ELITEGROUP

(P4 LGA775P Processor with DDR1 SDRAM Mainboard)

915GV-M6 Rev: 1.0

Schematics Version History Table :

Circuit Ver.	PCB Ver.	Total Page	Modified Page(s)	Date
A	A	34		10/26/' 04
1.0	1.0	34		12/21/' 04

Page Title of Schematic :

Elitegroup Computer Systems

Title: Cover Sheet

Size: Custom | Document Number: 915GV-M6 | Rev: 1.0

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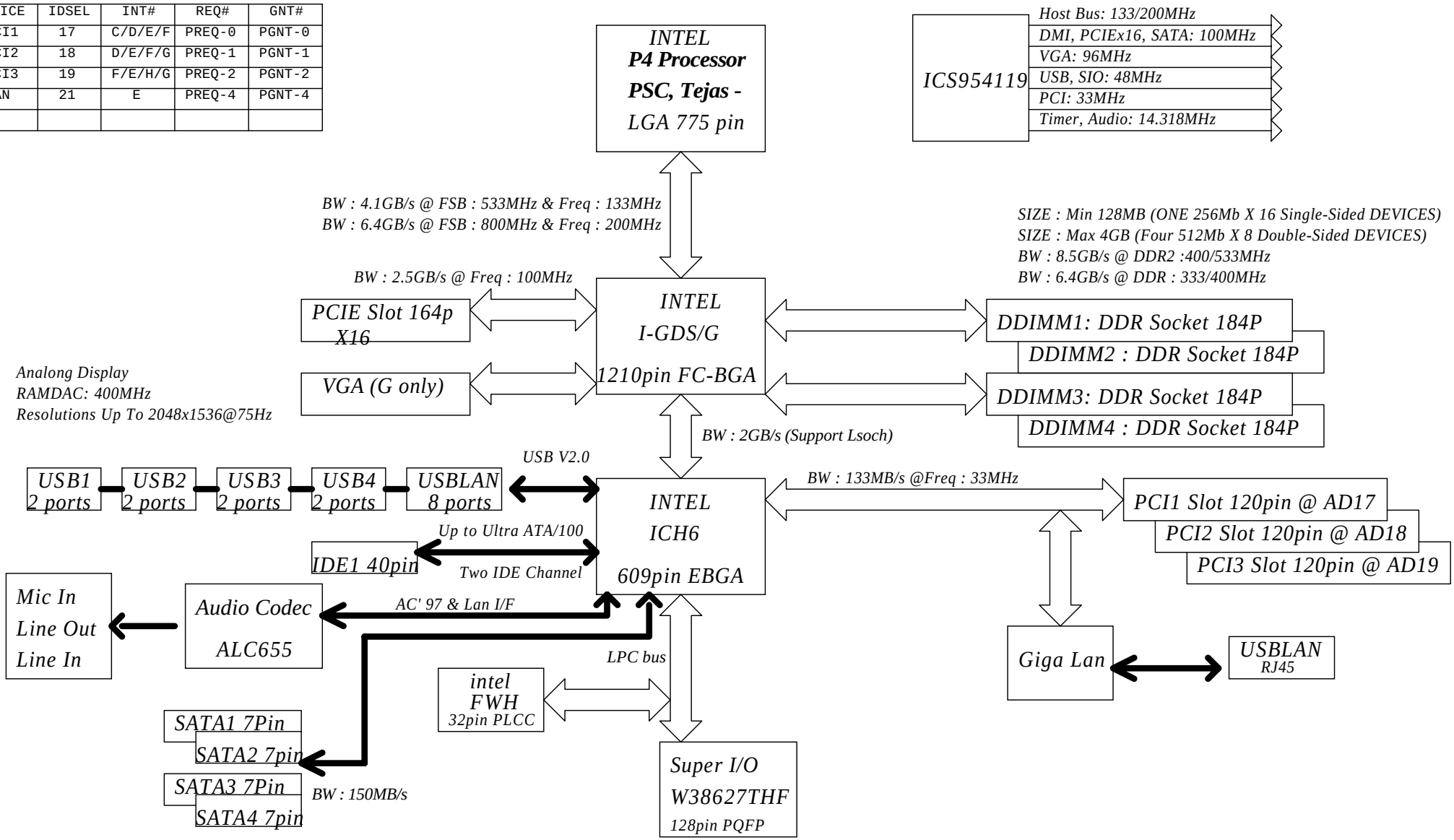
DEVICE	IDSEL	INT#	REQ#	GNT#
PCI1	17	C/D/E/F	PREQ-0	PGNT-0
PCI2	18	D/E/F/G	PREQ-1	PGNT-1
PCI3	19	F/E/H/G	PREQ-2	PGNT-2
LAN	21	E	PREQ-4	PGNT-4



PCB : 244 x 244 mm ; 4 layers

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Title: System Block Diagram

Size: B | Document Number: 915GV-M6 | Rev: 1.0

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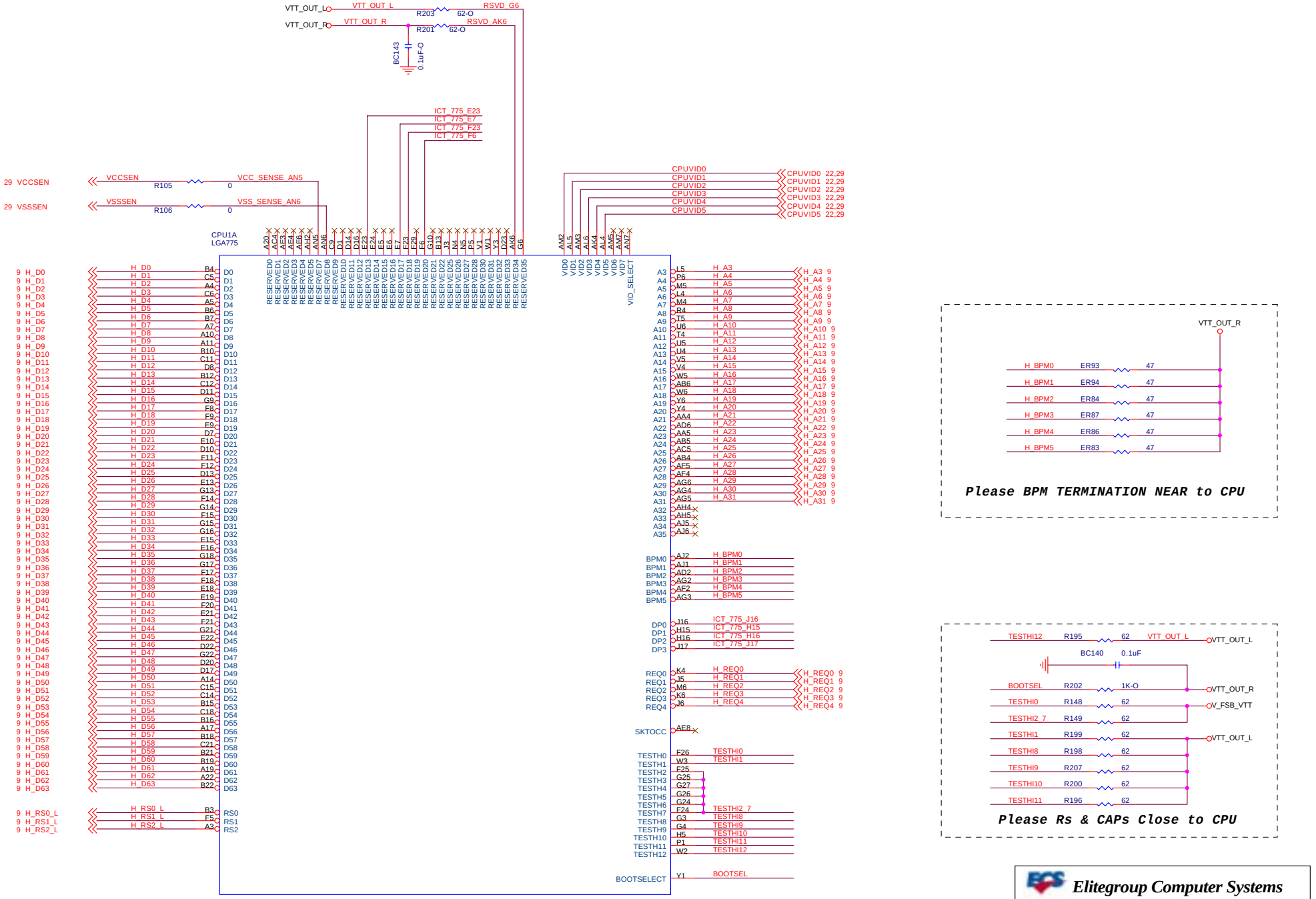

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Title: P4 LGA775P Part A

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Place componets as close as possible to Processor socket
trace width to cap must be no smaller than 12 Mils

Close CPU H1 pin

GTLREF= 0.67 * VTT = 0.8V

GTLREF GENERATION CIRCUITS

CPU1B

LGA775

LL= LOAD LINE for load line select

CPU SIGNAL CLOSE TO TERMINATION CPU

BSEL resistors can be removed IF ONLY TEJAS AND CEDAR MILL ARE SUPPORTED

PLACE TDO TERMINATION NEAR CONNECTOR

PLACE TCK/TDI/TMS TERMINATION NEAR CPU WITHIN 1.5" OF CPU, IDEALLY NEXT TO IT.

PLACE TRST_L TERMINATION ANYWHERE ON ROUTE

Layout need closed CPU

Place outside Socket Cavity

2N3904S

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Title	P4 LGA775P Part B	
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Elitegroup Computer Systems			
Title: P4 LGA775P Part C			
Size: Custom	Document Number: 915GV-M6		Rev: 1.0
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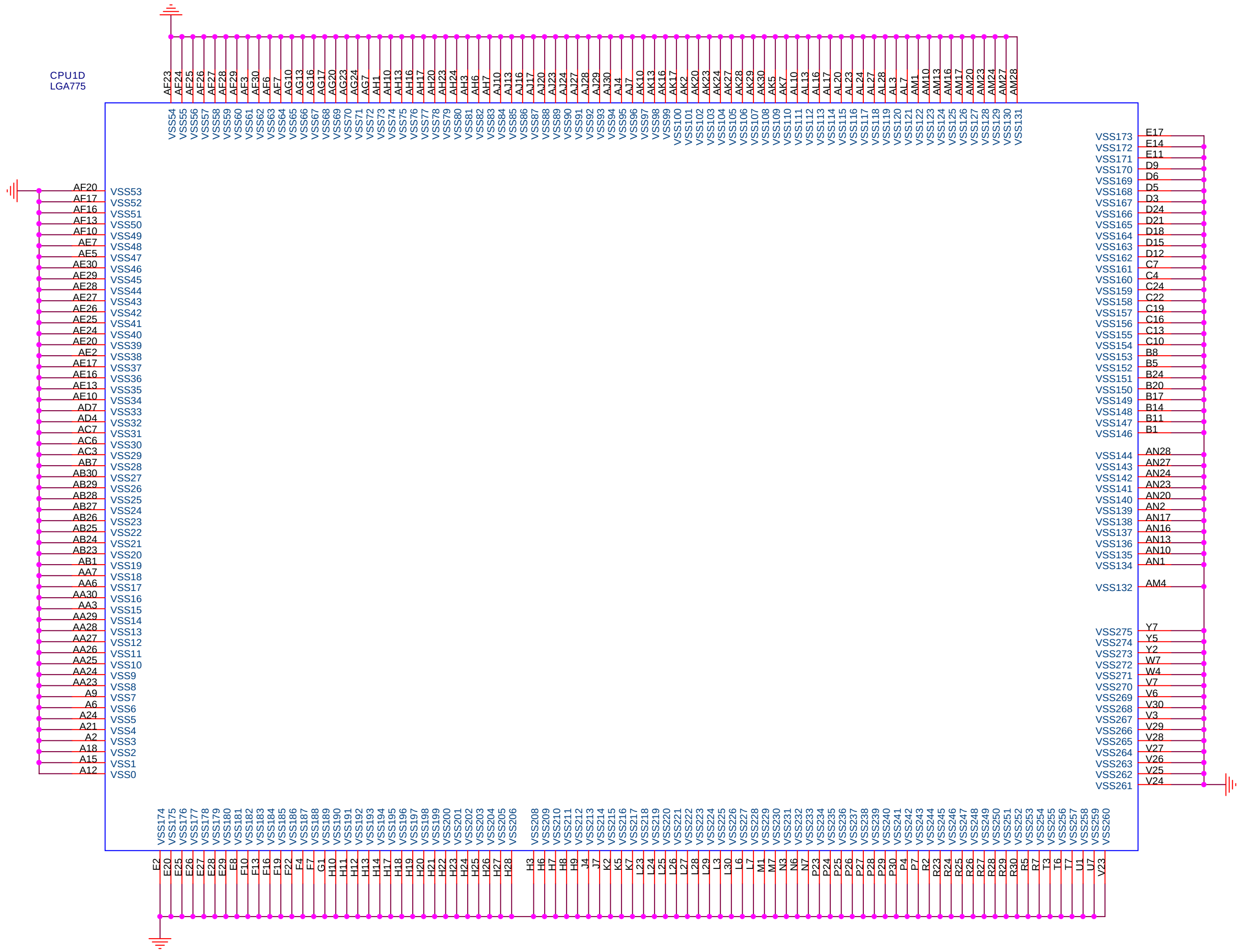

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Title

P4 LGA775P Part D

Size	Document Number	Rev
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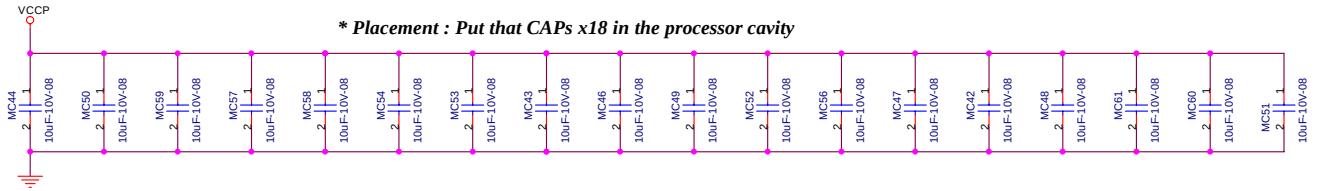
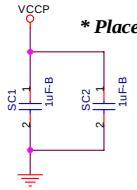
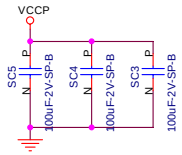
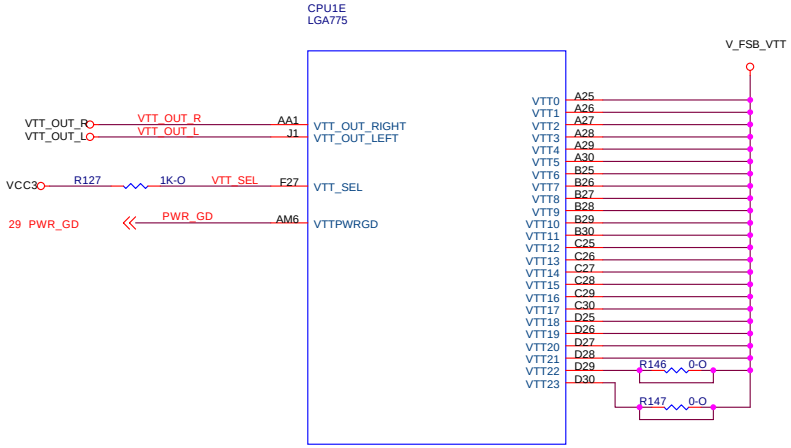






VTT_SEL=0 for the Tejas processor



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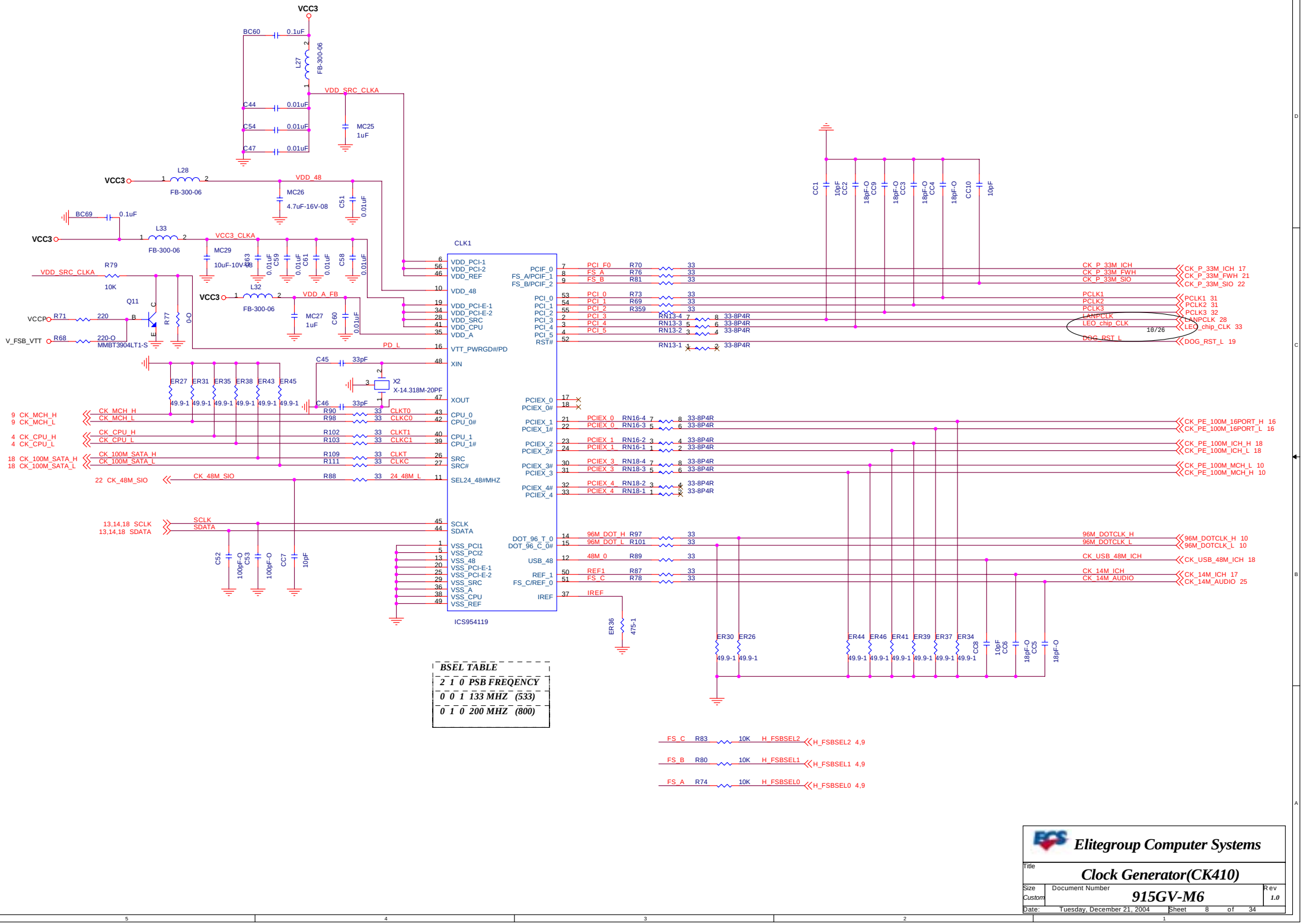
Title	P4 LGA775P Part E	
Size: Custom	Document Number: 915GV-M6	Rev: 1.0
Date: Tuesday, December 21, 2004	Sheet 7 of 34	



