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MS-7314

Version 0A

CPU: Diamondville 1.66G

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)

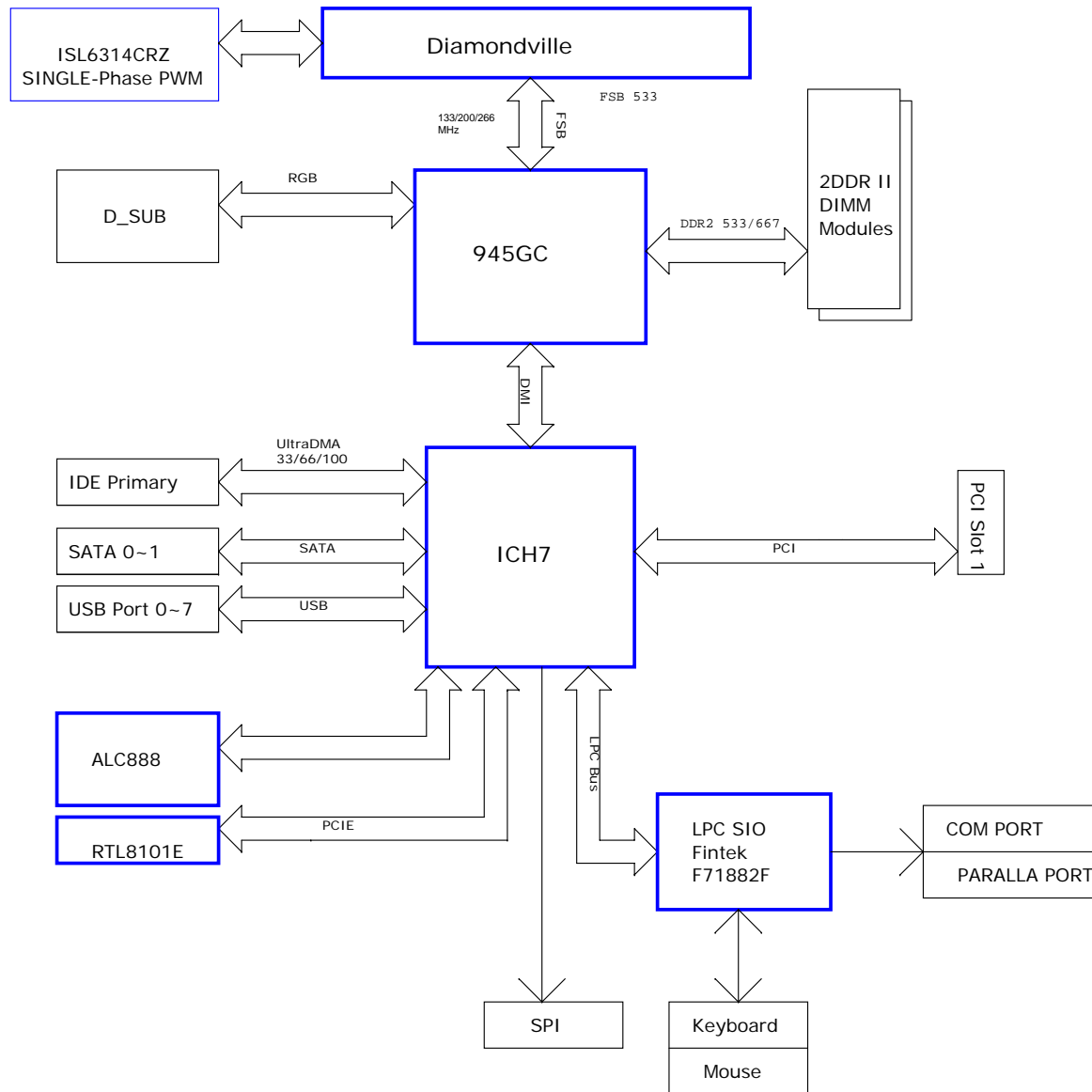
Expansion Slots:

PCI2.3 SLOT * 1

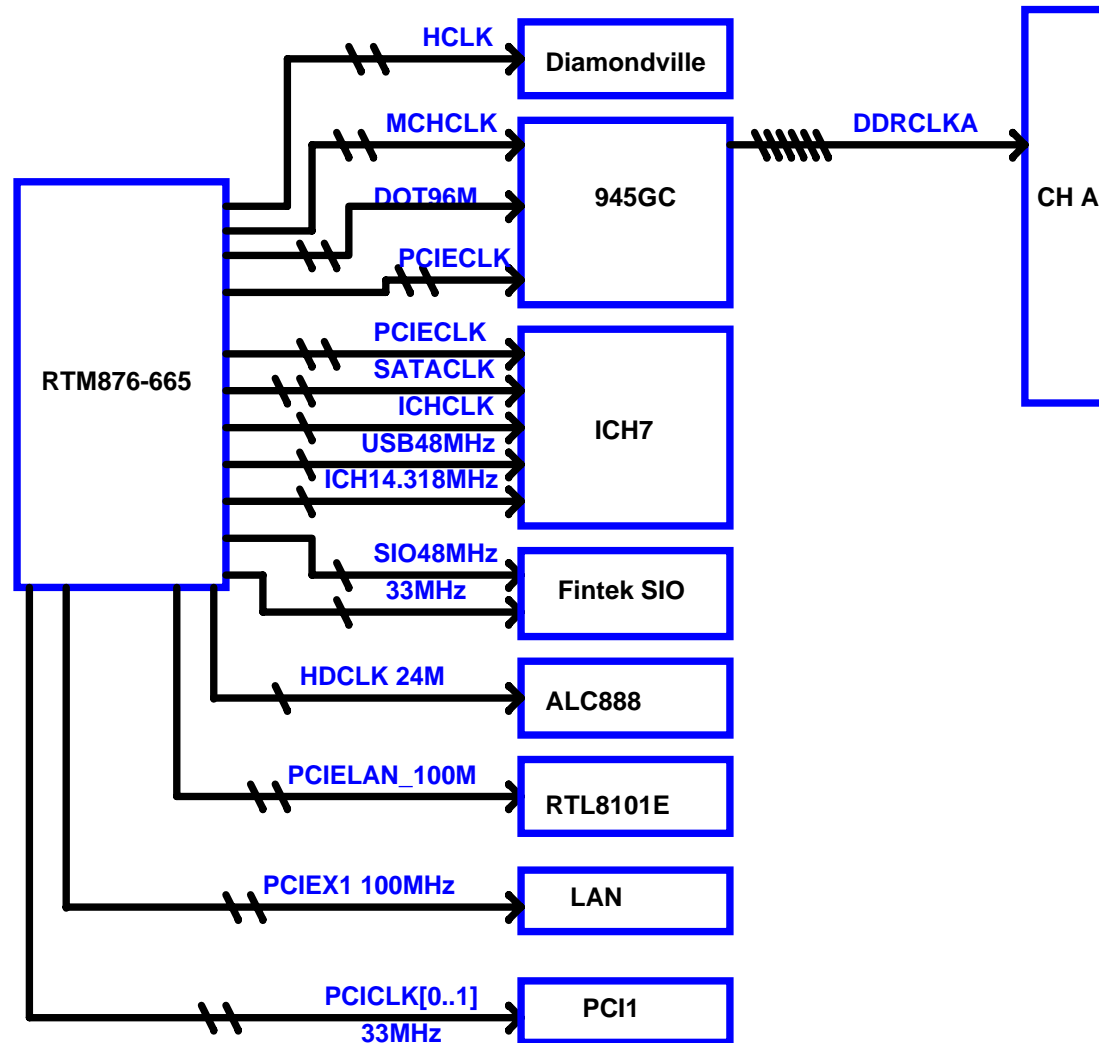
PWM:

ISL6261CRZ SINGLE PHASES

Block Diagram



CLOCK MAP



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Custom	CLOCK MAP	0A
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Processor
Vcore=1.1V/3A
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(2) & 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-

