ELITEGROUP

(P4 LGA775P Processor with DDR2 SDRAM Mainboard)

945G-M6

Rev: A

Schematics Version History Table :

Circuit Ver.	PCB Ver.	Total Page	Modified Page(s)	Date
A	A	35		02/02/' 05
B	B	35		03/22/' 05
1.0	1.0	35		05/22/' 05
A	A	35		11/05/" 05

Page Title of Schematic :

Elitegroup Computer Systems

Title: **Cover Sheet**		
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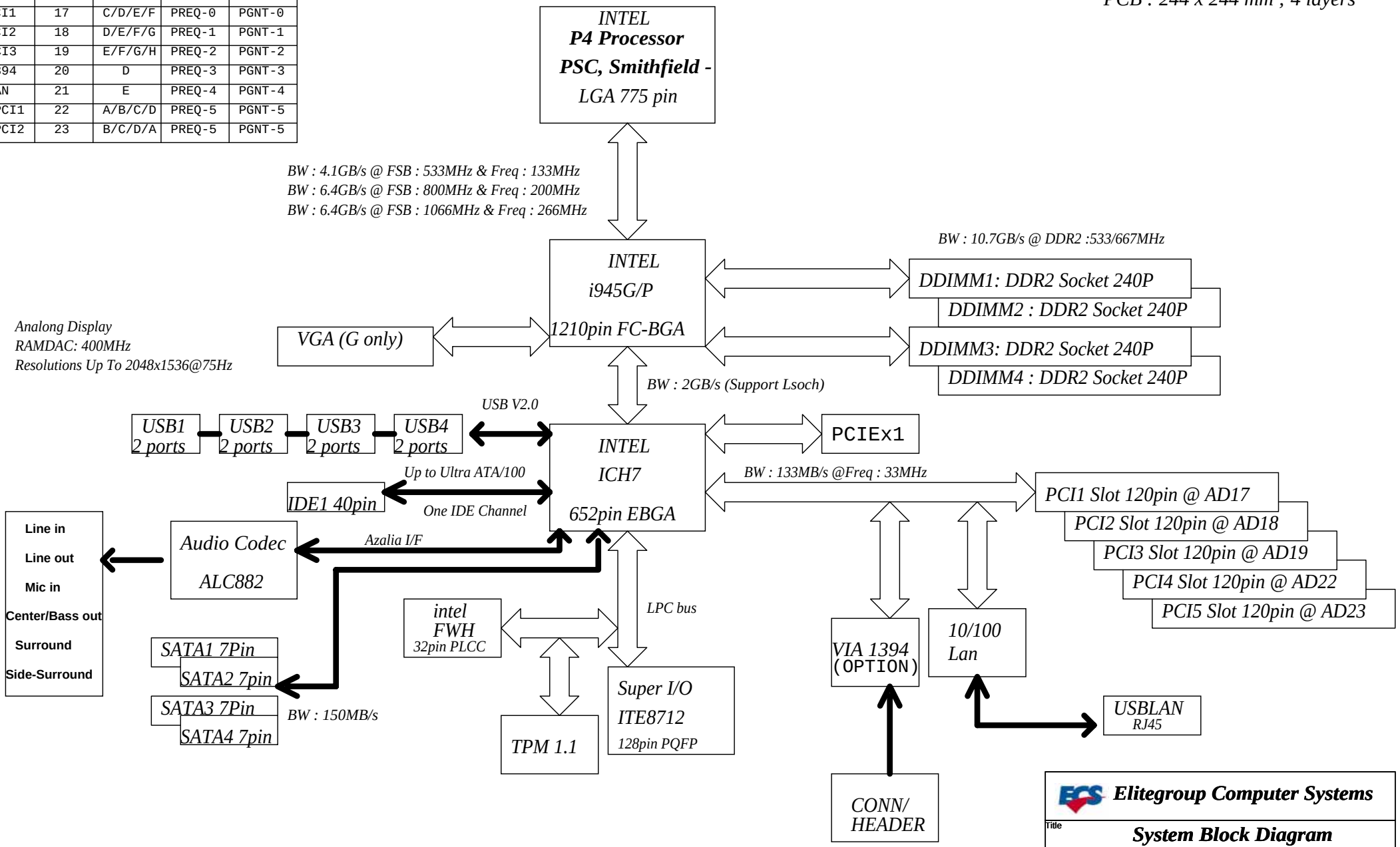
DEVICE	IDSEL	INT#	REQ#	GNT#
PCI1	17	C/D/E/F	PREQ-0	PGNT-0
PCI2	18	D/E/F/G	PREQ-1	PGNT-1
PCI3	19	E/F/G/H	PREQ-2	PGNT-2
1394	20	D	PREQ-3	PGNT-3
LAN	21	E	PREQ-4	PGNT-4
EPCI1	22	A/B/C/D	PREQ-5	PGNT-5
EPCI2	23	B/C/D/A	PREQ-5	PGNT-5

PCB : 244 x 244 mm ; 4 layers



Elitegroup Computer Systems		
Title: System Block Diagram		
Size: B	Document Number: 945G-M6	Rev: A
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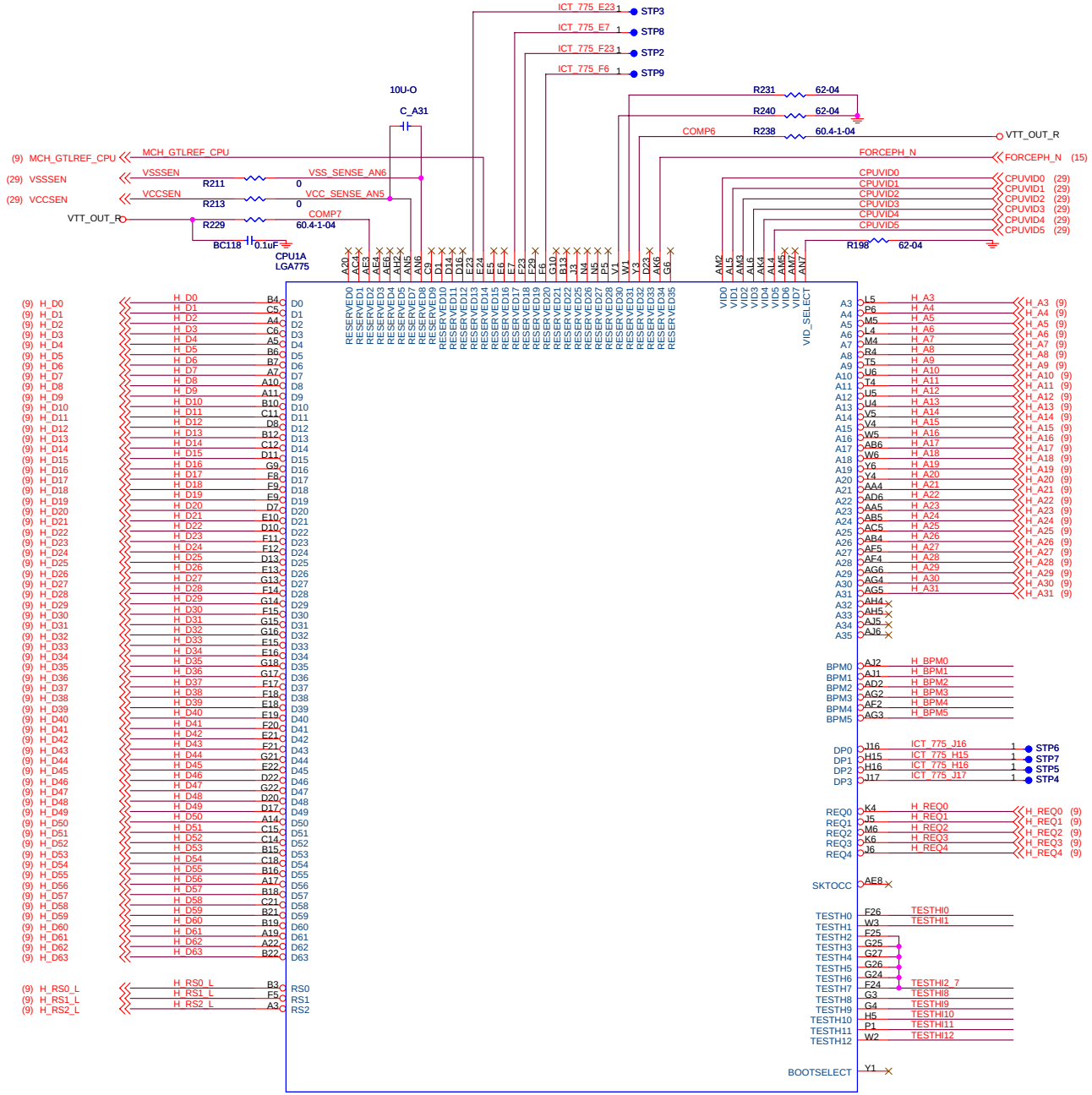

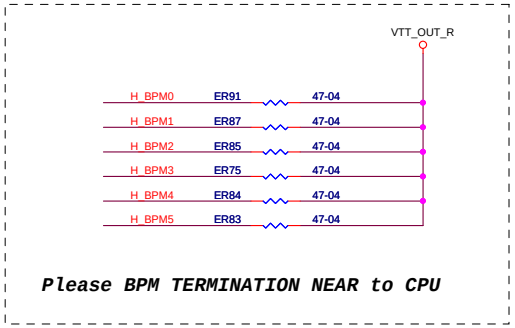

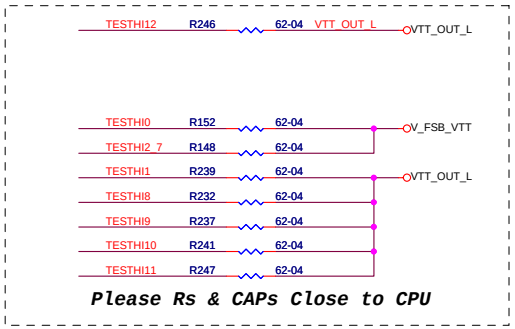

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Title: P4 LGA775P Part A

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

V_FSB_VTT
L45 10uH-08
L46 10uH-08
R157 0
MC18 1uF
EC30 100uF-25V
MC20 1uF

CPU1B
VCCIOPLL
VCCA
VSSA
BCLK0
BCLK1
ITPCLK0
ITPCLK1
COMP0
COMP1
COMP2
COMP3
COMP4
COMP5
DBI0
DBI1
DBI2
DBI3
DSTBN0
DSTBN1
DSTBN2
DSTBN3
DSTBP0
DSTBP1
DSTBP2
DSTBP3
LINT0
LINT1
LL_ID0
LL_ID1
TCK
TDI
TDO
TMS
VCCSENSE
VSSSENSE

(8) CK_CPU_H
(8) CK_CPU_L
CK_CPU_H
CK_CPU_L

(9) H_DBI0
(9) H_DBI1
(9) H_DBI2
(9) H_DBI3

(9) H_D_STBN0
(9) H_D_STBN1
(9) H_D_STBN2
(9) H_D_STBN3
(9) H_D_STBP0
(9) H_D_STBP1
(9) H_D_STBP2
(9) H_D_STBP3

(18) INTR
(18) NMI

LL= LOAD LINE for load line select
STP16
R230 0-04-O

H_TCK
H_TDI
H_TDO
H_TMS

LGA775

CPUGTLREF1
R234 10
MC50 1uF
ER82 210-1
ER94 124-1
VTT_OUT_R
C131 220pF
C129 0.01uF

CPUGTLREF0
R248 10
MC52 1uF
ER100 210-1
ER99 124-1
VTT_OUT_R
C133 220pF
C134 0.01uF

GTLREF= 0.67 * VTT = 0.8V
GTLREF GENERATION CIRCUITS

GTLREF_SEL
GTLREF1
GTLREF0

A20M
ADS
ADSTB0
ADSTB1
BINIT
BNR
BPRI
BR0
DBR
DBSY
DEFER
DRDY
EDRDY
FERR/PBE
HIT
HITM
IERR
IGNNE
INIT
LOCK
MCERR
PC_REQ
PROCHOT
PWRGOOD
RESET
RSP
SLP
SMI
STPCLK
TRDY
TRST

A20M_L (18)
H_ADS_L (9)
H_A_STB0 (9)
H_A_STB1 (9)
H_BNR_L (9)
H_BPRI_L (9)
H_BREQ0_L (9)
HWRST_L (17,27)
H_DBSY_L (9)
H_DEFER_L (9)
H_DRDY_L (9)
STP17
FERR_L (18)
H_HIT_L (9)
H_HITM_L (9)
IGNNE_L (18)
HINIT_L (18)
H_LOCK_L (9)
STP10
PROCHOT_L (15)
H_CPUPWRGD (17)
H_CPURST_L (9)
SMI_L (18)
STPCLK_L (18)
H_TRDY_L (9)

C130 33pF-O

C132 1000pF-O
C127 1000pF-O
THERMDA
THERMDC
THERMTRIP
CPU_THERM1 (22,24)
THRMDN (24)
THERMTRIP_L (18)

BSEL0
BSEL1
BSEL2
H_FSBSEL0 (8,9)
H_FSBSEL1 (8,9)
H_FSBSEL2 (8,9)

AP0
AP1
ICT_775_U2
ICT_775_U3
STP14
STP15

H_IERR_L R244 62-04 VTT_OUT_R
C135 1000pF-04-O
H_CPUPWRGD R245 100-04
TESTHI13 R235 62-04 VTT_OUT_L
H_BREQ0_L R236 62-04
H_CPURST_L R243 62-04
C136 22pF-04-O

CPU SIGNAL CLOSE TO TERMINATION CPU

H_FSBSEL0 R149 470-04 V_FSB_VTT
H_FSBSEL1 R150 470-04
H_FSBSEL2 R151 470-04

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

VTT_OUT_R
BC1124 0.1uF
BC130 0.1uF

H_TDO ER88 47-04 PLACE TDO TERMINATION NEAR CONNECTOR

H_TDI ER89 47-04
H_TMS ER93 47-04
H_TCK ER92 47-04
PLACE TCK/TDI/TMS TERMINATION NEAR CPU WITHIN 1.5" OF CPU, IDEALLY NEXT TO IT.

H_TRST_L ER77 47-04 PLACE TRST_L TERMINATION ANYWHERE ON ROUTE

COMP4 ER74 60.4-1-04 VTT_OUT_L VTT_OUT_L
COMP5 ER90 60.4-1-04
BC125 0.1uF
COMP2 ER80 60.4-1-04
COMP3 ER79 60.4-1-04
COMP0 ER56 60.4-1-04
COMP1 ER78 60.4-1-04

Place outside Socket Cavity

2N3904S

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Title: P4 LGA775P Part B
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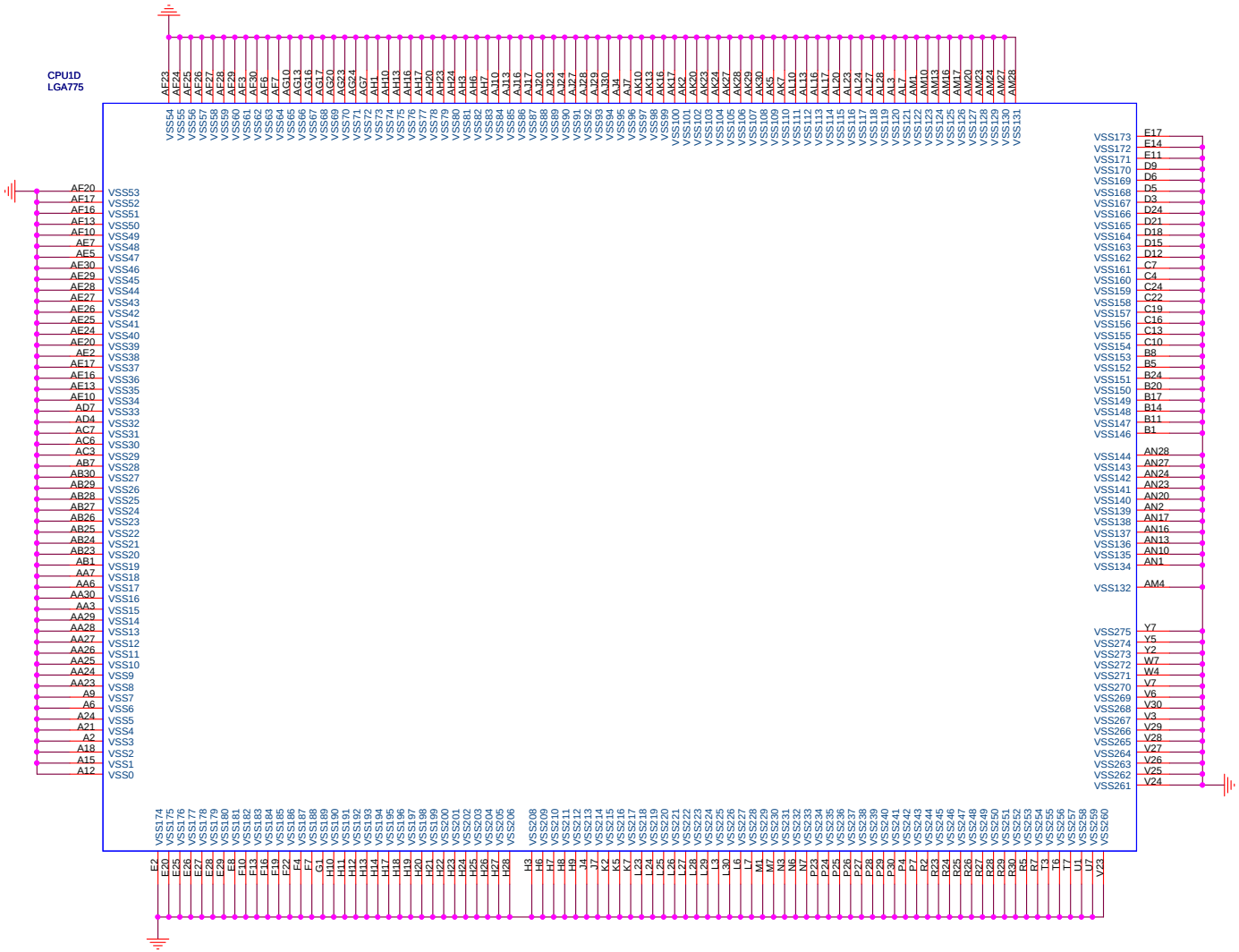
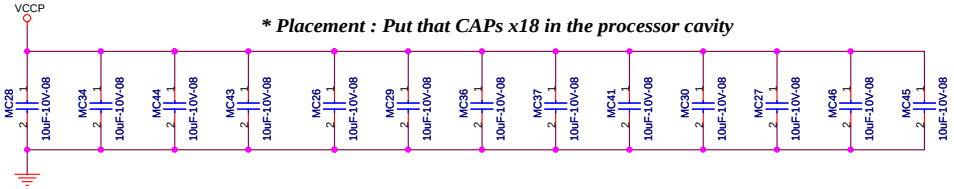
Title: P4 LGA775P Part C			
Size: Custom	Document Number: 945G-M6		Rev: A
Date: Friday, November 11, 2005	Sheet 5 of 35		



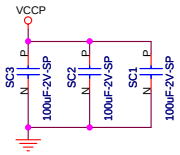
litegroup Computer Systems

Title	P4 LGA775P Part D	
Size: Custom	Document Number: 945G-M6	Rev: A
Date: Friday, November 11, 2005	Sheet 6 of 35	

