SF2

Rev: 2.2

Revision History :

1. Ver A: Initial
2. Ver B:
   (1) Add North Bridge Fan Sink Header
   (2) Delete SATA Crystal
   (3) Modify USB, AUDIO, S/P DIF Out, Front Panel Headers for ACER
   (4) Add SATA Status LED Signal via Front Panel
   (5) Modify USB Power Source on South Bridge due to SiS AP note
   (6) Add One More Fuse for 1394 Header
   (7) Add SPDIFO2 Header (Pitch 2.0mm) for HP S/P DIF Out
   (8) Modify Hardware Reset Circuit
   (9) Modify VCCVID Power Good Circuit
   (10) Remove IR, SIRQ Headers
   (11) Add JP4, JP5 Headers for HP
   (12) Modify CPU Fan Control Circuit
   (13) Change RT9173 for DDR Vtt
   (14) Change LAN Connector Type
3. Ver 1.0:
   (1) Add C289, MC40 for EMI Solution
4. Ver 2.0:
   (1) Modify USB3, USB4 Location on PCB
   (2) Change PWM
5. Ver 2.1:
   (1) Add IrDA, Wake on LAN, Wake on MODEM Headers for China OEM
6. Ver 2.2:
   (1) To follow SiS AP note, modify CPUPWRGD circuit to support Intel Prescott C-stepping CPU on Page7
   (2) Support ALC658 CODEC

Page Index

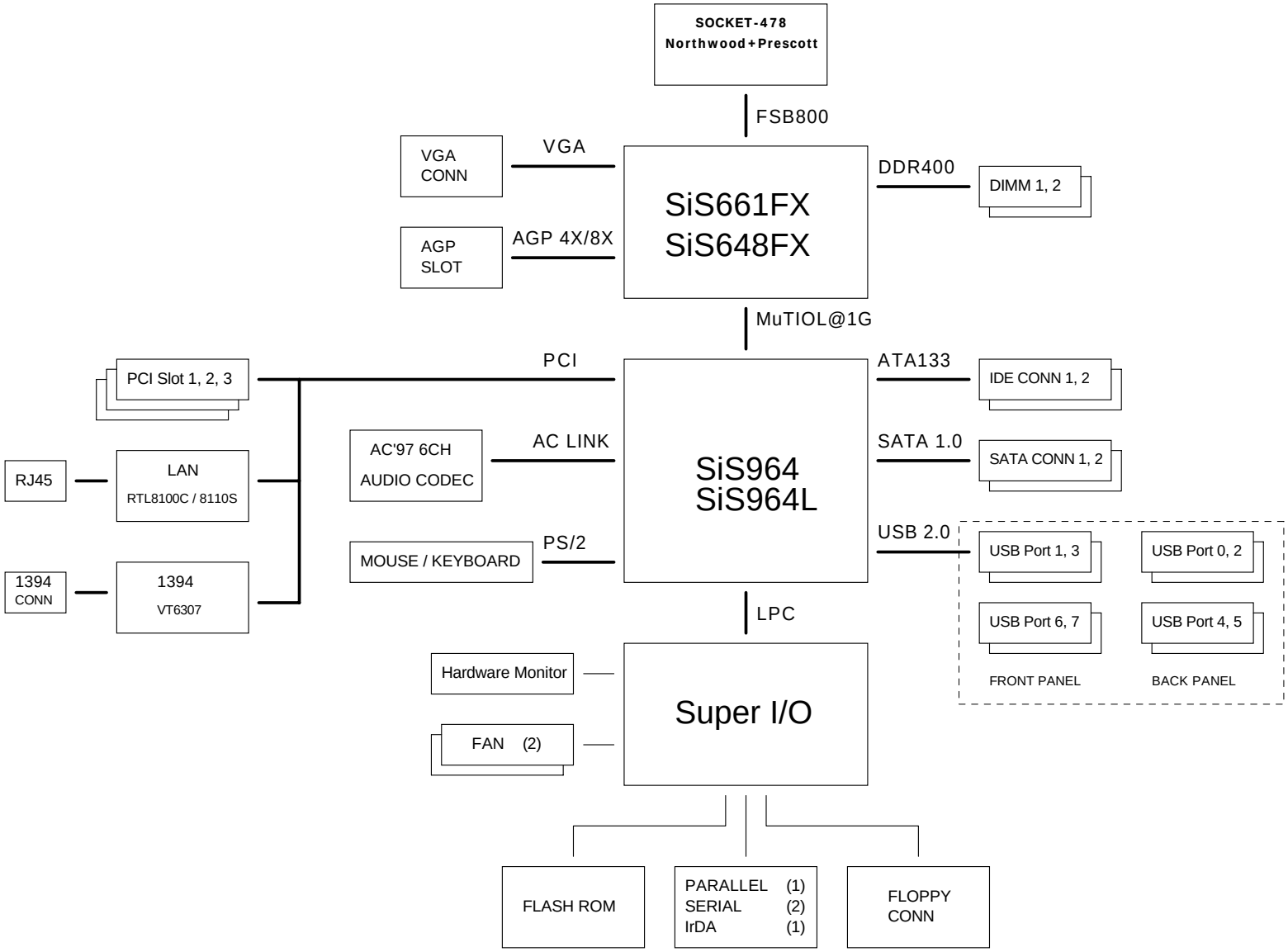
	SIGNATURE	DATE
DESIGNER		
LAYOUT		
CHECK		
APPROVAL		

Elitegroup Computer Systems

Title: SF2 / 661FX

Size: Custom | Document Number: Cover Sheet | Rev: 2.2

Date: Monday, December 29, 2003 | Sheet 1 of 36

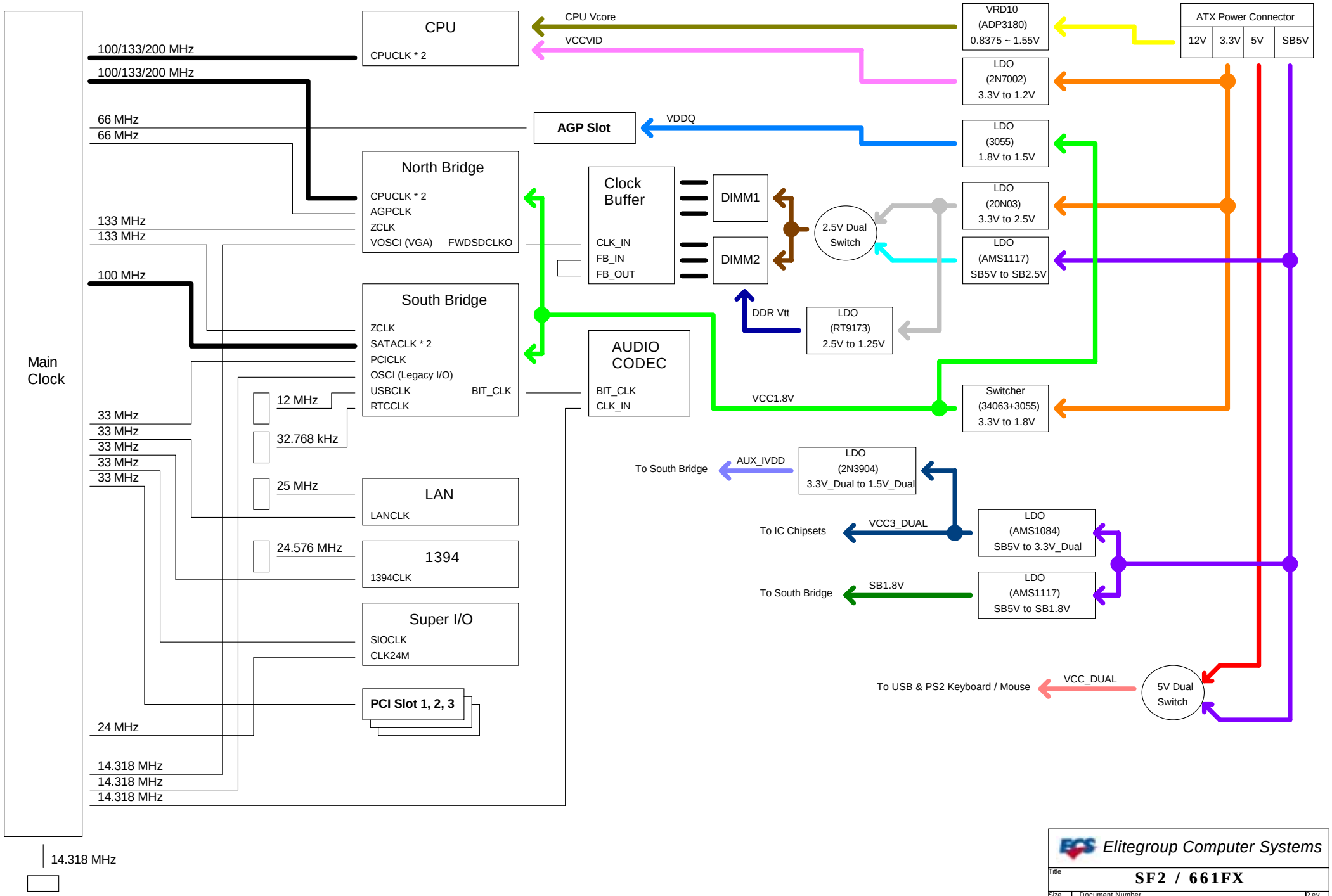


Elitegroup Computer Systems

Title: SF2 / 661FX

Size: Custom | Document Number: Block Diagram | Rev: 2.2

Date: Monday, December 29, 2003 | Sheet 2 of 36

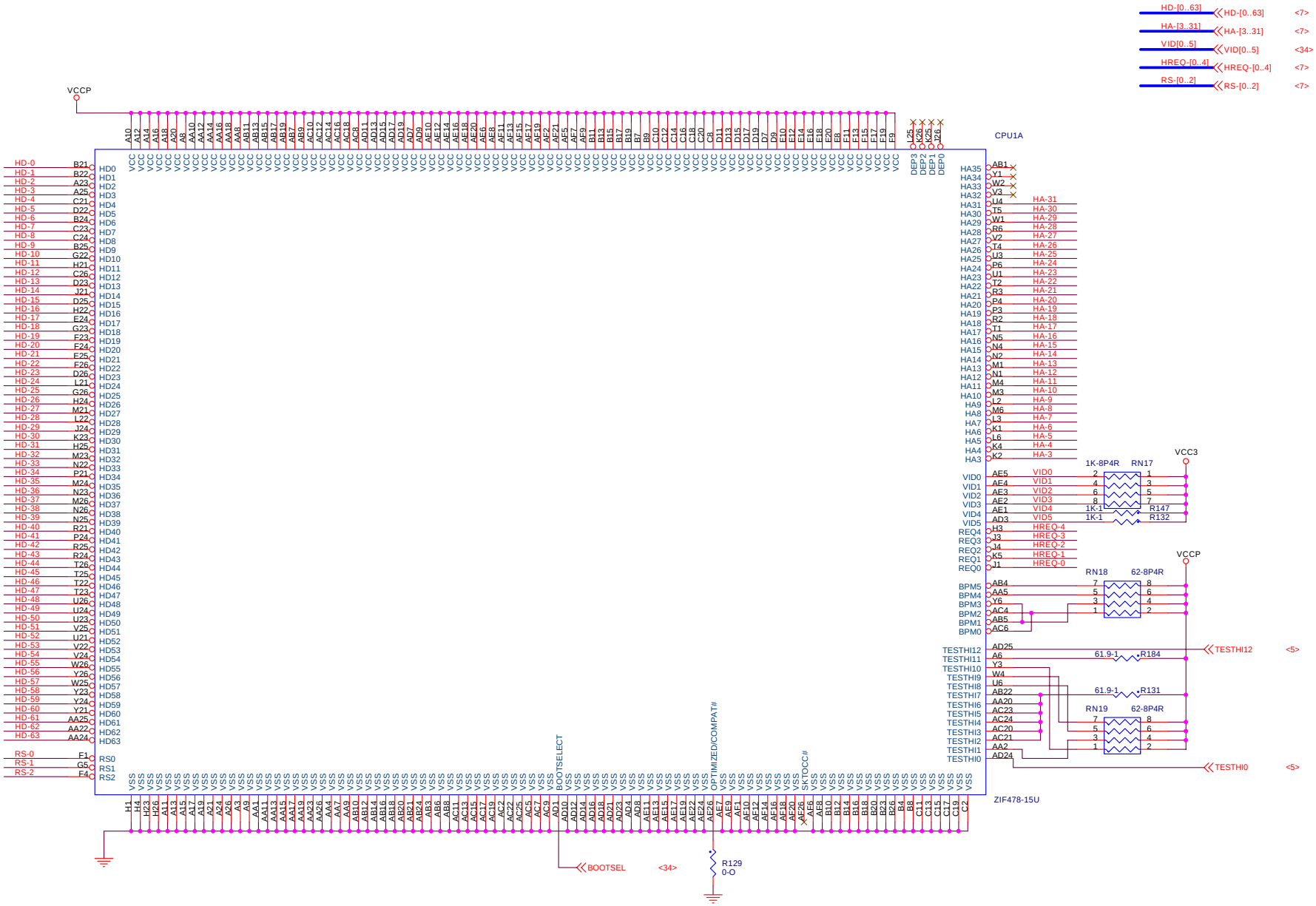


Elitegroup Computer Systems

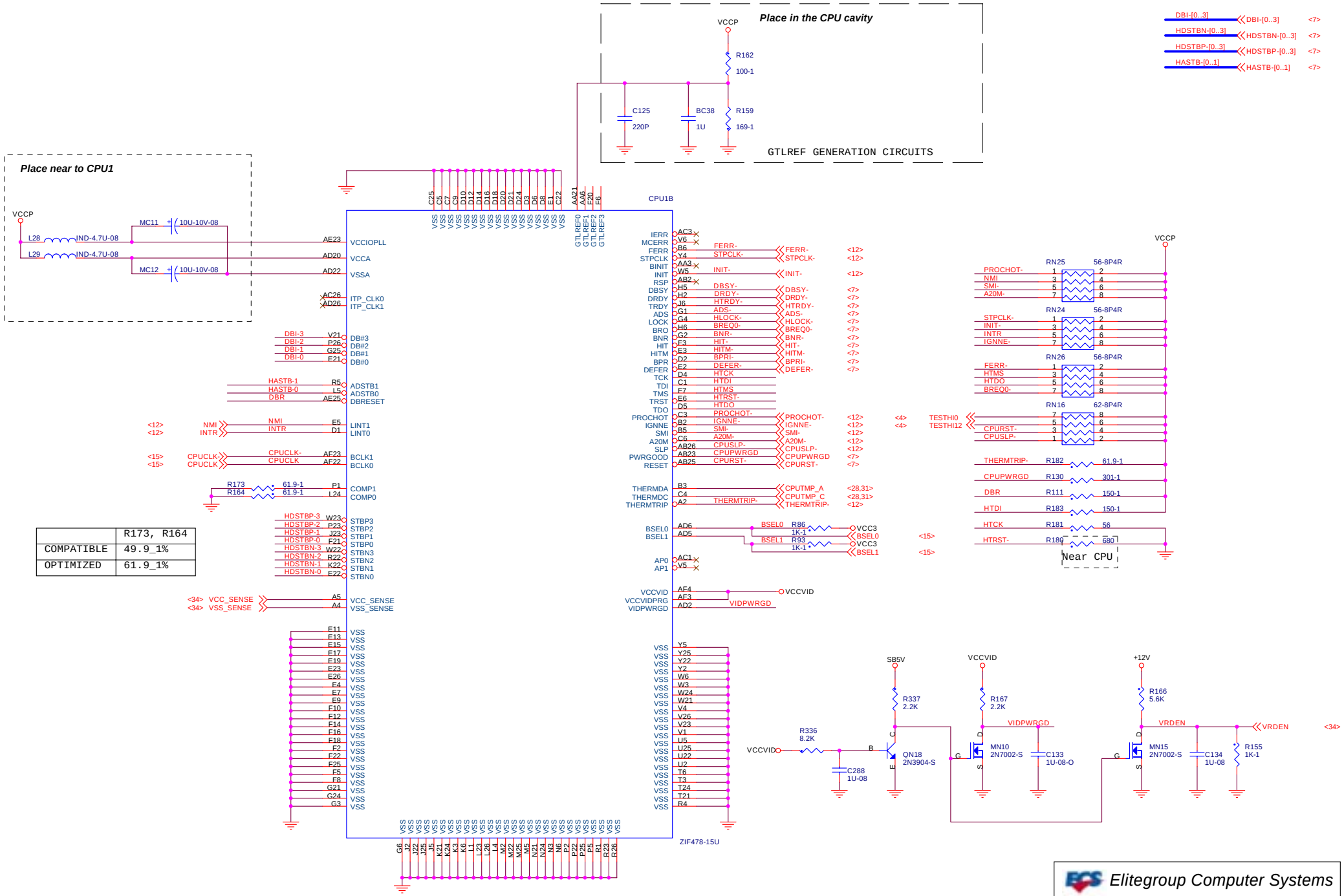
Title: SF2 / 661FX

Size: Custom | Document Number: Clock & Power Distribution | Rev: 2.2

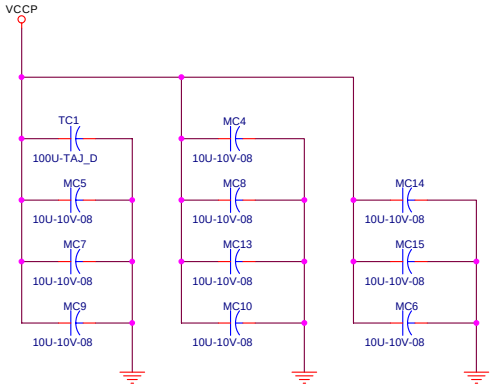
Date: Monday, December 29, 2003 | Sheet 3 of 36



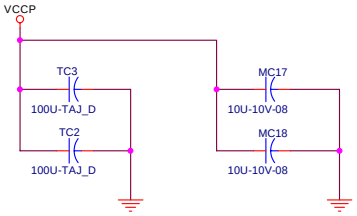
Elitegroup Computer Systems	
Title	SF2 / 661FX
Size: Custom	Document Number: Socket478-1
Rev	2.2
Date: Monday, December 29, 2003	Sheet 4 of 36


Place in the CPU cavity
VCCP
R162
100-1
C125
220P
BC38
1U
R159
169-1
GTLREF GENERATION CIRCUITS
Place near to CPU1
CPU1B
ZIF478-15U
Near CPU
R173, R164
COMPATIBLE 49.9_1%
OPTIMIZED 61.9_1%
Elitegroup Computer Systems
SF2 / 661FX
Socket478-2
Monday, December 29, 2003

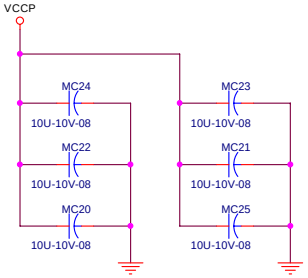
Put these capacitors at processor NORTH SIDE



Put these capacitors INSIDE PROCESSOR CAVITY

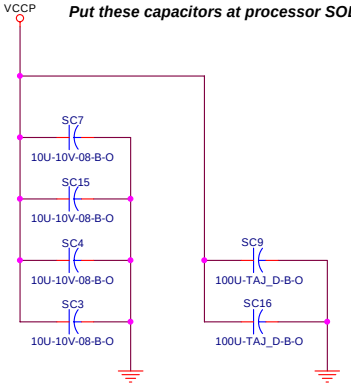


Put these capacitors at processor SOUTH SIDE



P.S. Choose X7R/X5R components instead of Y5V for all 10uF_1206 capacitors on this page.

