

CONTENT	SHEET
Cover Sheet, Block diagram	1-2
Intel LGA775 CPU - Signals/ Power/ GND	3-5
Intel Bearlake - FSB, PCIE, DMI, VGA, MSIC	6
Intel Bearlake - Memory DDR2	7
Intel Bearlake - Power / GND	8-9
ICH9 - PCI, USB, DMI, PCIE	10
ICH9 - Host, DMI, SATA, Audio, SPI, RTC, MSIC	11
ICH9 - Power, GND	12
DDR2 Chanel-A / Chanel-B	13-14
Clock Gen ICS9LPRS906	15
Super I/O Fintek F71882	16
PS2 / COM / VGA Port	17
SATA / FAN Control	18
LAN Realtek RTL8111B CO-LAY RTL8111C(PCIE)	19
Audio Codec ALC888	20
PCIE x16,x1	21
PCI Slot 1 & 2 & 3 & 4	22
JMB 363	23
USB Connectors	24
System Power/ACPI Controller UPI	25
DDR2 / NB-Core Switching Power	26
VRD 11 - ISL6322 (4 Phases)	27
ATX Power-Con. / F_Panel	28
Manual & Option Parts	29
Power Delivery	30
Reset & PWROK map	31
GPIO Setting & PCI Routing / Revision History	32-33

# MS-7395

ATX Version: 0A

**CPU:** P4,LGA775(Prescott),(Smithfield),(CedarMill),(Presler),  
(Conroe),(Kentsfield);Wolfdale(Conroe next gen) ; Yorkfield  
(Kentsfield next gen)

## System Chipset:

Intel Bearlake - Q/G/P (G33, P35, Q35/33North Bridge)  
Intel ICH9 (co-lay ICH9R South Bridge)

## On Board Device:

CLOCK Gen -- ICS 9LPRS906  
LPC Super I/O -- Fintek F71882F  
LAN -- Realtek 8111B CO-LAY RTL8111C (PCIE)  
HD Audio Codec -- ALC888  
PCIE to PATA/SATA Bridge -- JMB363

## Main Memory:

Dual-channel DDR-II \* 4

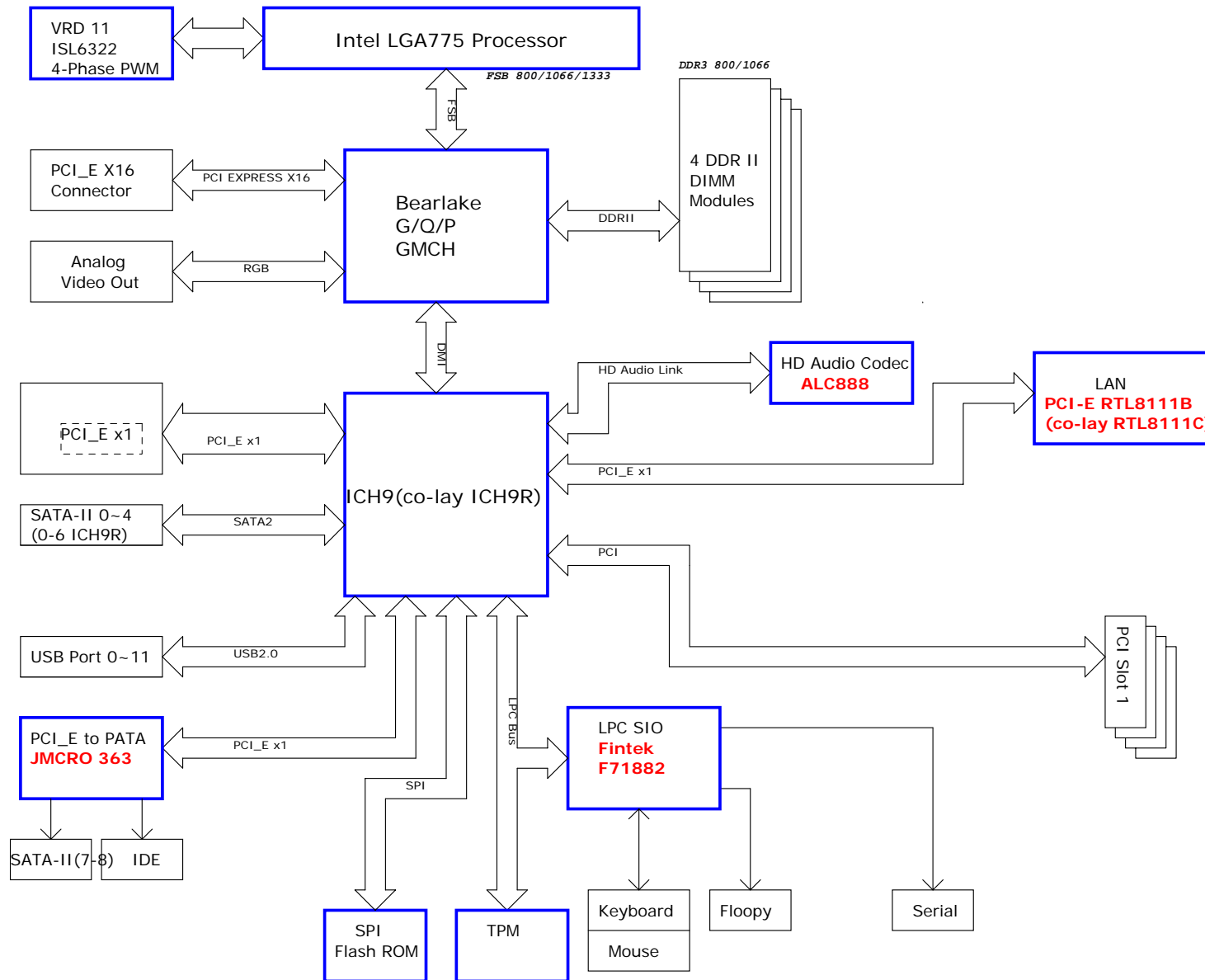
## Expansion Slots:

PCI EXPRESS X16 SLOT \*1  
PCI EXPRESS X 1 SLOT \* 1  
PCI SLOT \* 4

**PWM:** Intersil ISL6322 (4 Phases) w/ ISL6612 driver

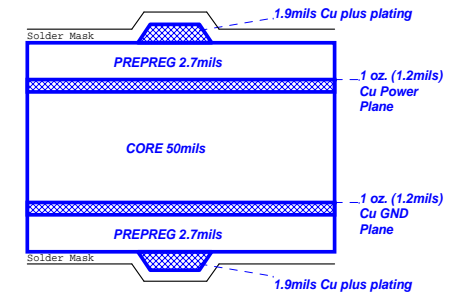
<b>MICRO-STAR INT'L CO.,LTD</b>		
<b>MS-7395</b>		
Size Custom	Document Description <b>COVER SHEET</b>	Rev 0A
Date: Thursday, July 12, 2007 Sheet 1 of 33		

# Block Diagram



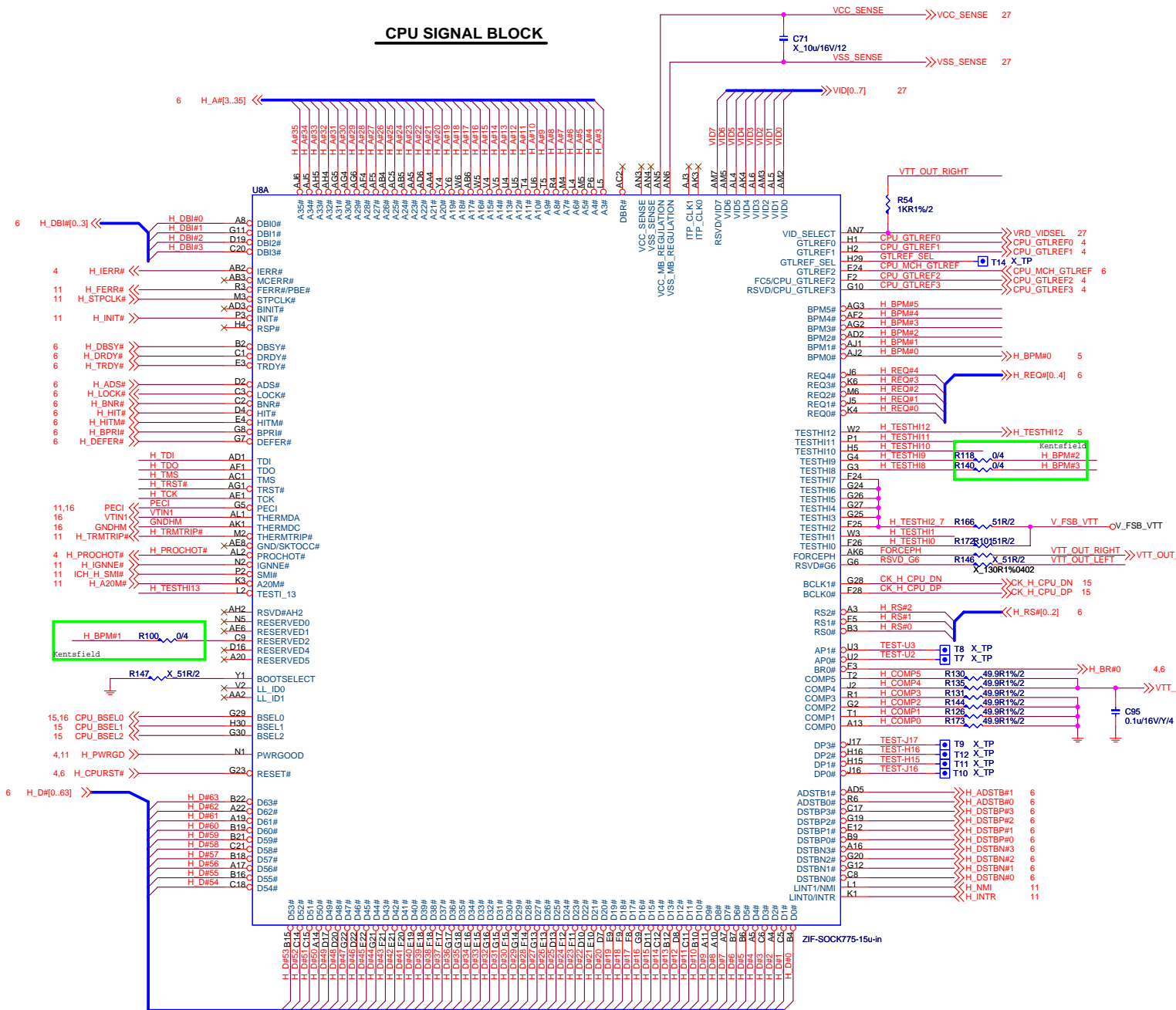
## Board Stack-up

(1080 Prepreg Considerations)

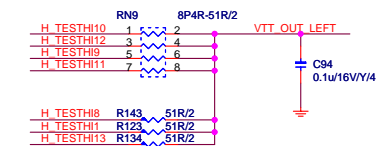
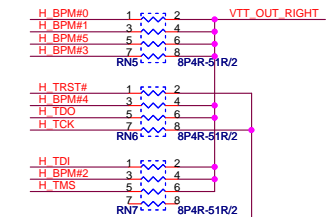
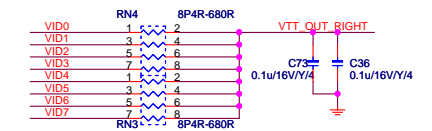


Single End 50ohm Top/Bottom : 4mils  
 USB2.0 - 90ohm : 15/4.5/7.5/4.5/15  
 SATA - 95ohm : 15/4/8/4/15  
 LAN - 100ohm : 15/4/8/4/15  
 PCIE - 95ohm : 15/4/8/4/15  
 IEEE1394 - 110ohm : 15/4/9/4/15  
 IDE : 15/4/8/4/15

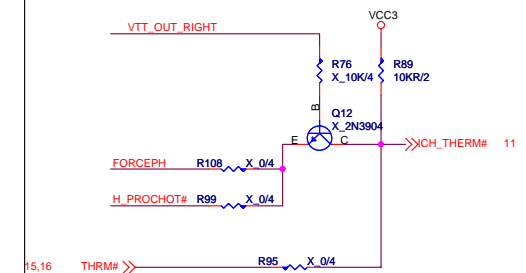
### CPU SIGNAL BLOCK



### PULL HIGHT PULL DOWN



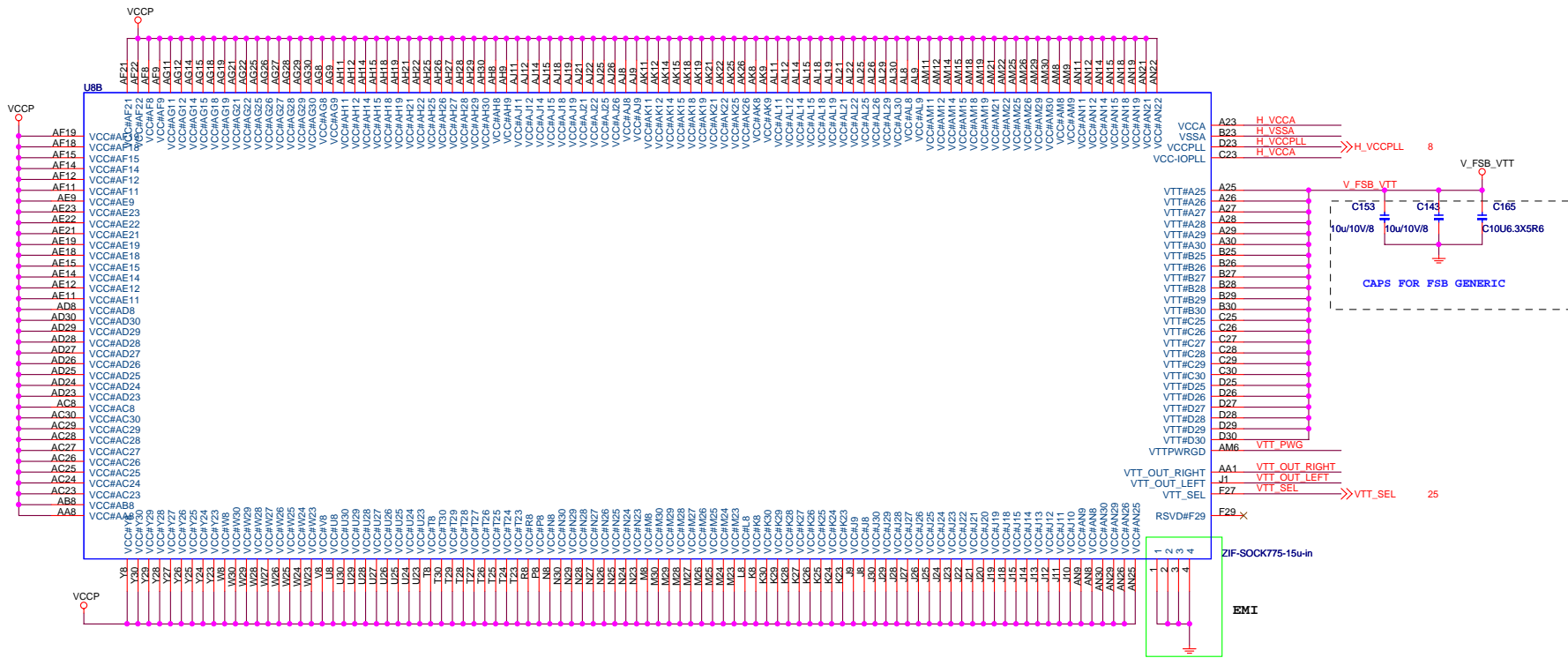
### Thermal TRIP



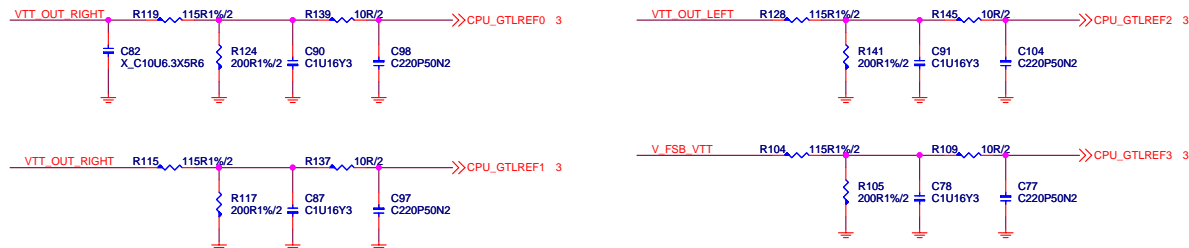
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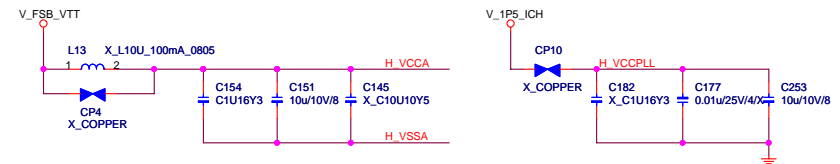
Size Custom	Document Description <b>LGA775 - Signal</b>	Rev 0A
Date: Monday, July 16, 2007		Sheet 3 of 33



