AMD690GM-M2

BASED ON RES485-M VER:A
PCB:244mm*244mm

Rev : 1.0A

L2:PWR
L3:GND

Rev.B

1.Remove AC97_OSCIN connection(R610, C550), (PAGE 3)
2.R270 change to 56K, R247 change to 100K (PAGE 4)
3.Remove pull up resistor R328, R329 (PAGE 6)
4.Add R668 to connect VCC1.2 and VCC1.2_SB(PAGE 6)
5.Add Q41, R271, R272 to level shift (PAGE 7)
6.Remove SID connection (R655) and pull up resistor (R225)(PAGE 7)
7.SC28, SC54, C256, C257, C232, C250 change to 180P (PAGE 10)
8.Add pull up resistor R459 (PAGE 20)
9.Remove -REQ2, -REQ4, -GNT2, -GNT4, -LPC_DRQ1 (PAGE 20)
10.VCC1.2 change to VCC1.2_SB (PAGE 20)
11.Remove WD_PWRGD connection (R596) (PAGE 21)
12.Remove FB61, FB62 (PAGE 22)
13.VCC1.2 change to VCC1.2_SB (PAGE 22)
14.Remove R473,R436 (PAGE 23)
15.VCC1.2 change to VCC1.2_SB (PAGE 22)
16.R457 connect VCC1.2 change to connect VCC1.8 (PAGE 23)
17.ROM1 pin7 connect to -WP_ROM1 (PAGE 24)
18.C457 change to 10U (PAGE 24)
19.Add C155, C156 for EMI (PAGE 25)
20.SRN1, SRN2 change to SL1, SL2, SL3, SL4 (PAGE 26)
21.U27 pin28 connect to JLPC1 pin19 (PAGE 26)
22.Remove C6, C7, C8, C9 (PAGE 28)
23.Remove 3pin smart fan (PAGE 29)
24.USBLAN1 change to Speed Tech P25@153-P5P9 (PAGE 30)
25.C66 change to 0.1U (PAGE 30)
26.Add C5, C44, C67, C68, C69, C70, C71, C72, C73, C74, C75, C76 for EMI (PAGE 32)

Rev.1.0

1.REMOVE ALC655 CO LAY

DETECT PIN

IR	SIO:GP23(PIN24)
COM2	SIO:GP25(PIN22)
AC'97	SIO:GP26(PIN21)
WOL	SIO:GP31(PIN18)
S3	SIO:GP32(PIN17)
CNR	SIO:GP33(PIN16)
TVOUT	SIO:GP34(PIN14)
5.1/7.1	SIO:GP35(PIN13)
RESERVED	SIO:GP37(PIN11)

IDE Cable detect

-P66DET	SB: GPIO9

LED Blinking

G_LED1	SIO:GP10(PIN84)
G_LED2	SIO:GP53(PIN77)

Other

BIOS_WP	SIO:GP41(PIN28)
WT_BEEP	SIO:GP16(PIN29)
SIO_S4S5	SIO:GP40(PIN79)
GPO_LAN	SIO:GP30

Voltage Adjustment

VCC18	SIO_GPO20
	SIO_GPO21

PCI Bus Resource

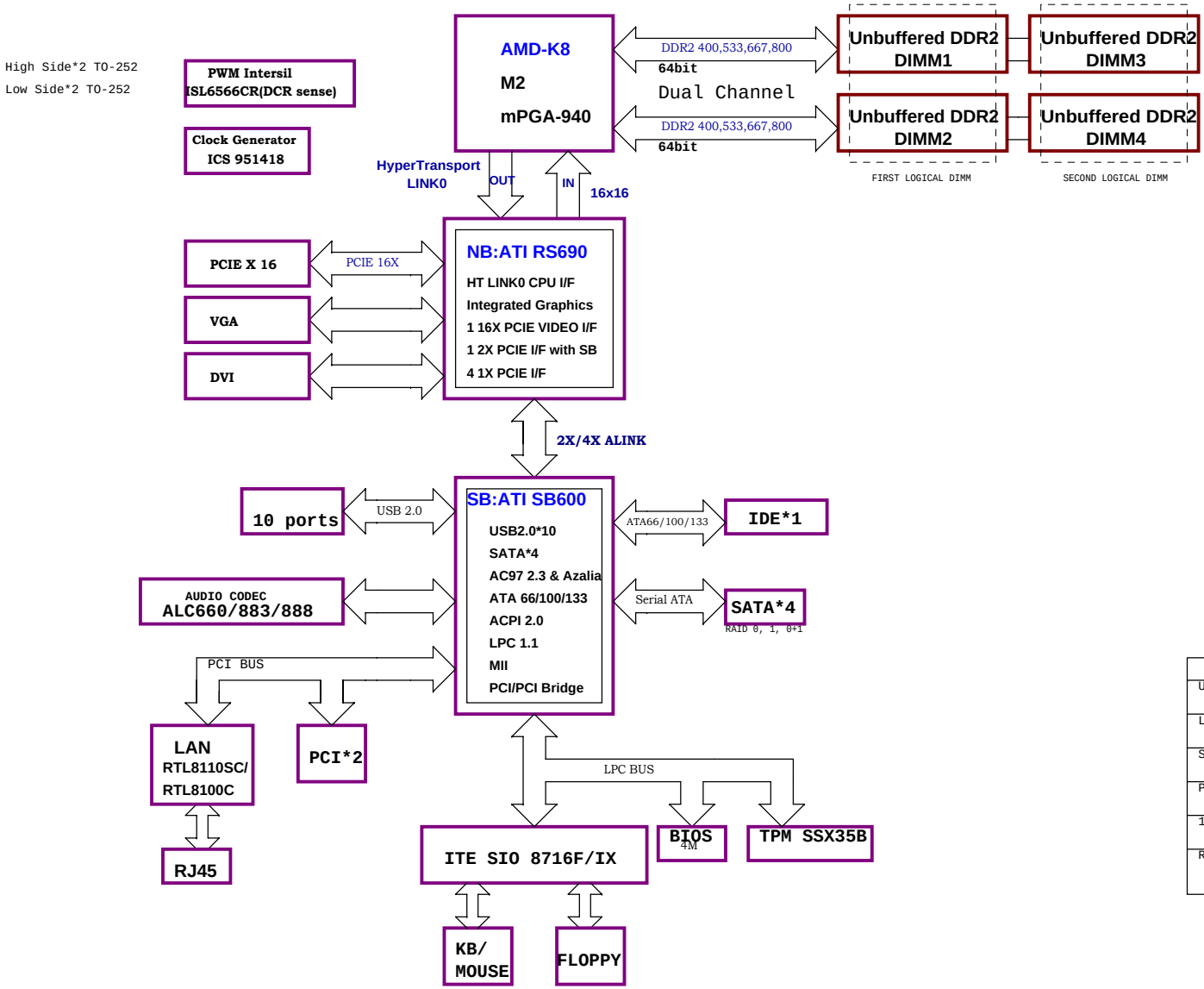
PCI1	AD16	INT E,FGH	REQ0
PCI2	AD17	INT F,GHE	REQ1
LAN	AD21	INT G	REQ3

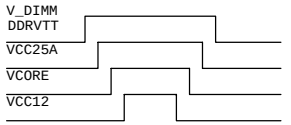
Elitegroup Computer Systems

Title: Cover Page

Size	Document Number	Rev
Custom	AMD690GM-M2	1.0A

Date: Monday, December 18, 2006 Sheet 1 of 34

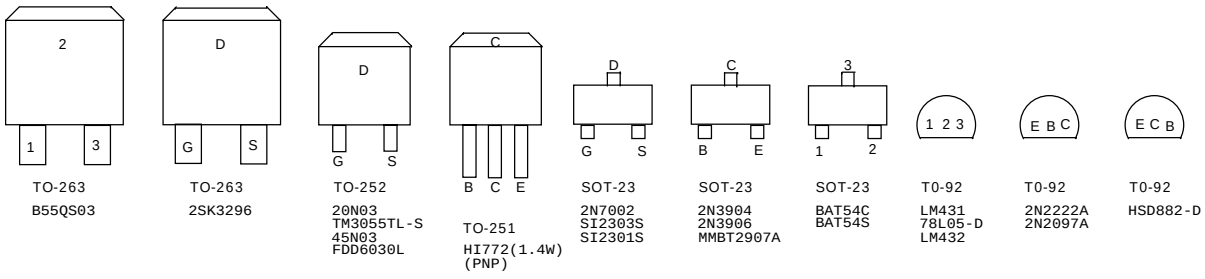




Layout width/space

	PCB 2116
USB(45/90)	20/8/8/8/20 (47/87) 20/8/8/8/20 layout(47/87)
LAN(50/100)	20/8/12/8/20 (47/91) 20/8/10/8/20 layout(47/90)
SATA(50/100)	20/6/6/6/20 (57/98) 20/5/7/5/20 layout(62/111)
PCI-E(50/100)	20/6/6/6/20 (57/98) 20/5/7/5/20 layout(62/111)
1394(55/110)	20/6/9/6/20 (56/105) 20/6/9/6/20 layout(56/105)
R.G.B (37.5)	20/9/18/9/18/9/20 ATI DEMO 25/5/25/5/25/5/25 layout Put 75 ohm on NB (Impedence=37.5 ohm)

22U/25DE	5*7 mm
100U/16DE	6.3*11 mm
220U/10DE	6.3*11 mm
470U/16DE	8*11 mm
1000U/10DE	8*14 mm
1500U/16DE	10*25 mm
3300U/25DE	10*25 mm

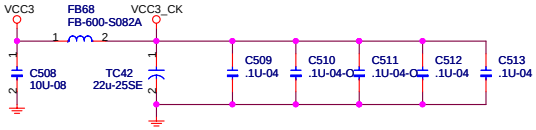


Elitegroup Computer Systems

Title: Block Diagram

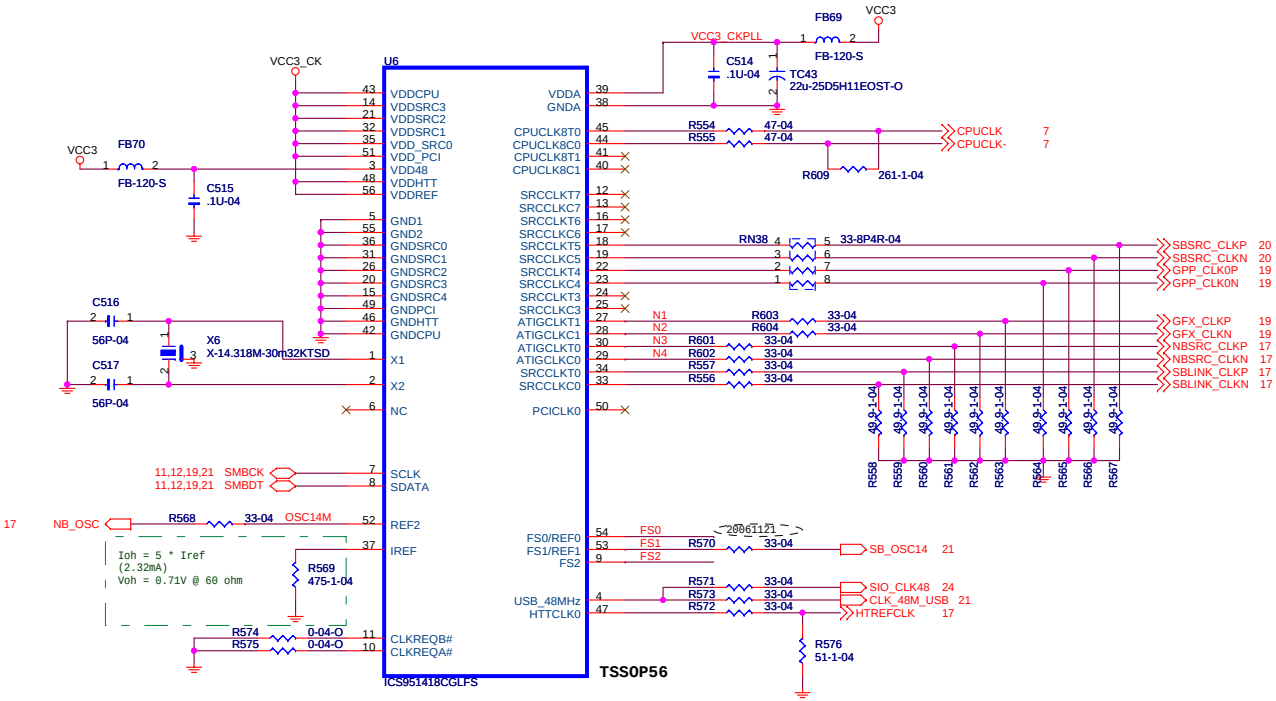
Size: Custom | Document Number: AMD690GM-M2 | Rev: 1.0A

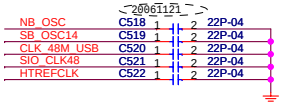
Date: Monday, December 18, 2006 | Sheet 2 of 34

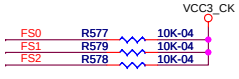


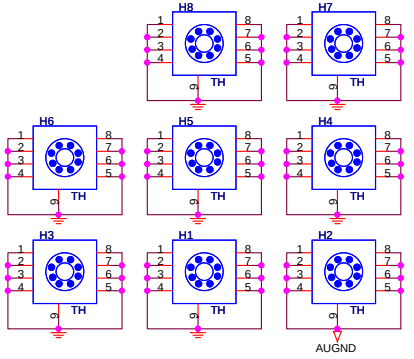
1- PLACE ALL SERIAL TERMINATION
RESISTORS CLOSE TO CLOCK GEN

2- PUT DECOUPLING CAPS CLOSE TO CLOCK GEN POWER PIN









EXT CLK FREQUENCY SELECT TABLE(MHZ)

	FS2	FS1	FS0	CPU	SRCCLK [2:1]	HTT	PCI	USB	COMMENT
	0	0	0	Hi-Z	100.00	Hi-Z	Hi-Z	48.00	Reserved
	0	0	1	X	100.00	X/3	X/6	48.00	Reserved
	0	1	0	180.00	100.00	60.00	30.00	48.00	Reserved
	0	1	1	220.00	100.00	36.56	73.12	48.00	Reserved
	1	0	0	100.00	100.00	66.66	33.33	48.00	Reserved
	1	0	1	133.33	100.00	66.66	33.33	48.00	Reserved
*	1	1	1	200.00	100.00	66.66	33.33	48.00	Normal ATHLON64 operation

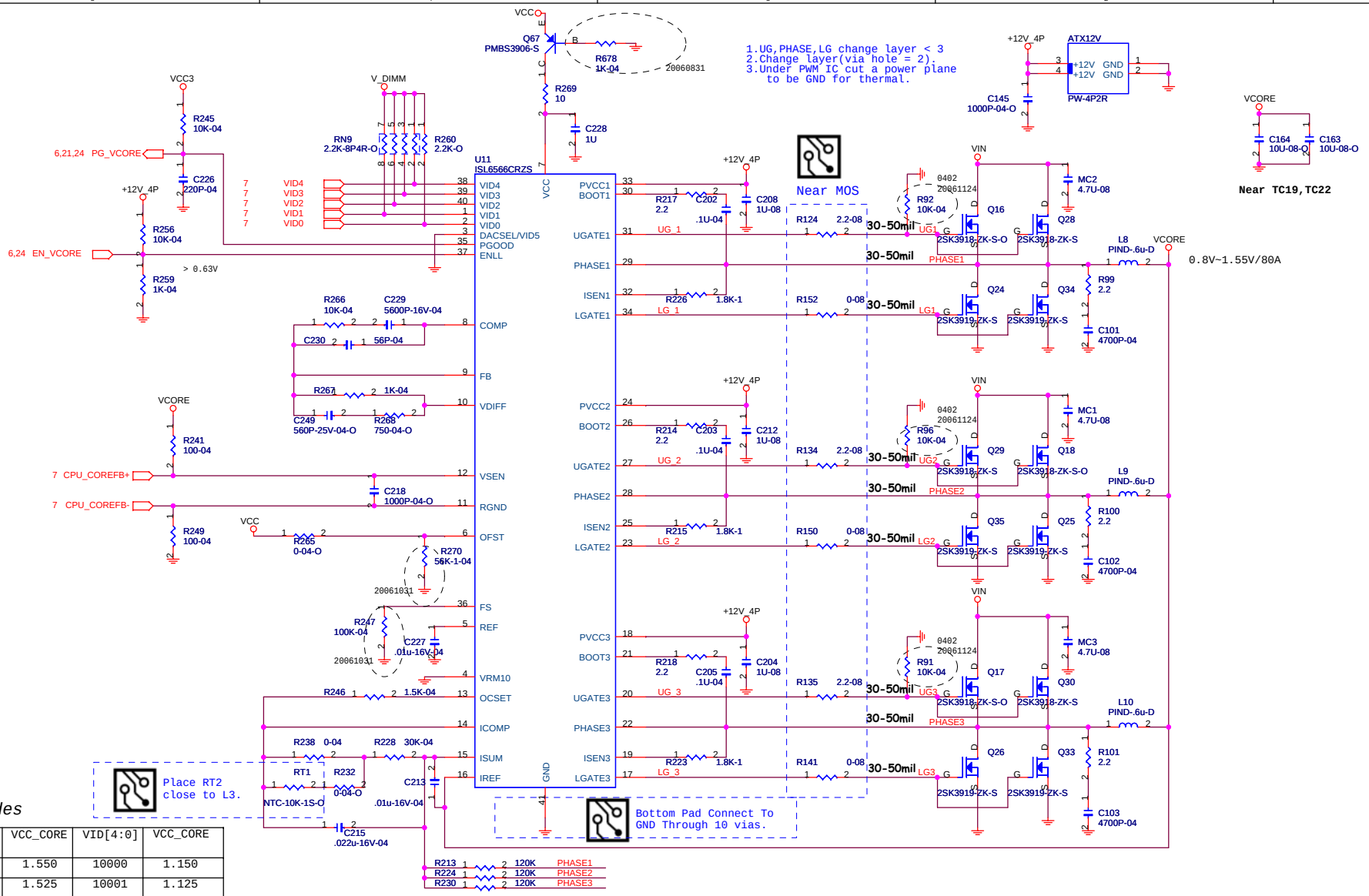
FS0,1,2 internal pull low(120K ohm)

