KN3 BLOCK DIAGRAM

01

NORTHWOOD-PRESCOTT/RC300ML/IXP150

PCB STACK UP

- LAYER 1 : TOP
- LAYER 2 : VCC
- LAYER 3 : IN1
- LAYER 4 : IN2
- LAYER 5 : GND
- LAYER 6 : BOT

POWER-SOURCE CONTROL

- AC-IN_BATT CHARGER — MAX1772 — PAGE 34
- CPU CORE POWER — ISL6248 — PAGE 35,36
- SYSTEM POWER(3/5V) — MAX1999 — PAGE 37
- SYSTEM POWER(1.5V/2.5V) — MAX1845 — PAGE 38
- SYSTEM POWER — DDR_VTERM 1.25V/1.8V — GMT-LP2996,SC1565 — PAGE 38

INTEL CPU
NORTHWOOD/ PRESCOTT
478 Pins (micro FC-PGA)
PAGE 3, 4

CPU THERMAL SENSOR — GMT781 — PAGE 3 — IIC BUS

CLOCK GENERATOR ICS 951402 — PAGE 11
14.318MHz
HCLK_CPU/HCLK_CPU#
HCLK_NB/HCLK_NB#
NB_DDRCLK
AGPCLK
CLK_ALINK_SB
REFCLK1_NB
CLK_SB_14M

PSB 4X133MHZ

NORTH BRIDGE RC300ML
718 BGA
INTEGRADED VGA FUNCTION
PAGE 5, 6, 7, 8, 9, 10

CRT port — PAGE 14 — R.G,B — To P/R
LCD CONN — PAGE 14 — LVDS
S-VIDO — PAGE 14 — TV-OUT

DDR I/F 2.5V, 333/400MHz
DDR-SODIMM1 — PAGE 11,12
DDR-SODIMM2 — PAGE 11,12

ALINK 66MHZ

PCI BUS ROUTING TABLE
VGA -- INTA#
PCMCIA -- AD17, INTB#, INTC#, REQ0#, GNT0#
MINIPCI -- AD18, INTC#, INTD#, REQ1#, GNT1#
LAN -- AD16, INTD#, REQ2#, GNT2#

USB PORT 0
USB PORT 2,3 — PAGE 25 — USB 2.0 * 4
1st IDE - HDD — PAGE 24 — ATA 66/100
2nd IDE - CDROM — PAGE 24 — ATA 66/100

SOUTH BRIDGE IXP150
457 BGA
INTEGRADED PCI-CLK FUNCTION
PAGE 13, 14, 17, 18

33MHZ, 3.3V PCI
AC-LINK

PORT-REPLICATOR — PAGE 33
DC Jack
CRT port
H/P jacks
Ethernet port
PS/2 port
USBx2(4,5)
Parallel port
Serial port
USB 2.0 * 2

RTC Power — PAGE 23

3.3V LPC, 33MHz

FIR — PAGE 32 — To P/R
SIO PC87383 MTDPA-64P — PAGE 32 — COM*1, PRT*1

PC97551VPC
TQFP 176S
PAGE 29
PS/2 Interface

AMCODEC CONEXANT 20468-31 — PAGE 27
MODEM DAA CONEXANT 20463-31 — PAGE 27
WIRE
LAN Realtek 8110S/8100C — PAGE 21
MINI-PCI WIRELESS LAN — PAGE 26
CARDBUS CONTROLLER (EMBEDDED CARDER I/F) TI 7411/TI6411 — PAGE 19

MIC IN JACK — PAGE 28
AMP TPA0212 — PAGE 28
To P/R
To P/R
H/P JACK — PAGE 28
RJ45 JACK
RJ11 JACK

CARDBUS SLOT — PAGE 20
CAREADER CONN.(3*1) — PAGE 20
1394 CONN — PAGE 19

FAN — PAGE 31
Touchpad — PAGE 31
Keyboard — PAGE 30
FLASH — PAGE 29
SWITCH & LED — PAGE 30

PROJECT : KN3
Quanta Computer Inc.

