MS-6778 Ver : 00A

VIA KM400 + VT8237 Chipset

CPU:

AMD Athlon XP / Athlon / Duron Socket 462

System Chipset:

VIA KM400 + VT8237

On Board Chipset:

LPC Super I/O -- W83697HF
Lan : Via PHY VT6103

Expansion Slots:

AGP 3.0 Slot * 1
DDR Slot * 2
PCI 2.2 Slot * 3
MINIPCI*1

ON Board LAN(PHY):VT6103

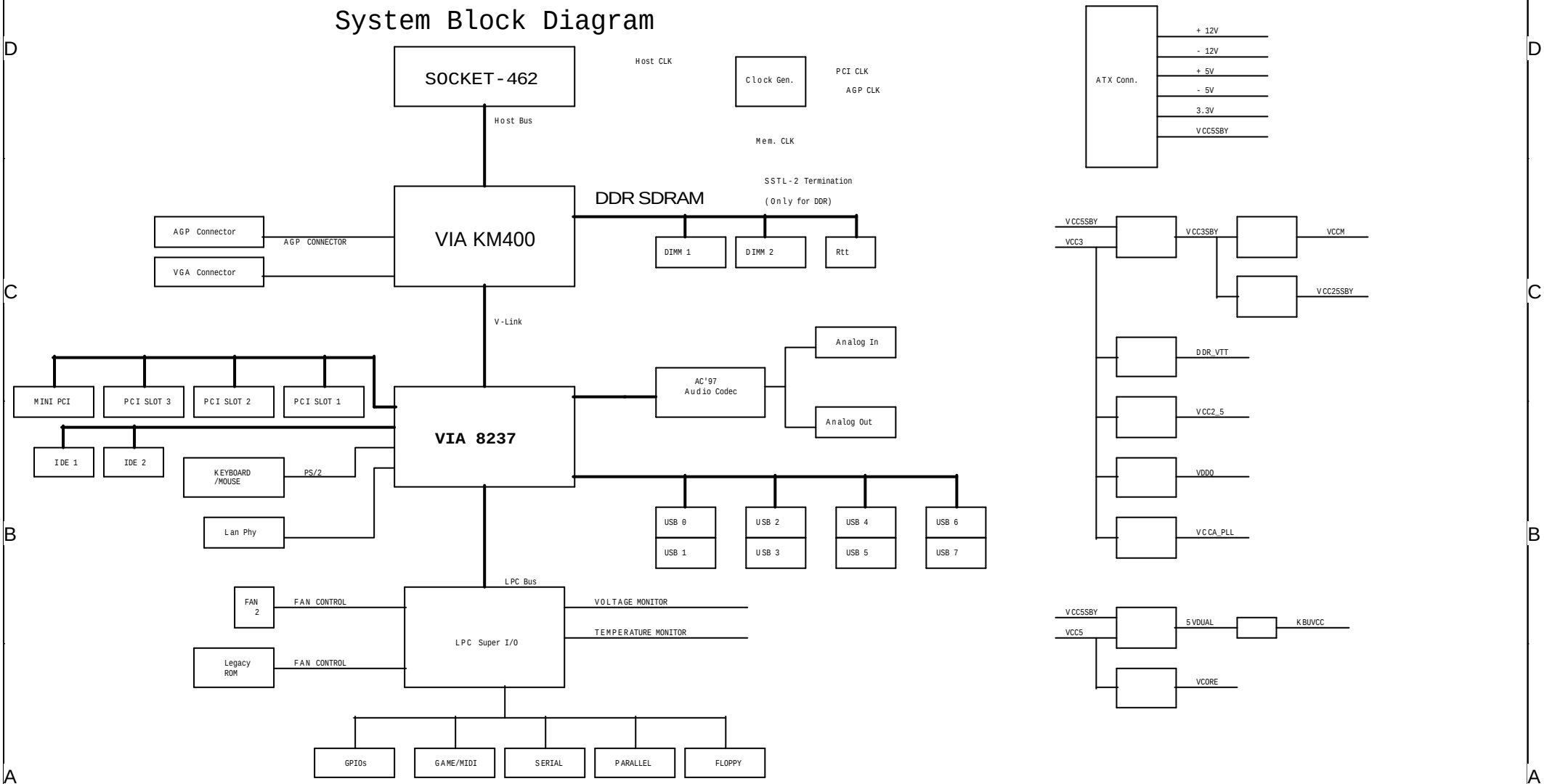
MICRO-STAR INT'L CO.,LTD.

Title: COVER PAGE

Size: Custom | Document Number: MS-6778 | Rev: 0A

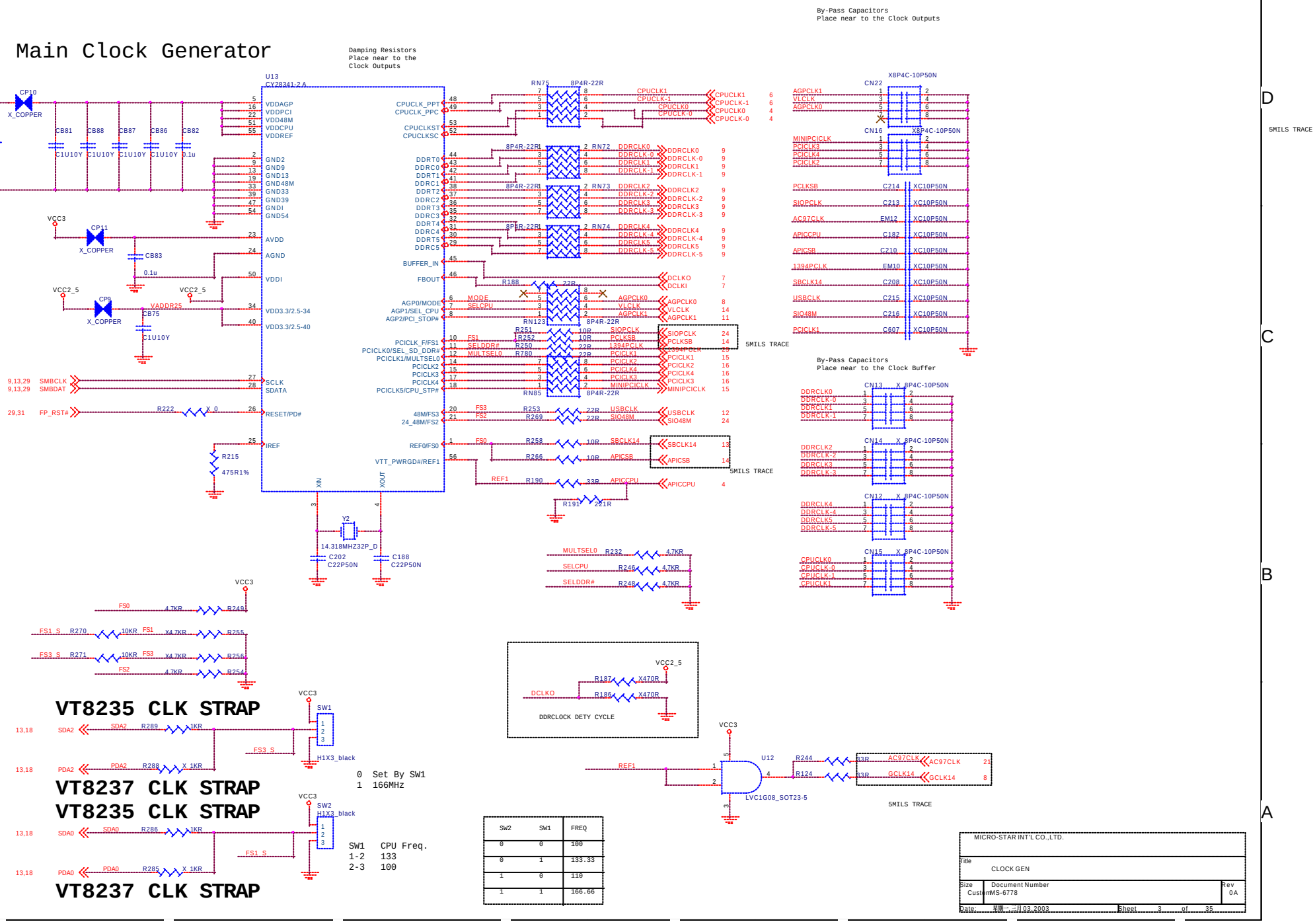
Date: 11 04 2003 | Sheet 1 of 35

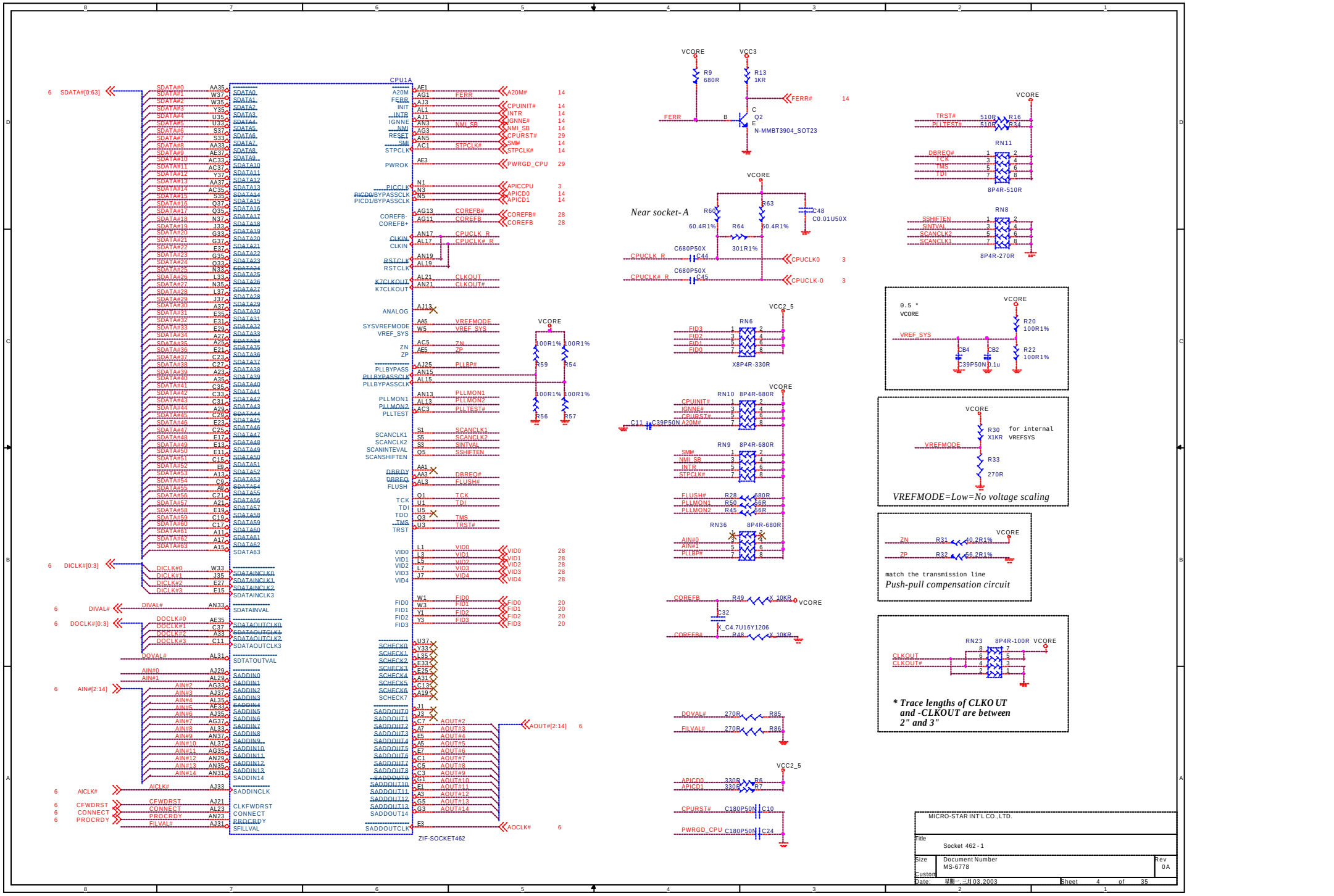
System Block Diagram

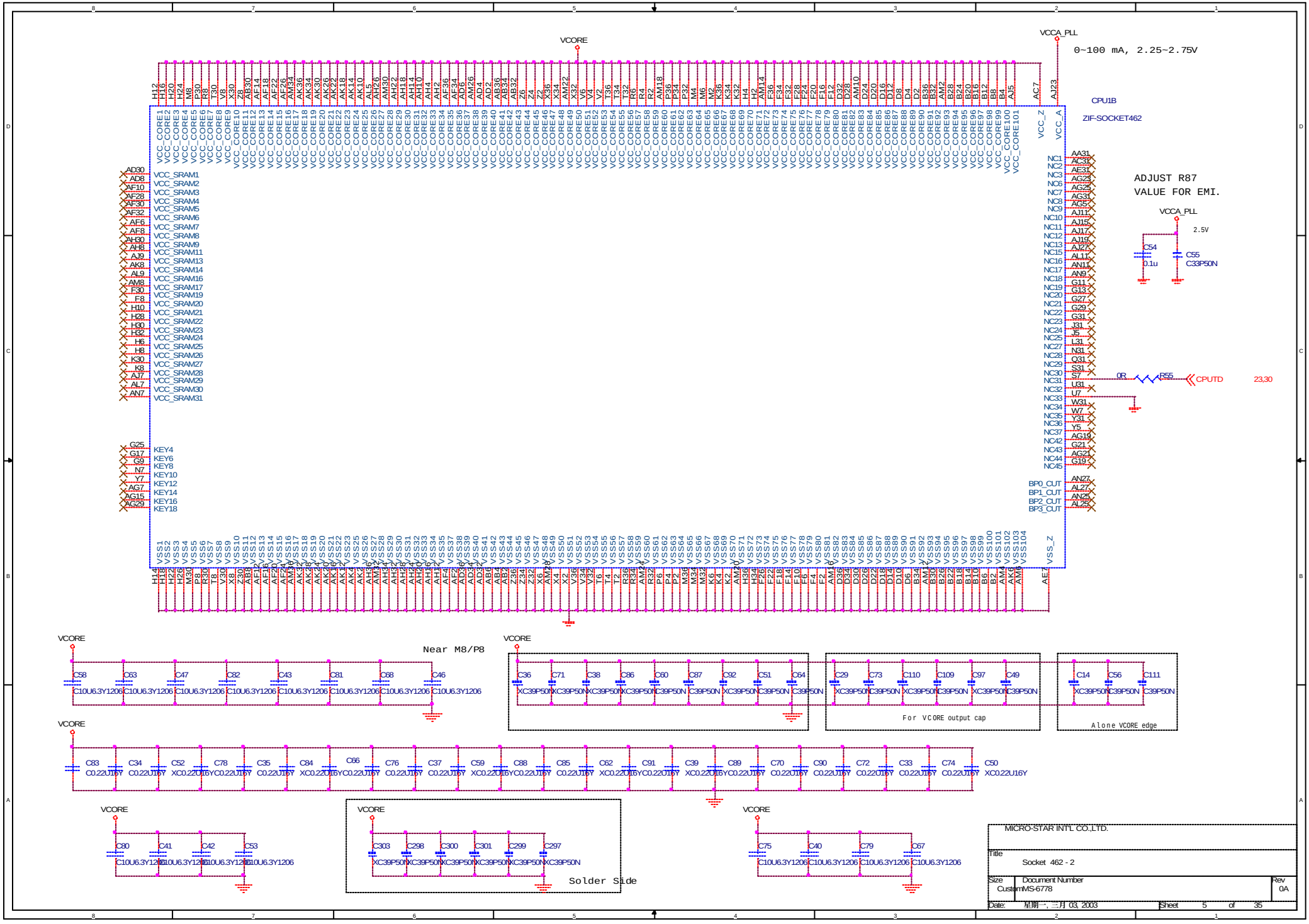


MICRO-STAR INT'L CO.,LTD.		
Title: System Block Diagram		
Size: Custom	Document Number: MS-6778	Rev: 0A
Date: 星期三, 三月 04, 2003	Sheet 2 of 35	

