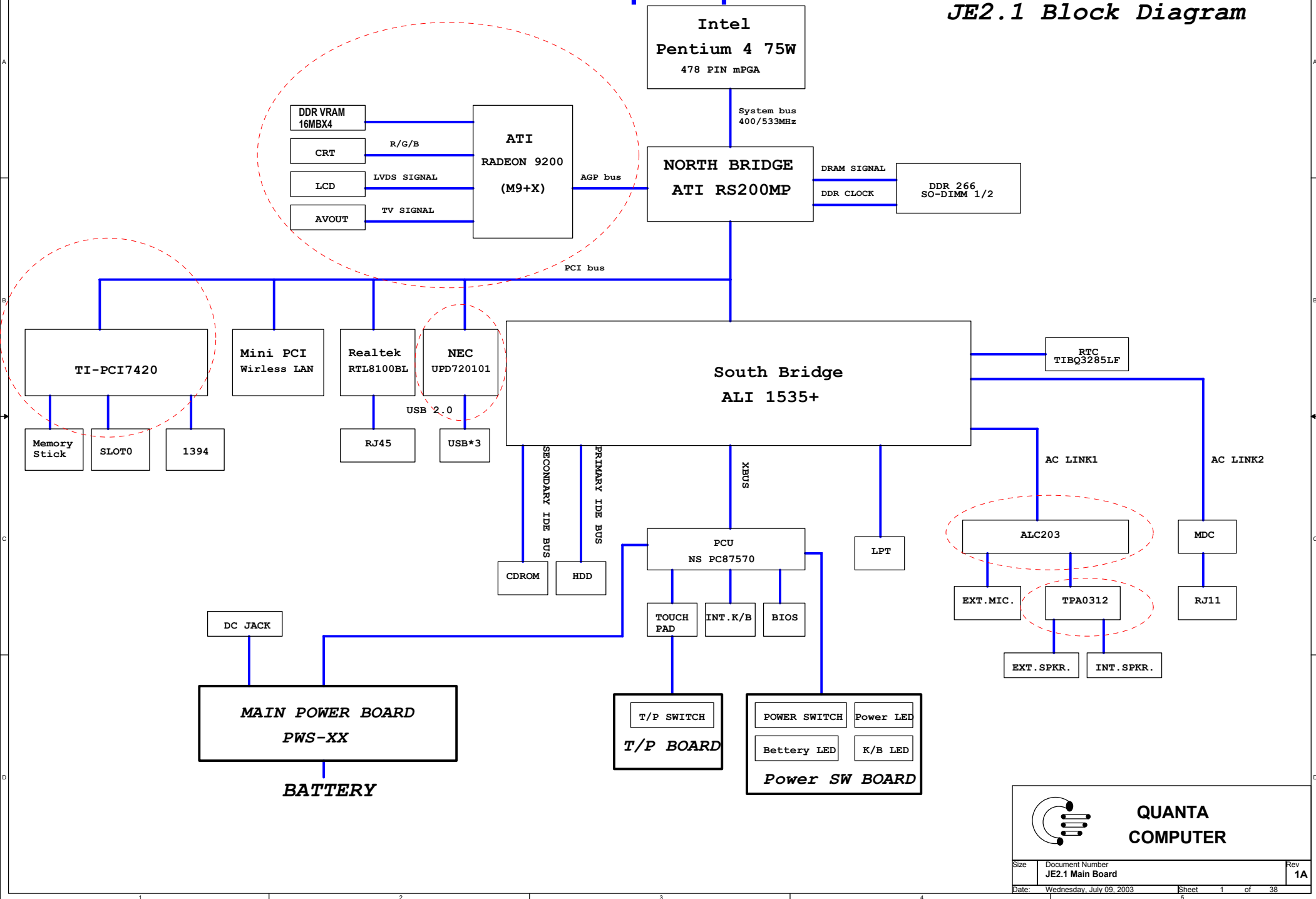


JE2.1 Block Diagram

**QUANTA
COMPUTER**

Page List

01 Block Diagram
02 Page List
03 Northwood CPU-1
04 Northwood CPU-2
05 RS200M-AGTL+

06 RS200M-DDR I/F
07 RS200M-PCI & AGP I/F
08 RS200M-VIDEO I/F & CLKGEN
09 SYSTEM CONFIGURATION
10 DDR Terminator

11 DDR SODIMMx2
12 CRT PORT/TV
13 ALI M1535+ (PCI,ISA)-1/2
14 ALI M1535+ (IDE)-2/2
15 USB2.0 Controller (NEC-uPD720101)


16 ATI M9+ 1/3
17 ATI M9+ 2/3
18 ATI M9+ 3/3
19 VGA DDR VRAMX2 1/2
20 VGA DDR VRAMX2 2/2

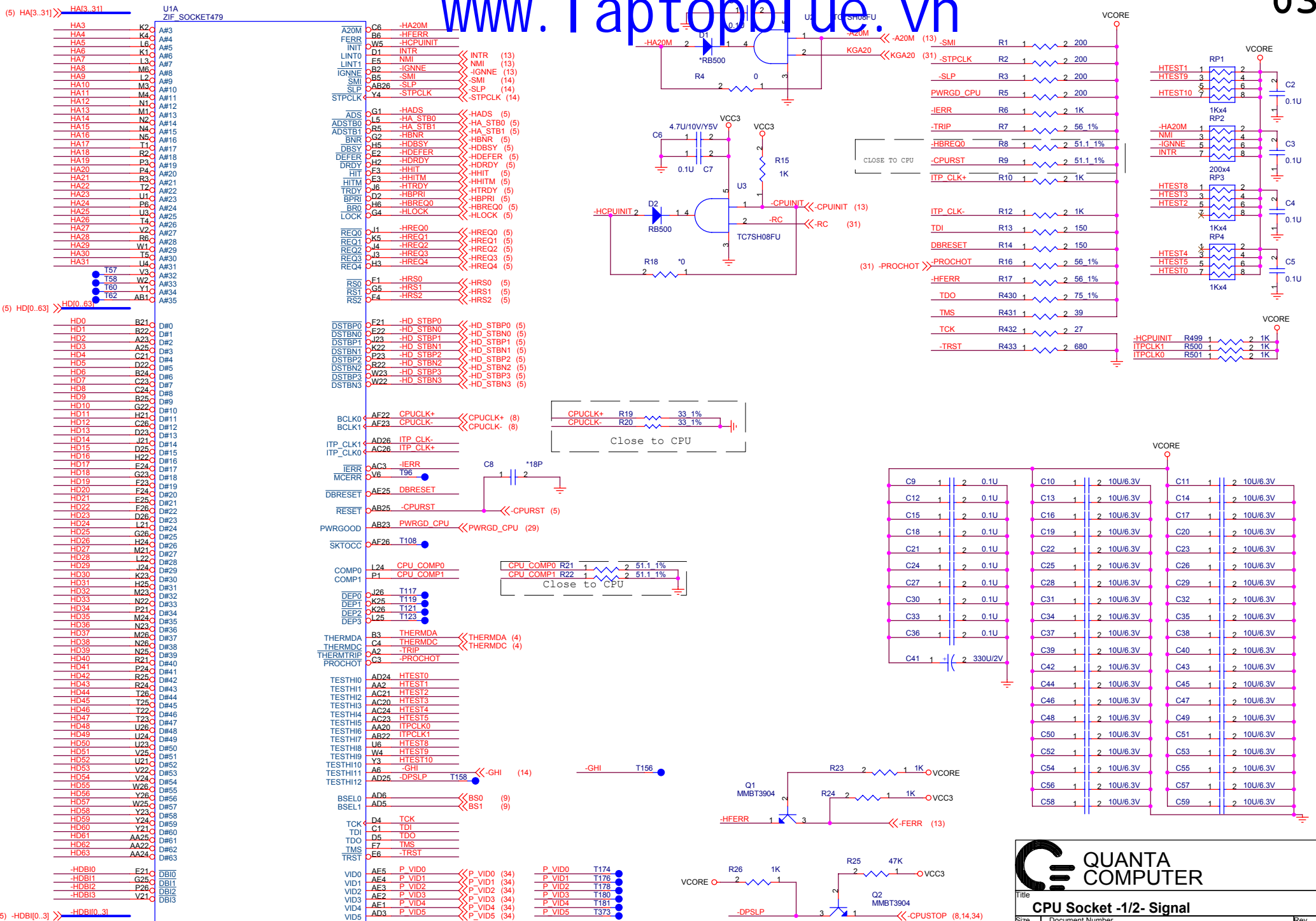
21 AGP SSC/FAN3
22 TI7420-A (CARDBUS+1394+MS)
23 TI7420-B (CARDBUS+1394+MS)
24 Cardbus slot
25 LAN interface RTL8100B

26 Audio CODEC
27 Audio AMP & Int. Speaker
28 MiniPCI & MDC
29 RTC/POWER GOOD LOGIC
30 IDE/HDD/LPT Connector

31 PCU NS 87570
32 Int. Keyboard/Bios/FAN
33 VCORE POWER 1
34 MAX1546 (VCORE POWER 2)
35 MAX1632 (5V/3V/12V)

36 MAX1844 (2.5V/1.8V/1.25V)
37 MAX1844 (VCC1.5)
38 Load Switch

		QUANTA COMPUTER	
Title COVER PAGE			
Size B	Document Number JE2.1 Main Board		Rev 1A
Date: Monday, August 11, 2003		Sheet	2 of 38



**QUANTA
COMPUTER**

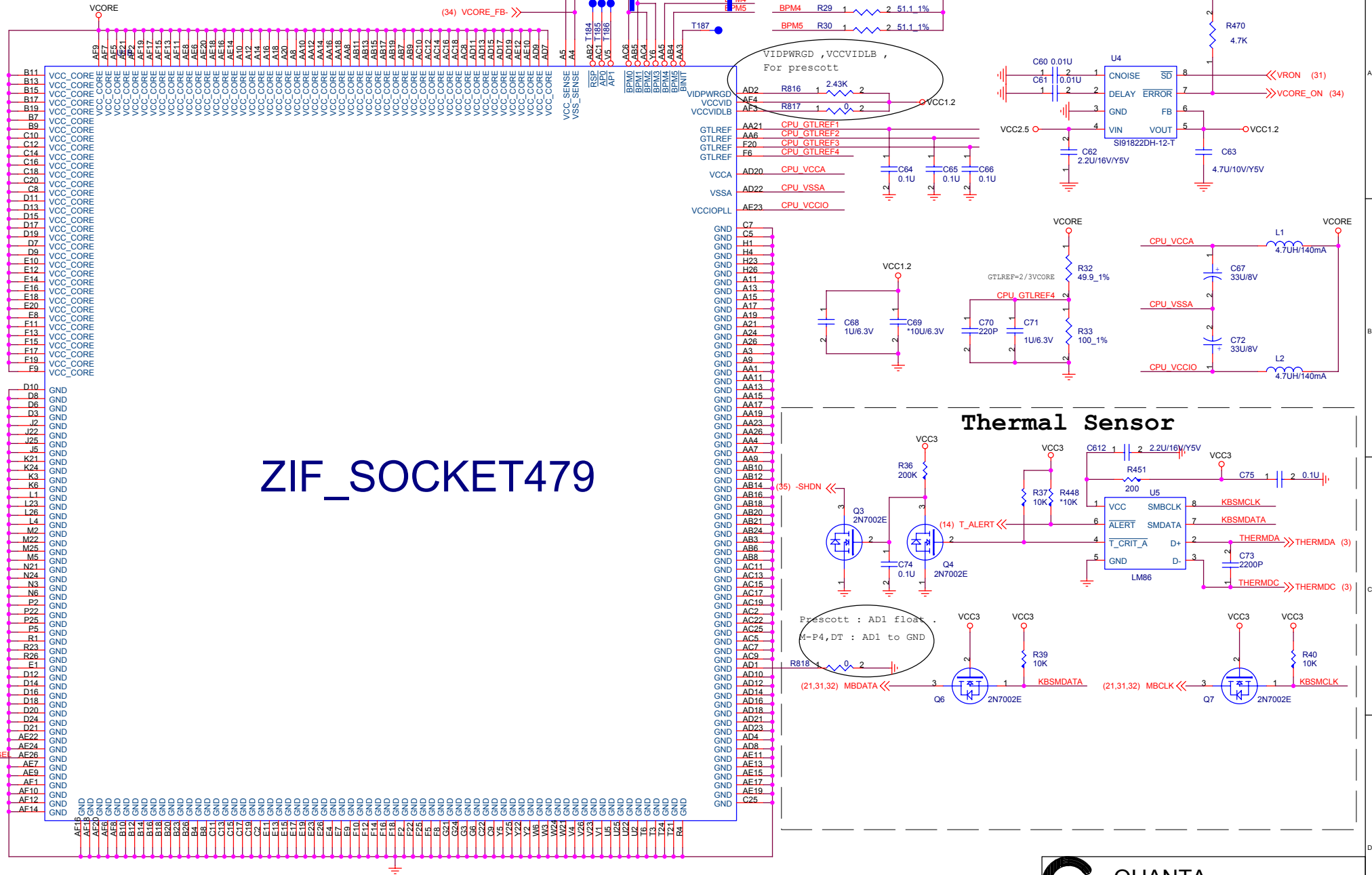
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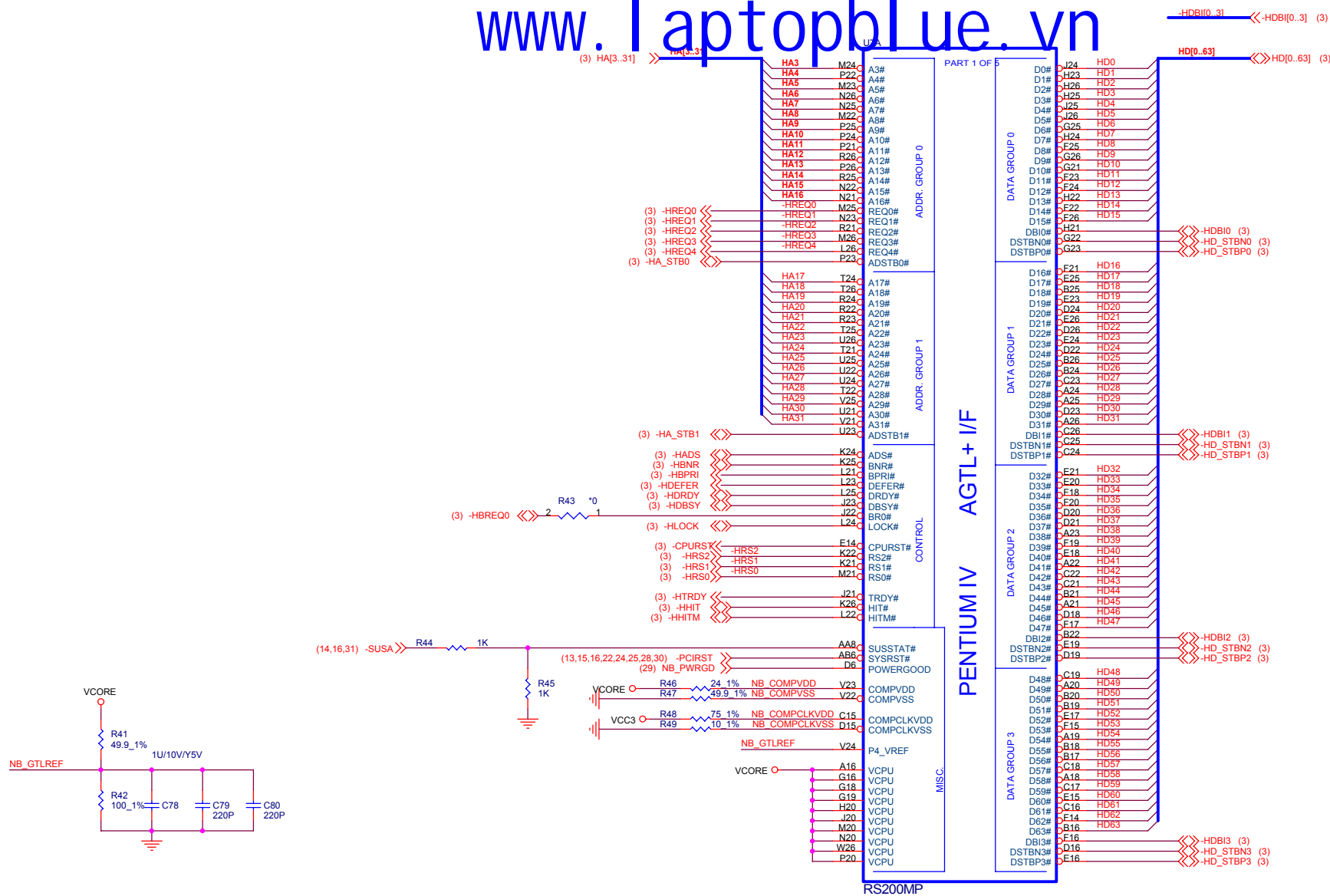
CPU Socket -1/2- Signal

