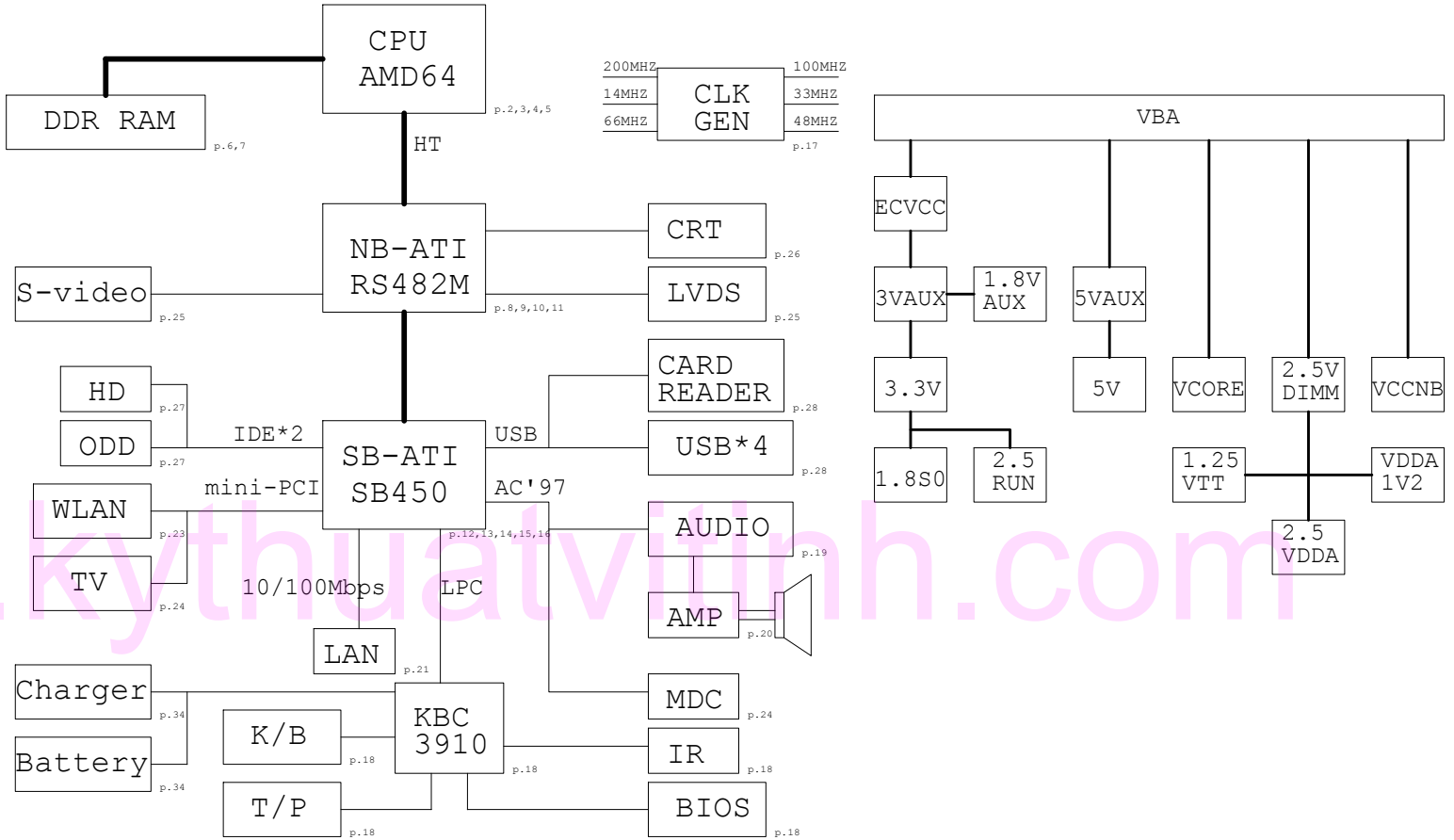
01_COVER PAGE
02_AMD K8 CPU1
03_AMD K8 CPU2
04_AMD K8 CPU3
05_AMD K8 CPU4
06_DDR SO_DIMM
07_DDR TERMINATION & DECOUP
08_RS480M-HT LINK0 I/F
09_RS480M-PCIE LINK I/F
10_RS480M-VIDEO I/F & CLKGEN
11_RS480M-POWER
12_SB400-PCI/CPU/LPC/RTC
13_SB400-ACPI/GPIO/AC97/USB
14_SB400-SATA/IDE
15_SB400-PWR & DECOUPLING
16_SB400-STRAPS
17_CLOCK GENERATOR
18_KB3910
19_ALC655
20_OPA & AUDIO JACK
21_RTL8100B
22_RJ45 & RJ11
23_MINI PCI CONN.(WLAN)
24_MINI PCI CONN.(TV)& MDC
25_LCD & TV CONN.
26_CRT CONN.
27_HDD & CDROM CONN.
28_USB PORT
29_LED & LID
30_ASIC8M
31_PWRGD/RESET/SYSTEM POWER
32_THROUGH HOLE
33_DCIN&SELECT
34_CHARGER_MB3887
35_SYSTEM_MAX1999
36_VCORE_MAX1544
37_VDIMM & DDRVTT_MAX1714
38_NB_VCORE & SB1.8V_MAX1714
39_REVISION HISTORY



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REV	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
DATE	10/20	10/20	10/20	10/20	10/20	10/20	10/20	10/20	10/20	10/20	10/20	10/20	10/20	10/20	10/20	10/20	10/20	10/20	10/20	10/20

PAGE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
REV	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
DATE	10/20	10/20	10/20	10/20	10/20	10/20	10/20	10/20	10/20	10/20	10/20	10/20	10/20	10/20	10/20	10/20	10/20	10/20

Digitally signed by fdsf
DN: cn=fdsf, o=fsdfsd, ou=ffsdf, email=fdfsd@fsdff, c=US
Date: 2010.01.06 06:14:44 +07'00'

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Title: COVER PAGE

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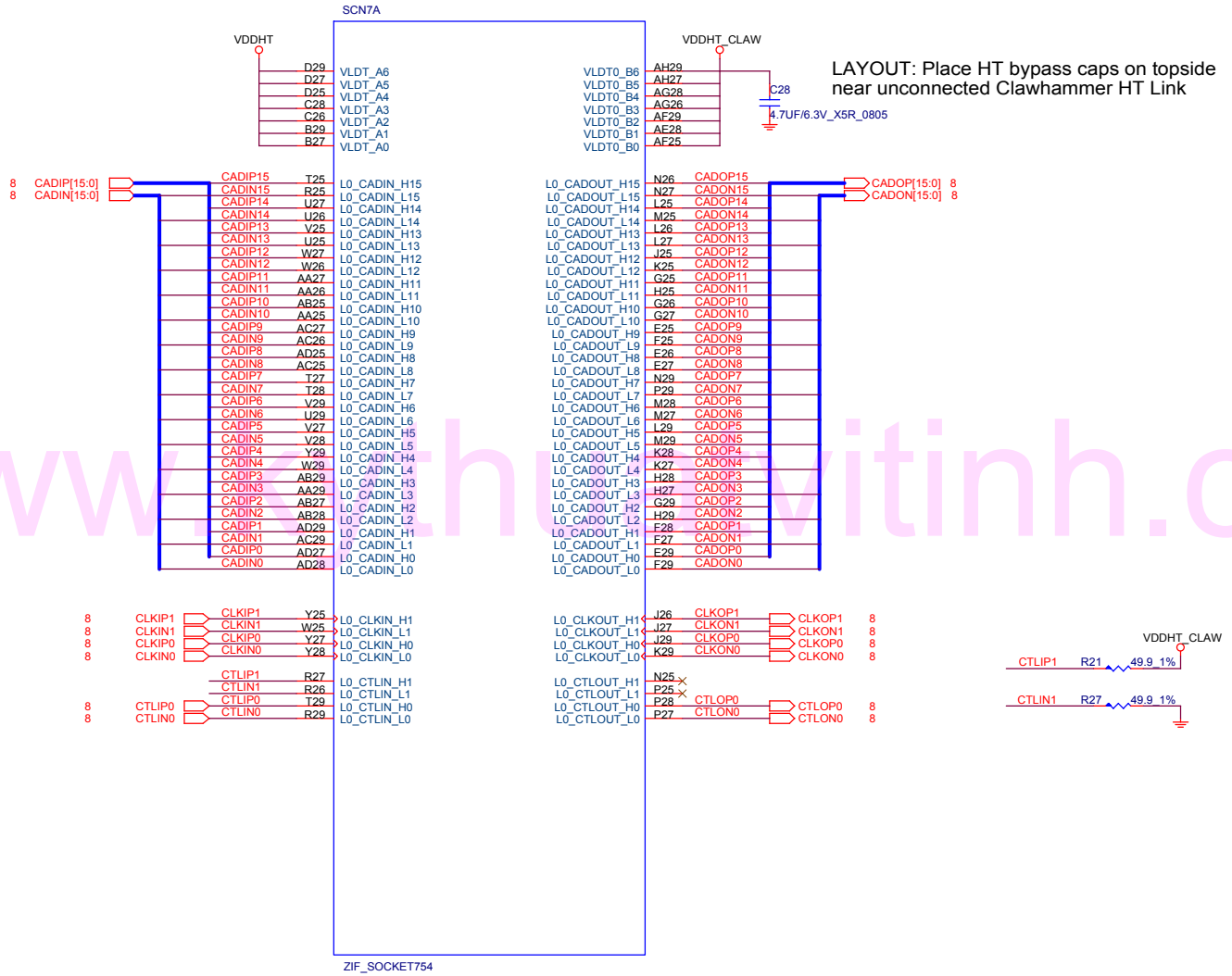
Clawhammer HT Interface



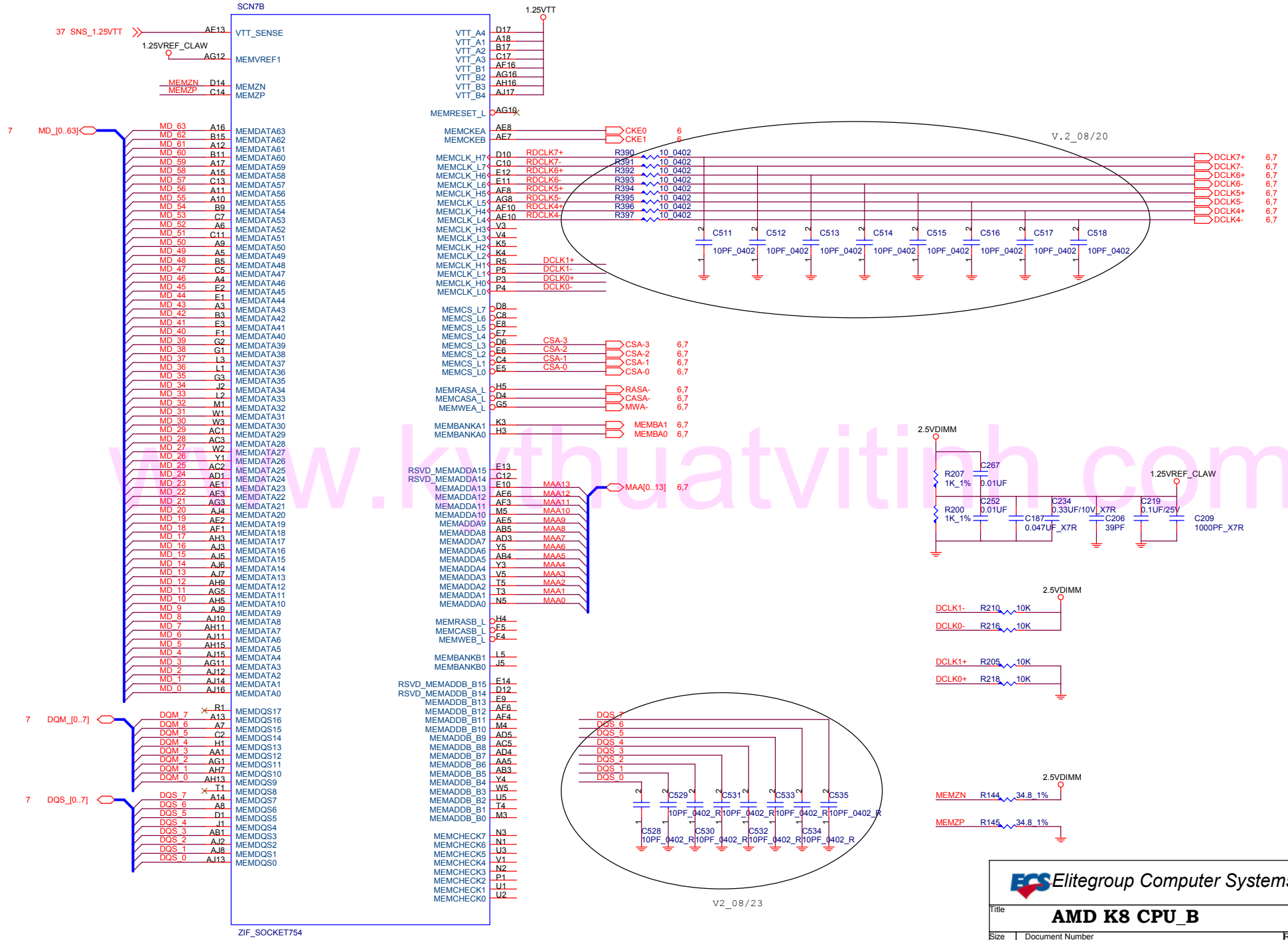
Elitegroup Computer Systems

Title: AMD K8 CPU_A

Size: C | Document Number: 331-1-4-01 | Rev: 2.

Date: Thursday, October 27, 2005 | Sheet 2 of 39

Clawhammer DDR Interface



Elitegroup Computer Systems

Title: **AMD K8 CPU_B**

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C	331-1-4-01	2.

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CPU1 的PIN AJ25 改接+2.5VDDA
電源

V.B_05/29

SCN7C

2.5VDDA
AH25 VDDA1
AJ25 VDDA2

31 RESET_CPU- RESET_CPU- AF20 RESET_L
31 ALL_POWERGOOD AE18 PWROK
31 HTSTOP- SR7 0 AJ27 LDTSTOP_L

LVREF1 AF27 L0_REF1
LVREF0 AE26 L0_REF0

36 COREFB+ COREFB+ A23 COREFB_H
36 COREFB- COREFB- A24 COREFB_L
B23 CORE_SENSE

AE12 VDDIOFB_H
AE12 VDDIOFB_L
37 SNS_2.5VDIMM SNS_2.5VDIMM AE11 VDDIO_SENSE

CPUCK+ AJ21 CLKIN_H
CPUCK- AH21 CLKIN_L

BPSCLK+ AJ23 NC_BPSCLK+
BPSCLK- AH23 NC_BPSCLK-

AE24 NC_PLLCHRZ+
AE24 NC_PLLCHRZ-

1.25VTT
C16
AG15 VTT_A5
VTT_B5

C107 0.1UF/25V_R
RESET_CPU-
ALL_POWERGOOD
C139 0.1UF/25V_R

AH17 DBRDY

C15 NC_DCLKTWO

STP10
TP35
STP7
STP5
E20 TMS
E17 TCK
B21 TRST_L
A21 TDI

SINCHN C18 NC_SINCHN
-BRN A19 NC_-BRN

A28 KEY1
AJ28 KEY0

AE23 NC_ANALOG3
AF23 NC_ANALOG2
AE22 NC_ANALOG1
AF21 NC_ANALOG0

C1 FREE29
J3 FREE31
R3 FREE33
AA2 FREE35
D3 FREE1
AG2 FREE37
B18 FREE4
AH1 FREE38
AE21 FREE41
C20 FREE7
AG4 FREE11
C6 FREE12
AG6 FREE13
AE9 FREE14
AG9 FREE40

THERMTRIP_L A20 THERMTRIP_CPU-

THERMDA A26 THERMDA
THERMDC A27 THERMDC

VID4 AG13 VID4 VID4 36
VID3 AF14 VID3 VID3 36
VID2 AG14 VID2 VID2 36
VID1 AF15 VID1 VID1 36
VID0 AE15 VID0 VID0 36

NC_BP3 AG18
NC_BP2 AH18
NC_BP1 AG17 BP1
NC_BP0 AJ18 BP0

LAYOUT: Route FBCLKOUT+/- differentially with 20/8/5/8/20 space/trace/space/trace/space width.

G_FBCLKOUT_H AH19 FBCLKOUT+ SR55 80.6_1%
G_FBCLKOUT_L AJ19 FBCLKOUT-

DBREQ_L AE19

NC_SCANCLK1 D20 SCANCLK1
NC_SCANCLK2 C21 SCANCLK2
NC_SCANEN D18 SCANEN
NC_SCANSHEN8 C19 SCANSHENB
NC_SCANSHENA B19 SCANSHENA

2.5VDIMM
TDO A22 STP4
NC AF18

RSVD_SCL D22
RSVD_SDA C22

FREE26 B13
FREE28 B7
FREE30 C3
FREE32 K1
FREE34 R2
FREE36 AA3
FREE10 F3
FREE18 C23
FREE19 AG7
FREE42 AE22
FREE24 C24
FREE25 A25
FREE27 C9

ZIF_SOCKET754

VDDHT_CLAW
LVREF1 R64 44.2_1%
LVREF0 R80 44.2_1%
C60 1000PF_X7R
C49 1000PF_X7R

VDD_2.5_RUN
BPSCLK+ SR5 820
BPSCLK- SR6 820

CPUCK+ C101 CPUCLK0 17
R122 169_1%
CPUCK- C100 CPUCLK0- 17
3900PF_X7R
3900PF_X7R

VDD_2.5_RUN
SINCHN R117 1K
-BRN R111 1K
THERMTRIP_CPU- R105 1K

VDD_2.5_RUN
3VAUX
R98 1K
R135 10K
THERMTRIP_CPU-
CMPT3904 Q19
H_THERMTRIP- 13

3.3V
R16 200
Slave address 1001100
C15 0.1UF/25V
3VAUX
3VAUX
R29 10K
R26 10K
10,18 SMB_DAT2
10,18 SMB_CLK2
U5
SDATA VDD
SCLK
THERM
ALERT
OVERT- 18
CPU_ALERT- 18
THERMDA
D+
D-
GND
LM89
C20
2200PF/50V_X7R
THERMDC

RP2
SCANCLK2
BP0
BP1
SCANEN
SCANSHENB
SCANSHENA
SCANCLK1
10
1KX8

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Title: AMD K8 CPU_C

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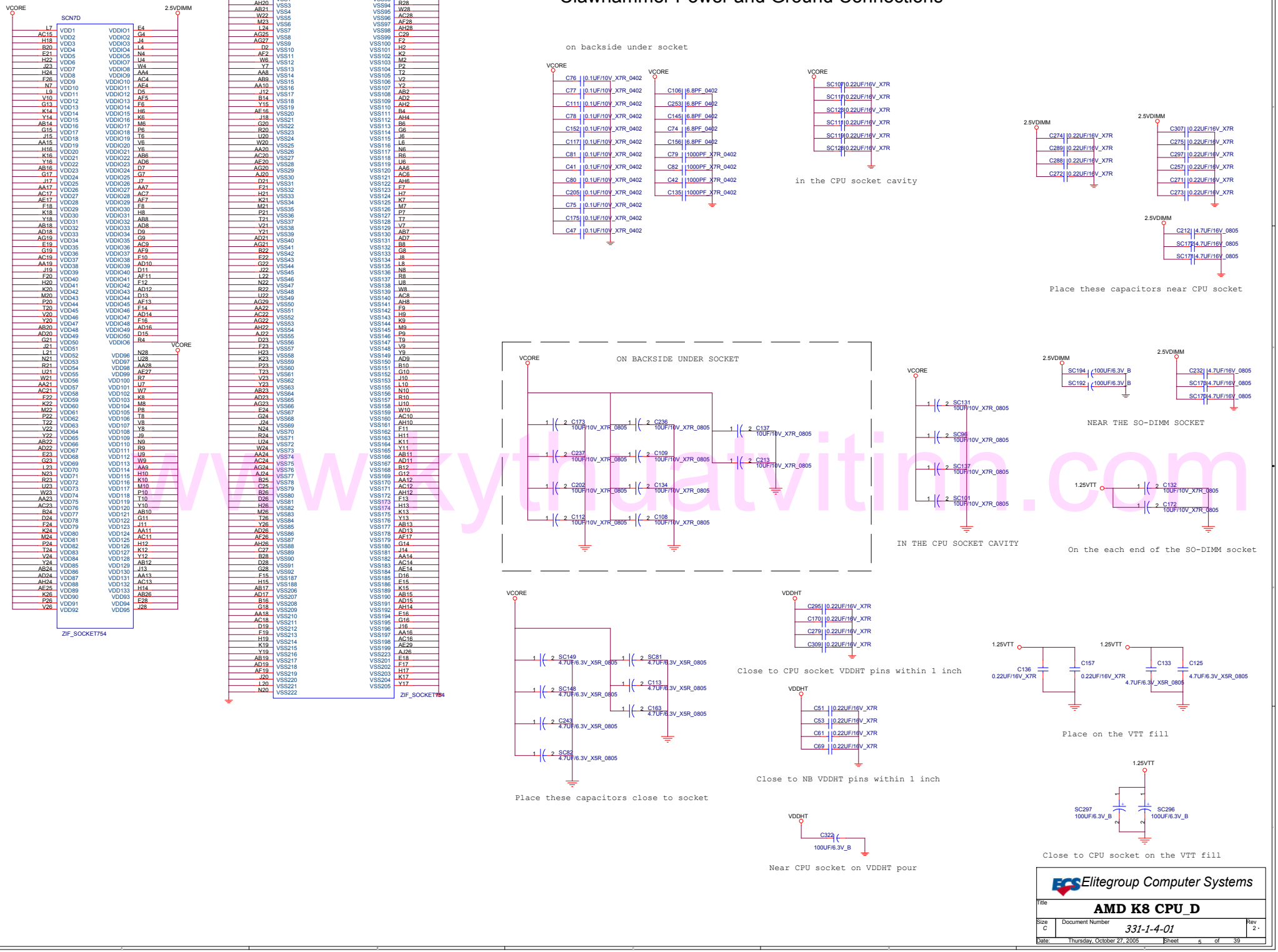
Clawhammer Power and Ground Connections



