MODEL	REV	CHANGE LIST
ZL9	1A	Preliminary Release
	2A	Page 4 : Add C573 4.7pf for Signal quanlity Page 6 : Add R460 0om for UMA. Page 11 : seprate SATALED# for IDE interrupt. Page 14 :add R45 0ohm for M52-T. Page 19 : enlarge H22,H23 to 6mm for VGA sink Nut. Page 24 : Add 459 10Kohm for keep the GPIO normal Low. Page 25 : Add R239 0ohm for Po Po sound. Page 27 : Add R458 , Q25 for SATALED#. Page 28 : PL14->0.6uH,PR122->680ohm,PR120->680ohm,PR118->470ohm,PC55->220P,PR38->160K for power efficiency. Page 30 : PR40->20K,PD11->CH551,PC39->.22U,PC46->2.2n,PL11->1.5UH,PR59->221K for power efficiency. Page 30 : PC176->1000P,PC182->1000P,PC179->1000P,PC180->100P,PC181->100P,PC177->1000P for EMI. Page 31 : PR142->0 , PR94->100K,PR95->0,PR93->100K for battery charger modify ,PC178->1000P for EMI. Page 32 : PR15->6.65K , PL6->1.0UH for power efficiency.
	3A	Page 25 : R250->100Kohm, Q13->2N7002,Q23->2N7002,Add Q24 AO3403 for SPDIF on/off LED. Page 27 :Del R458 , Q25 for HDD LED can't light issue.

Model	ZL8 MB	
Page	FM	TO
1	1A	
2	1A	
3	1A	
4	2A	
5	1A	
6	2A	
7	1A	
8	1A	
9	1A	
10	1A	
11	2A	
12	1A	
13	1A	
14	2A	
15	1A	
16	1A	
17	1A	
18	1A	
19	2A	
20	2A	
21	1A	
22	1A	
23	1A	
24	2A	
25	2A	3A
26	1A	
27	2A	3A
28	2A	
29	1A	
30	2A	
31	2A	
32	2A	

QUANTA COMPUTER

PROJECT : ZL9	DOC. NO. ???	REV: 1A	ASSY: 31ZL9MB0020
APPROVED BY : Vic Lin #15598	CHECKED BY: Jerry Lin #15573	DRAWING BY : Jerry Wang #13011	DATE: 2005/12/20

ZL9

CPU CORE
SENTECH
SC451ITSTR
Page:28

SYSTEM 3V/5V
MAXIM
MAX1999
+3VPCU
+3V_S5/+3VSUS
+3V
+5VPCU
+5VSUS
+5V
+15V Page:29

+1.8VSUS
+1.8V
+0.9VSUS
+0.9V ON
NCP5214
+1.5V SENTECH
SC1470
+1.5V_S5
SI9183-AD
+2.5V
SENTECH
SC1565
+1.05V
SENTECH
SC4215
Page:30
+1.2V
SENTECH
SC4215
+NVVDD
SENTECH
SC1470
Page:32

BATTERY CHARGER
MAXIM
MAX8724
Page:31

CLOCK GEN
ICS954206
(RTM865T-433)
Page:4

CELERON-M/PENTIUM-M
INTEL Mobile_479 CPU
Page:2, 3

HOST BUS 533/400MHZ

NB
INTEL
ALVISO 915PM/GM
Page: 5, 6 , 7, 8

PCIE

ATi
M52-T
Page: 14, 15
16, 17

RGB
LVDS

CRT
Page: 19

LVDS
Page: 19

DDR-II

DDR-II SODIMM1
Page: 10

DDR-II SODIMM2
Page: 10

UMA(option)

DMI I/F

SB
INTEL
ICH6-M
Page: 11 , 12 , 13

ATA 66/100

SATA HDD
Page: 20

PATA HDD
Page: 20

IDE-ODD
Page: 20

HD Audio

AUDIO CODEC
Realtek
ALC883 (ALC260)
Page: 24

AMP
MAX9755
Page: 25

MODEM
Page: 24

MIC IN
Page: 24

SPEAKER
Page: 25

LINE OUT
Page: 25

RJ11
Page: 22

LPC 33MHZ

KBC
NS
PC97551/541V
Page: 26

Touchpad
Page: 27

Keyboard
Page: 27

FLASH
Page: 26

FAN
Page: 27

PCI-E BUS

MINI-PCIE slot
Wireless LAN
(Option)
Page: 21

PCI BUS 33MHZ

TI PCMCIA
PCI1510
AD17
REQ1# / GNT1#
INTC#
Page: 23

TYPE II
SLOT
Page: 23

MINI-PCI
Wireless LAN
AD20
REQ2# / GNT2#
INTB# , INTD#
Page: 21

USB 2.0

REALTEK
RTL8100CL
AD24
REQ0# / GNT0#
INTA#
Page: 22

RJ45
Page: 22

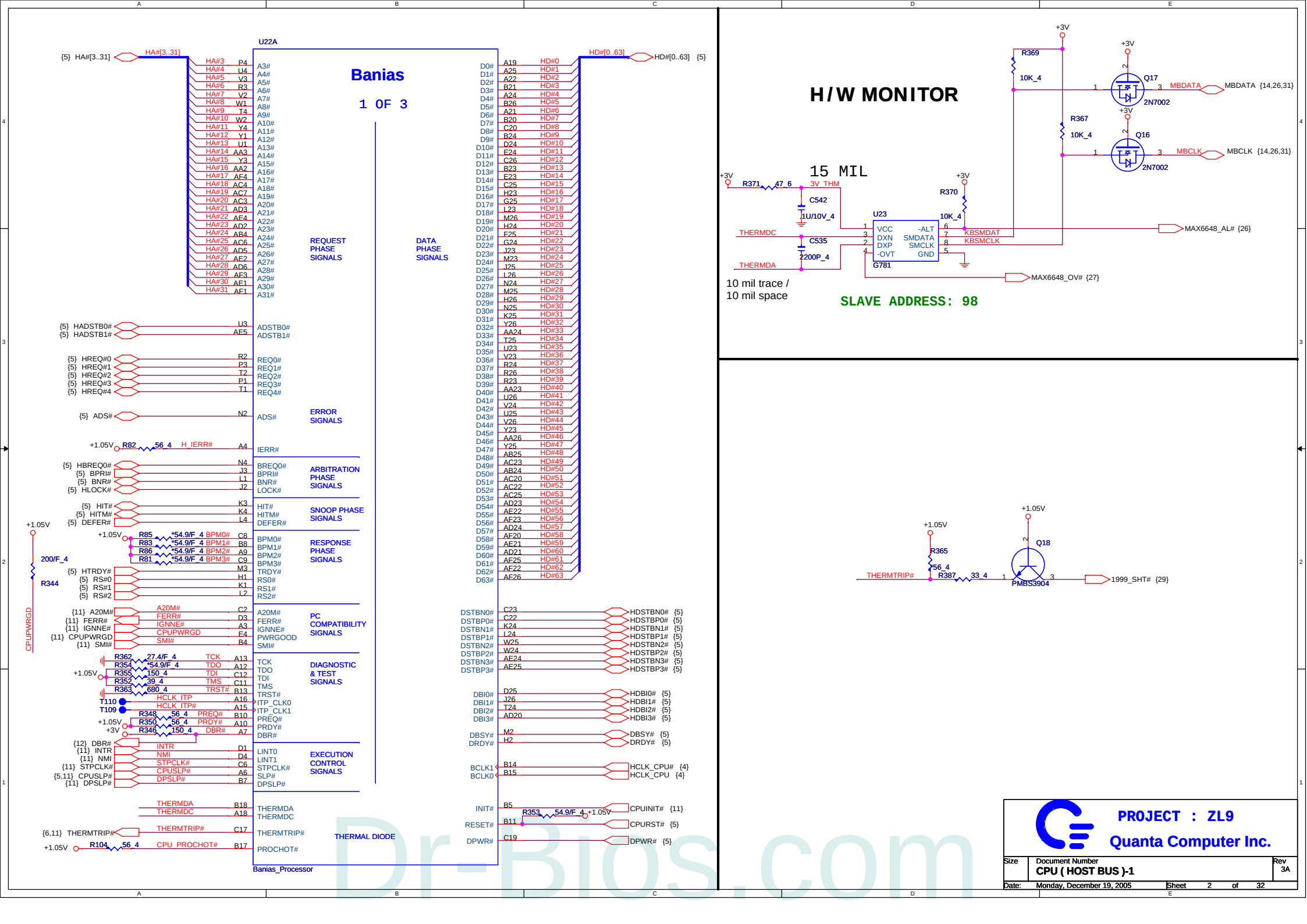
SYSTEM
USB PORT *3
USB2,3,5 Page:21

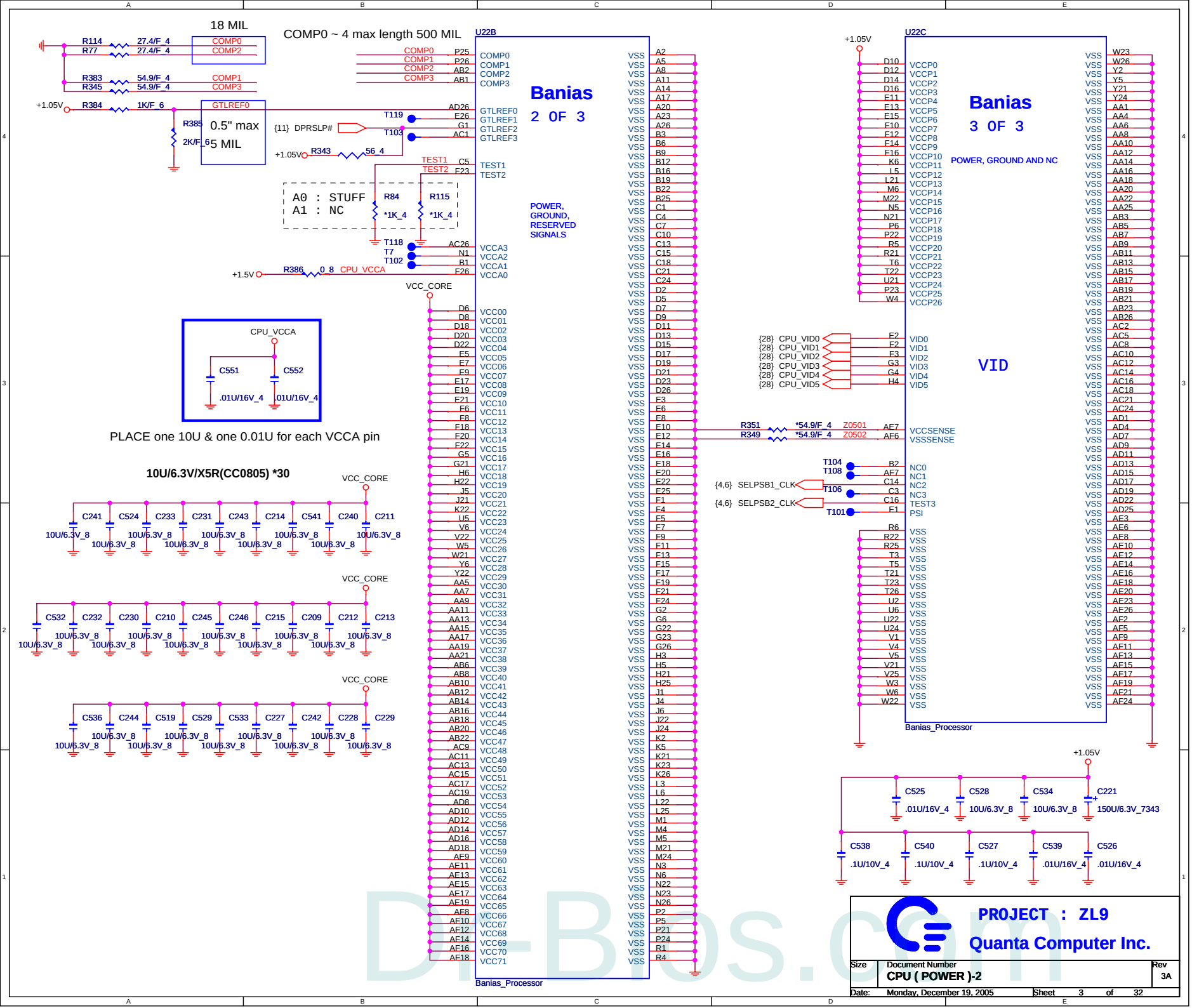
Bluetooth
USB
interface
USB4 Page:21

PROJECT : ZL9
Quanta Computer Inc.

Size	Document Number	Rev
	BLOCK DIAGRAM	3A

Date: Monday, December 19, 2005 Sheet 1 of 32


U22A
Banias
1 OF 3
Banias_Processor
REQUEST PHASE SIGNALS
DATA PHASE SIGNALS
ERROR SIGNALS
ARBITRATION PHASE SIGNALS
SNOOP PHASE SIGNALS
RESPONSE PHASE SIGNALS
PC COMPATIBILITY SIGNALS
DIAGNOSTIC & TEST SIGNALS
EXECUTION CONTROL SIGNALS
THERMAL DIODE
H/W MONITOR
15 MIL
10 mil trace /
10 mil space
SLAVE ADDRESS: 98
U23
G781
Q17
Q16
Q18
2N7002
PMBS3904
PROJECT : ZL9
Quanta Computer Inc.
CPU (HOST BUS)-1
Monday, December 19, 2005
Sheet 2 of 32
Rev 3A


18 MIL
COMP0 ~ 4 max length 500 MIL
R114 27.4/F_4 COMP0
R77 27.4/F_4 COMP2
R383 54.9/F_4 COMP1
R345 54.9/F_4 COMP3
+1.05V
R384 1K/F_6
GTLREF0
R385 2K/F_6
0.5" max
5 MIL
{11} DPRSLP#
R343 56_4
+1.05V
A0 : STUFF
A1 : NC
R84 *1K_4
R115 *1K_4
+1.5V
R386 0_8 CPU_VCCA
VCC_CORE
CPU_VCCA
C551 .01U/16V_4
C552 .01U/16V_4
PLACE one 10U & one 0.01U for each VCCA pin
10U/6.3V/X5R(CC0805) *30
VCC_CORE
C241 C524 C233 C231 C243 C214 C541 C240 C211
C532 C232 C230 C210 C245 C246 C215 C209 C212 C213
C536 C244 C519 C529 C533 C227 C242 C228 C229
10U/6.3V_8
U22B
Banias
2 OF 3
POWER, GROUND, RESERVED SIGNALS
Banias_Processor
U22C
Banias
3 OF 3
POWER, GROUND AND NC
VID
R351 *54.9/F_4 Z0501
R349 *54.9/F_4 Z0502
{4,6} SELPSB1_CLK
{4,6} SELPSB2_CLK
{28} CPU_VID0
{28} CPU_VID1
{28} CPU_VID2
{28} CPU_VID3
{28} CPU_VID4
{28} CPU_VID5
Banias_Processor
+1.05V
C525 .01U/16V_4
C528 10U/6.3V_8
C534 10U/6.3V_8
C221 150U/6.3V_7343
C538 .1U/10V_4
C540 .1U/10V_4
C527 .1U/10V_4
C539 .01U/16V_4
C526 .01U/16V_4
PROJECT : ZL9
Quanta Computer Inc.
Size
Document Number
CPU (POWER)-2
Rev
3A
Date: Monday, December 19, 2005
Sheet 3 of 32

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

DOTHAN-A 400

DOTHAN-A 533

2A : change for signal quality

U26

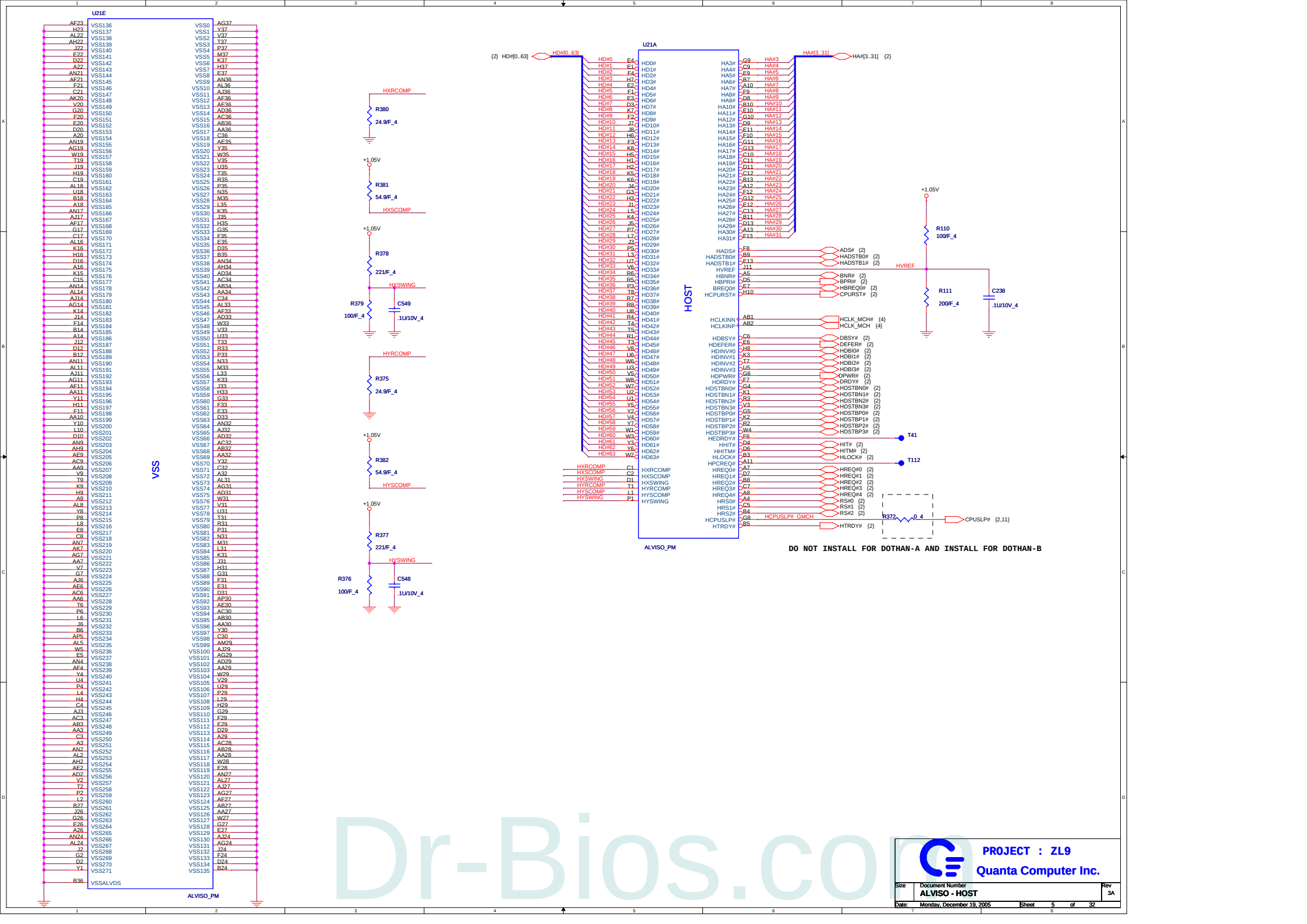
RTM865T-433-VB-LFT <TempChar>

SMbus address : D2

PROJECT : ZL9

Quanta Computer Inc.

