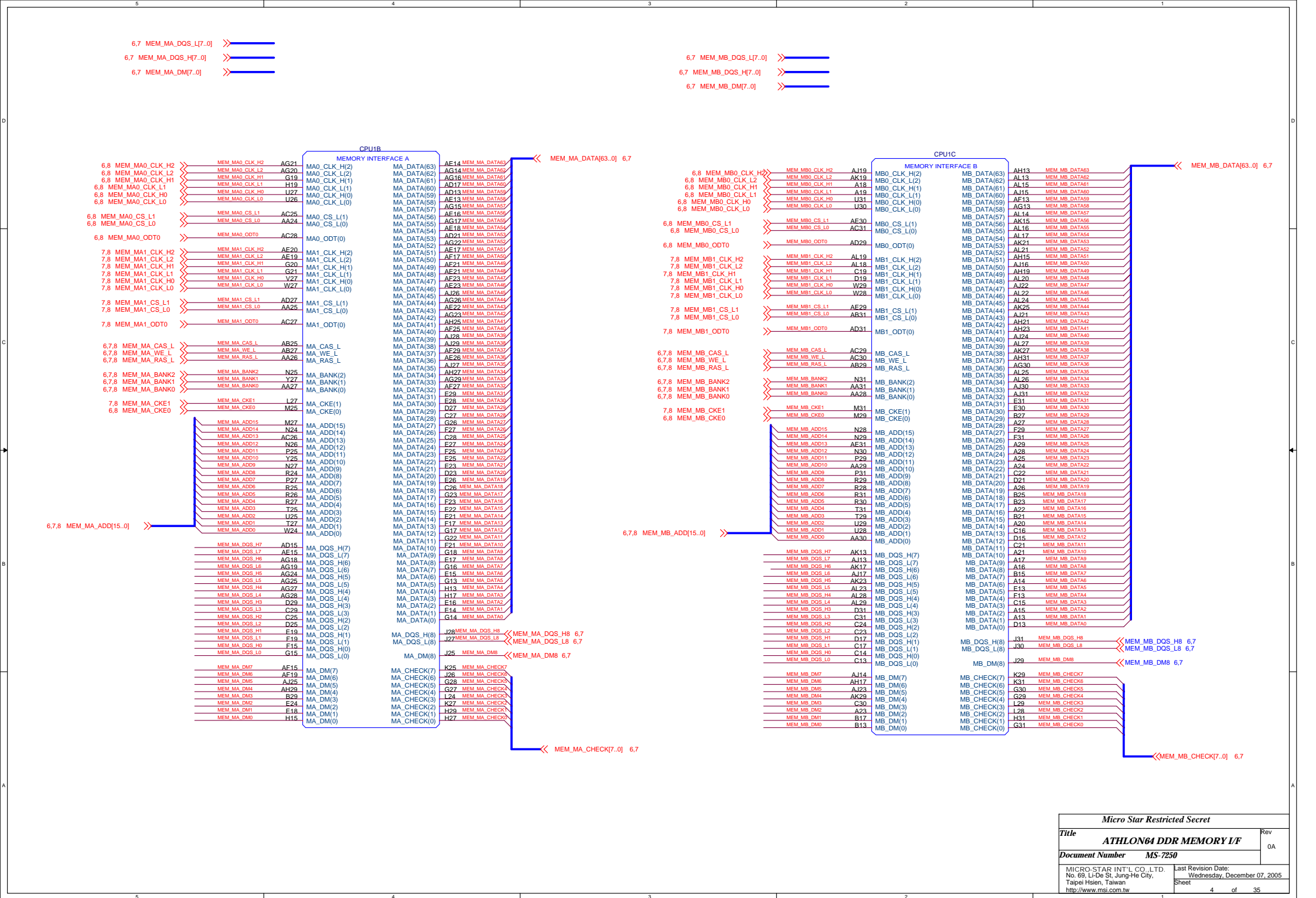
BLOCK DIAGRAM

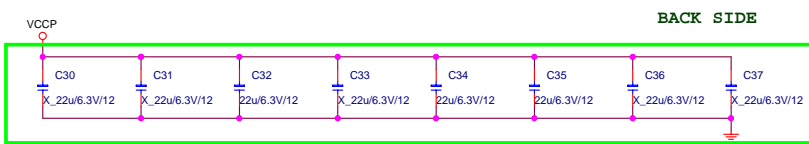
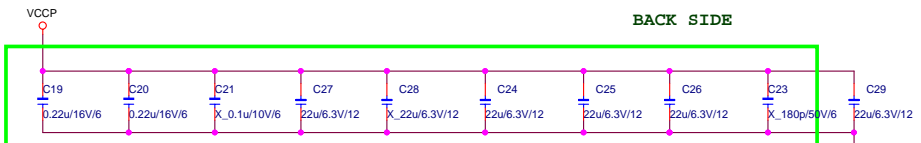
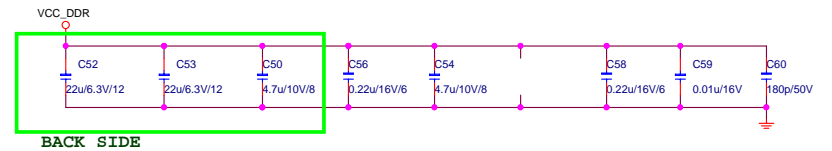
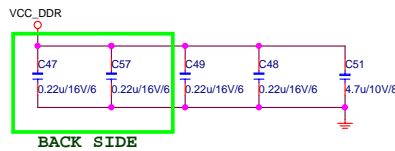
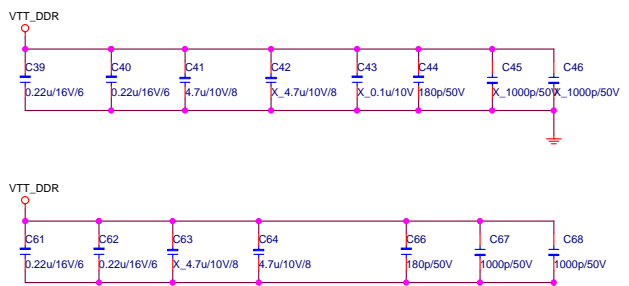
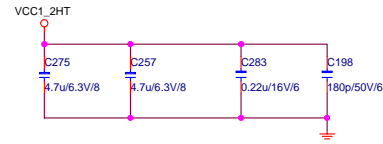
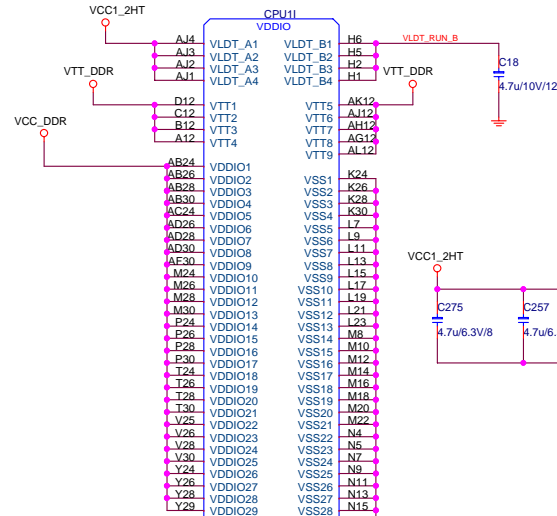
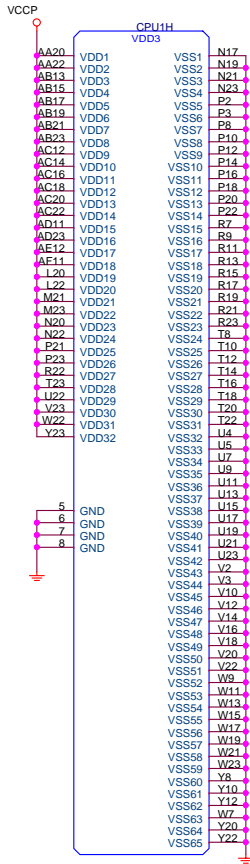
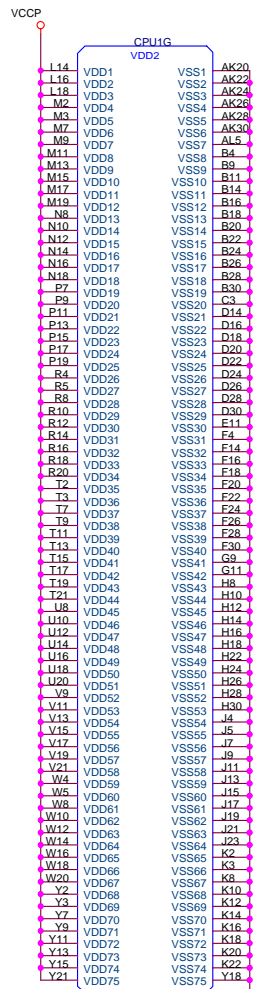
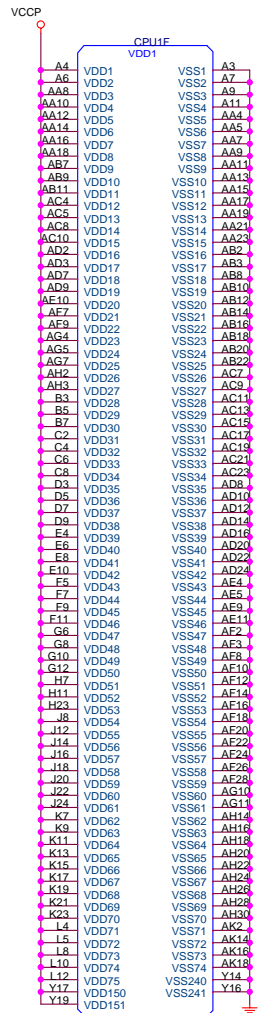


Micro Star Restricted Secret		
Title	Block Diagram	Rev
Document Number	MS-7250	0A
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St., Jung-Ho City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Friday, November 25, 2005
Sheet		2 of 35

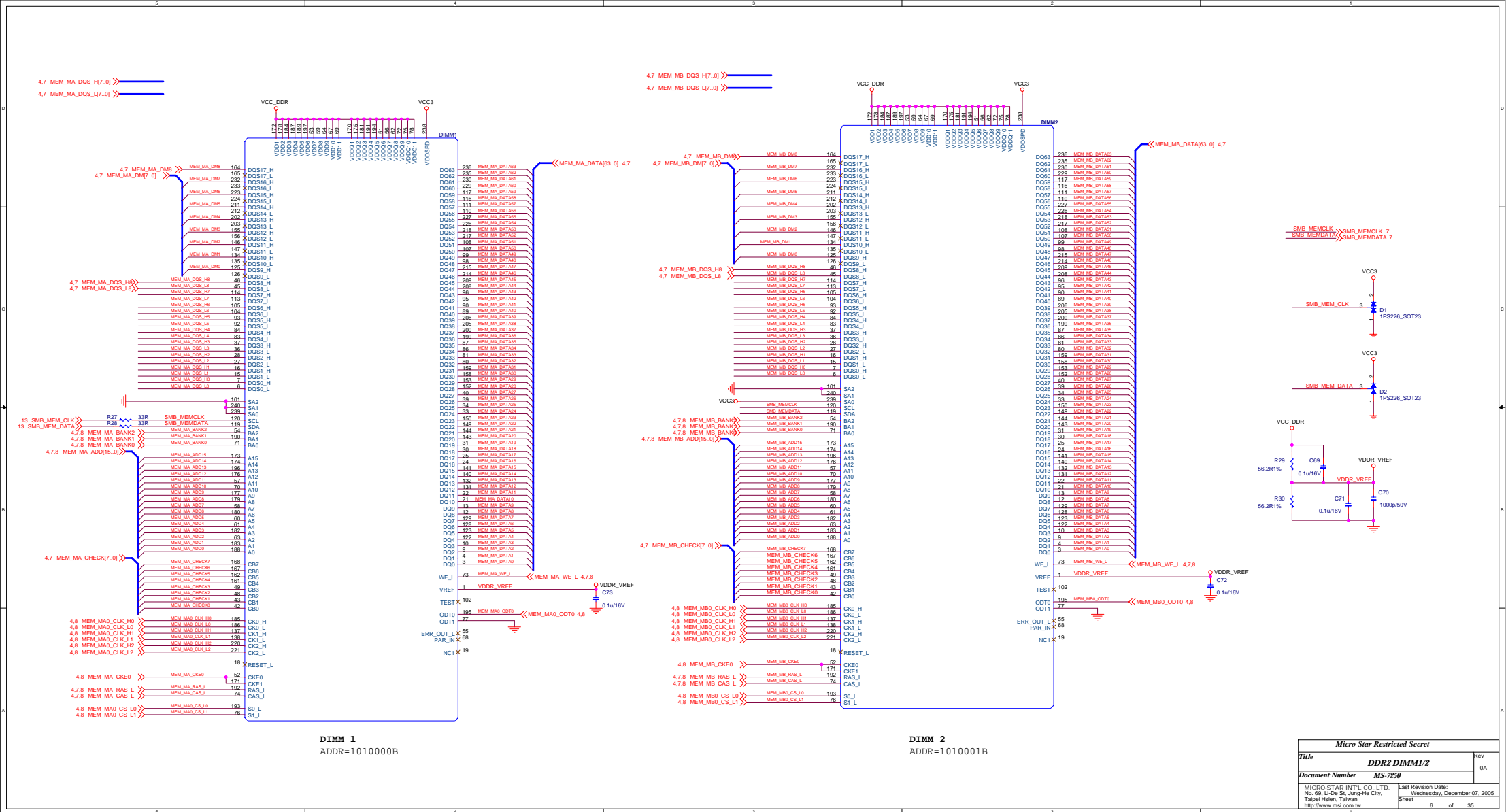
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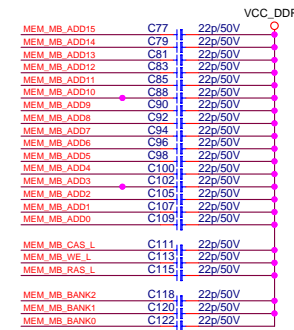
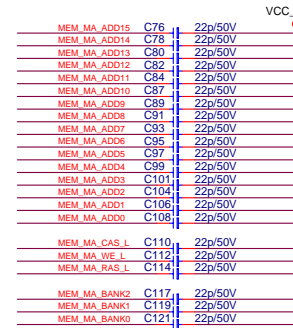
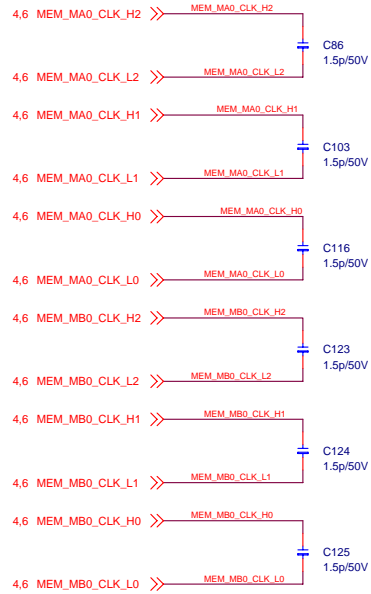
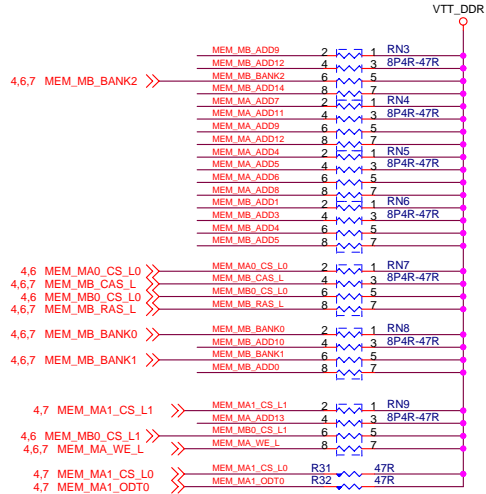




