



MS-7295 Ver:0B

CPU:

AMD 940 Athlon 64/Athlon 64 FX

System Chipset:

NVIDIA C51PV / C51PVG

NVIDIA MCP 51

On Board Chipset:

LPC Super I/O -- Winbond 83627EHF

LAN Vitess VSC8601

HD Codec --ALC883

BIOS --LPC FLASH ROM 4M

Main Memory:

DDR * 4 (Max 4GB)

Expansion Slots:

PCI-E X 16 *1

PCI-E X 4 *1

PCI 2.3 Slot * 2

PWM:

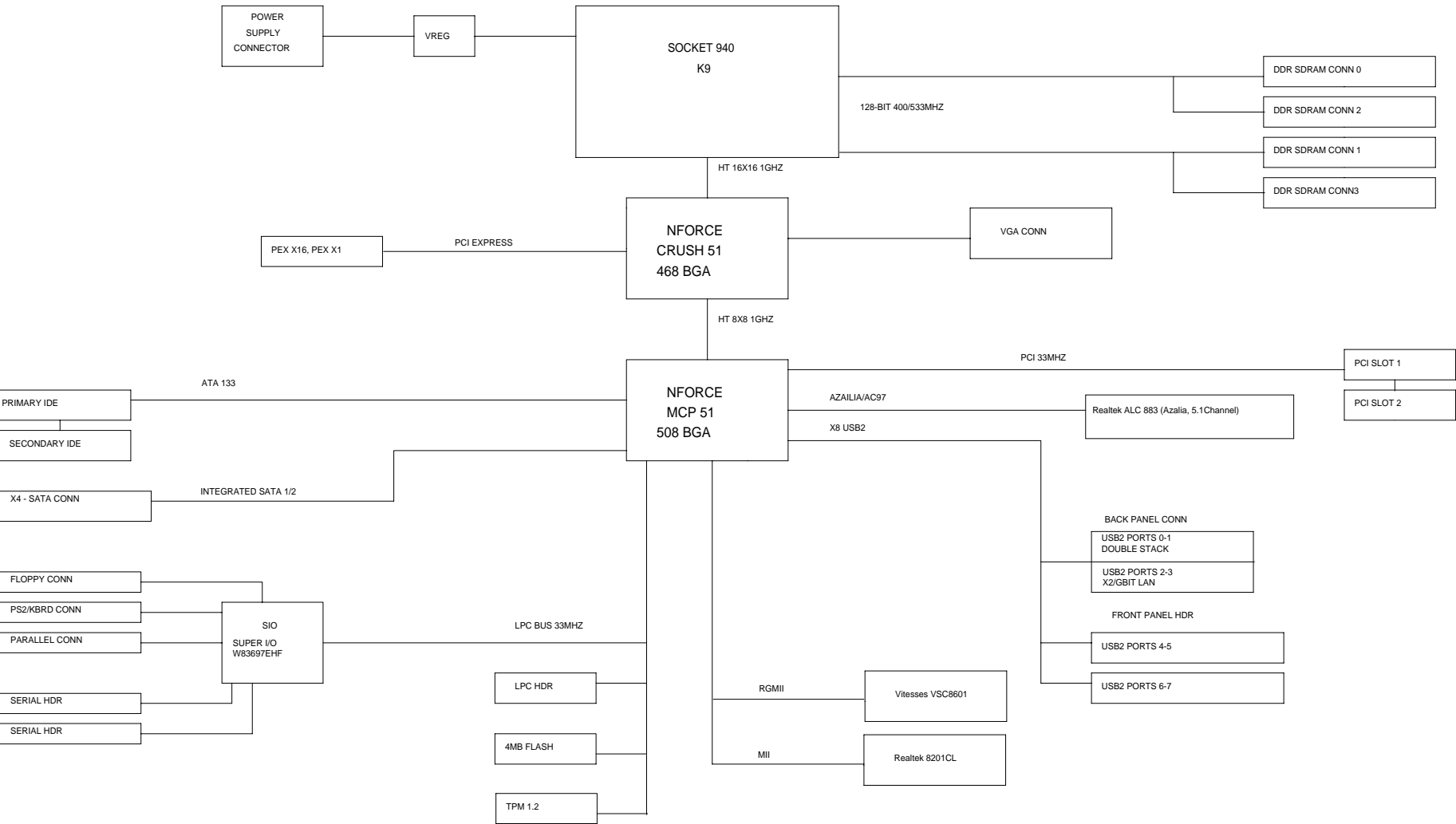
Controller--Intersil ISL6566CR 3 Phase

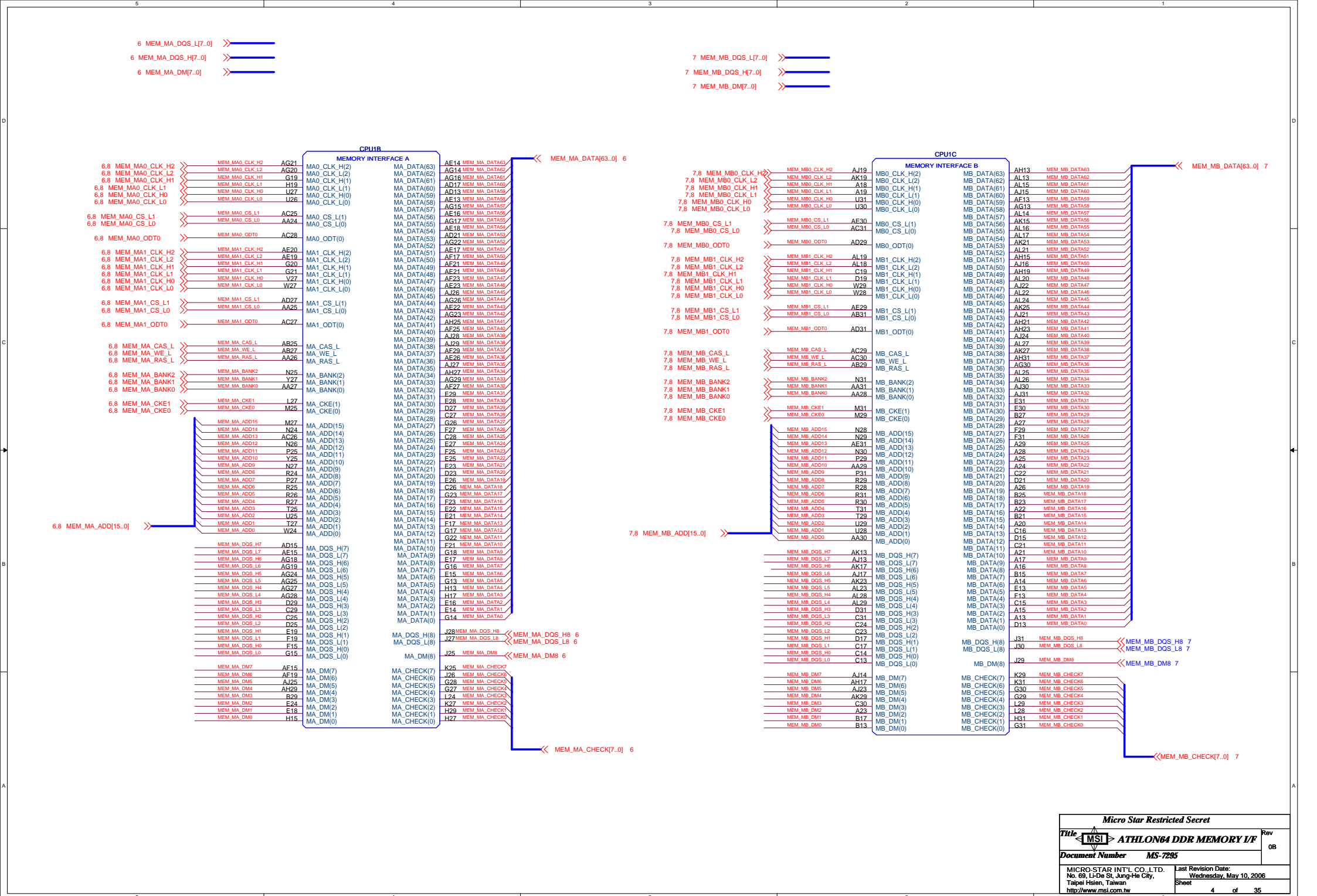
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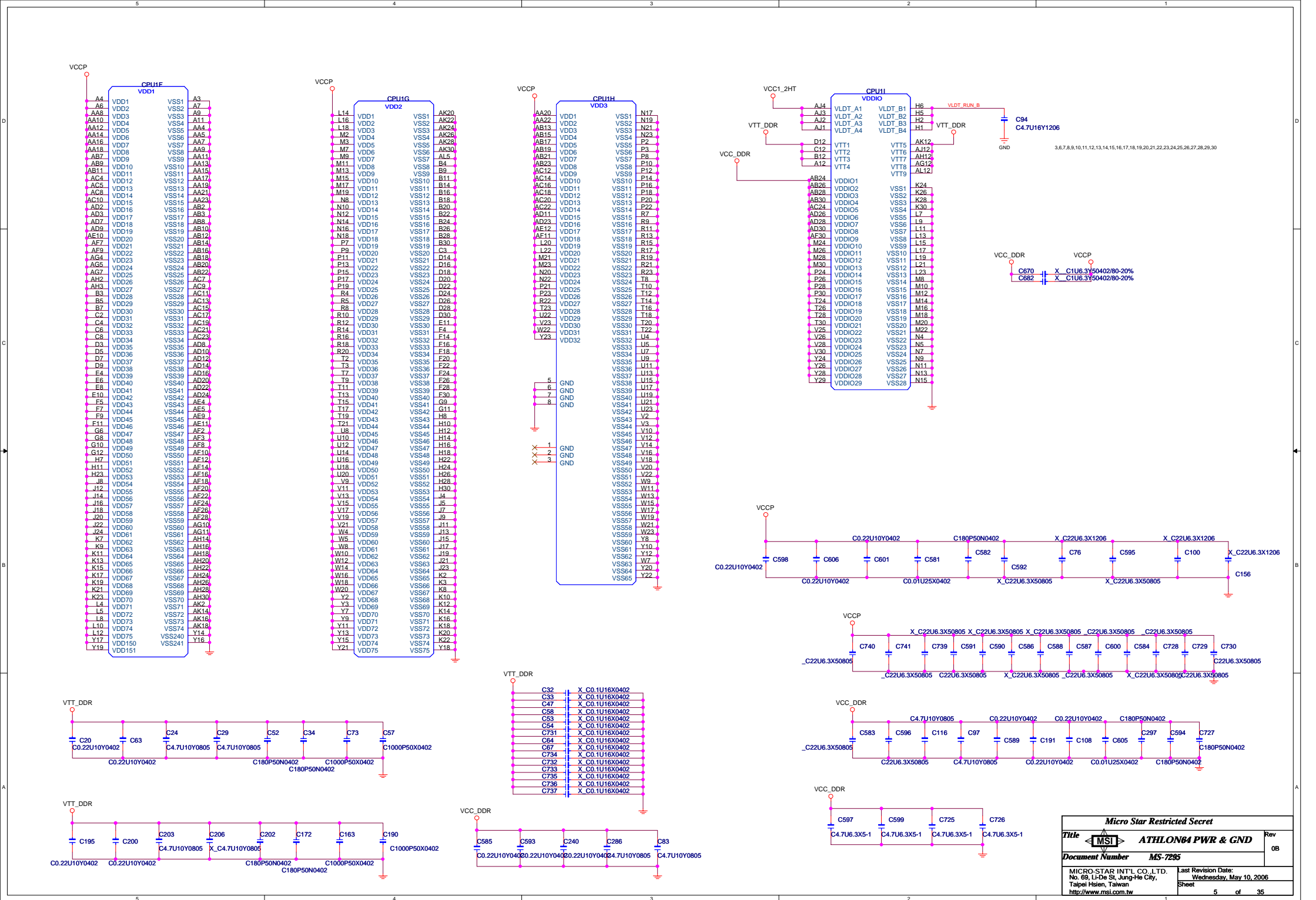
NECCI BOGOTA