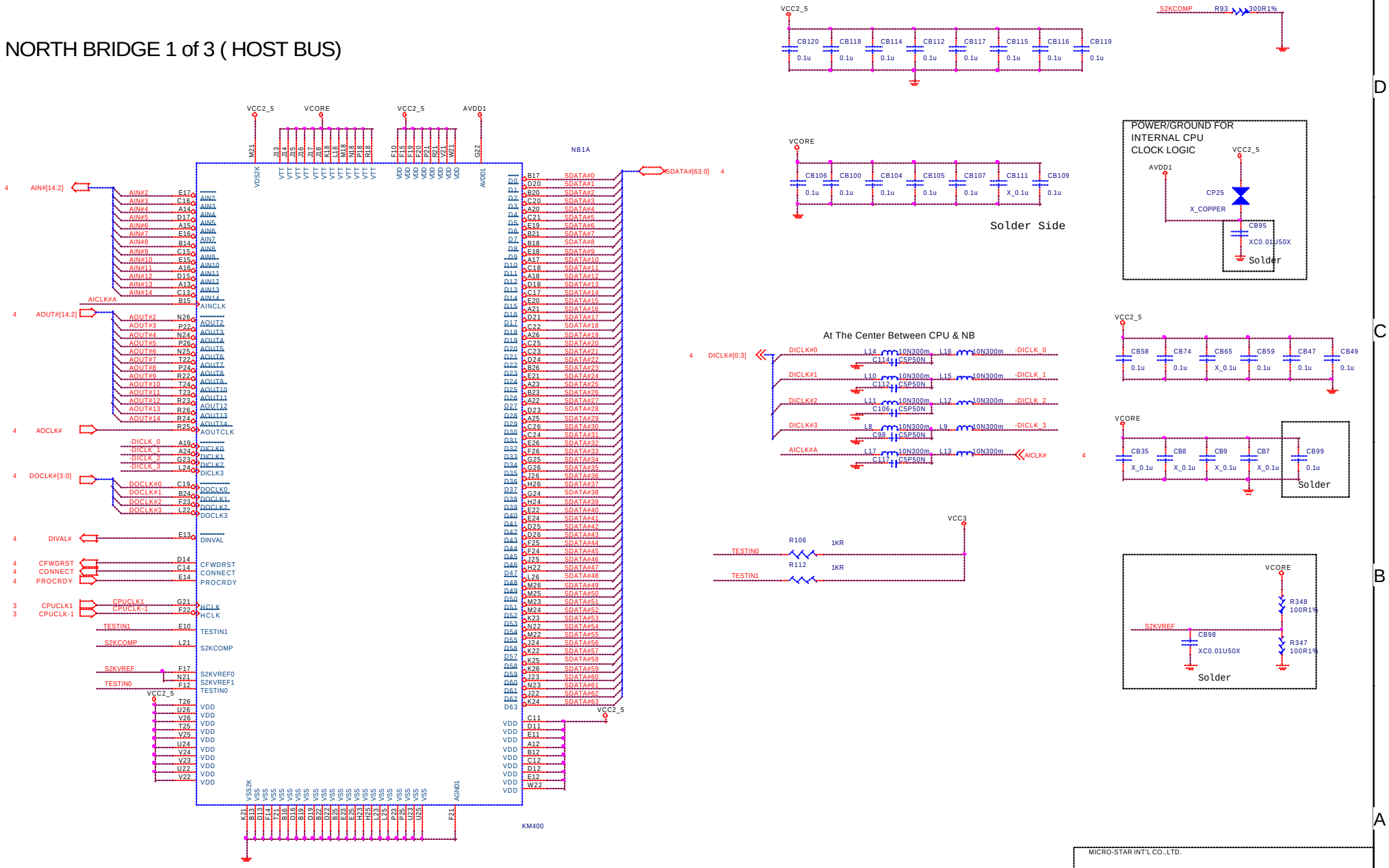
Main Clock Generator




CPU1A
ZIF-SOCKET462
Near socket-A
VCORE
VCC3
VCC2_5
X8P4R-330R
8P4R-510R
8P4R-270R
8P4R-680R
8P4R-100R
0.5 * VCORE
for internal VREFSYS
VREFMODE=Low=No voltage scaling
match the transmission line
Push-pull compensation circuit
* Trace lengths of CLKOUT and -CLKOUT are between 2" and 3"
N-MMBT3904_SOT23
MICRO-STAR INT'L CO.,LTD.
Title
Socket 462 - 1
Size
Document Number
MS-6778
Rev
0A
Custom
Date:
星期一, 三月 03, 2003
Sheet 4 of 35

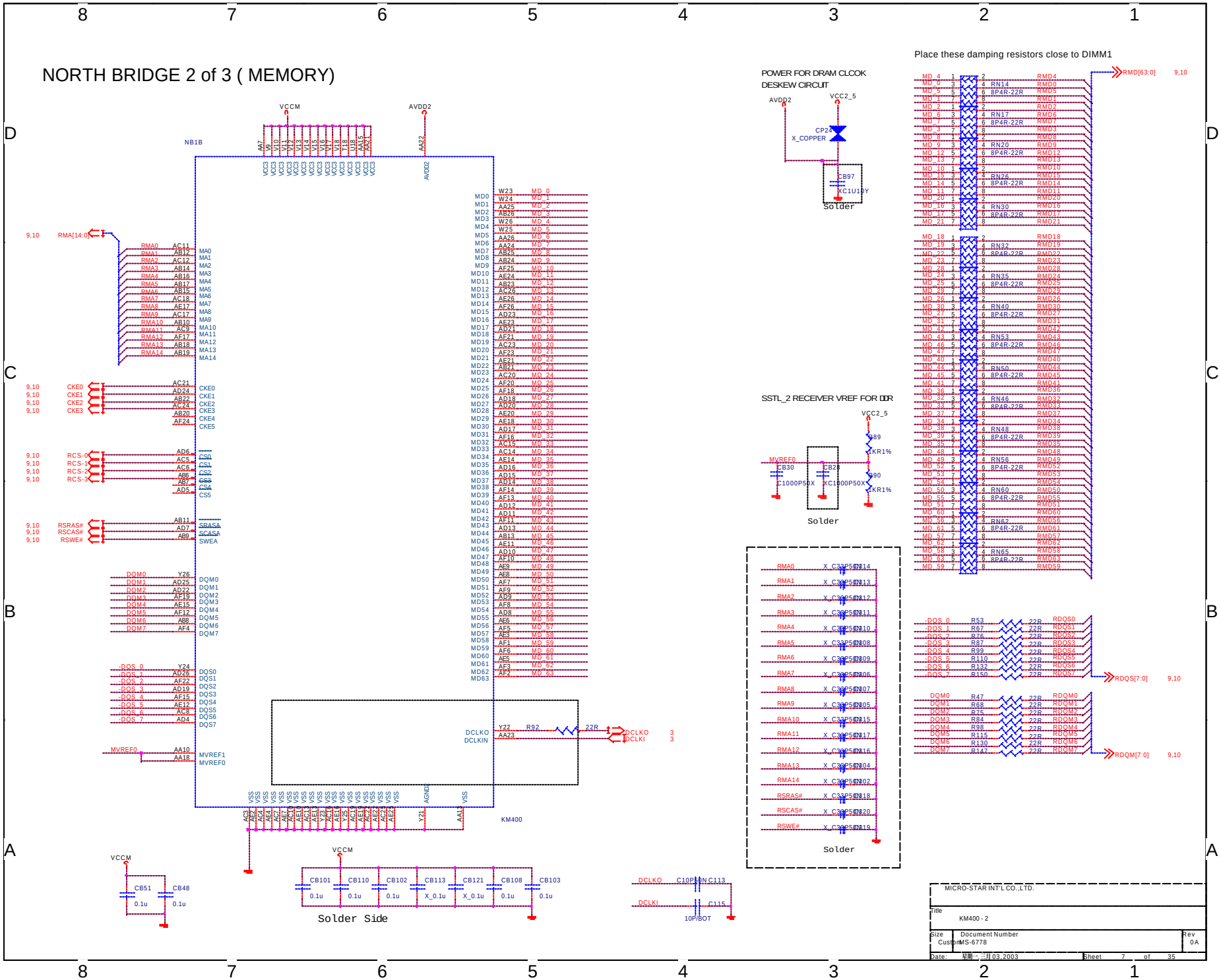

VCORE
VCCA_PLL
0~100 mA, 2.25~2.75V
CPU1B
ZIF-SOCKET462
ADJUST R87
VALUE FOR EMI.
2.5V
C54
0.1u
C55
C33P50N
0R
R55
CPUTD
23,30
Near M8/P8
For VCORE output cap
Alone VCORE edge
Solder Side
MICRO-STAR INT'L CO.,LTD.
Title
Socket 462 - 2
Size
Custom
Document Number
MS-6778
Rev
0A
Date:
星期一, 三月 03, 2003
Sheet
5
of
35

NORTH BRIDGE 1 of 3 (HOST BUS)

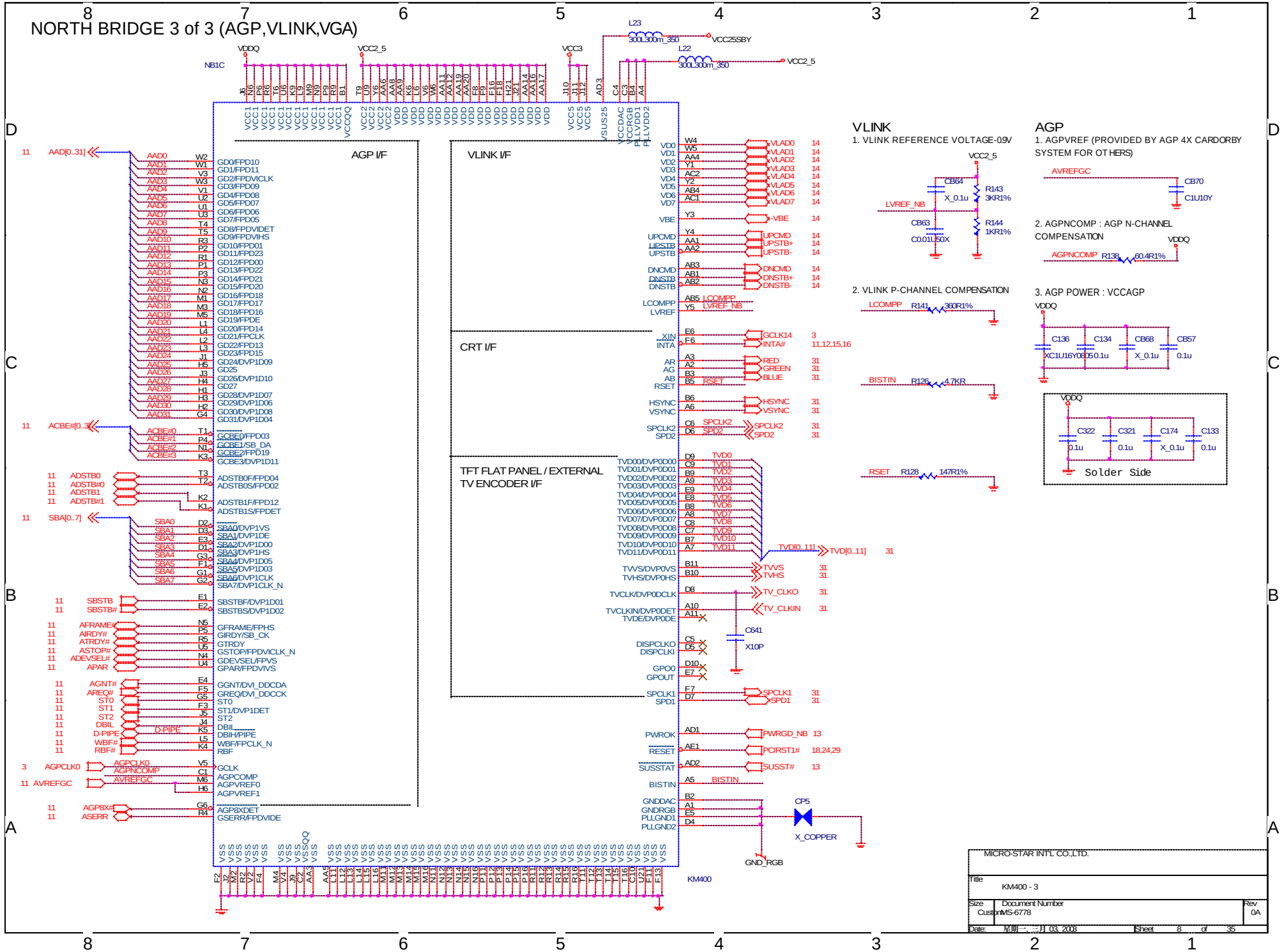


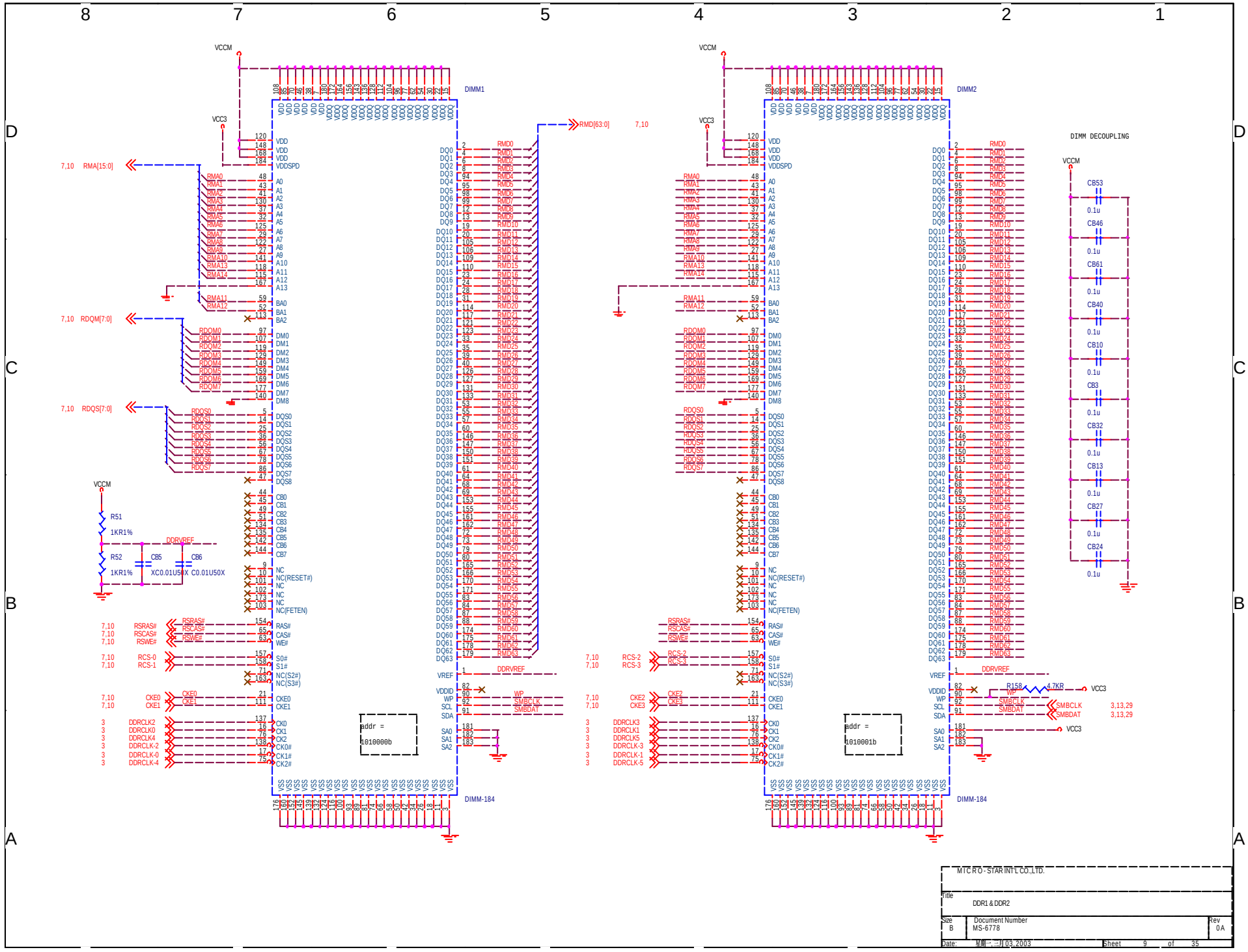
MICRO-STAR INT'L CO.,LTD.	
Title	KM400 - 1
Size: Custom	Document Number: MS-6778
Rev	0A
Date: 星期一, 三月 03, 2003	Sheet 6 of 35

NORTH BRIDGE 2 of 3 (MEMORY)



NORTH BRIDGE 3 of 3 (AGP,VLINK,VGA)

