

Cover Sheet	1
Block Diagram/Clock Map/Power Map	2-4
Diamondville 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
PCI 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 1.0

**CPU: Diamondville 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 \*2 (Max 2GB) One Channel 2 DIMM**

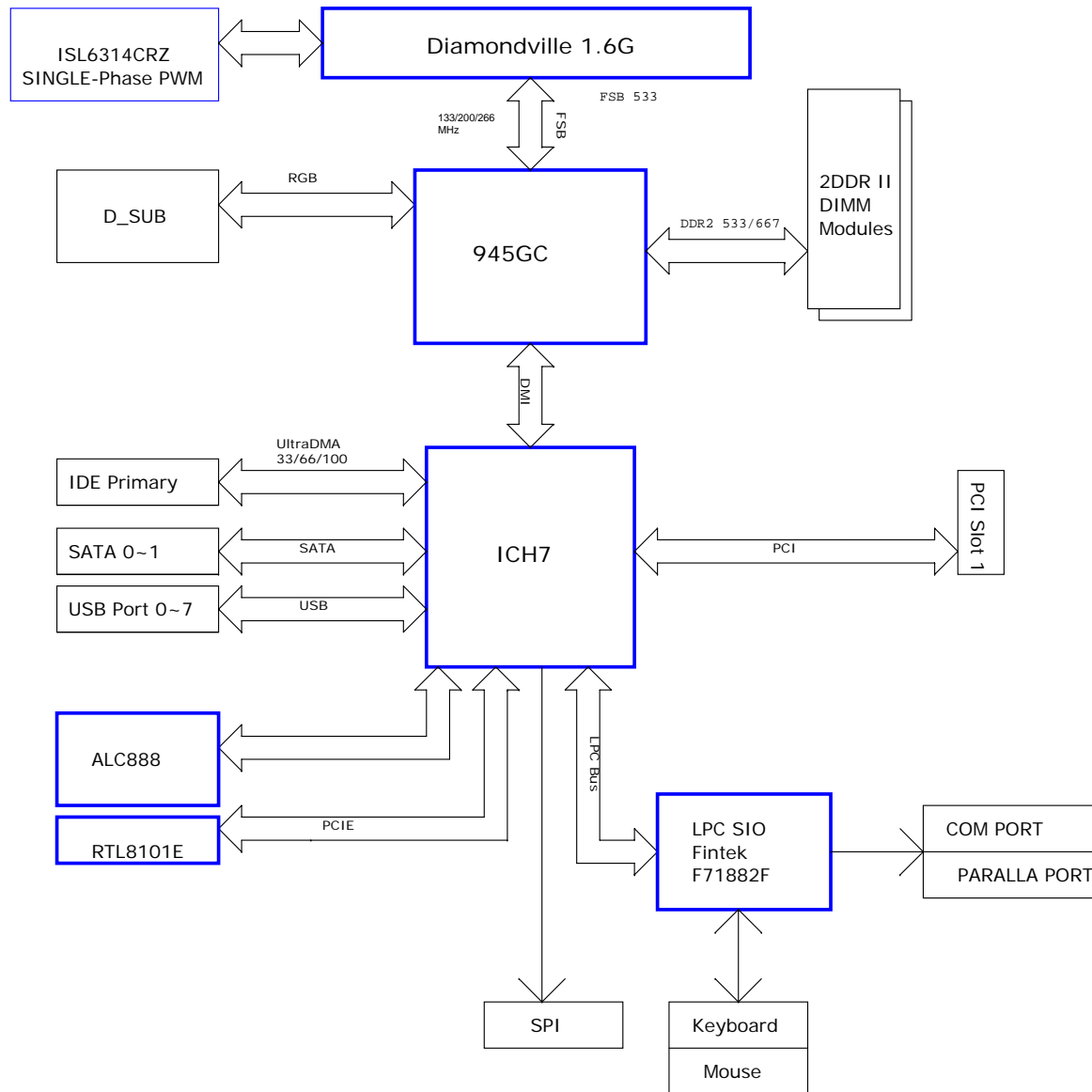
## Expansion Slots:

**PCI2.3 SLOT \* 1**

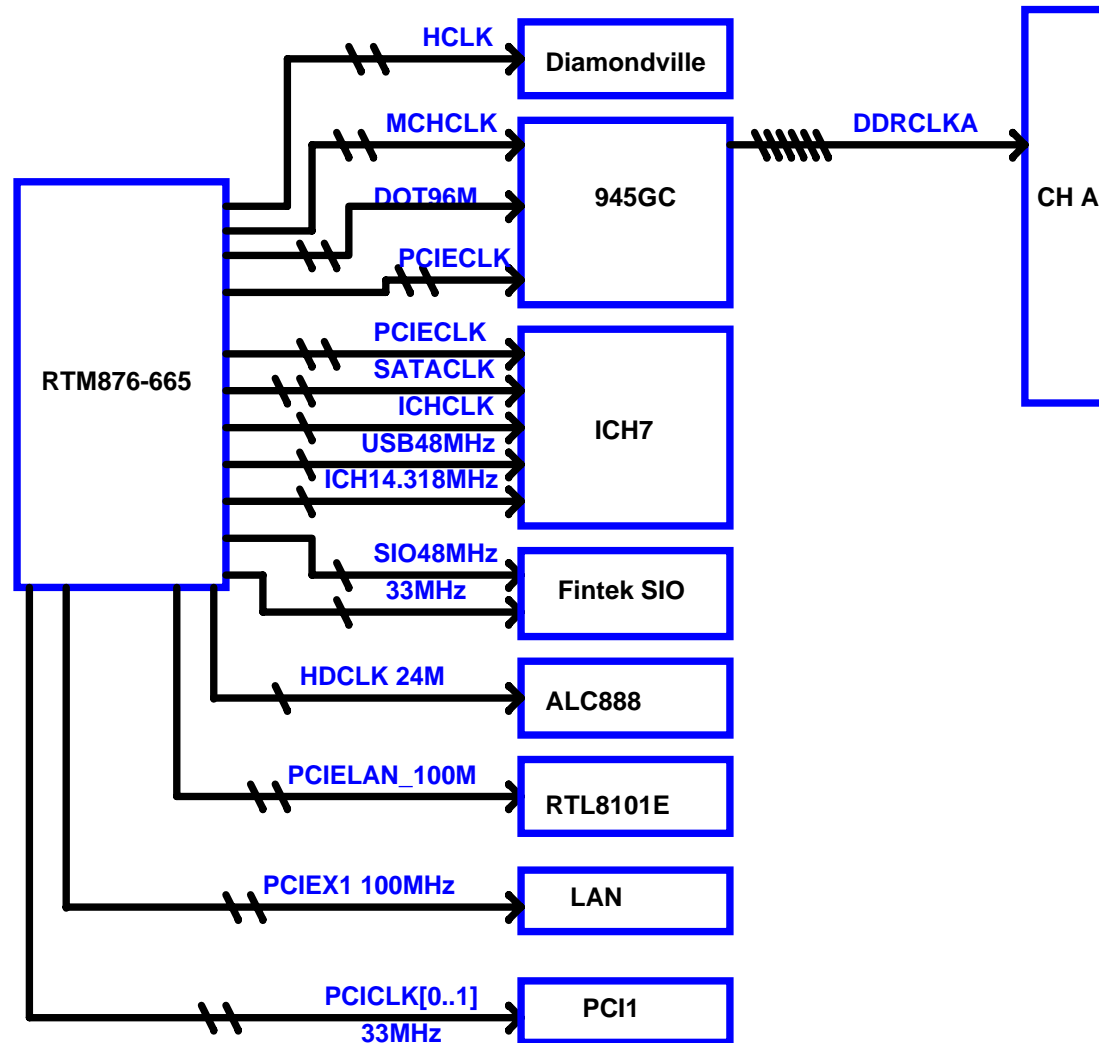
## PWM:

**ISL6314CRZ SINGLE PHASES**

# Block Diagram



# CLOCK MAP



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MS-7314

Size Custom	Document Description <b>CLOCK MAP</b>	Rev 10
Date: Monday, April 21, 2008	Sheet 3 of 31	

<b>Processor</b>
Vcore=1.1V/3A
V_FSB_VTT=1.1V/2.5A
VCCA=1.5V /130mA

<b>945GC</b>
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

<b>ICH7</b>
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



<b>ISL6314</b>
<b>VCCP</b>
1.1V

<b>VTT Regulator</b>
<b>V_FSB_VTT</b>
1.1V

<b>uP6103 Regulator</b>
<b>VCC_DDR</b>
1.8V

<b>Linear</b>
<b>V_1P5_CORE</b>
1.5V

<b>uP7707 Regulator</b>
<b>V_2P5_MCH</b>
2.5V

<b>1.05V Regulator</b>
<b>V_1P05_CORE</b>
1.05V

<b>uP7706 Regulator</b>
<b>3VSB</b>
3.3V

<b>uP7501 Regulator</b>
<b>5VDIMM</b>
5V

<b>W83310DS Regula</b>
<b>VTT_DDR</b>
0.9V

<b>DDR2 DIMM conn(2) &amp; term</b>
0.9V SM Vtt-1.2A(S0)
1.8V Vdd/vddq-4.7A(S0,S1)

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

<b>USB</b>
+5V-4A(S0,S1)

<b>PS2</b>
+5V-345mA(S0,S1)

<b>LAN</b>
3VSB-

<b>CLKGEN</b>
+3.3V-560mA

<b>SIO</b>
+3.3V
3VSB-

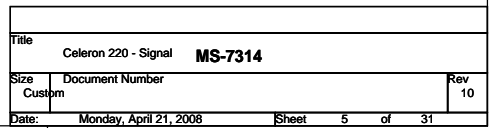
<b>SPI ROM</b>
----------------

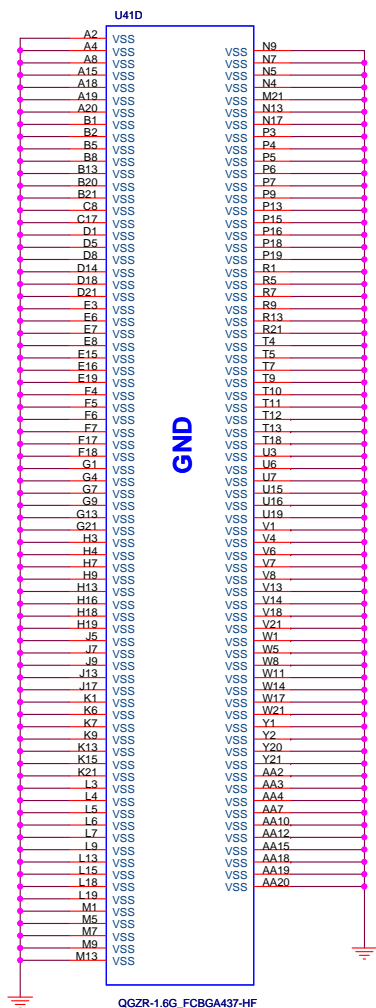
<b>Audio Codec</b>
--------------------

+12V	+5V	+3.3V	+5VSB
<b>ATX POWER</b>			

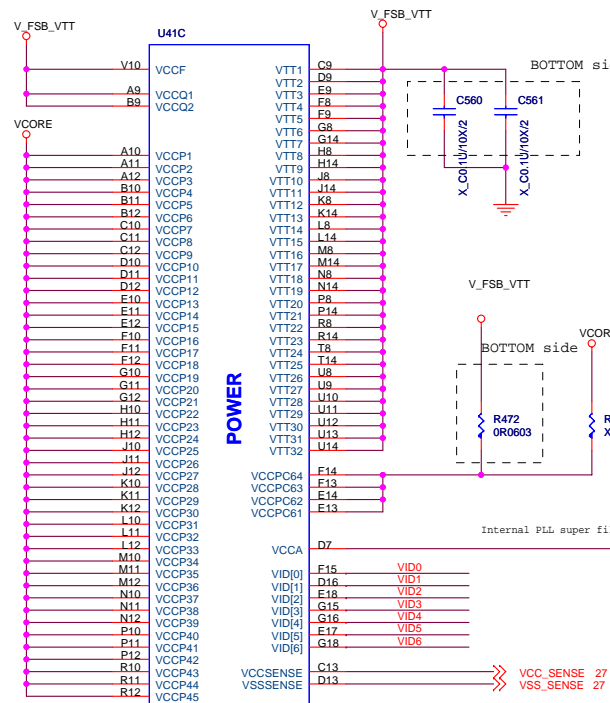


<b>MICRO-STAR INT'L CO.,LTD</b>		
<b>MS-7314</b>		
Size Custom	Document Description <b>Power Map</b>	Rev 10
Date: Monday, April 21, 2008	Sheet 4 of 31	



