MS7004V10A

CPU:

Intel Northwood/Prescott
Up to 3.6GHz

System Chipset:

PM800/PT800 (North Bridge)
VIA 8237 (South Bridge)

On Board Chipset:

BIOS -- ISA EEPROM
AC'97 Codec --ALC655
LPC Super I/O -- W83697HF
LAN -- PHY RTL8201
CLOCK -- CY28341-3

Main Memory:

DDR * 2 (Max 2GB)

Expansion Slots:

AGP * 1
PCI2.3 SLOT * 3
CNR * 1

PWM:

Controller: STL6710

Micro-Star		
Title: COVER SHEET		
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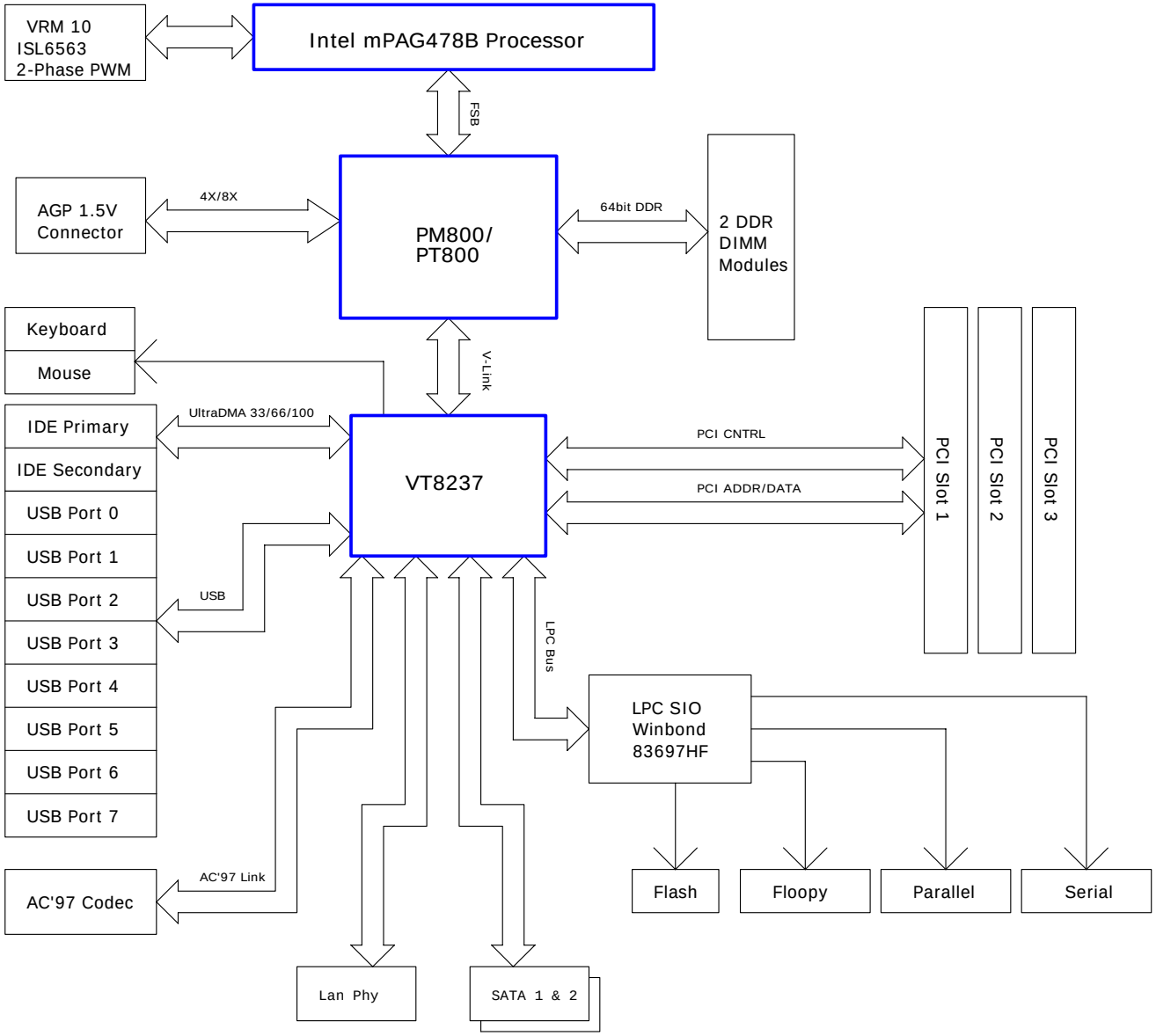
Block Diagram



Micro-Star		
Title	BLOCK DIAGRAM	
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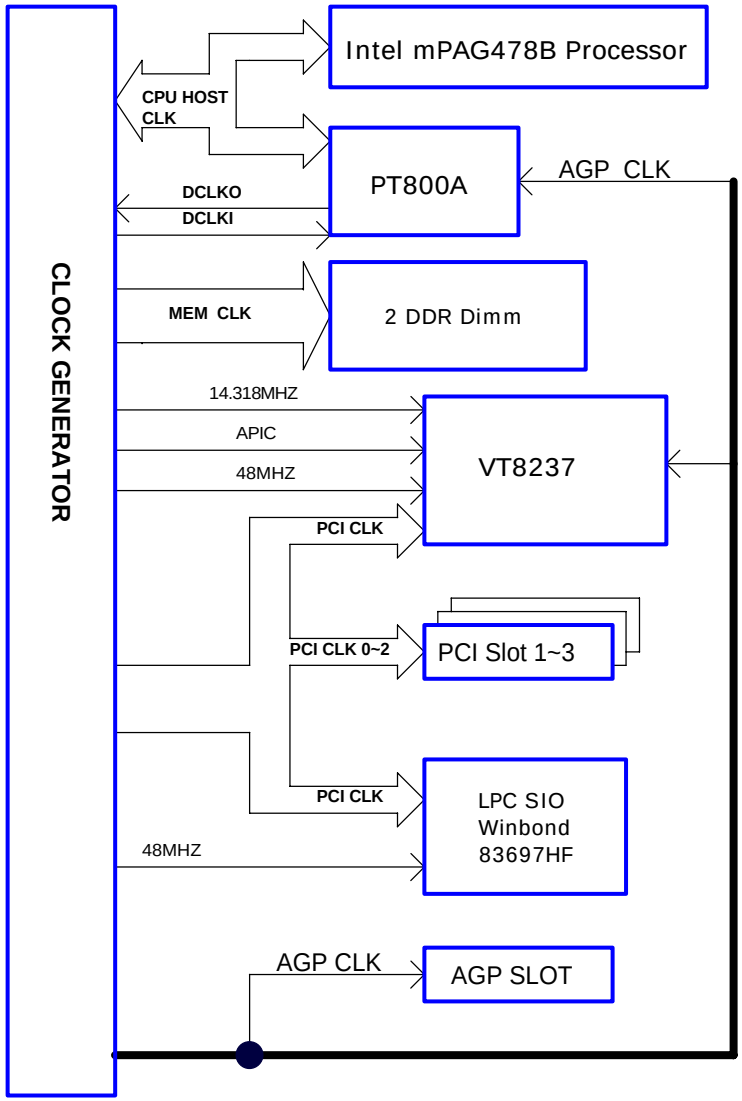
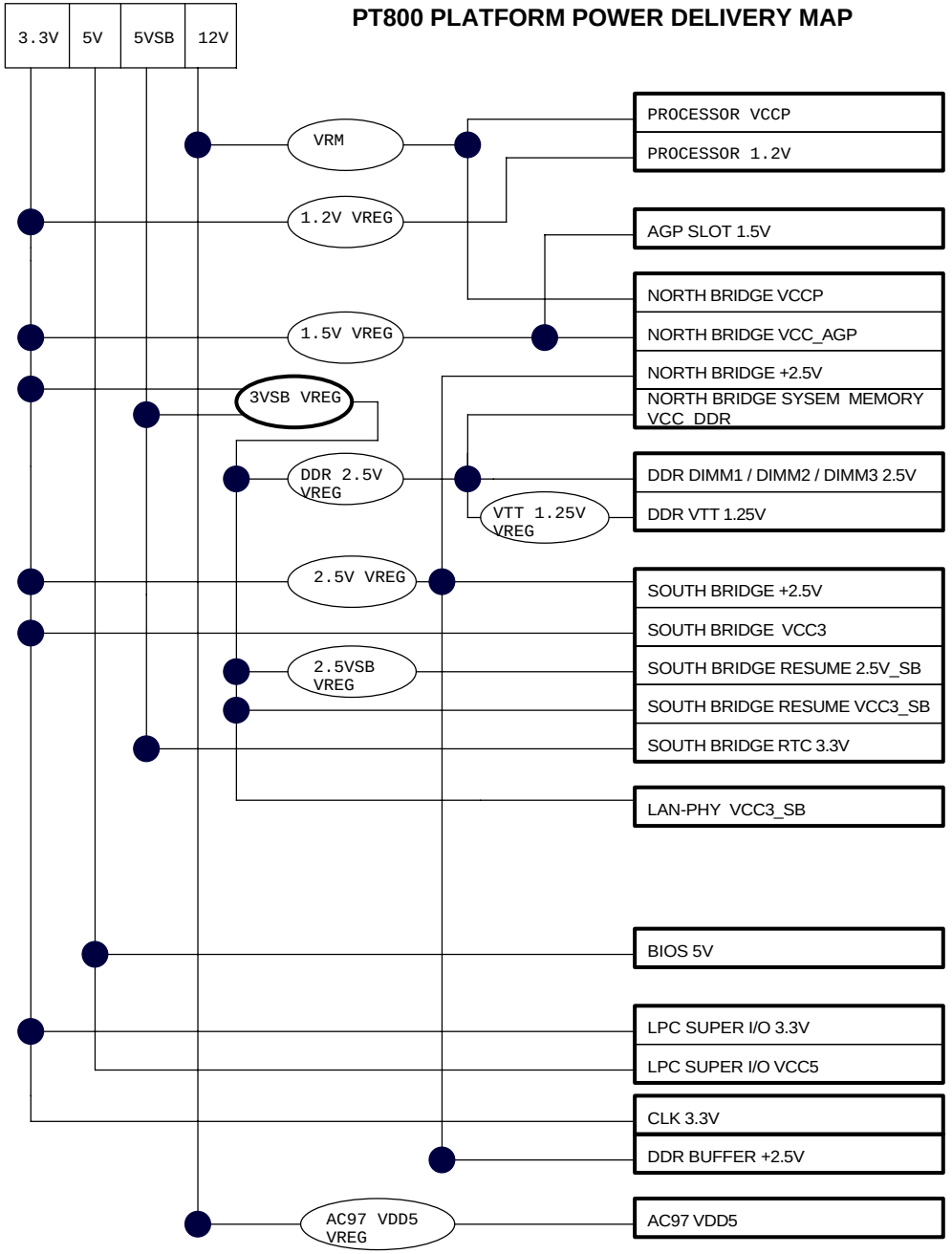
PT800 PLATFORM CLOCK GENERATOR MAP



PT800 PLATFORM POWER DELIVERY MAP



Micro-Star		
Title: PWR AND CLOCK MAP		
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NB

GPIO Pin	Type	Function	Power well
GPI 0	I	GPI 0	RESUME
GPI 1	I	IDE2 CBD	RESUME
GPO 0	I	GPO 0	RESUME
GPO 1	I	GPO 0	RESUME
GPIO A	I	NB STR S	MAIN
GPIO B	I	IOQ DEPH	MAIN
GPIO C	I	NB STR S	MAIN
GPIO D	I	GTL PULL	MAIN

I/O

GPIO 10	I/O	**HI**	MAIN	default output
GPIO 11	I/O	**HI**	MAIN	default output
GPIO 12	I/O	**HI**	MAIN	default output
GPIO 13	I/O	**NA**	MAIN	
GPIO 14	I/O	**NA**	MAIN	
GPIO 15	I/O	**NA**	MAIN	
GPIO 16	I/O	**NA**	MAIN	
GPIO 17	I/O	**NA**	MAIN	
GPIO 18	I/O	**NA**	MAIN	
GPIO 19	I/O	**NA**	MAIN	
GPIO 20	I/O	**NA**	MAIN	
GPIO 21	I/O	**NA**	MAIN	
GPIO 22	I/O	**NA**	MAIN	

FWH

GPIO Pin	Type	Function
GPI 0	I	Pull UP through 1K ohms (unused)
GPI 1	I	Pull UP through 1K ohms (unused)
GPI 2	I	Pull UP through 1K ohms (unused)
GPI 3	I	Pull UP through 1K ohms (unused)
GPI 4	I	Pull UP through 1K ohms (unused)

PCI Config.

DEVICE	MCP1 INT Pin	REQ#/GNT#	IDSEL	CLOCK	CLK GEN PIN OUT
PCI Slot 1	INTA# INTB# INTC# INTD#	PCI_REQ#0 PCI_GNT#0	AD19	PCICLK0	18 (PCI_CLK0)
PCI Slot 2	INTB# INTC# INTD# INTA#	PCI_REQ#1 PCI_GNT#1	AD20	PCICLK1	19 (PCI_CLK1)
PCI Slot 3	INTC# INTD# INTA# INTB#	PCI_REQ#2 PCI_GNT#2	AD21	PCICLK2	21 (PCI_CLK2)
PCI Slot 4	INTD# INTA# INTB# INTC#	PCI_REQ#3 PCI_GNT#3	AD22	PCICLK3	14 (PCI_CLK3)
PCI Slot 5	INTA# INTB# INTC# INTD#	PCI_REQ#4 PCI_GNT#4	AD23	PCICLK4	17 (PCI_CLK4)

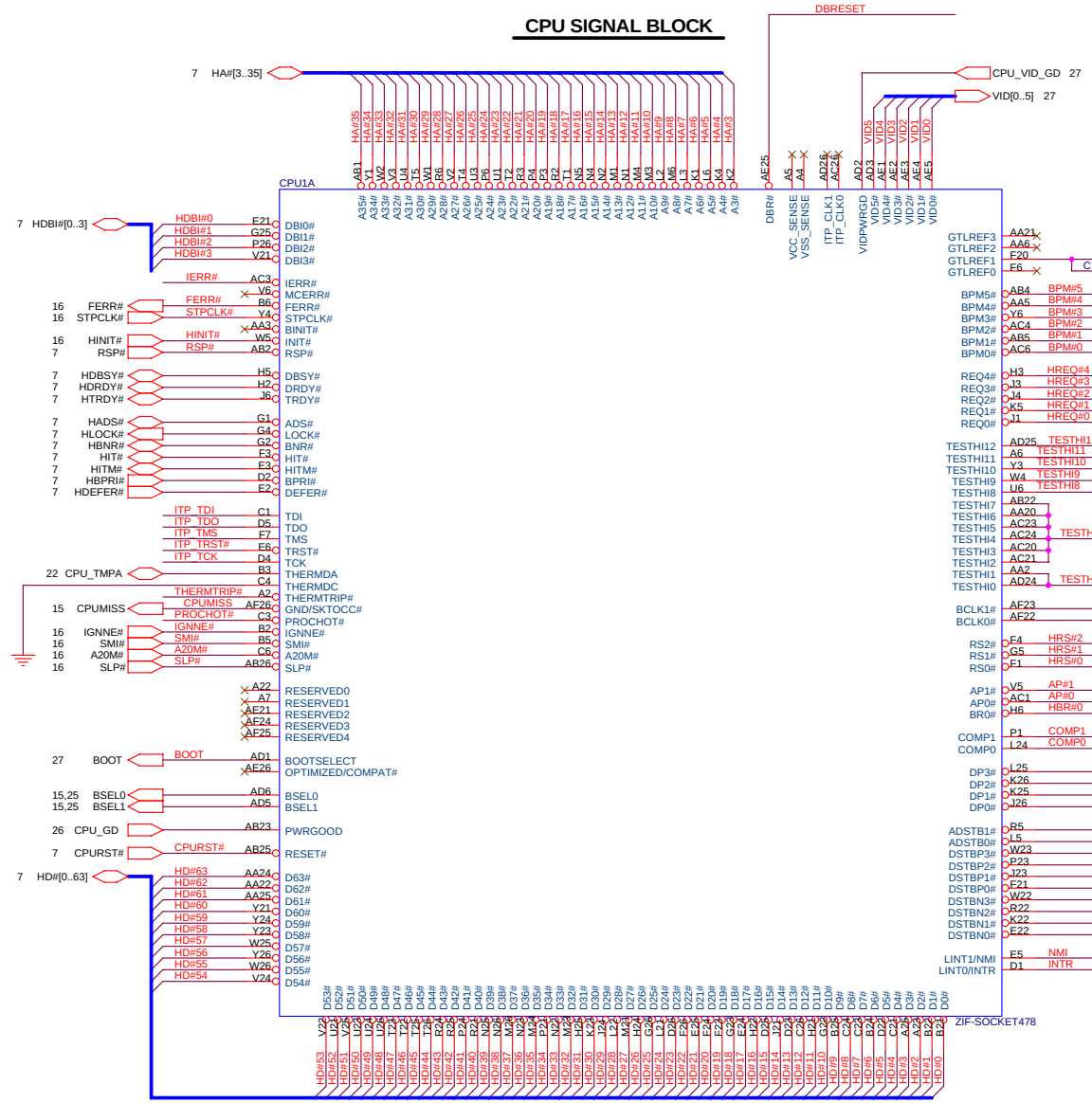
DDR DIMM Config.

