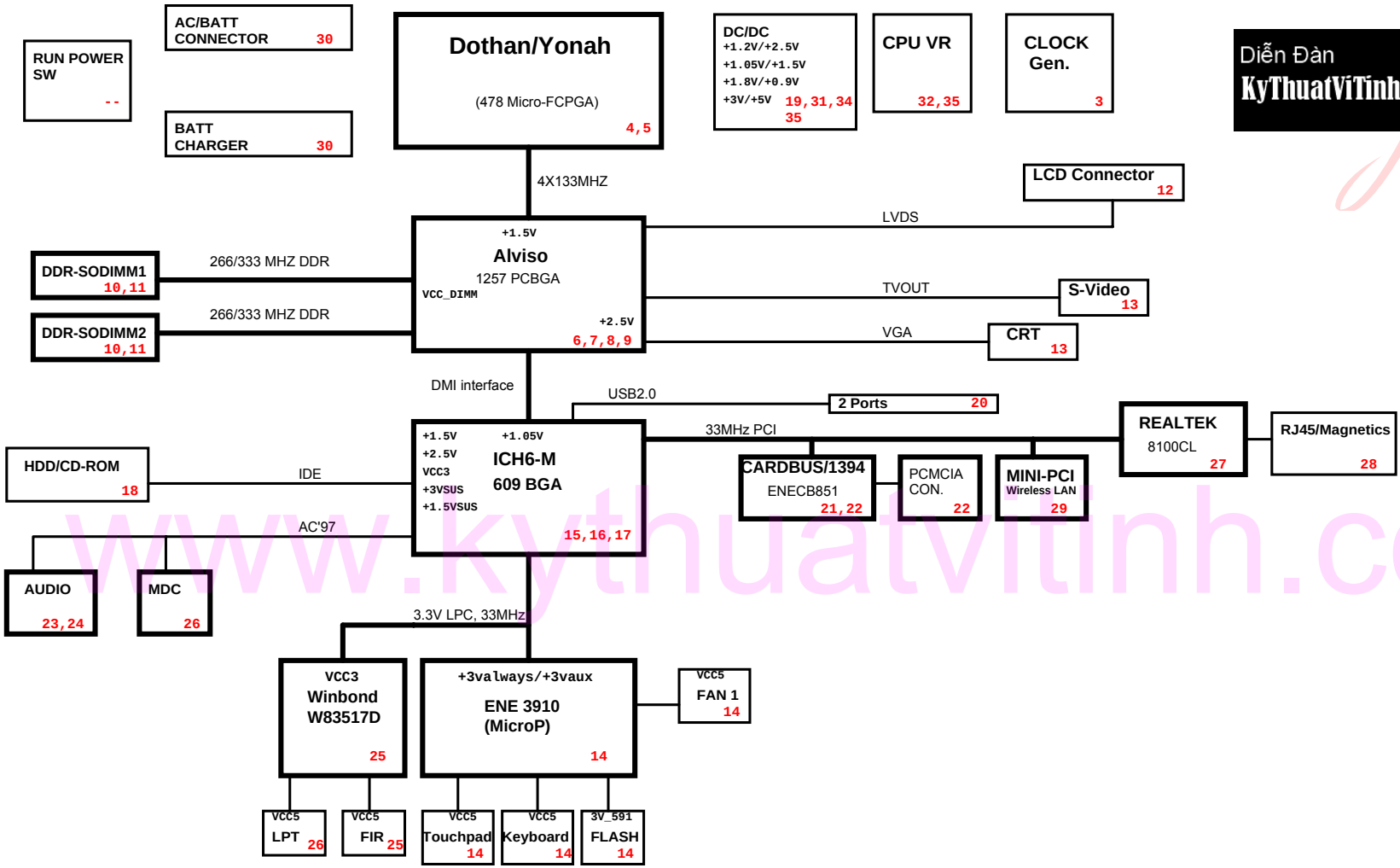
558

Rev: 2.0 **15-F55-012000**



Page	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20
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
Data	2005/ 03/21	2005/ 03/21	2005/ 03/21	2005/ 03/21	2005/ 03/21	2005/ 03/21	2005/ 03/21	2005/ 03/21	2005/ 03/21	2005/ 03/21	2005/ 03/21	2005/ 03/21	2005/ 03/21	2005/ 03/21	2005/ 03/21	2005/ 03/21	2005/ 03/21	2005/ 03/21	2005/ 03/21	2005/ 03/21

Page	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
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
Data	2005/ 03/21	2005/ 03/21	2005/ 03/21	2005/ 03/21	2005/ 03/21	2005/ 03/21	2005/ 03/21	2005/ 03/21	2005/ 03/21	2005/ 03/21	2005/ 03/21	2005/ 03/21	2005/ 03/21	2005/ 03/21	2005/ 03/21	2005/ 03/21	2005/ 03/21

Elitegroup Computer Systems

Title: **BLOCK DIAGRAM**

Size: C | Document Number: 558-1-4-01 | Rev: 2.0

Date: Thursday, March 24, 2005 | Sheet 1 of 37

Voltage Rails		ON S0~S1	ON S3	ON S4	ON S5	Control signal
12VOUT		X	X	X	X	
3V_S91		X	X	X	X	
5VPCU		X	X	X	X	
+3V_S5		X	X	X	X	S5_ON
+1.5V_S5		X	X	X	X	S5_ON
+1.8VSUS		X	X			SUSON
+3VSUS		X	X			SUSON
+5VSUS		X	X			SUSON
+0.9VSUS	DDR Termination voltage	X	X			SUSON
CPU_CORE	Core voltage for Processor	X				VR_ON
+0.9V		X				MAINON
+VCCP	1.05V rail for Processor I/O	X				MAINON
+1.5V		X				MAINON
+1.8V		X				MAINON
+2.5V		X				MAINON
+3V		X				MAINON
+5V		X				MAINON
+12V		X				MAINON

External PCI Devices

Device	IDSEL#	REQ#/GNT#	Interrupts
CardBus+1394	AD17	1	PIRQD/C
Mini-PCI	AD19	2	PIRQB/D
10/100M LAN	AD23	3	PIRQB

EC SM Bus1 address

Device
Smart Battery
THERMAL SENSOR

ICH6-M SM Bus address

Device	
SODIMM	**1010 000X b**
Clock Gen	**1101 001x b**

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Title: **SYSTEM INFO**

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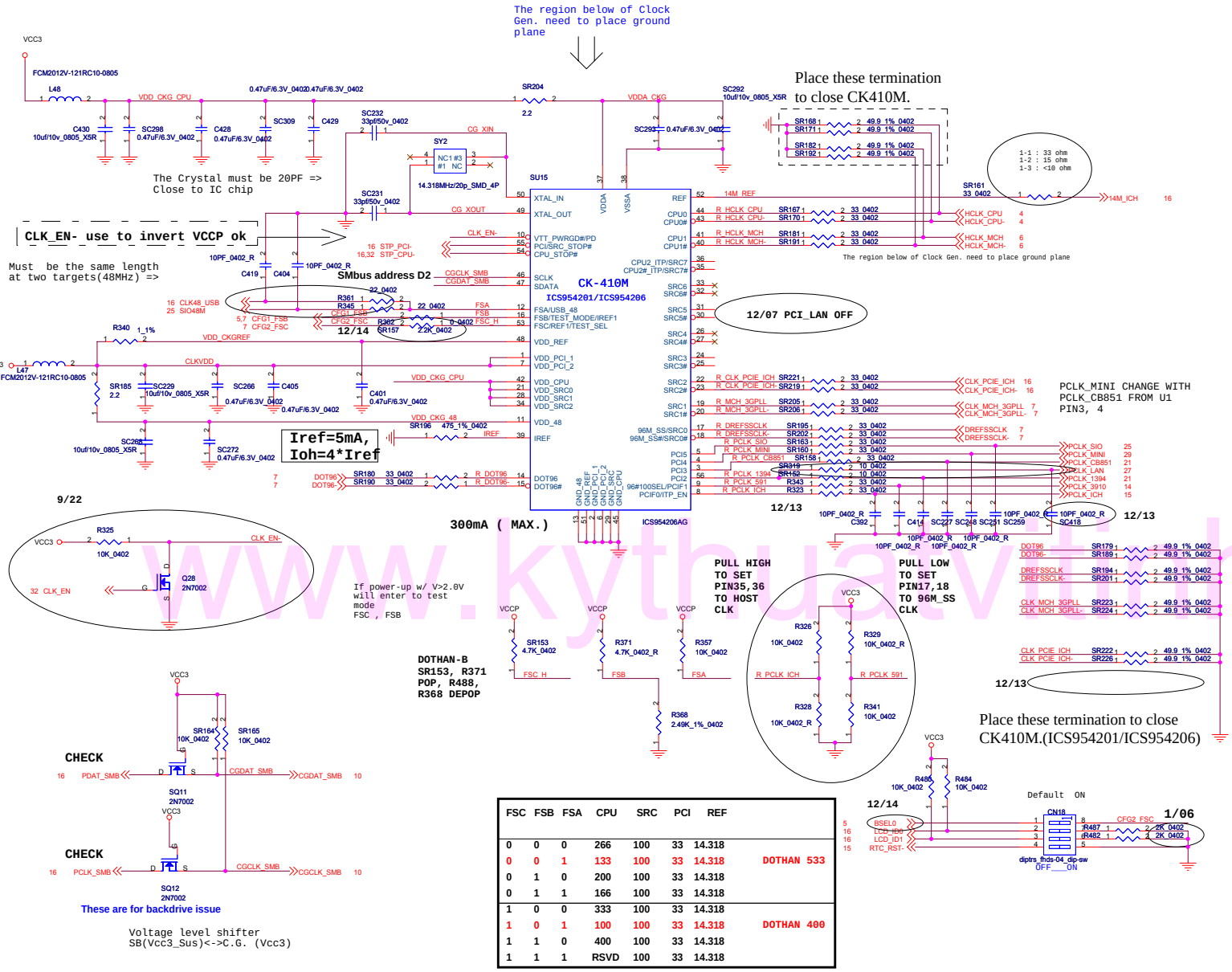
Date: Thursday, March 24, 2005 | Sheet 2 of 37



FSC	FSB	FSA	CPU	SRC	PCI	REF	
0	0	0	266	100	33	14.318	
0	0	1	133	100	33	14.318	DOTHAN 533
0	1	0	200	100	33	14.318	
0	1	1	166	100	33	14.318	
1	0	0	333	100	33	14.318	
1	0	1	100	100	33	14.318	DOTHAN 400
1	1	0	400	100	33	14.318	
1	1	1	RSVD	100	33	14.318	

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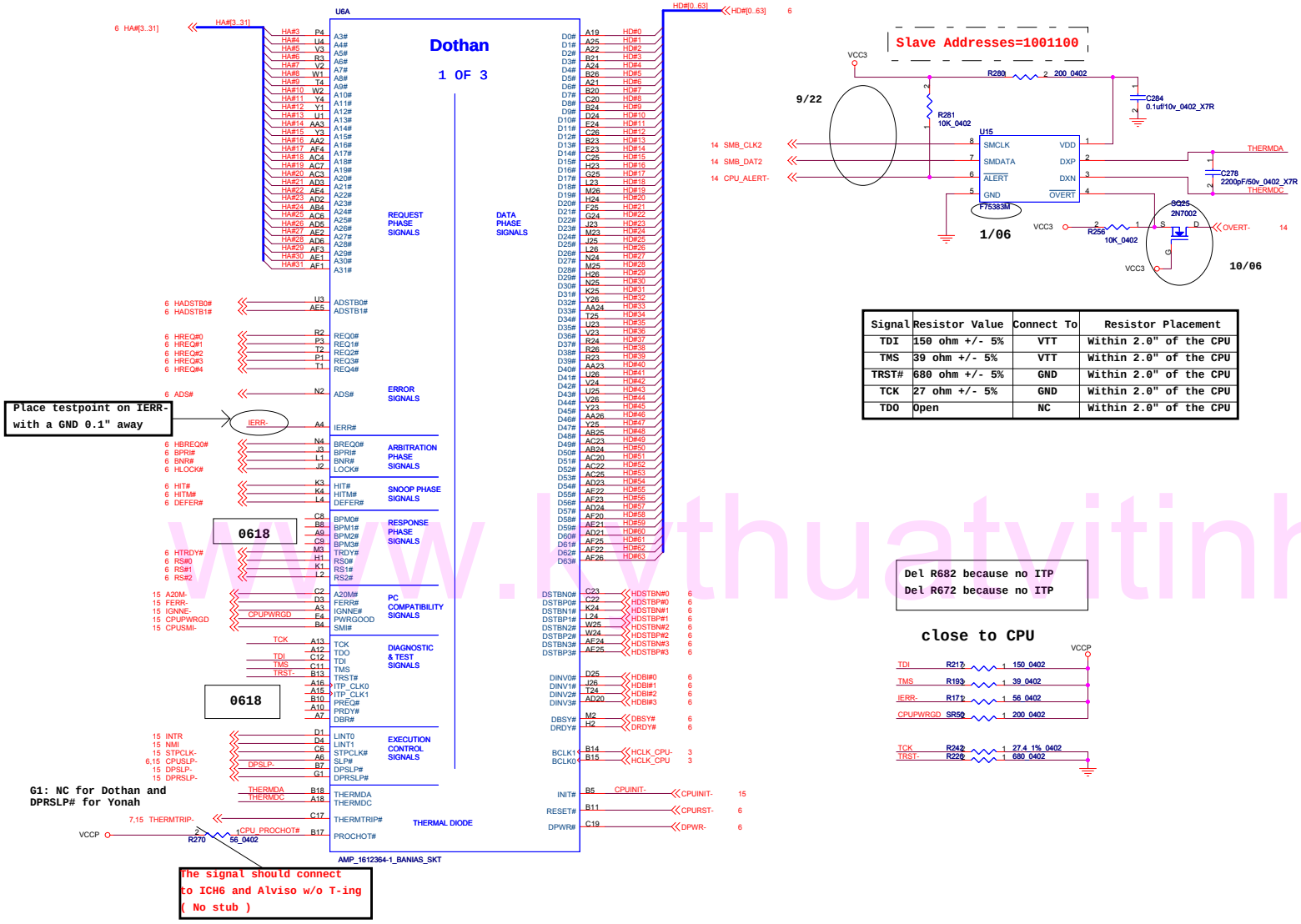
Title: CLOCK GENERATOR

Size: B | Document Number: 558-1-4-01 | Rev: 2.0

Date: Thursday, March 24, 2005 | Sheet 3 of 37



Signal	Resistor Value	Connect To	Resistor Placement
TDI	150 ohm +/- 5%	VTT	Within 2.0" of the CPU
TMS	39 ohm +/- 5%	VTT	Within 2.0" of the CPU
TRST#	680 ohm +/- 5%	GND	Within 2.0" of the CPU
TCK	27 ohm +/- 5%	GND	Within 2.0" of the CPU
TDO	Open	NC	Within 2.0" of the CPU

Del R682 because no ITP
Del R672 because no ITP

close to CPU

Elitegroup Computer Systems

Title: Dothan (HOST BUS)

