

MS-6590 ATX

- *AMD PGA 462 Processor
- *VIA KT400 / VT8235 Chipset
(DDR 400 / AGP 8X / VLink 8X)
- *Winbond 83697HF-VF LPC I/O
- *VT6306 1394a OHCI Link Layer Controller
- *BroadCom Gigabit LAN
- *PDC20375 Serial ATA Controller
- *CMI8738MX 6 channel H/W Audio
- *USB 2.0 support (integrated into VT8235)
- *Jump Less support

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Standard

OPTA

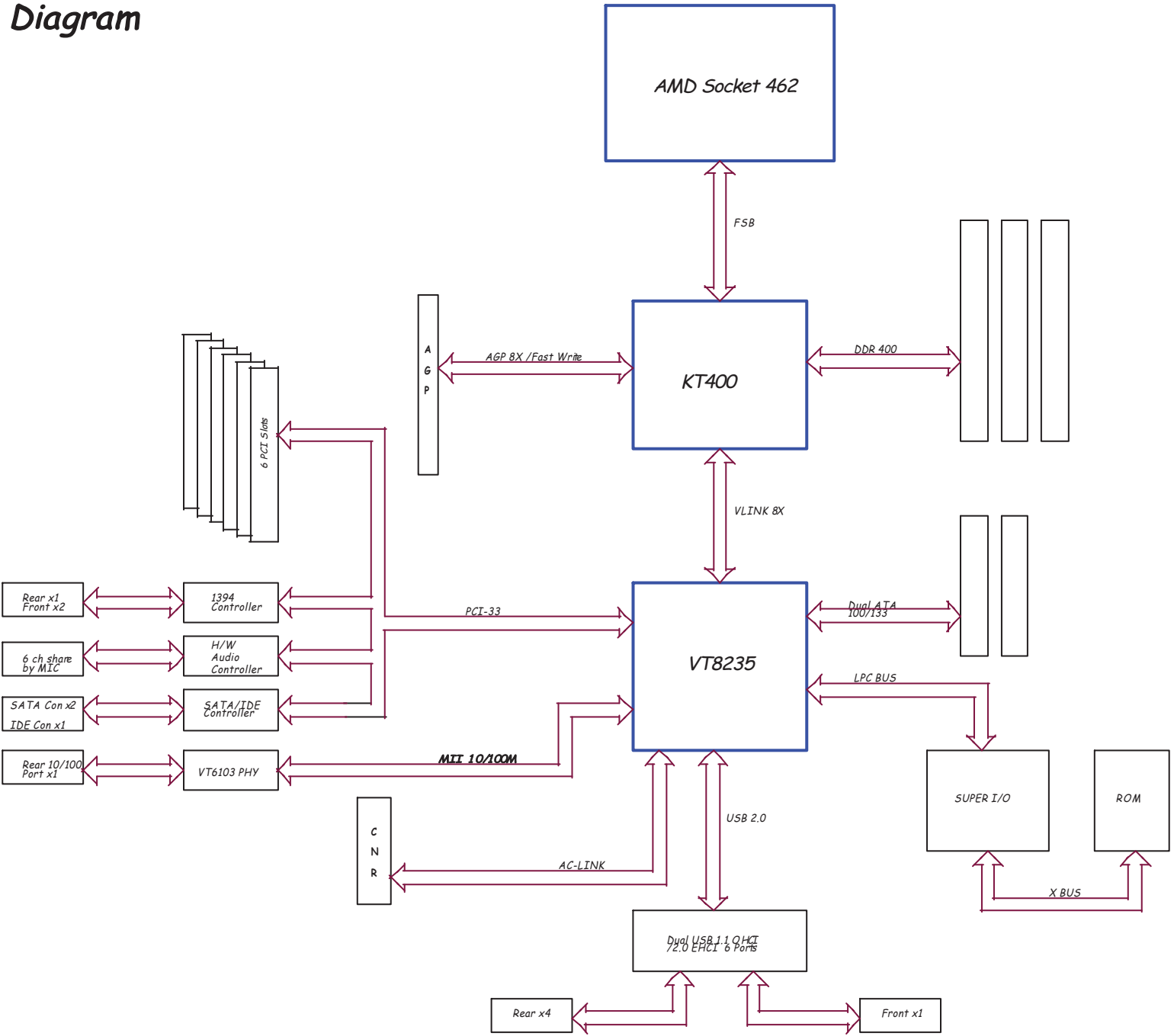
OPTB

OPTC (ALL)

MS-6590 ver:10

Audio component	94
LAN component	72
SATA component	76
1394 component	76
Standard BOM (without SATA / 1394 HC)	
SMT 800	
DIP 76	
Total	876
Option A BOM (with SATA / without 1394 HC,LAN)	
SMT 871	
DIP 81	
Total	952
Option B BOM (without SATA / with 1394 HC,4410LAN)	
SMT 940	
DIP 84	
Total	1024
Option C BOM (for ALL)	
SMT 1000	
DIP 91	
Total	1091

Block Diagram



GPIO FUNCTION

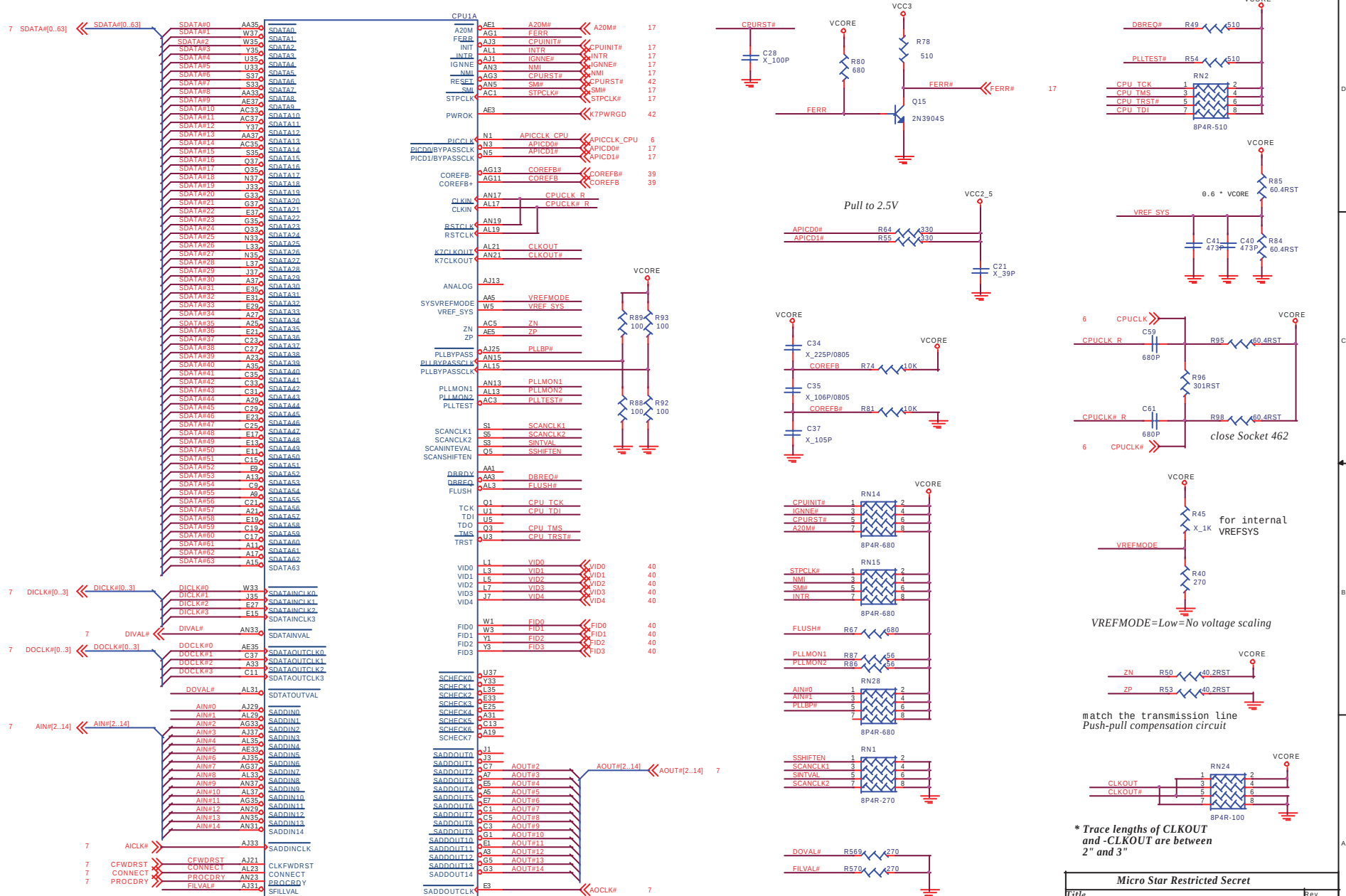
VT8233 GPIO Function Define

PIN NAME	Function define	PIN NAME	Function define																
GP00 (VSUS33)	GP00	GPI0	GPI0																
GP01/SUSA#(VSUS33)	SUSA#	GPI1	ATADET0==>Detect IDE1 ATA100/66																
GP02/SUSB#(VSUS33)	SUSB#	GPI2/EXTSMI#	EXTSMI#																
GP03/SUSST1#(VSUS33)	SUSST1#	GPI3/RING#	RING#																
GP04/SUSCLK(VSUS33)	SUSCLK	GPI4/LID#	ATADET1==>Detect IDE2 ATA100/66																
GP05/CPUSTP#	CPUSTP#	GPI5/BATLOW#	Exteranl Pull up to 3VDUAL																
GP06/PCISTP#	PCISTP#	GPI6/PME#	PME#																
GP07/SLP#	SLP#	GPI7/SMBALRT#	Exteranl Pull up to 3VDUAL																
GP08/GPI8/IPBIN0	Exteranl Pull up to VCC3	GPI16/INTRUDER#	Exteranl Pull down																
GP09/GPI9/IPBIN1	Exteranl Pull up to VCC3	GPI17/CPUMISS	Exteranl Pull up to 3VDUAL																
GP010/GPI10/IPBRDFR	GPI10(PRI_DOWN)	GPI18/AOLGP1/THRM#	THRM#																
GP011/GPI11/IPBRDCK		GPI19/IORDY	Exteranl Pull up to VCC3																
GP012/GPI12/IPBOUT0	GP012	<table><tr><th>DDR Voltage</th><th>SET1</th><th>SET2</th></tr><tr><td>2.5V</td><td>1</td><td>1</td></tr><tr><td>2.6V</td><td>0</td><td>1</td></tr><tr><td>2.7V</td><td>1</td><td>0</td></tr><tr><td>2.8V</td><td>0</td><td>0</td></tr></table>			DDR Voltage	SET1	SET2	2.5V	1	1	2.6V	0	1	2.7V	1	0	2.8V	0	0
DDR Voltage	SET1				SET2														
2.5V	1				1														
2.6V	0				1														
2.7V	1				0														
2.8V	0				0														
GP013/GPI13/IPBOUT1	GP013																		
GP014/GPI14/IPBTDFR	GP014																		
GP015/GPI15/IPBTDCX	GP015																		
GP016/SA16/STRAP	CPU FID0 Strapping																		
GP017/SA17/STRAP	CPU FID1 Strapping																		
GP018/SA18/STRAP	CPU FID2 Strapping																		
GP019/SA19/STRAP	CPU FID3 Strapping																		
GP020/GPI20/ACSDIN2/PCS0#/EI	GP020																		
GP021/GPI21/ACSDIN3/PCS1#/SLPBTN#	GP021																		
GP022/GPI22/IOR#	GP022																		
GP023/GPI23/IOW#	GP023																		
GP024/GPI24/GPI0A																			
GP025/GPI25/GPI0C																			
GP026/GPI26/SMBD12(VSUS33)	SMBDATA2/Slave SMBUS																		
GP027/GPI27/SMBCK2(VSUS33)	SMBCLK2/Slave SMBUS																		
GP028/GPI28/APICD0/APICCS#																			
GP029/GPI29/APICD1/APICACK#																			
GP030/GPI30/GPI0D																			
GP031/GPI31/GPI0E																			

PCI

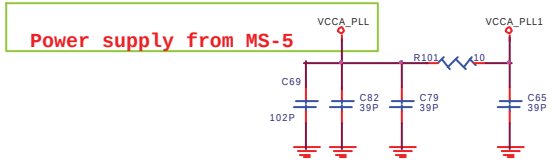
DEVICES	INT#	IDSEL	REQ#/GNT#	CLOCK
PCI SLOT 1	INT#A INT#B INT#C INT#D	AD16	PREQ#0 PGNT#0	PCICLK1
PCI SLOT 2	INT#B INT#C INT#D INT#A	AD17	PREQ#1 PGNT#1	PCICLK2
PCI SLOT 3	INT#C INT#D INT#A INT#B	AD18	PREQ#2 PGNT#2	PCICLK3
PCI SLOT 4	INT#D INT#A INT#B INT#C	AD19	PCIREQ#3 PCIGNT#3	PCICLK4
PCI SLOT 5	INT#B INT#C INT#D INT#A	AD21	PCIREQ#4 PCIGNT#4	PCICLK5
PCI SLOT 6	INT#C INT#D INT#A INT#B	AD22	PCIREQ#6 PCIGNT#6	PCICLK6
CM8738	INT#A	AD23	PCIGNT#5 PCIREQ#5	AUDCLK
SETIAL ATA	INT#D	AD24	PCIGNT#6 PCIREQ#6	ATAPCLK
1394	INT#B	AD25	PCIGNT#7 PCIREQ#7	1394_PCLK

SOCKET 462 Part 1



Micro Star Restricted Secret		
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SOCKET 462 Part 2



Used when spec. change

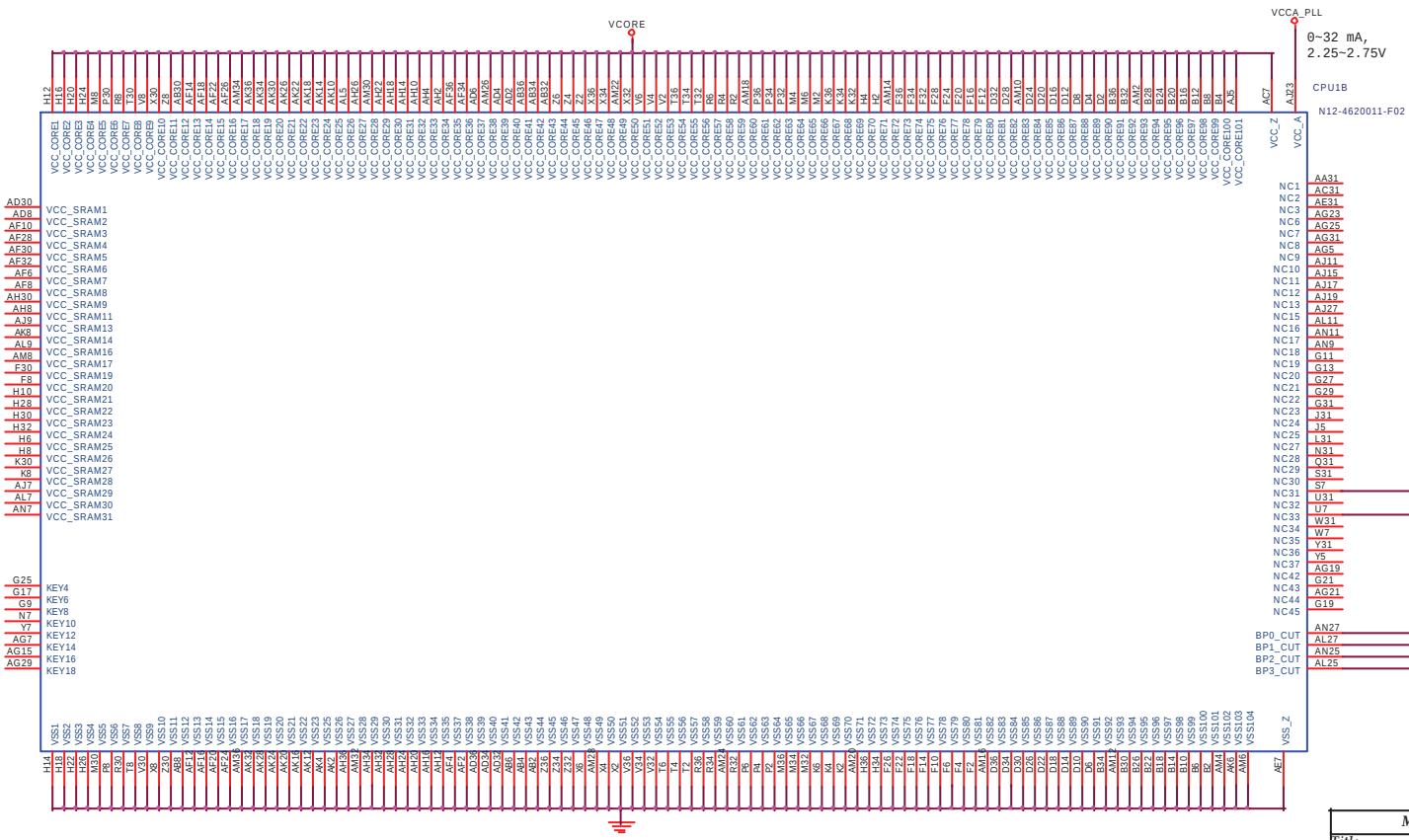
VCCA_PLL trace length from the VR1 to the PGA must be 0.75".

Place all filters close to the PGA.

Keep all power and signal trce away from the VR1.

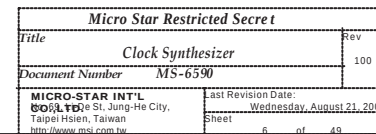
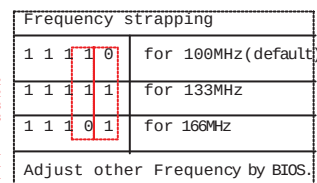
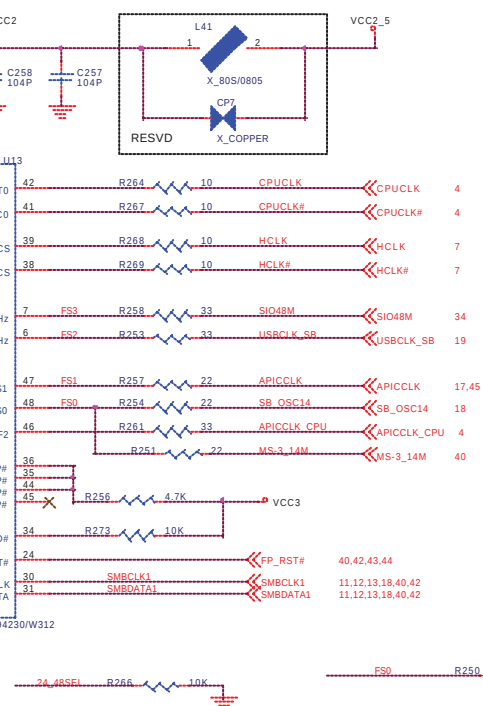
Place a cut in the GND plane around the VCCA_PLL regulator circuit.