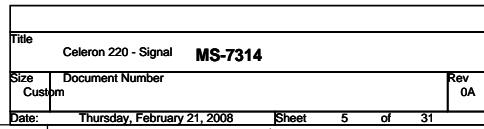
SPI ROM

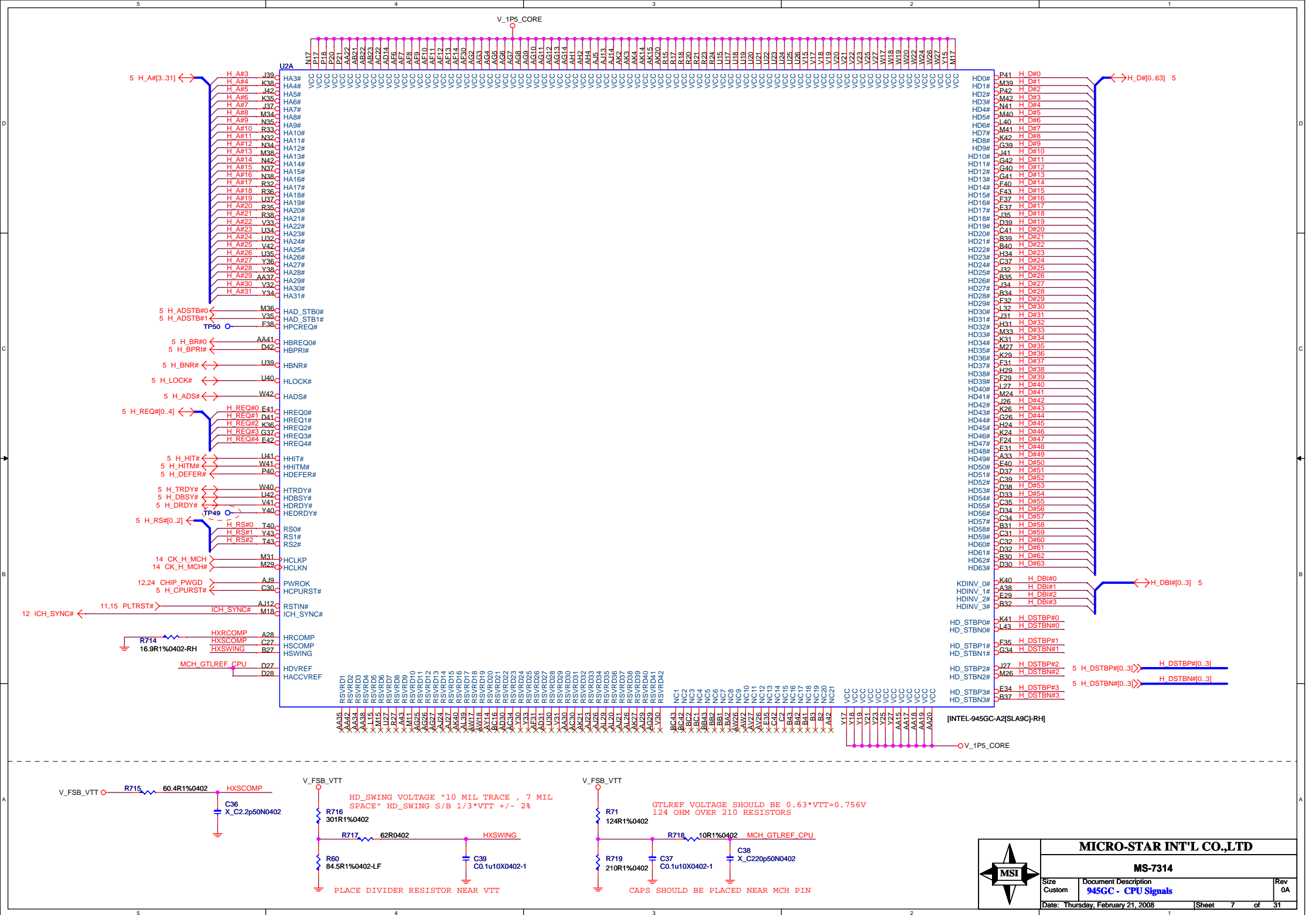
Audio Codec

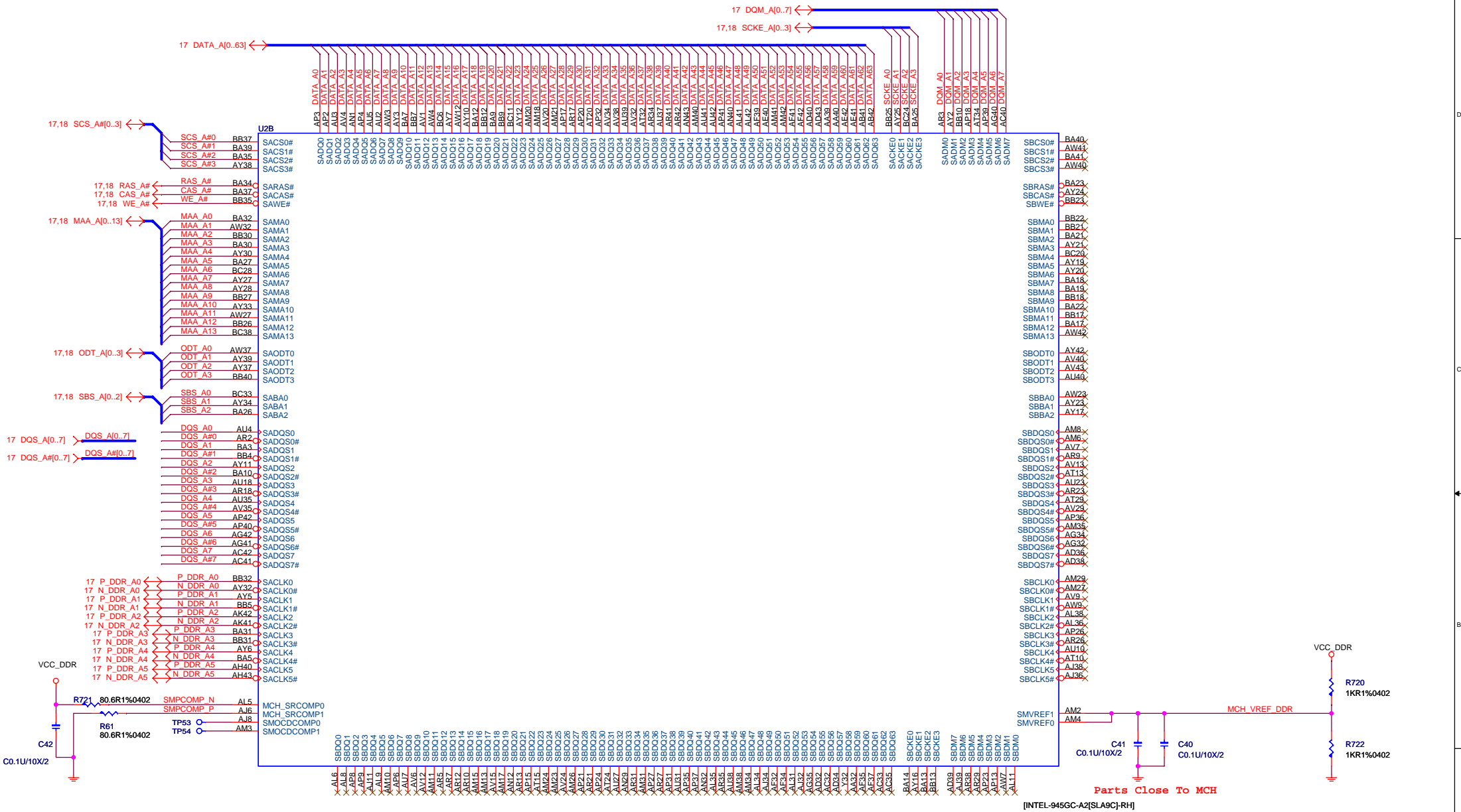
+12V	+5V	+3.3V	+5VSB
ATX POWER			

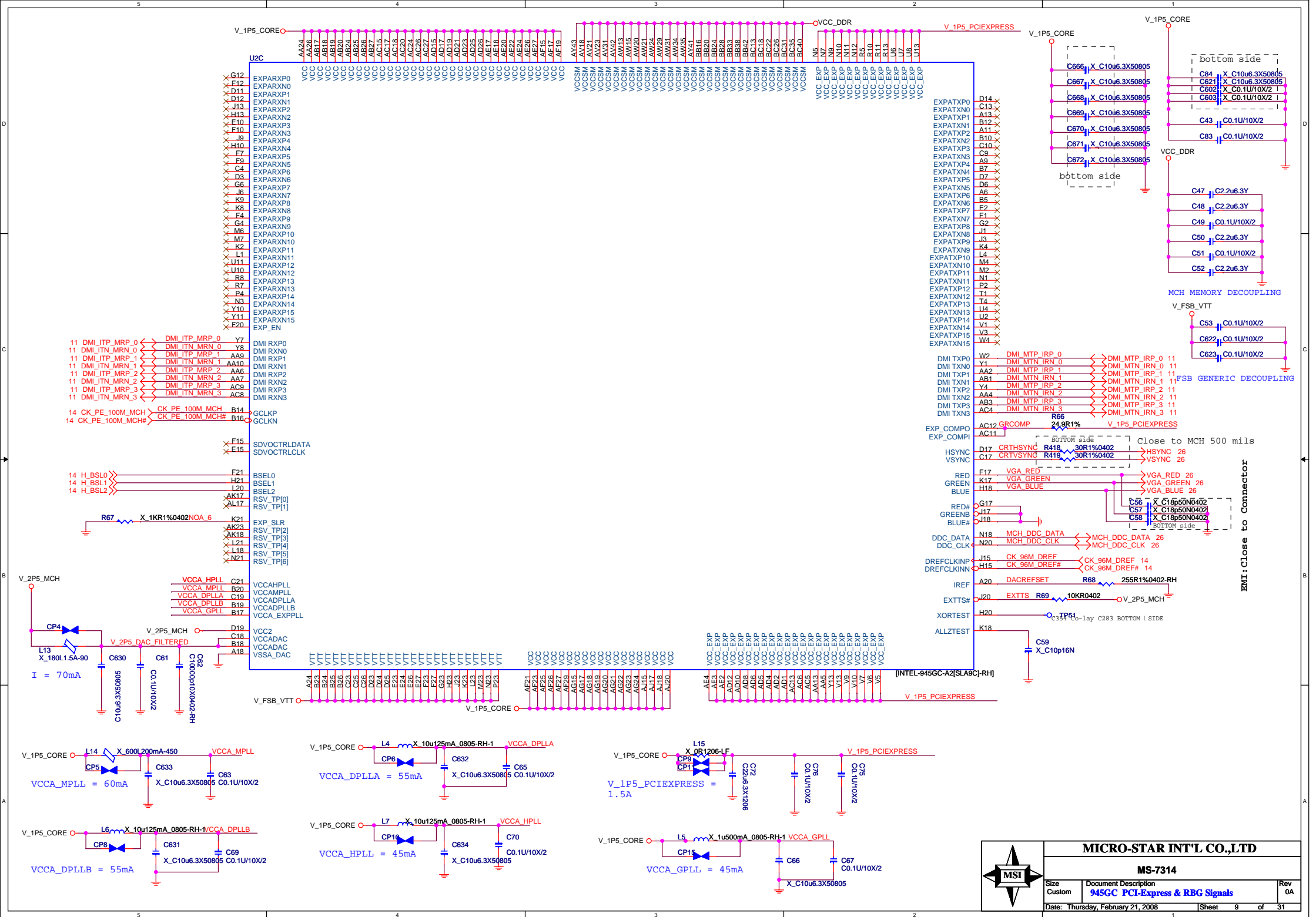


MICRO-STAR INT'L CO.,LTD		
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Size Custom	Document Description Power Map	Rev 0A
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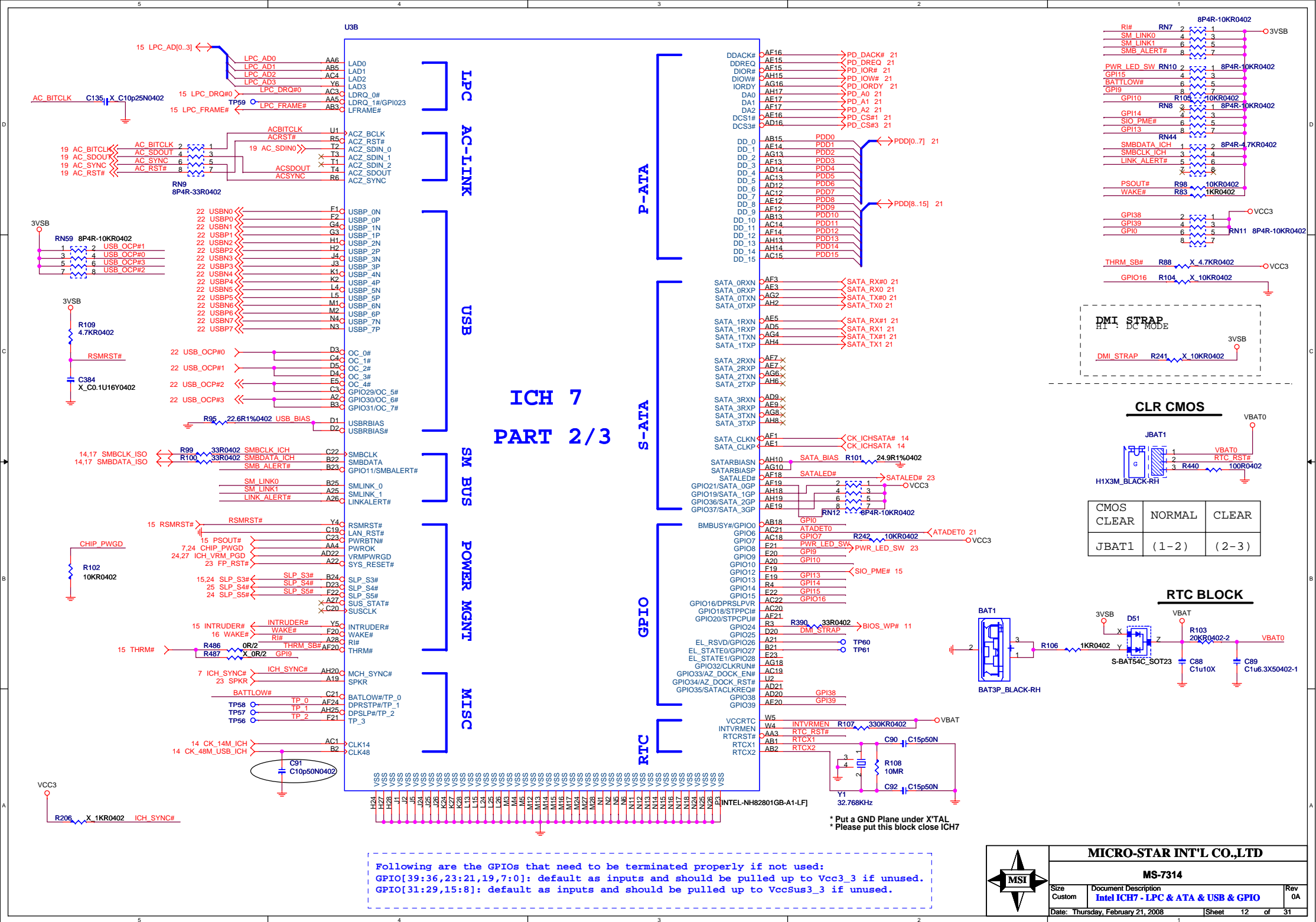




