淘本本
TBenBen.com

JGL1(1-2)

JC-D2-GN

J13(1-2)

X_JC-D2-GN

J31_X

JC-D2-GN

J27(1-2)

JC-D2-GN

JBAT1(1-2)

JC-D2-GN

J12(1-2)

JC-D2-GN

PCB

PCB_MS-9121-00A

Battery

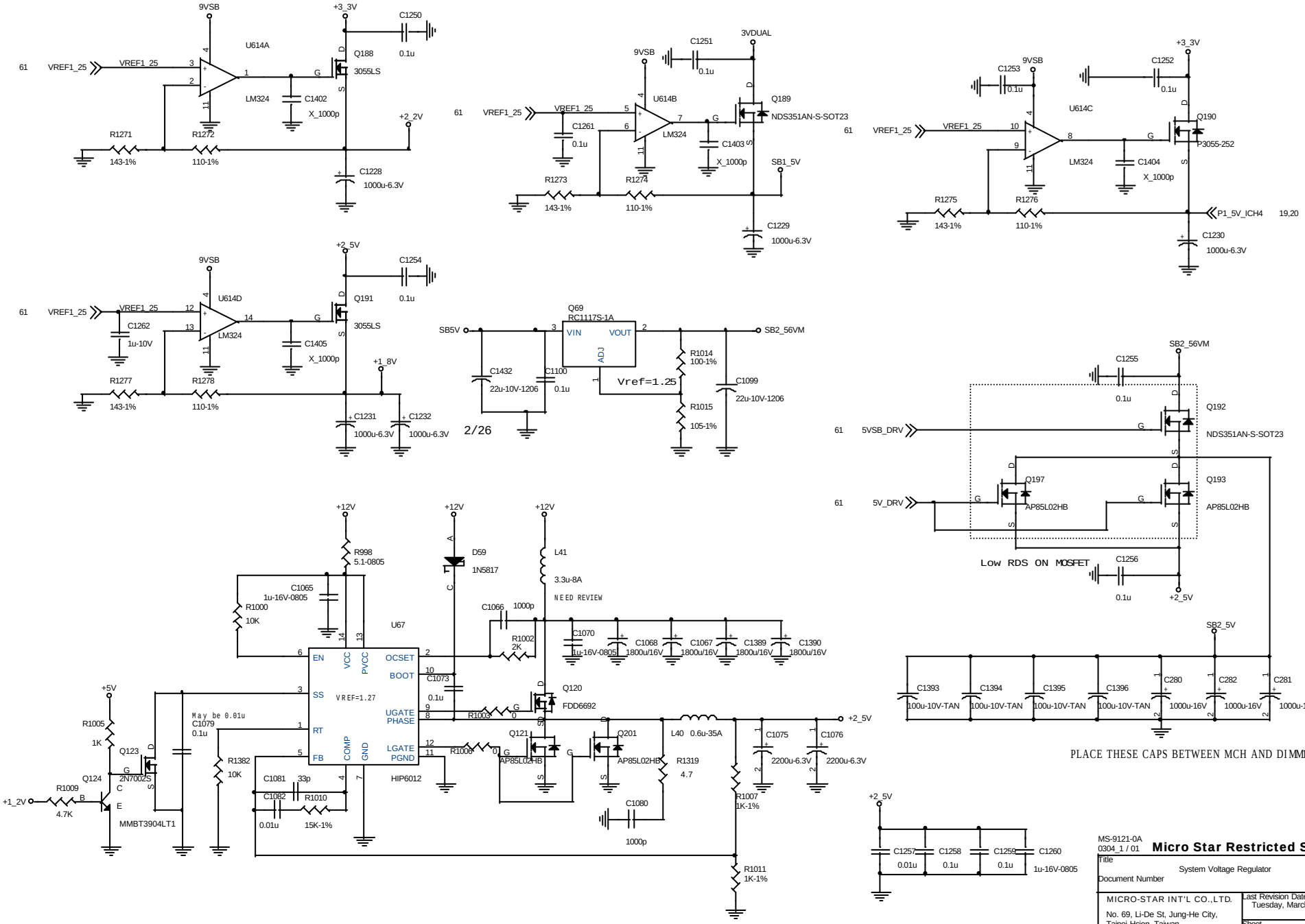
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BAT-CR2032-3V-210MAH

U34_1

FWH-8Mb

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Size A	Document Number {Doc}	Rev {RevCode}
Date: Tuesday, March 05, 2002	Sheet 1 of 1	


9VSB
+3_3V
C1250
U614A
61 VREF1_25
VREF1_25
Q188
3055LS
LM324
C1402
X_1000p
+2_2V
R1271
R1272
143-1%
110-1%
C1228
1000u-6.3V
C1251
3VDUAL
U614B
Q189
NDS351AN-S-SOT23
C1261
0.1u
C1403
SB1_5V
R1273
R1274
C1229
C1253
C1252
U614C
Q190
P3055-252
C1404
R1275
R1276
P1_5V_ICH4
19,20
C1230
+2_5V
C1254
U614D
Q191
C1262
1u-10V
C1405
+1_8V
R1277
R1278
C1231
C1232
Q69
RC1117S-1A
VIN
VOUT
ADJ
SB5V
SB2_56VM
C1432
22u-10V-1206
C1100
Vref=1.25
R1014
100-1%
R1015
105-1%
C1099
2/26
C1255
SB2_56VM
Q192
5VSB_DRV
Q197
Q193
5V_DRV
AP85L02HB
Low RDS ON MOSFET
C1256
+2_5V
SB2_5V
C1393
C1394
C1395
C1396
C280
C282
C281
100u-10V-TAN
1000u-16V
PLACE THESE CAPS BETWEEN MCH AND DIMM
+12V
R998
5.1-0805
D59
1N5817
L41
3.3u-8A
NEED REVIEW
C1065
1u-16V-0805
R1000
10K
C1066
1000p
U67
R1002
2K
C1070
C1068
C1067
C1389
C1390
1800u/16V
EN
VCC
PVCC
OCSET
BOOT
C1073
0.1u
Q120
FDD6692
SS
VREF=1.27
UGATE
PHASE
R1003
0
RT
LGATE
PGND
FB
COMP
GND
HIP6012
+5V
R1005
1K
Q123
2N7002S
Q124
C1079
May be 0.01u
R1382
10K
C1081
33p
C1082
0.01u
R1010
15K-1%
R1009
4.7K
+1_2V
MMBT3904LT1
R1006
Q121
AP85L02HB
Q201
L40 0.6u-35A
R1319
4.7
C1080
1000p
C1075
C1076
2200u-6.3V
R1007
1K-1%
R1011
1K-1%
C1257
C1258
C1259
C1260
0.01u
1u-16V-0805
MS-9121-0A
0304_1 / 01
Micro Star Restricted Secret
Title
System Voltage Regulator
Rev
0A
Document Number
MICRO-STAR INT'L CO.,LTD.
No. 69, Li-De St, Jung-He City,
Taipei Hsien, Taiwan
http://www.msi.com.tw
Last Revision Date:
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Sheet
17 of 57

SEL0	5VUSB
H	2 MOSFET
L	1 MOSFET

5VUSB USE 2 MOSFET

SOT23

**S5O# pin function(Hi level = 5V)
same as 5VUSB(Hi level = 12V)

T0252

Low RDS ON MOSFET

INPUT 1 — CONNECT TO CHIP POWER CONTROL PIN
CONNECT TO CHIP RSMRST# PIN
OUTPUT 1 — POWER_GD OUTPUT CONNECT TO CPU AND CHIP
BUFFER FROM PWR_OK AND NO EFFECT BY FP_RST#
FRONT PANEL RESET BUTTON
INPUT 2 — POWER SUPPLY PWR_GD INPUT

ACPI POWER LED

PCIRST# INPUT
PCIRST# BUFFER OUTPUT
I2C BUS SLAVE DEVICE(+5V)

1.25VREF OUTPUT

CHARGE PUMP VOLTAGE OUTPUT

CLOSE TO CHIP

CLOSE TO CHIP

Low RDS ON MOSFET

BT_DRV CAN BE USE FOR OTHER VOLTAGE REGULATOR WHEN DOESN'T USE DDR TERMINATION REGULATOR. THE APPLICATION CIRCUIT IS SAME VRAM_2.5

SEL1	VRAM	VRAM_2.5
H	3.3VDUAL	2.5V
TRI-STATE	3.3VSB	2.5V
L	3.3VSTR	1.25V

FOR 3VDUAL SETTING BY SEL1

MS-9121-0A
0304_1/01

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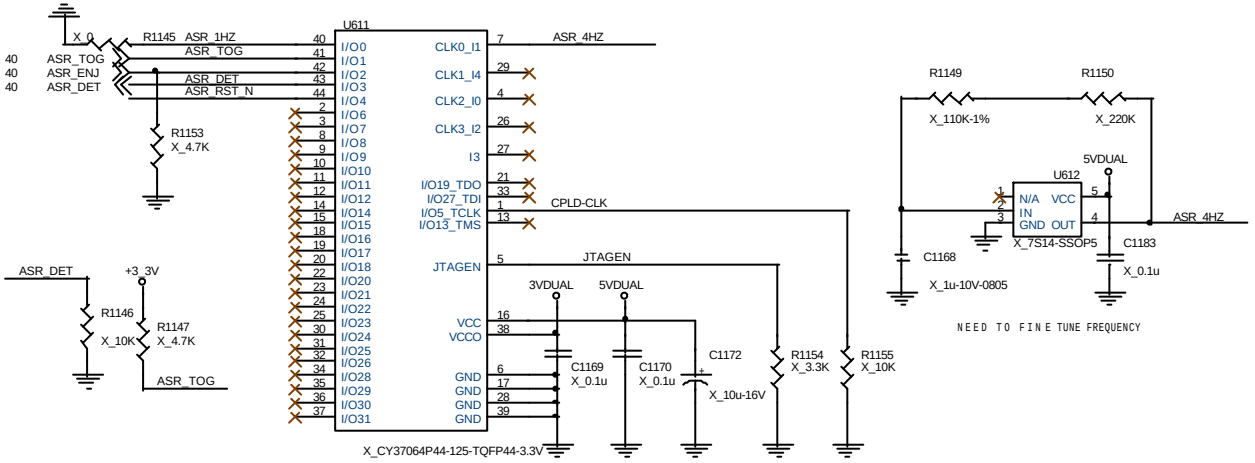
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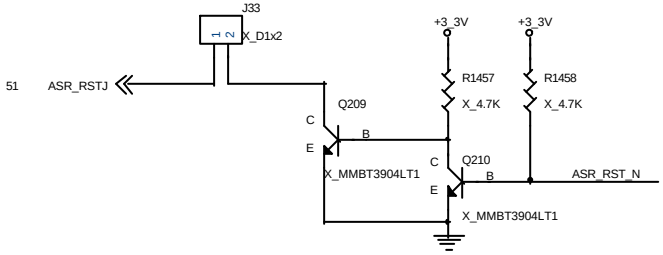
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Last Revision Date: Tuesday, March 05, 2002

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Net name	Connect to	Default state	Action
ASR_TOG		HIGH	This pin should be a active low pluse signal per 20 sec. It is used to reset the counter. If no reset signal within 255 sec, ASR event occur.
ASR_EN#		HIGH	Use to enable ASR function, active Low.
ASR_DET		LOW	High means ASR event occur.
ASR_RST#	System reset circuit	HIGH	If ASR function enable and ASR event occur, it will issue a 500ms low pluse to reset system.

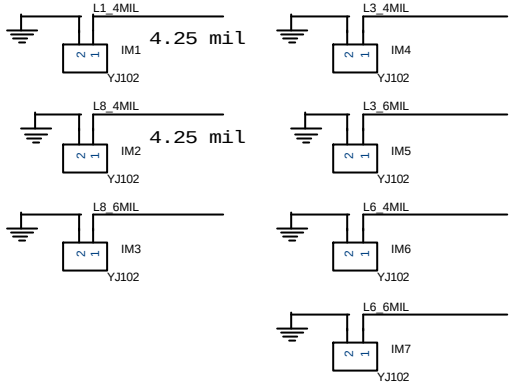




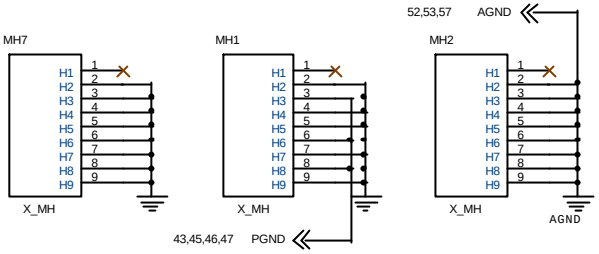
MS-9121-0A
0304_1 / 01

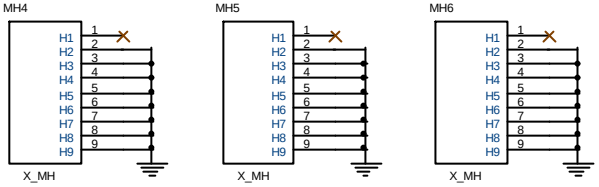
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Title	ASR	Rev
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MICRO-STAR INT'L CO.,LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Tuesday, March 05, 2002 Sheet 17 of 57

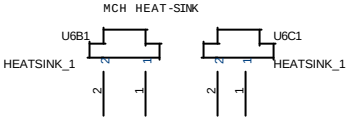


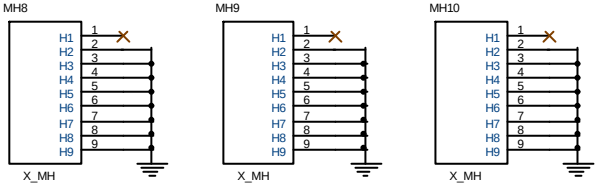
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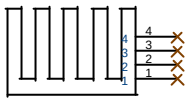


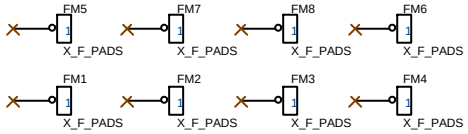


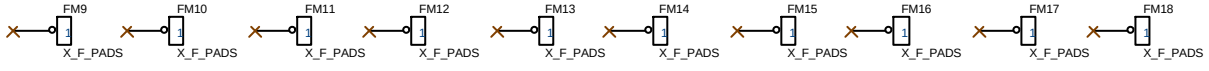


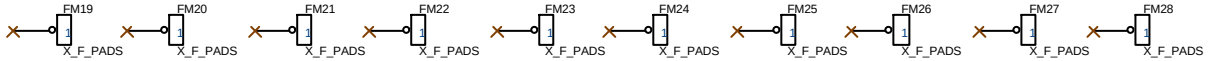












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0304_1 / 01

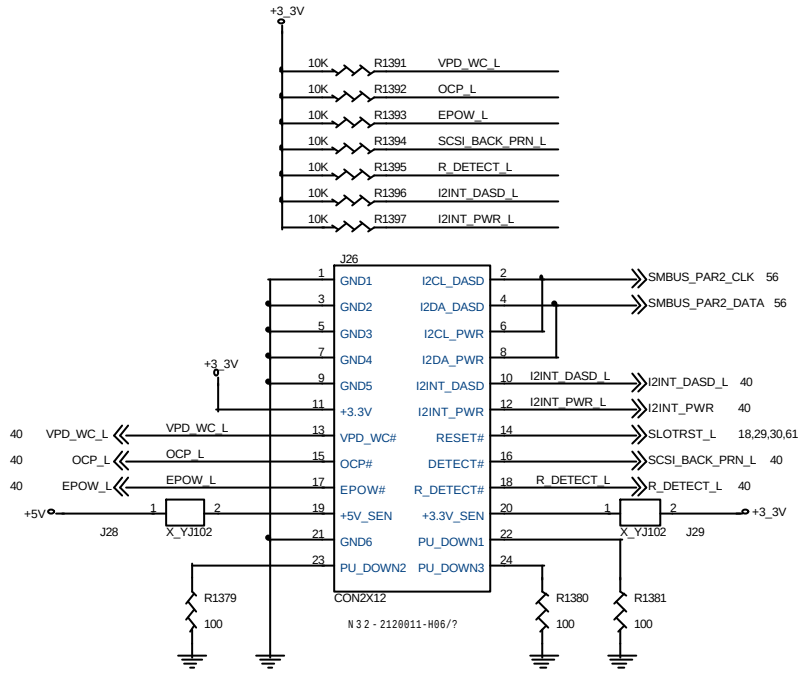
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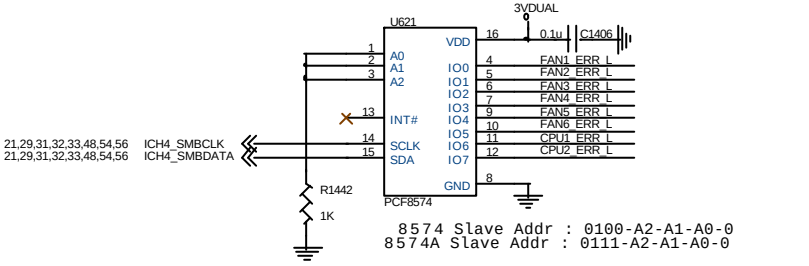
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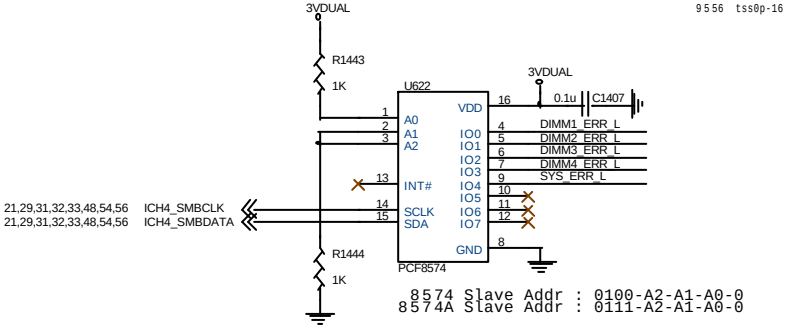
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Taipei Hsien, Taiwan
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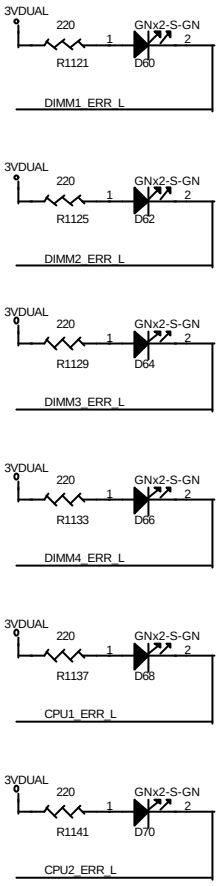
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Tuesday, March 05, 2002

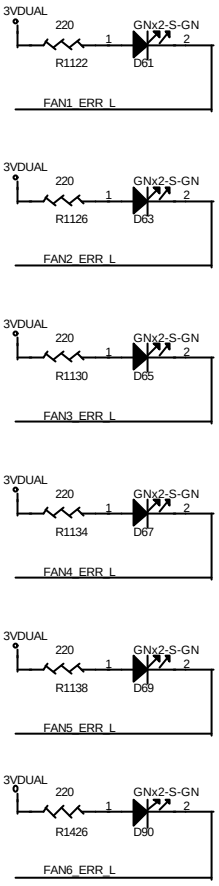
Sheet 17 of 57

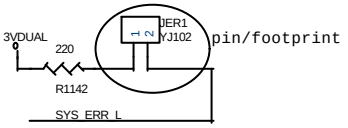




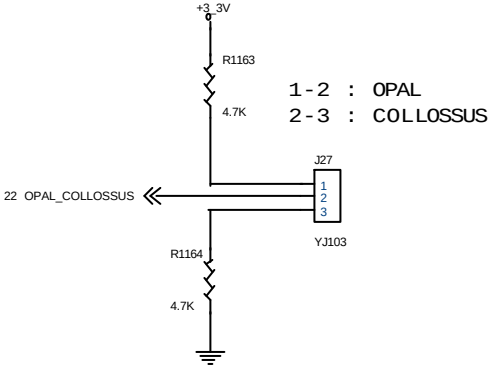








NO P/N
NO FTP



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0304_1 / 01

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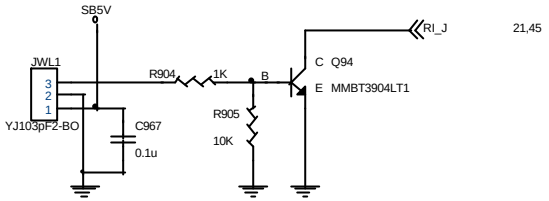
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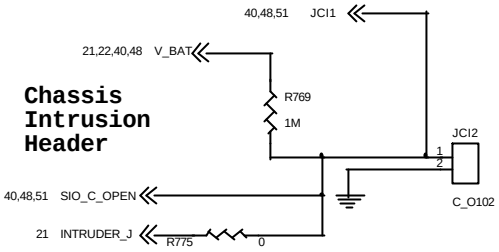
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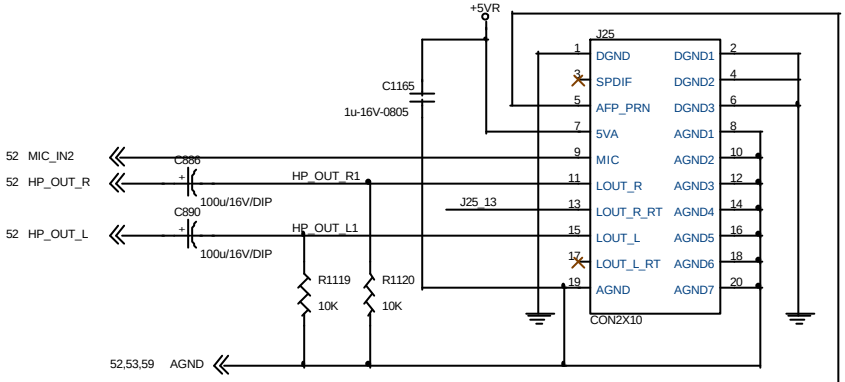
Sheet 17 of 57

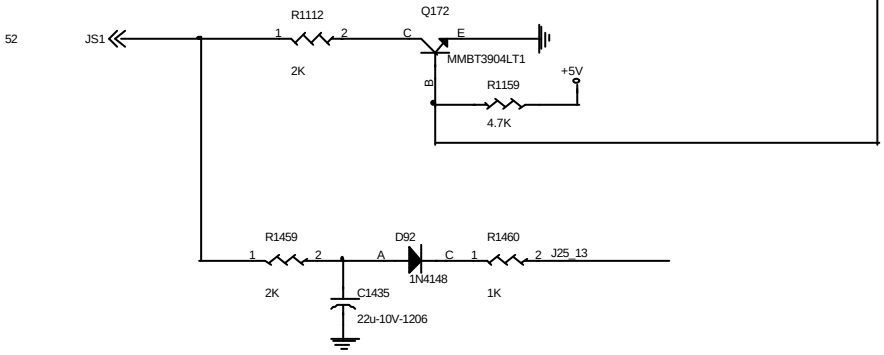
Wakeup On LAN Header



Chassis Intrusion Header





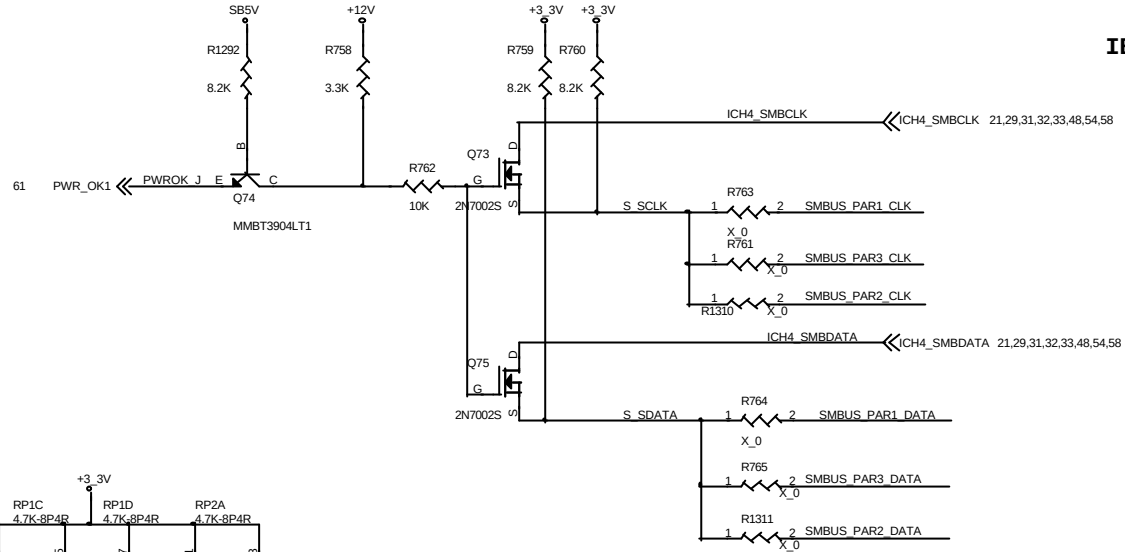


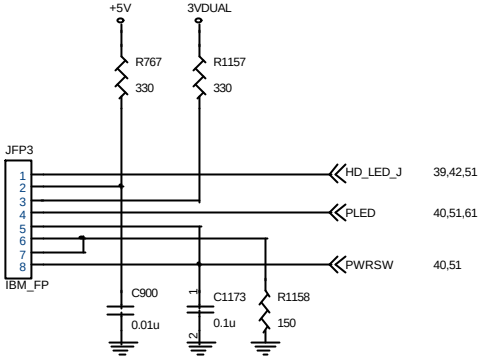
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0304_1 / 01

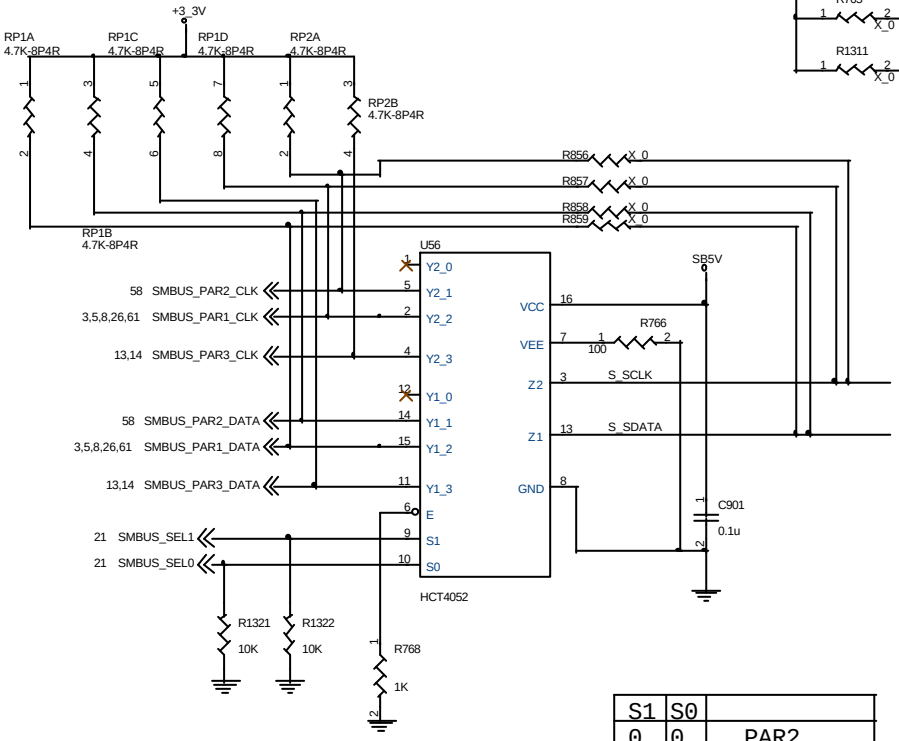
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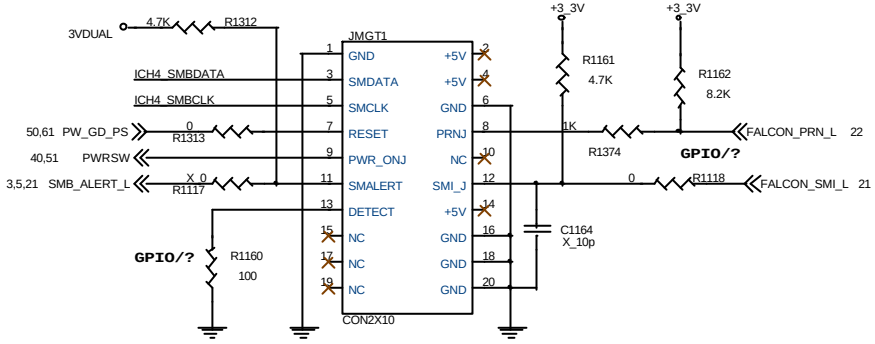
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MICRO-STAR INT'L CO.,LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw	Last Revision Date: Tuesday, March 05, 2002	Sheet 17 of 57

IBM Front Panel







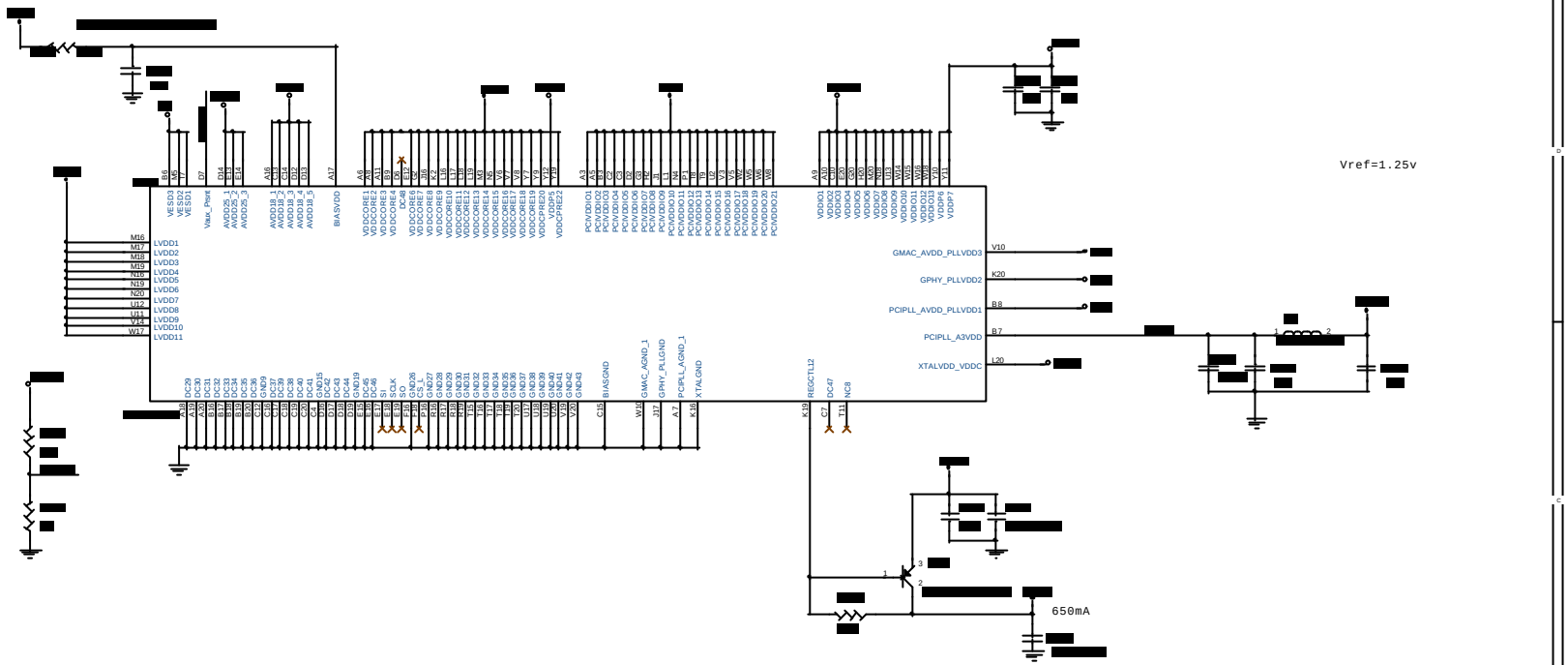


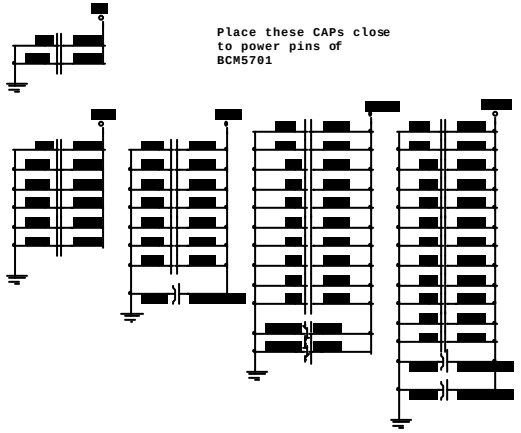
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0	1	PAR3
1	0	PAR1
1	1	PAR1

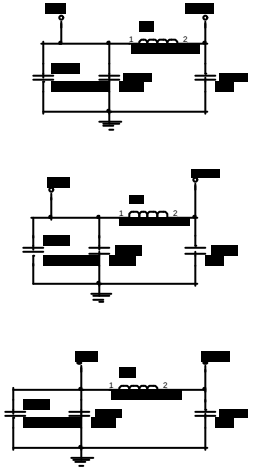
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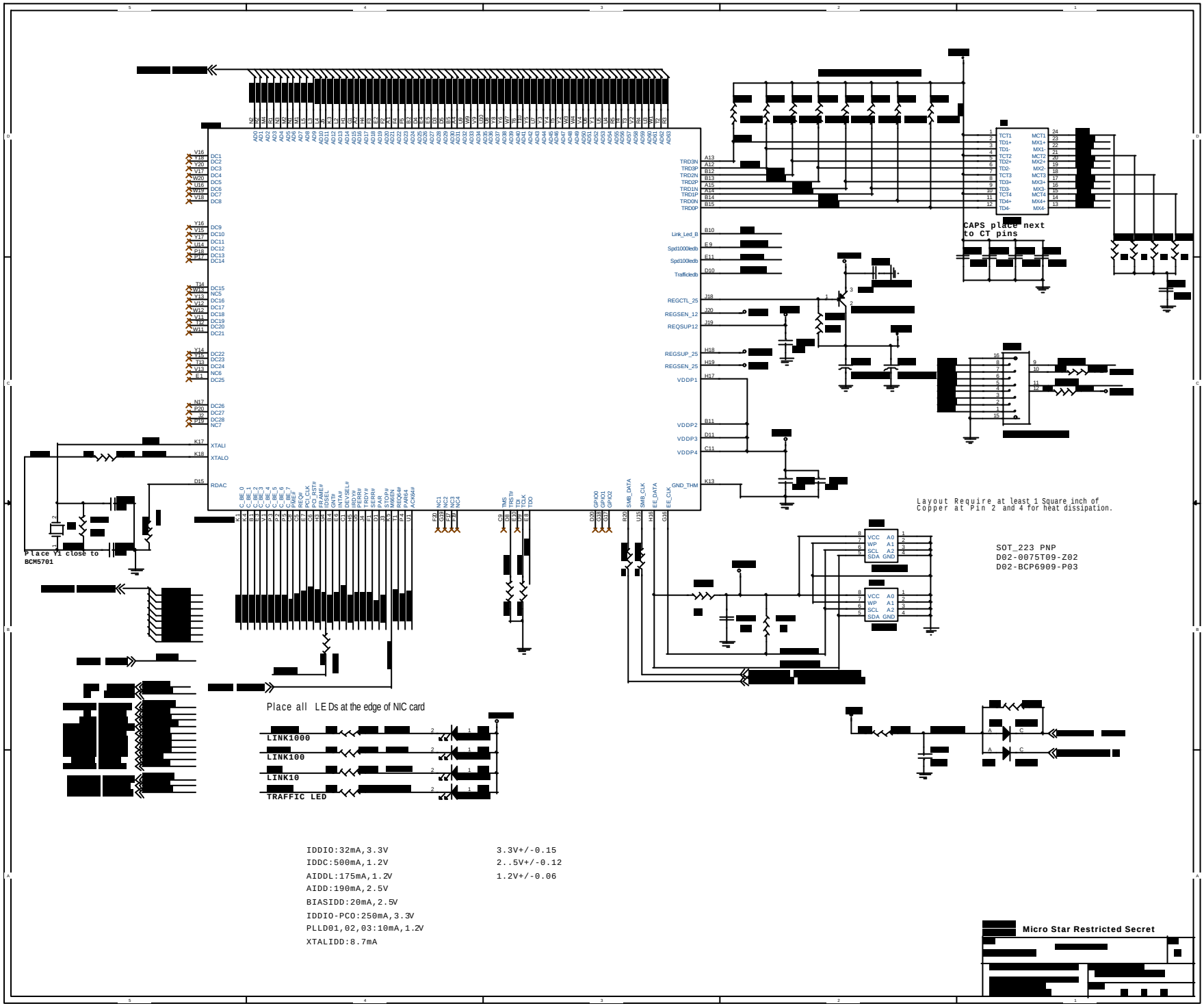
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MICRO-STAR INT'L CO.,LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw	Last Revision Date: Tuesday, March 05, 2002	Sheet 17 of 57