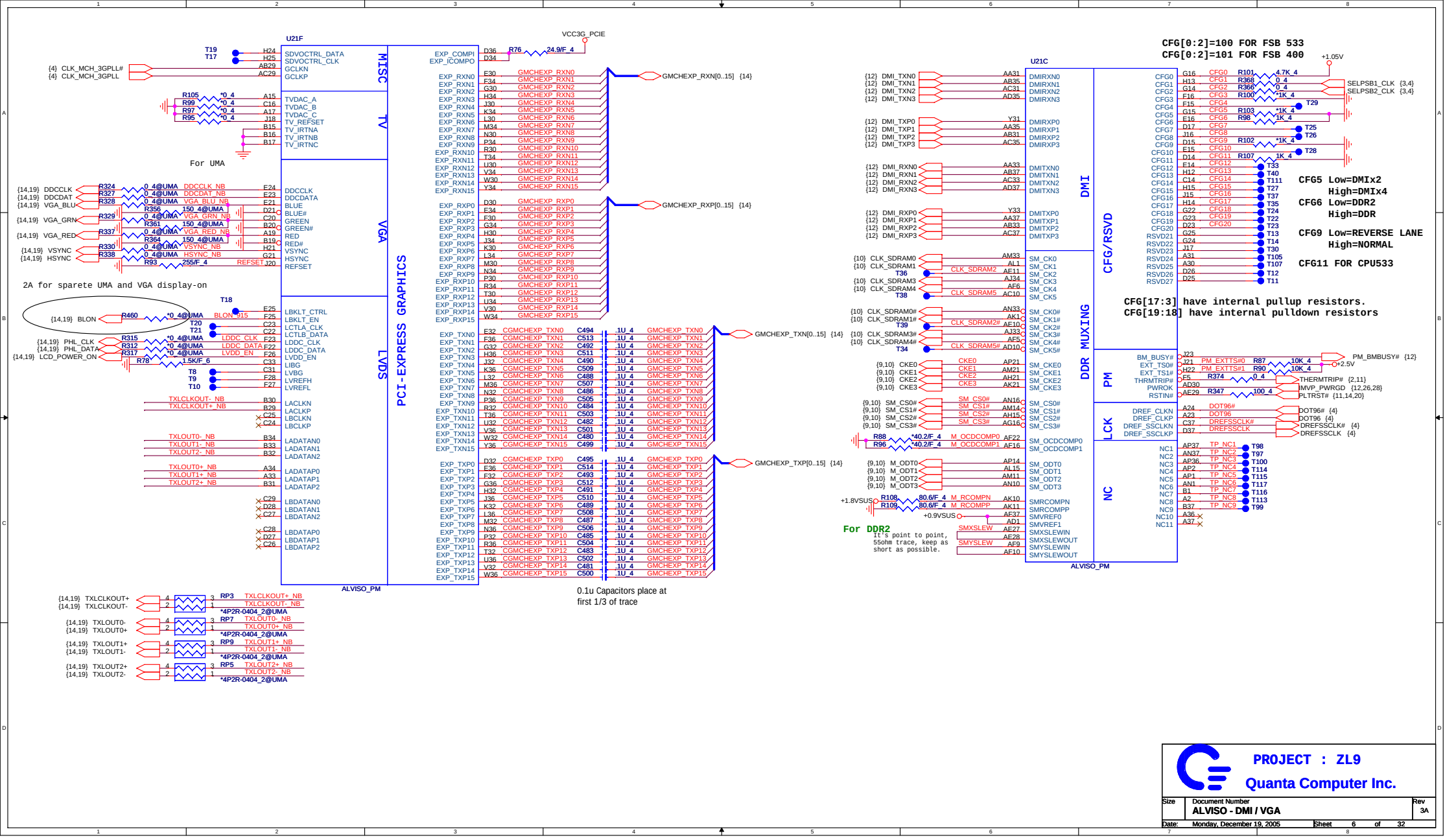
Size	Document Number	Rev
	CLK GEN	3A
Date: Monday, December 19, 2005	Sheet 4 of 32	

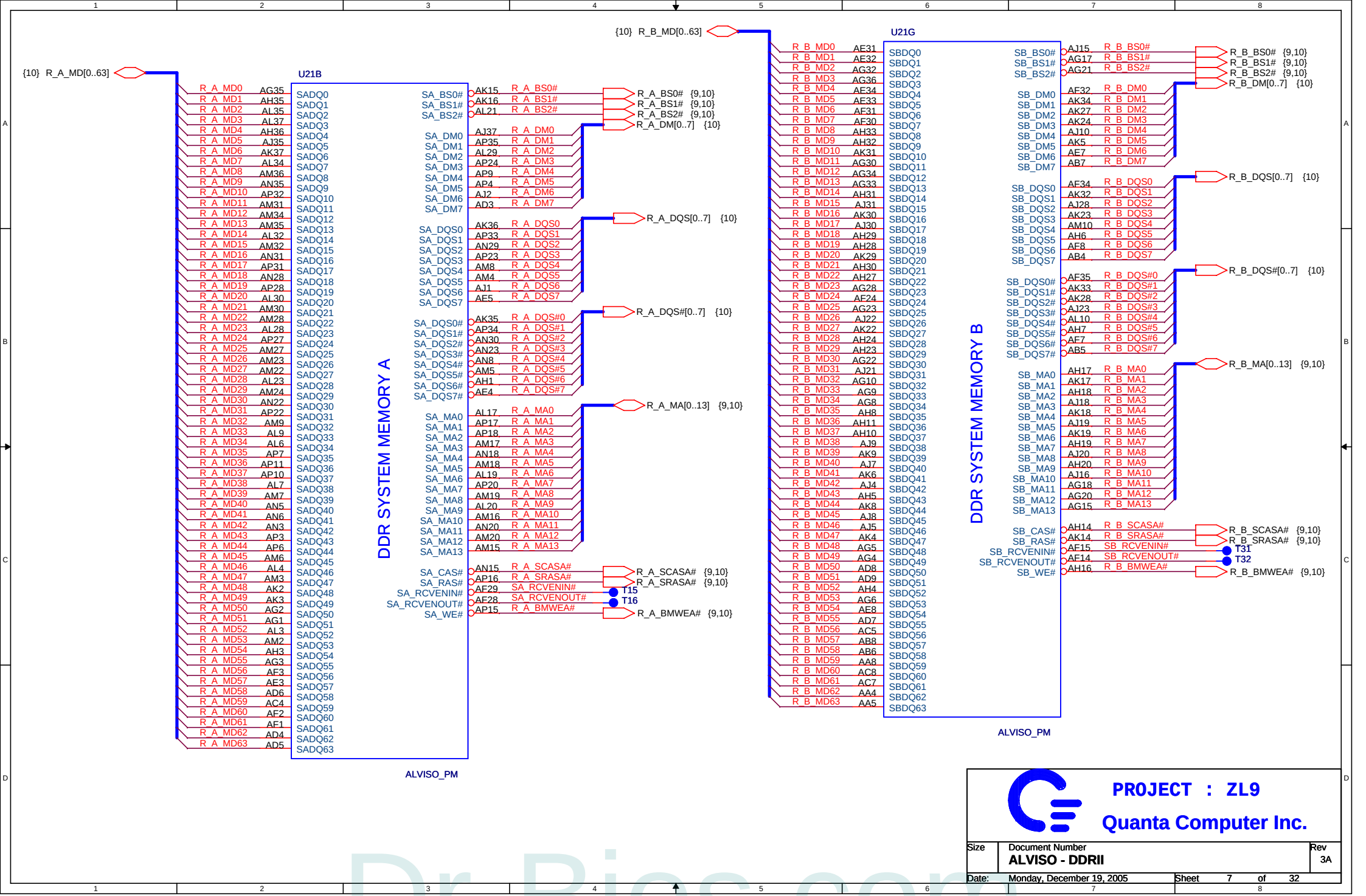


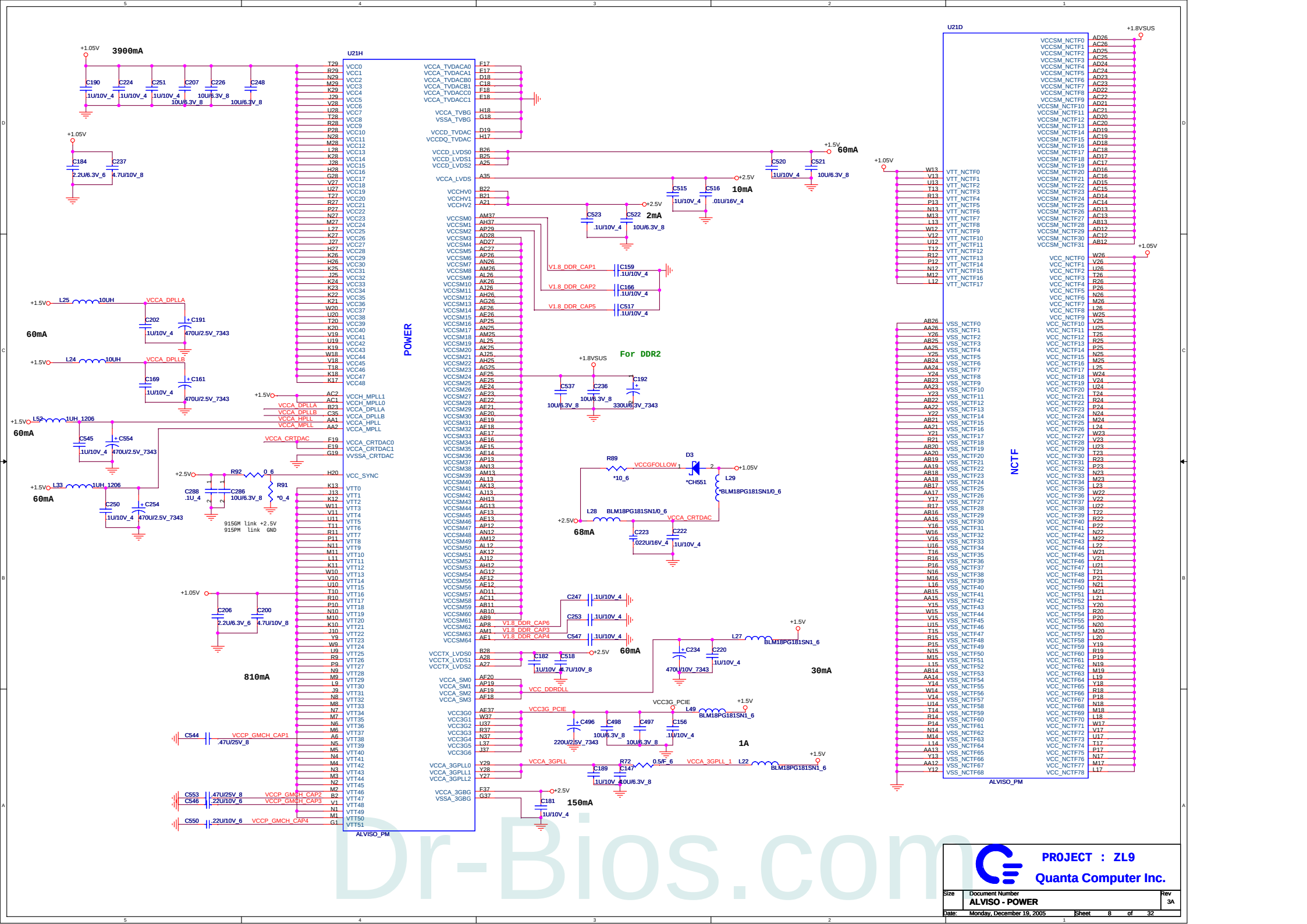
PROJECT : ZL9

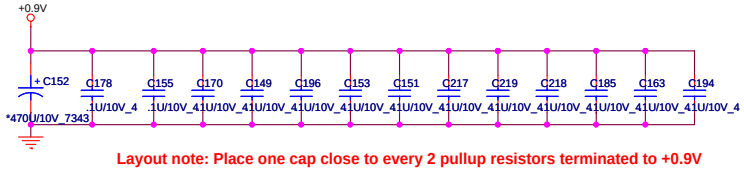
Quanta Computer Inc.

Size	Document Number	Rev
	ALVISO - HOST	3A
Date: Monday, December 19, 2005	Sheet 5 of 32	

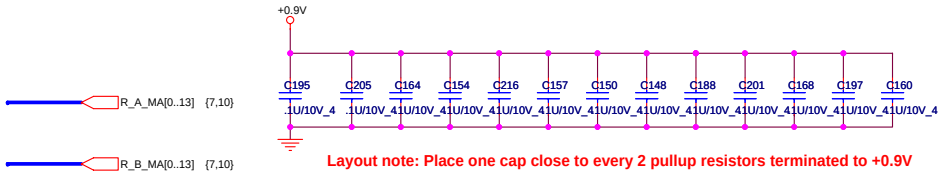

U21F
MISC
TV
VGA
LVDS
PCI-EXPRESS GRAPHICS
ALVISO_PM
U21C
DMI
DDR MUXING
CFG/RSVD
PM
LCK
NC
ALVISO_PM
CFG[0:2]=100 FOR FSB 533
CFG[0:2]=101 FOR FSB 400
CFG5 Low=DMIx2
High=DMIx4
CFG6 Low=DDR2
High=DDR
CFG9 Low=REVERSE LANE
High=NORMAL
CFG11 FOR CPU533
CFG[17:3] have internal pullup resistors.
CFG[19:18] have internal pulldown resistors
For UMA
2A for sparete UMA and VGA display-on
For DDR2
It's point to point, 55ohm trace, keep as short as possible.
0.1u Capacitors place at first 1/3 of trace
PROJECT : ZL9
Quanta Computer Inc.
ALVISO - DMI / VGA
Monday, December 19, 2005


{10} R_A_MD[0..63]
U21B
DDR SYSTEM MEMORY A
ALVISO_PM
{10} R_B_MD[0..63]
U21G
DDR SYSTEM MEMORY B
ALVISO_PM
R_A_BS0# {9,10}
R_A_BS1# {9,10}
R_A_BS2# {9,10}
R_A_DM[0..7] {10}
R_A_DQS[0..7] {10}
R_A_DQS#[0..7] {10}
R_A_MA[0..13] {9,10}
R_A_SCASA# {9,10}
R_A_SRASA# {9,10}
R_A_BMWEA# {9,10}
R_B_BS0# {9,10}
R_B_BS1# {9,10}
R_B_BS2# {9,10}
R_B_DM[0..7] {10}
R_B_DQS[0..7] {10}
R_B_DQS#[0..7] {10}
R_B_MA[0..13] {9,10}
R_B_SCASA# {9,10}
R_B_SRASA# {9,10}
R_B_BMWEA# {9,10}
T15
T16
T31
T32
PROJECT : ZL9
Quanta Computer Inc.
Size
Document Number
ALVISO - DDRII
Rev
3A
Date: Monday, December 19, 2005
Sheet 7 of 32

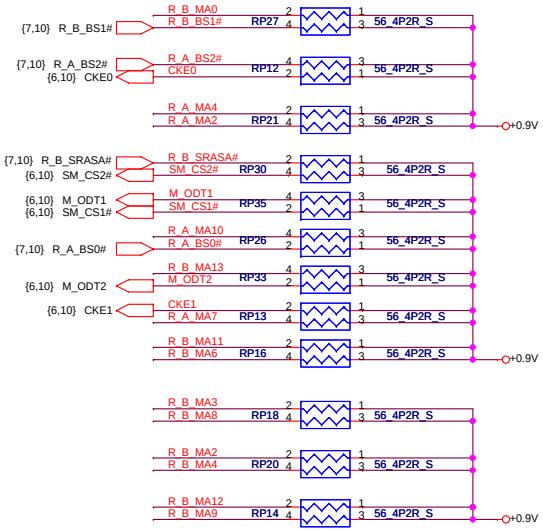

U21H
POWER
ALVISO_PM
U21D
NCTF
ALVISO_PM
For DDR2
3900mA
810mA
60mA
10mA
2mA
1A
150mA
68mA
30mA
915GM link +2.5V
915PM link GND
PROJECT : ZL9
Quanta Computer Inc.
ALVISO - POWER
Monday, December 19, 2005
Sheet 8 of 32
Dr-Bios.com

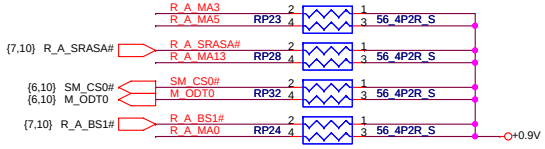


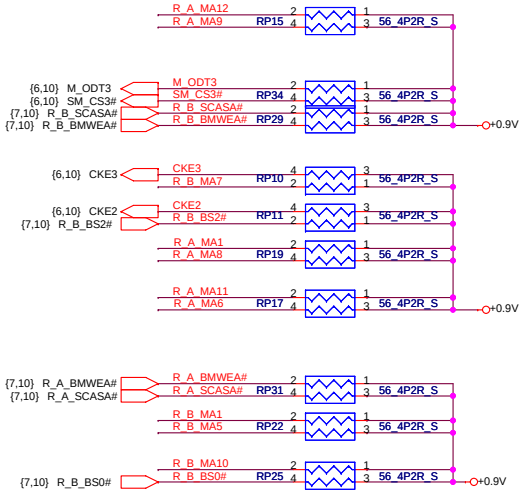
Layout note: Place one cap close to every 2 pullup resistors terminated to +0.9V



