

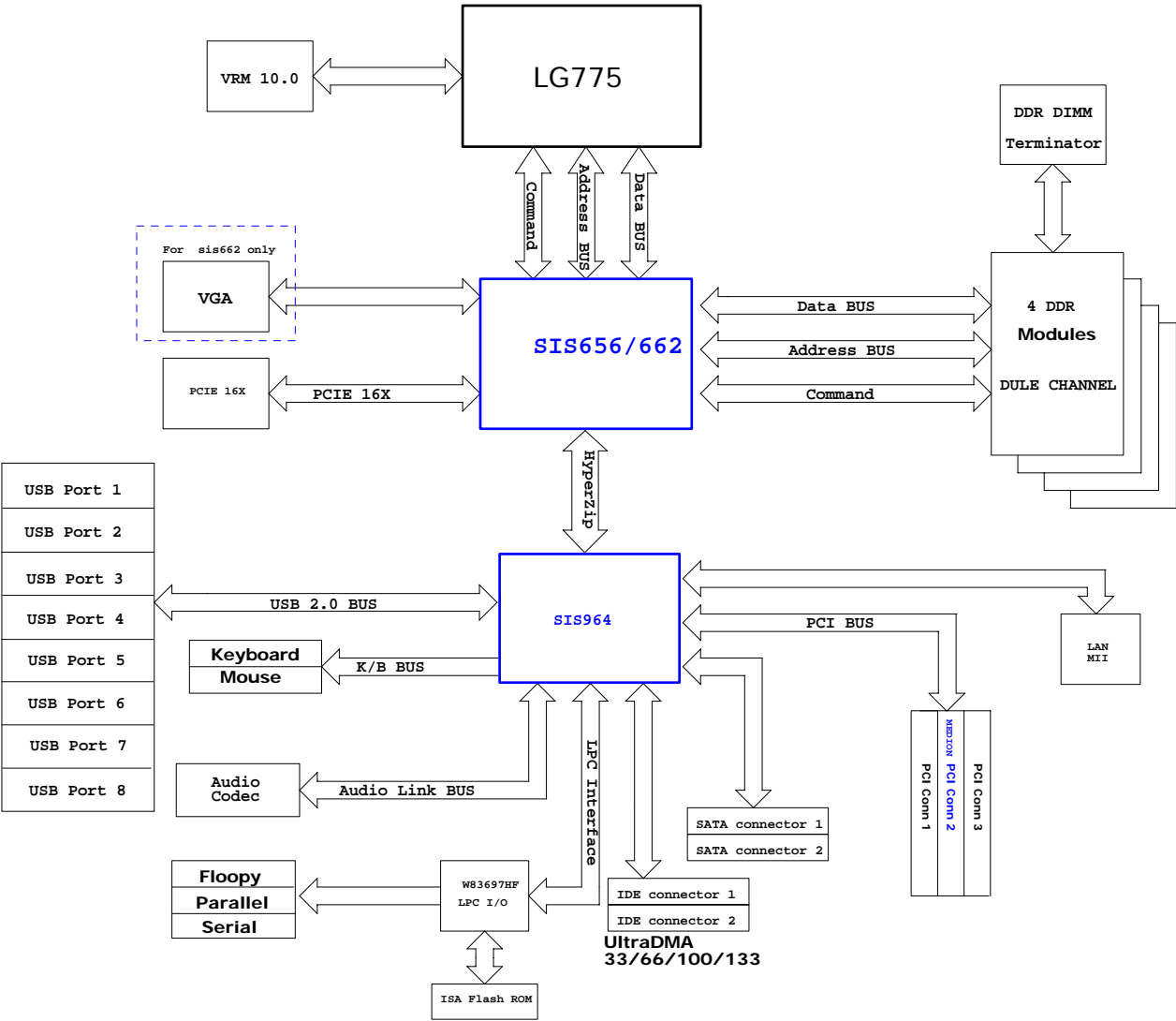
# MS-7114 VER:0A uATX

- \* *Intel LGA775 Processor*
- \* *SIS 656 / 662 + 964*
- \* *ICS953401+ICS9P931*
- \* *Winbond 83697HF I/O*
- \* *LAN-VT6103*
- \* *USB 2.0 support x 8*
- \* *ALC 850 AC97 CODEC*
- \* *IEEE1394-VT6307*
- \* *Slot:*
  - DDR DIMM Slot \*4*
  - PCI EXPRESS x16 Slot \*1*
  - PCI2.2 Slot \*3*

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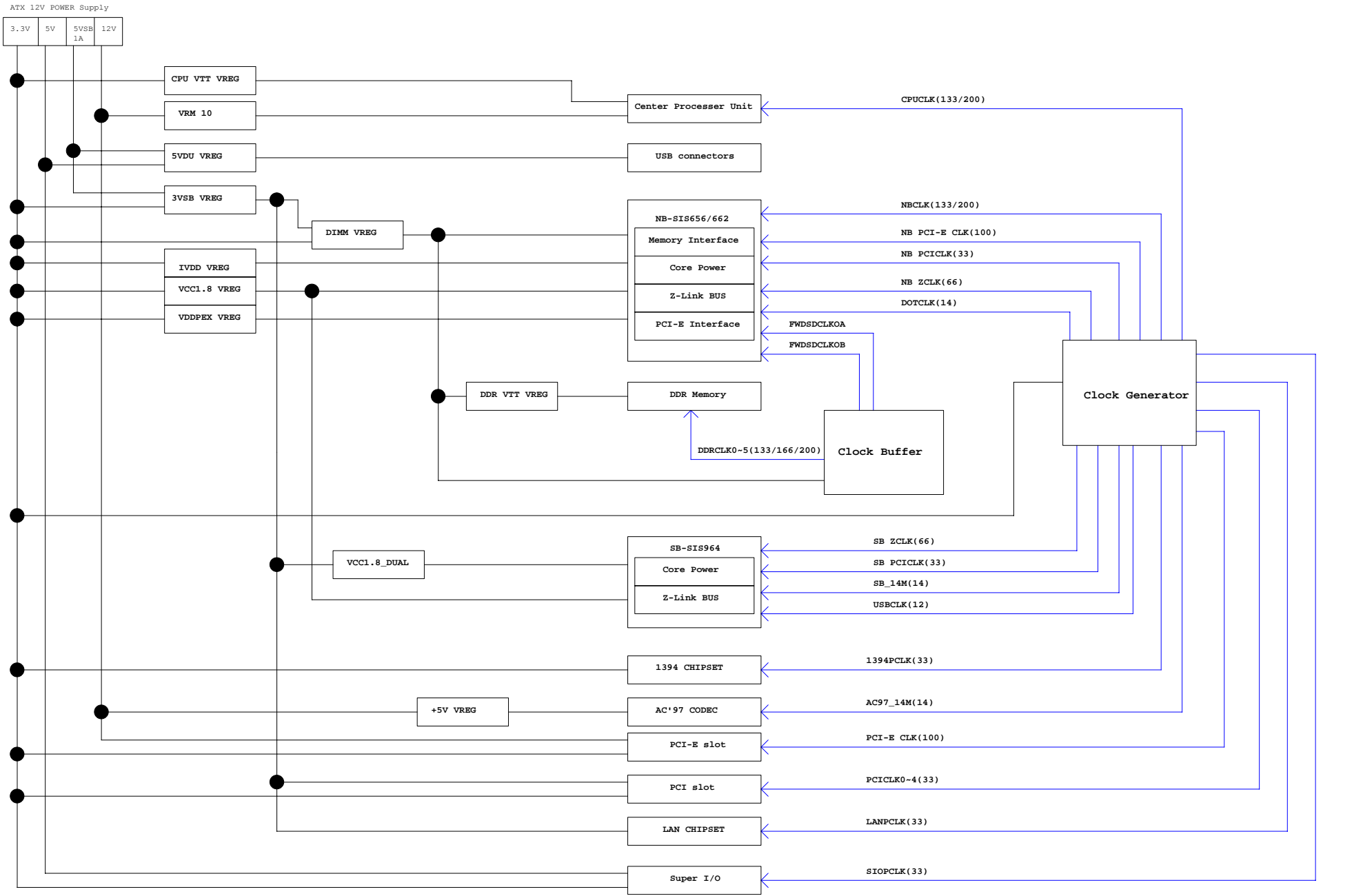
Block Diagram

MS-7114 Ver:0A



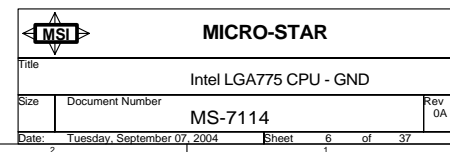
Power Delivery Map

CLOCK Delivery Map









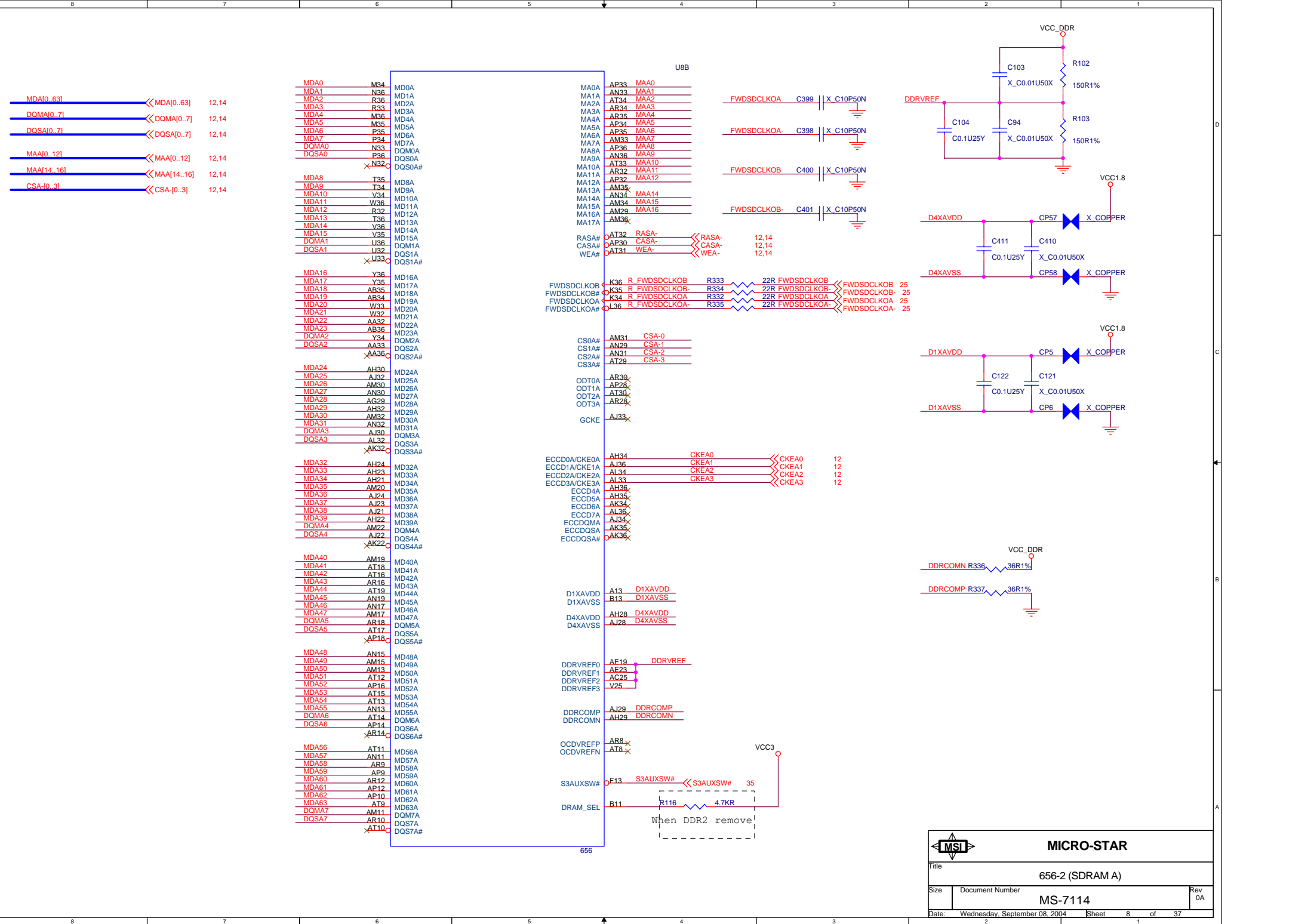


**MICRO-STAR**

656-1 (Host/PCI\_Express)

MS-7114

Rev  
0A





MDB[0..63] << MDB[0..63] 13,15  
DQMB[0..7] << DQMB[0..7] 13,15  
DQSB[0..7] << DQSB[0..7] 13,15  
MAB[14..16] << MAB[14..16] 13,15  
MAB[0..12] << MAB[0..12] 13,15  
CSB-[0..3] << CSB-[0..3] 13,15

