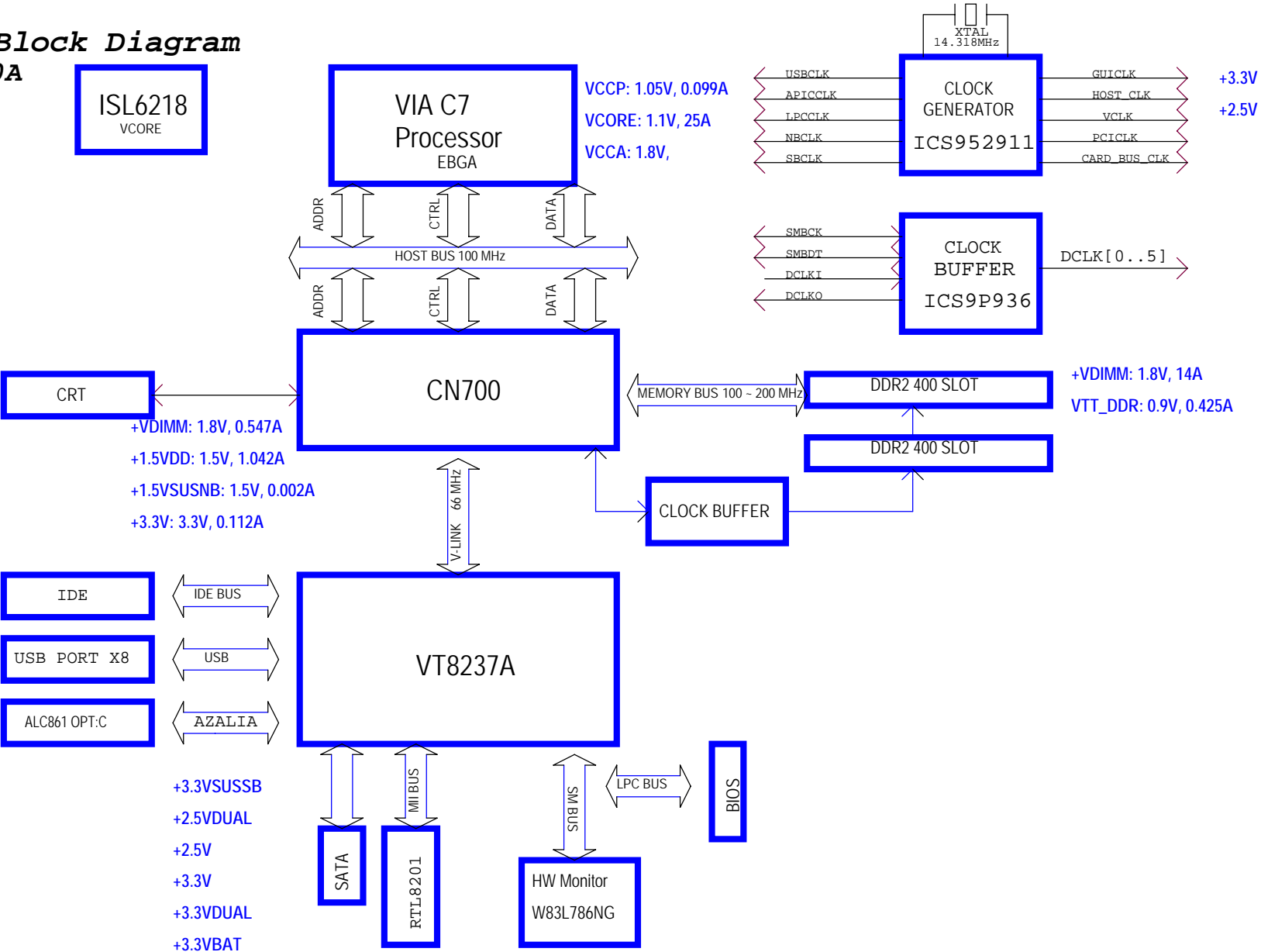


EPIA-7299 Block Diagram
Revision : 0A



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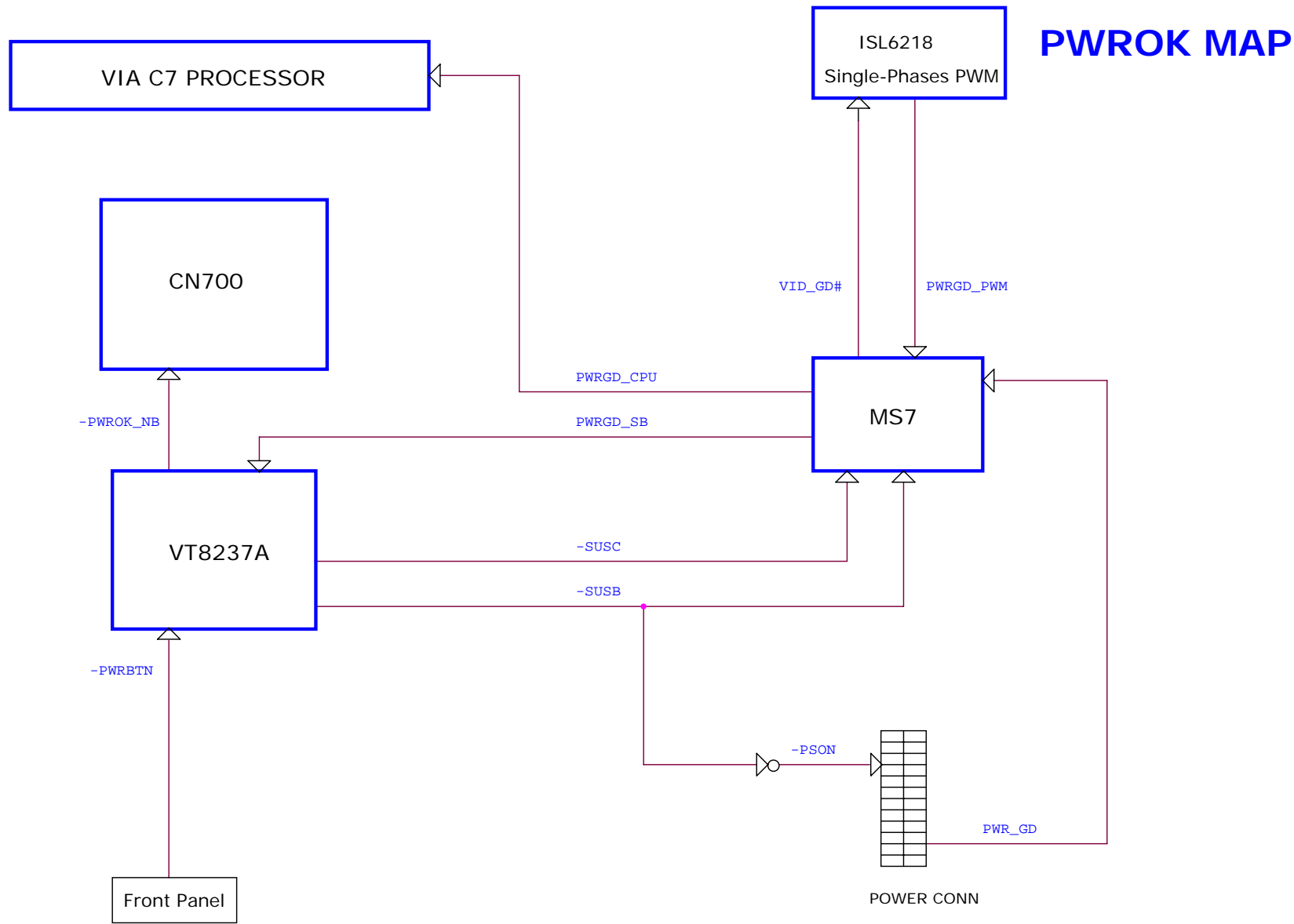
MICRO-STAR			
Title BLOCK DIAGRAM			
Size C	Document Number MS-7299	Rev 0A	
Date: Tuesday, June 06, 2006	Sheet 1	of 32	

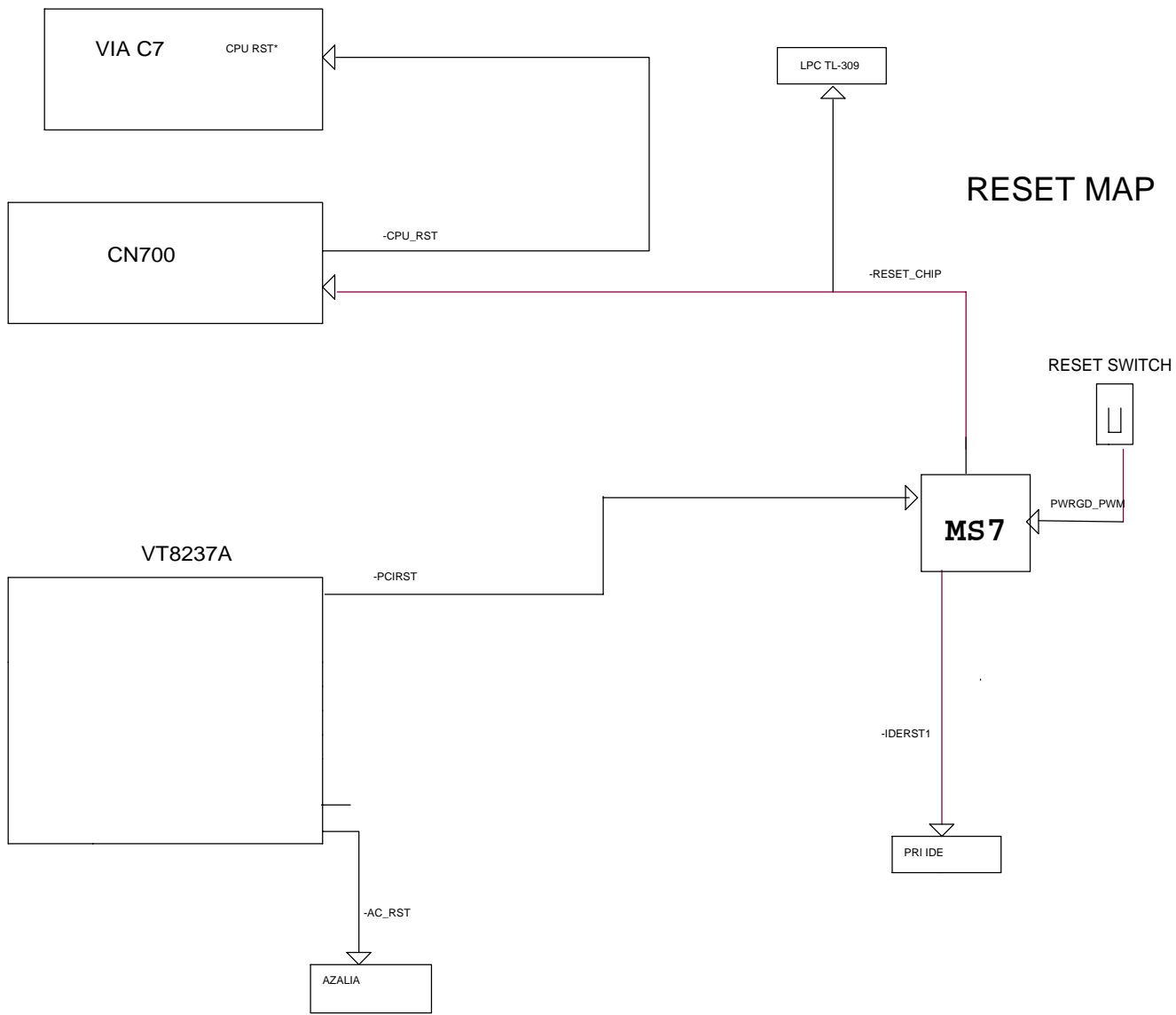
MS-7299 REV: 0A

TITLE	SHEET
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RESET MAP	4
VIA C7 CPU	5, 6, 7,
NORTH BRIDGE(CN700)	8, 9, 10, 11
SOUTH BRIDGE (VT8237A)	12, 13, 14
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USB CONNECTORS	29
AUTO BOM	30
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REVISION HISTORY	32