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Document Number	MS-7250	0A
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St, Jung-Ho City, Taipei Hsien, Taiwan		Last Revision Date: Wednesday, December 07, 2005
http://www.msi.com.tw		Sheet 5 of 35

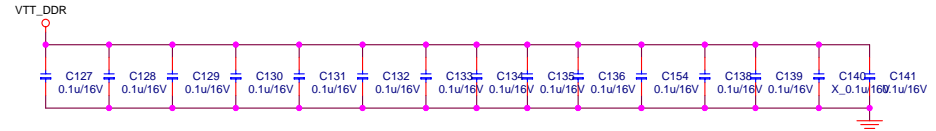


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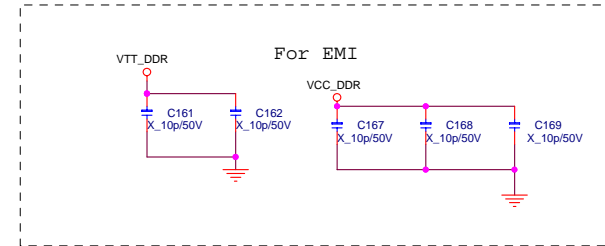
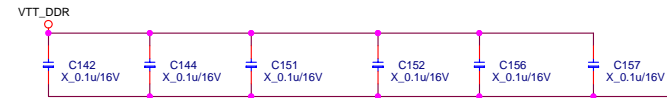
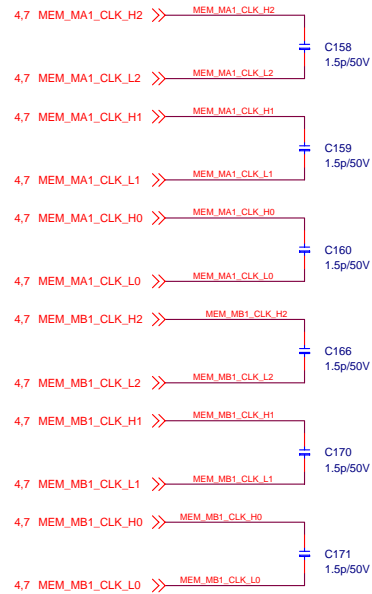
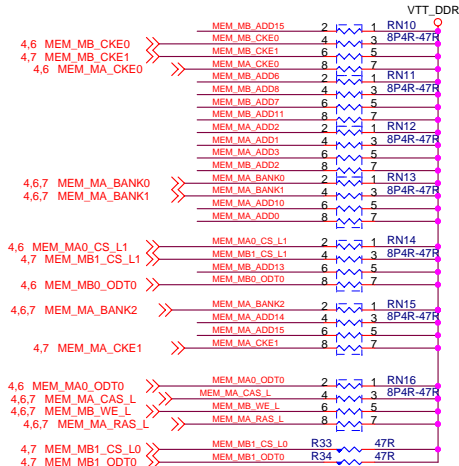


Decoupling Between Processor and DIMMs

Layout: Spread out on VTT pour



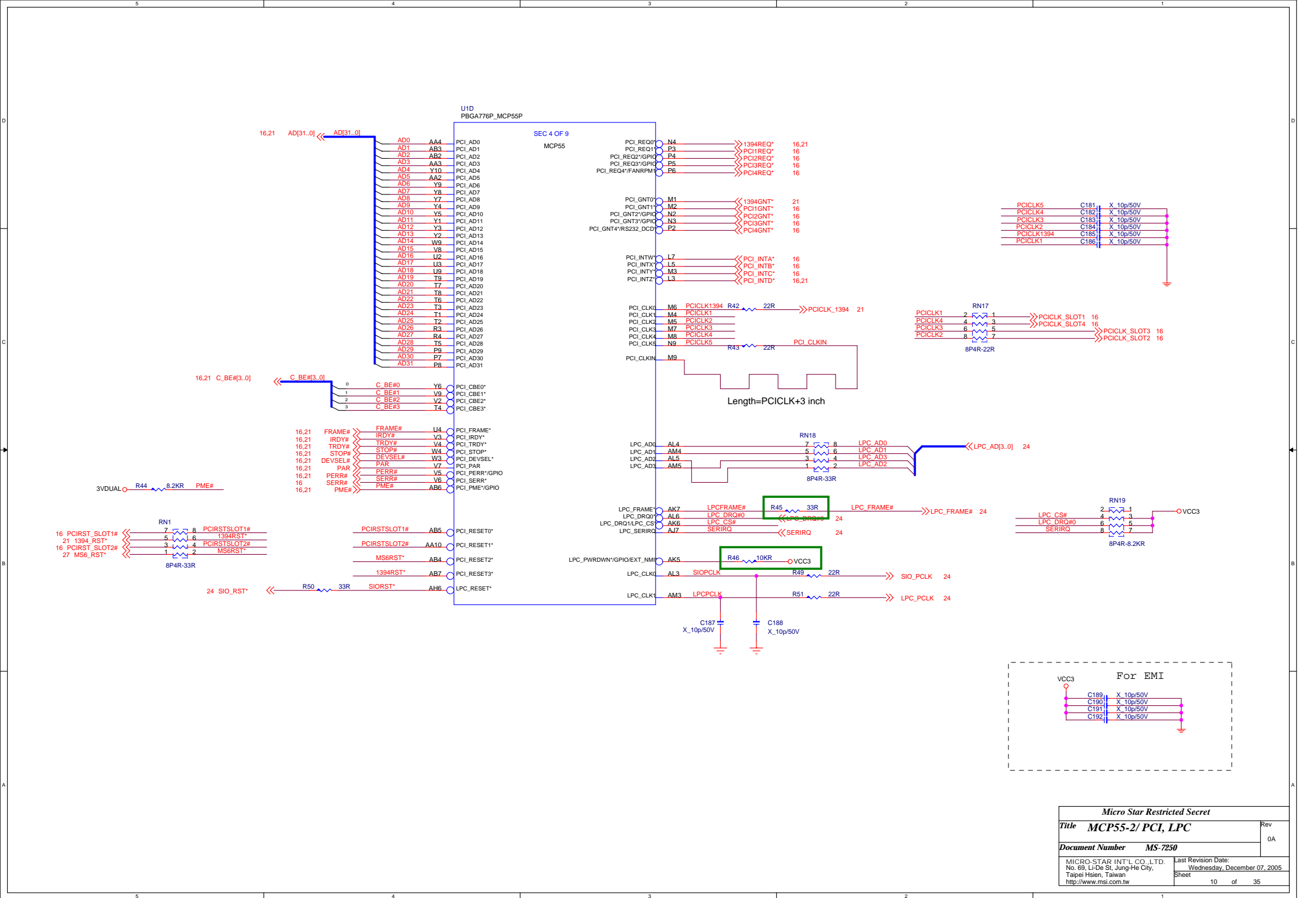
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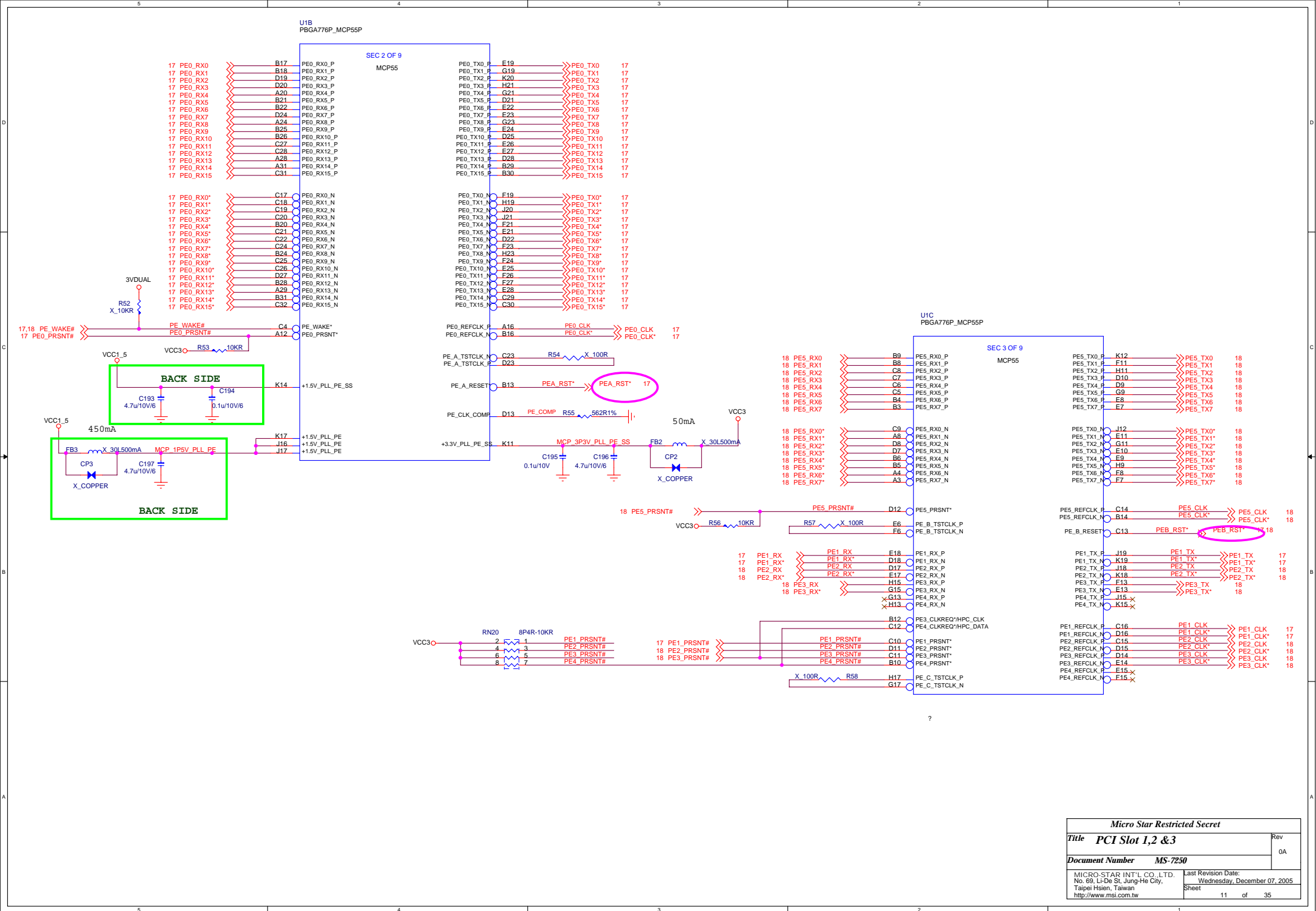


