

Cover Sheet	1
Block Diagram/Clock Map/Power Map	2-4
ATom 330 1.6G	5-6
Intel 945GC	7-10
Intel ICH7 - PCI & DMI & CPU & IRQ	11
Intel ICH7 - LPC & ATA & USB & GPIO	12
Intel ICH7 - POWER	13
Clock - RTM876-665	14
LPC I/O - Fintek 71882FG	15
LAN REALTEK RTL8111C/8101E	16
DDR II System Memory & DDR II VTT Decoupling	17-18
Azalia - ALC888	19
PCIEx1 Slot 1	20
SATA/IDE/PS2 Connectors	21
USB Connectors	22
ATX Connetcor & Front Panel	23
uPI ACPI	24
DDR Power solution	25
VGA Connector	26
VRM ISL6314CRZ	27
MANUAL PARTS	28
History	29
BIOS Request Form	30

MS-7314

Version 2.0

CPU: Atom 330 - 1.6G

System Chipset:

Intel 945GC (North Bridge)

Intel ICH7 (South Bridge)

On Board Chipset:

BIOS -- SPI

HD -- ALC888

LPC Super I/O -- F71882FG

LAN-- REALTEK RTL8101E

CLOCK -- RTM876-665

Main Memory:

DDR II *1(Max 2GB) One Channel 2 DIMM

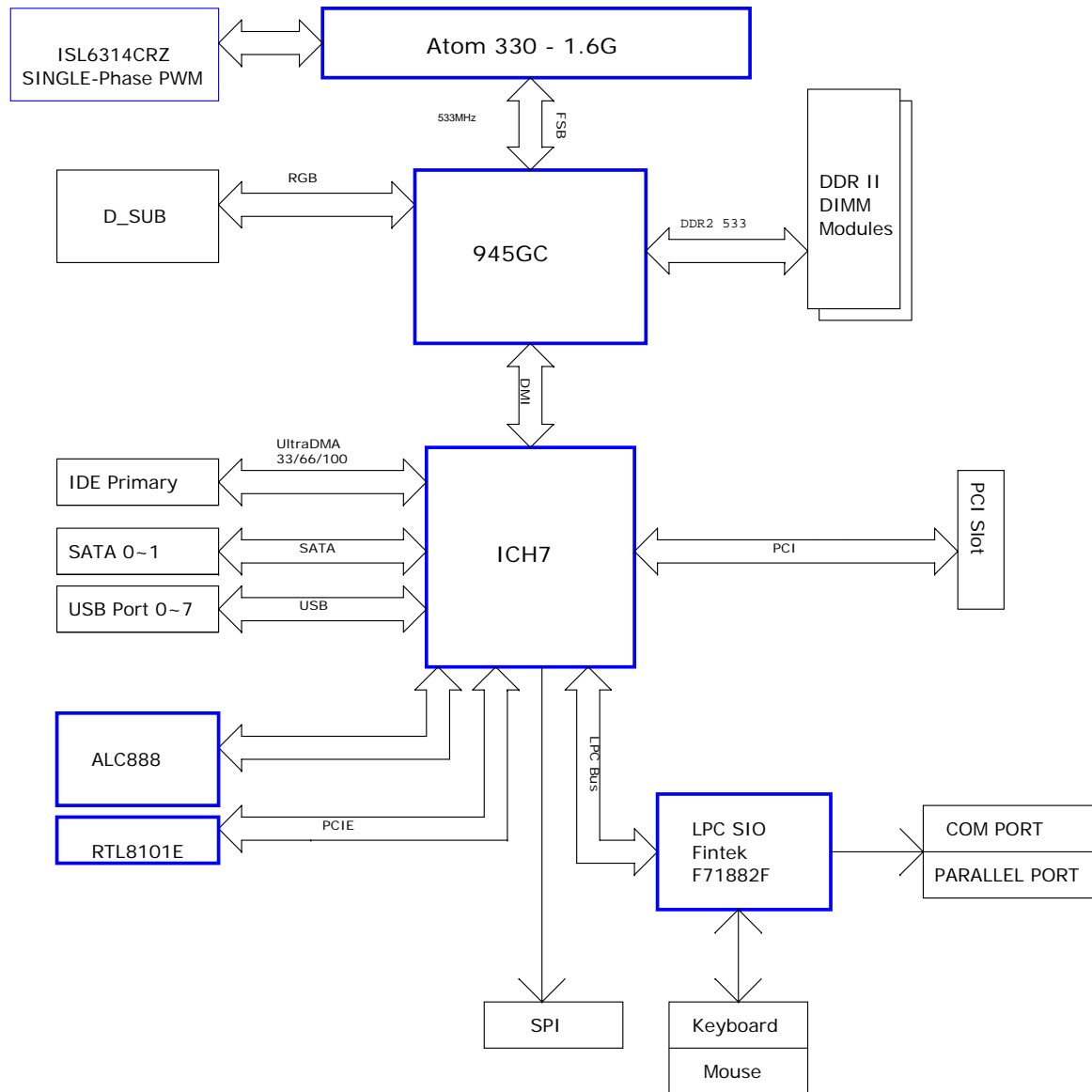
Expansion Slots:

PCIEX1 SLOT * 1

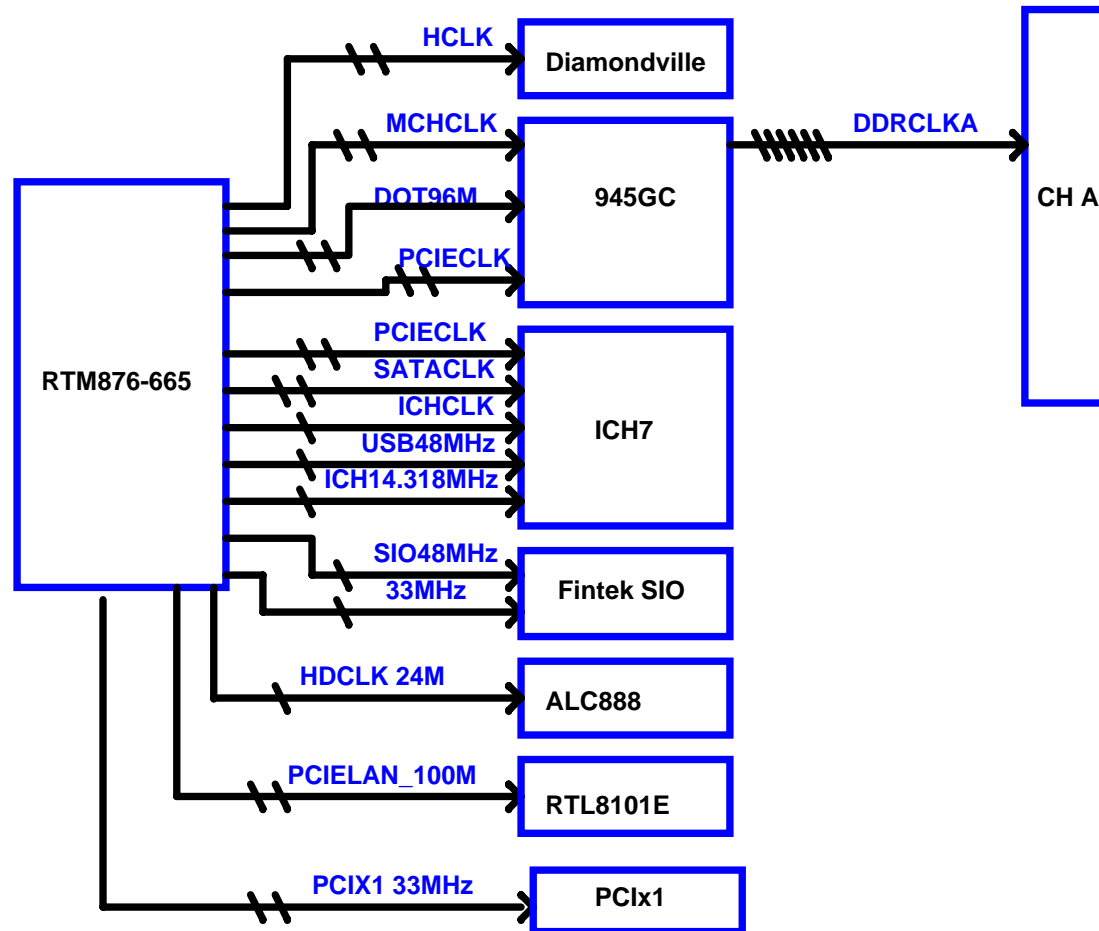
PWM:

ISL6314CRZ SINGLE PHASES

Block Diagram



CLOCK MAP



MICRO-STAR INT'L CO.,LTD

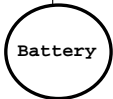
MS-7314

Size Custom	Document Description CLOCK MAP	Rev 20
Date: Tuesday, August 26, 2008	Sheet 3 of 31	

Processor
Vcore=1.1V/7.5A
V_FSB_VTT=1.1V/2.5A
VCCA=1.5V /130mA

945GC
1.1V FSB Vtt-0.9A
1.8V DDR2 I/O-4.4A(S0,S1)
1.8V DDR2 I/O-25mA(S3)
0.9V DDR2 VREF-2mA
0.9V DDR2 SB_VREF-10uA
DDR2 Resister Comp V-36mA
DDR2 Resis Comp SB_V-10uA
1.5V Core-13.8A(Integrated)
1.5V Core-8.9A(Discrete)
1.5V PCI Express&DMI-1.5A
1.5V PCIE&DMI PLL-45mA
1.5V HOST PLL-45mA
1.5V VCCA_DPLLA&B-55mA
1.5V MPLL-66mA
2.5V DAC-70mA*
2.5V HV-3mA
2.5V CMOS-2.0mA

ICH7
1.1V VCC_CPU-14mA
1.05V Core-2A
VCC1_5A*-1.01A
VCC1_5B*-0.77A
5VRef-6mA
5VrefSus-10mA
+3.3V-0.33A
RTC-6uA(G3)
3.3V VccSus*-52mA
VccSus1_05V-See Note 1
VccUSBPLL-10mA
VccDMIPLL-50mA
VccSATAIPLL-50mA



ISL6314
VCCP
1.1V

VTT Regulator
V_FSB_VTT
1.1V

uP6103 Regulator
VCC_DDR
1.8V

Linear
V_1P5_CORE
1.5V

uP7707 Regulator
V_2P5_MCH
2.5V

1.05V Regulator
V_1P05_CORE
1.05V

uP7706 Regulator
3VSB
3.3V

uP7501 Regulator
5VDIMM
5V

W83310DS Regula
VTT_DDR
0.9V

DDR2 DIMM conn(1) & term
0.9V SM Vtt-1.2A(S0)
1.8V Vdd/vddq-4.7A(S0,S1)

PCI slot
+3.3Vaux-375mA(wake)
+3.3Vaux-20mA(no wake)
+3.3V-7.6A
+5.0V-5.0A
+12V-0.5A
-12V-0.1A