Elitegroup Computer Systems

Title: Clock Generator

Size: Custom | Document Number: AMD690GM-M2 | Rev: 1.0A

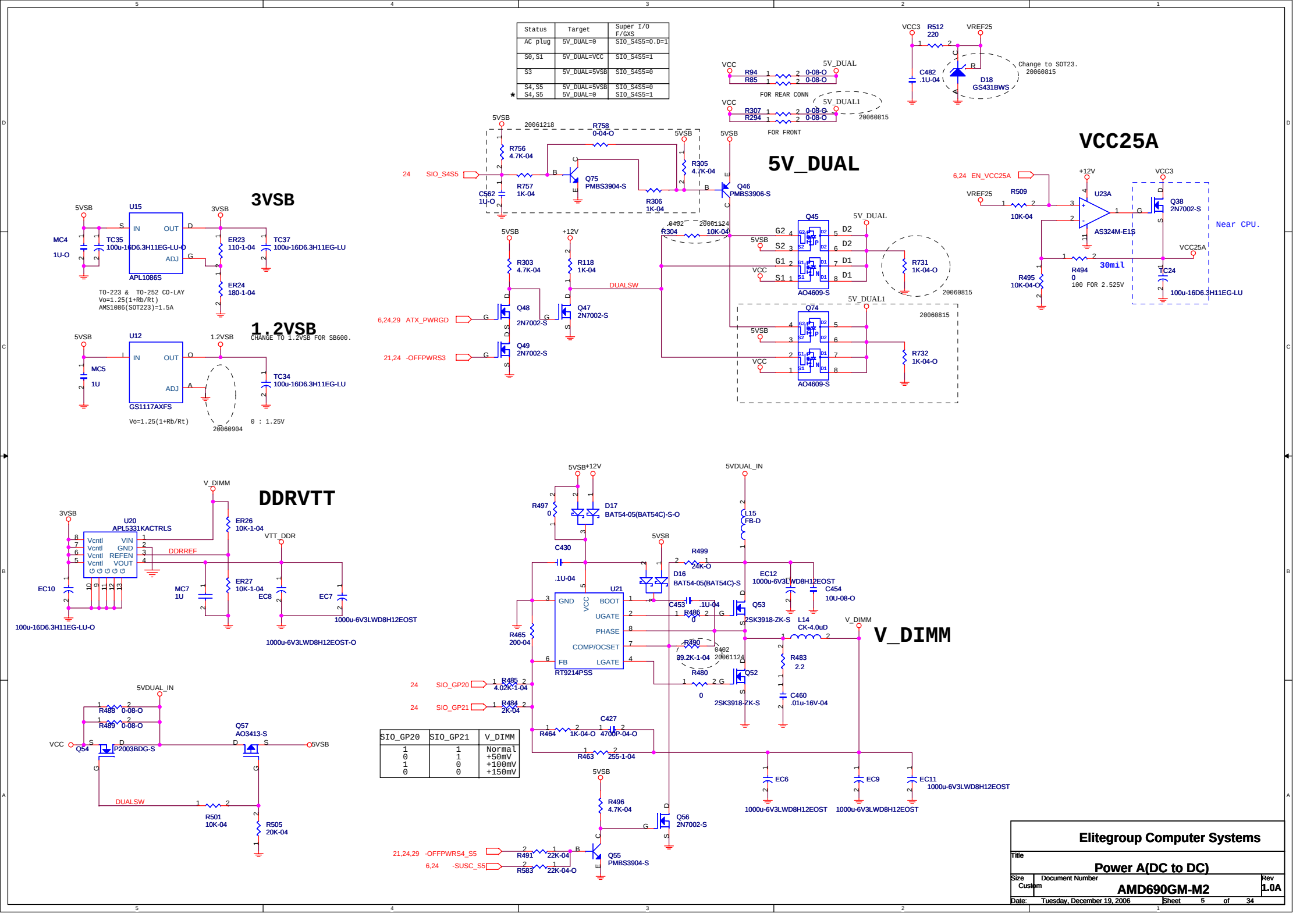
Date: Tuesday, December 19, 2006 | Sheet 3 of 34



VID Codes

VID[4:0]	VCC_CORE	VID[4:0]	VCC_CORE
00000	1.550	10000	1.150
00001	1.525	10001	1.125
00010	1.500	10010	1.100
00011	1.475	10011	1.075
00100	1.450	10100	1.050
00101	1.425	10101	1.025
00110	1.400	10110	1.000
00111	1.375	10111	0.975
01000	1.350	11000	0.950
01001	1.325	11001	0.925
01010	1.300	11010	0.900
01011	1.275	11011	0.875
01100	1.250	11100	0.850
01101	1.225	11101	0.825
01110	1.200	11110	0.800
01111	1.175	11111	No CPU

Elitegroup Computer Systems			
Title: Power (CPU Vcore)			
Size: Custom	Document Number: AMD690GM-M2		Rev: 1.0A
Date: Tuesday, December 19, 2006	Sheet 4 of 34		


Status | Target | Super I/O F/GXS
AC plug | 5V_DUAL=0 | SIO_S4S5=0.D=1
S0,S1 | 5V_DUAL=VCC | SIO_S4S5=1
S3 | 5V_DUAL=5VSB | SIO_S4S5=0
S4,S5 | 5V_DUAL=5VSB | SIO_S4S5=0
S4,S5 | 5V_DUAL=0 | SIO_S4S5=1
3VSB
APL1086S
TO-223 & TO-252 CO-LAY
Vo=1.25(1+Rb/Rt)
AMS1086(SOT223)=1.5A
1.2VSB
CHANGE TO 1.2VSB FOR SB600.
GS1117AXFS
Vo=1.25(1+Rb/Rt)
0 : 1.25V
5V_DUAL
FOR REAR CONN
FOR FRONT
Change to SOT23.
20060815
VCC25A
Near CPU.
AS324M-E1S
30mil
DDRVTT
APL5331KACTRLS
1000u-6V3LWD8H12EOST-O
V_DIMM
RT9214PSS
SIO_GP20 | SIO_GP21 | V_DIMM
1 | 1 | Normal
0 | 1 | +50mV
1 | 0 | +100mV
0 | 0 | +150mV
Elitegroup Computer Systems
Power A(DC to DC)
AMD690GM-M2
Rev 1.0A
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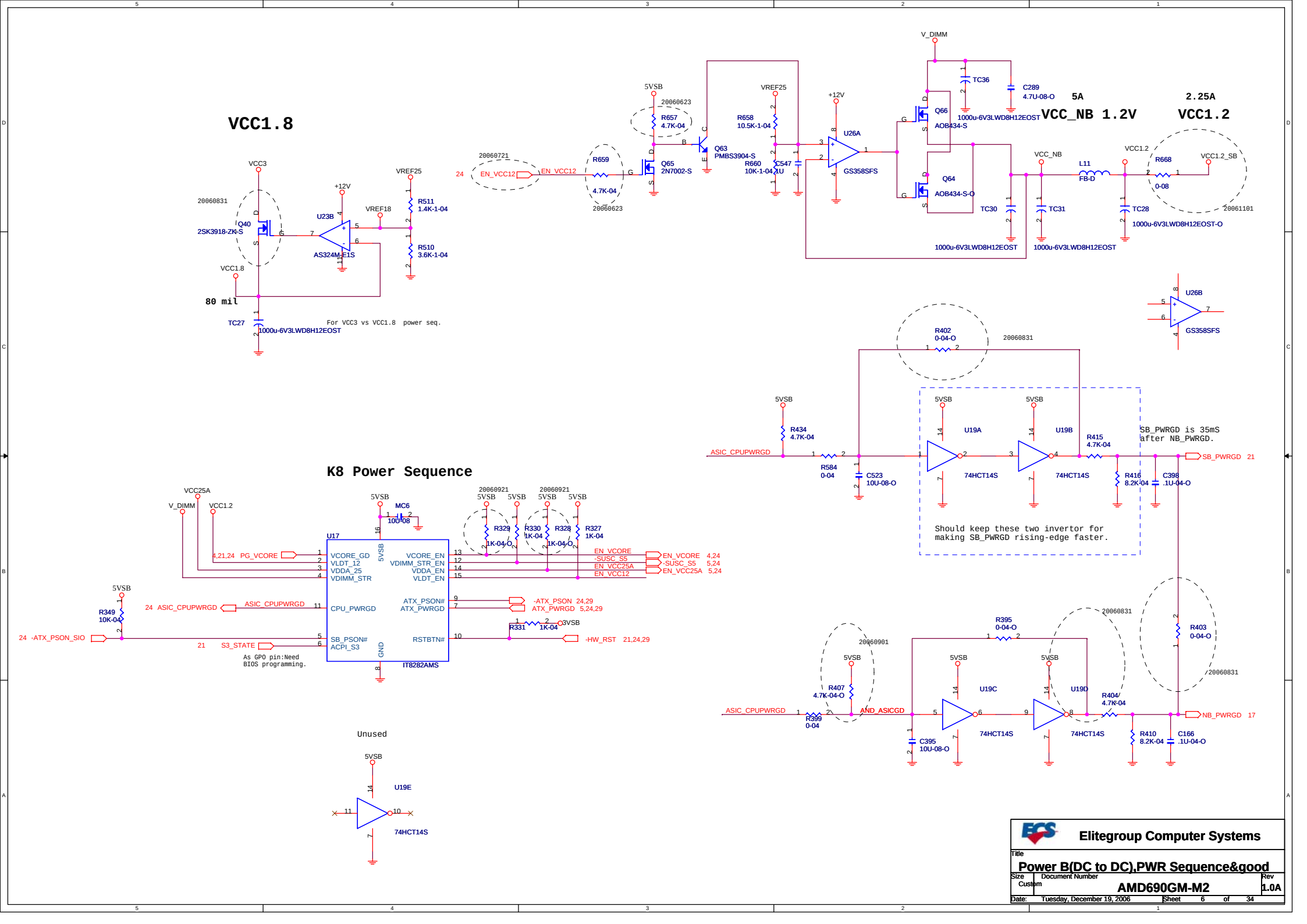
VCC1.8
VCC3
20060831
Q40
2SK3918-ZK-S
U23B
AS324M-E1S
+12V
VREF18
VREF25
R511
1.4K-1-04
R510
3.6K-1-04
VCC1.8
80 mil
TC27
1000u-6V3LWD8H12EOST
For VCC3 vs VCC1.8 power seq.
5VSB
20060623
R657
4.7K-04
20060721
24
EN_VCC12
R659
4.7K-04
Q63
PMBS3904-S
Q65
2N7002-S
R658
10.5K-1-04
R660
10K-1-04
C547
1U
U26A
GS358SFS
V_DIMM
TC36
C289
4.7U-08-O
5A
VCC_NB 1.2V
Q66
AOB434-S
Q64
AOB434-S-O
1000u-6V3LWD8H12EOST-O
TC30
TC31
VCC_NB
L11
FB-D
VCC1.2
2.25A
VCC1.2
R668
0-08
VCC1.2_SB
20061101
TC28
1000u-6V3LWD8H12EOST-O
U26B
GS358SFS
R402
0-04-O
20060831
R434
4.7K-04
ASIC_CPUPWRGD
R584
0-04
C523
10U-08-O
U19A
U19B
74HCT14S
R415
4.7K-04
SB_PWRGD is 35mS
after NB_PWRGD.
R416
8.2K-04
C398
.1U-04-O
SB_PWRGD 21
Should keep these two invertor for
making SB_PWRGD rising-edge faster.
K8 Power Sequence
VCC25A
V_DIMM
VCC1.2
MC6
10U-08
U17
4,21,24 PG_VCORE
VCORE_GD
VLDT_12
VDDA_25
VDIMM_STR
VCORE_EN
VDIMM_STR_EN
VDDA_EN
VLDT_EN
20060921
R329
1K-04-O
R330
1K-04
R328
1K-04-O
R327
1K-04
EN_VCORE
-SUSC_S5
EN_VCC25A
EN_VCC12
EN_VCORE 4,24
-SUSC_S5 5,24
EN_VCC25A 5,24
R349
10K-04
24 ASIC_CPUPWRGD
ASIC_CPUPWRGD
CPU_PWRGD
ATX_PSON#
ATX_PWRGD
-ATX_PSON 24,29
ATX_PWRGD 5,24,29
24 -ATX_PSON_SIO
21 S3_STATE
SB_PSON#
ACPI_S3
RSTBTN#
R331
1K-04
3VSB
-HW_RST 21,24,29
As GPO pin:Need
BIOS programming.
GND
IT8282AMS
Unused
U19E
74HCT14S
20060901
R407
4.7K-04-O
R399
0-04
AND_ASICGD
U19C
U19D
R395
0-04-O
R404
4.7K-04
R403
0-04-O
R410
8.2K-04
C166
.1U-04-O
C395
10U-08-O
NB_PWRGD 17
Elitegroup Computer Systems
Title
Power B(DC to DC),PWR Sequence&good
Size
Custom
Document Number
AMD690GM-M2
Rev
1.0A
Date: Tuesday, December 19, 2006
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ATHLON Control and Debug

Required for compatibility with future processors

LAYOUT: Route VDDA trace approx. 50 mils wide (use 2x25 mil traces to exit ball field) and 500 mils long.

Keep trace to resistors less than 1" from CPU pin

Keep trace to resistor less than 1.25" from CPU pin

Route as 80-Ohm differential impedance Keep trace to resistor less than 1" from CPU pin

HDT Connector

NOTE: HDT termination is required for Rev Ax silicon only.

AMD NPT M2 SOCKET Processor Socket

Company	Elitegroup Computer System
Title	M2 HT I/F ,CTRL & DEBUG PART1
Size	C
Document Number	AMD690GM-M2
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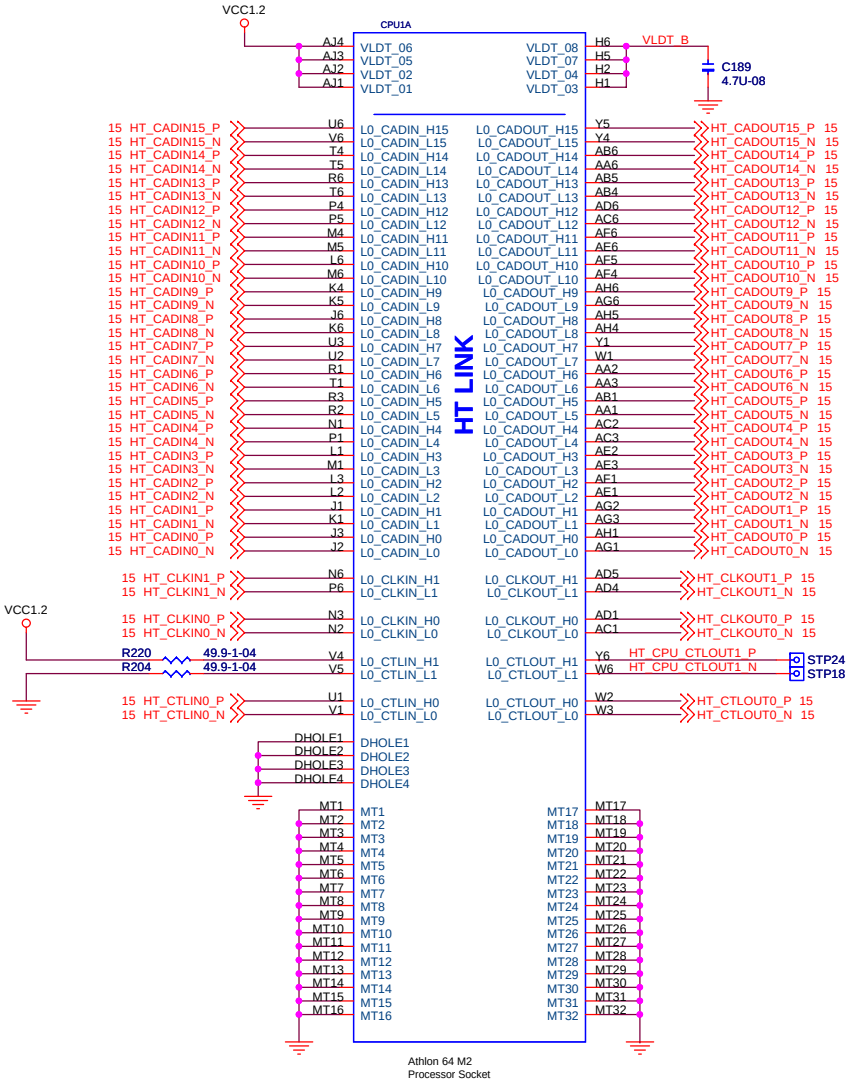
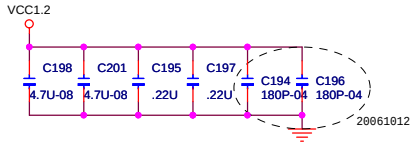
Sheet	7 of 34

CPU HyperTransport Interface

VDDLDTRUNCPU is connected to the VDD_LDT_RUN power supply through the package or on the die. It is only connected on the board to decoupling near the CPU package.





Elitegroup Computer System		
Title: M2 HT I/F,CTRL & DEBUG PART2		
Size: C	Document Number: AMD690GM-M2	Rev: 1.0A
Date: Tuesday, December 19, 2006	Sheet 8 of 34	

Processor DDR2 Memory Interface

VDD_VTT_SUS_CPU is connected to the VDD_VTT_SUS power supply through the package or on the die. It is only connected on the board to decoupling near the CPU package.

Keep trace to resistors less than 1" from CPU pin

To upper DIMM sockets for each Logical DIMM (DIMM2 and DIMM4).

To lower DIMM sockets for each Logical DIMM (DIMM1 and DIMM3).