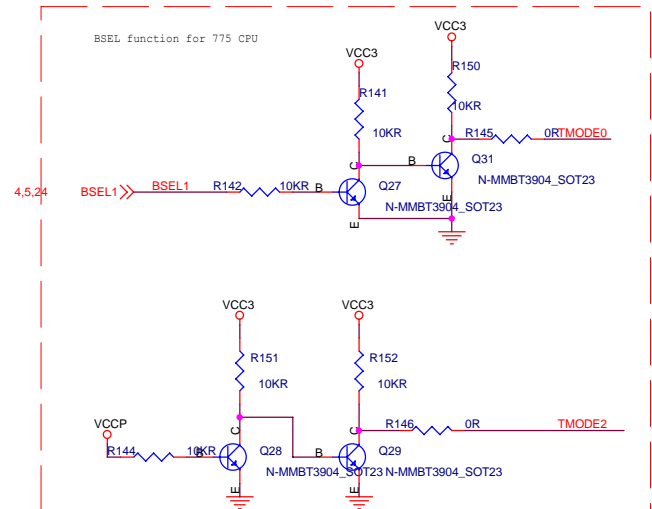
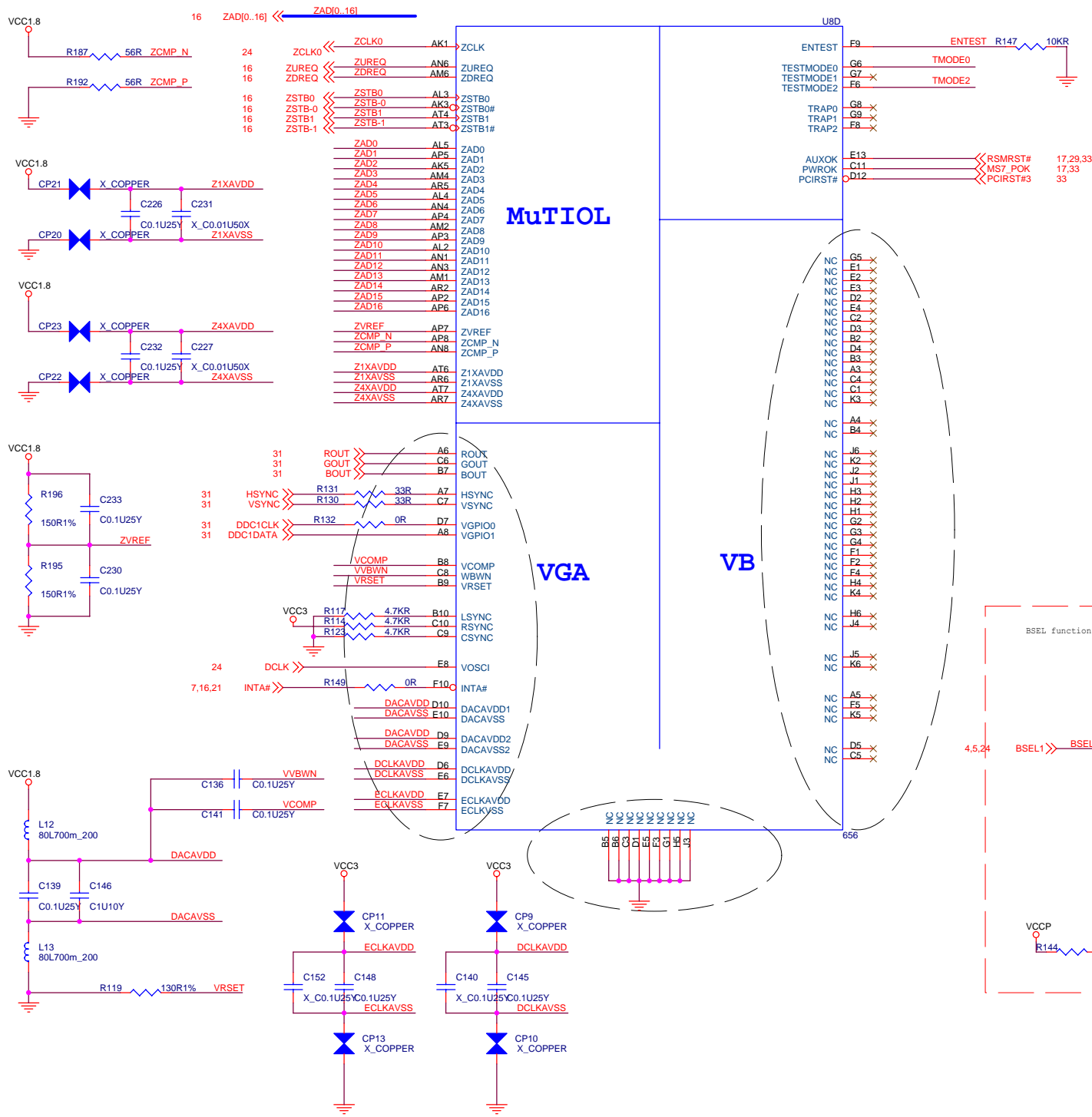
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MDB1 M28 MD1B  
MDB2 P28 MD2B  
MDB3 R28 MD3B  
MDB4 M30 MD4B  
MDB5 M29 MD5B  
MDB6 P29 MD6B  
MDB7 R29 MD7B  
DQMB0 N28 DQM0B  
DQSB0 P30 DQS0B  
P32 QDS0B#  
MDB8 T29 MD8B  
MDB9 U29 MD9B  
MDB10 W29 MD10B  
MDB11 V28 MD11B  
MDB12 T32 MD12B  
MDB13 T30 MD13B  
MDB14 V30 MD14B  
MDB15 V29 MD15B  
DQMB1 T28 DQM1B  
DQSB1 V32 DQS1B  
U28 QDS1B#  
MDB16 Y30 MD16B  
MDB17 Y29 MD17B  
MDB18 AB29 MD18B  
MDB19 AC29 MD19B  
MDB20 W28 MD20B  
MDB21 Y32 MD21B  
MDB22 AB32 MD22B  
MDB23 AB30 MD23B  
DQMB2 AA29 DQM2B  
DQSB2 AA28 DQS2B  
Y28 QDS2B#  
MDB24 AD32 MD24B  
MDB25 AD30 MD25B  
MDB26 AF30 MD26B  
MDB27 AF29 MD27B  
MDB28 AS28 MD28B  
MDB29 AC28 MD29B  
MDB30 AF28 MD30B  
MDB31 AF32 MD31B  
DQMB3 AD29 DQM3B  
DQSB3 AD28 DQS3B  
AF29 QDS3B#  
MDB32 AJ27 MD32B  
MDB33 AM26 MD33B  
MDB34 AM24 MD34B  
MDB35 AK24 MD35B  
MDB36 AM28 MD36B  
MDB37 AK28 MD37B  
MDB38 AH26 MD38B  
MDB39 AH25 MD39B  
DQMB4 AK26 DQM4B  
DQSB4 AJ25 DQS4B  
AJ26 QDS4B#  
MDB40 AJ19 MD40B  
MDB41 AH20 MD41B  
MDB42 AH18 MD42B  
MDB43 AK20 MD43B  
MDB44 AJ20 MD44B  
MDB46 AJ18 MD46B  
MDB47 AJ17 MD47B  
DQMB5 AH19 DQM5B  
DQSB5 AK18 DQS5B  
AJ26 QDS5B#  
MDB48 AJ16 MD48B  
MDB49 AJ15 MD49B  
MDB50 AJ13 MD50B  
MDB51 AH14 MD51B  
MDB52 AM16 MD52B  
MDB53 AK16 MD53B  
MDB54 AK14 MD54B  
MDB55 AJ14 MD55B  
DQMB6 AH16 DQM6B  
DQSB6 AM14 DQS6B  
AJ26 QDS6B#  
MDB56 AK12 MD56B  
MDB57 AJ12 MD57B  
MDB58 AN9 MD58B  
MDB59 AM9 MD59B  
MDB60 AH13 MD60B  
MDB61 AM12 MD61B  
MDB62 AM10 MD62B  
MDB63 AK10 MD63B  
DQMB7 AJ11 DQM7B  
DQSB7 AH11 DQS7B  
AJ26 QDS7B#

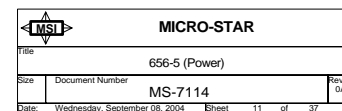
U8C  
MA0B AT25 MAB0  
MA1B AN25 MAB1  
MA2B AM25 MAB2  
MA3B AT26 MAB3  
MA4B AR26 MAB4  
MA5B AP26 MAB5  
MA6B AT27 MAB6  
MA7B AM27 MAB7  
MA8B AN27 MAB8  
MA9B AG32 MAB9  
MA10B AP24 MAB10  
MA11B AT24 MAB11  
MA12B AR24 MAB12  
MA13B AG36 MAB14  
MA14B AT28 MAB15  
MA15B AG33 MAB16  
MA16B AN21  
MA17B AF34  
RASB# AT23 RASB- << RASB- 13,15  
CASB# AR22 CASB- << CASB- 13,15  
WEB# AT22 WEB- << WEB- 13,15  
ECCD0B/CKE0B AC32 CKEB0 << CKEB0 13  
ECCD1B/CKE1B AD36 CKEB1 << CKEB1 13  
ECCD2B/CKE2B AF36 CKEB2 << CKEB2 13  
ECCD3B/CKE3B AF35 CKEB3 << CKEB3 13  
ECCD4B AC36  
ECCD5B AC33  
ECCD6B AE33  
ECCD7B AE32  
ECCD8B AD33  
ECCD9B AE36  
ECCD10B AD34  
CS0B# AN23 CSB-0  
CS1B# AM21 CSB-1  
CS2B# AM23 CSB-2  
CS3B# AT20 CSB-3  
ODT0B AP22  
ODT1B AR20  
ODT2B AT21  
ODT3B AF20

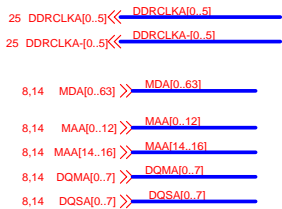


MICRO-STAR

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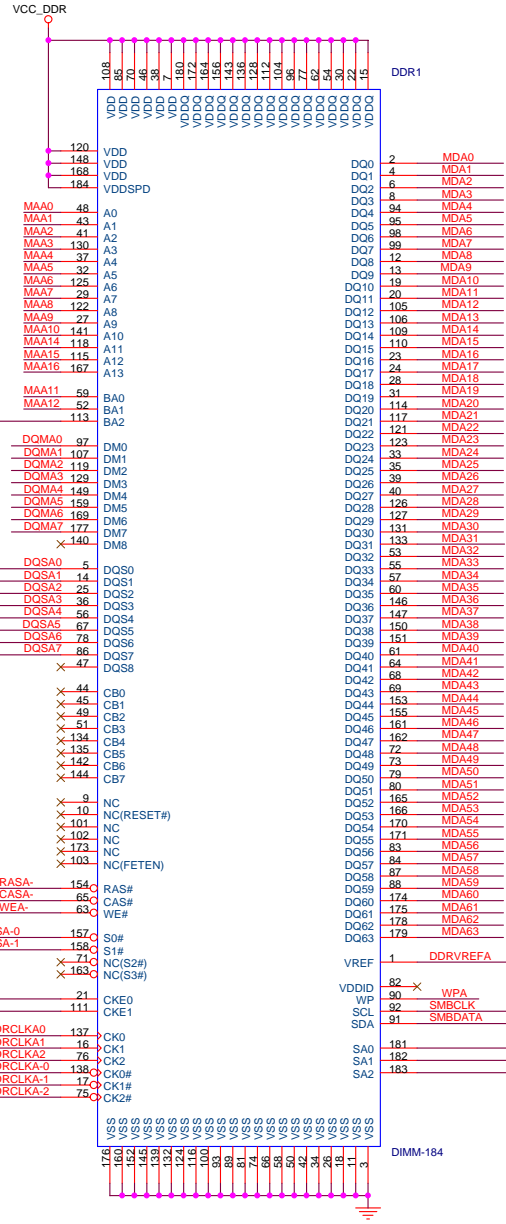
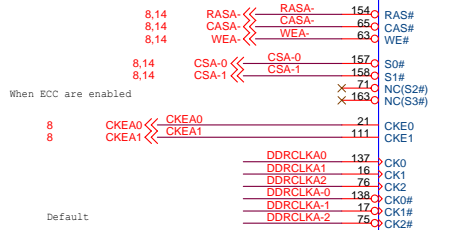
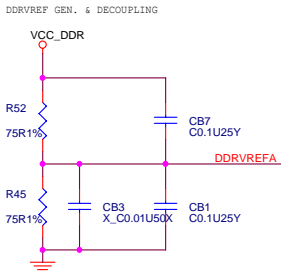
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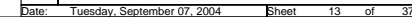
VDDID IS A TRAP ON THE DIMM MODULE TO INDICATE:

VDDID	REQUIRED POWER
OPEN	VDD=VDDQ
GND	VDDI=VDDQ

MEMORY MUX TABLE:

