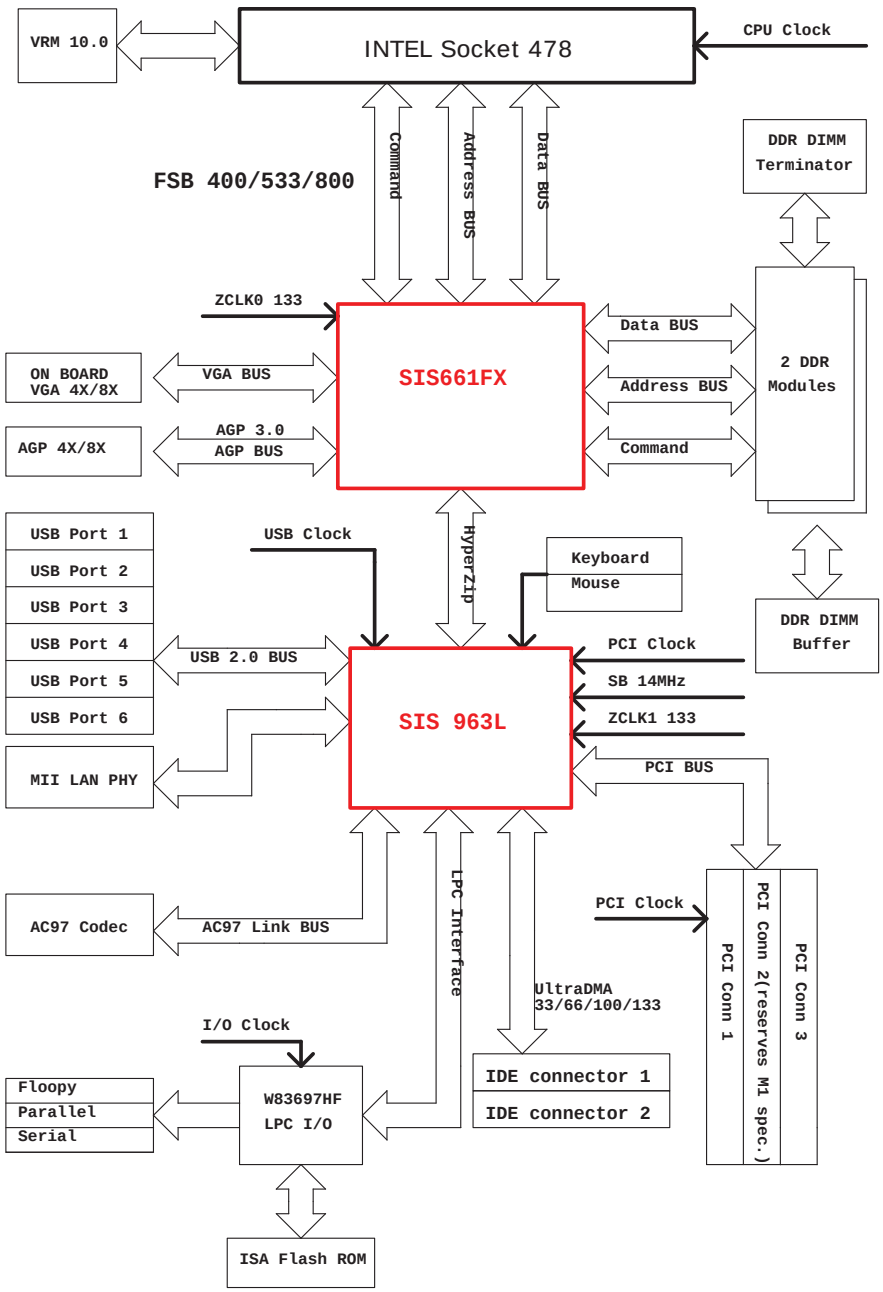
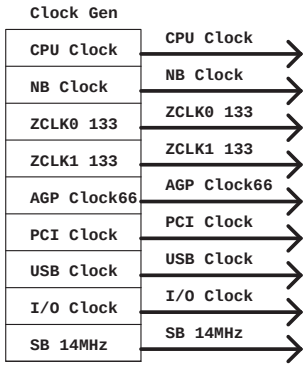
MS-6540 Ver:310





CPU:
Pentium4 socket-478 Processor

System Chipset:
SIS661FX(NB) + SIS963L-C1(SB)

On Board Function Chip:
LPC I/O-W83697HF
MII LAN PHY Realtek 8201BL
Audio Codec REALTEK ALC655

Expansion Slot:
AGP3.0 Slot*1
PCI2.2 Slot*3
CNR Slot*1

CONTENT

MICRO-STAR

Title: Cover Sheet & Block Diagram

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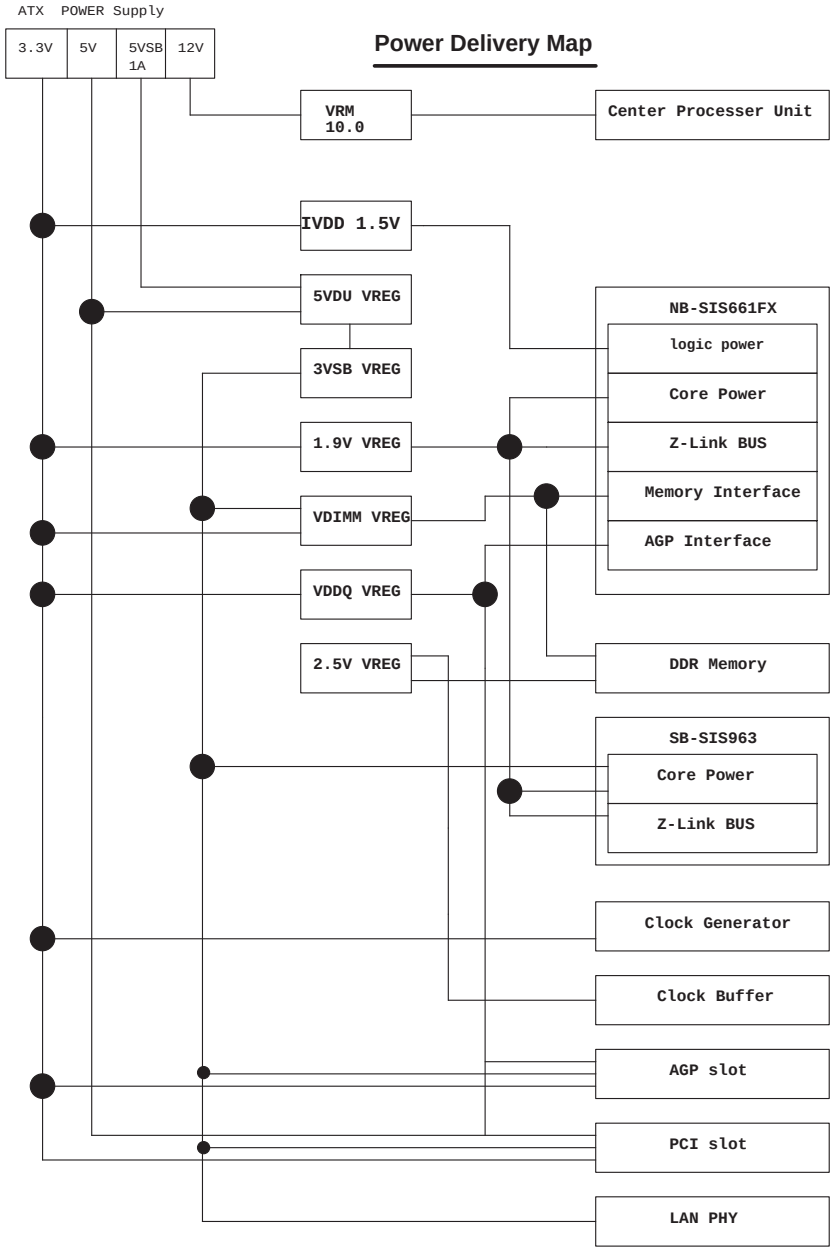
Date: Wednesday, February 11, 2004 | Sheet 1 of 27

Power Delivery Map



SIS963 GPIO Function Define

GPIO_0	I/O	MAIN	M/B ID0
GPIO_1	I/O	MAIN	M/B ID1
GPIO_2	I/O	MAIN	THERM#
GPIO_3	I/O	MAIN	M/B ID2
GPIO_4	I/O	MAIN	M/B ID3
GPIO_5	I/O	RESUME	RESERVED
GPIO_7	I	RESUME	Flash ROM Protection H: Enable ; L: Disabled.
GPI_8	I	RESUME	WAKE ON RING ACTIVE(LOW)
GPI_9	I	RESUME	RESERVED
GPI_10	I	RESUME	RESERVED
GPIO_11	I/O	RESUME	SET WITHOUT 1394
GPIO_12	I/O	RESUME	RESERVED
GPIO_13	I/O	RESUME	RESERVED
GPIO_14	I/O	RESUME	RESERVED
GPIO_15	I/O	RESUME	KBDAT
GPIO_16	I/O	RESUME	KBCLK
GPIO_17	I/O	RESUME	MSDAT
GPIO_18	I/O	RESUME	MSCLK
GPIO_19	I/O	RESUME	SMBCLK
GPIO_20	I/O	RESUME	SMBDAT

W83697 GPIO Function Define

PCI

DEVICES	INT#	IDSEL	REQ#/GNT#	CLOCK
PCI SLOT 1	INT#B INT#C INT#D INT#A	AD17	PREQ#0 PGNT#0	PCICLK1
PCI SLOT 2	INT#C INT#D INT#A INT#B	AD18	PREQ#1 PGNT#1	PCICLK2
PCI SLOT 3	INT#D INT#A INT#B INT#C	AD19	PREQ#2 PGNT#2	PCICLK3

MICRO-STAR

Title: Power Delivery

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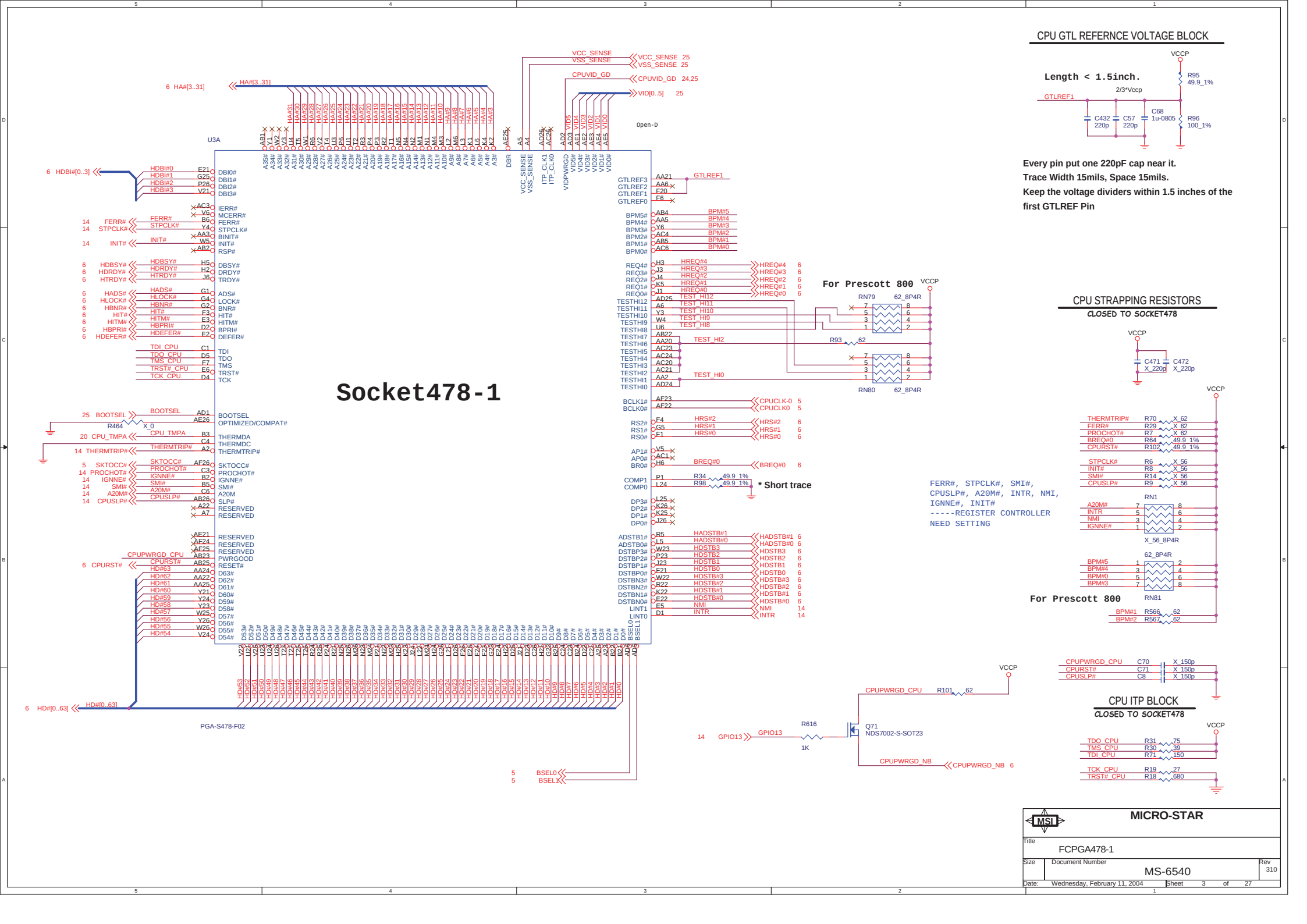
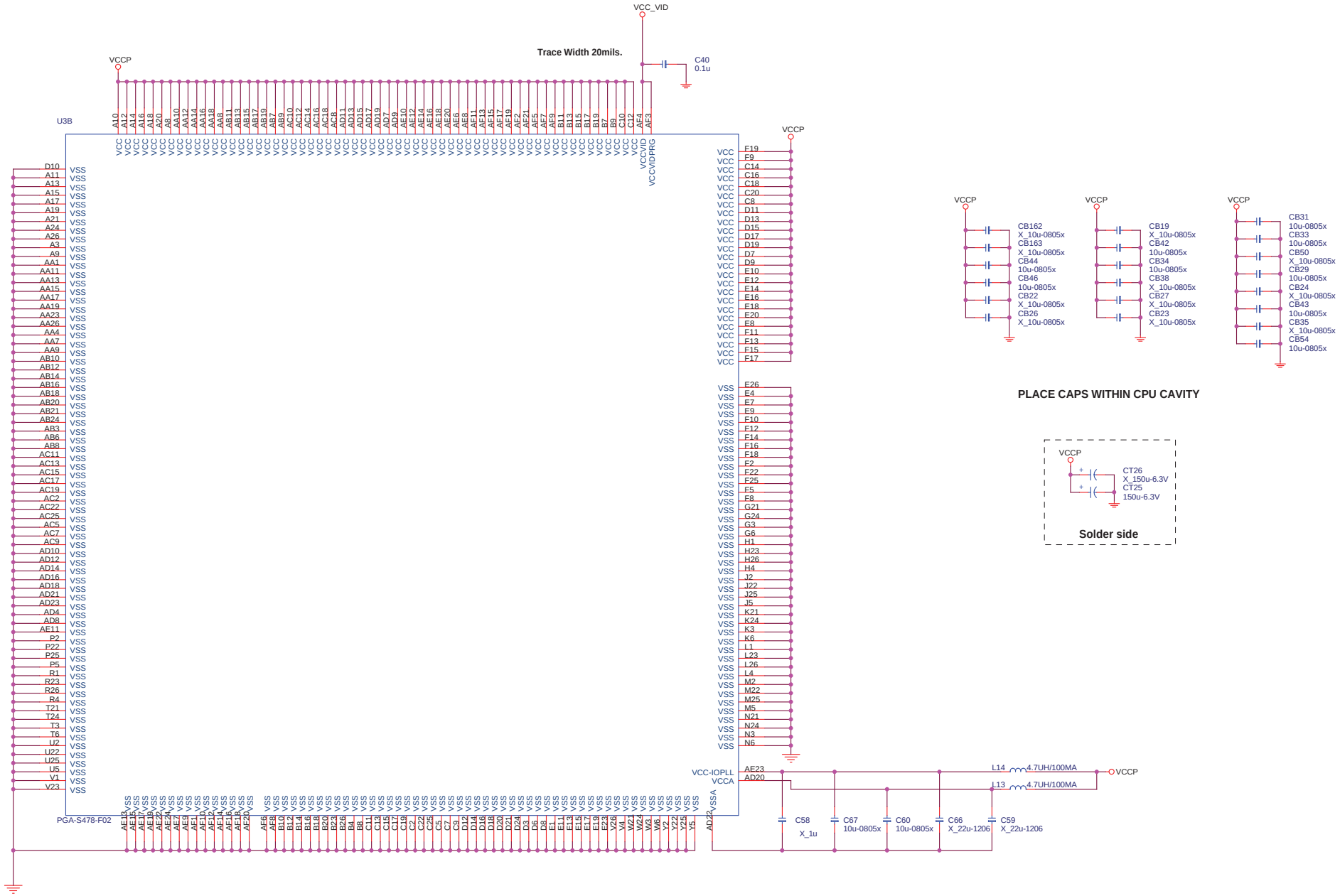