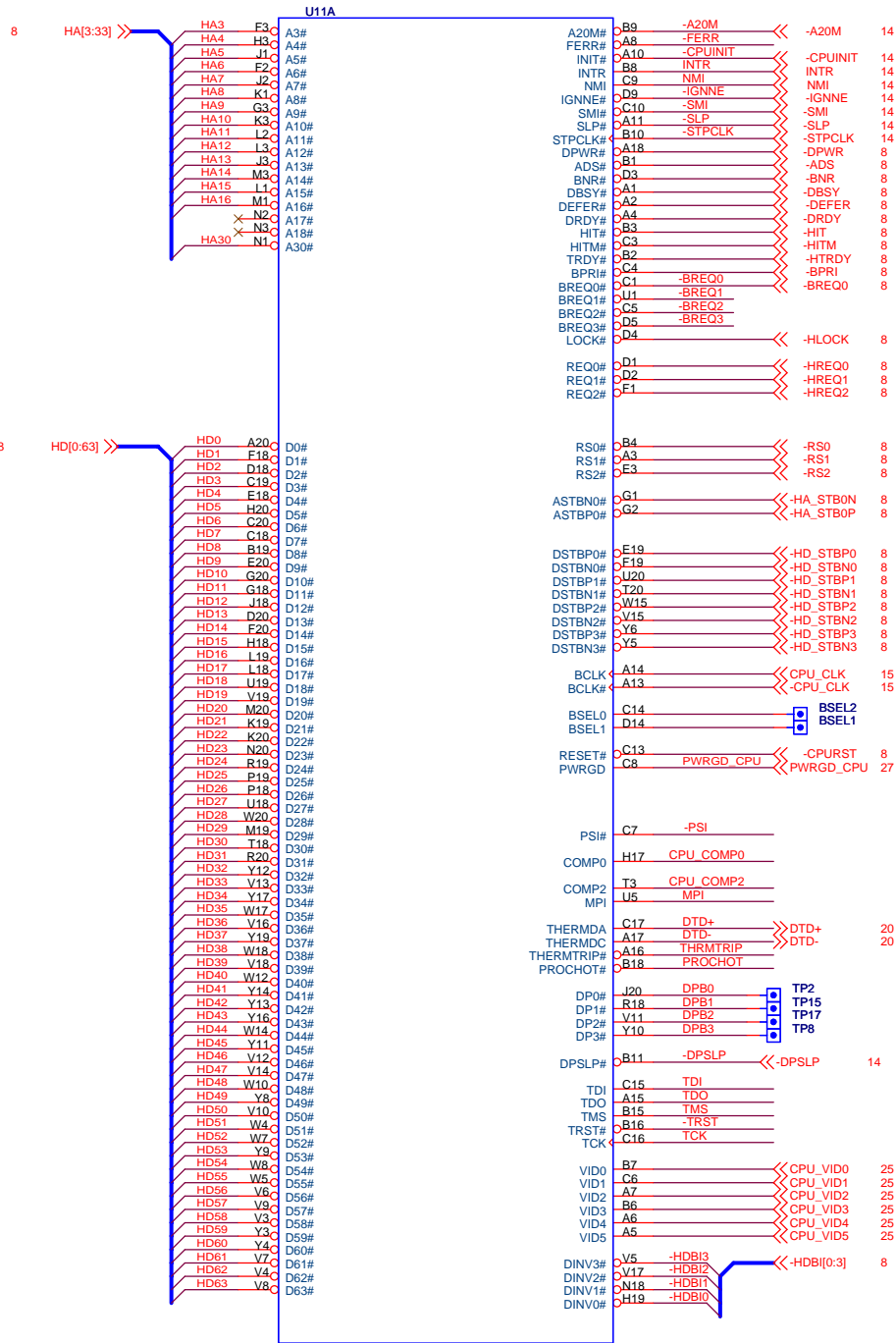
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MICRO-STAR			
FileCOVER SHEET			
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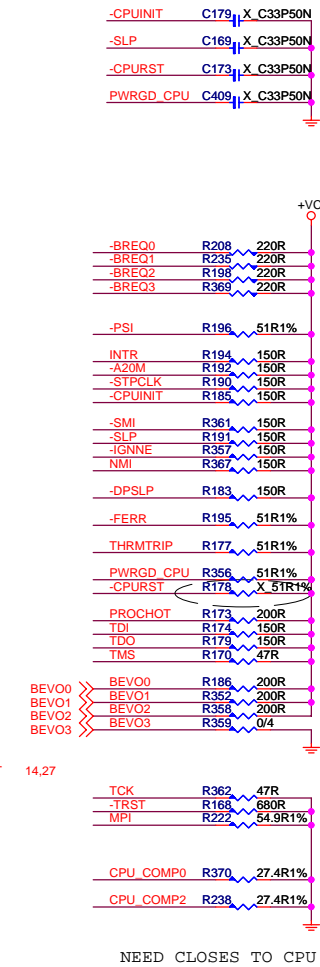
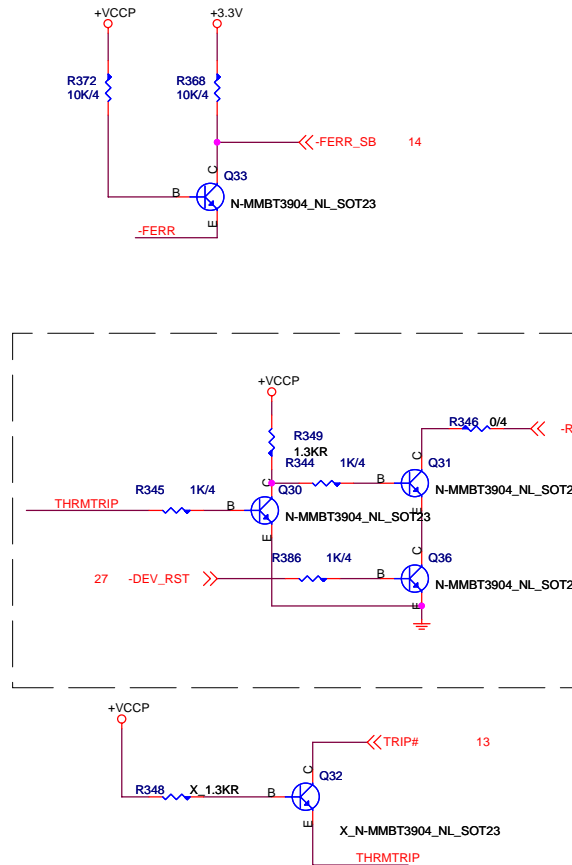




Micro Star Restricted Secret		
Title	RESET MAP	Rev 0A
Document Number	MS-7299	
MICRO-STAR INT'L CO. LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw	Last Revision Date: Tuesday, June 06, 2006 Sheet 4 of 32	

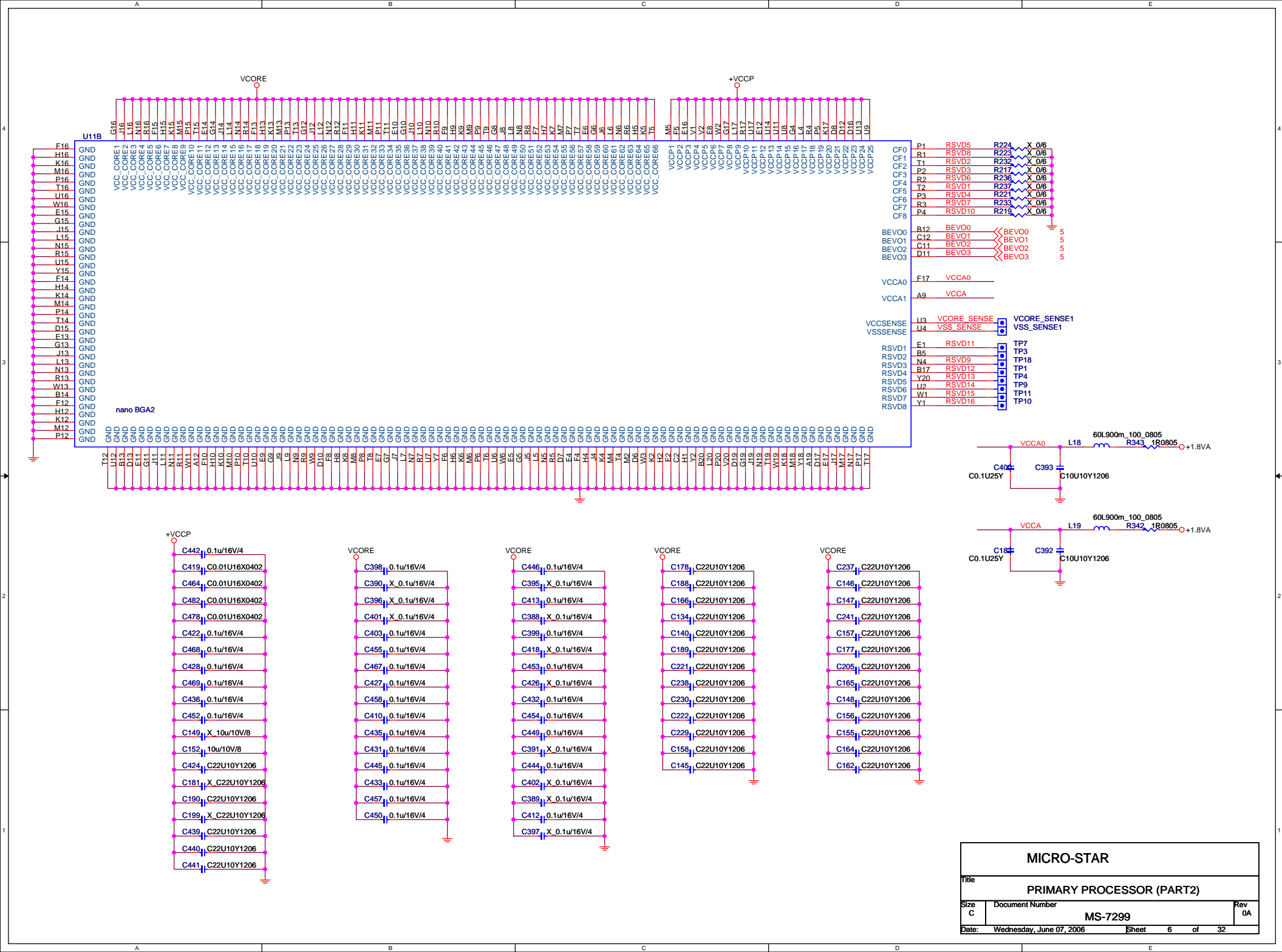


nano BGA2

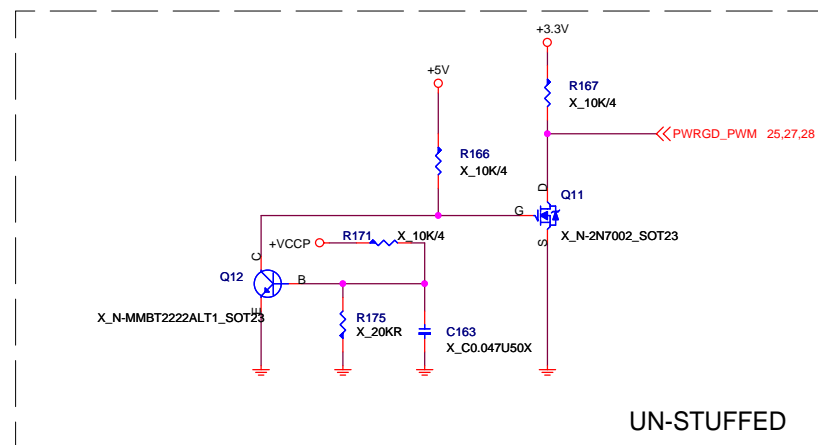
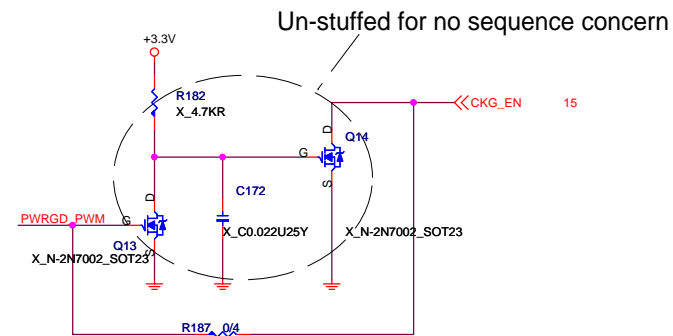
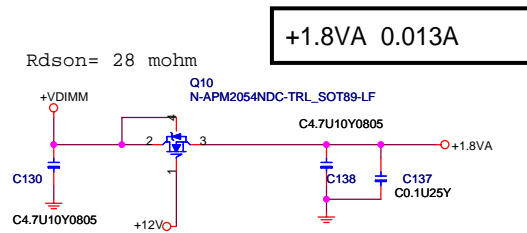