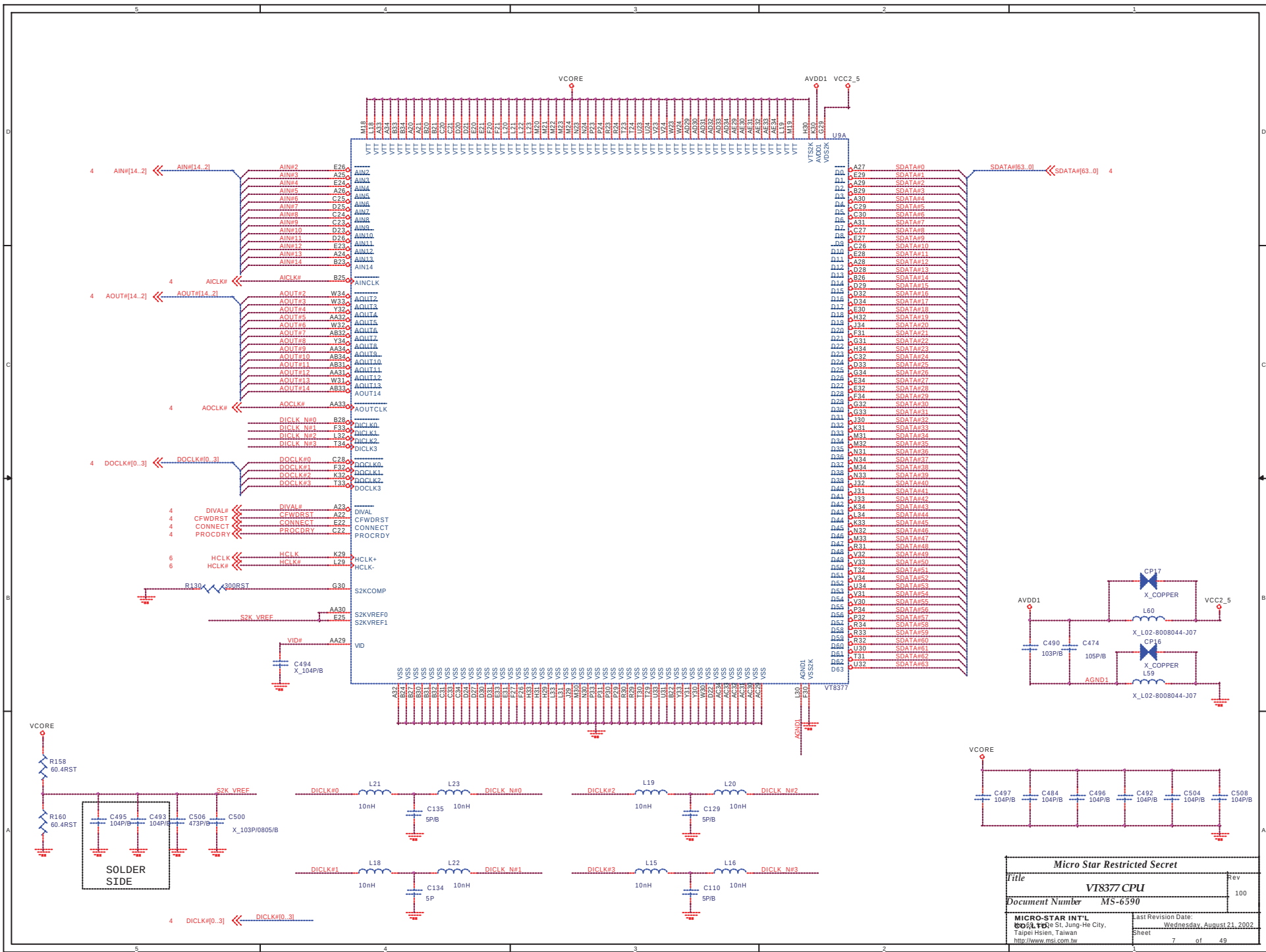
Max 150mA,
Design for 100mA

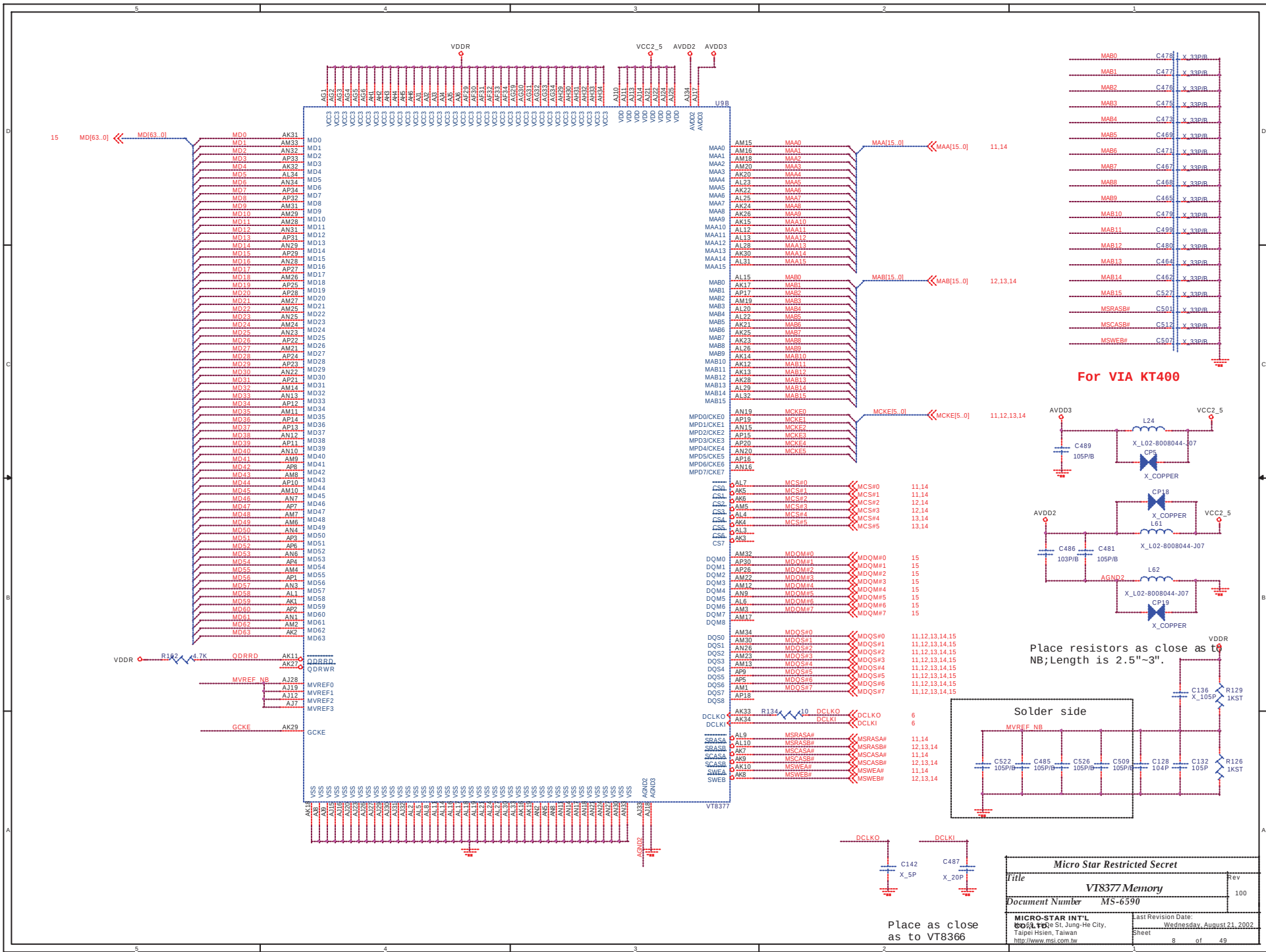


For AMD CPU Thermal protection

PCB layout for the PC104 interface of the TMS320C48. The diagram shows the connection of various signals between the TMS320C48 pins and the PC104 bus. Signals include AGPCLK, AGPCLK_NB, VCLK, PCICLK1, PCICLK2, PCICLK3, PCICLK4, ATAPCLK, LANPCLK, 1394_PCLK, MS1PCLK_B, MS1PCLK, SIOPCLK, AUD_PCLK, and SB_PCLK. The layout includes components like capacitors C245, C246, and C247, and connectors X1 and X2. A 14.318MHz crystal is connected to pins 3 and 4. The PC104 bus is shown on the right with pins 26 through 31 and 38 through 41.

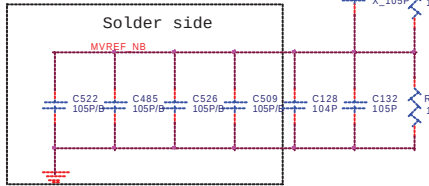






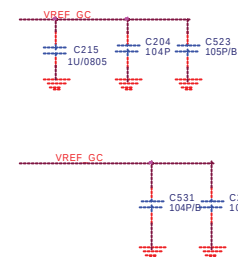
For VIA KT400

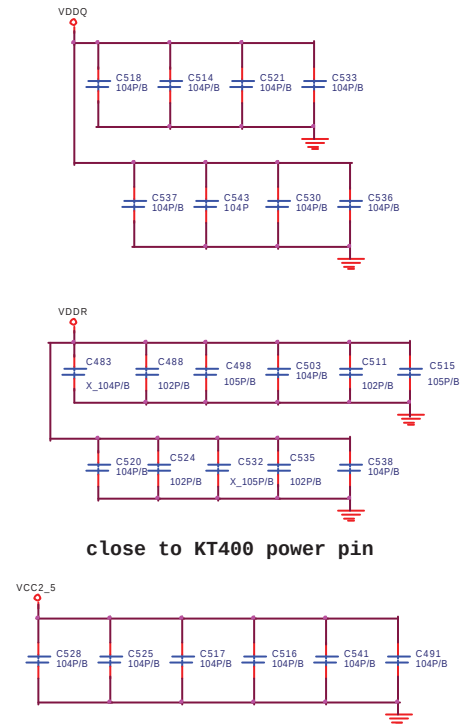
Place resistors as close as to NB; Length is 2.5"-3".



Place as close as to VT8366

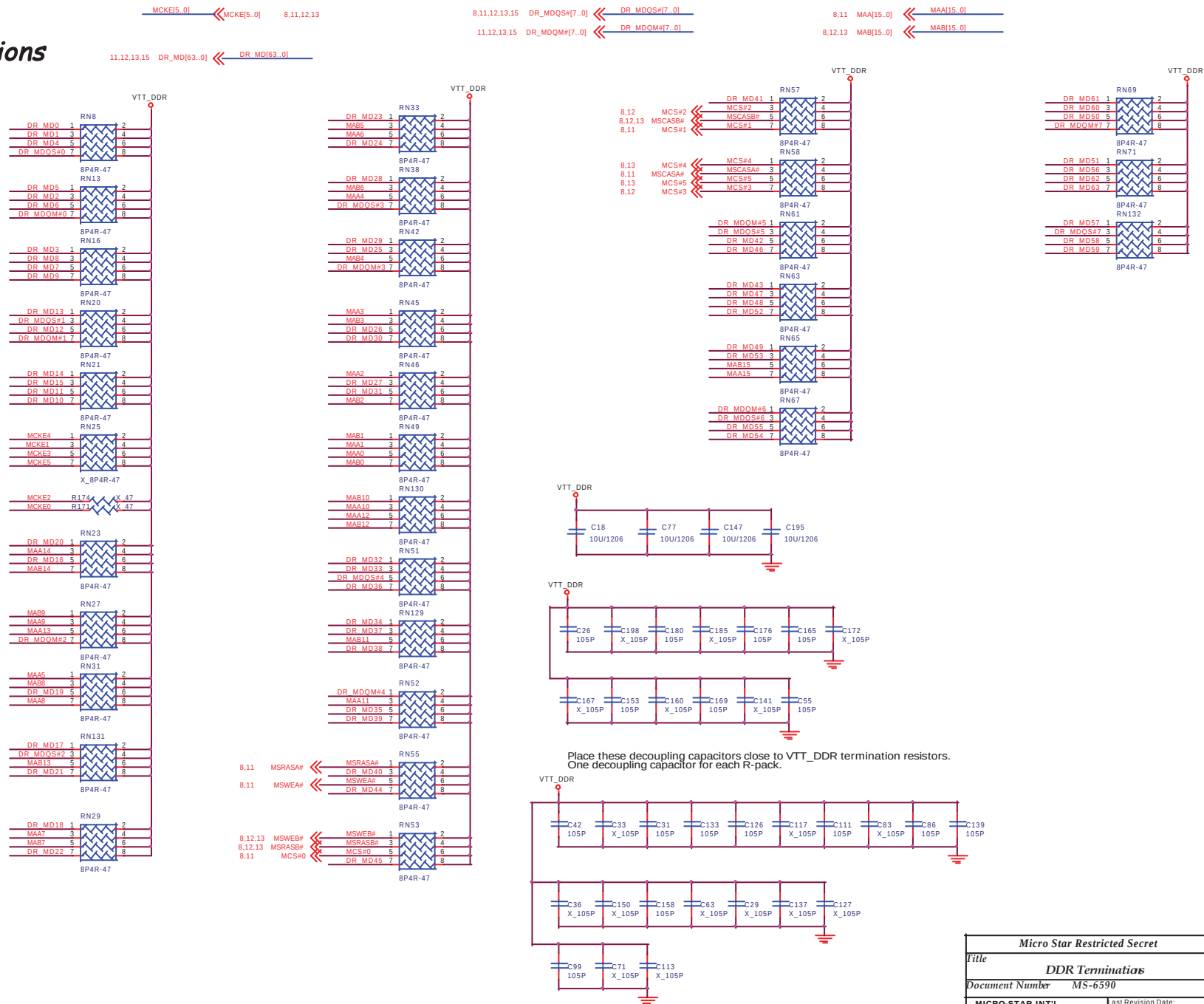
Micro Star Restricted Secret		
Title	VT8377 Memory	Rev
Document Number	MS-6590	100
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DDR Terminations

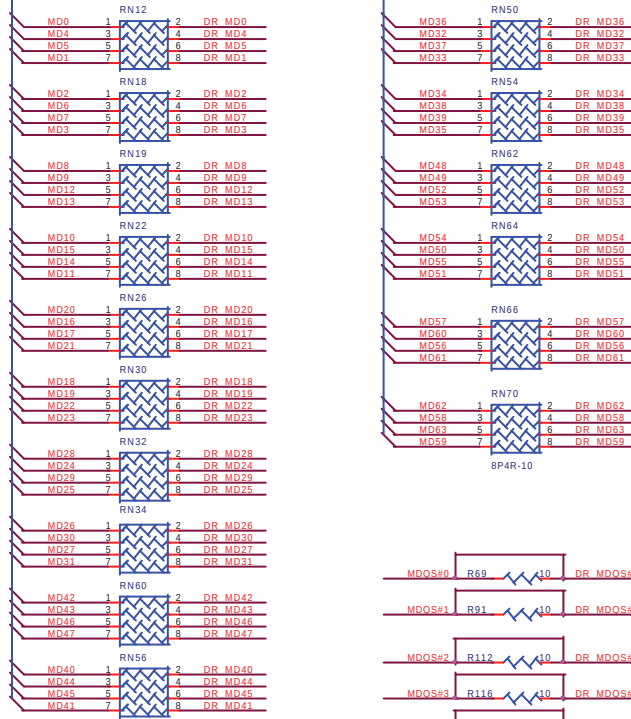


Micro Star Restricted Secret		
Title	DDR Terminations	Rev
Document Number	MS-6590	100
MICRO-STAR INT'L 601, Lane 51, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Wednesday, August 21, 2002
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DDR Terminations

11.12.13.14 DR_MD[63..0] << DR_MD[63..0]

8 MD[63..0] << MD[63..0]

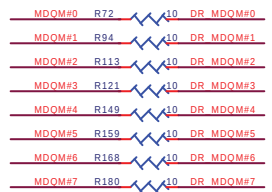
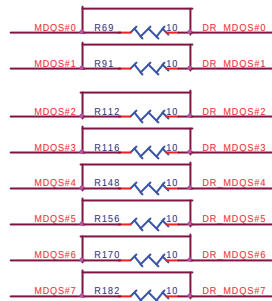


8 MDQM#[7..0] << MDQM#[7..0]

11.12.13.14 DR_MDQM#[7..0] << DR_MDQM#[7..0]

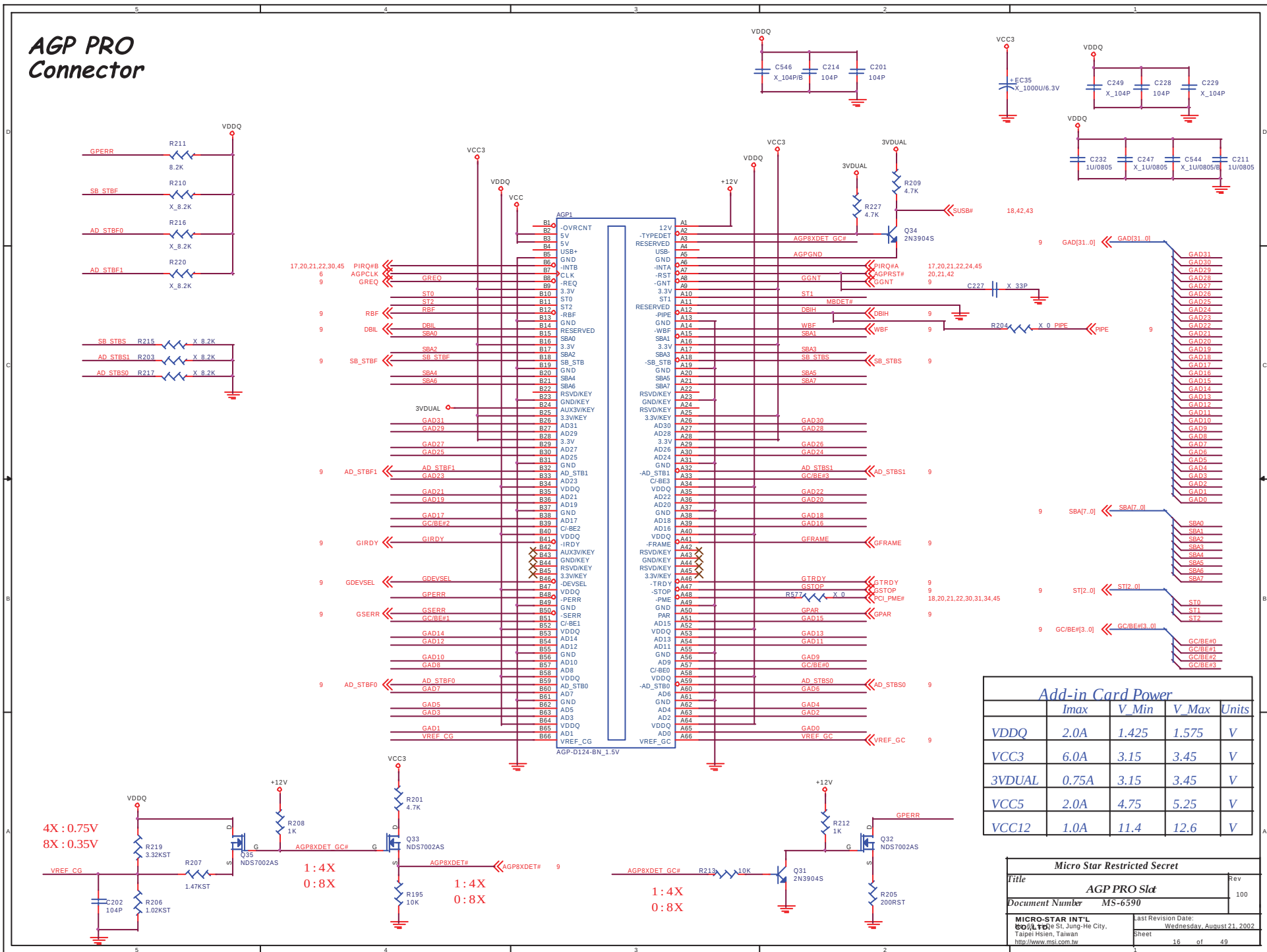
8.11.12.13.14 MDQS#[7..0] << MDQS#[7..0]