Elitegroup Computer Systems

Title	AMD K8 CPU_D	
Size C	Document Number 331-1-4-01	Rev 2.0
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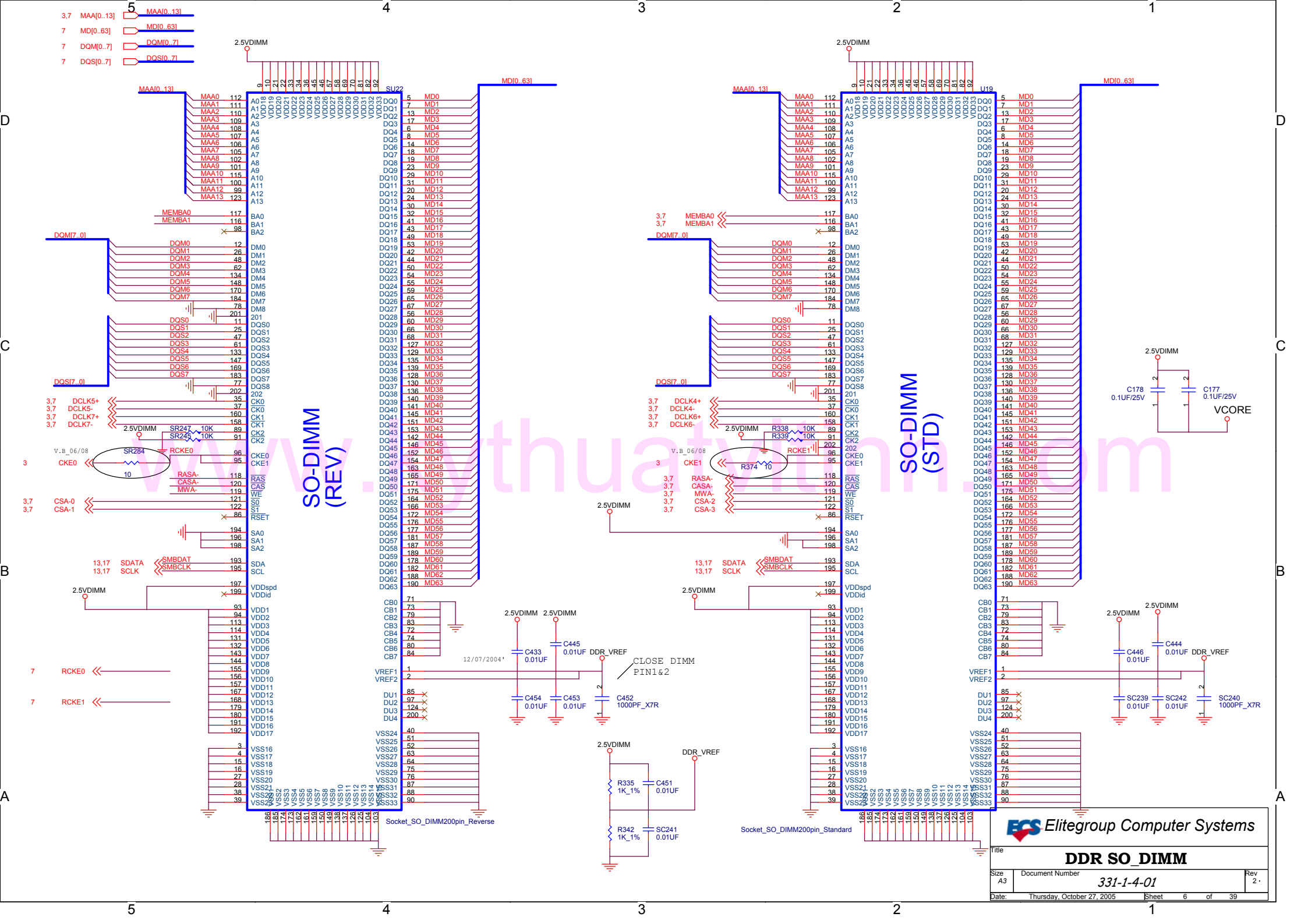
SO-DIMM (REV)
SO-DIMM (STD)
Socket_SO_DIMM200pin_Reverse
Socket_SO_DIMM200pin_Standard
2.5VDIMM
MAA[0..13]
MD[0..63]
DQM[7..0]
DQS[7..0]
SU22
U19
SR247 10K
SR245 10K
SR284
R338 10K
R339 10K
R374 10
RCKE0
RCKE1
CKE0
CKE1
RASA-
CASA-
MWA-
CSA-0
CSA-1
CSA-2
CSA-3
SMBDAT
SMBCLK
SDATA
SCLK
DDR_VREF
CLOSE DIMM PIN1&2
12/07/2004
C433 0.01UF
C445 0.01UF
C454 0.01UF
C453 0.01UF
C452 1000PF_X7R
R335 1K_1%
C451 0.01UF
R342 1K_1%
SC241 0.01UF
C178 0.1UF/25V
C177 0.1UF/25V
VCORE
C446 0.01UF
C444 0.01UF
SC239 0.01UF
SC242 0.01UF
SC240 1000PF_X7R
Elitegroup Computer Systems
DDR SO_DIMM
331-1-4-01
Thursday, October 27, 2005
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SSTL-2 Termination Resistors

TO DDR

MD[0..63] → MD[0..63] 6
DQM[0..7] → DQM[0..7] 6
DQS[0..7] → DQS[0..7] 6
MAA[0..13] → MAA[0..13] 3,6

TO CPU

MD_[0..63] → MD_[0..63] 3
DQM_[0..7] → DQM_[0..7] 3
DQS_[0..7] → DQS_[0..7] 3

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

Control signals can NOT be placed within the same RPs as data , strobe , or command signals

1.25VTT

SRP15 68X4_0402

MD4 1 8 MD2
MD5 2 7 DQS0
DQM0 3 6 MD1
MD6 4 5 MD0
MD2 1 8 MD4
DQS0 2 7 MD5
MD1 3 6 DQM0
MD0 4 5 MD6
MD17 1 8 MD17
MD16 2 7 MD16
MD11 3 6 MD11
MD10 4 5 MD10
MD7 1 8 MD14
MD12 2 7 MD15
MD13 3 6 MD20
DQM1 4 5 MD21
DQS1 1 8 MD24
MD9 2 7 MD19
MD8 3 6 MD18
MD3 4 5 DQS2
MD24 1 8 MD27
MD19 2 7 MD26
MD18 3 6 DQS3
DQS2 4 5 MD25
MD14 1 8 DQM2
MD15 2 7 MD22
MD20 3 6 MD23
MD21 4 5 MD28
MD27 1 8 MD29
MD26 2 7 DQM3
DQS3 3 6 MD30
MD25 4 5 MD31
MD29 1 8 MD36
DQM3 2 7 MD37
MD30 3 6 DQM4
MD31 4 5 MD38
DQM2 1 8 MD39
MD22 2 7 MD44
MD23 3 6 MD45
MD28 4 5 DQM5
MD36 1 8 DQS5
MD37 2 7 MD41
DQM4 3 6 MD40
MD38 4 5 MD35
DQS5 1 8 MD49
MD41 2 7 MD48
MD40 3 6 MD43
MD35 4 5 MD42
MD34 1 8 MD56
DQS4 2 7 MD51
MD33 3 6 MD50
MD32 4 5 DQS6
MD39 1 8 DQM6
MD44 2 7 MD54
MD45 3 6 MD55
DQM5 4 5 MD60
MD49 1 8 MD61
MD48 2 7 DQM7
MD43 3 6 MD62
MD42 4 5 MD63
DQM6 1 8 MD59
MD54 2 7 MD58
MD55 3 6 DQS7
MD60 4 5 MD57
MD56 1 8 DQS1
MD51 2 7 MD9
MD50 3 6 MD8
DQS6 4 5 MD3
MD46 1 8 MD46
MD47 2 7 MD47
MD52 3 6 MD52
MD53 4 5 MD53
MD59 1 8 MD7
MD58 2 7 MD12
DQS7 3 6 MD13
MD57 4 5 DQM1
MD61 1 8 MD34
DQM7 2 7 DQS4
MD62 3 6 MD33
MD63 4 5 MD32

SRP4 10X4_0402
RP8 10X4_0402
SRP5 10X4_0402
RP9 10X4_0402
SRP6 10X4_0402
SRP7 10X4_0402
RP10 10X4_0402
RP11 10X4_0402
RP12 10X4_0402
RP13 10X4_0402
SRP9 10X4_0402
SRP10 10X4_0402
SRP11 10X4_0402
RP15 10X4_0402
RP16 10X4_0402
SRP12 10X4_0402
SRP13 10X4_0402
RP14 10X4_0402
RP17 10X4_0402
SRP8 10X4_0402

SRP21 47X4_0402
8 7 6 5 / 1 2 3 4
MAA2 MAA0 MEMBA1 RASA-

RP23 47X4_0402
MAA5 MAA7 MAA9 MAA12

RP24 47X4_0402
MAA10 MEMBA0 MAA1 MAA3

SRP20 47X4_0402
MAA11 MAA8 MAA6 MAA4

RP25 47X4_0402
MAA13 CSA-2 MWA- CSA-0

SRP22 47X4_0402
CASA- CSA-1 CSA-3

3,6

R344 68 RCKE1 6
R262 68 RCKE0 6

DECOUPLING CAPACITOR FOR SSTL-2 END TERMIANTION VTT ISLAND
0603 Package placed within 300mils of VTT Termination R-packs

C472 C473 C291 C294 C397 C475 C477 C480 C399 C471 C474 C476 C479 — 0.1UF/10V_X7R_0402

C484 C485 C280 C398 C408 C482 — 0.1UF/10V_X7R_0402

C481 C431 C483 — 0.1UF/10V_X7R_0402

SC278 SC283 C400 SC279 SC282 SC277 SC275 — 0.1UF/10V_X7R_0402

SC285 SC281 SC286 SC284 SC276 SC289 — 0.1UF/10V_X7R_0402

SC292 SC290 SC287 SC288 — 0.1UF/10V_X7R_0402

C478 SC293 — 1000PF_X7R_0402

C166 C148 — 100PF

NEAR TO CPU SOCKET FOR EMI

0.1UF X 39 pcs

each one "RPs" put two CAPs

2.5VDIMM

DIMM DECOUPLING ; CLOSE TO DIMM

C415 C421 C420 C447 SC248 C416 C414 C422 C418 C419 C423 C424 C455 C460 SC250 SC244 C457 C467 C458 C461 C465 C464 C456 SC252 — 0.1UF/10V_X7R_0402

SC251 C462 SC247 SC249 SC253 C463 C459 C466 SC254 — 0.1UF/10V_X7R_0402

1.25VTT

2.5VDIMM

SC237 SC255 SC245 SC215 SC258 SC216 — 0.1UF/10V_X7R_0402

Close to CPU socket

SC217 SC213 C449 SC218 SC214 — 0.1UF/10V_X7R_0402

Close to SO-DIMM

C176 C167 — 0.22UF/16V_X7R

NEAR TO CPU SOCKET

SC295 — 220UF/10V_D

68X4_0402

3,6 DCLK7- R189 120_0402 DCLK7+ 3,6
3,6 DCLK6- R162 120_0402 DCLK6+ 3,6
3,6 DCLK5- R193 120_0402 DCLK5+ 3,6
3,6 DCLK4- R169 120_0402 DCLK4+ 3,6

Close To CPU

Elitegroup Computer Systems

Title: DDR TERMINATION & DECOUP

Size	Document Number	Rev
B	331-1-4-01	2.0

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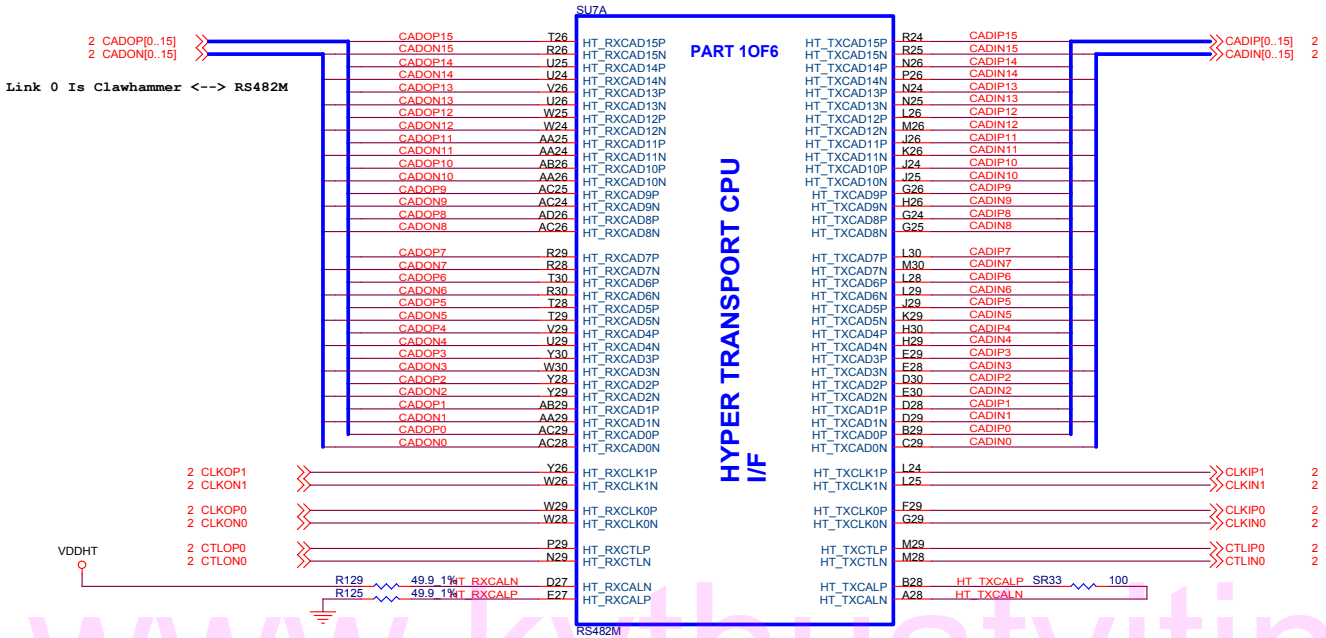

TP33 CADIP15
TP34 CADIN15
TP46 CADIP14
TP49 CADIN14
TP31 CADIP13
TP32 CADIN13
TP39 CADIP12
TP40 CADIN12
TP36 CADIP11
TP37 CADIN11
TP29 CADIP10
TP30 CADIN10
TP26 CADIP9
TP27 CADIN9
TP22 CADIP8
TP23 CADIN8
STP16 CADIP7
STP17 CADIN7
STP13 CADIP6
STP15 CADIN6
STP12 CADIP5
STP14 CADIN5
TP11 CADIP4
TP12 CADIN4
STP8 CADIP3
STP11 CADIN3
STP6 CADIP2
STP9 CADIN2
STP1 CADIP1
STP2 CADIN1
TP13 CADIP0
TP14 CADIN0

TP45 CADOP15
TP43 CADON15
TP50 CADOP14
TP47 CADON14
TP21 CADOP13
TP24 CADON13
TP52 CADOP12
TP53 CADON12
TP17 CADOP11
TP15 CADON11
TP58 CADOP10
TP62 CADON10
TP73 CADOP9
TP72 CADON9
TP76 CADOP8
TP74 CADON8
TP10 CADOP7
TP7 CADON7
TP4 CADOP6
TP8 CADON6
TP42 CADOP5
TP44 CADON5
TP1 CADOP4
TP3 CADON4
TP5 CADOP3
TP9 CADON3
TP60 CADOP2
TP56 CADON2
TP70 CADOP1
TP64 CADON1
TP71 CADOP0
TP65 CADON0

TP18 CTLIP0
TP16 CTLIN0
TP28 CLKIP1
TP25 CLKIN1
TP19 CLKIP0
TP20 CLKIN0

TP48 CLKOP1
TP51 CLKON1
TP2 CLKOP0
TP6 CLKON0
TP41 CTLOP0
TP38 CTLON0

Elitegroup Computer Systems

Title: **RS482M-HT LINKO I/F**

Size	Document Number	Rev
Custom	331-1-4-01	2.0

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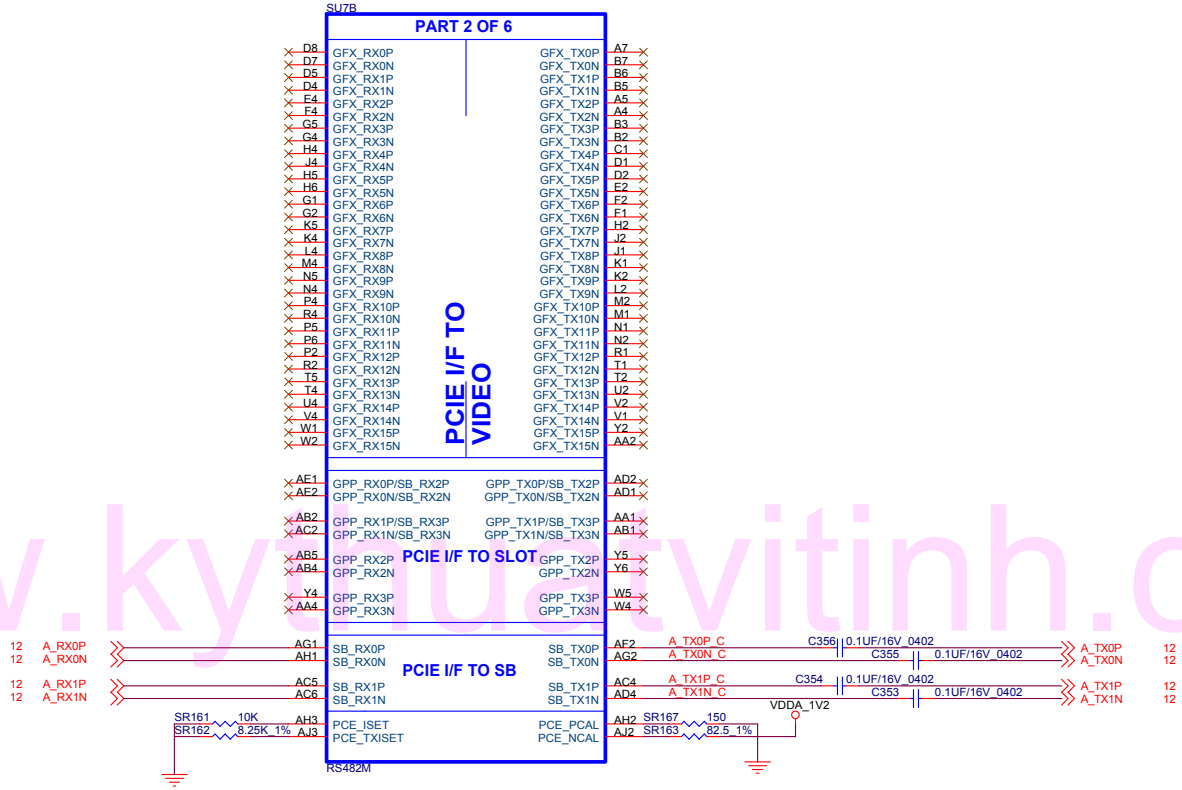
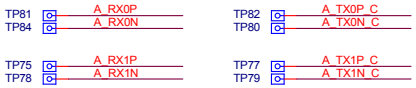