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Size	Document Description	Rev
Custom	Intel 945GC - GND	0A
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ICH 7
PART 3/3

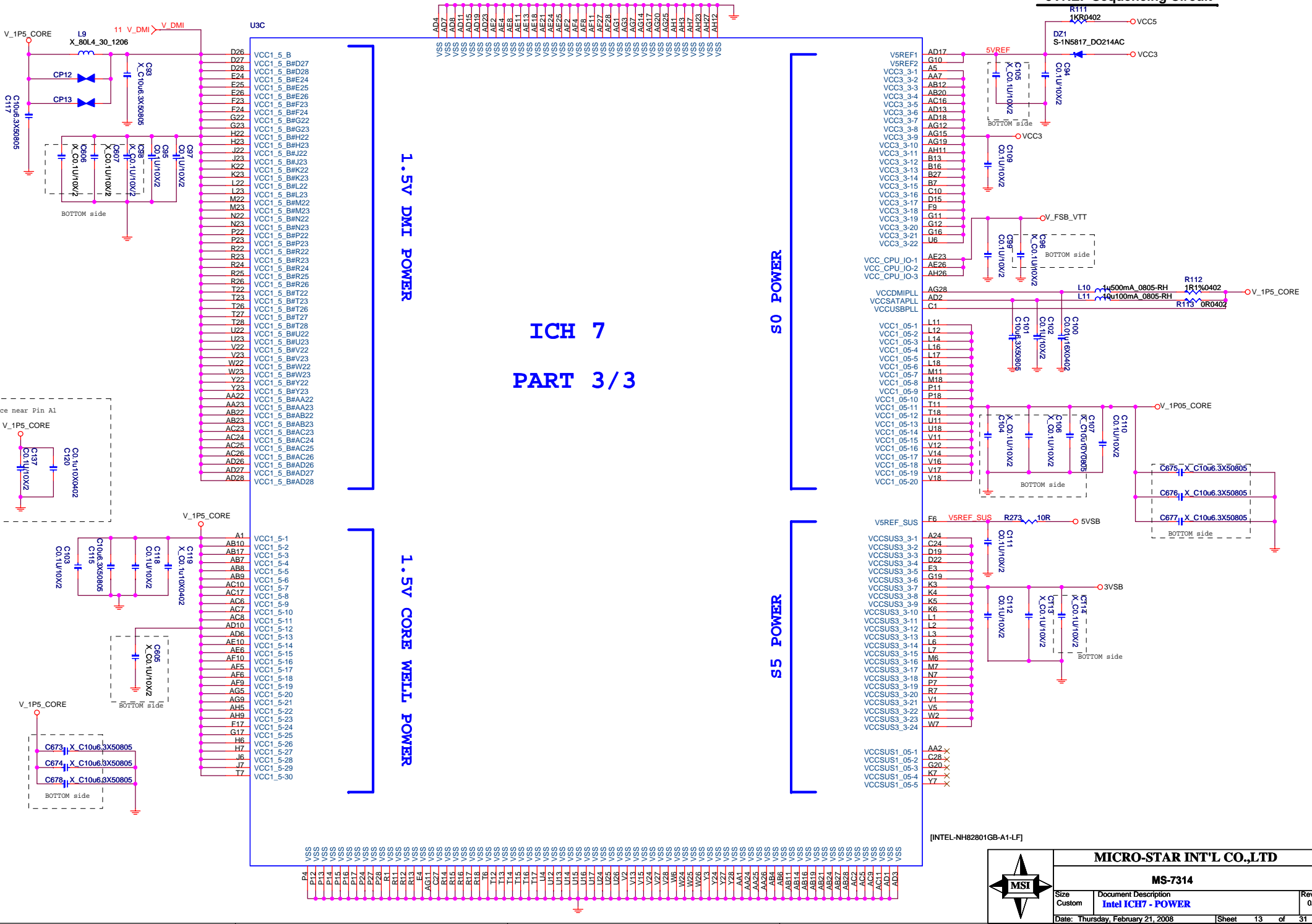
1.5V DMI POWER

1.5V CORE WELL POWER

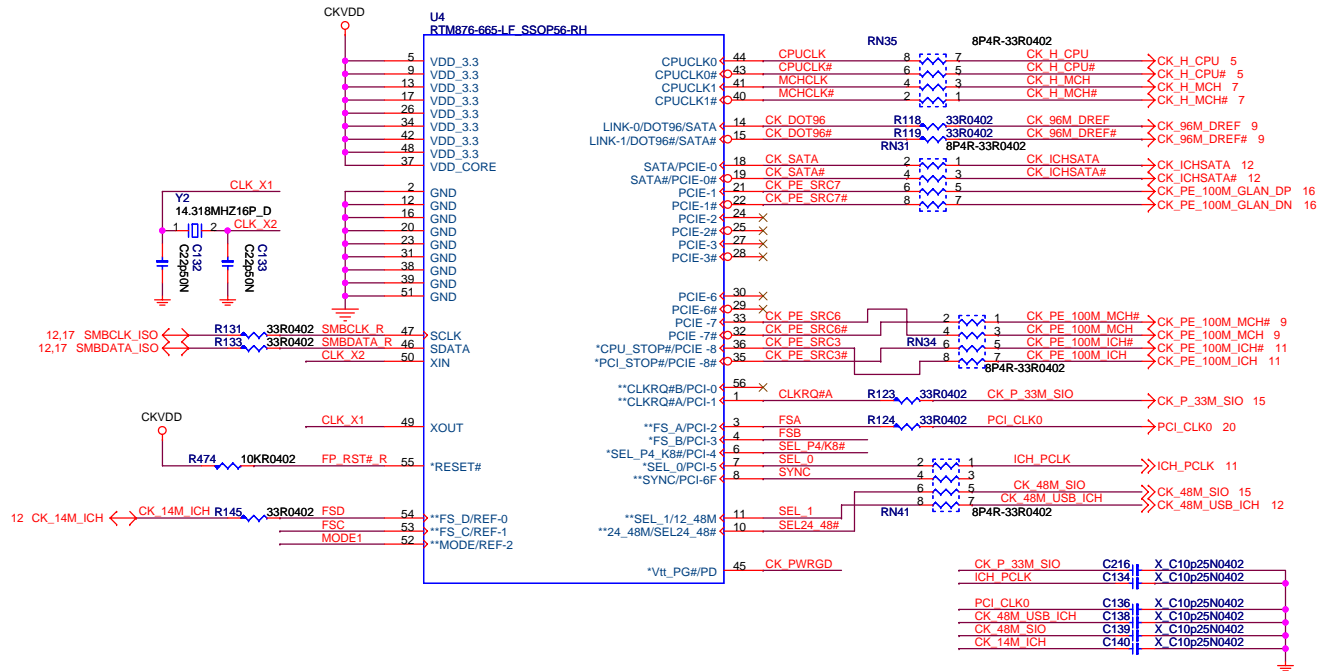
S0 POWER

S5 POWER

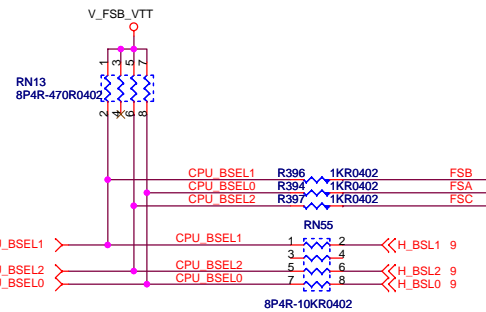
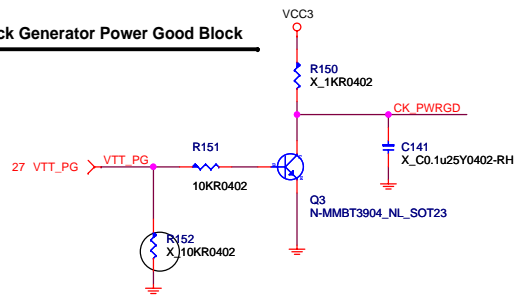
5VREF Sequencing Circuit