DEVICE	ADDRESS	CLOCK
DIMM 1	1010000B	MCLK0/MCLK#0 MCLK1/MCLK#1 MCLK2/MCLK#2
DIMM 2	1010001B	MCLK3/MCLK#3 MCLK4/MCLK#4 MCLK5/MCLK#5
DIMM 3	1010010B	MCLK6/MCLK#6 MCLK7/MCLK#7 MCLK8/MCLK#8

PCI RESET DEVICE

Signals	Target
PCIRST#1	SB, NB
PCIRST#2	PCI slot 1-3, 1394, FWH
HD_RST#	Primary, Scondary IDE

CPU SIGNAL BLOCK

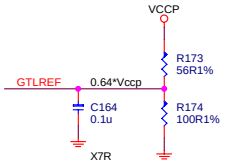


VIDPWRGD DC Specifications

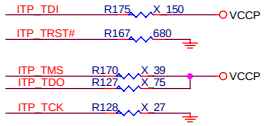
	Min	Typ	Max
VIL			0.3
VIH	0.9		

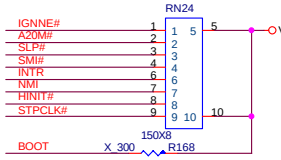
It must rout to the enable pin of PWM and CK-409.
VIDGD to Vccp delay time is from 1ms to 10ms.
VIDGD rising time is 150ns.

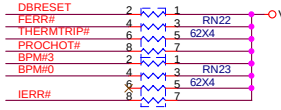
CPU GTL REFERNCE VOLTAGE BLOCK

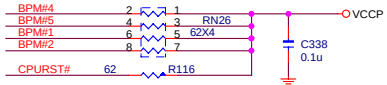


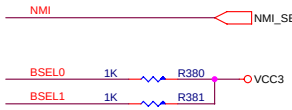
CPU ITP BLOCK





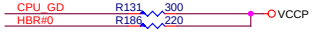


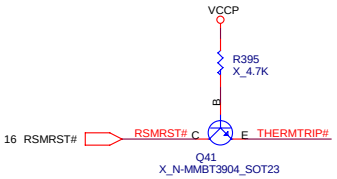


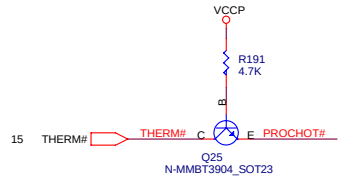


CPU STRAPPING RESISTORS

ALL COMPONENTS CLOSE TO CPU







Micro-Star	
Title	Intel mPGA478B - Signals
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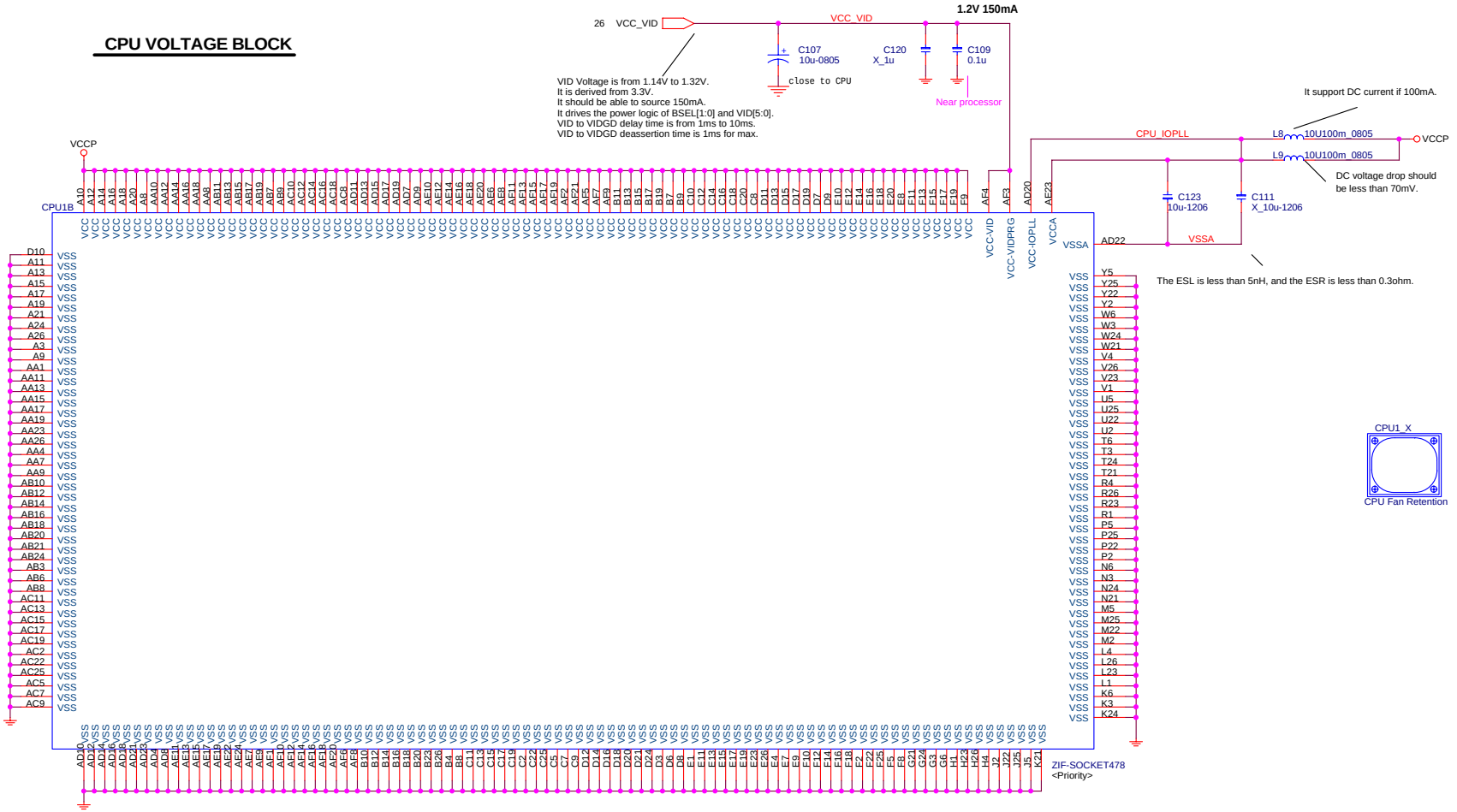
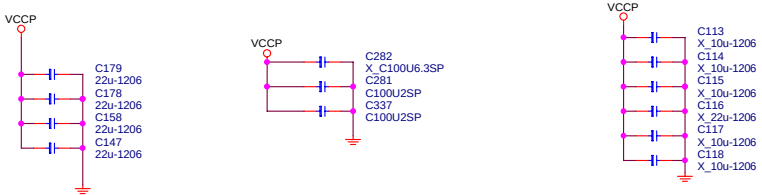
CPU VOLTAGE BLOCK



CPU DECOUPLING CAPACITORS



Micro-Star		
Title: Intel mPGA478B - Power		
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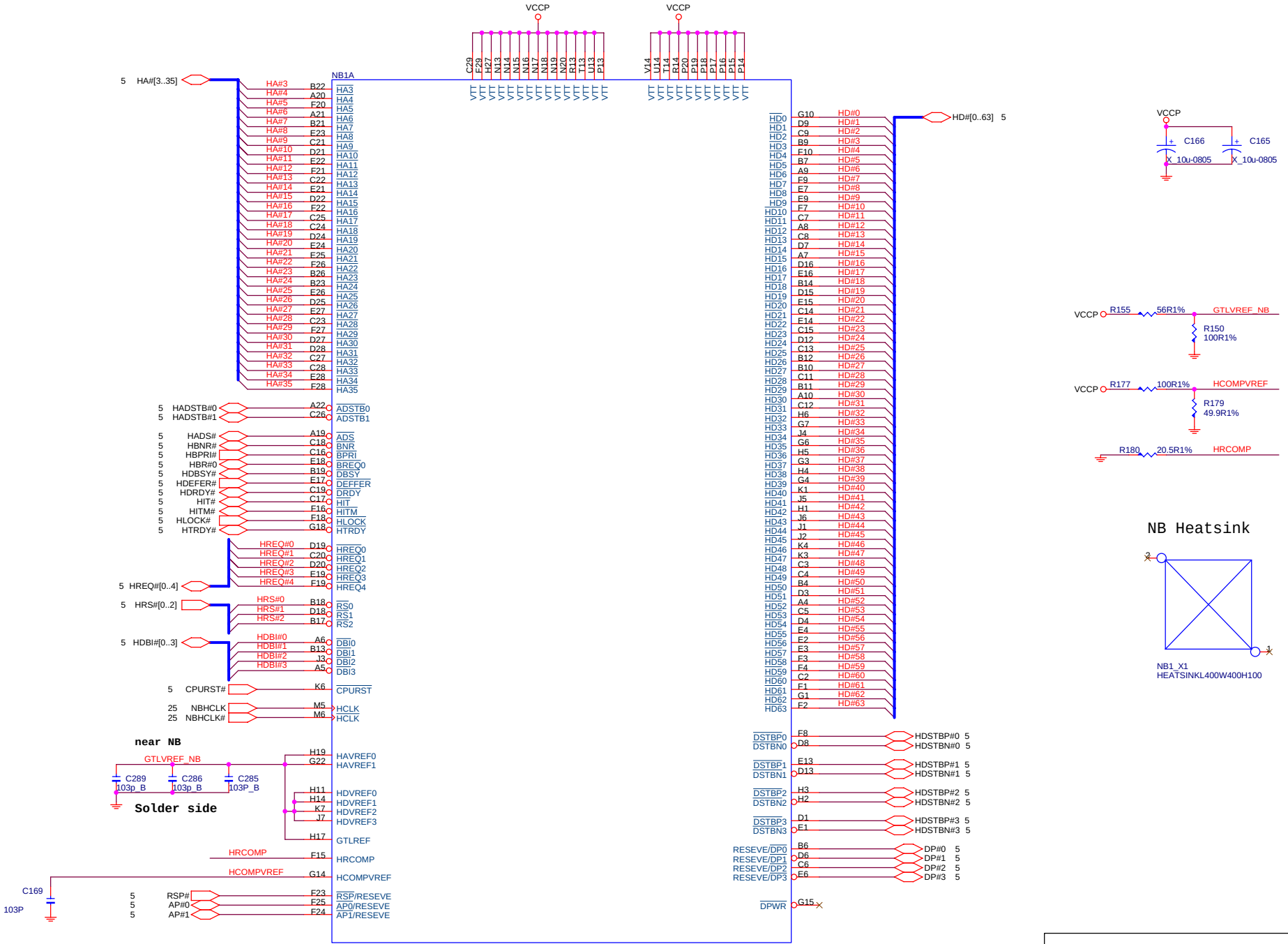

Micro-Star		
Title	NORTH BRIDGE (PART 1 & PART4)	
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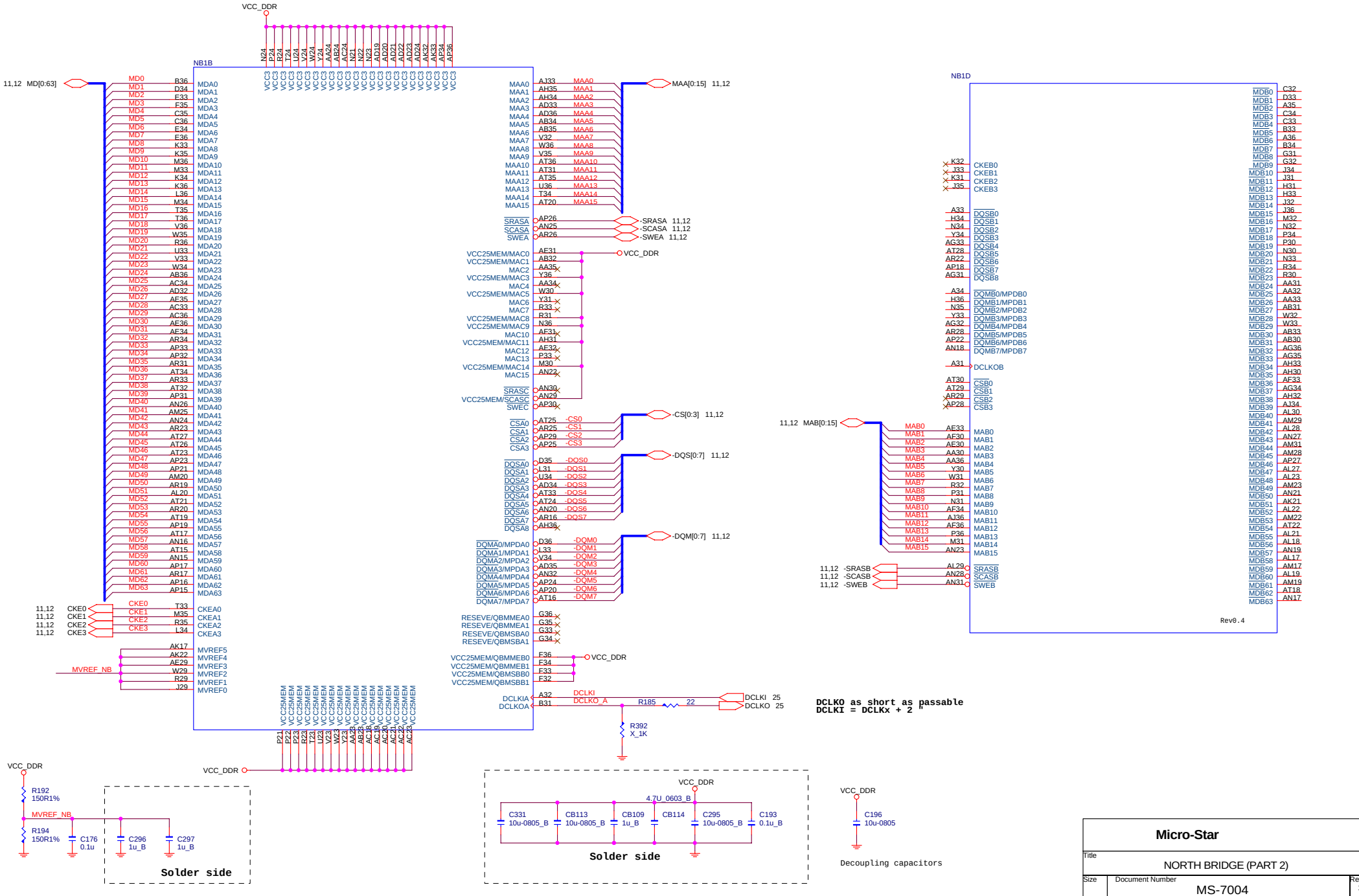

