GeForce7050M-M

REV: 1.0A

PCB:15-V09-011010
BOM:81-605-V09110

MCP68PVNT Real S3
Components :718PCS

Page Index

	Signature	Date
Designer	Eli	07/09/2007
Layout	Susan / Angela	05/29/2007
Check		
Approval		

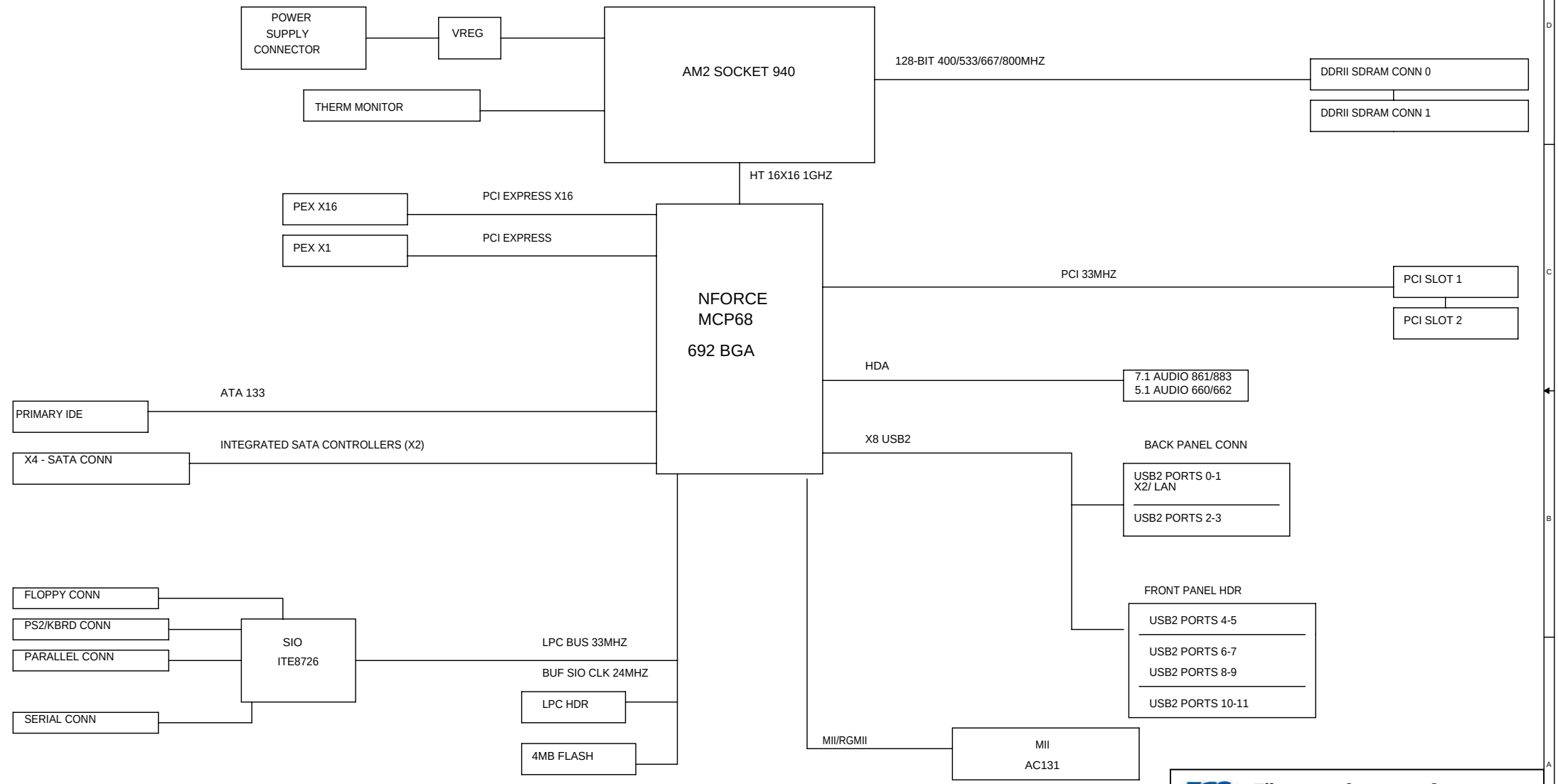
Elitegroup Computer Systems

Title: GeForce7050M-M

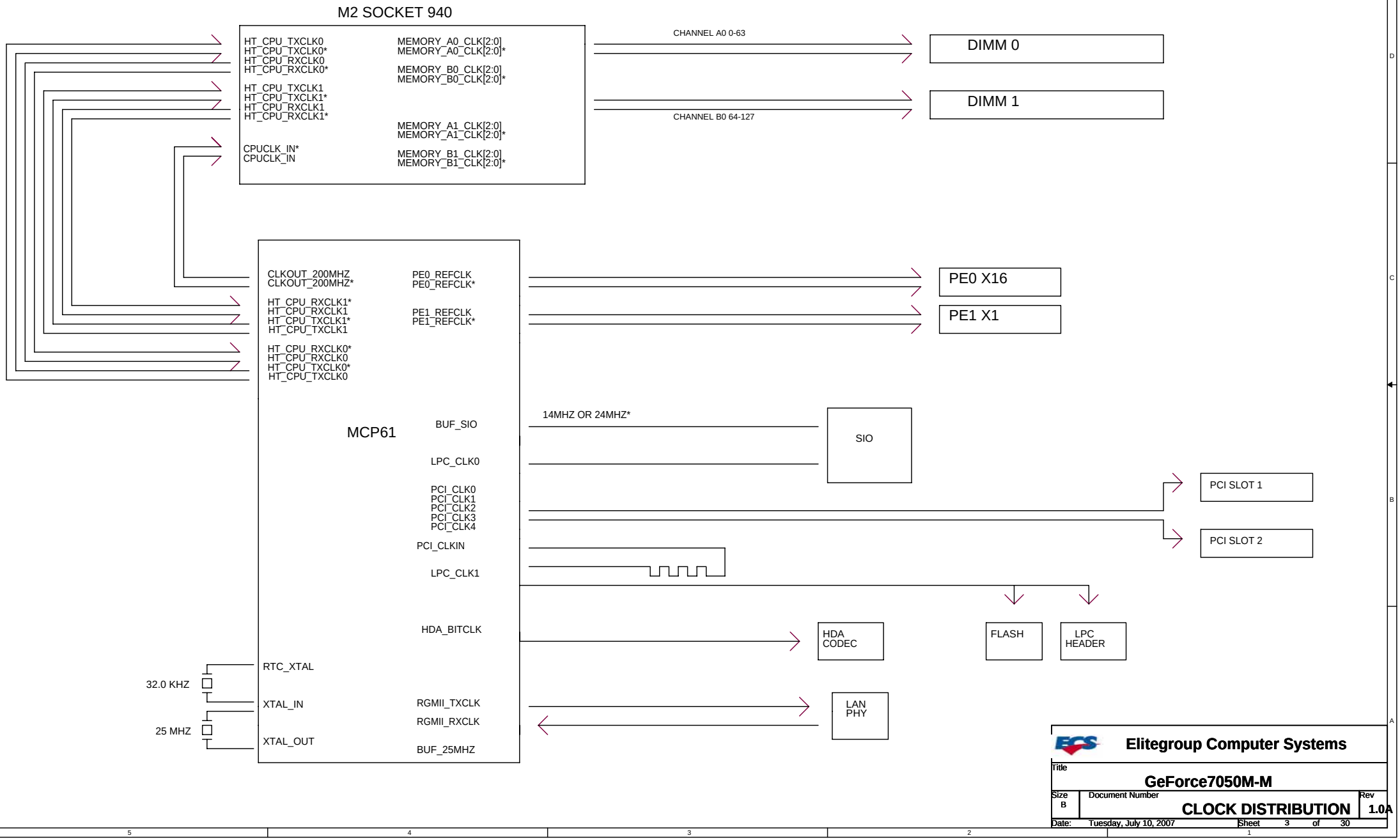
Size: B | Document Number: COVER PAGE | Rev: 1.0A

Date: Thursday, August 16, 2007 | Sheet 1 of 30

BLOCK DIAGRAM



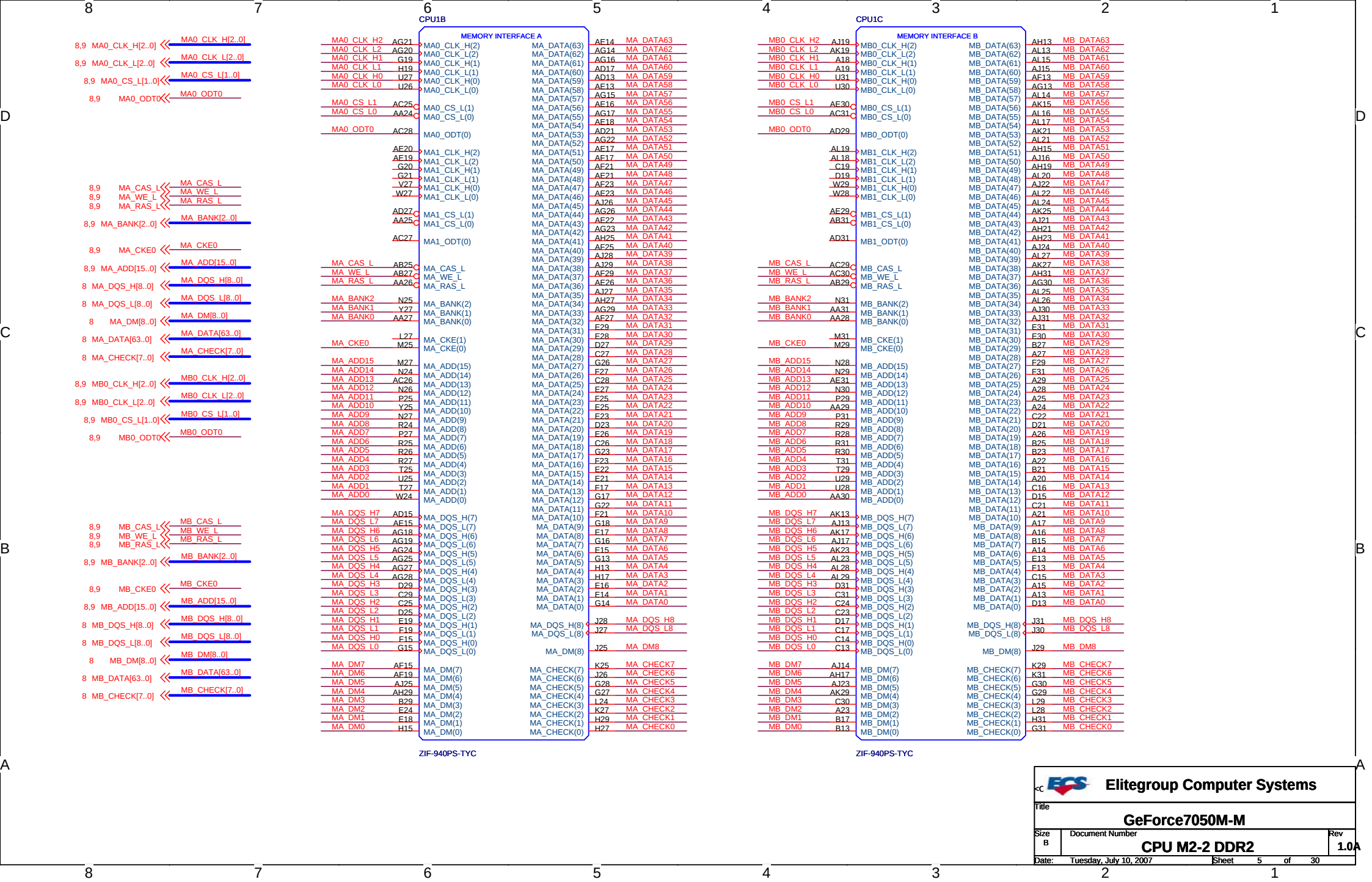
Elitegroup Computer Systems		
Title: MCP68M-M2		
Size: B	Document Number: BLOCK DIAGRAM	Rev: 1.0A
Date: Tuesday, July 10, 2007	Sheet 2 of 30	



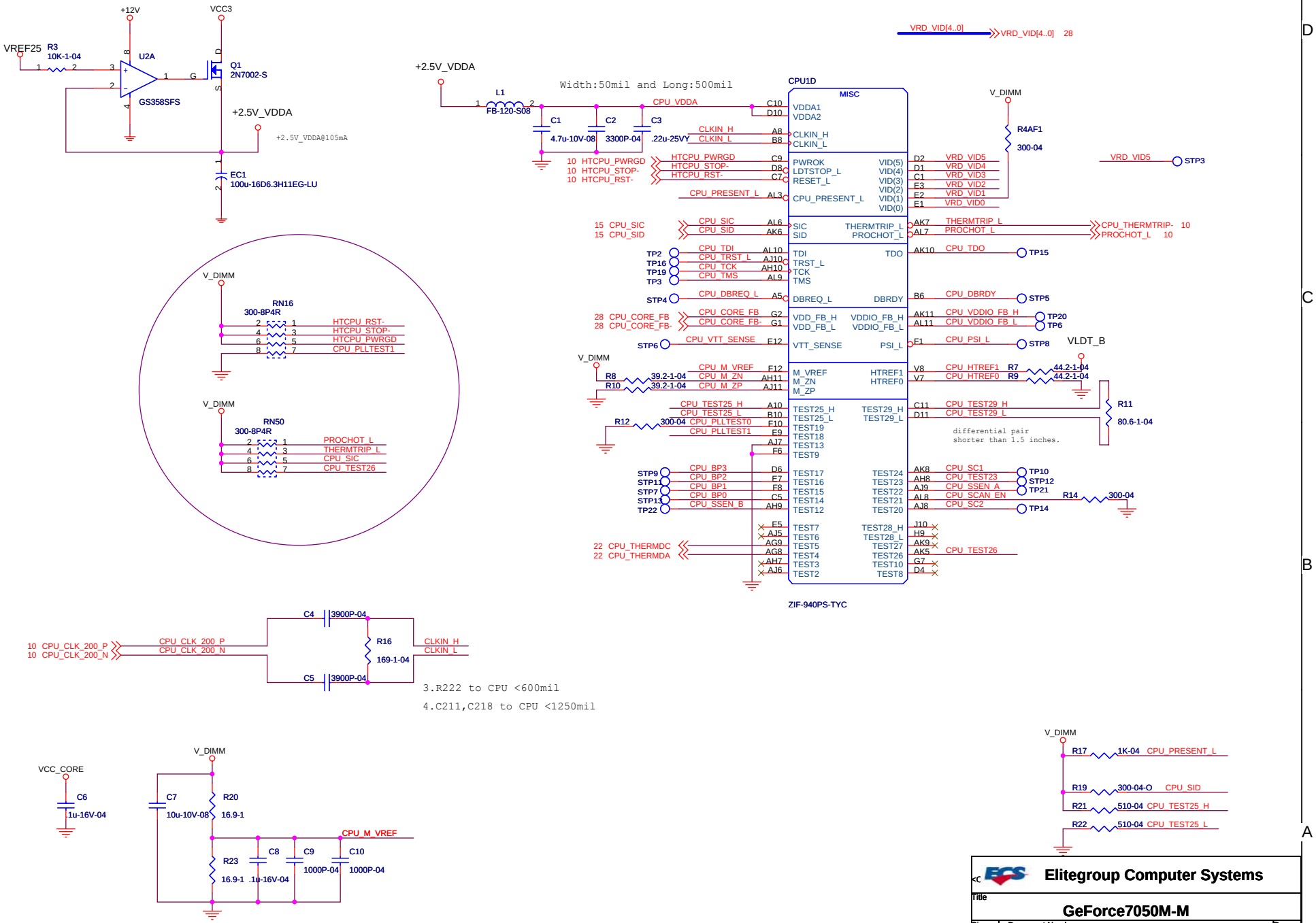
Elitegroup Computer Systems

Title	GeForce7050M-M	
Size B	Document Number CLOCK DISTRIBUTION	Rev 1.0A
Date: Tuesday, July 10, 2007	Sheet 3 of 30	