Size B Document Number

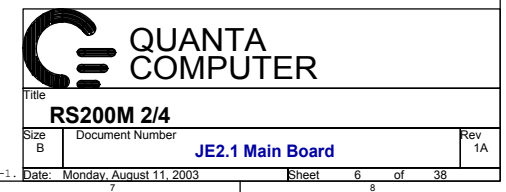
JE2.1 Main Board

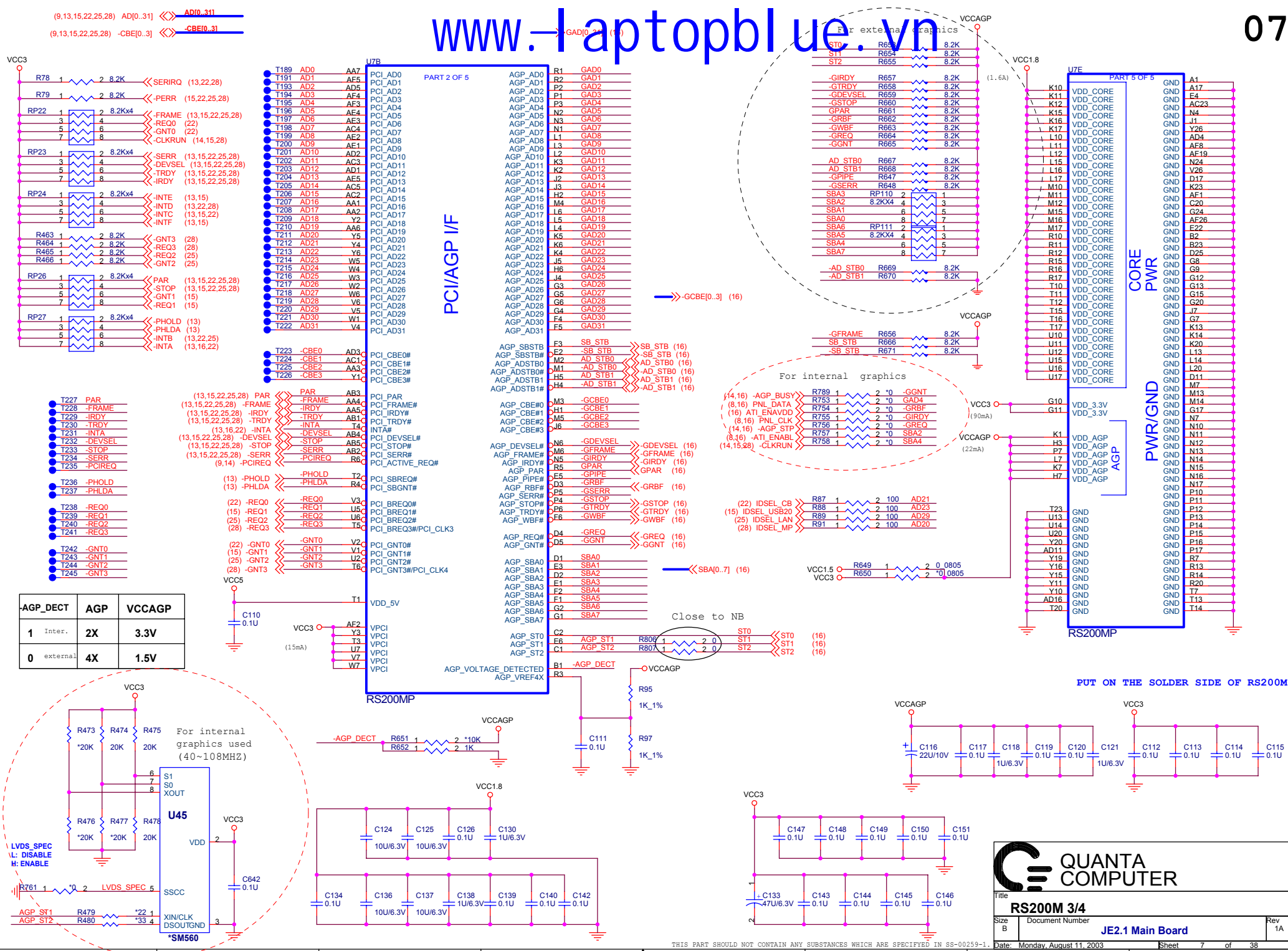
Rev 3A





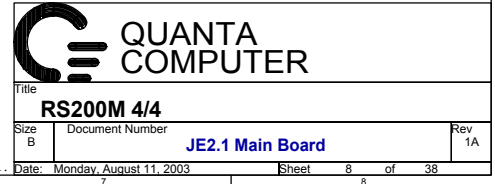
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RS200M 1/4		
Size	Document Number	Rev
B	JE2.1 Main Board	1A

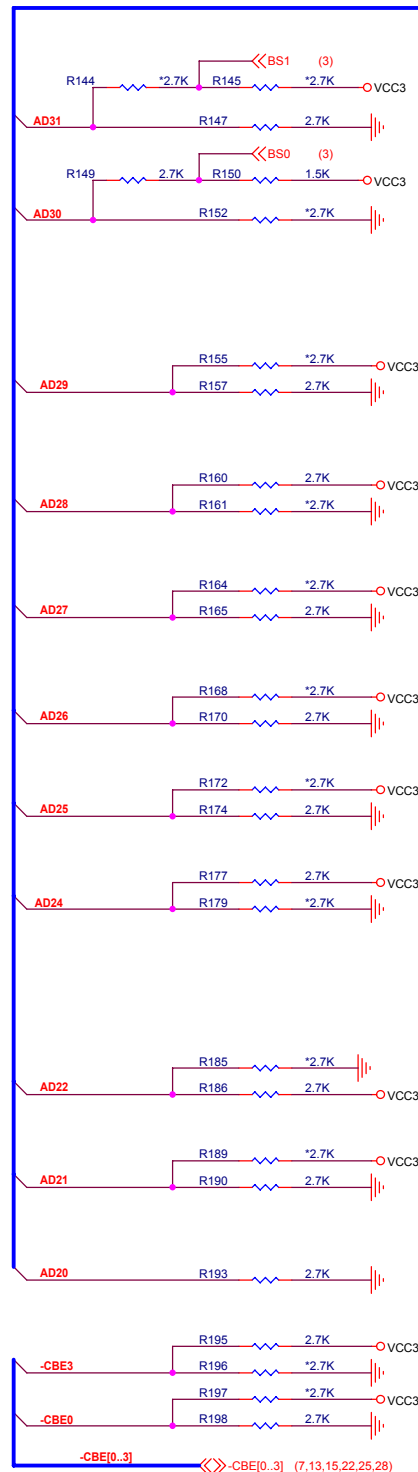




AGP_DECT	AGP	VCCAGP
1 Inter.	2X	3.3V
0 external	4X	1.5V

		QUANTA COMPUTER
RS200M 3/4		
Title Size B	Document Number JE2.1 Main Board	Rev 1A





AD[31..30] : CLK SPEED
DEFAULT: 01

00: 100 MHZ
01: 133 MHZ
10: 166MHZ
11: 66 MHZ

AD29: RS200M FULL CONFIGURATION
DEFAULT:1

0: FULL CONFIGURATION
1: USES DEFAULT VALUES

AD28: SPREAD SPECTRUM ENABLE
DEFAULT:1

0: DISABLE
1: ENABLE

AD27: MCERR OBSERVATION
DEFAULT: 0

0: ENABLE
1: DISABLE

AD26: BUS PARKING
DEFAULT : 0

0: ENABLE
1: DISABLE

AD25: BINIT# OBSERVATION
DEFAULT : 0

0: ENABLE
1: DISABLE

AD24: IOQ ENABLE
DEFAULT : 1

0: SET IOQ TO 1
1:SET IOQ TO 12

AD22:REF27 ENABLE
DEFAULT : 1

0: PCICLK5 OUTPUT
1: 27 MHzREFERENCE CLOCK INPUT

AD21 : CLK_BYPASS(TEST ONLY)
DEFAULT : 0

0: NORMAL
1: TEST MODE

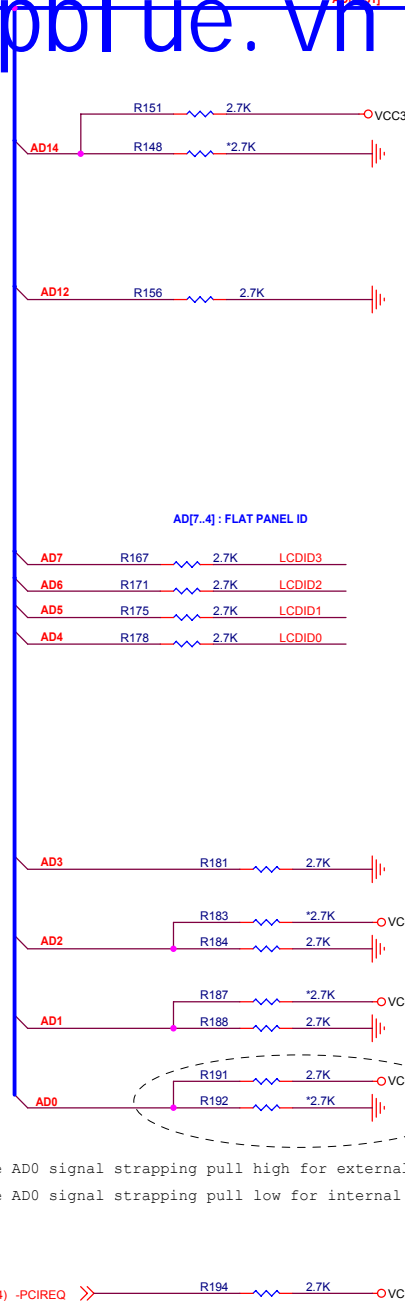
AD20 : PCICLK EXPANSION
DEFAULT : 0

1: PCI_REQ#3, PCI_GNT#3 USED AS PCICLK
0: PCI_REQ#3, PCI_GNT#3 USED AS REQ/GNT

CBE#3: PROD TEST
DEFAULT : 1

0: SHORT TIMERS
1: NORMAL OPERATION

CBE#0:RESERVE

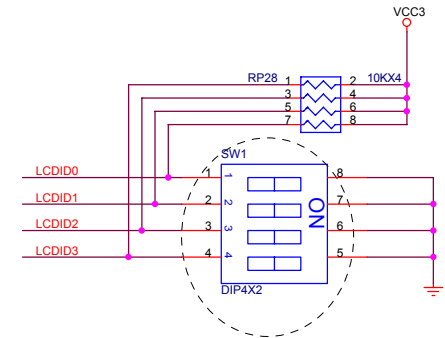


AD14 : AGTL+ VDDQ

0: 1.2V MOBILE PART
1: 1.7V DESKTOP PART

AD[12] : FLAT PANEL ID MSB

AD[7..4] : FLAT PANEL ID



AD3: A_LINK ENABLE

DEFAULT: 0
0:PCI- 33MHz,MULTI POINT CONNECTION
1: A_LINK,POINT TO POINT INTERCONNECT

AD2: AUTO CALIBRATION ENABLE
DEFAULT:0

0: AUTO CALIBRATION ENABLE
1: AUTO CALIBRATION DISABLE

AD1: FrcShortReset

DEFAULT: 0
0: NORMAL OPERATION
1: TEST MODE

AD0: PCI/AGP CONFIG.
DEFAULT : 1


1: EXTERNAL AGP 66 Mhz
0: INTERNAL AGP 33 Mhz

PCI_PREQACT#: INTERNAL CLOCK GEN.
DEFAULT : 1

0: DISABLE
1: ENABLE

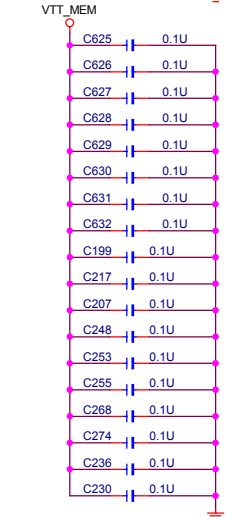
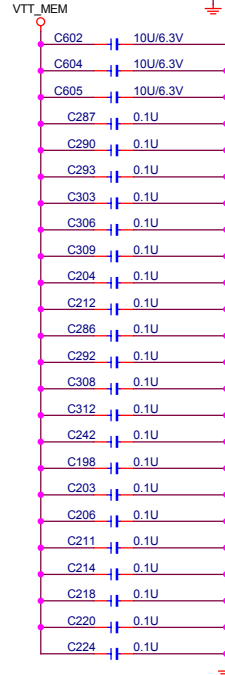
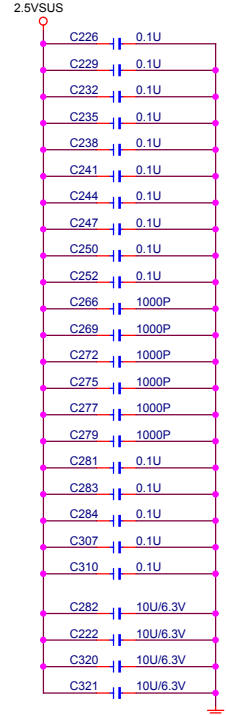
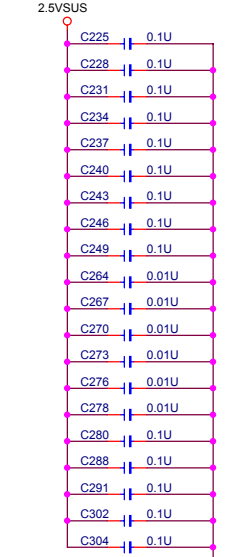
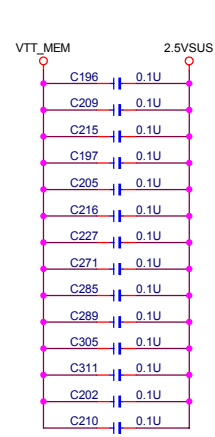
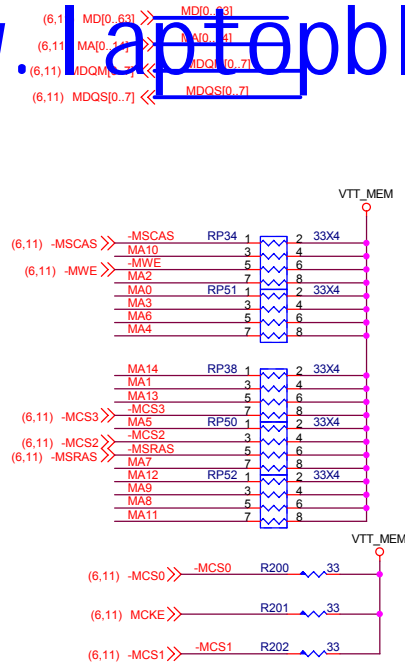
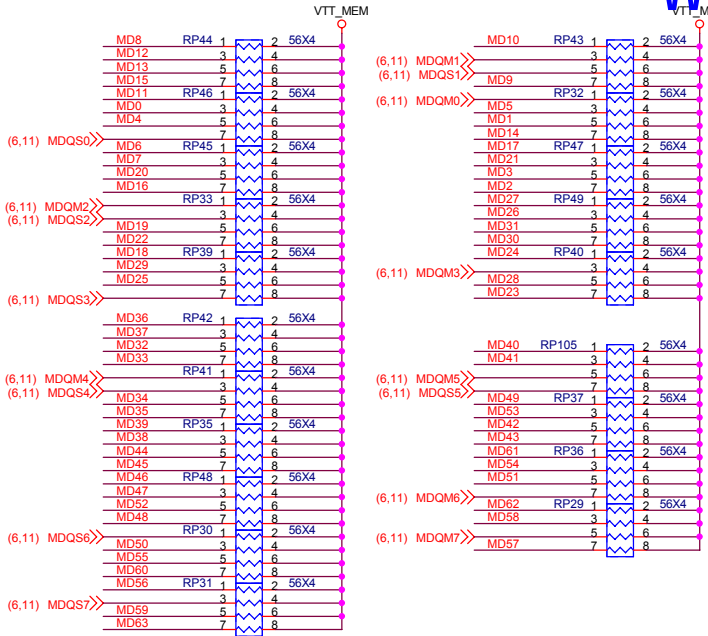
The AD0 signal strapping pull high for external AGP .
The AD0 signal strapping pull low for internal AGP .

(7,14) -PCIREQ >> R194 2.7K VCC3

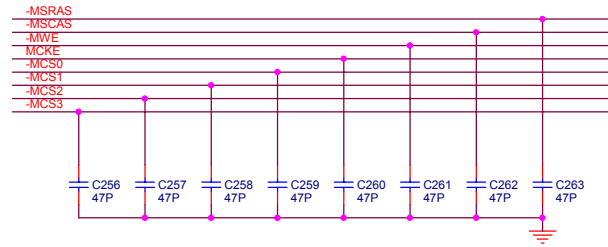
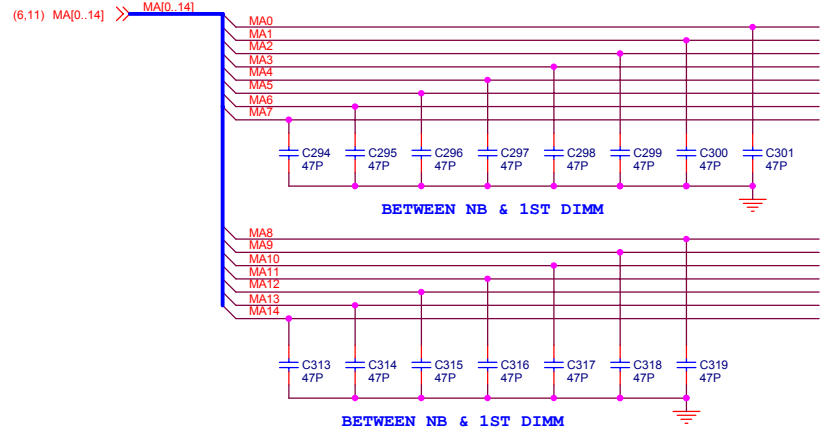
		QUANTA COMPUTER	
Title			
SYSTEM CONFIG			
Size	Document Number		Rev
B	JE2.1 Main Board		1A
Date: Monday, August 11, 2003		Sheet	9 of 38


