



MS-7250 Ver: 1.2

CPU:

AMD 940 Athlon 64/Athlon 64 FX

System Chipset:

NVIDIA MCP 55P / MCP55 Ultra

On Board Chipset:

LPC Super I/O -- Winbond 83627EHG/DHG
LAN -- Vitesse VSC8601 X2
AC97 Codec --ALC883/885/888
1394 --VIA VT8237
BIOS --LPC FLASH ROM 4M

Main Memory:

DDRII * 4 (Max 4GB)

Expansion Slots:

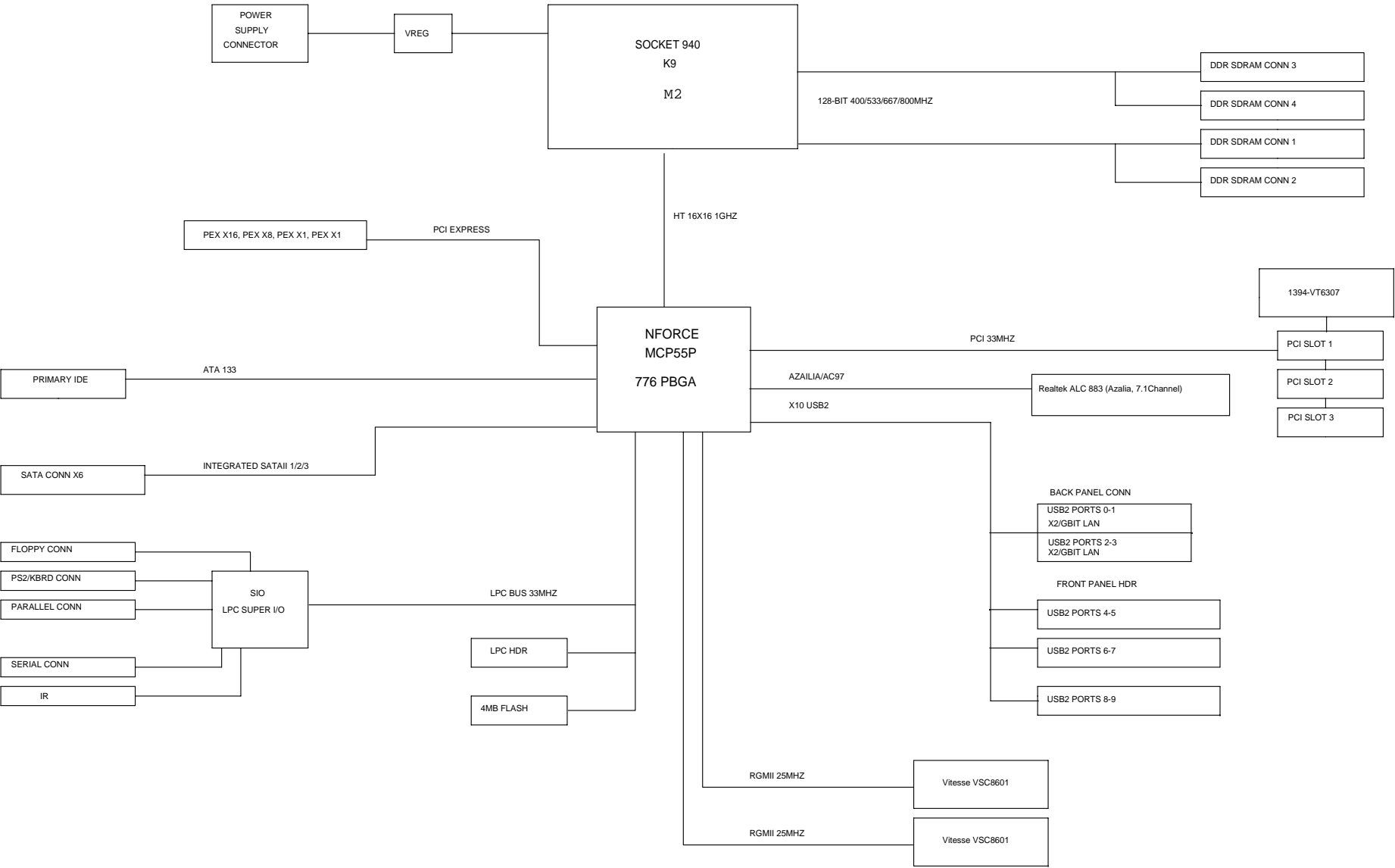
PCI-E X 16 *2
PCI-E X1 *2
PCI 2.2 Slot * 3

PWM:

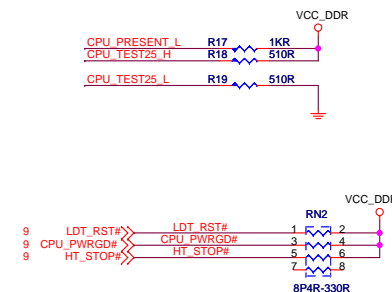
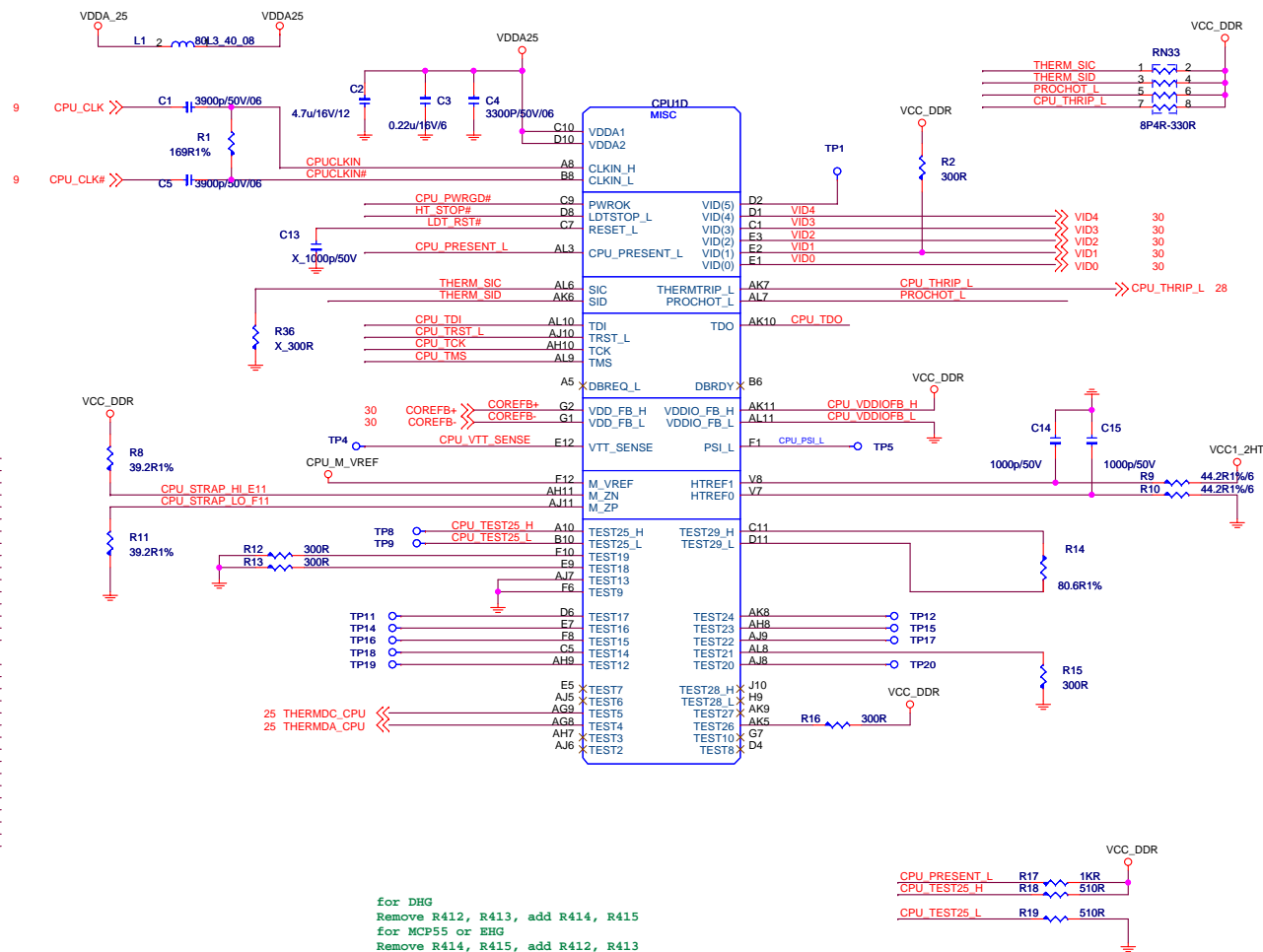
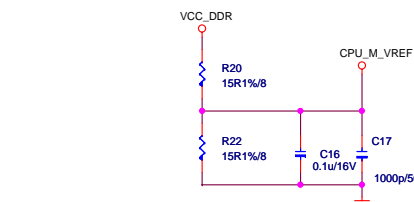
Controller--Intersil ISL6566CR 3 Phase

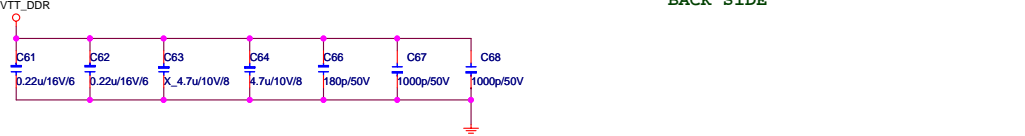
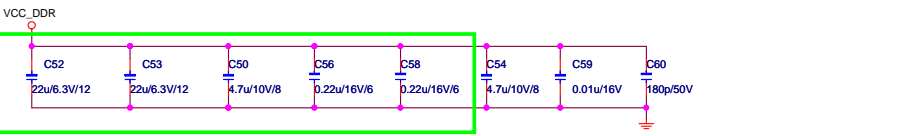
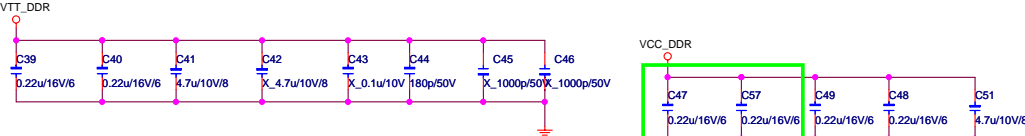
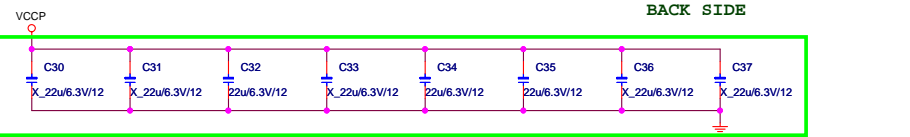
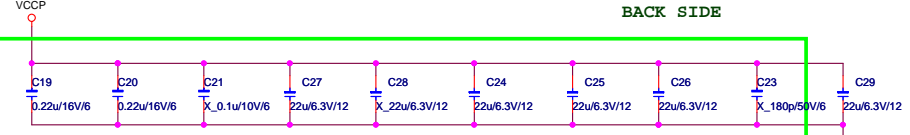
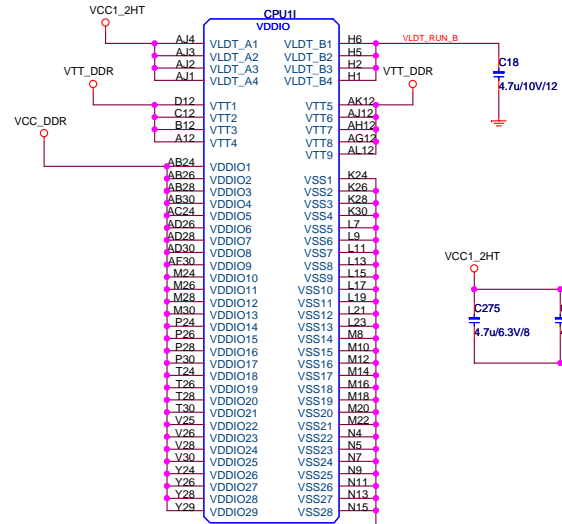
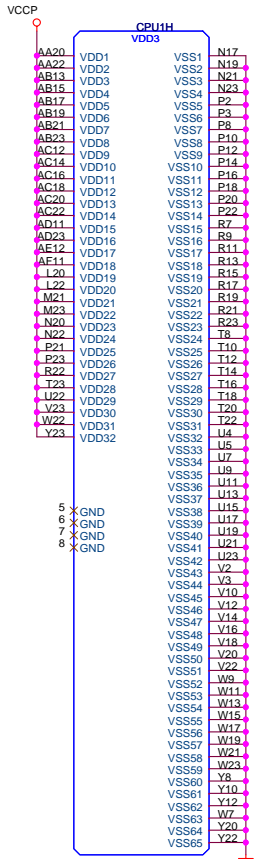
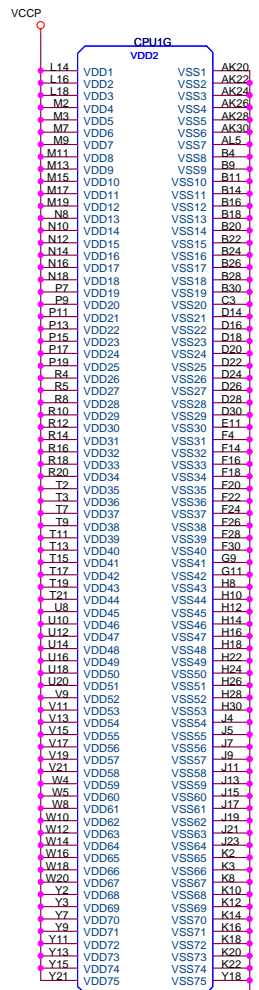
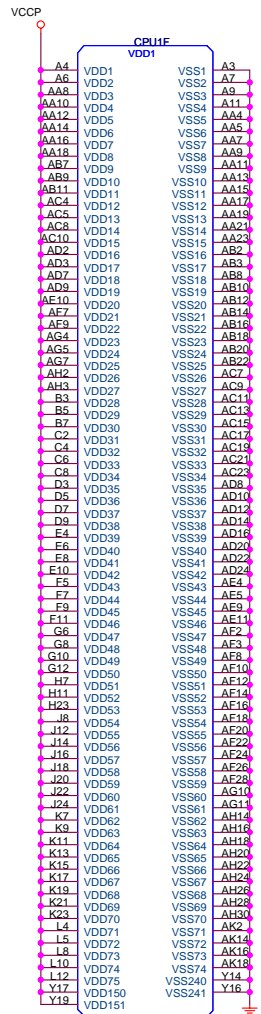
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BLOCK DIAGRAM