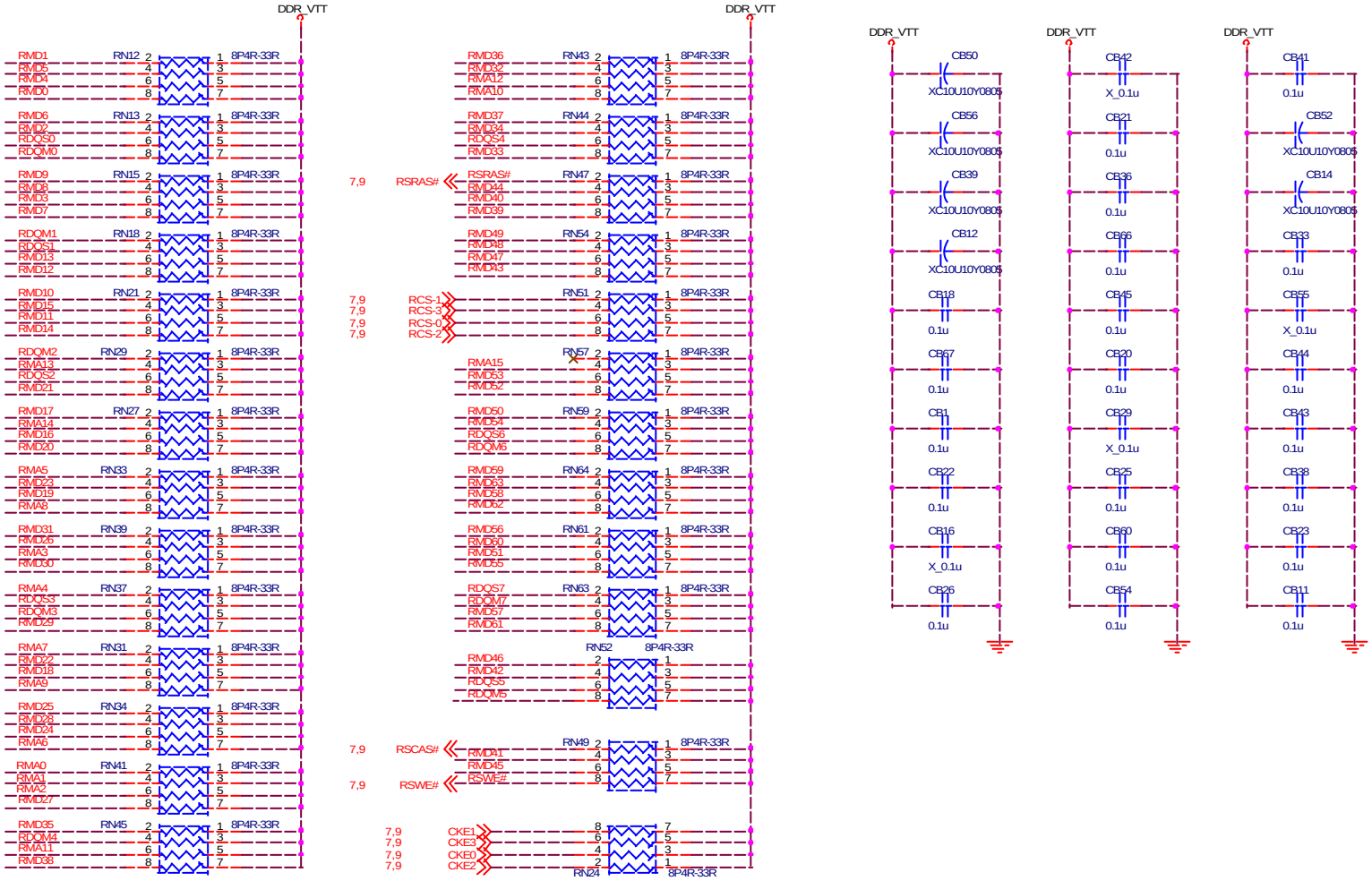



DIMM1
DIMM2
DIMM-184
DIMM DECOUPLING
VCCM
VCC3
RMD[63:0]
7,10 RMA[15:0]
7,10 RDQM[7:0]
7,10 RDQS[7:0]
DDRVREF
R51 1KR1%
R52 1KR1%
CB5 XC0.01U50X
CB6 C0.01U50X
R158 4.7KR
addr = 1010000b
addr = 1010001b
CB53 0.1u
CB46 0.1u
CB61 0.1u
CB40 0.1u
CB10 0.1u
CB3 0.1u
CB32 0.1u
CB13 0.1u
CB27 0.1u
CB24 0.1u
MICRO-STAR INT'L CO.,LTD.
DDR1 & DDR2
Document Number MS-6778
Rev 0A
Date: 星期一, 三月 03, 2003
Sheet 9 of 35

SSTL-2 Termination Resistors

RMD[63:0] 7,9
RDQM[7:0] 7,9
RDQS[7:0] 7,9
RMA[15:0] 7,9

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

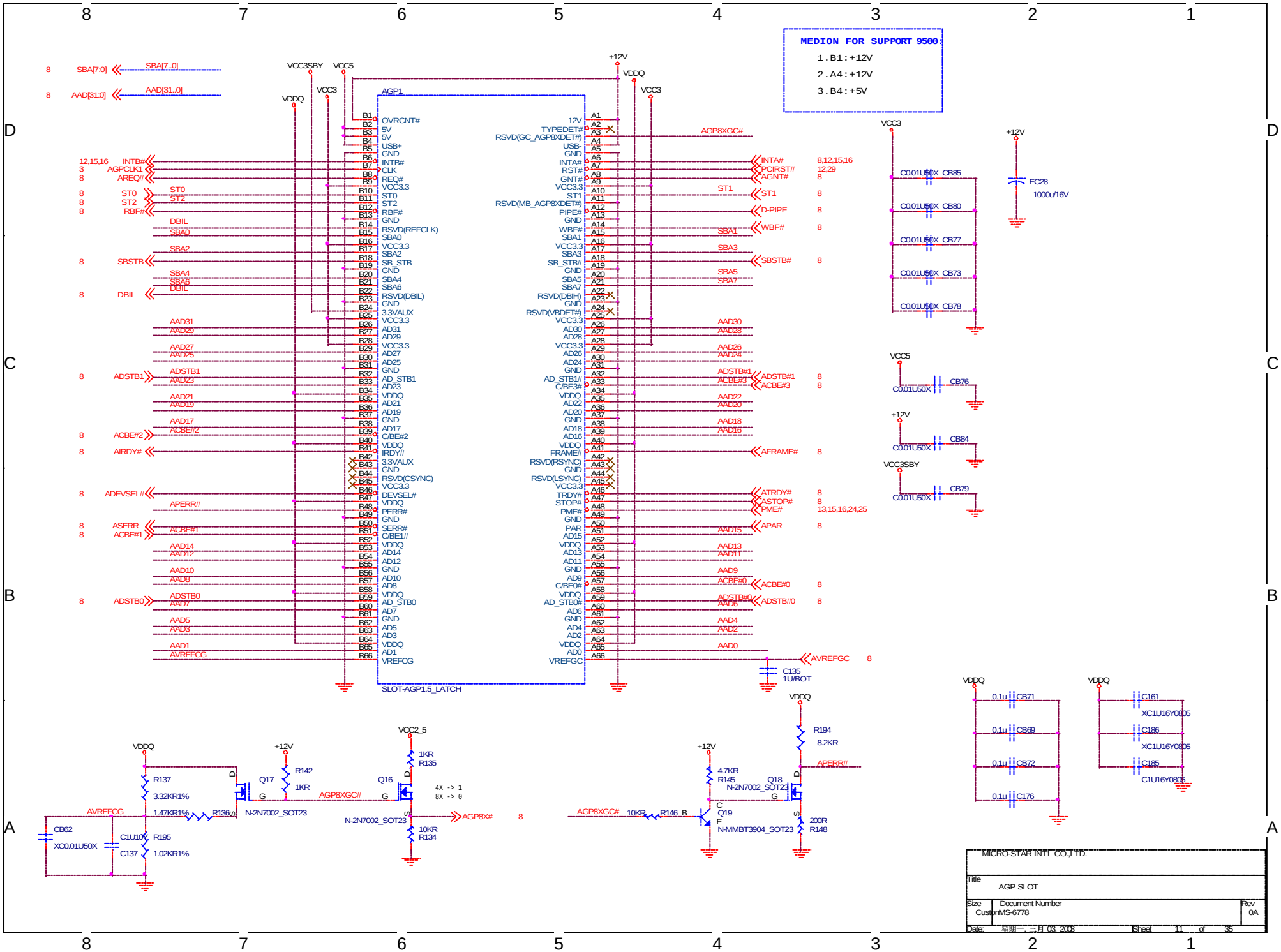


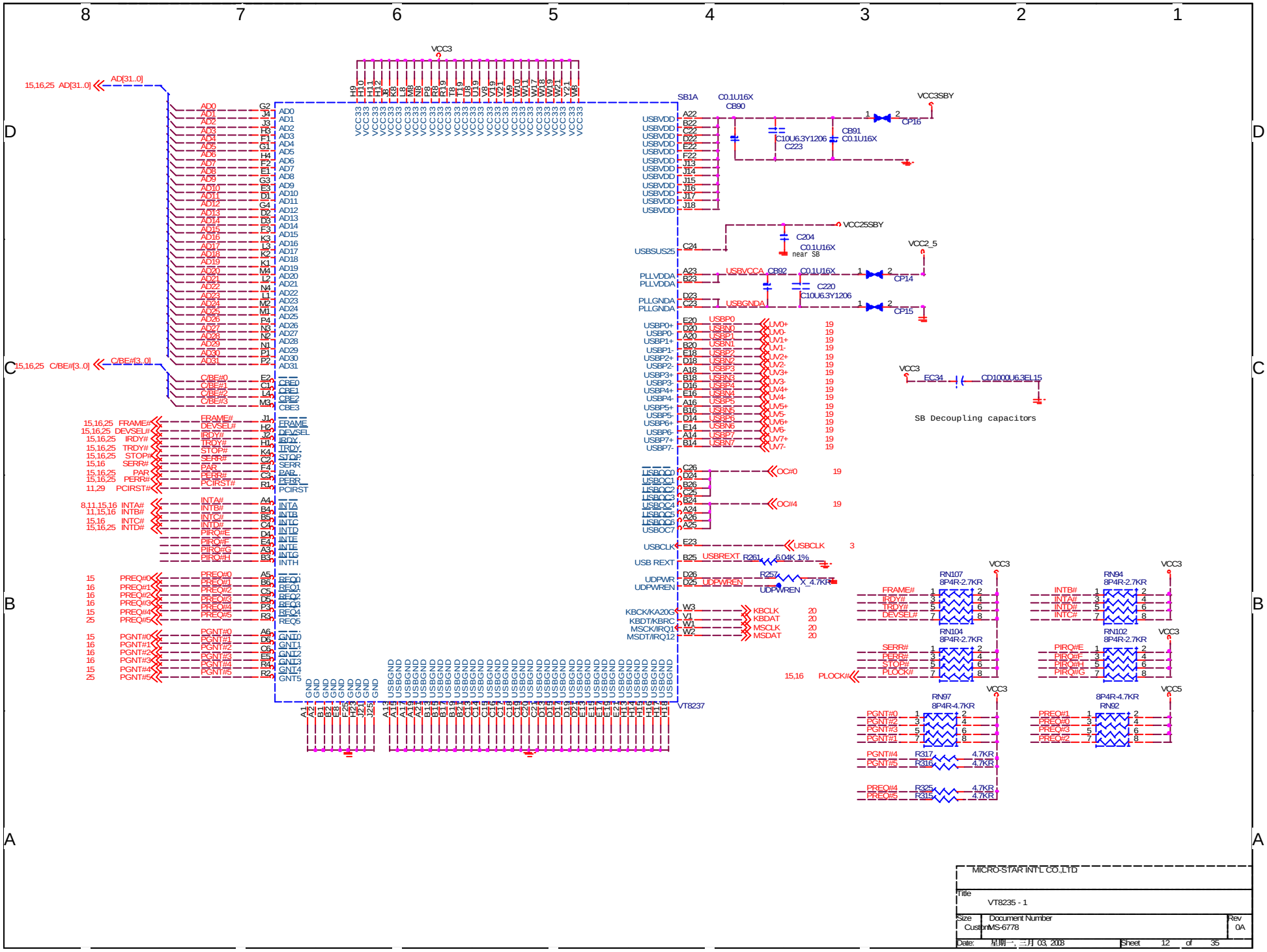
MICRO-STAR INT'L CO.,LTD.

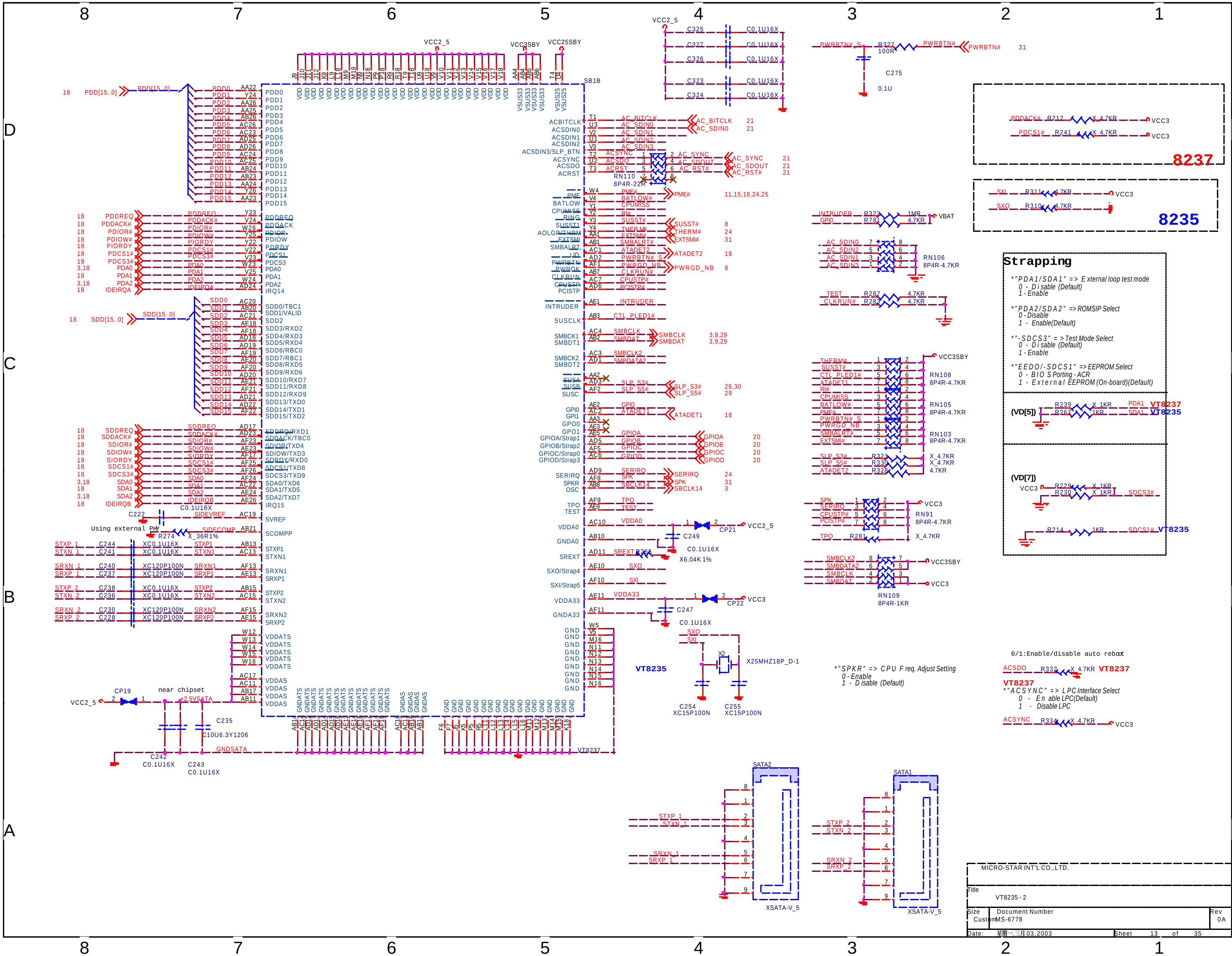
Title: DDR TERMINATOR

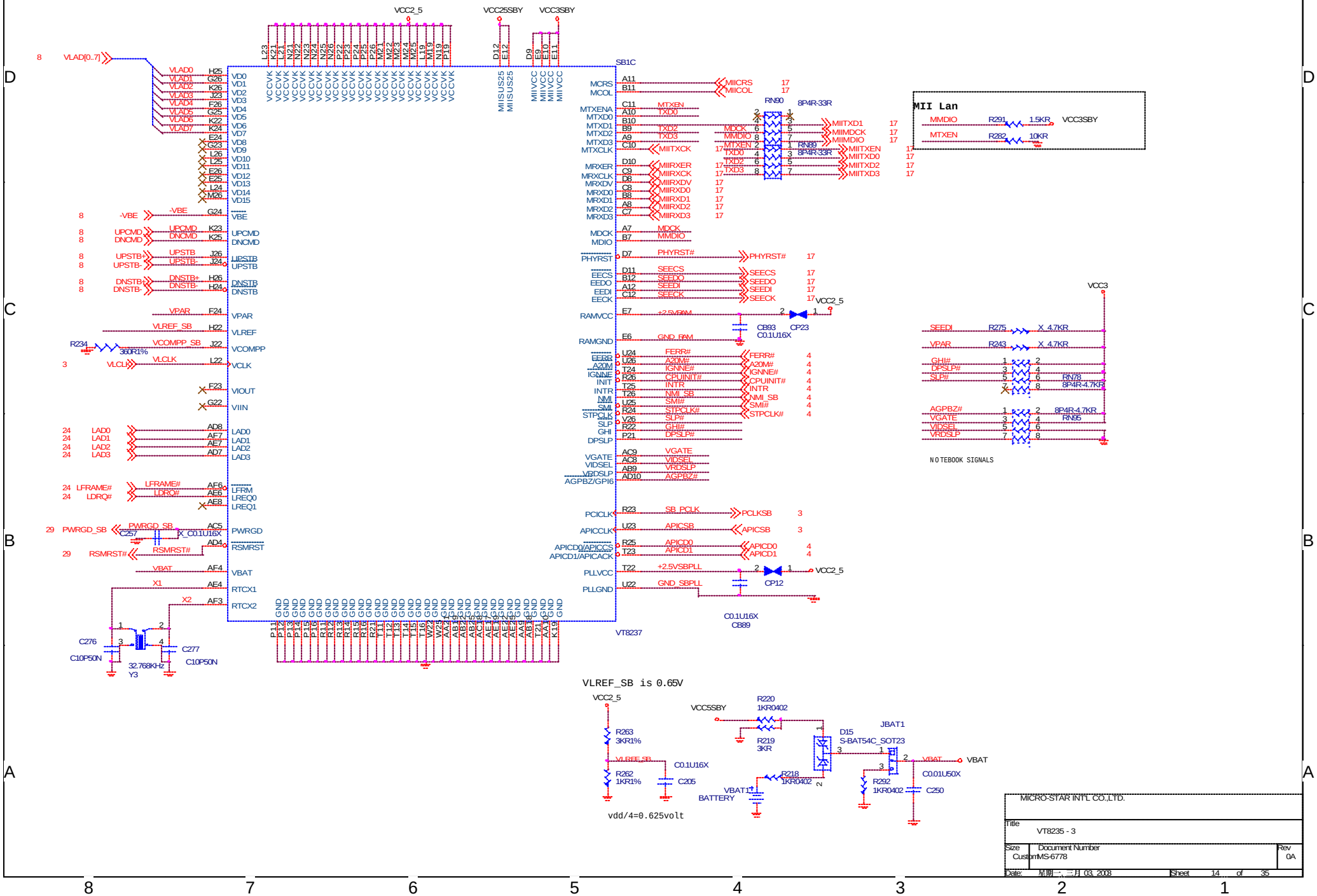
Size: Custom | Document Number: MS-6778 | Rev: 0A