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Title: Clock Generator(CK410)

Size: Custom | Document Number: 915GV-M6 | Rev: 1.0

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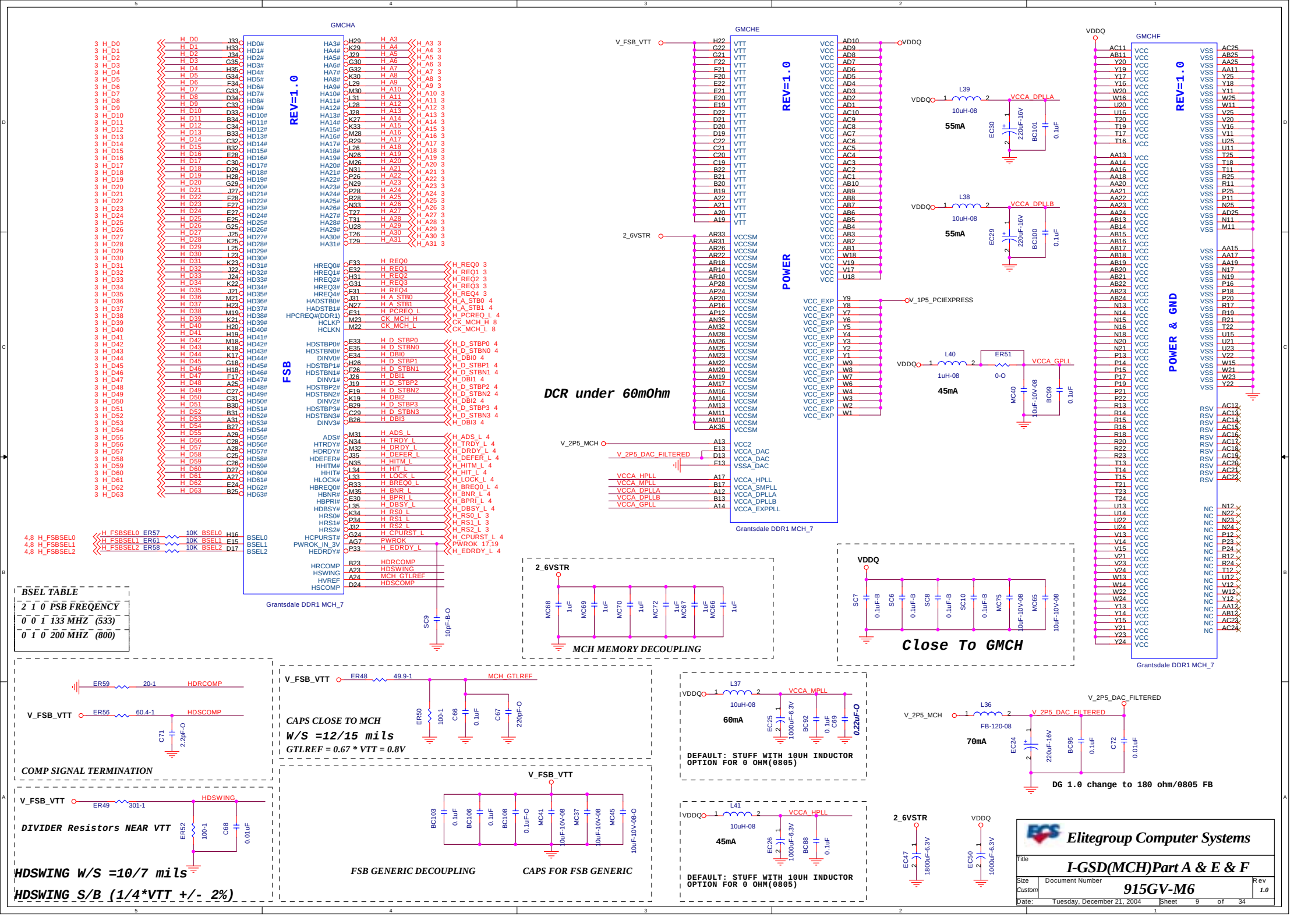
GMCHA
REV=1.0
FSB
Grantsdale DDR1 MCH_7
GMCHE
REV=1.0
POWER
DCR under 60mOhm
Grantsdale DDR1 MCH_7
GMCHF
REV=1.0
POWER & GND
Grantsdale DDR1 MCH_7
BSEL TABLE
2 1 0 PSB FREQENCY
0 0 1 133 MHZ (533)
0 1 0 200 MHZ (800)
2_6VSTR
MCH MEMORY DECOUPLING
VDDQ
Close To GMCH
COMP SIGNAL TERMINATION
CAPS CLOSE TO MCH
W/S =12/15 mils
GTLREF = 0.67 * VTT = 0.8V
DIVIDER Resistors NEAR VTT
HDSWING W/S =10/7 mils
HDSWING S/B (1/4*VTT +/- 2%)
FSB GENERIC DECOUPLING
CAPS FOR FSB GENERIC
DEFAULT: STUFF WITH 10UH INDUCTOR OPTION FOR 0 OHM(0805)
DEFAULT: STUFF WITH 10UH INDUCTOR OPTION FOR 0 OHM(0805)
DG 1.0 change to 180 ohm/0805 FB
Elitegroup Computer Systems
I-GSD(MCH)Part A & E & F
915GV-M6
Tuesday, December 21, 2004

GMCHD

PCI-E

DMI

VGA

REV=1.0

Grantsdale DDR1 MCH_7

Place near FB and VGA1.

Default: 3.3PF for BW > 200MHz
Stuff with 10PF for BW < 200MHz

Default: 3.3PF for BW > 200MHz
Stuff with 22PF for BW < 200MHz

COMP SIGNAL TERMINATION

Place close to GMCH 750Mil.

Place close to GMCH.

EMI 11/16

Place near VGA connector

100nH/S/1.4A/台慶(FPI0302-R10M-01)

PCI EXPRESS FILTER

CAPS FOR SPECIFIC CORE MCH

The LC filter is required to source 1.4A of current with less than 30mV of drop across the filter.

11/9

Elitegroup Computer Systems		
Title: I-GSD(MCH)Part D		
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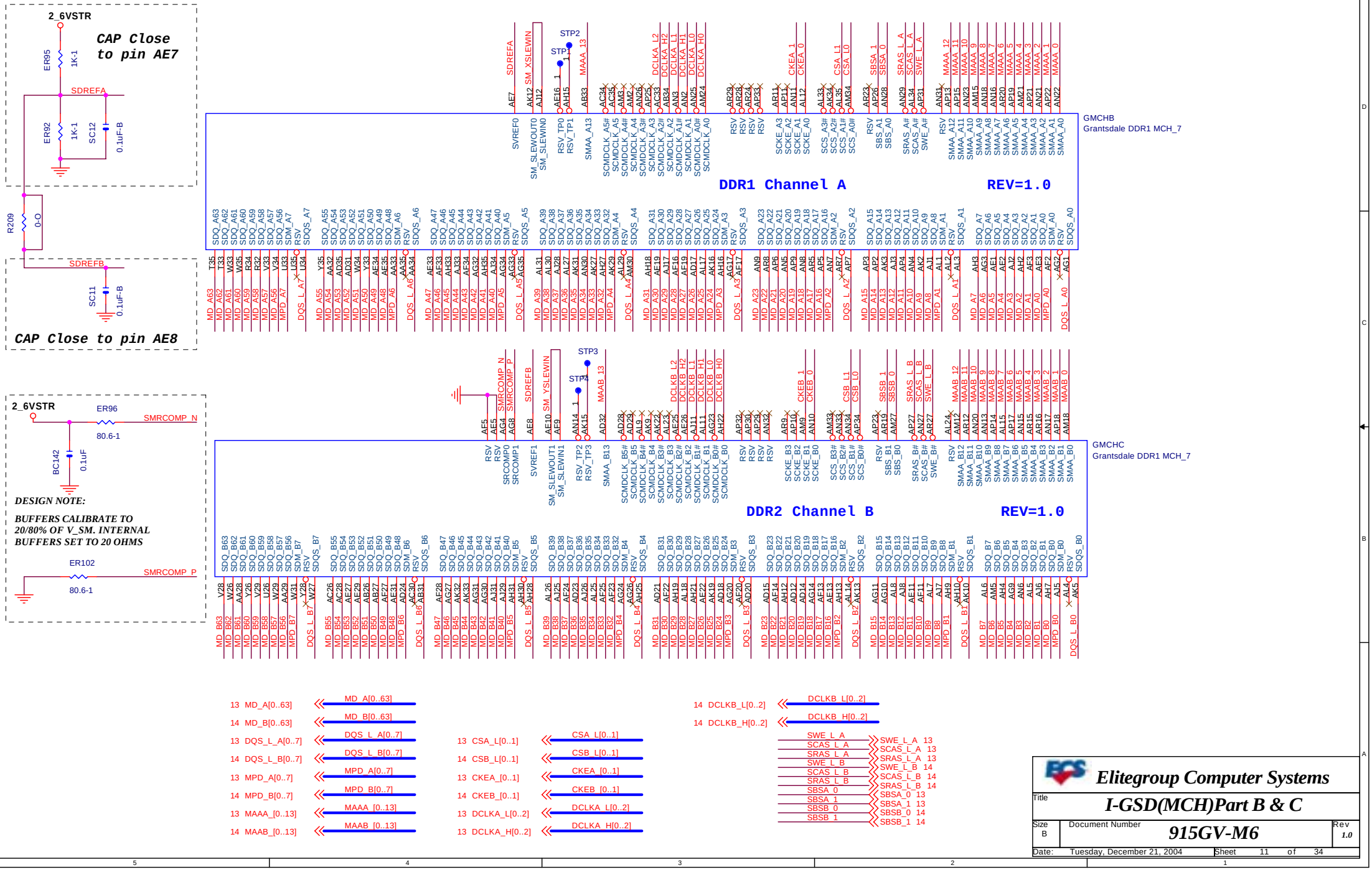
2_6VSTR
CAP Close to pin AE7
ER95
1K-1
SDREFA
ER92
1K-1
SC12
0.1uF-B
R209
0-O
SDREFB
SC11
0.1uF-B
CAP Close to pin AE8
2_6VSTR
ER96
SMRCOMP_N
80.6-1
BC142
0.1uF
DESIGN NOTE:
BUFFERS CALIBRATE TO 20/80% OF V_SM. INTERNAL BUFFERS SET TO 20 OHMS
ER102
SMRCOMP_P
80.6-1
STP1
STP2
STP3
STP4
DDR1 Channel A
REV=1.0
GMCHB
Grantsdale DDR1 MCH_7
DDR2 Channel B
REV=1.0
GMCHC
Grantsdale DDR1 MCH_7
13 MD_A[0..63]
14 MD_B[0..63]
13 DQS_L_A[0..7]
14 DQS_L_B[0..7]
13 MPD_A[0..7]
14 MPD_B[0..7]
13 MAAA_[0..13]
14 MAAB_[0..13]
13 CSA_L[0..1]
14 CSB_L[0..1]
13 CKEA_[0..1]
14 CKEB_[0..1]
13 DCLKA_L[0..2]
13 DCLKA_H[0..2]
14 DCLKB_L[0..2]
14 DCLKB_H[0..2]
SWE_L_A
SCAS_L_A
SRAS_L_A
SWE_L_B
SCAS_L_B
SRAS_L_B
SBSA_0
SBSA_1
SBSB_0
SBSB_1
Elitegroup Computer Systems
Title
I-GSD(MCH)Part B & C
Size B
Document Number
915GV-M6
Rev 1.0
Date: Tuesday, December 21, 2004
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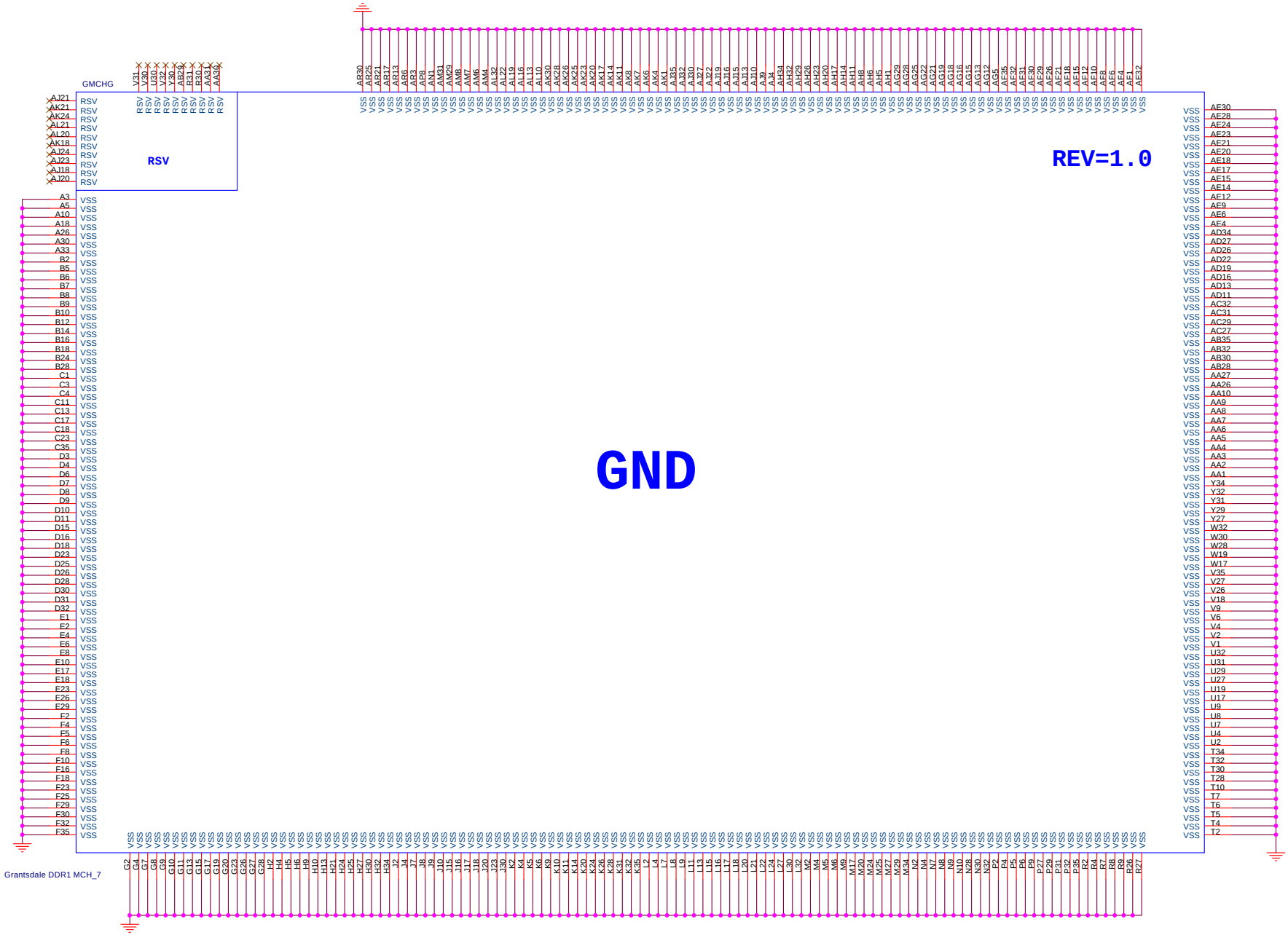

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Title: Schematic Change History