USB
+5V-4A(S0,S1)

PS2
+5V-345mA(S0,S1)

LAN
3VSB-

CLKGEN
+3.3V-560mA

SIO
+3.3V
3VSB-

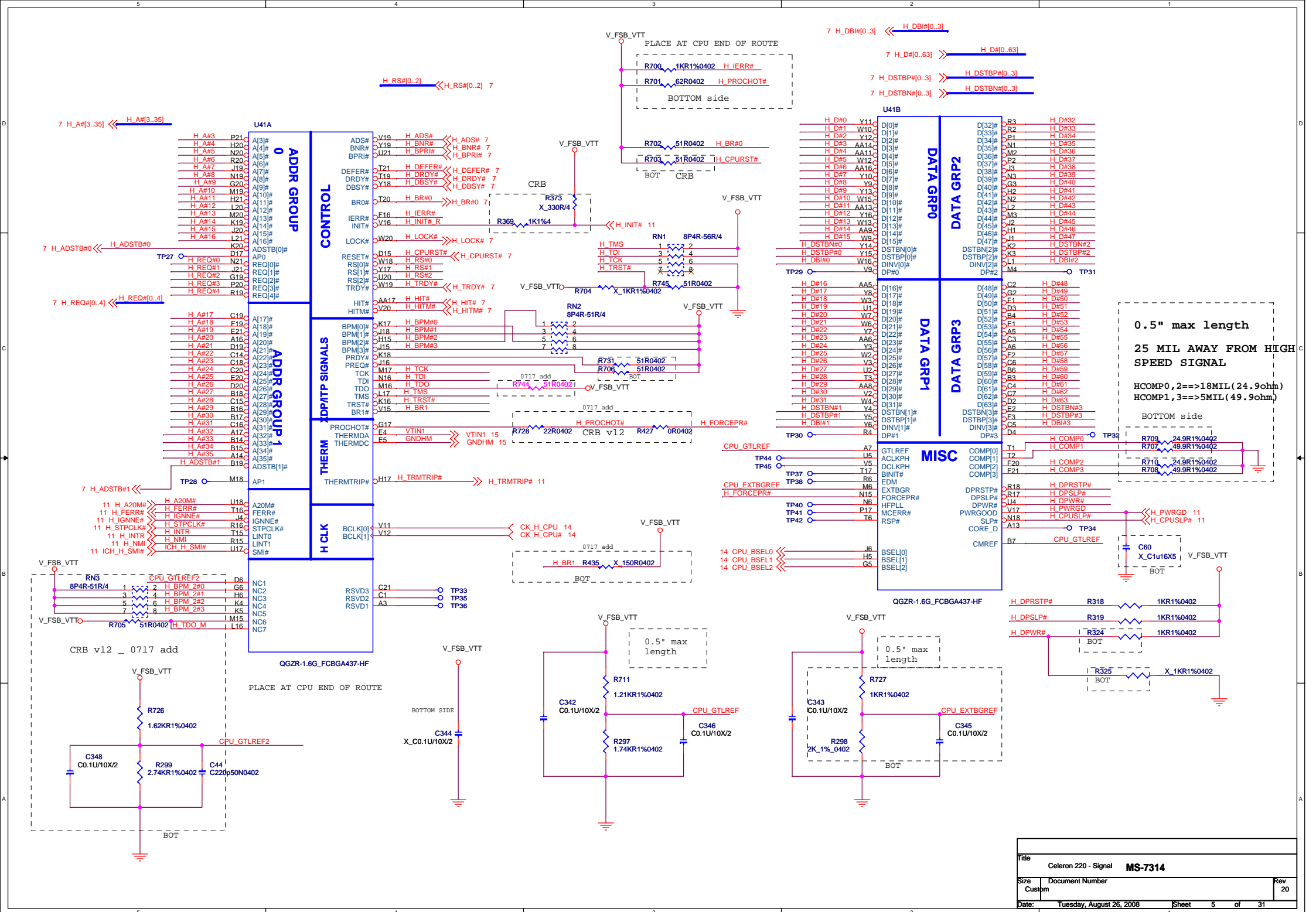
SPI ROM

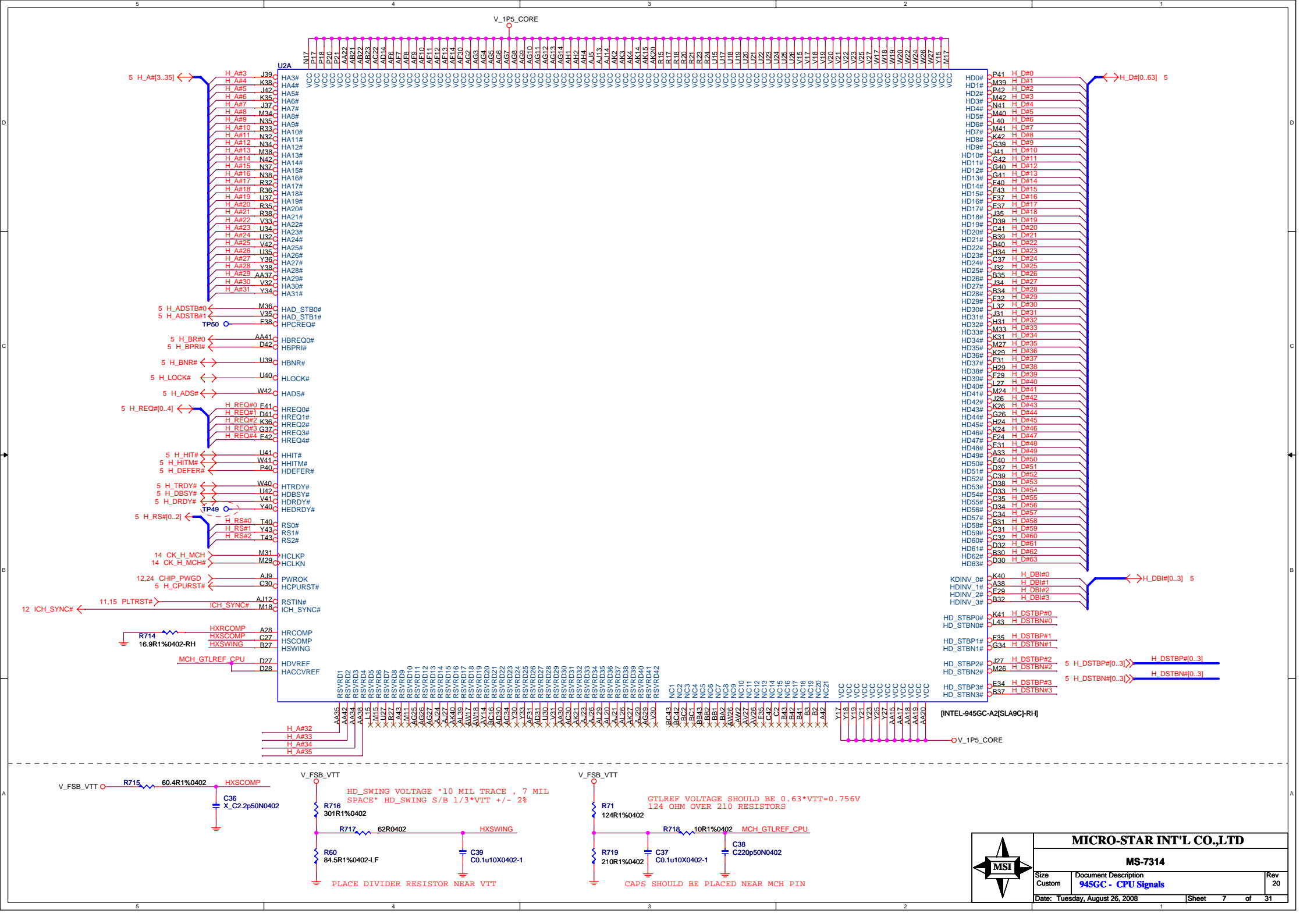
Audio Codec

+12V	+5V	+3.3V	+5VSB
ATX POWER			



MICRO-STAR INT'L CO.,LTD		
MS-7314		
Size Custom	Document Description Power Map	Rev 20
Date: Tuesday, August 26, 2008	Sheet 4 of 31	

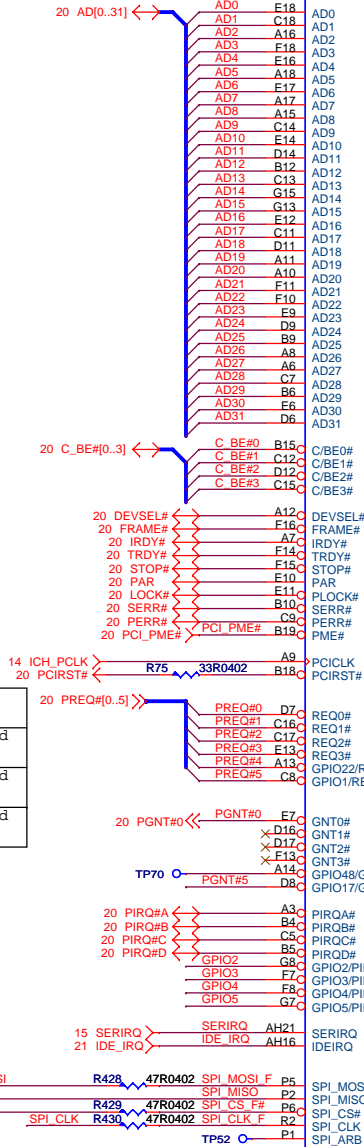
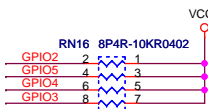
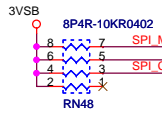
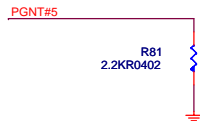






GNT5#	GNT4#	ROUTING
0	1	Flash Cycles Routed to SPI
1	0	Flash Cycles Routed to PCI
1	1	Flash Cycles Routed to LPC