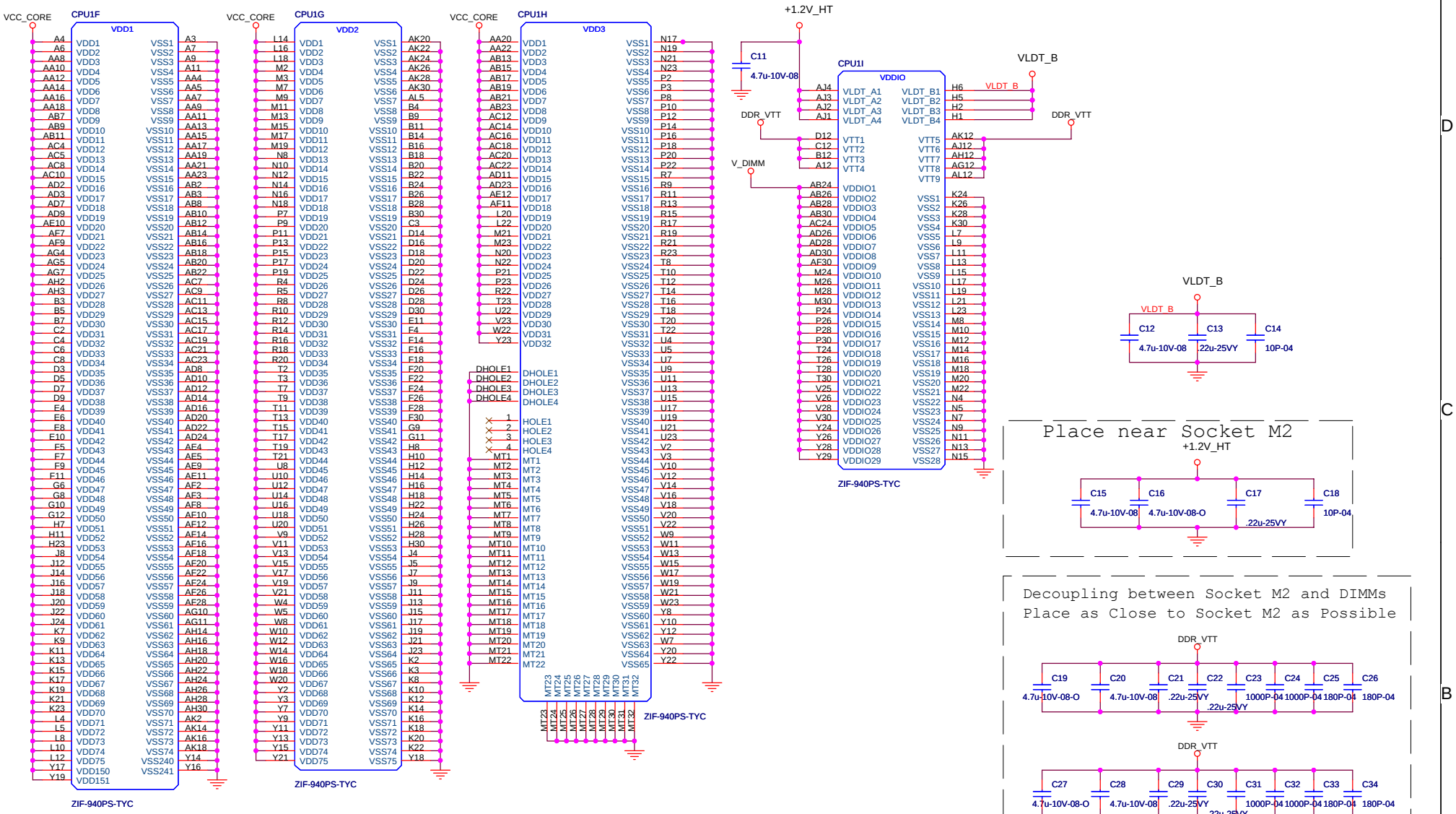
<OrgAddr1>	Elitegroup Computer Systems	
Title	GeForce7050M-M	
Size B	Document Number CPU M2-1 HyperTransport	Rev 1.0A
Date: Tuesday, July 10, 2007	Sheet 4 of 30	

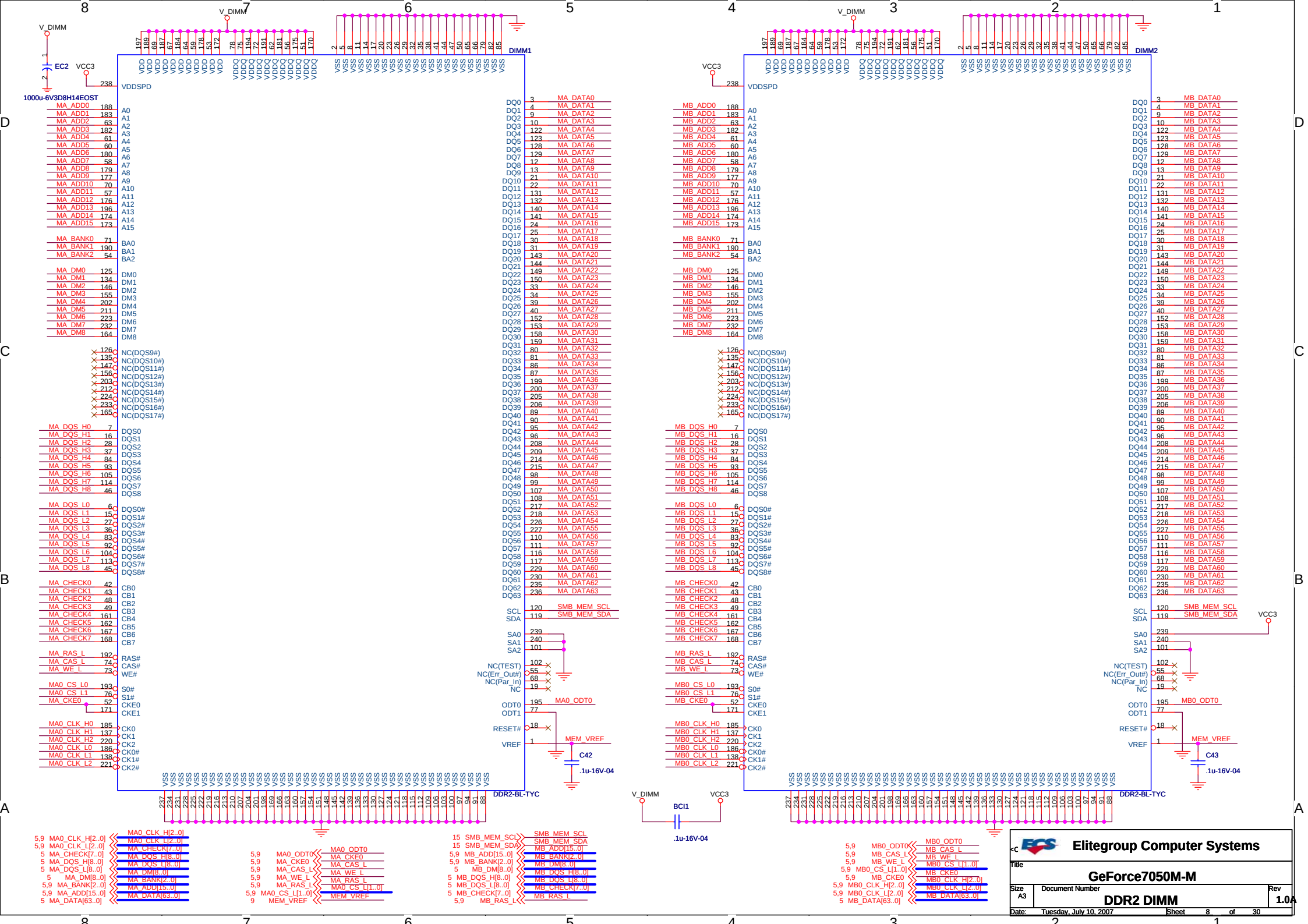

CPU1B
MEMORY INTERFACE A
ZIF-940PS-TYC
CPU1C
MEMORY INTERFACE B
ZIF-940PS-TYC

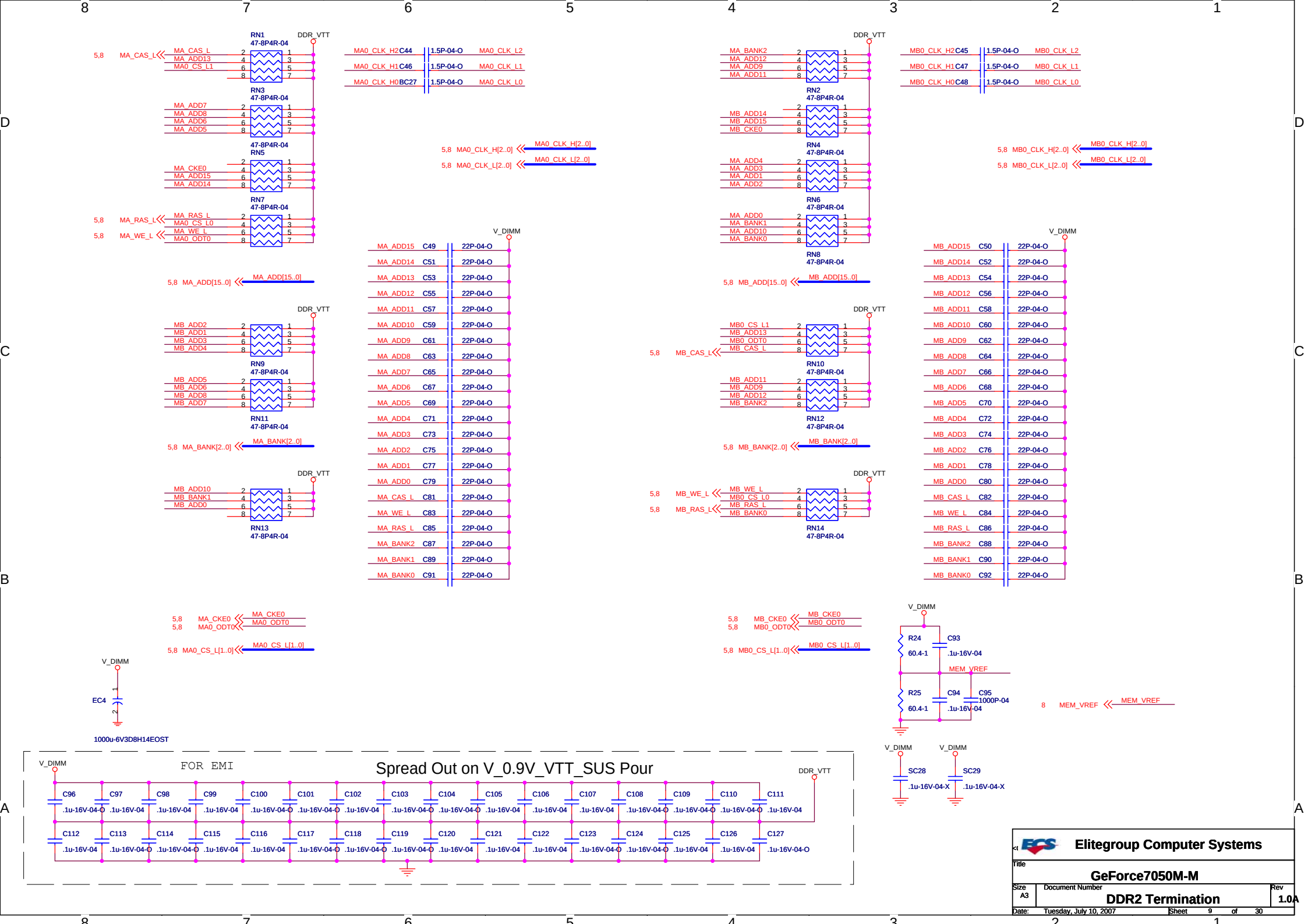
+2.5V_VDDA for CPU PLL



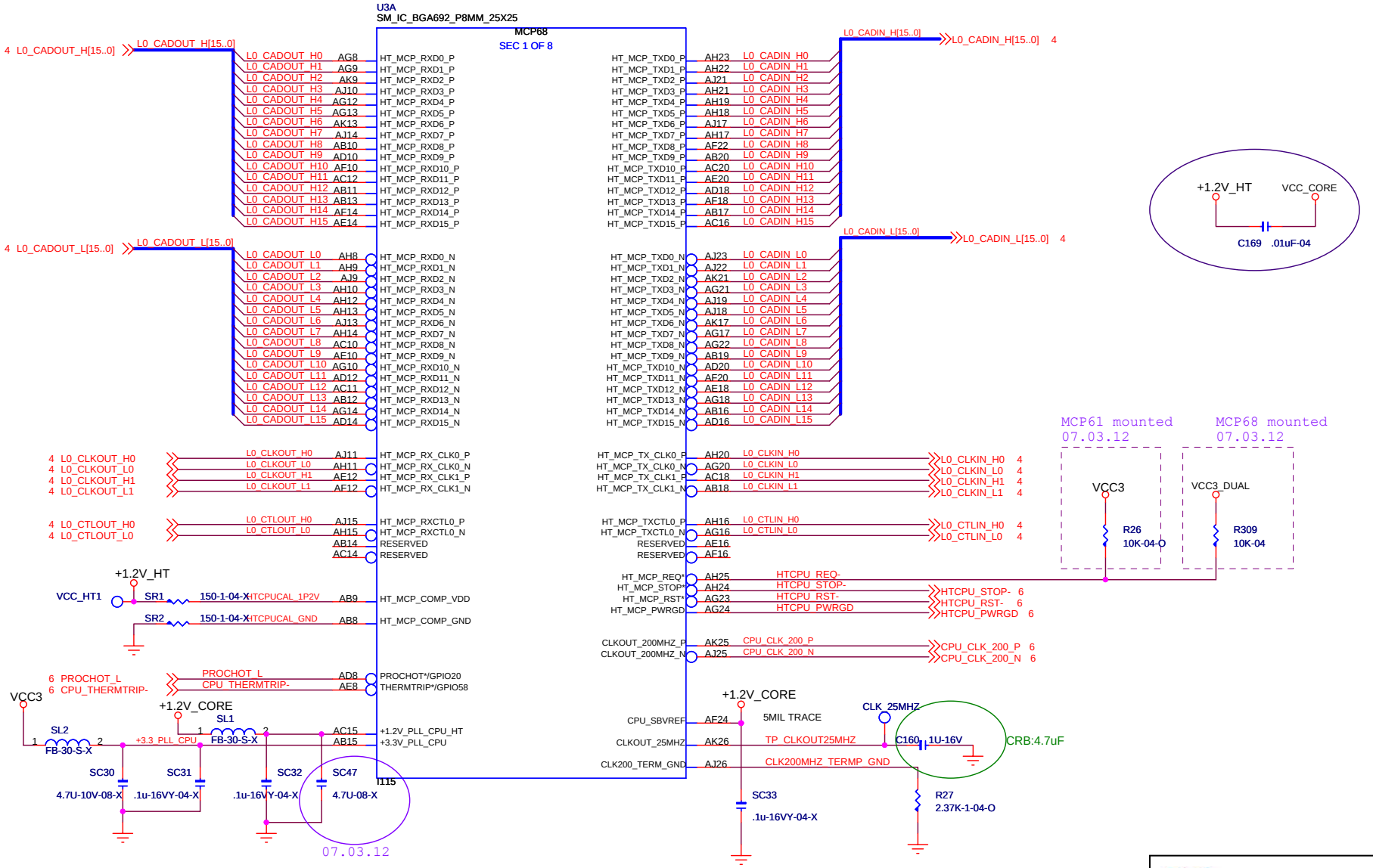
Elitegroup Computer Systems		
Title: GeForce7050M-M		
Size: B	Document Number: CPU M2-3 Miscellany	Rev: 1.0A
Date: Tuesday, July 10, 2007	Sheet 6 of 30	