Socket478-1
U3A
PGA-S478-F02
CPU GTL REFERNCE VOLTAGE BLOCK
Length < 1.5inch.
2/3*Vccp
GTLREF1
R95 49.9_1%
R96 100_1%
C432 220p
C57 220p
C68 1u-0805
Every pin put one 220pF cap near it.
Trace Width 15mils, Space 15mils.
Keep the voltage dividers within 1.5 inches of the first GTLREF Pin
For Prescott 800
RN79 62_8P4R
RN80 62_8P4R
R93 62
* Short trace
FERR#, STPCLK#, SMI#, CPUSLP#, A20M#, INTR, NMI, IGNNE#, INIT#
-----REGISTER CONTROLLER NEED SETTING
CPU STRAPPING RESISTORS
CLOSED TO SOCKET478
C471 X_220p
C472 X_220p
RN1 X_56_8P4R
RN81 62_8P4R
For Prescott 800
CPU ITP BLOCK
CLOSED TO SOCKET478
Q71 NDS7002-S-SOT23
R616 1K
MICRO-STAR
FCPGA478-1
MS-6540
Wednesday, February 11, 2004

FOR NORTHWOOD
CPU ONLY



PLACE CAPS WITHIN CPU CAVITY

MICRO-STAR		
Title: FCPGA478-2		
Size	Document Number: MS-6540	Rev: 310
Date: Wednesday, February 11, 2004	Sheet 4 of 27	

Main Clock Generator

Internal Pull-Down 150K Ohm

U15 ICS952013-SSOP48

CY28381 Clock Generator

FS4	FS3	FS2	FS1	FS0	CPU	SDRAM	ZCLK	AGP	PCI
1	0	0	0	1	100	133	133	66	33
1	0	1	0	1	133	133	133	66	33
1	1	0	0	1	166	133	133	66	33
1	1	1	0	1	200	133	133	66	33

FOR MEDION

FOR 661FX

Trace Width 10mils.

14M-32pf-HC49S-D

F0~F4 internal Pull-Down 150K Ohm

10K or 0 Ohm

Clock Buffer (DDR)

By-Pass Capacitors
Place near to the Clock Buffer

U6 ICS93732-SSOP28

Select Clock Buffer

PART	CY28353	ICS93732	CY28352
A	10K_1%	X	X
B	10K_1%	X	X
C	104pf	X	X

ICS952013 Clock Generator

FS4	FS3	FS2	FS1	FS0	CPU	SDRAM	ZCLK	AGP	PCI
0	0	0	0	0	100	100	133	66	33
0	0	1	0	0	133	100	133	66	33
0	1	0	0	0	200	100	133	66	33

MULTISEL internal Pull-Up 150K Ohm

Title	Main CLK GEN
Size	Document Number: MS-6540
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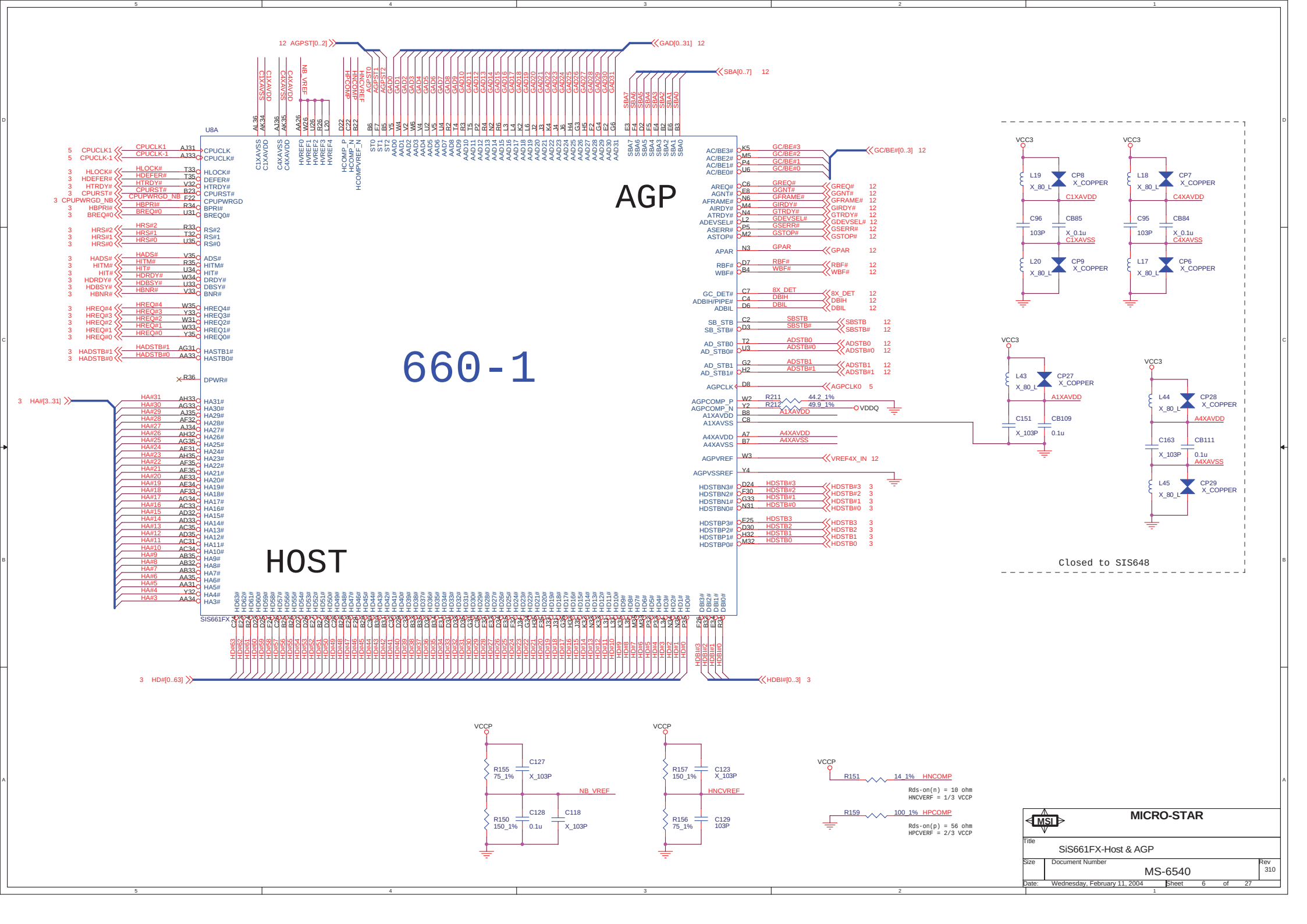
MICRO-STAR


660-1
HOST
AGP
SiS661FX
U8A
Closed to SIS648
MICRO-STAR
Title
SiS661FX-Host & AGP
Size
Document Number
MS-6540
Rev
310
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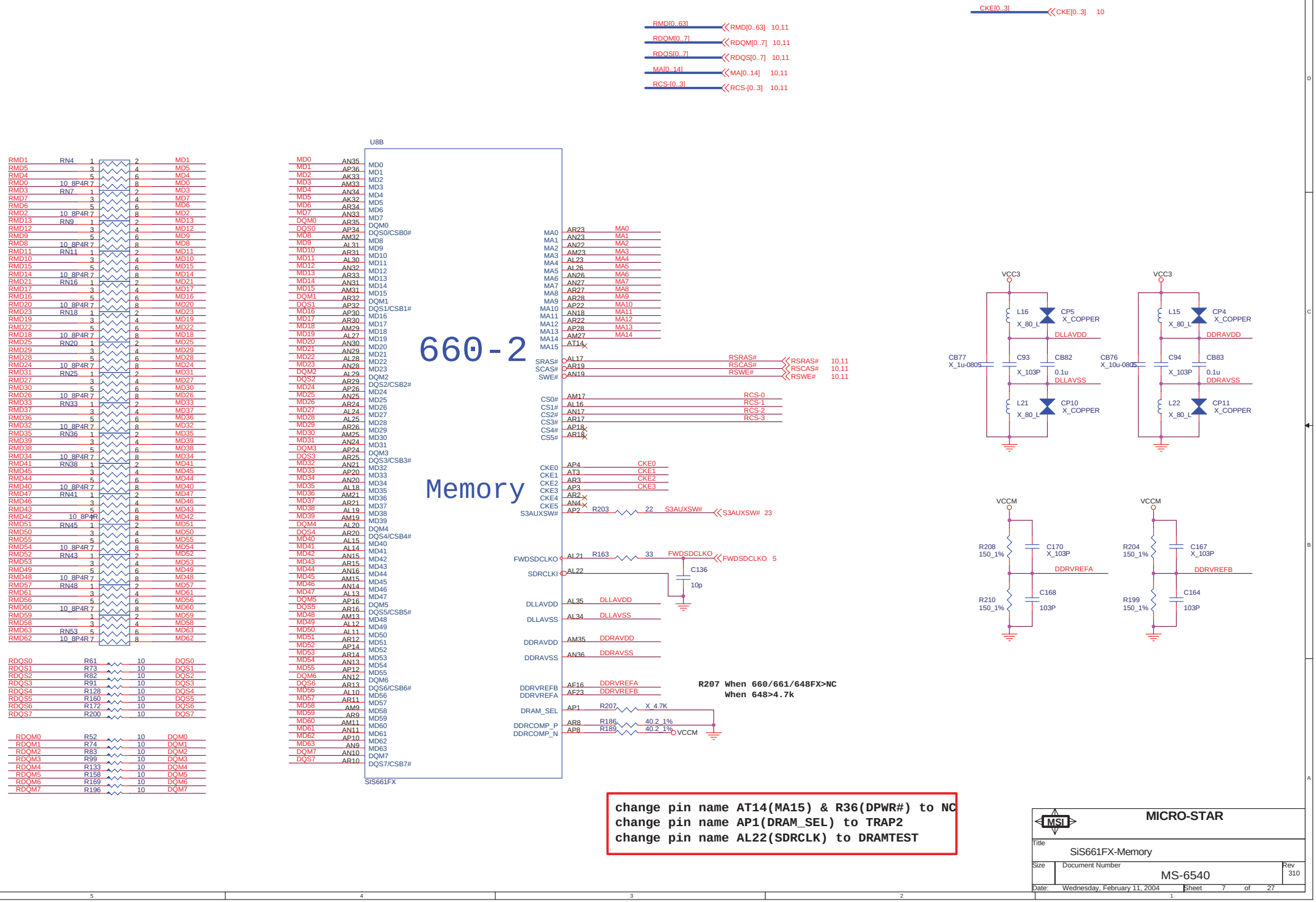
Sheet 6 of 27


