

CONTENT	SHEET
Cover Sheet, Block diagram	1-2
Intel LGA775 CPU - Signals	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 Channel-1 / Channel-2	13-14
SLG84516BT CLK Gen.	15
SCH5617, COM1,2, FDD	16
CPU/SYS/PWR FAN	17
PCI-Express x16 & x1	18
PCI Slot	19
USB CONNECTOR	20
ATX ,Front Panel & VGA Connector	21
KB/MS/TPM/PARALLEL	22
VRD11 Intersil 6312 3Phase	23
MS7 ACPI Controller	24
SATA&V_1P25_CORE	25
Broadcom-BCM5787M	26
LAN-NINEVEH 82566	27
HD Audio ALC262	28
GPIO & Jumper setting	29
MANUAL PARTS	30
POWER Distribution	31
PWROK MAP	32
RESET MAP	33
History	34

NEC:ROPROS

NEC:Poseidon

MS-7410 uATX

Version: 11



CPU: Intel, Socket 775 (Intel Core 2 Duo Processors, Intel Pentium D Processors, Intel Pentium 4 Processors, Intel Celeron D Processors)-- 65-95 watts Intel Core 2 Duo, Pentium D, Celeron D

System Chipset:

Intel Bearlake - G (G33) (North Bridge)
Intel ICH9 Series (South Bridge)
ROPROS-MA use ICH9 / **ROPROS-VS use ICH9DH** / **Poseidon use ICH9R**

On Board Device:

CLOCK Gen -- SLG84516BT CLK Gen.
LPC Super I/O -- SCH5617
LAN -- Broadcom-BCM5787M (only MA) **LAN -- INTEL 82566 (Support ViiV)**
HD Audio Codec -- ALC262 VER:C2
TPM - SLB9635

Main Memory:

Dual-channel DDR-II * 4

Expansion Slots:

PCI EXPRESS X16 SLOT *1
PCI EXPRESS X1 SLOT * 1
PCI SLOT * 2

PWM: VRD11 Intersil 6312 3Phase

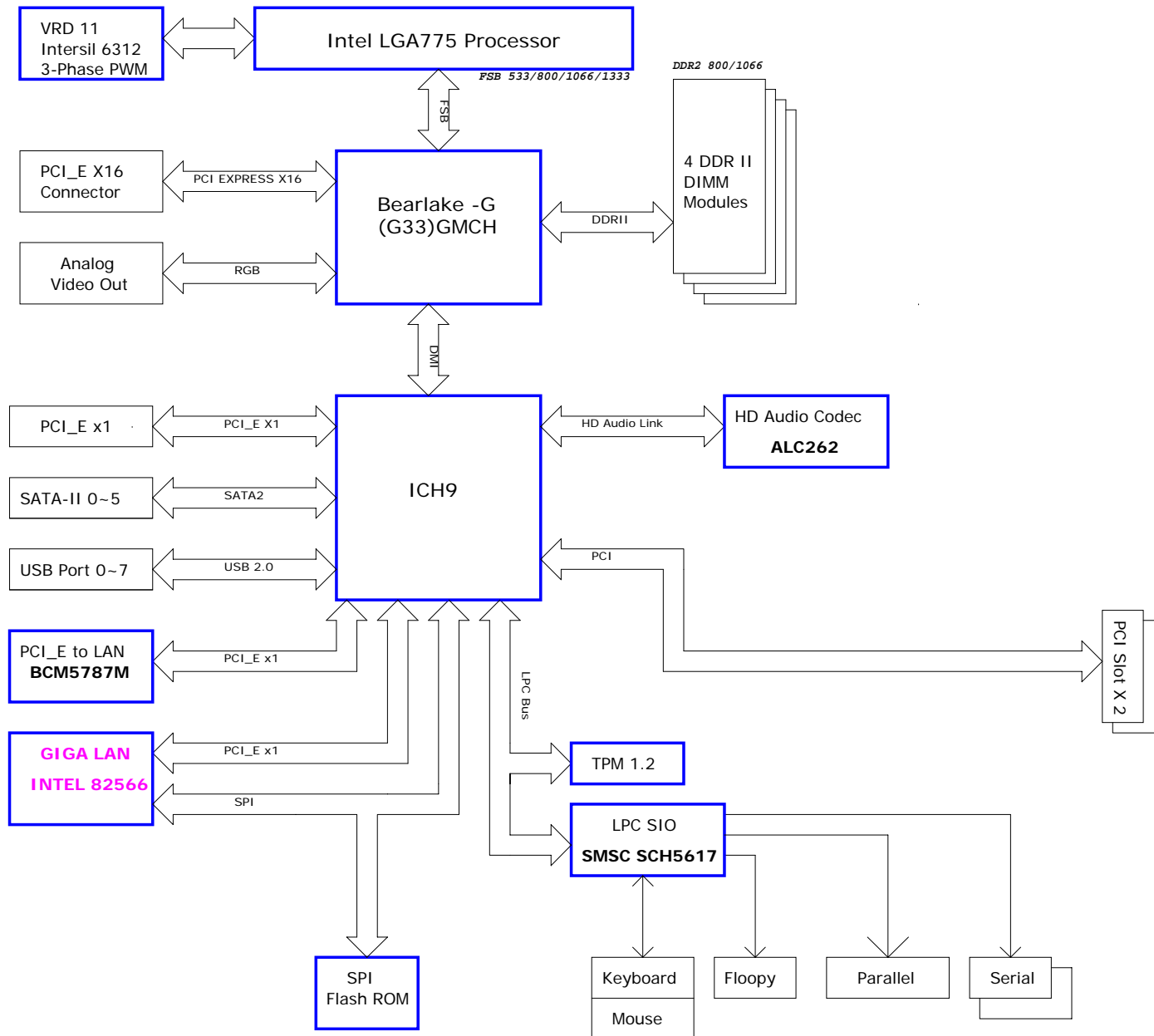
How to distinguish the different SKU

	BLUE Color which mean all model need use
	ORANGE Color which mean ROPROS-MA use
	PINK Color which mean ROPROS-VS
	DEEP GREEN Color which mean Poseidon
	PURPLE Color which mean ROPROS-VS & Poseidon
	BROWN Color which mean the part reserve



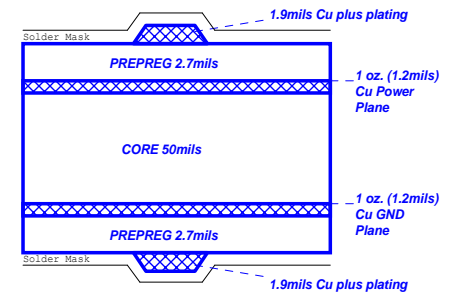
MICRO-STAR INT'L CO.,LTD		
MS-7410		
Size Custom	Document Description COVER SHEET	Rev 11
Date: Thursday, June 19, 2008	Sheet 1 of 34	

Block Diagram



Board Stack-up

(1080 Prepreg Considerations)



Single End 50ohm Top/Bottom : 4mils
 USB2.0 - 90ohm : 15/7.5/4.5/7.5/15
 SATA - 95ohm : 15/8/4/8/15
 LAN - 100ohm : 15/10/4/10/15
 PCIe - 95ohm : 15/8/4/8/15

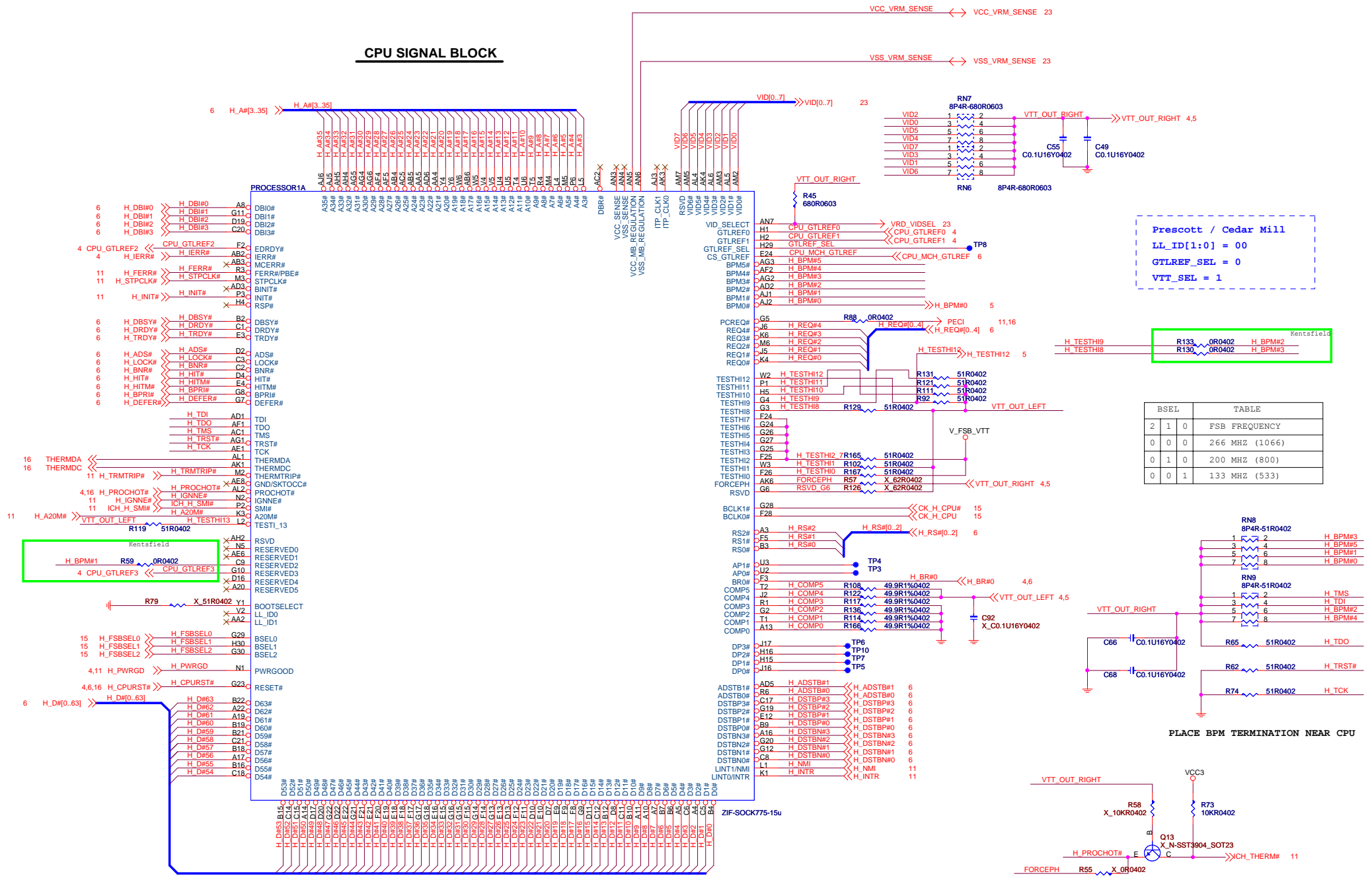


MICRO-STAR INT'L CO.,LTD

MS-7410

Size Custom	Document Description BLOCK DIAGRAM	Rev 11
Date: Wednesday, June 18, 2008	Sheet 2 of 34	

CPU SIGNAL BLOCK



MICRO-STAR INT'L CO.,LTD

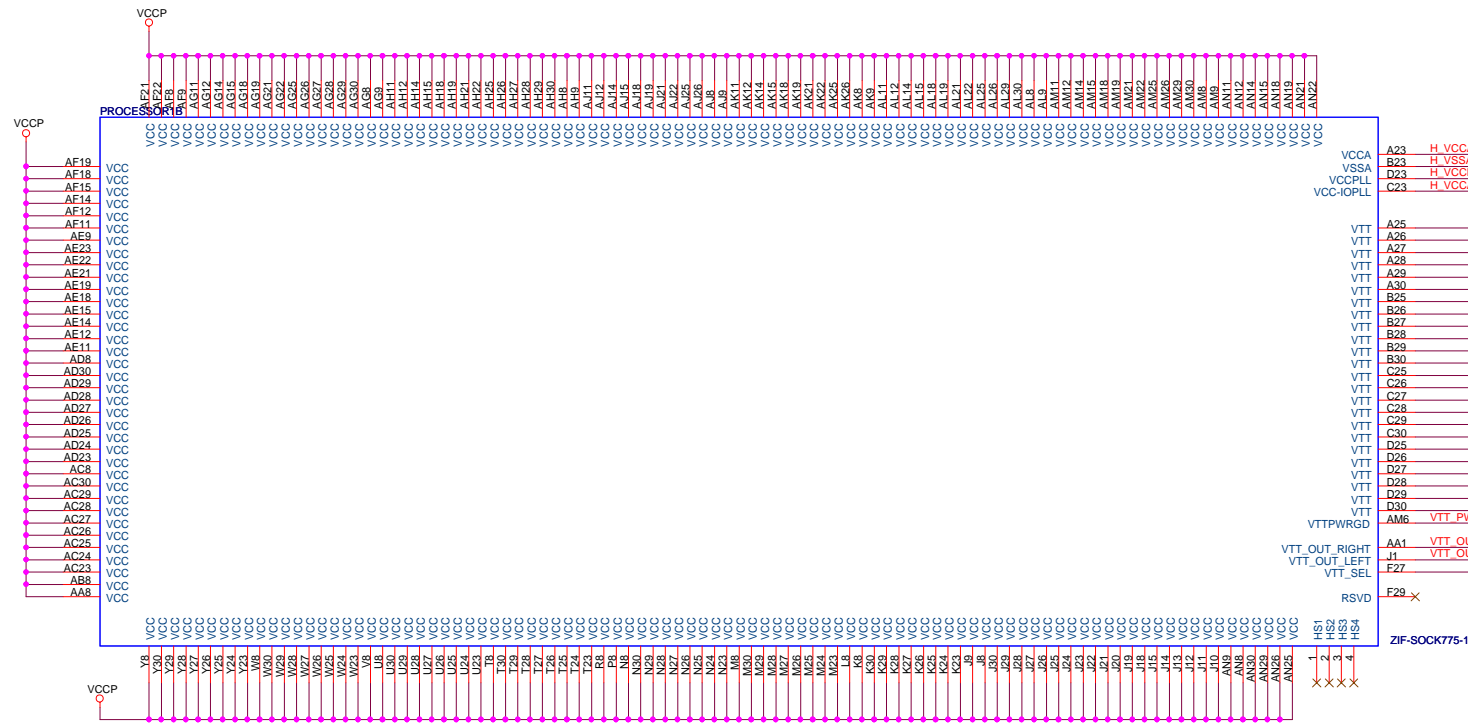
MS-7410

Size Custom	Document Description Intel LGA775 - Signals
----------------	---

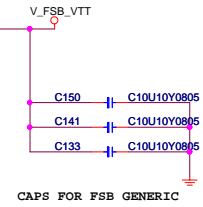
Date: Thursday, July 10, 2008

Rev
11

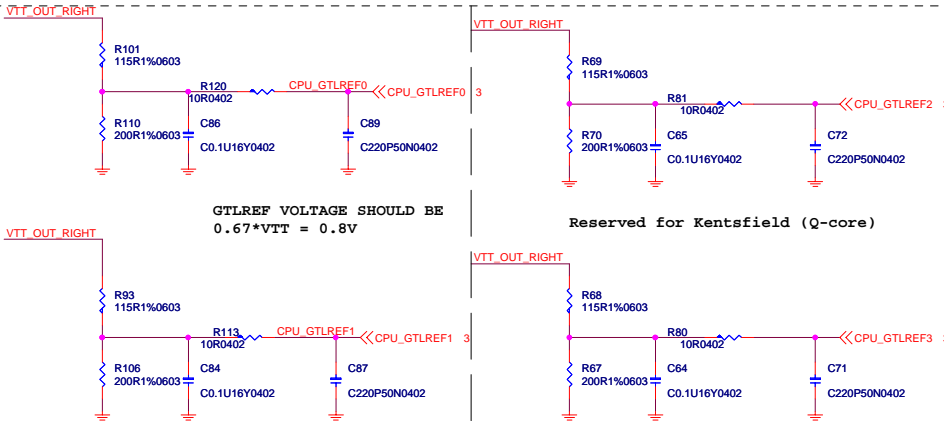
Date: Thursday, July 10, 2008	Sheet 3 of 34
-------------------------------	---------------



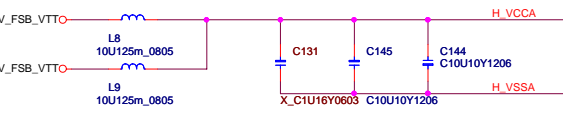
VCCA ----- 120mA
VCCIOPLL --- 100mA



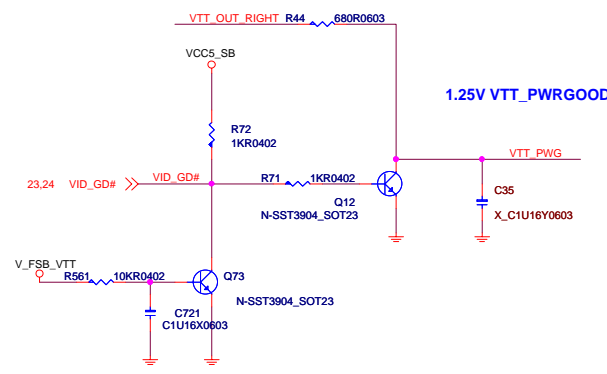
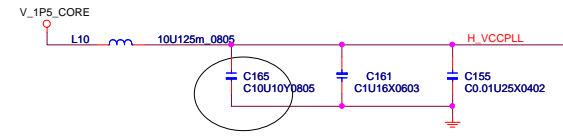
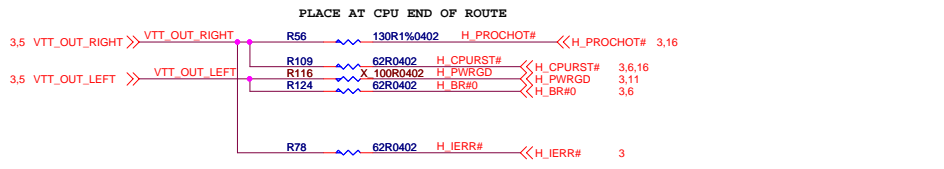
CAPS FOR FSB GENERIC