Close to NB



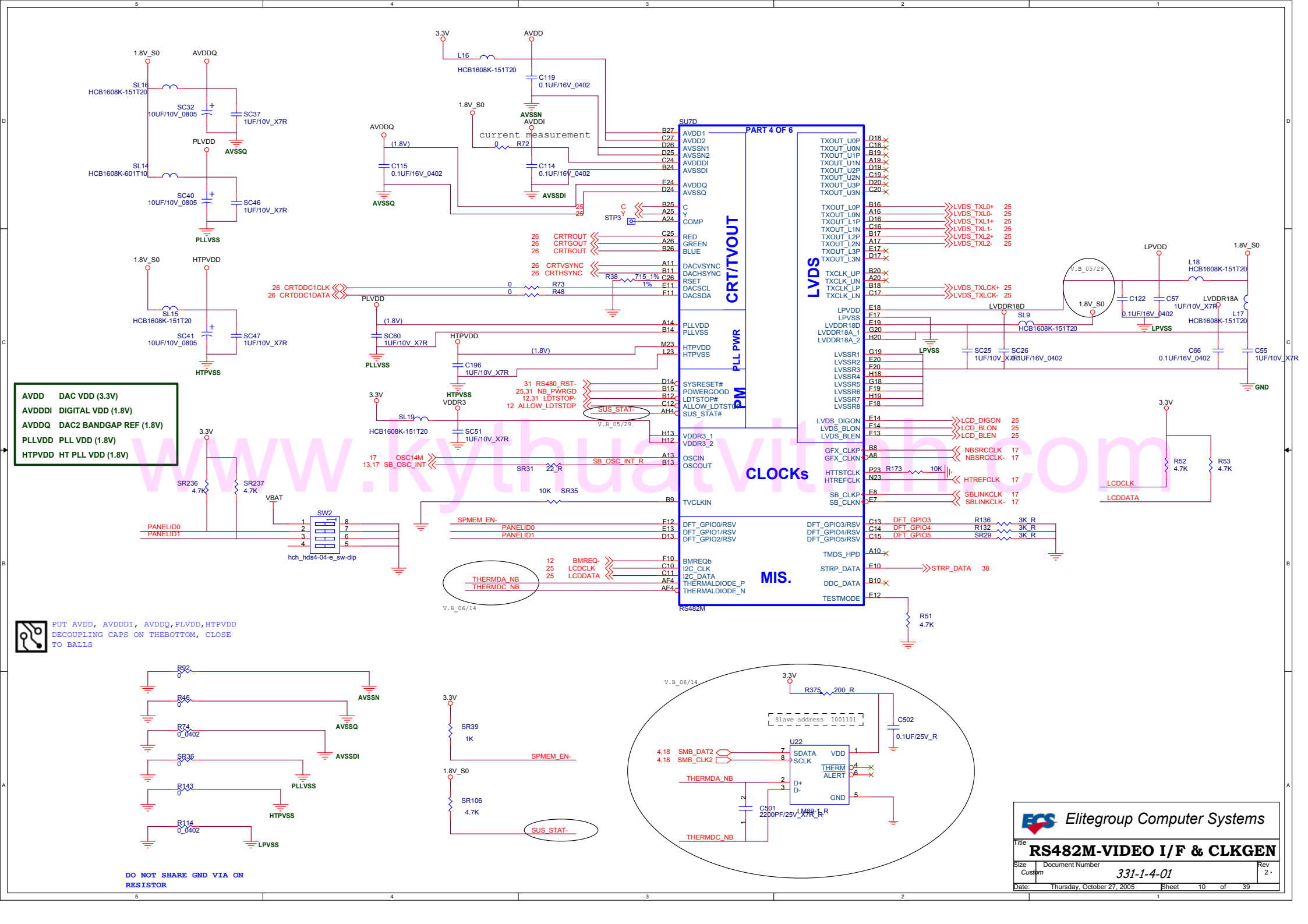
Put the TP200-287 exactly on the vias of NB

Elitegroup Computer Systems

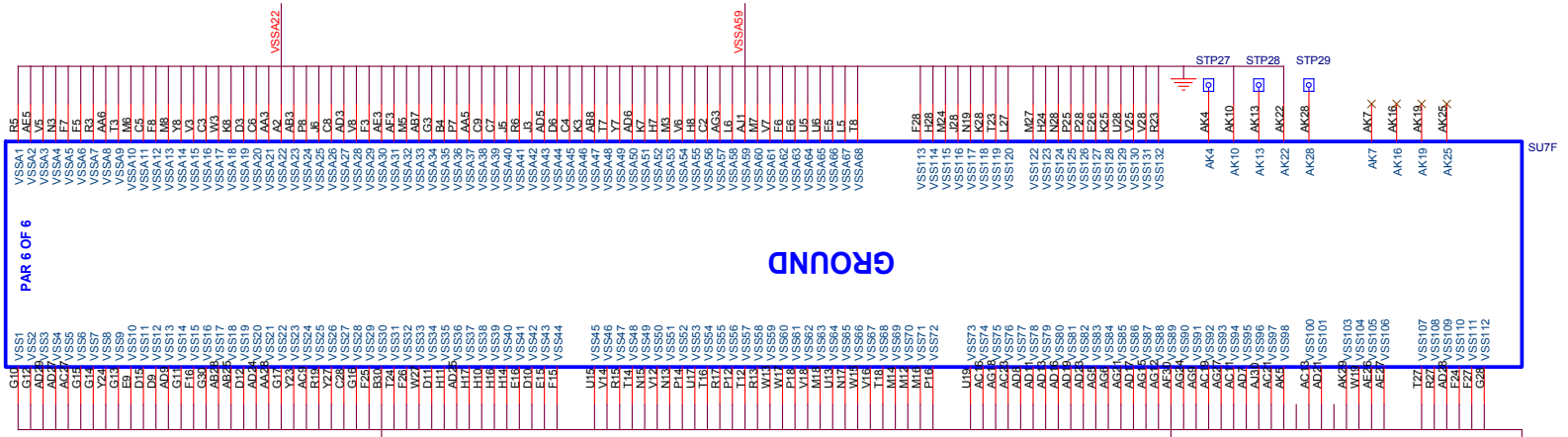
Title: **RS482M-PCIE LINK I/F**

Size: Custom | Document Number: 331-1-4-01 | Rev: 2.

Date: Thursday, October 27, 2005 | Sheet 9 of 39

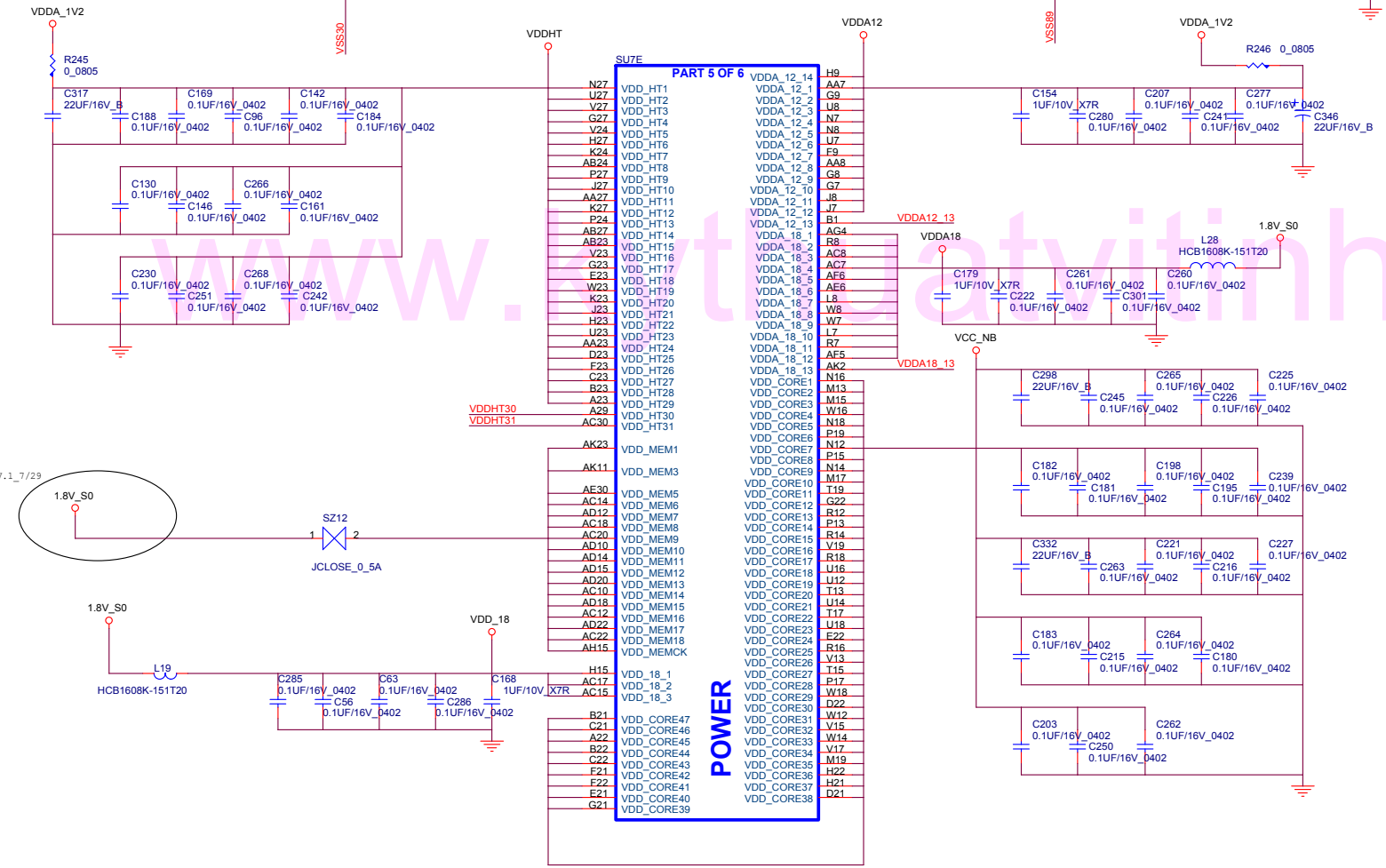

AVDD DAC VDD (3.3V)
AVDDDI DIGITAL VDD (1.8V)
AVDDQ DAC2 BANDGAP REF (1.8V)
PLLVDD PLL VDD (1.8V)
HTPVDD HT PLL VDD (1.8V)
PART 4 OF 6
CRT/TVOUT
PLL PWR
PM
LVDS
CLOCKs
MIS.
RS482M
current measurement
PUT AVDD, AVDDDI, AVDDQ,PLVDD,HTPVDD DECOUPLING CAPS ON THEBOTTOM, CLOSE TO BALLS
DO NOT SHARE GND VIA ON RESISTOR
Elitegroup Computer Systems
RS482M-VIDEO I/F & CLKGEN
331-1-4-01
Thursday, October 27, 2005

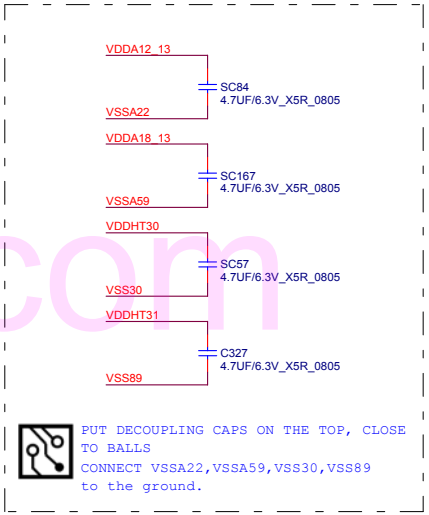
NB RS480 POWER STATES



NB RS482M POWER STATES

Power Signal	S0	S1	S3	S4/S5	G3
VDDHT	ON	ON	OFF	OFF	OFF
VDDR,VDDRCK	ON	ON	OFF	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 Systems

Title: **RS482M-POWER**

Size: Custom | Document Number: 331-1-4-01 | Rev: 2.

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Note: For external RTC, remove Y600 and change R601 to 10K

LAYOUT GUIDE

LENGTH OF (PCI_CLK9_R + PCI_CLK9_FB) SHOULD MATCH THE AVERAGE OF THE OTHER SPCI_CLKS

SU13A

SB400 SB

Part 1 of 4

SB400

PCI CLKS

PCI EXPRESS INTERFACE

PCI INTERFACE

XTAL

LPC

CPU

RTC

32K_X1

32K_X2

Y2 KDS_CRY_32K_DMX-26S_4P

R211 20M

R203 20M

C308 22PF

C278 22PF

SR222 8.2K

A_RST-

SBSRCCLK

SBSRCCLK-

A_RX0P

A_RX0N

A_RX1P

A_RX1N

A_RX0P_C

A_RX0N_C

A_RX1P_C

A_RX1N_C

C362 C351 C366 C370 0.1UF/16V_0402

TP83 TP85 TP86 TP87 A_TX0P A_TX0N A_TX1P A_TX1N

1.8V_S0

PCIE_PVDD

SL33 HCB1608K-121T20

SC174 10UF/10V_0805

SC175 1UF/10V_X7R

SC176 0.1UF/25V

PCIE_VDDR

SR148 150_1%

R222 150_1%

SR143 4.12K_1%

L35 HCB1608K-121T20

C320 22UF/16V_B

C343 C340 C326 C349 0.1UF/25V

C284 C336 0.1UF/25V

C315 C325 0.1UF/25V

INTA- INTB- INTC- INTD-

INTE- INTF- INTG- INTH-

SR227 SR226 SR225 0

A_RST- SR223 33 ALINK_RST- 18,27,31,38

SC206 0.1UF/16V_0402_R

VDDA_1V2

SR139 1K DNI

STP24 STP23 TP63 STP22 STP21 TP64

TP67 TP66 TP69

10,31 LDTSTOP-

10 ALLOW_LDTSTOP

31 LDT_PG

10 BMREQ-

31 LDT_RST-

PCICLK0 PCICLK1 PCICLK2 PCICLK3 PCICLK4 PCICLK5 PCICLK6 PCICLK7 PCICLK8 PCICLK9 PCICLK_FB

PCI_CLK0_R PCI_CLK1_R PCI_CLK2_R PCI_CLK3_R PCI_CLK4_R PCI_CLK5_R PCI_CLK6_R PCI_CLK7_R PCI_CLK8_R PCI_CLK9_R PCI_CLK9_FB

R229 R225 SR146 SR150 R233 SR158 SR175 SR171 R244 R243 R242 22 22_R

PCI_CLK4 PCI_CLK5 PCI_CLK6 PCI_CLK7 PCI_CLK8

CPU TYPE

SC179 SC177 SC160 SC319 SC331 0.1UF/25V_R

C344 100PF_R SR224 33

PCI_CLK0 PCI_CLK1 PCI_CLK2 PCI_CLK3 PCI_CLK5

MINI PCI MINI PCI 3910 10/100 LAN ALC655

PCIRST# PCIRST-

SC208 2.2UF

AD0/ROMA18 AD1/ROMA17 AD2/ROMA16 AD3/ROMA15 AD4/ROMA14 AD5/ROMA13 AD6/ROMA12 AD7/ROMA11 AD8/ROMA9 AD9/ROMA8 AD10/ROMA7 AD11/ROMA6 AD12/ROMA5 AD13/ROMA4 AD14/ROMA3 AD15/ROMA2 AD16/ROMD0 AD17/ROMD1 AD18/ROMD2 AD19/ROMD3 AD20/ROMD4 AD21/ROMD5 AD22/ROMD6 AD23/ROMD7 AD24 AD25 AD26 AD27 AD28 AD29 AD30 AD31

AD[31..0]

CBE0#/ROMA10 CBE1#/ROMA1 CBE2#/ROMWE# CBE3#

C/BE-0 C/BE-1 C/BE-2 C/BE-3

C/BE-[3..0]

FRAME# DEVSEL#/ROMA0 IRDY# TRDY#/ROMOE# PAR/ROMA19 STOP# PERR# SERR# REQ0# REQ1# REQ2# REQ3#/PDMA_REQ0# REQ4#/PLL_BP33/PDMA_REQ1# REQ5#/GPIO13 REQ6#/GPIO31

FRAME- DEVSEL- IRDY- TRDY- PAR STOP- PERR- SERR- REQ-0 REQ-1 REQ-2

REQ-3 REQ-4 REQ-5 REQ-6

GNT0# GNT1# GNT2# GNT3#/PDMA_GNT0# GNT4#/PLL_BP50/PDMA_GNT1# GNT5#/GPIO14 GNT6#/GPIO32

GNT-0 GNT-1 GNT-2 GNT-3 GNT-4 GNT-5 GNT-6

CLKRUN# LOCK#

CLKRUN- LOCK-

LAD0 LAD1 LAD2 LAD3 LFRAME# LDRQ0# LDRQ1#

LFRAME-

LDRQ0- LDRQ1-

SERIRQ

SIRQ

RTCCLK RTC_IRQ#/ACPWR_STRAP

RTC_CLK AC_MANUAL

VBAT RTC_GND

SR95 0 R369 1K

SC146 0.1UF/25V SC145 1UF/10V_X7R

R240 1K

D10 1PS76SB40_SOD323

D11 1PS76SB40_SOD323

3VAUX

SCN9

hrs_df13-02p125h

CLKRUN- LDRQ0- LDRQ1-

SR192 10K SR215 10K R270 10K

INTA- INTB- INTC- INTD- RP7 8.2KX4

INTE- INTF- INTG- INTH- SRP3 8.2KX4

GNT-0 GNT-1 GNT-2 RP4 8.2KX4

REQ-0 REQ-1 REQ-2 R256 R315 R268 8.2K

REQ-3 REQ-4 REQ-5 REQ-6 R262 SR197 SR201 SR207 8.2K

AC_MANUAL R188 10K

3.3V

Elitegroup Computer Systems

Title: SB400-PCI/CPU/LPC/RTC

Size: Custom | Document Number: 331-1-4-01 | Rev: 2.