Size	Document Number	Rev
Custom	BLOCK DIAGRAM	2A
Date: Friday, May 21, 2004	Sheet 1 of 39	

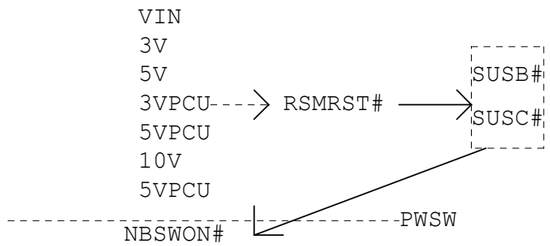
SYSTEM INFORMATION

02

Voltage Rails	Core voltage for Processor	ON S0~S1	ON S3	ON S4	ON S5	Control signal
VCC_CORE	Core voltage for Processor	X				VR_ON
SMDDR_VREF	1.25V for DDR Reference voltage	X	X			SUSON
SMDDR_VTERM	1.25V for DDR Termination voltage	X				MAINON
1.5V		X				MAINON
1.8V		X				MAINON
2.5VSUS		X	X			SUSON
2.5V		X				MAINON
2.5VPCU		X	X	X	X	VL
3VPCU		X	X	X	X	VL
3VSUS		X	X			SUSON
3V		X				MAINON
5VPCU		X	X	X	X	VL
5VSUS		X	X			SUSON
5V		X				MAINON

PCI DEVICE	IDSEL#	REQ/GNT#	Interrupts
LAN(10/100)	AD16	3/3	INTD#
CARDBUS	AD17	1/1	INTB#, INTC#
MINI-PCI	AD18		INTC#, INTD#

POWER SEQUENCE



S5_ON
SUSON
SUS-POWER (2.5VSUS.....etc)
MAINON
S0-POWER (3V,5V.....etc)
CPU_VIDPGD
*** VCORE_PGD_CPU
*** HWPG
NB_PWRGD
PWROK
NB_RST#
CPUPWRGD
NB_RST#
CPURST#

PROJECT : KN3
Quanta Computer Inc.

Size	Document Number	Rev
Custom	SYSTEM INFORMATION	2A
Date: Friday, May 21, 2004	Sheet 2 of 39	

NORTHWOOD/Mobile-PRESCOTT CPU - HOST BUS

03

U35A

PRESCOTT
1 0F 3

NORTHWOOD/Mobile-PRESCOTT

REQUEST PHASE SIGNALS
ERROR SIGNALS
ARBITRATION PHASE SIGNALS
SNOOP PHASE SIGNALS
RESPONSE PHASE SIGNALS
ITP
PC COMPATIBILITY SIGNALS
EXECUTION CONTROL SIGNALS
THERMAL DIODE
DATA PHASE SIGNALS

(5) HA#[3..31] — HA#[3..31]
HA#3 K2 A3#
HA#4 K4 A4#
HA#5 L6 A5#
HA#6 K1 A6#
HA#7 L3 A7#
HA#8 M6 A8#
HA#9 L2 A9#
HA#10 M3 A10#
HA#11 M4 A11#
HA#12 N1 A12#
HA#13 M1 A13#
HA#14 N2 A14#
HA#15 N4 A15#
HA#16 N5 A16#
HA#17 T1 A17#
HA#18 R2 A18#
HA#19 P3 A19#
HA#20 P4 A20#
HA#21 R3 A21#
HA#22 T2 A22#
HA#23 U1 A23#
HA#24 P6 A24#
HA#25 U3 A25#
HA#26 T4 A26#
HA#27 V2 A27#
HA#28 R6 A28#
HA#29 W1 A29#
HA#30 T5 A30#
HA#31 U4 A31#
V3 A32#
W2 A33#
Y1 A34#
AB1 A35#