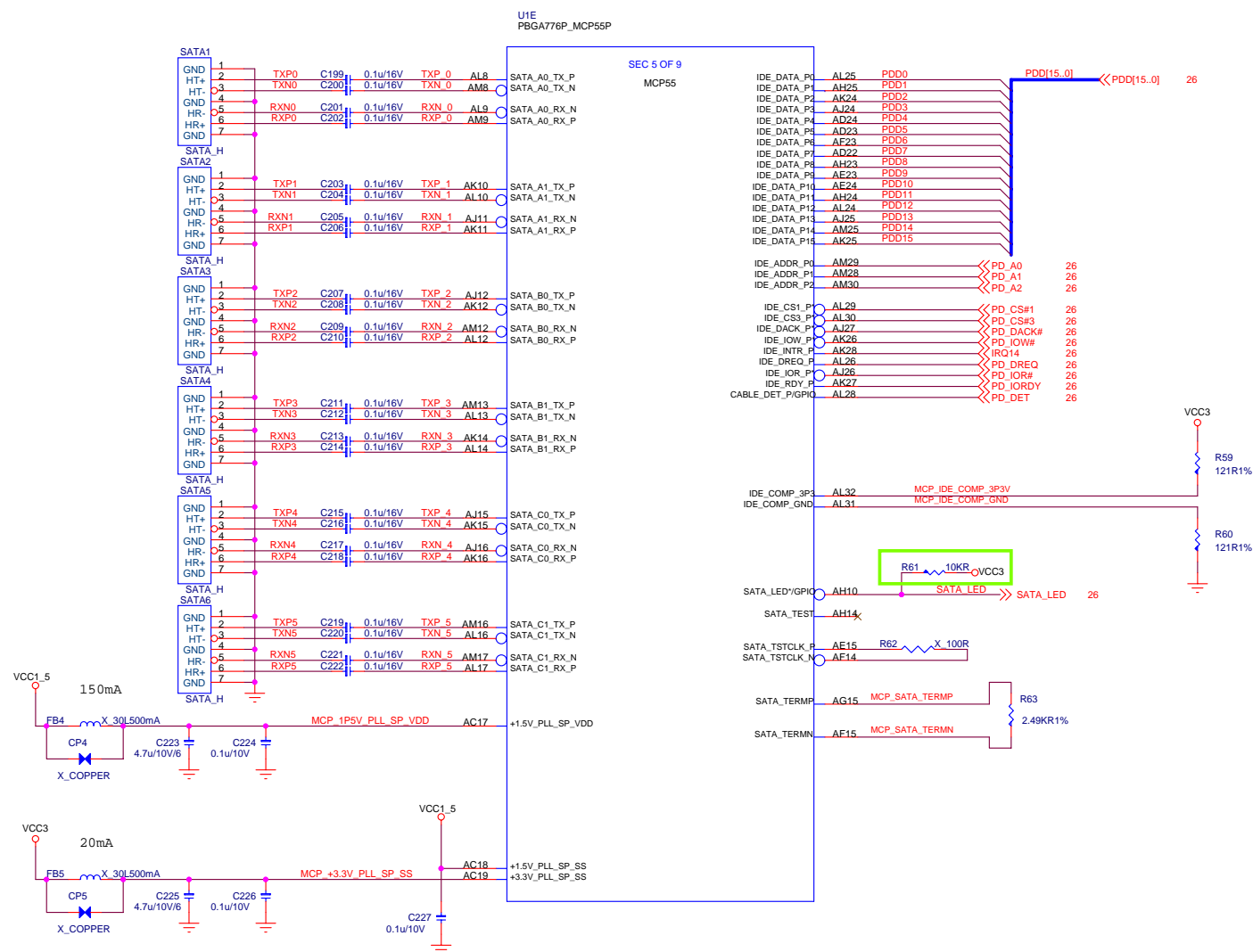
For EMI

Micro Star Restricted Secret

Title		Rev
DDR Termination		0A
Document Number		
MS-7250		
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: Wednesday, December 07, 2005 Sheet 8 of 35







IDSEL = AD16
MASTER = PCI1REQ*
PCI1GNT*

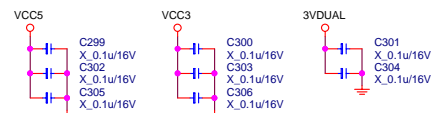
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PCI2GNT*

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PCI3GNT*	

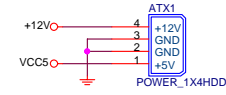
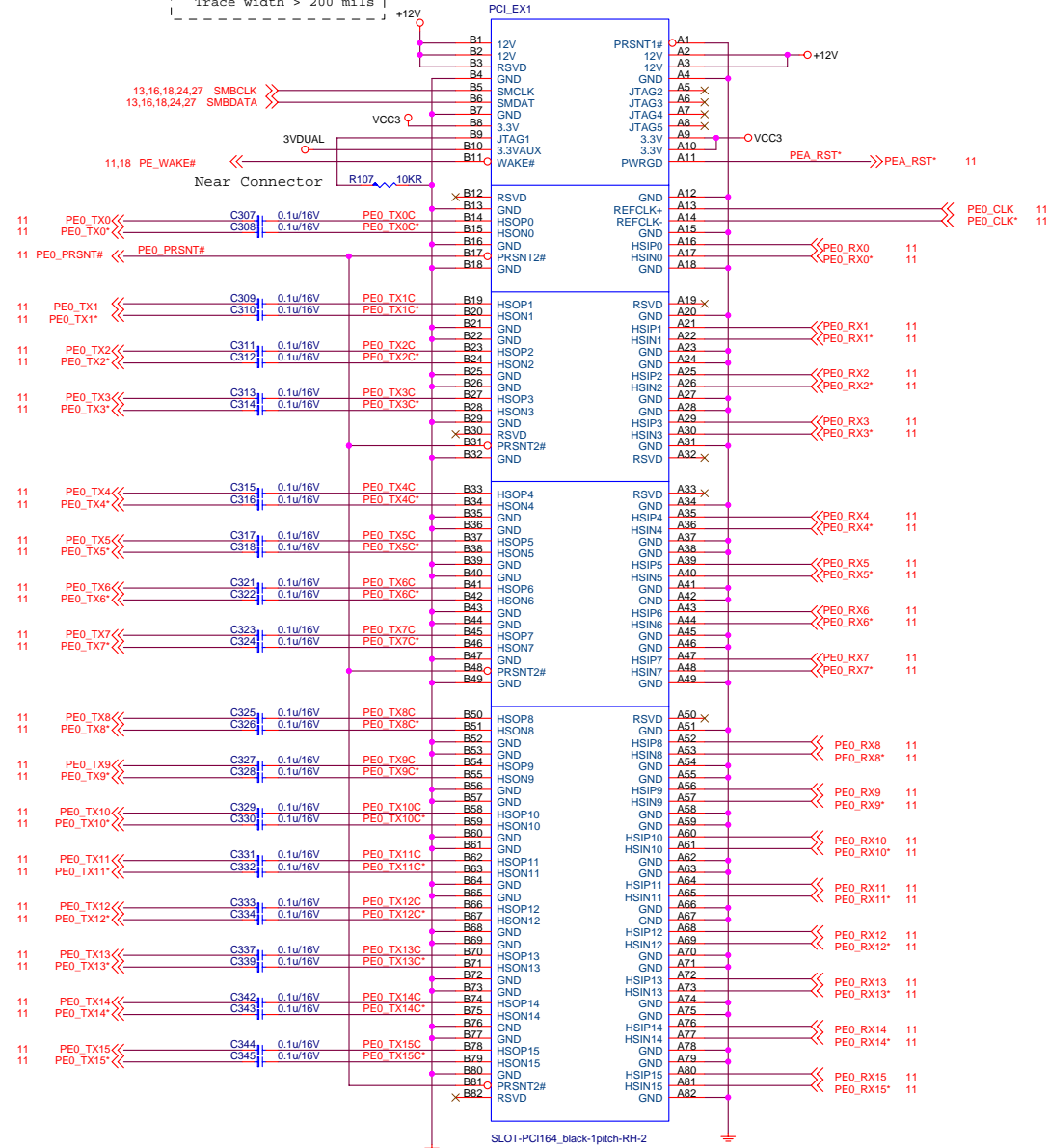
PCI SLOT DECOUPLING CAPACITORS



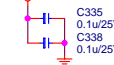
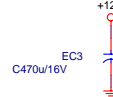
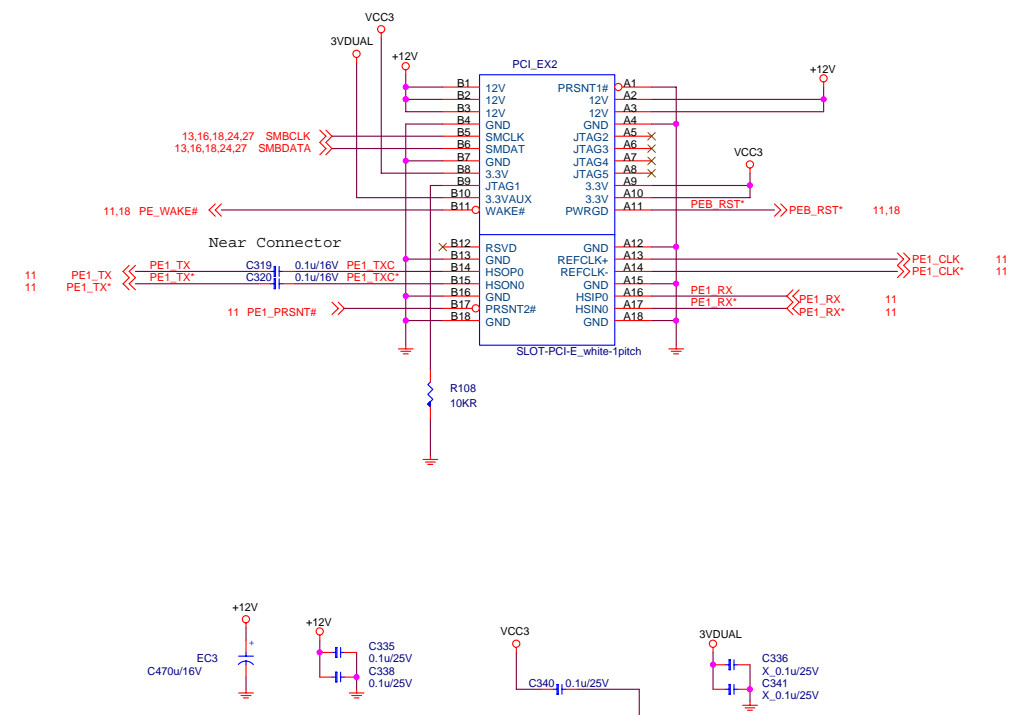
PCI PULL-UP / DOWN RESISTORS

PCI EXPRESS_16

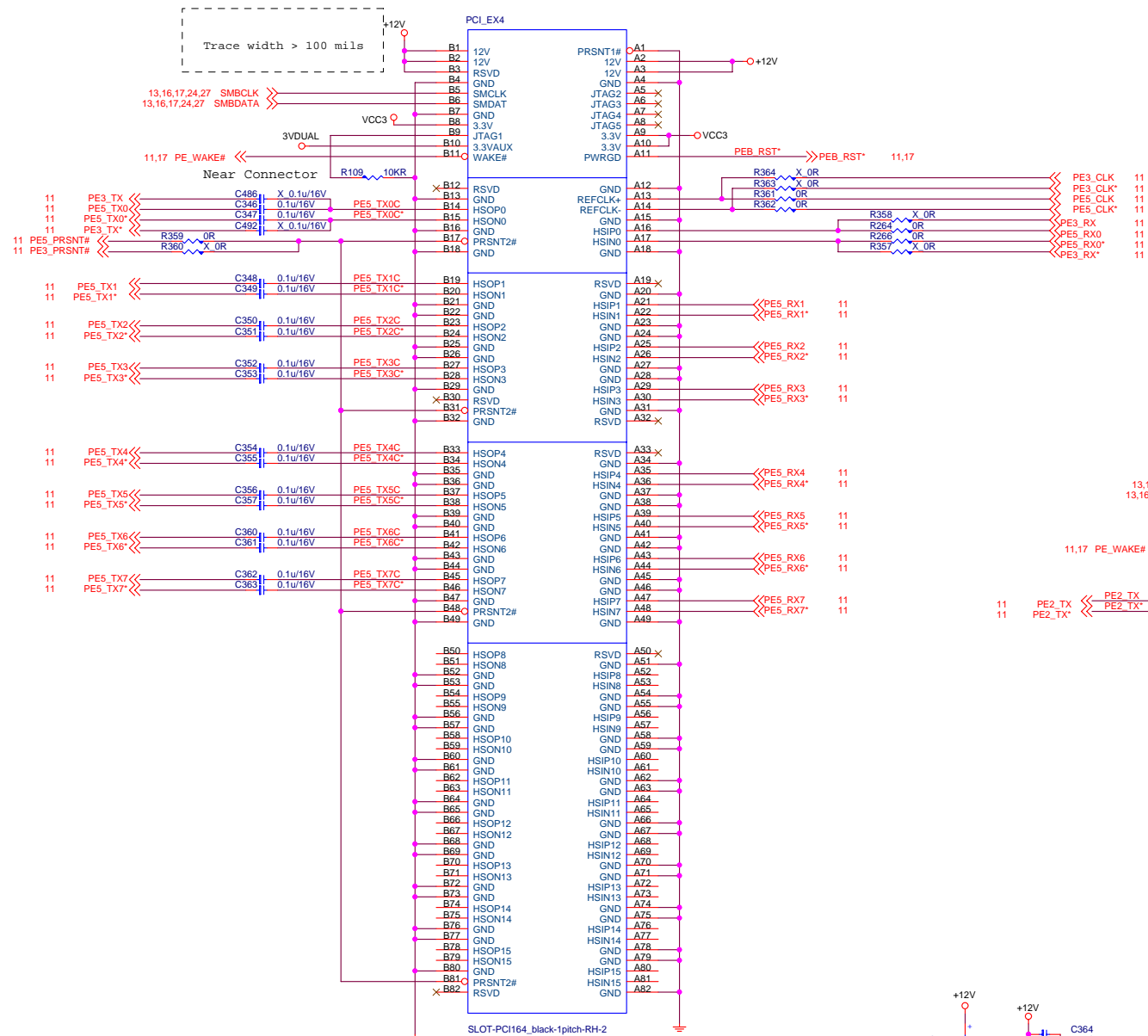
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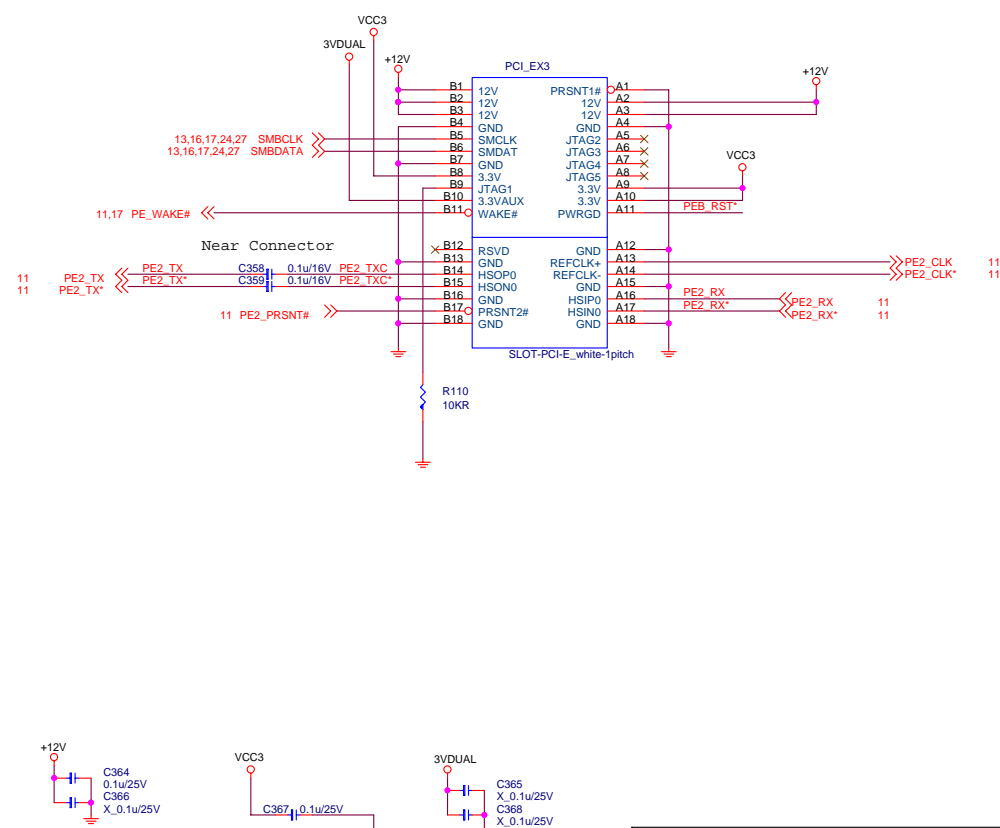
PCI-Express x1 SLOT 1