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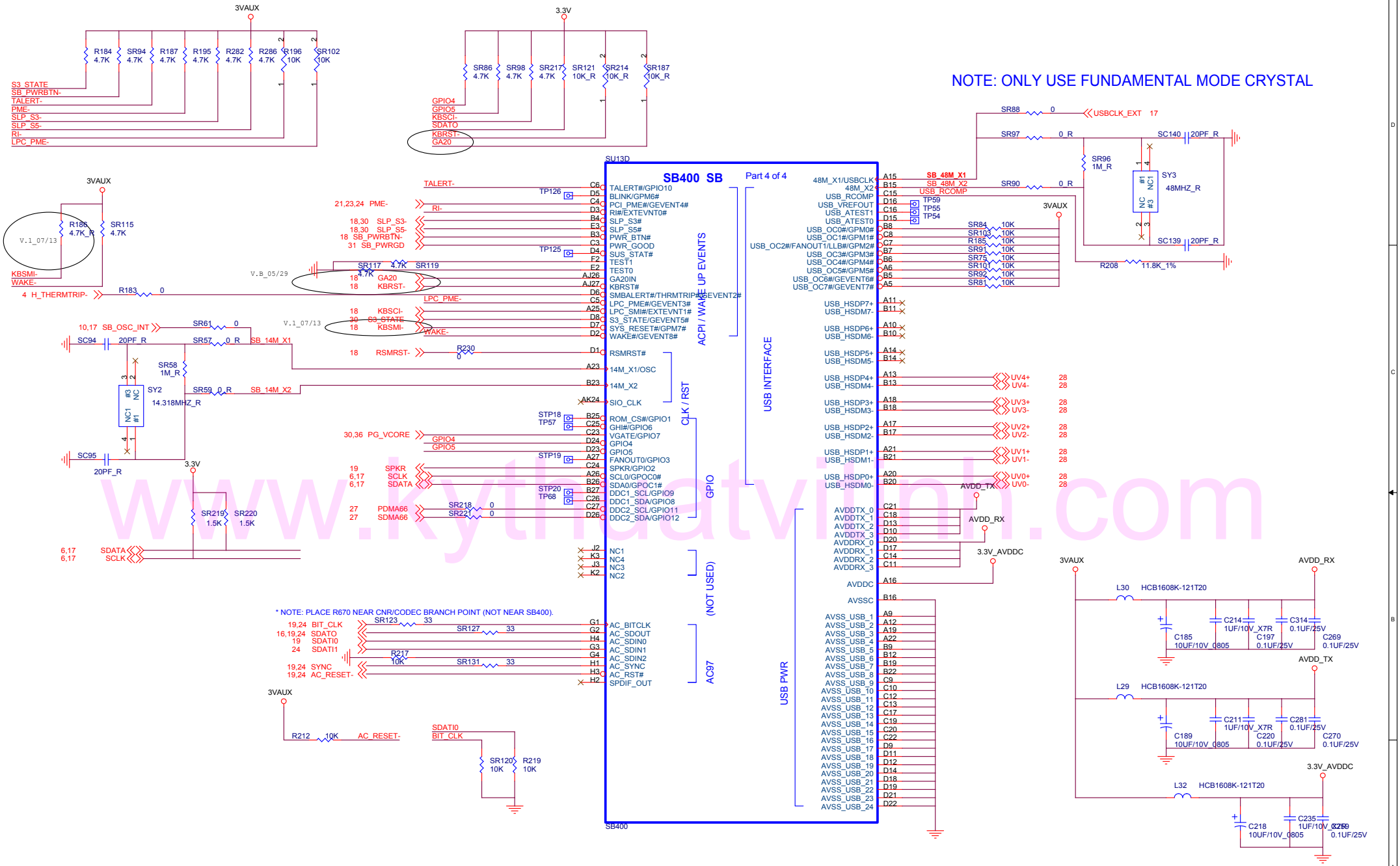
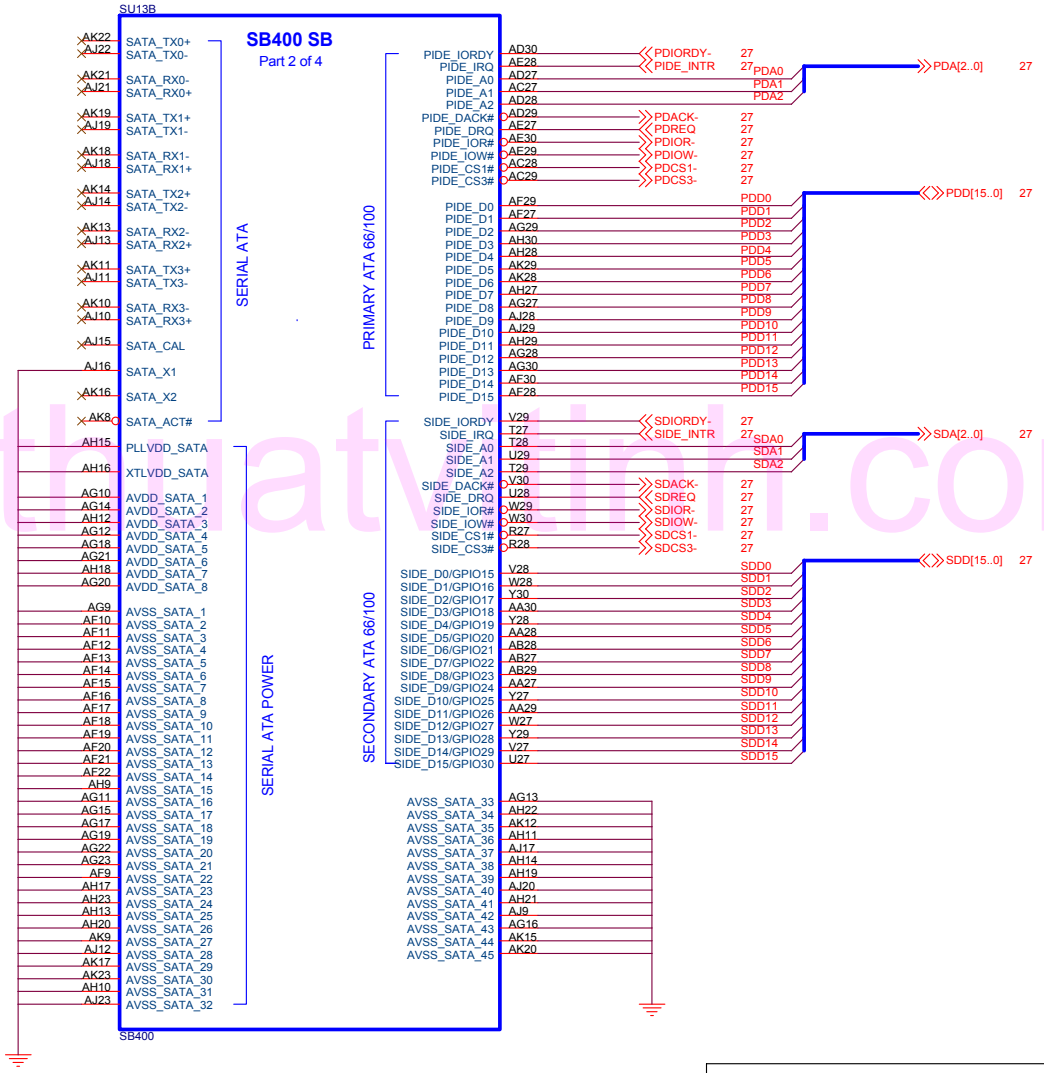
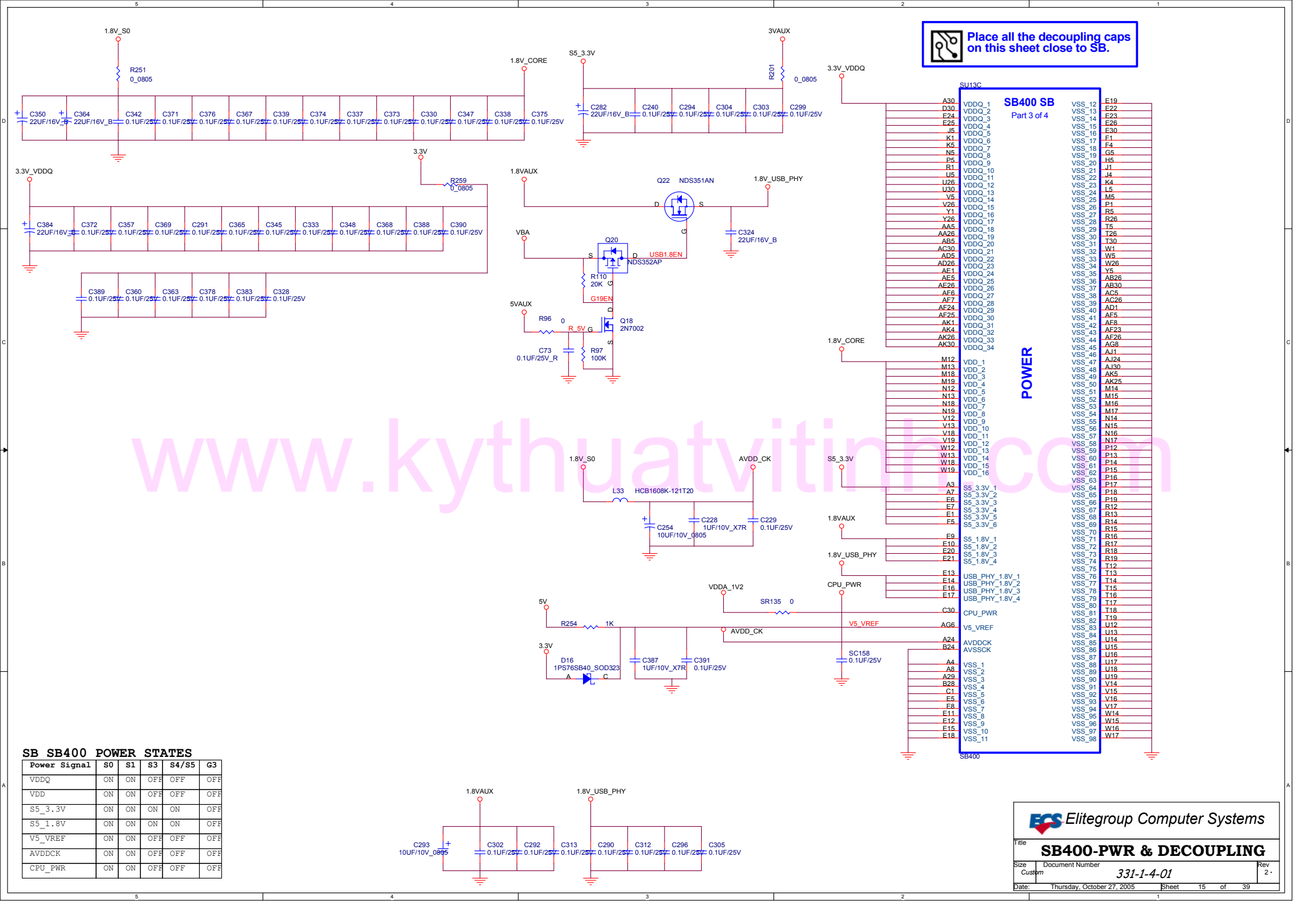




Elitegroup Computer Systems

Title	SB400-SATA/IDE	
Size: B	Document Number: 331-1-4-01	Rev: 2.0
Date: Thursday, October 27, 2005	Sheet 14 of 39	



SB SB400 POWER STATES

Power Signal	S0	S1	S3	S4/S5	G3
VDDQ	ON	ON	OFF	OFF	OFF
VDD	ON	ON	OFF	OFF	OFF
S5_3.3V	ON	ON	ON	ON	OFF
S5_1.8V	ON	ON	ON	ON	OFF
V5_VREF	ON	ON	OFF	OFF	OFF
AVDDCK	ON	ON	OFF	OFF	OFF
CPU_PWR	ON	ON	OFF	OFF	OFF

Elitegroup Computer Systems

Title: **SB400-PWR & DECOUPLING**

Size: Custom | Document Number: 331-1-4-01 | Rev: 2.

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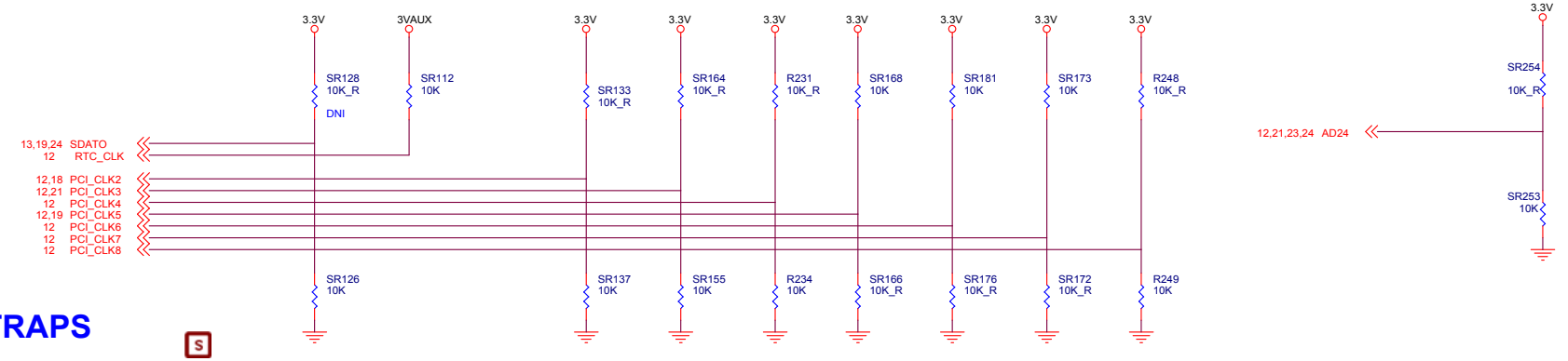

REQUIRED STRAPS

S

ACPWRON

	SDATO	RTC_CLK	PCI_CLK2	PCI_CLK3	PCI_CLK4	PCI_CLK5	PCI_CLK6	PCI_CLK7 PCI_CLK8
PULL HIGH	USE DEBUG STRAPS	INTERNAL RTC DEFAULT	48MHz XTAL MODE	USB PHY PWRDOWN DISABLE DEFAULT	USE INT. PLL48	14MHz OSC MODE DEFAULT	CPU I/F = K8 DEFAULT	ROM TYPE H,H = PCI ROM H,L = LPC TYPE I ROM
PULL LOW	IGNORE DEBUG STRAPS DEFAULT	EXTERNAL RTC (NOT SUPPORTED W/ IT8712)	48MHz OSC MODE	USB PHY PWRDOWN ENABLE	USE EXT. 48MHz	14MHz XTAL MODE	CPU I/F = P4	L,H = LPC TYPE II ROM L,L = FWH ROM DEFAULT

Elitegroup Computer Systems

Title: SB400-STRAPS

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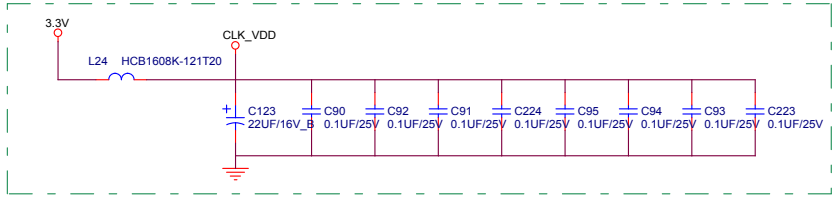
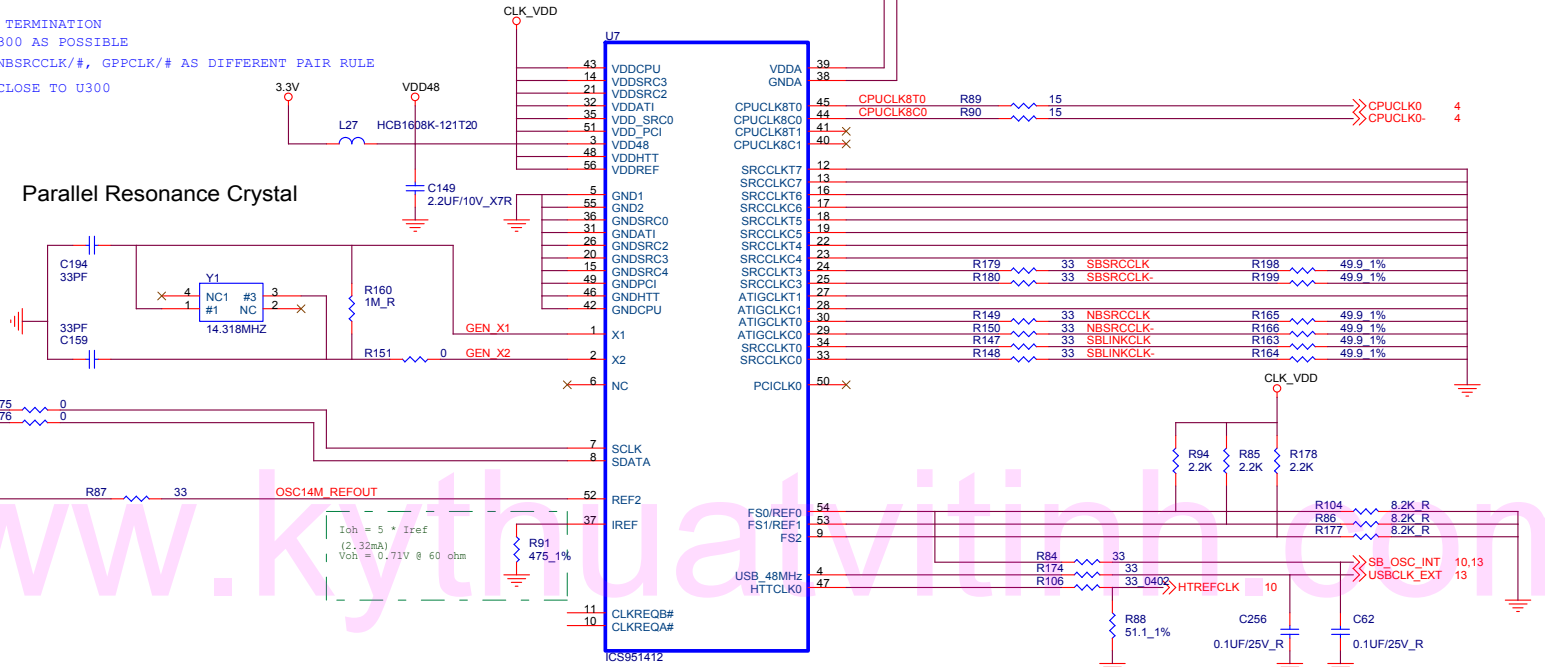


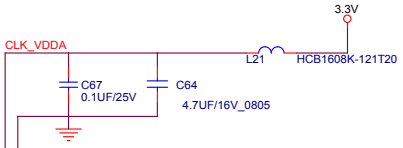
1- PLACE ALL THE SERIES TERMINATION RESISTORS AS CLOSE AS U300 AS POSSIBLE

2- ROUTE ALL CPUCLK/#, NBSRCCLK/#, GPPCLK/# AS DIFFERENT PAIR RULE

3- PUT DECOUPLING CAPS CLOSE TO U300 POWER PIN

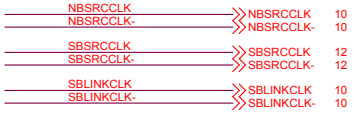
Parallel Resonance Crystal





CY28RS480/ICS951412 AND ICS951416 ARE FULLY PIN COMPATIBLE AND CAN BE INTERCHANGED WITHOUT ANY HARDWARE MODIFICATION.

OVERLAP COMMON PADS FOR DUAL-OP RESISTORS



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 HAMMER operation

Elitegroup Computer Systems

Title: CLOCK GENERATOR

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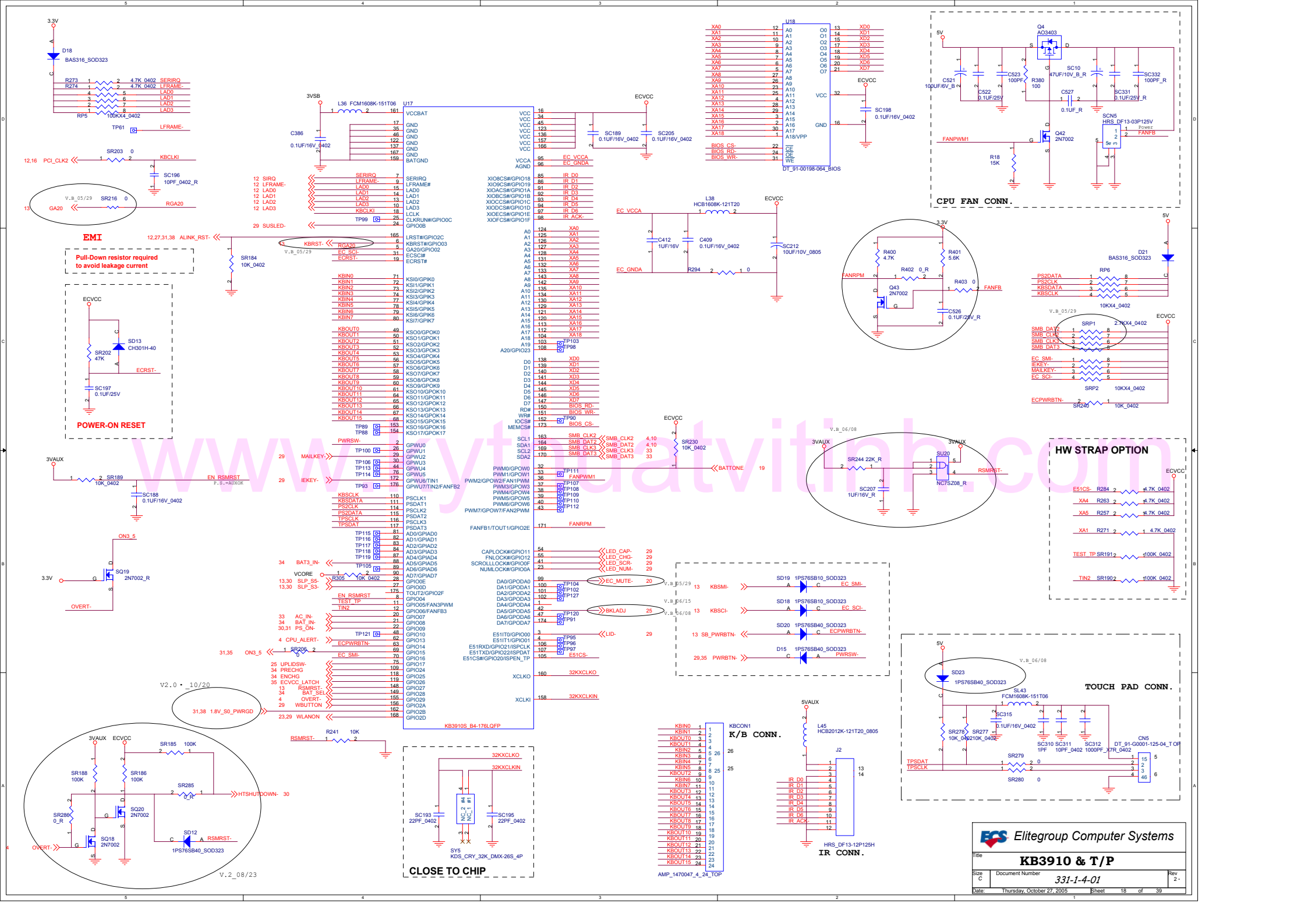
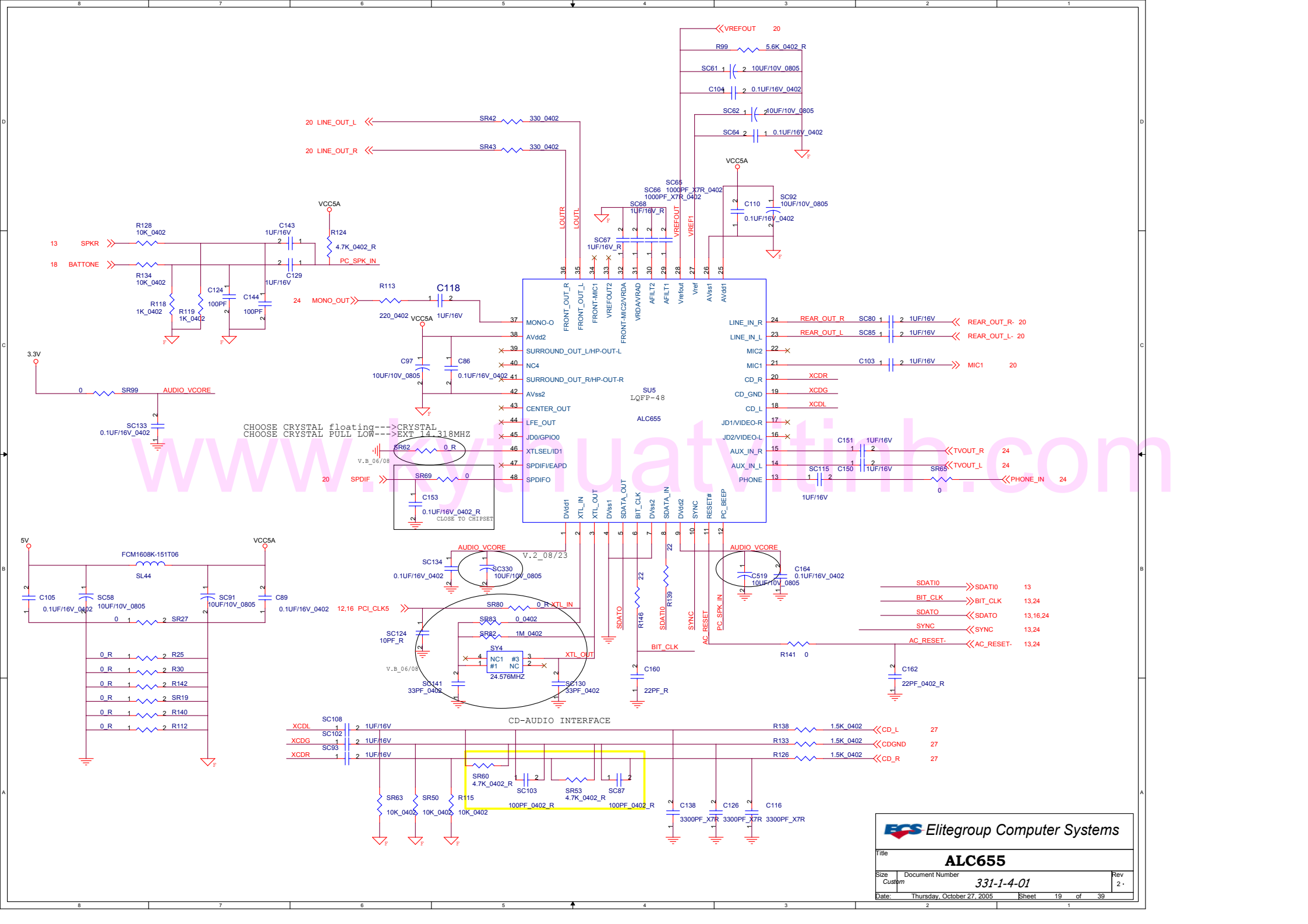