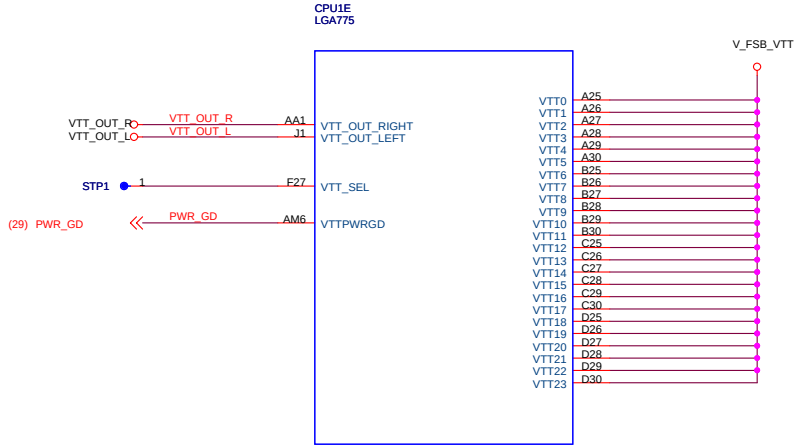


**** Placement : Put that CAPs x18 in the processor cavity***

**** Placement : Put that CAPs x2 on solder side***



VTT_SEL=0 for the Tejas processor



Elitegroup Computer Systems		
Title: P4 LGA775P Part E		
Size: Custom	Document Number: 945G-M6	Rev: A
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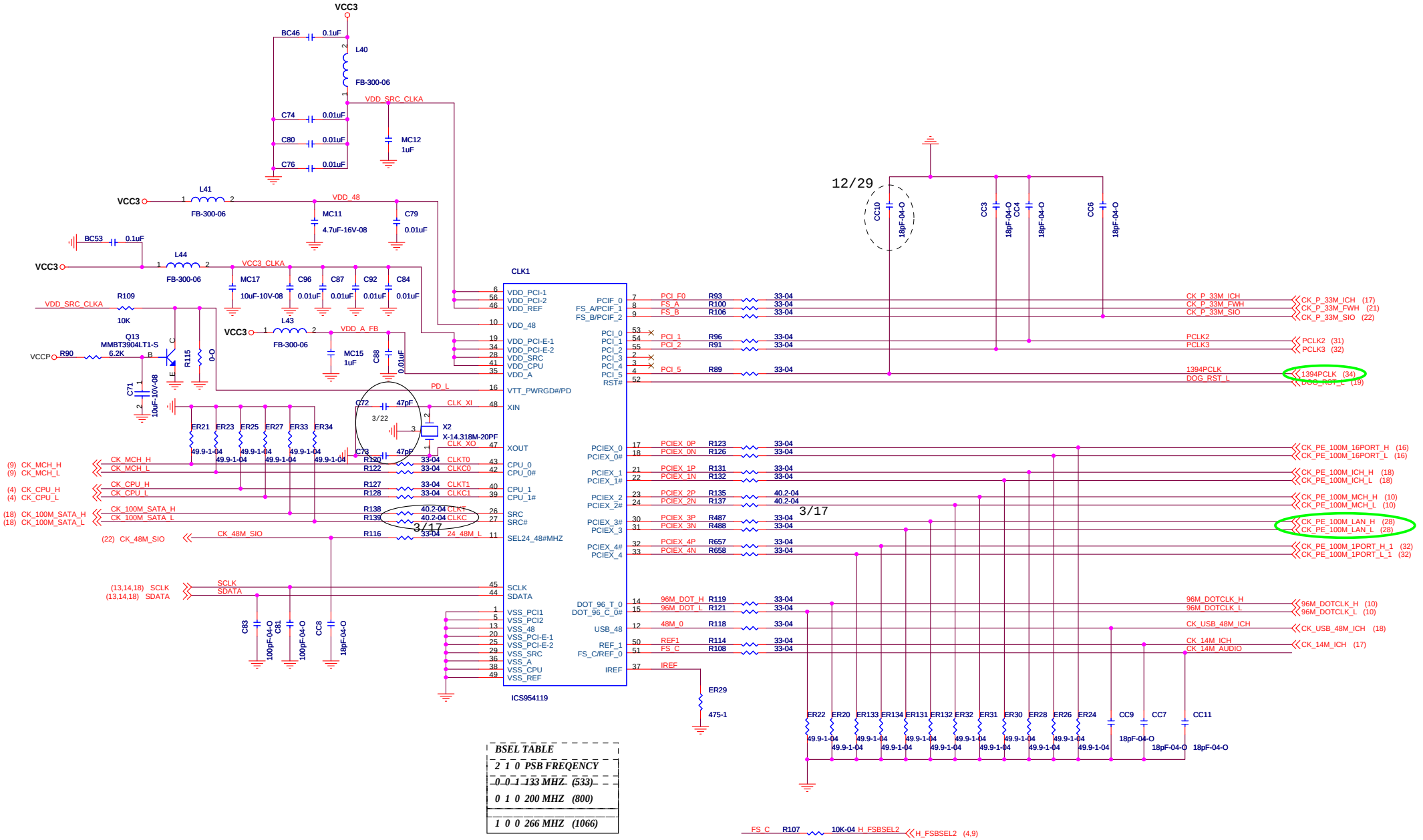

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Title: Clock Generator(CK410)

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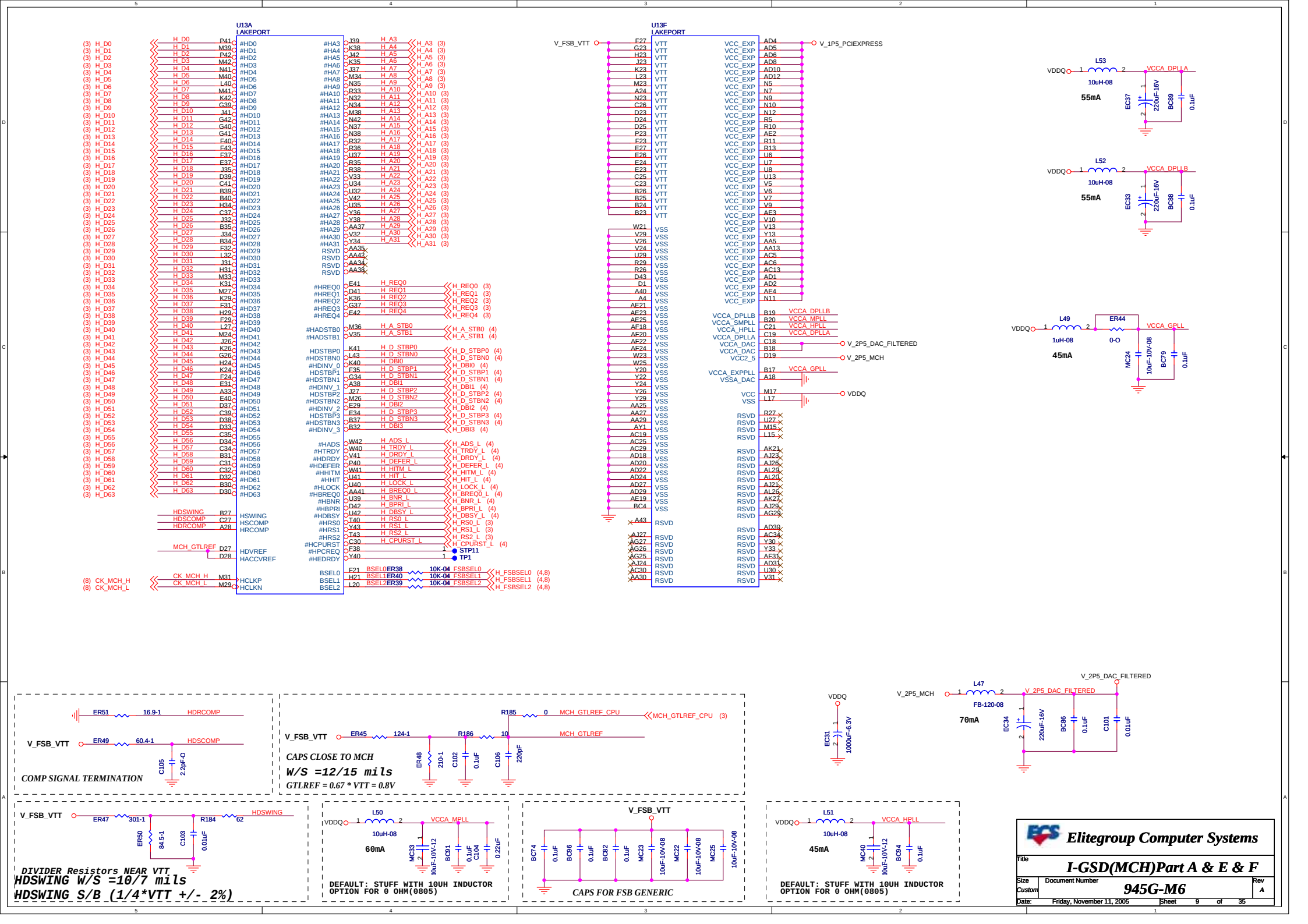

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Title: I-GSD(MCH)Part A & E & F

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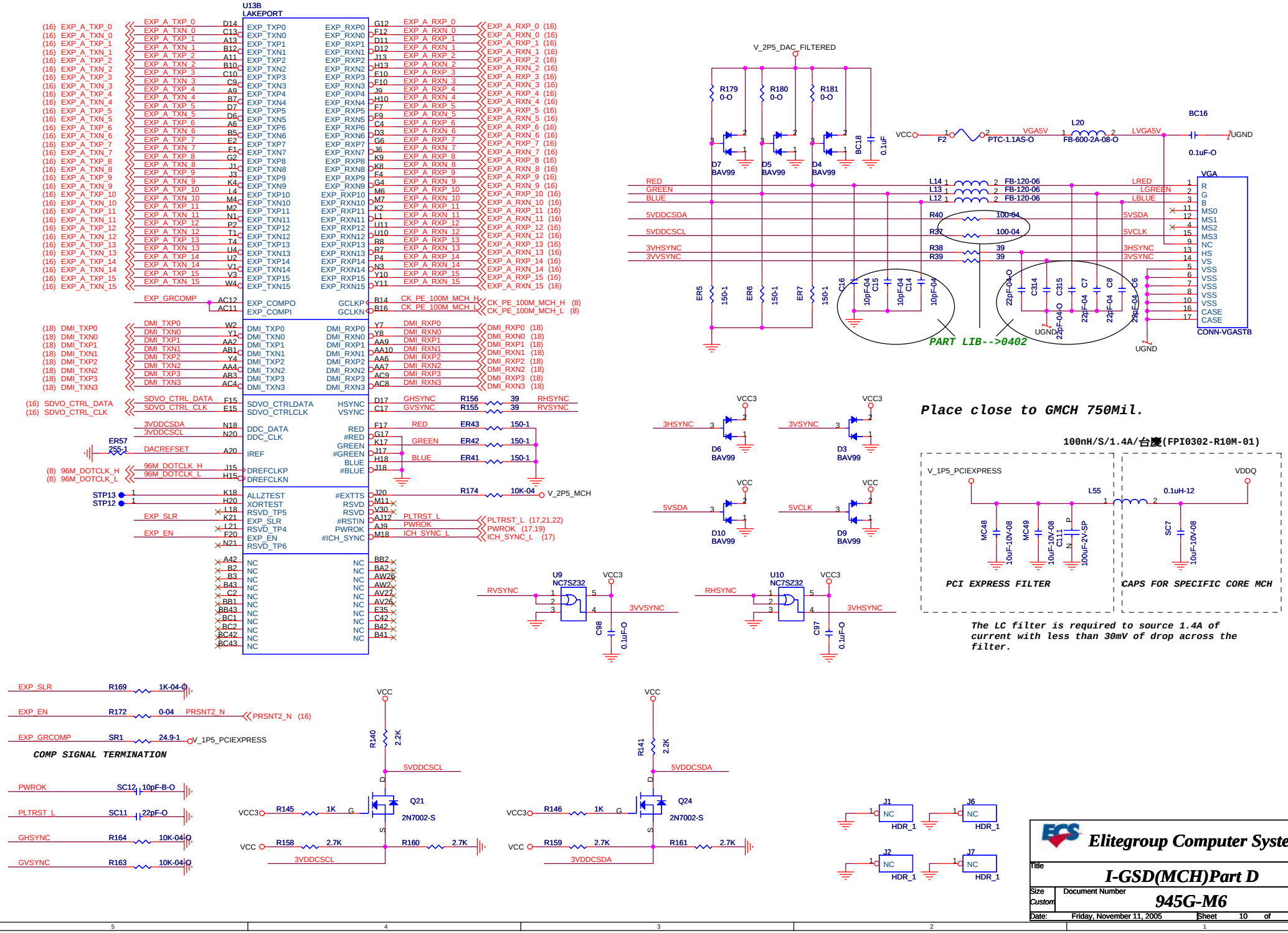
U13B
LAKEPORT
EXP_A_TXP_0
EXP_A_TXN_0
EXP_A_TXP_1
EXP_A_TXN_1
EXP_A_TXP_2
EXP_A_TXN_2
EXP_A_TXP_3
EXP_A_TXN_3
EXP_A_TXP_4
EXP_A_TXN_4
EXP_A_TXP_5
EXP_A_TXN_5
EXP_A_TXP_6
EXP_A_TXN_6
EXP_A_TXP_7
EXP_A_TXN_7
EXP_A_TXP_8
EXP_A_TXN_8
EXP_A_TXP_9
EXP_A_TXN_9
EXP_A_TXP_10
EXP_A_TXN_10
EXP_A_TXP_11
EXP_A_TXN_11
EXP_A_TXP_12
EXP_A_TXN_12
EXP_A_TXP_13
EXP_A_TXN_13
EXP_A_TXP_14
EXP_A_TXN_14
EXP_A_TXP_15
EXP_A_TXN_15
EXP_GRCOMP
DMI_TXP0
DMI_TXN0
DMI_TXP1
DMI_TXN1
DMI_TXP2
DMI_TXN2
DMI_TXP3
DMI_TXN3
SDVO_CTRL_DATA
SDVO_CTRL_CLK
3VDDCSDA
3VDDCSCL
ER57
255-1
DACREFSET
96M_DOTCLK_H
96M_DOTCLK_L
STP13
STP12
EXP_SLR
EXP_EN
V_2P5_DAC_FILTERED
R179 0-O
R180 0-O
R181 0-O
D7 BAV99
D5 BAV99
D4 BAV99
BC18
0.1uF
VCC
F2
PTC-1.1AS-O
VGA5V
L20
FB-600-2A-08-O
LVGA5V
BC16
0.1uF-O
UGND
RED
GREEN
BLUE
5VDDCSDA
5VDDCSCL
3VHSYNC
3VVSYNC
L14 FB-120-06
L13 FB-120-06
L12 FB-120-06
LRED
LGREEN
LBLUE
R40 100-04
R37 100-04
R38 39
R39 39
5VSDA
5VCLK
3HSYNC
3VSYNC
VGA
R
G
B
MS0
MS1
MS2
MS3
NC
HS
VS
VSS
VSS
VSS
VSS
VSS
CASE
CASE
CONN-VGASTB
ER5 150-1
ER6 150-1
ER7 150-1
C16 10pF-04
C15 10pF-04
C14 10pF-04
10pF-04
22pF-04-O
C314
C315
C7 22pF-04
C8 22pF-04
C6 22pF-04
PART LIB-->0402
VCC3
D6 BAV99
D3 BAV99
D10 BAV99
D9 BAV99
3HSYNC
3VSYNC
5VSDA
5VCLK
Place close to GMCH 750Mil.
100nH/S/1.4A/台慶(FPI0302-R10M-01)
V_1P5_PCIEXPRESS
L55
0.1uH-12
VDDQ
MC48 10uF-10V-08
MC49 10uF-10V-08
C111 100uF-2V-SP
SC7 10uF-10V-08
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.
U9 NC7SZ32
U10 NC7SZ32
RVSYNC
RHSYNC
3VVSYNC
3VHSYNC
C98 0.1uF-O
C97 0.1uF-O
COMP SIGNAL TERMINATION
EXP_SLR R169 1K-04-O
EXP_EN R172 0-04 PRSNT2_N
PRSNT2_N (16)
EXP_GRCOMP SR1 24.9-1 V_1P5_PCIEXPRESS
PWROK SC12 10pF-B-O
PLTRST_L SC11 22pF-O
GHSYNC R164 10K-04-O
GVSYNC R163 10K-04-O
R140 2.2K
R141 2.2K
5VDDCSCL
5VDDCSDA
Q21 2N7002-S
Q24 2N7002-S
R145 1K
R146 1K
R158 2.7K
R160 2.7K
R159 2.7K
R161 2.7K
3VDDCSCL
3VDDCSDA
J1 NC HDR_1
J6 NC HDR_1
J2 NC HDR_1
J7 NC HDR_1
Elitegroup Computer Systems
Title
I-GSD(MCH)Part D
Size Custom
Document Number 945G-M6
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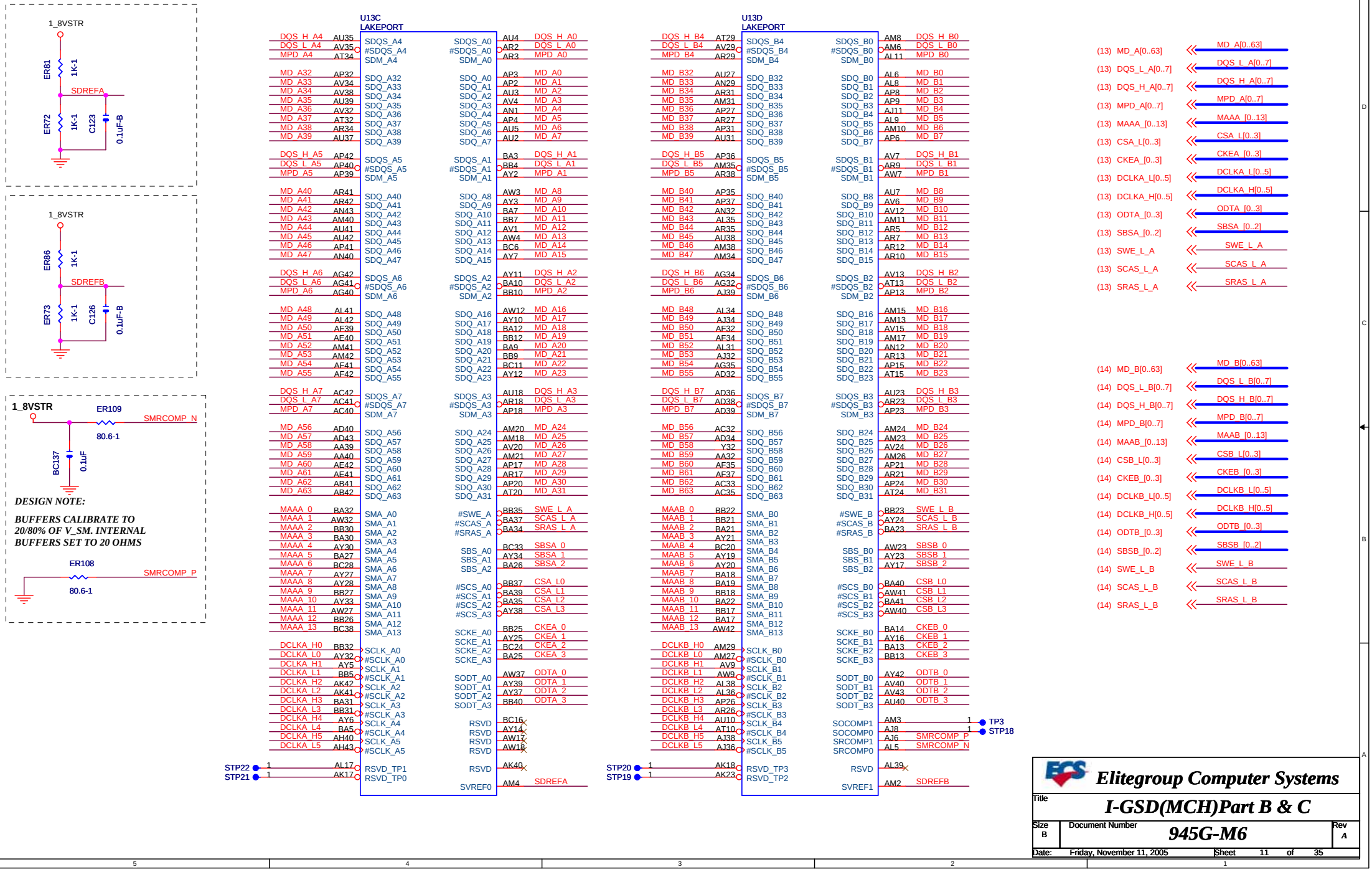
1_8VSTR
ER81
1K-1
SDREFA
ER72
1K-1
C123
0.1uF-B
1_8VSTR
ER86
1K-1
SDREFB
ER73
1K-1
C126
0.1uF-B
1_8VSTR
ER109
SMRCOMP_N
80.6-1
BC137
0.1uF
DESIGN NOTE:
BUFFERS CALIBRATE TO 20/80% OF V_SM. INTERNAL BUFFERS SET TO 20 OHMS
ER108
SMRCOMP_P
80.6-1
U13C
LAKEPORT
U13D
LAKEPORT
STP22
STP21
STP20
STP19
TP3
STP18
(13) MD_A[0..63]
(13) DQS_L_A[0..7]
(13) DQS_H_A[0..7]
(13) MPD_A[0..7]
(13) MAAA_[0..13]
(13) CSA_L[0..3]
(13) CKEA_[0..3]
(13) DCLKA_L[0..5]
(13) DCLKA_H[0..5]
(13) ODTA_[0..3]
(13) SBSA_[0..2]
(13) SWE_L_A
(13) SCAS_L_A
(13) SRAS_L_A
(14) MD_B[0..63]
(14) DQS_L_B[0..7]
(14) DQS_H_B[0..7]
(14) MPD_B[0..7]
(14) MAAB_[0..13]
(14) CSB_L[0..3]
(14) CKEB_[0..3]
(14) DCLKB_L[0..5]
(14) DCLKB_H[0..5]
(14) ODTB_[0..3]
(14) SBSB_[0..2]
(14) SWE_L_B
(14) SCAS_L_B
(14) SRAS_L_B
Elitegroup Computer Systems
Title
I-GSD(MCH)Part B & C
Size B
Document Number
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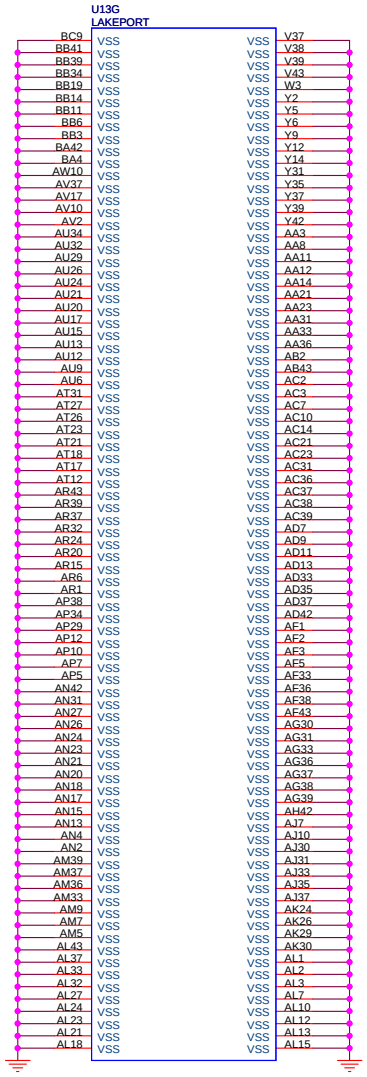