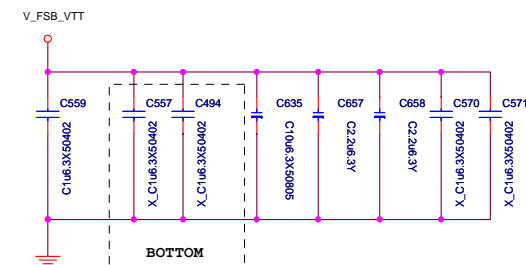
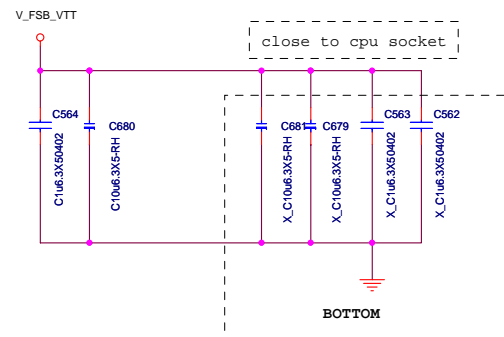


QGZR-1.6G\_FCBGA437-HF



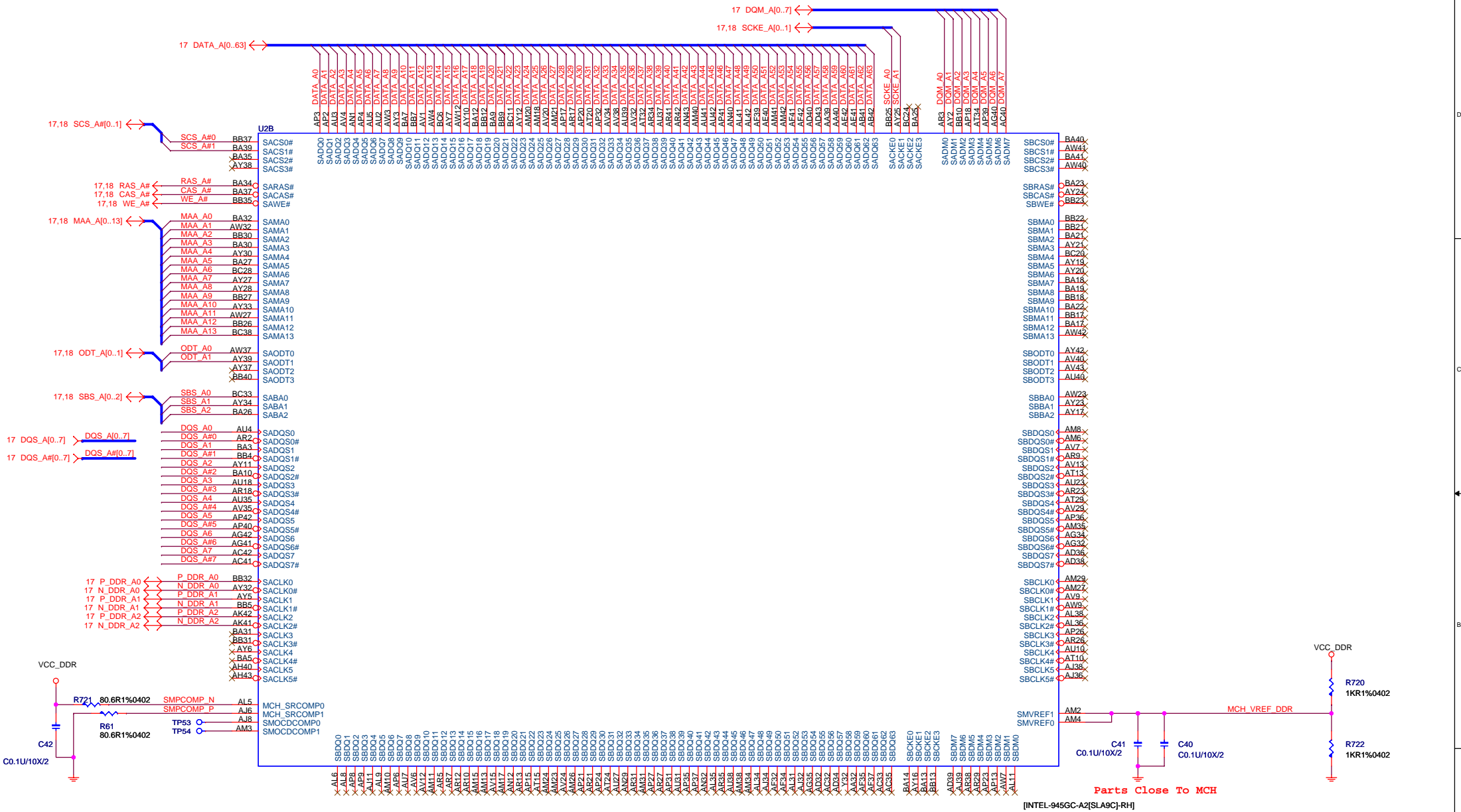
QGZR-1.6G\_FCBGA437-HF

LAYOUT NOTE:  
Route VCCSENSE and VSSSENSE traces at 27.40hm(18mil) with 7 mil spacing.  
Place PU and PD within 1 inch of CPU.

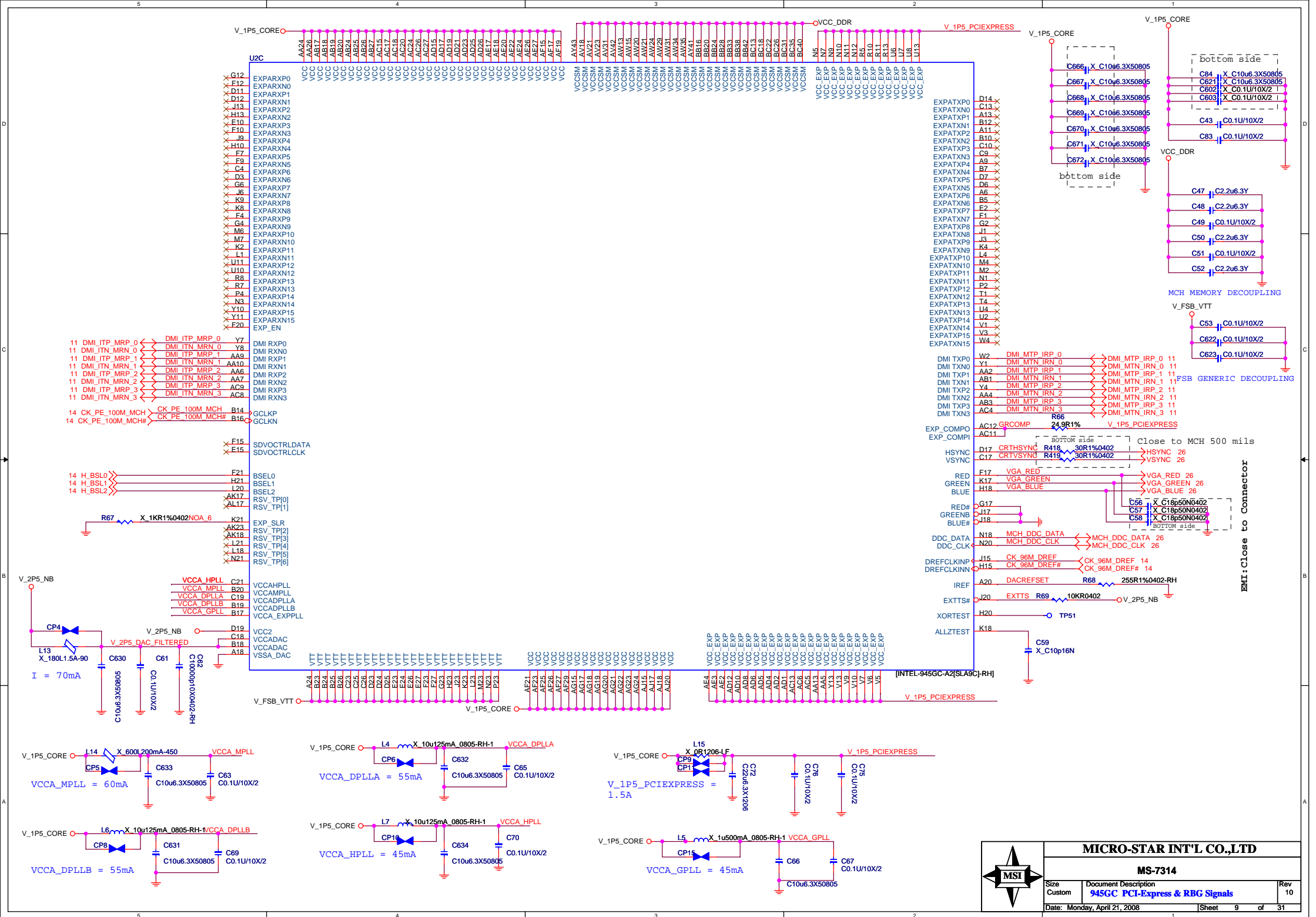


MICRO-STAR IN'L CO. , LTD.			
Title	Celeron 220 - Power / GND		
Size	Document Number	Rev	
Custom	MS-7314	10	
Date:	Monday, April 21, 2008	Sheet	6 of 31