CKE[0..3]
CKE[0..3] 10
RMD[0..63]
RMD[0..63] 10,11
RDQM[0..7]
RDQM[0..7] 10,11
RDQS[0..7]
RDQS[0..7] 10,11
MA[0..14]
MA[0..14] 10,11
RCS-[0..3]
RCS-[0..3] 10,11
U8B
660-2
Memory
SIS661FX
RMD1 RN4 MD1
RMD5 MD5
RMD4 MD4
RMD0 10_8P4R MD0
RMD3 RN7 MD3
RMD7 MD7
RMD6 MD6
RMD2 10_8P4R MD2
RMD13 RN9 MD13
RMD12 MD12
RMD9 MD9
RMD8 10_8P4R MD8
RMD11 RN11 MD11
RMD10 MD10
RMD15 MD15
RMD14 10_8P4R MD14
RMD21 RN16 MD21
RMD17 MD17
RMD16 MD16
RMD20 10_8P4R MD20
RMD23 RN18 MD23
RMD19 MD19
RMD22 MD22
RMD18 10_8P4R MD18
RMD25 RN20 MD25
RMD29 MD29
RMD28 MD28
RMD24 10_8P4R MD24
RMD31 RN25 MD31
RMD27 MD27
RMD30 MD30
RMD26 10_8P4R MD26
RMD33 RN33 MD33
RMD37 MD37
RMD36 MD36
RMD32 10_8P4R MD32
RMD35 RN36 MD35
RMD39 MD39
RMD38 MD38
RMD34 10_8P4R MD34
RMD41 RN38 MD41
RMD45 MD45
RMD44 MD44
RMD40 10_8P4R MD40
RMD47 RN41 MD47
RMD46 MD46
RMD43 MD43
RMD42 10_8P4R MD42
RMD51 RN45 MD51
RMD50 MD50
RMD55 MD55
RMD54 10_8P4R MD54
RMD52 RN43 MD52
RMD53 MD53
RMD49 MD49
RMD48 10_8P4R MD48
RMD57 RN48 MD57
RMD61 MD61
RMD56 MD56
RMD60 10_8P4R MD60
RMD59 MD59
RMD58 MD58
RMD63 RN53 MD63
RMD62 10_8P4R MD62
RDQS0 R61 10 DQS0
RDQS1 R73 10 DQS1
RDQS2 R82 10 DQS2
RDQS3 R91 10 DQS3
RDQS4 R128 10 DQS4
RDQS5 R160 10 DQS5
RDQS6 R172 10 DQS6
RDQS7 R200 10 DQS7
RDQM0 R52 10 DQM0
RDQM1 R74 10 DQM1
RDQM2 R83 10 DQM2
RDQM3 R99 10 DQM3
RDQM4 R133 10 DQM4
RDQM5 R158 10 DQM5
RDQM6 R169 10 DQM6
RDQM7 R196 10 DQM7
MD0 AN35
MD1 AP36
MD2 AK33
MD3 AM33
MD4 AN34
MD5 AK32
MD6 AR34
MD7 AN33
DQM0 AR35
DQS0 AP34
MD8 AM32
MD9 AL31
MD10 AR31
MD11 AL30
MD12 AN32
MD13 AR33
MD14 AN31
MD15 AM31
DQM1 AR32
DQS1 AP32
MD16 AP30
MD17 AR30
MD18 AM29
MD19 AL27
MD20 AN30
MD21 AN29
MD22 AL28
MD23 AN28
DQM2 AL29
DQS2 AR29
MD24 AP26
MD25 AN25
MD26 AR24
MD27 AL24
MD28 AL25
MD29 AR26
MD30 AM25
MD31 AN24
DQM3 AP24
DQS3 AR25
MD32 AN21
MD33 AP20
MD34 AN20
MD35 AL18
MD36 AM21
MD37 AR21
MD38 AL19
MD39 AM19
DQM4 AL20
DQS4 AR20
MD40 AL15
MD41 AL14
MD42 AN15
MD43 AR15
MD44 AN16
MD45 AM15
MD46 AN14
MD47 AL13
DQM5 AP16
DQS5 AR16
MD48 AM13
MD49 AL12
MD50 AL11
MD51 AR12
MD52 AP14
MD53 AR14
MD54 AN13
MD55 AP12
DQM6 AN12
DQS6 AR13
MD56 AL10
MD57 AR11
MD58 AM9
MD59 AR9
MD60 AM11
MD61 AN11
MD62 AP10
MD63 AN9
DQM7 AN10
DQS7 AR10
MD0 MD1 MD2 MD3 MD4 MD5 MD6 MD7 DQM0 DQS0/CSB0# MD8 MD9 MD10 MD11 MD12 MD13 MD14 MD15 DQM1 DQS1/CSB1# MD16 MD17 MD18 MD19 MD20 MD21 MD22 MD23 DQM2 DQS2/CSB2# MD24 MD25 MD26 MD27 MD28 MD29 MD30 MD31 DQM3 DQS3/CSB3# MD32 MD33 MD34 MD35 MD36 MD37 MD38 MD39 DQM4 DQS4/CSB4# MD40 MD41 MD42 MD43 MD44 MD45 MD46 MD47 DQM5 DQS5/CSB5# MD48 MD49 MD50 MD51 MD52 MD53 MD54 MD55 DQM6 DQS6/CSB6# MD56 MD57 MD58 MD59 MD60 MD61 MD62 MD63 DQM7 DQS7/CSB7#
MA0 AR23 MA0
MA1 AN23 MA1
MA2 AN22 MA2
MA3 AM23 MA3
MA4 AL23 MA4
MA5 AL26 MA5
MA6 AN26 MA6
MA7 AN27 MA7
MA8 AR27 MA8
MA9 AR28 MA9
MA10 AP22 MA10
MA11 AN18 MA11
MA12 AR22 MA12
MA13 AP28 MA13
MA14 AM27 MA14
MA15 AT14
SRAS# AL17 RSRAS# RSRAS# 10,11
SCAS# AR19 RSCAS# RSCAS# 10,11
SWE# AN19 RSWE# RSWE# 10,11
CS0# AM17 RCS-0
CS1# AL16 RCS-1
CS2# AN17 RCS-2
CS3# AR17 RCS-3
CS4# AP18
CS5# AR18
CKE0 AP4 CKE0
CKE1 AT3 CKE1
CKE2 AR3 CKE2
CKE3 AP3 CKE3
CKE4 AR2
CKE5 AN4
S3AUXSW# AP2 R203 22 S3AUXSW# S3AUXSW# 23
FWDSDCLKO AL21 R163 33 FWDSDCLKO FWDSDCLKO 5
SDRCLKI AL22
C136 10p
DLLAVDD AL35 DLLAVDD
DLLAVSS AL34 DLLAVSS
DDRAVDD AM35 DDRAVDD
DDRAVSS AN36 DDRAVSS
DDRVREFB AF16 DDRVREFA
DDRVREFA AF23 DDRVREFB
DRAM_SEL AP1 R207 X_4.7K
DDRCOMP_P AR8 R186 40.2_1%
DDRCOMP_N AP8 R189 40.2_1% VCCM
R207 When 660/661/648FX>NC
When 648>4.7k
VCC3
L16 X_80_L CP5 X_COPPER
DLLAVDD
CB77 X_1u-0805 C93 X_103P CB82 0.1u
DLLAVSS
L21 X_80_L CP10 X_COPPER
VCC3
L15 X_80_L CP4 X_COPPER
DDRAVDD
CB76 X_10u-0805 C94 X_103P CB83 0.1u
DDRAVSS
L22 X_80_L CP11 X_COPPER
VCCM
R208 150_1% C170 X_103P
DDRVREFA
R210 150_1% C168 103P
VCCM
R204 150_1% C167 X_103P
DDRVREFB
R199 150_1% C164 103P
change pin name AT14(MA15) & R36(DPWR#) to NC
change pin name AP1(DRAM_SEL) to TRAP2
change pin name AL22(SDRCLK) to DRAMTEST
MSI
MICRO-STAR
Title
SiS661FX-Memory
Size
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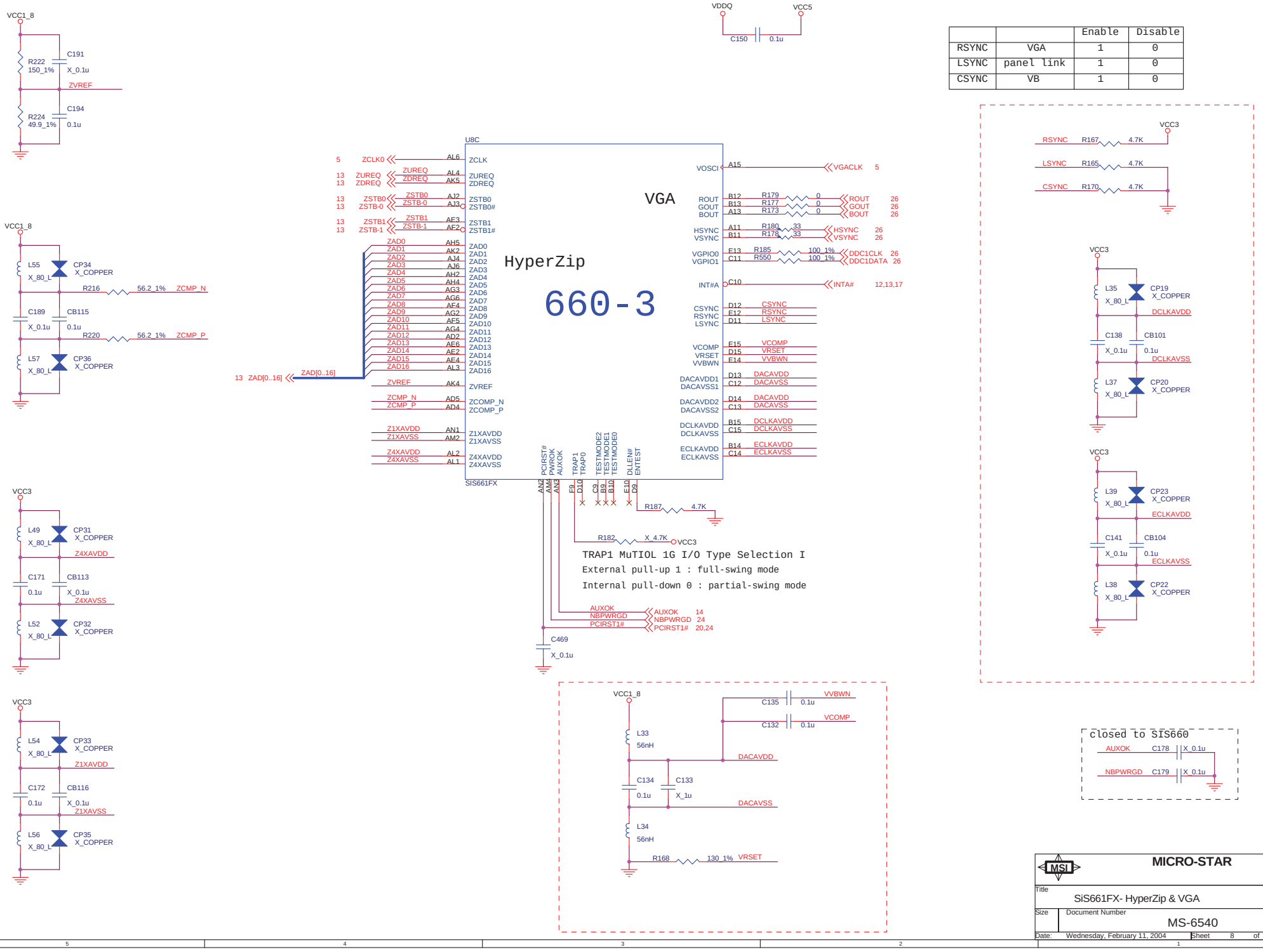

		Enable	Disable
RSYNC	VGA	1	0
LSYNC	panel link	1	0
CSYNC	VB	1	0

MICRO-STAR

Title: SiS661FX- HyperZip & VGA

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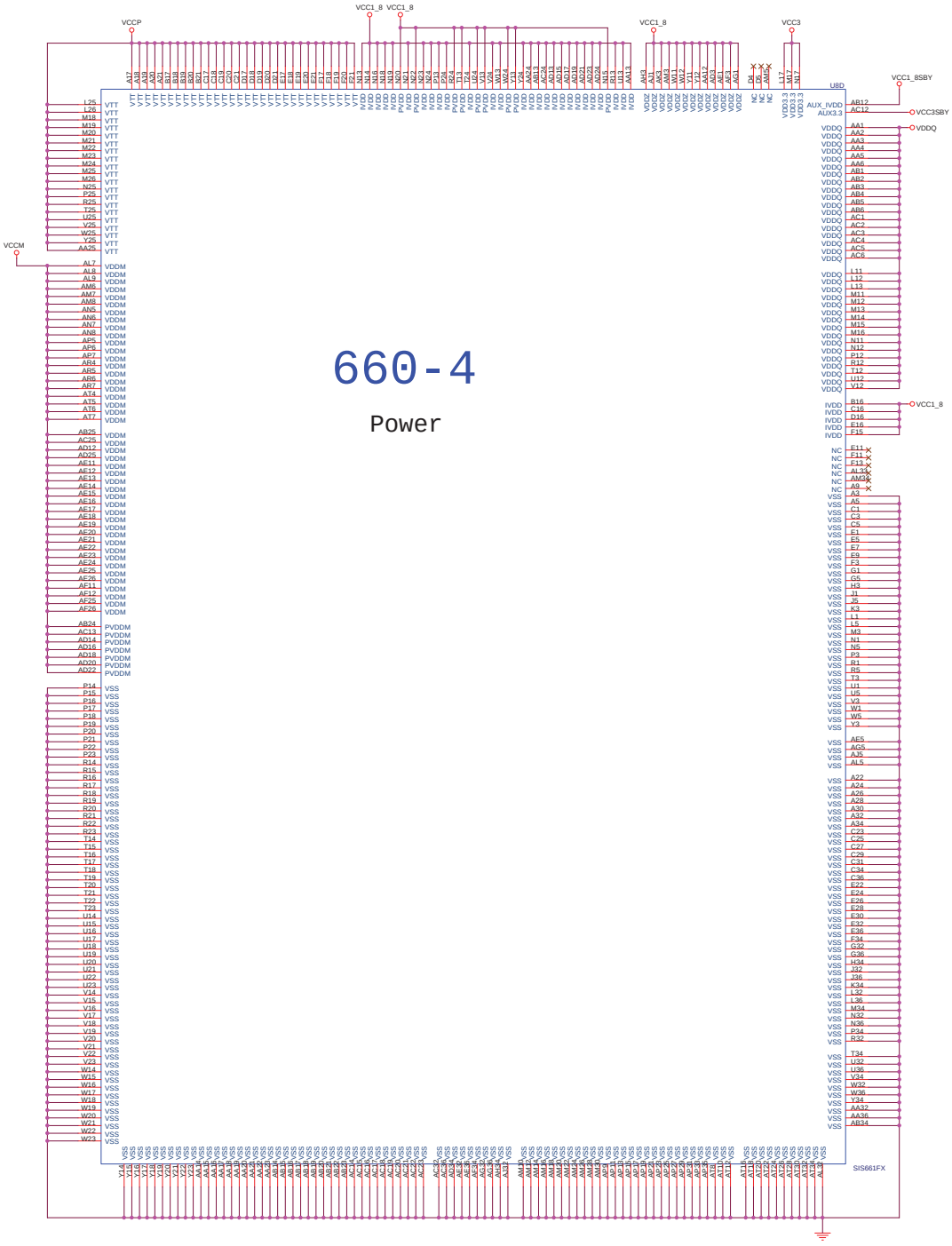

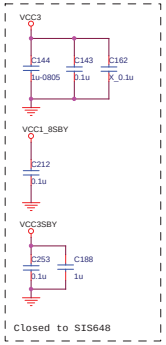

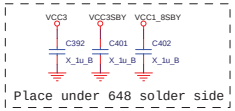

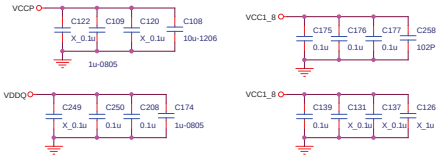

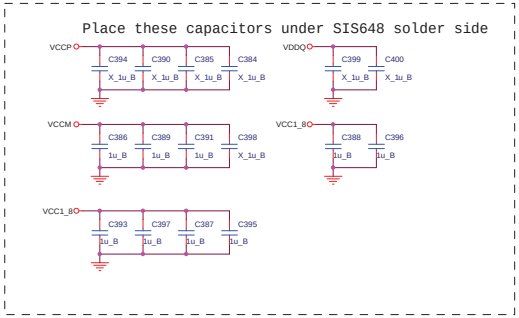

MICRO-STAR

Title: SiS661FX-POWER

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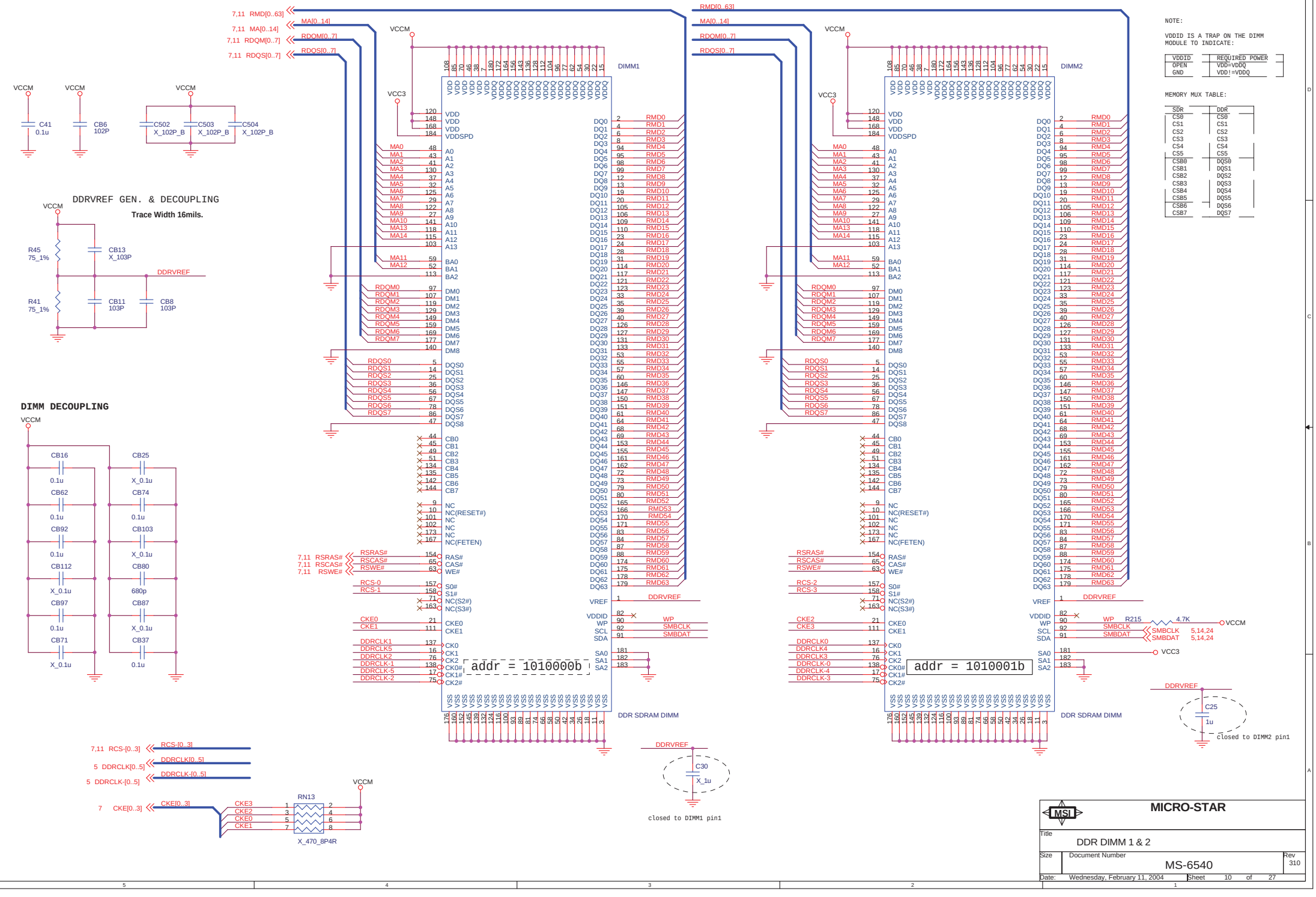
DDR DIMM1 & DIMM2



NOTE:

VDDID IS A TRAP ON THE DIMM MODULE TO INDICATE:

VDDID	REQUIRED POWER
OPEN	VDD=VDDQ
GND	VDD!=VDDQ

MEMORY MUX TABLE:

SDR	DDR
CS0	CS0
CS1	CS1
CS2	CS2
CS3	CS3
CS4	CS4
CS5	CS5
CSB0	DQS0
CSB1	DQS1
CSB2	DQS2
CSB3	DQS3
CSB4	DQS4
CSB5	DQS5
CSB6	DQS6
CSB7	DQS7

MICRO-STAR

Title	DDR DIMM 1 & 2	
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DDR TERMINATOR