Date: 星期一, 三月 03, 2003 | Sheet 10 of 35

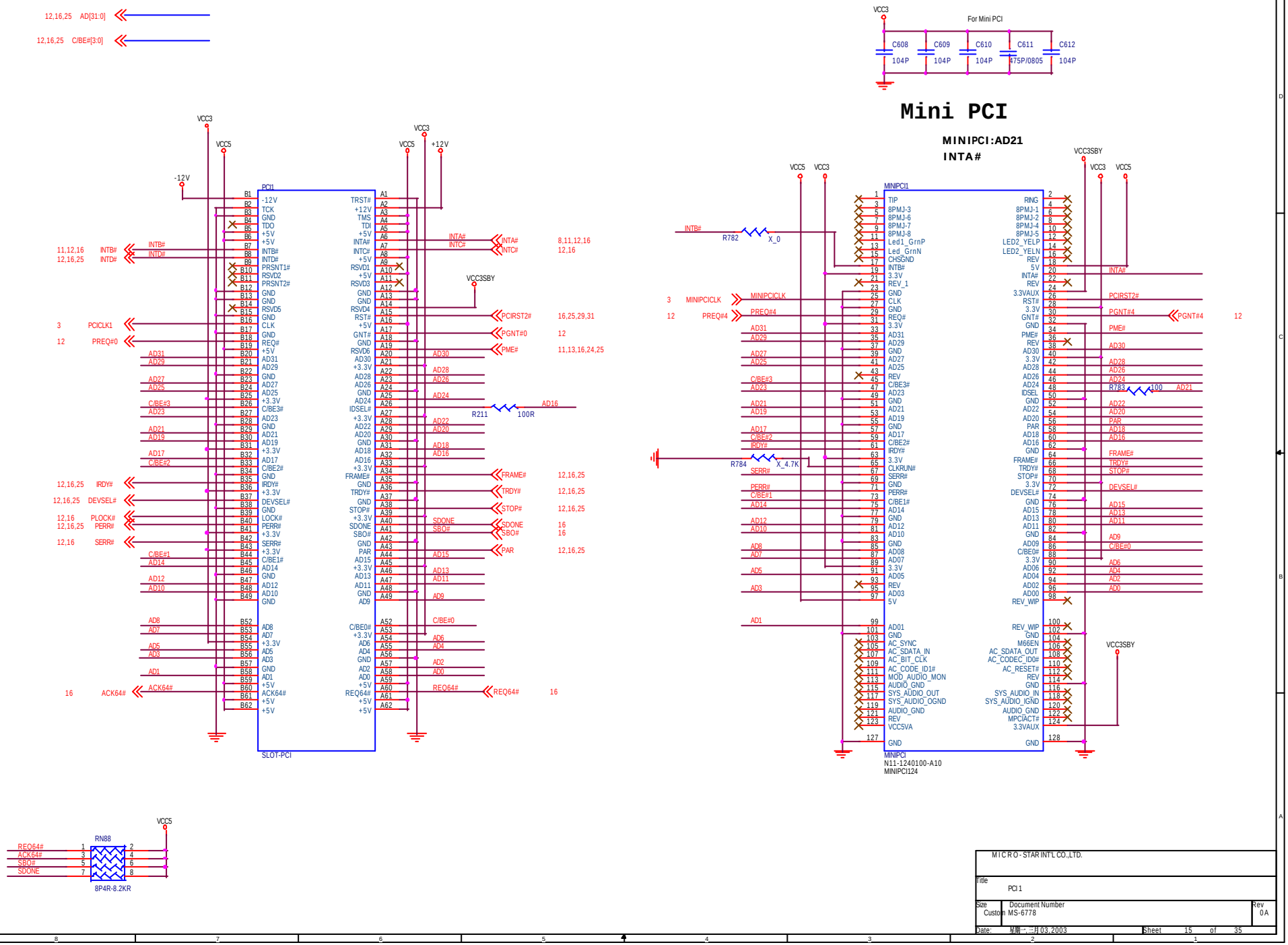

MEDION FOR SUPPORT 9500:
1.B1:+12V
2.A4:+12V
3.B4:+5V
SLOT-AGP1.5_LATCH
MICRO-STAR INT'L CO.,LTD.
Title
AGP SLOT
Size
Custom
Document Number
MS-6778
Rev
0A
Date:
Sheet
11
of
35


VCC3
AD[31..0]
C/BE#[3..0]
SB Decoupling capacitors
VT8237
RN107 8P4R-2.7KR
RN94 8P4R-2.7KR
RN104 8P4R-2.7KR
RN102 8P4R-2.7KR
RN97 8P4R-4.7KR
RN92 8P4R-4.7KR
MICRO-STAR INT'L CO.,LTD
Title
VT8235 - 1
Size
Custom
Document Number
MS-6778
Rev
0A
Date: 星期一, 三月 03, 2008
Sheet 12 of 35

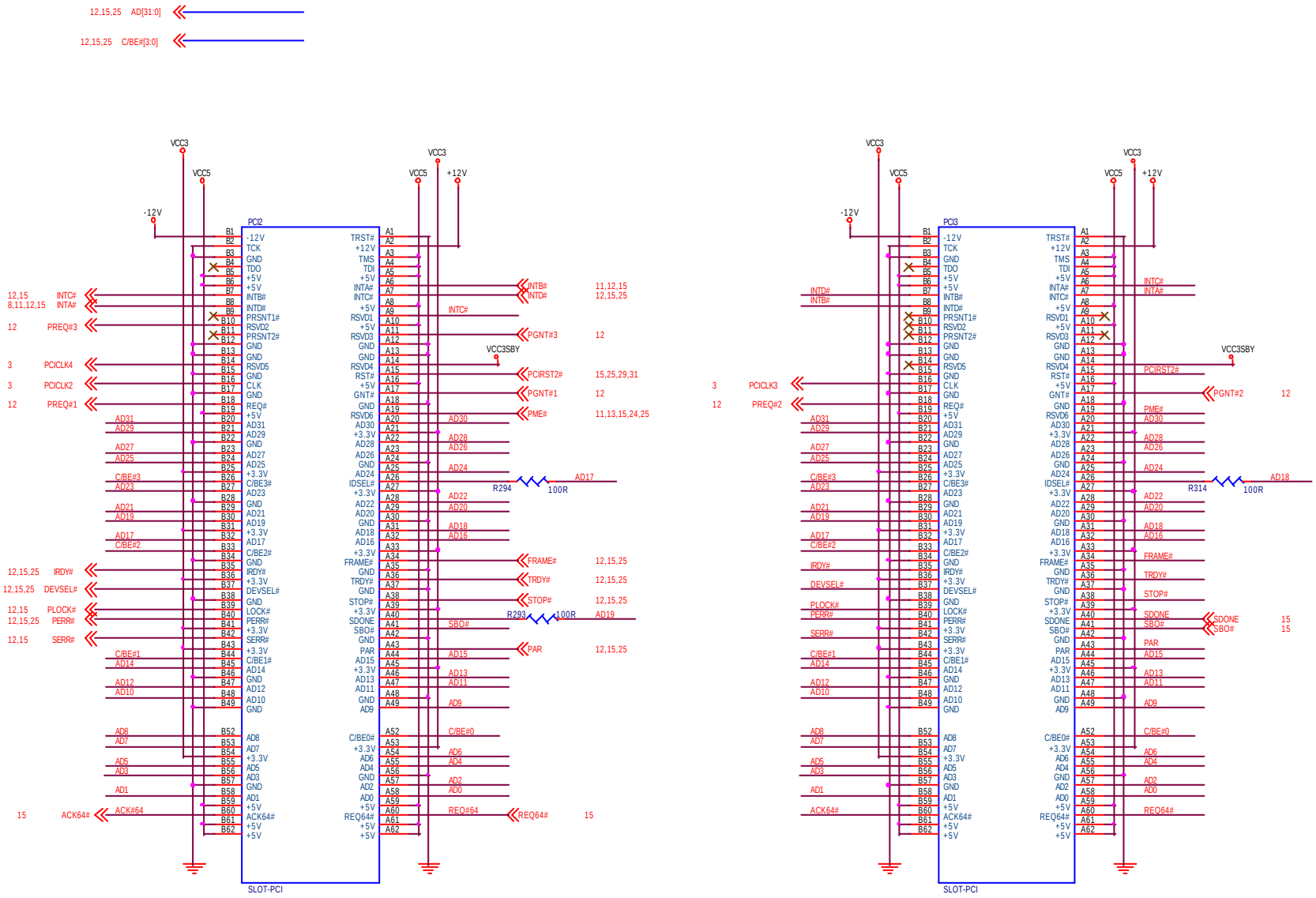

8237
8235
Strapping
*"PDA1/SDA1" => External loop test mode
0 - Disable (Default)
1 - Enable
*"PDA2/SDA2" => ROMSIP Select
0 - Disable
1 - Enable(Default)
*"-SDCS3" = > Test Mode Select
0 - Disable (Default)
1 - Enable
*"EEDO/-SDCS1" => EEPROM Select
0 - BIOS Porting - ACR
1 - External EEPROM (On-board)(Default)
(VD[5])
(VD[7])
0/1:Enable/disable auto reboot
*"SPKR" => CPU Freq. Adjust Setting
0 - Enable
1 - Disable (Default)
VT8237
*"ACSYNC" => LPC Interface Select
0 - Enable LPC(Default)
1 - Disable LPC
VT8235
Using external PHY
near chipset
SATA2
SATA1
XSATA-V_5
X25MHZ18P_D-1
MICRO-STAR INT'L CO.,LTD.
Title
VT8235-2
Size
Custom
Document Number
MS-6778
Rev
0A
Sheet 13 of 35


VCC2_5
VCC25SBY
VCC3SBY
SB1C
VT8237
MII Lan
MMDIO
MTXEN
R291
R282
1.5KR
10KR
VCC3SBY
NOTEBOOK SIGNALS
VLREF_SB is 0.65V
vdd/4=0.625volt
BATTERY
MICRO-STAR INT'L CO.,LTD.
Title
VT8235 - 3
Size
Custom
Document Number
MS-6778
Rev
0A
Date:
星期一, 三月 03, 2008
Sheet
14
of
35

Mini PCI



MICRO-STAR INT'L CO.,LTD.	
Title: PCI 1	
Size: Custom	Document Number: MS-6778
Rev: 0A	
Date: 星期一, 二月 03, 2003	Sheet 15 of 35



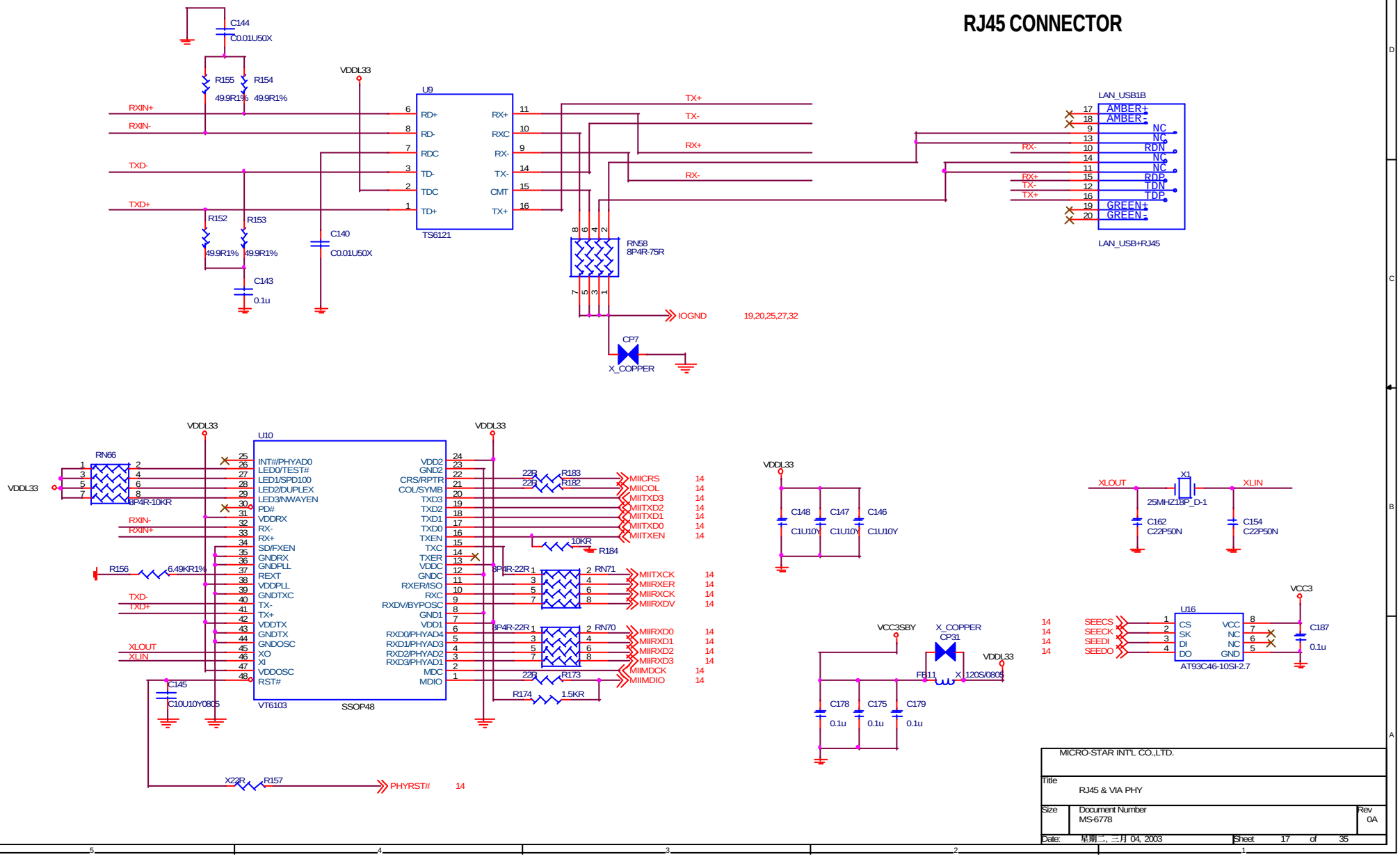
MICRO-STAR INT'L CO.,LTD.