Micro-Star	
Title	NORTH BRIDGE (PART 2)
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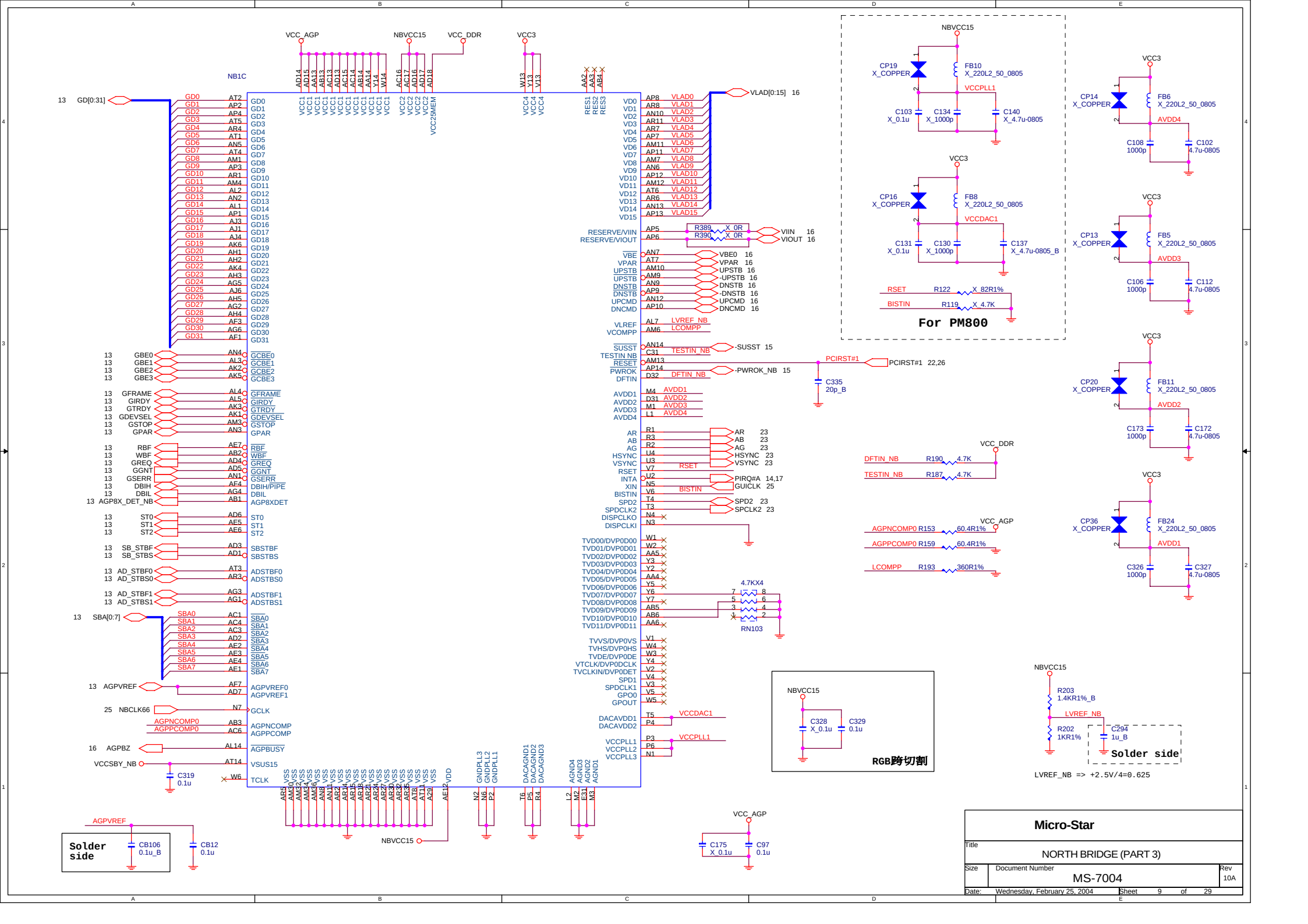
NB1C
VCC_AGP
NBVCC15
VCC_DDR
VCC3
GD[31:0]
VLAD[0:15] 16
For PM800
RGB跨切割
Solder side
Solder side
LVREF_NB => +2.5V/4=0.625
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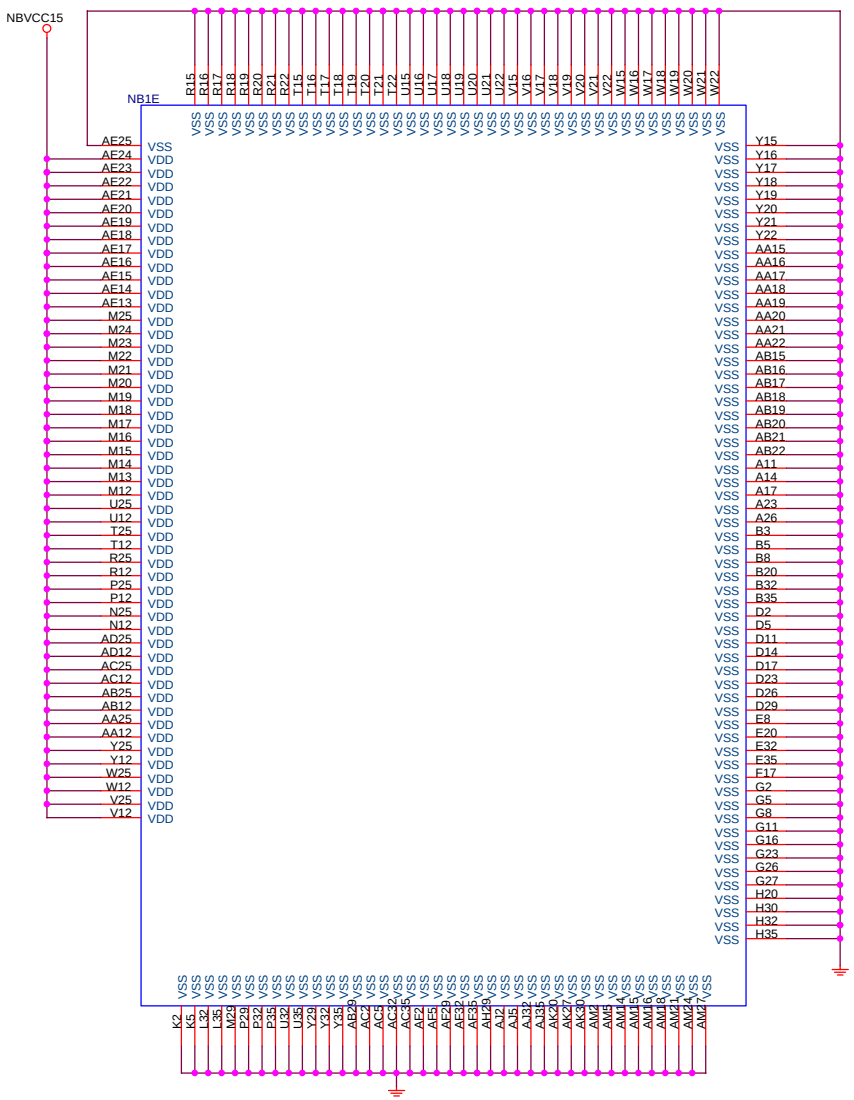

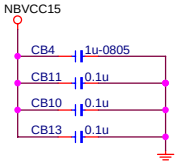

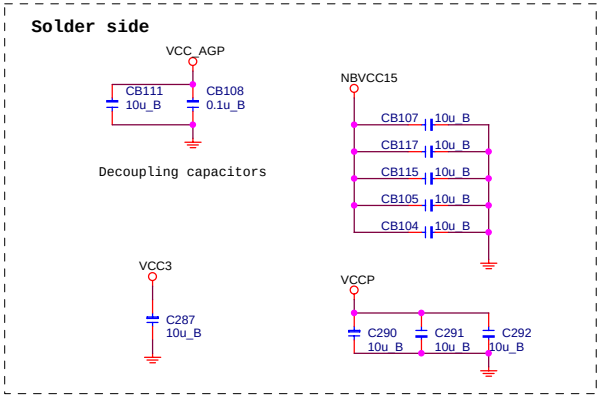

Micro-Star		
Title: NORTH BRIDGE (PART4)		
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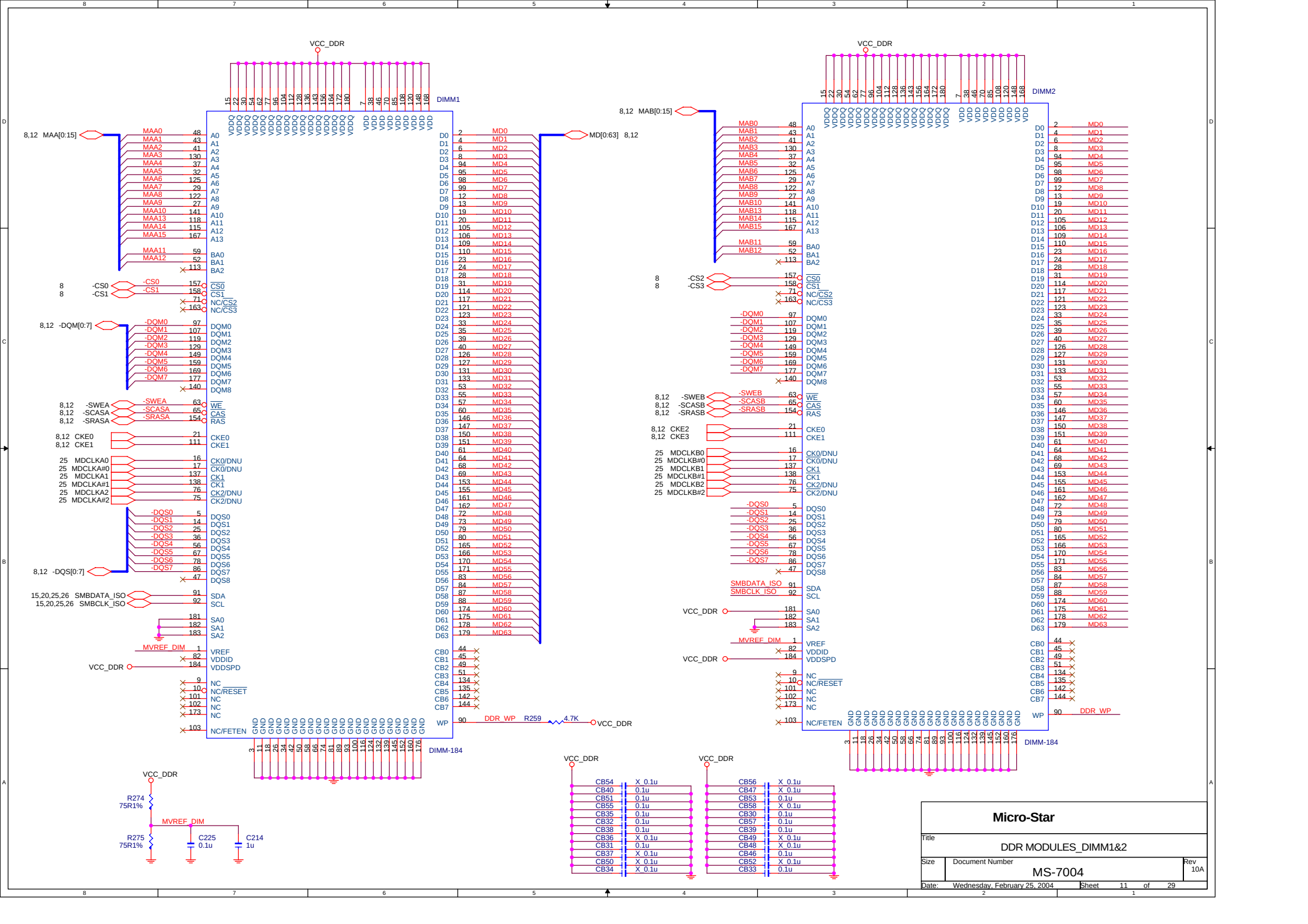
VCC_DDR
DIMM1
DIMM2
DIMM-184
8,12 MAA[0:15]
8,12 MAB[0:15]
8,12 -DQM[0:7]
8,12 -DQS[0:7]
MD[0:63] 8,12
15,20,25,26 SMBDATA_ISO
15,20,25,26 SMBCLK_ISO
SMBDATA_ISO
SMBCLK_ISO
MVREF_DIM
DDR_WP
R259
4.7K
R274
75R1%
R275
75R1%
C225
0.1u
C214
1u
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8,11 MD[0:63]
MD[0:63]
MD[0:63]
MD[0:63] 8,11
RN45 X_0X4
RN49 X_0X4
RN48 X_0X4
RN50 X_0X4
RN47 X_0X4
RN44 X_0X4
RN46 X_0X4
RN58 X_0X4
RN57 X_0X4
RN56 X_0X4
RN55 X_0X4
RN54 X_0X4
RN53 X_0X4
RN51 X_0X4
RN52 X_0X4
R257 X 0R
R258 X 0R
R260 X 0R
R252 X 0R
8,11 -DQS[0:7]
-DQS[0:7] 8,11
R263 X 0R
R261 X 0R
R265 X 0R
R255 X 0R
R270 X 0R
R269 X 0R
R267 X 0R
R273 X 0R
8,11 -DQM[0:7]
-DQM[0:7] 8,11
R262 X 0R
R256 X 0R
R266 X 0R
R254 X 0R
R272 X 0R
R271 X 0R
R268 X 0R
R264 X 0R
VTT_DDR
CB74 X 0.1u
CB79 X 0.1u
CB65 X 0.1u
CB89 X 0.1u
CB98 X 0.1u
CB67 0.1u
CB75 X 0.1u
CB81 X 0.1u
CB63 0.1u
CB94 0.1u
CB95 X 0.1u
CB76 0.1u
CB92 X 0.1u
CB82 0.1u
CB62 X 0.1u
CB96 0.1u
CB68 X 0.1u
CB93 0.1u
CB77 X 0.1u
CB97 0.1u
CB83 X 0.1u
CB64 0.1u
CB87 X 0.1u
CB69 0.1u
CB90 0.1u
CB80 0.1u
CB84 0.1u
CB86 0.1u
CB91 X 0.1u
CB70 0.1u
CB71 0.1u
CB72 X 0.1u
CB73 0.1u
CB78 0.1u
CB61 0.1u
CB85 X 0.1u
CB88 0.1u
CB66 0.1u
CB99 0.1u
VTT_DDR
MD6 MD2 -DQM0 -DQS0 RN95 56X4-0402
MD0 MD4 MD5 MD1 RN96 56X4-0402
MD7 MD3 MD8 RN94 56X4-0402
MD12 MD9 MD13 -DQS1 RN93 56X4-0402
MAA14 MD17 MD21 -DQS2 RN89 56X4-0402
MAA7 MAB8 MAA8 MD23 RN86 56X4-0402
CKE2 MD20 MAB14 MD16 RN90 56X4-0402
MAB13 MAA13 -DQM2 MAB9 RN88 56X4-0402
MD29 -DQS3 MAB4 -DQM3 RN83 56X4-0402
MAB2 MAA2 MAB1 MAA1 RN80 56X4-0402
MAA4 MAA3 MAB3 MD26 RN82 56X4-0402
-DQS4 -DQM4 MD34 MD38 RN77 56X4-0402
MAB12 MAA12 RN78 56X4-0402
MD43 MD47 MD48 MD49 RN71 56X4-0402
MD40 MD44 RN64 56X4-0402
MAB11 MAA11 MD39 MD35 RN76 56X4-0402
MD52 MD53 MAB15 MAA15 RN70 56X4-0402
-DQM6 -DQS6 MD54 MD50 RN69 56X4-0402
MD45 MD41 RN74 56X4-0402
8,11 -SCASB
8 -CS2
VTT_DDR
MD62 MD58 MD63 MD59 RN66 56X4-0402
MD61 MD57 -DQM7 -DQS7 RN67 56X4-0402
MD55 MD51 MD60 MD56 RN68 56X4-0402
8,11 -SCASA RN73 56X4-0402
8 -CS0
8 -CS1
8 -CS3
-DQM1 MD14 MD15 MD10 RN92 56X4-0402
-DQS5 -DQM5 MD42 MD46 RN72 56X4-0402
MAB0 MAA0 MAA10 MAB10 RN79 56X4-0402
MAA6 MD24 MD28 MD25 RN84 56X4-0402
MD32 MD36 MD33 MD37 RN65 56X4-0402
CKE3 CKE1 MD11 CKE0 RN91 56X4-0402
MD30 MD27 MD31 RN81 56X4-0402
MD19 MAB5 MAA5 MAB6 RN85 56X4-0402
MAA9 MD18 MAB7 MD22 RN87 56X4-0402
8,11 -SRASB
8,11 -SRASA
8,11 -SWEB
8,11 -SWEA
RN75 56X4-0402
8,11 MAA[0:15]
8,11 MAB[0:15]
8,11 CKE[0:3]
Micro-Star
Title
DDR TERMINALS
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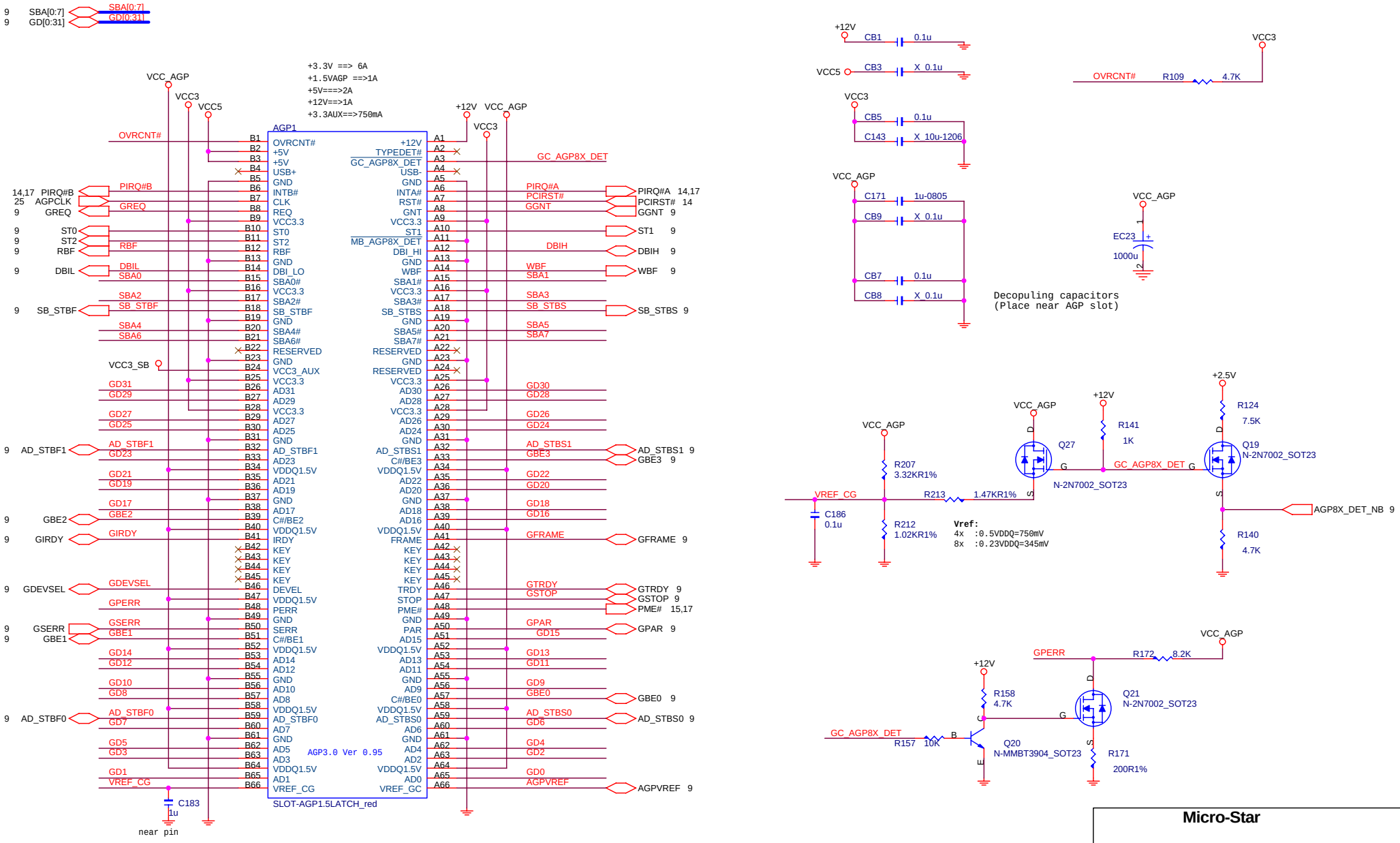