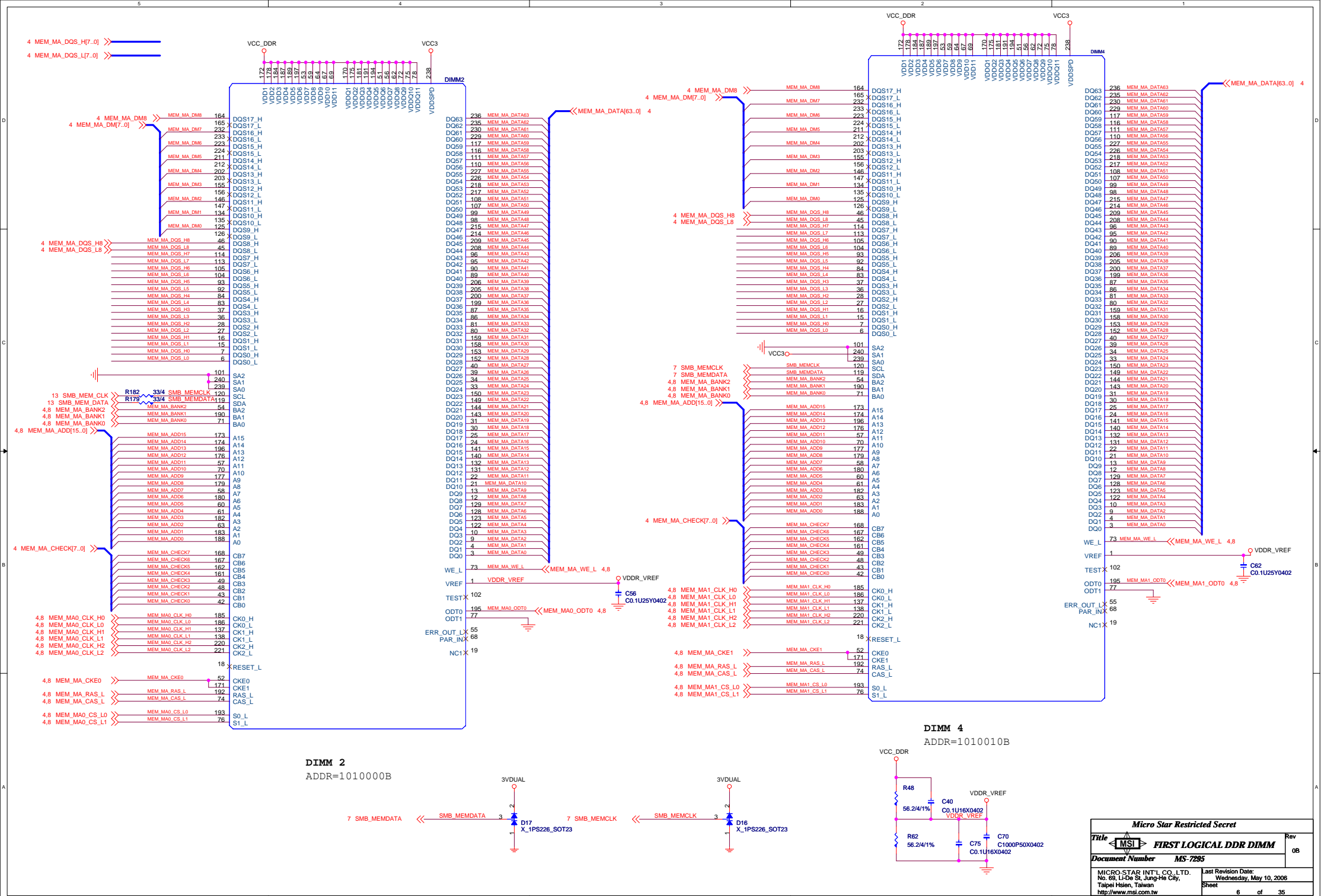
Micro Star Restricted Secret		
Title	MSI Cover Sheet	Rev 0B
Document Number	MS-7295	
MICRO-STAR INT'L CO. LTD. No. 69, Li-De St., Jung-Hsi City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Wednesday, May 10, 2006 Sheet 1 of 35

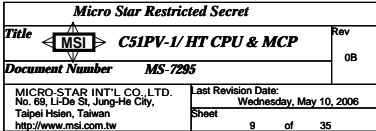
BLOCK DIAGRAM

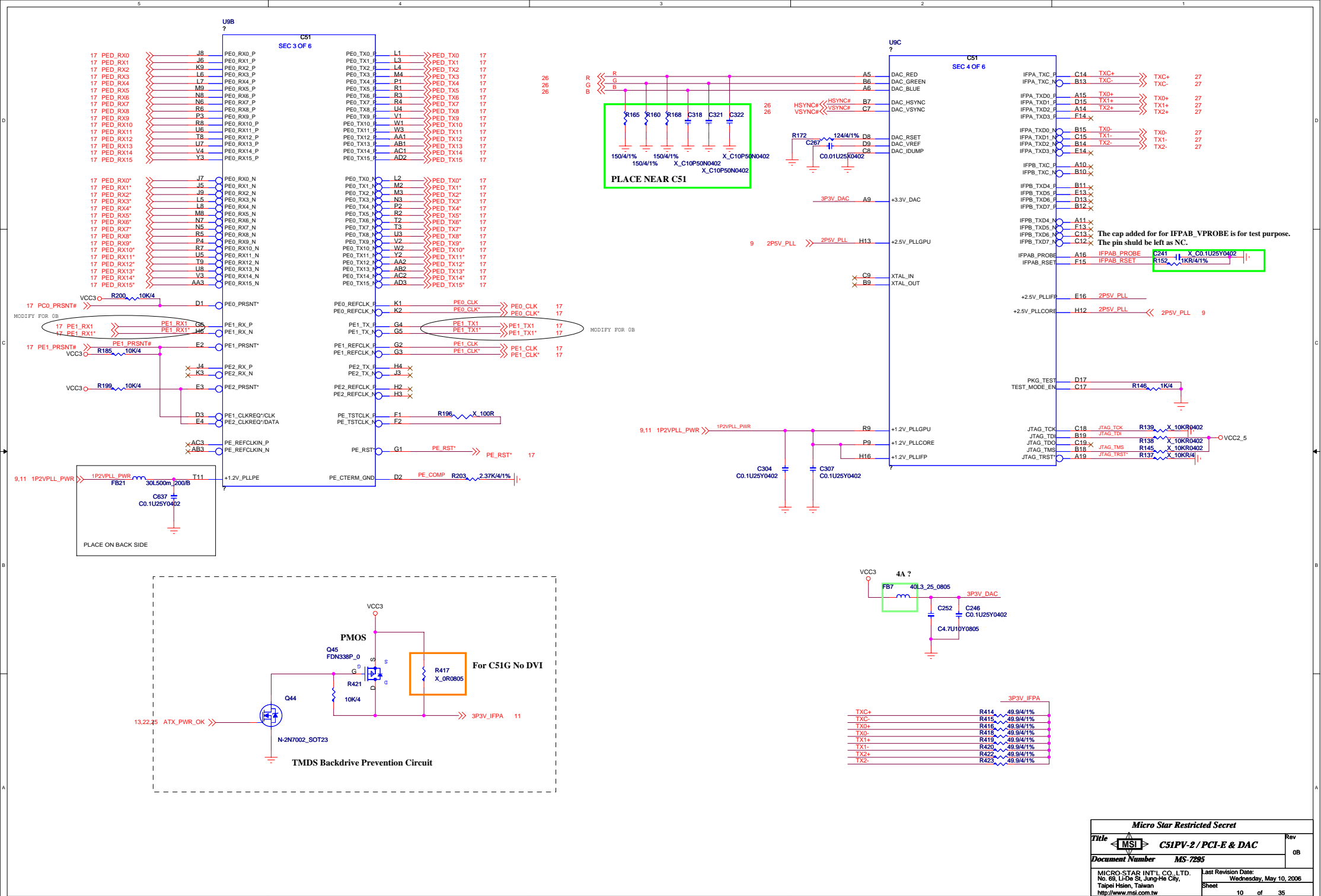


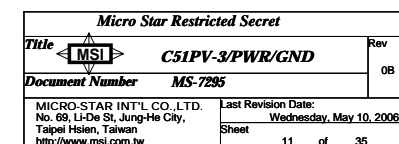
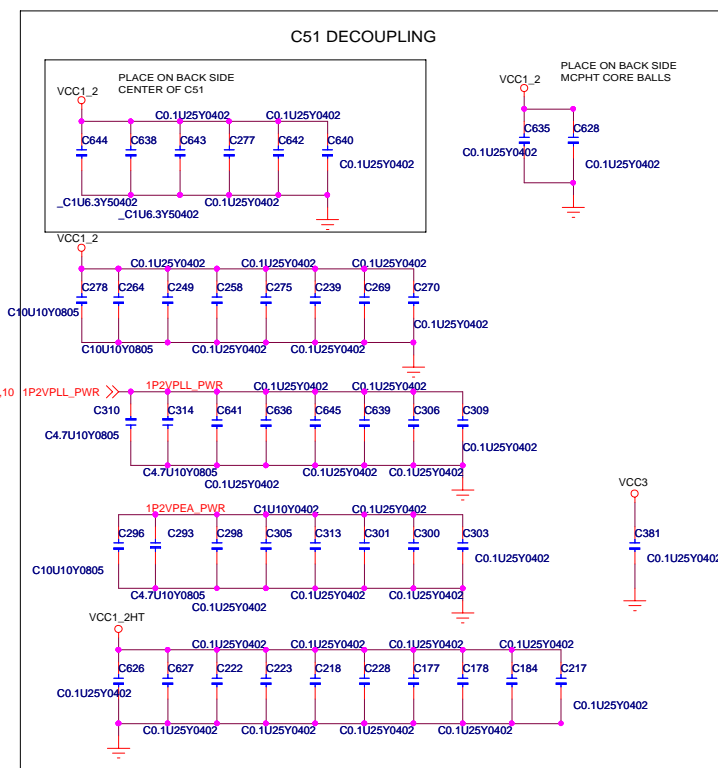