(5) HADSTB0# L5 ADSTB0#
(5) HADSTB1# R5 ADSTB1#

(5) HREQ#0 J1 REQ0#
(5) HREQ#1 K5 REQ1#
(5) HREQ#2 J4 REQ2#
(5) HREQ#3 J3 REQ3#
(5) HREQ#4 H3 REQ4#

(5) ADS# G1 ADS#

AC1 AP0#
V5 AP1#
AA3 BINIT#
H_IERR# AC3 IERR#

HBREQ0# — HBREQ0# R742 *0 — HBREQ# H6 BR0#

(5) BPRI# D2 BPRI#
(5) BNR# G2 BNR#
(5) HLOCK# G4 LOCK#

(5) HIT# F3 HIT#
(5) HITM# E3 HITM#
(5) DEFER# E2 DEFER#

(5) HTRDY# J6 TRDY#
(5) RS#0 F1 RS0#
(5) RS#1 G5 RS1#
(5) RS#2 F4 RS2#
AB2 RSP#

BPM0# AC6 BPM0#
BPM1# AB5 BPM1#
AC4 BPM2#
Y6 BPM3#
BPM4# AA5 BPM4#/ITP_PRDY#
BPM5# AB4 BPM5#/ITP_PREQ#
ITP_TDO D5 TDO
ITP_TDI C1 TDI
ITP_TMS E7 TMS
ITP_TRST# E6 TRST#
ITP_TCK D4 TCK
ITP_CLK AC26 ITP_CLK0
ITP_CLK# AD26 ITP_CLK1
ITP_DBR# AE25 DBRESET#

(15) A20M# — A20M# C6 A20M#
FERR# R B6 FERR#
(15) IGNNE# — IGNNE# B2 IGNNE#
(15) CPUPWRGD — CPUPWRGD AB23 PWRGOOD
(15) SMI# — SMI# B5 SMI#
(15) CPUINIT# — CPUINIT# W5 INIT#
(15) CPU_SLP# — CPU_SLP# AB26 SLP#

(15) STPCLK# — STPCLK# Y4 STPCLK#
(15) INTR — INTR D1 INTR/LINT0
(15) NMI — NMI E5 NMI/LINT1

THERMDA B3 THERMDA
THERMDC C4 THERMDC
THERMTRIP# A2 THERMTRIP#
(34) CPUPROCHOT# — CPUPROCHOT# C3 PROCHOT#

HD#[0..63] — HD#[0..63] (5)

D0# B21 HD#0
D1# B22 HD#1
D2# A23 HD#2
D3# A25 HD#3
D4# C21 HD#4
D5# D22 HD#5
D6# B24 HD#6
D7# C23 HD#7
D8# C24 HD#8
D9# B25 HD#9
D10# G22 HD#10
D11# H21 HD#11
D12# C26 HD#12
D13# D23 HD#13
D14# J21 HD#14
D15# D25 HD#15
D16# H22 HD#16
D17# E24 HD#17
D18# G23 HD#18
D19# F23 HD#19
D20# F24 HD#20
D21# E25 HD#21
D22# F26 HD#22
D23# D26 HD#23
D24# L21 HD#24
D25# G26 HD#25
D26# H24 HD#26
D27# M21 HD#27
D28# L22 HD#28
D29# J24 HD#29
D30# K23 HD#30
D31# H25 HD#31
D32# M23 HD#32
D33# N22 HD#33
D34# P21 HD#34
D35# M24 HD#35
D36# N23 HD#36
D37# M26 HD#37
D38# N26 HD#38
D39# N25 HD#39
D40# R21 HD#40
D41# P24 HD#41
D42# R25 HD#42
D43# R24 HD#43
D44# T26 HD#44
D45# T25 HD#45
D46# T22 HD#46
D47# T23 HD#47
D48# U26 HD#48
D49# U24 HD#49
D50# U23 HD#50
D51# V25 HD#51
D52# U21 HD#52
D53# V22 HD#53
D54# V24 HD#54
D55# W26 HD#55
D56# Y26 HD#56
D57# W25 HD#57
D58# Y23 HD#58
D59# Y24 HD#59
D60# Y21 HD#60
D61# AA25 HD#61
D62# AA22 HD#62
D63# AA24 HD#63