PLACE COMPONENTS AS CLOSE AS POSSIBLE TO PROCESSOR SOCKET
TRACE WIDTH TO CAPS MUST BE SMALLER THAN 12MILS

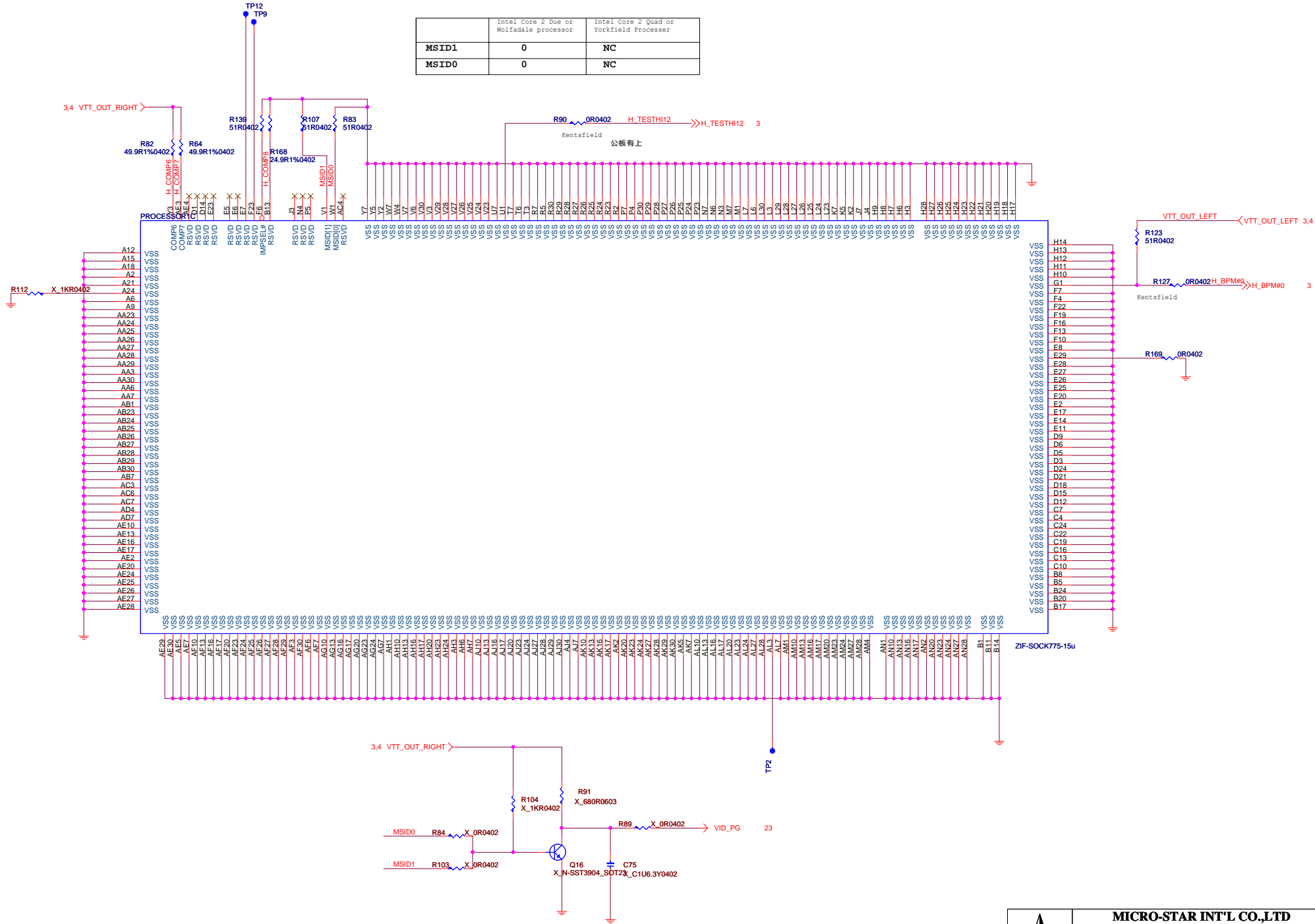



VTT_PWG SPEC :
High > 0.9V
Low < 0.3V
Trise < 150ns



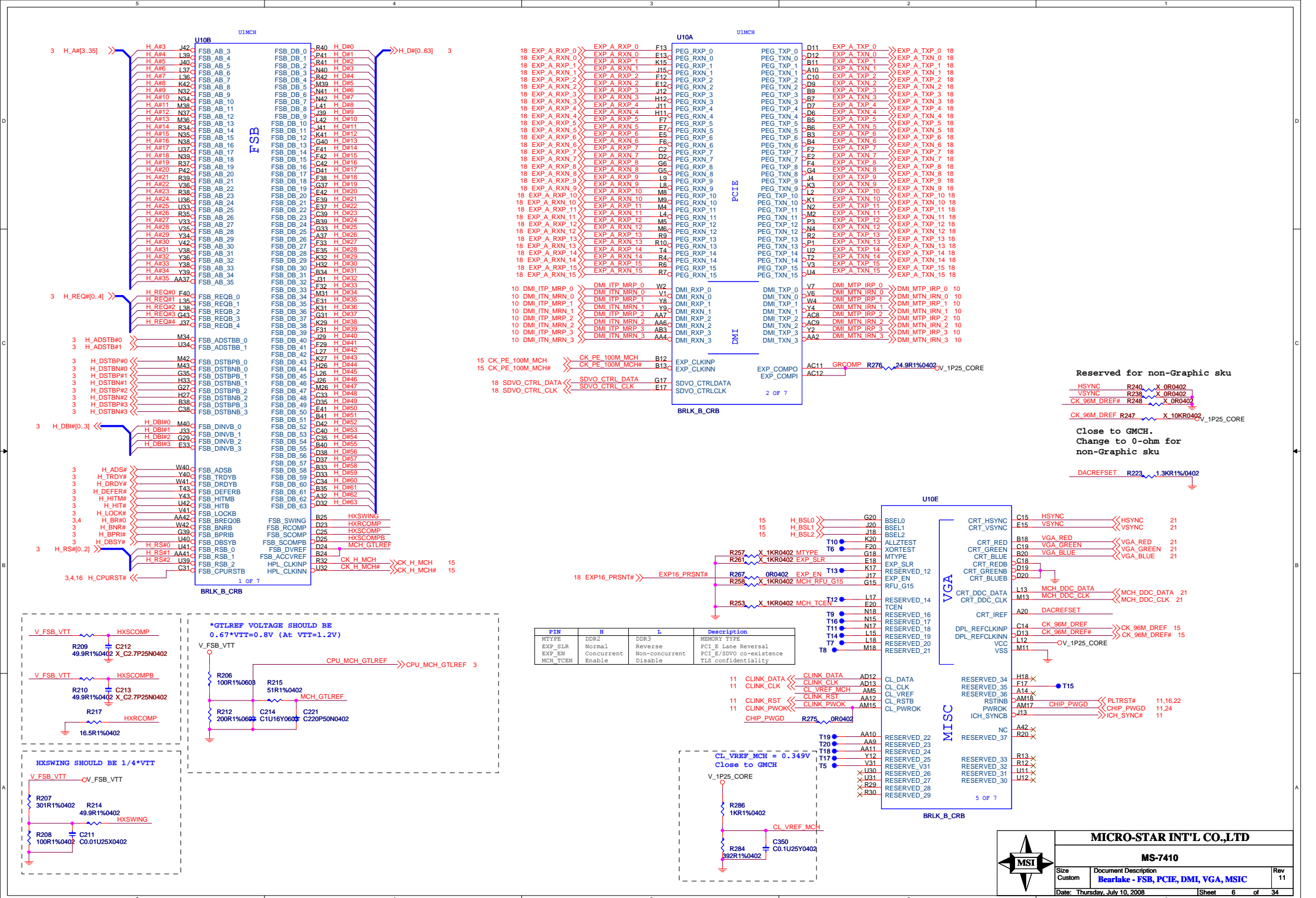
MICRO-STAR INT'L CO.,LTD			
MS-7410			
Size	Document Description	Rev	
Custom	Intel LGA775 CPU - Power	11	
Date: Thursday, July 10, 2008		Sheet	4 of 34

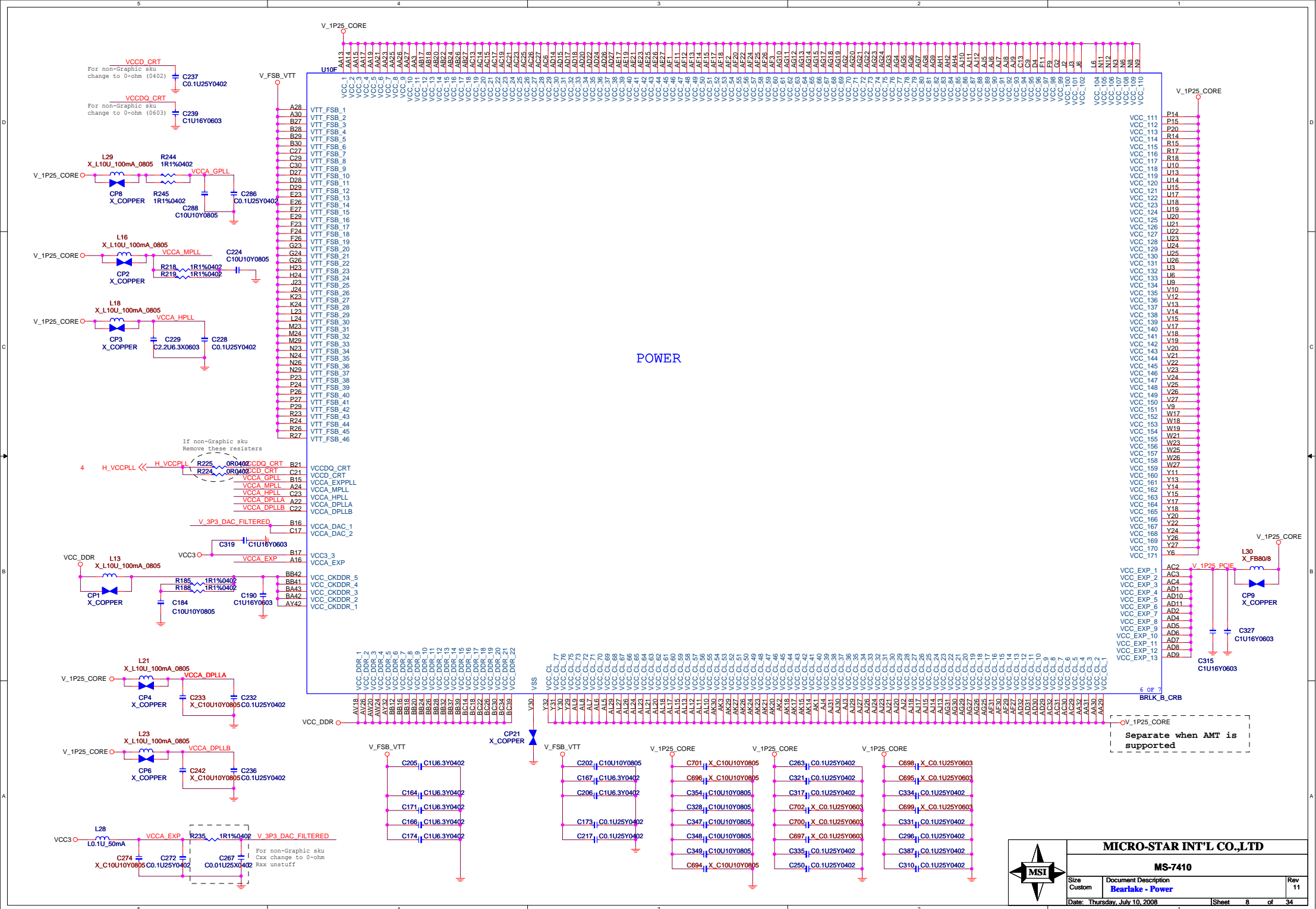
	Intel Core 2 Due or Wolfdale processor	Intel Core 2 Quad or Yorkfield Processor
MSID1	0	NC
MSID0	0	NC

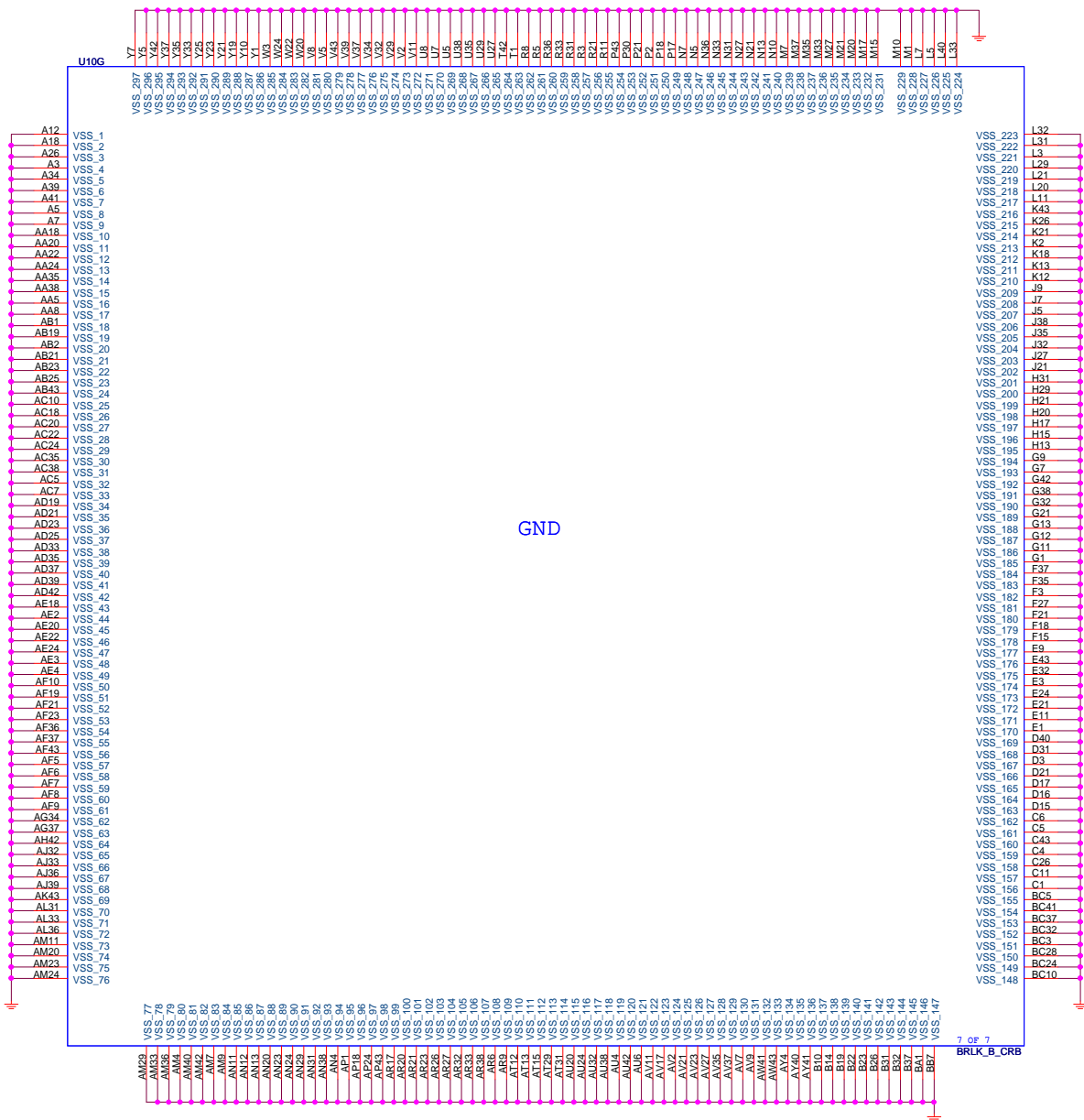




MICRO-STAR INT'L CO.,LTD		
MS-7410		
Size Custom	Document Description Intel LGA775 CPU - GND	Rev 11
Date: Thursday, July 10, 2008		Sheet 5 of 34



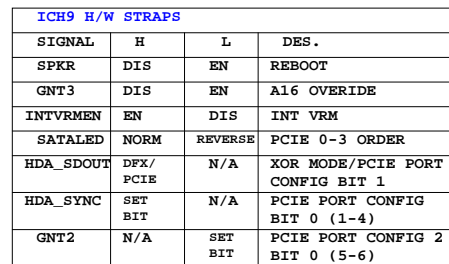
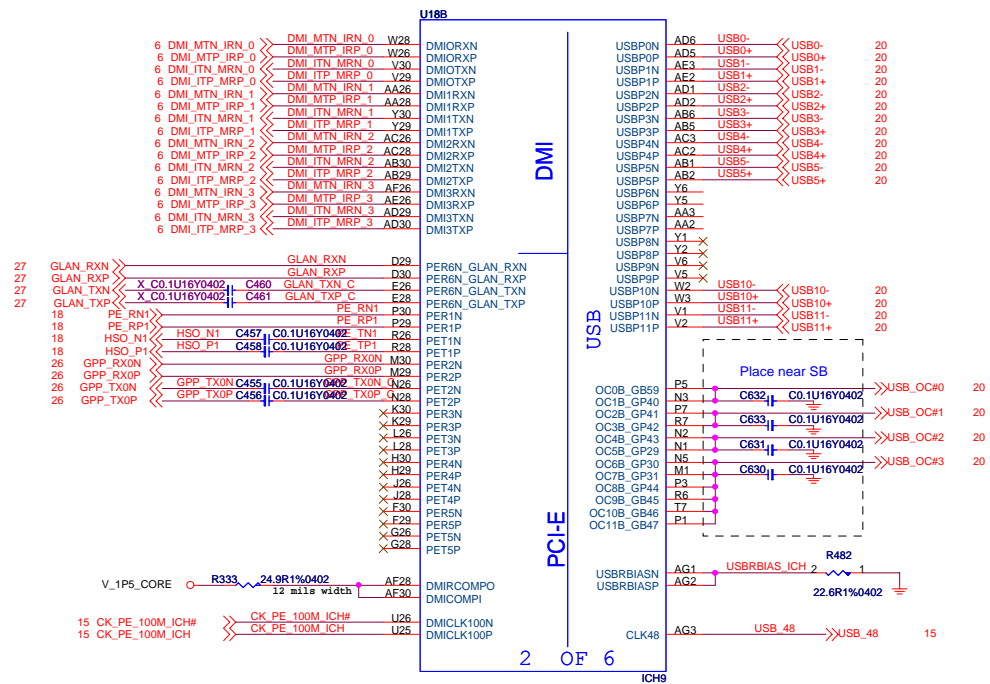