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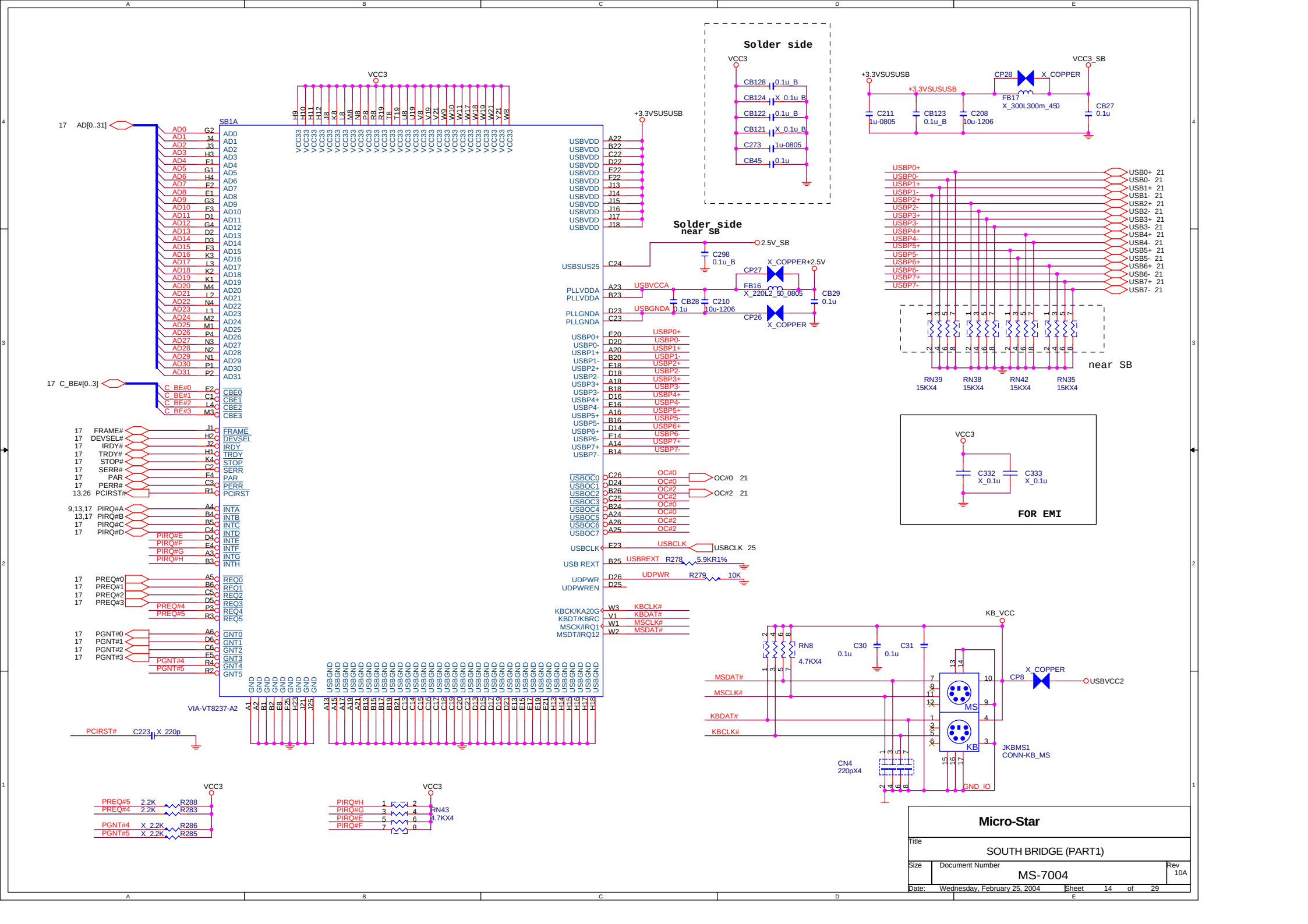
Solder side
Solder side near SB
SB1A
VIA-VT8237-A2
FOR EMI
near SB
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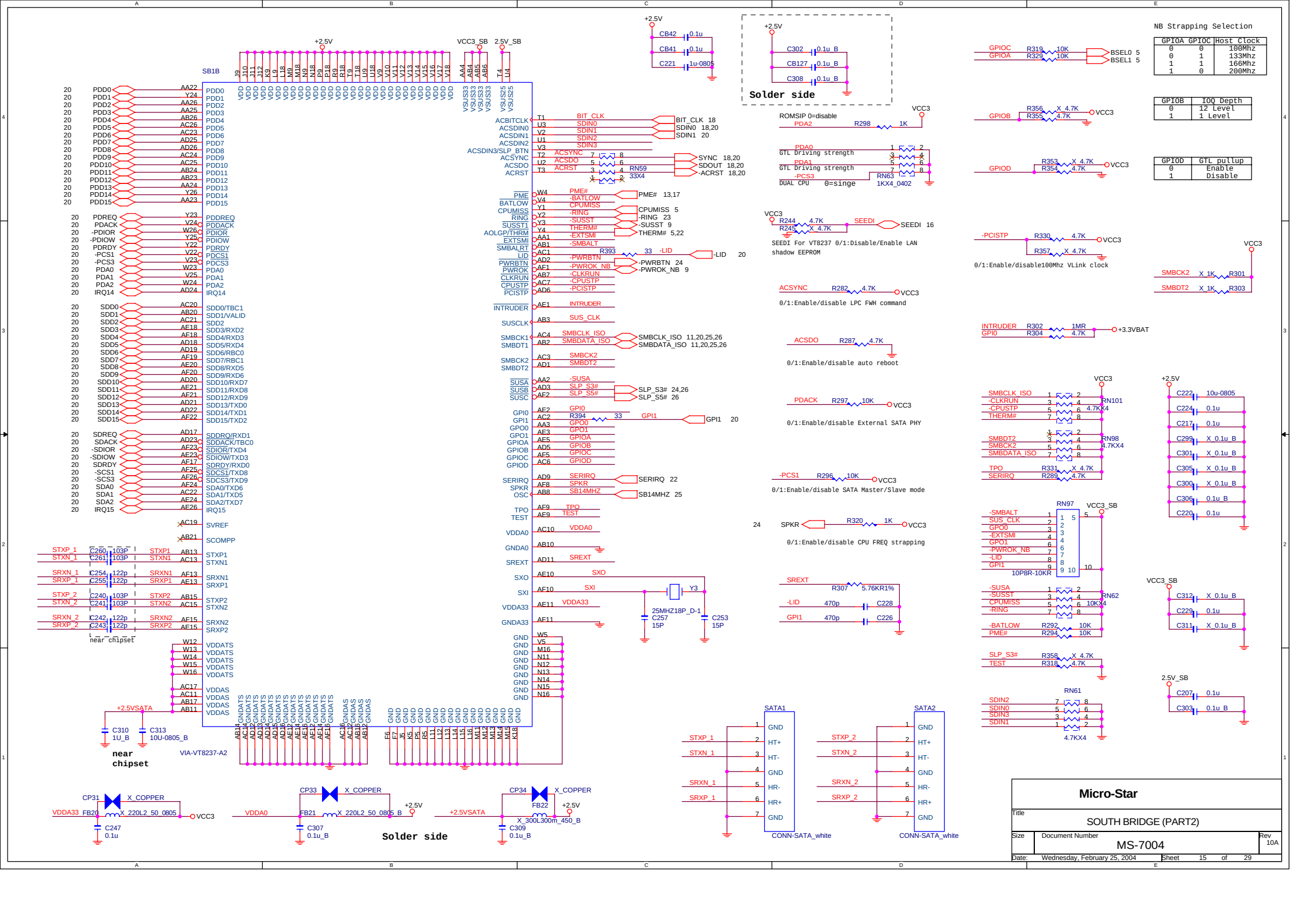
SB1B
VIA-VT8237-A2
near chipset
Solder side
Solder side
NB Strapping Selection
GPIOA GPIOC Host Clock
0 0 100Mhz
0 1 133Mhz
1 1 166Mhz
1 0 200Mhz
GPIOB IOQ Depth
0 12 Level
1 1 Level
GPIOD GTL pullup
0 Enable
1 Disable
SATA1
SATA2
CONN-SATA_white
CONN-SATA_white
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SOUTH BRIDGE (PART2)
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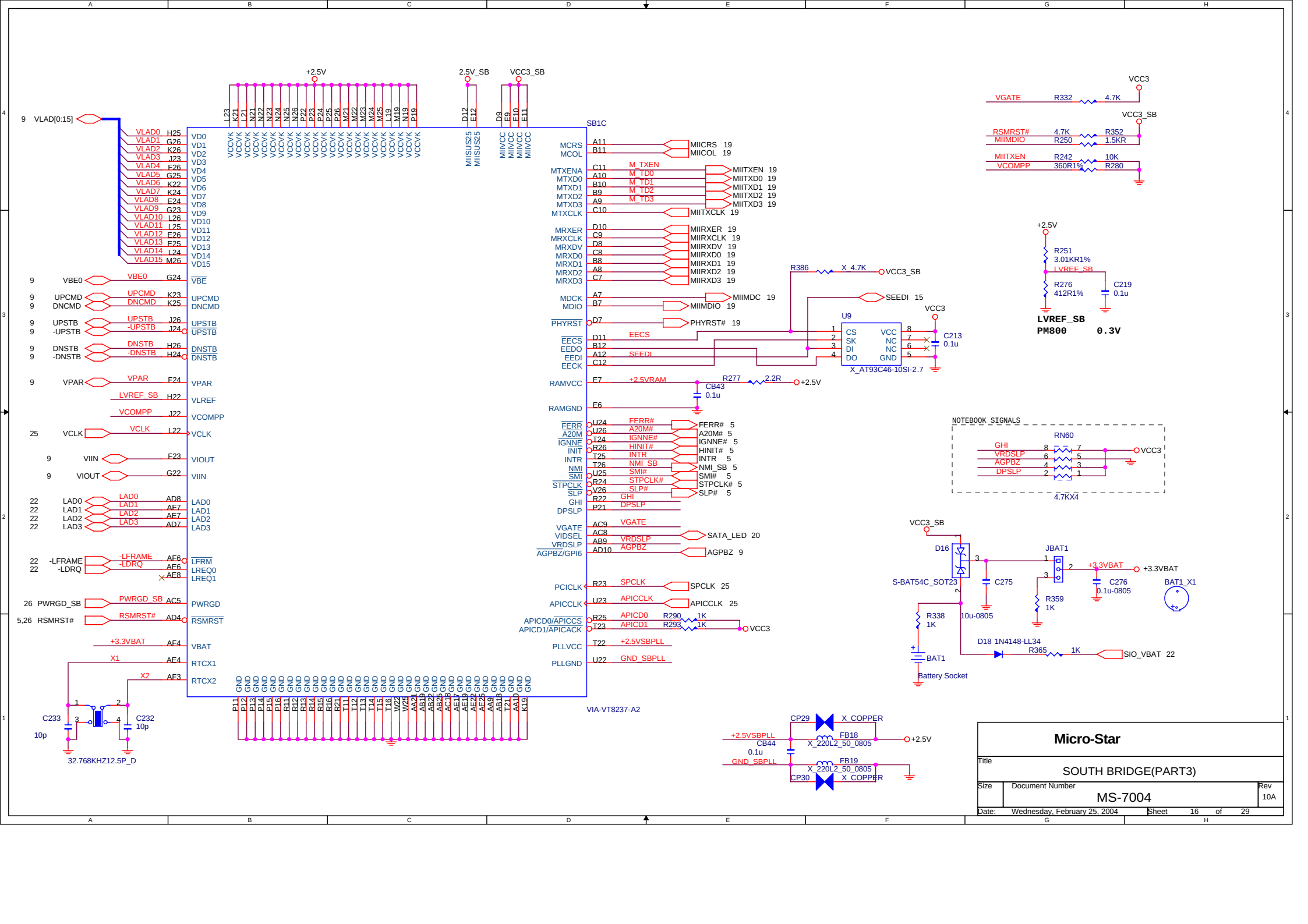
+2.5V
2.5V_SB
VCC3_SB
SB1C
VIA-VT8237-A2
9 VLAD[0:15]
VLAD0 H25
VLAD1 G26
VLAD2 K26
VLAD3 J23
VLAD4 F26
VLAD5 G25
VLAD6 K22
VLAD7 K24
VLAD8 E24
VLAD9 G23
VLAD10 L26
VLAD11 L25
VLAD12 E26
VLAD13 E25
VLAD14 L24
VLAD15 M26
9 VBE0 G24
9 UPCMD K23
9 DNCMD K25
9 UPSTB J26
9 -UPSTB J24
9 DNSTB H26
9 -DNSTB H24
9 VPAR F24
LVREF_SB H22
VCOMPP J22
25 VCLK L22
9 VIIN F23
9 VIOUT G22
22 LAD0 AD8
22 LAD1 AF7
22 LAD2 AE7
22 LAD3 AD7
22 -LFRAME AF6
22 -LDRQ AE6
AE8
26 PWRGD_SB AC5
5,26 RSMRST# AD4
+3.3VBAT AF4
X1 AE4
X2 AE3
C233 10p
C232 10p
32.768KHZ12.5P_D
MCRS A11
MCOL B11
MTXENA C11
MTXD0 A10
MTXD1 B10
MTXD2 B9
MTXD3 A9
MTXCLK C10
MRXER D10
MRXCLK C9
MRXDV D8
MRXD0 C8
MRXD1 B8
MRXD2 A8
MRXD3 C7
MDCK A7
MDIO B7
PHYRST D7
EECS D11
EEDO B12
EEDI A12
EECK C12
RAMVCC E7
RAMGND E6
FERR U24
A20M U26
IGNNE T24
INIT R26
INTR T25
NMI T26
SMI U25
STPCLK R24
SLP V26
GHI R22
DPSLP P21
VGATE AC9
VIDSEL AC8
VRDSLP AB9
AGPBZ/GPI6 AD10
PCICLK R23
APICCLK U23
APICD0/APICCS R25
APICD1/APICACK T23
PLLVCC T22
PLLGND U22
M_TXEN
M_TD0
M_TD1
M_TD2
M_TD3
MIICRS 19
MIICOL 19
MIITXEN 19
MIITXD0 19
MIITXD1 19
MIITXD2 19
MIITXD3 19
MIITXCLK 19
MIIRXER 19
MIIRXCLK 19
MIIRXDV 19
MIIRXD0 19
MIIRXD1 19
MIIRXD2 19
MIIRXD3 19
MIIMDC 19
MIIMDIO 19
PHYRST# 19
EECS
SEEDI
+2.5VRAM
R277 2.2R
CB43 0.1u
FERR# 5
A20M# 5
IGNNE# 5
HINIT# 5
INTR 5
NMI_SB 5
SMI# 5
STPCLK# 5
SLP# 5
SATA_LED 20
AGPBZ 9
SPCLK 25
APICCLK 25
R290 1K
R293 1K
+2.5VSBPLL
GND_SBPLL
R386 X_4.7K
SEEDI 15
U9
X_AT93C46-10SI-2.7
C213 0.1u
VGATE R332 4.7K
RSMRST# 4.7K R352 1.5KR
MIIMDIO R250
MIITXEN R242 10K
VCOMPP 360R1% R280
R251 3.01KR1% LVREF_SB
R276 412R1% C219 0.1u
LVREF_SB
PM800 0.3V
NOTEBOOK_SIGNALS
RN60
GHI
VRDSLP
AGPBZ
DPSLP
4.7KX4
D16 S-BAT54C_SOT23
JBAT1
C275 10u-0805
+3.3VBAT
C276 0.1u-0805
BAT1_X1
R359 1K
R338 1K
BAT1
Battery Socket
D18 1N4148-LL34
R365 1K
SIO_VBAT 22
CP29 X_COPPER
CB44 0.1u
FB18 X_220L2_50_0805
FB19 X_220L2_50_0805
CP30 X_COPPER
Micro-Star
Title
SOUTH BRIDGE(PART3)
Size
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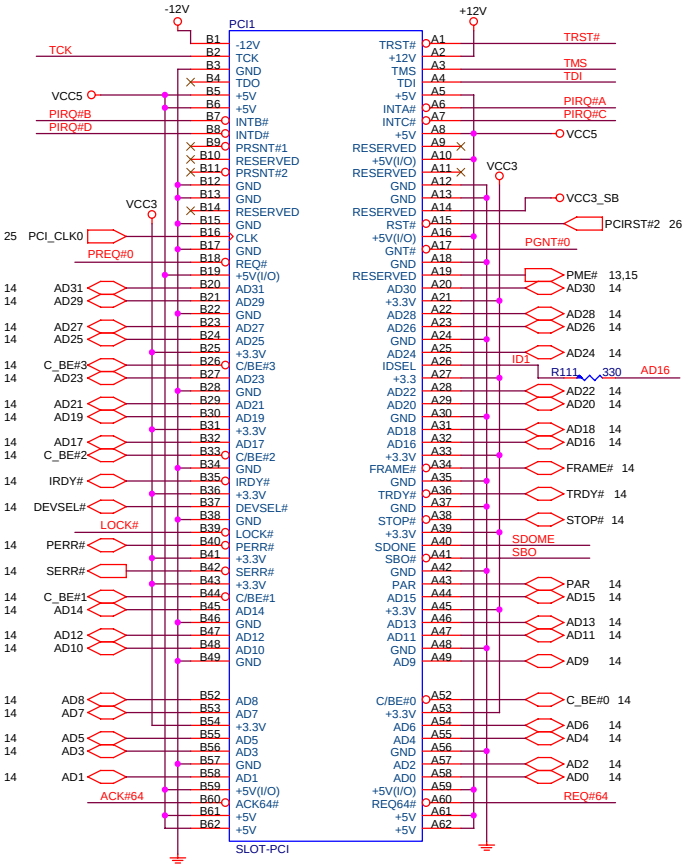
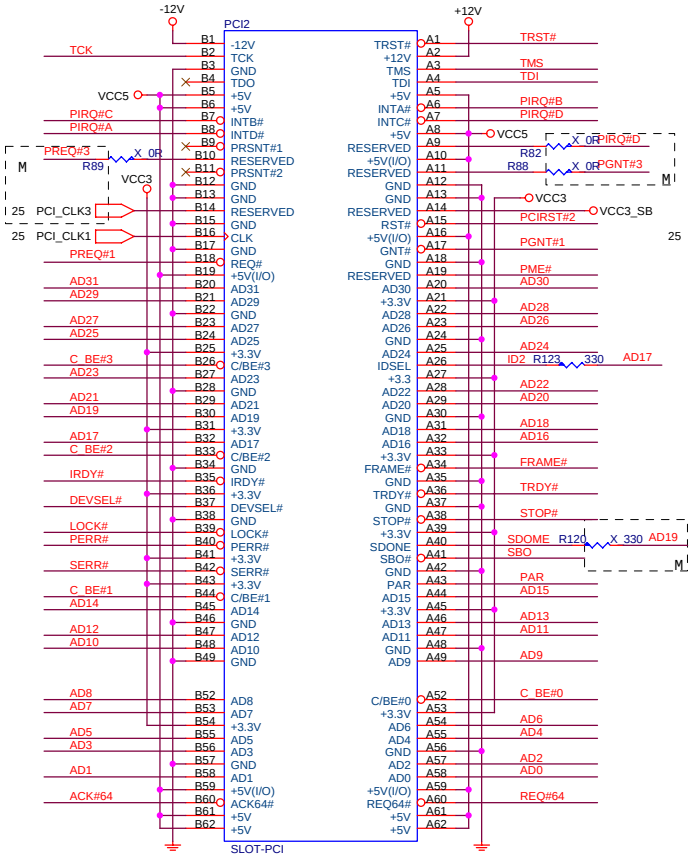
PCI SLOT 1 (PCI VER: 2.2 COMPLY)