Clock Generator - RTM876-665



Clock Generator Power Good Block



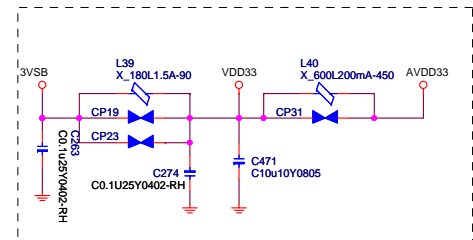
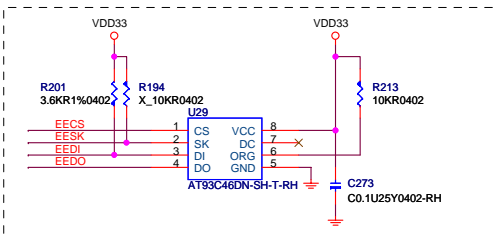
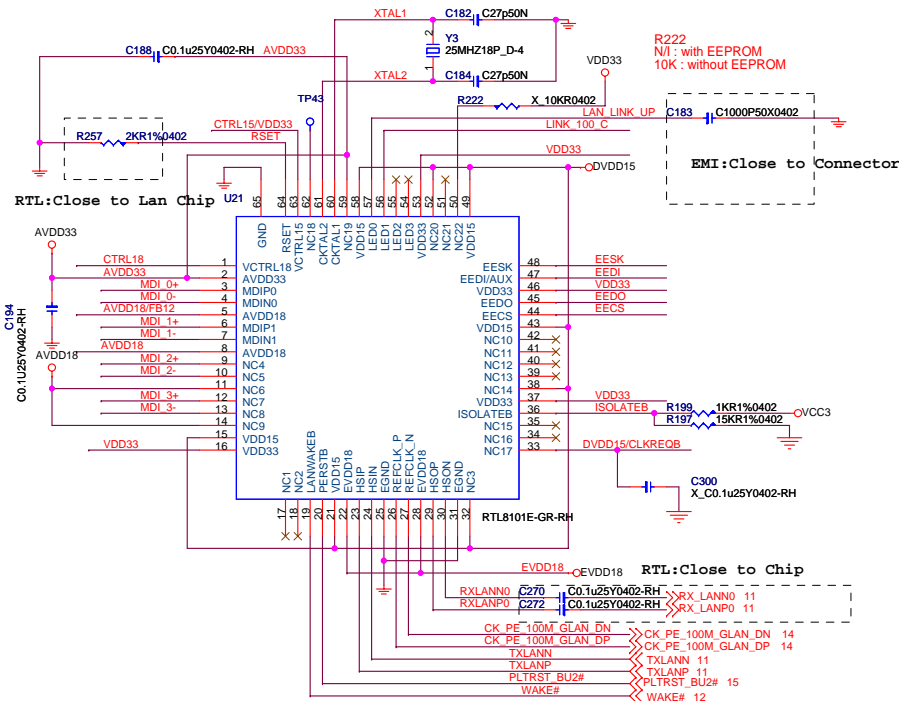
(FSLC, FSLB, FSLA)	CPU MHz	PCIEX MHz	PCI MHz
(0 , 0 , 0)	266.66	100.00	33.33
(0 , 0 , 1)	133.33	100.00	33.33
(0 , 1 , 0)	200.00	100.00	33.33
(0 , 1 , 1)	166.66	100.00	33.33
(1 , 0 , 0)	333.33	100.00	33.33
(1 , 0 , 1)	100.00	100.00	33.33
(1 , 1 , 0)	400.00	100.00	33.33



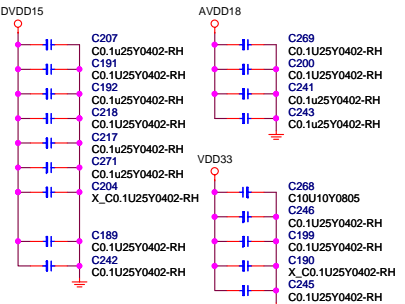
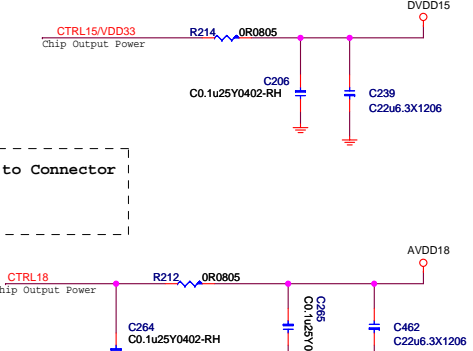
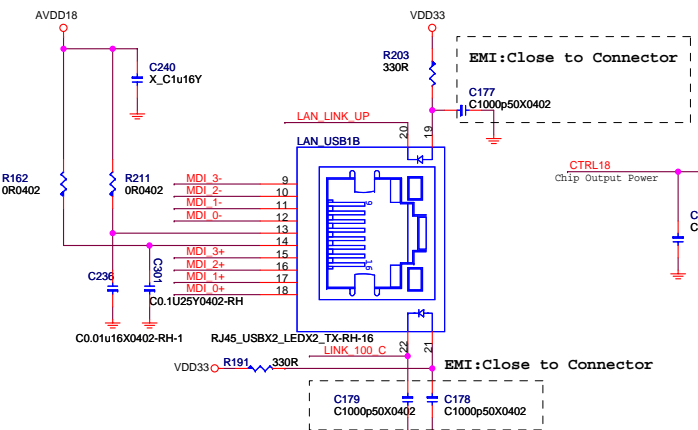
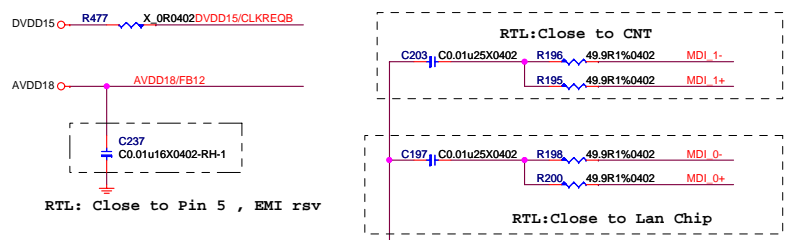
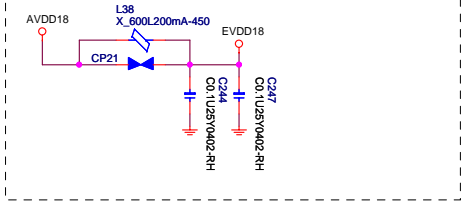
MICRO-STAR INT'L CO.,LTD

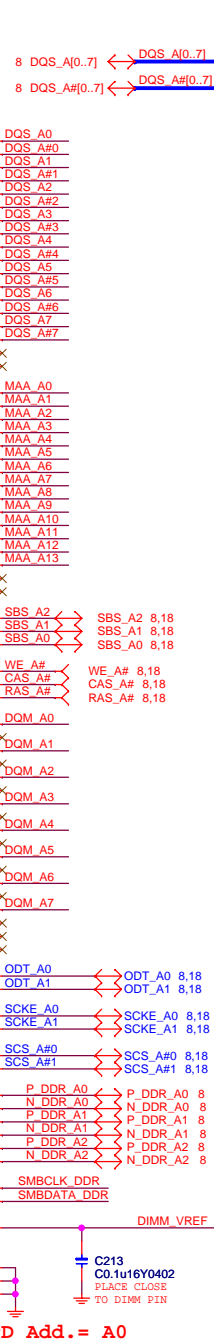
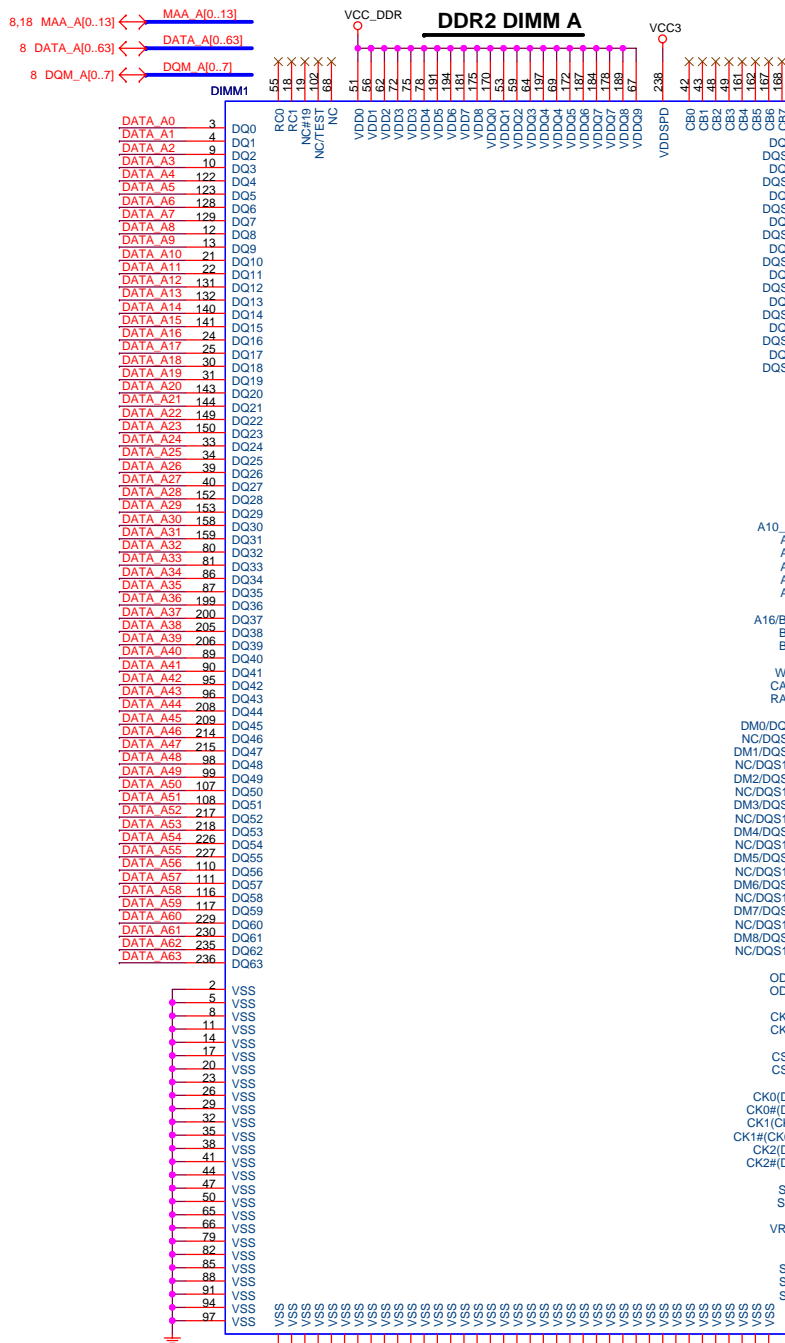
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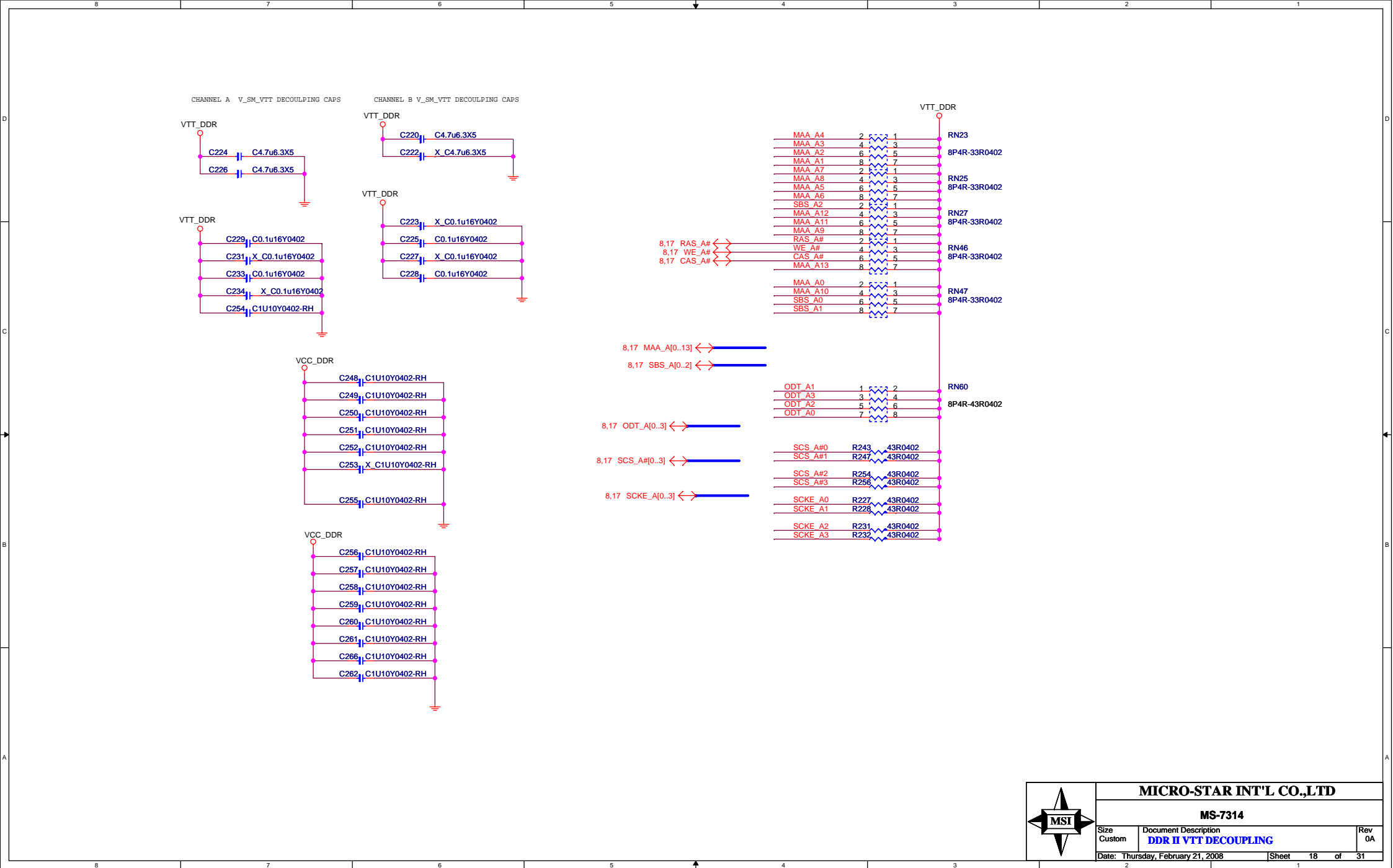
Size Custom	Document Description CLK-RTM876-665	Rev 0A
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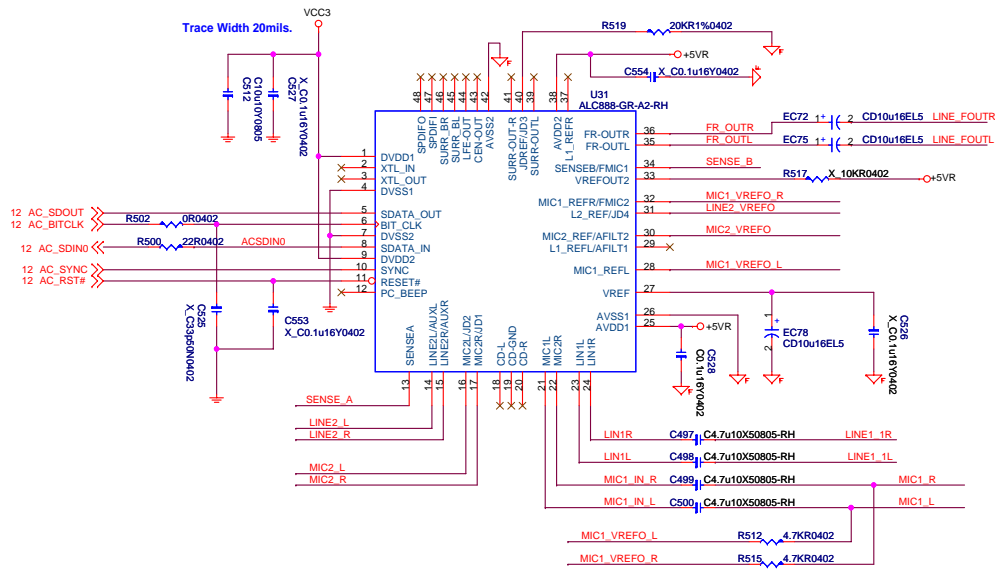
Giga-Lan	10/100-Lan
N58-22F0181-S42	N58-22F0201-S42
Link Yellow	Link Yellow
Active Blinking	Active Blinking
1000 Orange	100 Green
100 Green	10 None
10 None	
19	19
20	20
21	21
22	22