MICRO-STAR INT'L CO.,LTD

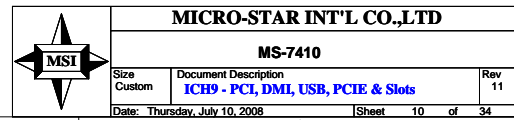
MS-7410

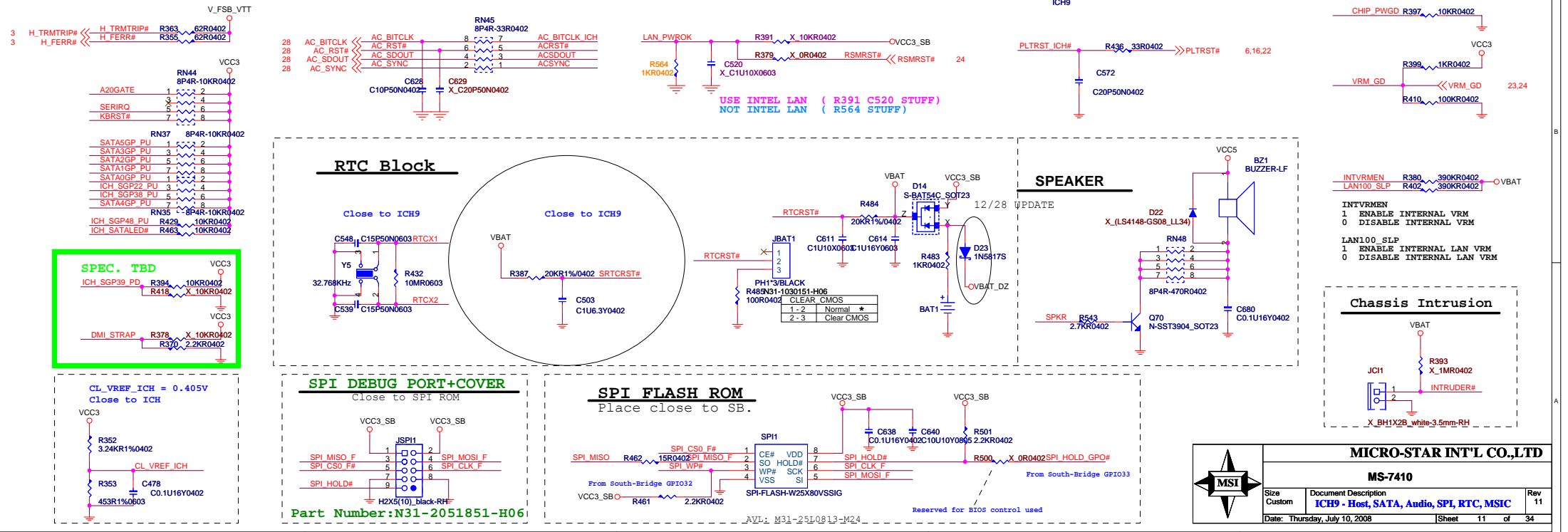
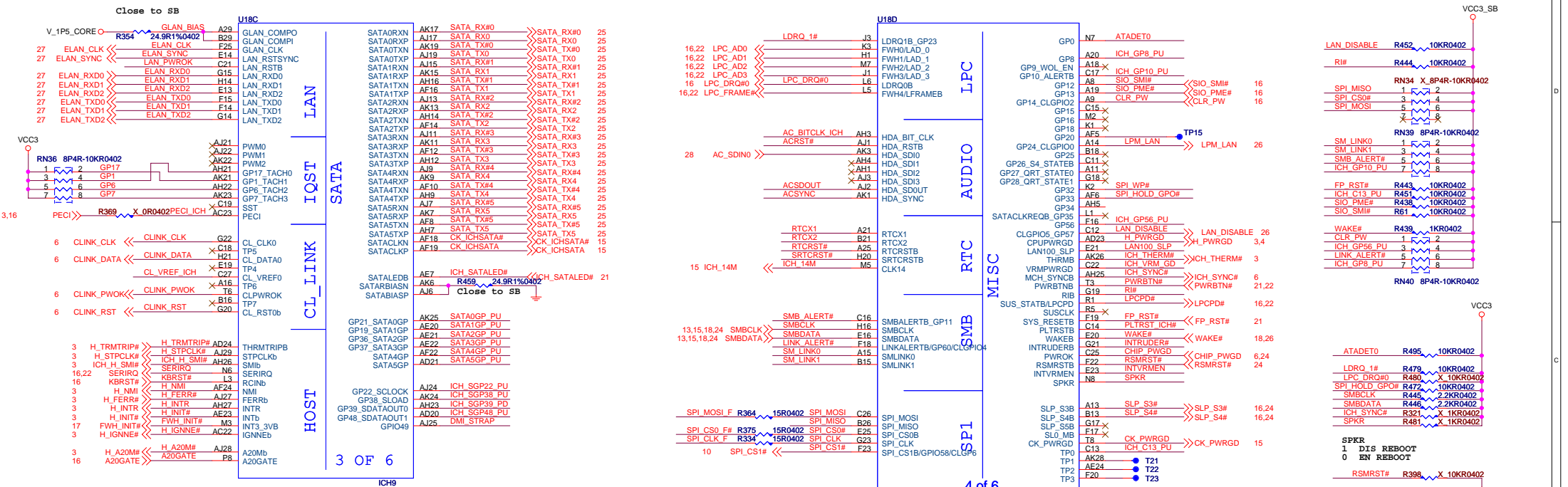
Size Custom	Document Description Bearlake - GND	Rev 11
Date: Thursday, July 10, 2008		Sheet 9 of 34



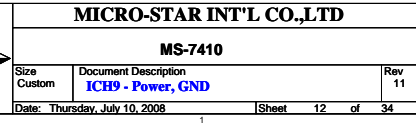
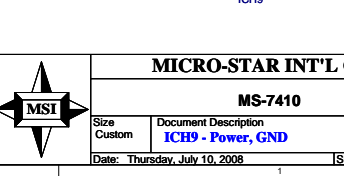
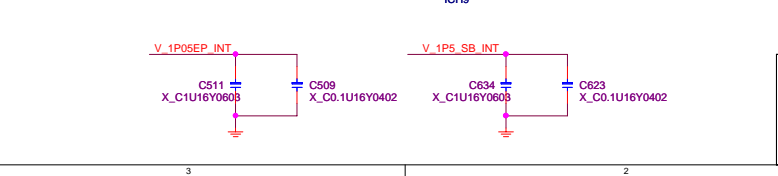
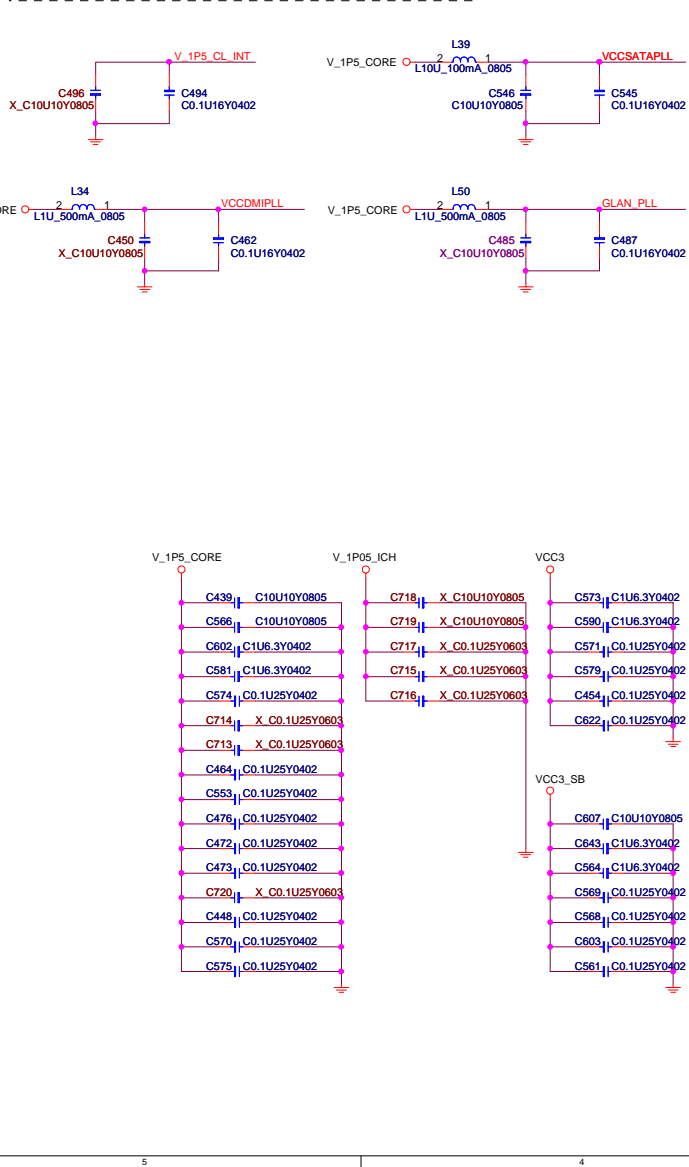
BOOT SELECT STRAPS		
BOOT DEVICE	GNT#0	SPI_CS1#
FWH	1	1
SPI	0	X
PCI	1	0

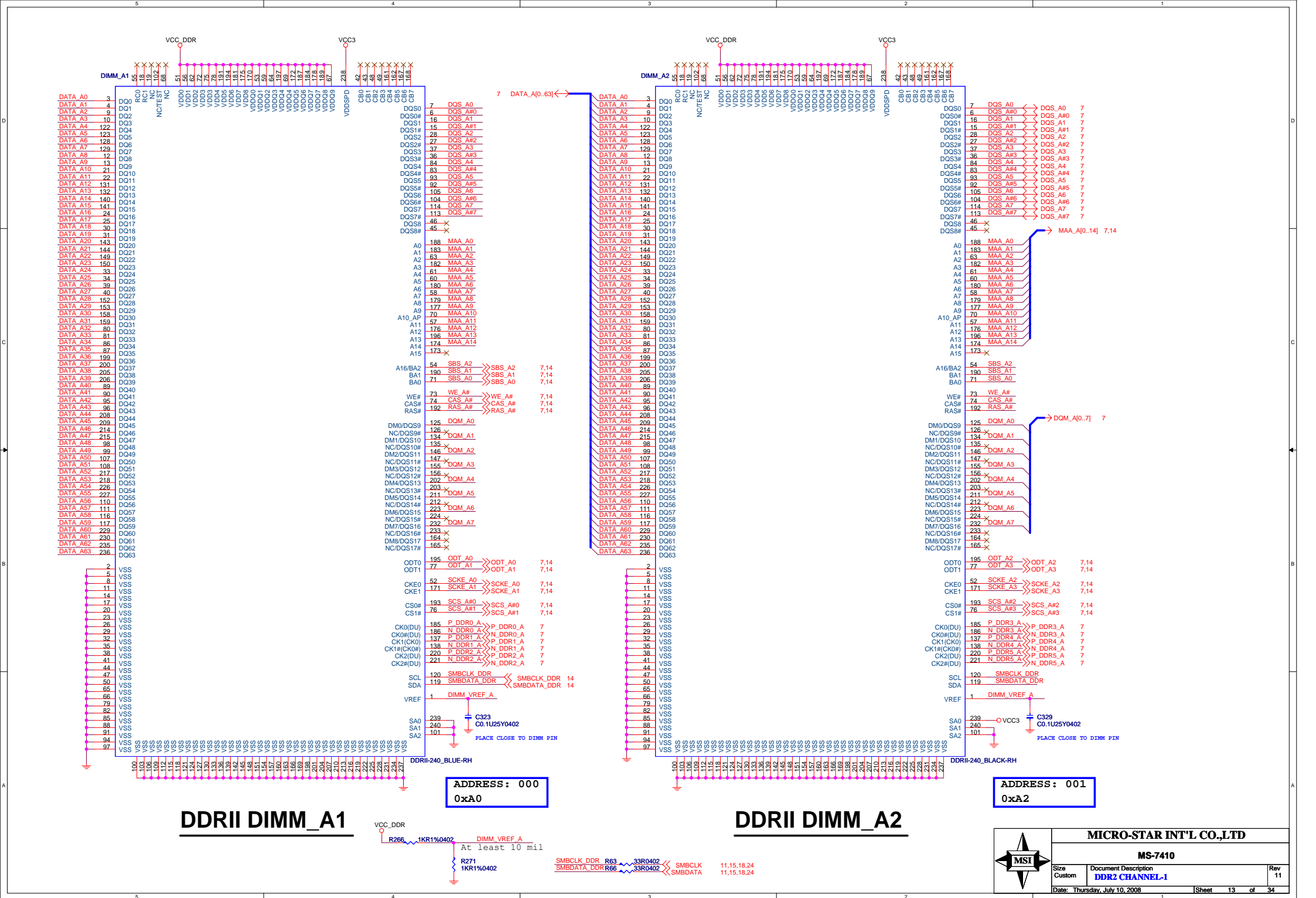
SIGNAL	H	L	DES.
GNT3	DIS	EN	A16 OVERRIDE
GNT2	N/A	SET BIT	PCIE PORT CONFIG 2 BIT 0 (5-6)





5VREF & 5VREF_SUS Sequencing Circuit







VCC_DDR

R265 1KR1%0402 DIMM_VREF_B

SMBCLK_DDR	13
SMBDATA_DDR	13

ADDRESS: 011
0xA6

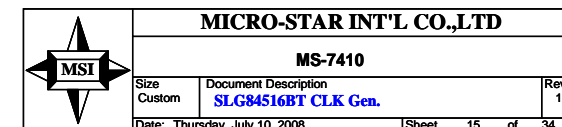
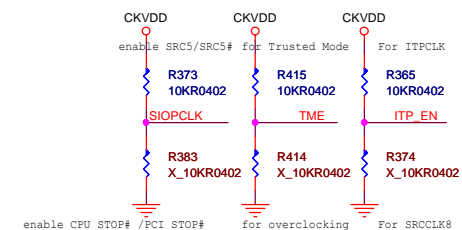
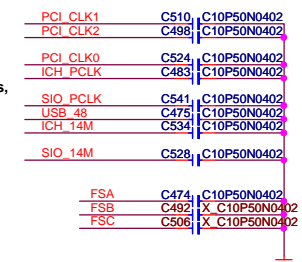
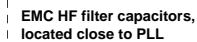


MS-7410

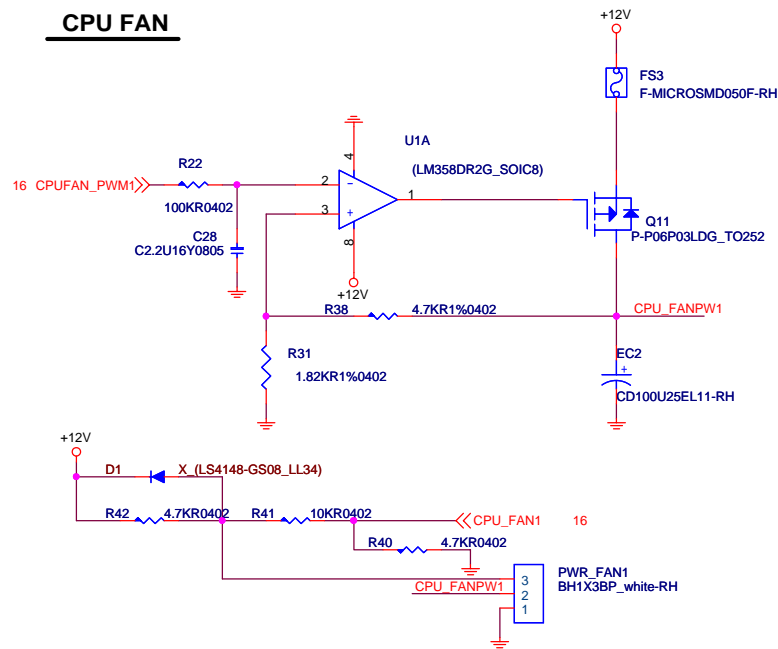
Size Custom	Document Description DDR2 CHANNEL-2/DDR II Termination	Rev 11
Date: Thursday, July 10, 2008	Sheet 14 of 34	

PCB layout showing HF filter capacitors placed close to the PLL. The diagram includes two main sections: one for the CKVDD_IO supply and another for the CKVDD supply. Each section shows a series of capacitors connected to a common ground plane. The capacitors are labeled with their values and part numbers. A table at the bottom lists the capacitors and their connections.