Title: PCI 2 & 3

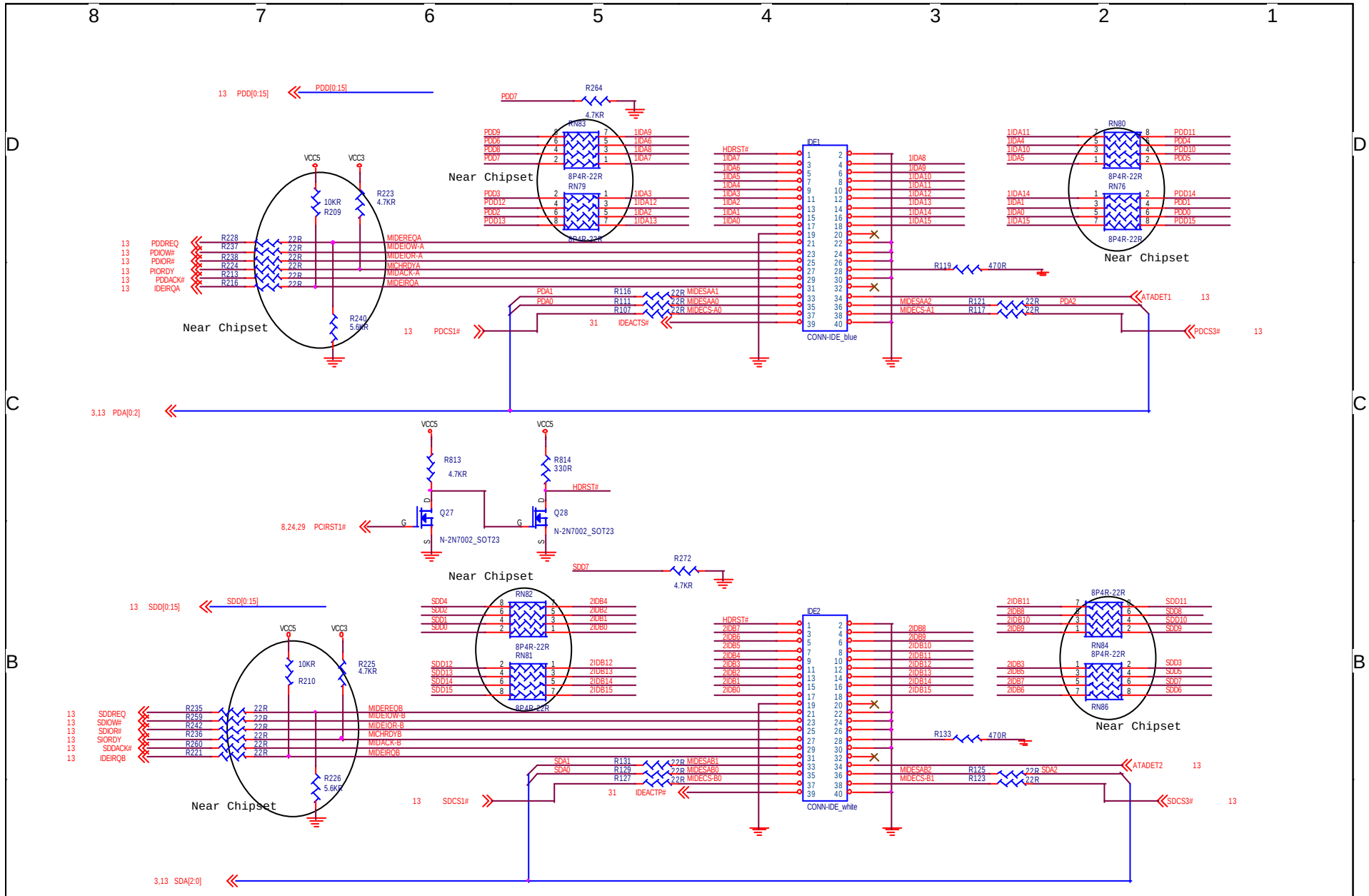
Size: Custom | Document Number: MS-6778 | Rev: 0A

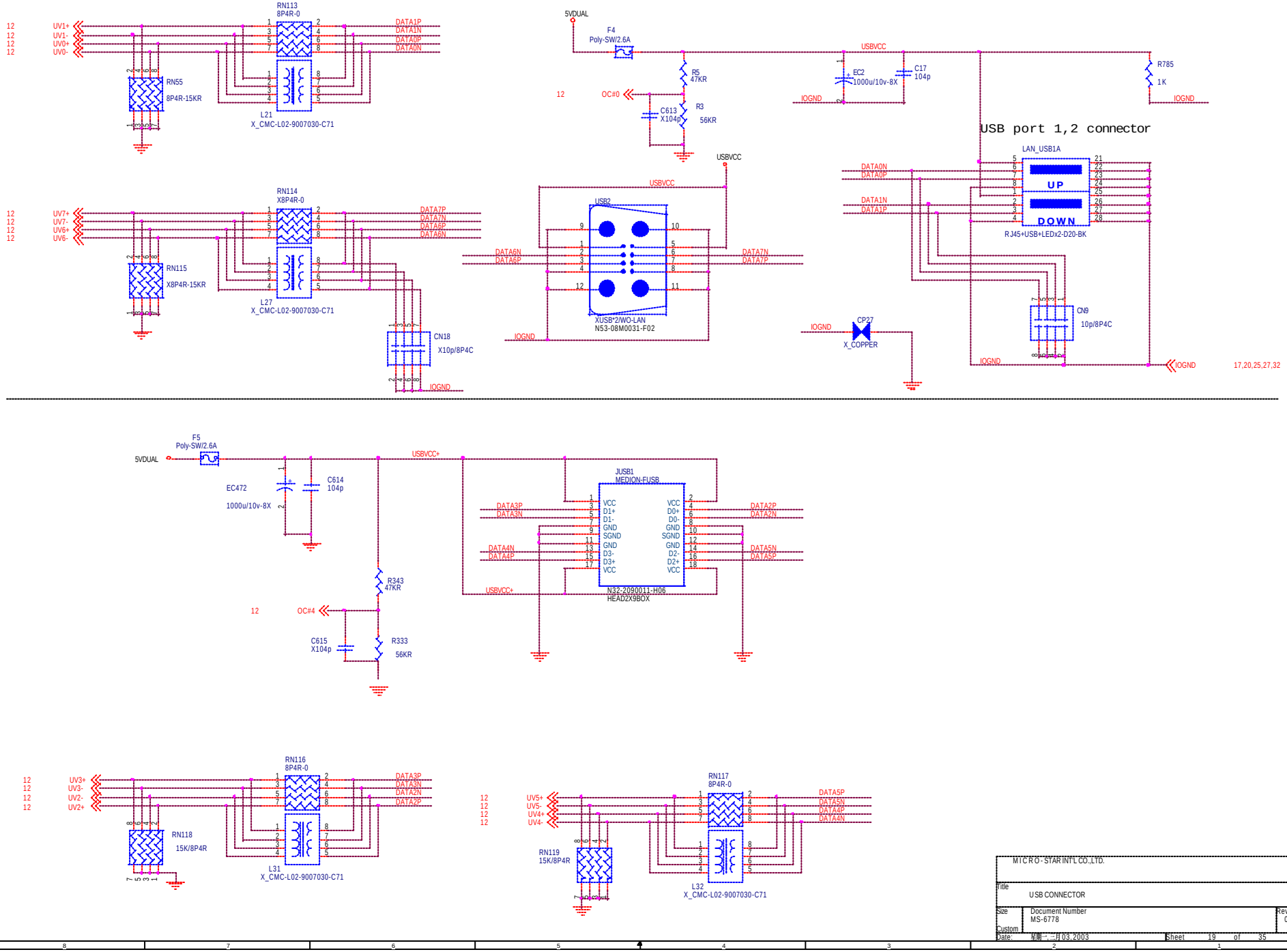
Date: 星期一, 二月 03, 2003 | Sheet 16 of 35

RJ45 CONNECTOR

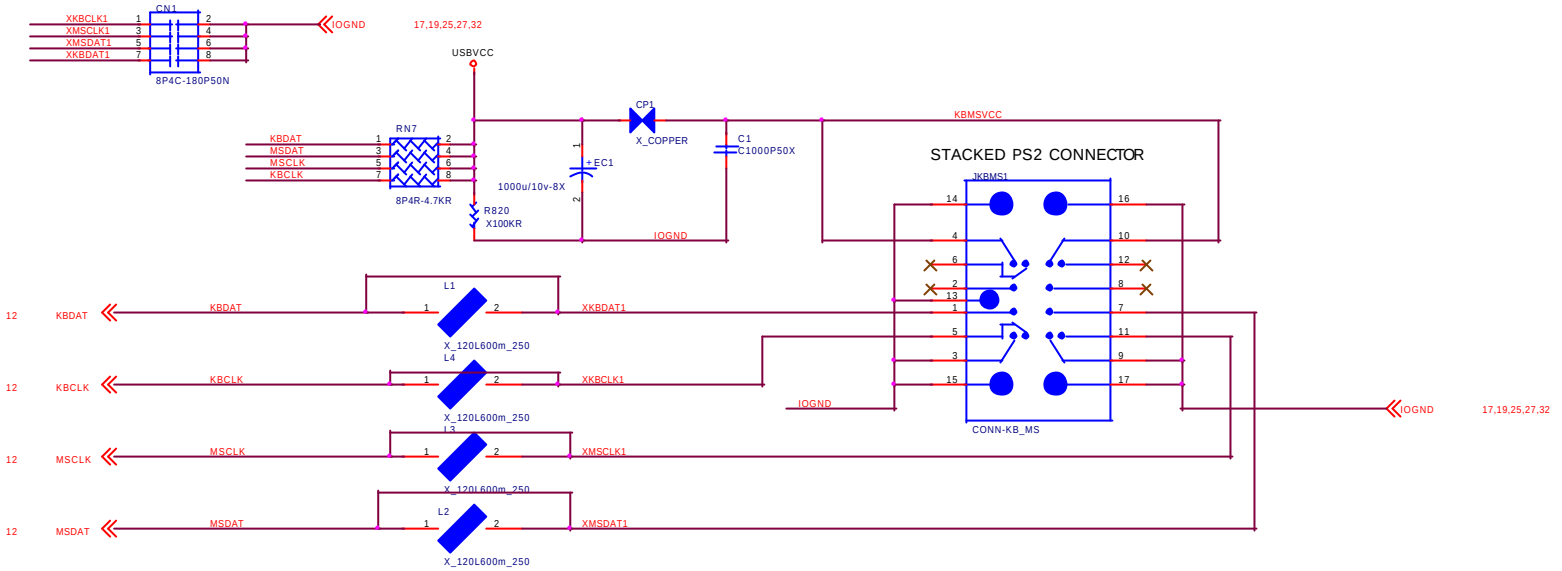


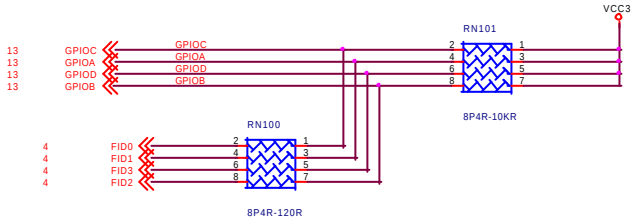
MICRO-STAR INT'L CO.,LTD.		
Title: RJ45 & VIA PHY		
Size	Document Number: MS-6778	Rev: 0A
Date: 星期二, 三月 04, 2003	Sheet 17 of 35	


PDD[0:15]
R264
4.7KR
RN83
8P4R-22R
RN79
8P4R-22R
Near Chipset
VCC5
VCC3
10KR
R209
R223
4.7KR
R240
5.6KR
Near Chipset
IDE1
CONN-IDE_blue
HDRST#
R119
470R
RN80
RN76
8P4R-22R
Near Chipset
ATADET1
PDCS1#
PDCS3#
IDEACTS#
3,13 PDA[0:2]
R813
4.7KR
R814
330R
Q27
Q28
N-2N7002_SOT23
8,24,29 PCIRST1#
R272
4.7KR
Near Chipset
SDD[0:15]
RN82
RN81
8P4R-22R
IDE2
CONN-IDE_white
R133
470R
RN84
RN86
8P4R-22R
Near Chipset
R210
R225
4.7KR
R226
5.6KR
Near Chipset
ATADET2
SDCS1#
SDCS3#
IDEACTP#
3,13 SDA[2:0]
MICRO-STAR INT'L CO.,LTD.
Title
IDE CONNECTOR
Size B
Document Number MS-6778
Rev 0A
Date: 星期一, 三月 03, 2003
Sheet 18 of 35

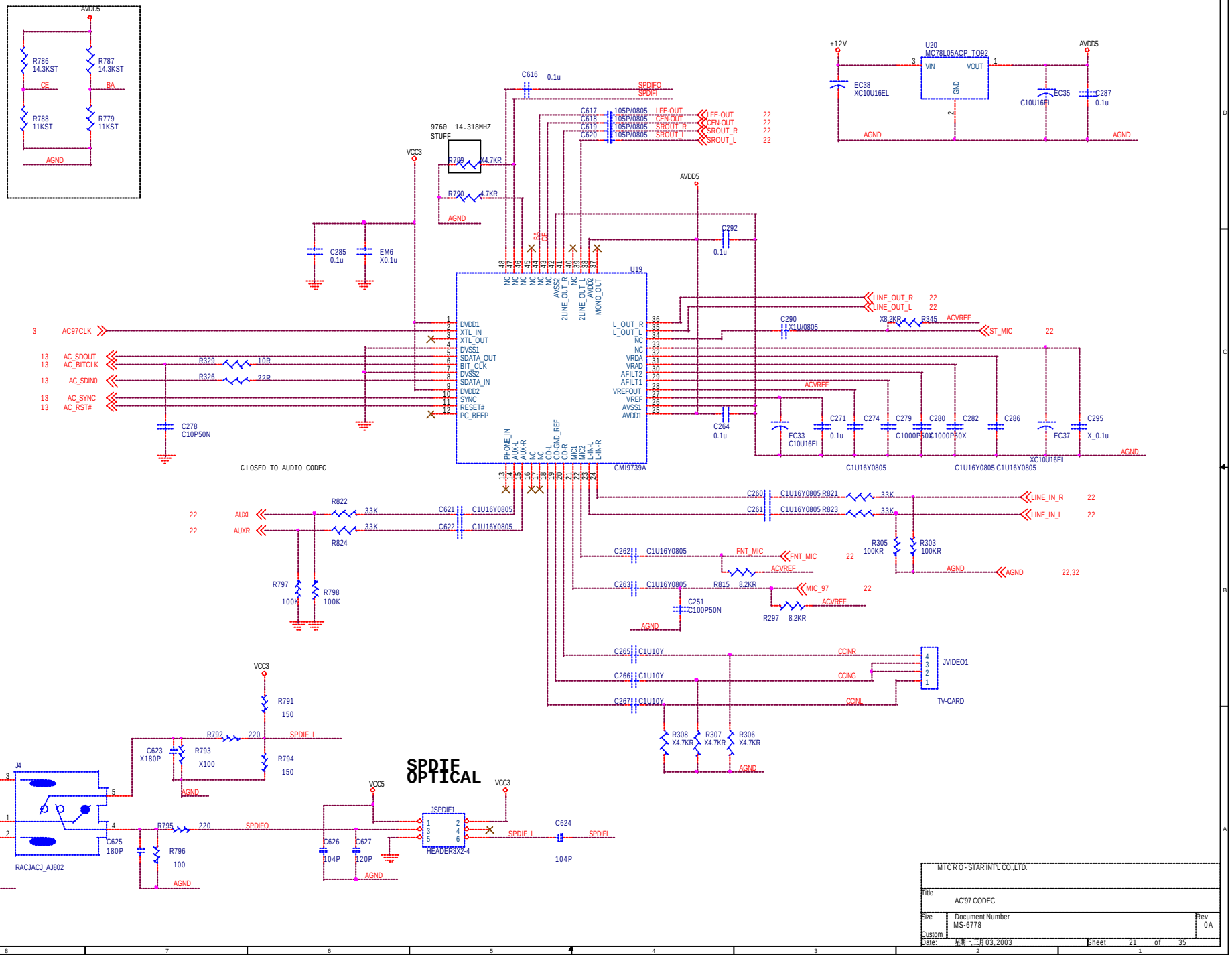

USB port 1,2 connector
RN113
8P4R-0
RN55
8P4R-15KR
L21
X_CMC-L02-9007030-C71
RN114
X8P4R-0
RN115
X8P4R-15KR
L27
X_CMC-L02-9007030-C71
CN18
X10p/8P4C
5VDUAL
F4
Poly-SW/2.6A
R5
47KR
R3
56KR
C613
X104p
USBVCC
EC2
1000u/10v-8X
C17
104p
R785
1K
IOGND
USB2
XUSB*2/WO-LAN
N53-08M0031-F02
LAN_USB1A
UP
DOWN
RJ45+USB+LEDx2-D20-BK
CN9
10p/8P4C
CP27
X_COPPER
17,20,25,27,32
F5
Poly-SW/2.6A
EC472
1000u/10v-8X
C614
104p
USBVCC+
JUSB1
MEDION-FUSB
N32-2090011-H06
HEAD2X9BOX
R343
47KR
OC#4
C615
X104p
R333
56KR
RN116
8P4R-0
RN118
15K/8P4R
L31
X_CMC-L02-9007030-C71
RN117
8P4R-0
RN119
15K/8P4R
L32
X_CMC-L02-9007030-C71
MICRO-STAR INT'L CO.,LTD.
Title
USB CONNECTOR
Size
Custom
Document Number
MS-6778
Rev
0A
Date:
Sheet
19
of
35