DDR TERMINATOR

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MA Terminator





QUANTA
COMPUTER

Title

Memory -1/2- Terminator

Size B

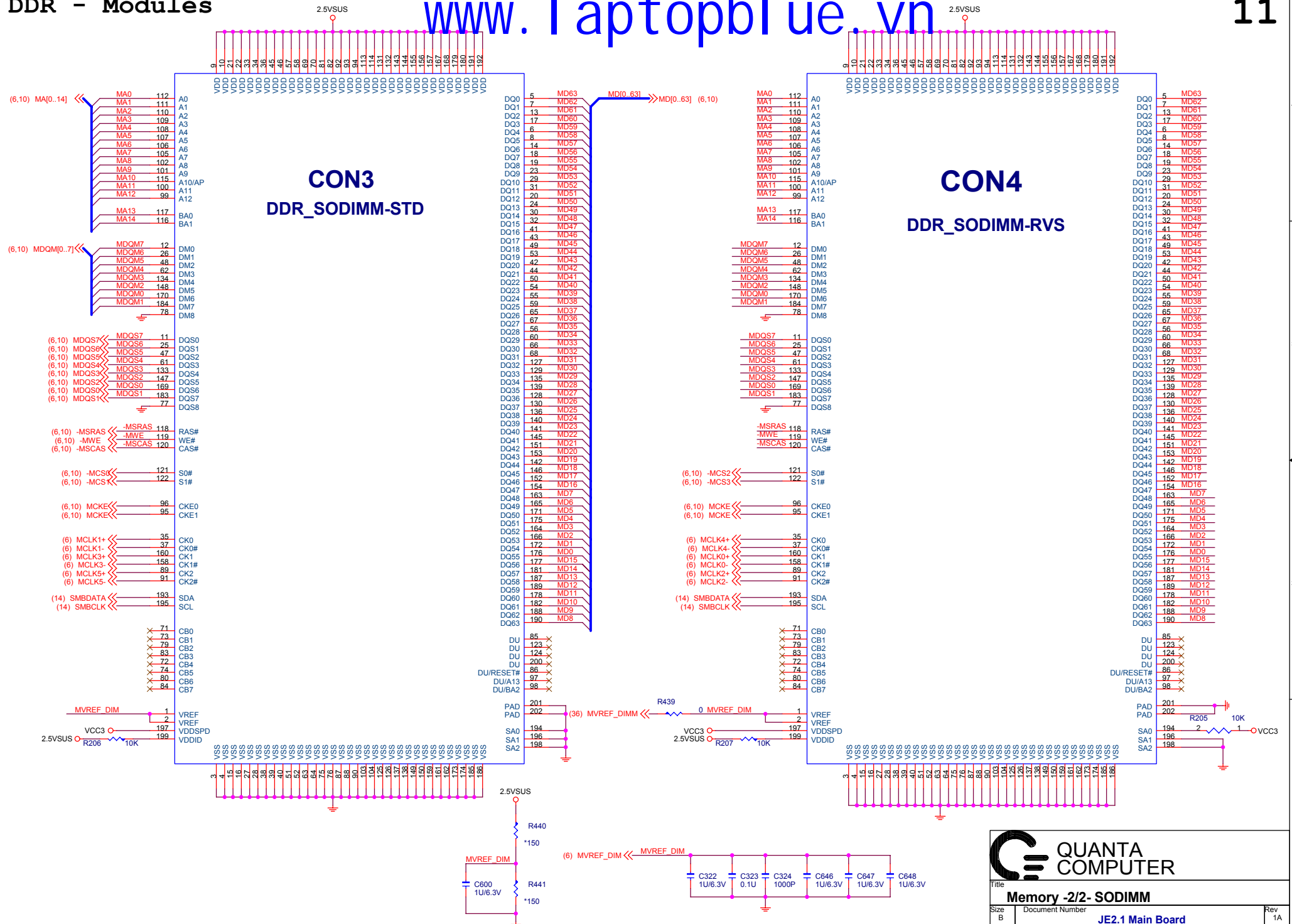
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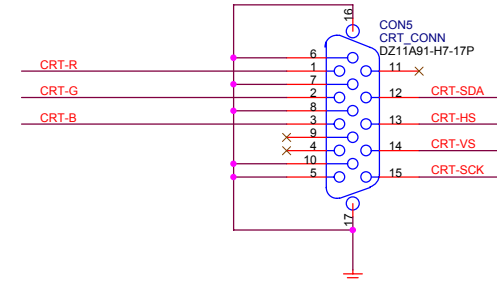
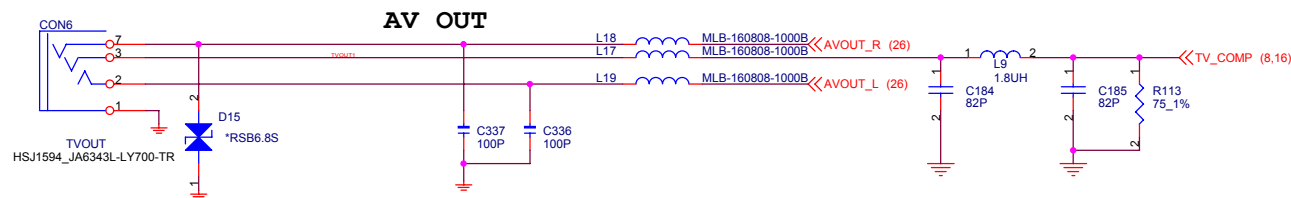
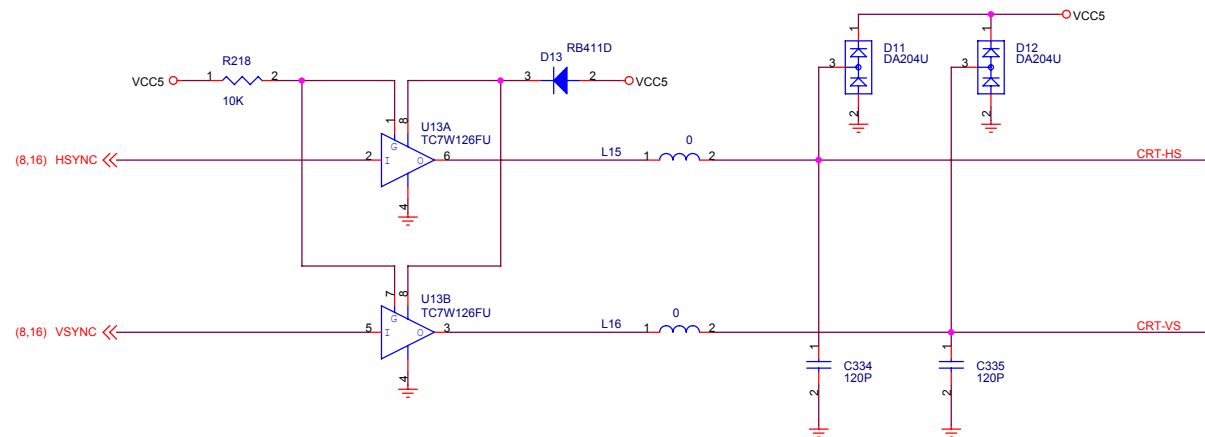
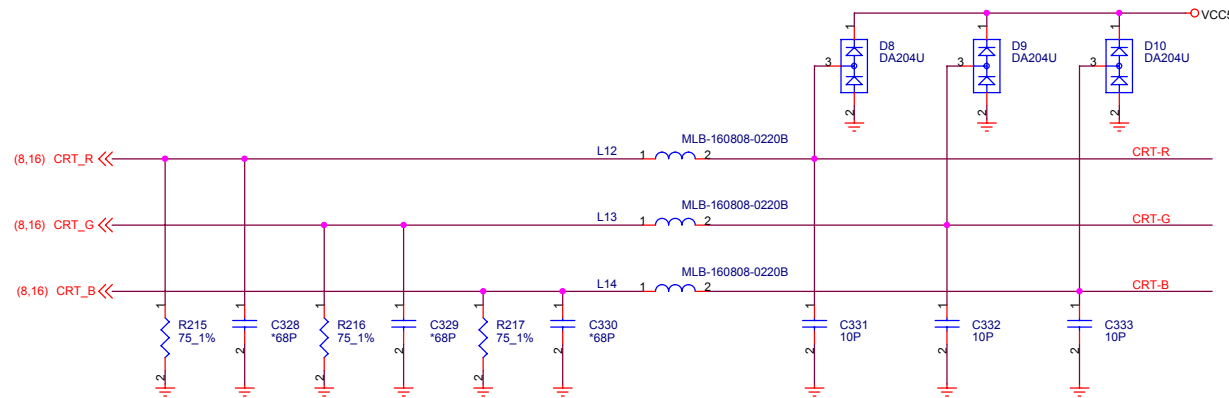
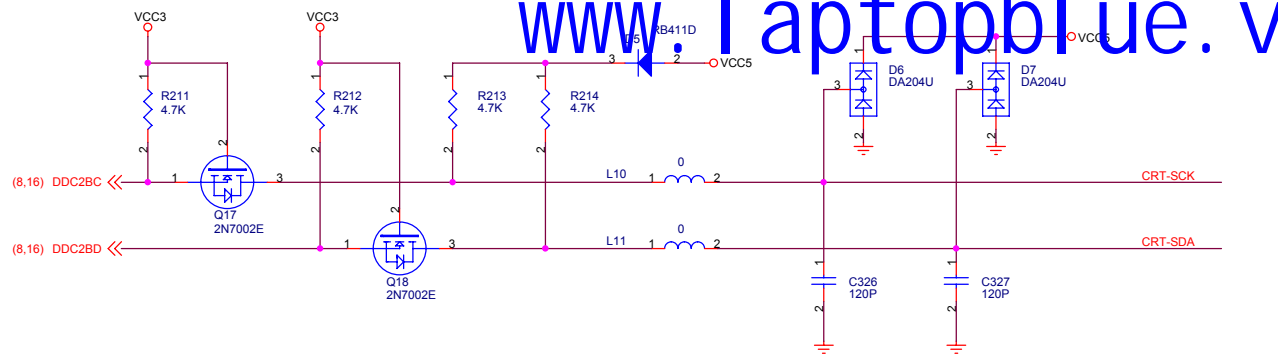
JE2.1 Main Board