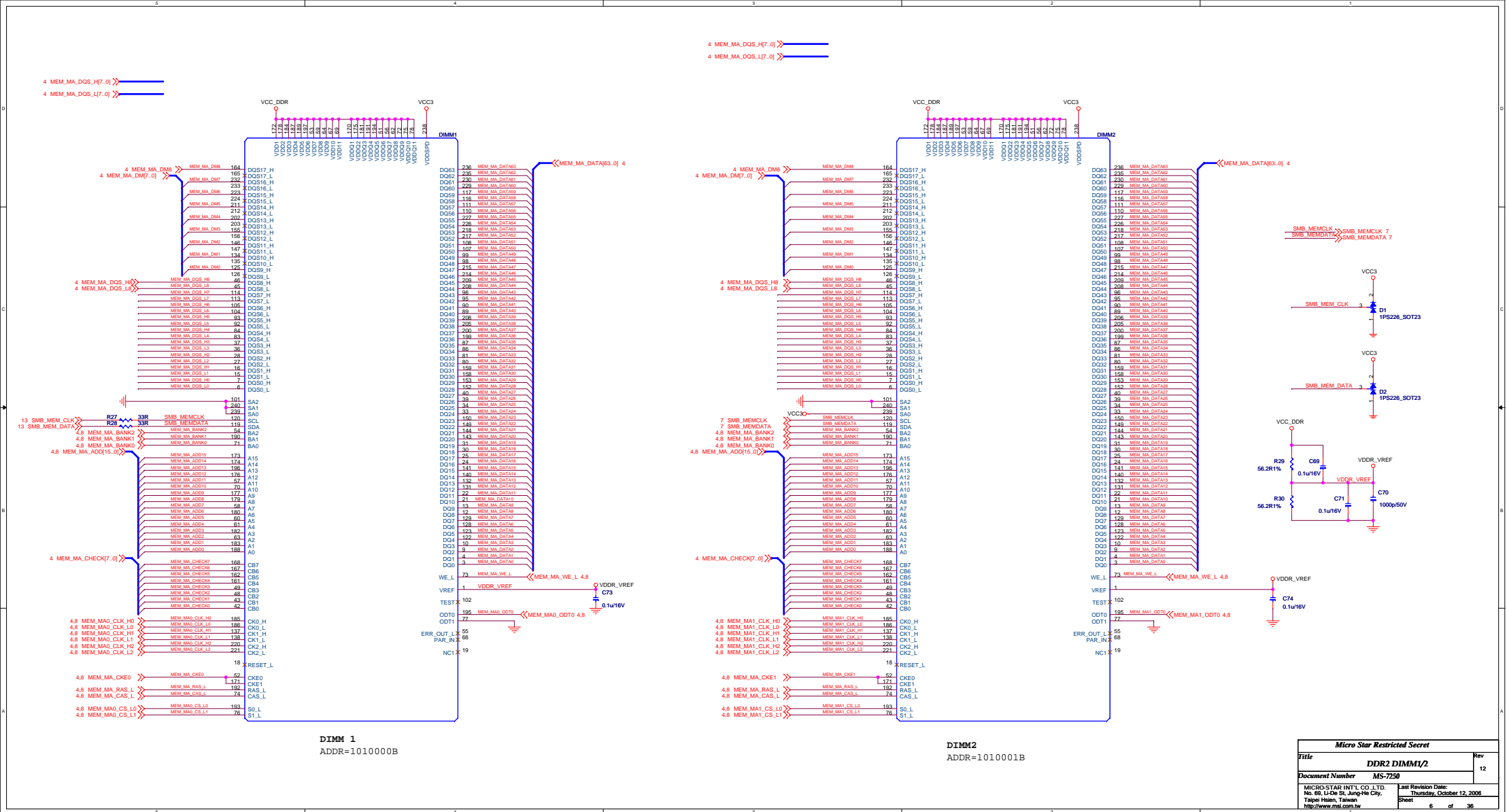


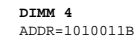
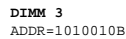
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Document Number	MS-7250	
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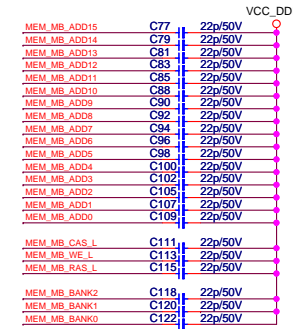
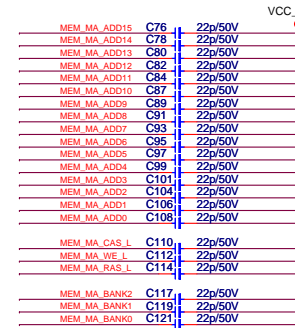
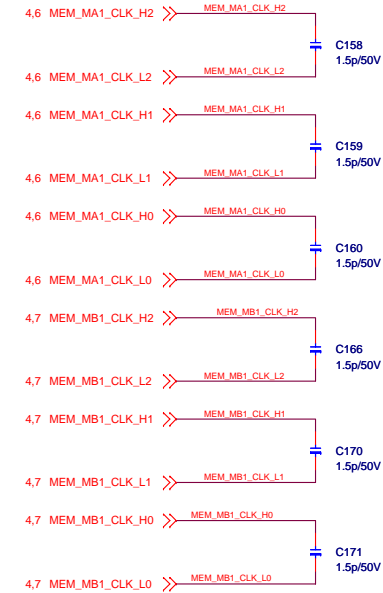
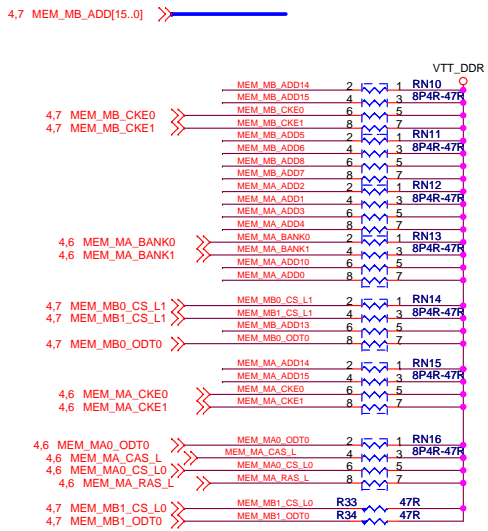
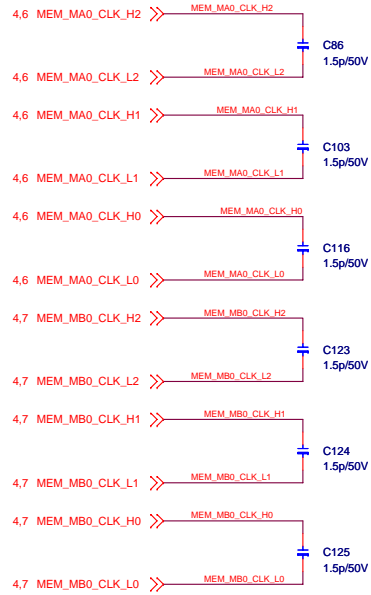
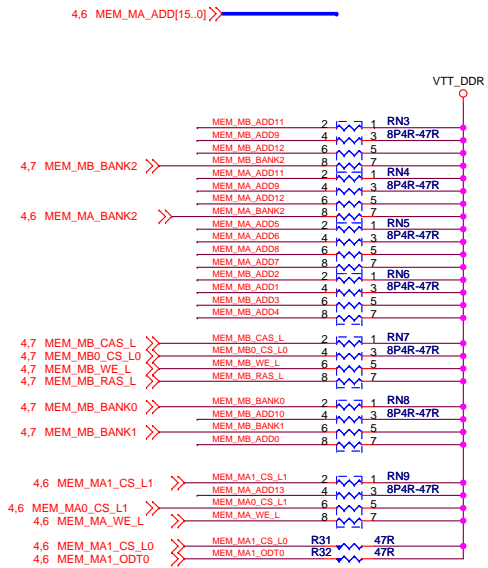




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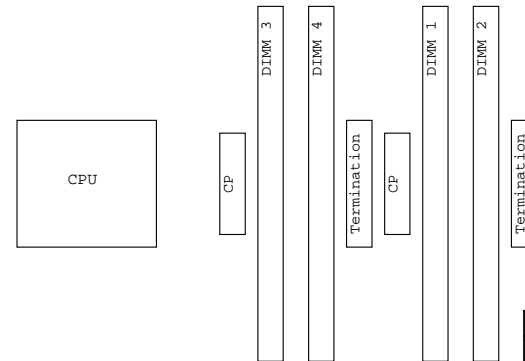
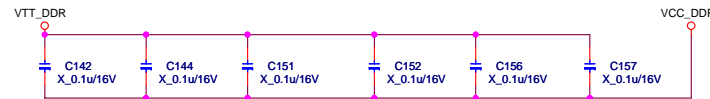
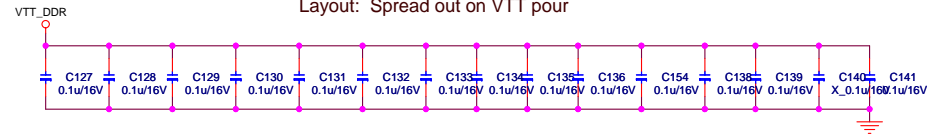




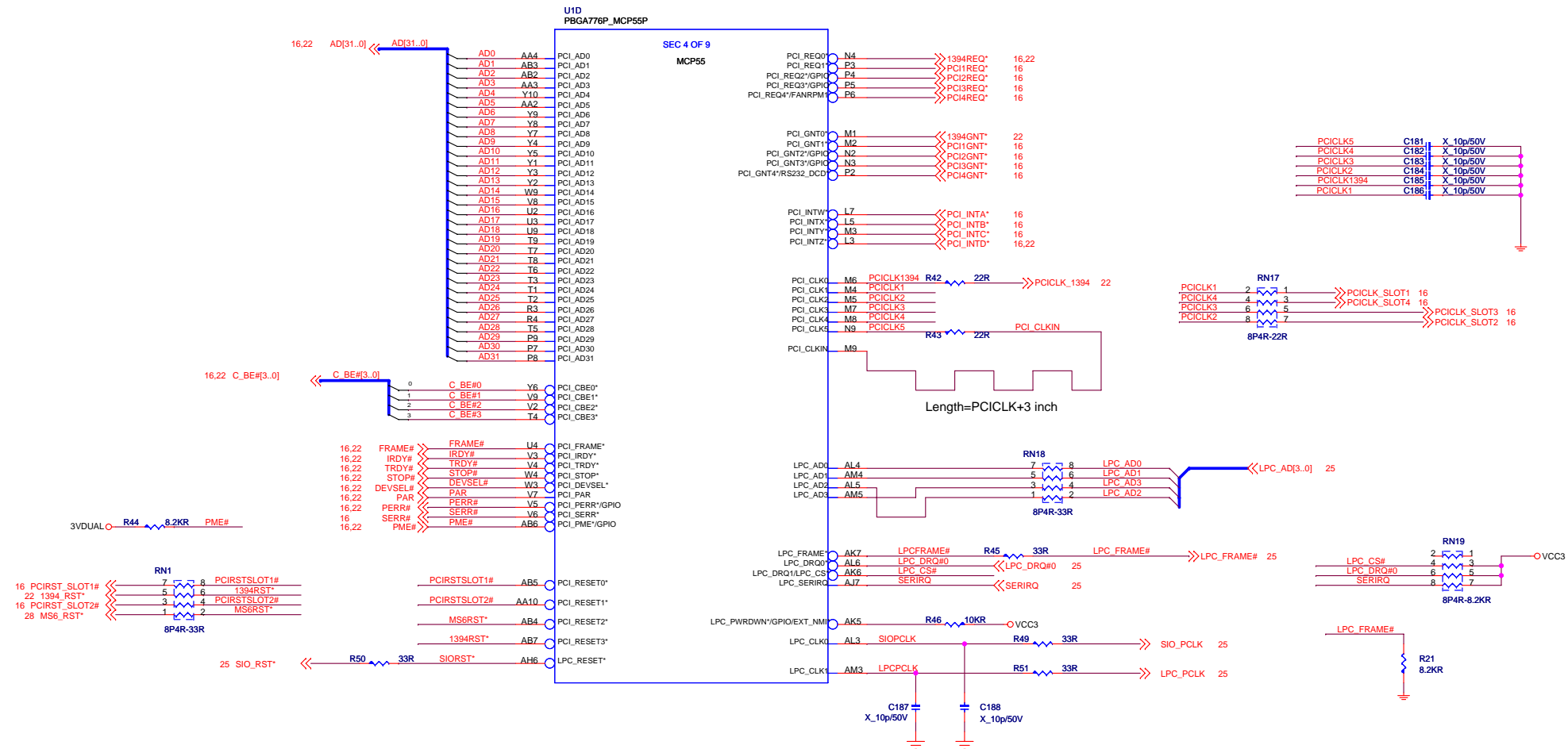


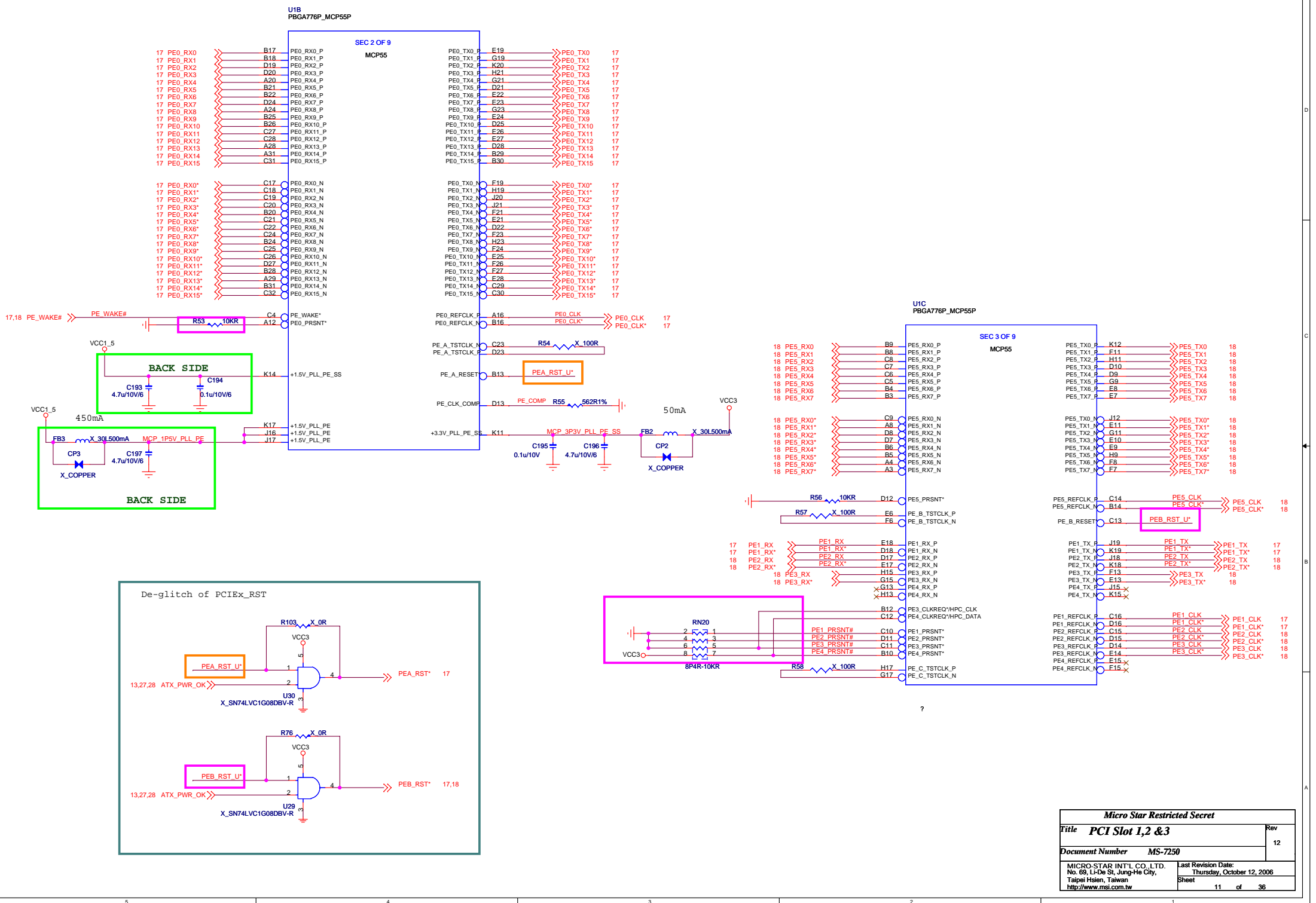
Decoupling Between Processor and DIMMs (CP)