EMI
Pull-Down resistor required to avoid leakage current
POWER-ON RESET
CPU FAN CONN.
HW STRAP OPTION
TOUCH PAD CONN.
K/B CONN.
IR CONN.
CLOSE TO CHIP
KB3910S_B4-176LQFP
Elitegroup Computer Systems
KB3910 & T/P
331-1-4-01
Thursday, October 27, 2005



Elitegroup Computer Systems

Title: **ALC655**

Size	Document Number	Rev
Custom	331-1-4-01	2

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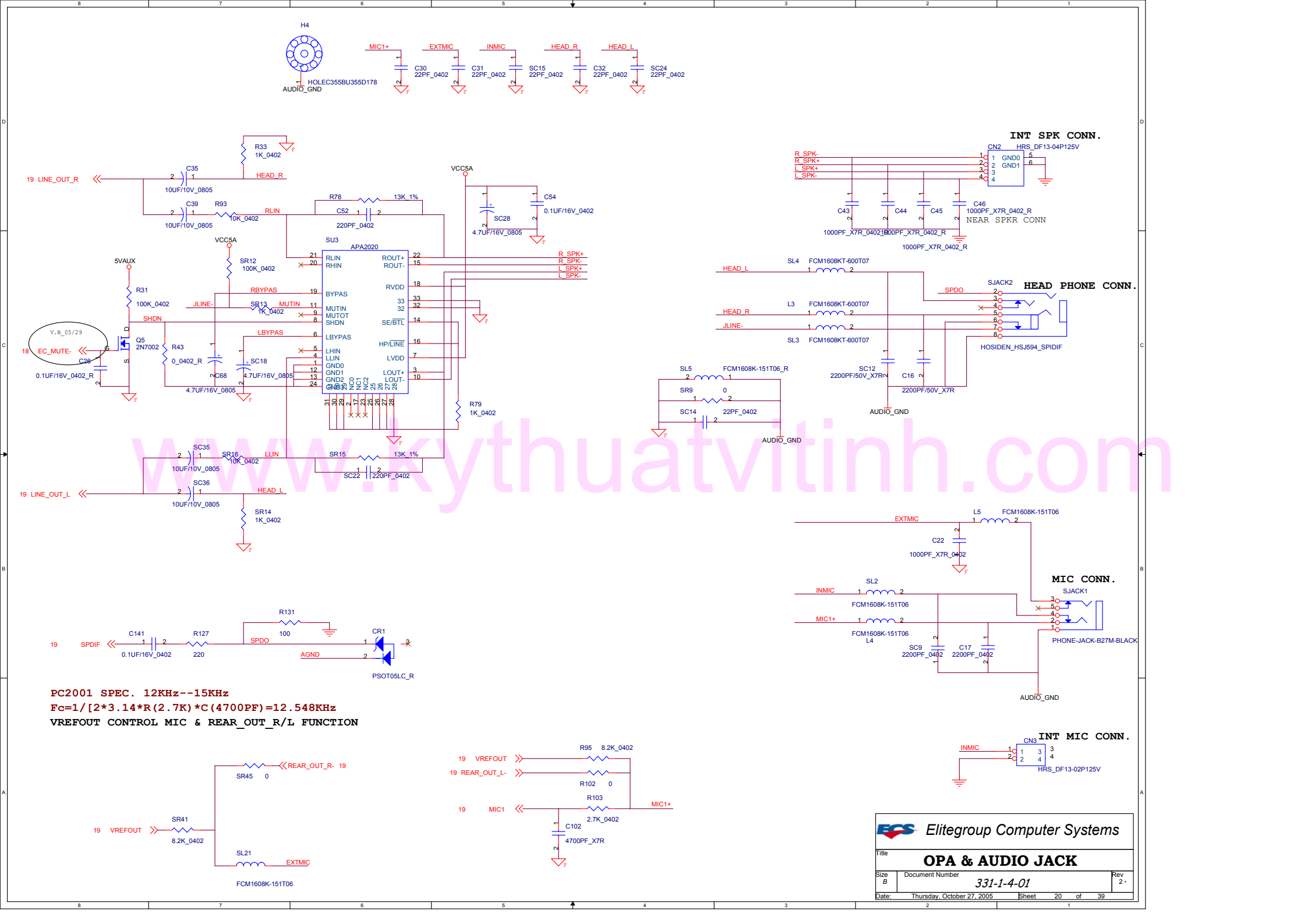
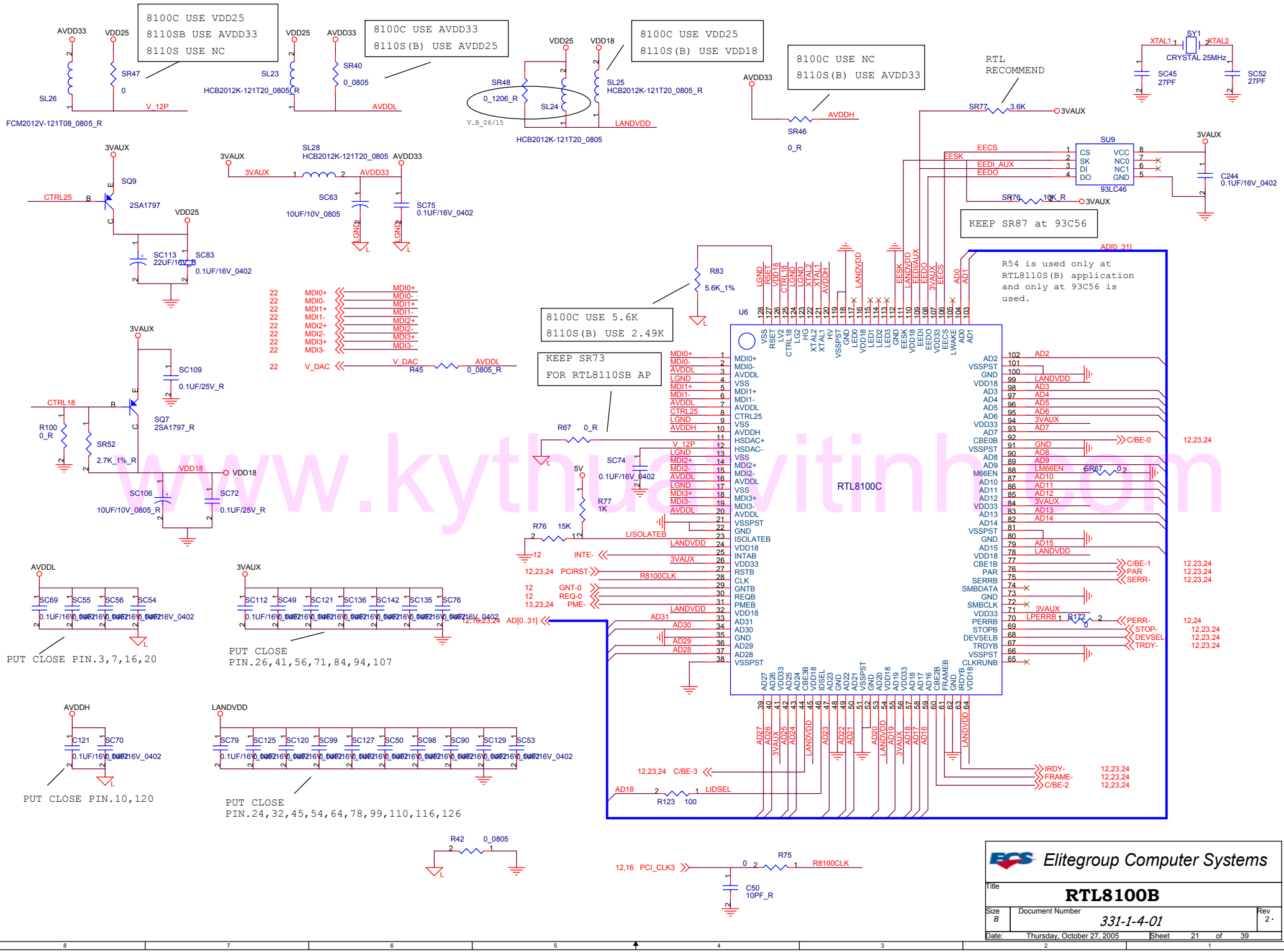
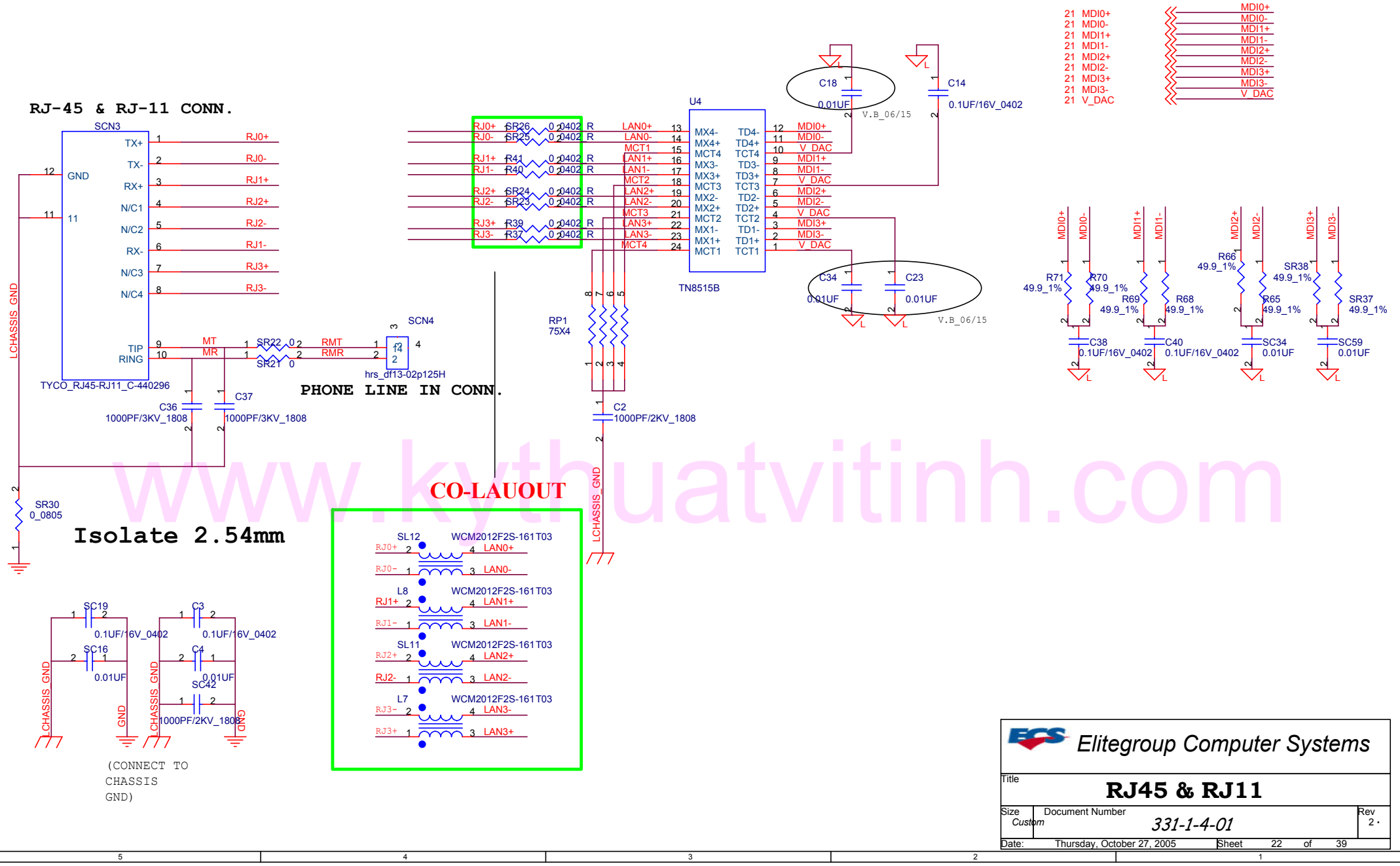
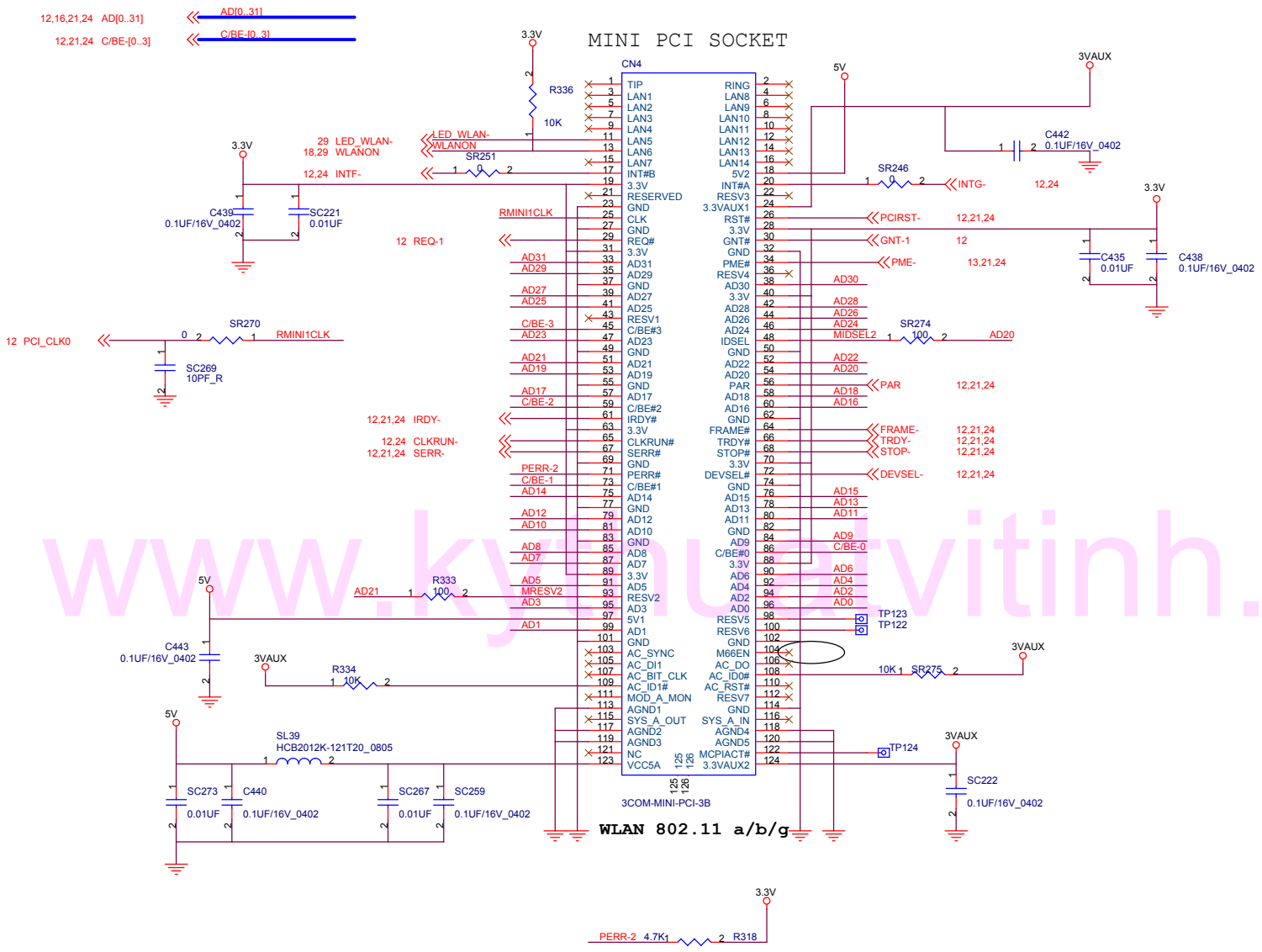



8100C USE VDD25
8110SB USE AVDD33
8110S USE NC
8100C USE AVDD33
8110S(B) USE AVDD25
8100C USE VDD25
8110S(B) USE VDD18
8100C USE NC
8110S(B) USE AVDD33
RTL RECOMMEND
KEEP SR87 at 93C56
R54 is used only at RTL8110S(B) application and only at 93C56 is used.
8100C USE 5.6K
8110S(B) USE 2.49K
KEEP SR73 FOR RTL8110SB AP
RTL8100C
PUT CLOSE PIN.3,7,16,20
PUT CLOSE PIN.26,41,56,71,84,94,107
PUT CLOSE PIN.10,120
PUT CLOSE PIN.24,32,45,54,64,78,99,110,116,126
Elitegroup Computer Systems
RTL8100B
331-1-4-01
Thursday, October 27, 2005





Elitegroup Computer Systems

Title: MINI PCI CONN.(WLAN)