Size	Document Number	Rev
B	558-1-4-01	2.0

Date: Thursday, March 24, 2005 Sheet 4 of 37

VCC_CORE
+VCCP
+1.8V

Place voltage divider within 0.5" of GTLREF pin

Place pulldown resistors within 0.5" of COMP pins

Dothan 2 OF 3

POWER, GROUND, RESERVED SIGNALS

Dothan 3 OF 3

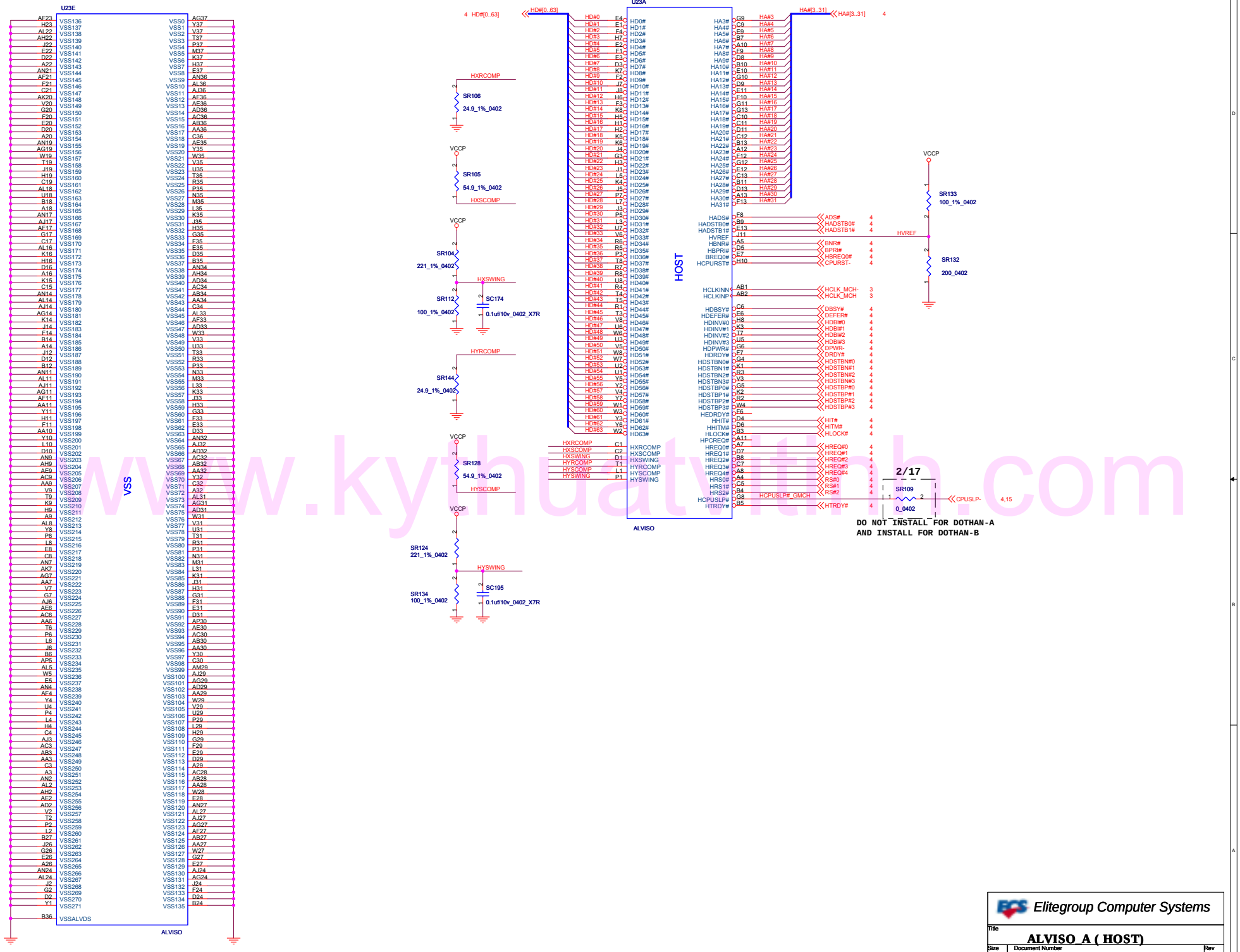
POWER, GROUND AND NC

VID

Total caps = 2633 uF
ESR = 15m ohm/5 // 5m ohm/25 // 5m ohm/15

DOTHAN-A NC
DOTHAN-B POP

Elitegroup Computer Systems	
Title	Dothan (POWER/NC)
Size B	Document Number 558-1-4-01
Rev	2.0
Date: Thursday, March 24, 2005	Sheet 5 of 37

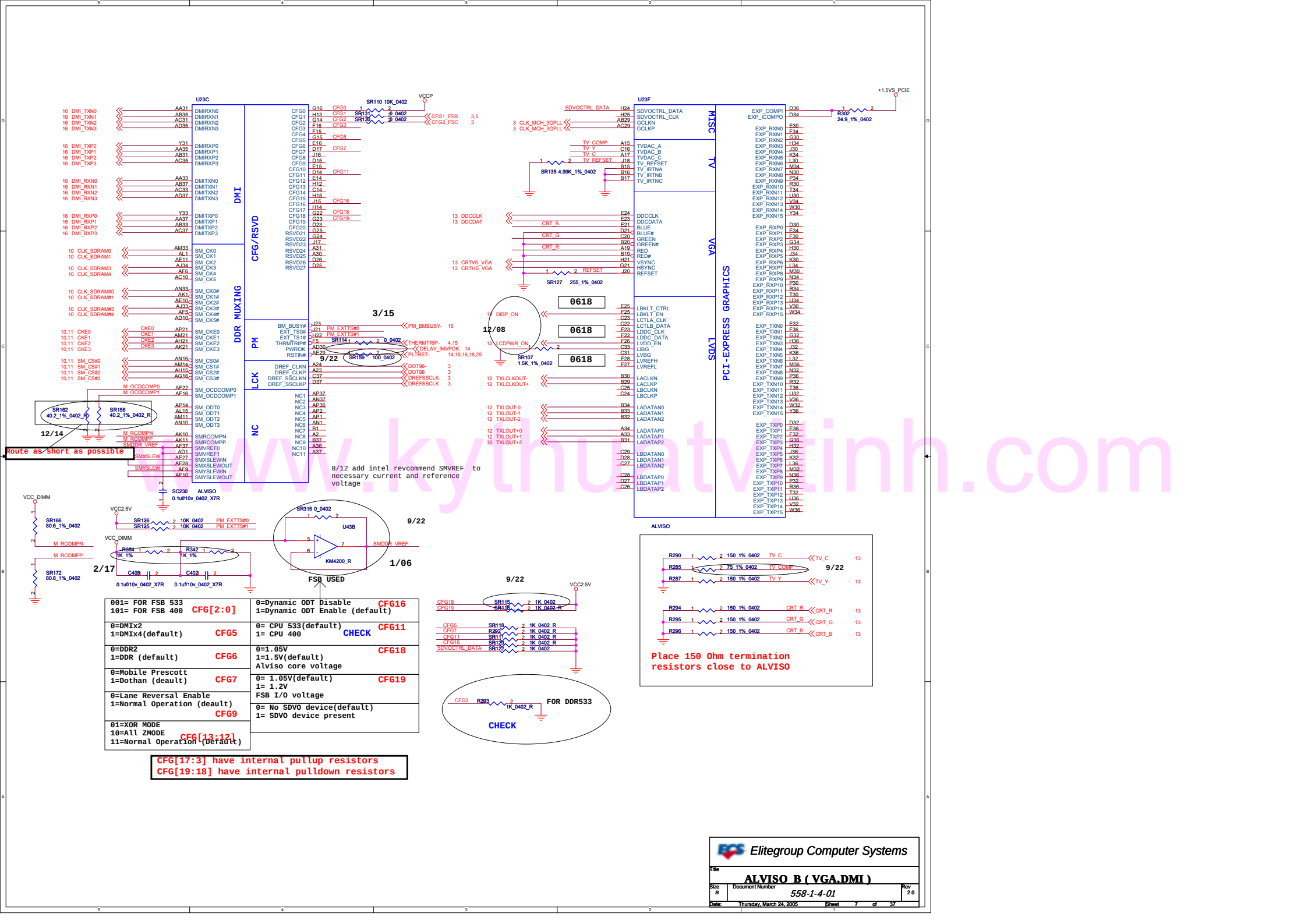


Elitegroup Computer Systems

Title: ALVISO_A (HOST)

Size	Document Number	Rev
C	558-1-4-01	2.0

Date: Thursday, March 24, 2005 Sheet 6 of 37



001= FOR FSB 533 101= FOR FSB 400 CFG[2:0]	0=Dynamic ODT Disable 1=Dynamic ODT Enable (default) CFG16
0=DMIx2 1=DMIx4(default) CFG5	0= CPU 533(default) 1= CPU 400 CFG11 CHECK
0=DDR2 1=DDR (default) CFG6	0=1.05V 1=1.5V(default) Alviso core voltage CFG18
0=Mobile Prescott 1=Dothan (deault) CFG7	0= 1.05V(default) 1= 1.2V FSB I/O voltage CFG19
0=Lane Reversal Enable 1=Normal Operation (deault) CFG9	0= No SDVO device(default) 1= SDVO device present
01=XOR MODE 10=All ZMODE 11=Normal Operation (default) CFG[13:12]	

CFG[17:3] have internal pullup resistors
CFG[19:18] have internal pulldown resistors

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Title: ALVISO_B (VGA,DMI)

Size: B | Document Number: 558-1-4-01 | Rev: 2.0

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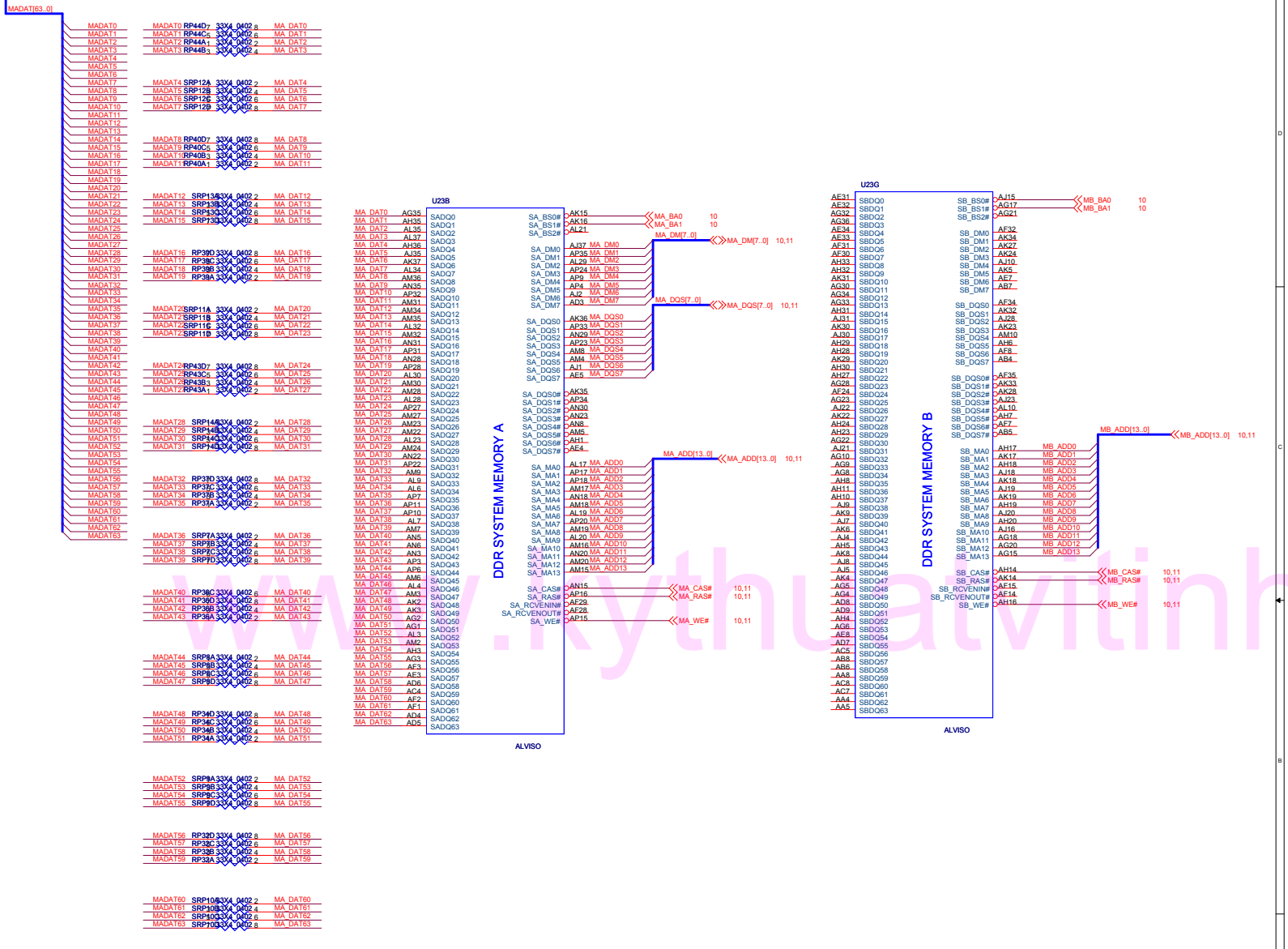

Elitegroup Computer Systems

Title: ALVISO_C (DDR)

Size	Document Number	Rev
B	558-1-4-01	2.0

Date: Thursday, March 24, 2005 Sheet 8 of 37

+VCC_GMCH_CORE -->1.5V
+VCCP
+2.5V
VCC_DIMM

L3,L4,L5
150ohm@100Mhz

40mA
40mA
45mA
45mA
150ohm@100Mhz

Note: All VCCSM pins shorted internally.
Note: All VCCSM pins shorted internally.

close to PIN D19

Route VSSA_TVBG gnd from GMCH to decoupling cap ground lead and then connect to the gnd plane

Layout note: VSSA_CRTDAC
Route caps within 250mil of Alviso.
Route FB within 3" of Alviso.

Route VSSA_CRTDAC gnd from GMCH to decoupling cap ground lead and then connect to the gnd plane

close to PIN B28,A28,A27

0618
0702
0714

U23H
POWER
ALVISO
U23D
NCTF
ALVISO

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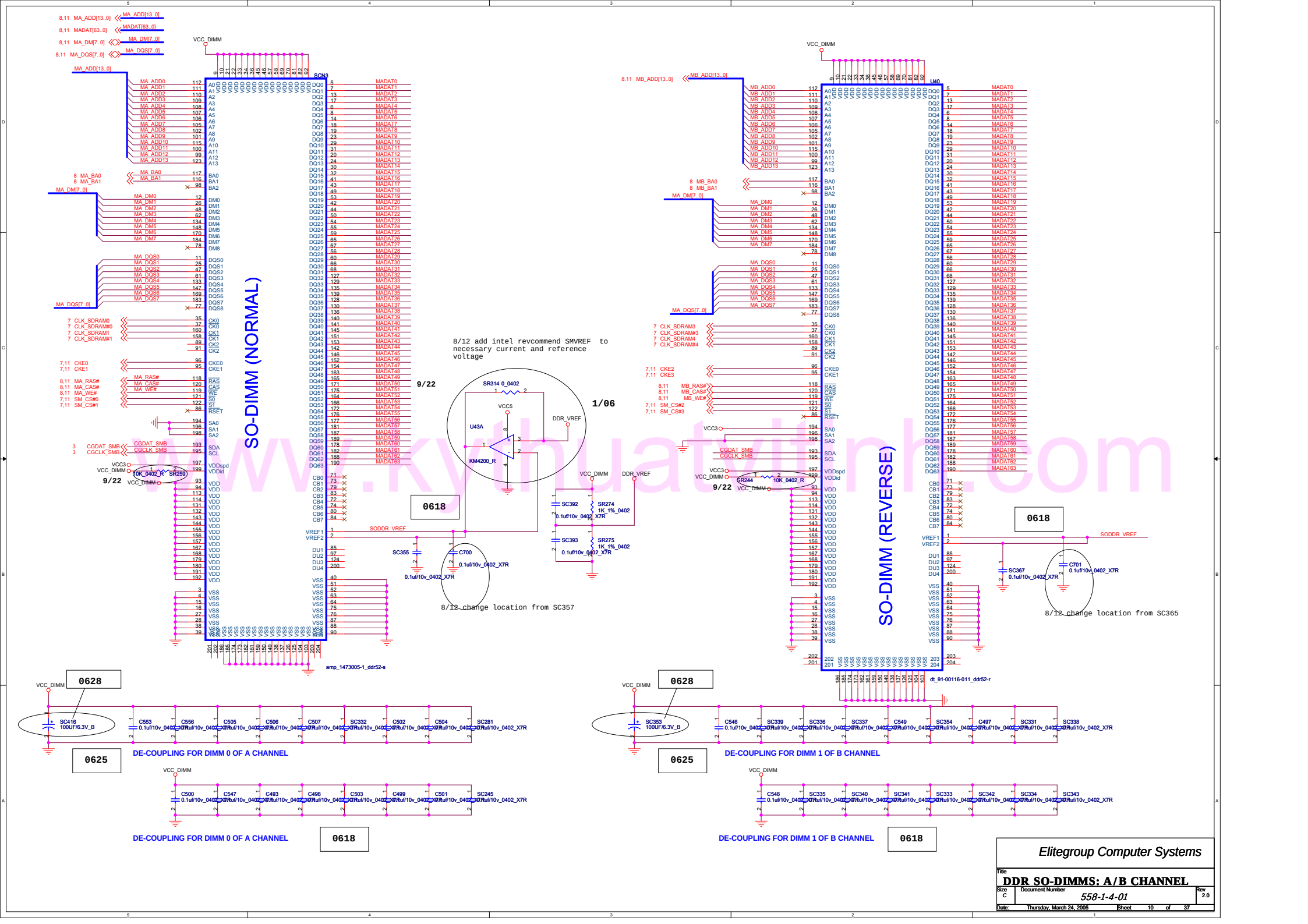
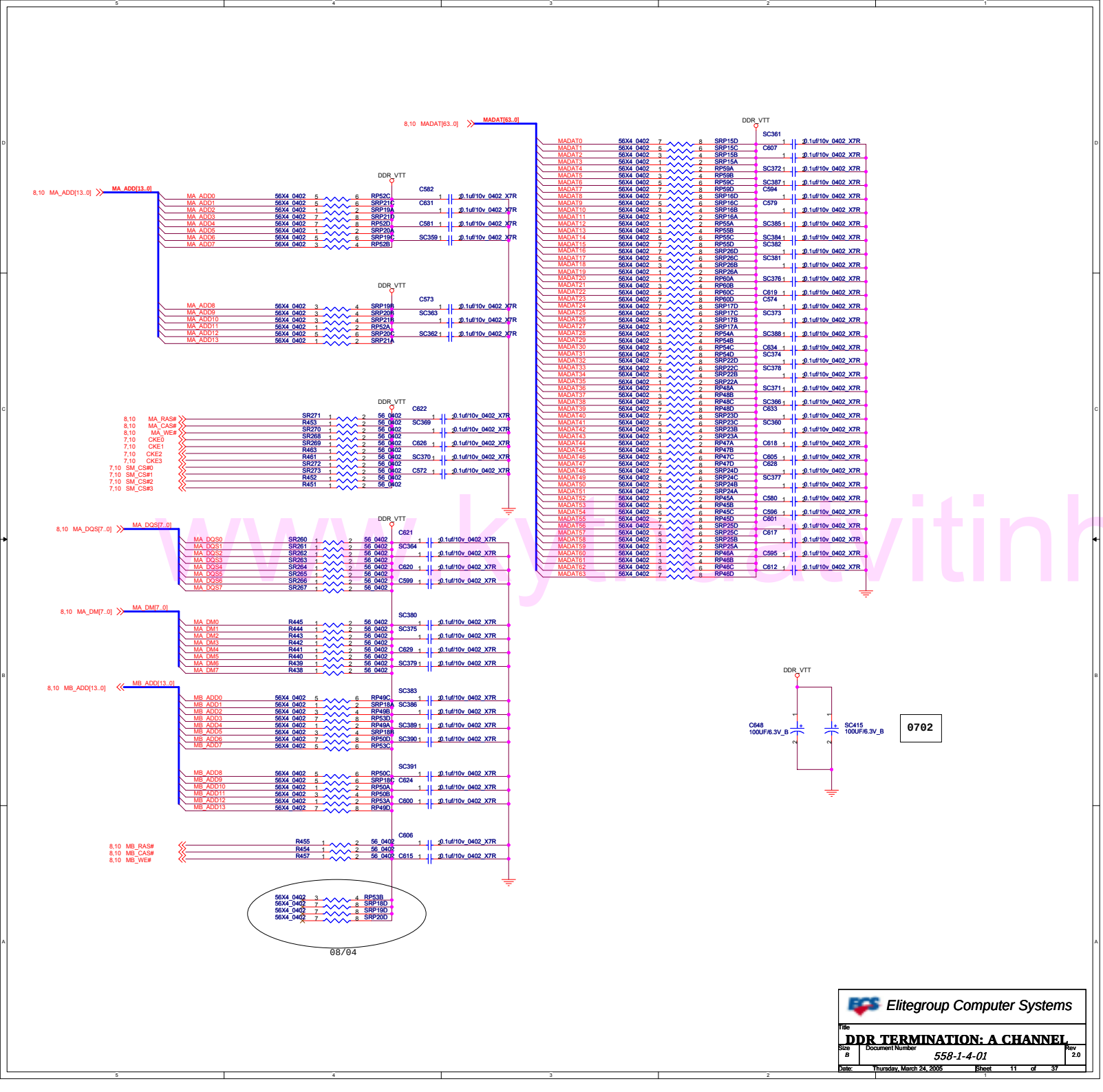
Title: ALVISO_D (POWER)