MICRO-STAR

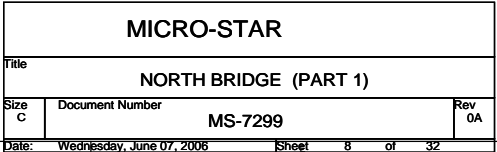
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PRIMARY PROCSSOR (PART 1)			
Size	Document Number	Rev	
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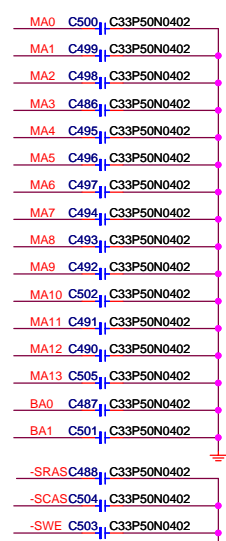
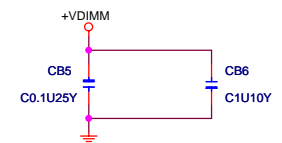
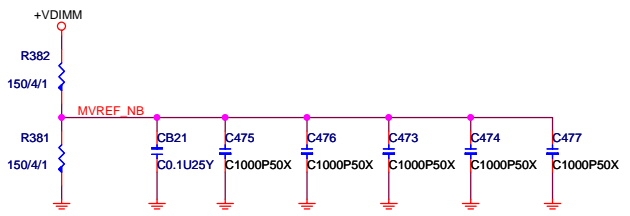
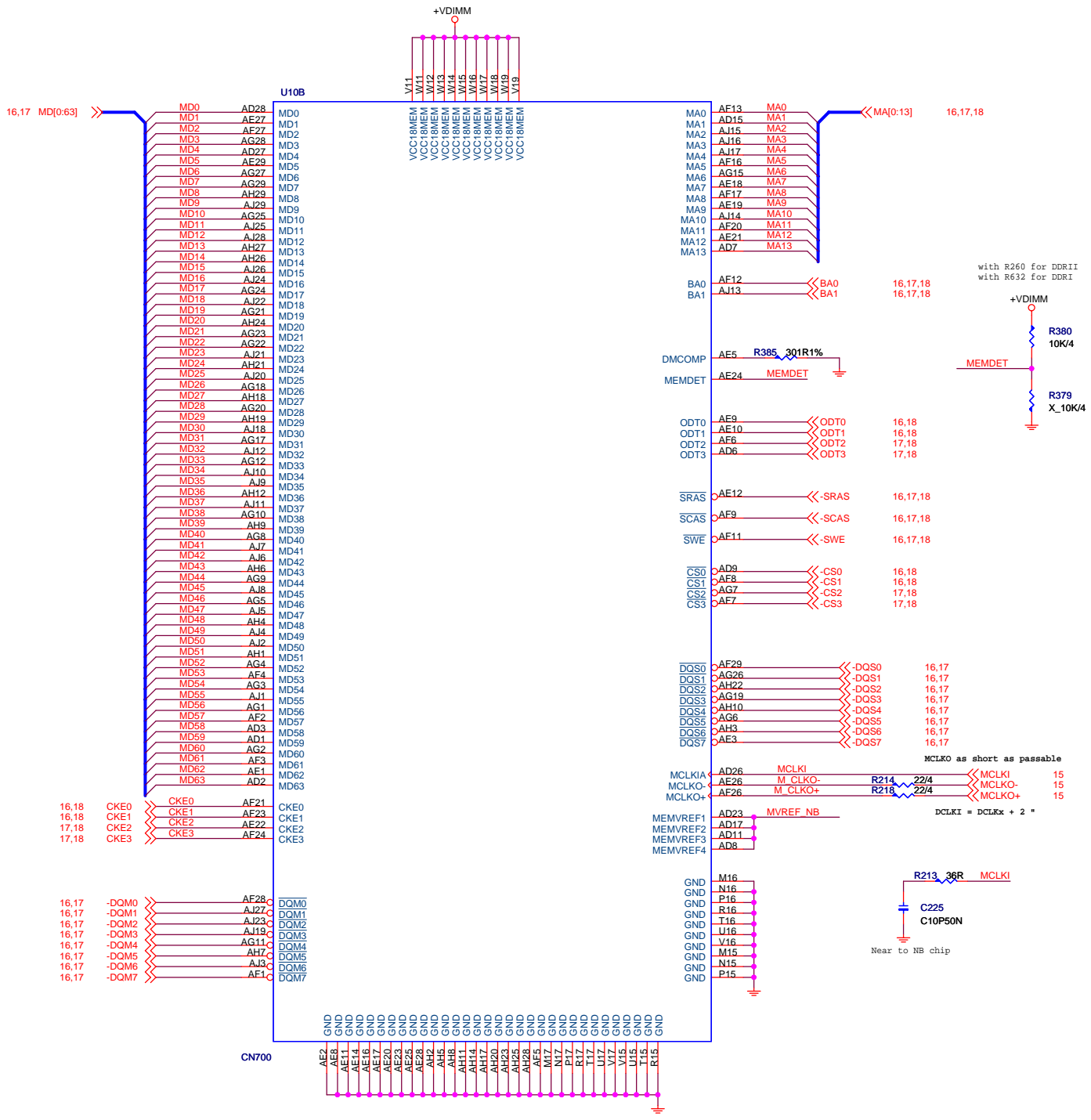


MICRO-STAR			
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PRIMARY PROCESSOR (PART2)			
Size	Document Number		Rev
C	MS-7299		0A
Date:	Wednesday, June 07, 2006	Sheet	6 of 32

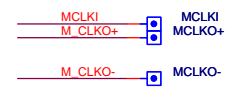


MICRO-STAR			
Title			
PRIMARY PROCSSOR (PART 3)			
Size	Document Number		Rev
Custom	MS-7299		0A
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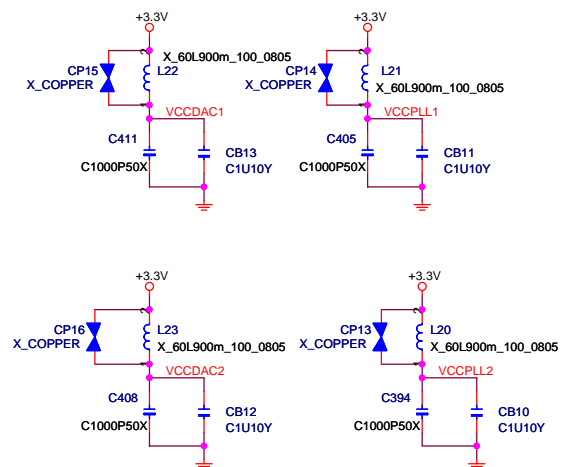
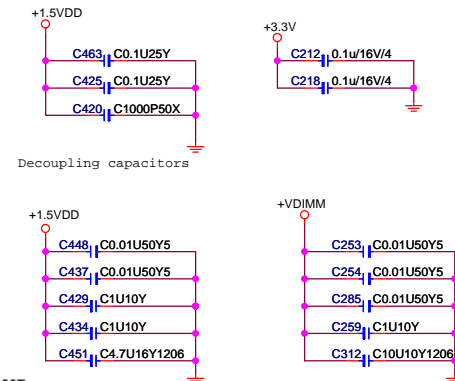
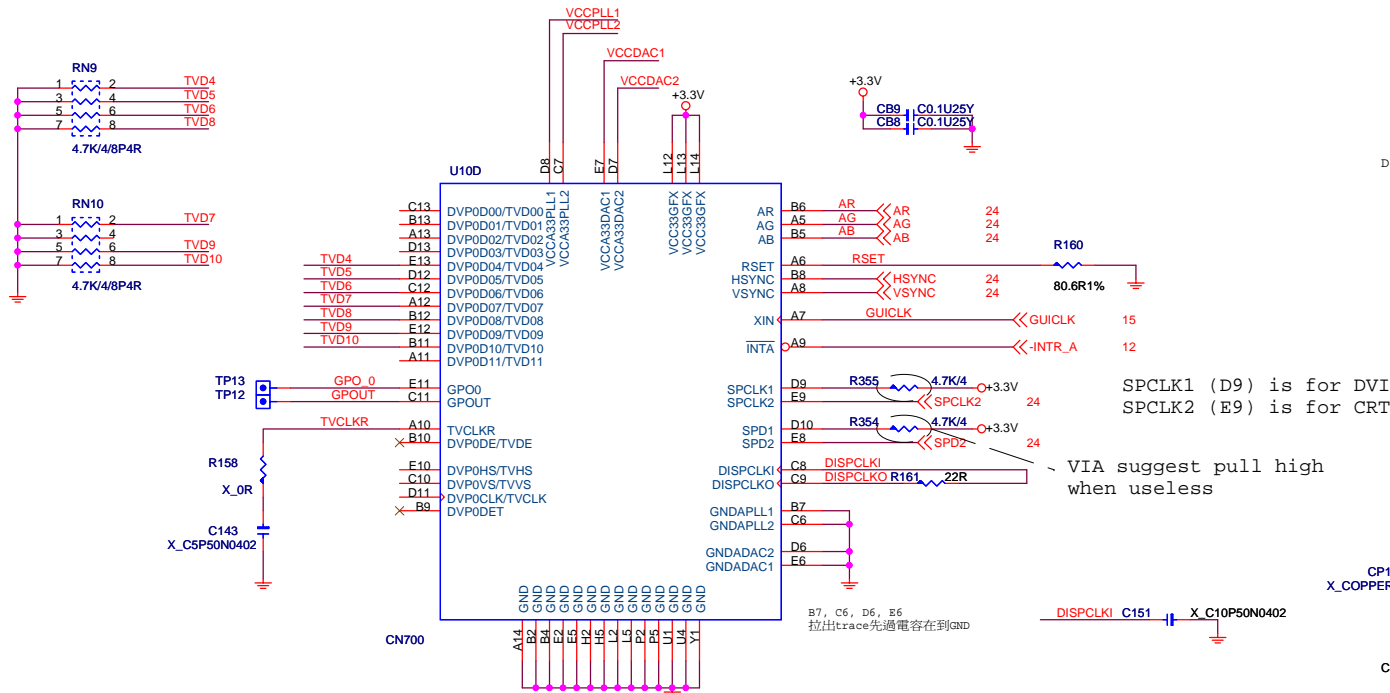


Near NB 1.5" ~ 2"



Test Point
(Place near their respective balls of NB)

MICRO-STAR			
Title			
NORTH BRIDGE (PART 2)			
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GFX power up strapping setting:

TVD4/DVP0D4 =>AGP Port Muxing
 0: Two 12-bit DVI interface
 1: One 24-bit Panel interface

TVD5/DVP0D5 =>Dedicated DVI Port Configuration
 0: TMDS
 1: TV Encoder

TVD6/DVP0D6 =>Dedicated DVI Port Selection
 0: Disable
 1: Enable

TVD8/DVP0D8 =>External AGP Function Enable
 0: External
 1: Internal

TVD9/DVP0D9 =>PCI Signal Test Output Enable
 0: Disable
 1: Enable

TVD10/DVP0D10 =>CPUCCK/MCK Clock Select
 0: From NB
 1: From External

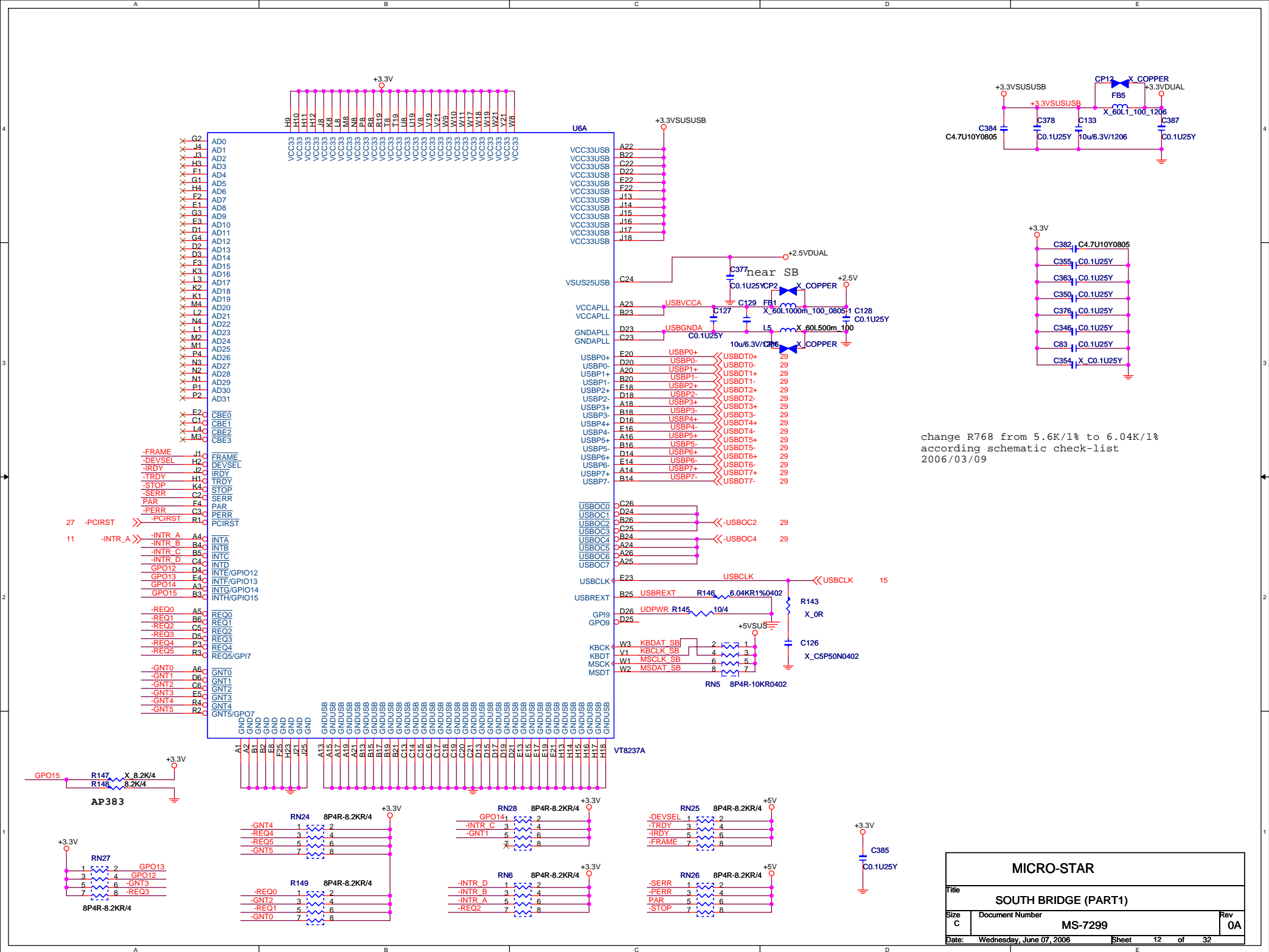
TVD7/DVP0D7 =>GFX Clock Select(VCK/LCDCK/ECK)
 0: Refer Internal PLL
 1: From External