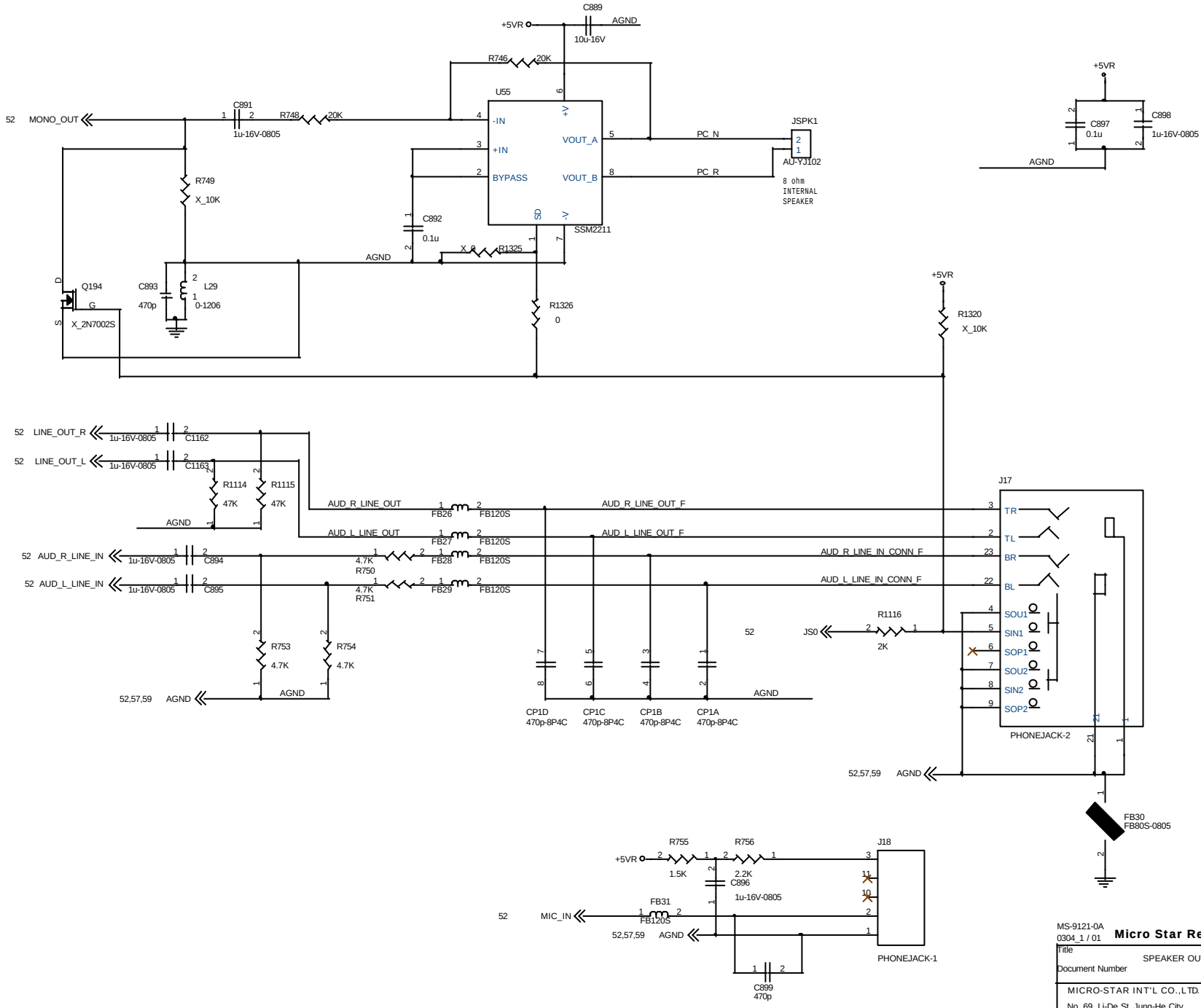
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IDDIO:32mA,3.3V
IDDC:500mA,1.2V
AIDDL:175mA,1.2V
AIDD:190mA,2.5V
BIASIDD:20mA,2.5V
IDDIO-PCO:250mA,3.3V
PLLD01,02,03:10mA,1.2V
XTALIDD:8.7mA

3.3V+/-0.15
2..5V+/-0.12
1.2V+/-0.06

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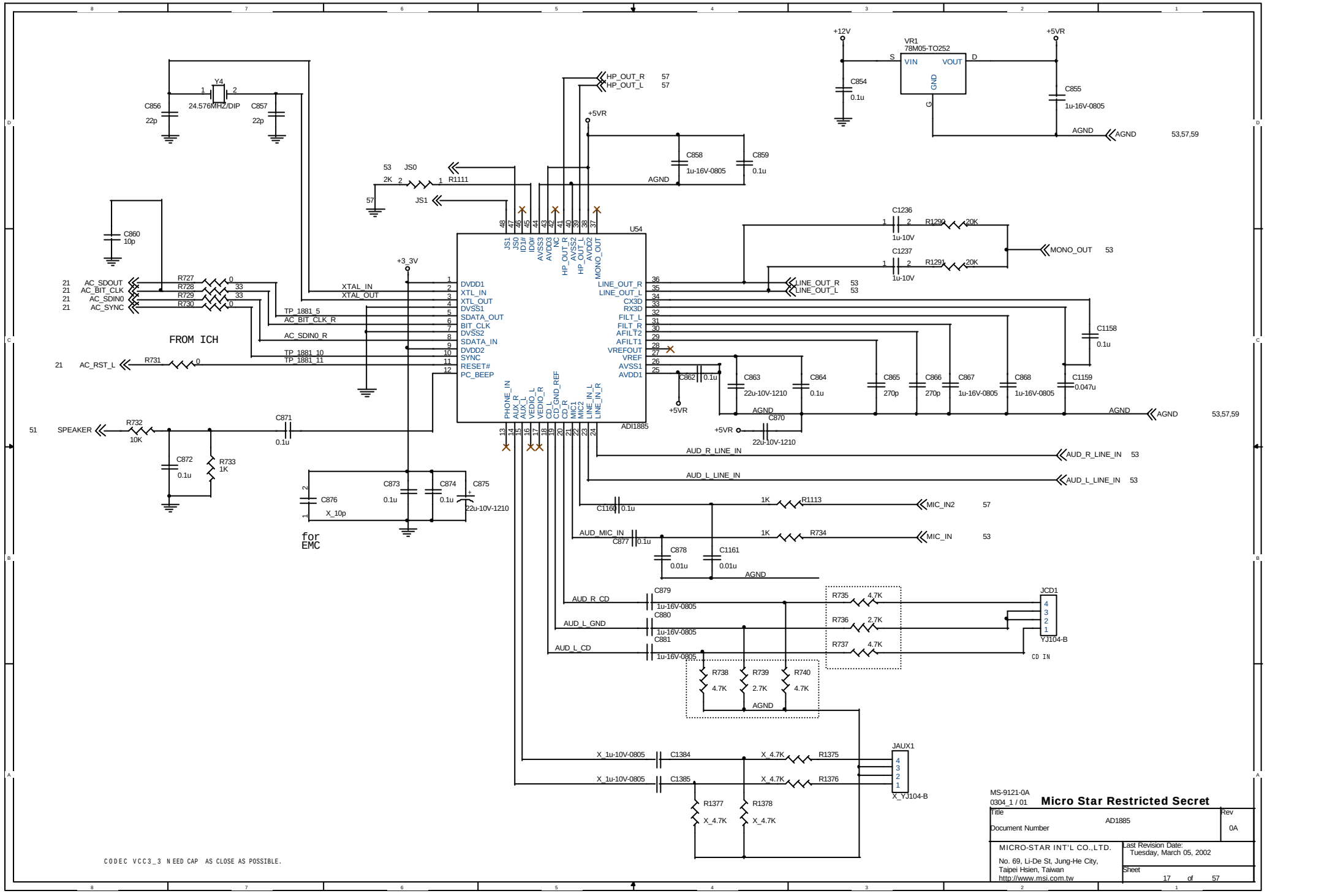
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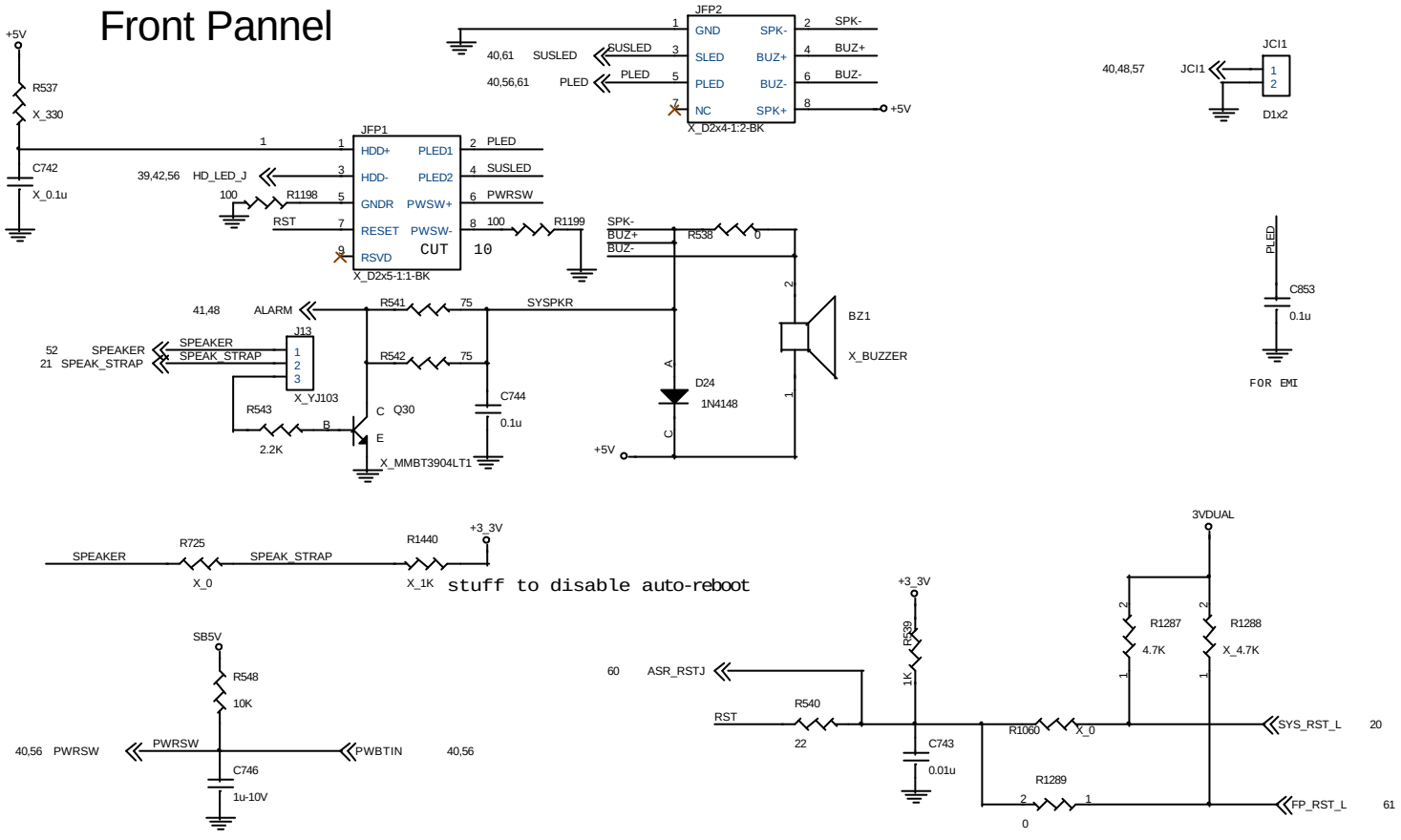
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+12V
VR1
78M05-TO252
VIN
VOUT
GND
+5VR
C854
0.1u
C855
1u-16V-0805
AGND
AGND 53,57,59
HP_OUT_R 57
HP_OUT_L 57
Y4
24.576MHZ/DIP
C856
22p
C857
22p
C858
1u-16V-0805
C859
0.1u
53 JS0
2K
R1111
57 JS1
C860
10p
U54
ADI1885
DVDD1
XTL_IN
XTL_OUT
DVSS1
SDATA_OUT
BIT_CLK
DVSS2
SDATA_IN
DVDD2
SYNC
RESET#
PC_BEEP
LINE_OUT_R
LINE_OUT_L
CX3D
RX3D
FILT_L
FILT_R
AFILT2
AFILT1
VREFOUT
VREF
AVSS1
AVDD1
+3_3V
21 AC_SDOUT
21 AC_BIT_CLK
21 AC_SDIN0
21 AC_SYNC
R727 0
R728 33
R729 33
R730 0
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XTAL_OUT
TP_1881_5
AC_BIT_CLK_R
AC_SDIN0_R
TP_1881_10
TP_1881_11
FROM ICH
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C1236
1u-10V
R1290 20K
C1237
1u-10V
R1291 20K
MONO_OUT 53
LINE_OUT_R 53
LINE_OUT_L 53
C1158
0.1u
C862 0.1u
C863
22u-10V-1210
C864
0.1u
C865
270p
C866
270p
C867
1u-16V-0805
C868
1u-16V-0805
C1159
0.047u
C870
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C871
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C872
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R733
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C873
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C874
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C875
22u-10V-1210
C876
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for
EMC
AUD_R_LINE_IN
AUD_R_LINE_IN 53
AUD_L_LINE_IN
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MIC_IN 53
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CD IN
R738 4.7K
R739 2.7K
R740 4.7K
X_1u-10V-0805
C1384
X_4.7K
R1375
C1385
R1376
JAUX1
X_YJ104-B
R1377
X_4.7K
R1378
X_4.7K
CODEC VCC3_3 NEED CAP AS CLOSE AS POSSIBLE.
MS-9121-0A
0304_1 / 01
Micro Star Restricted Secret
Title
AD1885
Rev
0A
Document Number
MICRO-STAR INT'L CO.,LTD.
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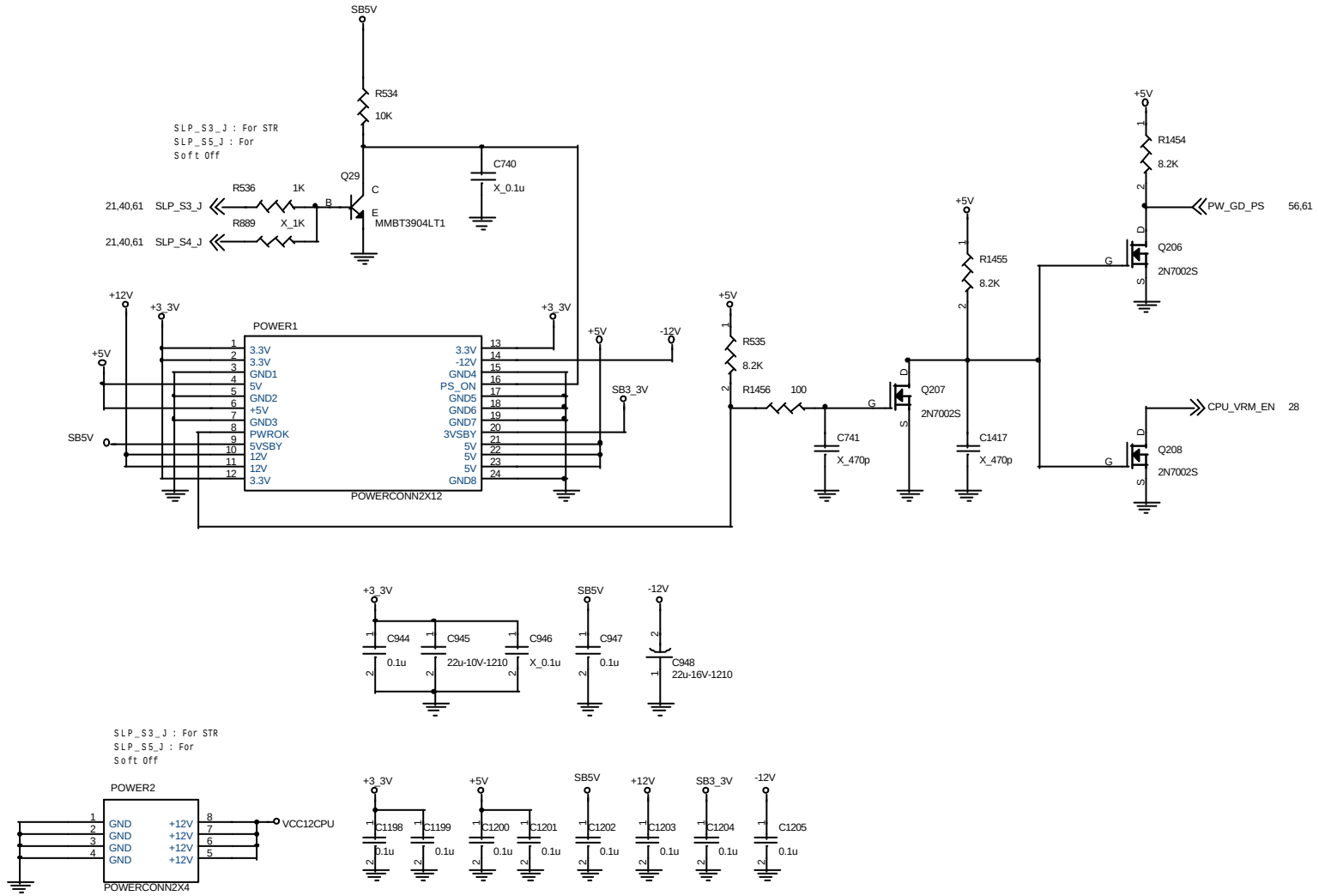
Front Pannel



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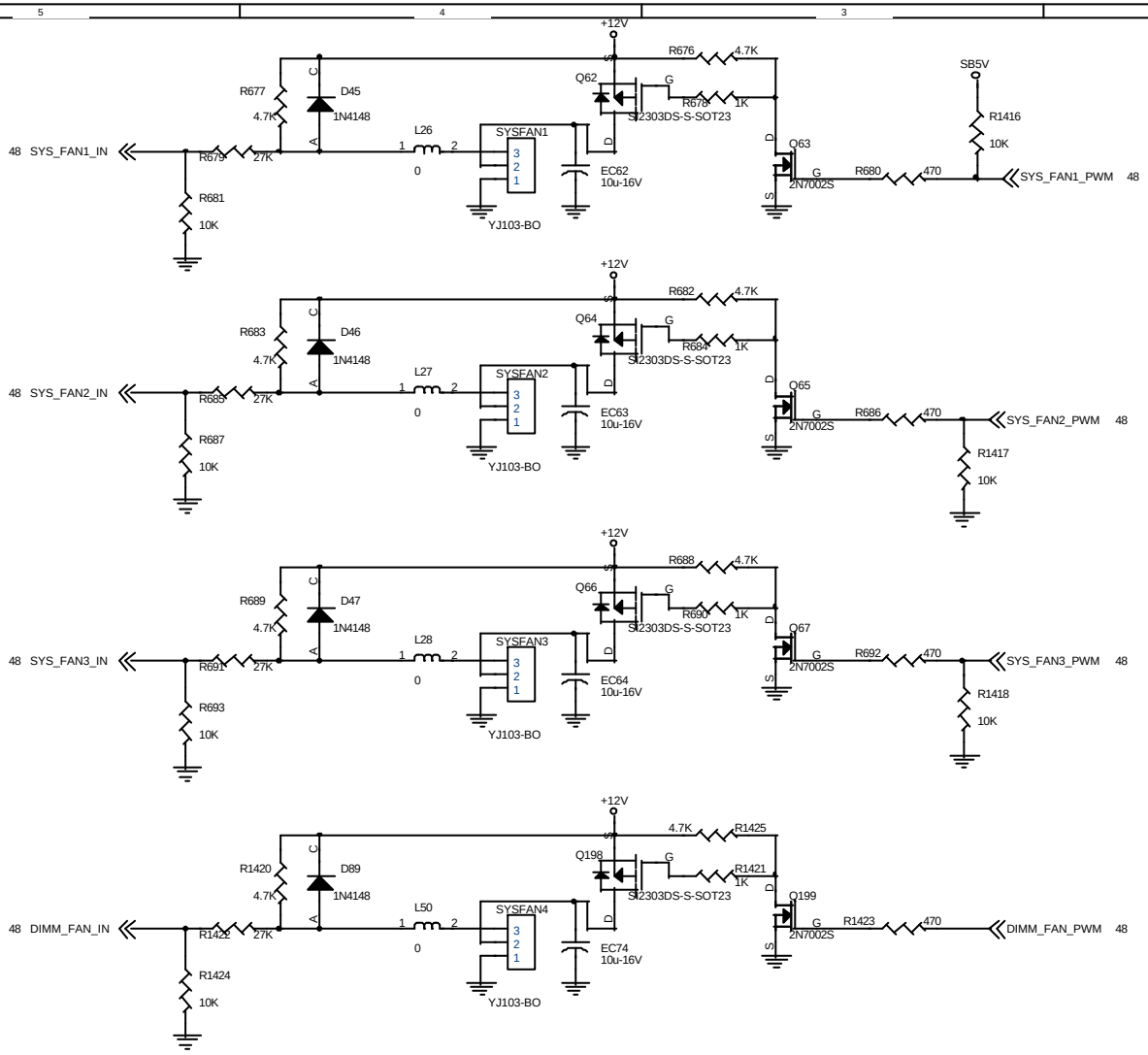
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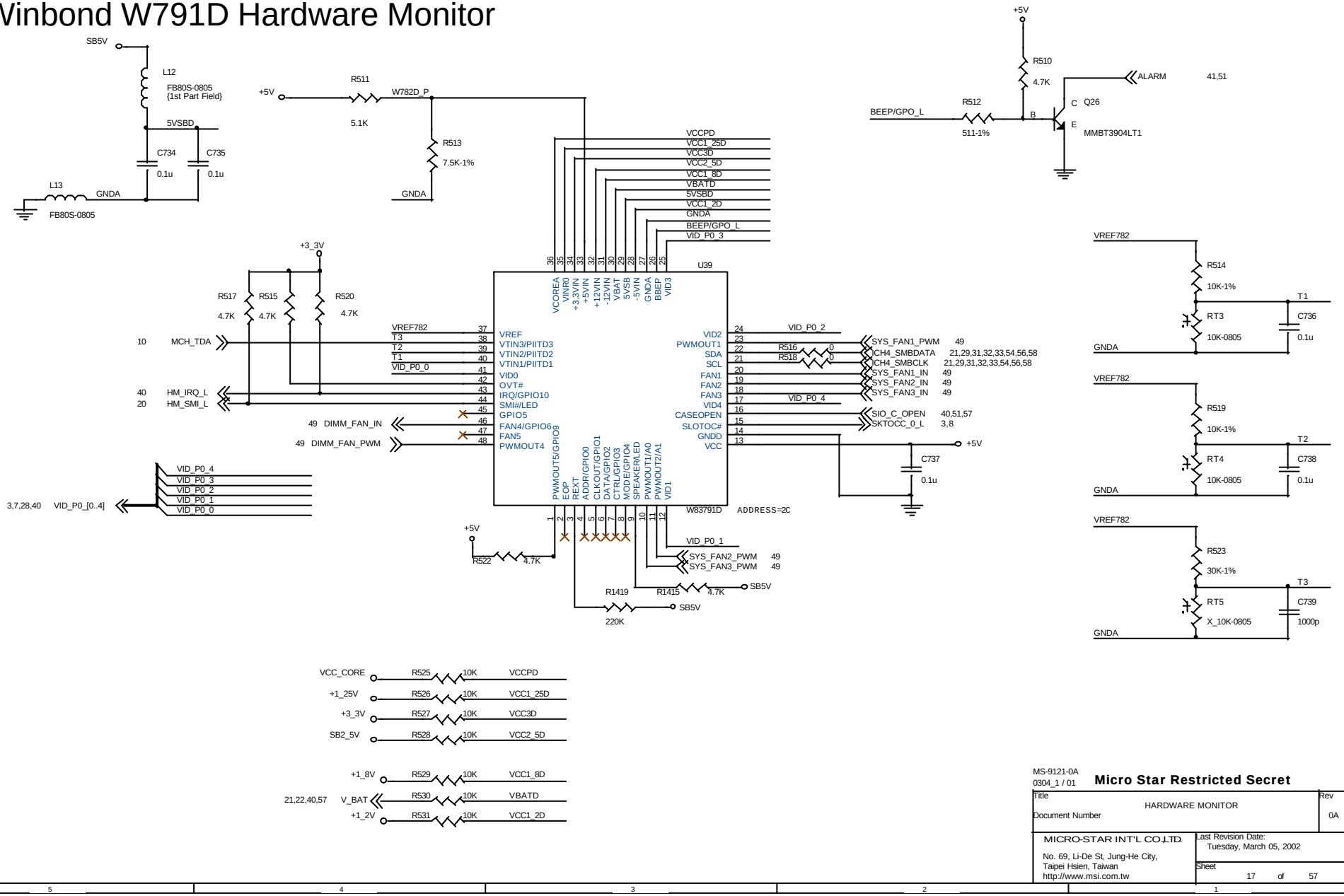


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Title: SYSTEM FANS		Rev: 0A
Document Number		
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Winbond W791D Hardware Monitor



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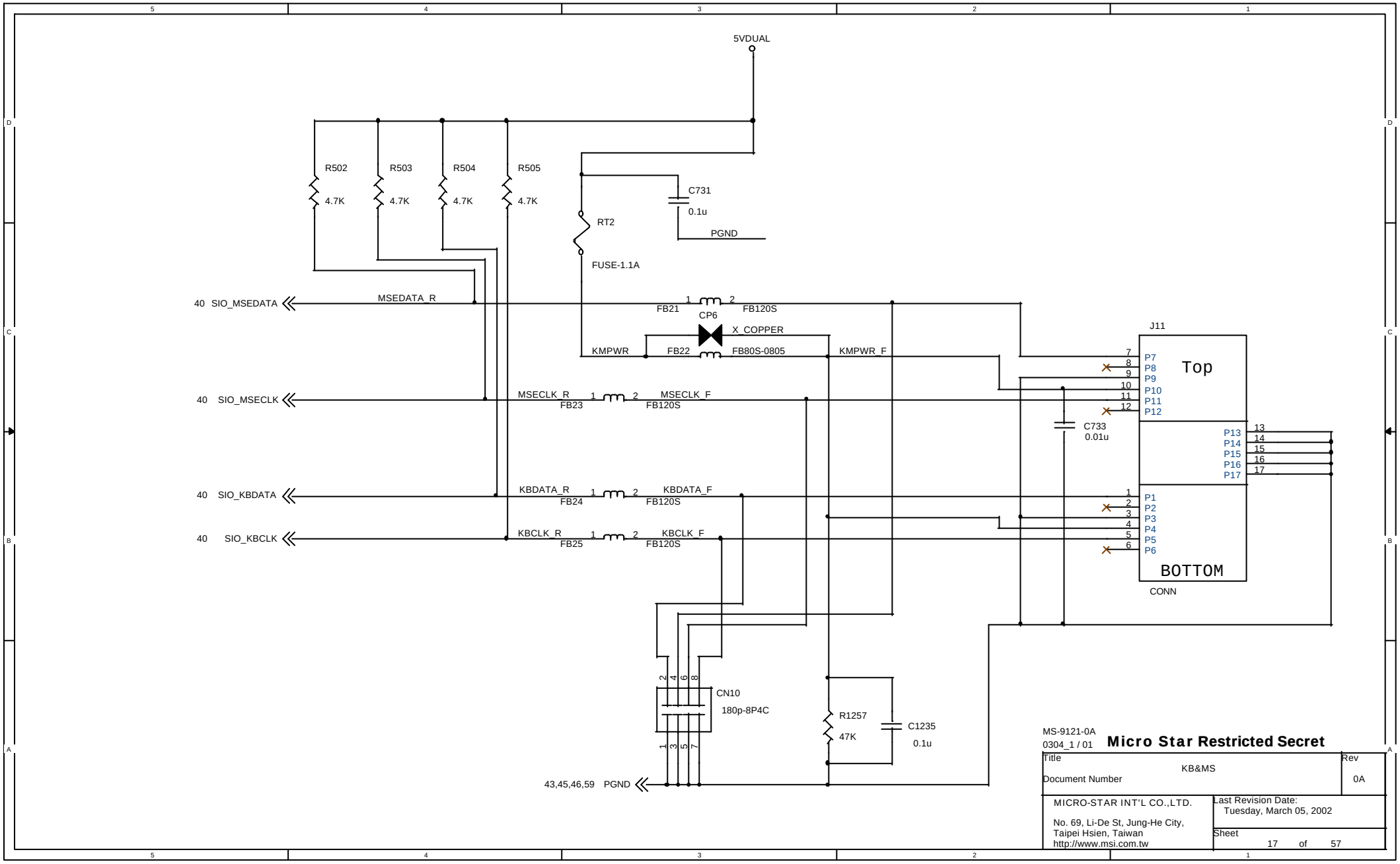
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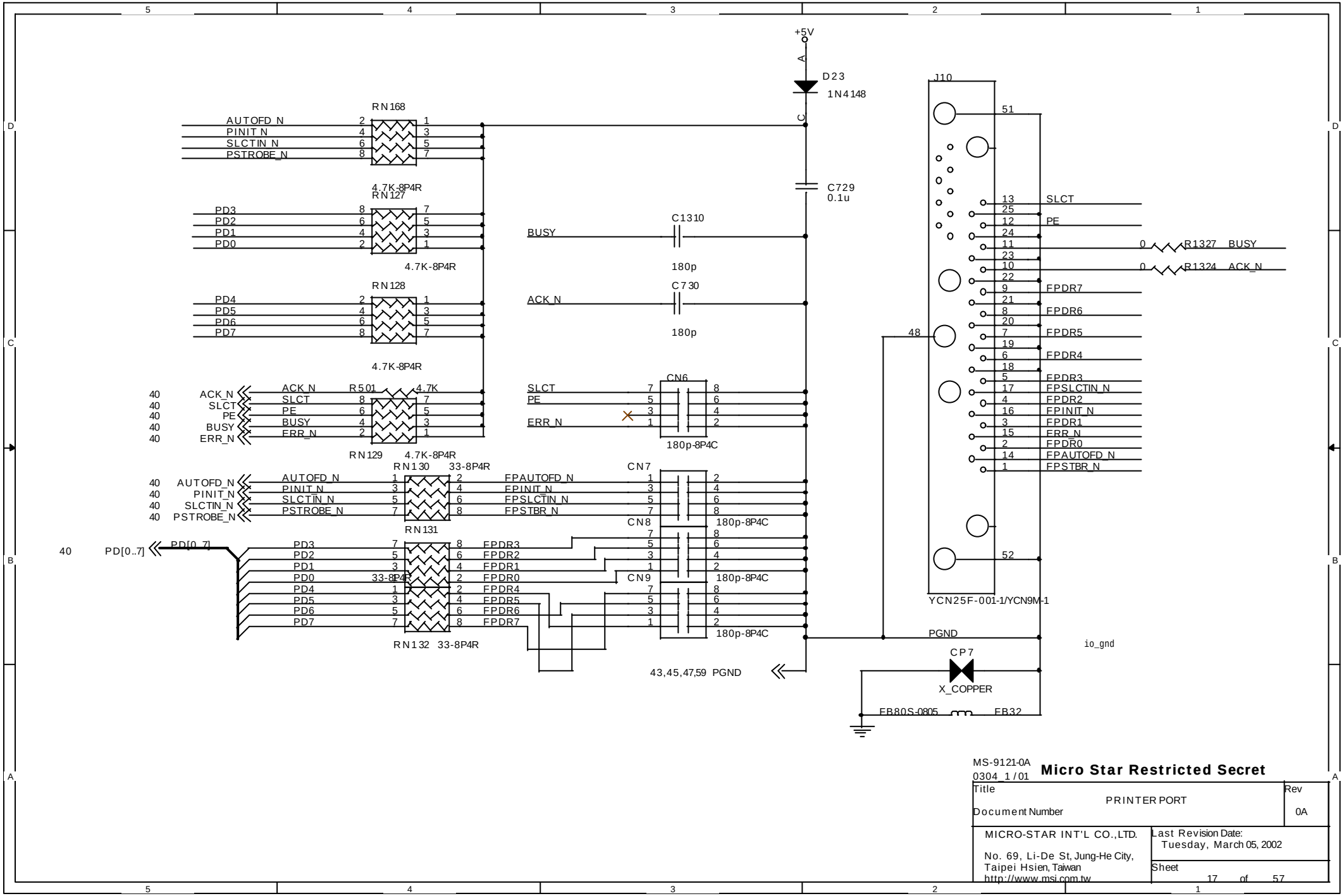
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Document Number		0A

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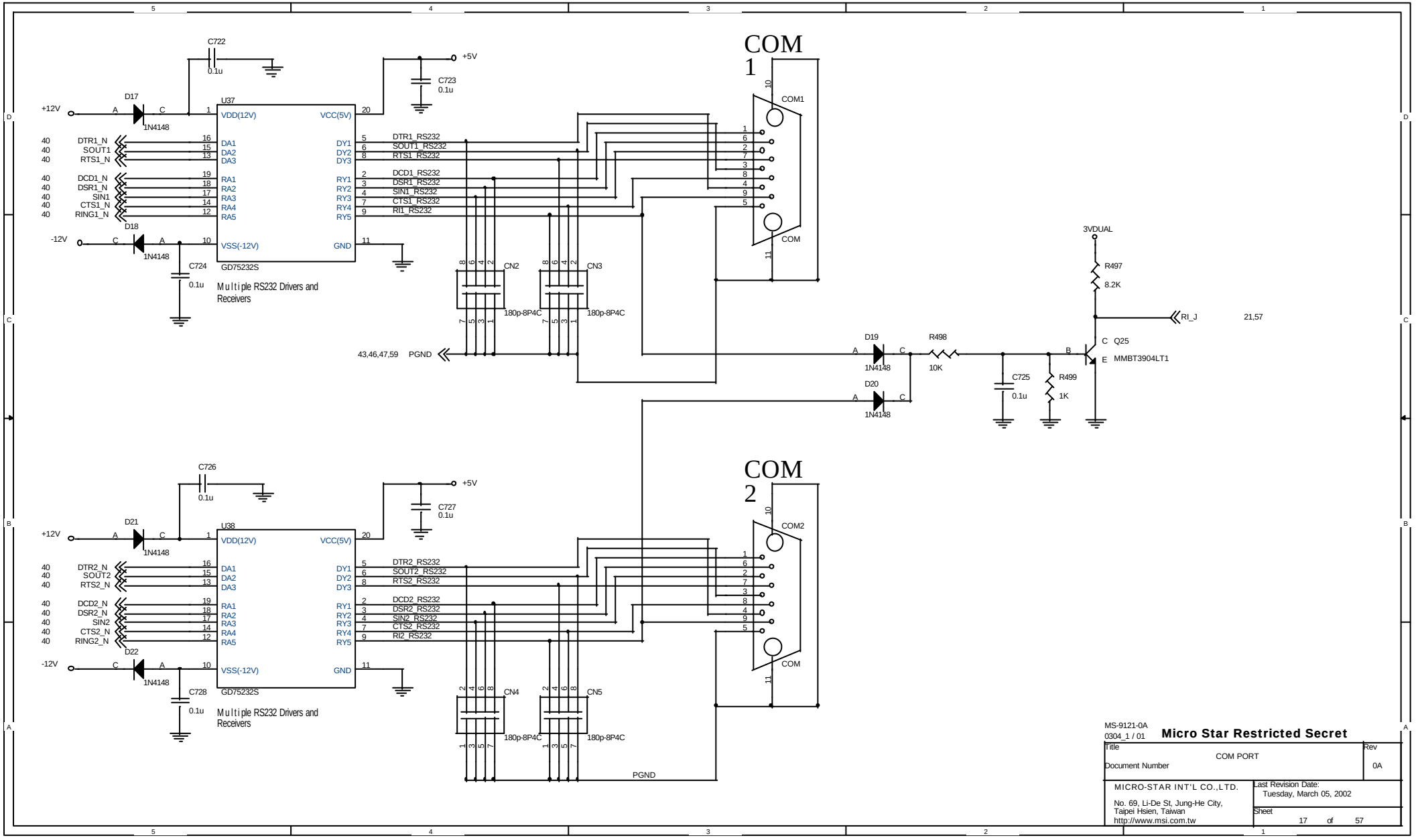