Size: C | Document Number: 558-1-4-01 | Rev: 2.0

Date: Thursday, March 24, 2005 | Sheet 9 of 37


SO-DIMM (NORMAL)
SO-DIMM (REVERSE)
SCN3
U40
U43A
8/12 add intel revcommend SMVREF to necessary current and reference voltage
8/12 change location from SC357
8/12 change location from SC365
DE-COUPLING FOR DIMM 0 OF A CHANNEL
DE-COUPLING FOR DIMM 1 OF B CHANNEL
DE-COUPLING FOR DIMM 0 OF A CHANNEL
DE-COUPLING FOR DIMM 1 OF B CHANNEL
amp_1473005-1_ddr52-s
dt_91-00116-011_ddr52-r
Elitegroup Computer Systems
DDR SO-DIMMS: A/B CHANNEL
558-1-4-01
Thursday, March 24, 2005
Sheet 10 of 37



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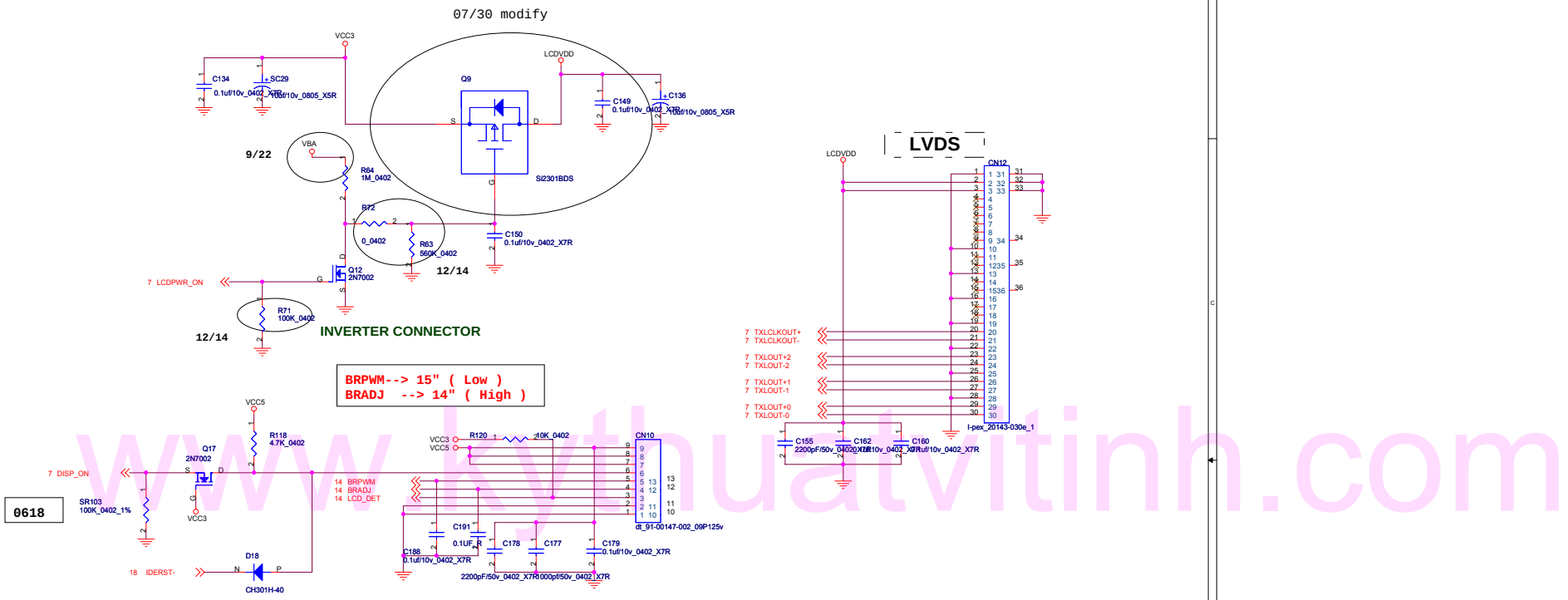
Title: DDR TERMINATION: A CHANNEL