Date: Monday, August 11, 2003

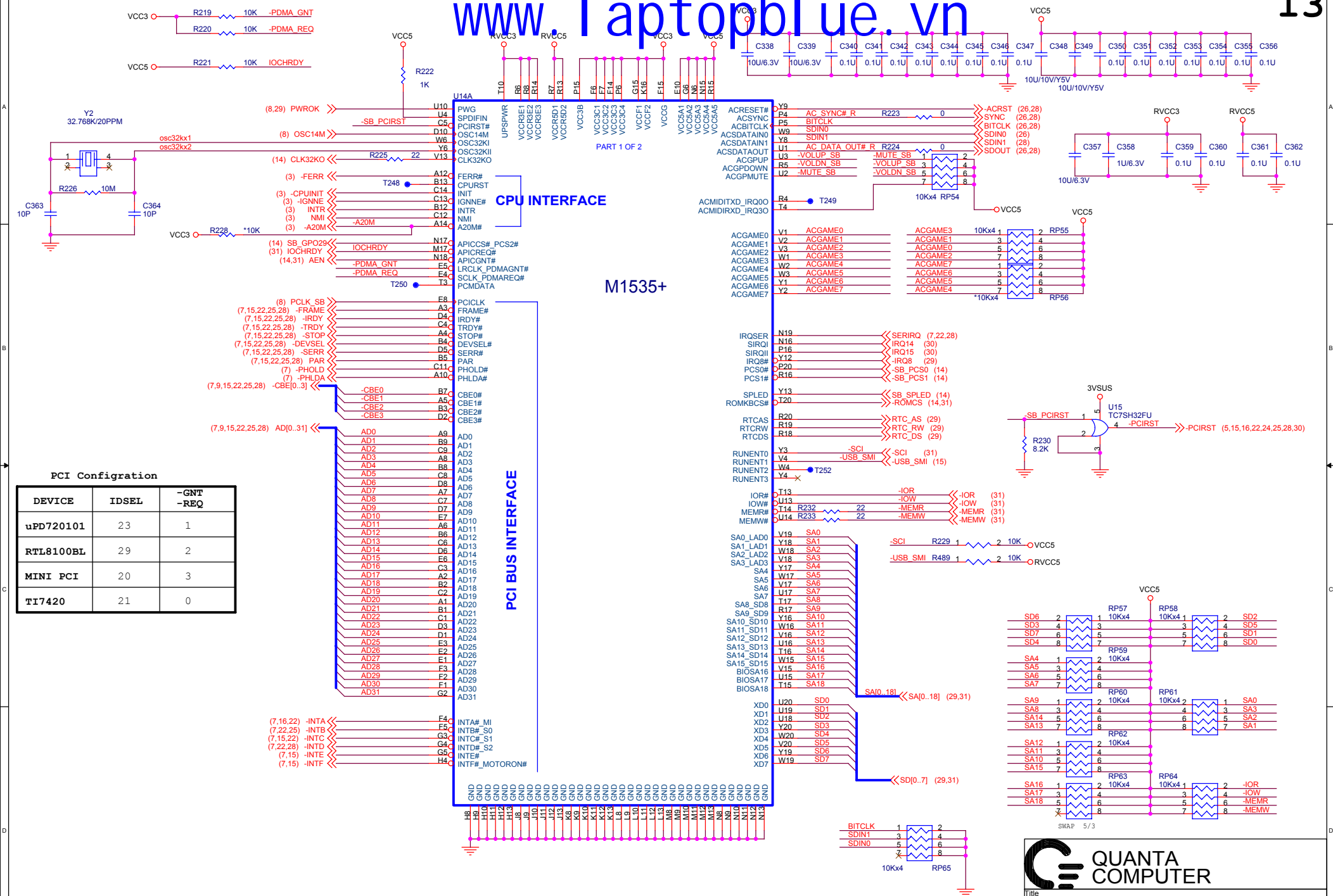
Sheet 10 of 38

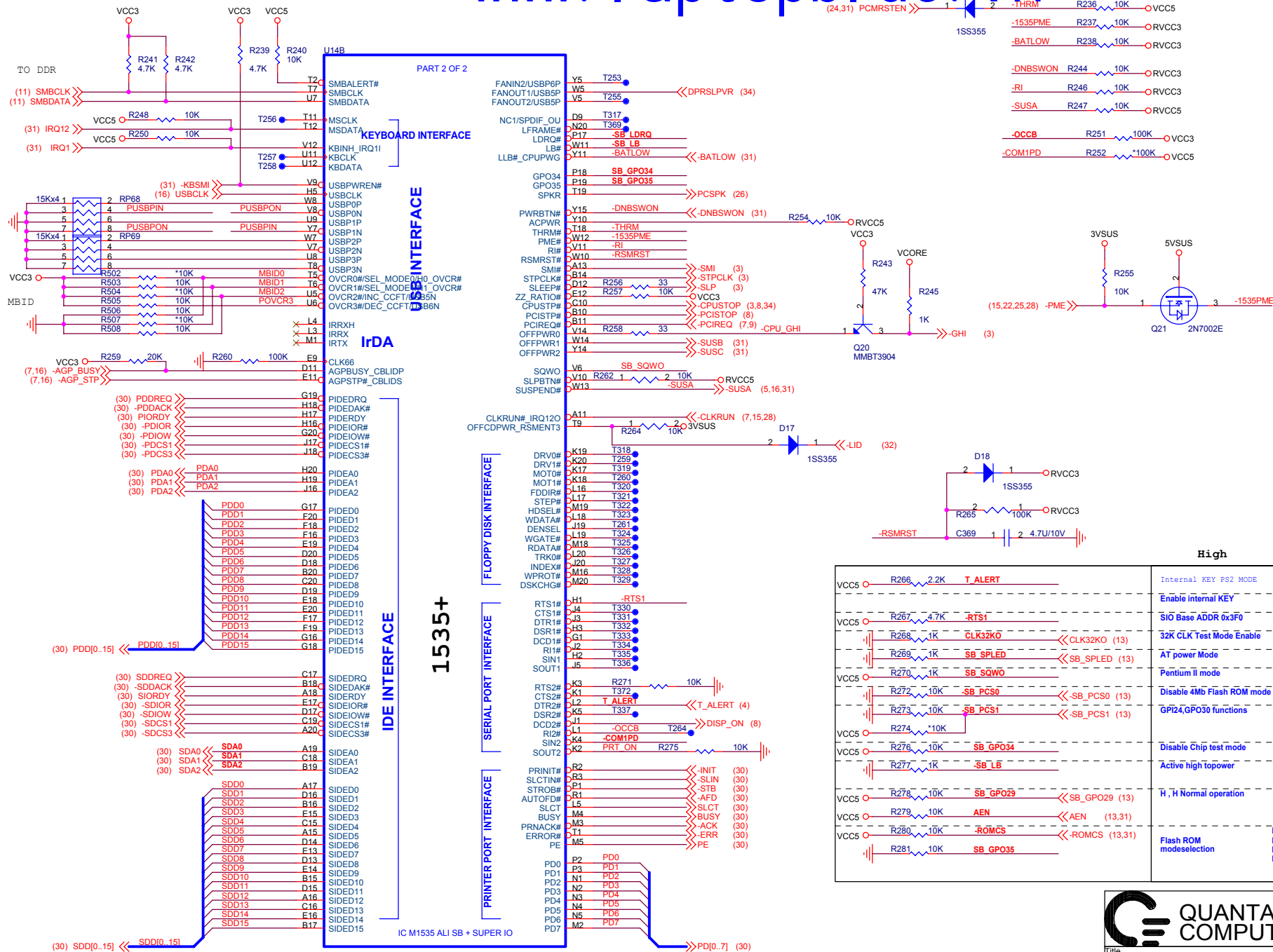
Rev 1A





Title		
CRT PORT/TV		
Size	Document Number	Rev
B	JE2.1 Main Board	1A

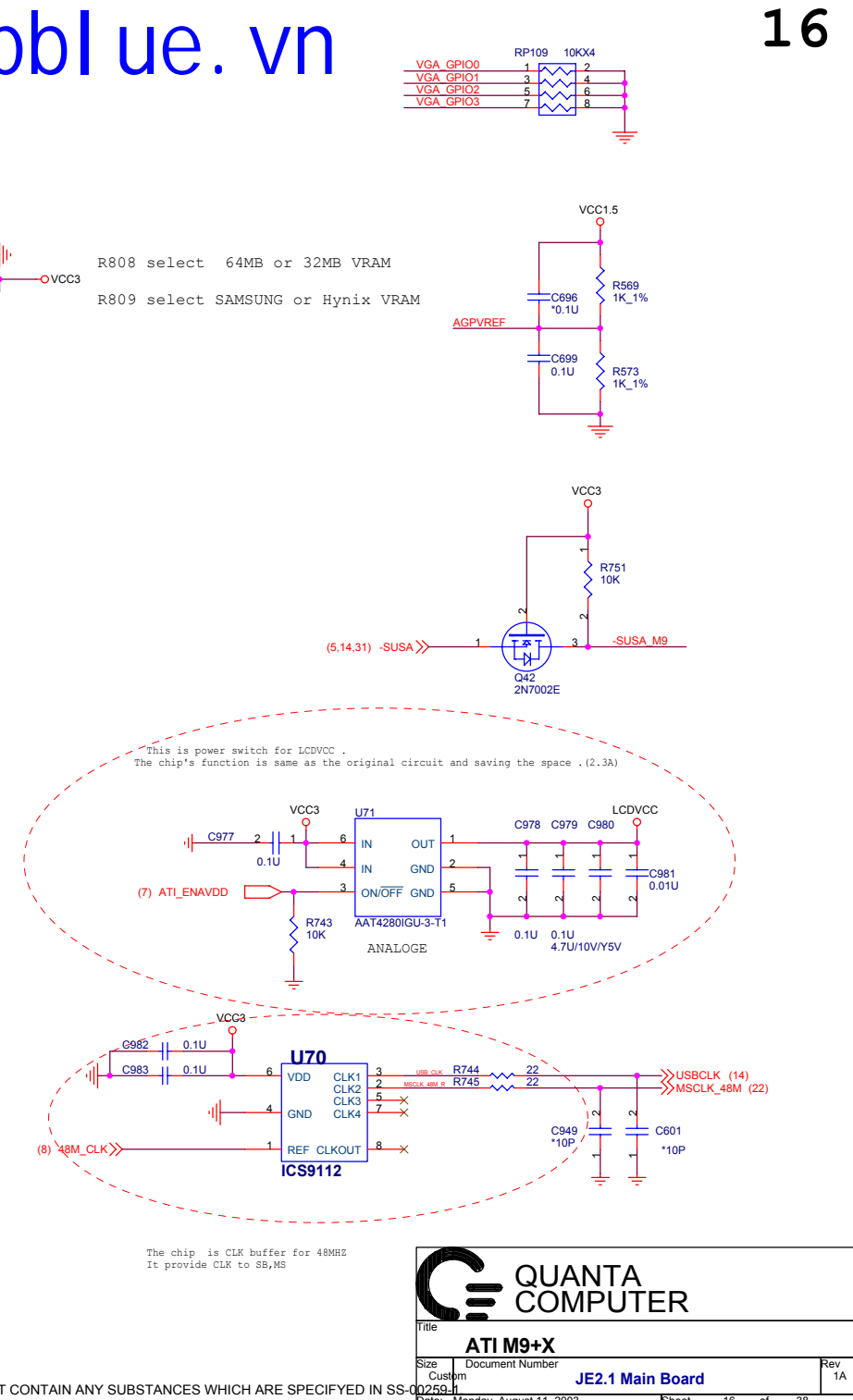


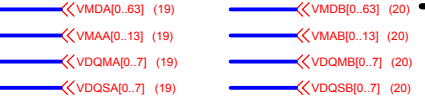
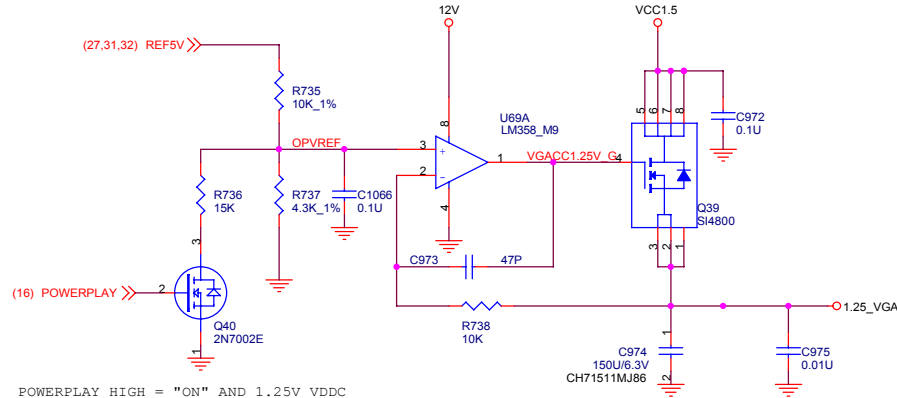
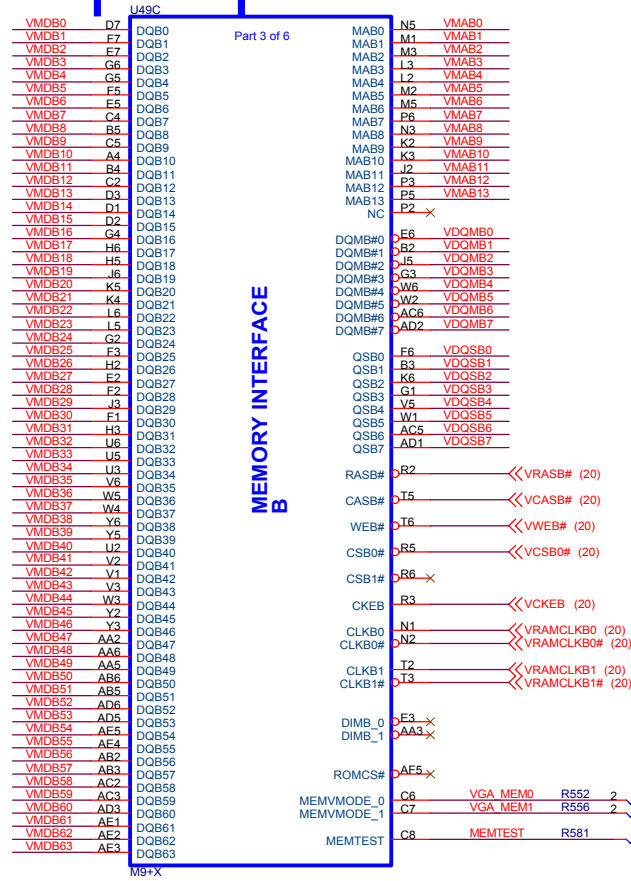
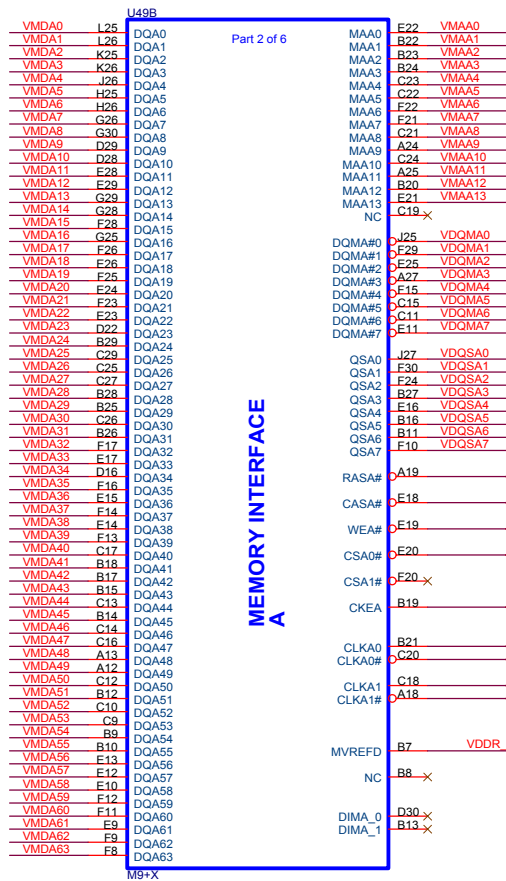


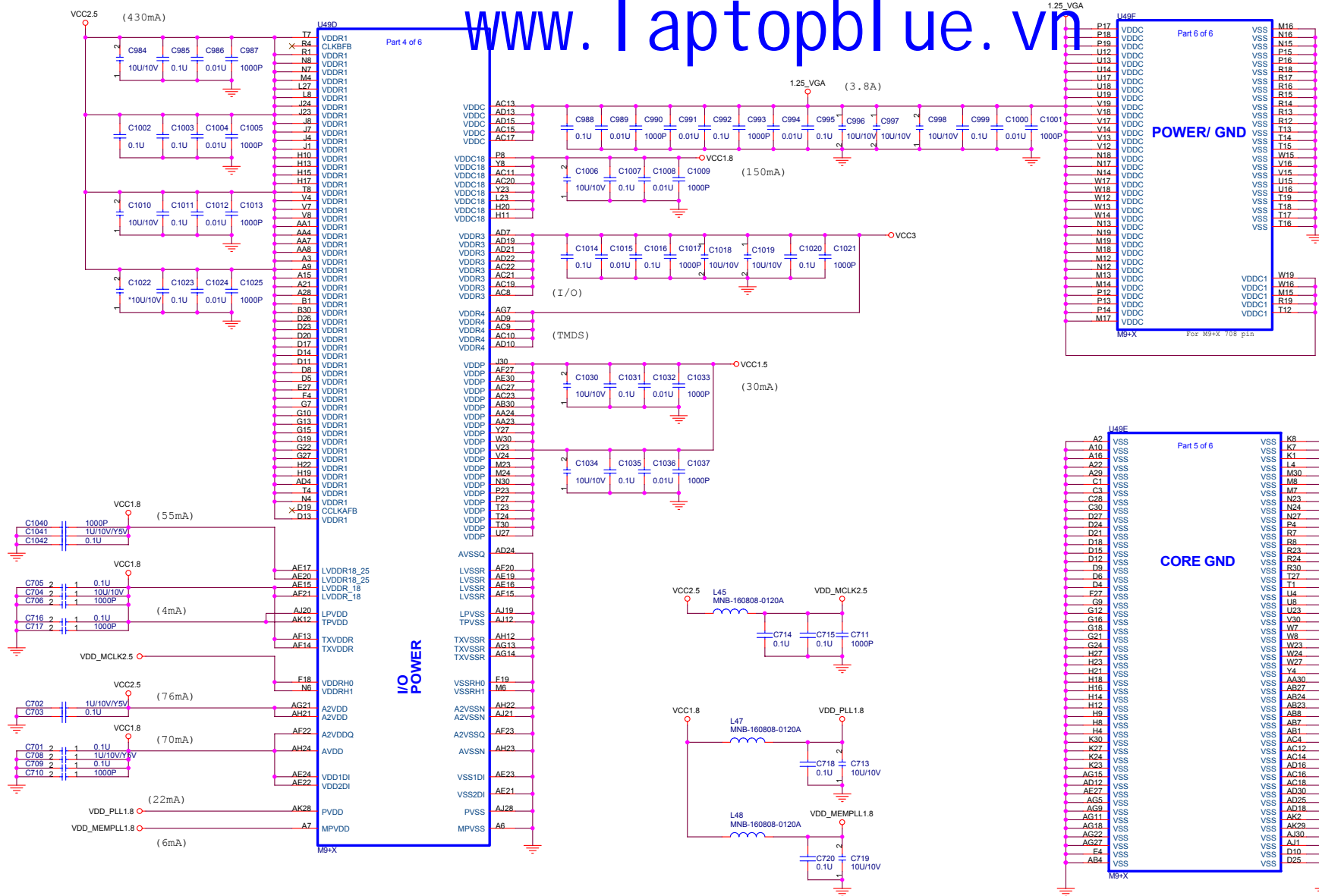
	High	Low
VCC5	R266 2.2K T_ALERT	Internal KEY PS2 MODE Enable internal KEY
VCC5	R267 4.7K -RTS1	Internal KEY AT MODE Disable internal KEY
	R268 1K CLK32KO << CLK32KO (13)	SIO Base ADDR 0x3F0 SIO Base ADDR 0x370
	R269 1K SB_SPLED << SB_SPLED (13)	32K CLK Test Mode Enable 32K CLK Test Mode Disable
VCC5	R270 1K SB_SQWO	AT power Mode ATX power Mode
	R272 10K SB_PCS0 << -SB_PCS0 (13)	Pentium II mode Pentium/K7 mode
	R273 10K SB_PCS1 << -SB_PCS1 (13)	Disable 4Mb Flash ROM mode Enable 4Mb Flash ROM mode
VCC5	R274 *10K	GPI24,GPO30 functions IOCHRDY,AEN functions
VCC5	R276 10K SB_GPO34	Disable Chip test mode Enable Chip test mode
	R277 1K -SB_LB	Active high topower Active low topower
VCC5	R278 10K SB_GPO29 << SB_GPO29 (13)	H, H Normal operation
VCC5	R279 10K AEN << AEN (13,31)	
VCC5	R280 10K -ROMCS << -ROMCS (13,31)	L,L Reserve L,H Enable 8Mb Flash ROMsize H,L Disable!! FUNC in this CONFIG L,L Enable LPC Flash ROM
	R281 10K SB_GPO35	Flash ROM modeselection



THIS PART SHOULD NOT CONTAIN ANY SUBSTANCES WHICH ARE SPECIFYED IN SS-00259-1



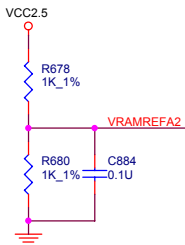
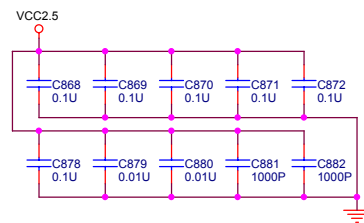
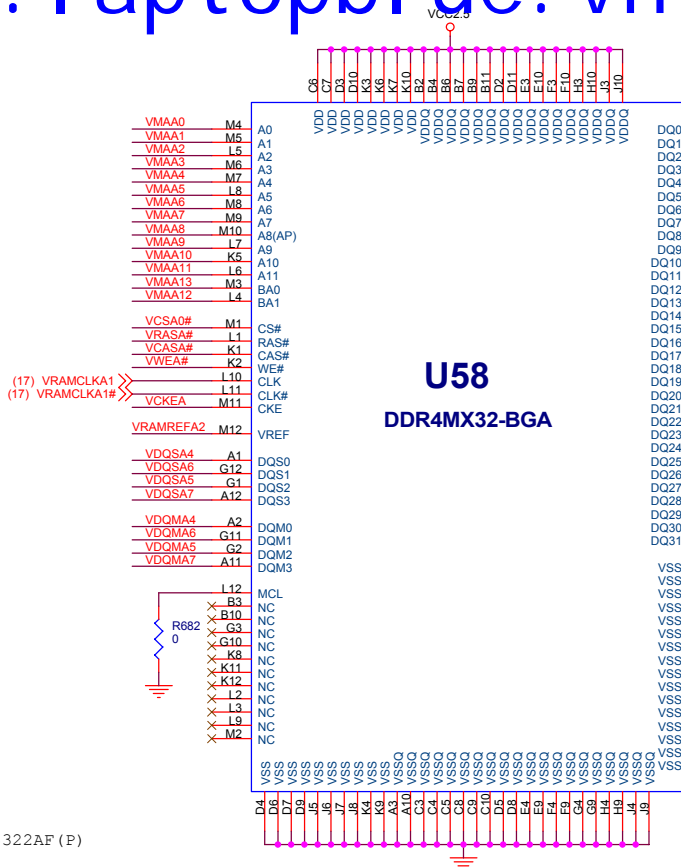
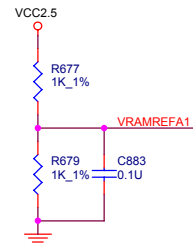
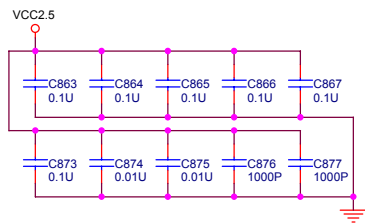
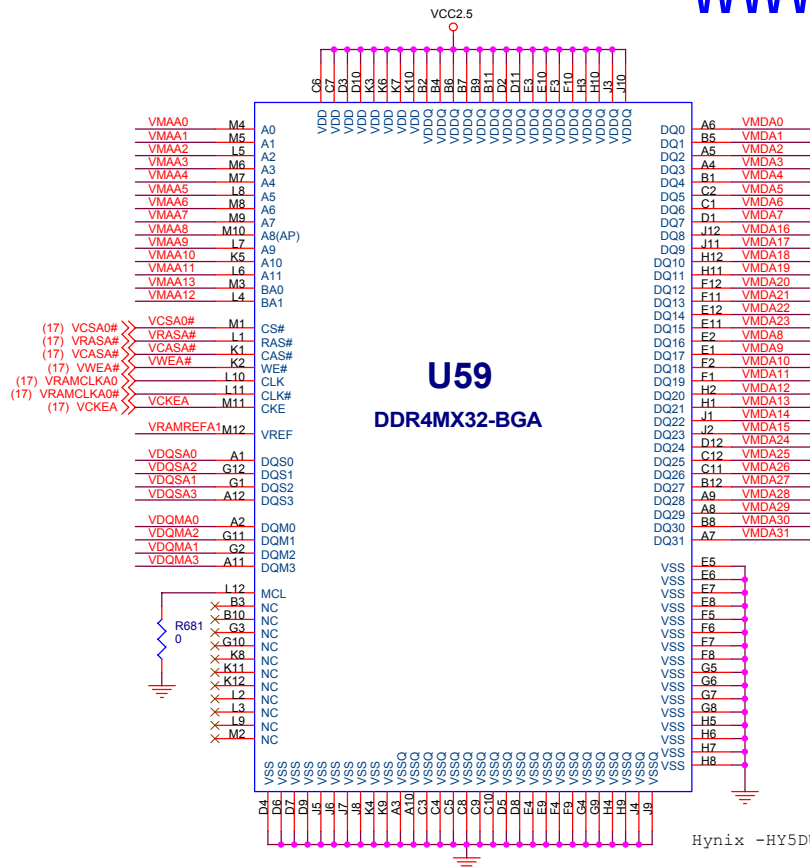




ATI M9+X

JE2.1 Main Board

Date: Monday, August 11, 2003



<<VMDA[0..63] (17)
 <<VMAA[0..13] (17)
 <<VDQMA[0..7] (17)
 <<VDQSA[0..7] (17)