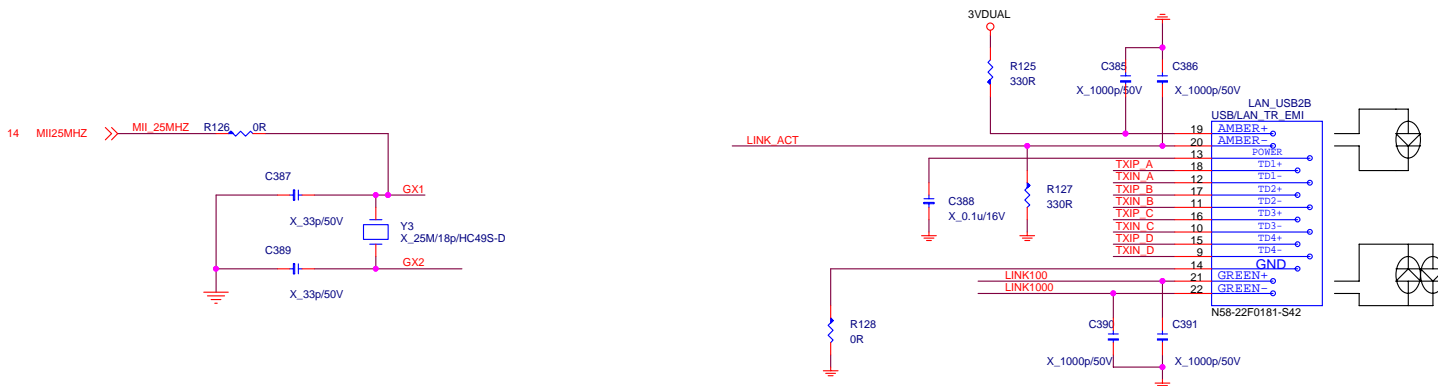
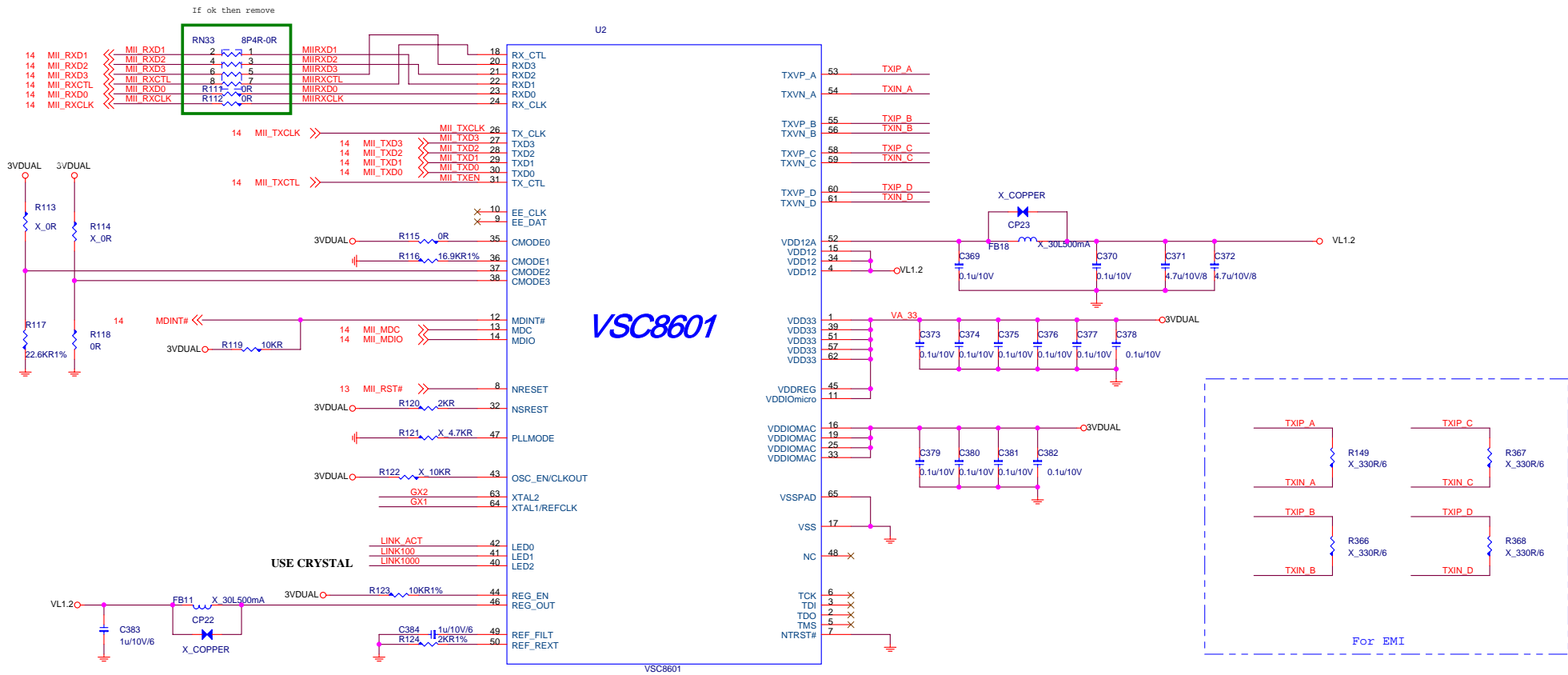
Micro Star Restricted Secret		
Title	PCI-E X16 , X1 Slot-1	Rev 0A
Document Number	MS-7250	
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Wednesday, December 07, 2005 Sheet 17 of 35

PCI EXPRESS_16

PCI-Express x1 SLO T 3

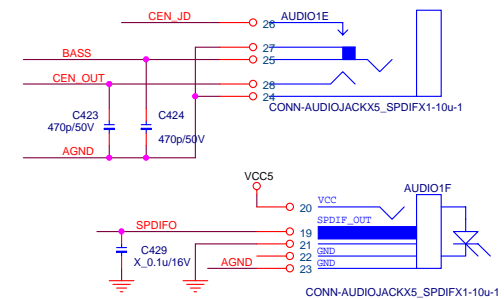
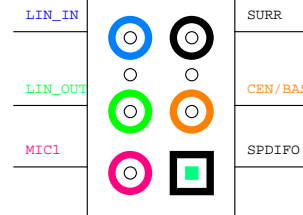
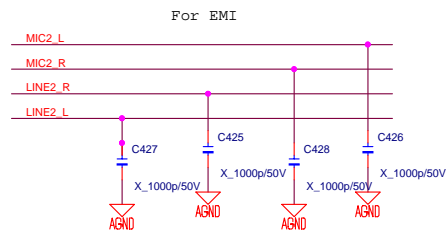
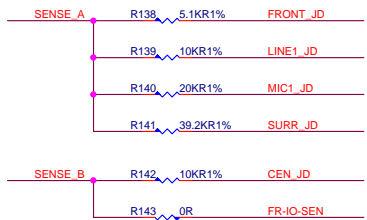
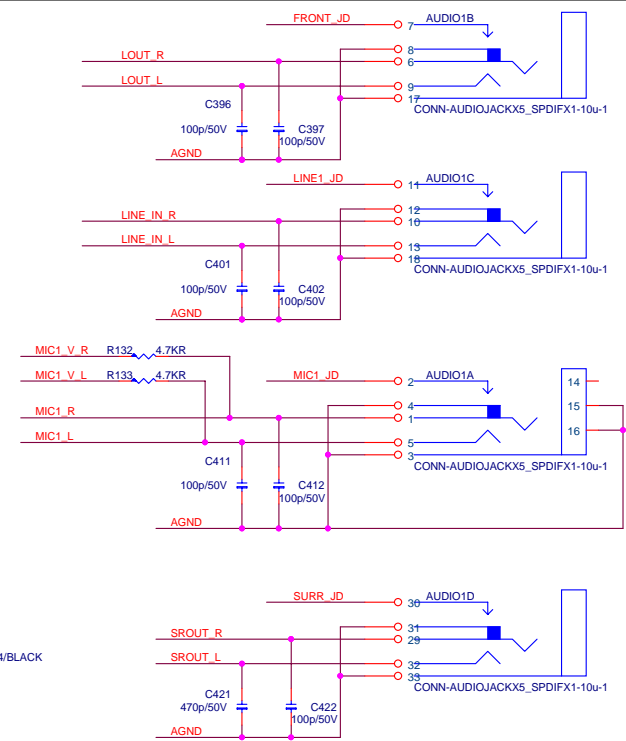
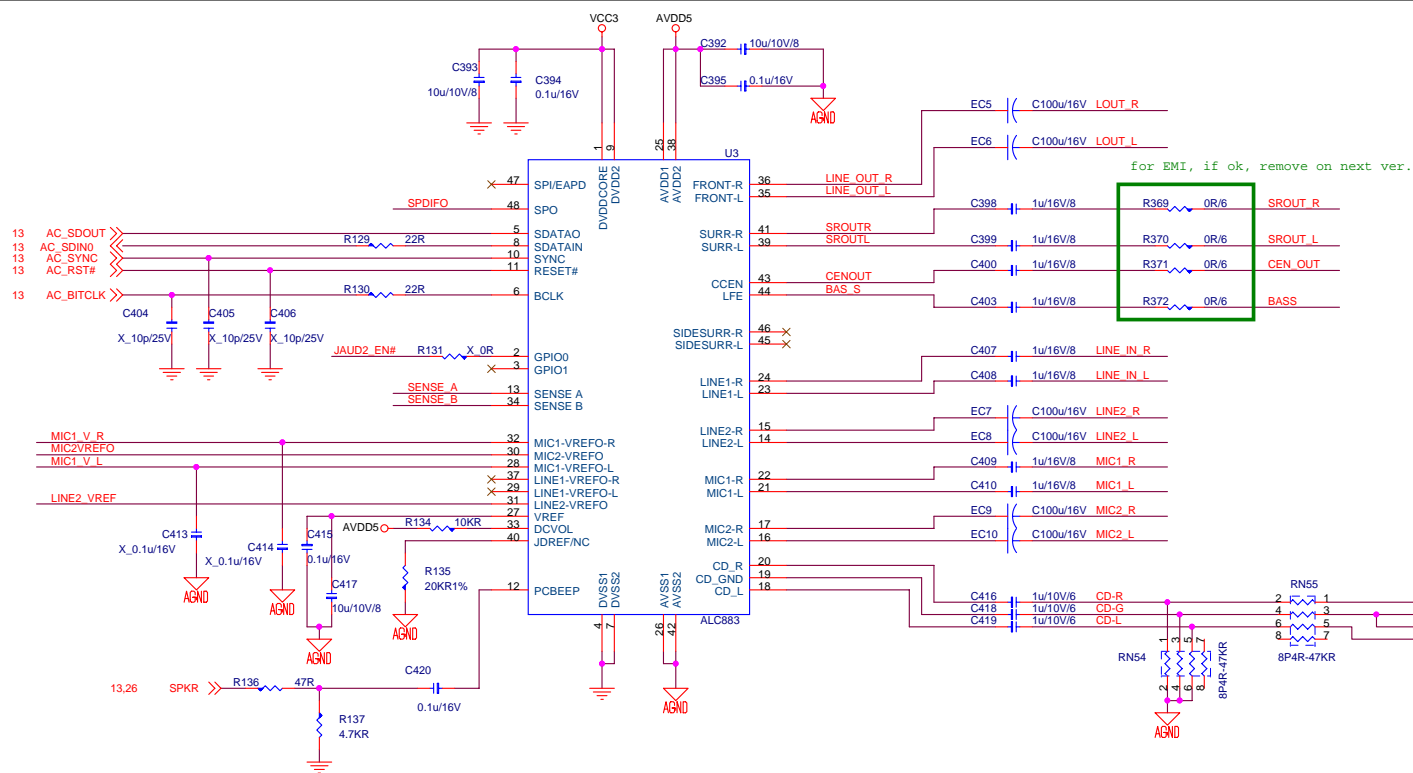