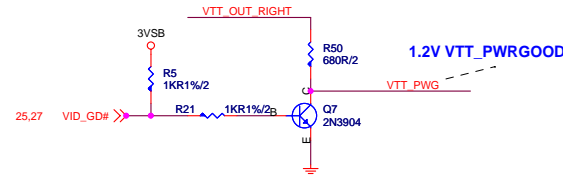
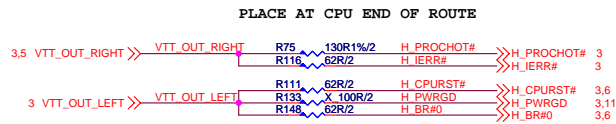
\*GTLREF VOLTAGE SHOULD BE  
0.67 \* VTT = 0.8V (At VTT=1.2V)



\*PLACE COMPONENTS AS CLOSE AS POSSIBLE TO PROCESSOR SOCKET  
\*TRACE WIDTH TO CAPS MUST BE NO SMALLER THAN 12MILS



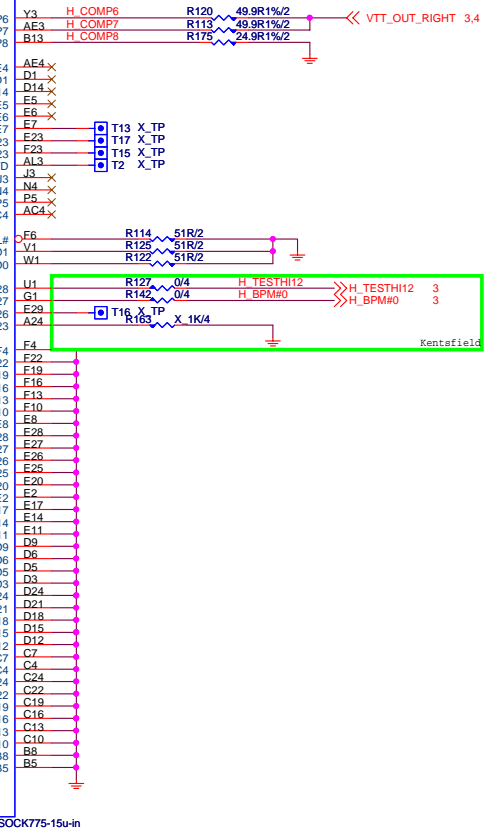
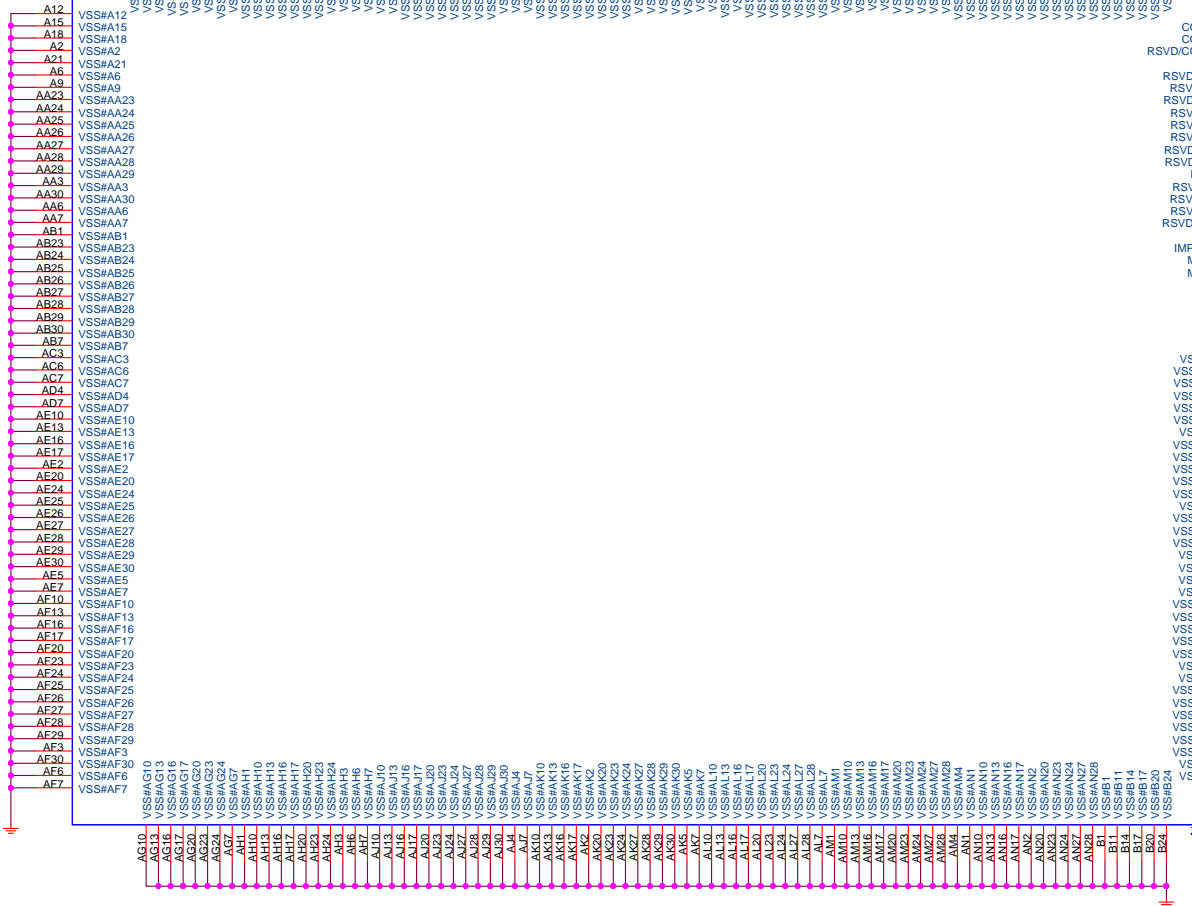
## VTT\_PWRGOOD



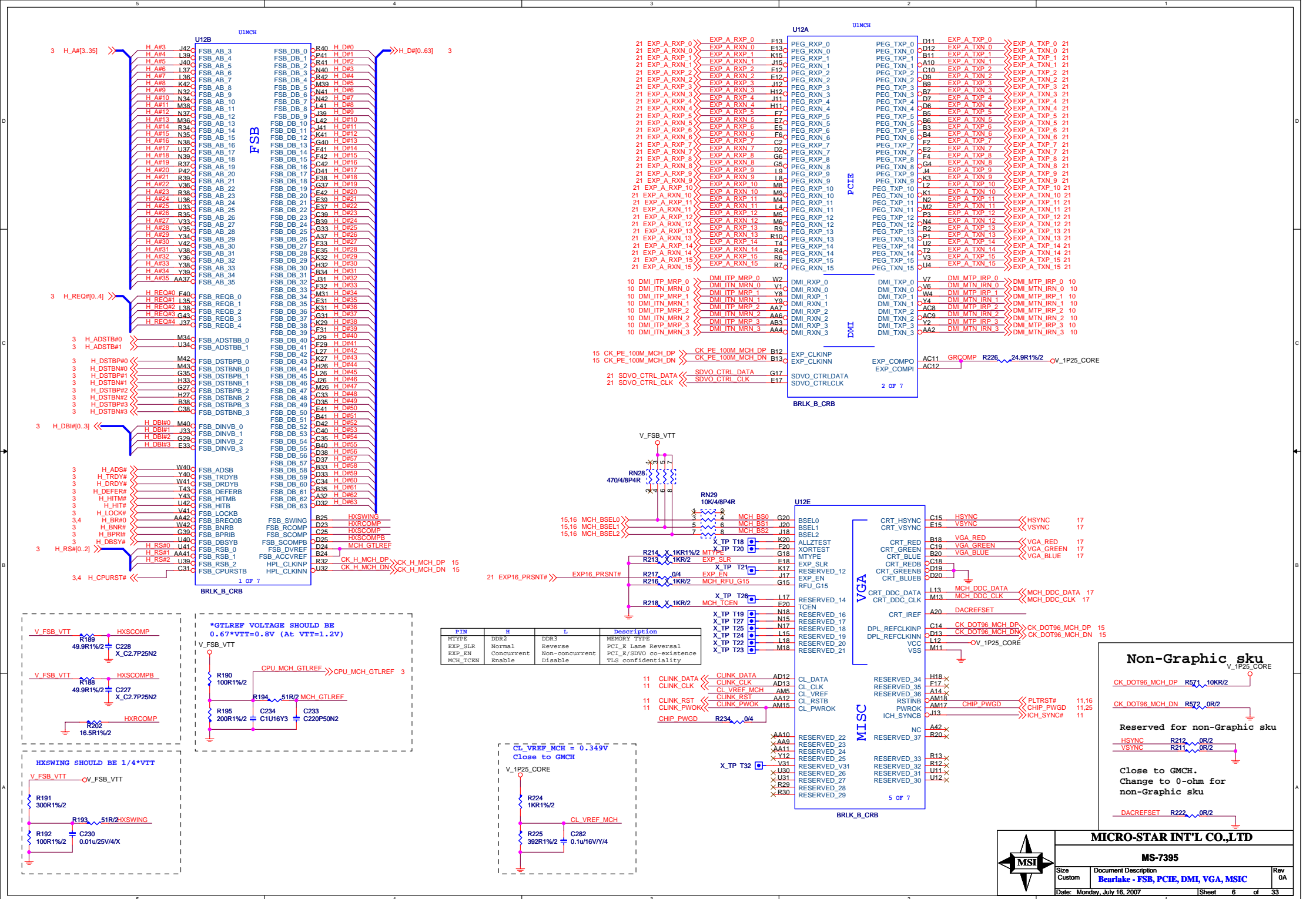
VTT\_PWG SPEC :  
High > 0.9V  
Low < 0.3V  
Trise < 150ns

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MS-7395			
Size	Document Description	Rev	
Custom	LGA775 - Power	0A	
Date: Monday, July 16, 2007	Sheet	4	of 33

UBC



ZIF-SOCK775-15u-in



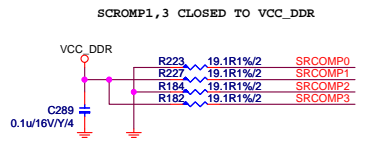
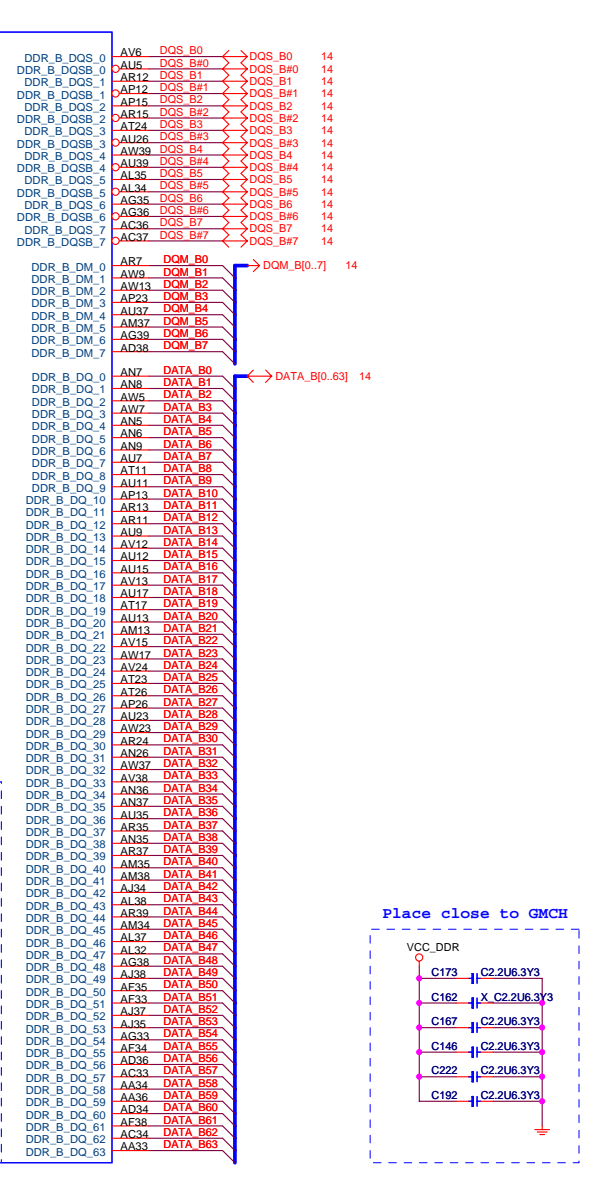
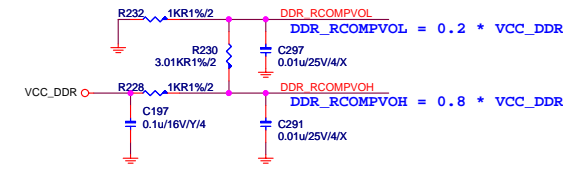
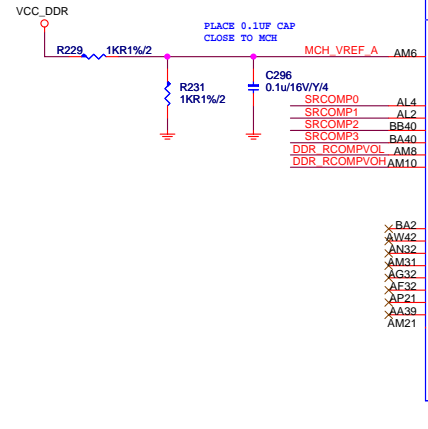
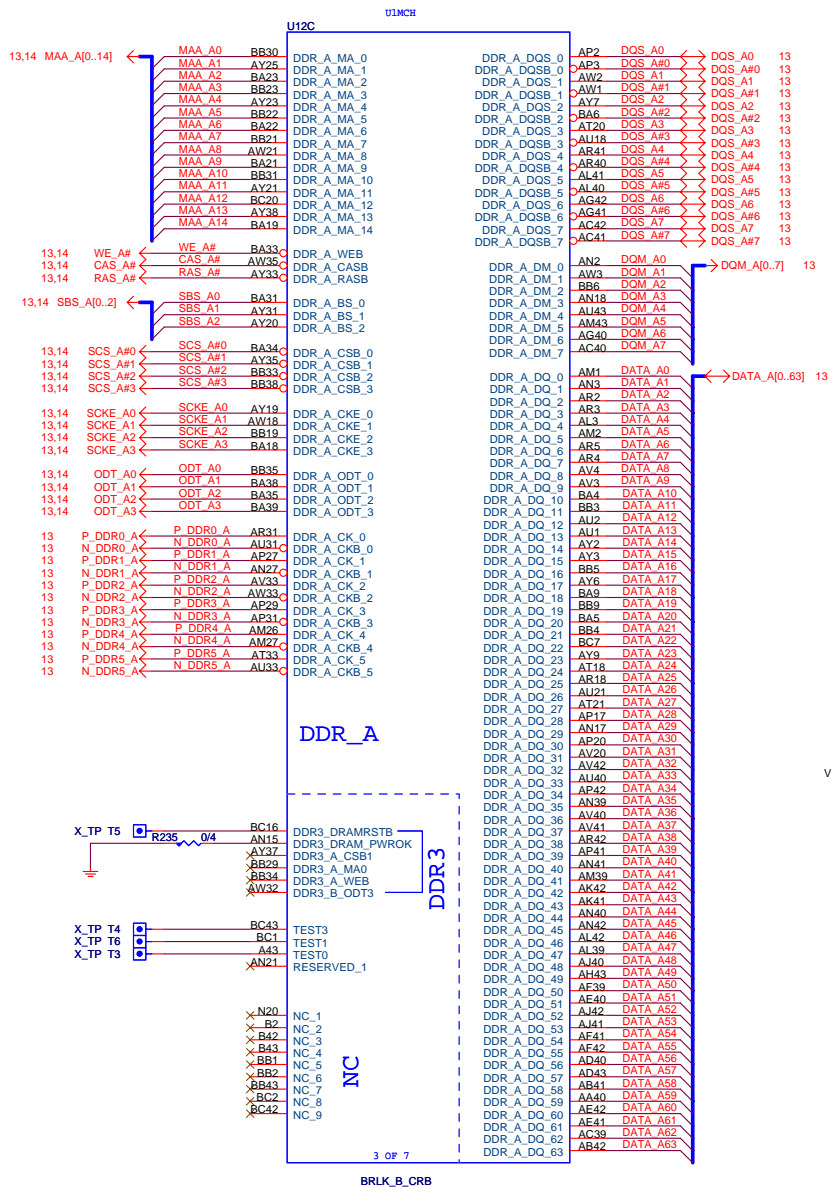
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Size	Document Description
Custom	<b>Bearlake - FSB, PCIE, DMI, VGA, MSIC</b>