Put these capacitors at processor SOLDER SIDE



Elitegroup Computer Systems

Title: **SF2 / 661FX**

Size: Custom | Document Number: Decoupling Circuit | Rev: 2.2

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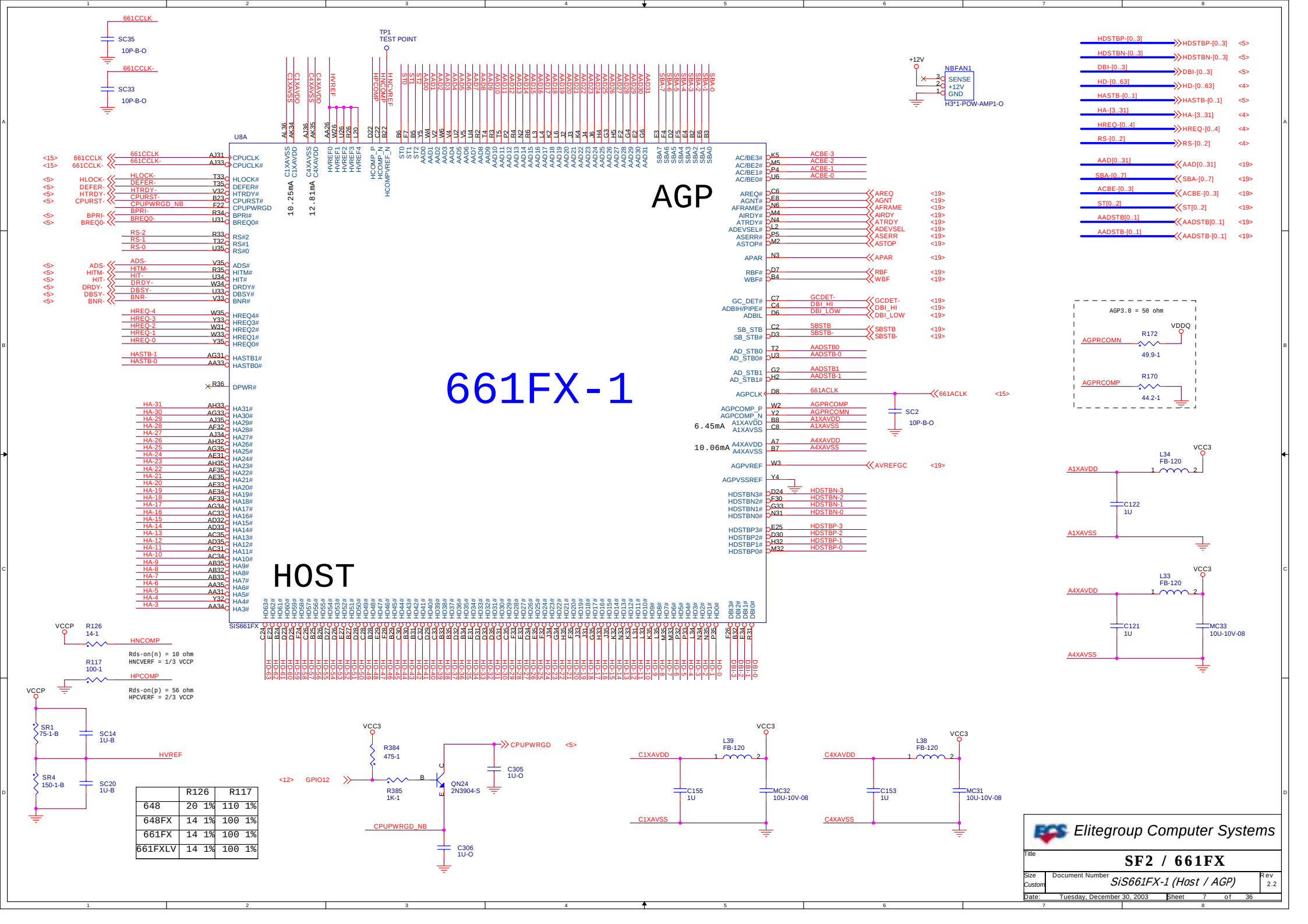

	R126	R117
648	20 1%	110 1%
648FX	14 1%	100 1%
661FX	14 1%	100 1%
661FXLV	14 1%	100 1%

Elitegroup Computer Systems

Title: SF2 / 661FX

Size: Custom | Document Number: SiS661FX-1 (Host / AGP) | Rev: 2.2

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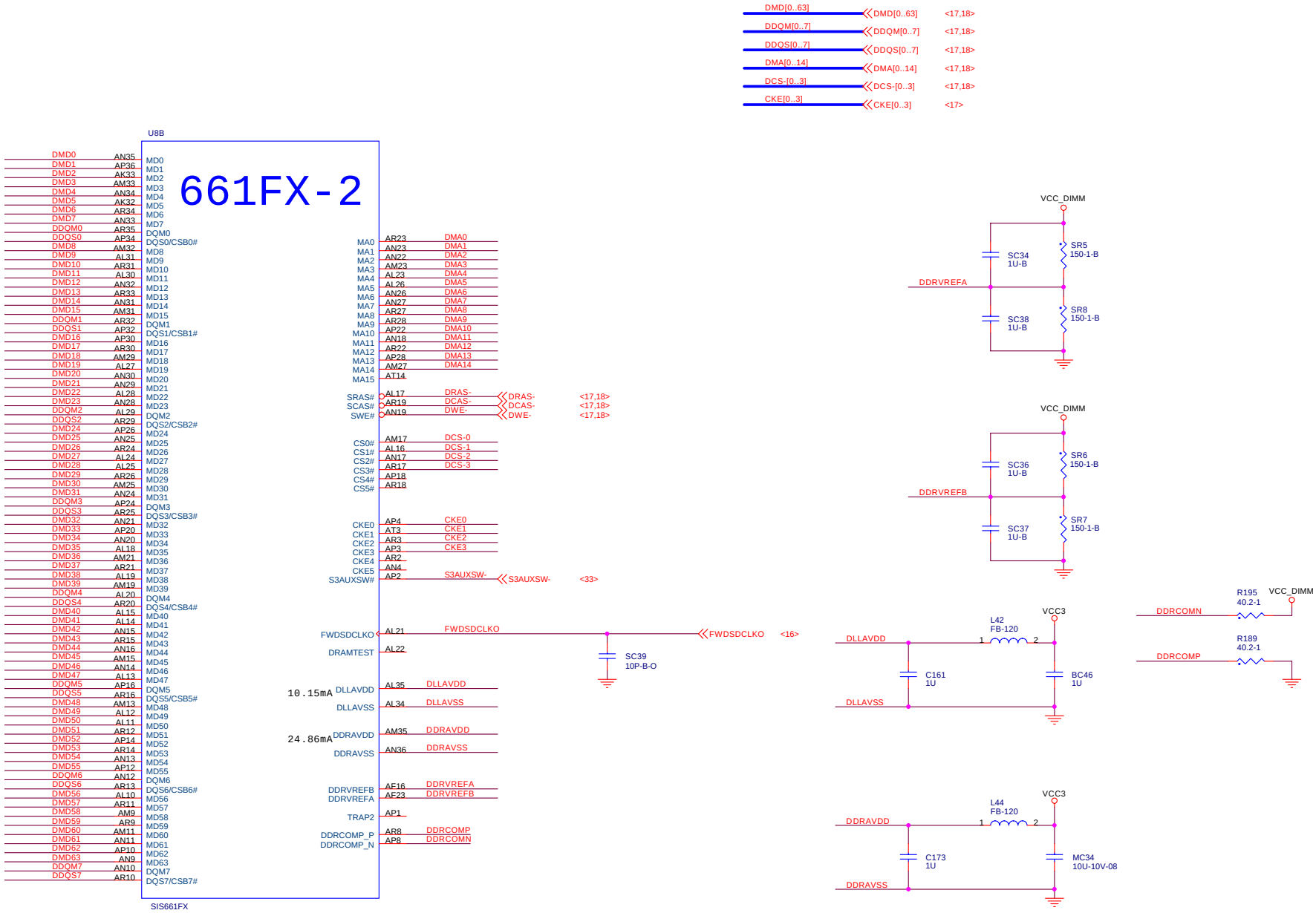

Elitegroup Computer Systems

Title: SF2 / 661FX

Size: Custom | Document Number: SiS661FX-2 (Memory) | Rev: 2.2

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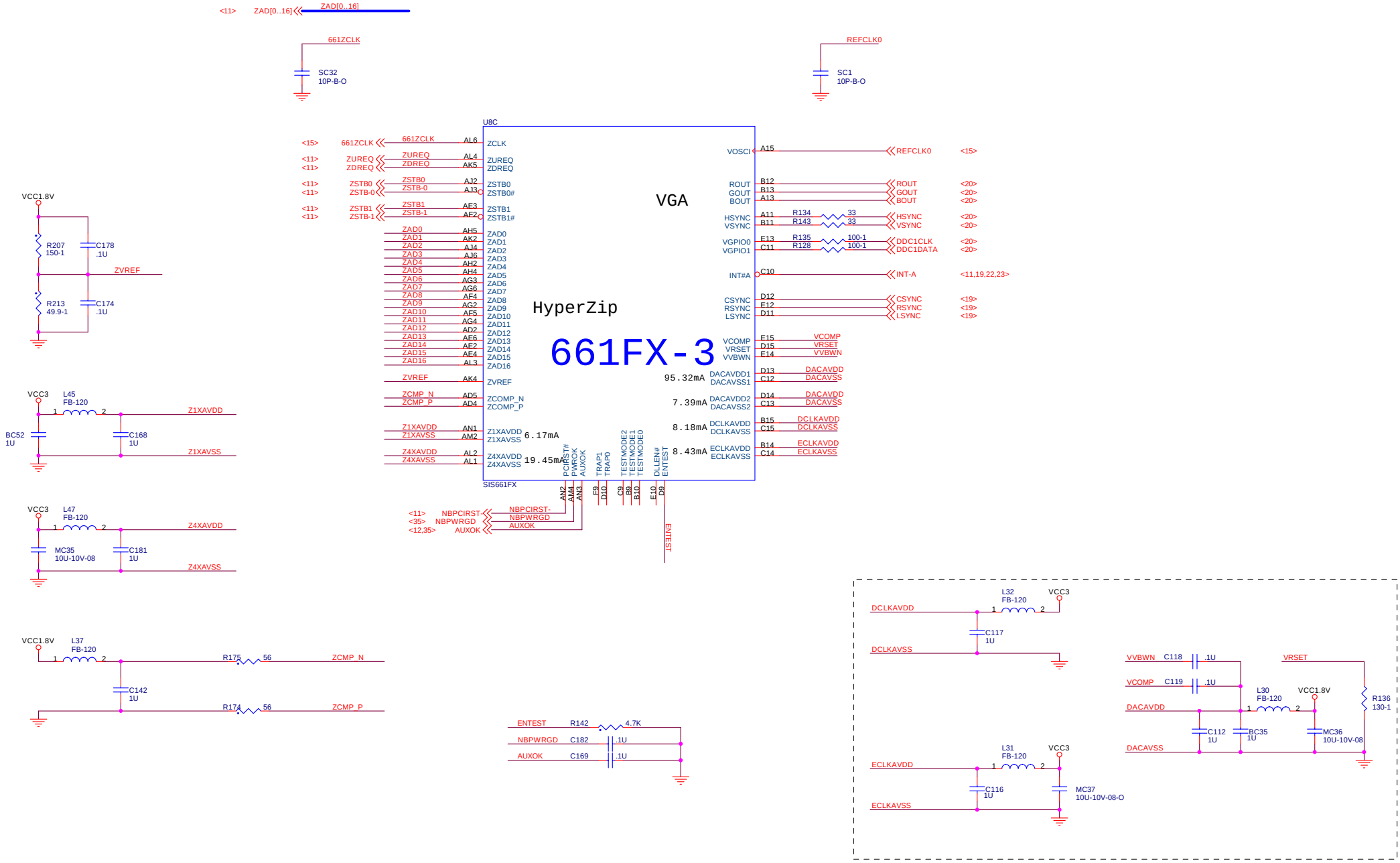

Elitegroup Computer Systems

Title	SF2 / 661FX		
Size: Custom	Document Number: SiS661FX-3 (HyperZip)		Rev: 2.2
Date: Monday, December 29, 2003	Sheet 9 of 36		

661FX-4

Power

AUX_IVDD=10.12mA
AUX3.3=26.38mA

253.65mA

IVDD for VGA 1044mA
IVDD 1310mA

111mA

28.8mA

488.91mA

239.09mA

NOTE:
SiS648FX doesn't have
the following 9 balls
VDDQ(P12), VDDM(AE14), VDDM(AE15),
VDDM(AB25), IVDD(N20), IVDD(T24),
VTT(M20), VTT(N25), VTT(P25).

Place these capacitors under 648 solder side

But SiS648 and SiS660 still
have these 9 balls.

Elitegroup Computer Systems			
Title	SF2 / 661FX		
Size: Custom	Document Number: SiS661FX-4 (Power)		Rev: 2.2
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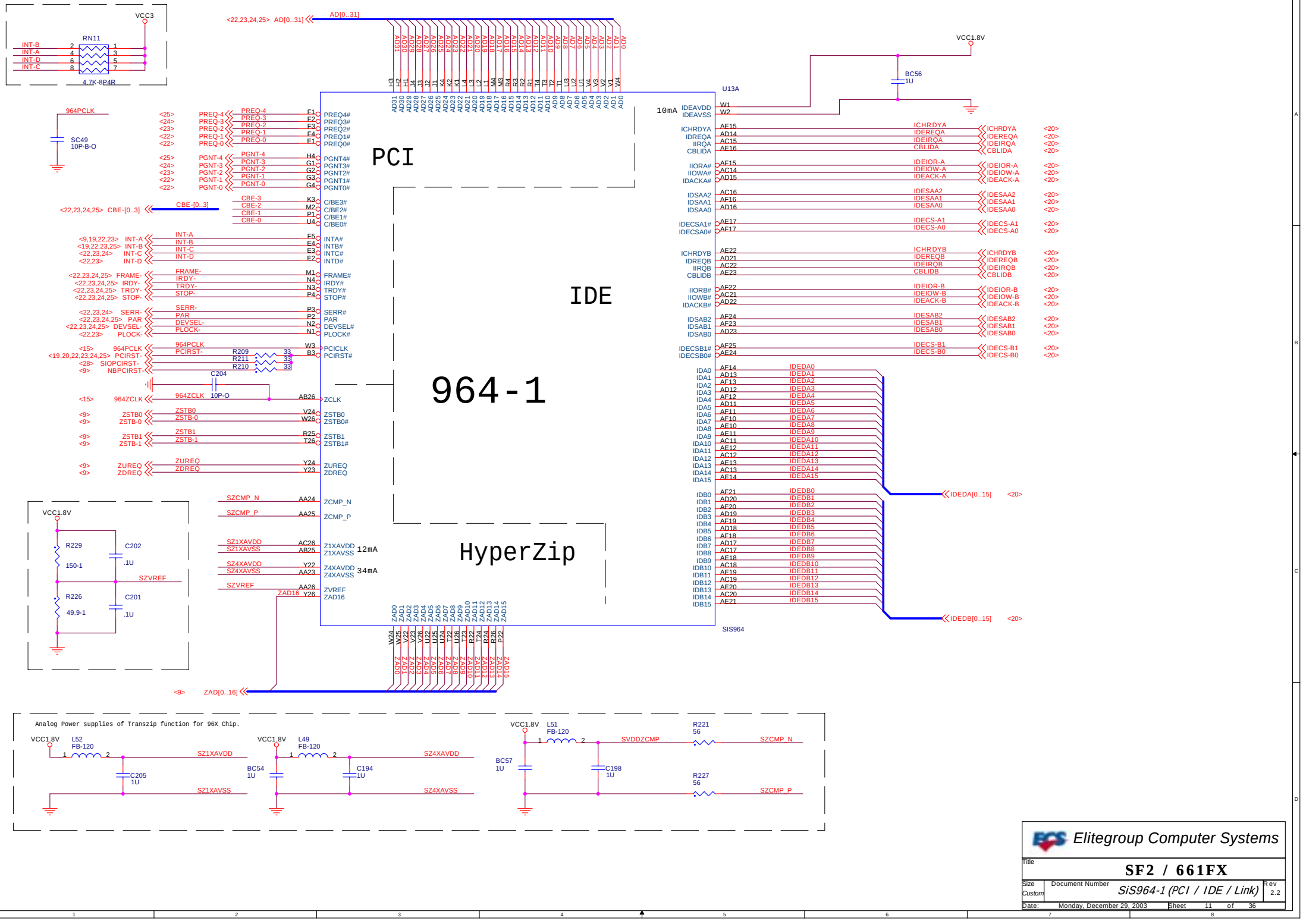
PCI
IDE
964-1
HyperZip
SIS964
VCC3
RN11
4.7K-8P4R
VCC1.8V
SC49
10P-B-O
BC56
1U
U13A
C204
10P-O
R209
R211
R210
33
C202
.1U
C201
.1U
R229
150-1
R226
49.9-1
SZVREF
C205
1U
C194
1U
BC54
1U
BC57
1U
C198
1U
L52
FB-120
L49
FB-120
L51
FB-120
R221
56
R227
56
SVDDZCMP
SZCMP_N
SZCMP_P
SZ1XAVDD
SZ1XAVSS
SZ4XAVDD
SZ4XAVSS
12mA
34mA
10mA
Analog Power supplies of Transzip function for 96X Chip.
Elitegroup Computer Systems
SF2 / 661FX
SiS964-1 (PCI / IDE / Link)
Monday, December 29, 2003
Sheet 11 of 36
Rev 2.2

Programable on-die pull-high strength for CPU_S:
(Infinite, 150, 110, 56 Ohm)

U13B

CPU_S
APIC
LPC
MII
RTC
964-2
GPIO
AC97
ACPI /others
GPIO
KBC /geyserville

SIS964

JP4	1-2	2-3
GPIO5	1	0
HP / Clear CMOS	Normal	Clear
TRIGEM / Suspen Mode	S1 & S3	S1