SSTL-2 Termination Resistors

RMD[0..63] RMD[0..63] 7,10
RDQM[0..7] RDQM[0..7] 7,10
RDQS[0..7] RDQS[0..7] 7,10
MA[0..14] MA[0..14] 7,10
RCS-[0..3] RCS-[0..3] 7,10

	SDR	Rs	DDR	Rs	Rtt
MD/DQM(/DQS)	LV-CMOS	0/10/-	SSTL-2	10	33
MA/Control	LV-CMOS	10	SSTL-2	0	33
CS	LV-CMOS	0	SSTL-2	0	47
CKE	OD 3.3V		OD 2.5V		

DDR_VTT

RDQM1 RDQS1 RMD13 RMD12 RN69 47_8P4R
RMD1 RMD5 RMD4 RMD0 RN5 47_8P4R
RMD6 RMD2 RDQS0 RDQM0 RN8 47_8P4R
RMD9 RMD8 RMD3 RMD7 RN10 47_8P4R
RMD11 RMD10 RMD15 RMD14 RN12 47_8P4R
RDQM2 MA13 RDQS2 RMD21 RN17 47_8P4R
RMD17 MA14 RMD16 RMD20 RN14 47_8P4R
MA5 RMD23 RMD19 MA8 RN21 47_8P4R
RMD27 RMD30 RMD26 MA3 RN26 47_8P4R
MA7 RMD22 RMD18 MA9 RN19 47_8P4R
RMD29 RMD28 RMD24 MA6 RN23 47_8P4R
MA0 MA1 MA2 RMD31 RN28 47_8P4R
RMD39 MA11 RMD38 RMD34 RN35 47_8P4R
RDQM3 MA4 RDQS3 RMD25 RN72 47_8P4R
RDQM7 R198 47
RDQS7 R201 47

DDR_VTT

RMD36 RMD32 MA12 MA10 RN31 47_8P4R
RMD43 RMD42 RDQS5 RDQM5 RN42 47_8P4R
RCS-3 RCS-1 RCS-2 RCS-0 RN39 47_8P4R
RMD49 RMD48 RMD47 RMD46 RN44 47_8P4R
RMD51 RMD50 RMD55 RMD54 RN46 47_8P4R
RMD59 RMD58 RMD63 RMD62 RN54 47_8P4R
RMD57 RMD61 RMD56 RMD60 RN49 47_8P4R
7,10 RSRAS# RSRAS# RMD44 RMD40 RMD35 RN70 47_8P4R
RDQS6 RDQM6 RMD52 RMD53 RN71 47_8P4R
RDQM4 RDQS4 RMD33 RMD37 RN34 47_8P4R
7,10 RSCAS# RSCAS# RMD41 RMD45 RSWE# RN37 47_8P4R
7,10 RSWE#

DDR_VTT

DECOUPLING CAPACITOR FOR SSTL-2 END TERMIANTION VTT ISLAND
0603 Package placed within 200 mils of VTT Termination R-packs
Trace Width 200mils.

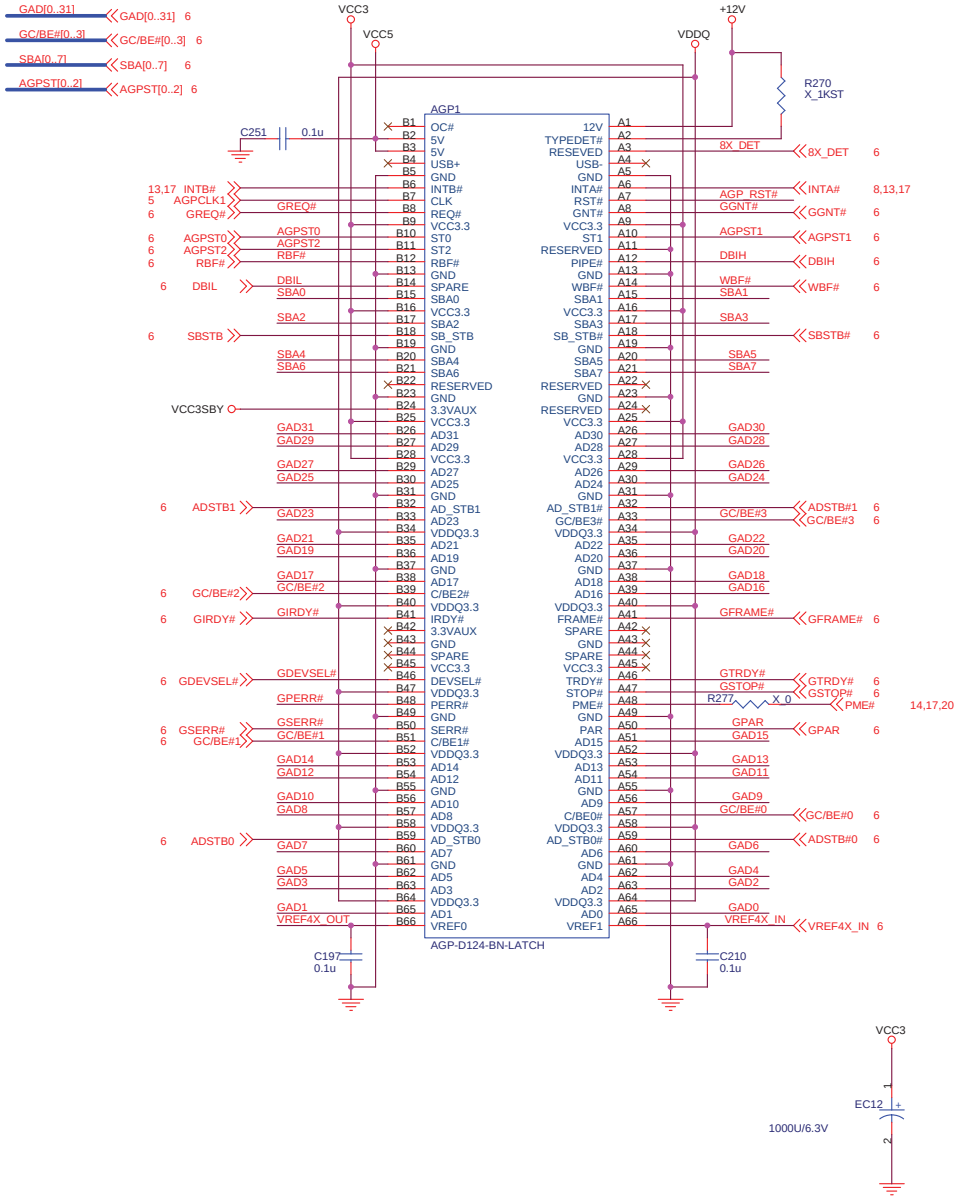
CB68 X_0.1u, CB98 0.1u, CB9 10u-1206, CB41 0.1u
CB93 0.1u, CB61 0.1u, CB65 X_0.1u, CB90 X_0.1u
CB55 0.1u, CB94 X_0.1u, CB88 10u-1206, CB53 0.1u
CB57 X_0.1u, CB14 X_0.1u, CB75 X_0.1u, CB105 0.1u

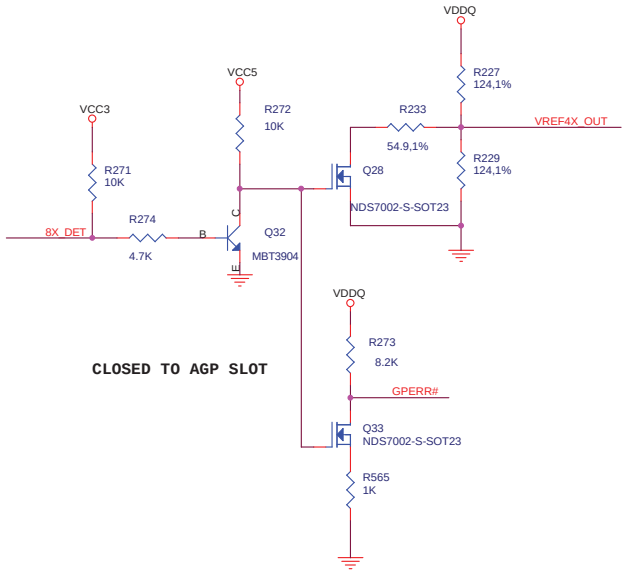
DDR_VTT

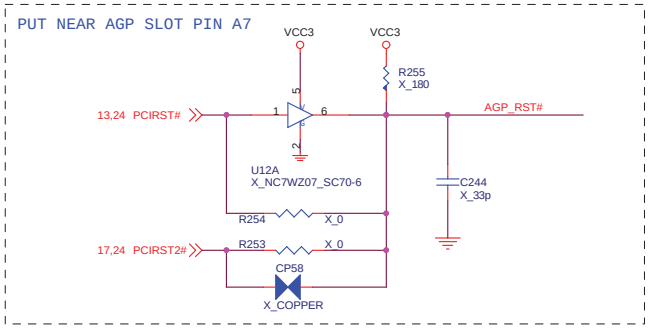
CB66 0.1u, CB73 X_0.1u, CB107 X_10u-1206, CB100 X_0.1u, CB165 0.1u, CB166 0.1u, CB167 0.1u, CB168 0.1u
CB58 0.1u, CB81 X_0.1u, CB72 0.1u, CB114 0.1u, CB169 X_0.1u, CB170 0.1u, CB171 0.1u, CB172 0.1u
CB48 X_0.1u, CB108 X_0.1u, CB59 X_10u-1206, CB86 0.1u
CB110 0.1u, CB79 0.1u, CB64 X_0.1u, CB96 0.1u

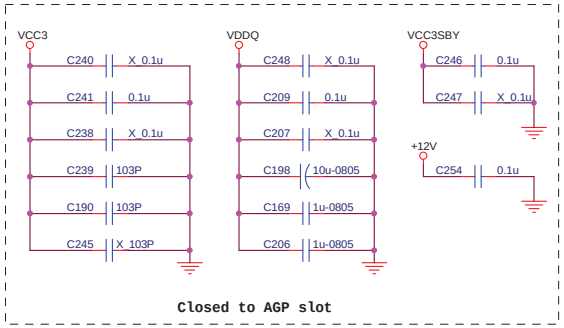
MICRO-STAR

Title: DDR Terminator
Size: Document Number: MS-6540 Rev: 310
Date: Wednesday, February 11, 2004 Sheet 11 of 27