Date: Monday, July 16, 2007	Sheet 6 of 33
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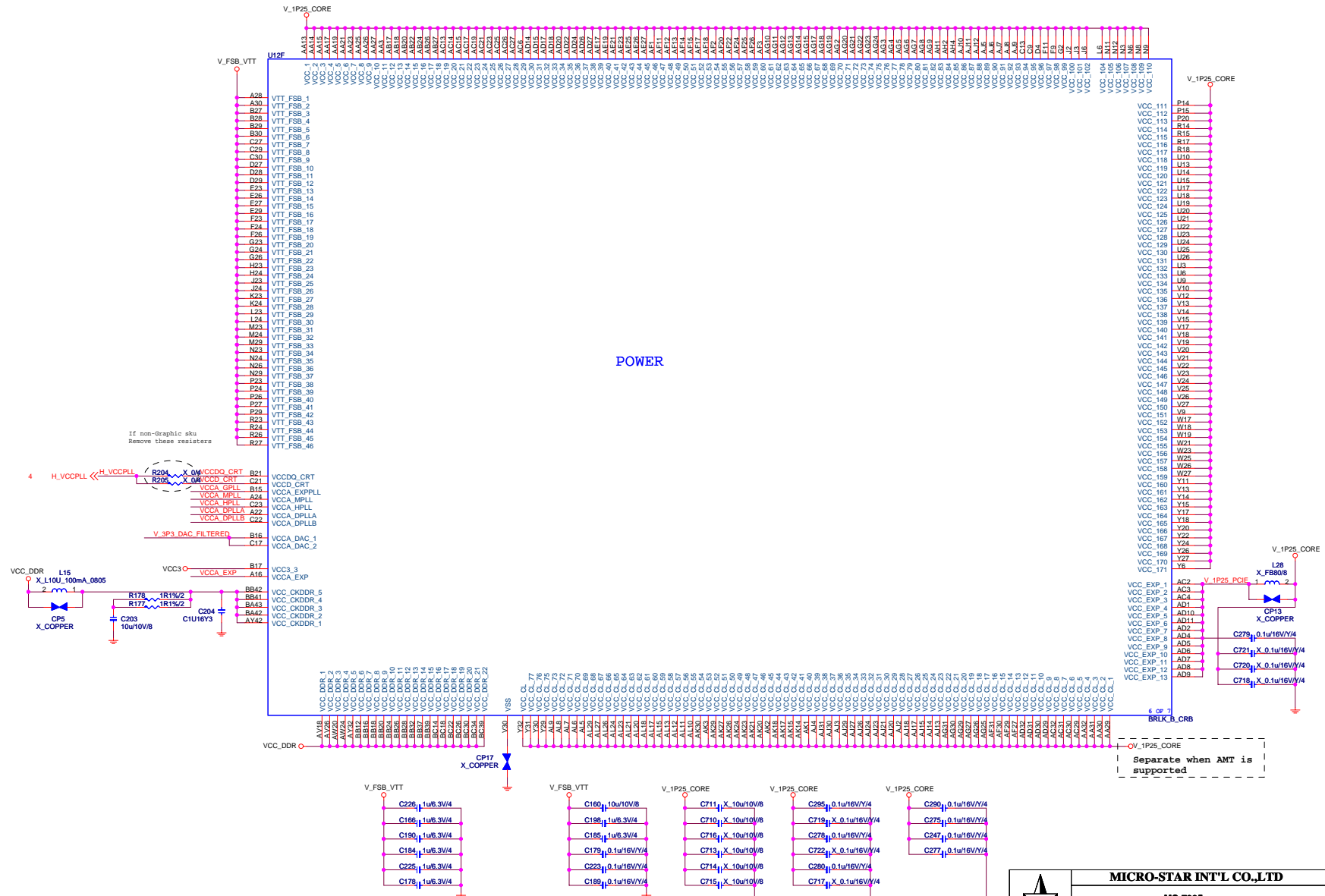
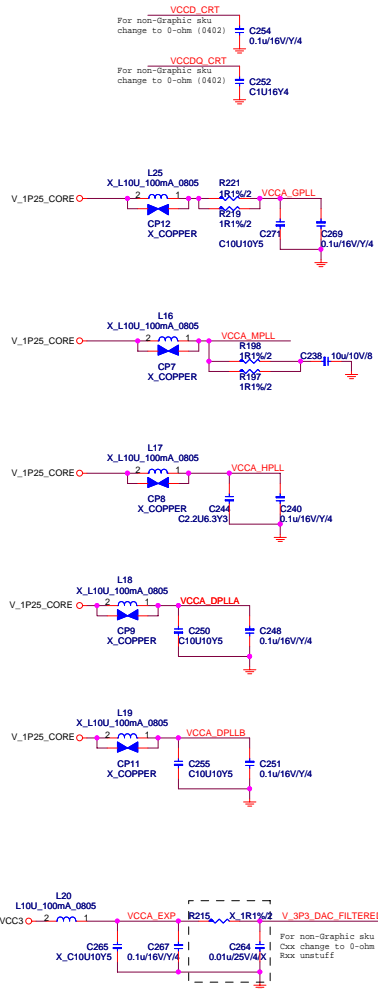
MS-7395

Size	Document Description	Rev
Custom	Bearlake - Memory	0A

Date: Monday, July 16, 2007

Sheet 7 of 33

**NB POWER**

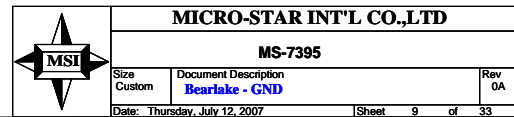


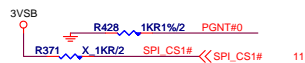
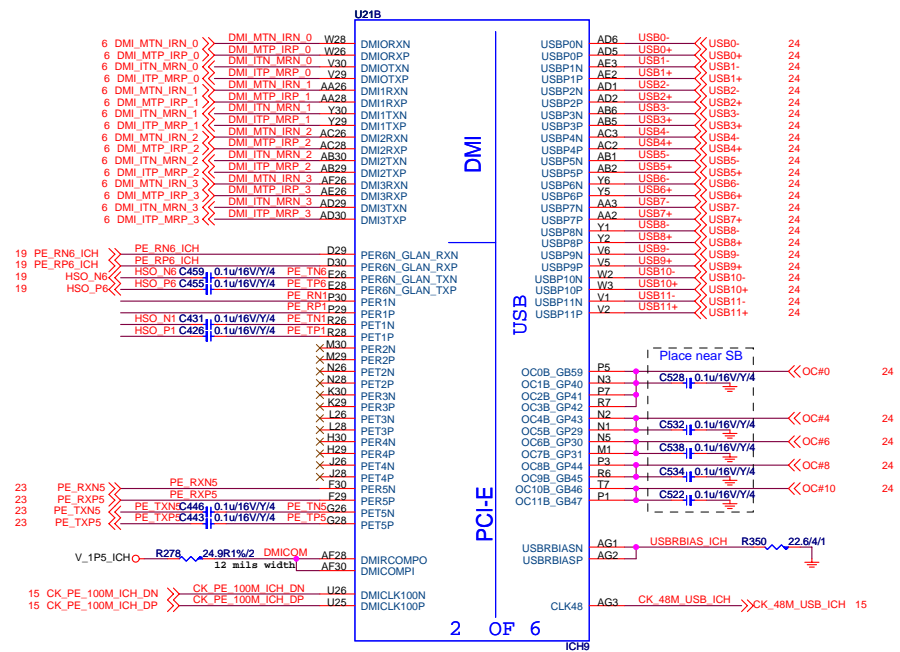
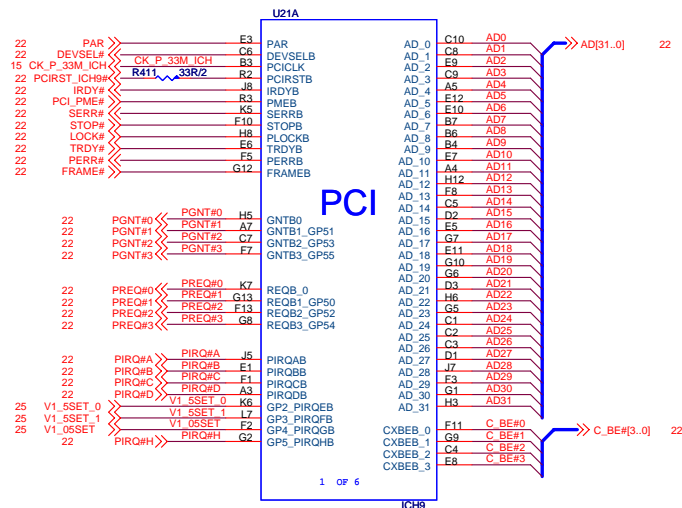
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MS-7395

Size Custom	Document Description <b>Bearlake - Power</b>	Rev 0A
Date: Monday, July 16, 2007		Sheet 8 of 33



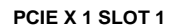
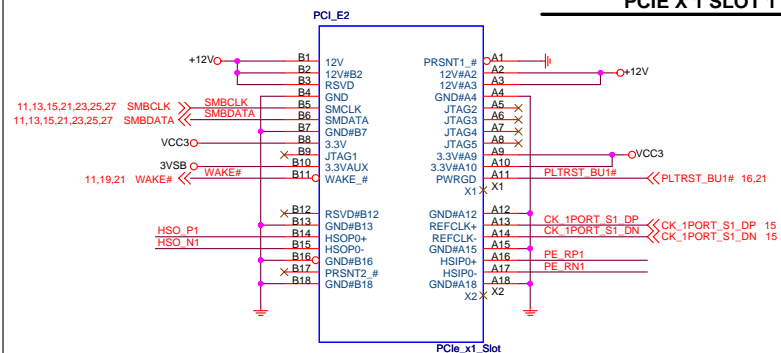


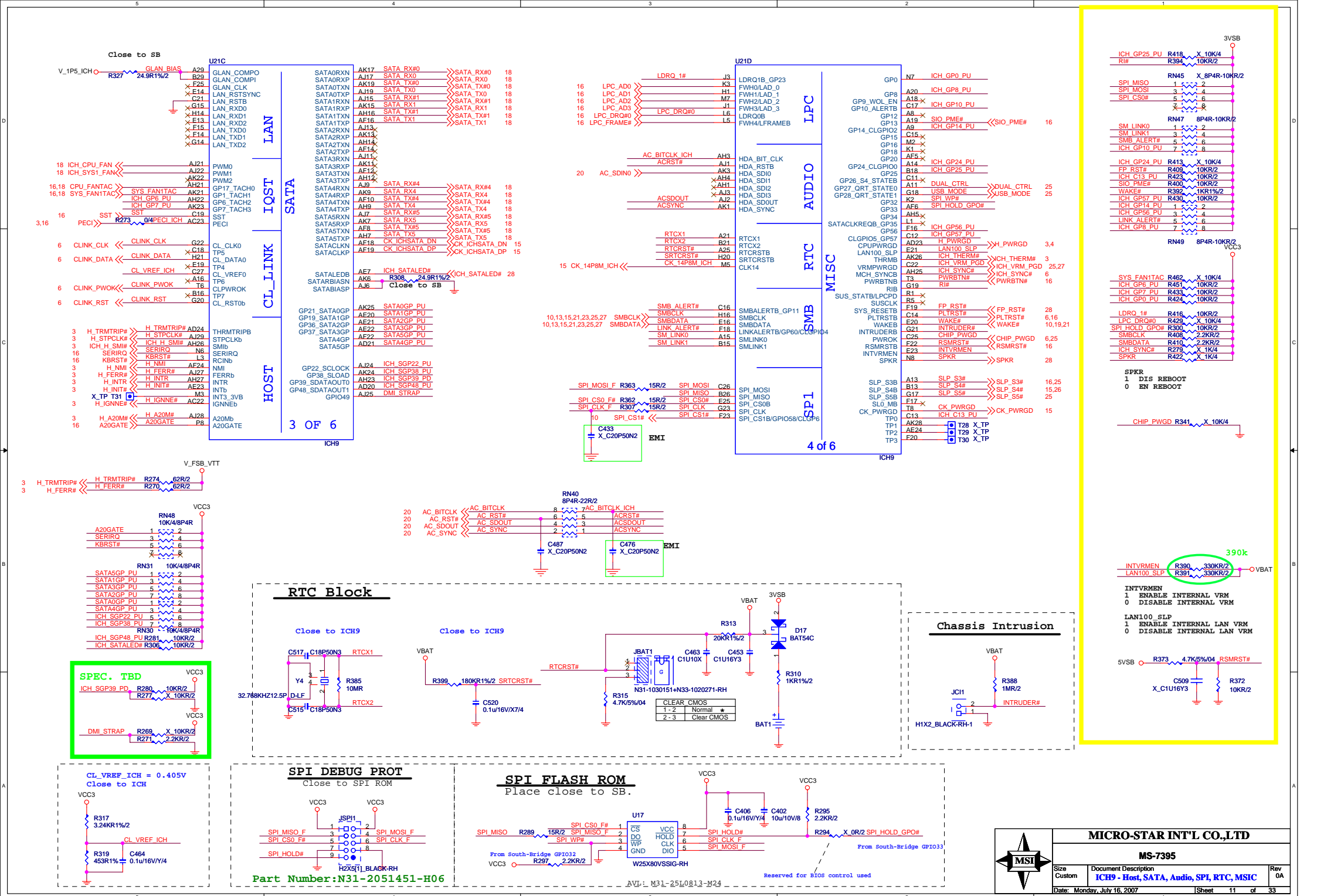


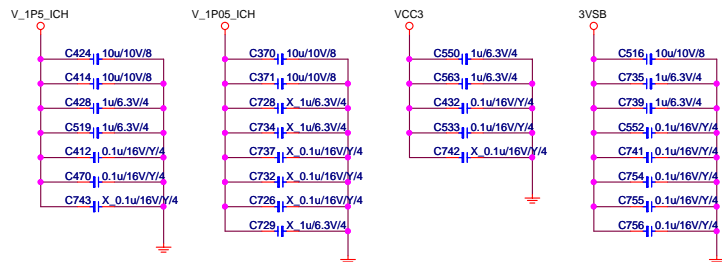
BOOT SELECT STRAPS		
BOOT DEVICE	GNT#0	SPI_CS1#
FWH	1	1
SPI	0	1
PCI	1	0