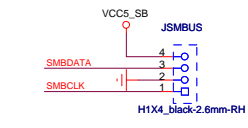
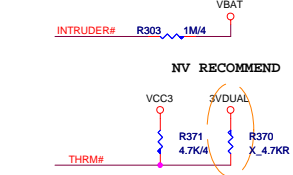
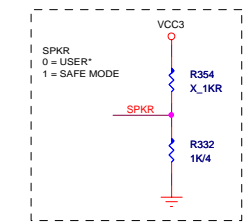
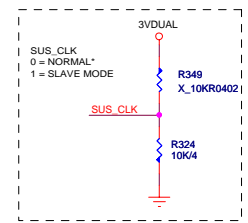
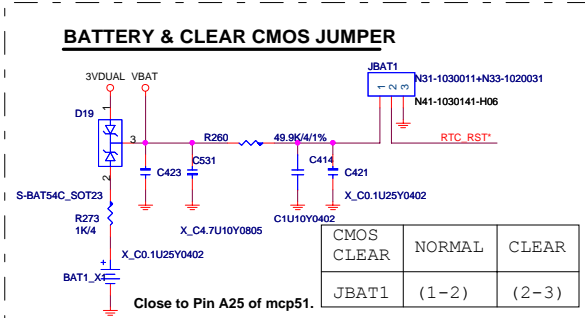
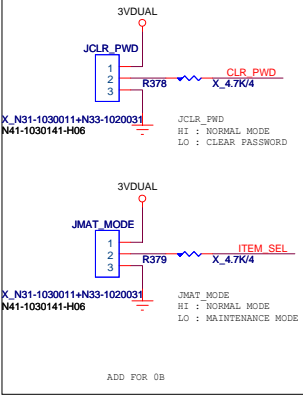
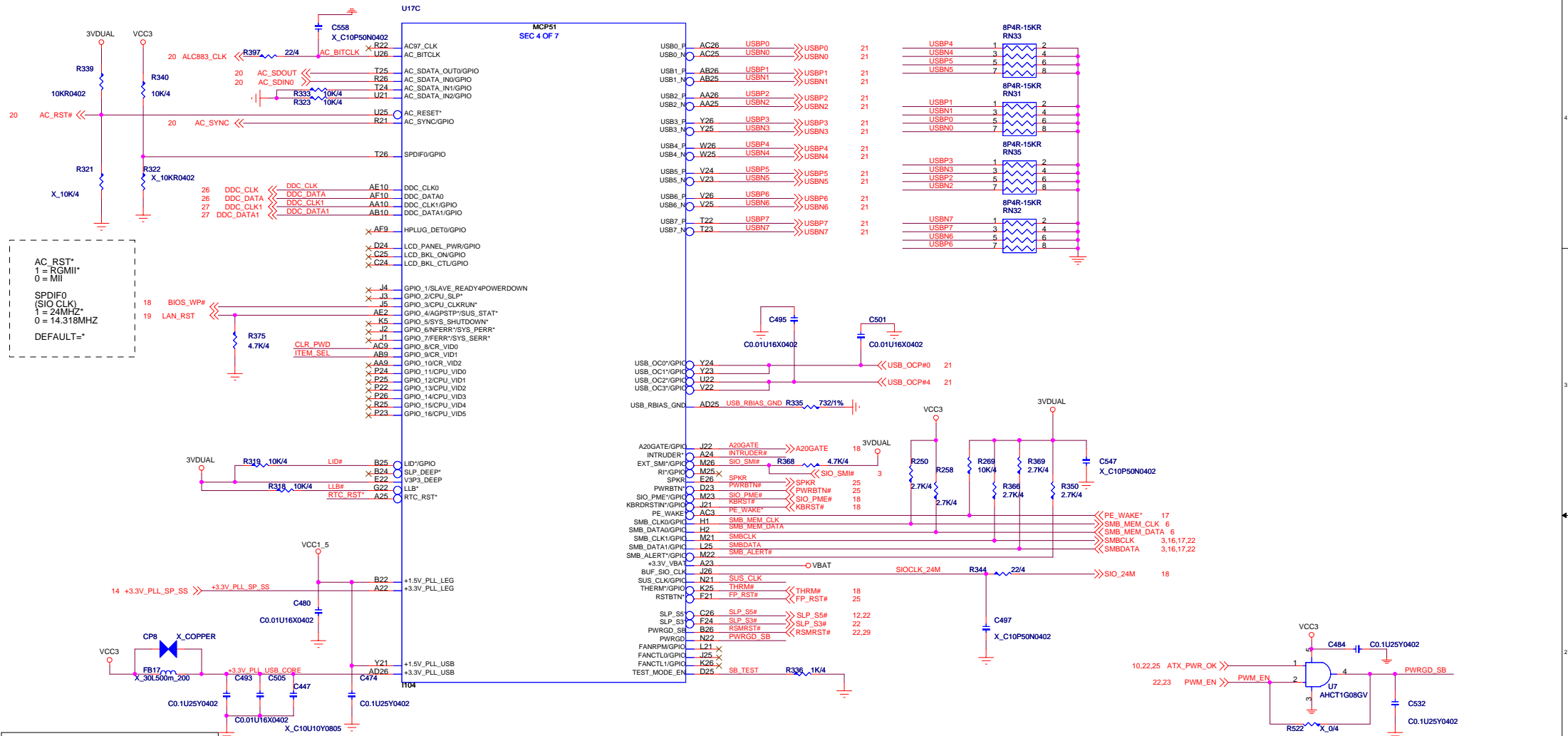