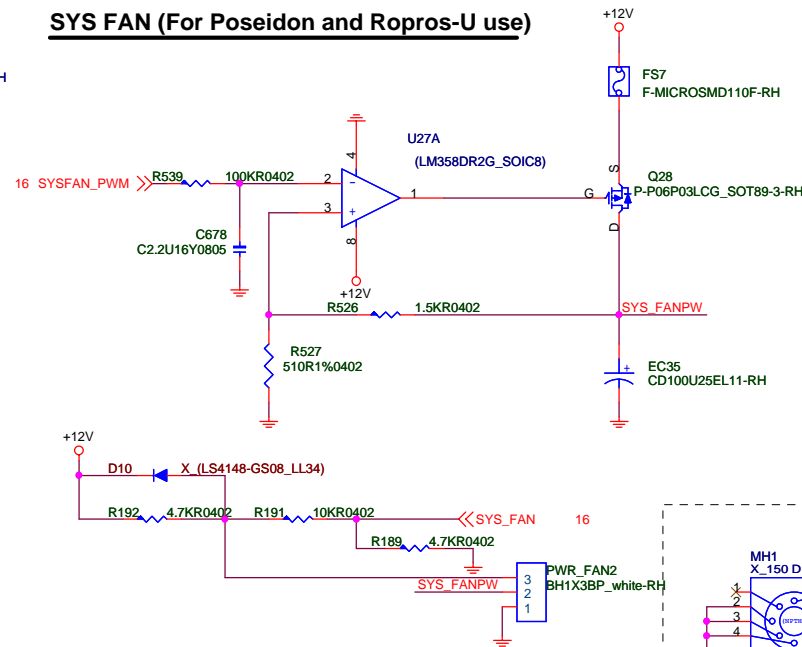
Component	Value	Part Number
CKVDD_IO	0.1uF	C428
CKVDD	0.1uF	C526
CKVDD	0.1uF	C468
CKVDD	0.1uF	C507
CKVDD	0.1uF	C437
CKVDD	0.1uF	C488
CKVDD	0.1uF	C525
CKVDD	0.1uF	C431
CKVDD	0.1uF	C425
CKVDD	0.1uF	C426
CKVDD	0.1uF	C430
CKVDD	0.1uF	C427
CKVDD	0.1uF	C422
CKVDD	0.1uF	C432
CKVDD	0.1uF	C483
CKVDD	0.1uF	C510
CKVDD	0.1uF	C498
CKVDD	0.1uF	C524
CKVDD	0.1uF	C483
CKVDD	0.1uF	C541
CKVDD	0.1uF	C475
CKVDD	0.1uF	C534
CKVDD	0.1uF	C528
CKVDD	0.1uF	C474
CKVDD	0.1uF	C492
CKVDD	0.1uF	C506



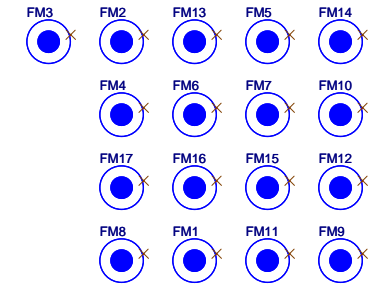
CPU FAN



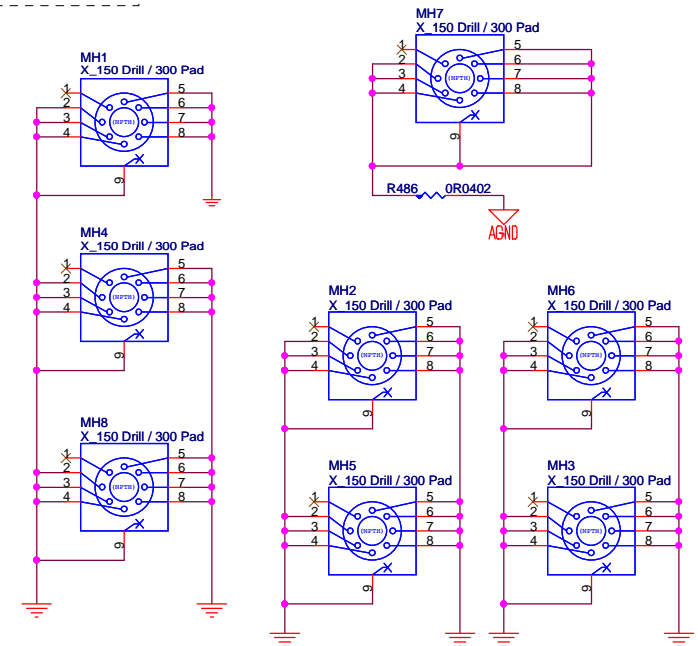
SYS FAN (For Poseidon and Ropros-U use)



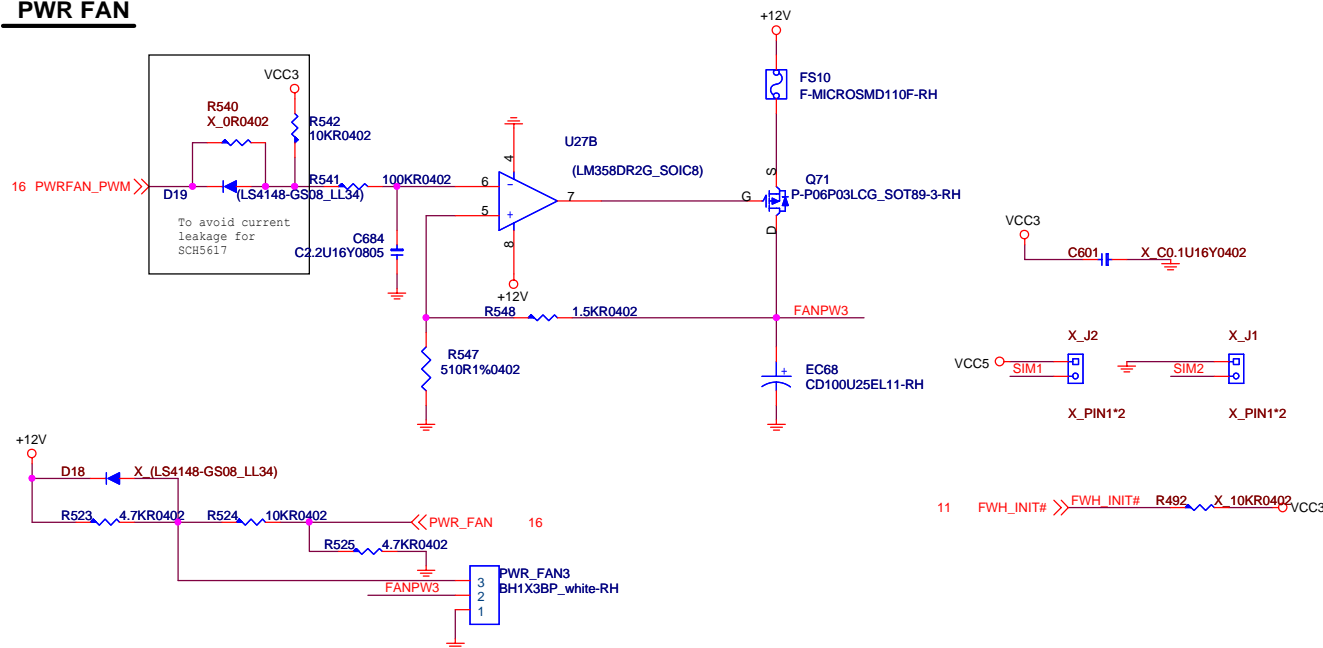
Optical Fiducial Marks



Mounting Holes



PWR FAN

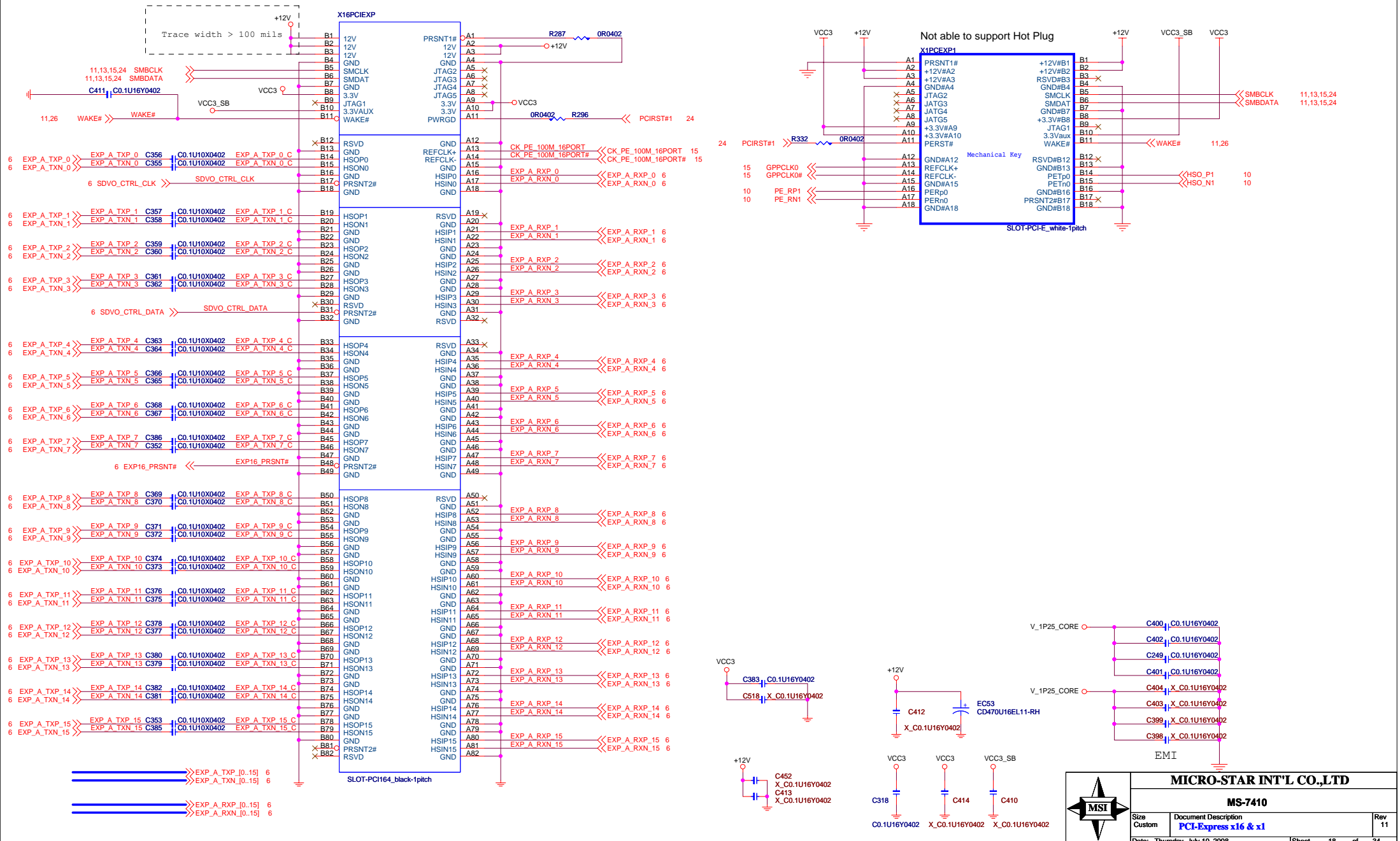


MICRO-STAR INT'L CO.,LTD

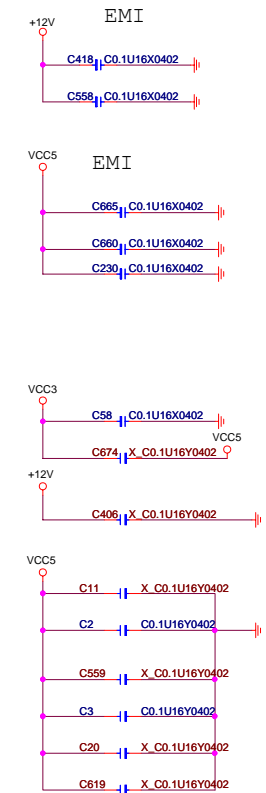
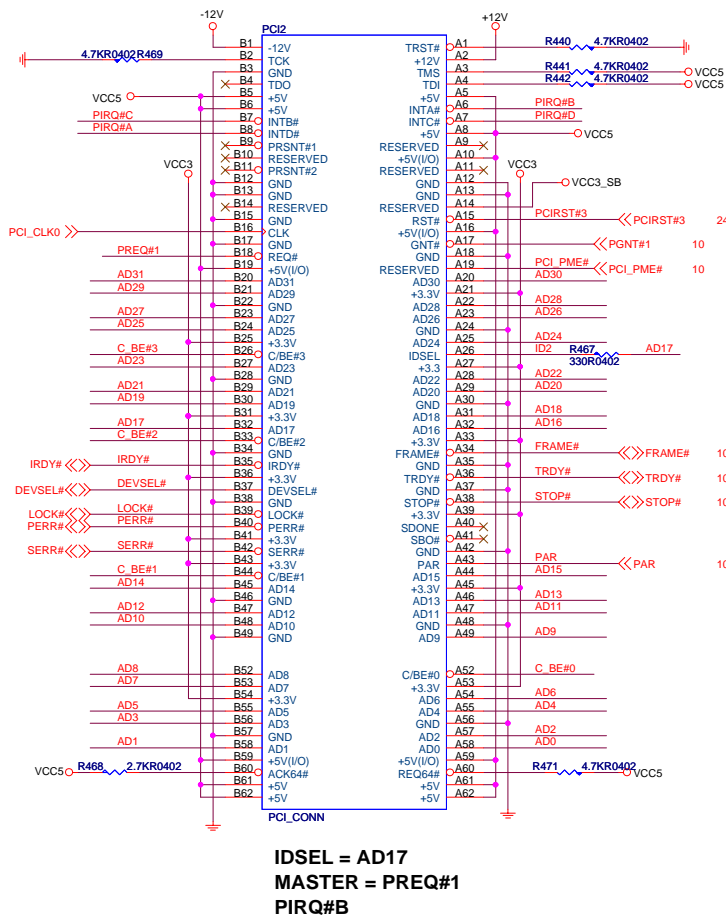
MS-7410

Size B	Document Description	Rev
	CPU/SYS/PWR FAN	11
Date: Friday, July 11, 2008	Sheet 17 of 34	

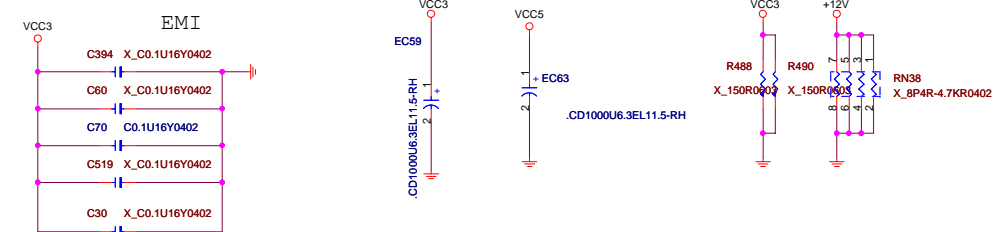
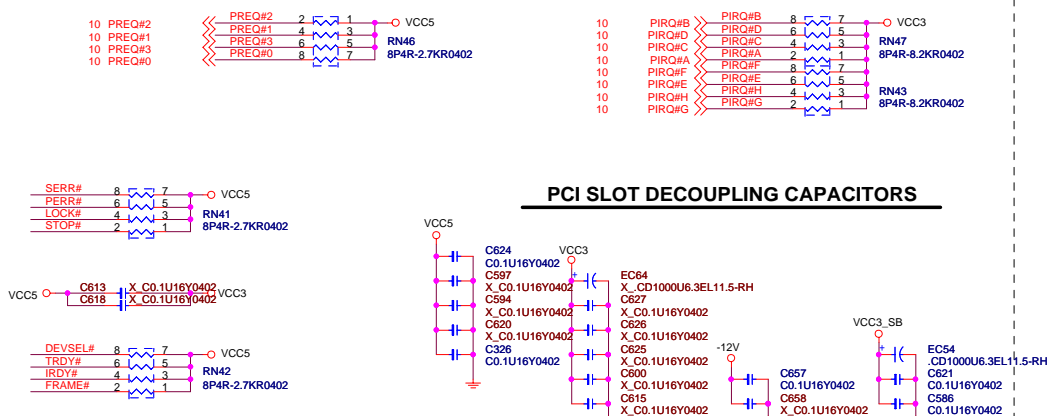
PCI EXPRESS 16-PORT



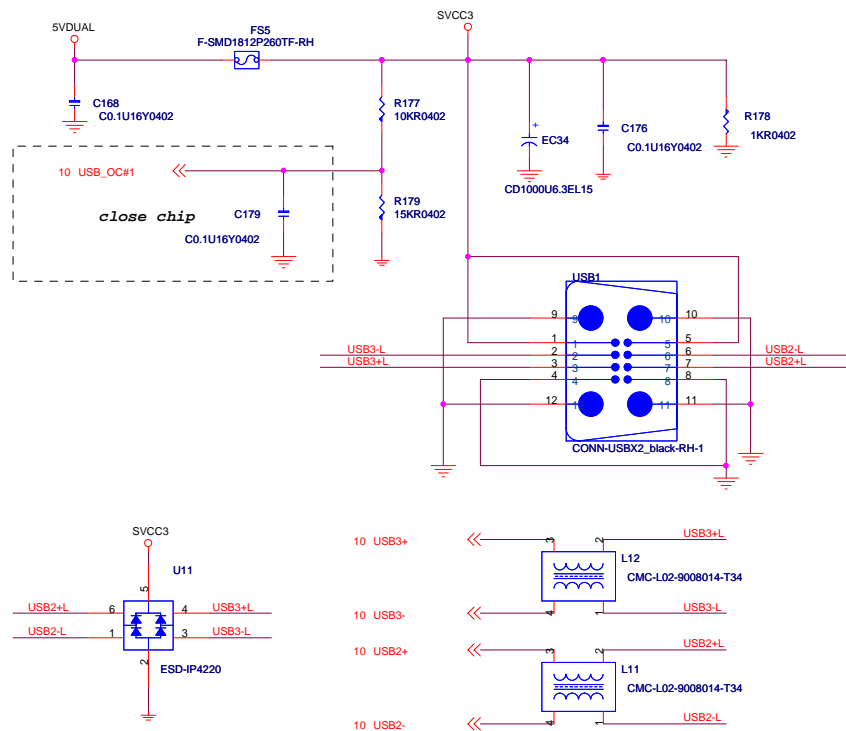
PCI SLOT 2 (PCI VER: 2.2 COMPLY)