SIGNAL	H	L	DES.
GNT3	DIS	EN	A16 OVERRIDE
GNT2	N/A	SET BIT	PCIE PORT CONFIG 2 BIT 0 (5-6)







AC7, H17 & H18, AD8  
spec TBD



6 OF 6



MS-7395

Size Custom	Document Description <b>ICH9 - Power, GND</b>	Rev 0A
Date: Thursday, July 12, 2007	Sheet 12 of 33	



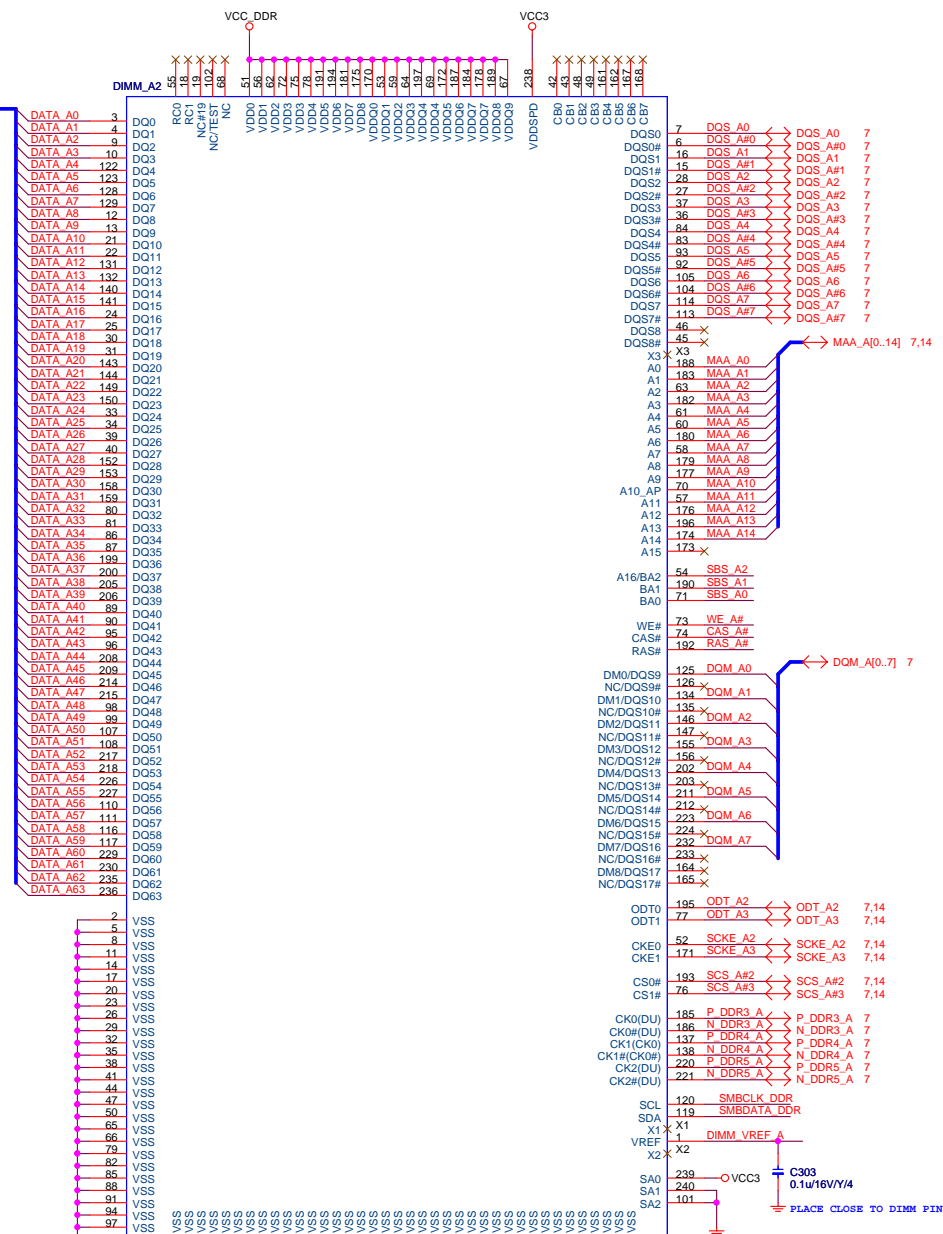
## DDRII DIMM\_A1



ADDRESS: 000  
0xA0

SMBCLK\_DDR R121 33R/2  
SMBDATA\_DDR R129 33R/2

## DDRII DIMM\_A2



ADDRESS: 001  
0xA2



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MS-7395

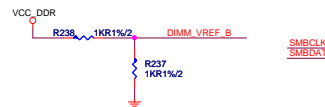
Size Custom Document Description DDR2 CHANNEL-A Rev 0A

Date: Monday, July 16, 2007 Sheet 13 of 33

# DDR II Termination



## DDR II DIMM\_B1



SMCLK\_DDR  
SMBDATA\_DDR

SMCLK\_DDR  
SMBDATA\_DDR

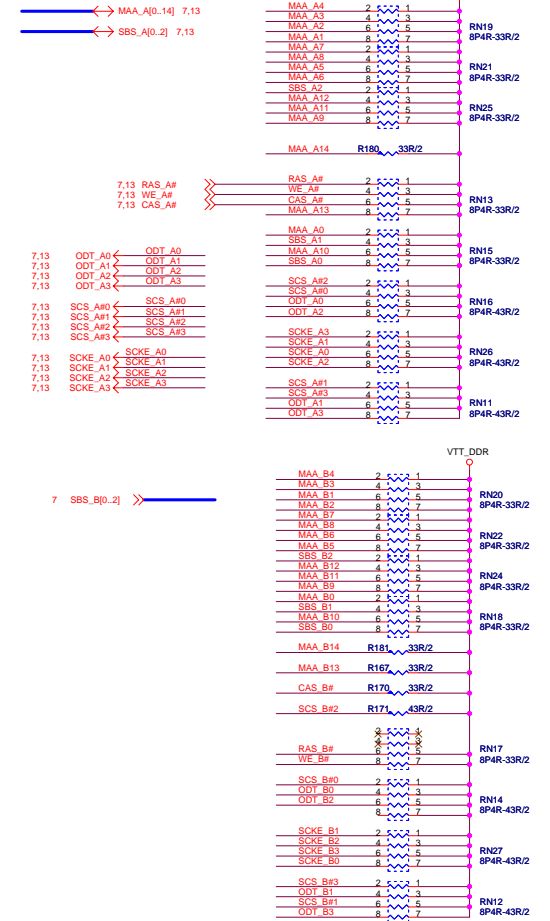


## DDR II DIMM\_B2



SMCLK\_DDR  
SMBDATA\_DDR

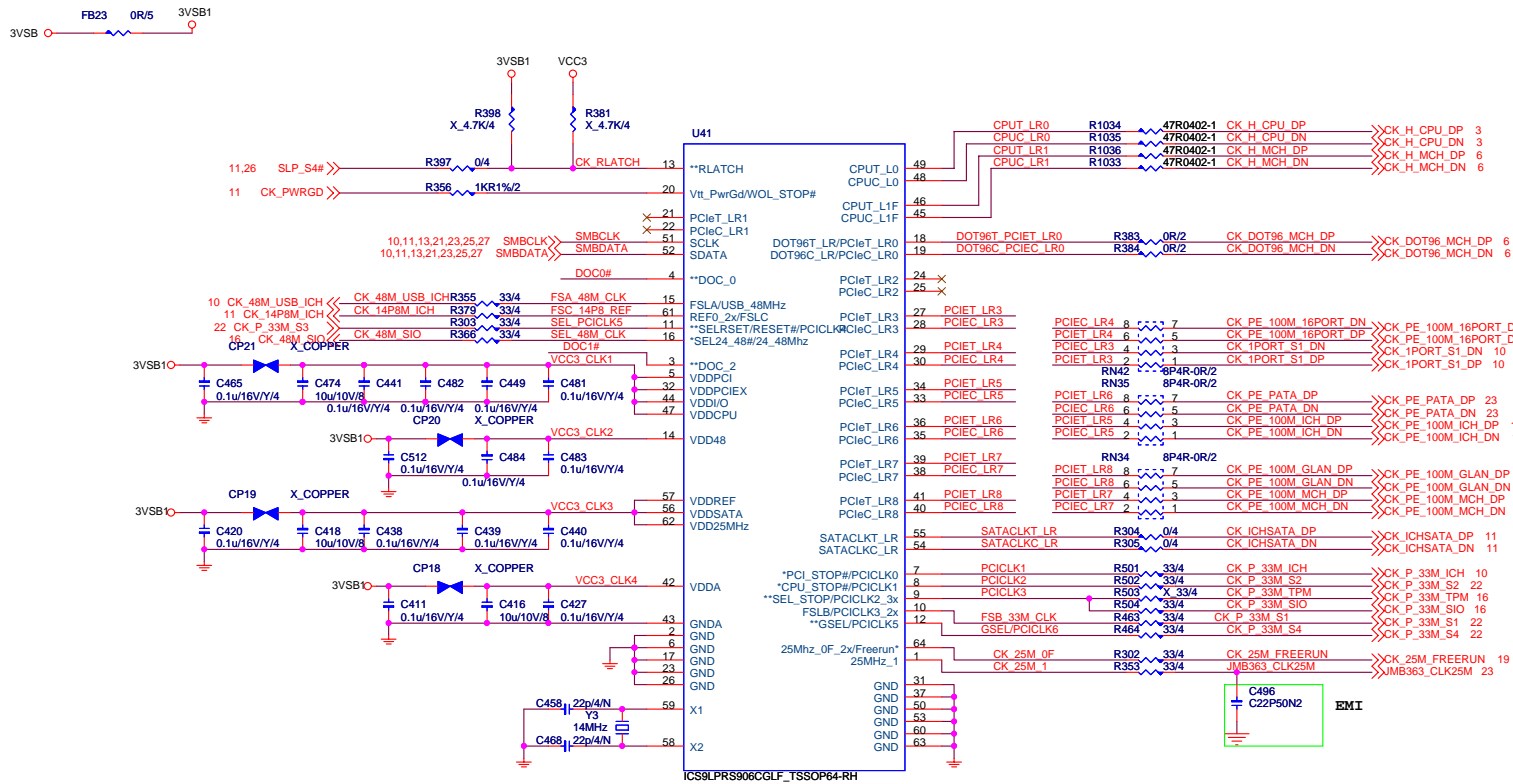
SMCLK\_DDR  
SMBDATA\_DDR



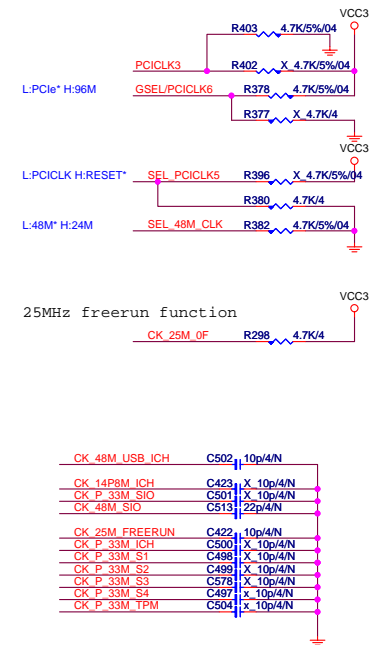
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MS-7395  
Document Description  
DDR2 CHANNEL-B/DDR II Termination  
Date: Monday, July 16, 2007  
Sheet 14 of 33



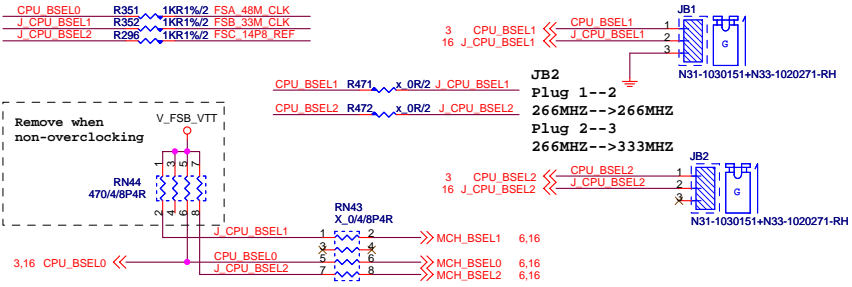


## CLOCK GEN STRAPPING

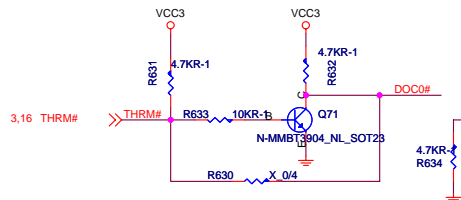


BSEL	TABLE
2 1 0	FSB FREQUENCY
0 0 0	266 MHz (1066)
0 0 1	133 MHz (533)
0 1 0	200 MHz (800)