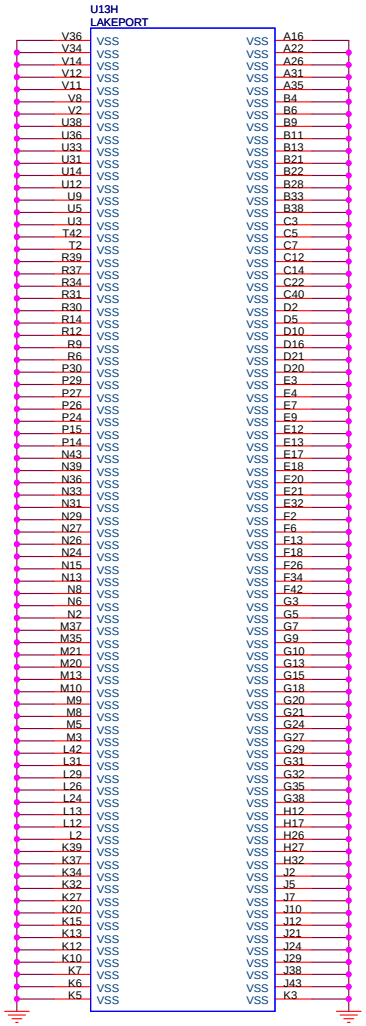

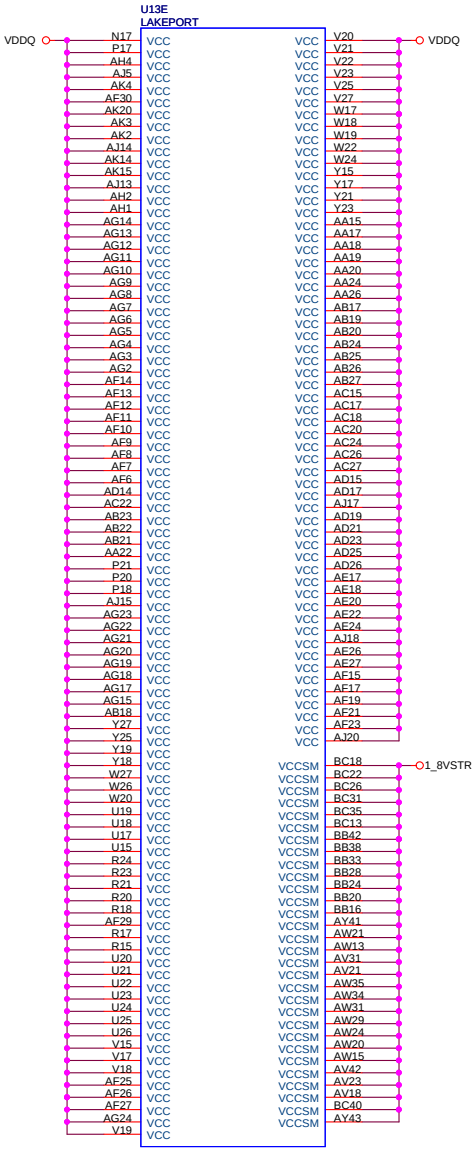

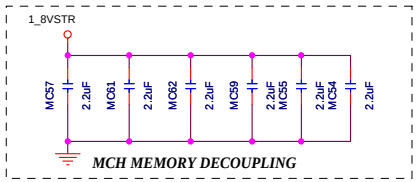

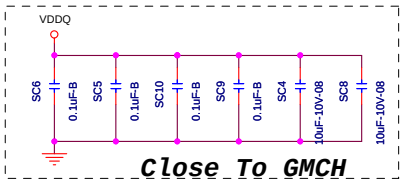

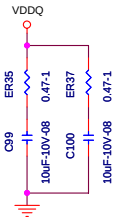

Elitegroup Computer Systems

Title: Schematic Change History

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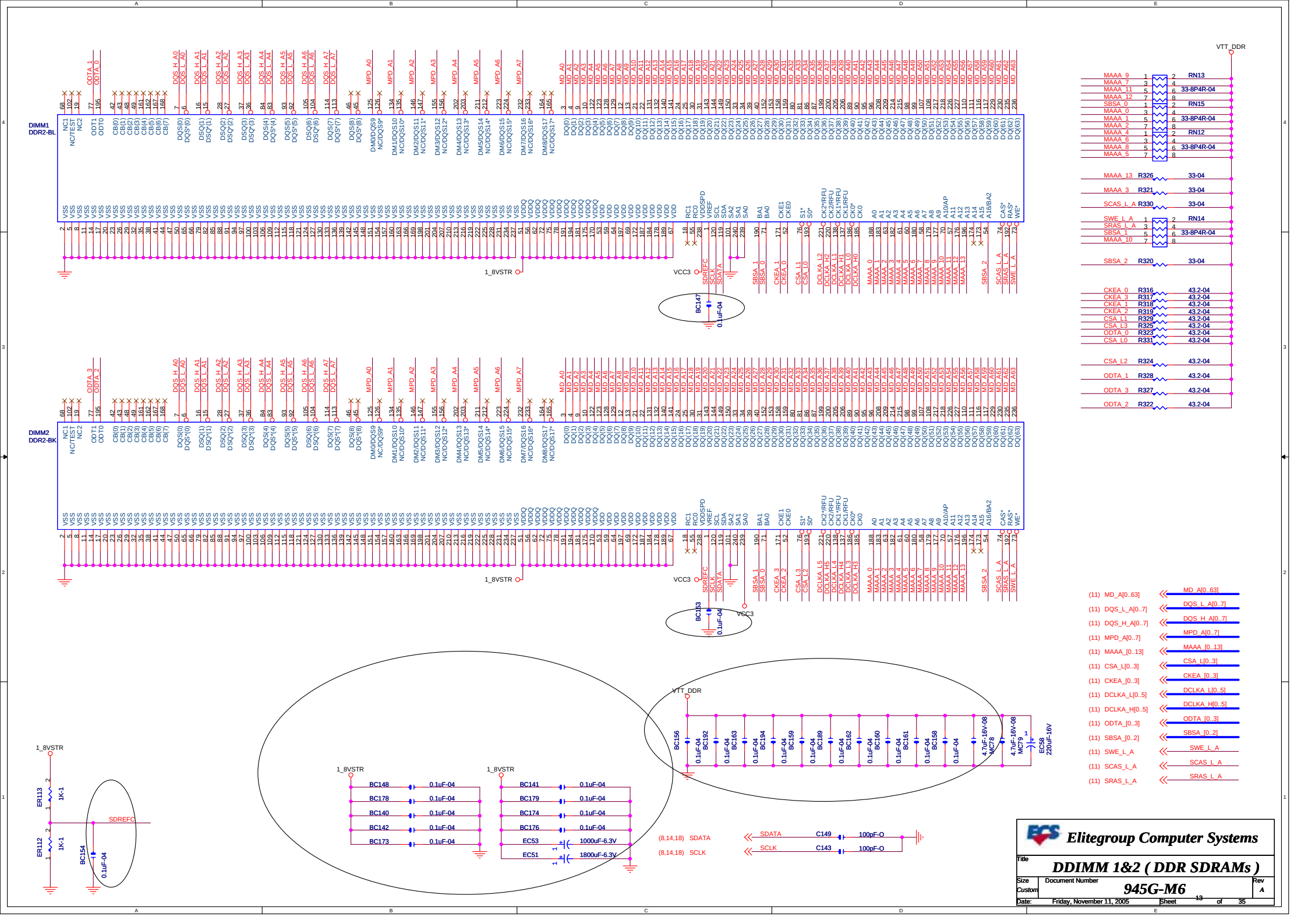

Elitegroup Computer Systems			
Title: DDIMM 1&2 (DDR SDRAMs)			
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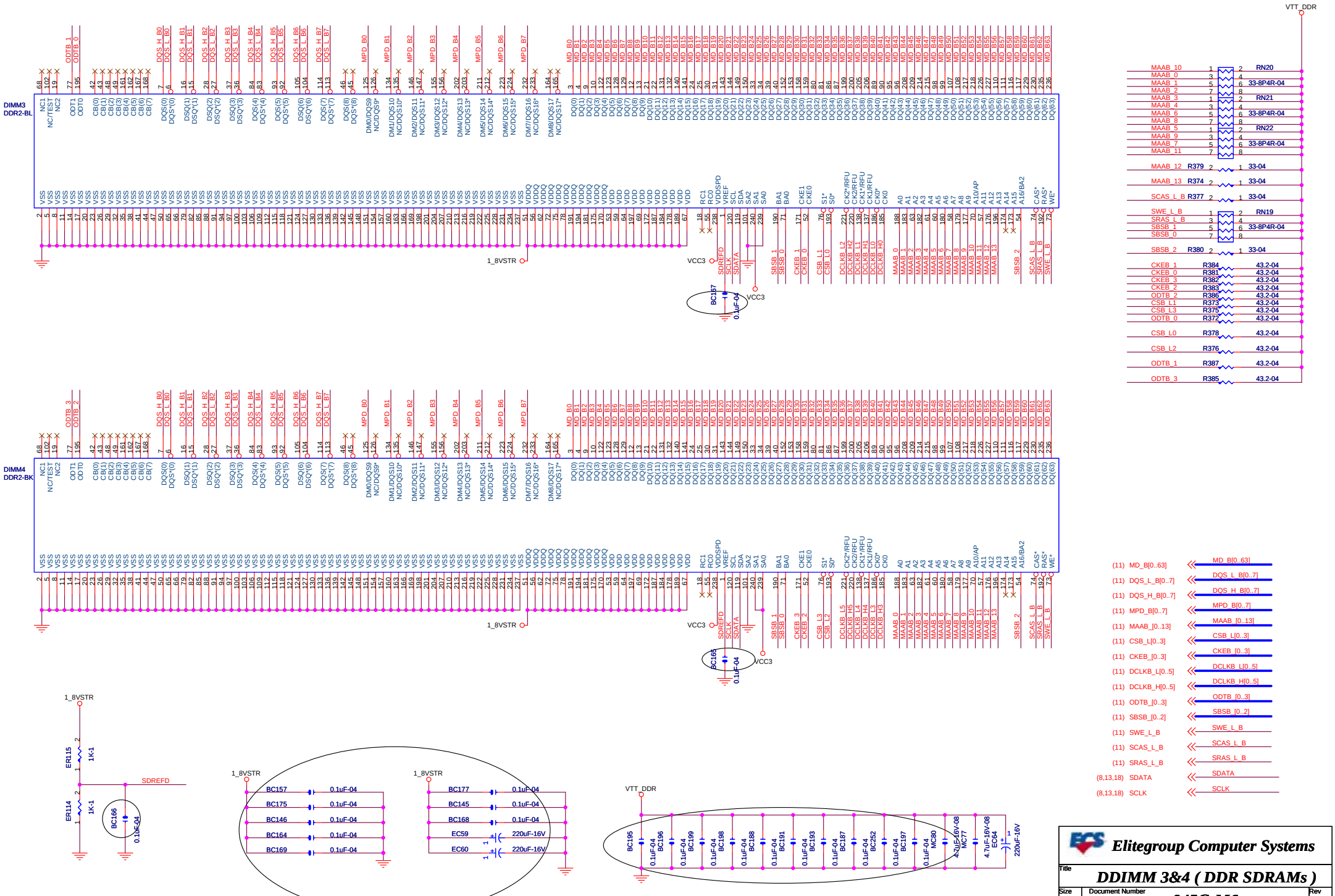

Elitegroup Computer Systems

Title: DDIMM 3&4 (DDR SDRAMs)

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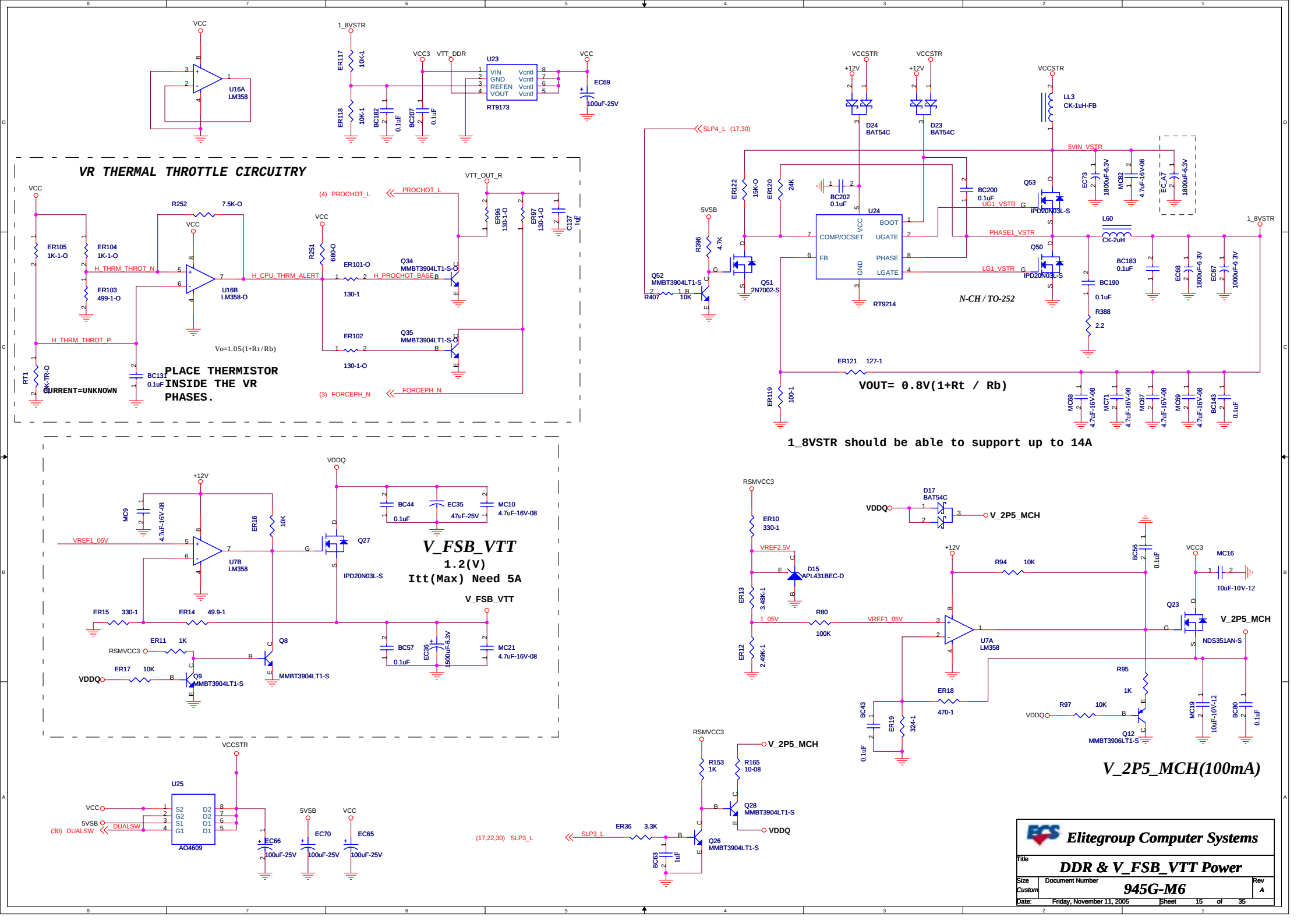
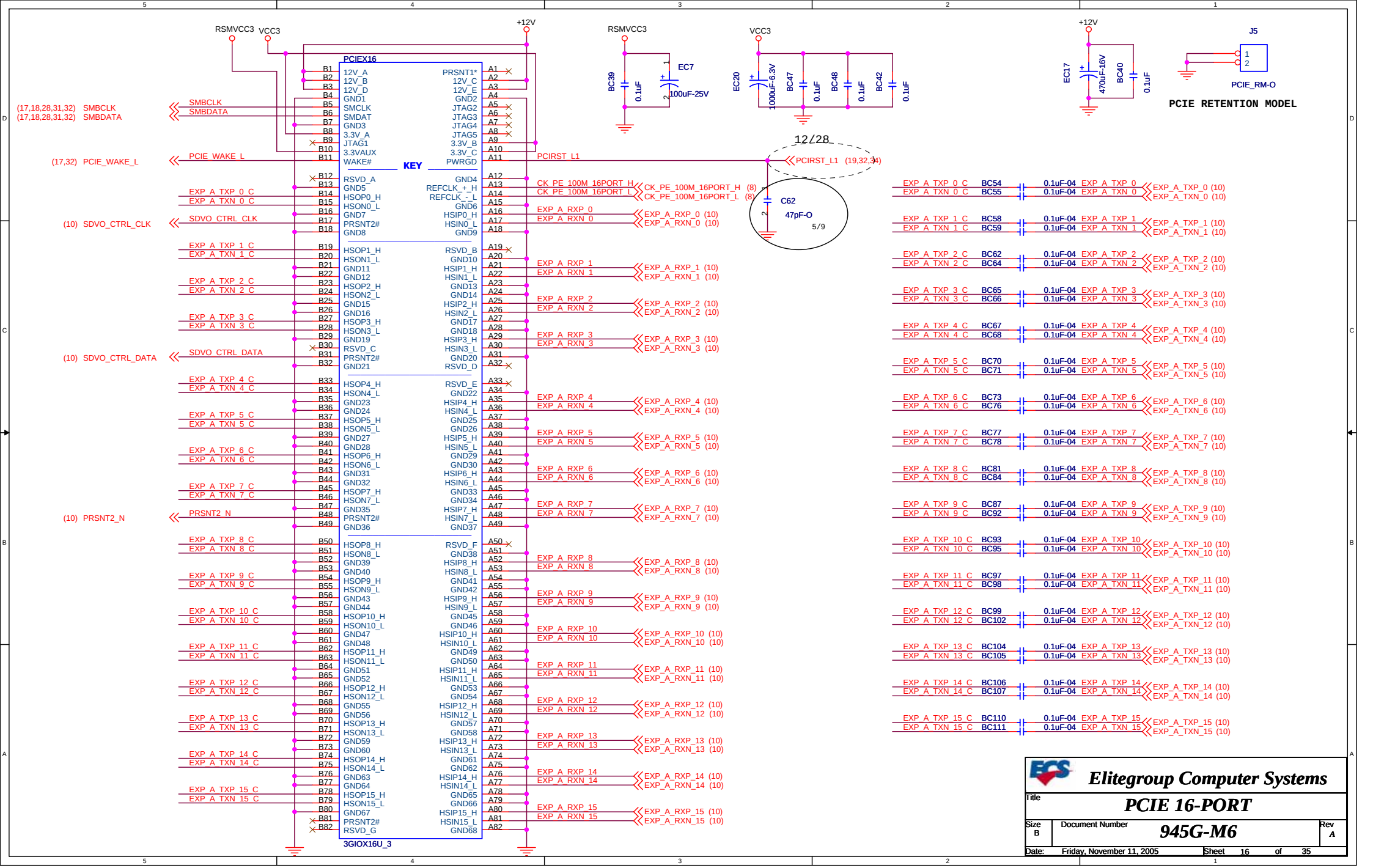