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Document Number	MS-7250		
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan		Last Revision Date: Wednesday, December 07, 2005	
http://www.microware.com.tw		Sheet 18 of 35	

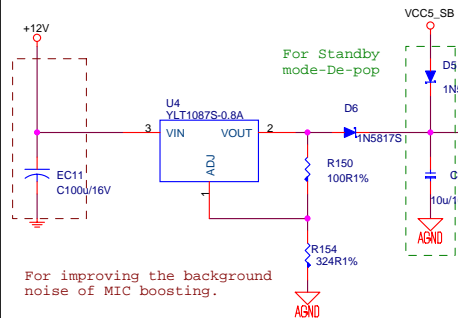


Giga-Lan	
N58-22F0081-S42	
Link	Yellow
Active	Blinking
1000	Orange
100	Green
10	None
19	Yellow
20	Yellow
21	Orange
22	Green

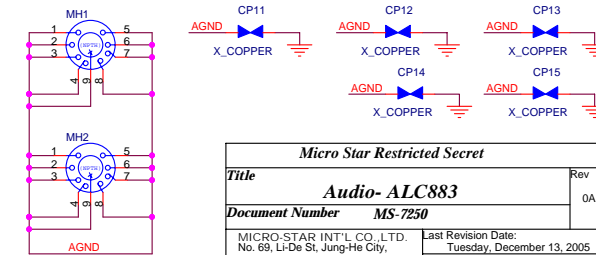
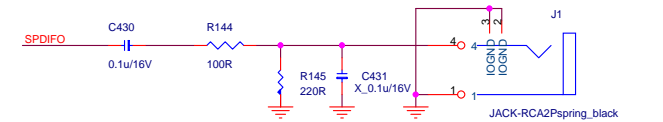
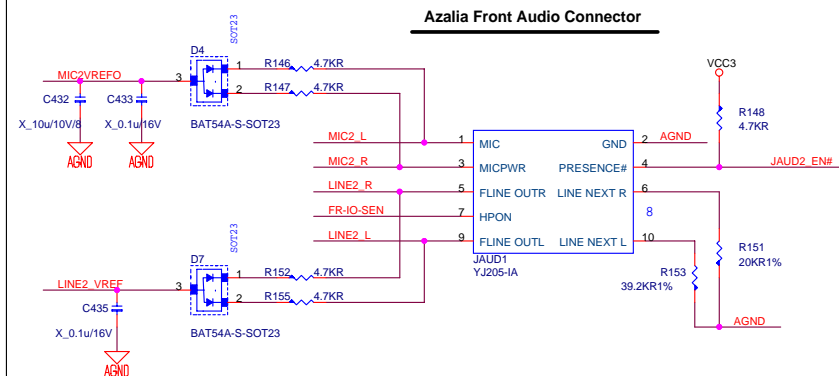
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Document Number	MS-7250
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St, Jung-Ho City, Taipei Hsien, Taiwan http://www.msi.com.tw	Last Revision Date: Tuesday, December 13, 2005 Sheet 19 of 35



AUDIO CODE REGULATORS

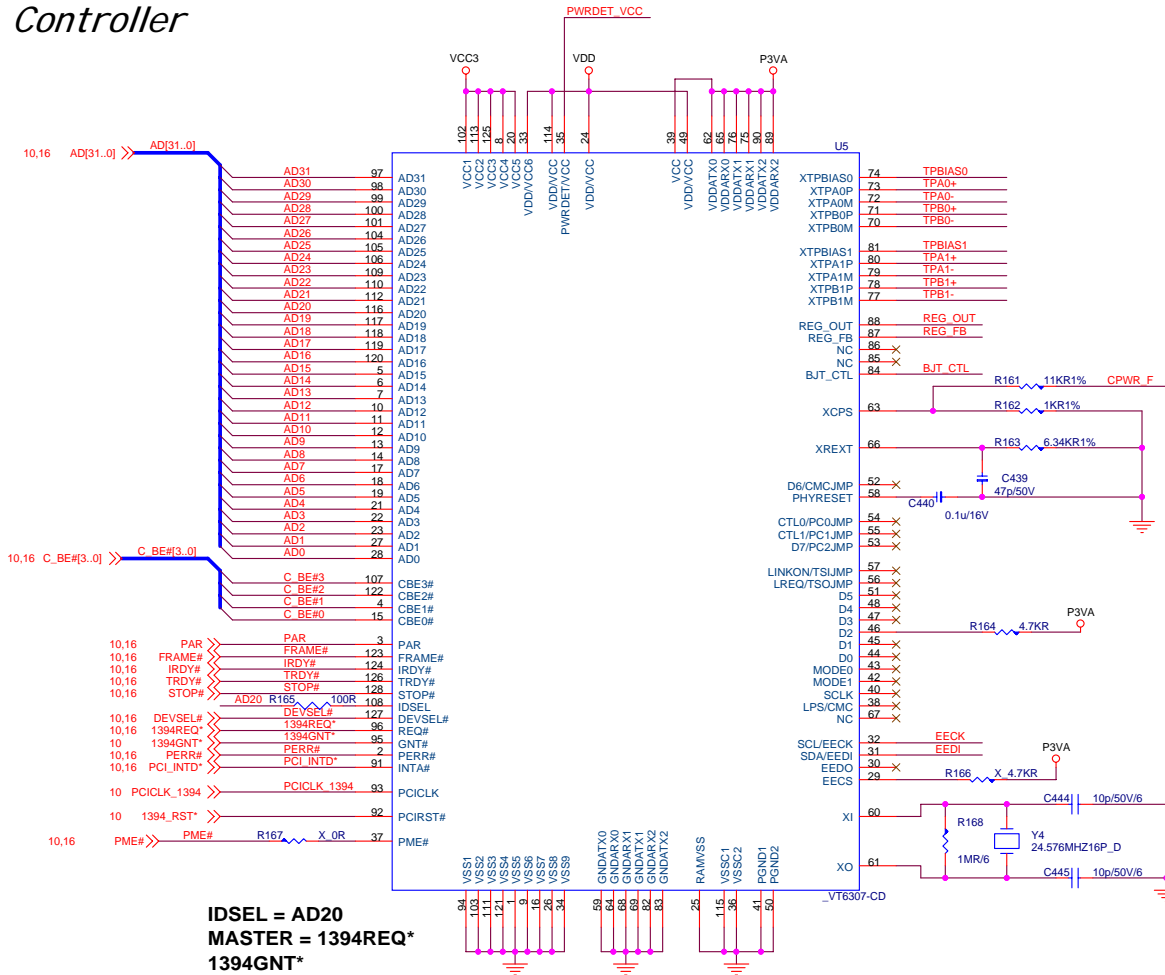


Azalia Front Audio Connector

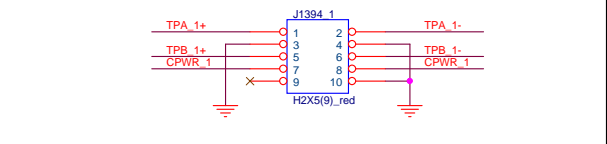
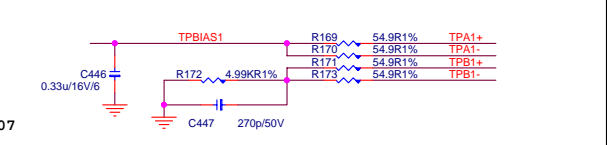
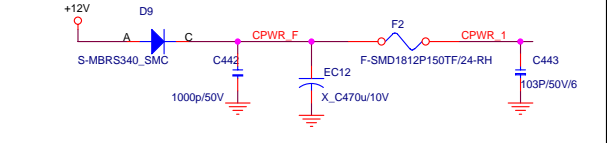
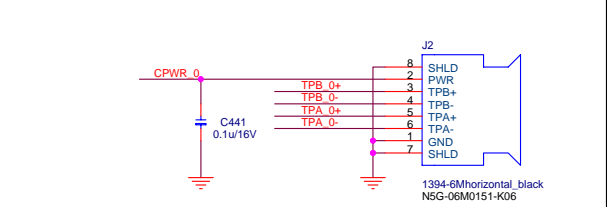
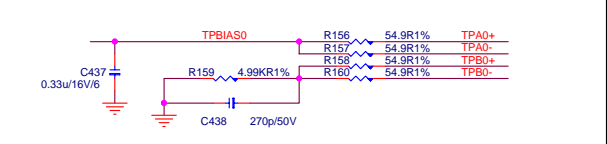
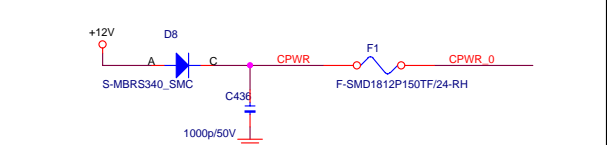
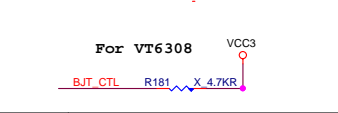
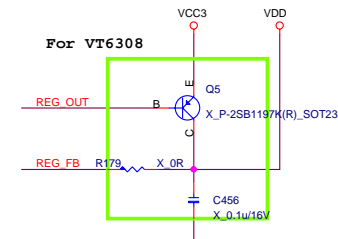
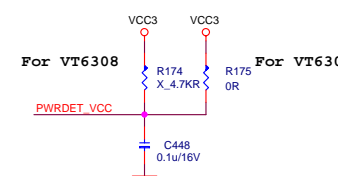
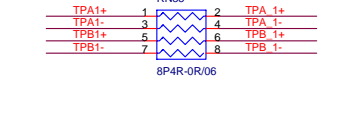
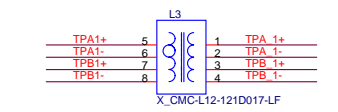
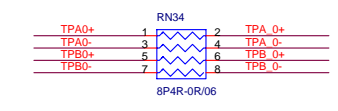
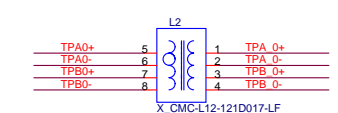
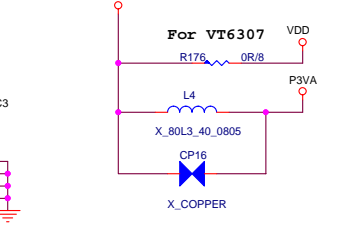
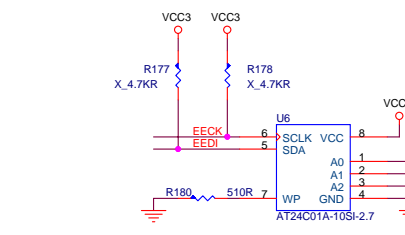
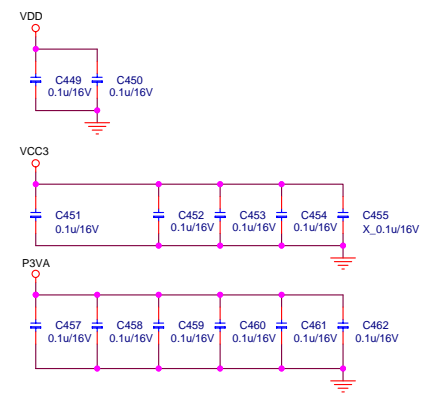


Micro Star Restricted Secret		
Title	Audio- ALC883	
Document Number	MS-7250	
MICRO-STAR INT'L CO., LTD.		Rev
No. 69, Li-De St., Jung-He City,		0A
Last Revision Date:		
Tuesday, December 13, 2005		
Sheet		
20		of 35

1394a OHCI Link Layer Controller



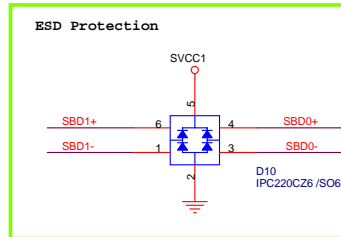
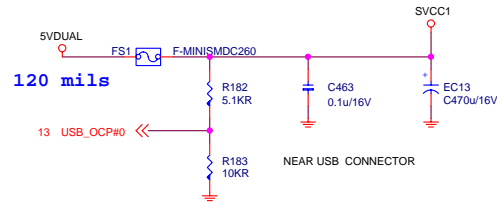
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1394GNT***



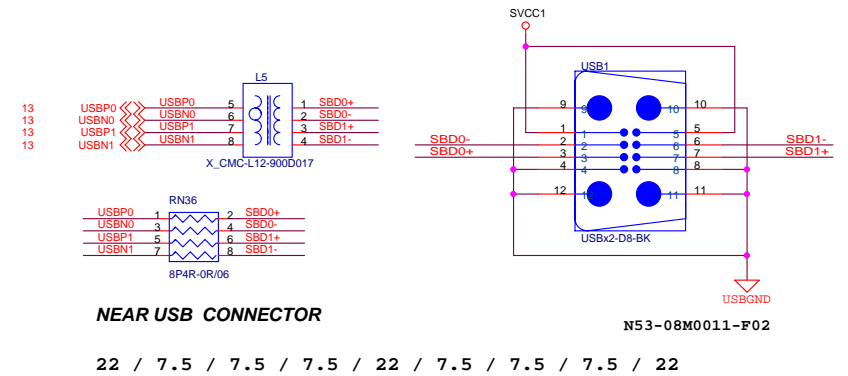
For Intel 1394 pinheader

Micro Star Restricted Secret		
Title		Rev
1394a Link Layer Controller		OC
Document Number		MS-7225H1
MICRO-STAR INT'L CO., LTD.		Last Revision Date:
No. 69, Li-De St, Jung-He City,		Wednesday, December 07, 2005
Taipei Hsien, Taiwan		Sheet
http://www.msi.com.tw		21 of 35