Size	Document Number	Rev
B	558-1-4-01	2.0

Date: Thursday, March 24, 2005 Sheet 11 of 37

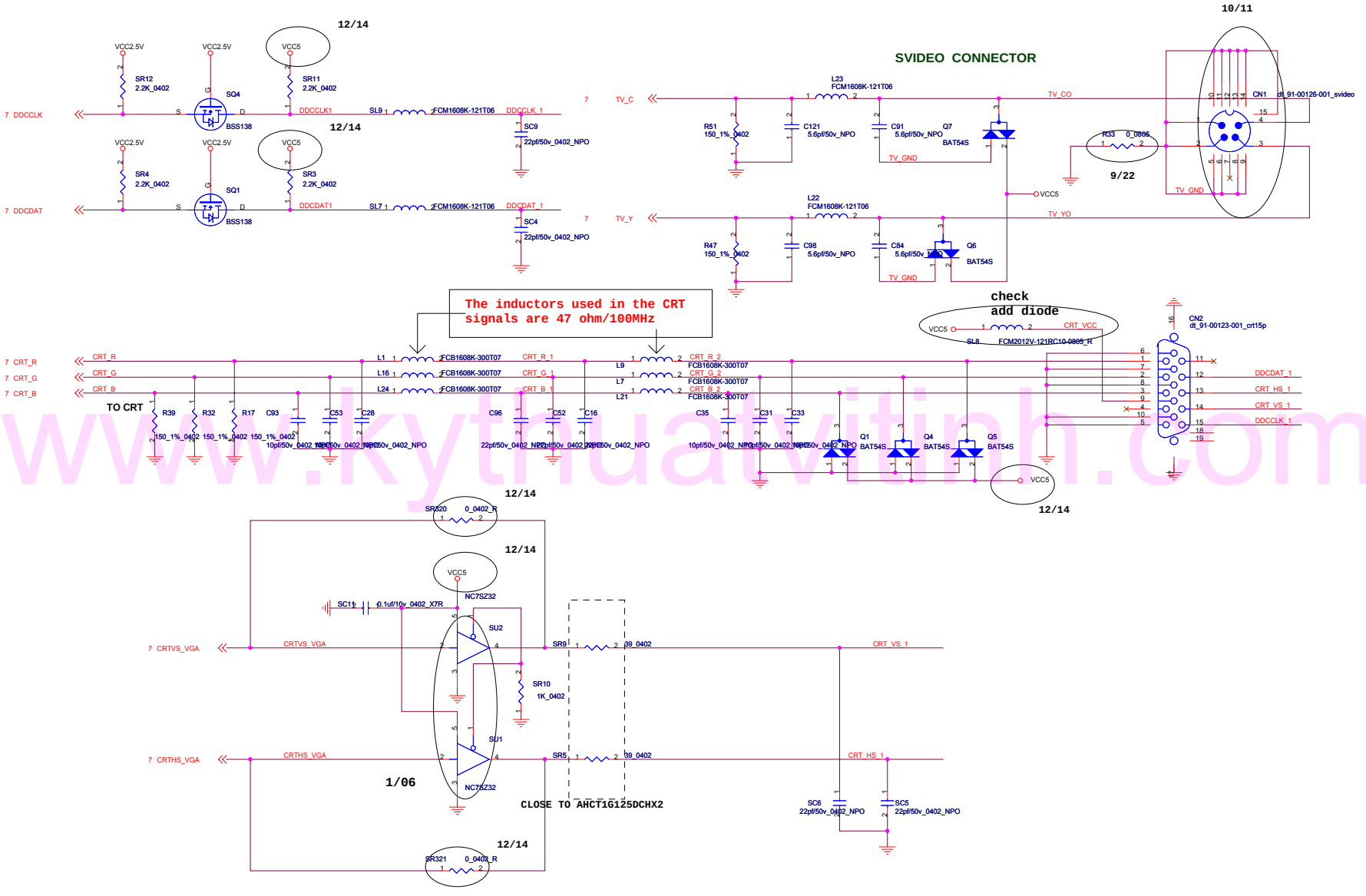


Elitegroup Computer Systems

Title: LVDS PANEL CONN

Size	Document Number	Rev
B	558-1-4-01	2.0

Date: Thursday, March 24, 2005 Sheet 12 of 37

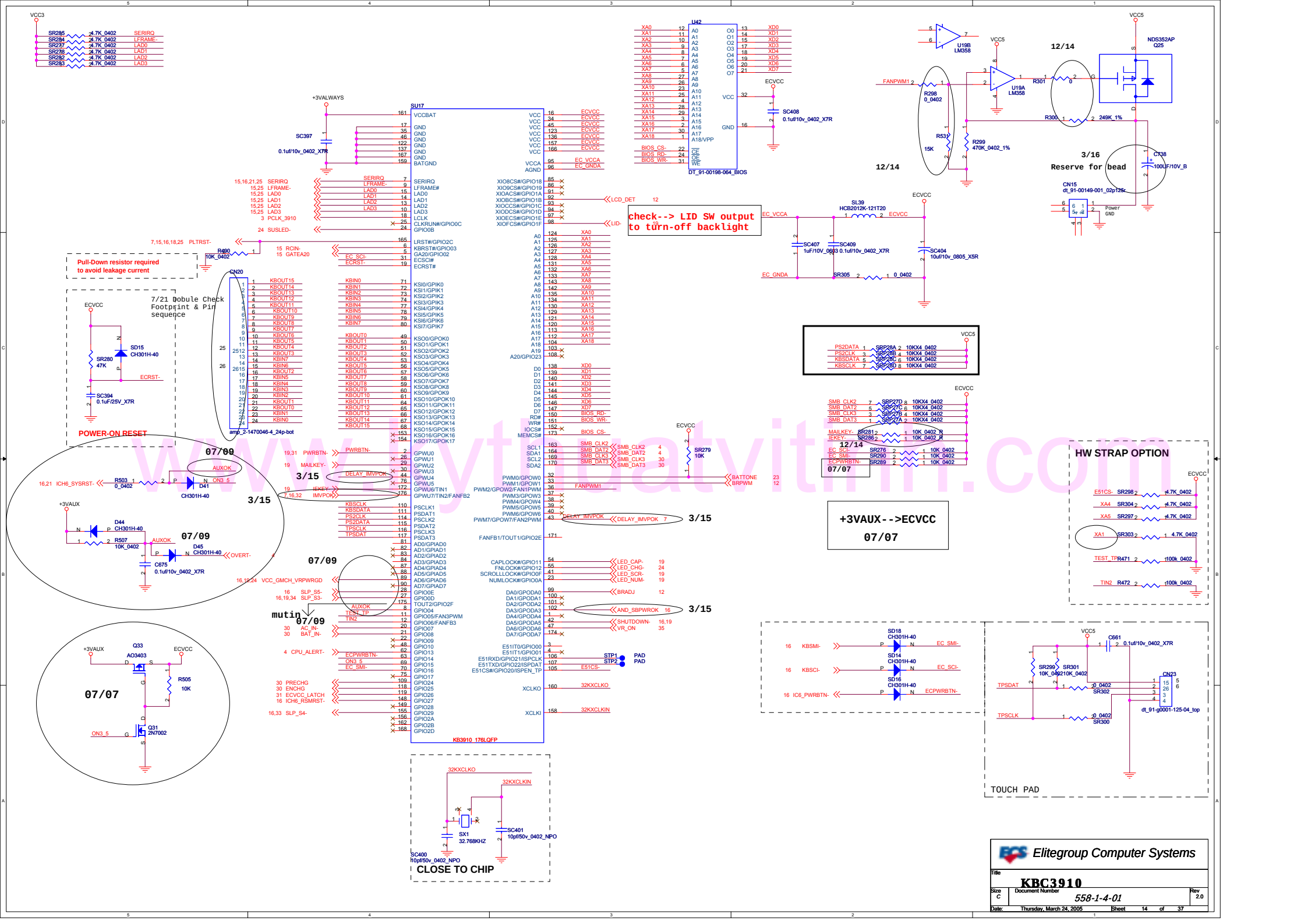


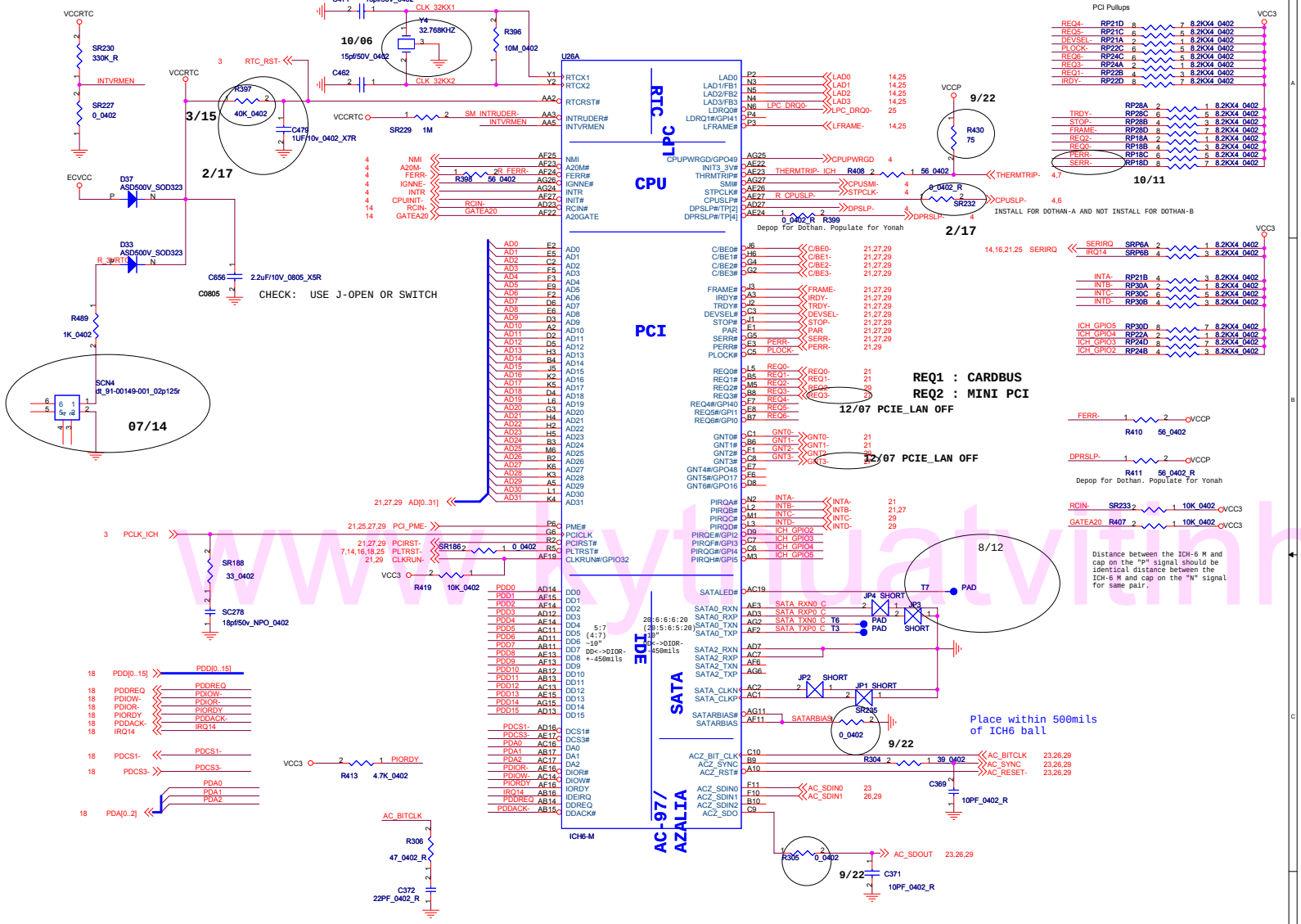
Elitegroup Computer Systems

Title: S-VIDEO & CRT CON

Size: C | Document Number: 558-1-4-01 | Rev: 2.0

Date: Thursday, March 24, 2005 | Sheet 13 of 37



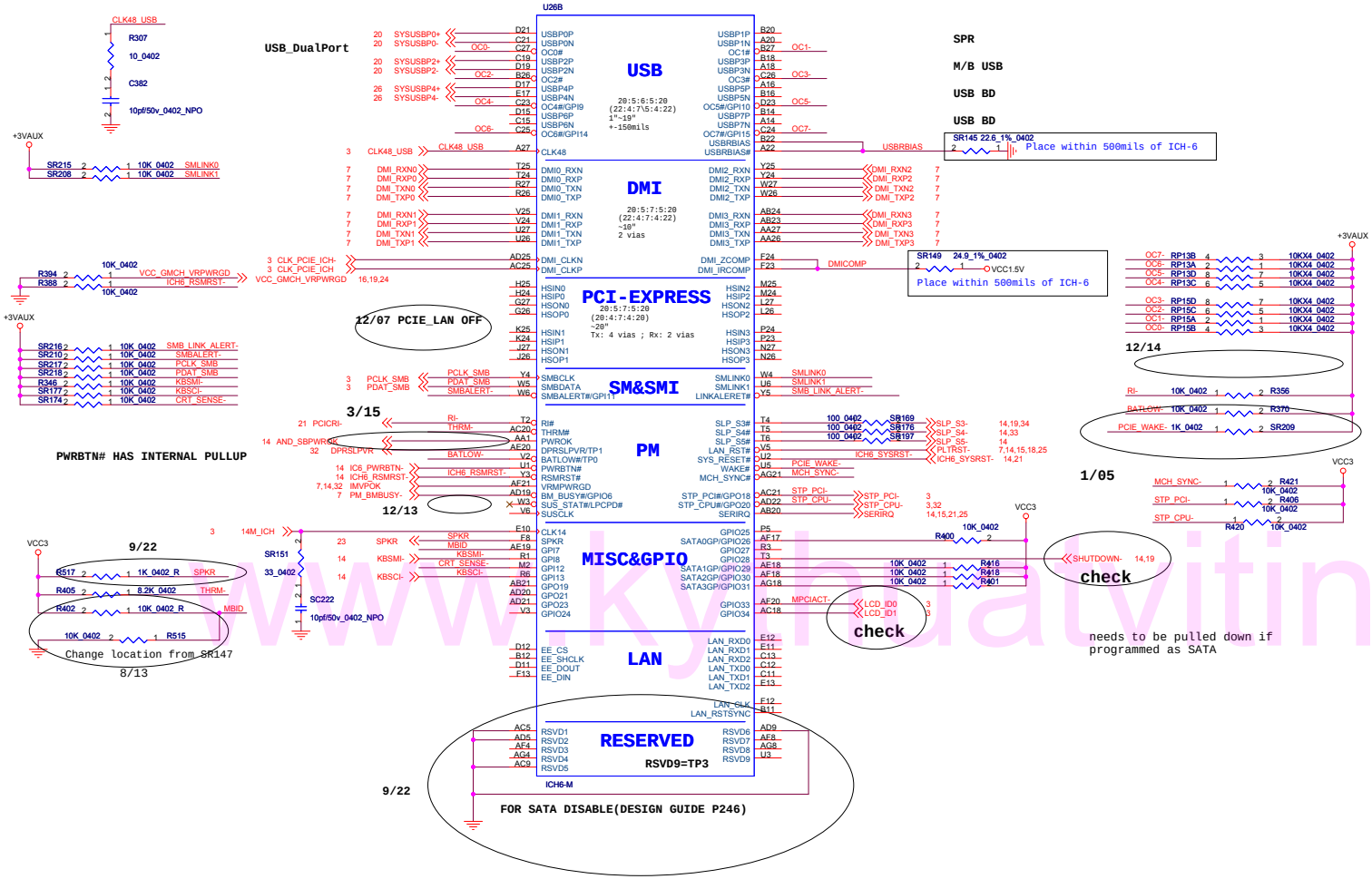


Elitegroup Computer Systems

Title: ICH6-M(CPU,PCI,IDE)

Size: B | Document Number: 558-1-4-01 | Rev: 2.0

Date: Thursday, March 24, 2005 | Sheet 15 of 37

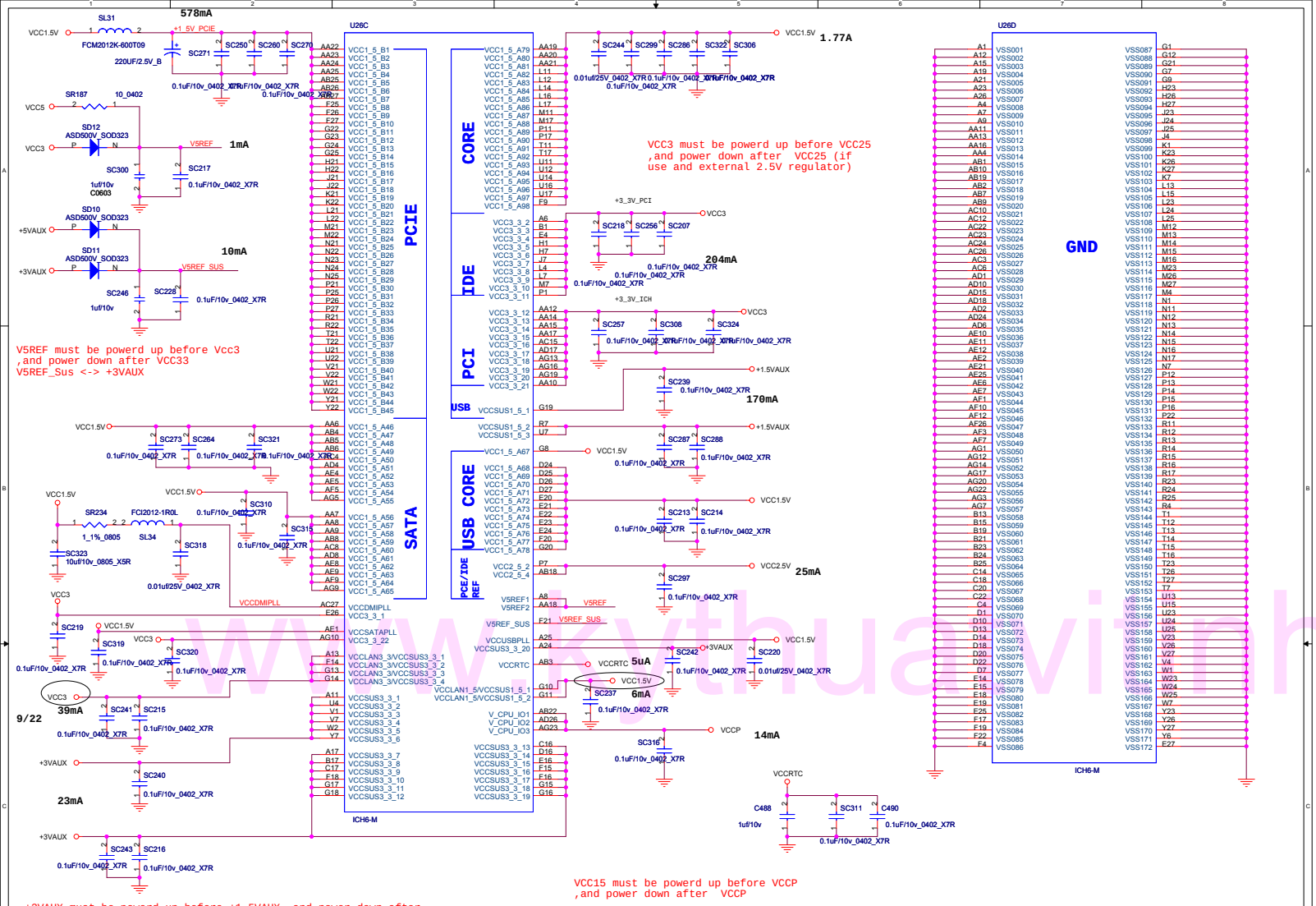


Elitegroup Computer Systems

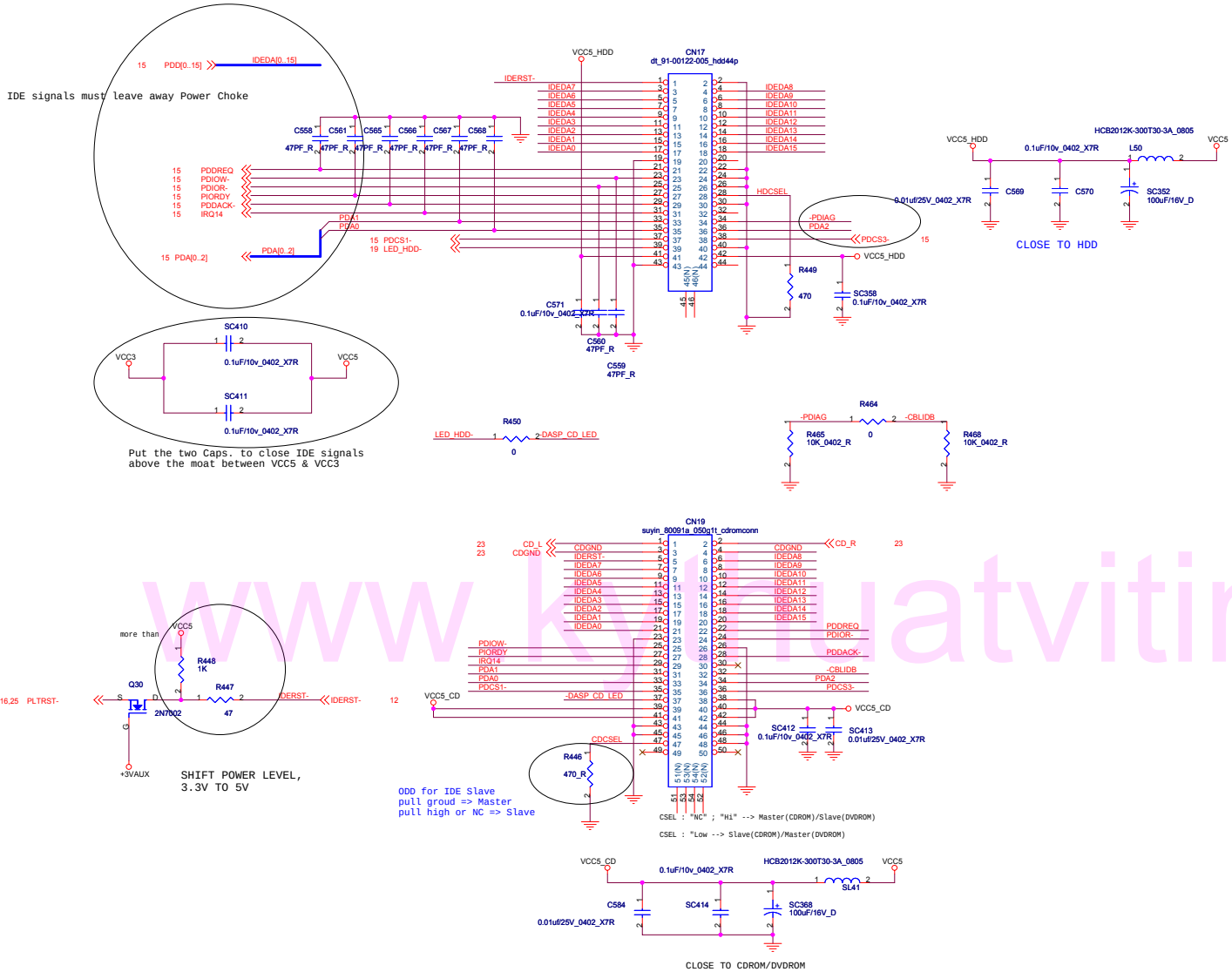
Title: ICH6-M(USB,HUB)

Size: B | Document Number: 558-1-4-01 | Rev: 2.0

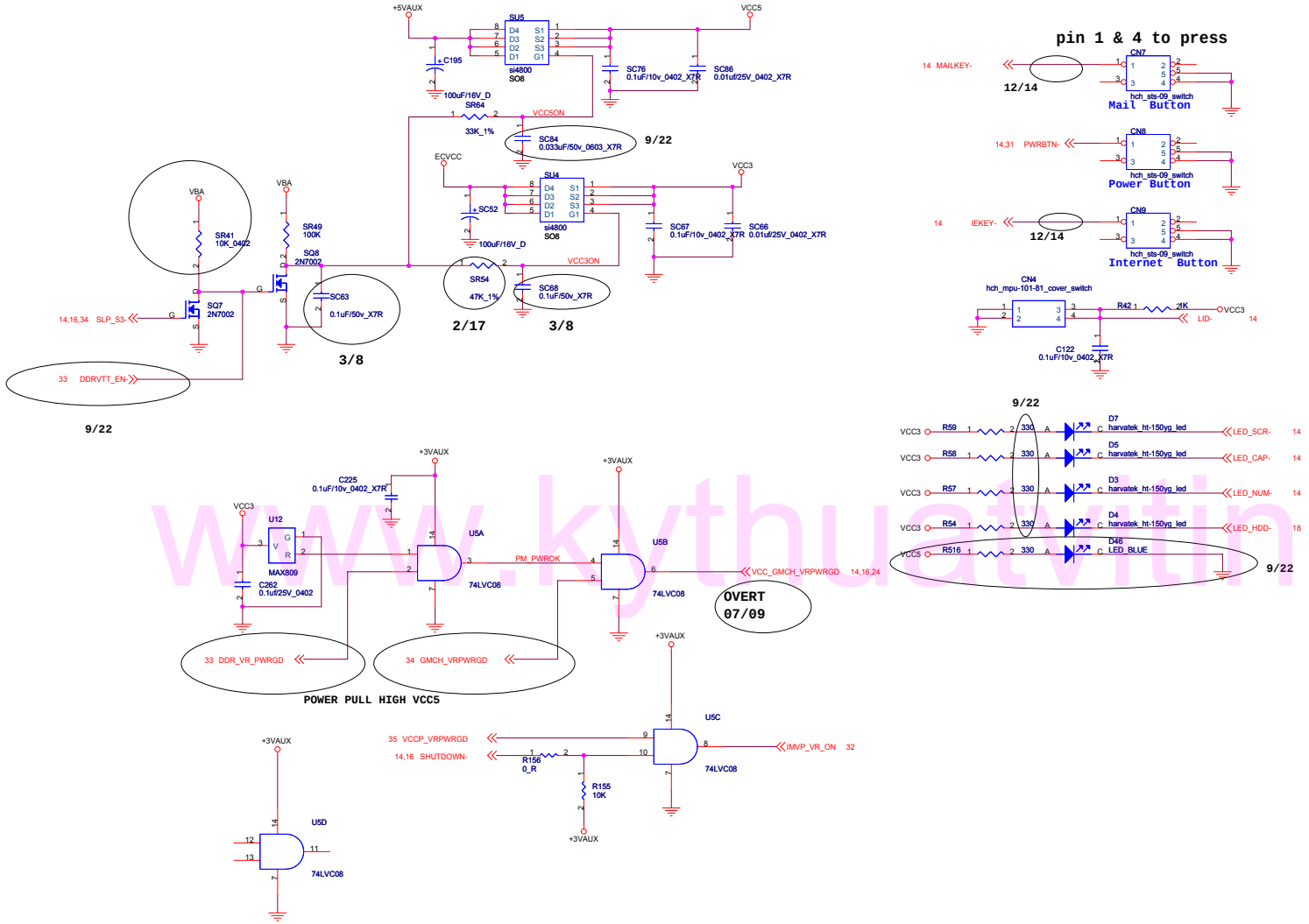
Date: Thursday, March 24, 2005 | Sheet 16 of 37