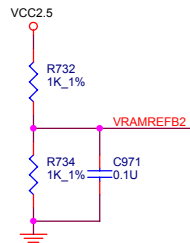
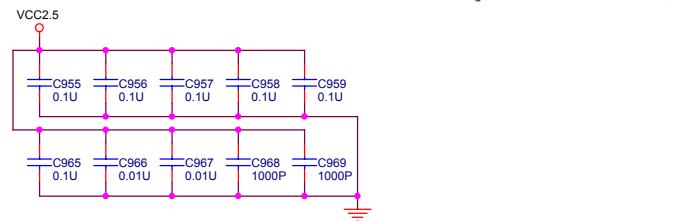
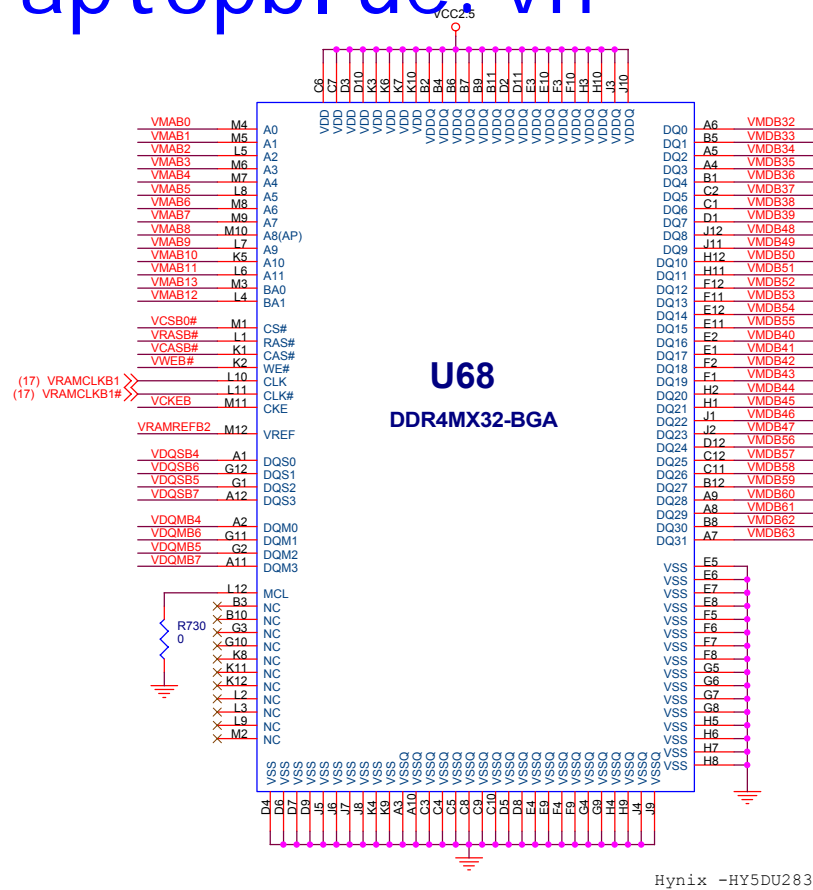
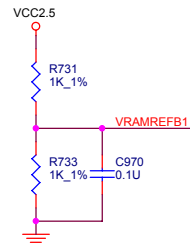
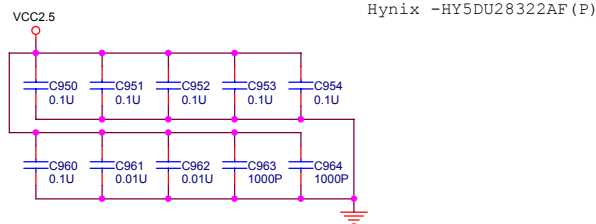
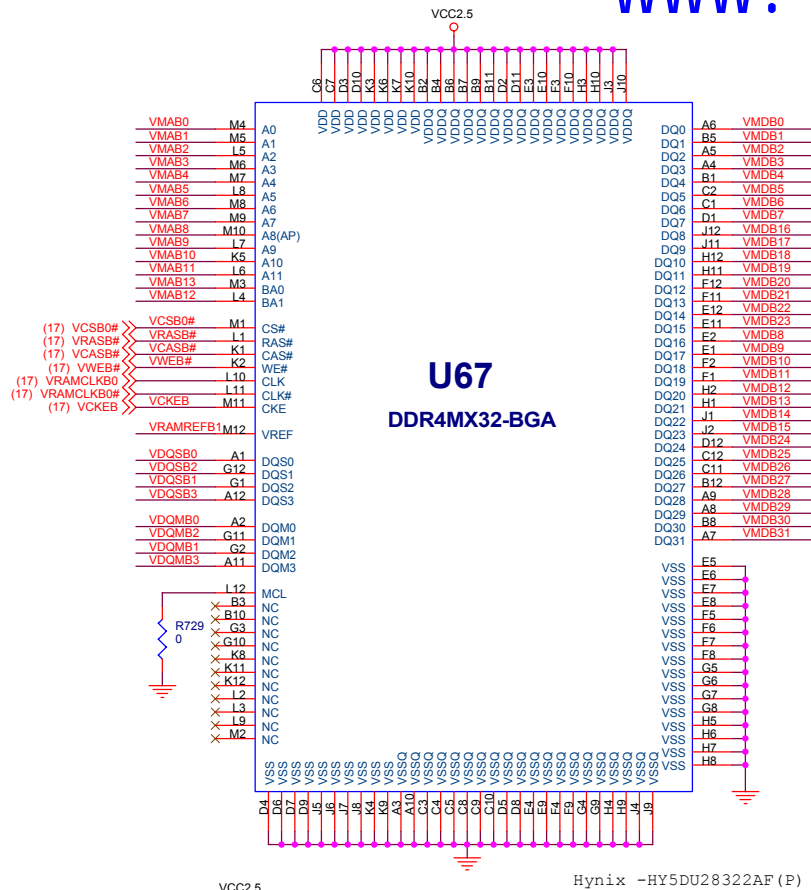


VGA DDR VRAMx2 1/2

Size Custom Document Number **JE2.1 Main Board**

Date: Monday, August 11, 2003

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THIS PART SHOULD NOT CONTAIN ANY SUBSTANCES WHICH ARE SPECIFIED IN SS-00259-1



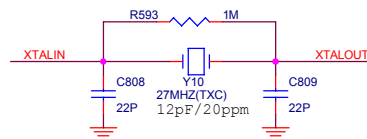
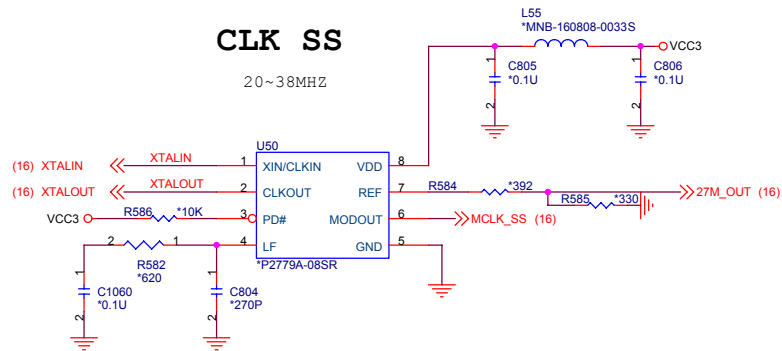
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Size	Document Number
Custom	JE2.1 Main Board

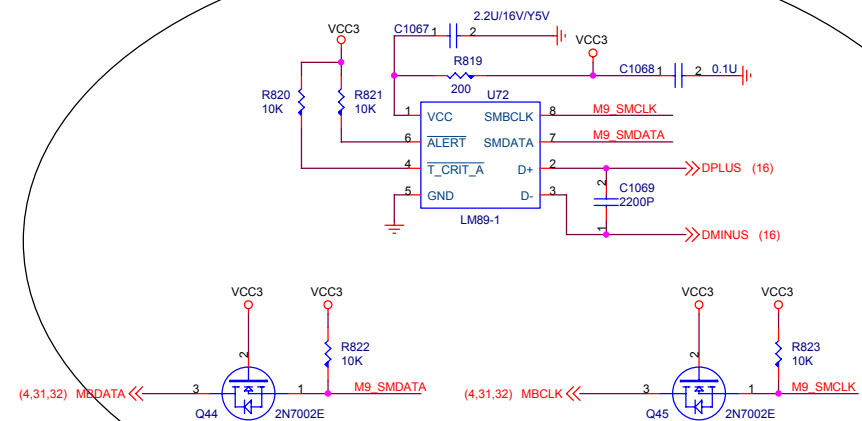
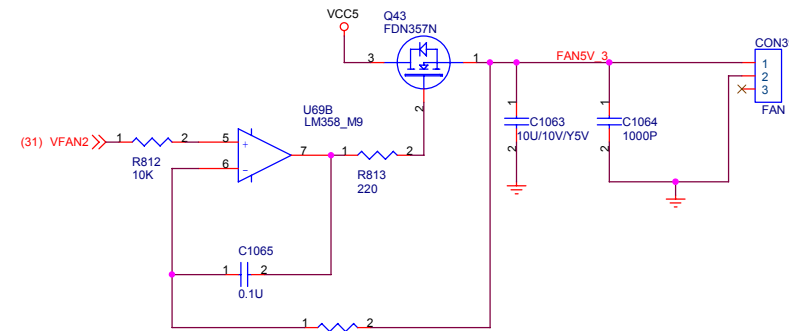
Date: Monday, August 11, 2003	Sheet 20 of 38
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FAN3 UNIT

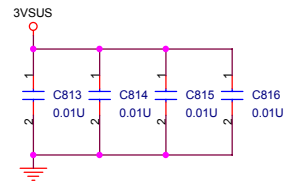
MCLK (230MHZ) SPREAD SPECTRUM LOGIC



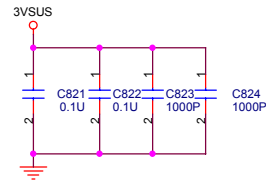
close to M9



Title		
AGP SSC / FAN3		
Size	Document Number	Rev
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Date:	Monday, August 11, 2003	Sheet 21 of 38



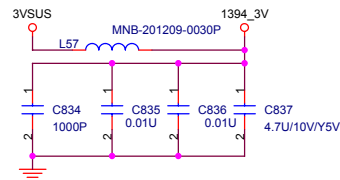
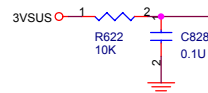
(7,9,13,15,25,28) AD[0..31] <<



(7,9,13,15,25,28) -CBE3 <<
(7,13,15,25,28) -CBE2 <<
(7,13,15,25,28) -CBE1 <<
(7,9,13,15,25,28) -CBE0 <<

(7,13,15,25,28) PAR <<
(7) IDSEL_CB <<
(7) -REQ0 <<
(7) -GNT0 <<
(7,13,15,25,28) -FRAME <<
(7,13,15,25,28) -IRDY <<
(7,13,15,25,28) -TRDY <<
(7,13,15,25,28) -DEVSEL <<
(7,13,15,25,28) -STOP <<
(7,15,25,28) -PERR <<
(7,13,15,25,28) -SERR <<

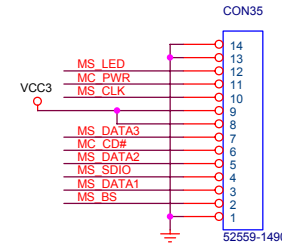
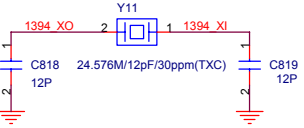
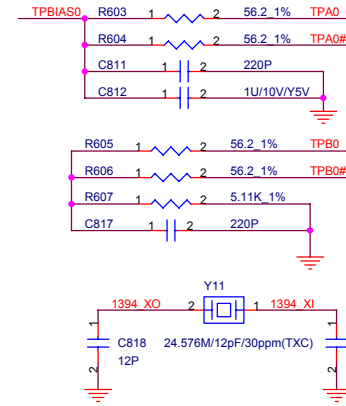
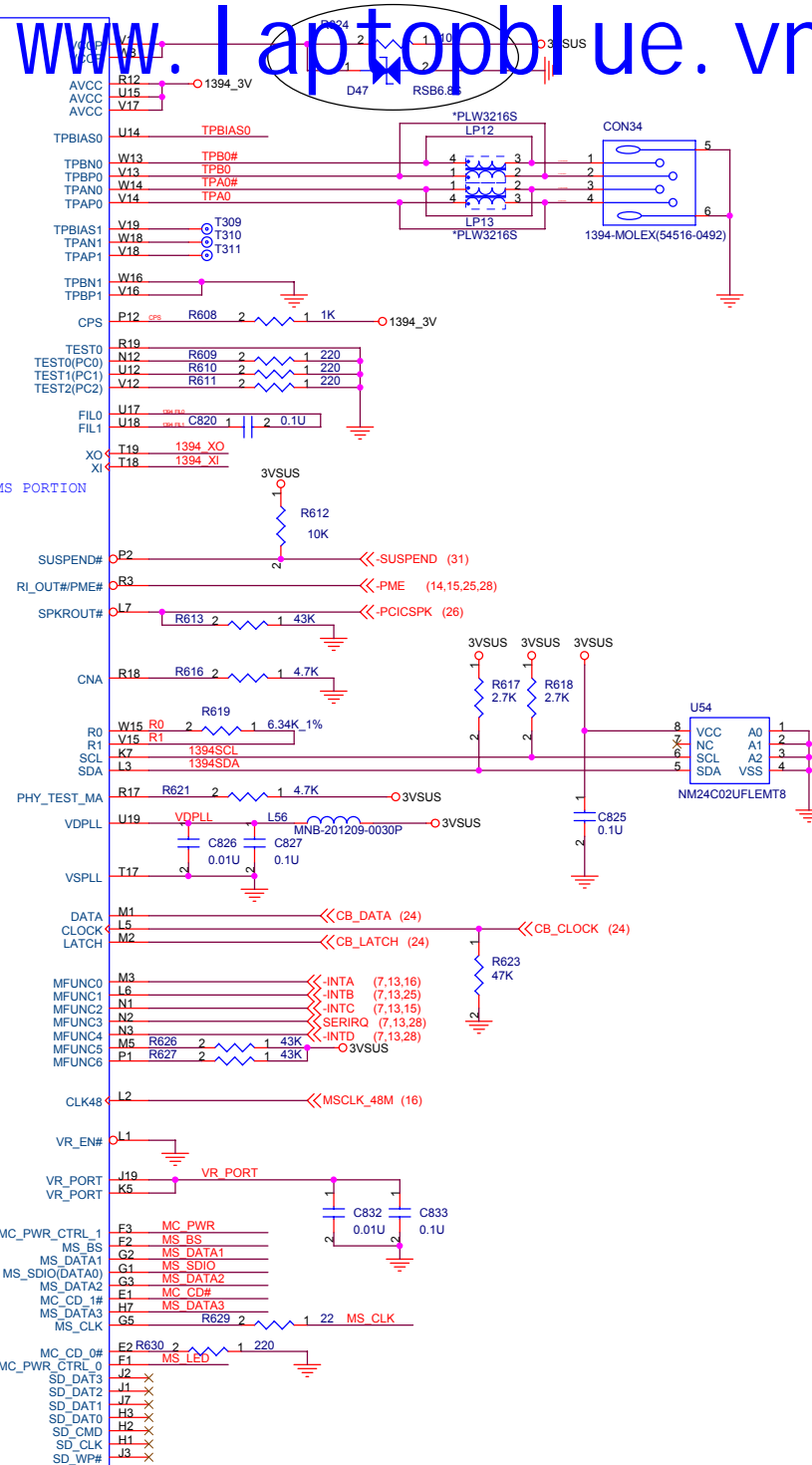
(8) PCLK_7420 <<
(5,13,15,16,24,25,28,30) -PCIRST <<



3VSUS
M11 VCC
M13 VCC
N8 VCC
G7 VCC
G8 VCC
G11 VCC
G12 VCC
G13 VCC
H10 VCC
H12 VCC
J8 VCC
K8 VCC
K12 VCC
M7 VCC

AD31 T2 AD31
AD30 P5 AD30
AD29 U1 AD29
AD28 U2 AD28
AD27 T3 AD27
AD26 P6 AD26
AD25 V2 AD25
AD24 U3 AD24
AD23 W3 AD23
AD22 U4 AD22
AD21 R6 AD21
AD20 V4 AD20
AD19 W4 AD19
AD18 U5 AD18
AD17 N7 AD17
AD16 V5 AD16
AD15 W7 AD15
AD14 U8 AD14
AD13 V8 AD13
AD12 N10 AD12
AD11 R9 AD11
AD10 V9 AD10
AD9 W9 AD9
AD8 V10 AD8
AD7 W10 AD7
AD6 R10 AD6
AD5 W11 AD5
AD4 V11 AD4
AD3 U11 AD3
AD2 N11 AD2
AD1 R11 AD1
AD0 W12 AD0