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



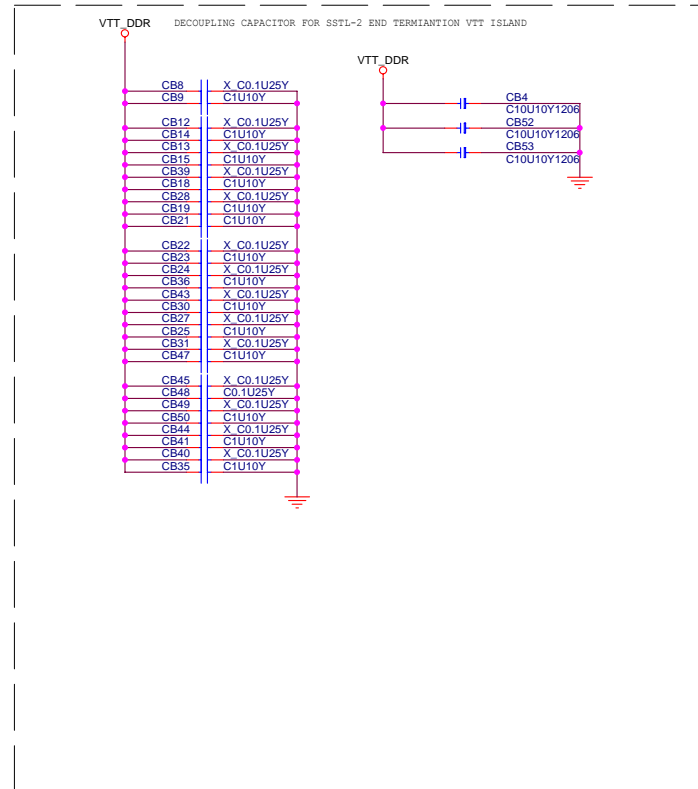
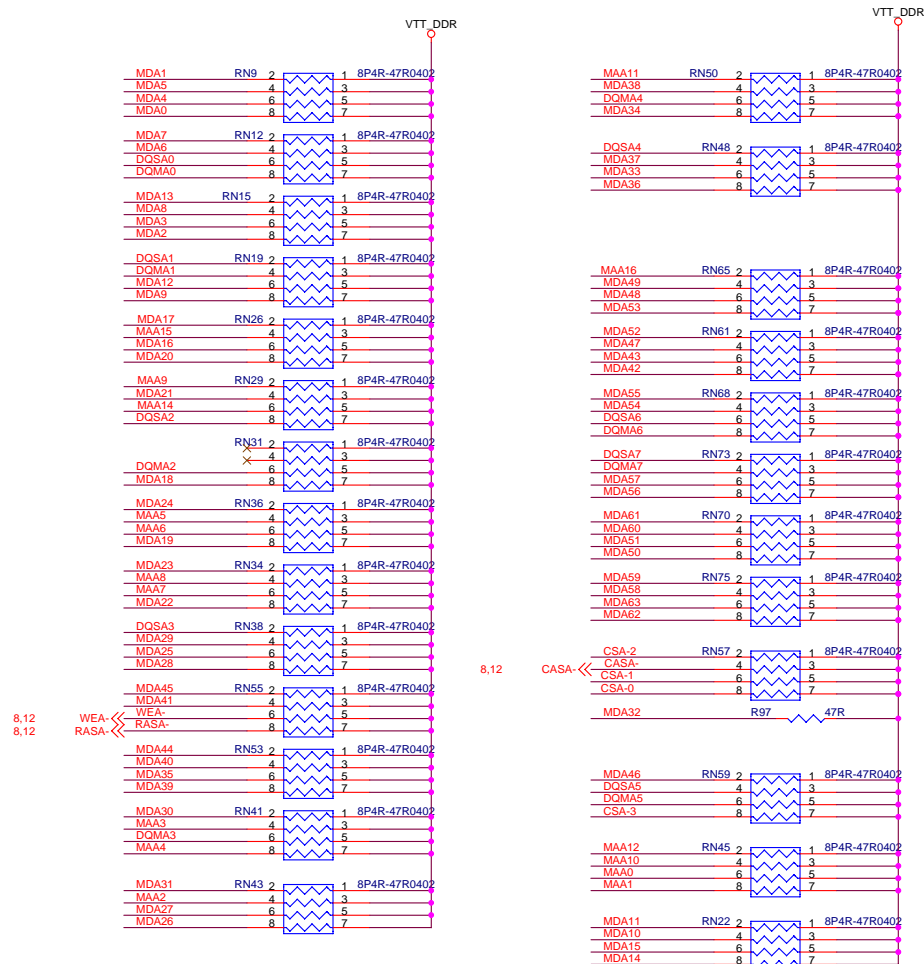


# DDR TERMINATOR

MDA0_63	MDA0[0..63]	8,12
DQMA0_71	DQMA0[0..7]	8,12
DQSA0_71	DQSA0[0..7]	8,12
MAA14_16	MAA[14..16]	8,12
MAA0_121	MAA[0..12]	8,12
CSA0_31	CSA[0..3]	8,12

## SSTL-2 Termination Resistors

	SDR			DDR			
MD/DQM (/DQS)	LV-CMOS		0/10/-	SSTL-2		10	03
MA/Control	LV-CMOS		10	SSTL-2		0	03
CS	LV-CMOS		0	SSTL-2		0	47
EME	DD 3.3V			DD 2.5V			



# DDR TERMINATOR

## SSTL-2 Termination Resistors

	SDR			DDR		
MD/DQM (/DQS)	LV-CMOS		0/10/-	SSTL-2		03
MA/Control	LV-CMOS		10	SSTL-2		03
CS	LV-CMOS		0	SSTL-2		47
WE	BD 3.3V			BD 2.5V		

MD[0..63] << MD[0..63] 9,13  
DQMB[0..7] << DQMB[0..7] 9,13  
DQSB[0..7] << DQSB[0..7] 9,13  
MAB[0..12] << MAB[0..12] 9,13  
MAB[14..16] << MAB[14..16] 9,13  
CSB-[0..3] << CSB-[0..3] 9,13

VTT\_DDR

VTT\_DDR

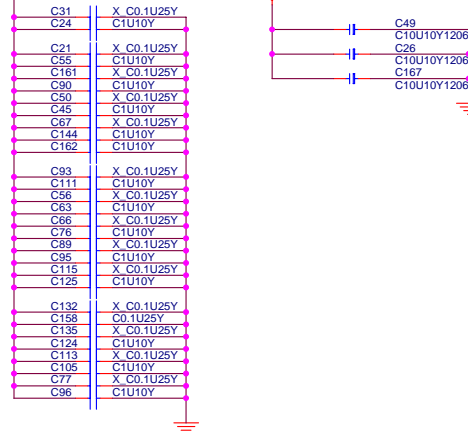
9,13 WEB- <<  
9,13 RASB- <<

9,13 CASB- <<

VTT\_DDR

DECOUPLING CAPACITOR FOR SSTL-2 END TERMINATION VTT ISLAND

VTT\_DDR

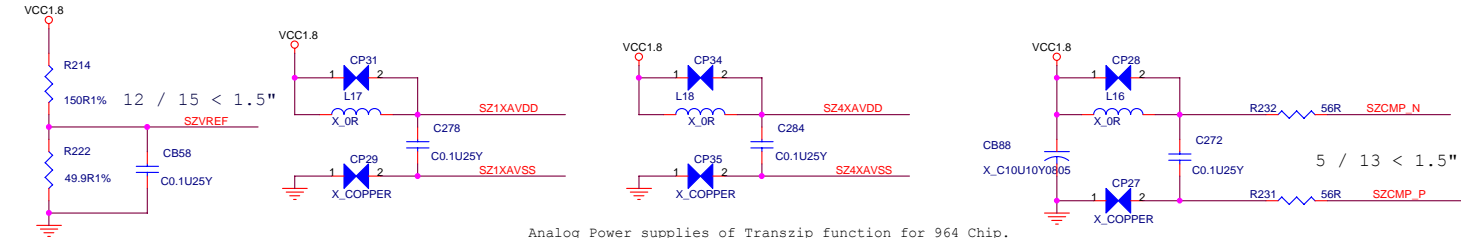
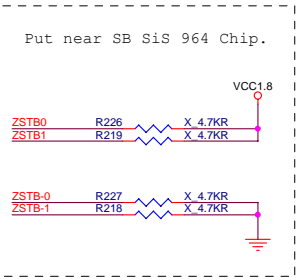
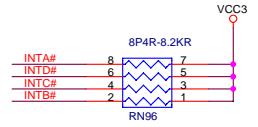
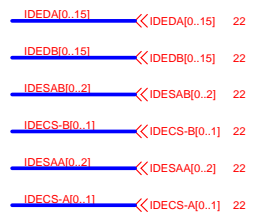
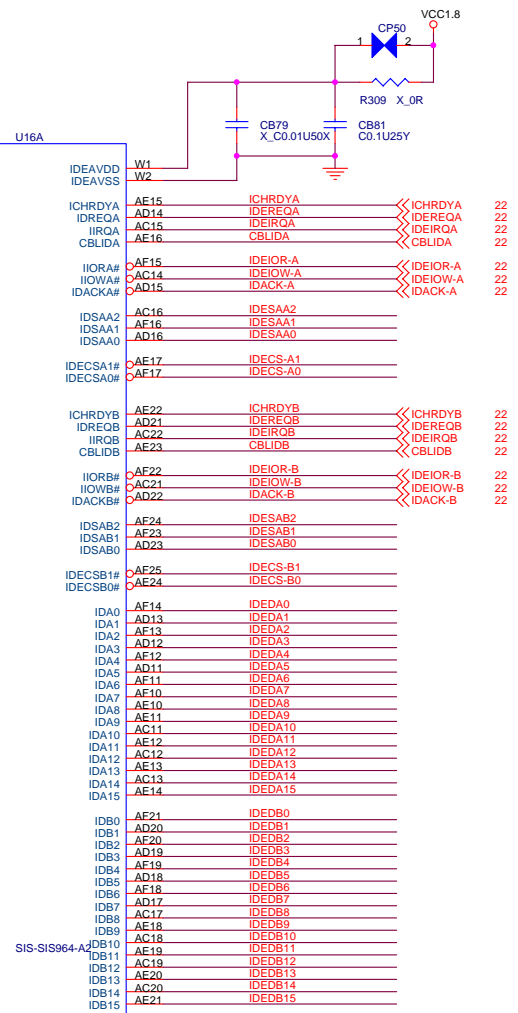
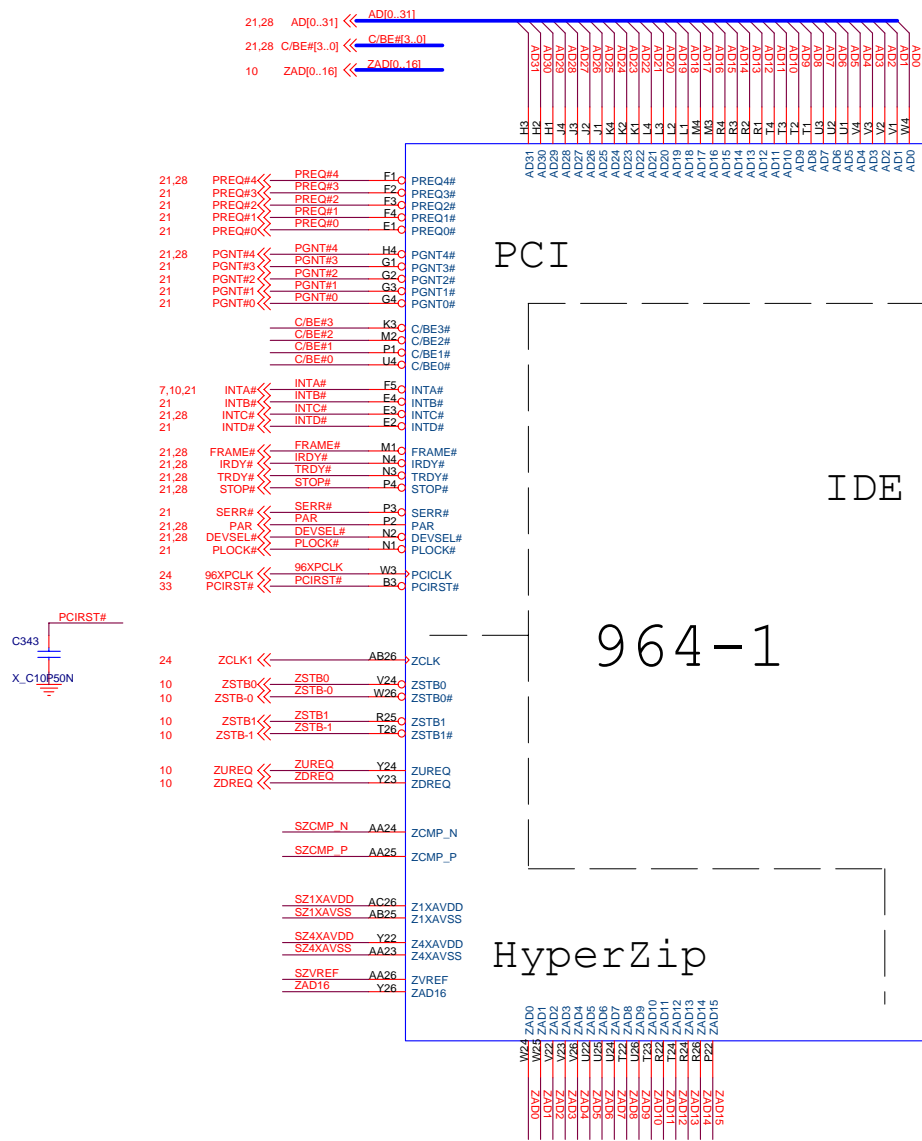


