ID-PCM8E V : 1.0A

SCHEMATICS TABLE:

REVISION HISTORY:

Rev	Date	Notes
A	07-06-2007	INITIAL RELEASE
B	07-27-2007	
1.0	09-05-2007	
1.0A	11-09-2007	

IMPORTANT NOTES ABOUT THIS SCHEMATIC

DESIGN NOTE: Example text for the design note to show the note inside the colored box.

1) DESIGN NOTES in grey are information notes.

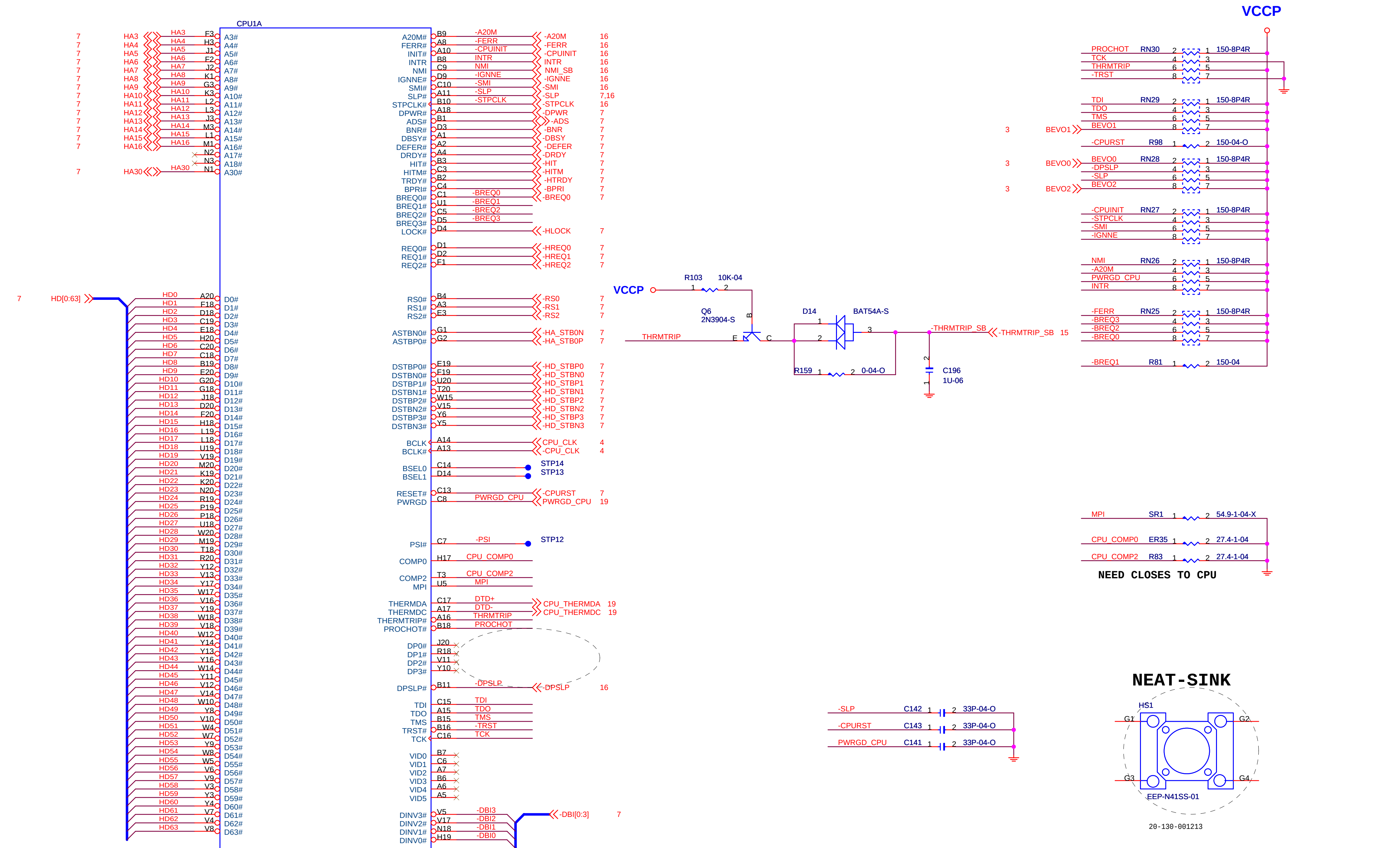
DESIGN NOTE: Example text for the design note to show the note inside the colored box.

2) DESIGN NOTES in yellow are notes of caution.

3) DESIGN NOTES in red are critical, and must be understood and followed.

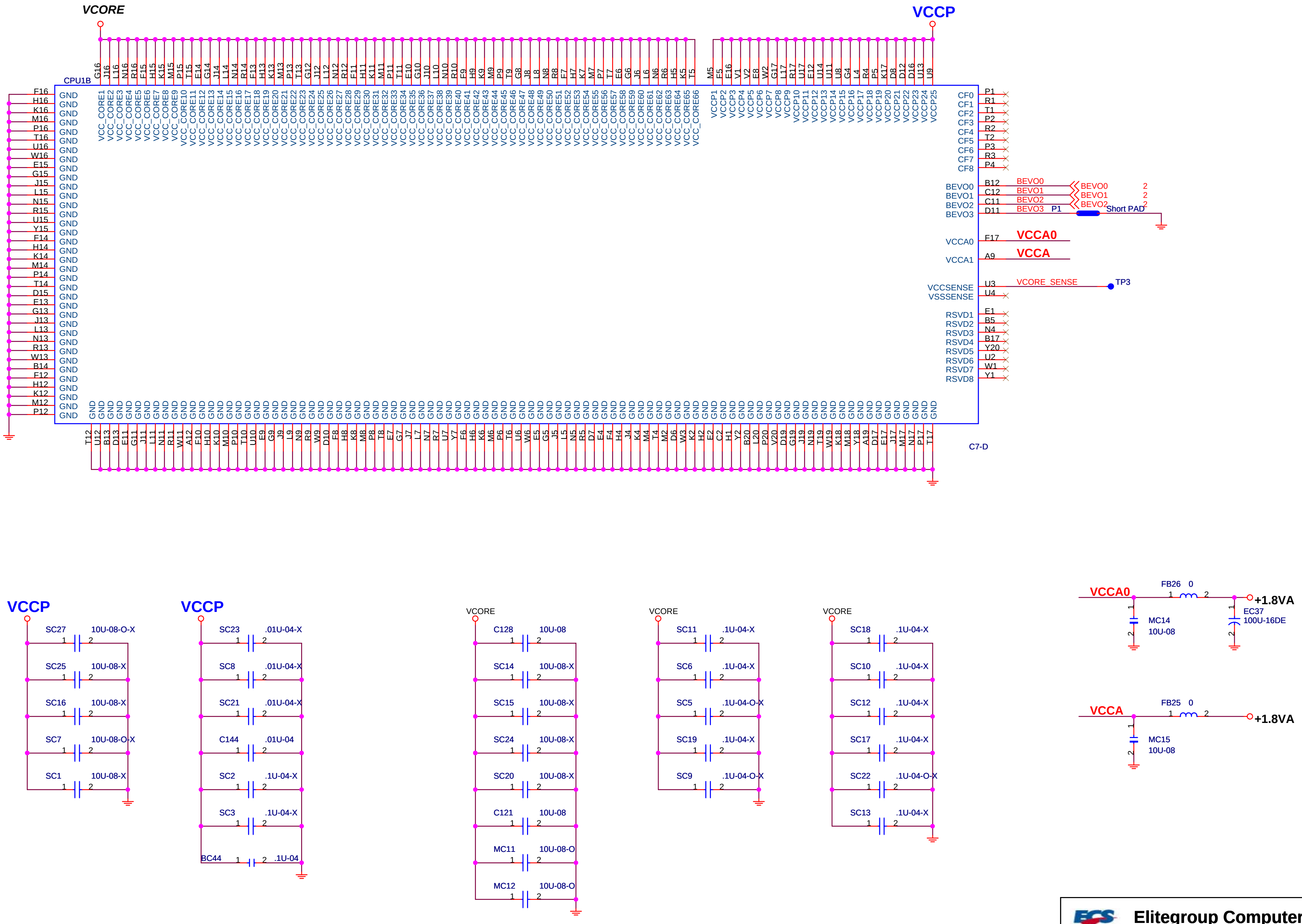
PCB STACK: L1:TOP
L2:PWR
L3:GND
L4:BOTTOM

Elitegroup Computer Systems		
Title: COVER PAGE		
Size: Custom	Document Number: ID-PCM8E	Rev: 1.0A
Date: Friday, November 09, 2007	Sheet 1 of 28	



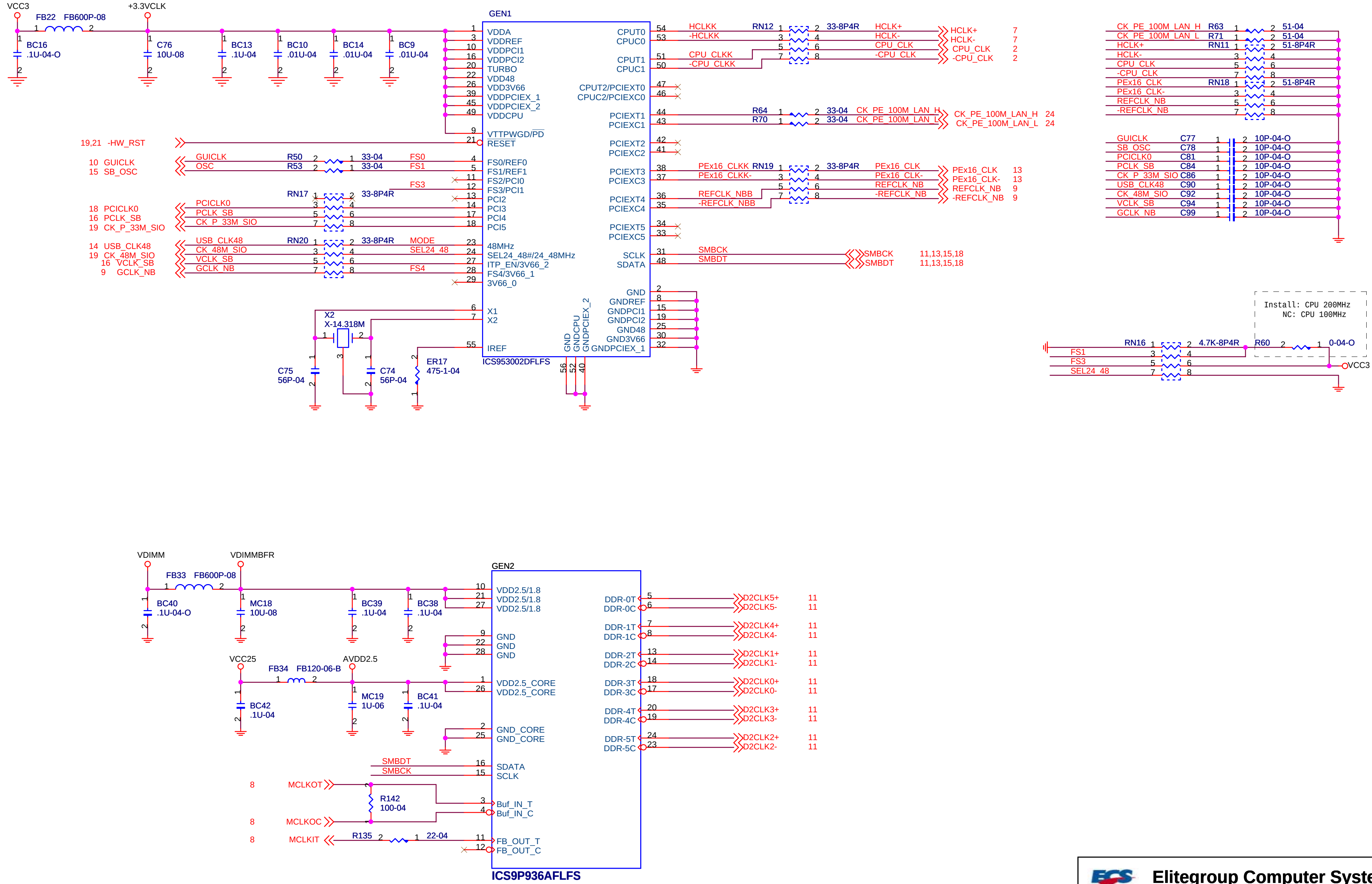
Elitegroup Computer Systems

Title	CPU C7 -1
Size	Custom
Document Number	ID-PCM8E
Rev	1.0A
Date:	Friday, November 09, 2007
Sheet	2 of 28