PGNT4# Internal Pull-High



PCI INTERFACE

INTERUPT SPI

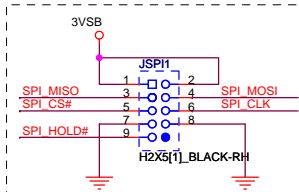
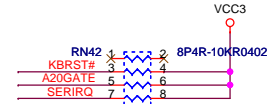
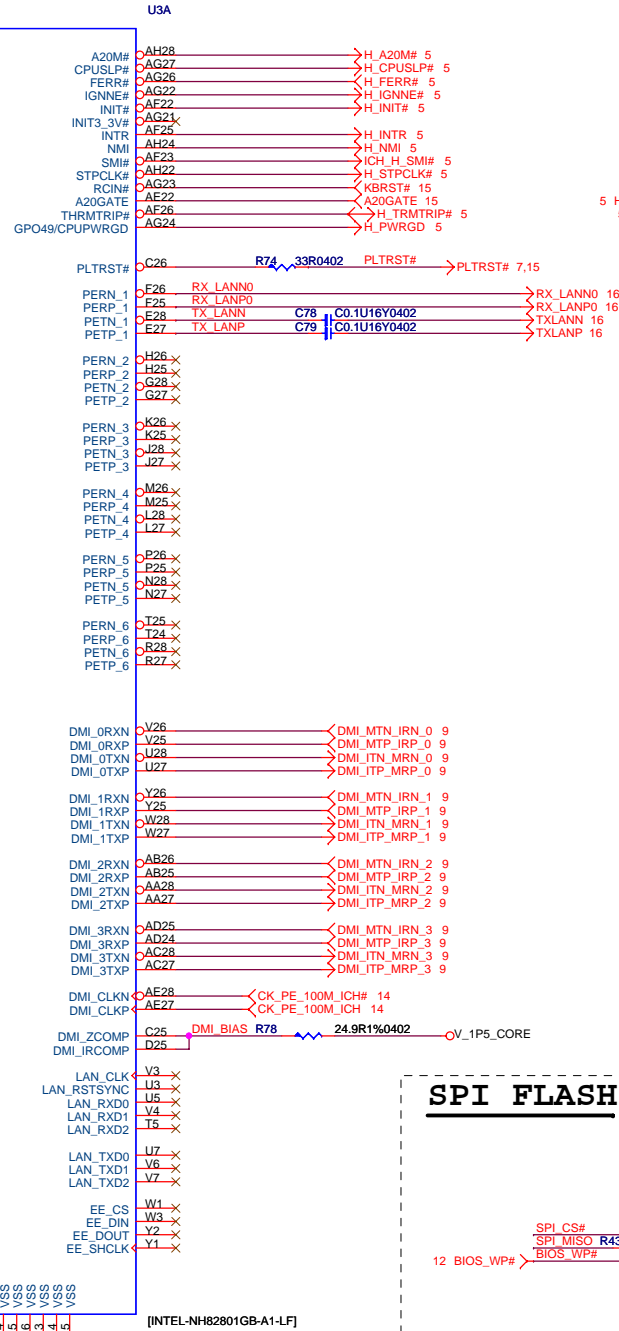
ICH 7 PART 1/3

CPU

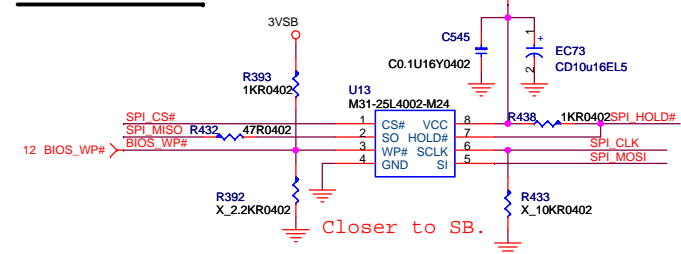
PCI EXPRESS

DIRECT MEDIA

LAN



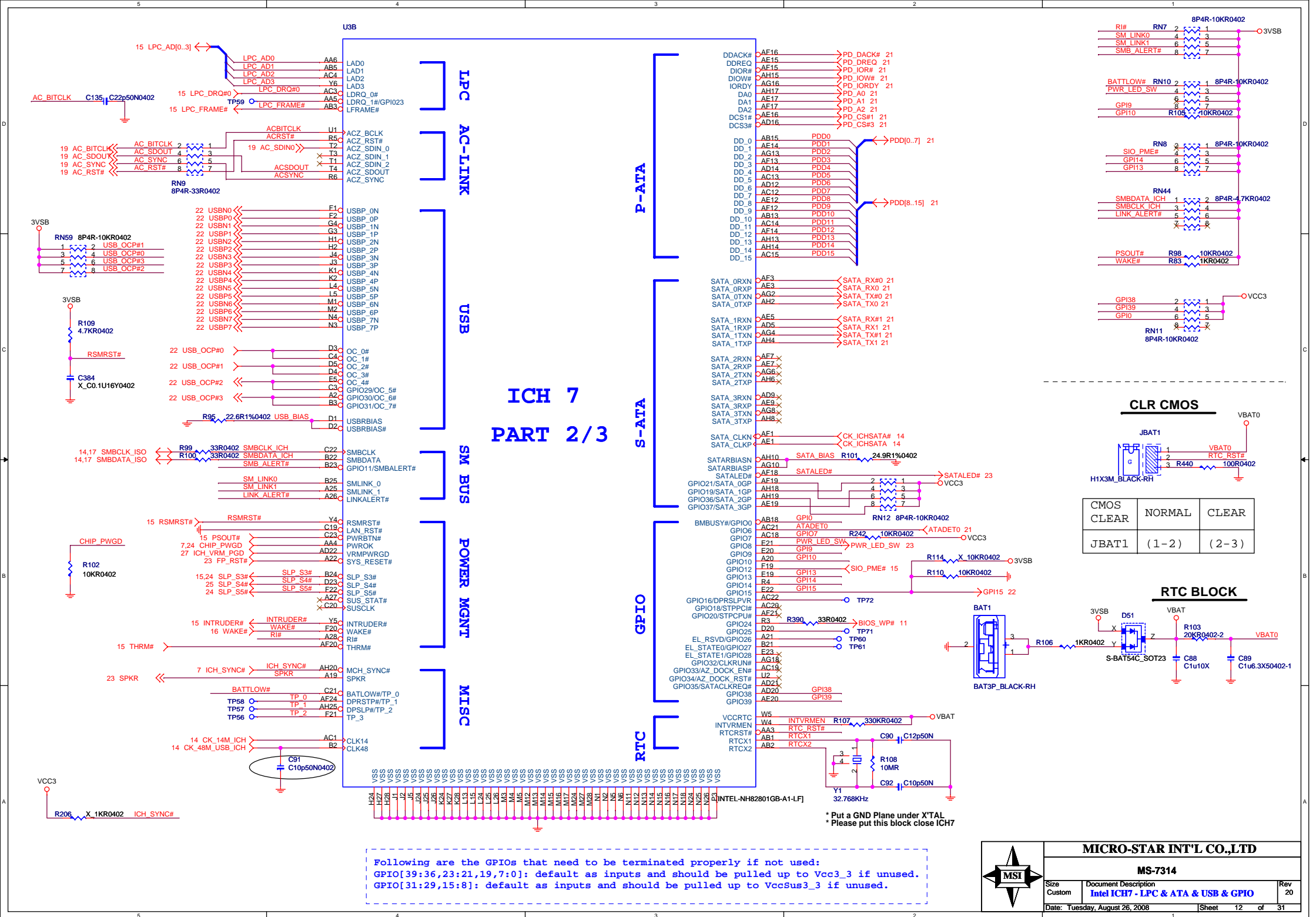
SPI FLASH



MICRO-STAR INT'L CO.,LTD

MS-7314

Size	Document Description	Rev
Custom	Intel ICH7 - PCI & DMI & CPU & IRQ	20
Date: Tuesday, August 26, 2008	Sheet 11 of 31	