MICRO-STAR

Title DDRB TERMINATOR

Size Document Number MS-7114 Rev 0A

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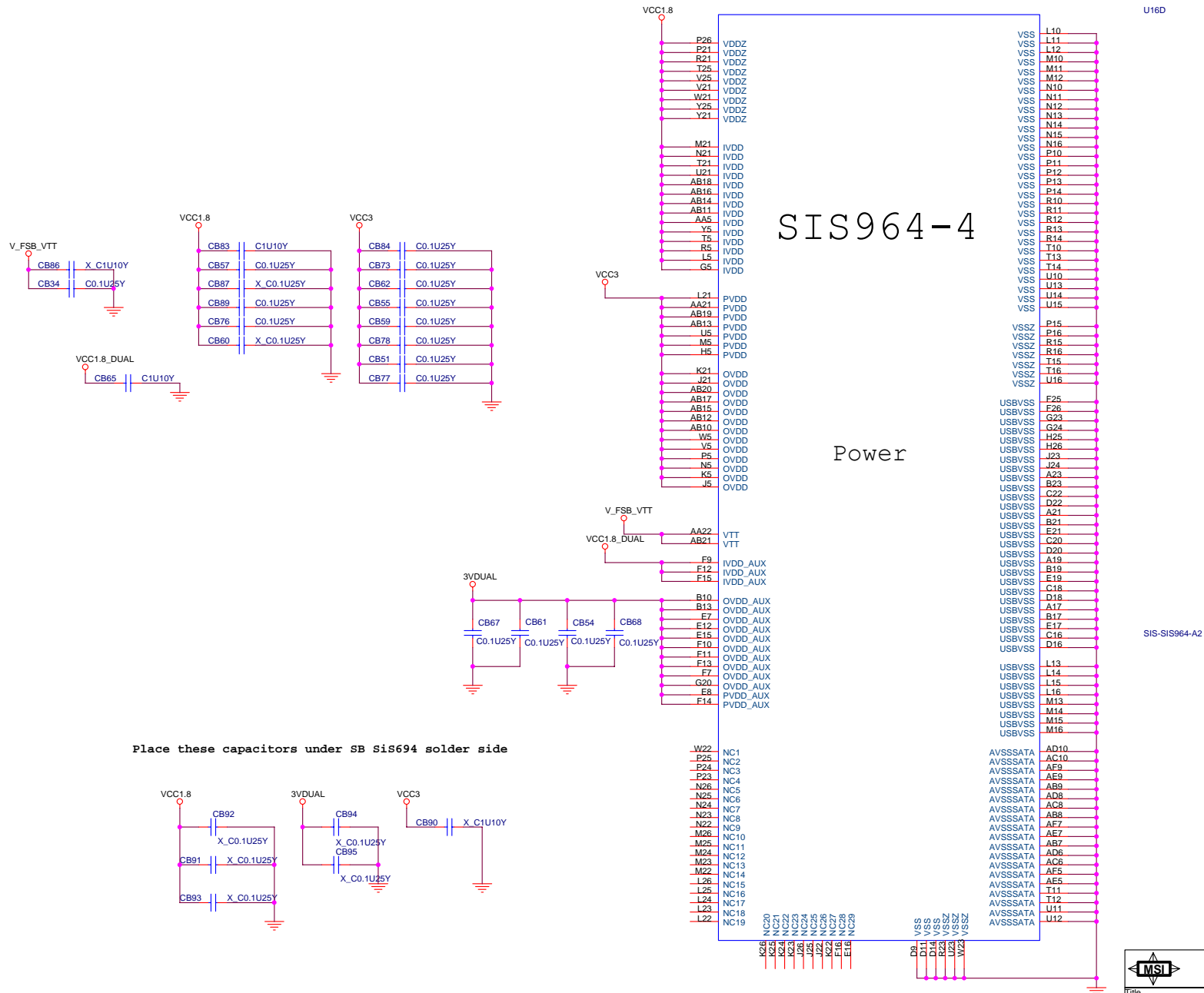


Analog Power supplies of Transzip function for 964 Chip.



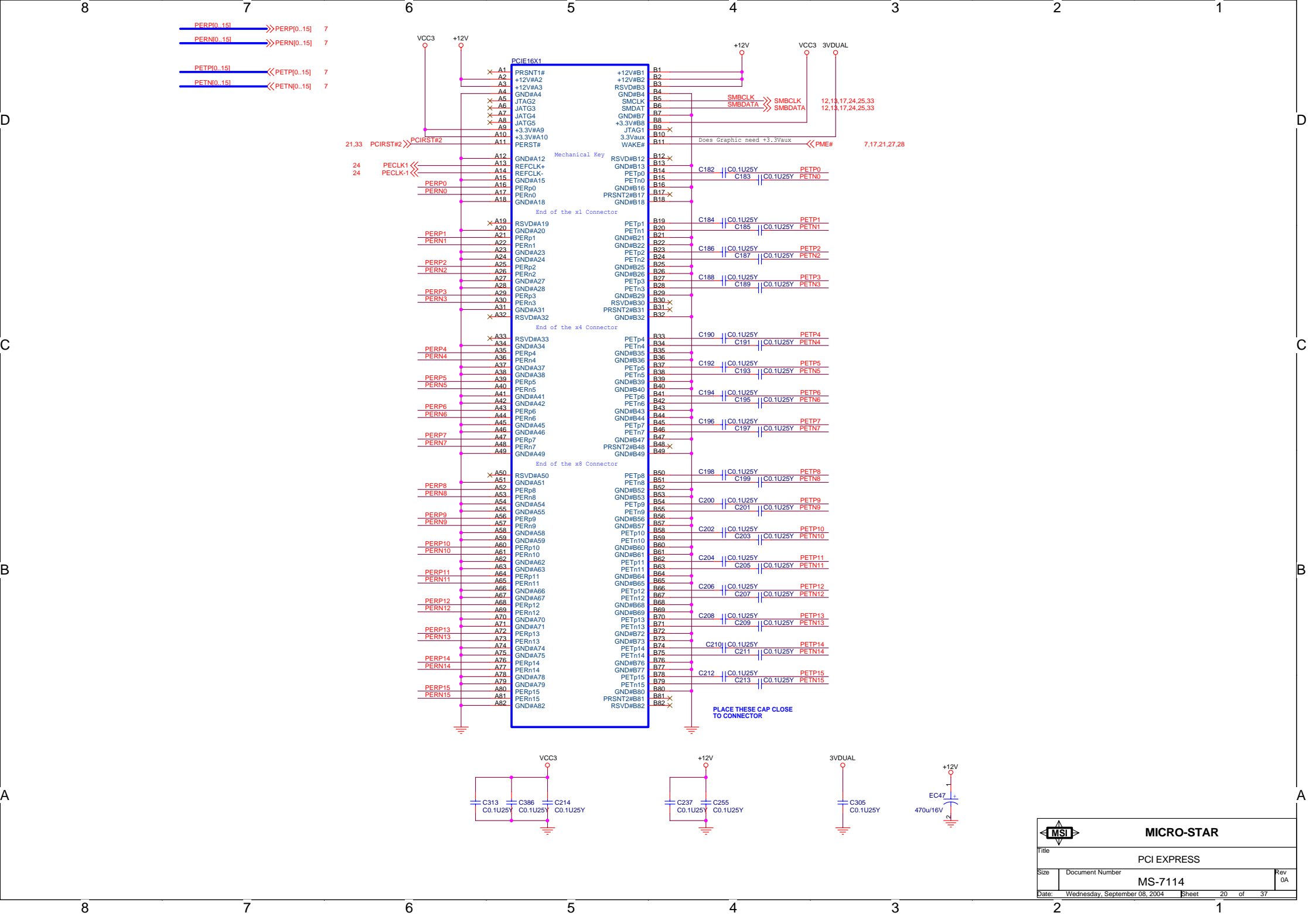




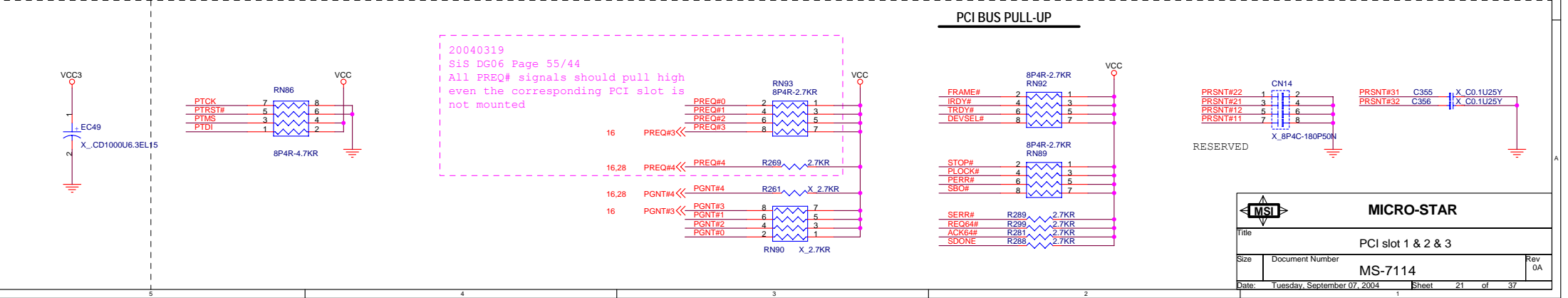
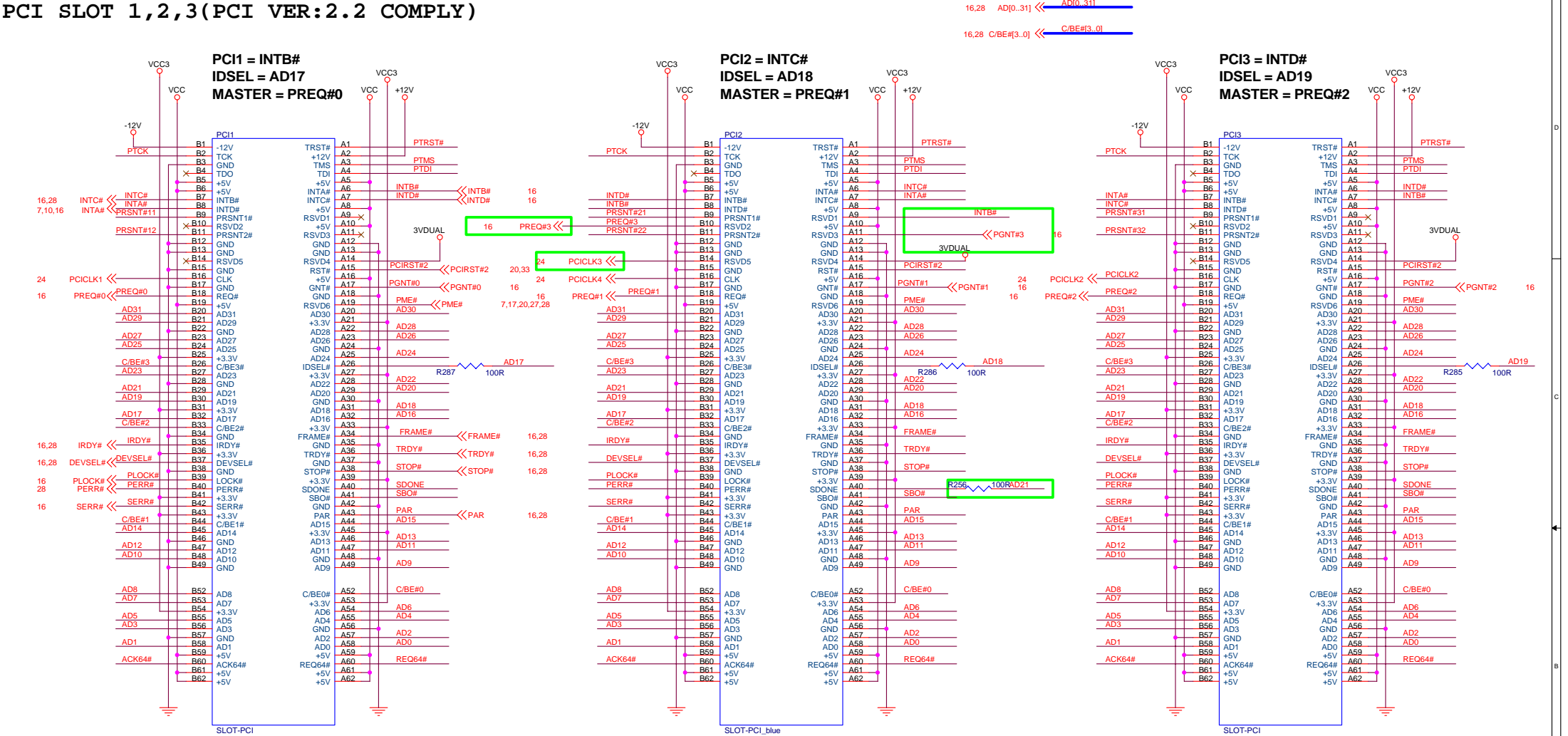


**MICRO-STAR**

Title			SIS964(POWER)
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PCI SLOT 1,2,3(PCI VER:2.2 COMPLY)



**MICRO-STAR**

MS-7114

Document Number

Rev 0A

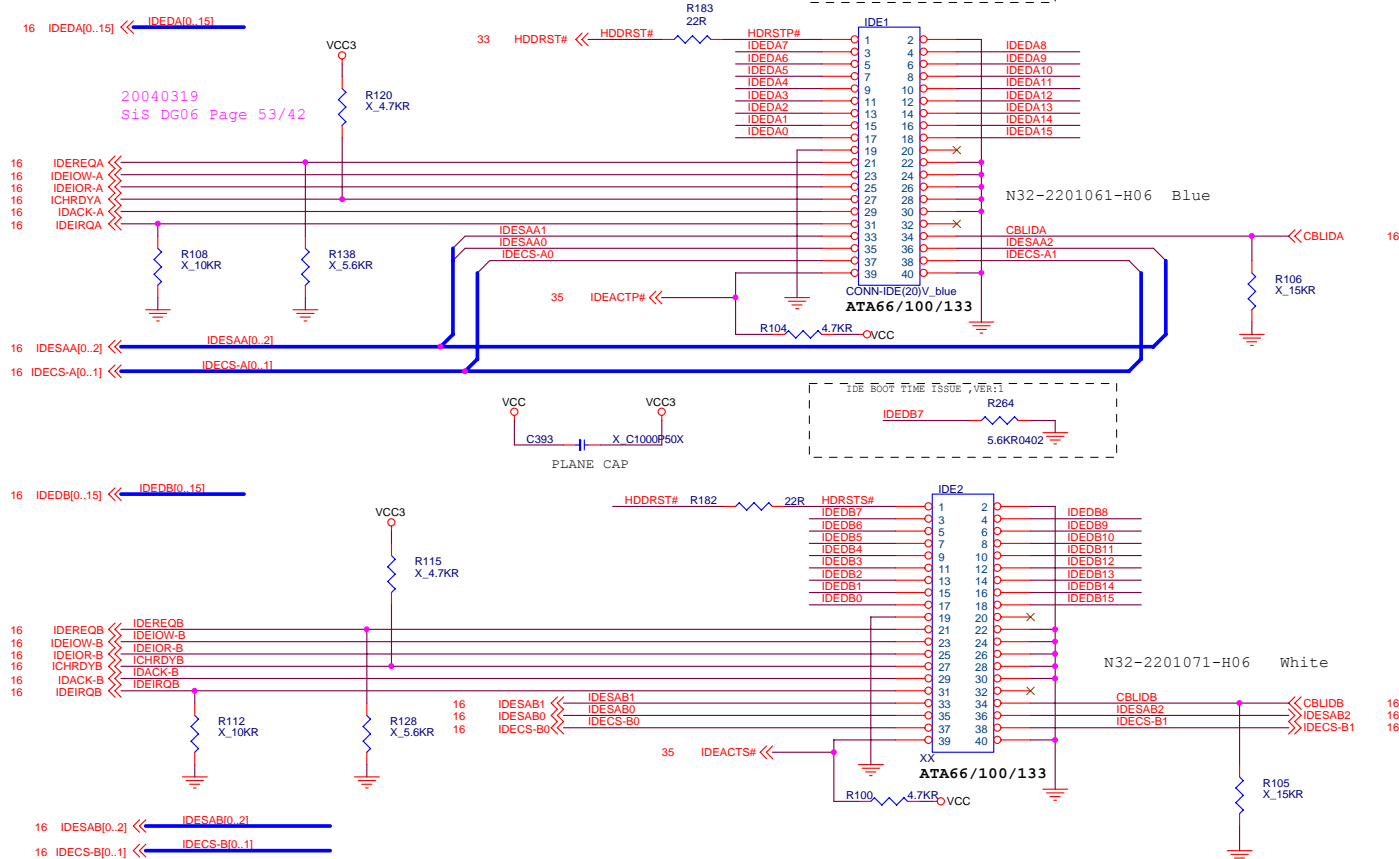
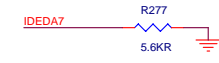
Date: Tuesday, September 07, 2004