JP5	1-2	2-3	Open
(GPIO4, GPIO6)	(0, 1)	(1, 0)	(1, 1)
HP / Clear Password	Normal	Clear	/
TRIGEM / BIOS Logo	TG	Commaeul	No Logo

JPT3	1-2	2-3
GPIO11	1	0
Reserved	-	-

SiS963, 964 GPIO 0~7 internal pull up

SiS963, 964 GPIO 9,10 internal pull down

NEED NOT to place close to 964

Elitegroup Computer Systems

Title: SF2 / 661FX

Size: Custom | Document Number: SIS964-2 (Misc. Signals) | Rev: 2.2

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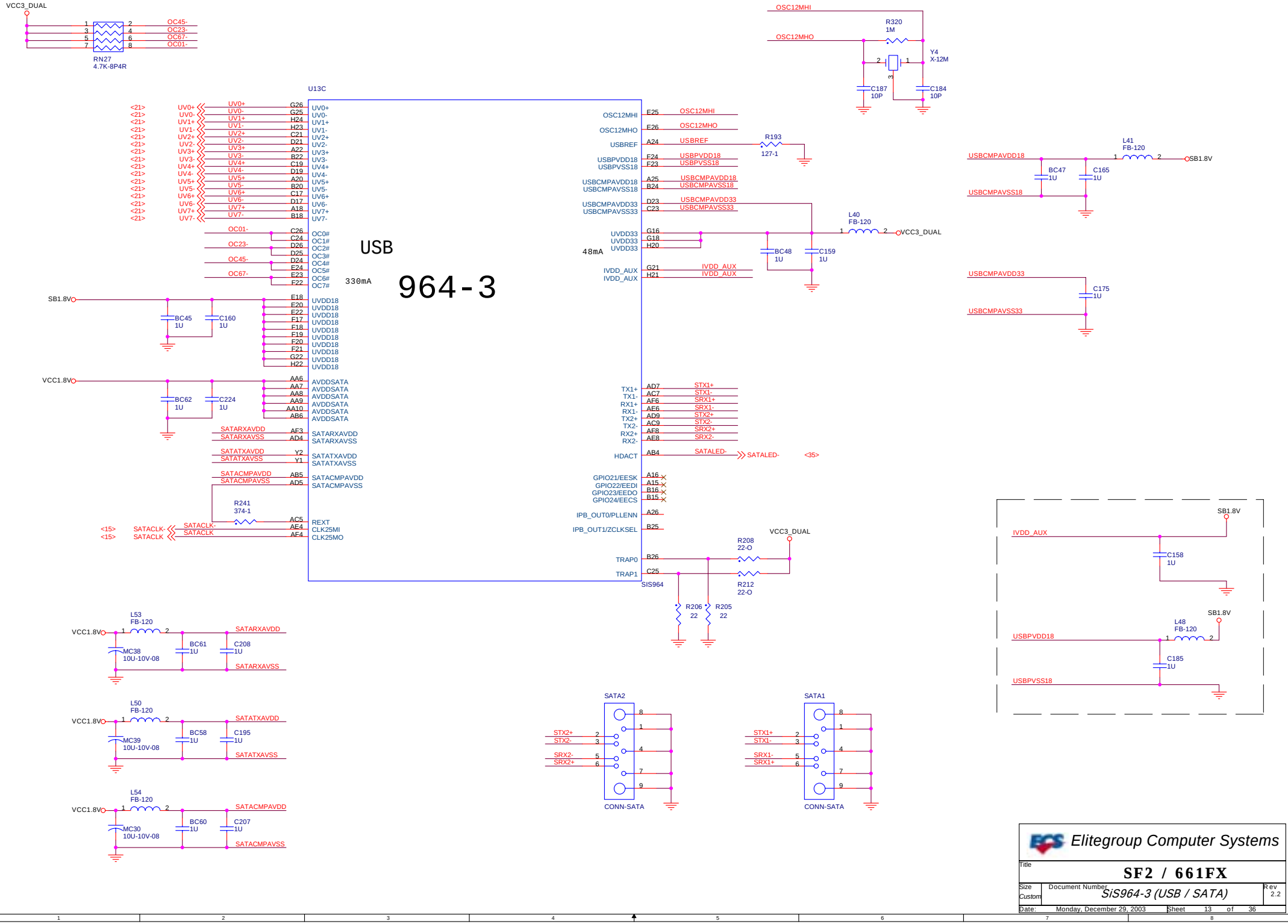

Elitegroup Computer Systems

Title	SF2 / 661FX	
Size: Custom	Document Number: SiS964-3 (USB / SATA)	Rev: 2.2
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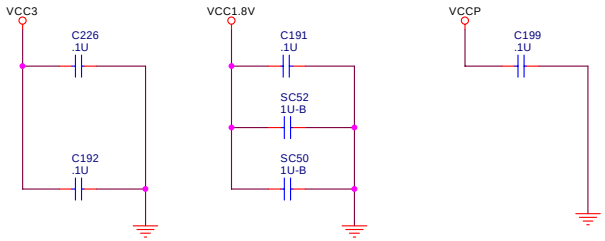

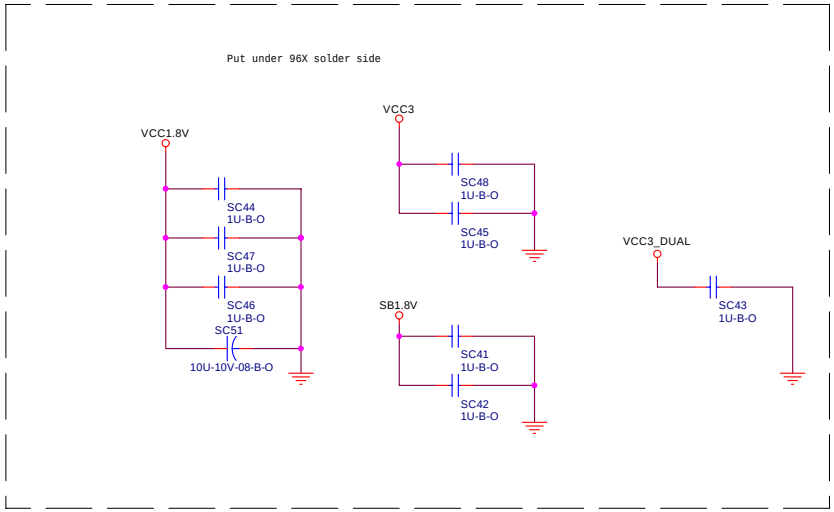

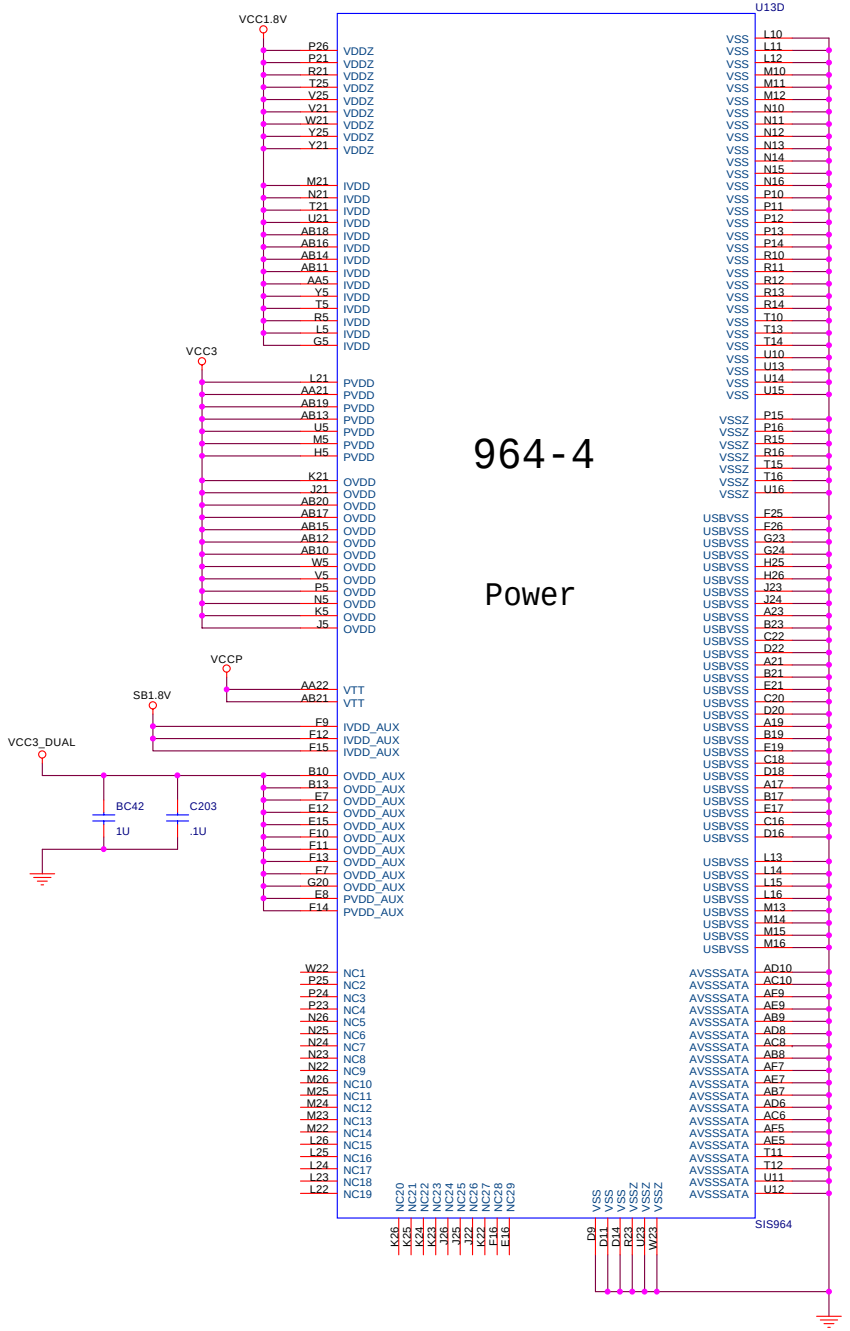

Elitegroup Computer Systems		
Title	SF2 / 661FX	
Size: Custom	Document Number: SiS964-4 (Power)	Rev: 2.2
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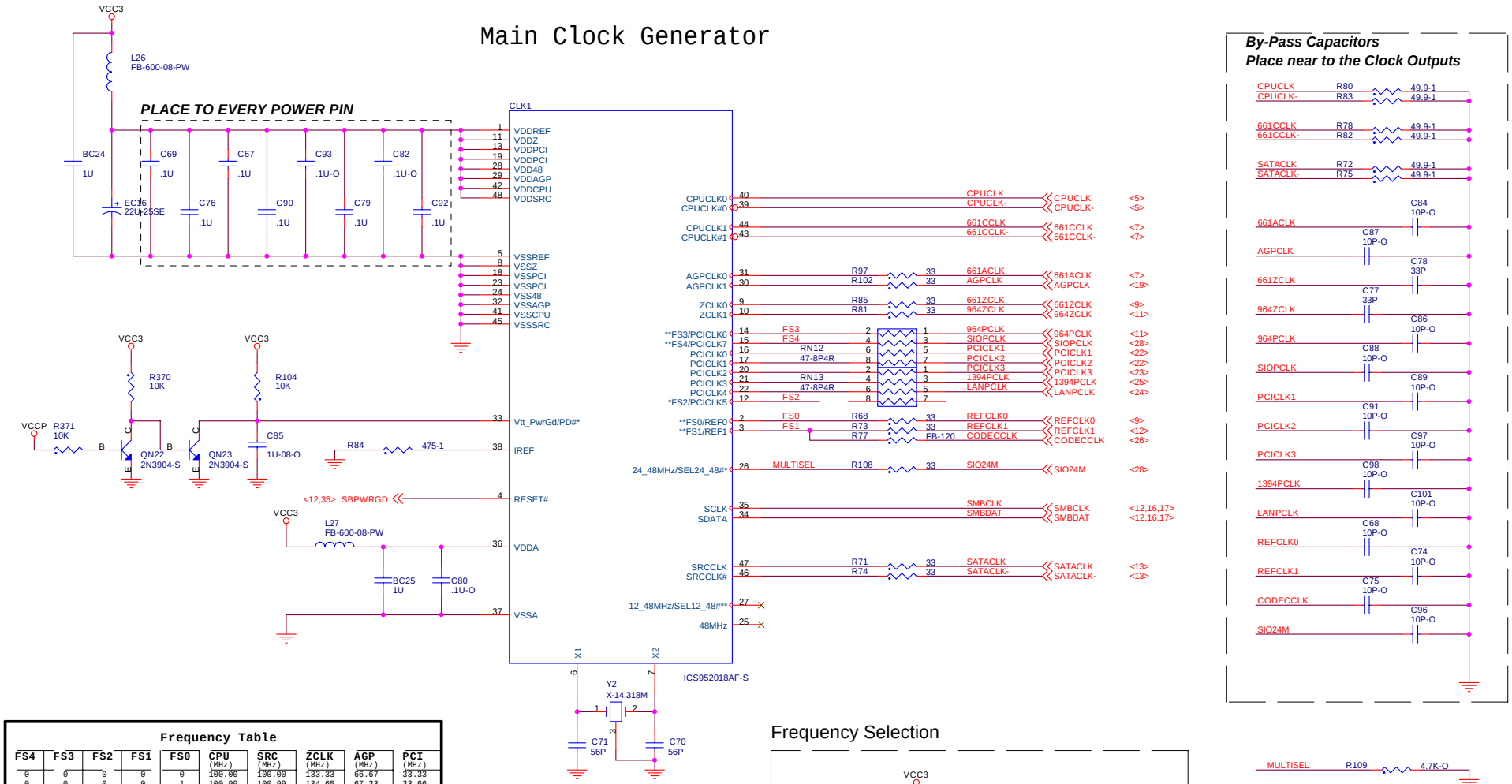
Main Clock Generator



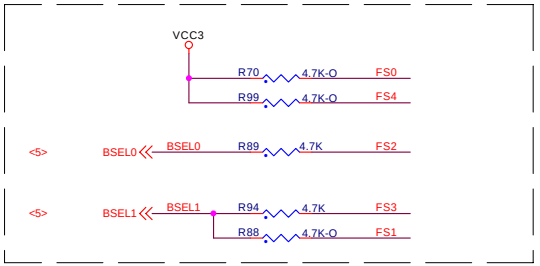
Frequency Table

	FS4	FS3	FS2	FS1	FS0	CPU (MHz)	SRC (MHz)	ZCLK (MHz)	AGP (MHz)	PCI (MHz)
FSB400	0	0	0	0	0	100.00	100.00	133.33	66.67	33.33
	0	0	0	0	1	100.99	100.99	134.65	67.33	33.66
	0	0	0	1	0	103.00	103.00	137.33	68.67	34.33
	0	0	0	1	1	100.00	100.00	133.33	66.67	33.33
FSB533	0	0	1	0	0	133.33	100.00	133.33	66.66	33.33
	0	0	1	0	1	134.65	100.99	134.65	67.32	33.66
	0	0	1	1	0	137.33	103.00	137.33	68.66	34.33
	0	0	1	1	1	133.33	100.00	133.33	66.67	33.33
FSB800	0	1	0	0	0	200.00	100.00	133.33	66.67	33.33
	0	1	0	0	1	201.98	100.99	134.65	67.33	33.66
	0	1	0	1	0	206.00	103.00	137.33	68.67	34.33
	0	1	0	1	1	200.00	100.00	133.33	66.67	33.33
	0	1	1	0	0	166.66	125.00	125.00	66.66	33.33
	0	1	1	0	1	168.31	126.23	126.23	67.32	33.66
	0	1	1	1	0	171.66	128.74	128.74	68.66	34.33
	0	1	1	1	1	166.66	125.00	125.00	66.66	33.33

Frequency Table

FS4	FS3	FS2	FS1	FS0	CPU (MHz)	SRC (MHz)	ZCLK (MHz)	AGP (MHz)	PCI (MHz)
1	0	0	0	0	105.00	105.00	140.00	70.00	35.00
1	0	0	0	1	107.00	107.00	142.67	71.33	35.67
1	0	0	1	0	109.00	109.00	145.33	72.67	36.33
1	0	0	1	1	110.00	110.00	146.67	73.33	36.67
1	0	1	0	0	140.00	105.00	140.00	70.00	35.00
1	0	1	0	1	142.66	107.00	142.67	71.33	35.67
1	0	1	1	0	145.33	109.00	145.33	72.66	36.33
1	0	1	1	1	146.66	110.00	146.66	73.33	36.67
1	1	0	0	0	210.00	105.00	140.00	70.00	35.00
1	1	0	0	1	214.00	107.00	142.67	71.33	35.67
1	1	0	1	0	218.00	109.00	145.33	72.67	36.33
1	1	0	1	1	220.00	110.00	146.67	73.33	36.67
1	1	1	0	0	266.66	100.00	133.33	66.67	33.33
1	1	1	0	1	269.33	101.00	134.67	67.33	33.67
1	1	1	1	0	274.66	103.00	137.33	68.67	34.33
1	1	1	1	1	266.66	100.00	133.33	66.67	33.33

Frequency Selection



MULTISEL R109 4.7K-O

Clock Generator Table / Hardware Traping	FS4 Low	FS3 BSEL1	FS2 BSEL0	FS1 Low	FS0 Low
CPU=100 (BSEL[1:0]=00)	0	0	0	0	0
CPU=133 (BSEL[1:0]=01)	0	0	1	0	0
CPU=200 (BSEL[1:0]=10)	0	1	0	0	0

Elitegroup Computer Systems

Title: SF2 / 661FX

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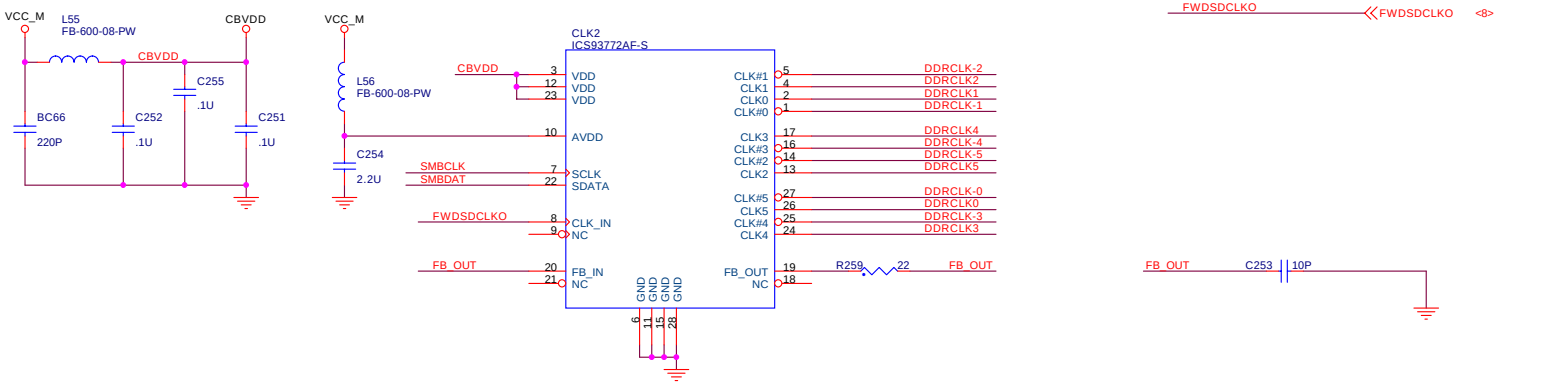
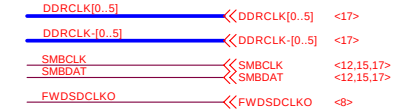
Clock Buffer (DDR)