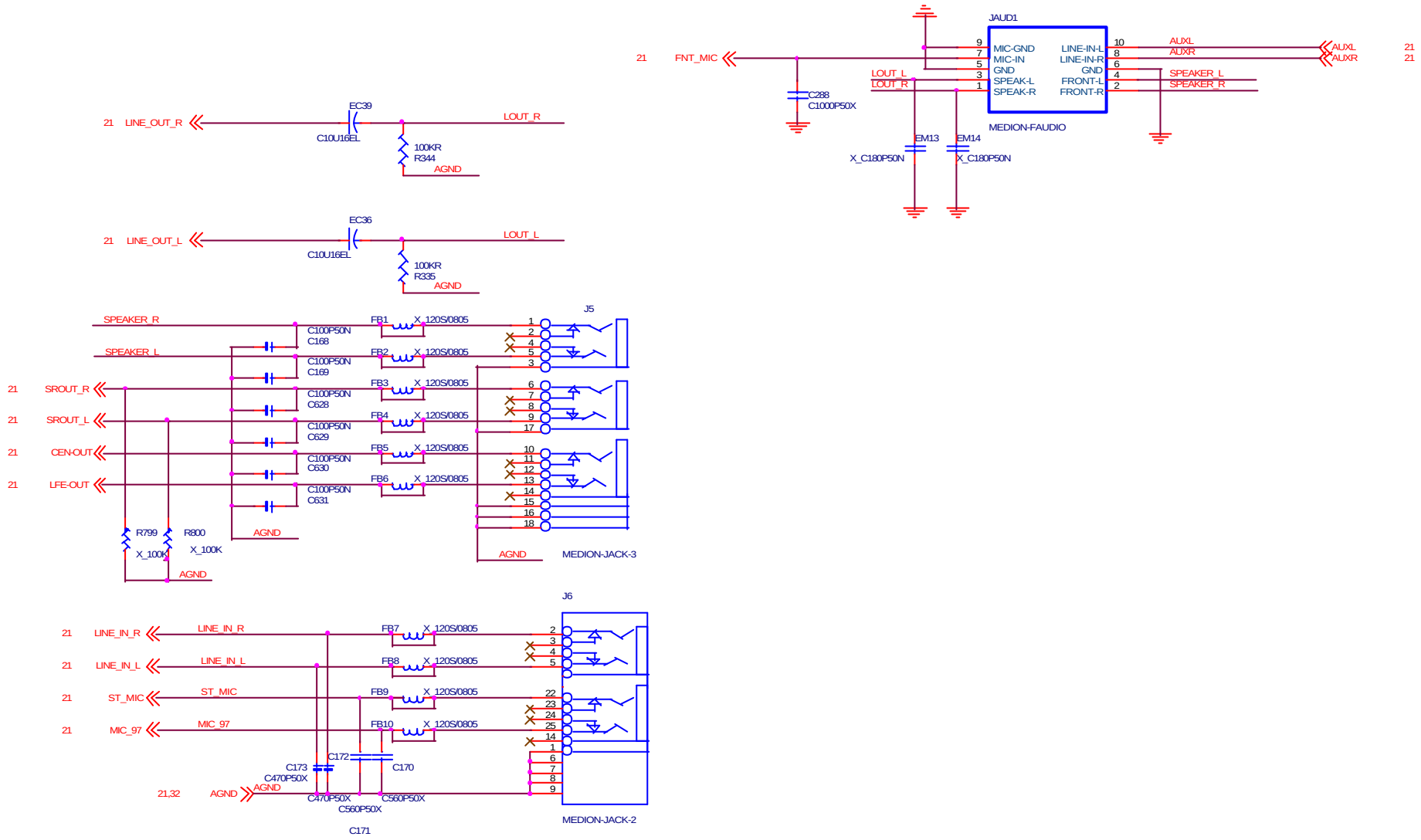
KEYBOARD/MOUSE PORTS





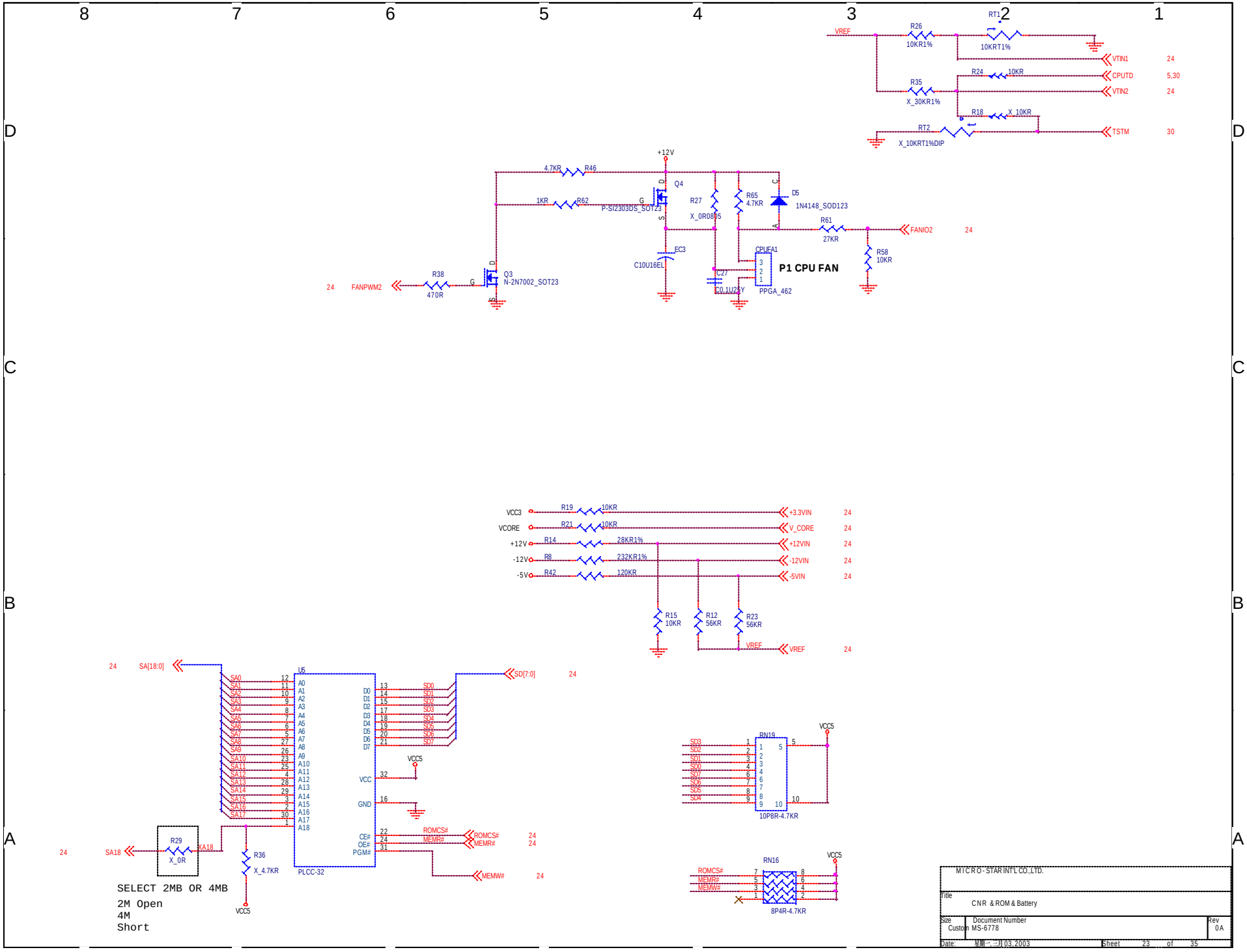
MICRO-STAR INT'L CO.,LTD.		
Title: KB/MS CONNECTOR		
Size: Custom	Document Number: MS-6778	Rev: 0A
Date: 星期一, 三月 03, 2003	Sheet 20 of 35	

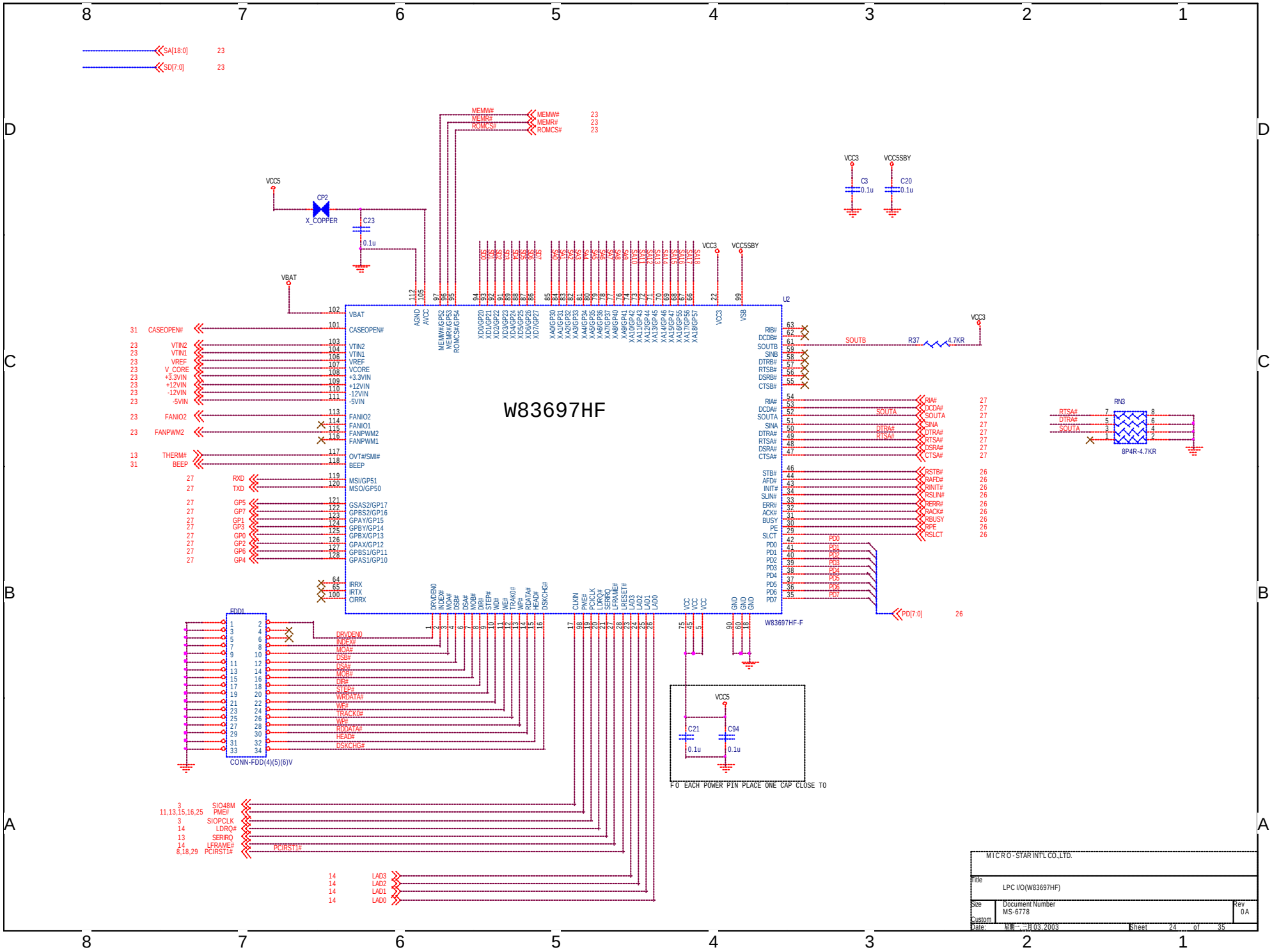

SPDIF OPTICAL
CLOSED TO AUDIO CODEC
U19
CMI9739A
U20
MC78L05ACP_TO92
JSPDIF1
HEADER3X2-4
J4
RACJACJ_AJ802
JVIDEO1
TV-CARD
M I C R O - S T A R INT'L CO.,LTD.
AC'97 CODEC
Document Number
MS-6778
Rev
0A
Date:
Sheet
21
of
35



N54-09F0041-F13

MICRO-STAR INT'L CO.,LTD.		
Title: AUDIO CONNECTOR		
Size: B	Document Number: MS-6778	Rev: 0A
Date: 星期一, 三月 03, 2003	Sheet 22 of 35	


VREF
R26
10KR1%
RT1
10KRT1%
VTIN1
24
R24
10KR
CPUTD
5,30
R35
X_30KR1%
VTIN2
24
R18
X_10KR
RT2
X_10KRT1%DIP
TSTM
30
+12V
4.7KR
R46
1KR
R62
Q4
P-SI2303DS_SOT23
R27
X_0R0805
R65
4.7KR
D5
1N4148_SOD123
R61
27KR
FANIO2
24
EC3
C10U16EL
C27
C0.1U25Y
CPUFA1
PPGA_462
P1 CPU FAN
R58
10KR
24
FANPWM2
R38
470R
Q3
N-2N7002_SOT23
VCC3
R19
10KR
+3.3VIN
VCORE
R21
10KR
V_CORE
+12V
R14
28KR1%
+12VIN
-12V
R8
232KR1%
-12VIN
-5V
R42
120KR
-5VIN
R15
10KR
R12
56KR
R23
56KR
VREF
24
SA[18:0]
U5
SD[7:0]
PLCC-32
VCC5
ROMCS#
MEMR#
MEMW#
RN19
10P8R-4.7KR
RN16
8P4R-4.7KR
R29
X_0R
SA18
XA18
R36
X_4.7KR
SELECT 2MB OR 4MB
2M Open
4M
Short
MICRO-STAR INT'L CO.,LTD.
Title
CNR & ROM & Battery
Size
Custom
Document Number
MS-6778
Rev
0A
Date:
Sheet
23
of
35

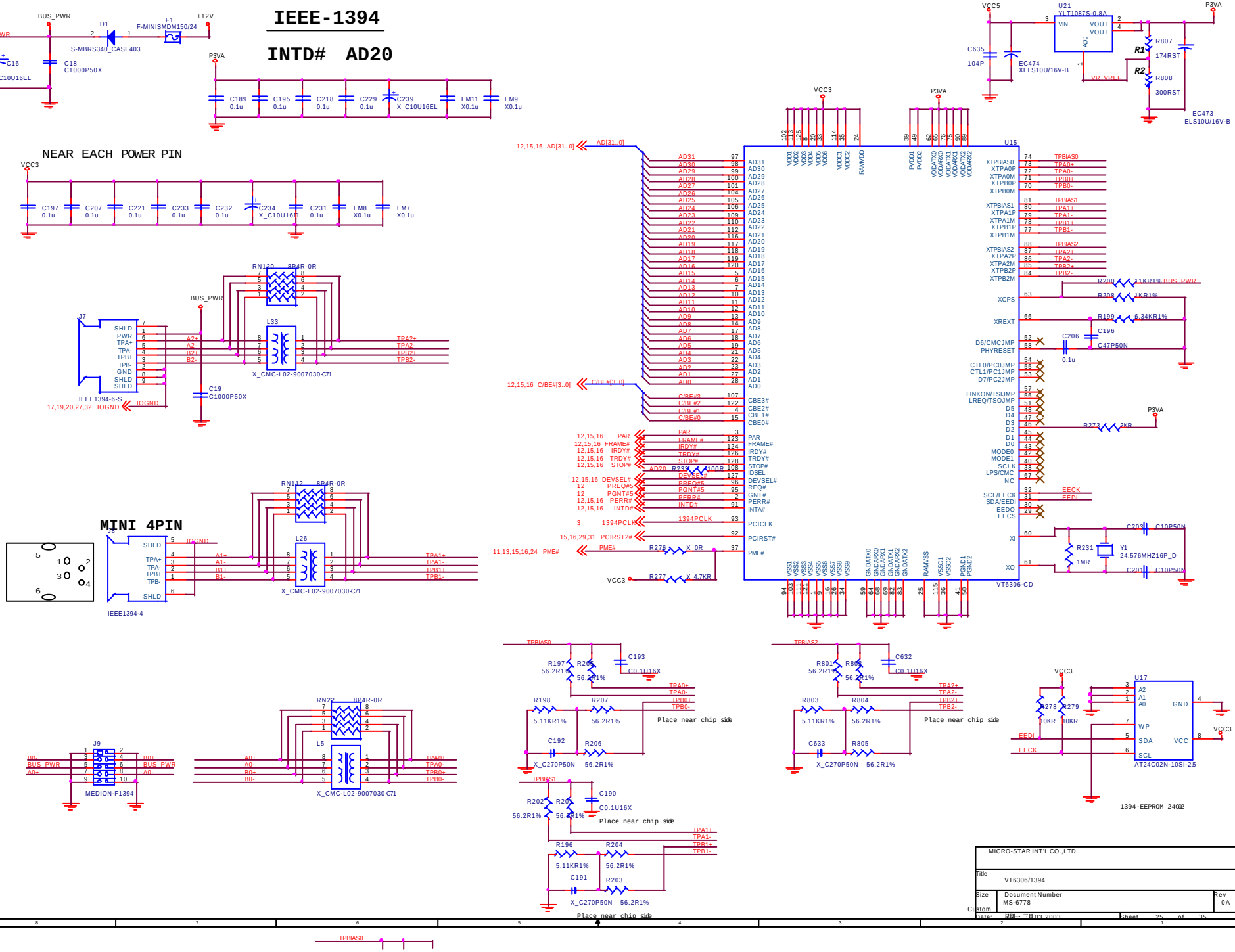

W83697HF
W83697HF-F
CONN-FDD(4)(5)(6)V
FDD1
U2
SA[18:0] 23
SD[7:0] 23
MEMW# 23
MEMR# 23
ROMCS# 23
VCC5
VBAT
VCC3
VCC5SBY
CP2
X_COPPER
C23 0.1u
C3 0.1u
C20 0.1u
C21 0.1u
C94 0.1u
R37 4.7KR
SOUTB
RN3
8P4R-4.7KR
CASEOPEN#
VTIN2
VTIN1
VREF
V_CORE
+3.3VIN
+12VIN
-12VIN
-5VIN
FANIO2
FANPWM2
THERM#
BEEP
RXD
TXD
GP5
GP7
GP1
GP3
GP0
GP2
GP6
GP4
IRRX
IRTX
CIRRX
PD[7:0] 26
DRVDEN0
INDEX#
MOA#
DSB#
DSA#
MOB#
DIR#
STEP#
WRDATA#
WE#
TRACK0#
WP#
RDDATA#
HEAD#
DSKCHG#
SIO48M 3
PME# 11,13,15,16,25
SIOPCLK 3
LDRQ# 14
SERIRQ 13
LFRAME# 14
PCIRST1# 8,18,29
LAD3 14
LAD2 14
LAD1 14
LAD0 14
F O EACH POWER PIN PLACE ONE CAP CLOSE TO
MICRO-STAR INT'L CO.,LTD.
Title
LPC I/O(W83697HF)
Size
Document Number
MS-6778
Rev
0A
Custom
Date: 03,2003
Sheet 24 of 35