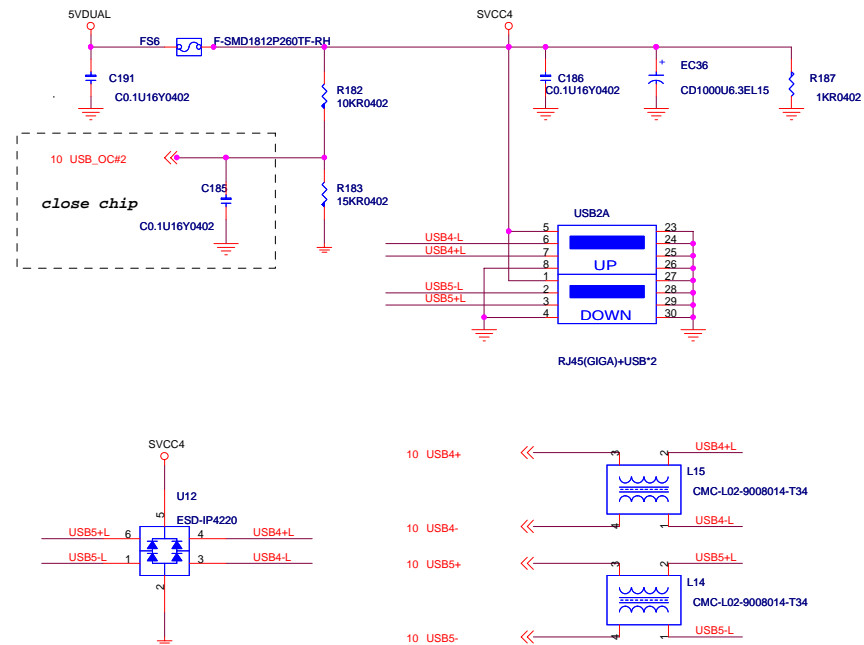
PCI SLOT DECOUPLING CAPACITORS



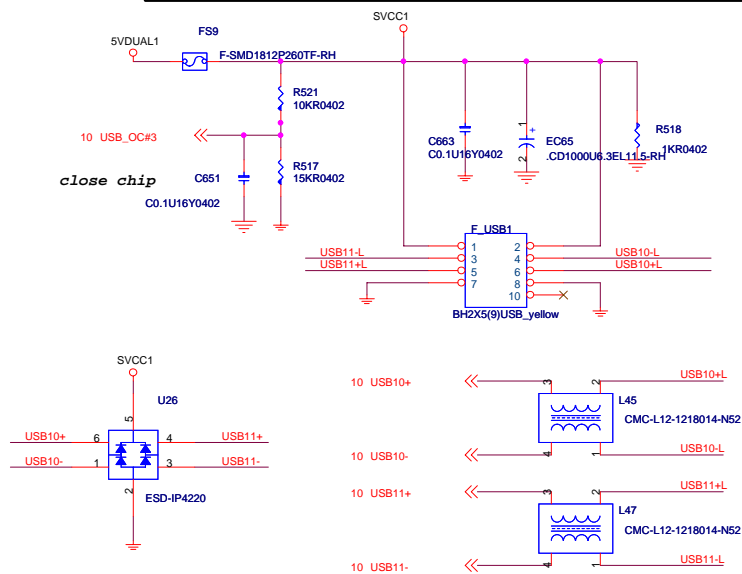
REAR PANEL USB CONNECTOR FOR USB PORT 2,3



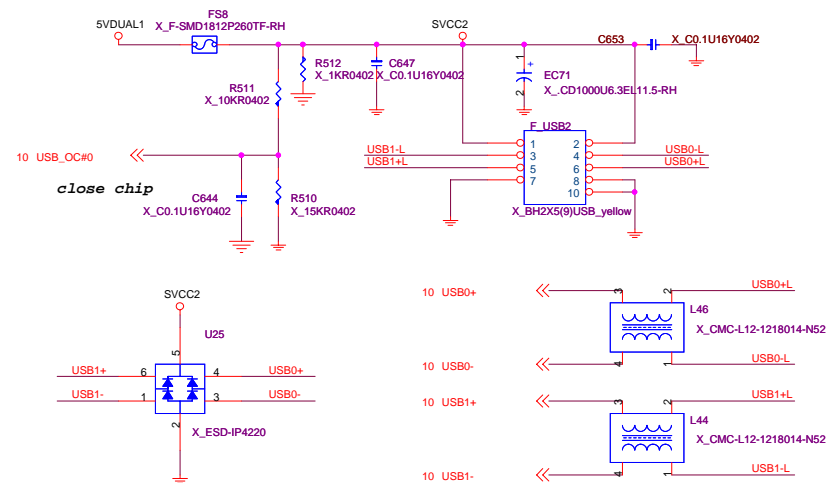
REAR PANEL USB CONNECTOR FOR USB PORT 4,5



Front USB PORT 10,11 (right angel type) for ROPROS Front USB PORT 10,11 (No housing type) for Poseidon



Memory card reader USB CONNECTOR FOR USB PORT 0,1 (FOR ROPROS-VS & Poseidon)

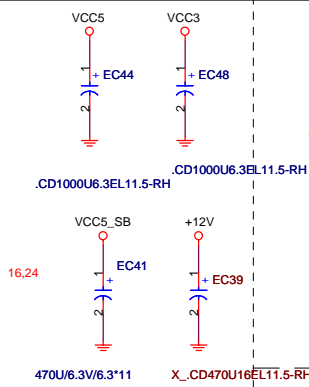
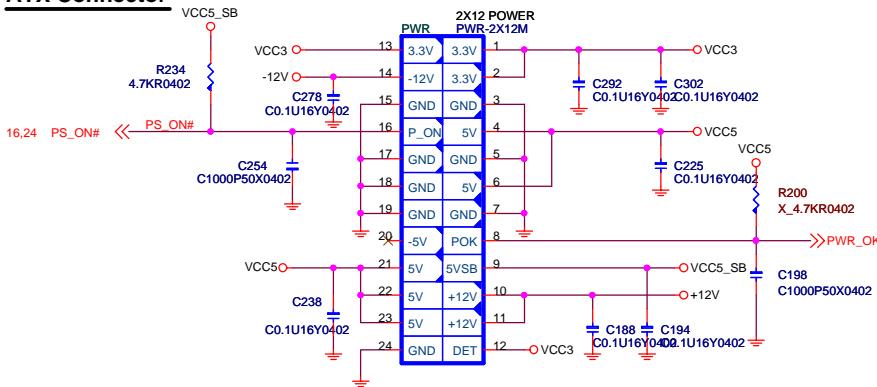


MICRO-STAR INT'L CO.,LTD

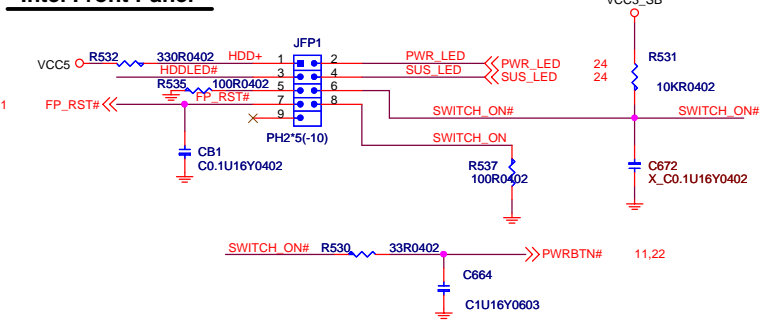
MS-7410

Size	Document Description	Rev
Custom	USB CONNECTORS	11
Date: Monday, July 14, 2008	Sheet 20 of 34	

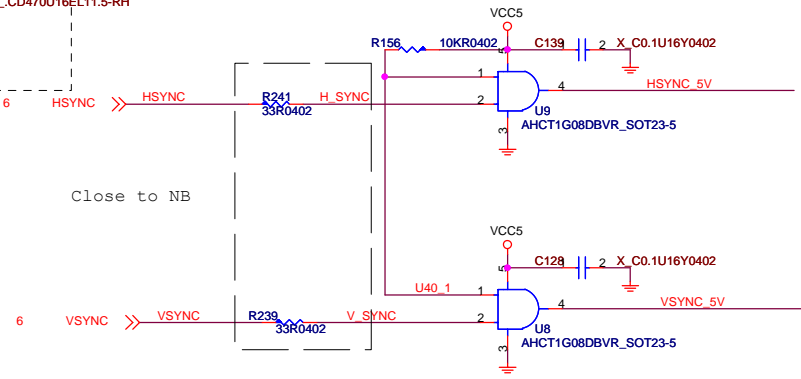
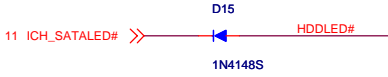
ATX Connector



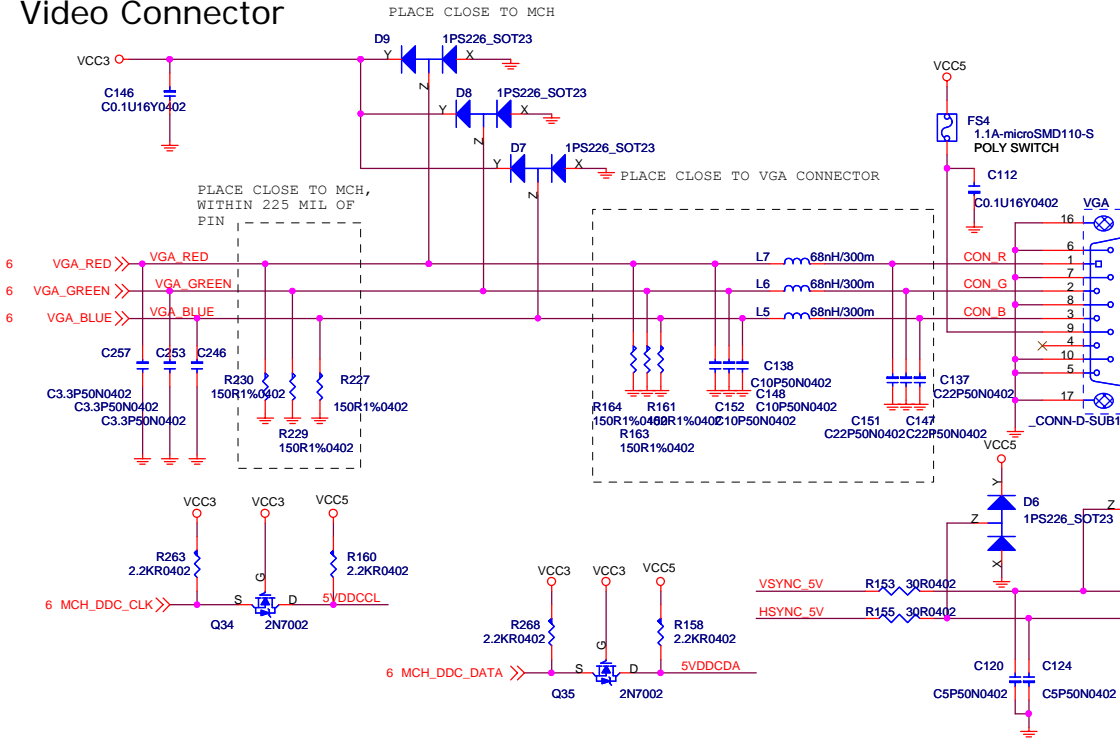
Intel Front Panel



IDE LED

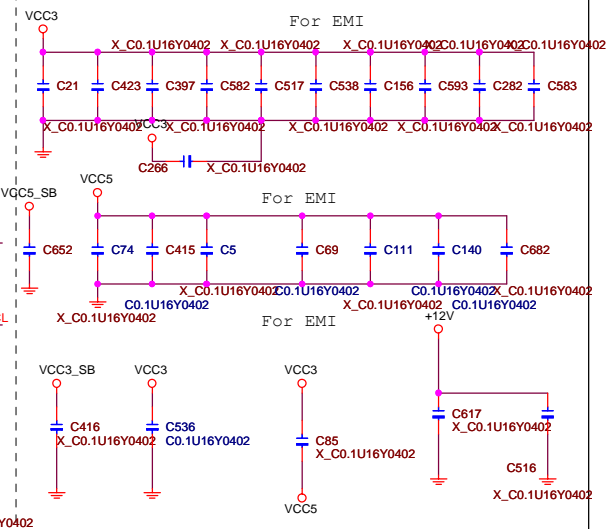


Video Connector



Part Value Selection

G: With 915G option
X: No Stuff



MICRO-STAR INT'L CO.,LTD

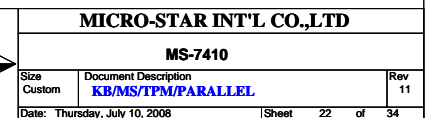
MS-7410

Size	Document Description
Custom	ATX ,Front Panel & VGA Conn

Rev	11
-----	----

Date: Thursday, July 10, 2008

Sheet 21 of 34

[illegible][illegible]

Voltage Regular Module

N-P0903BDG_TO252
P75N02LDG/TO252
C100U2SP
CD560U4OS-2
1800UF/6.3V
0.25uH/40A
CH-1.1U25A-LF
CD1000U16EL20-2

mosfet/n-channel, P0903BDG, SMT/TO252, Rds(on)=9.5mΩ(10V,25A), Vgs(on)=1~3V, Id=50A, Ciss=1800pF, Qg=50nC, Vds=25V, Vgs=±20V, RoHS compliance

mosfet/n-channel, P75N02LDG, SMT/TO252, Rds(on)=7mΩ(810V,30A), Vgs(on)=1~3V, Id=75A, Ciss=5000pF, Qg=140nC, Vds=25V, Vgs=±20V, RoHS compliance