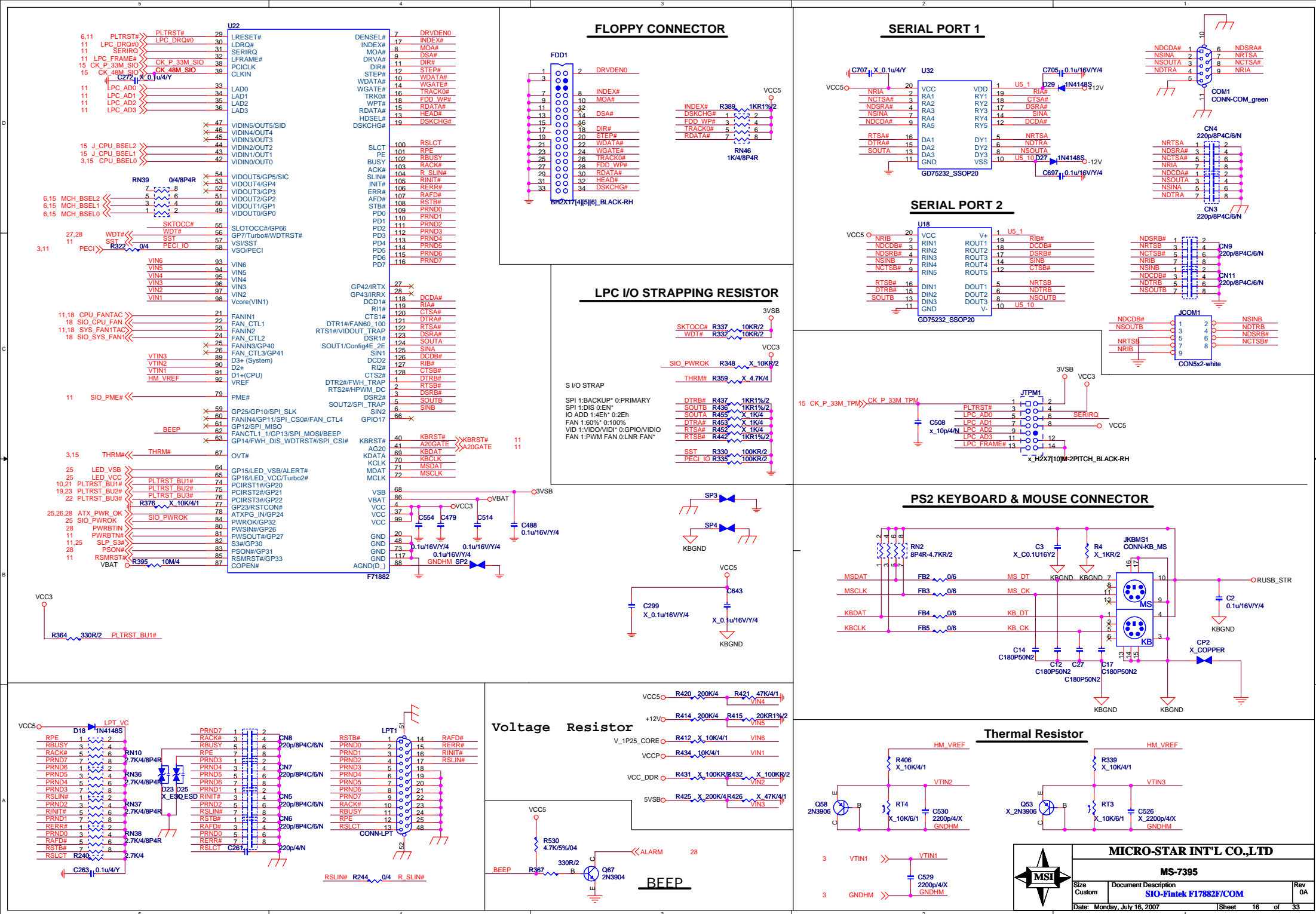
JB1  
Plug 1--2  
200MHZ-->200MHZ  
Plug 2--3  
200MHZ-->266MHZ



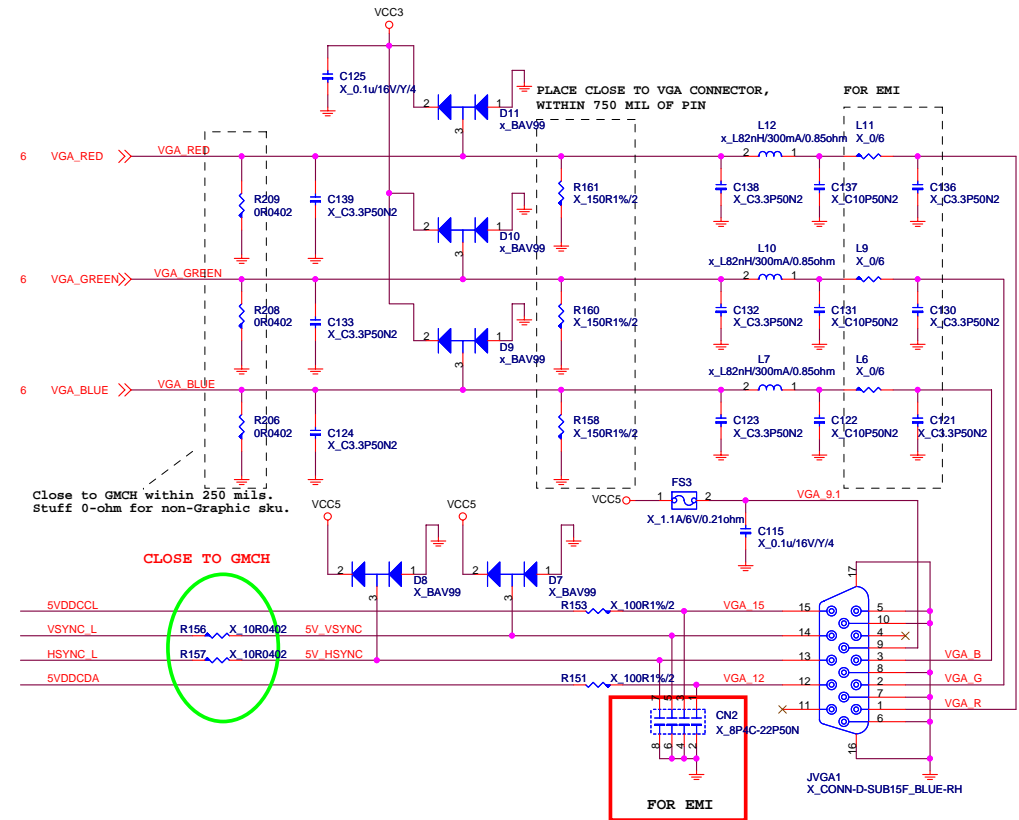
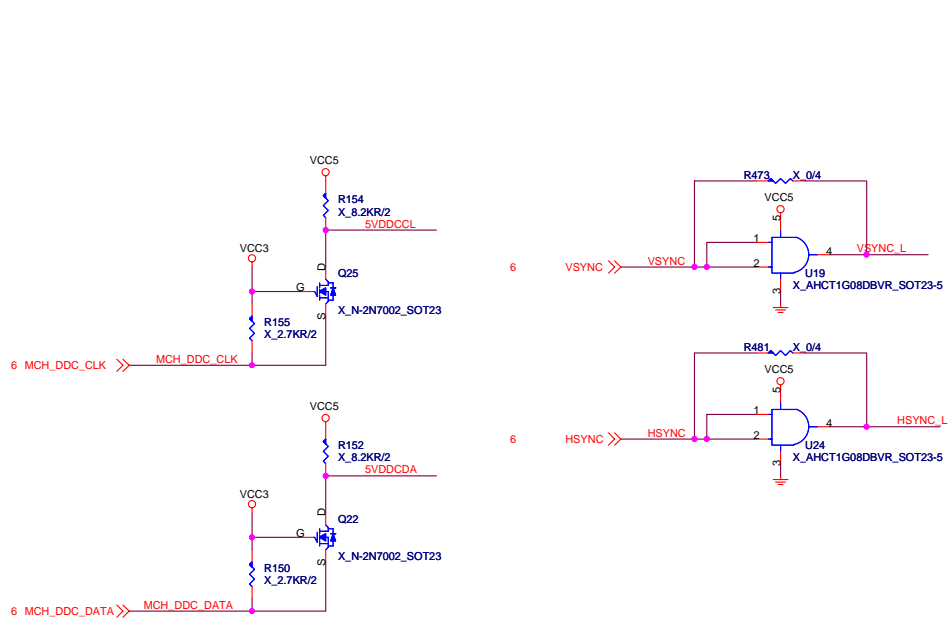
JB1  
Open  
JB2  
Plug 1--2 or 2--3 or Open  
333MHZ-->400MHZ







## Video Connector



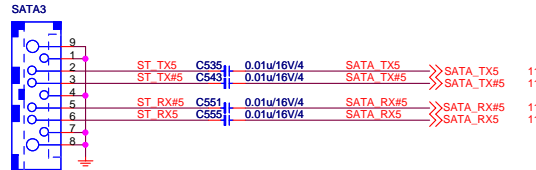
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MS-7395

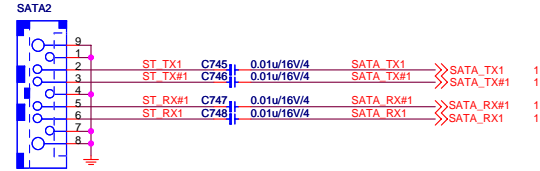
Size Custom	Document Description <b>VGA</b>	Rev 0A
Date: Monday, July 16, 2007		Sheet 17 of 33



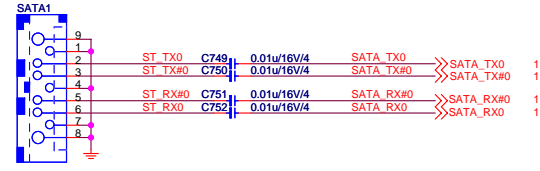
CONN-SATA10P\_PURPLE



CONN-SATA10P\_PURPLE

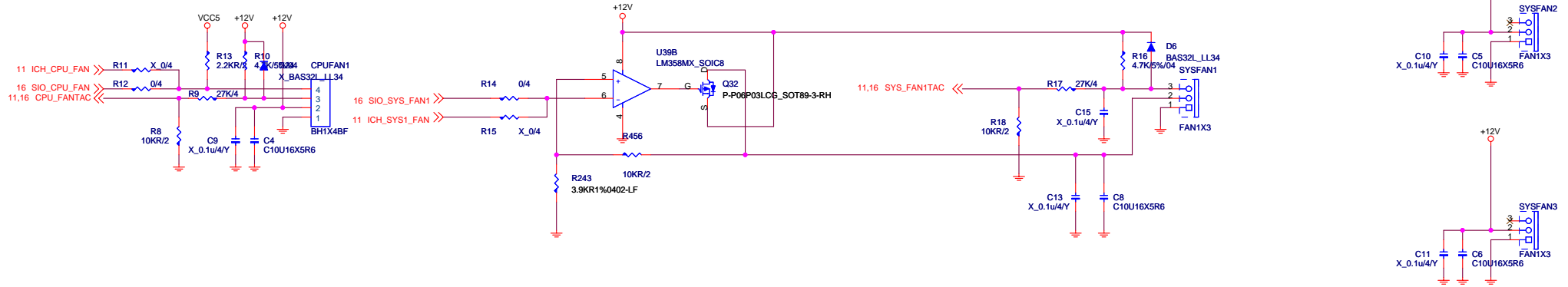


CONN-SATA10P\_PURPLE

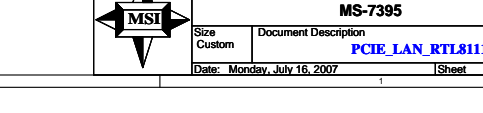
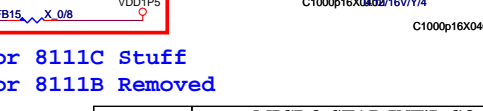
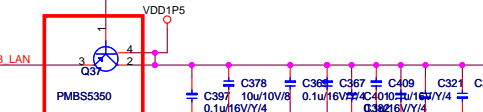
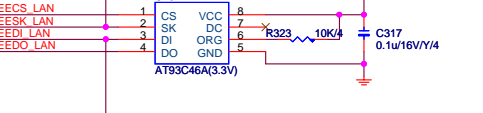
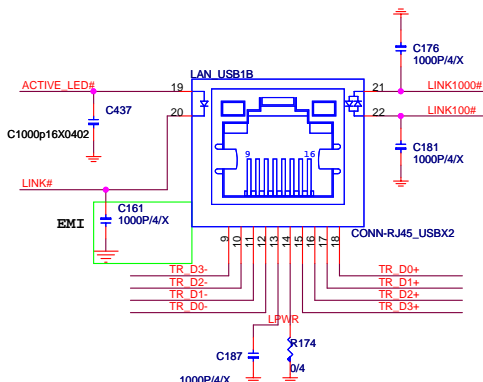
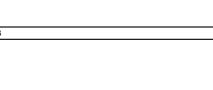
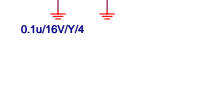
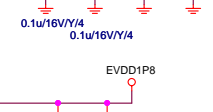
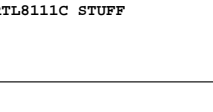
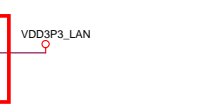
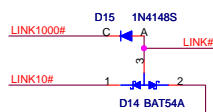
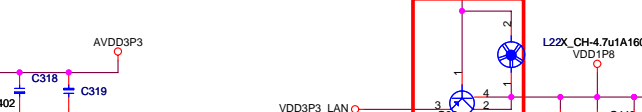
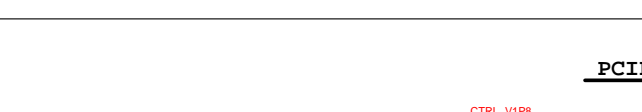
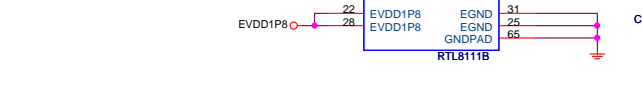
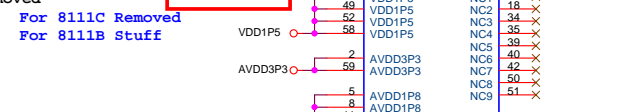
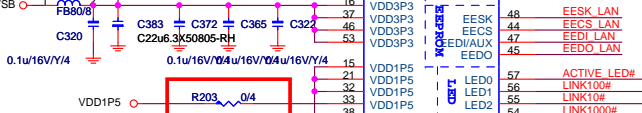
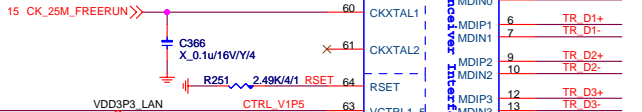
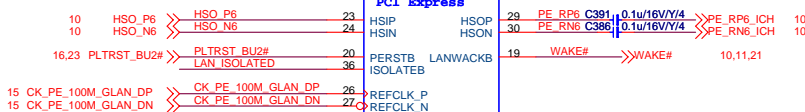


CONN-SATA10P\_PURPLE

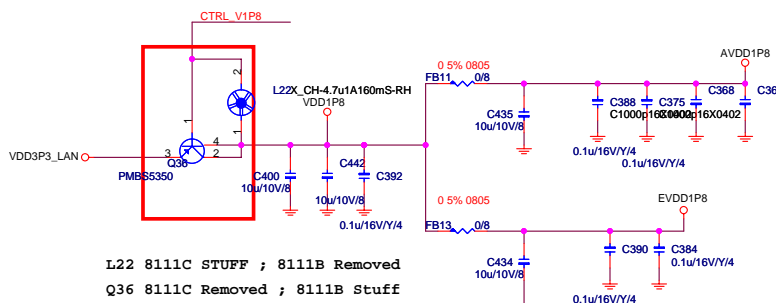
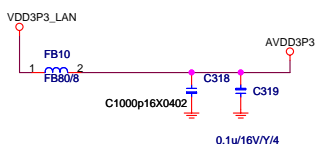
### FAN-CONTROL CIRCUIT