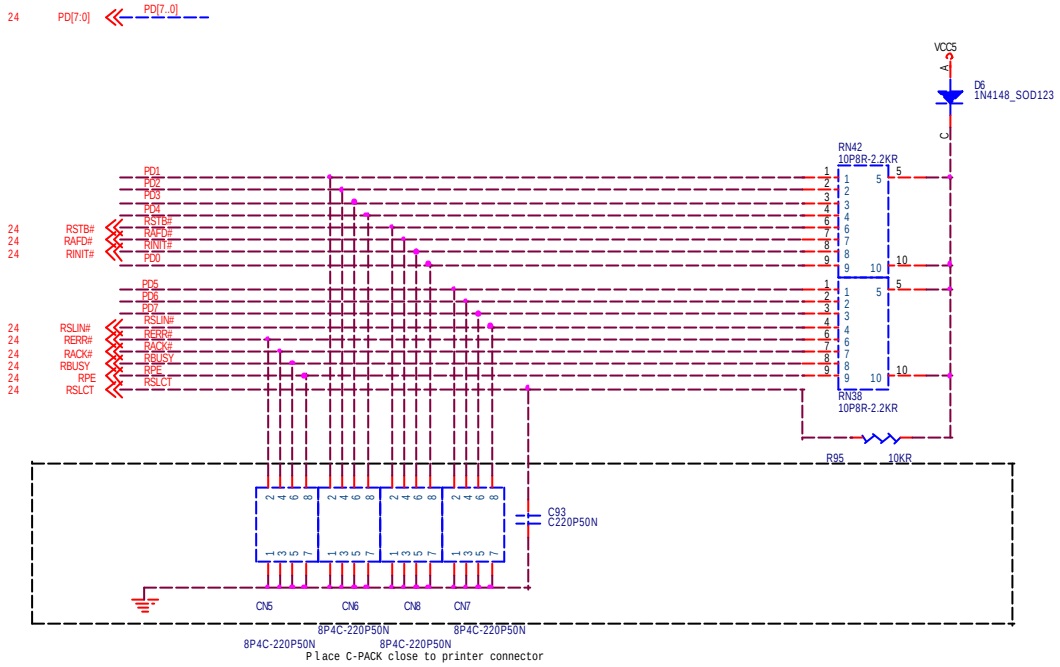
IEEE-1394

INTD# AD20

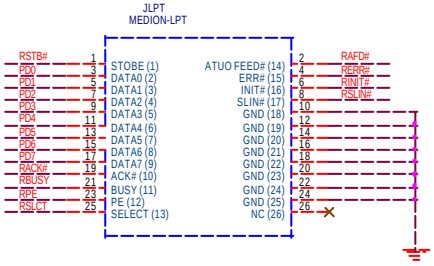
NEAR EACH POWER PIN

MINI 4PIN

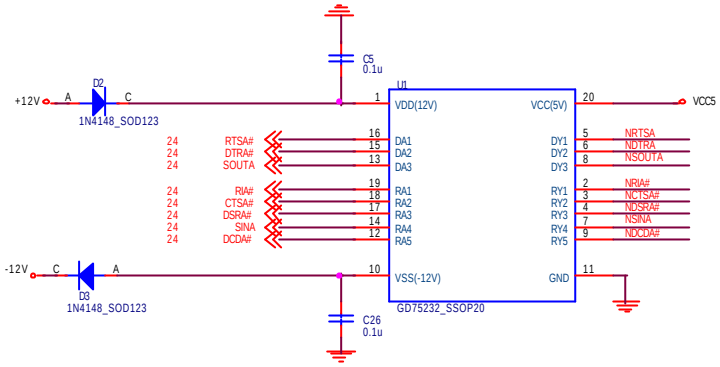


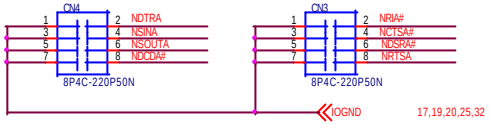


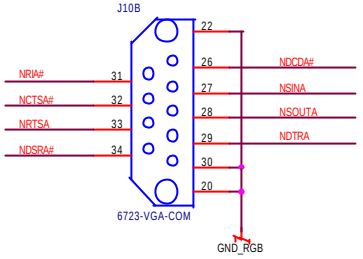
PARALLAL PORT

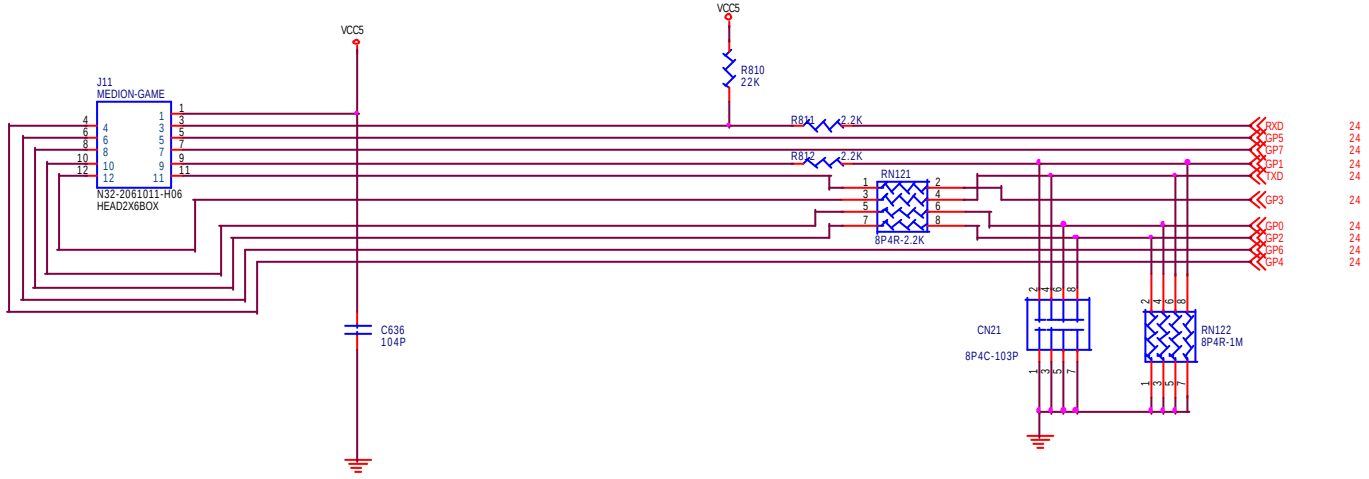


MICRO-STAR INT'L CO.,LTD.		
Title: Parallel Port		
Size: Custom	Document Number: MS-6778	Rev: 0A
Date: 星期一, 三月 03, 2003	Sheet 26 of 35	

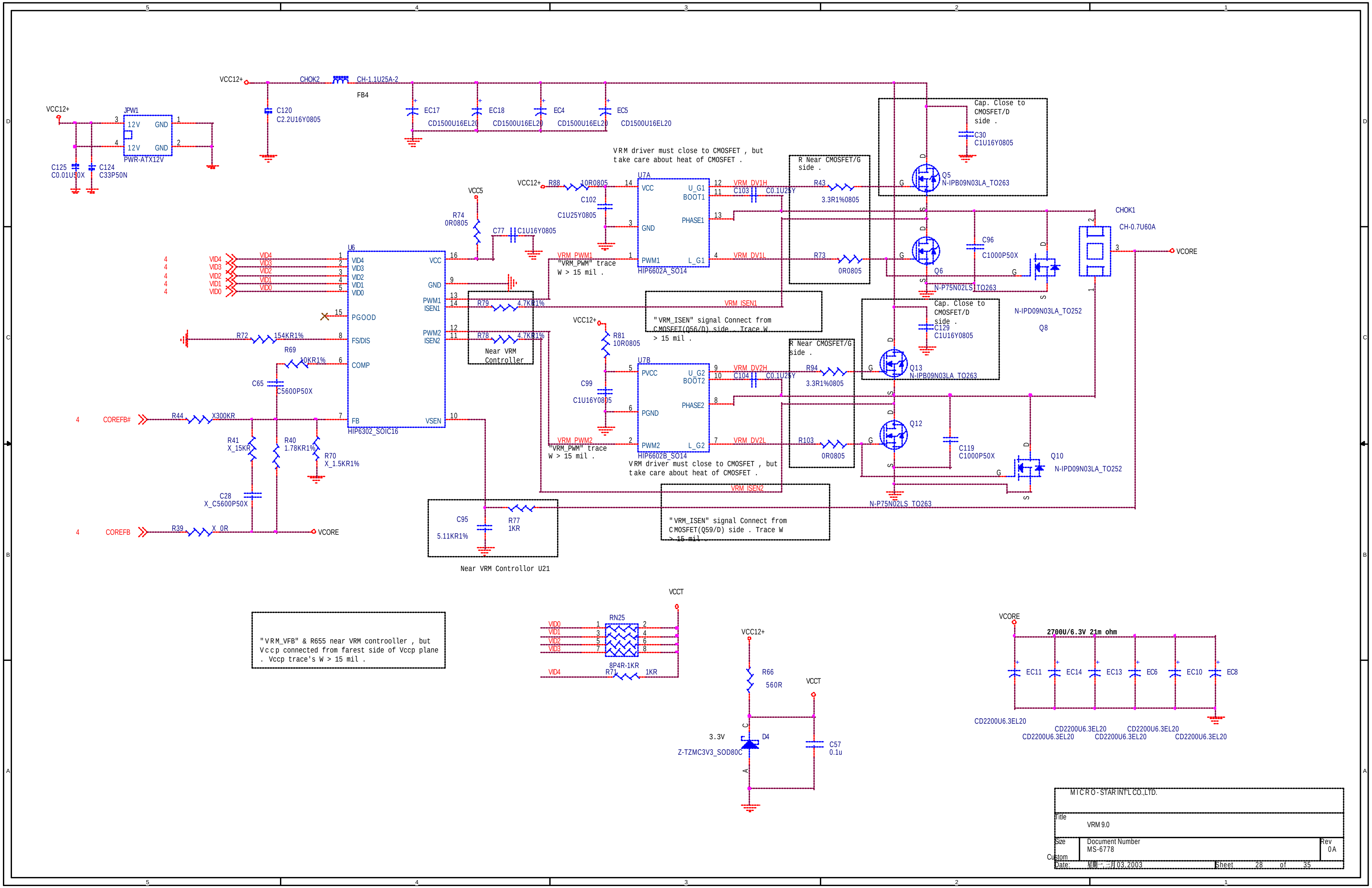




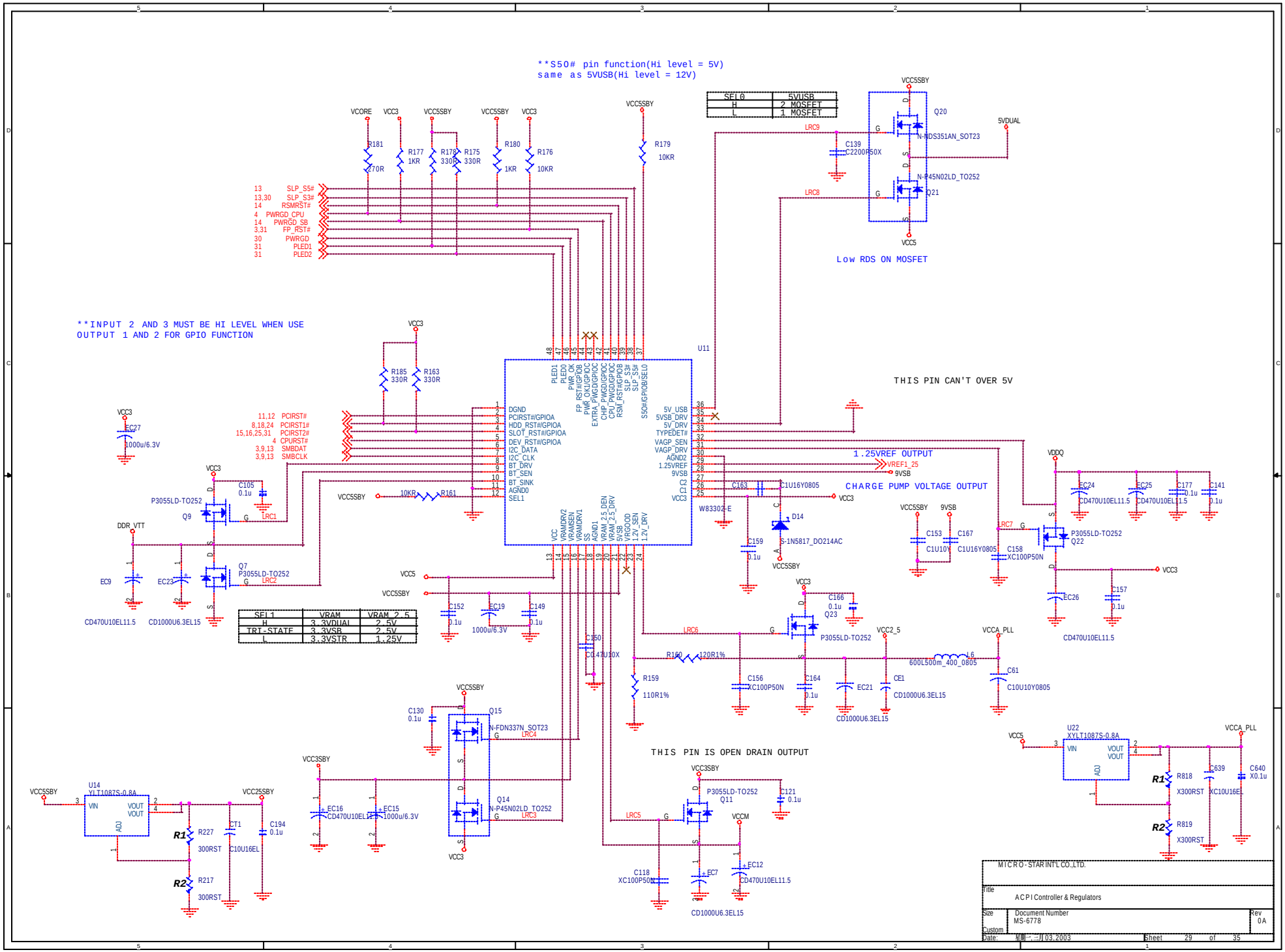




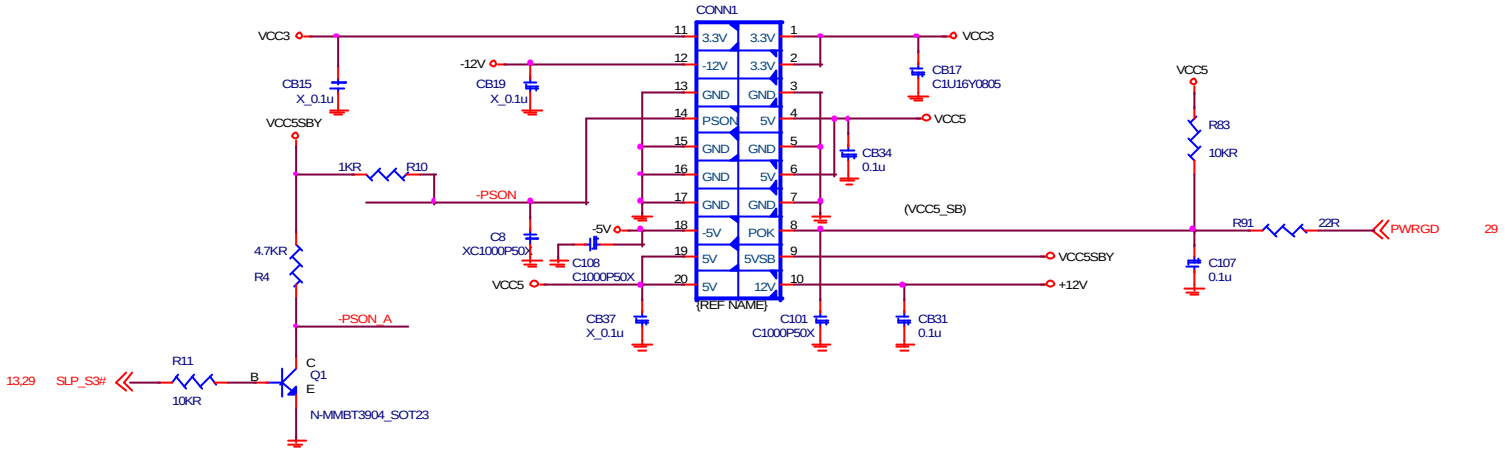
MICRO-STAR INT'L CO.,LTD.		
Title: SERIAL PORT & GAME PORT		
Size: Custom	Document Number: MS-6778	Rev: 0A
Date: 星期一, 二月 03, 2003	Sheet 27 of 35	