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## IDE1 & IDE2

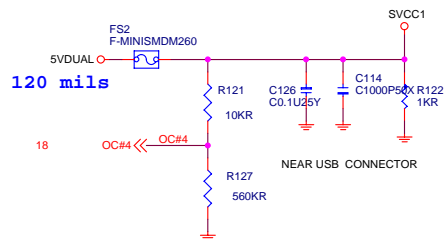
20040319  
Sis AP note : A964008

IDE BOOT TIME ISSUE ,VER:1

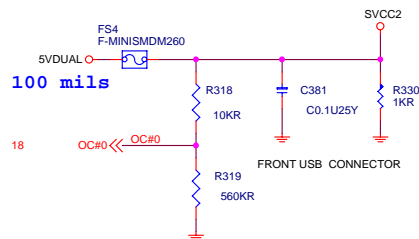


MICRO-STAR

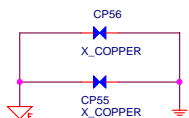
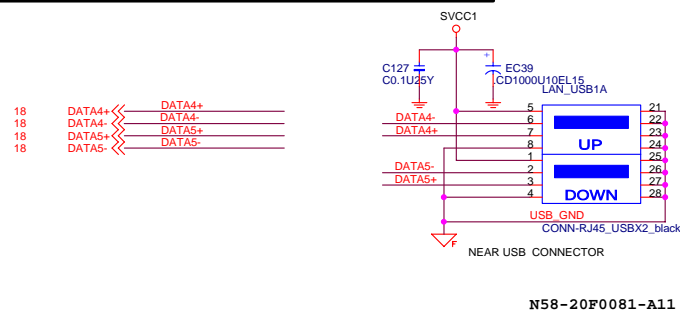
### POWER CIRCUIT FOR USB PORT 4,5,6,7



### POWER CIRCUIT FOR USB PORT 0,1,2,3



### REAR PANEL USB CONNECTOR FOR USB PORT 4,5



22 / 7.5 / 7.5 / 7.5 / 22 / 7.5 / 7.5 / 7.5 / 22

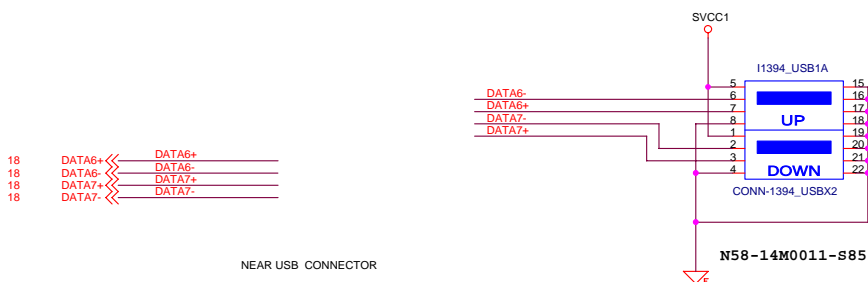
### FRONT PANEL USB CONNECTOR FOR USB PORT 0,1



NEAR USB CONNECTOR

22 / 7.5 / 7.5 / 7.5 / 22 / 7.5 / 7.5 / 7.5 / 22

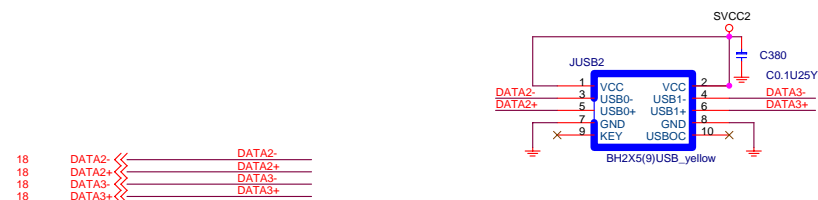
### REAR PANEL USB CONNECTOR FOR USB PORT 6,7



NEAR USB CONNECTOR

22 / 7.5 / 7.5 / 7.5 / 22 / 7.5 / 7.5 / 7.5 / 22

### FRONT PANEL USB CONNECTOR FOR USB PORT 2,3

NEAR USB CONNECTOR  
NEAR USB CONNECTOR

22 / 7.5 / 7.5 / 7.5 / 22 / 7.5 / 7.5 / 7.5 / 22



**MICRO-STAR**

Title	USB CONNECTORS
-------	----------------

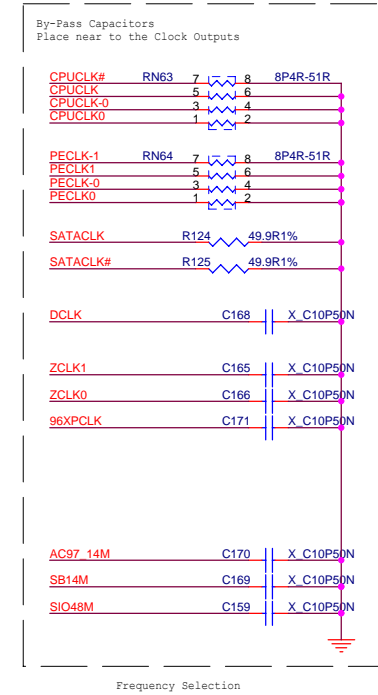
Size	Document Number
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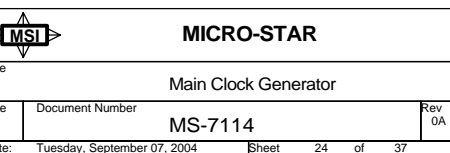
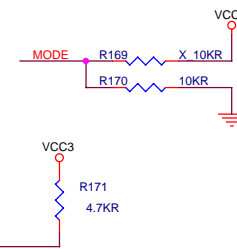
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OPTIONS

1. ICS953401

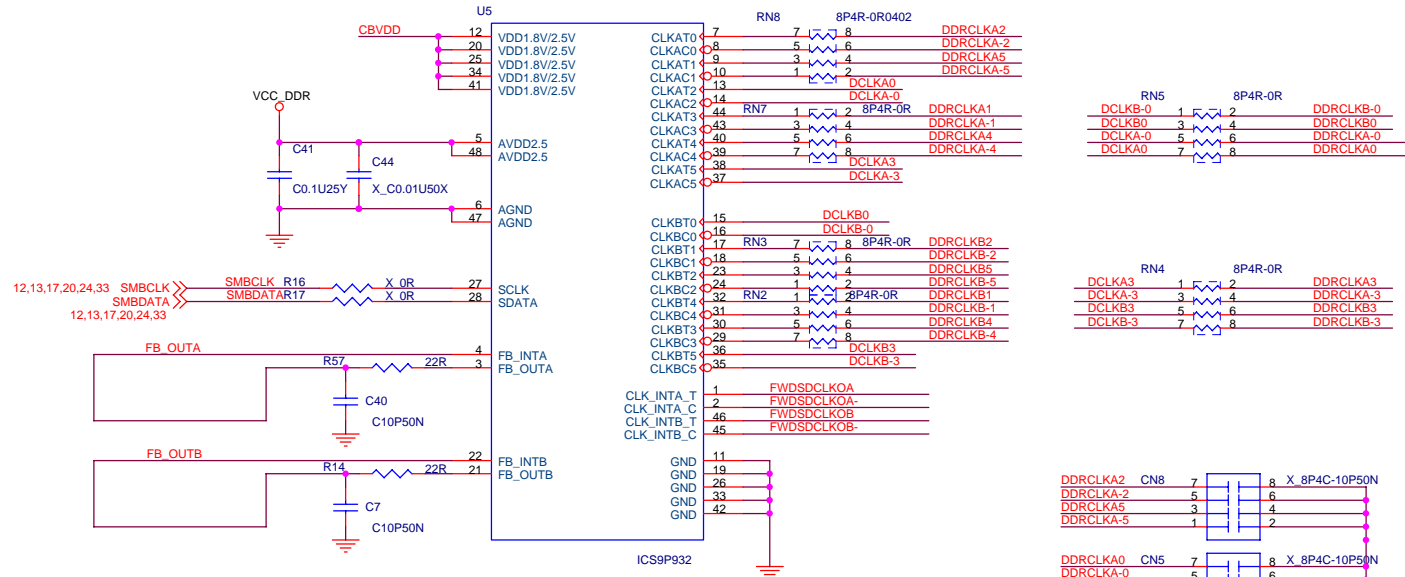


### Frequency Selection



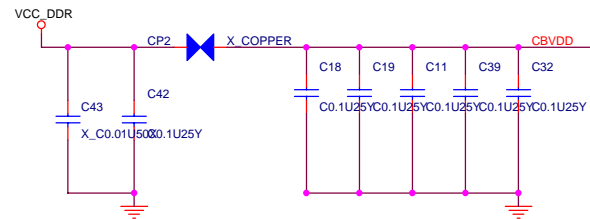


# Clock Buffer (DDR)

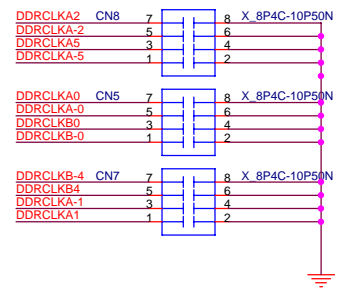


FWDSDCLKOA << FWDSDCLKOA 8  
 FWDSDCLKOA- << FWDSDCLKOA- 8  
 FWDSDCLKOB << FWDSDCLKOB 8  
 FWDSDCLKOB- << FWDSDCLKOB- 8  
 DDRCLKB[0..5] << DDRCLKB[0..5] 13  
 DDRCLKB- [0..5] << DDRCLKB- [0..5] 13  
 DDRCLKA[0..5] << DDRCLKA[0..5] 12  
 DDRCLKA- [0..5] << DDRCLKA- [0..5] 12