Layout note: Place one cap close to every 2 pullup resistors terminated to +0.9V





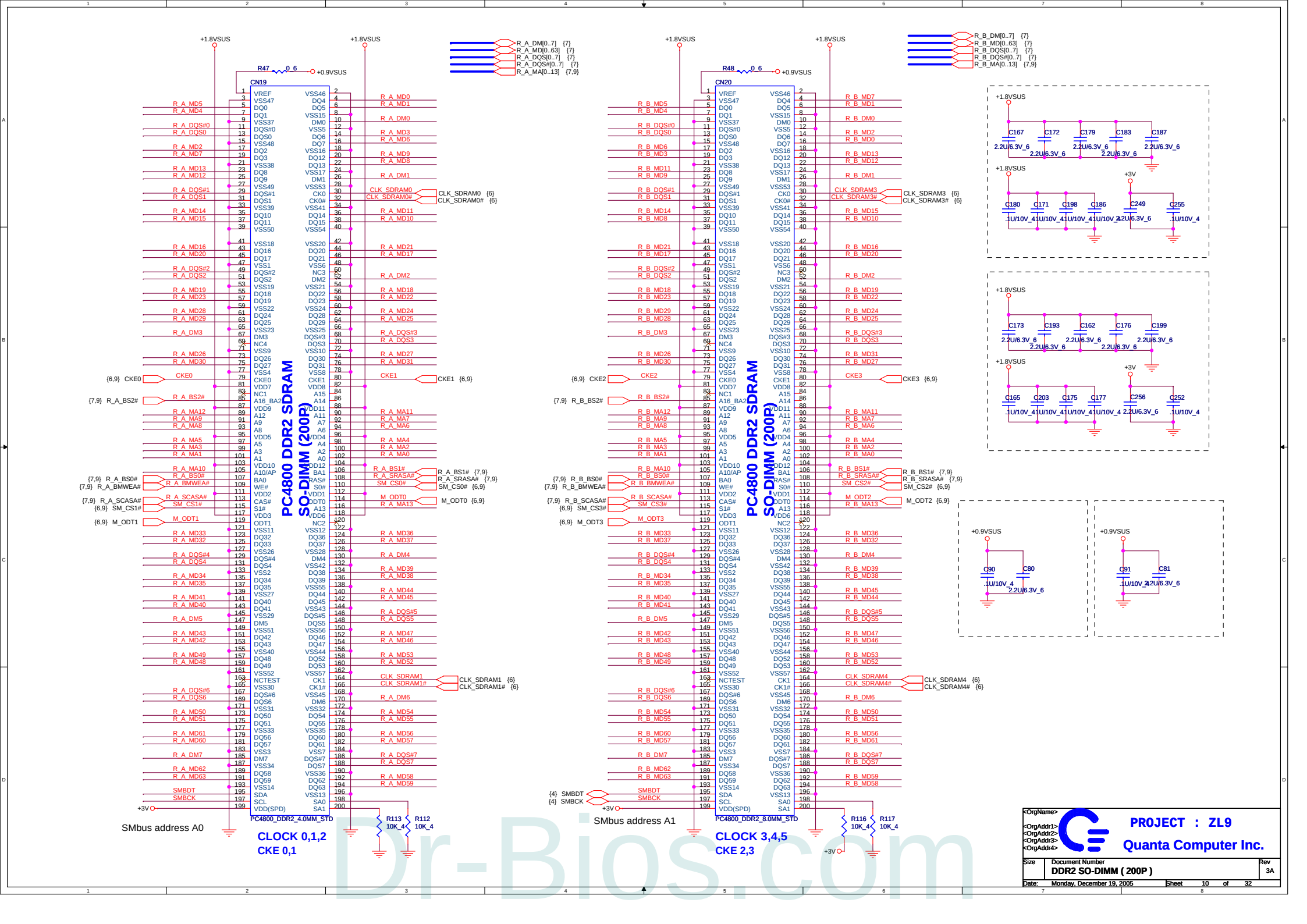


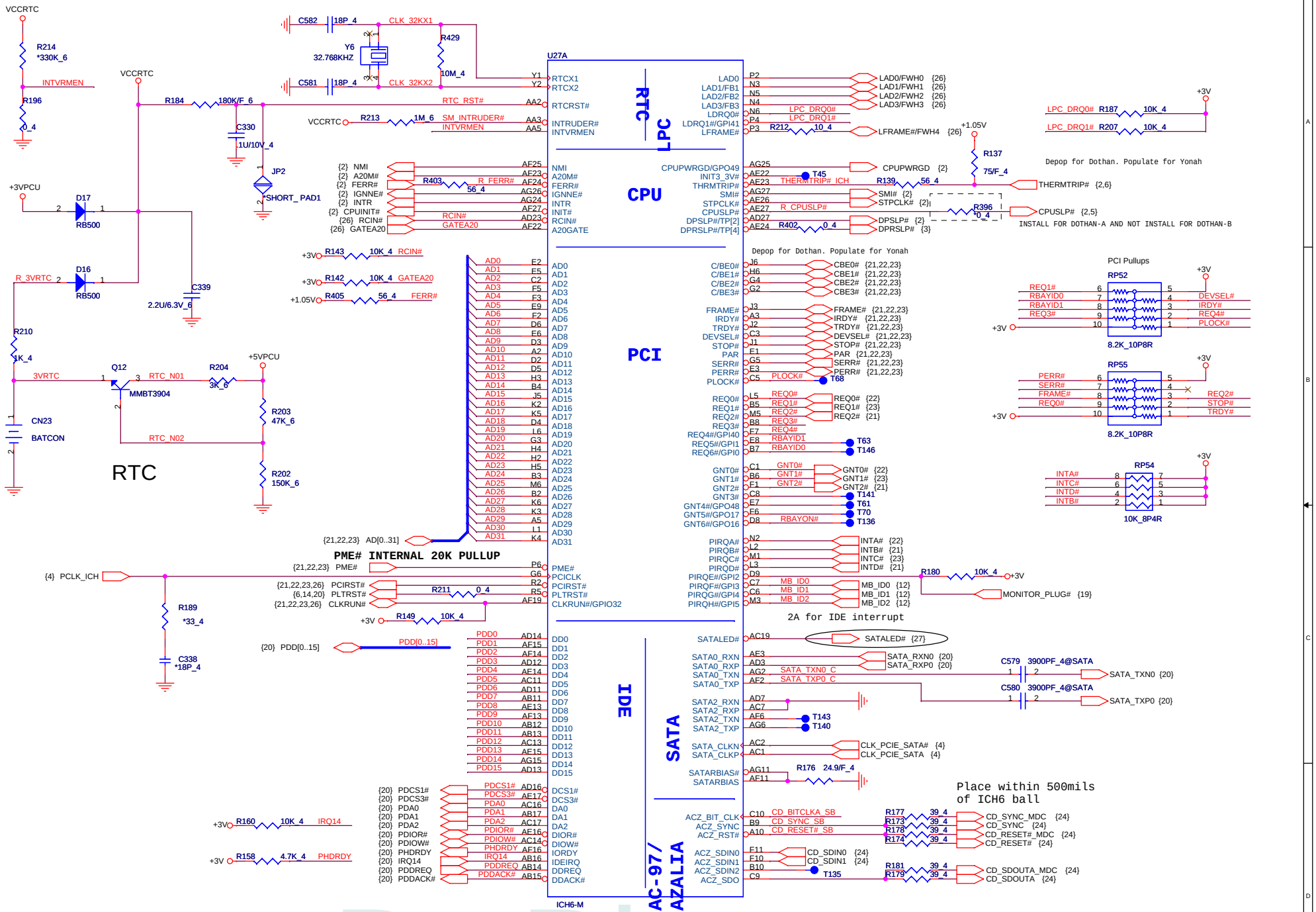
PROJECT : ZL9

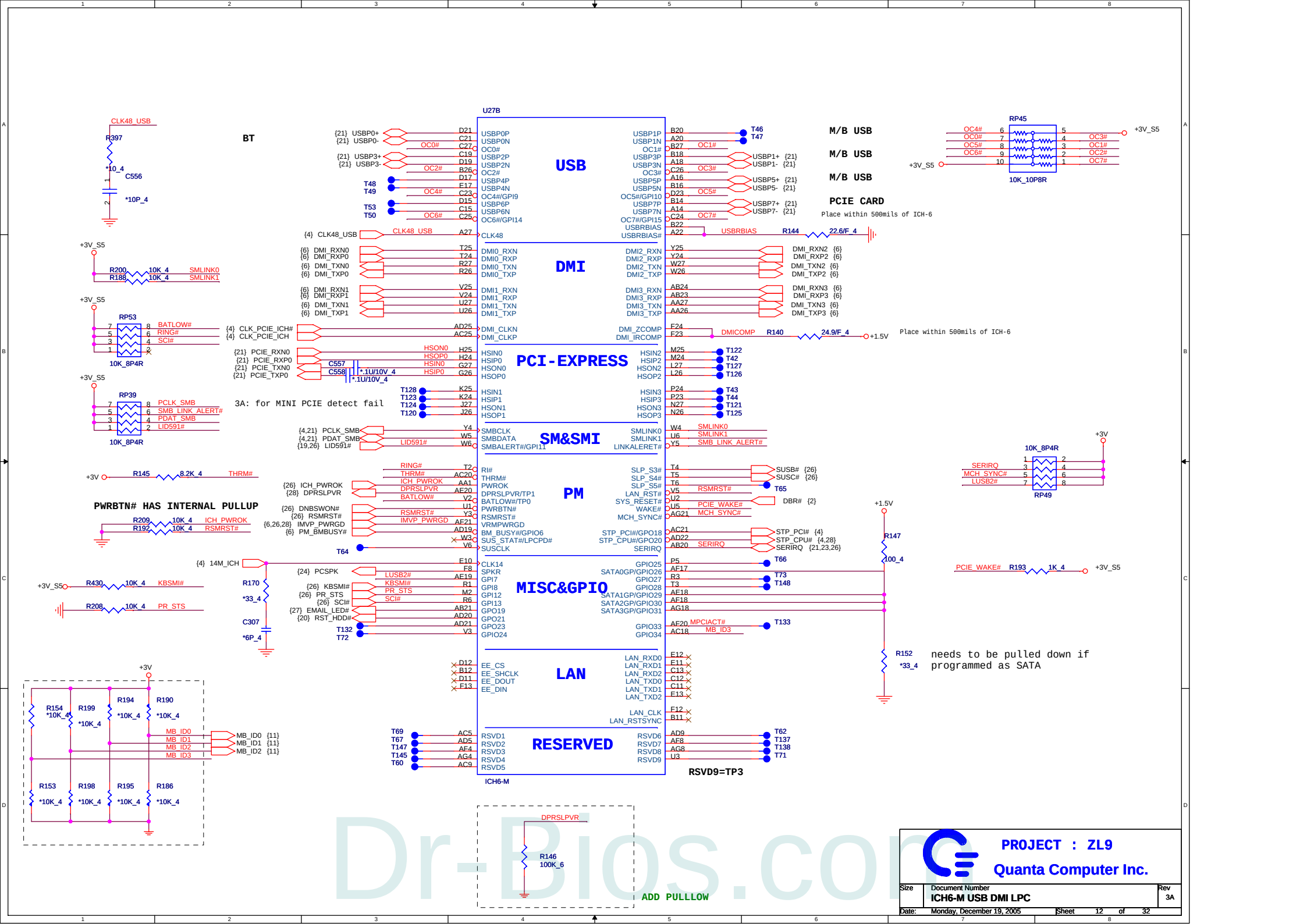
Quanta Computer Inc.

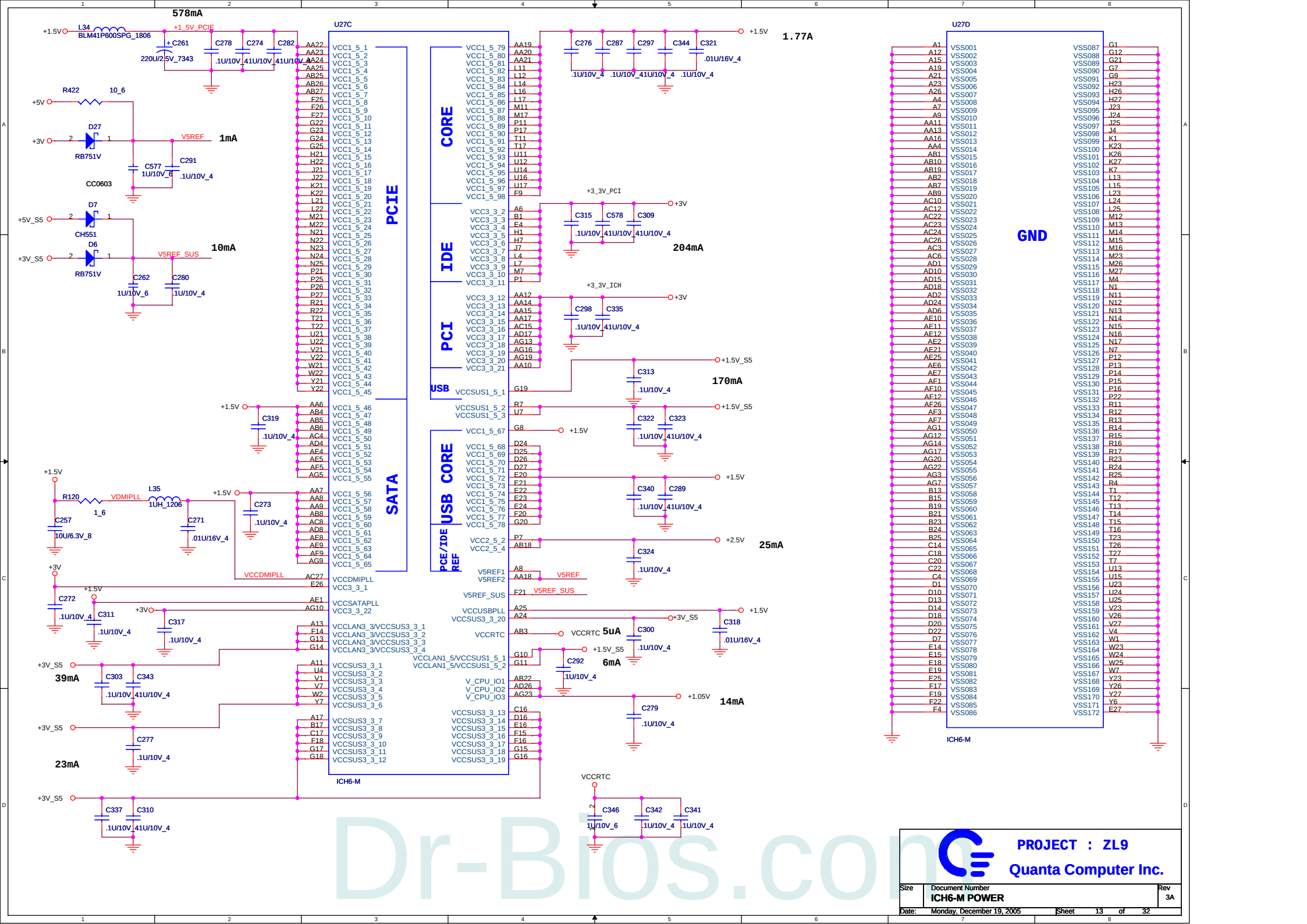
Size	Document Number	Rev
	DDR2 TERMINATION	3A

Date: Monday, December 19, 2005 Sheet 9 of 32

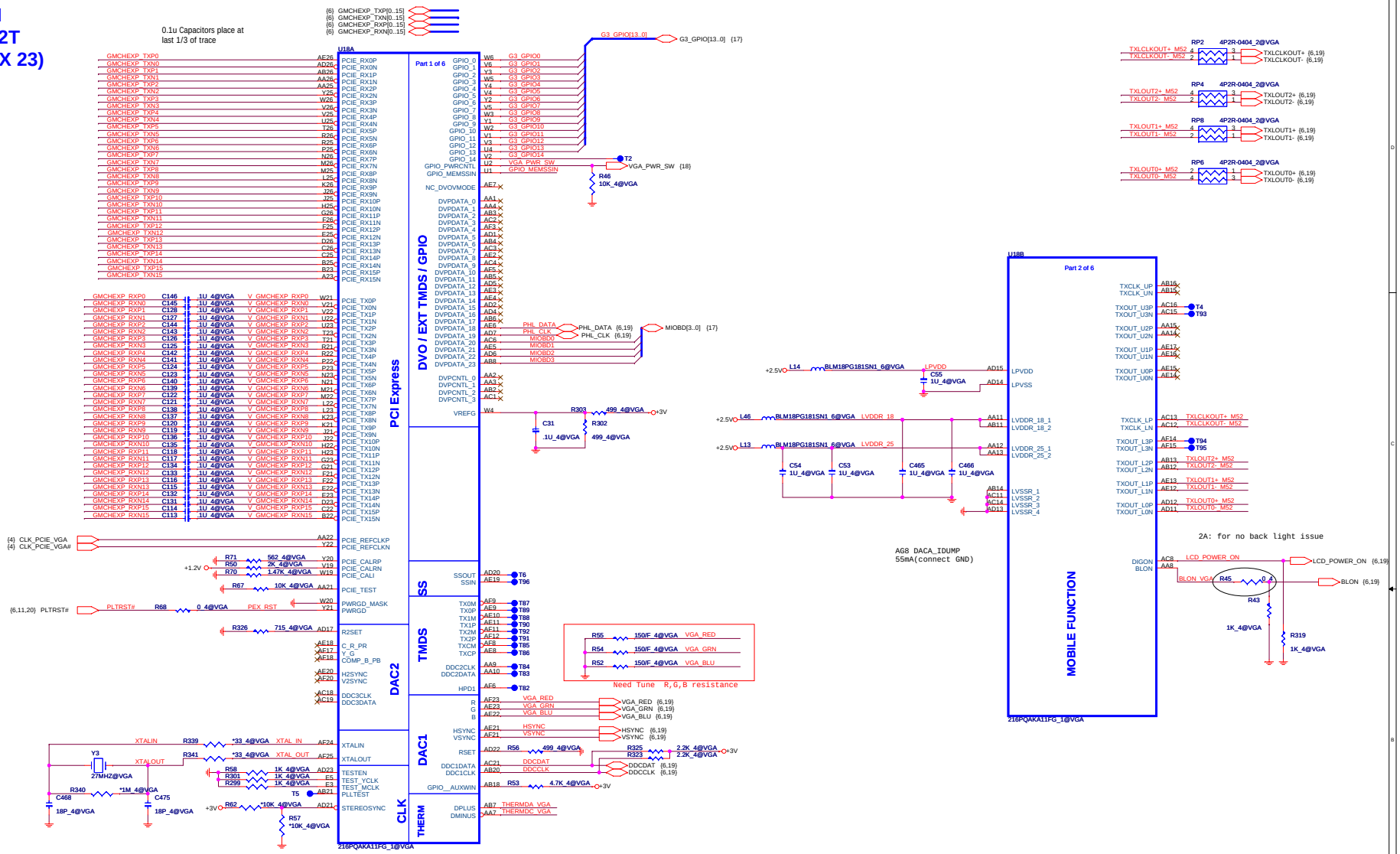

CN19
PC4800 DDR2 SDRAM SO-DIMM (200P)
PC4800_DDR2_4.0MM_STD
CLOCK 0,1,2
CKE 0,1
SMbus address A0
CN20
PC4800_DDR2_8.0MM_STD
CLOCK 3,4,5
CKE 2,3
SMbus address A1
PROJECT : ZL9
Quanta Computer Inc.
DDR2 SO-DIMM (200P)
Monday, December 19, 2005
Sheet 10 of 32