VR THERMAL THROTTLE CIRCUITRY
PLACE THERMISTOR INSIDE THE VR PHASES.
CURRENT=UNKNOWN
Vo=1.05(1+Rt/Rb)
V_FSB_VTT
1.2(V)
Itt(Max) Need 5A
VOUT= 0.8V(1+Rt / Rb)
N-CH / TO-252
1_8VSTR should be able to support up to 14A
V_2P5_MCH(100mA)
Elitegroup Computer Systems
DDR & V_FSB_VTT Power
945G-M6
Friday, November 11, 2005


PCIEX16
3GIOX16U_3
KEY
RSMVCC3
VCC3
+12V
PCIE RETENTION MODEL
PCIE_RM-O
J5
EC7
100uF-25V
C62
47pF-O
5/9
12/28
PCIRST_L1 (19,32,34)
SMBCLK
SMBDATA
PCIE_WAKE_L
SDVO_CTRL_CLK
SDVO_CTRL_DATA
PRSNT2_N
CK_PE_100M_16PORT_H (8)
CK_PE_100M_16PORT_L (8)
Elitegroup Computer Systems
PCIE 16-PORT
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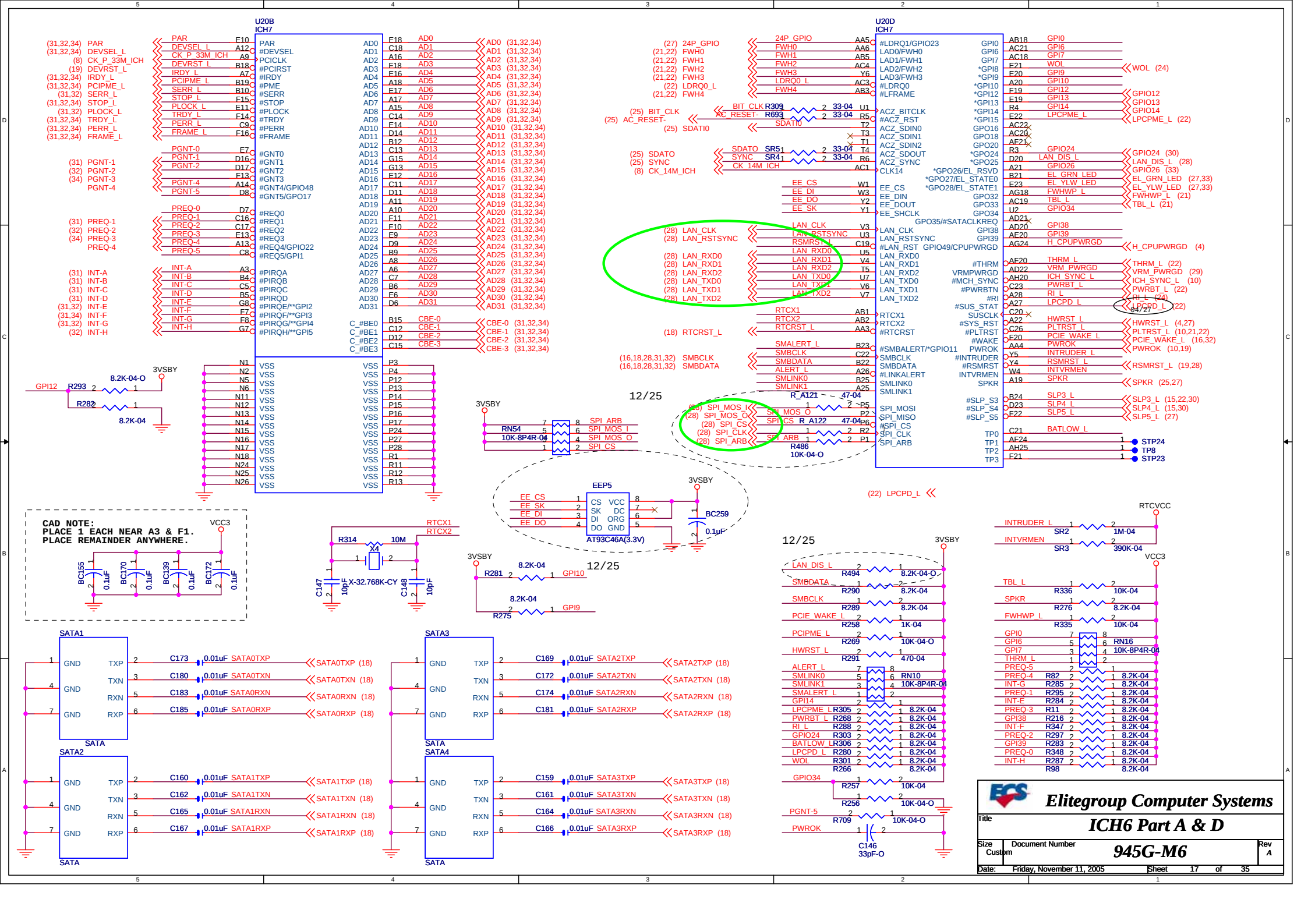
CH6-18


U20B
ICH7
U20D
ICH7
CAD NOTE:
PLACE 1 EACH NEAR A3 & F1.
PLACE REMAINDER ANYWHERE.
12/25
12/25
12/25
EEP5
AT93C46A(3.3V)
SATA1
SATA2
SATA3
SATA4
SATA
Elitegroup Computer Systems
ICH6 Part A & D
945G-M6
Custom
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U20A
ICH7

(10) DMI_TXP0 — DMI_TXP0 — V25 — DMI_RXP0 — DMI_TXP0 — U27 — DMI_RXP0 — DMI_RXP0 (10)
(10) DMI_TXN0 — DMI_TXN0 — V26 — DMI_RXN0 — DMI_TXN0 — U28 — DMI_RXN0 — DMI_RXN0 (10)
(10) DMI_TXP1 — DMI_TXP1 — Y25 — DMI_RXP1 — DMI_TXP1 — W27 — DMI_RXP1 — DMI_RXP1 (10)
(10) DMI_TXN1 — DMI_TXN1 — Y26 — DMI_RXN1 — DMI_TXN1 — W28 — DMI_RXN1 — DMI_RXN1 (10)
(10) DMI_TXP2 — DMI_TXP2 — AB25 — DMI_RXP2 — DMI_TXP2 — AA27 — DMI_RXP2 — DMI_RXP2 (10)
(10) DMI_TXN2 — DMI_TXN2 — AB26 — DMI_RXN2 — DMI_TXN2 — AA28 — DMI_RXN2 — DMI_RXN2 (10)
(10) DMI_TXP3 — DMI_TXP3 — AD24 — DMI_RXP3 — DMI_TXP3 — AC27 — DMI_RXP3 — DMI_RXP3 (10)
(10) DMI_TXN3 — DMI_TXN3 — AD25 — DMI_RXN3 — DMI_TXN3 — AC28 — DMI_RXN3 — DMI_RXN3 (10)

V_1P5_FILTER — ER111 24.9-1 — C25 — DMI_ZCOMP — DMI_CLKP — AE27 — CK_PE_100M_ICH_H — CK_PE_100M_ICH_H (8)
D25 — DMI_IRCOMP — DMI_CLKN — AE28 — CK_PE_100M_ICH_L — CK_PE_100M_ICH_L (8)

M25 — PCIE_RXP4 — PCIE_RXP1 — F25 — HSI_P1 (28)
M26 — PCIE_RXN4 — PCIE_RXN1 — F26 — HSI_N1 (28)
L27 — PCIE_TXP4 — PCIE_TXP1 — E27 — BC_A62 0.1uF-04 — HSO_P1 (28)
L28 — PCIE_TXN4 — PCIE_TXN1 — E28 — BC_A61 0.1uF-04 — HSO_N1 (28)

P25 — PCIE_RXP5 — PCIE_RXP2 — H25 — HSI_P2
P26 — PCIE_RXN5 — PCIE_RXN2 — H26 — HSI_N2
N27 — PCIE_TXP5 — PCIE_TXP2 — G27 — BC269 0.1uF-04 — HSO_P2 — HSI_P2 (32) — HSI_N2 (32)
N28 — PCIE_TXN5 — PCIE_TXN2 — G28 — BC270 0.1uF-04 — HSO_N2 — HSO_P2 (32) — HSO_N2 (32)

T24 — PCIE_RXP6 — PCIE_RXP3 — K25
T25 — PCIE_RXN6 — PCIE_RXN3 — K26
R27 — PCIE_TXP6 — PCIE_TXP3 — J27
R28 — PCIE_TXN6 — PCIE_TXN3 — J28

(20) PDD[0..15] — PDD[0..15]

(21) USBP4P — USBP4P — K2 — USB_P4 — USB_P0 — F2 — USBP0P — USBP0P (33)
(21) USBP4N — USBP4N — K1 — USB_N4 — USB_N0 — F1 — USBP0N — USBP0N (33)
OC1_L — E5 — #OC4 — #OC0 — D3 — OC1_L

(21) USBP5P — USBP5P — L5 — USB_P5 — USB_P1 — G3 — USBP1P — USBP1P (33)
(21) USBP5N — USBP5N — L4 — USB_N5 — USB_N1 — G4 — USBP1N — USBP1N (33)
OC0_L — C3 — #OC5/*GPIO29 — #OC1 — C4 — OC0_L

(21) USBP6P — USBP6P — M2 — USB_P6 — USB_P2 — H2 — USBP2P — USBP2P (33)
(21) USBP6N — USBP6N — M1 — USB_N6 — USB_N2 — H1 — USBP2N — USBP2N (33)
OC0_L — A2 — #OC6/*GPIO30 — #OC2 — D5 — OC1_L

(21) USBP7P — USBP7P — N3 — USB_P7 — USB_P3 — J3 — USBP3P — USBP3P (33)
(21) USBP7N — USBP7N — N4 — USB_N7 — USB_N3 — J4 — USBP3N — USBP3N (33)
OC0_L — B3 — #OC7/*GPIO31 — #OC3 — D4 — OC1_L

USBRBIAS_L — D1 — USBRBIAS — CLK48 — B2 — CK_USB_48M_ICH — CK_USB_48M_ICH (8)
ER110 20-1 3/17 — D2 — #USBRBIAS

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

U20C
ICH7

(17) SATA2RXP — SATA2RXP — AE7 — SATA_RXP2 — SATA_RXP0 — AE3 — SATA0RXP — SATA0RXP (17)
(17) SATA2RXN — SATA2RXN — AF7 — SATA_RXN2 — SATA_RXN0 — AF3 — SATA0RXN — SATA0RXN (17)
(17) SATA2TXP — SATA2TXP — AH6 — SATA_TXP2 — SATA_TXP0 — AH2 — SATA0TXP — SATA0TXP (17)
(17) SATA2TXN — SATA2TXN — AG6 — SATA_TXN2 — SATA_TXN0 — AG2 — SATA0TXN — SATA0TXN (17)

(17) SATA3RXP — SATA3RXP — AE9 — SATA_RXP3 — SATA_RXP1 — AD5 — SATA1RXP — SATA1RXP (17)
(17) SATA3RXN — SATA3RXN — AD9 — SATA_RXN3 — SATA_RXN1 — AE5 — SATA1RXN — SATA1RXN (17)
(17) SATA3TXP — SATA3TXP — AH8 — SATA_TXP3 — SATA_TXP1 — AH4 — SATA1TXP — SATA1TXP (17)
(17) SATA3TXN — SATA3TXN — AG8 — SATA_TXN3 — SATA_TXN1 — AG4 — SATA1TXN — SATA1TXN (17)

(8) CK_100M_SATA_H — CK_100M_SATA_H — AE1 — SATA_CLKP — #SATALED — AF18 — SATALED — SATALED_L (27)
(8) CK_100M_SATA_L — CK_100M_SATA_L — AF1 — SATA_CLKN

SATABIAS — AG10 — SATA_GP0/GPI21 — AF19 — RN17 10K-8P4R-04 — VCC3
ER116 22.6-1 3/17 — AH10 — SATARBIAS — SATA_GP1/GPI19 — AH18
#SATARBIAS — SATA_GP2/GPI36 — AH19
SATA_GP3/GPI37 — AE19

SATABIAS LENGTH NO LONGER THAN 200MIL TO RESISTOR

PDD0 — AB15 — DD0 — #DDACK — AF16 — PDDACK_L — PDDACK_L (20)
PDD1 — AE14 — DD1 — DDREQ — AF15 — PDREQ_L — PDREQ_L (20)
PDD2 — AG13 — DD2 — #DIOR — AF15 — PDIOR_L — PDIOR_L (20)
PDD3 — AF13 — DD3 — #DIOW — AH15 — PDIOW_L — PDIOW_L (20)
PDD4 — AD14 — DD4 — IORDY — AG16 — PIORDY — PIORDY (20)
PDD5 — AC13 — DD5
PDD6 — AD12 — DD6 — DA0 — AH17 — PDA0 — PDA0 (20)
PDD7 — AC12 — DD7 — DA1 — AE17 — PDA1 — PDA1 (20)
PDD8 — AE12 — DD8 — DA2 — AF17 — PDA2 — PDA2 (20)
PDD9 — AF12 — DD9
PDD10 — AB13 — DD10 — #DCS1 — AE16 — CS1P_L — CS1P_L (20)
PDD11 — AC14 — DD11 — #DCS3 — AD16 — CS3P_L — CS3P_L (20)
PDD12 — AF14 — DD12
PDD13 — AH13 — DD13 — IDEIRQ — AH16 — IRQ14 — IRQ14 (20)
PDD14 — AH14 — DD14
PDD15 — AC15 — DD15

(4) FERR_L — FERR_L — AG26 — #FERR — A20GATE — AE22 — A20GATE_L — A20GATE_L (22)
(4) NMI — NMI — AH24 — NMI — #A20M — AH28 — A20M_L — A20M_L (4)
(22) KBRST_L — KBRST_L — AG23 — #RCIN — #CPUSLP — AG27 — TP7
(22) SIRQ — SIRQ — AH21 — SERIRQ — #IGNNE — AG22 — IGNNE_L — IGNNE_L (4)
(4) SMI_L — SMI_L — AF23 — #SMI — #INIT3_3V — AG21 — ICH_INIT_33V — ICH_INIT_33V (21)
(4) STPCLK_L — STPCLK_L R346 0 — AH22 — #STPCLK — #INIT — AF22 — HINIT_L — HINIT_L (4)
(4) THERMTRIP_L — THERMTRIP_L — AF26 — #THERMTRIP — INTR — AF25 — INTR — INTR (4)

THERMTRIP_L R315 62 — V_FSB_VTT
FERR_L R342 62
Place at ICH END of Route

(16,17,28,31,32) SMBDATA — SMBDATA
(16,17,28,31,32) SMBCLK — SMBCLK

V_1P5_FILTER — L58 0.47uH-12 — VDDQ
MC66 4.7uF-16V-08 — EC56 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.