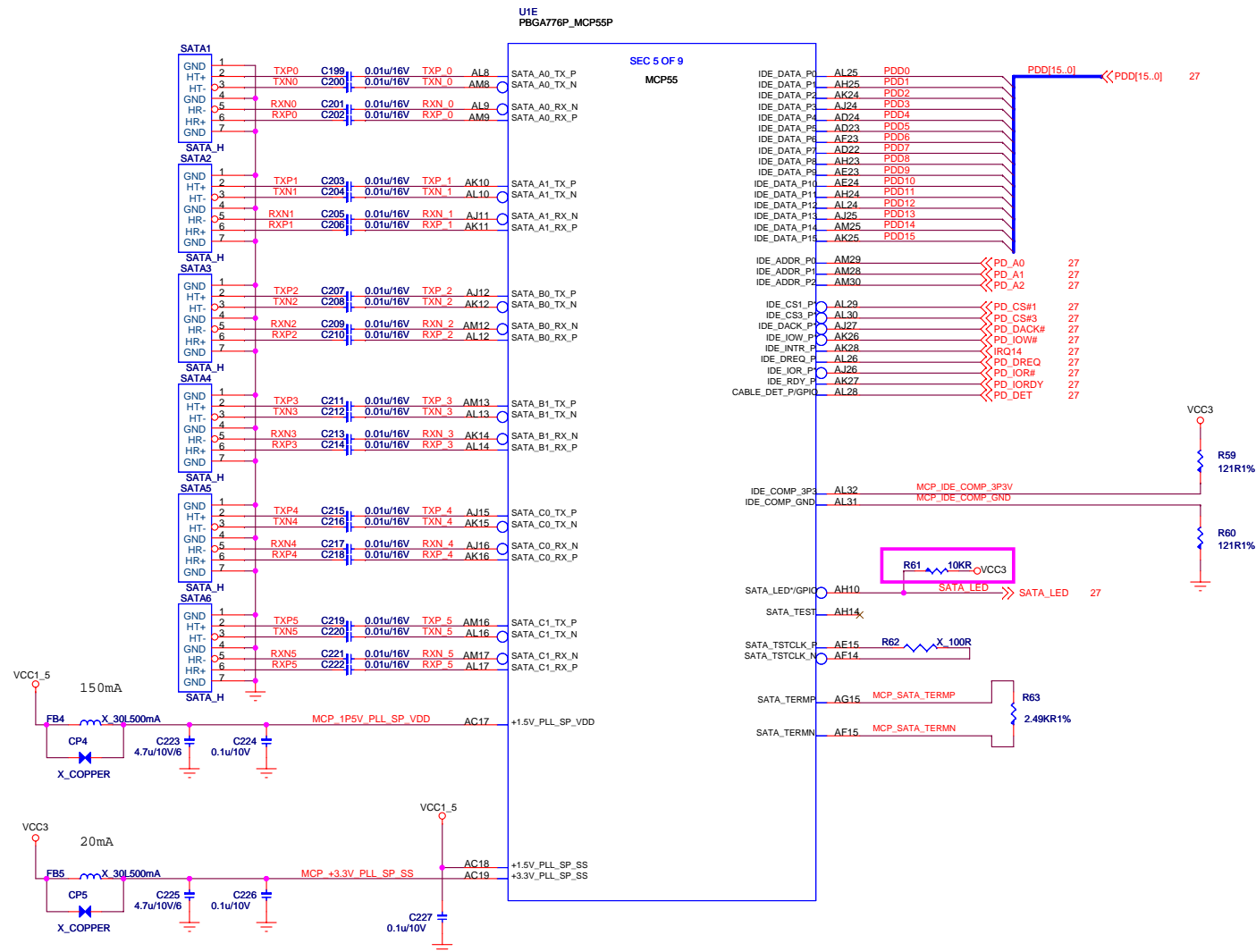
Layout: Spread out on VTT pour



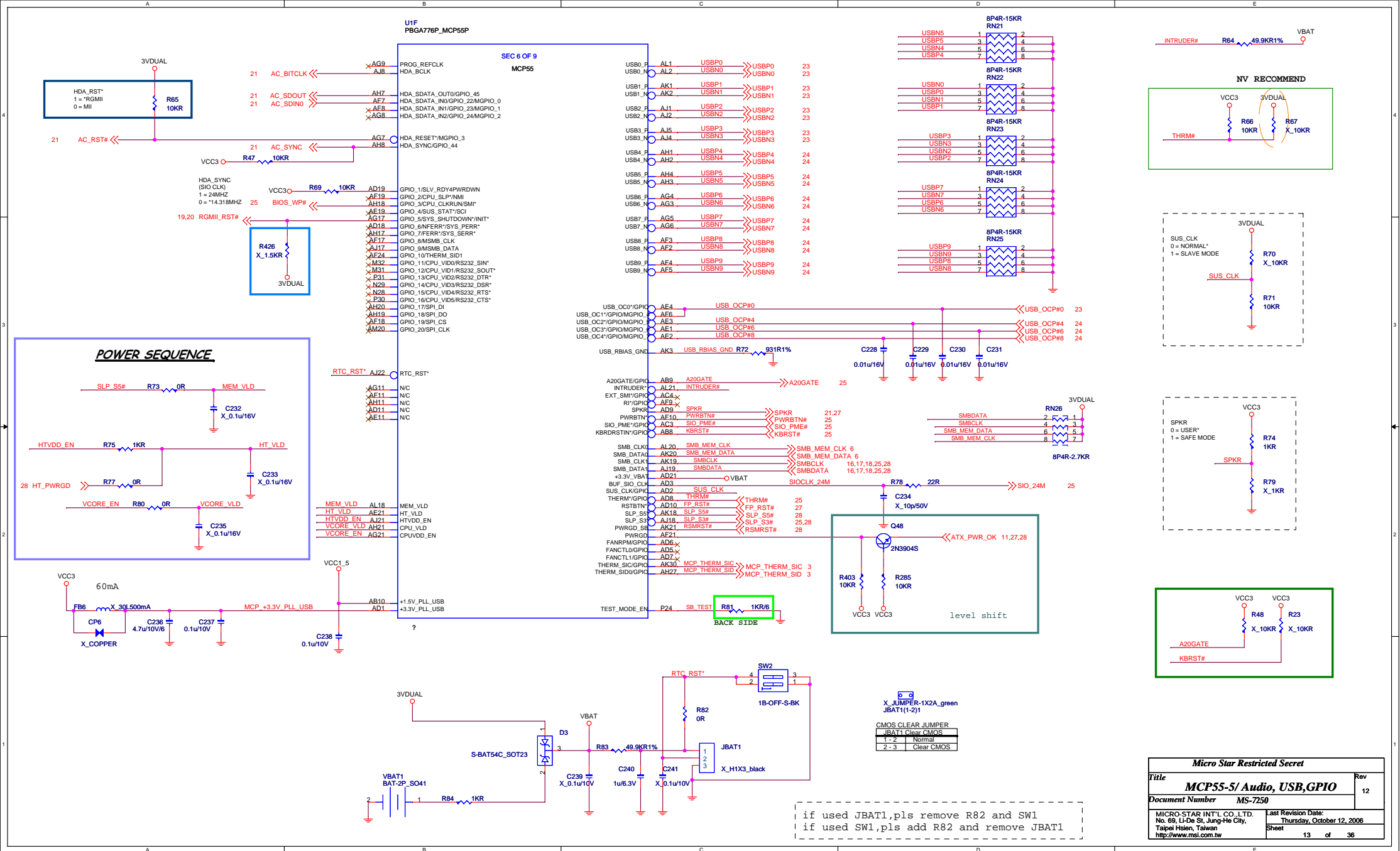
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Micro Star Restricted Secret		
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MII_RXD / MII_RXCTL
0 OHM IF ROUTED 7/15 (60 OHM), Length<8"
22 OHM IF ROUTED 5/10 (60 OHM), Length<12"

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"

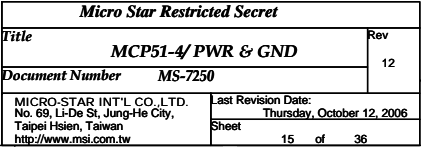
U1G
PBG776P_MCP56P

SEC 7 OF 9

MCP55

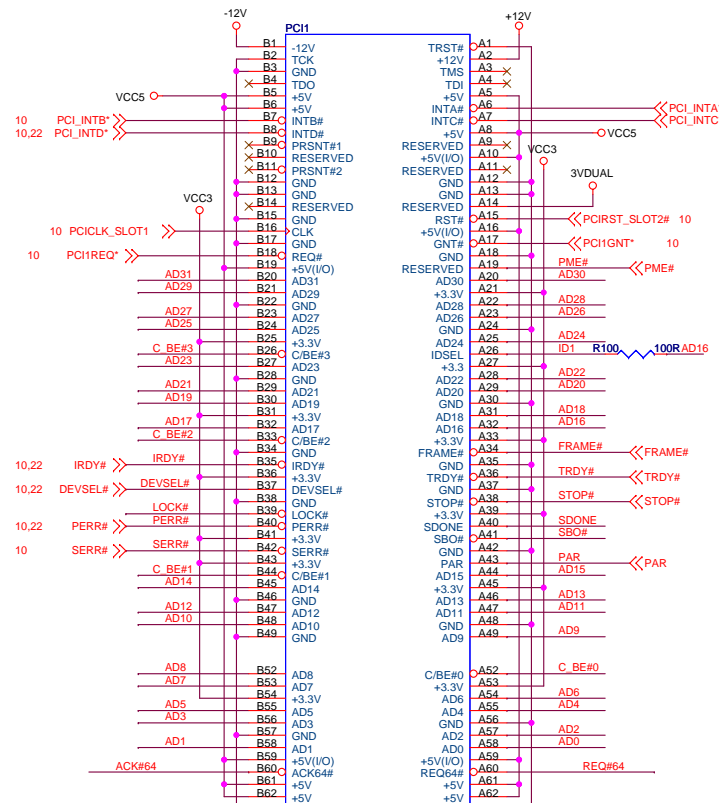
BACK SIDE

Micro Star Restricted Secret		
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Document Number	MS-7250	
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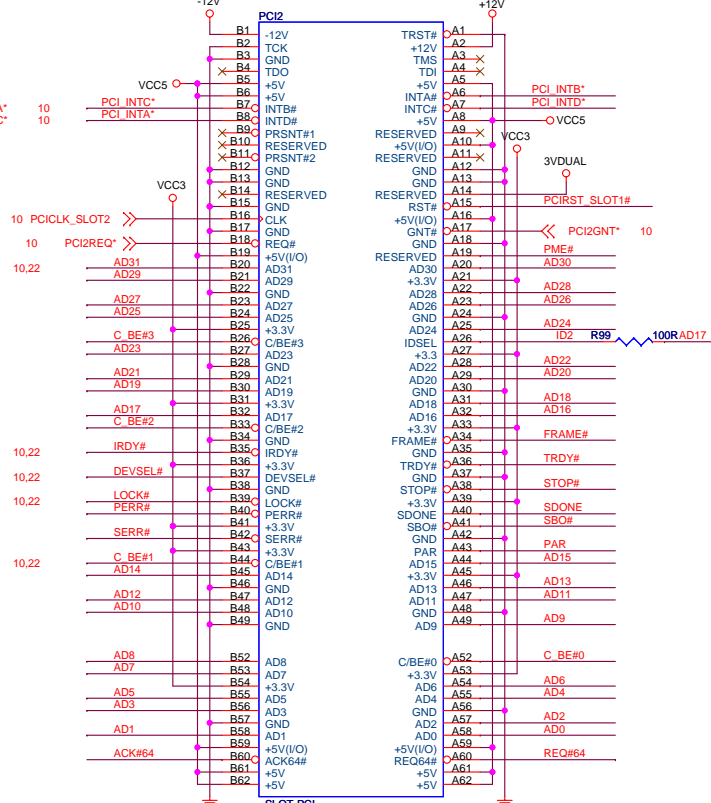
10.22 AD[31..0] >> AD[31..0]
10.22 C_BE#[3..0] >> C_BE#[3..0]

PCI SLOT 1 (PCI VER: 2.2 COMPLY)



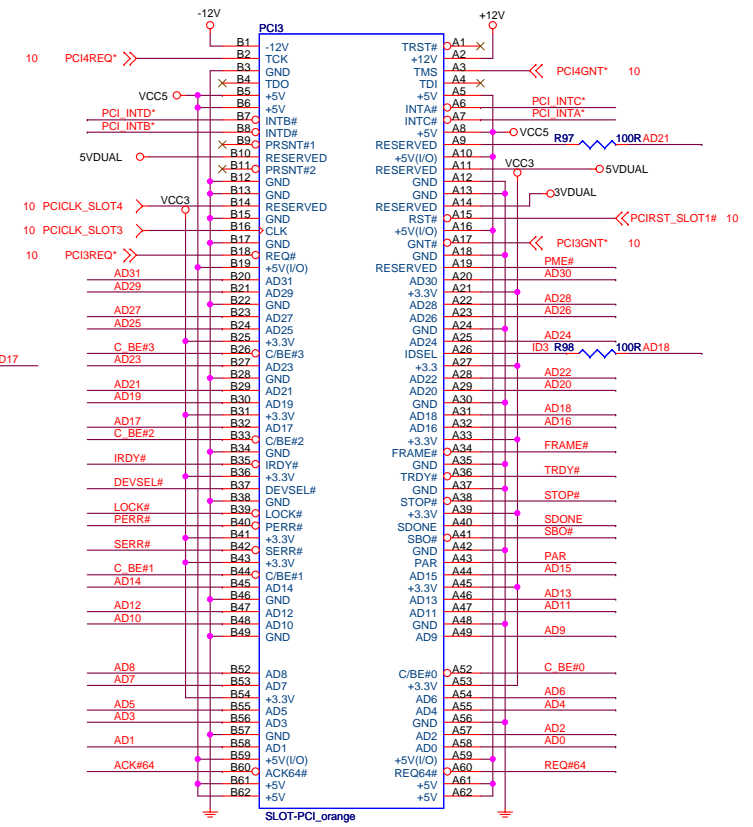
IDSEL = AD16
MASTER = PCI1REQ*
PCI1GNT*

PCI SLOT 2 (PCI VER: 2.2 COMPLY)