Size	Document Number	Rev
Custom	915GV-M6	1.0

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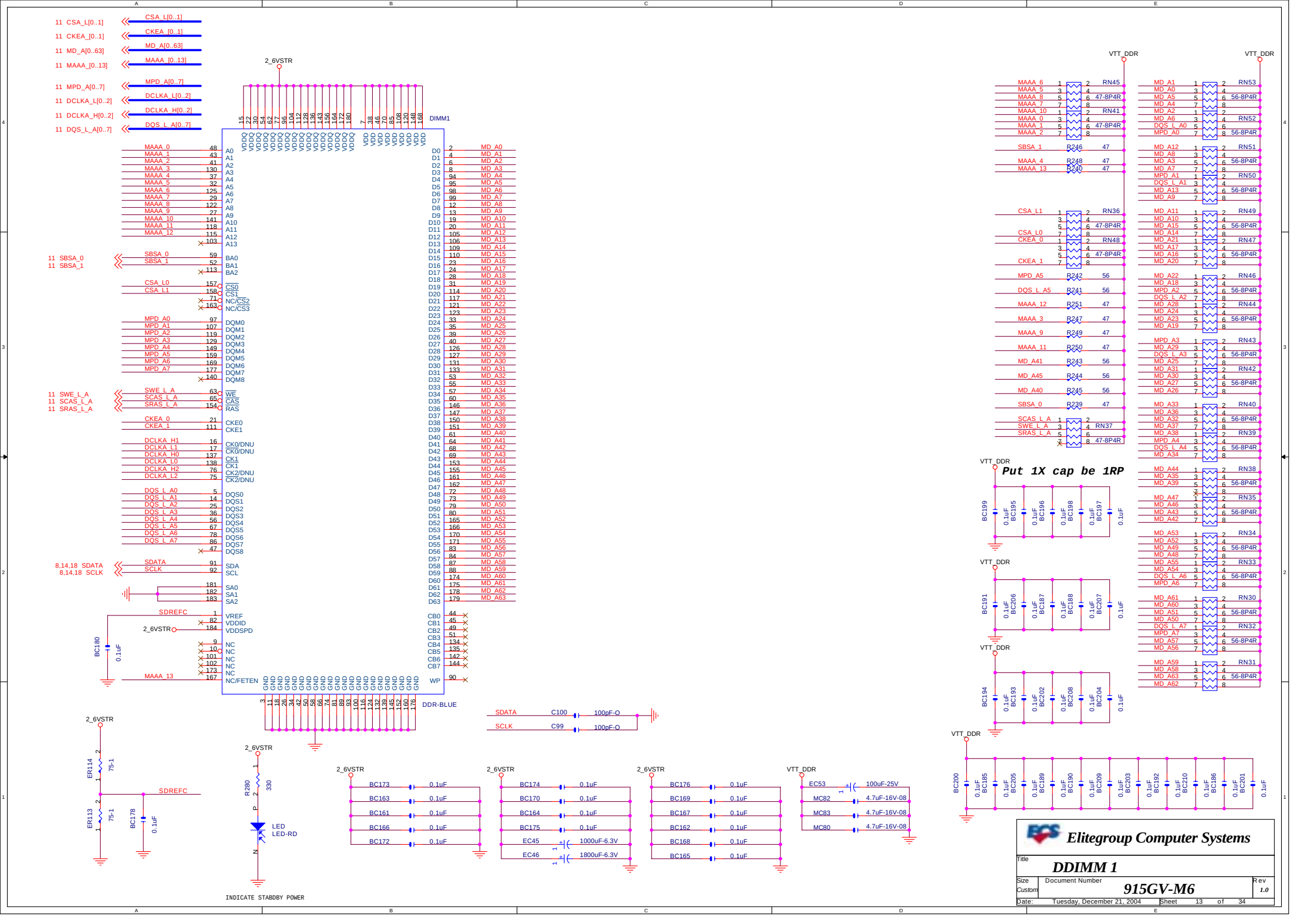
11 CSA_L[0..1]
CSA_L[0..1]
11 CKEA_[0..1]
CKEA_[0..1]
11 MD_A[0..63]
MD_A[0..63]
11 MAAA_[0..13]
MAAA_[0..13]
11 MPD_A[0..7]
MPD_A[0..7]
11 DCLKA_L[0..2]
DCLKA_L[0..2]
11 DCLKA_H[0..2]
DCLKA_H[0..2]
11 DQS_L_A[0..7]
DQS_L_A[0..7]
2_6VSTR
DIMM1
11 SBSA_0
11 SBSA_1
11 SWE_L_A
11 SCAS_L_A
11 SRAS_L_A
8,14,18 SDATA
8,14,18 SCLK
SDREFC
BC180
0.1uF
DDR-BLUE
SDATA
SCLK
C100
C99
100pF-O
ER114
ER113
75-1
BC178
R280
330
LED
LED-RD
INDICATE STABDBY POWER
BC173
BC163
BC161
BC166
BC172
BC174
BC170
BC164
BC175
EC45
EC46
1000uF-6.3V
1800uF-6.3V
BC176
BC169
BC167
BC162
BC168
BC165
VTT_DDR
EC53
MC82
MC83
MC80
100uF-25V
4.7uF-16V-08
RN45
RN53
RN41
RN52
RN36
RN51
RN48
RN50
RN37
RN49
RN46
RN44
RN43
RN42
RN40
RN39
RN38
RN35
RN34
RN33
RN32
RN31
47-8P4R
56-8P4R
R246
R248
R240
R242
R241
R251
R247
R249
R250
R243
R244
R245
R239
47
56
Put 1X cap be 1RP
BC199
BC195
BC196
BC198
BC197
BC191
BC206
BC187
BC188
BC207
BC194
BC193
BC202
BC208
BC204
BC200
BC185
BC205
BC189
BC190
BC209
BC203
BC192
BC210
BC186
BC201
Elitegroup Computer Systems
Title
DDIMM 1
Size
Custom
Document Number
915GV-M6
Rev
1.0
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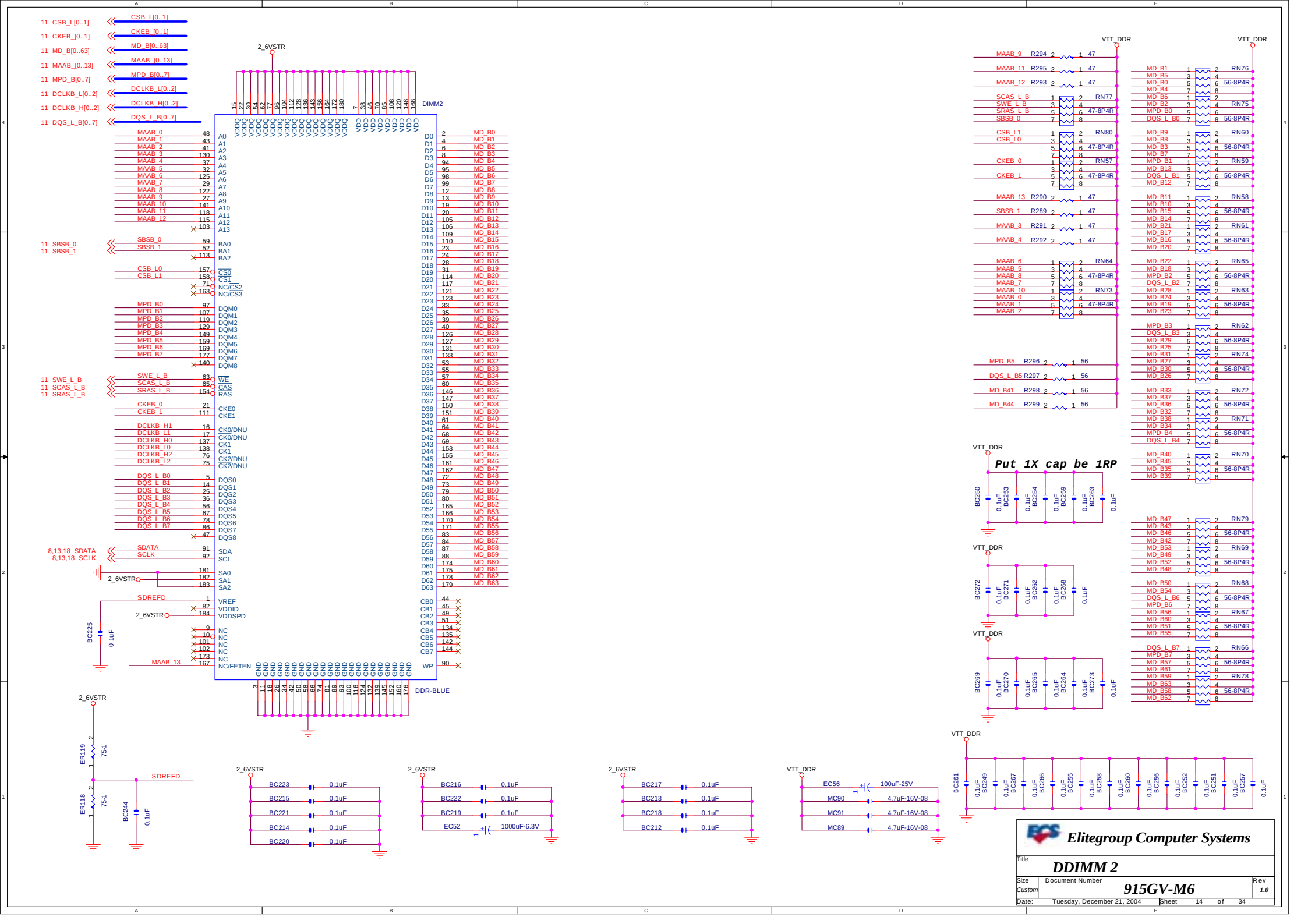
11 CSB_L[0..1]
11 CKEB_[0..1]
11 MD_B[0..63]
11 MAAB_[0..13]
11 MPD_B[0..7]
11 DCLKB_L[0..2]
11 DCLKB_H[0..2]
11 DQS_L_B[0..7]
CSB_L[0..1]
CKEB_[0..1]
MD_B[0..63]
MAAB_[0..13]
MPD_B[0..7]
DCLKB_L[0..2]
DCLKB_H[0..2]
DQS_L_B[0..7]
2_6VSTR
DIMM2
DDR-BLUE
11 SBSB_0
11 SBSB_1
11 SWE_L_B
11 SCAS_L_B
11 SRAS_L_B
8,13,18 SDATA
8,13,18 SCLK
SDREFD
MAAB_13
BC225
0.1uF
ER119
ER118
75-1
BC244
BC223
BC215
BC221
BC214
BC220
BC216
BC222
BC219
EC52
1000uF-6.3V
BC217
BC213
BC218
BC212
VTT_DDR
EC56
MC90
MC91
MC89
100uF-25V
4.7uF-16V-08
Put 1X cap be 1RP
BC250
BC253
BC254
BC259
BC263
BC272
BC271
BC262
BC268
BC269
BC270
BC265
BC264
BC273
BC261
BC249
BC267
BC266
BC255
BC258
BC260
BC256
BC252
BC251
BC257
R294
R295
R293
R290
R289
R291
R292
R296
R297
R298
R299
RN76
RN75
RN60
RN59
RN58
RN61
RN65
RN63
RN62
RN74
RN72
RN71
RN70
RN79
RN69
RN68
RN67
RN66
RN78
56-8P4R
47-8P4R
Elitegroup Computer Systems
DDIMM 2
915GV-M6
Custom
1.0
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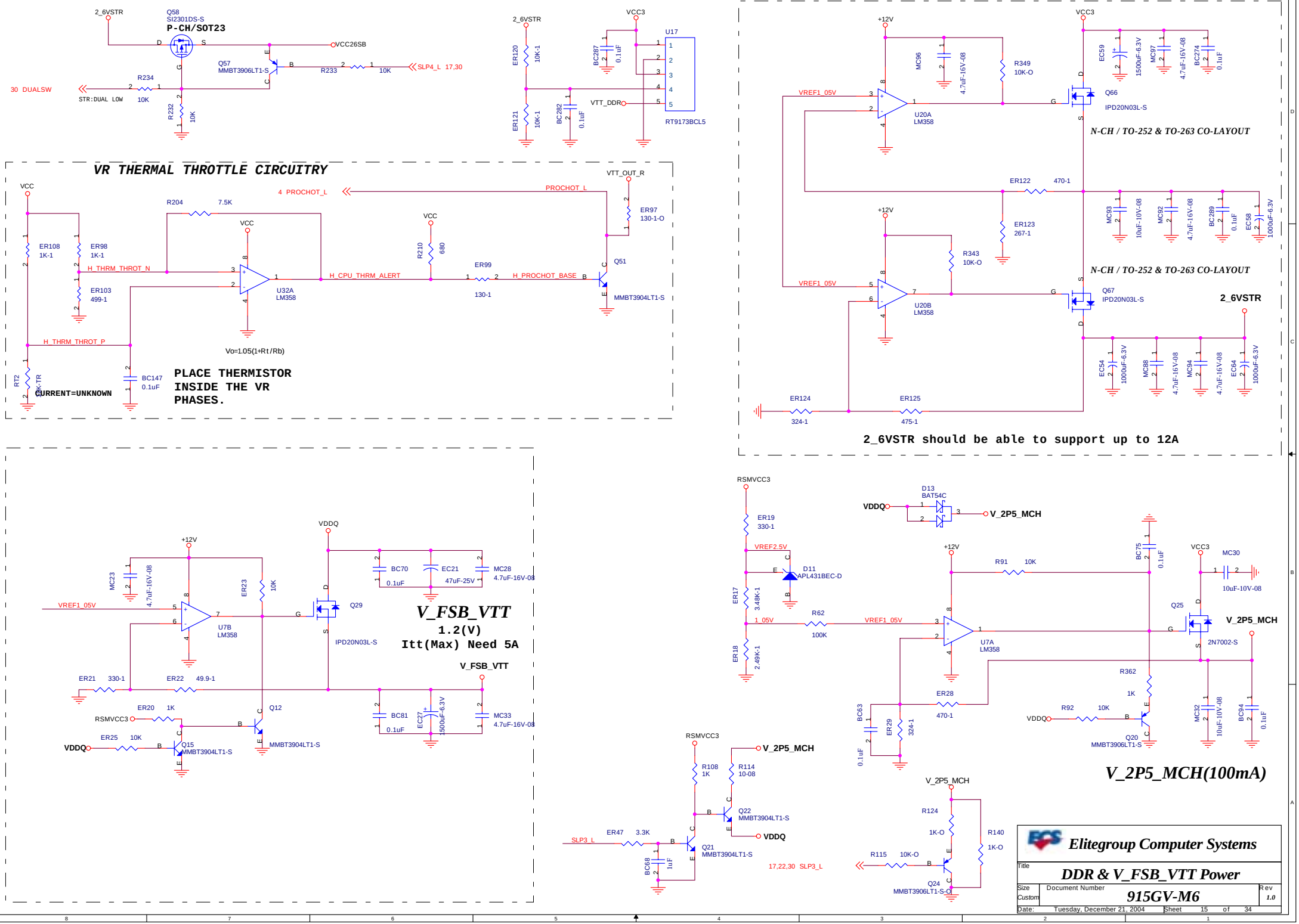
2_6VSTR
Q58
SI2301DS-S
P-CH/SOT23
VCC26SB
Q57
MMBT3906LT1-S
R234
10K
30 DUALSW
STR:DUAL LOW
R232
10K
R233
10K
SLP4_L 17,30
2_6VSTR
ER120
10K-1
ER121
10K-1
BC287
0.1uF
BC282
0.1uF
VCC3
U17
VTT_DDR
RT9173BCL5
VR THERMAL THROTTLE CIRCUITRY
VCC
ER108
1K-1
ER98
1K-1
ER103
499-1
H_THRM_THROT_N
H_THRM_THROT_P
RT2
10K-TR
CURRENT=UNKNOWN
BC147
0.1uF
R204
7.5K
4 PROCHOT_L
PROCHOT_L
VTT_OUT_R
ER97
130-1-O
U32A
LM358
Vo=1.05(1+Rt/Rb)
R210
680
ER99
130-1
H_CPU_THRM_ALERT
H_PROCHOT_BASE
Q51
MMBT3904LT1-S
PLACE THERMISTOR
INSIDE THE VR
PHASES.
+12V
MC96
4.7uF-16V-08
R349
10K-O
VREF1_05V
U20A
LM358
Q66
IPD20N03L-S
N-CH / TO-252 & TO-263 CO-LAYOUT
EC59
1500uF-6.3V
MC97
4.7uF-16V-08
BC274
0.1uF
ER122
470-1
ER123
267-1
R343
10K-O
U20B
LM358
Q67
IPD20N03L-S
MC93
10uF-10V-08
MC92
4.7uF-16V-08
BC289
0.1uF
EC58
1000uF-6.3V
EC54
1000uF-6.3V
MC88
4.7uF-16V-08
MC94
4.7uF-16V-08
EC64
1000uF-6.3V
ER124
324-1
ER125
475-1
2_6VSTR should be able to support up to 12A
MC23
4.7uF-16V-08
ER23
10K
VREF1_05V
U7B
LM358
Q29
IPD20N03L-S
BC70
0.1uF
EC21
47uF-25V
MC28
4.7uF-16V-08
V_FSB_VTT
1.2(V)
Itt(Max) Need 5A
ER21
330-1
ER22
49.9-1
ER20
1K
RSMVCC3
Q12
MMBT3904LT1-S
ER25
10K
Q15
MMBT3904LT1-S
BC81
0.1uF
EC27
1500uF-6.3V
MC33
4.7uF-16V-08
RSMVCC3
D13
BAT54C
V_2P5_MCH
ER19
330-1
VREF2.5V
D11
APL431BEC-D
ER17
3.48K-1
1_05V
R62
100K
ER18
2.49K-1
U7A
LM358
R91
10K
BC75
0.1uF
MC30
10uF-10V-08
Q25
2N7002-S
ER28
470-1
BC63
0.1uF
ER29
324-1
R362
1K
R92
10K
Q20
MMBT3906LT1-S
MC32
10uF-10V-08
BC94
0.1uF
V_2P5_MCH(100mA)
R108
1K
R114
10-08
Q22
MMBT3904LT1-S
ER47
3.3K
SLP3_L
Q21
MMBT3904LT1-S
BC68
1uF
17,22,30 SLP3_L
R124
1K-O
R140
1K-O
R115
10K-O
Q24
MMBT3906LT1-S-O
Elitegroup Computer Systems
DDR & V_FSB_VTT Power
915GV-M6
Custom
1.0
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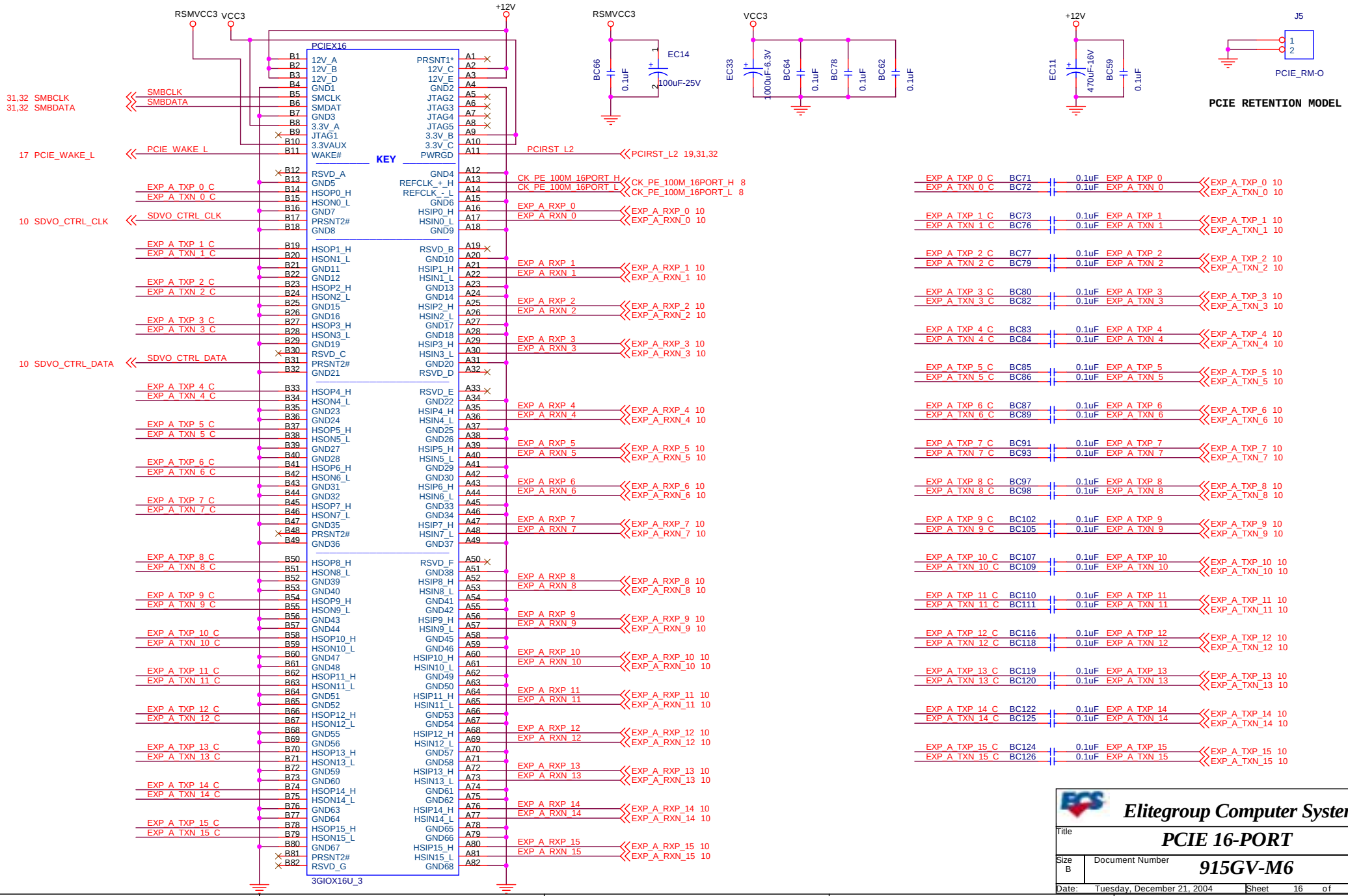