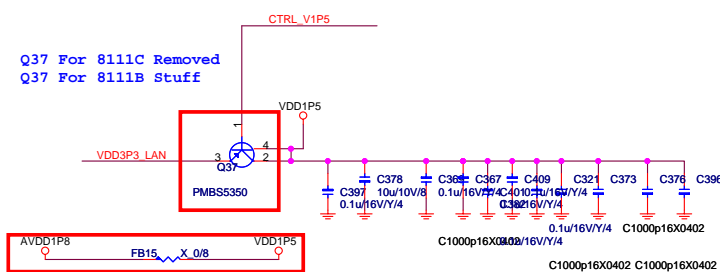
VCC3 R263 1KR1%2 LAN ISOLATED R264 15K/4



# PCIE LAN(RTL8111B) POWER



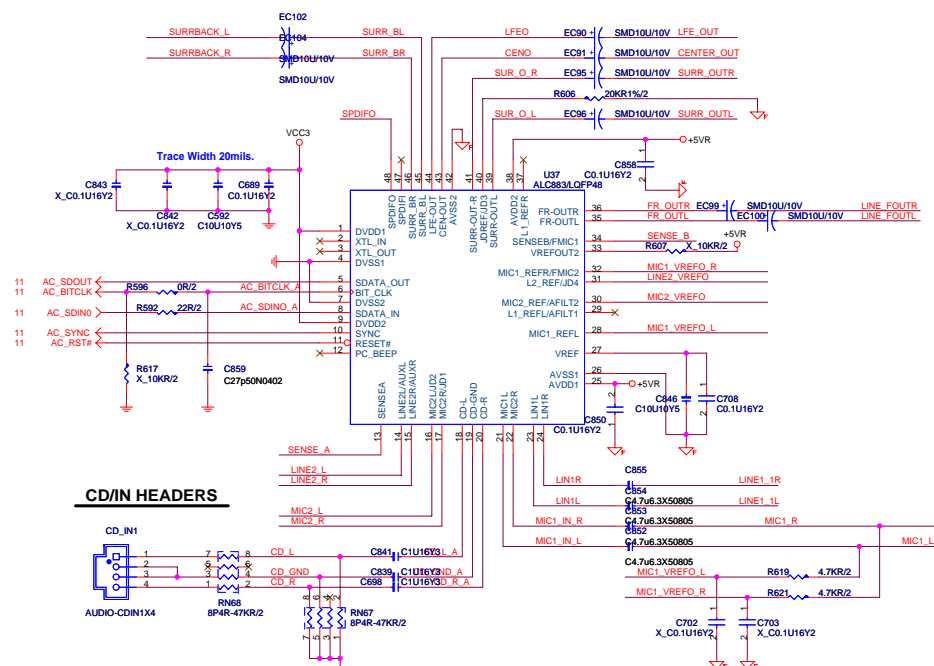
L22 8111C STUFF ; 8111B Removed  
Q36 8111C Removed ; 8111B Stuff



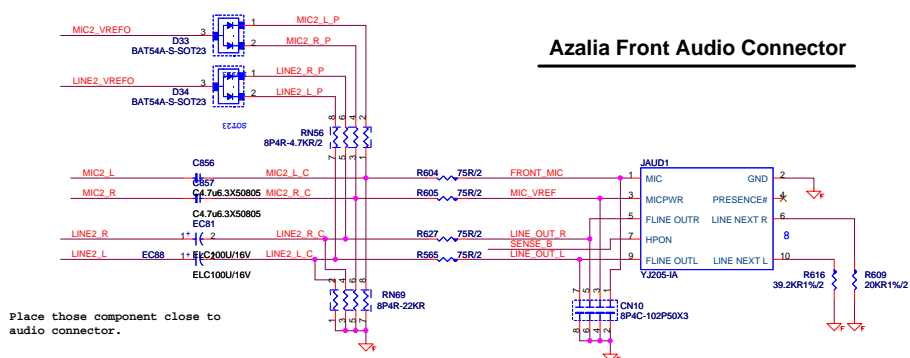
FB15 For 8111C Stuff  
FB15 For 8111B Removed

MICRO-STAR INT'L CO.,LTD		
MS-7395		
Size	Document Description	Rev
Custom	PCIE_LAN_RTL8111B	0A
Date: Monday, July 16, 2007	Sheet 19 of 33	

## ALC888 CODEC

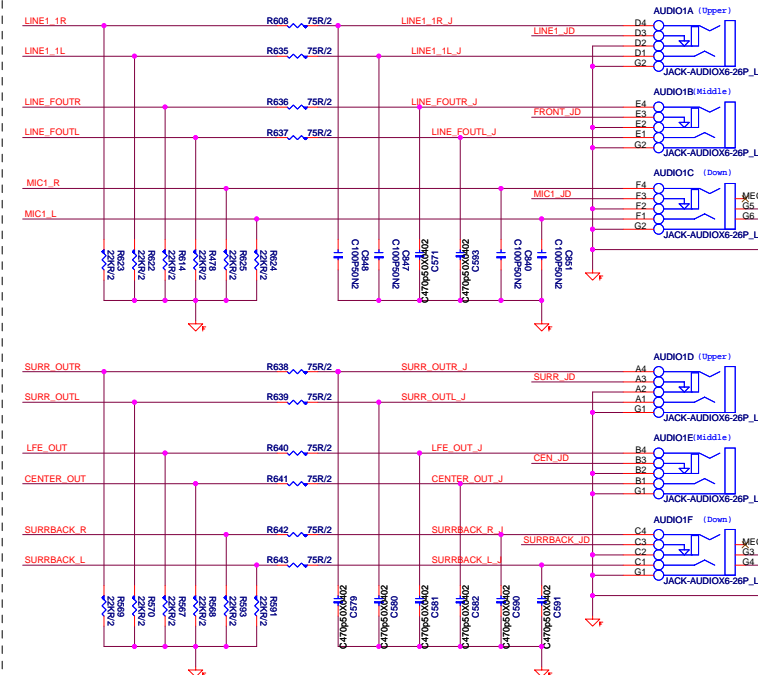


### Azalia Front Audio Connector

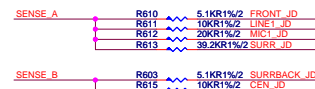


Place those component close to  
audio connector.

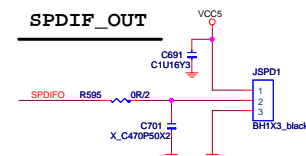
ALC883 JACK



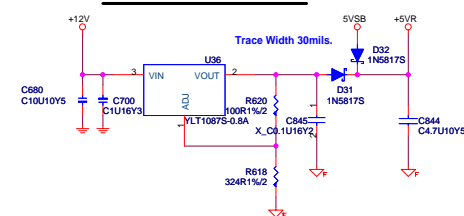
ALC883 JACK DETECT



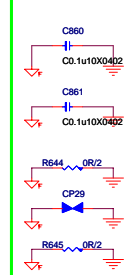
## SPDIF\_OUT



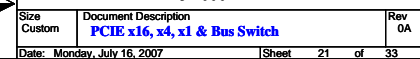
## AUDIO CODE REGULATORS



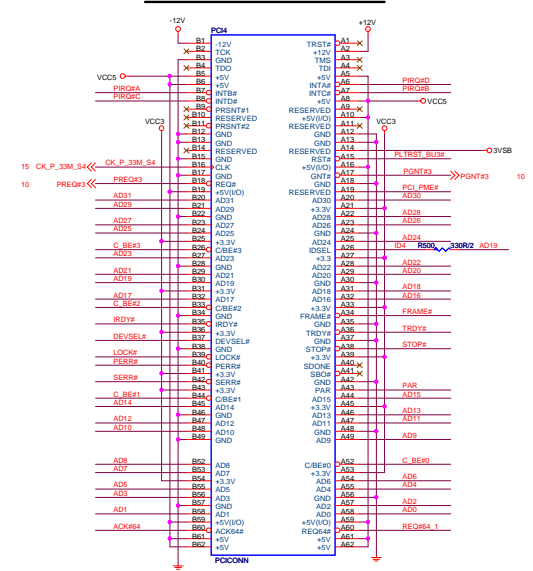
For EMI



Trace width > 200 mils

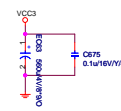


**PCI SLOT 4 (PCI VER: 2.2 COMPLY)**

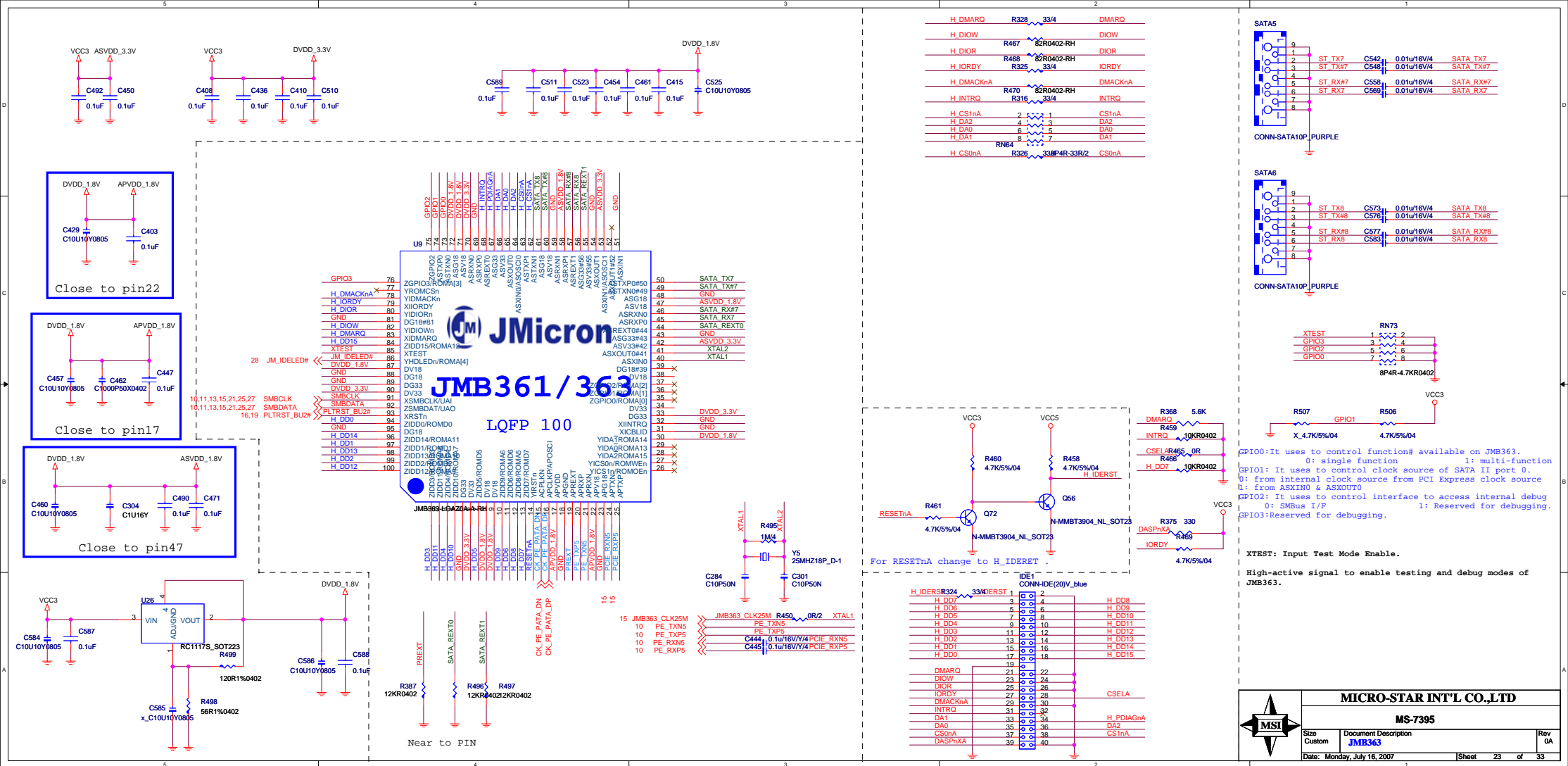


```
IDSEL = AD19
MASTER = PREQ#3
PIRQ#D
```

+12V

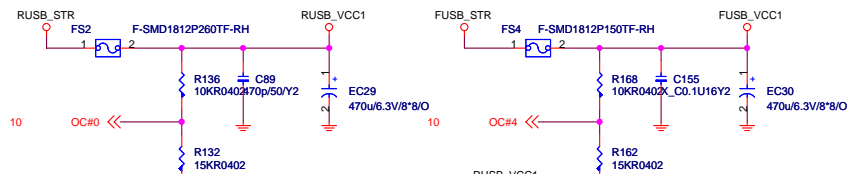






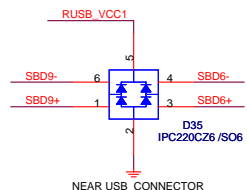
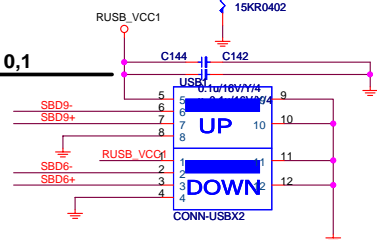
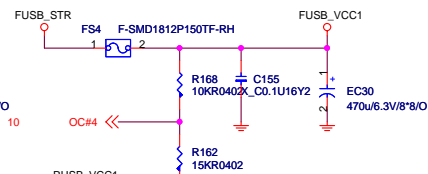
# Rear USB Connector

## USB POWER FOR PORT 0,1 NEAR CONNECTOR

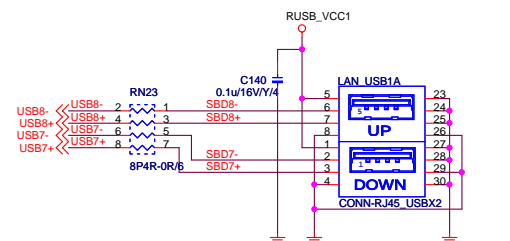


## REAR USB PORT 0,1

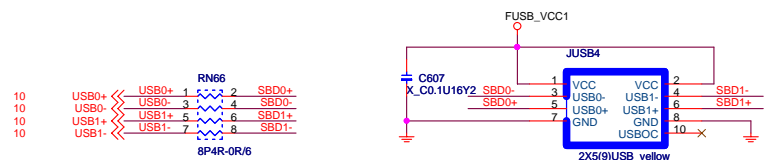
## USB POWER FOR PORT 6,7,8,9 NEAR CONNECTOR



## REAR USB PORT 2,3 (With LAN)

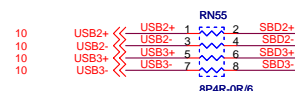
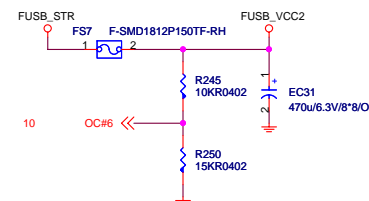


## FRONT USB PORT 0,1

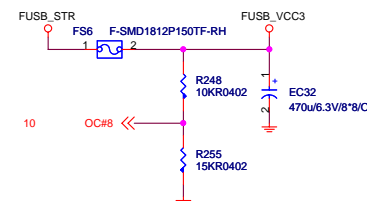


# Front USB Connector

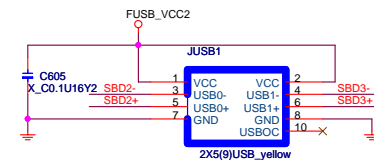
## USB POWER FOR PORT 6,7 NEAR CONNECTOR