PCI/1394/MS PORTION

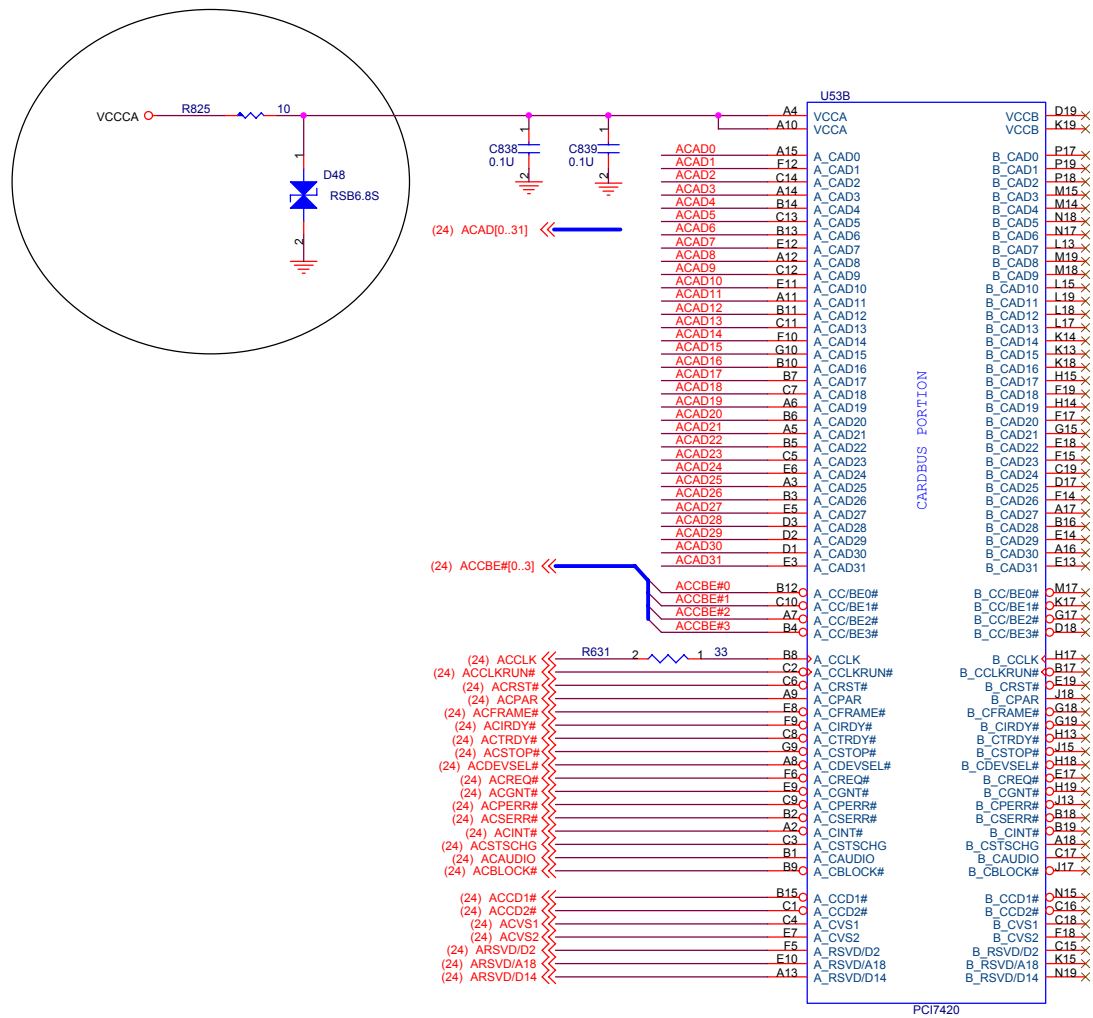


QUANTA COMPUTER

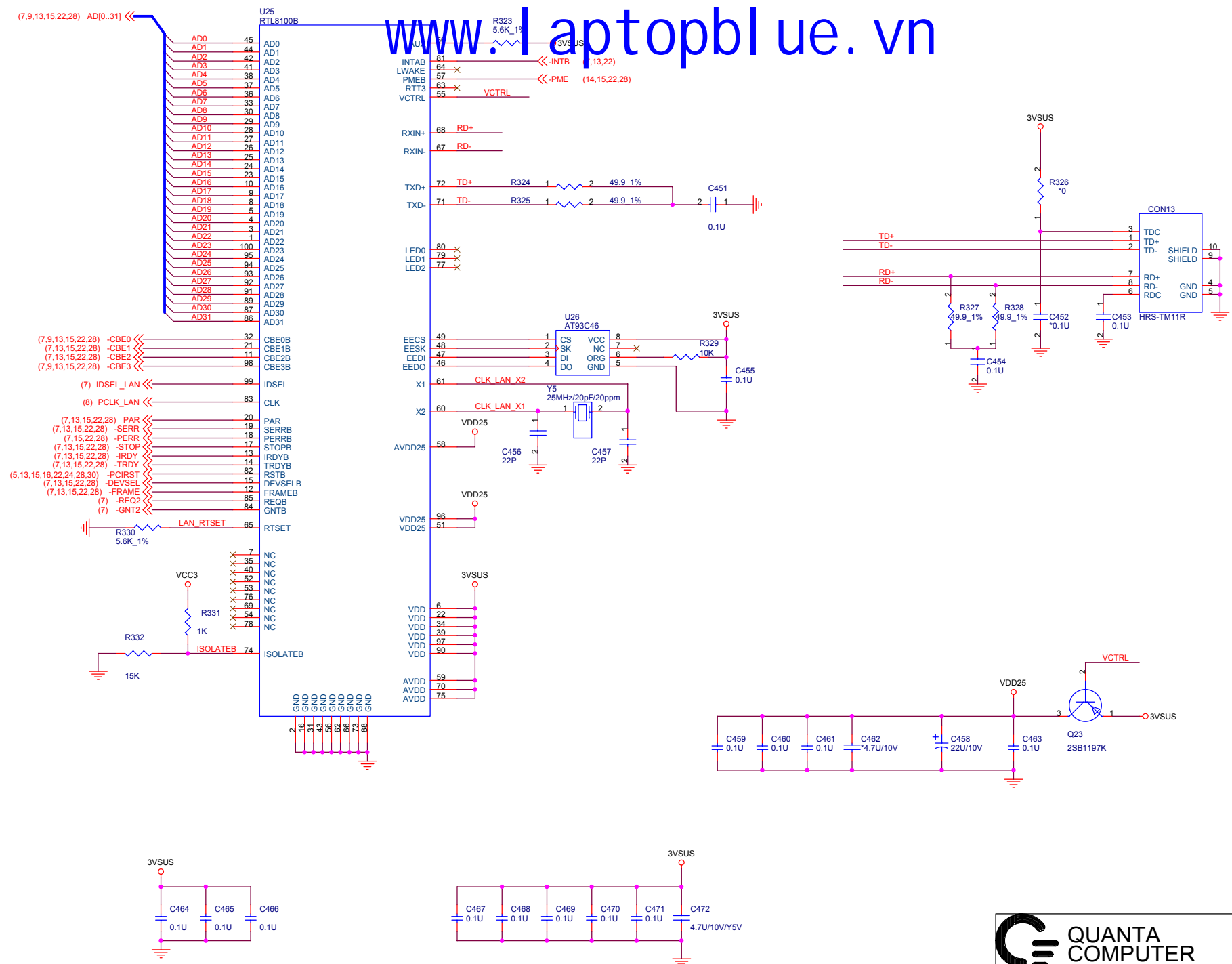
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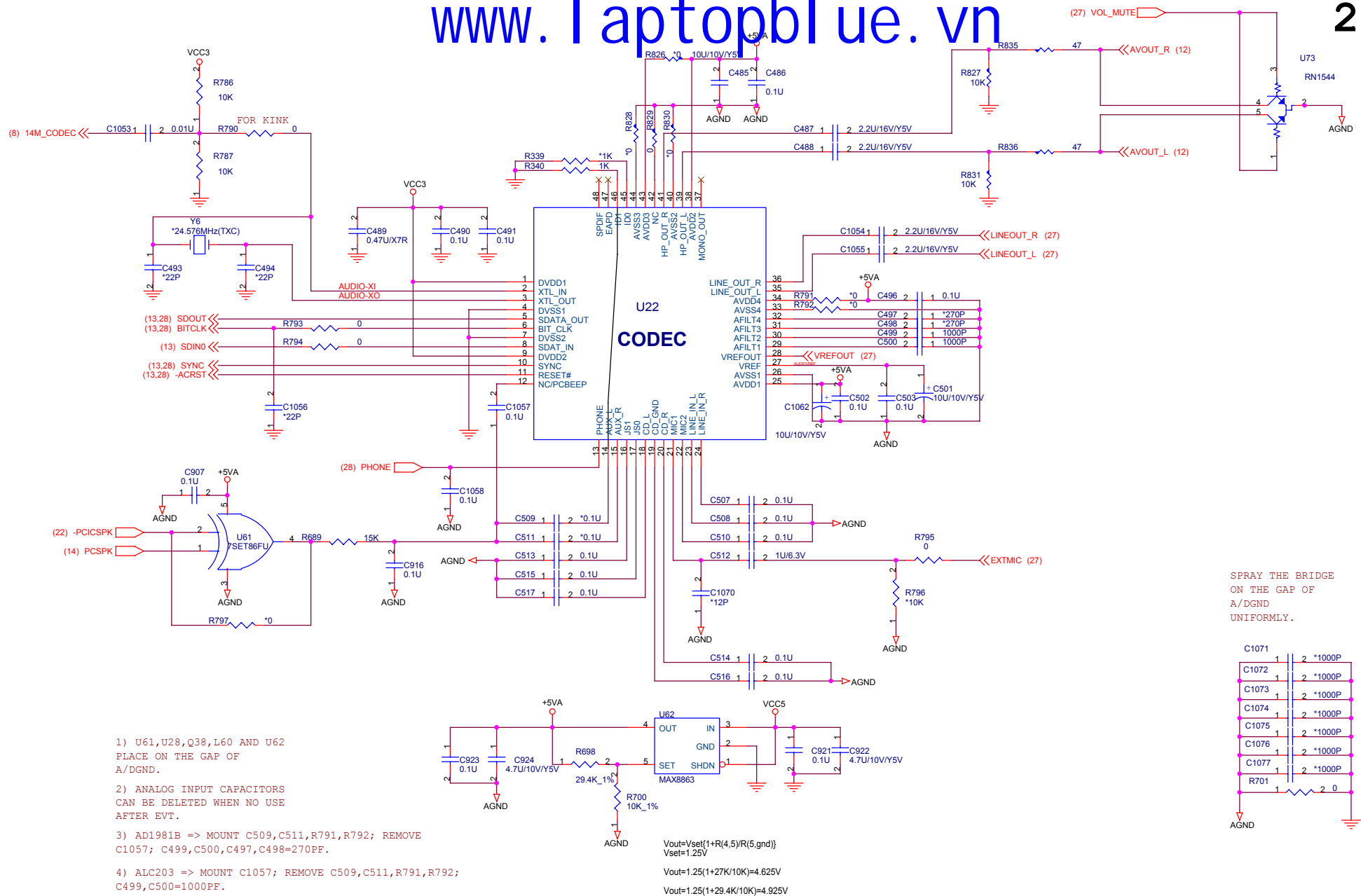
Size: B Document Number: **JE2.1 Main Board** Rev: 1A

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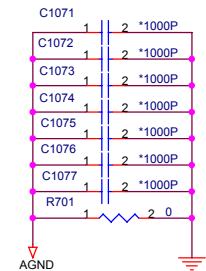


THIS PART SHOULD NOT CONTAIN ANY SUBSTANCES WHICH ARE SPECIFIED IN SS-00259-





SPRAY THE BRIDGE
ON THE GAP OF
A/DGND
UNIFORMLY.



1) U61,U28,Q38,L60 AND U62
PLACE ON THE GAP OF
A/DGND.

2) ANALOG INPUT CAPACITORS
CAN BE DELETED WHEN NO USE
AFTER EVT.

3) AD1981B => MOUNT C509,C511,R791,R792; REMOVE C1057; C499,C500,C497,C498=270PF.

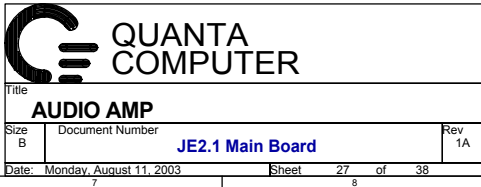
4) ALC203 => MOUNT C1057; REMOVE C509,C511,R791,R792;
C499,C500=1000PF.

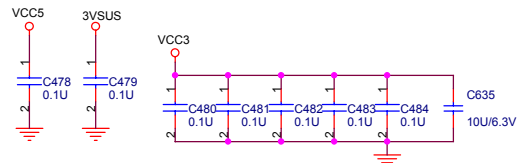
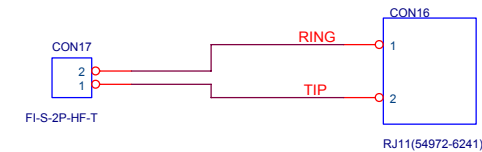
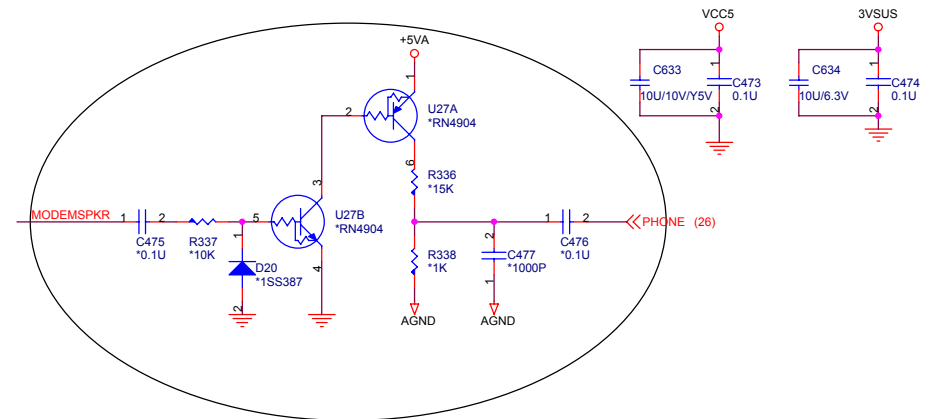
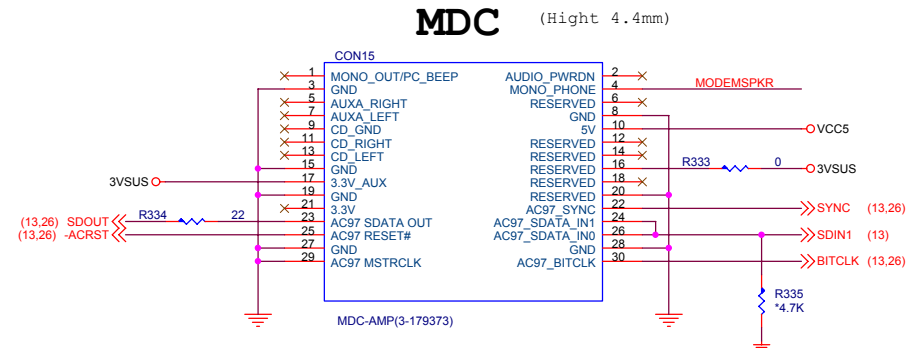
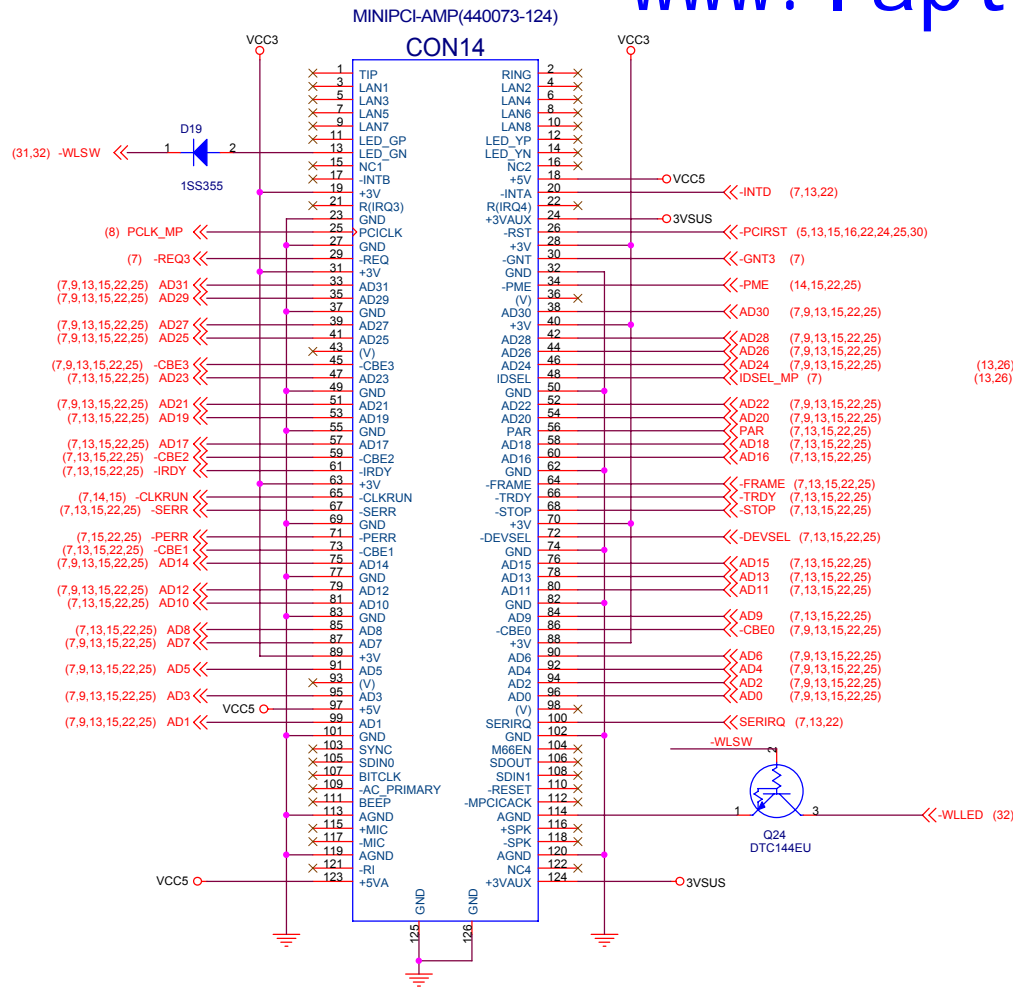
$$V_{out} = V_{set} \{1 + R(4,5)/R(5,gnd)\}$$