DBI0# E21 HDBI0# (5)
DBI1# G25 HDBI1# (5)
DBI2# P26 HDBI2# (5)
DBI3# V21 HDBI3# (5)

DSTBN0# E22 HDSTBN0# (5)
DSTBP0# F21 HDSTBP0# (5)
DSTBN1# K22 HDSTBN1# (5)
DSTBP1# J23 HDSTBP1# (5)
DSTBN2# R22 HDSTBN2# (5)
DSTBP2# P23 HDSTBP2# (5)
DSTBN3# W22 HDSTBN3# (5)
DSTBP3# W23 HDSTBP3# (5)

DBSY# H5 DBSY# (5)
DRDY# H2 DRDY# (5)

DP0# J26
DP1# K25
DP2# K26
DP3# L25
MCERR# V6

RESET# AB25 CPURST# — CPURST# (5)
BCLK1 AF23 HCLK_CPU# — HCLK_CPU# (13)
BCLK0 AF22 HCLK_CPU — HCLK_CPU (13)

VCC_CORE
R388 *51
B: R388 to NC.

H_IERR# R48 51
ITP_CLK R391 62/F
ITP_CLK# R393 62/F
HBREQ# R96 51
CPUPWRGD R387 300/F

VCC_CORE
A20M# R100 200
IGNNE# R105 200
SMI# R101 200
CPU_SLP# R390 200
STPCLK# R61 200
INTR R107 200
NMI R103 200
CPUINIT# R70 200

5V 3V
R395 10K R260 10K
(29,34) MBCLK — MBCLK 3 Q37 2N7002E 1 CLK_SMB
5V
(29,34) MBDATA — MBDATA 3 Q38 2N7002E 1 DAT_SMB

CPU Thermal Sensor.

C190 .1U 6657VCC R114 100/F 3V
U10
VCC SMBC CLK_SMB
DXP SMBD DAT_SMB
THERMDA DXN ALERT# TEMP_ALARM# (16)
C180 2200P THERMDC OVERT# GND
(37) 1999RESET#
GMT_G781/MAX6657
SOIC8
Route both signals on the same layer
Address : 4C

VCC_CORE VCC_CORE 3VSUS
B: Change R89 from 51 to 10K.
B: Change R87 from 1K to 10K.
R89 10K R87 10K
CPUPROCHOT# Q14 DTC144EUA PROCHOT# (16,29)
B: Change Q14 from BT3904 to DTC144 & Delete R88.

VCC_CORE VCC_CORE 3VSUS
R90 56 R94 10K R95 10K
THERMTRIP# Q16 MMBT3904 THERMTRIP_SIO# (16)

VCC_CORE VCC_CORE 3VSUS
R92 51 R91 10K R93 10K
FERR# R Q15 MMBT3904 FERR# (15)

VCC_CORE
ITP_TDI R110 150/F
ITP_TMS R119 39/F
ITP_TDO R118 75/F
3V
ITP_DBR# R45 150/F
ITP_TCK R258 27.4/F

ITP_TRST# R99 680

VCC_CORE
BPM0# R50 51
BPM1# R59 51
BPM4# R60 51
BPM5# R49 51

Close to CPU

PROJECT : KN3
Quanta Computer Inc.