Size	Document Number	Rev
B	331-1-4-01	2.1

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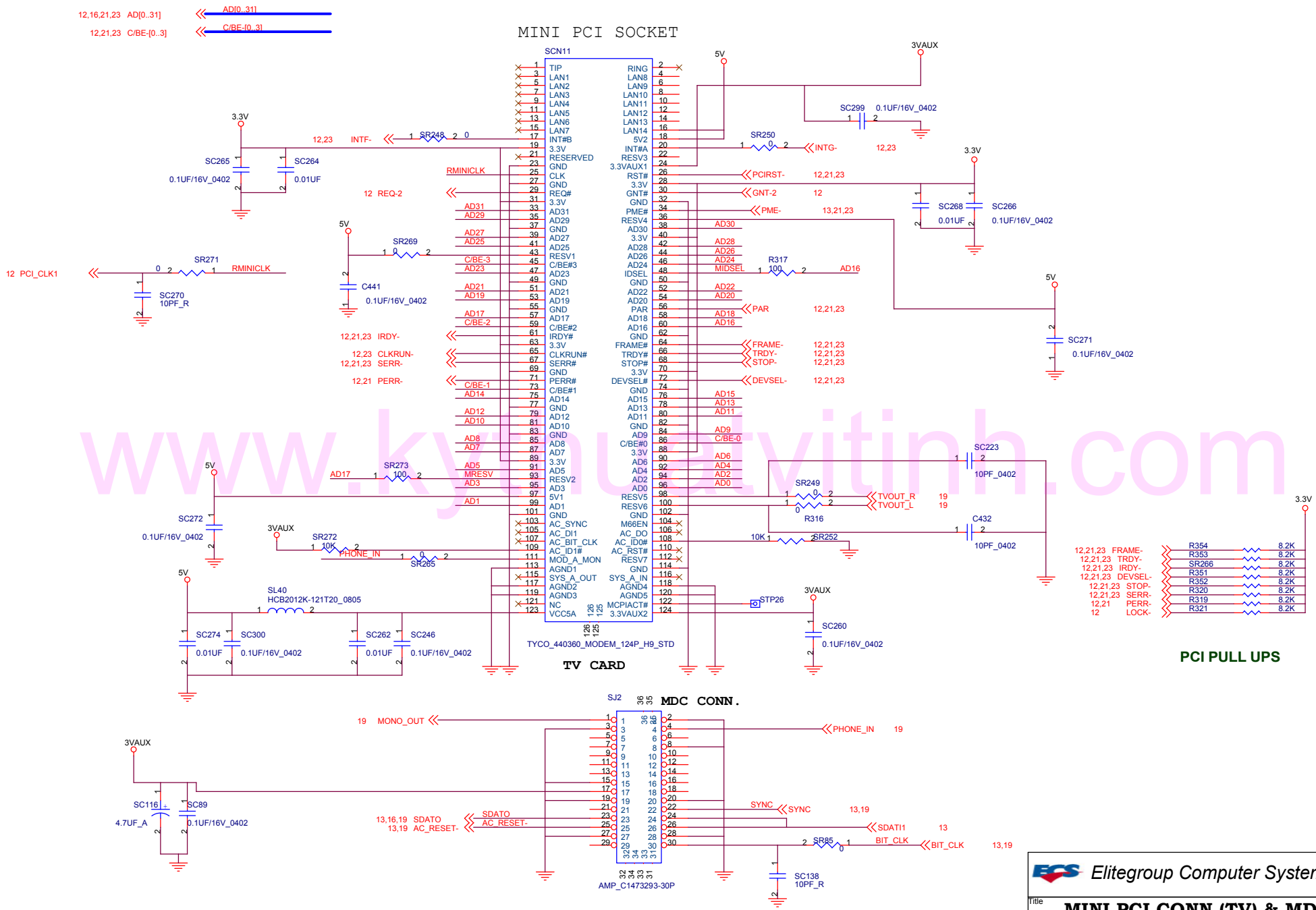