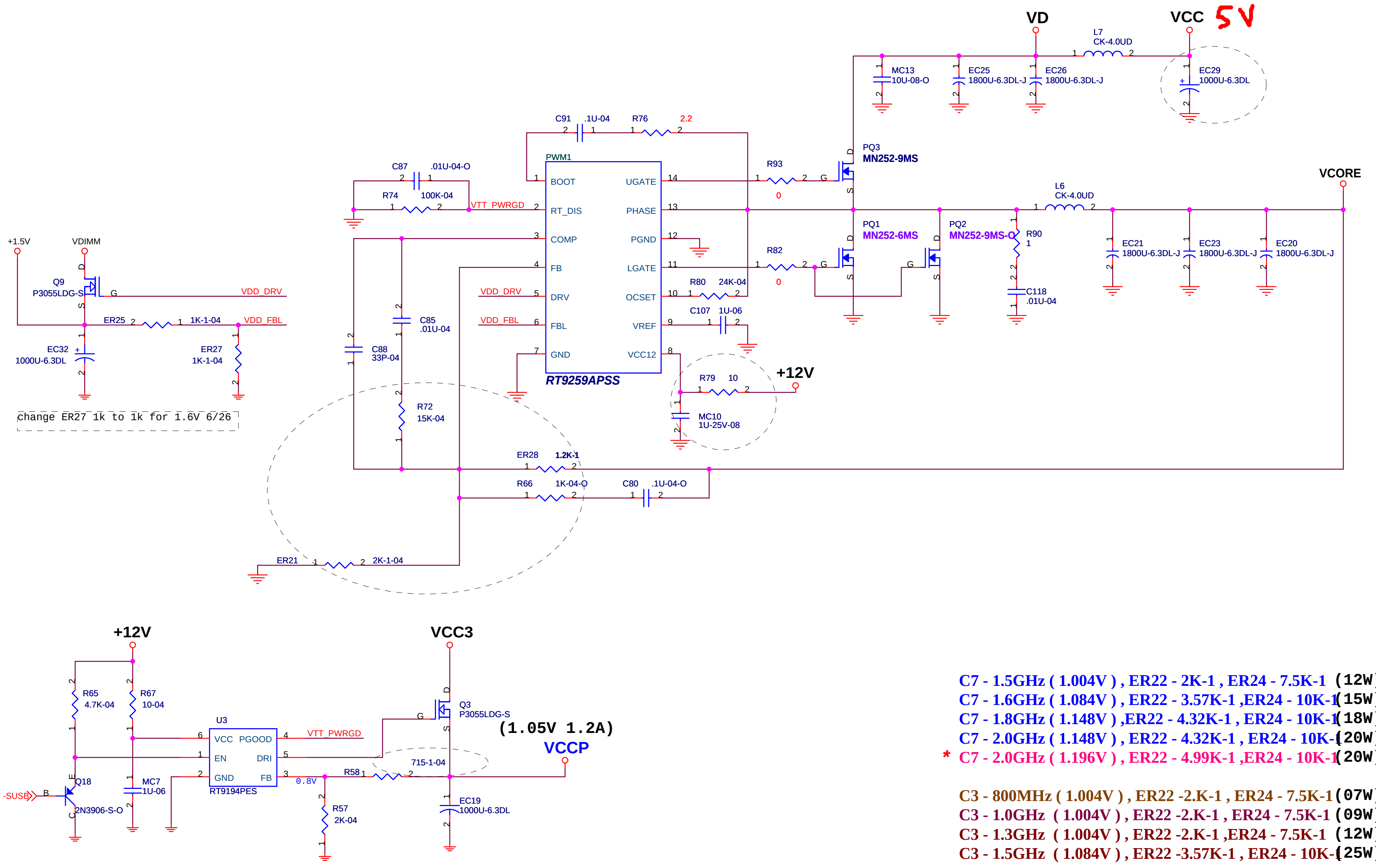
Elitegroup Computer Systems

Title	CPU C7 -2
Size	Custom
Document Number	ID-PCM8E
Rev	1.0A
Date:	Friday, November 09, 2007
Sheet	3 of 28



Elitegroup Computer Systems

Title	CLK GEN/BUFFER	
Size: Custom	Document Number: ID-PCM8E	Rev: 1.0A
Date: Friday, November 09, 2007	Sheet 4 of 28	



C7 - 1.5GHz (1.004V) , ER22 - 2K-1 , ER24 - 7.5K-1 (12W)
C7 - 1.6GHz (1.084V) , ER22 - 3.57K-1 ,ER24 - 10K-1 (15W)
C7 - 1.8GHz (1.148V) ,ER22 - 4.32K-1 , ER24 - 10K-1 (18W)
C7 - 2.0GHz (1.148V) , ER22 - 4.32K-1 , ER24 - 10K-1 (20W)
* C7 - 2.0GHz (1.196V) , ER22 - 4.99K-1 ,ER24 - 10K-1 (20W)

C3 - 800MHz (1.004V) , ER22 -2.K-1 , ER24 - 7.5K-1 (07W)
C3 - 1.0GHz (1.004V) , ER22 -2.K-1 , ER24 - 7.5K-1 (09W)
C3 - 1.3GHz (1.004V) , ER22 -2.K-1 ,ER24 - 7.5K-1 (12W)
C3 - 1.5GHz (1.084V) , ER22 -3.57K-1 , ER24 - 10K-1 (25W)

Elitegroup Computer Systems	
Title	VCORE POWER
Size: Custom	Document Number: ID-PCM8E
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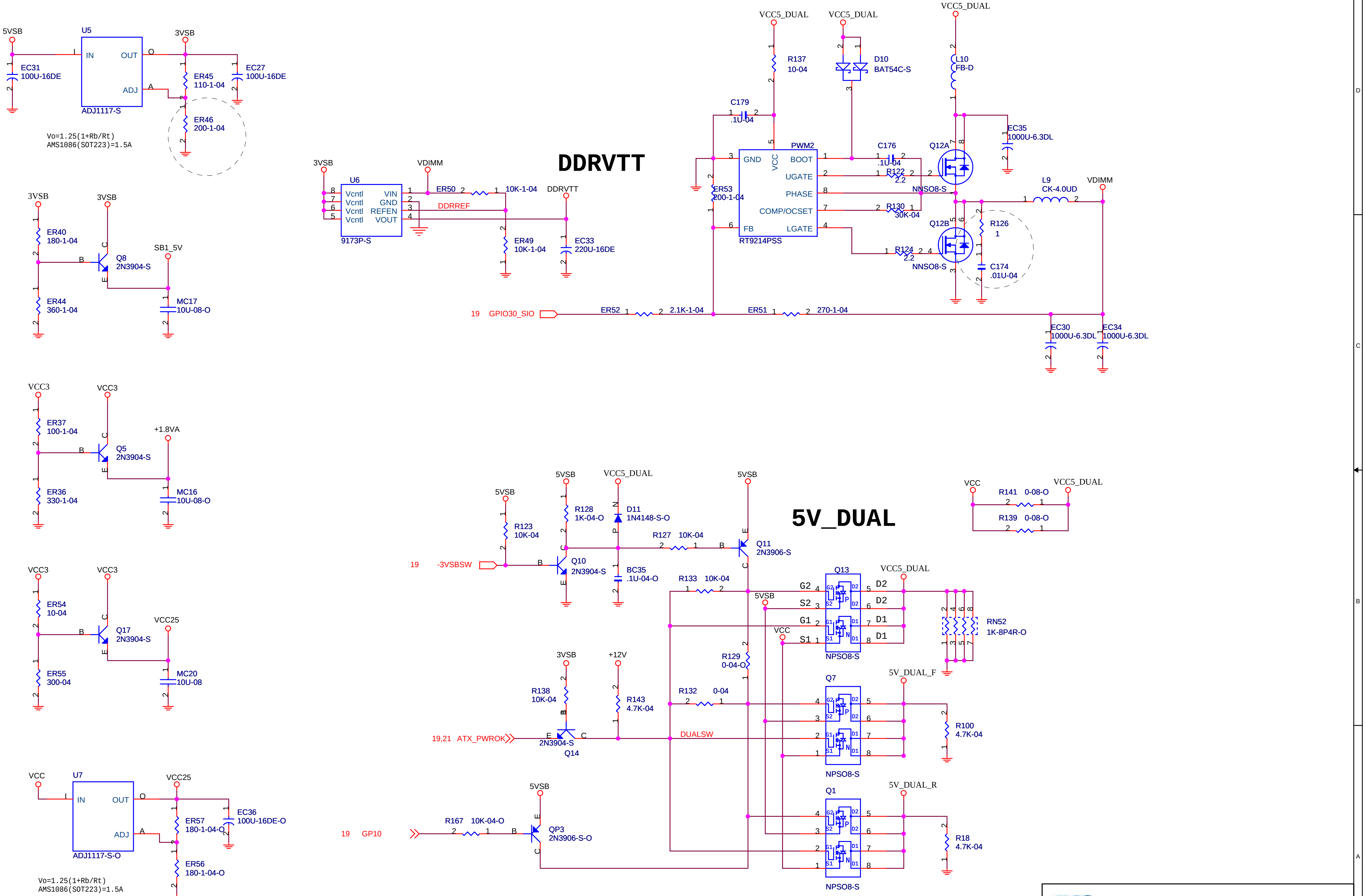
Date: Friday, November 09, 2007	Sheet 5 of 28

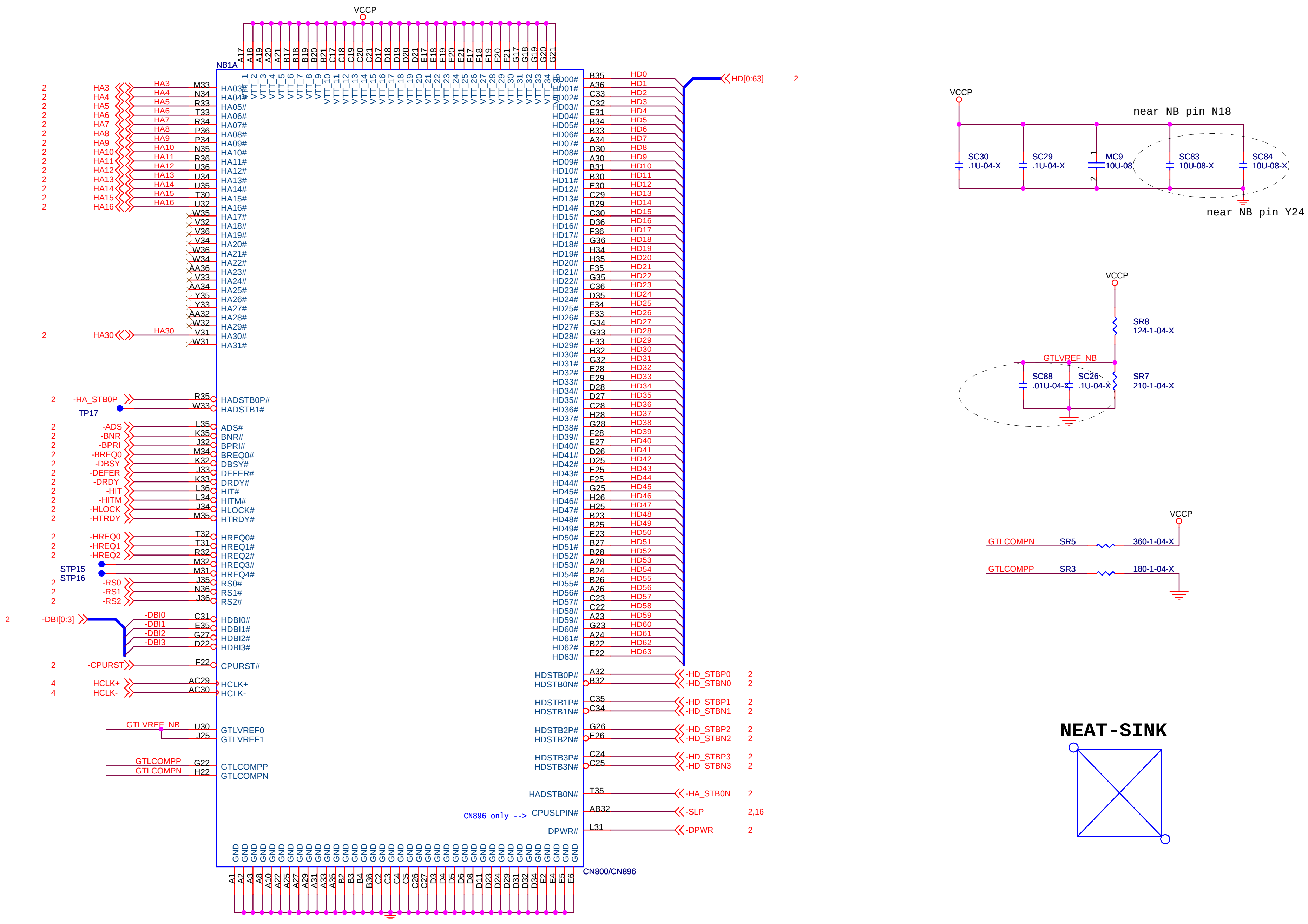


Elitegroup Computer Systems

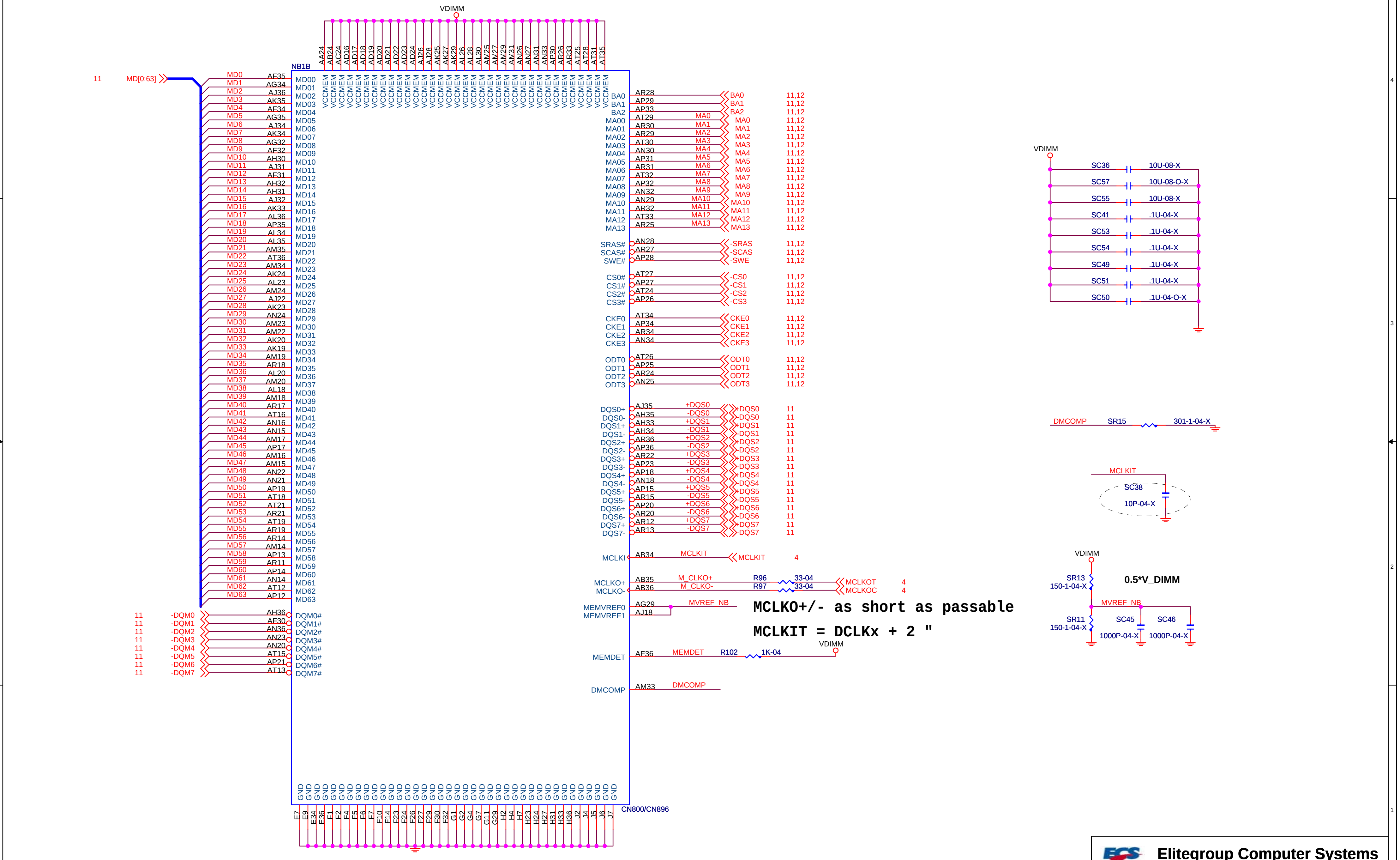
Title: POWER (DC to DC)