DDRII: DATA

DDR II: CMD/CTRL/CLK

CPU1C

CPU1B

Athlon 64 M2 Processor Socket

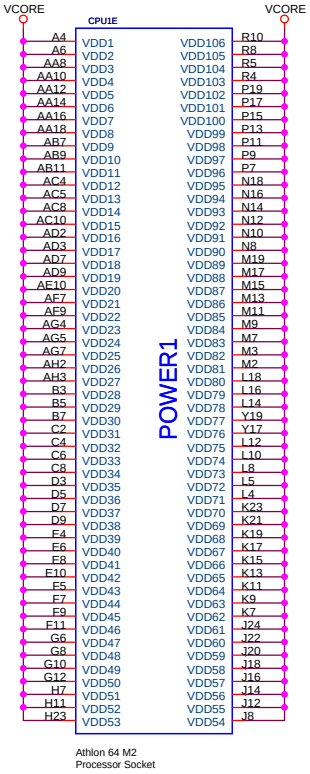
VDD_VREF_SUS_CPU

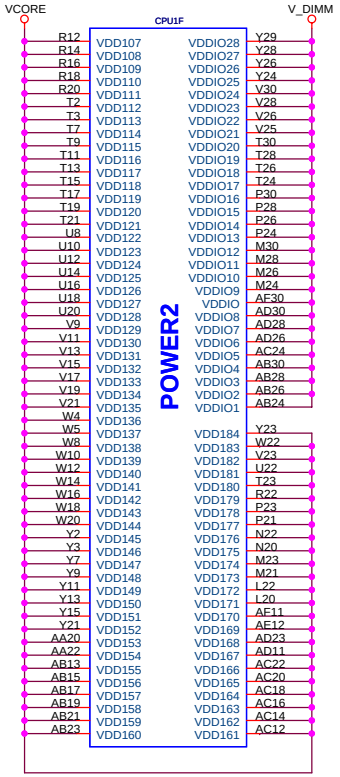
V_DIMM, AMD USE 16.9 OHM R255 15-1-04, AMD USE 16.9 OHM R254 15-1-04, CPU_M_VREF_SUS, C223 .1U-04, C222 1000P-04, 20060901

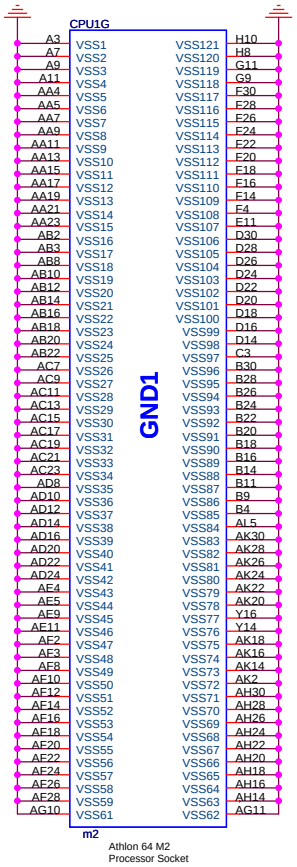
V_DIMM, R253 40.2-1-04, R258 40.2-1-04, AMD USE 39.2 OHM, STP39, CPU_VTT_SUS_SENSE, CPU_M_VREF_SUS, VTT_DDR, 20060901

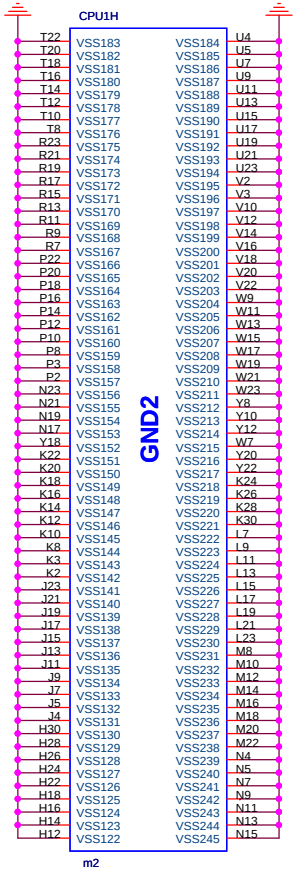
Company	Elitegroup Computer System
Title	M2 DDR2 MEMORY I/F
Size	C
Document Number	AMD690GM-M2
Rev	1.0A
Date	Tuesday, December 19, 2006
Sheet	9 of 34

Processor Power and Ground

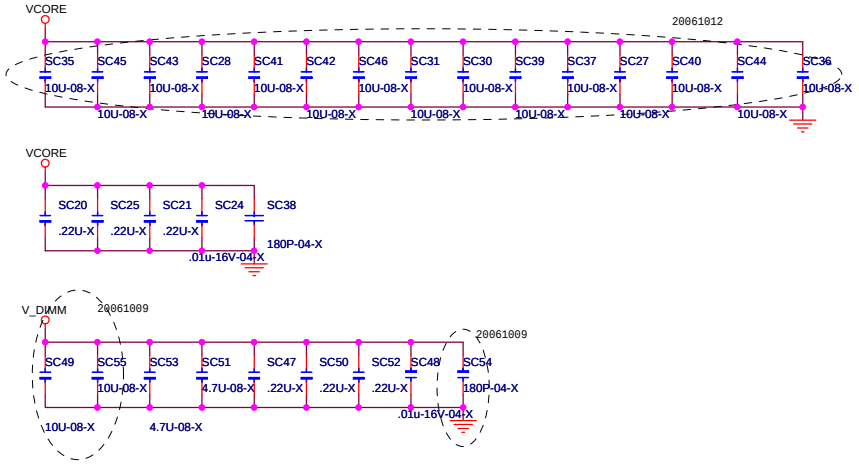


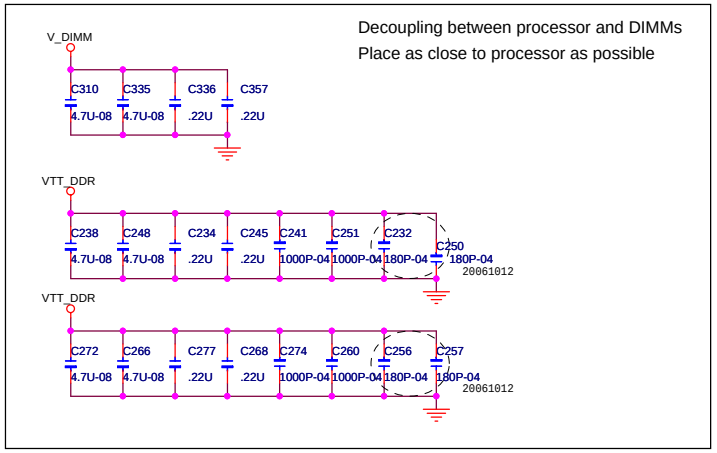






Bottomside Decoupling



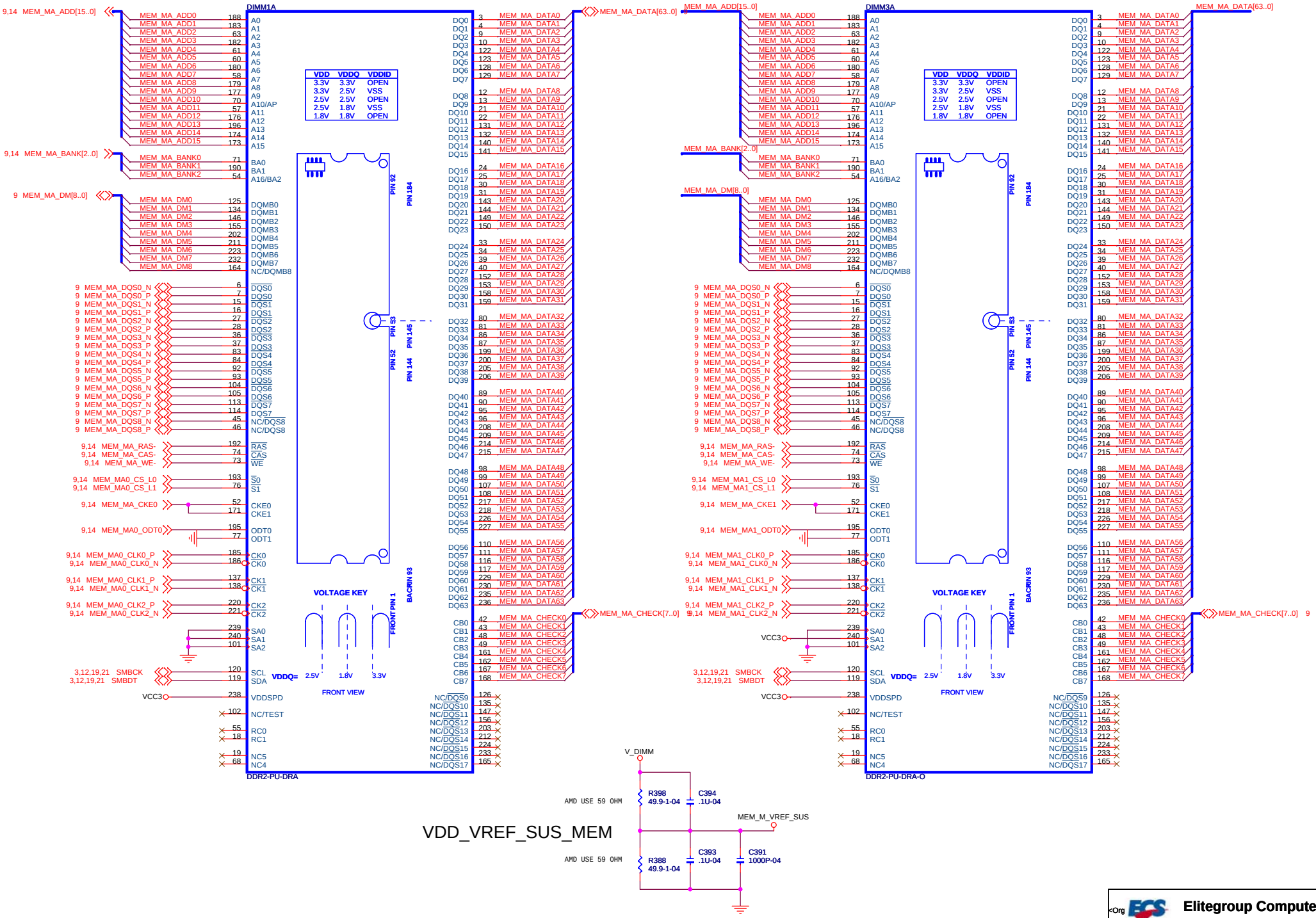


Elitegroup Computer System

Title: M2 POWER & GND

Size	Document Number	Rev
Custom	AMD690GM-M2	1.0A

Date: Monday, December 18, 2006 Sheet 10 of 34

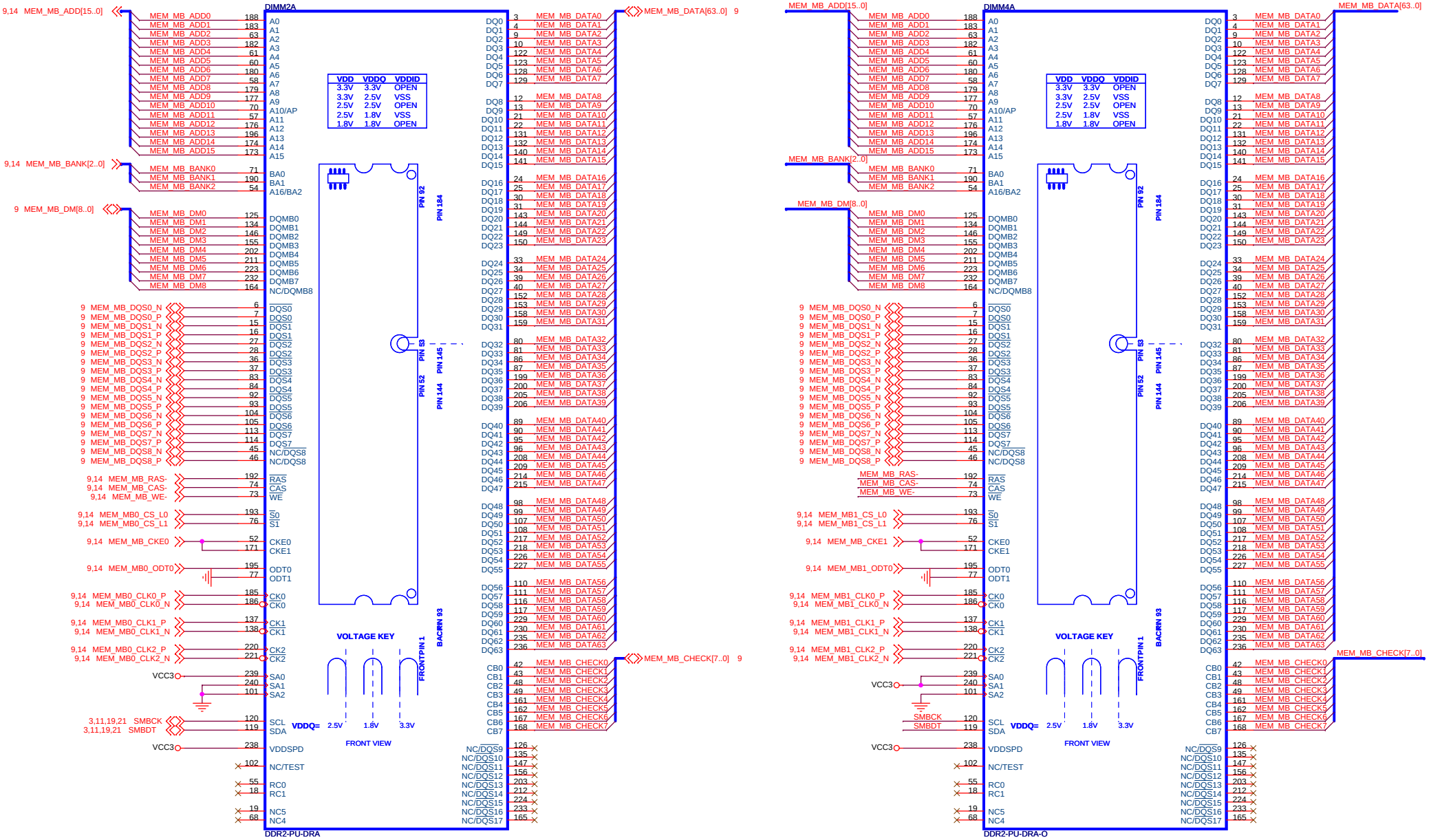


<Org> Elitegroup Computer System

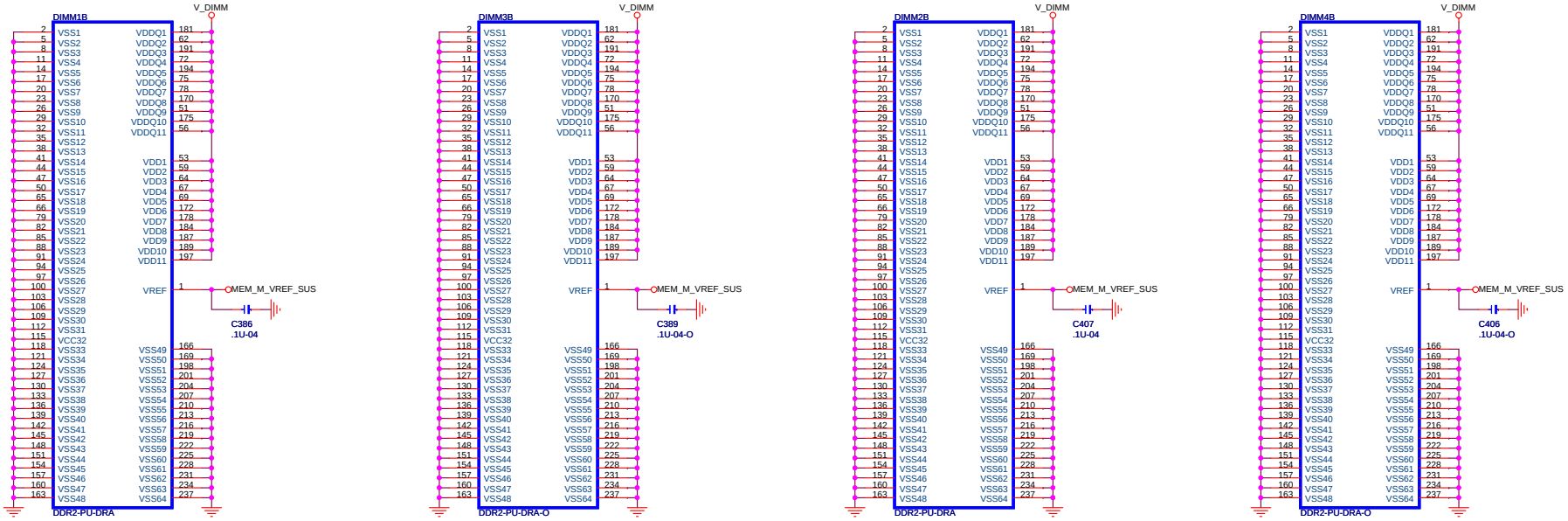
Title: DIMM1 & DIMM2 (240 PIN DDR2)

Size: Custom | Document Number: AMD690GM-M2 | Rev: 1.0A

Date: Tuesday, December 19, 2006 | Sheet 11 of 34

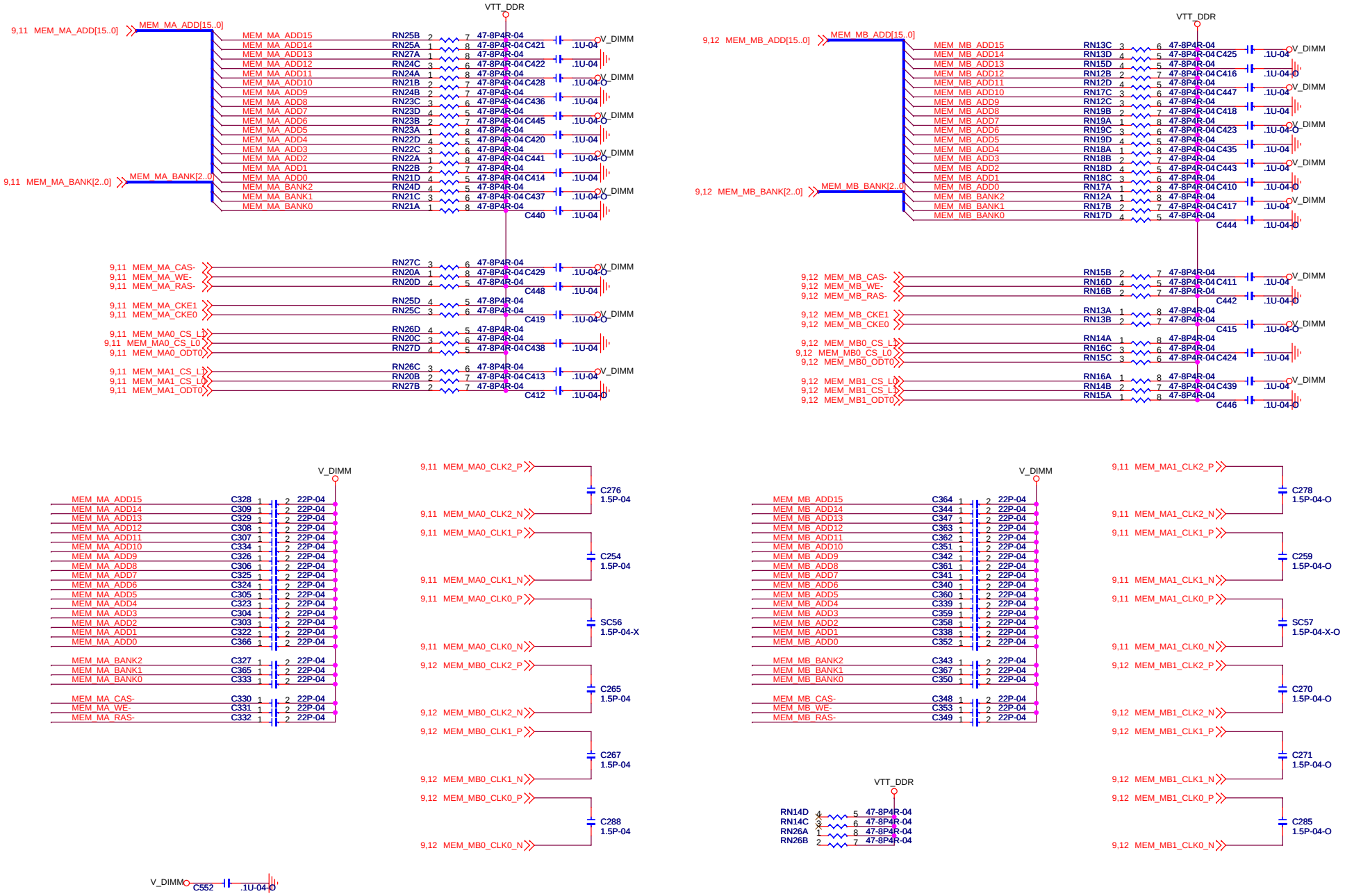


Elitegroup Computer System	
Title	DIMM3 & DIMM4 (240 PIN DDR2)
Size: Custom	Document Number: AMD690GM-M2
Rev: 1.0A	
Date: Tuesday, December 19, 2006	Sheet 12 of 34