(5 OPTIONS)
1: (ICS) ICS93716
2: (Winbond)
3: (ICWorks)
4: (IMI)
5: (AMI)

By-Pass Capacitors
Place near to the Clock Buffer





Elitegroup Computer Systems

Title: SF2 / 661FX

Size: Custom | Document Number: Clock Buffer | Rev: 2.2

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NOTE:

VDDID IS A TRAP ON THE DIMM MODULE TO INDICATE:

VDDID	REQUIRED POWER
OPEN	VDD=VDDQ
GND	VDD!=VDDQ

MEMORY MUX TABLE:

SDR	DDR
CS0	CS0
CS1	CS1
CS2	CS2
CS3	CS3
CS4	CS4
CS5	CS5
CSB0	DQS0
CSB1	DQS1
CSB2	DQS2
CSB3	DQS3
CSB4	DQS4
CSB5	DQS5
CSB6	DQS6
CSB7	DQS7

DMD[0..63] DMD[0..63] <8,18>
DMA[0..14] DMA[0..14] <8,18>
DDQM[0..7] DDQM[0..7] <8,18>
DDQS[0..7] DDQS[0..7] <8,18>
DCS-[0..3] DCS-[0..3] <8,18>
CKE[0..3] CKE[0..3] <8>
DDRCLK[0..5] DDRCLK[0..5] <16>
DDRCLK-[0..5] DDRCLK-[0..5] <16>

VCC_DIMM

DIMM1

DIMM2

DIMM-DDR-BL

addr = 1010000b

addr = 1010001b

<8,18> DRAS-
<8,18> DCAS-
<8,18> DWE-

R242 75-1
R237 75-1
C222 .1U
C221 .1U
DDRVREF

C216 .1U
C220 .1U
C218 .1U
C215 .1U
C214 .1U
C213 .1U
C210 .1U
C219 .1U
C217 .1U
C209 .1U
C200 .1U
C212 .1U

R235 5.6K
R236 5.6K
SMBCLK <12,15,16>
SMBDAT <12,15,16>

Elitegroup Computer Systems

Title: SF2 / 661FX

Size: Custom | Document Number: DIMM 1,2 | Rev: 2.2

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SSTL-2 Termination Resistors

	SDR		DDR		
		Rs		Rs	Rtt
MD/DQM(/DQS)	LV-CMOS	0/10/-	SSTL-2	10	33
MA/Control	LV-CMOS	10	SSTL-2	0	33
CS	LV-CMOS	0	SSTL-2	0	47
CKE	OD 3.3V		OD 2.5V		

DMD[0..63] — DMD[0..63] <8,17>
DMA[0..14] — DMA[0..14] <8,17>
DDQM[0..7] — DDQM[0..7] <8,17>
DDQS[0..7] — DDQS[0..7] <8,17>
DCS-[0..3] — DCS-[0..3] <8,17>

DDR_VTT

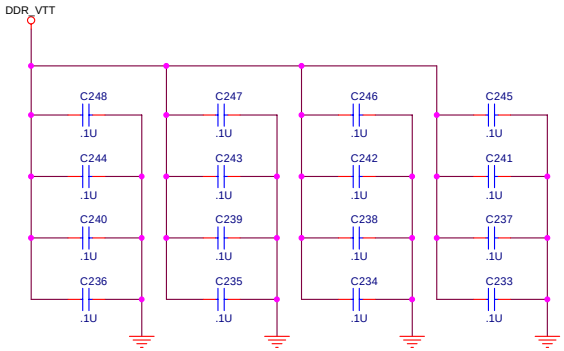
DMD1 DMD5 DMD0 DMD4 — RN30 56-8P4R
DMD6 DMD2 DDQS0 DDQM0 — RN29 56-8P4R
DMD9 DMD8 DMD3 DMD7 — RN42 56-8P4R
DDQM1 DDQS1 DMD13 DMD12 — RN41 56-8P4R
DMD11 DMD10 DMD15 DMD14 — RN40 56-8P4R
DMA7 DMD22 DMD18 DMA9 — RN37 56-8P4R
DMD17 DMA14 DMD16 DMD20 — RN39 56-8P4R
DMA5 DMD19 DMD23 DMA8 — RN36 56-8P4R
DMD26 DMD27 DMD30 DMA3 — RN33 56-8P4R
DDQM3 DMA4 DDQS3 DMD25 — RN34 56-8P4R

DMD34 DMD37 DDQS4 DMD33 — RN52 56-8P4R
DMD39 DMA11 DMD38 DDQM4 — RN51 56-8P4R
<8,17> DRAS- — DRAS- DMD44 DMD40 DMD35 — RN50 56-8P4R
DMD42 DMD46 DDQS5 DDQM5 — RN46 56-8P4R
DCS-0 DMD41 DMD45 DWE- — RN49 56-8P4R
<8,17> DWE-
DMD52 DMD48 DMD47 DMD43 — RN45 56-8P4R
DMD50 DDQS6 DMD54 DDQM6 — RN44 56-8P4R
DMD56 DMD60 DMD51 DMD55 — RN48 56-8P4R
DMD62 DDQM7 DMD57 DMD61 — RN43 56-8P4R
DMD59 DMD63 DMD58 DDQS7 — RN53 56-8P4R
DCS-3 DCS-1 DCS-2 DCAS- — RN47 56-8P4R
<8,17> DCAS-

DDR_VTT

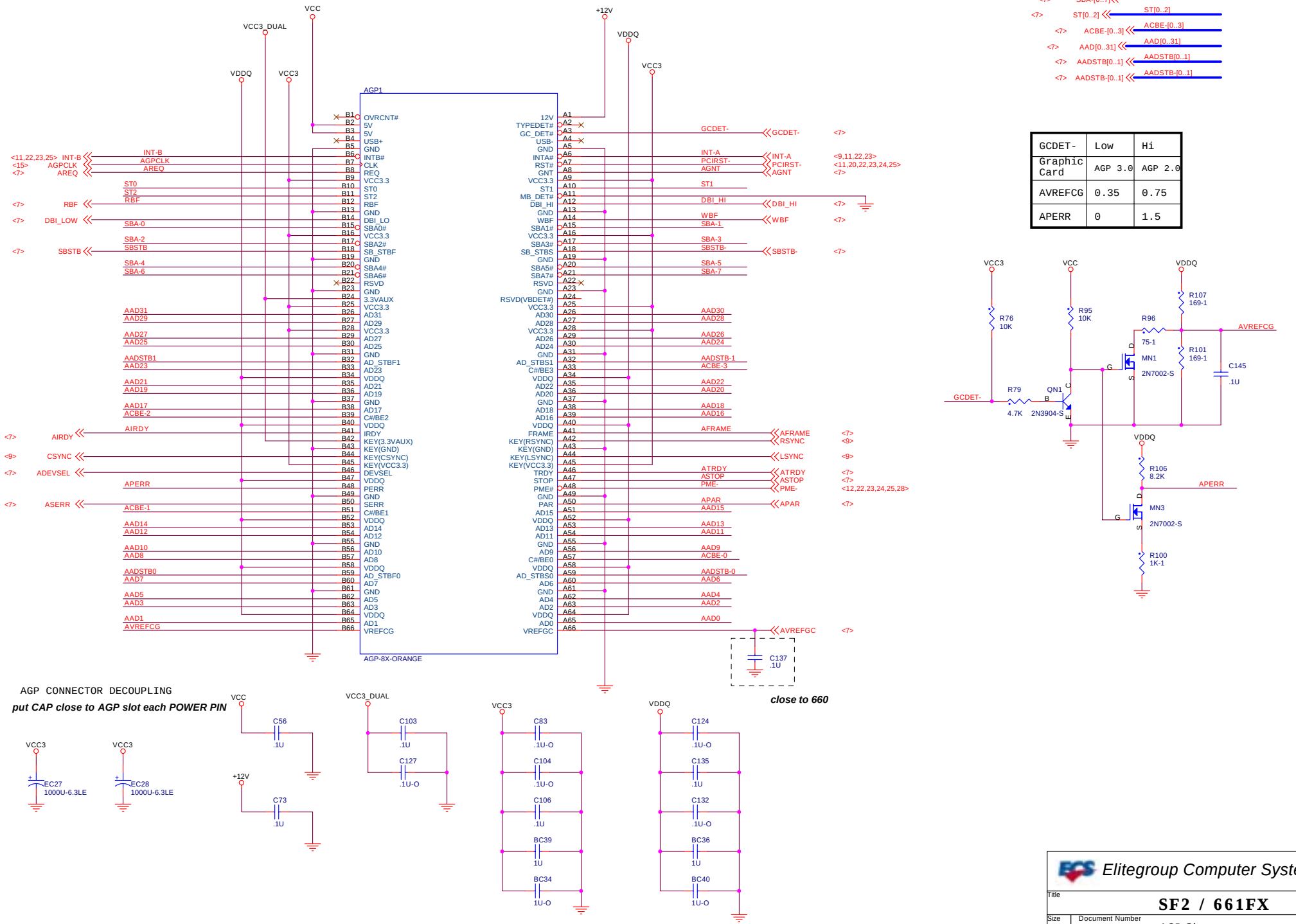
DMA0 DMA1 DMD31 DMA2 — RN32 56-8P4R
DMD29 DMD28 DMA6 DMD24 — RN35 56-8P4R
DMD36 DMD32 DMA12 DMA10 — RN31 56-8P4R
DDQM2 DMA13 DMD21 DDQS2 — RN38 56-8P4R
DMD49 DMD53 — R250 R249 56 56

DECOUPLING CAPACITOR FOR SSTL-2 END TERMIANTION VTT ISLAND
0603 Package placed within 200mils of VTT Termination R-packs



Elitegroup Computer Systems

Title		
	SF2 / 661FX	
Size: Custom	Document Number: DDR Termination	Rev: 2.2
Date: Monday, December 29, 2003	Sheet 18 of 36	



GCDET-	Low	Hi
Graphic Card	AGP 3.0	AGP 2.0
AVREFCG	0.35	0.75
APERR	0	1.5

Elitegroup Computer Systems

Title: SF2 / 661FX

Size: Custom | Document Number: AGP Slot | Rev: 2.2

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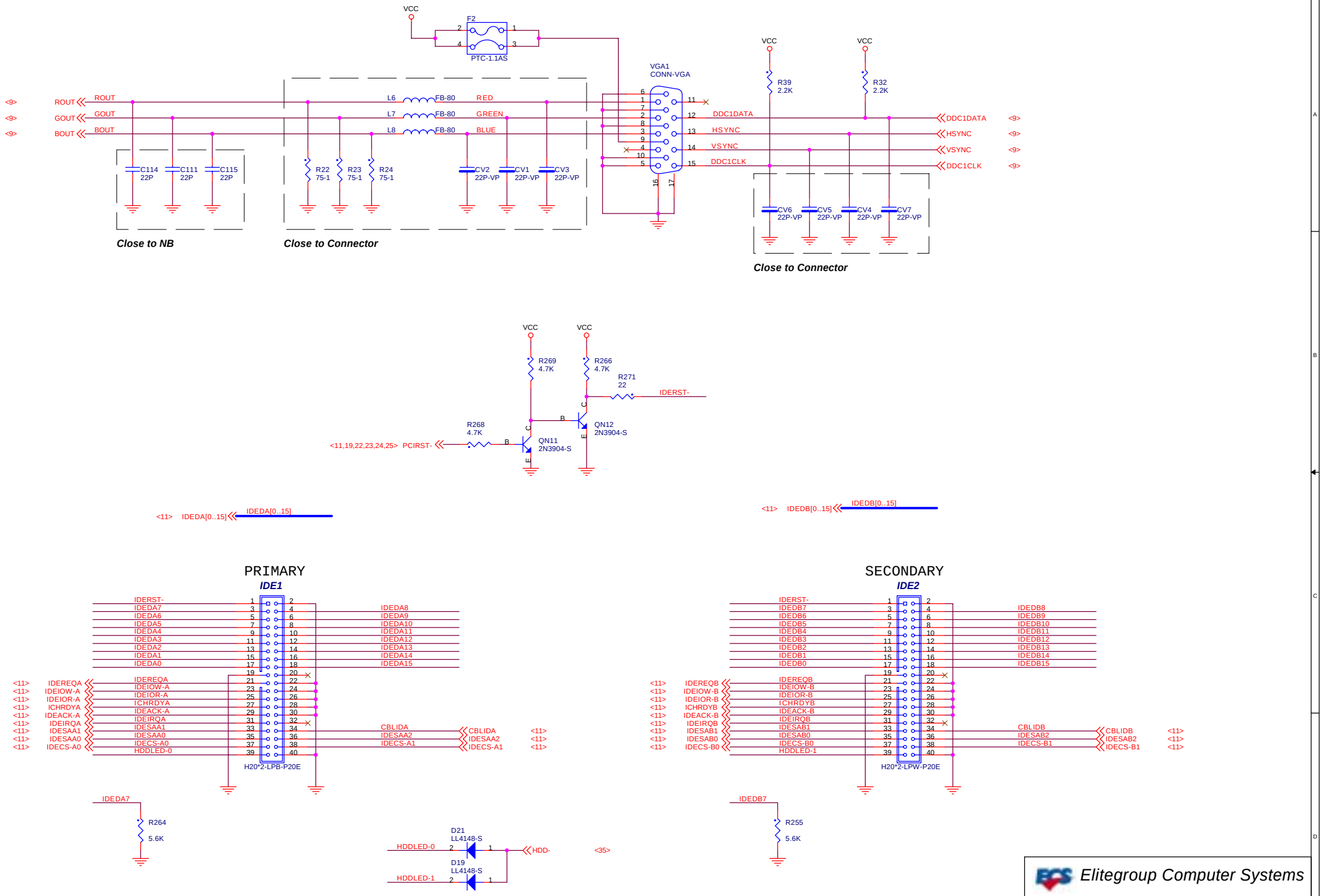

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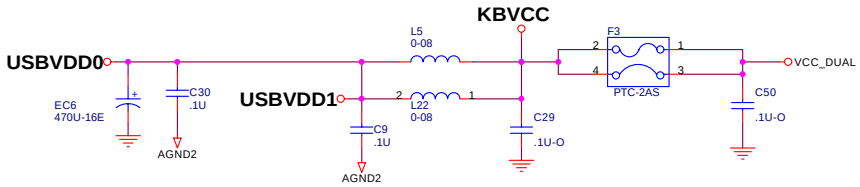
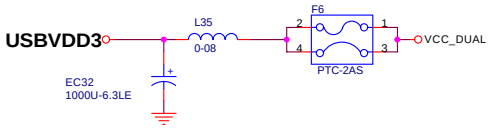
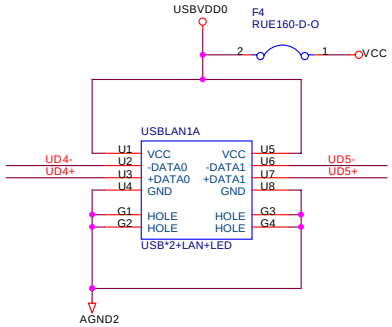
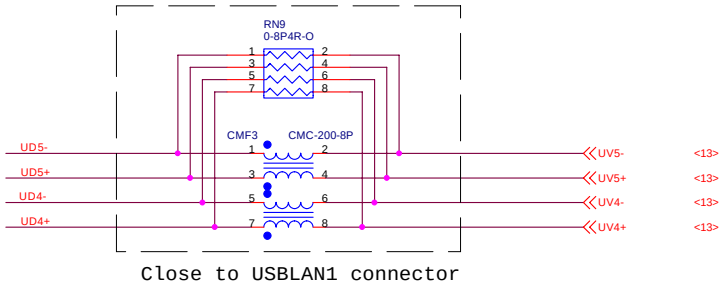
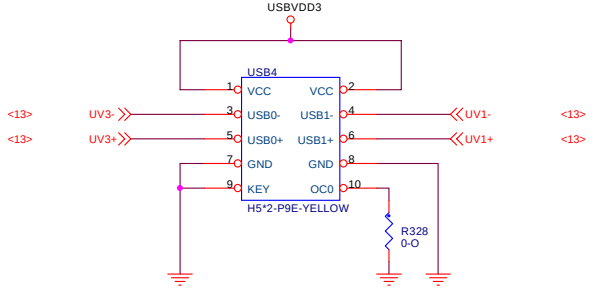