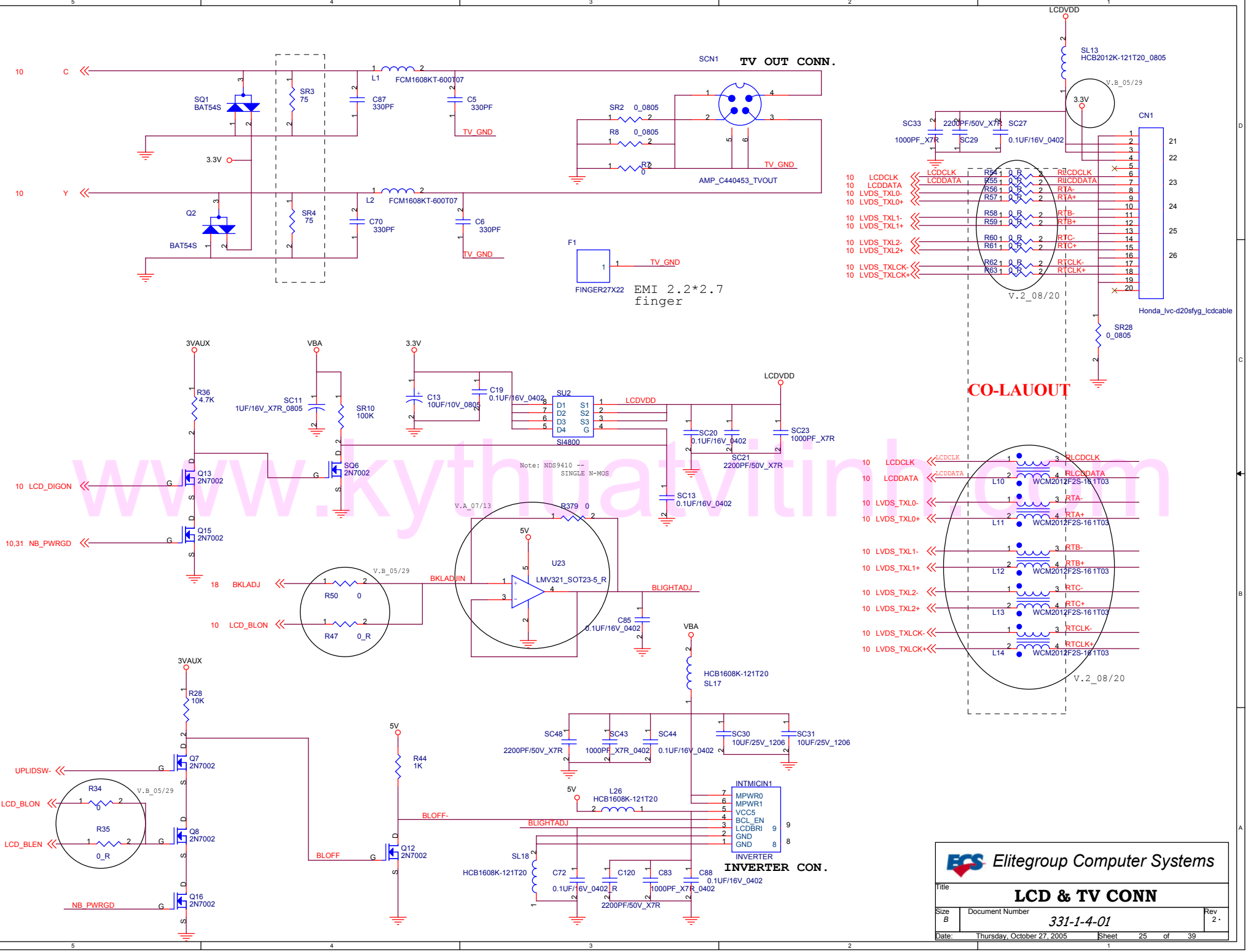

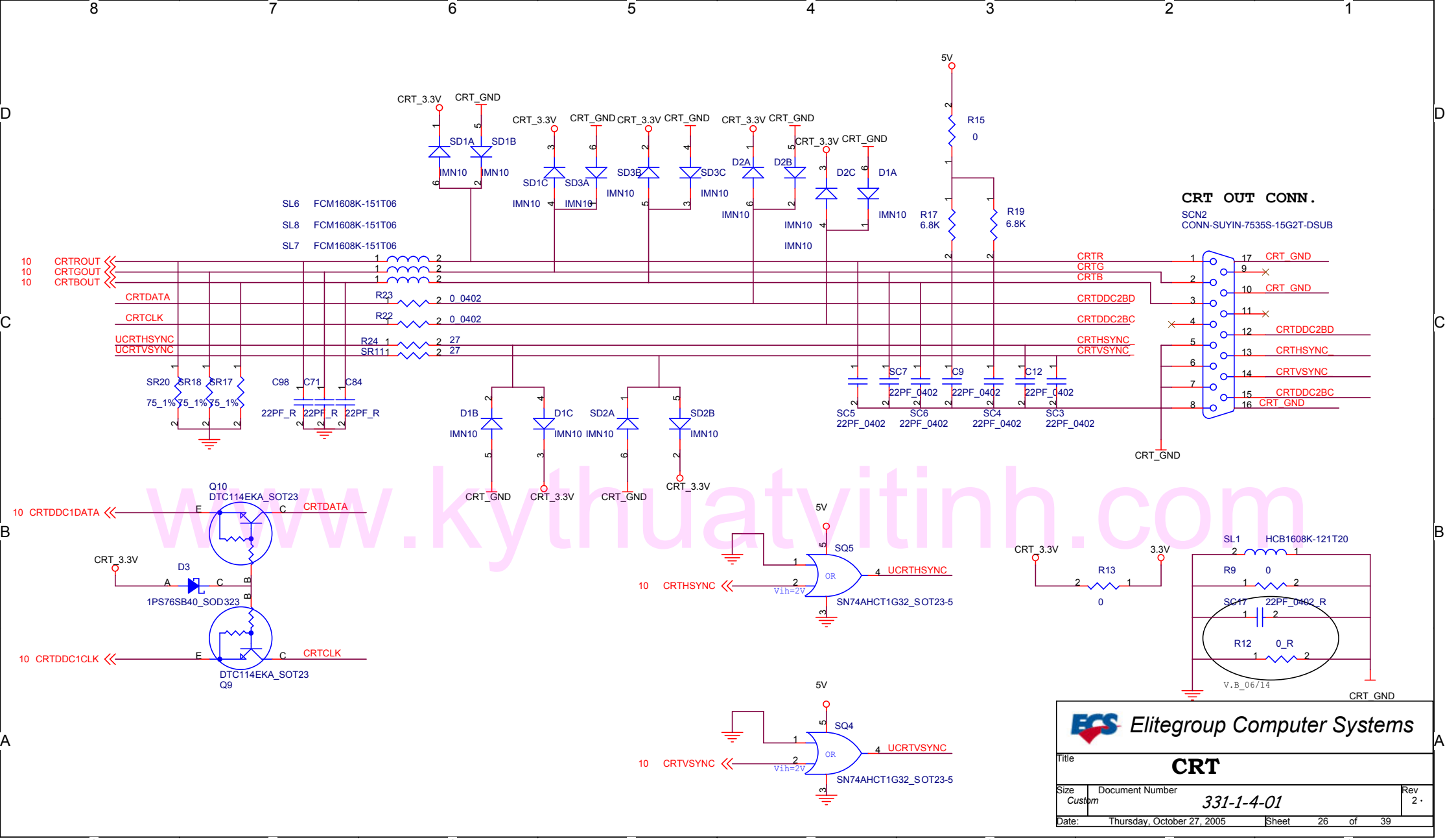

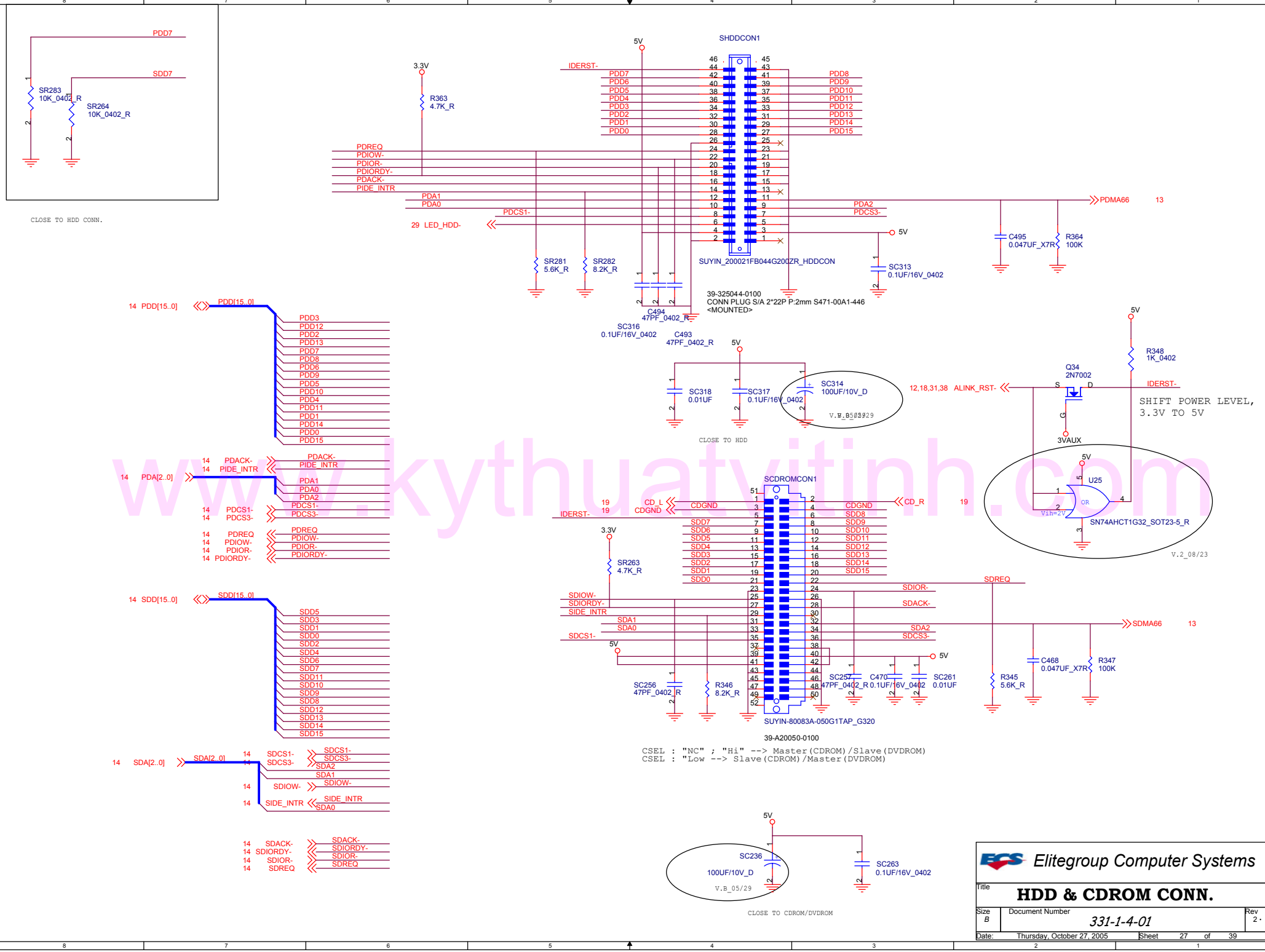

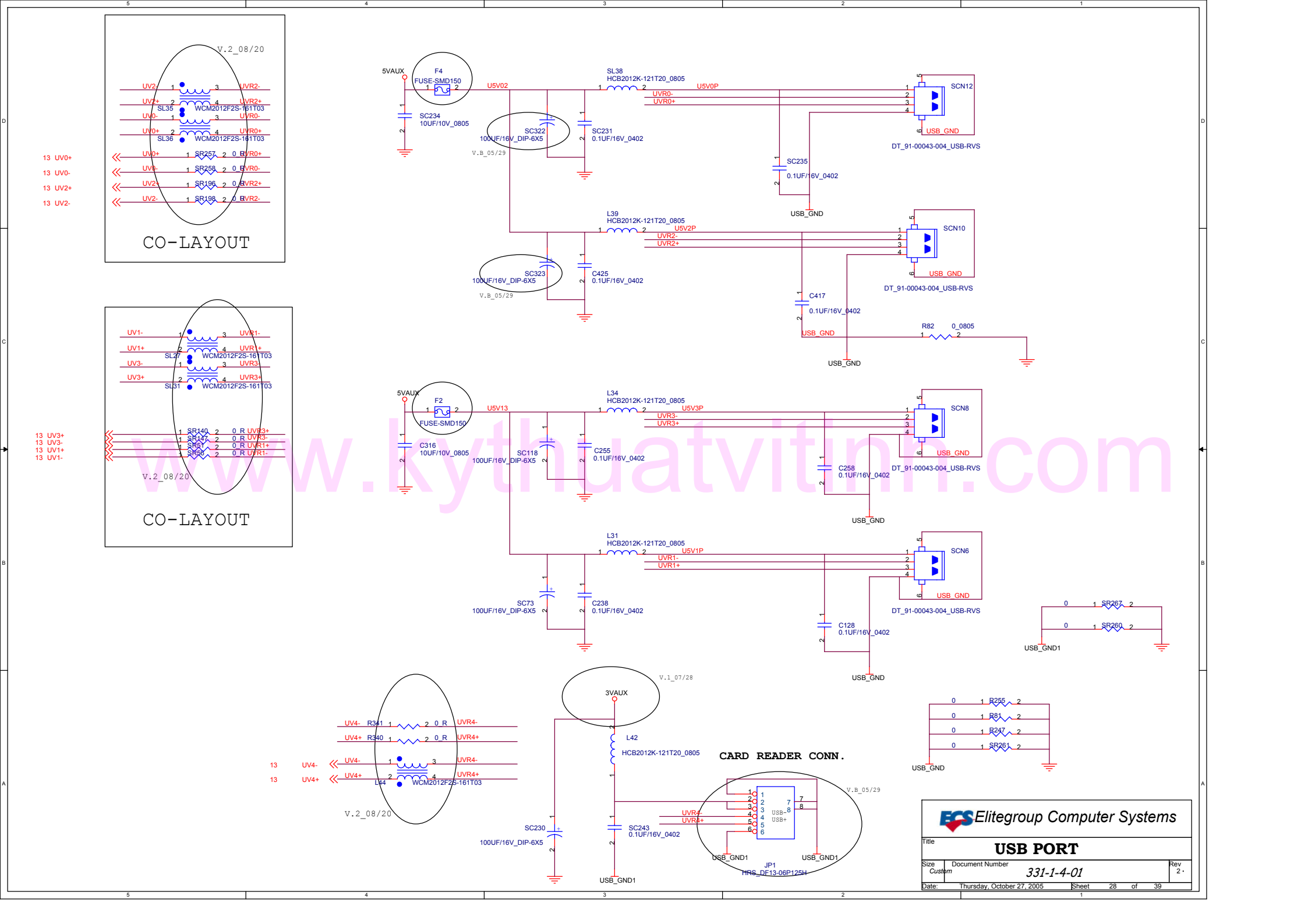

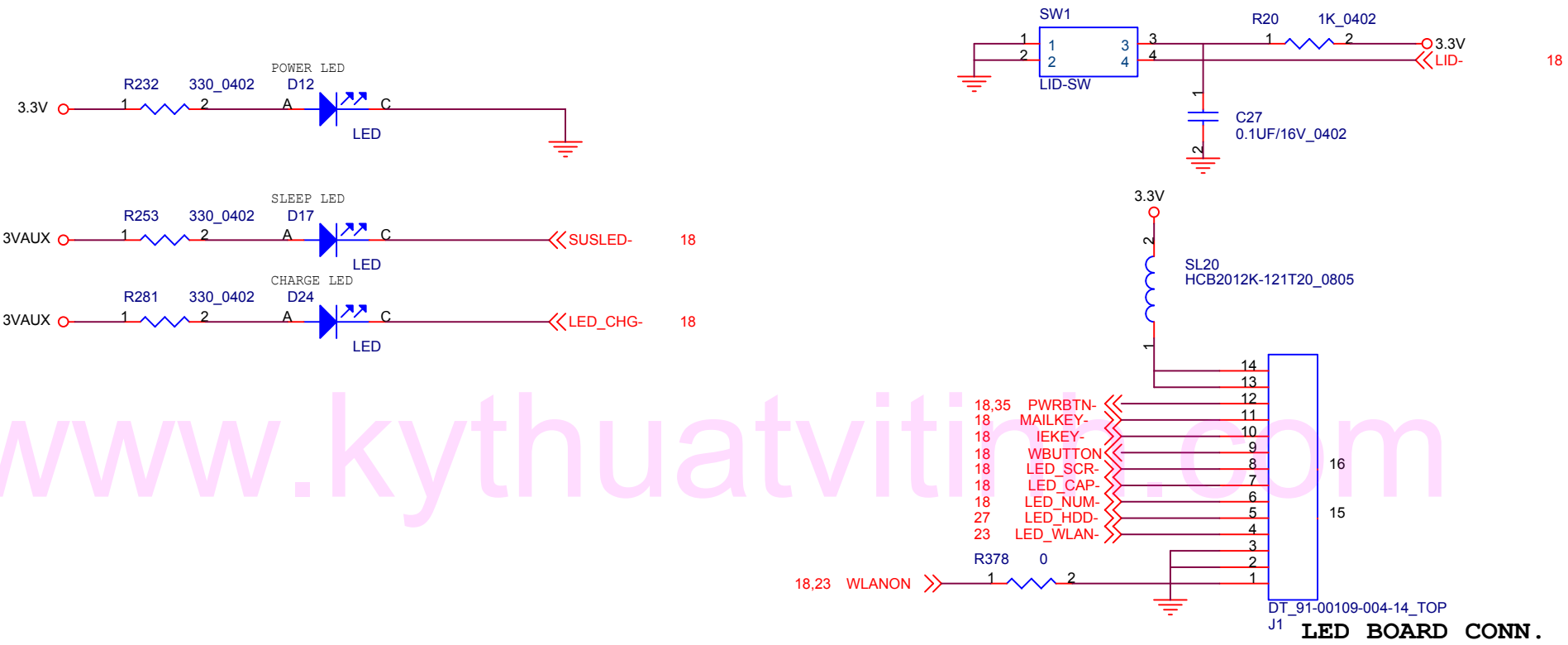

Elitegroup Computer Systems

Title: **LED & LID**

Size	Document Number	Rev
Custom	331-1-4-01	2.0

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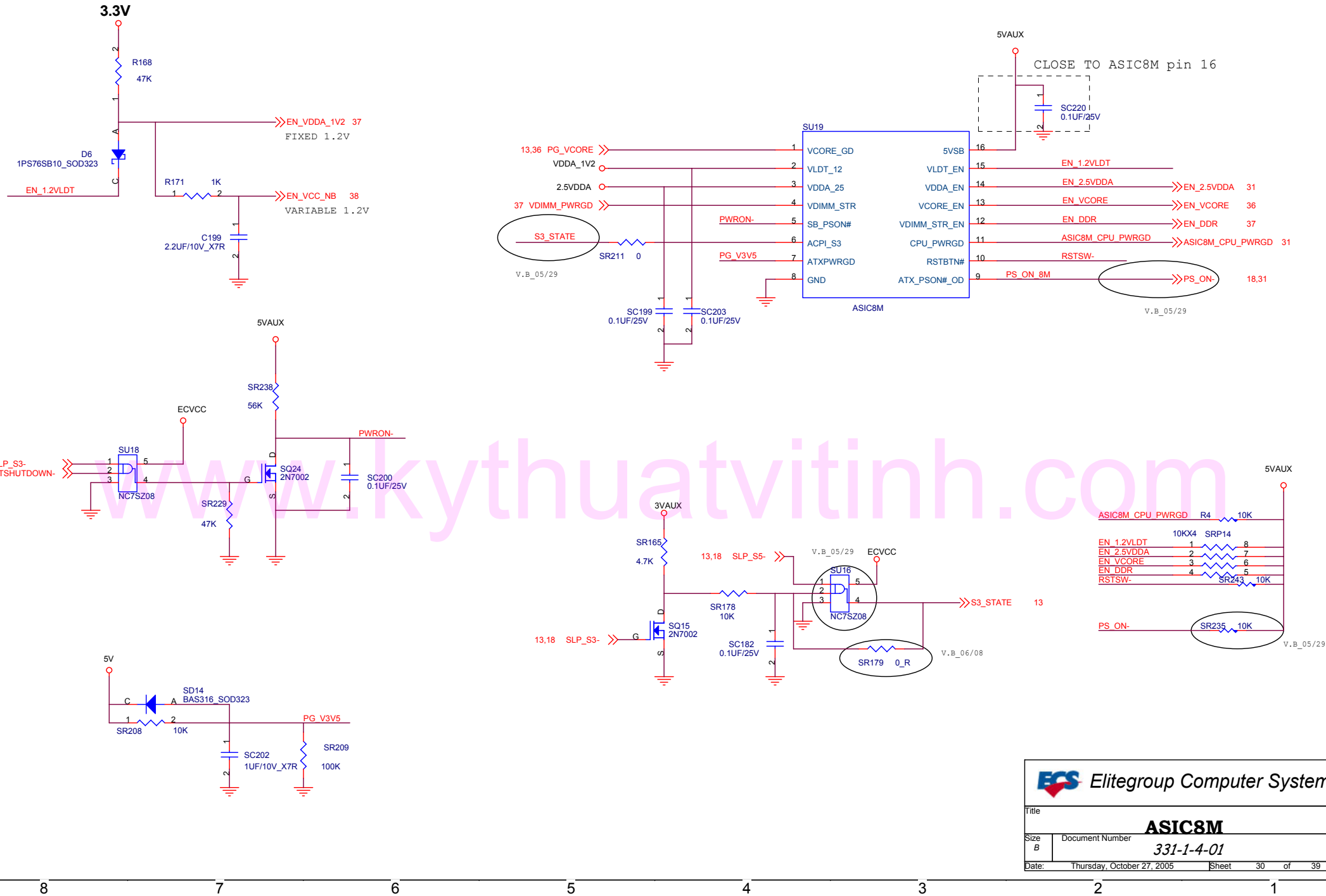

Elitegroup Computer Systems

Title: **ASIC8M**

Size	Document Number	Rev
B	331-1-4-01	2.0

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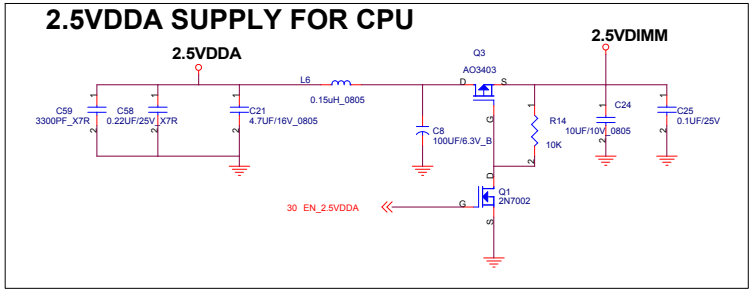
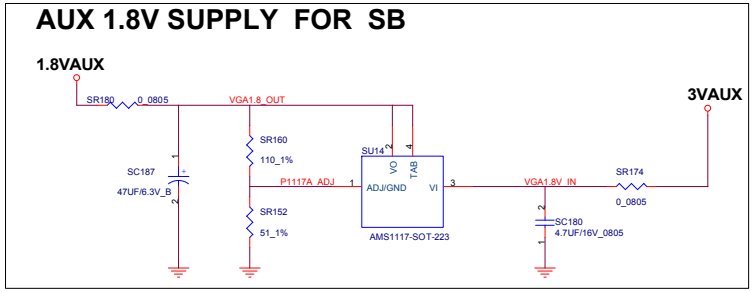
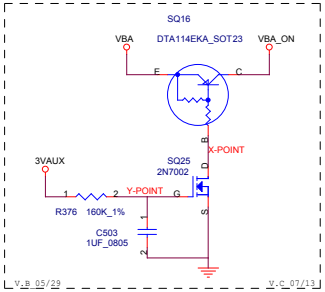
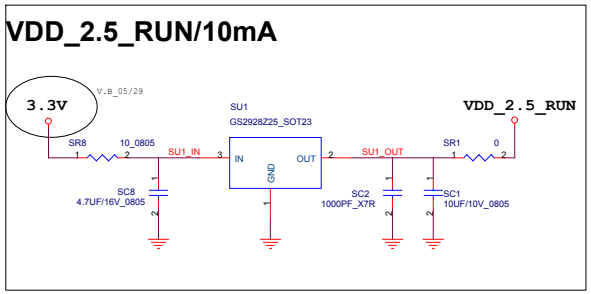
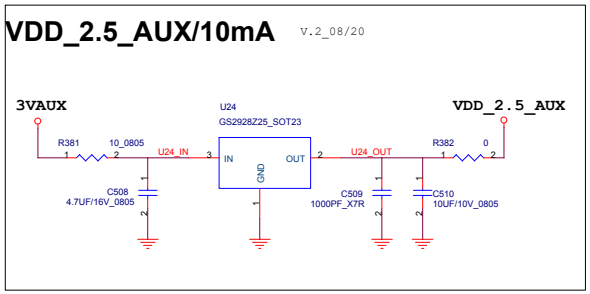
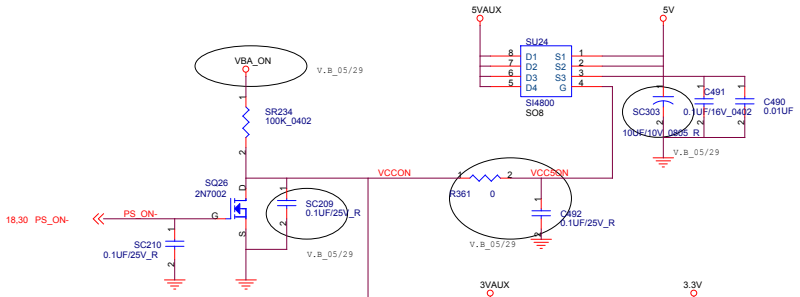


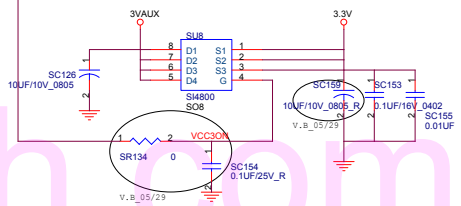




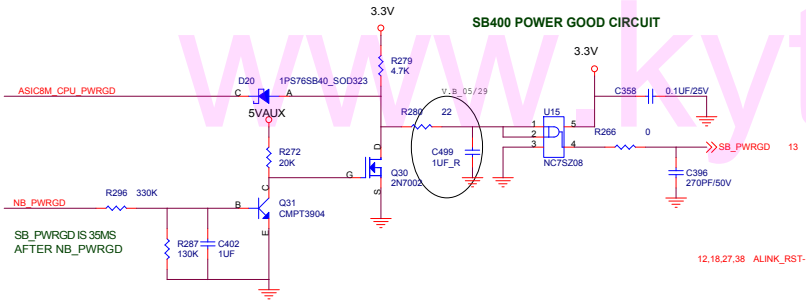


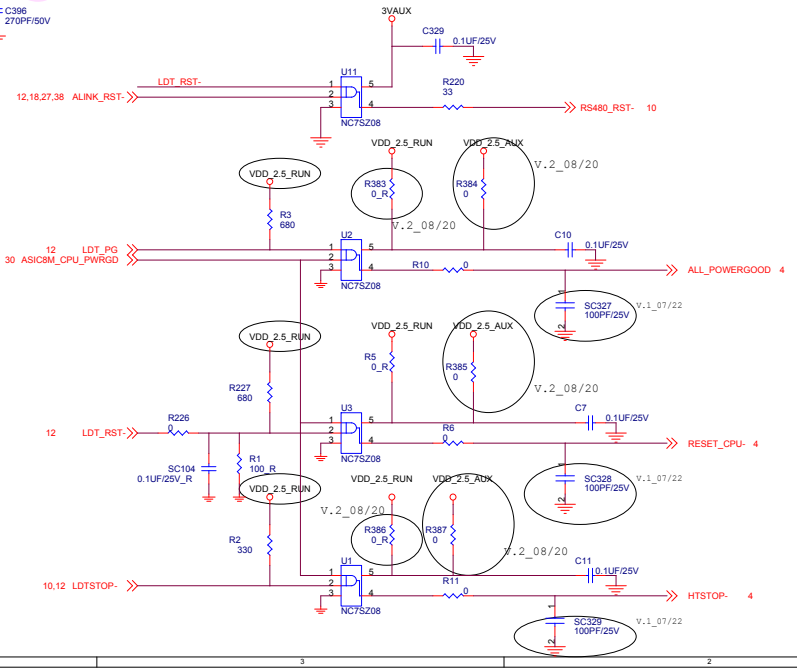


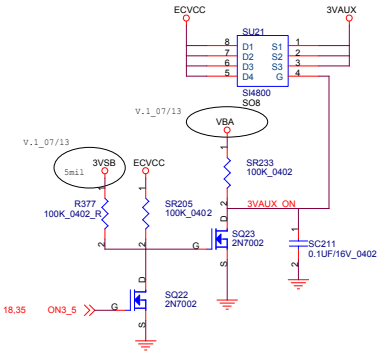




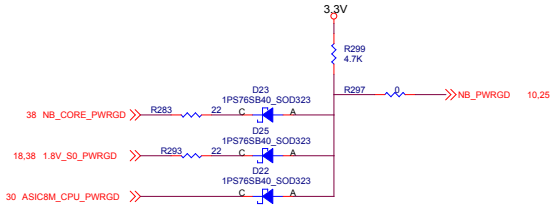
POWER GOOD & ENABLES







RS482M POWERGOOD CIRCUIT



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Title: PWRGD/RESET/SYSTEM POWER

Size: C | Document Number: 331-1-4-01 | Rev: 2.

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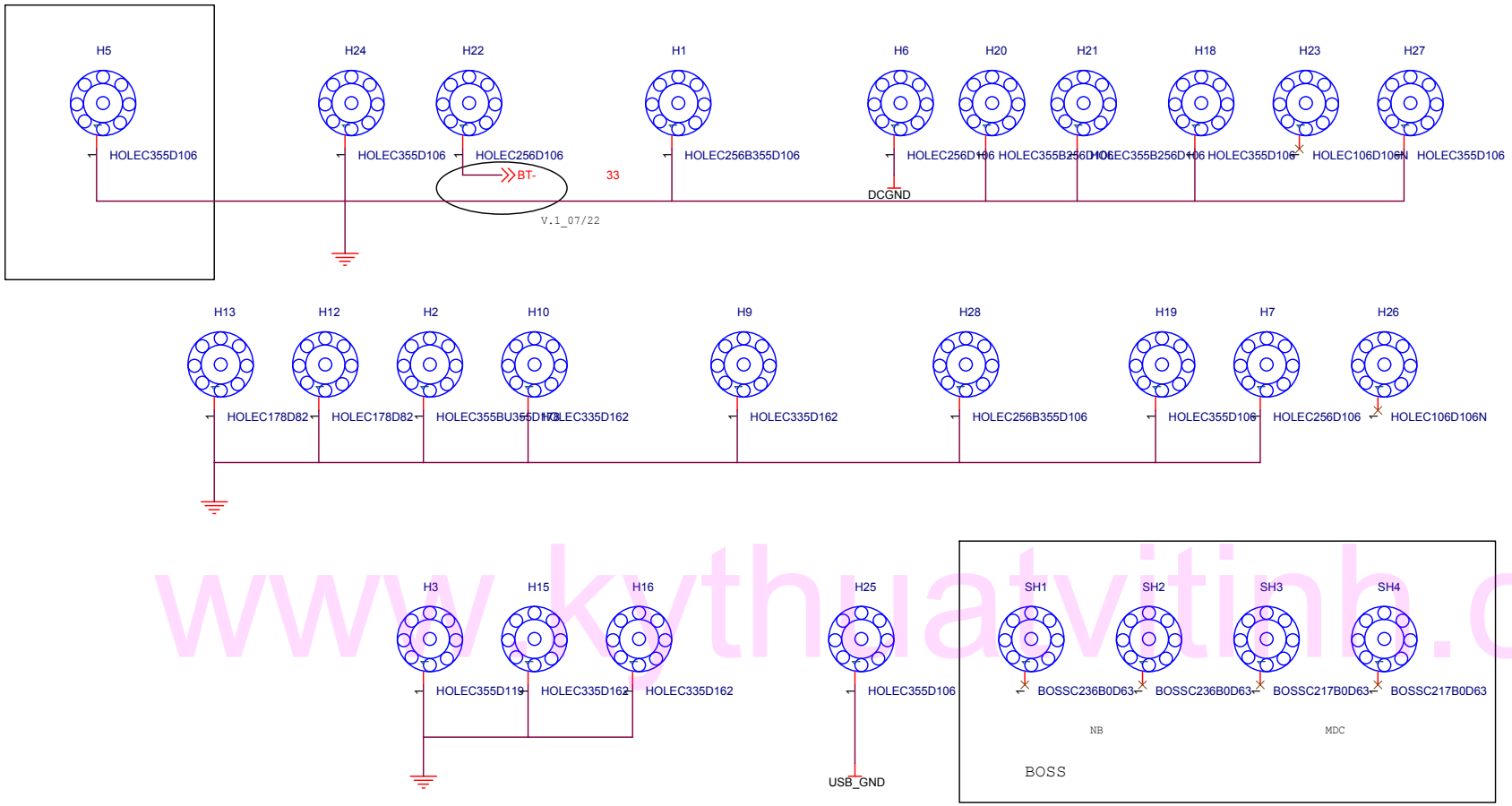

Elitegroup Computer Systems

Title: **THROUGH HOLE**

Size	Document Number	Rev
B	331-1-4-01	2.0

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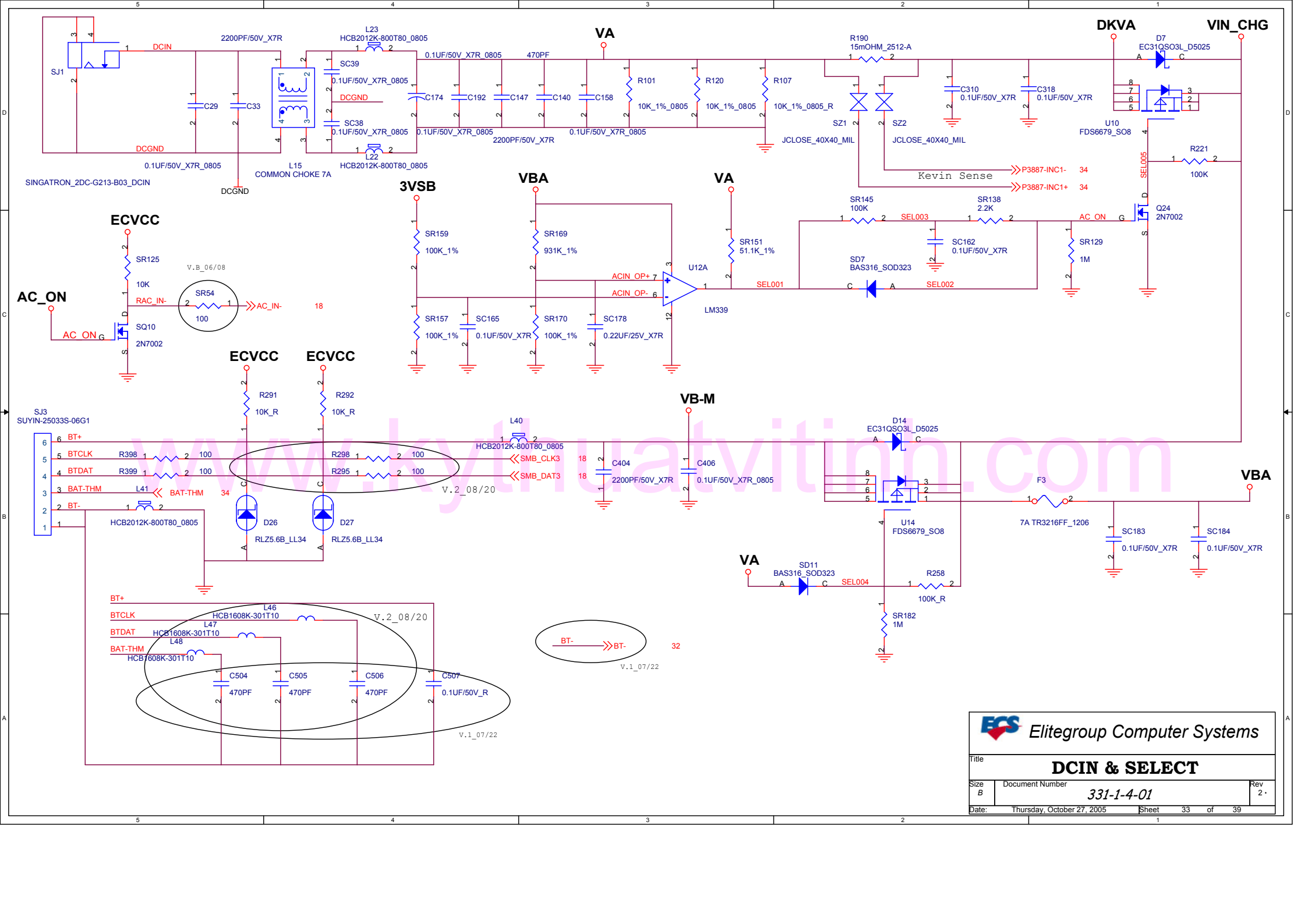