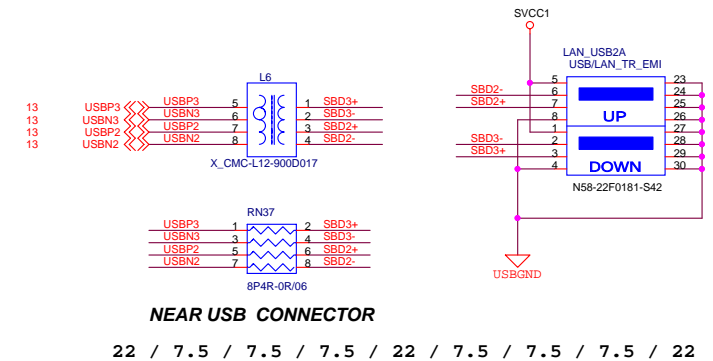
POWER CIRCUIT FOR USB PORT 0,1,2,3



REAR PANEL USB CONNECTOR FOR USB PORT 0,1



REAR PANEL USB CONNECTOR FOR USB PORT 2,3

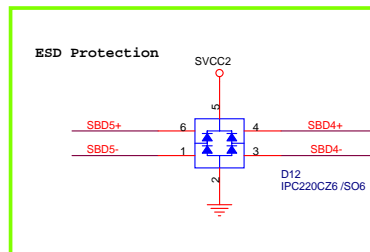
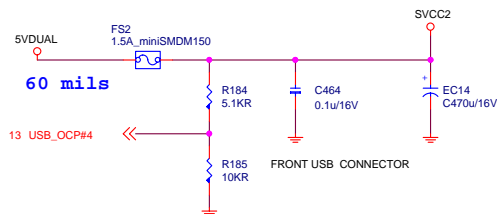


EMI TEST

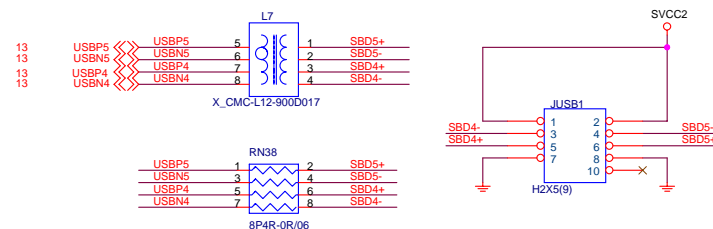


Micro Star Restricted Secret		
Title	REAR USB PORTS	Rev
Document Number	MS-7250	0A
MICRO-STAR INT'L CO.,LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Wednesday, December 07, 2005 Sheet 22 of 35

POWER CIRCUIT FOR USB PORT 4,5



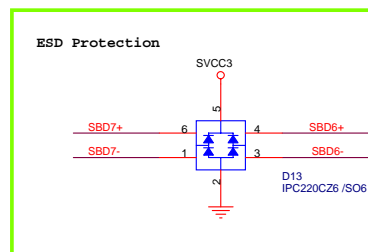
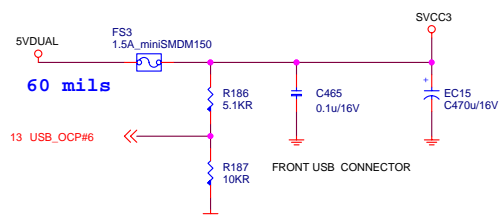
FRONT PANEL USB CONNECTOR FOR USB PORT 4,5



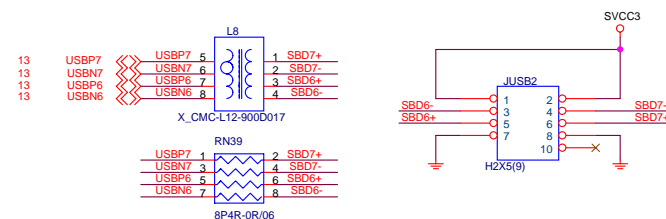
NEAR USB CONNECTOR

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

POWER CIRCUIT FOR USB PORT 6,7



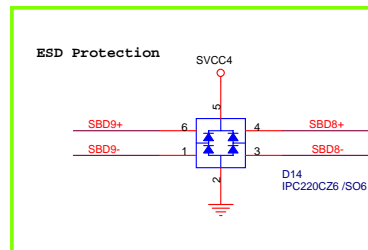
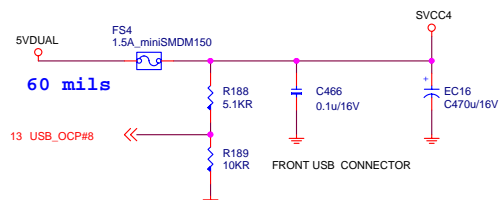
FRONT PANEL USB CONNECTOR FOR USB PORT 6,7



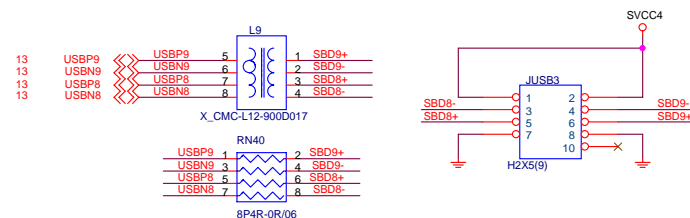
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22 / 7.5 / 7.5 / 7.5 / 22 / 7.5 / 7.5 / 7.5 / 22

POWER CIRCUIT FOR USB PORT 8,9



FRONT PANEL USB CONNECTOR FOR USB PORT 8,9

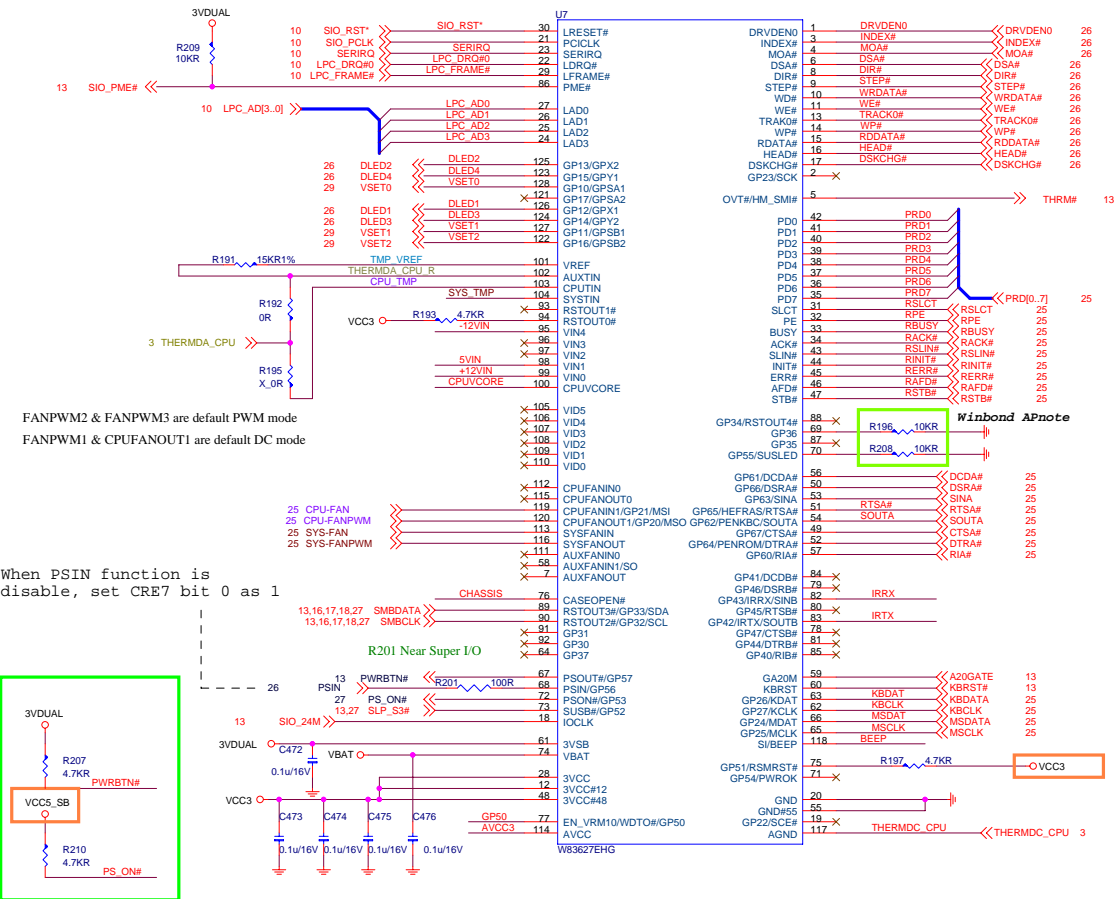


NEAR USB CONNECTOR

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

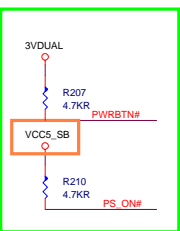
Micro Star Restricted Secret		
Title	FRONT USB PORT	Rev
Document Number	MS-7250	0A
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St, Jung-Ho City, Taipei Hsien, Taiwan		Last Revision Date: Wednesday, December 07, 2005
http://www.msi.com.tw		Sheet 23 of 35

Super I/O

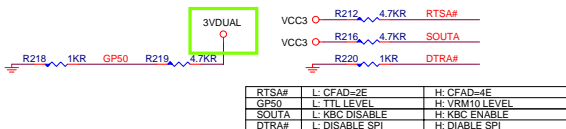


FANPWM2 & FANPWM3 are default PWM mode
FANPWM1 & CPUFANOUT1 are default DC mode

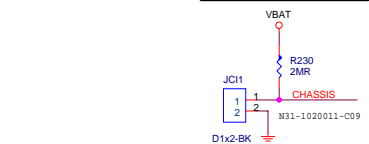
When PSIN function is disable, set CRE7 bit 0 as 1



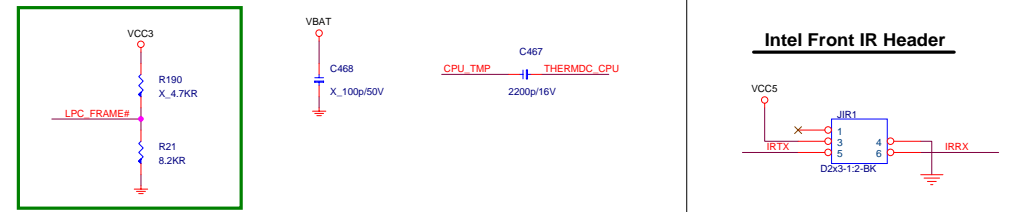
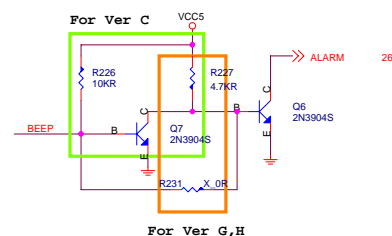
LPC I/O STRAPPING RESISTOR