ICH 7
PART 3/3

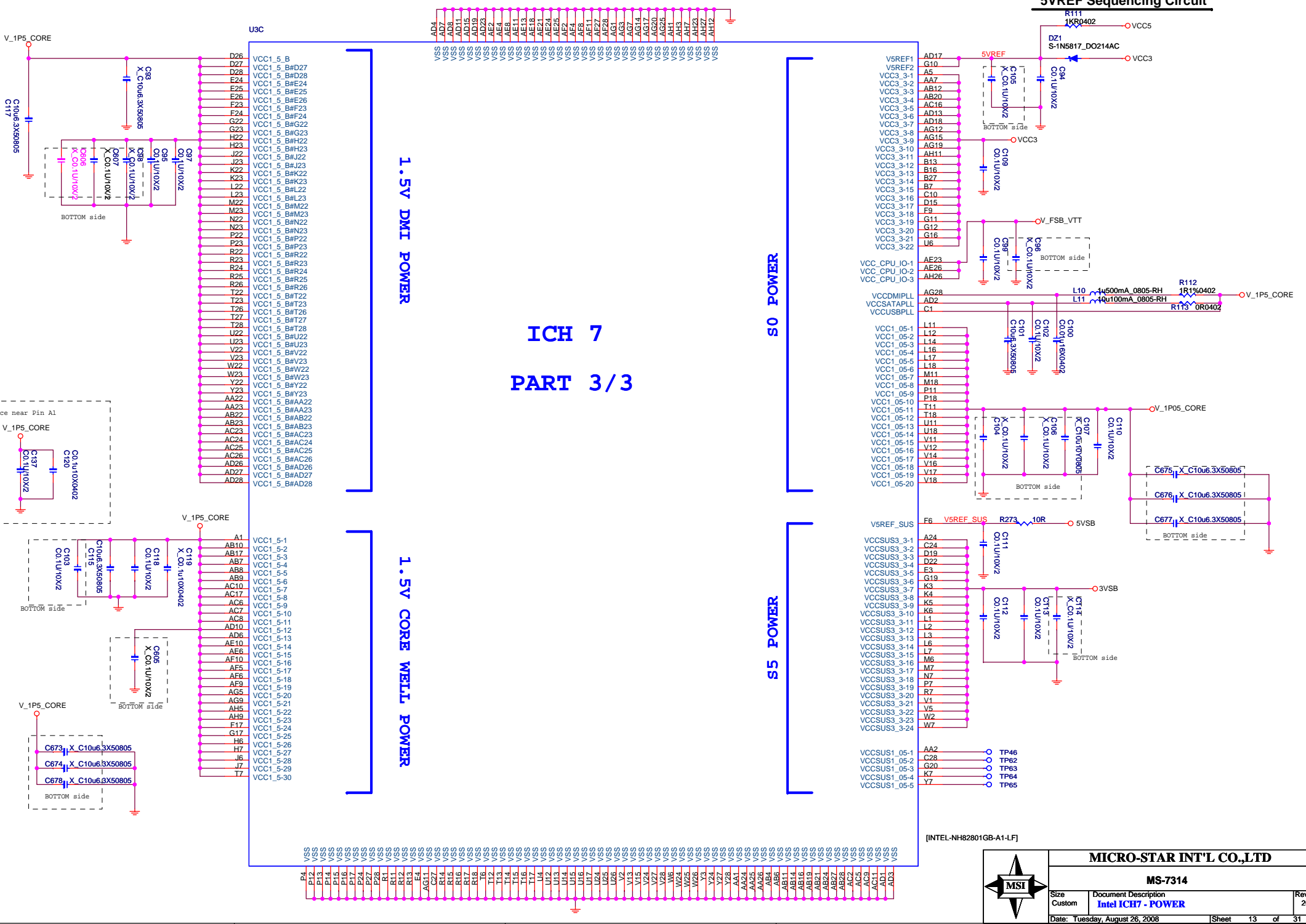
1.5V DMI POWER

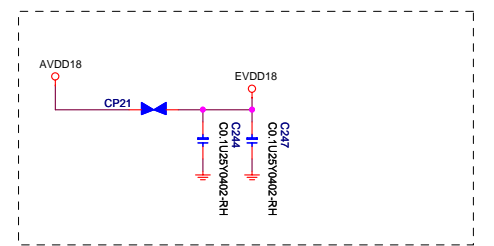
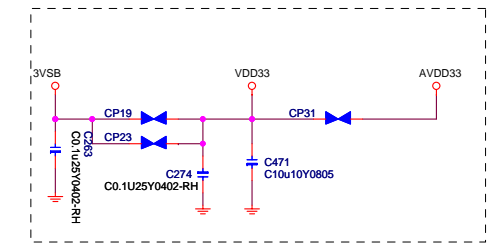
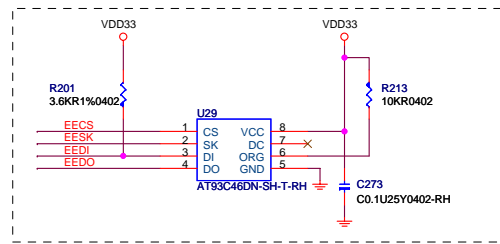
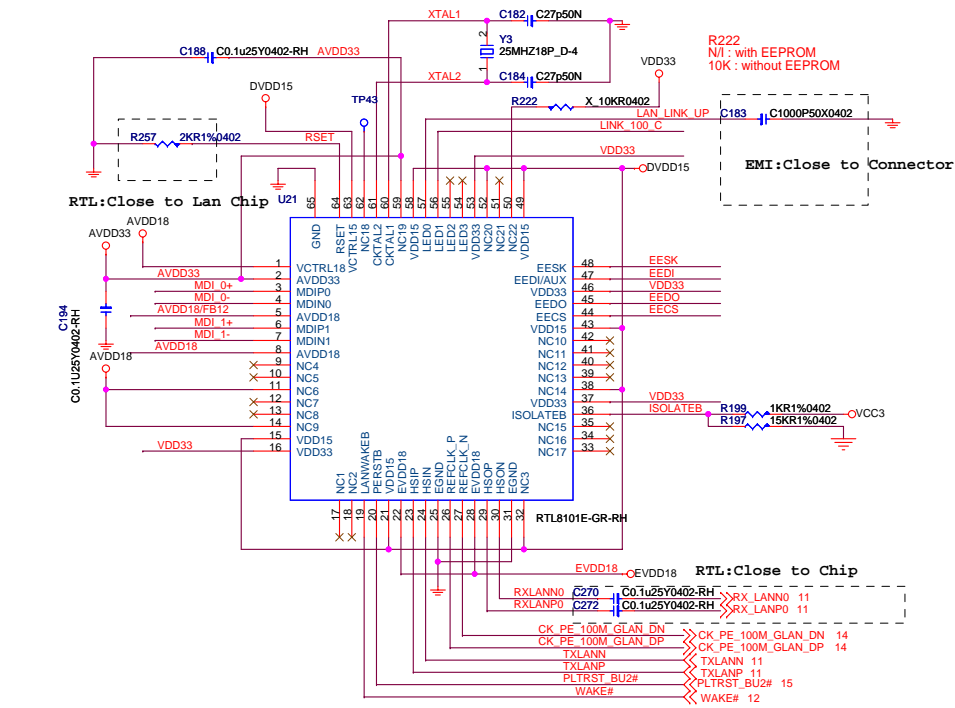
1.5V CORE WELL POWER

S0 POWER

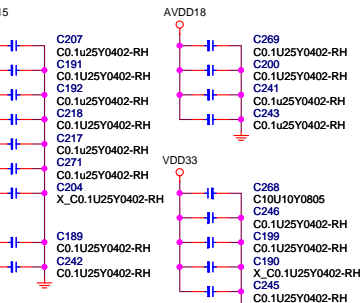
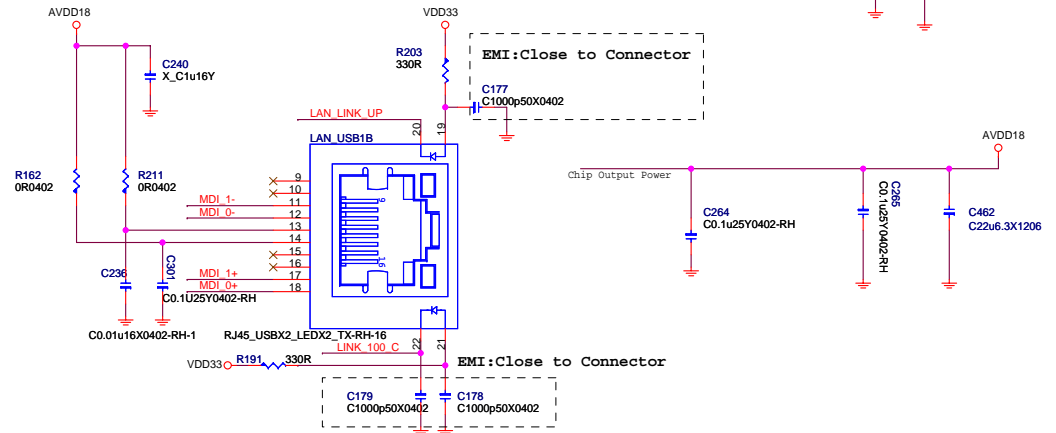
S5 POWER

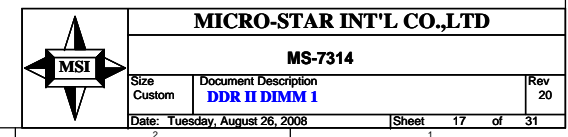
5VREF Sequencing Circuit

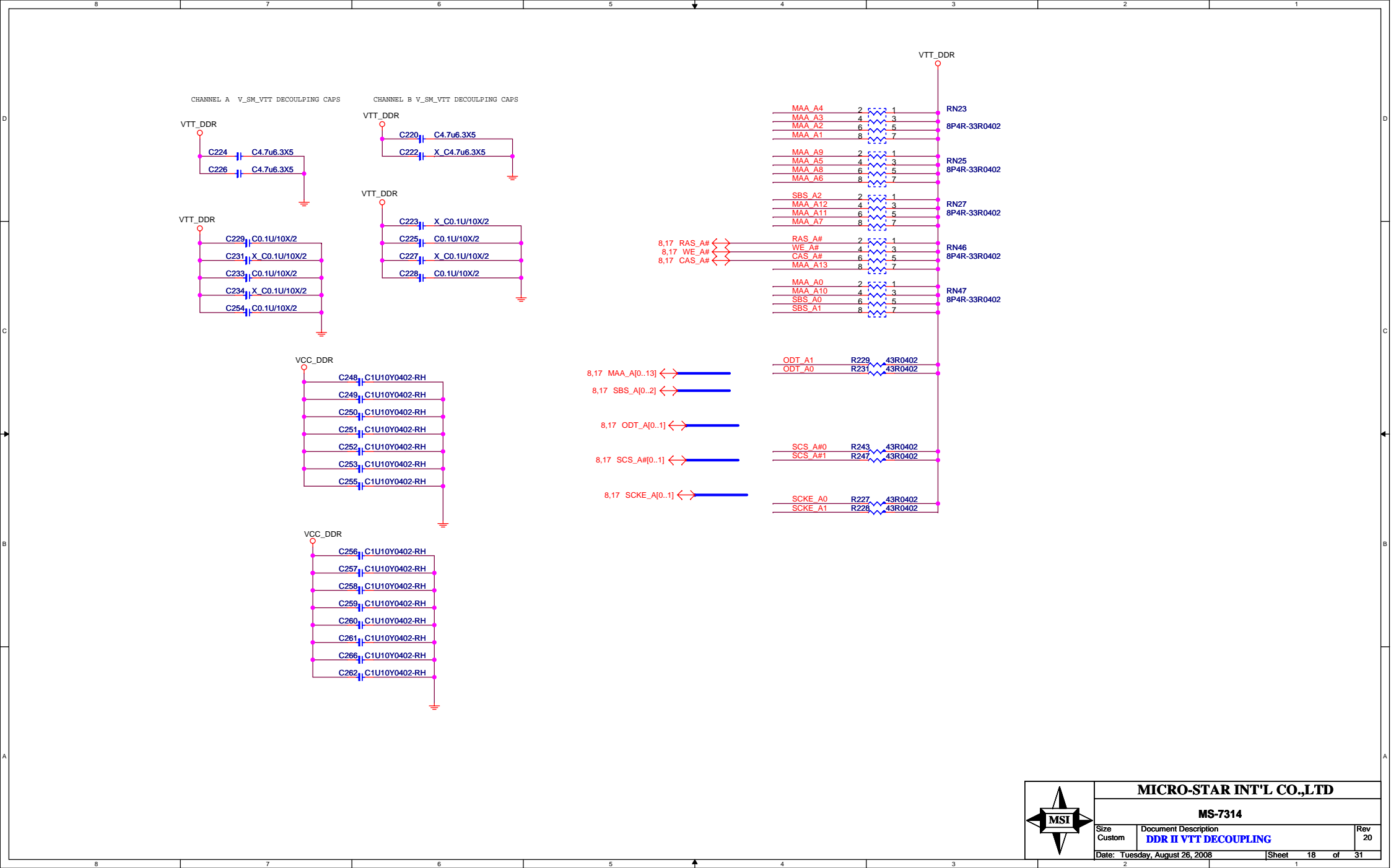




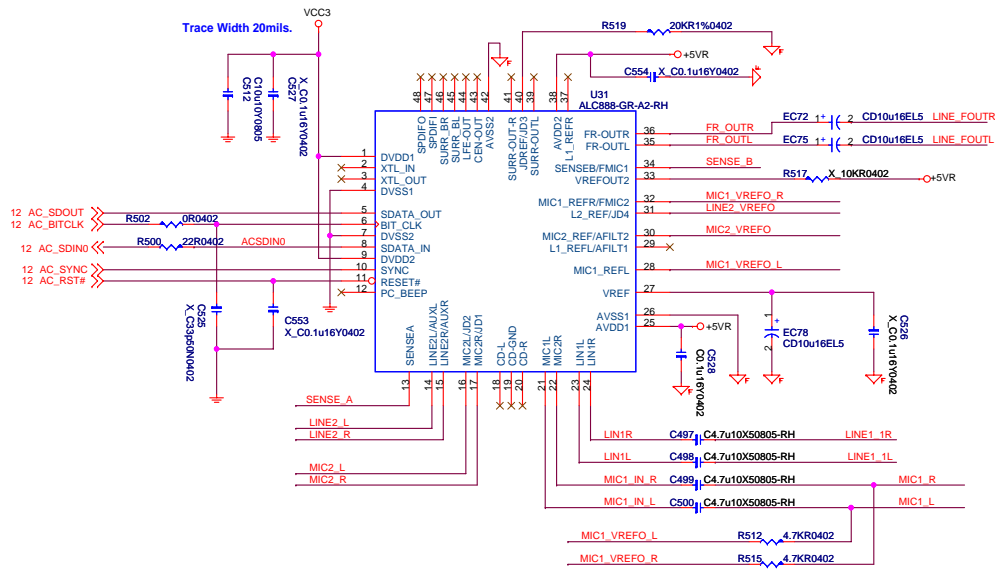
Giga-Lan	10/100-Lan
N58-22F0181-S42	N58-22F0201-S42
Link Yellow	Link Yellow
Active Blinking	Active Blinking
1000 Orange	100 Green
100 Green	10 None
10 None	
19 Yellow	19 Yellow
20 Orange	20 Green
21 Green	21 Green
22 Green	22 Green