Elitegroup Computer Systems

Title: **DCIN & SELECT**

Size	Document Number	Rev
B	331-1-4-01	2.0

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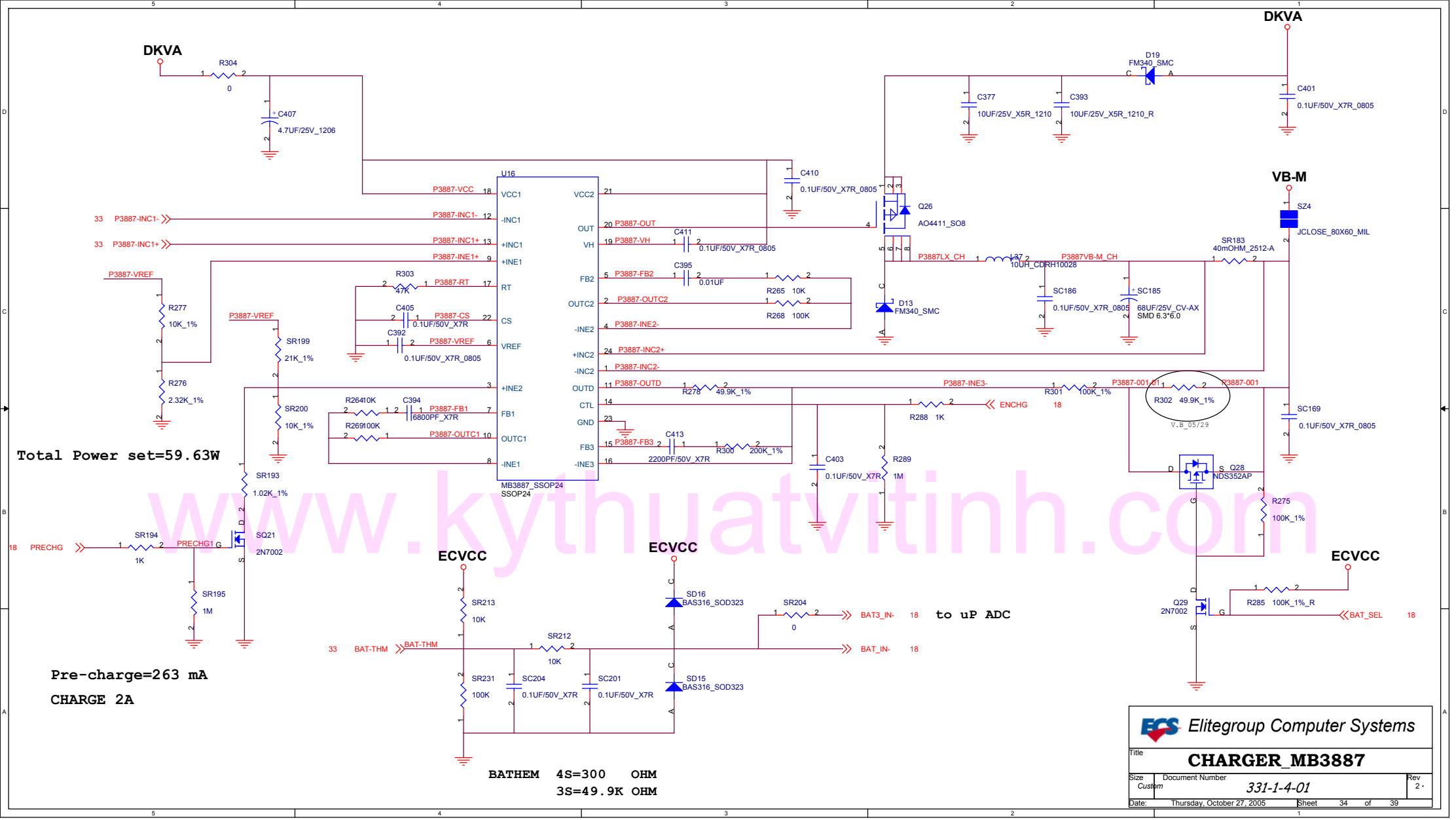

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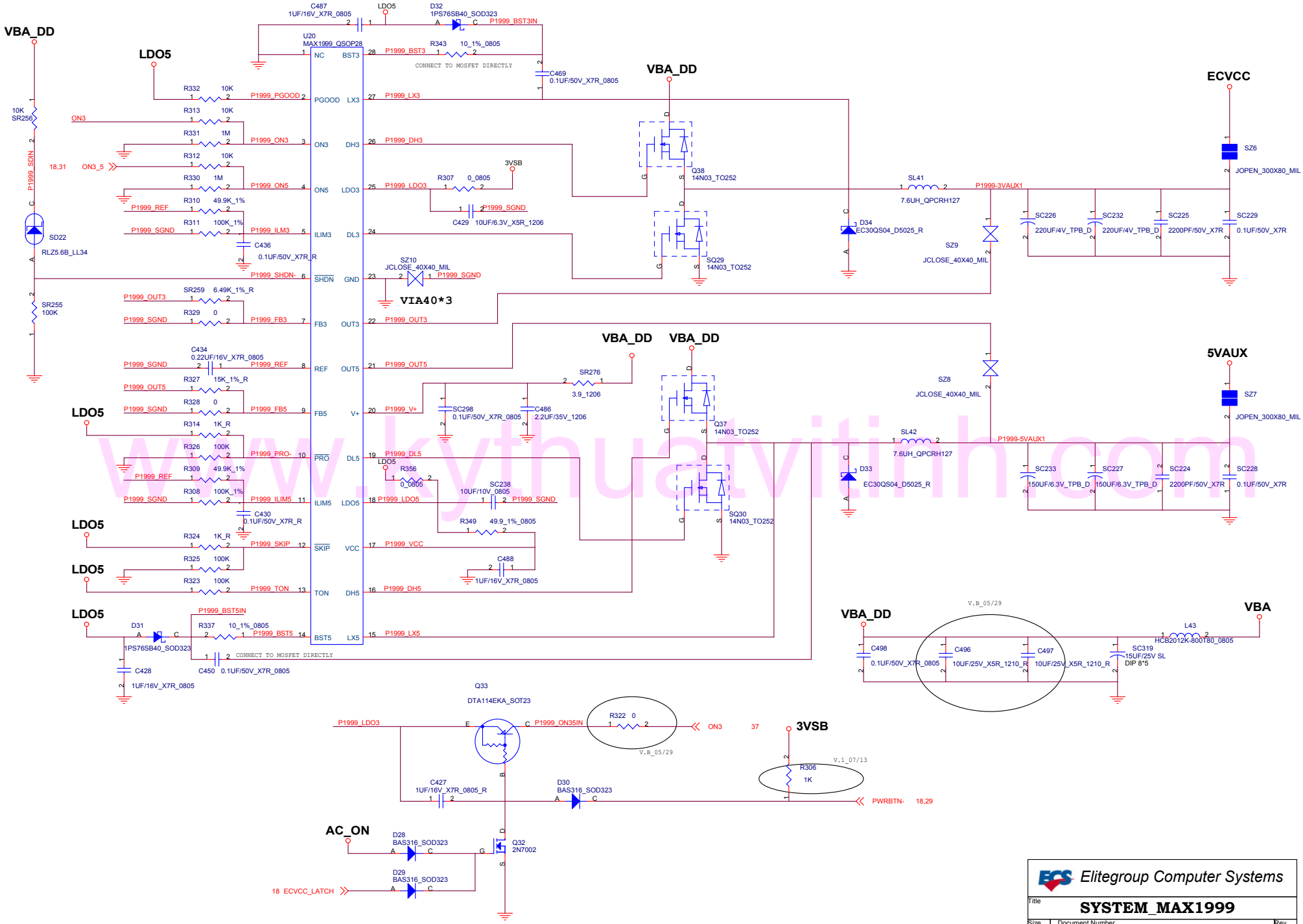
Title: CHARGER_MB3887

Size: Custom | Document Number: 331-1-4-01 | Rev: 2.

Date: Thursday, October 27, 2005 | Sheet 34 of 39



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Title: SYSTEM_MAX1999

Size: Custom | Document Number: 331-1-4-01 | Rev: 2.

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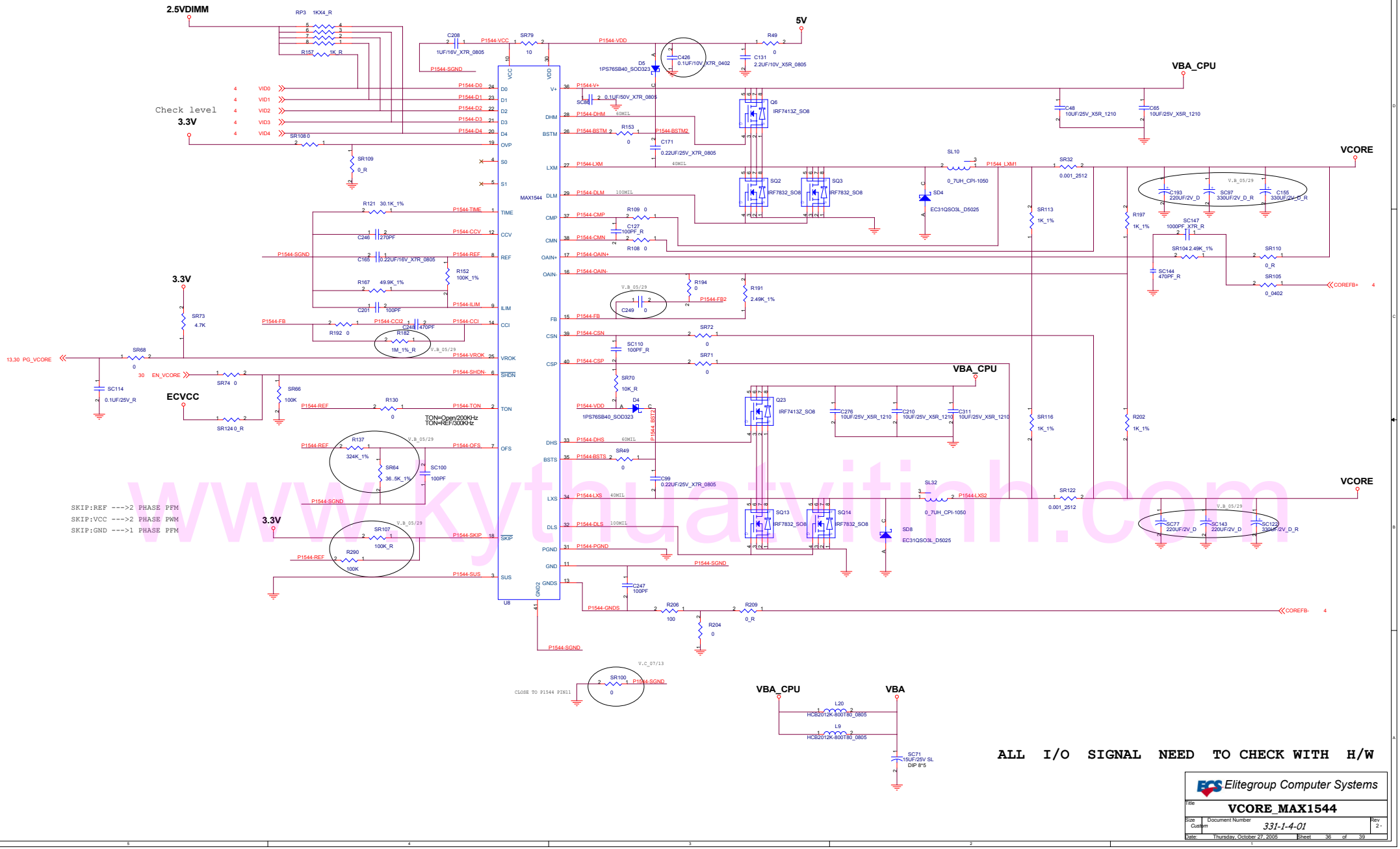
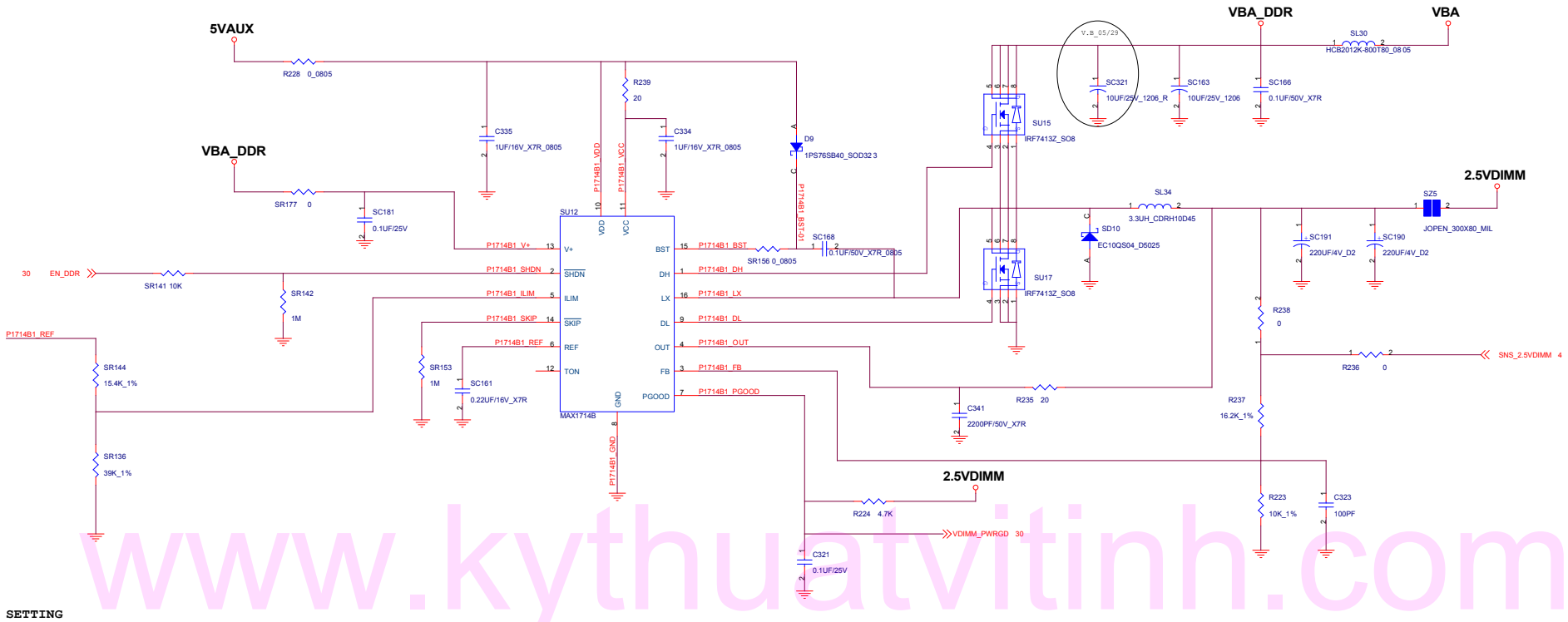
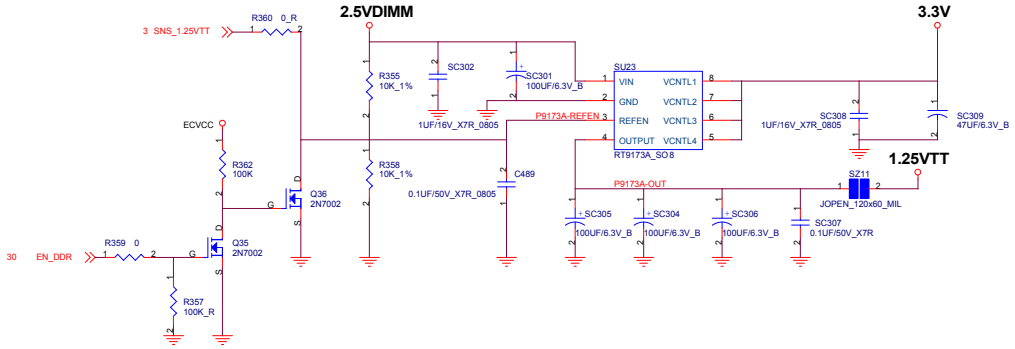


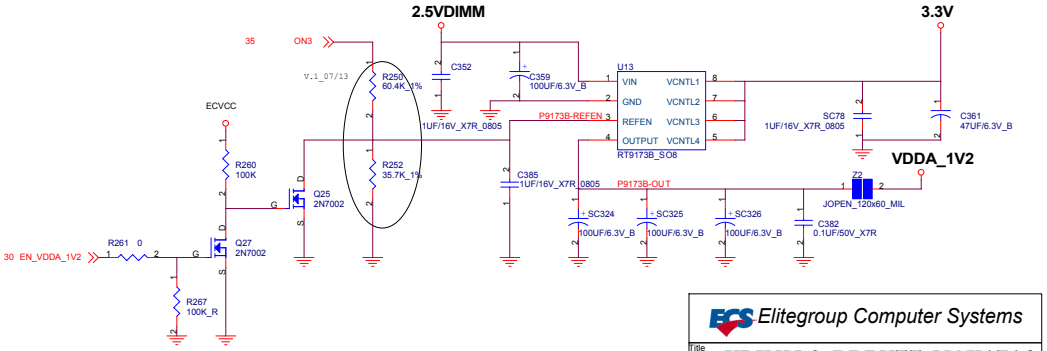


FREQUENCY SETTING

GND=600KHZ REF=450KHZ

FOLATING=300KHZ VCC=200KHZ





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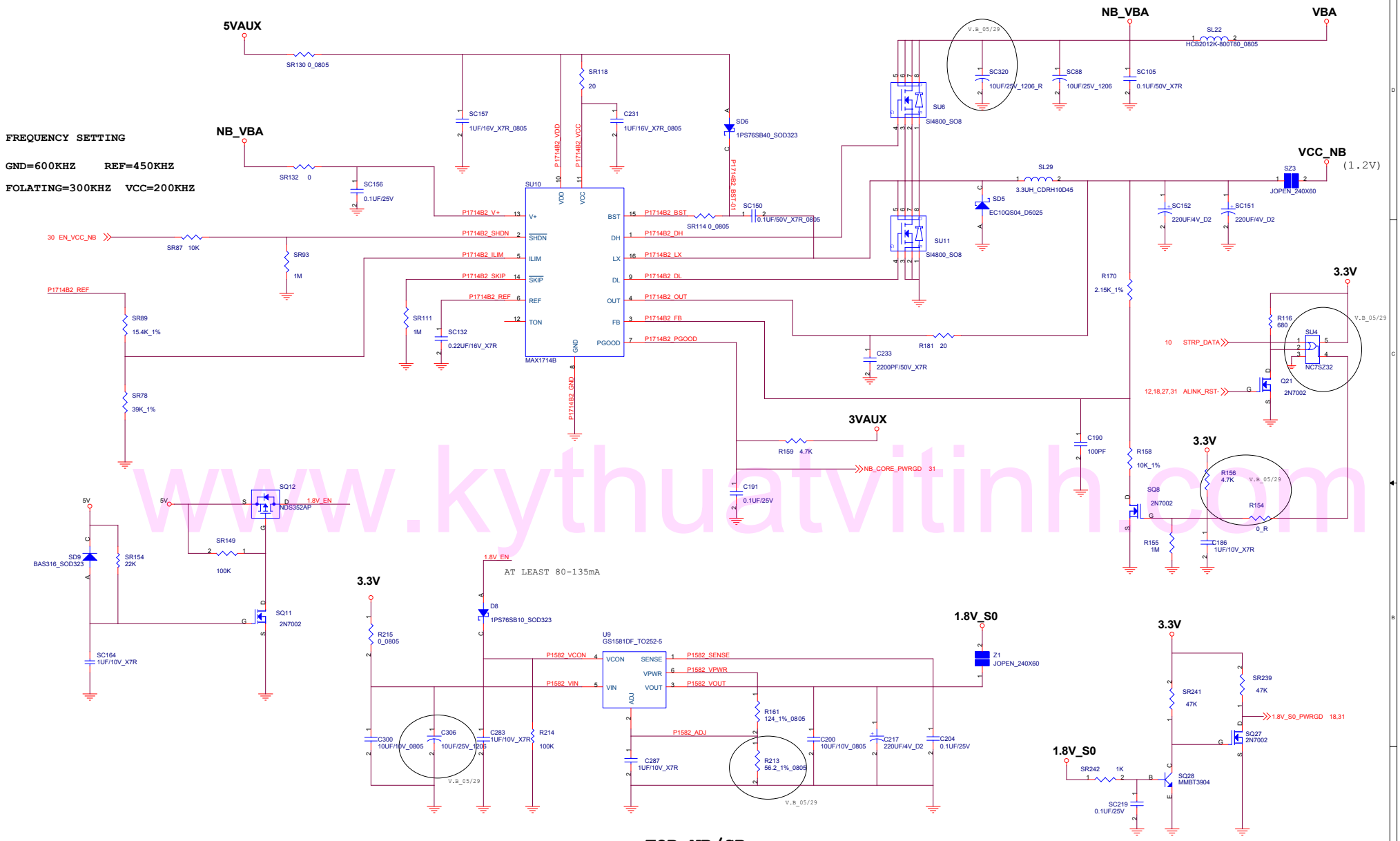
FREQUENCY SETTING
GND=600KHZ REF=450KHZ
FOLATING=300KHZ VCC=200KHZ
5VAUX
NB_VBA
VBA
VCC_NB
(1.2V)
3VAUX
3.3V
1.8V_S0
SU10
MAX1714B
SU6
SU11
SI4800_SO8
SD5
EC10QS04_D5025
SD6
1PS76SB40_SOD323
SQ12
NDS352AP
SQ11
SQ8
SQ27
2N7002
SU4
NC7SZ32
Q21
SD9
BAS316_SOD323
D8
1PS76SB10_SOD323
U9
GS1581DF_TO252-5
SQ28
MMBT3904
AT LEAST 80-135mA
1.8V_EN
NB_CORE_PWRGD 31
STRP_DATA
ALINK_RST-
1.8V_S0_PWRGD 18,31
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331 REVISION HISTORY

V.A INITIAL

V.B H/W 01.R98 VCC from 3VAUX change to VDD2.5_RUN.(page.4)
02.LCD power plane SL9 used to 1.8_S0.(page.10)
03.PCIRST- add SC208 2.2uF to filter noise.(page.12)
04.D11 power plane chage to 3VAUX.(page.12)
05.GA20 & KBRST connect to SB.(page.13)
06.net PWRGD change to EC_MUTE.(page.18)
07.SQ16 no function deleter it.(page.18)
08.noise interference, decrease pull high resistor SRP1 10k->2.2k.(page.18)
09.Backlight ON control priority shift to micro-processor R47,R35 Del, R50,R34 Add.(page.25)
10.H, V sync change driving way, add Q41, Q42.(page.18)

P/W