Size	Document Number	Rev
Custom	ID-PCM8E	1.0A

Date: Friday, November 09, 2007 Sheet 6 of 28



Elitegroup Computer Systems		
Title	NB CN896 HOST	
Size: Custom	Document Number: ID-PCM8E	Rev: 1.0A
Date: Friday, November 09, 2007	Sheet 7 of 28	

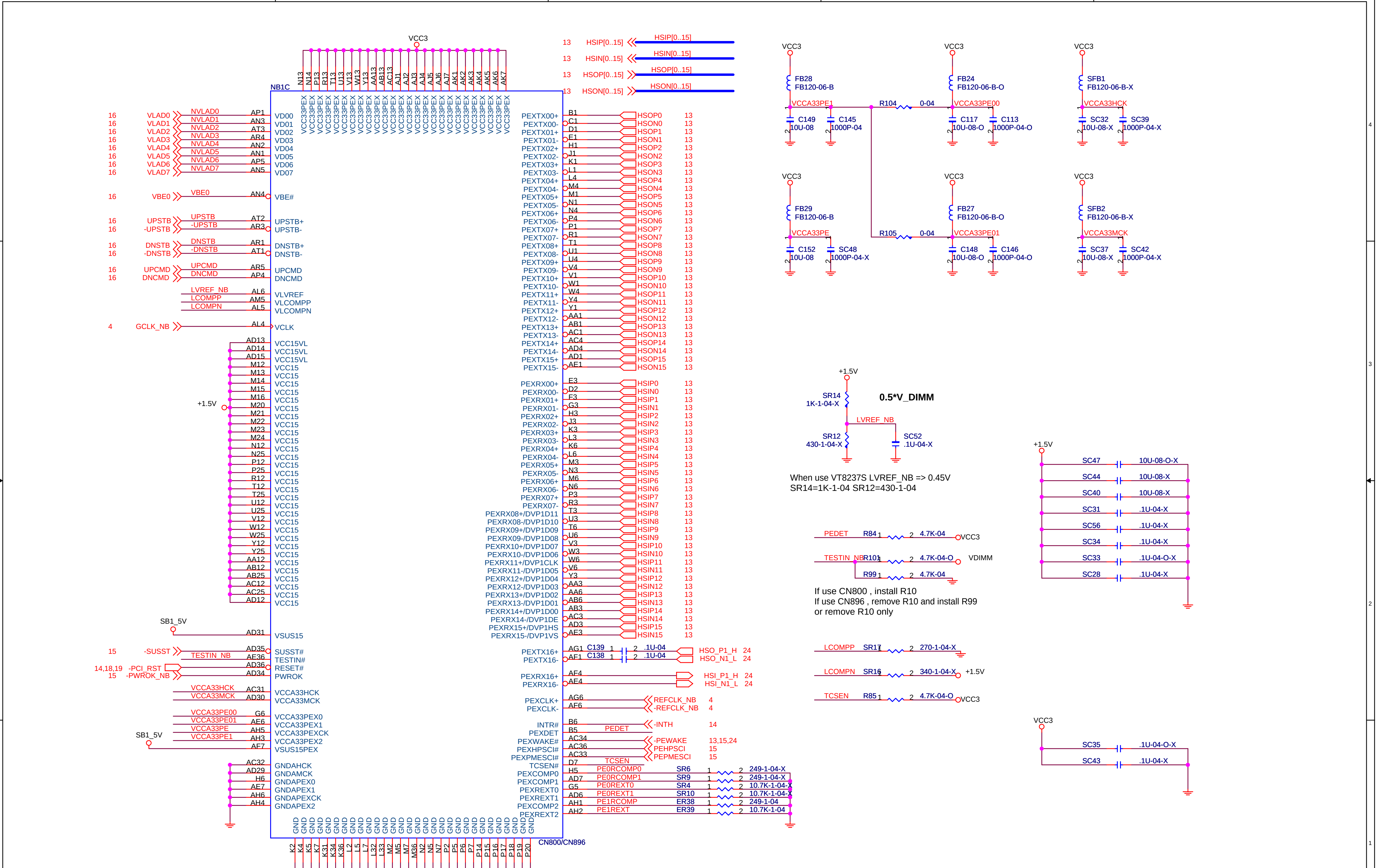


Elitegroup Computer Systems

Title: NB CN896 DRAM

Size: Custom | Document Number: ID-PCM8E | Rev: 1.0A

Date: Friday, November 09, 2007 | Sheet 8 of 28

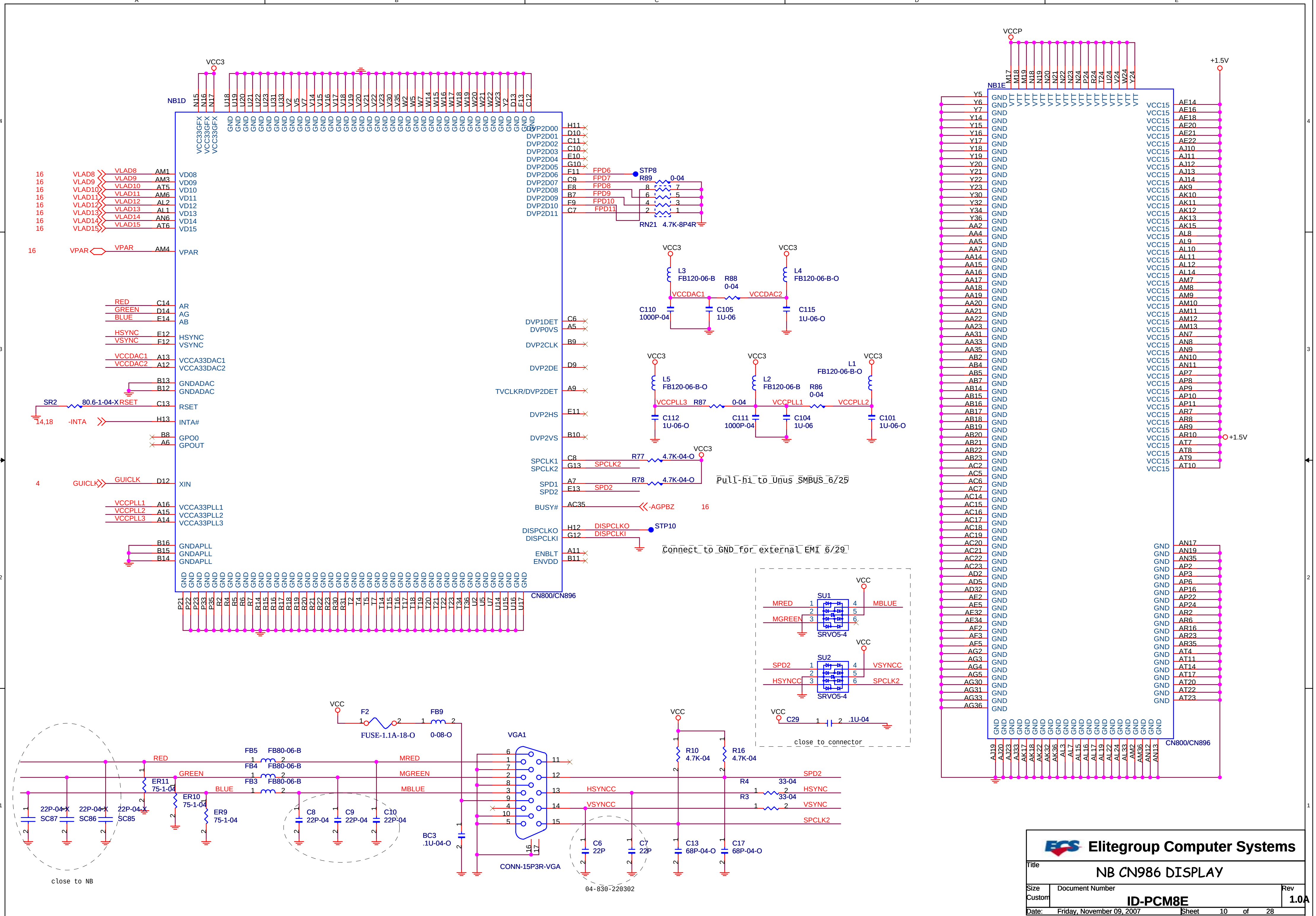


Elitegroup Computer Systems

Title: NB CN896 GFX

Size	Document Number	Rev
Custom	ID-PCM8E	1.0A

Date: Friday, November 09, 2007 Sheet 9 of 28

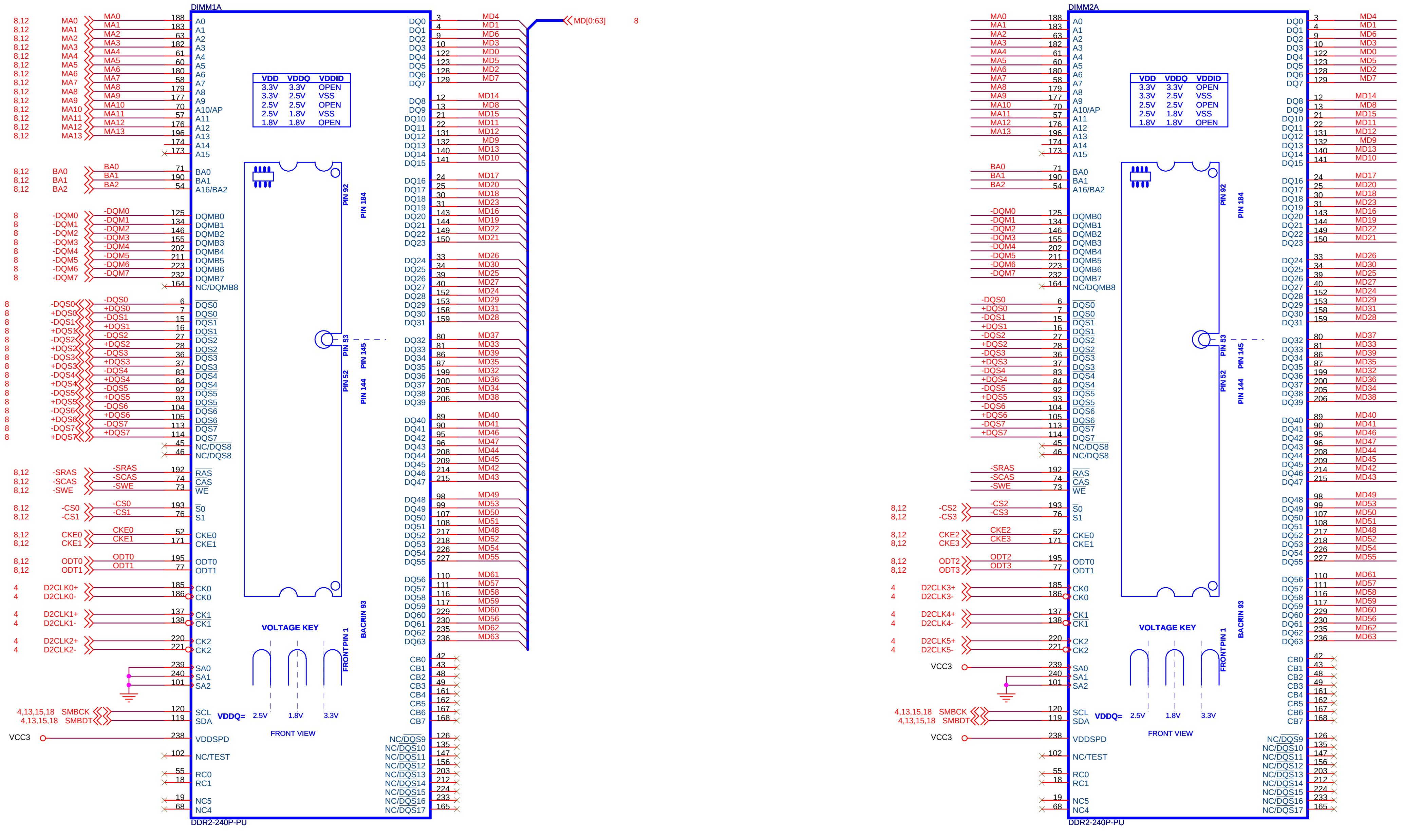


Elitegroup Computer Systems

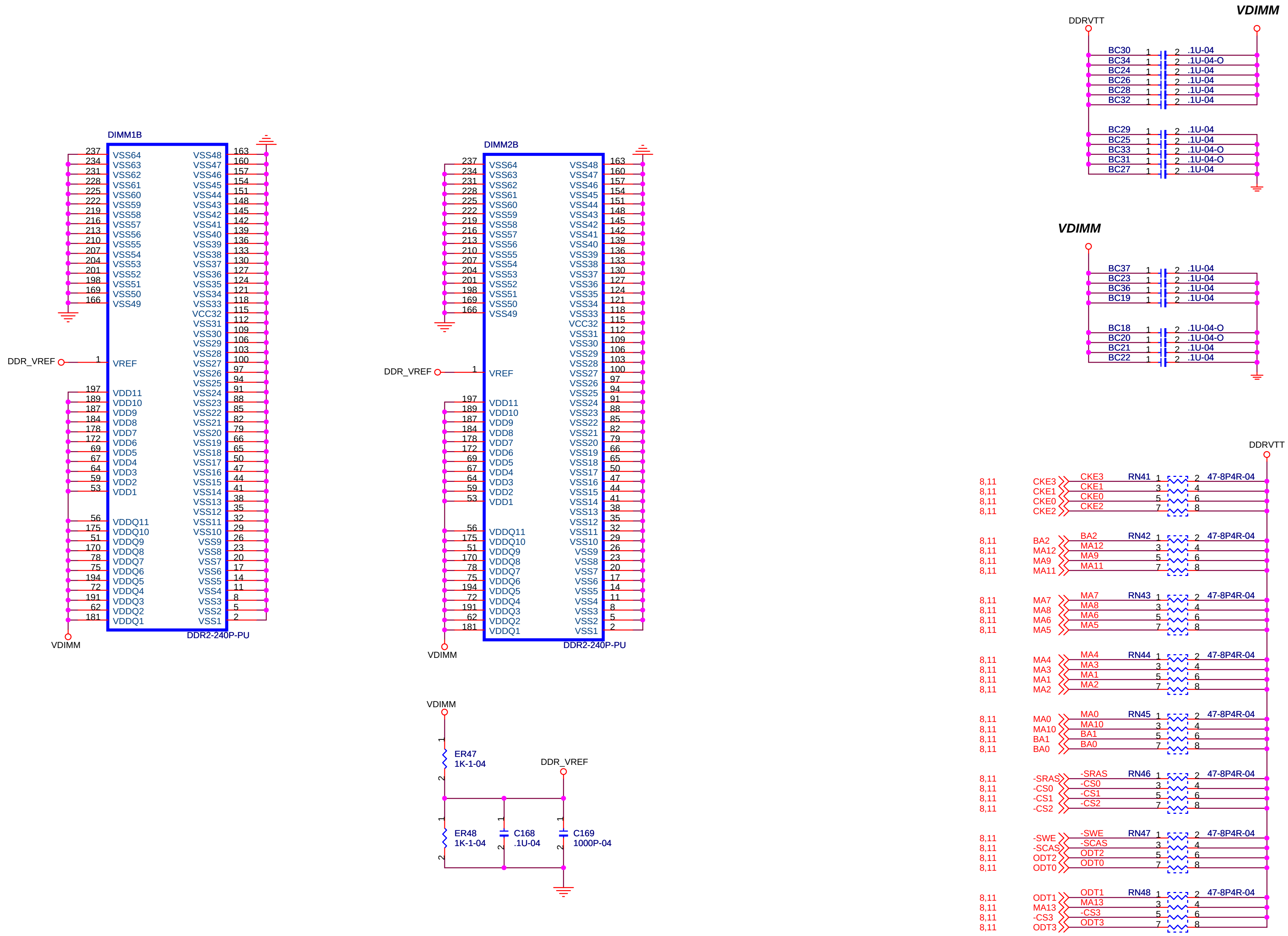
Title: NB CN986 DISPLAY

Size	Document Number	Rev
Custom	ID-PCM8E	1.0A