$$V_{set} = 1.25V$$

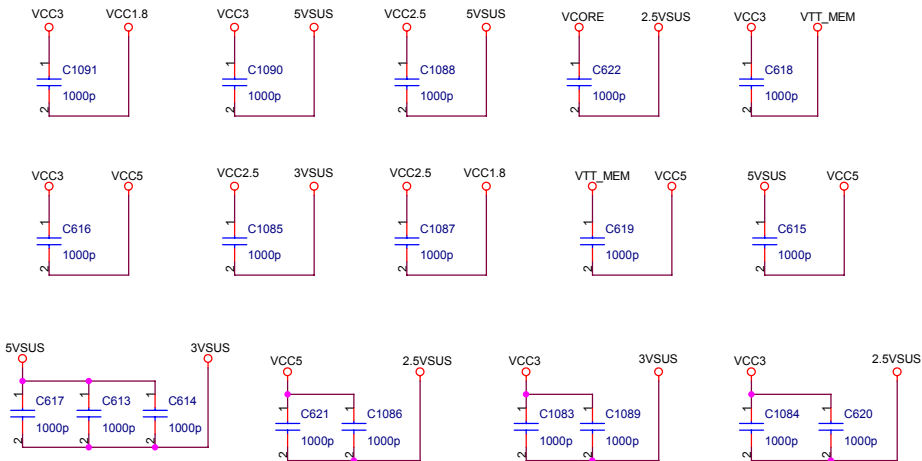
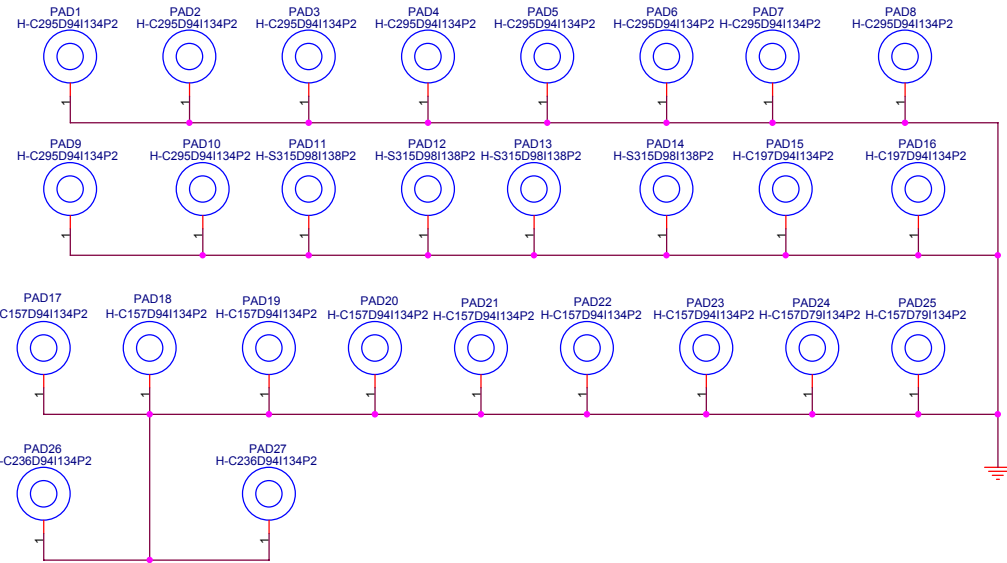
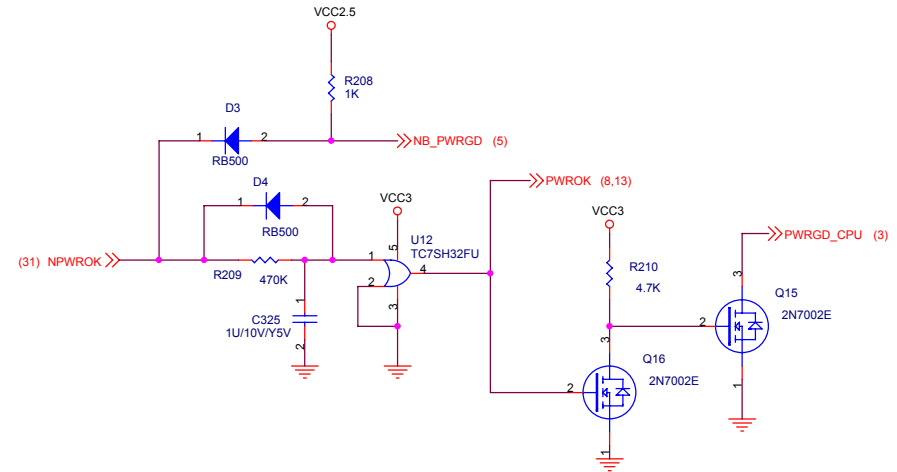
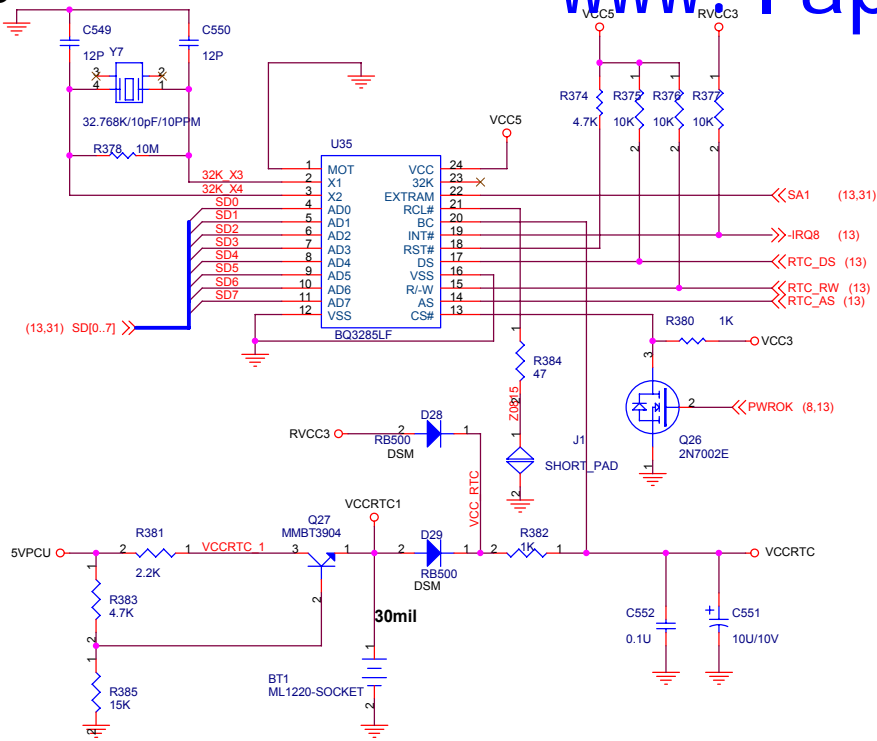
$$V_{out} = 1.25(1 + 27K/10K) = 4.625V$$

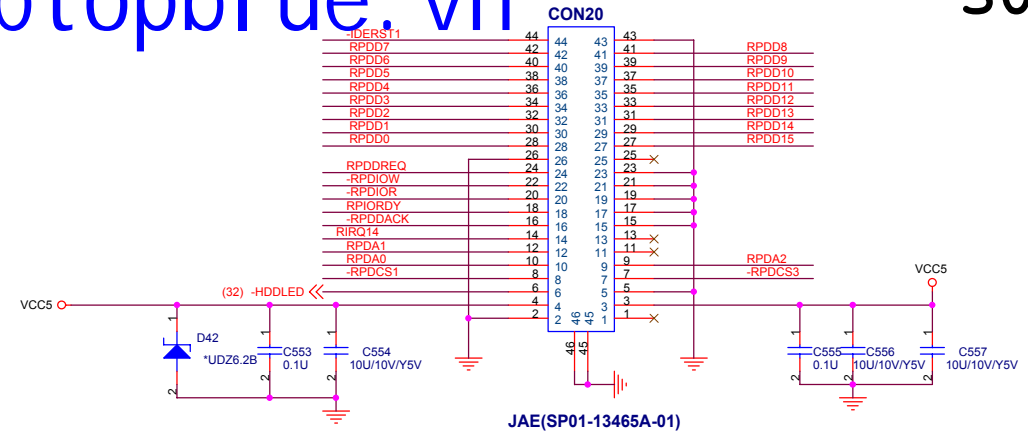
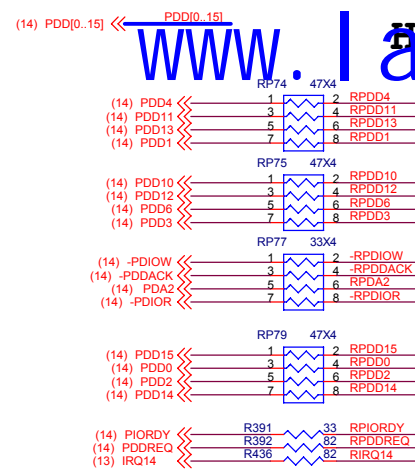
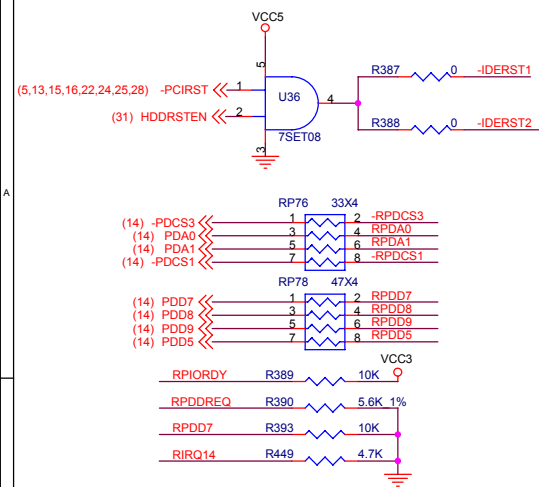
$$V_{out}=1.25(1+29.4K/10K)=4.925V$$



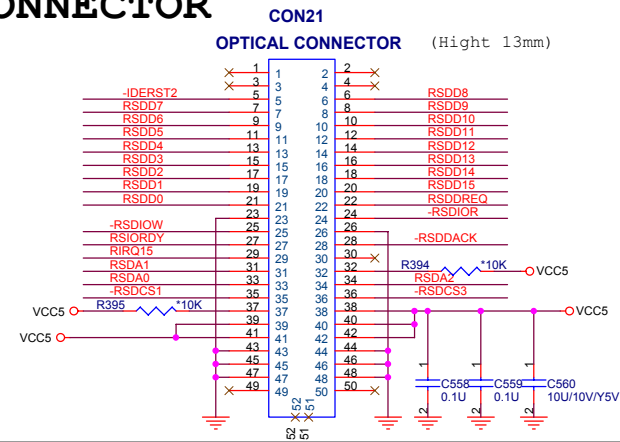
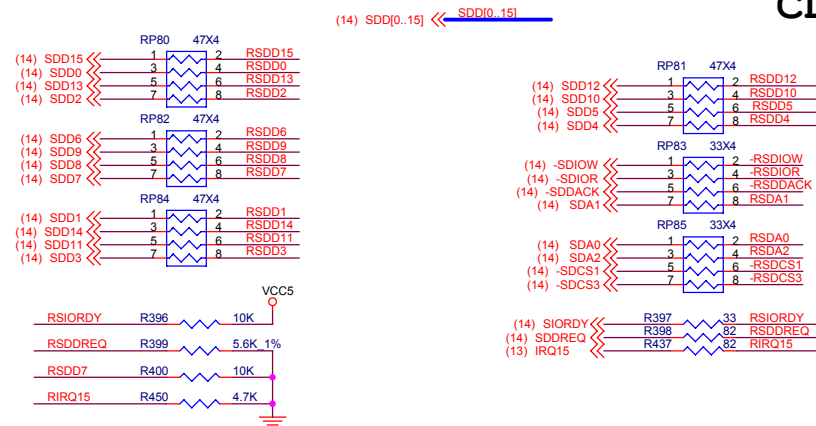


RTC

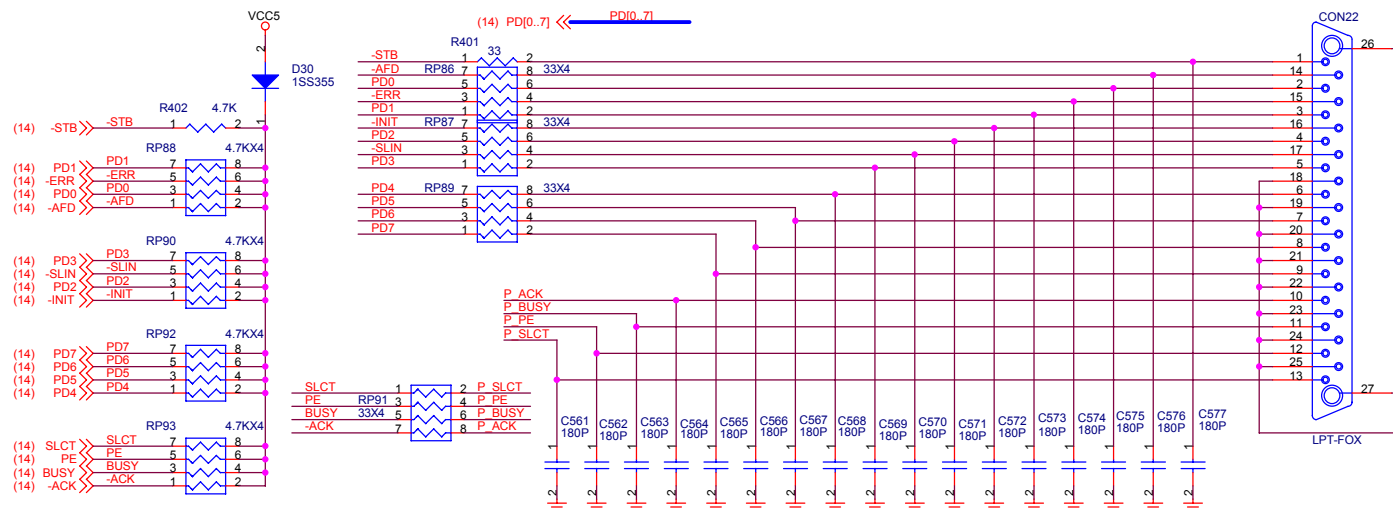




CD-ROM CONNECTOR



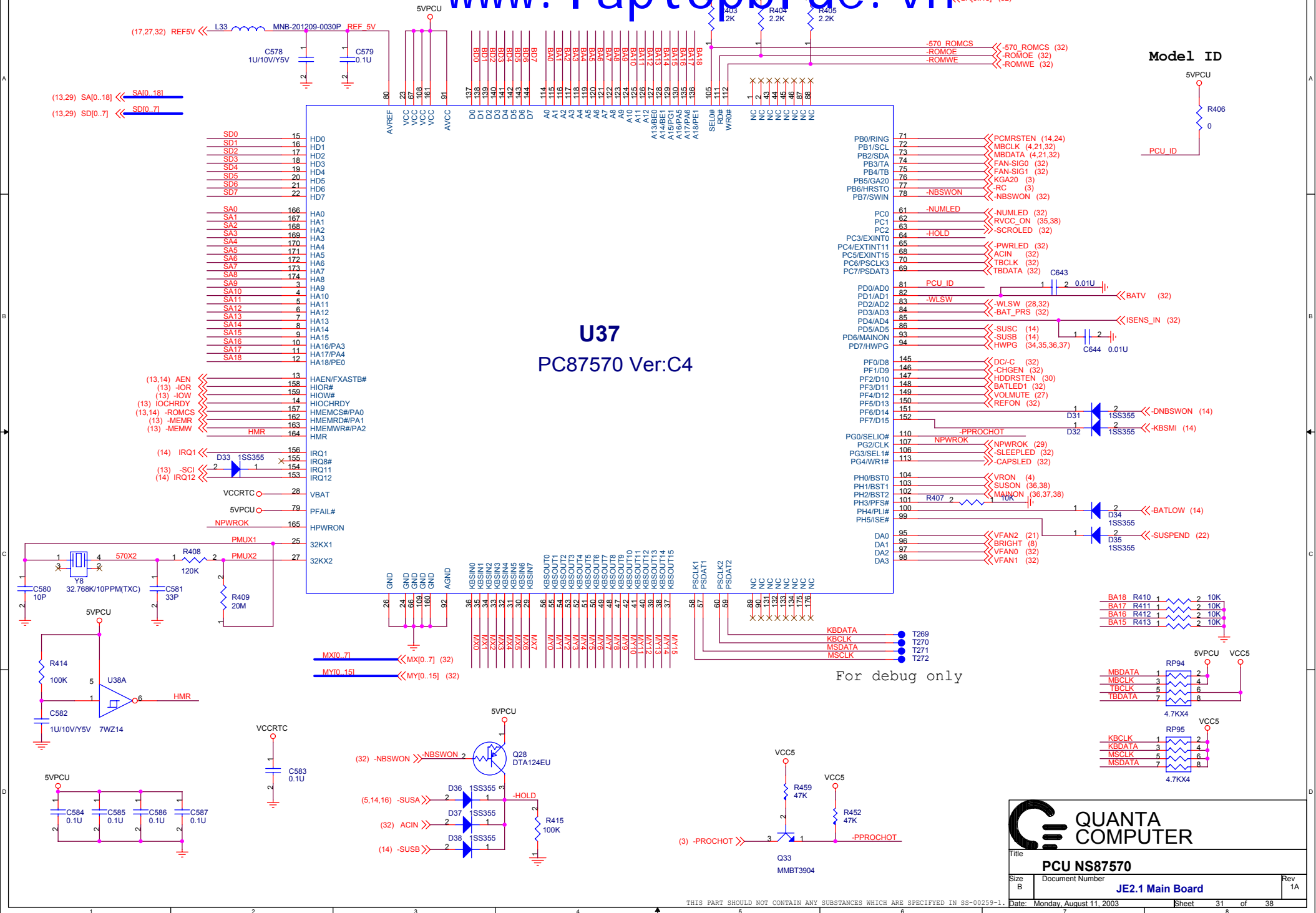
PRINTER port



Title	IDE/HDD/LPT Connector
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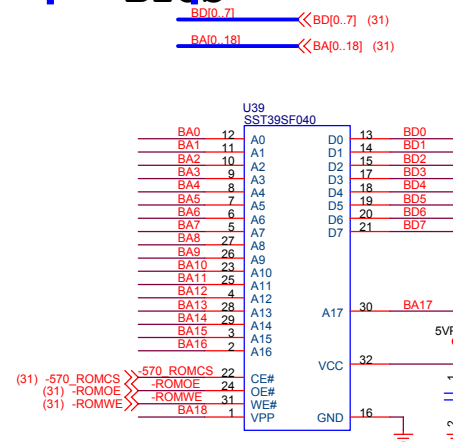
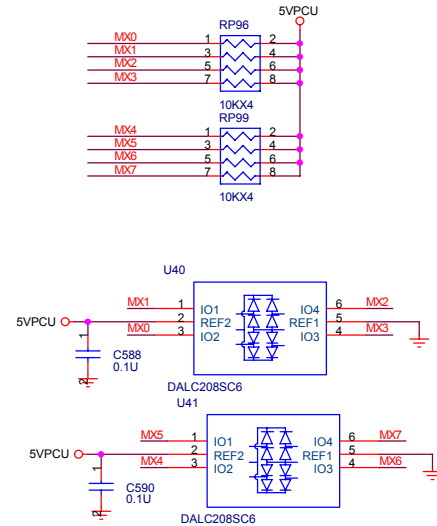
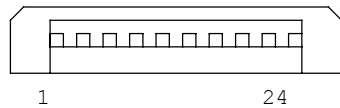
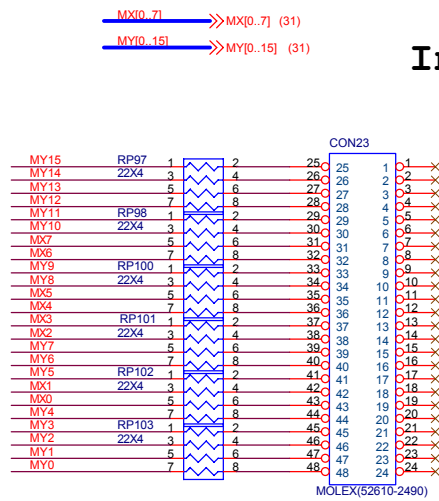
Size B	Document Number JE2.1 Main Board
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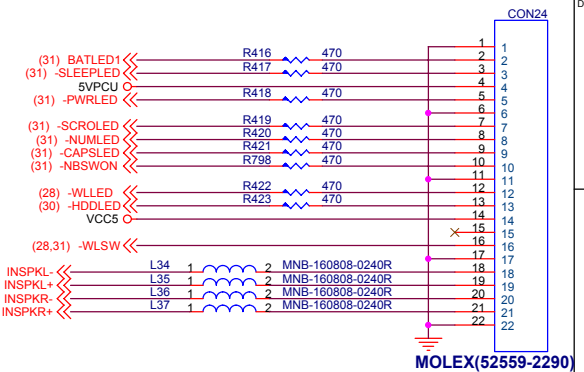