MSI

MICRO-STAR

Title: AGP Slot & Pull up/down resistor

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	MS-6540	310

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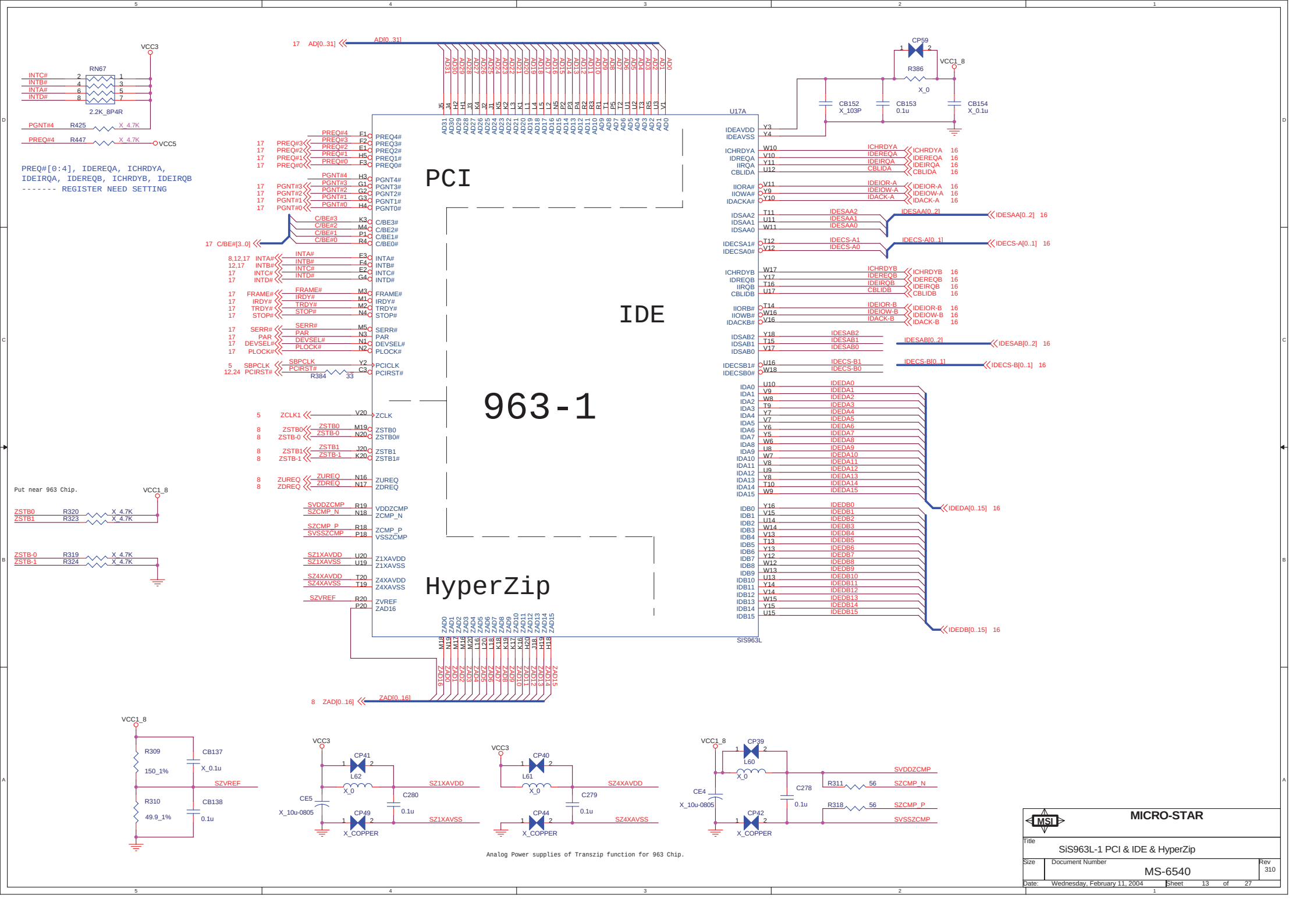
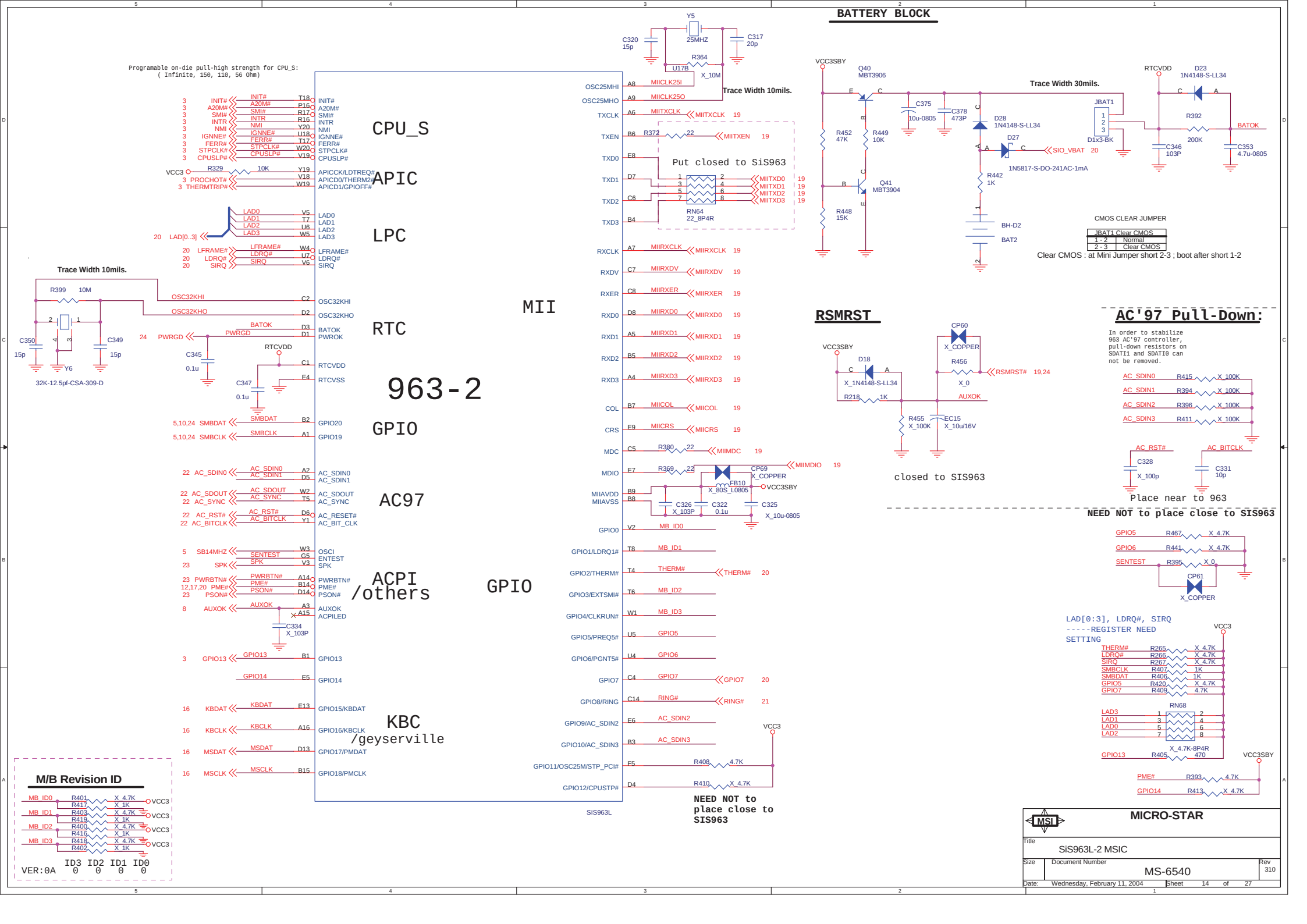
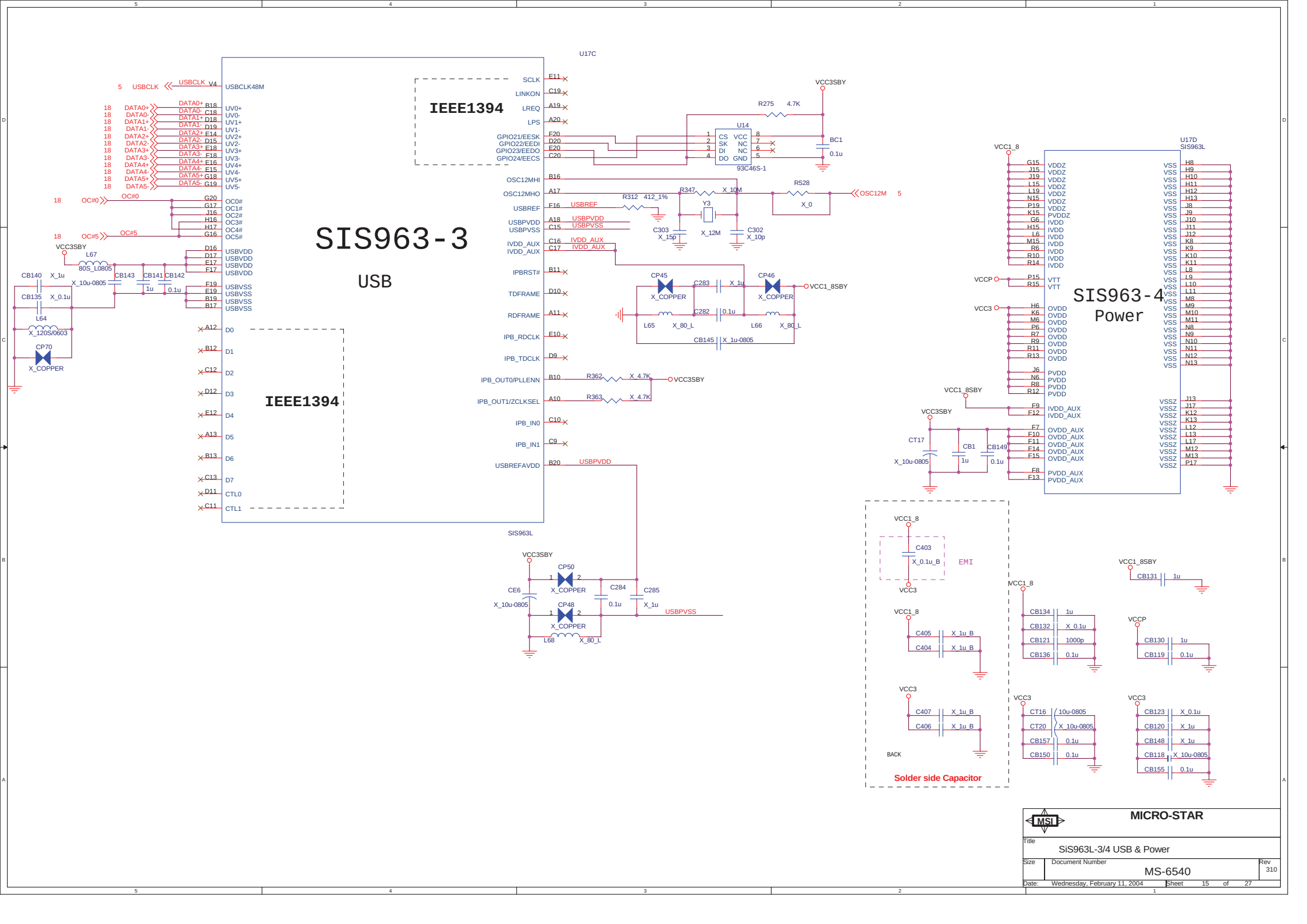
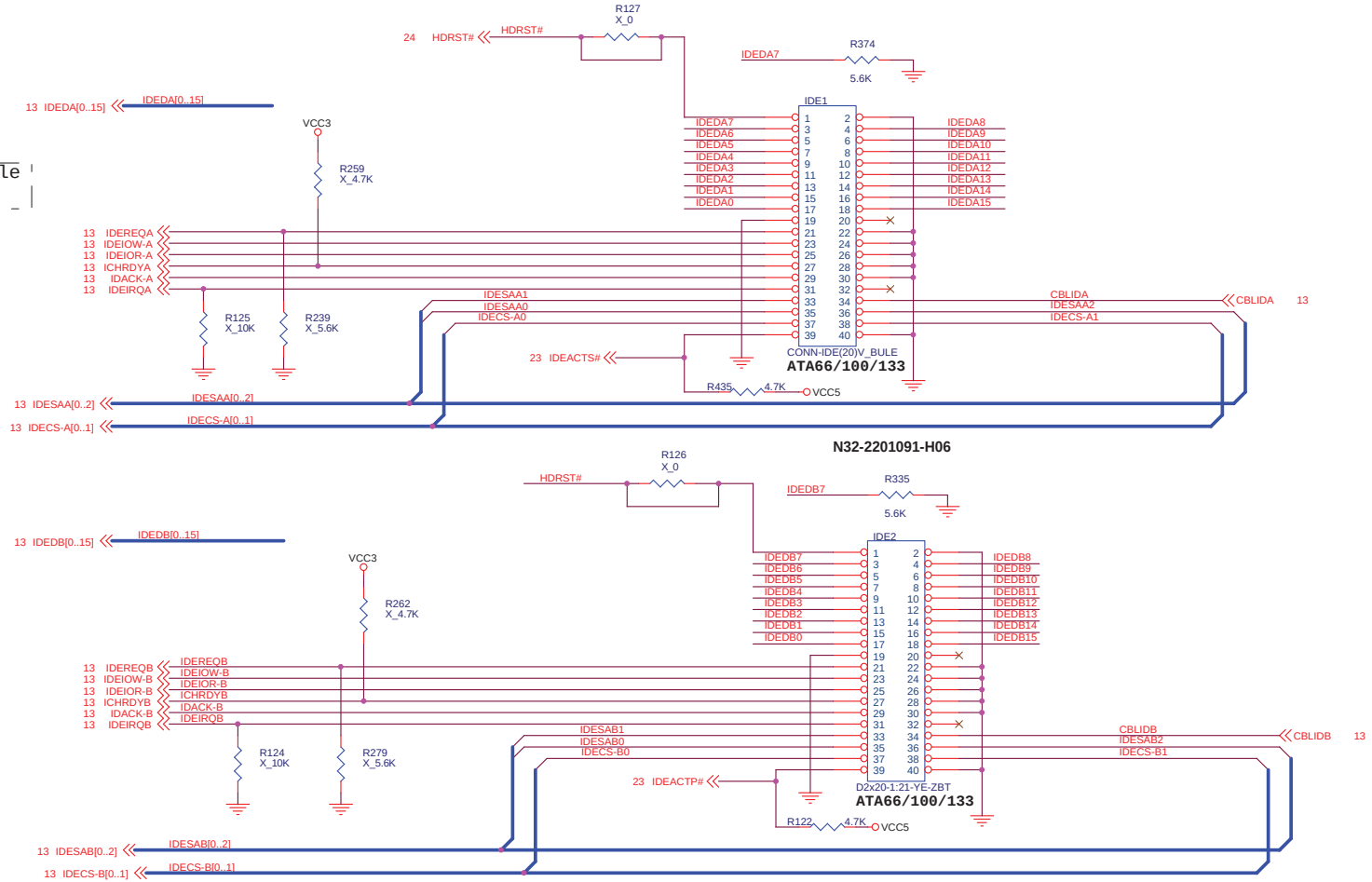

PCI
IDE
963-1
HyperZip
SIS963L
U17A
RN67
2.2K_8P4R
INTC#
INTB#
INTA#
INTD#
PGNT#4
PREQ#4
R425
R447
X_4.7K
VCC5
VCC3
PREQ#[0:4], IDEREQA, ICHRDYA,
IDEIRQA, IDEREQB, ICHRDYB, IDEIRQB
------- REGISTER NEED SETTING
AD[0..31]
C/BE#[3..0]
ZCLK1
ZSTB0
ZSTB-0
ZSTB1
ZSTB-1
ZUREQ
ZDREQ
SBPCLK
PCIRST#
R384
33
SVDDZCMP
SZCMP_N
SZCMP_P
VSSZCMP
SZ1XAVDD
SZ1XAVSS
SZ4XAVDD
SZ4XAVSS
SZVREF
ZAD[0..16]
ZAD0
ZAD1
ZAD2
ZAD3
ZAD4
ZAD5
ZAD6
ZAD7
ZAD8
ZAD9
ZAD10
ZAD11
ZAD12
ZAD13
ZAD14
ZAD15
ZAD16
Put near 963 Chip.
VCC1_8
ZSTB0
ZSTB1
R320
R323
R319
R324
X_4.7K
CP59
R386
X_0
CB152
X_103P
CB153
0.1u
CB154
X_0.1u
ICHRDYA
IDEREQA
IDEIRQA
CBLIDA
IIORA#
IIOWA#
IDACKA#
IDSAA2
IDSAA1
IDSAA0
IDESAA2
IDESAA1
IDESAA0
IDESAA[0..2]
IDECSA1#
IDECSA0#
IDECS-A1
IDECS-A0
IDECS-A[0..1]
ICHRDYB
IDEREQB
IDEIRQB
CBLIDB
IIORB#
IIOWB#
IDACKB#
IDSAB2
IDSAB1
IDSAB0
IDESAB2
IDESAB1
IDESAB0
IDESAB[0..2]
IDECSB1#
IDECSB0#
IDECS-B1
IDECS-B0
IDECS-B[0..1]
IDEDA0
IDEDA1
IDEDA2
IDEDA3
IDEDA4
IDEDA5
IDEDA6
IDEDA7
IDEDA8
IDEDA9
IDEDA10
IDEDA11
IDEDA12
IDEDA13
IDEDA14
IDEDA15
IDEDA[0..15]
IDEDB0
IDEDB1
IDEDB2
IDEDB3
IDEDB4
IDEDB5
IDEDB6
IDEDB7
IDEDB8
IDEDB9
IDEDB10
IDEDB11
IDEDB12
IDEDB13
IDEDB14
IDEDB15
IDEDB[0..15]
R309
150_1%
R310
49.9_1%
CB137
CB138
SZVREF
CP41
L62
CE5
X_10u-0805
C280
CP49
X_COPPER
CP40
L61
C279
CP44
CP39
L60
CE4
C278
R311
R318
56
Analog Power supplies of Transzip function for 963 Chip.
MICRO-STAR
SiS963L-1 PCI & IDE & HyperZip
MS-6540
Wednesday, February 11, 2004
Sheet 13 of 27
Rev 310


BATTERY BLOCK
963-2
CPU_S
APIC
LPC
RTC
GPIO
AC97
ACPI /others
KBC /geyserville
MII
GPIO
SIS963L
RSMRST
AC'97 Pull-Down:
M/B Revision ID
CMOS CLEAR JUMPER
Clear CMOS : at Mini Jumper short 2-3 ; boot after short 1-2
Trace Width 10mils.
Trace Width 30mils.
Put closed to SiS963
closed to SIS963
Place near to 963
NEED NOT to place close to SIS963
NEED NOT to place close to SIS963
LAD[0:3], LDRQ#, SIRQ -----REGISTER NEED SETTING
MICRO-STAR
SiS963L-2 MSIC
MS-6540


SIS963-3
USB
IEEE1394
IEEE1394
U17C
SIS963L
SIS963-4
Power
U17D
SIS963L
EMI
Solder side Capacitor
MICRO-STAR
SiS963L-3/4 USB & Power
MS-6540
Wednesday, February 11, 2004

IDE1 & IDE2

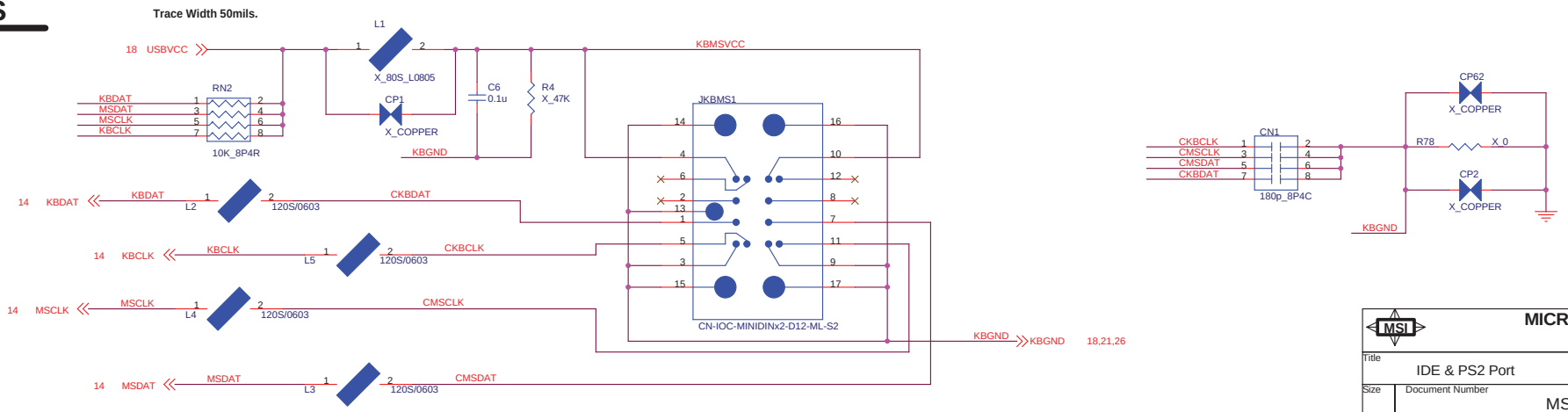
Reference a963004.PDF file
Removed R Value



N32-2201091-H06

PS2 KB/MS

Trace Width 50mils.



MICRO-STAR		
Title: IDE & PS2 Port		
Size	Document Number: MS-6540	Rev: 310
Date: Wednesday, February 11, 2004	Sheet 16 of 27	

PCI SLOT 1,2,3(PCI VER:2.2 COMPLY)

PCI1:AD17
INTB#

PCI2:AD18
INTC#

MEDION SPEC
PCI4:AD21
INTA#

PCI3:AD19
INTD#

Material Number

13 AD[0..31] AD[0..31]
13 C/BE#[3..0] C/BE#[3..0]

VCC3SBY 13 Trace Width 32mils.