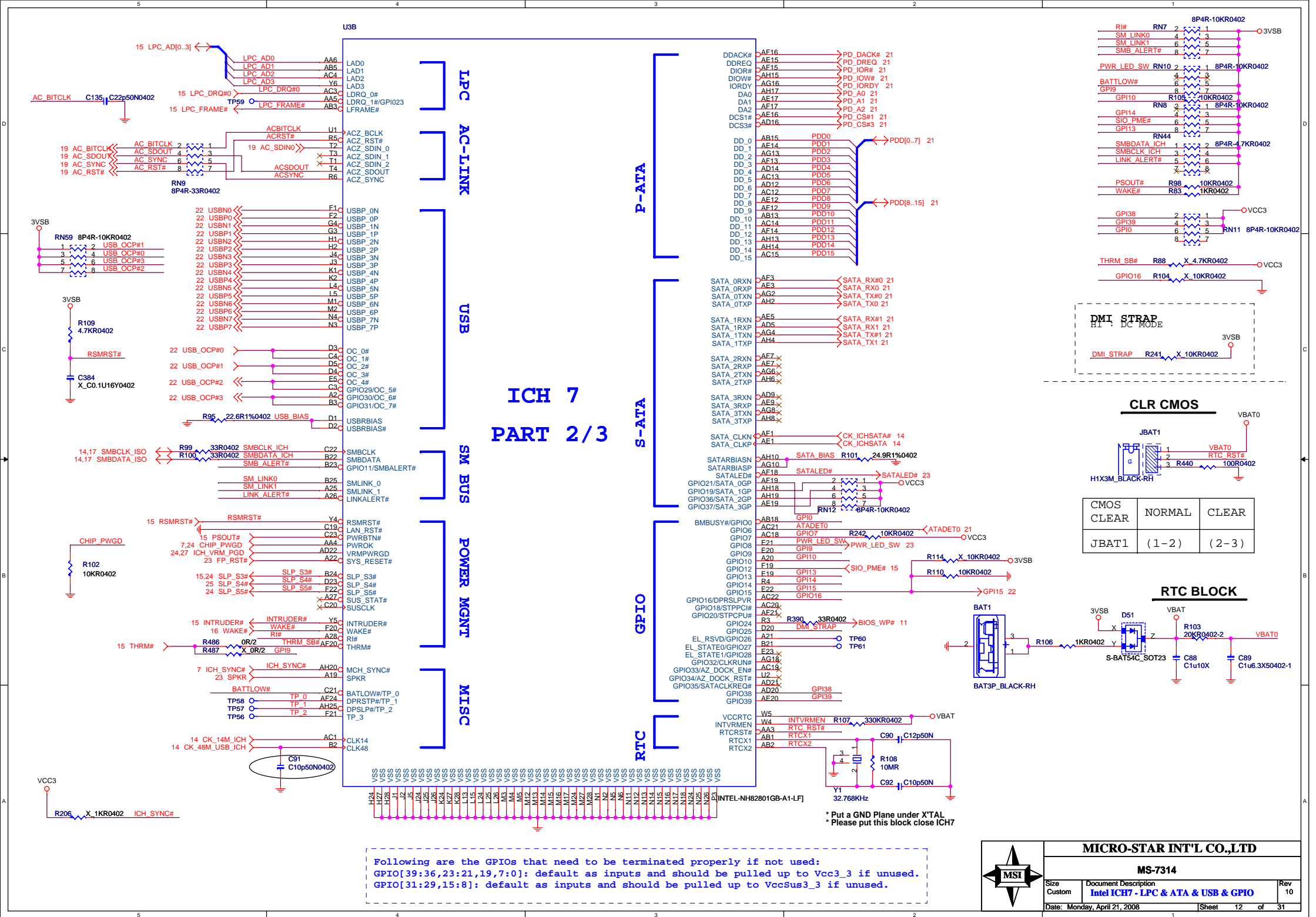


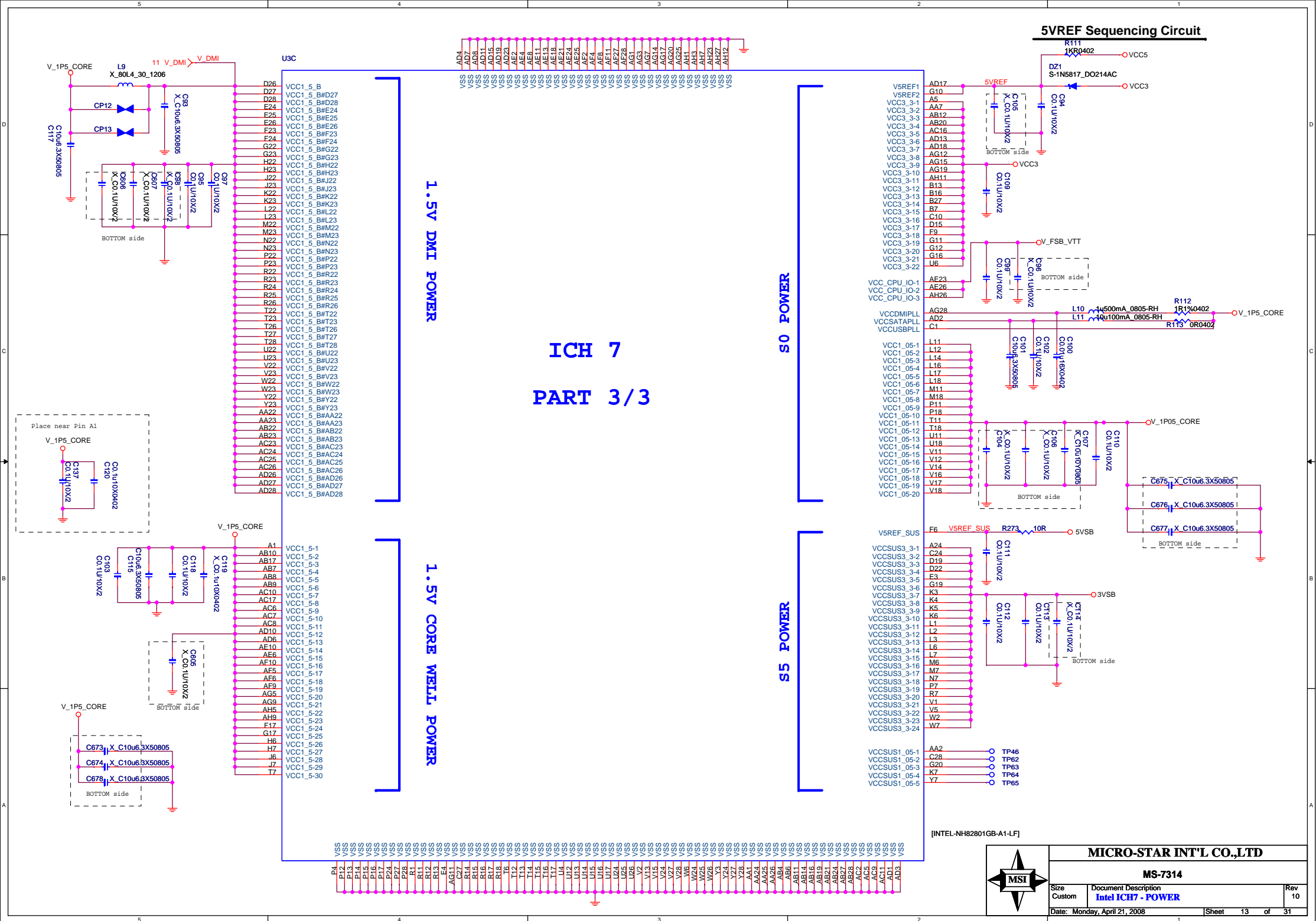
MICRO-STAR INT'L CO.,LTD

MS-7314

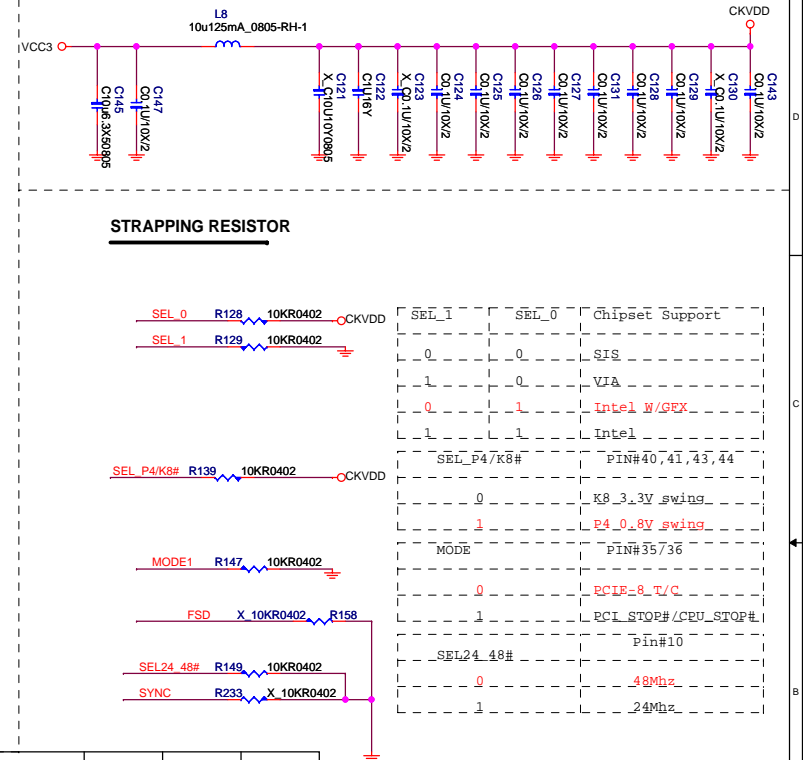
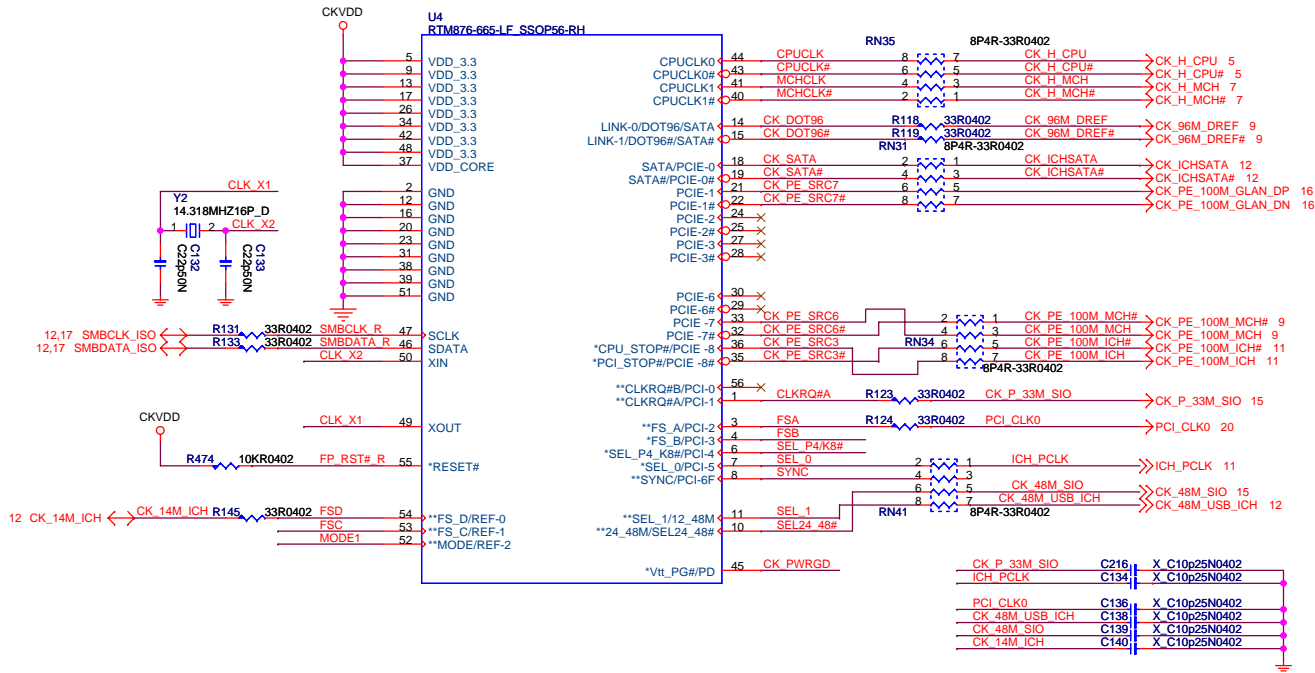
Size	Document Description	Rev
Custom	Intel 945GC - GND	10
Date: Monday, April 21, 2008		Sheet 10 of 31