8.11.12.13.14 DR_MDQS#[7..0] << DR_MDQS#[7..0]



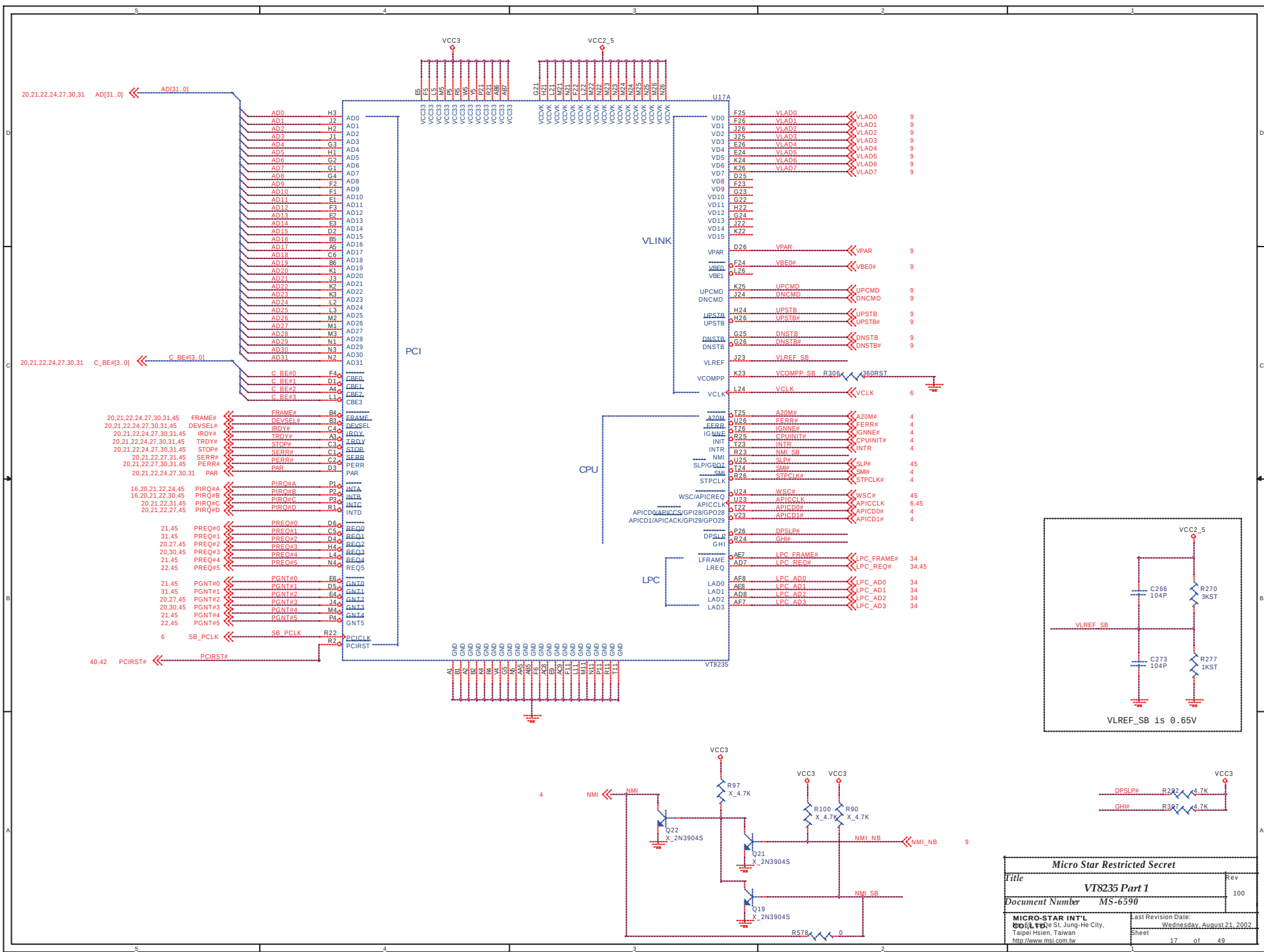
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Document Number	MS-6590	
MICRO-STAR INT'L 801, Lane 51, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Wednesday, August 21, 2002
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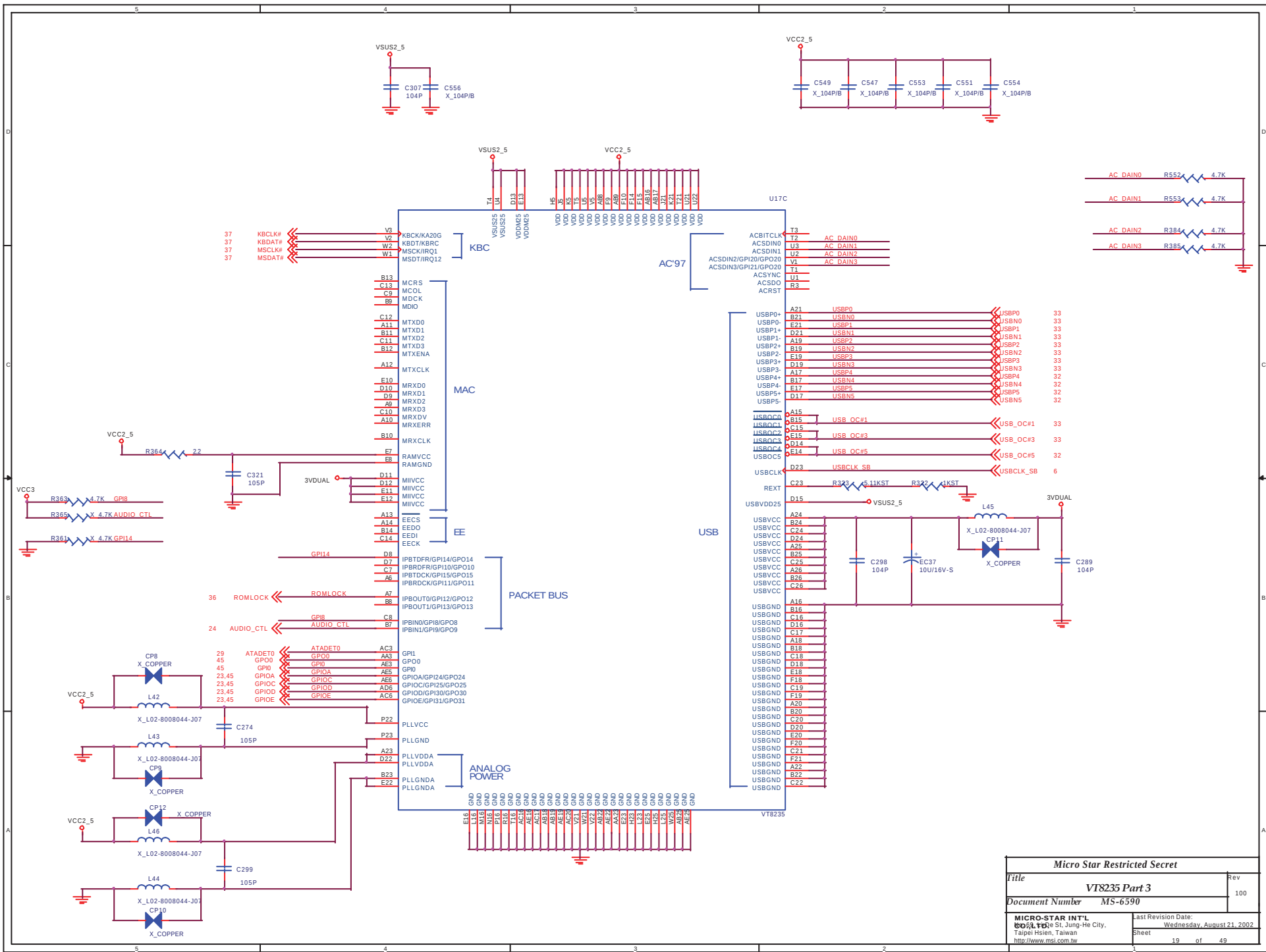
AGP PRO Connector



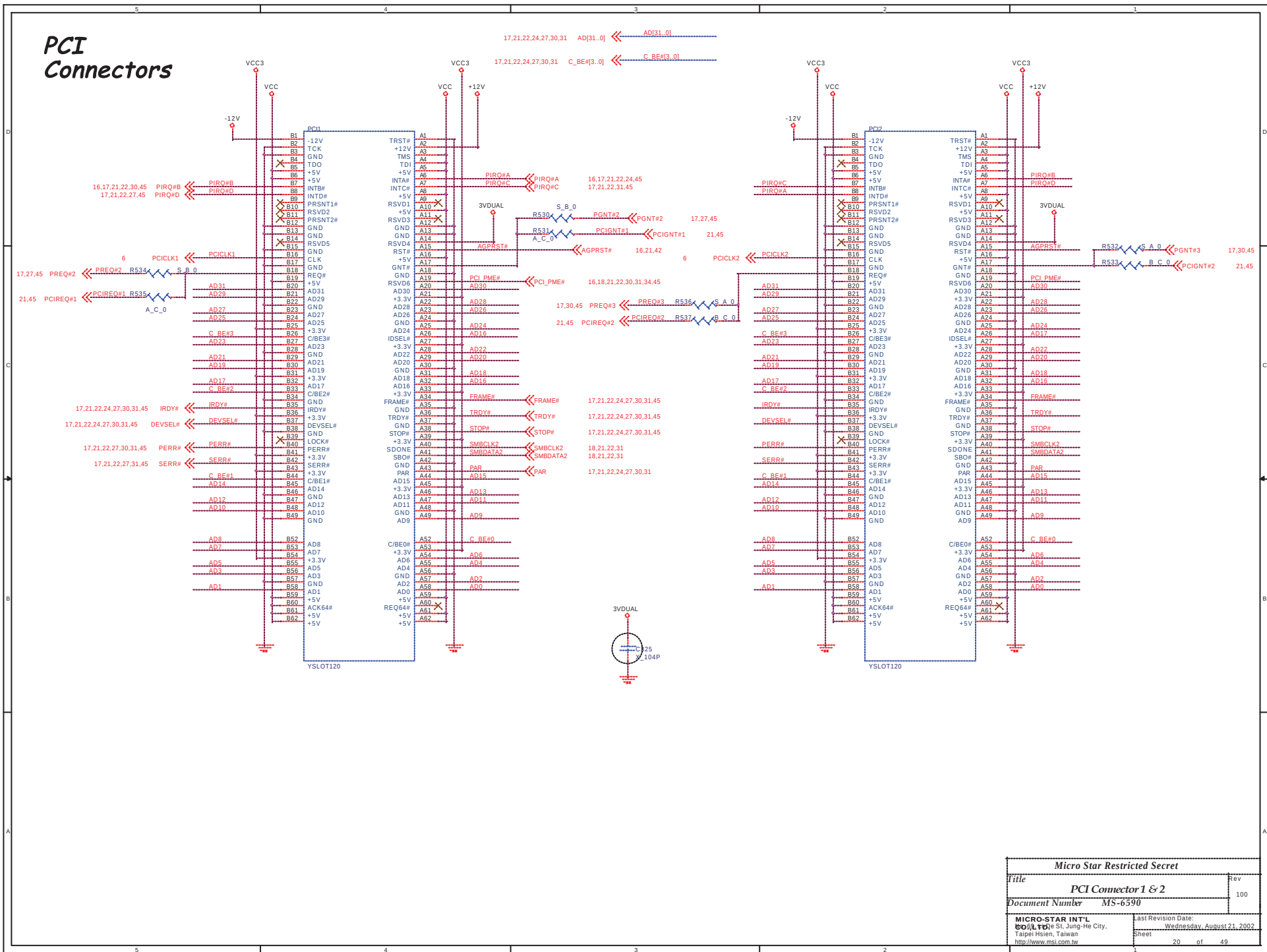
Add-in Card Power				
	Imax	V Min	V Max	Units
VDDQ	2.0A	1.425	1.575	V
VCC3	6.0A	3.15	3.45	V
3VDUAL	0.75A	3.15	3.45	V
VCC5	2.0A	4.75	5.25	V
VCC12	1.0A	11.4	12.6	V

Micro Star Restricted Secret				
Title	AGP PRO Slot			Rev 100
Document Number	MS-6590			
MICRO-STAR INT'L 601, No. 1, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Wednesday, August 21, 2002 Sheet 16 of 49		



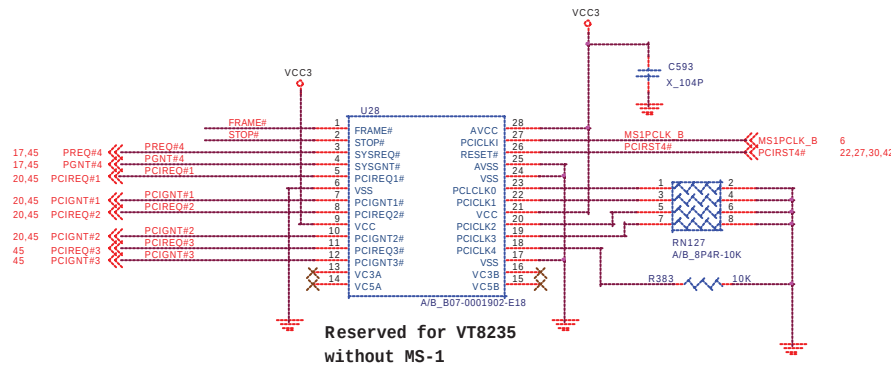
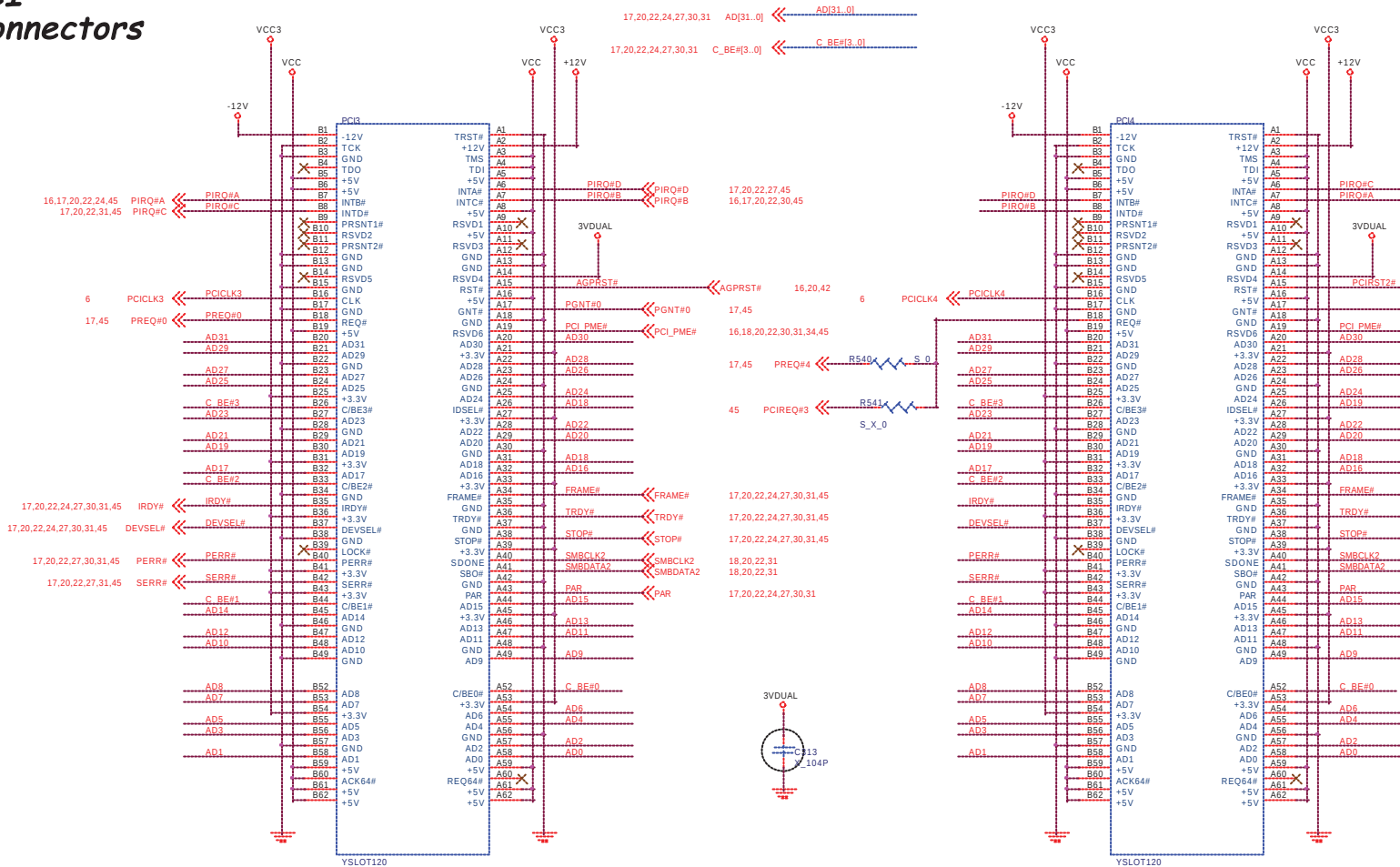