VCC_CORE
CPU1F
VDD1
ZIF-940PS-TYC
CPU1G
VDD2
ZIF-940PS-TYC
CPU1H
VDD3
ZIF-940PS-TYC
+1.2V_HT
C11
4.7u-10V-08
CPU1I
VDDIO
VLDT_B
DDR_VTT
V_DIMM
ZIF-940PS-TYC
Place near Socket M2
+1.2V_HT
C15
C16
C17
C18
4.7u-10V-08
4.7u-10V-08-O
.22u-25VY
10P-04
Decoupling between Socket M2 and DIMMs
Place as Close to Socket M2 as Possible
DDR_VTT
C19
C20
C21
C22
C23
C24
C25
C26
4.7u-10V-08-O
4.7u-10V-08
.22u-25VY
1000P-04
180P-04
DDR_VTT
C27
C28
C29
C30
C31
C32
C33
C34
4.7u-10V-08-O
4.7u-10V-08
.22u-25VY
1000P-04
180P-04
V_DIMM
SC35
SC36
SC37
SC38
4.7u-10V-08-O
.22u-25VY-X
4.7u-10V-08-X-O
.22u-25VY-X
Place Decoupling Capacitors on Bottom Side underneath Socket M2
FOR AMD validation / EMI
VCC_CORE
SC1
SC2
SC3
SC4
SC5
SC6
SC7
SC8
SC9
SC10
SC11
SC12
SC13
SC14
SC15
22u-6V3X-08-X
22u-6V3X-08-X-O
VCC_CORE
V_DIMM
SC44
SC45
SC46
SC16
SC17
SC18
SC19
BC20
SC21
SC22
BC23
SC24
SC25
SC26
.22u-25VY-X
10P-04-X
22u-6V3X-08-X-O
4.7u-10V-08
180P-04-X
.01u-25V-04-X
Elitegroup Computer Systems
Title
GeForce7050M-M
Size
B
Document Number
CPU M2-4 Power and Ground
Rev
1.0A
Date:
Tuesday, July 10, 2007
Sheet
7
of
30

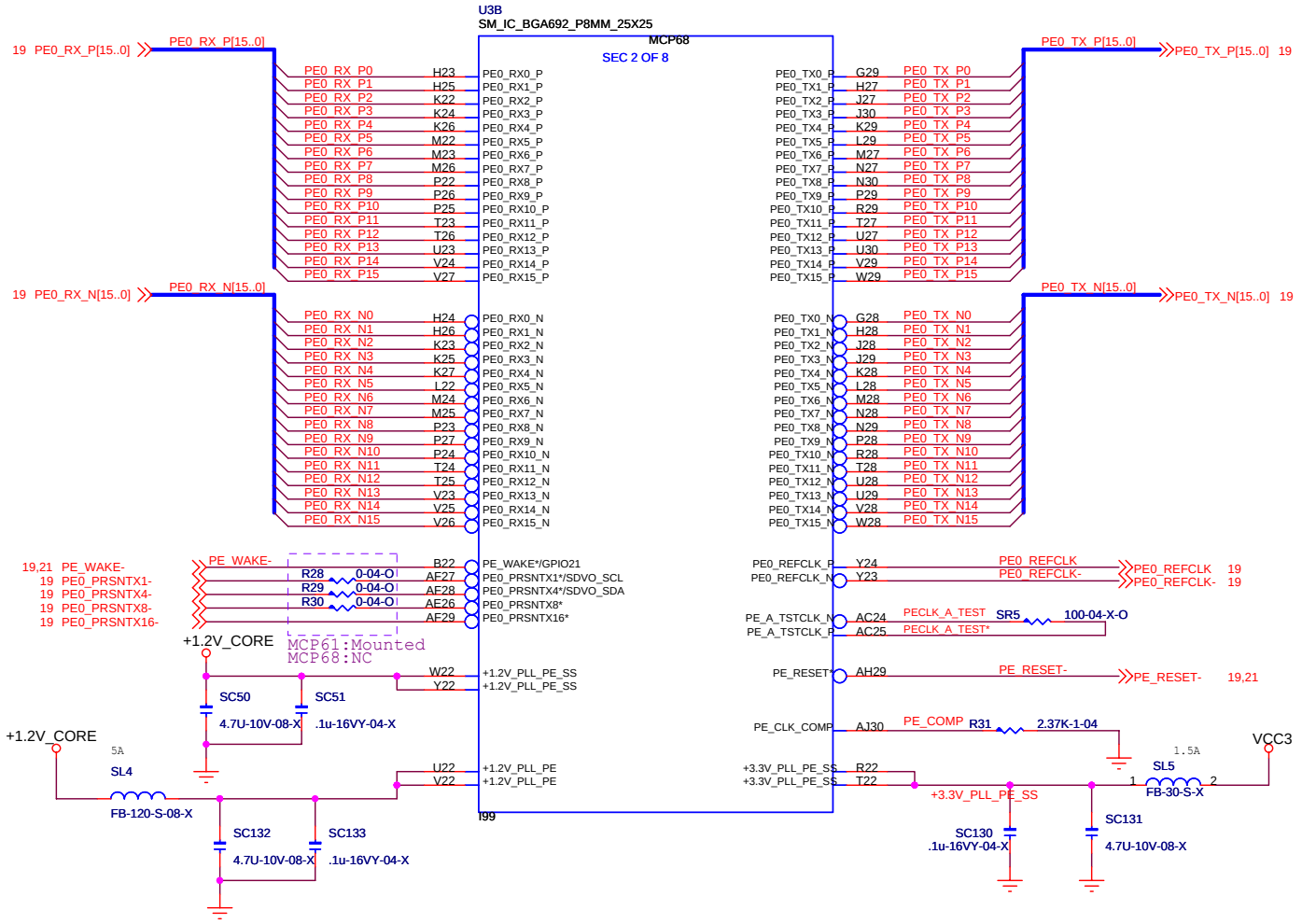

DIMM1
DIMM2
DDR2-BL-TYC
V_DIMM
VCC3
VDDSPD
EC2
1000u-6V3D8H14EOST
BCI1
.1u-16V-04
C42
C43
MEM_VREF
SMB_MEM_SCL
SMB_MEM_SDA
MA0_ODT0
MB0_ODT0
Elitegroup Computer Systems
GeForce7050M-M
DDR2 DIMM
Size A3
Document Number
Rev 1.0A
Date: Tuesday, July 10, 2007
Sheet 8 of 30



Elitegroup Computer Systems	
Title	GeForce7050M-M
Size: A3	Document Number: DDR2 Termination
Rev: 1.0A	
Date: Tuesday, July 10, 2007	Sheet 9 of 30



Elitegroup Computer Systems		
Title: GeForce7050M-M		
Size: B	Document Number: MCP68 HT	Rev: 1.0A
Date: Thursday, August 16, 2007	Sheet 10 of 30	



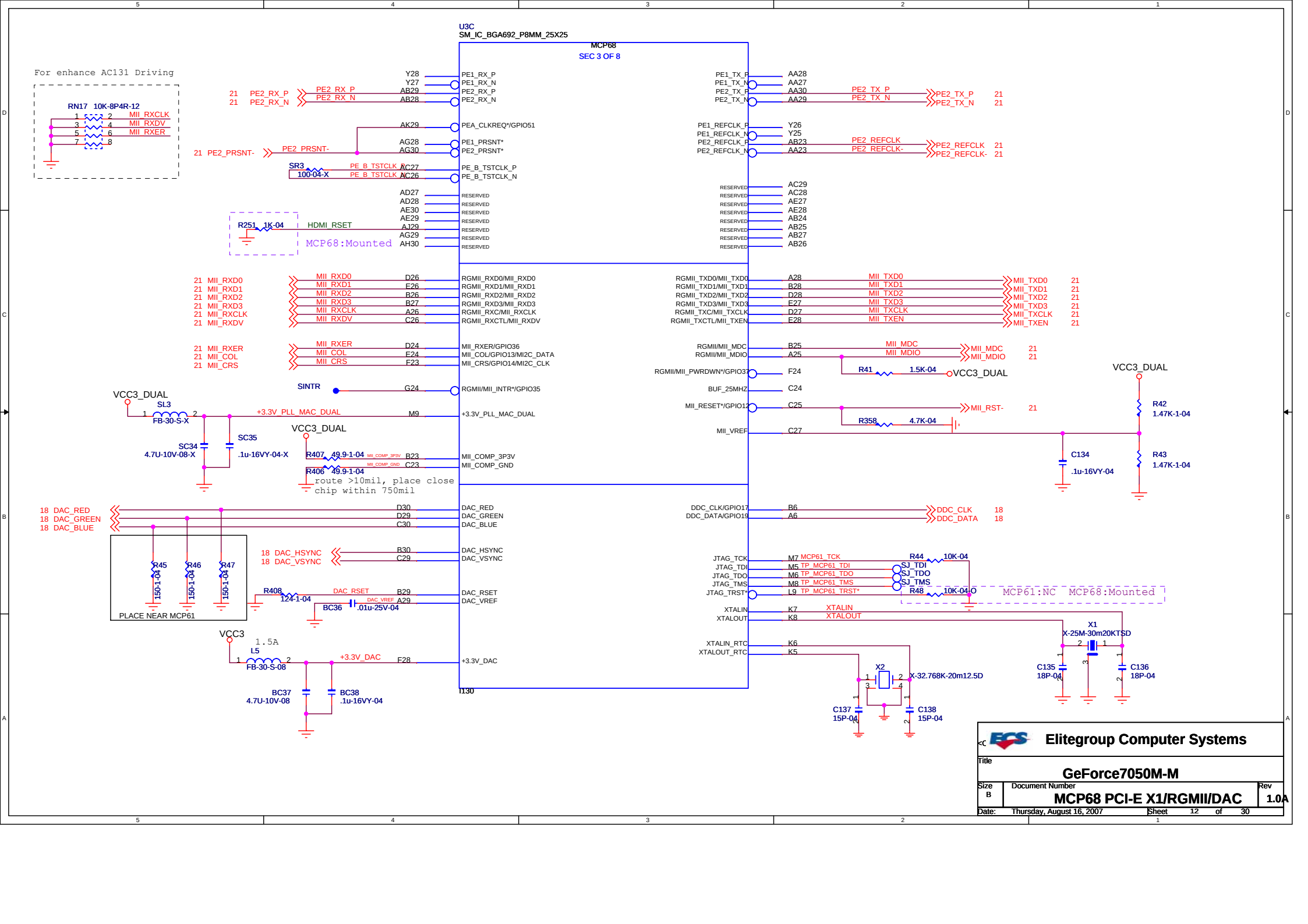
MCP61 Pin Define	MCP68 Pin Define
PRSNTX1(AF27)	+3.3V_HDMI_PLL_HVDD
PRSNTX4(AF28)	HDCP_ROM_SCLK
PRSNTX8(AE26)	+3.3V_HDMI
GND(AF30)	HDCP_ROM_SDATA