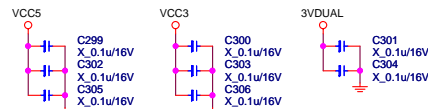
IDSEL = AD17
MASTER = PCI2REQ*
PCI2GNT*

PCI SLOT 3 (PCI VER: 2.2 COMPLY)

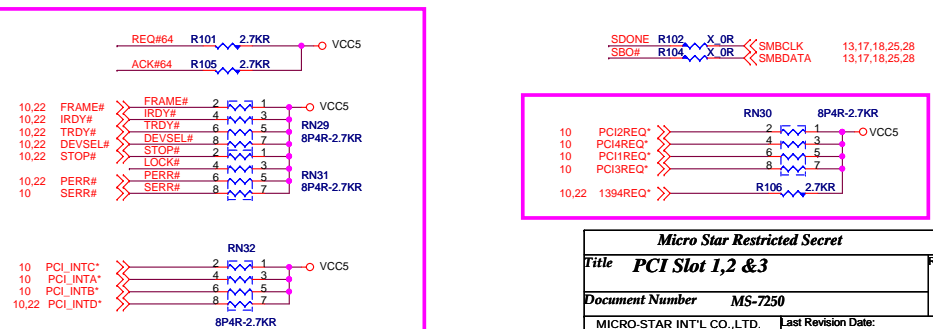


IDSEL = AD18
MASTER = PCI3REQ*
PCI3GNT*

PCI SLOT DECOUPLING CAPACITORS

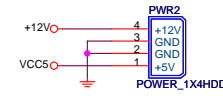
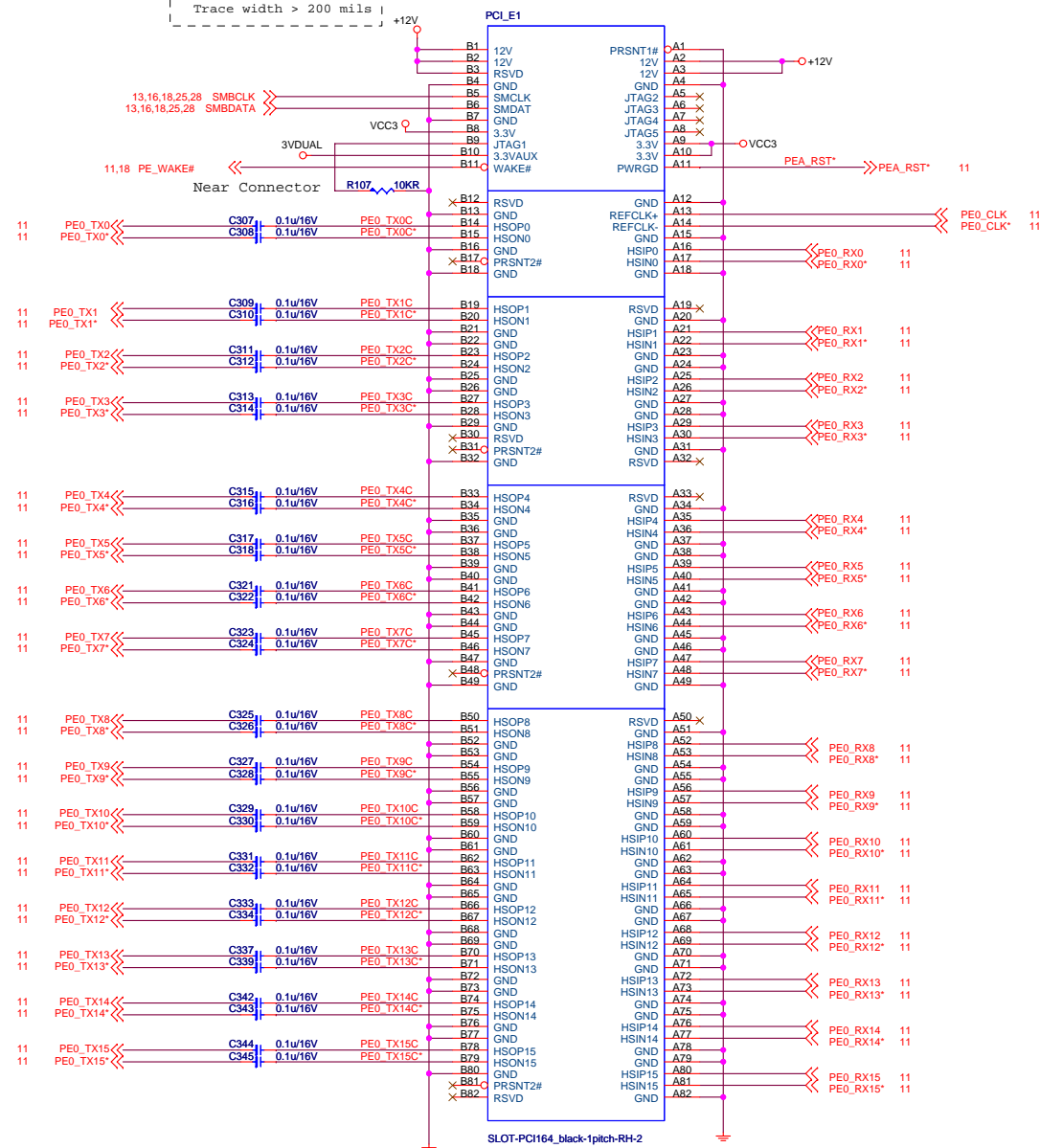


PCI PULL-UP / DOWN RESISTORS

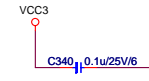
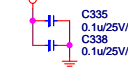
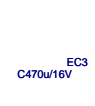
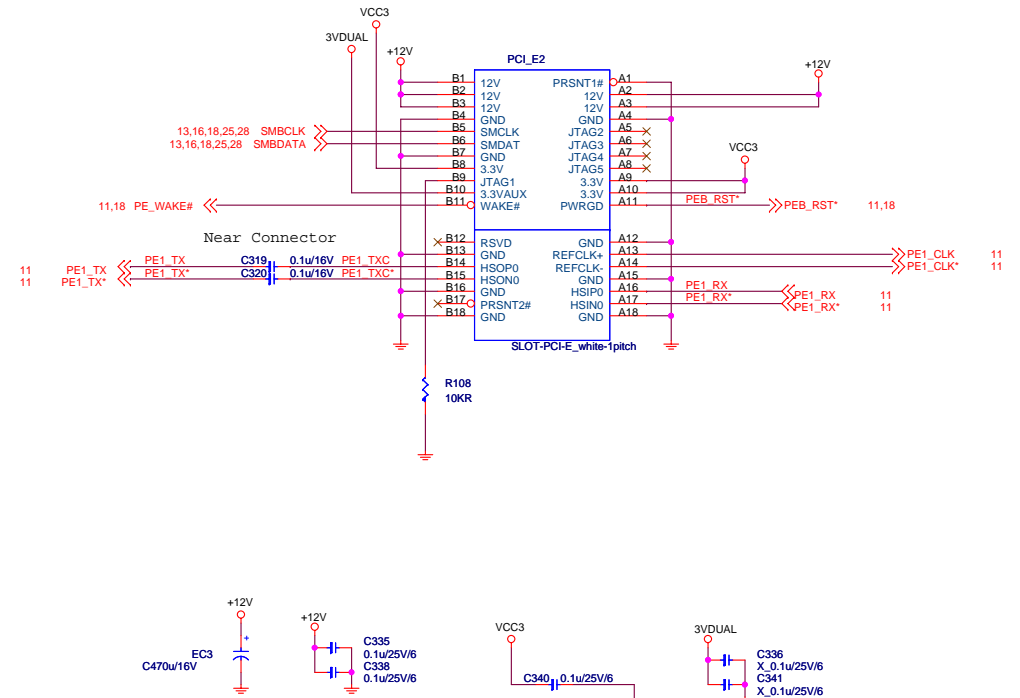


PCI EXPRESS_16

Trace width > 200 mils

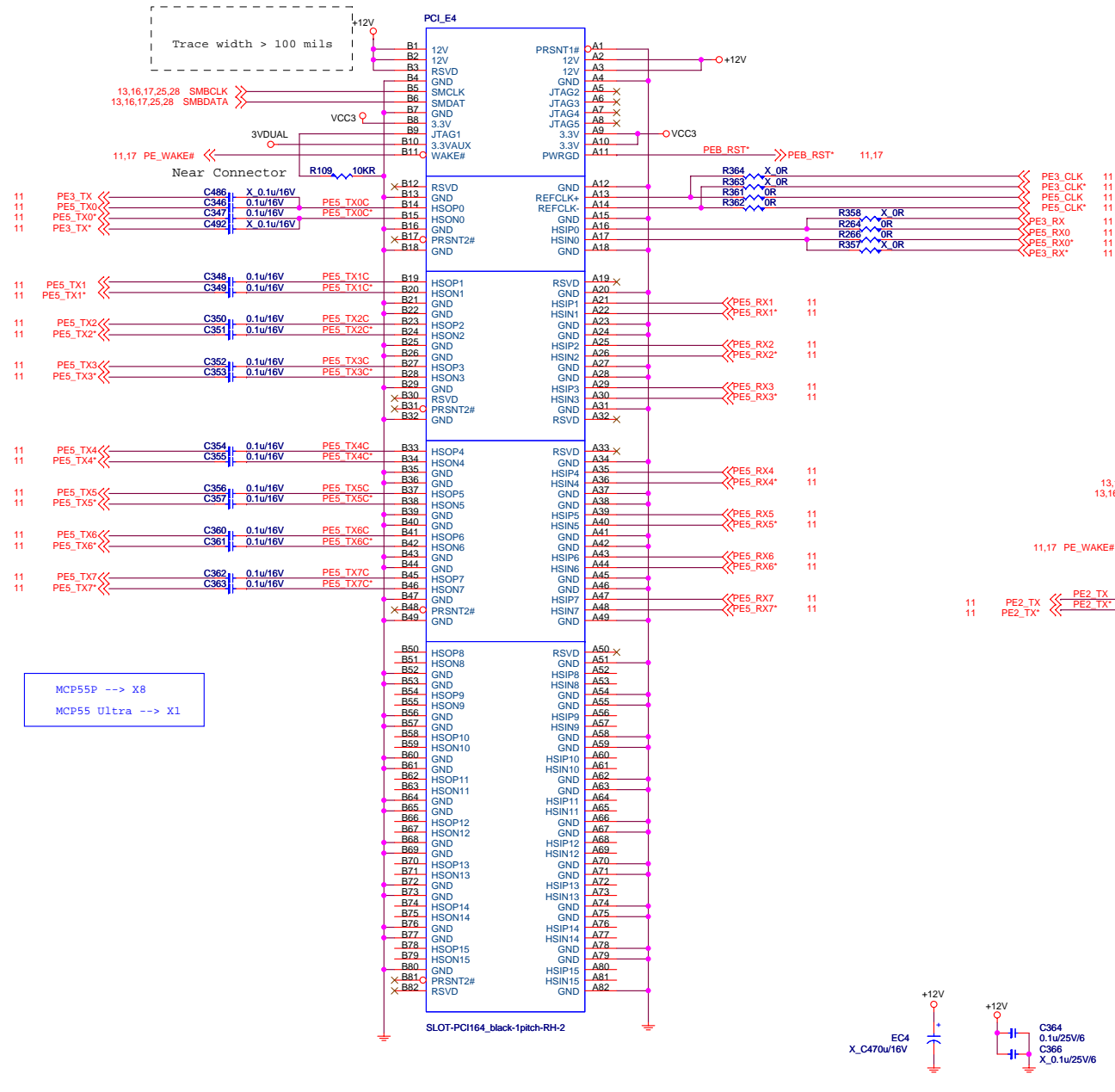


PCI-Express x1 SLOT 1

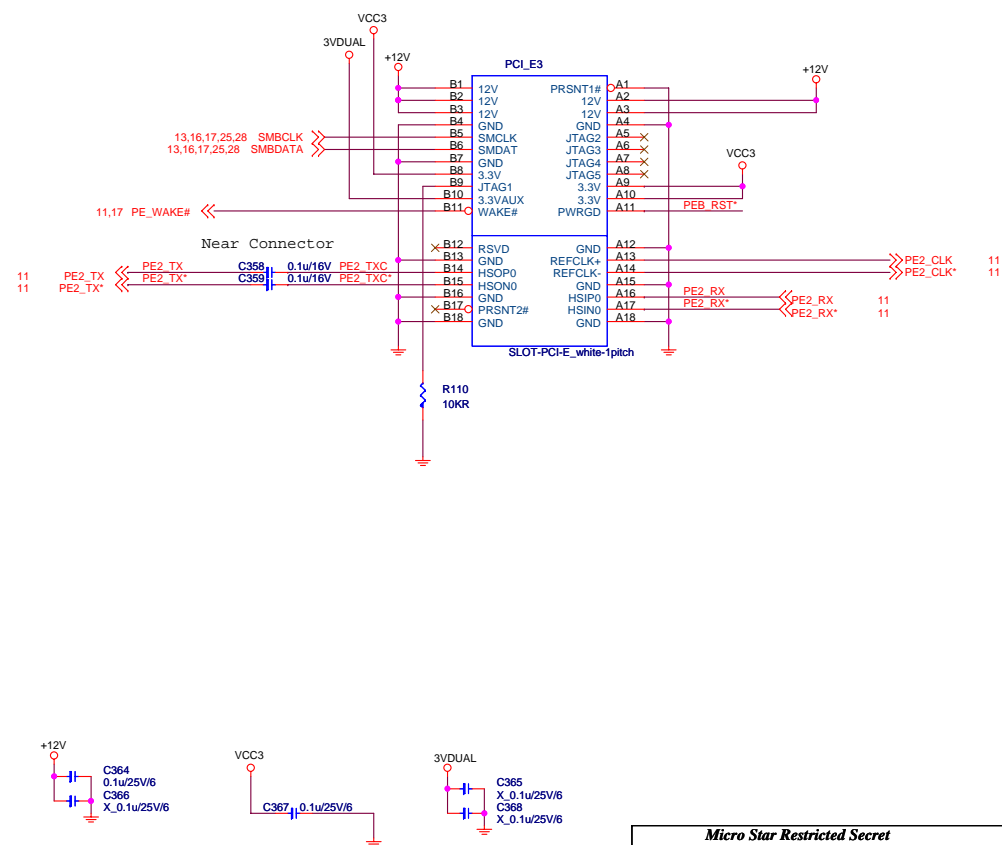


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Document Number	MS-7250	
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PCI EXPRESS_16

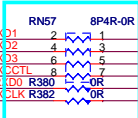


PCI-Express x1 SLO T 3



Micro Star Restricted Secret			
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NEAR MCP55