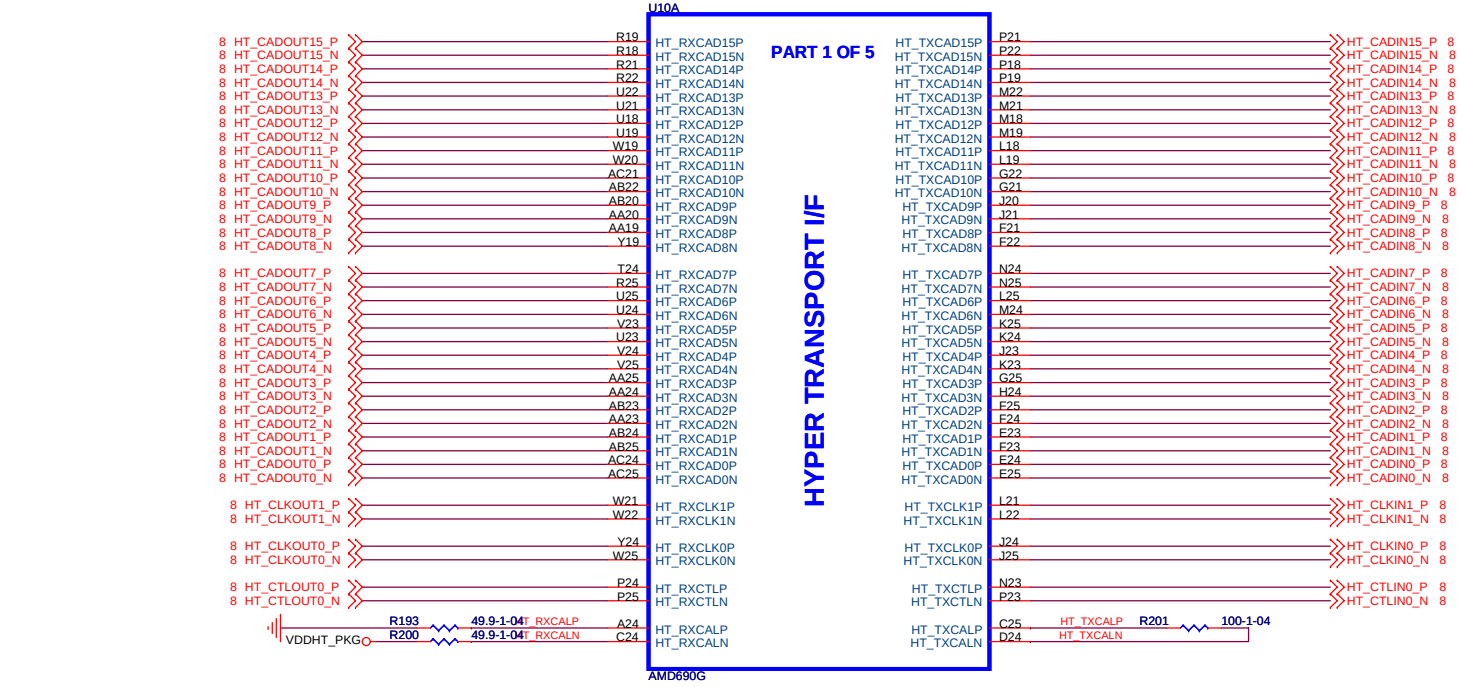


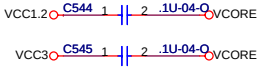
Elitegroup Computer Systems

Title	DDR2 DIMMS POWER		
Size: Custom	Document Number: AMD690GM-M2		Rev: 1.0A
Date: Monday, December 18, 2006	Sheet 13 of 34		



Elitegroup Computer System		
Title: DDR2 TERMINATION		
Size: C	Document Number: AMD690GM-M2	Rev: 1.0A
Date: Tuesday, December 19, 2006	Sheet 14 of 34	





Elitegroup Computer system

Title: NB:ATI RS485/690 HT LINK I/F

Size	Document Number	Rev
C	AMD690GM-M2	1.0A

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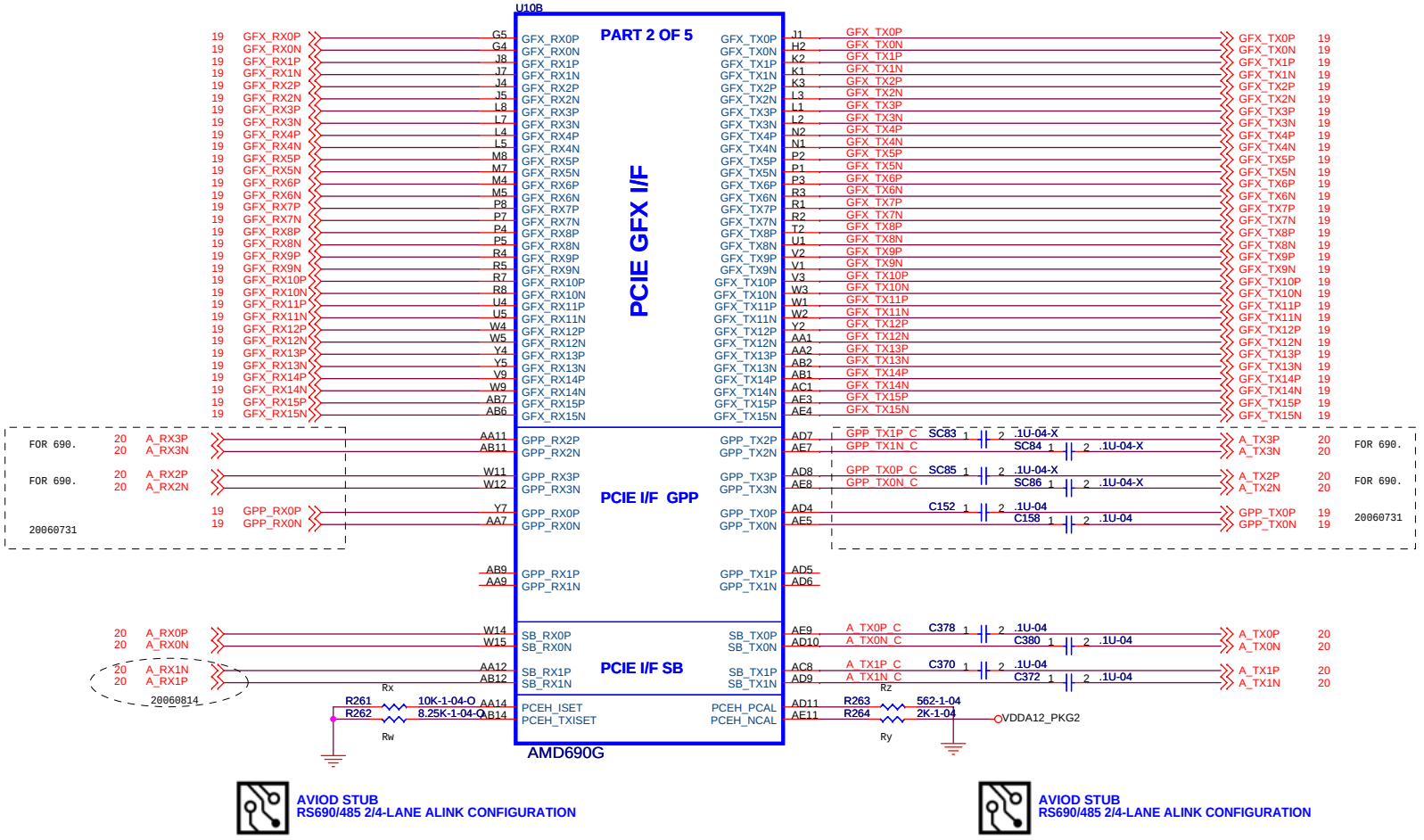

RS690/RS485 CHANGE TABLE

NB/DIFF	Rw	Rx	Ry	Rz
RS690	DNI	DNI	2K	562R
RS485	8.25K	10K	82.5R	150R

Elitegroup Computer system

Title: NB:ATI RS485/690 PCI-E I/F

Size: C | Document Number: AMD690GM-M2 | Rev: 1.0A

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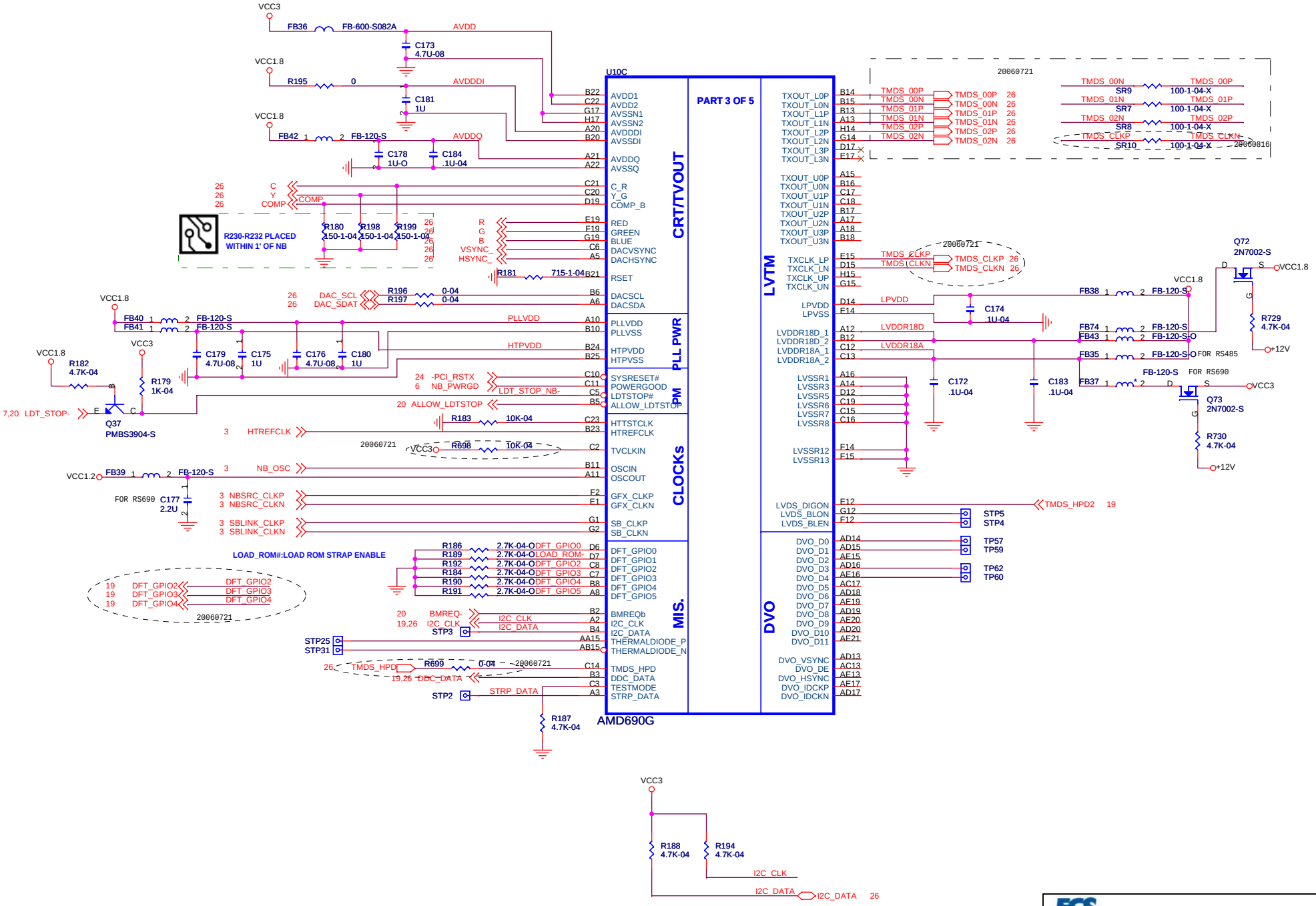
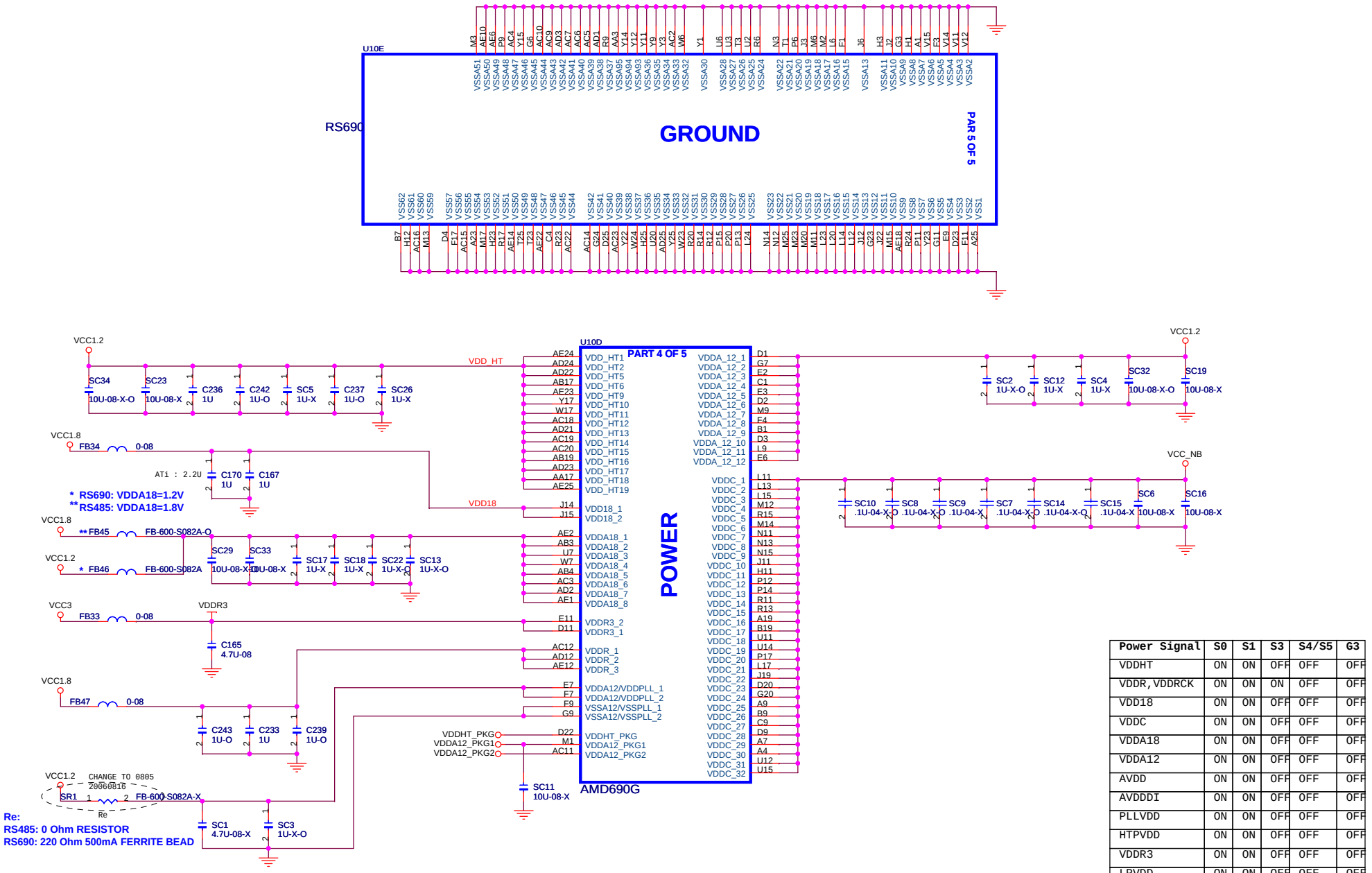

U10C
PART 3 OF 5
CRT/TVOUT
PLL PWR
PM
CLOCKs
MIS.
LVTM
DVO
AMD690G
AVDD1
AVDD2
AVSSN1
AVSSN2
AVDDDI
AVSSDI
AVDDQ
AVSSQ
C_R
Y_G
COMP_B
RED
GREEN
BLUE
DACVSYNC
DACHSYNC
RSET
DACSCL
DACSDA
PLLVDD
PLLVSS
HTPVDD
HTPVSS
SYSRESET#
POWERGOOD
LDTSTOP#
ALLOW_LDTSTOP
HTTSTCLK
HTREFCLK
TVCLKIN
OSCIN
OSCOUT
GFX_CLKP
GFX_CLKN
SB_CLKP
SB_CLKN
DFT_GPIO0
DFT_GPIO1
DFT_GPIO2
DFT_GPIO3
DFT_GPIO4
DFT_GPIO5
BMREQb
I2C_CLK
I2C_DATA
THERMALDIODE_P
THERMALDIODE_N
TMDS_HPD
DDC_DATA
TESTMODE
STRP_DATA
TXOUT_L0P
TXOUT_L0N
TXOUT_L1P
TXOUT_L1N
TXOUT_L2P
TXOUT_L2N
TXOUT_L3P
TXOUT_L3N
TXOUT_U0P
TXOUT_U0N
TXOUT_U1P
TXOUT_U1N
TXOUT_U2P
TXOUT_U2N
TXOUT_U3P
TXOUT_U3N
TXCLK_LP
TXCLK_LN
TXCLK_UP
TXCLK_UN
LPVDD
LPVSS
LVDDR18D_1
LVDDR18D_2
LVDDR18A_1
LVDDR18A_2
LVSSR1
LVSSR3
LVSSR5
LVSSR6
LVSSR7
LVSSR8
LVSSR12
LVSSR13
LVDS_DIGON
LVDS_BLON
LVDS_BLEN
DVO_D0
DVO_D1
DVO_D2
DVO_D3
DVO_D4
DVO_D5
DVO_D6
DVO_D7
DVO_D8
DVO_D9
DVO_D10
DVO_D11
DVO_VSYNC
DVO_DE
DVO_HSYNC
DVO_IDCKP
DVO_IDCKN
VCC3
VCC1.8
VCC1.2
+12V
FB36 FB-600-S082A AVDD
C173 4.7U-08
R195 0
AVDDDI
C181 1U
FB42 FB-120-S AVDDQ
C178 1U-O
C184 .1U-04
R230-R232 PLACED WITHIN 1' OF NB
R180 150-1-04
R198 150-1-04
R199 150-1-04
R181 715-1-04
R196 0-04
R197 0-04
DAC_SCL
DAC_SDAT
FB40 FB-120-S
FB41 FB-120-S
PLLVDD
HTPVDD
C179 4.7U-08
C175 1U
C176 4.7U-08
C180 1U
R182 4.7K-04
R179 1K-04
Q37 PMBS3904-S
LDT_STOP-
-PCI_RSTX
NB_PWRGD
LDT_STOP_NB-
ALLOW_LDTSTOP
R183 10K-04
HTREFCLK
20060721
R698 10K-04
FB39 FB-120-S
NB_OSC
C177 2.2U
FOR RS690
NBSRC_CLKP
NBSRC_CLKN
SBLINK_CLKP
SBLINK_CLKN
LOAD_ROM#:LOAD ROM STRAP ENABLE
R186 2.7K-04-O DFT_GPIO0
R189 2.7K-04-O LOAD_ROM-
R192 2.7K-04-O DFT_GPIO2
R184 2.7K-04-O DFT_GPIO3
R190 2.7K-04-O DFT_GPIO4
R191 2.7K-04-O DFT_GPIO5
DFT_GPIO2
DFT_GPIO3
DFT_GPIO4
BMREQ-
I2C_CLK
I2C_DATA
STP3
STP25
STP31
R699 0-04
TMDS_HPD
DDC_DATA
STP2
STRP_DATA
R187 4.7K-04
20060721
TMDS_00P
TMDS_00N
TMDS_01P
TMDS_01N
TMDS_02P
TMDS_02N
TMDS_CLKP
TMDS_CLKN
SR9 100-1-04-X
SR7 100-1-04-X
SR8 100-1-04-X
SR10 100-1-04-X
20060816
C174 .1U-04
C172 .1U-04
C183 .1U-04
FB38 FB-120-S
FB74 FB-120-S
FB43 FB-120-S
FB35 FB-120-S
FB37 FB-120-S
FOR RS485
FOR RS690
Q72 2N7002-S
Q73 2N7002-S
R729 4.7K-04
R730 4.7K-04
STP5
STP4
TP57
TP59
TP62
TP60
R188 4.7K-04
R194 4.7K-04
Elitegroup Computer system
NB: ATI RS485/690 SYSTEM I/F
AMD690GM-M2
1.0A
Tuesday, December 19, 2006
Sheet 17 of 34