5VDUAL
R502
4.7K
R503
4.7K
R504
4.7K
R505
4.7K
C731
0.1u
PGND
RT2
FUSE-1.1A
40 SIO_MSEDATA
MSEDATA_R
FB21
FB120S
CP6
X_COPPER
KMPWR
FB22
FB80S-0805
KMPWR_F
40 SIO_MSECLK
MSECLK_R
FB23
MSECLK_F
FB120S
40 SIO_KBDATA
KBDATA_R
FB24
KBDATA_F
FB120S
40 SIO_KBCLK
KBCLK_R
FB25
KBCLK_F
FB120S
J11
Top
P7
P8
P9
P10
P11
P12
P13
P14
P15
P16
P17
P1
P2
P3
P4
P5
P6
BOTTOM
CONN
C733
0.01u
CN10
180p-8P4C
R1257
47K
C1235
0.1u
43,45,46,59 PGND
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Title
KB&MS
Rev
0A
Document Number
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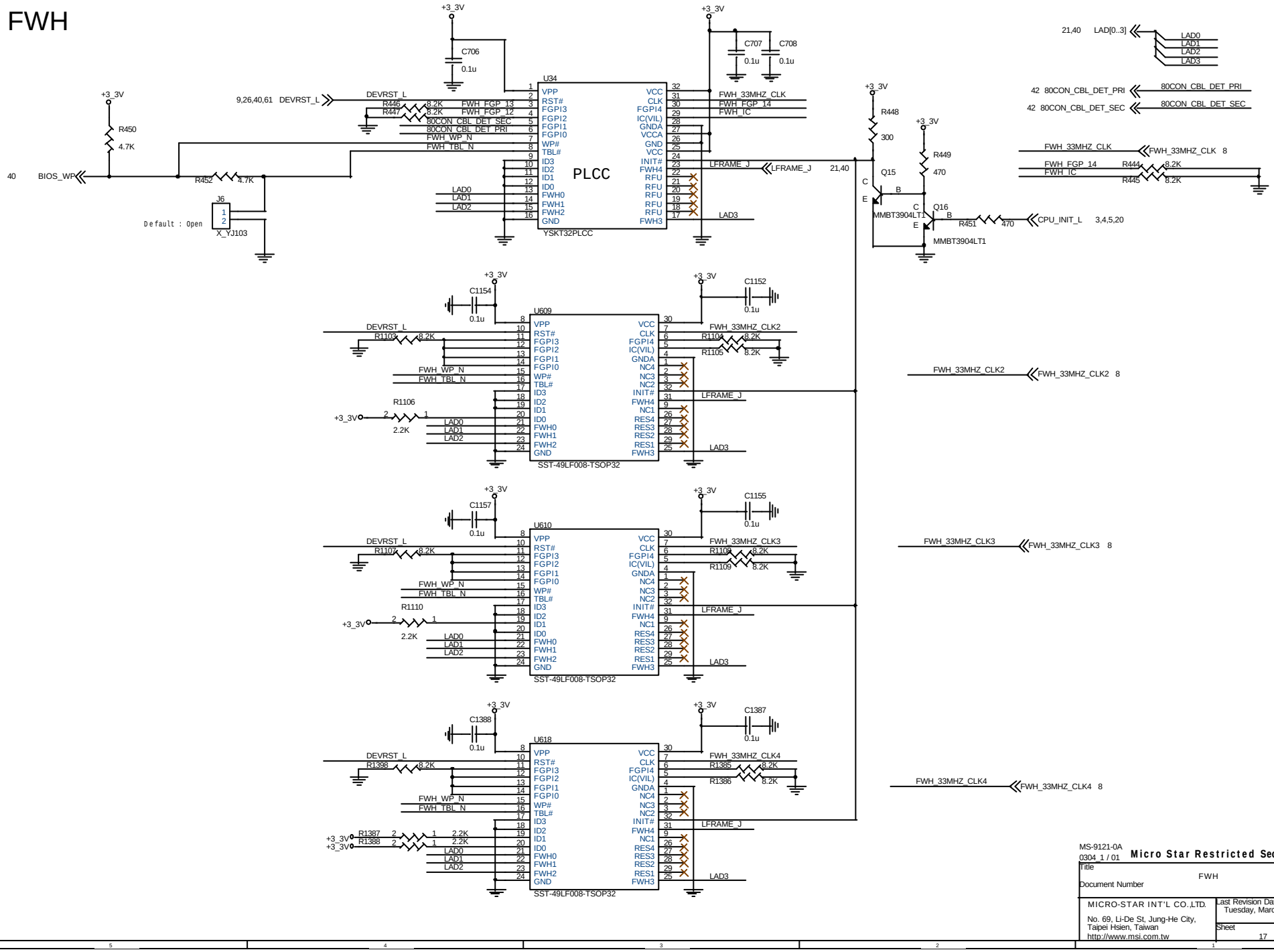
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Document Number:	
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COM 1
COM 2
C722
0.1u
+5V
C723
0.1u
D17
+12V
1N4148
U37
VDD(12V)
VCC(5V)
DTR1_N
SOUT1
RTS1_N
DCD1_N
DSR1_N
SIN1
CTS1_N
RING1_N
DA1
DA2
DA3
RA1
RA2
RA3
RA4
RA5
DY1
DY2
DY3
RY1
RY2
RY3
RY4
RY5
DTR1_RS232
SOUT1_RS232
RTS1_RS232
DCD1_RS232
DSR1_RS232
SIN1_RS232
CTS1_RS232
RI1_RS232
D18
-12V
VSS(-12V)
GND
C724
0.1u
GD75232S
Multiple RS232 Drivers and Receivers
CN2
CN3
180p-8P4C
COM1
COM
43,46,47,59
PGND
3VDUAL
R497
8.2K
RI_J
21,57
D19
D20
1N4148
R498
10K
C725
0.1u
R499
1K
C Q25
E MMBT3904LT1
C726
0.1u
C727
0.1u
U38
DTR2_N
SOUT2
RTS2_N
DCD2_N
DSR2_N
SIN2
CTS2_N
RING2_N
DTR2_RS232
SOUT2_RS232
RTS2_RS232
DCD2_RS232
DSR2_RS232
SIN2_RS232
CTS2_RS232
RI2_RS232
D21
D22
C728
0.1u
CN4
CN5
COM2
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Title
COM PORT
Rev
0A
Document Number
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FWH



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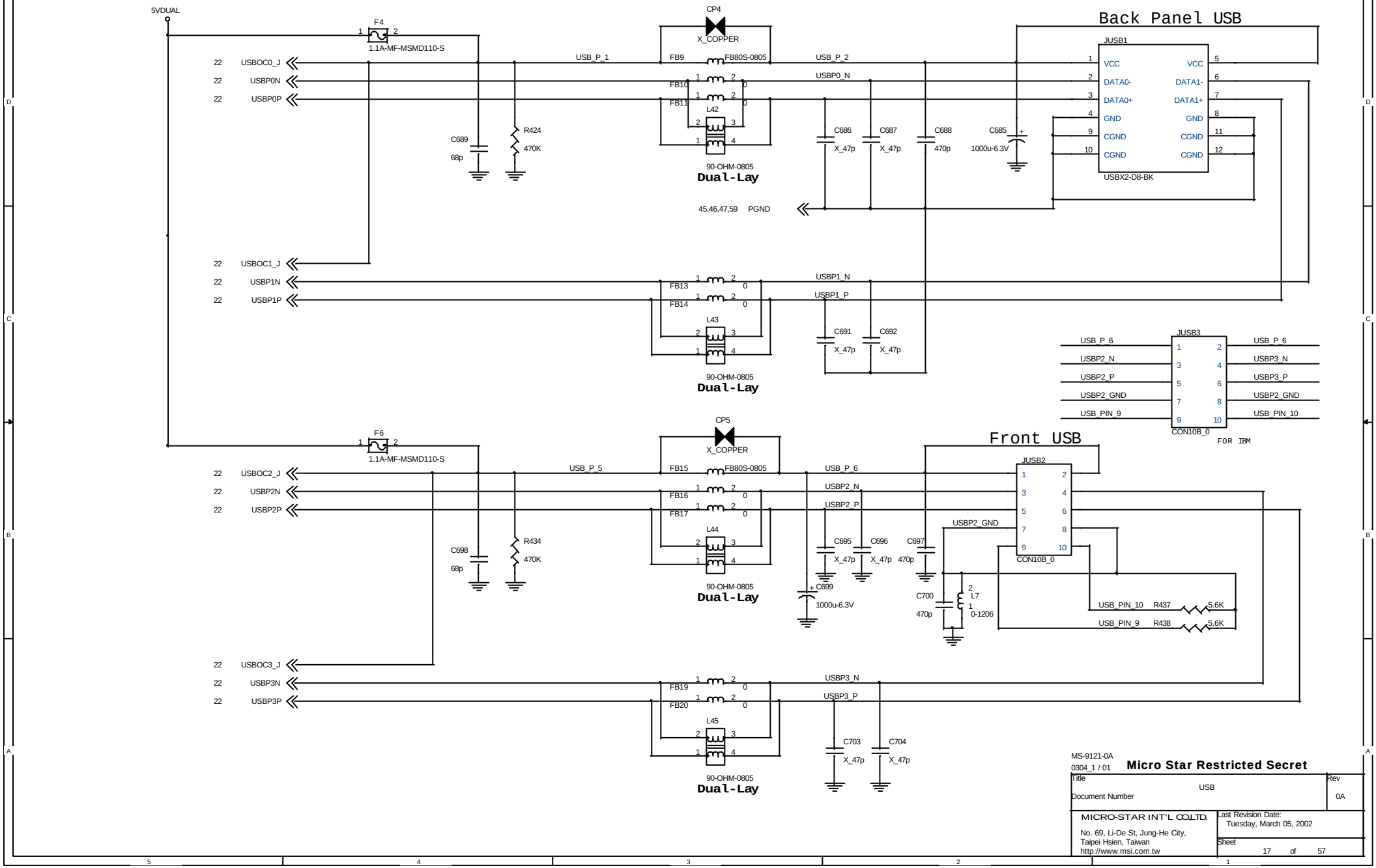
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Document Number		

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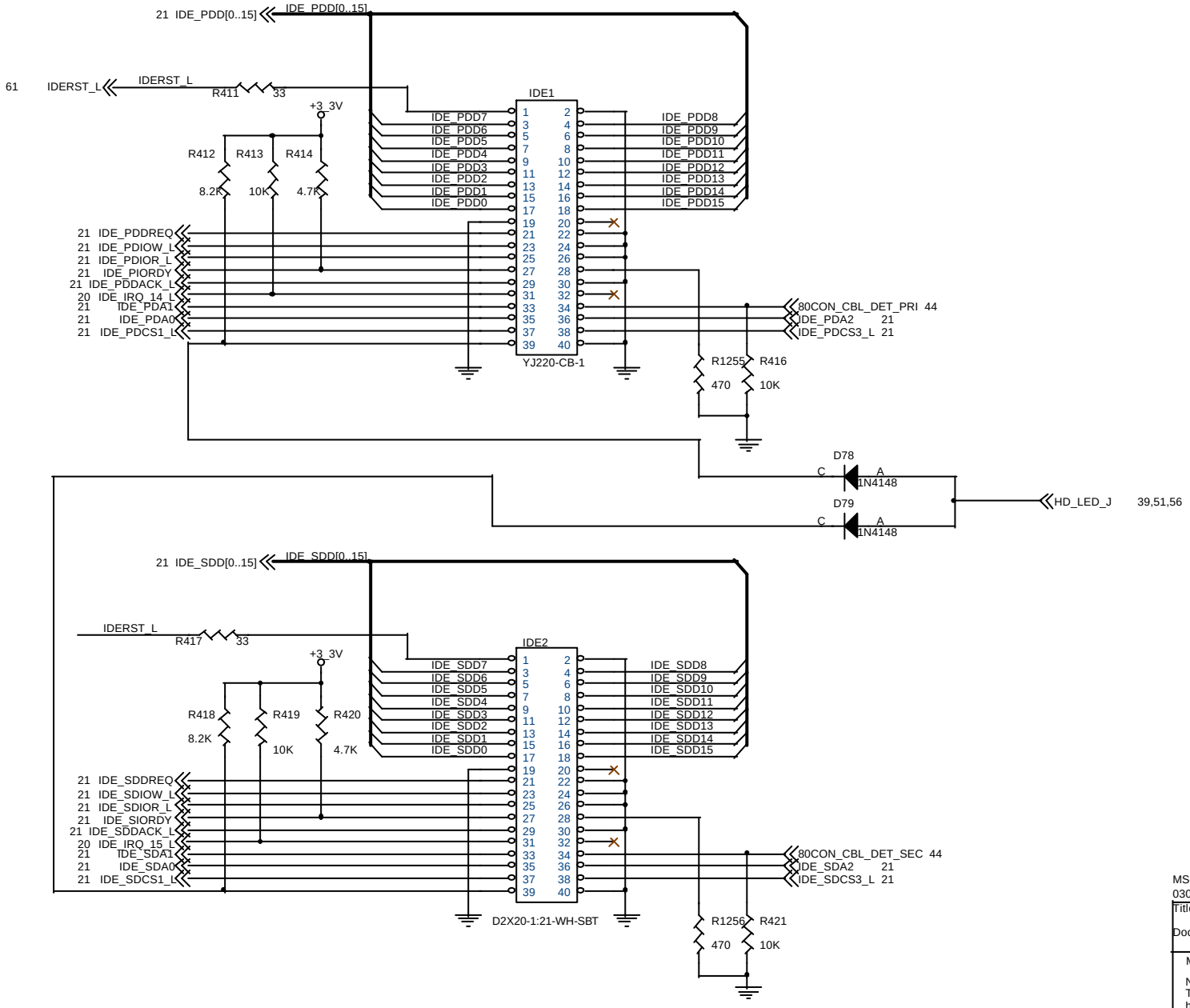
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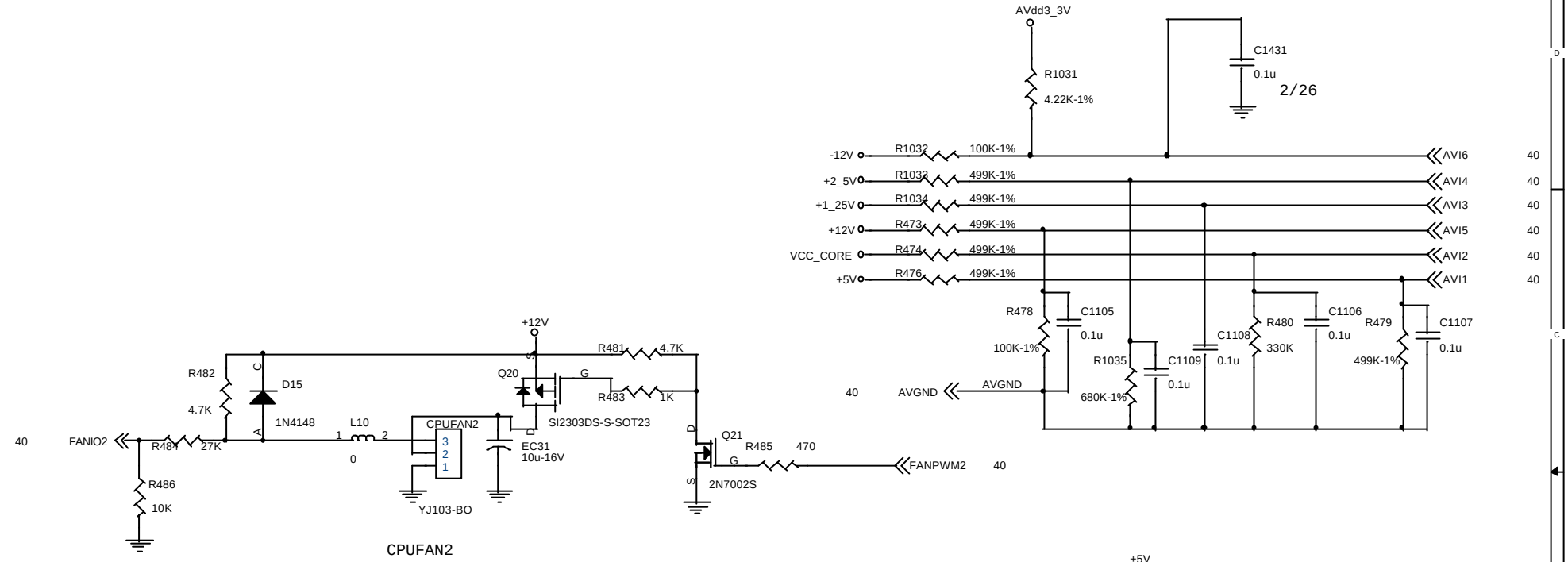
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LPC Hardware Monitor



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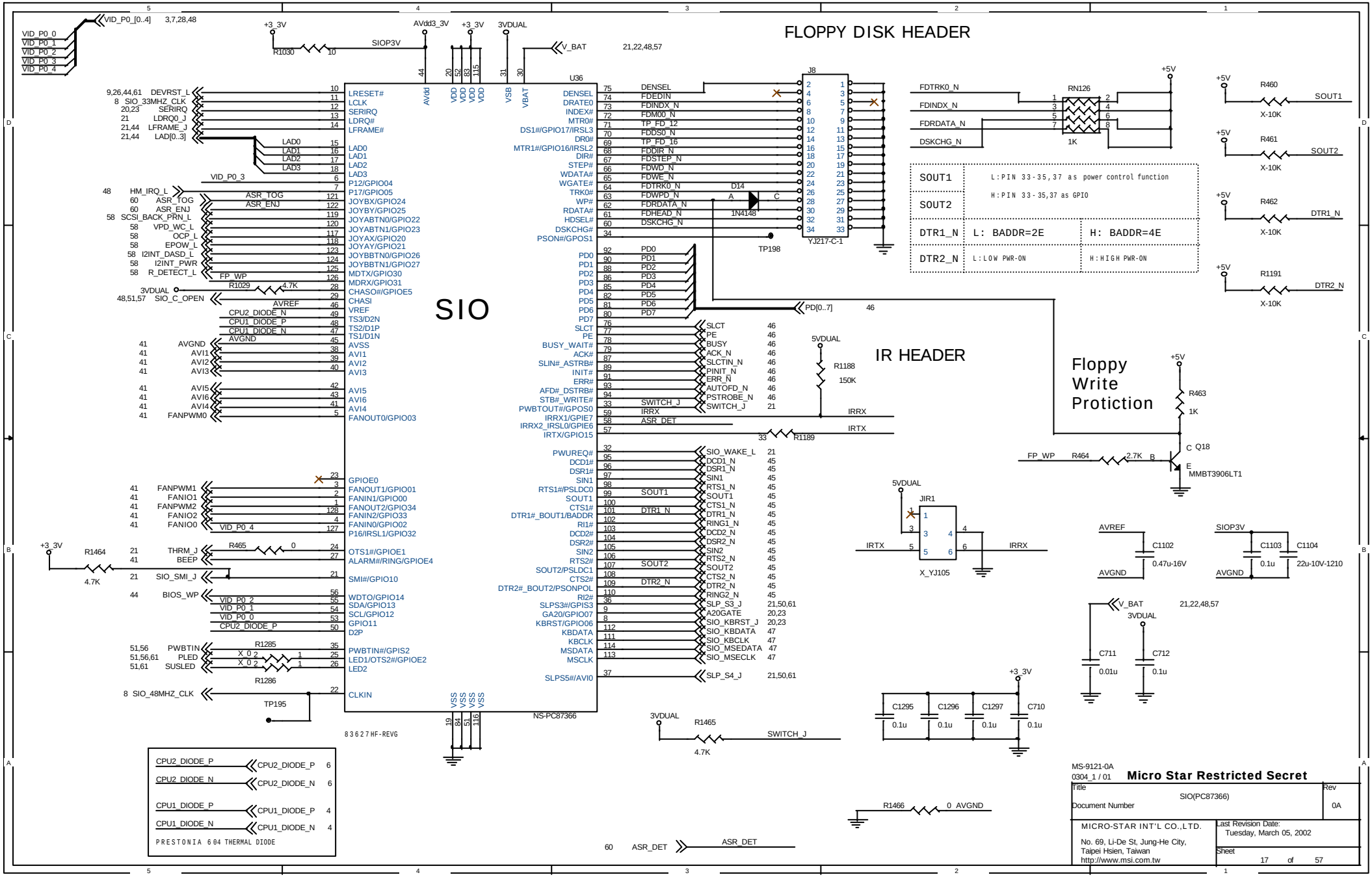
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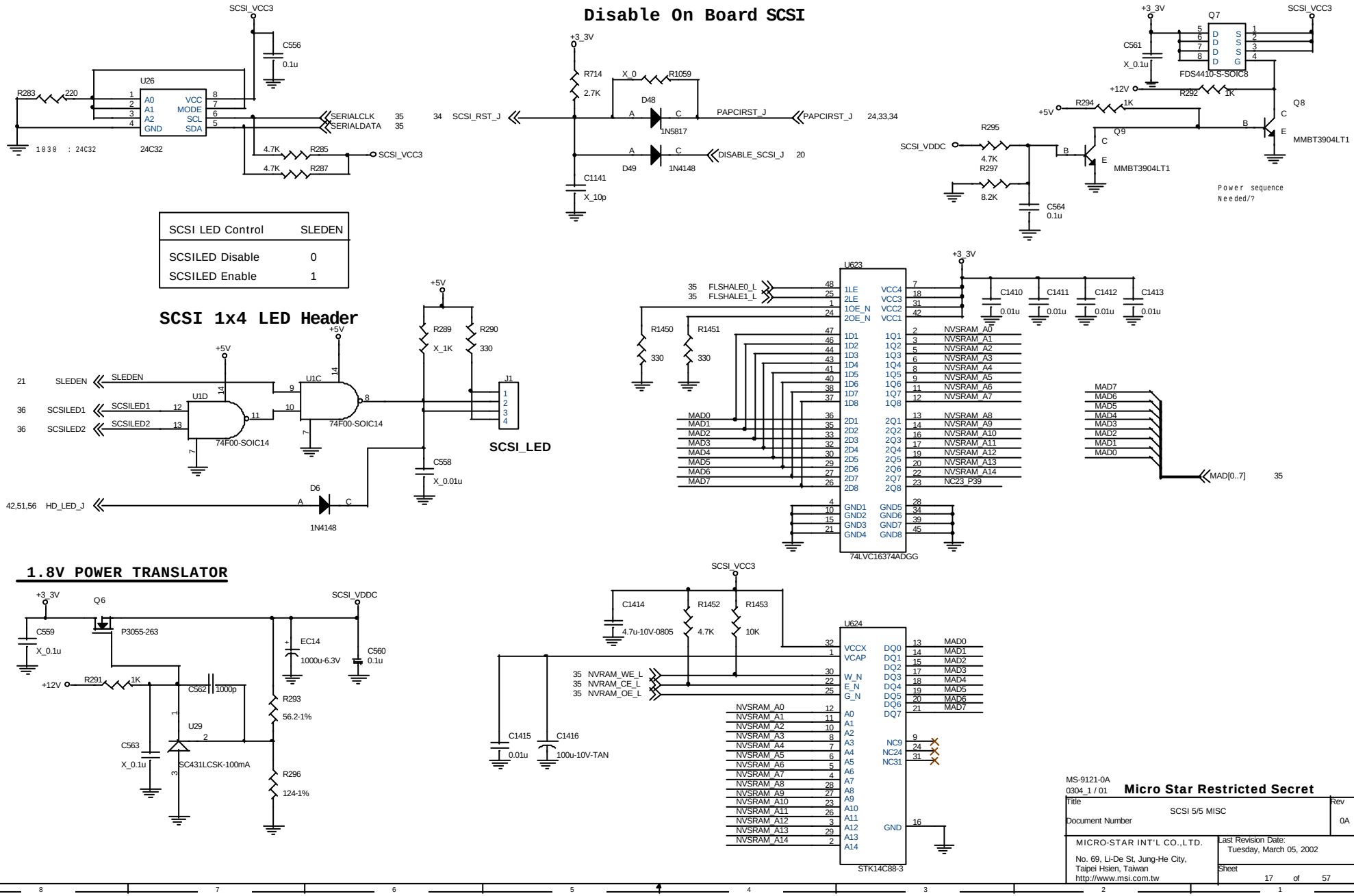
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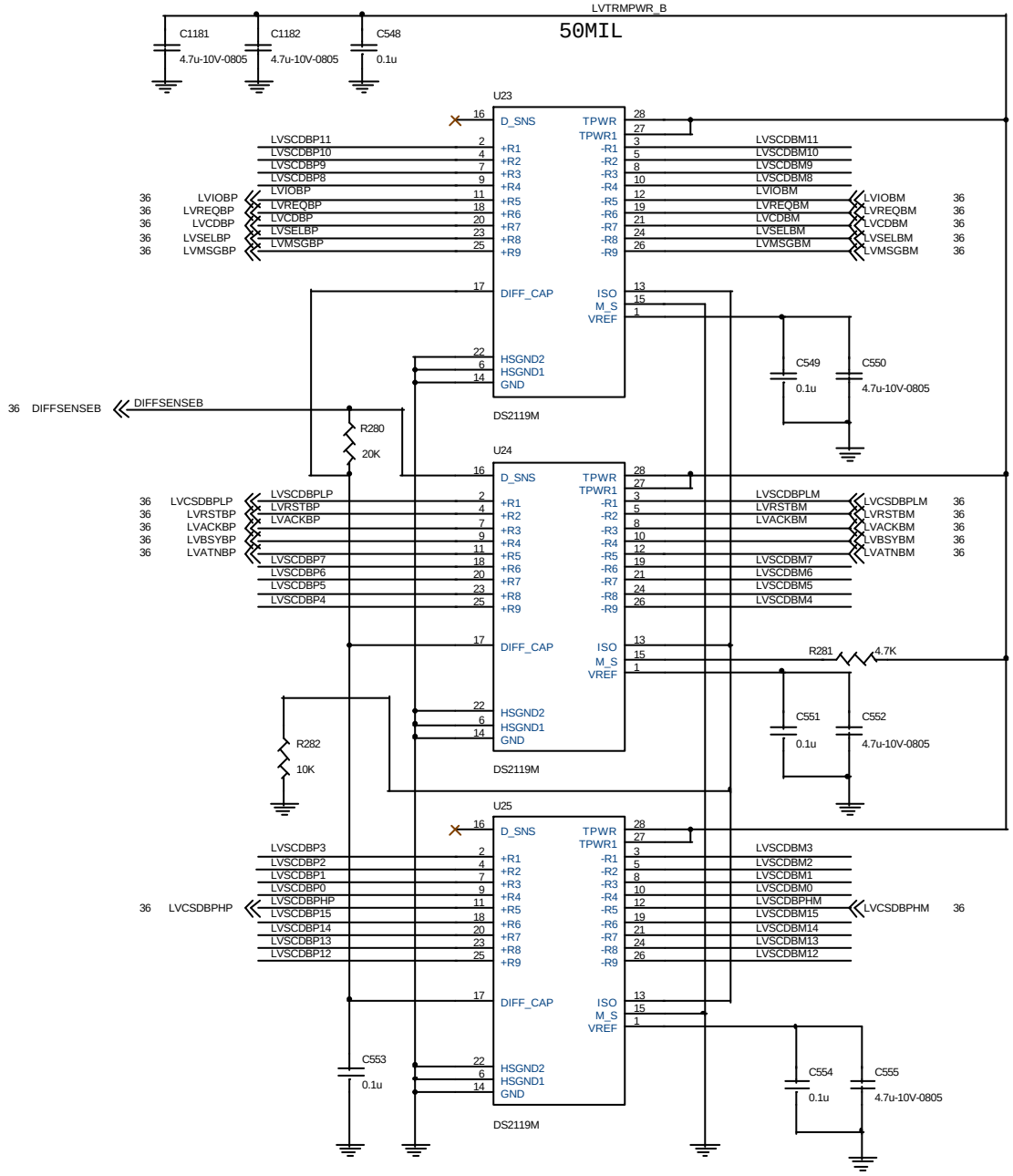
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FLOPPY DISK HEADER
SIO
IR HEADER
Floppy Write Protiction
U36
J8
YJ217-C-1
NS-PC87366
8362 7HF-REVG
PRESTONIA 604 THERMAL DIODE
SOUT1 L:PIN 33-35,37 as power control function
SOUT2 H:PIN 33-35,37 as GPIO
DTR1_N L: BADDR=2E H: BADDR=4E
DTR2_N L:LOW PWR-ON H:HIGH PWR-ON
MS-9121-0A
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Micro Star Restricted Secret
Title SIO(PC87366)
Document Number
Rev 0A
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Disable On Board SCSI
SCSI_VCC3
C556
0.1u
U26
R283
220
A0
A1
A2
GND
VCC
MODE
SCL
SDA
SERIALCLK
SERIALDATA
24C32
4.7K
R285
4.7K
R287
SCSI_VCC3
+3_3V
R714
2.7K
X_0
R1059
D48
1N5817
SCSI_RST_J
PAPCIRST_J
24,33,34
D49
1N4148
DISABLE_SCSI_J
20
C1141
X_10p
+3_3V
Q7
FDS4410-S-SOIC8
C561
X_0.1u
+12V
R292
1K
+5V
R294
1K
Q8
MMBT3904LT1
Q9
MMBT3904LT1
SCSI_VDDC
R295
4.7K
R297
8.2K
C564
0.1u
Power sequence Needed/?
SCSI LED Control
SLEDEN
SCSILED Disable
0
SCSILED Enable
1
SCSI 1x4 LED Header
+5V
R289
X_1K
R290
330
J1
SLEDEN
SCSILED1
SCSILED2
U1D
U1C
74F00-SOIC14
74F00-SOIC14
SCSI_LED
C558
X_0.01u
D6
1N4148
42,51,56
HD_LED_J
U623
74LVC16374ADGG
R1450
R1451
330
330
C1410
C1411
C1412
C1413
0.01u
FLSHALE0_L
FLSHALE1_L
MAD0
MAD1
MAD2
MAD3
MAD4
MAD5
MAD6
MAD7
NVSRAM_A0
NVSRAM_A1
NVSRAM_A2
NVSRAM_A3
NVSRAM_A4
NVSRAM_A5
NVSRAM_A6
NVSRAM_A7
NVSRAM_A8
NVSRAM_A9
NVSRAM_A10
NVSRAM_A11
NVSRAM_A12
NVSRAM_A13
NVSRAM_A14
NC23_P39
MAD[0..7]
1.8V POWER TRANSLATOR
+3_3V
Q6
P3055-263
C559
X_0.1u
SCSI_VDDC
EC14
1000u-6.3V
C560
0.1u
+12V
R291
1K
C562
1000p
R293
56.2-1%
U29
SC431LCSK-100mA
C563
X_0.1u
R296
124-1%
SCSI_VCC3
C1414
4.7u-10V-0805
R1452
4.7K
R1453
10K
U624
STK14C88-3
NVRAM_WE_L
NVRAM_CE_L
NVRAM_OE_L
C1415
0.01u
C1416
100u-10V-TAN
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Title
SCSI 5/5 MISC
Rev
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Document Number
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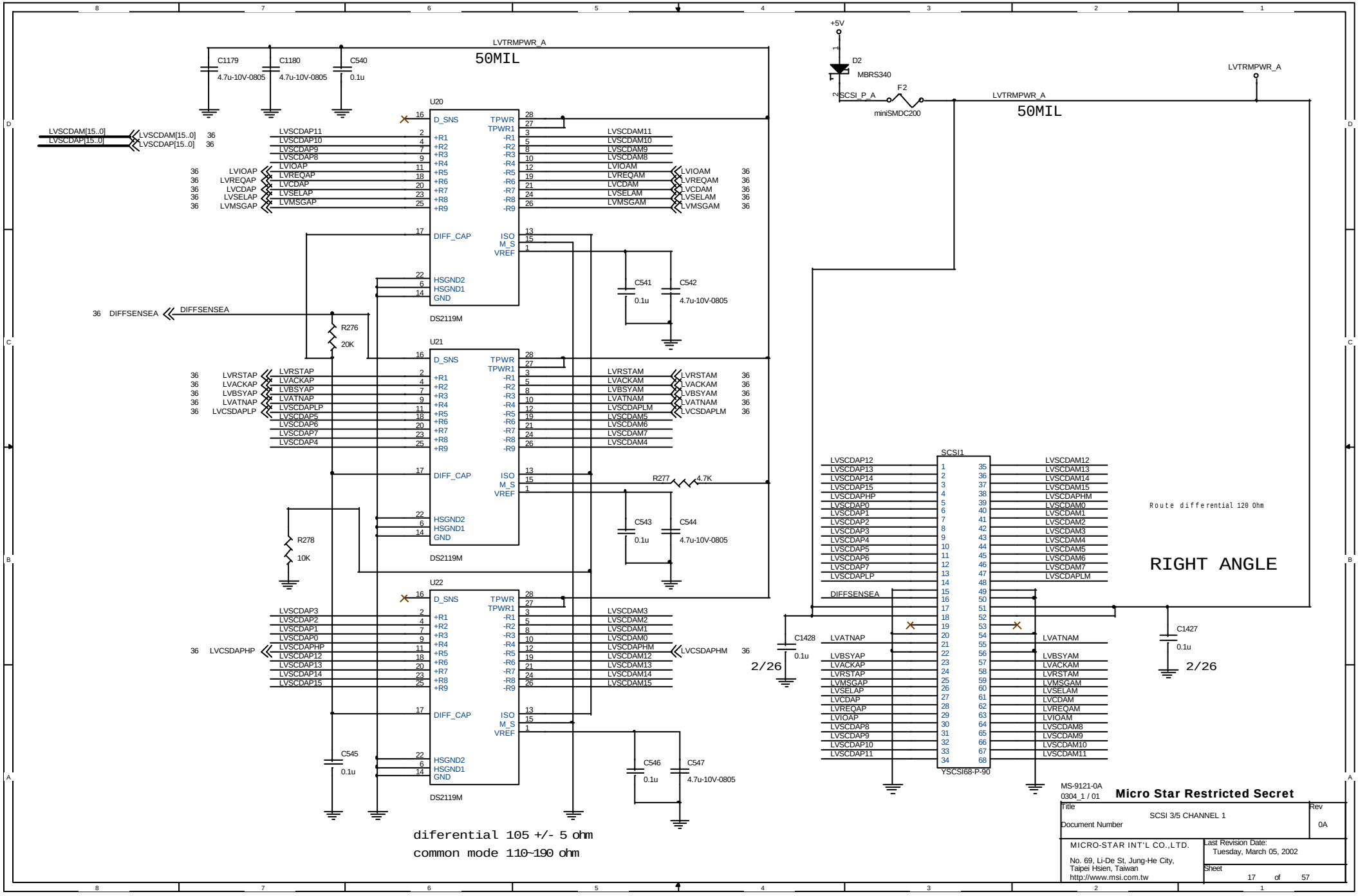
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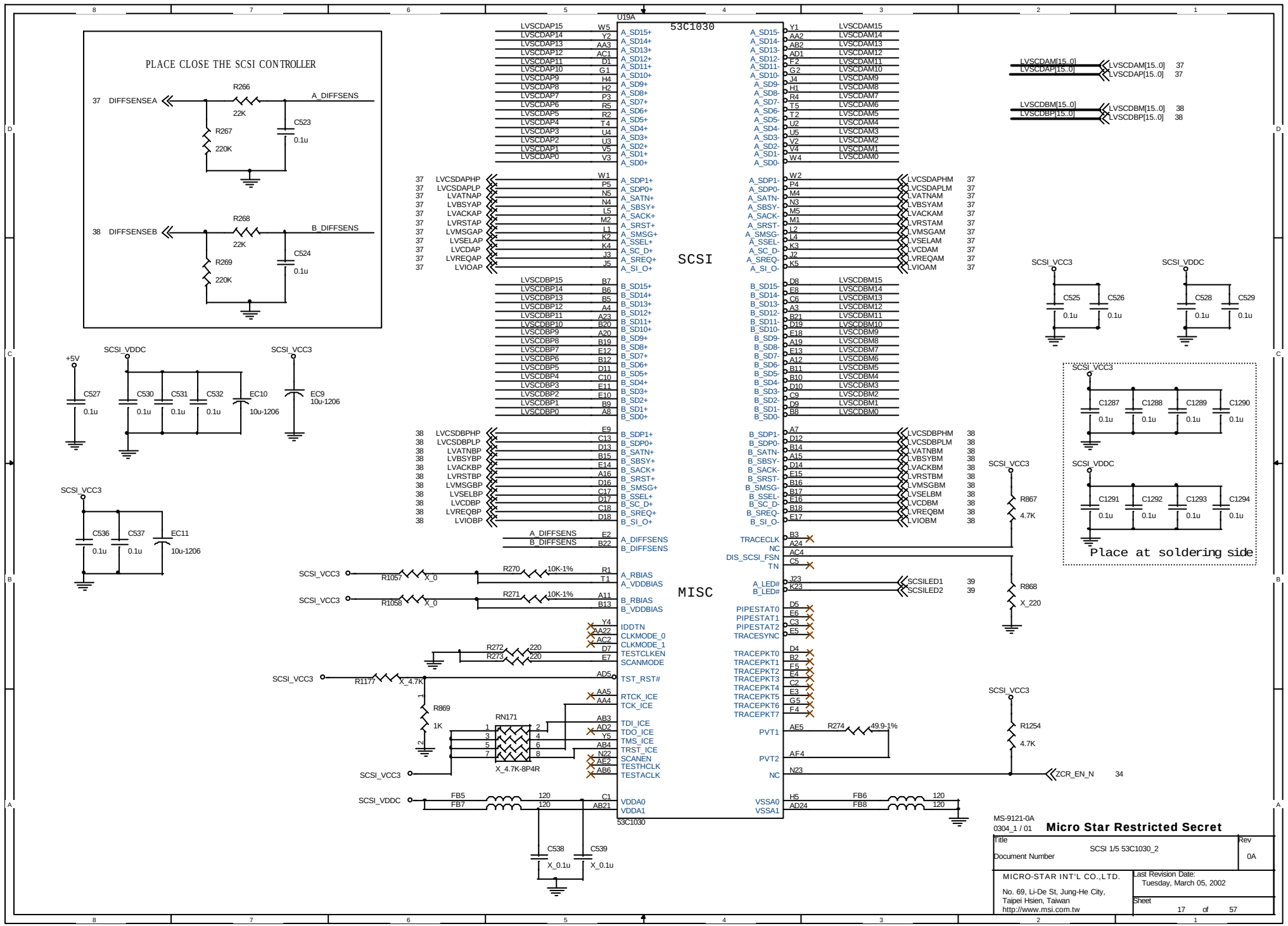
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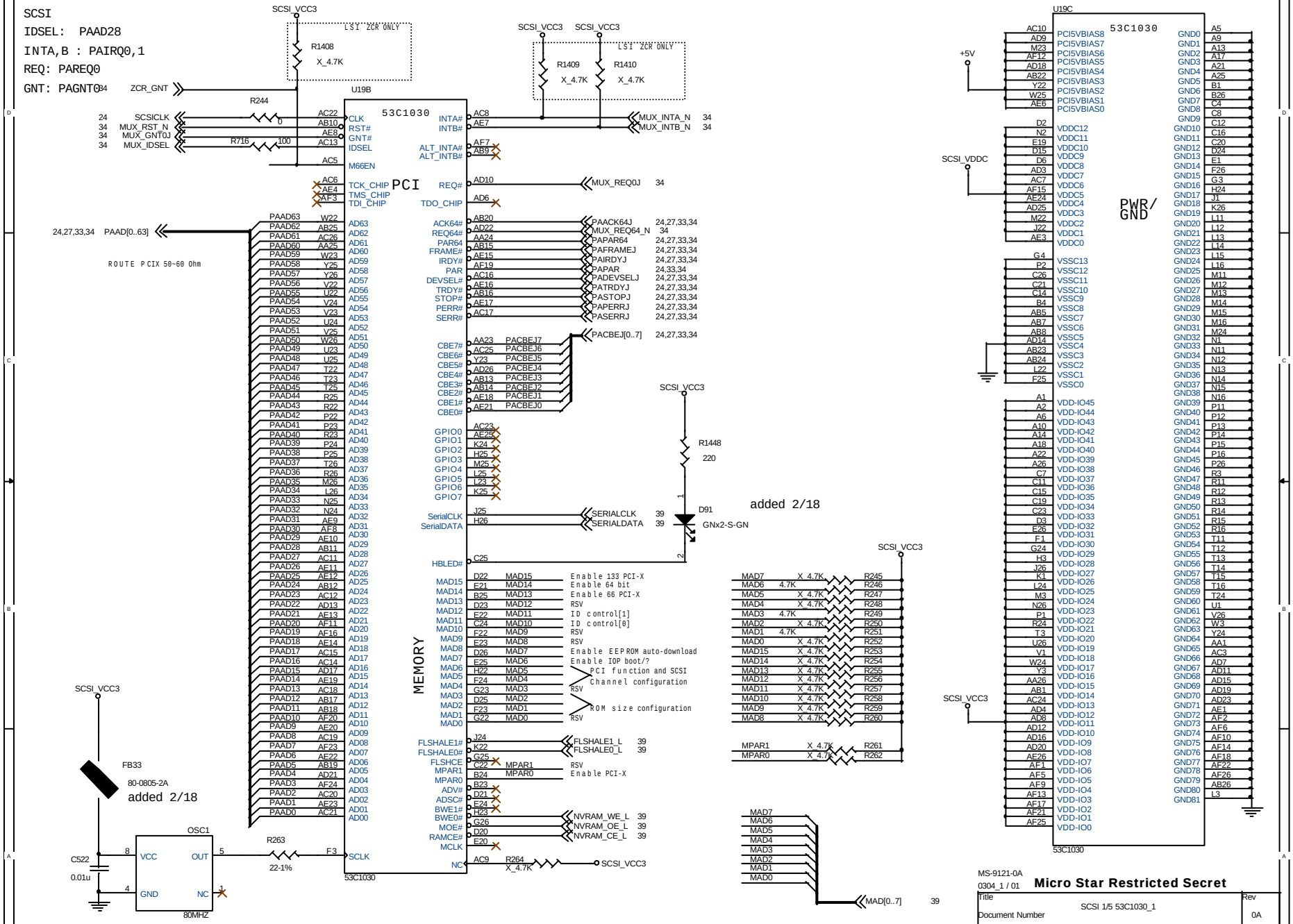
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LVTRMPWR_A
50MIL
C1179
4.7u-10V-0805
C1180
4.7u-10V-0805
C540
0.1u
U20
U21
U22
D_SNS
TPWR
TPWR1
DIFF_CAP
ISO
M_S
VREF
HSGND2
HSGND1
GND
DS2119M
LVSCDAM[15..0]
LVSCDAP[15..0]
LVIOAP
LVREQAP
LVCDAP
LVSELAP
LVMSGAP
LVIOAM
LVREQAM
LVCDAM
LVSELAM
LVMSGAM
DIFFSENSEA
R276
20K
R277
4.7K
R278
10K
C541
C542
C543
C544
C545
C546
C547
0.1u
4.7u-10V-0805
LVRSTAP
LVACKAP
LVBSYAP
LVATNAP
LVSCDAPLP
LVRSTAM
LVACKAM
LVBSYAM
LVATNAM
LVSCDAPLM
LVCSDAPHP
LVCSDAPHM
+5V
D2
MBRS340
SCSI_P_A
F2
miniSMDC200
SCSI1
YSCSI68-P-90
C1428
C1427
2/26
LVATNAP
LVATNAM
LVBSYAP
LVBSYAM
Route differential 120 Ohm
RIGHT ANGLE
diferential 105 +/- 5 ohm
common mode 110~190 ohm
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SCSI 3/5 CHANNEL 1
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PLACE CLOSE THE SCSI CONTROLLER
37 DIFFSENSEA
R266
22K
A_DIFFSENS
R267
220K
C523
0.1u
38 DIFFSENSEB
R268
22K
B_DIFFSENS
R269
220K
C524
0.1u
U19A
53C1030
SCSI
MISC
LVSCDAP15
LVSCDAP14
LVSCDAP13
LVSCDAP12
LVSCDAP11
LVSCDAP10
LVSCDAP9
LVSCDAP8
LVSCDAP7
LVSCDAP6
LVSCDAP5
LVSCDAP4
LVSCDAP3
LVSCDAP2
LVSCDAP1
LVSCDAP0
LVSCDAM15
LVSCDAM14
LVSCDAM13
LVSCDAM12
LVSCDAM11
LVSCDAM10
LVSCDAM9
LVSCDAM8
LVSCDAM7
LVSCDAM6
LVSCDAM5
LVSCDAM4
LVSCDAM3
LVSCDAM2
LVSCDAM1
LVSCDAM0
LVSCDAM[15..0]
LVSCDAP[15..0]
LVSCDBM[15..0]
LVSCDBP[15..0]
LVSCDAPHP
LVSCDAPLP
LVATNAP
LVBSYAP
LVACKAP
LVRSTAP
LVMSGAP
LVSELAP
LVCDAP
LVREQAP
LVIOAP
LVSCDAPHM
LVSCDAPLM
LVATNAM
LVBSYAM
LVACKAM
LVRSTAM
LVMSGAM
LVSELAM
LVCDAM
LVREQAM
LVIOAM
LVSCDBP15
LVSCDBP14
LVSCDBP13
LVSCDBP12
LVSCDBP11
LVSCDBP10
LVSCDBP9
LVSCDBP8
LVSCDBP7
LVSCDBP6
LVSCDBP5
LVSCDBP4
LVSCDBP3
LVSCDBP2
LVSCDBP1
LVSCDBP0
LVSCDBM15
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LVSCDBM8
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LVSCDBPHP
LVSCDBPLP
LVATNBP
LVBSYBP
LVACKBP
LVRSTBP
LVMSGBP
LVSELBP
LVCDBP
LVREQBP
LVIOBP
LVSCDBPHM
LVSCDBPLM
LVATNBM
LVBSYBM
LVACKBM
LVRSTBM
LVMSGBM
LVSELBM
LVCDBM
LVREQBM
LVIOBM
A_DIFFSENS
B_DIFFSENS
TRACECLK
NC
DIS_SCSI_FSN
TN
A_LED#
B_LED#
SCSILED1
SCSILED2
PIPESTAT0
PIPESTAT1
PIPESTAT2
TRACESYNC
TRACEPKT0
TRACEPKT1
TRACEPKT2
TRACEPKT3
TRACEPKT4
TRACEPKT5
TRACEPKT6
TRACEPKT7
PVT1
PVT2
NC
A_RBIAS
A_VDDBIAS
B_RBIAS
B_VDDBIAS
IDDTN
CLKMODE_0
CLKMODE_1
TESTCLKEN
SCANMODE
TST_RST#
RTCK_ICE
TCK_ICE
TDI_ICE
TDO_ICE
TMS_ICE
TRST_ICE
SCANEN
TESTHCLK
TESTACLK
VDDA0
VDDA1
VSSA0
VSSA1
R270
R271
R272
R273
R274
R1057
R1058
R1177
R869
RN171
X_4.7K-8P4R
R867
R868
R1254
ZCR_EN_N
SCSI_VCC3
SCSI_VDDC
C525
C526
C528
C529
C1287
C1288
C1289
C1290
C1291
C1292
C1293
C1294
Place at soldering side
+5V
C527
C530
C531
C532
EC10
10u-1206
EC9
C536
C537
EC11
C538
C539
FB5
FB7
FB6
FB8
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SCSI
IDSEL: PAAD28
INTA,B : PAIRQ0,1
REQ: PAREQ0
GNT: PAGNT0
SCSI_VCC3
LSI ZCR ONLY
R1408
X_4.7K
R1409
R1410
ZCR_GNT
R244
SCSICLK
MUX_RST_N
MUX_GNT0J
MUX_IDSEL
R716
U19B
53C1030
PCI
MEMORY
M66EN
TCK_CHIP
TMS_CHIP
TDI_CHIP
TDO_CHIP
REQ#
INTA#
INTB#
ALT_INTA#
ALT_INTB#
MUX_REQ0J
MUX_INTA_N
MUX_INTB_N
MUX_REQ64_N
PAAD[0..63]
ROUTE PCIX 50~60 Ohm
PAACK64J
PAPAR64
PAFRAMEJ
PAIRDYJ
PAPAR
PADEVSELJ
PATRDYJ
PASTOPJ
PAPERRJ
PASERRJ
PACBEJ[0..7]
PACBEJ7
PACBEJ6
PACBEJ5
PACBEJ4
PACBEJ3
PACBEJ2
PACBEJ1
PACBEJ0
GPIO0
GPIO1
GPIO2
GPIO3
GPIO4
GPIO5
GPIO6
GPIO7
SERIALCLK
SERIALDATA
HBLED#
R1448
220
D91
GNx2-S-GN
added 2/18
MAD15
MAD14
MAD13
MAD12
MAD11
MAD10
MAD9
MAD8
MAD7
MAD6
MAD5
MAD4
MAD3
MAD2
MAD1
MAD0
Enable 133 PCI-X
Enable 64 bit
Enable 66 PCI-X
RSV
ID control[1]
ID control[0]
Enable EEPROM auto-download
Enable IOP boot/?
PCI function and SCSI Channel configuration
ROM size configuration
FLSHALE1#
FLSHALE0#
FLSHCE
MPAR1
MPAR0
Enable PCI-X
ADV#
ADSC#
BWE1#
BWE0#
MOE#
RAMCE#
MCLK
NC
NVRAM_WE_L
NVRAM_OE_L
NVRAM_CE_L
R264
SCLK
R263
22-1%
OSC1
VCC
OUT
GND
NC
80MHZ
C522
0.01u
FB33
80-0805-2A
added 2/18
MAD[0..7]
U19C
53C1030
PWR/
GND
+5V
SCSI_VDDC
PCI5VBIAS8
PCI5VBIAS7
PCI5VBIAS6
PCI5VBIAS5
PCI5VBIAS4
PCI5VBIAS3
PCI5VBIAS2
PCI5VBIAS1
PCI5VBIAS0
VDDC12
VDDC11
VDDC10
VDDC9
VDDC8
VDDC7
VDDC6
VDDC5
VDDC4
VDDC3
VDDC2
VDDC1
VDDC0
VSSC13
VSSC12
VSSC11
VSSC10
VSSC9
VSSC8
VSSC7
VSSC6
VSSC5
VSSC4
VSSC3
VSSC2
VSSC1
VSSC0
VDD-IO45
VDD-IO44
VDD-IO43
VDD-IO42
VDD-IO41
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VDD-IO36
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VDD-IO26
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VDD-IO21
VDD-IO20
VDD-IO19
VDD-IO18
VDD-IO17
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VDD-IO8
VDD-IO7
VDD-IO6
VDD-IO5
VDD-IO4
VDD-IO3
VDD-IO2
VDD-IO1
VDD-IO0
GND0
GND1
GND2
GND3
GND4
GND5
GND6
GND7
GND8
GND9
GND10
GND11
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GND81
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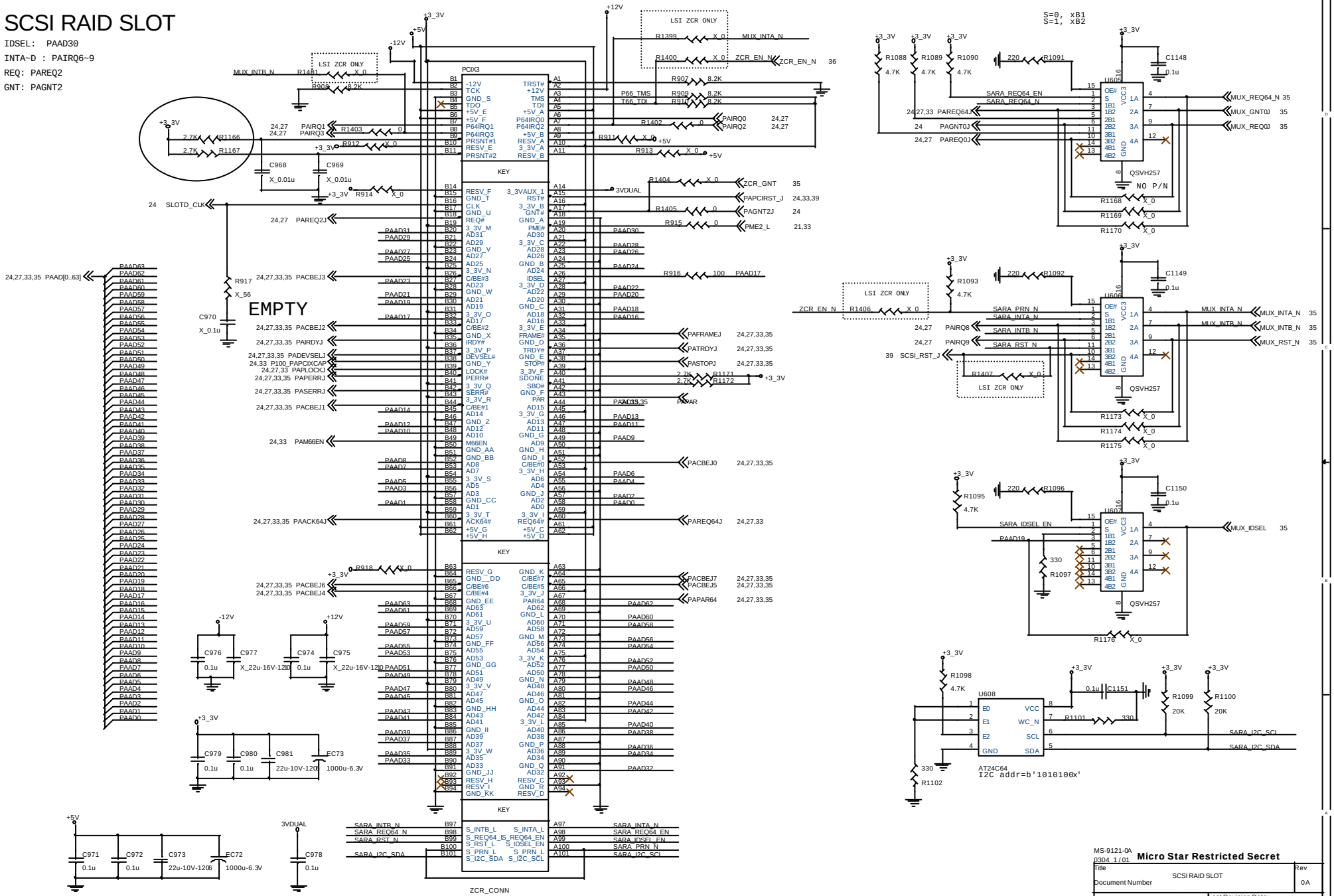
SCSI RAID SLOT