Elitegroup Computer Systems

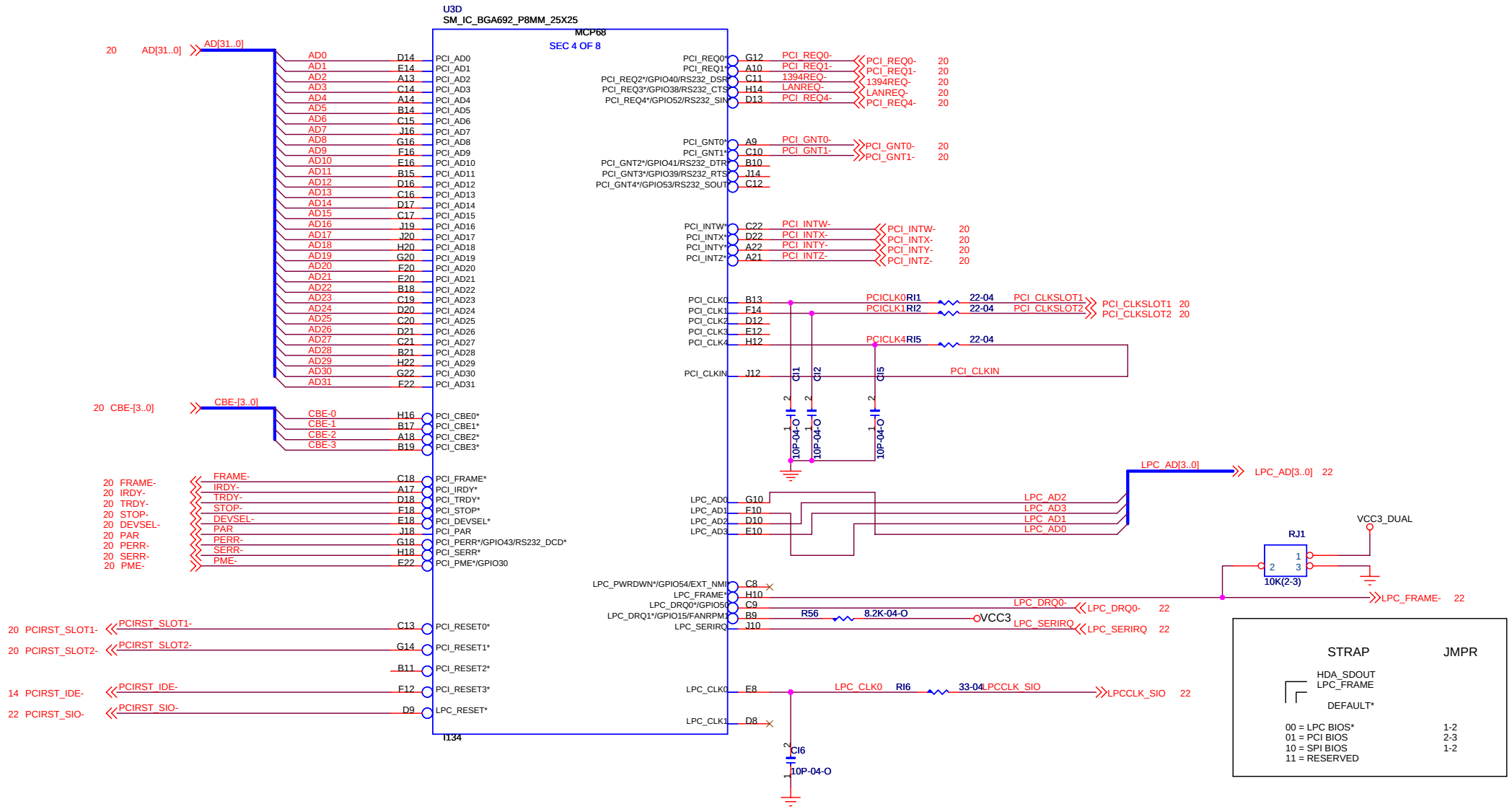
Title: GeForce7050M-M

Size: B | Document Number: MCP68 PCI-E X16 | Rev: 1.0A

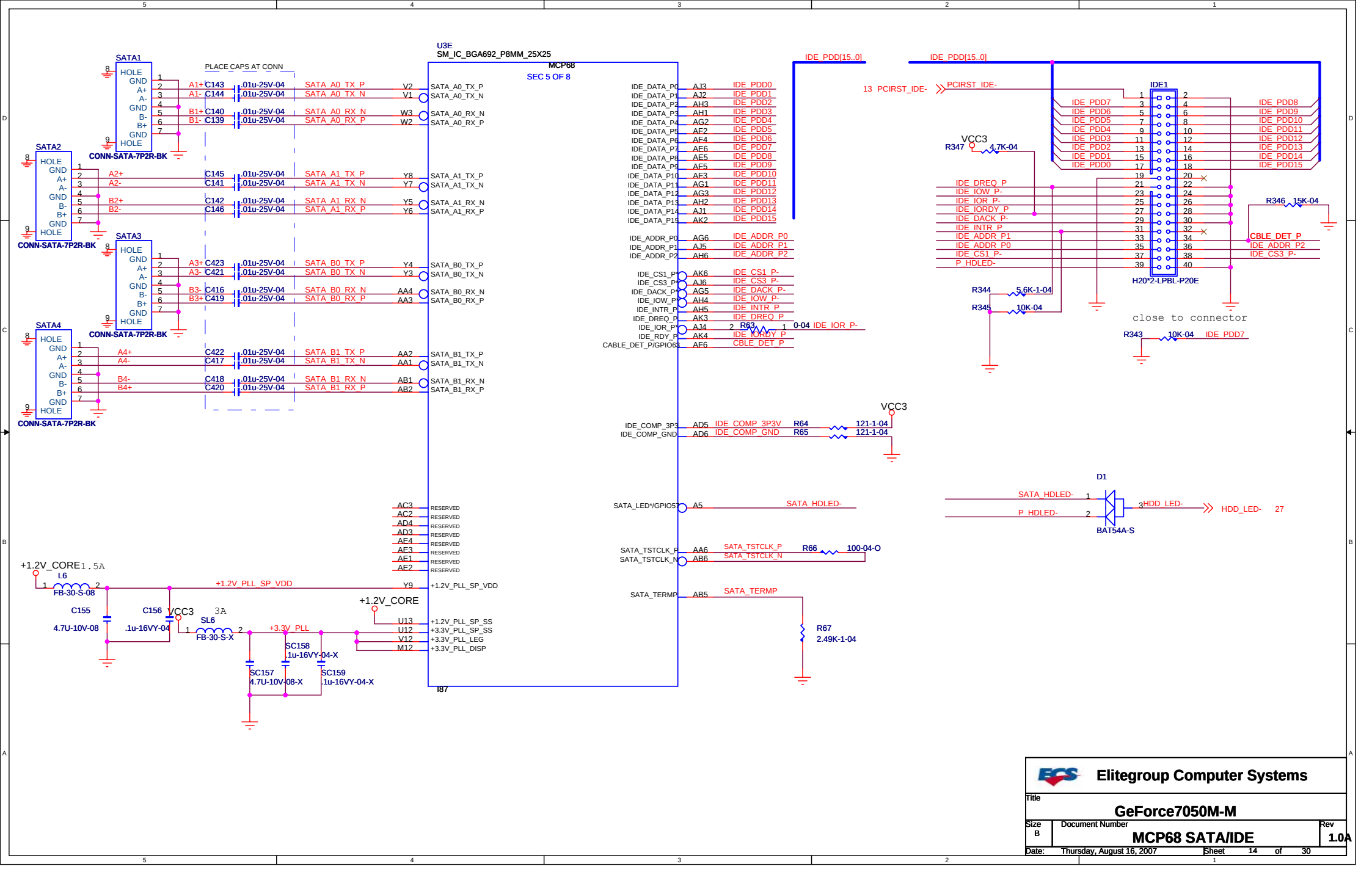
Date: Thursday, August 16, 2007 | Sheet 11 of 30



Elitegroup Computer Systems	
Title	GeForce7050M-M
Size B	Document Number: MCP68 PCI-E X1/RGMII/DAC
Rev	1.0A
Date: Thursday, August 16, 2007	Sheet 12 of 30



Elitegroup Computer Systems	
Title	GeForce7050M-M
Size: Custom	Document Number: MCP68 PCI
Rev	1.0A
Date: Thursday, August 16, 2007	Sheet 13 of 30



Elitegroup Computer Systems			
Title: GeForce7050M-M			
Size: B	Document Number: MCP68 SATA/IDE		Rev: 1.0A
Date: Thursday, August 16, 2007	Sheet 14 of 30		

REMOVE FOR PRODUCTION

USB0~3 --> BACK CONNECTORS
USB4~11 --> ON-BOARD HEADER

Location Unimportant.

AC_RST*
1 = *RGMII
0 = MII

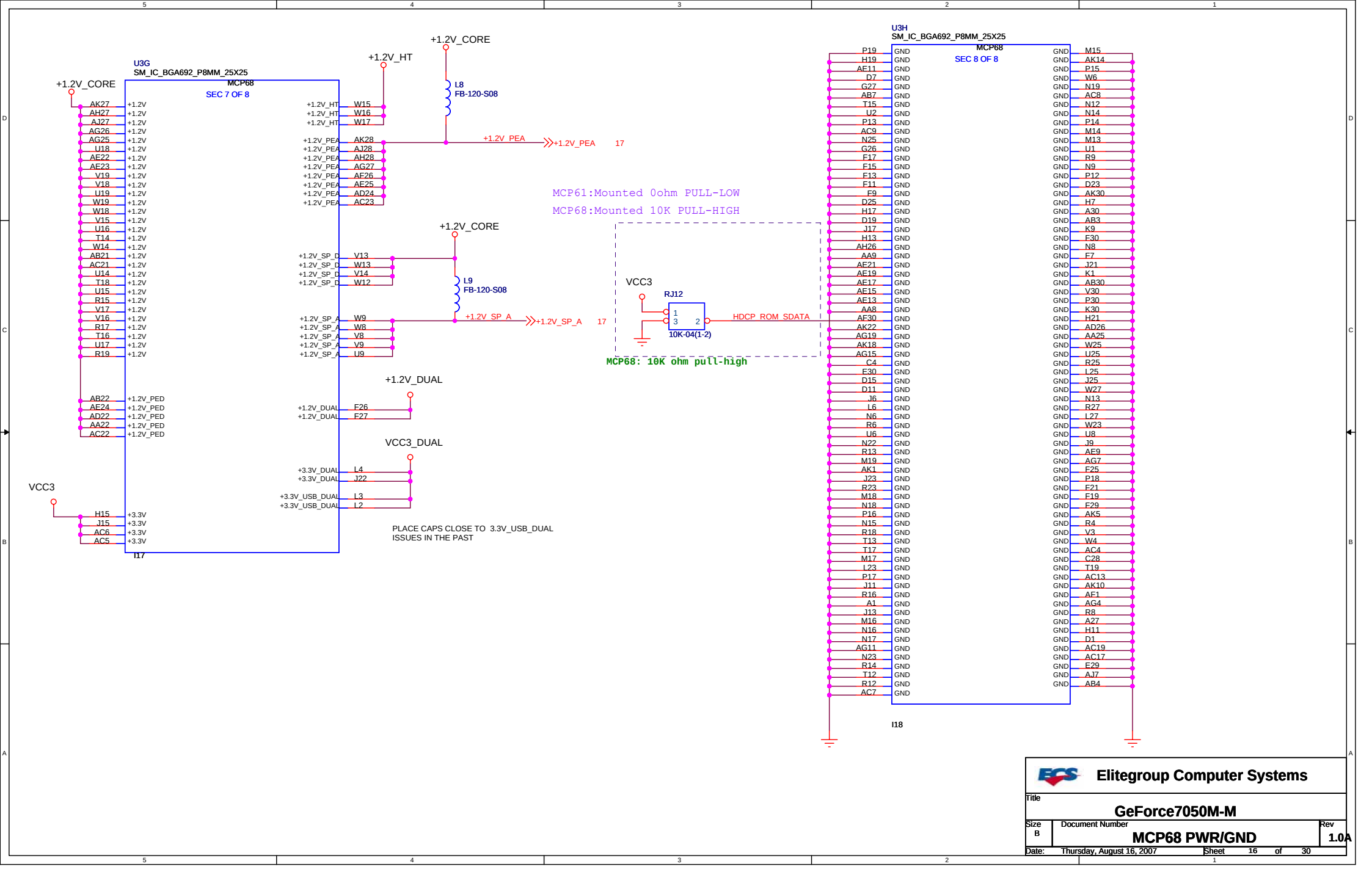
AC_SYNC
(SIO CLK)
1 = *24MHZ
0 = 14.318MHZ

* = DEFAULT

U3F
SM_IC_BGA692_P8MM_25X25
MCP68
SEC 6 OF 8

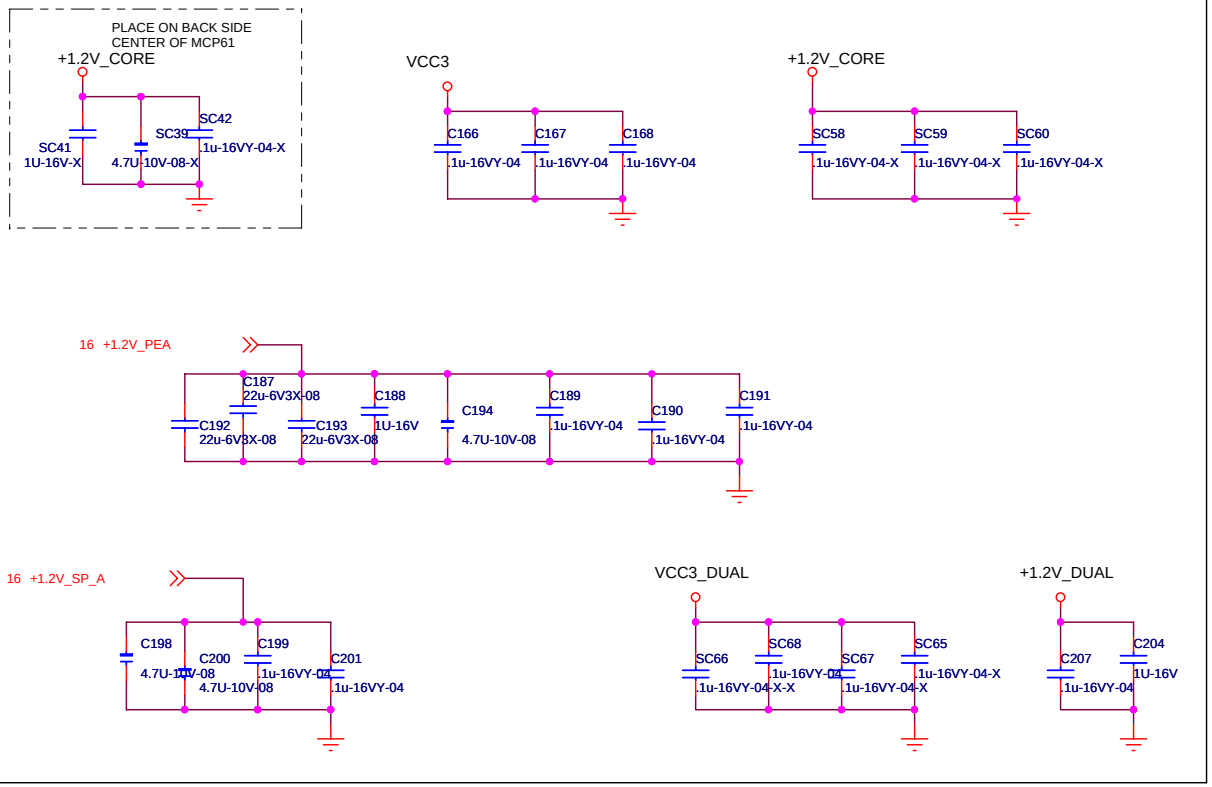
MCP61 SPI CLK STRAP	MCP68 SPI CLK STRAP
SPI_DO | SPI_CLK	SPI_DO | SPI_CLK
00 = 500KHZ 01 = 1.8MHZ 10 = 2.5MHZ *11 = 25MHZ	00 = 31MHZ 01 = 42MHZ *10 = 25MHZ 11 = 1MHZ
*DEFAULT	*DEFAULT

GPIO6 : HI-Pseudo S3
GPIO6 : LOW-Real S3



Elitegroup Computer Systems	
Title	GeForce7050M-M
Size B	Document Number: MCP68 PWR/GND
Rev	1.0A
Date: Thursday, August 16, 2007	Sheet 16 of 30