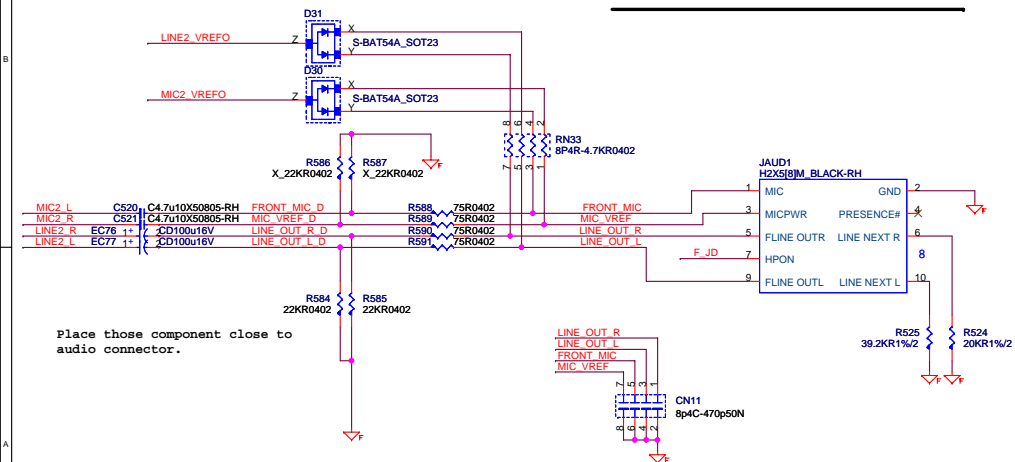




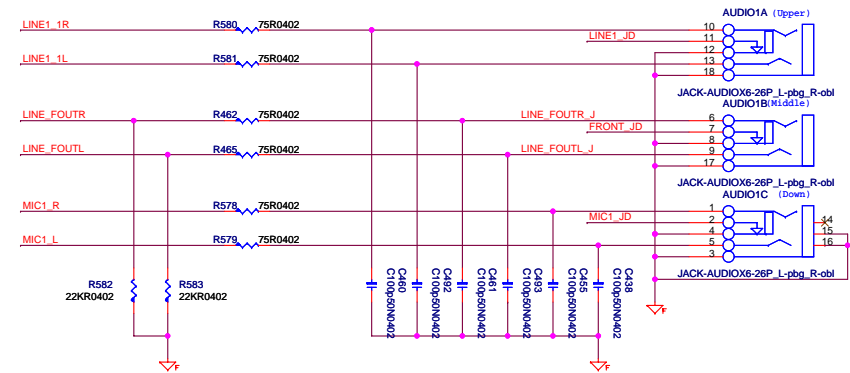
ALC888 CODEC



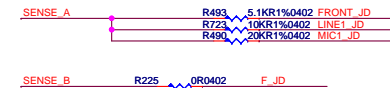
Azalia Front Audio Connector



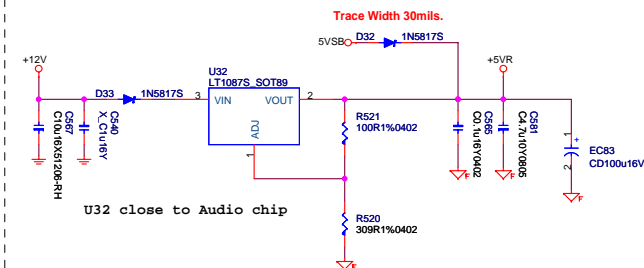
ALC888 JACK



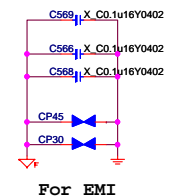
ALC888 JACK DETECT



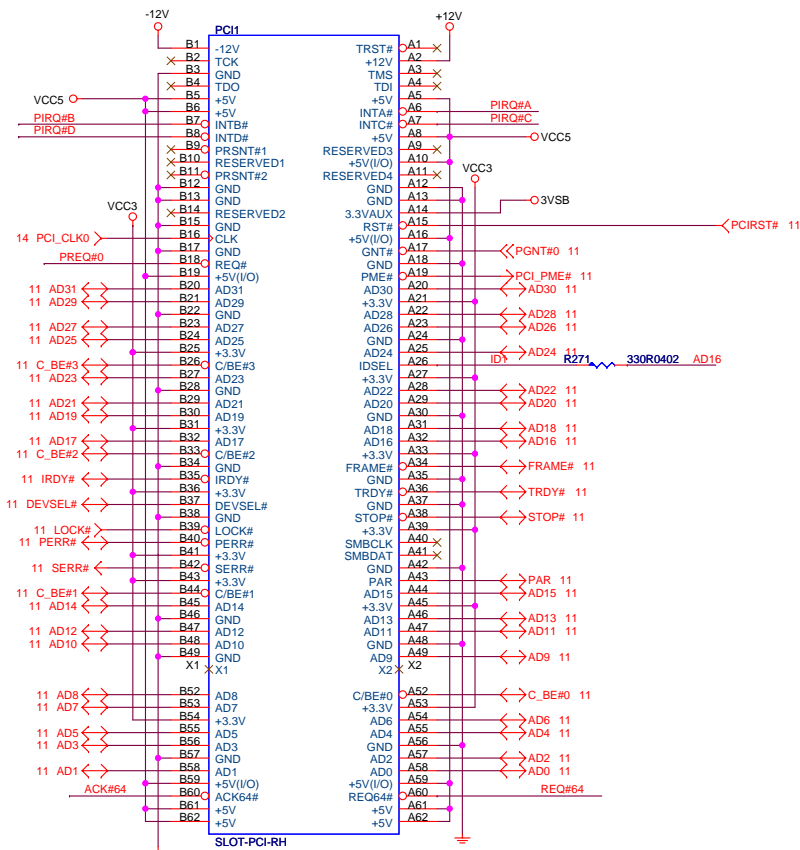
AUDIO CODE REGULATORS



EMI



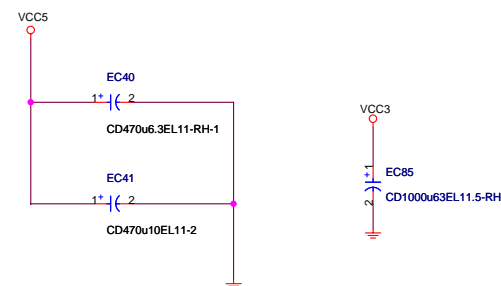
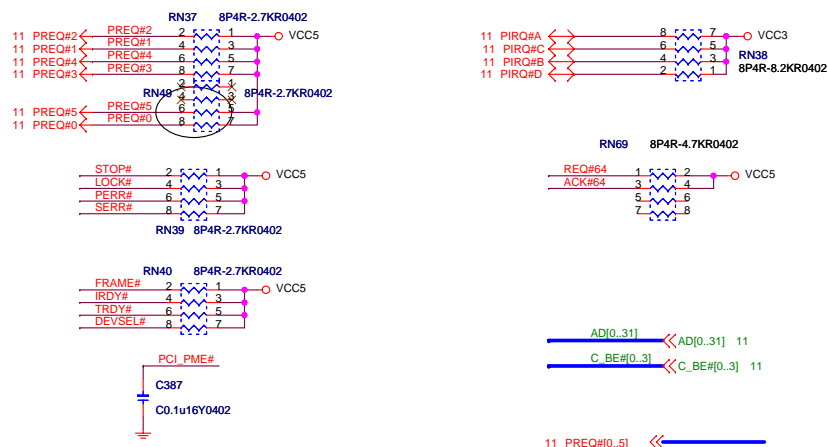
PCI SLOT 1 (PCI VER: 2.2 COMPLY)



IDSEL = AD16
MASTER = PREQ#0

PIRQ#A

PCI PULL-UP / DOWN RESISTORS



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The image displays two SATA pinout diagrams, labeled SATA1 and SATA2, showing the connection between a SATA connector and a cable.