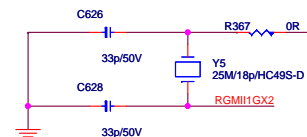
U16

VSC8601

VSC8601

USE CRYSTAL

14 RGMII_25MHZ >> RGMII_25MHZ R399 X 0R



RGMII1GX2

RGMII1GX1

R367 0R

R399 X 0R

Y5 25M/18p/HC49S-D

C626 33p/50V

C628 33p/50V

C627 X_10p/25V

C634 0.1u/16V

C630 N58-22F0211-S42 EMI Enhance

C625 X_1000p/50V

C624 X_1000p/50V

R400 330R

R398 330R

R386 12.1KR1%

R387 X_2.26KR1%

R384 2.26KR1%

R383 X_12.1KR1%

R381 8.25KR1%

R380 0R

R382 0R

R388 X 10KR

R389 2KR

R390 4.7KR

R393 X 10KR

R396 10KR1%

R397 2KR1%

R398 330R

R399 X 0R

R400 330R

R401 330R

R402 330R

R403 330R

R404 330R

R405 330R

R406 330R

R407 330R

R408 330R

R409 330R

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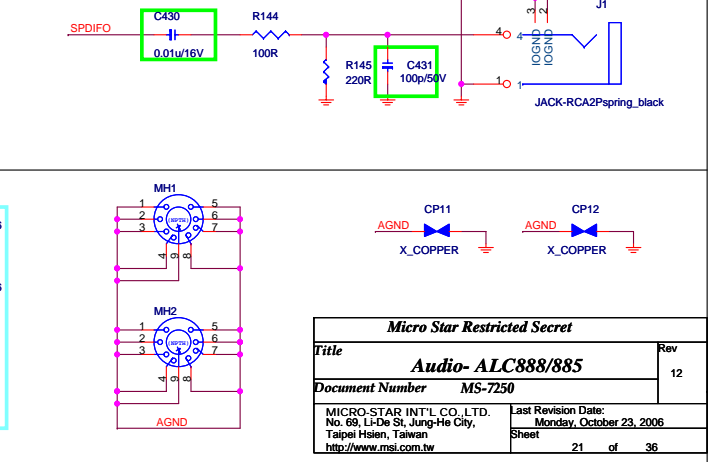
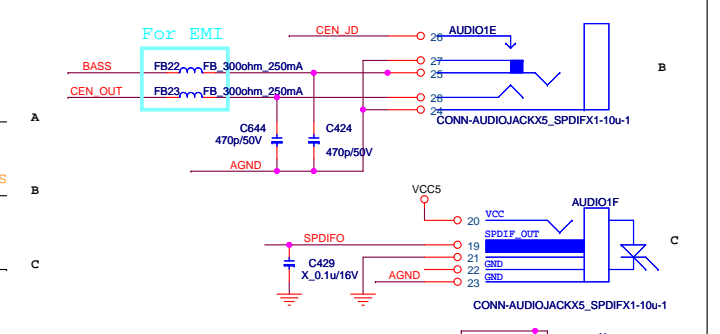
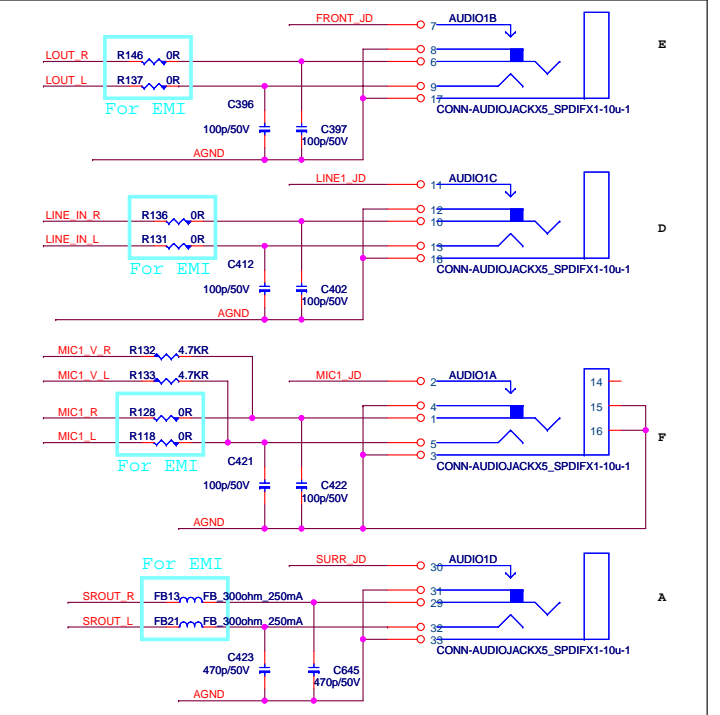
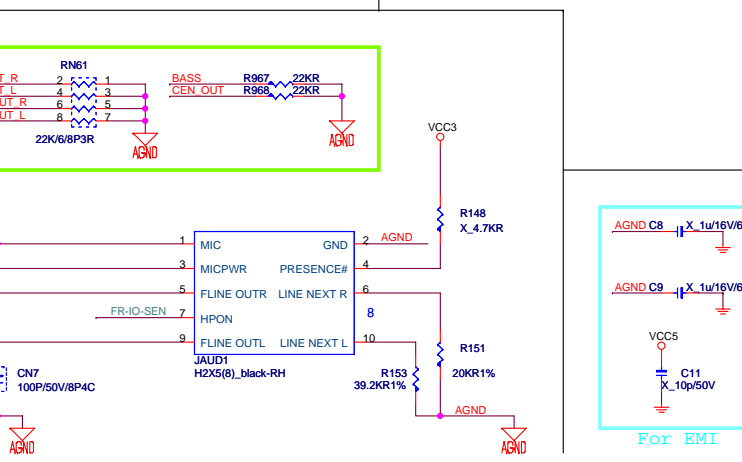
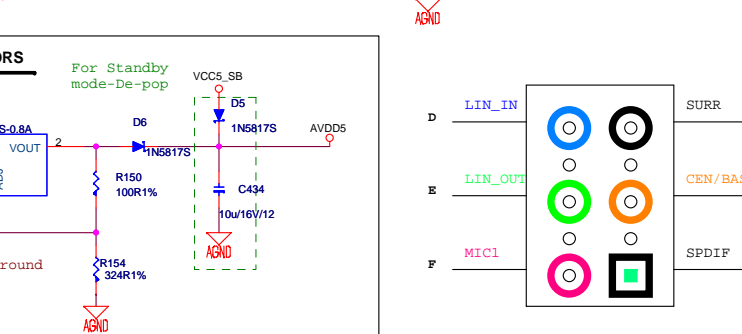
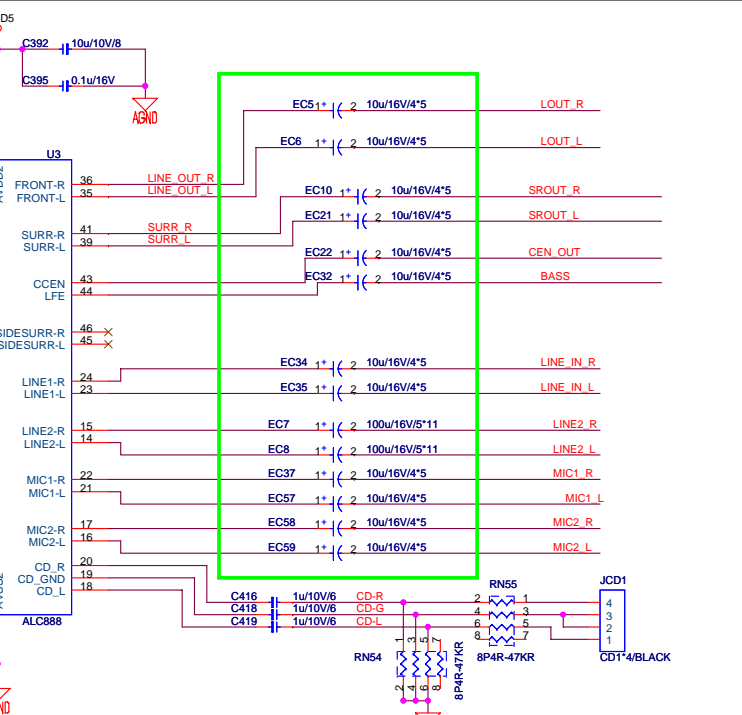
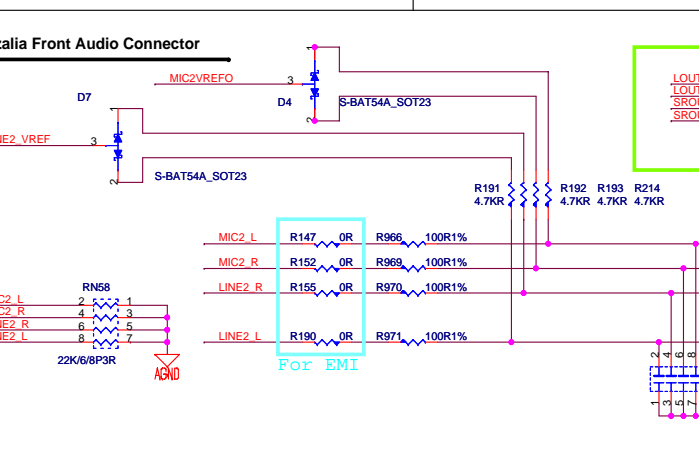
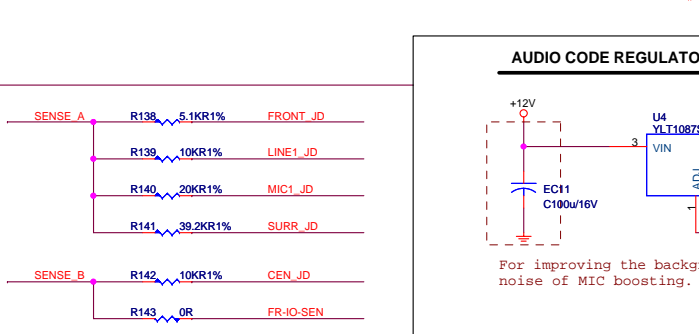
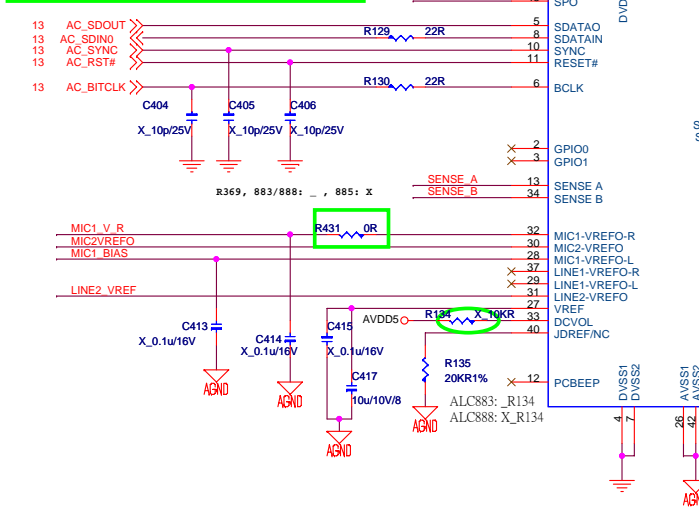
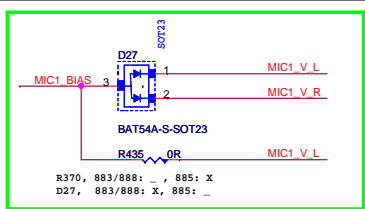
R656 330R