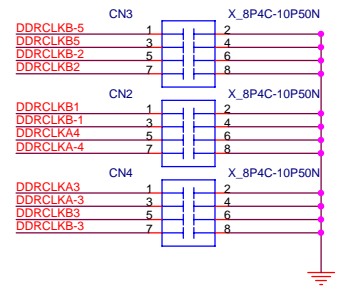
## DDRVREF GEN. & DECOUPLING



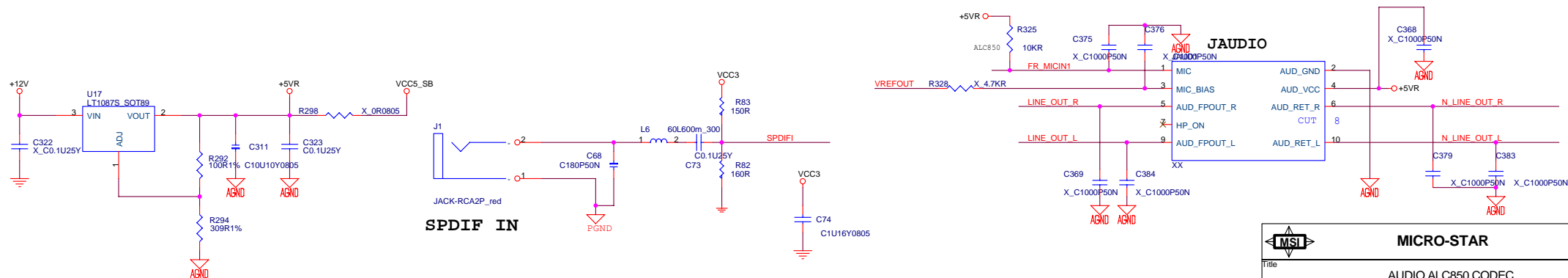
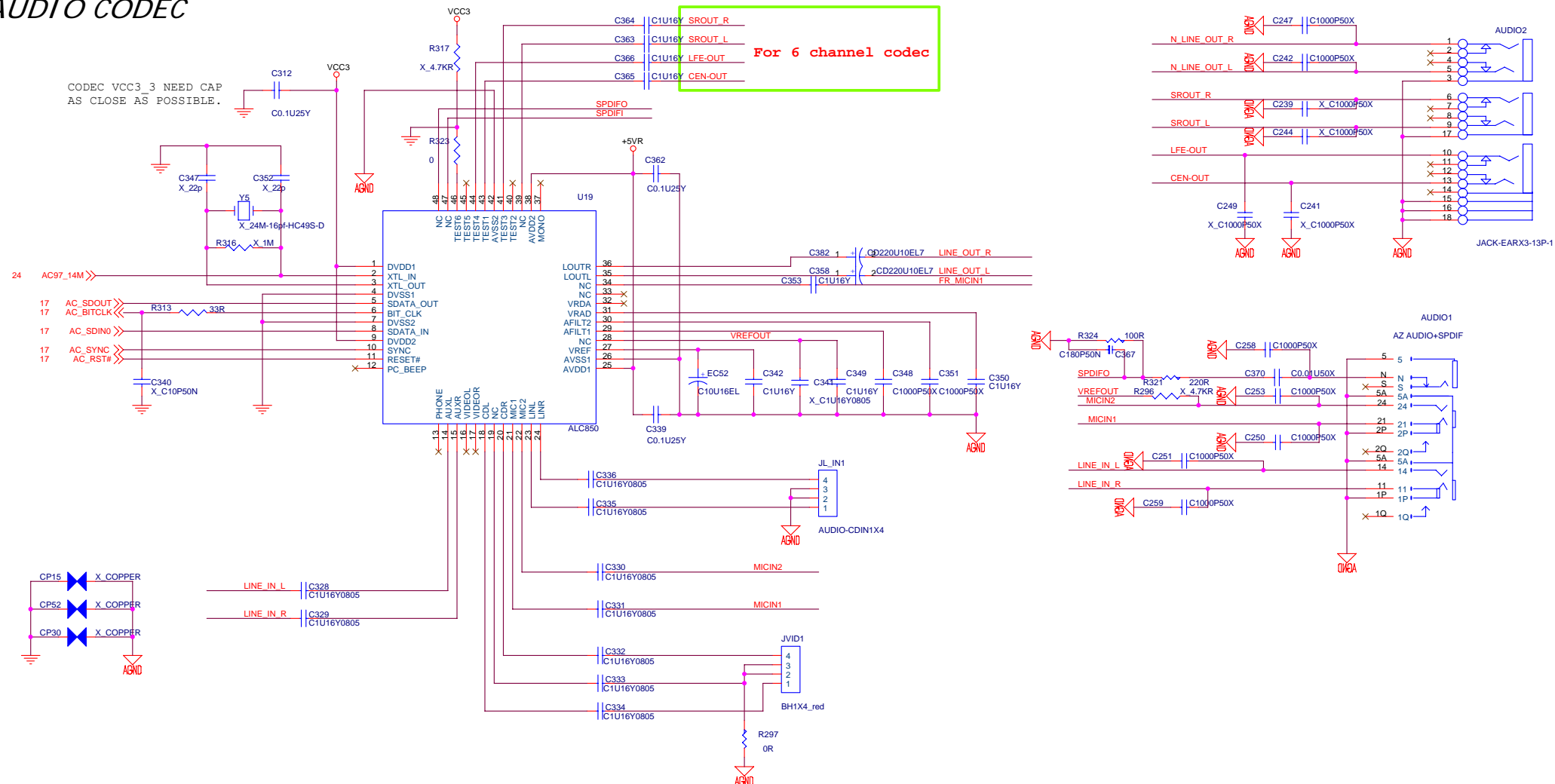
By-Pass Capacitors  
Place near to the Clock Buffer

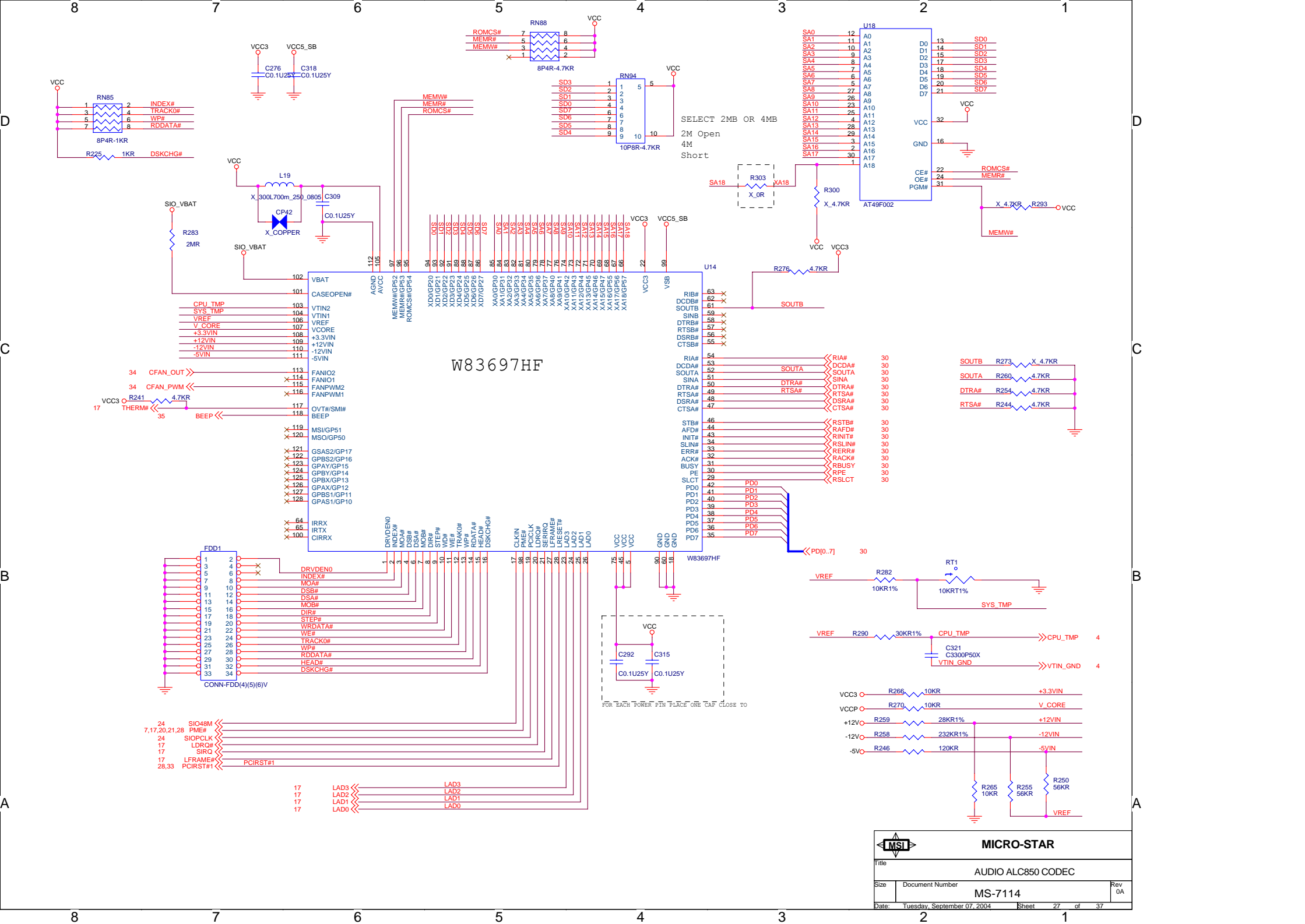


By-Pass Capacitors  
Place near to the Clock Buffer



## AUDIO CODEC





## IEEE-1394

FS5  
F-MINISMDM150/24

BUS\_PWR 1394\_VCC2

TPB1A1

R236 54.9R1% R237 54.9R1%

C293 C0.33U16V

TPA1+ TPB1+ TPB1- TPB1-

R233 4.99KR1% R229 54.9R1% R234 54.9R1%

(T/S/s=7/10/10)

C270P50N C279

Place close to pin 97  
(Less then 500 mils)

J1394\_1

1394\_VCC2 KEY POWER GND 10 1394\_VCC2

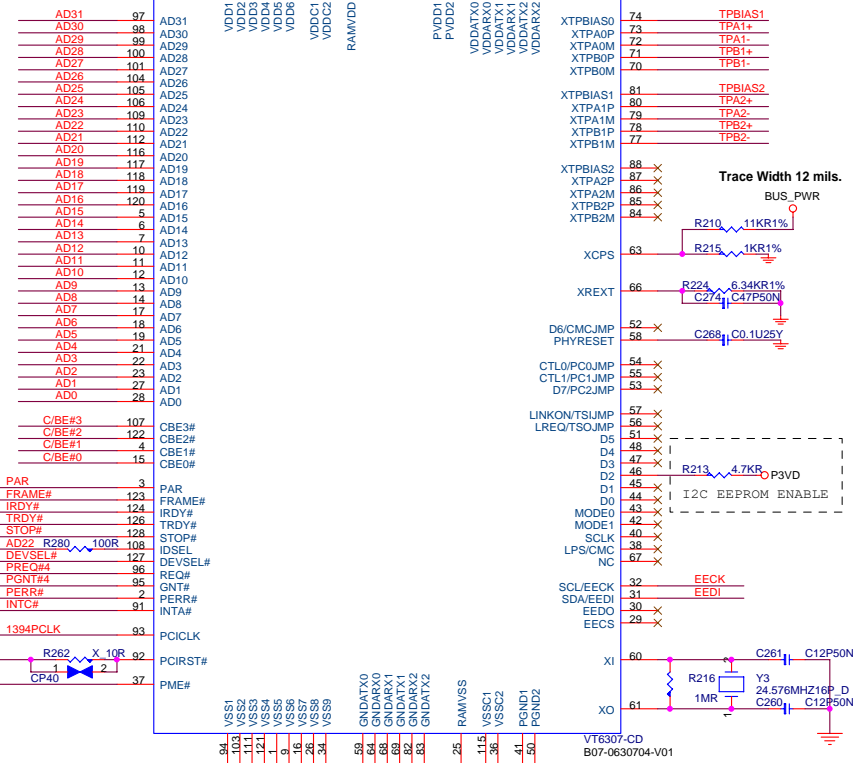
TPB1+ TPB1- TPB1- TPB1- 8 TPB1-

TPA1+ GND TPA+ TPA- 2 TPA1-

BH2X5(9)USB\_black


C85 C0.1U25V

Place close to pin 111  
(Less than 500 mils)