SATA1:

- Connector:** SATA1 (blue)
- Cable:** CONN-SATA_DARKBLUE
- Pinout:**
 - Pin 1: S_TX#0
 - Pin 2: S_TX#1
 - Pin 3: S_TX#2
 - Pin 4: S_TX#3
 - Pin 5: S_RX#0
 - Pin 6: S_RX#1
 - Pin 7: S_RX#2
 - Pin 8: S_RX#3
 - Pin 9: GND
- Legend:**
 - C390: C0.01u16X0402
 - C392: C0.01u16X0402
 - C394: C0.01u16X0402
 - C396: C0.01u16X0402

SATA2:

- Connector:** SATA2 (blue)
- Cable:** CONN-SATA_WHITE
- Pinout:**
 - Pin 1: S_TX#0
 - Pin 2: S_TX#1
 - Pin 3: S_TX#2
 - Pin 4: S_TX#3
 - Pin 5: S_RX#0
 - Pin 6: S_RX#1
 - Pin 7: S_RX#2
 - Pin 8: S_RX#3
 - Pin 9: GND
- Legend:**
 - C398: C0.01u16X0402
 - C399: C0.01u16X0402
 - C400: C0.01u16X0402
 - C401: C0.01u16X0402

The schematic diagram shows the IDE1 (H2x20[20] BLUE-RH-2) component with the following connections:

- Pin 1:** Connected to PLTRST_BU3#.
- Pin 2:** Connected to PDD8.
- Pin 3:** Connected to PDD9.
- Pin 4:** Connected to PDD10.
- Pin 5:** Connected to PDD11.
- Pin 6:** Connected to PDD12.
- Pin 7:** Connected to PDD13.
- Pin 8:** Connected to PDD14.
- Pin 9:** Connected to PDD15.
- Pin 10:** Connected to PDD0.
- Pin 11:** Connected to PDD1.
- Pin 12:** Connected to PDD2.
- Pin 13:** Connected to PDD3.
- Pin 14:** Connected to PDD4.
- Pin 15:** Connected to PDD5.
- Pin 16:** Connected to PDD6.
- Pin 17:** Connected to PDD7.
- Pin 18:** Connected to PDD8.
- Pin 19:** Connected to PDD9.
- Pin 20:** Connected to PDD10.
- Pin 21:** Connected to PD_DREQ.
- Pin 22:** Connected to PD_IOW#.
- Pin 23:** Connected to PD_IORDY.
- Pin 24:** Connected to PD_DACK#.
- Pin 25:** Connected to IDE_IRQ.
- Pin 26:** Connected to PD_A1.
- Pin 27:** Connected to PD_A0.
- Pin 28:** Connected to PD_CS#1.
- Pin 29:** Connected to IDE_LED#.
- Pin 30:** Connected to ATADET0.
- Pin 31:** Connected to PD_A2.
- Pin 32:** Connected to PD_CS#3.
- Pin 33:** Connected to ATADET0.
- Pin 34:** Connected to PD_A2.
- Pin 35:** Connected to PD_CS#3.
- Pin 36:** Connected to ATADET0.
- Pin 37:** Connected to PD_A2.
- Pin 38:** Connected to PD_CS#3.
- Pin 39:** Connected to ATADET0.
- Pin 40:** Connected to PD_A2.

Resistors and capacitors shown in the diagram:

- R306: 33R0402 (connected to pins 1 and 2)
- R303: 20KR1%0402 (connected to pins 29 and 30)
- R317: 10KR0402 (connected to pins 31 and 32)
- R316: 4.7KR0402 (connected to pins 33 and 34)
- R322: 10KR0402 (connected to pins 35 and 36)
- C502: X_C4700p25X0402 (connected to pins 37 and 38)

PS2 KEYBOARD & MOUSE CONNECTOR

USB_RSTR1

RN17
8P4R-4.7KR0402

C161
X_C0.1u16Y0402

JKBSM1
CONN-KB_MS-RH

R178
680R

C162
X_C0.1u16Y0402

EC52
X_CD100u16EL5-RH

15 MSDAT
MSDAT

15 MSCLK
MSCLK

15 KBDAT
KBDAT

15 KBCLK
KBCLK

FB1
0R

FB2
0R

FB3
0R

FB4
0R

MS_DT

MS_CK

KB_DT

KB_CK

C164
C180P50N0402

C165
C180P50N0402

C166
C180P50N0402

C167
C180P50N0402

VCC5

C171
X_C0.1u16Y0402

KBGND

EMI

CP41

CP42

PGND

KBGND

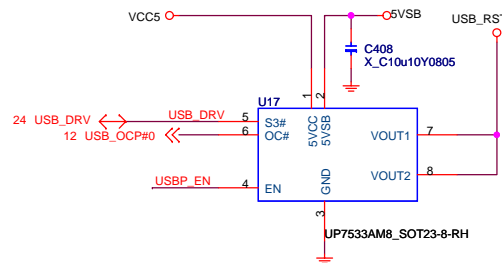
KBGND



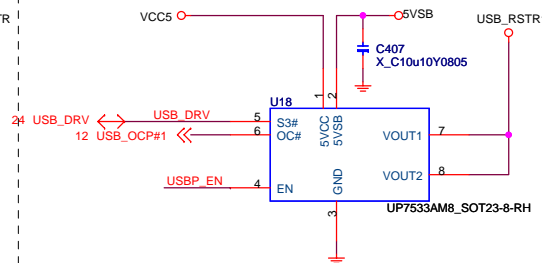
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Size Custom	Document Description IDE & SATA & PS2 Connectors	Rev 0A
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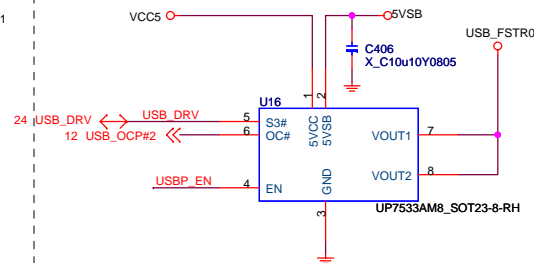
POWER CIRCUIT FOR USB PORT 0,1



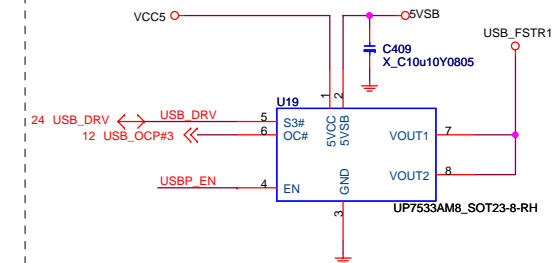
POWER CIRCUIT FOR USB PORT 2,3



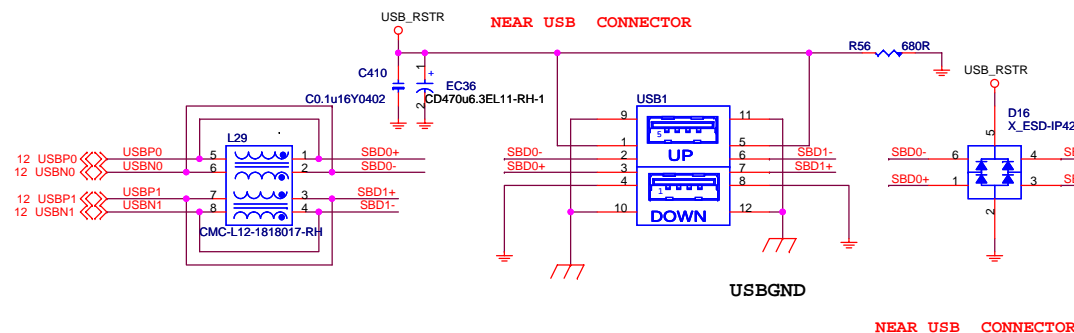
POWER CIRCUIT FOR USB PORT 4,5



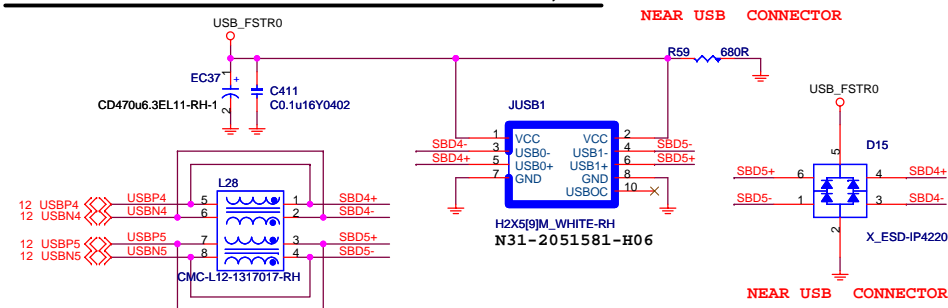
POWER CIRCUIT FOR USB PORT 6,7



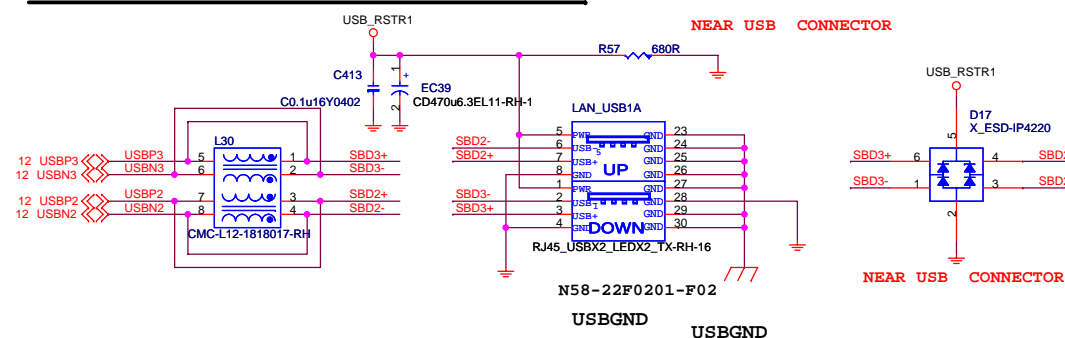
REAR PANEL USB CONNECTOR FOR USB PORT 0,1