PCI Connectors



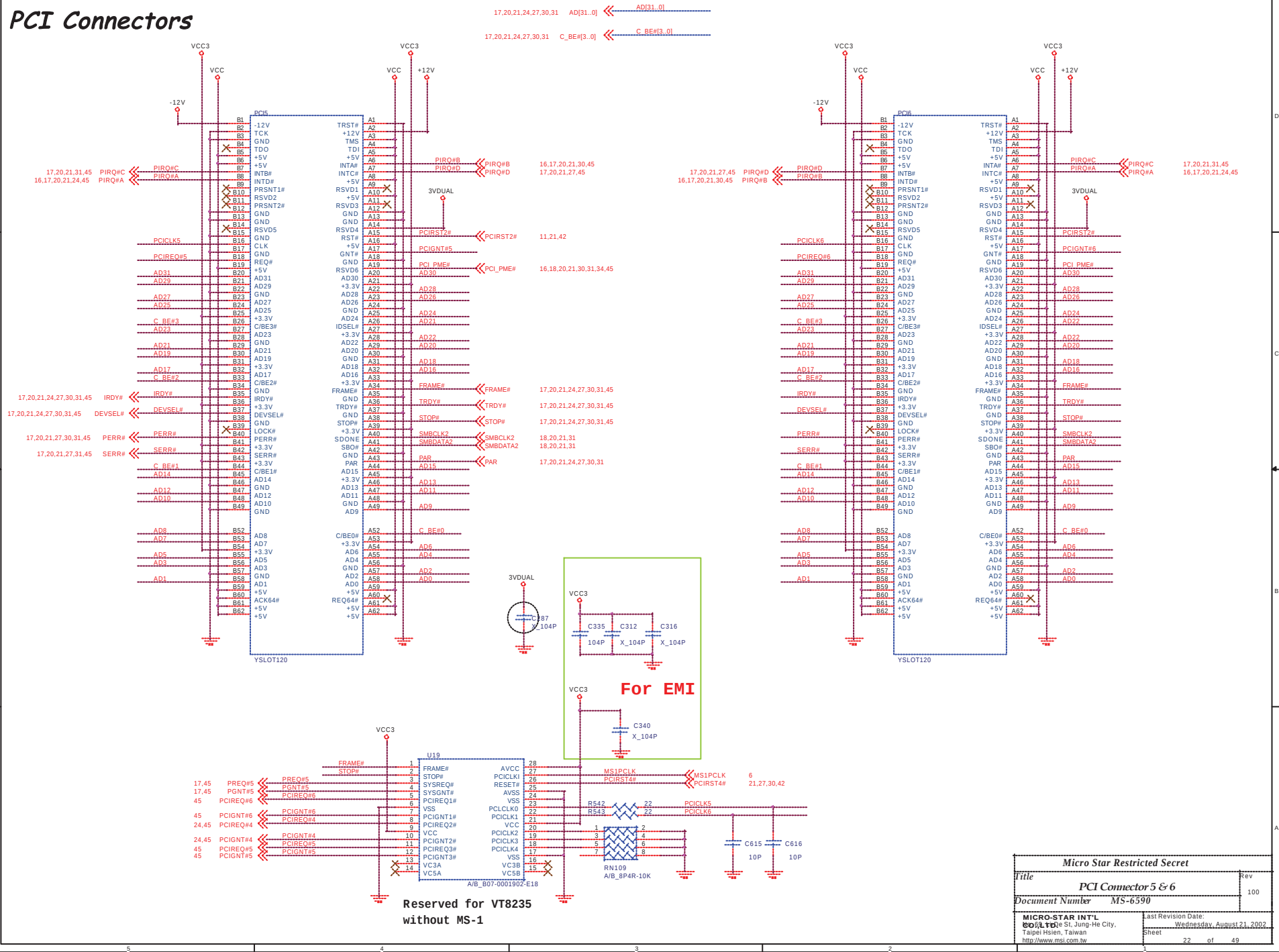
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Document Number	MS-6590	100
MICRO-STAR INT'L 601, Lane 51, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Wednesday, August 21, 2002 Sheet 20 of 49

PCI Connectors



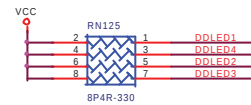
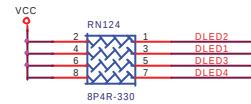
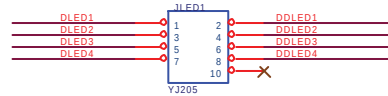
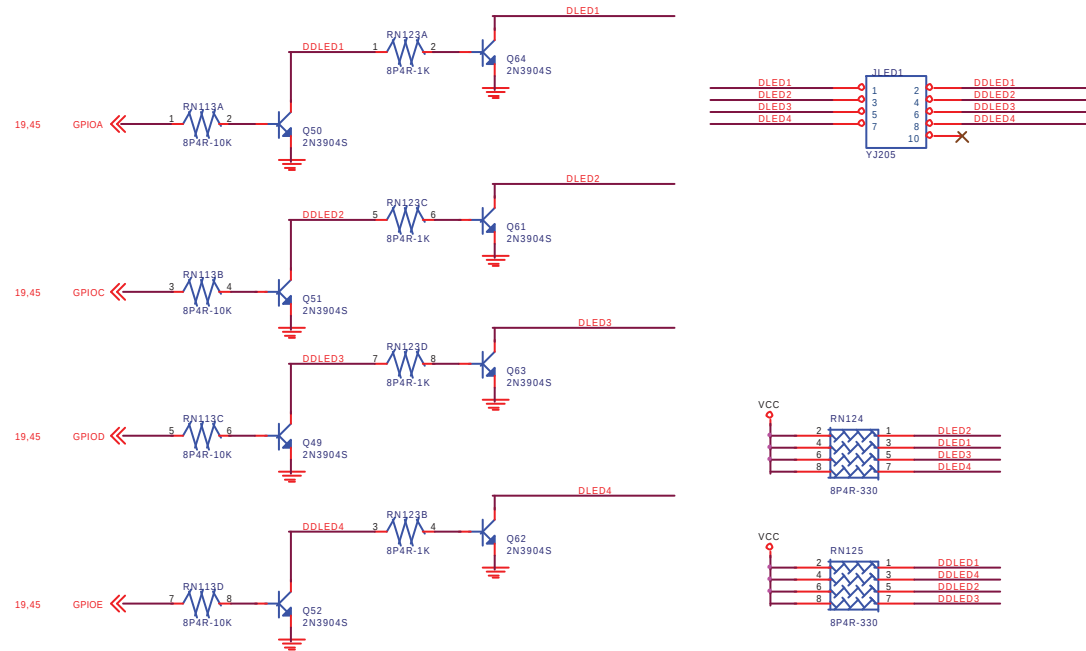
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Title	PCI Connector 3 & 4	Rev
Document Number	MS-6590	100
MICRO-STAR INT'L 801, Taipei, Taiwan http://www.msi.com.tw		Last Revision Date: Wednesday, August 21, 2002
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PCI Connectors

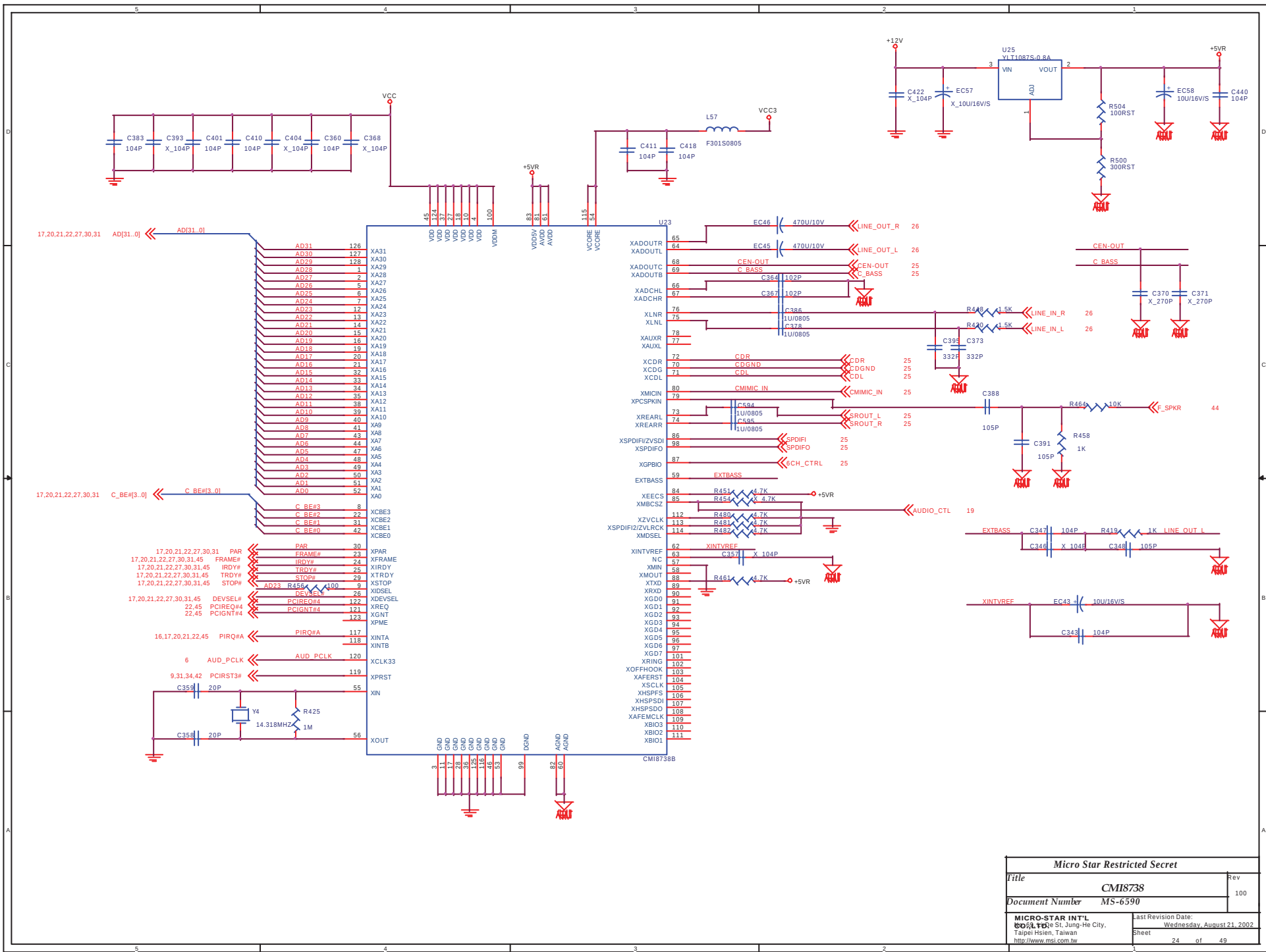


Micro Star Restricted Secret		
Title	PCI Connector 5 & 6	Rev
Document Number	MS-6590	100
MICRO-STAR INT'L 601, Lane 51, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Wednesday, August 21, 2002 Sheet 22 of 49

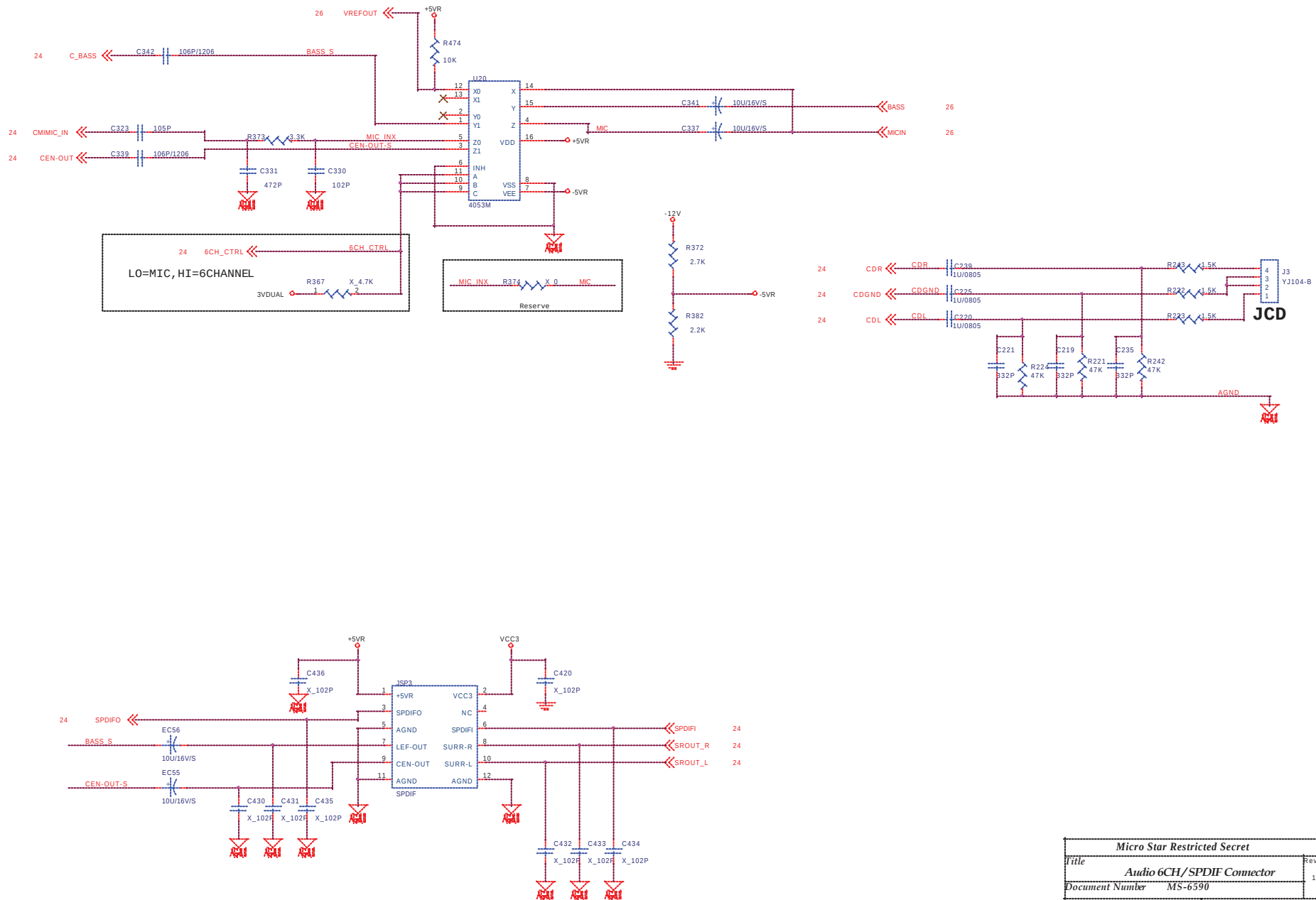
DELD



Micro Star Restricted Secret		
Title	CNR Riser	Rev
Document Number	MS-6590	100
MICRO-STAR INT'L 806116, No. 51, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Wednesday, August 21, 2002
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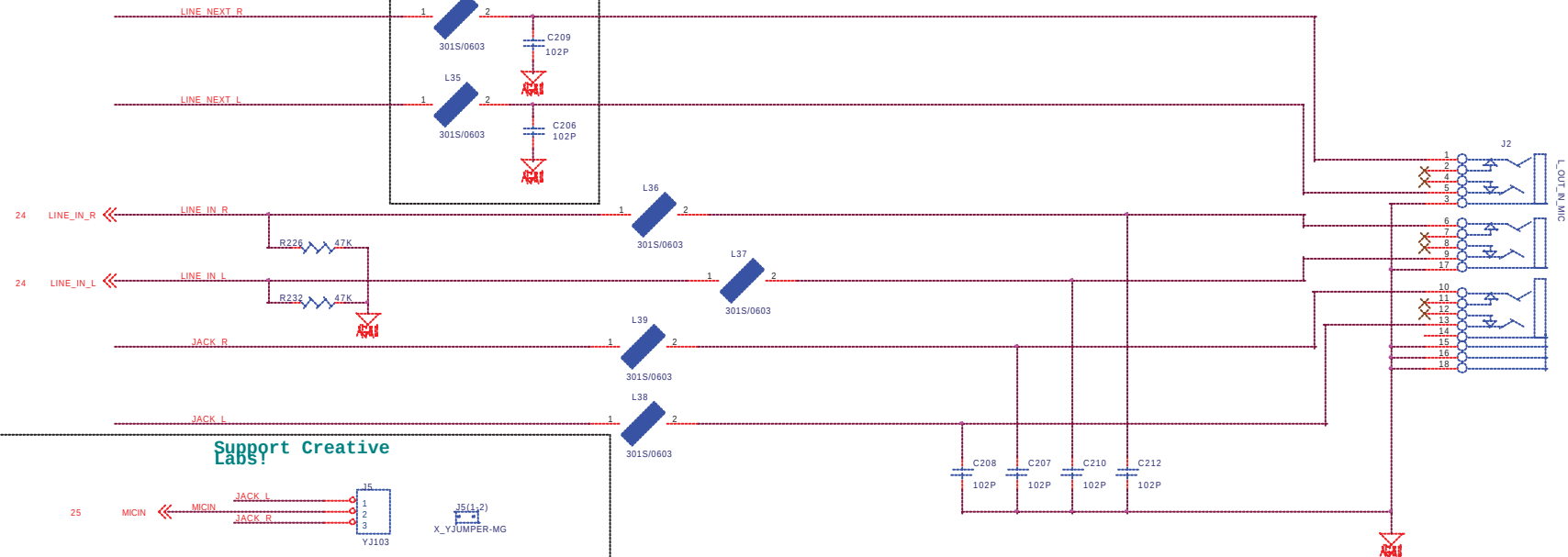
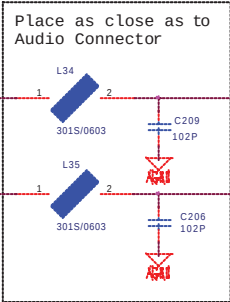


Audio SPDIF / 6 channel connector



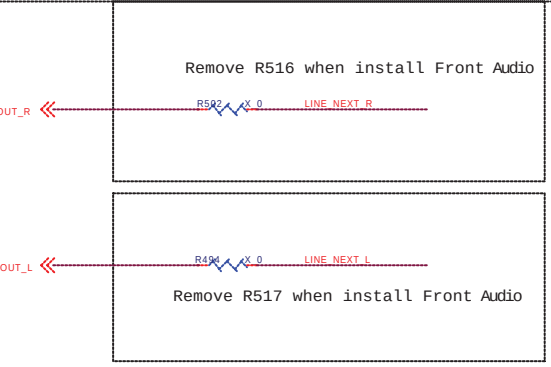
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Document Number	MS-6590	100
MICRO-STAR INT'L 804, L10, Sec 1, Jung-Ho City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Wednesday, August 21, 2002
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AUDIO PORT

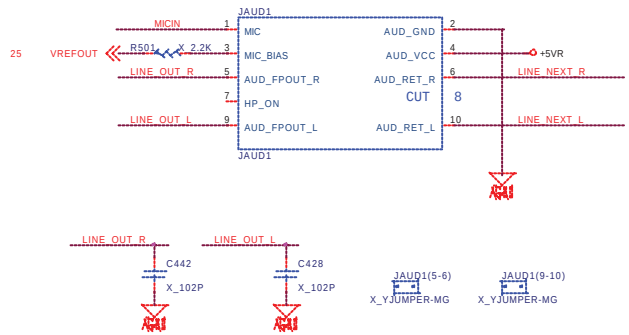


Support Creative Labs!