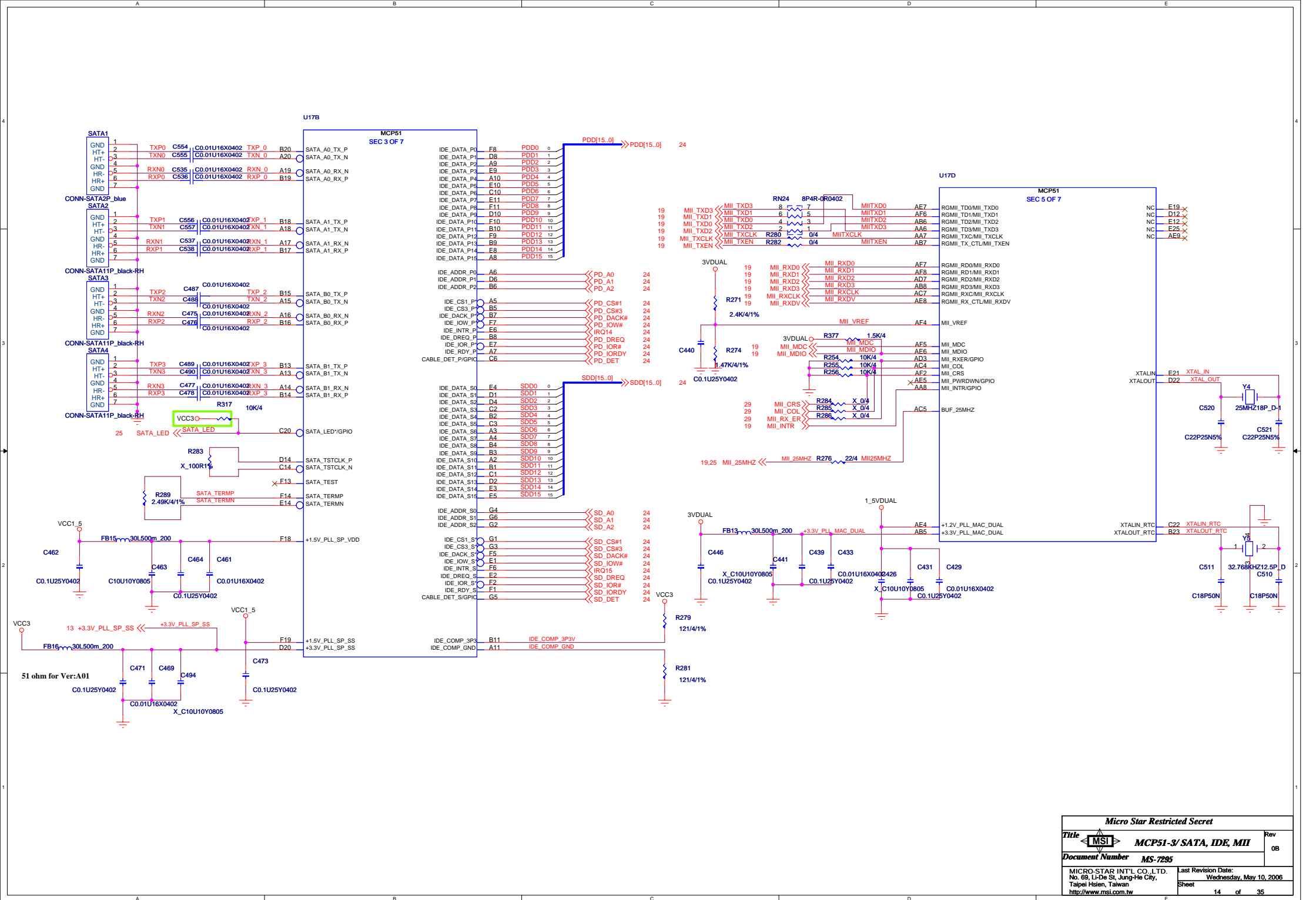


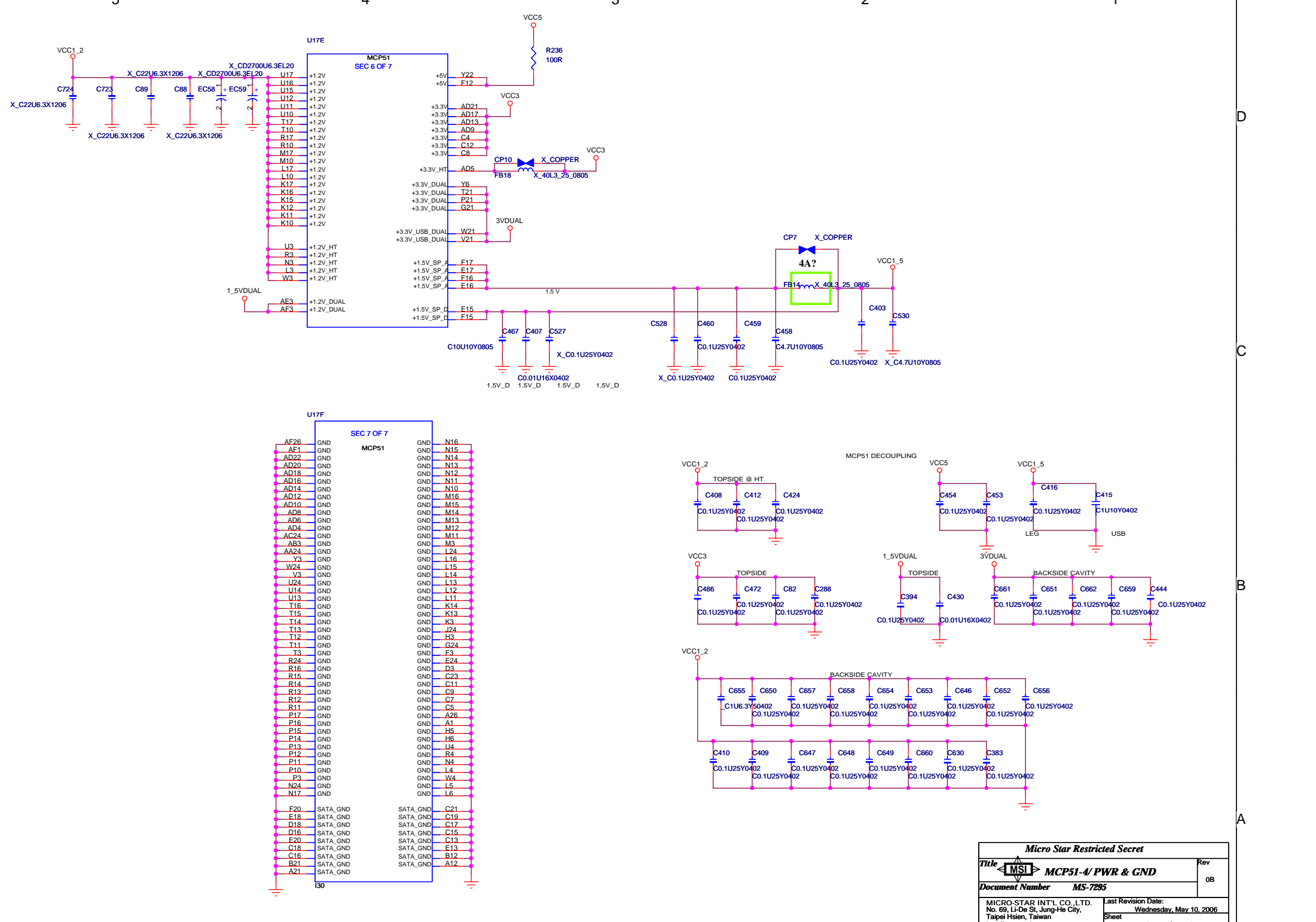


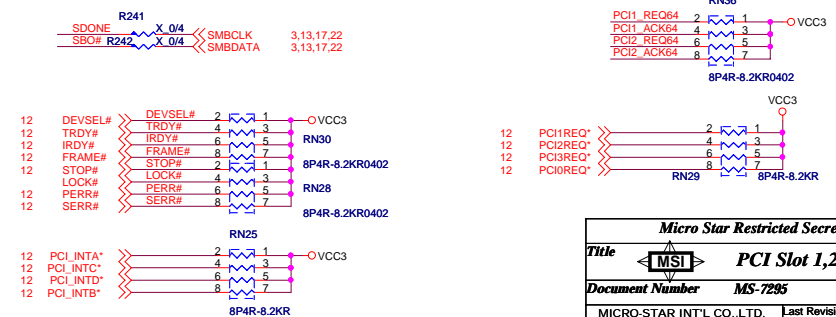
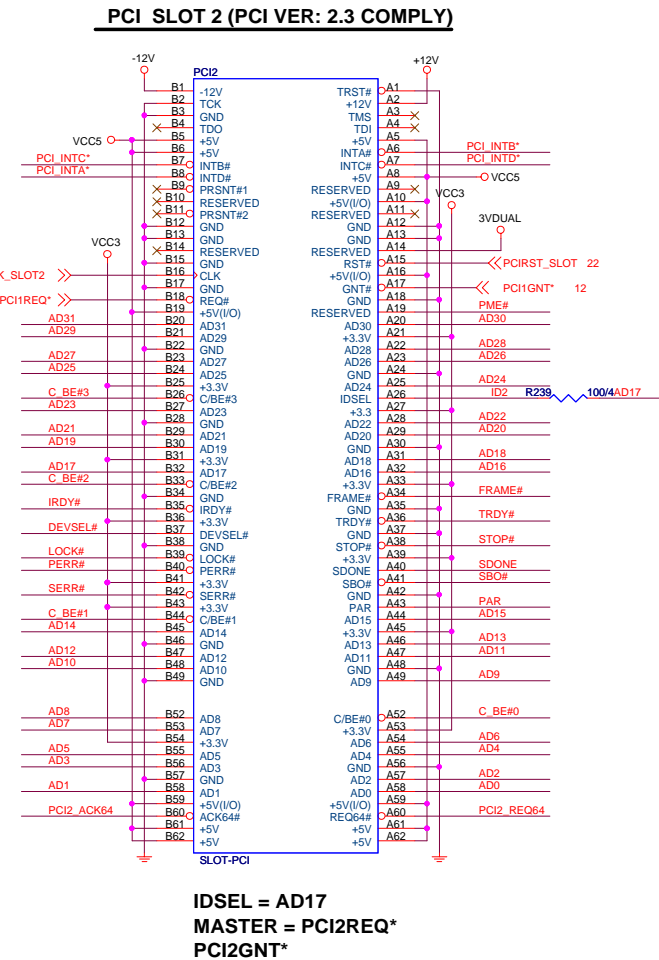







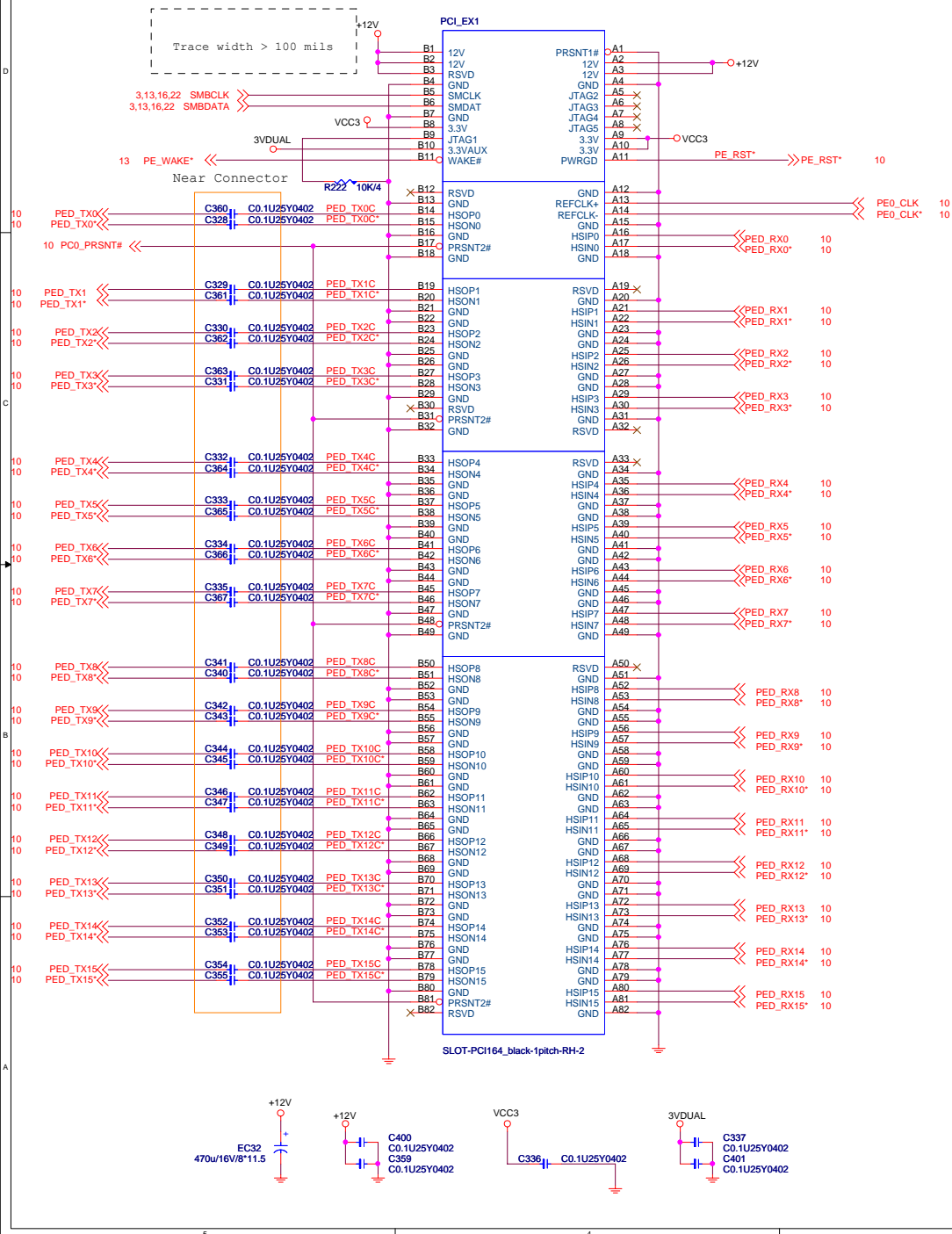




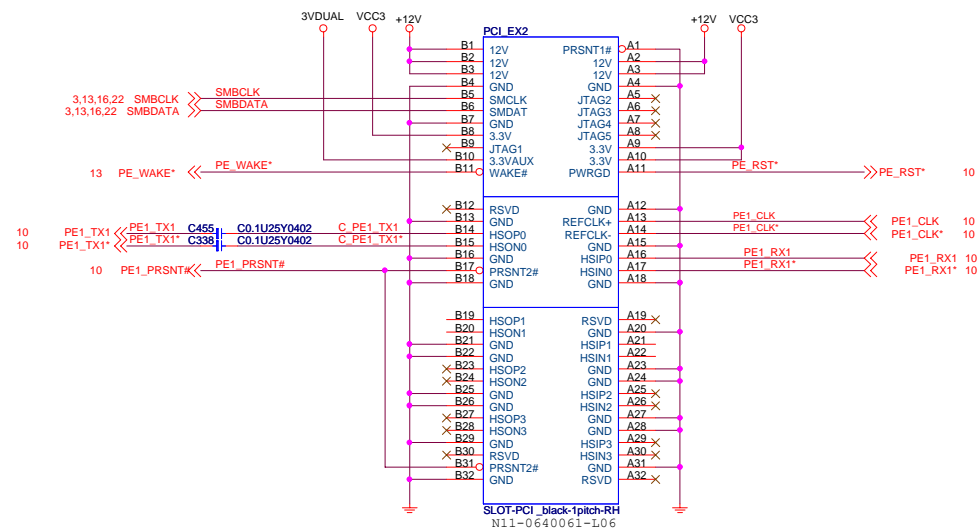


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Title	 <i>PCI Slot 1,2</i>	Rev
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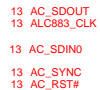
PCI EXPRESS_16