3VSBY
OC0_L — R286 10K-04
OC1_L — R302 10K-04

VCC3
SDATA — R265 2.7K-04
SCLK — R264 2.7K-04
KBRST_L — R345 10K-04
SIRQ — R343 10K-04
A20GATE_L — R341 10K-04

RTCVCC — RTC — CLOSE TO ICH7
MC81 1uF

CLR_CMOS
CLR_CMOS
OPEN : NORMAL
SHORT : CLEAR CMOS
No Reboot

D22 BAT54C — 3VSBY — R311 20K — RTCRST_L — RTCRST_L (17)
R357 1K — H3*1(2-3) — CLR_CMOS — BC150 1uF — 3/18
VBAT — R673 1K
BT SK-CR2032V

(8,13,14) SCLK — SCLK
(8,13,14) SDATA — SDATA

+12V
BC138 0.1uF — R277 10K
Q38 2N7002-S — R279 0-O — SMBDATA — R273 0-O — SDATA
Q39 2N7002-S — R278 0-O — SMBCLK — R272 0-O — SCLK

Elitegroup Computer Systems

Title: ICH6 Part B & C
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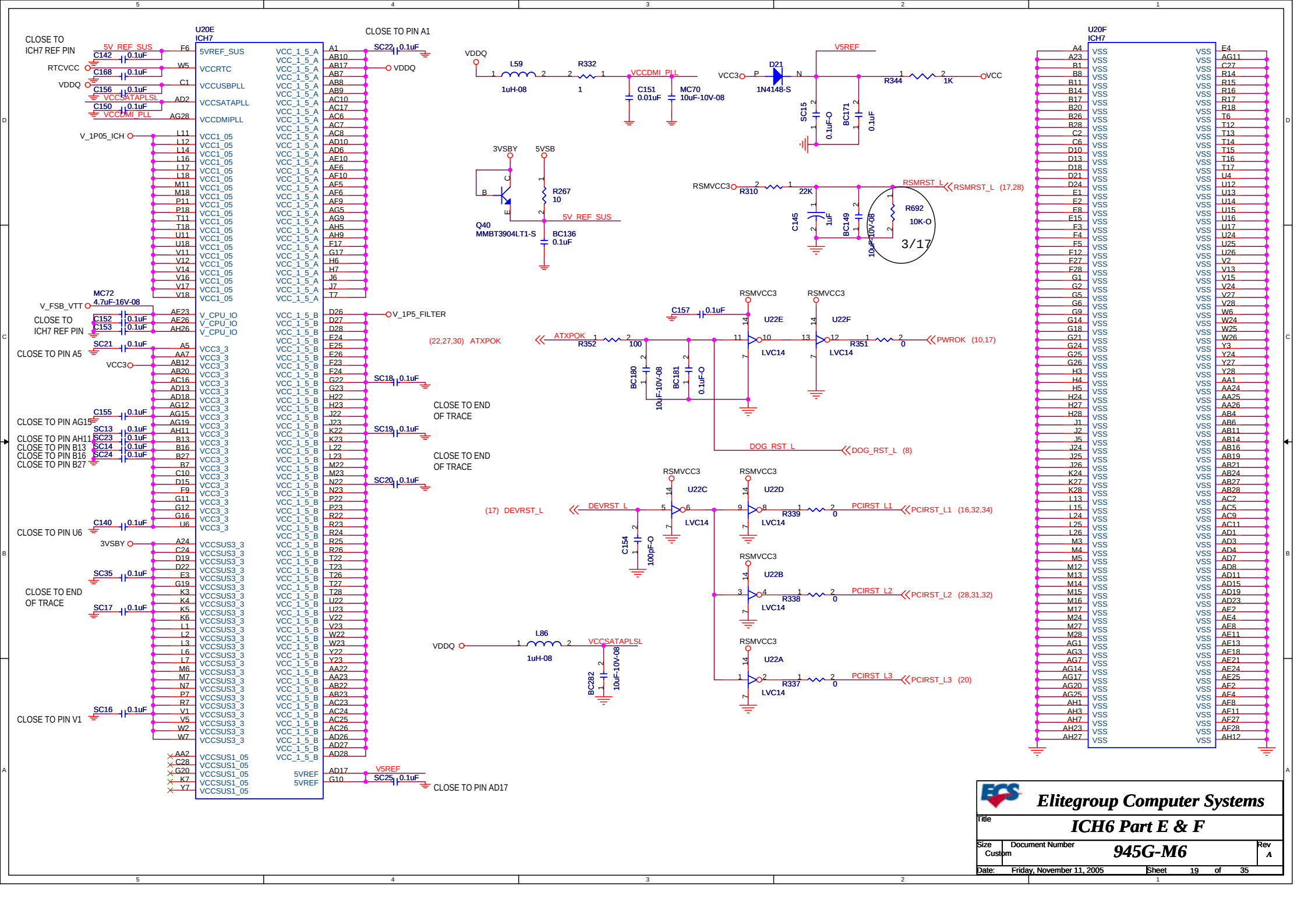
U20E
ICH7
U20F
ICH7
CLOSE TO ICH7 REF PIN
5V_REF_SUS
RTCVCC
VDDQ
VCCSATAPLSL
VCCDMI_PLL
V_1P05_ICH
MC72
4.7uF-16V-08
V_FSB_VTT
CLOSE TO PIN A5
CLOSE TO PIN AG15
CLOSE TO PIN AH11
CLOSE TO PIN B13
CLOSE TO PIN B16
CLOSE TO PIN B27
CLOSE TO PIN U6
CLOSE TO END OF TRACE
CLOSE TO PIN V1
CLOSE TO PIN A1
V_1P5_FILTER
CLOSE TO END OF TRACE
CLOSE TO END OF TRACE
CLOSE TO PIN AD17
V5REF
L59
1uH-08
R332
VCCDMI_PLL
C151
0.01uF
MC70
10uF-10V-08
D21
1N4148-S
R344
1K
SC15
BC171
3VSBY
5VSB
R267
10
Q40
MMBT3904LT1-S
BC136
RSMVCC3
R310
22K
RSMRST_L
C145
BC149
R692
10K-O
3/17
C157
U22E
U22F
ATXPOK
R352
LVC14
R351
PWROK (10,17)
DOG_RST_L
DOG_RST_L (8)
U22C
U22D
U22B
U22A
DEVRST_L
(17) DEVRST_L
C154
100pF-O
R339
R338
R337
PCIRST_L1
PCIRST_L1 (16,32,34)
PCIRST_L2
PCIRST_L2 (28,31,32)
PCIRST_L3
PCIRST_L3 (20)
L86
VCCSATAPLSL
BC282
(22,27,30) ATXPOK
RSMRST_L (17,28)
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ICH6 Part E & F
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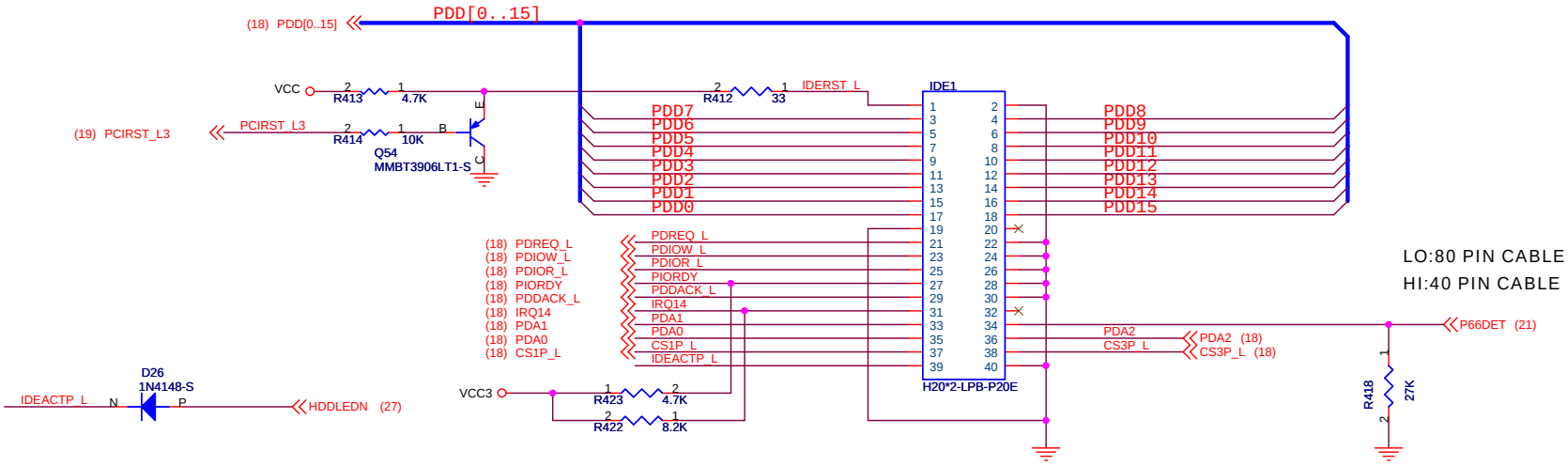
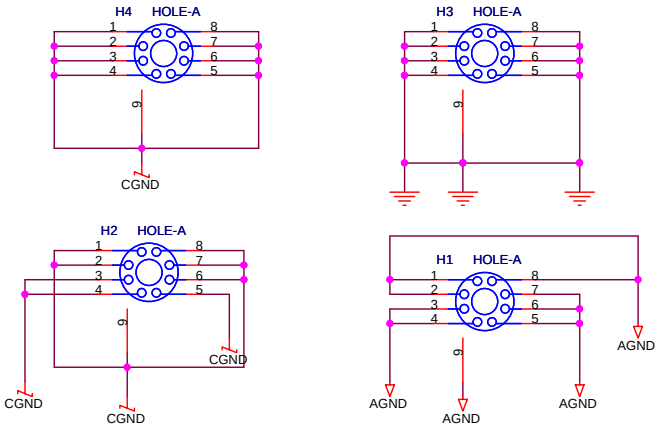
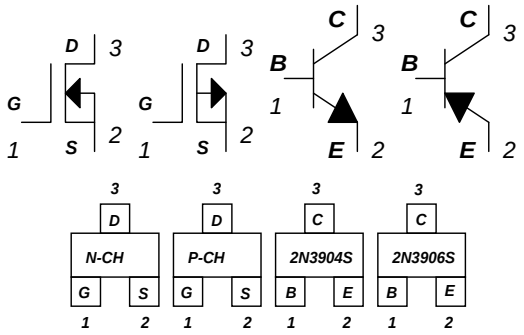


MAX TRACE LENGTH IS 8"

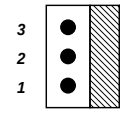
DATA LINES SHOULD BE MATCHED TO STROBES (XDIOR_L , XIORDY_L) WITHIN +/- 250 MIL, STROBES SHOULD BE MATCHED TO THEIR COMPLEMENT WITHIN +/- 10MIL.



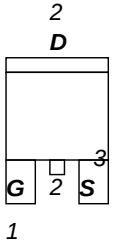
Top View **SOT-23**



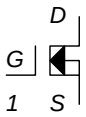
Fan Header



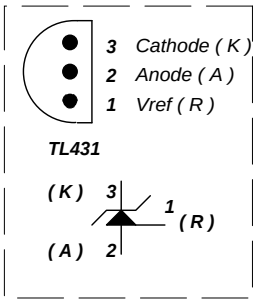
AMP640456-3



TO-263 / TO-252



Top View



Elitegroup Computer Systems		
Title: IDE Connector		
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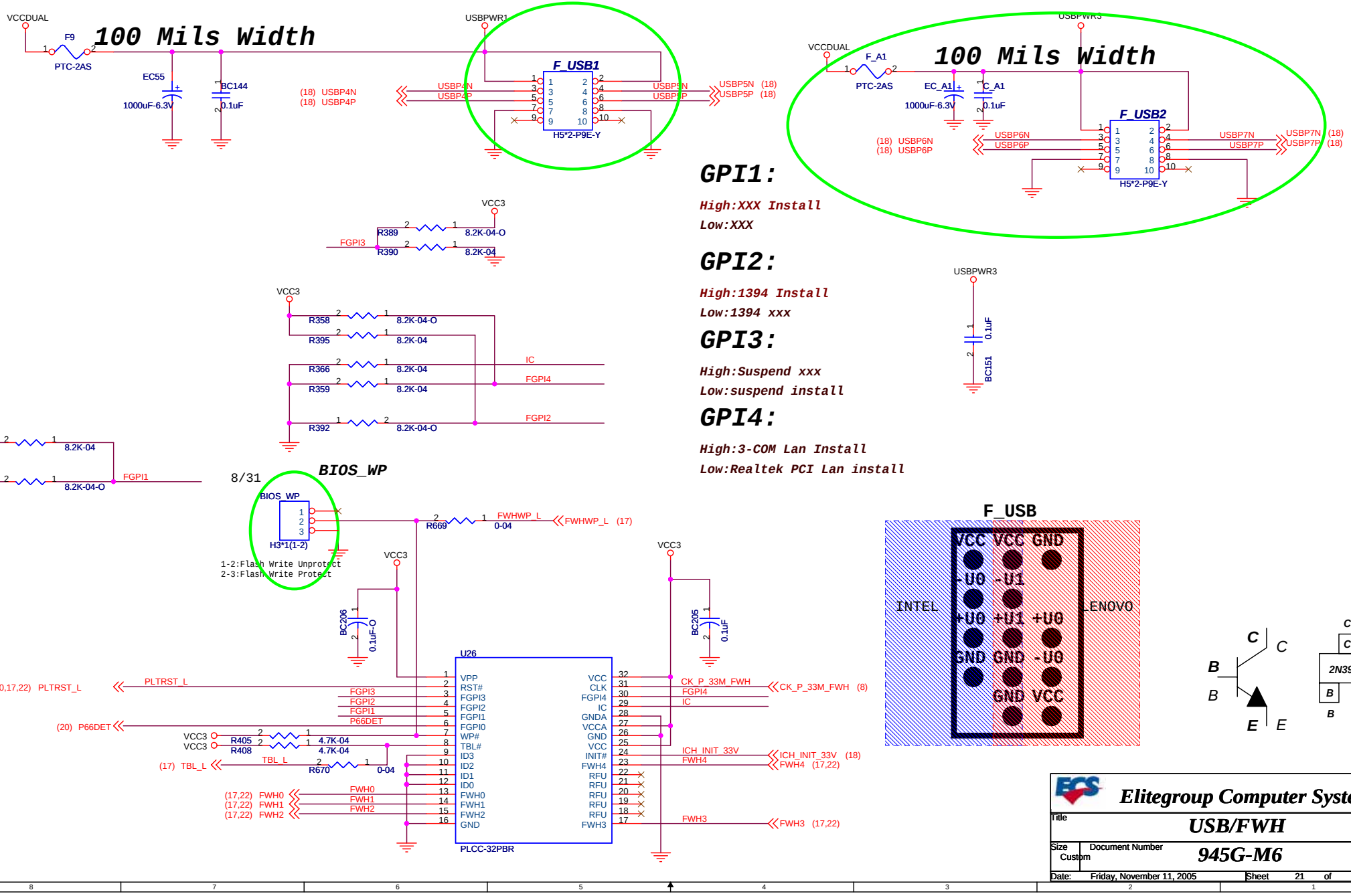
USB PORT INTERFACE



Elitegroup Computer Systems	
Title	USB/FWH
Size: Custom	Document Number: 945G-M6
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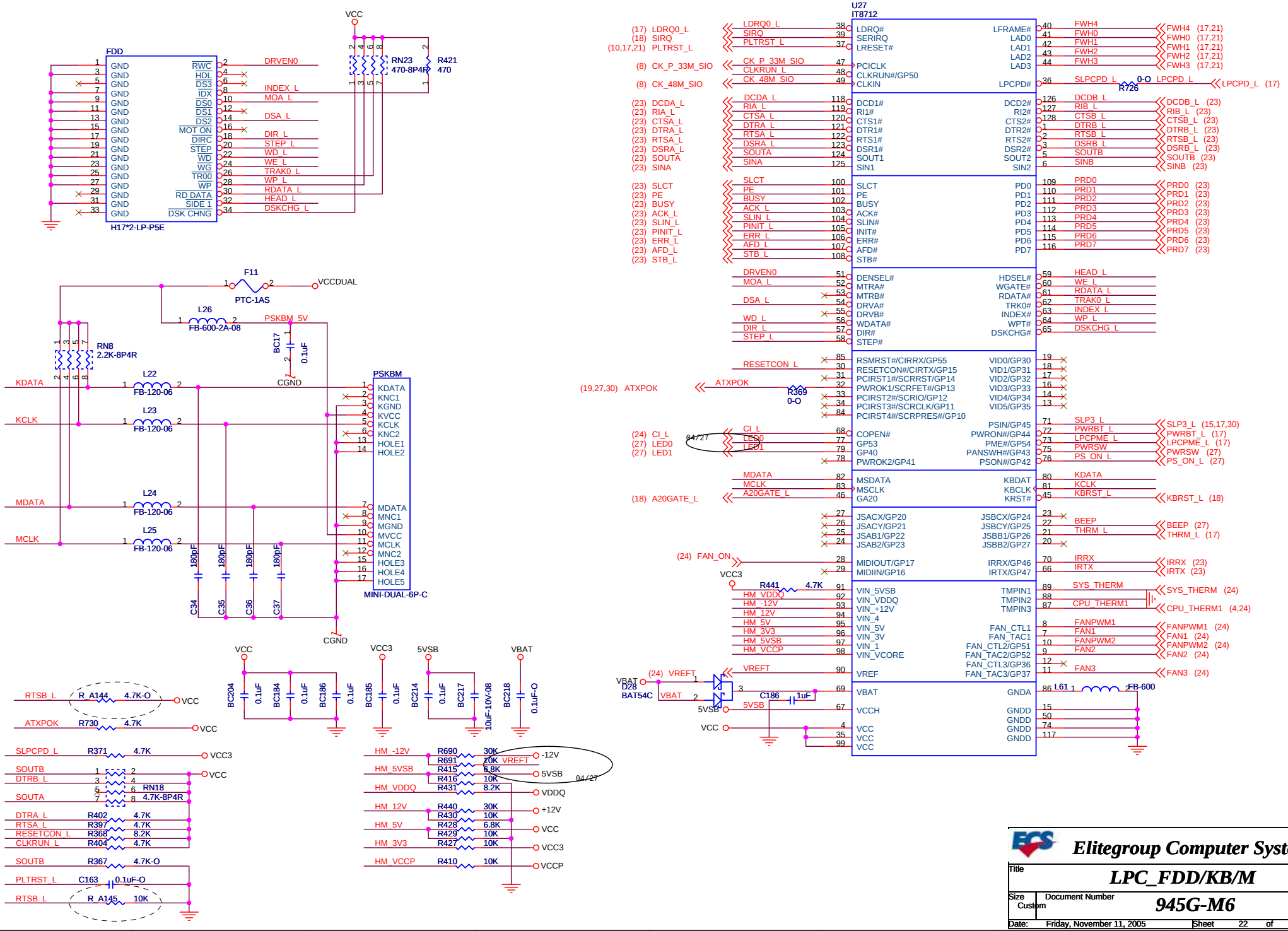