MCP61/8 DECOUPLING/EMI



MCP61 INTERNAL PULL-UP/DWN'S

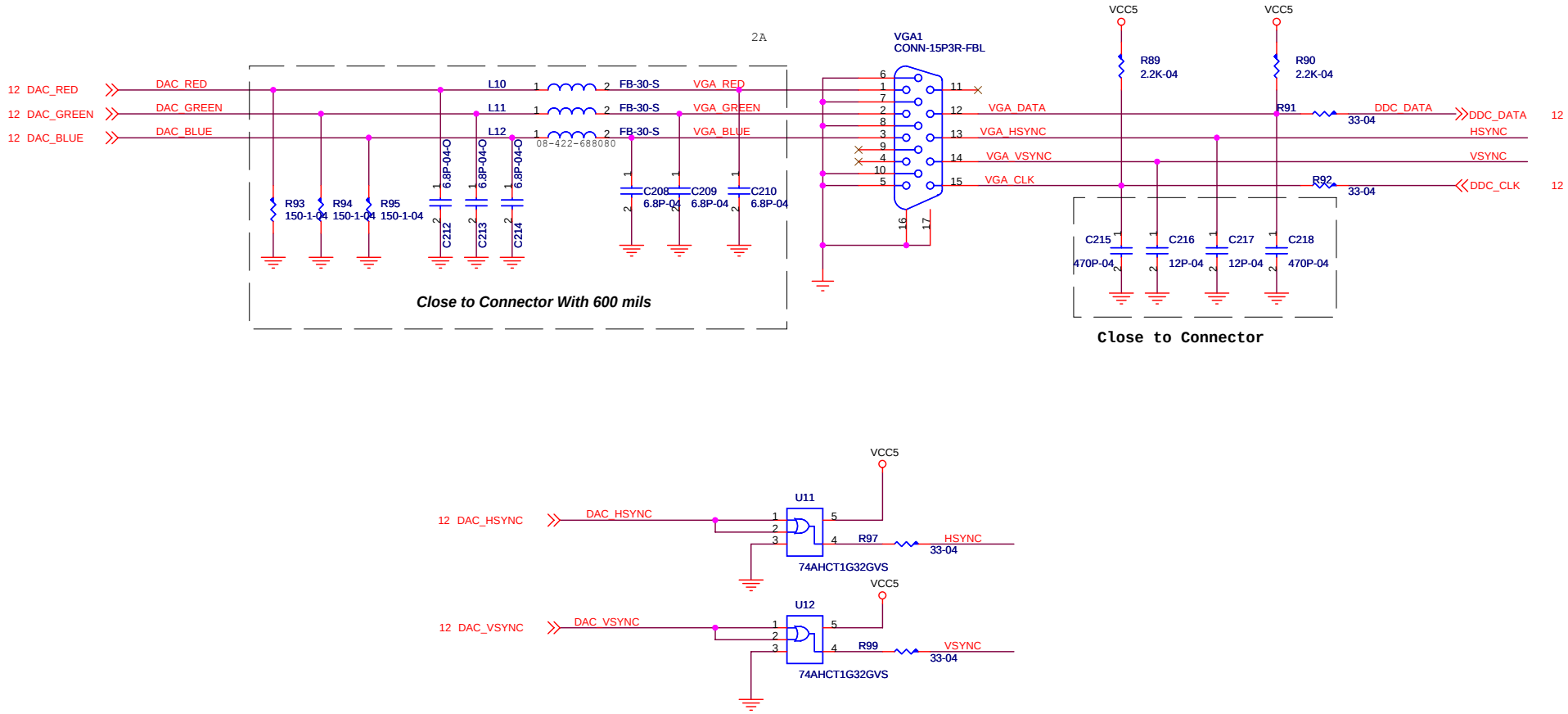
PE0_PRSNTX16*	10K PU TO 3.3V
PE0_PRSNTX8*	10K PU TO 3.3V
PE1_PRSNT*	10K PU TO 3.3V
PE2_PRSNT*	10K PU TO 3.3V
PE1_CLKREQ*	10K PU TO 3.3V
PCI_PME*/GPIO_30	8.2K PU TO 3.3V_DUAL
LPC_AD0	8.2K PU TO 3.3V
LPC_AD1	8.2K PU TO 3.3V
LPC_AD2	8.2K PU TO 3.3V
LPC_AD3	8.2K PU TO 3.3V
LPC_DRQ1/LPC_CS*	8.2K PU TO 3.3V
LPC_DRQ0*	8.2K PU TO 3.3V
LPC_SERIRQ	10K PU TO 3.3V
HDA_SDATA_IN1/GPIO_23/MGPIO_0	10K PD TO GND
HDA_SDATA_IN0/GPIO_22	10K PD TO GND
JTAG_TMS	10K PU TO 3.3V
JTAG_TRST*	10K PD TO GND
JTAG_TDI	10K PU TO 3.3V
A20GATE	10K PU TO 3.3V
PE_WAKE*	10K PU TO 3.3V_DUAL
EXT_SMI*/GPIO32	10K PU TO 3.3V_DUAL
THERM*/GPIO_59	10K PU TO 3.3V
KBRDRSTIN*/GPIO_58	10K PU TO 3.3V
RI*/GPIO_33	10K PU TO 3.3V_DUAL
SIO_PME*/GPIO_31/MGPIO_2	10K PU TO 3.3V_DUAL
PWRBTN*	10K PU TO 3.3V_DUAL
RSTBTN*	10K PU TO 3.3V_DUAL

Elitegroup Computer Systems

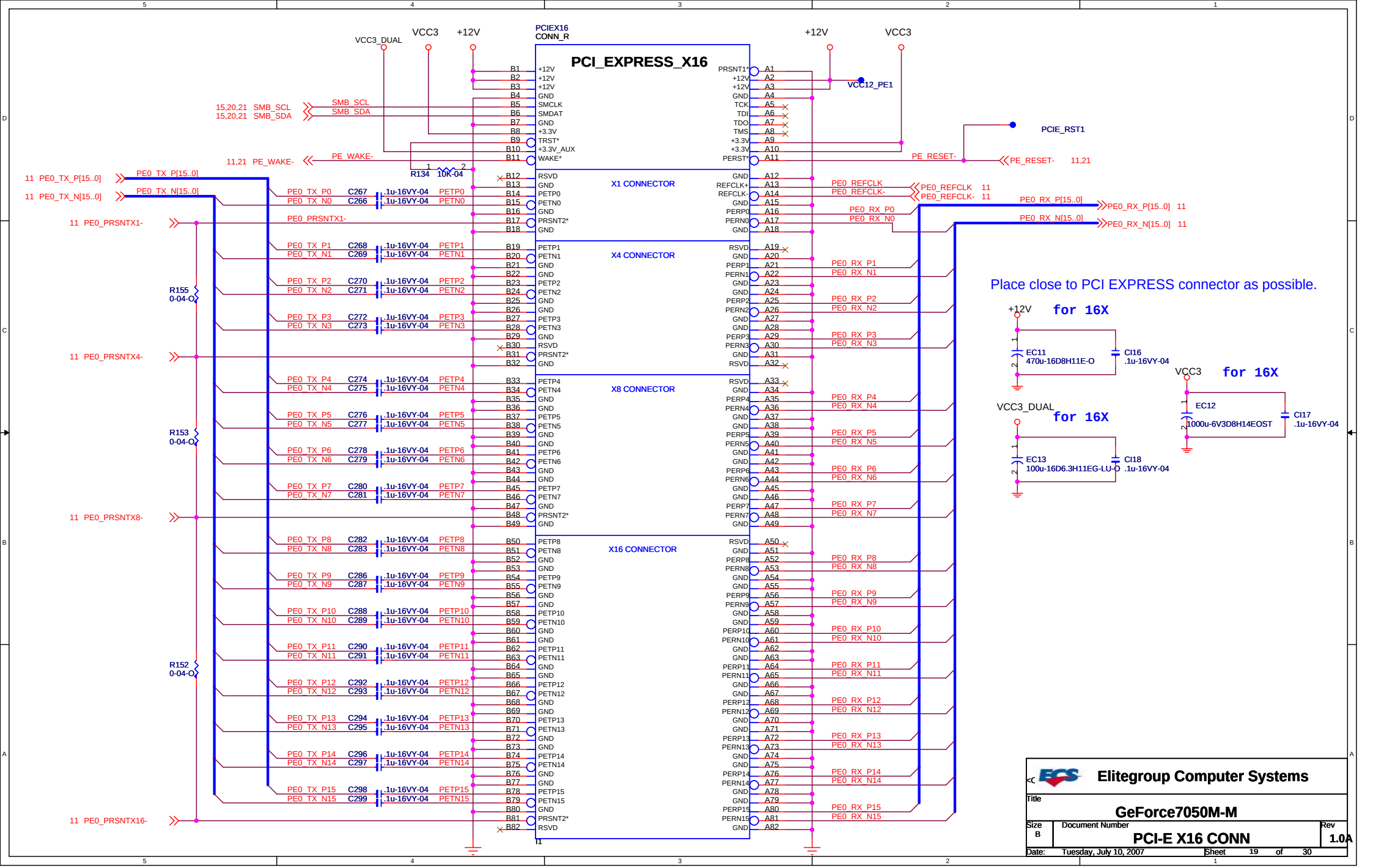
Title: GeForce7050M-M

Size: B | Document Number: MCP68 SATA / IDE / CONN | Rev: 1.0A

Date: Thursday, August 16, 2007 | Sheet 17 of 30



Elitegroup Computer Systems		
Title: GeForce7050M-M		
Size: B	Document Number: VGA	Rev: 1.0A
Date: Tuesday, July 10, 2007	Sheet 18 of 30	



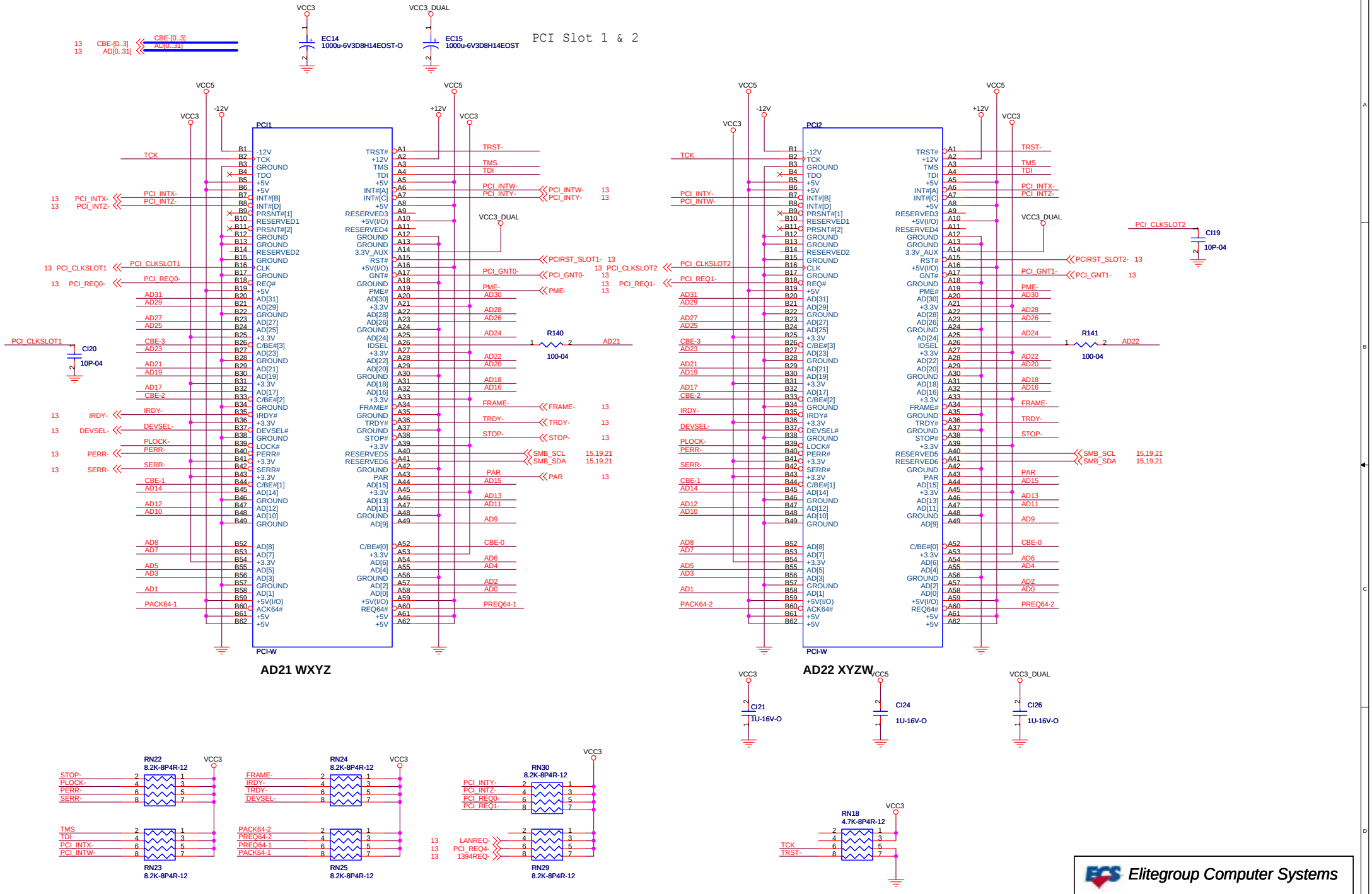
Elitegroup Computer Systems

Title: GeForce7050M-M

Size: B | Document Number: PCI-E X16 CONN | Rev: 1.0A

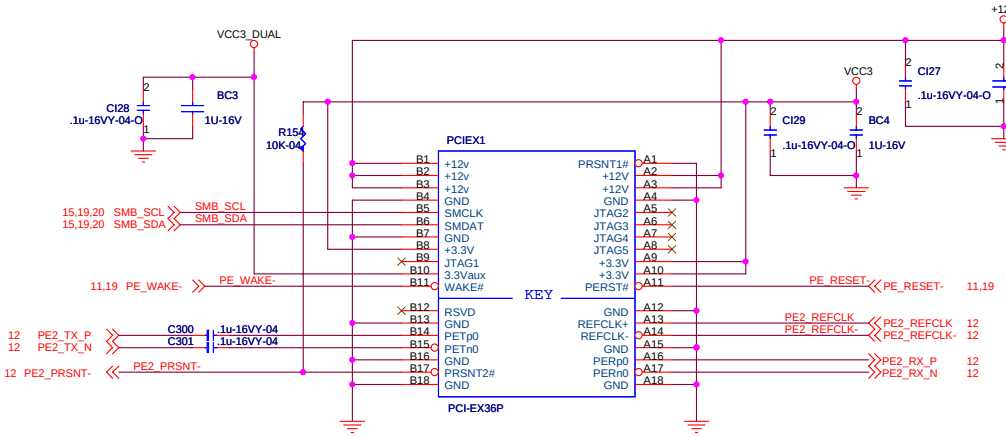
Date: Tuesday, July 10, 2007 | Sheet 19 of 30

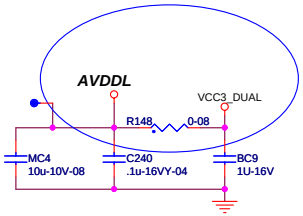
PCI Slot 1 & 2

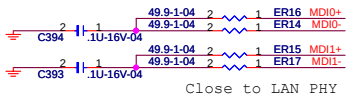


Elitegroup Computer Systems

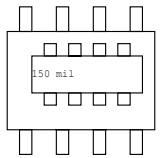
Title	GeForce7050M-M	
Size: Custom	Document Number: C61M-M	Rev: 1.0A
Date: Tuesday, July 10, 2007	Sheet 20 of 30	