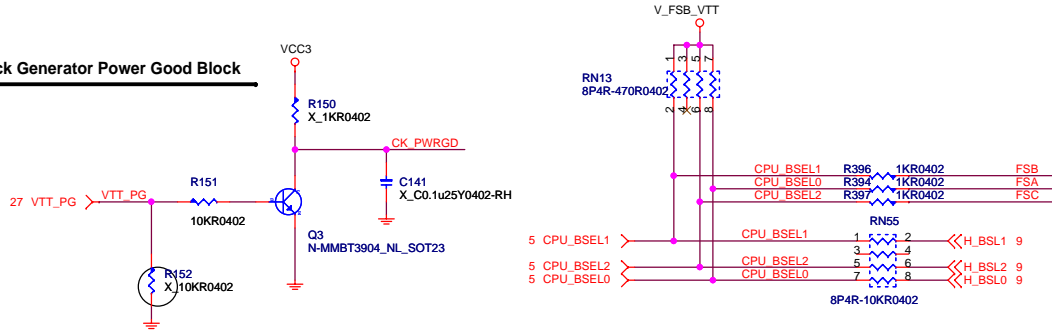




# Clock Generator - RTM876-665



## Clock Generator Power Good Block



(FSLC, FSLB, FSLA)	CPU MHz	PCIEX MHz	PCI MHz
( 0 , 0 , 0 )	266.66	100.00	33.33
( 0 , 0 , 1 )	133.33	100.00	33.33
( 0 , 1 , 0 )	200.00	100.00	33.33
( 0 , 1 , 1 )	166.66	100.00	33.33
( 1 , 0 , 0 )	333.33	100.00	33.33
( 1 , 0 , 1 )	100.00	100.00	33.33
( 1 , 1 , 0 )	400.00	100.00	33.33



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MS-7314

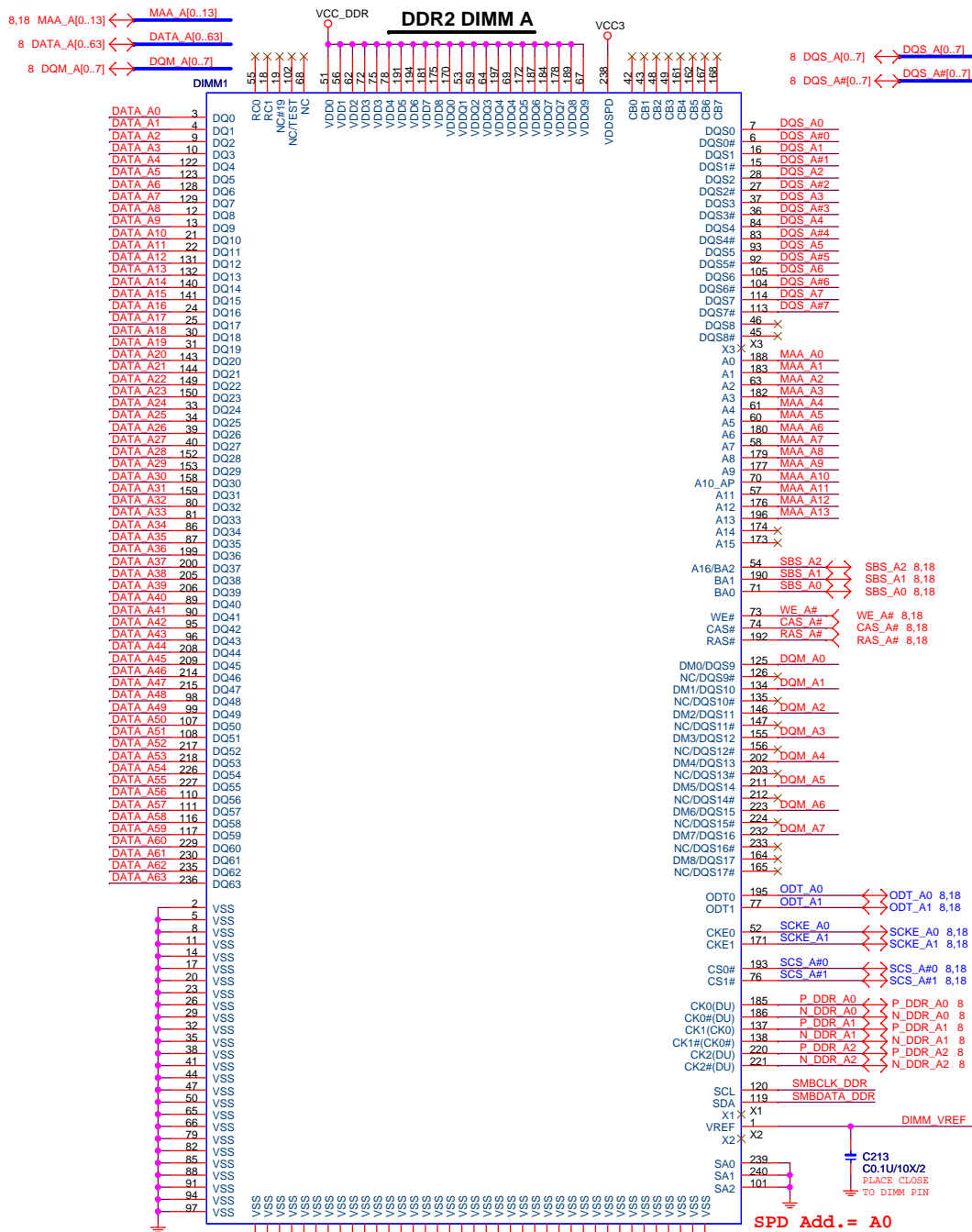
Size	Document Description	Rev
Custom	CLK-RTM876-665	10
Date: Monday, April 21, 2008	Sheet 14 of 31	