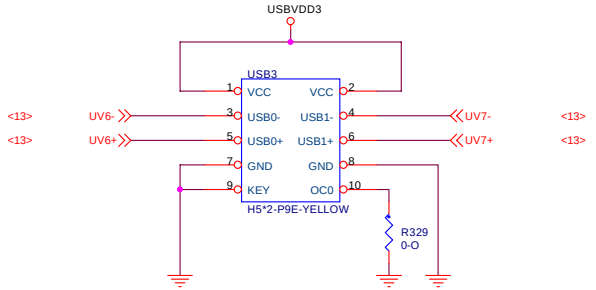


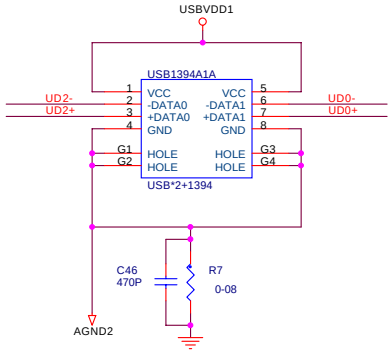


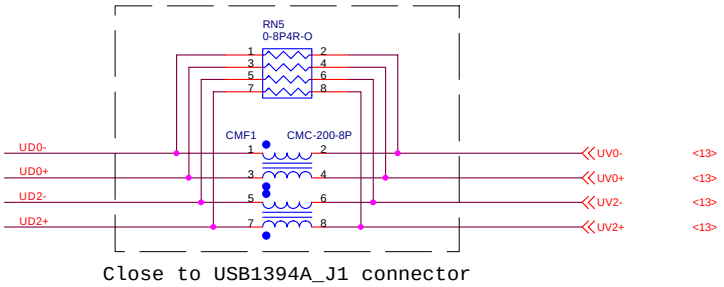


Close to USBLAN1 connector

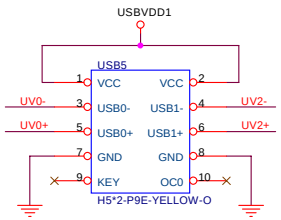






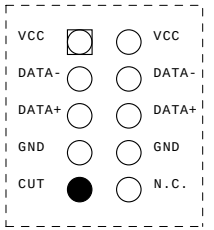


Close to USB1394A_J1 connector

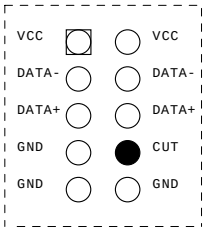


	USB port
Control 0	0, 3, 6
Control 1	1, 4, 7
Control 2	2, 5

Intel USB Header



ACER USB Header



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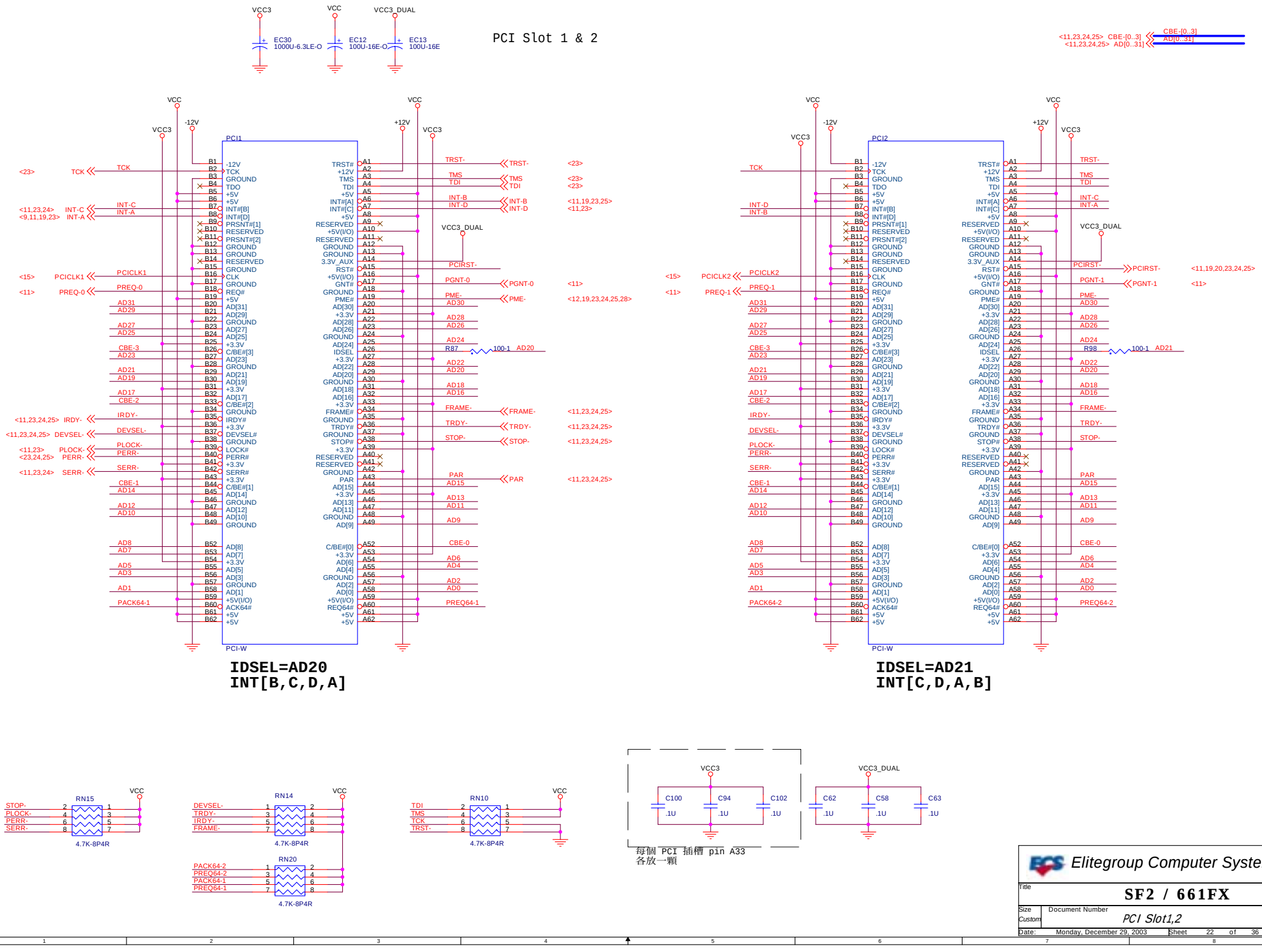
PCI Slot 1 & 2



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Size: Custom	Document Number: PCI Slot1,2
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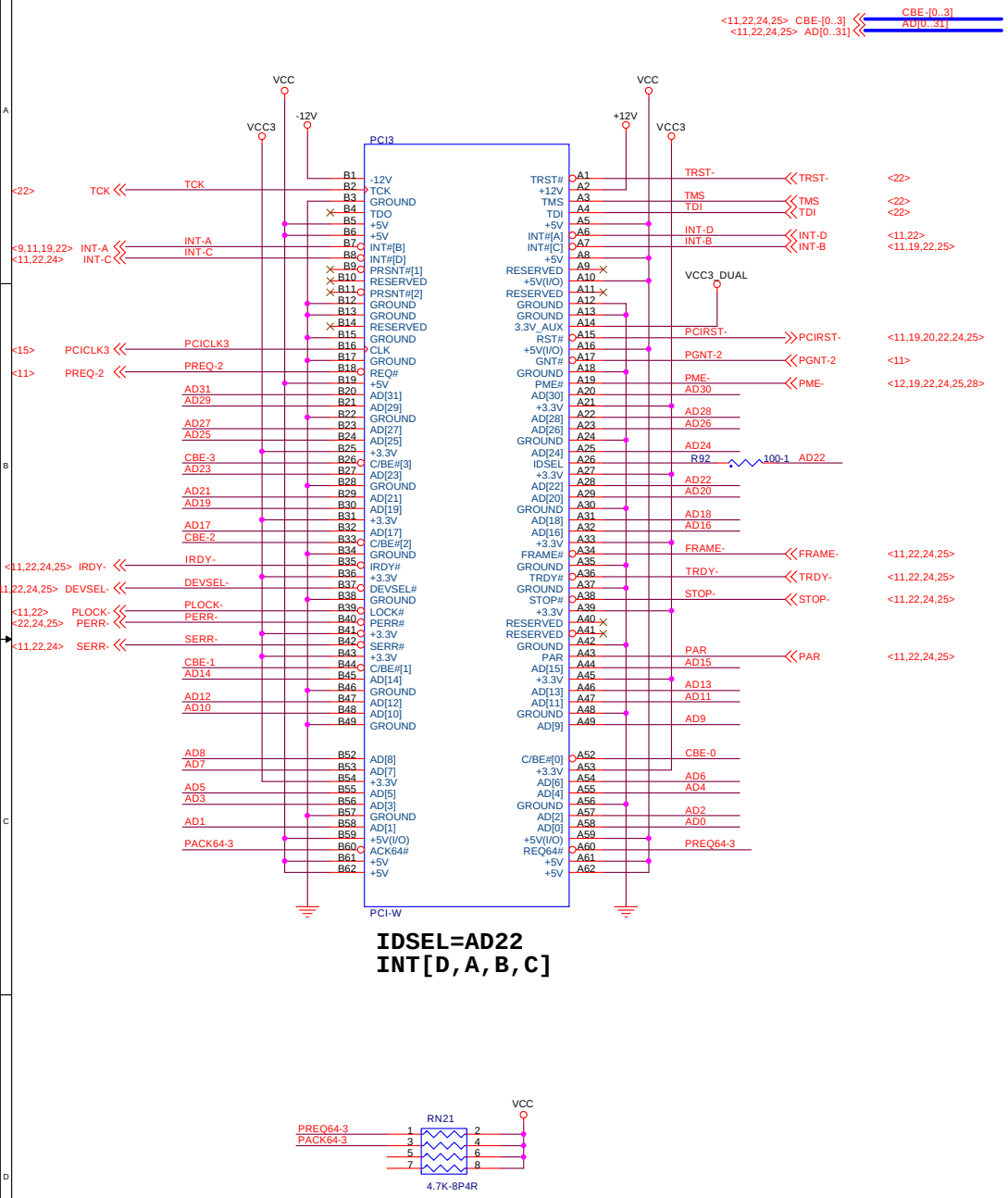

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Title	SF2 / 661FX	
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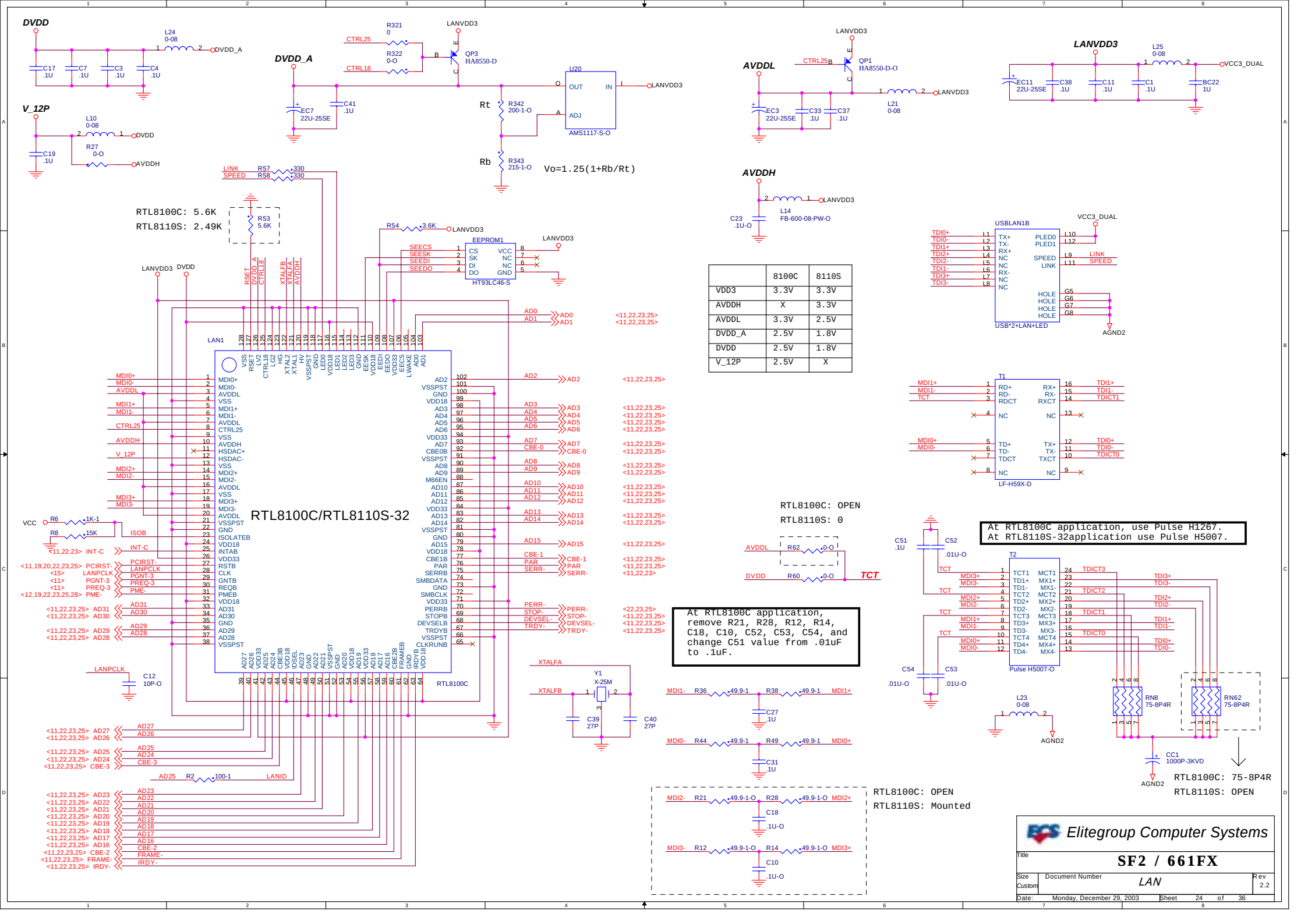
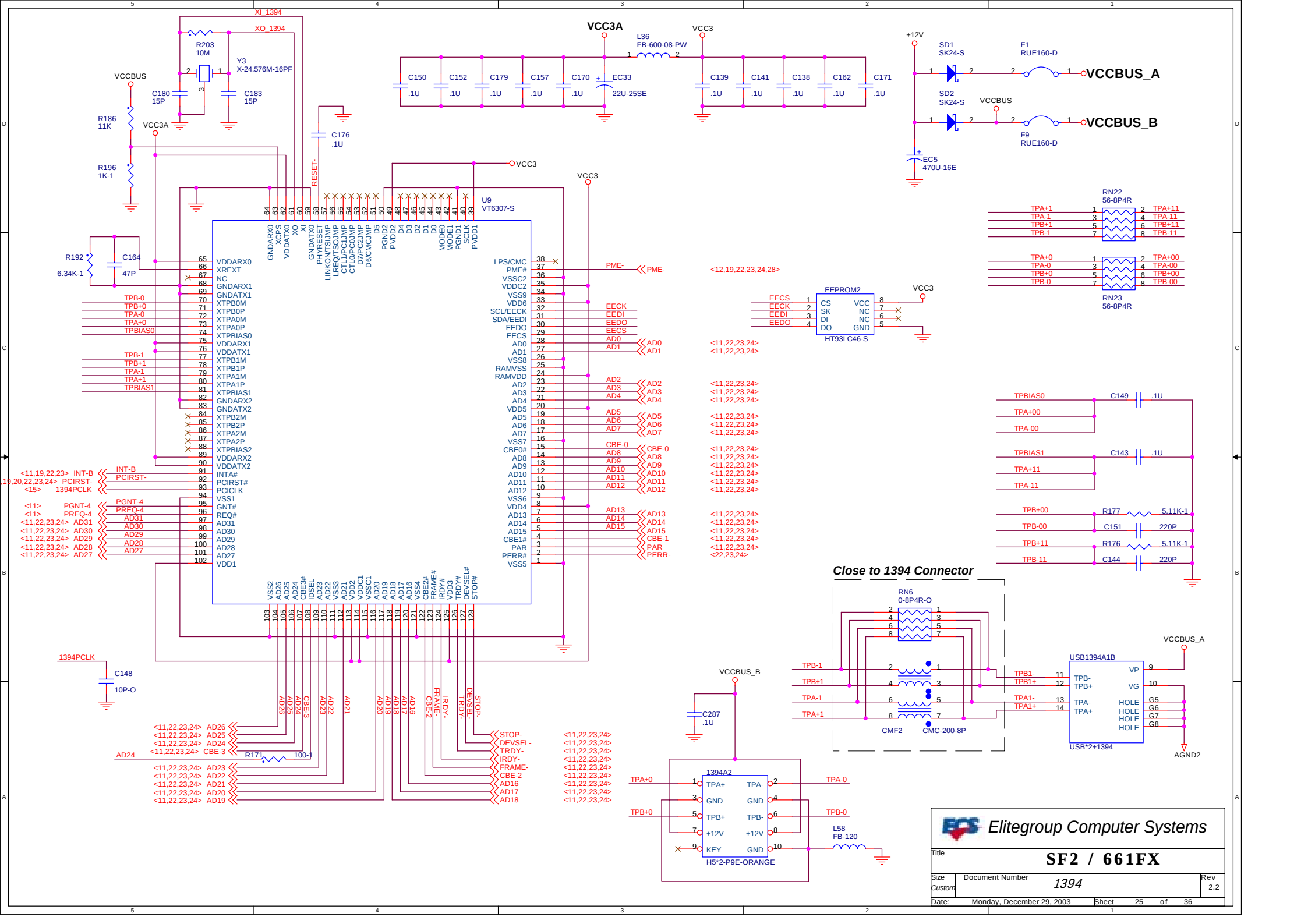