Chassis Intrusion

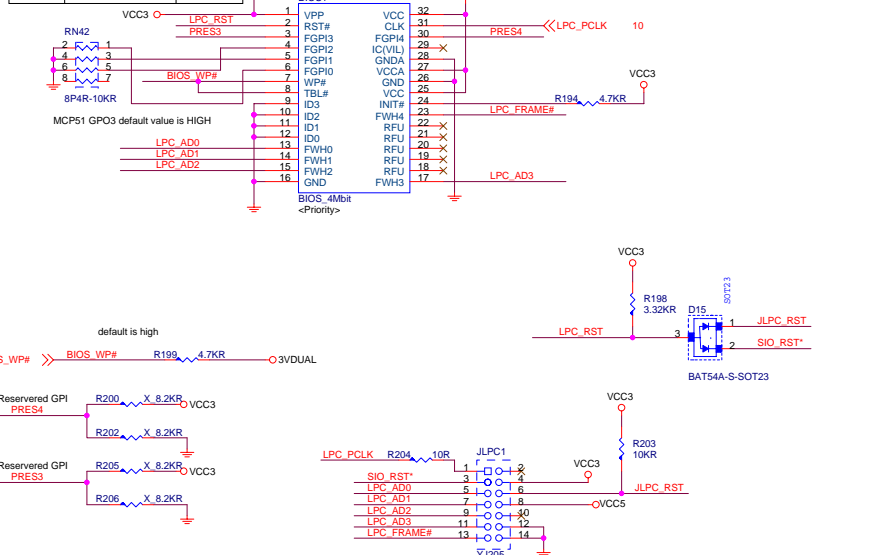


SPEAKER BLOCK

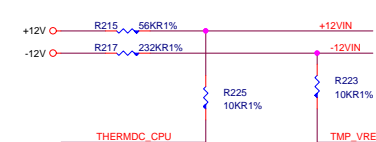


BIOS PROTECT BLOCK

BIOS Update Config.		
HIGH	Un_protected	Default
LOW	Protected	

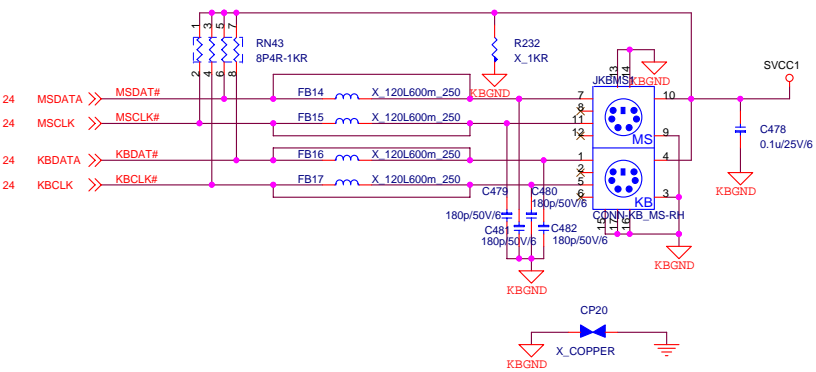


Thermal Resistor

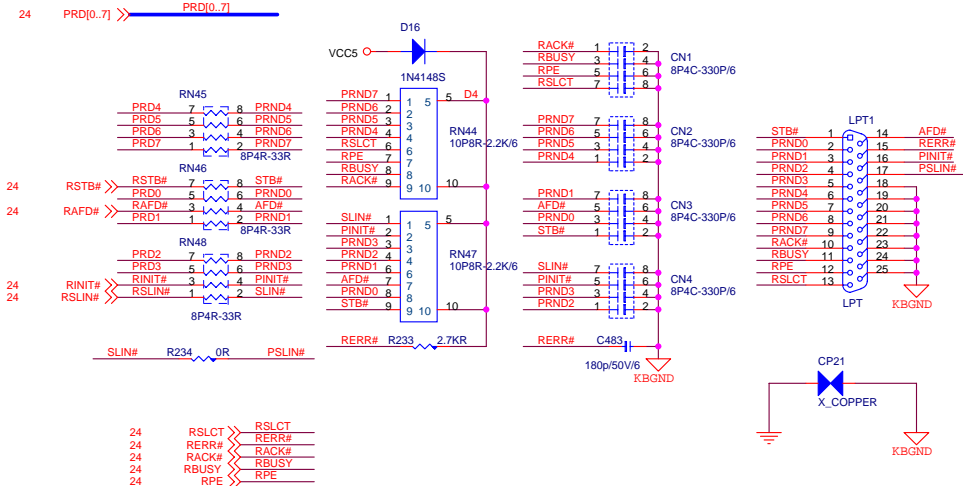


<i>Micro Star Restricted Secret</i>		
<i>Title</i>	<i>SIO-W83627EHG,IR,LPC</i>	Rev 0A
<i>Document Number</i>	<i>MS-7250</i>	
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan		Last Revision Date: Wednesday, December 07, 2005 Sheet

PS2 KEYBOARD & MOUSE CONNECTOR

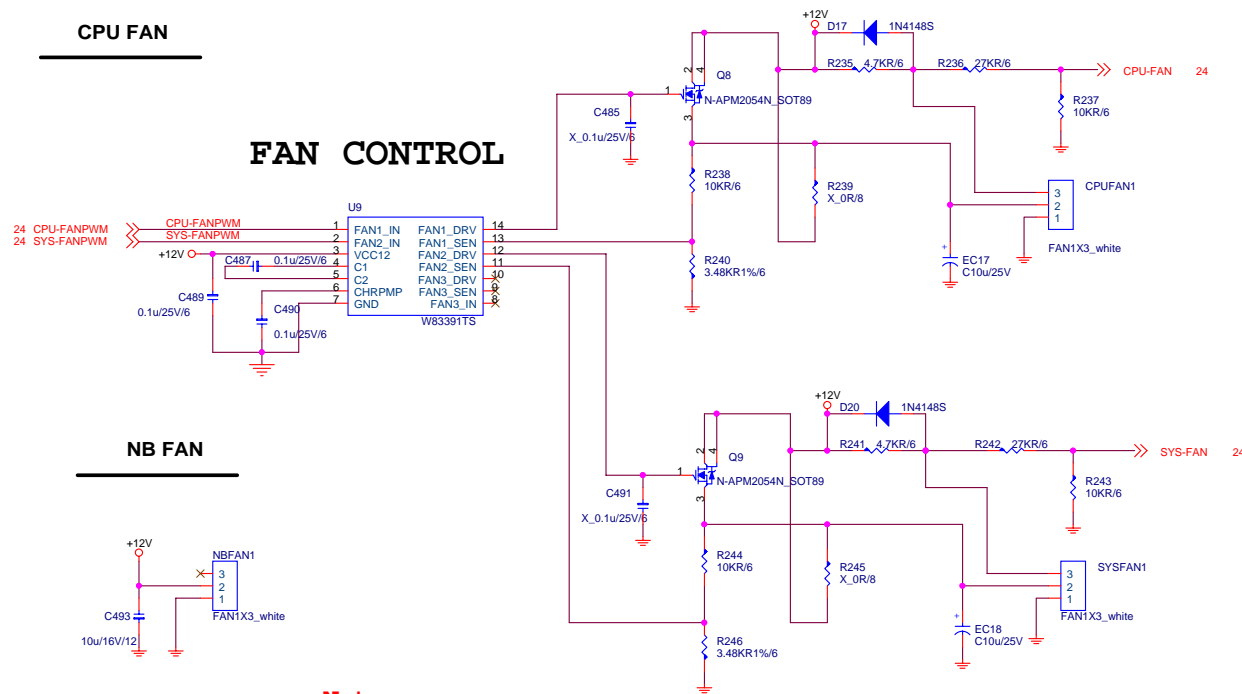


PARALLAL PORT

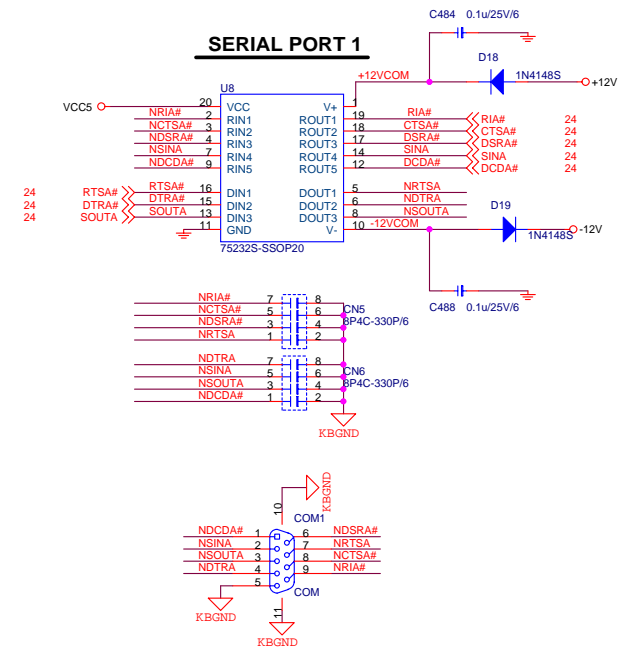


CPU FAN

FAN CONTROL



SERIAL PORT 1



Note:

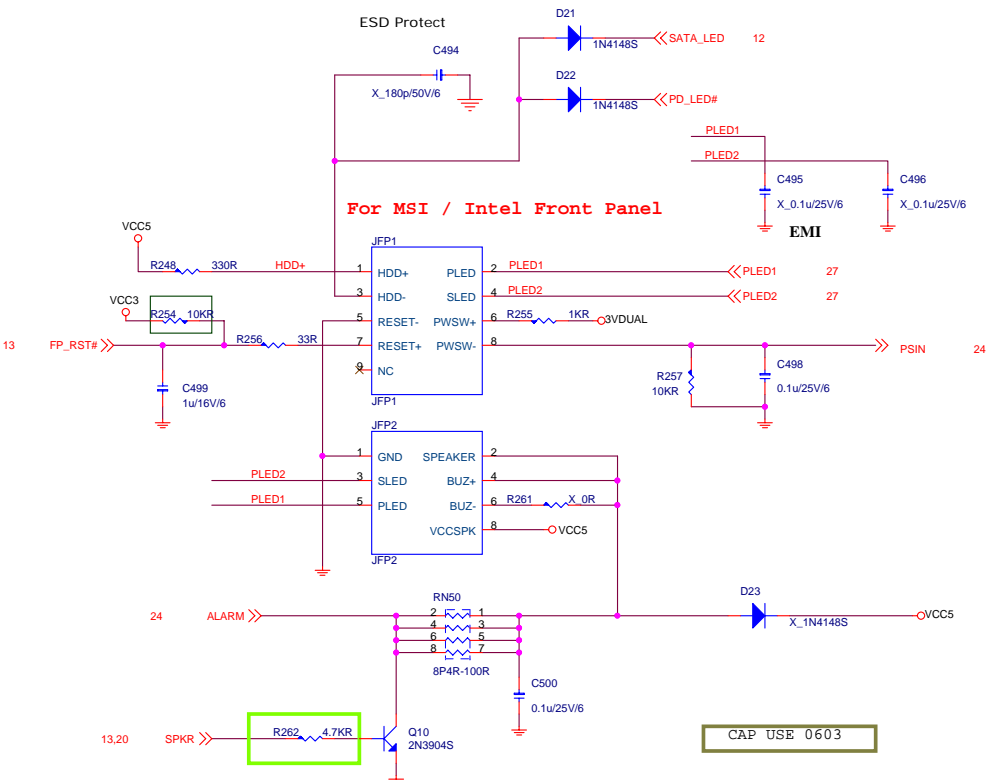
CPU-FANPWM connect to 627EHF pin 120; default is DC mode

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

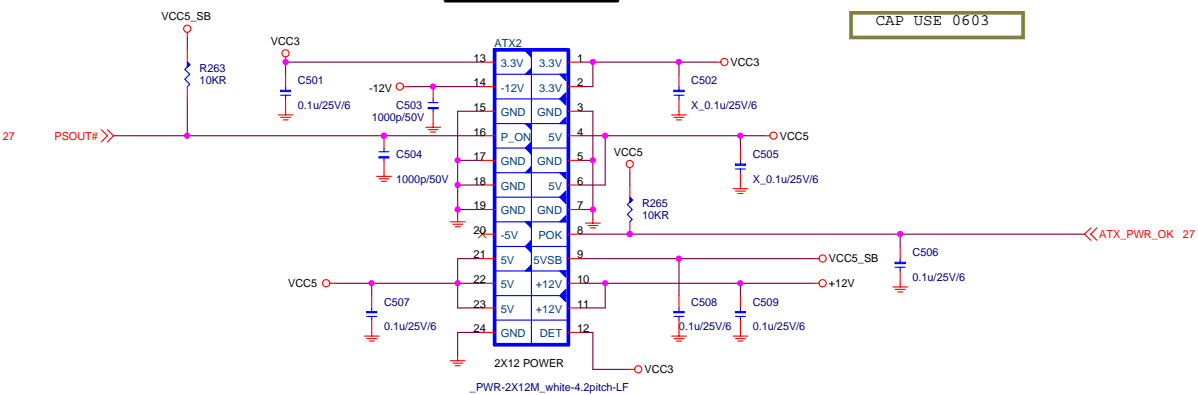
It has a undefine state when power on if used pin115 to control CPU fan. Bios must to programing CR24(Bit3,4) to DC mode.

Micro Star Restricted Secret		
Title		Rev
PS2 KB/MS, LPT, COM & FAN		0A
Document Number		MS-72250
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan		Last Revision Date: Wednesday, December 07, 2005
http://www.msi.com.tw		Sheet 25 of 35