Title	LPC_FDD/KB/M
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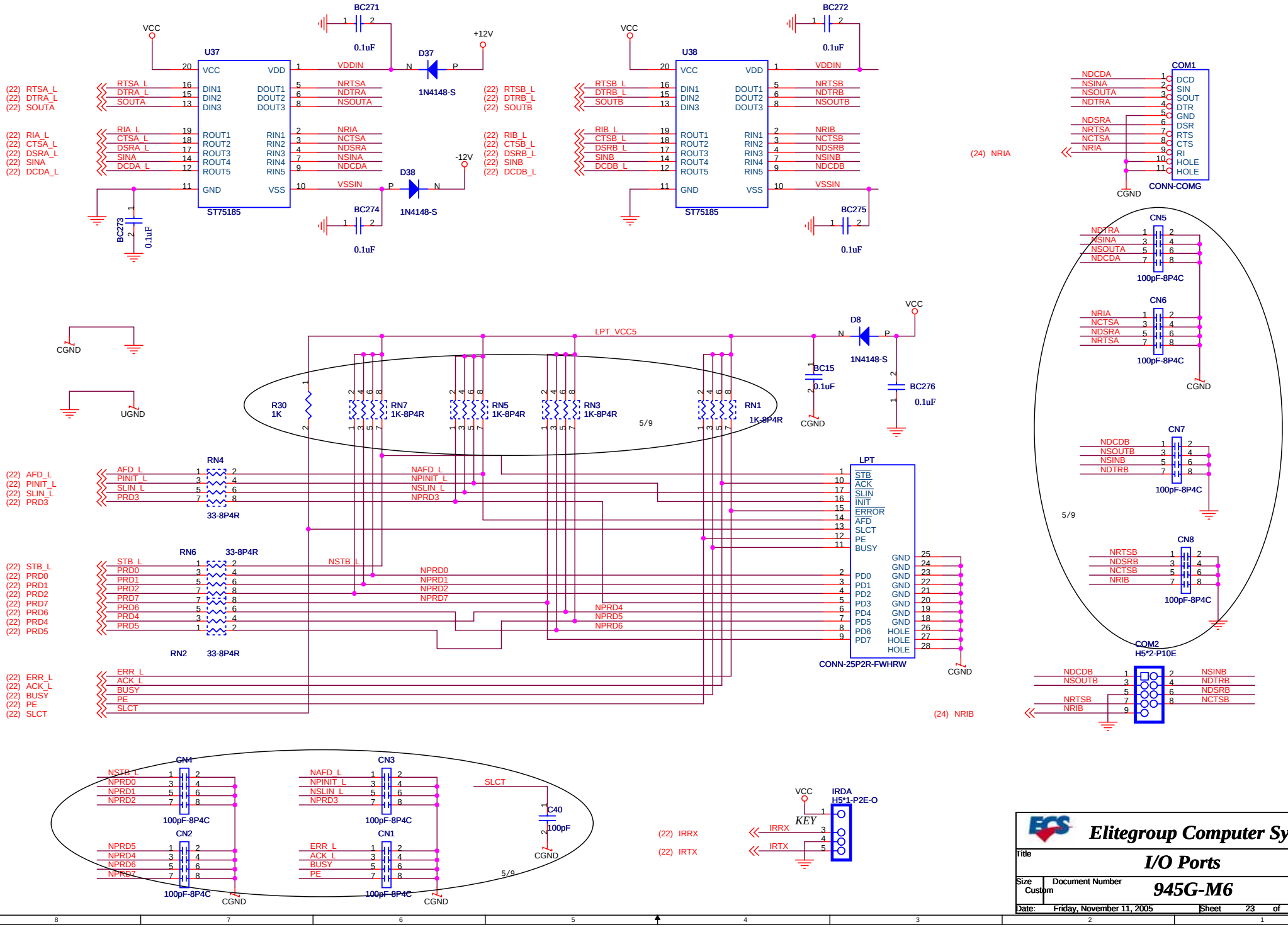
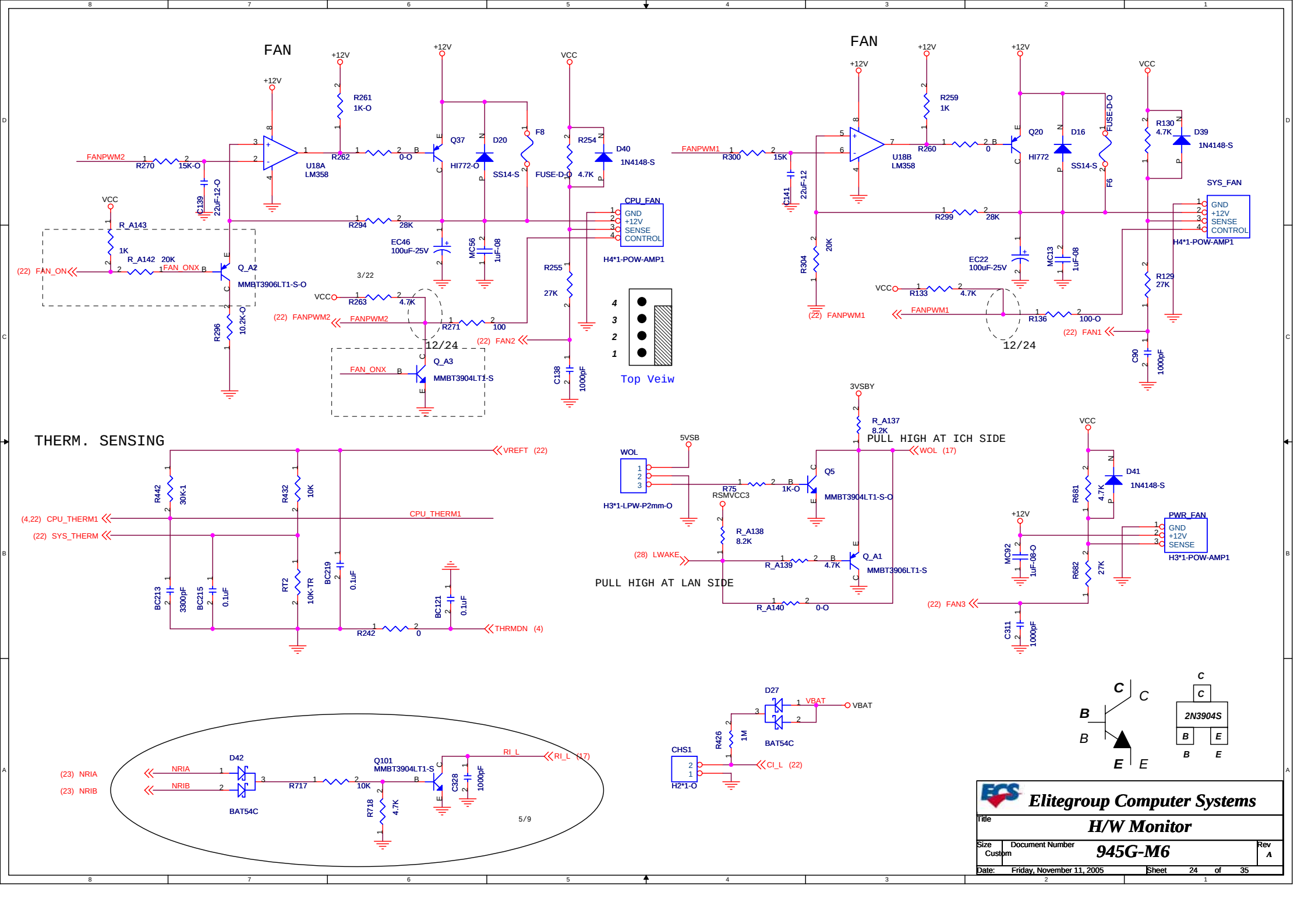


Elitegroup Computer Systems		
Title: I/O Ports		
Size: Custom	Document Number: 945G-M6	Rev: A
Date: Friday, November 11, 2005	Sheet 23 of 35	


FAN
FANPWM2
R270 15K-O
C139 22uF-12-O
U18A LM358
R261 1K-O
R262 0-O
Q37 HI772-O
D20 SS14-S
F8 FUSE-D-O
R254 4.7K
D40 1N4148-S
CPU_FAN
GND +12V SENSE CONTROL
H4*1-POW-AMP1
R294 28K
EC46 100uF-25V
MC56 1uF-08
R255 27K
R_A143 1K
R_A142 20K
(22) FAN_ON
FAN_ONX
Q_A2 MMBT3906LT1-S-O
R296 10.2K-O
R263 4.7K
(22) FANPWM2
R271 100
(22) FAN2
Q_A3 MMBT3904LT1-S
C138 1000pF
3/22
12/24
Top Veiw
FAN
FANPWM1
R300 15K
C141 22uF-12
U18B LM358
R259 1K
R260 0
Q20 HI772
D16 SS14-S
FUSE-D-O F6
R130 4.7K
D39 1N4148-S
SYS_FAN
GND +12V SENSE CONTROL
H4*1-POW-AMP1
R299 28K
R304 20K
EC22 100uF-25V
MC13 1uF-08
R133 4.7K
R136 100-O
R129 27K
(22) FAN1
C90 1000pF
12/24
THERM. SENSING
R442 30K-1
R432 10K
(4,22) CPU_THERM1
(22) SYS_THERM
CPU_THERM1
VREFT (22)
BC213 3300pF
BC215 0.1uF
RT2 10K-TR
BC219 0.1uF
BC121 0.1uF
R242 0
THRMDN (4)
PULL HIGH AT ICH SIDE
PULL HIGH AT LAN SIDE
WOL
H3*1-LPW-P2mm-O
R75 1K-O
Q5 MMBT3904LT1-S-O
R_A137 8.2K
WOL (17)
R_A138 8.2K
(28) LWAKE
R_A139 4.7K
Q_A1 MMBT3906LT1-S
R_A140 0-O
D41 1N4148-S
R681 4.7K
PWR_FAN
GND +12V SENSE
H3*1-POW-AMP1
MC92 1uF-08-O
R682 27K
(22) FAN3
C311 1000pF
(23) NRIA
(23) NRIB
D42 BAT54C
R717 10K
Q101 MMBT3904LT1-S
R718 4.7K
C328 1000pF
RI_L
RI_L (17)
5/9
D27 BAT54C
VBAT
R426 1M
CHS1 H2*1-O
CI_L (22)
2N3904S
Elitegroup Computer Systems
H/W Monitor
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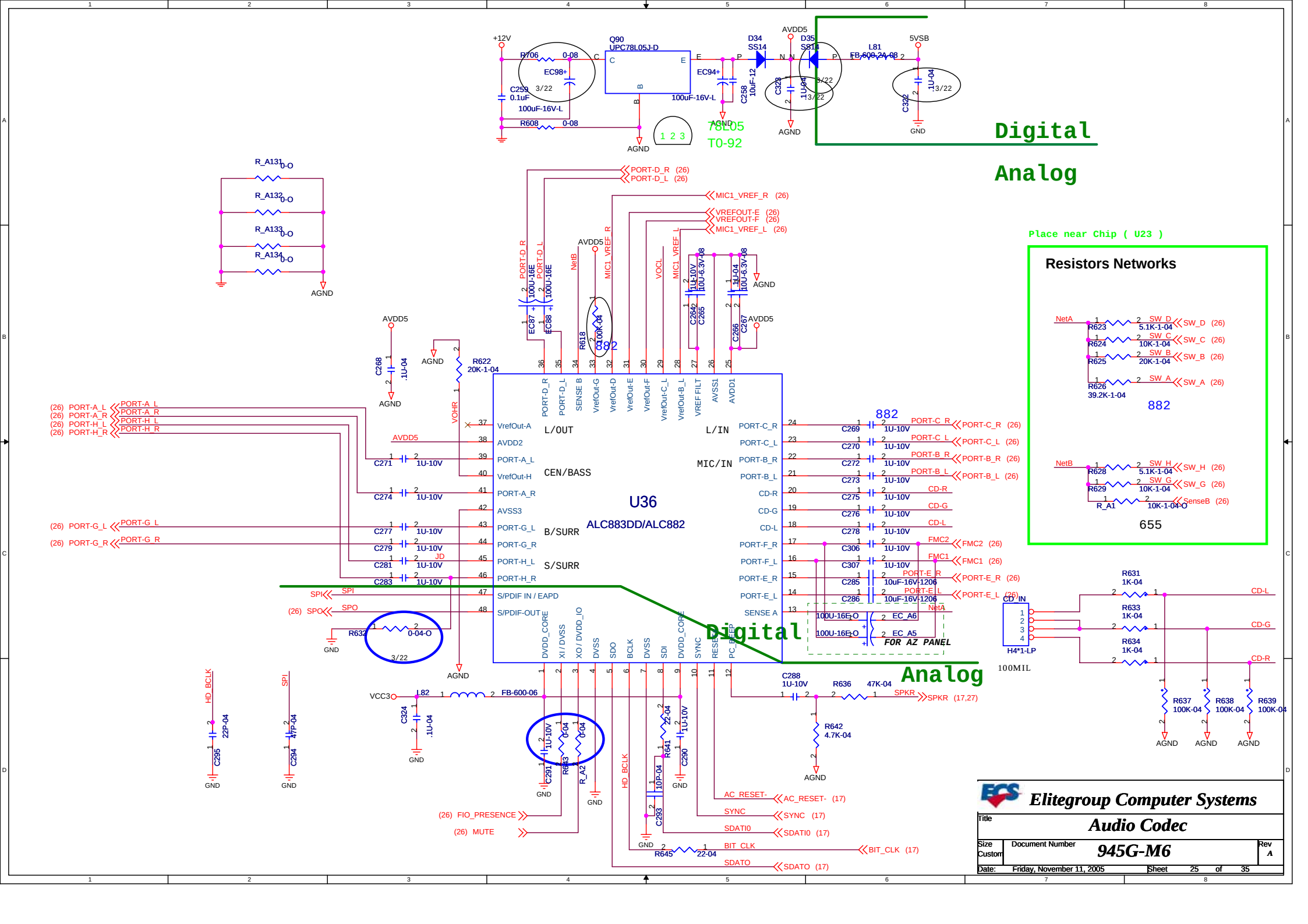
Digital
Analog
Digital
Analog
Place near Chip (U23)
Resistors Networks
655
882
882
U36
ALC883DD/ALC882
Q90
UPC78L05J-D
78L05
TO-92
FOR AZ PANEL
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Audio Codec
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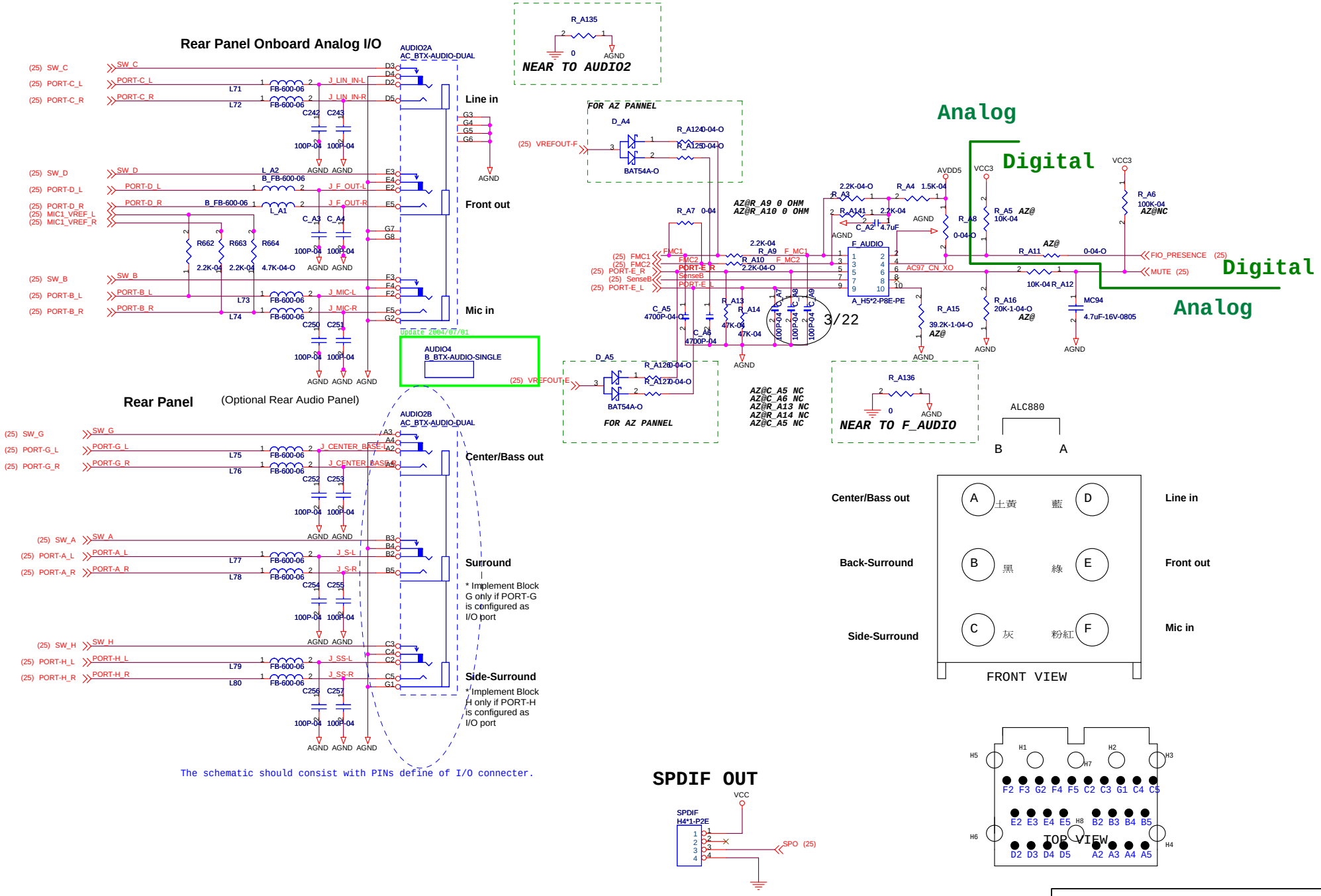

Elitegroup Computer Systems	
Title: Audio Interface	
Size: Custom	Document Number: 945G-M6
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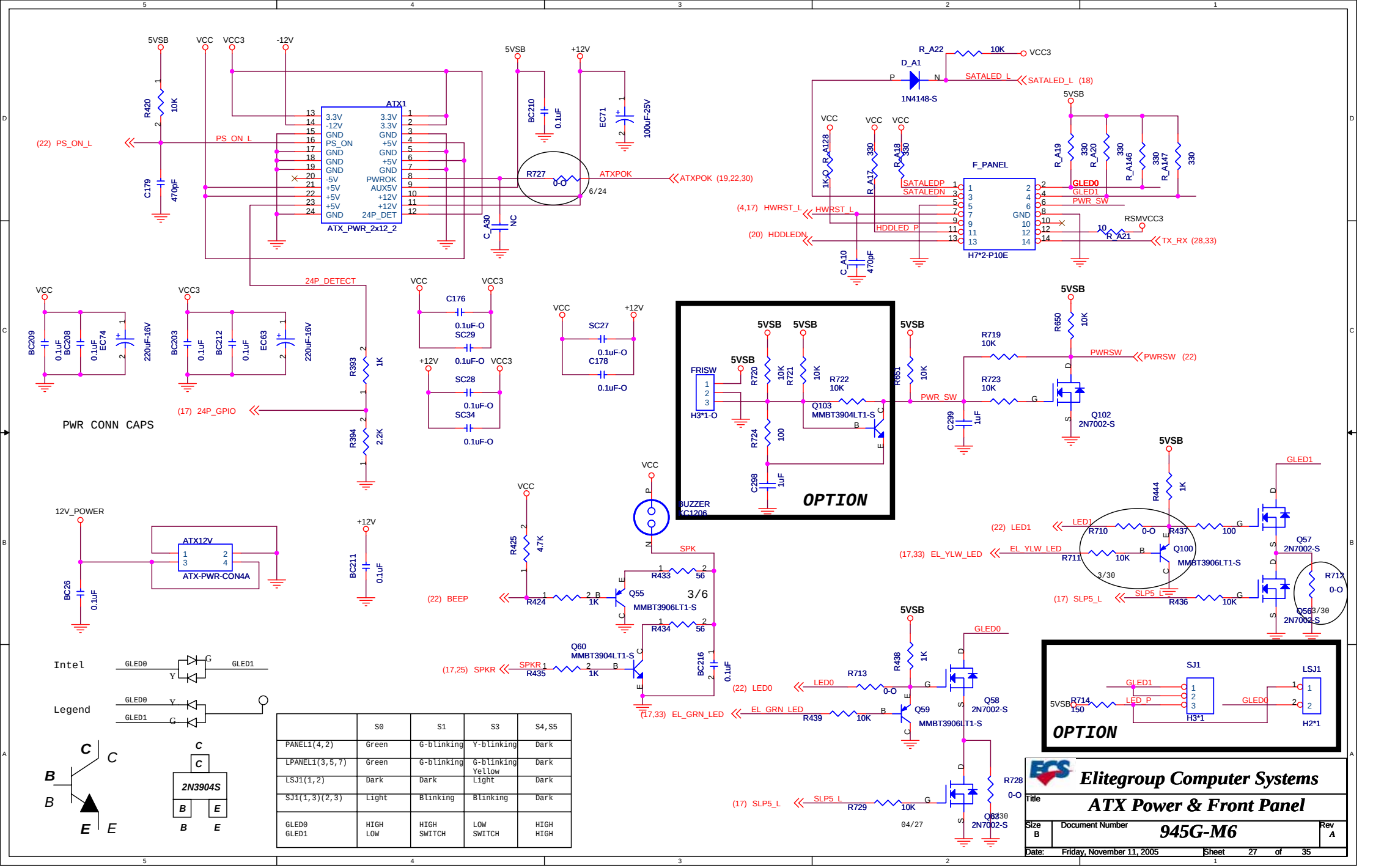