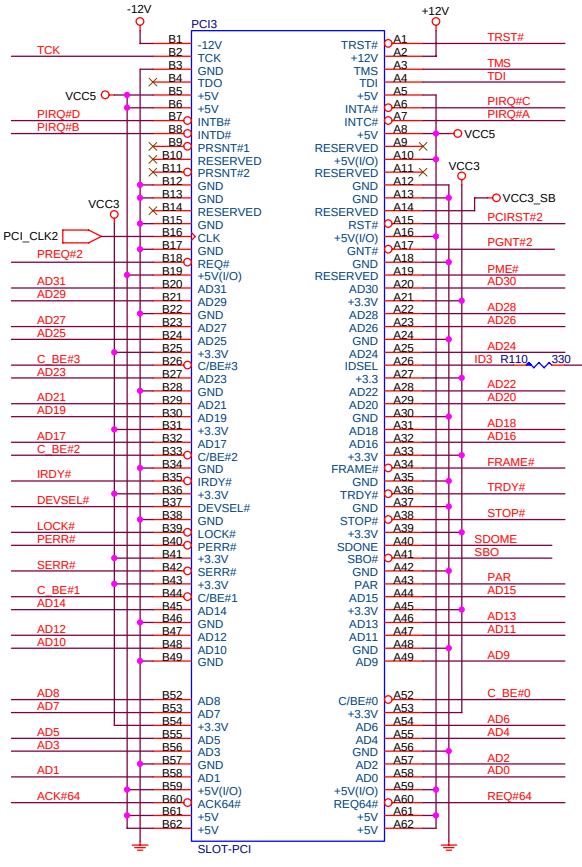
AD16, PREQ#0, PIRQ#A

PCI SLOT 2 (PCI VER: 2.2 COMPLY)



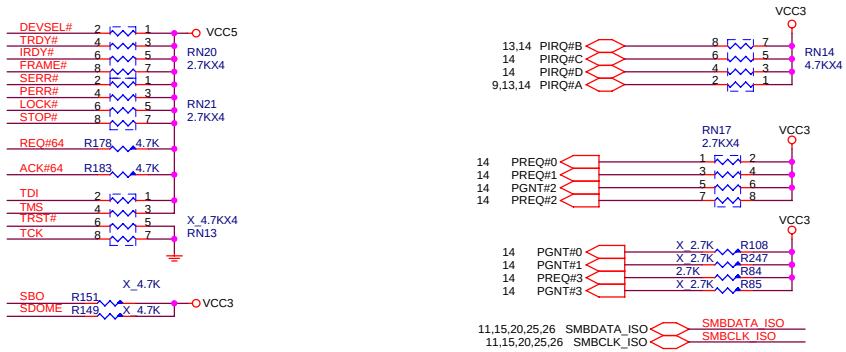
AD17, PREQ#1, PIRQ#B
AD19, PREQ#3, PIRQ#D

PCI SLOT 3 (PCI VER: 2.2 COMPLY)

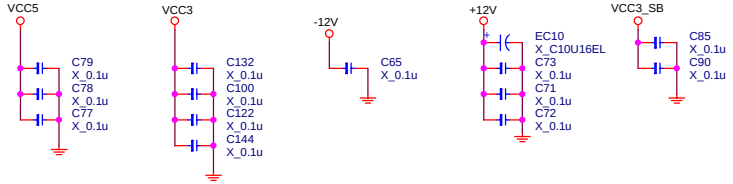


AD18, PREQ#2, PIRQ#C

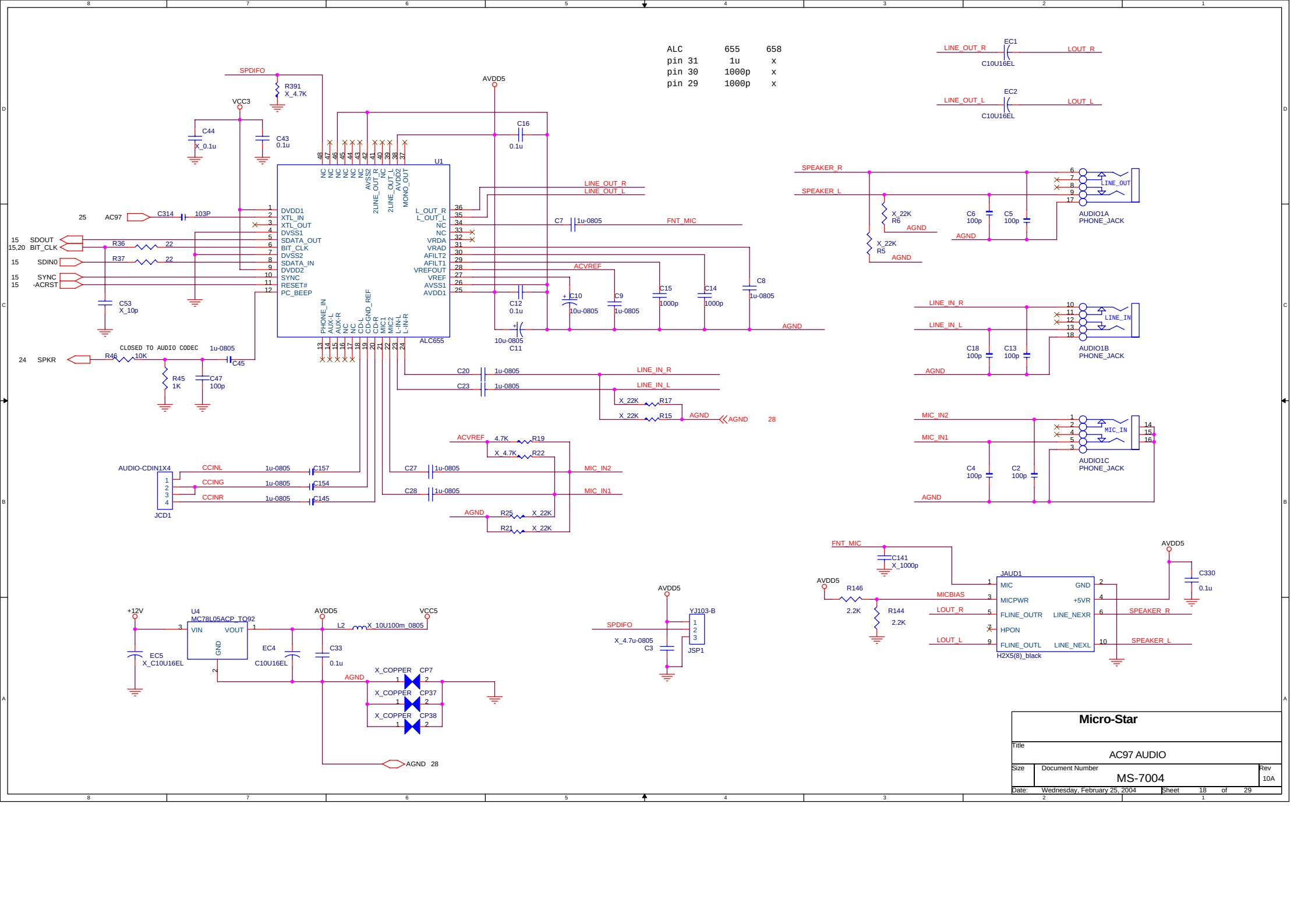
PCI PULL-UP / DOWN RESISTORS



PCI SLOT DECOUPLING CAPACITORS



Micro-Star		
Title: PCI 1& 2 & 3 Slots		
Size	Document Number: MS-7004	Rev: 10A
Date: Wednesday, February 25, 2004	Sheet 17 of 29	