Size	Document Number	Rev
Custom	PRESCOTT(HOST BUS)	2A
Date: Friday, May 21, 2004	Sheet 3 of 39	

NORTHWOOD/Mobile-PRESCOTT CPU - PWR/GND

04

VCC_CORE
C174 .47U/10V 10V X7R
C93 .47U/10V 10V X7R
C82 .47U/10V 10V X7R
C171 .47U/10V 10V X7R

VCC_CORE
C173 .47U/10V 10V X7R
C187 .47U/10V 10V X7R
C185 .47U/10V 10V X7R
C92 .47U/10V 10V X7R

VCC_CORE
C95 .47U/10V 10V X7R
C169 .47U/10V 10V X7R
C170 .47U/10V 10V X7R
C97 .47U/10V 10V X7R

VCC_CORE
C111 .47U/10V 10V X7R
C110 .47U/10V 10V X7R
C184 .47U/10V 10V X7R

VCC_CORE
C109 .47U/10V 10V X7R
C178 .47U/10V 10V X7R
C106 .47U/10V 10V X7R
C96 .47U/10V 10V X7R

VCC_CORE
C94 .47U/10V 10V X7R
C108 .47U/10V 10V X7R
C105 .47U/10V 10V X7R

VCC_CORE
C44 10U/6.3V X5R
C38 10U/6.3V X5R
C39 10U/6.3V X5R
C71 10U/6.3V X5R
C43 10U/6.3V X5R

VCC_CORE
C45 10U/6.3V X5R
C49 10U/6.3V X5R
C34 10U/6.3V X5R
C59 10U/6.3V X5R

VCC_CORE
C91 .47U/10V 10V X7R
C168 .47U/10V 10V X7R
C182 .47U/10V 10V X7R
C186 .47U/10V 10V X7R

VCC_CORE
C183 .47U/10V 10V X7R
C175 .47U/10V 10V X7R
C172 .47U/10V 10V X7R
C107 .47U/10V 10V X7R

VCC_CORE
C37 10U/6.3V X5R
C50 10U/6.3V X5R
C60 10U/6.3V X5R
C72 10U/6.3V X5R
C161 10U/6.3V X5R
C58 10U/6.3V X5R
C33 10U/6.3V X5R

VCC_CORE
C123 10U/6.3V X5R
C138 10U/6.3V X5R
C162 10U/6.3V X5R
C70 10U/6.3V X5R
C131 10U/6.3V X5R
C134 10U/6.3V X5R
C154 10U/6.3V X5R

3V
RP3
2 4 6 8
1 3 5 7
CPU_VID0
CPU_VID1
CPU_VID2
CPU_VID3
8P4R-1K
R40 1K CPU_VID4
R33 1K CPU_VID5

(13,16,35) CPU_VIDPGD
(35) CPU_VID0
(35) CPU_VID1
(35) CPU_VID2
(35) CPU_VID3
(35) CPU_VID4
(35) CPU_VID5
B: Del R36
VCCVID
C81 .1U

(35) VCCSENSE
(35) VSSSENSE

VCC_CORE
R41 *1K
R743 *1K
SELECT
SELECT (35)
B: R743 to NC.

NORTHWOOD/PRESCOOT REQUIRED

VCC_CORE
R855 62/F
R84 200
(16) CPU_GHI#
(15) DPSLP#_CPU
B: Delete R47

VCC_CORE
L7 4.7UH
L6 4.7UH
C546 33U_10V
C554 33U_10V
RL_CPU_PLL
RL_CPU_VCCA
R71 49.9/F
VAGTLREF1
R65 86.6/F
C129 1U/10V
C122 220P
C113 220P
The 220p needs to close to CPU AA21 pin.
0.63VCC_VORE of GTLREF voltage for Prescott CPU .