ESR<13mΩ, Ripple cur.<2.7A, L=12uA, 105C

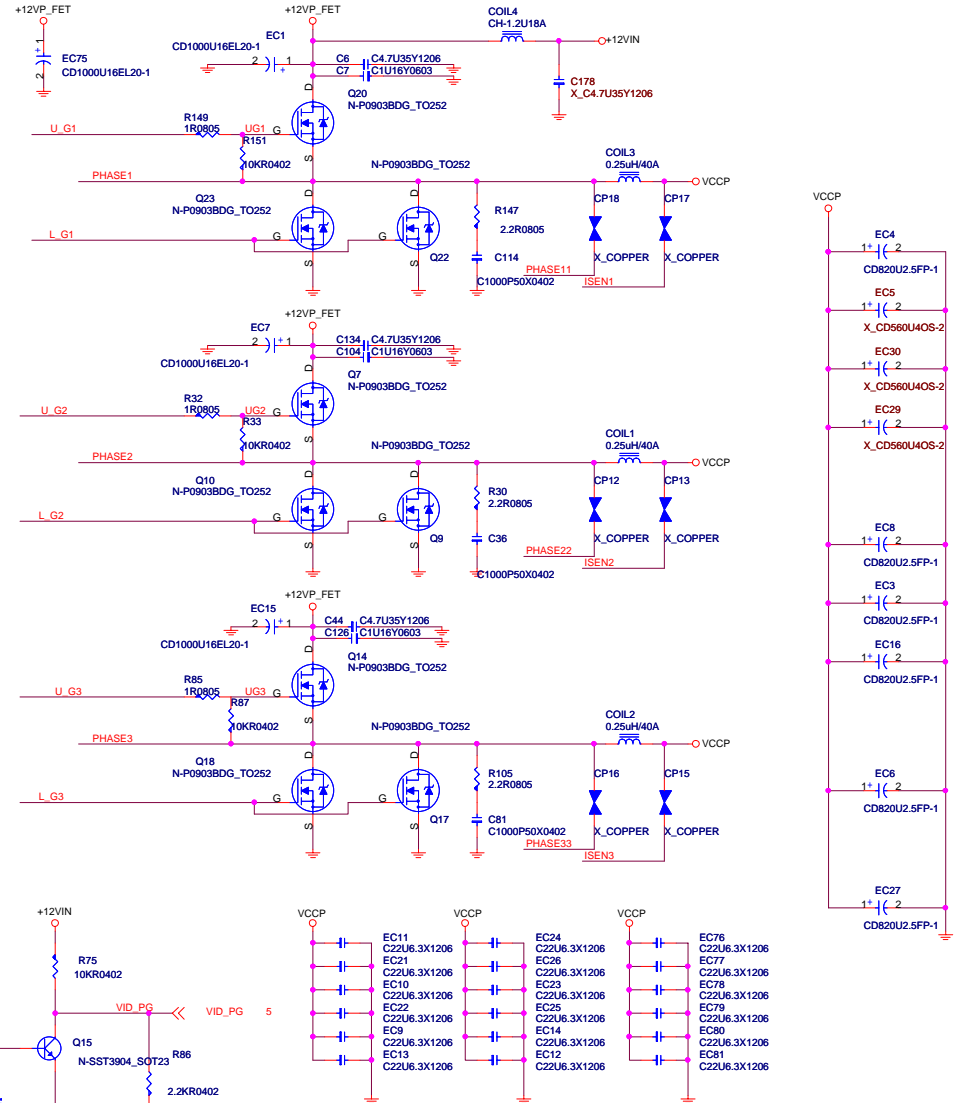
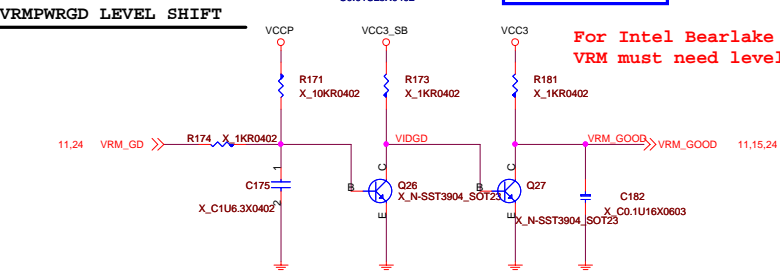
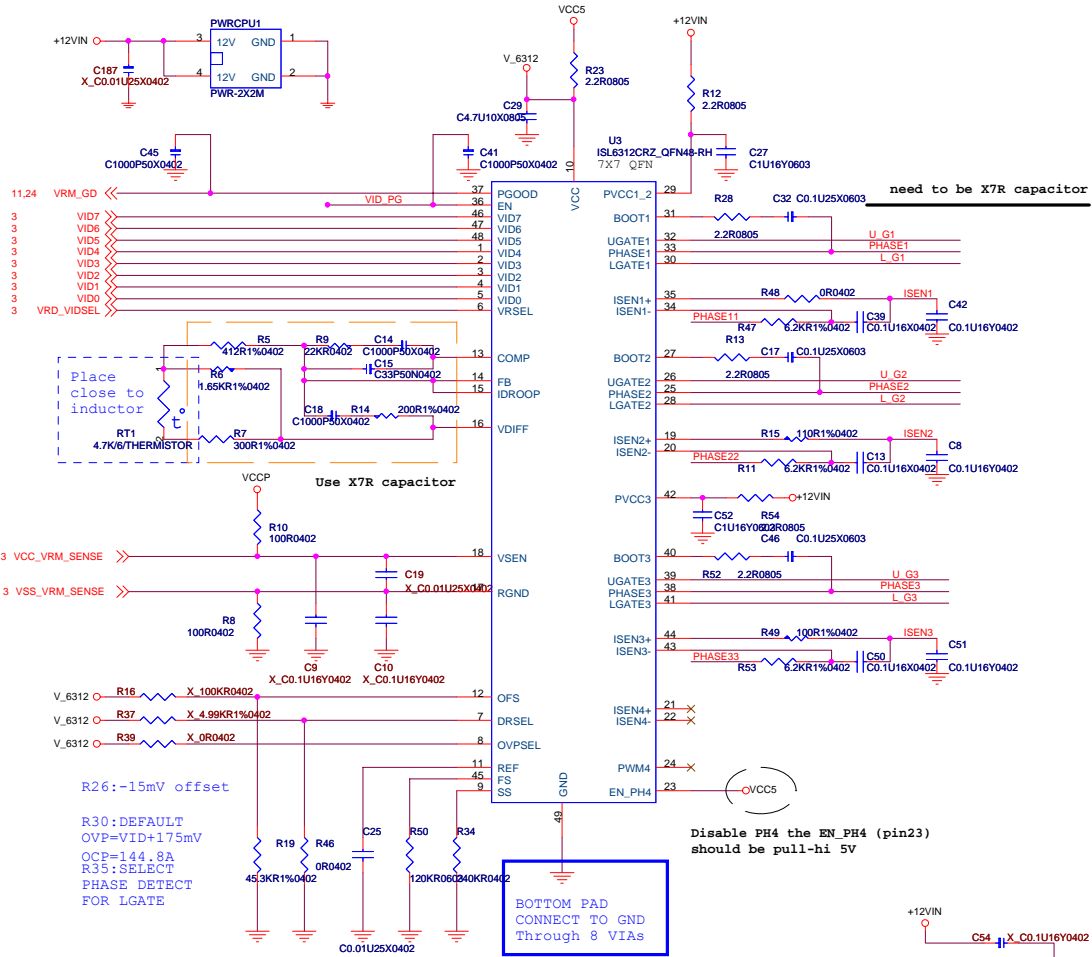
CAP,OS-CON,560u/4V,Dip-2/8*9/3.5mm,ESR<7mohm, Ripplecur.=6100mA, Lc. <500uA,SPEC series,RoHS compliance

ESR<12mΩ, Ripplecur<2350mA,105C, longlife change from 2000hrs to 3000hrs ,KZJ series

, IND CHOKE, 0.25uH, 20%, DIP/8.5mm, 40A, 0.6mOhm, , , PEW, FERRITE, SQUARE, RoHS COMPLIANCE

IND CHOKE, 1.1uH, 20%, DIP/9mm, 25A, 1.4mOhm, 5.5T, 0.9mmx3, PEW, IRON, , LEAD FREE

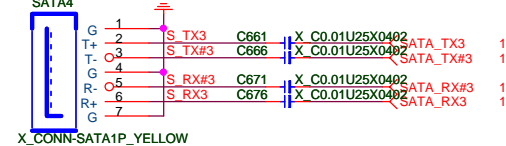
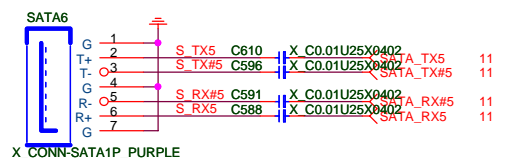
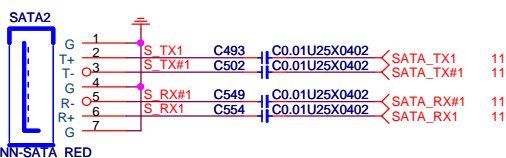
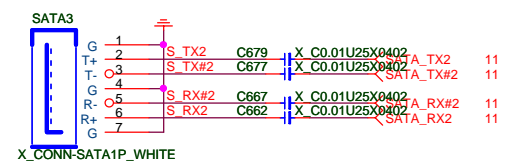
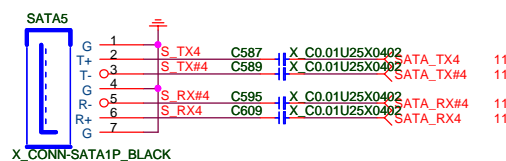
CAP, EL, 1000u, 16V, Dip-8x20/3.5mm, 20%, 12mOhm, 2350mA, 105C, 3000hrs, RoHS COMPLIANCE



MICRO-STAR INT'L CO.,LTD			
MS-7410			
Size Custom	Document Description VRD11 Intersil 6312 3Phase		Rev 11
Date: Thursday, July 10, 2008		Sheet 23 of 34	

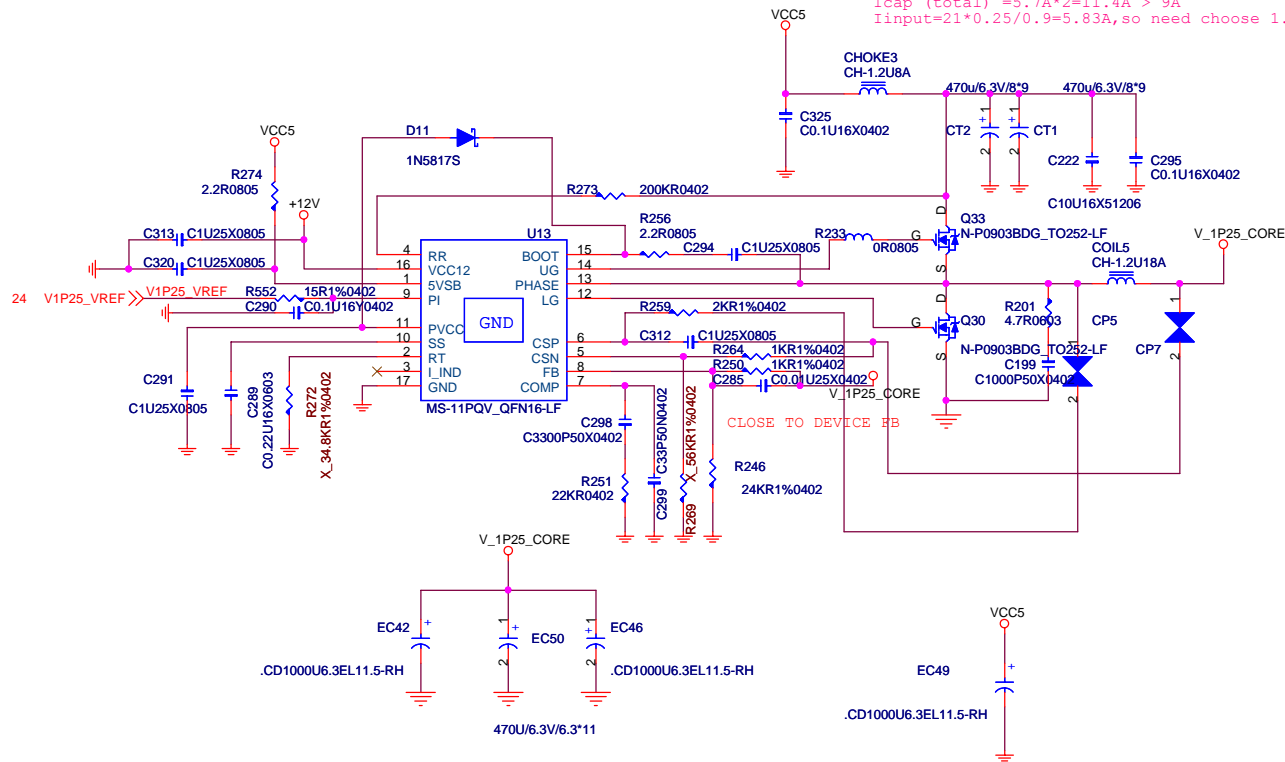
Size Custom	Document Description MS7 ACPI Controller	Rev 11
----------------	--	-----------

SERIAL ATA CONNECTOR BLOCK SATA1&SATA2 FOR ROPROS-MA/VS USE



GMCH 1.25V POWER (21.3A)

$I_{rms} = 21 \times 0.433 = 9.09A$
 $I_{cap} (total) = 5.7A \times 2 = 11.4A > 9A$
 $I_{input} = 21 \times 0.25 / 0.9 = 5.83A$, so need choose 1.2UH/8A choke



MICRO-STAR INT'L CO.,LTD

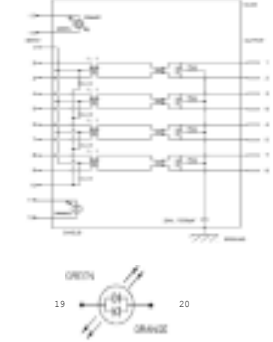
MS-7410

Size	Document Description	Rev
B	SATA&V_1P25_CORE	11
Date:	Thursday, July 10, 2008	Sheet 25 of 34

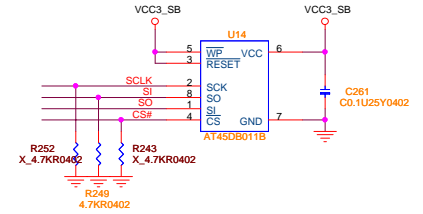
BCM5787M LAN CHIP (ROPROS-MA)

LAN Connector

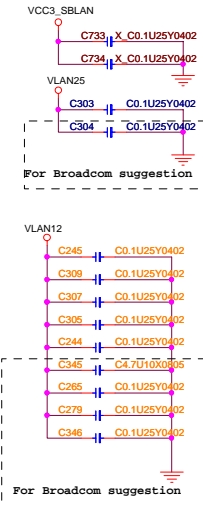
Giga-Lan	
N58-22F0571-F02	
Link	Yellow
Active	Blinking
1000	Orange
100	Green
10	None
21	
22	Yellow
20	Orange
19	Green



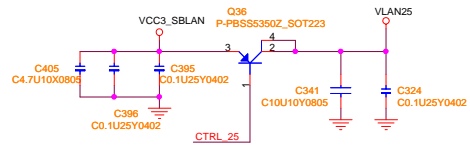
LAN EEPROM



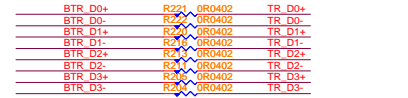
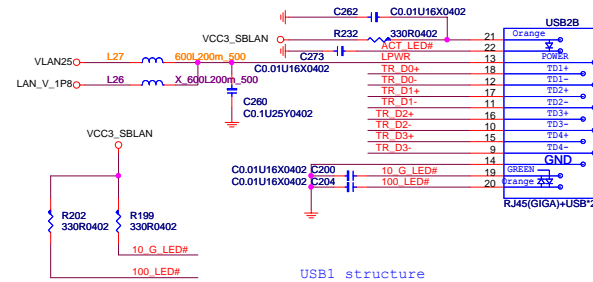
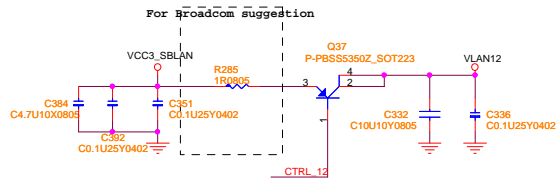
Bypass CAPs



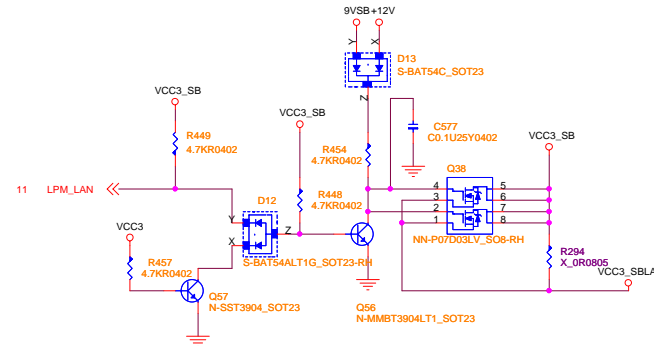
LAN 2.5 POWER (235mA)



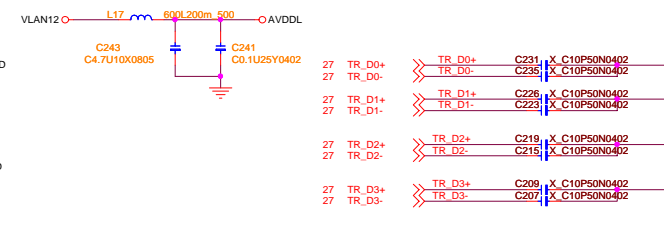
LAN 1.2 POWER (590mA)



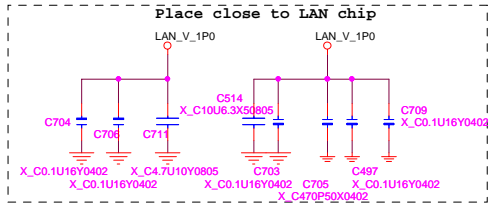
Power control for power consumption



EMI SUGGESTION



LAN - NINEVEH (ROPROS-VS) (Poseidon)



10 GLAN_RXP
10 GLAN_RXN
10 GLAN_TXP
10 GLAN_TXN

GLAN_RXP C495
GLAN_RXN C504
GLAN_TXP
GLAN_TXN

VCC3_SB

R385

X_0R0603N_1P0_CTRL

LAN_1P8_CTRL

RSVD_J6/NC
RSVD_J7/NC

GLAN_RCOMP_DP
GLAN_RCOMP_DN

RBIAS_P
RBIAS_P/NC

CTRL_10/NC
CTRL_18/NC

THERM_D_P/NC
THERM_D_N/NC

IEEE_TEST_P/NC
IEEE_TEST_N/NC

JTAG_TCK/ISOL_TCK
JTAG_TDI/ISOL_TDI

JTAG_TDO/TOUT
JTAG_TMS/ISOL_EXEC

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

VSSA/VS
VSSA/VS

LAN_V_1P0

C707

X_C0.1U16Y0402

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

LAN_V_1P0

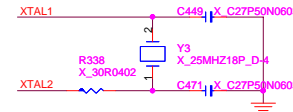
Nineveh 82566DC

LAN CONNECTOR

LAN MDIO DP R569 X_0R0402 TR_D0+ 26
LAN MDIO DN R569 X_0R0402 TR_D0- 26
LAN MDI1 DP R569 X_0R0402 TR_D1+ 26
LAN MDI1 DN R569 X_0R0402 TR_D1- 26
LAN MDI2 DP R569 X_0R0402 TR_D2+ 26
LAN MDI2 DN R569 X_0R0402 TR_D2- 26
LAN MDI3 DP R569 X_0R0402 TR_D3+ 26
LAN MDI3 DN R569 X_0R0402 TR_D3- 26

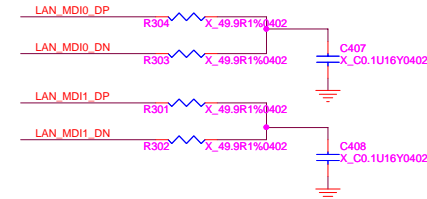
LED_LINK R242 X_0R0402 ACT_LED# 26
LED_100 R242 X_0R0402 100_LED# 26
LED_1G R242 X_0R0402 10_G_LED# 26