RTC
CPU
PCI
IDE
SATA
LPC
AC-97/ AZALIA
ICH6-M
U27A
PME# INTERNAL 20K PULLUP
2A for IDE interrupt
Place within 500mils of ICH6 ball
Depop for Dothan. Populate for Yonah
INSTALL FOR DOTHAN-A AND NOT INSTALL FOR DOTHAN-B
PCI Pullups
8.2K_10P8R
10K_8P4R
PROJECT : ZL9
Quanta Computer Inc.
ICH6-M CPU PCI IDE AC97
Monday, December 19, 2005
Sheet 11 of 32


U27B
USB
DMI
PCI-EXPRESS
SM&SMI
PM
MISC&GPIO
LAN
RESERVED
ICH6-M
BT
M/B USB
M/B USB
M/B USB
PCIE CARD
Place within 500mils of ICH-6
Place within 500mils of ICH-6
3A: for MINI PCIE detect fail
PWRBTN# HAS INTERNAL PULLUP
needs to be pulled down if programmed as SATA
RSVD9=TP3
ADD PULLLOW
PROJECT : ZL9
Quanta Computer Inc.
ICH6-M USB DMI LPC
Monday, December 19, 2005
Sheet 12 of 32


578mA
U27C
ICH6-M
CORE
PCIE
IDE
PCI
USB
USB CORE
SATA
PCE/IDE REF
1.77A
204mA
170mA
25mA
5uA
6mA
14mA
1mA
10mA
39mA
23mA
U27D
GND
ICH6-M
PROJECT : ZL9
Quanta Computer Inc.
ICH6-M POWER
Monday, December 19, 2005
Sheet 13 of 32
Dr-Bios.com

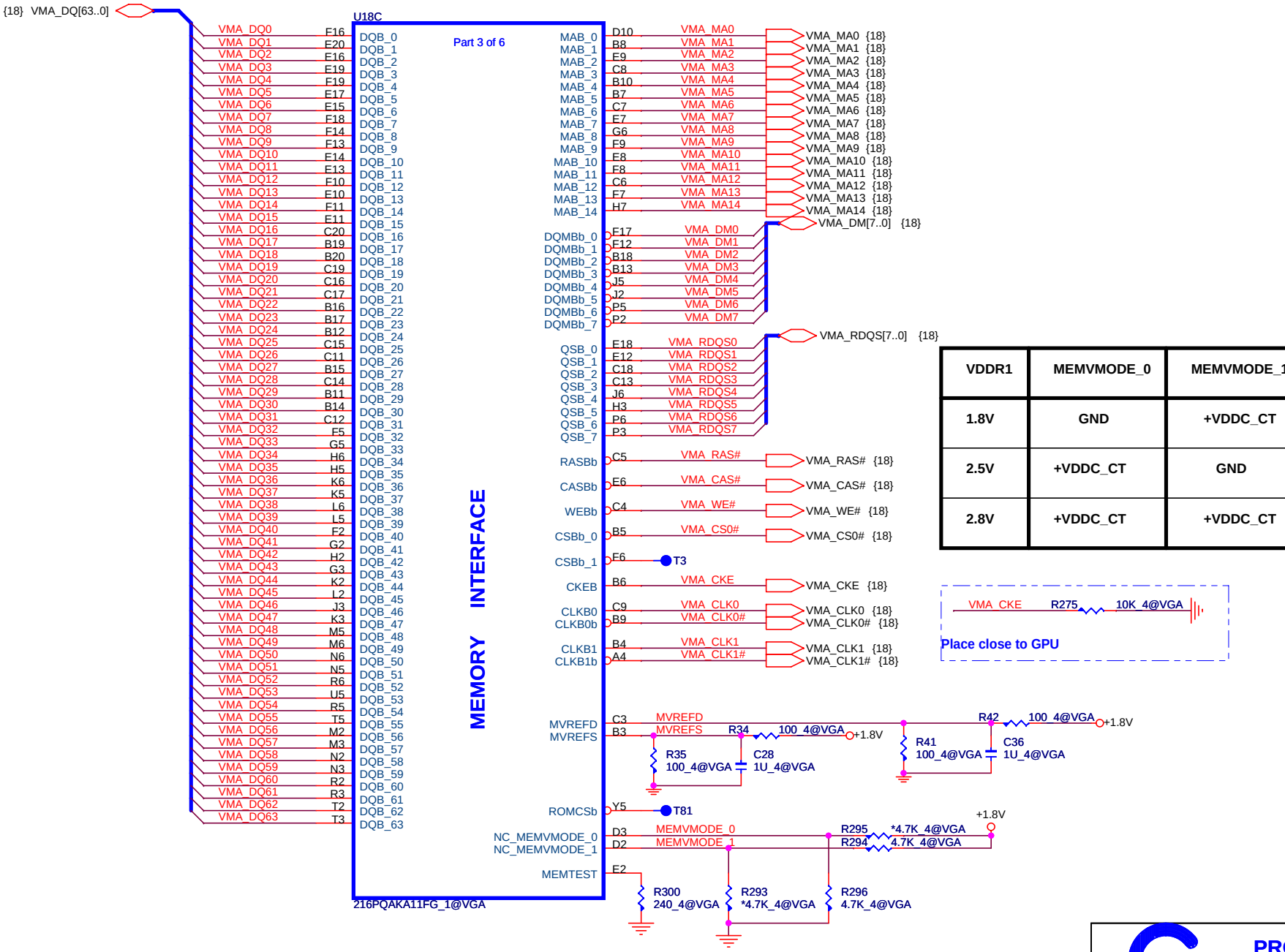
ATI M52T (23X 23)



PROJECT : ZL9
Quanta Computer Inc.

Size	Document Number	Rev
	M52T (PCIE/DAC/GND)	3A

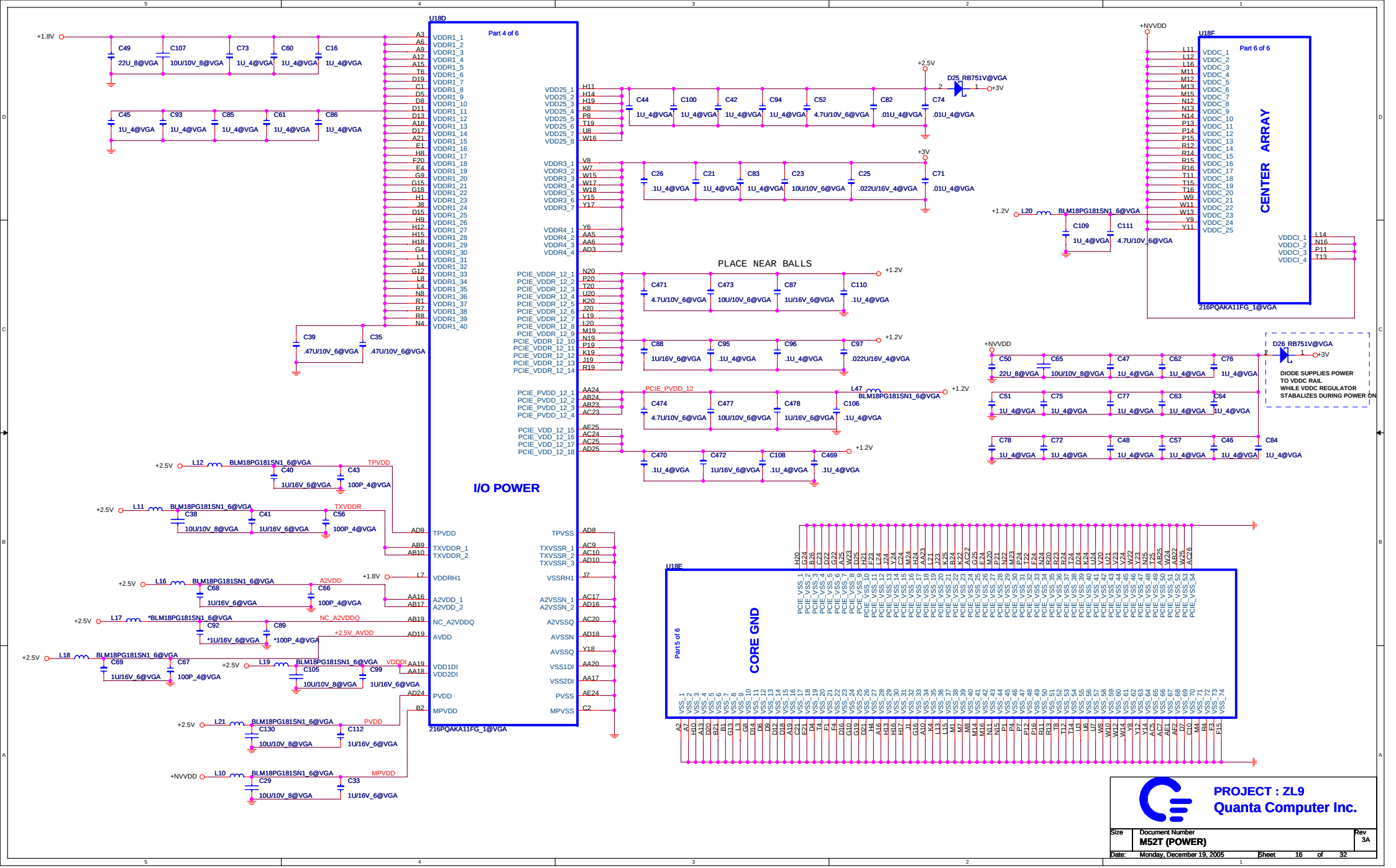
Date: Monday, December 19, 2005 Sheet 14 of 32



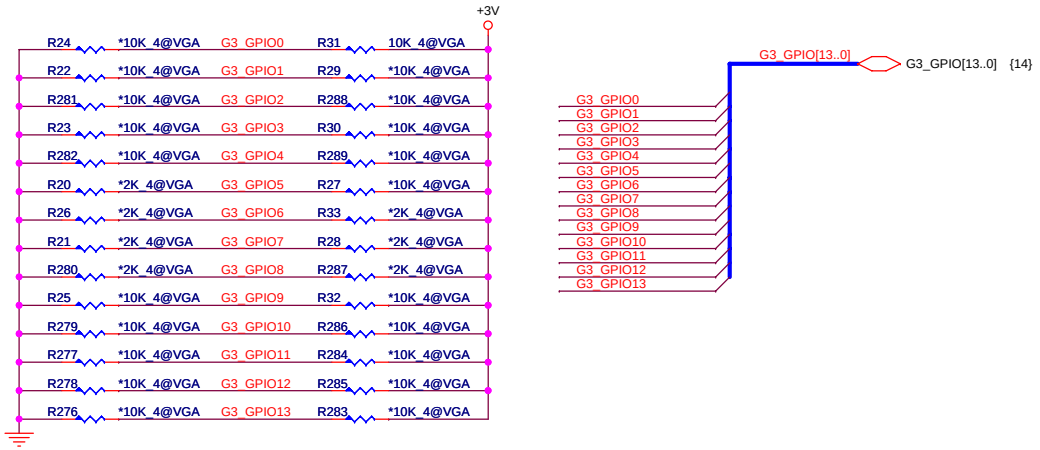
VDDR1	MEMVMODE_0	MEMVMODE_1
1.8V	GND	+VDDC_CT
2.5V	+VDDC_CT	GND
2.8V	+VDDC_CT	+VDDC_CT

PROJECT : ZL9
Quanta Computer Inc.

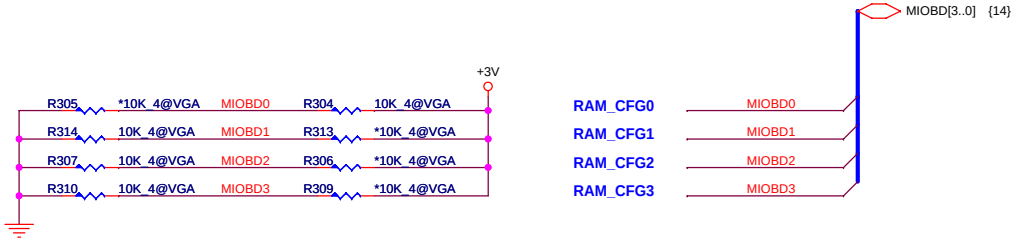
Size	Document Number	Rev
	M52T (MEMORY A/B)	3A
Date: Monday, December 19, 2005	Sheet 15 of 32	



PROJECT : ZL9		
Quanta Computer Inc.		
Size	Document Number	Rev
	M52T (POWER)	3A
Date: Monday, December 19, 2005	Sheet 16 of 32	



STRAPS	PIN	DESCRIPTION	ASIC DEFAULT
TX_PWRS_ENB	G3_GPIO0	FULL SWING	1
TX_DEEMPH_EN	G3_GPIO1	TRANSMITTER DE-EMPHASIS ENABLE - TX DE-EMPHASIS DISABLED FOR MOBILE	0
DEBUG_ACCESS	G3_GPIO4	Strap to set the debug muxes to bring out DEBUG signals even if registers are inaccessible.	0
FORCE COMPLIANCE	G3_GPIO8	**Force chip to get to compliance state queckly for tester pruposes**	0
ROMIDCFG(3:0)	G3_GPIO(9,13,12,11)	**128M** **256M** **64M** **Recerved**	**0000** **0010** **0100** **0110**



M52T VRAM Configuration Table

RAM_CFG[3:0]	DESCRIPTION
0000	DDR2 , 16Mx16 , 2pcs (64M)
0001	DDR2 , 16Mx16 , 4pcs (128M)
0010	DDR2 ,32Mx16 , 2pcs (128M)
0011	DDR2 ,32Mx16 , 4pcs (256M)
others	Reserved

MULTIFUNC(1:0)	LCDDATA(17:16)	Multi-function device select **00 - single function device.** 01 - two function device. No AGP in either function 10 - two function device. AGP only in function 0 11 - two function device. AGP in both functions If BUSCFG pin based straps are set to PCI, then AGP will not be enabled in any function.	00
VIP_DEVICE	LCDDATA(20)	Indicates if any slave VIP host devices drove this low during reset. 0 - Slave VIP host port devices present **1 - No slave VIP host port devices reporting presence during reset**	0
DWNGRD	LCDDATA(21)	0 - Device remain a workstation grade part. 1 - Part is downgraded to a Normal part	0 (internal pull-down)

PROJECT : ZL9
Quanta Computer Inc.