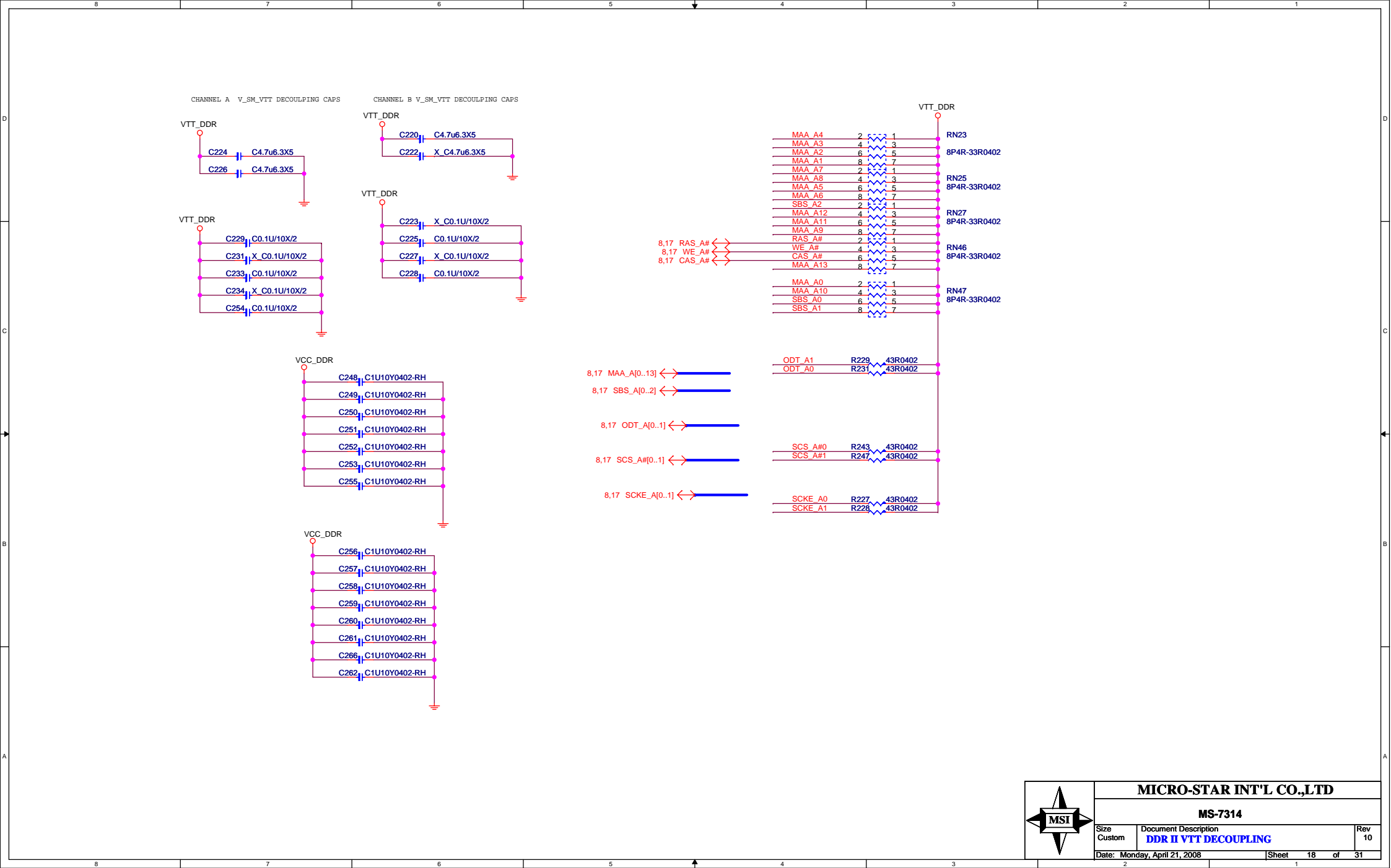






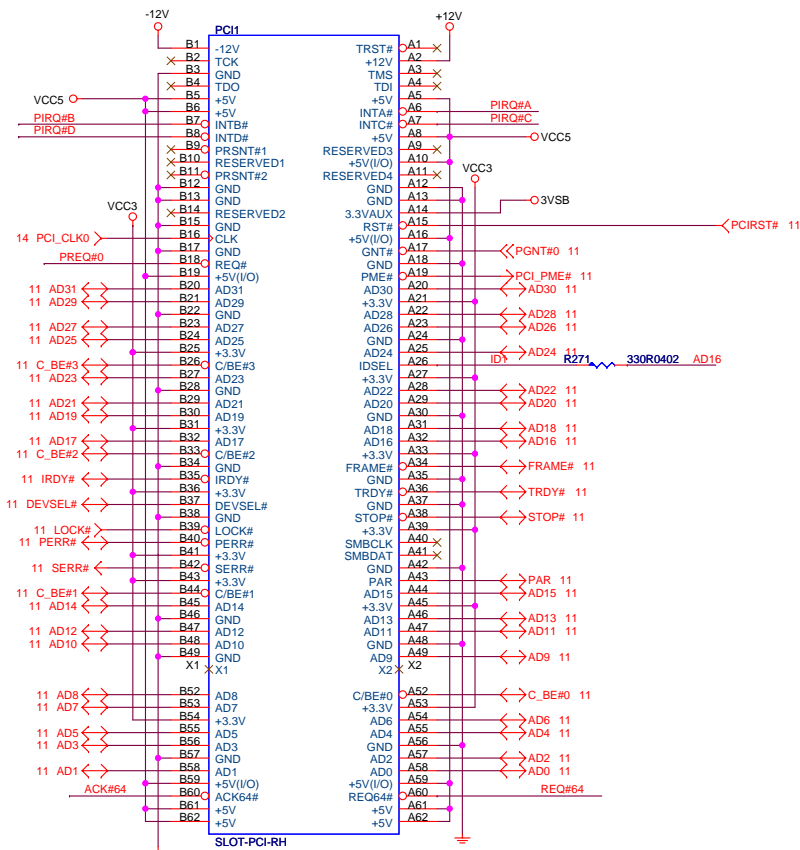








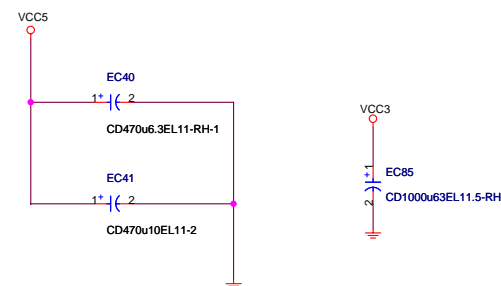
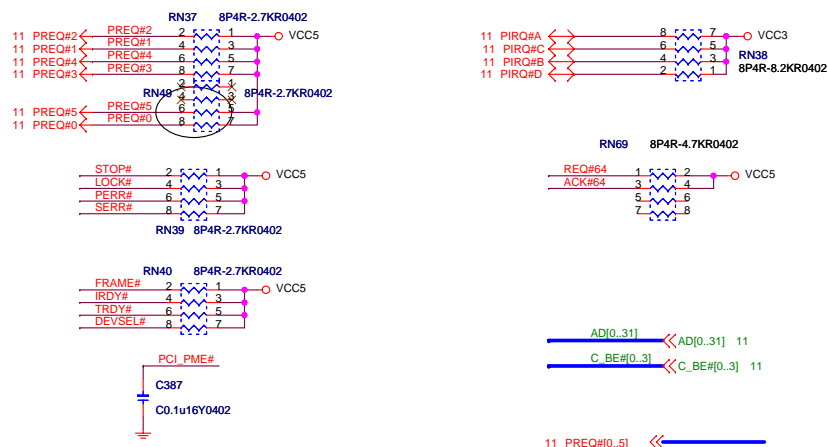
# PCI SLOT 1 (PCI VER: 2.2 COMPLY)



IDSEL = AD16  
MASTER = PREQ#0

PIRQ#A

## PCI PULL-UP / DOWN RESISTORS

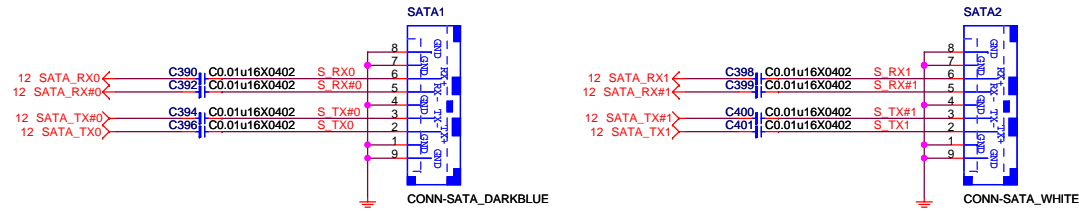


MICRO-STAR INT'L CO.,LTD

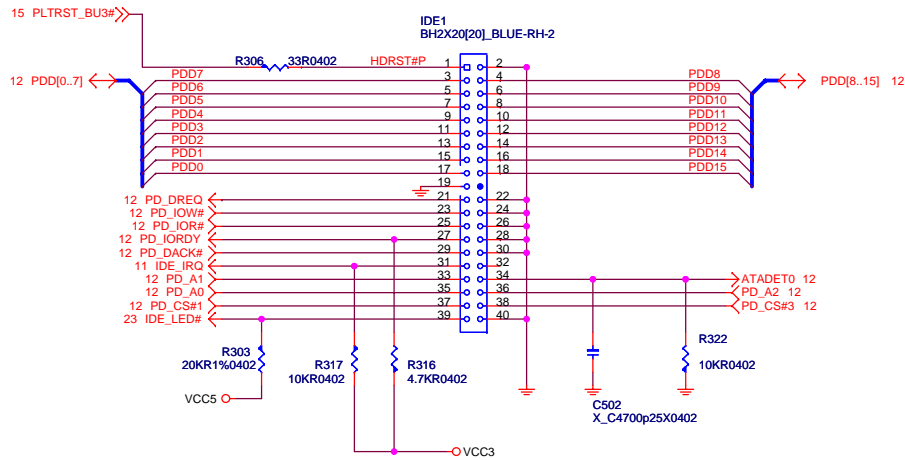
MS-7314

Size	Document Description	Rev
Custom	PCI Slot 1	10
Date: Monday, April 21, 2008	Sheet 20 of 31	

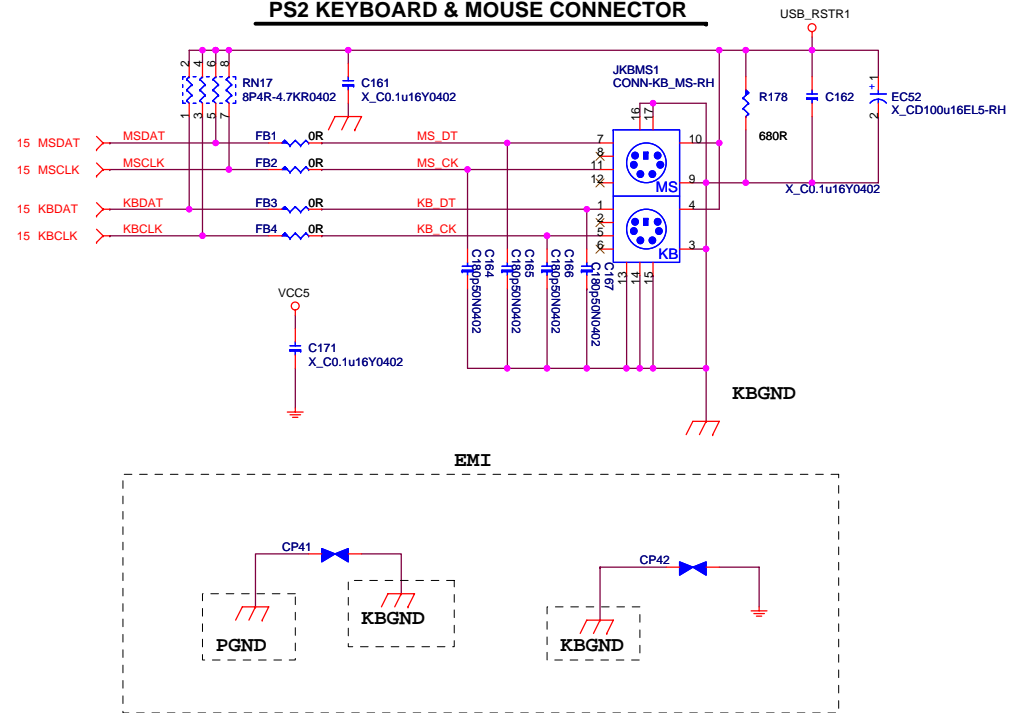
## SERIAL ATA CONNECTOR BLOCK



## ATA 33/66/100 IDE Connectors



## PS2 KEYBOARD & MOUSE CONNECTOR

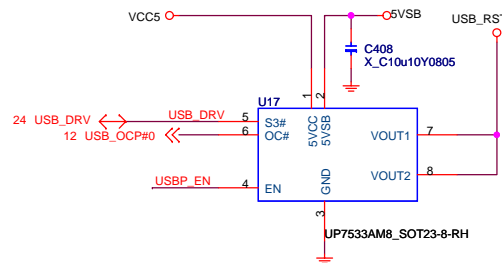


MICRO-STAR INT'L CO.,LTD

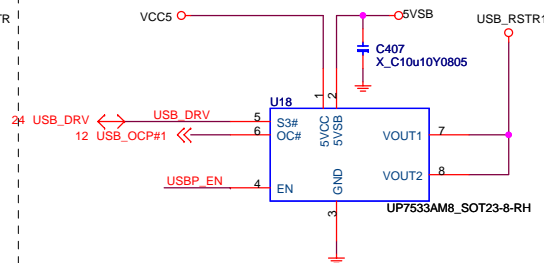
MS-7314

Size	Document Description	Rev
Custom	IDE & SATA & PS2 Connectors	10
Date: Monday, April 21, 2008	Sheet 21 of 31	

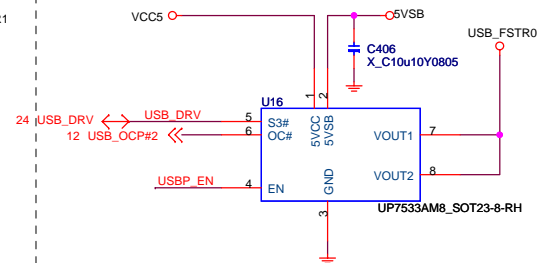
## POWER CIRCUIT FOR USB PORT 0,1



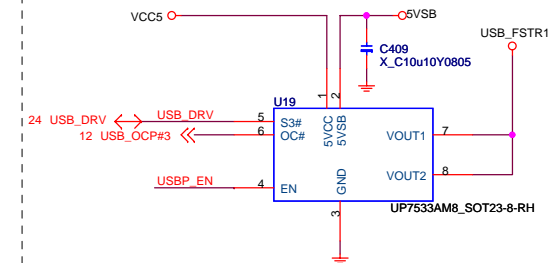
### POWER CIRCUIT FOR USB PORT 2,3



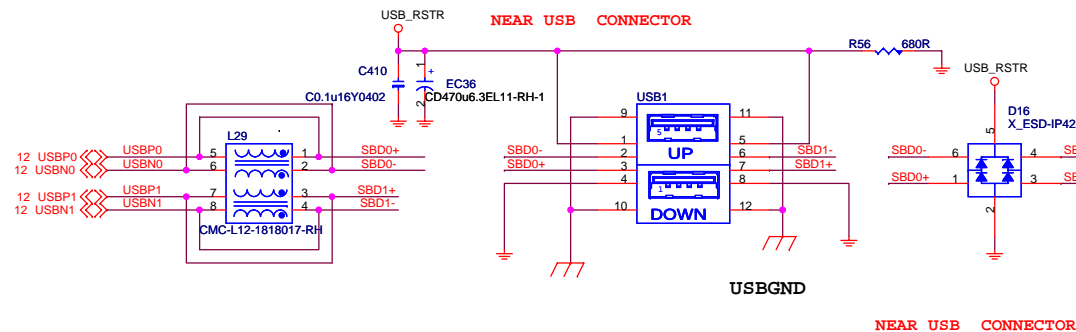
## POWER CIRCUIT FOR USB PORT 4,5



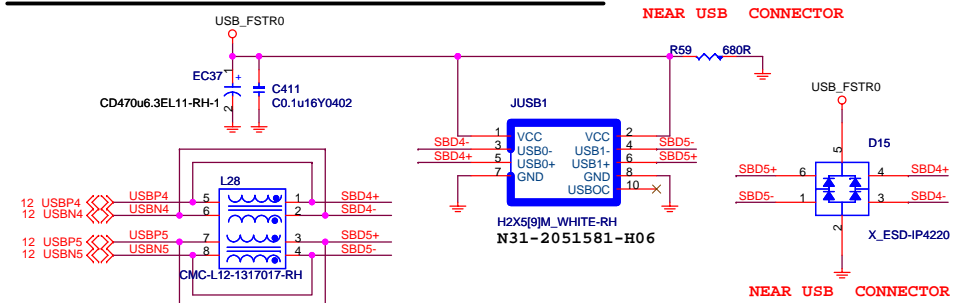
### POWER CIRCUIT FOR USB PORT 6,7



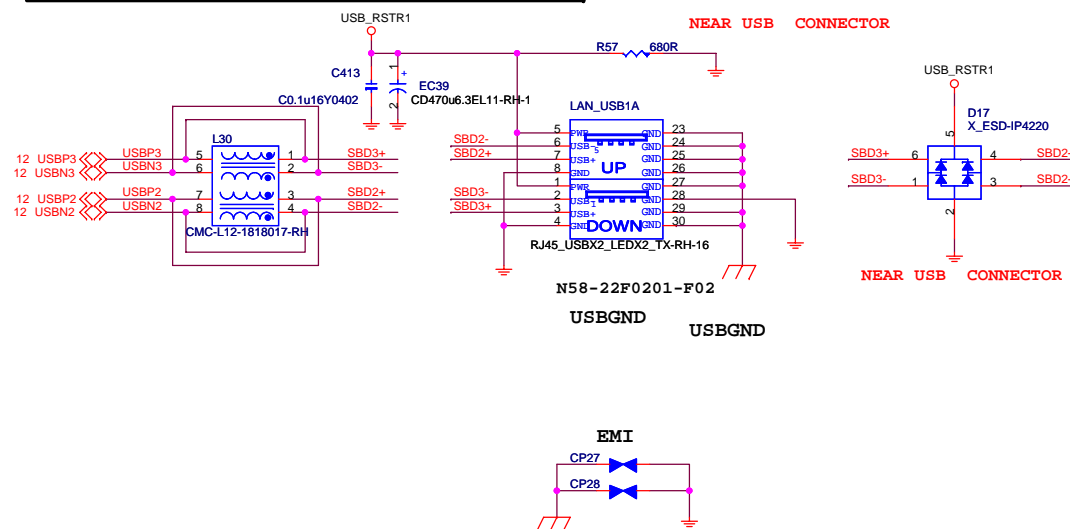
## REAR PANEL USB CONNECTOR FOR USB PORT 0,1