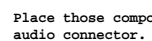
PCI EXPRESS x4-PORT



ALC883 CODEC



Speaker Out Decoupling



AUDIO CODE REGULATORS



SPDIF OUT



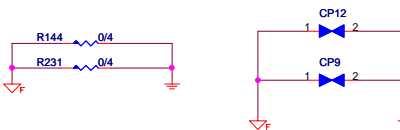
Rear audio jack



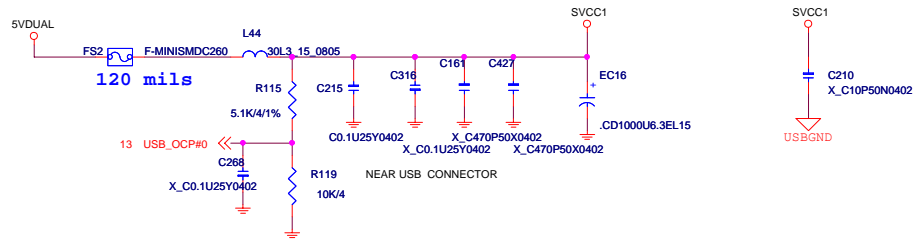
ALC883 JACK DETECT



EMI Solution

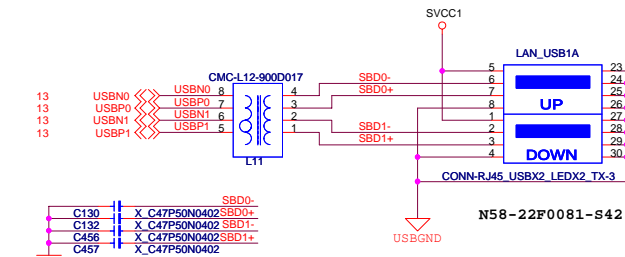
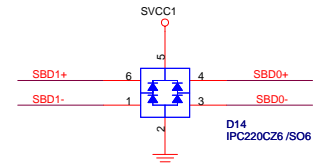


POWER CIRCUIT FOR USB PORT 0,1,2,3



REAR PANEL USB CONNECTOR FOR USB PORT 0,1

ESD Protection

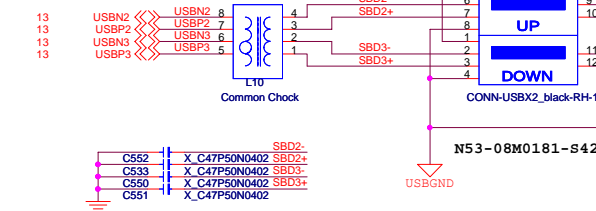
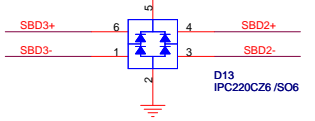


NEAR USB CONNECTOR

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

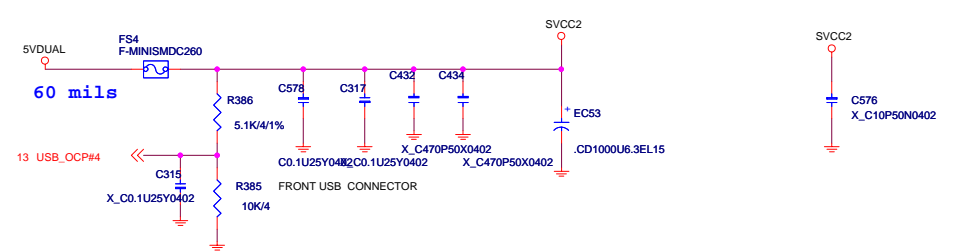
REAR PANEL USB CONNECTOR FOR USB PORT 2,3

ESD Protection



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

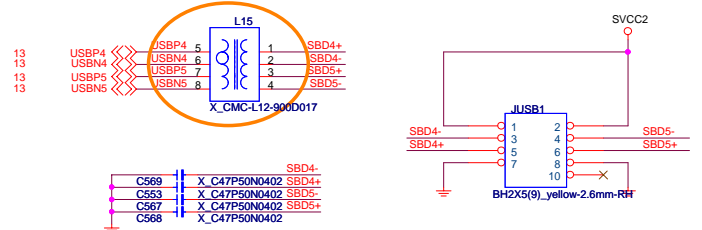
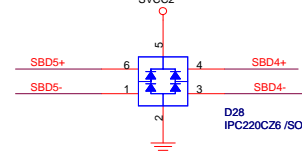
POWER CIRCUIT FOR USB PORT 4,5,6,7



FRONT PANEL USB CONNECTOR FOR USB PORT 4,5

Reserved, can be taken off riser card within bead

ESD Protection

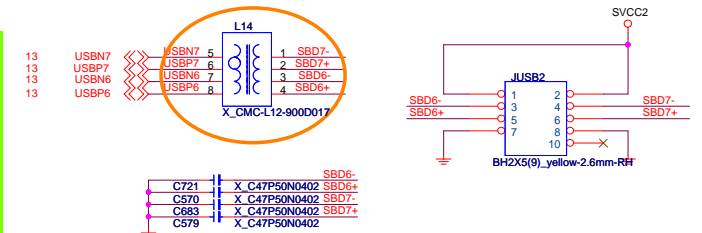
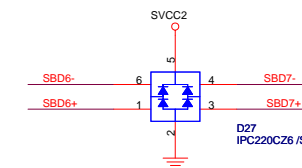


NEAR USB CONNECTOR

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

FRONT PANEL USB CONNECTOR FOR USB PORT 6,7

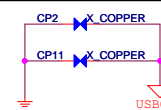
ESD Protection



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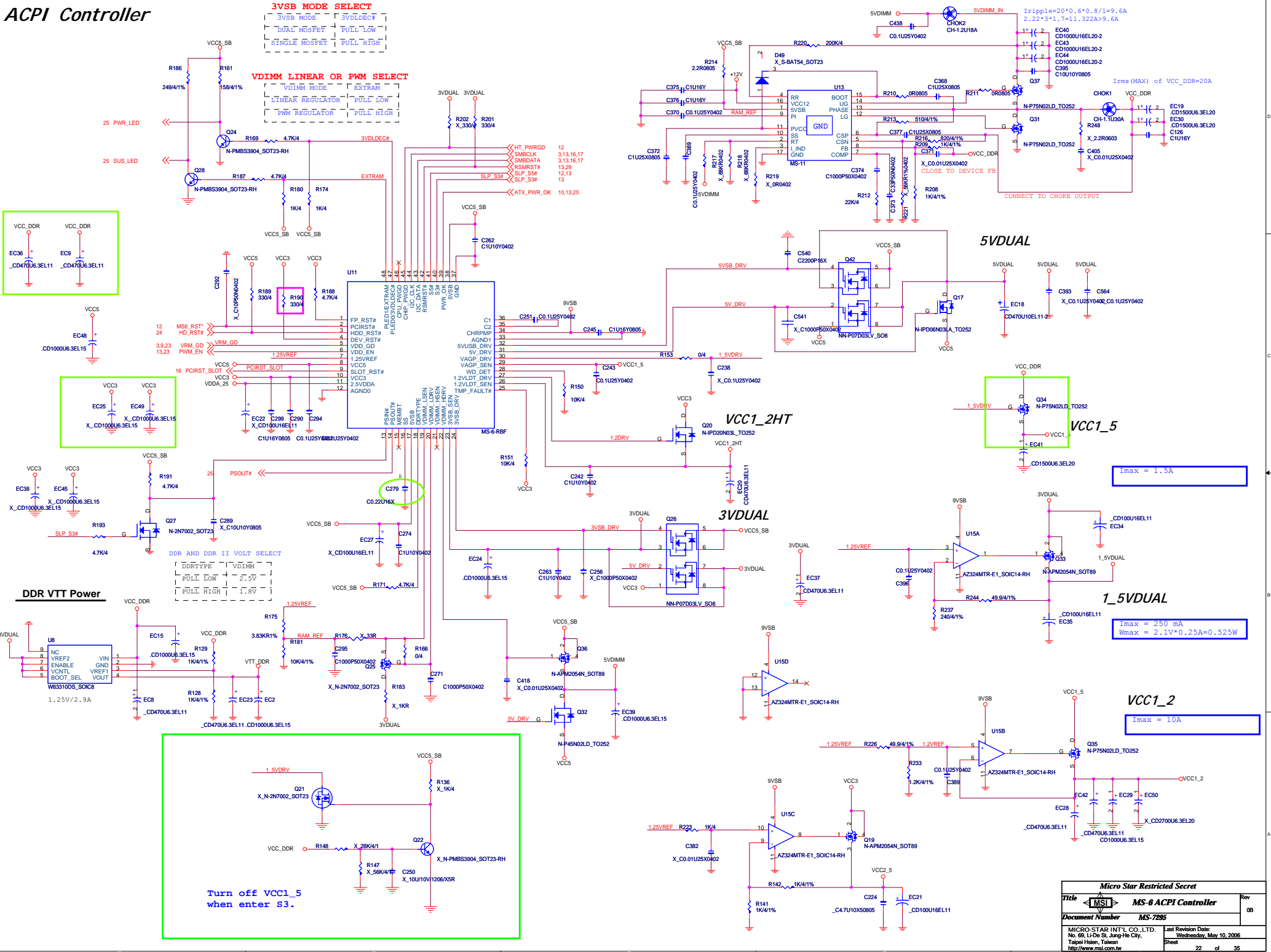
22 / 7.5 / 7.5 / 7.5 / 22 / 7.5 / 7.5 / 7.5 / 22