R657 330R

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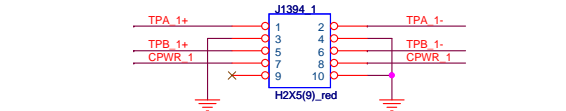
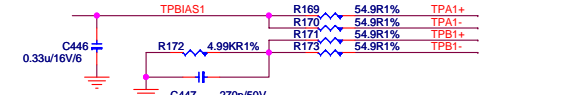
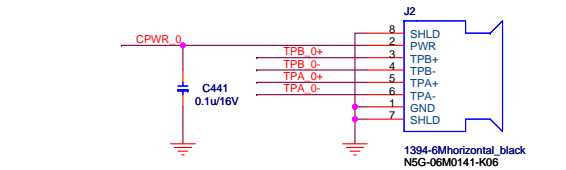
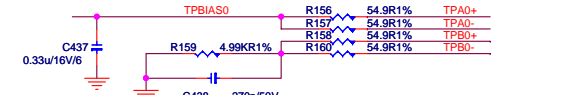
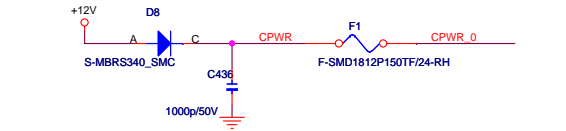
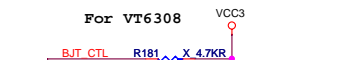
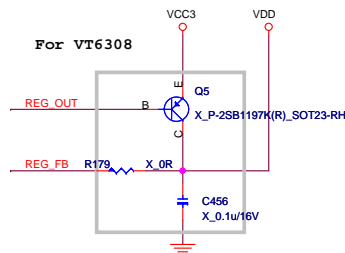
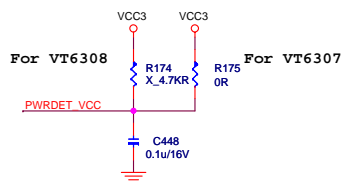
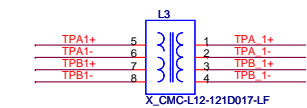
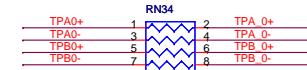
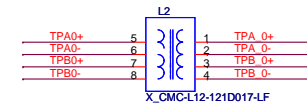
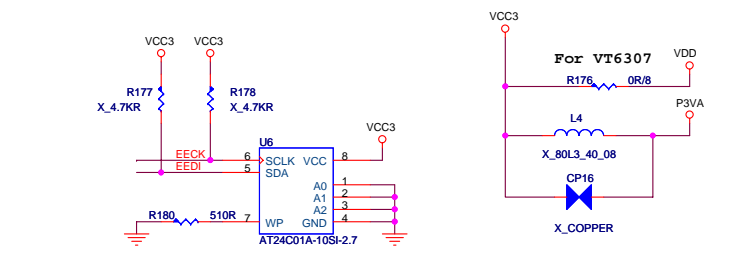
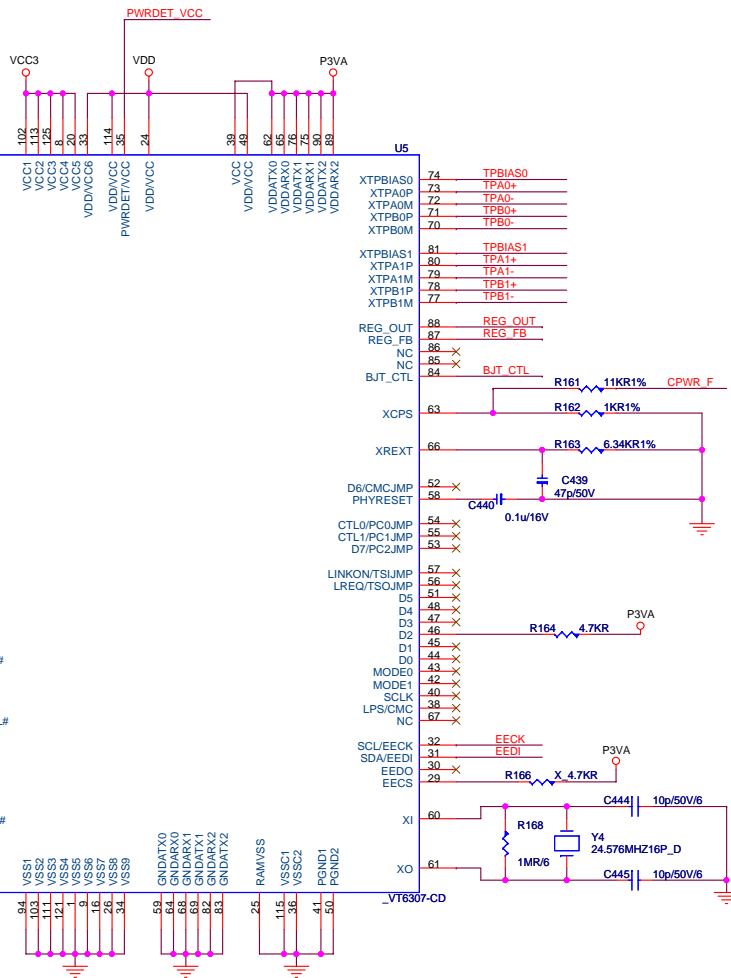
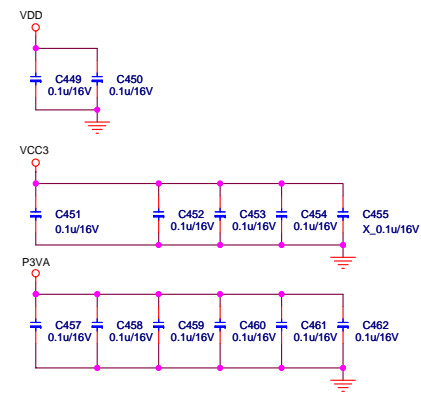
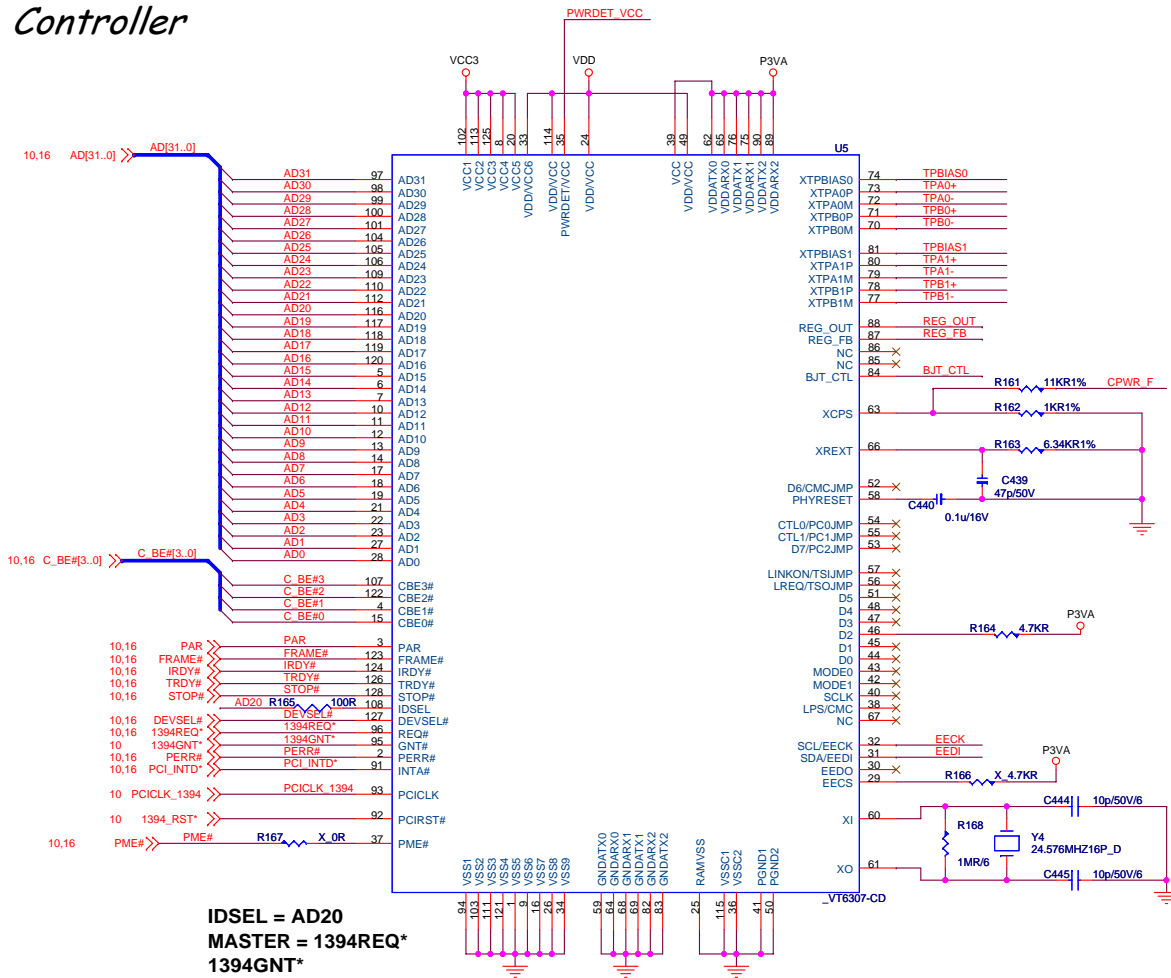
R659 330R

R



Micro Star Restricted Secret		
Title	Audio- ALC888/885	
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		Rev 12
Last Revision Date: Monday, October 23, 2006		Sheet 21 of 36

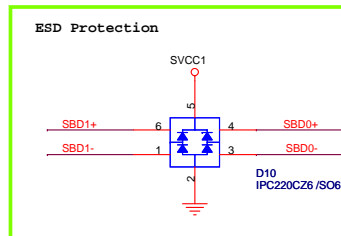
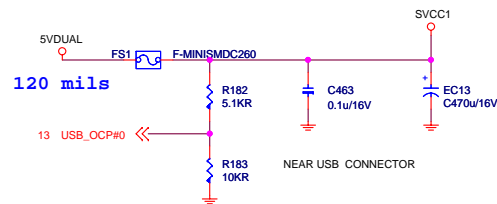
1394a OHCI Link Layer Controller



For Intel 1394 pinheader

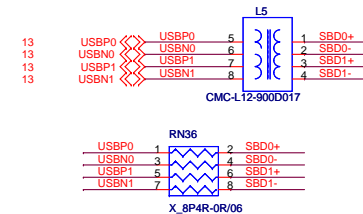
<i>Micro Star Restricted Secret</i>		
Title	1394a Link Layer Controller	Rev
Document Number	MS-7250	12
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St., Jung-Hsi City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Thursday, October 12, 2006 Sheet 22 of 36

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



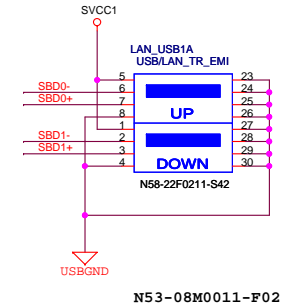
REAR PANEL USB CONNECTOR FOR USB PORT 0,1

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

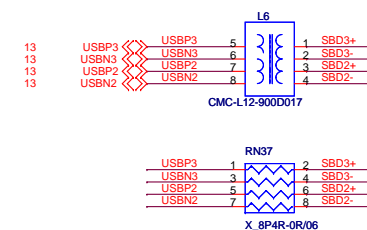


NEAR USB CONNECTOR

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

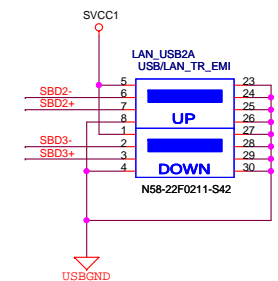


REAR PANEL USB CONNECTOR FOR USB PORT 2,3



NEAR USB CONNECTOR

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

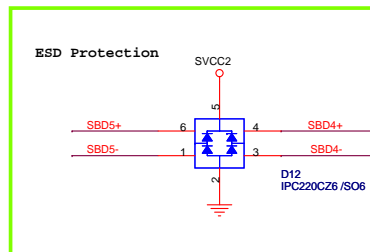
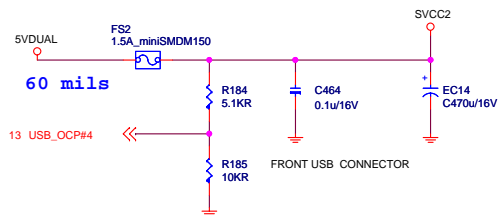


EMI TEST

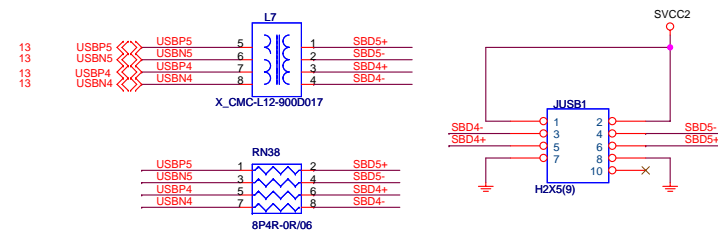


Micro Star Restricted Secret		
Title	REAR USB PORTS	Rev
Document Number	MS-7250	12
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Thursday, October 12, 2006 Sheet 23 of 36

POWER CIRCUIT FOR USB PORT 4,5



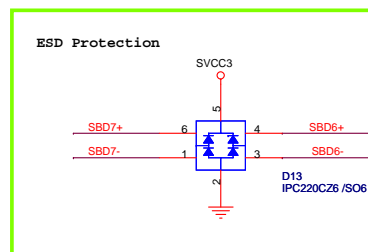
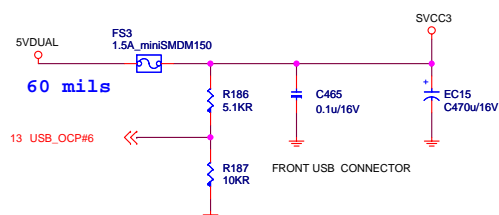
FRONT PANEL USB CONNECTOR FOR USB PORT 4,5



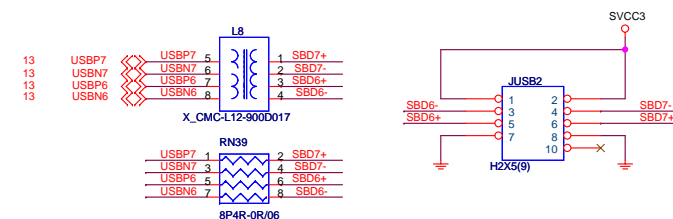
NEAR USB CONNECTOR

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

POWER CIRCUIT FOR USB PORT 6,7



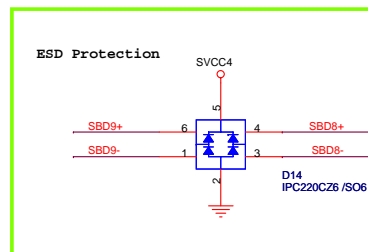
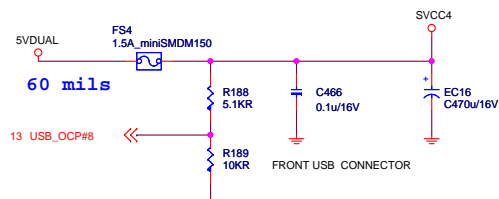
FRONT PANEL USB CONNECTOR FOR USB PORT 6,7