Elitegroup Computer Systems		
Title: ICH6-M(POWER&GND)		
Size: B	Document Number: 558-1-4-01	Rev: 2.0
Date: Thursday, March 24, 2005	Sheet 17 of 37	



Elitegroup Computer Systems		
Title: HDD & CDROM CONN.		
Size: B	Document Number: 558-1-4-01	Rev: 2.0
Date: Thursday, March 24, 2005	Sheet 18 of 37	

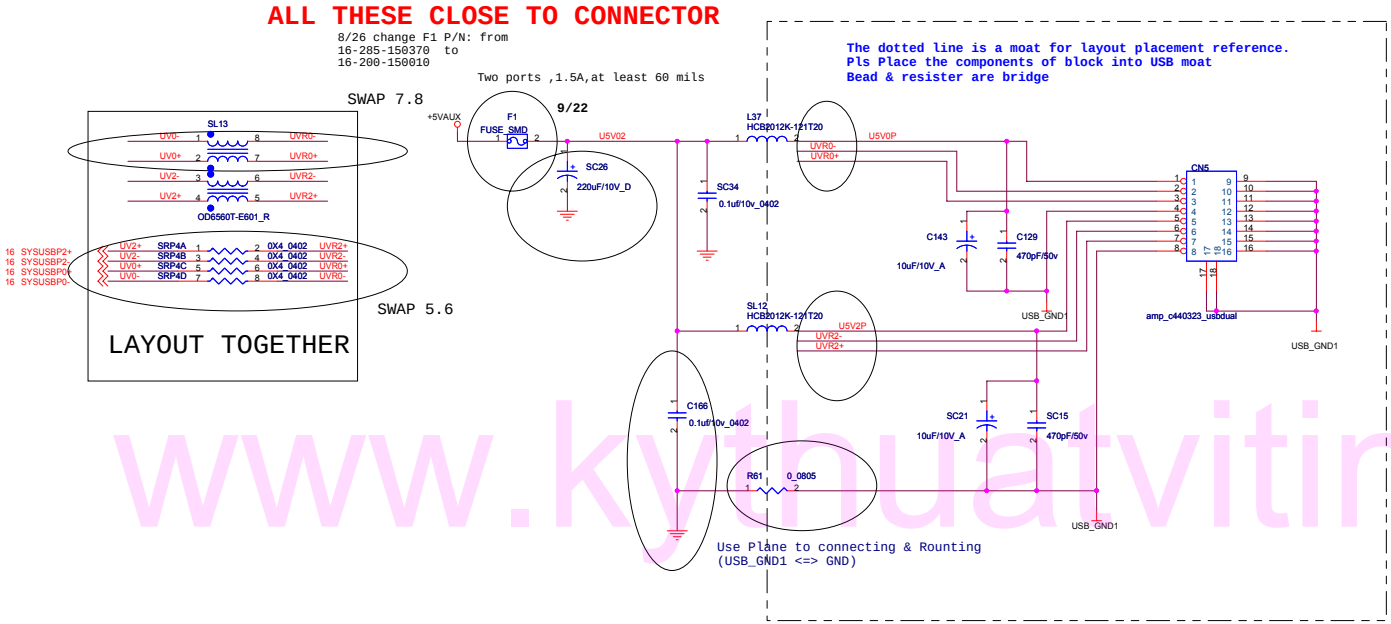


Elitegroup Computer Systems

Title: RTC,VCC3,VCC5,SW,LED

Size: B | Document Number: 558-1-4-01 | Rev: 2.0

Date: Thursday, March 24, 2005 | Sheet 19 of 37



Elitegroup Computer Systems

Title: **USB PORT**

Size	Document Number	Rev
B	558-1-4-01	2.0

Date: Thursday, March 24, 2005 Sheet 20 of 37

GRST# should
connect to Power
On reset if
support S3

Pull High for 3.3V PCI BUS

0629

SR136
0_0402

FW-PCIVIOS

0709

SUSPEND-
FW-RESETN
PCIRST-

SU10

CB851

SR102 10K_0402
SR108 10K_0402
SR138 10K_0402
SR137 402K_1%_0402
SR94 2.49K_1%_0402

8/12 change location
from R514

SR309
4.7K_0402_R

12/14

L67
HCB2012K-121T20

C737
0.01uf/25V_0402_X7R

C735
10uf/10v_0805_X5R

SR121
0_1206

10/11

C350
10uf/10v_0805_X5R

SC186
10uf/10v_0805_X5R

R303
10K_0402

C734
0.1uf/10v_0402_R

12/13

SU9
24LC08

SR95
510K_0402

SC138
0.1uf/10v_0402_X7R

SC184
0.1uf/10v_0402_X7R

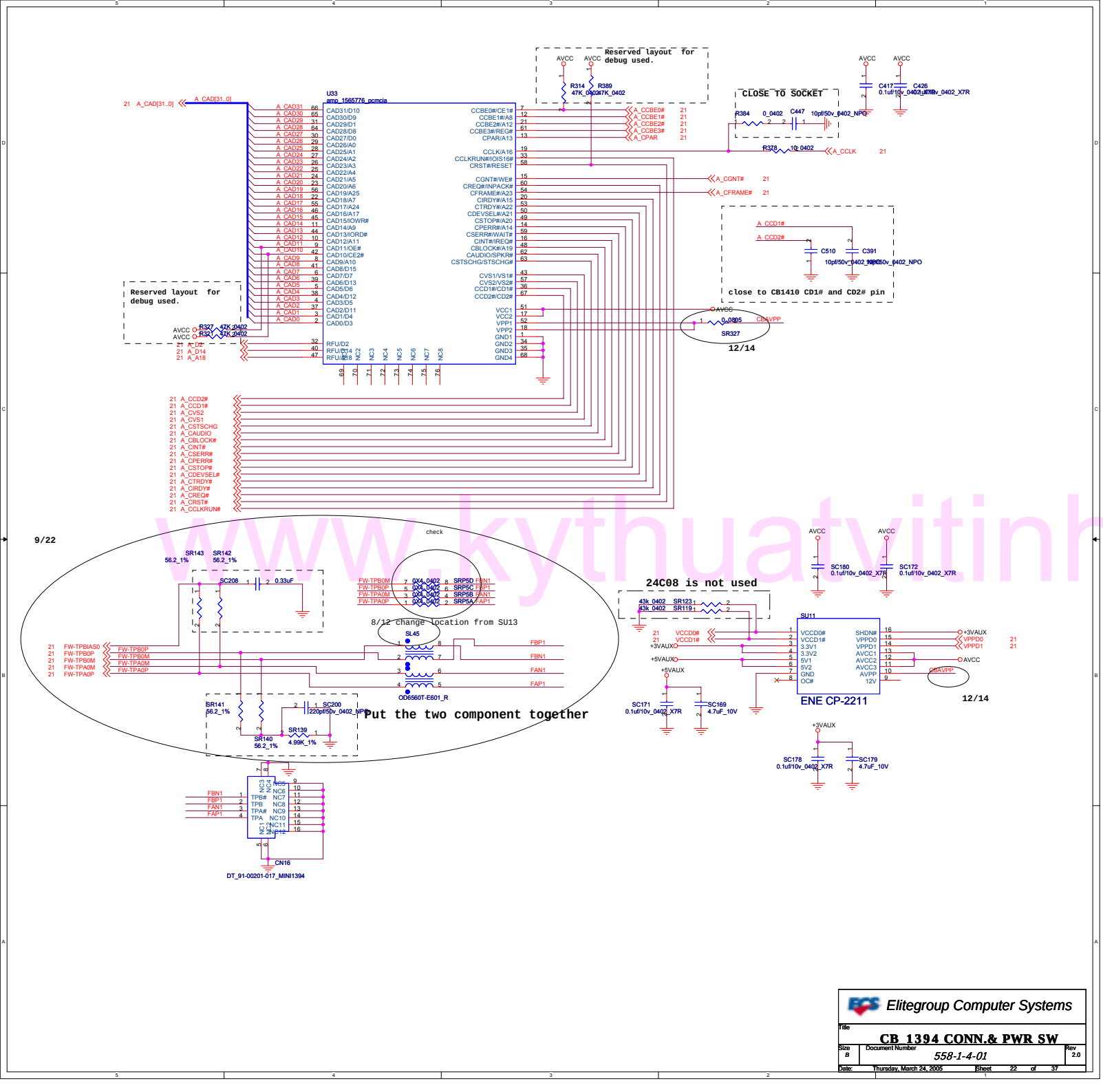
C298
12pf/50V_0402

Y2
24.576MHz-SMD

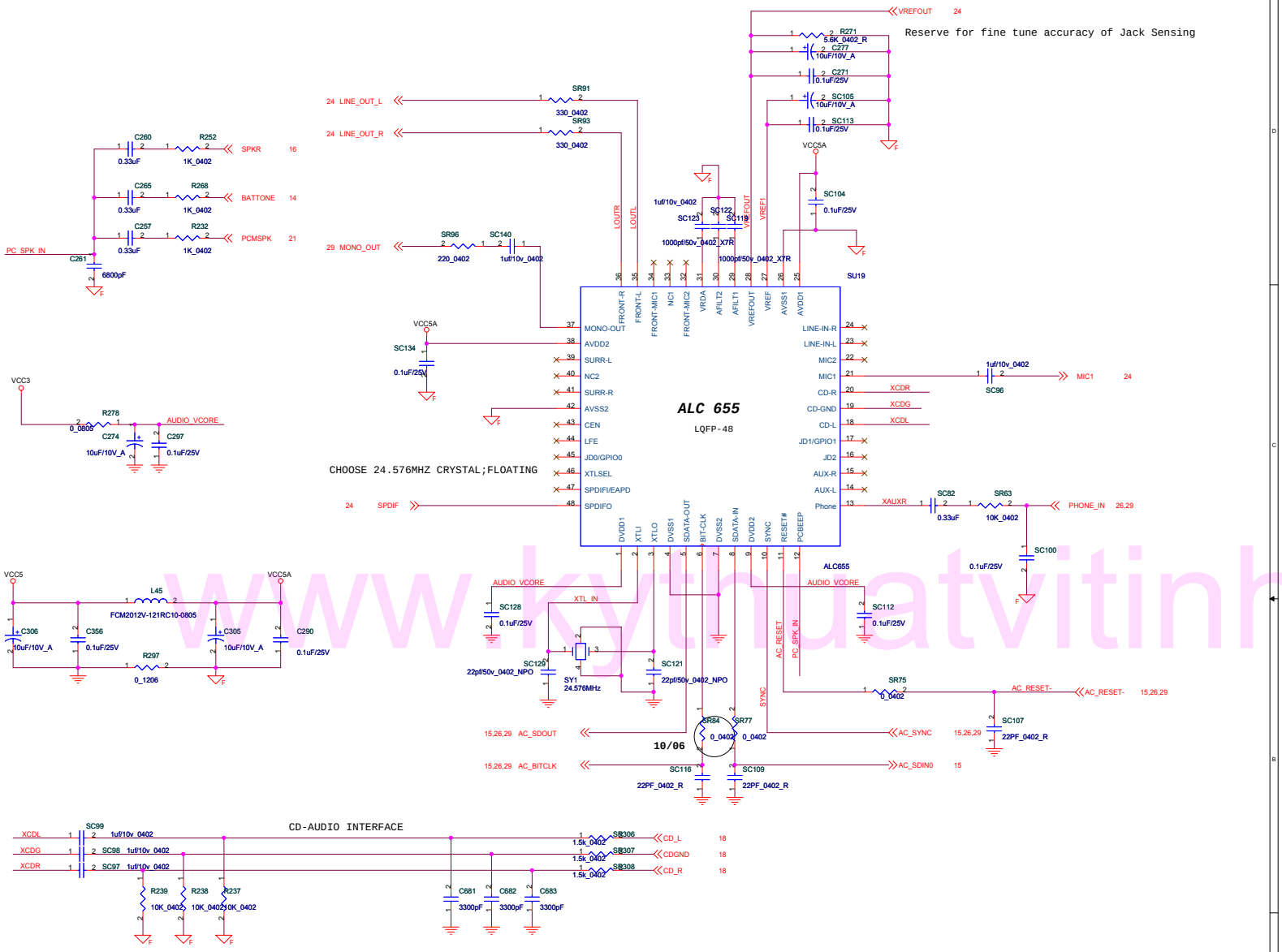
C299
12pf/50V_0402

R282
10_0402

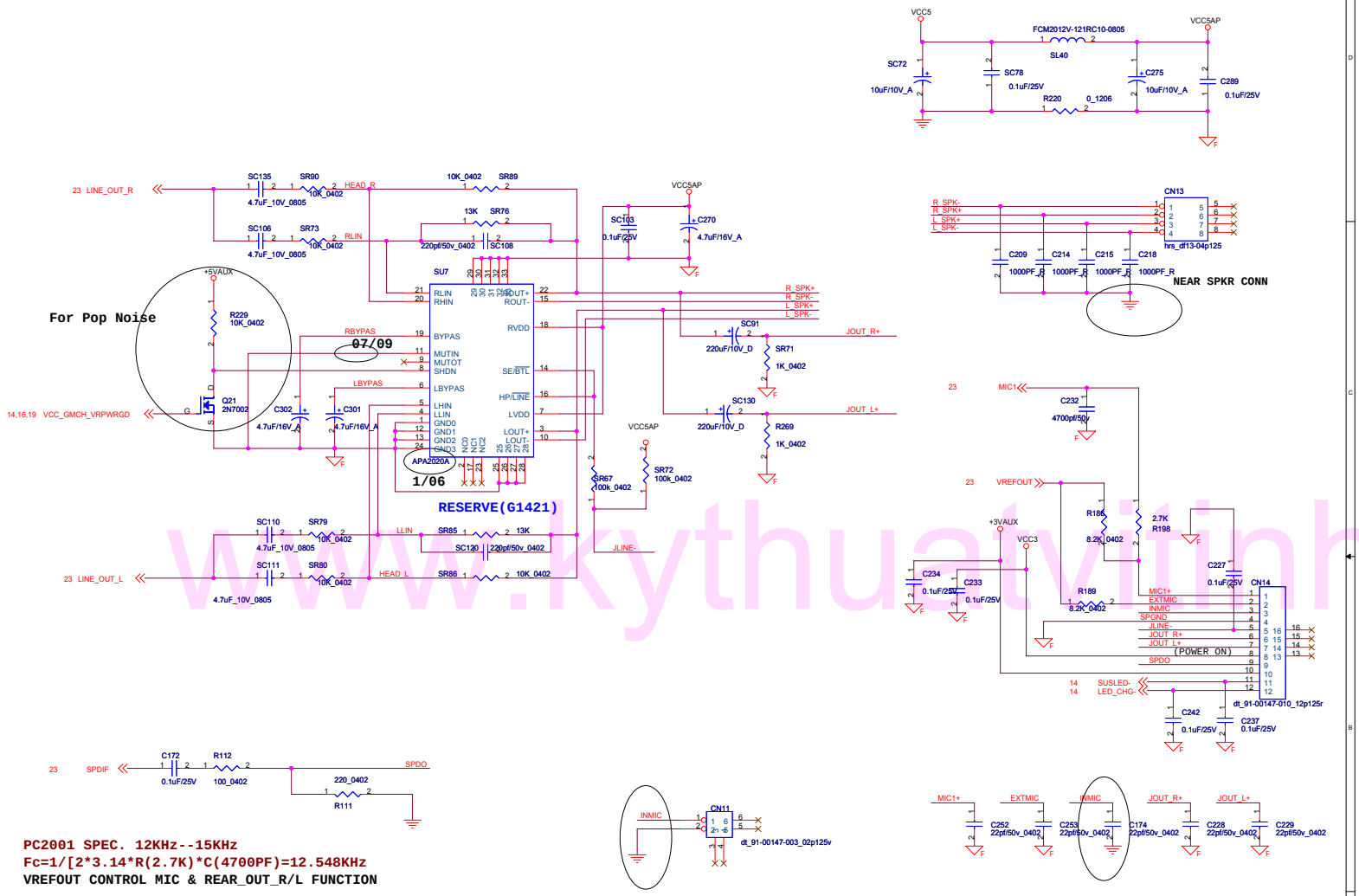
Elitegroup Computer Systems	
Title	CB851_CARDBUS
Size C	Document Number 558-1-4-01 Rev 2.0
Date: Thursday, March 24, 2005	Sheet 21 of 37