	8100C	8110S
VDD3	3.3V	3.3V
AVDDH	X	3.3V
AVDDL	3.3V	2.5V
DVDD_A	2.5V	1.8V
DVDD	2.5V	1.8V
V_12P	2.5V	X


XI_1394
XO_1394
R203
10M
Y3
X-24.576M-16PF
VCCBUS
C180
15P
C183
15P
R186
11K
VCC3A
R196
1K-1
C176
.1U
RESET-
VCC3A
L36
FB-600-08-PW
VCC3
C150
.1U
C152
.1U
C179
.1U
C157
.1U
C170
.1U
EC33
22U-25SE
C139
.1U
C141
.1U
C138
.1U
C162
.1U
C171
.1U
+12V
SD1
SK24-S
F1
RUE160-D
VCCBUS_A
SD2
SK24-S
VCCBUS
F9
RUE160-D
VCCBUS_B
EC5
470U-16E
U9
VT6307-S
VCC3
R192
6.34K-1
C164
47P
VDDARX0
XREXT
NC
GNDARX1
GNDATX1
XTPB0M
XTPB0P
XTPA0M
XTPA0P
XTPBIAS0
VDDARX1
VDDATX1
XTPB1M
XTPB1P
XTPA1M
XTPA1P
XTPBIAS1
GNDARX2
GNDATX2
XTPB2M
XTPB2P
XTPA2M
XTPA2P
XTPBIAS2
VDDARX2
VDDATX2
INTA#
PCIRST#
PCICLK
VSS1
GNT#
REQ#
AD31
AD30
AD29
AD28
AD27
VDD1
LPS/CMC
PME#
VSSC2
VDDC2
VSS9
VDD6
SCL/EECK
SDA/EEDI
EEDO
EECS
AD0
AD1
VSS8
RAMVSS
RAMVDD
AD2
AD3
AD4
VDD5
AD5
AD6
AD7
VSS7
CBE0#
AD8
AD9
AD10
AD11
AD12
VSS6
VDD4
AD13
AD14
AD15
CBE1#
PAR
PERR#
VSS5
PME-
EECK
EEDI
EEDO
EECS
AD0
AD1
AD2
AD3
AD4
AD5
AD6
AD7
CBE-0
AD8
AD9
AD10
AD11
AD12
AD13
AD14
AD15
CBE-1
PAR
PERR-
<12,19,22,23,24,28>
<11,22,23,24>
<22,23,24>
EEPROM2
HT93LC46-S
EECS
EECK
EEDI
EEDO
RN22
56-8P4R
RN23
56-8P4R
TPA+1
TPA-1
TPB+1
TPB-1
TPA+0
TPA-0
TPB+0
TPB-0
TPA+11
TPA-11
TPB+11
TPB-11
TPA+00
TPA-00
TPB+00
TPB-00
TPB-0
TPB+0
TPA-0
TPA+0
TPBIAS0
TPB-1
TPB+1
TPA-1
TPA+1
TPBIAS1
INT-B
PCIRST-
1394PCLK
PGNT-4
PREQ-4
AD31
AD30
AD29
AD28
AD27
C148
10P-O
Close to 1394 Connector
TPBIAS0
TPA+00
TPA-00
C149
.1U
TPBIAS1
TPA+11
TPA-11
C143
.1U
TPB+00
TPB-00
TPB+11
TPB-11
R177
5.11K-1
C151
220P
R176
5.11K-1
C144
220P
RN6
0-8P4R-O
CMF2
CMC-200-8P
USB1394A1B
VP
VG
HOLE
TPB-
TPB+
TPA-
TPA+
TPB1-
TPB1+
TPA1-
TPA1+
USB*2+1394
VCCBUS_A
AGND2
VCCBUS_B
C287
.1U
1394A2
H5*2-P9E-ORANGE
L58
FB-120
AD26
AD25
AD24
CBE-3
AD23
AD22
AD21
AD20
AD19
AD18
AD17
AD16
CBE-2
FRAME-
IRDY-
TRDY-
DEVSEL-
STOP-
R171
100-1
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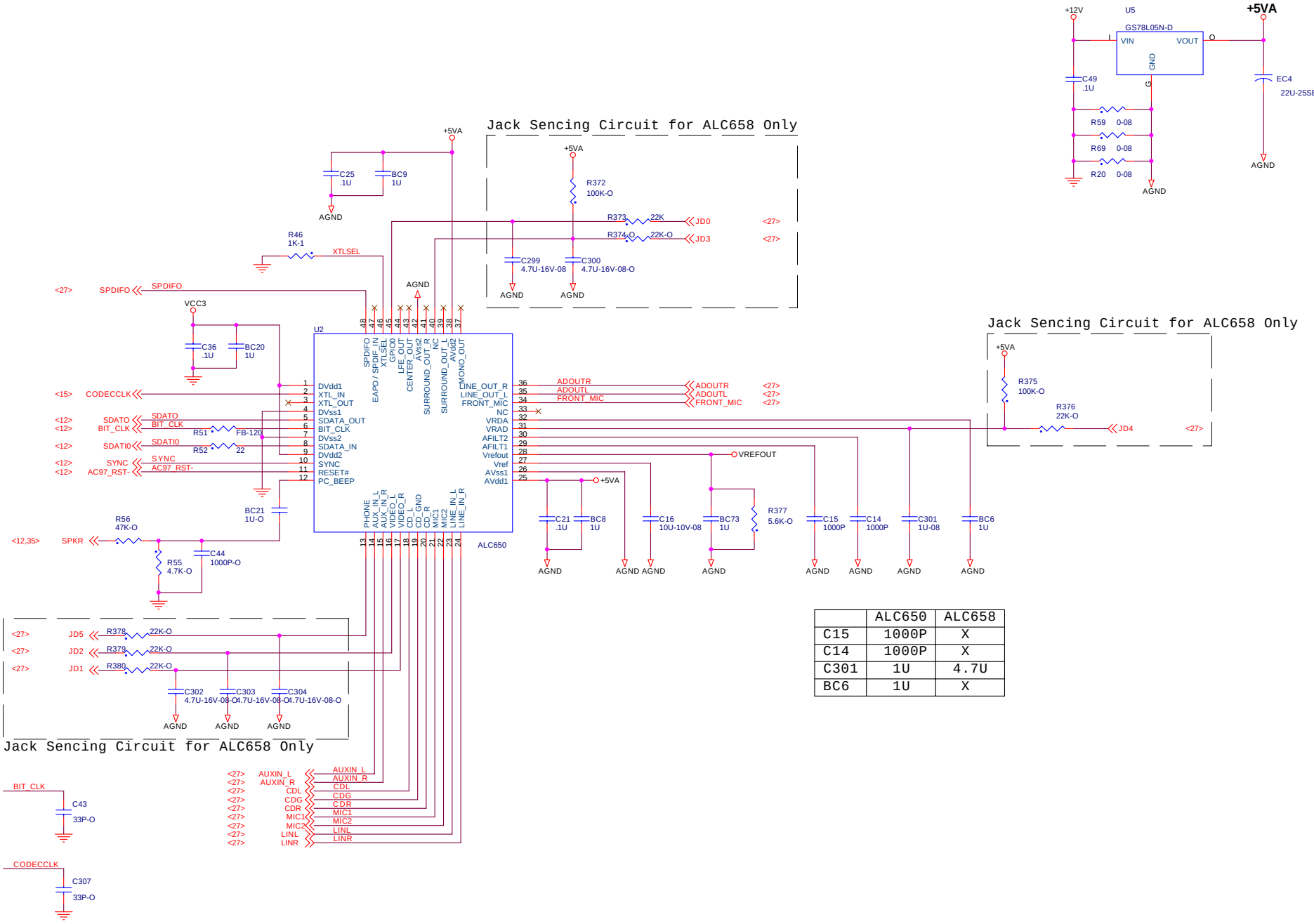

	ALC650	ALC658
C15	1000P	X
C14	1000P	X
C301	1U	4.7U
BC6	1U	X

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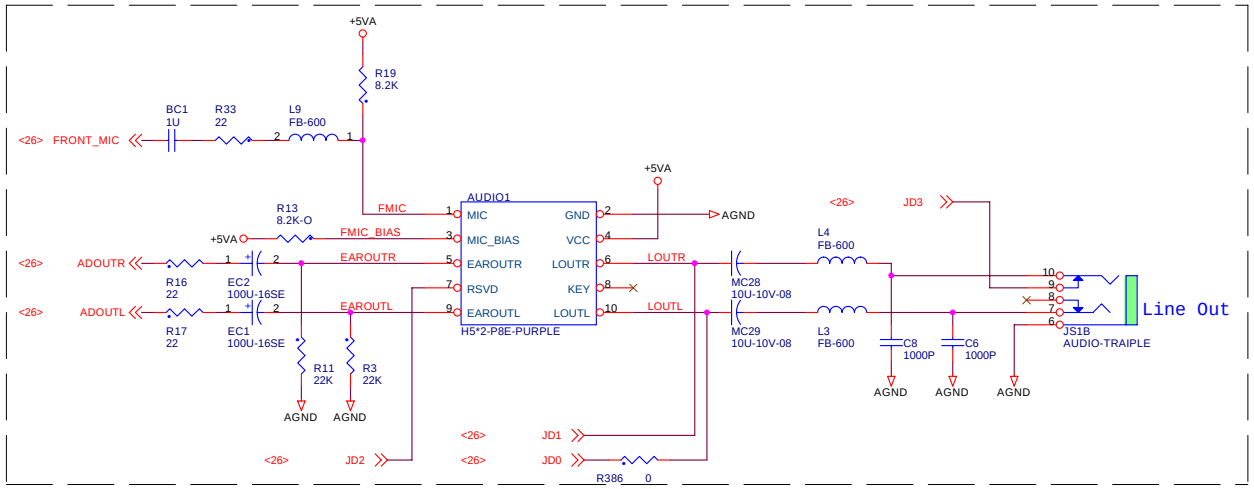

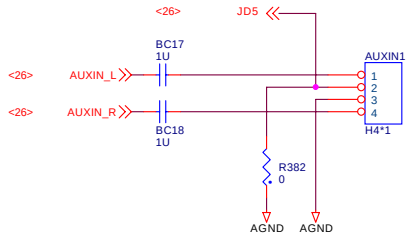

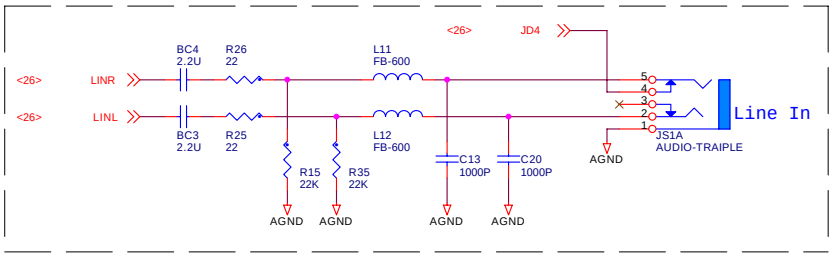

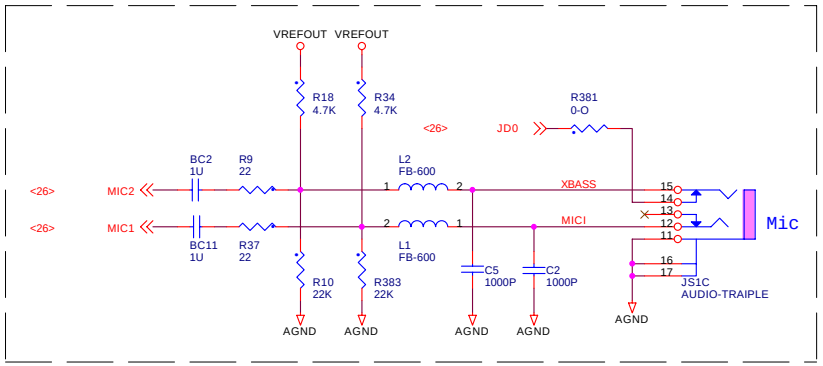

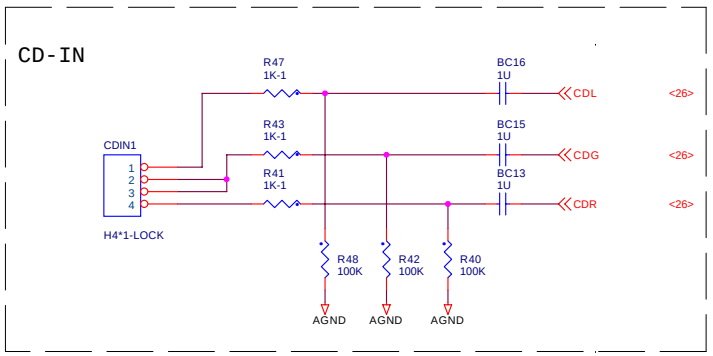

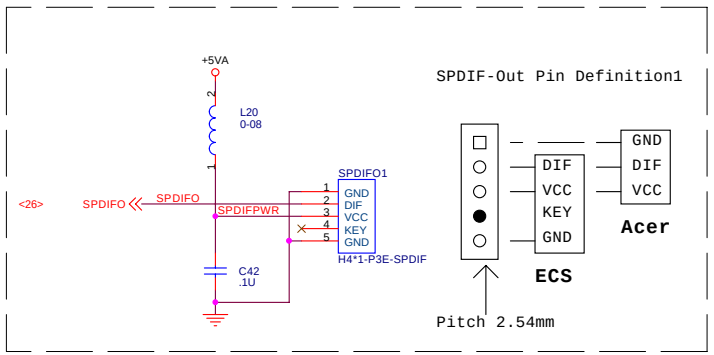

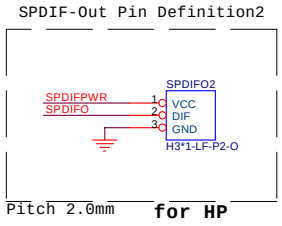

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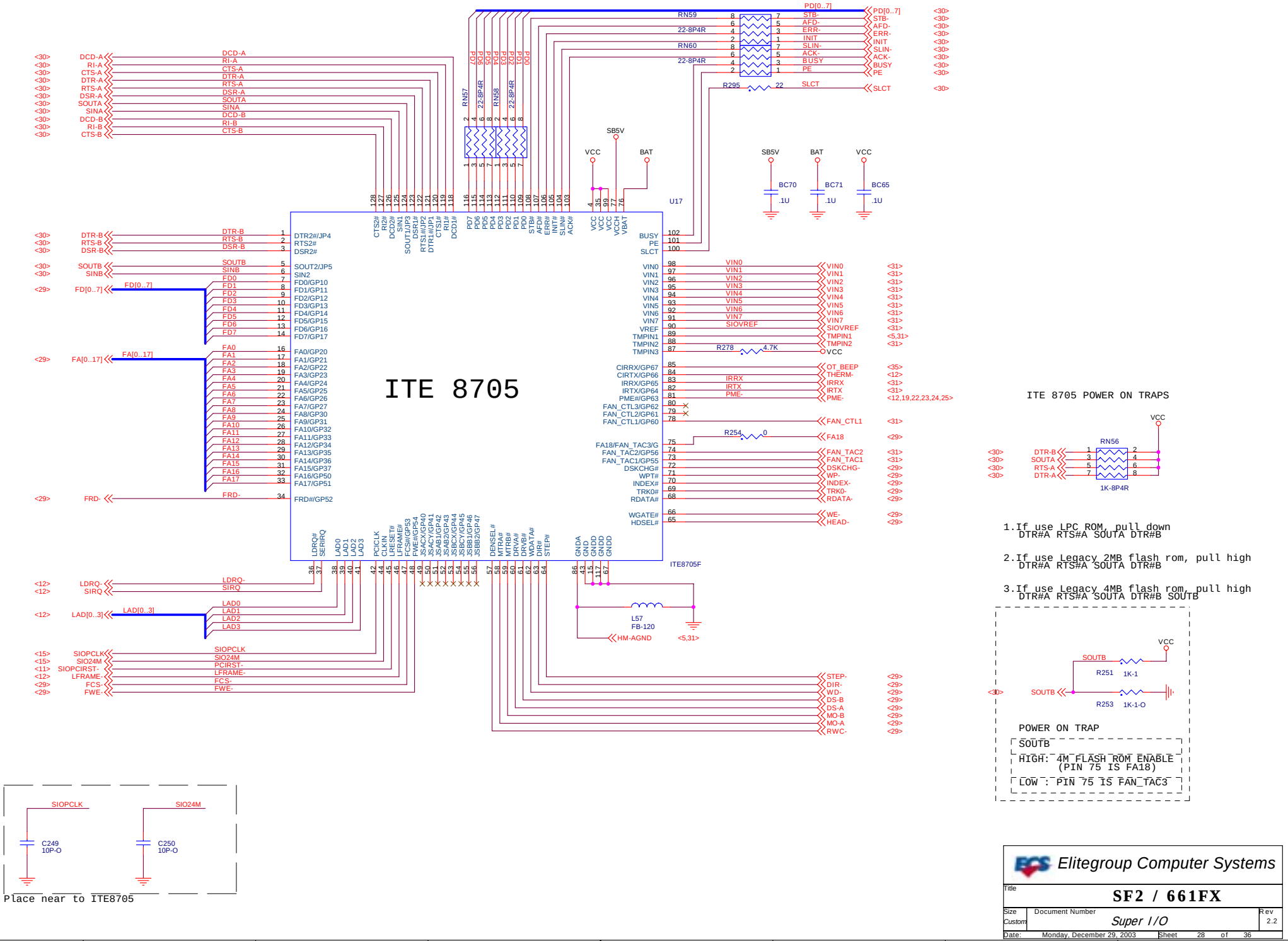

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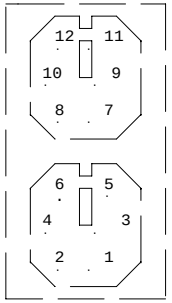
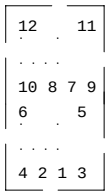
CONNECTOR VIEW



TOP VIEW



KBVCC

KBDAT
PMDAT
KBCLK
PMCLK

RN7
4.7K-8P4R

KBVCC

L19
FB-600-08-PW

<12> KBDAT — KBDAT — L18 FB-120 — KBD
<12> KBCLK — KBCLK — L16 FB-120 — KBC
<12> PMDAT — PMDAT — L17 FB-120 — PMD
<12> PMCLK — PMCLK — L15 FB-120 — PMC

PSKBM1
MINI-DUAL-6P-CSR

C24
.01U

R29
0

JP3	BIOS PROTECT
1-2	Write Enable
2-3	Write Disable

VCC

R257
4.7K-O

<28> FD[0..7]
<28> FA[0..17]

<12> FLASH_EN- — FLASH_EN- — R258 330-O — QN9 2N3904-S-O

FWE- — QN10 2N3904-S-O

JP3
H3*1

R273
10K

R252
4.7K

FCS-
FRD-
FA18
PGM-

ROM1
PLCC-32PBR

BC64
.1U

RN55
4.7K-8P4R

RN54
4.7K-8P4R

FD0
FD1
FD2
FD3
FD4
FD5
FD6
FD7

FDC

R306
RN61
150-1
150-8P4R

FDD1
H17*2-LPW-P5E

RWC-
INDEX-
MO-A
DS-B
DS-A
MO-B
DIR-
STEP-
WD-
WE-
TRK0-
WP-
RDATA-
HEAD-
DSKCHG-

PLACE NEAR CONNECTOR

PMD
KBD
KBC
PMC

CP7
180P-8P4C

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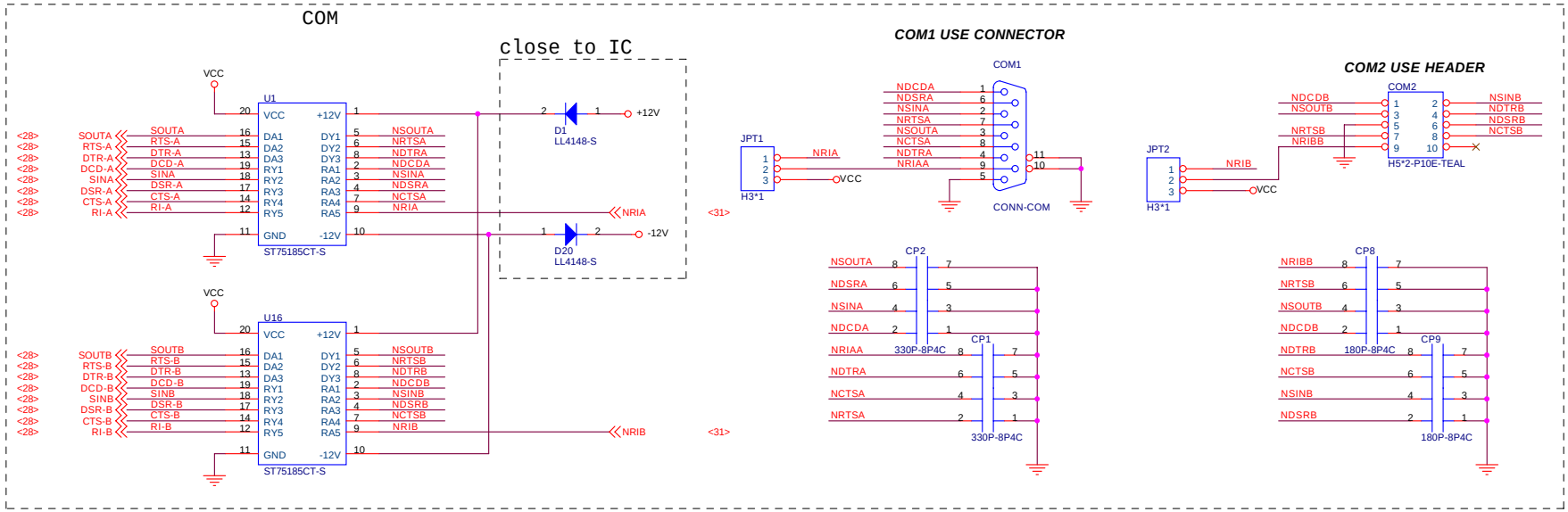