Elitegroup Computer Systems		
Title: PCIE 16-PORT		
Size: B	Document Number: 915GV-M6	Rev: 1.0
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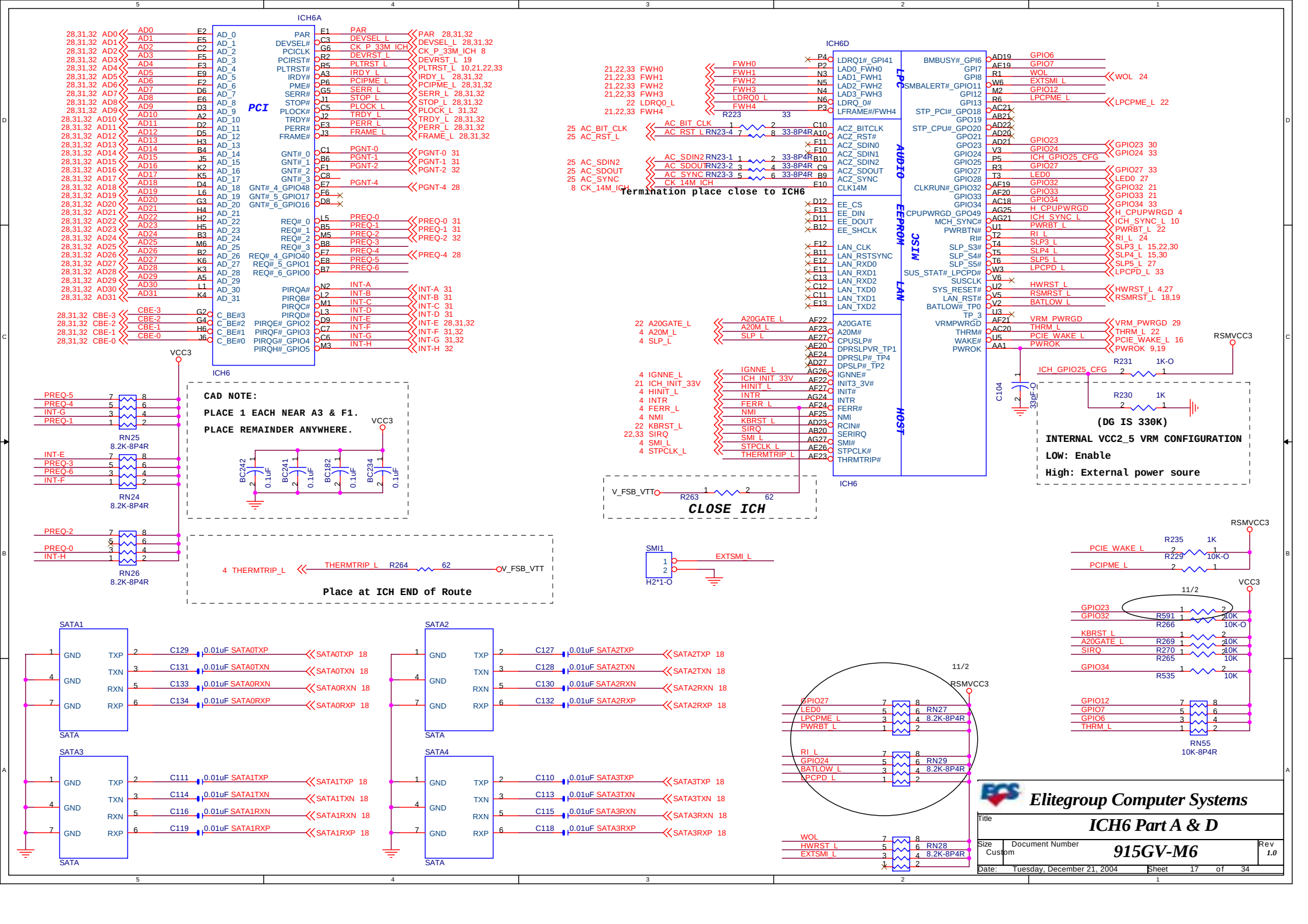

ICH6A
PCI
ICH6
ICH6D
LPC
AUDIO
EEPROM
LAN
HOST
ICH6
Termination place close to ICH6
CAD NOTE:
PLACE 1 EACH NEAR A3 & F1.
PLACE REMAINDER ANYWHERE.
CLOSE ICH
Place at ICH END of Route
(DG IS 330K)
INTERNAL VCC2_5 VRM CONFIGURATION
LOW: Enable
High: External power soure
RN25
8.2K-8P4R
RN24
8.2K-8P4R
RN26
8.2K-8P4R
RN27
RN29
RN28
RN55
10K-8P4R
SATA1
SATA2
SATA3
SATA4
SATA
H2*1-O
Elitegroup Computer Systems
ICH6 Part A & D
915GV-M6
Custom
Tuesday, December 21, 2004

ICH6C

PDD[0..15]

20 PDD[0..15]

PDD0 PDD1 PDD2 PDD3 PDD4 PDD5 PDD6 PDD7 PDD8 PDD9 PDD10 PDD11 PDD12 PDD13 PDD14 PDD15

DD_0 DD_1 DD_2 DD_3 DD_4 DD_5 DD_6 DD_7 DD_8 DD_9 DD_10 DD_11 DD_12 DD_13 DD_14 DD_15

DDACK# DDREQ DDIOR# DDIOW# IORDY DA0 DA1 DA2 DCS#1 DCS#3 IDEIRQ

20 PDDACK_L
20 PDREQ_L
20 PDIOR_L
20 PDIOW_L
20 PIORDY
20 PDA0
20 PDA1
20 PDA2
20 CS1P_L
20 CS3P_L
20 IRQ14

IDE

SATA_RXN0 SATA_RXP0 SATA_TXN0 SATA_TXP0 SATA_RXN1 SATA_RXP1 SATA_TXN1 SATA_TXP1 SATA_RXN2 SATA_RXP2 SATA_TXN2 SATA_TXP2 SATA_RXN3 SATA_RXP3 SATA_TXN3 SATA_TXP3

SATA0RXN SATA0RXP SATA0TXN SATA0TXP SATA1RXN SATA1RXP SATA1TXN SATA1TXP SATA2RXN SATA2RXP SATA2TXN SATA2TXP SATA3RXN SATA3RXP SATA3TXN SATA3TXP

SATA_CLKN SATA_CLKP

CK_100M_SATA_L 8
CK_100M_SATA_H 8

SATARBIAS# SATARBIAS

SATABIAS ER117 24.9-1

SMBCLK SMBDATA LINKALERT# SMLINK_0 SMLINK_1

ALERT_L SMLINK0 SMLINK1

SATALED# SATALED 27

SATA0GP_GPI26 SATA1GP_GPI29 SATA2GP_GPI30 SATA3GP_GPI31 INTRUDER#

INTRUDER_L

RSMRST#

RSMRST_L 17,19

RTCX1 RTCX2

RTCRST# INTVRMEN

SPKR

SPKR 27

SATA

SATABIAS LENGTH NO LONGER THAN 200MIL TO RESISTOR

RN56 10K-8P4R VCC3

R262 1 2 1M

R261 1 2 390K

RTCVCC

ICH6

ICH6B

DMI_TXN0 DMI_TXP0 DMI_RXN0 DMI_RXP0 DMI_TXN1 DMI_TXP1 DMI_RXN1 DMI_RXP1 DMI_TXN2 DMI_TXP2 DMI_RXN2 DMI_RXP2 DMI_TXN3 DMI_TXP3 DMI_RXN3 DMI_RXP3

10 DMI_TXN0
10 DMI_TXP0
10 DMI_RXN0
10 DMI_RXP0
10 DMI_TXN1
10 DMI_TXP1
10 DMI_RXN1
10 DMI_RXP1
10 DMI_TXN2
10 DMI_TXP2
10 DMI_RXN2
10 DMI_RXP2
10 DMI_TXN3
10 DMI_TXP3
10 DMI_RXN3
10 DMI_RXP3

DMI

DMI EXPRESS

PERN1 PERP1 PETN1 PETP1 PERN2 PERP2 PETN2 PETP2 PERN3 PERP3 PETN3 PETP3 PERN4 PERP4 PETN4 PETP4

DMI_ZCOMP DMI_IRCOMP DMI_CLKN DMI_CLKP

USB

USB_N0 USB_P0 USB_N1 USB_P1 USB_N2 USB_P2 USB_N3 USB_P3 USB_N4 USB_P4 USB_N5 USB_P5 USB_N6 USB_P6 USB_N7 USB_P7

USBP0N USBP0P USBP1N USBP1P USBP2N USBP2P USBP3N USBP3P USBP4N USBP4P USBP5N USBP5P USBP6N USBP6P USBP7N USBP7P

OC0_L OC1_L

GPIO9_OC#4 GPIO10_OC#5 GPIO14_OC#6 GPIO15_OC#7

USBRBIAS USBRBIAS#

CLK48M

R225 10K RSMVCC3

R228 10K

USBRBIAS_L

ER111 22.6-1

Must routing a trace to 22.6ohm pad, Don't direct connect with USBRBIAS_L.(two trace must < 500 mils)

CK_USB_48M_ICH

CK_USB_48M_ICH 8

8 CK_PE_100M_ICH_L
8 CK_PE_100M_ICH_H

CK_PE_100M_ICH_L
CK_PE_100M_ICH_H

V_PCIEXPRESS_PWR

ER112 24.9-1

RTCX1 RTCX2

R252 10M

X4 X-32.768K-CY

C98 10pF C102 10pF

V_PCIEXPRESS_PWR VDDQ

L47 0.47uH-12

MC79 4.7uF-16V-08 EC49 220uF-16V

ICH6 V1.5 PCI Express powers, The LC filter is required to source 1A of current with less than 30mV of drop across the filter.

RSMVCC3

SMLINK0 ALERT_L SMLINK1 RN54 10K-8P4R

31,32 SMBDATA SMBDATA R238 2.2K

31,32 SMBCLK SMBCLK R256 2.2K

VCC3

SDATA R275 2.7K

SCLK R274 2.7K

SPKR R279 8.2K

RTCVCC

RTC

MC84 1uF

CLOSE TO ICH6

D23 BAT54C

RSMVCC3

CLR_CMOS
2-3 : NORMAL
1-2 : CLEAR CMOS

No Reboot

CLR_CMOS

CLR_CMOS

RTCRST_L

H3*1-RED

R310 1K

R259 200K

VBAT

BT SK-CR2032V

BC245 0.1uF

R281 4.7K

S-ATA FILTER

CAPS PLACE AT ENDS OF POWER CORRIDORS

VDDQ

SC15 0.1uF-B SC16 0.1uF-B

P-ATA FILTER

CAPS NEAR TO PIN:A15

VCC3

BC239 0.1uF

8,13,14 SCLK
8,13,14 SDATA

SCLK SDATA

+12V

BC211 0.1uF

R254 10K

Q56 2N7002-S

R253 0-O

R255 0-O

SMBDATA SDATA

Q59 2N7002-S

R258 0-O

R260 0-O

SMBCLK SCLK

USB CLASSIC FILTER

CAPS NEAR TO PIN:A17

RSMVCC3

BC150 0.1uF-B BC184 0.1uF

USB HS (HIGH SPEED) FILTER

0.1UF NEAR TO PIN:D27

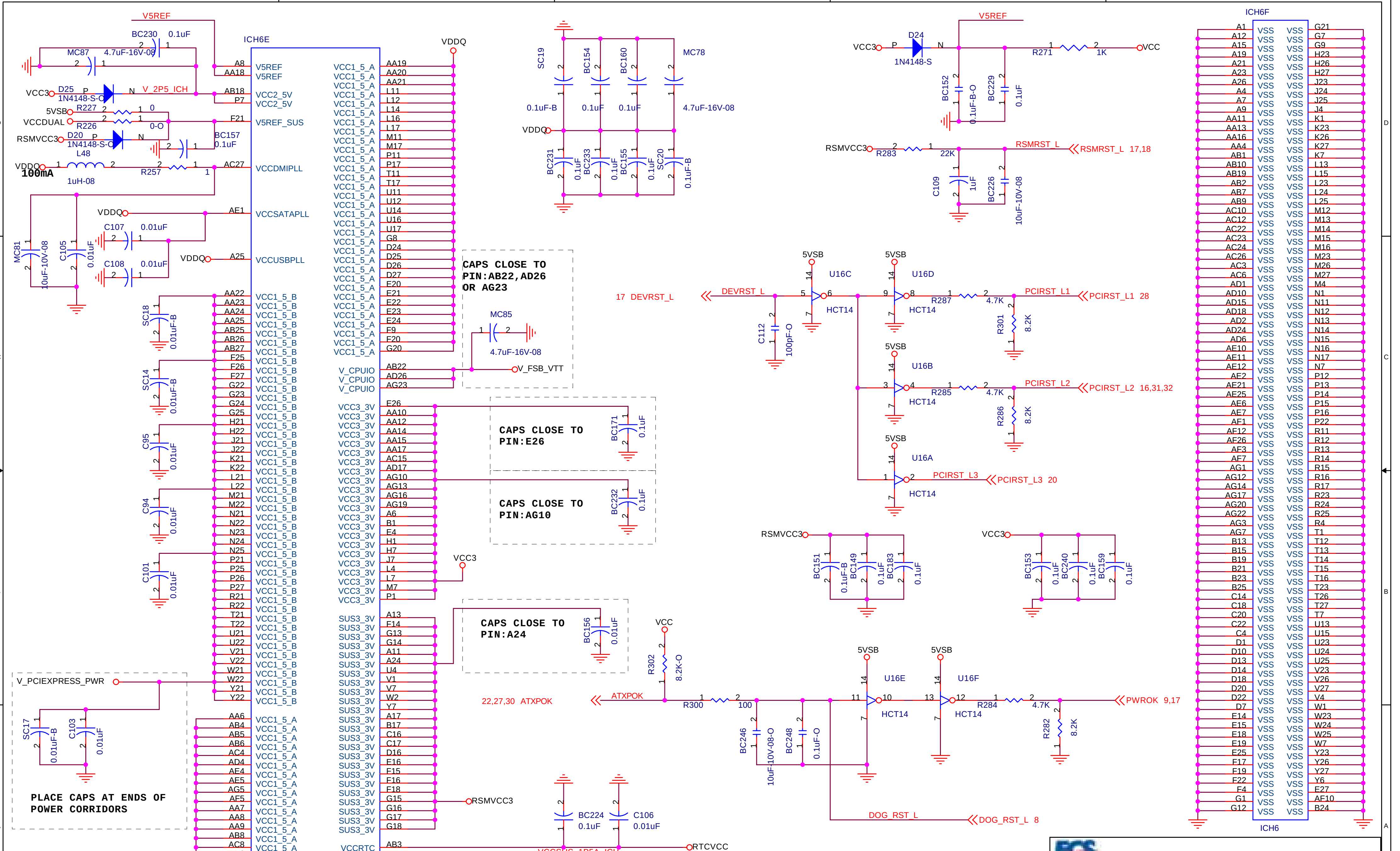
0.01UF NEAR TO PIN:A25

VDDQ

BC158 0.1uF C93 0.01uF

Elitegroup Computer Systems

Title	ICH6 Part B & C	
Size: Custom	Document Number: 915GV-M6	Rev: 1.0
Date: Tuesday, December 21, 2004	Sheet 18 of 34	