ALC 655 658
pin 31 1u x
pin 30 1000p x
pin 29 1000p x
SPDIFO
R391
X_4.7K
VCC3
AVDD5
C44
X_0.1u
C43
0.1u
C16
0.1u
U1
ALC655
DVDD1
XTL_IN
XTL_OUT
DVSS1
SDATA_OUT
BIT_CLK
DVSS2
SDATA_IN
DVDD2
SYNC
RESET#
PC_BEEP
L_OUT_R
L_OUT_L
NC
VRDA
VRAD
AFILT2
AFILT1
VREFOUT
VREF
AVSS1
AVDD1
PHONE_IN
AUX-L
AUX-R
CD-L
CD-GND_REF
CD-R
MIC1
MIC2
L-IN-L
L-IN-R
LINE_OUT_R
LINE_OUT_L
FNT_MIC
ACVREF
AGND
25 AC97
C314
103P
15 SDOUT
15,20 BIT_CLK
R36
22
15 SDIN0
R37
22
15 SYNC
15 -ACRST
C53
X_10p
24 SPKR
CLOSED TO AUDIO CODEC
R46
10K
1u-0805
C45
R45
1K
C47
100p
C7
1u-0805
C8
1u-0805
C12
0.1u
C10
10u-0805
C9
1u-0805
C15
1000p
C14
1000p
10u-0805
C11
C20
1u-0805
C23
1u-0805
X_22K
R17
X_22K
R15
AGND 28
AUDIO-CDIN1X4
JCD1
CCINL
CCING
CCINR
C157
C154
C145
ACVREF
4.7K
R19
X_4.7K
R22
C27
C28
MIC_IN2
MIC_IN1
R25
R21
X_22K
LINE_OUT_R
LOUT_R
EC1
C10U16EL
LINE_OUT_L
LOUT_L
EC2
C10U16EL
SPEAKER_R
SPEAKER_L
X_22K
R6
X_22K
R5
C6
100p
C5
100p
AUDIO1A
PHONE_JACK
LINE_IN_R
LINE_IN_L
C18
100p
C13
100p
AUDIO1B
PHONE_JACK
MIC_IN2
MIC_IN1
C4
100p
C2
100p
AUDIO1C
PHONE_JACK
+12V
U4
MC78L05ACP_TO92
VIN
VOUT
GND
EC5
X_C10U16EL
EC4
C10U16EL
L2
X_10U100m_0805
C33
0.1u
X_COPPER
CP7
CP37
CP38
AVDD5
SPDIFO
X_4.7u-0805
C3
YJ103-B
JSP1
FNT_MIC
C141
X_1000p
AVDD5
R146
2.2K
R144
2.2K
JAUD1
MIC
MICPWR
FLINE_OUTR
HPON
FLINE_OUTL
GND
+5VR
LINE_NEXR
LINE_NEXL
MICBIAS
LOUT_R
LOUT_L
H2X5(8)_black
C330
0.1u
SPEAKER_R
SPEAKER_L
Micro-Star
Title
AC97 AUDIO
Size
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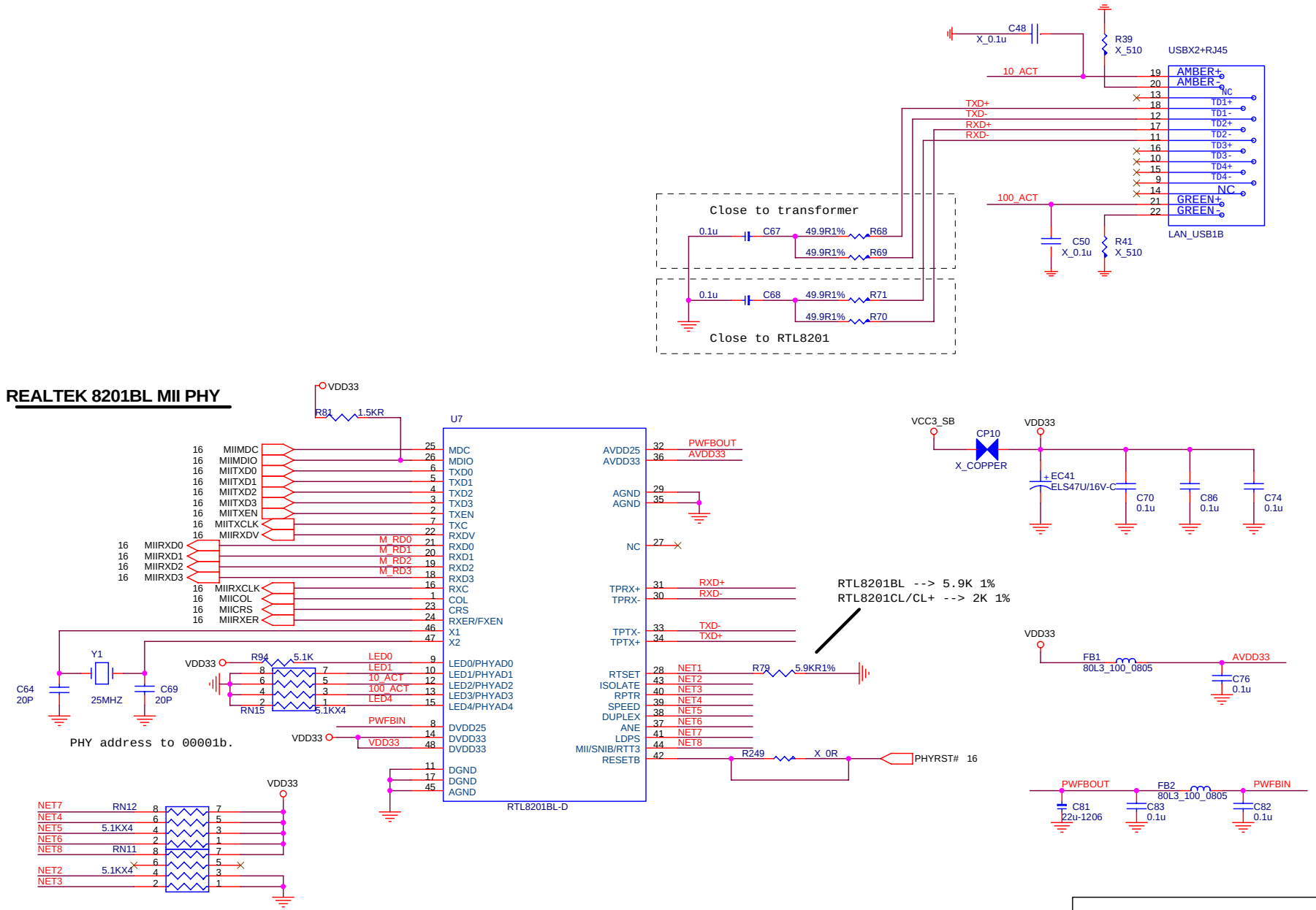
REALTEK 8201BL MII PHY
C48
X_0.1u
R39
X_510
USBX2+RJ45
10_ACT
AMBER+
AMBER-
TXD+
TXD-
RXD+
RXD-
TD1+
TD1-
TD2+
TD2-
TD3+
TD3-
TD4+
TD4-
NC
GREEN+
GREEN-
100_ACT
LAN_USB1B
Close to transformer
0.1u
C67
49.9R1%
R68
R69
C68
R71
R70
Close to RTL8201
C50
X_0.1u
R41
X_510
VDD33
R81
1.5KR
U7
MIIMDC
MIIMDIO
MIITXD0
MIITXD1
MIITXD2
MIITXD3
MIITXEN
MIITXCLK
MIIRXDV
MIIRXD0
MIIRXD1
MIIRXD2
MIIRXD3
MIIRXCLK
MIICOL
MIICRS
MIIRXER
M_RD0
M_RD1
M_RD2
M_RD3
MDC
MDIO
TXD0
TXD1
TXD2
TXD3
TXEN
TXC
RXDV
RXD0
RXD1
RXD2
RXD3
RXC
COL
CRS
RXER/FXEN
X1
X2
LED0/PHYAD0
LED1/PHYAD1
LED2/PHYAD2
LED3/PHYAD3
LED4/PHYAD4
DVDD25
DVDD33
DVDD33
DGND
DGND
AGND
RTL8201BL-D
AVDD25
AVDD33
PWFBOUT
AVDD33
AGND
AGND
NC
TPRX+
TPRX-
RXD+
RXD-
TPTX-
TPTX+
TXD-
TXD+
RTSET
ISOLATE
RPTR
SPEED
DUPLEX
ANE
LDPS
MII/SNIB/RTT3
RESETB
NET1
NET2
NET3
NET4
NET5
NET6
NET7
NET8
R79
5.9KR1%
R249
X_0R
PHYRST# 16
RTL8201BL --> 5.9K 1%
RTL8201CL/CL+ --> 2K 1%
Y1
C64
20P
25MHZ
C69
20P
PHY address to 00001b.
R94
5.1K
RN15
5.1KX4
LED0
LED1
10_ACT
100_ACT
LED4
PWFBIN
RN12
RN11
5.1KX4
5.1KX4
VCC3_SB
CP10
X_COPPER
EC41
ELS47U/16V-C
C70
0.1u
C86
0.1u
C74
0.1u
FB1
80L3_100_0805
C76
0.1u
PWFBOUT
C81
22u-1206
FB2
80L3_100_0805
C83
0.1u
PWFBIN
C82
0.1u
Micro-Star
Title
DLED BRACKET
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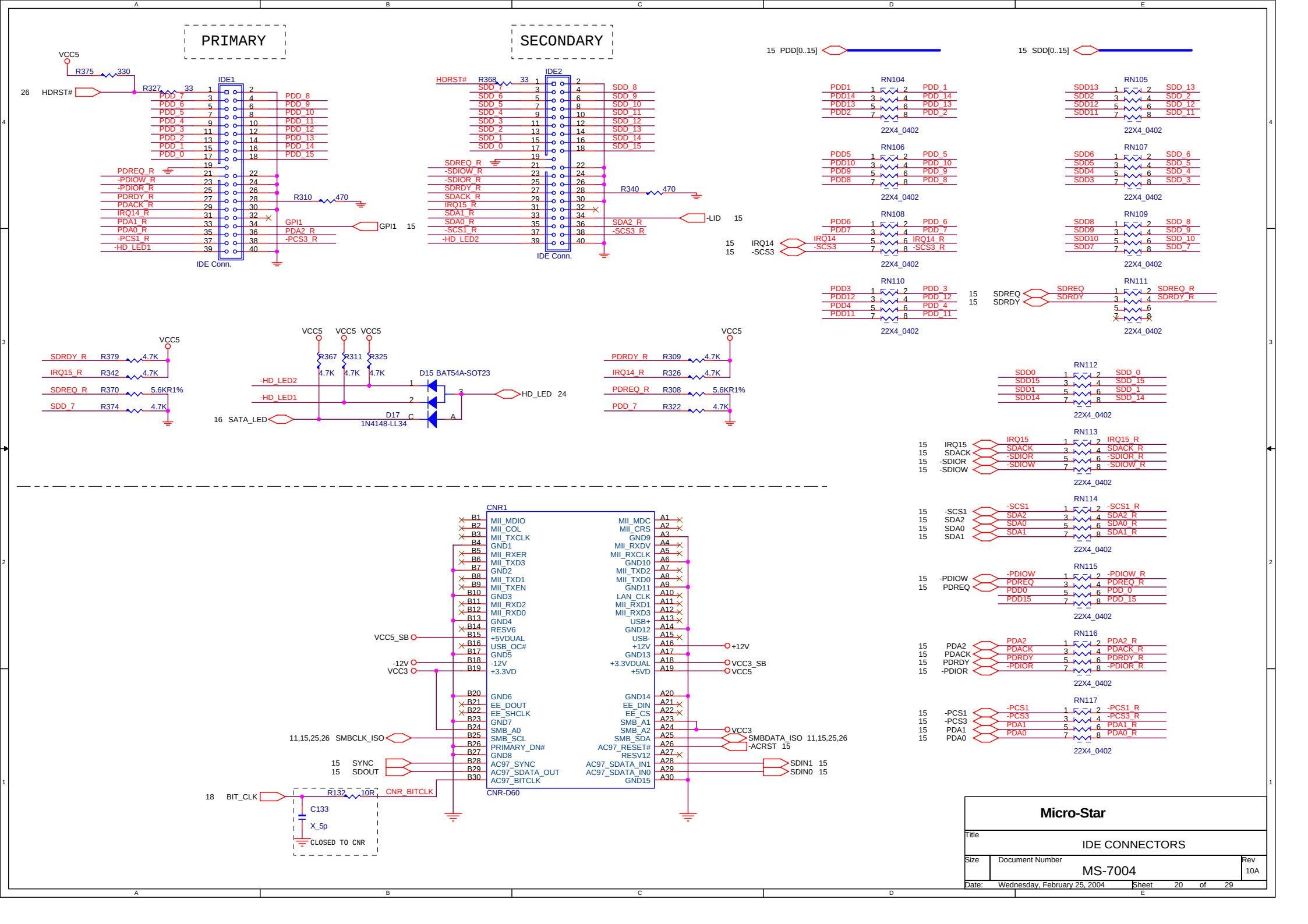
PRIMARY
SECONDARY
IDE1
IDE2
IDE Conn.
R375 330
R327 33
R368 33
R310 470
R340 470
HDRST#
GPI1
PDA2_R
-PCS3_R
-LID
SDA2_R
-SCS3_R
RN104
RN105
RN106
RN107
RN108
RN109
RN110
RN111
RN112
RN113
RN114
RN115
RN116
RN117
22X4_0402
15 PDD[0..15]
15 SDD[0..15]
15 IRQ14
15 -SCS3
15 SDREQ
15 SDRDY
R379 4.7K
R342 4.7K
R370 5.6KR1%
R374 4.7K
R367 4.7K
R311 4.7K
R325 4.7K
D15 BAT54A-SOT23
HD_LED 24
16 SATA_LED
D17 1N4148-LL34
R309 4.7K
R326 4.7K
R308 5.6KR1%
R322 4.7K
CNR1
CNR-D60
MII_MDIO
MII_COL
MII_TXCLK
MII_RXER
MII_TXD3
MII_TXD1
MII_TXEN
MII_RXD2
MII_RXD0
RESV6
+5VDUAL
USB_OC#
-12V
+3.3VD
MII_MDC
MII_CRS
MII_RXDV
MII_RXCLK
MII_TXD2
MII_TXD0
LAN_CLK
MII_RXD1
MII_RXD3
USB+
USB-
+12V
+3.3VDUAL
+5VD
GND6
EE_DOUT
EE_SHCLK
GND7
SMB_A0
SMB_SCL
PRIMARY_DN#
GND8
AC97_SYNC
AC97_SDATA_OUT
AC97_BITCLK
GND14
EE_DIN
EE_CS
SMB_A1
SMB_A2
SMB_SDA
AC97_RESET#
RESV12
AC97_SDATA_IN1
AC97_SDATA_IN0
GND15
VCC5_SB
VCC3_SB
VCC3
11,15,25,26 SMBCLK_ISO
SMBDATA_ISO 11,15,25,26
-ACRST 15
15 SYNC
15 SDOUT
SDIN1 15
SDIN0 15
18 BIT_CLK
R132 10R
CNR_BITCLK
C133
X_5p
CLOSED TO CNR
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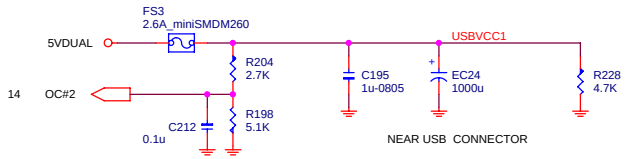
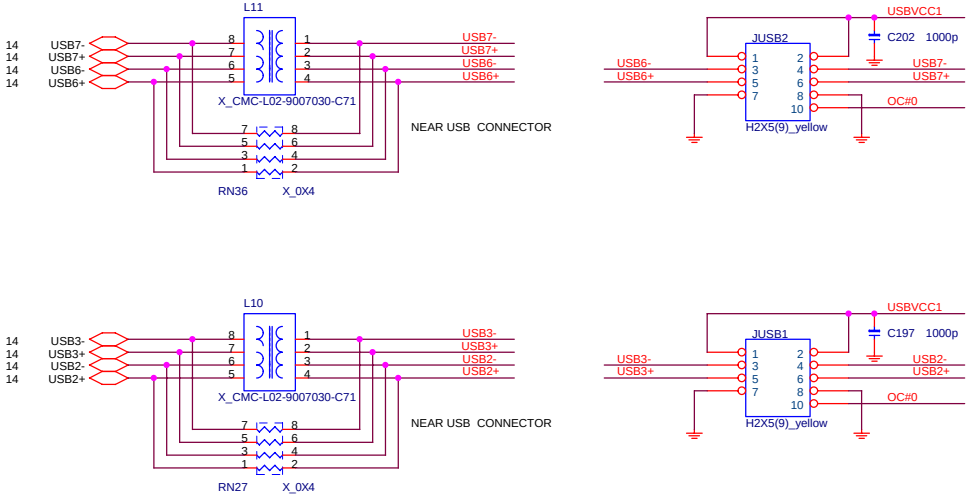
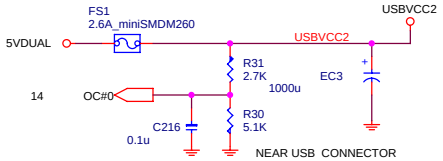
POWER CIRCUIT FOR USB PORT 4,5,6,7

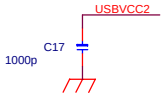


REAR PANEL USB CONNECTOR FOR USB PORT 4,5,6,7

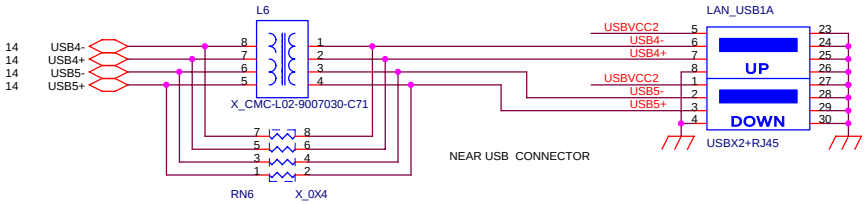


POWER CIRCUIT FOR USB PORT 2,3

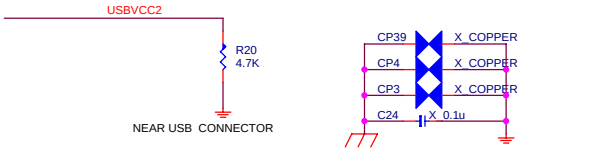


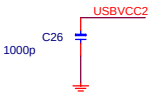


REAR PANEL USB CONNECTOR FOR USB PORT 2,3

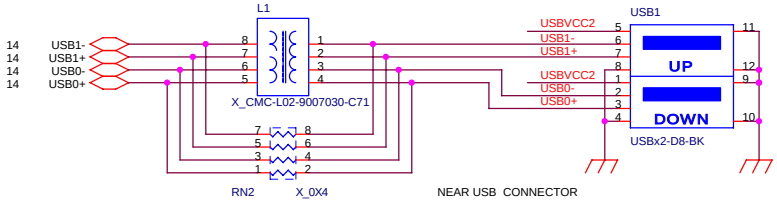


POWER CIRCUIT FOR USB PORT0,1





REAR PANEL USB CONNECTOR FOR USB PORT 0,1



Micro-Star		
Title: USB Connectors		
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STRAPS