IDSEL: PAAD30

INTA~D : PAIRQ6~9

REQ: PAREQ2

GNT: PAGNT2



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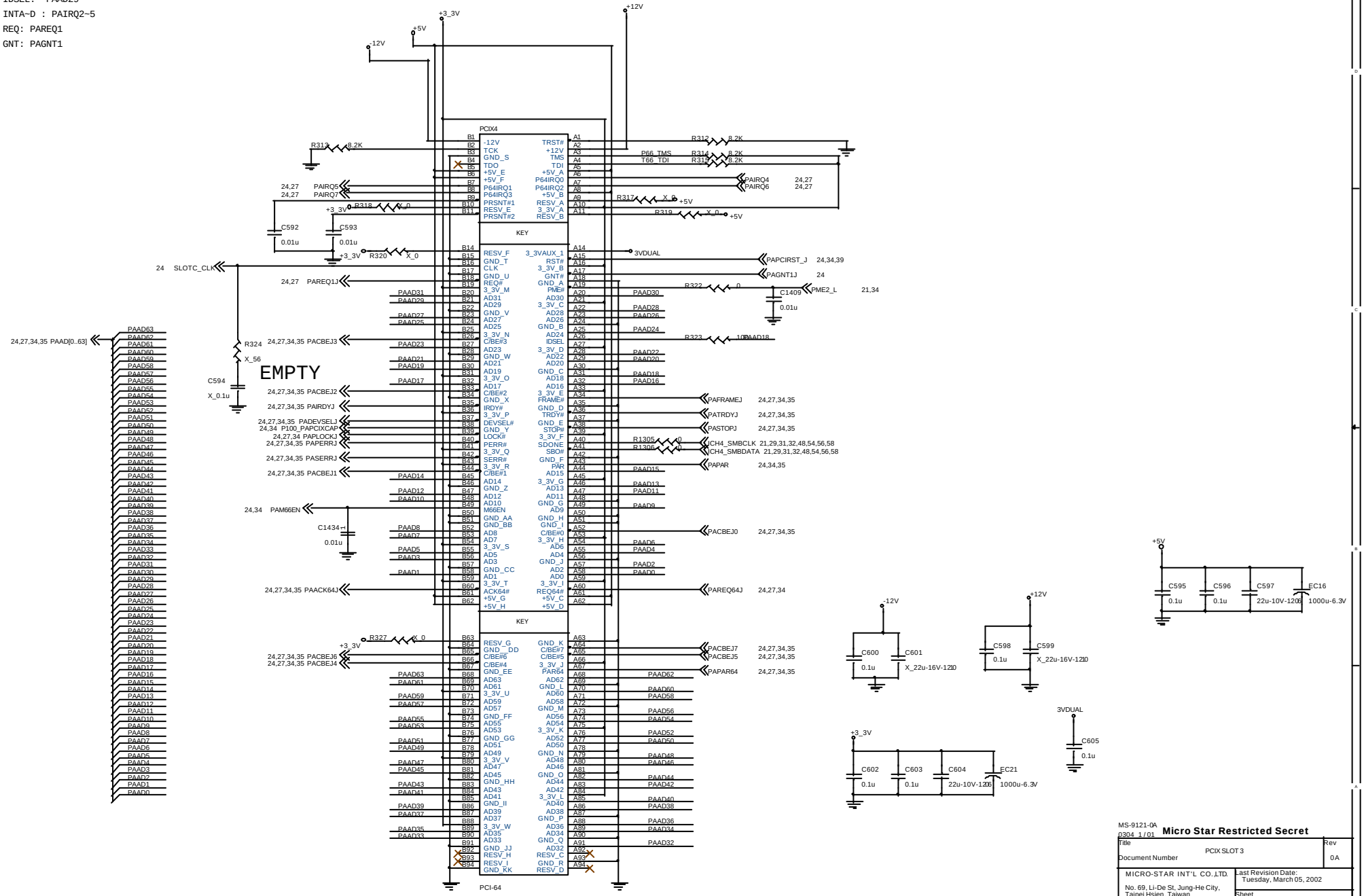
PCIX SLOT 3

IDSEL: PAAD29

INTA~D : PAIRQ2~5

REQ: PAREQ1

GNT: PAGNT1



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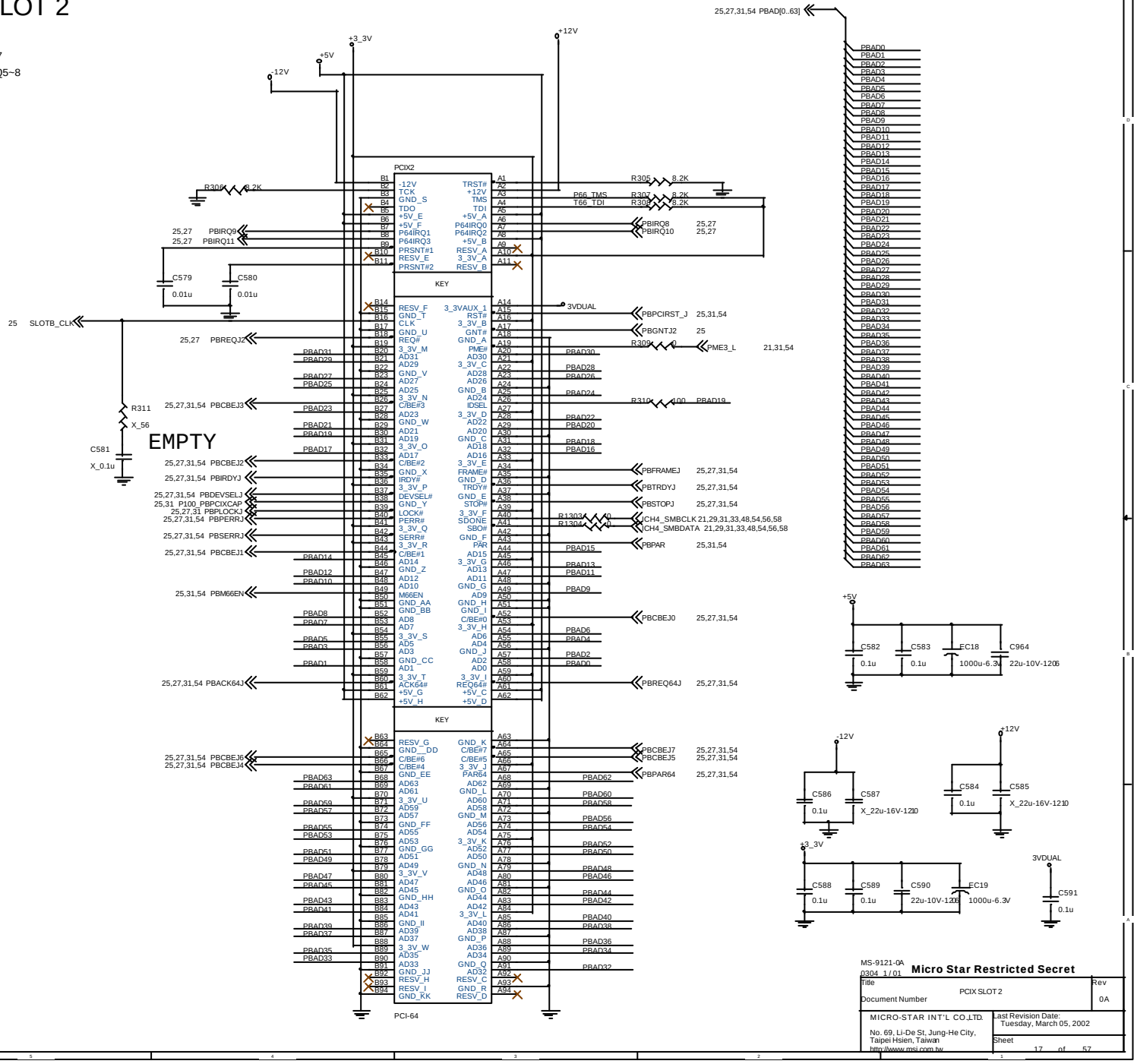
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PCIX SLOT 2

IDSEL: PBAD27
INTA~D : PBIRQ5~8
REQ: PBREQ2
GNT: PBGNT2



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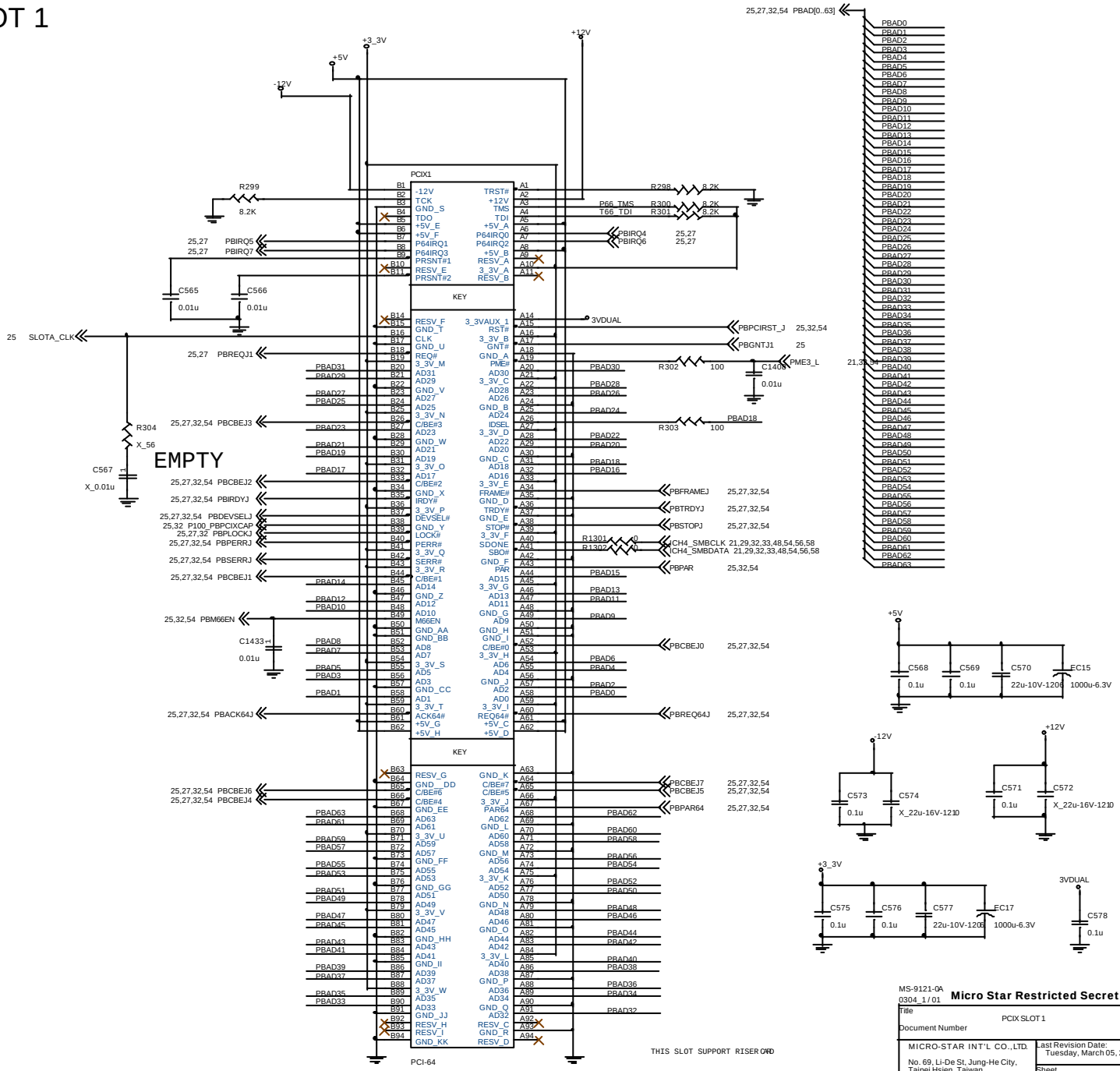
PCIX SLOT 1

IDSEL: PBAD26

INTA~D : PBIRQ1~4

REQ: PBREQ1

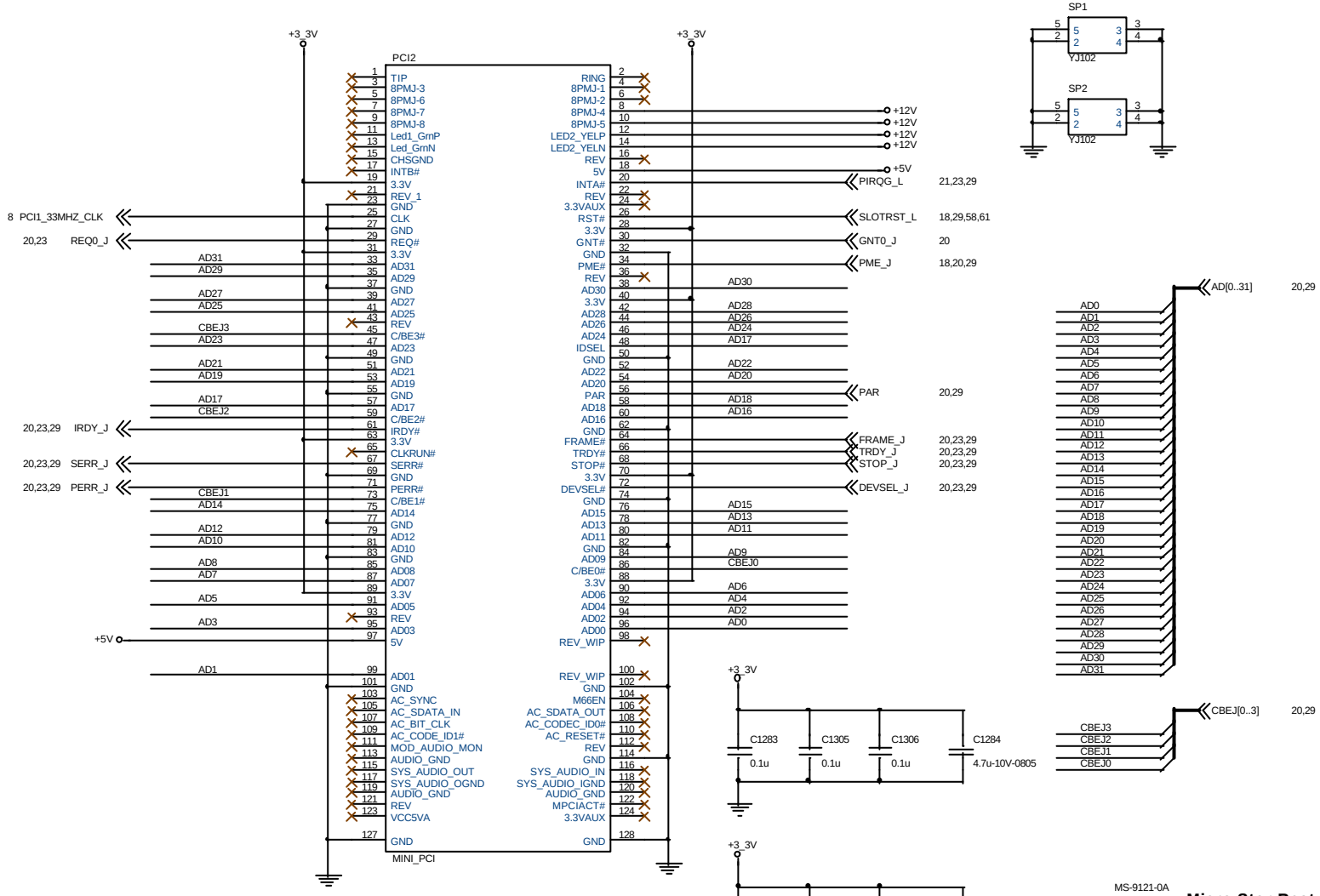
GNT: PBGNT1



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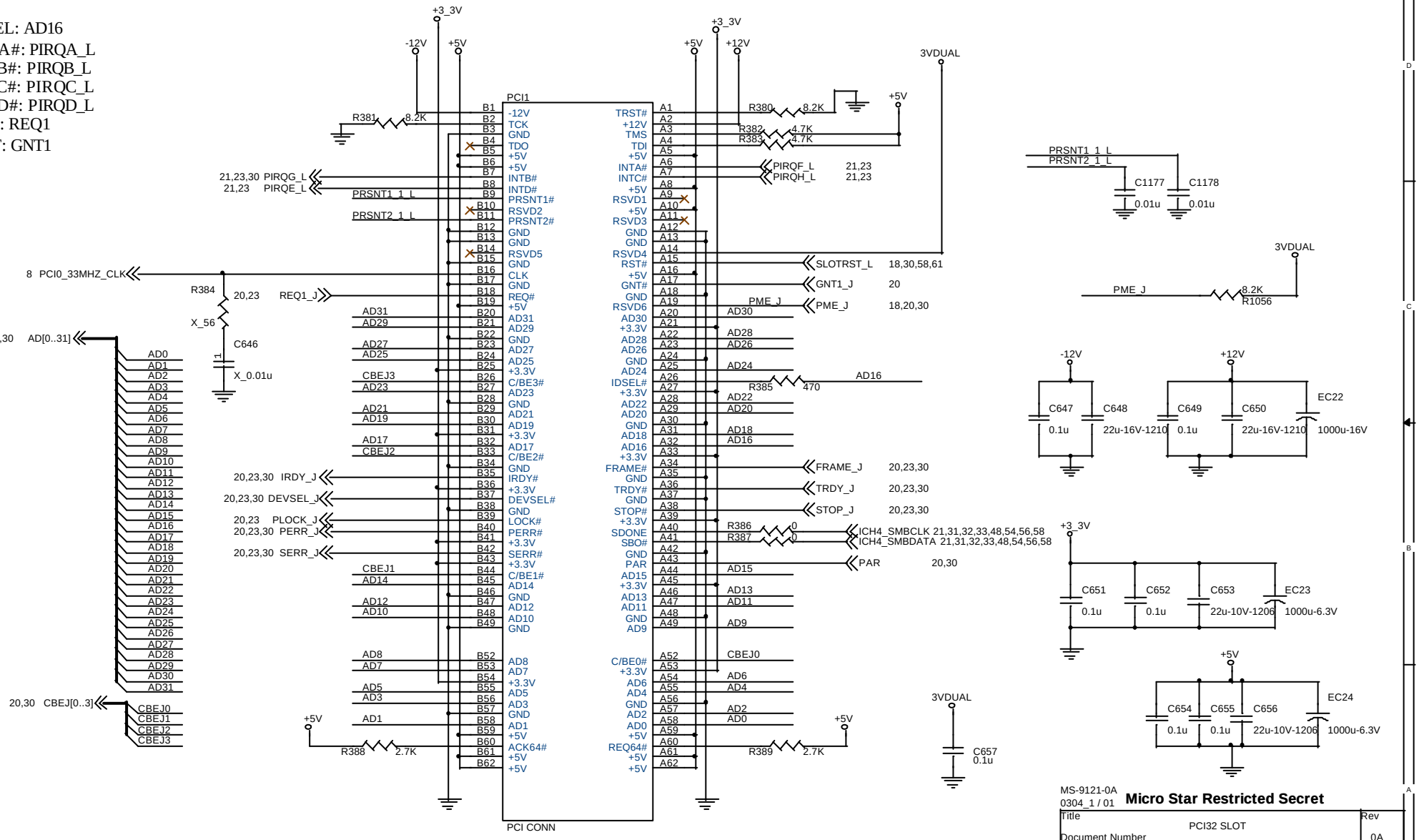
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PCI32 SLOT