Date: Friday, November 09, 2007 Sheet 10 of 28

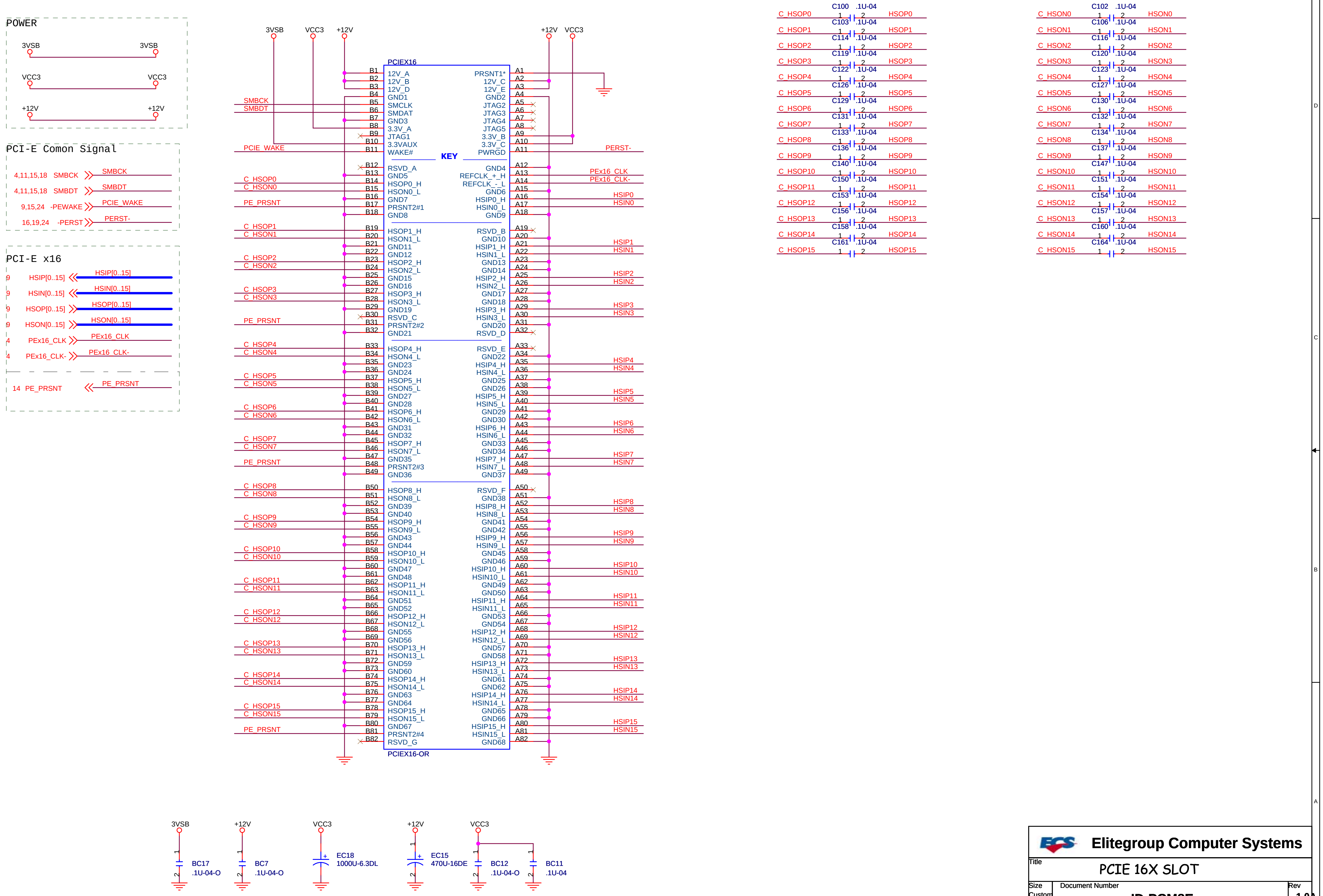


Elitegroup Computer Systems	
Title	DDR2 DIMM
Size Custom	Document Number ID-PCM8E — Rev 1.0A
Date: Friday, November 09, 2007	Sheet 11 of 28



Elitegroup Computer Systems

Title	DDR2/TERMINATOR	
Size: Custom	Document Number: ID-PCM8E	Rev: 1.0A
Date: Friday, November 09, 2007	Sheet 12 of 28	



Elitegroup Computer Systems

Title	PCIE 16X SLOT	
Size: Custom	Document Number: ID-PCM8E	Rev: 1.0A
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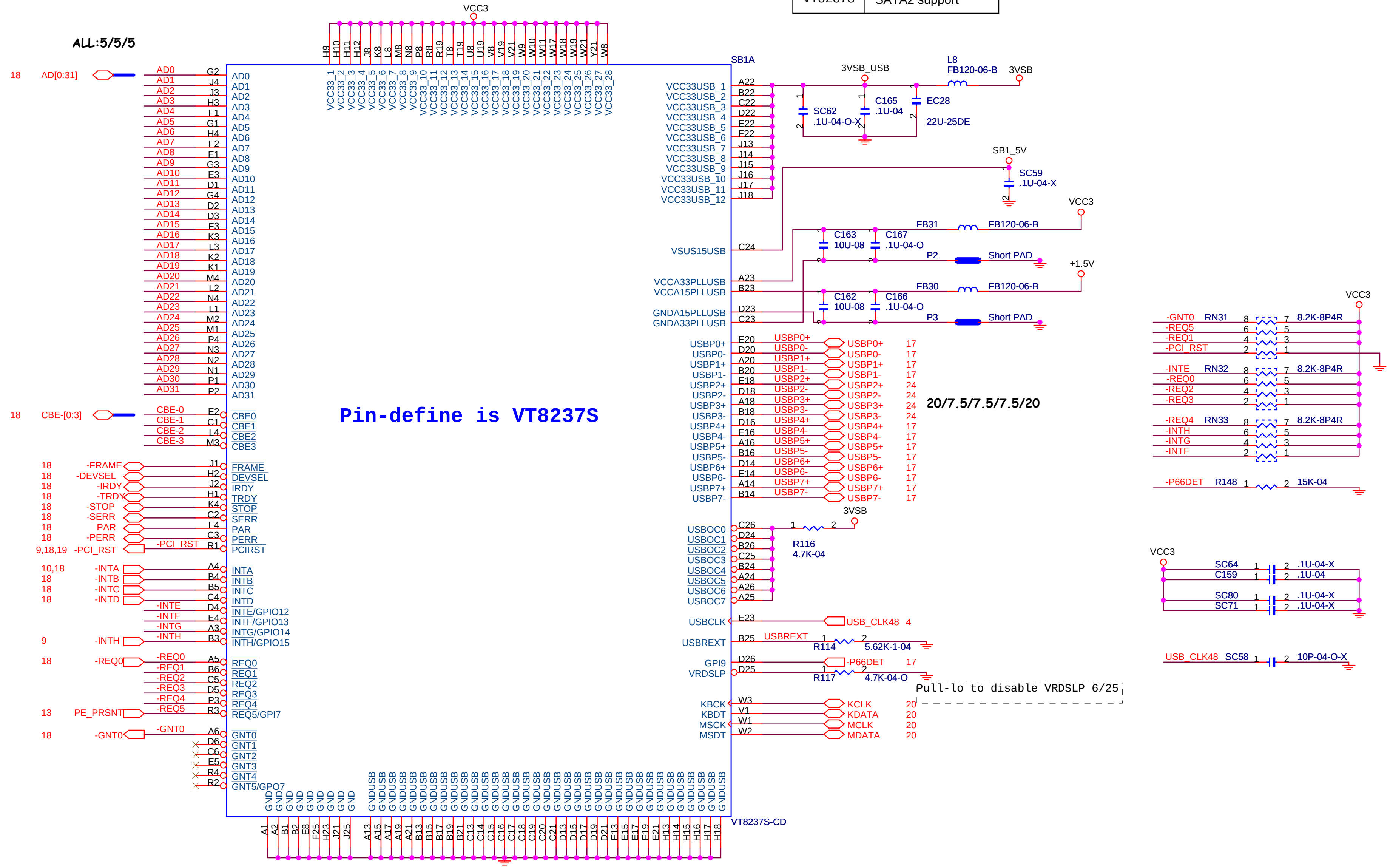
Revision List(All pin to pin)	
VT8237 CD	First released
VT8237R	LAN PHY license.
VT8237R+	SATA II detect support
VT8237A	HD support
VT8237S	SATA2 support

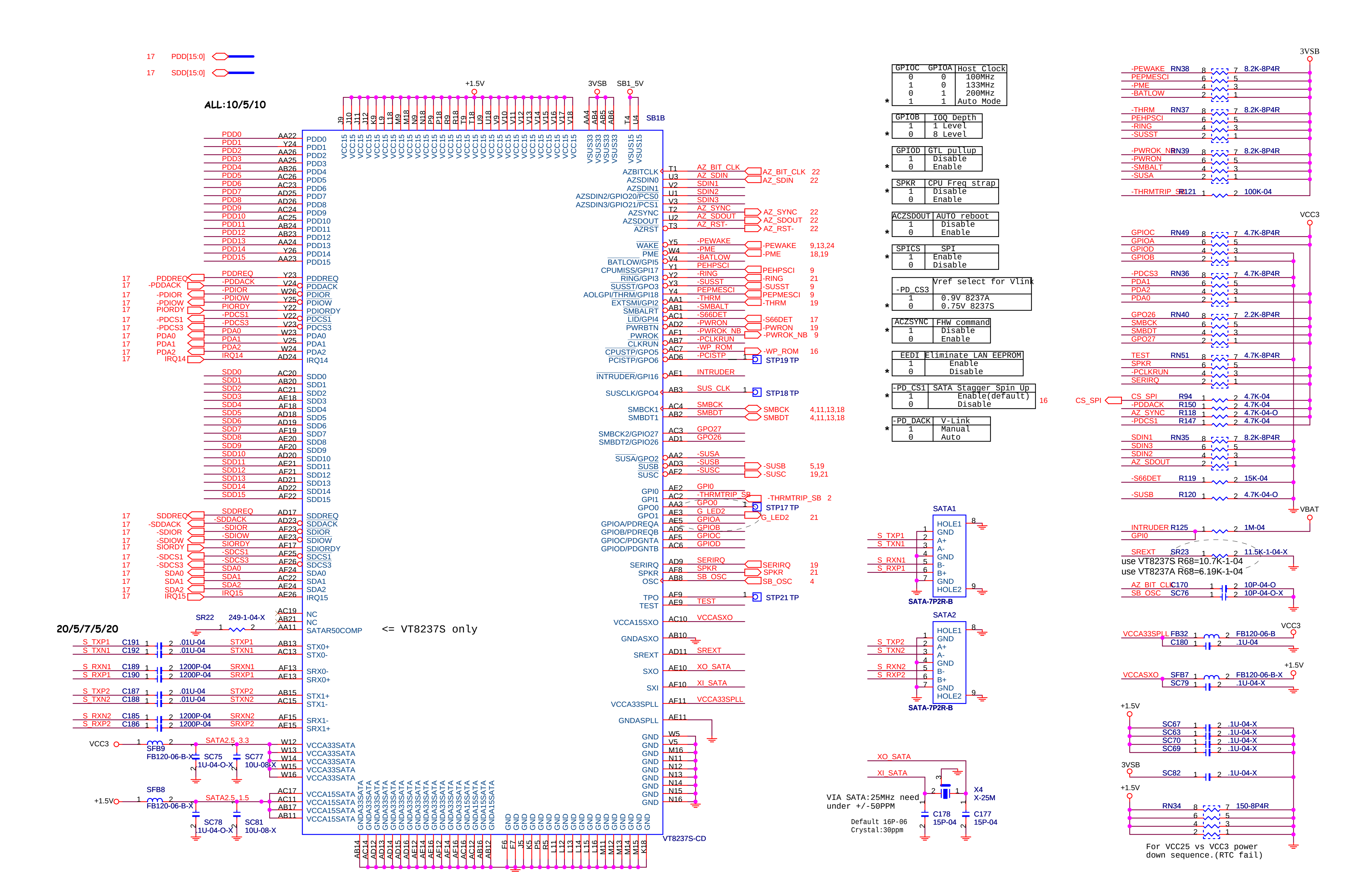


Elitegroup Computer Systems

Title: SB 8237S (PCI_USB)