EMI TEST



		MICRO-STAR INT'L CO., LTD.	
Title		USB CONNECTORS	
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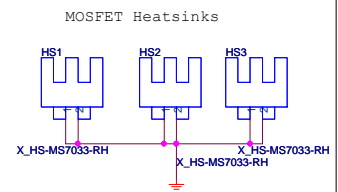
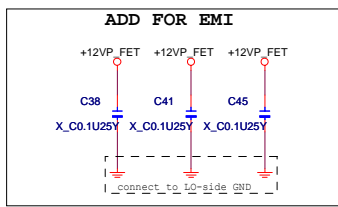
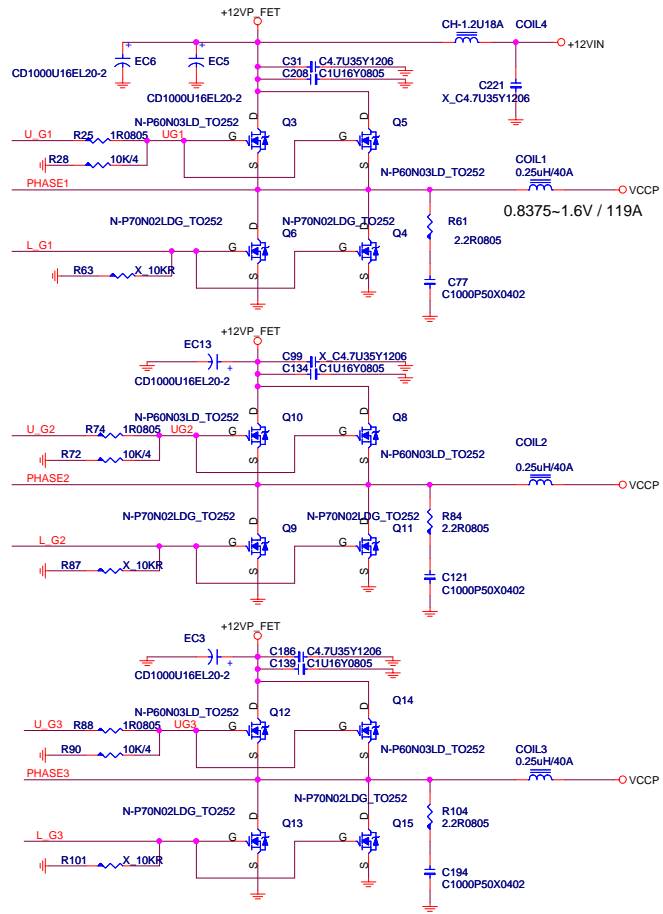
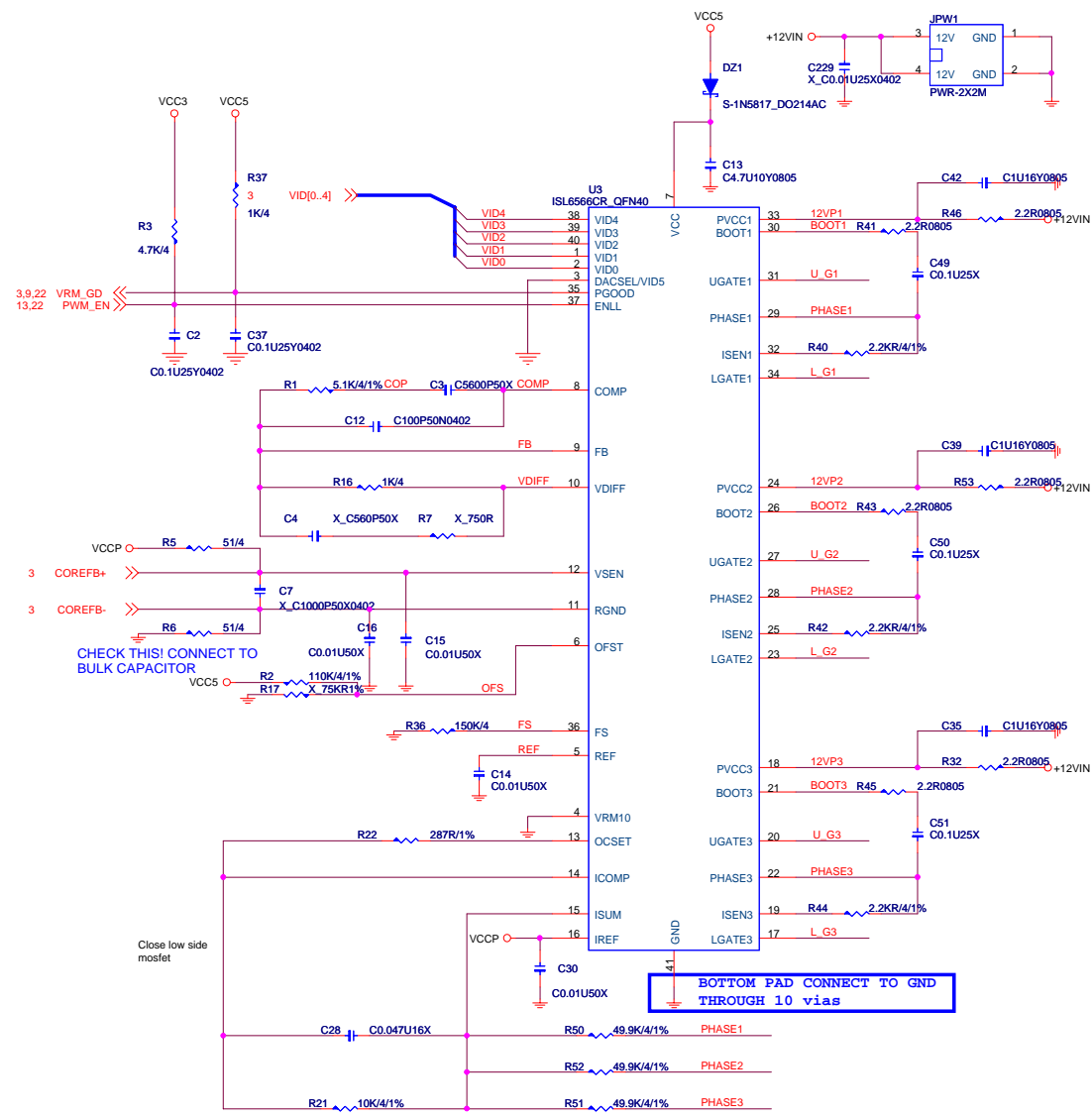
ACPI Controller



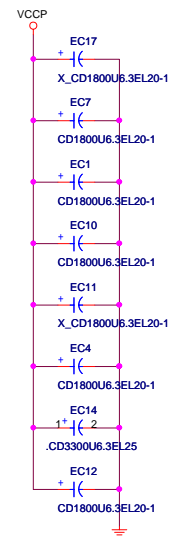
Voltage Regular Module

IPF06N03LA Rds(on)=8.7mΩ (@4.5V, 30A) , Vgs(Th)=1.2~2V, Id=50A, Ciss=3110pF, Qg=10nC, Vds=25V, Vgs=±20V
C100U2SP ESR<13mΩ, Ripple cur.<2.7A, LC<12uA, 105C
.CD3300U6.3EL25 ESR<12mΩ, Ripplecur.<2800mA, 105C, longlife3000hrs, KZJSeries
560u_2.5V ESR=6mΩ, Ripplecur.=4400mA, Lc.<500uA, 105C/2000hrs
1800UF/6.3V ESR<12mΩ, Ripplecur<2350mA, 105C, longlife change from 2000hrs to 3000hrs ,KZJ series
0.6uH/40A 0.6u/20%, Isat=40A, Rdc=1.2m ohm, PEW wire
CH-1.2U18A 1.2u/20%, Dip-2/vertical 7.5mm, 1.2ψ/5.5turns, 18A

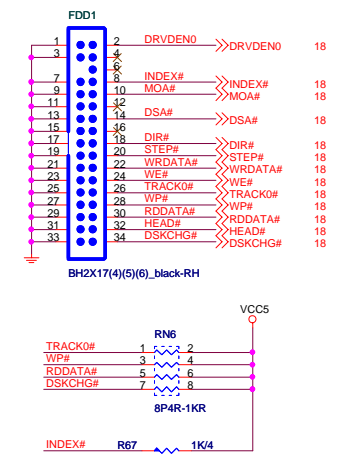
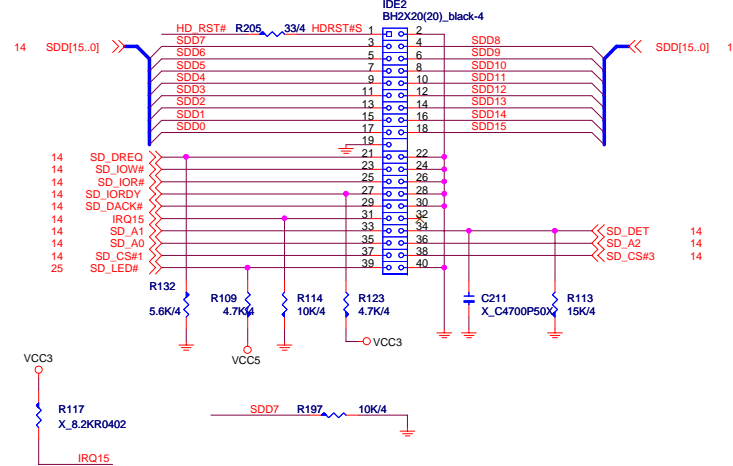
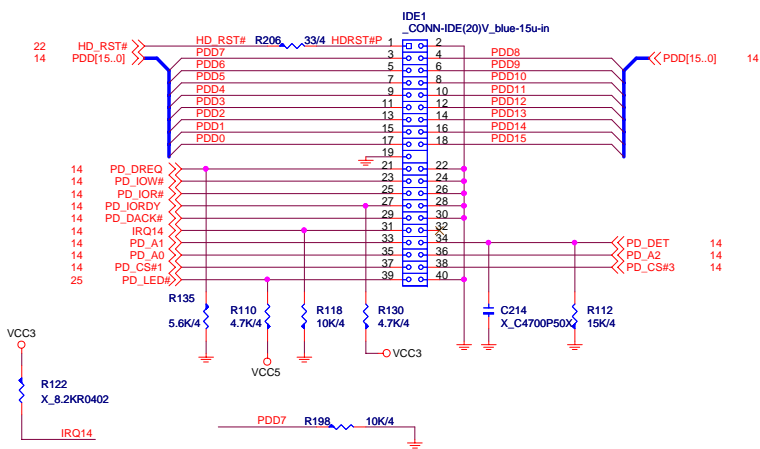
TDP = 115 W
VR_TDC = 101 A
Icc(max) = 119 A
Tejas Tcase = [P x 0.213] + 43.3
Prescott Tcase = [P x 0.25] + 43.3