Size	Document Number	Rev
	M52T (STRAP/MISC)	3A

Date: Monday, December 19, 2005 Sheet 17 of 32

{15} VMA_DQ[63..0]
{15} VMA_DM[7..0]
{15} VMA_RDQS[7..0]

256Mb : AKD5JGAT^05
512Mb : AKD59G-T^01

U17

VMA_DQ5 B9 UDQ7
VMA_DQ1 B1 UDQ6
VMA_DQ2 D9 UDQ5
VMA_DQ4 D1 UDQ4
VMA_DQ7 D3 UDQ3
VMA_DQ6 D7 UDQ2
VMA_DQ3 C2 UDQ1
VMA_DQ0 C8 UDQ0
VMA_DQ9 E9 LDQ7
VMA_DQ8 F1 LDQ6
VMA_DQ12 H9 LDQ5
VMA_DQ10 H1 LDQ4
VMA_DQ14 H3 LDQ3
VMA_DQ13 H7 LDQ2
VMA_DQ15 G2 LDQ1
VMA_DQ11 G8 LDQ0

VMA_DM0 B3 UDM
VMA_DM1 F3 LDM

VMA_RDQS0 B7 UDQS
VMA_WDQS0 A8 UDQS
VMA_RDQS1 F7 LDQS
VMA_WDQS1 E8 LDQS

{15} VMA_CLK0 → VMA_CLK0 J8 CK
{15} VMA_CLK0# → VMA_CLK0# K8 CK

VMA_MA13 L3 BA1
VMA_MA12 L2 BA0

VMA_MA14 R2 A12
VMA_MA11 P7 A11
VMA_MA10 M2 A10
VMA_MA9 P3 A9
VMA_MA8 P8 A8
VMA_MA7 P2 A7
VMA_MA6 N7 A6
VMA_MA5 N3 A5
VMA_MA4 N8 A4
VMA_MA3 N2 A3
VMA_MA2 M7 A2
VMA_MA1 M3 A1
VMA_MA0 M8 A0

VMA_ODT K9 ODT
VMA_CKE K2 CKE
VMA_CS0# L8 CS
VMA_WE# K3 WE
VMA_RAS# K7 RAS
VMA_CAS# L7 CAS

VREF J2 ← VMREFA0
15mil
R311 499/F_4@VGA → +1.8V
R308 499/F_4@VGA
C451 .1U_4@VGA

VDD1 A1, E1
VDD2 J9
VDD3 M9
VDD4 R1
VDD5 → +1.8V

VDDQ1 A9, C1
VDDQ2 C3
VDDQ3 C7
VDDQ4 C9
VDDQ5 E9
VDDQ6 G1
VDDQ7 G3
VDDQ8 G7
VDDQ9 G9
VDDQ10

L45 0_6@VGA
VDDL J1 → VDDL1
15mil
C458 .1U_4@VGA
C457 1U_6@VGA

NC1 A2, NC2 E2, NC3 L1, NC4 R3, NC5 R7, NC6 R8

VSS1 A3, VSS2 E3, VSS3 J3, VSS4 N1, VSS5 P9

VSSQ1 A7, VSSQ2 B2, VSSQ3 B8, VSSQ4 D2, VSSQ5 D8, VSSQ6 E7, VSSQ7 F2, VSSQ8 H2, VSSQ9 H8, VSSQ10
VSSDL J7

GDDR2-BGA84@VGA

VREF_A0
R334 10/F_4@VGA VMA_WDQS0
R333 10/F_4@VGA VMA_WDQS1
R332 10/F_4@VGA VMA_WDQS2
R331 10/F_4@VGA VMA_WDQS3
+1.8V
R335 499/F_4@VGA
R336 499/F_4@VGA
C467 .1U_4@VGA

U5

VMA_DQ16 B9 UDQ7
VMA_DQ21 B1 UDQ6
VMA_DQ19 D9 UDQ5
VMA_DQ23 D1 UDQ4
VMA_DQ20 D3 UDQ3
VMA_DQ17 D7 UDQ2
VMA_DQ22 C2 UDQ1
VMA_DQ18 C8 UDQ0
VMA_DQ25 E9 LDQ7
VMA_DQ30 F1 LDQ6
VMA_DQ28 H9 LDQ5
VMA_DQ26 H1 LDQ4
VMA_DQ31 H3 LDQ3
VMA_DQ24 H7 LDQ2
VMA_DQ29 G2 LDQ1
VMA_DQ27 G8 LDQ0

VMA_DM2 B3 UDM
VMA_DM3 F3 LDM

VMA_RDQS2 B7 UDQS
VMA_WDQS2 A8 UDQS
VMA_RDQS3 F7 LDQS
VMA_WDQS3 E8 LDQS

VMA_CLK0 J8 CK
VMA_CLK0# K8 CK

VMA_MA13 L3 BA1
VMA_MA12 L2 BA0

VMA_MA14 R2 A12
VMA_MA11 P7 A11
VMA_MA10 M2 A10
VMA_MA9 P3 A9
VMA_MA8 P8 A8
VMA_MA7 P2 A7
VMA_MA6 N7 A6
VMA_MA5 N3 A5
VMA_MA4 N8 A4
VMA_MA3 N2 A3
VMA_MA2 M7 A2
VMA_MA1 M3 A1
VMA_MA0 M8 A0

VMA_ODT K9 ODT
VMA_CKE K2 CKE
VMA_CS0# L8 CS
VMA_WE# K3 WE
VMA_RAS# K7 RAS
VMA_CAS# L7 CAS

VREF J2 ← VMREFA1
R49 499/F_4@VGA → +1.8V
R51 499/F_4@VGA
C98 .1U_4@VGA

VDD1 A1, E1
VDD2 J9
VDD3 M9
VDD4 R1
VDD5 → +1.8V

VDDQ1 A9, C1
VDDQ2 C3
VDDQ3 C7
VDDQ4 C9
VDDQ5 E9
VDDQ6 G1
VDDQ7 G3
VDDQ8 G7
VDDQ9 G9
VDDQ10

L15 0_6@VGA
VDDL J1 → VDDL2
15mil
C79 .1U_4@VGA
C70 1U_6@VGA

NC1 A2, NC2 E2, NC3 L1, NC4 R3, NC5 R7, NC6 R8

VSS1 A3, VSS2 E3, VSS3 J3, VSS4 N1, VSS5 P9

VSSQ1 A7, VSSQ2 B2, VSSQ3 B8, VSSQ4 D2, VSSQ5 D8, VSSQ6 E7, VSSQ7 F2, VSSQ8 F8, VSSQ9 H2, VSSQ10 H8
VSSDL J7

GDDR2-BGA84@VGA

VMA_CLK0 → R316 56/F_4@VGA
VMA_CLK0# → R318 56/F_4@VGA
C454 .01U_4@VGA

C464 1000P_4@VGA, C442 .01U_4@VGA, C459 .1U_4@VGA, C104 10U/10V_6@VGA
C27 1000P_4@VGA, C102 .01U_4@VGA, C101 .1U_4@VGA, C103 10U/10V_6@VGA
C17 1000P_4@VGA, C19 .01U_4@VGA, C20 .1U_4@VGA, C15 10U/10V_6@VGA
C446 1000P_4@VGA, C444 .01U_4@VGA, C445 .1U_4@VGA, C443 10U/10V_6@VGA
(+1.8V)

U2

VMA_DQ38 B9 UDQ7
VMA_DQ37 B1 UDQ6
VMA_DQ35 D9 UDQ5
VMA_DQ33 D1 UDQ4
VMA_DQ32 D3 UDQ3
VMA_DQ34 D7 UDQ2
VMA_DQ39 C2 UDQ1
VMA_DQ36 C8 UDQ0
VMA_DQ46 E9 LDQ7
VMA_DQ45 F1 LDQ6
VMA_DQ42 H9 LDQ5
VMA_DQ40 H1 LDQ4
VMA_DQ41 H3 LDQ3
VMA_DQ43 H7 LDQ2
VMA_DQ47 G2 LDQ1
VMA_DQ44 G8 LDQ0

VMA_DM4 B3 UDM
VMA_DM5 F3 LDM

VMA_RDQS4 B7 UDQS
VMA_WDQS5 A8 UDQS
VMA_RDQS5 F7 LDQS
VMA_WDQS4 E8 LDQS

{15} VMA_CLK1 → VMA_CLK1 J8 CK
{15} VMA_CLK1# → VMA_CLK1# K8 CK

VMA_MA13 L3 BA1
VMA_MA12 L2 BA0

VMA_MA14 R2 A12
VMA_MA11 P7 A11
VMA_MA10 M2 A10
VMA_MA9 P3 A9
VMA_MA8 P8 A8
VMA_MA7 P2 A7
VMA_MA6 N7 A6
VMA_MA5 N3 A5
VMA_MA4 N8 A4
VMA_MA3 N2 A3
VMA_MA2 M7 A2
VMA_MA1 M3 A1
VMA_MA0 M8 A0

VMA_ODT K9 ODT
VMA_CKE K2 CKE
VMA_CS0# L8 CS
VMA_WE# K3 WE
VMA_RAS# K7 RAS
VMA_CAS# L7 CAS

VREF J2 ← VMREFA2
R12 499/F_4@VGA → +1.8V
R13 499/F_4@VGA
C13 .1U_4@VGA

VDD1 A1, E1
VDD2 J9
VDD3 M9
VDD4 R1
VDD5 → +1.8V

VDDQ1 A9, C1
VDDQ2 C3
VDDQ3 C7
VDDQ4 C9
VDDQ5 E9
VDDQ6 G1
VDDQ7 G3
VDDQ8 G7
VDDQ9 G9
VDDQ10

L7 0_6@VGA
VDDL J1 → VDDL3
15mil
C14 .1U_4@VGA
C12 1U_6@VGA

NC1 A2, NC2 E2, NC3 L1, NC4 R3, NC5 R7, NC6 R8

VSS1 A3, VSS2 E3, VSS3 J3, VSS4 N1, VSS5 P9

VSSQ1 A7, VSSQ2 B2, VSSQ3 B8, VSSQ4 D2, VSSQ5 D8, VSSQ6 E7, VSSQ7 F2, VSSQ8 H2, VSSQ9 H8, VSSQ10
VSSDL J7

GDDR2-BGA84@VGA

VREF_A1
R19 10/F_4@VGA VMA_WDQS5
R17 10/F_4@VGA VMA_WDQS4
R16 10/F_4@VGA VMA_WDQS7
R14 10/F_4@VGA VMA_WDQS6
+1.8V
R15 499/F_4@VGA
R18 499/F_4@VGA
C18 .1U_4@VGA

U16

VMA_DQ58 B9 UDQ7
VMA_DQ63 B1 UDQ6
VMA_DQ56 D9 UDQ5
VMA_DQ60 D1 UDQ4
VMA_DQ61 D3 UDQ3
VMA_DQ57 D7 UDQ2
VMA_DQ62 C2 UDQ1
VMA_DQ59 C8 UDQ0
VMA_DQ53 E9 LDQ7
VMA_DQ54 F1 LDQ6
VMA_DQ51 H9 LDQ5
VMA_DQ52 H1 LDQ4
VMA_DQ55 H3 LDQ3
VMA_DQ49 H7 LDQ2
VMA_DQ48 G2 LDQ1
VMA_DQ50 G8 LDQ0

VMA_DM7 B3 UDM
VMA_DM6 F3 LDM

VMA_RDQS7 B7 UDQS
VMA_WDQS7 A8 UDQS
VMA_RDQS6 F7 LDQS
VMA_WDQS6 E8 LDQS

VMA_CLK1 J8 CK
VMA_CLK1# K8 CK

VMA_MA13 L3 BA1
VMA_MA12 L2 BA0

VMA_MA14 R2 A12
VMA_MA11 P7 A11
VMA_MA10 M2 A10
VMA_MA9 P3 A9
VMA_MA8 P8 A8
VMA_MA7 P2 A7
VMA_MA6 N7 A6
VMA_MA5 N3 A5
VMA_MA4 N8 A4
VMA_MA3 N2 A3
VMA_MA2 M7 A2
VMA_MA1 M3 A1
VMA_MA0 M8 A0

VMA_ODT K9 ODT
VMA_CKE K2 CKE
VMA_CS0# L8 CS
VMA_WE# K3 WE
VMA_RAS# K7 RAS
VMA_CAS# L7 CAS

VREF J2 ← VMREFA3
R298 499/F_4@VGA → +1.8V
R297 499/F_4@VGA
C448 .1U_4@VGA

VDD1 A1, E1
VDD2 J9
VDD3 M9
VDD4 R1
VDD5 → +1.8V

VDDQ1 A9, C1
VDDQ2 C3
VDDQ3 C7
VDDQ4 C9
VDDQ5 E9
VDDQ6 G1
VDDQ7 G3
VDDQ8 G7
VDDQ9 G9
VDDQ10

L8 0_6@VGA
VDDL J1 → VDDL4
15mil
C22 .1U_4@VGA
C24 1U_6@VGA

NC1 A2, NC2 E2, NC3 L1, NC4 R3, NC5 R7, NC6 R8

VSS1 A3, VSS2 E3, VSS3 J3, VSS4 N1, VSS5 P9

VSSQ1 A7, VSSQ2 B2, VSSQ3 B8, VSSQ4 D2, VSSQ5 D8, VSSQ6 E7, VSSQ7 F2, VSSQ8 F8, VSSQ9 H2, VSSQ10 H8
VSSDL J7

GDDR2-BGA84@VGA

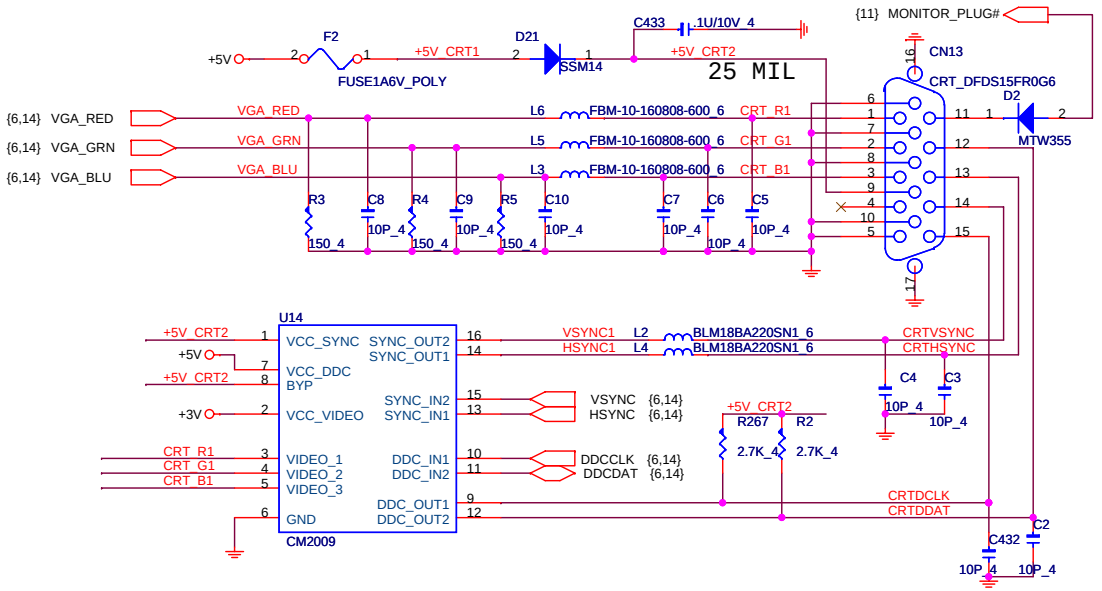
VMA_CLK1 → R292 56/F_4@VGA
VMA_CLK1# → R291 56/F_4@VGA
C447 .01U_4@VGA

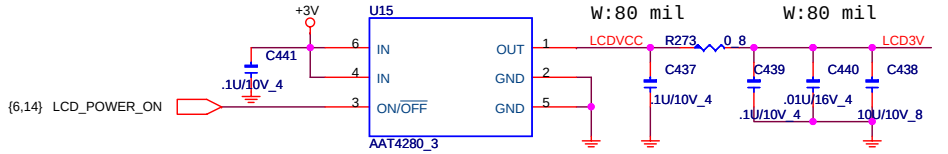
+1.8V
R37 10K_4@VGA
VMA_ODT
R36 *0_4@VGA
Q6 2N7002@VGA
{14} VGA_PWR_SW → 2

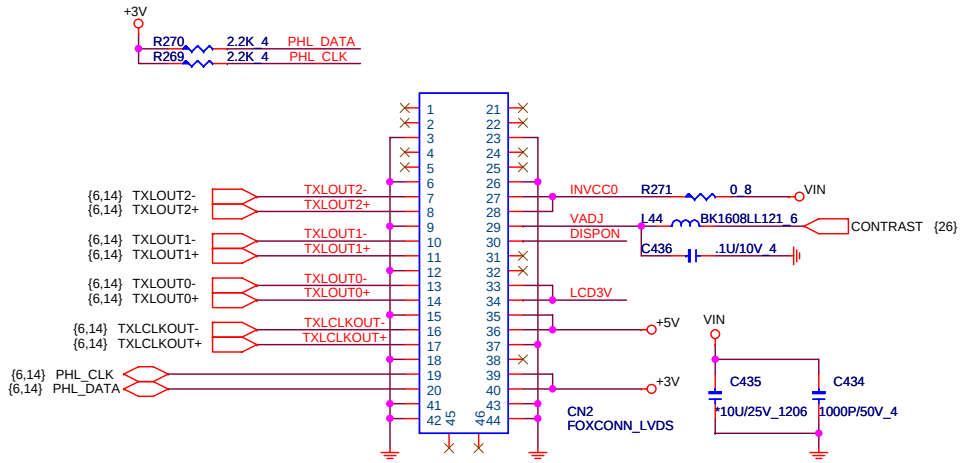
PROJECT : ZL9
Quanta Computer Inc.

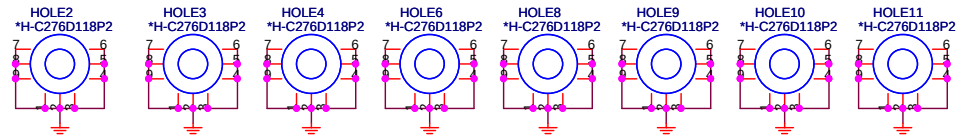
Size	Document Number	Rev
	VRAM (GDDR2)	3A
Date: Monday, December 19, 2005	Sheet 18 of 32	