Power Signal	S0	S1	S3	S4/S5	G3
VDDHT	ON	ON	OFF	OFF	OFF
VDDR,VDDRCK	ON	ON	ON	OFF	OFF
VDD18	ON	ON	OFF	OFF	OFF
VDDC	ON	ON	OFF	OFF	OFF
VDDA18	ON	ON	OFF	OFF	OFF
VDDA12	ON	ON	OFF	OFF	OFF
AVDD	ON	ON	OFF	OFF	OFF
AVDDDI	ON	ON	OFF	OFF	OFF
PLLVDD	ON	ON	OFF	OFF	OFF
HTPVDD	ON	ON	OFF	OFF	OFF
VDDR3	ON	ON	OFF	OFF	OFF
LPVDD	ON	ON	OFF	OFF	OFF
LVDDR18D	ON	ON	OFF	OFF	OFF
LVDDR18A	ON	ON	OFF	OFF	OFF

Elitegroup Computer System

Title: NB RS485/690 POWER

Size: C | Document Number: AMD690GM-M2 | Rev: 1.0A

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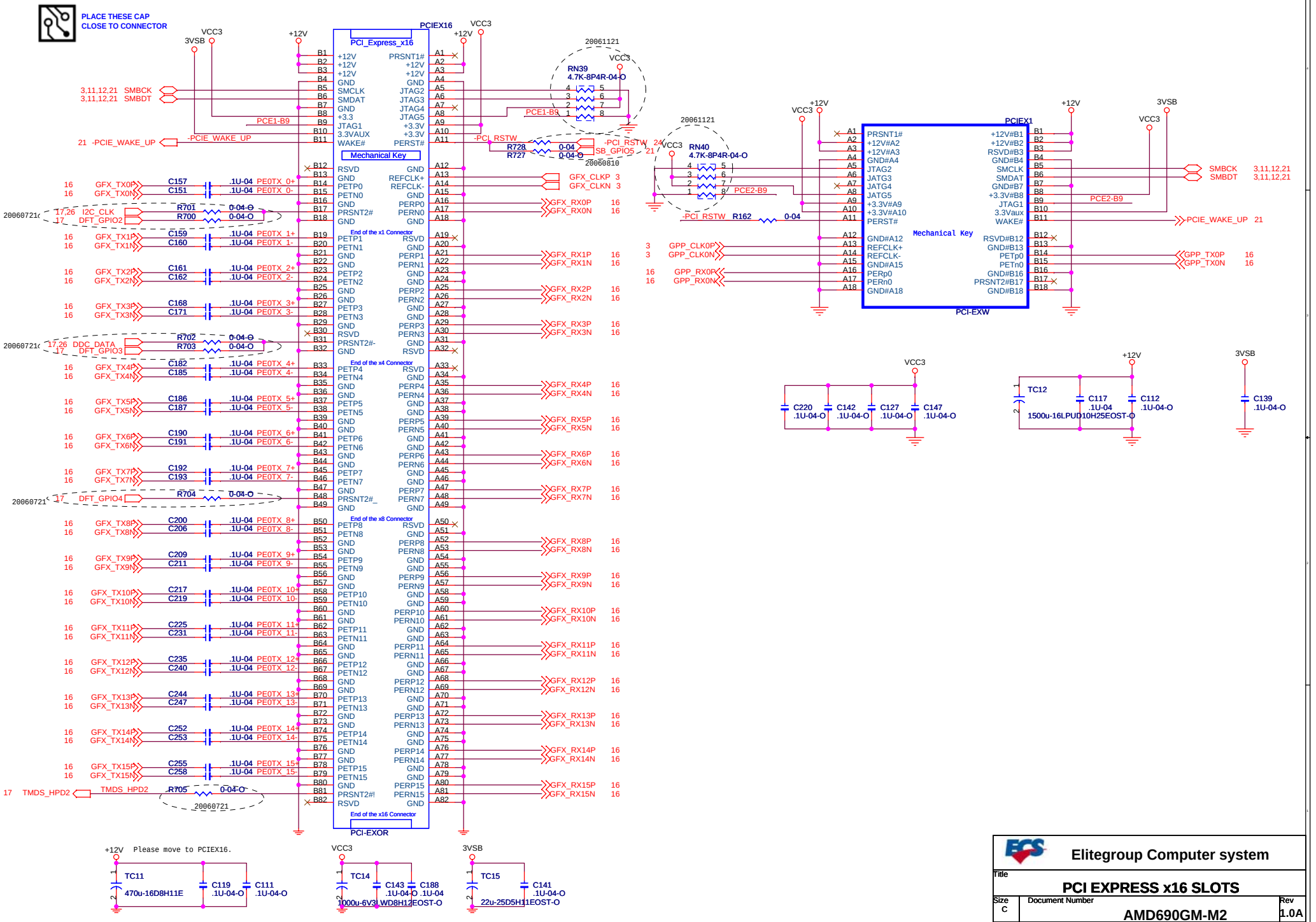
PCI_EXPRESS_x16

+12V:5.5Amp



Title	PCI EXPRESS x16 SLOTS
Size	C
Document Number	AMD690GM-M2
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Elitegroup Computer system

	SB CALIBRATION RESISITOR VALUE
	SB600
Ra	562 OHM 1%
Rb	2.05K 1%
Rc	0

SB600 SB 23x23mm

Part 1 of 4

U18A

SB600

PCI CLKS

PCI EXPRESS INTERFACE

PCI INTERFACE

XTAL

CPU

LPC

RTC

PLACE PCIE CAPS CLOSE TO U600

FOR SB600 VCC_SB= 1.2V

PLACE THESE COMPONENTS CLOSE TO U600, AND USE GROUND GUARD FOR 32K_X1 AND 32K_X2

LPC PULL UPS

FOR SB600, THIS BALL IS LDRQ1 ONLY

1-2: NORMAL

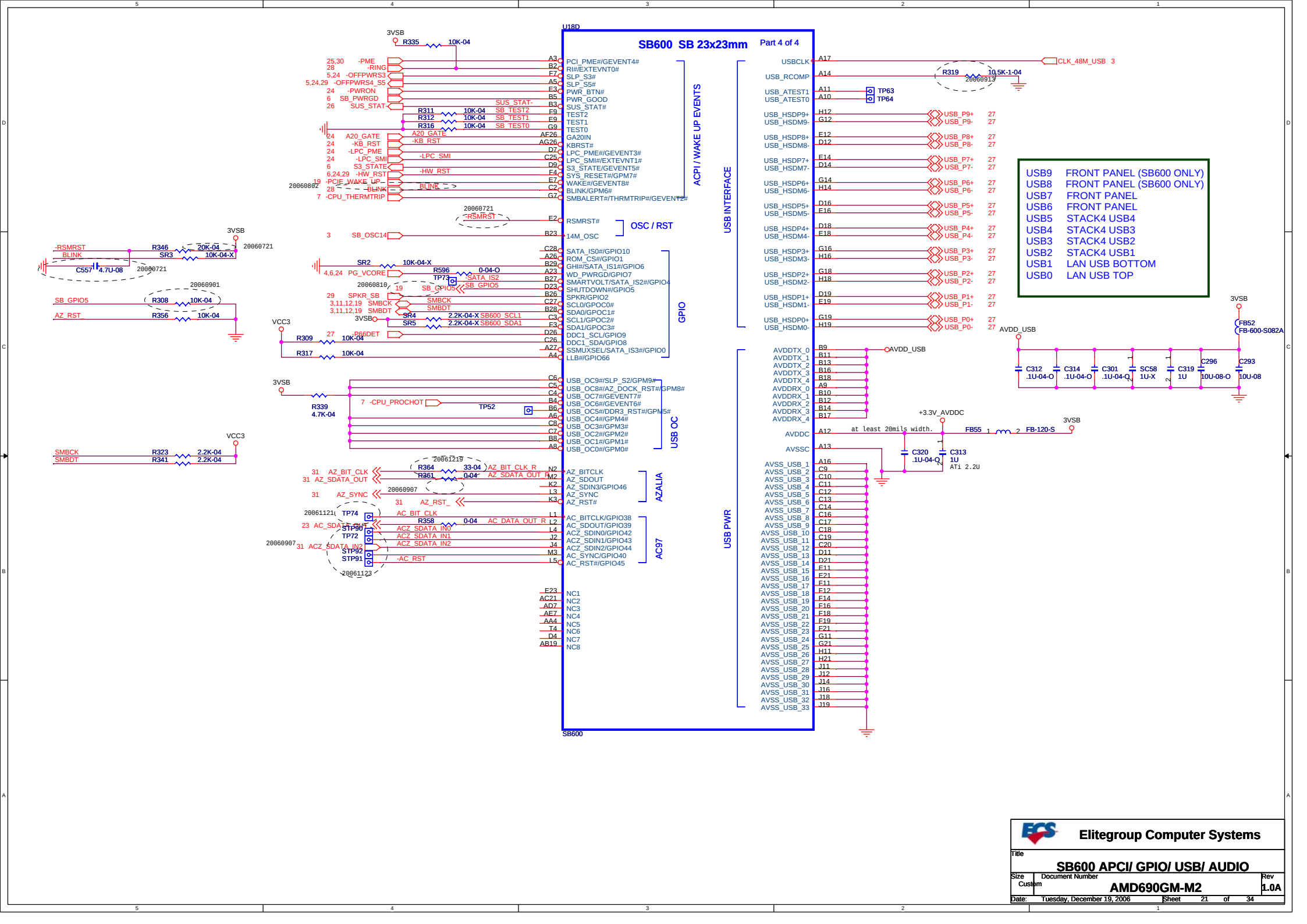
2-3: CMOS CLEAR

Elitegroup Computer Systems

Title: SB600 PCIE/ PCI/ CPU/ LPC

Size: Custom | Document Number: AMD690GM-M2 | Rev: 1.0A

Date: Tuesday, December 19, 2006 | Sheet 20 of 34


SB600 SB 23x23mm
Part 4 of 4
U18D
SB600
ACPI / WAKE UP EVENTS
USB INTERFACE
OSC / RST
GPIO
USB OC
AZALIA
AC97
USB PWR
PCI_PME#/GEVENT4#
RI#/EXTEVNT0#
SLP_S3#
SLP_S5#
PWR_BTN#
PWR_GOOD
SUS_STAT#
TEST2
TEST1
TEST0
GA20IN
KBRST#
LPC_PME#/GEVENT3#
LPC_SMI#/EXTEVNT1#
S3_STATE/GEVENT5#
SYS_RESET#/GPM7#
WAKE#/GEVENT8#
BLINK/GPM6#
SMBALERT#/THRMTRIP#/GEVENT12#
RSMRST#
14M_OSC
SATA_IS0#/GPIO10
ROM_CS#/GPIO1
GHI#/SATA_IS1#/GPIO6
WD_PWRGD/GPIO7
SMARTVOLT/SATA_IS2#/GPIO4
SHUTDOWN#/GPIO5
SPKR/GPIO2
SCL0/GPOC0#
SDA0/GPOC1#
SCL1/GPOC2#
SDA1/GPOC3#
DDC1_SCL/GPIO9
DDC1_SDA/GPIO8
SSMUXSEL/SATA_IS3#/GPIO0
LLB#/GPIO66
USB_OC9#/SLP_S2/GPM9#
USB_OC8#/AZ_DOCK_RST#/GPM8#
USB_OC7#/GEVENT7#
USB_OC6#/GEVENT6#
USB_OC5#/DDR3_RST#/GPM5#
USB_OC4#/GPM4#
USB_OC3#/GPM3#
USB_OC2#/GPM2#
USB_OC1#/GPM1#
USB_OC0#/GPM0#
AZ_BITCLK
AZ_SDOUT
AZ_SDIN3/GPIO46
AZ_SYNC
AZ_RST#
AC_BITCLK/GPIO38
AC_SDOUT/GPIO39
ACZ_SDIN0/GPIO42
ACZ_SDIN1/GPIO43
ACZ_SDIN2/GPIO44
AC_SYNC/GPIO40
AC_RST#/GPIO45
NC1
NC2
NC3
NC4
NC5
NC6
NC7
NC8
USBCLK
USB_RCOMP
USB_ATEST1
USB_ATEST0
USB_HSDP9+
USB_HSDM9-
USB_HSDP8+
USB_HSDM8-
USB_HSDP7+
USB_HSDM7-
USB_HSDP6+
USB_HSDM6-
USB_HSDP5+
USB_HSDM5-
USB_HSDP4+
USB_HSDM4-
USB_HSDP3+
USB_HSDM3-
USB_HSDP2+
USB_HSDM2-
USB_HSDP1+
USB_HSDM1-
USB_HSDP0+
USB_HSDM0-
AVDDTX_0
AVDDTX_1
AVDDTX_2
AVDDTX_3
AVDDTX_4
AVDDRX_0
AVDDRX_1
AVDDRX_2
AVDDRX_3
AVDDRX_4
AVDDC
AVSSC
AVSS_USB_1
AVSS_USB_2
AVSS_USB_3
AVSS_USB_4
AVSS_USB_5
AVSS_USB_6
AVSS_USB_7
AVSS_USB_8
AVSS_USB_9
AVSS_USB_10
AVSS_USB_11
AVSS_USB_12
AVSS_USB_13
AVSS_USB_14
AVSS_USB_15
AVSS_USB_16
AVSS_USB_17
AVSS_USB_18
AVSS_USB_19
AVSS_USB_20
AVSS_USB_21
AVSS_USB_22
AVSS_USB_23
AVSS_USB_24
AVSS_USB_25
AVSS_USB_26
AVSS_USB_27
AVSS_USB_28
AVSS_USB_29
AVSS_USB_30
AVSS_USB_31
AVSS_USB_32
AVSS_USB_33
USB9 FRONT PANEL (SB600 ONLY)
USB8 FRONT PANEL (SB600 ONLY)
USB7 FRONT PANEL
USB6 FRONT PANEL
USB5 STACK4 USB4
USB4 STACK4 USB3
USB3 STACK4 USB2
USB2 STACK4 USB1
USB1 LAN USB BOTTOM
USB0 LAN USB TOP
3VSB
VCC3
AVDD_USB
+3.3V_AVDDC
at least 20mils width.
Elitegroup Computer Systems
Title
SB600 APCI/ GPIO/ USB/ AUDIO
Size Custom
Document Number
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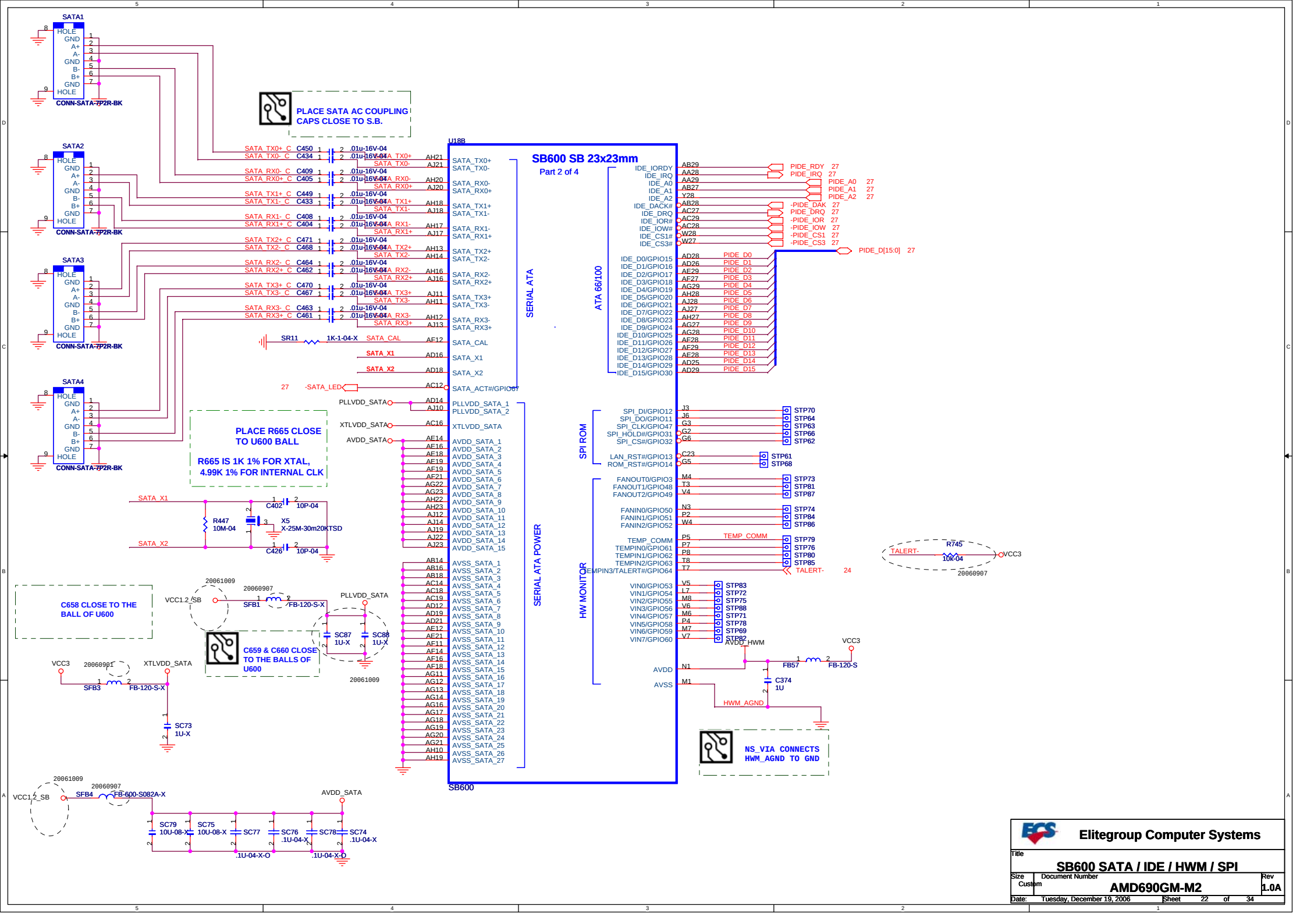
SATA1
SATA2
SATA3
SATA4
CONN-SATA-7P2R-BK
PLACE SATA AC COUPLING CAPS CLOSE TO S.B.
U18B
SB600 SB 23x23mm
Part 2 of 4
SERIAL ATA
ATA 66/100
SPI ROM
HW MONITOR
SERIAL ATA POWER
SB600
PLACE R665 CLOSE TO U600 BALL
R665 IS 1K 1% FOR XTAL, 4.99K 1% FOR INTERNAL CLK
C658 CLOSE TO THE BALL OF U600
C659 & C660 CLOSE TO THE BALLS OF U600
NS_VIA CONNECTS HWM_AGND TO GND
SR11
SATA_CAL
SATA_X1
SATA_X2
R447
X5
X-25M-30m20KTSD
C402
C426
SFB1
SFB3
SFB4
FB-120-S-X
FB-600-S082A-X
SC73
SC79
SC75
SC77
SC76
SC78
SC74
SC87
SC88
C374
FB57
R745
TALERT-
VCC3
VCC1.2_SB
AVDD_SATA
AVDD_HWM
HWM_AGND
PLLVDD_SATA
XTLVDD_SATA
-SATA_LED
-PIDE_DAK
-PIDE_IOR
-PIDE_IOW
-PIDE_CS1
-PIDE_CS3
PIDE_D[15:0]
TEMP_COMM
Elitegroup Computer Systems
SB600 SATA / IDE / HWM / SPI
AMD690GM-M2
1.0A
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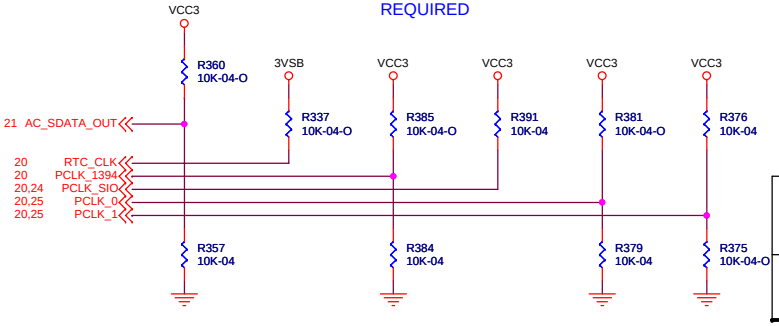
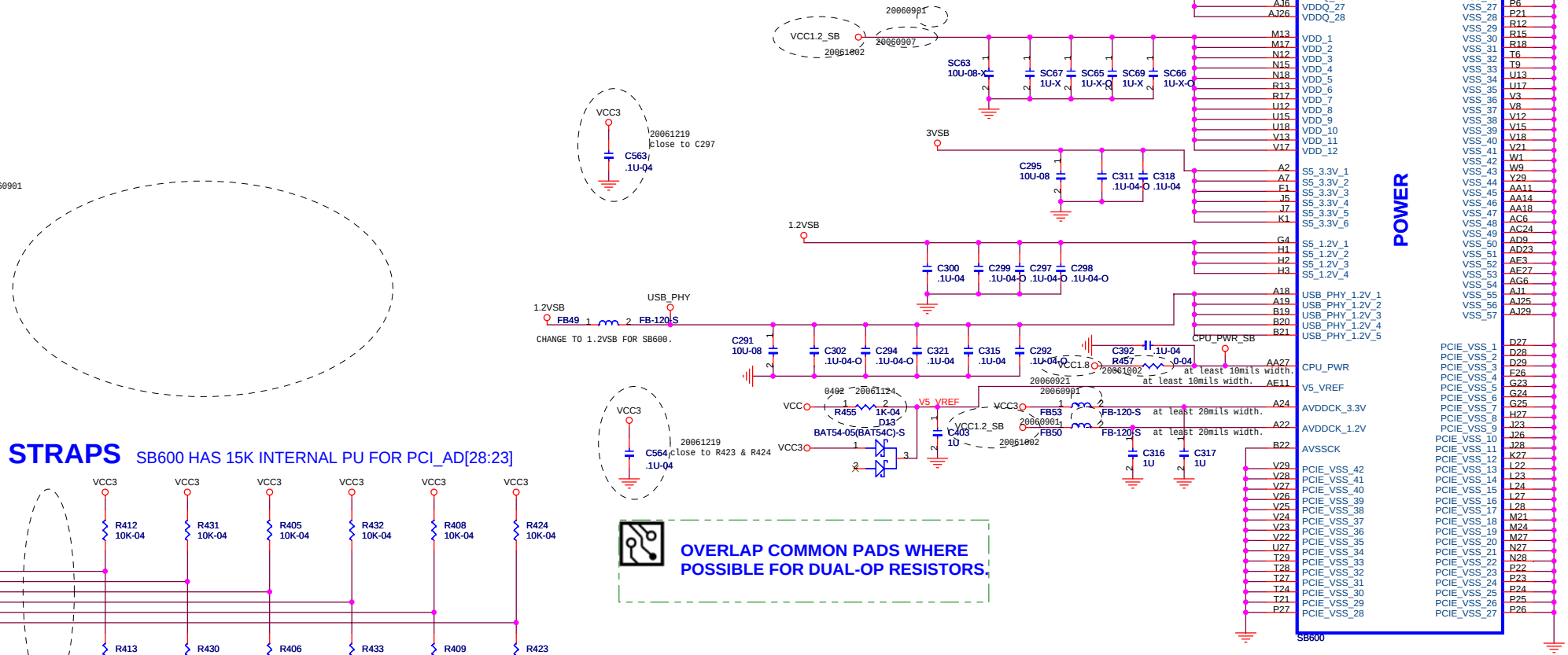
REQUIRED STRAPS