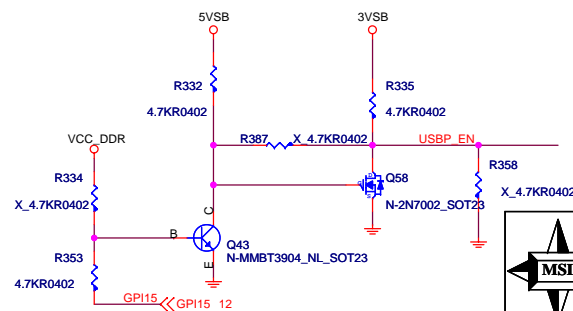
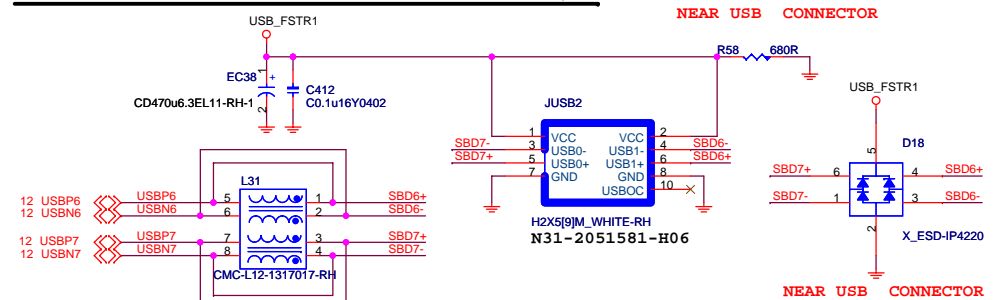
### FRONT PANEL USB CONNECTOR FOR USB PORT 4,5



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

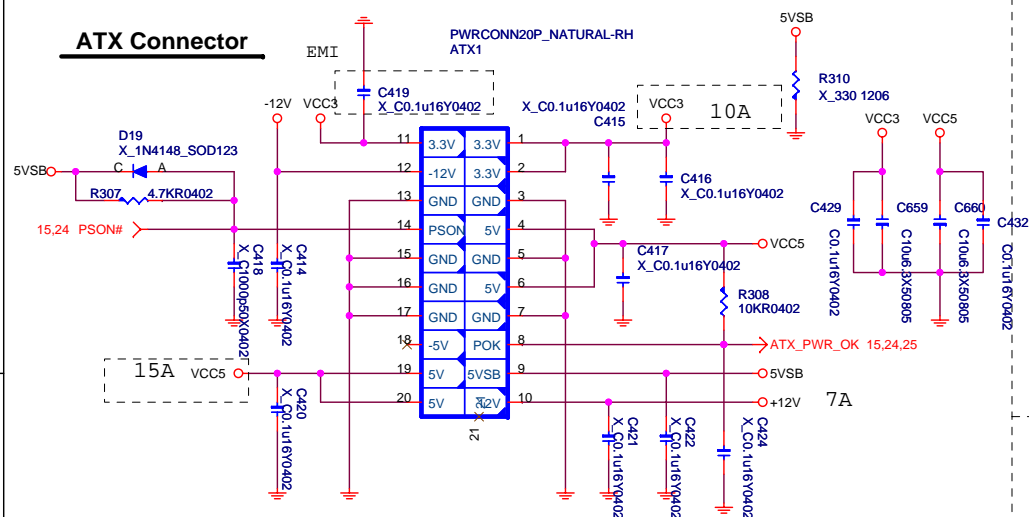


### FRONT PANEL USB CONNECTOR FOR USB PORT 6,7

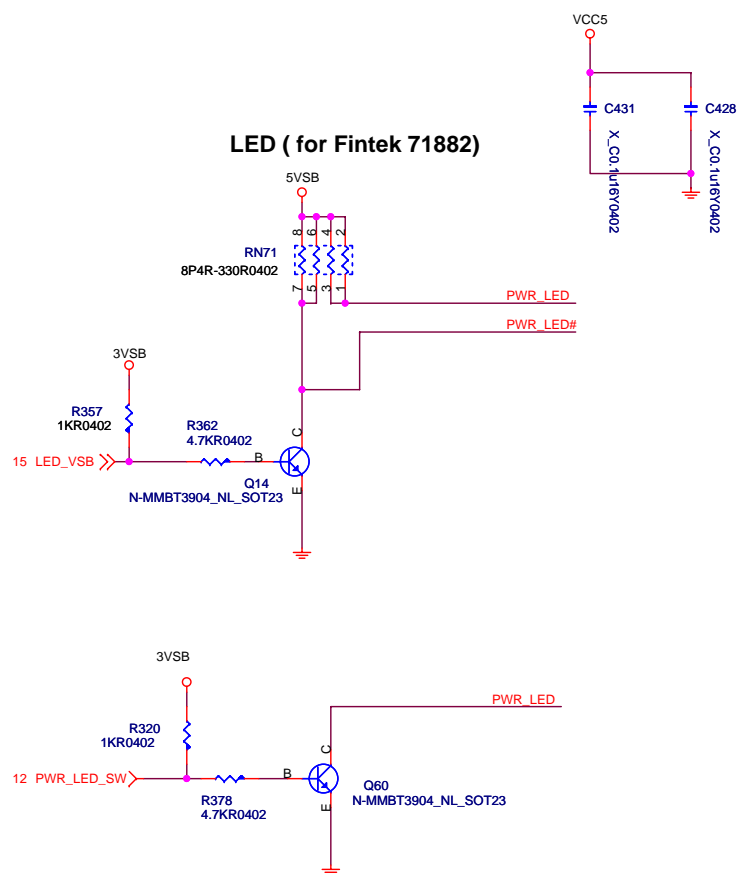


<b>MICRO-STAR INT'L CO.,LTD</b>			
<b>MS-7314</b>			
Size Custom	Document Description <b>USB CONNECTORS</b>		Rev 10
Date: Monday, April 21, 2008		Sheet 22 of 31	

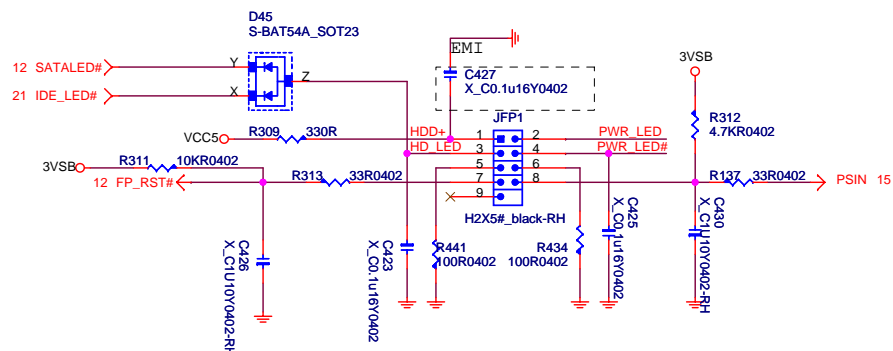
## ATX Connector



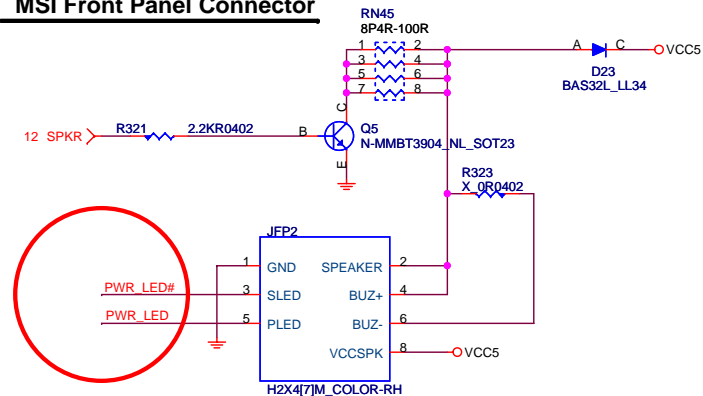
**LED ( for Fintek 71882)**



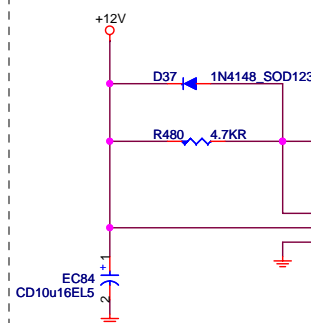
## INTEL/PB Front Panel Connector



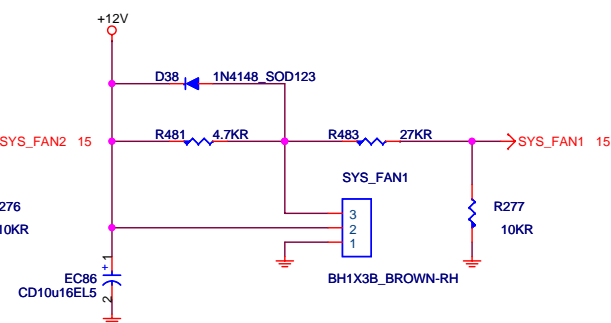
### MSI Front Panel Connector



## SYSTEM FAN



## SYSTEM FAN

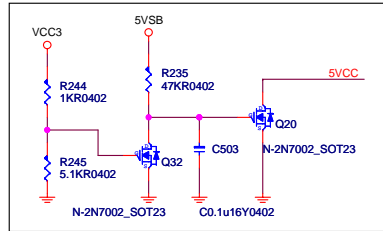
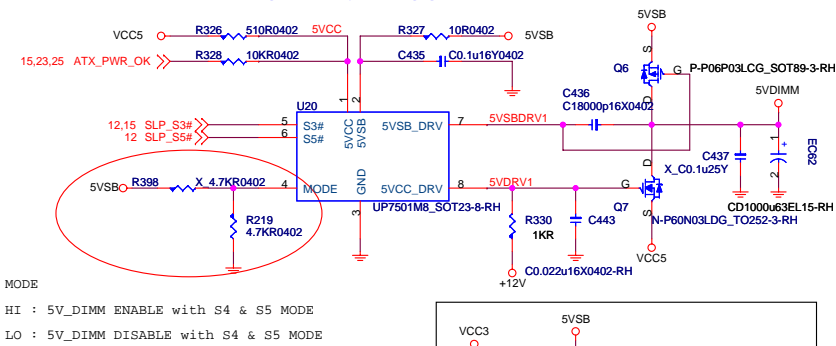