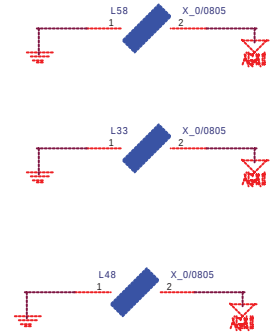
J13	J14	Connection Scheme
1-2	1-2	Mode1 Center to left Channel/Subwoofer to right channel
* 2-3	2-3	Mode2 Center to right Channel/Subwoofer to left channel



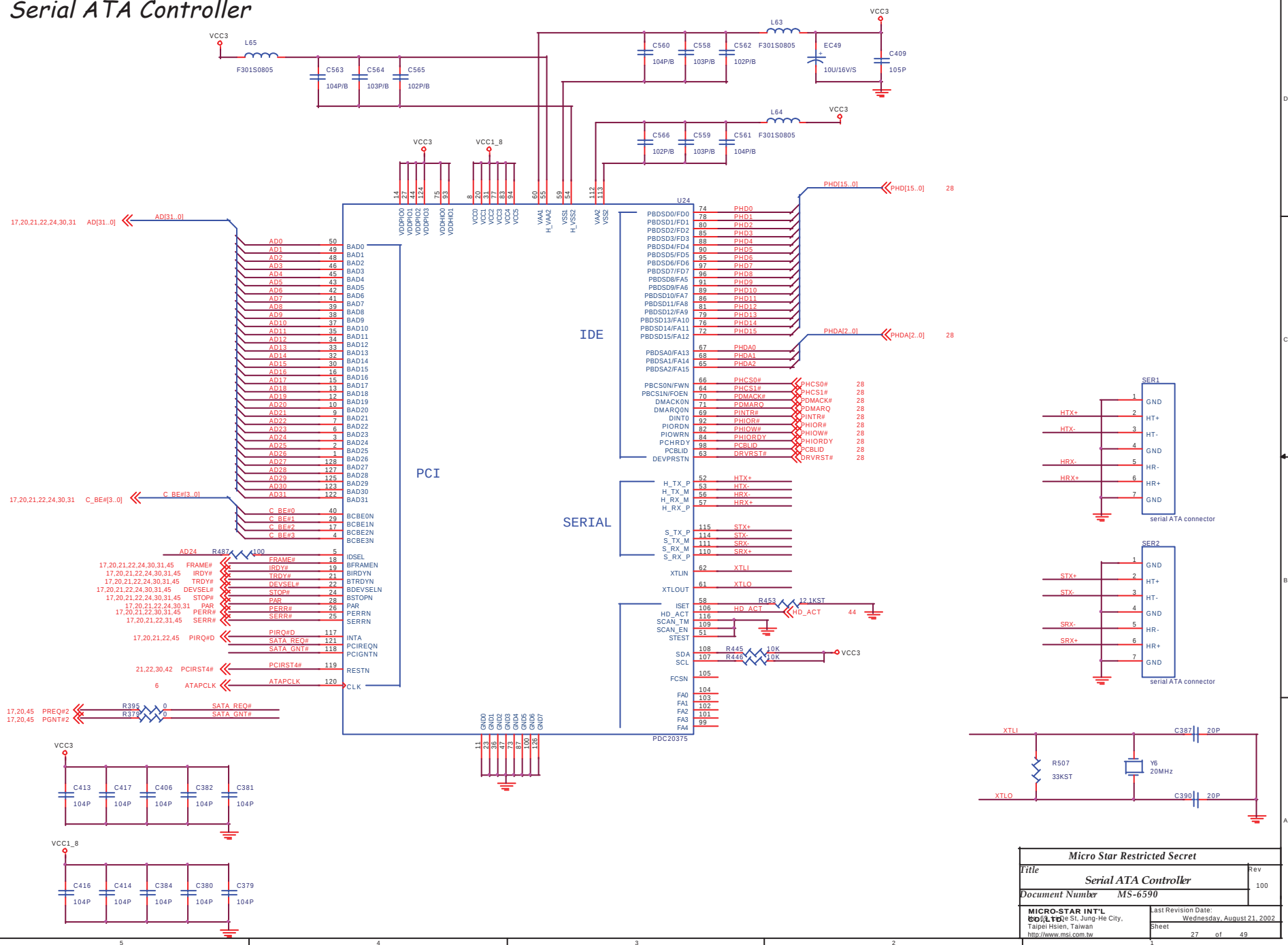
JAUDIO



Audio Connector



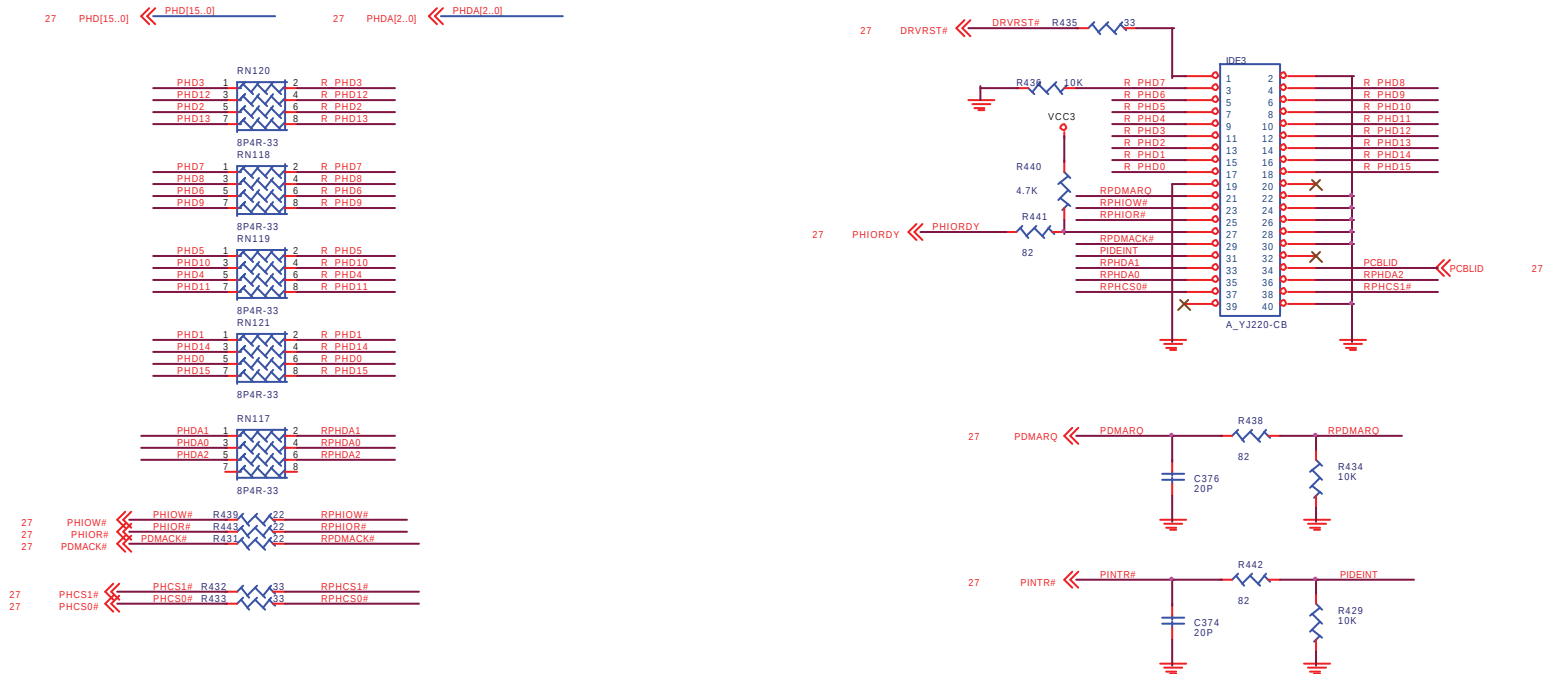
Serial ATA Controller



Micro Star Restricted Secret

Title		Rev
Serial ATA Controller		100
Document Number		MS-6590
MICRO-STAR INT'L 601, No. 1, Sec. 2, Jung-Hsuei Rd., Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Wednesday, August 21, 2002 Sheet 27 of 49

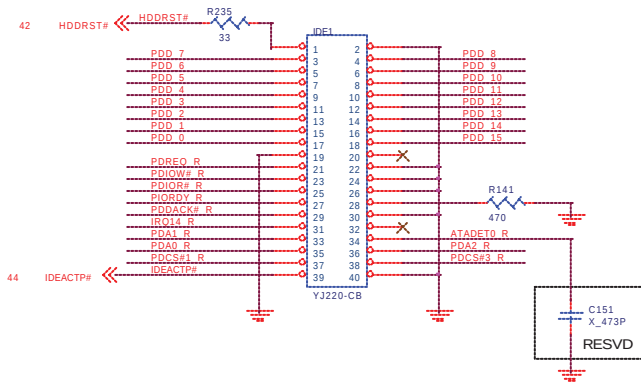
Serial ATA Connector



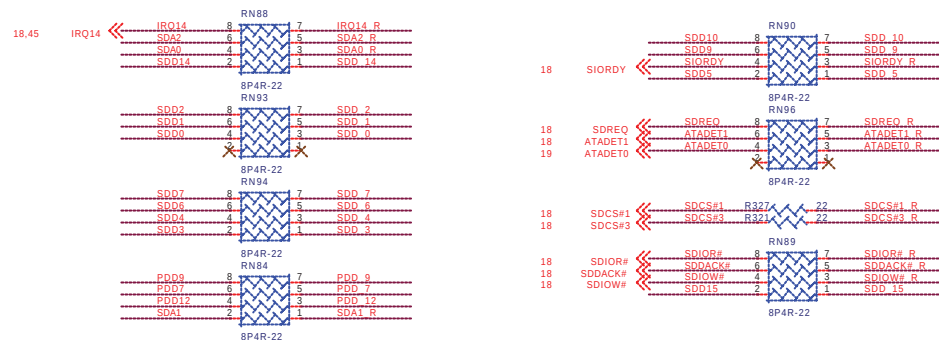
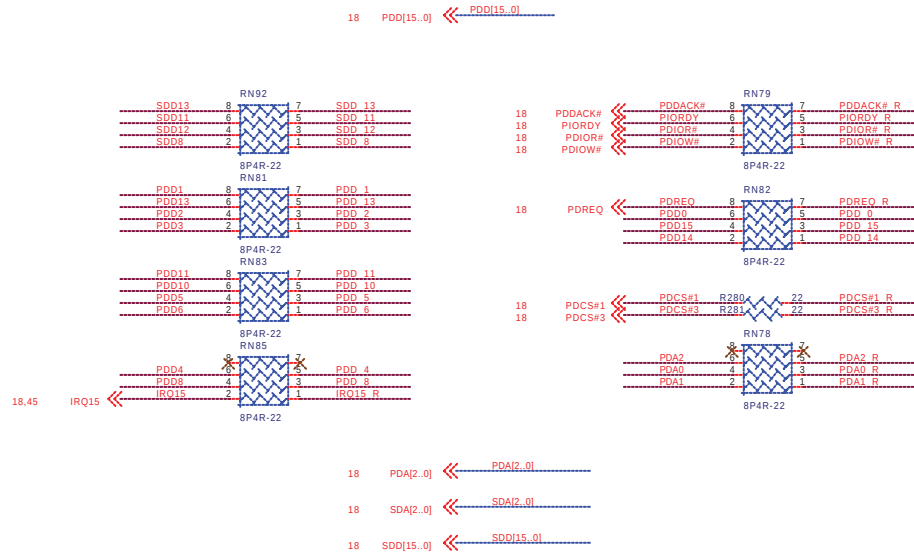
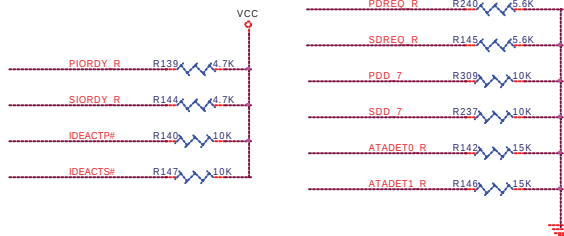
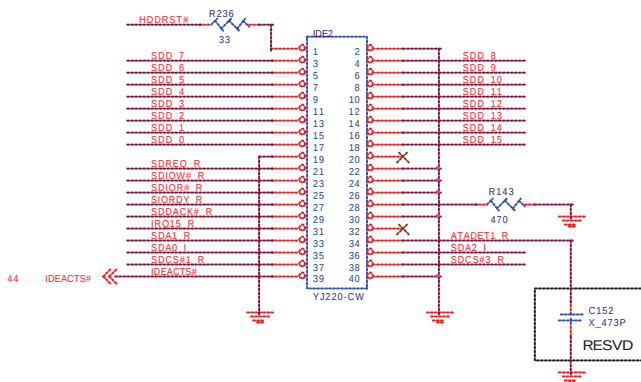
Micro Star Restricted Secret		
Title	Serial ATA Connector/2M FlashRom	Rev
Document Number	MS-6590	100
MICRO-STAR INT'L 601, Lane 51, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Wednesday, August 21, 2002
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ATA 33/66/100 Connector

PRIMARY IDE CONN.



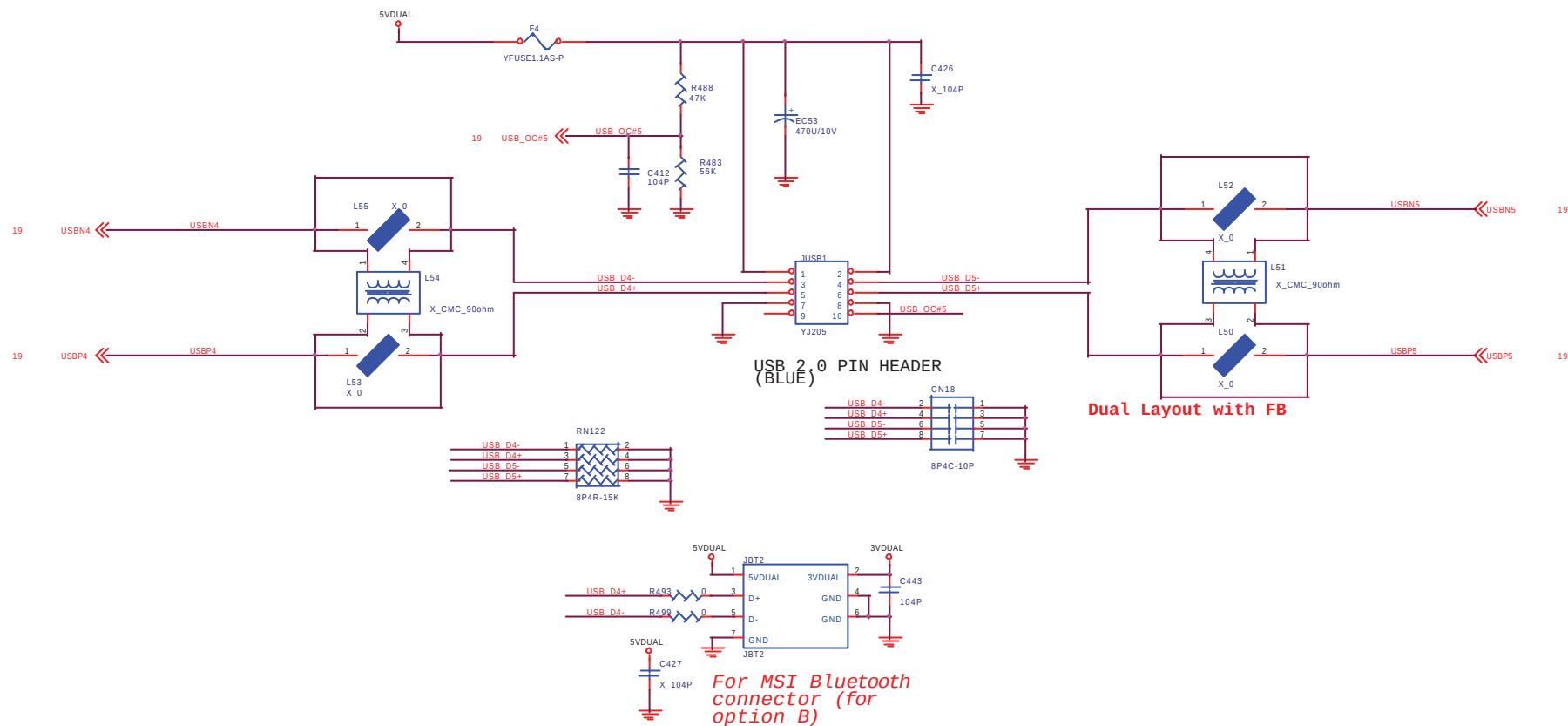
SECONDARY IDE CONN.