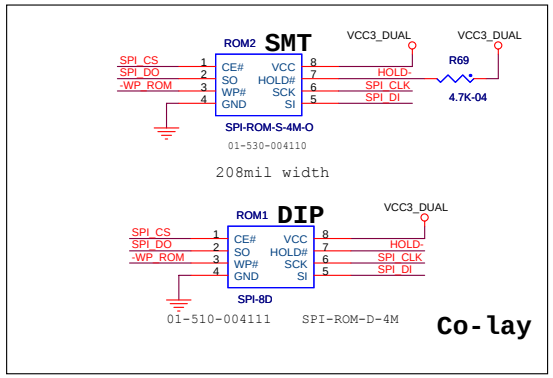




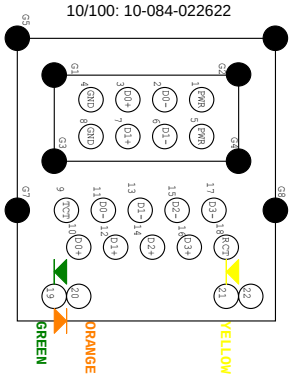


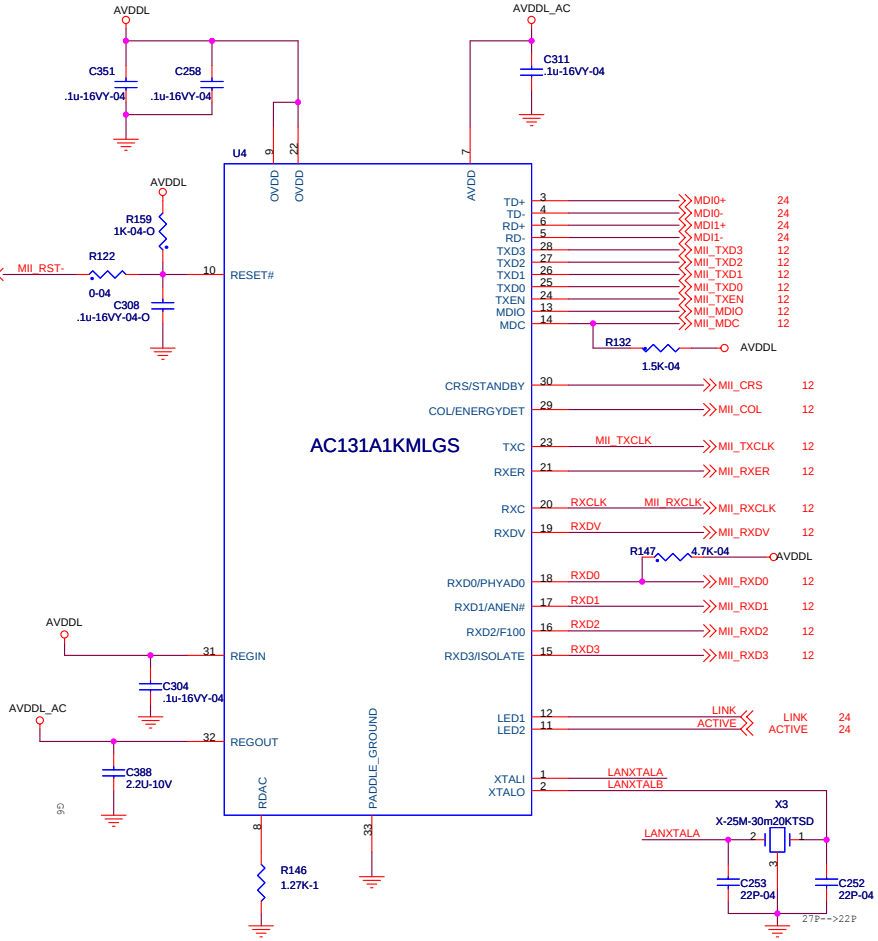
SO8 MN and MW co-layout layout draw

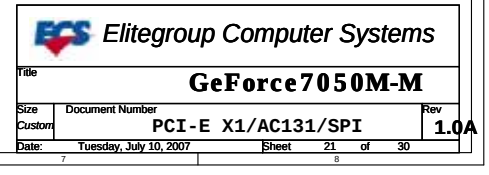


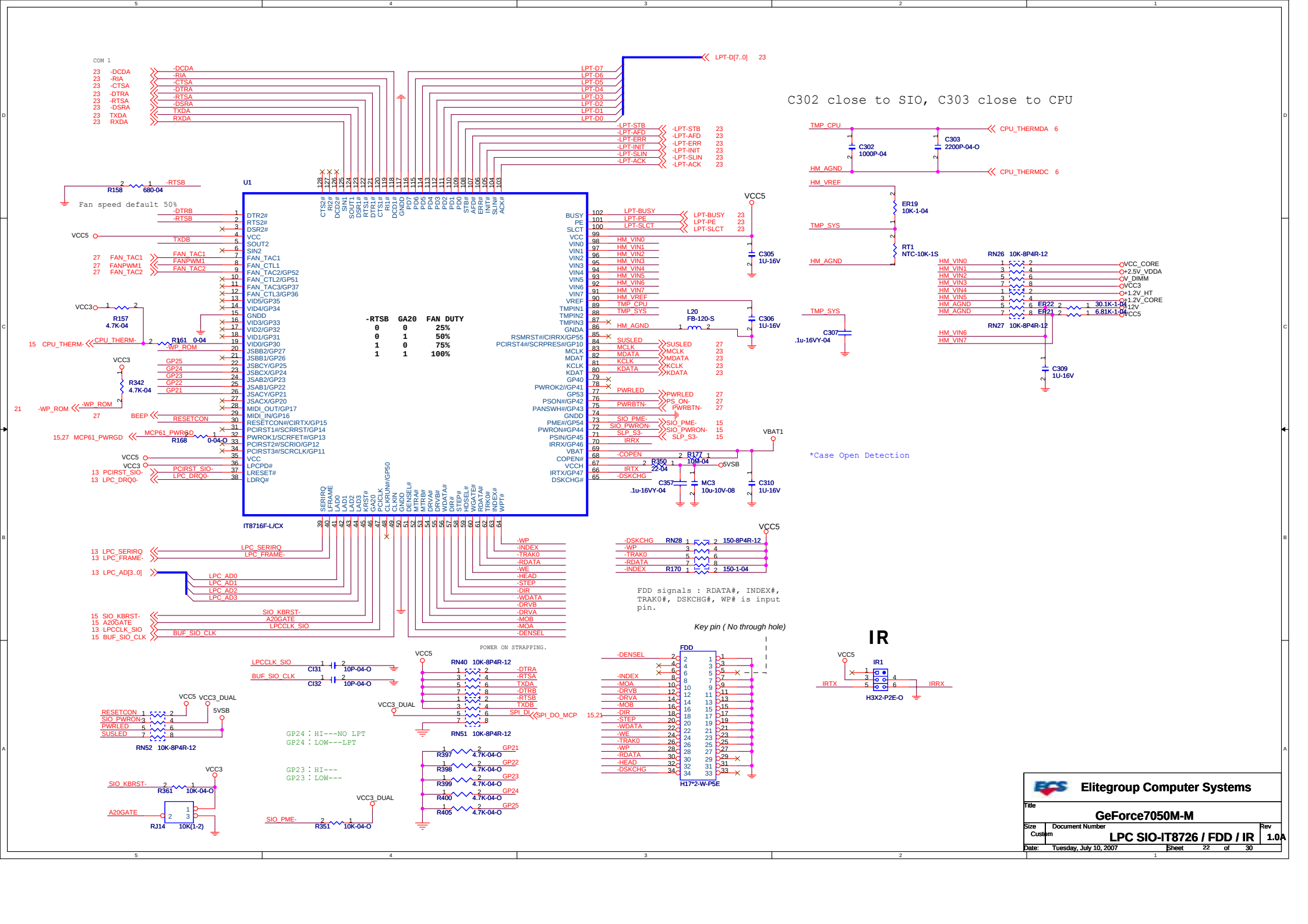


for SPI ROM

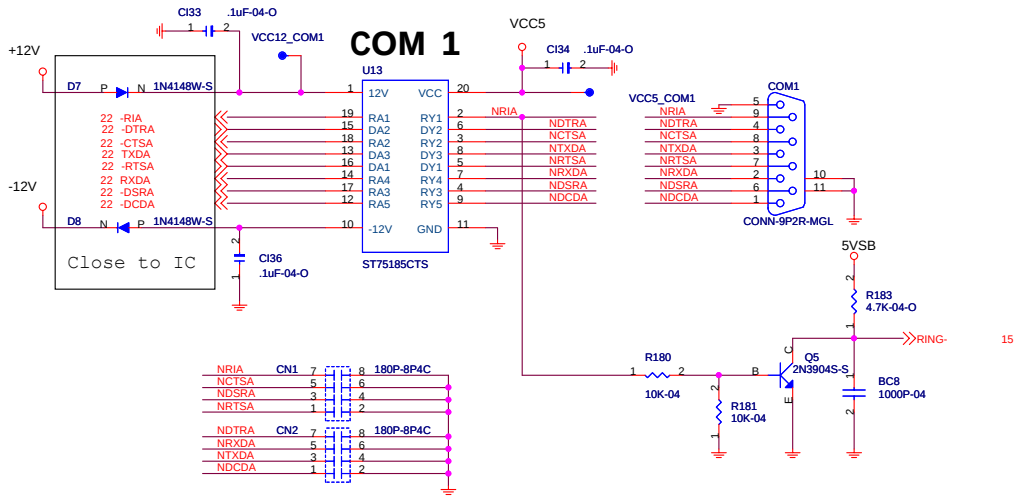


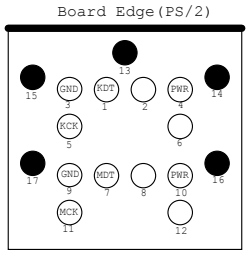




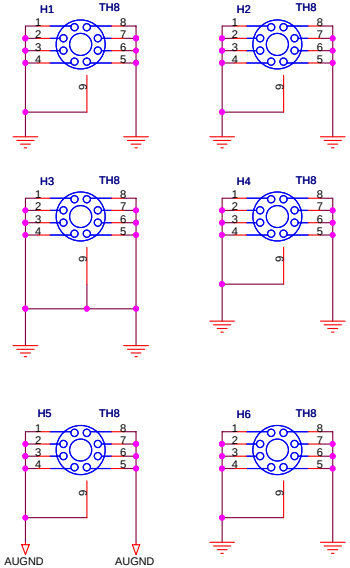


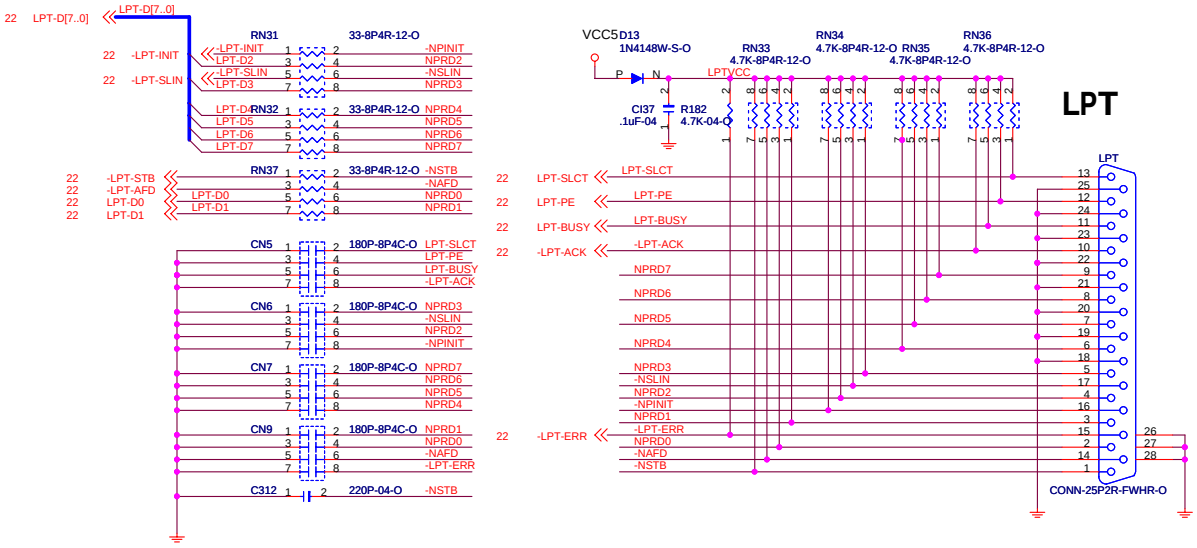
Elitegroup Computer Systems		
Title: GeForce7050M-M		
Size: Custom	Document Number: LPC SIO-IT8726 / FDD / IR	Rev: 1.0A
Date: Tuesday, July 10, 2007	Sheet 22 of 30	

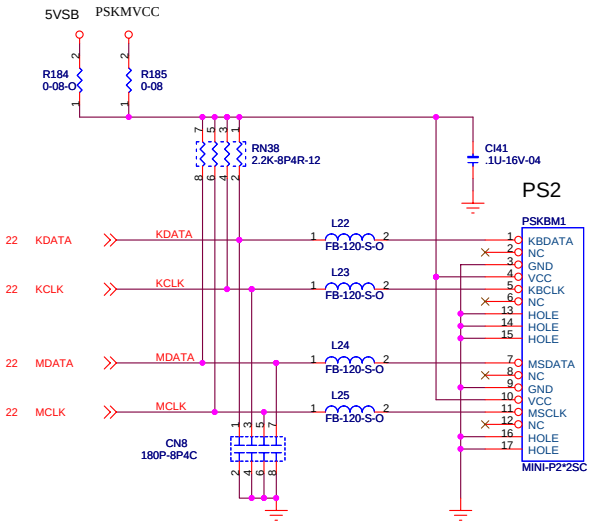




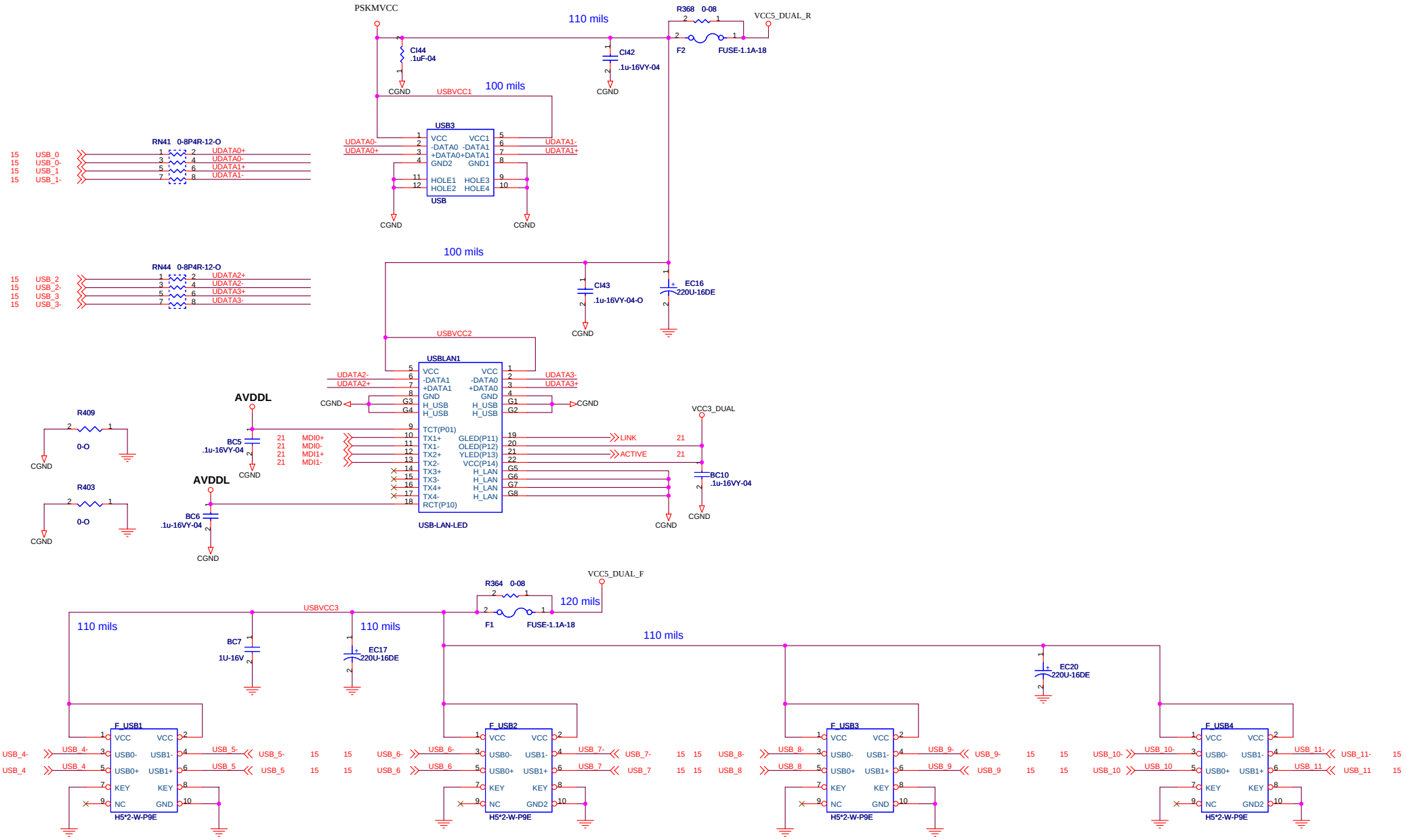
Top View







<Org	Elitegroup Computer Systems	
Title	GeForce7050M-M	
Size: Custom	Document Number: LPT / COM / PS2	Rev: 1.0A
Date: Tuesday, July 10, 2007	Sheet 23 of 30	