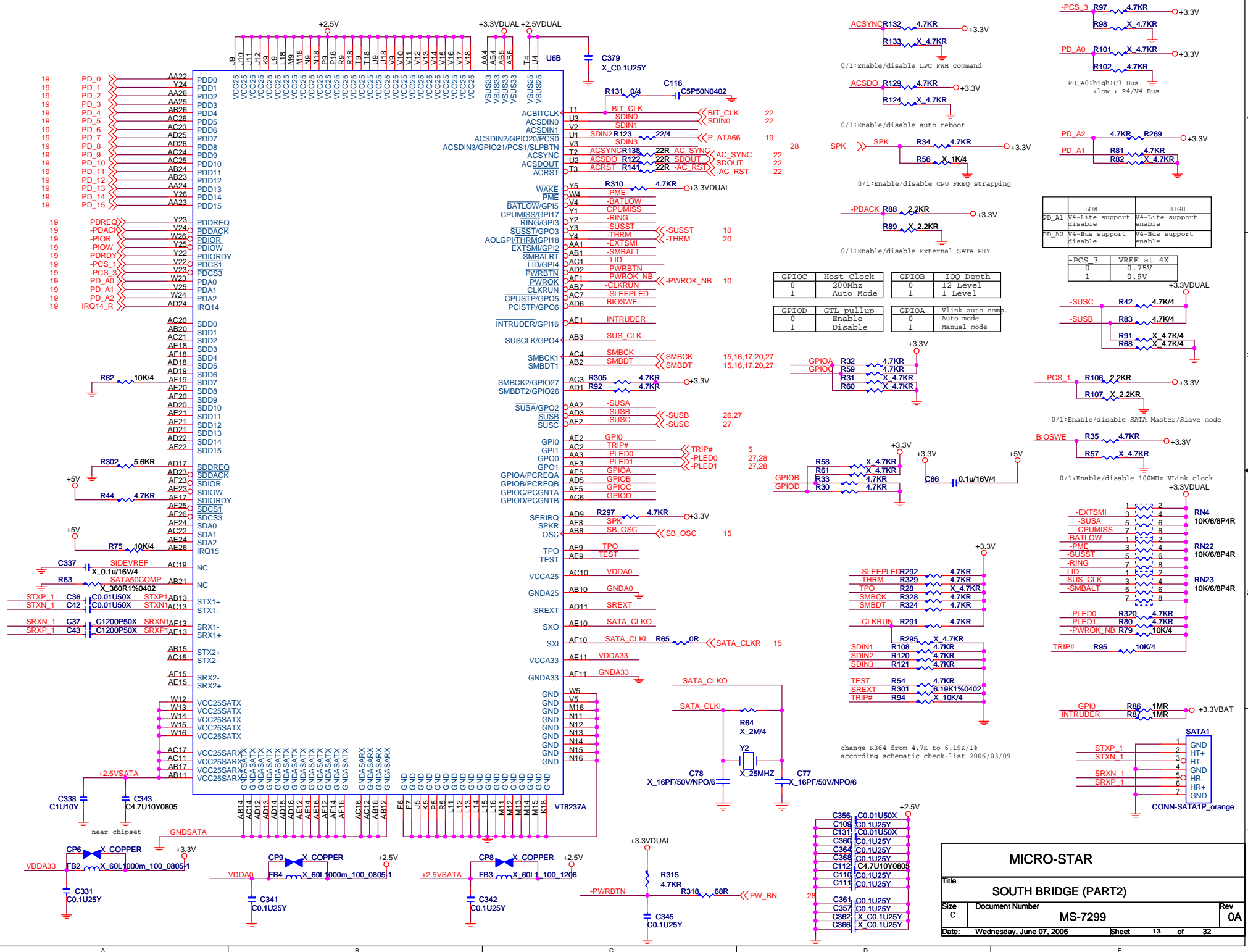
SPCLK1 (D9) is for DVI
 SPCLK2 (E9) is for CRT

VIA suggest pull high
 when useless

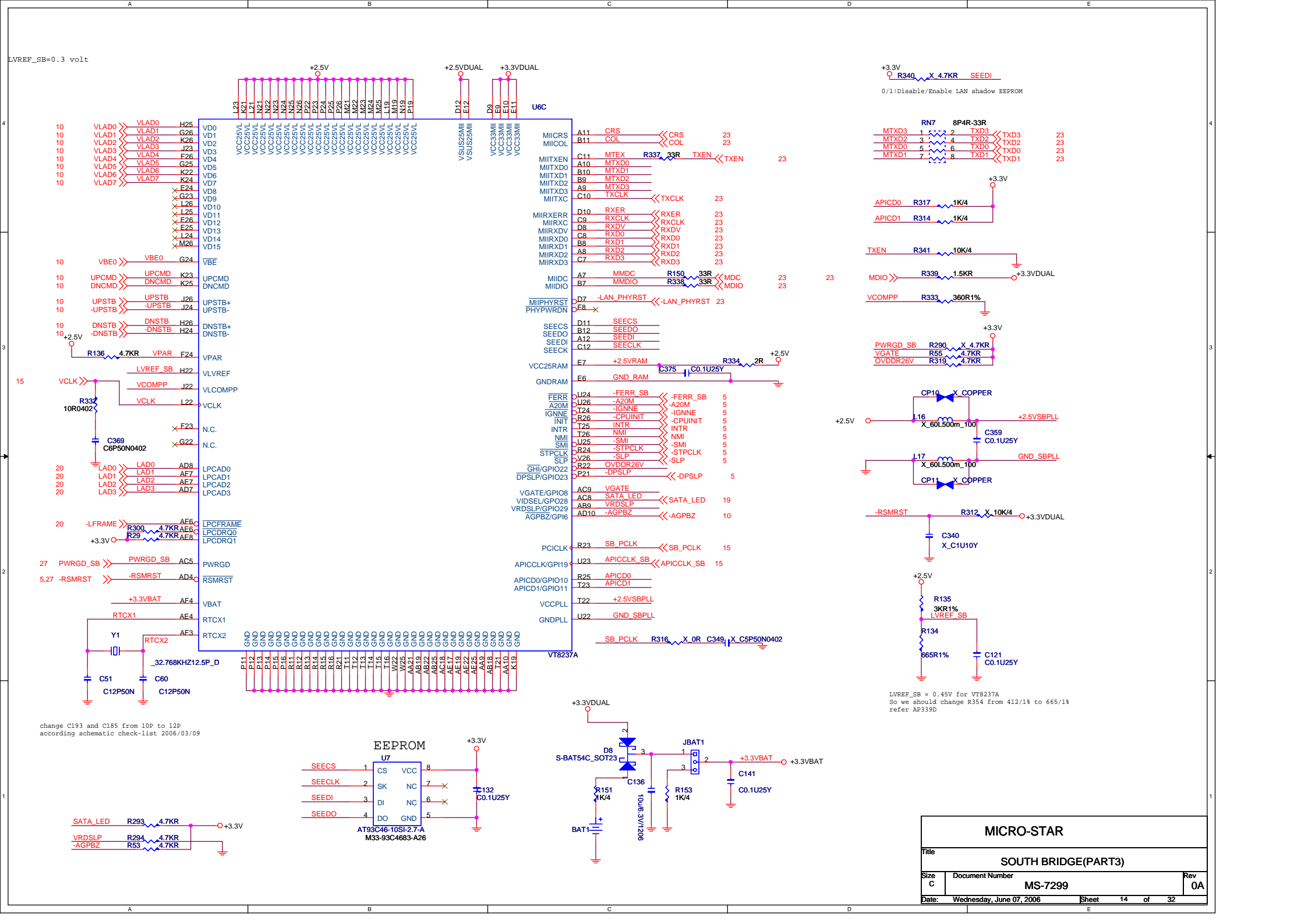
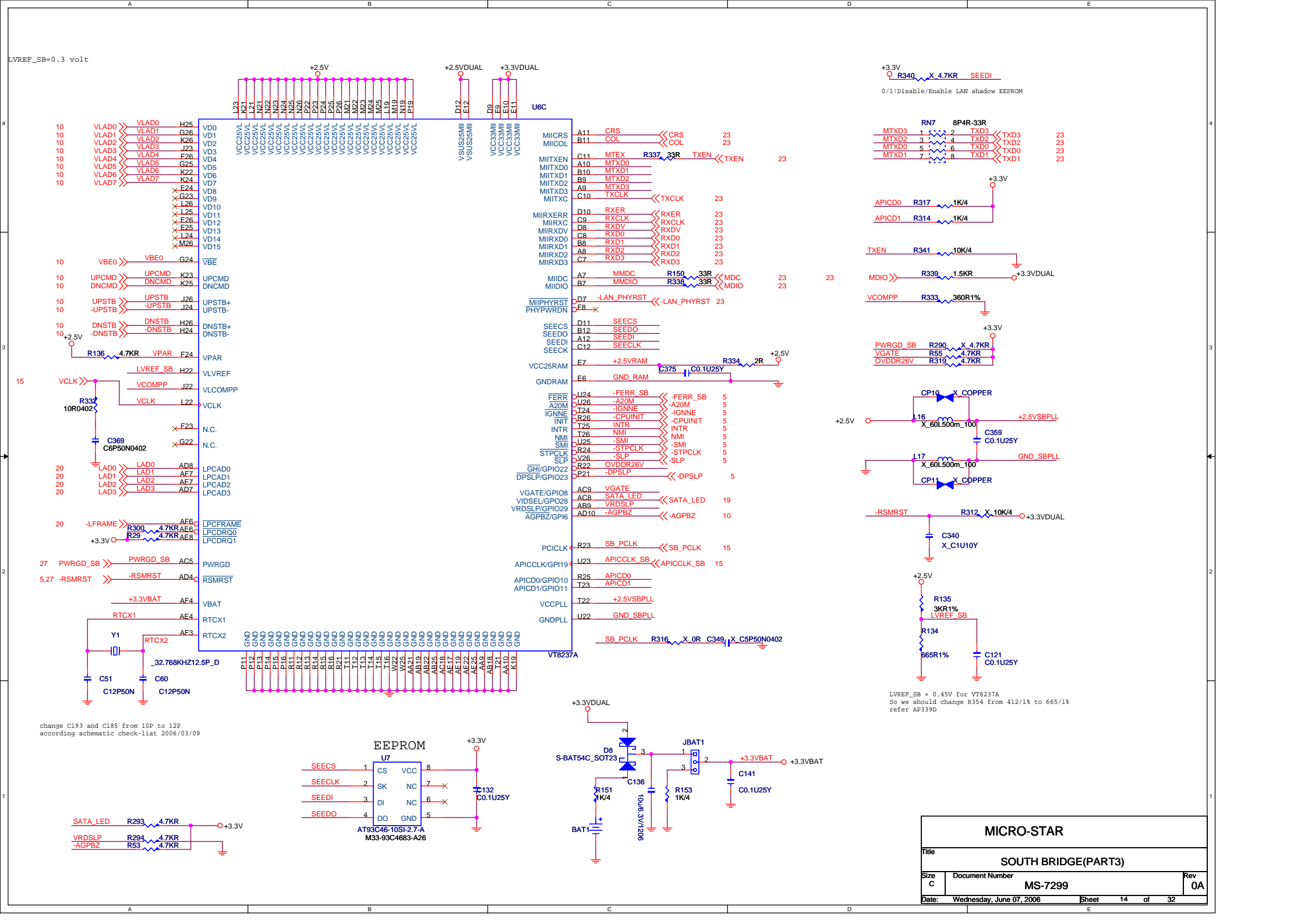
B7, C6, D6, E6
 拉出trace先過電容在到GND