IDSEL: AD16
INTA#: PIRQA_L
INTB#: PIRQB_L
INTC#: PIRQC_L
INTD#: PIRQD_L
REQ: REQ1
GNT: GNT1

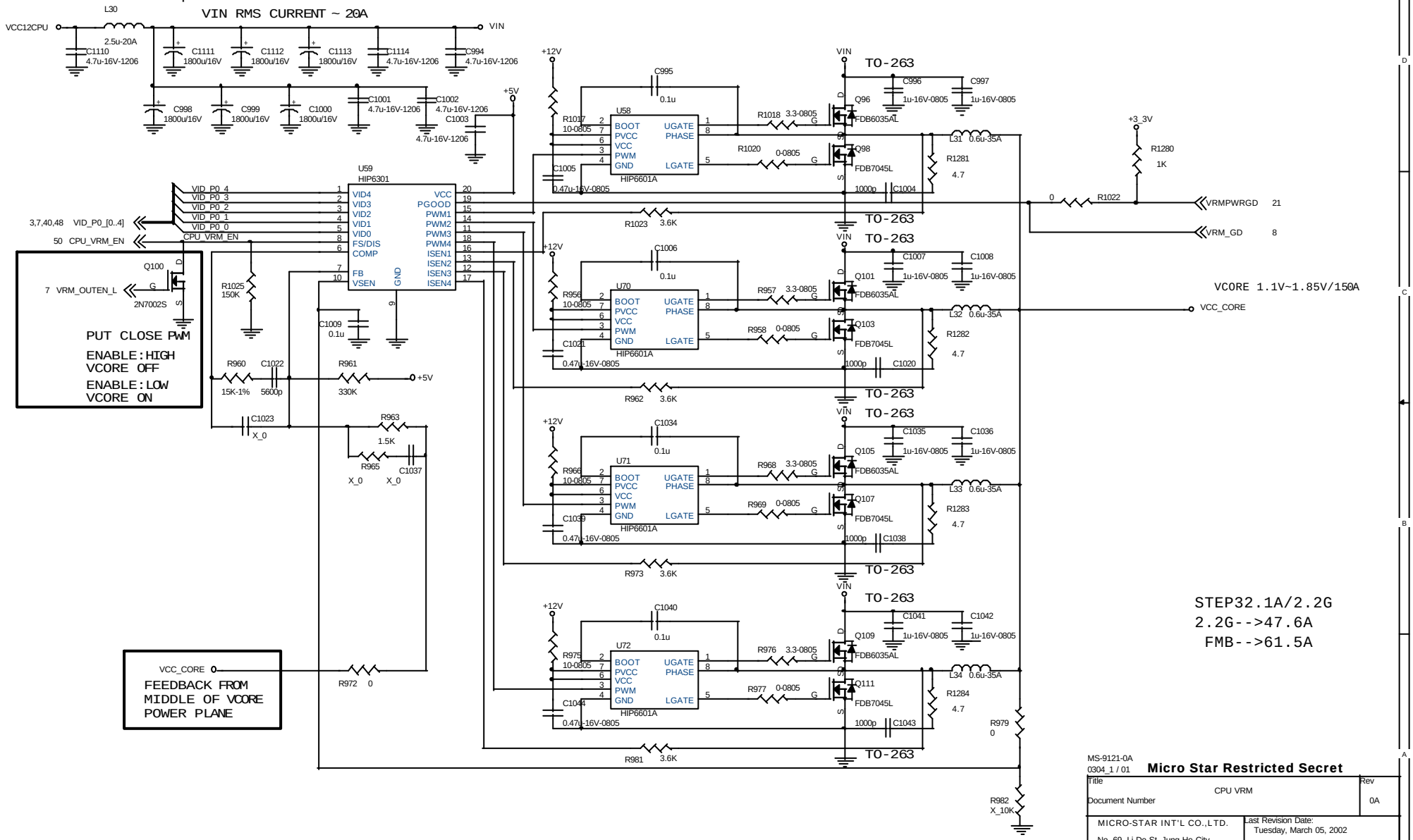


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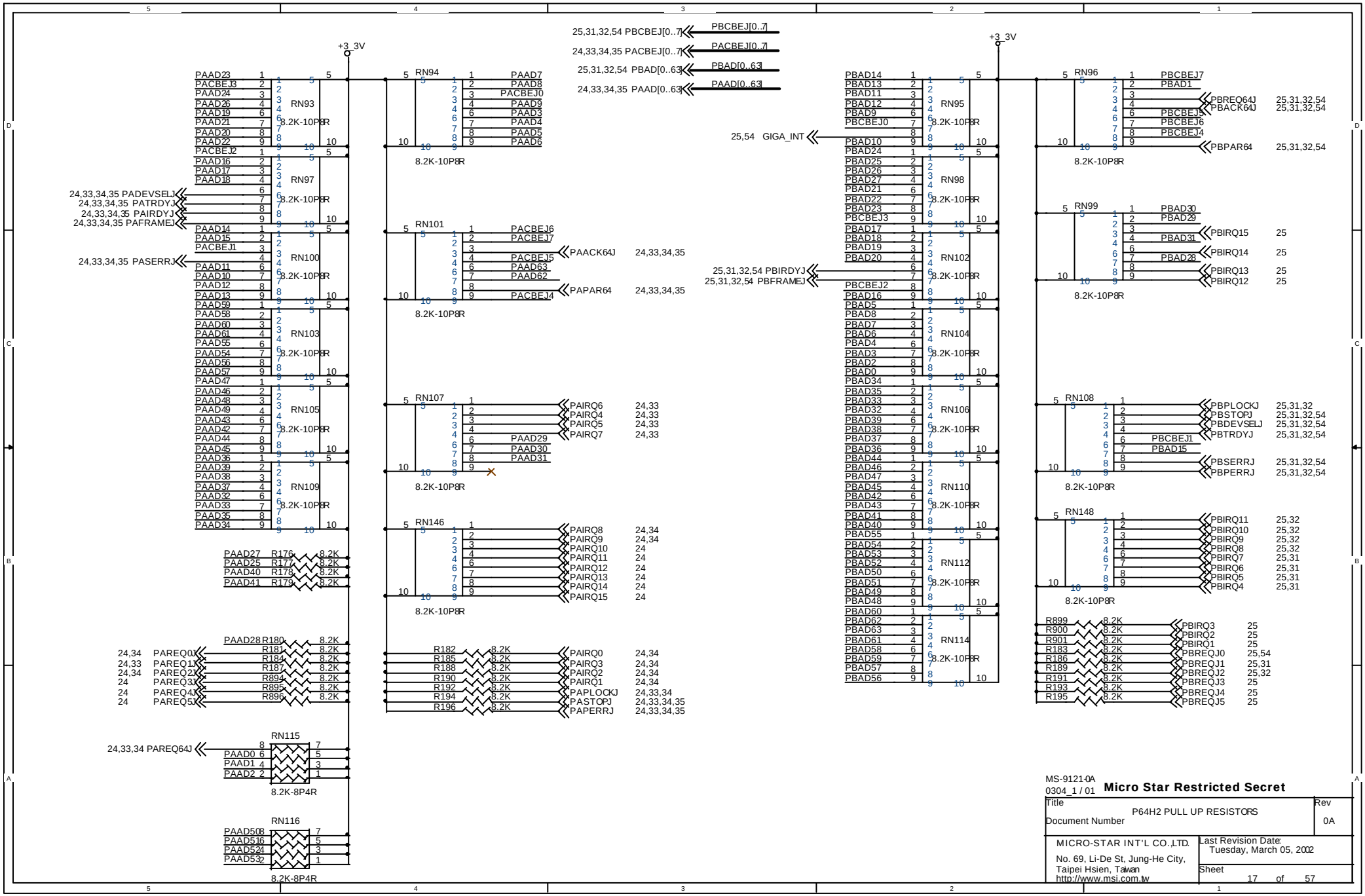
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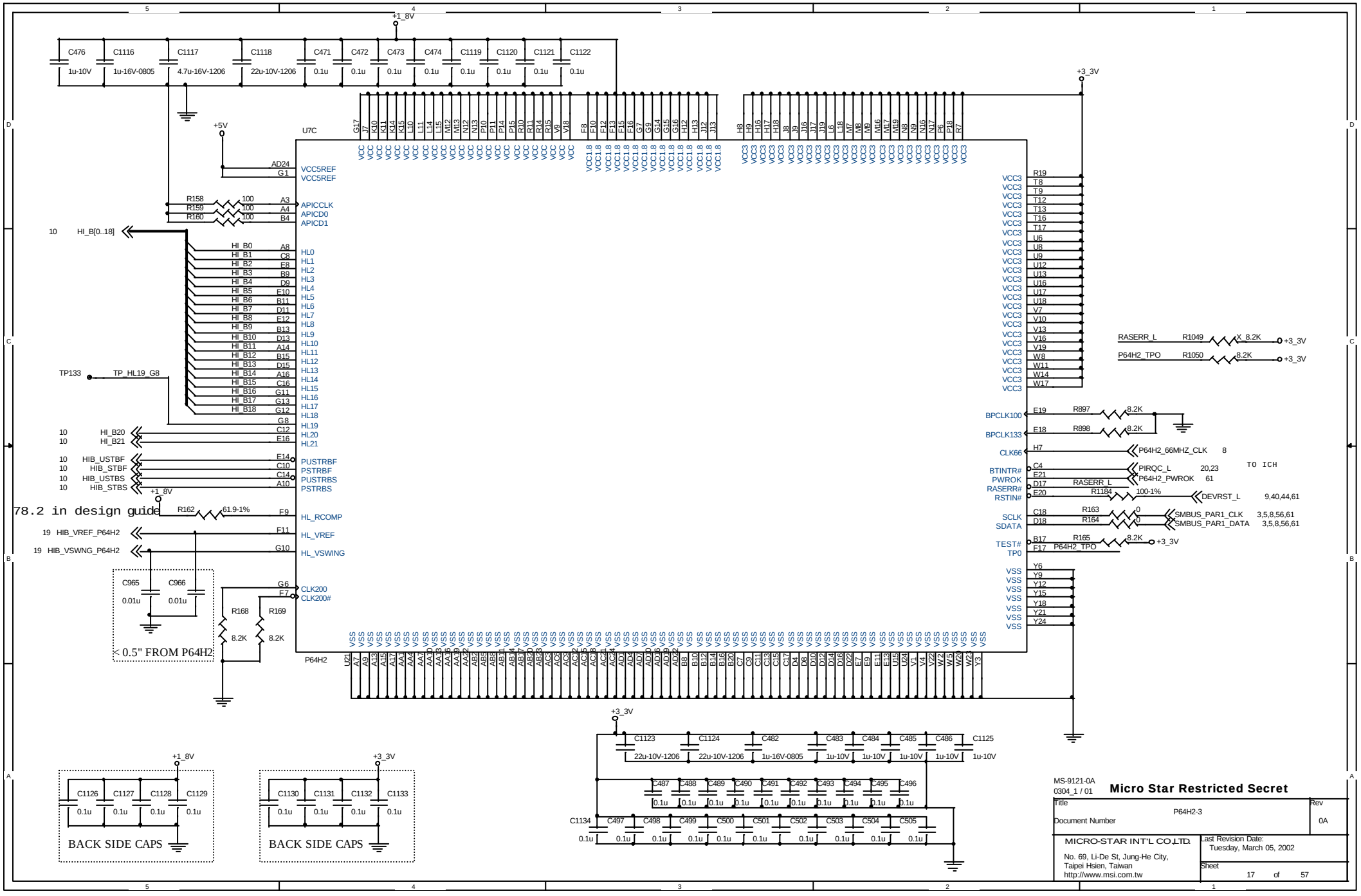
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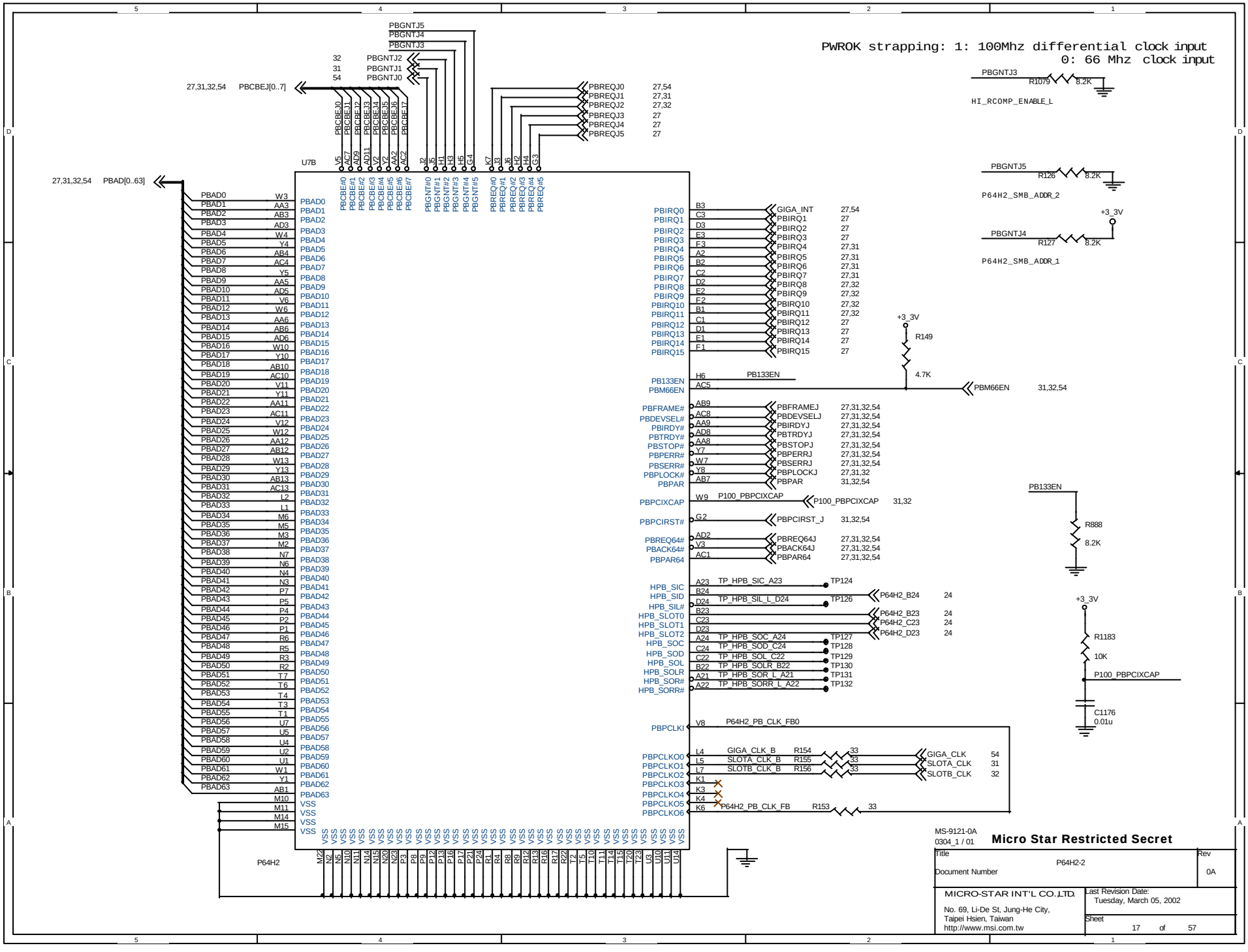
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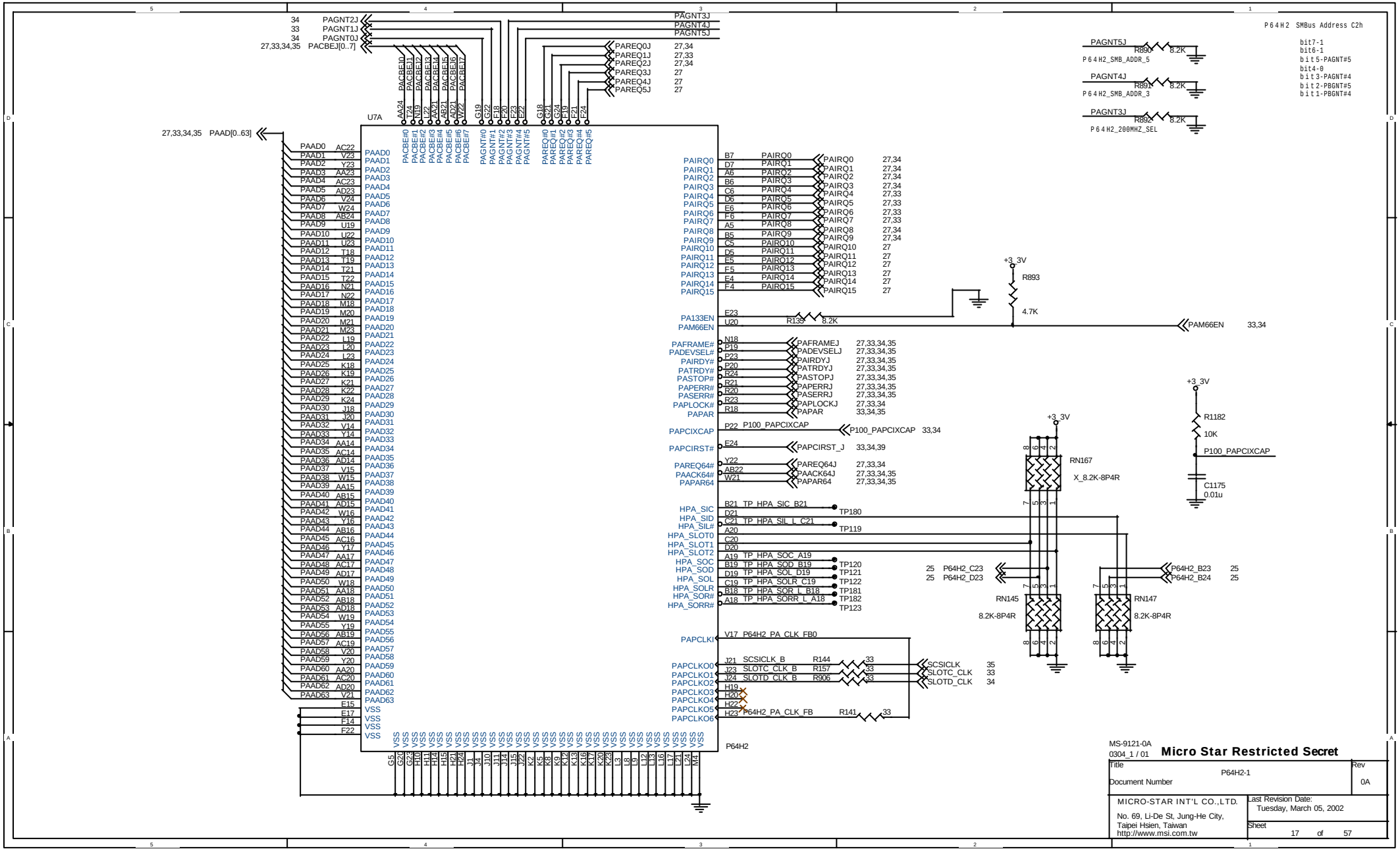
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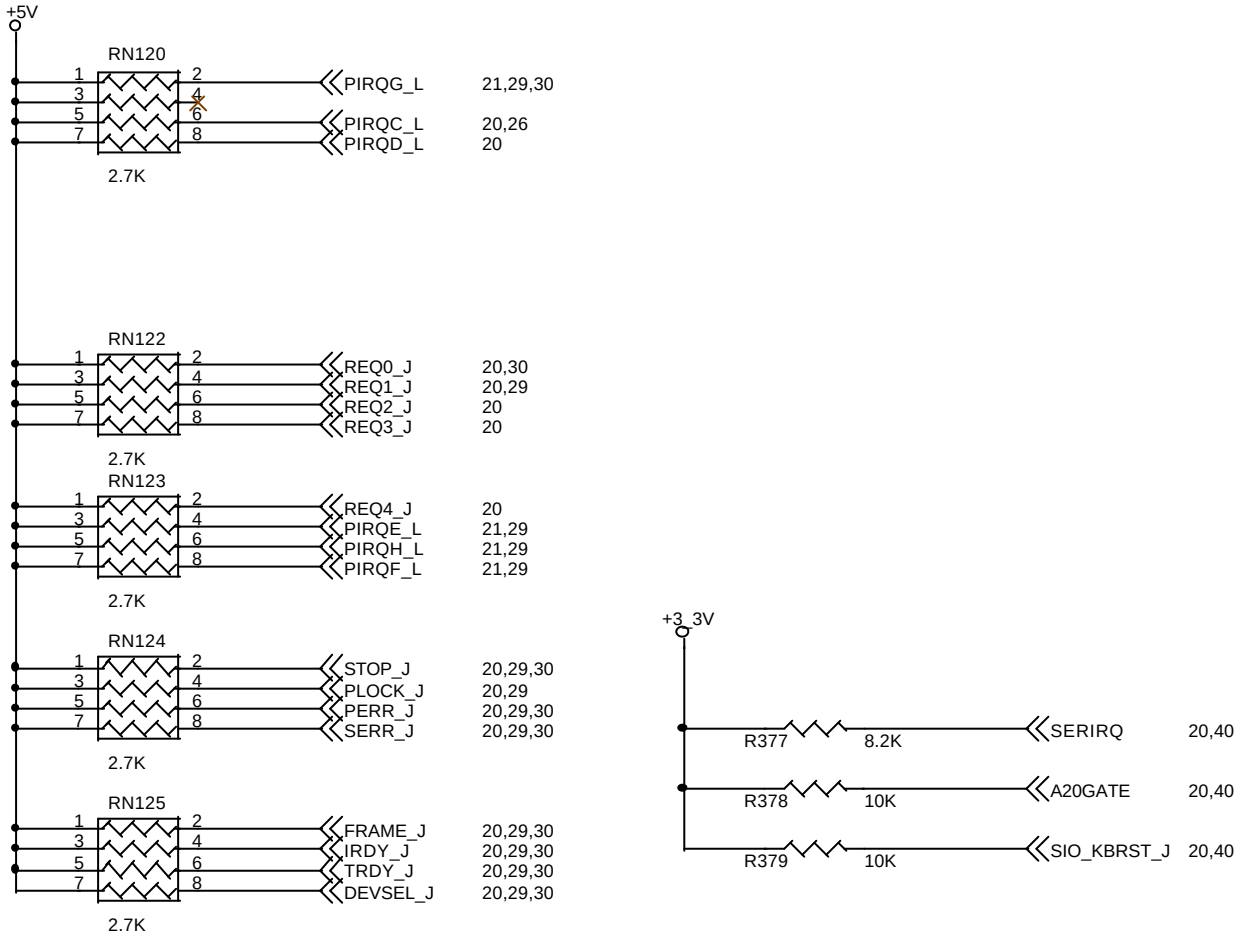
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+3_3V
PBCBEJ[0..7]
PACBEJ[0..7]
PBAD[0..63]
PAAD[0..63]
25,31,32,54 PBCBEJ[0..7]
24,33,34,35 PACBEJ[0..7]
25,31,32,54 PBAD[0..63]
24,33,34,35 PAAD[0..63]
RN93
RN94
RN95
RN96
RN97
RN98
RN99
RN100
RN101
RN102
RN103
RN104
RN105
RN106
RN107
RN108
RN109
RN110
RN112
RN114
RN115
RN116
RN146
RN148
8.2K-10P8R
8.2K-8P4R
25,54 GIGA_INT
24,33,34,35 PADEVSELJ
24,33,34,35 PATRDYJ
24,33,34,35 PAIRDYJ
24,33,34,35 PAFRAMEJ
24,33,34,35 PASERRJ
25,31,32,54 PBIRDYJ
25,31,32,54 PBFRAMEJ
24,33,34 PAREQ64J
PBREQ64J 25,31,32,54
PBACK64J 25,31,32,54
PBPAR64 25,31,32,54
PAACK64J 24,33,34,35
PAPAR64 24,33,34,35
PBPLOCKJ 25,31,32
PBSTOPJ 25,31,32,54
PBDEVSELJ 25,31,32,54
PBTRDYJ 25,31,32,54
PBSERRJ 25,31,32,54
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PAIRQ1 24,33
PAIRQ2 24,34
PAIRQ3 24
PAIRQ4 24
PAIRQ5 24
PAIRQ6 24,33
PAIRQ7 24,33
PAIRQ8 24,34
PAIRQ9 24,34
PAIRQ10 24
PAIRQ11 24
PAIRQ12 24
PAIRQ13 24
PAIRQ14 24
PAIRQ15 24
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PAPERRJ 24,33,34,35
PBIRQ15 25
PBIRQ14 25
PBIRQ13 25
PBIRQ12 25
PBIRQ11 25,32
PBIRQ10 25,32
PBIRQ9 25,32
PBIRQ8 25,32
PBIRQ7 25,31
PBIRQ6 25,31
PBIRQ5 25,31
PBIRQ4 25,31
PBIRQ3 25
PBIRQ2 25
PBIRQ1 25
PBREQJ0 25,54
PBREQJ1 25,31
PBREQJ2 25,32
PBREQJ3 25
PBREQJ4 25
PBREQJ5 25
PAAD27 R176 8.2K
PAAD25 R177 8.2K
PAAD40 R178 8.2K
PAAD41 R179 8.2K
PAAD28 R180 8.2K
R181 8.2K
R184 8.2K
R187 8.2K
R894 8.2K
R895 8.2K
R896 8.2K
R182 8.2K
R185 8.2K
R188 8.2K
R190 8.2K
R192 8.2K
R194 8.2K
R196 8.2K
R899 8.2K
R900 8.2K
R901 8.2K
R183 8.2K
R186 8.2K
R189 8.2K
R191 8.2K
R193 8.2K
R195 8.2K
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+1_8V
C476 1u-10V
C1116 1u-16V-0805
C1117 4.7u-16V-1206
C1118 22u-10V-1206
C471 0.1u
C472 0.1u
C473 0.1u
C474 0.1u
C1119 0.1u
C1120 0.1u
C1121 0.1u
C1122 0.1u
+5V
+3_3V
U7C
AD24
G1
VCC5REF
VCC5REF
R158 100 A3 APICCLK
R159 100 A4 APICD0
R160 100 B4 APICD1
10 HI_B[0..18]
HI_B0 A8 HL0
HI_B1 C8 HL1
HI_B2 E8 HL2
HI_B3 B9 HL3
HI_B4 D9 HL4
HI_B5 E10 HL5
HI_B6 B11 HL6
HI_B7 D11 HL7
HI_B8 E12 HL8
HI_B9 B13 HL9
HI_B10 D13 HL10
HI_B11 A14 HL11
HI_B12 B15 HL12
HI_B13 D15 HL13
HI_B14 A16 HL14
HI_B15 C16 HL15
HI_B16 G11 HL16
HI_B17 G13 HL17
HI_B18 G12 HL18
TP133 TP_HL19_G8
G8 HL19
10 HI_B20 C12 HL20
10 HI_B21 E16 HL21
10 HIB_USTBF E14 PUSTRBF
10 HIB_STBF C10 PSTRBF
10 HIB_USTBS C14 PUSTRBS
10 HIB_STBS A10 PSTRBS
+1_8V
78.2 in design guide
R162 61.9-1% F9 HL_RCOMP
19 HIB_VREF_P64H2 F11 HL_VREF
19 HIB_VSWNG_P64H2 G10 HL_VSWING
C965 0.01u
C966 0.01u
R168 8.2K
R169 8.2K
< 0.5" FROM P64H2
G6 CLK200
F7 CLK200#
P64H2
RASERR_L R1049 X_8.2K +3_3V
P64H2_TPO R1050 8.2K +3_3V
BPCLK100 E19 R897 8.2K
BPCLK133 E18 R898 8.2K
CLK66 H7 P64H2_66MHZ_CLK 8
BTINTR# C4 PIRQC_L 20,23
PWROK E21 P64H2_PWROK 61
RASERR# D17 RASERR_L
RSTIN# E20 R1184 100-1% DEVRST_L 9,40,44,61
TO ICH
SCLK C18 R163 0 SMBUS_PAR1_CLK 3,5,8,56,61
SDATA D18 R164 0 SMBUS_PAR1_DATA 3,5,8,56,61
TEST# B17 R165 8.2K +3_3V
TP0 F17 P64H2_TPO
+1_8V
C1126 0.1u
C1127 0.1u
C1128 0.1u
C1129 0.1u
BACK SIDE CAPS
+3_3V
C1130 0.1u
C1131 0.1u
C1132 0.1u
C1133 0.1u
BACK SIDE CAPS
+3_3V
C1123 22u-10V-1206
C1124 22u-10V-1206
C482 1u-16V-0805
C483 1u-10V
C484 1u-10V
C485 1u-10V
C486 1u-10V
C1125 1u-10V
C487 0.1u
C488 0.1u
C489 0.1u
C490 0.1u
C491 0.1u
C492 0.1u
C493 0.1u
C494 0.1u
C495 0.1u
C496 0.1u
C1134 0.1u
C497 0.1u
C498 0.1u
C499 0.1u
C500 0.1u
C501 0.1u
C502 0.1u
C503 0.1u
C504 0.1u
C505 0.1u
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PWROK strapping: 1: 100Mhz differential clock input
0: 66 Mhz clock input
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P64H2
PBAD[0..63]
PBCBEJ[0..7]
PBGNTJ5
PBGNTJ4
PBGNTJ3
PBGNTJ2
PBGNTJ1
PBGNTJ0
PBREQJ0
PBREQJ1
PBREQJ2
PBREQJ3
PBREQJ4
PBREQJ5
HI_RCOMP_ENABLE_L
P64H2_SMB_ADDR_2
P64H2_SMB_ADDR_1
+3_3V
R1079 8.2K
R126 8.2K
R127 8.2K
R149 4.7K
R888 8.2K
R1183 10K
C1176 0.01u
PB133EN
PBM66EN
P100_PBPCIXCAP
P64H2_PB_CLK_FB0
P64H2_PB_CLK_FB
GIGA_CLK_B
SLOTA_CLK_B
SLOTB_CLK_B
R154 33
R155 33
R156 33
R153 33
GIGA_CLK
SLOTA_CLK
SLOTB_CLK
TP_HPB_SIC_A23
TP_HPB_SIL_L_D24
TP_HPB_SOC_A24
TP_HPB_SOD_C24
TP_HPB_SOL_C22
TP_HPB_SOLR_B22
TP_HPB_SOR_L_A21
TP_HPB_SORR_L_A22
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bit6-1
bit5-PAGNT#5
bit4-0
bit3-PAGNT#4
bit2-PBGNT#5
bit1-PBGNT#4
PAGNT5J
R890
8.2K
P64H2_SMB_ADDR_5
PAGNT4J
R891
8.2K
P64H2_SMB_ADDR_3
PAGNT3J
R892
8.2K
P64H2_200MHZ_SEL
34 PAGNT2J
33 PAGNT1J
34 PAGNT0J
27,33,34,35 PACBEJ[0..7]
PAGNT3J
PAGNT4J
PAGNT5J
PAREQ0J 27,34
PAREQ1J 27,33
PAREQ2J 27,34
PAREQ3J 27
PAREQ4J 27
PAREQ5J 27
U7A
27,33,34,35 PAAD[0..63]
P64H2
+3_3V
R893
4.7K
PA133EN
PAM66EN
R135
8.2K
PAM66EN 33,34
PAFRAMEJ 27,33,34,35
PADEVSELJ 27,33,34,35
PAIRDYJ 27,33,34,35
PATRDYJ 27,33,34,35
PASTOPJ 27,33,34,35
PAPERRJ 27,33,34,35
PASERRJ 27,33,34,35
PAPLOCKJ 27,33,34
PAPAR 33,34,35
P100_PAPCIXCAP 33,34
PAPCIRST_J 33,34,39
PAREQ64J 27,33,34
PAACK64J 27,33,34,35
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TP_HPA_SIL_L_C21
TP_HPA_SOC_A19
TP_HPA_SOD_B19
TP_HPA_SOL_D19
TP_HPA_SOLR_C19
TP_HPA_SOR_L_B18
TP_HPA_SORR_L_A18
TP180
TP119
TP120
TP121
TP122
TP181
TP182
TP123
V17 P64H2_PA_CLK_FB0
R144 33
R157 33
R906 33
R141 33
SCSICLK 35
SLOTC_CLK 33
SLOTD_CLK 34
+3_3V
RN167
X_8.2K-8P4R
R1182
10K
P100_PAPCIXCAP
C1175
0.01u
25 P64H2_C23
25 P64H2_D23
RN145
8.2K-8P4R
RN147
8.2K-8P4R
P64H2_B23 25
P64H2_B24 25
MS-9121-0A
0304_1 / 01
Micro Star Restricted Secret
Title
P64H2-1
Rev
0A
Document Number
MICRO-STAR INT'L CO.,LTD.
No. 69, Li-De St, Jung-He City,
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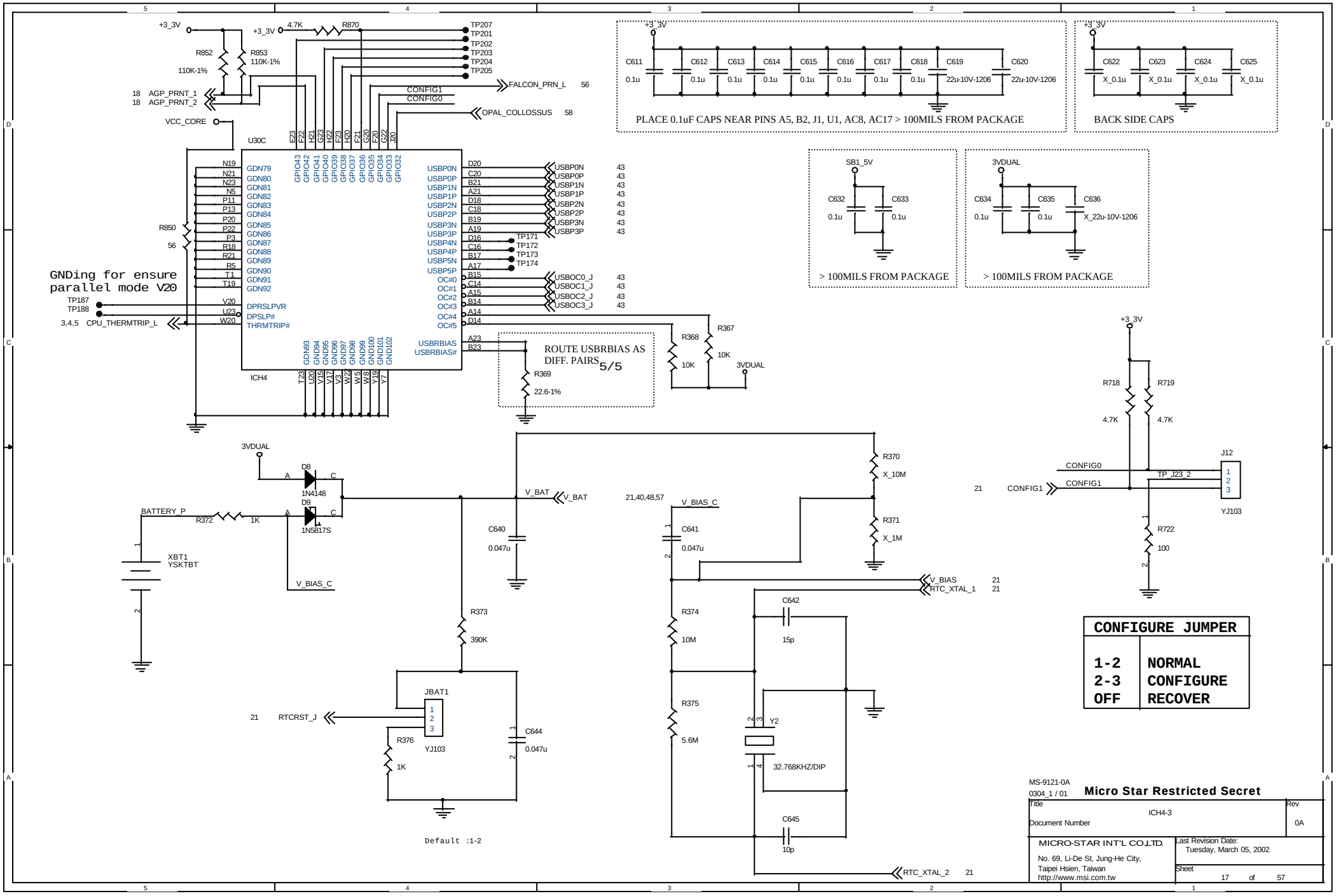
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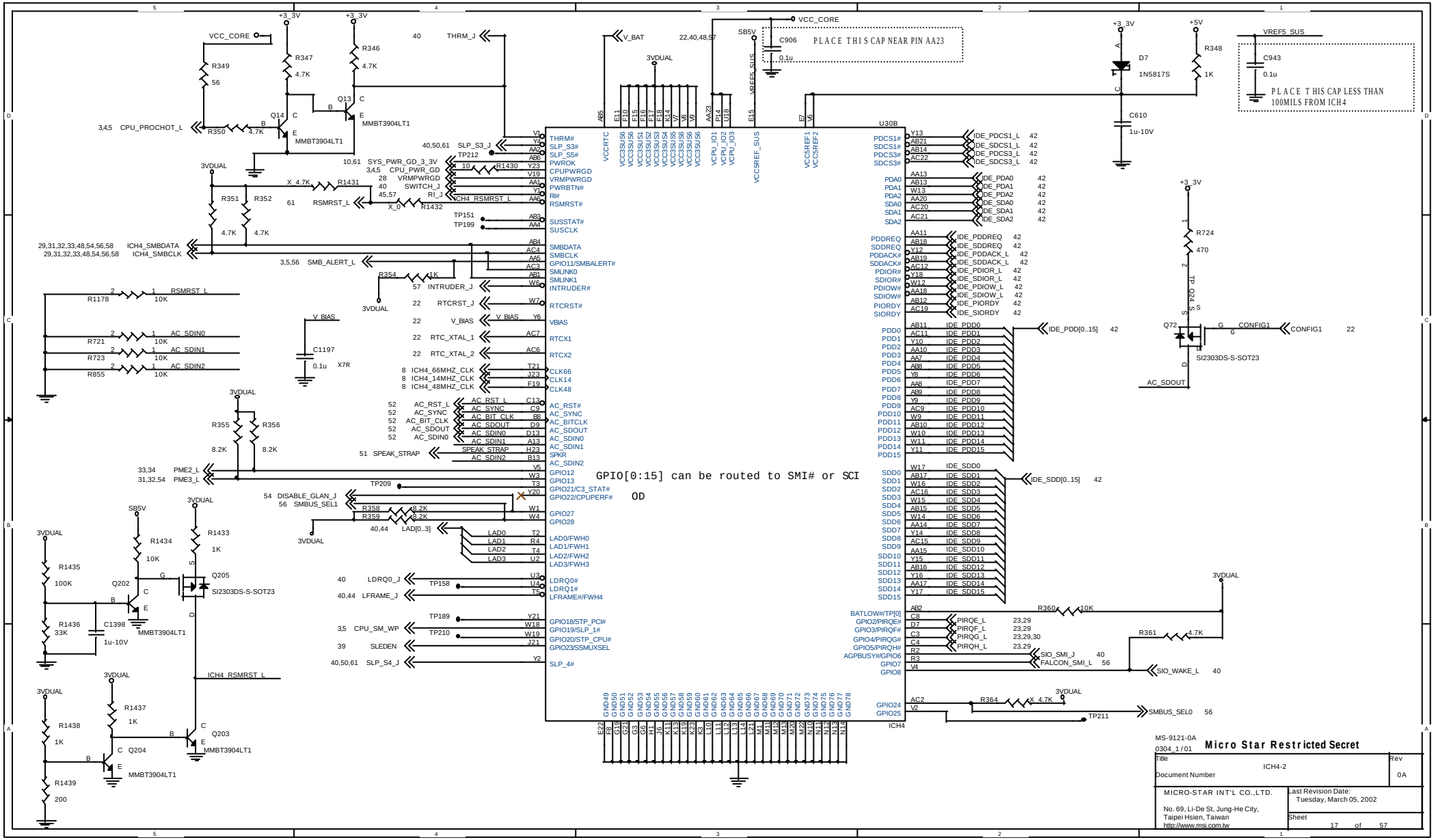
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Document Number	