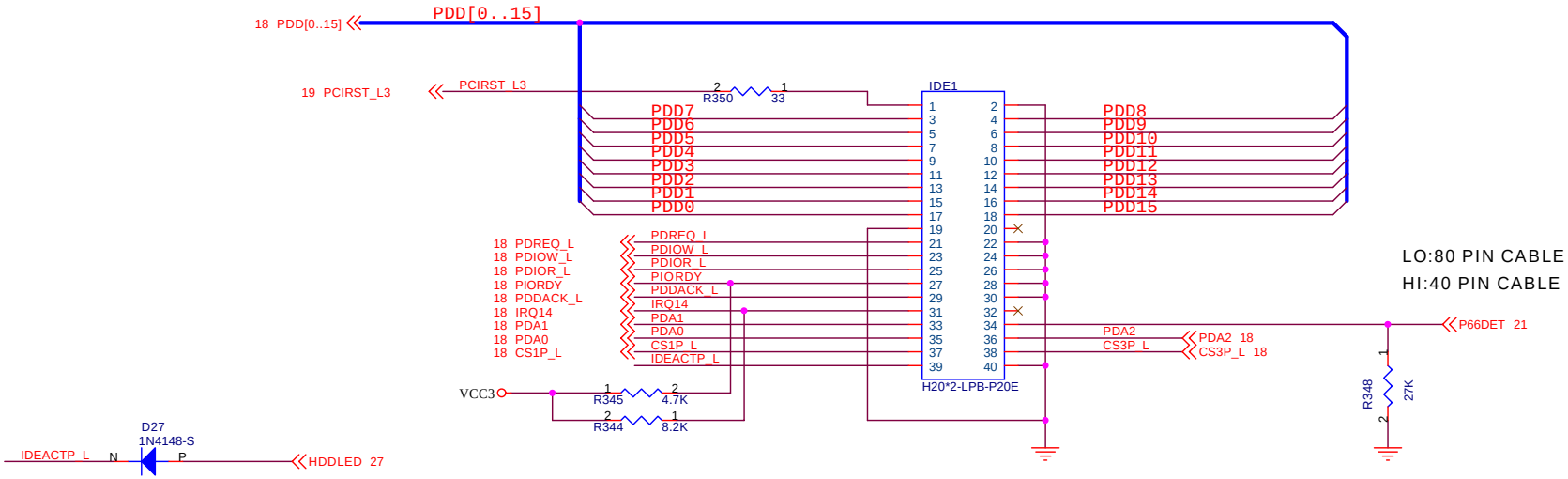
ICH6E
ICH6F
ICH6
V5REF
V5REF_SUS
VCC2_5V
VCCDMIPLL
VCCSATAPLL
VCCUSBPLL
VCC1_5_A
VCC1_5_B
V_CPUIO
VCC3_3V
SUS3_3V
VCCRTC
SUS1_5V
VSS
VDDQ
VCC3
5VSB
VCCDUAL
RSMVCC3
RTCVCC
V_FSB_VTT
V_2P5_ICH
100mA
V_PCIEXPRESS_PWR
VCCSUS_1P5A_ICH
VCCSUS_1P5B_ICH
VCCSUS_1P5C_ICH
CAPS CLOSE TO PIN:AB22,AD26 OR AG23
CAPS CLOSE TO PIN:E26
CAPS CLOSE TO PIN:AG10
CAPS CLOSE TO PIN:A24
PLACE CAPS AT ENDS OF POWER CORRIDORS
17 DEVRST_L
PCIRST_L1 28
PCIRST_L2 16,31,32
PCIRST_L3 20
RSMRST_L 17,18
22,27,30 ATXPOK
PWROK 9,17
DOG_RST_L 8
HCT14
1N4148-S

Elitegroup Computer Systems

Title: ICH6 Part E & F

Size: Custom | Document Number: 915GV-M6 | Rev: 1.0

Date: Tuesday, December 21, 2004 | Sheet 19 of 34

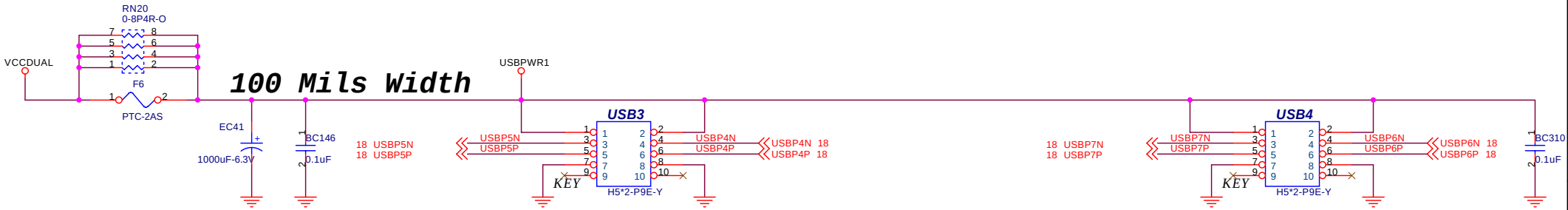


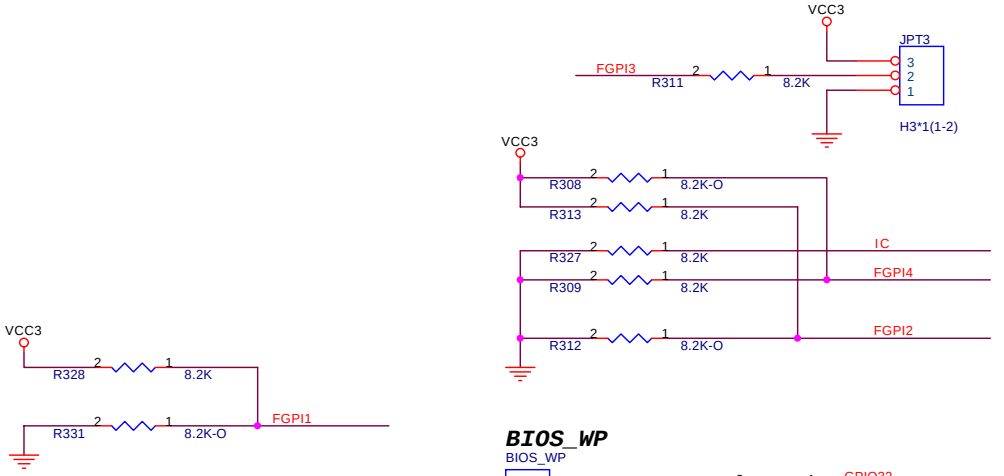
MAX TRACE LENGTH IS 8"

DATA LINES SHOULD BE MATCHED TO STROBES (XDIOR_L , XIORDY_L) WITHIN +/- 250 MIL, STROBES SHOULD BE MATCHED TO THEIR COMPLEMENT WITHIN +/- 10MIL.

Elitegroup Computer Systems		
Title: IDE Connector		
Size: Custom	Document Number: 915GV-M6	Rev: 1.0
Date: Tuesday, December 21, 2004	Sheet 20 of 34	

USB PORT INTERFACE





GPI1:

High:XXX Install
Low:XXX

GPI2:

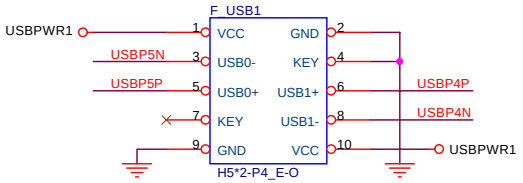
High:1394 Install
Low:1394 xxx

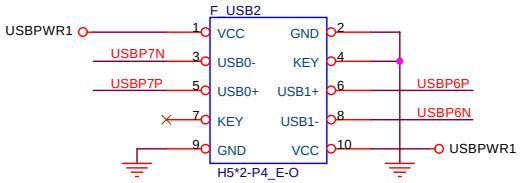
GPI3:

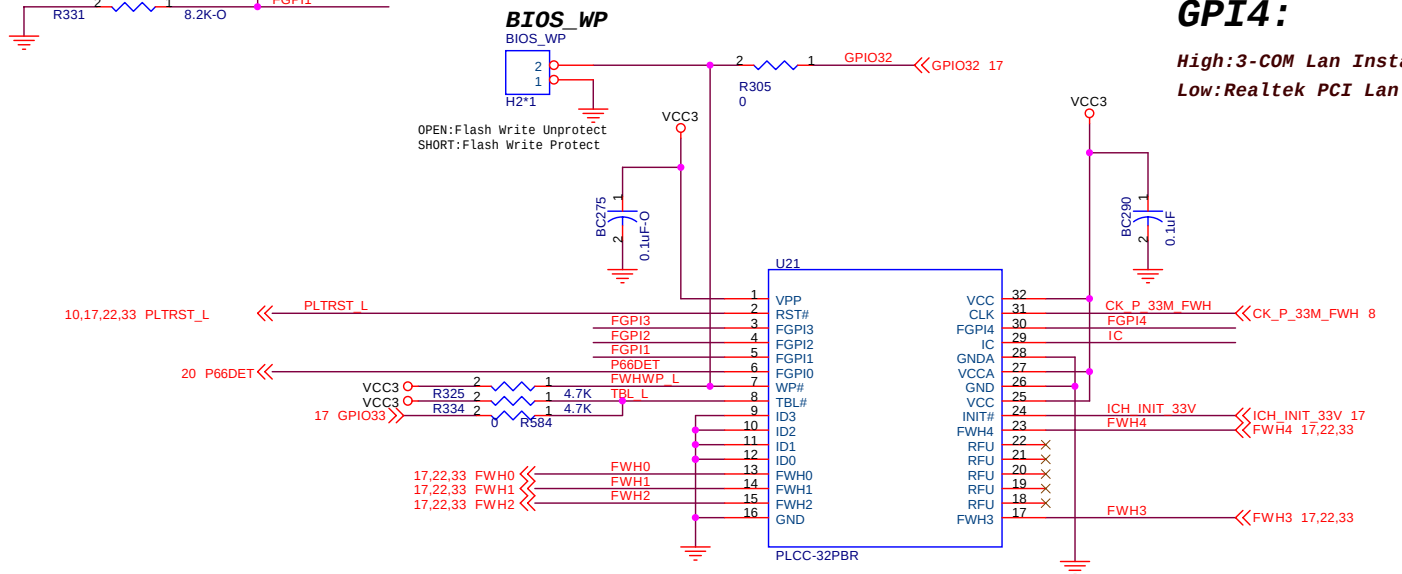
High:Suspend xxx
Low:suspend install

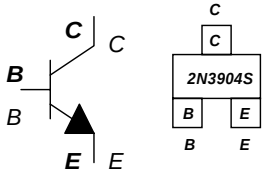
GPI4:

High:3-COM Lan Install
Low:Realtek PCI Lan install

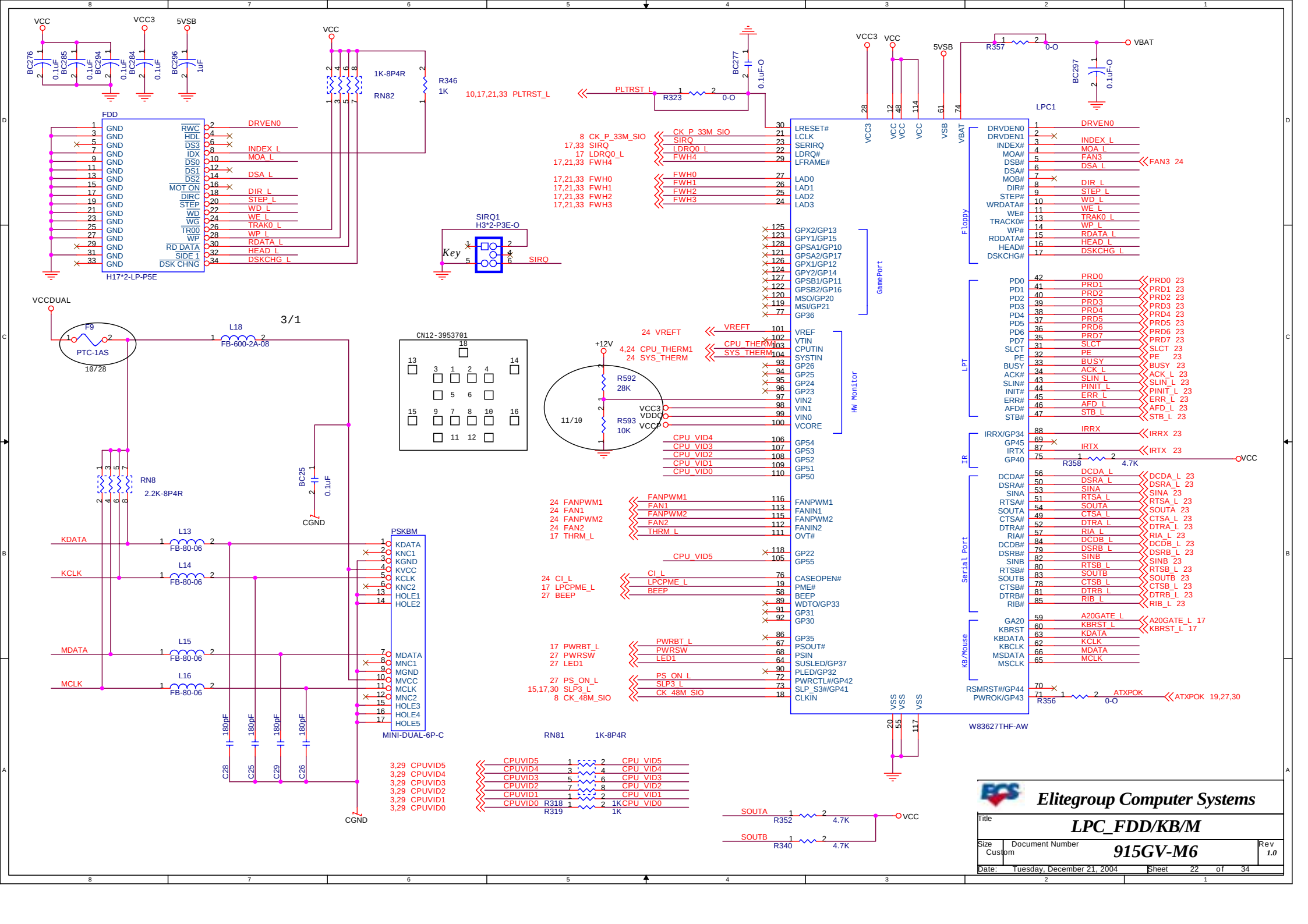








Elitegroup Computer Systems		
Title: USB/FWH		
Size: Custom	Document Number: 915GV-M6	Rev: 1.0
Date: Tuesday, December 21, 2004	Sheet 21 of 34	