CRT PORT

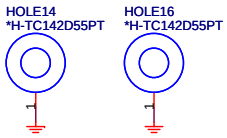


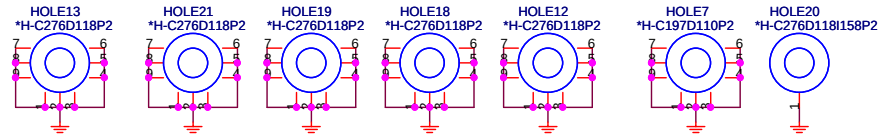




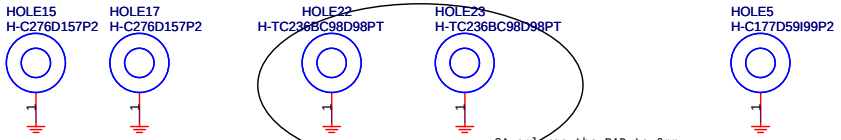


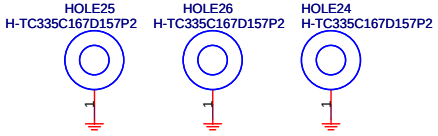
PCIE-CARD NUT

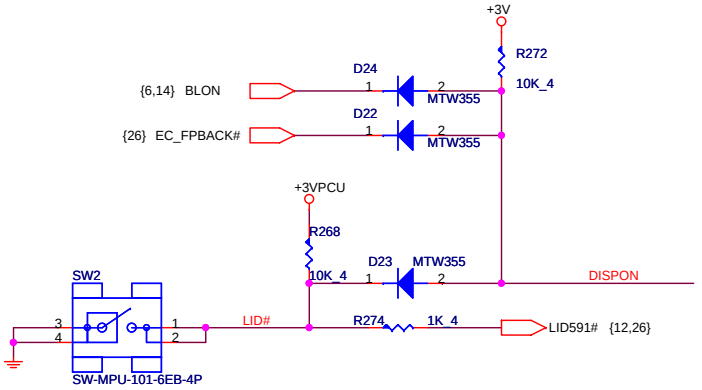




MDC1.5 NUT NB HEATSINK NUT LED/B NUT CPU NUT





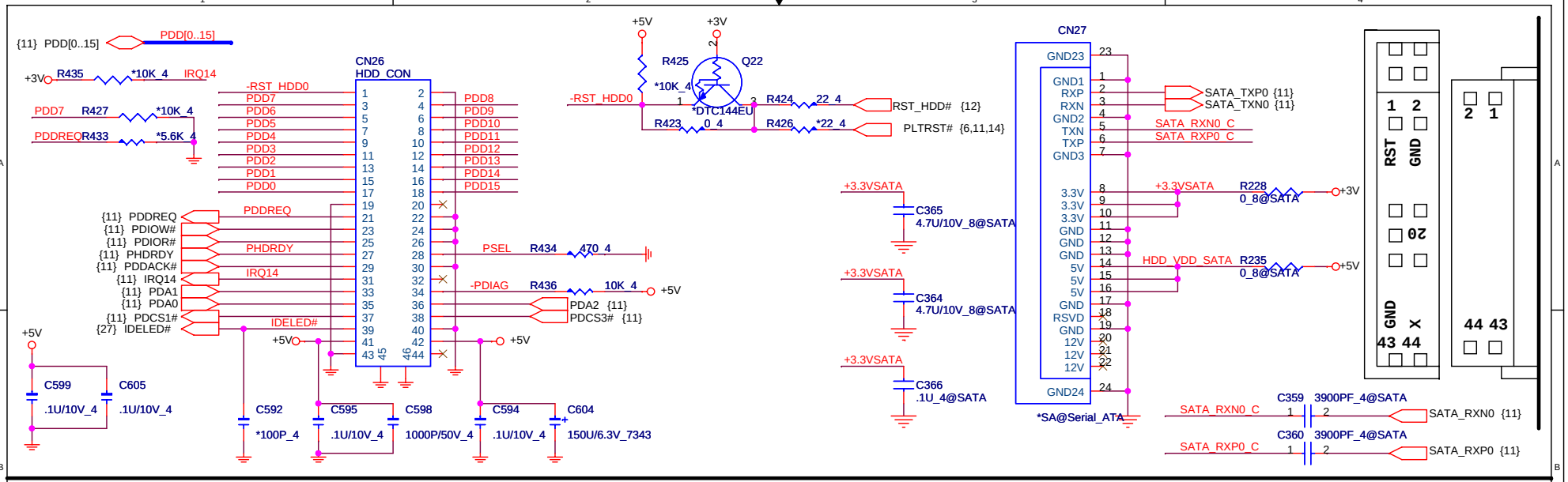


Lid Switch

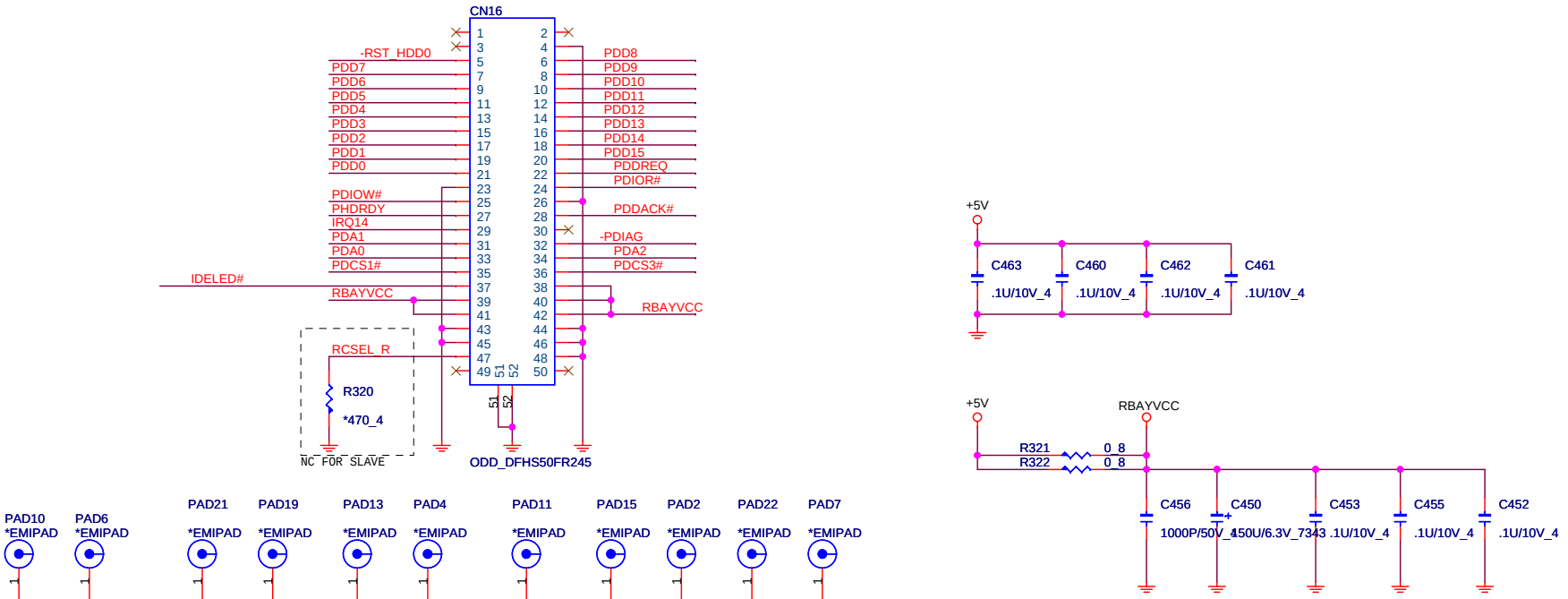
PROJECT : ZL9

Quanta Computer Inc.

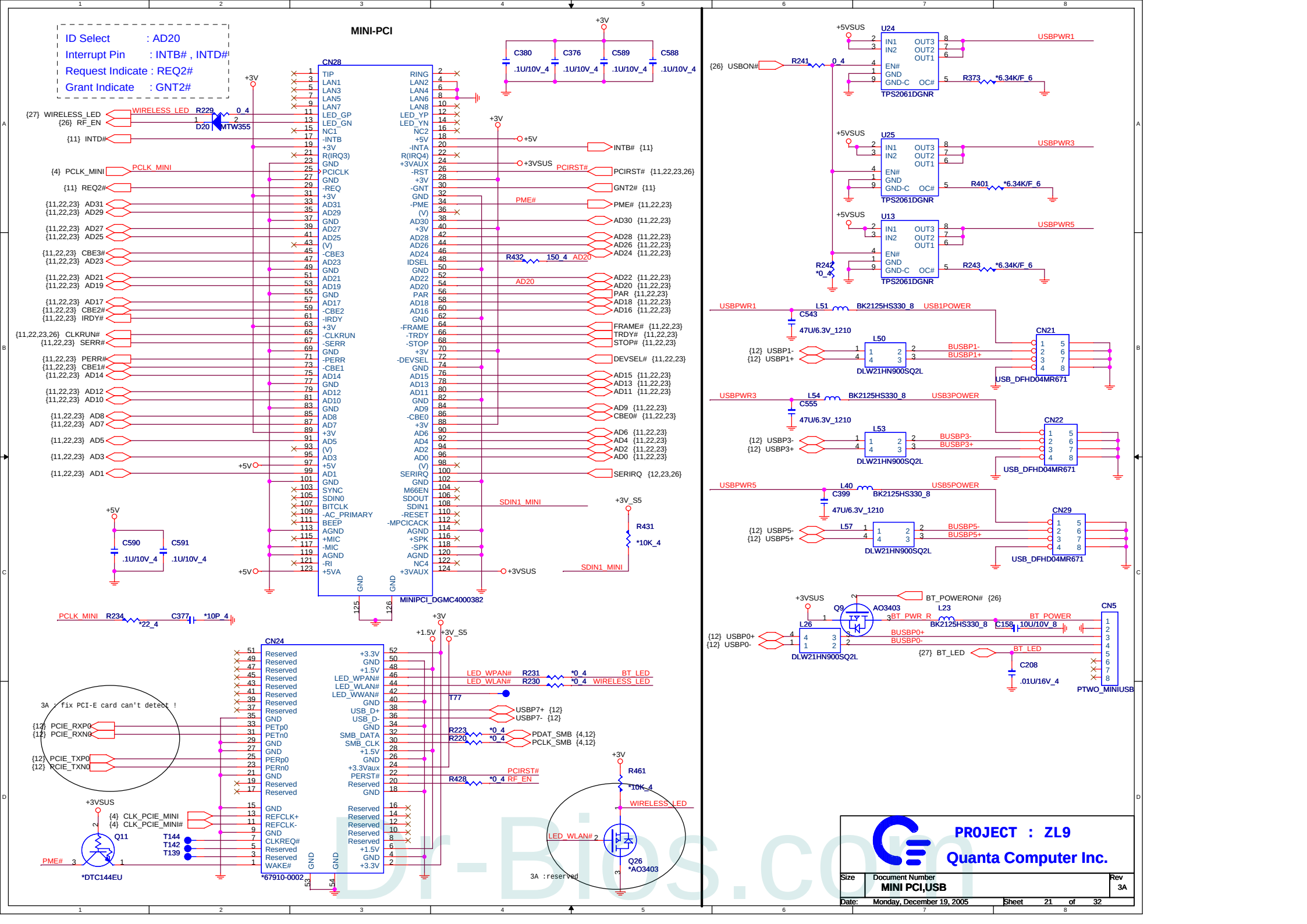
Size	Document Number	Rev
	LVDS,VGA Ports, LID, & HOLES	3A
Date: Monday, December 19, 2005	Sheet 19 of 32	



ODD Connector



PROJECT : ZL9		
Quanta Computer Inc.		
Size	Document Number: HDD & CDROM	Rev: 3A
Date: Monday, December 19, 2005	Sheet 20 of 32	


ID Select : AD20
Interrupt Pin : INTB# , INTD#
Request Indicate : REQ2#
Grant Indicate : GNT2#
MINI-PCI
CN28
MINIPCI_DGMC4000382
*67910-0002
CN24
3A : fix PCI-E card can't detect !
3A :reserved
*DTC144EU
*AO3403
U24
U25
U13
TPS2061DGNR
CN21
CN22
CN29
CN5
USB_DFHD04MR671
DLW21HN900SQ2L
PTWO_MINIUSB
PROJECT : ZL9
Quanta Computer Inc.
MINI PCI,USB
Monday, December 19, 2005
Sheet 21 of 32

ID Select : AD24
Interrupt Pin : INTA#
Request Indicate : REQ0#
Grant Indicate : GNT0#

U6

RTL8110SBL/8100CL

RTL8110SBL
VDD33---+3.3V DIGITAL
AVDDH------+3.3V ANALOG
AVDDL-----+2.5V ANALOG
DVDD-----+1.2V DIGITAL
DVDD_A----+1.2V ANALOG

RTL8100CL
VDD33---+3.3V DIGITAL
AVDDL-----+3.3V ANALOG
DVDD-----+2.5V DIGITAL
AVDDH------+2.5V ANALOG

Near Lan chipset

U20
NS681687

U8
93C46-3GR

CN18
FOXCONN_JM34F23-P2053

CN4
ACES-MDC

2A : modify for ESD issue

PROJECT : ZL9
Quanta Computer Inc.

Size	Document Number	Rev
	LAN RTL8110SBL/8100CL	3A

Date: Monday, December 19, 2005 Sheet 22 of 32

ID Select : AD17
Interrupt Pin : INTC#
Request Indicate : REQ1#
Grant Indicate : GNT1#

CARDBUS SLOT

U9-1 PCI1510PGE

U9-2 PCI1510PGE

U9-4 PCI1510PGE

U11 TPS2211A

CN25 FOX_WZ21131-G2

UPPER PIN

LOWER PIN

+3V Plane

Near Chipset

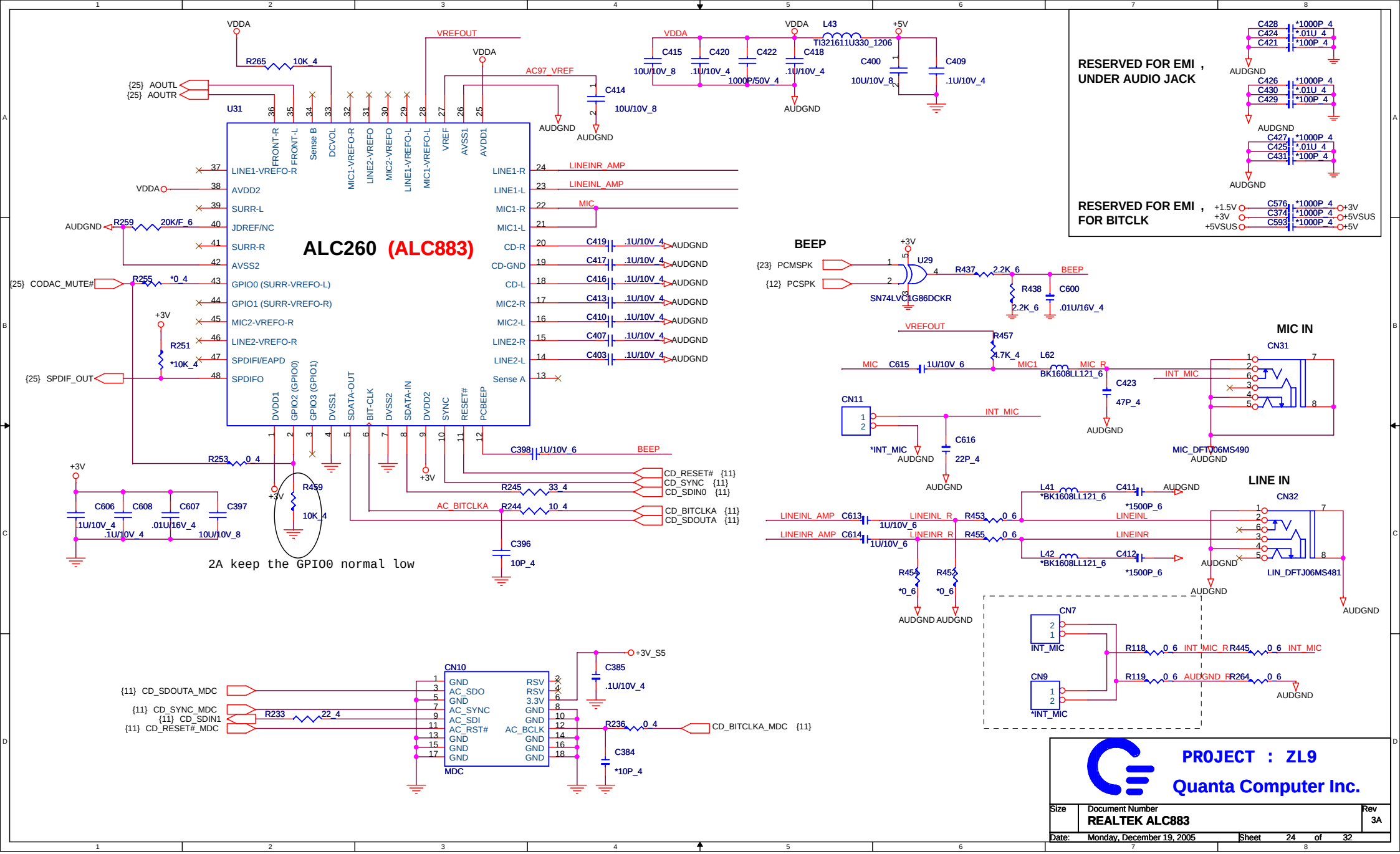
Near Slot

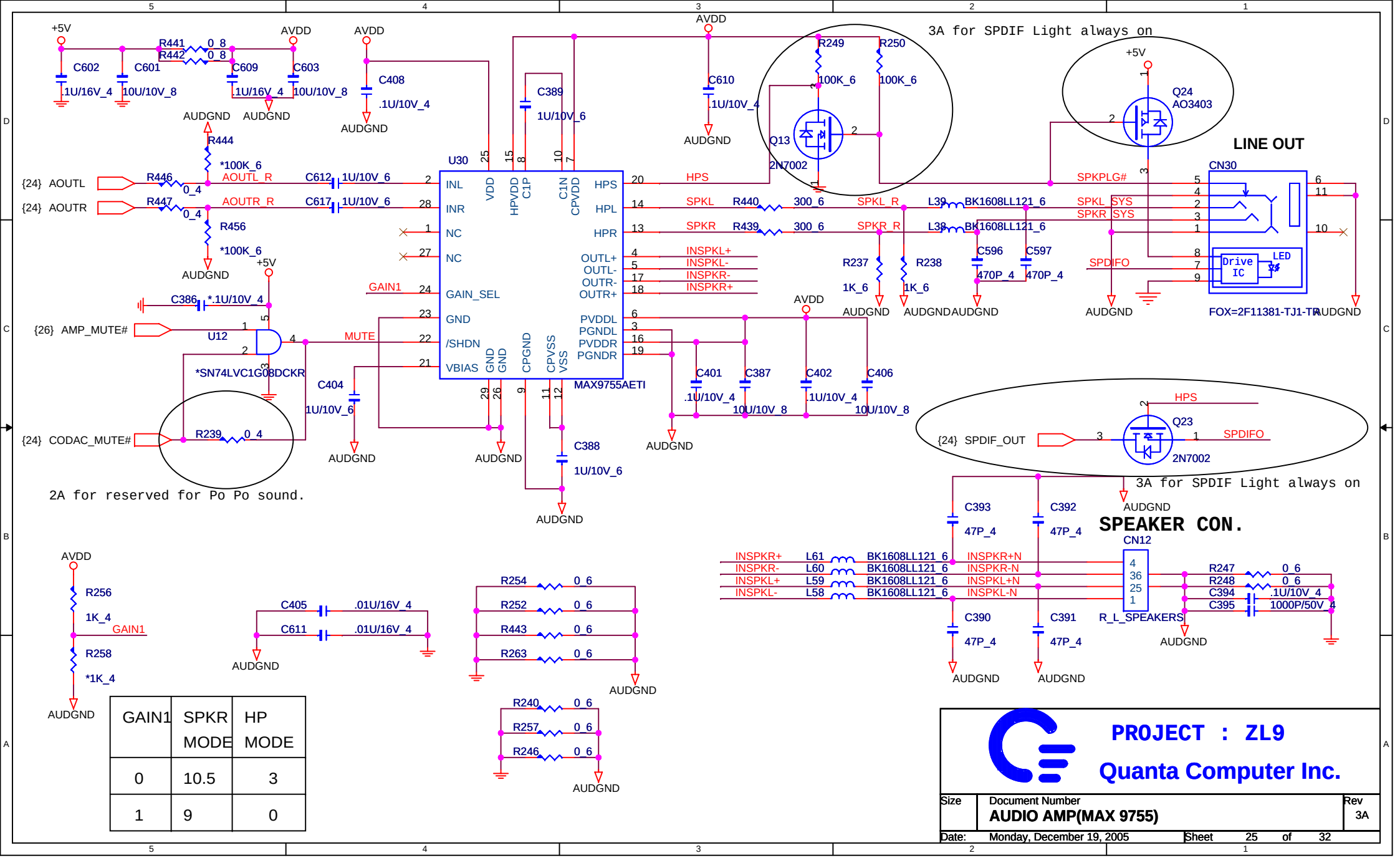
PROJECT : ZL9

Quanta Computer Inc.