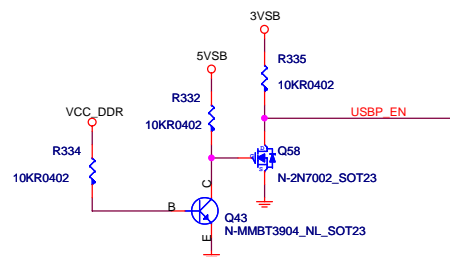
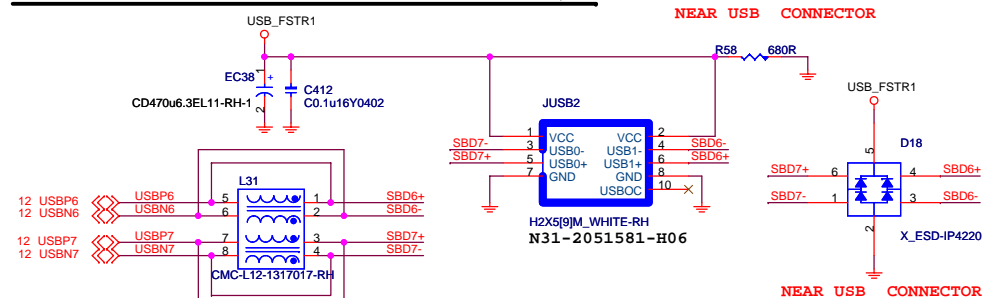
FRONT PANEL USB CONNECTOR FOR USB PORT 4,5



REAR PANEL USB CONNECTOR FOR USB PORT 2,3



FRONT PANEL USB CONNECTOR FOR USB PORT 6,7

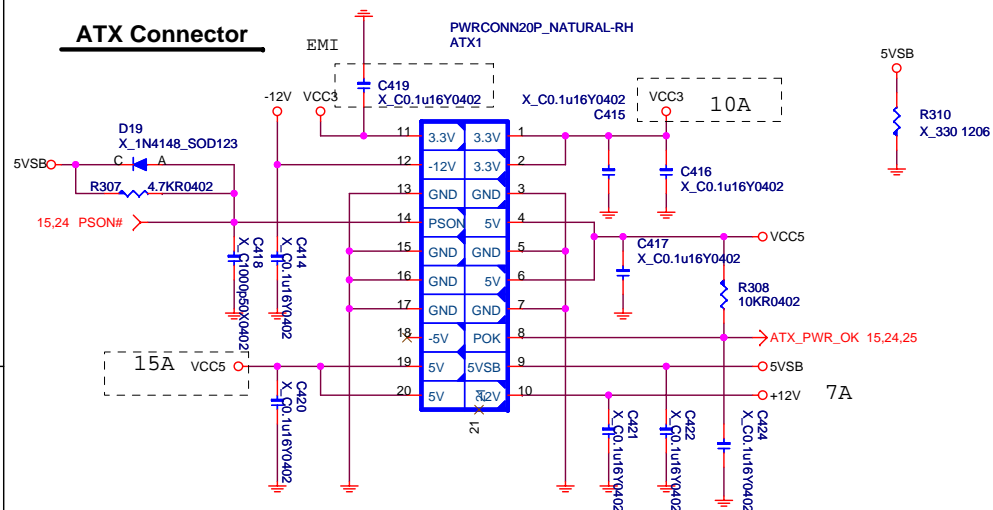


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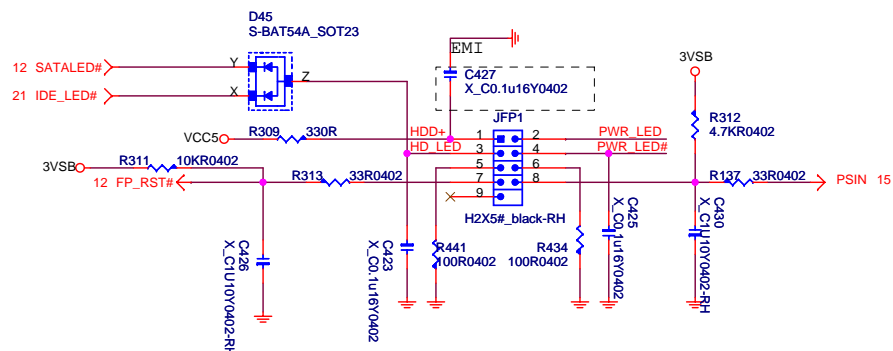
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Size	Document Description	Rev
Custom	USB CONNECTORS	0A
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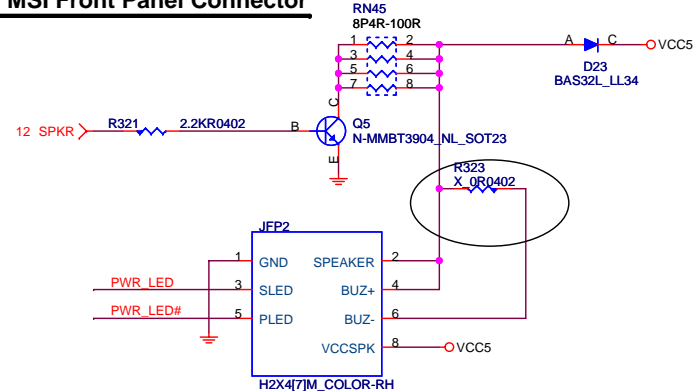
ATX Connector



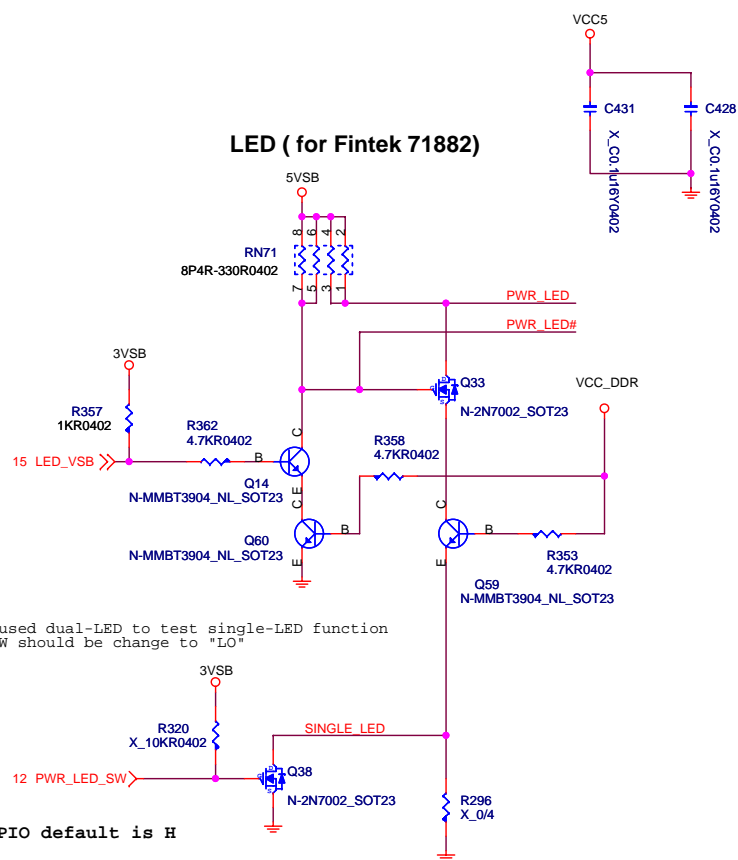
INTEL/PB Front Panel Connector



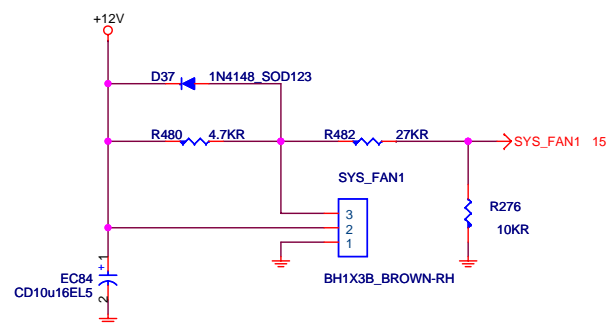
MSI Front Panel Connector



LED (for Fintek 71882)



SYSTEM FAN



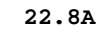
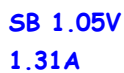
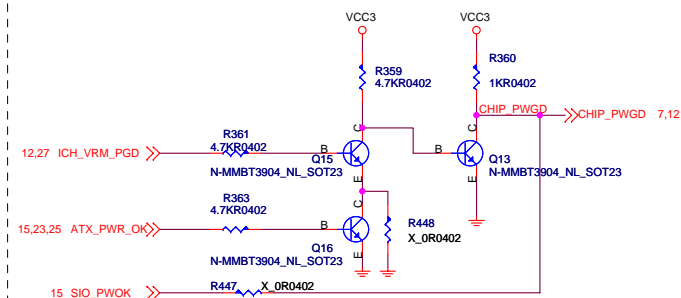
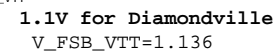
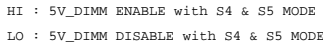
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Size	Document Description	Rev
Custom	ATX & Front Panel & FAN	0A

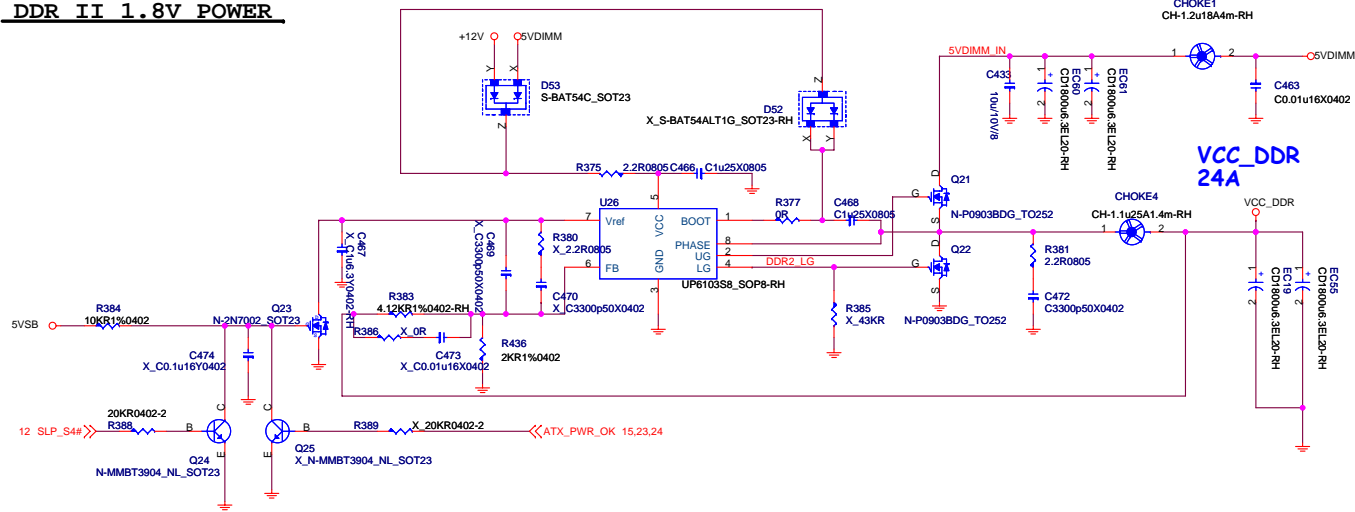
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510B0402 5VCC B327 10