Size: Custom | Document Number: ID-PCM8E | Rev: 1.0A

Date: Friday, November 09, 2007 | Sheet 14 of 28



	GPIOC	GPIOA	Host Clock
	0	0	100MHz
	1	0	133MHz
	0	1	200MHz
*	1	1	Auto Mode

	GPIOB	IOQ Depth
	1	1 Level
*	0	8 Level

	GPIOD	GTL pullup
	1	Disable
*	0	Enable

	SPKR	CPU Freq strap
*	1	Disable
	0	Enable

	ACZSDOUT	AUTO reboot
	1	Disable
*	0	Enable

	SPICS	SPI
*	1	Enable
	0	Disable

	-PD_CS3	Vref select for Vlink
	1	0.9V 8237A
*	0	0.75V 8237S

	ACZSYNC	FHW command
*	1	Disable
	0	Enable

	EEDI	Eliminate LAN EEPROM
	1	Enable
*	0	Disable

	-PD_CS1	SATA Stagger Spin Up
*	1	Enable(default)
	0	Disable

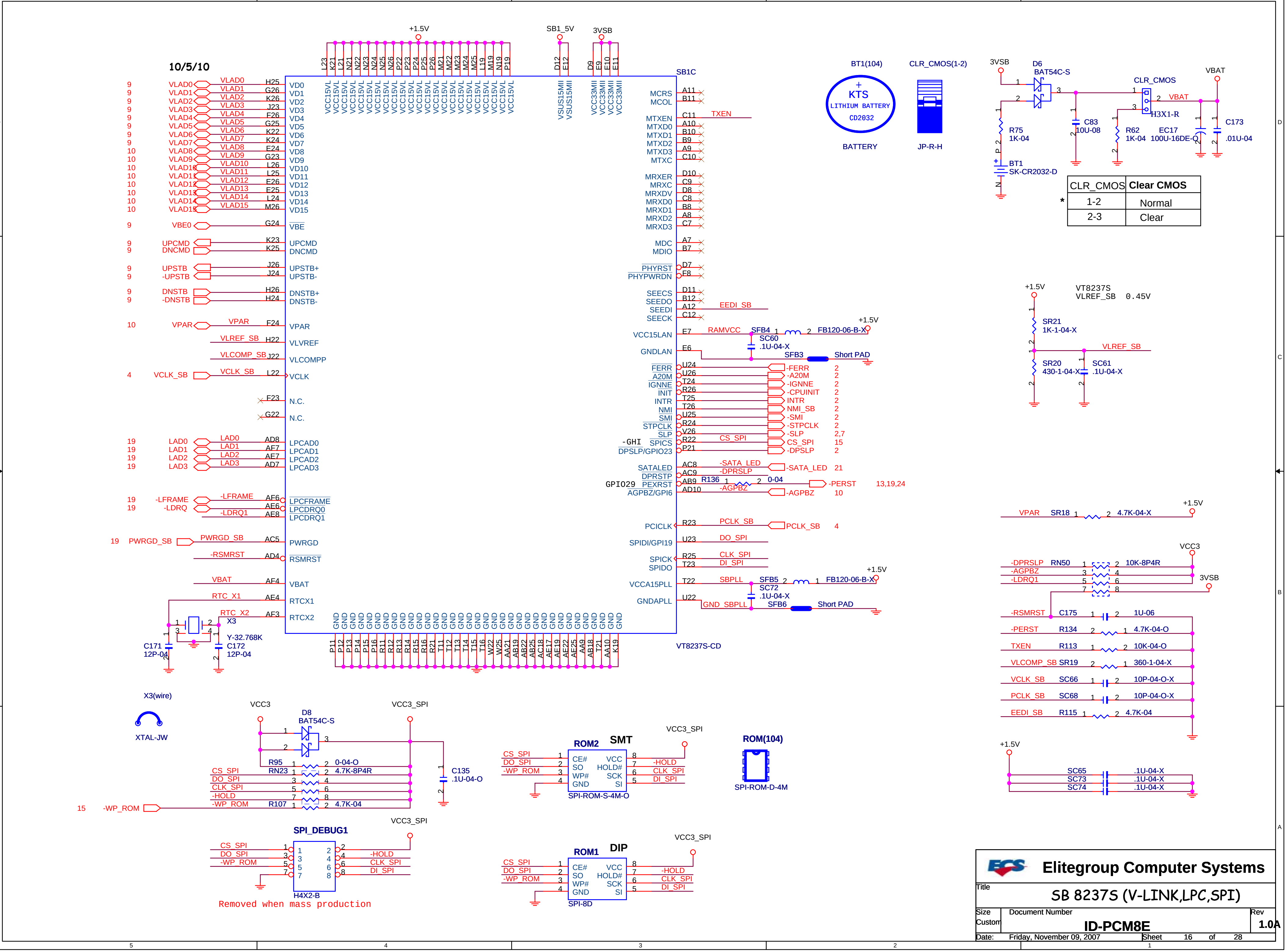
	-PD_DACK	V-Link
*	1	Manual
	0	Auto

Elitegroup Computer Systems

Title: SB 8237 (IDE,SATA,HD)

Size: Custom | Document Number: ID-PCM8E | Rev: 1.0A

Date: Friday, November 09, 2007 | Sheet 15 of 28



Elitegroup Computer Systems

Title	SB 8237S (V-LINK,LPC,SPI)
Size: Custom	Document Number: ID-PCM8E
Rev	1.0A
Date:	Friday, November 09, 2007
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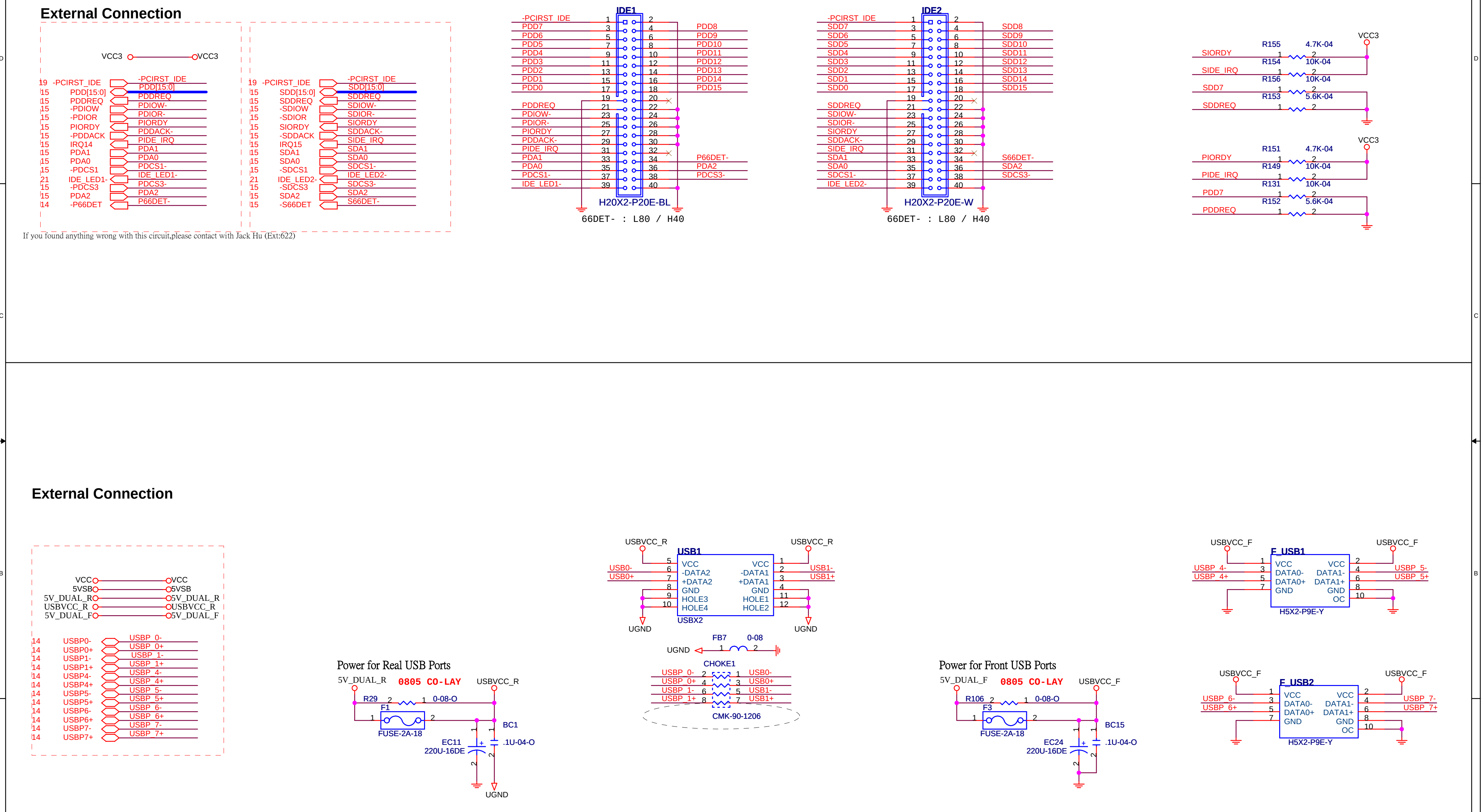
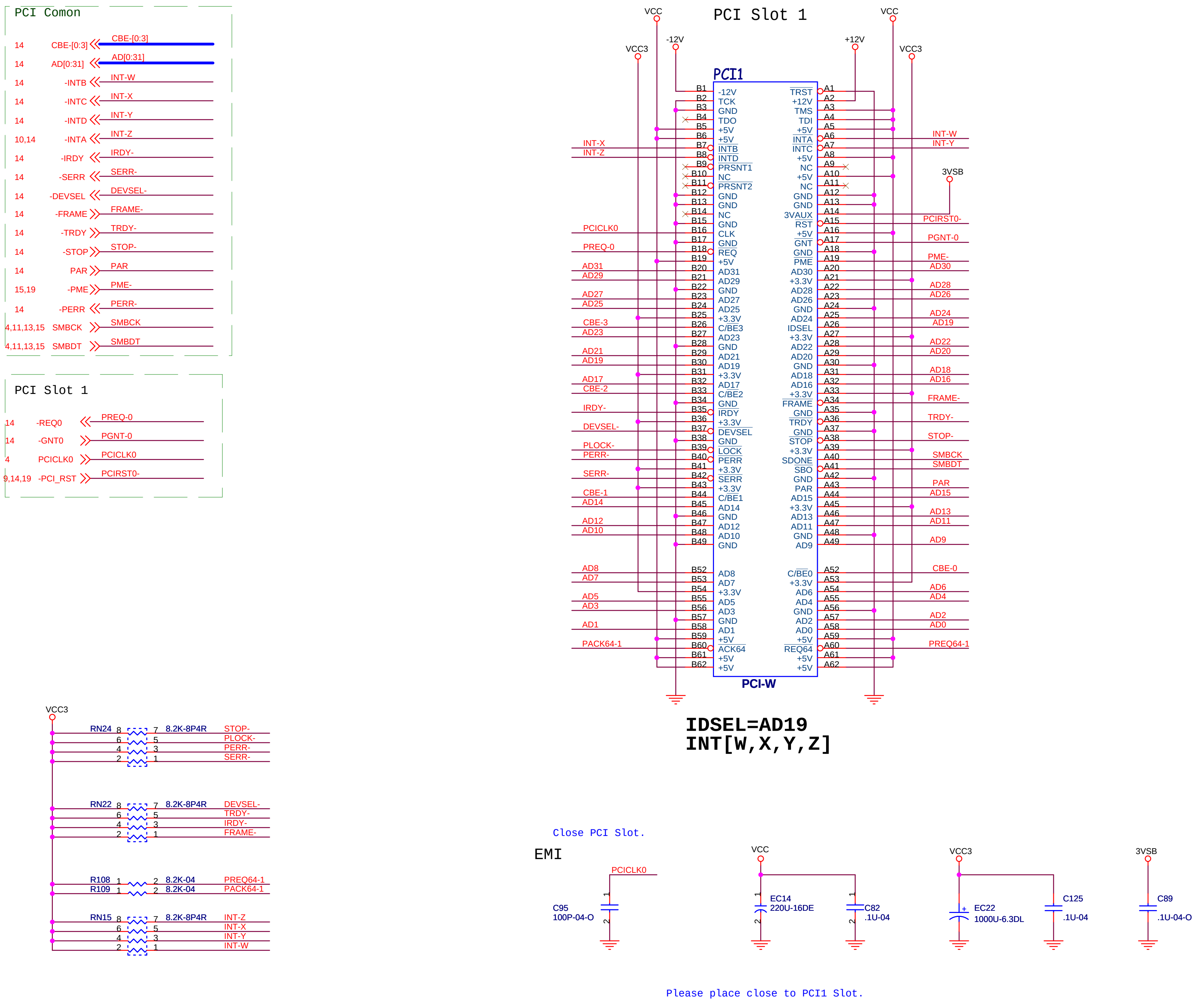


Elitegroup Computer Systems

Title: IDE/USB

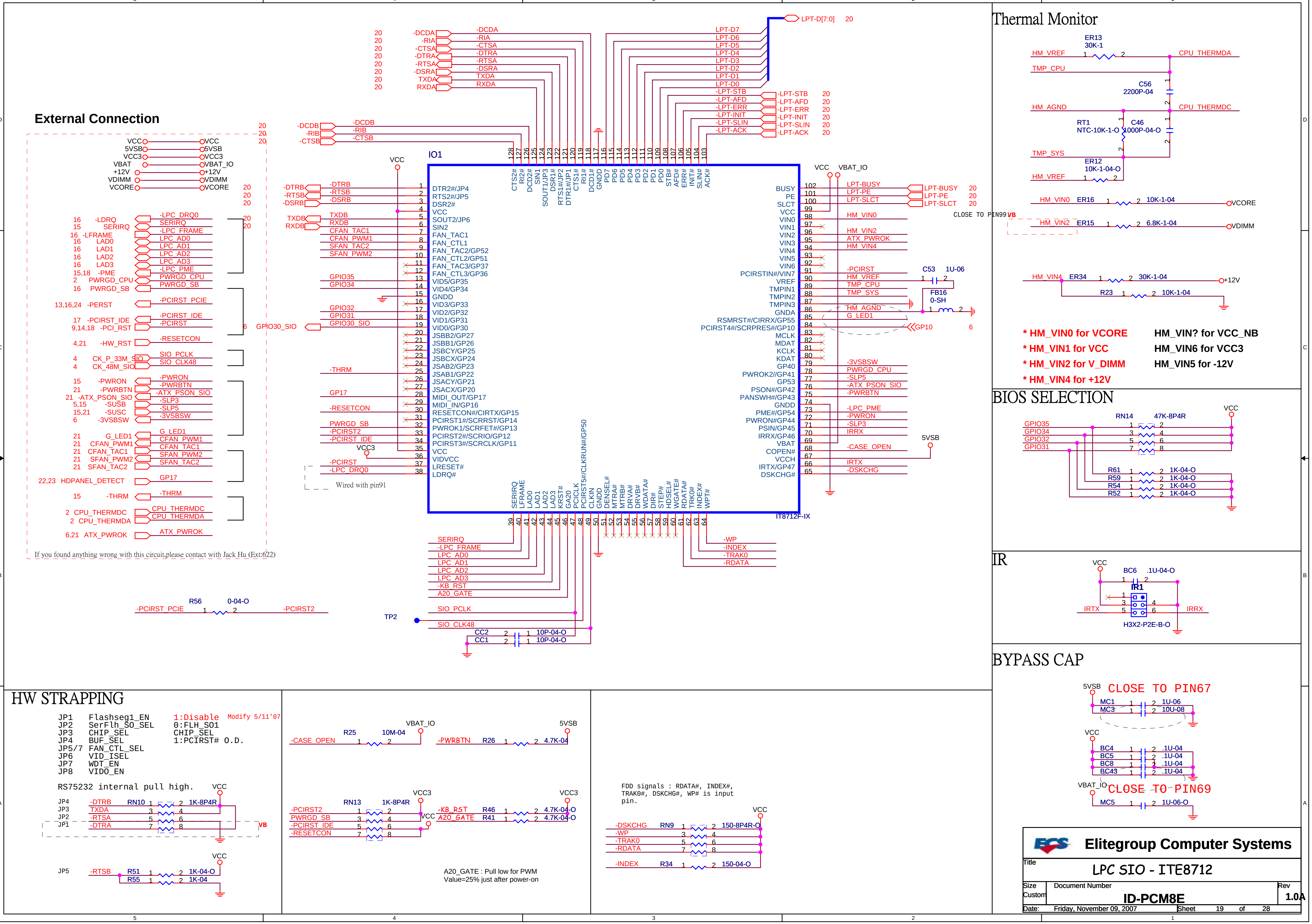
Size	Document Number	Rev
Custom	ID-PCM8E	1.0A