SB600 HAS 15K INTERNAL PD FOR AC_SDATA_OUT, 15K PU FOR RTC_CLK, EXTERNAL PU/PD IS NOT REQUIRED; FOR SB460, EXTERNAL PU/PD ARE REQUIRED



	AC_SDOUT	RTC_CLK	PCI_CLK4 (PCLK_1394)	PCI_CLK6 (PCLK_SIO)	SB600 PCI_CLK0 PCI_CLK1	SB460 PCI_CLK0 (PCLK_0) PCI_CLK1 (PCLK_1)
PULL HIGH	USE DEBUG STRAPS	INTERNAL RTC DEFAULT	USE INT. PLL48	CPU IF=K8 DEFAULT	ROM TYPE: H, H = PCI ROM H, L = SPI ROM L, H = LPC ROM DEFAULT L, L = FWH ROM	ROM TYPE: H, H = PCI ROM H, L = LPC I ROM DEFAULT L, H = LPC II ROM L, L = FWH ROM NOTE: FOR SB460, PCICLK[8:7] ARE CONNECTED TO SUBSTRATE BALLS PCICLK[1:0]
PULL LOW	IGNORE DEBUG STRAPS DEFAULT	EXTERNAL RTC	USE EXT. 48MHZ DEFAULT	CPU IF=P4		



20060901

OVERLAP COMMON PADS WHERE POSSIBLE FOR DUAL-OP RESISTORS.

DEBUG STRAPS

SB600 HAS 15K INTERNAL PU FOR PCI_AD[28:23]

2.2K IF USED FOR SB600.
10K IF USED FOR SB460.

	PCI_AD28	PCI_AD27	PCI_AD26	PCI_AD25	PCI_AD24	PCI_AD23
PULL HIGH	USE LONG RESET	USE PCI PLL	USE ACPI BCLK	USE IDE PLL	USE DEFAULT PCIE STRAPS	BOOTFAILTIMER DISABLED DEFAULT
PULL LOW	USE SHORT RESET	BYPASS PCI PLL DEFAULT	BYPASS ACPI BCLK DEFAULT	BYPASS IDE PLL DEFAULT	USE EEPROM PCIE STRAPS DEFAULT	BOOTFAILTIMER ENABLED

Elitegroup Computer Systems

Title: SB600 STRAPS/ PWR/ DECOUPLING

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Temperature Monitor

Choosing method of measuring temprature by either thermistor or diode.

JP1	KBCEN	1:Enable
JP2	KBC_IROM	1:KBC ROM built in
JP3	CHIP_SEL	--CHIP_SEL(2 I/O,4 COMs)
JP4	BUF_SEL	1:PCIRST# O.D.
JP5	FAN_CTL_SEL	1:FAN full turn. 0:FAN mid turn.
JP6	VID_ISEL	Don't care.

RS75232 internal pull high.

-A_RST :SIO
-PCI_RSTX :NB
-PCI_RSTY :IDE*2
-PCI_RSTZ :LAN,1394,ROM
-PCI_RSTW :PCIE

-PCI_RST :PCI

Key pin (No through hole)

BIOSWP	BIOS PROTECT	
2-3	OPEN	WRITEENABLE
	SHORT	WRITE DISABLE

FDD signals : RDATA#, INDEX#, TRAK0#, DSKCHG#, WP# is input pin.

Elitegroup Computer Systems

Title: LPC SIO - ITE8712F/IX

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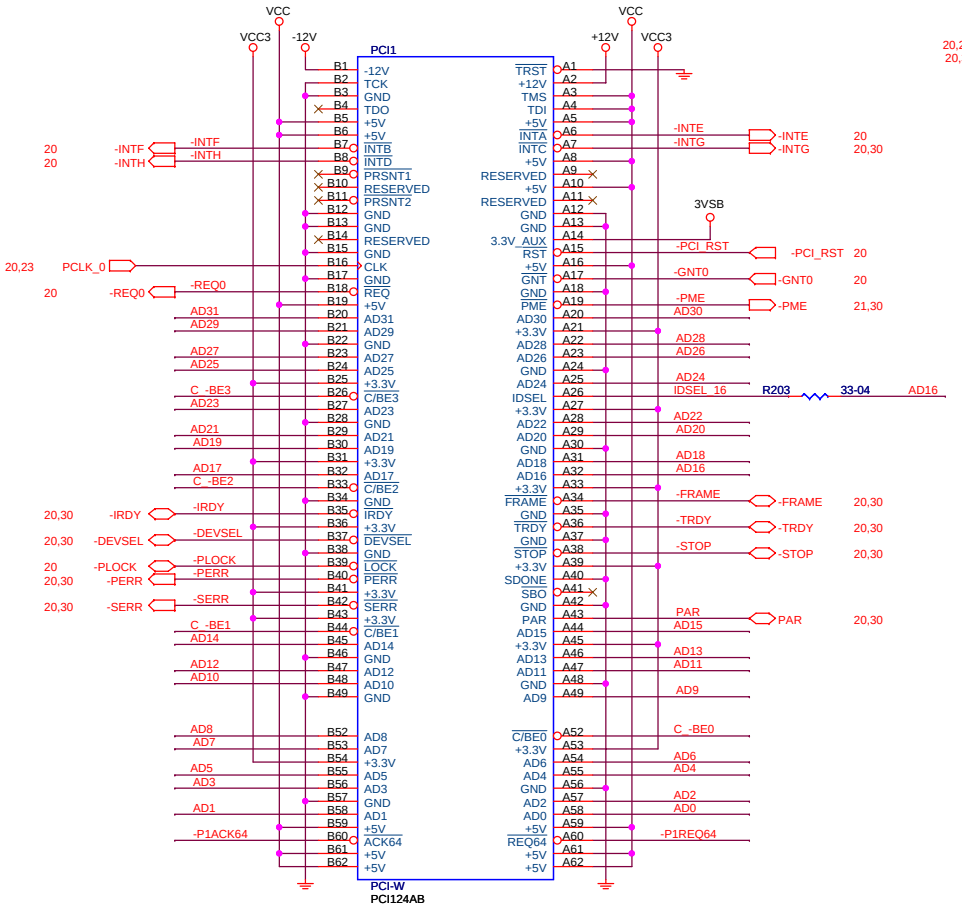
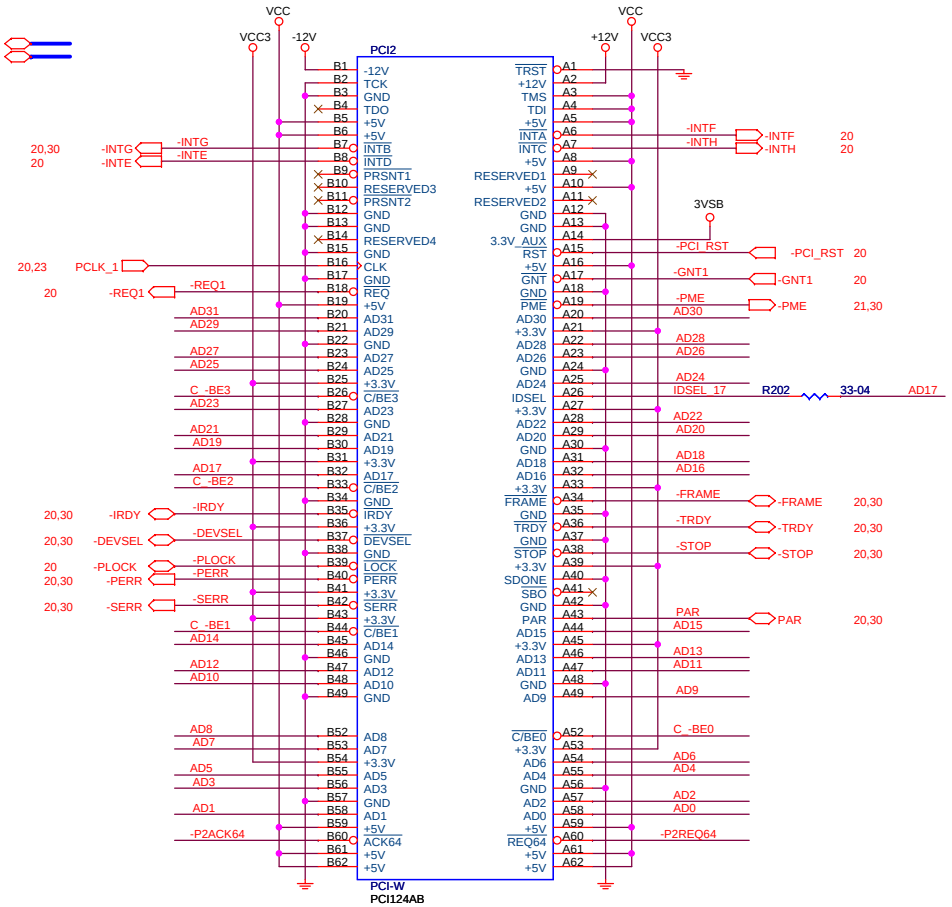
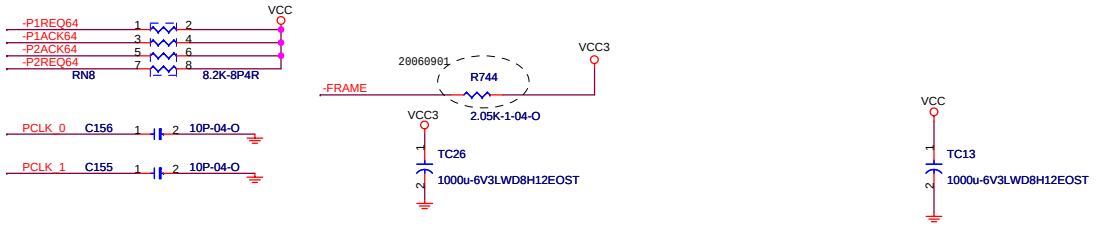
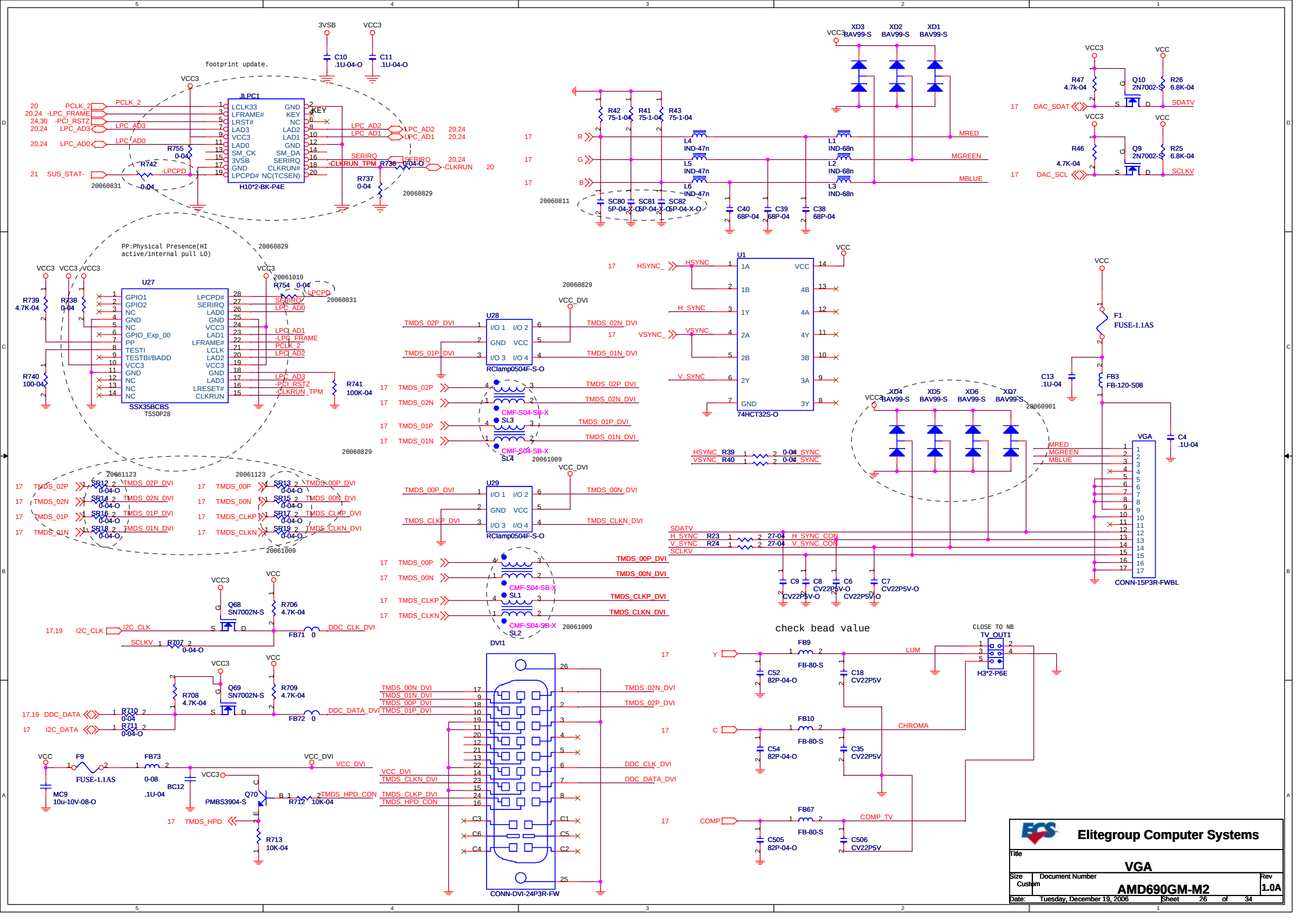
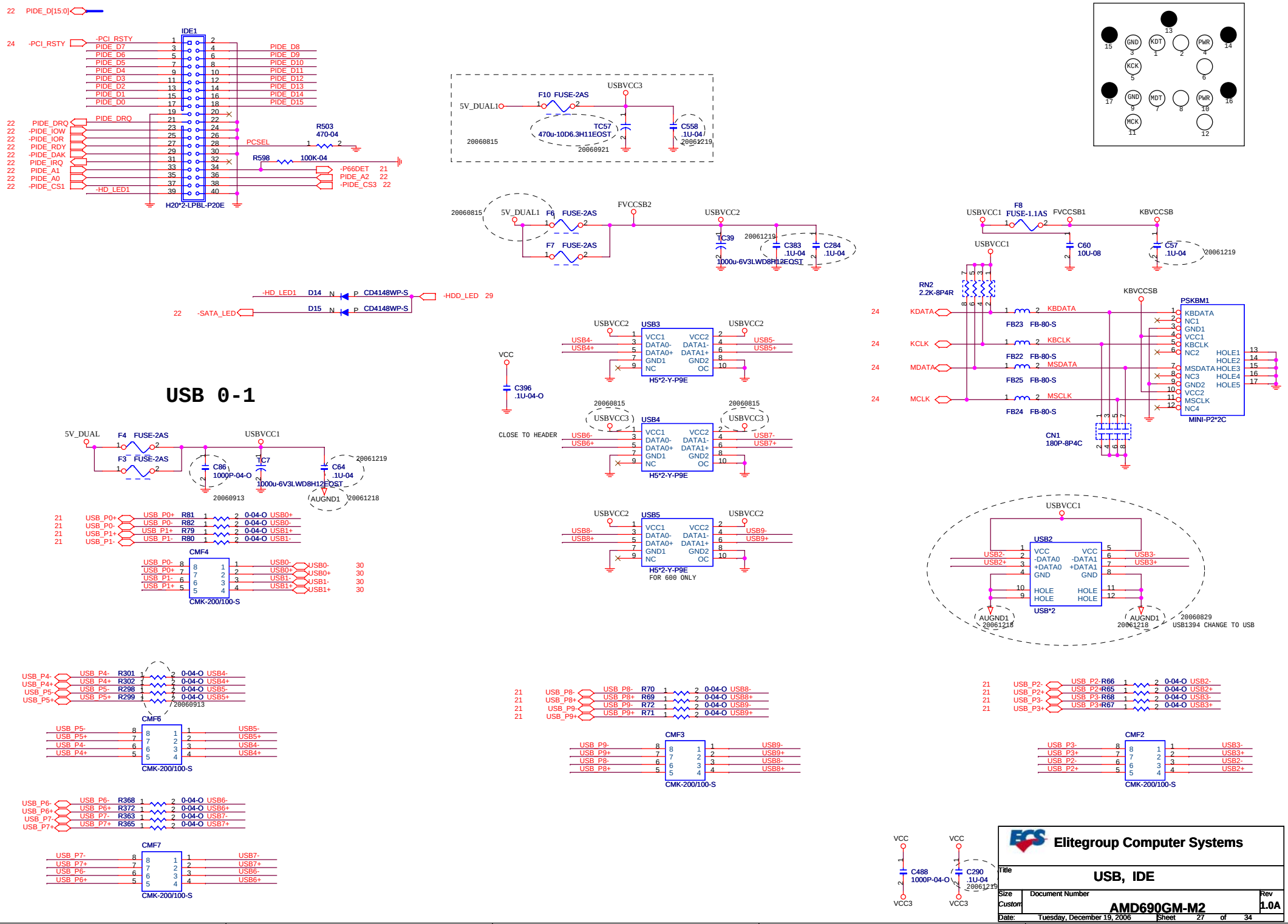