For 100/133/166 power strapping

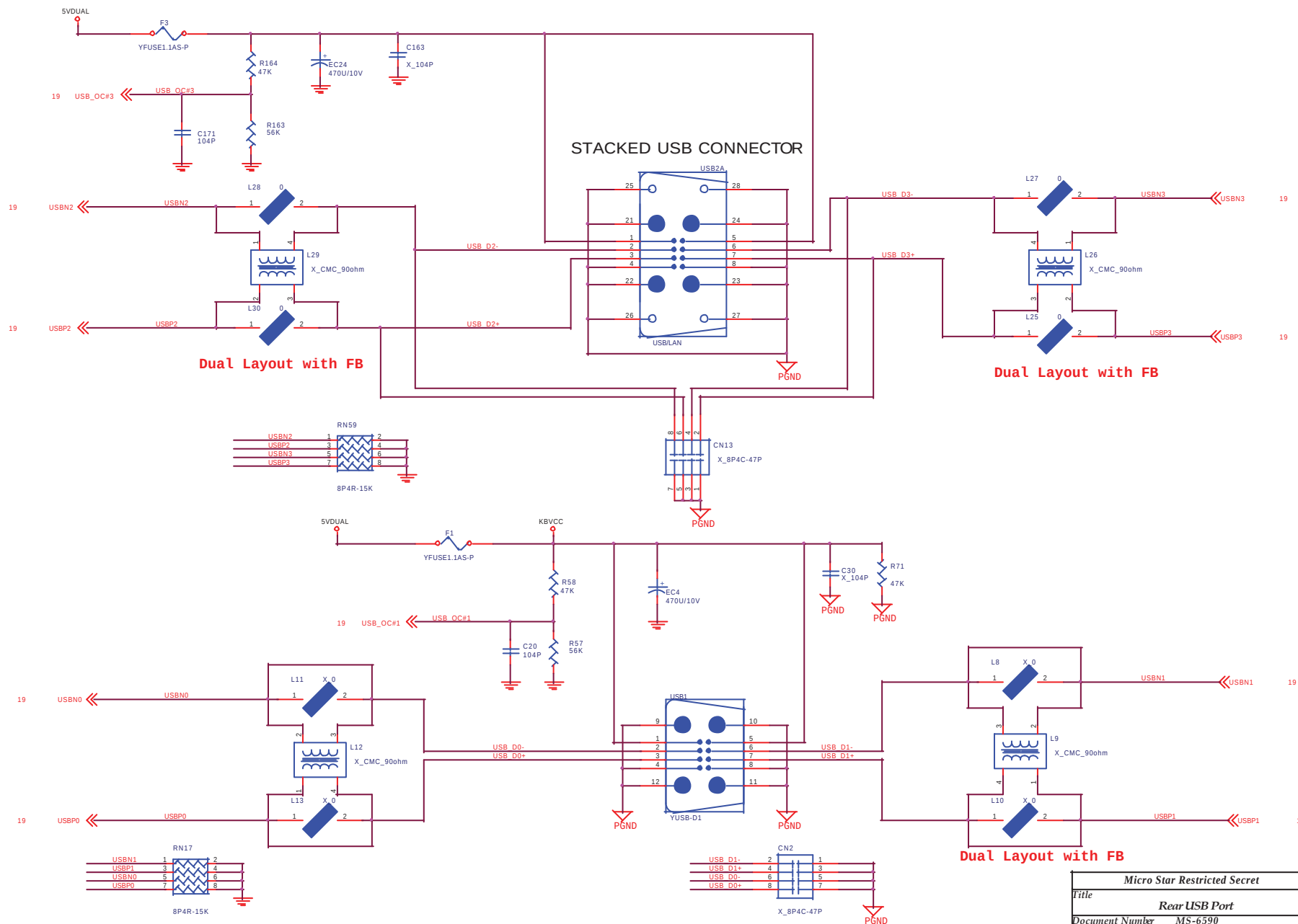


FRONT USB PORT



Micro Star Restricted Secret		
Title	Front USB Port	Rev
Document Number	MS-6590	100
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REAR USB PORT



Micro Star Restricted Secret		
Title	Rear USB Port	Rev
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Super I/O

SIO

FLOPPY DISK HEADER

MSI/Intel IR HEADER

Distribute near the VCC power pin of the LPC

Micro Star Restricted Secret	
Title	Winbond W697HF
Document Number	MS-6590
MICRO-STAR INT'L 80611010 St. Jung-Ho City, Taipei Hsien, Taiwan http://www.msi.com.tw	
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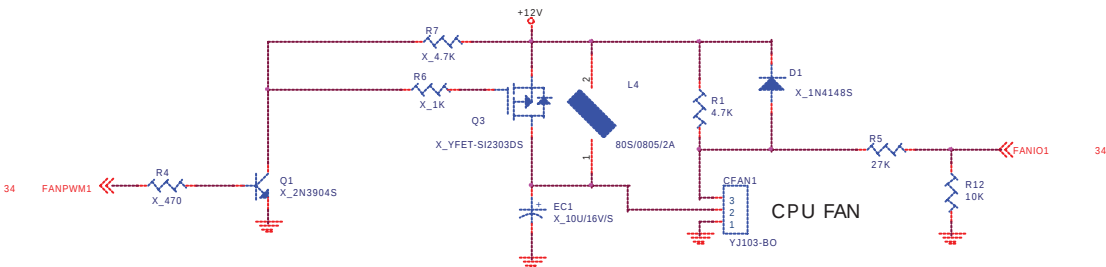
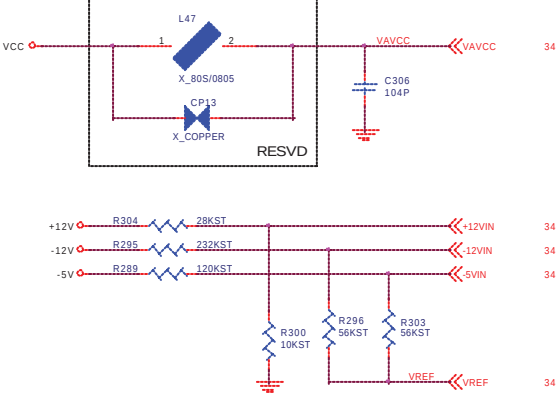
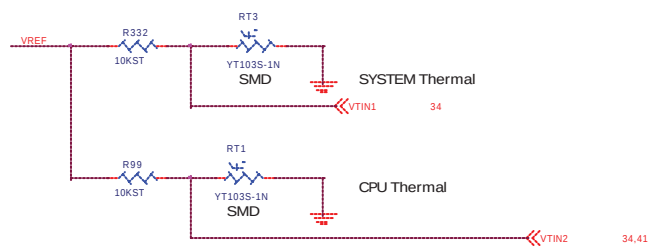
MSI/Intel IR HEADER

Pinout diagram for MSI/Intel IR Header:

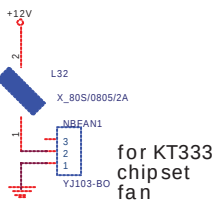
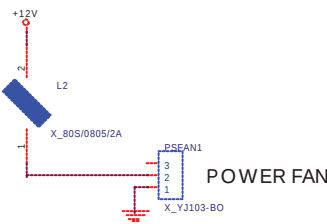
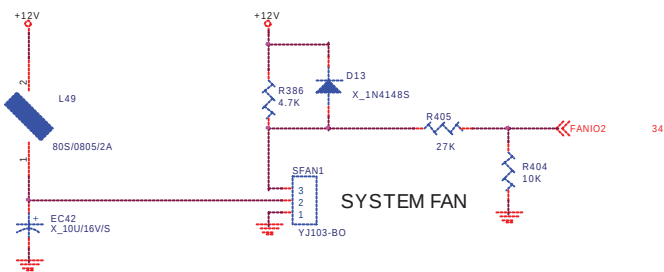
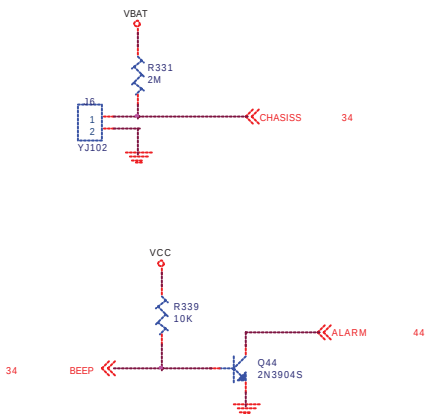
- Pin 1: J1R1, NA
- Pin 2: CUT
- Pin 3: +5V
- Pin 4: GND
- Pin 5: IRTX
- Pin 6: IRRX

Micro Star Restricted Secret		
Title	Rev	
Winbond W697HF	100	
Document Number	MS-6590	
MICRO-STAR INT'L 806, LTD. No. 1, Jung-Ho City, Taipei Hsien, Taiwan http://www.msi.com.tw	Last Revision Date:	
	Wednesday, August 21, 2002	
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	34	of 49

Hardware Monitor



Chassis Intrusion Header

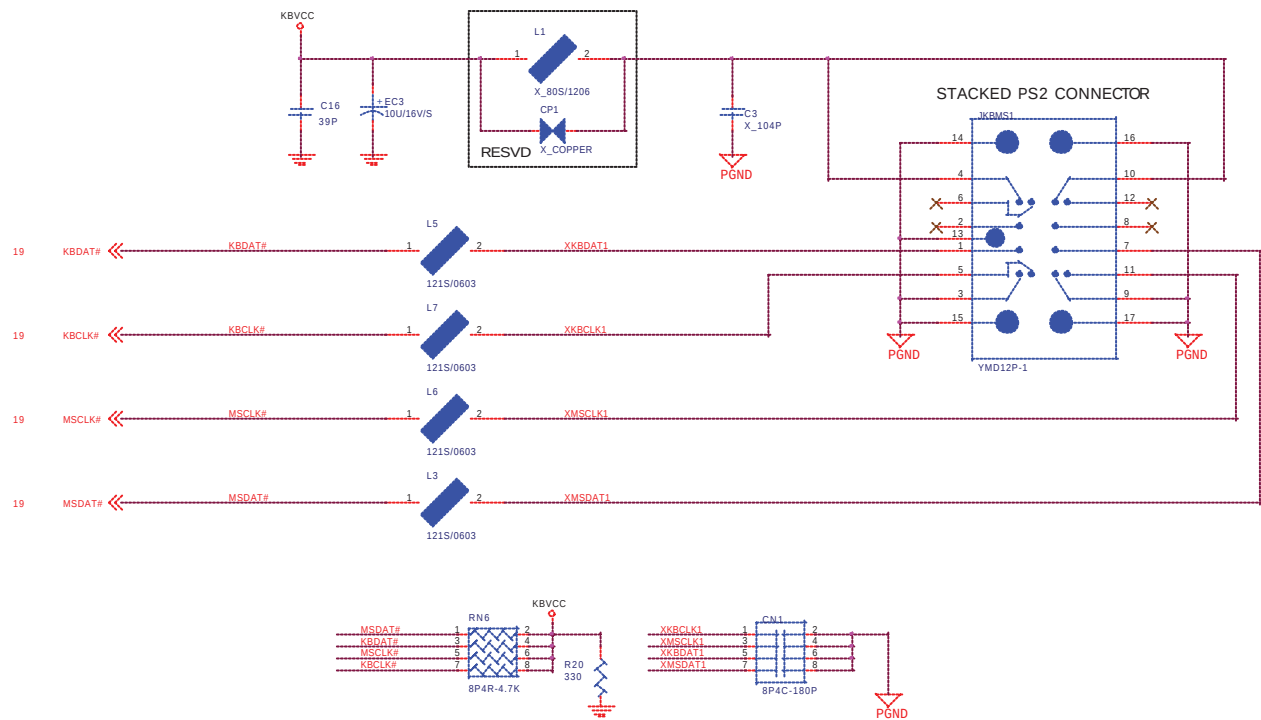


Micro Star Restricted Secret		
Title	Hardware Monitor	Rev 100
Document Number	MS-6590	
MICRO-STAR INT'L 806110, No. 1, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Wednesday, August 21, 2002
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A

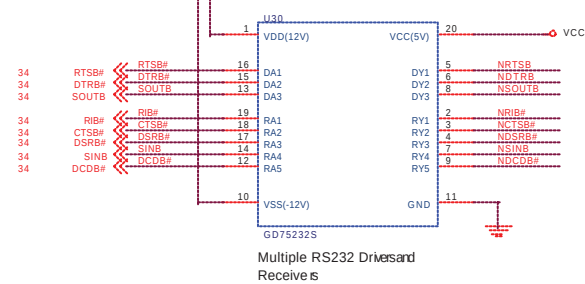
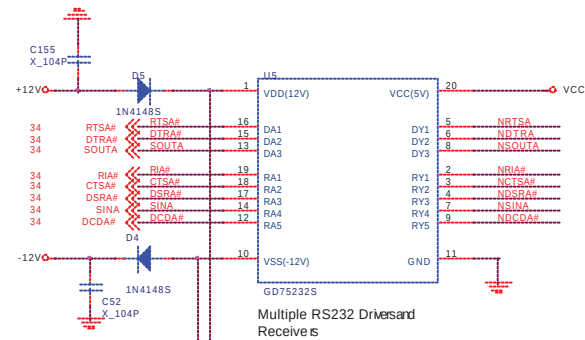
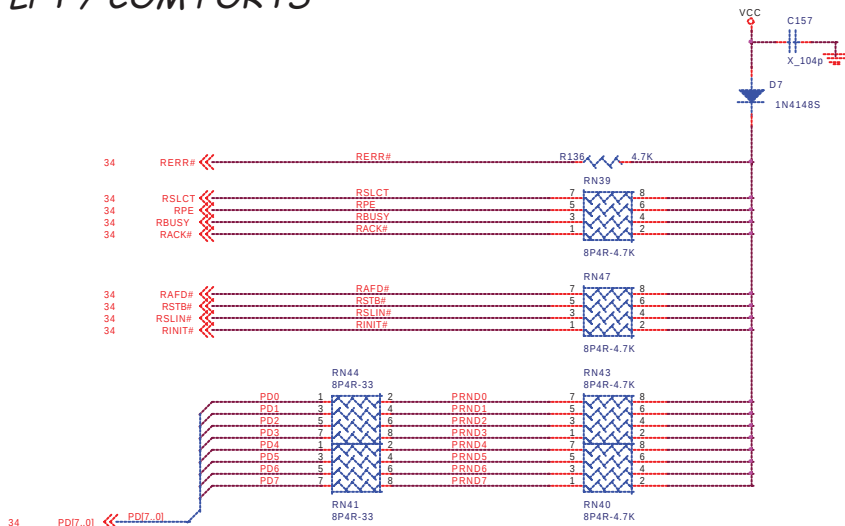


Keyboard/Mouse Ports

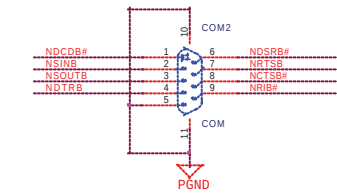
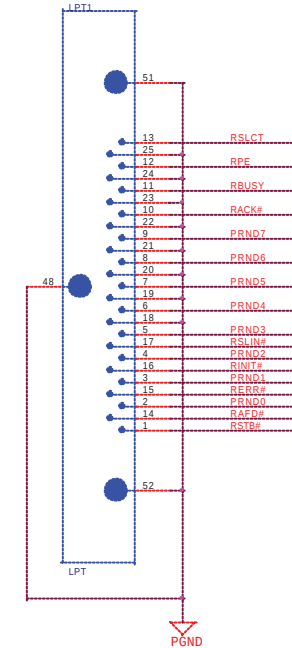
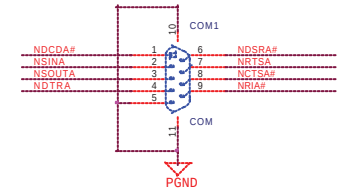
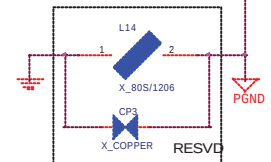
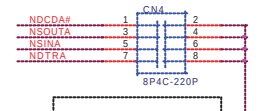
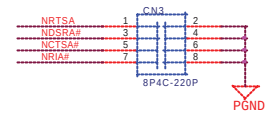
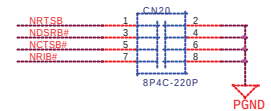
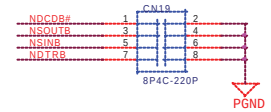
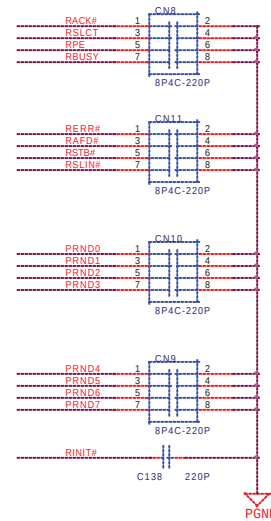


Micro Star Restricted Secret		
Title	KeyBoard/Mouse Port	Rev
Document Number	MS-6590	100
MICRO-STAR INT'L 601, No. 1, Jung-Ho City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Wednesday, August 21, 2002
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LPT / COM PORTS

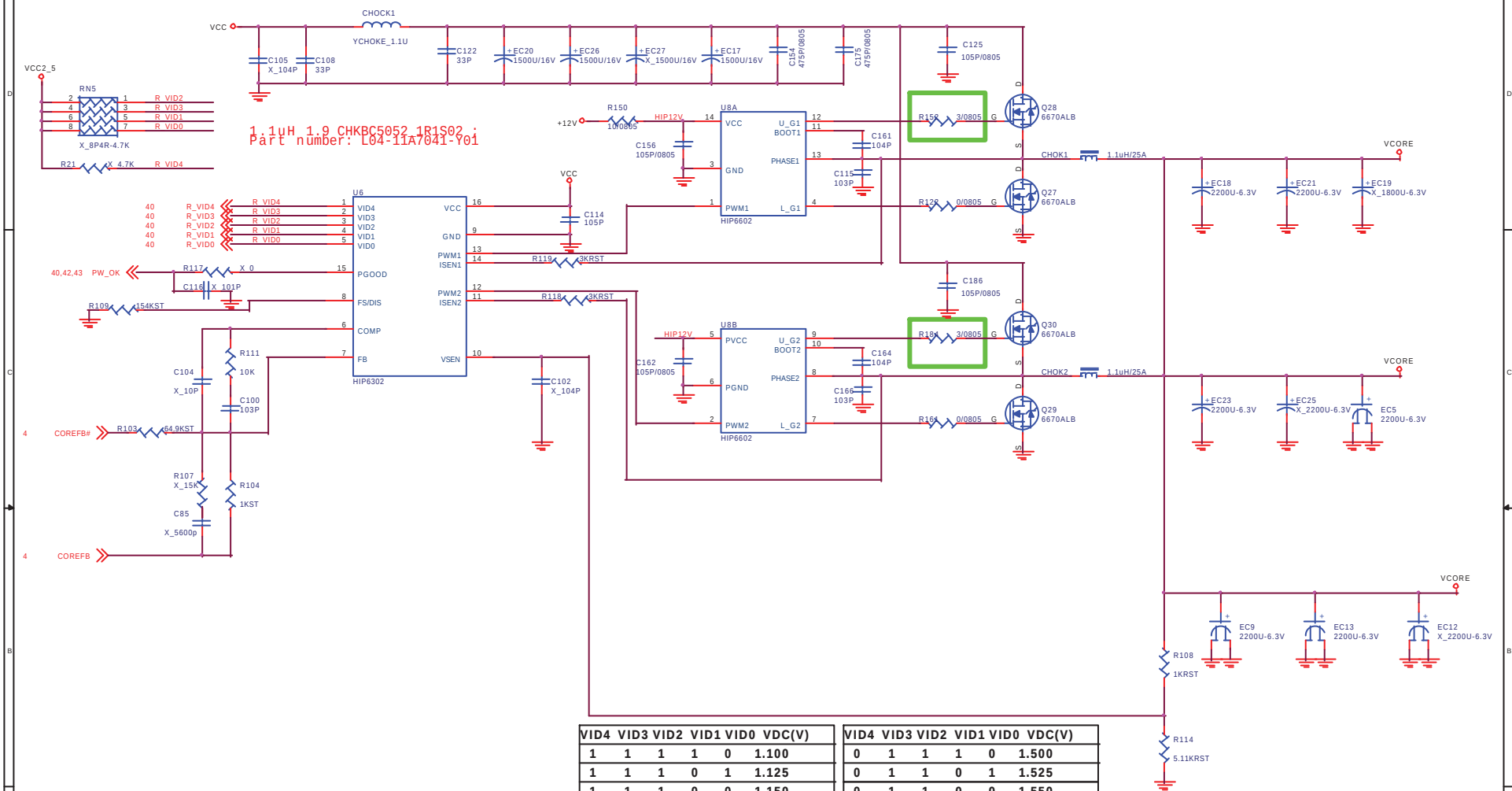


For EMI



Micro Star Restricted Secret		
Title	LPT/COM Port	Rev
Document Number	MS-6590	100
MICRO-STAR INT'L 801A, Hsiao St, Jung-Ho City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Wednesday, August 21, 2002 Sheet 38 of 49