Elitegroup Computer Systems	
Title	CB_1394 CONN.& PWR SW
Size: B	Document Number: 558-1-4-01
Rev: 2.0	
Date: Thursday, March 24, 2005	Sheet 22 of 37



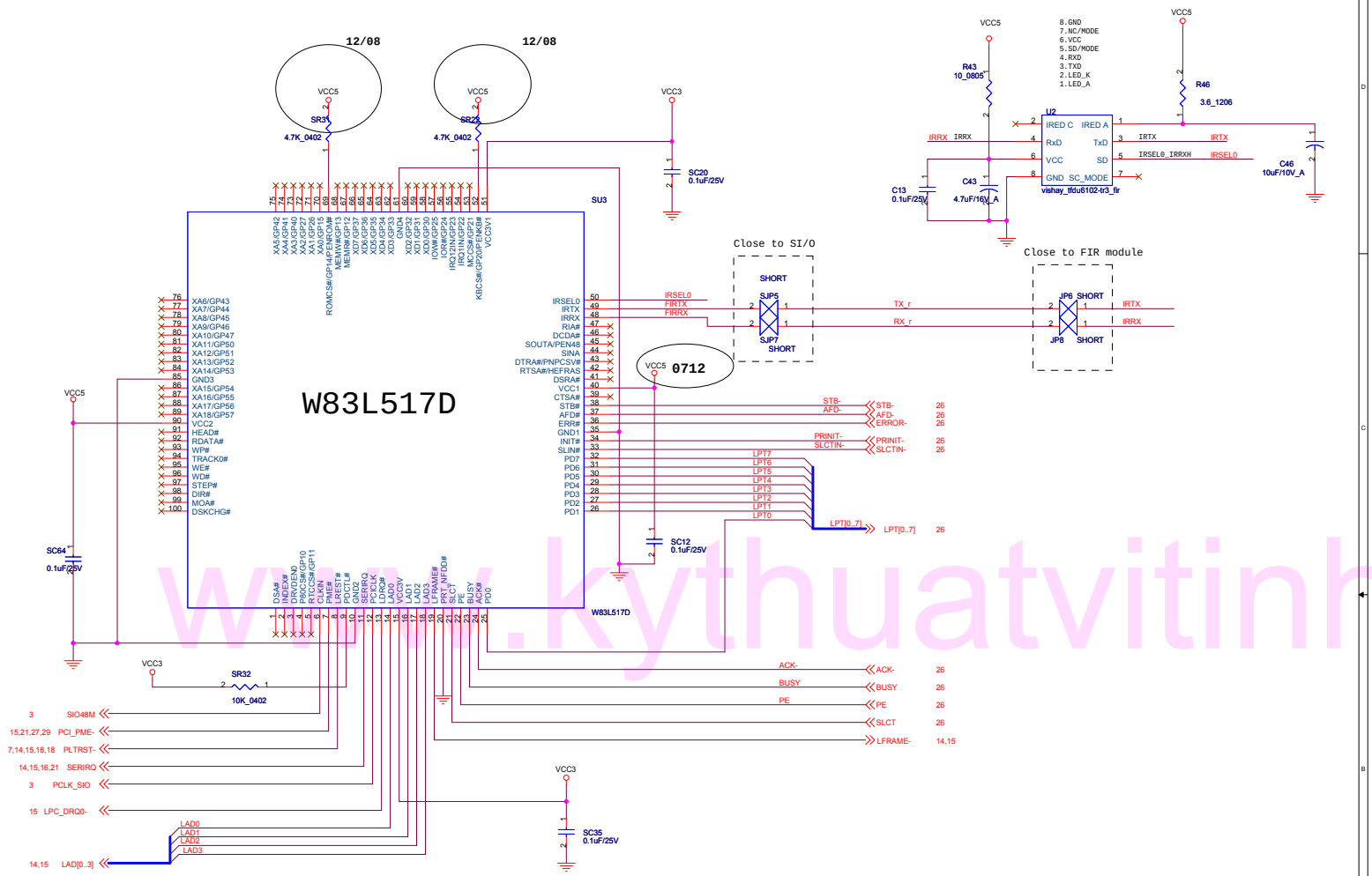
Elitegroup Computer Systems			
Title: Audio Codec (CMI9761A)			
Size: B	Document Number: 558-1-4-01		Rev: 2.0
Date: Thursday, March 24, 2005	Sheet 23 of 37		



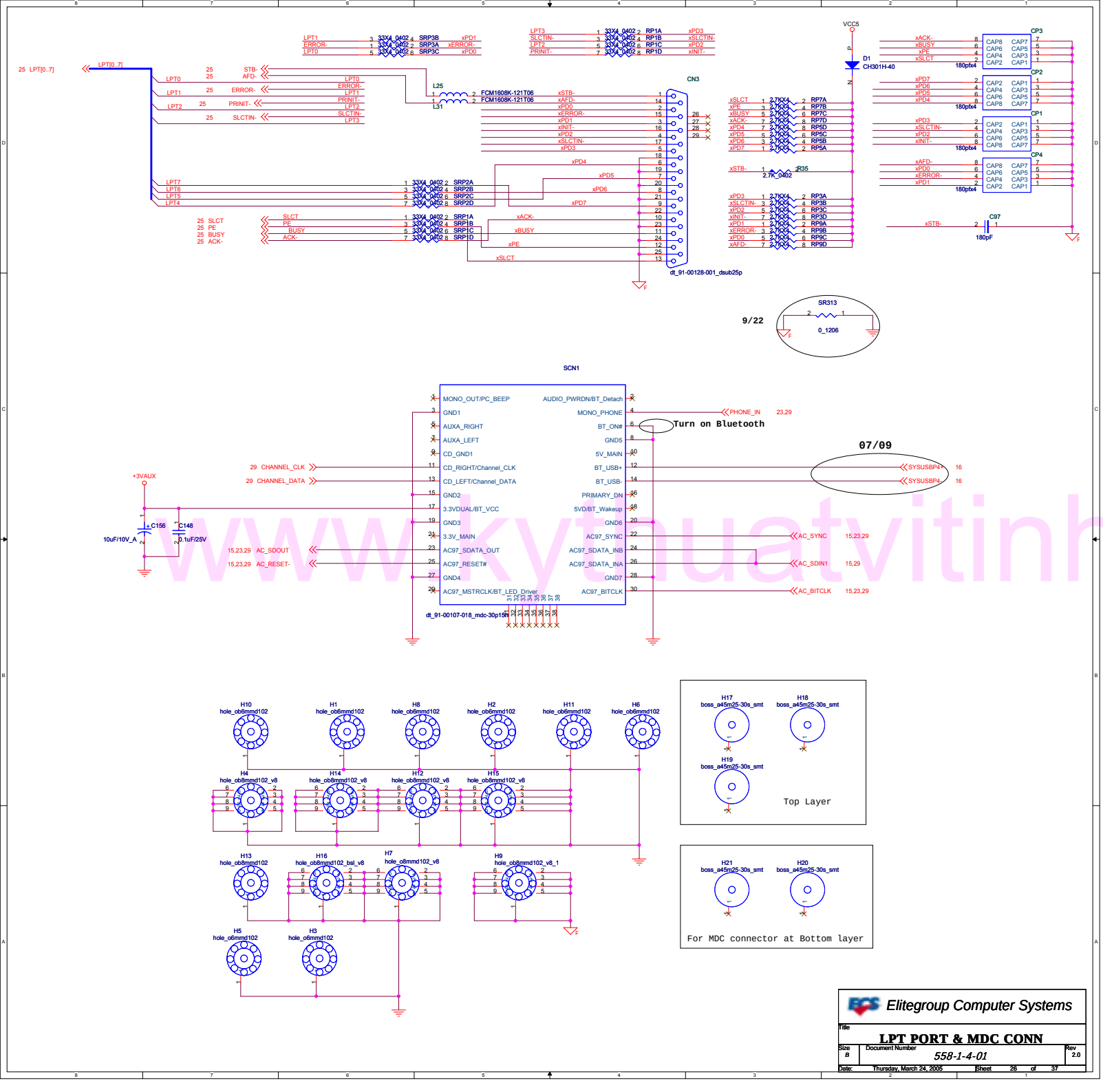
PC2001 SPEC. 12KHz--15KHz
Fc=1/[2*3.14*R(2.7K)*C(4700PF)=12.548KHz
VREFOUT CONTROL MIC & REAR_OUT_R/L FUNCTION

Elitegroup Computer Systems

Title	OPA & AUDIO JACK	
Size B	Document Number 558-1-4-01	Rev 2.0
Date: Thursday, March 24, 2005	Sheet 24 of 37	



Elitegroup Computer Systems			
Title: W83L517D			
Size: B	Document Number: 558-1-4-01		Rev: 2.0
Date: Thursday, March 24, 2005	Sheet 25 of 37		

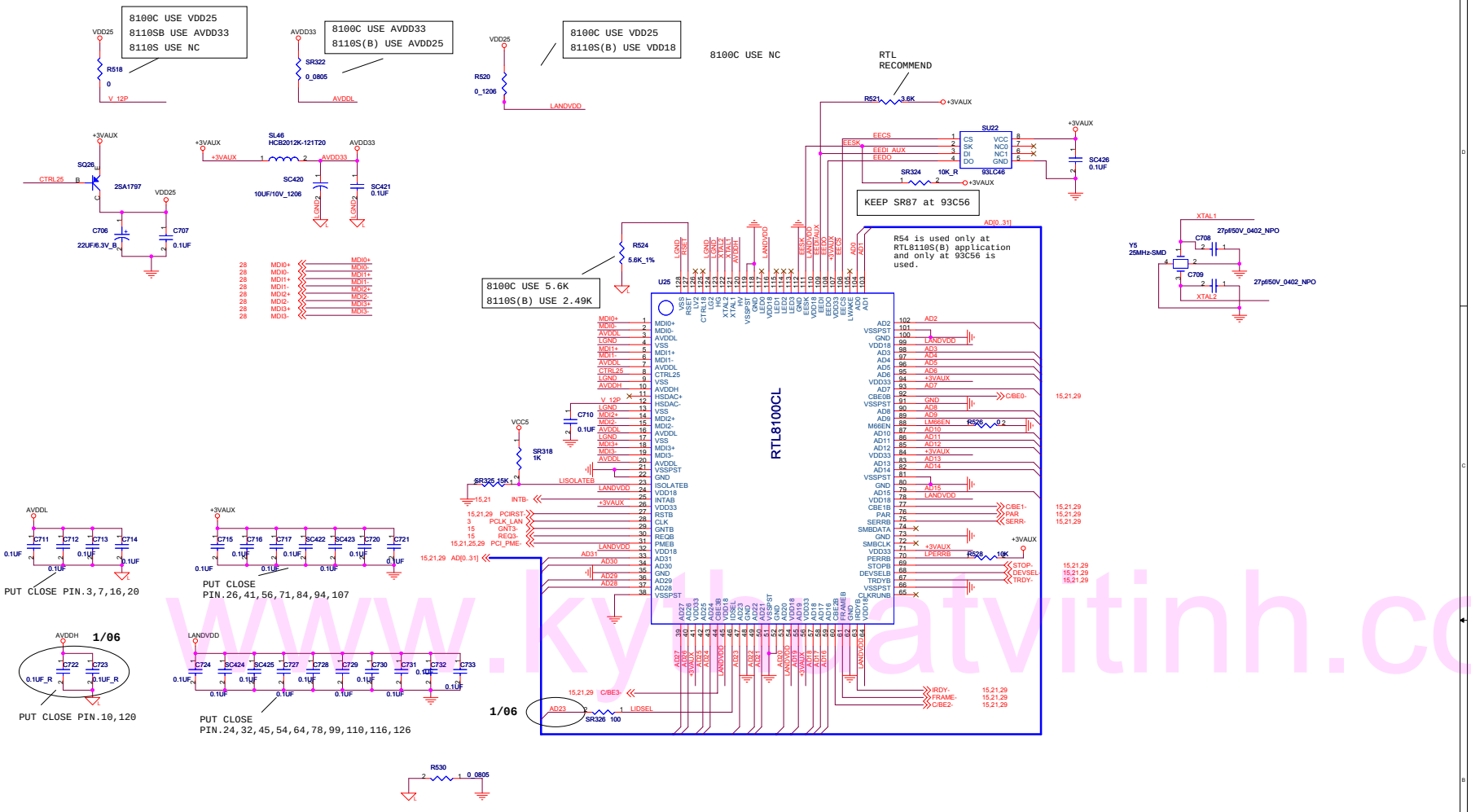


Elitegroup Computer Systems

Title: LPT PORT & MDC CONN

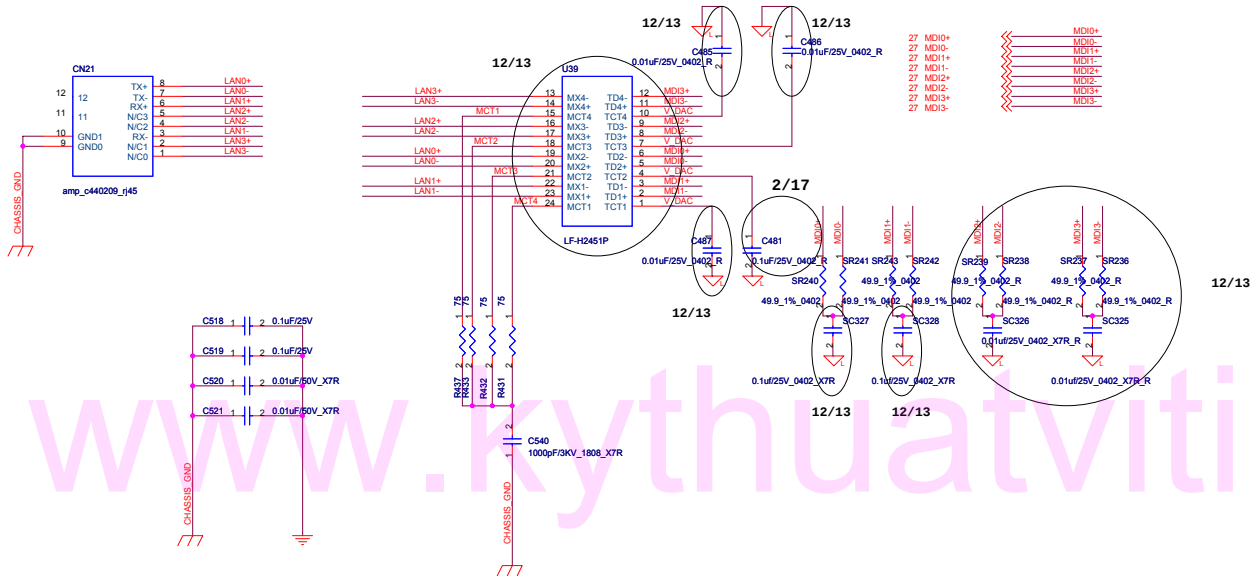
Size: B | Document Number: 558-1-4-01 | Rev: 2.0

Date: Thursday, March 24, 2005 | Sheet 26 of 37



(GLAN)Broadcom Modified by 12/08

Elitegroup Computer Systems		
Title: LAN CHIP		
Size: C	Document Number: 558-1-4-01	Rev: 2.0
Date: Thursday, March 24, 2005	Sheet 27 of 37	