	S0	S1	S3	S4,S5
PANEL1(4,2)	Green	G-blinking	Y-blinking	Dark
LPANEL1(3,5,7)	Green	G-blinking	G-blinking Yellow	Dark
LSJ1(1,2)	Dark	Dark	Light	Dark
SJ1(1,3)(2,3)	Light	Blinking	Blinking	Dark
GLED0 GLED1	HIGH LOW	HIGH SWITCH	LOW SWITCH	HIGH HIGH

Title	Elitegroup Computer Systems ATX Power & Front Panel
Size	B
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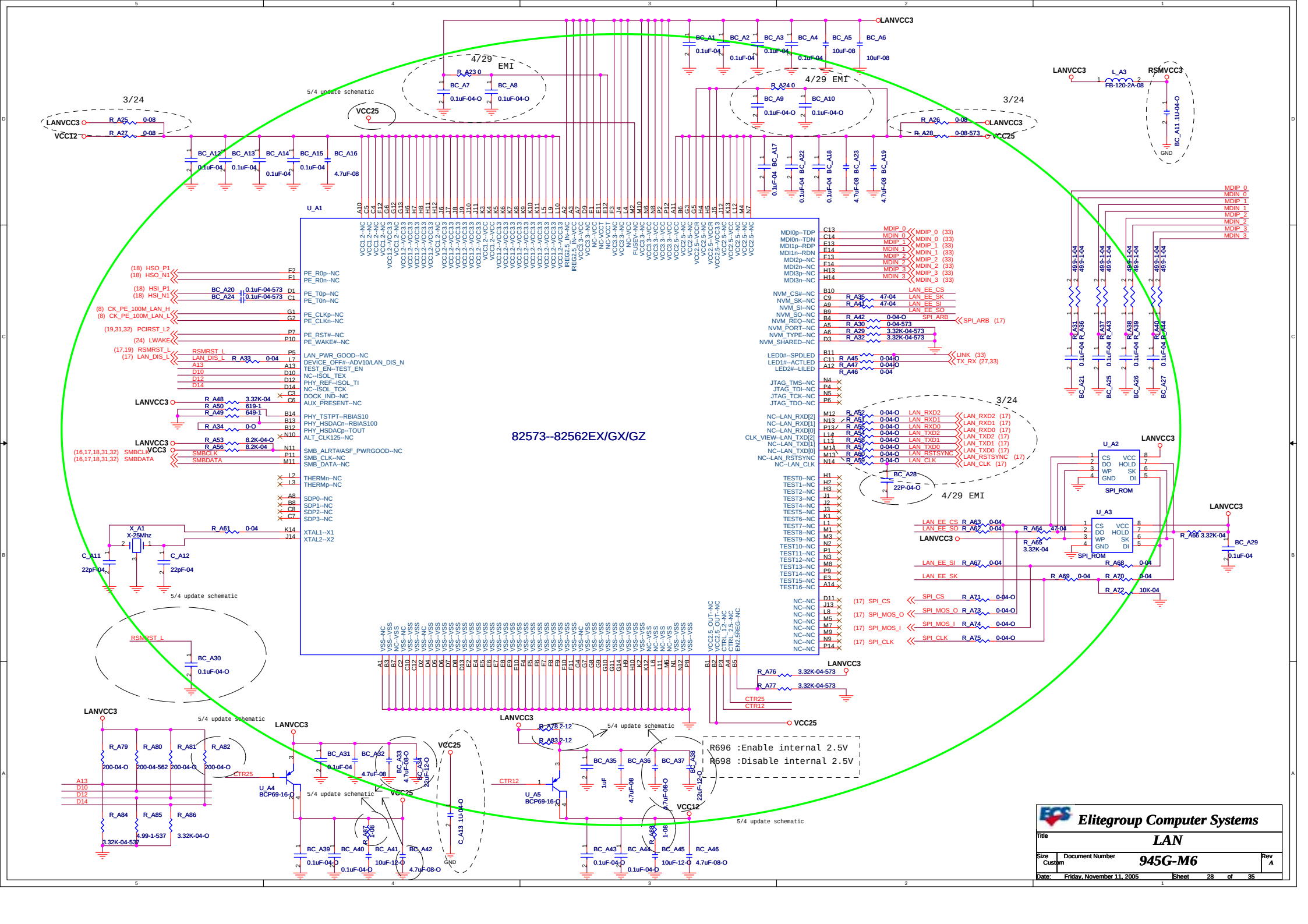
82573--82562EX/GX/GZ
U_A1
LANVCC3
VCC25
VCC12
4/29 EMI
3/24
5/4 update schematic
R696 :Enable internal 2.5V
R698 :Disable internal 2.5V
U_A2
U_A3
U_A4
U_A5
SPI_ROM
X_A1
X-25Mhz
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LAN
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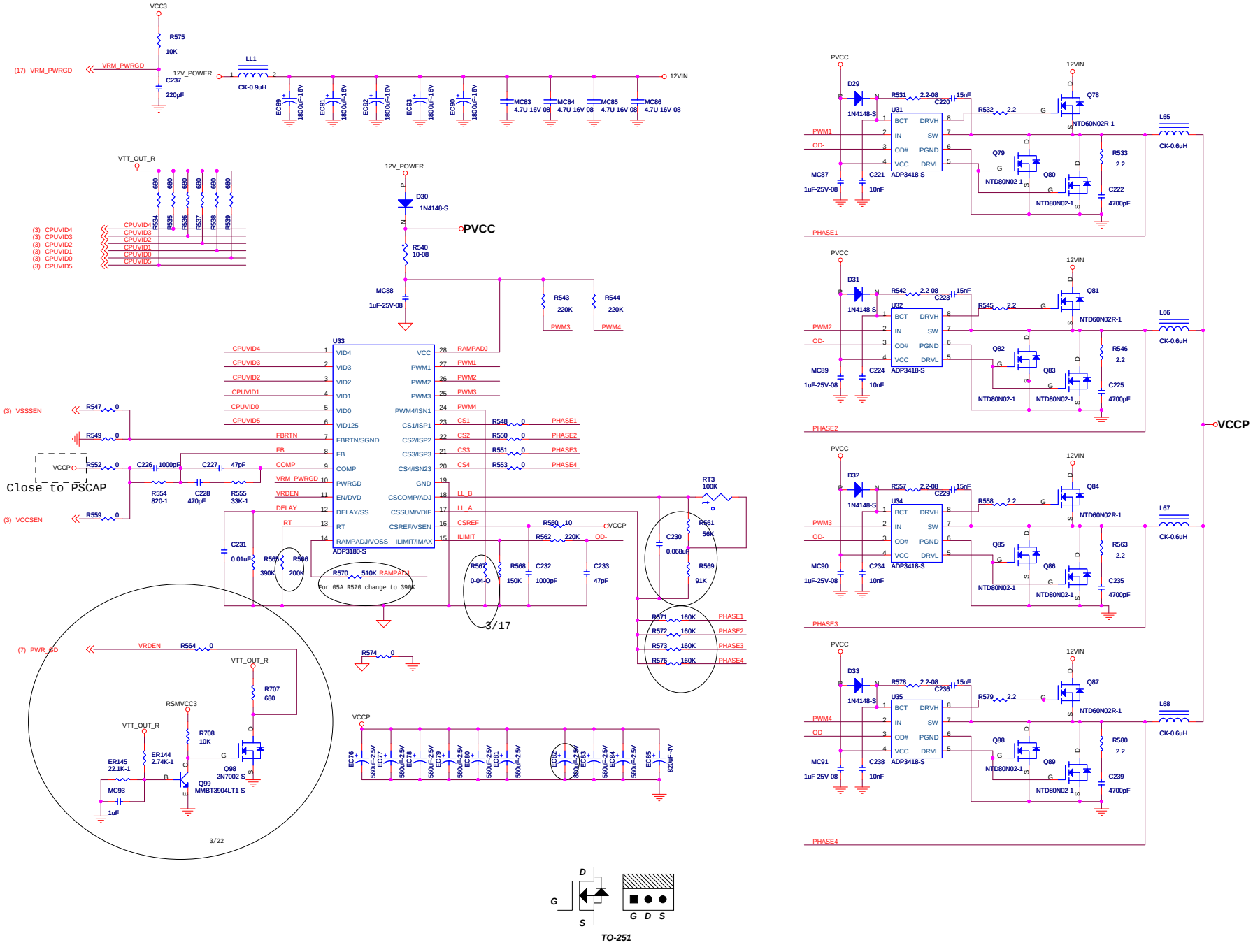
VCC3
R575
10K
(17) VRM_PWRGD
VRM_PWRGD
12V_POWER
C237
220pF
LL1
CK-0.9uH
12VIN
EC89 1800uF-16V
EC91 1800uF-16V
EC92 1800uF-16V
EC93 1800uF-16V
EC90 1800uF-16V
MC83 4.7U-16V-08
MC84 4.7U-16V-08
MC85 4.7U-16V-08
MC86 4.7U-16V-08
VTT_OUT_R
R534 680
R535 680
R536 680
R537 680
R538 680
R539 680
(3) CPUVID4
(3) CPUVID3
(3) CPUVID2
(3) CPUVID1
(3) CPUVID0
(3) CPUVID5
12V_POWER
D30
1N4148-S
PVCC
R540
10-08
MC88
1uF-25V-08
R543 220K
R544 220K
PWM3
PWM4
U33
ADP3180-S
VID4
VID3
VID2
VID1
VID0
VID125
FBRTN/SGND
FB
COMP
PWRGD
EN/DVD
DELAY/SS
RT
RAMPADJ/VOSS
VCC
PWM1
PWM2
PWM3
PWM4/ISN1
CS1/ISP1
CS2/ISP2
CS3/ISP3
CS4/ISN23
GND
CSCOMP/ADJ
CSSUM/VDIF
CSREF/VSEN
ILIMIT/IMAX
RAMPADJ
LL_B
LL_A
CSREF
ILIMIT
(3) VSSSEN
R547 0
R549 0
VCCP
R552 0
C226 1000pF
C227 47pF
R554 820-1
C228 470pF
R555 33K-1
(3) VCCSEN
R559 0
Close to PSCAP
FBRTN
FB
COMP
VRM_PWRGD
VRDEN
DELAY
RT
C231 0.01uF
R565 390K
R566 200K
R570 510K RAMPADJ
For 05A R570 change to 390K
R560 10
R562 220K
OD-
R567 0-04
R568 150K
C232 1000pF
C233 47pF
RT3 100K
R561 56K
C230 0.068uF
R569 91K
R548 0 PHASE1
R550 0 PHASE2
R551 0 PHASE3
R553 0 PHASE4
R571 160K PHASE1
R572 160K PHASE2
R573 160K PHASE3
R576 160K PHASE4
3/17
(7) PWR_GD
VRDEN
R564 0
VTT_OUT_R
R707 680
RSMVCC3
R708 10K
ER145 22.1K-1
ER144 2.74K-1
Q98 2N7002-S
Q99 MMBT3904LT1-S
MC93 1uF
3/22
R574 0
VCCP
EC76 560uF-2.5V
EC77 560uF-2.5V
EC78 560uF-2.5V
EC79 560uF-2.5V
EC80 560uF-2.5V
EC81 560uF-2.5V
EC82 820uF-4V
EC83 820uF-4V
EC84 560uF-2.5V
EC85 560uF-2.5V
EC95 820uF-4V
PVCC
12VIN
D29 1N4148-S
R531 2.2-08
C220 15nF
U31 ADP3418-S
BCT DRVH
IN SW
OD# PGND
VCC DRVL
R532 2.2
Q78 NTD60N02R-1
PWM1
OD-
MC87 1uF-25V-08
C221 10nF
Q79 NTD80N02-1
Q80 NTD80N02-1
R533 2.2
C222 4700pF
L65 CK-0.6uH
PHASE1
D31 1N4148-S
R542 2.2-08
C223 15nF
U32 ADP3418-S
R545 2.2
Q81 NTD60N02R-1
PWM2
MC89 1uF-25V-08
C224 10nF
Q82 NTD80N02-1
Q83 NTD80N02-1
R546 2.2
C225 4700pF
L66 CK-0.6uH
PHASE2
VCCP
D32 1N4148-S
R557 2.2-08
C229 15nF
U34 ADP3418-S
R558 2.2
Q84 NTD60N02R-1
PWM3
MC90 1uF-25V-08
C234 10nF
Q85 NTD80N02-1
Q86 NTD80N02-1
R563 2.2
C235 4700pF
L67 CK-0.6uH
PHASE3
D33 1N4148-S
R578 2.2-08
C236 15nF
U35 ADP3418-S
R579 2.2
Q87 NTD60N02R-1
PWM4
MC91 1uF-25V-08
C238 10nF
Q88 NTD80N02-1
Q89 NTD80N02-1
R580 2.2
C239 4700pF
L68 CK-0.6uH
PHASE4
G
D
S
G D S
TO-251
Elitegroup Computer Systems
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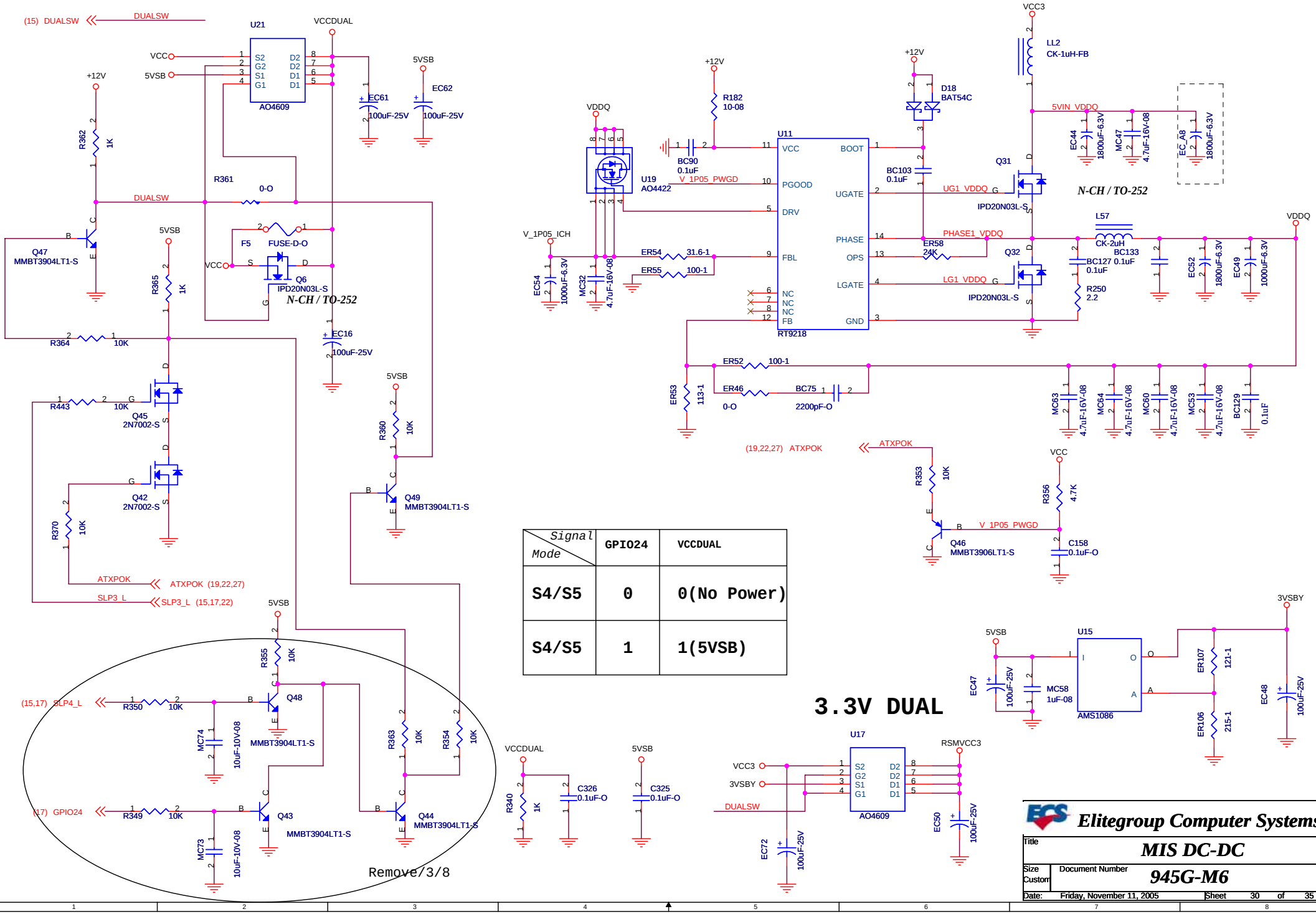

Signal / Mode	GPIO24	VCCDUAL
S4/S5	0	0(No Power)
S4/S5	1	1(5VSB)