ACT_LED	Link_LED
S0: LOW	S0: LOW
S1/S3/S4/S5: HIGH	S5: HIGH
	S1/S3/S4: WOL EN-->LOW
	WOL DIS-->HIGH



MODE_SEL R336 X_100R0402

Place close to LAN chip



GLAN_RCOMP_DP R323 X_1.5KR1%0402 GLAN_RCOMP_DN

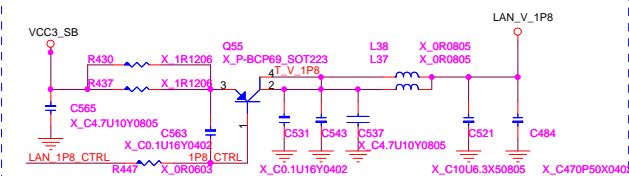
R319 X_1.4KR1%0402 RBIAS_P

LAN MDI2 DP R297 X_49.9R1%0402

LAN MDI2 DN R298 X_49.9R1%0402

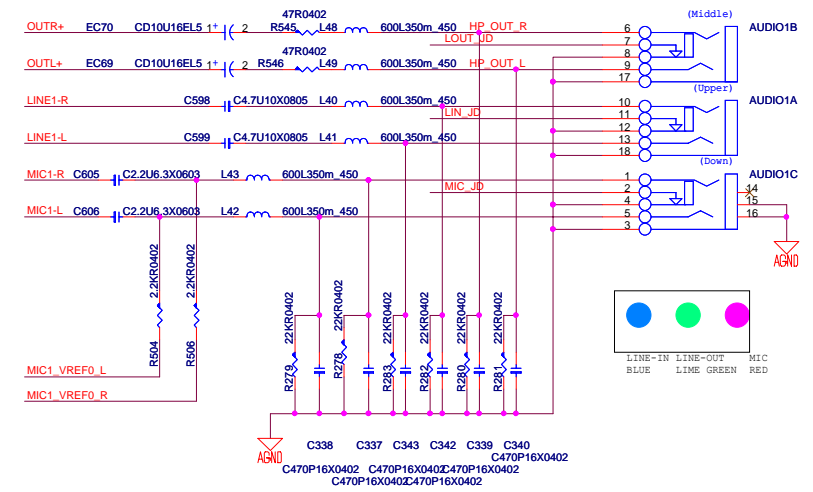
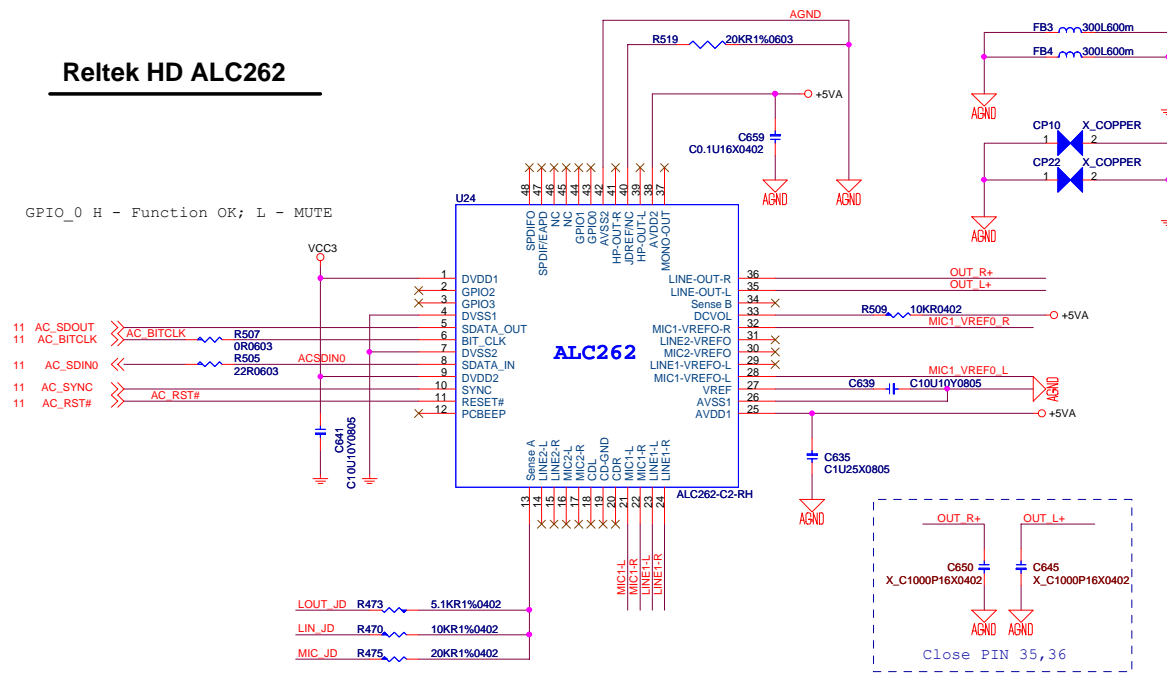
LAN MDI3 DP R299 X_49.9R1%0402

LAN MDI3 DN R300 X_49.9R1%0402

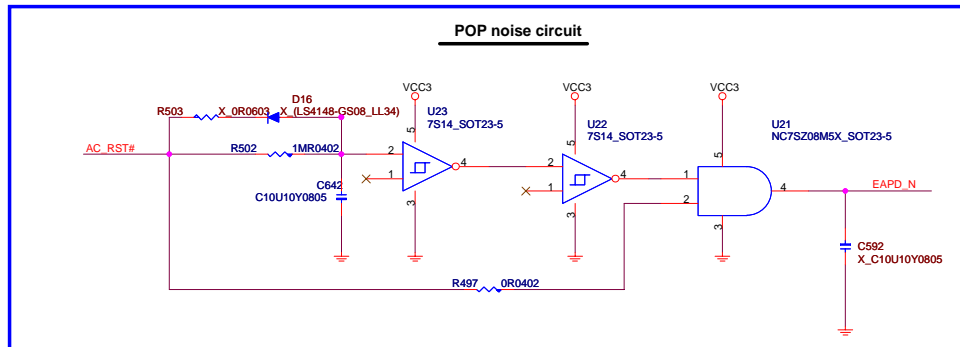


Reltek HD ALC262

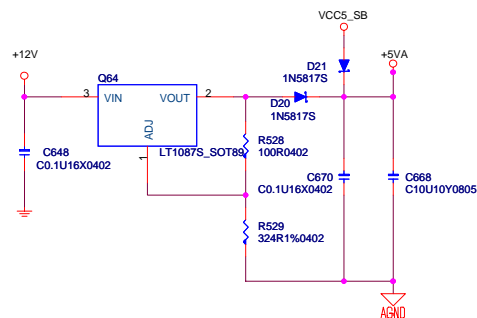
GPIO_0 H - Function OK; L - MUTE



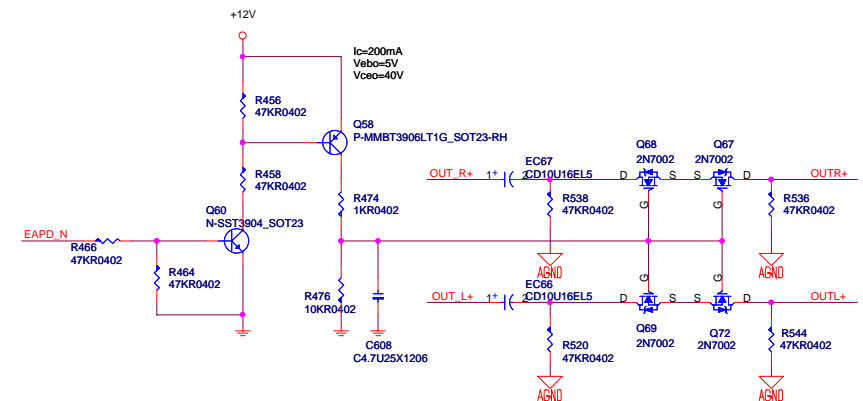
08/01 UPDATE



AUDIO CODE REGULATORS



Smooth pop noise circuit for Line-out



MICRO-STAR INT'L CO.,LTD

MS-7410

Size Custom	Document Description HD Audio ALC262	Rev 11
Date: Thursday, July 10, 2008		Sheet 28 of 34

ICH9	GPIO	Alt Func	Pin	I/O/NC	Power	PÜ	Tol	Default	Signal Name or condition		
	GPIO[0]	ATADET0	N7	I/O	Vcc3	Y	3.3	INPUT	ATADET0	PULL HIGH	10K
	GPIO[1]	PULL HIGH	AK21	I/O	Vcc3	Y	3.3	INPUT	PULL HIGH	10K	
	GPIO[2]	PIRQ#E	K6	I/O	Vcc3	Y	3.3	INPUT	PULL HIGH	8.2K	
	GPIO[3]	PIRQ#F	L7	I/O	Vcc3	Y	3.3	INPUT	PULL HIGH	8.2K	
	GPIO[4]	PIRQ#G	F2	I/O	Vcc3	Y	3.3	INPUT	PULL HIGH	8.2K	
	GPIO[5]	PIRQ#H	G2	I/O	Vcc3	Y	3.3	INPUT	PULL HIGH	8.2K	
	GPIO[6]	PULL HIGH	AH22	I/O	Vcc3	Y	3.3	INPUT	PULL HIGH	10K	
	GPIO[7]	PULL HIGH	AK23	I/O	Vcc3	Y	3.3	INPUT	PULL HIGH	10K	
	GPIO[8]	ICH GP8 PU	A20	I/O	Vcc3SB	Y	3.3	INPUT	PULL HIGH	10K	
	GPIO[9]	SIO SMI#	A18	NC	Vcc3	N	3.3	WOL EN	NC		
	GPIO[10]	ICH GP10 PU	C17	I/O	Vcc3SB	Y	3.3	INPUT	PULL HIGH	10K	
	GPIO[11]	SMB ALERT#	C16	I/O	Vcc3SB	Y	3.3	SMB ALERT#	PULL HIGH	10K	
	GPIO[12]	NC	A8	NC	Vcc3SB	N	3.3	OUTPUT	SIO SMI#		
	GPIO[13]	SIO PME#	A19	I/O	Vcc3SB	Y	3.3	INPUT	SIO PME#		
	GPIO[14]	CLR PW	A9	I/O	Vcc3SB	Y	3.3	INPUT	PULL HIGH	10K	
	GPIO[15]	NC	C15	NC	Vcc3SB	Y	3.3	STP PCI#	NC		
	GPIO[16]	NC	M2	NC	Vcc3	Y	3.3	OUTPUT	NC		
	GPIO[17]	PULL HIGH	AH21	I/O	Vcc3	Y	3.3	INPUT	PULL HIGH	10K	
	GPIO[18]	NC	K1	NC	Vcc3	N	3.3	OUTPUT	NC		
	GPIO[19]	SATA1GP PU	AE20	I/O	Vcc3	Y	3.3	INPUT	PULL HIGH	10K	
	GPIO[20]	NC	AF5	NC	Vcc3	N	3.3	OUTPUT	NC		
	GPIO[21]	SATA0GP PU	AK25	I/O	Vcc3	Y	3.3	INPUT	PULL HIGH	10K	
	GPIO[22]	ICH SGP22 PU	AJ24	I/O	Vcc3	Y	3.3	INPUT	PULL HIGH	10K	
	GPIO[23]	LDRQ 1#	J3	I/O	Vcc3	Y	3.3	LDRQ 1#	PULL HIGH	10K	
	GPIO[24]	LPM LAN	A14	NC	Vcc3SB	N	3.3	OUTPUT	LPM LAN		
	GPIO[25]	NC	B18	NC	Vcc3SB	N	3.3	STP CPU#	NC		
	GPIO[26]	NC	C11	NC	Vcc3SB	N	3.3	S4 STATE#	NC		
	GPIO[27]	NC	A11	NC	Vcc3SB	N	3.3	QRT STATE0	NC		
	GPIO[28]	NC	G18	NC	Vcc3SB	N	3.3	QRT STATE1	NC		
	GPIO[29]	USB OC#2	N1	I/O	Vcc3SB	Y	3.3	OC#2	USB OC#2		
	GPIO[30]	USB OC#3	N5	I/O	Vcc3SB	Y	3.3	OC#3	USB OC#3		
	GPIO[31]	USB OC#3	M1	I/O	Vcc3SB	Y	3.3	OC#3	USB OC#3		
	GPIO[32]	SPI WP#	K2	I/O	Vcc3	N	3.3	OUTPUT	SPI WP#		
	GPIO[33]	SPI HOLD GPO#	AF6	I/O	Vcc3	N	3.3	OUTPUT	SPI HOLD GPO#		
	GPIO[34]	NC	AH5	I/O	Vcc3	N	3.3	OUTPUT	NC		
	GPIO[35]	NC	L1	NC	Vcc3	N	3.3	OUTPUT	NC		
	GPIO[36]	SATA2GP PU	AE21	I/O	Vcc3	Y	3.3	INPUT	SATA2GP PU		
	GPIO[37]	SATA3GP PU	AE22	I/O	Vcc3	Y	3.3	INPUT	SATA3GP PU		
	GPIO[38]	ICH SGP38 PU	AK24	I/O	Vcc3	Y	3.3	INPUT	ICH SGP38 PU		
	GPIO[39]	ICH SGP39 PD	AH23	I/O	Vcc3	Y	3.3	SDATAOUT0	ICH SGP39 PD		
	GPIO[40]	USB OC#0	N3	I/O	Vcc3SB	Y	3.3	OC#0	USB OC#0		
	GPIO[41]	USB OC#1	P7	I/O	Vcc3SB	Y	3.3	OC#1	USB OC#1		
	GPIO[42]	USB OC#1	R7	I/O	Vcc3SB	Y	3.3	OC#1	USB OC#1		
	GPIO[43]	USB OC#2	N2	I/O	Vcc3SB	Y	3.3	OC#2	USB OC#2		
	GPIO[44]	USB OC#3	P3	I/O	Vcc3SB	Y	3.3	OC#3	USB OC#3		
	GPIO[45]	USB OC#3	R6	I/O	Vcc3SB	Y	3.3	OC#3	USB OC#3		
	GPIO[46]	USB OC#3	T7	I/O	Vcc3SB	Y	3.3	OC#3	USB OC#3		
	GPIO[47]	USB OC#3	P1	I/O	Vcc3SB	Y	3.3	OC#3	USB OC#3		
	GPIO[48]	ICH SGP48 PD	AD20	I/O	Vcc3	Y	3.3	SDATAOUT1	PULL HIGH	10K	
	GPIO[49]	DMI STRAP	AJ25	I/O	Vcc3	N	3.3	OUTPUT	PULL LOW	2.2K	
	GPIO[50]	PREQ#1	G13	I/O	Vcc5	Y	5.5	PREQ#1	PULL HIGH	2.7K	
	GPIO[51]	PGNT#1	A7	I/O	Vcc3	N	3.3	PGNT#1	PGNT#1		
	GPIO[52]	PREQ#2	F13	I/O	Vcc5	Y	5.5	PREQ#2	PULL HIGH	2.7K	
	GPIO[53]	PGNT#2	C7	I/O	Vcc3	N	3.3	PGNT#2	STRAP PIN		
	GPIO[54]	PREQ#3	G8	I/O	Vcc5	Y	5.5	PREQ#3	PULL HIGH	2.7K	
	GPIO[55]	PGNT#3	F7	I/O	Vcc3	N	3.3	PGNT#3	STRAP PIN		
	GPIO[56]	ICH GP56 PU	F16	I/O	Vcc3SB	Y	3.3	GPIO SEL	PULL HIGH	10K	
	GPIO[57]	LAN DISABLE	C12	I/O	Vcc3SB	Y	3.3	INPUT	LAN DISABLE	PULL HIGH	10K
	GPIO[58]	SPI CS1#	F23	I/O	Vcc3SB	Y	3.3	SPI CS1#	SPI CS1#		
	GPIO[59]	USB OC#0	P5	I/O	Vcc3SB	Y	3.3	OC#0	USB OC#0		
	GPIO[60]	LINK ALERT#	F18	I/O	Vcc3SB	Y	3.3	LINK ALERT#	LINK ALERT#		

SIO SCH5617

PIN NAME	PIN#	USAGE	Input/Output
GP76	53	GPIO_KB	OUTPUT
GP42	27	SIO_SMI#	OUTPUT
GP41	77	SIO_PME#	OUTPUT

PCI Config.


DEVICE	MCP1 INT Pin	REQ# / GNT#	IDSEL	CLOCK
PCI1	PIRQ#A PIRQ#B PIRQ#C PIRQ#D	PREQ#0 PGNT#0	AD16	PCI_CLK0
PCI2	PIRQ#B PIRQ#D PIRQ#C PIRQ#A	PREQ#1 PGNT#1	AD17	PCI_CLK1

DDRII DIMM Config.