VCC
VCC3
5VSB
VBAT
BC276 0.1uF
BC285 0.1uF
BC294 0.1uF
BC284 0.1uF
BC296 1uF
BC277 0.1uF-O
BC297 0.1uF-O
R357 0-O
R323 0-O
R346 1K
RN82 1K-8P4R
10,17,21,33 PLTRST_L
PLTRST_L
FDD
H17*2-LP-P5E
DRVEN0
INDEX_L
MOA_L
DSA_L
DIR_L
STEP_L
WD_L
WE_L
TRAK0_L
WP_L
RDATA_L
HEAD_L
DSKCHG_L
SIRQ1
H3*2-P3E-O
Key
SIRQ
LPC1
W83627THF-AW
LRESET#
LCLK
SERIRQ
LDRQ#
LFRAME#
LAD0
LAD1
LAD2
LAD3
8 CK_P_33M_SIO
17,33 SIRQ
17 LDRQ0_L
17,21,23 FWH4
17,21,23 FWH0
17,21,23 FWH1
17,21,23 FWH2
17,21,23 FWH3
GPX2/GP13
GPY1/GP15
GPSA1/GP10
GPSA2/GP17
GPX1/GP12
GPY2/GP14
GPSB1/GP11
GPSB2/GP16
MSO/GP20
MSI/GP21
GP36
GamePort
Floppy
LPT
Serial Port
KB/Mouse
IR
HW Monitor
VCCDUAL
F9
PTC-1AS
10/28
L18
FB-600-2A-08
3/1
CN12-3953701
+12V
R592 28K
R593 10K
11/10
24 VREFT
4,24 CPU_THERM1
24 SYS_THERM
VCC3
VDDQ
VCORE
VREF
VTIN
CPUTIN
SYSTIN
GP26
GP25
GP24
GP23
VIN2
VIN1
VIN0
VCORE
CPU_VID4
CPU_VID3
CPU_VID2
CPU_VID1
CPU_VID0
GP54
GP53
GP52
GP51
GP50
RN8 2.2K-8P4R
BC25 0.1uF
CGND
PSKBM
MINI-DUAL-6P-C
KDATA
KCLK
MDATA
MCLK
L13 FB-80-06
L14 FB-80-06
L15 FB-80-06
L16 FB-80-06
180pF
C28
C25
C29
C26
24 FANPWM1
24 FAN1
24 FANPWM2
24 FAN2
17 THRM_L
FANPWM1
FAN1
FANPWM2
FAN2
THRM_L
FANIN1
FANIN2
OVT#
GP22
GP55
CPU_VID5
24 CI_L
17 LPCPME_L
27 BEEP
CI_L
LPCPME_L
BEEP
CASEOPEN#
PME#
BEEP
WDTO/GP33
GP31
GP30
GP35
PSOUT#
PSIN
SUSLED/GP37
PLED/GP32
PWRCTL#/GP42
SLP_S3#/GP41
CLKIN
17 PWRBT_L
27 PWRSW
27 LED1
PWRBT_L
PWRSW
LED1
27 PS_ON_L
15,17,30 SLP3_L
8 CK_48M_SIO
PS_ON_L
SLP3_L
CK_48M_SIO
RN81 1K-8P4R
CPUVID5
CPUVID4
CPUVID3
CPUVID2
CPUVID1
CPUVID0
R318 1K
R319 1K
3,29 CPUVID5
3,29 CPUVID4
3,29 CPUVID3
3,29 CPUVID2
3,29 CPUVID1
3,29 CPUVID0
SOUTA
SOUTB
R352 4.7K
R340 4.7K
R358 4.7K
R356 0-O
ATXPOK
ATXPOK 19,27,30
A20GATE_L 17
KBRST_L 17
FAN3 24
PRD0 23
PRD1 23
PRD2 23
PRD3 23
PRD4 23
PRD5 23
PRD6 23
PRD7 23
SLCT 23
PE 23
BUSY 23
ACK_L 23
SLIN_L 23
PINIT_L 23
ERR_L 23
AFD_L 23
STB_L 23
IRRX 23
IRTX 23
DCDA_L 23
DSRA_L 23
SINA 23
RTSA_L 23
SOUTA 23
CTSA_L 23
DTRA_L 23
RIA_L 23
DCDB_L 23
DSRB_L 23
SINB 23
RTSB_L 23
SOUTB 23
CTSB_L 23
DTRB_L 23
RIB_L 23
Elitegroup Computer Systems
Title
LPC_FDD/KB/M
Size Custom
Document Number
915GV-M6
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Date: Tuesday, December 21, 2004
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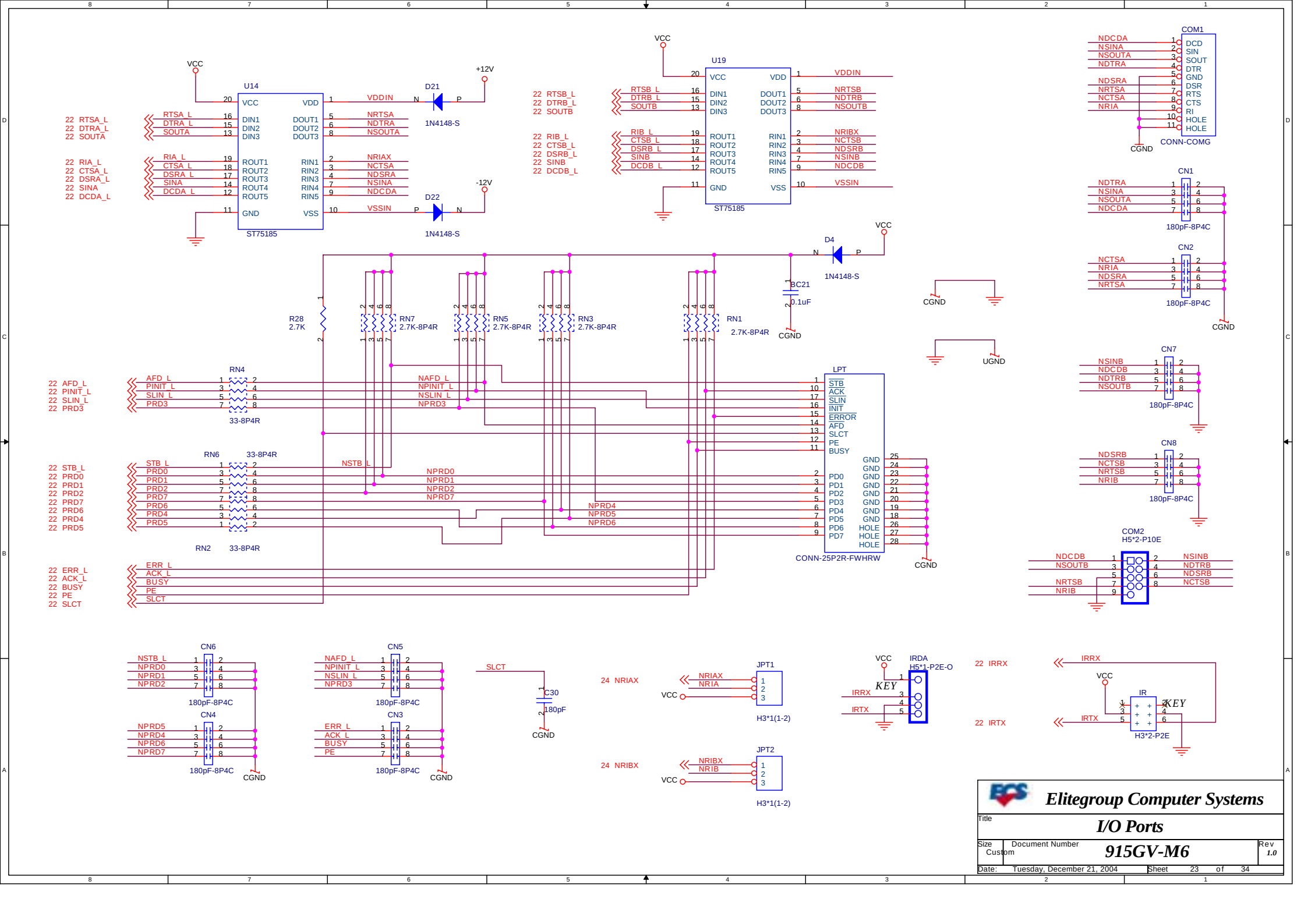
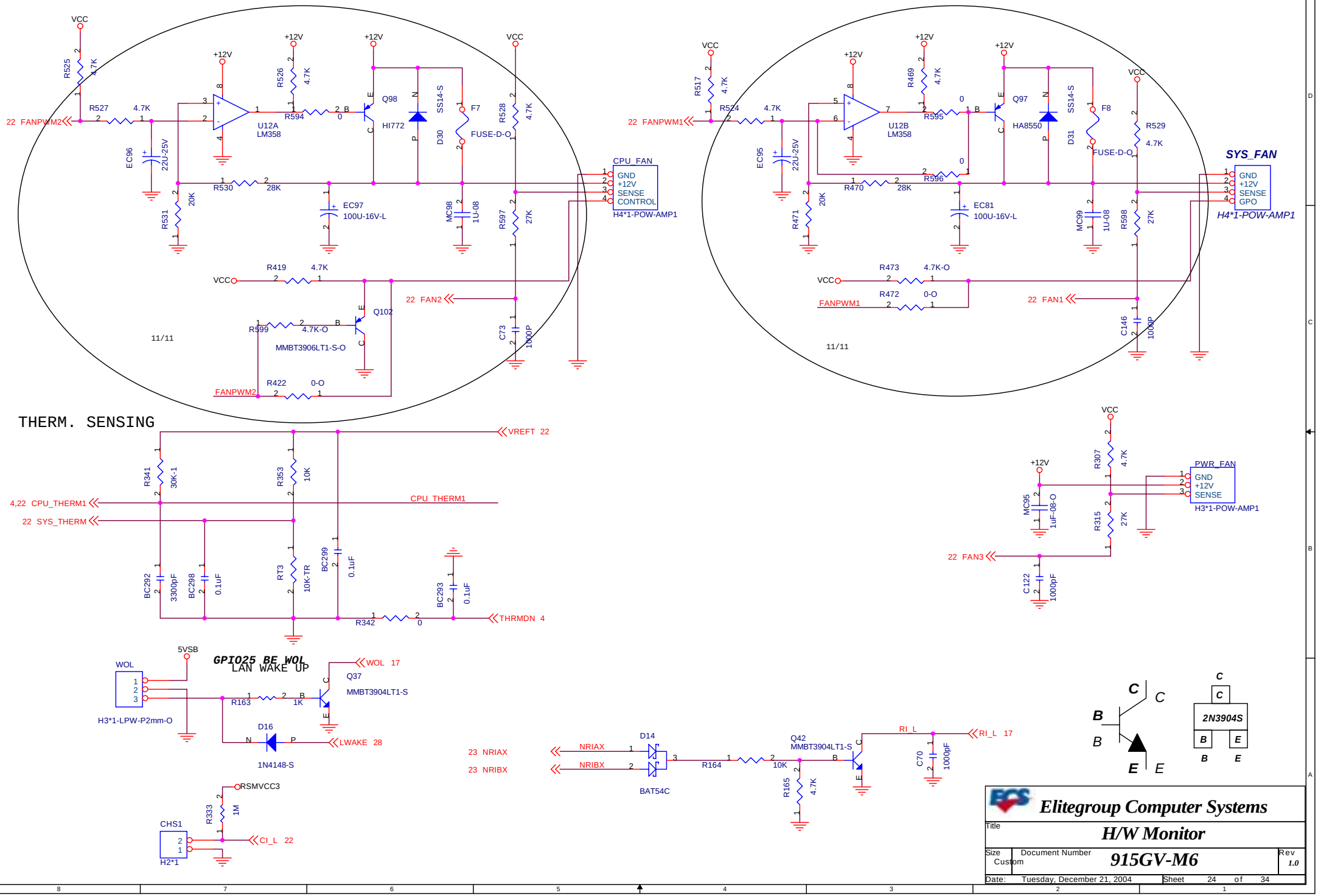
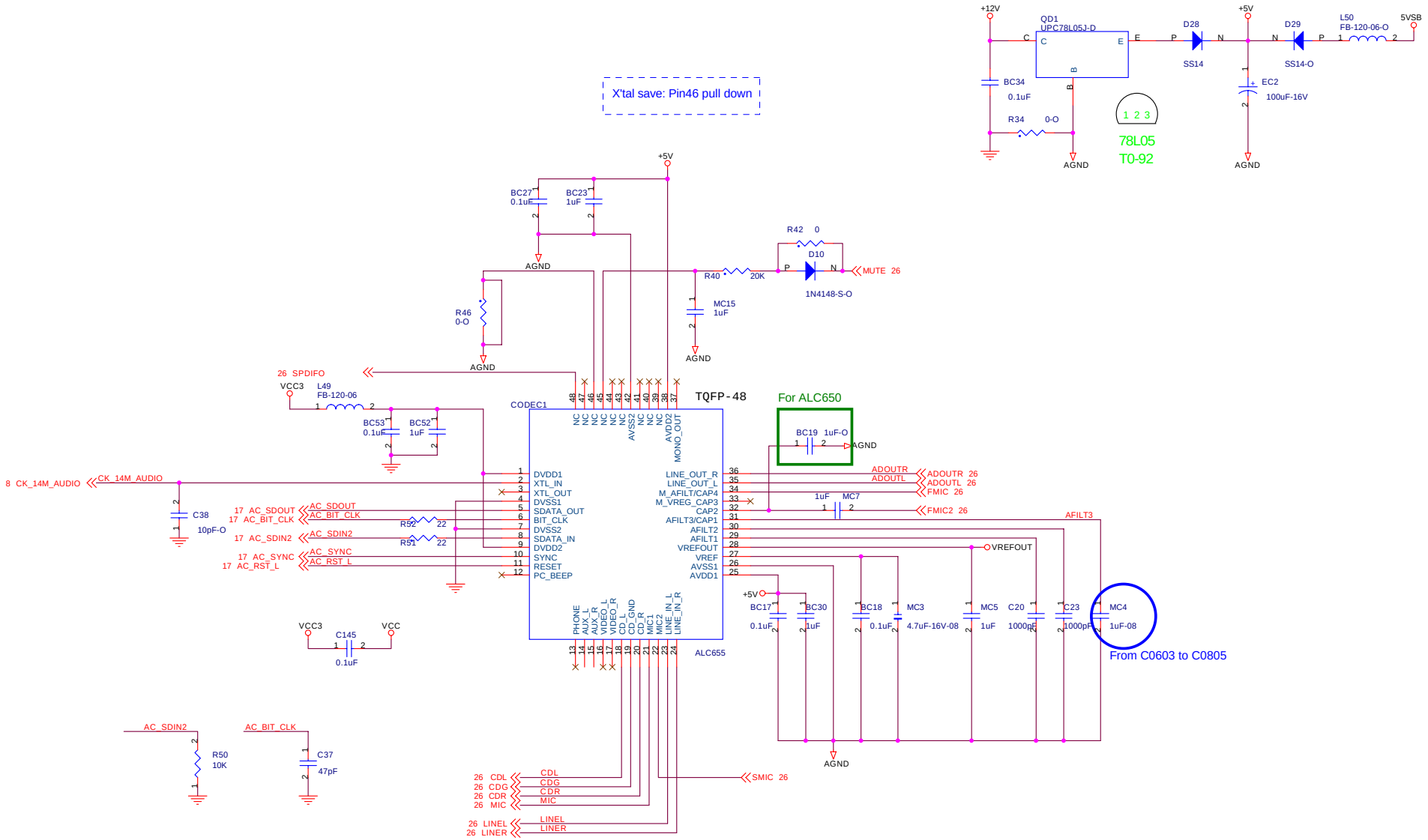


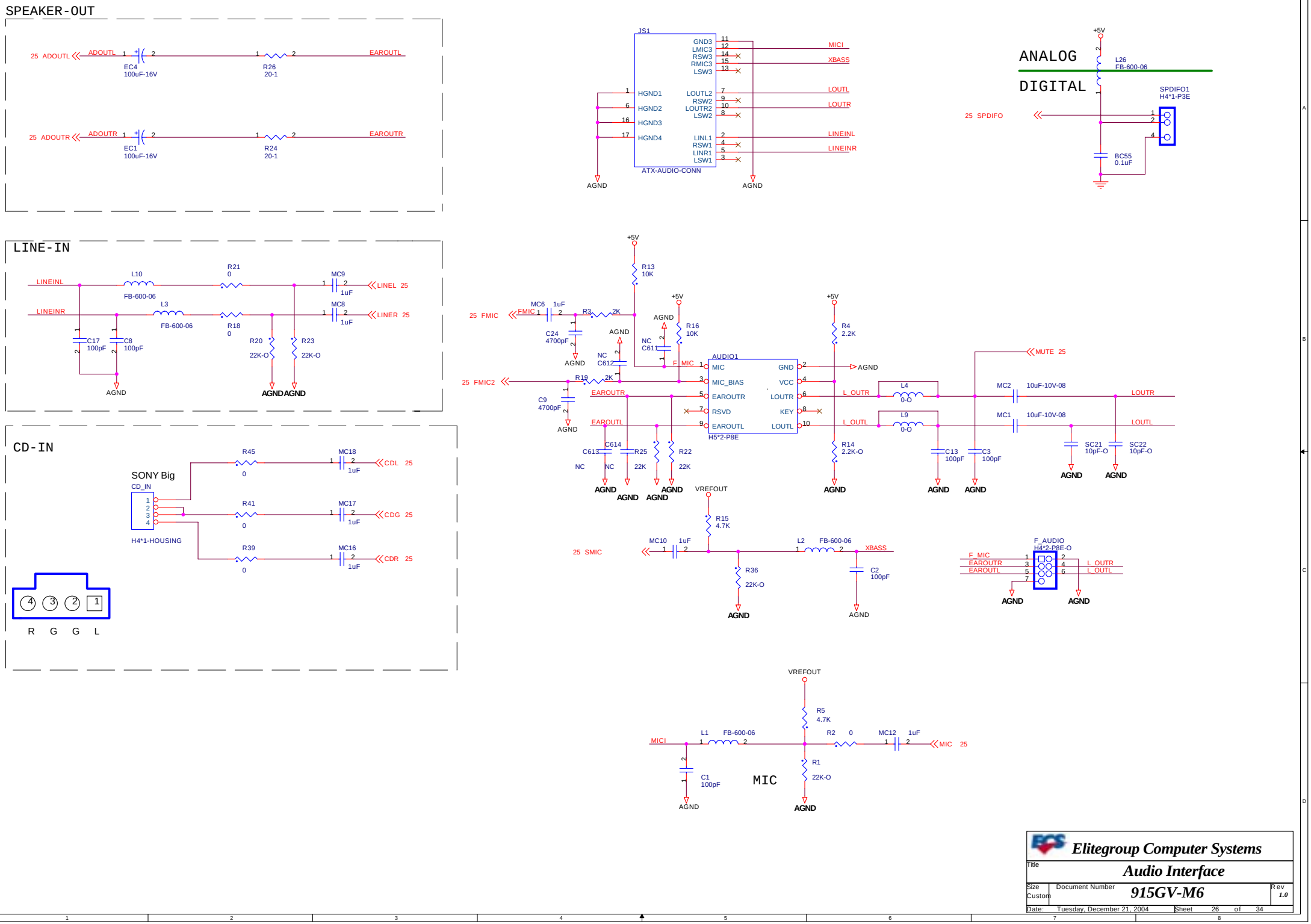
Elitegroup Computer Systems		
Title: I/O Ports		
Size: Custom	Document Number: 915GV-M6	Rev: 1.0
Date: Tuesday, December 21, 2004	Sheet 23 of 34	