R74 61.9/F CPU_COMP0
R73 61.9/F CPU_COMP1

(10,13) BSEL0
(10,13) BSEL1

U35B

PRESCOTT 2 0F 3

VID

POWER

AD2	VIDPWRGD	
AE5	VID0	
AE4	VID1	
AE3	VID2	
AE2	VID3	
AE1	VID4	
AD3	VID5	
AF3	VCCVIDPRG	
AF4	VCCVID0	
A5	VCCSENSE	
A4	VSSSENSE	
AE23	VCCIOPLL	
AD20	VCCA	
AD22	VSSA	
AA21	GTLREF0	
AA6	GTLREF1	
F20	GTLREF2	
F6	GTLREF3	
L24	COMP0	
P1	COMP1	
AD24	TESTHI0	HTEST0
AA2	TESTHI1	HTEST1
AC21	TESTHI2	HTEST2
AC20	TESTHI3	HTEST3
AC24	TESTHI4	HTEST4
AC23	TESTHI5	HTEST5
AA20	TESTHI6	HTEST6
AB22	TESTHI7	HTEST7
U6	TESTHI8	HTEST8
W4	TESTHI9	HTEST9
Y3	TESTHI10	HTEST10
A6	CPUPERF#	
AD25	DPSLP# CPU	
A22	NC	
A7	NC	
AE21	NC	
AF24	NC	
AF25	NC	
AD6	BSEL0	
AD5	BSEL1	

VCC_CORE

A10	VCC0	
A12	VCC1	
A14	VCC2	
A16	VCC3	
A18	VCC4	
A20	VCC5	
A8	VCC6	
AA10	VCC7	
AA12	VCC8	
AA14	VCC9	
AA16	VCC10	
AA18	VCC11	
AA8	VCC12	
AB11	VCC13	
AB13	VCC14	
AB15	VCC15	
AB17	VCC16	
AB19	VCC17	
AB7	VCC18	
AB9	VCC19	
AC10	VCC20	
AC12	VCC21	
AC14	VCC22	
AC16	VCC23	
AC18	VCC24	
AC8	VCC25	
AD11	VCC26	
AD13	VCC27	
AD15	VCC28	
AD17	VCC29	
AD19	VCC30	
AD7	VCC31	
AD9	VCC32	
AE10	VCC33	
AE12	VCC34	
AE14	VCC35	
AE16	VCC36	
AE18	VCC37	
AE20	VCC38	
AE6	VCC39	
AE8	VCC40	
AF11	VCC41	
AF13	VCC42	
AF15	VCC43	
AF17	VCC44	
AF19	VCC45	
AF2	VCC46	
AF21	VCC47	
AF5	VCC48	
AF7	VCC49	
AF9	VCC50	
B11	VCC51	
B13	VCC52	
B15	VCC53	
B17	VCC54	
B19	VCC55	
B7	VCC56	
B9	VCC57	
C10	VCC58	
C12	VCC59	
C14	VCC60	
C16	VCC61	
C18	VCC62	
C20	VCC63	
C8	VCC64	
D11	VCC65	
D13	VCC66	
D15	VCC67	
D17	VCC68	
D19	VCC69	
D7	VCC70	
D9	VCC71	
E10	VCC72	
E12	VCC73	
E14	VCC74	
E16	VCC75	
E18	VCC76	
E20	VCC77	
E8	VCC78	
F11	VCC79	
F13	VCC80	
F15	VCC81	
F17	VCC82	
F19	VCC83	
F9	VCC84	