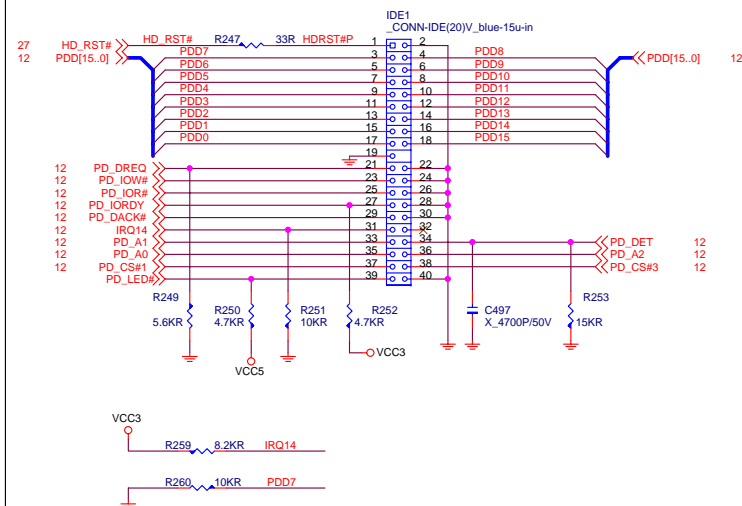
Intel Front Panel



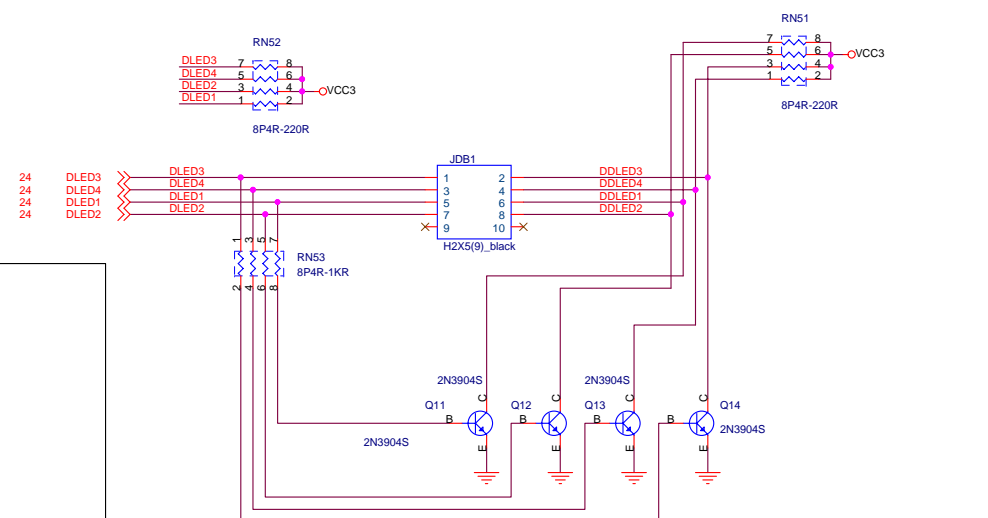
ATX Connector



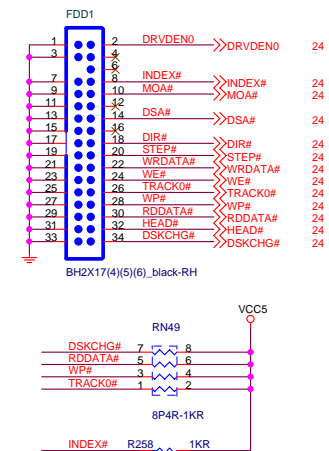
IDE 1



D-Bracket



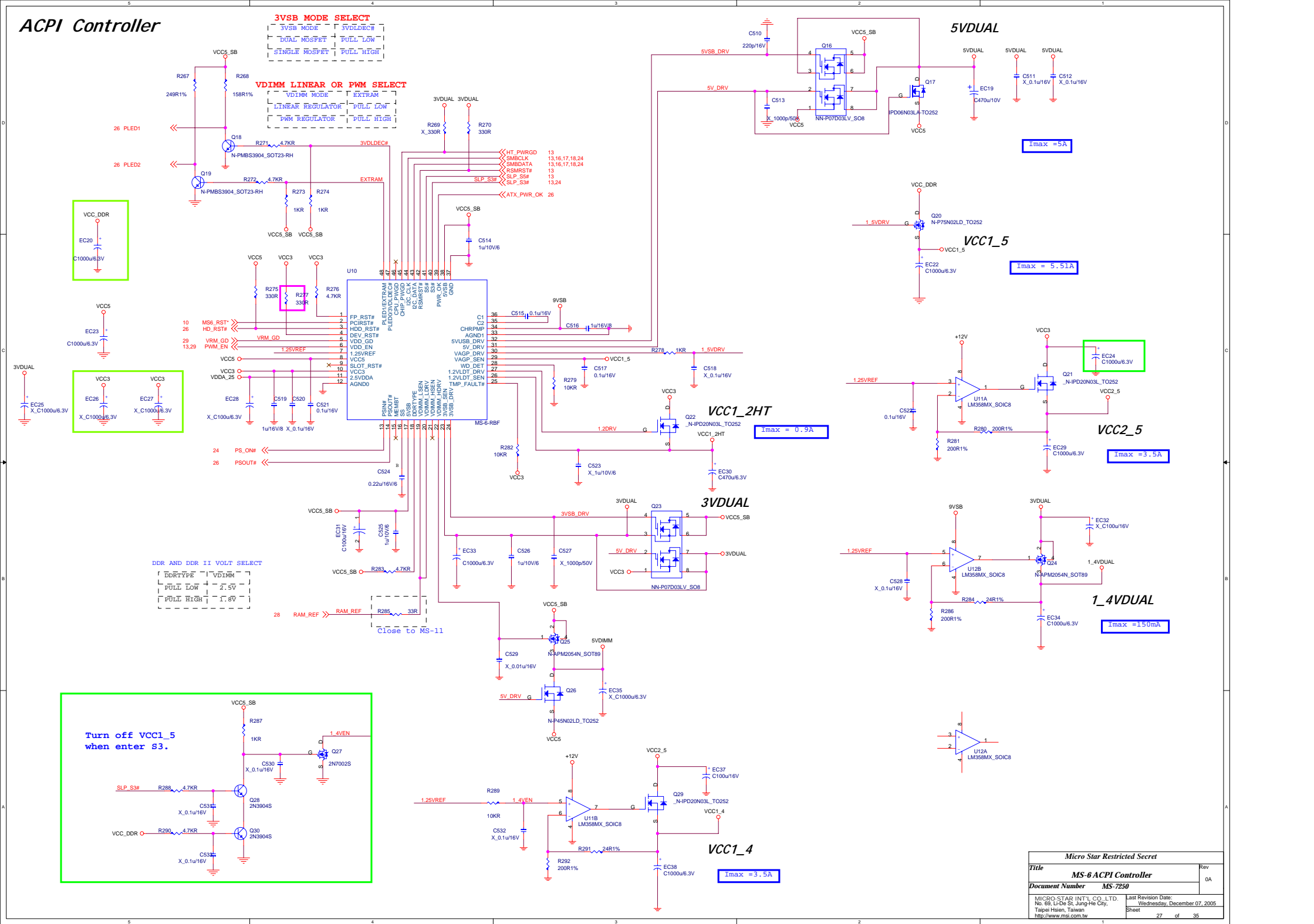
Floppy



Micro Star Restricted Secret

Title ATX conn / FP /IDE/FDD/ D-LED		Rev 0A
Document Number MS-7250		
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: Wednesday, December 07, 2005 Sheet 26 of 35

ACPI Controller



Micro Star Restricted Secret

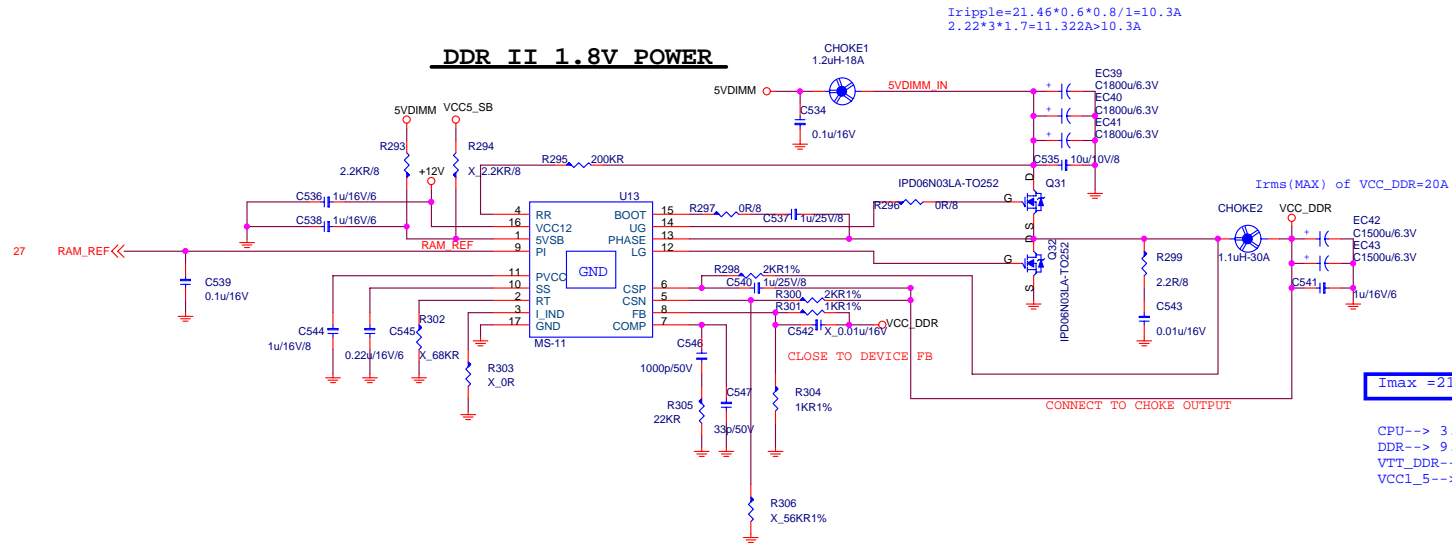
Title	MS-6 ACPI Controller
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Document Number MS-7250

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: Wednesday, December 07, 2005 Sheet 27 of 35
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Rev	
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DDR II 1.8V POWER



High-side MOS AVL(RoHS):
D03-75N022B-N03
D03-06N030B-I14
D03-80N021B-O05

Low-side MOS AVL(RoHS):
D03-75N022B-N03
D03-06N030B-I14
D03-80N021B-005

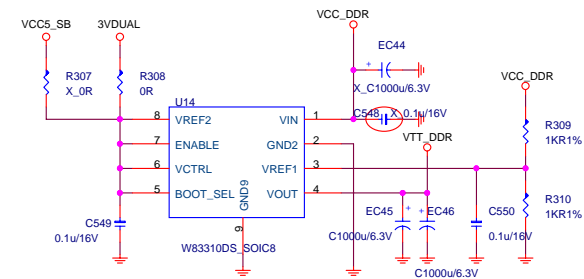
```
L/DCR=R*C
Rcsp >= (1.1uH/2.3m ohm)/1uF
      >= 478 ohm
```

```
Iocp* DCR_max = Ix*Rcsn
Rcsn >= (40amp * 3 m ohm)/80uA
      >= 1.5K
```

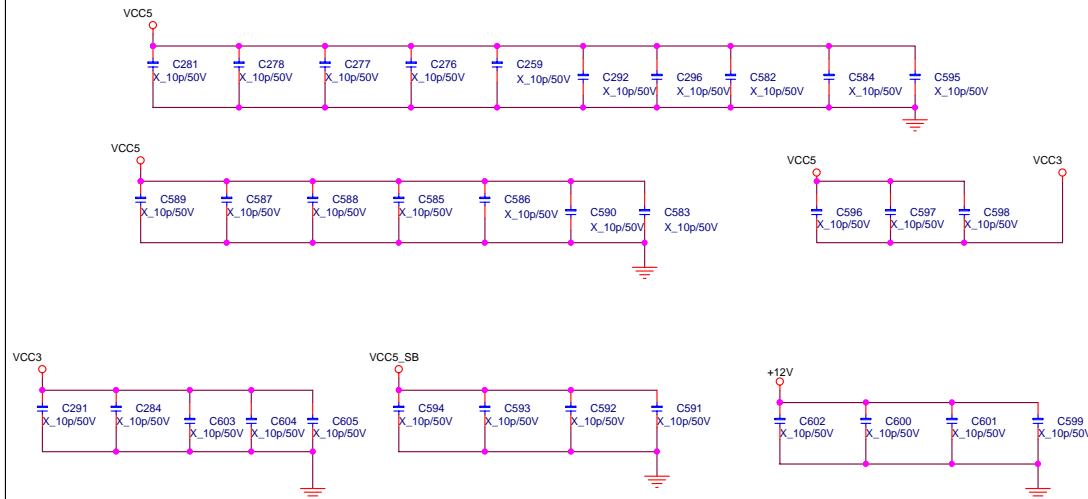
$$I_{\max} = 21.46 \text{ A}$$

```
CPU--> 3.6A
DDR--> 9.4A
VTT_DDR--> 2.95A
VCC1_5--> 5.51A
```

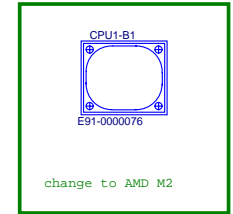
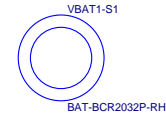
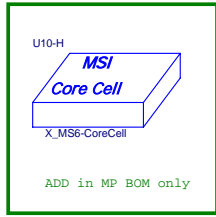
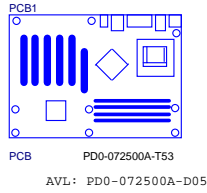
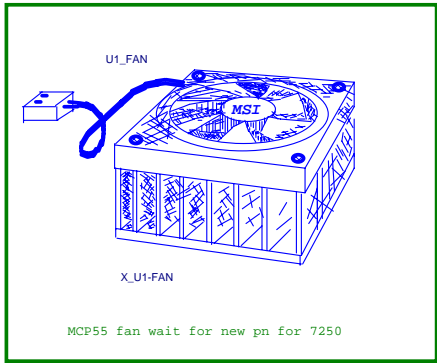
DDR II VTT POWER


$$I_{max} = 2.95A$$

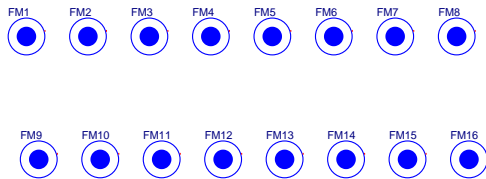
For EMI



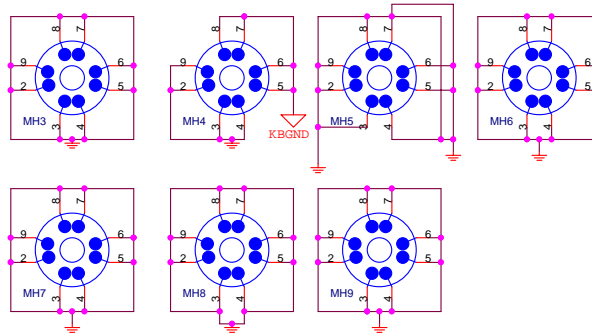
Micro Star Restricted Secret		
Title	MS-11 DDR2 Power	Rev
Document Number	MS-7250	0A
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St. Jung-Ho City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Wednesday, December 07, 2005 Sheet 28 of 35



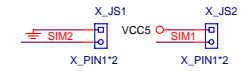
Optics Orientation Holes



Mounting Holes



Simulation



Model option table

Model type	Function	BOM Config	ERP BOM No.
MS-7250	MCP55/ VSC6801/ ALC883/ VT6307/ W83627EHG/ ISL6566CR	Cfg-A	601-7250-???
MS-7250	MCP55 Ultra/ VSC6801/ ALC883/ VT6307/ W83627EHG/ ISL6566CR	Cfg-B	601-7250-???

Micro Star Restricted Secret			
Title	MANUAL PARTS		Rev
Document Number	MS-725H1		0C
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St, Jung-Ho City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Wednesday, December 14, 2005 Sheet 30 of 35	