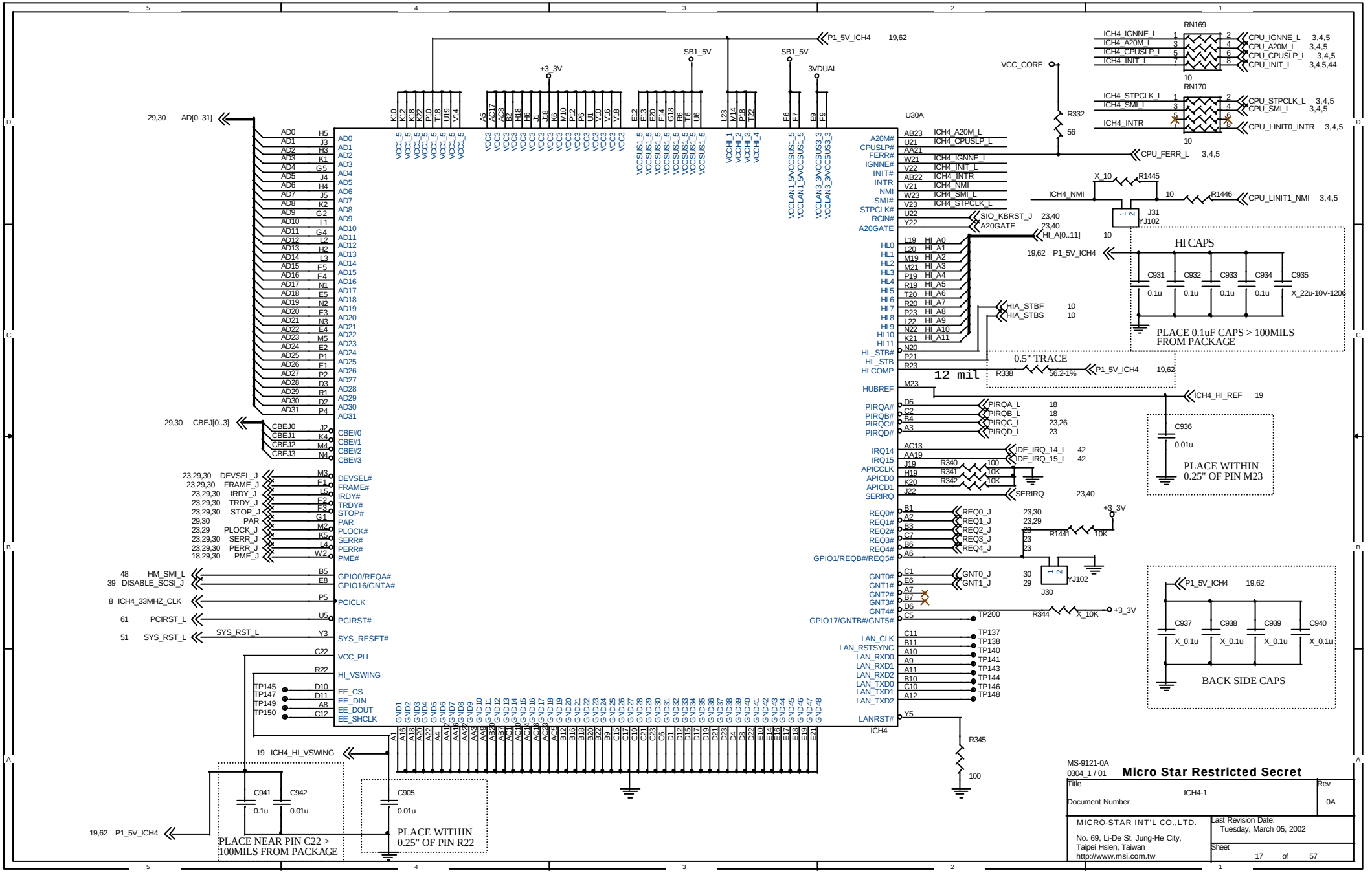
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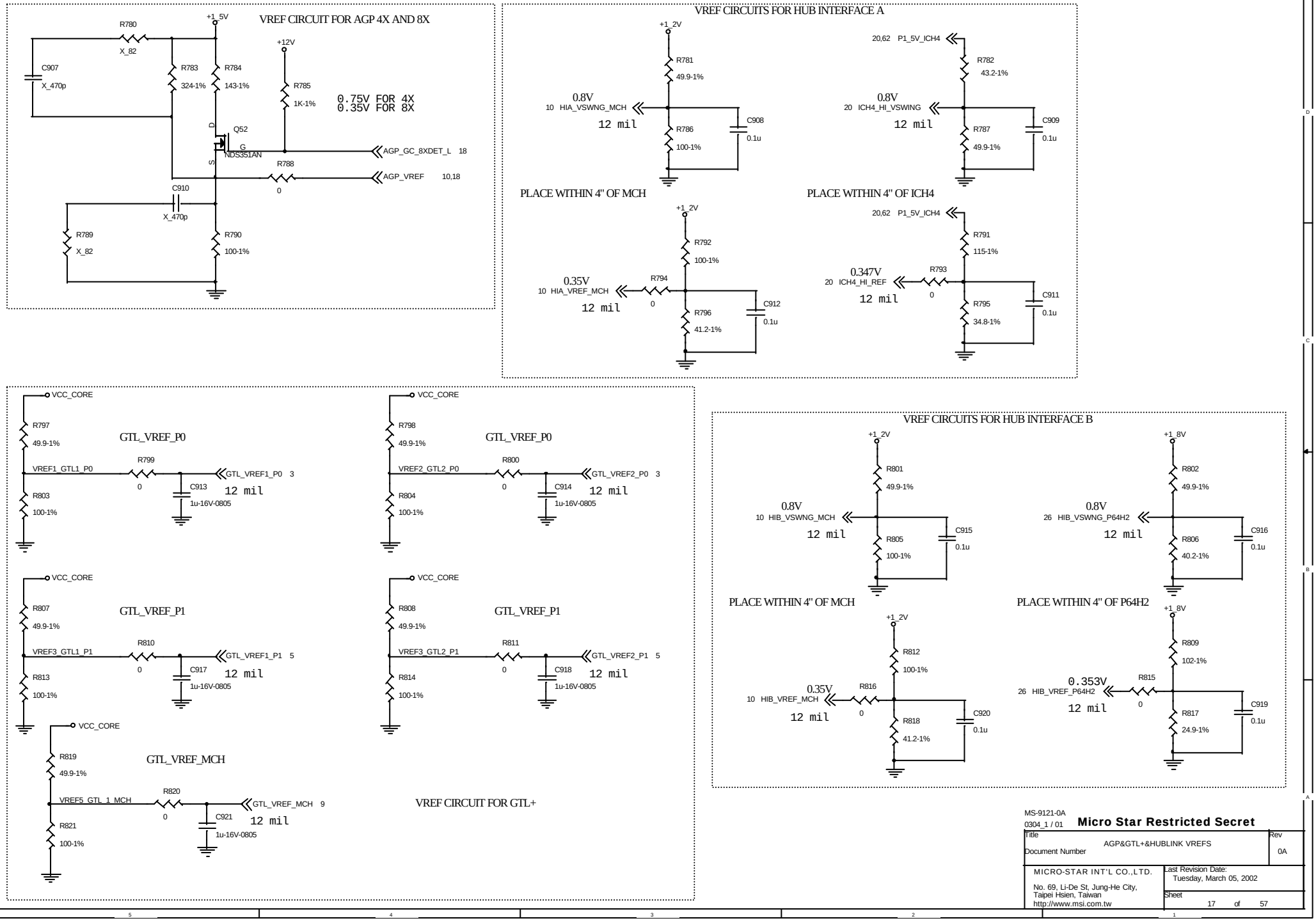
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+3_3V
R852
110K-1%
R853
110K-1%
4.7K
R870
TP207
TP201
TP202
TP203
TP204
TP205
18 AGP_PRNT_1
18 AGP_PRNT_2
CONFIG1
CONFIG0
FALCON_PRN_L 56
OPAL_COLLOSSUS 58
VCC_CORE
U30C
ICH4
GNDing for ensure parallel mode V20
TP187
TP188
3,4,5 CPU_THERMTRIP_L
R850
56
DPRSLPVR
DPSLP#
THRMTRIP#
USBP0N 43
USBP0P 43
USBP1N 43
USBP1P 43
USBP2N 43
USBP2P 43
USBP3N 43
USBP3P 43
TP171
TP172
TP173
TP174
USBOC0_J 43
USBOC1_J 43
USBOC2_J 43
USBOC3_J 43
USBRBIAS
USBRBIAS#
ROUTE USBRBIAS AS DIFF. PAIRS
5/5
R369
22.6-1%
R367
R368
10K
10K
3VDUAL
C611 C612 C613 C614 C615 C616 C617 C618 C619 C620
0.1u
22u-10V-1206
PLACE 0.1uF CAPS NEAR PINS A5, B2, J1, U1, AC8, AC17 > 100MILS FROM PACKAGE
C622 C623 C624 C625
X_0.1u
BACK SIDE CAPS
SB1_5V
C632 C633
> 100MILS FROM PACKAGE
3VDUAL
C634 C635 C636
X_22u-10V-1206
> 100MILS FROM PACKAGE
D8
D9
1N4148
1N5817S
BATTERY_P
R372
1K
XBT1
YSKTBT
V_BAT
C640
0.047u
V_BIAS_C
R373
390K
JBAT1
YJ103
21 RTCRST_J
R376
1K
C644
0.047u
Default :1-2
21,40,48,57 V_BIAS_C
C641
0.047u
R370
X_10M
R371
X_1M
V_BIAS 21
RTC_XTAL_1 21
R374
10M
R375
5.6M
C642
15p
Y2
32.768KHZ/DIP
C645
10p
RTC_XTAL_2 21
R718
R719
4.7K
4.7K
CONFIG0
CONFIG1 21
TP_J23_2
J12
YJ103
R722
100
CONFIGURE JUMPER
1-2 NORMAL
2-3 CONFIGURE
OFF RECOVER
MS-9121-0A
0304_1 / 01
Micro Star Restricted Secret
Title
ICH4-3
Rev
0A
Document Number
MICRO-STAR INT'L CO.,LTD.
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GPIO[0:15] can be routed to SMI# or SCI
OD
PLACE THIS CAP NEAR PIN AA23
PLACE THIS CAP LESS THAN 100MILS FROM ICH4
U30B
ICH4
VCC_CORE
+3_3V
+5V
3VDUAL
SB5V
V_BAT
VREF5_SUS
THRM_J
CPU_PROCHOT_L
SLP_S3_J
SYS_PWR_GD_3_3V
CPU_PWR_GD
VRMPWRGD
SWITCH_J
RI_J
ICH4_RSMRST_L
RSMRST_L
ICH4_SMBDATA
ICH4_SMBCLK
SMB_ALERT_L
INTRUDER_J
RTCRST_J
V_BIAS
RTC_XTAL_1
RTC_XTAL_2
ICH4_66MHZ_CLK
ICH4_14MHZ_CLK
ICH4_48MHZ_CLK
AC_RST_L
AC_SYNC
AC_BIT_CLK
AC_SDOUT
AC_SDIN0
AC_SDIN1
AC_SDIN2
SPEAK_STRAP
PME2_L
PME3_L
DISABLE_GLAN_J
SMBUS_SEL1
LAD[0..3]
LDRQ0_J
LFRAME_J
CPU_SM_WP
SLEDEN
SLP_S4_J
SLP_4#
IDE_PDCS1_L
IDE_SDCS1_L
IDE_PDCS3_L
IDE_SDCS3_L
IDE_PDA0
IDE_PDA1
IDE_PDA2
IDE_SDA0
IDE_SDA1
IDE_SDA2
IDE_PDDREQ
IDE_SDDREQ
IDE_PDDACK_L
IDE_SDDACK_L
IDE_PDIOR_L
IDE_SDIOR_L
IDE_PDIOW_L
IDE_SDIOW_L
IDE_PIORDY
IDE_SIORDY
IDE_PDD[0..15]
IDE_SDD[0..15]
PIRQE_L
PIRQF_L
PIRQG_L
PIRQH_L
SIO_SMI_J
FALCON_SMI_L
SIO_WAKE_L
SMBUS_SEL0
CONFIG1
AC_SDOUT
D7
1N5817S
Q72
SI2303DS-S-SOT23
Q202
Q205
Q203
Q204
MMBT3904LT1
C906
C943
C610
C1197
C1398
MS-9121-0A
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0A
MICRO-STAR INT'L CO.,LTD.
No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan
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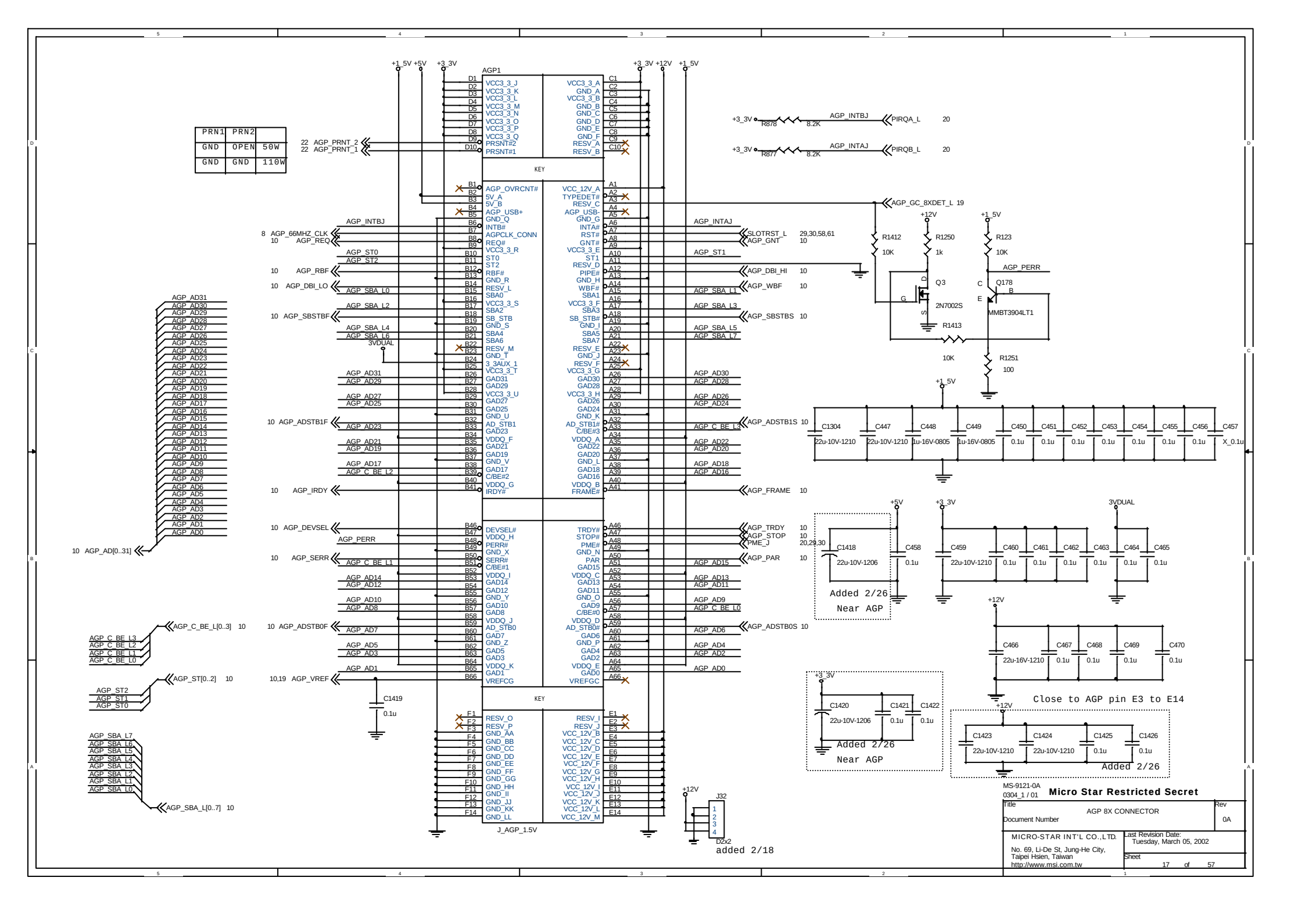

U30A
ICH4
P1_5V_ICH4 19,62
SB1_5V
+3_3V
3VDUAL
VCC_CORE
RN169
RN170
ICH4_IGNNE_L
ICH4_A20M_L
ICH4_CPUSLP_L
ICH4_INIT_L
ICH4_STPCLK_L
ICH4_SMI_L
ICH4_INTR
CPU_IGNNE_L 3,4,5
CPU_A20M_L 3,4,5
CPU_CPUSLP_L 3,4,5
CPU_INIT_L 3,4,5,44
CPU_STPCLK_L 3,4,5
CPU_SMI_L 3,4,5
CPU_LINIT0_INTR 3,4,5
R332
56
CPU_FERR_L 3,4,5
ICH4_NMI
R1445
R1446
CPU_LINIT1_NMI 3,4,5
J31
YJ102
SIO_KBRST_J 23,40
A20GATE 23,40
HI_A[0..11] 10
HI CAPS
C931 C932 C933 C934 C935
0.1u
X_22u-10V-1206
PLACE 0.1uF CAPS > 100MILS FROM PACKAGE
HIA_STBF 10
HIA_STBS 10
0.5" TRACE
12 mil
R338 56.2-1%
HUBREF
ICH4_HI_REF 19
C936
0.01u
PLACE WITHIN 0.25" OF PIN M23
IDE_IRQ_14_L 42
IDE_IRQ_15_L 42
SERIRQ 23,40
R340 100
R341 10K
R342 10K
R1441 10K
+3_3V
GNT0_J 30
GNT1_J 29
J30
YJ102
TP200
R344 X_10K
TP137
TP138
TP140
TP141
TP143
TP144
TP146
TP148
R345
100
C937 C938 C939 C940
X_0.1u
BACK SIDE CAPS
29,30 AD[0..31]
29,30 CBEJ[0..3]
23,29,30 DEVSEL_J
23,29,30 FRAME_J
23,29,30 IRDY_J
23,29,30 TRDY_J
23,29,30 STOP_J
29,30 PAR
23,29 PLOCK_J
23,29,30 SERR_J
23,29,30 PERR_J
18,29,30 PME_J
48 HM_SMI_L
39 DISABLE_SCSI_J
8 ICH4_33MHZ_CLK
61 PCIRST_L
51 SYS_RST_L
SYS_RST_L
19 ICH4_HI_VSWING
TP145
TP147
TP149
TP150
C941 C942
0.1u 0.01u
C905
0.01u
19,62 P1_5V_ICH4
PLACE NEAR PIN C22 > 100MILS FROM PACKAGE
PLACE WITHIN 0.25" OF PIN R22
MS-9121-0A
0304_1 / 01
Micro Star Restricted Secret
Title
ICH4-1
Rev
0A
Document Number
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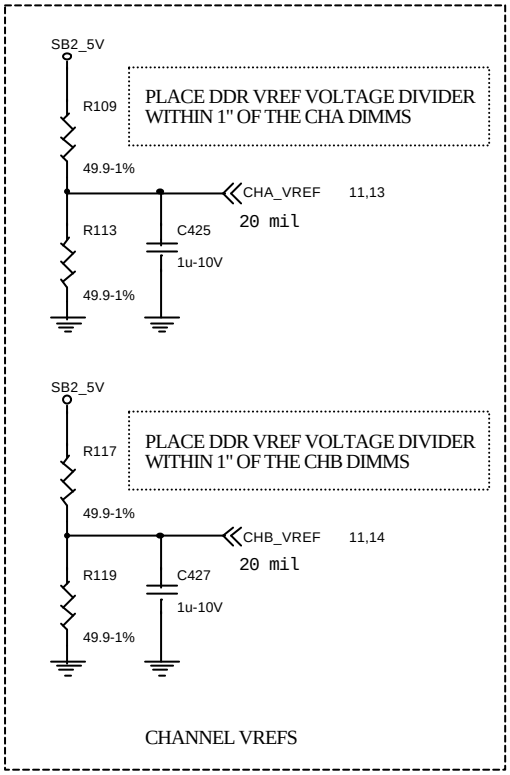


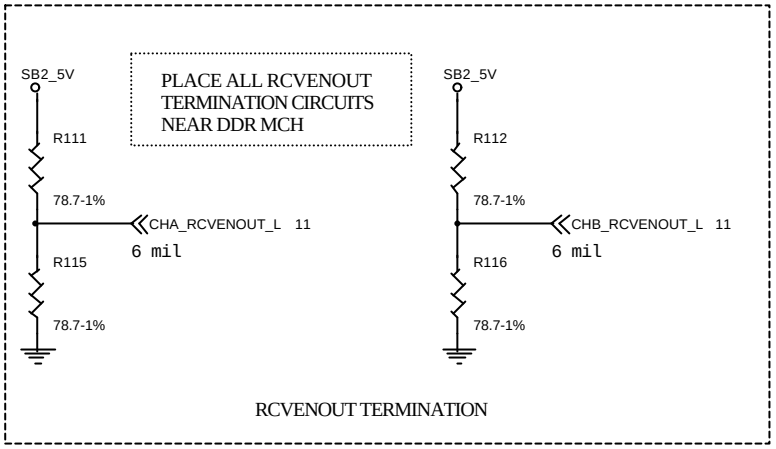
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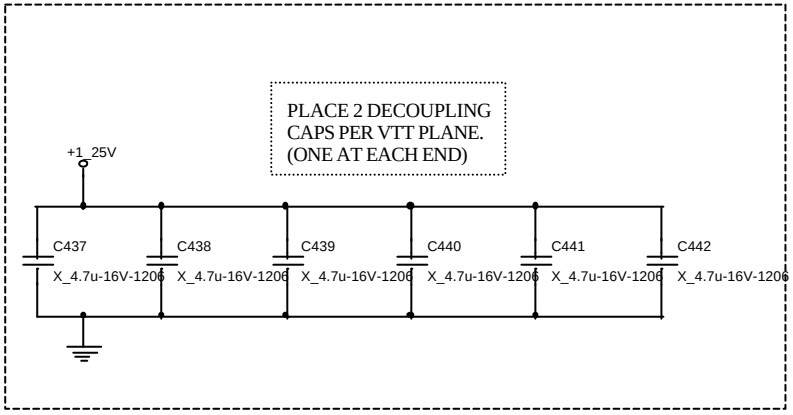
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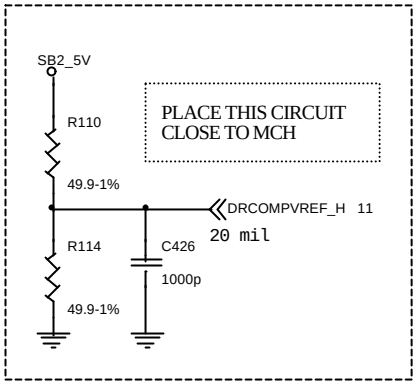
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Document Number:	
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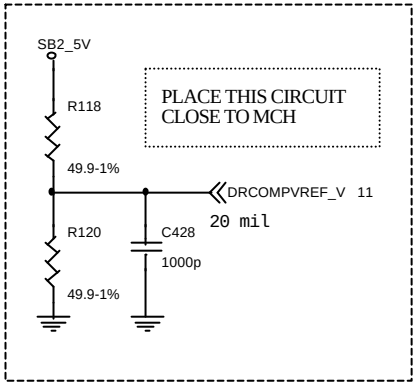

AGP1
J_AGP_1.5V
KEY
PRN1 PRN2
GND OPEN 50W
GND GND 110W
AGP_AD[0..31]
AGP_C_BE_L[0..3]
AGP_ST[0..2]
AGP_SBA_L[0..7]
AGP_INTBJ
AGP_INTAJ
AGP_GC_8XDET_L
AGP_REQ
AGP_GNT
AGP_ST0
AGP_ST1
AGP_ST2
AGP_RBF
AGP_DBI_HI
AGP_DBI_LO
AGP_WBF
AGP_SBA_L0
AGP_SBA_L1
AGP_SBA_L2
AGP_SBA_L3
AGP_SBSTBF
AGP_SBSTBS
AGP_SBA_L4
AGP_SBA_L5
AGP_SBA_L6
AGP_SBA_L7
3VDUAL
AGP_ADSTB1F
AGP_ADSTB1S
AGP_IRDY
AGP_FRAME
AGP_DEVSEL
AGP_TRDY
AGP_STOP
AGP_PERR
AGP_SERR
AGP_PAR
AGP_C_BE_L1
AGP_C_BE_L3
AGP_ADSTB0F
AGP_ADSTB0S
AGP_VREF
AGP_C_BE_L0
AGP_66MHZ_CLK
AGP_PRNT_2
AGP_PRNT_1
R878 8.2K
R877 8.2K
R1412 10K
R1250 1k
R123 10K
R1413 10K
R1251 100
Q3 2N7002S
Q178 MMBT3904LT1
C1304 22u-10V-1210
C447 22u-10V-1210
C448 1u-16V-0805
C449 1u-16V-0805
C450 0.1u
C451 0.1u
C452 0.1u
C453 0.1u
C454 0.1u
C455 0.1u
C456 0.1u
C457 X_0.1u
C1418 22u-10V-1206
C458 0.1u
Added 2/26 Near AGP
C459 22u-10V-1210
C460 0.1u
C461 0.1u
C462 0.1u
C463 0.1u
C464 0.1u
C465 0.1u
C466 22u-16V-1210
C467 0.1u
C468 0.1u
C469 0.1u
C470 0.1u
Close to AGP pin E3 to E14
C1420 22u-10V-1206
C1421 0.1u
C1422 0.1u
Added 2/26 Near AGP
C1423 22u-10V-1210
C1424 22u-10V-1210
C1425 0.1u
C1426 0.1u
Added 2/26
C1419 0.1u
J32 D2x2
added 2/18
MS-9121-0A
0304_1 / 01
Micro Star Restricted Secret
Title AGP 8X CONNECTOR
Rev 0A
Document Number
MICRO-STAR INT'L CO.,LTD.
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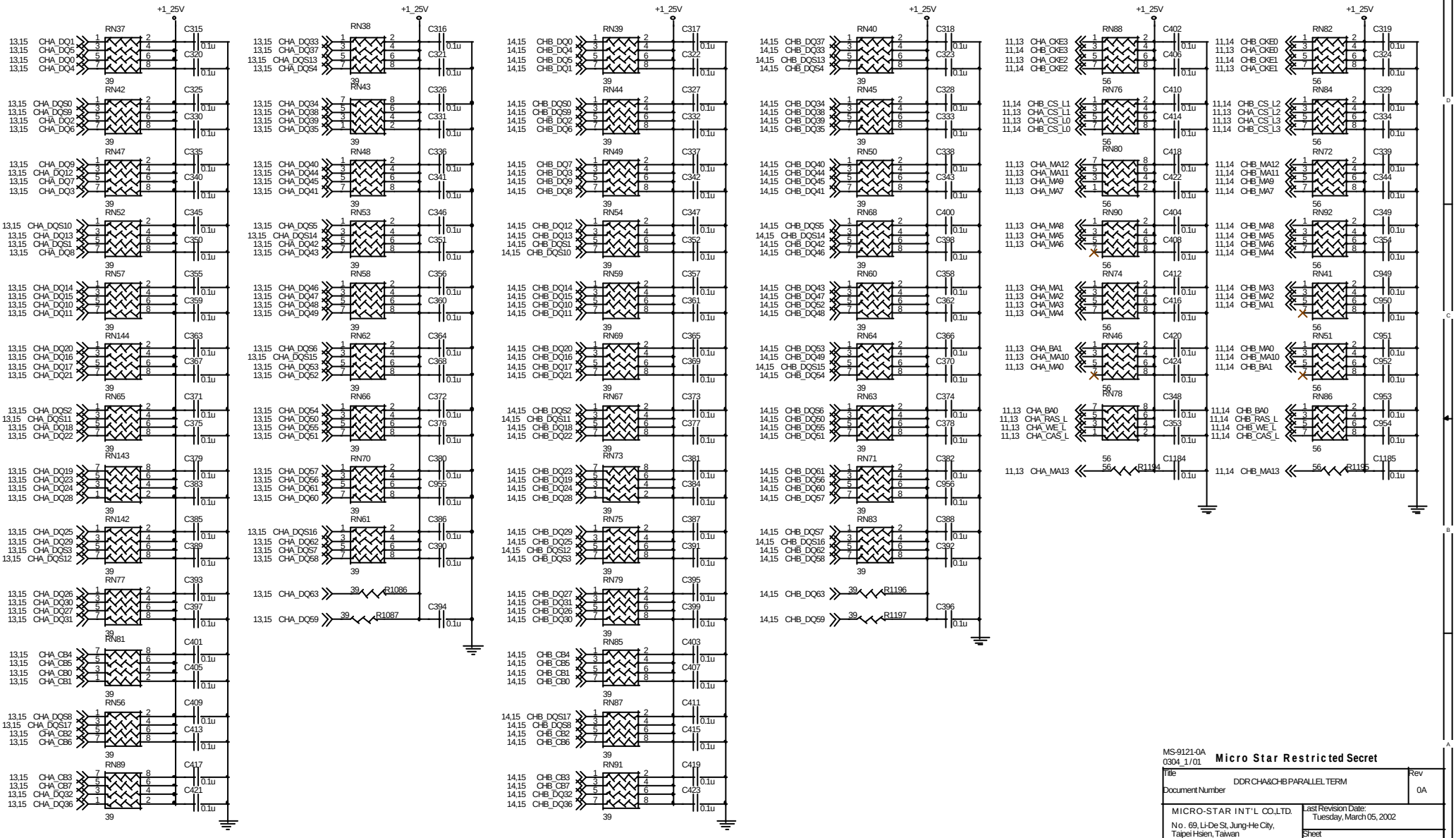




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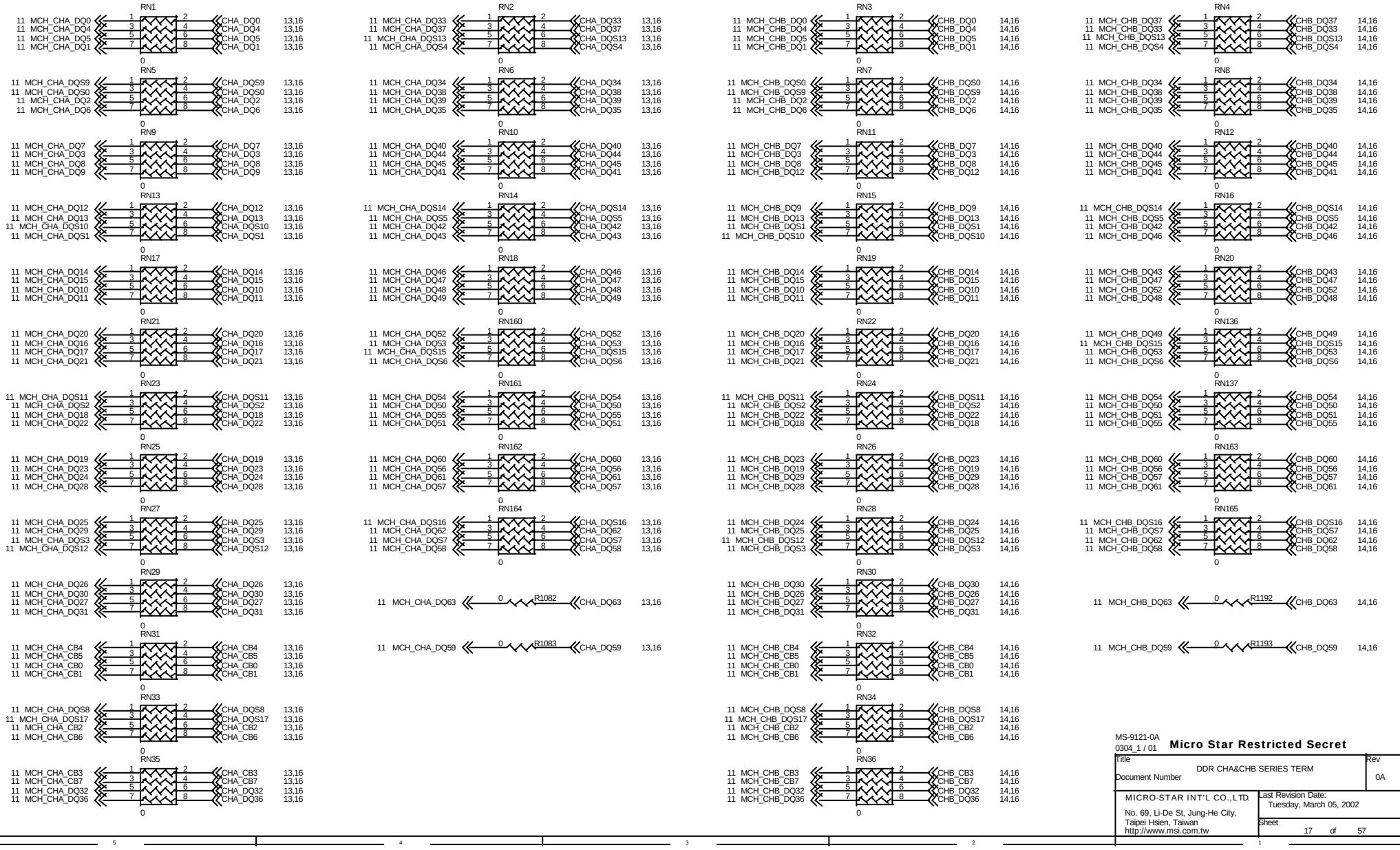
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Document Number		
MICRO-STAR INT'L CO.,LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Tuesday, March 05, 2002 Sheet 17 of 57