DEVICE	ADDRESS	CLOCK
DIMM 1	A0H	MCLK_A0/MCLK_A#0 MCLK_A1/MCLK_A#1 MCLK_A2/MCLK_A#2
DIMM 2	A2H	MCLK_A1/MCLK_A#3 MCLK_A2/MCLK_A#4 MCLK_A2/MCLK_A#5
DIMM 3	A4H	MCLK_B0/MCLK_B#0 MCLK_B2/MCLK_B#1 MCLK_B1/MCLK_B#2
DIMM 4	A6H	MCLK_B0/MCLK_B#3 MCLK_B1/MCLK_B#4 MCLK_B2/MCLK_B#5

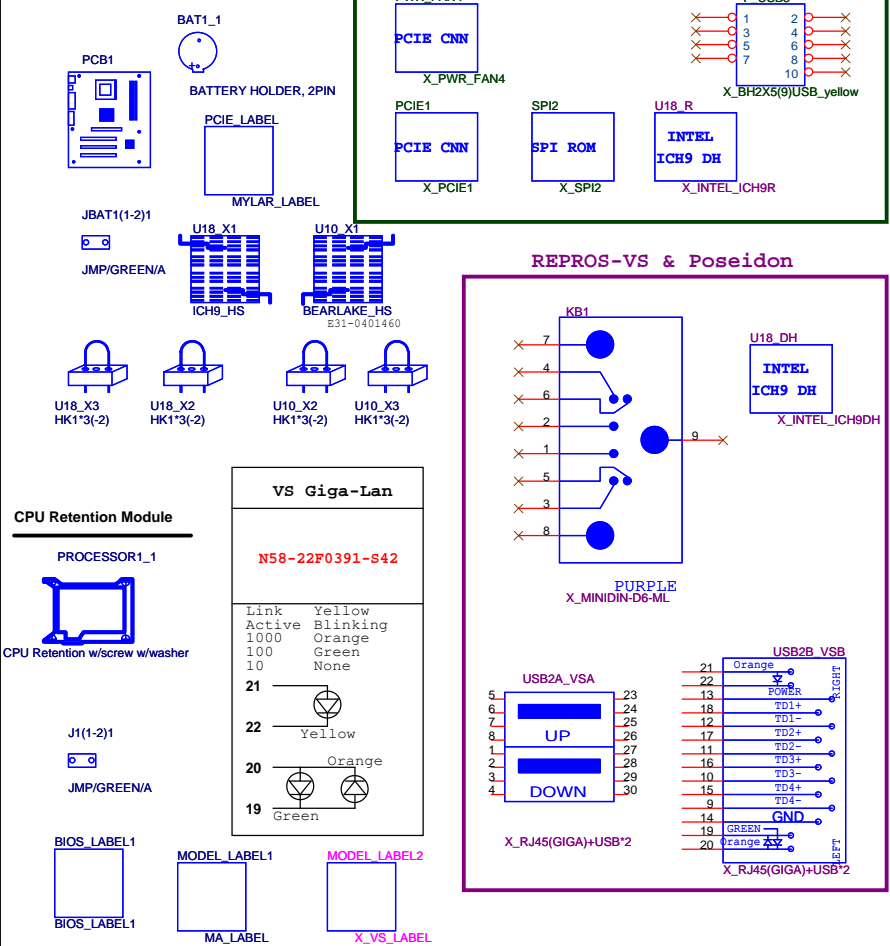
JUMPER SETTING

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

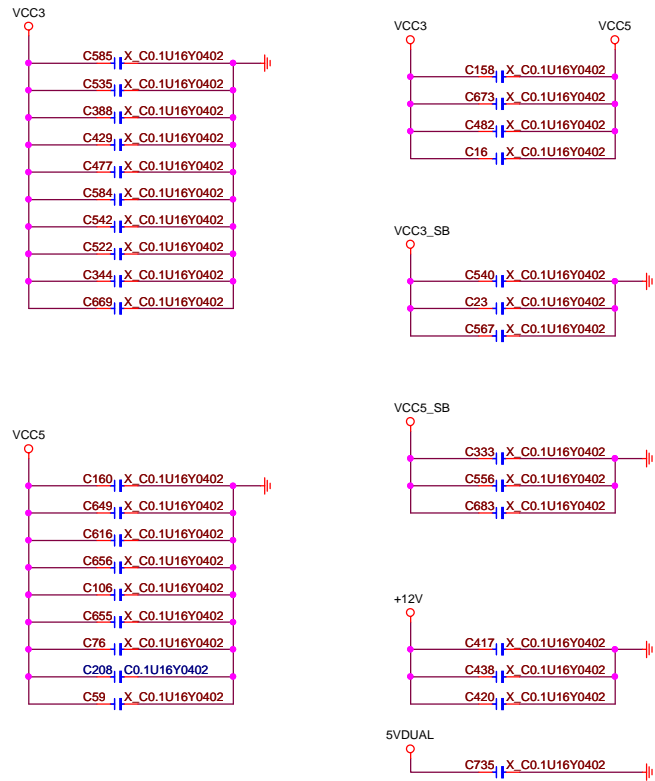
MICRO-STAR INT'L CO.,LTD			
MS-7410			
	Size	Document Description	Rev
	Custom	GPIO & Jumper setting	11
Date: Wednesday, June 18, 2008 Sheet 29 of 34			

MANUAL PART

Poseidon



EMI SUGGESTION



BOM Config

ERP BOM No.

Model option table

Model type	Function		
ROPROS-MA	INTEL G33 + ICH9 + Broadcom Giga Lan		
ROPROS-VS	INTEL G33 + ICH9DH + Intel 82566 Giga Lan + 2 SATA + Right engle USB		
Poseidon	INTEL G33 + ICH9R + Intel 82566 Giga Lan + 6 SATA + No Housing USB		

LGA775 CPU		
0.8375V - 1.6000V Core	-	100A
1.2V FSB Vtt	-	5.3A

Bearlake-G (G33)		
1.2V FSB_VTT	-	1.3 A
1.25V Core	-	18.8A
1.25V DMI/PCI Exp.	-	2.5 A
1.8V VCC_DDR (S0,S1)	-	3.73A
1.8V VCC_SMCLK	-	TBD
3.3V VCCA_DAC	-	66 mA
3.3V VCC33	-	15.8mA
1.25V Vcc CL	-	4.24A

ICH9		
1.05V Core	-	1.17A
1.25V DMI	-	40 mA
1.2V FSB_VTT	-	14 mA
1.5V_A USB/SATA	-	1.12A
1.5V_B PCI Exp.	-	0.77A
VCCRTC	-	6 uA
3.3V CL	-	12 mA
1.5V GbE LAN	-	74 mA
3.3V 10/100 LAN	-	12 mA
3.3V GbE LAN	-	1 mA
3.3V SusHDA	-	4 mA
3.3V HDA	-	24 mA

HD Audio ALC662		
3.3V AUDIO	-	40mA
5V AUDIO	-	200mA

CK505		
3.3V VDD 48/PCI/REF	-	TBDA
0.3V - 1V CPU/SRC/DOT/PLL	-	TBDA

BCM5786		
3.3V_SB I/O & LED	-	15.5mA
2.5V ANALOG	-	0.418A

ISL6312		
VCCP	VRM 11	
0.8375V-1.6000V	85A	
3-Phase Switch		

W83310DS		
VTT_DDR		
0.9V	Linear	2A

MS11+ Regulator		
VCC_DDR		
1.8V	PWM	15A

MS7 Regulator		
V_1P25_CORE		
1.25V	PWM	21.34A
V_1P25_CL		
1.25V	Linear	4.24A
V_FSB_VTT		
1.2V	Linear	6.2A
V_1P5_ICH		2A
1.5V	Linear	
V_1P05_ICH		
1.05V	Linear	2 A
VCC3_SB		
3.3V	Linear	1.5A
5V	Switch	5A
5VSB	Switch	500mA
5V	Switch	15A
5VSB	Switch	500mA

DDRII x4 & TERMINATOR		
0.9V VTT_DDR	-	1.2A
1.8V VCC_DDR (S0,S1)	-	9.4A
1.8V VCC_DDR (S3)	-	400mA

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

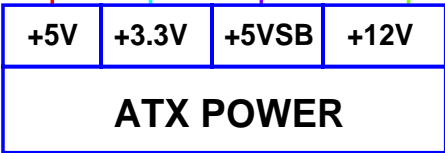
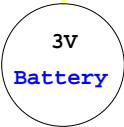
PCI slot x1		
+3.3Vaux (wake)	-	375mA
+3.3Vaux (no wake)	-	20mA
+3.3V	-	7.6A
+5V	-	5.0A
+12V	-	0.5A

PCI Express x 1 slot *2		
+12V	-	0.5 A
+3.3Vaux (wake)	-	375mA
+3.3Vaux (no wake)	-	20mA
+3.3V	-	3.0A

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

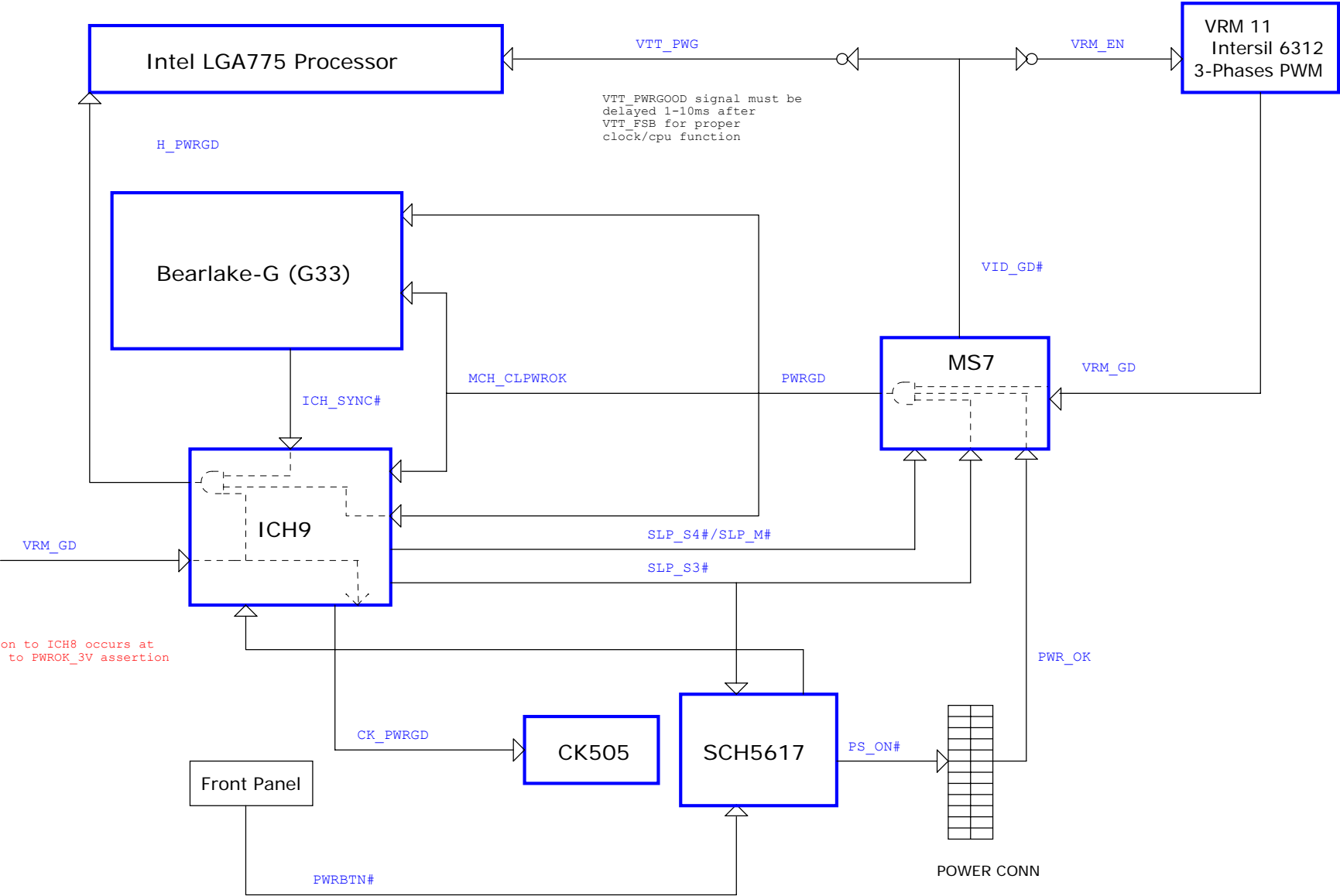
PS2		
+5V (S0,S1)	-	345mA
+5V (S3)	-	2.0mA

5VAUD	
5V	
500mA	

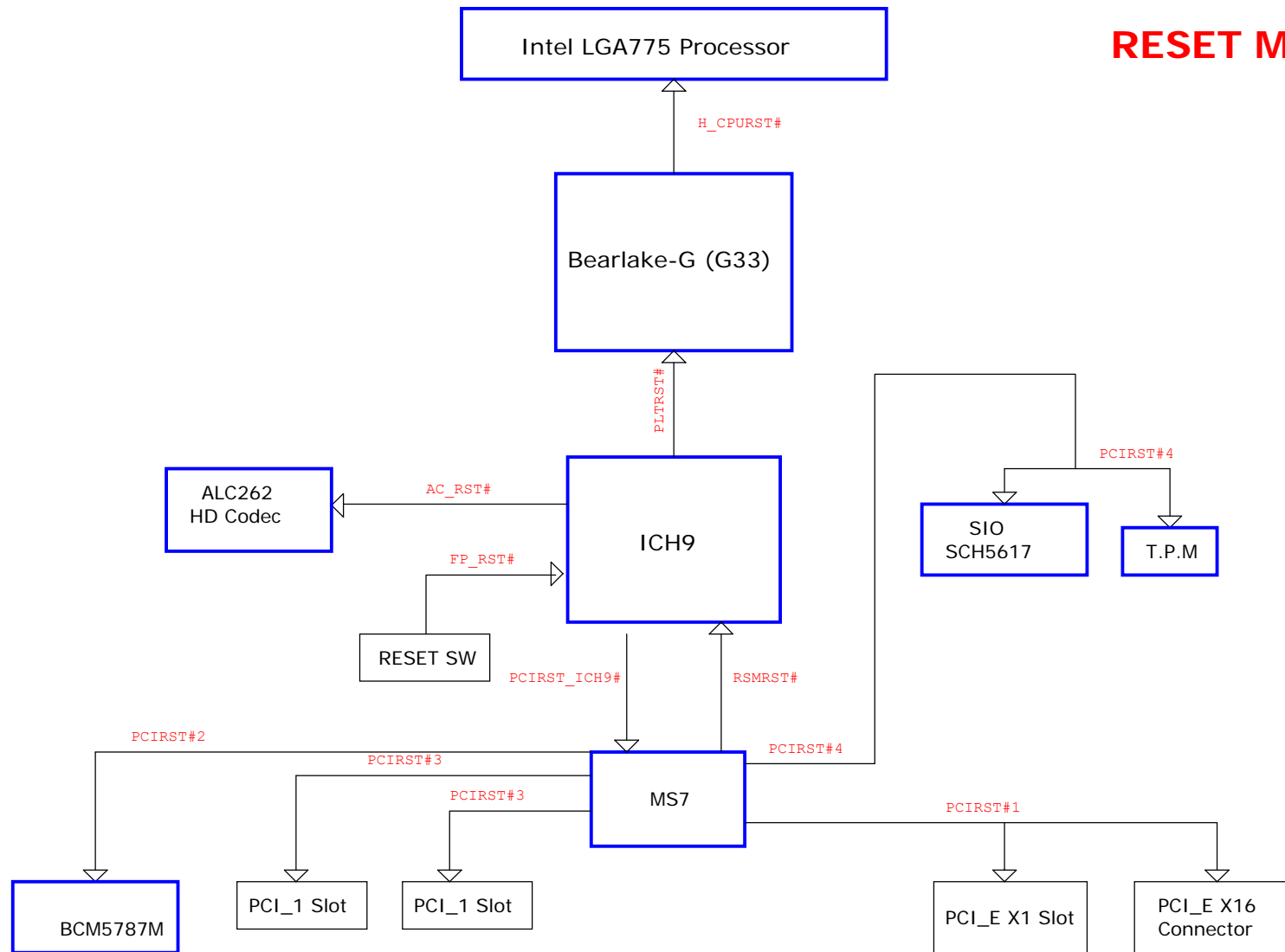


MICRO-STAR INT'L CO.,LTD		
MS-7410		
Size Custom	Document Description	Rev 11
POWER Distribution		
Date: Wednesday, June 18, 2008	Sheet 31	of 34

PWROK MAP



RESET MAP



MICRO-STAR INT'L CO.,LTD

MS-7410

Size Custom	Document Description RESET MAP	Rev 11
----------------	--	-----------

Date: Wednesday, June 18, 2008 Sheet 33 of 34

Change Note

Ver:0A

2007/09/06

- 1.PAGE 4:Add R561 C721 Q73 for VTT SEL control circuit
- 2.PAGE 11:change the net name of SATA2.3&SATA4.5 to avoid confuse
- 3.PAGE 11: add R564 pull-down resister to LAN_PWROK ,when not use intel lan ,the LAN_PWROK need tied to gnd
- 4.PAGE 12: To change the net of VccCL3_3&VccLAN3_3 power source form VCC3 to VCC3_SB for INTEL LAN W/O F/T
- 5.PAGE 20:Front_USB1&Front_USB2 PIN5 tied to gnd for MCR Device use
- 6.PAGE 22:change VCC5_MS power rail to 5VDUAL to avoid MS have voltage when enter S5 state
- 7.PAGE 24:change VTT_SEL control circuit to follow up 7400 design
- 8.PAGE10& PAGE20:change USB PORT from6&7 port to 10&11 port
- 9.PAGE23:remove EC18 ,add EC76~EC81 for CPU power quility

Ver:0B

2007/11/05

- 1.PAGE 17:Change PWR&SYS resister vaule for FAN linear control circuit
- 2.PAGE 18:Change +12V EL CAP from 1000uf/6.3v to 470uf/16v
- 3.PAGE 21:Change D-SUB RGB Filter vaule for EMI
- 4.PAGE 24:Change PWR&SUS LED power resource from VCC5_SB to 5VDUAL1
- 5.PAGE 11:Reserve D22 for BEEP Noise
- 6.PAGE 11:Modify R387&C503 value of Exrernal RTC Circuit

2007/12/07

- 1.PAGE 1&2&31&32&33:revised north Bridge name form Bearlake- Q to &Bearlake- G (G33)
- 2.PAGE 3:stuff R119 for Wolfdale CPU support
- 3.PAGE 11:unstuff R369 for only one system host allowed on a PECI physical link

Ver:0C


2007/12/31

- 1.PAGE 11:Modify SMSC VBAT power source form VBAT to VBAT_DZ
- 2.PAGE 14:Add C105&C110 (10uf cap) to reduce VTT power ripple current
- 3.PAGE 16:Modify SMSC PECI_READY from FSB_VTT to H_CPURST# for SMSC request to voild PCEI value incorrect
- 4.PAGE 20:Changed front USB command-mode filter (L44-L47) from 90 ohm to 120 ohm for EMI suggestion

Ver:10

2008/01/30

- 1.PAGE 11:Change lan_disabled source from GPIO34 to GPIO57 for Broadcom WOL issue

	MICRO-STAR INT'L CO.,LTD		
	MS-7410		
	Size B	Document Description History	Rev 11
	Date: Wednesday, June 18, 2008		Sheet 34 of 34