NORTHWOOD/Mobile-PRESCOTT

VCC_CORE
RP2 56X4
HTEST7 HTEST1 HTEST2 HTEST3
RP1 56X4
HTEST4 HTEST5 HTEST0 HTEST6
RP4 56X4
HTEST10 HTEST8 HTEST9

U35C

PRESCOTT 3 0F 3

GROUND

D14	VSS100	
D16	VSS101	
D18	VSS102	
D20	VSS103	
D21	VSS104	
D24	VSS105	
D3	VSS106	
D6	VSS107	
D8	VSS108	
E1	VSS109	
E11	VSS110	
E13	VSS111	
E15	VSS112	
E17	VSS113	
E19	VSS114	
E23	VSS115	
E26	VSS116	
E4	VSS117	
E7	VSS118	
E9	VSS119	
F10	VSS120	
F12	VSS121	
F14	VSS122	
F16	VSS123	
F18	VSS124	
F2	VSS125	
F22	VSS126	
F25	VSS127	
F5	VSS128	
F8	VSS129	
G21	VSS130	
G24	VSS131	
G3	VSS132	
G6	VSS133	
J2	VSS138	
J22	VSS139	
J25	VSS140	
J5	VSS141	
K21	VSS142	
K24	VSS143	
K3	VSS144	
K6	VSS145	
L1	VSS146	
L23	VSS147	
L26	VSS148	
L4	VSS149	
M2	VSS150	
M22	VSS151	
M25	VSS152	
M5	VSS153	
N21	VSS154	
N24	VSS155	
N3	VSS156	
N6	VSS157	
P2	VSS158	
P22	VSS159	
P25	VSS160	
P5	VSS161	
R1	VSS162	
R23	VSS163	
R26	VSS164	
R4	VSS165	
T21	VSS166	
T24	VSS167	
T3	VSS168	
T6	VSS169	
U2	VSS170	
U22	VSS171	
U25	VSS172	
U5	VSS173	
V1	VSS174	
V23	VSS175	
V26	VSS176	
V4	VSS177	
W21	VSS178	
W24	VSS179	
W3	VSS180	
W6	VSS181	
Y2	VSS182	
Y22	VSS183	
Y25	VSS184	
Y5	VSS185	
D12	VSS99	
D10	VSS98	
C9	VSS97	
C7	VSS96	
C5	VSS95	
H1	VSS0	
H4	VSS1	
H23	VSS2	
H26	VSS3	
A11	VSS4	
A13	VSS5	
A15	VSS6	
A17	VSS7	
A19	VSS8	
A21	VSS9	
A24	VSS10	
A26	VSS11	
A3	VSS12	
A9	VSS13	
AA1	VSS14	
AA11	VSS15	
AA13	VSS16	
AA15	VSS17	
AA17	VSS18	
AA19	VSS19	
AA23	VSS20	
AA26	VSS21	
AA4	VSS22	
AA7	VSS23	
AA9	VSS24	
AB10	VSS25	
AB12	VSS26	
AB14	VSS27	
AB16	VSS28	
AB18	VSS29	
AB20	VSS30	
AB21	VSS31	
AB24	VSS32	
AB3	VSS33	
AB6	VSS34	
AB8	VSS35	
AC11	VSS36	
AC13	VSS37	
AC15	VSS38	
AC17	VSS39	
AC19	VSS40	
AC2	VSS41	
AC22	VSS42	
AC25	VSS43	
AC5	VSS44	
AC7	VSS45	
AC9	VSS46	
AD1	VSS47	SELECT
AD10	VSS48	
AD12	VSS49	
AD14	VSS50	
AD16	VSS51	
AD18	VSS52	
AD21	VSS53	
AD23	VSS54	
AD4	VSS55	
AD8	VSS56	
AE11	VSS57	
AE13	VSS58	
AE15	VSS59	
AE17	VSS60	
AE19	VSS61	
AE22	VSS62	
AE24	VSS63	
AE26	VSS64	
AE7	VSS65	
AE9	VSS66	
AF1	VSS67	
AF10	VSS68	
AF12	VSS69	
AF14	VSS70	
AF16	VSS71	
AF18	VSS72	
AF20	VSS73	
AF26	SKTOCC#	
AF6	VSS75	
AF8	VSS76	
B10	VSS77	
B12	VSS78	
B14	VSS79	
B16	VSS80	
B18	VSS81	
B20	VSS82	
B23	VSS83	
B26	VSS84	
B4	VSS85	
B8	VSS86	
C11	VSS87	
C13	VSS88	
C15	VSS89	
C17	VSS90	
C19	VSS91	
C2	VSS92	
C22	VSS93	
C25	VSS94	