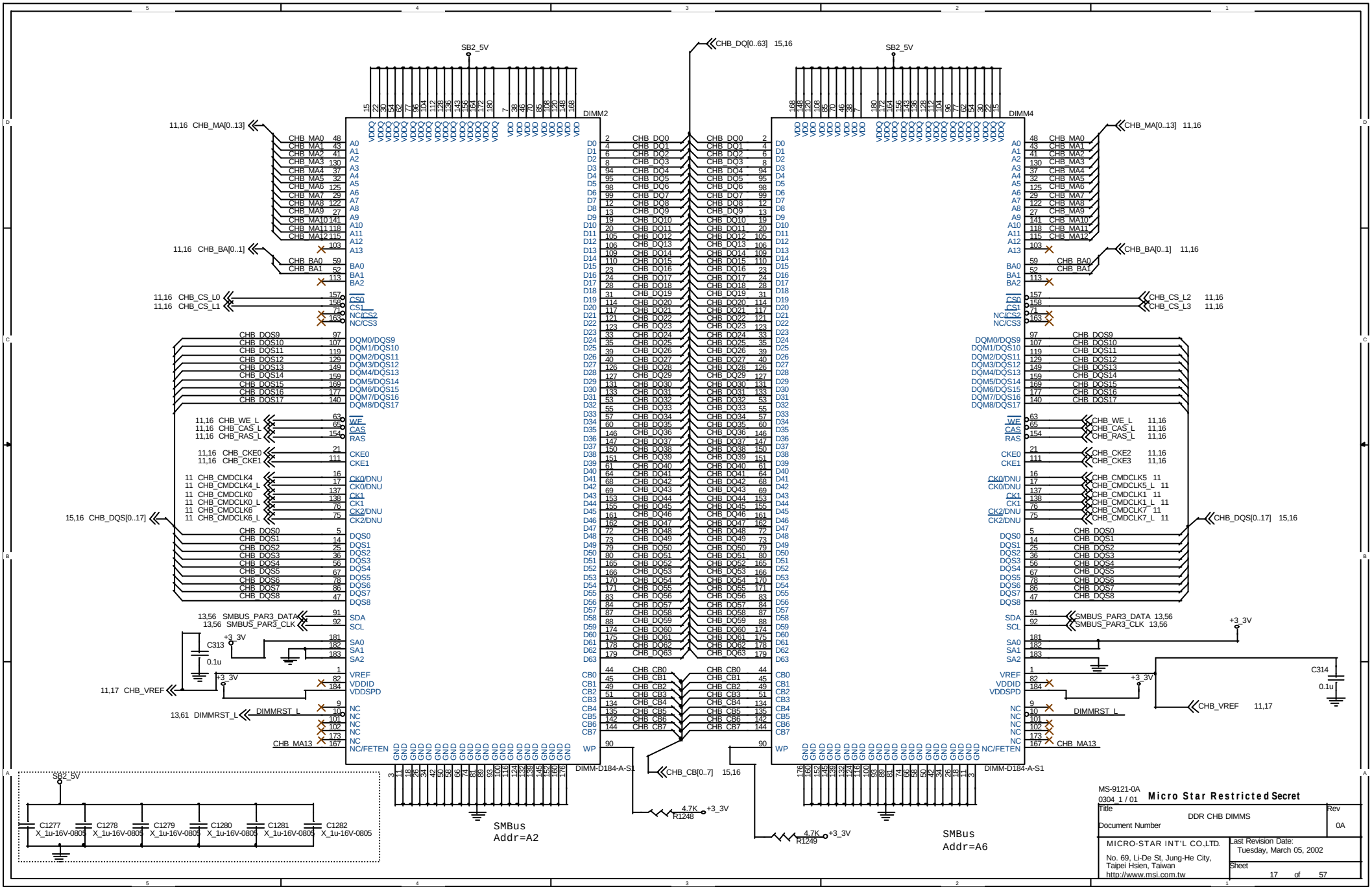


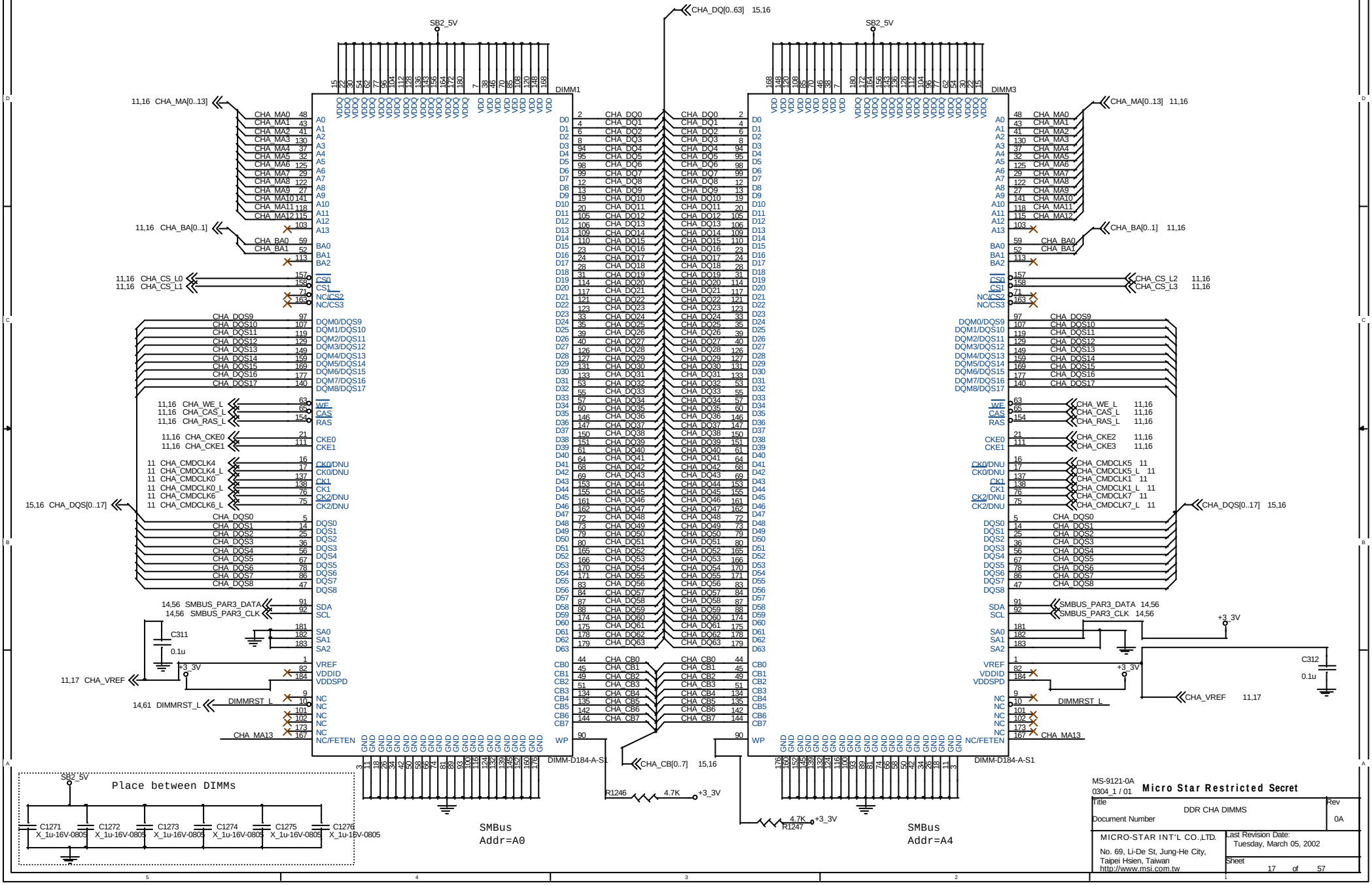
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Title	DDR CHA&CHB PARALLEL TERM	Rev
Document Number		0A
MICRO-STAR INT'L CO.,LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Tuesday, March 05, 2002
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RN1
11 MCH_CHA_DQ0 CHA_DQ0 13,16
11 MCH_CHA_DQ4 CHA_DQ4 13,16
11 MCH_CHA_DQ5 CHA_DQ5 13,16
11 MCH_CHA_DQ1 CHA_DQ1 13,16
RN2
11 MCH_CHA_DQ33 CHA_DQ33 13,16
11 MCH_CHA_DQ37 CHA_DQ37 13,16
11 MCH_CHA_DQS13 CHA_DQS13 13,16
11 MCH_CHA_DQS4 CHA_DQS4 13,16
RN3
11 MCH_CHB_DQ0 CHB_DQ0 14,16
11 MCH_CHB_DQ4 CHB_DQ4 14,16
11 MCH_CHB_DQ5 CHB_DQ5 14,16
11 MCH_CHB_DQ1 CHB_DQ1 14,16
RN4
11 MCH_CHB_DQ37 CHB_DQ37 14,16
11 MCH_CHB_DQ33 CHB_DQ33 14,16
11 MCH_CHB_DQS13 CHB_DQS13 14,16
11 MCH_CHB_DQS4 CHB_DQS4 14,16
RN5
11 MCH_CHA_DQS9 CHA_DQS9 13,16
11 MCH_CHA_DQS0 CHA_DQS0 13,16
11 MCH_CHA_DQ2 CHA_DQ2 13,16
11 MCH_CHA_DQ6 CHA_DQ6 13,16
RN6
11 MCH_CHA_DQ34 CHA_DQ34 13,16
11 MCH_CHA_DQ38 CHA_DQ38 13,16
11 MCH_CHA_DQ39 CHA_DQ39 13,16
11 MCH_CHA_DQ35 CHA_DQ35 13,16
RN7
11 MCH_CHB_DQS0 CHB_DQS0 14,16
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11 MCH_CHB_DQ2 CHB_DQ2 14,16
11 MCH_CHB_DQ6 CHB_DQ6 14,16
RN8
11 MCH_CHB_DQ34 CHB_DQ34 14,16
11 MCH_CHB_DQ38 CHB_DQ38 14,16
11 MCH_CHB_DQ39 CHB_DQ39 14,16
11 MCH_CHB_DQ35 CHB_DQ35 14,16
RN9
11 MCH_CHA_DQ7 CHA_DQ7 13,16
11 MCH_CHA_DQ3 CHA_DQ3 13,16
11 MCH_CHA_DQ8 CHA_DQ8 13,16
11 MCH_CHA_DQ9 CHA_DQ9 13,16
RN10
11 MCH_CHA_DQ40 CHA_DQ40 13,16
11 MCH_CHA_DQ44 CHA_DQ44 13,16
11 MCH_CHA_DQ45 CHA_DQ45 13,16
11 MCH_CHA_DQ41 CHA_DQ41 13,16
RN11
11 MCH_CHB_DQ7 CHB_DQ7 14,16
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11 MCH_CHB_DQ12 CHB_DQ12 14,16
RN12
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11 MCH_CHB_DQ44 CHB_DQ44 14,16
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11 MCH_CHB_DQ41 CHB_DQ41 14,16
RN13
11 MCH_CHA_DQ12 CHA_DQ12 13,16
11 MCH_CHA_DQ13 CHA_DQ13 13,16
11 MCH_CHA_DQS10 CHA_DQS10 13,16
11 MCH_CHA_DQS1 CHA_DQS1 13,16
RN14
11 MCH_CHA_DQS14 CHA_DQS14 13,16
11 MCH_CHA_DQS5 CHA_DQS5 13,16
11 MCH_CHA_DQ42 CHA_DQ42 13,16
11 MCH_CHA_DQ43 CHA_DQ43 13,16
RN15
11 MCH_CHB_DQ9 CHB_DQ9 14,16
11 MCH_CHB_DQ13 CHB_DQ13 14,16
11 MCH_CHB_DQS1 CHB_DQS1 14,16
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RN16
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11 MCH_CHA_DQ49 CHA_DQ49 13,16
RN19
11 MCH_CHB_DQ14 CHB_DQ14 14,16
11 MCH_CHB_DQ15 CHB_DQ15 14,16
11 MCH_CHB_DQ10 CHB_DQ10 14,16
11 MCH_CHB_DQ11 CHB_DQ11 14,16
RN20
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RN21
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11 MCH_CHA_DQ16 CHA_DQ16 13,16
11 MCH_CHA_DQ17 CHA_DQ17 13,16
11 MCH_CHA_DQ21 CHA_DQ21 13,16
RN160
11 MCH_CHA_DQ52 CHA_DQ52 13,16
11 MCH_CHA_DQ53 CHA_DQ53 13,16
11 MCH_CHA_DQS15 CHA_DQS15 13,16
11 MCH_CHA_DQS6 CHA_DQS6 13,16
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11 MCH_CHB_DQS15 CHB_DQS15 14,16
11 MCH_CHB_DQ53 CHB_DQ53 14,16
11 MCH_CHB_DQS6 CHB_DQS6 14,16
RN23
11 MCH_CHA_DQS11 CHA_DQS11 13,16
11 MCH_CHA_DQS2 CHA_DQS2 13,16
11 MCH_CHA_DQ18 CHA_DQ18 13,16
11 MCH_CHA_DQ22 CHA_DQ22 13,16
RN161
11 MCH_CHA_DQ54 CHA_DQ54 13,16
11 MCH_CHA_DQ50 CHA_DQ50 13,16
11 MCH_CHA_DQ55 CHA_DQ55 13,16
11 MCH_CHA_DQ51 CHA_DQ51 13,16
RN24
11 MCH_CHB_DQS11 CHB_DQS11 14,16
11 MCH_CHB_DQS2 CHB_DQS2 14,16
11 MCH_CHB_DQ22 CHB_DQ22 14,16
11 MCH_CHB_DQ18 CHB_DQ18 14,16
RN137
11 MCH_CHB_DQ54 CHB_DQ54 14,16
11 MCH_CHB_DQ50 CHB_DQ50 14,16
11 MCH_CHB_DQ51 CHB_DQ51 14,16
11 MCH_CHB_DQ55 CHB_DQ55 14,16
RN25
11 MCH_CHA_DQ19 CHA_DQ19 13,16
11 MCH_CHA_DQ23 CHA_DQ23 13,16
11 MCH_CHA_DQ24 CHA_DQ24 13,16
11 MCH_CHA_DQ28 CHA_DQ28 13,16
RN162
11 MCH_CHA_DQ60 CHA_DQ60 13,16
11 MCH_CHA_DQ56 CHA_DQ56 13,16
11 MCH_CHA_DQ61 CHA_DQ61 13,16
11 MCH_CHA_DQ57 CHA_DQ57 13,16
RN26
11 MCH_CHB_DQ23 CHB_DQ23 14,16
11 MCH_CHB_DQ19 CHB_DQ19 14,16
11 MCH_CHB_DQ29 CHB_DQ29 14,16
11 MCH_CHB_DQ28 CHB_DQ28 14,16
RN163
11 MCH_CHB_DQ60 CHB_DQ60 14,16
11 MCH_CHB_DQ56 CHB_DQ56 14,16
11 MCH_CHB_DQ57 CHB_DQ57 14,16
11 MCH_CHB_DQ61 CHB_DQ61 14,16
RN27
11 MCH_CHA_DQ25 CHA_DQ25 13,16
11 MCH_CHA_DQ29 CHA_DQ29 13,16
11 MCH_CHA_DQS3 CHA_DQS3 13,16
11 MCH_CHA_DQS12 CHA_DQS12 13,16
RN164
11 MCH_CHA_DQS16 CHA_DQS16 13,16
11 MCH_CHA_DQ62 CHA_DQ62 13,16
11 MCH_CHA_DQS7 CHA_DQS7 13,16
11 MCH_CHA_DQ58 CHA_DQ58 13,16
RN28
11 MCH_CHB_DQ24 CHB_DQ24 14,16
11 MCH_CHB_DQ25 CHB_DQ25 14,16
11 MCH_CHB_DQS12 CHB_DQS12 14,16
11 MCH_CHB_DQS3 CHB_DQS3 14,16
RN165
11 MCH_CHB_DQS16 CHB_DQS16 14,16
11 MCH_CHB_DQS7 CHB_DQS7 14,16
11 MCH_CHB_DQ62 CHB_DQ62 14,16
11 MCH_CHB_DQ58 CHB_DQ58 14,16
RN29
11 MCH_CHA_DQ26 CHA_DQ26 13,16
11 MCH_CHA_DQ30 CHA_DQ30 13,16
11 MCH_CHA_DQ27 CHA_DQ27 13,16
11 MCH_CHA_DQ31 CHA_DQ31 13,16
11 MCH_CHA_DQ63 R1082 CHA_DQ63 13,16
RN30
11 MCH_CHB_DQ30 CHB_DQ30 14,16
11 MCH_CHB_DQ26 CHB_DQ26 14,16
11 MCH_CHB_DQ27 CHB_DQ27 14,16
11 MCH_CHB_DQ31 CHB_DQ31 14,16
11 MCH_CHB_DQ63 R1192 CHB_DQ63 14,16
RN31
11 MCH_CHA_CB4 CHA_CB4 13,16
11 MCH_CHA_CB5 CHA_CB5 13,16
11 MCH_CHA_CB0 CHA_CB0 13,16
11 MCH_CHA_CB1 CHA_CB1 13,16
11 MCH_CHA_DQ59 R1083 CHA_DQ59 13,16
RN32
11 MCH_CHB_CB4 CHB_CB4 14,16
11 MCH_CHB_CB5 CHB_CB5 14,16
11 MCH_CHB_CB0 CHB_CB0 14,16
11 MCH_CHB_CB1 CHB_CB1 14,16
11 MCH_CHB_DQ59 R1193 CHB_DQ59 14,16
RN33
11 MCH_CHA_DQS8 CHA_DQS8 13,16
11 MCH_CHA_DQS17 CHA_DQS17 13,16
11 MCH_CHA_CB2 CHA_CB2 13,16
11 MCH_CHA_CB6 CHA_CB6 13,16
RN34
11 MCH_CHB_DQS8 CHB_DQS8 14,16
11 MCH_CHB_DQS17 CHB_DQS17 14,16
11 MCH_CHB_CB2 CHB_CB2 14,16
11 MCH_CHB_CB6 CHB_CB6 14,16
RN35
11 MCH_CHA_CB3 CHA_CB3 13,16
11 MCH_CHA_CB7 CHA_CB7 13,16
11 MCH_CHA_DQ32 CHA_DQ32 13,16
11 MCH_CHA_DQ36 CHA_DQ36 13,16
RN36
11 MCH_CHB_CB3 CHB_CB3 14,16
11 MCH_CHB_CB7 CHB_CB7 14,16
11 MCH_CHB_DQ32 CHB_DQ32 14,16
11 MCH_CHB_DQ36 CHB_DQ36 14,16
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SB2_5V
CHB_DQ[0..63] 15,16
DIMM2
DIMM4
11,16 CHB_MA[0..13]
CHB_MA[0..13] 11,16
11,16 CHB_BA[0..1]
CHB_BA[0..1] 11,16
11,16 CHB_CS_L0
11,16 CHB_CS_L1
CHB_CS_L2 11,16
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CHB_DQS9
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CHB_DQS11
CHB_DQS12
CHB_DQS13
CHB_DQS14
CHB_DQS15
CHB_DQS16
CHB_DQS17
11,16 CHB_WE_L
11,16 CHB_CAS_L
11,16 CHB_RAS_L
11,16 CHB_CKE0
11,16 CHB_CKE1
CHB_CKE2 11,16
CHB_CKE3 11,16
11 CHB_CMDCLK4
11 CHB_CMDCLK4_L
11 CHB_CMDCLK0
11 CHB_CMDCLK0_L
11 CHB_CMDCLK6
11 CHB_CMDCLK6_L
CHB_CMDCLK5 11
CHB_CMDCLK5_L 11
CHB_CMDCLK1 11
CHB_CMDCLK1_L 11
CHB_CMDCLK7 11
CHB_CMDCLK7_L 11
15,16 CHB_DQS[0..17]
CHB_DQS[0..17] 15,16
13,56 SMBUS_PAR3_DATA
13,56 SMBUS_PAR3_CLK
SMBUS_PAR3_DATA 13,56
SMBUS_PAR3_CLK 13,56
+3_3V
C313
0.1u
C314
0.1u
11,17 CHB_VREF
CHB_VREF 11,17
13,61 DIMMRST_L
DIMMRST_L
CHB_MA13
CHB_CB[0..7] 15,16
4.7K
R1248
R1249
DIMM-D184-A-S1
SMBus
Addr=A2
SMBus
Addr=A6
C1277 X_1u-16V-0805
C1278 X_1u-16V-0805
C1279 X_1u-16V-0805
C1280 X_1u-16V-0805
C1281 X_1u-16V-0805
C1282 X_1u-16V-0805
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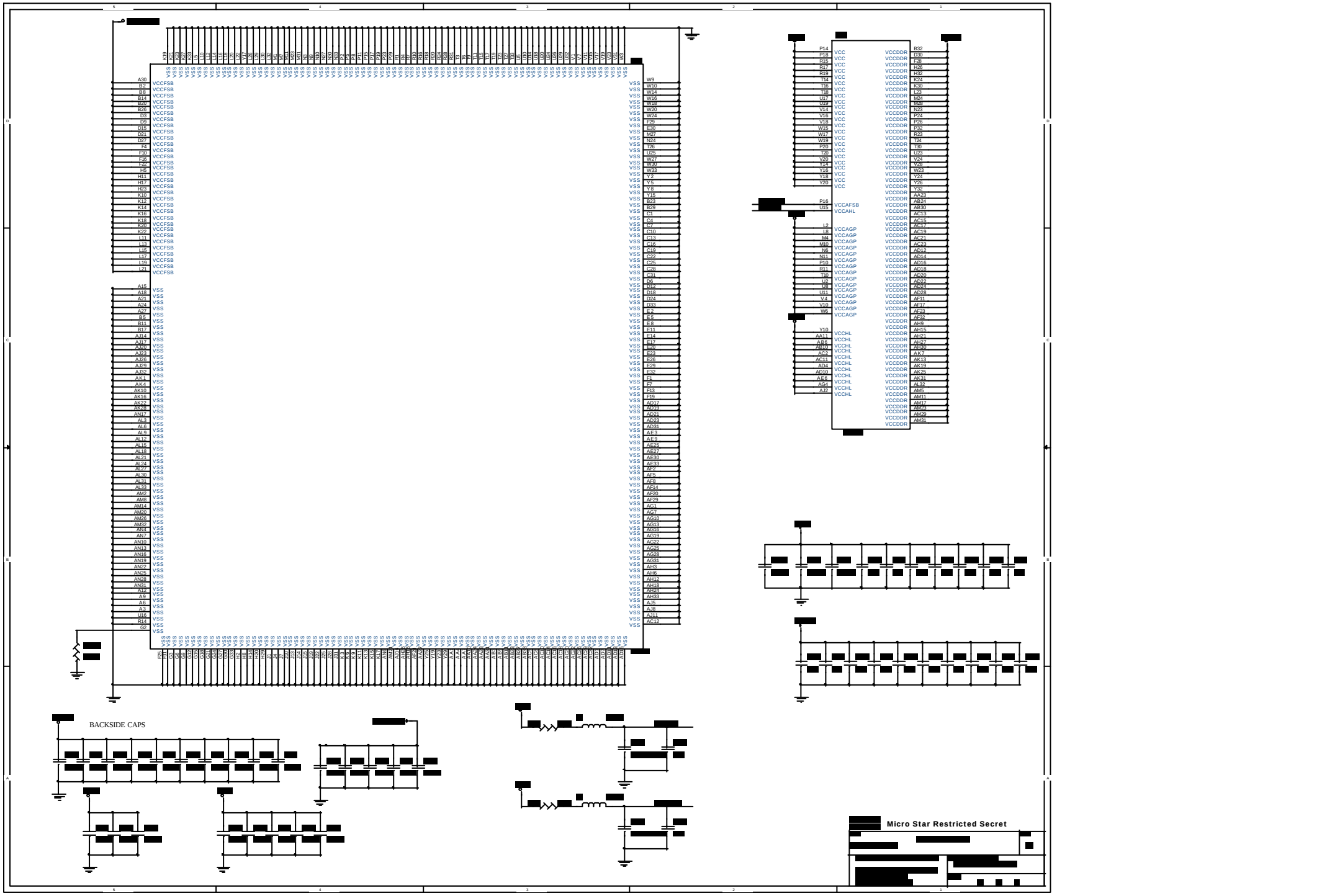
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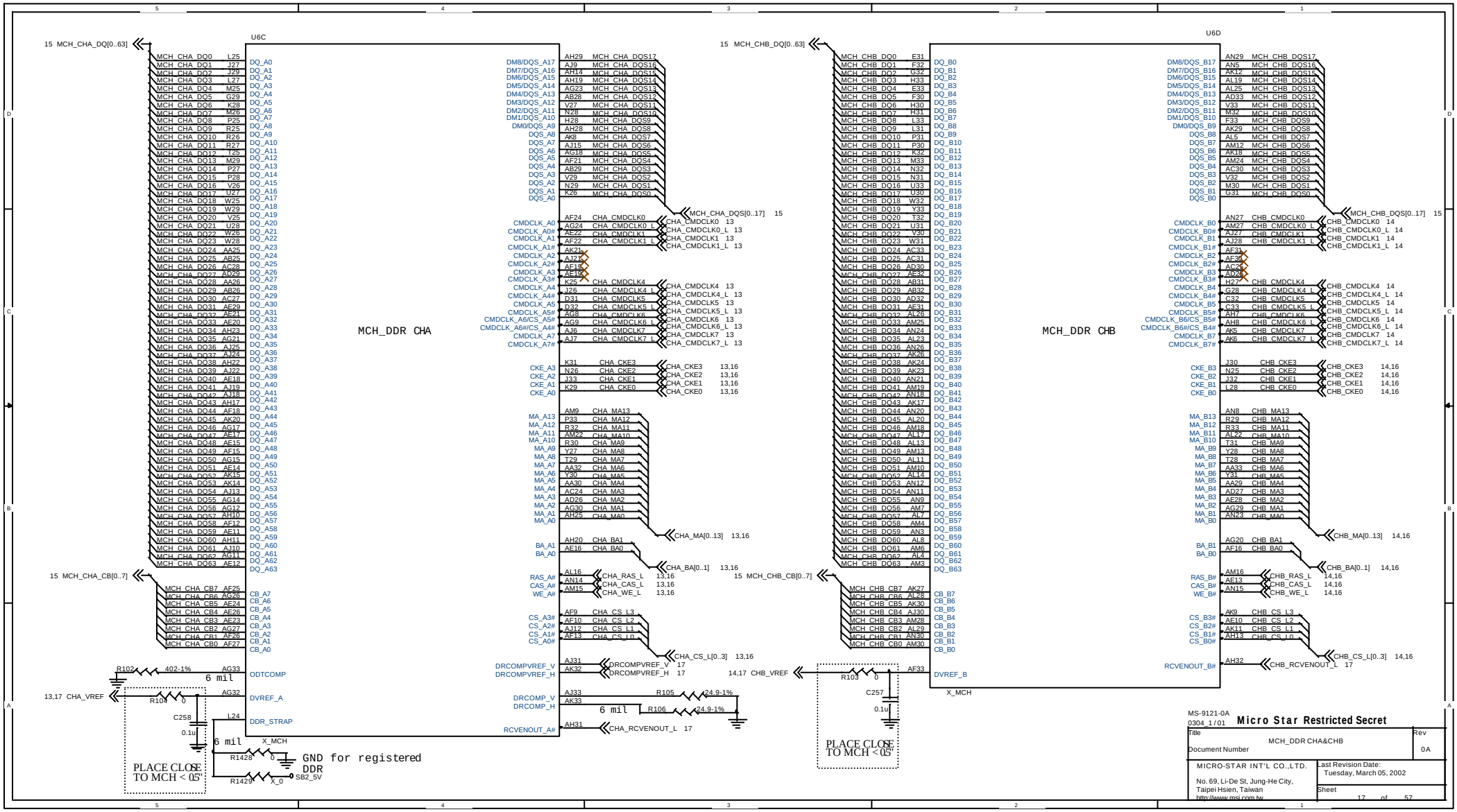
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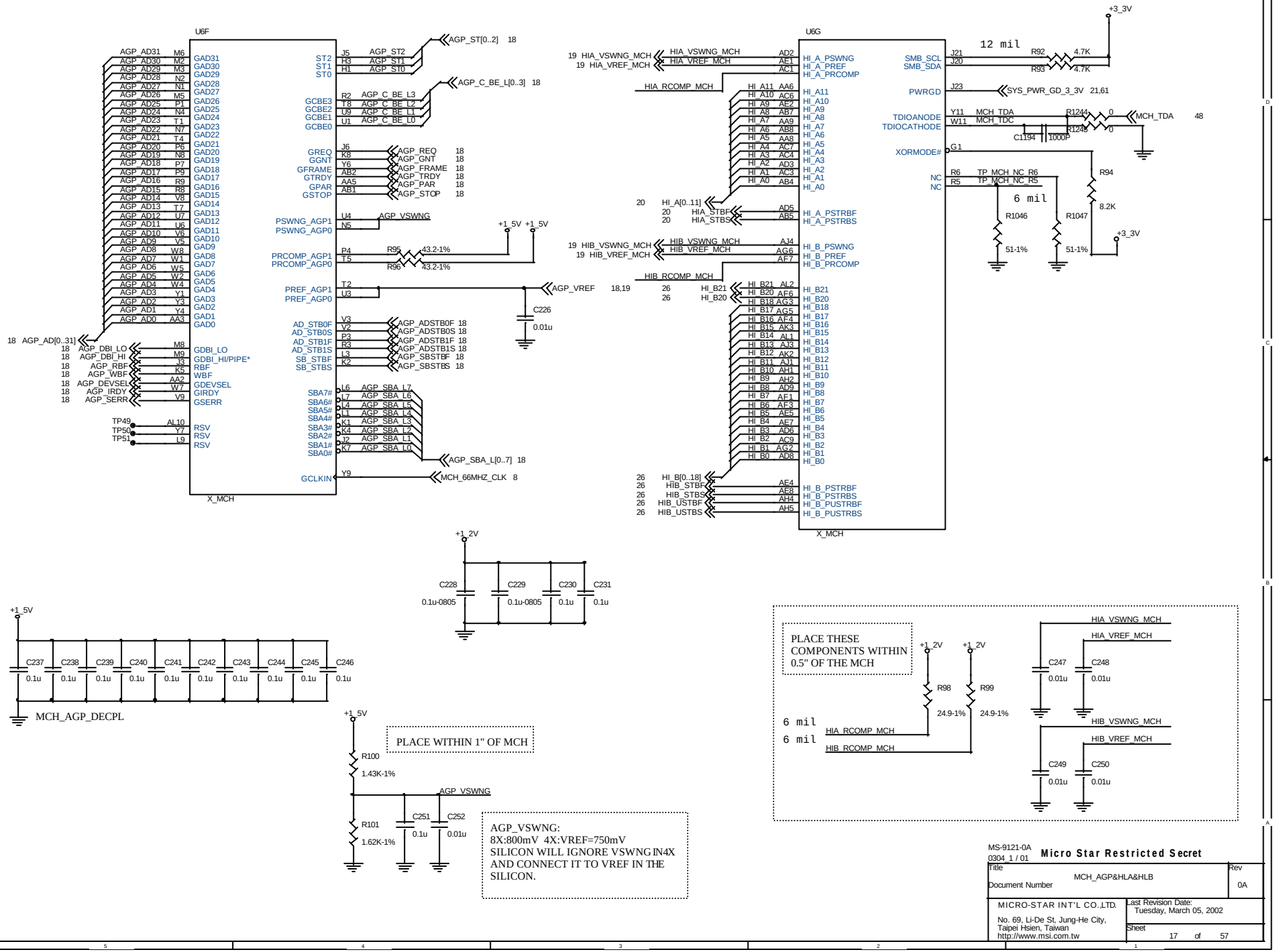
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MCH_DDR CHA
15 MCH_CHA_DQ[0..63]
15 MCH_CHA_CB[0..7]
MCH_CHA_DQS[0..17] 15
CHA_CMDCLK0 13
CHA_CMDCLK0_L 13
CHA_CMDCLK1 13
CHA_CMDCLK1_L 13
CHA_CMDCLK4 13
CHA_CMDCLK4_L 13
CHA_CMDCLK5 13
CHA_CMDCLK5_L 13
CHA_CMDCLK6 13
CHA_CMDCLK6_L 13
CHA_CMDCLK7 13
CHA_CMDCLK7_L 13
CHA_CKE3 13,16
CHA_CKE2 13,16
CHA_CKE1 13,16
CHA_CKE0 13,16
CHA_MA[0..13] 13,16
CHA_BA[0..1] 13,16
CHA_RAS_L 13,16
CHA_CAS_L 13,16
CHA_WE_L 13,16
CHA_CS_L[0..3] 13,16
DRCOMPVREF_V 17
DRCOMPVREF_H 17
CHA_RCVENOUT_L 17
R102 402-1% AG33 ODTCOMP
6 mil
13,17 CHA_VREF
R101 0 AG32 DVREF_A
C258 0.1u
L24 DDR_STRAP
6 mil X_MCH
R1428 0
R1429 X_0
GND for registered DDR
SB2_5V
PLACE CLOSE TO MCH < 05"
U6D
MCH_DDR CHB
15 MCH_CHB_DQ[0..63]
15 MCH_CHB_CB[0..7]
MCH_CHB_DQS[0..17] 15
CHB_CMDCLK0 14
CHB_CMDCLK0_L 14
CHB_CMDCLK1 14
CHB_CMDCLK1_L 14
CHB_CMDCLK4 14
CHB_CMDCLK4_L 14
CHB_CMDCLK5 14
CHB_CMDCLK5_L 14
CHB_CMDCLK6 14
CHB_CMDCLK6_L 14
CHB_CMDCLK7 14
CHB_CMDCLK7_L 14
CHB_CKE3 14,16
CHB_CKE2 14,16
CHB_CKE1 14,16
CHB_CKE0 14,16
CHB_MA[0..13] 14,16
CHB_BA[0..1] 14,16
CHB_RAS_L 14,16
CHB_CAS_L 14,16
CHB_WE_L 14,16
CHB_CS_L[0..3] 14,16
CHB_RCVENOUT_L 17
14,17 CHB_VREF
R103 0 AF33 DVREF_B
C257 0.1u
PLACE CLOSE TO MCH < 05"
X_MCH
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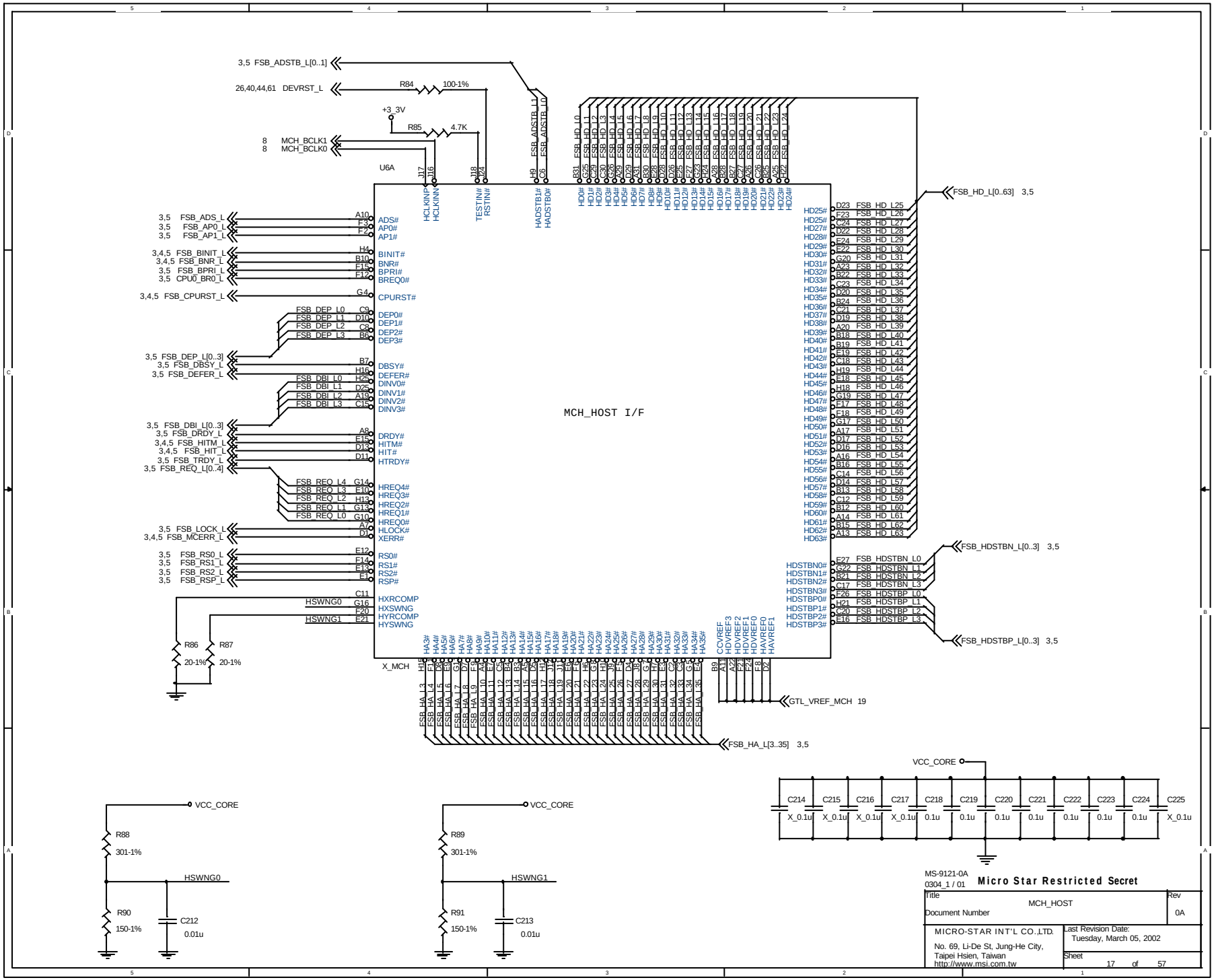
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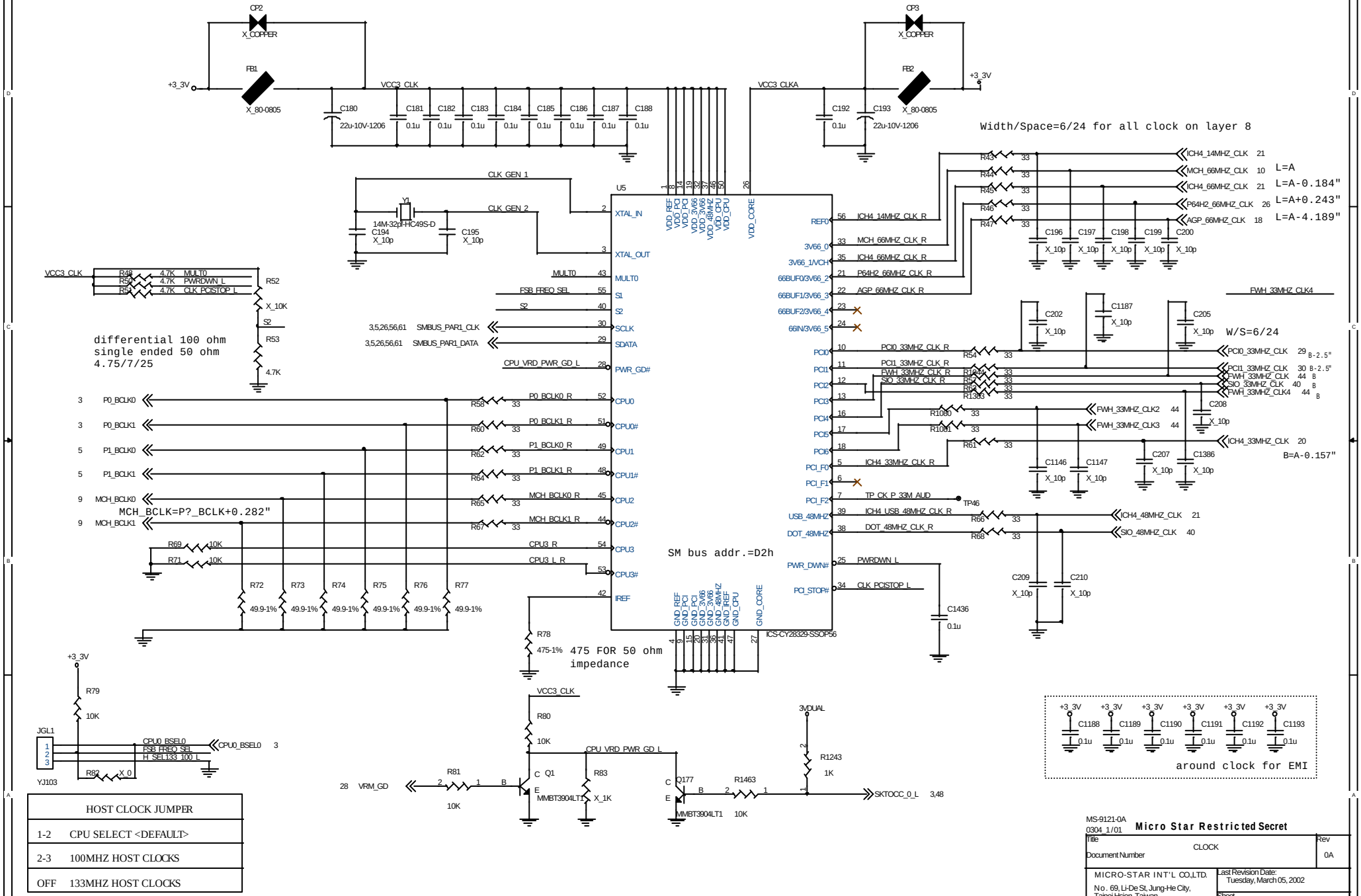
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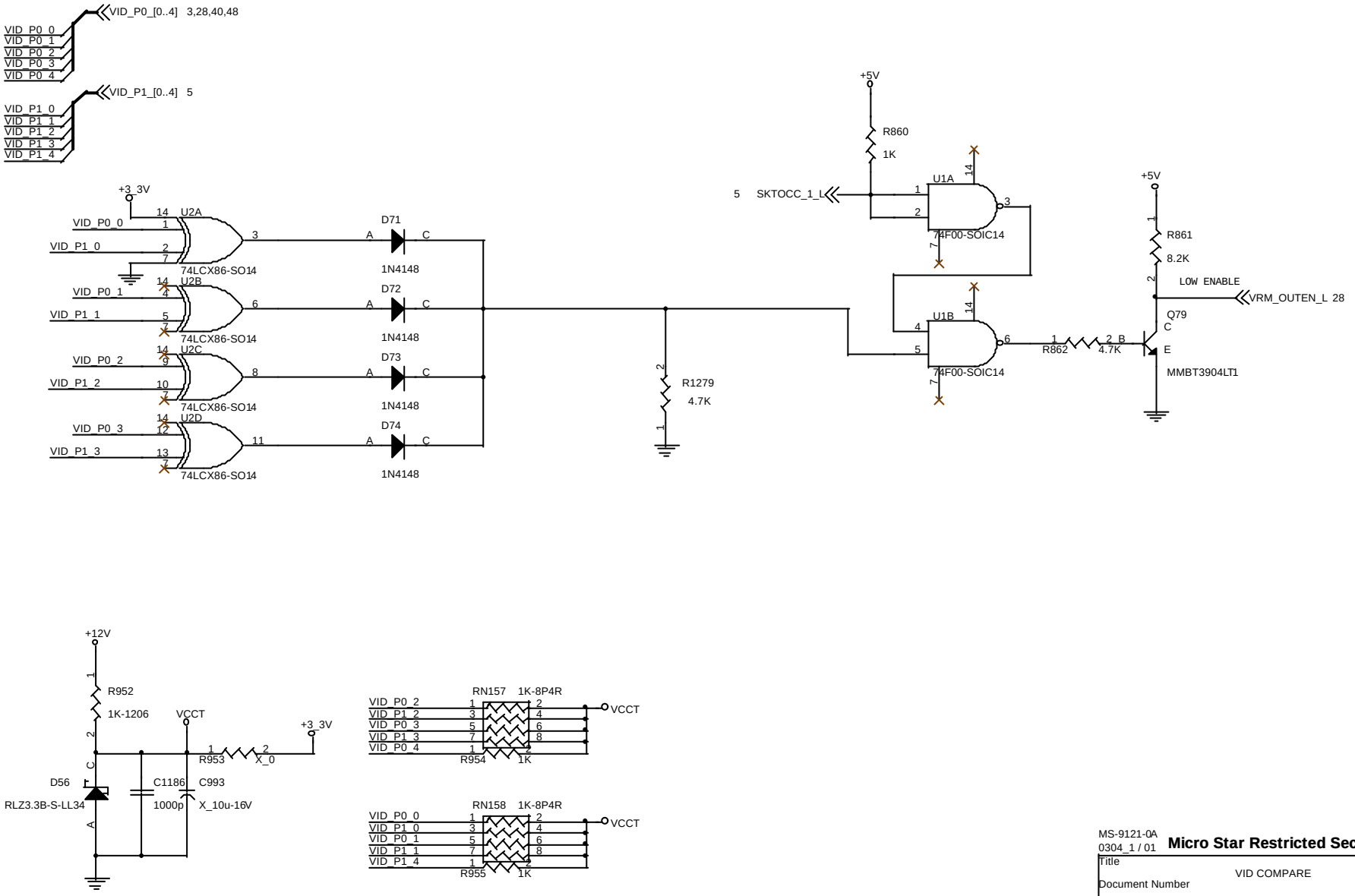