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MS-7314

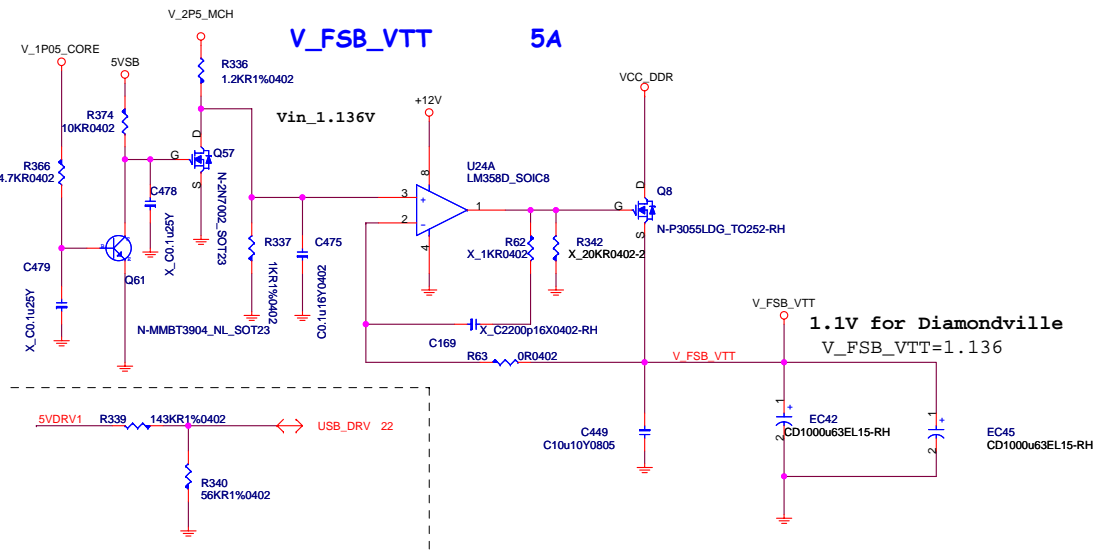
Size Custom	Document Description <b>ATX &amp; Front Panel &amp; FAN</b>	Rev 10
Date: Monday, April 21, 2008		Sheet 23 of 31

## 5VDIMM FOR DDR

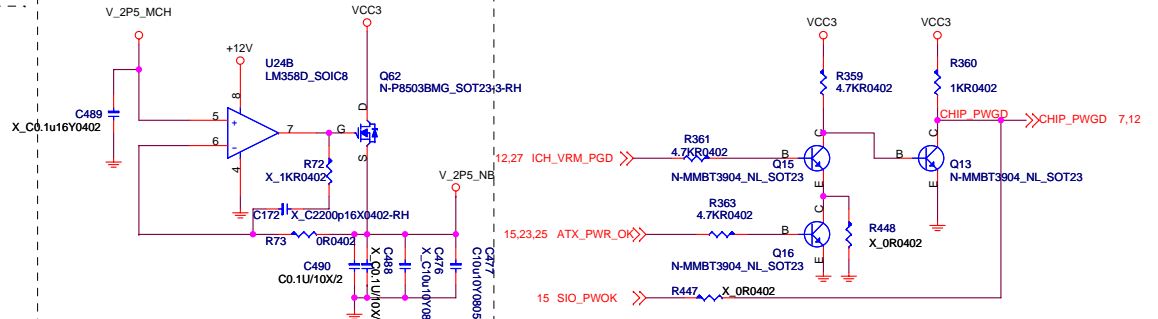
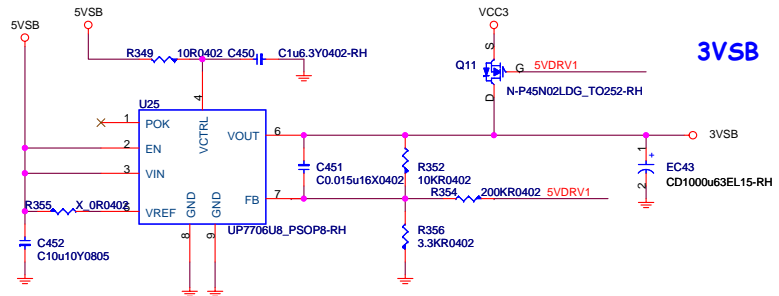


## V\_FSB\_VTT

5A

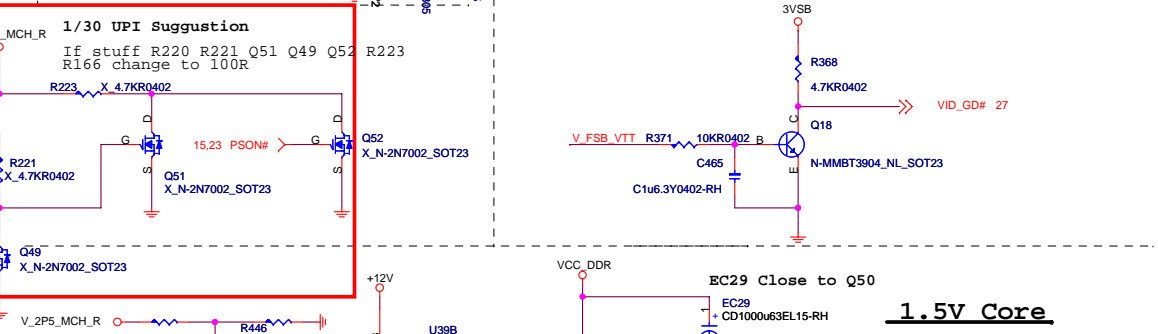
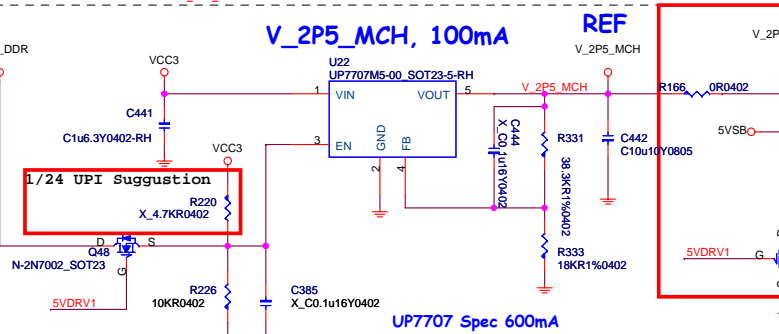


## 3VSB



## V\_2P5\_MCH, 100mA

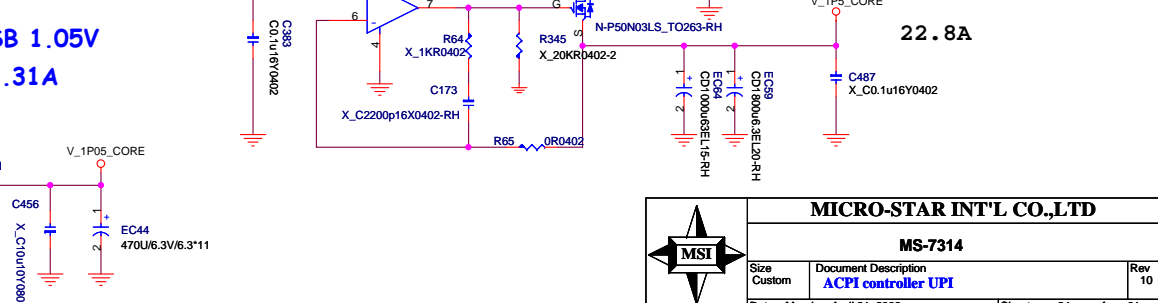
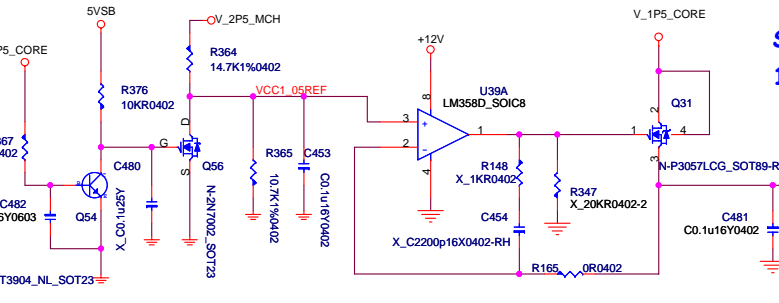
REF



## V\_1P5\_CORE

SB 1.05V

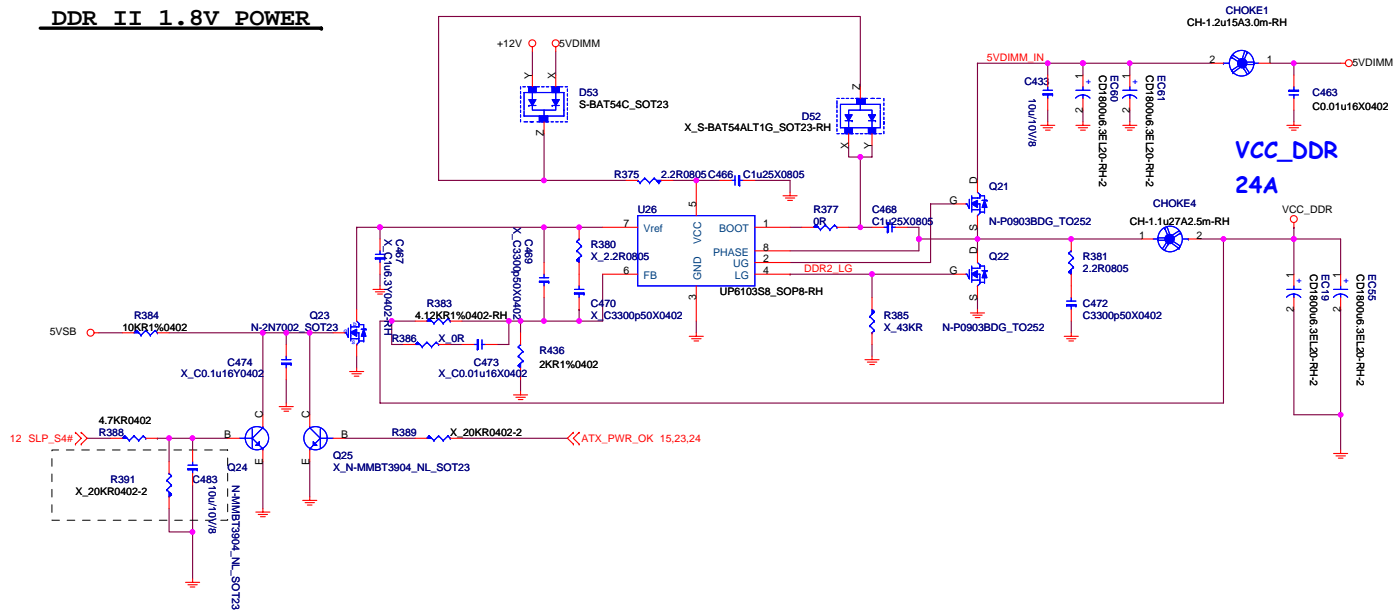
1.31A



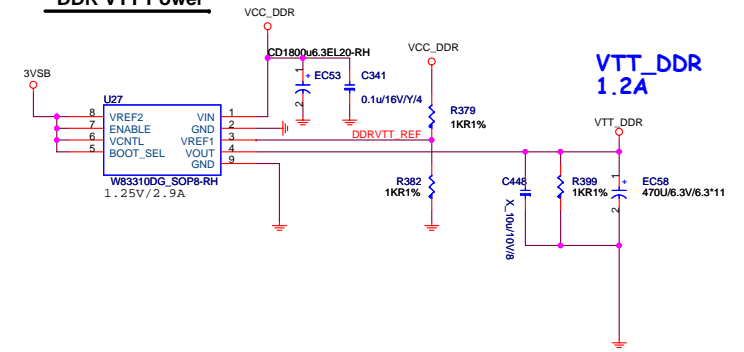
MICRO-STAR INT'L CO.,LTD		
MS-7314		
Size Custom	Document Description	Rev 10
ACPI controller UPI		
Date: Monday, April 21, 2008	Sheet 24	of 31