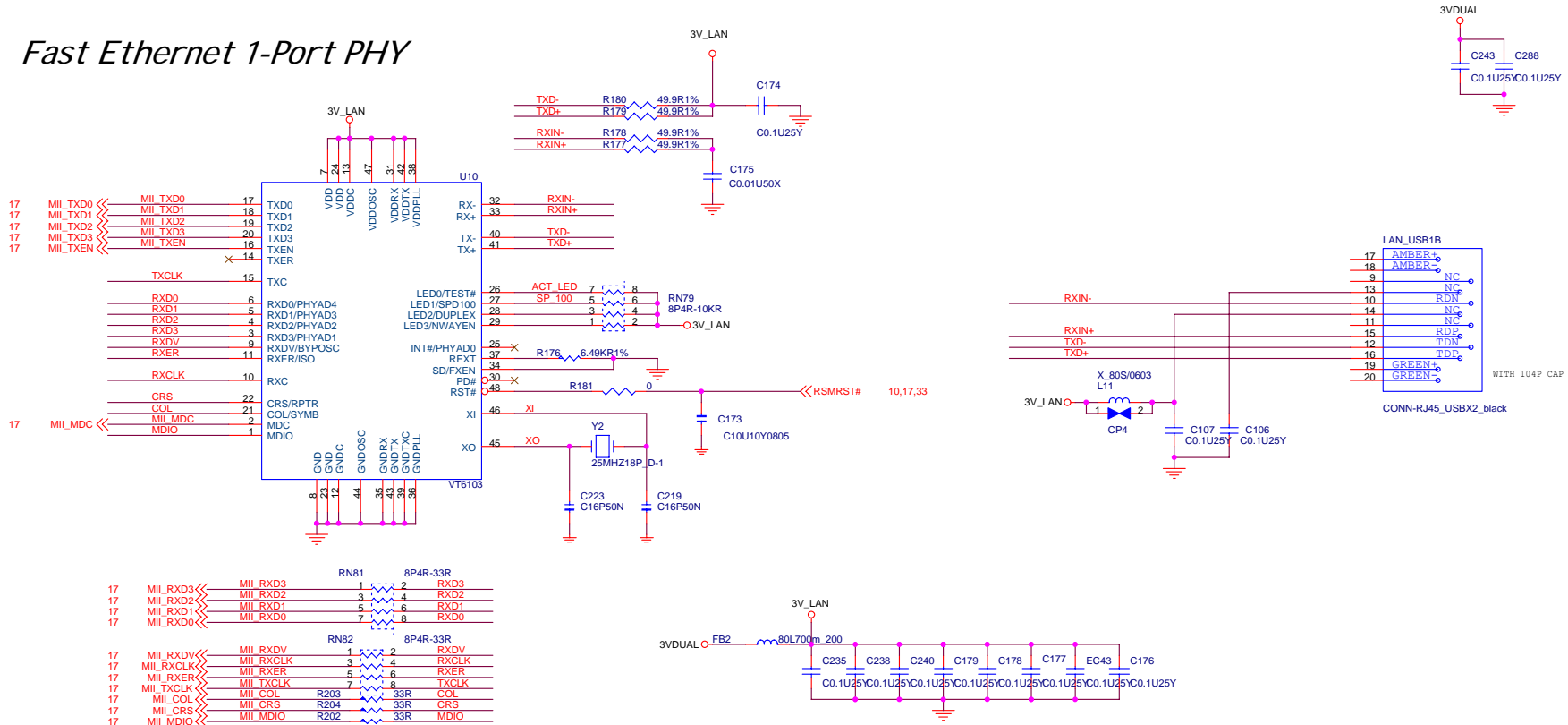


20040312  
JuneWu@vntek.com.tw  
suggestion modify

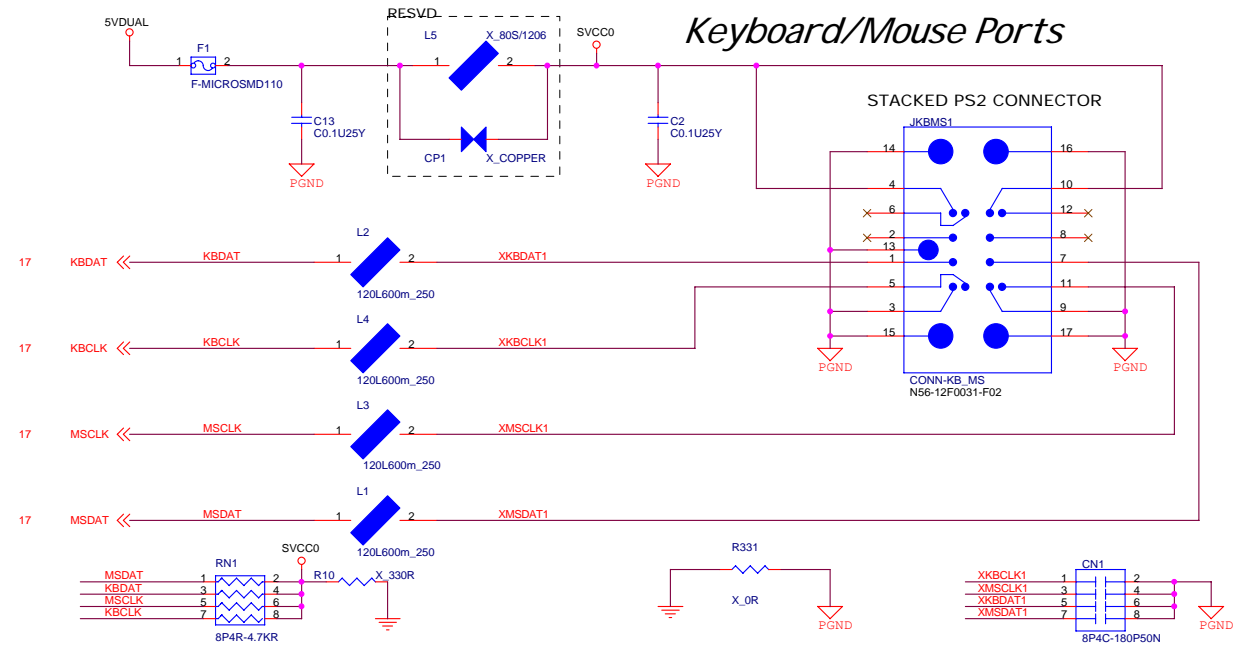
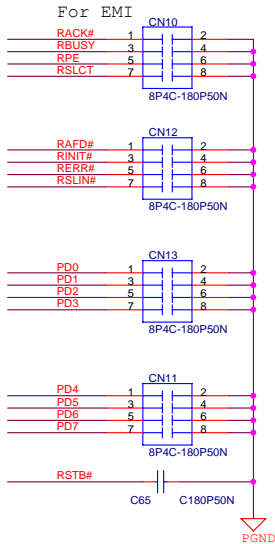
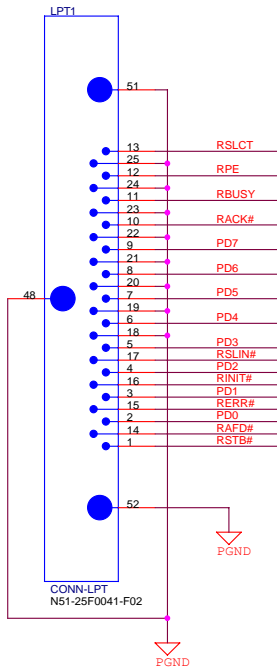
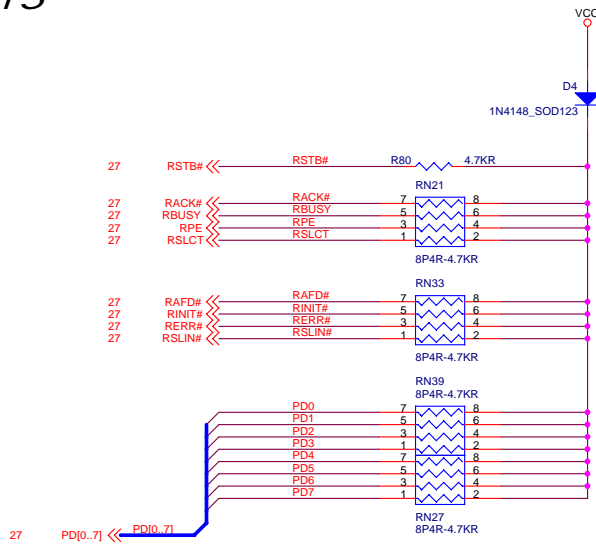
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		<b>MICRO-STAR</b>	
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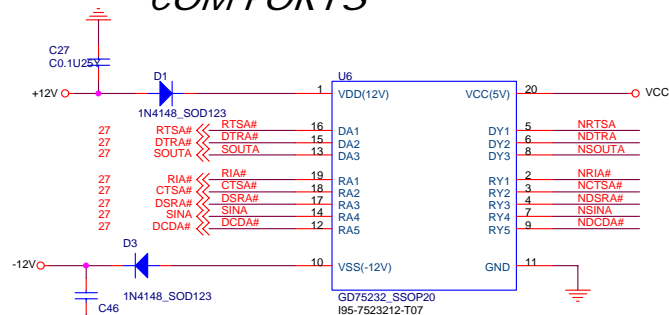
# Fast Ethernet 1-Port PHY



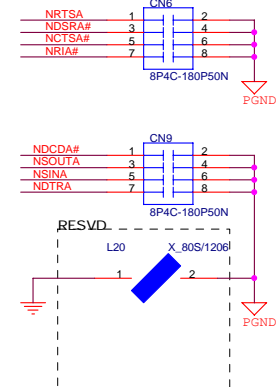
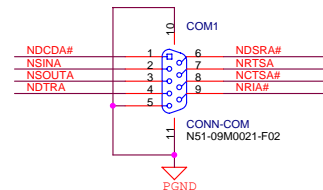
## LPT PORTS