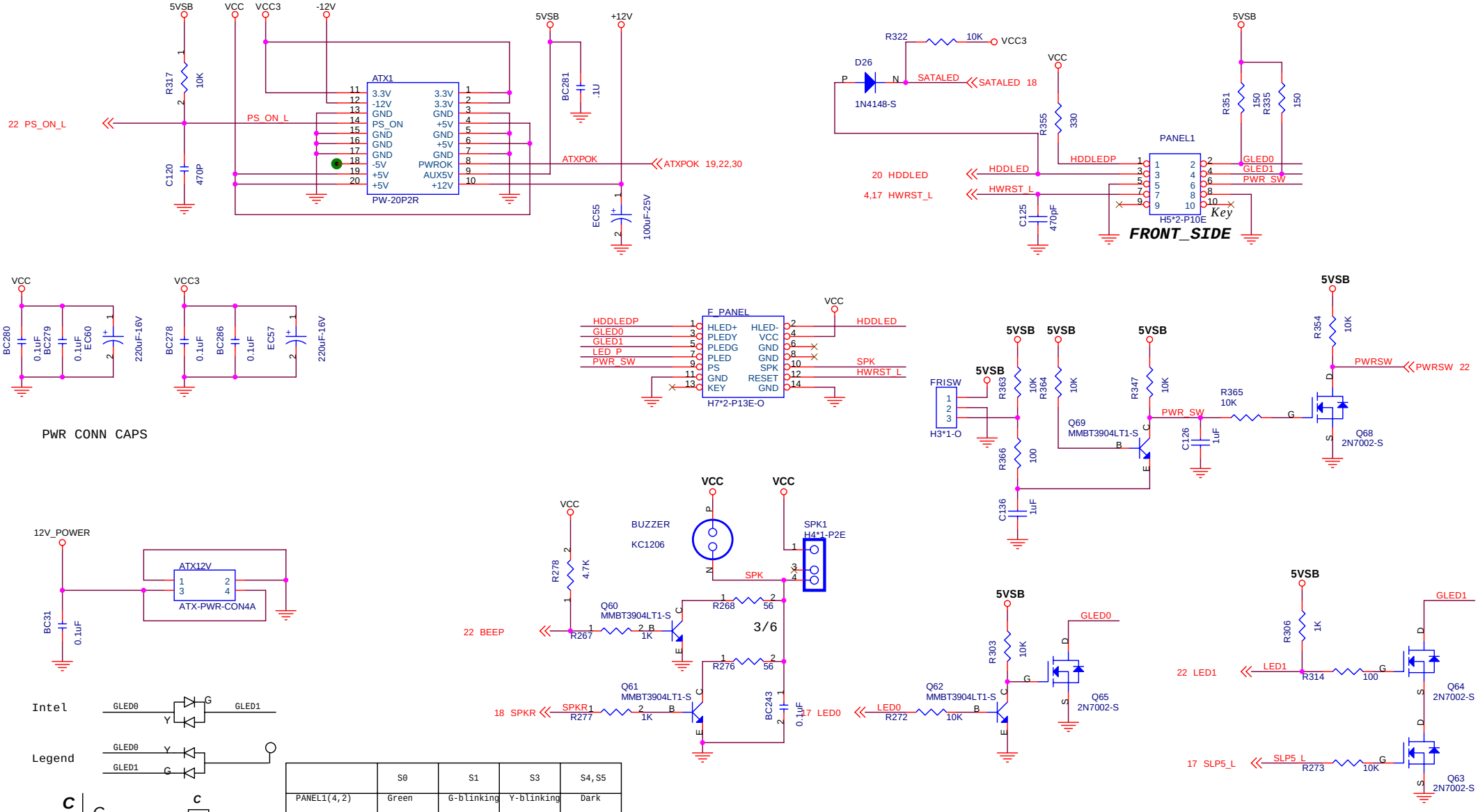
Elitegroup Computer Systems		
Title	H/W Monitor	
Size: Custom	Document Number: 915GV-M6	Rev: 1.0
Date: Tuesday, December 21, 2004	Sheet 24 of 34	



Elitegroup Computer Systems		
Title: Audio Codec		
Size: Custom	Document Number: 915GV-M6	Rev: 1.0
Date: Tuesday, December 21, 2004	Sheet 25 of 34	



Elitegroup Computer Systems			
Title: Audio Interface			
Size: Custom	Document Number: 915GV-M6		Rev: 1.0
Date: Tuesday, December 21, 2004	Sheet 26 of 34		



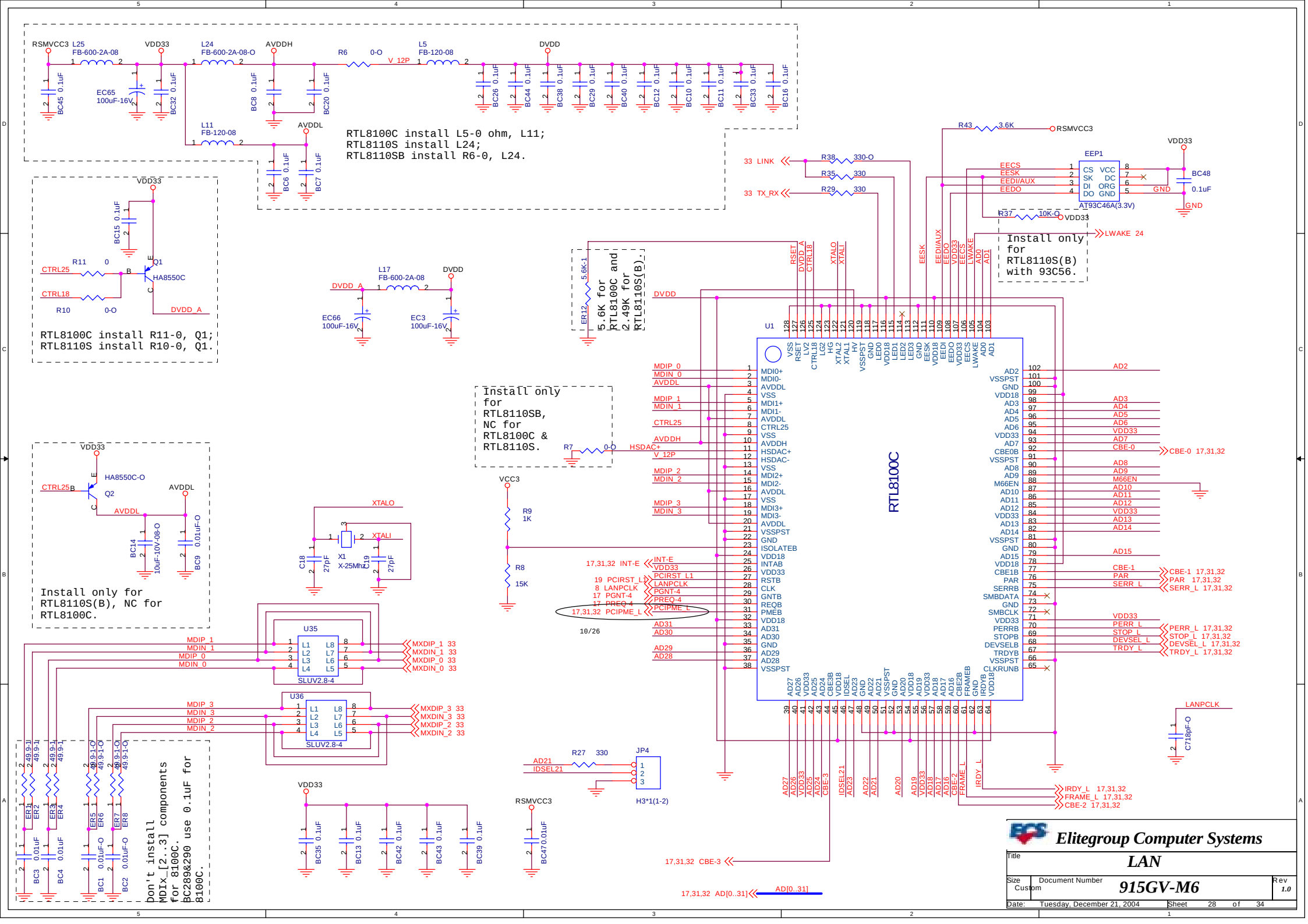
	S0	S1	S3	S4,S5
PANEL1(4,2)	Green	G-blinking	Y-blinking	Dark
LPANEL1(3,5,7)	Green	G-blinking	G-blinking Yellow	Dark
LSJ1(1,2)	Dark	Dark	Light	Dark
SJ1(1,3)(2,3)	Light	Blinking	Blinking	Dark
GLED0 GLED1	HIGH LOW	HIGH SWITCH	LOW SWITCH	HIGH HIGH

Elitegroup Computer Systems

Title: **ATX Power & Front Panel**

Size: B | Document Number: **915GV-M6** | Rev: 1.0

Date: Tuesday, December 21, 2004 | Sheet 27 of 34


RTL8100C install L5-0 ohm, L11;
RTL8110S install L24;
RTL8110SB install R6-0, L24.
RTL8100C install R11-0, Q1;
RTL8110S install R10-0, Q1.
Install only for RTL8110S(B), NC for RTL8100C.
Install only for RTL8110SB, NC for RTL8100C & RTL8110S.
5.6K for RTL8100C and 2.49K for RTL8110S(B).
Install only for RTL8110S(B) with 93C56.
Don't install MDIx_[2..3] components for 8100C. BC289&290 use 0.1uF for 8100C.
RTL8100C
U1
U35
U36
SLUV2.8-4
AT93C46A(3.3V)
Elitegroup Computer Systems
LAN
915GV-M6
Rev 1.0
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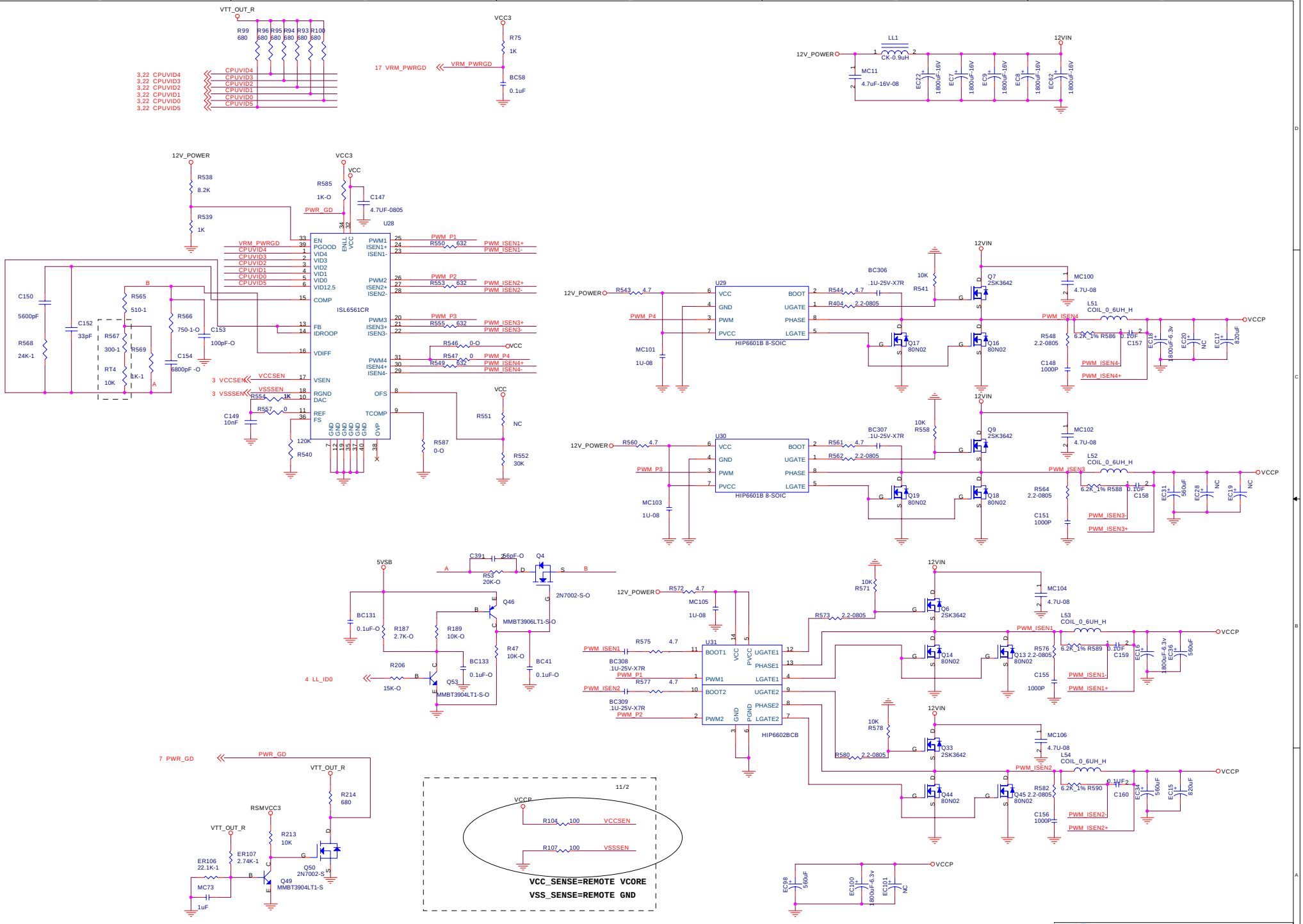
Sheet 28 of 34