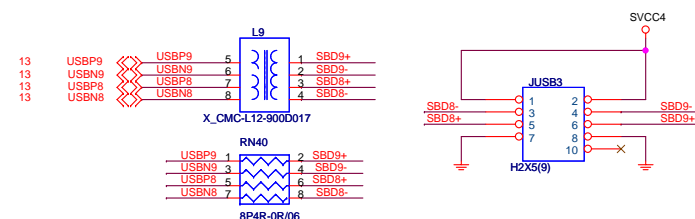
NEAR USB CONNECTOR

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

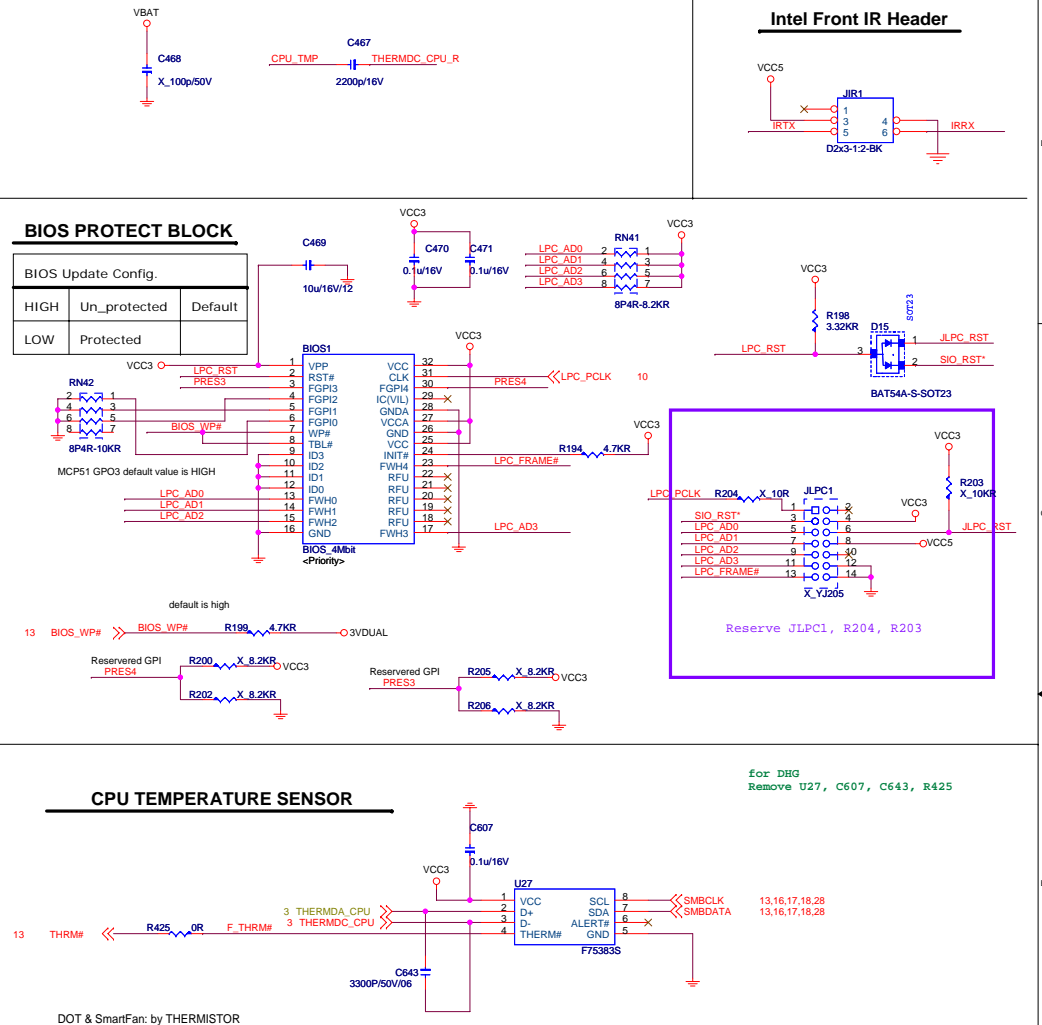
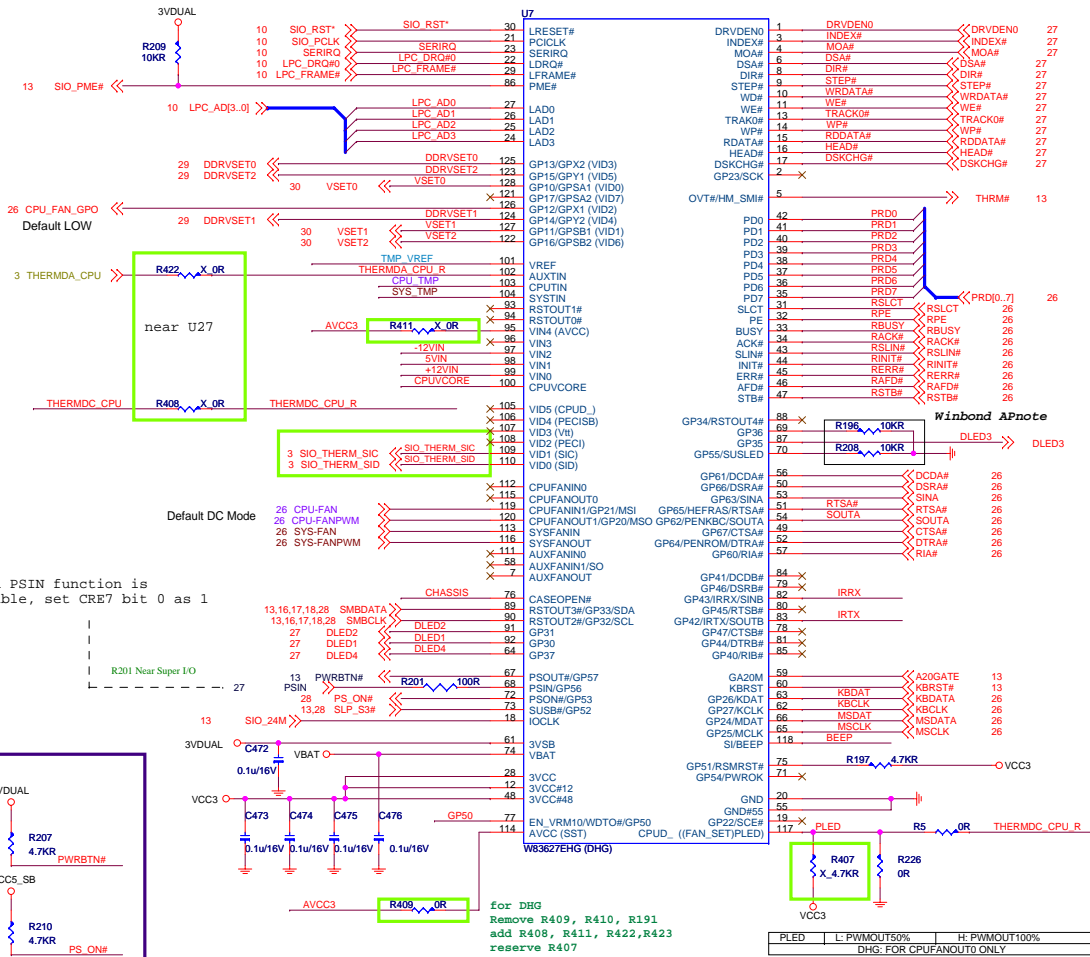


NEAR USB CONNECTOR

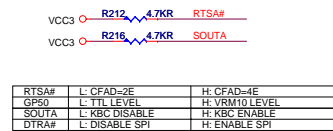
22 / 7.5 / 7.5 / 7.5 / 22 / 7.5 / 7.5 / 7.5 / 22

Micro Star Restricted Secret		
Title	FRONT USB PORT	Rev
Document Number	MS-7250	12
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:		Thursday, October 12, 2006
Sheet		24 of 36

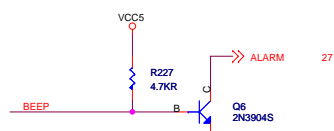
Super I/O



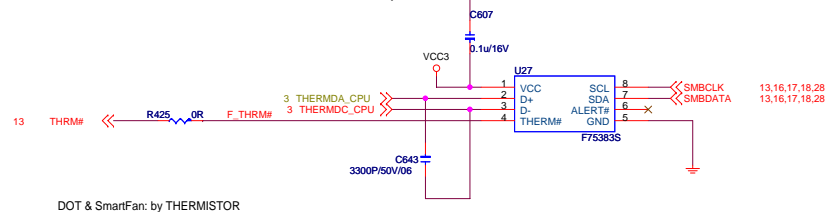
LPC I/O STRAPPING RESISTOR



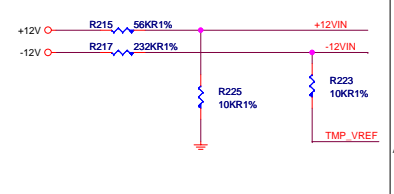
SPEAKER BLOCK



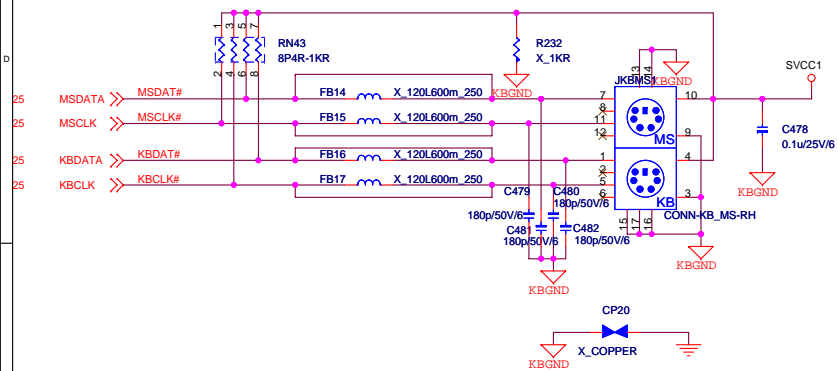
CPU TEMPERATURE SENSOR



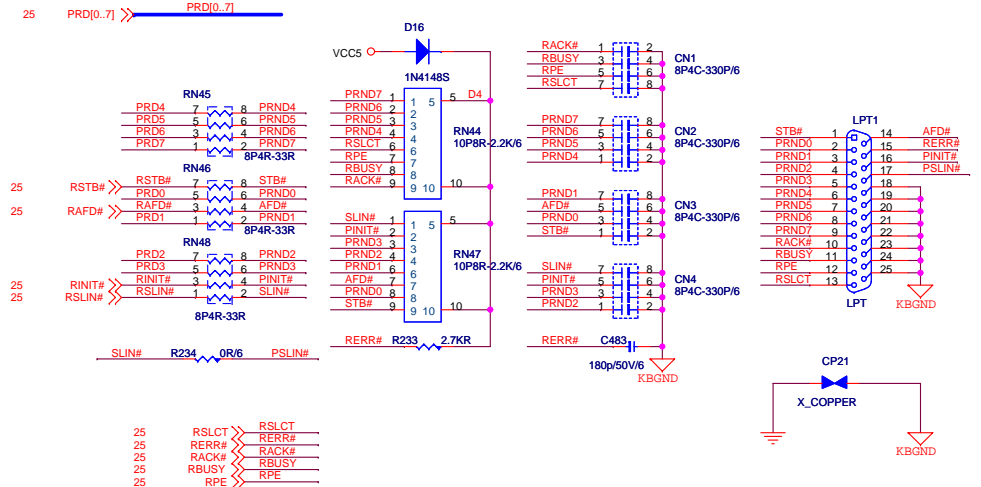
Thermal Resistor



PS2 KEYBOARD & MOUSE CONNECTOR



PARALLAL PORT

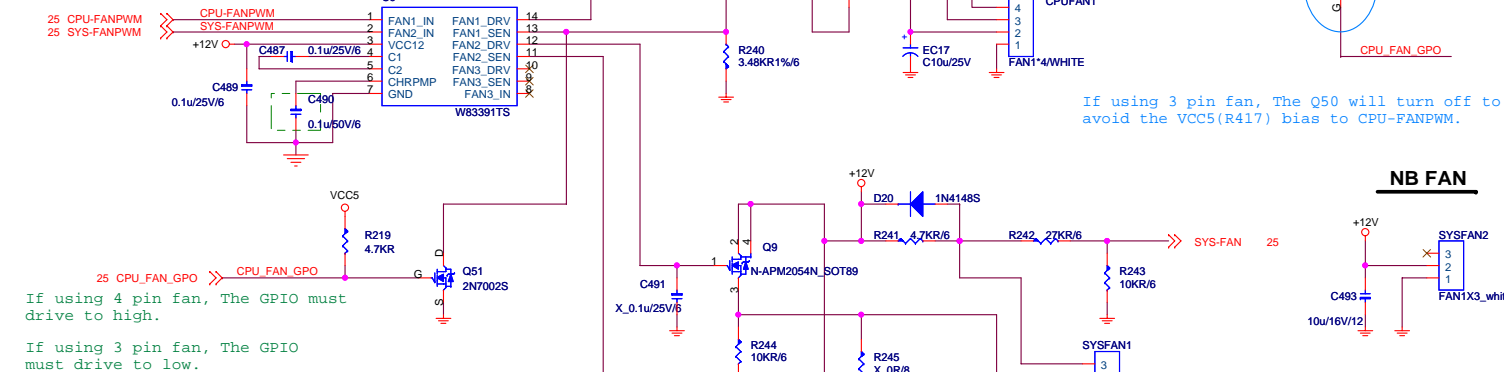


FAN CONTROL

CPU FAN

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

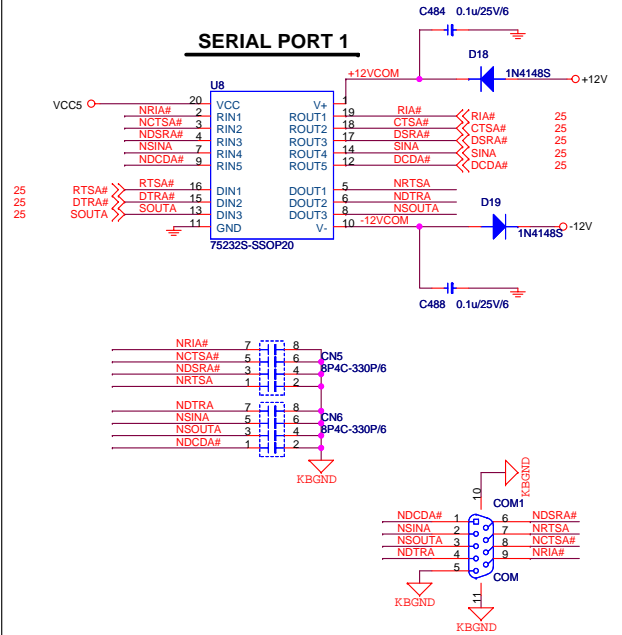
SYS-PWM connect to 627EHF pin 116;default is DC mode



NB FAN

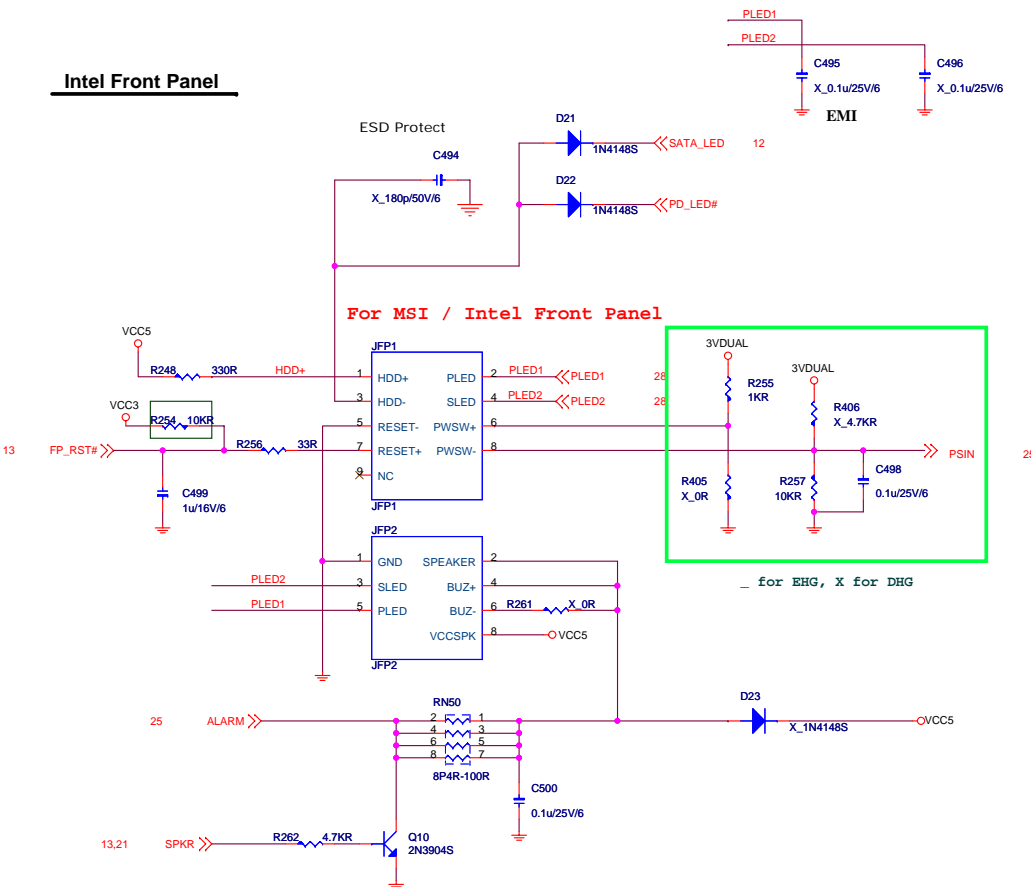
POWER FAN

SERIAL PORT 1

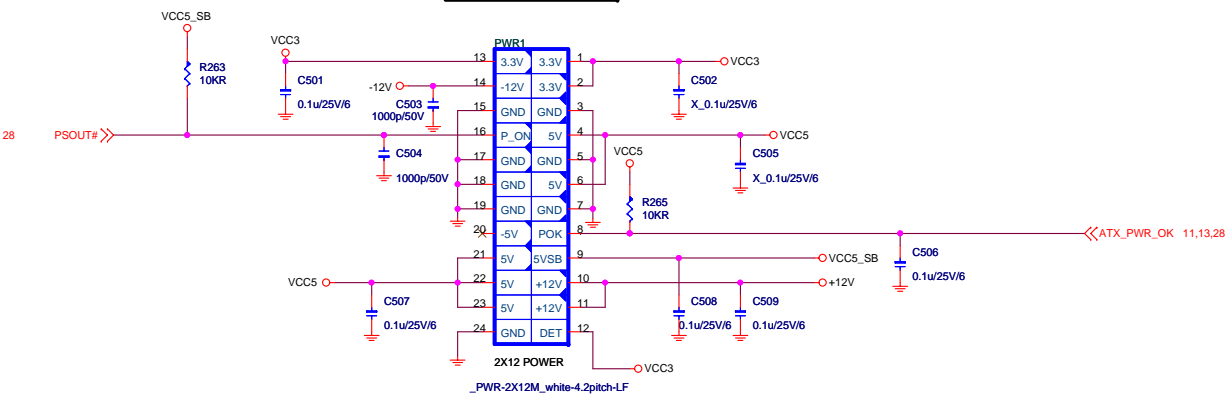


Micro Star Restricted Secret		
Title	PS2 KB/MS, LPT, COM & FAN	Rev 12
Document Number	MS-7250	
MICRO-STAR INT'L CO.,LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Thursday, October 12, 2006 Sheet 26 of 36