3.3V DUAL

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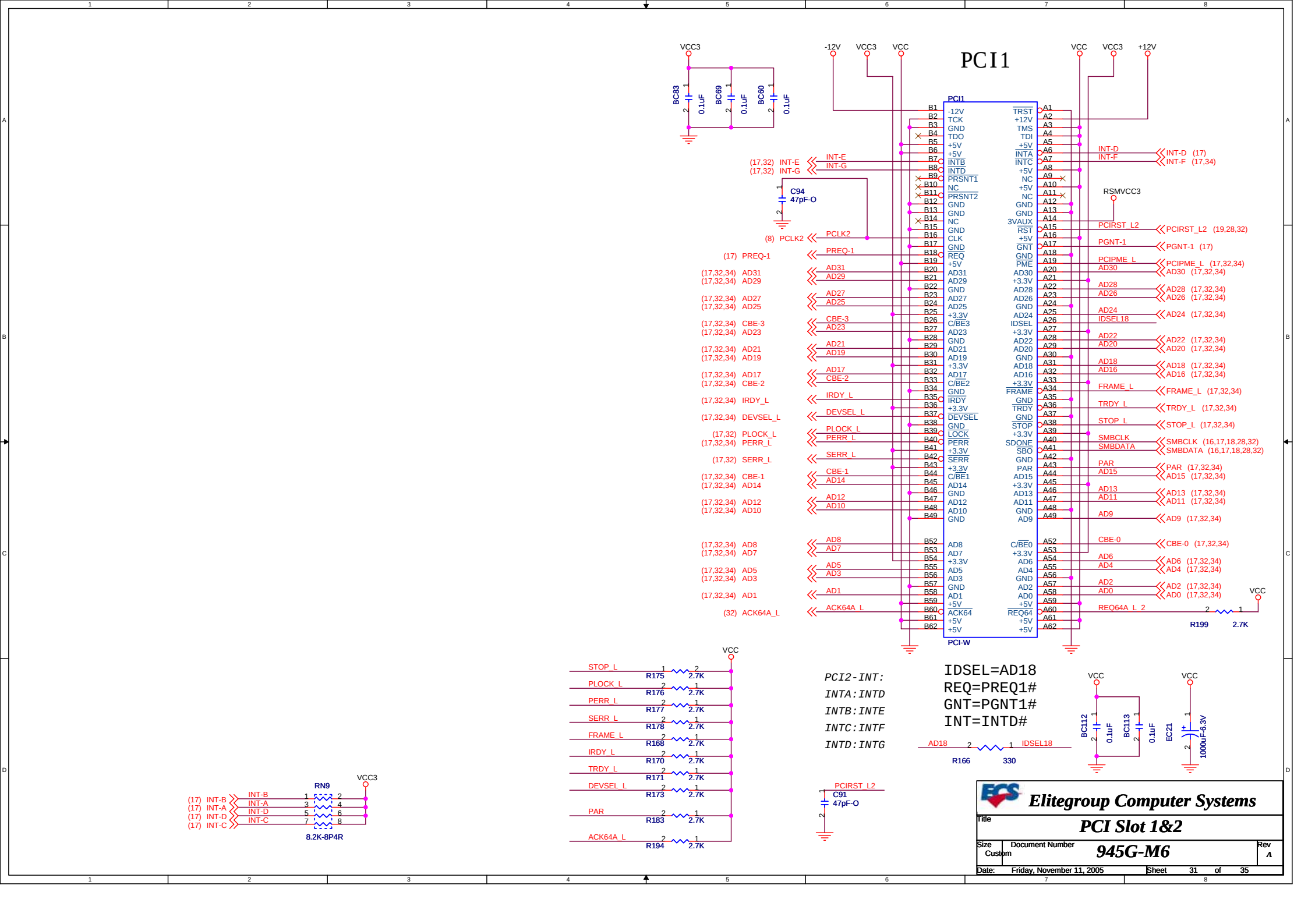
PCI1
PCI-W
IDSEL=AD18
REQ=PREQ1#
GNT=PGNT1#
INT=INTD#
PCI2-INT:
INTA:INTD
INTB:INTE
INTC:INTF
INTD:INTG
RN9
8.2K-8P4R
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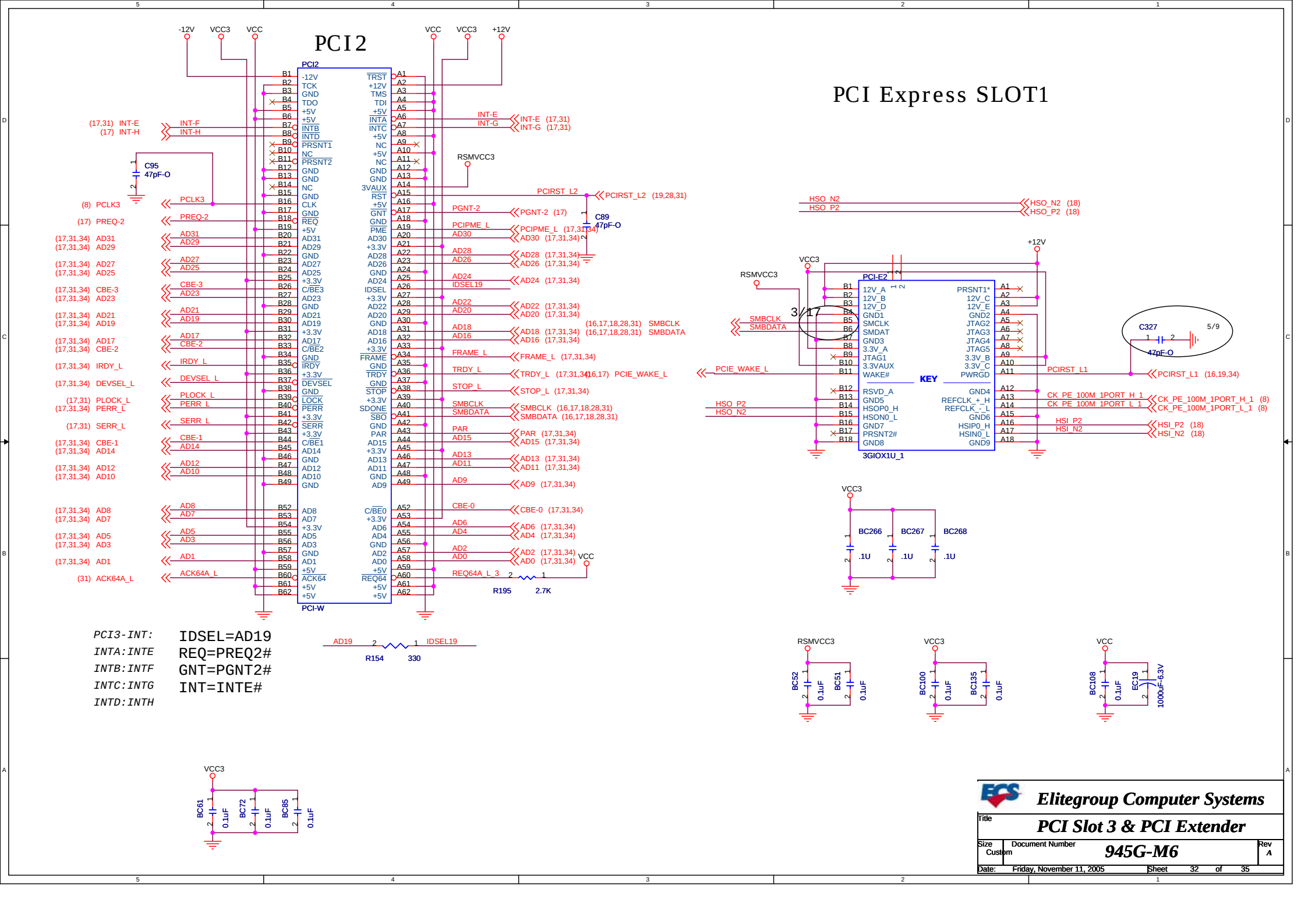
PCI2
PCI Express SLOT1
PCI2
PCI-W
PCI-E2
3GIOX1U_1
KEY
3/17
5/9
C95
47pF-O
C89
47pF-O
C327
47pF-O
BC266
BC267
BC268
.1U
R195
2.7K
R154
330
BC52
BC51
BC100
BC135
BC108
EC19
1000uF-6.3V
BC61
BC72
BC85
0.1uF
PCI3-INT: IDSEL=AD19
INTA:INTE REQ=PREQ2#
INTB:INTF GNT=PGNT2#
INTC:INTG INT=INTE#
INTD:INTH
Elitegroup Computer Systems
PCI Slot 3 & PCI Extender
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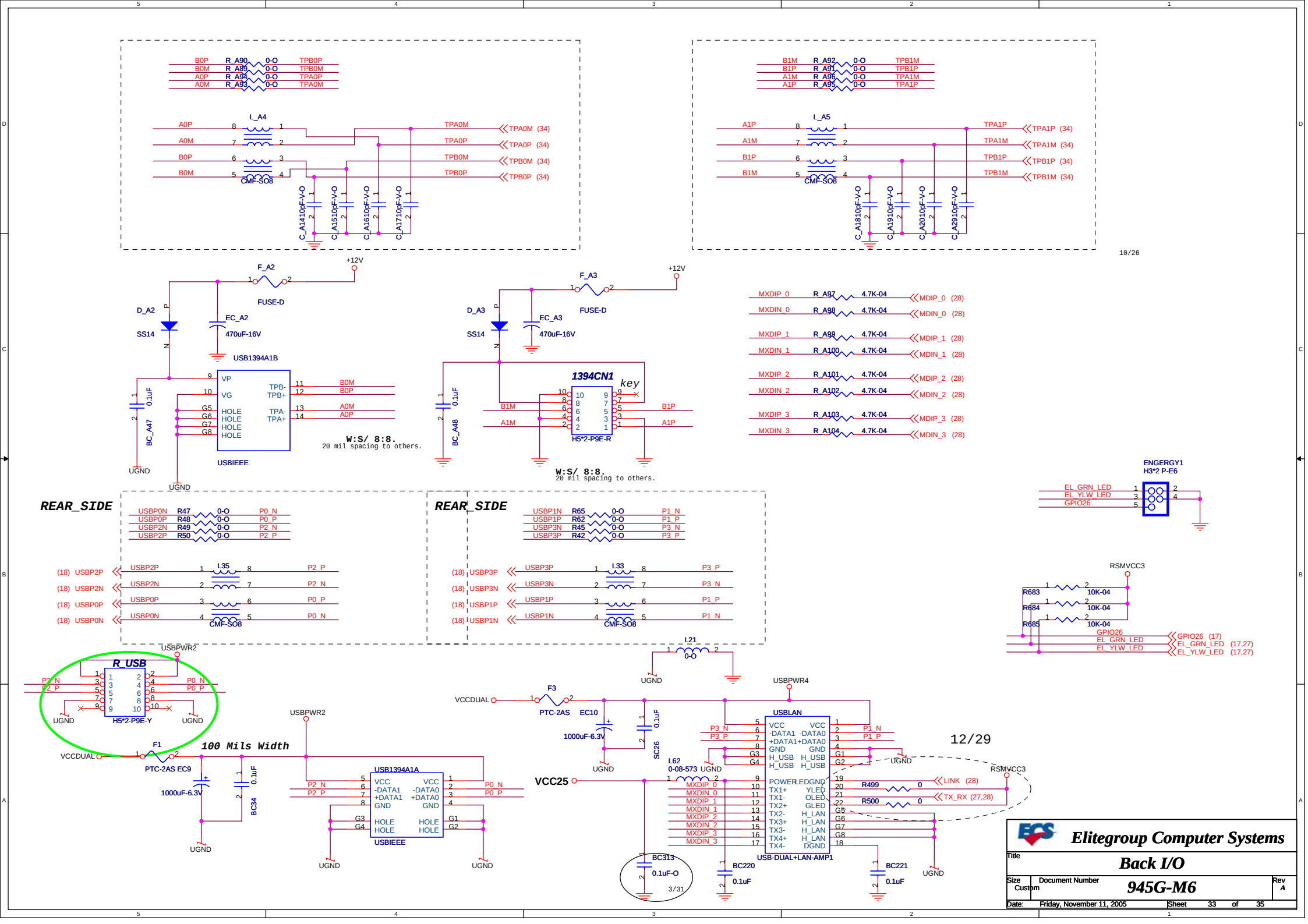
B0P R_A90 0-O TPB0P
B0M R_A89 0-O TPB0M
A0P R_A94 0-O TPA0P
A0M R_A93 0-O TPA0M
L_A4
CMF-SO8
C_A1410pF-V-O
C_A1510pF-V-O
C_A1610pF-V-O
C_A1710pF-V-O
B1M R_A92 0-O TPB1M
B1P R_A91 0-O TPB1P
A1M R_A96 0-O TPA1M
A1P R_A95 0-O TPA1P
L_A5
C_A1810pF-V-O
C_A1910pF-V-O
C_A2010pF-V-O
C_A2910pF-V-O
10/26
F_A2
FUSE-D
D_A2
SS14
EC_A2
470uF-16V
USB1394A1B
VP
VG
HOLE
TPB-
TPB+
TPA-
TPA+
BC_A47
0.1uF
UGND
W:S/ 8:8.
20 mil spacing to others.
F_A3
D_A3
EC_A3
BC_A48
1394CN1
key
H5*2-P9E-R
MXDIP_0 R_A97 4.7K-04 MDIP_0 (28)
MXDIN_0 R_A98 4.7K-04 MDIN_0 (28)
MXDIP_1 R_A99 4.7K-04 MDIP_1 (28)
MXDIN_1 R_A100 4.7K-04 MDIN_1 (28)
MXDIP_2 R_A101 4.7K-04 MDIP_2 (28)
MXDIN_2 R_A102 4.7K-04 MDIN_2 (28)
MXDIP_3 R_A103 4.7K-04 MDIP_3 (28)
MXDIN_3 R_A104 4.7K-04 MDIN_3 (28)
ENGERGY1
H3*2 P-E6
EL_GRN_LED
EL_YLW_LED
GPIO26
REAR_SIDE
USBP0N R47 0-O P0_N
USBP0P R48 0-O P0_P
USBP2N R49 0-O P2_N
USBP2P R50 0-O P2_P
L35
CMF-SO8
USBP1N R65 0-O P1_N
USBP1P R62 0-O P1_P
USBP3N R45 0-O P3_N
USBP3P R42 0-O P3_P
L33
RSMVCC3
R683 10K-04
R684 10K-04
R685 10K-04
GPIO26 (17)
EL_GRN_LED (17,27)
EL_YLW_LED (17,27)
USBPWR2
R_USB
H5*2-P9E-Y
F1
PTC-2AS EC9
1000uF-6.3V
BC34
100 Mils Width
USB1394A1A
USBIEEE
L21
0-O
USBPWR4
VCCDUAL
F3
PTC-2AS EC10
SC26
L62
0-08-573
VCC25
USBLAN
POWER
LED
GND
MXDIP_0
MXDIN_0
MXDIP_1
MXDIN_1
MXDIP_2
MXDIN_2
MXDIP_3
MXDIN_3
TX1+
TX1-
TX2+
TX2-
TX3+
TX3-
TX4+
TX4-
YLED
OLED
GLED
H_LAN
DGND
R499 0 LINK (28)
R500 0 TX_RX (27,28)
USB-DUAL+LAN-AMP1
BC313
0.1uF-O
3/31
BC220
0.1uF
BC221
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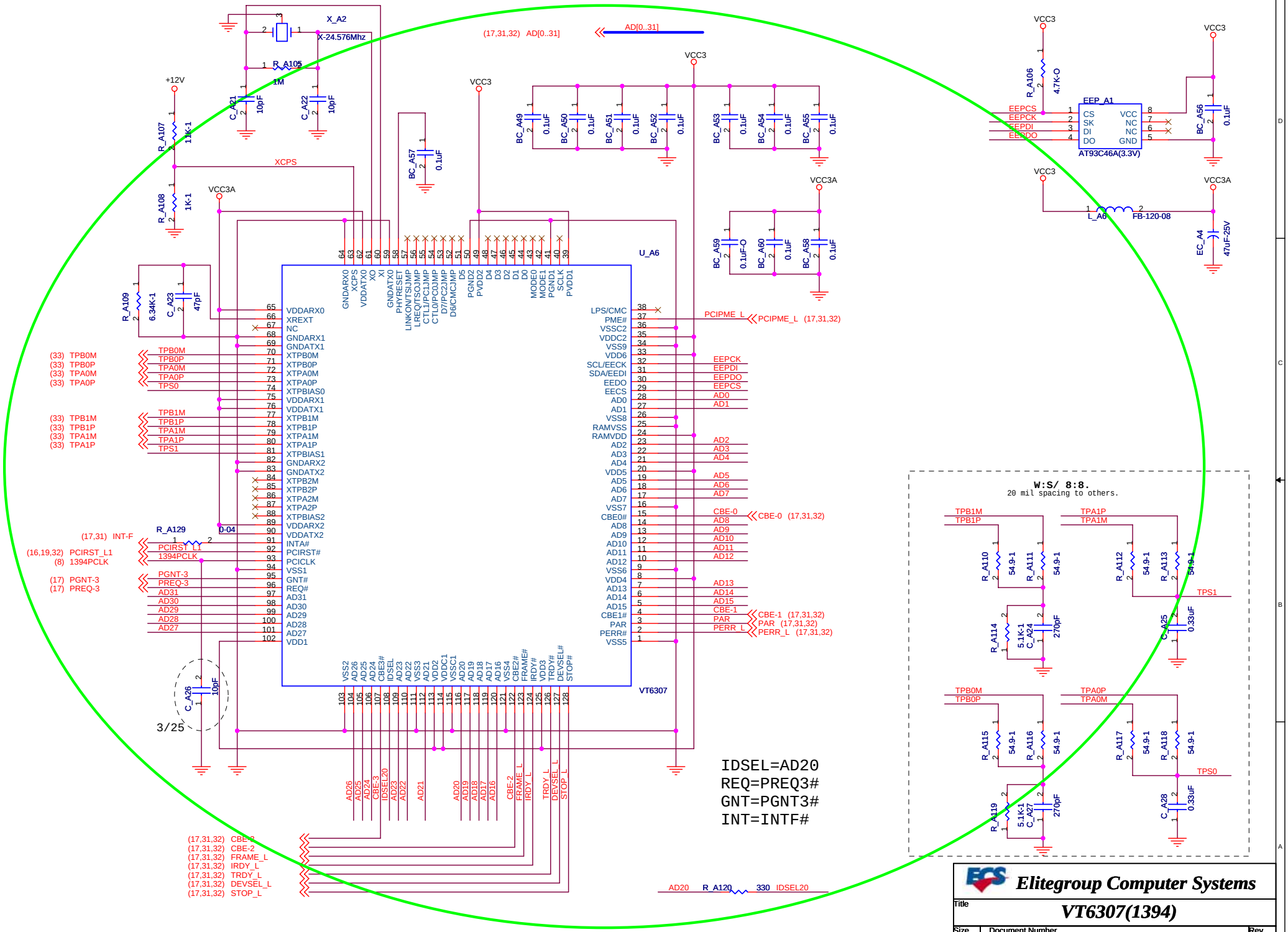
X_A2
X-24.576Mhz
R_A105
1M
C_A21
10pF
C_A22
10pF
+12V
R_A107
1K-1
R_A108
1K-1
XCPS
VCC3A
BC_A57
0.1uF
(17,31,32) AD[0..31]
AD[0..31]
VCC3
BC_A49
BC_A50
BC_A51
BC_A52
BC_A53
BC_A54
BC_A55
0.1uF
VCC3A
BC_A59
0.1uF-O
BC_A60
0.1uF
BC_A58
0.1uF
U_A6
R_A109
6.34K-1
C_A23
47pF
VDDARX0
XREXT
NC
GNDARX1
GNDATX1
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
VT6307
PCIPME_L
EEPCK
EEPDI
EEPDO
EEPCS
AD0
AD1
AD2
AD3
AD4
AD5
AD6
AD7
CBE-0
AD8
AD9
AD10
AD11
AD12
AD13
AD14
AD15
CBE-1
PAR
PERR_L
(33) TPB0M
(33) TPB0P
(33) TPA0M
(33) TPA0P
TPB0M
TPB0P
TPA0M
TPA0P
TPS0
(33) TPB1M
(33) TPB1P
(33) TPA1M
(33) TPA1P
TPB1M
TPB1P
TPA1M
TPA1P
TPS1
(17,31) INT-F
R_A129
0-04
(16,19,32) PCIRST_L1
(8) 1394PCLK
PCIRST_L1
1394PCLK
(17) PGNT-3
(17) PREQ-3
PGNT-3
PREQ-3
C_A26
10pF
3/25
IDSEL=AD20
REQ=PREQ3#
GNT=PGNT3#
INT=INTF#
(17,31,32) CBE-3
(17,31,32) CBE-2
(17,31,32) FRAME_L
(17,31,32) IRDY_L
(17,31,32) TRDY_L
(17,31,32) DEVSEL_L
(17,31,32) STOP_L
AD20
R_A120
330
IDSEL20
R_A106
4.7K-O
EEP_A1
EEPCS
EEPCK
EEPDI
EEPDO
CS
SK
DI
DO
VCC
NC
NC
GND
AT93C46A(3.3V)
BC_A56
0.1uF
L_A6
FB-120-08
EC_A4
47uF-25V
W:S/ 8:8.
20 mil spacing to others.
R_A110
54.9-1
R_A111
54.9-1
R_A112
54.9-1
R_A113
54.9-1
R_A114
5.1K-1
C_A24
270pF
C_A25
0.33uF
R_A115
54.9-1
R_A116
54.9-1
R_A117
54.9-1
R_A118
54.9-1
R_A119
5.1K-1
C_A27
270pF
C_A28
0.33uF
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