Int. keyboard

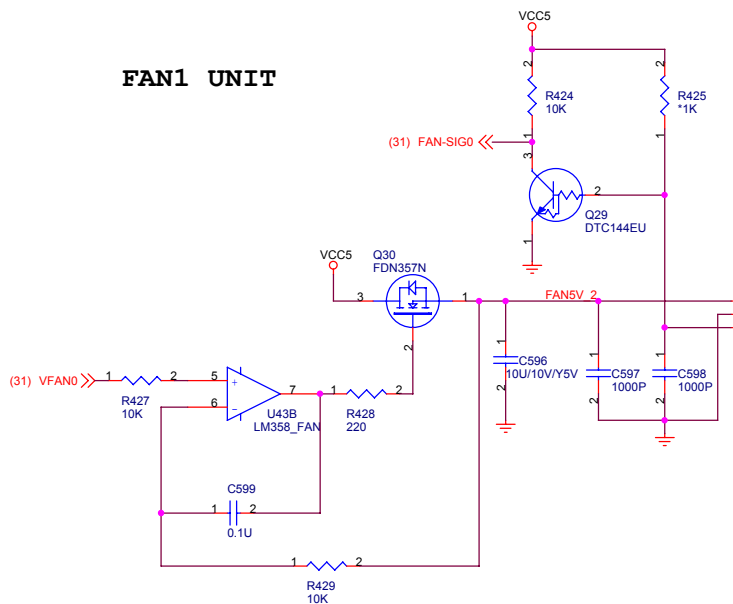
BIOS



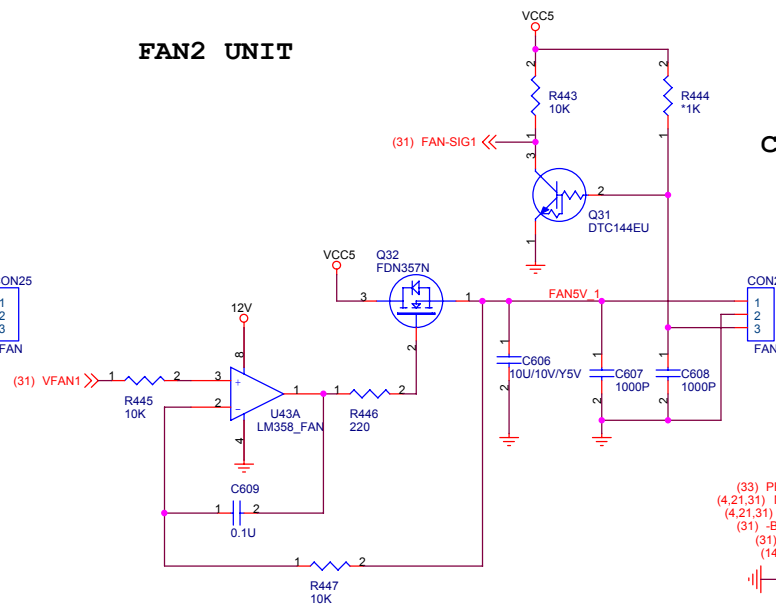
POWER SWITCH BOARD CONNECTOR



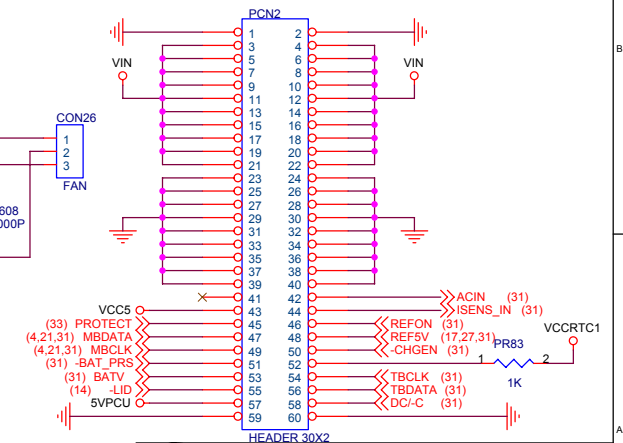
FAN1 UNIT



FAN2 UNIT

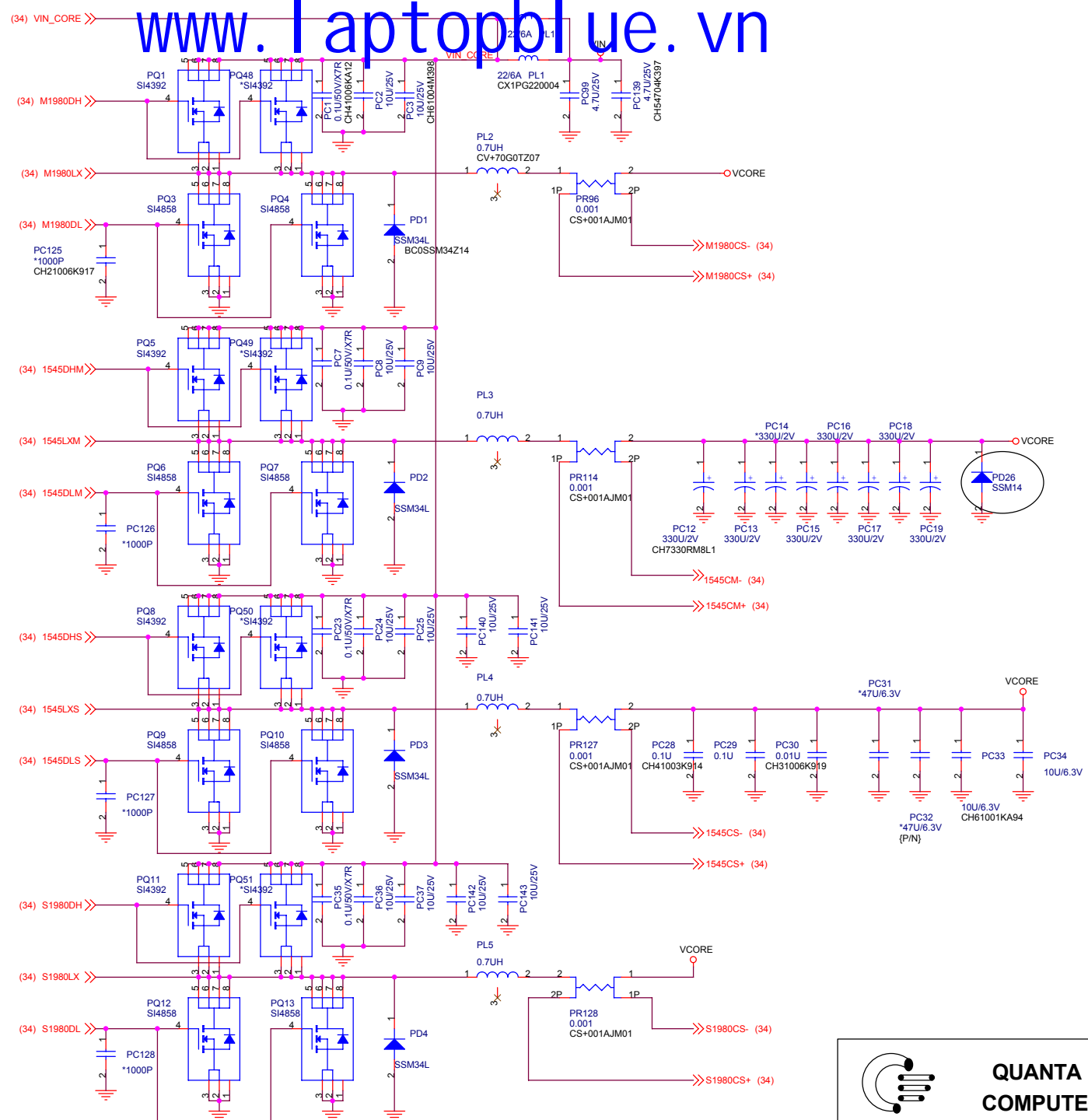
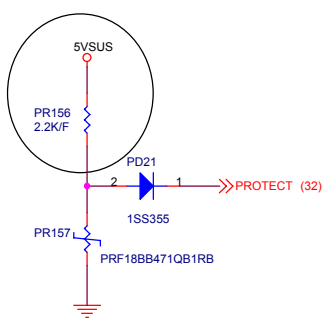
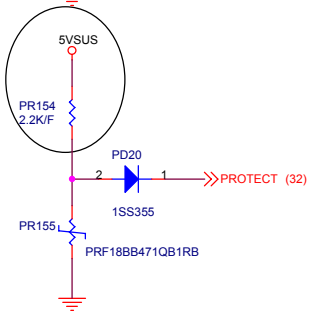
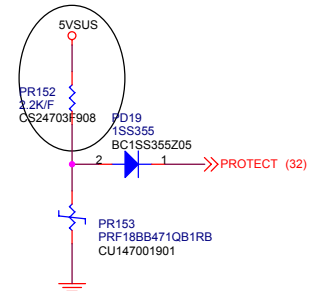
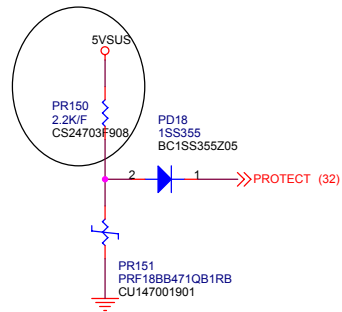


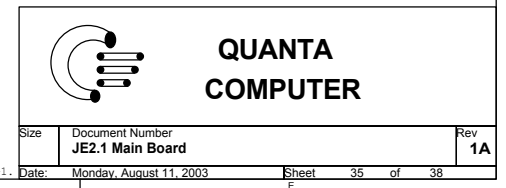
CHARGER BOARD CONNECTOR

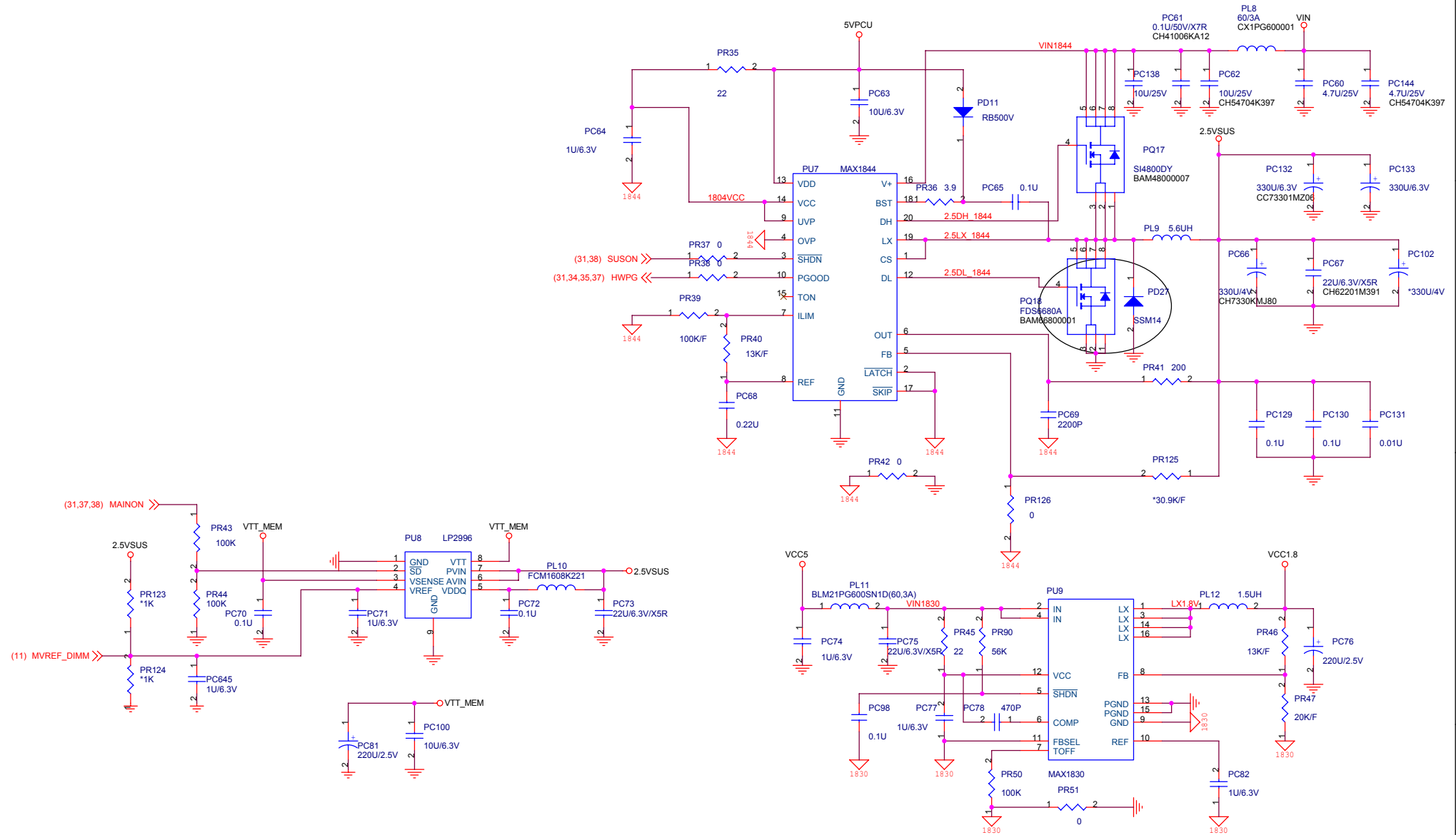


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COMPUTER

Title		
INT. KEYBOARD/FAN		
Size	Document Number	Rev
Custom	JE2.1 Main Board	3A





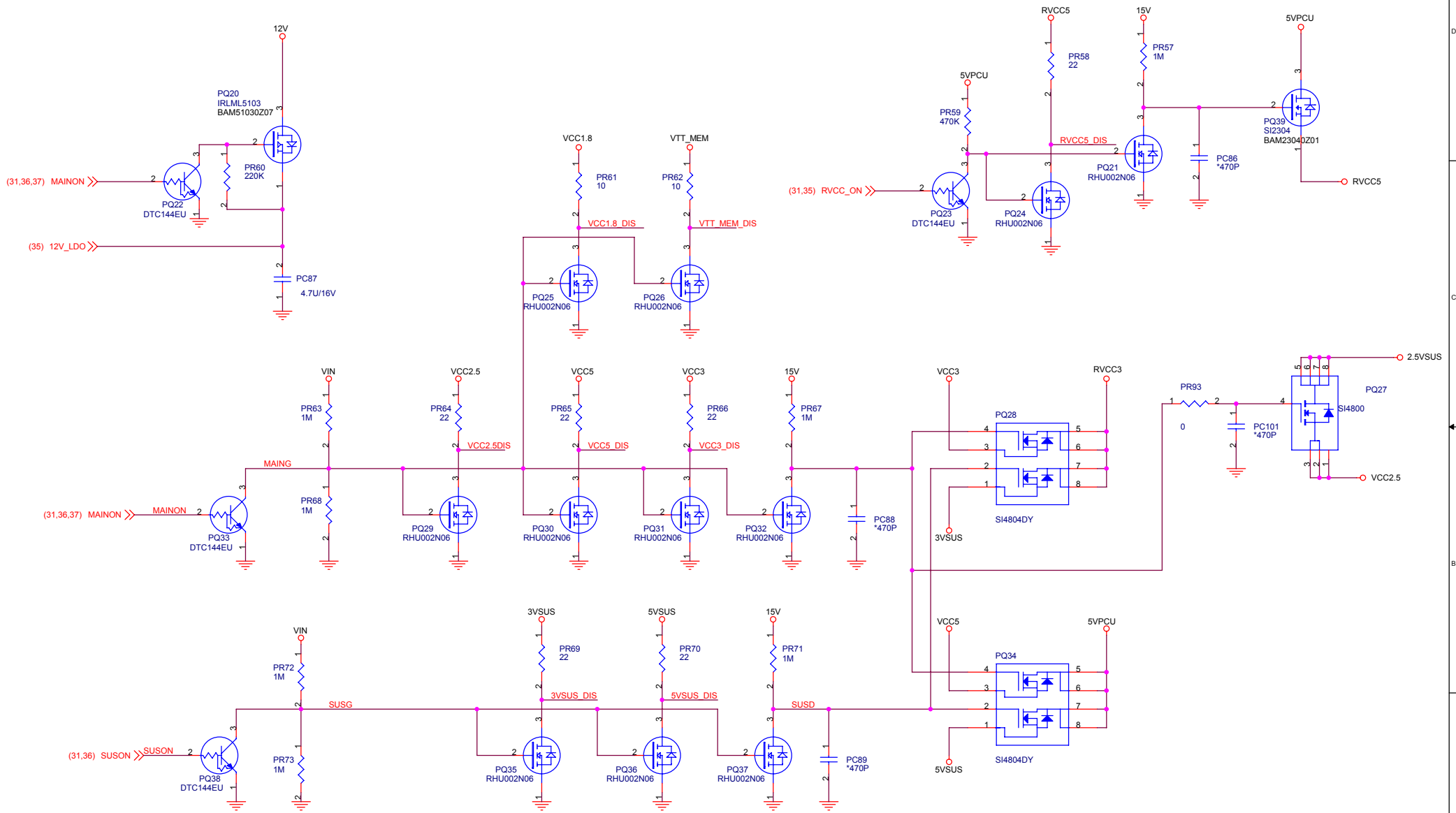


**QUANTA
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