Date: Friday, November 09, 2007 — Sheet 17 of 28



Elitegroup Computer Systems

Title	PCI SLOT	
Size: Custom	Document Number: ID-PCM8E	Rev: 1.0A
Date: Friday, November 09, 2007	Sheet 18 of 28	



Thermal Monitor
External Connection
IO1
IT8712F-IX
* HM_VIN0 for VCORE
* HM_VIN1 for VCC
* HM_VIN2 for V_DIMM
* HM_VIN4 for +12V
HM_VIN? for VCC_NB
HM_VIN6 for VCC3
HM_VIN5 for -12V
CLOSE TO PIN99
BIOS SELECTION
IR
BYPASS CAP
CLOSE TO PIN67
CLOSE TO PIN69
Wired with pin91
If you found anything wrong with this circuit,please contact with Jack Hu (Ext:622)
HW STRAPPING
JP1 Flashseg1_EN
JP2 SerFlh_SO_SEL
JP3 CHIP_SEL
JP4 BUF_SEL
JP5/7 FAN_CTL_SEL
JP6 VID_ISEL
JP7 WDT_EN
JP8 VID0_EN
1:Disable
0:FLH_SO1
CHIP_SEL
1:PCIRST# O.D.
Modify 5/11'07
RS75232 internal pull high.
FDD signals : RDATA#, INDEX#, TRAK0#, DSKCHG#, WP# is input pin.
A20_GATE : Pull low for PWM
Value=25% just after power-on
Elitegroup Computer Systems
Title
LPC SIO - ITE8712
Size
Custom
Document Number
ID-PCM8E
Rev
1.0A
Date: Friday, November 09, 2007
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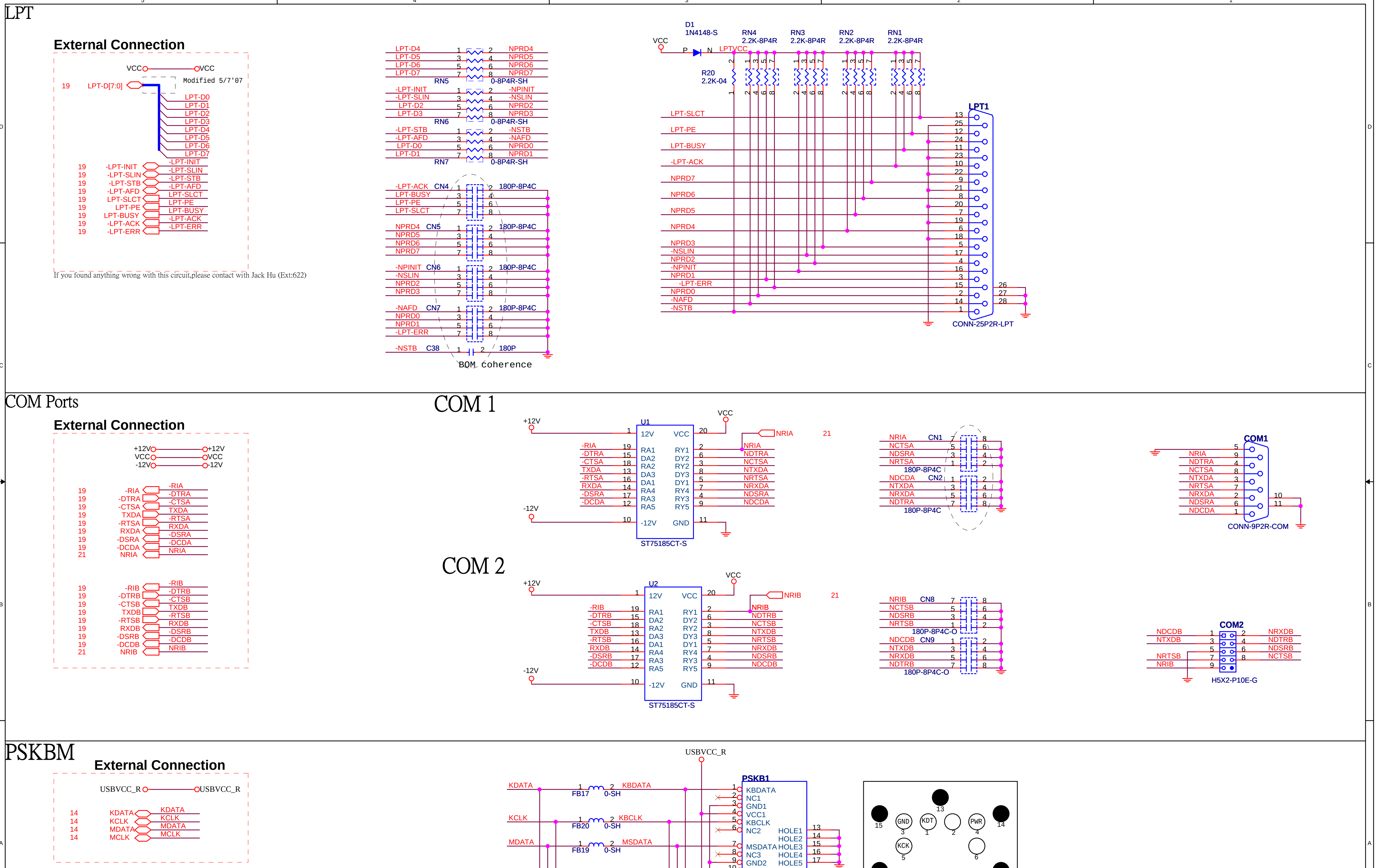

Elitegroup Computer Systems

Title	COM, LPT, PSKBM
Size	Custom
Document Number	ID-PCM8E
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Date:	Friday, November 09, 2007
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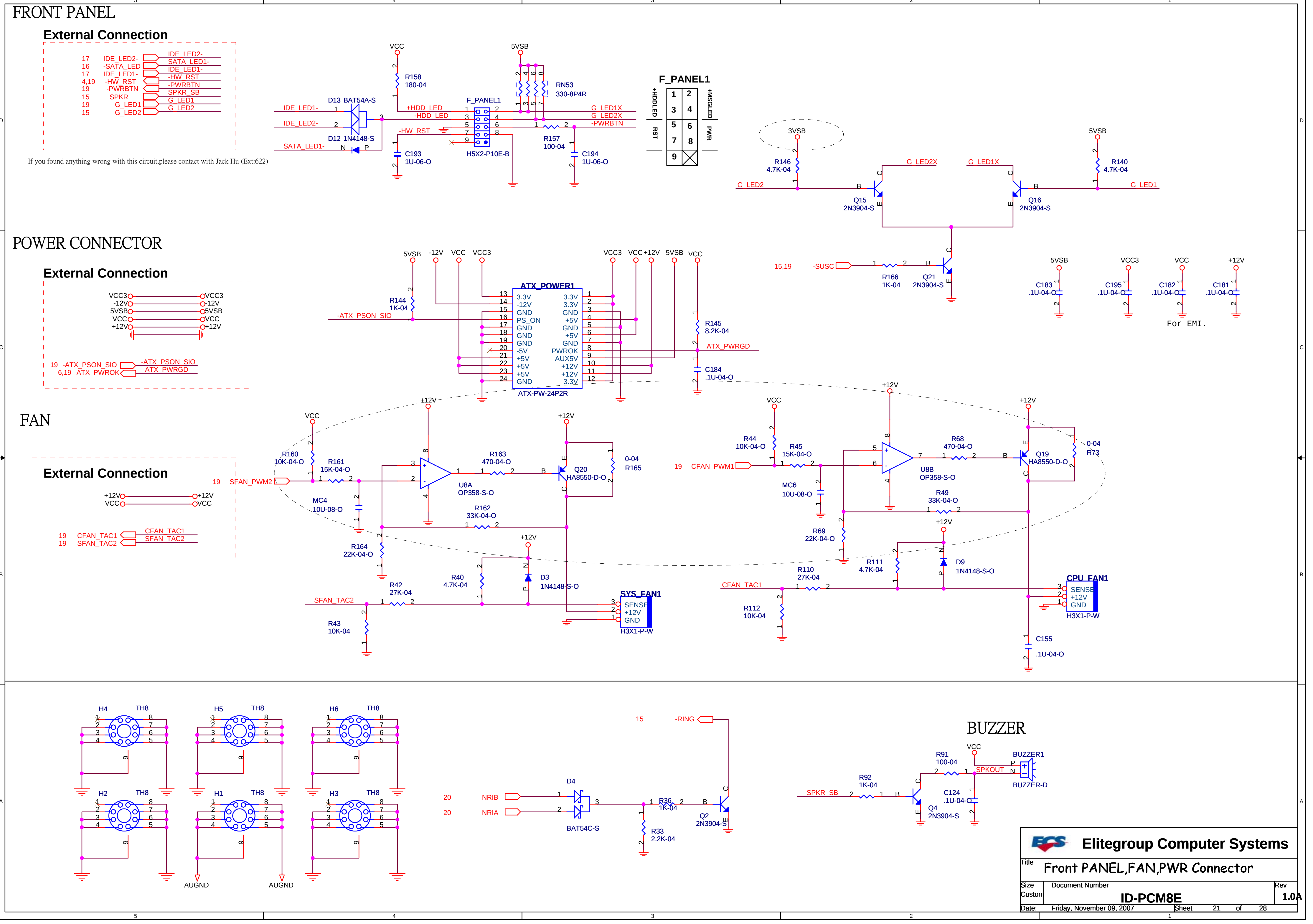
FRONT PANEL
External Connection
IDE_LED2-
-SATA_LED
IDE_LED1-
-HW_RST
-PWRBTN
SPKR
G_LED1
G_LED2
SATA_LED1-
SPKR_SB
If you found anything wrong with this circuit,please contact with Jack Hu (Ext:622)
D13 BAT54A-S
D12 1N4148-S
VCC
R158 180-04
C193 1U-06-O
+HDD_LED
-HDD_LED
-HW_RST
F_PANEL1
H5X2-P10E-B
5VSB
RN53 330-8P4R
R157 100-04
C194 1U-06-O
G_LED1X
G_LED2X
-PWRBTN
F_PANEL1
+HDDLED
+MSGLED
RST
PWR
3VSB
R146 4.7K-04
Q15 2N3904-S
Q16 2N3904-S
R140 4.7K-04
POWER CONNECTOR
External Connection
VCC3
-12V
5VSB
VCC
+12V
-ATX_PSON_SIO
ATX_PWRGD
ATX_PWROK
R144 1K-04
ATX_POWER1
ATX-PW-24P2R
3.3V
GND
PS_ON
-5V
+5V
PWROK
AUX5V
R145 8.2K-04
C184 .1U-04-O
-SUSC
R166 1K-04
Q21 2N3904-S
C183 .1U-04-O
C195 .1U-04-O
C182 .1U-04-O
C181 .1U-04-O
For EMI.
FAN
External Connection
SFAN_PWM2
CFAN_TAC1
SFAN_TAC2
R160 10K-04-O
R161 15K-04-O
MC4 10U-08-O
U8A OP358-S-O
R163 470-04-O
Q20 HA8550-D-O
R165 0-04
R162 33K-04-O
R164 22K-04-O
R40 4.7K-04
D3 1N4148-S-O
R42 27K-04
R43 10K-04
SYS_FAN1
SENSE
GND
H3X1-P-W
CFAN_PWM1
R44 10K-04-O
R45 15K-04-O
MC6 10U-08-O
U8B OP358-S-O
R68 470-04-O
Q19 HA8550-D-O
R73 0-04
R49 33K-04-O
R69 22K-04-O
R111 4.7K-04
D9 1N4148-S-O
R110 27K-04
R112 10K-04
CPU_FAN1
C155 .1U-04-O
H4 TH8
H5 TH8
H6 TH8
H2 TH8
H1 TH8
H3 TH8
AUGND
-RING
NRIB
NRIA
D4
BAT54C-S
R36 1K-04
R33 2.2K-04
Q2 2N3904-S
BUZZER
R91 100-04
SPKOUT
BUZZER1
BUZZER-D
R92 1K-04
SPKR_SB
C124 .1U-04-O
Q4 2N3904-S
Elitegroup Computer Systems
Title
Front PANEL,FAN,PWR Connector
Size
Custom
Document Number
ID-PCM8E
Rev
1.0A
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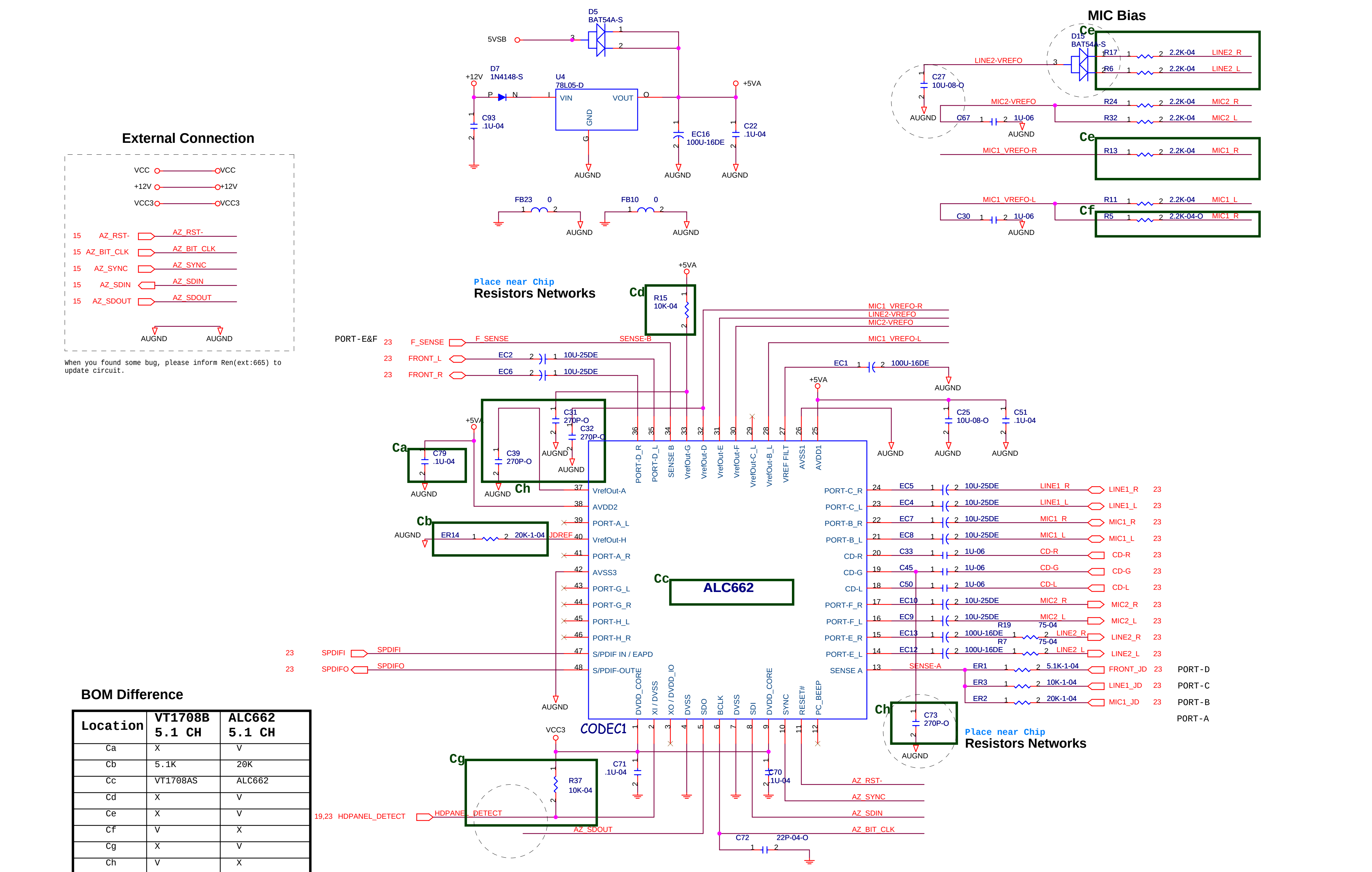