Voltage Regular Module



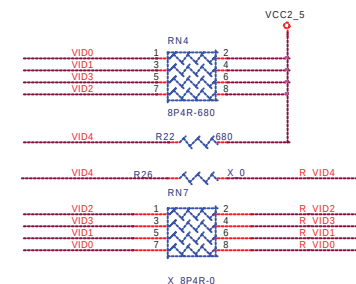
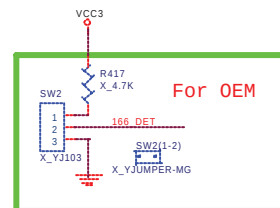
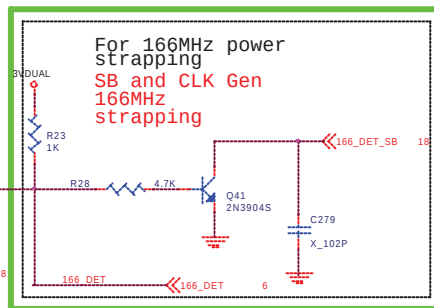
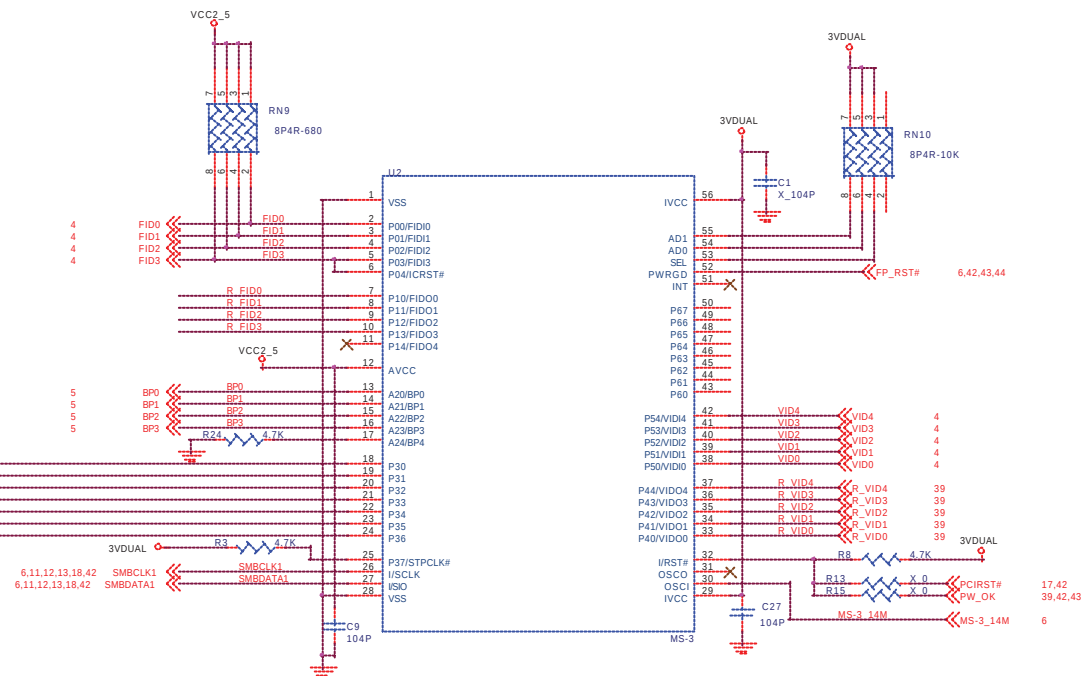
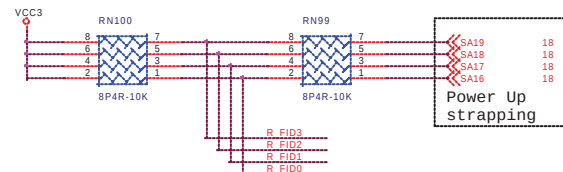
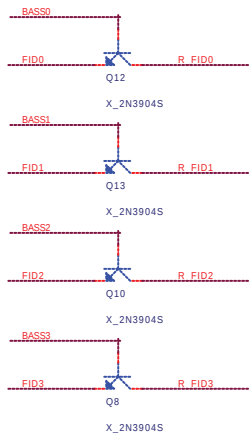
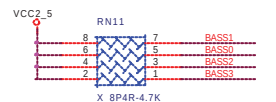
VID4	VID3	VID2	VID1	VID0	VDC(V)
1	1	1	1	0	1.100
1	1	1	0	1	1.125
1	1	1	0	0	1.150
1	1	0	1	1	1.175
1	1	0	1	0	1.200
1	1	0	0	1	1.225
1	1	0	0	0	1.250
1	0	1	1	1	1.275
1	0	1	1	0	1.300
1	0	1	0	1	1.325
1	0	1	0	0	1.350
1	0	0	1	1	1.375
1	0	0	1	0	1.400
1	0	0	0	1	1.425
1	0	0	0	0	1.450
0	1	1	1	1	1.475

VID4	VID3	VID2	VID1	VID0	VDC(V)
0	1	1	1	0	1.500
0	1	1	0	1	1.525
0	1	1	0	0	1.550
0	1	0	1	1	1.575
0	1	0	1	0	1.600
0	1	0	0	1	1.625
0	1	0	0	0	1.650
0	0	1	1	1	1.675
0	0	1	1	0	1.700
0	0	1	0	1	1.725
0	0	1	0	0	1.750
0	0	0	1	1	1.775
0	0	0	1	0	1.800
0	0	0	0	1	1.825
0	0	0	0	0	1.850
1	1	1	1	1	OFF

Micro Star Restricted Secret		
Title	VRM 9.0/HIP6302	Rev
Document Number	MS-6590	100
MICRO-STAR INT'L 601, No. 1, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Wednesday, August 21, 2002
Sheet		39 of 49

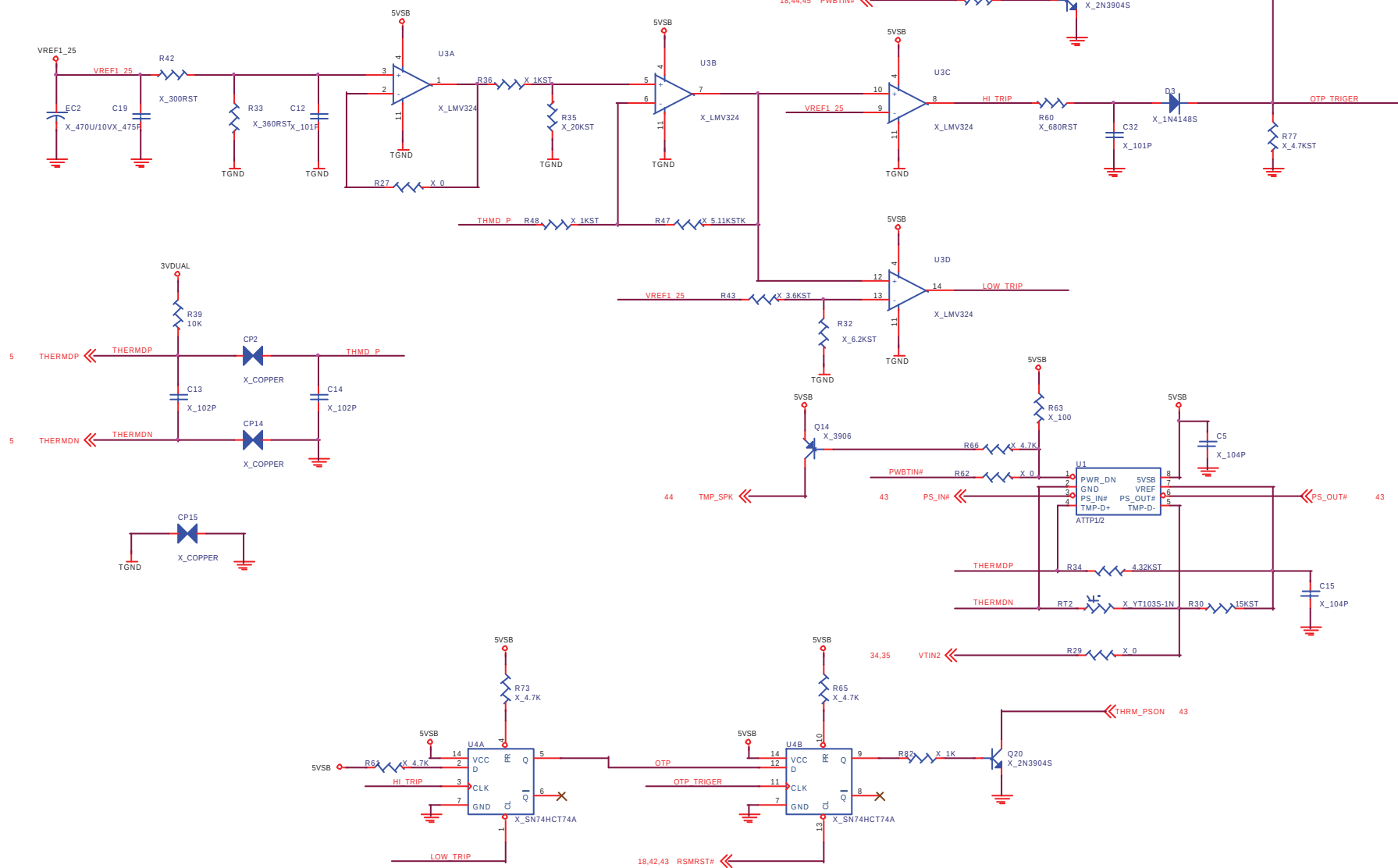
CPU Ratio / CPU Vcore / Smart LEDSetting

FID[3:0]	Clock Multiplier	FID[3:0]	Clock Multiplier
0000	11.0	1000	7.0
0001	11.5	1001	7.5
0010	12.0	1010	8.0
0011	12.5	1011	8.5
0100	5.0	1100	9.0
0101	5.5	1101	9.5
0110	6.0	1110	10.0
0111	6.5	1111	10.5



Micro Star Restricted Secret		
Title	CPU Ratio Setting	Rev
Document Number	MS-6590	100
MICRO-STAR INT'L 601, Tope St, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Wednesday, August 21, 2002 Sheet 40 of 49

AMD CPU Thermal Protection Circuit



Micro Star Restricted Secret		
Title	AMD CPU Thermal Protection Circuit	Rev 100
Document Number	MS-6590	
MICRO-STAR INT'L 601, Lane 51, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Wednesday, August 21, 2002
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ACPI Controller

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

18 SUSC#
16,18,43 SUSB#
18,41,43 RSMRST#
4 K7PWRGD
18 PWROK_SB
18 PW_OK_1
6,40,43,44 FP_RST#
39,40,43 PW_OK

44 PLED1
44 SUSLED

17,40 PCIRST#
29 HDDRST#
4 CPURST#
6,11,12,13,18,40
6,11,12,13,18,40
SMBCLK1

AGP, PCI1-3

PCI 4-6, DDR

NB, I/O, LAN, AUDIO

1394, SATA, MS-1X2

FOR 3VDUAL
SETTING BY
SEL1

* SETTING 3VSTR THEN VRAM_2.5
BECOME TO 1.25 VREF

**S50# pin function(Hi level = 5V)
same as 5VUSB(Hi level = 12V)

SEL0	5VUSB
H	2 MOSFET
L	1 MOSFET

5VSB USE 2 MOSFET

Low RDS ON MOSFET

CHARGE PUMP VOLTAGE OUTPUT

VT8235 VLINK and
Suspend 2.5V
power

Micro Star Restricted Secret

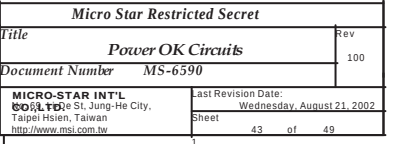
Title	ACPI Controller	Rev	100
Document Number	MS-6590		
MICRO-STAR INT'L 601, No. 1, Sec. 1, Jung-Ho City, Taipei Hsien, Taiwan http://www.msi.com.tw	Last Revision Date: Wednesday, August 21, 2002	Sheet	42 of 49

POWER OK Circuits

The schematic diagram illustrates the POWER OK Circuits, featuring several key components and signal traces:

- Transistors:** Q2, Q4, Q6, Q7, Q9, Q17 (all 2N3904S).
- Resistors:** R2, R11, R17, R18, R25, R31, R37, R38, R41, R43, R44, R70, R75, R329, R334, R337, R338, R339, R340, R341, R342, R343, R344, R345, R346, R347, R348, R349, R350, R351, R352, R353, R354, R355, R356, R357, R358, R359, R360, R361, R362, R363, R364, R365, R366, R367, R368, R369, R370, R371, R372, R373, R374, R375, R376, R377, R378, R379, R380, R381, R382, R383, R384, R385, R386, R387, R388, R389, R390, R391, R392, R393, R394, R395, R396, R397, R398, R399, R400, R401, R402, R403, R404, R405, R406, R407, R408, R409, R410, R411, R412, R413, R414, R415, R416, R417, R418, R419, R420, R421, R422, R423, R424, R425, R426, R427, R428, R429, R430, R431, R432, R433, R434, R435, R436, R437, R438, R439, R440, R441, R442, R443, R444, R445, R446, R447, R448, R449, R450, R451, R452, R453, R454, R455, R456, R457, R458, R459, R460, R461, R462, R463, R464, R465, R466, R467, R468, R469, R470, R471, R472, R473, R474, R475, R476, R477, R478, R479, R480, R481, R482, R483, R484, R485, R486, R487, R488, R489, R490, R491, R492, R493, R494, R495, R496, R497, R498, R499, R500, R501, R502, R503, R504, R505, R506, R507, R508, R509, R510, R511, R512, R513, R514, R515, R516, R517, R518, R519, R520, R521, R522, R523, R524, R525, R526, R527, R528, R529, R530, R531, R532, R533, R534, R535, R536, R537, R538, R539, R540, R541, R542, R543, R544, R545, R546, R547, R548, R549, R550, R551, R552, R553, R554, R555, R556, R557, R558, R559, R560, R561, R562, R563, R564, R565, R566, R567, R568, R569, R570, R571, R572, R573, R574, R575, R576, R577, R578, R579, R580, R581, R582, R583, R584, R585, R586, R587, R588, R589, R590, R591, R592, R593, R594, R595, R596, R597, R598, R599, R600, R601, R602, R603, R604, R605, R606, R607, R608, R609, R610, R611, R612, R613, R614, R615, R616, R617, R618, R619, R620, R621, R622, R623, R624, R625, R626, R627, R628, R629, R630, R631, R632, R633, R634, R635, R636, R637, R638, R639, R640, R641, R642, R643, R644, R645, R646, R647, R648, R649, R650, R651, R652, R653, R654, R655, R656, R657, R658, R659, R660, R661, R662, R663, R664, R665, R666, R667, R668, R669, R670, R671, R672, R673, R674, R675, R676, R677, R678, R679, R680, R681, R682, R683, R684, R685, R686, R687, R688, R689, R690, R691, R692, R693, R694, R695, R696, R697, R698, R699, R700, R701, R702, R703, R704, R705, R706, R707, R708, R709, R710, R711, R712, R713, R714, R715, R716, R717, R718, R719, R720, R721, R722, R723, R724, R725, R726, R727, R728, R729, R730, R731, R732, R733, R734, R735, R736, R737, R738, R739, R740, R741, R742, R743, R744, R745, R746, R747, R748, R749, R750, R751, R752, R753, R754, R755, R756, R757, R758, R759, R760, R761, R762, R763, R764, R765, R766, R767, R768, R769, R770, R771, R772, R773, R774, R775, R776, R777, R778, R779, R780, R781, R782, R783, R784, R785, R786, R787, R788, R789, R790, R791, R792, R793, R794, R795, R796, R797, R798, R799, R800, R801, R802, R803, R804, R805, R806, R807, R808, R809, R810, R811, R812, R813, R814, R815, R816, R817, R818, R819, R820, R821, R822, R823, R824, R825, R826, R827, R828, R829, R830, R831, R832, R833, R834, R835, R836, R837, R838, R839, R840, R841, R842, R843, R844, R845, R846, R847, R848, R849, R850, R851, R852, R853, R854, R855, R856, R857, R858, R859, R860, R861, R862, R863, R864, R865, R866, R867, R868, R869, R870, R871, R872, R873, R874, R875, R876, R877, R878, R879, R880, R881, R882, R883, R884, R885, R886, R887, R888, R889, R890, R891, R892, R893, R894, R895, R896, R897, R898, R899, R900, R901, R902, R903, R904, R905, R906, R907, R908, R909, R910, R911, R912, R913, R914, R915, R916, R917, R918, R919, R920, R921, R922, R923, R924, R925, R926, R927, R928, R929, R930, R931, R932, R933, R934, R935, R936, R937, R938, R939, R940, R941, R942, R943, R944, R945, R946, R947, R948, R949, R950, R951, R952, R953, R954, R955, R956, R957, R958, R959, R960, R961, R962, R963, R964, R965, R966, R967, R968, R969, R970, R971, R972, R973, R974, R975, R976, R977, R978, R979, R980, R981, R982, R983, R984, R985, R986, R987, R988, R989, R990, R991, R992, R993, R994, R995, R996, R997, R998, R999, R1000.
- Capacitors:** C2, C6, C11, C12, C13, C14, C15, C16, C17, C18, C19, C20, C21, C22, C23, C24, C25, C26, C27, C28, C29, C30, C31, C32, C33, C34, C35, C36, C37, C38, C39, C40, C41, C42, C43, C44, C45, C46, C47, C48, C49, C50, C51, C52, C53, C54, C55, C56, C57, C58, C59, C60, C61, C62, C63, C64, C65, C66, C67, C68, C69, C70, C71, C72, C73, C74, C75, C76, C77, C78, C79, C80, C81, C82, C83, C84, C85, C86, C87, C88, C89, C90, C91, C92, C93, C94, C95, C96, C97, C98, C99, C100.
- Diodes:** D6, D12 (1N5817S).
- ICs:** ATX-PCON, IWR1.
- Signal Traces:** FP_RST#, RSMRST#, SUSB#, PS_IN#, PS_OUT#, THRM_PSON.
- Power-ok to MS-5:** A green box highlights the section labeled "Power-ok to MS-5".