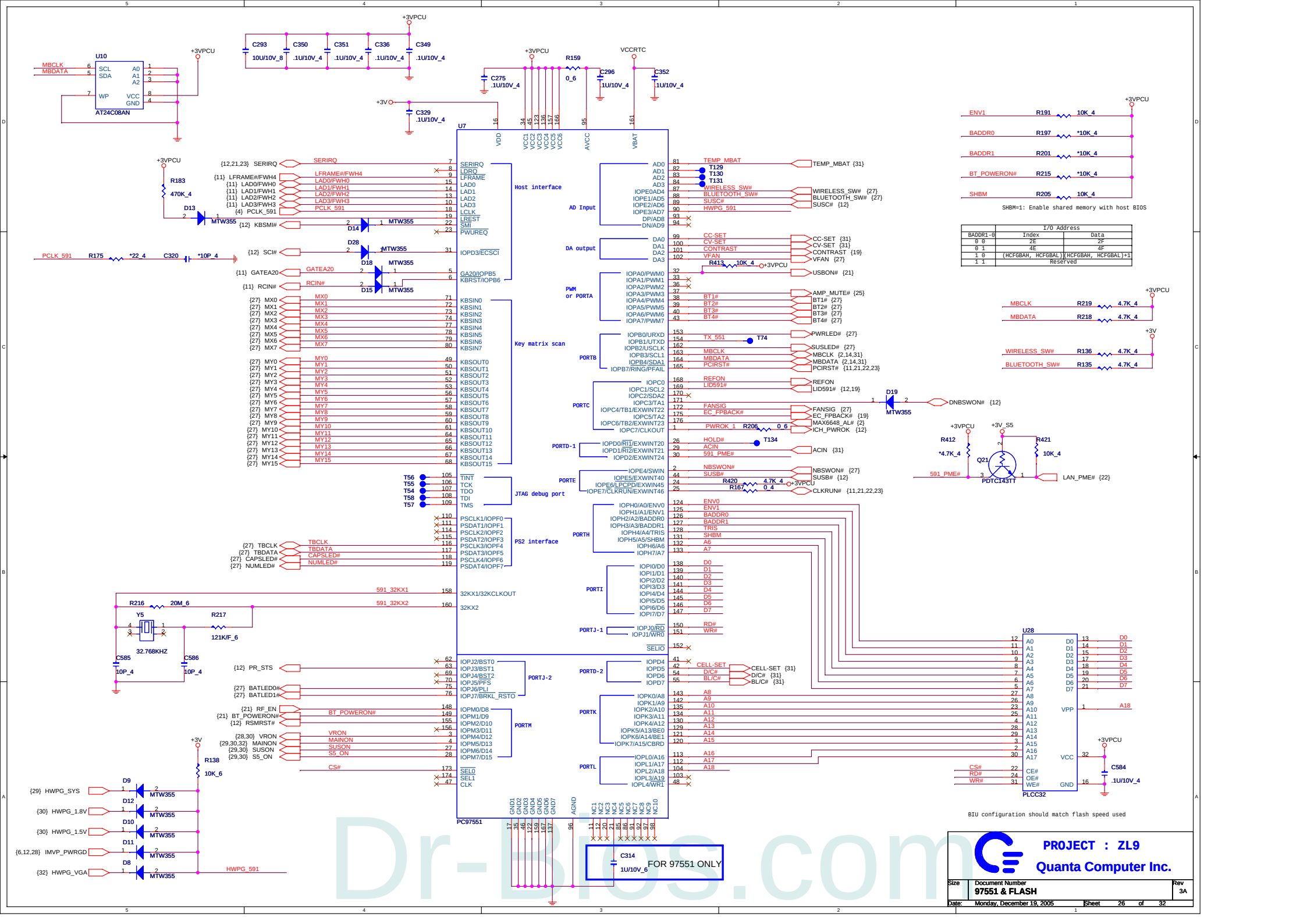
Size	Document Number	Rev
	PCMCIA CONTROLLER	3A

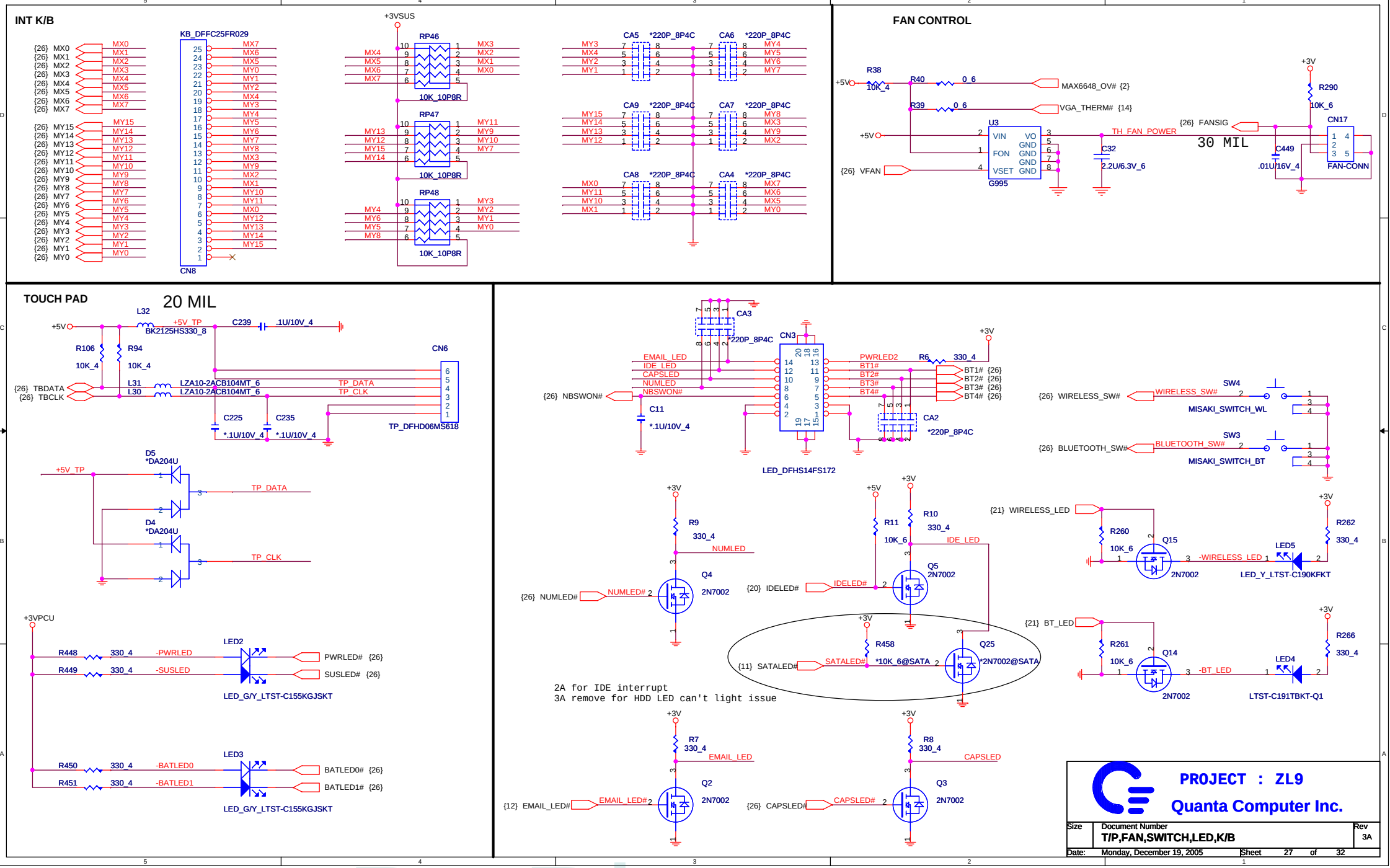
Date: Monday, December 19, 2005 Sheet 23 of 32


ALC260 (ALC883)
2A keep the GPIO0 normal low
RESERVED FOR EMI , UNDER AUDIO JACK
RESERVED FOR EMI , FOR BITCLK
BEEP
MIC IN
LINE IN
PROJECT : ZL9
Quanta Computer Inc.
REALTEK ALC883
Monday, December 19, 2005



GAIN1	SPKR MODE	HP MODE
0	10.5	3
1	9	0


U10
AT24C08AN
MBCLK
MBDATA
+3VPCU
C293 10U/10V_8
C350 .1U/10V_4
C351 .1U/10V_4
C336 .1U/10V_4
C349 .1U/10V_4
C275 .1U/10V_4
C329 .1U/10V_4
+3V
R159 0_6
C296 .1U/10V_4
VCCRTC
C352 .1U/10V_4
U7
PC97551
Host interface
AD Input
DA output
PWM or PORTA
Key matrix scan
PORTB
PORTC
PORTD-1
PORTE
JTAG debug port
PS2 interface
PORTH
PORTI
PORTJ-1
PORTD-2
PORTJ-2
PORTK
PORTL
PORTM
SERIRQ
LFRAME#/FWH4
LAD0/FWH0
LAD1/FWH1
LAD2/FWH2
LAD3/FWH3
PCLK_591
KBSMI#
SCI#
GATEA20
RCIN#
TEMP_MBAT
WIRELESS_SW#
BLUETOOTH_SW#
SUSC#
HWPG_591
CC-SET
CV-SET
CONTRAST
VFAN
USBON#
AMP_MUTE#
BT1#
BT2#
BT3#
BT4#
PWRLED#
SUSLED#
MBCLK
MBDATA
PCIRST#
REFON
LID591#
FANSIG
EC_FPBACK#
MAX6648_AL#
ICH_PWROK
HOLD#
ACIN
591_PME#
NBSWON#
SUSB#
CLKRUN#
ENV0
ENV1
BADDR0
BADDR1
TRIS
SHBM
A6
A7
D0
D1
D2
D3
D4
D5
D6
D7
RD#
WR#
CELL-SET
D/C#
BL/C#
A8
A9
A10
A11
A12
A13
A14
A15
A16
A17
A18
CS#
TBCLK
TBDATA
CAPSLED#
NUMLED#
BATLED0#
BATLED1#
RF_EN
BT_POWERON#
RSMRST#
VRON
MAINON
SUSON
S5_ON
32KX1/32KCLKOUT
32KX2
591_32KX1
591_32KX2
32.768KHZ
TINT
TCK
TDO
TDI
TMS
SELO
SEL1
CLK
ENV1
BADDR0
BADDR1
BT_POWERON#
SHBM=1: Enable shared memory with host BIOS
I/O Address
BADDR1-0
Index
Data
Reserved
MBCLK
MBDATA
WIRELESS_SW#
BLUETOOTH_SW#
DNBSWON#
LAN_PME#
PDTC143TT
U28
PLCC32
BIU configuration should match flash speed used
HWPG_SYS
HWPG_1.8V
HWPG_1.5V
IMVP_PWRGD
HWPG_VGA
FOR 97551 ONLY
PROJECT : ZL9
Quanta Computer Inc.
Document Number
97551 & FLASH
Rev
3A
Date: Monday, December 19, 2005
Sheet 26 of 32


INT K/B
KB_DFFC25FR029
CN8
RP46
RP47
RP48
10K_10P8R
CA5 *220P_8P4C
CA6 *220P_8P4C
CA9 *220P_8P4C
CA7 *220P_8P4C
CA8 *220P_8P4C
CA4 *220P_8P4C
FAN CONTROL
R38 10K_4
R40 0_6
R39 0_6
MAX6648_OV# {2}
VGA_THERM# {14}
U3
G995
TH_FAN_POWER
C32 2.2U/6.3V_6
{26} FANSIG
30 MIL
C449 .01U/16V_4
CN17
FAN-CONN
R290 10K_6
TOUCH PAD
20 MIL
L32 BK2125HS330_8
C239 .1U/10V_4
R106 10K_4
R94 10K_4
L31 LZA10-2ACB104MT_6
L30 LZA10-2ACB104MT_6
TP_DATA
TP_CLK
C225 *.1U/10V_4
C235 *.1U/10V_4
CN6
TP_DFHD06MS618
D5 *DA204U
D4 *DA204U
CA3 *220P_8P4C
CN3
LED_DFHS14FS172
C11 *.1U/10V_4
CA2 *220P_8P4C
R6 330_4
SW4 MISAKI_SWITCH_WL
SW3 MISAKI_SWITCH_BT
R9 330_4
R11 10K_6
R10 330_4
Q4 2N7002
Q5 2N7002
Q15 2N7002
LED5 LED_Y_LTST-C190KFKT
R260 10K_6
R262 330_4
R458 *10K_6@SATA
Q25 *2N7002@SATA
2A for IDE interrupt
3A remove for HDD LED can't light issue
R261 10K_6
R266 330_4
Q14 2N7002
LED4 LTST-C191TBKT-Q1
R7 330_4
R8 330_4
Q2 2N7002
Q3 2N7002
LED2 LED_G/Y_LTST-C155KGJSKT
LED3 LED_G/Y_LTST-C155KGJSKT
R448 330_4
R449 330_4
R450 330_4
R451 330_4
PROJECT : ZL9
Quanta Computer Inc.
T/P,FAN,SWITCH,LED,K/B
Monday, December 19, 2005
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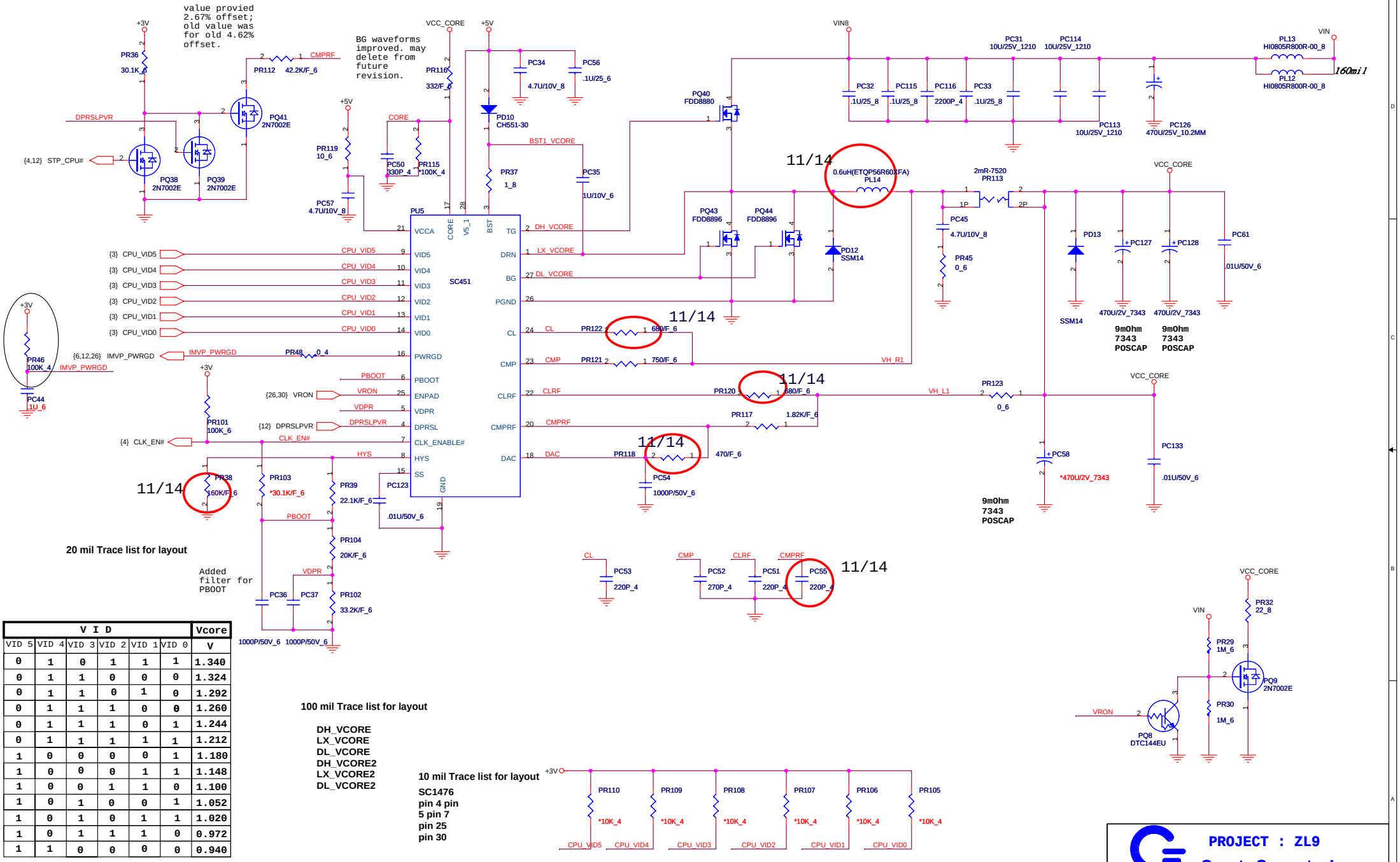
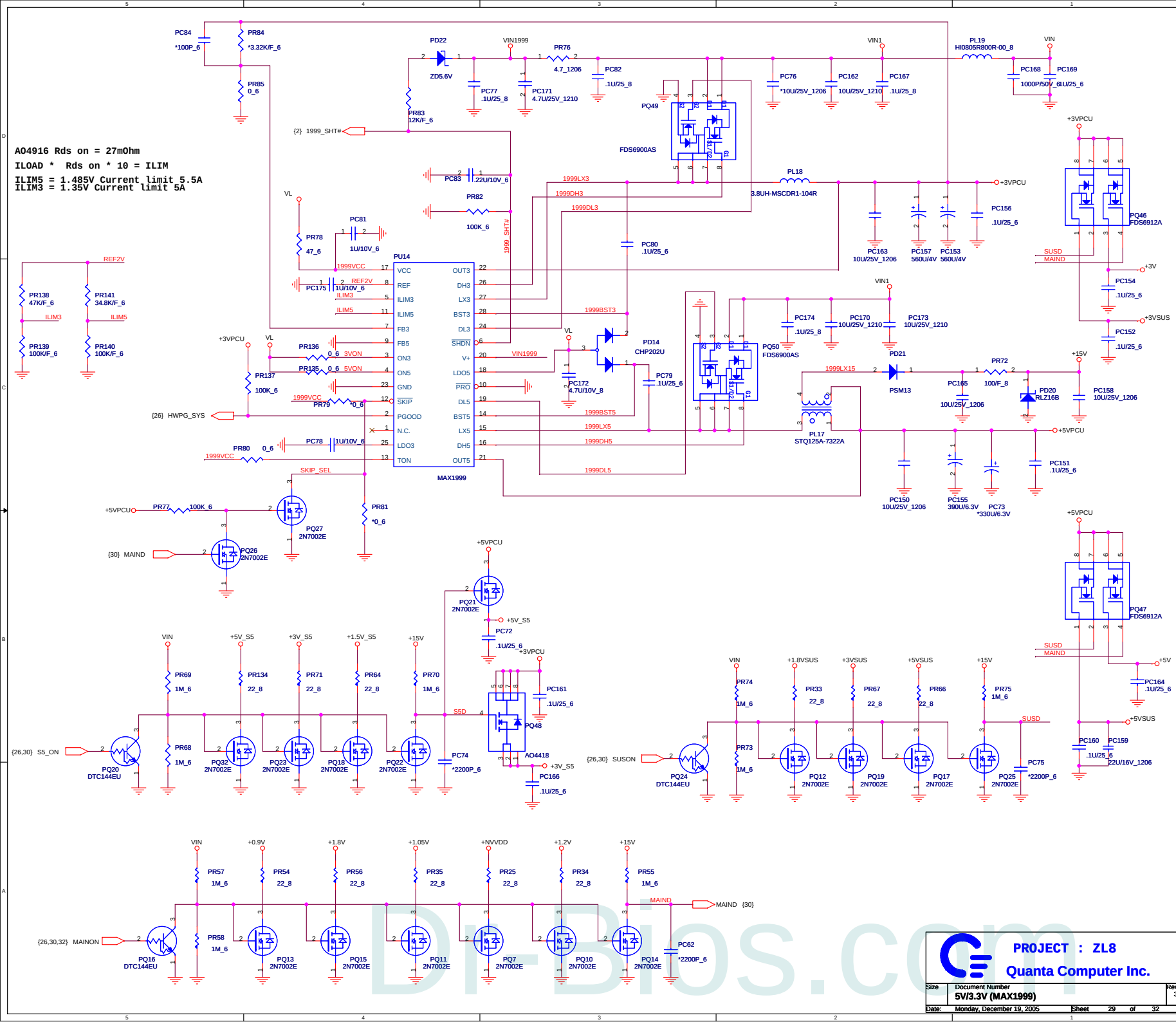