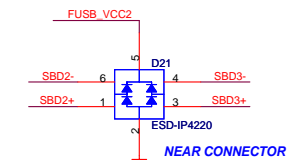
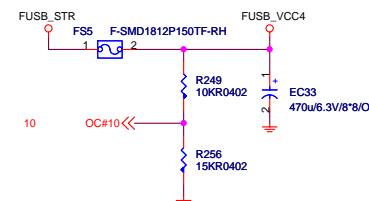
## USB POWER FOR PORT 6,7 NEAR CONNECTOR



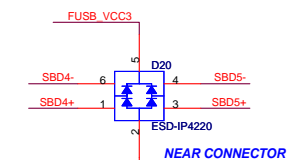
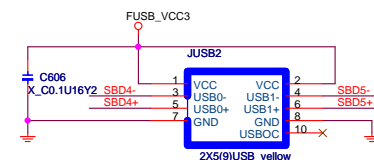
## FRONT USB PORT 2,3



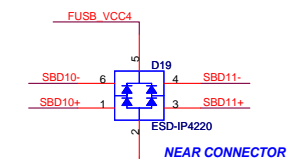
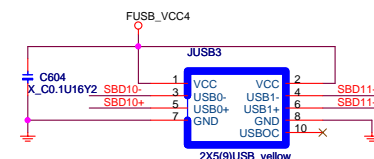
## USB POWER FOR PORT 6,7 NEAR CONNECTOR



## FRONT USB PORT 4,5



## FRONT USB PORT 10,11



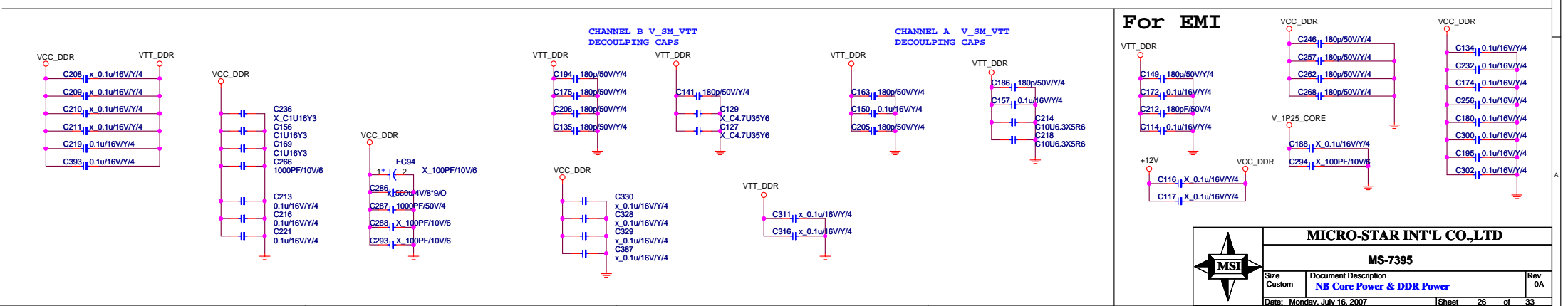


[illegible]

**NB\_V1\_25**

16.3A  
I<sub>rms</sub>(MAX) of VCC1\_25=16.3A

Tripple=16.3\*0.49\*0.878/1=7A  
1.14\*3\*1.7=5.814A>5.59A

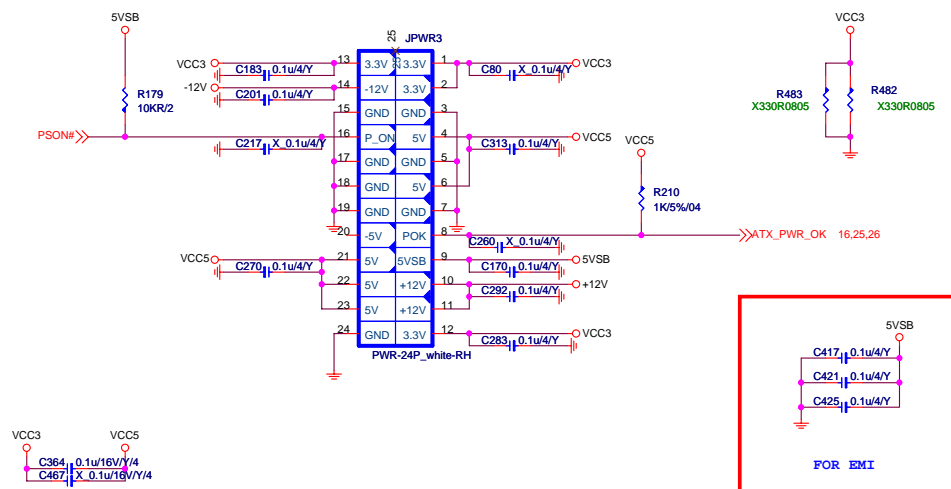


MS-7395

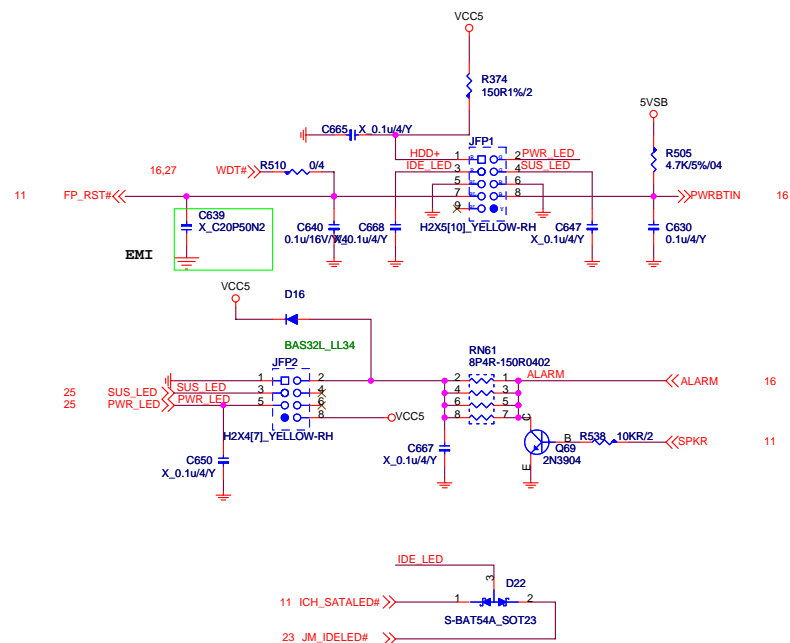
Size Custom	Document Description <b>NB Core Power &amp; DDR Power</b>	Rev 0A
Date: Monday, July 16, 2007	Sheet 26 of 33	



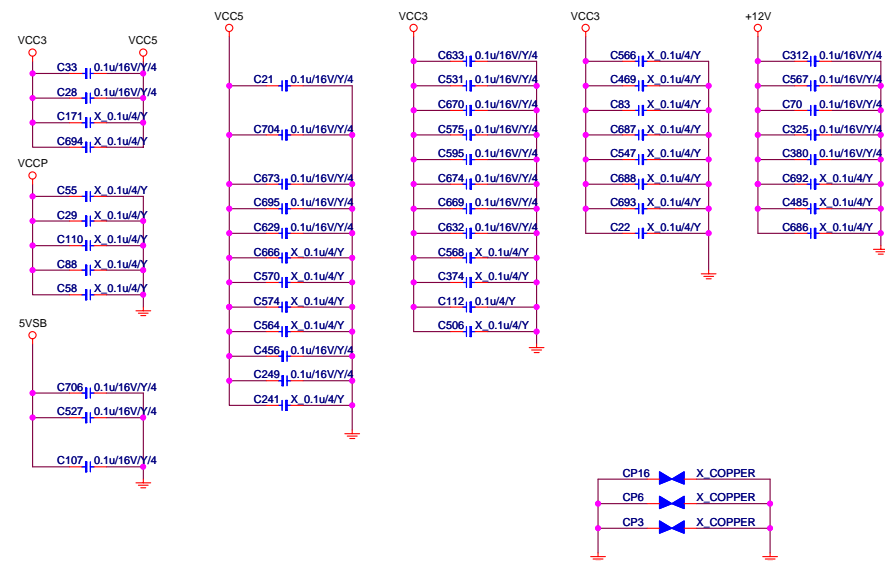
## ATX POWER CONNECTOR



FRONT PANNEL



Cap. for EMI & Power

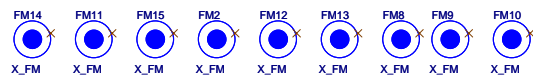


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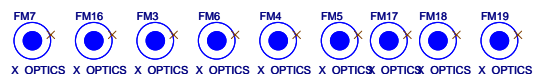
MS-7395

Size Custom	Document Description <b>ATX PWR-Connector &amp; Front Panel</b>	Rev 0A
Date: Monday, July 16, 2007		Sheet 28 of 33

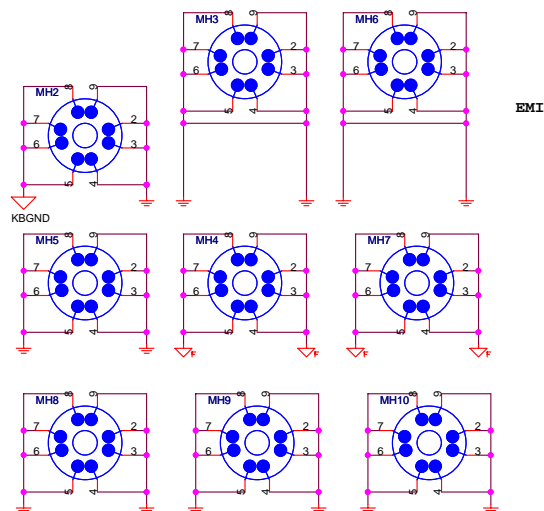
## Optical Fiducial Marks-120



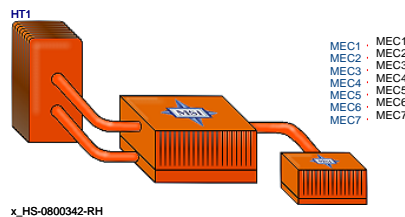
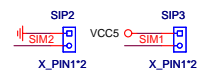
## Optical Fiducial Marks-100



## Mounting Holes

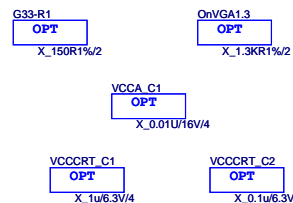


## Simulation

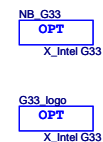


MEC1 : MEC1  
MEC2 : MEC2  
MEC3 : MEC3  
MEC4 : MEC4  
MEC5 : MEC5  
MEC6 : MEC6  
MEC7 : MEC7

Resistor for P35/G33 of VGA Part



For G33



MICRO-STAR INT'L CO.,LTD

MS-7395

Size	Document Description	Rev
Custom	Manual Parts & Option Parts	0A
Date:	Thursday, July 12, 2007	Sheet 29 of 33



LGA775-CPU		
0.8375V - 1.6000V Core	-	125A
1.2V FSB Vtt	-	4.6A

Bearlake-G (G33)		
1.2V FSB_VTT	-	1.2 A
1.25V Core	-	13.8A
1.25V DMI/PCI Exp.	-	2.47 A
1.5V VCC_DDR	-	3.3A
1.5V VCC_SMCLK	-	350mA
3.3V VCCA_DAC	-	66 mA
3.3V VCC33	-	15.8mA
1.25V Vcc CL	-	4.9A

ICH9		
1.05V Core	-	1.16A
1.25V DMI	-	41 mA
1.2V FSB_VTT	-	2 mA
1.5V_A USB/SATA/PLL	-	1.65A
1.5V_B PCI Exp.	-	0.65A
VCCRTC	-	6 uA
3.3V CL	-	19 mA
1.5V GbE LAN	-	87 mA
3.3V VccSus3_3	-	200mA
3.3V Vcc3_3	-	308mA
3.3V 10/100 LAN	-	19 mA
3.3V GbE LAN	-	1 mA
3.3V HDA	-	32 mA
3.3V SusHDA	-	33 mA

1394 Controller VT6308		
3.3V	-	156mA

HD Audio STAC9227		
3.3V AUDIO	-	32mA
5V AUDIO	-	200mA

CK505		
3.3V VDD_48/PCI/REF	-	250mA
0.3V - 1V CPU/SRC/DOT/PLL	-	80mA

RTL8111B		
3.3V_SB I/O & LED	-	668mA
1.8V EVDD/AVDD	-	198mA
1.5V VDD	-	367mA

ISL6306		
VCCP VRD11/10.x	-	0.8375V-1.6000V
4-Phase Switch	-	

W83310DS		
VTT_DDR	-	0.75V Linear 0.83A

uP6103 SW-Power		
VCC_DDR	-	1.5V PWM 18.64A

uP6103 SW-Power		
V_1P25_CORE	-	1.25V PWM 21.21A

MS12 Controller		
V_1P05_ICH	-	1.05V Linear 1.16A
V_FSB_VTT	-	1.2V Linear 5.8A
V_1P5_ICH (T0263)	-	1.5V Linear 2.31A
VCC3_SB	-	3.3V Linear 2.5A
5VDUAL1	-	5V Switch 6.35A
5VDIMM	-	5V Switch 6.99A

DDRIII x4 & TERMINATOR		
0.9V VTT_DDR	-	0.83A
1.5V VCC_DDR (S0,S1)	-	7.2A

PCI Express x16 slot		
+12V	-	5.5 A
+3.3Vaux (wake)	-	375mA
+3.3Vaux (no wake)	-	20mA
+3.3V	-	3.0A

PCI Express x 1 slot		
+12V	-	0.5 A
+3.3Vaux (wake)	-	375mA
+3.3Vaux (no wake)	-	20mA
+3.3V	-	3.0A

PCI Express x 4 slot		
+12V	-	5.5A
+3.3Vaux (wake)	-	375mA
+3.3Vaux (no wake)	-	20mA
+3.3V	-	3.0A

PCI slot x2		
+3.3Vaux (wake)	-	375mA
+3.3Vaux (no wake)	-	20mA
+3.3V	-	7.6A
+5V	-	5.0A
+12V	-	0.5A