BOM Difference

Location	VT1708B 5.1 CH	ALC662 5.1 CH
Ca	X	V
Cb	5.1K	20K
Cc	VT1708AS	ALC662
Cd	X	V
Ce	X	V
Cf	V	X
Cg	X	V
Ch	V	X

When you found some bug, please inform Ren(ext:665) to update circuit.

When you change BOM, remember change GPI to inform BIOS use different Verb-Table.

Elitegroup Computer Systems

Title	AUDIO ALC662 (CHIP)
Size	Custom
Document Number	ID-PCM8E
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Date:	Friday, November 09, 2007
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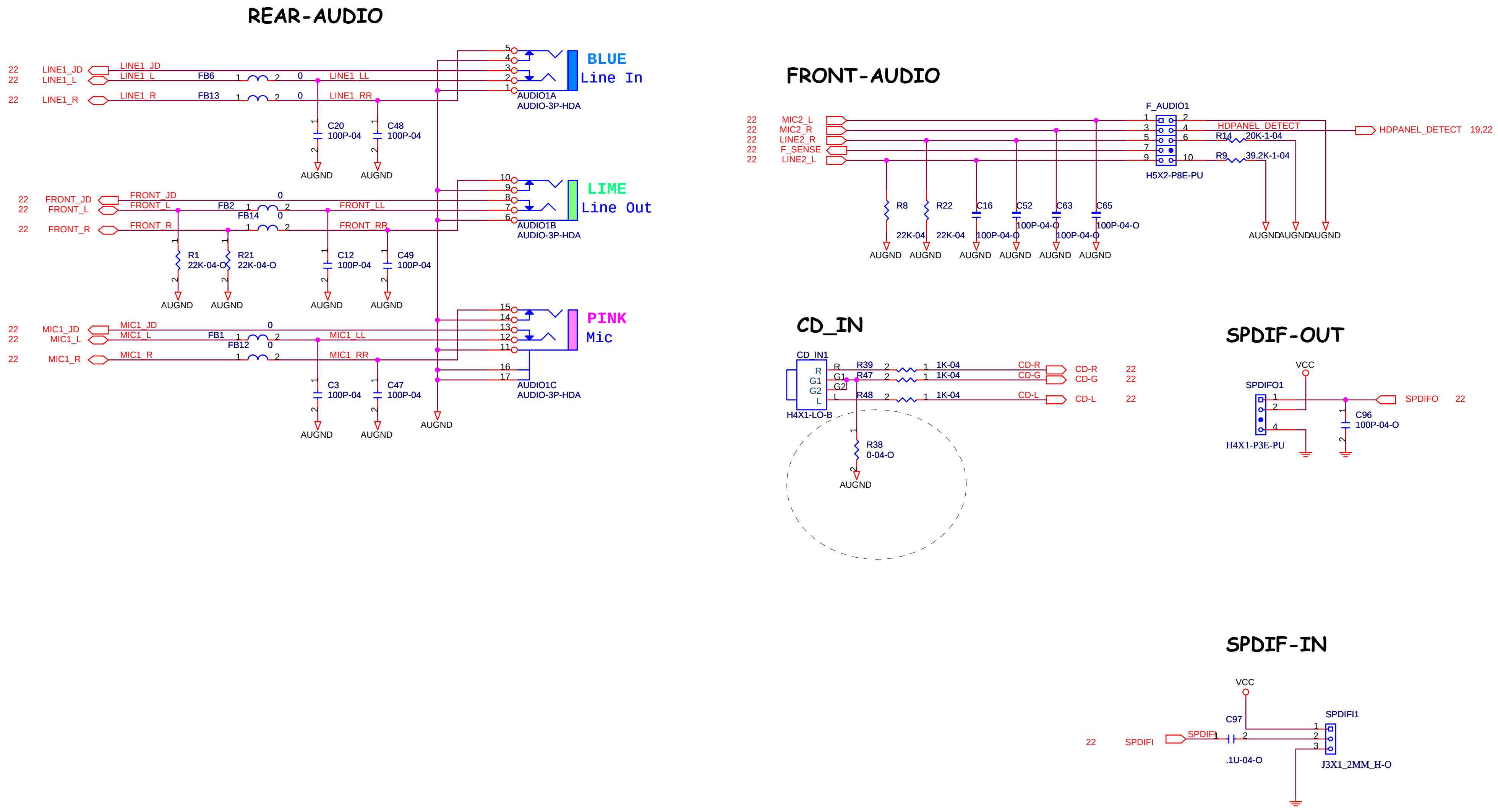

	Elitegroup Computer Systems
Title	AUDIO ALC662 (PANEL)
Size: Custom	Document Number: ID-PCM8E	Rev: 1.0A
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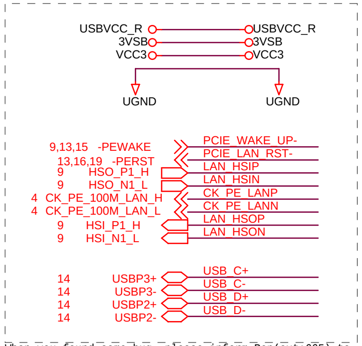
External Connection



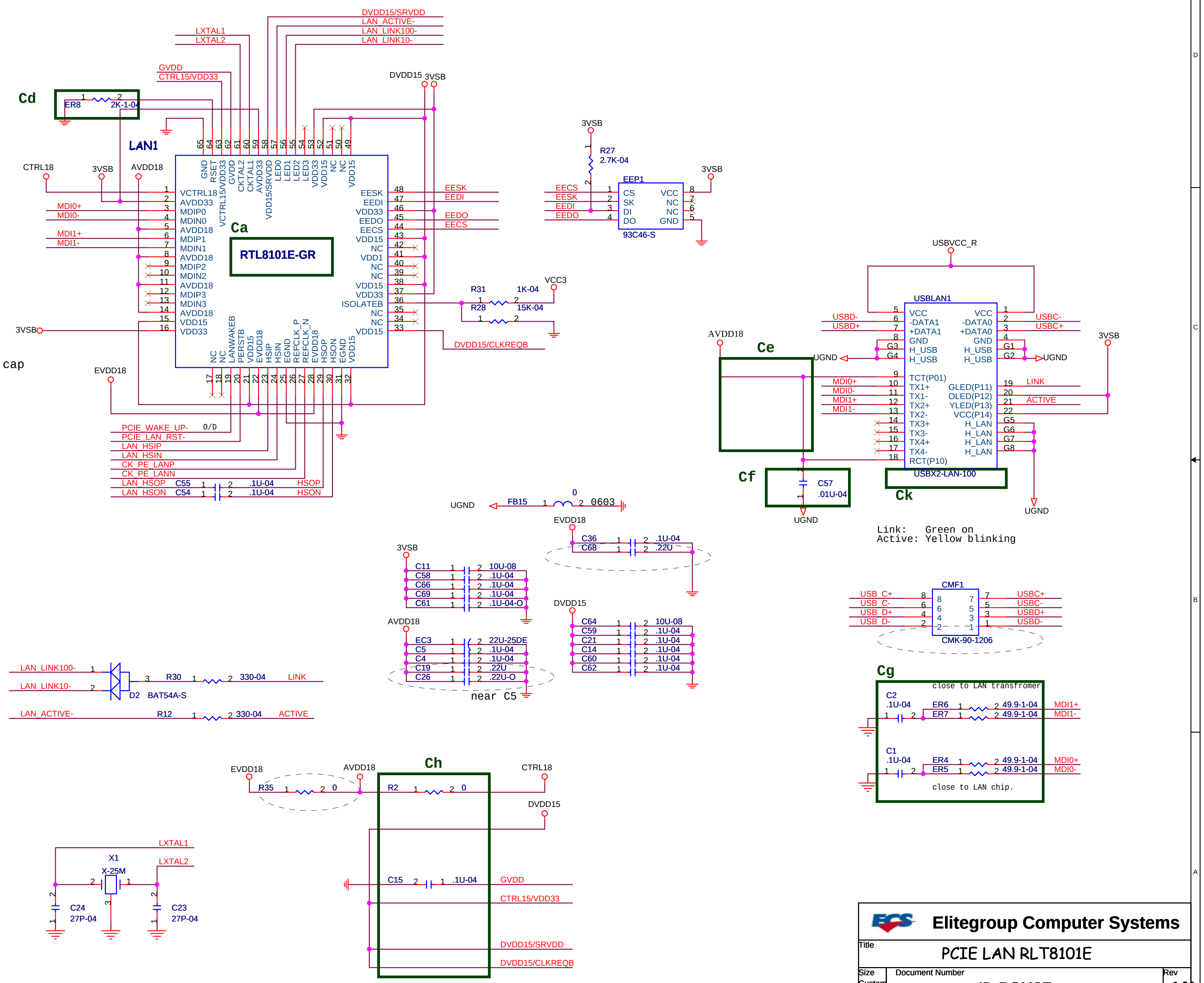
When you found some bug, please inform Ren(ext:665) to update circuit.

新手提醒:

LAN_HSOP/N請接到SB的PCIE RX端

LAN_HSIP/N請接到SB的PCIE TX端

LAN_HSIP/N在SB的PCIE TX端要記得放AC coupling cap



BOM Difference

	RTL8101E-GR 10/100M	RTL8111C-GR 1000M
Ca	RTL8101E-GR	RTL8111C-GR
Cd	2K-1-04	2.49K-1-04
Ce	V	X
Cf	.01U-04	0-04
Cg	V	X
Ch	V	X
Ci	X	V
Cj	X	V
Ck	USBX2-LAN-100	USBX2-LAN-1000

Power Difference

	RTL8101E	RTL8111C
AVDD33	3.3V 3VSB供應	3.3V 3VSB供應
AVDD18	1.8V CTRL18供應	1.2V CTRL18供應
EVDD18	1.8V CTRL18供應	1.2V CTRL18供應
DVDD15	1.5V CTRL15供應	1.2V CTRL18供應