PCI BUS PULL-UP

RN59 X_4.7K_8P4R
RN65 X_2.7K_8P4R
RN61 2.7K_8P4R
CN13 X_0.1u_8P4C
RN57 2.7K_8P4R
RN66 X_2.7K_8P4R
RN62 2.7K_8P4R

RESERVED

MICRO-STAR

Title: PCI Slot 1 & 2 & 3

Size	Document Number	Rev
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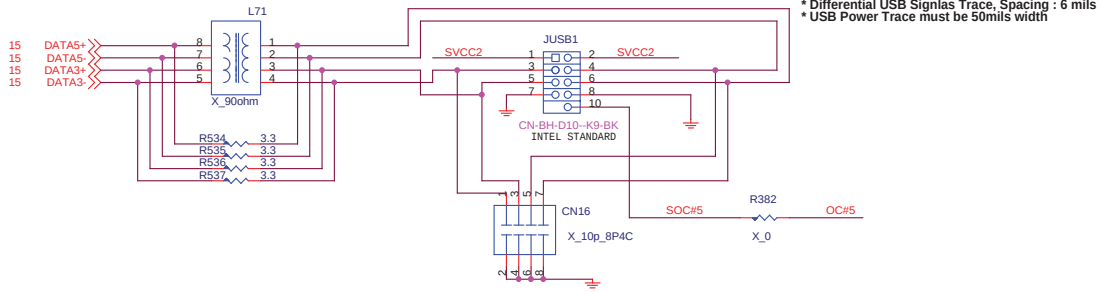
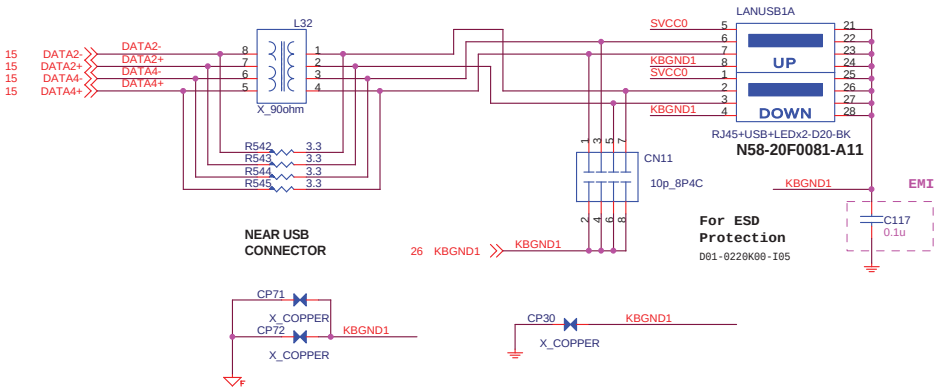
USB PORT

FRONT PANEL USB CONNECTOR FOR USB PORT 3,5

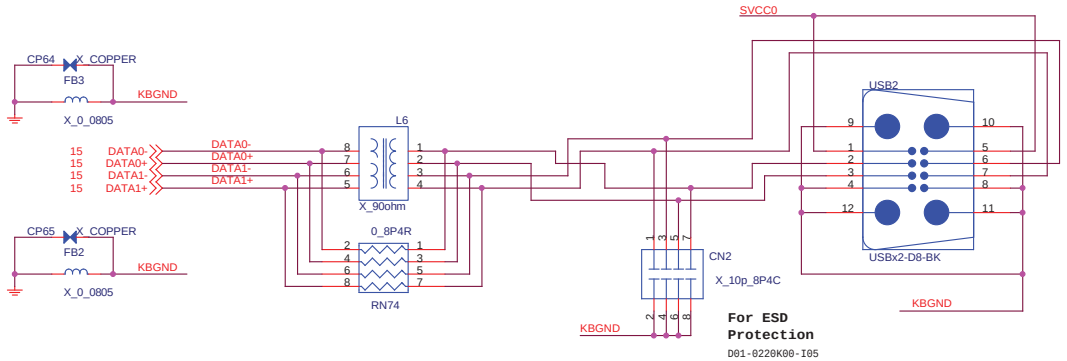


* USB Trace width : 7 mils
* USB Trace Spacing : 20 mils
* Differential USB Signlas Trace, Spacing : 6 mils
* USB Power Trace must be 50mils width

REAR PANEL LAN_USB CONNECTOR FOR USB PORT 2,4

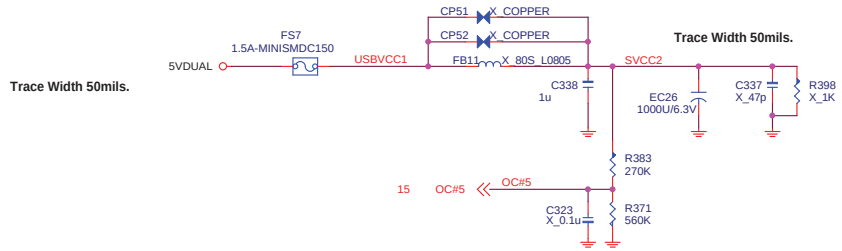


REAR PANEL USB CONNECTOR FOR USB PORT 0,1

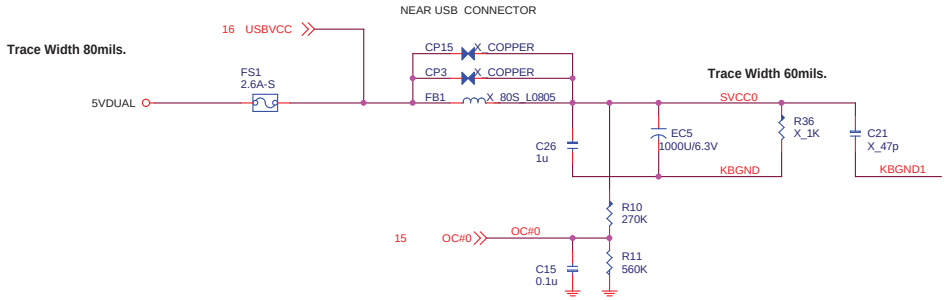


POWER CIRCUIT FOR USB PORT 3,5

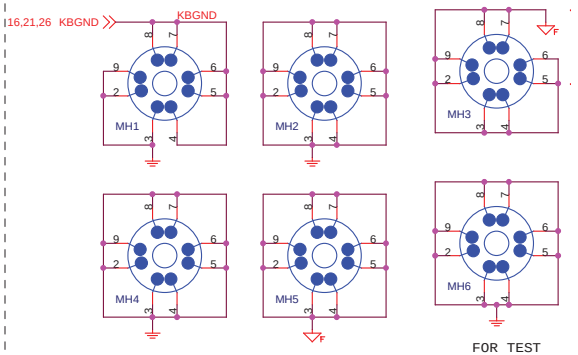
NEAR USB CONNECTOR



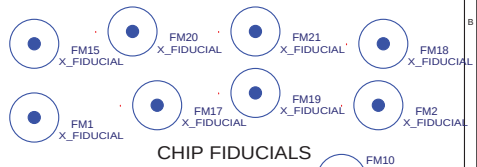
POWER CIRCUIT FOR USB PORT 0,1,2,4



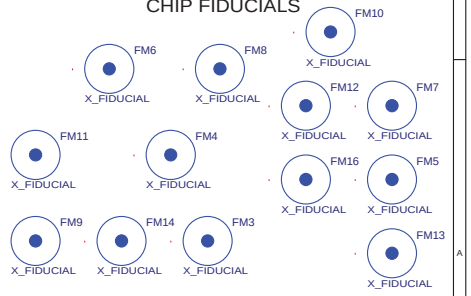
PCB OTHER COMPONENT



FIDUCIALS



CHIP FIDUCIALS



MICRO-STAR

Title	USB Port & BIOS	
Size	Document Number: MS-6540	Rev: 310
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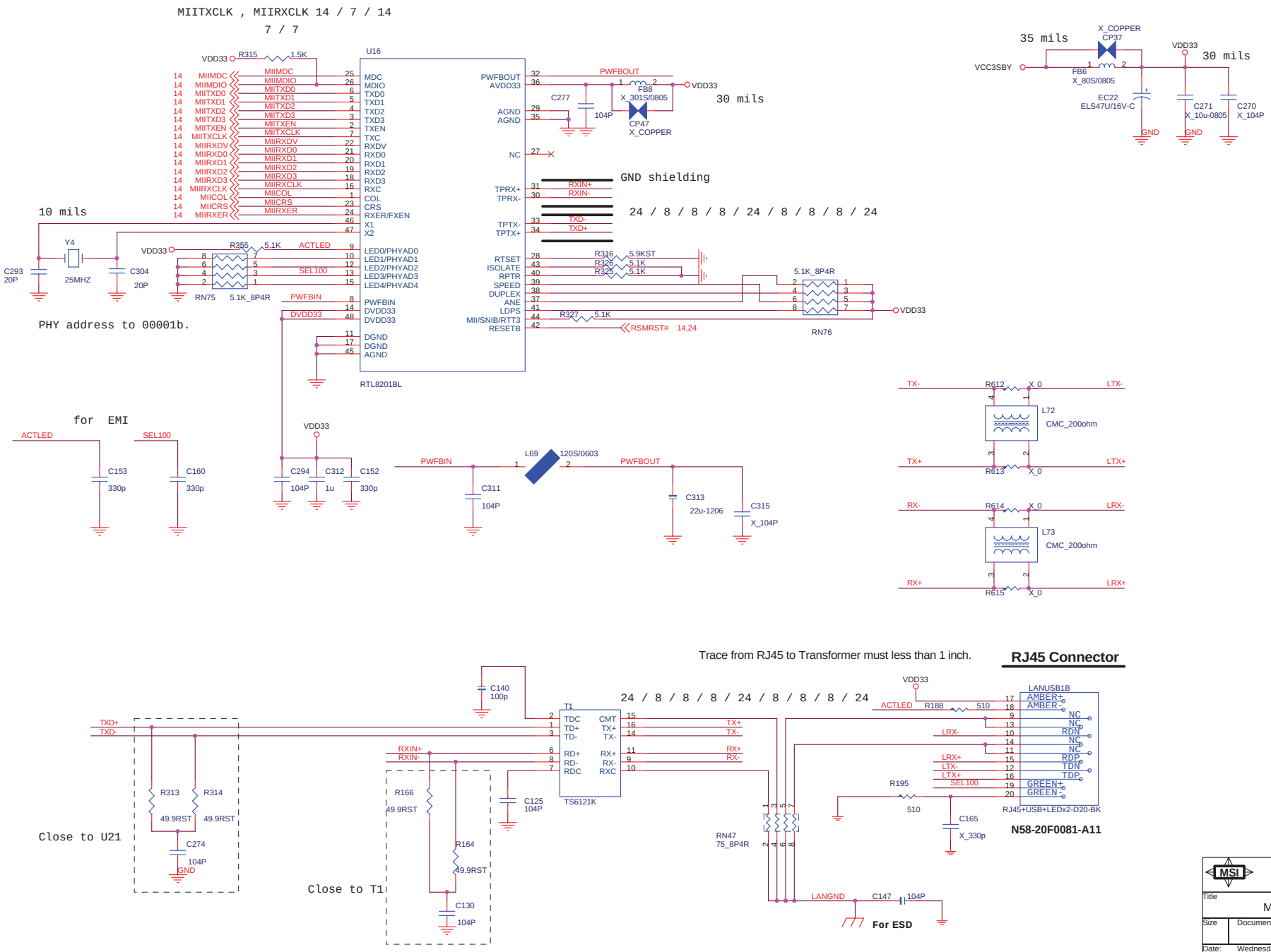
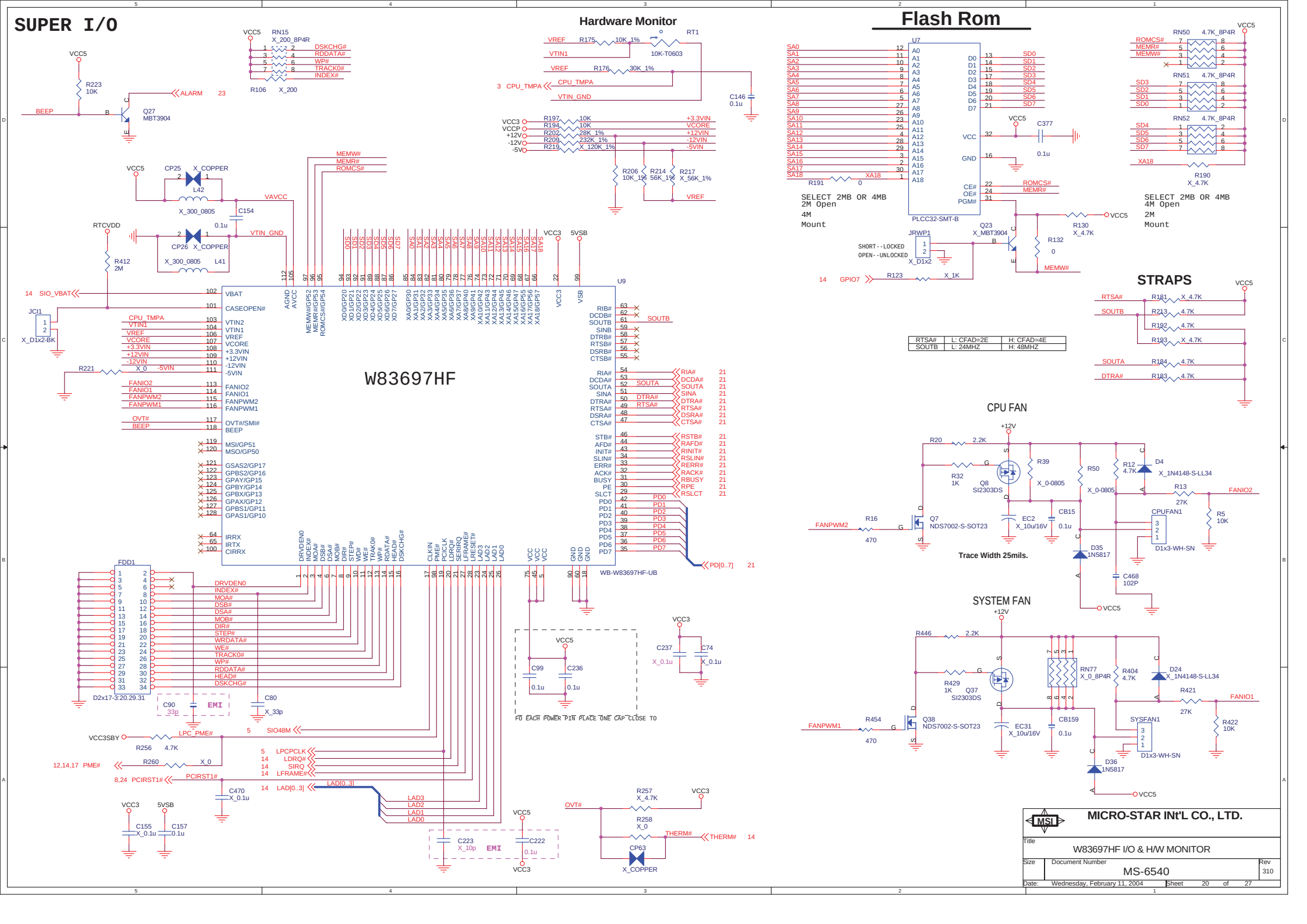
REALTEK 8201BL MII PHY