## COM PORTS



### Multiple RS232 Drivers and Receivers



**MICRO-STAR**

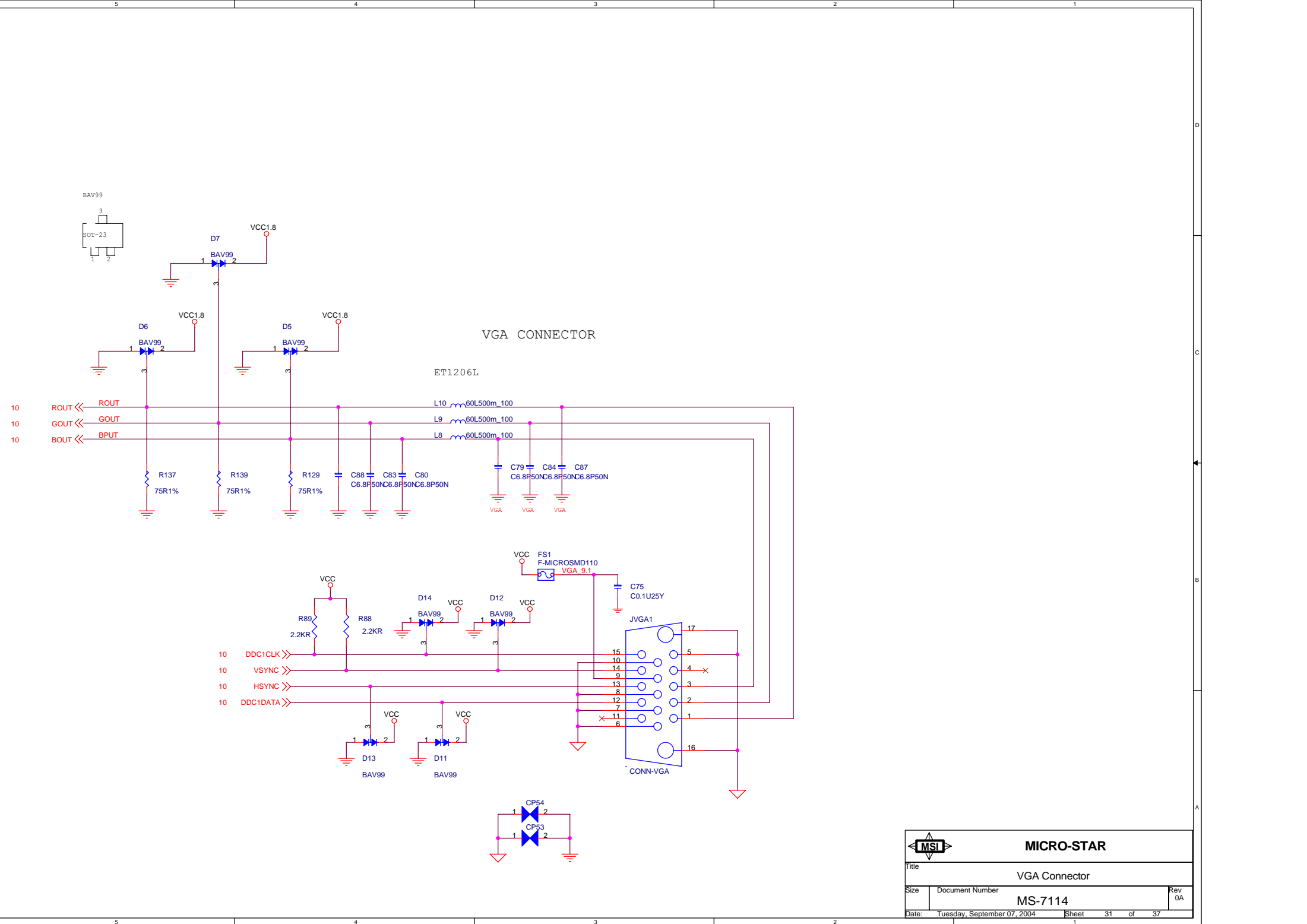
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```
TDP = 115 W
VR_TDC = 101 A
Icc(max) = 119 A
Tejas Tcase = [P x 0.213] + 43.3
Prescott Tcase = [P x 0.25] +
43.3
```

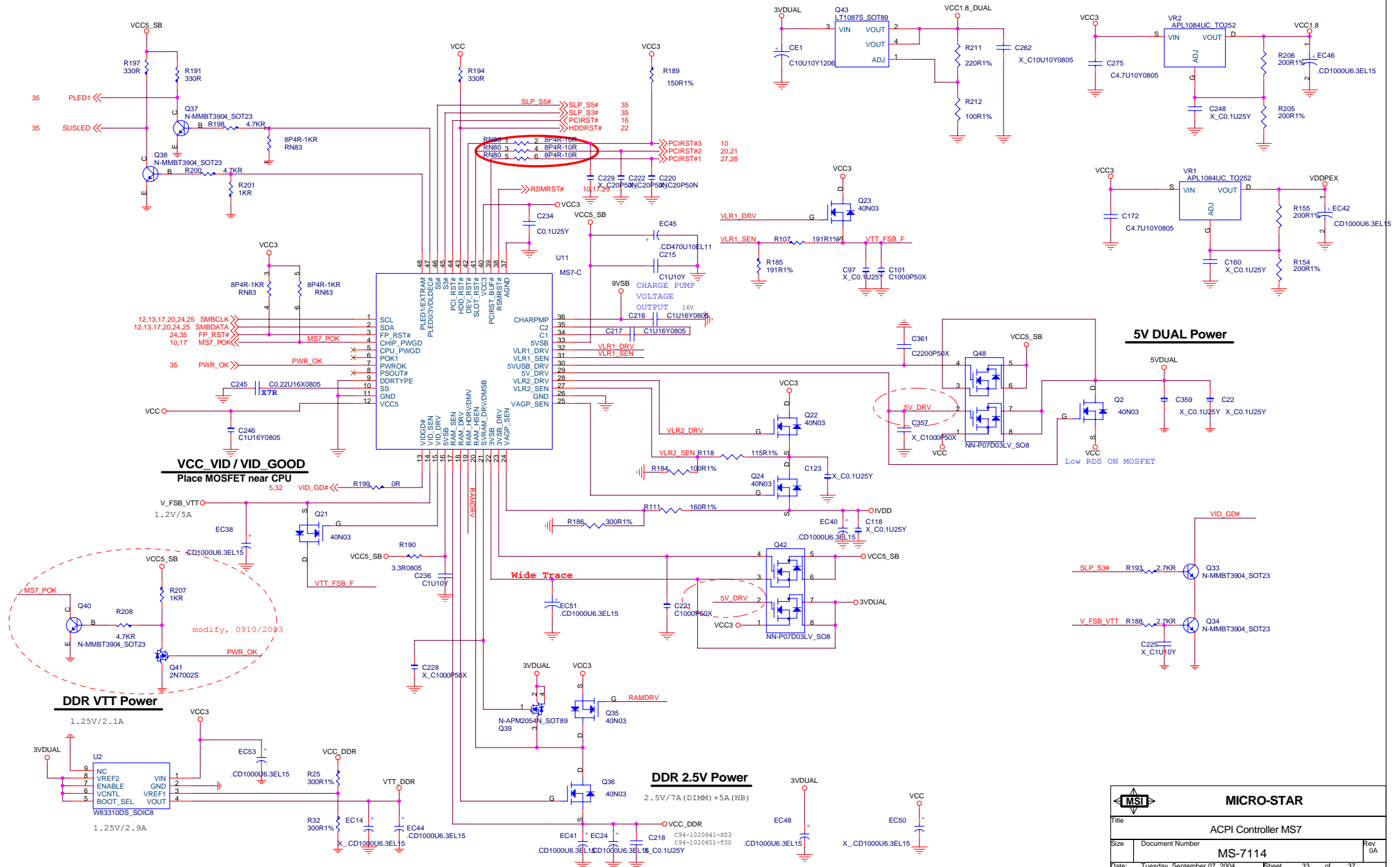



# ACPI Controller

IC15 300mA  
PCI 375+20+20=415mA  
VCC3\_SB 715mA

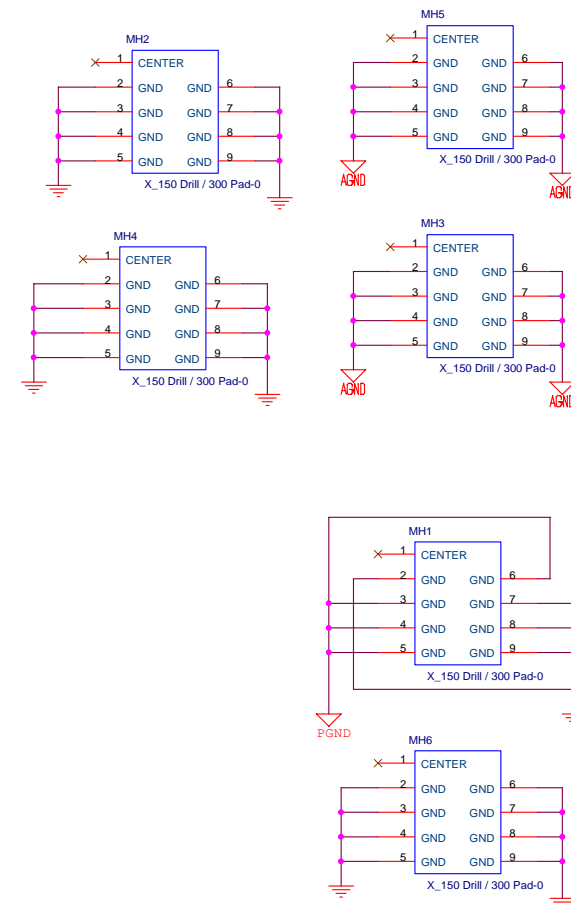
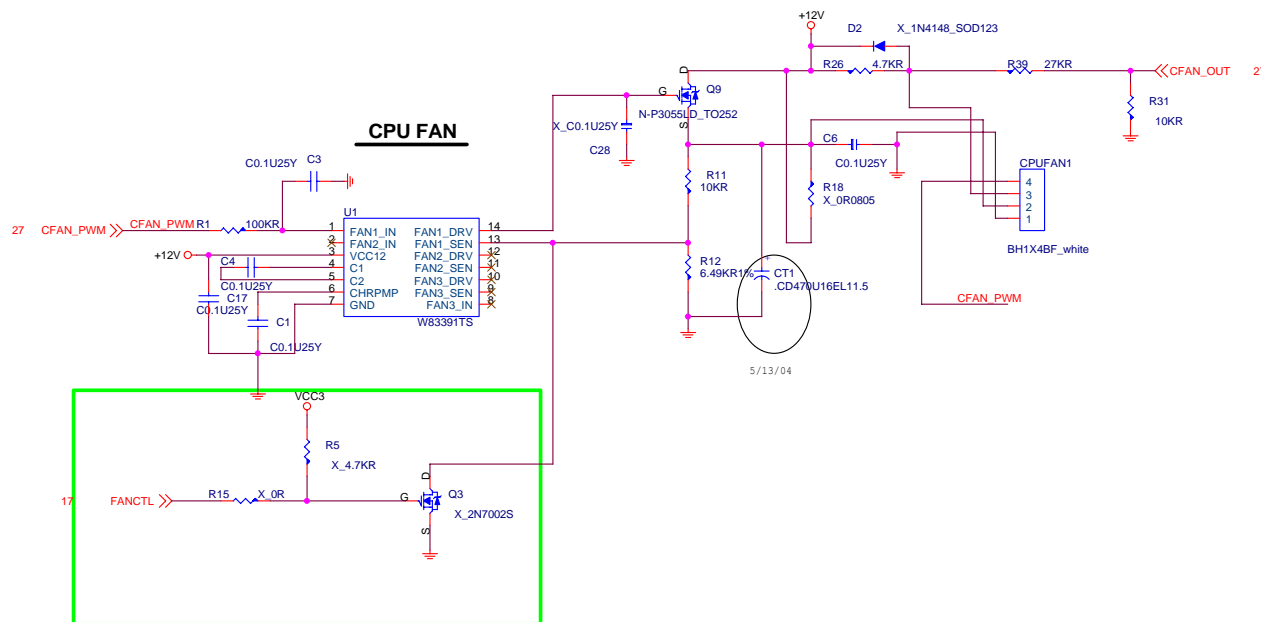
Power	S0	S3	S5
VCC3_SB	Main	Standby	Standby
VCC5_STR	Main	Standby	0V
MEM_STR	Main	Standby	0V

## 1.8V STAND BY POWER

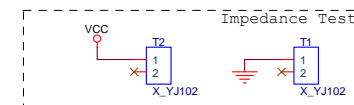
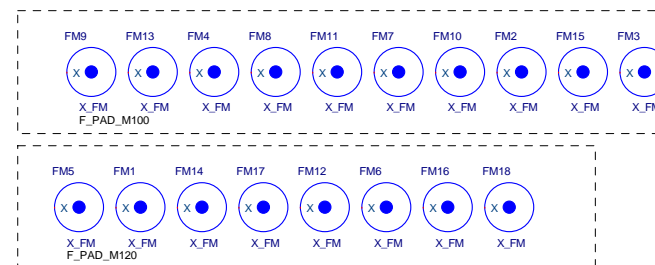
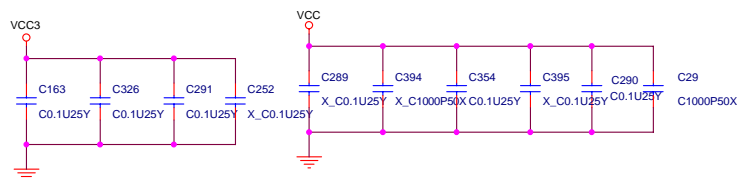


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# ATX VIA-Hole \* 9

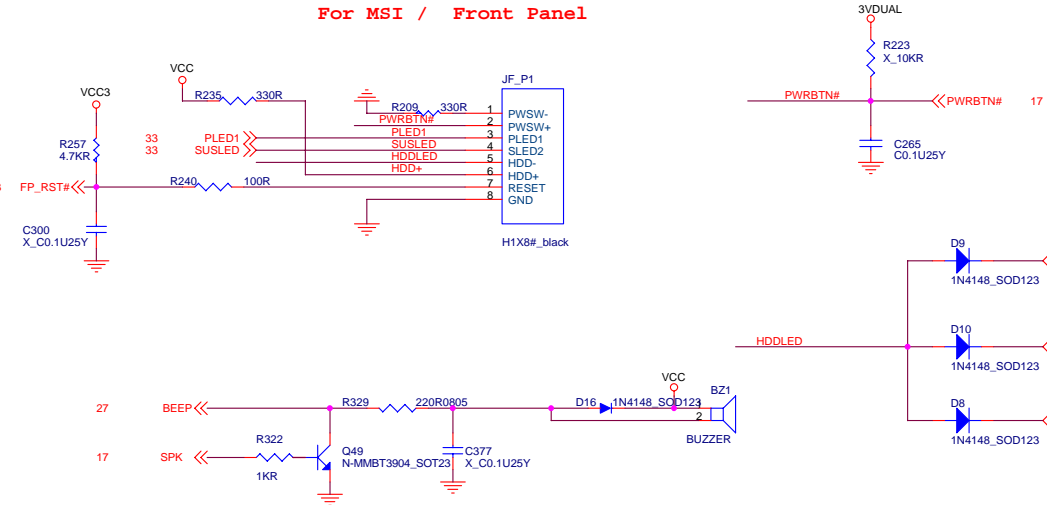


## BULK / Decoupling

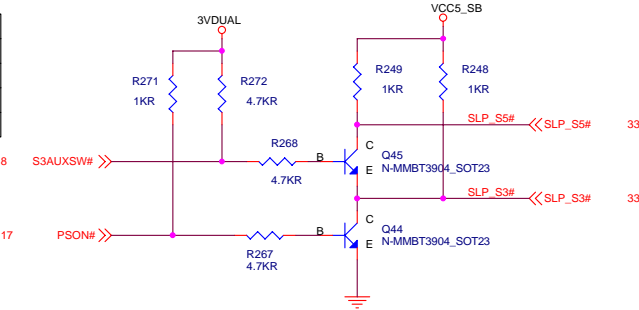


FRONT PANEL

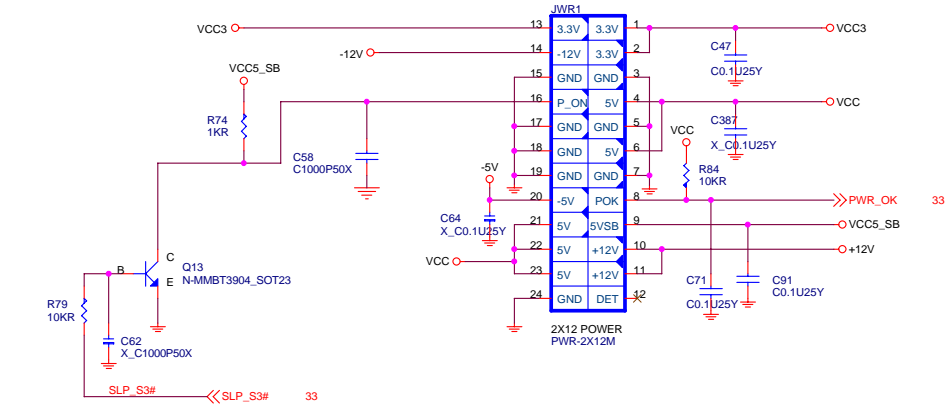
For MSI / Front Panel



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



ATX Connector



PCB1



P11-707500A-D05

VBAT1-1



BAT-BCR2032P  
D06-0100101-P01

U8\_HS



NB-HEATSINK  
E31-0400981-E25

U16\_HS

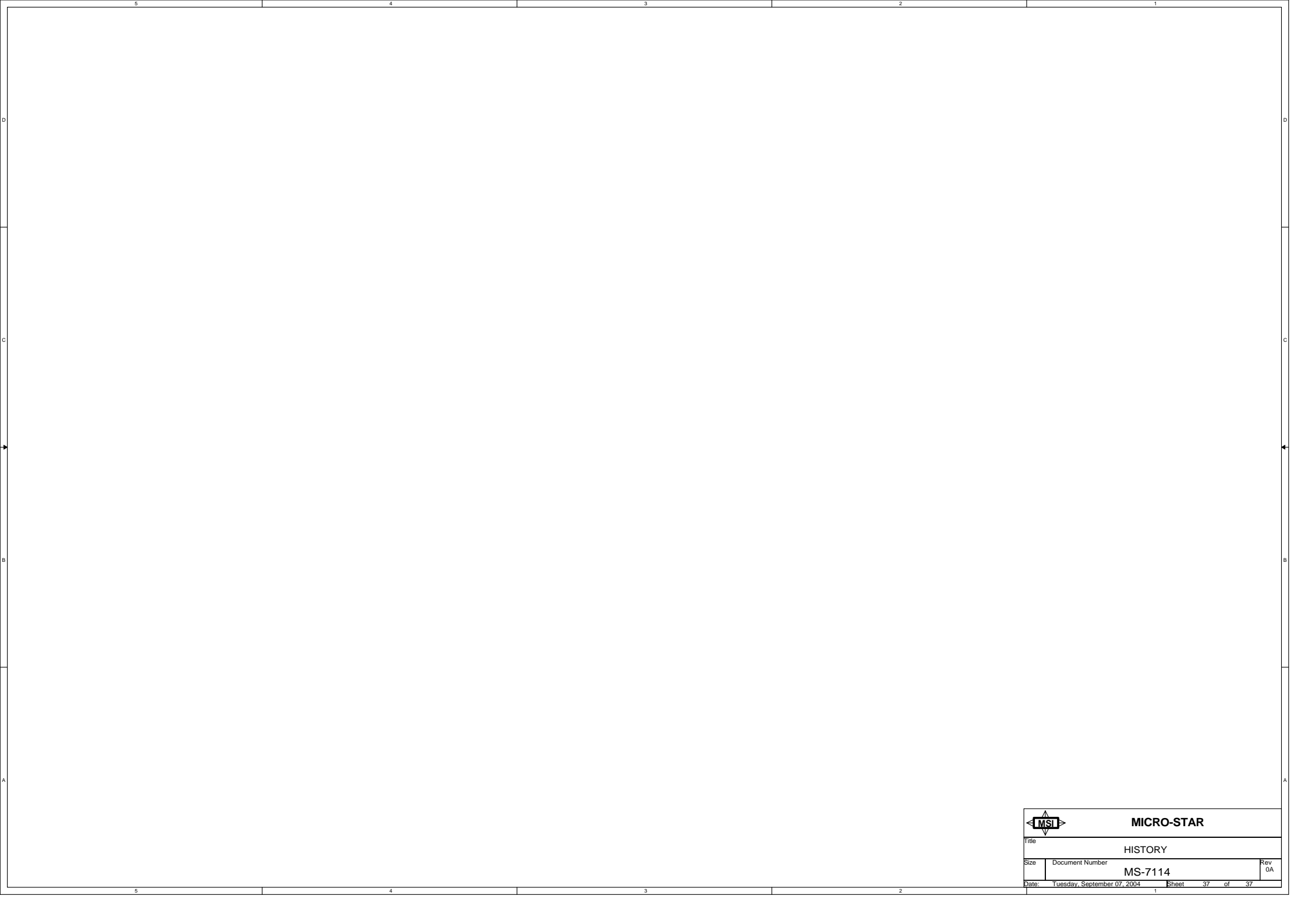


SB-HEATSINK  
E31-0400890-E25

U9



SST49LF040-33-4C-NH



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