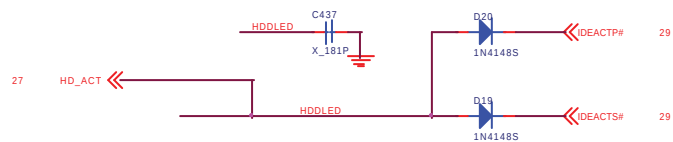
Micro Star Restricted Secret	
Title	Power OK Circuits
Document Number	



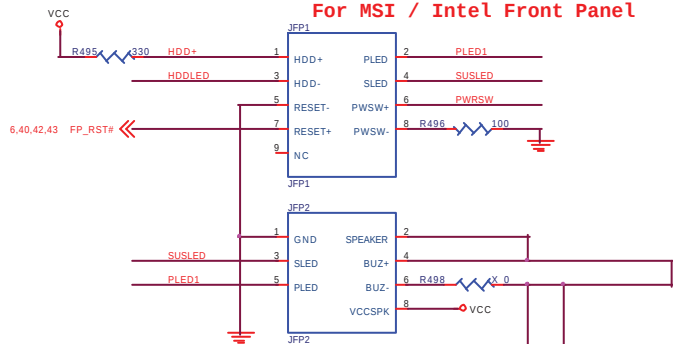
Micro Star Restricted Secret		
Title	Power OK Circuits	Rev
Document Number	MS-6590	100
MICRO-STAR INT'L 601, No. 1, Jung-Ho City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Wednesday, August 21, 2002 Sheet 43 of 49

FRONT PANEL

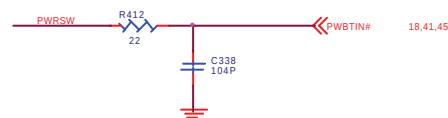
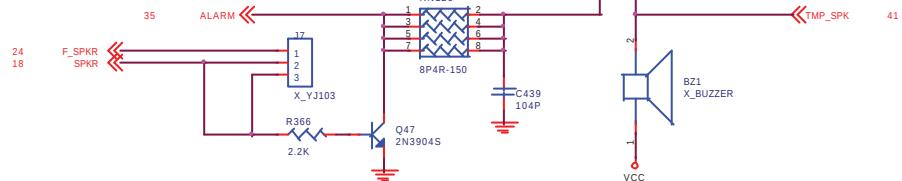
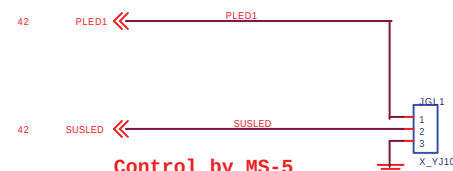
ESD Protect



For MSI / Intel Front Panel



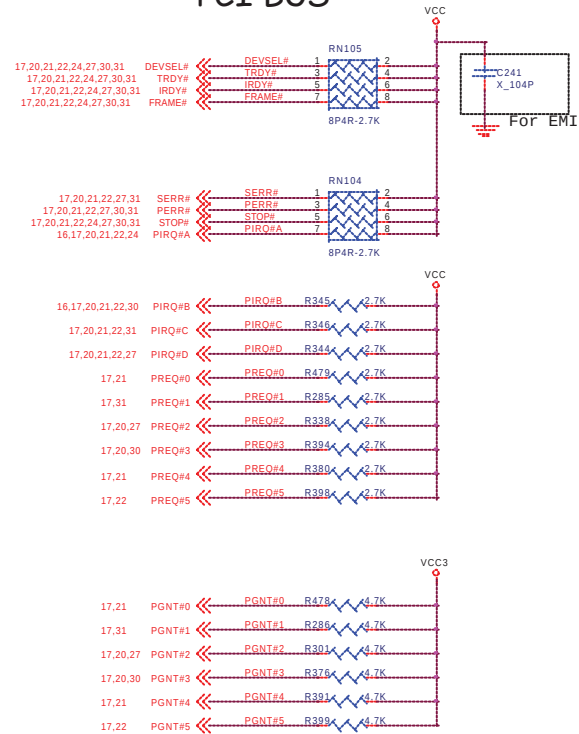
Control by MS-5



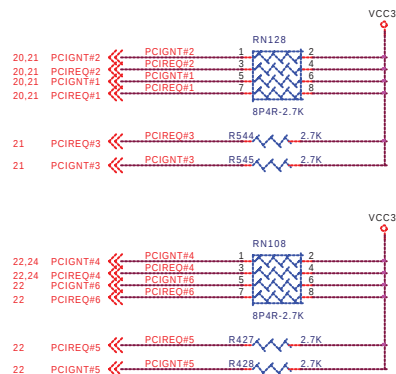
Micro Star Restricted Secret		
Title	Front Panel	Rev
Document Number	MS-6590	100
MICRO-STAR INT'L 605, L10, Sec 5, Jung-Ho City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Wednesday, August 21, 2002
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PULL-UP RESISTORS

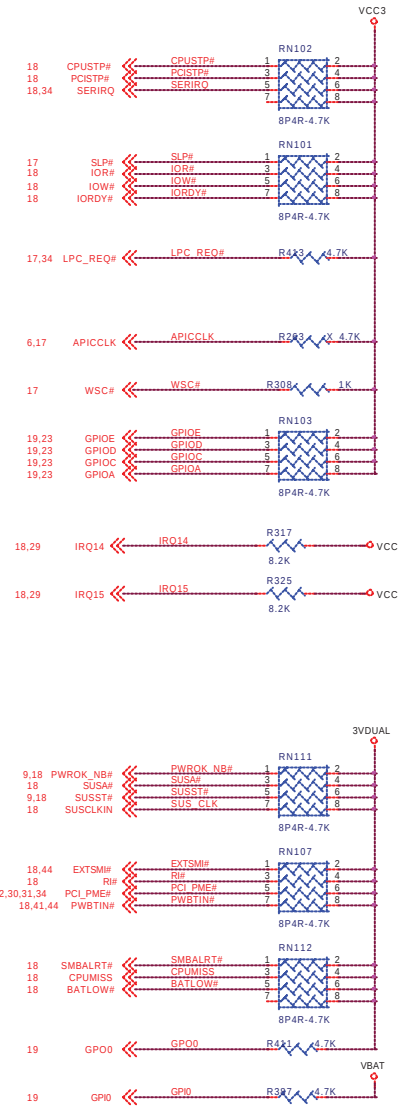
PCI BUS



By MS-1



SB Pull up resistors



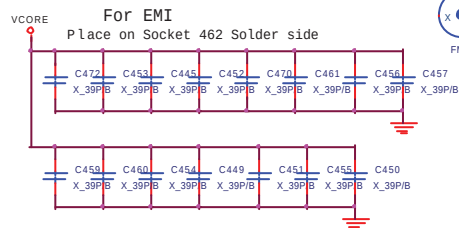
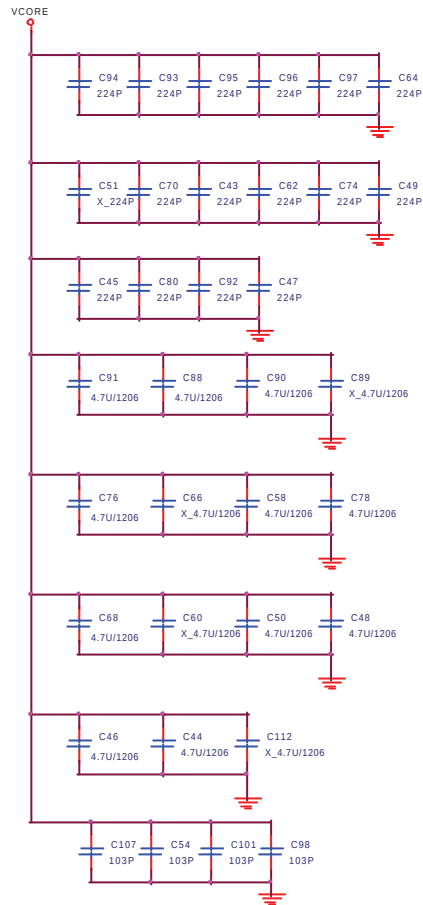
Micro Star Restricted Secret

Title	Pull up Resistor	Rev
Document Number	MS-6590	100
MICRO-STAR INT'L 100, Lane 51, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Wednesday, August 21, 2002
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BULK / Decoupling

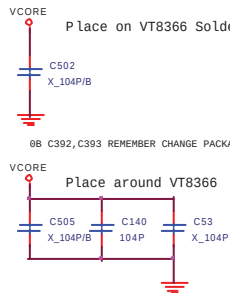
CPU

Place on SOCKET 462 Cavity

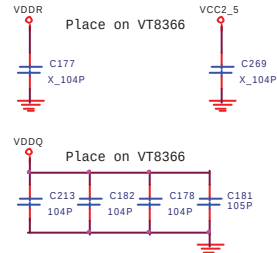


VT8366

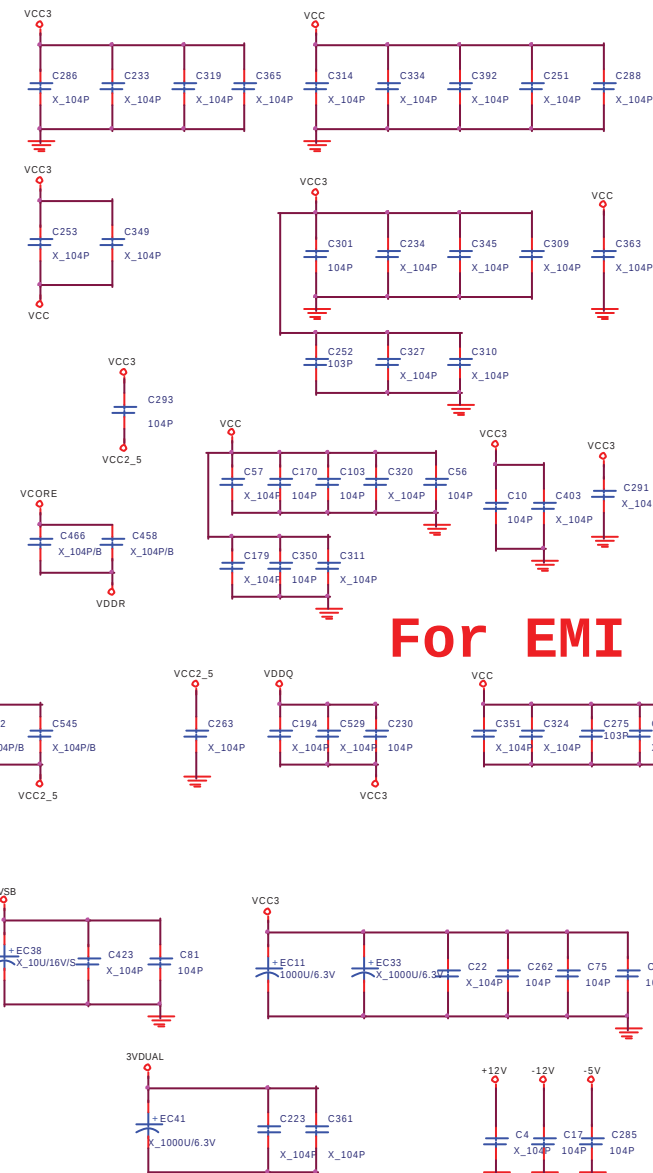
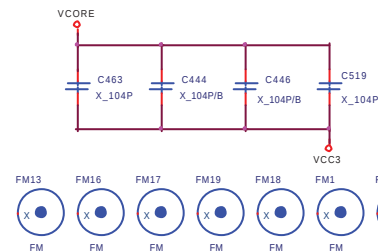
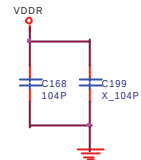
Place on VT8366 Solder side



Place on VT8366

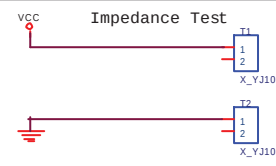


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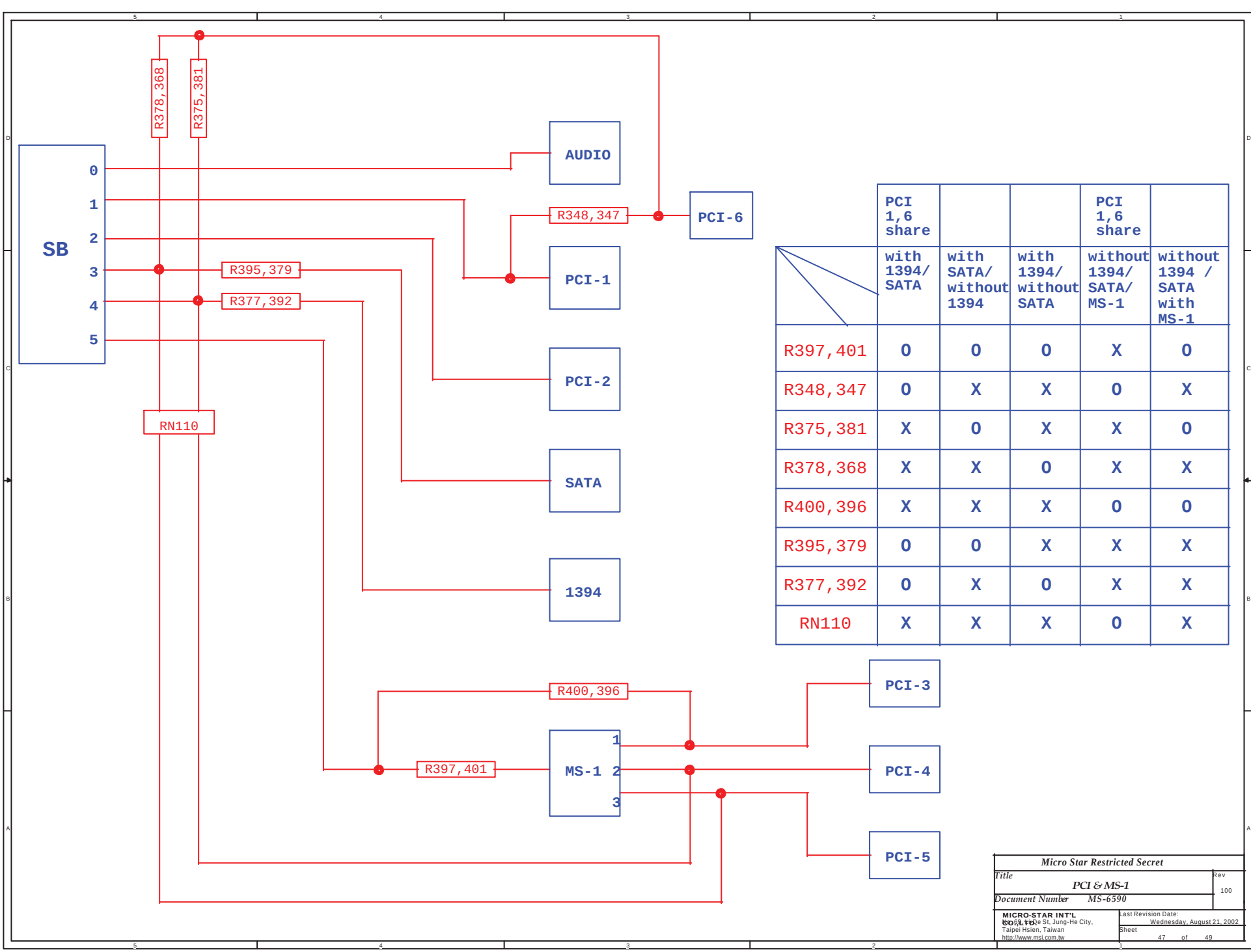


For EMI

Impedance Test



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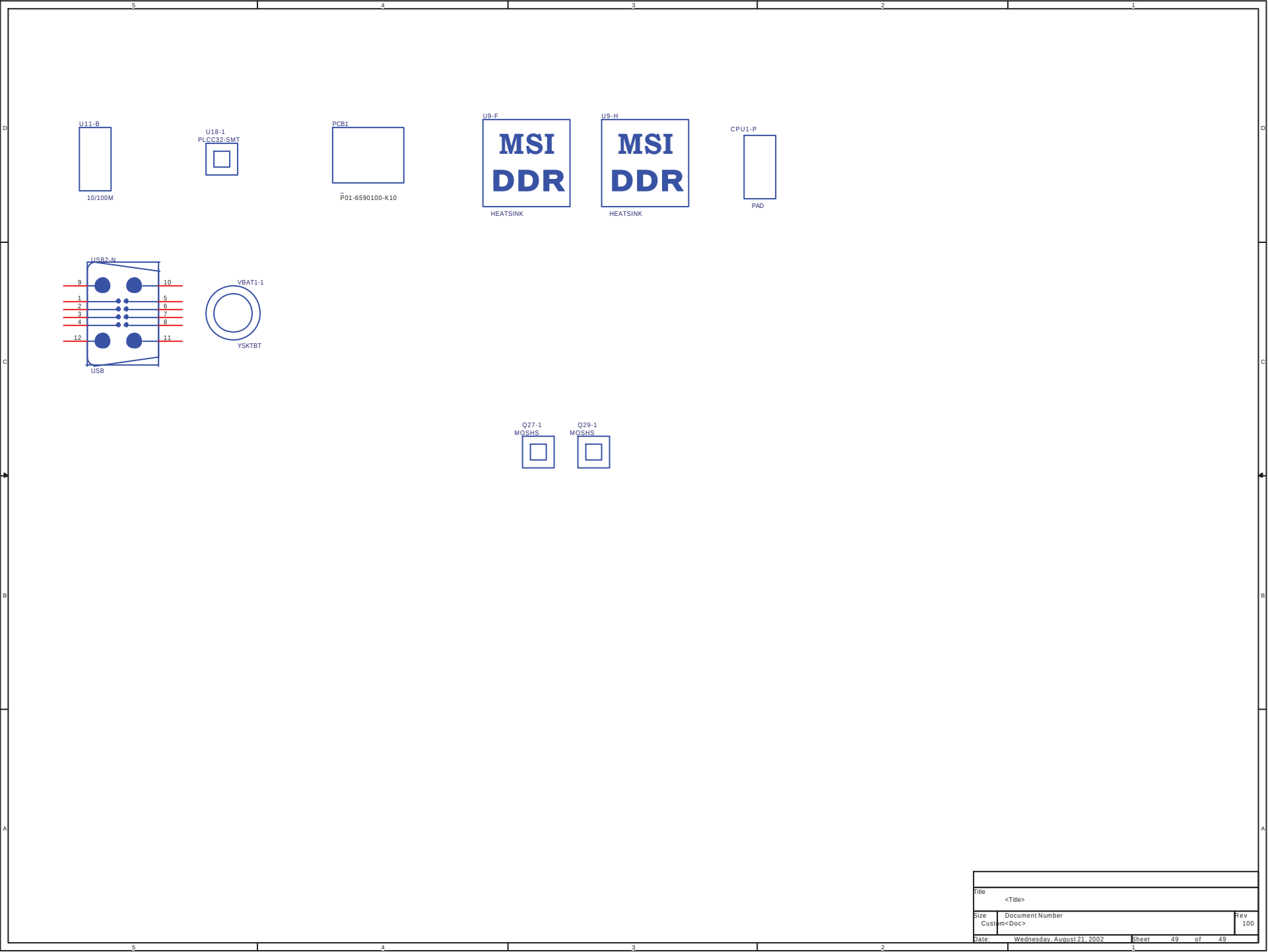
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Document Number		MS-6590
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