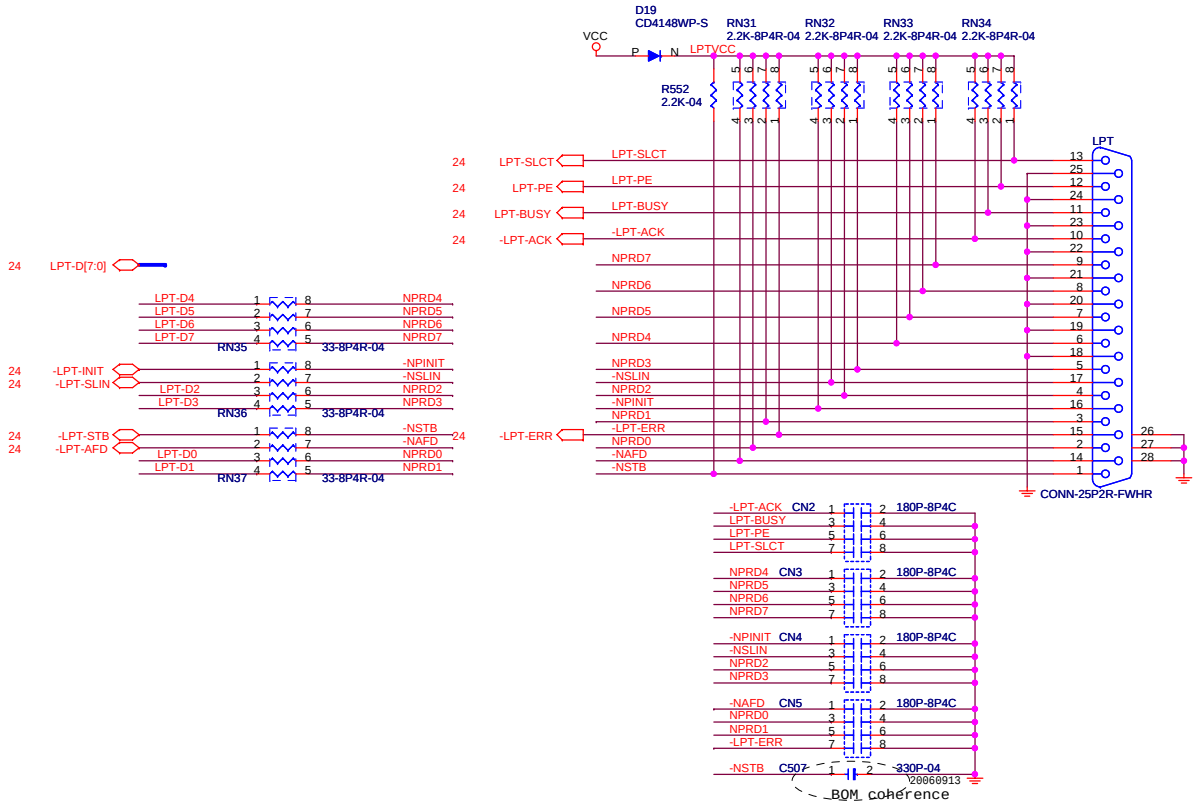
Elitegroup Computer Systems		
Title: PCI 1, PCI 2		
Size: Custom	Document Number: AMD690GM-M2	Rev: 1.0A
Date: Tuesday, December 19, 2006	Sheet 25 of 34	

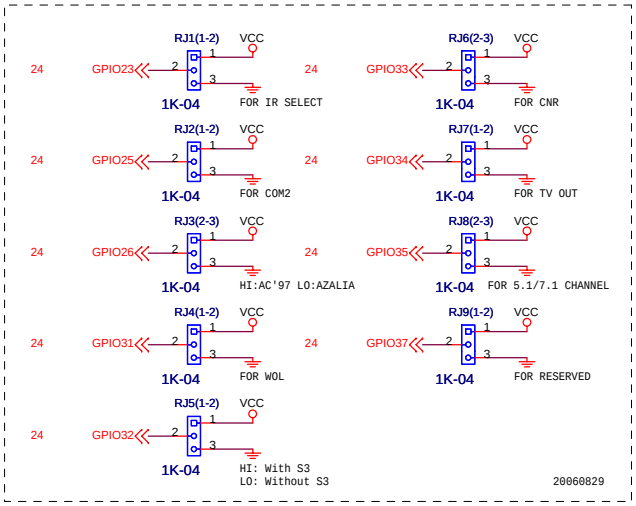

footprint update.
JLPC1
H10*2-BK-P4E
U27
SSX35BCBS
TSSOP28
PP:Physical Presence(HI active/internal pull LO)
U28
RClamp0504F-S-O
U29
RClamp0504F-S-O
DVI1
CONN-DVI-24P3R-FW
U1
74HCT32S-O
VGA
CONN-15P3R-FWBL
check bead value
TV_OUT1
H3*2-P6E
Elitegroup Computer Systems
VGA
AMD690GM-M2
1.0A
Tuesday, December 19, 2006



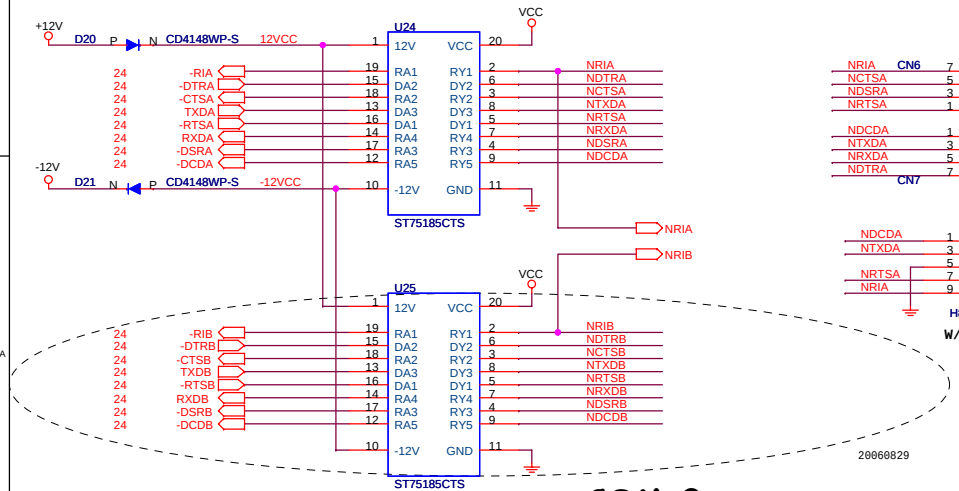
Elitegroup Computer Systems	
Title	USB, IDE
Size: Custom	Document Number: AMD690GM-M2
Rev	1.0A
Date: Tuesday, December 19, 2006	Sheet 27 of 34

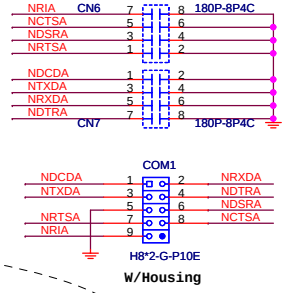
LPT

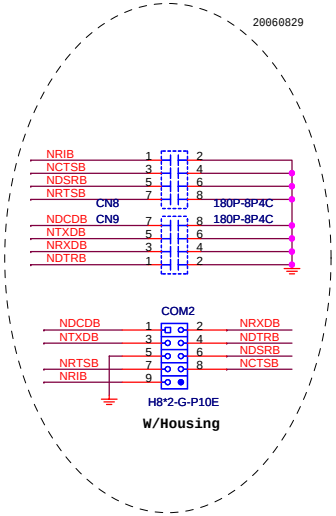


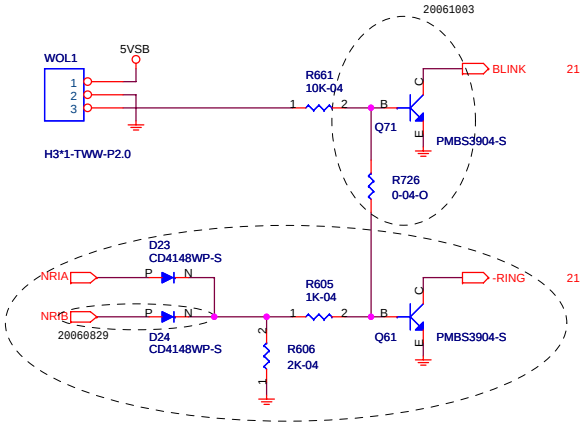


COM 1









COM 2

Elitegroup Computer Systems			
Title: COM, LPT			
Size: Custom	Document Number: AMD690GM-M2		Rev: 1.0A
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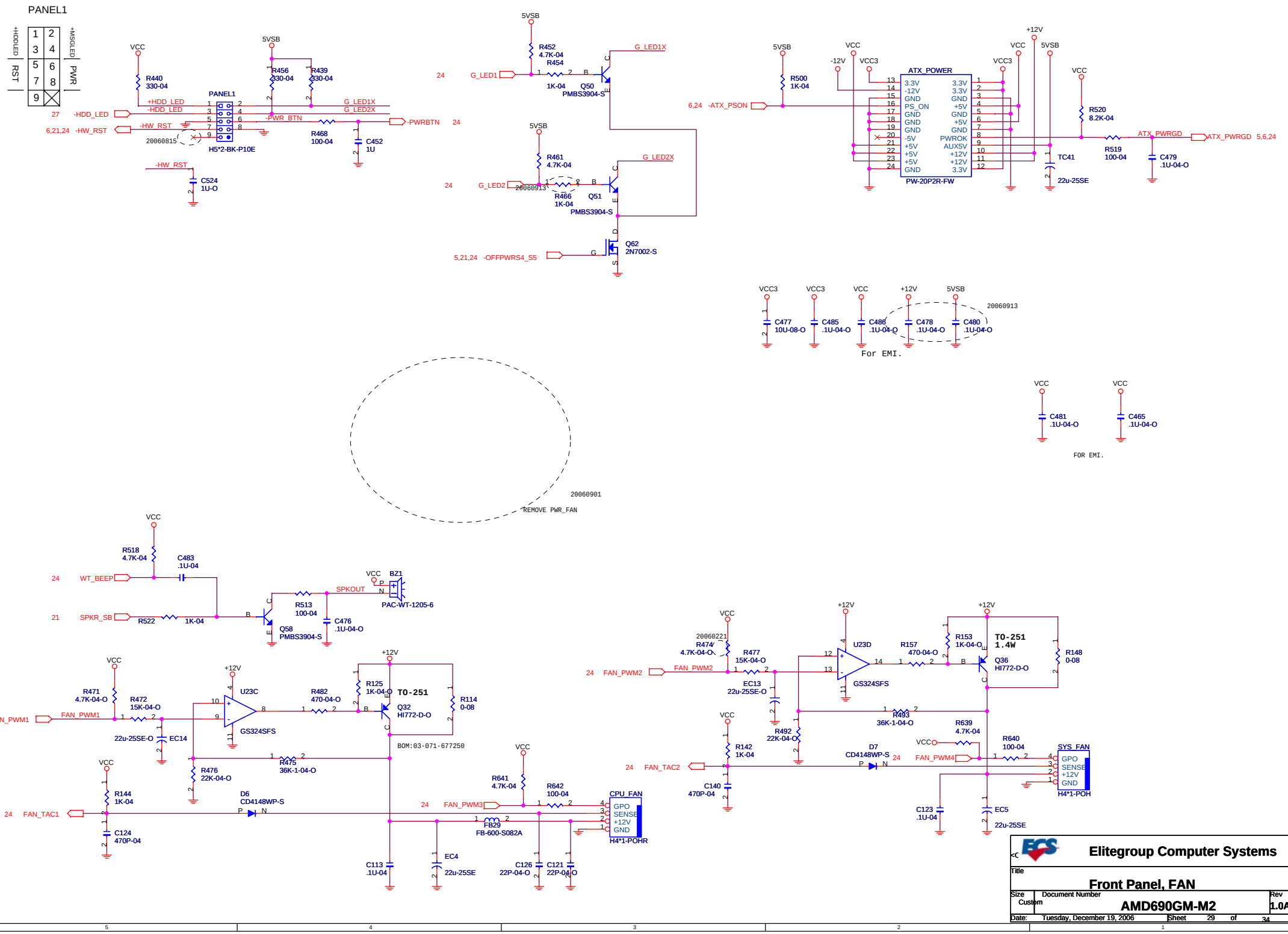

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Title: Front Panel, FAN

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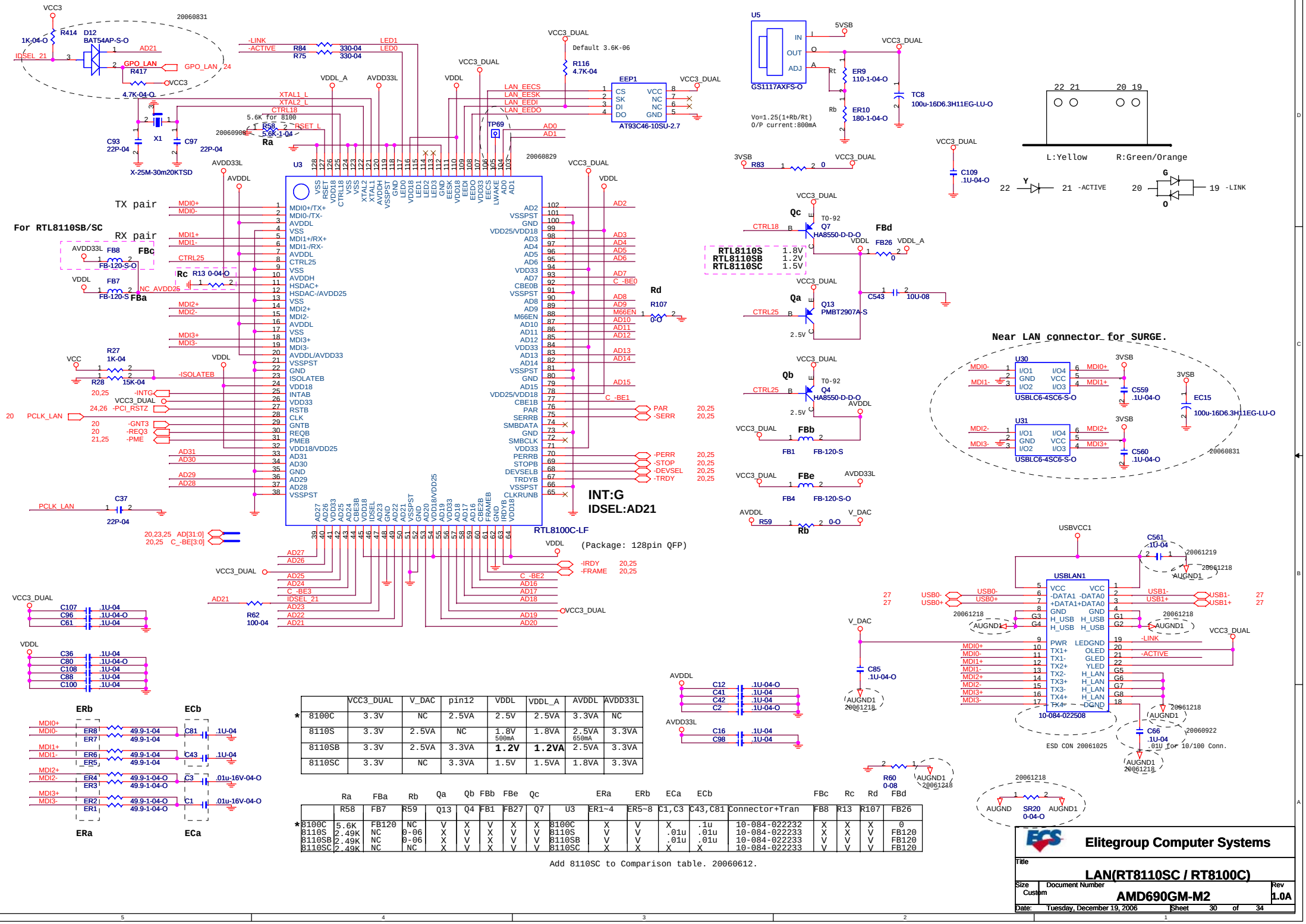

	VCC3_DUAL	V_DAC	pin12	VDDL	VDDL_A	AVDDL	AVDD33L
* 8100C	3.3V	NC	2.5VA	2.5V	2.5VA	3.3VA	NC
8110S	3.3V	2.5VA	NC	1.8V 500mA	1.8VA	2.5VA 650mA	3.3VA
8110SB	3.3V	2.5VA	3.3VA	**1.2V**	**1.2VA**	2.5VA	3.3VA
8110SC	3.3V	NC	3.3VA	1.5V	1.5VA	1.8VA	3.3VA

	Ra	FBa	Rb	Qa	Qb	FBb	FBe	Qc	U3	ERa	ERb	ECa	ECb	FBc	Rc	Rd	FBd
	R58	FB7	R59	Q13	Q4	FB1	FB27	Q7		ER1~4	ER5~8	C1,C3	C43,C81	Connector+Tran	FB8	R13	R107	FB26
* 8100C	5.6K	FB120	NC	V	X	V	X	X	8100C	X	V	X	.1u	10-084-022232	X	X	X	0
8110S	2.49K	NC	0-06	X	V	X	V	V	8110S	V	V	.01u	.01u	10-084-022233	X	X	V	FB120
8110SB	2.49K	NC	0-06	X	V	X	V	V	8110SB	V	V	.01u	.01u	10-084-022233	V	V	V	FB120
8110SC	2.49K	NC	NC	X	V	X	V	V	8110SC	V	X	X	X	10-084-022233	V	V	V	FB120

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Improve the background noise of MIC boost

Verfout bias for stereo microphone.