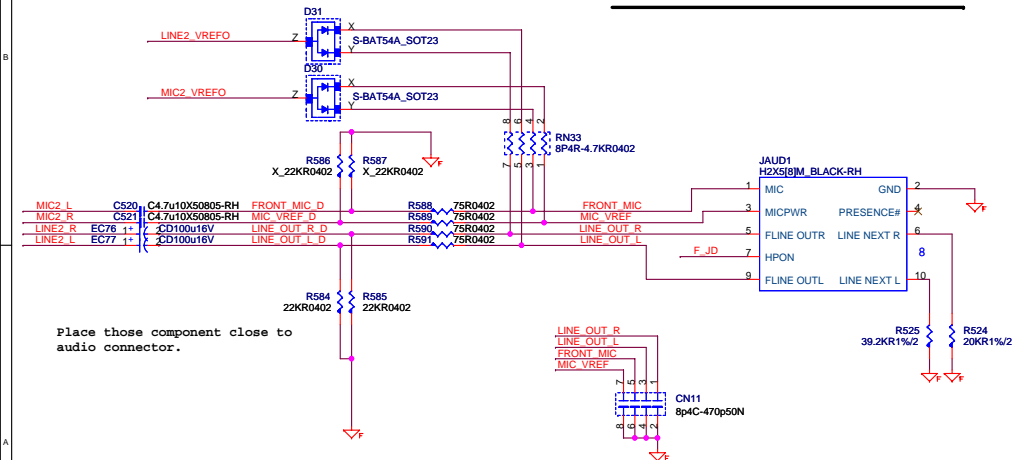




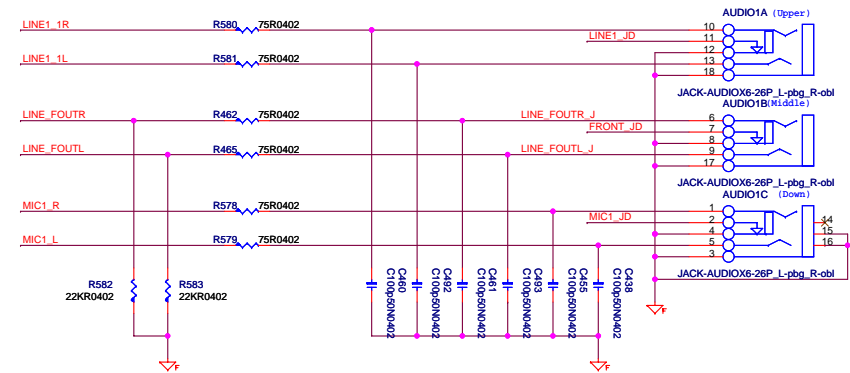
ALC888 CODEC



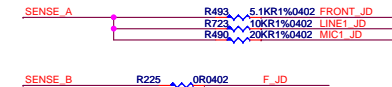
Azalia Front Audio Connector



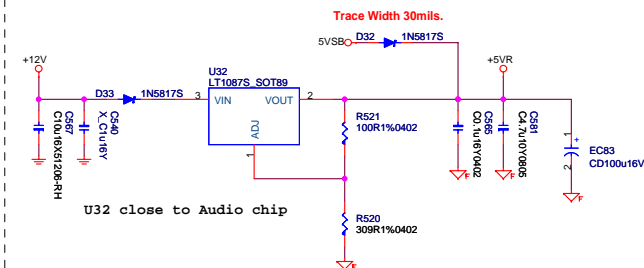
ALC888 JACK



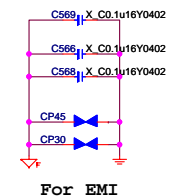
ALC888 JACK DETECT

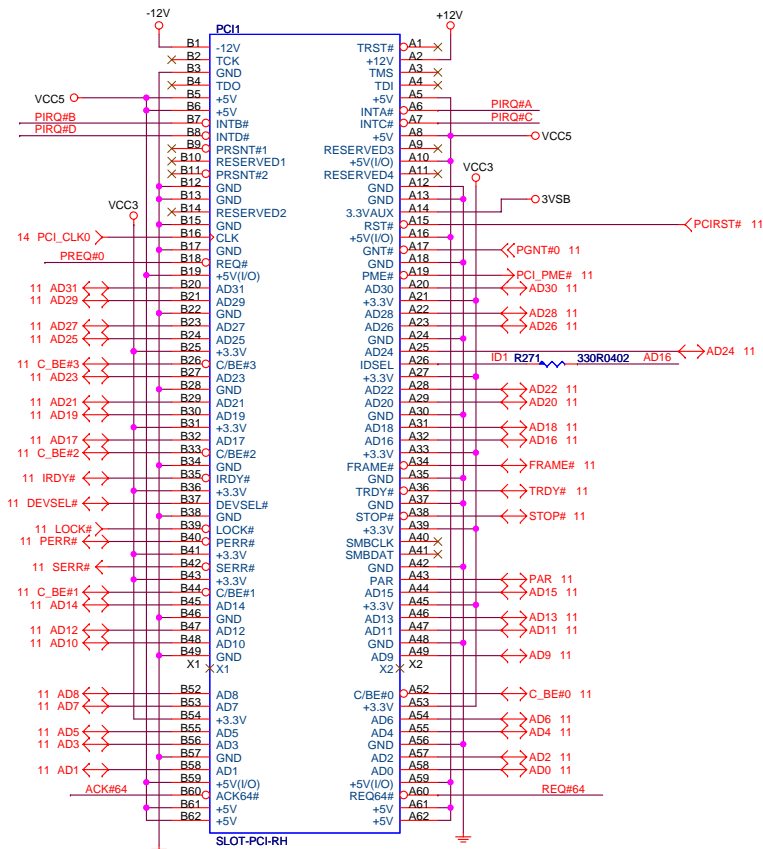


AUDIO CODE REGULATORS



EMI

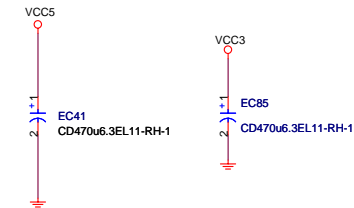
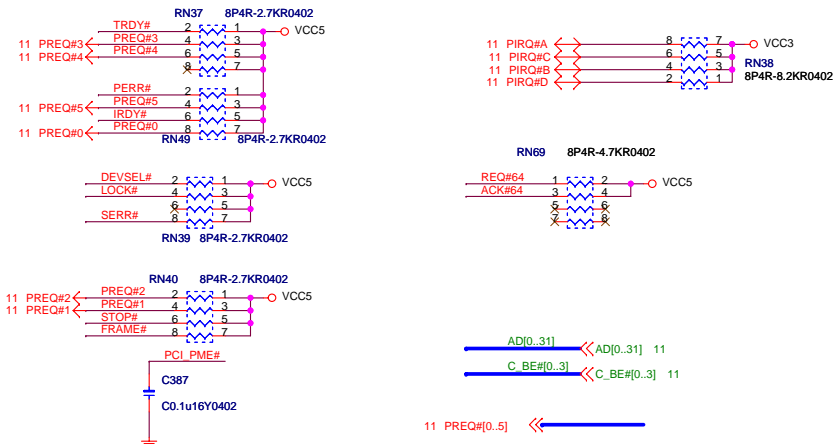




IDSEL = AD16
MASTER = PREQ#0

PIRQ#A

PCI PULL-UP / DOWN RESISTORS



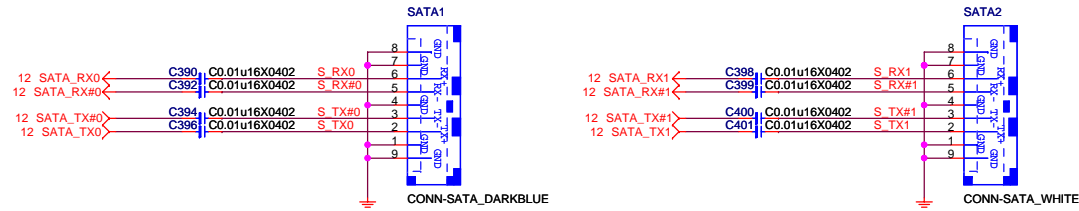
MICRO-STAR INT'L CO.,LTD

MS-7314

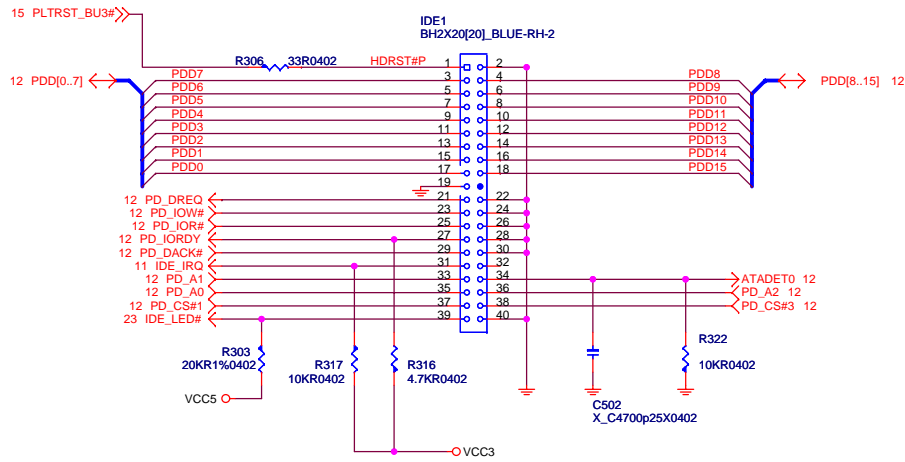
Size	Document Description	Rev
Custom	PCI Slot 1	20