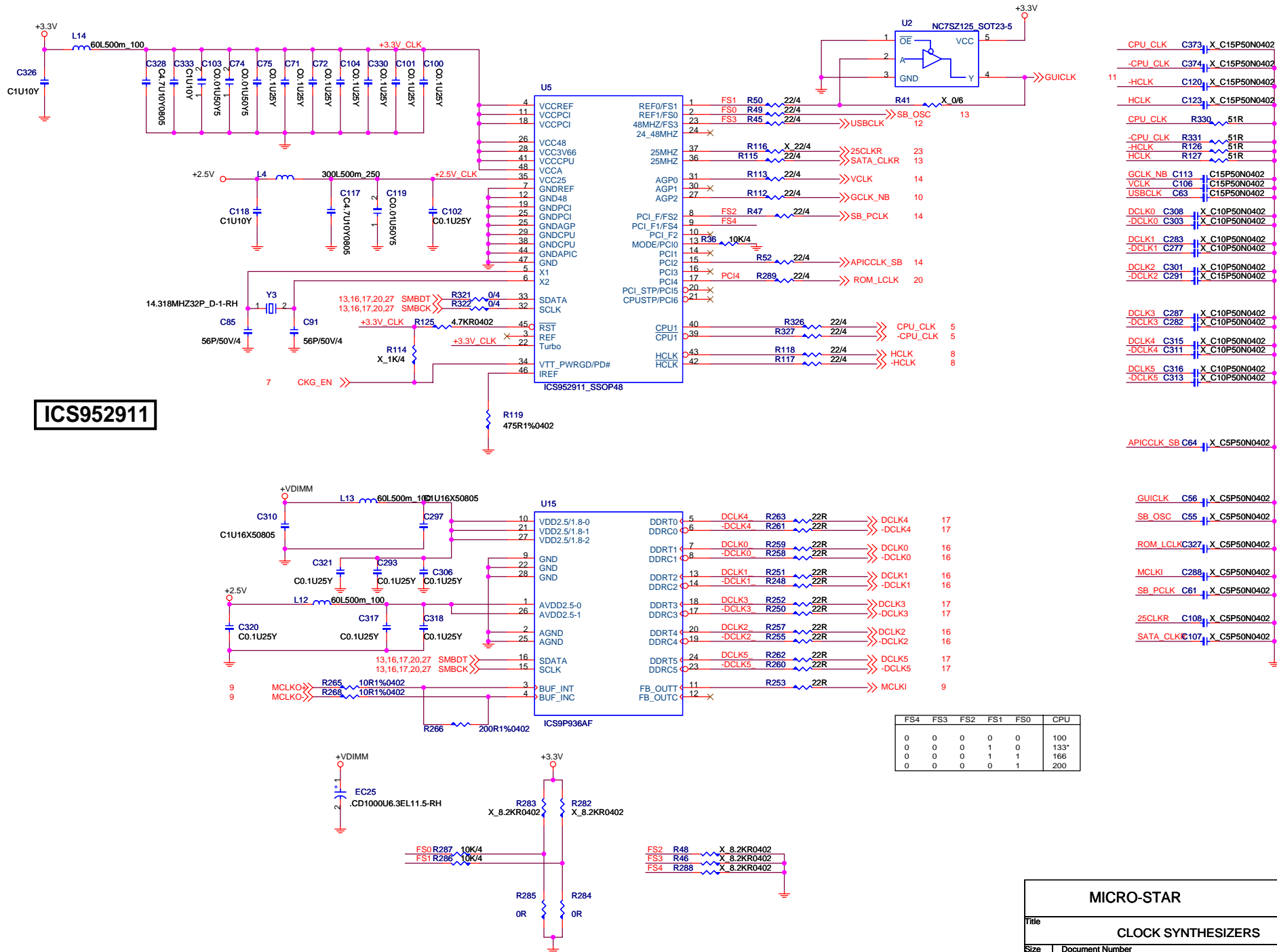
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Title			
NORTH BRIDGE (PART 4)			
Size C	Document Number	MS-7299	Rev 0A
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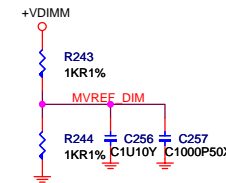
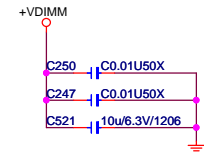
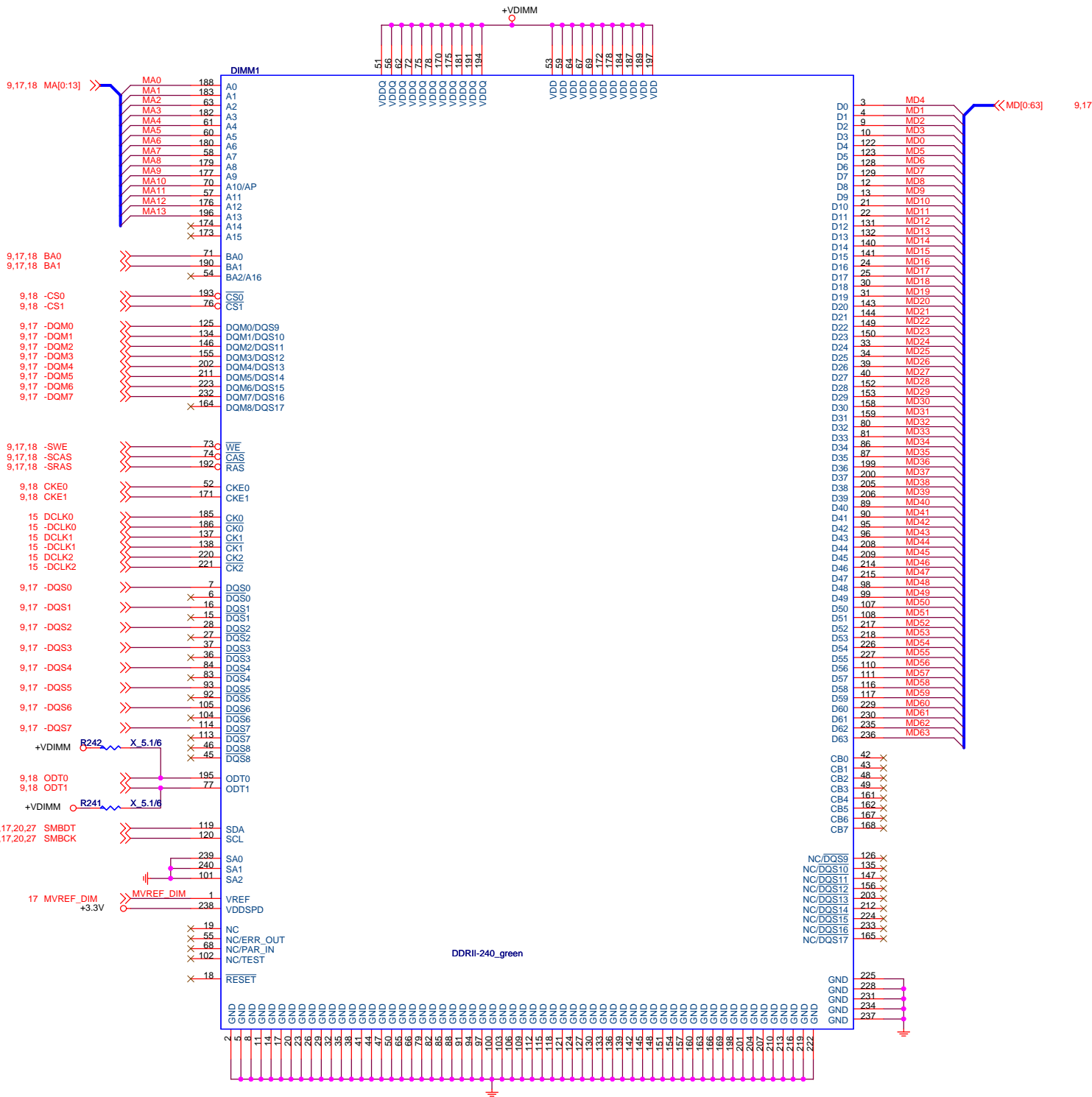
MICRO-STAR			
Title			
SOUTH BRIDGE (PART2)			
Size	Document Number	Rev	
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[illegible]

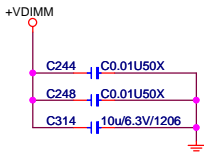
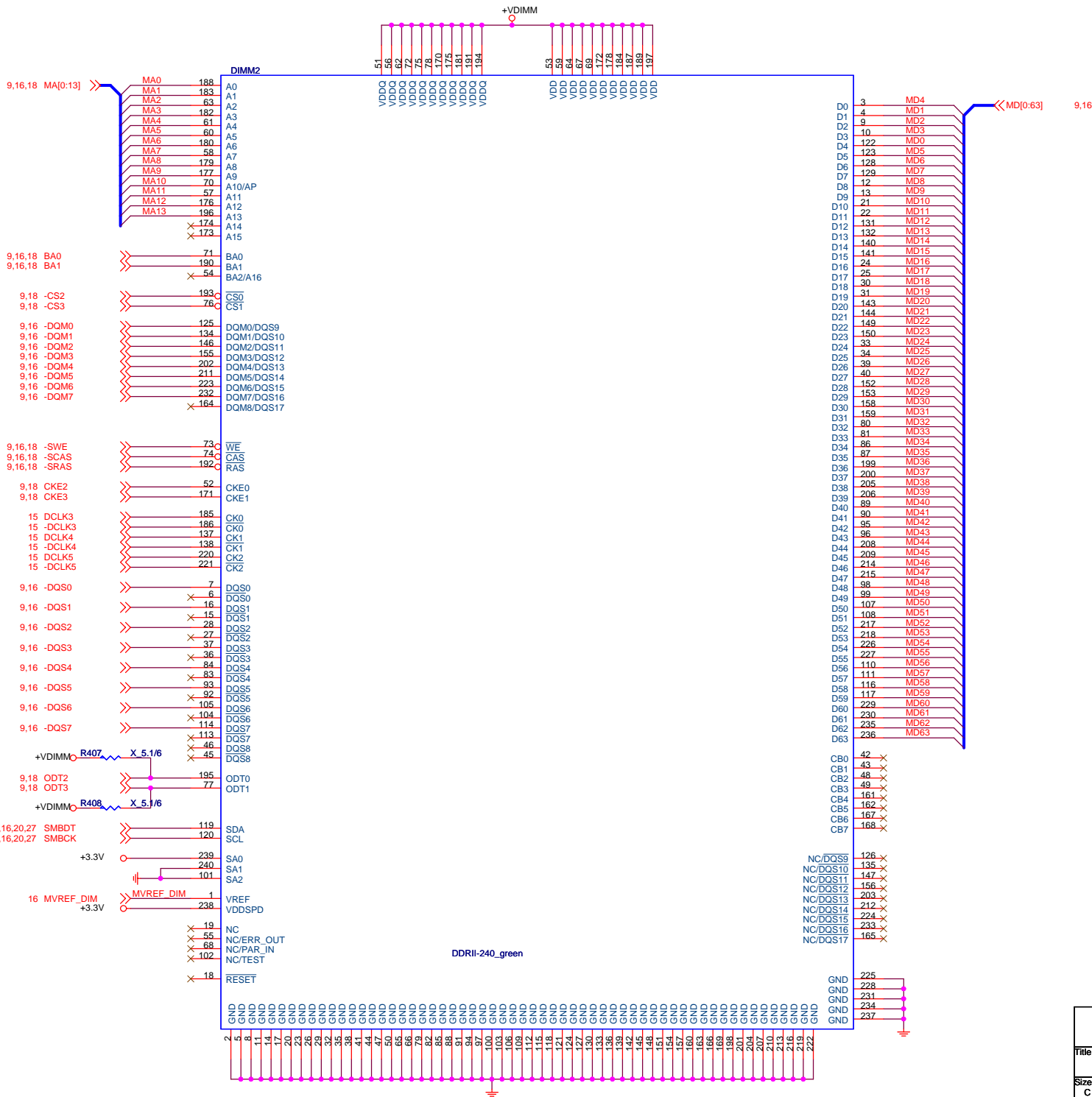


MICRO-STAR

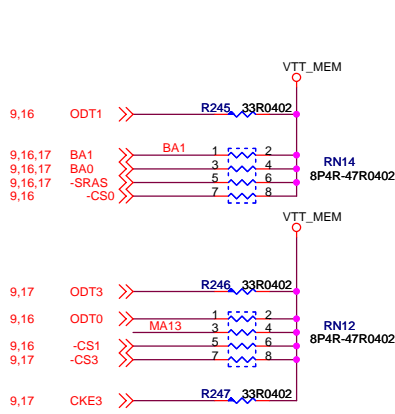
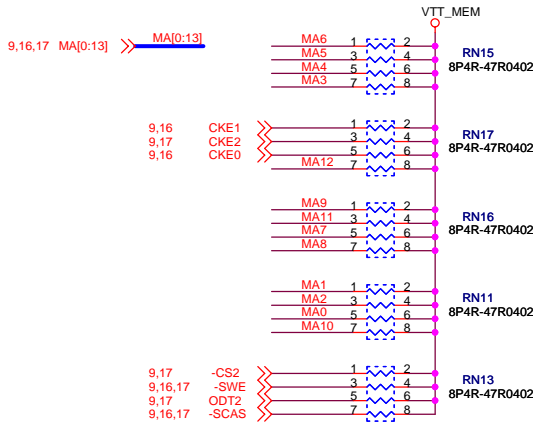
Title			
CLOCK SYNTHESIZERS			
Size	Document Number		Rev
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MICRO-STAR			
Title			
DDR MODULE			
Size	Document Number		Rev
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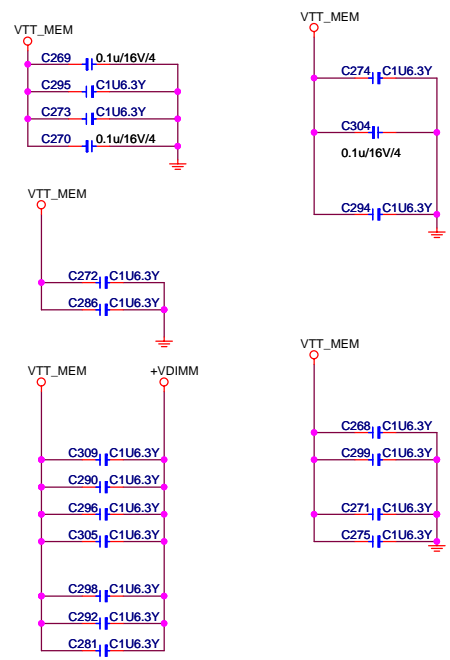
MICRO-STAR			
Title			
DDR MODULE			
Size	Document Number		Rev
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Power for DRAM &
Suspend Power for DDR SLOT