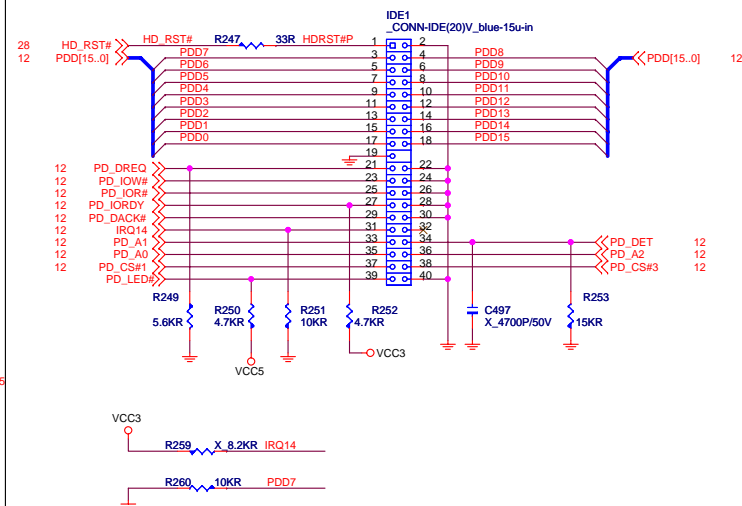
Intel Front Panel



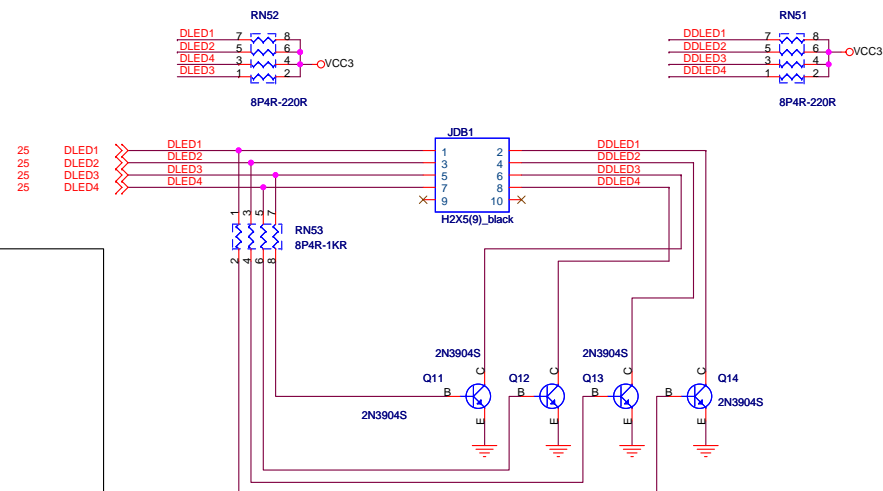
ATX Connector



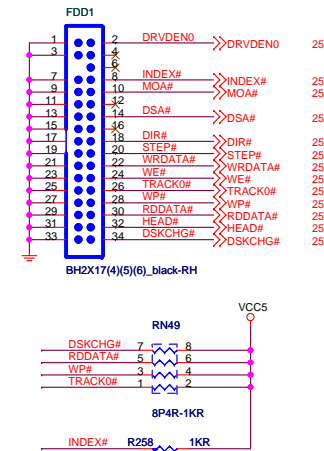
IDE 1



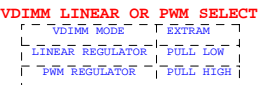
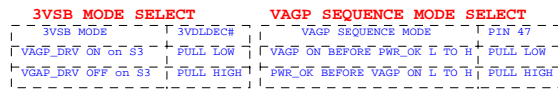
D-Bracket



Floppy

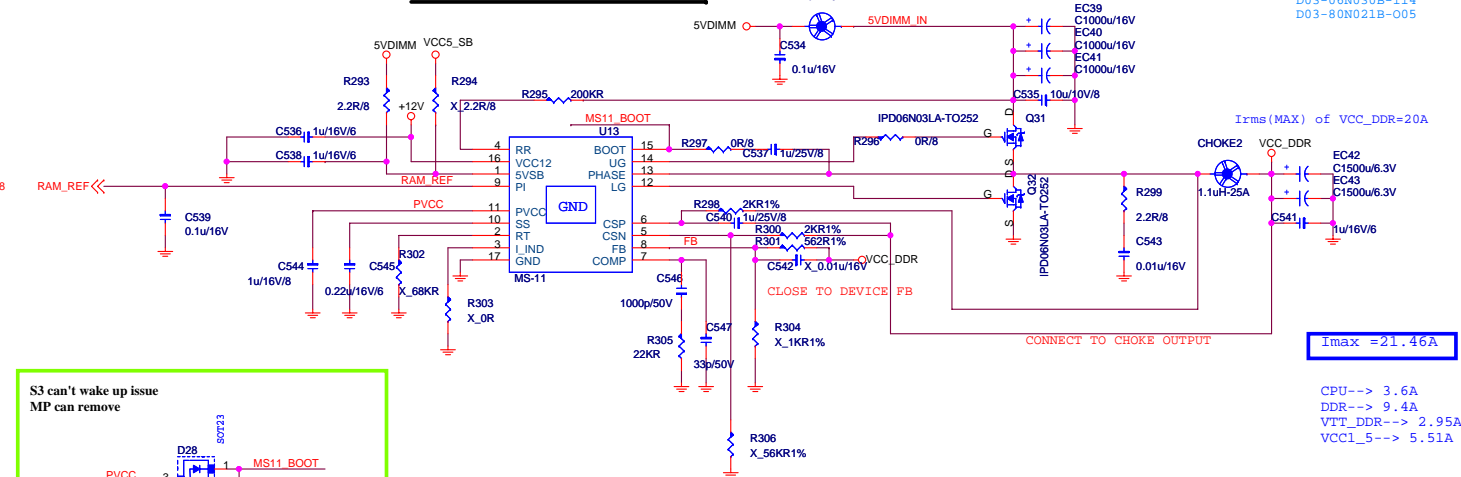


ACPI Controller

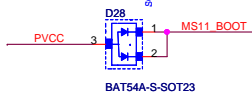


Micro Star Restricted Secret		
Title	MS-6 ACPI Controller	Rev
Document Number	MS-7250	12
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan Tel: 886-2-2718-8888 Fax: 886-2-2718-0099 www.msi.com.tw		Last Revision Date: Thursday, October 12, 2006 Sheet 28 of 36

DDR II 1.8V POWER

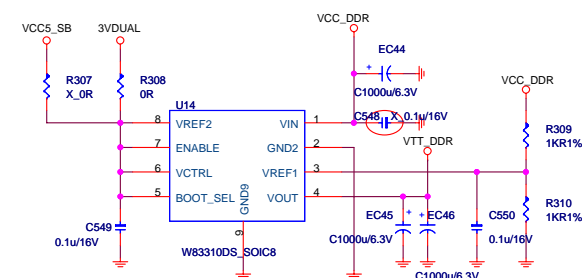


S3 can't wake up issue
MP can remove

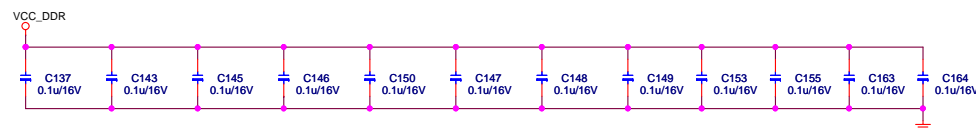


For EMI

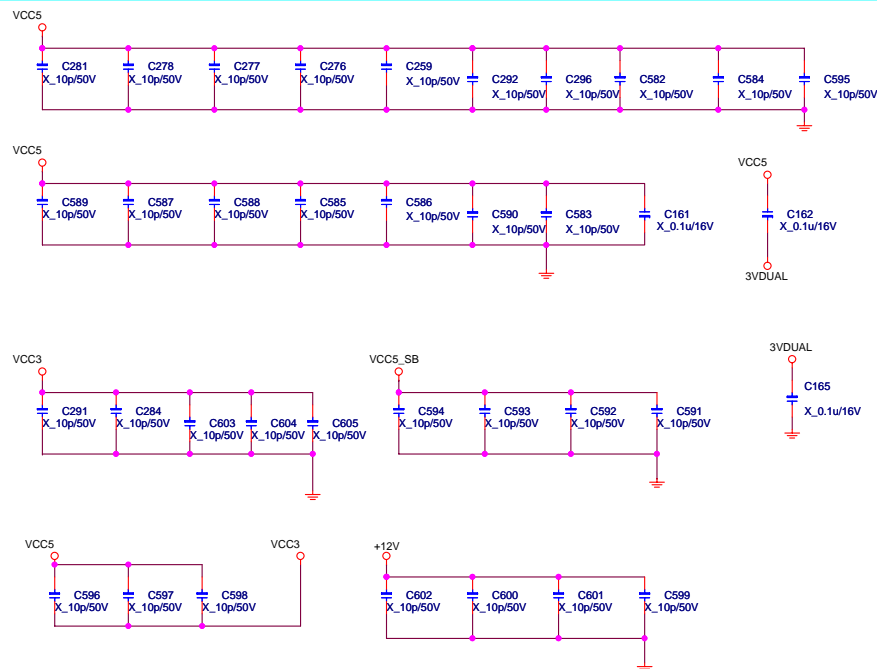
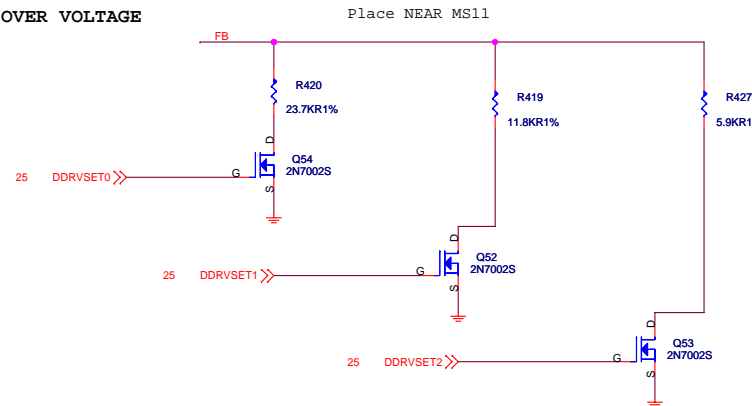
DDR II VTT POWER

 $I_{\max} = 2.95 \text{ A}$

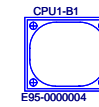
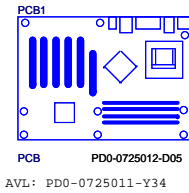
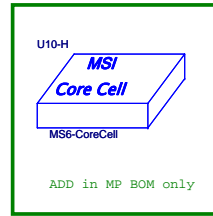
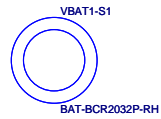
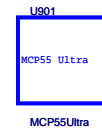
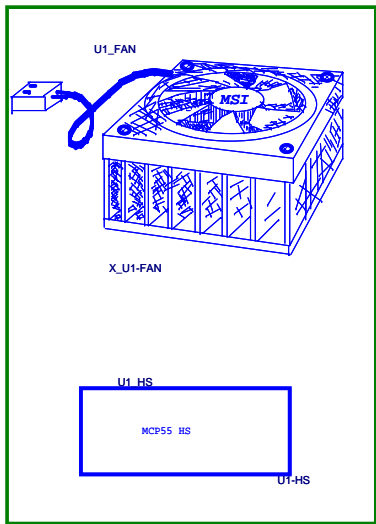
de- VCC_DDR high frequency noise.



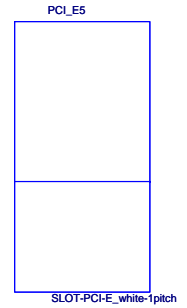
DDR OVER VOLTAGE



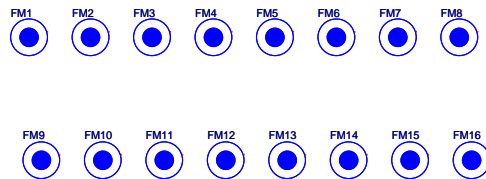
Micro Star Restricted Secret			
Title			Rev
MS-11 DDR2 Power			12
Document Number			MS-7250
MICRO-STAR INT'L CO. LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Tuesday, October 17, 2006 Sheet 29 of 36	



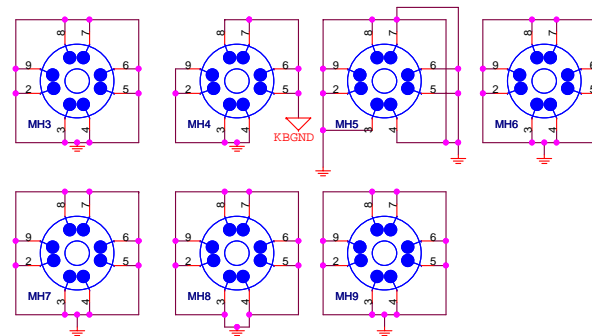
20: E95-0000003-H06
10: E95-0000004-H06



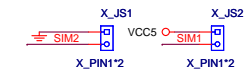
Optics Orientation Holes



Mounting Holes



Simulation



Model option table

Model type	Function	BOM Config	ERP BOM No.
MS-7250	MCP55P / VSC6801x2/ ALC883/ VT6307/ W83627EHG/ ISL6566CR	Cfg-A	601-7250-xxx
MS-7250	MCP55 Ultra/ VSC6801x2/ ALC883/ VT6307/ W83627EHG/ ISL6566CR	Cfg-B	601-7250-xxx