Date: Tuesday, August 26, 2008 Sheet 20 of 31

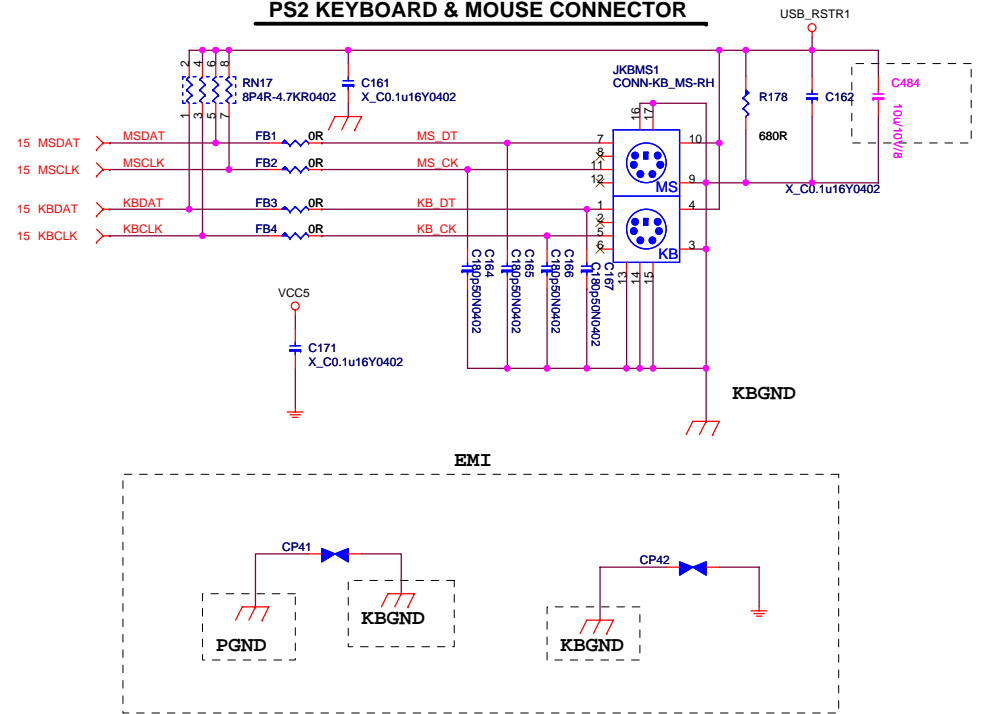
SERIAL ATA CONNECTOR BLOCK



ATA 33/66/100 IDE Connectors



PS2 KEYBOARD & MOUSE CONNECTOR

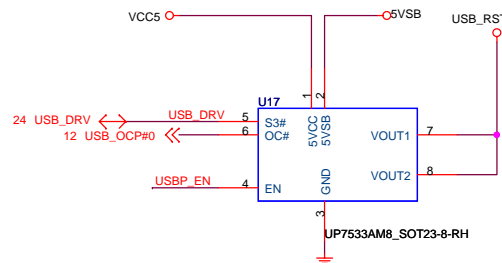


MICRO-STAR INT'L CO.,LTD

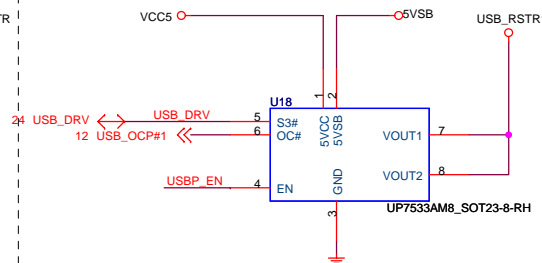
MS-7314

Size	Document Description	Rev
Custom	IDE & SATA & PS2 Connectors	20
Date: Tuesday, August 26, 2008	Sheet 21 of 31	

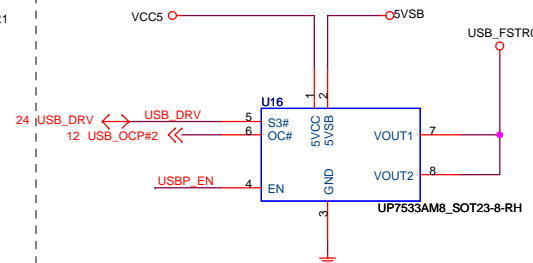
POWER CIRCUIT FOR USB PORT 0,1



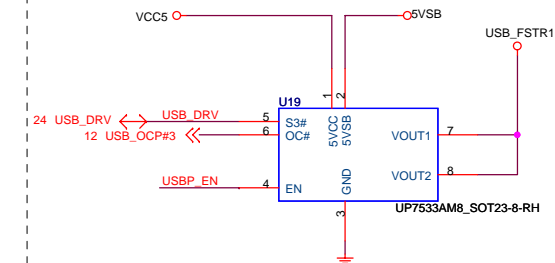
POWER CIRCUIT FOR USB PORT 2,3



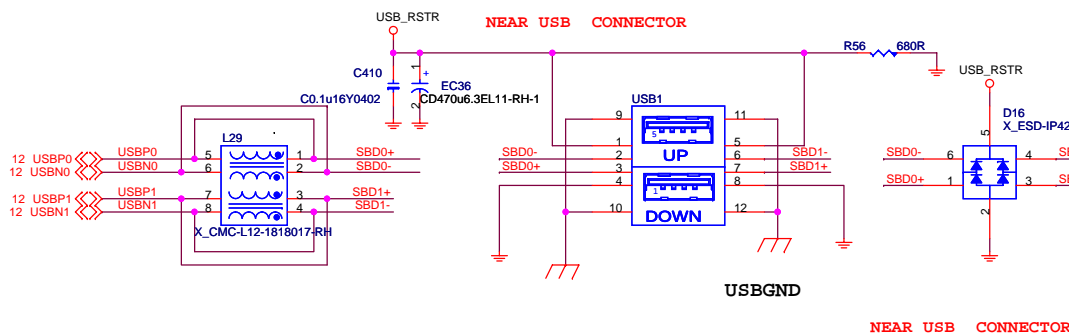
POWER CIRCUIT FOR USB PORT 4,5



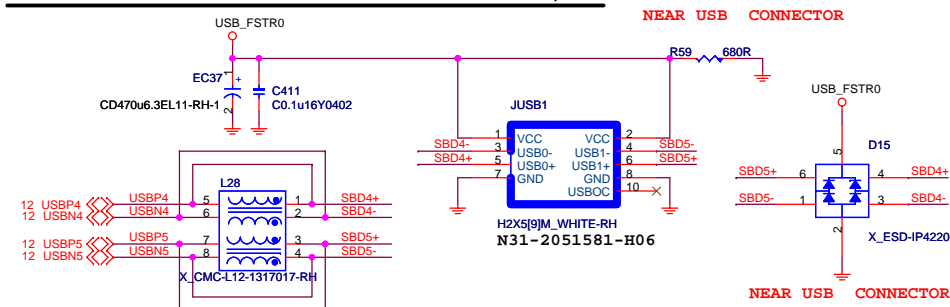
POWER CIRCUIT FOR USB PORT 6,7



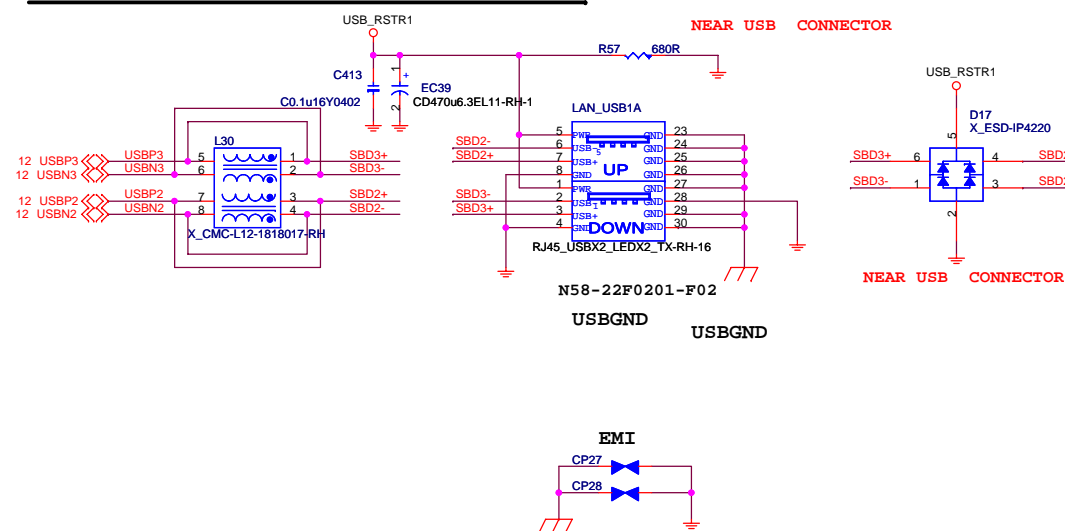
REAR PANEL USB CONNECTOR FOR USB PORT 0,1



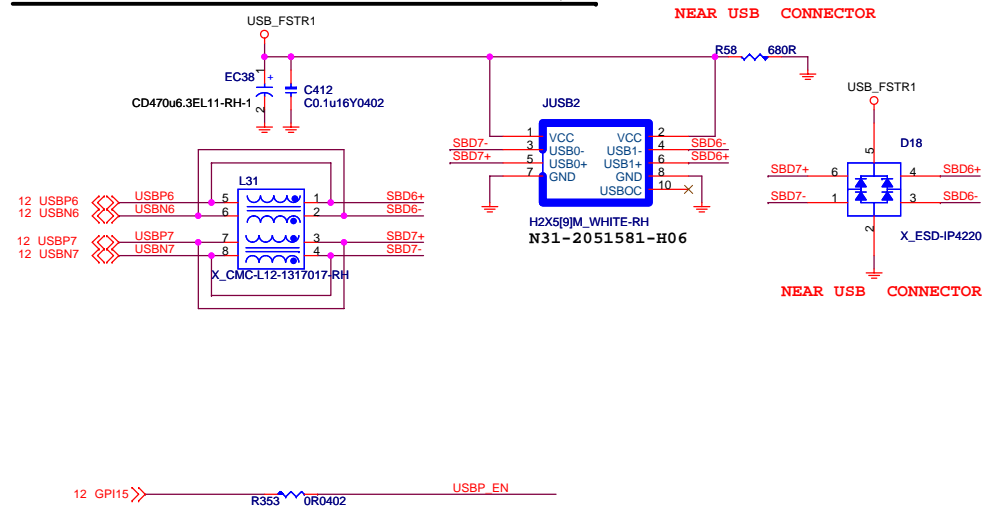
FRONT PANEL USB CONNECTOR FOR USB PORT 4,5