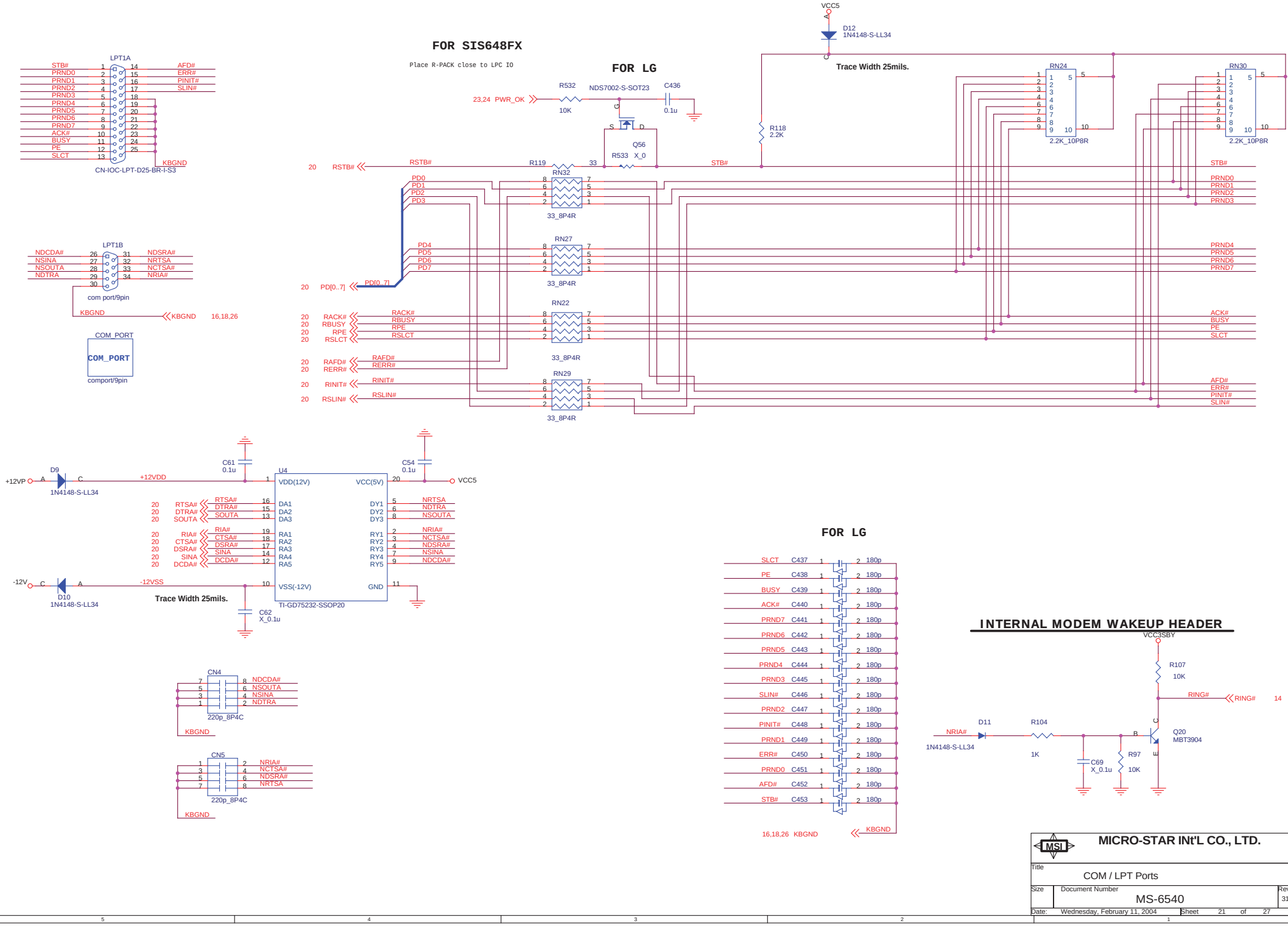


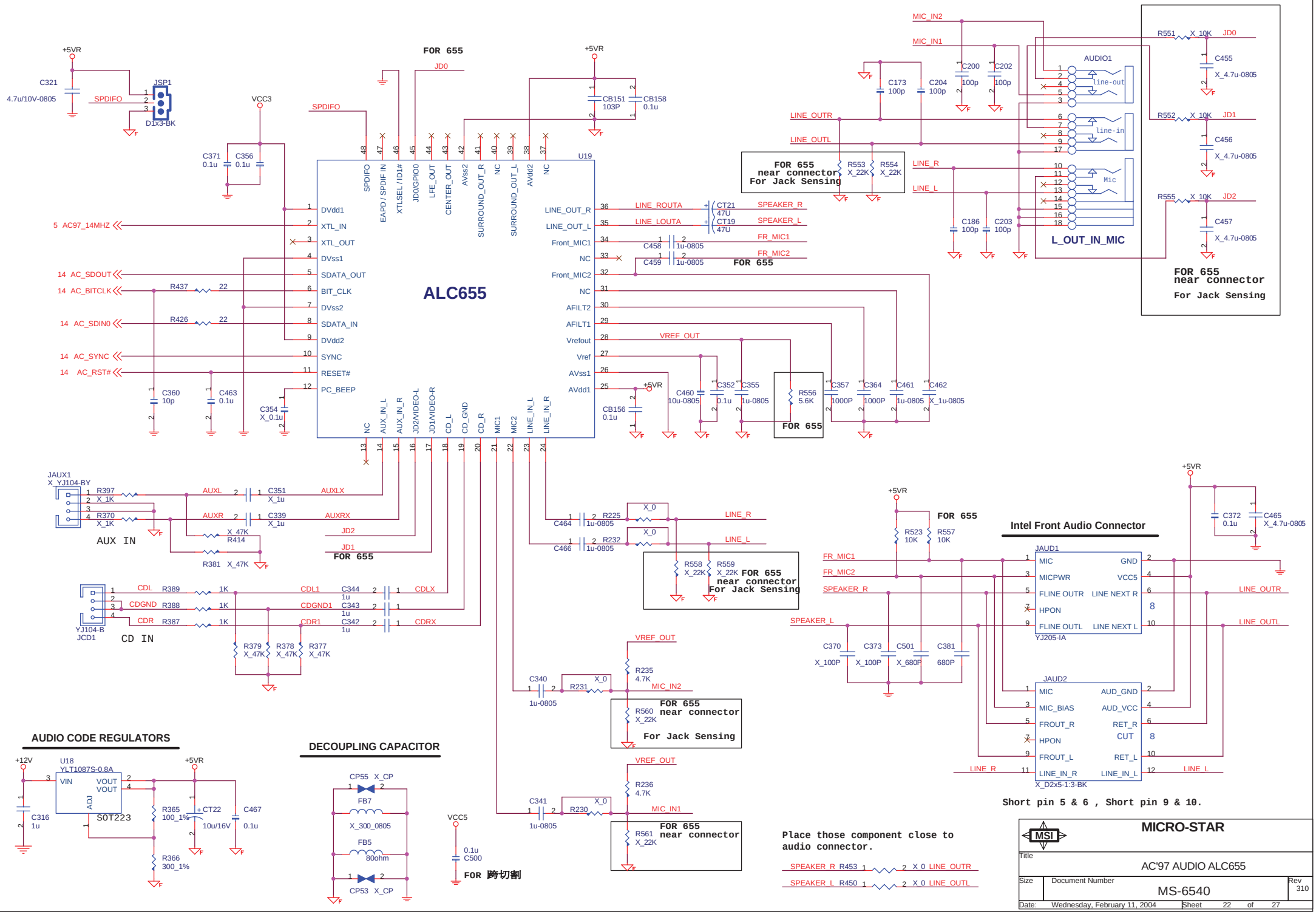
SUPER I/O

Hardware Monitor

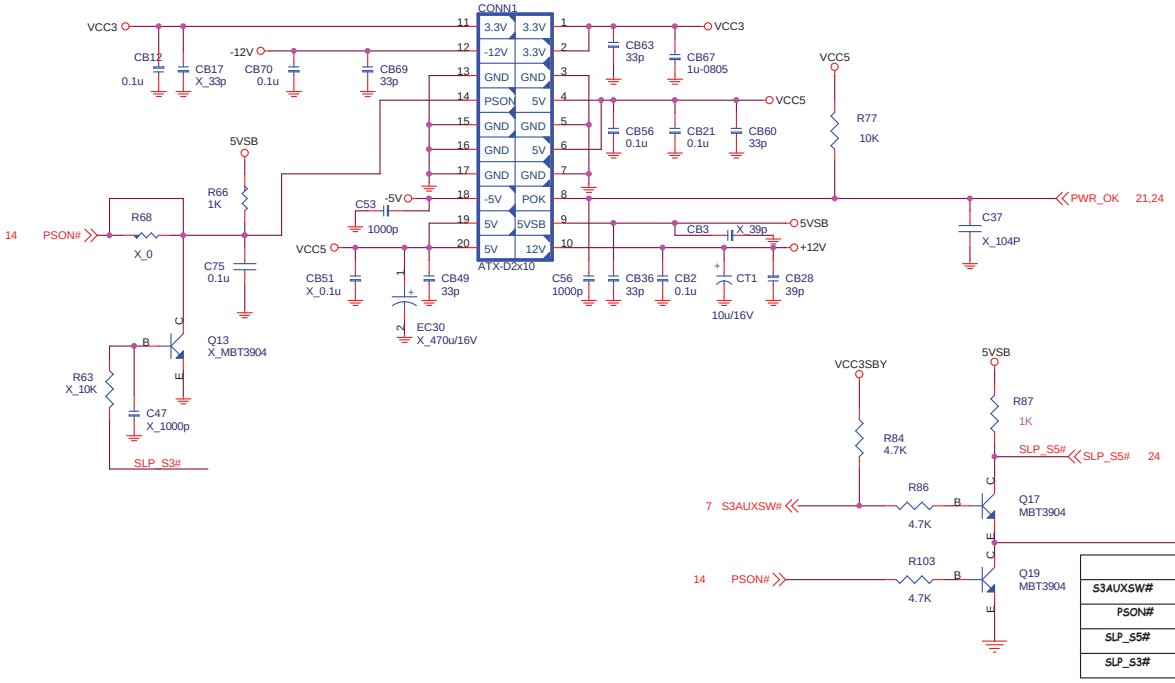
Flash Rom




FOR SIS648FX
Place R-PACK close to LPC IO
FOR LG
Trace Width 25mils.
LPT1A
CN-IOC-LPT-D25-BR-I-S3
LPT1B
com port/9pin
COM_PORT
comport/9pin
D12
1N4148-S-LL34
R532
10K
NDS7002-S-SOT23
C436
0.1u
R118
2.2K
Q56
R533 X_0
R119
33
RN32
RN27
RN22
RN29
33_8P4R
RN24
RN30
2.2K_10P8R
D9
D10
C61
C54
C62
U4
TI-GD75232-SSOP20
CN4
CN5
220p_8P4C
FOR LG
INTERNAL MODEM WAKEUP HEADER
VCC3SBY
R107
10K
D11
R104
1K
C69
X_0.1u
R97
10K
Q20
MBT3904
1N4148-S-LL34
MICRO-STAR INt'L CO., LTD.
COM / LPT Ports
MS-6540
Wednesday, February 11, 2004

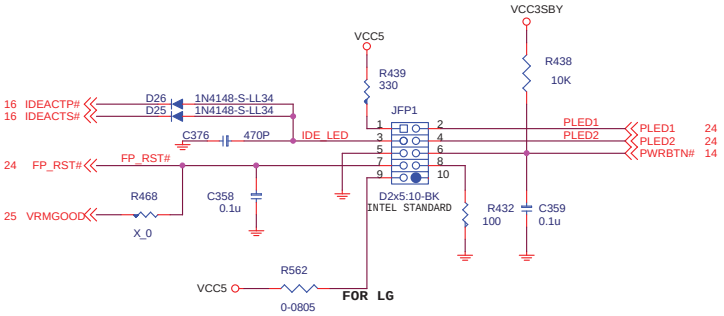

ALC655
AUDIO CODE REGULATORS
DECOUPLING CAPACITOR
AUX IN
CD IN
Intel Front Audio Connector
L_OUT_IN_MIC
FOR 655
near connector
For Jack Sensing
Place those component close to audio connector.
Short pin 5 & 6 , Short pin 9 & 10.
FOR 跨切割
MICRO-STAR
AC'97 AUDIO ALC655
MS-6540
Wednesday, February 11, 2004