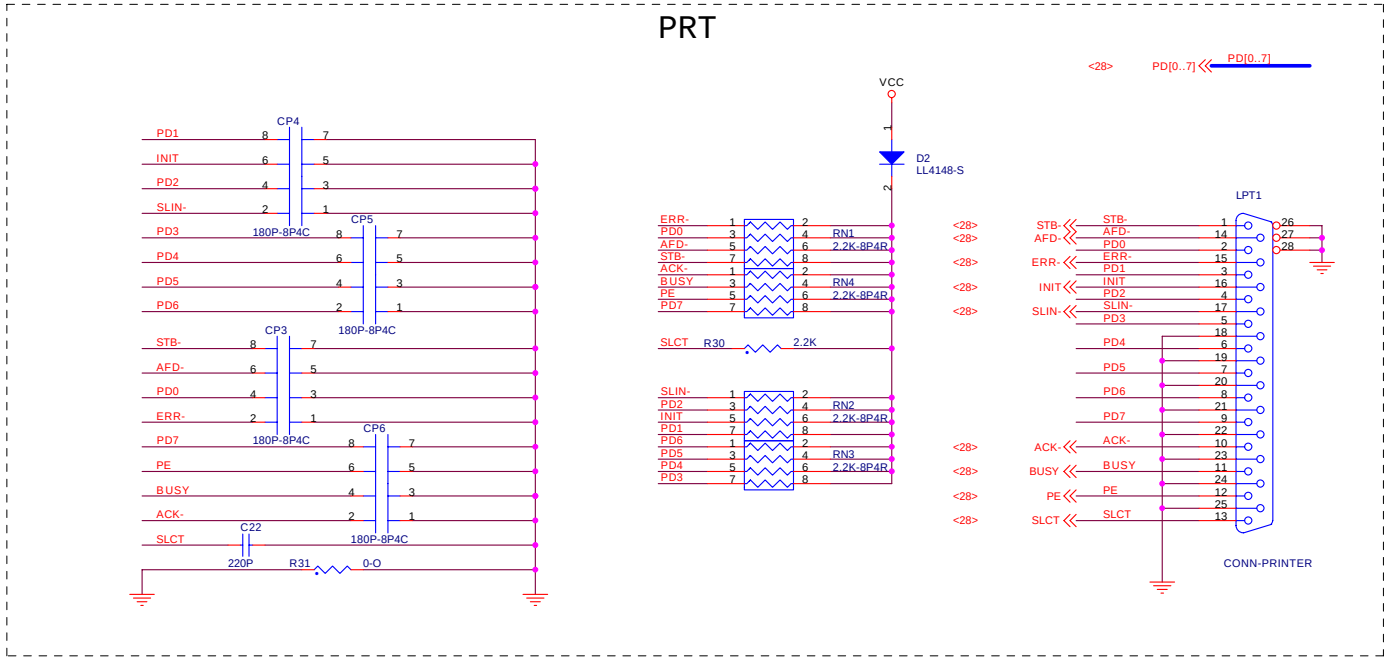

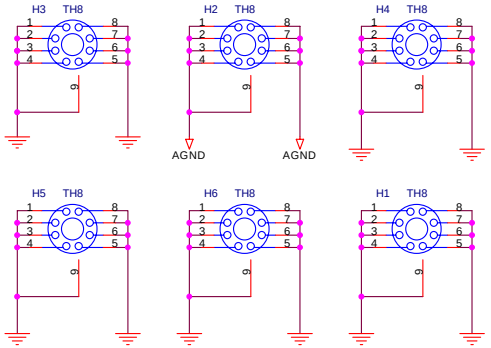

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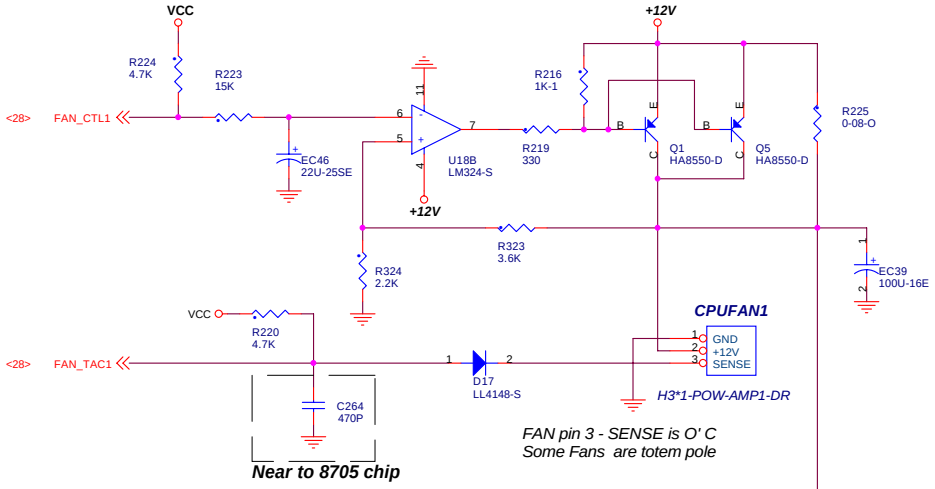
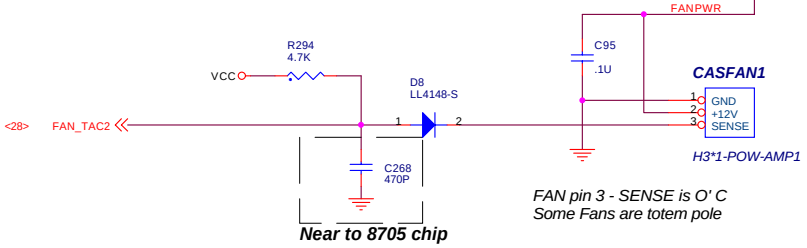
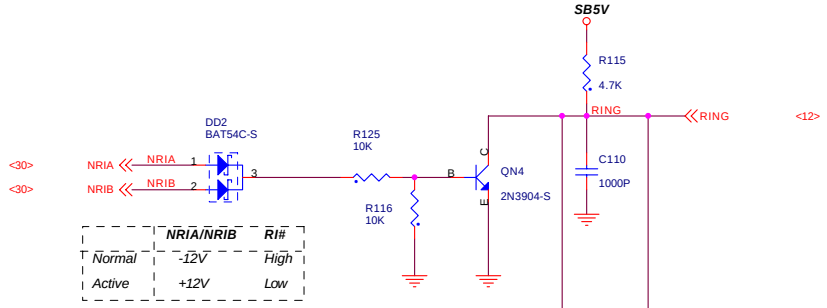
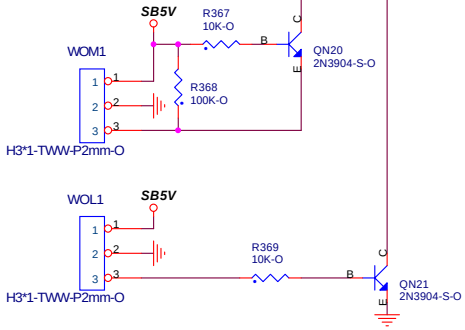
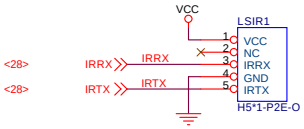
Layout :
Power Signals : CPUFAN, CASEFAN, PWRFAN trace width should > 20 mil with current 200 mA .



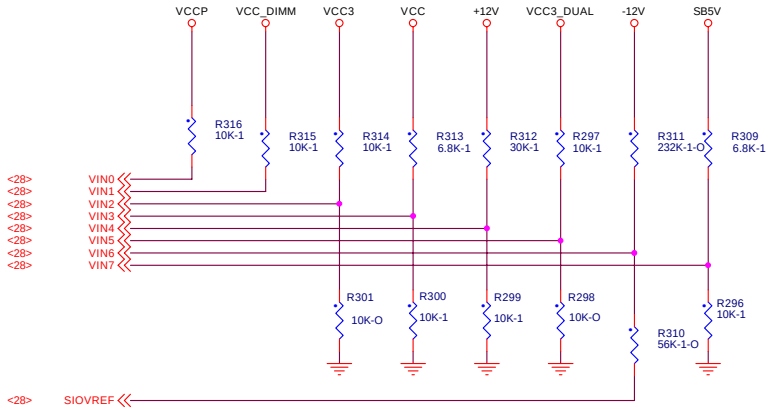






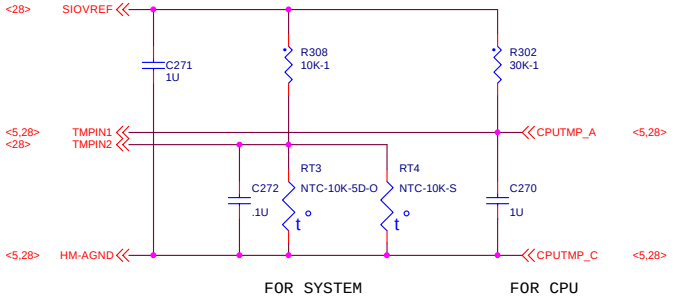


Voltage Monitor



Temperature Monitor

Choosing method of measuring temperature by either thermistor or diode



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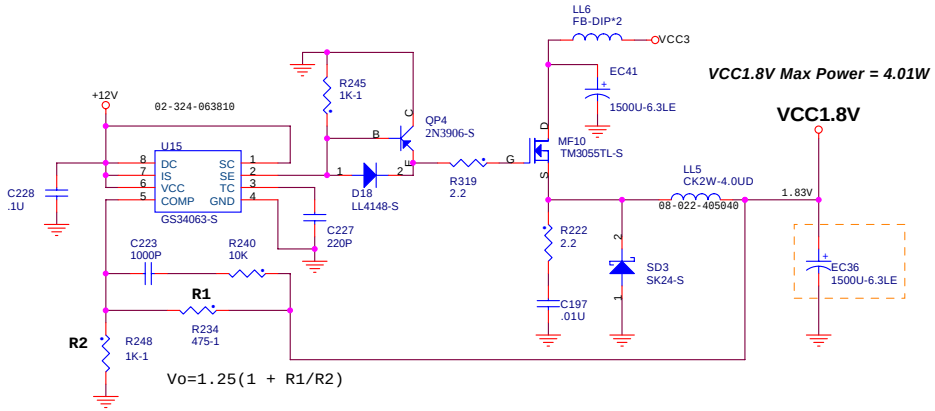
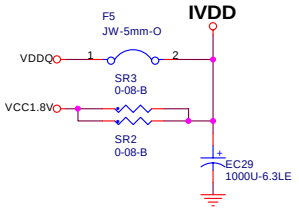
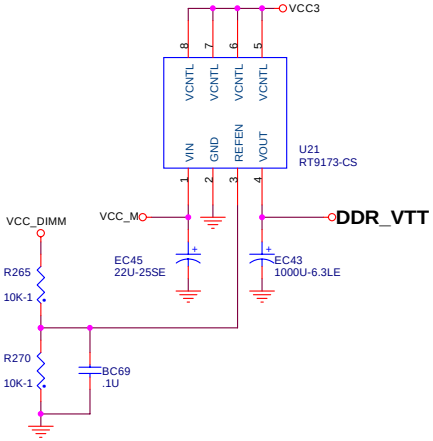
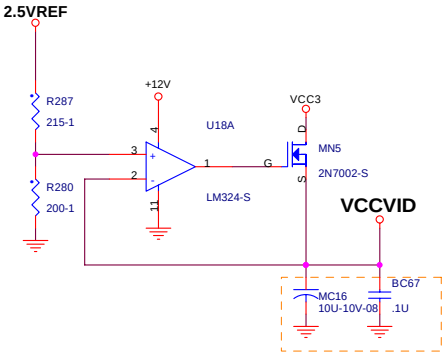


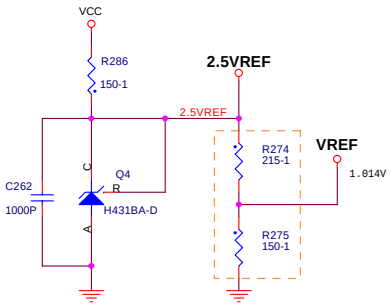


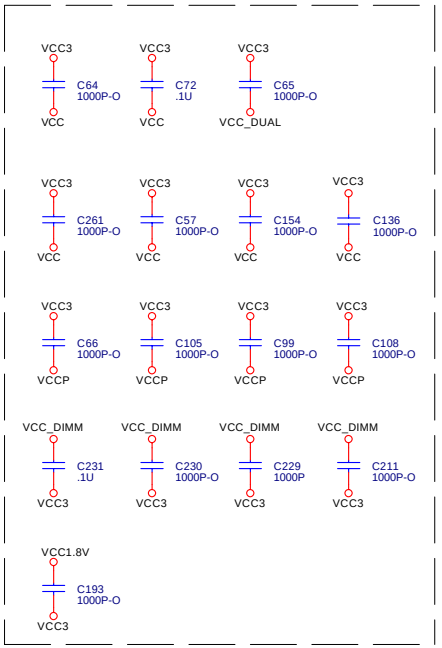


	IVDD	VCC1.8V	
648	1.8V	1.8V	short two power plane, one regulator
648FX	1.9V	1.9V	short two power plane, one regulator
661FX	1.8V	1.8V	short two power plane, one regulator or two regulator
661FXLV	1.5V	1.8V	two regulator

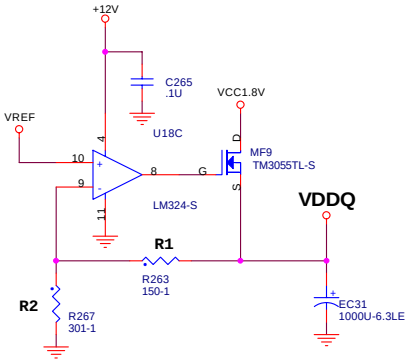
	AUX_IVDD	SB1.8V	
648	1.8V	1.8V	short two power plane, one regulator
648FX	1.9V	1.9V	short two power plane, one regulator
661FX	1.8V	1.8V	short two power plane, one regulator
661FXLV	1.5V	1.8V	two regulator

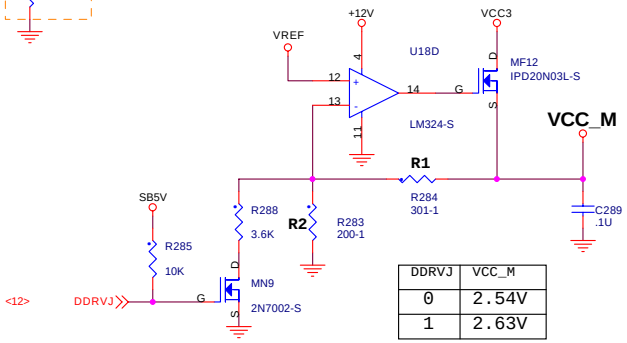






平均分佈在POWER PLAN 和 PLAN 之間





DDRVJ	VCC_M
0	2.54V
1	2.63V

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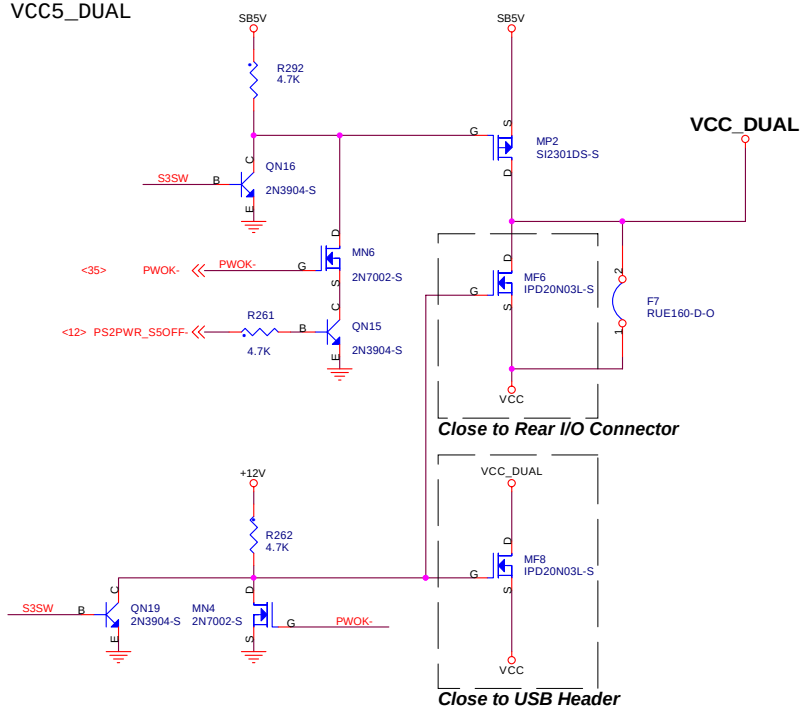
AUTO VOLTAGE SWITCH FOR ACPI STATE 3

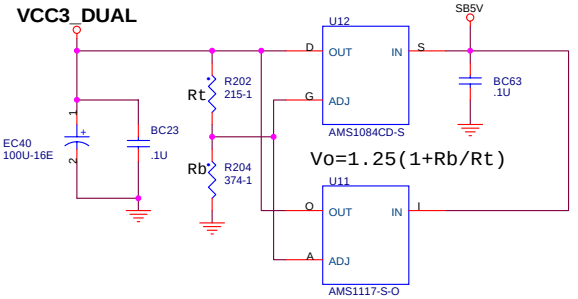
1.IN S0,S1
THIS CIRCUIT PASSES THE NORMAL POWER

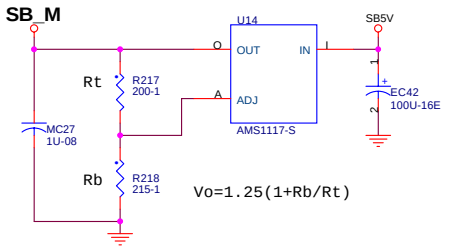
2.IN S3,S4,S5
THIS CIRCUIT PASSES THE STANDBY POWER

NOTE:
BECAUSE OF THE MAXIMUM CURRENT FROM POWER SUPPLY IS ONLY ABOUT 750~1000mA SO IF YOU WANT TO SUPPORT WAKE UP FROM S3 BY USB, YOU MUST HAVE A POWER SUPPLY WITH LARGER POWER.(ADDITIONAL 500mA PER USB PORT)