RTSA#	L: CFAD=2E	H: CFAD=4E
SOUTB	L: 24MHZ	H: 48MHZ

SOUTB R1 4.7K
RTSA# R4 X_4.7K
SOUTA R2 X_4.7K
DTRA# R3 X_4.7K

Flash Rom

BIOS1
PLL32 Socket
MX29F040QC-90
C42 1u
RN9 4.7KX4
RN1 4.7KX8

W83697HF

U2

Hardware Monitor

W83697HF
FDD1
CONN-FDD(4)(5)(6)V
JCASE1 H1X2_black
Q4 N-MMBT3904_SOT23
FO EACH POWER PIN PLACE ONE CAP CLOSE TO

Micro-Star	
Title	LPC I/O(W83697HF)
Size	Document Number MS-7004 Rev 10A
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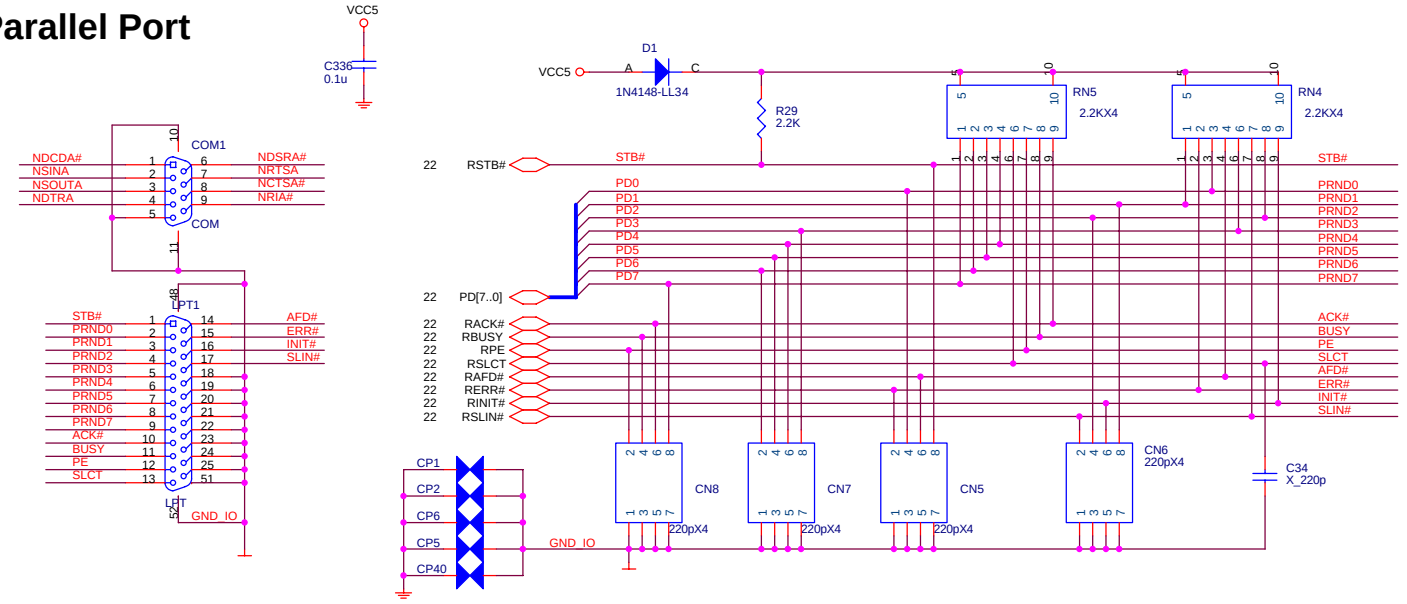
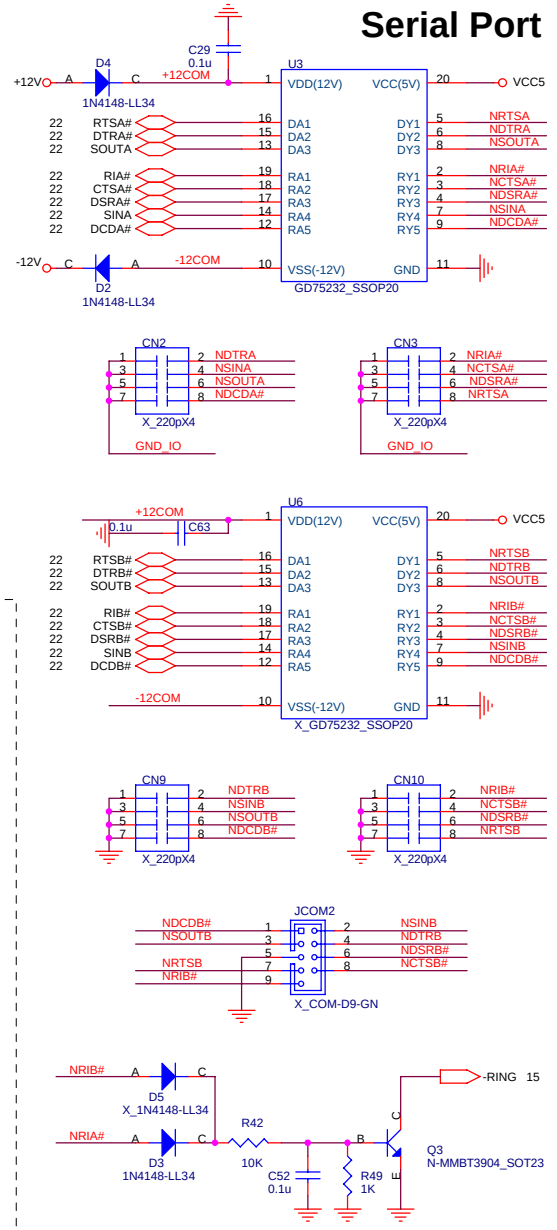
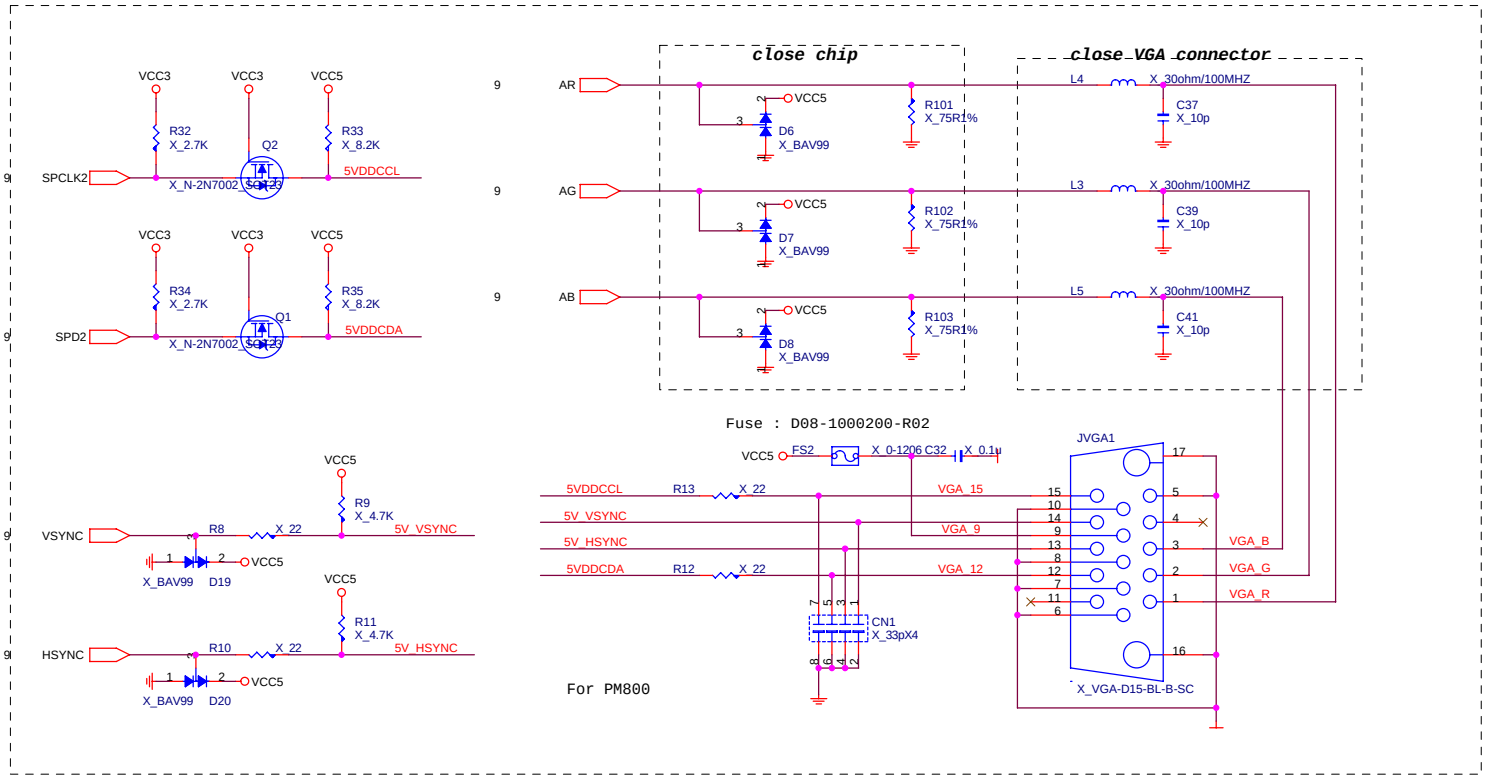
Parallel Port



Serial Port





Micro-Star		
Title	Parallel/Serial Port	
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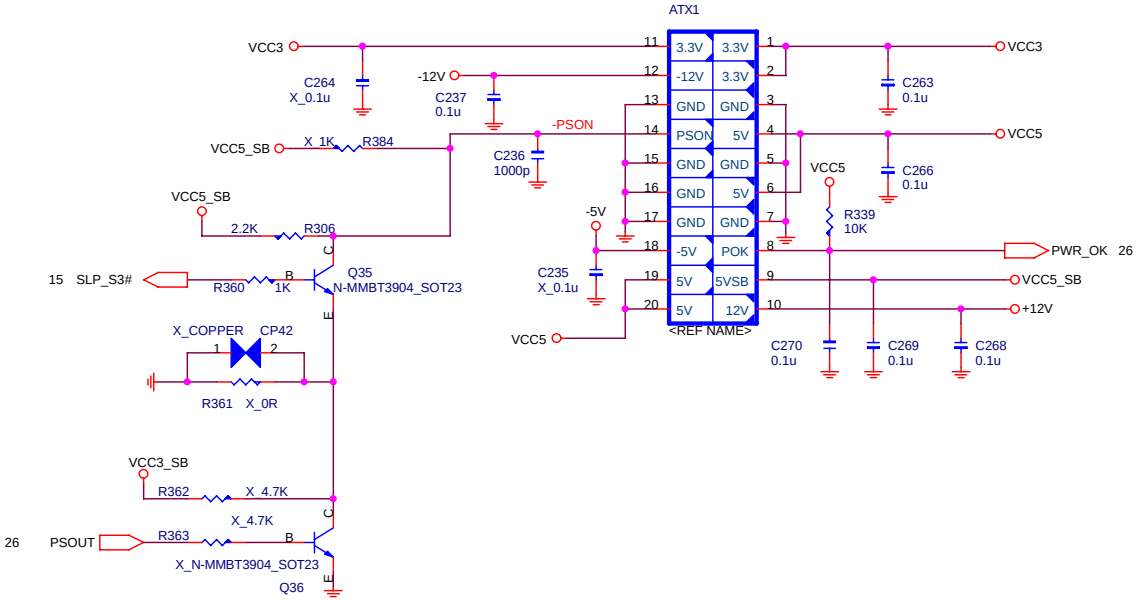
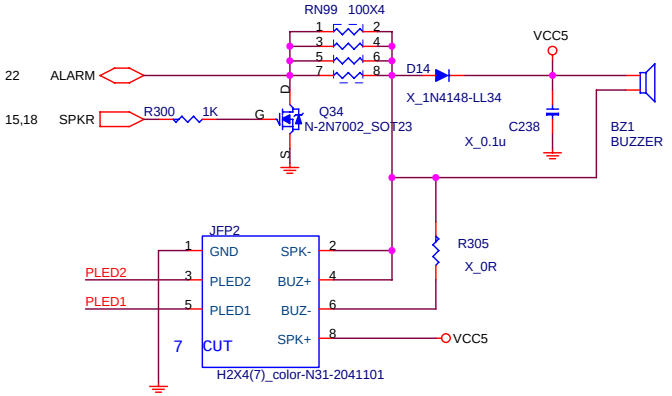
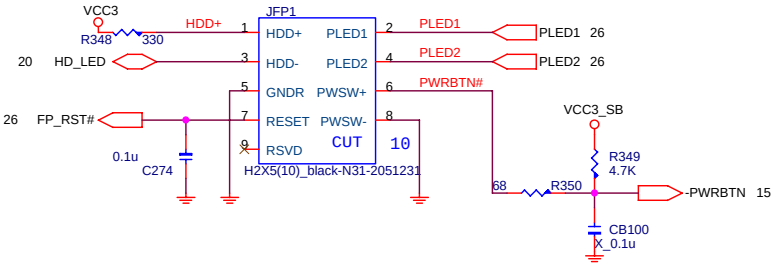
ATX Connector



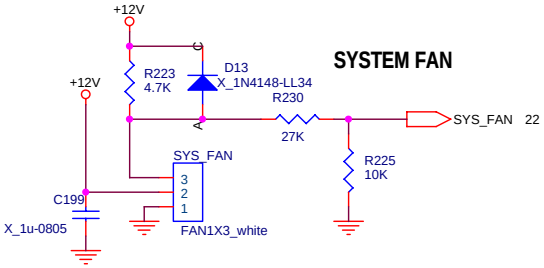
MSI Front Panel Connector



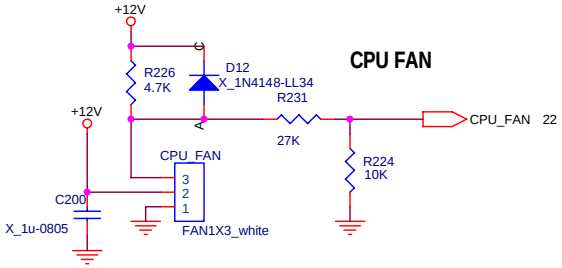
INTEL/PB Front Panel Connector



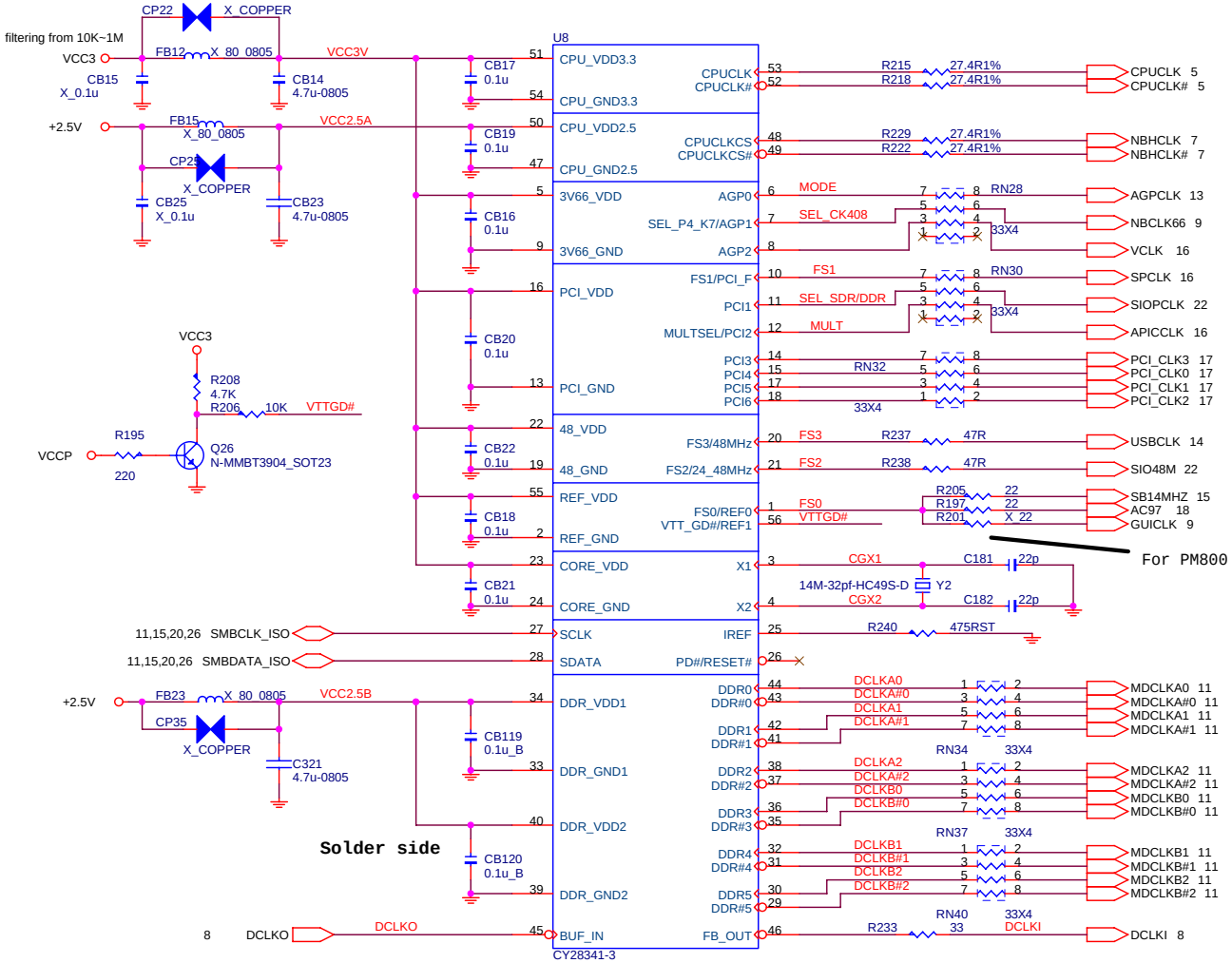
SYSTEM FAN



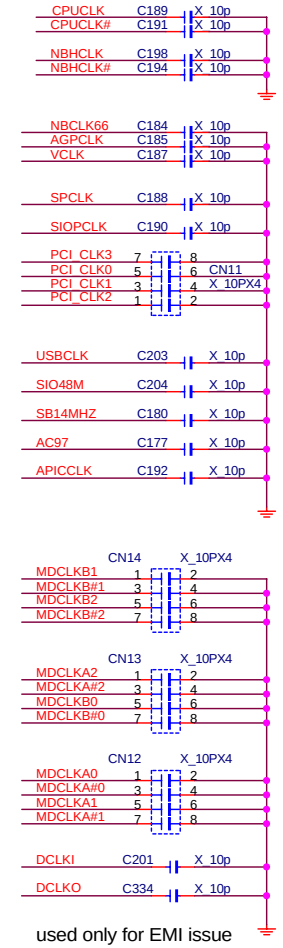
CPU FAN



Micro-Star		
Title	ATX Connector & Front Panel	
Size	Document Number MS-7004	Rev 10A
Date: Wednesday, February 25, 2004	Sheet 24 of 29	