REAR PANEL USB CONNECTOR FOR USB PORT 2,3



FRONT PANEL USB CONNECTOR FOR USB PORT 6,7

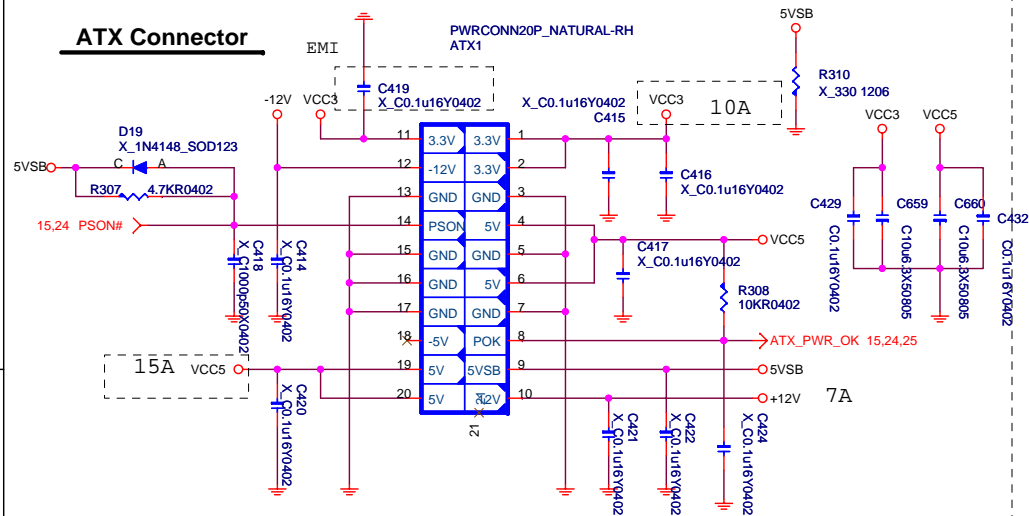


MICRO-STAR INT'L CO.,LTD

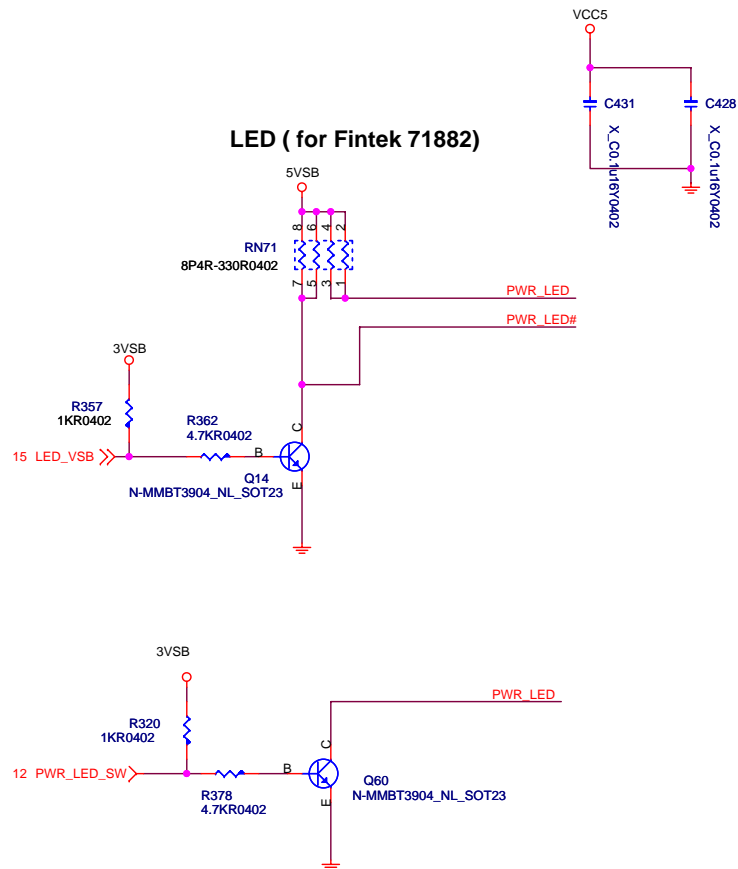
MS-7314

Size	Document Description	Rev
Custom	USB CONNECTORS	20
Date: Tuesday, August 26, 2008	Sheet 22 of 31	

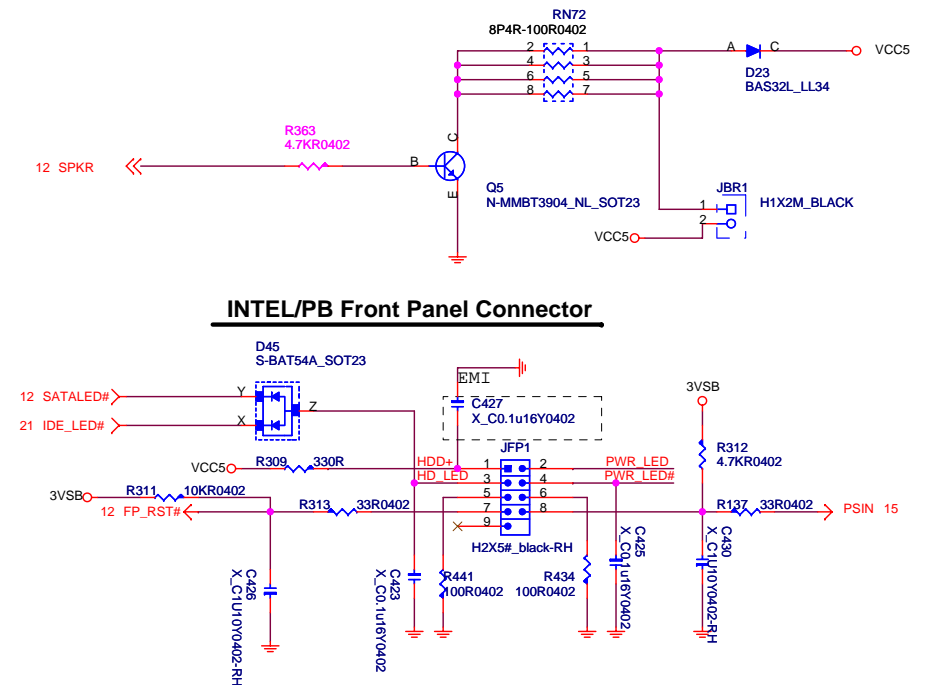
ATX Connector



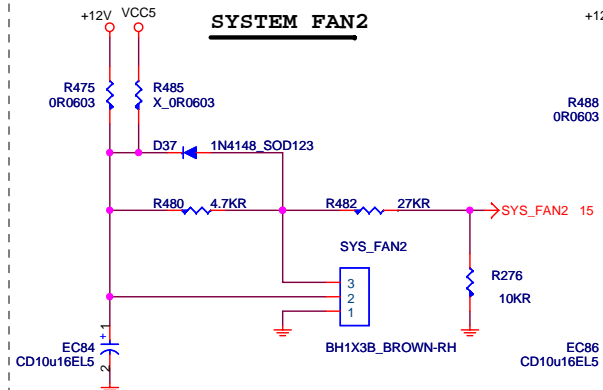
LED (for Fintek 71882)



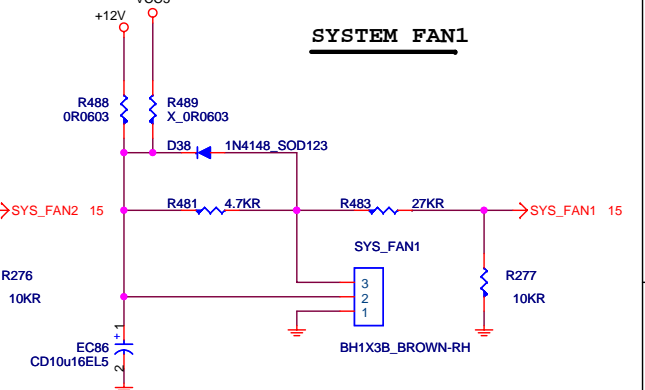
INTEL/PB Front Panel Connector



SYSTEM FAN2



SYSTEM FAN1

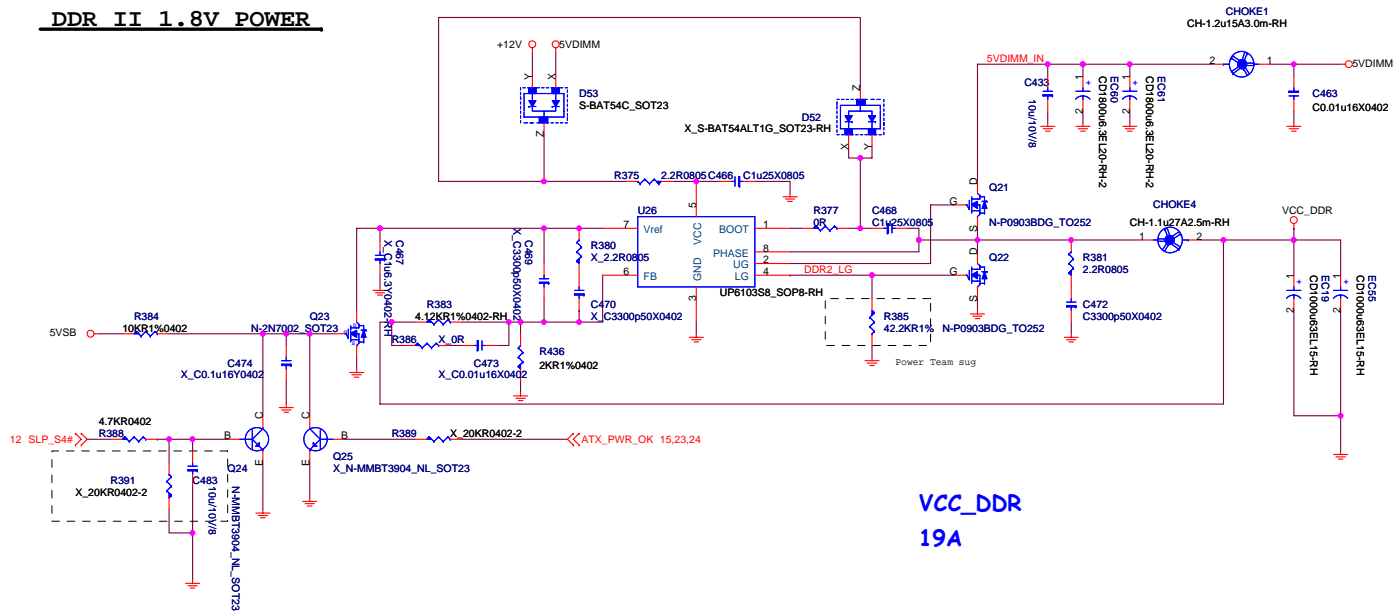


MICRO-STAR INT'L CO.,LTD

MS-7314

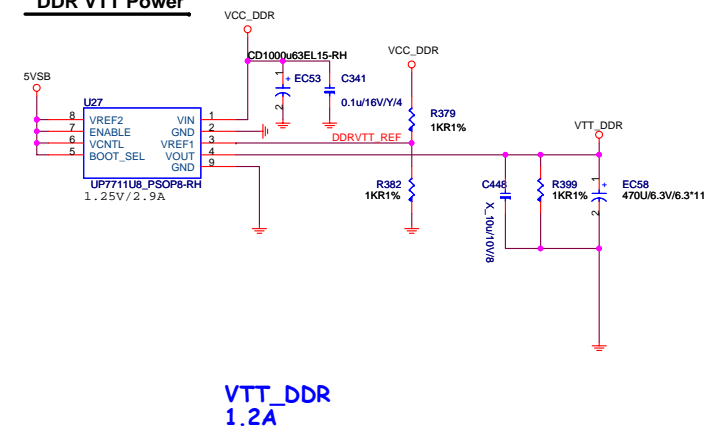
Size	Document Description	Rev
Custom	ATX & Front Panel & FAN	20
Date: Tuesday, August 26, 2008	Sheet 23 of 31	

DDR II 1.8V POWER



DDR VTT Power

To CPU Copper trace width > 250mils , Fill island behind DIMM > 400mils .