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CP2
X_COPPER
FB1
X_80-0805
+3_3V
VCC3_CLK
C180 22u-10V-1206
C181 0.1u
C182 0.1u
C183 0.1u
C184 0.1u
C185 0.1u
C186 0.1u
C187 0.1u
C188 0.1u
CP3
X_COPPER
FB2
X_80-0805
VCC3_CLKA
C192 0.1u
C193 22u-10V-1206
Width/Space=6/24 for all clock on layer 8
CLK_GEN_1
CLK_GEN_2
Y1
14M-32pF-HC49S-D
C194 X_10p
C195 X_10p
U5
XTAL_IN
XTAL_OUT
MULT0
S1
S2
SCLK
SDATA
PWR_GD#
CPU0
CPU0#
CPU1
CPU1#
CPU2
CPU2#
CPU3
CPU3#
IREF
VDD_REF
VDD_PCI
VDD_3V66
VDD_48MHZ
VDD_CPU
VDD_CORE
GND_REF
GND_PCI
GND_3V66
GND_48MHZ
GND_IREF
GND_CPU
GND_CORE
ICS-CY28329-SSOP56
REF0
3V66_0
3V66_1/VCH
66BUF0/3V66_2
66BUF1/3V66_3
66BUF2/3V66_4
66IN/3V66_5
PCI0
PCI1
PCI2
PCI3
PCI4
PCI5
PCI6
PCI_F0
PCI_F1
PCI_F2
USB_48MHZ
DOT_48MHZ
PWR_DWN#
PCI_STOP#
ICH4_14MHZ_CLK_R
MCH_66MHZ_CLK_R
ICH4_66MHZ_CLK_R
P64H2_66MHZ_CLK_R
AGP_66MHZ_CLK_R
PCI0_33MHZ_CLK_R
PCI1_33MHZ_CLK_R
FWH_33MHZ_CLK_R
SIO_33MHZ_CLK_R
ICH4_33MHZ_CLK_R
TP_CK_P_33M_AUD
ICH4_USB_48MHZ_CLK_R
DOT_48MHZ_CLK_R
PWRDWN_L
CLK_PCISTOP_L
ICH4_14MHZ_CLK 21
MCH_66MHZ_CLK 10
ICH4_66MHZ_CLK 21
P64H2_66MHZ_CLK 26
AGP_66MHZ_CLK 18
L=A
L=A-0.184"
L=A+0.243"
L=A-4.189"
FWH_33MHZ_CLK4
W/S=6/24
PCI0_33MHZ_CLK 29 B-2.5"
PCI1_33MHZ_CLK 30 B-2.5"
FWH_33MHZ_CLK 44 B
SIO_33MHZ_CLK 40 B
FWH_33MHZ_CLK4 44 B
FWH_33MHZ_CLK2 44
FWH_33MHZ_CLK3 44
ICH4_33MHZ_CLK 20
B=A-0.157"
ICH4_48MHZ_CLK 21
SIO_48MHZ_CLK 40
TP46
C1436 0.1u
differential 100 ohm
single ended 50 ohm
4.75/7/25
MCH_BCLK=P?_BCLK+0.282"
SM bus addr.=D2h
475 FOR 50 ohm
impedance
R48 4.7K MULT0
R50 4.7K PWRDWN_L
R51 4.7K CLK_PCISTOP_L
R52 X_10K
R53 4.7K
P0_BCLK0
P0_BCLK1
P1_BCLK0
P1_BCLK1
MCH_BCLK0
MCH_BCLK1
R58 33
R60 33
R62 33
R64 33
R65 33
R67 33
R69 10K
R71 10K
R72 49.9-1%
R73 49.9-1%
R74 49.9-1%
R75 49.9-1%
R76 49.9-1%
R77 49.9-1%
R78 475-1%
R43 33
R44 33
R45 33
R46 33
R47 33
C196 X_10p
C197 X_10p
C198 X_10p
C199 X_10p
C200 X_10p
C202 X_10p
C1187 X_10p
C205 X_10p
C208 X_10p
C207 X_10p
C1386 X_10p
C1146 X_10p
C1147 X_10p
C209 X_10p
C210 X_10p
R54 33
R55 33
R56 33
R57 33
R1383 33
R1030 33
R1031 33
R61 33
R66 33
R68 33
SMBUS_PAR1_CLK
SMBUS_PAR1_DATA
CPU_VRD_PWR_GD_L
FSB_FREQ_SEL
S2
MULT0
+3_3V
R79 10K
JGL1
CPU0_BSEL0
FSB_FREQ_SEL
H_SEL133_100_L
YJ103
R82 X_0
VCC3_CLK
R80 10K
R81 10K
R83 X_1K
Q1 MMBT3904LT1
Q177 MMBT3904LT1
R1463 10K
3VDUAL
R1243 1K
VRM_GD
SKTOCC_0_L 3,48
+3_3V
C1188 0.1u
C1189 0.1u
C1190 0.1u
C1191 0.1u
C1192 0.1u
C1193 0.1u
around clock for EMI
HOST CLOCK JUMPER
1-2 CPU SELECT <DEFAULT>
2-3 100MHZ HOST CLOCKS
OFF 133MHZ HOST CLOCKS
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Micro Star Restricted Secret
Title
CLOCK
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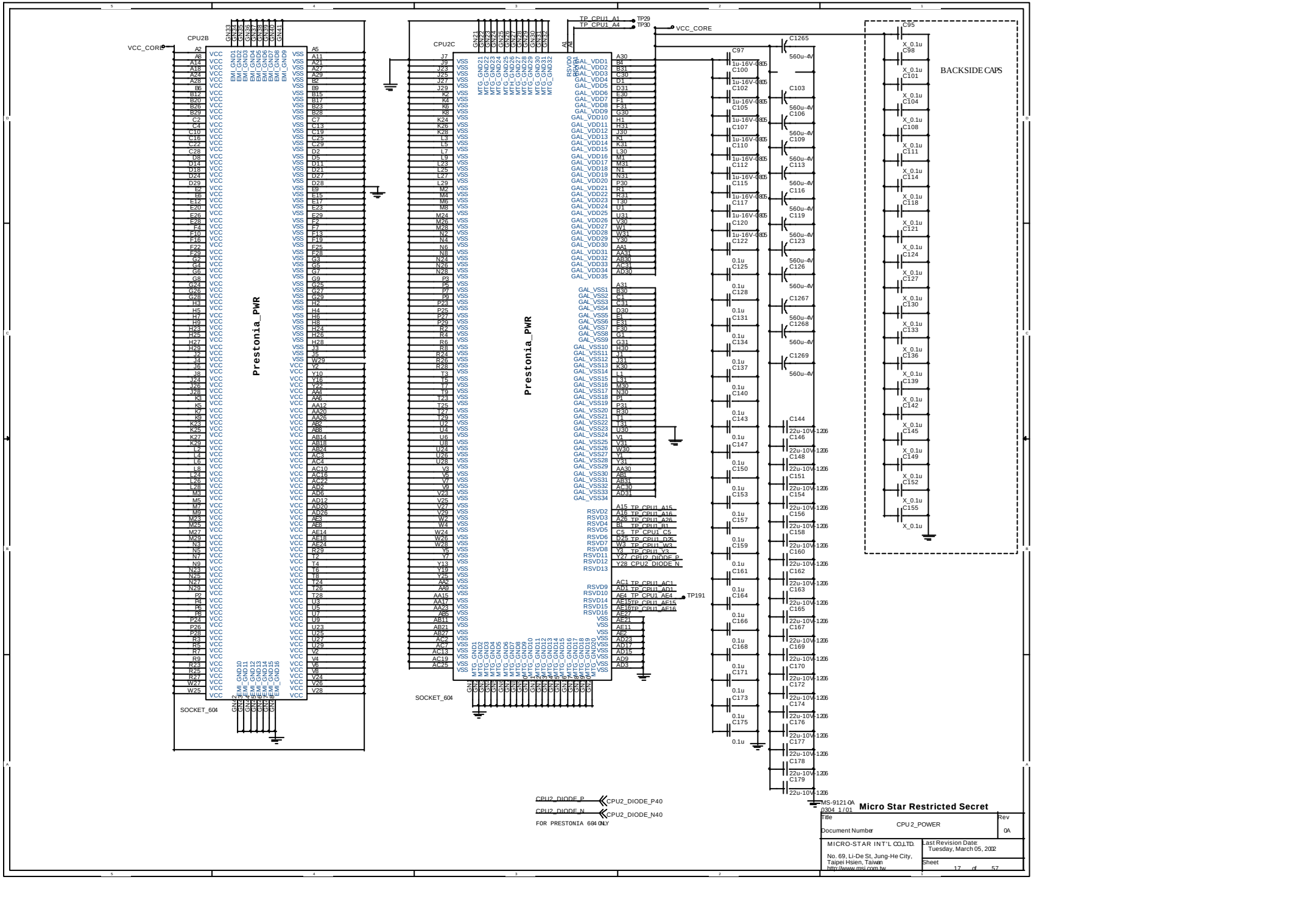
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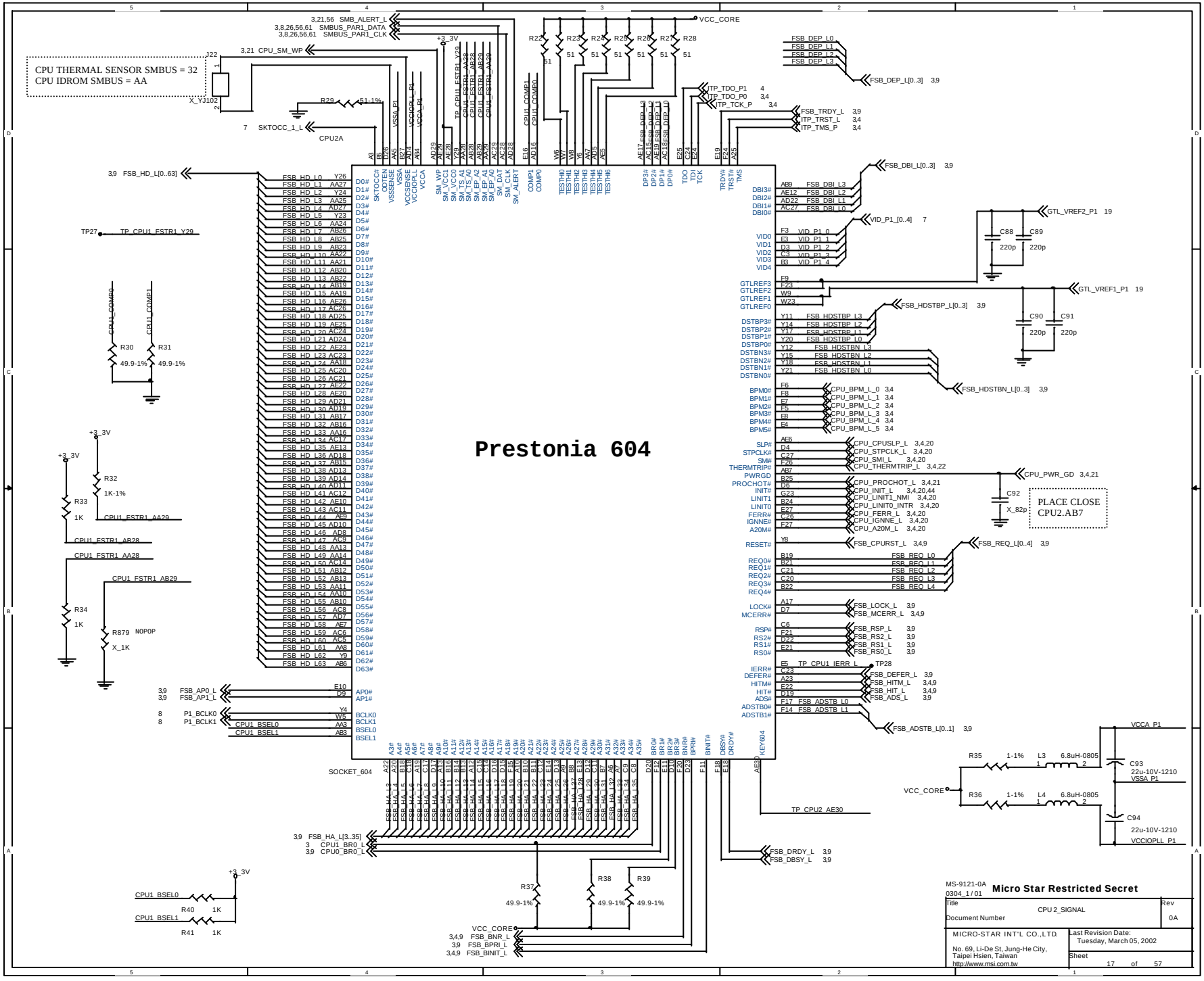
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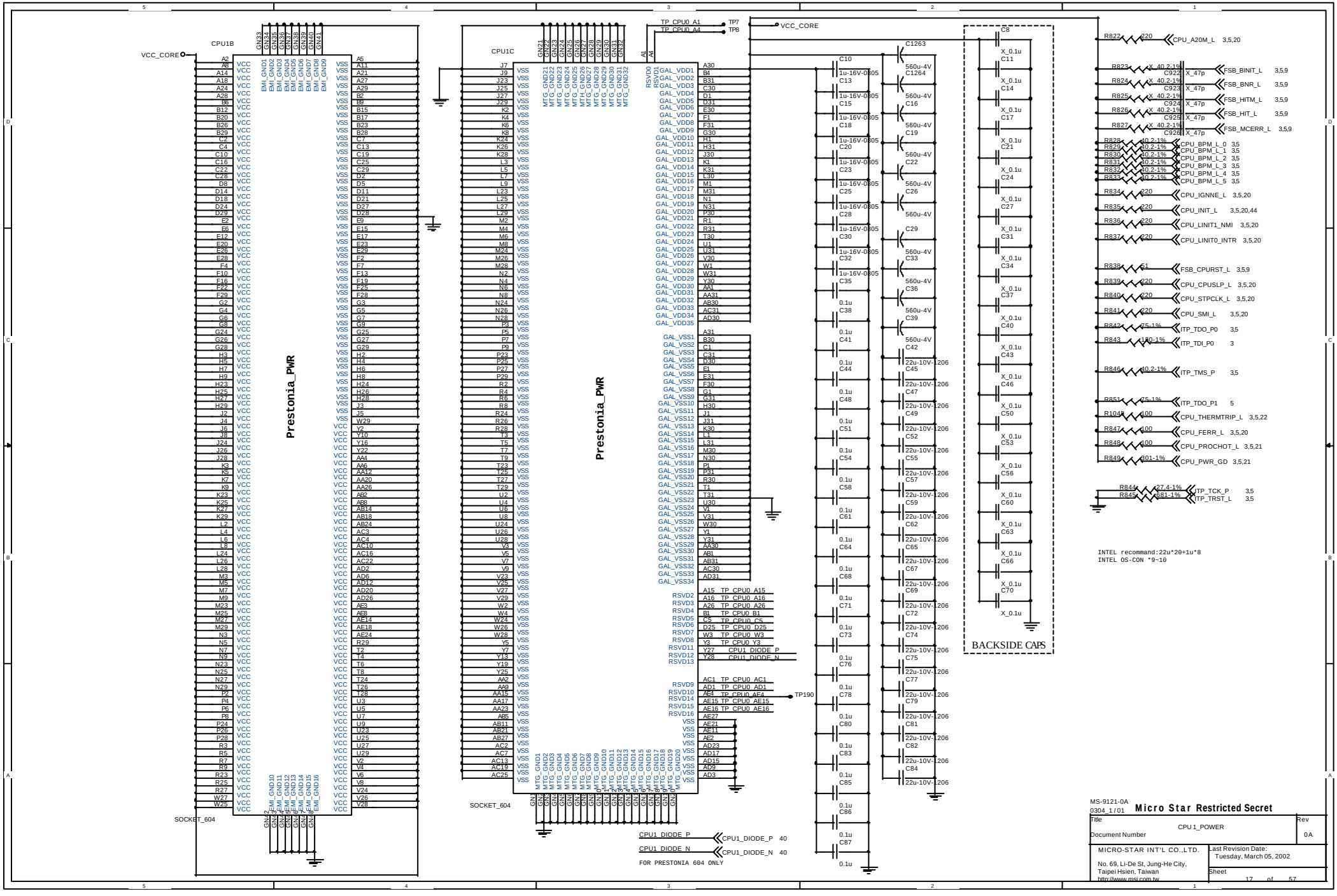
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CPU2B
CPU2C
Prestonia_PWR
Prestonia_PWR
VCC_CORE
VCC_CORE
TP_CPU1_A1
TP_CPU1_A4
TP29
TP30
TP191
SOCKET_604
SOCKET_604
BACKSIDE CAPS
CPU2_DIODE_P
CPU2_DIODE_N
CPU2_DIODE_P40
CPU2_DIODE_N40
FOR PRESTONIA 604 ONLY
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CPU2_POWER
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Prestonia 604
CPU THERMAL SENSOR SMBUS = 32
CPU IDROM SMBUS = AA
SOCKET_604
CPU2A
KEY604
3,21,56 SMB_ALERT_L
3,8,26,56,61 SMBUS_PAR1_DATA
3,8,26,56,61 SMBUS_PAR1_CLK
3,21 CPU_SM_WP
VCC_CORE
+3_3V
J22
X_YJ102
R29 51-1%
7 SKTOCC_1_L
R22 R23 R24 R25 R26 R27 R28 51
FSB_DEP_L0
FSB_DEP_L1
FSB_DEP_L2
FSB_DEP_L3
FSB_DEP_L[0..3] 3,9
ITP_TDO_P1 4
ITP_TDO_P0 3,4
ITP_TCK_P 3,4
FSB_TRDY_L 3,9
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ITP_TMS_P 3,4
3,9 FSB_HD_L[0..63]
FSB_DBI_L[0..3] 3,9
VID_P1_L[0..4] 7
GTL_VREF2_P1 19
GTL_VREF1_P1 19
C88 C89 C90 C91 220p
FSB_HDSTBP_L[0..3] 3,9
FSB_HDSTBN_L[0..3] 3,9
TP27 TP_CPU1_FSTR1_Y29
R30 R31 49.9-1%
R32 1K-1%
R33 1K
CPU1_FSTR1_AA29
CPU1_FSTR1_AB28
CPU1_FSTR1_AA28
CPU1_FSTR1_AB29
R34 1K
R879 NOPOP
X_1K
CPU_BPM_L_0 3,4
CPU_BPM_L_1 3,4
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CPU_BPM_L_5 3,4
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FSB_REQ_L1
FSB_REQ_L2
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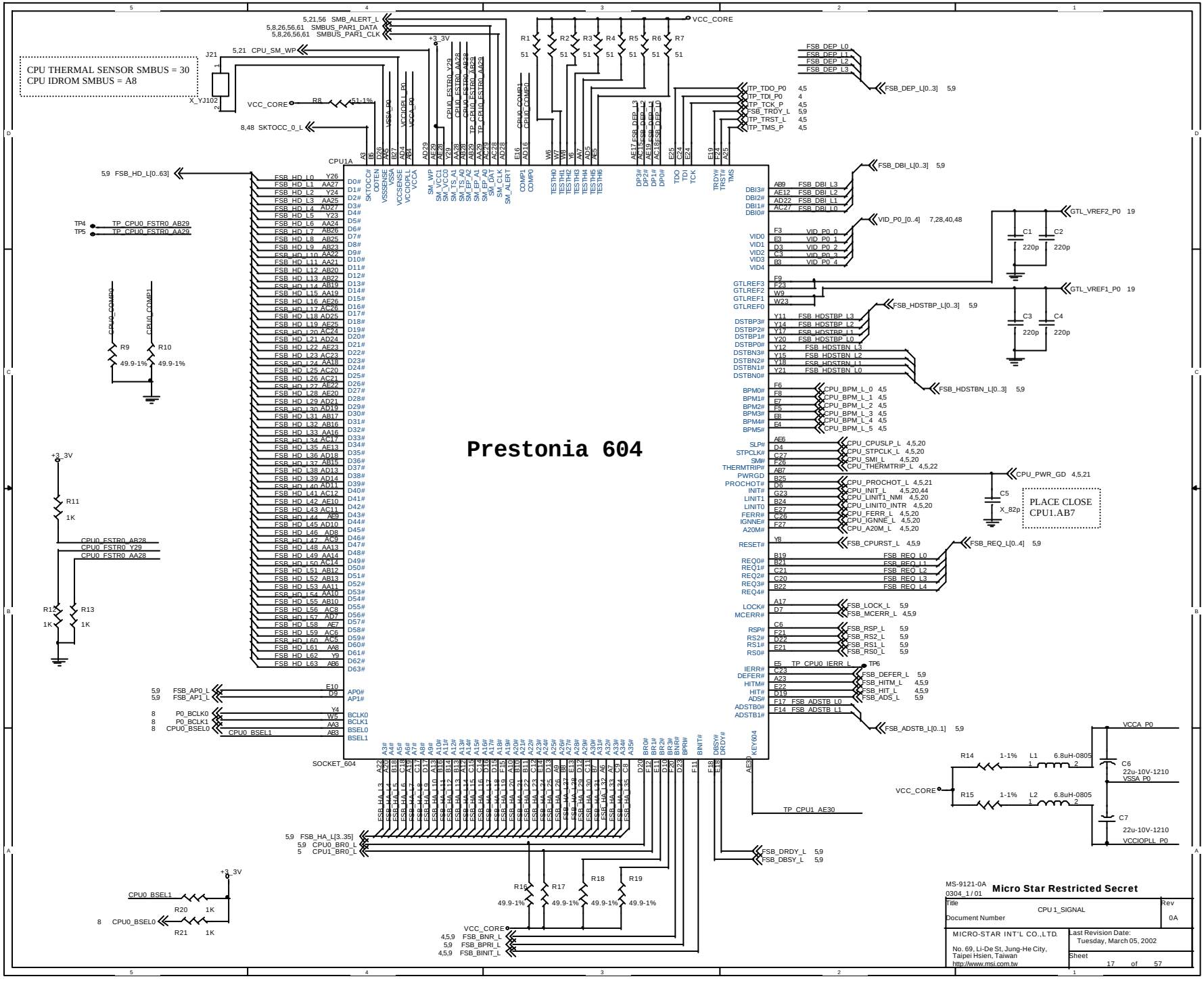
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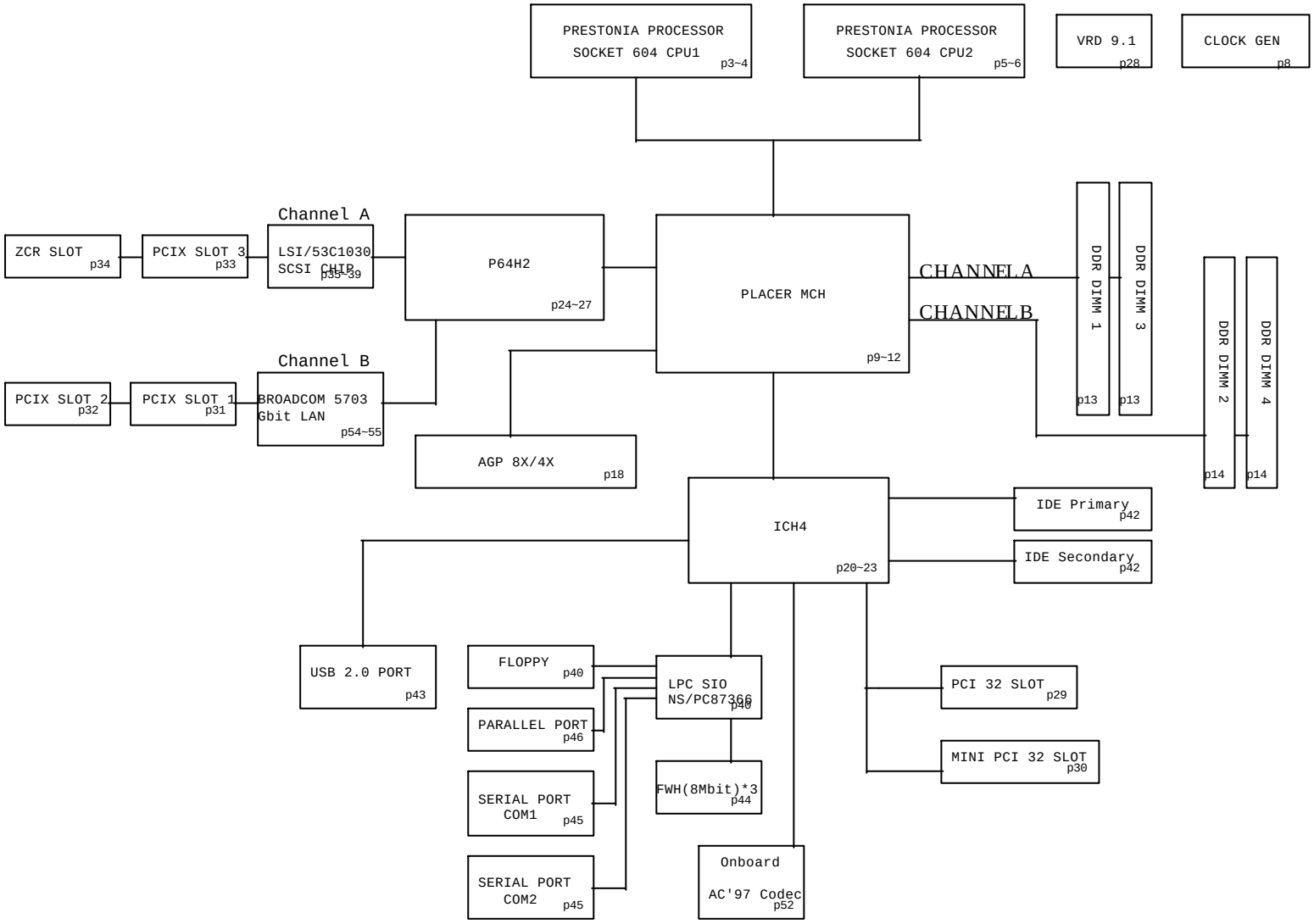
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