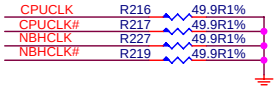
Pull-Down Capacitors



used only for EMI issue

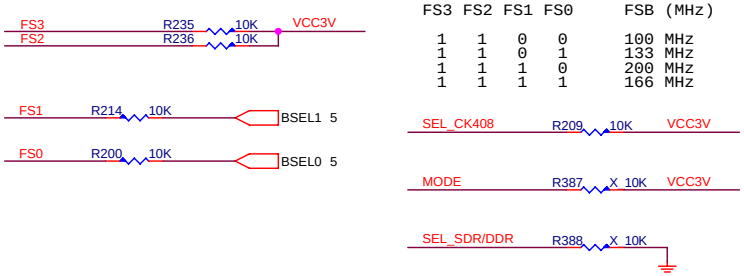
Trace less 0.2"

Shut Source Termination Resistors

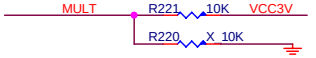


Trace less 0.2" **49.9ohm for 50ohm M/B impedance**

CLOCK STRAPPING RESISTORS



FS3	FS2	FS1	FS0	FSB (MHz)
1	1	0	0	100 MHz
1	1	0	1	133 MHz
1	1	1	0	200 MHz
1	1	1	1	166 MHz



MULT	Rr	Iref	Ioh	Voh
0	221	5.00mA	4*Iref	1.0V
1	475	2.32mA	6*Iref	0.7V

Micro-Star

Title: *Clock Generator*

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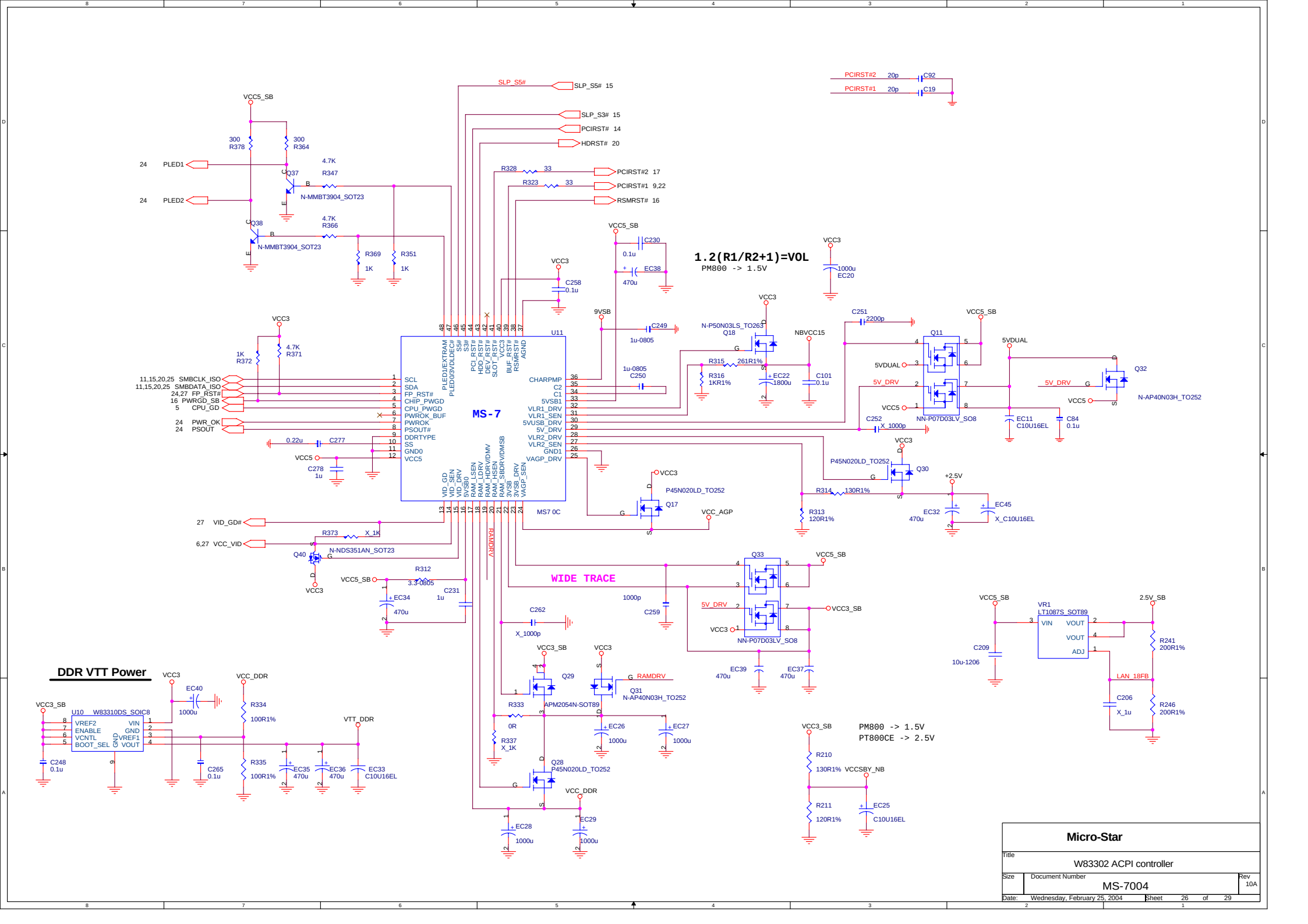
MS-7
MS7 0C
WIDE TRACE
DDR VTT Power
1.2(R1/R2+1)=VOL
PM800 -> 1.5V
PT800CE -> 2.5V
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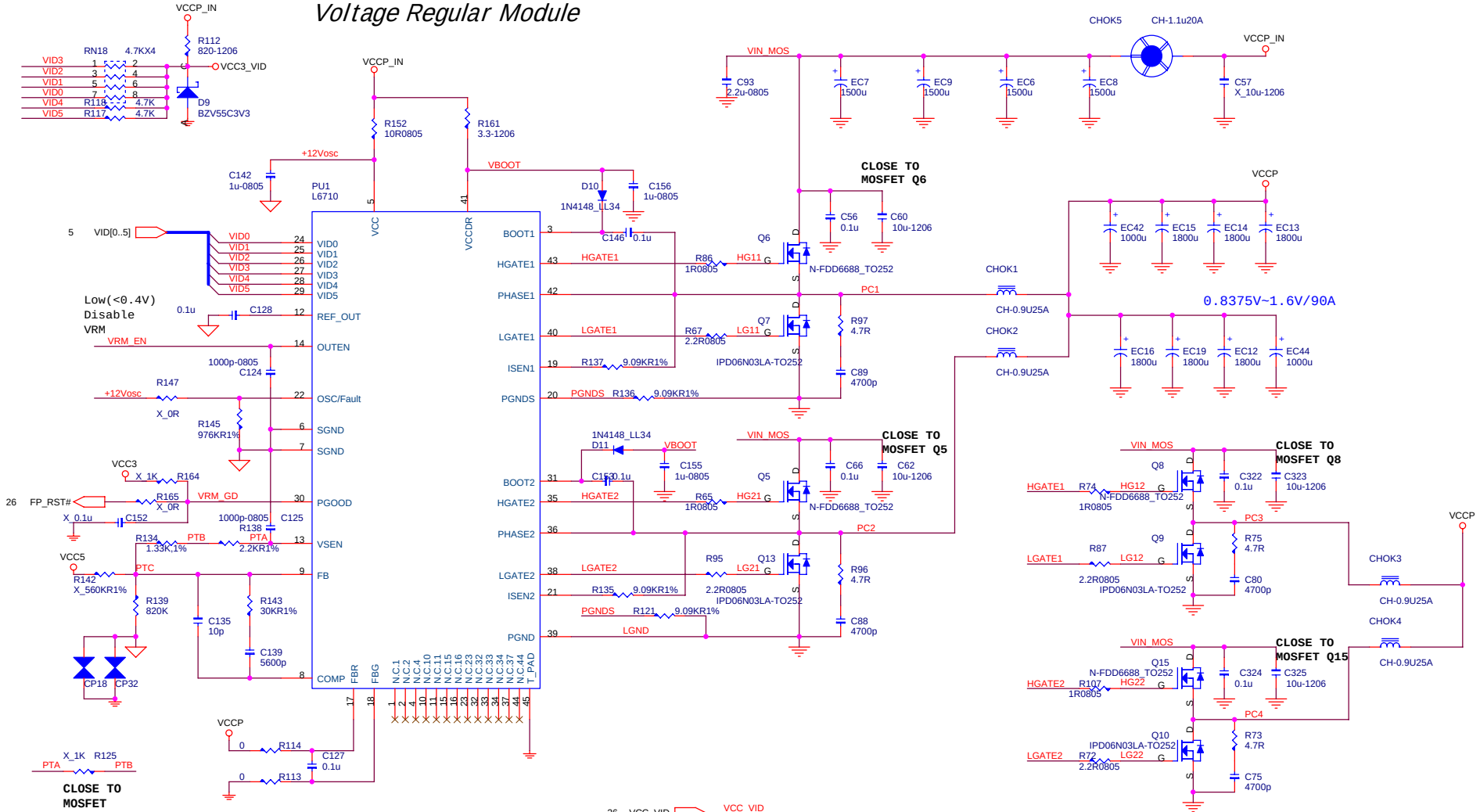
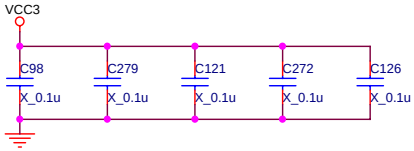
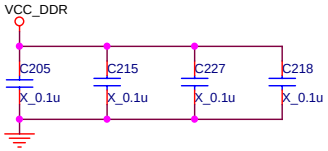
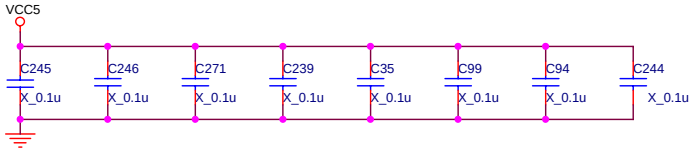
Voltage Regular Module

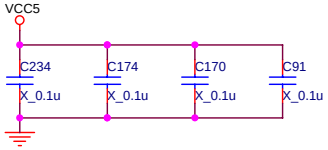


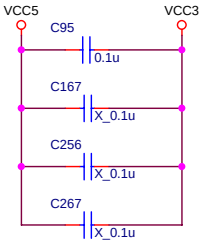
Micro Star Restricted Secret	
Title: VRM 10 - L6710	Rev: 10A
Document Number: MS-7004	
MICRO-STAR INT'L No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw	Last Revision Date: Wednesday, February 25, 2004 Sheet 27 of 29



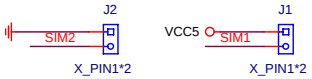


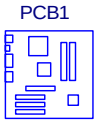




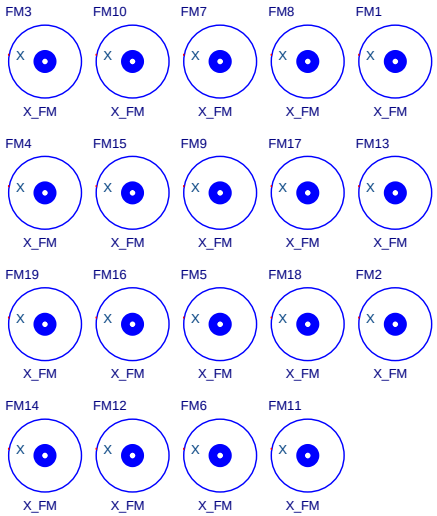


Simulation

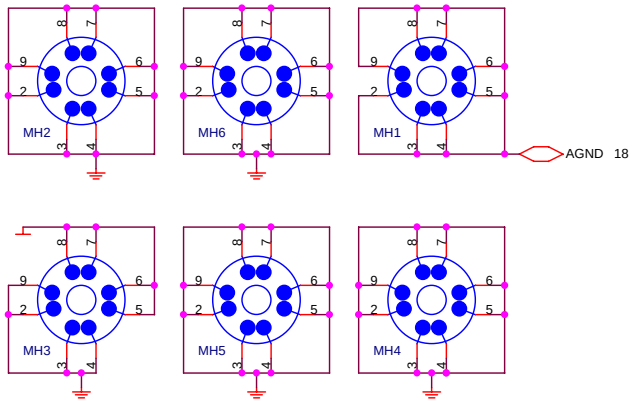


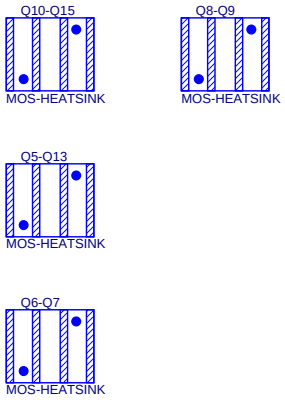


Optics Orientation Holes



Mounting Holes





Micro-Star		
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MS-7004 V0C

1.北橋ballout change to PM800/PT800 VER:B , Add 電源Pin .
2.Modify PWM layout & placemant .
3.Modify CPU & CHIPS 電源VCCP.NBVCC15內層切割.
4.Delete 預留VT8235CE的電阻.
5.Delete U5(Transform),改用有包進去的Lan connector .
6.BIOS ROM 與 FANCPU1 卡機構問題 & CPUFAN 與 SYSFAN 互換
7.Modify NB VCCDAC & VCCPLL 線路.
8.NB 電源背焊電容改成10u/0805.
9.Modify U8(Clock Generator)電源線路,Add ICS strapping resistors.
10.加粗VCC5_SB & VCC3_SB切內層

MS-7004 V100

1.Modify net VID_GD# circuit
2.Change some resistors & cap for VRM transient.
3.加寬 net CPU_TMPA(CPU to I/O) & VCCP_IN(JPW1 to PU1)
4.Modify VRM layout
5.ADD NB pin Y6,AB5,AB6 pull down resistors & pin N3接地
6.DDR BUS 0 ohm 直接短路
7.C92,C19移至U11端,ADD C334 for net DCLKO
8.Bios Rom VCC5 trace 拉至C42
9.R389,R390,R249,R361 直接短路,cost down 0 ohm
10.USB 0 ohm 排阻直接短路
11.Modify VCC5 Plane for IDE BUS 跨切割
12.VCC5 trace 拉粗至12~25 mils
13.Modify net CPU_GD & VCC_VID & VCC_AGP_SEN & VTIN_GND 走線

MS-7004 V10A

1.ADD IDE 排阻
2.Modify LAN 10/100 燈號線路
3.Modify VRM 切割
4.Delete JSLP1
5.Modify +2.5V 切割區 & USB 5VDAUL 切割區
6.change USB Rset >>> 5.9K & VGA Rset >>> 82 ohm
7.ADD C335 20P for 北橋 PCIRST#1
8.LVREF_SB >>> 0.3V (R276 >>> 412ohm)

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Title: History 1

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