Elitegroup Computer Systems

Title: GeForce7050M-M

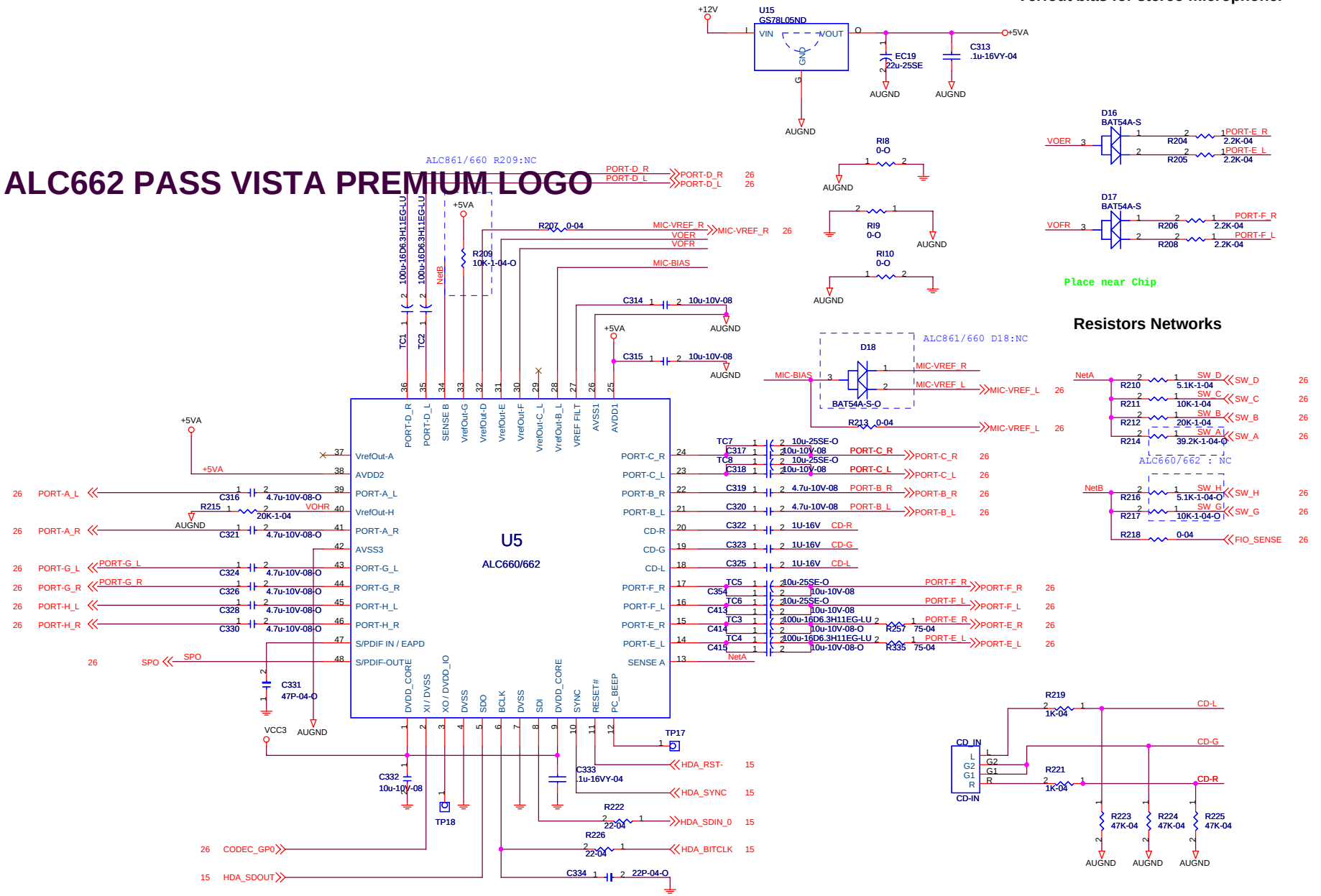
Size: Custom | Document Number: USB / Lan Conn. | Rev: 1.0A

Date: Thursday, August 16, 2007 | Sheet 24 of 30

Improve the background noise of MIC boost

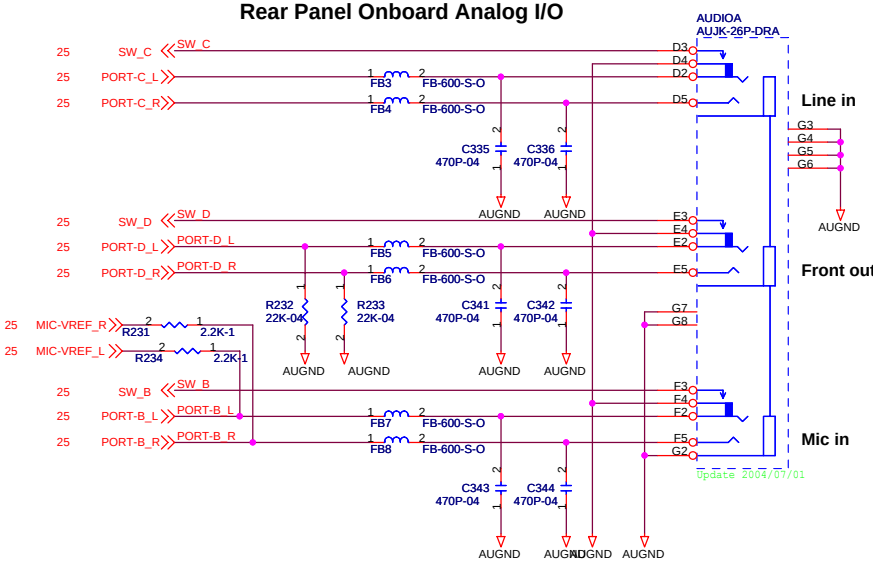
Verfout bias for stereo microphone.

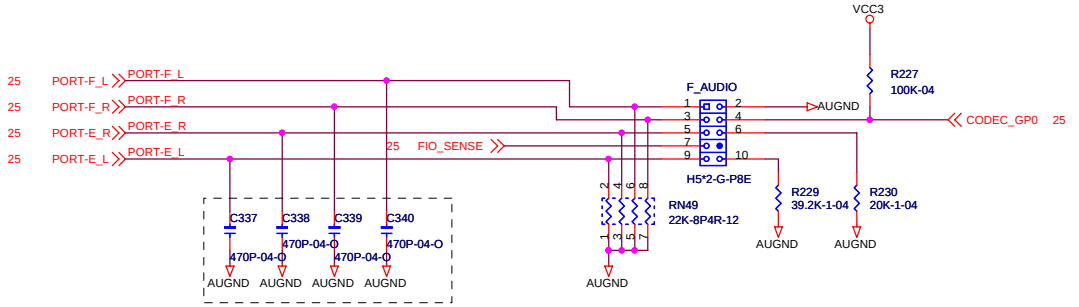
ALC662 PASS VISTA PREMIUM LOGO

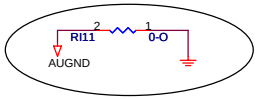


Elitegroup Computer Systems			
Title	GeForce7050M-M		
Size: Custom	Document Number: AUDIO ALC883/861/660/662		Rev: 1.0A
Date: Tuesday, July 10, 2007	Sheet 25 of 30		

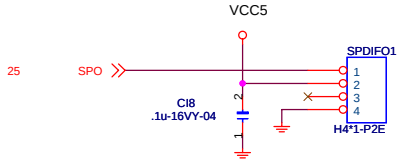
Rear Panel Onboard Analog I/O



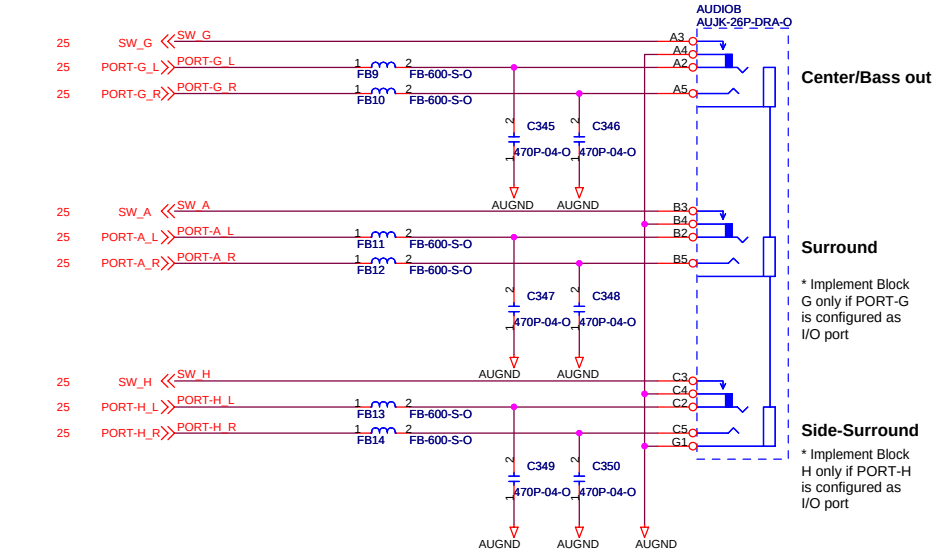




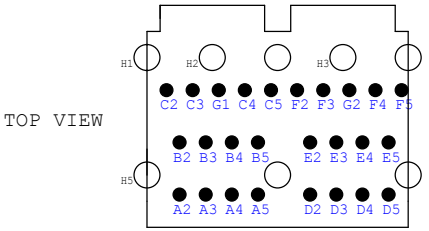
SPDIF Out

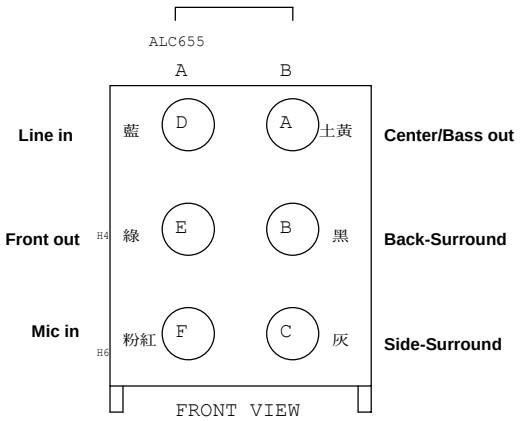


Rear Panel (Optional Rear Audio Panel)

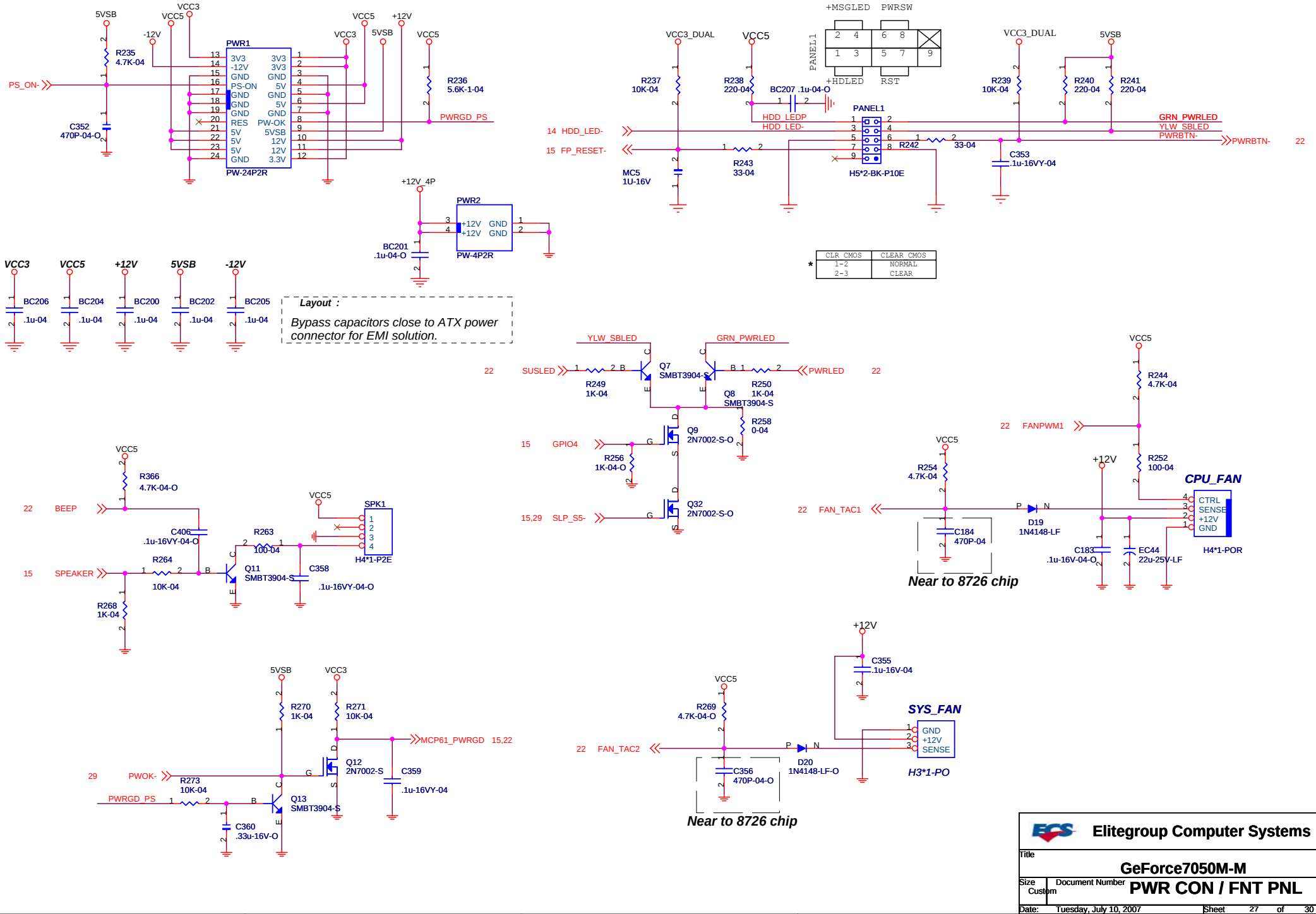


The schematic should consist with PINs define of I/O connecter.