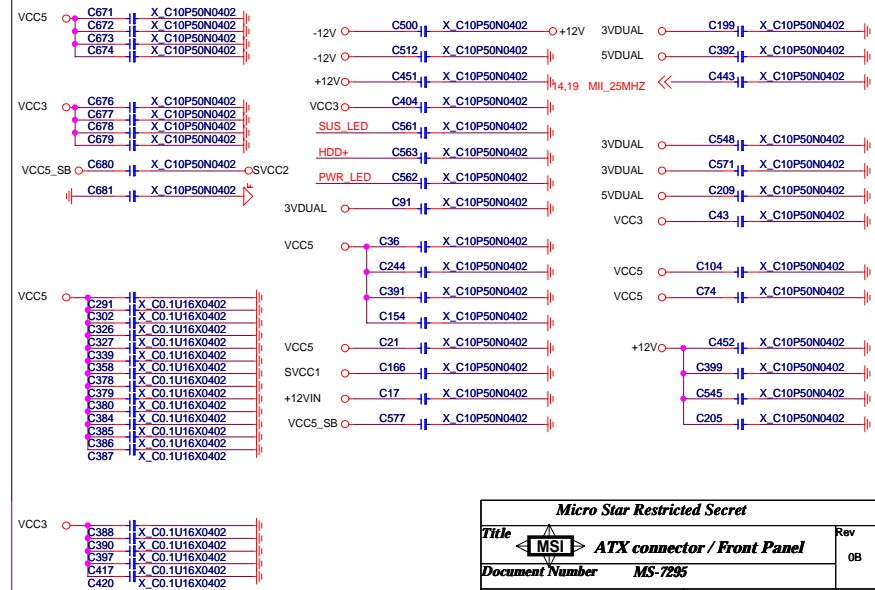
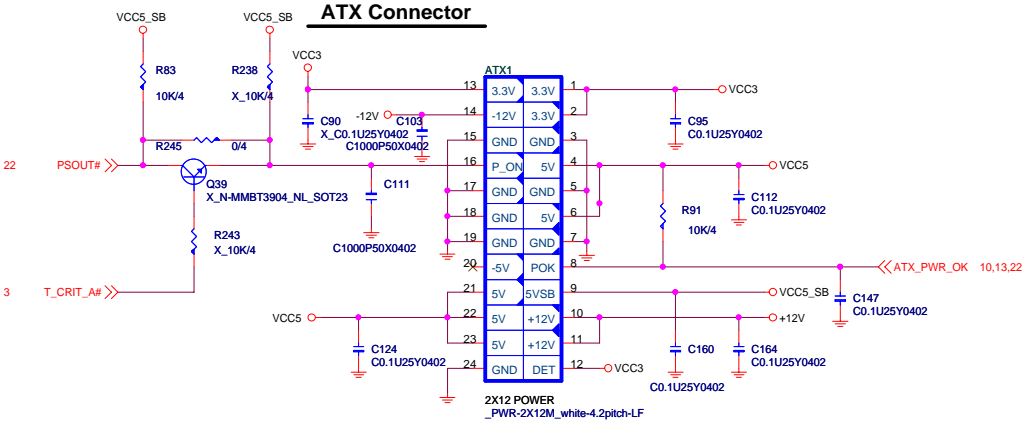
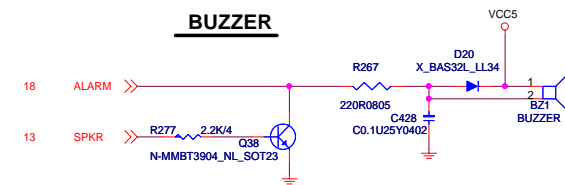
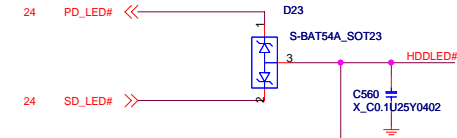


EL Capacitors



MSI MICRO-STAR IN'L CO., LTD.			
Title Intersil 6565ACV 3 Phase			
Size	Document Number	MS-7295	
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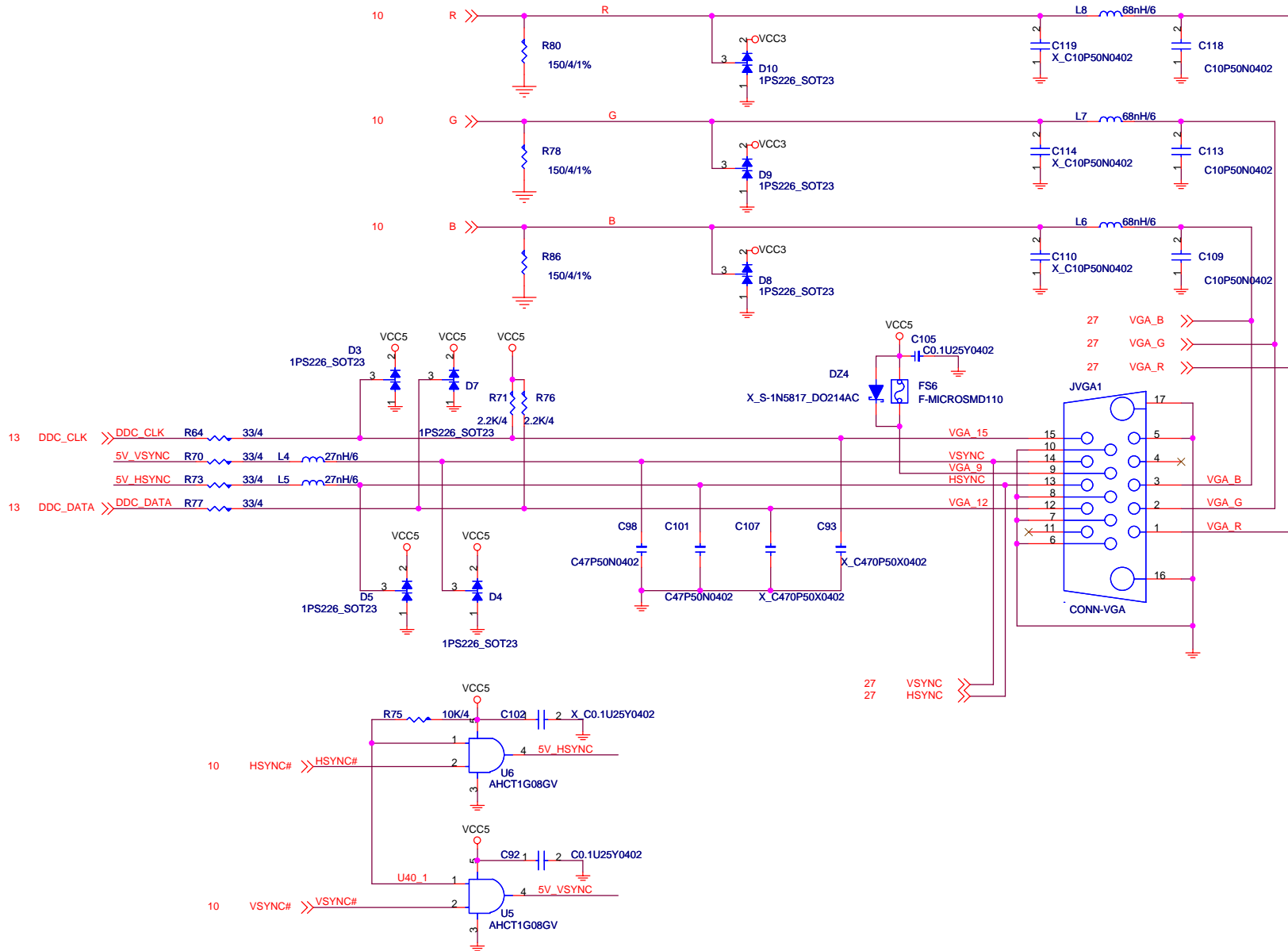
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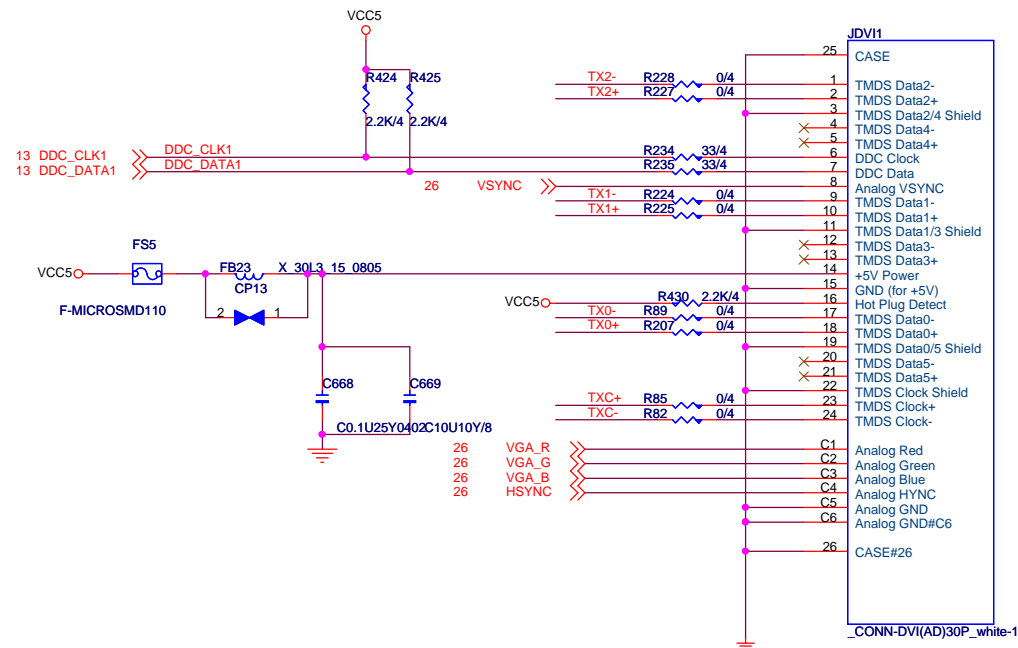
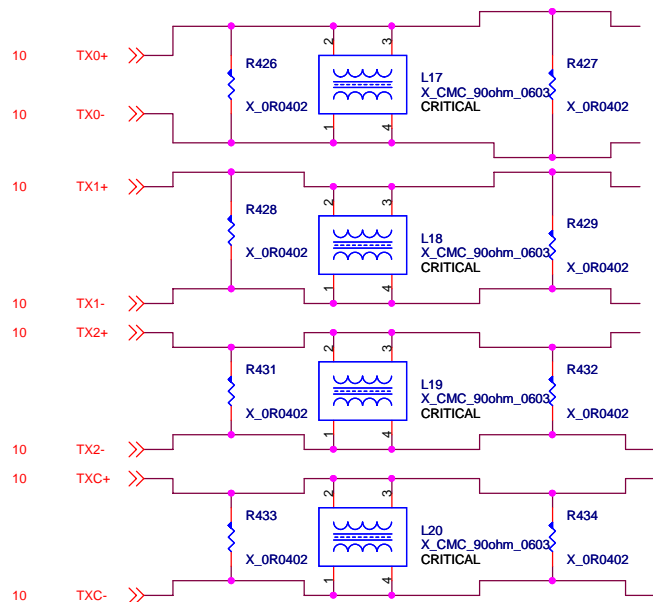
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VGA CONNECTOR