V I D						Vcore
VID 5	VID 4	VID 3	VID 2	VID 1	VID 0	V
0	1	0	1	1	1	1.340
0	1	1	0	0	0	1.324
0	1	1	0	1	0	1.292
0	1	1	1	0	0	1.260
0	1	1	1	0	1	1.244
0	1	1	1	1	1	1.212
1	0	0	0	0	1	1.180
1	0	0	0	1	1	1.148
1	0	0	1	1	0	1.100
1	0	1	0	0	1	1.052
1	0	1	0	1	1	1.020
1	0	1	1	1	0	0.972
1	1	0	0	0	0	0.940


AO4916 Rds on = 27mOhm
ILOAD * Rds on * 10 = ILIM
ILIM5 = 1.485V Current limit 5.5A
ILIM3 = 1.35V Current limit 5A
MAX1999
FDS6900AS
FDS6912A
STQ125A-7322A
CHP202U
PSM13
RLZ16B
AO4418
DTC144EU
2N7002E
ZD5.6V
HI0805R800R-00_8
3.8UH-MSCDR1-104R
VIN
VIN1
VIN1999
+3VPCU
+5VPCU
+3V
+3VSUS
+5V
+5VSUS
+15V
+5V_S5
+3V_S5
+1.5V_S5
+1.8VSUS
+3VSUS
+5VSUS
+0.9V
+1.8V
+1.05V
+NVVDD
+1.2V
VL
REF2V
SUSD
MAIND
SUSON
MAINON
S5_ON
S5D
SKIP_SEL
1999VCC
1999LX3
1999DH3
1999DL3
1999BST3
1999LX15
1999BST5
1999LX5
1999DH5
1999DL5
1999_SHT#
3VON
5VON
ILIM3
ILIM5
HWPG_SYS
MAIND
MAINON
SUSON
S5_ON
PROJECT : ZL8
Quanta Computer Inc.
5V/3.3V (MAX1999)
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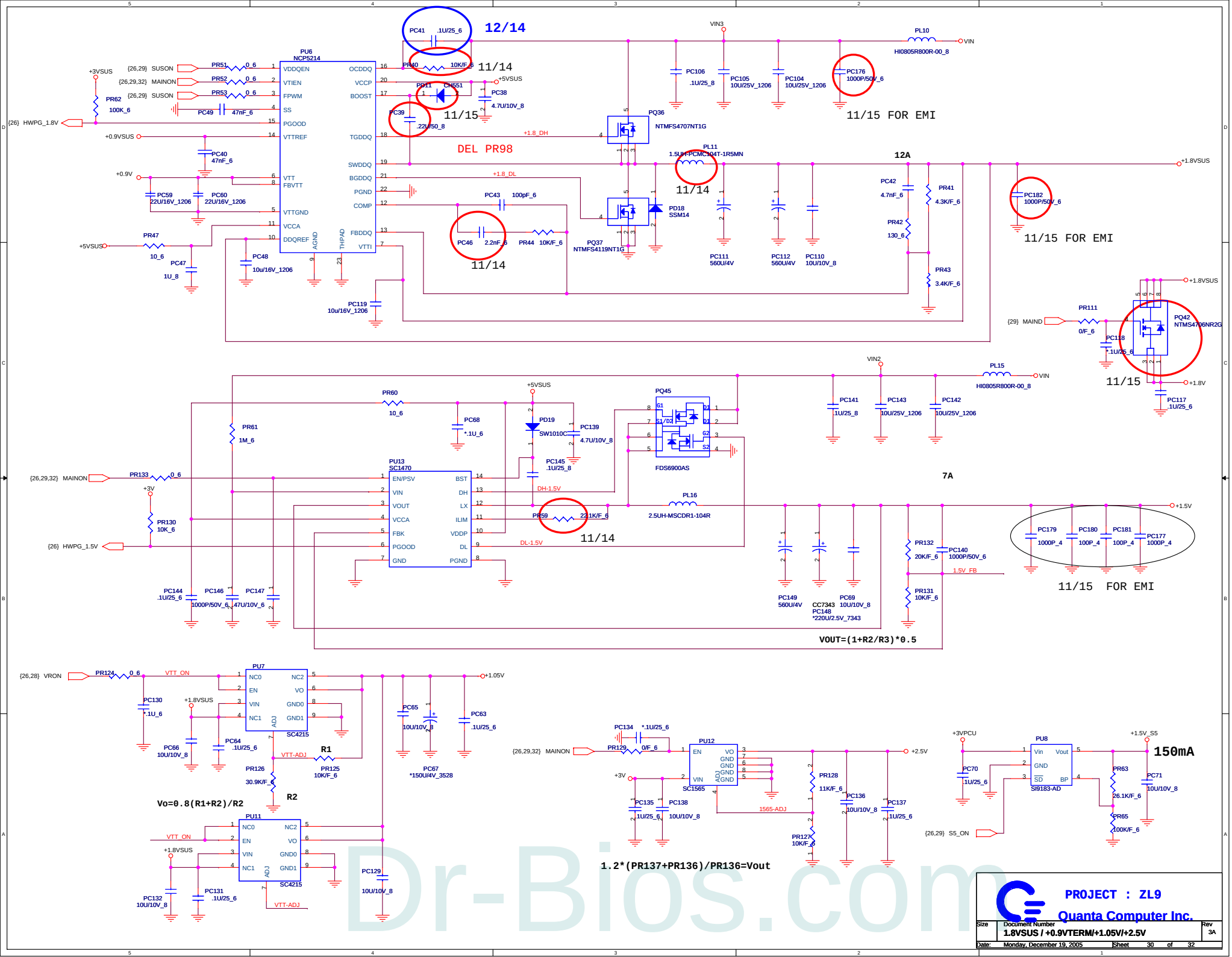
12/14
11/14
11/15
DEL PR98
11/15 FOR EMI
12A
7A
PU6 NCP5214
PU13 SC1470
PU7 SC4215
PU11 SC4215
PU12 SC1565
PU8 SI9183-AD
PQ36 NTMFS4707NT1G
PQ37 NTMFS4119NT1G
PQ45 FDS6900AS
PQ42 NTMS4706NR2G
PD18 SSM14
PD19 SW1010C
PL11 1.5UH-PCMC104T-1R5MN
PL10 HI0805R800R-00_8
PL15 HI0805R800R-00_8
PL16 2.5UH-MSCDR1-104R
VIN3
VIN2
VIN
+3VSUS
+5VSUS
+0.9VSUS
+0.9V
+1.8VSUS
+1.8V
+3V
+1.5V
+1.05V
+2.5V
+3VPCU
+1.5V_S5
{26} HWPG_1.8V
{26} HWPG_1.5V
{26,28} VRON
{26,29,32} MAINON
{29} MAIND
{26,29} SUSON
{26,29,32} MAINON
{26,29} SUSON
{26,29} S5_ON
+1.8_DH
+1.8_DL
DH-1.5V
DL-1.5V
1.5V_FB
VTT_ON
VTT-ADJ
1565-ADJ
R1
R2
Vo=0.8(R1+R2)/R2
1.2*(PR137+PR136)/PR136=Vout
VOUT=(1+R2/R3)*0.5
150mA
11/15 FOR EMI
PROJECT : ZL9
Quanta Computer Inc.
1.8VSUS / +0.9VTERM/+1.05V/+2.5V
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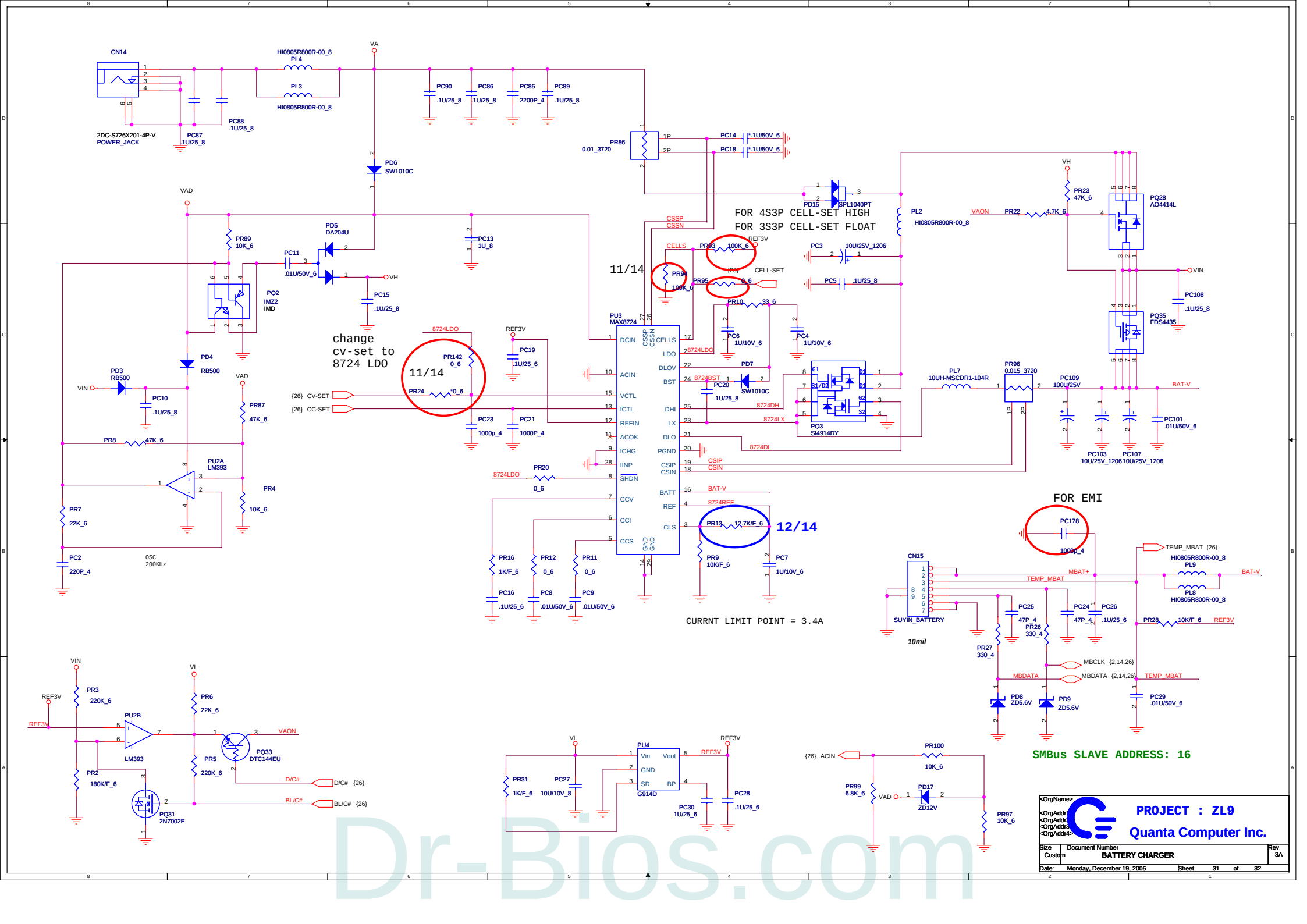
FOR 4S3P CELL-SET HIGH
FOR 3S3P CELL-SET FLOAT
11/14
change cv-set to 8724 LDO
11/14
CURRNT LIMIT POINT = 3.4A
12/14
FOR EMI
SMBus SLAVE ADDRESS: 16
PU3 MAX8724
PROJECT : ZL9
Quanta Computer Inc.
BATTERY CHARGER
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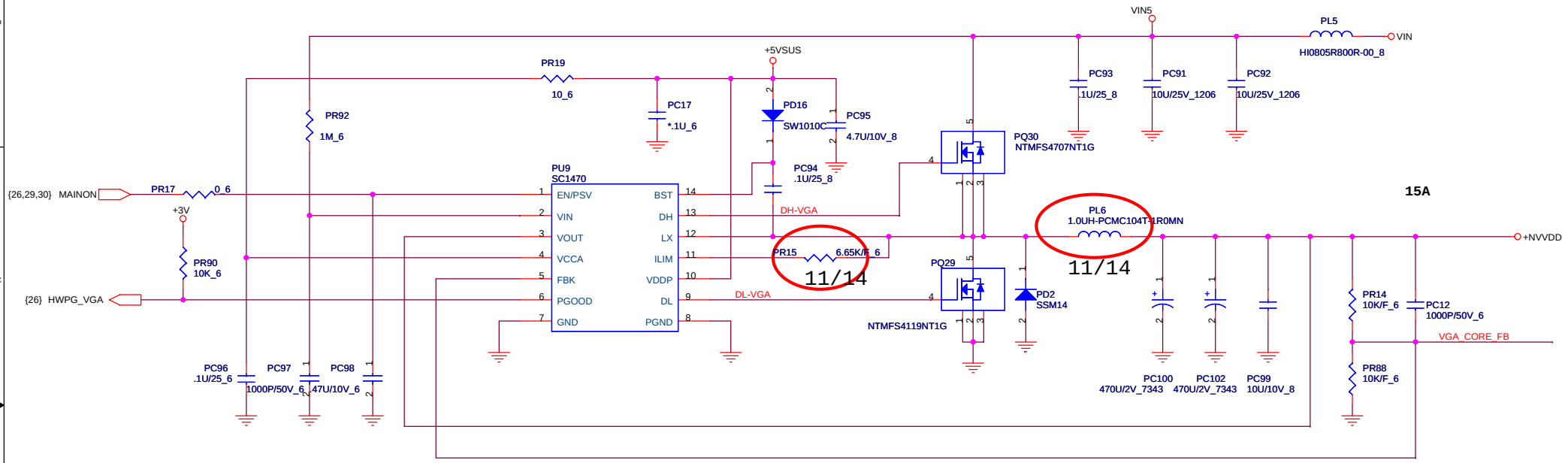

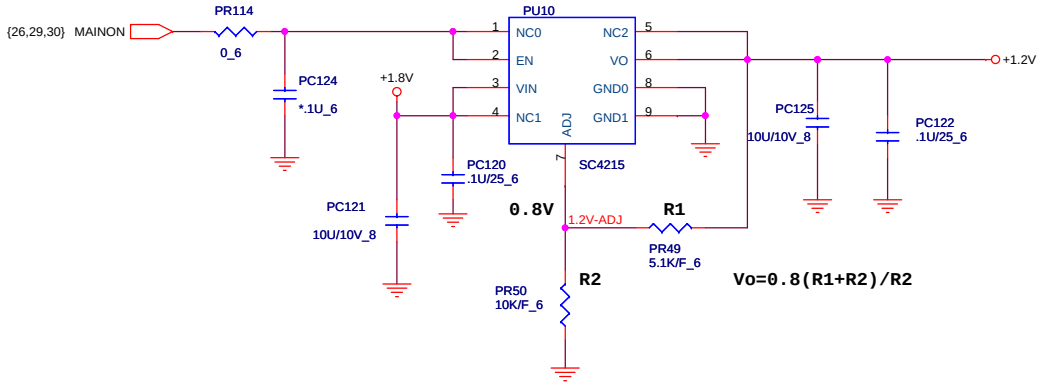

PROJECT : ZL9		
Quanta Computer Inc.		
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