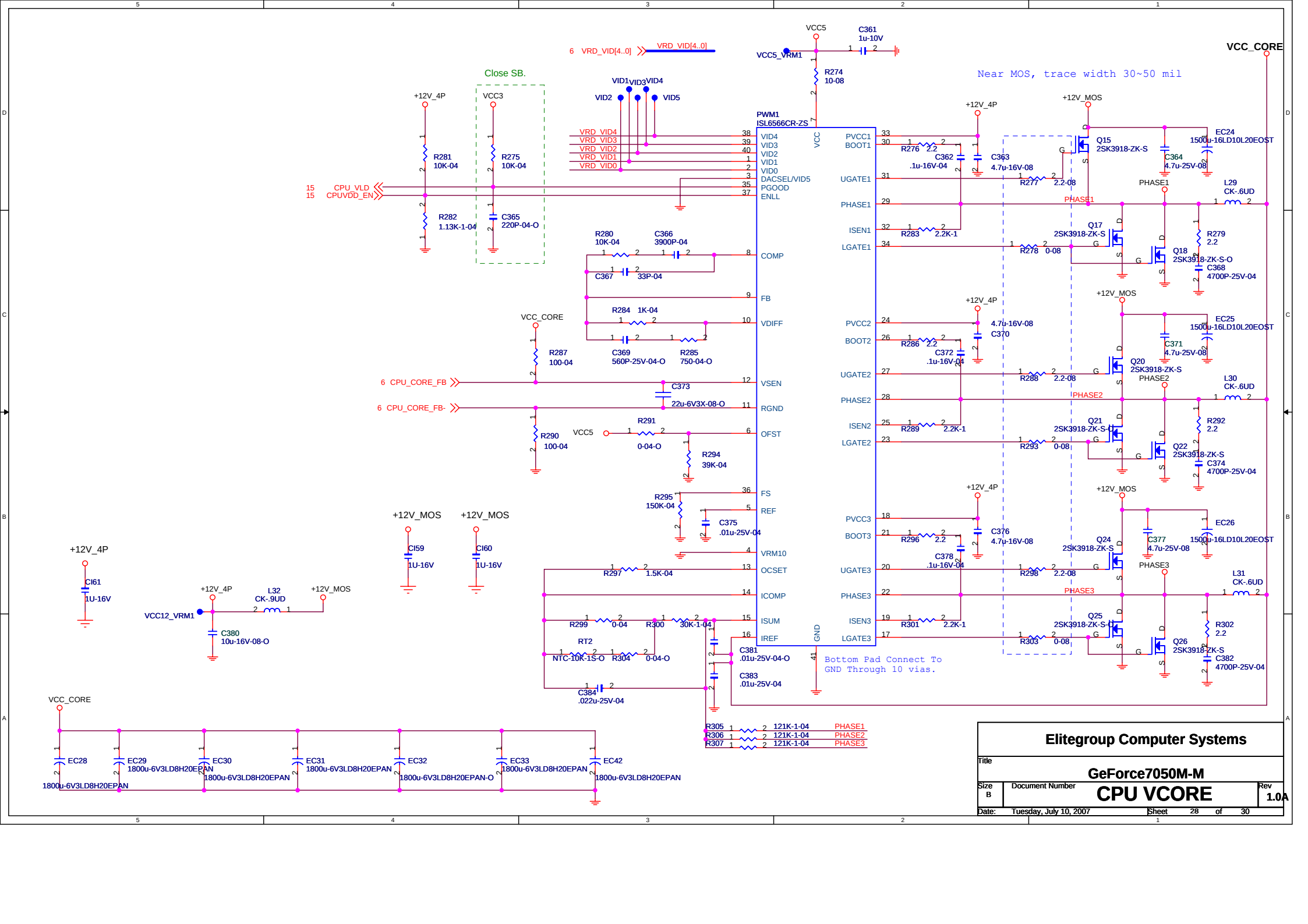




Elitegroup Computer Systems			
Title: GeForce7050M-M			
Size: Custom	Document Number: AUDIO ALC861/660/662(PANEL)		Rev: 1.0A
Date: Tuesday, July 10, 2007	Sheet 26 of 30		



Elitegroup Computer Systems	
Title	GeForce7050M-M
Size: Custom	Document Number: PWR CON / FNT PNL
Rev	1.0A
Date: Tuesday, July 10, 2007	Sheet 27 of 30


Close SB.
Near MOS, trace width 30~50 mil
Bottom Pad Connect To GND Through 10 vias.
PWM1
ISL6566CR-ZS
VCC_CORE
VCC5
VCC5_VRM1
R274 10-08
C361 1u-10V
6 VRD_VID[4..0]
VRD_VID[4..0]
VID1 VID3 VID4
VID2 VID5
VRD_VID4
VRD_VID3
VRD_VID2
VRD_VID1
VRD_VID0
15 CPU_VLD
15 CPUVDD_EN
+12V_4P
VCC3
R281 10K-04
R275 10K-04
R282 1.13K-1-04
C365 220P-04-O
R280 10K-04
C366 3900P-04
C367 33P-04
R284 1K-04
C369 560P-25V-04-O
R285 750-04-O
R287 100-04
R290 100-04
R291 0-04-O
R294 39K-04
6 CPU_CORE_FB
6 CPU_CORE_FB-
C373 22u-6V3X-08-O
R295 150K-04
C375 .01u-25V-04
R297 1.5K-04
R299 0-04
R300 30K-1-04
RT2 NTC-10K-1S-O
R304 0-04-O
C381 .01u-25V-04-O
C383 .01u-25V-04
C384 .022u-25V-04
R305 121K-1-04 PHASE1
R306 121K-1-04 PHASE2
R307 121K-1-04 PHASE3
+12V_MOS
CI59 1U-16V
CI60 1U-16V
CI61 1U-16V
L32 CK-.9UD
VCC12_VRM1
C380 10u-16V-08-O
VID4
VID3
VID2
VID1
VID0
DACSEL/VID5
PGOOD
ENLL
COMP
FB
VDIFF
VSEN
RGND
OFST
FS
REF
VRM10
OCSET
ICOMP
ISUM
IREF
VCC
GND
PVCC1
BOOT1
UGATE1
PHASE1
ISEN1
LGATE1
PVCC2
BOOT2
UGATE2
PHASE2
ISEN2
LGATE2
PVCC3
BOOT3
UGATE3
PHASE3
ISEN3
LGATE3
R276 2.2
C362 .1u-16V-04
C363 4.7u-16V-08
R277 2.2-08
R283 2.2K-1
R278 0-08
R286 2.2
C372 .1u-16V-04
C370 4.7u-16V-08
R288 2.2-08
R289 2.2K-1
R293 0-08
R296 2.2
C376 4.7u-16V-08
C378 .1u-16V-04
R298 2.2-08
R301 2.2K-1
R303 0-08
Q15 2SK3918-ZK-S
Q17 2SK3918-ZK-S
Q18 2SK3918-ZK-S-O
Q20 2SK3918-ZK-S
Q21 2SK3918-ZK-S-O
Q22 2SK3918-ZK-S
Q24 2SK3918-ZK-S
Q25 2SK3918-ZK-S-O
Q26 2SK3918-ZK-S
C364 4.7u-25V-08
C371 4.7u-25V-08
C377 4.7u-25V-08
EC24 1500u-16LD10L20EOST
EC25 1500u-16LD10L20EOST
EC26 1500u-16LD10L20EOST
L29 CK-.6UD
L30 CK-.6UD
L31 CK-.6UD
R279 2.2
C368 4700P-25V-04
R292 2.2
C374 4700P-25V-04
R302 2.2
C382 4700P-25V-04
EC28 1800u-6V3LD8H20EPAN
EC29 1800u-6V3LD8H20EPAN
EC30 1800u-6V3LD8H20EPAN
EC31 1800u-6V3LD8H20EPAN
EC32 1800u-6V3LD8H20EPAN-O
EC33 1800u-6V3LD8H20EPAN
EC42 1800u-6V3LD8H20EPAN
Elitegroup Computer Systems
Title
GeForce7050M-M
Size B
Document Number
CPU VCORE
Rev 1.0A
Date: Tuesday, July 10, 2007
Sheet 28 of 30

Power for MCP68 Core

+1.2V_HT(VLDT)

for 1A@MCP61 / 1.5A@CPU
for 0.85A@MCP68 / 1.5A@CPU

for MCP61/68@10A

+3.3V_DUAL

+5V_DUAL FOR USB,PS2

MCP61 AUX(1.2V) @250mA

5VSB

DDR_VTT

1pcs DDR2@2.5A

2pcs dual DDR2@0.6A

Switching Output Voltage=0.8V*(1+RT/RB)
Iocset=(40uA*Rocset-0.4V)/Rdson(low side MOSFET)

Chipset Power OCP Rocset (R311) 24KΩ(21A)

Vo=1.25(1+Rb/Rt)

KEYBOARD/MOUSE POWER ON

GPIO7	SO	S1	S3	S4/S5
USE	H	H	L	L
UN-USE	H	H	L	H

USBPWR_F / R	
1-2	VCC5
2-3	VCC5_DUAL

V_DIMM=0.8V*(1+RT/RB)

R338 / V_DIMM :
249 / 1.796V
261 / 1.844V
270 / 1.88V

GPIO1 / V_DIMM :
Hi / 1.91V
Low / 1.88V

Iocp = R330*40uA-0.4V/Q40@Rds(on)

R330/EC40 :
2 Dimm 22K/1000uF
4 Dimm 28K/1800uF

AO4812/APM7313KCTRL
03-050-981282/03-050-931378

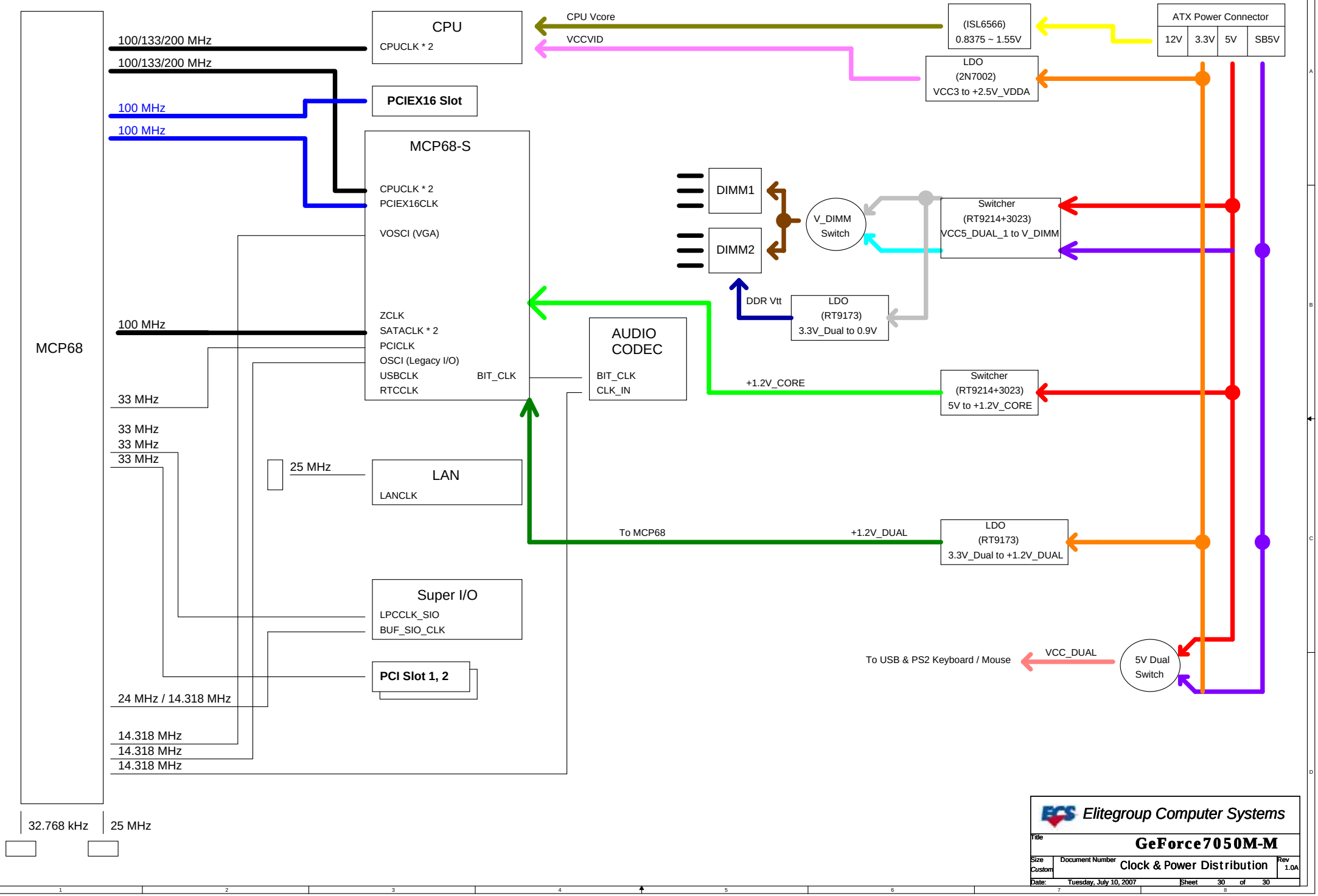
Memory Power OCP Rocset (R330) 16KΩ(11A)

Reserve for MCP61
Q46.Q44.Q33.R317.R386.ER25

VCC3 下版修正

	RT9202	RT9214
R343	10	X
D30	X	V
R344	X	30K
R752	24K	X

Elitegroup Computer Systems	
Title	GeForce7050M-M
Size C / Document Number	DC-DC
Rev	1.0A
Date: Tuesday, July 10, 2007	Sheet 29 of 30


MCP68
100/133/200 MHz
100/133/200 MHz
100 MHz
100 MHz
CPU
CPUCLK * 2
PCIEX16 Slot
MCP68-S
CPUCLK * 2
PCIEX16CLK
VOSCI (VGA)
100 MHz
ZCLK
SATACLK * 2
PCICLK
OSCI (Legacy I/O)
USBCLK
RTCCLK
BIT_CLK
33 MHz
33 MHz
33 MHz
33 MHz
25 MHz
LAN
LANCLK
Super I/O
LPCCLK_SIO
BUF_SIO_CLK
PCI Slot 1, 2
24 MHz / 14.318 MHz
14.318 MHz
14.318 MHz
14.318 MHz
32.768 kHz
25 MHz
CPU Vcore
VCCVID
(ISL6566)
0.8375 ~ 1.55V
ATX Power Connector
12V
3.3V
5V
SB5V
LDO
(2N7002)
VCC3 to +2.5V_VDDA
DIMM1
DIMM2
V_DIMM
Switch
Switcher
(RT9214+3023)
VCC5_DUAL_1 to V_DIMM
DDR Vtt
LDO
(RT9173)
3.3V_Dual to 0.9V
AUDIO
CODEC
BIT_CLK
CLK_IN
+1.2V_CORE
Switcher
(RT9214+3023)
5V to +1.2V_CORE
To MCP68
+1.2V_DUAL
LDO
(RT9173)
3.3V_Dual to +1.2V_DUAL
To USB & PS2 Keyboard / Mouse
VCC_DUAL
5V Dual
Switch
Elitegroup Computer Systems
Title
GeForce7050M-M
Size
Custom
Document Number
Clock & Power Distribution
Rev
1.0A
Date:
Tuesday, July 10, 2007
Sheet
30
of
30