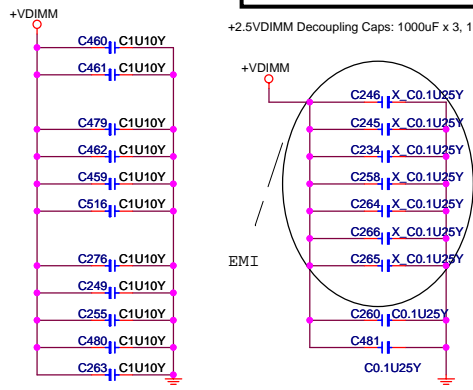
VTT_MEM Decoupling Caps

VTT_MEM Decoupling Caps: 1000uF x 1, 1uF x 55, 0.1uF x 12

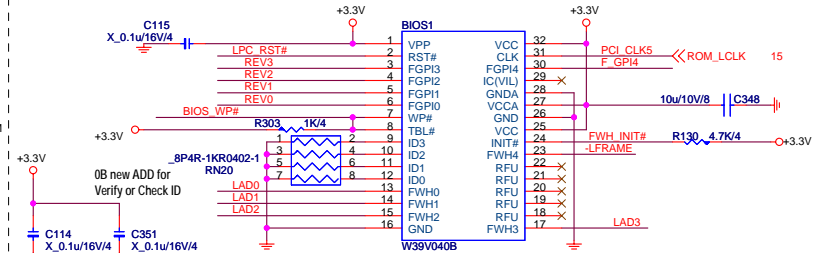
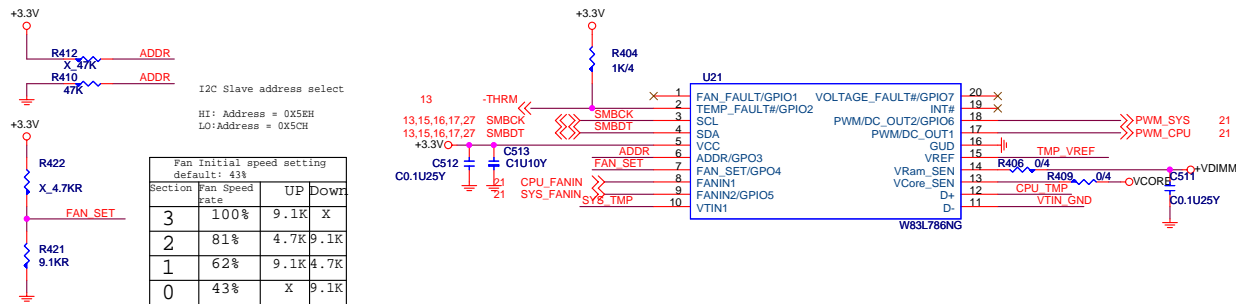


DIMM Module Decoupling Cap.

+2.5VDIMM Decoupling Caps: 1000uF x 3, 1uF x 13, .1uF x 4



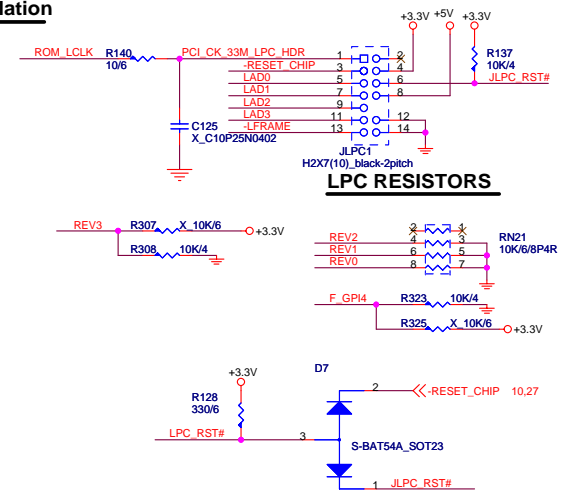
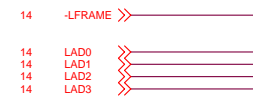
MICRO-STAR			
Title			
DDR DAMPING RESISTORS			
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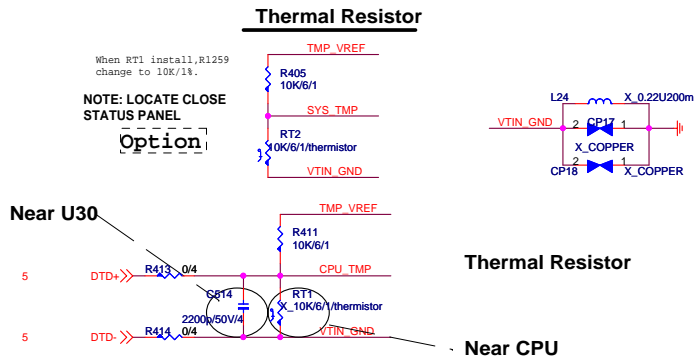
LPC INTERFACE DEBUG PORT

For Debug used , place close to FWH

FWH INIT Signal Voltage Translation



LPC RESISTORS



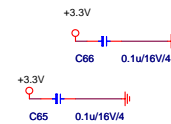
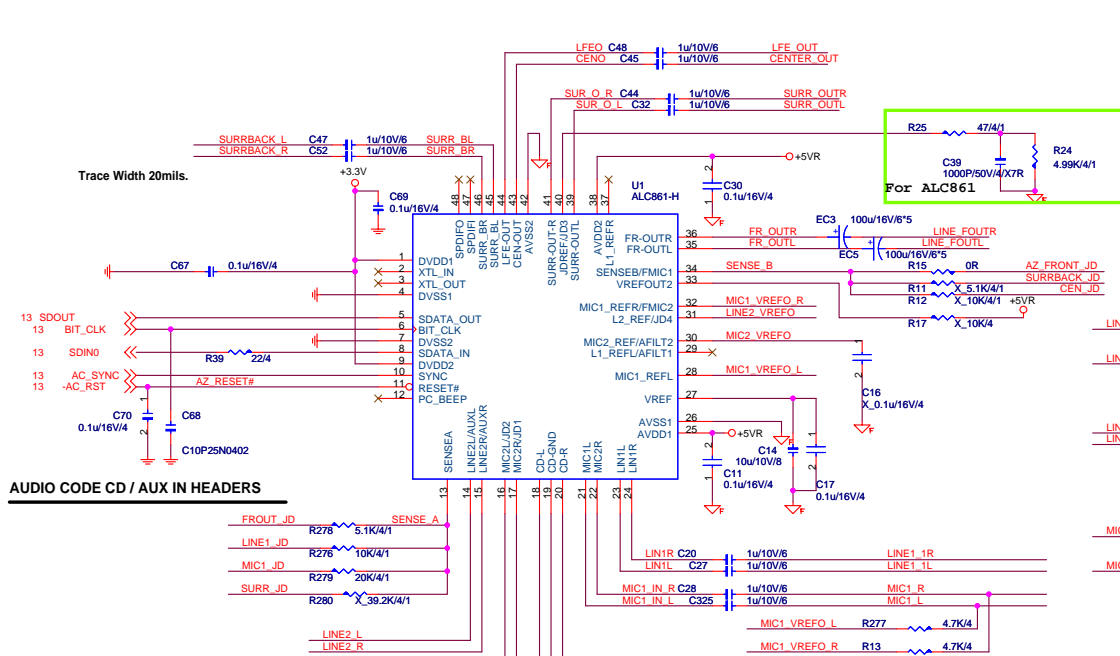
Thermal Resistor

Thermal Resistor

1. If D+D- is used as "Thermal Diode". They are connected to CPU D+D- R1347 and R1348 are placed. R1352 is removed. RT2 is placed as C=2200p and closed to W83L786NR. W83L786NR register CR [53h] = 41h
2. If D+D- is used as "Thermistor". R1347 and R1348 are removed. R1352 is placed. RT2 is placed as thermistor, it is 10kohm@25'C, beta value is 3435K. W83L786NR register CR [53h] = 40h

MSI			
Title			
HW Monitor I/O - W83L786NG & BIOS			
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ALC861 OPT:C CODEC



AUDIO CODE CD / AUX IN HEADERS

AUDIO CODE REGULATORS

Speaker Out Decoupling

HD Front Audio Connector

SPEAKER OUT CIRCUIT

SPEAKER OUT JACK

there are co-lay JACK X3 and JACK X6 connector
When using JACK X3 connector , use AUDIO1
When using JACK X6 connector , use AUDIO2 and AUDIO1

EMI Solution

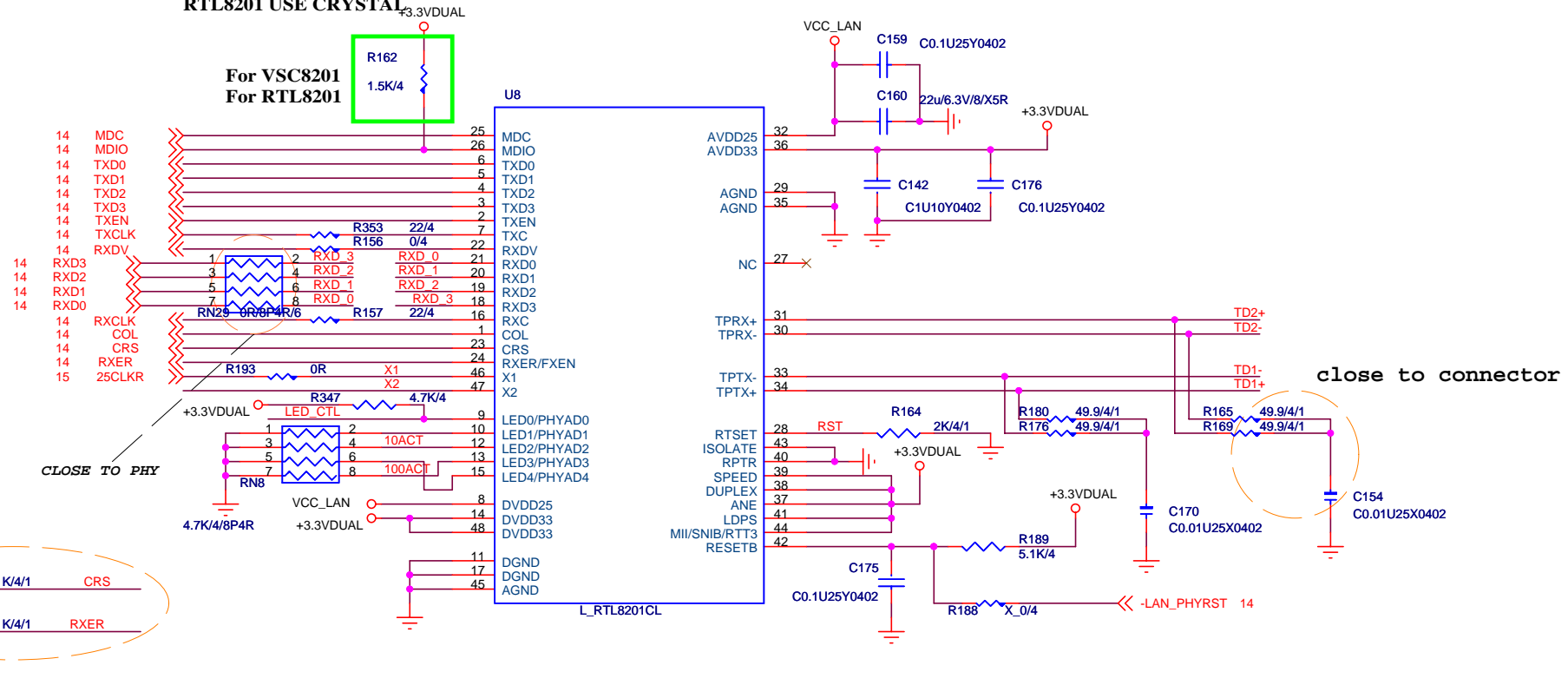
MICRO-STAR

AZALIA CODEC & AUDIO PORT

Title	Document Number	Rev
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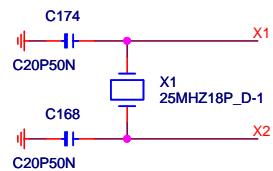
RTL8201 USE CRYSTAL₊