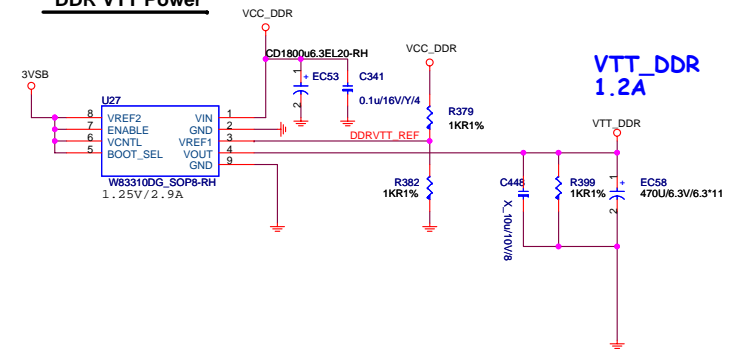
Date: Thursday, February 21, 2008		Sheet 24 of 31
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DDR II 1.8V POWER



DDR VTT Power

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

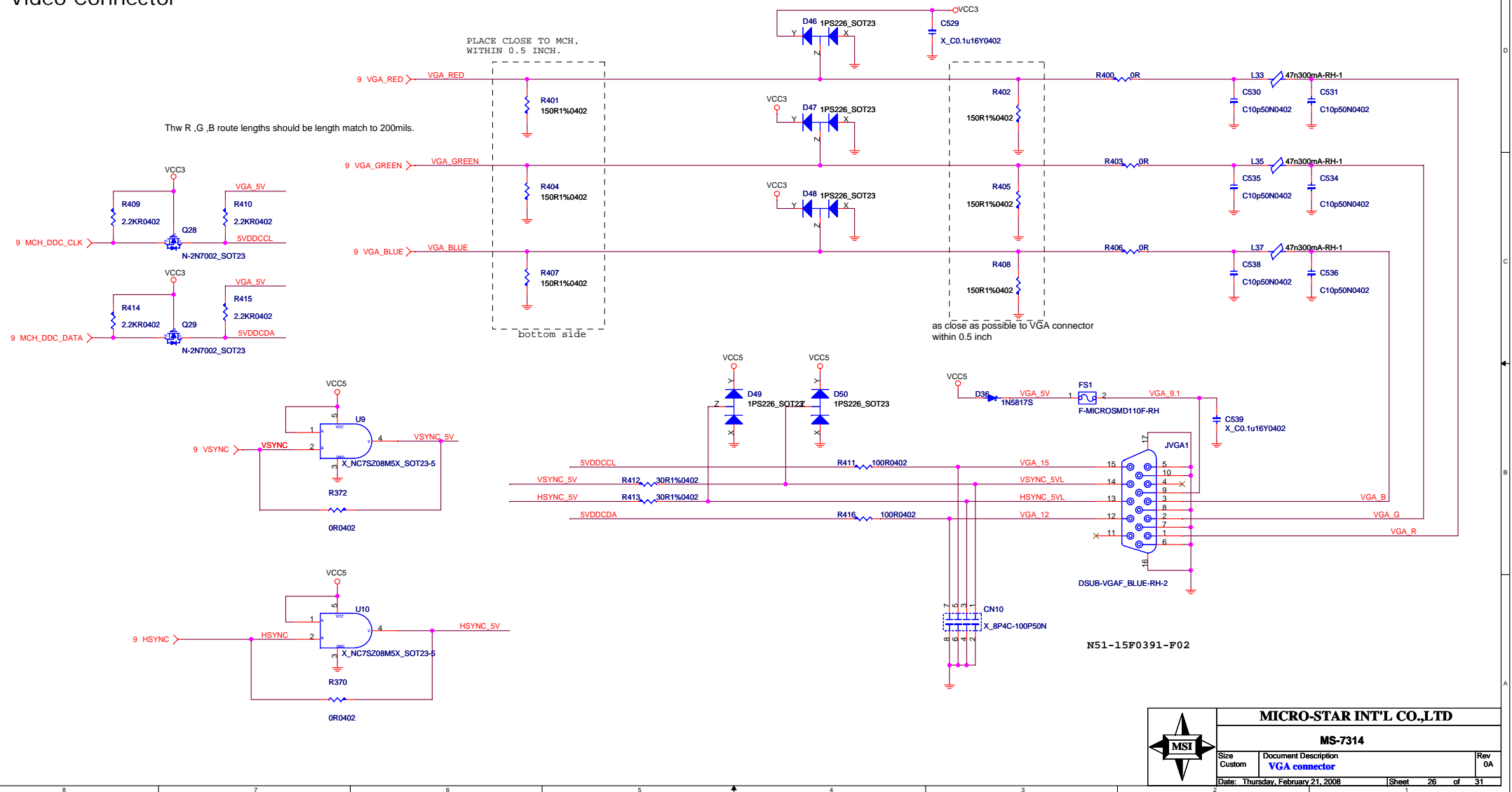


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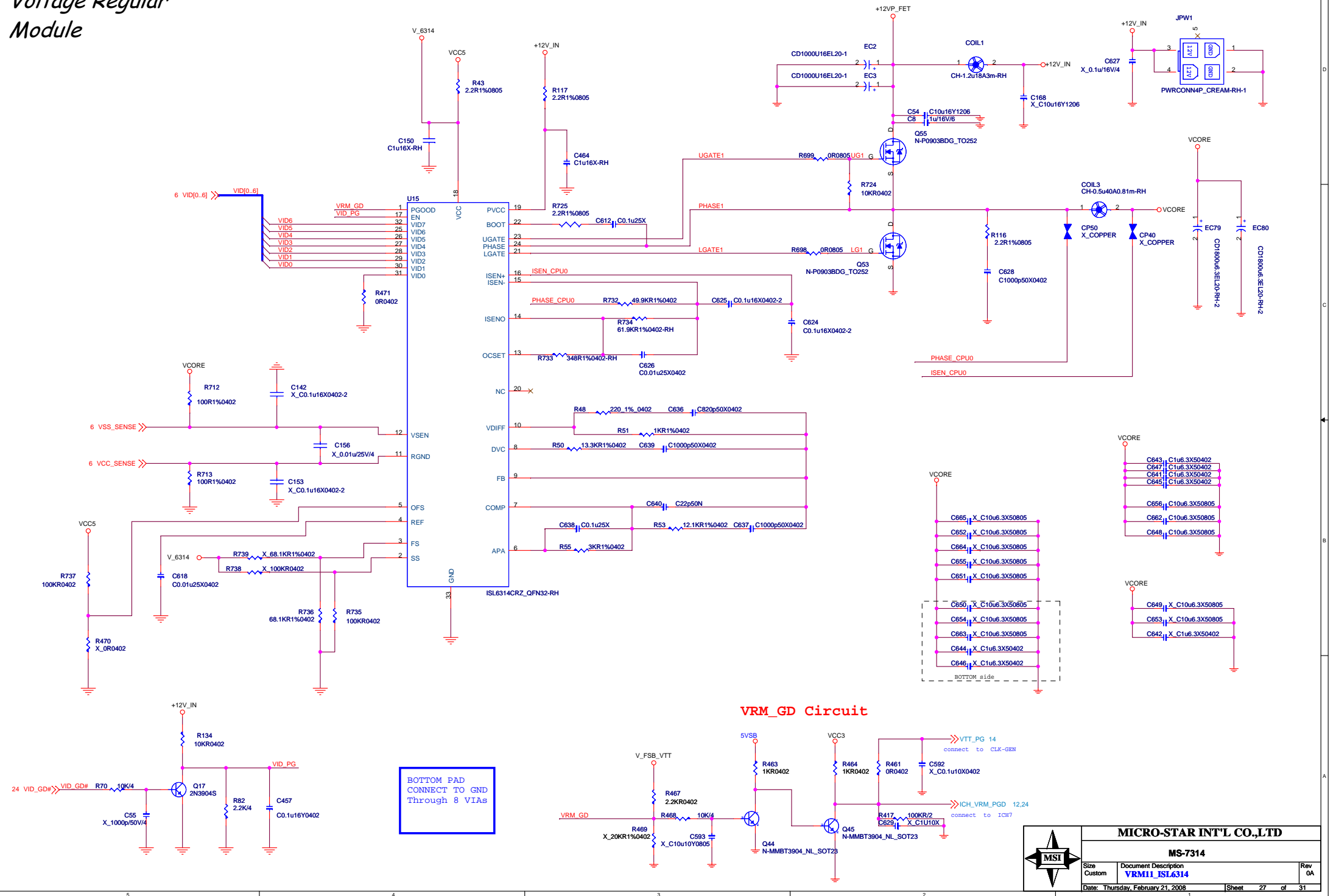
MS-7314

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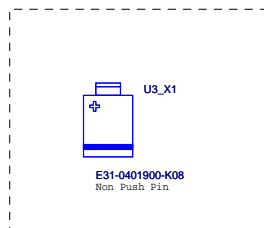
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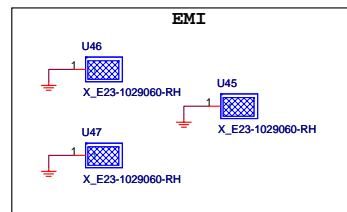
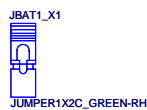
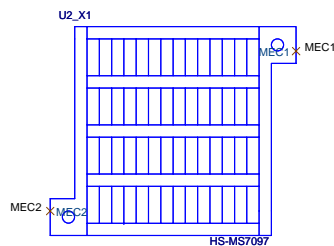
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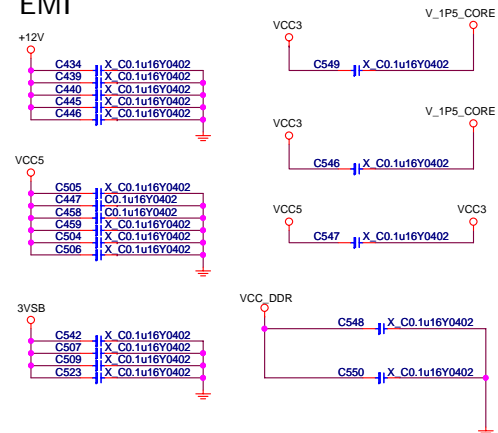
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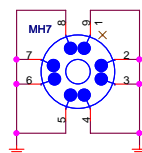
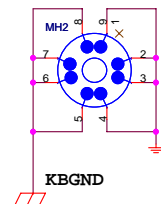
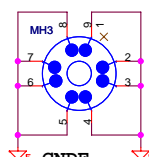
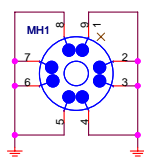
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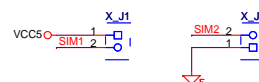
EMI



Mounting Holes



Simulation



Optics Orientation Holes