ATX CONNECTOR

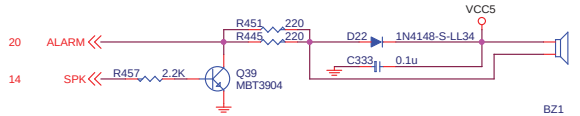


	S0	S3	S5
S3AUXSW#	1	0	1
PSON#	0	1	1
SLP_S5#	1	1	0
SLP_S3#	1	0	0

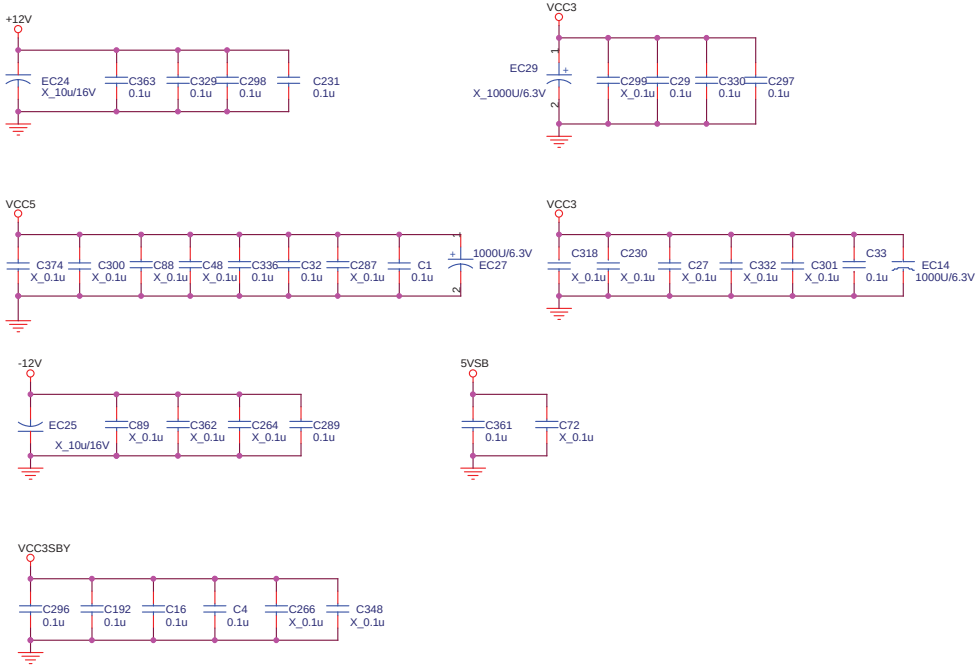
FRONT PANEL



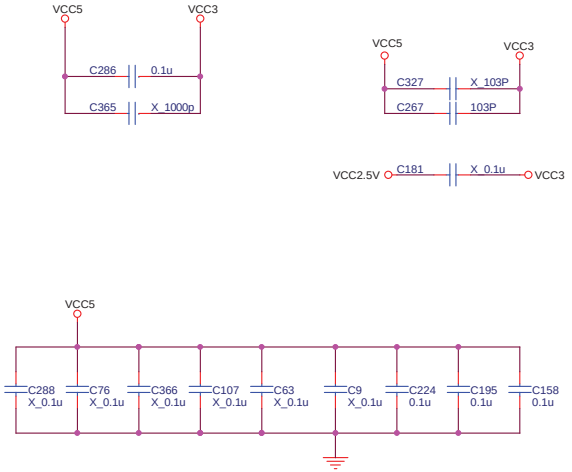
SPEAKER

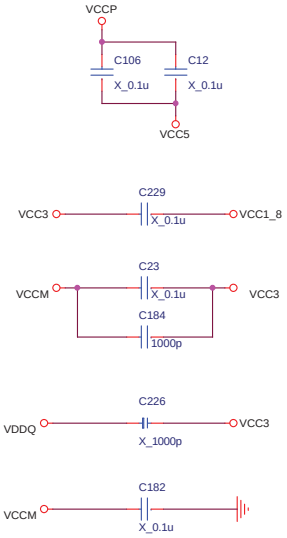


System Decoupling Capacitors



High Freq. return current decoupling





MSI **MICRO-STAR INt'L CO., LTD.**

Title	ATX & F-Panel	
Size	Document Number: MS-6540	Rev: 310
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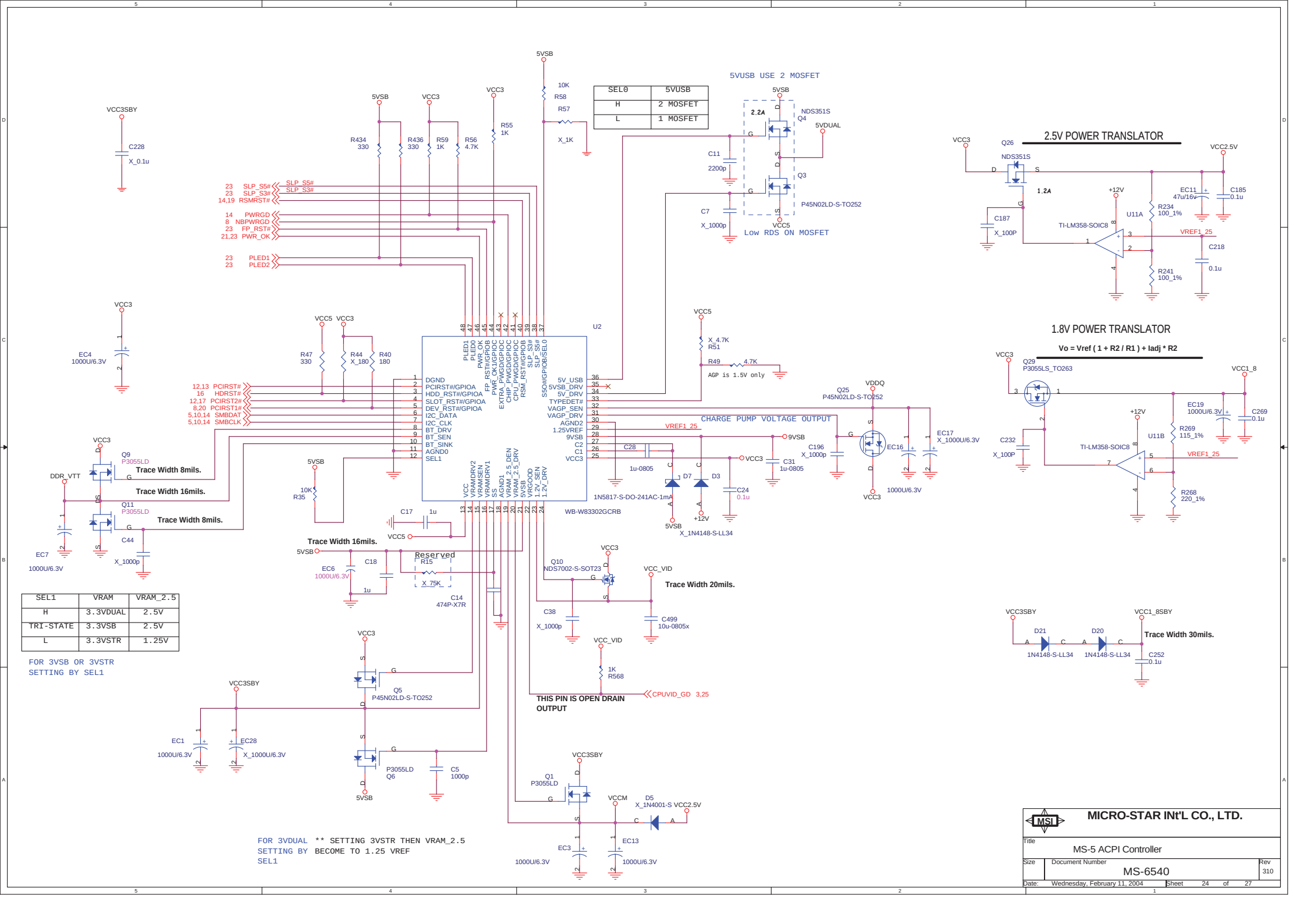
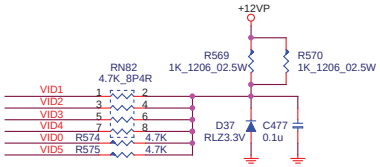
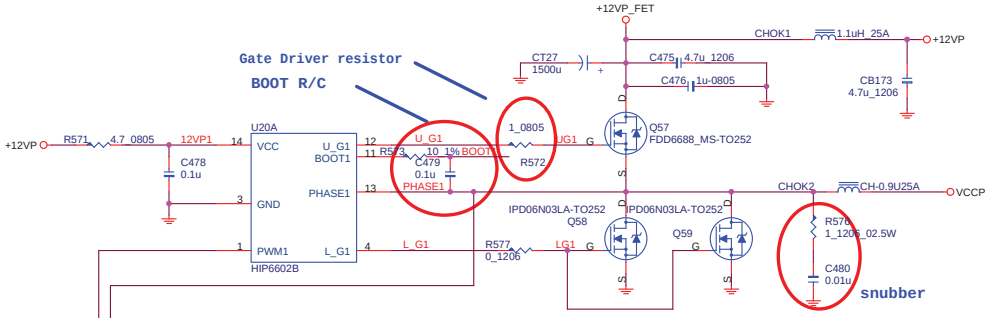

5VUSB USE 2 MOSFET
SEL0 | 5VUSB
H | 2 MOSFET
L | 1 MOSFET
2.5V POWER TRANSLATOR
1.8V POWER TRANSLATOR
Vo = Vref (1 + R2 / R1) + Iadj * R2
CHARGE PUMP VOLTAGE OUTPUT
Low RDS ON MOSFET
AGP is 1.5V only
Trace Width 8mils.
Trace Width 16mils.
Trace Width 20mils.
Trace Width 30mils.
Reserved
THIS PIN IS OPEN DRAIN OUTPUT
WB-W83302GCRB
SEL1 | VRAM | VRAM_2.5
H | 3.3VDUAL | 2.5V
TRI-STATE | 3.3VSB | 2.5V
L | 3.3VSTR | 1.25V
FOR 3VSB OR 3VSTR SETTING BY SEL1
FOR 3VDUAL ** SETTING 3VSTR THEN VRAM_2.5 SETTING BY BECOME TO 1.25 VREF SEL1
MICRO-STAR INt'L CO., LTD.
MS-5 ACPI Controller
MS-6540
Wednesday, February 11, 2004

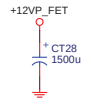
VID Pull-Up Resistor

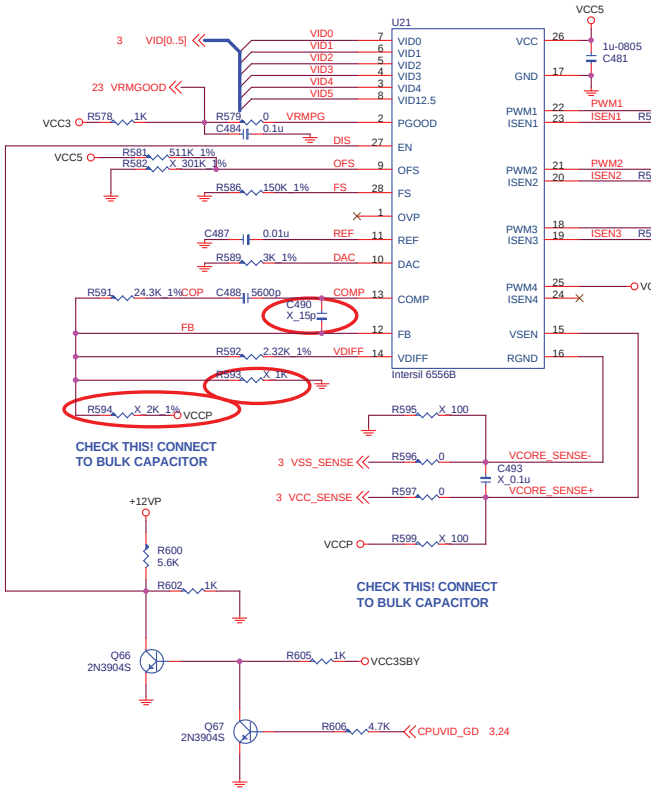


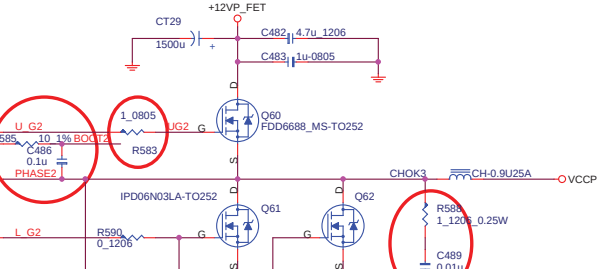
Gate Driver resistor

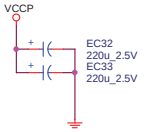
BOOT R/C

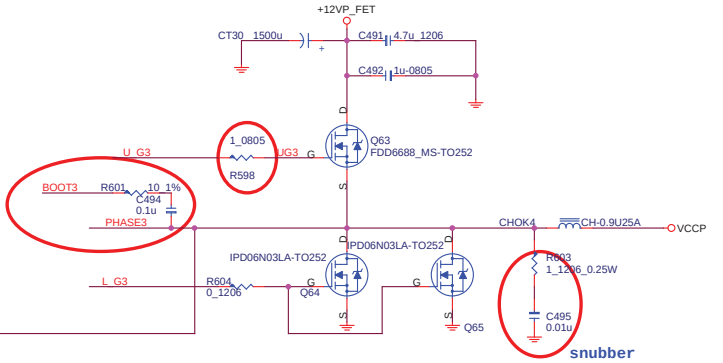


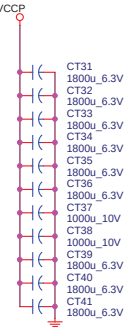


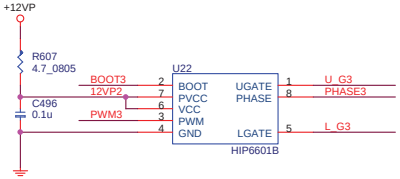




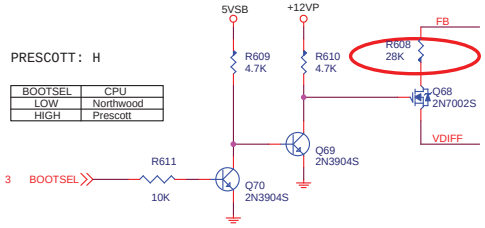




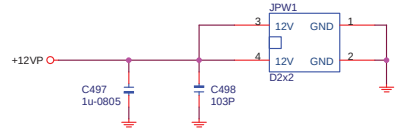




NORTHWOOD/PRESCOTT LOAD LINE SELECTOR



ATX12V POWER CONNECTOR



MSI MICRO-STAR

Title: VRM 10.0

Size | Document Number: MS-6540 | Rev: 310

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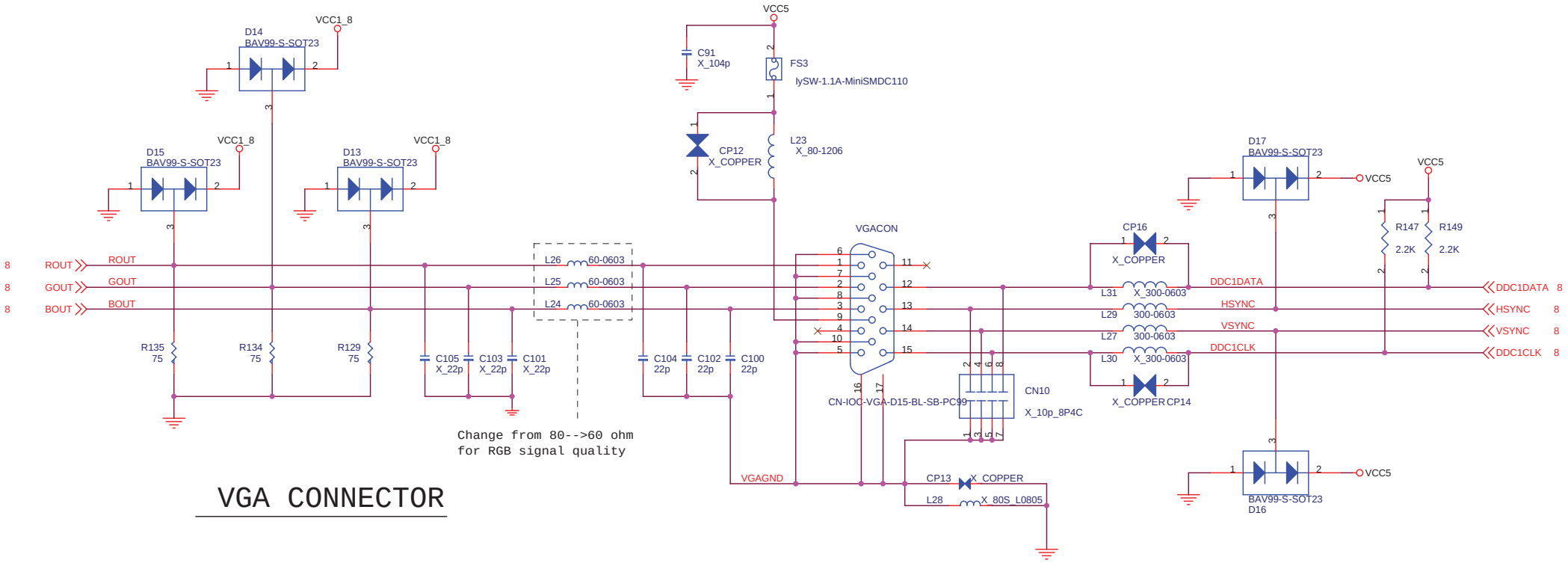

Change from 80-->60 ohm
for RGB signal quality

VGA CONNECTOR

16,18,21 KBGND — KBGND — CP56 X_COPPER — VGAGND

18 KBGND1 — KBGND1 — CP57 X_COPPER — VGAGND

MICRO-STAR

Title	VGA connector	
Size	Document Number: MS-6540	Rev: 310
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MS-6540V100	2003/04/25
1.ADD D35,D36 FOR SMART FAN CIRCUIT	
2.ADD NET OSC12M FROM ICS952013	
3.ADD R529,R530 FOR VRM10.0	
4.PWM HIGH SIDE MOS CHANGE TO T0263	
5.DELETE FUZZY PWM CIRCUIT	
6.ADD R531 FOR BIOS DETECT 1394 FUNCTION	
7.661FX IVDD&AUX_IVDD 1.5V>>>1.8V	
8.ADD FOR LG FUNCTION(PRINT PORT ESD)	
9.COST DOWM 0 ohm Resistor & CAP	
10.Modify Host,Agp,Link,DDR BUS Length	
11.COST DOWN	

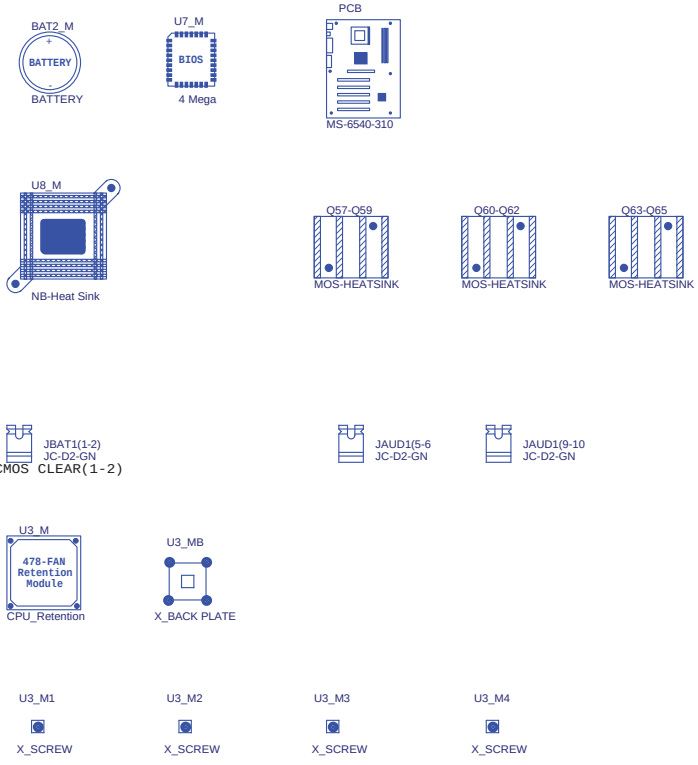
MS-6540V10A	2003/07/01
1.Cost down some resistor	
2.AC'97 CODEC change to ALC655	
3.Modify AGP 8X/4X DETECT CIRCUIT	
4.Modify VTT_DDR VSEN layout trace	
5.Direct short DDR serial resistor	

MS-6540V300	2003/10/30
1.ADD EMI CAP.	
2.Modify RGB bead&cap value	
3.Modify VRM circuit for support FMB1.5	
4.Modify CPU circuit for Prescott 800	
5.Delete short trace on DDR serial resistor	
6.Delete1394 & COM2 & JUSB2 & CNR circuit	
7.Bios Flash change to 4M type	
8.Change JUSB1&JFP1&SYSFAN location	

MS-6540V310	2004/02/10
1.Add PWRGD_CPU circuit by SIS Apnote	

Jumper	Description	
JAUD1	AUDIO FRONT PANEL HEADPHONE JACK HEADER	
JBAT1	CLEAR CMOS	
1-2	NORMAL	(Default)
2-3	CLEAR CMOS	

MANUAL PART



MICRO-STAR

Title: Manual Parts

Size | Document Number: MS-6540 | Rev: 310

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