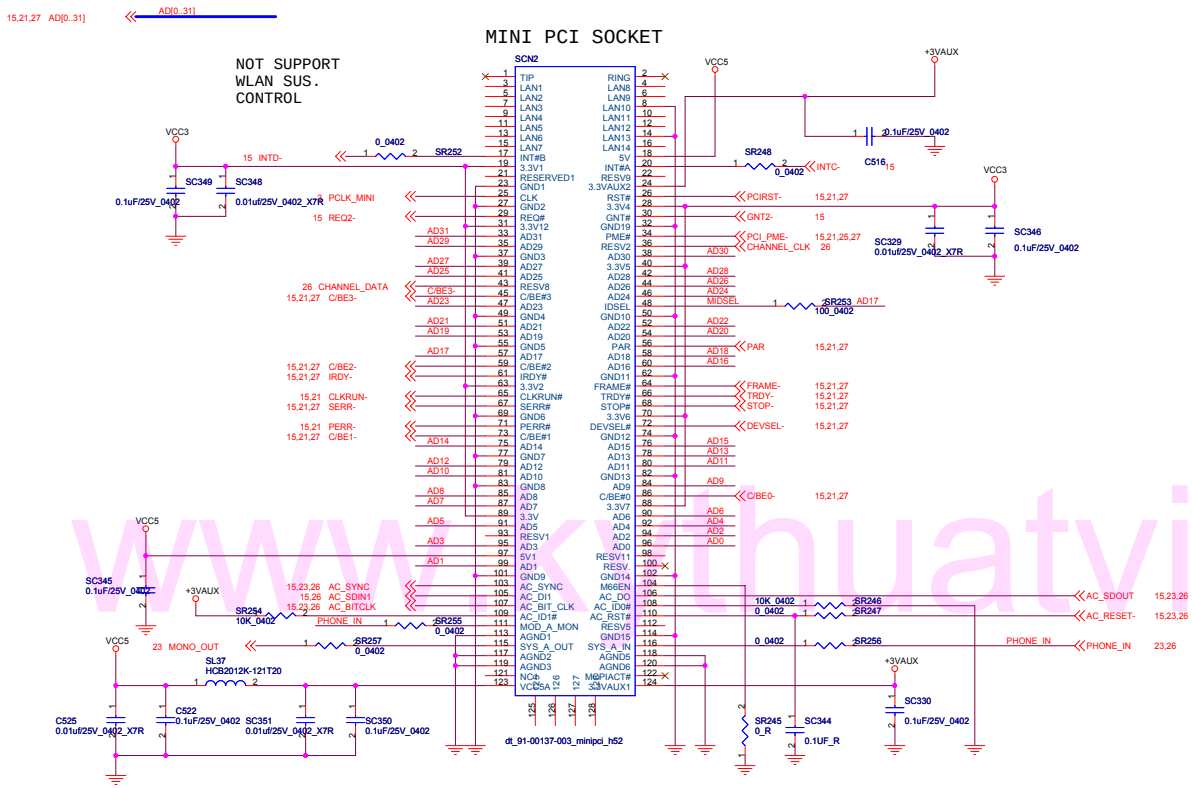


Elitegroup Computer Systems

Title: RJ-45

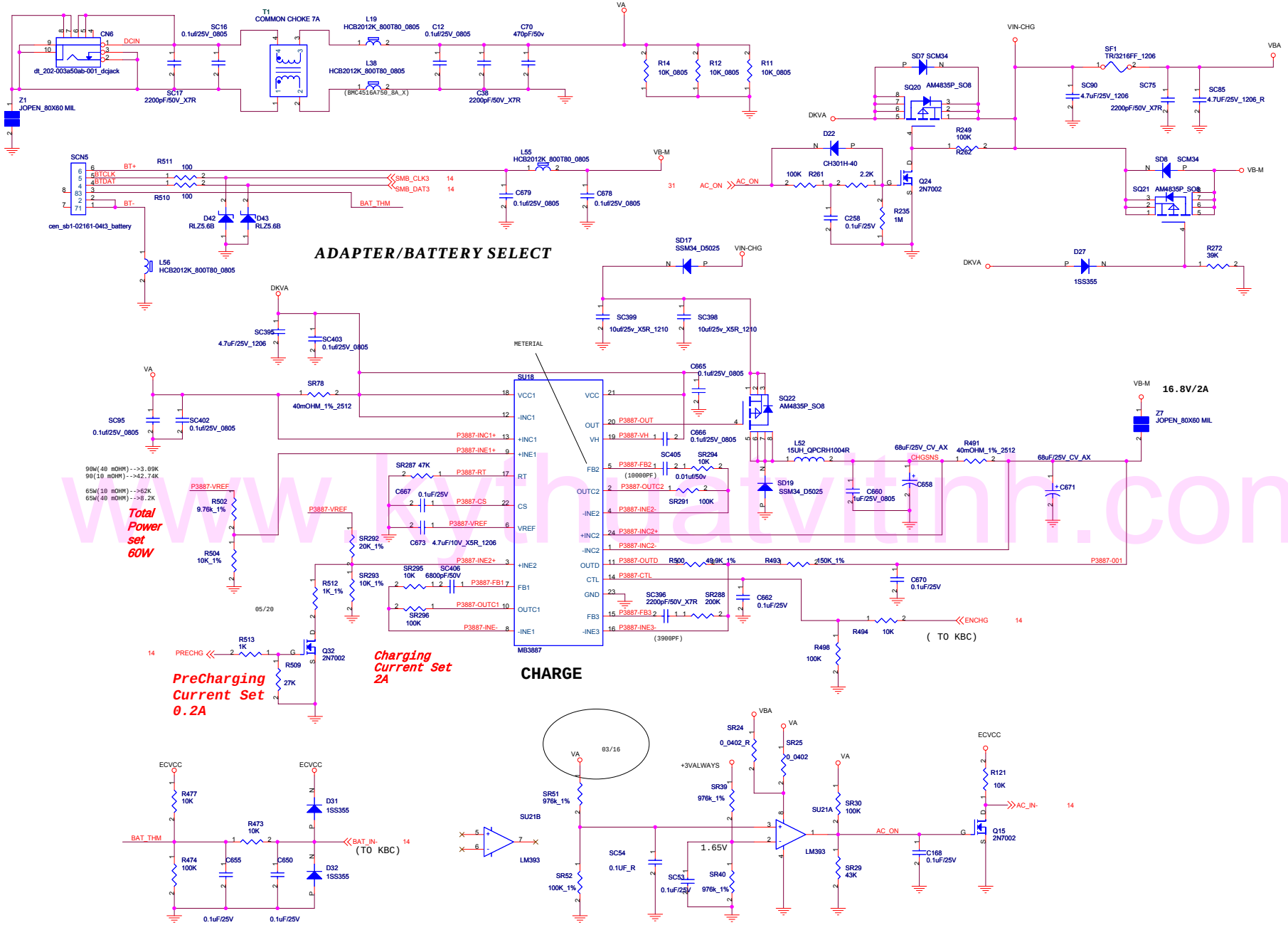
Size	Document Number	Rev
B	558-1-4-01	2.0

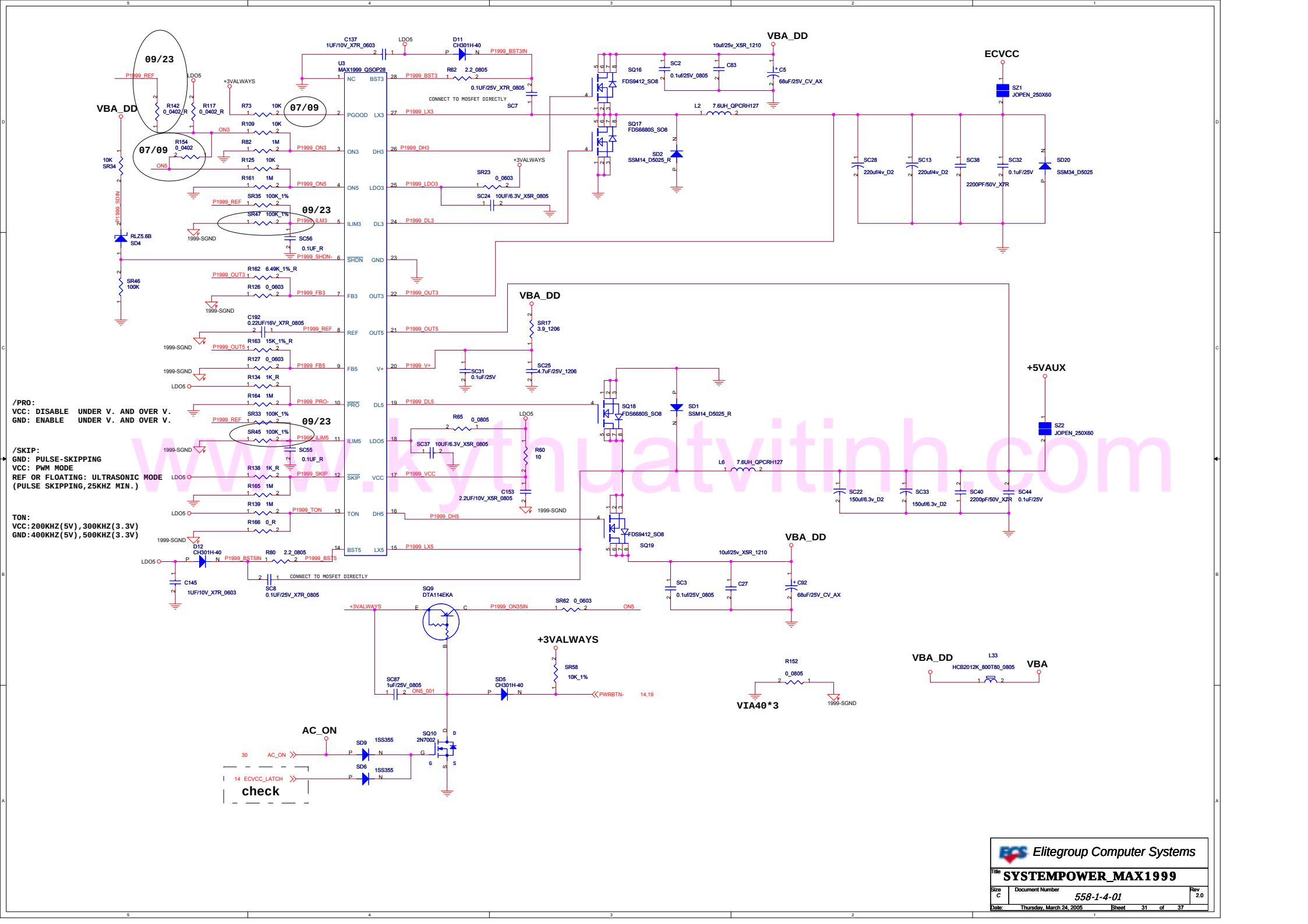
Date: Thursday, March 24, 2005 Sheet 28 of 37



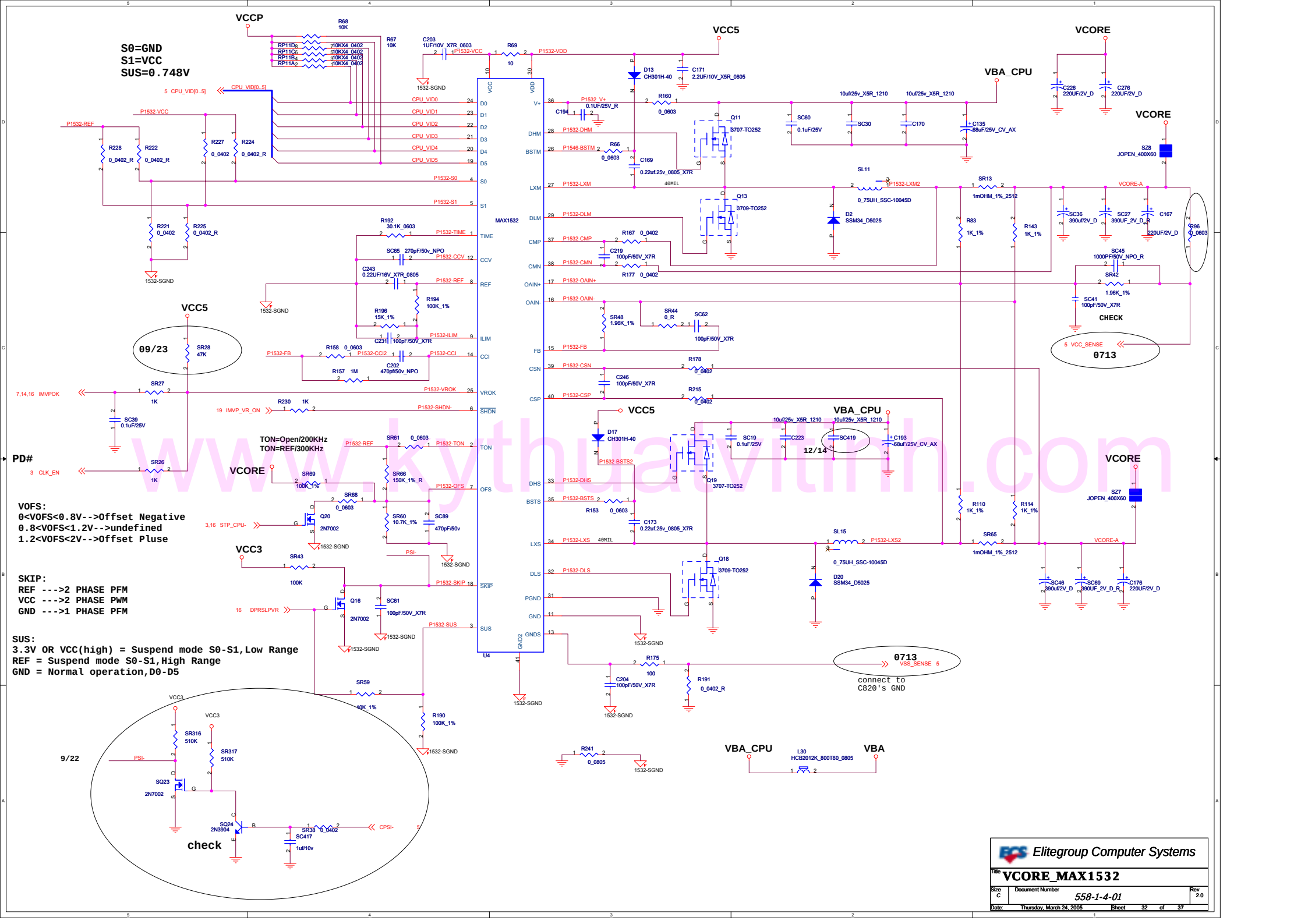
Elitegroup Computer Systems

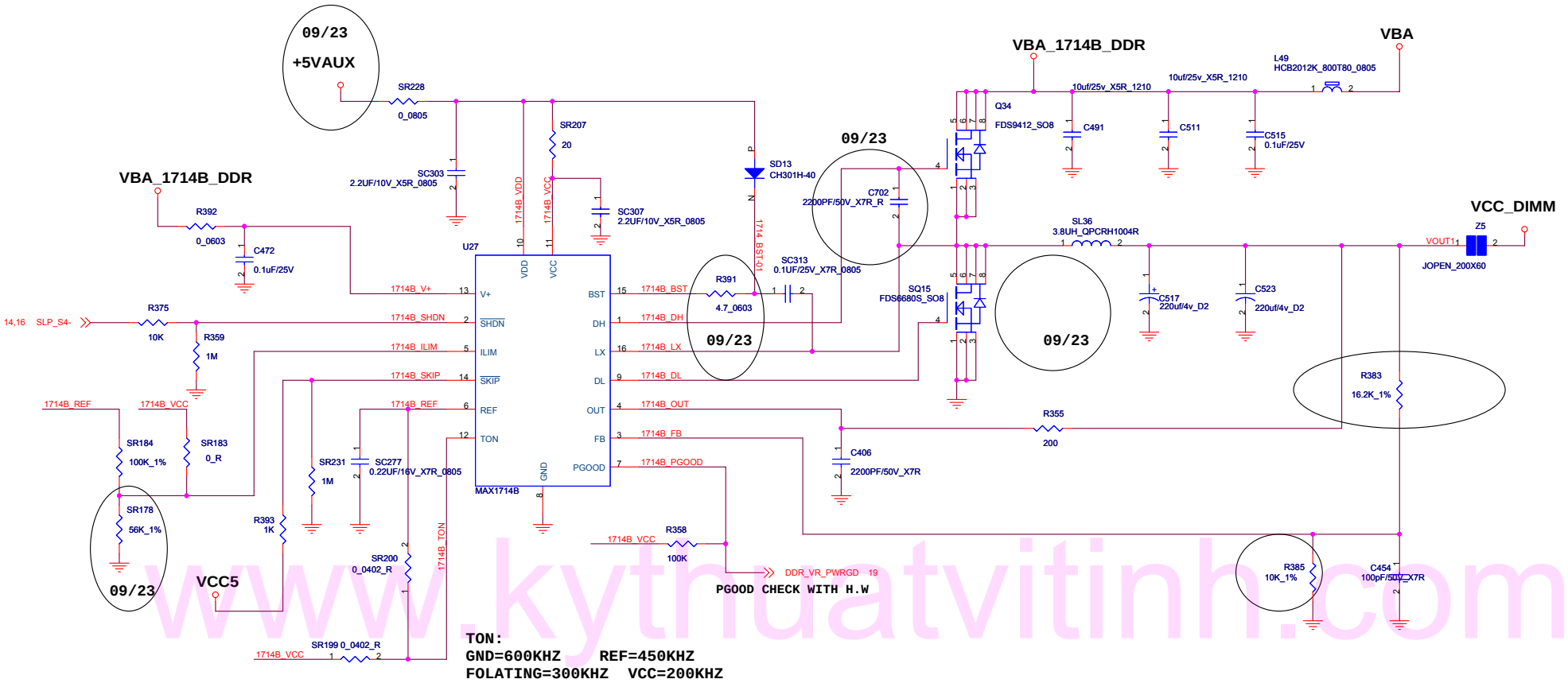
Title	MINIPCI		
Size B	Document Number 558-1-4-01		Rev 2.0
Date: Thursday, March 24, 2005	Sheet 29 of 37		