Elitegroup Computer Systems

Title: PCIE LAN RLT8101E

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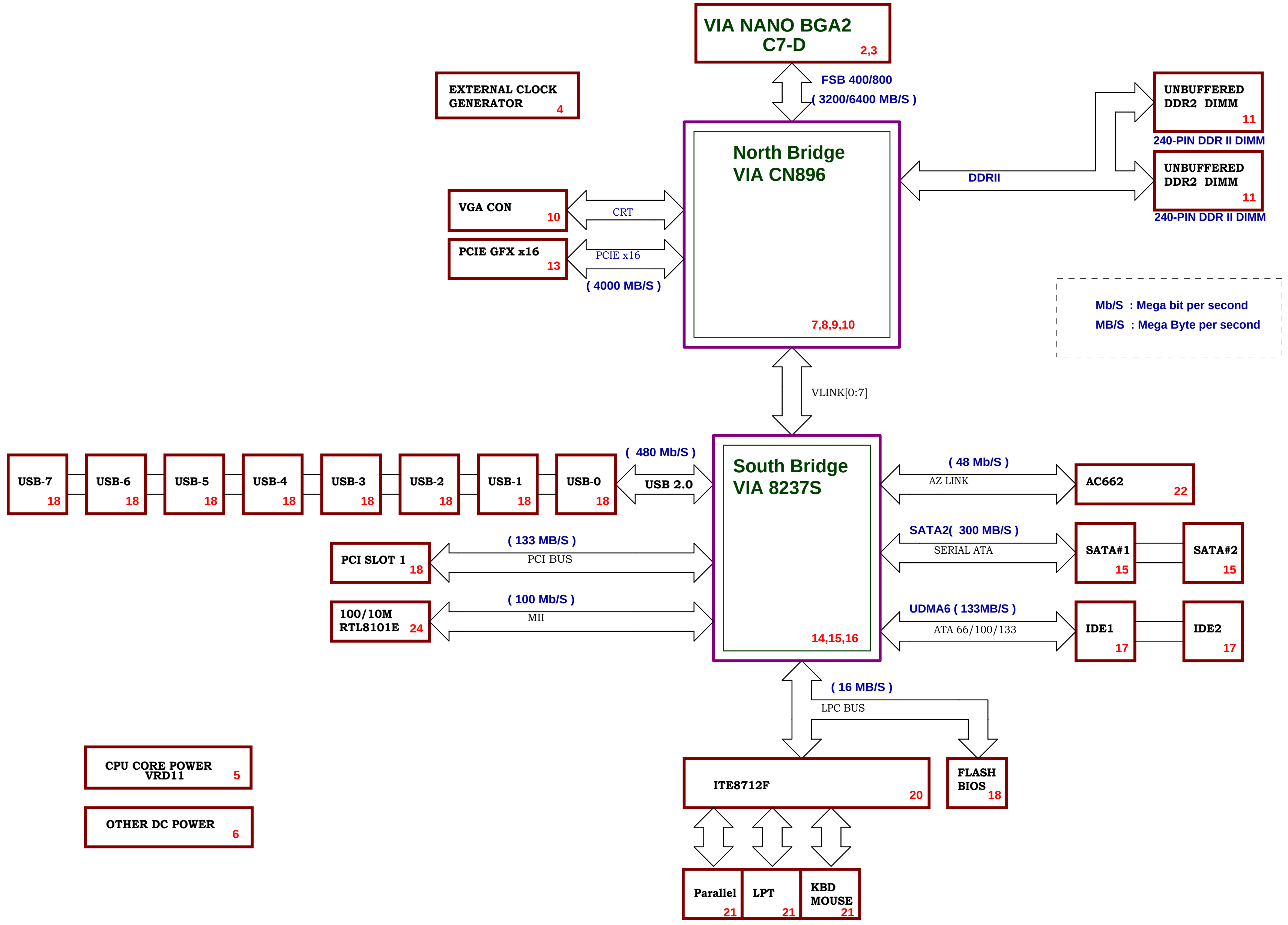
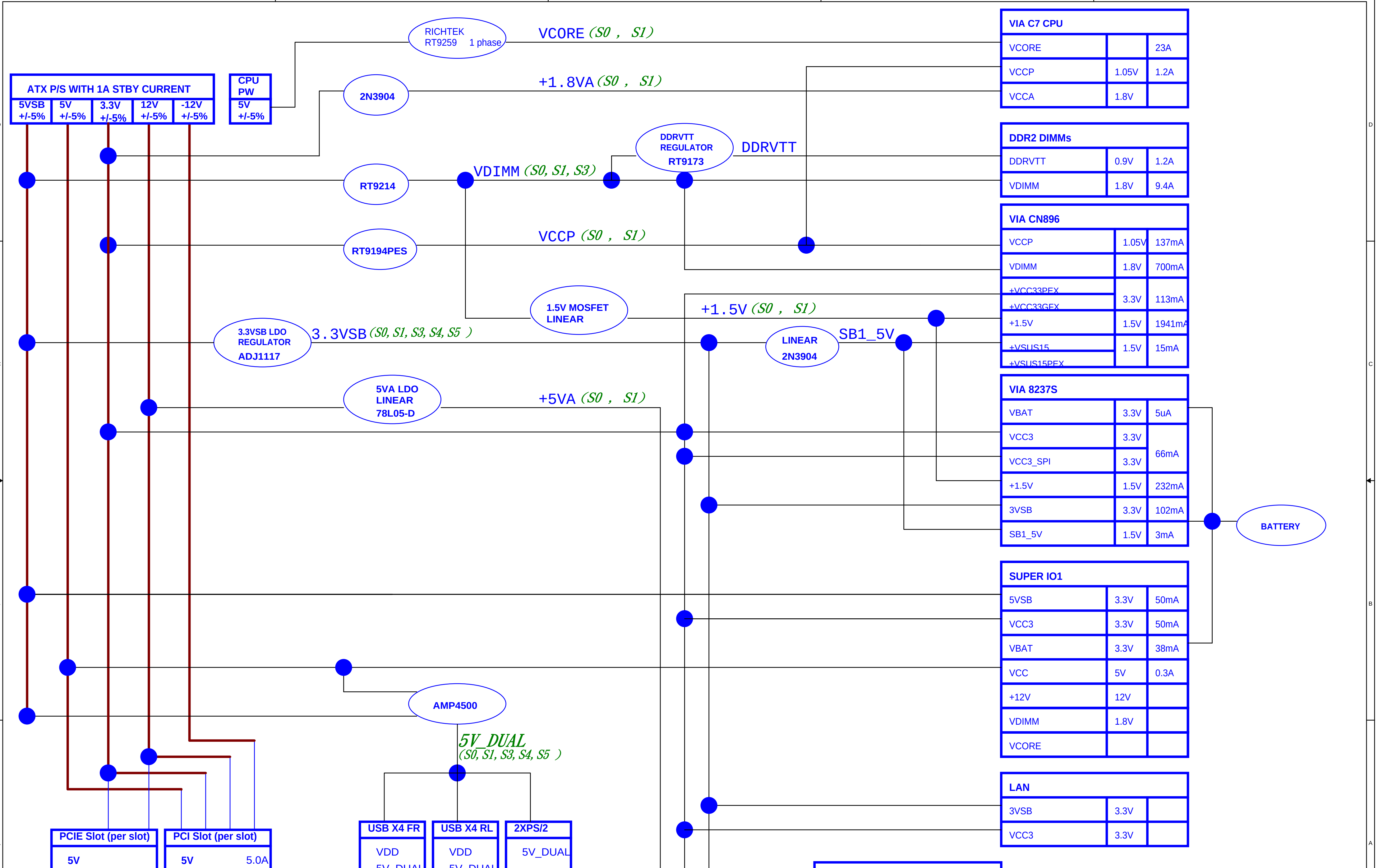


Elitegroup Computer Systems

Title	BLOCK DIAGRAM	
Size: Custom	Document Number: ID-PCM8E	Rev: 1.0A
Date: Thursday, November 08, 2007	Sheet 25 of 28	



Elitegroup Computer Systems

Title: POWER DELIVERY

Size	Document Number	Rev
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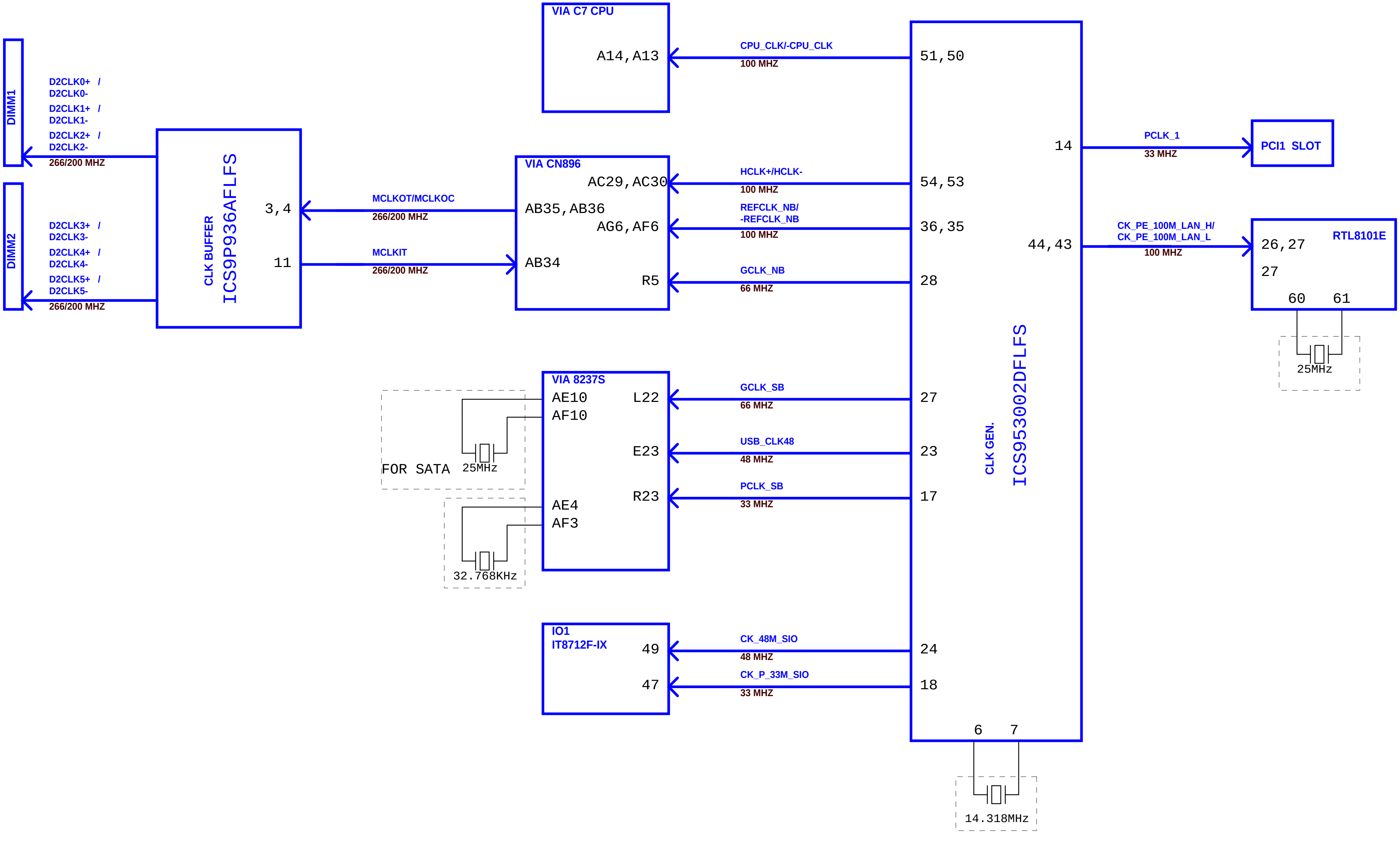
Date: Thursday, November 08, 2007 Sheet 26 of 28



Elitegroup Computer Systems

Title: CLOCK DISTRIBUTION

Size	Document Number	Rev
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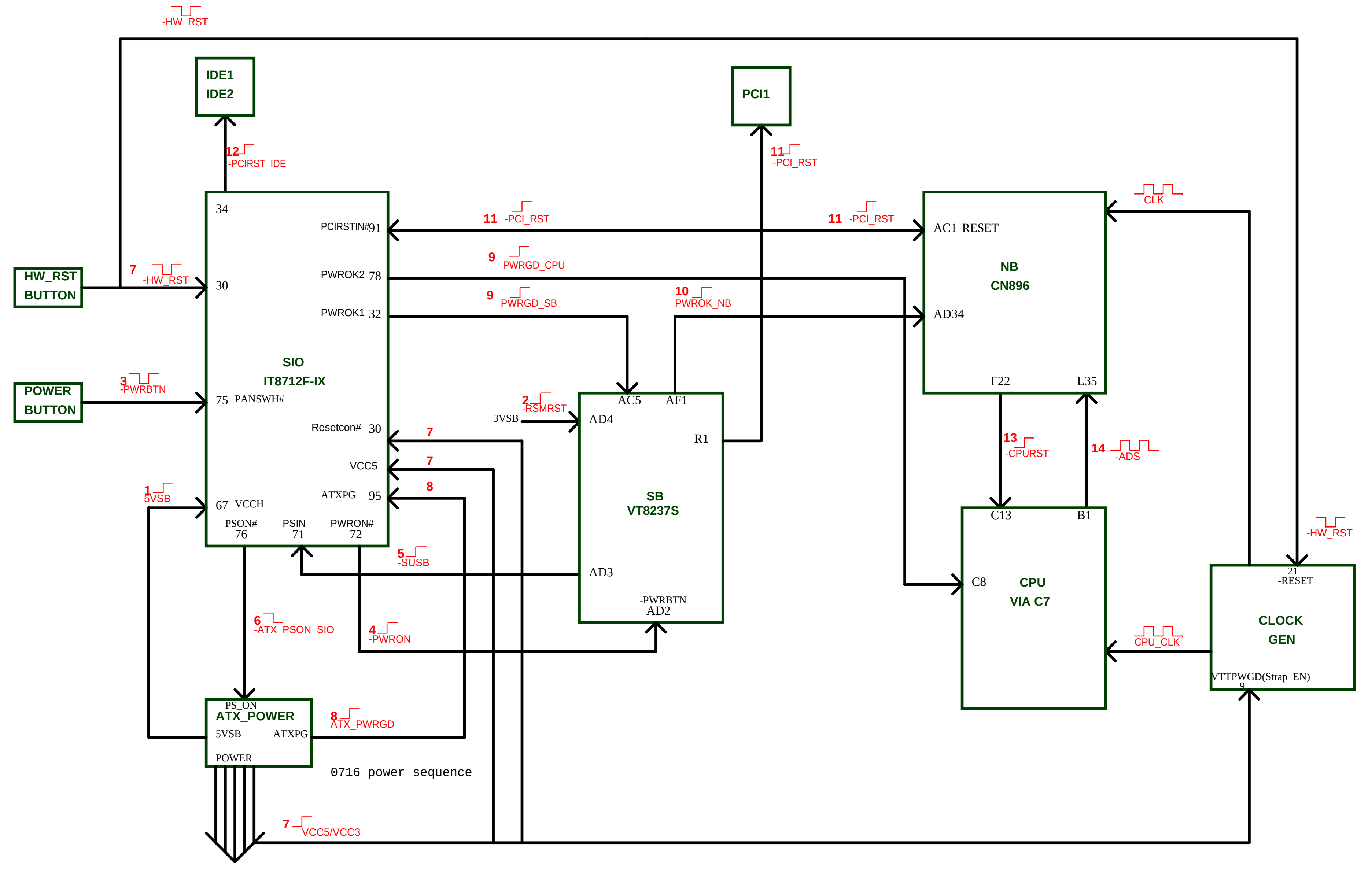

Elitegroup Computer Systems

Title: POWER SEQUENCE

Size	Document Number	Rev
Custom	ID-PCM8E	1.0A

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