close VGA connector

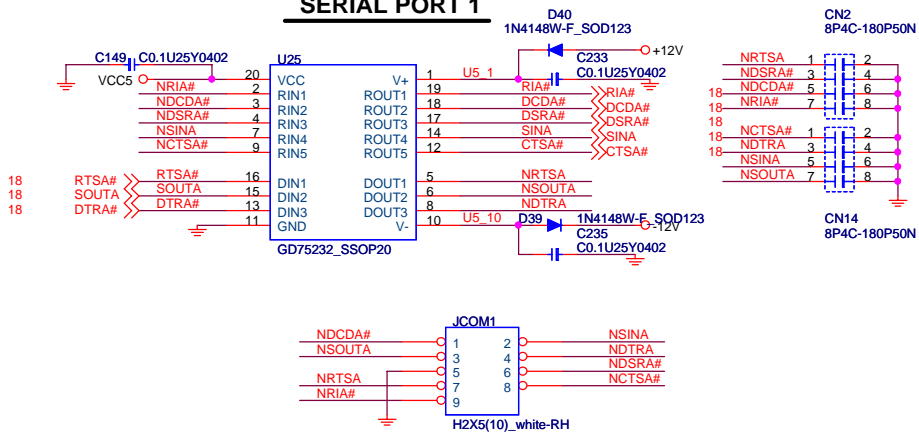


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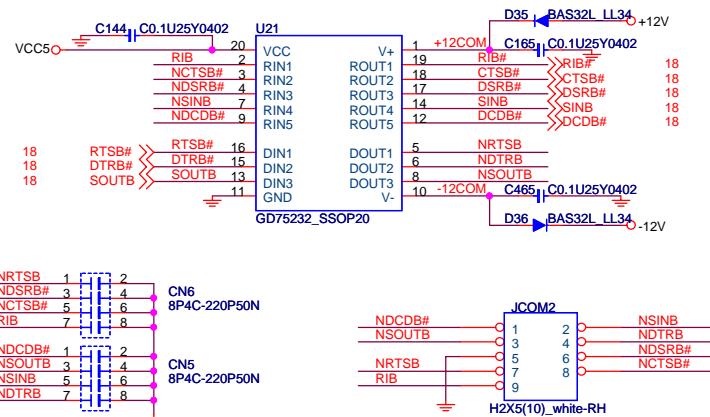


Micro Star Restricted Secret		
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Document Number	MS-7295	
MICRO-STAR INT'L CO.,LTD. No. 89, Li-De St, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Wednesday, May 10, 2006 Sheet 27 of 35

SERIAL PORT 1

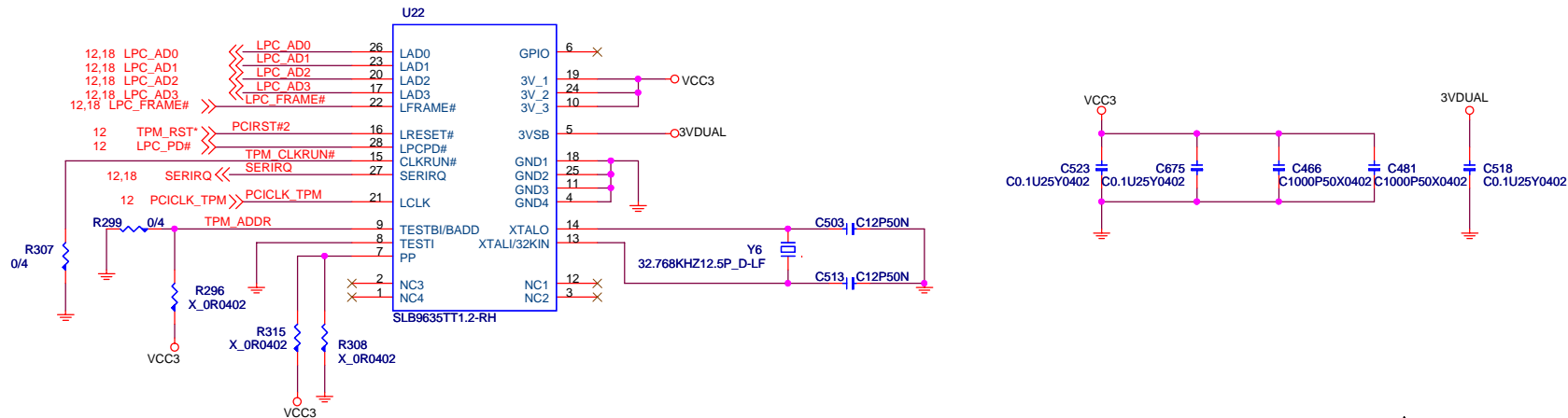


SERIAL PORT 2

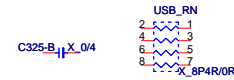
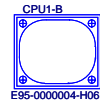
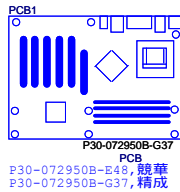
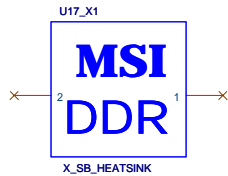
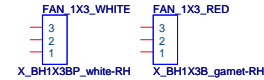
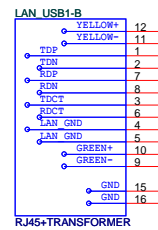
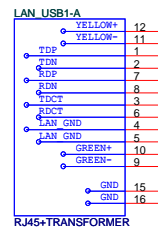
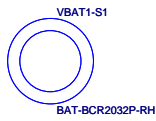
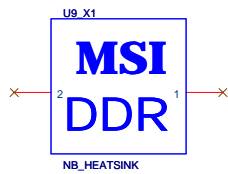


TPM 1.2

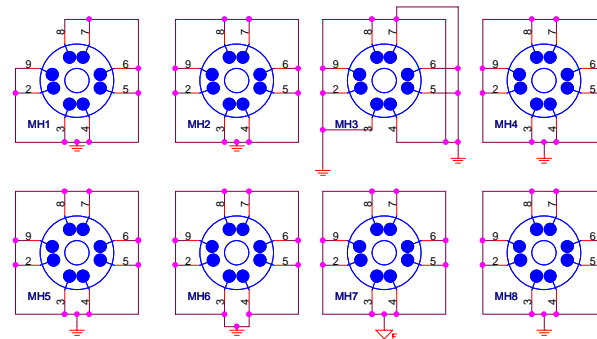
IO Address:0x02E



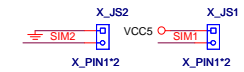
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Title: COM PORTS & TPM 1.2			
Size	Document Number		Rev
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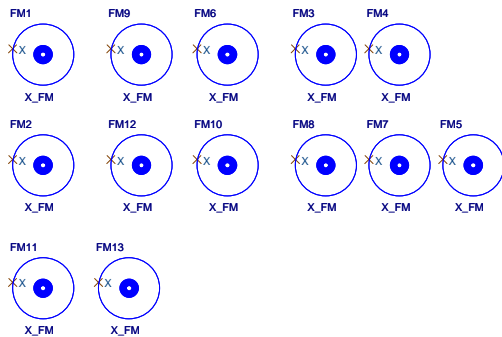
Mounting Holes



Simulation



Optics Orientation Holes



ver : 0A data : 2006 / 03 / 23

Modify for AMD check list

Page03 : HT_STOP_L, LDT_RST_L and CPU_PWRGD_L have 330 ohm pullup resistors (RN5). The recommend value for the pullup resistors is 300 ohms (5%).
Page03 : Add level shifting to RESET_L . modify R23 pin1 & J1 pin24 from LDT_RST_L to LDT_RST.
Page05 : change caps(C34,C52,C202,C172) value to 180-pF.
Page03 : Change the part of L2 position , change the part to L02-4008044-C08.
Page03 : Add a level shift circuit for AMD test tool.
Page05 : Add 2x 1uF caps (C670 & C682) from VDDIO to VCCP .
Page05 : Add a fuse (FS3) for PS2 power .

Modify for nVidia check list

Page26 : Remove D21,D31, R285,R440 for MCP51 A03 .
Page26 : Add a poly fuse (FS6) for VGA power.
Page27 : Reserved 0Ω series resistor close to DVI connector.
Page14 : Add 10 kΩ pull-down resistors for MII_RXER,MII_COL,MII_CRS
Page14 : Add a Pull-up resistor(R377=1.5 kΩ) to RG/MII_MDIO
Page13 : Change strap pin (AC_RESET#) to pull up , to select RGMII mode.
Page15 : Add a bypass cap (C425 0.01uF) for 3P3_IFPA_L .
Page27 : Add damping resistors (R234 & R235 33ohm) for DDC_CLK1 & DDC_DATA1 .
Page19 : Add a damping resistor (R526 0ohm) for RG/MII_INTR .
Page21 : Reserved bypass caps (C161 , C427 , C432 & C434 470pF) for SVCC1 & SVCC2 .
Page16 : Add Pull-up resistors (RN36= 8.2KΩ) for ACK64# & REQ64# (PCI solt pin)
Page14 : Reserved bypass cap (C494 10uF) for +3.3V_PLL_SP_SS
Page15 : Reserved bypass caps (C527 & C528 0.1uF) for +1.5V_SP_A & +1.5V_SP_D
Page15 : Add a damping resistor (R236 100ohm) for +5V
Page15 : Rerserved a ferrite bead (FB18) for +3.3V_HT
Page14 : Reserved bypass cap (C530 4.7uF) for +1.5V_SP_A
Page13 : Reserved bypass cap (C531 4.7uF) for +3.3V_VBAT
Page09 : Reserved bypass cap (C435 4.7uF) for 2P5V_PLL
Page13 : Reserved bypass cap (C447 10uF) for +3.3V_PLL_USB_CORE
Page26 : Reserved bypass caps (C107 & C93 470pF) for DDC_CLK & DDC_DATA .
Page21 : Reserved bypass caps (47pF) for USB1.1 mode .
Page22 : Reserved bypass caps and place near Q35 (EC50 2700uF) for VCC1_2.
Page11 : Reserved bypass caps (C80 & C81 22uF) for VCC1_2.
Page11 : Reserved bypass caps (C85 47uF) for 1P2VPLL_PWR.
Page15 : Reserved bypass caps place near MCP51(EC58 & EC59 2700uF) for VCC1_2.
Page15 : Reserved bypass caps place near MCP51(C88,C89,C723 & C724 22uF) for VCC1_2.
Page26 : Reserved a diode(DZ4 1N5817) co-lay with FS6 for VGA power.

Modify for MSI

Page03 : Modify LM90 circuit , THERMDA_CPU connected to D+ & THERMDC_CPU connected to D- .

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ver : 0B      data : 2006 / 05 / 04
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Modify for MSI

Page19 : Modify lan circuit (MII_RXD0~3)

Page10 : Modify PCI_EX2 CIRCUIT (PE1_RX1/PE1_RX1* & PE1_TX1/PE1_TX*)

Page13 : ADD JUMPER SELECT FOR CLEAR PASSWORD & MAINTENANCE MODE

Page20 : Modify codec circuit for co-lay ALC888