For VSC8201
For RTL8201

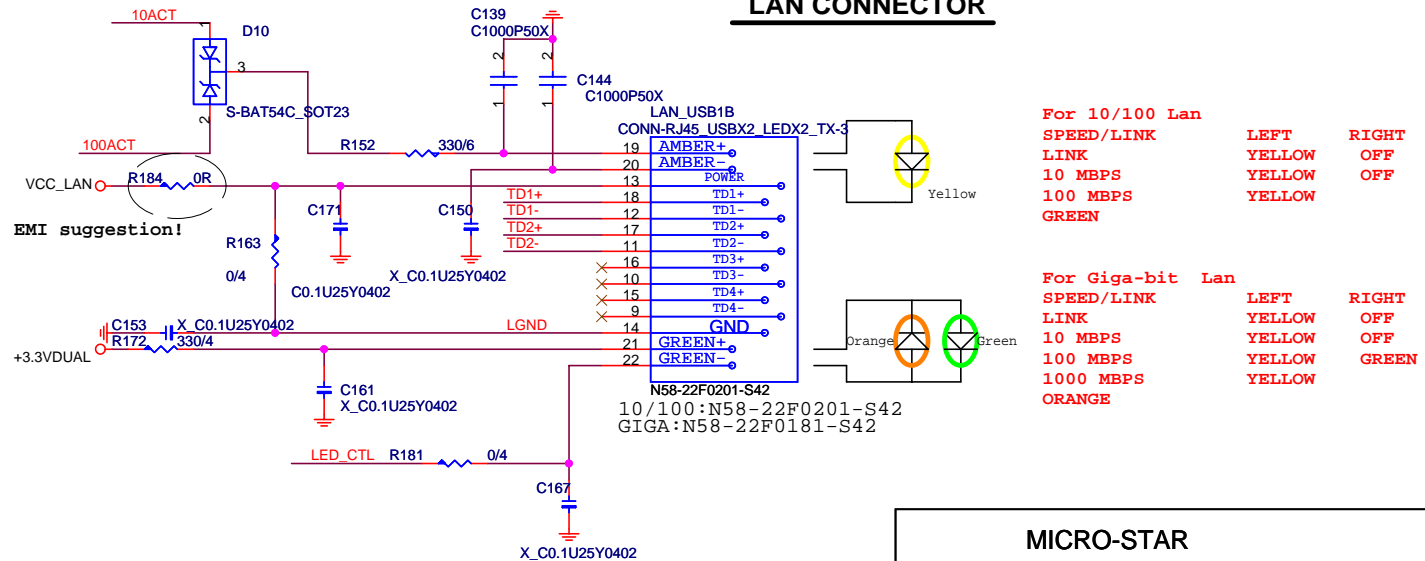


MII_CRS: Ensure to operate in normal mode

MII_RX_ER: H:Fiber mode, L:UTP mode



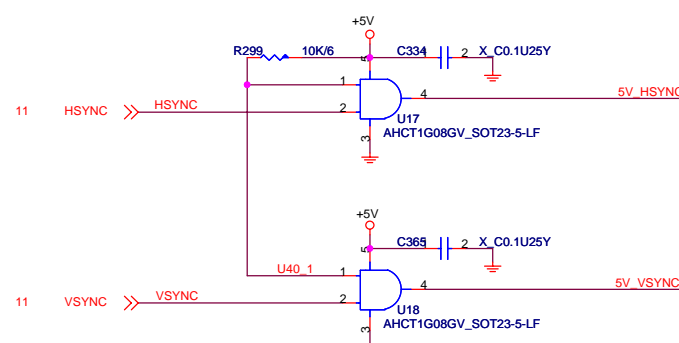
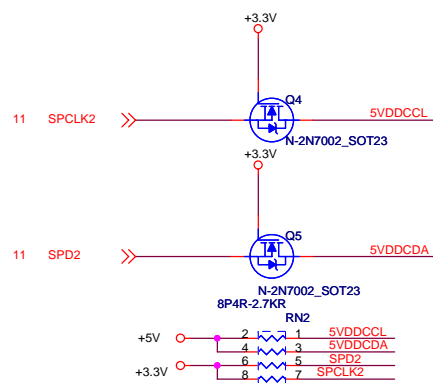
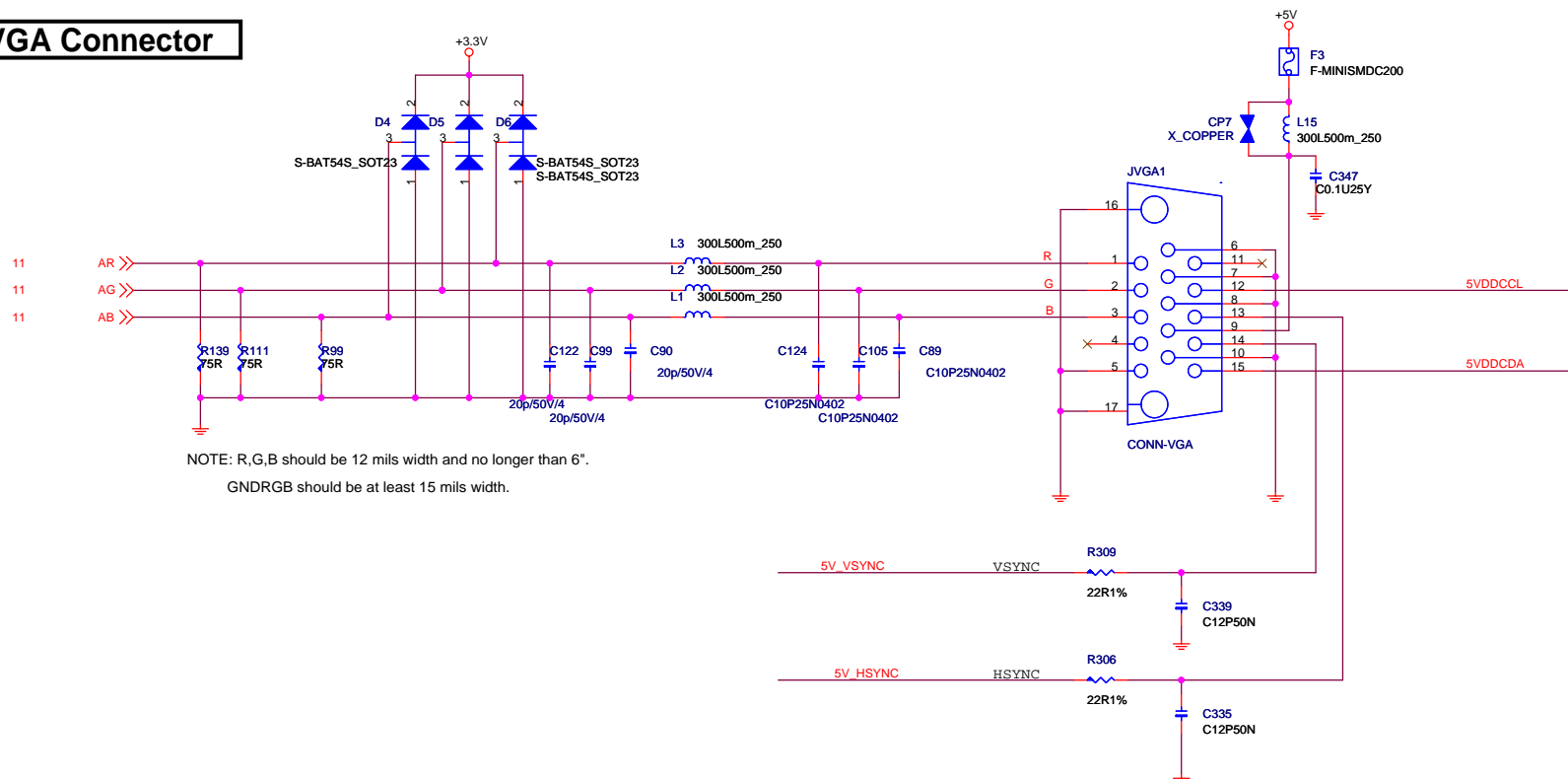
LAN CONNECTOR



MICRO-STAR

Title				LAN RTL8201CL			
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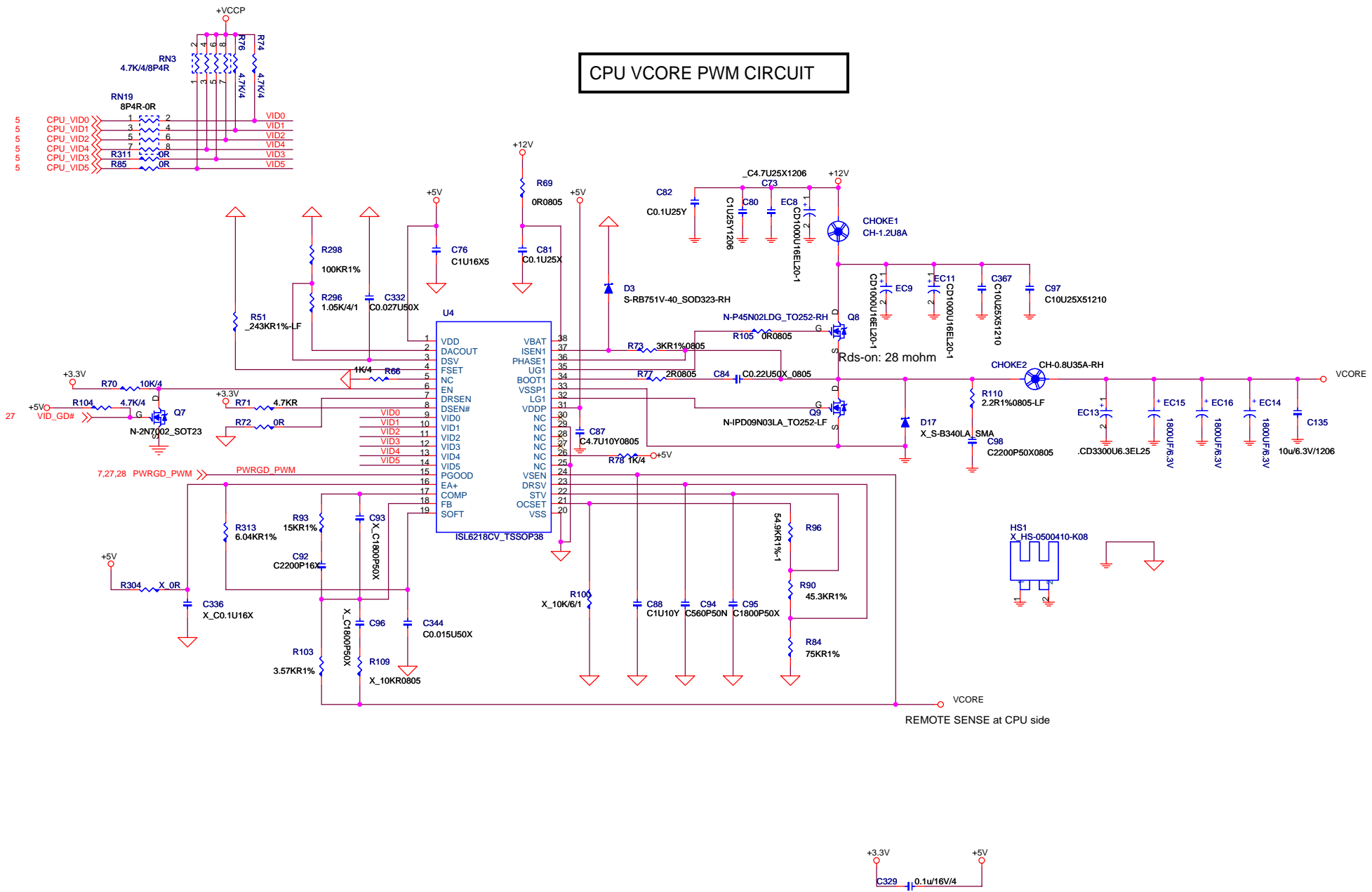
VGA Connector



MICRO-STAR

Title		
VGA CONNECTOR		
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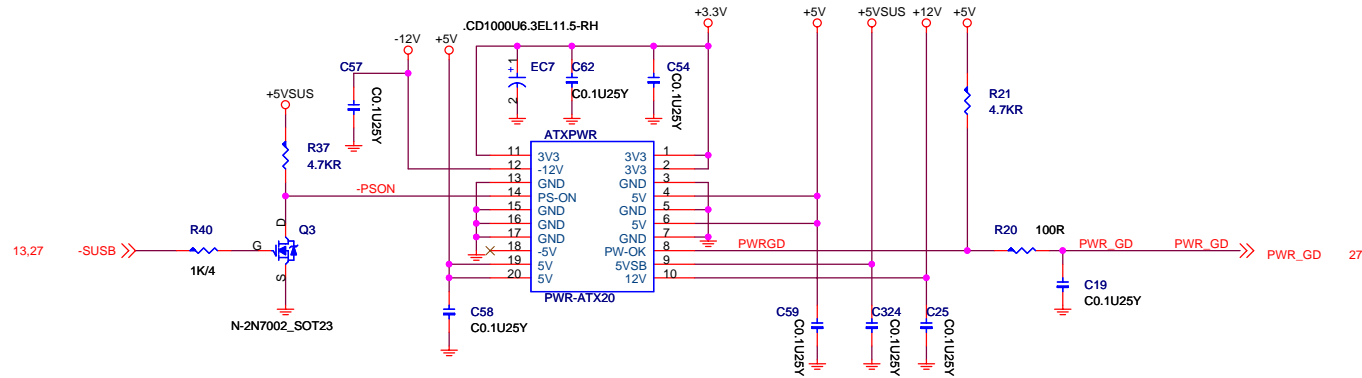
CPU VCORE PWM CIRCUIT



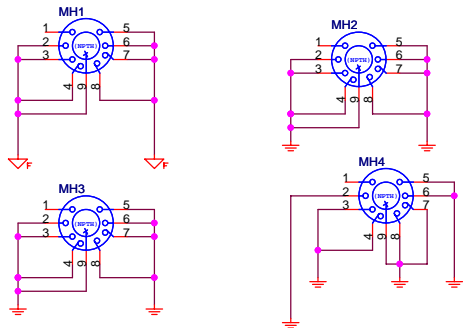
MICRO-STAR			
Title		CPU VOLTAGE	
Size	Document Number	MS-7299	Rev 0A
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ATX POWER

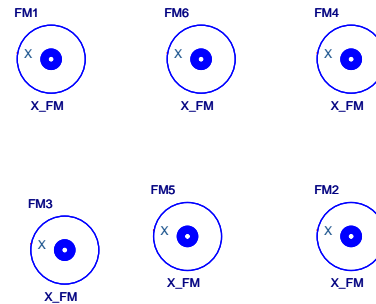
	S1	S3	S5
-SUSA	0	0	0
-SUSB	1	0	0
-SUSC	1	1	0