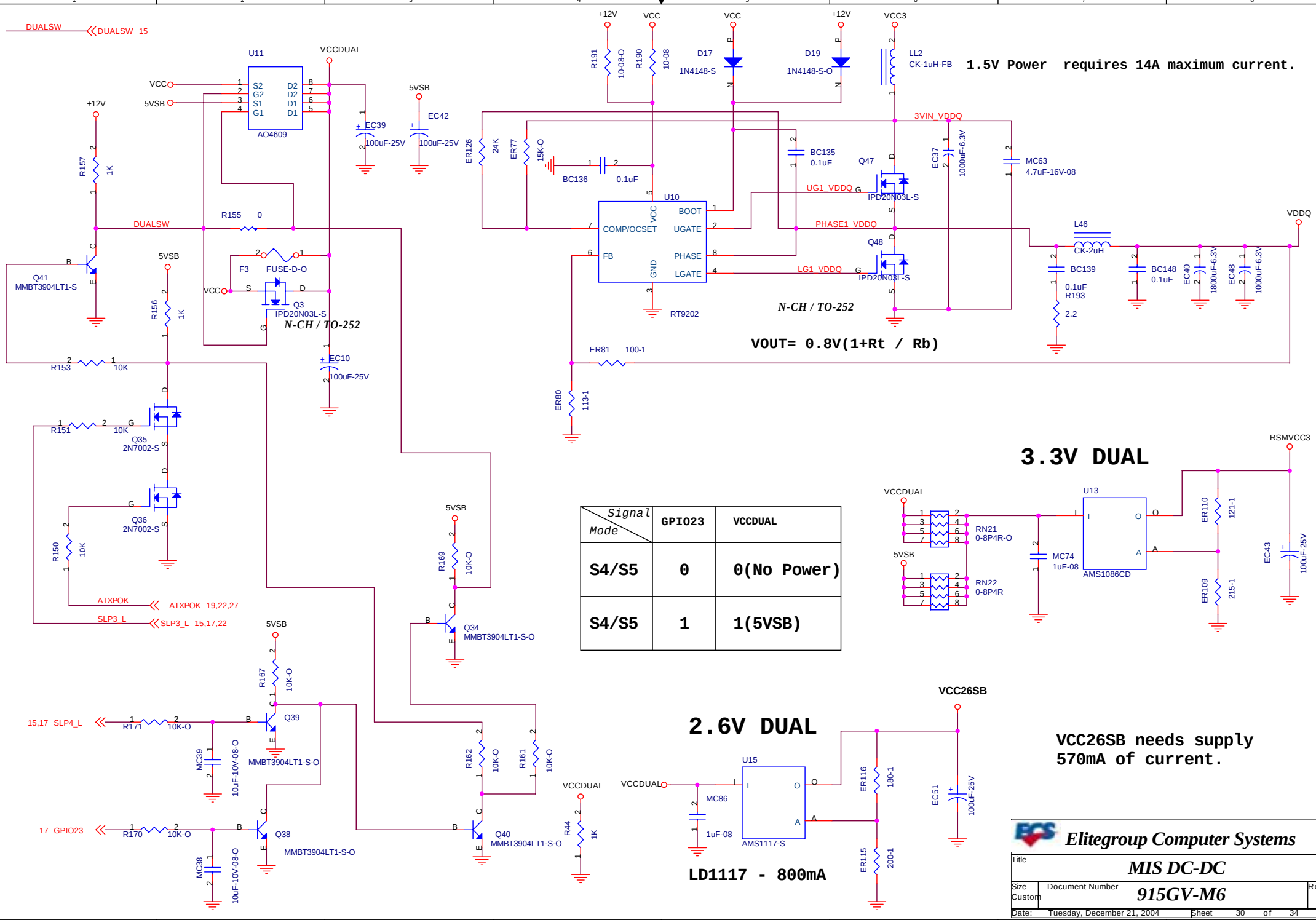


Elitegroup Computer Systems

Title: VOCRE DC-DC

Size: C | Document Number: 915GV-M6 | Rev: 1.0

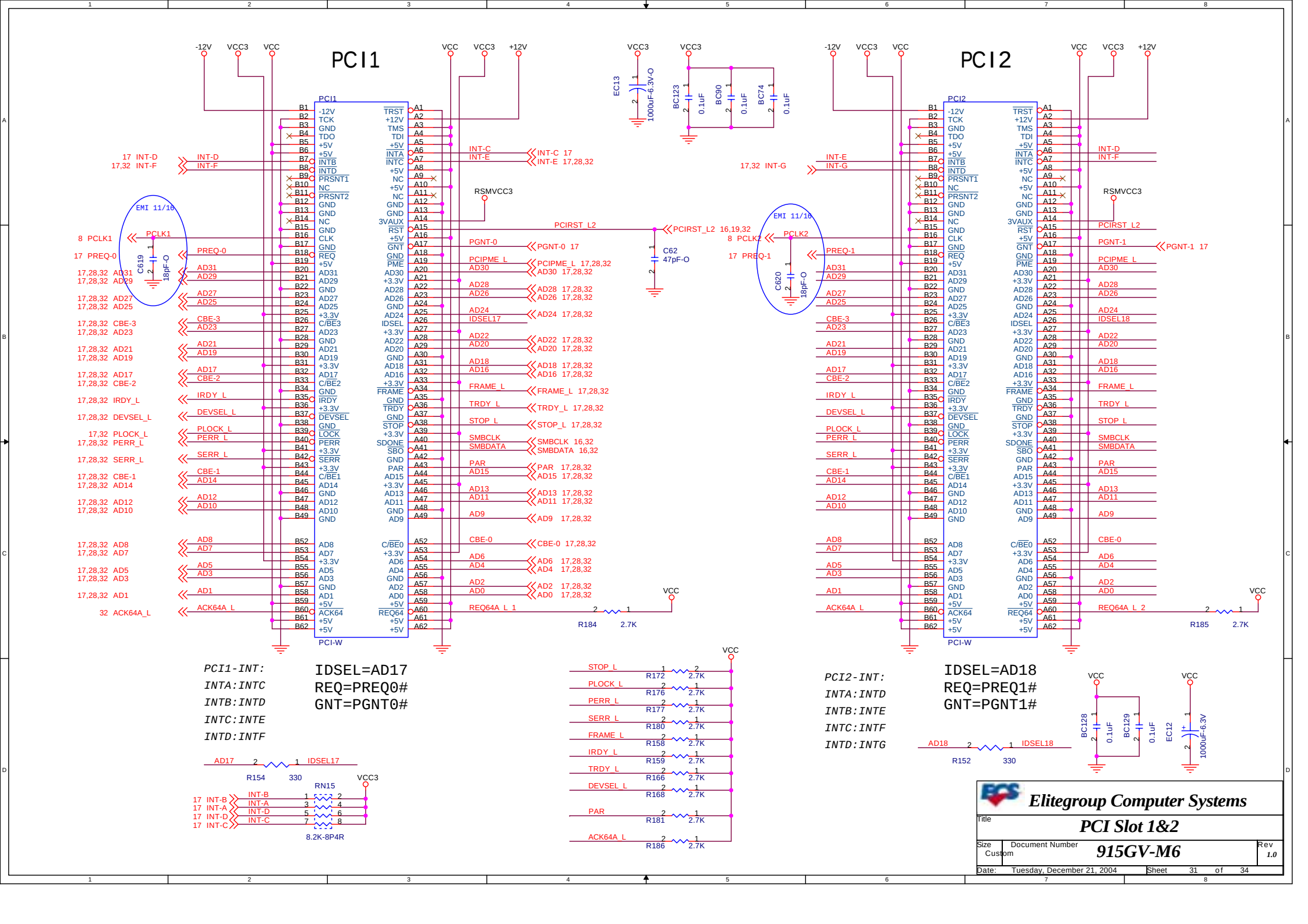
Date: Tuesday, December 21, 2004 | Sheet 29 of 34

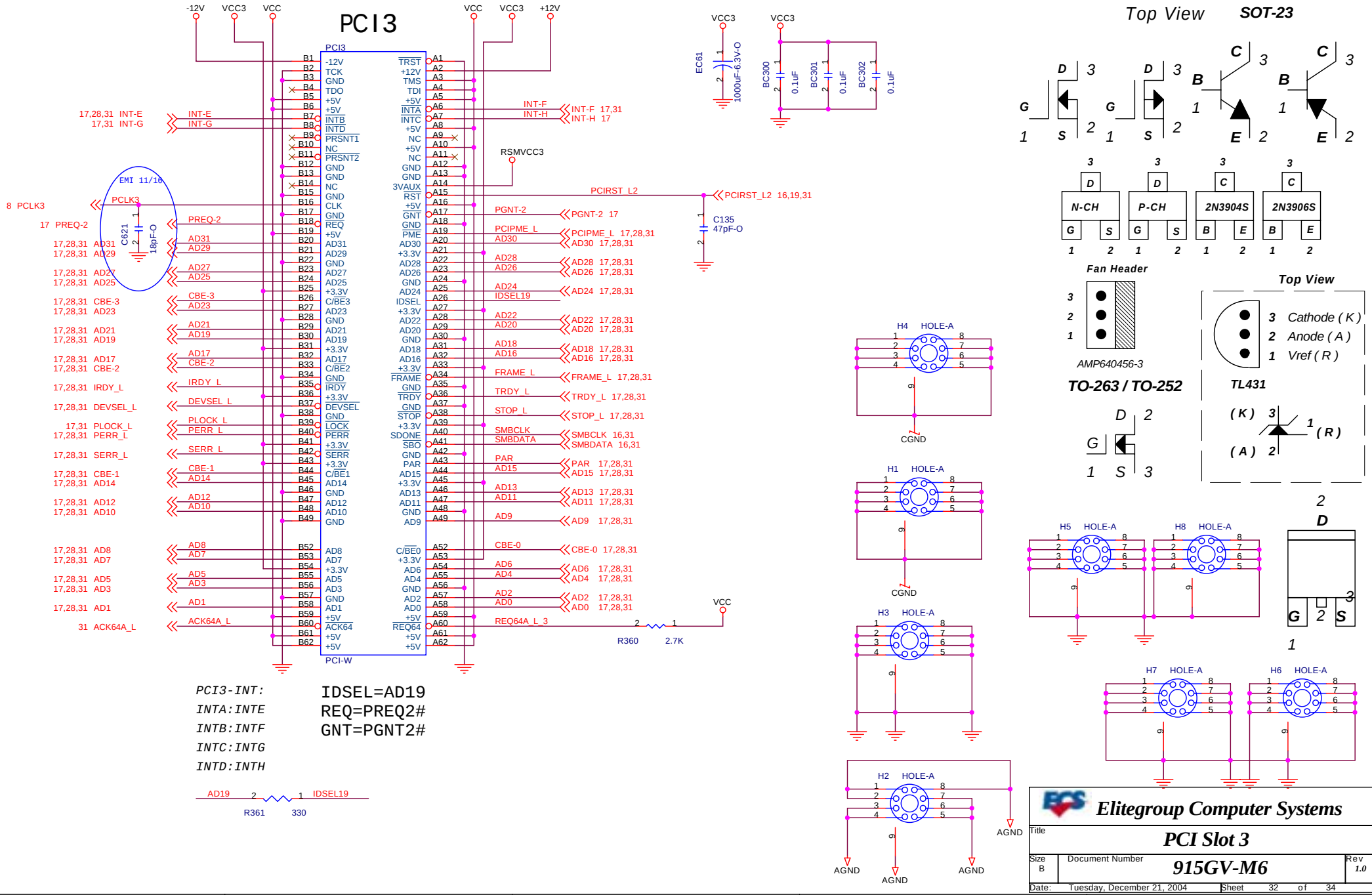


Signal / Mode	GPIO23	VCCDUAL
S4/S5	0	0(No Power)
S4/S5	1	1(5VSB)

Elitegroup Computer Systems

Title	MIS DC-DC	
Size: Custom	Document Number: 915GV-M6	Rev: 1.0
Date: Tuesday, December 21, 2004	Sheet 30 of 34	


PCI1
PCI2
PCI1-INT:
INTA:INTC
INTB:INTD
INTC:INTE
INTD:INTF
IDSEL=AD17
REQ=PREQ0#
GNT=PGNT0#
PCI2-INT:
INTA:INTD
INTB:INTE
INTC:INTF
INTD:INTG
IDSEL=AD18
REQ=PREQ1#
GNT=PGNT1#
Elitegroup Computer Systems
PCI Slot 1&2
915GV-M6
Size Custom
Document Number
Rev 1.0
Date: Tuesday, December 21, 2004
Sheet 31 of 34


PCI3
PCI-W
-12V
VCC3
VCC
+12V
TRST
TCK
TMS
TDI
GND
TDO
+5V
INTA
INTB
INTC
INTD
PRSNT1
NC
PRSNT2
3VAUX
RST
GNT
PME
IDSEL
FRAME
TRDY
STOP
SDONE
SBO
SERR
PAR
PERR
LOCK
DEVSEL
IRDY
REQ
CLK
REQ64
ACK64
C/BE0
C/BE1
C/BE2
C/BE3
AD0
AD1
AD2
AD3
AD4
AD5
AD6
AD7
AD8
AD9
AD10
AD11
AD12
AD13
AD14
AD15
AD16
AD17
AD18
AD19
AD20
AD22
AD23
AD24
AD25
AD26
AD27
AD28
AD29
AD30
AD31
INT-E
INT-F
INT-G
INT-H
PCLK3
PREQ-2
PGNT-2
PCIRST_L2
RSMVCC3
PCIPME_L
IDSEL19
FRAME_L
TRDY_L
STOP_L
SMBCLK
SMBDATA
PAR
CBE-0
CBE-1
CBE-2
CBE-3
DEVSEL_L
IRDY_L
PLOCK_L
PERR_L
SERR_L
REQ64A_L_3
ACK64A_L
EMI 11/10
C621
18pF-O
EC61
1000uF-6.3V-O
BC300
BC301
BC302
0.1uF
C135
47pF-O
R360
2.7K
R361
330
AD19
IDSEL19
PCI3-INT:
INTA:INTE
INTB:INTF
INTC:INTG
INTD:INTH
IDSEL=AD19
REQ=PREQ2#
GNT=PGNT2#
H1 HOLE-A
H2 HOLE-A
H3 HOLE-A
H4 HOLE-A
H5 HOLE-A
H6 HOLE-A
H7 HOLE-A
H8 HOLE-A
CGND
AGND
Top View
SOT-23
N-CH
P-CH
2N3904S
2N3906S
Fan Header
AMP640456-3
TO-263 / TO-252
TL431
Cathode (K)
Anode (A)
Vref (R)
Elitegroup Computer Systems
PCI Slot 3
915GV-M6
Size B
Document Number
Rev 1.0
Date: Tuesday, December 21, 2004
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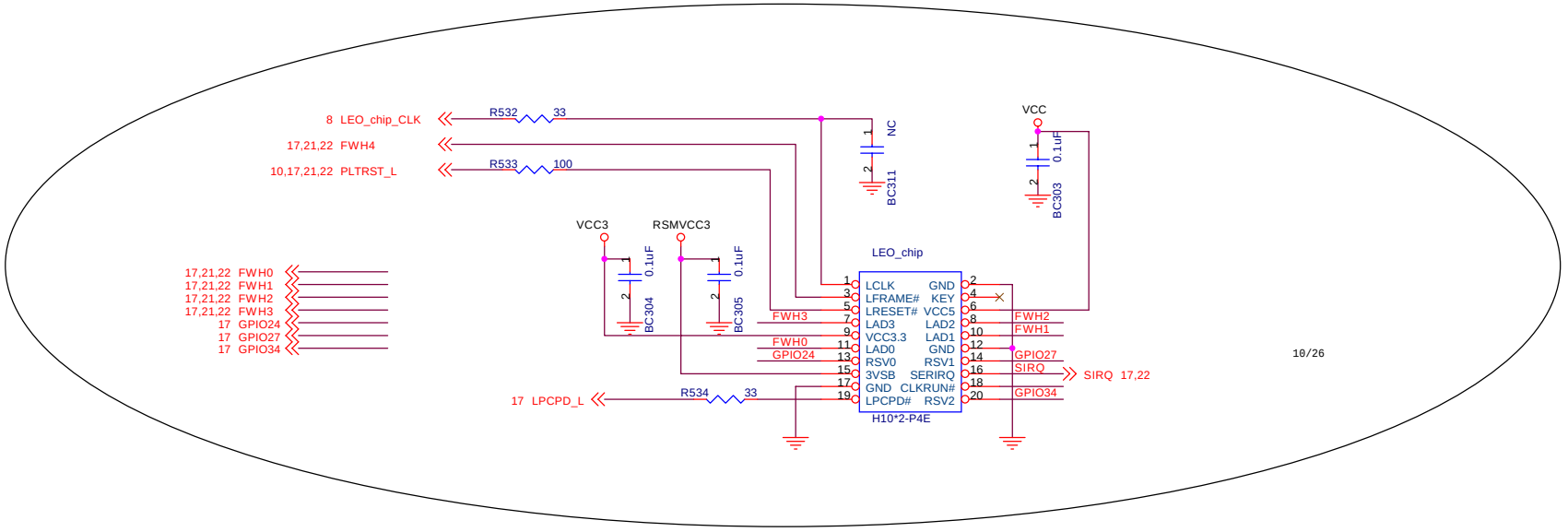

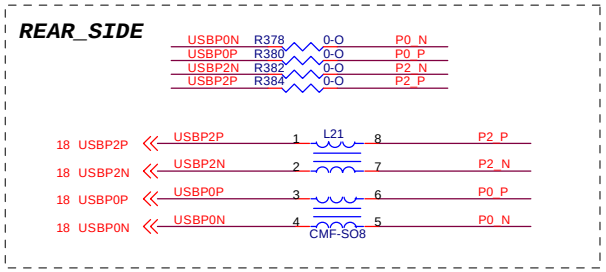

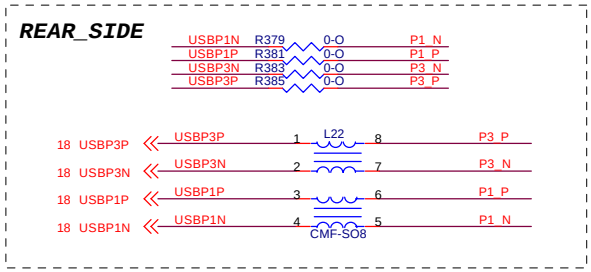

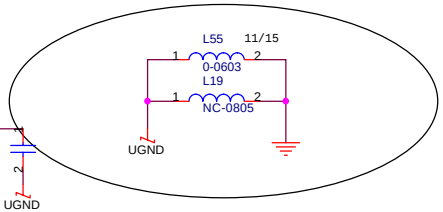

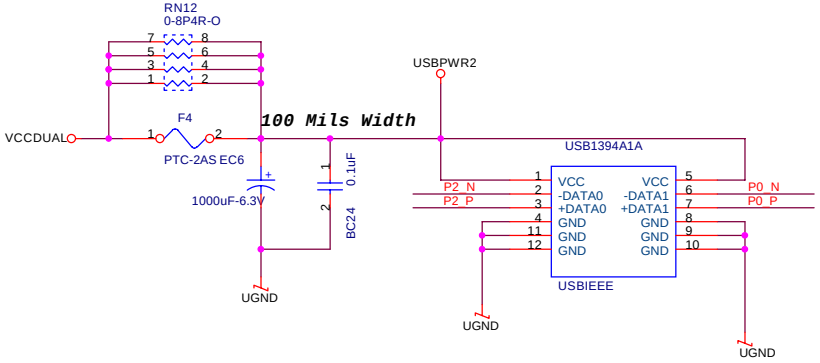

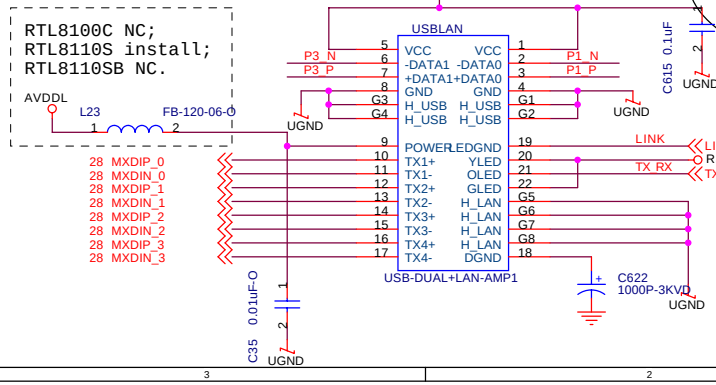

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Revision A to Revision B

1. R105 & R106 change from Open to 0 ohm 0603, C85 change from Open to 0.01uF 0603, ER89 change from Open to 47 ohm 0603 for system can not boot issue.
2. RN21 change from 0 ohm 8P4R to Open, RN22 change from Open to 0 ohm 8P4R for system can not boot issue.
3. Add R362 1K ohm 0603 for 2.5V power control issue.
4. Add SMI1 header for Legend specifications.
5. Add F_USB1 and F_USB2 header for Legend specifications.
6. Add I2C header for Legend specifications.
7. Add SIRQ1 header for Legend specifications.
8. Add JPT2 and JPT3 header for Legend specifications.
9. Add IRDA header for Legend specifications.
10. Change SYSFAN header for Legend specifications.
11. Add CDIN2 header for Legend specifications.
12. Add F_AUDIO header for Legend specifications.
13. Add F_PANEL and PSW1 header for Legend specifications.
14. Add JP3 and JP4 header for Legend specifications.
15. Remove PCIEx1 and CNR slots and replace with PCI3 for Legend specifications.
16. Add F_1394 header and V-port capacitors C137~C144 for Legend specifications.
17. R10, R17, Q1 change to Open, ER16 change to 1.3K-1% ohm 0603 for giga lan fail issue.
18. R86 change to 270K ohm 0603, C57 change to 1000pF 0603 & C40 change to 5600pF 0603 for VCCP PWM gate jittering issue.
19. EC2 & EC3 change to 6mm for PCI card installation mechanical issue.

Revision B to Revision 1.0

1. EC25 & EC26 change from 470uF 25V to 1000uF 6.3V, EC35 & EC40 change from 1000uF 6.3V to 1800uF 6.3V for 3DMark 2003 hang issue.
2. EC46 & EC47 change from 1000uF 6.3V to 1800uF 6.3V for S3/S4 can not burn in issue.
3. Add ER126 24K ohm 0603, delete R194, R197, BC134, R188, ER79, C84, ER78, C82, C83, Change ER77 from 7.5K to Open, D17 from 1N4148 to Open, R190 from 10 ohm 0805 to open, D19 from Open to 1N4148 and R191 from Open to 10 ohm 0805 for RT9214 support.
4. Change common mode choke RN9, RN10, RN11 AND RN19 to single R370 ~ R385 for SMT issue.
5. Add D28, D29 and L50 for power off audio CD play support.

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