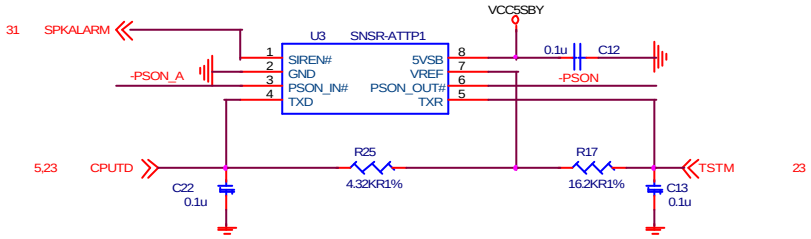


VRM driver must close to CMOSFET , but take care about heat of CMOSFET .
R Near CMOSFET/G side .
Cap. Close to CMOSFET/D side .
"VRM_PWM" trace W > 15 mil .
"VRM_ISEN" signal Connect from CMOSFET(Q56/D) side . Trace W > 15 mil .
Near VRM Controller
"VRM_ISEN" signal Connect from CMOSFET(Q59/D) side . Trace W > 15 mil .
Near VRM Controllor U21
"VRM_VFB" & R655 near VRM controoller , but Vccp connected from farest side of Vccp plane . Vccp trace's W > 15 mil .
2700U/6.3V 21m ohm
U6 HIP6302_SOIC16
U7A HIP6602A_SO14
U7B HIP6602B_SO14
JPW1 PWR-ATX12V
CHOK2 CH-1.1U25A-2 FB4
CHOK1 CH-0.7U60A
Q5 N-IPB09N03LA_TO263
Q6 N-P75N02LS_TO263
Q8 N-IPD09N03LA_TO252
Q13 N-IPB09N03LA_TO263
Q10 N-IPD09N03LA_TO252
Q12 N-P75N02LS_TO263
D4 Z-TZMC3V3_SOD80C 3.3V
RN25 8P4R-1KR
VCC12+
VCC5
VCCT
VCORE
COREFB#
COREFB
MICRO-STAR INT'L CO.,LTD.
Title VRM 9.0
Size Custom
Document Number MS-6778
Rev 0A
Date: 星期二, 三月 03, 2003
Sheet 28 of 35

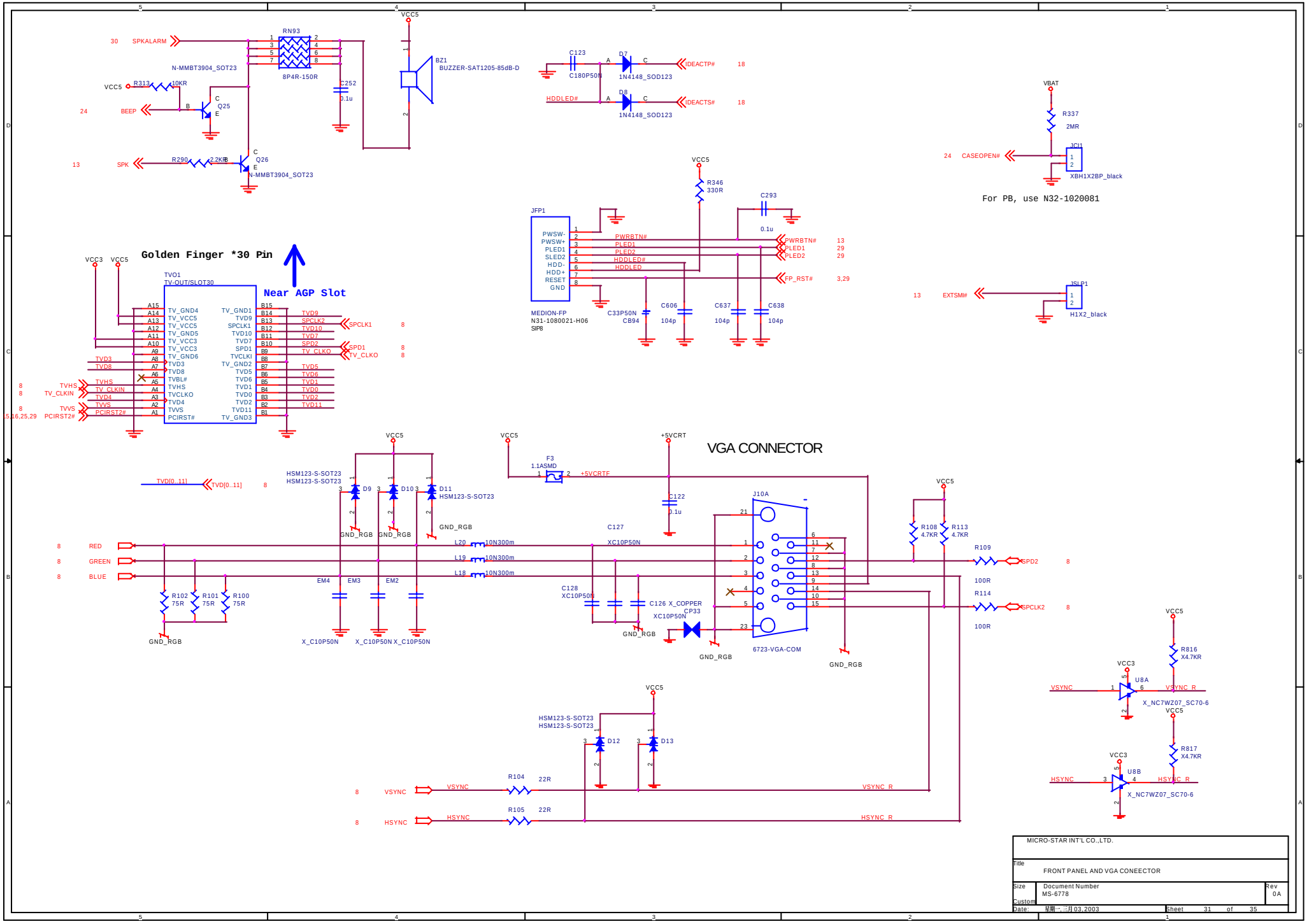

**S5O# pin function(Hi level = 5V)
same as 5VUSB(Hi level = 12V)
SEL0 | 5VUSB
H | 2 MOSFET
L | 1 MOSFET
Low RDS ON MOSFET
**INPUT 2 AND 3 MUST BE HI LEVEL WHEN USE
OUTPUT 1 AND 2 FOR GPIO FUNCTION
THIS PIN CAN'T OVER 5V
1.25VREF OUTPUT
CHARGE PUMP VOLTAGE OUTPUT
THIS PIN IS OPEN DRAIN OUTPUT
SEL1 | VRAM | VRAM_2_5
H | 3.3VDUAL | 2.5V
TRI-STATE | 3.3VSB | 2.5V
L | 3.3VSTR | 1.25V
MICRO-STAR INT'L CO.,LTD.
Title
ACPI Controller & Regulators
Size
Document Number
MS-6778
Rev
0A
Date:
Sheet 29 of 35

ATX CONNECTOR





MICRO-STAR INT'L CO.,LTD.		
Title: ATX Power Conn.		
Size: B	Document Number: MS-6778	Rev: 0A
Date: 星期一, 三月 03, 2003	Sheet 30 of 35	


SPKALARM
RN93
8P4R-150R
N-MMBT3904_SOT23
R313 10KR
BEEP
Q25
C252 0.1u
VCC5
BZ1 BUZZER-SAT1205-85dB-D
SPK
R290 2.2KR
Q26
C123 C180P50N
D7 1N4148_SOD123
D8 1N4148_SOD123
IDEACTP#
IDEACTS#
HDDLED#
VBAT
R337 2MR
CASEOPEN#
JCI1 XBH1X2BP_black
For PB, use N32-1020081
JFP1
PWSW-
PWSW+
PLED1
SLED2
HDD-
HDD+
RESET
GND
MEDION-FP
N31-1080021-H06
SIP8
R346 330R
C293 0.1u
PWRBTN#
PLED1
PLED2
HDDLED#
FP_RST#
C33P50N CB94
C606 104p
C637 104p
C638 104p
JSLP1 H1X2_black
EXTSM#
Golden Finger *30 Pin
Near AGP Slot
TVO1
TV-OUT/SLOT30
TVD3
TVD8
TVHS
TV_CLKIN
TVD4
TVVS
PCIRST2#
SPCLK1
SPD1
TV_CLKO
TVD9
TVD10
TVD7
SPD2
TVD5
TVD6
TVD1
TVD0
TVD2
TVD11
VGA CONNECTOR
HSM123-S-SOT23
D9
D10
D11
TVD[0..11]
F3 1.1ASMD
+5VCRT
+5VCRTF
C122 0.1u
J10A
6723-VGA-COM
RED
GREEN
BLUE
R102 75R
R101 75R
R100 75R
L20 10N300m
L19 10N300m
L18 10N300m
EM4
EM3
EM2
X_C10P50N
C127 XC10P50N
C128 XC10P50N
C126 X_COPPER
CP33 XC10P50N
R108 4.7KR
R113 4.7KR
R109 100R
R114 100R
SPD2
SPCLK2
GND_RGB
D12
D13
R104 22R
R105 22R
VSYNC
HSYNC
VSYNC_R
HSYNC_R
R816 X4.7KR
R817 X4.7KR
U8A
U8B
X_NC7WZ07_SC70-6
MICRO-STAR INT'L CO.,LTD.
FRONT PANEL AND VGA CONEECTOR
Document Number MS-6778
Rev 0A
Date: 星期一, 三月 03, 2003
Sheet 31 of 35

PCB OTHER COMPONENT

BS1_X1 BS2_X1 BS3_X1 BS4_X1 BS5_X1

MH1 MH2 MH5 MH6 MH4 MH3

IOGND 17,19,20,25,27 AGND 21,22

VCC5 J3 J2 X_PIN1*2 X_PIN1*2 CPU AGP

System Decoupling Capacitors

+12V: EC30 XC10U16EL, C224 X_0.1u, C296 X_0.1u, C6 XC39P50N

VCC5: EC29 XC10U16EL, C217 X_0.1u, C284 0.1u, C246 X_0.1u, C4 X_0.1u, C180 XC39P50N, C142 XC39P50N, EC475 1000u/10v-8X

-12V: EC31 XC10U16EL, C9 X_0.1u, C245 X_0.1u, C281 C39P50N

VCC3: EC32 XC10U16EL, C227 0.1u, C226 X_0.1u, C225 0.1u, C199 0.1u, C200 0.1u

VCC3SBY: C283 X_0.1u, C256 0.1u

VCC3: C253 0.1u, C259 X_0.1u, C258 0.1u

VCC5SBY: C138 0.1u, C116 0.1u, EC22 XCD470U10EL11.5

VCC5: C31 X_0.1u, C2 X_0.1u, C100 X_0.1u, C248 0.1u

VCC3: C155 X_0.1u, C160 0.1u, C131 X_0.1u

High Freq. return current decoupling

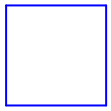
MH7 MH8

FM1 FM9 FM12 FM2 FM16 FM13 FM14 FM15

FM8 FM6 FM3 FM4 FM5 FM11 FM7 FM10

MICRO-STAR INT'L CO.,LTD.		
Title: DECOUPLING CAPACITOR		
Size: B	Document Number: MS-6778	Rev: 0A
Date: 星期一, 三月 03, 2003	Sheet 32 of 35	

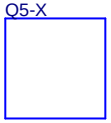
NB1_X



HS-0400070

PCB1

Q5-X



HS- MS6575

Q13-X

HS- MS6575

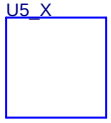
SW2(1-2)

YJUMPER-MG

SW1(1-2)

YJUMPER-MG

U5_X



W49F002U/2M

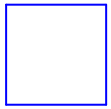
JAUD1(5-6)1

YJUMPER-MG

JAUD1(9-10)1

YJUMPER-MG

BAT1_X



Battery

JBAT1(1-2)

YJUMPER-MG

MICRO-STAR INT'L CO.,LTD.		
Title: MANUAL PART		
Size: A	Document Number: MS-6778	Rev: 0A
Date: 星期一, 三月 03, 2003	Sheet 33 of 33	

GPIO FUNCTION

VT8235 GPIO Function Define

PIN NAME	Default Function	Function define	Pull up / down
GPO0 (VSUS33)	GPO0	SUSLED (Power LED)	Pull up to 3VDUAL
GPO1/SUSA#(VSUS33)	SUSA#	NA	
GPO2/SUSB#(VSUS33)	SUSB#	SUSB#	
GPO3/SUSST1#(VSUS33)	SUSST1#	SUSST#	
GPO4/SUSCLK(VSUS33)	SUSCLK	CTL_PLED1# (Power LED)	
GPO5/CPUSTP#	CPUSTP#	NA	Pull up to VCC3
GPO6/PCISTP#	PCISTP#	NA	Pull up to VCC3
GPO7/SLP#	GPO7	NA	
GPO8/GPI8/IPBIN0	GPI8	JPWD1	Pull up to VCC3
GPO9/GPI9/IPBIN1	GPI9	JBAT1	Pull up to VCC3
GPO10/GPI10/IPBRDFR	GPI10	HWID1	Pull up to VCC3
GPO11/GPI11/IPBRDCK	GPI11	HWID3	Pull up to VCC3
GPO12/GPI12/IPBOUT0	GPI12	ROMLOCK	
GPO13/GPI13/IPBOUT1	GPI13	NA	
GPO14/GPI14/IPBTDFR	GPI14	HWID0	Pull up to VCC3
GPO15/GPI15/IPBTDCK	GPI15	HWID2	Pull up to VCC3
GPO16/SA16/STRAP	SA16	LDT Freq Strapping Bit0	
GPO17/SA17/STRAP	SA17	LDT Freq Strapping Bit1	
GPO18/SA18/STRAP	SA18	LDT Width (Low=8 Bit)	
GPO19/SA19/STRAP	SA19	Fast Command (Low=Disable)	
GPO20/GPI20 /ACSDIN2/PCS0#/EI	GPI20	NA	Pull down to GND
GPO21/GPI21/ACSDIN3 /PCS1#/SLPBTN#	GPI21	NA	Pull down to GND
GPO22/GPI22/IOR#	GPI22	NA	Pull up to VCC3
GPO23/GPI23/IOW#	GPI23	NA	Pull up to VCC3
GPO24/GPI24/GPIOA	GPI24	NA	Pull up to VCC3
GPO25/GPI25/GPIOC	GPI25	NA	Pull up to VCC3
GPO26/GPI26/SMBDT2 (VSUS33)	SMBDT2	SMBDATA2/Slave SMBUS	Pull up to 3VDUAL
GPO27/GPI27/SMBCK2 (VSUS33)	SMBCK2	SMBCLK2/Slave SMBUS	Pull up to 3VDUAL
GPO28/GPI28/ APICD0/APICCS#		NA	Pull up to VCC3
GPO29/GPI29/ APICD1/APICACK#		NA	Pull up to VCC3
GPO30/GPI30/GPIOD	GPI30	NA	Pull up to VCC3
GPO31/GPI31/GPIOE	GPI31	NA	Pull up to VCC3

PIN NAME	Default Function	Function define	Pull up / down
GPI0 (VBAT)	GPI0	NA	Pull up to VBAT
GPI1 (VSUS33)	GPI1	ATADET0=>Detect IDE1 ATA100/66	Pull up to 3VDUAL
GPI2/EXTSMI# (VSUS33)	EXTSMI#	EXTSMI#	Pull up to 3VDUAL
GPI3/RING# (VSUS33)	RING#	RING#	Pull up to 3VDUAL
GPI4/LID# (VSUS33)	LID#	ATADET1=>Detect IDE2 ATA100/66	Pull up to 3VDUAL
GPI5/BATLOW# (VSUS33)	BATLOW#	NA	Pull up to 3VDUAL
GPI6/PME#		PCI_PME#	Pull up to 3VDUAL
GPI7/SMBALRT#	GPI7	NA	Pull up to 3VDUAL
GPI16/INTRUDER# (VBAT)	INTRUDER#	NA	Pull up to VBAT
GPI17/CPUMISS	CPUMISS	NA	Pull up to 3VDUAL
GPI18/AOLGP1/THRM#	AOLGP1	THRM#	Pull up to 3VDUAL
GPI19/IORDY	IORDY	NA	Pull up to VCC3

PCI Routing

DEVICES	INT#	IDSEL	REQ#/GNT#	CLOCK
PCI SLOT 1	INT#A INT#B INT#C INT#D	AD16	PREQ#1 PGNT#1	PCICLK1
PCI SLOT 2	INT#B INT#C INT#D INT#A	AD17	PREQ#2 PGNT#2	PCICLK2
PCI SLOT 3	INT#C INT#D INT#A INT#B	AD18	PREQ#3 PGNT#3	PCICLK3
PCI SLOT 2 (MEDION 2nd)	INT#A	AD19	PREQ#4 PGNT#4	PCICLK4
1394	INT#D	AD25	PREQ#5 PGNT#5	1394_PCLK
LAN	INT#A	AD26	PREQ#0 PGNT#0	LAN_PCLK

Revision Initial ver:0A on 02/19/2003
GERBER OUT 03/03/2003

Micro Star Restricted Secret

Title	*History*
Document Number	*MS-6778*
Rev	0A

MICRO-STAR INT'L CO.,LTD.
69, Li-De St, Jung-He City, Taipei Hsien, Taiwan
http://www.msi.com.tw

Last Revision Date: 星期一, 三月 03, 2003

Sheet 35 of 35