Elitegroup Computer Systems	
Title	SYSTEMPOWER_MAX1999
Size C	Document Number 558-1-4-01 Rev 2.0
Date: Thursday, March 24, 2005	Sheet 31 of 37


S0=GND
S1=VCC
SUS=0.748V
VOFS:
0<VOFS<0.8V-->Offset Negative
0.8<VOFS<1.2V-->undefined
1.2<VOFS<2V-->Offset Pluse
SKIP:
REF --->2 PHASE PFM
VCC --->2 PHASE PWM
GND --->1 PHASE PFM
SUS:
3.3V OR VCC(high) = Suspend mode S0-S1,Low Range
REF = Suspend mode S0-S1,High Range
GND = Normal operation,D0-D5
TON=Open/200KHz
TON=REF/300KHz
PD#
09/23
12/14
check
connect to C820's GND
MAX1532
U4
0713
Elitegroup Computer Systems
VCORE_MAX1532
558-1-4-01
Thursday, March 24, 2005



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Title: DDR POWER_MAX1714B

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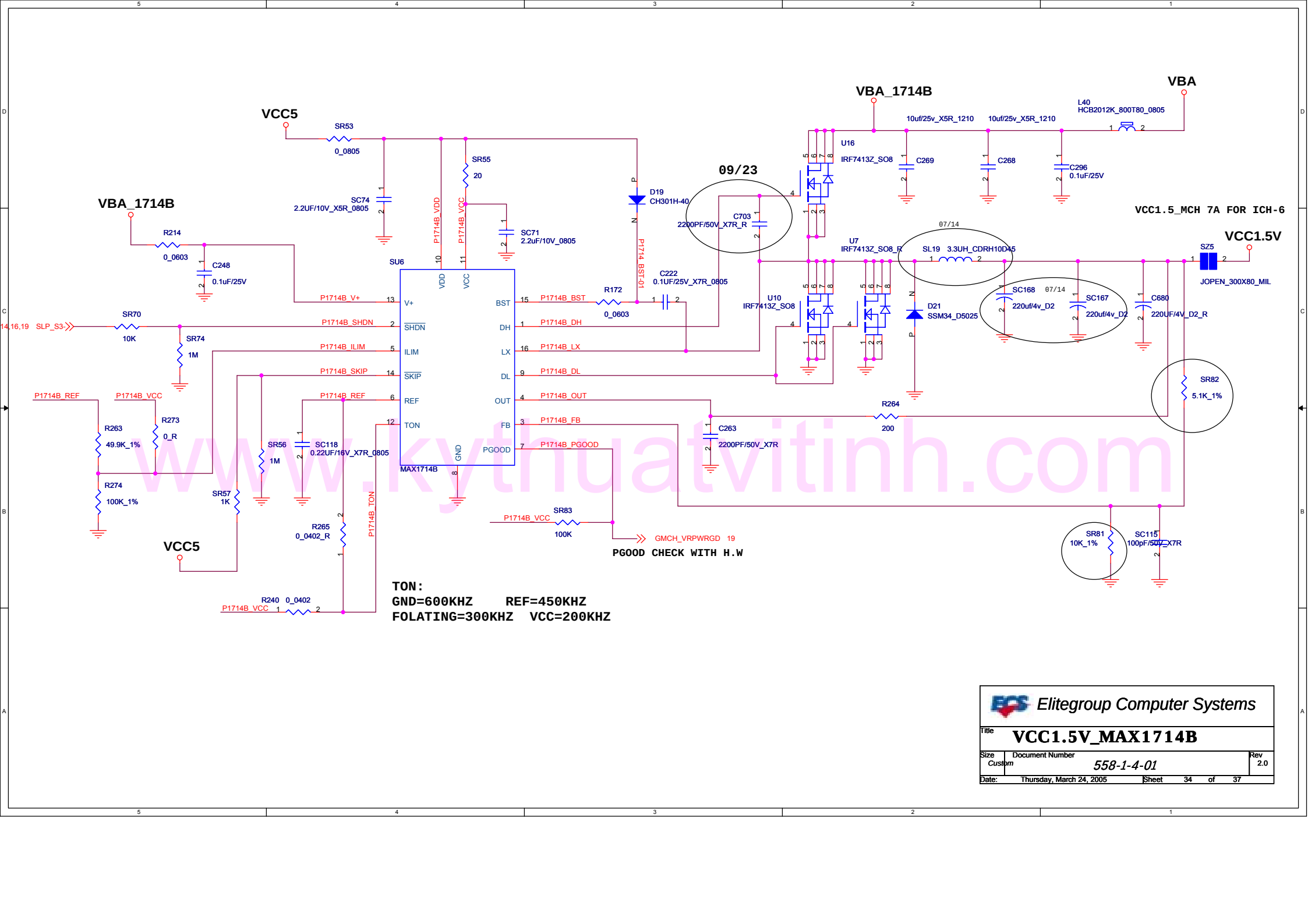

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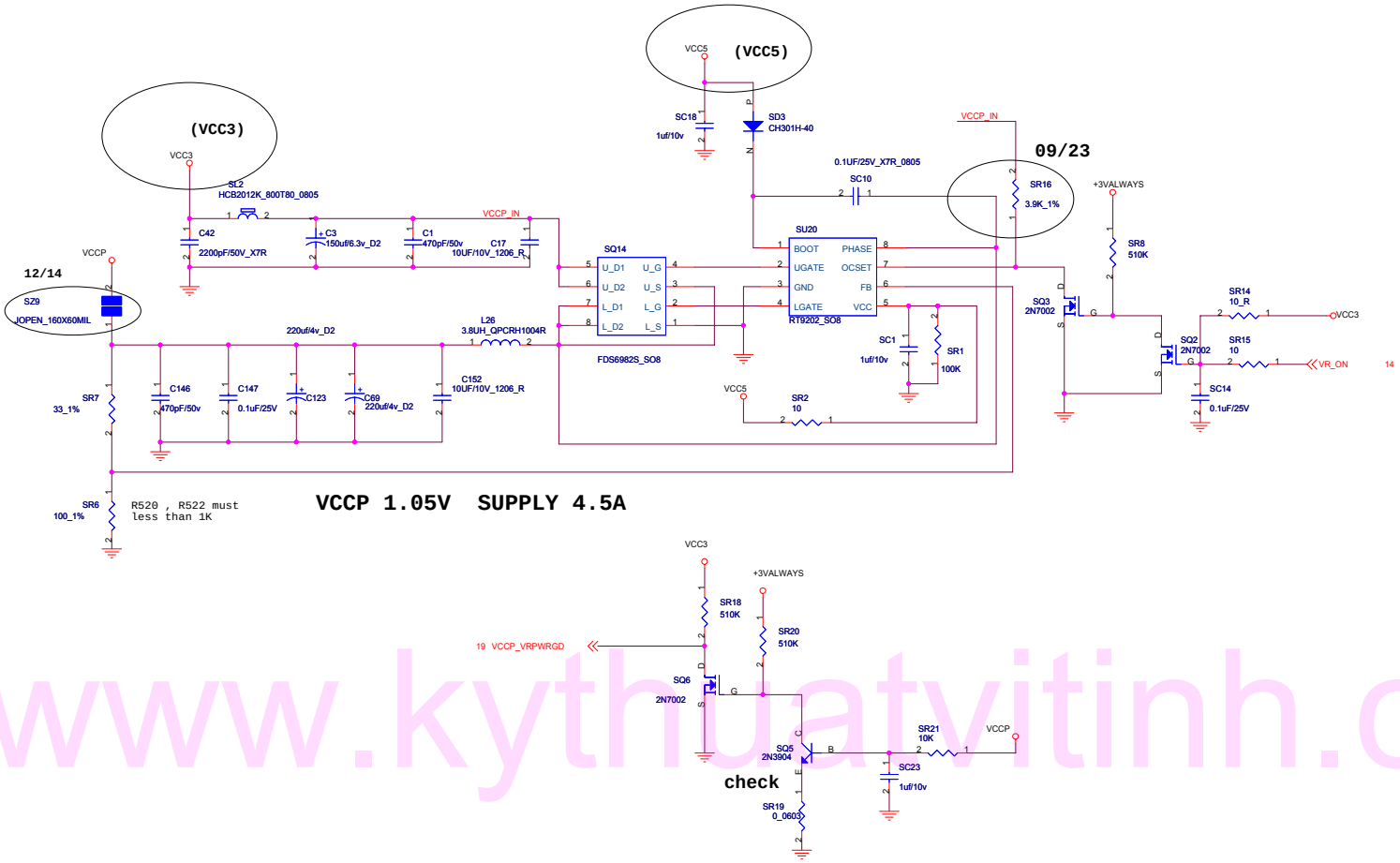

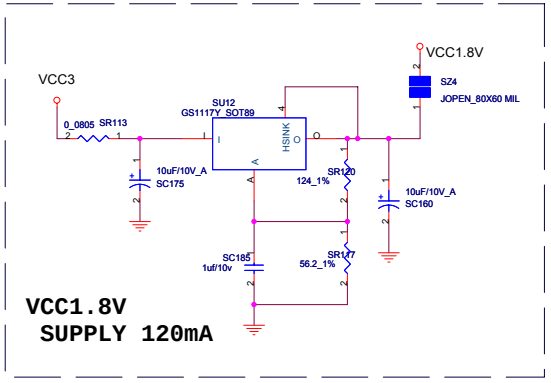

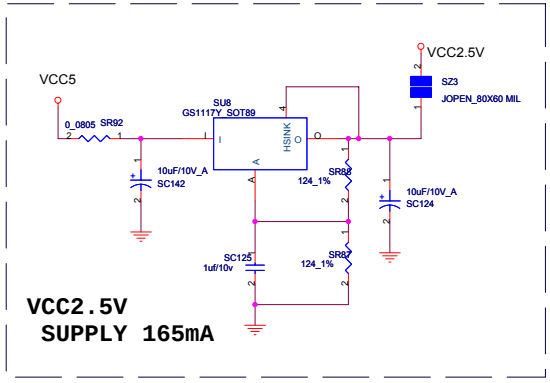

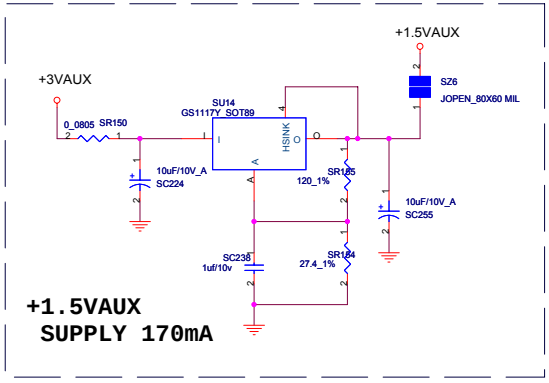

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Title: VCCP & LDO

Size	Document Number	Rev
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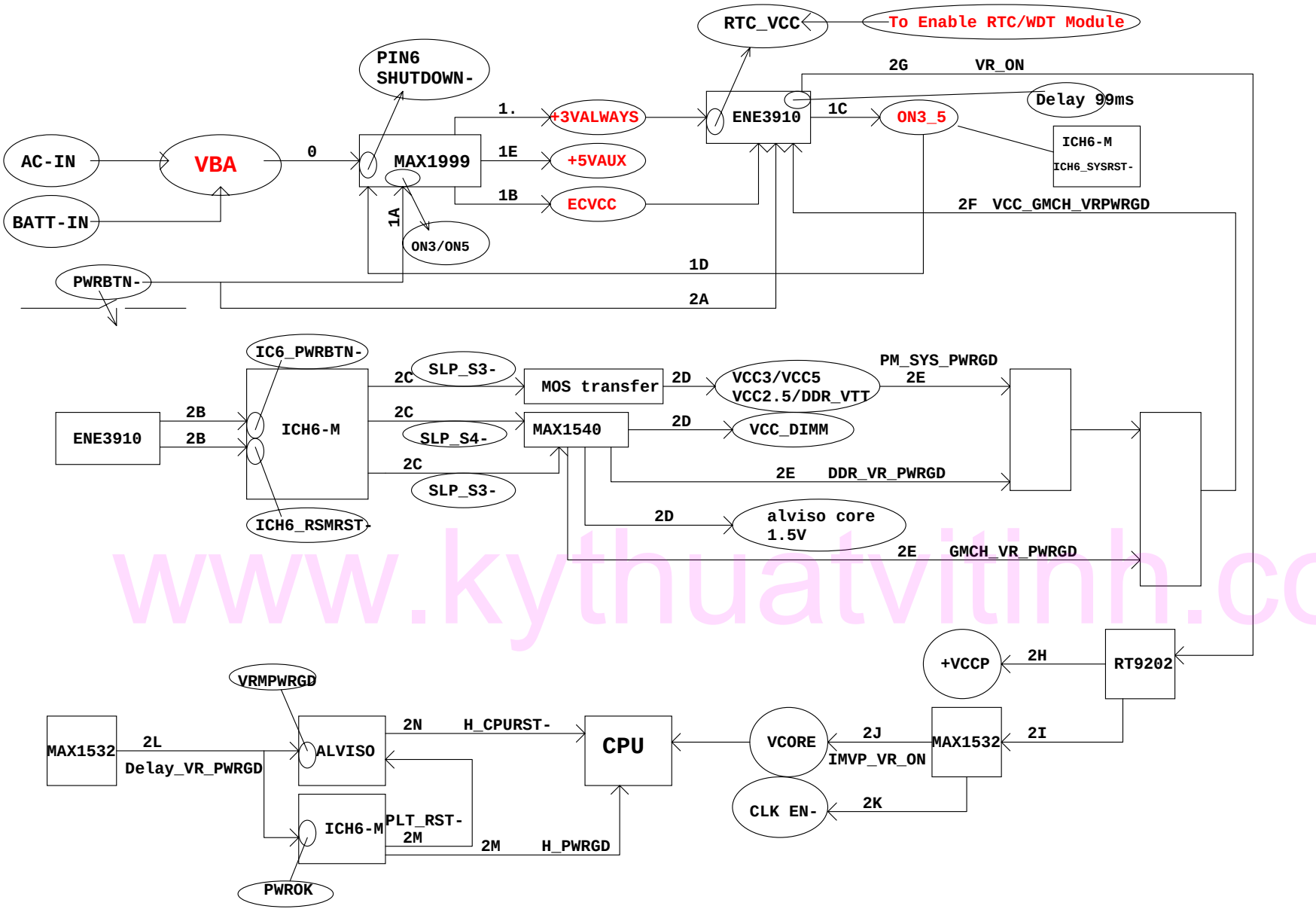

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Title: Power on Sequence

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V.A: Initial Release 2004/08/09 15-F55-010010

V.B: Initial Release 2004/10/13 15-F55-010020

V.C: Initial Release 2004/12/20 15-F55-010030

V.D: Initial Release 2005/01/06 15-F55-010040

V.1.0: Initial Release 2005/02/17 15-F55-011000

V.2.0: Initial Release 2005/03/21 15-F55-012000