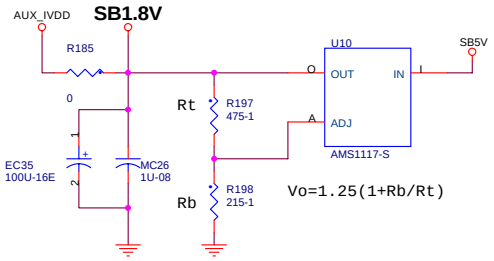
VCC3_DUAL & VCC5_DUAL



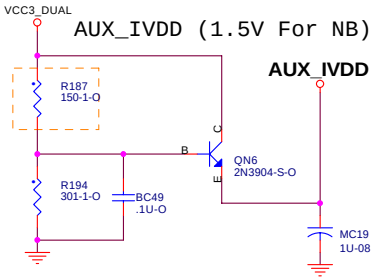


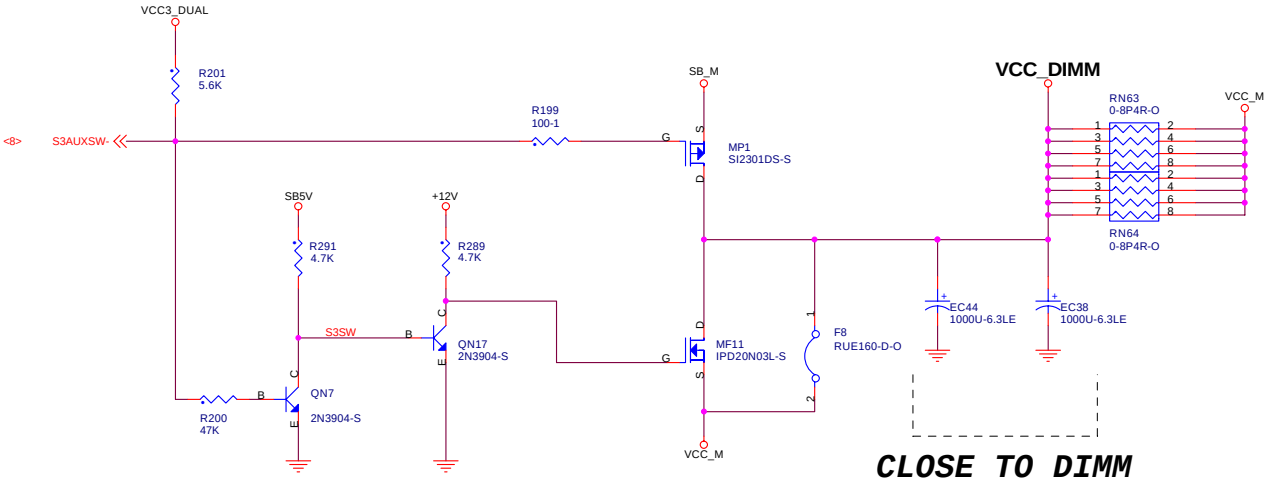


SB1.8V (For SB) 450mA



AUX_IVDD (1.5V For NB) 10mA





Compal Computer Systems		
Title	SF2 / 661FX	
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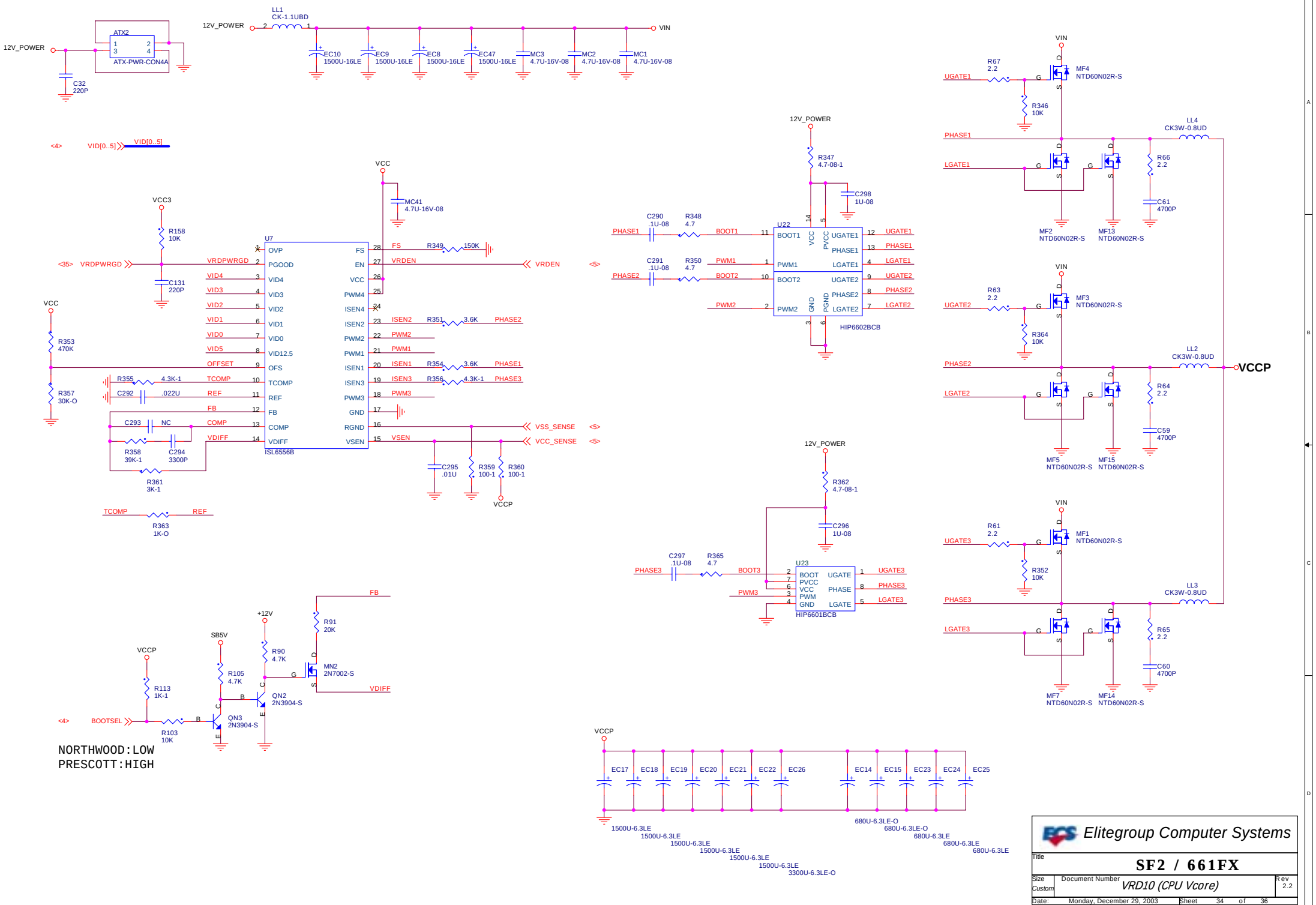
12V_POWER
ATX2
ATX-PWR-CON4A
C32
220P
LL1
CK-1.1UBD
VIN
EC10 1500U-16LE
EC9 1500U-16LE
EC8 1500U-16LE
EC47 1500U-16LE
MC3 4.7U-16V-08
MC2 4.7U-16V-08
MC1 4.7U-16V-08
<4>
VID[0..5]
VCC
VCC3
R158 10K
MC41 4.7U-16V-08
U7
<35>
VRDPWRGD
C131 220P
R353 470K
R357 30K-O
R355 4.3K-1
C292 .022U
C293 NC
R358 39K-1
C294 3300P
R361 3K-1
TCOMP
REF
R363 1K-O
OFFSET
FB
COMP
VDIFF
OVP
PGOOD
VID4
VID3
VID2
VID1
VID0
VID12.5
OFS
TCOMP
REF
FB
COMP
VDIFF
ISL6556B
FS
EN
VCC
PWM4
ISEN4
ISEN2
PWM2
PWM1
ISEN1
ISEN3
PWM3
GND
RGND
VSEN
R349 150K
VRDEN
<5>
R351 3.6K
PHASE2
R354 3.6K
PHASE1
R356 4.3K-1
PHASE3
VSS_SENSE
VCC_SENSE
C295 .01U
R359 100-1
R360 100-1
VCCP
12V_POWER
R347 4.7-08-1
C298 1U-08
C290 .1U-08
R348 4.7
C291 .1U-08
R350 4.7
PHASE1
PHASE2
U22
BOOT1
BOOT2
PWM1
PWM2
PVCC
VCC
GND
PGND
UGATE1
PHASE1
LGATE1
UGATE2
PHASE2
LGATE2
HIP6602BCB
R67 2.2
R346 10K
R66 2.2
C61 4700P
R63 2.2
R364 10K
R64 2.2
C59 4700P
R61 2.2
R352 10K
R65 2.2
C60 4700P
MF4 NTD60N02R-S
MF2 NTD60N02R-S
MF13 NTD60N02R-S
MF3 NTD60N02R-S
MF5 NTD60N02R-S
MF15 NTD60N02R-S
MF1 NTD60N02R-S
MF7 NTD60N02R-S
MF14 NTD60N02R-S
LL4 CK3W-0.8UD
LL2 CK3W-0.8UD
LL3 CK3W-0.8UD
VCCP
R362 4.7-08-1
C296 1U-08
C297 .1U-08
R365 4.7
PHASE3
U23
BOOT3
PWM3
BOOT
PVCC
VCC
PWM
GND
UGATE
PHASE
LGATE
UGATE3
PHASE3
LGATE3
HIP6601BCB
FB
+12V
SB5V
VCCP
R91 20K
R90 4.7K
R105 4.7K
R113 1K-1
R103 10K
MN2 2N7002-S
QN2 2N3904-S
QN3 2N3904-S
VDIFF
<4>
BOOTSEL
NORTHWOOD:LOW
PRESCOTT:HIGH
EC17 1500U-6.3LE
EC18 1500U-6.3LE
EC19 1500U-6.3LE
EC20 1500U-6.3LE
EC21 1500U-6.3LE
EC22 1500U-6.3LE
EC26 3300U-6.3LE-O
EC14 680U-6.3LE-O
EC15 680U-6.3LE-O
EC23 680U-6.3LE
EC24 680U-6.3LE
EC25 680U-6.3LE
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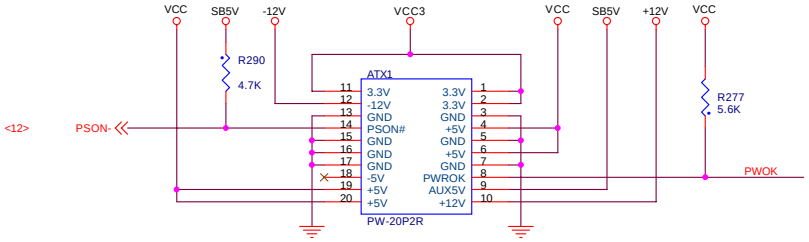
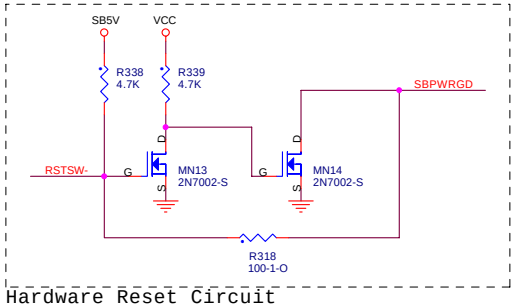
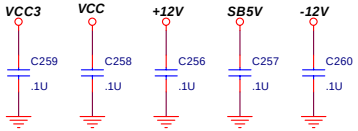
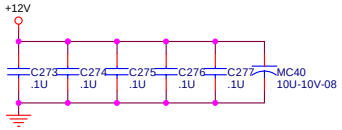
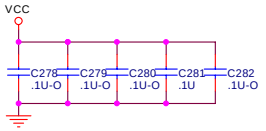




Hardware Reset Circuit

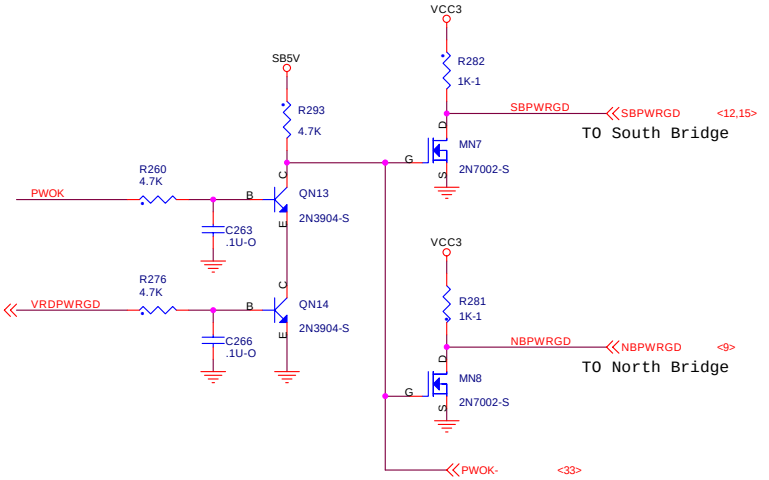






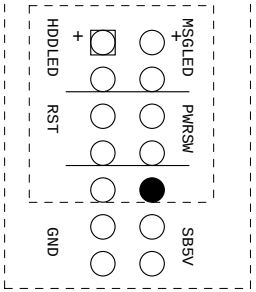
Layout :

Bypass capacitors close to ATX power connector for EMI solution.

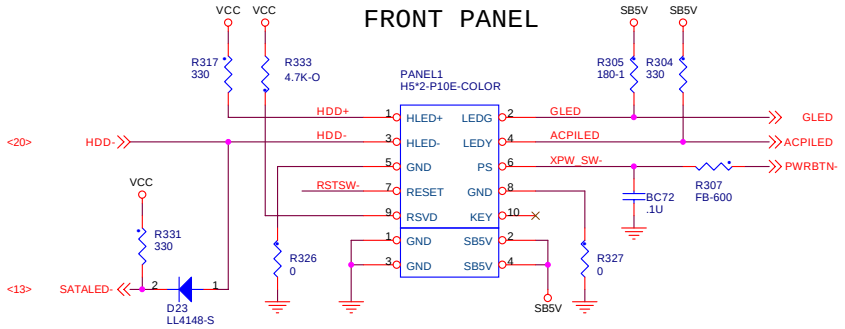


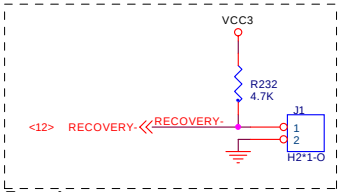
Acer Front Panel

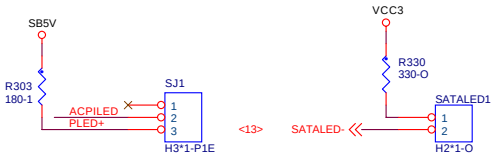
Intel Front Panel



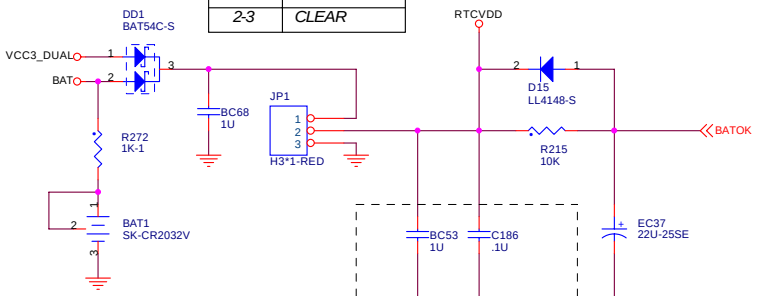
FRONT PANEL





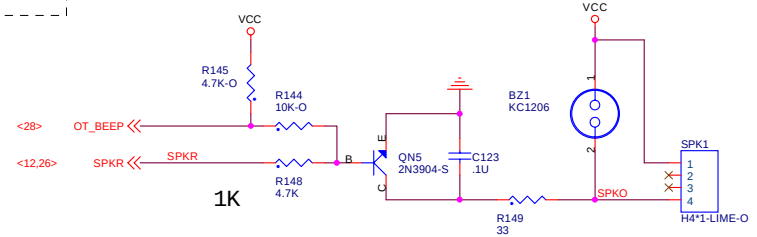


JP1	CLEAR CMOS
1-2	NORMAL
2-3	CLEAR



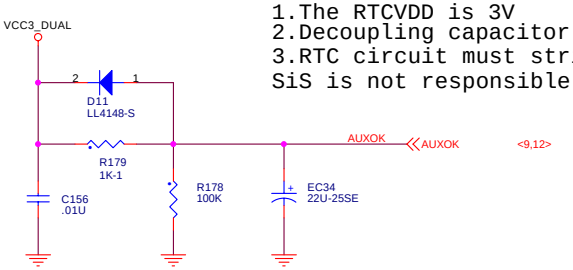
Decoupling Capacitor

Place close to 963



1K

RTC



NOTE!
1.The RTCVDD is 3V
2.Decoupling capacitor must be close to 635 RTCVDD pin.
3.RTC circuit must strictly follow SiS's recommended design
SiS is not responsible for RTC problems from foreign designs.

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1. BOM Attention

(1) SATA

Components \ Option	Yes	No
U13	964	964L
R241	374	X
R71, R74	33	X
R72, R75	49.9	X
R331	330	X
D23	1N4148	X
SATA1, SATA2	O	X

(2) LAN

Components \ Option	10/100 Mbps	1Gbps
LAN1	RTL8100C	RTL8110S
R53	5.6K	2.49K
R12, R14, R21, R28	X	49.9
C10, C18	X	0.1u
C51	0.1u	0.01u
C52, C53, C54	X	0.01u
RN62	75-8P4R	X
R62	X	0 ohm
T1	LF-H59X	HQ-H40B
L14	X	0 ohm
C23	X	0.1u
L21	0 ohm	X
QP1	X	HA8550
R321	0 ohm	X
R322	X	0 ohm
L10	0 ohm	X

(3) On-Board VGA

Components \ Option	Support	No Support
U8	661FX	648FX
L30, L31, L32	FB-120	X
C112, C116, C117, BC35	1U	X
C118, C119	.1U	X
MC36, MC37	10U	X
R136	130	X
R134, R143	33	X
R128, R135	100	X
VGA1	O	X
L6, L7, L8	FB-80	X
C111, C114, C115	22P	X
R22, R23, R24	75	X
R32, R39	2.2K	X
CV1~7	22P	X
F2	O	X
R234	475	169
R248	1K	301
R197	475	374
R198	215	200

2. GPIO Function

GPIO \ Status		0	1	Jumper
GPIO5	* Clear CMOS for HP	Clear CMOS	Normal	JP4
GPIO6	* Clear Password for HP	Clear Password	Normal	JP5
GPIO7	* RESERVED	RESERVED	RESERVED	N/A
GPIO9	USB, PS/2 S4/S5 Wake Up	Disable	Enable	N/A
GPIO10	DDR Voltage	2.54V	2.63V	N/A
GPIO11	* WHQL	No Support	Support	JPT3

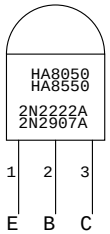
(1) "*" means that the function is selective and ECS may make changes at any time, without notice in this page.

(2) Jumper Setting (Header 3*1):

1: (1-2)

0: (2-3)

(3) Please see Page.12 for more detail jumper function.



Elitegroup Computer Systems

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