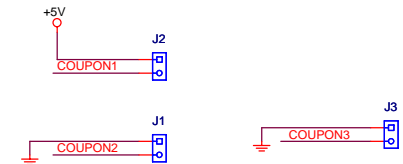
MOUNTING HOLE



Optics Orientation Holes



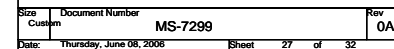
TEST COUPON



IMPEDENCE TESTING COUPON TRACE LENGTH 6000Mils
TRACE WIDTH IS 7 MILS , SPACE 13 MILS.
IMPEDENCE CONTROL WITHIN 50 OHMS +-15%

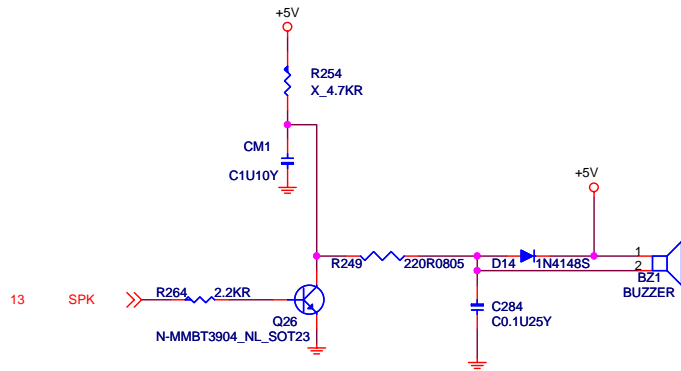
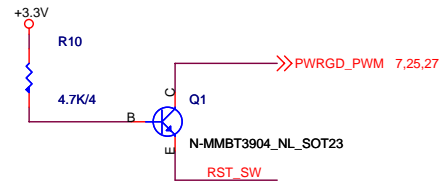
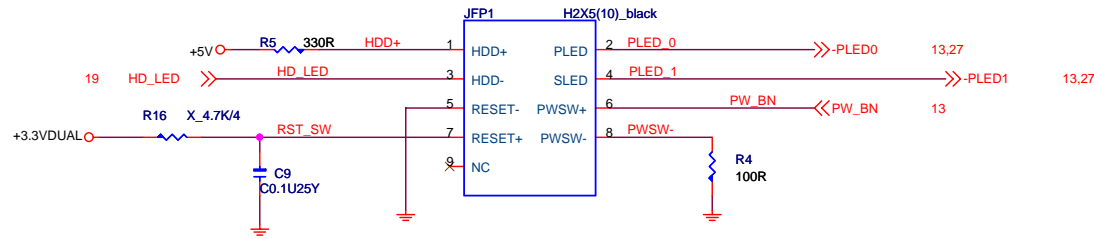
MICRO-STAR

Title			ATX POWER
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HDD+ PLED1
HDD- PLED2
GND PWSW+
RESET PWSW-
RSVD CUT

FRONT PANEL



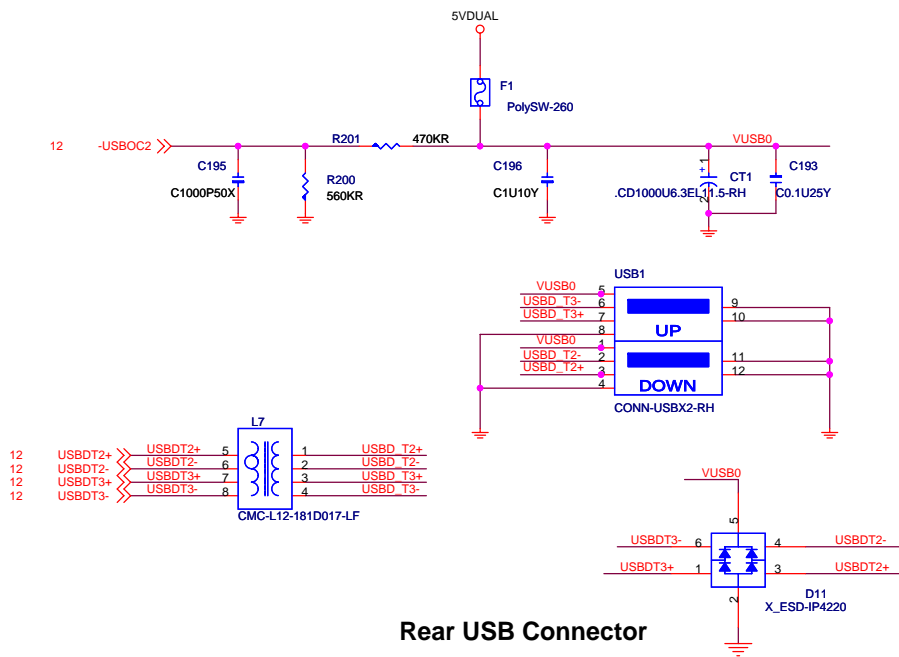
BUZZER

GND SPK-
PLED2 BUZ+
PLED1 BUZ-
CUT SPK+

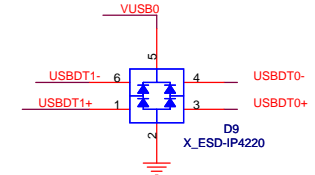
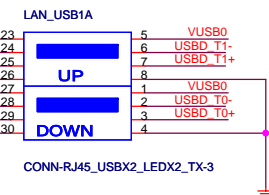
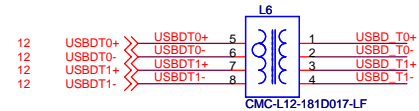
MICRO-STAR

Title			KB/MOUSE & USB CONNECTORS		
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REAR USB

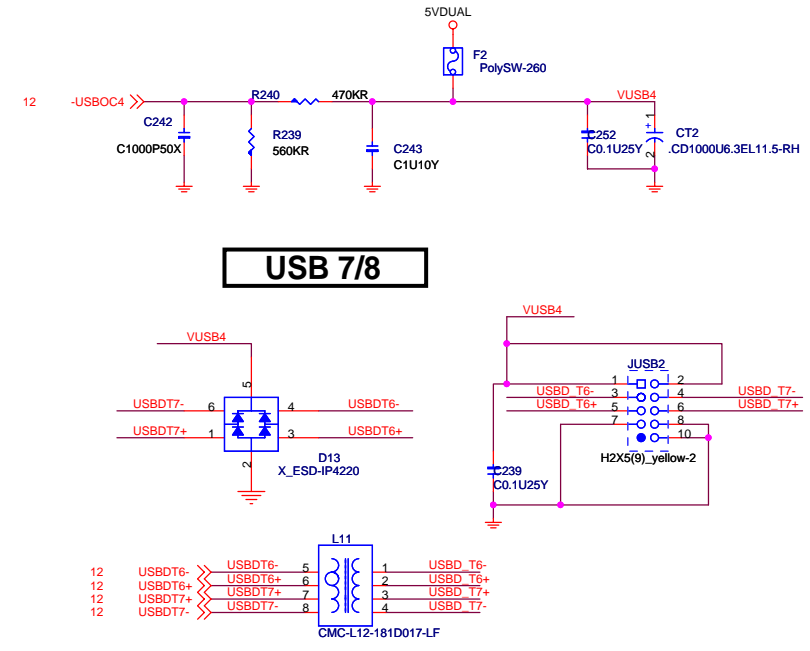
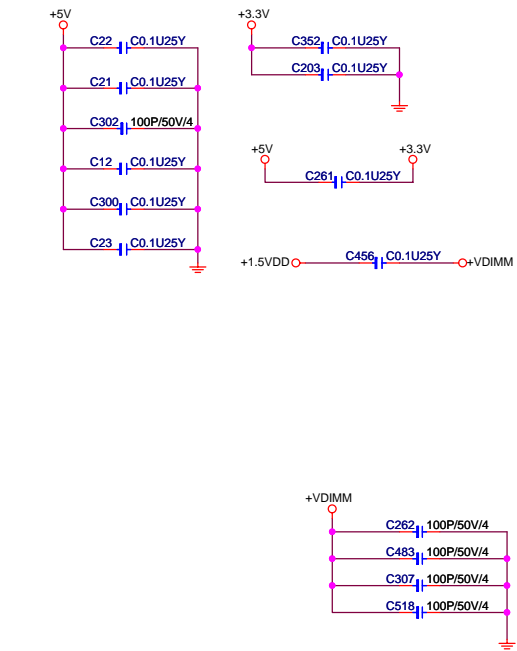


Rear USB Connector

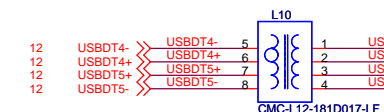
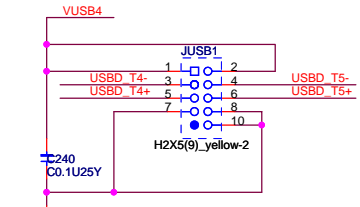
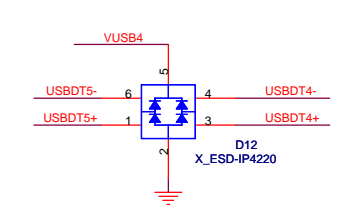


Rear USB Connector

USB 7/8

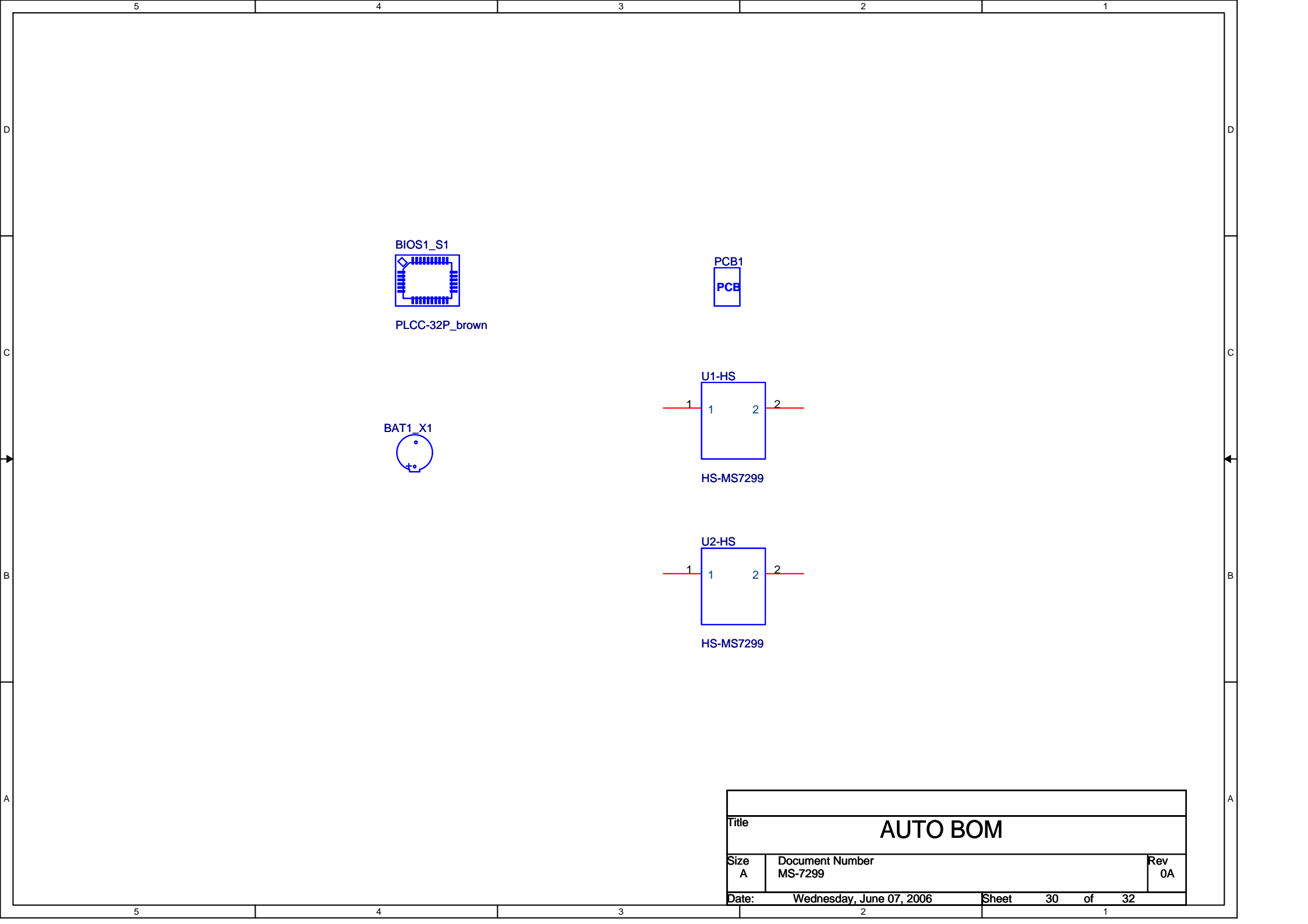


USB 5/6



MICRO-STAR

File			
USB CONNECTORS			
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VT8237A GPIO

NAME	Function Description
GPIO23	CPU DEEP SLEEP
GPIO28	SATA_LED
GPI1	TRIP#
GPI18	-THRM#
GPI19	APICCLK_SB
GPO0	-PLED0
GPO1	-PLED1
GPO3	-SUSST
GPIO23	

Schematic History			
Project Name		MS-7299	Design
Rev.		1 TO 2	Date
No.	Date	Change Notes	Draw By
1.			
2.			
3.			
4.			
5.			
6.			
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