C50 CLOSE TO PIN38

Resistors Networks

Place near Chip

U2
ALC888-GRS

ALC883

BITCLK	
ALC883	SB->CODEC
ALC655	CODEC->SB

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Title	AUDIO ALC883(CHIP)		
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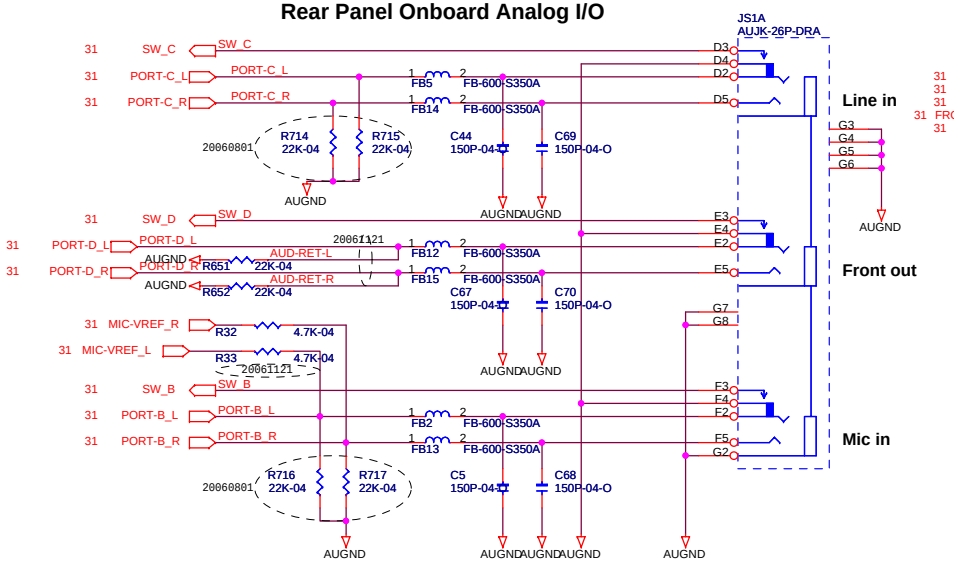
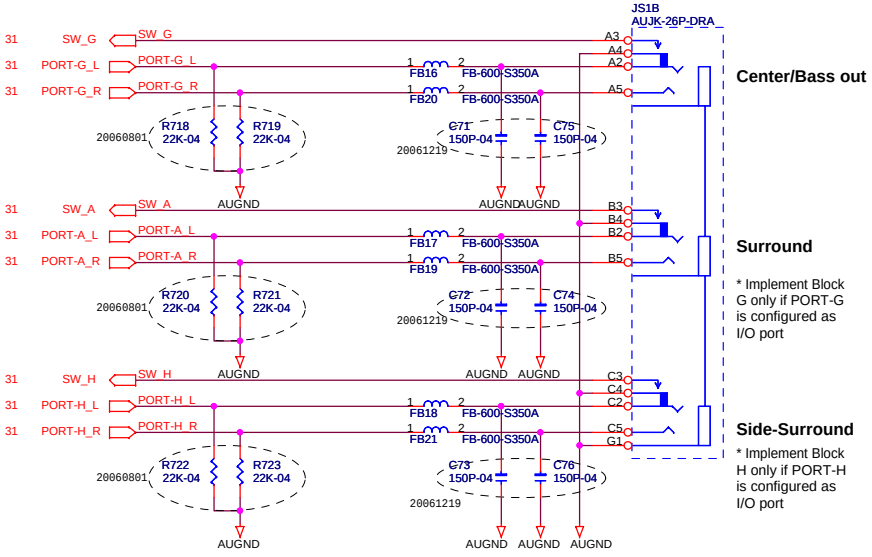
Rear Panel Onboard Analog I/O



Rear Panel (Optional Rear Audio Panel)

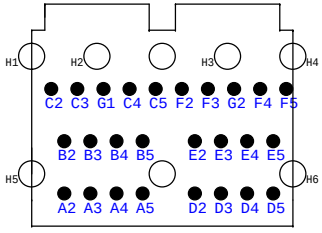


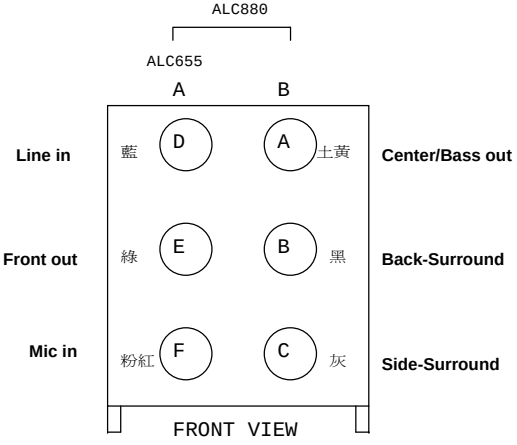
* Implement Block G only if PORT-G is configured as I/O port

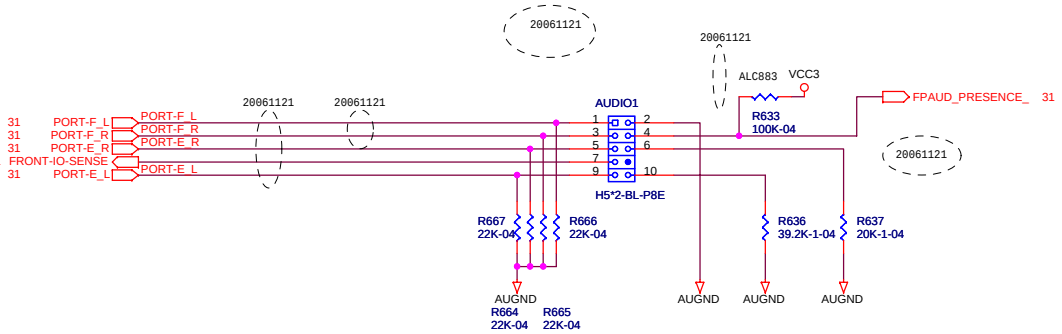
* Implement Block H only if PORT-H is configured as I/O port

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

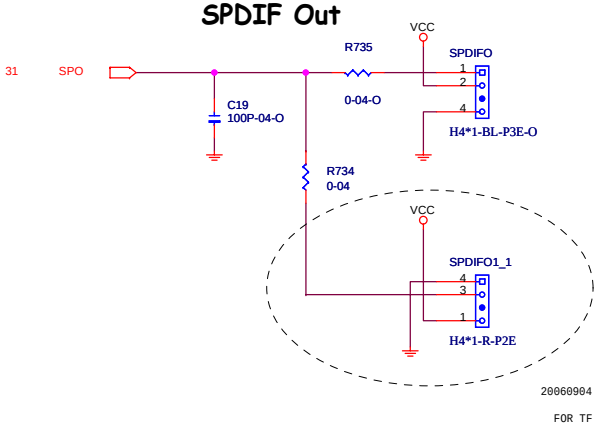
TOP VIEW







SPDIF Out



Title	AUDIO AL655/C883 (PANEL)
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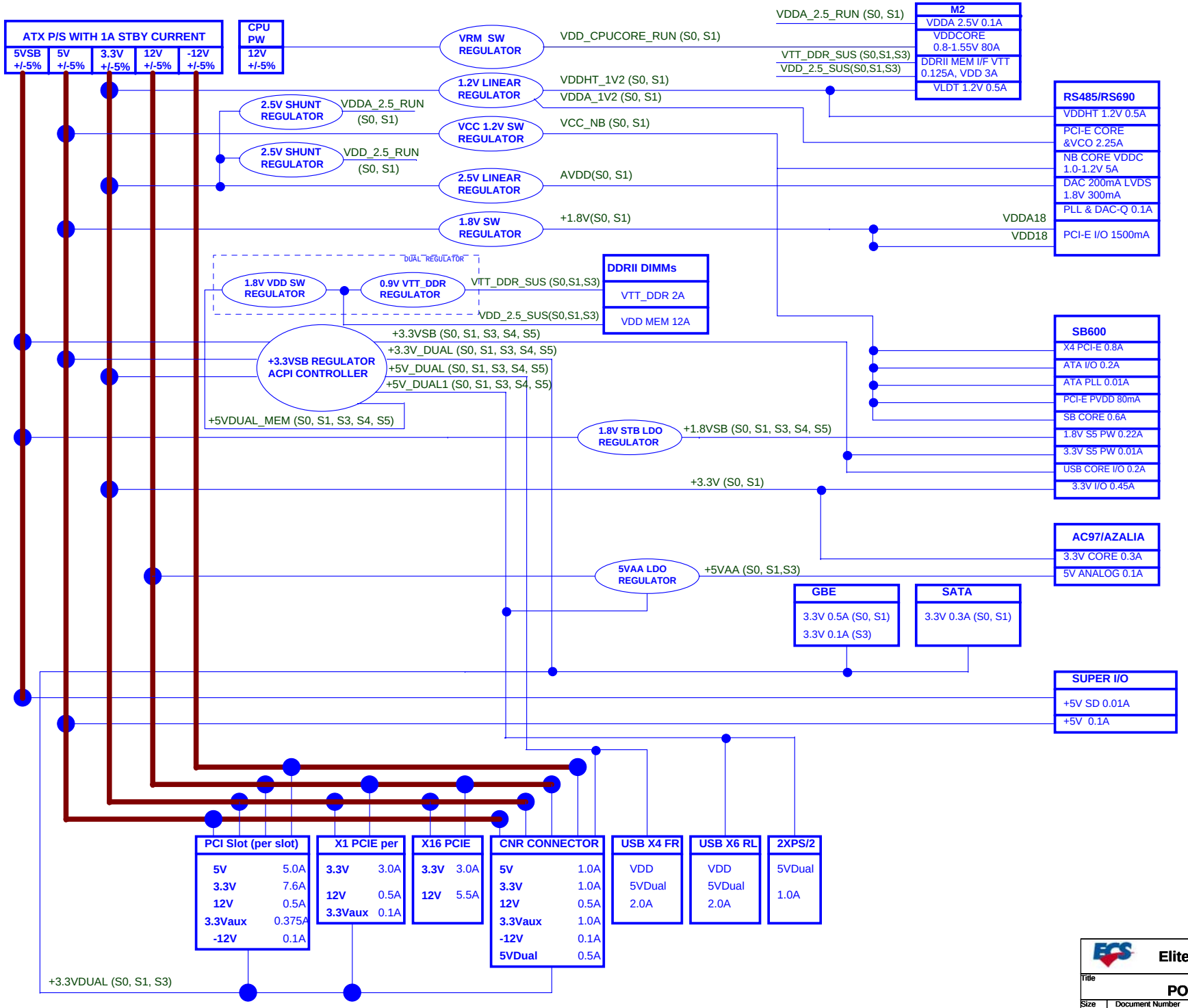

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Title: POWER DELIVERY CHART

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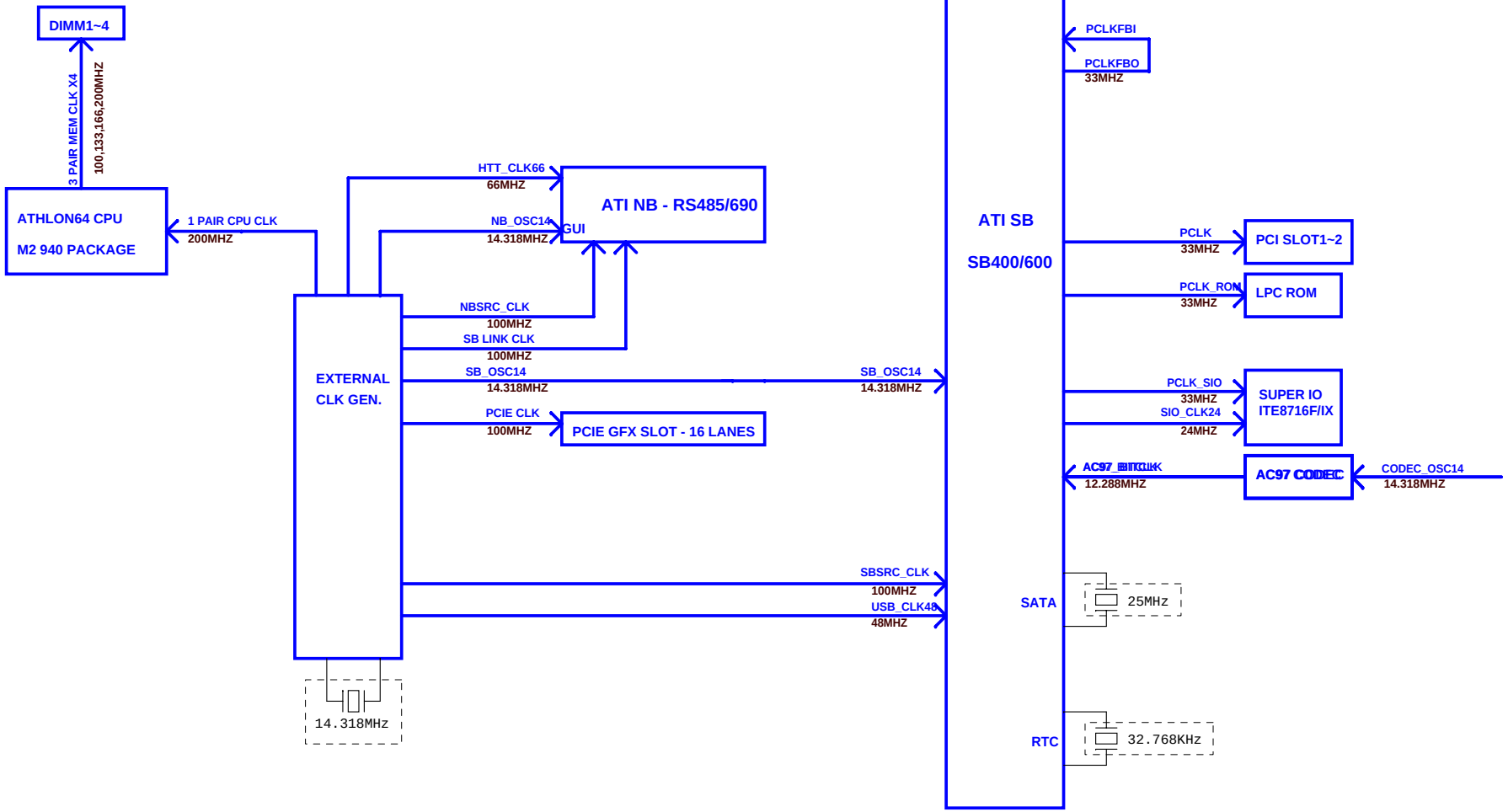
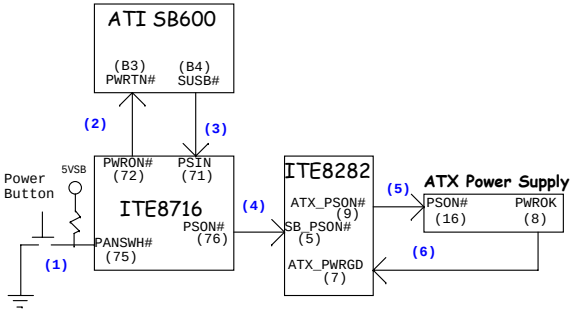
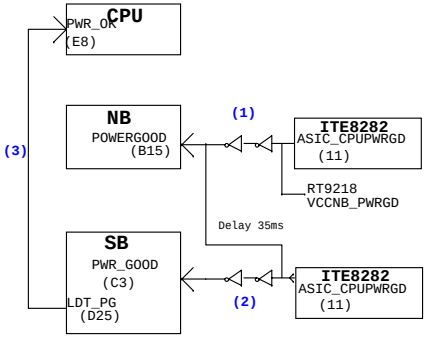


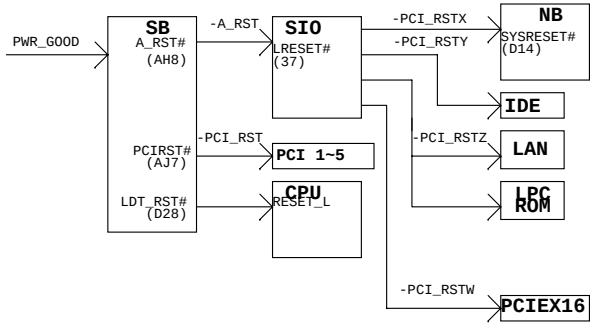
Power On



Power Good



Reset Tree



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Title: CLOCK DISTRIBUTION

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