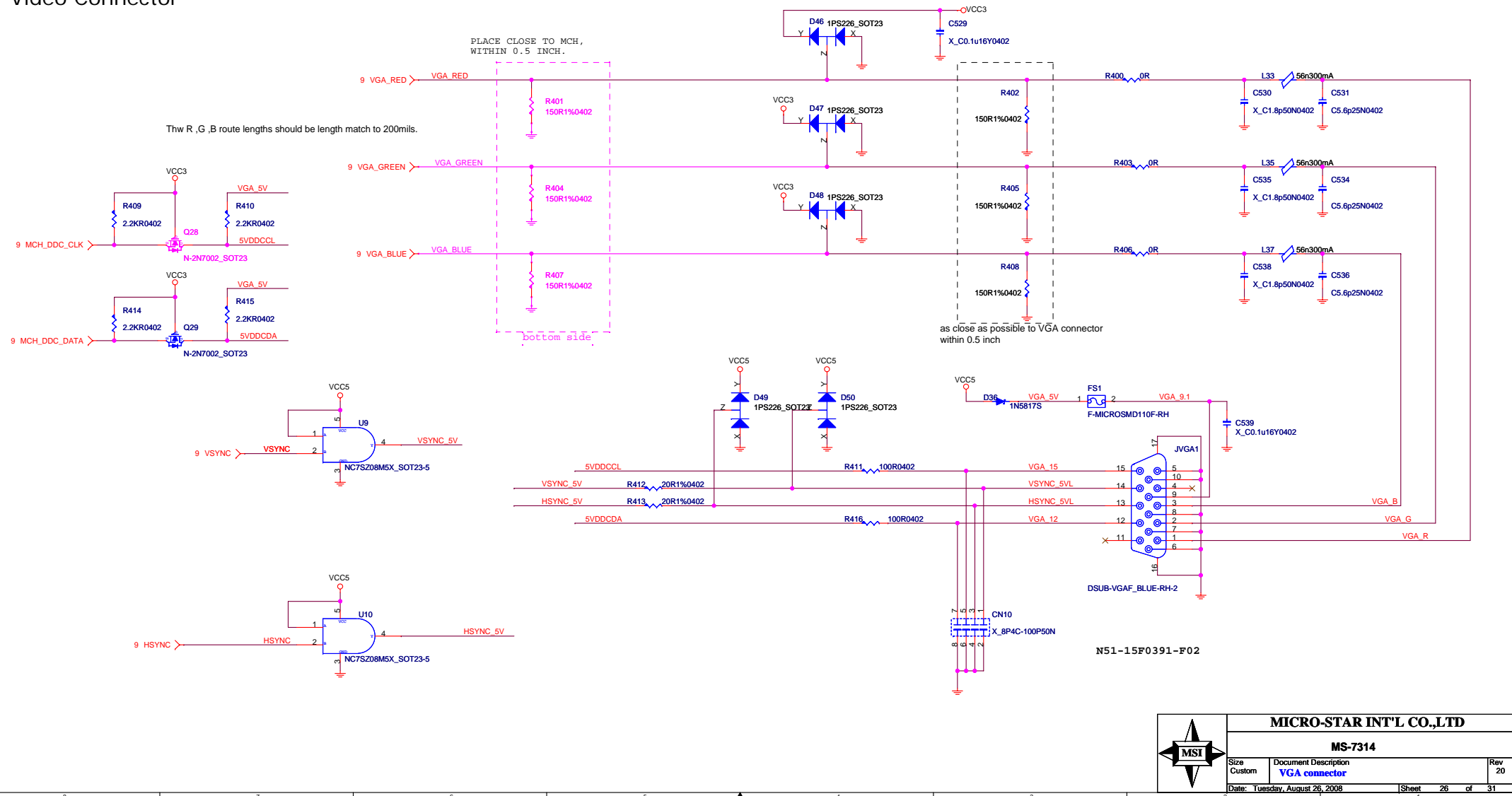


MICRO-STAR INT'L CO.,LTD

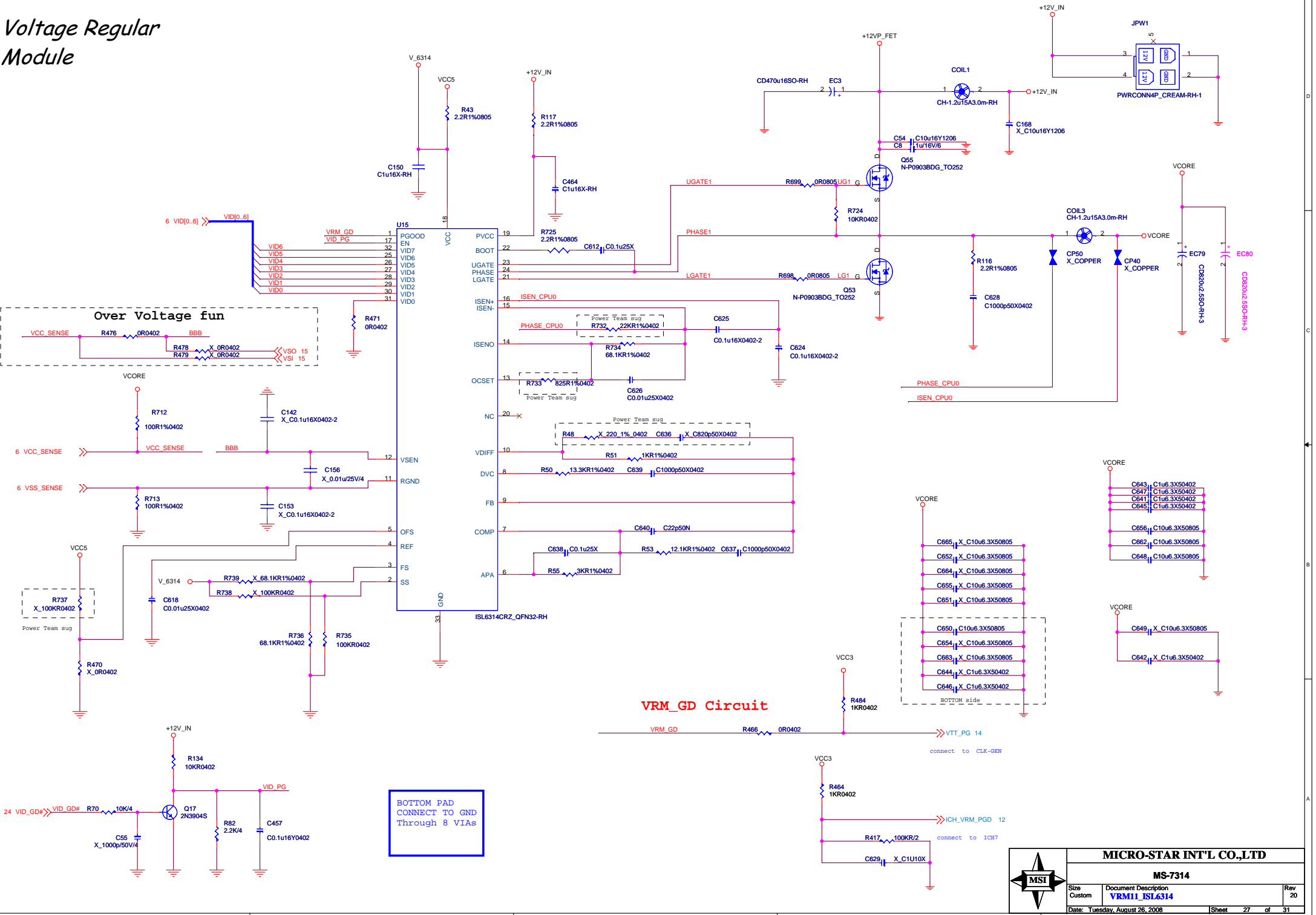
MS-7314

Size Custom	Document Description GMCH VCORE & DDR Power	Rev 20
Date: Tuesday, August 26, 2008		Sheet 25 of 31

Video Connector

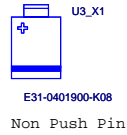


Voltage Regular
Module

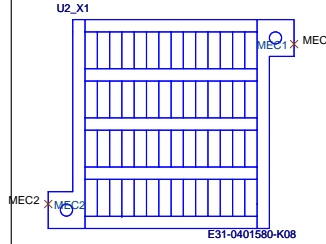




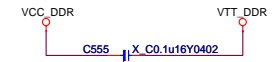
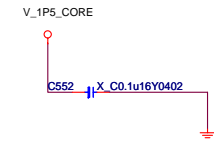
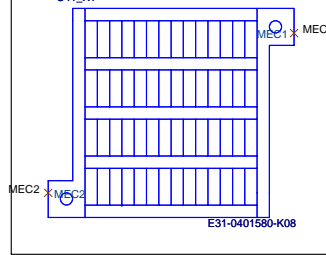
ICH7 HEATSINK



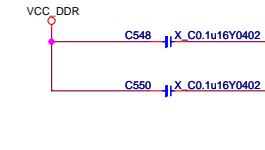
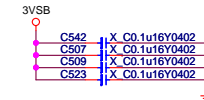
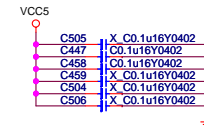
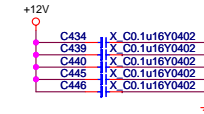
MCH HEATSINK



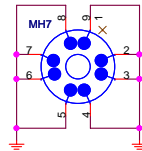
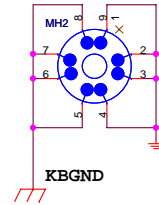
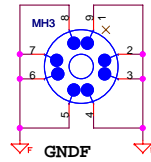
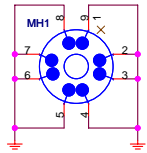
CPU HEATSINK



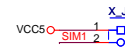
EMI



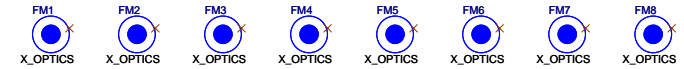
Mounting Holes



Simulation



Optics Orientation Holes



MICRO-STAR INT'L CO.,LTD

MS-7314

Size	Document Description	Rev
Custom	MANUAL PARTS	20
Date: Tuesday, August 26, 2008		Sheet 28 of 31