## DDR II 1.8V POWER



## DDR VTT Power

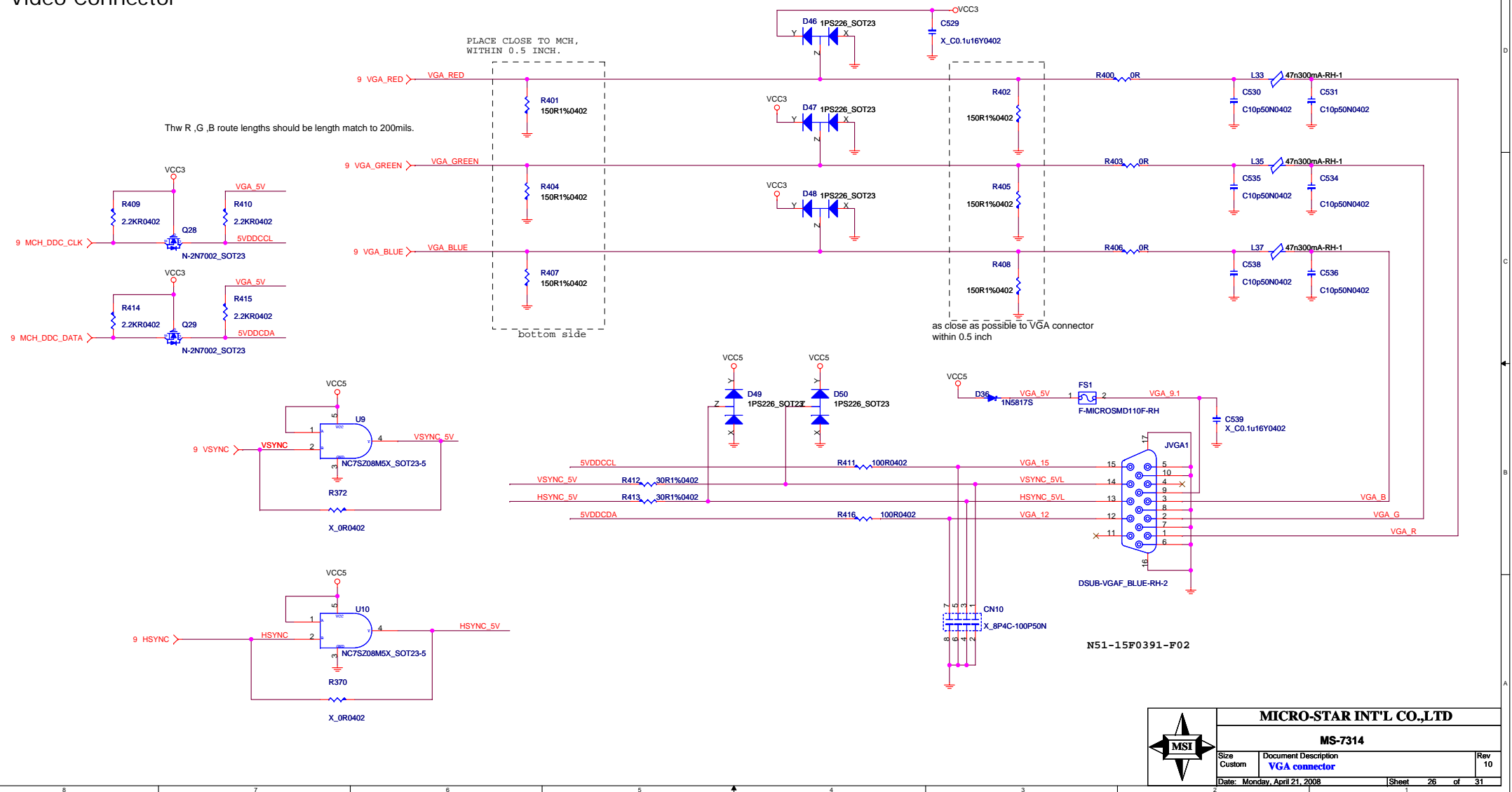


MICRO-STAR INT'L CO.,LTD

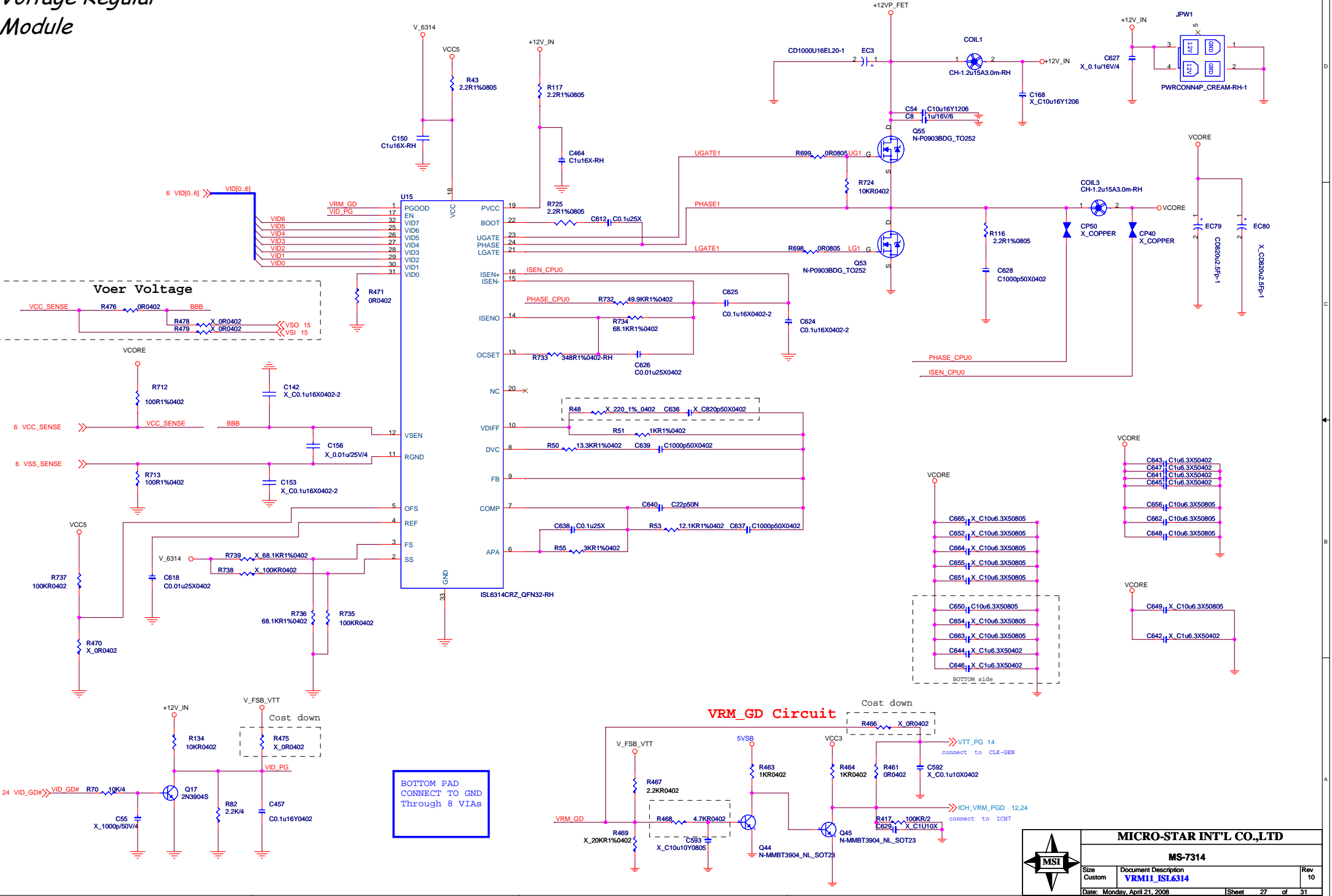
MS-7314

Size	Document Description	Rev
Custom	GMCH VCORE & DDR Power	10
Date: Monday, April 21, 2008	Sheet	25 of 31

# Video Connector

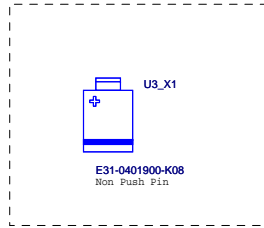


Voltage Regular  
Module

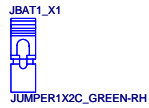
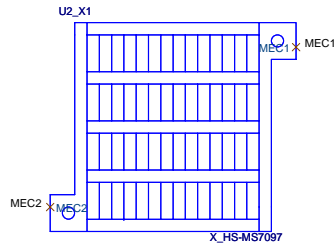




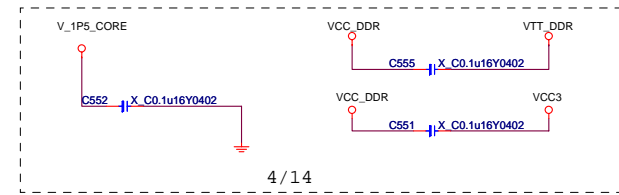
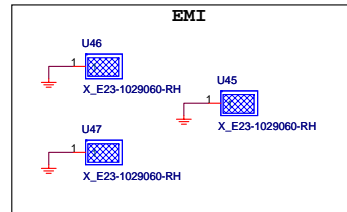
### ICH7 HEATSINK



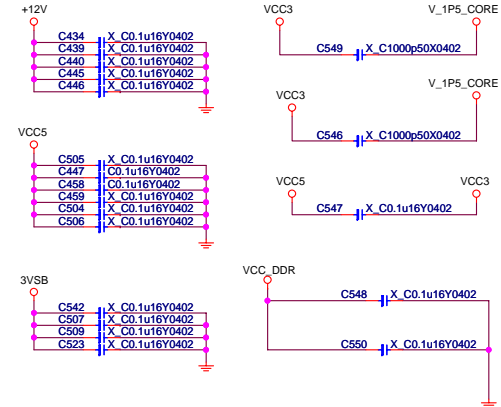
### MCH HEATSINK



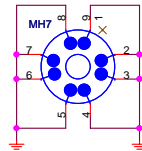
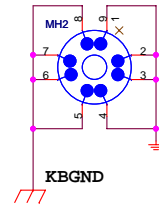
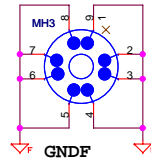
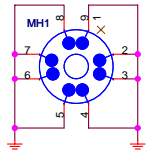
### EMI



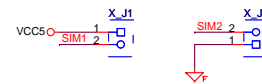
### EMI



### Mounting Holes



### Simulation



### Optics Orientation Holes