USB x12		
+5V (S0,S1)	-	6.0A
+5V (S3)	-	20mA

PS2		
+5V (S0,S1)	-	345mA
+5V (S3)	-	2.0mA

5VAudio		
+5VR	-	500mA

+12V		
ATX 2x2	-	

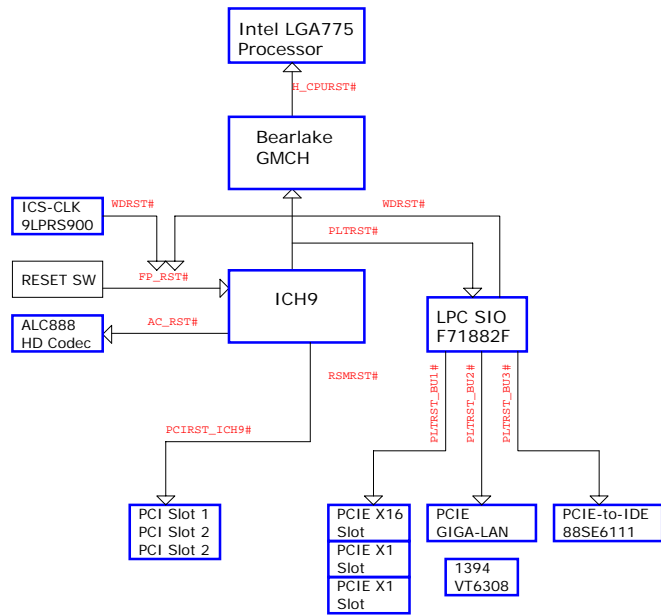
ATX POWER			
+5V	+3.3V	+5VSB	+12V

■ Bead or Inductor  
 X-Copper

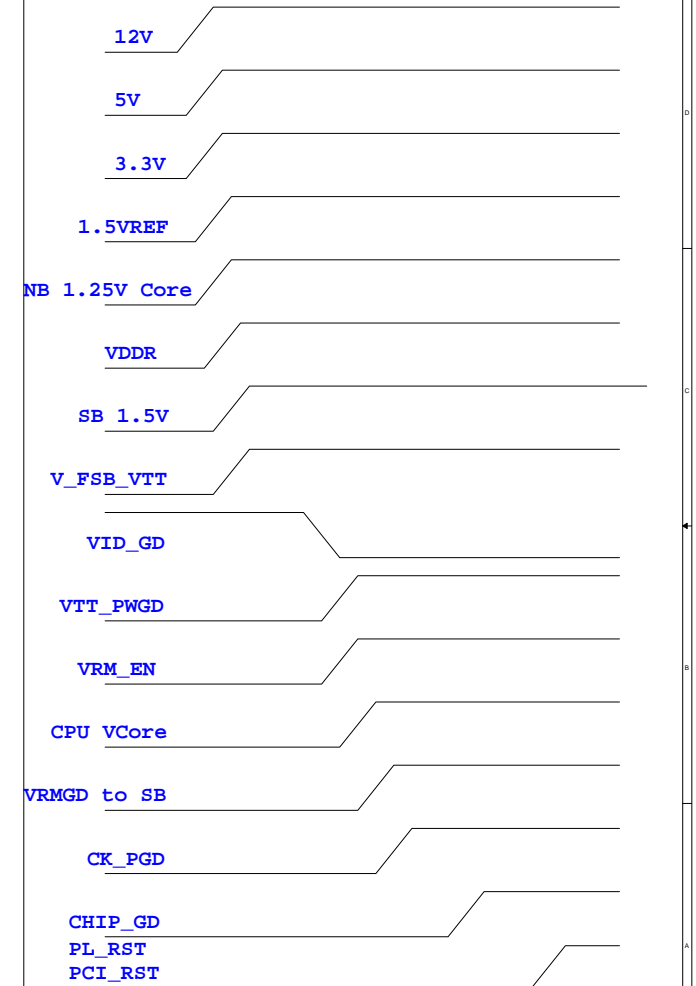
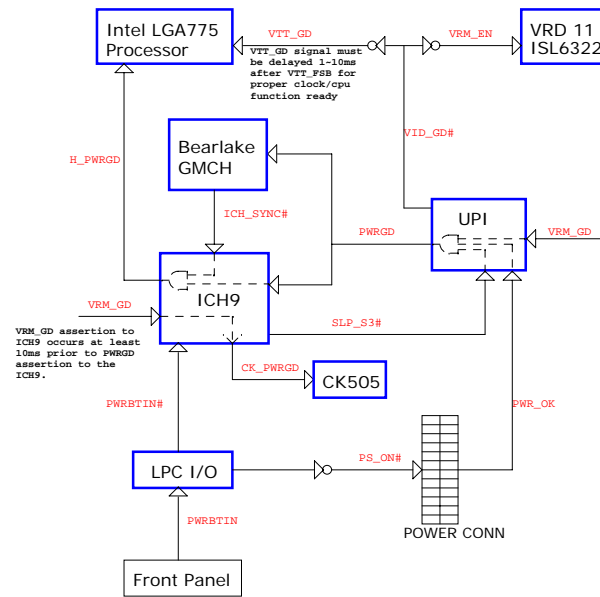


MICRO-STAR INT'L CO.,LTD			
MS-7395			
Size	Document Description	Rev	
Custom	Power Delivery	0A	
Date: Thursday, July 12, 2007		Sheet	30 of 33

## RESET MAP



## PWROK MAP



ICH8

GPIO	Alt Func	I/O/NC	Power	ToI	Default	Signal Name
GPIO[0]	BM_BUSY#	I/O	Core	3.3V	GPI	
GPIO[1]	TACH1	I/O	Core	3.3V	GPI	SYS1_FANTAC
GPIO[5:2]	PIRQ[H:E]#	I/OD	Core	5V	GPI	PIRQ#[H:E]
GPIO[7:6]	TACH[3:2]	I/O	Core	3.3V	GPI	SYS2/3_FANTAC
GPIO[8]	unmuxed	I/O	Resume	3.3V	GPI	
GPIO[9]	WOL_EN	I/O	Resume	3.3V	Native	
GPIO[10]	CLGPIO1	I/O	Resume	3.3V	GPI	
GPIO[11]	SMBALERT#	I/O	Resume	3.3V	Native	
GPIO[12]	unmuxed	I/O	Resume	3.3V	GPO	
GPIO[13]	unmuxed	I/O	Resume	3.3V	GPI	SIO_PME#
GPIO[14]	CLGPIO2	I/O	Resume	3.3V	GPI	
GPIO[15]	unmuxed	I/O	Resume	3.3V	Native	
GPIO[16]	unmuxed	I/O	Core	3.3V	GPO	
GPIO[17]	TACH0	I/O	Core	3.3V	GPI	CPU_FANTAC
GPIO[18]	unmuxed	I/O	Core	3.3V	GPO	
GPIO[19]	SATA1GP	I/O	Core	3.3V	GPI	
GPIO[20]	unmuxed	I/O	Core	3.3V	GPO	
GPIO[21]	SATA0GP	I/O	Core	3.3V	GPI	
GPIO[22]	SCLOCK	I/O	Core	3.3V	GPI	
GPIO[23]	LDRQ1#	I/O	Core	3.3V	Native	
GPIO[24]	CLGPIO0	I/O	Resume	3.3V	GPO	
GPIO[25]	STP_CPU#	I/O	Resume	3.3V	Native	
GPIO[26]	S4_STATE#	I/O	Resume	3.3V	Native	
GPIO[27]	QRT_STATE0	I/O	Resume	3.3V	GPO	
GPIO[28]	QRT_STATE1	I/O	Resume	3.3V	GPO	
GPIO[29]	OC5#	I/O	Resume	3.3V	Native	OC#4
GPIO[30]	OC6#	I/O	Resume	3.3V	Native	OC#6
GPIO[31]	OC7#	I/O	Resume	3.3V	Native	OC#6
GPIO[32]	unmuxed	I/O	Core	3.3V	GPO	SPI_WP#
GPIO[33]	unmuxed	I/O	Core	3.3V	GPO	SPI_HOLD_GPO#
GPIO[34]	unmuxed	I/O	Core	3.3V	GPO	
GPIO[35]	SATACLKREQ#	I/O	Core	3.3V	GPO	
GPIO[36]	SATA2GP	I/O	Core	3.3V	GPI	
GPIO[37]	SATA3GP	I/O	Core	3.3V	GPI	
GPIO[38]	SLOAD	I/O	Core	3.3V	GPI	
GPIO[39]	SDATAOUT0	I/O	Core	3.3V	GPI	
GPIO[43:40]	OC[4:1]#	I/O	Resume	3.3V	Native	OC#0;OC#4
GPIO[47:44]	OC[11:8]#	I/O	Resume	3.3V	Native	OC#8;OC#10
GPIO[48]	SDATAOUT1	I/O	Core	3.3V	GPI	
GPIO[49]	unmuxed	I/O	Core	3.3V	GPO	
GPIO[50]	REQ1#	I/O	Core	5V	Native	PREQ1#
GPIO[51]	GNT1#	I/O	Core	3.3V	Native	PGNT1#
GPIO[52]	REQ2#	I/O	Core	5V	Native	PREQ2#
GPIO[53]	GNT2#	I/O	Core	3.3V	Native	PGNT2#
GPIO[54]	REQ3#	I/O	Core	5V	Native	PREQ3#
GPIO[55]	GNT3#	I/O	Core	3.3V	Native	PGNT3#
GPIO[56]	GLAN_DOCK#	I/O	Resume	3.3V	GPI	
GPIO[57]	CLGPIO5	I/O	Resume	3.3V	GPI	
GPIO[58]	SPI_CS1#	I/O	Resume	3.3V	GPI	SPI_CS1#
GPIO[59]	OC#0	I/O	Resume	3.3V	Native	OC#0
GPIO[60]	LINKALERT#	I/O	Resume	3.3V	Native	

JUMPER SETTING

JBAT1	(1-2)NORMAL	(2-3)CLEAR
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SIO(F71882)

PIN NAME	USAGE	Input/Output	NOTES
GPIO[2:0]	MCH_BSEL2:0]	OUTPUT	PROGRAMED BSEL[2:0] OUTPUT
GPIO3	PCIEX1#	OUTPUT	PROGRAMED X1/X4 OPTION OUTPUT
GPIO4	UNUSED		
GPIO5	UNUSED		
GPIO6	UNUSED		
GPIO7	WDT#	OUTPUT	WATCH DOG TIMER RESET OUTPUT
GPIO10	DLED1	OUTPUT	DEBUG LED OUTPUT 1
GPIO11	UNUSED		
GPIO12	UNUSED		
GPIO13	BEEP	OUTPUT	
GPIO14	UNUSED		
GPIO15	DLED2	OUTPUT	DEBUG LED OUTPUT 2
GPIO16	DLED3	OUTPUT	DEBUG LED OUTPUT 3
GPIO17	UNUSED		
GPIO20	PLTRST_BU#1	OUTPUT	PCI RESTE BUFFER1
GPIO21	PLTRST_BU#2	OUTPUT	PCI RESTE BUFFER2
GPIO22	PLTRST_BU#3	OUTPUT	PCI RESTE BUFFER3
GPIO23	UNUSED		
GPIO24	PWR_OK	INPUT	ATX POWER OK INPUT
GPIO26	PWRBTIN	INPUT	FRONT PANNEL POWER BUTTON
GPIO27	PWRBTN#	OUTPUT	POWER BUTTON BUFFER OUT
GPIO30	SLP_S3#	INPUT	FRONT SOUTBRIDGE S3#
GPIO31	PSON#	OUTPUT	OUTPUT FOR ATX POWER ON
GPIO32	DLED4	OUTPUT	DEBUG LED OUTPUT 4
GPIO33	UNUSED		
GPIO40	SYS2_FANTAC	INPUT	
GPIO41	UNUSED		
GPIO42	IRTX	OUTPUT	
GPIO43	IRRX	INPUT	
VIDIN[2:0]	CPU_BSEL[2:0]	INPUT	CPU BSEL[2:0] INPUT
VIDIN3	UNUSED	INPUT	RESERVED FOR PCIE X4 INDICATION

DDR-III DIMM Config.

DEVICE	ADDRESS	CLOCK
DIMM 1	00	P/N_DDR0_A P/N_DDR2_A
DIMM 2	01	P/N_DDR3_A P/N_DDR5_A
DIMM 3	10	P/N_DDR0_B P/N_DDR2_B
DIMM 4	11	P/N_DDR3_B P/N_DDR4_B

PCI Config.

DEVICE	MCP1 INT Pin	REQ#/GNT#	IDSEL	CLOCK
PCI Slot 1	PIRQ#A PIRQ#B PIRQ#C PIRQ#D	PREQ#0 PGNT#0	AD16	CK_P_33M_S1
PCI Slot 2	PIRQ#B PIRQ#C PIRQ#D PIRQ#A	PREQ#1 PGNT#1	AD17	CK_P_33M_S2
1394	PIRQ#D	PREQ#2 PGNT#2	AD18	CK_P_33M_1394



MICRO-STAR INT'L CO.,LTD		
MS-7395		
Size Custom	Document Description GPIO setting & PCI Routing	Rev 0A
Date: Thursday, July 12, 2007	Sheet 32 of 33	

HW 7360 Ver.0A Change to Ver.0B List:

- 1.Remove Q54 and R374and short Q54 B,C pin for power sequence.(page26)
- 2.U24 power change from VCC3 to 3VSB for power sequence.(page26)
- 3.Change EC42 from 470u to 820u for V\_FSB\_VTT power noise.(page26)
- 4.Change EC52 from 470u to 820u for SB1\_05 power noise.(page26)
- 5.Change EC53 from 470u to 820u for SB1\_5 power noise.(page26)
- 5.CPU\_GTLREF resistor value R119 , R115, R128, R104 change from 50ohm to 100ohm for pull-up(intel suggestion)(page4)
- 6.CPU\_GTLREF resistor value R124 , R117 , R141 , R105 change from 100ohm to 200ohm for pull-down.(intel suggestion)(page4)
- 7.MCH\_GTLREF resistor value R190 change from 50ohm to 100ohm for pull-pu.(intel suggestion)(page6)
- 8.MCH\_GTLREF resistor value R195 change from 100ohm to 200ohm for pull-down.(intel suggestion)(page6)
- 9.SRCOMP[3:0] R223 , R227 , R184 , R182 change from 20ohm to 19.1ohm.(intel suggestion)(page7)
- 10.DDR2 termination RN16 , RN26 , RN11 , RN14 , RN27 , RN12 , R171 change from 39ohm to 43ohm.(intel suggestion)(page14)
- 11.Add CK\_DOT96\_MCH\_DP pull-high 1.25V and CK\_DOT96\_MCH\_DN pull-down for non-graphic SKU.(intel suggestion)(page6)
- 12.RIRQ[H:A] pull-up 2.7Kohm to VCC5.(intel suggestion)(page22)
- 13.USB have two group [5:0] EHCI#1,[6:11EHCI#2 , please one group to real and one group to front.(intel suggestion)(page24)
- 14.Audio VREFOUT\_E and VREFOUT\_F swap.(for schematic error)(page20)
- 15.Audio BASS and CEN\_OUT swap.(for schematic error)(page20)

7395 OA Modify from 7360 1.0

- 1.Change Marvell 88se6111 to JMICO 363
- 2.Remove 1394
- 3.Remove PCIE\*1 SLOT PCI\_E3, PCI\_E4
- 4.Add PCI SLOT PCI3, PCI4
- 5.Add 8111B CO-LAY 8111C CIRCUIT
6. Change CPU FAN-----Smart FAN  
SYS FAN1----- DC MODE FAN  
SYS FAN2, SYS FAN3----- FULL SPEED, no sense
- 7.Add COM2 support circuit
- 8.Change VRM11 3 Phase 12pcs to 4 Phase 12 pcs
- 9.add TPM Support circuit
- 10.clk-gen: change pin 11 from WDT# to PCI CLK.(PAGE15)
- 11.Change NB,SB heatsink to E31-0800342-A21
12. pin31,pin25 connect to GND through cp.(page 19)
13. chang R193,R194 to 51+/- 5%.follow intel design guide (page 6)
14. chang R101 to 130 +/- 5%.follow intel design guide (page 3)
15. Remove c273.
16. oc# divide resistor form R1=27k,R2=51K to R1=10K,R2=15K .(page 24)
17. Remove lan chip reversed 25M crystla for layout
- 18.Change choke4 to L04-12A7141-T15
- Change choke5 to L04-12A7171-W15( 1.25 V Core power)
19. Change audio coupling cap from DIP TO SMD.
20. Change ALL EL CAP TO OSC
21. Add OC CIRCUIT BY USING JUMP
- 22.Removeing ICH9-R CO-LAY CIRCUIT
23. Change PCIRST#, PLTRST# Delivery!
24. Change vcc\_lp25 regulator from VCC5.



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MS-7395

Size Custom	Document Description <a href="#">Revision History</a>	Rev 0A
Date: Thursday, July 12, 2007		Sheet 33 of 33