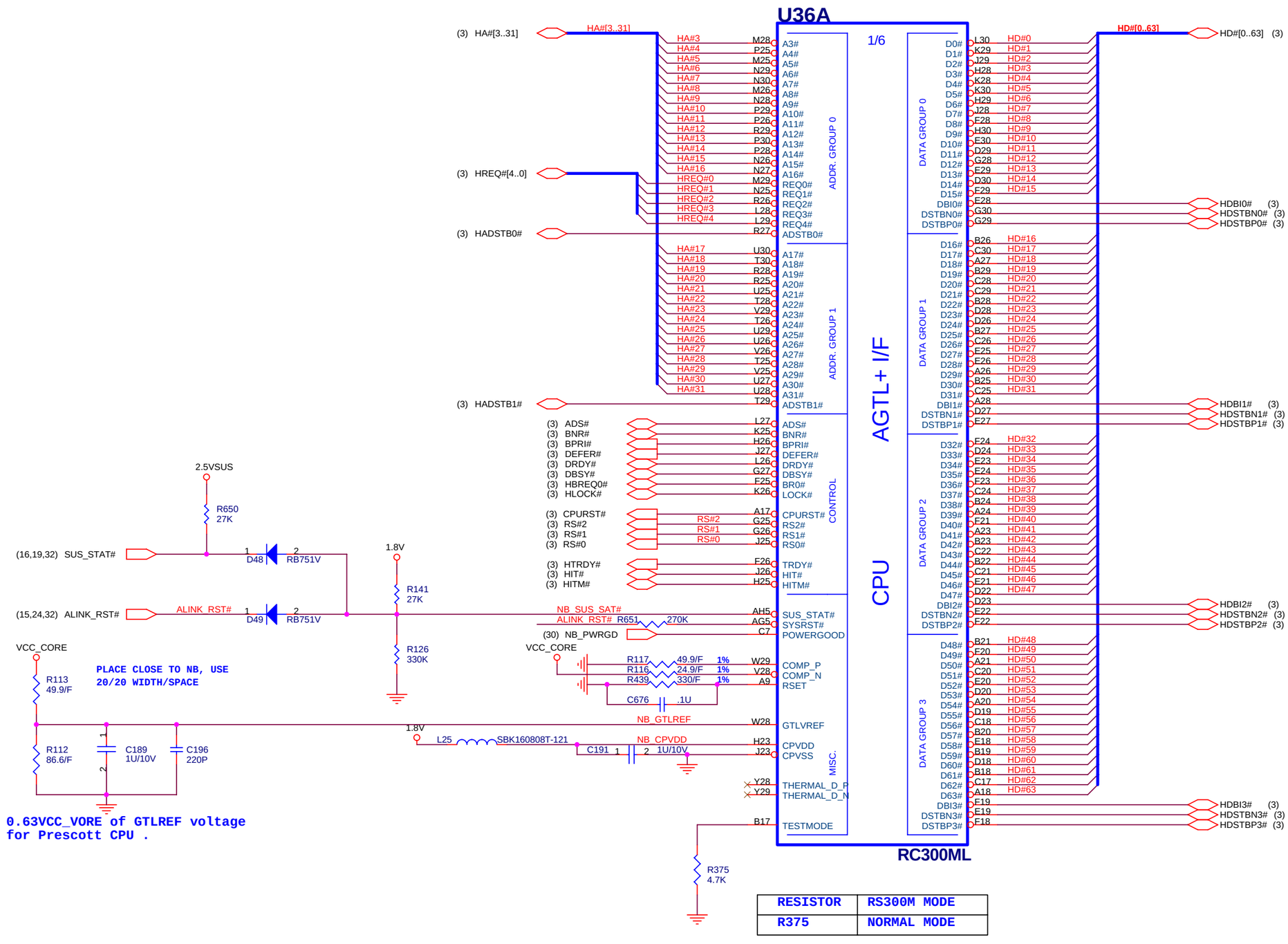
R46 *100/F

PROJECT : KN3
Quanta Computer Inc.

Size	Document Number	Rev
Custom	PRESCOTT(POWER/NC)	2A
Date: Friday, May 21, 2004	Sheet 4 of 39	

NorthBridge-ATI RC300M - AGTL+ I/F

05



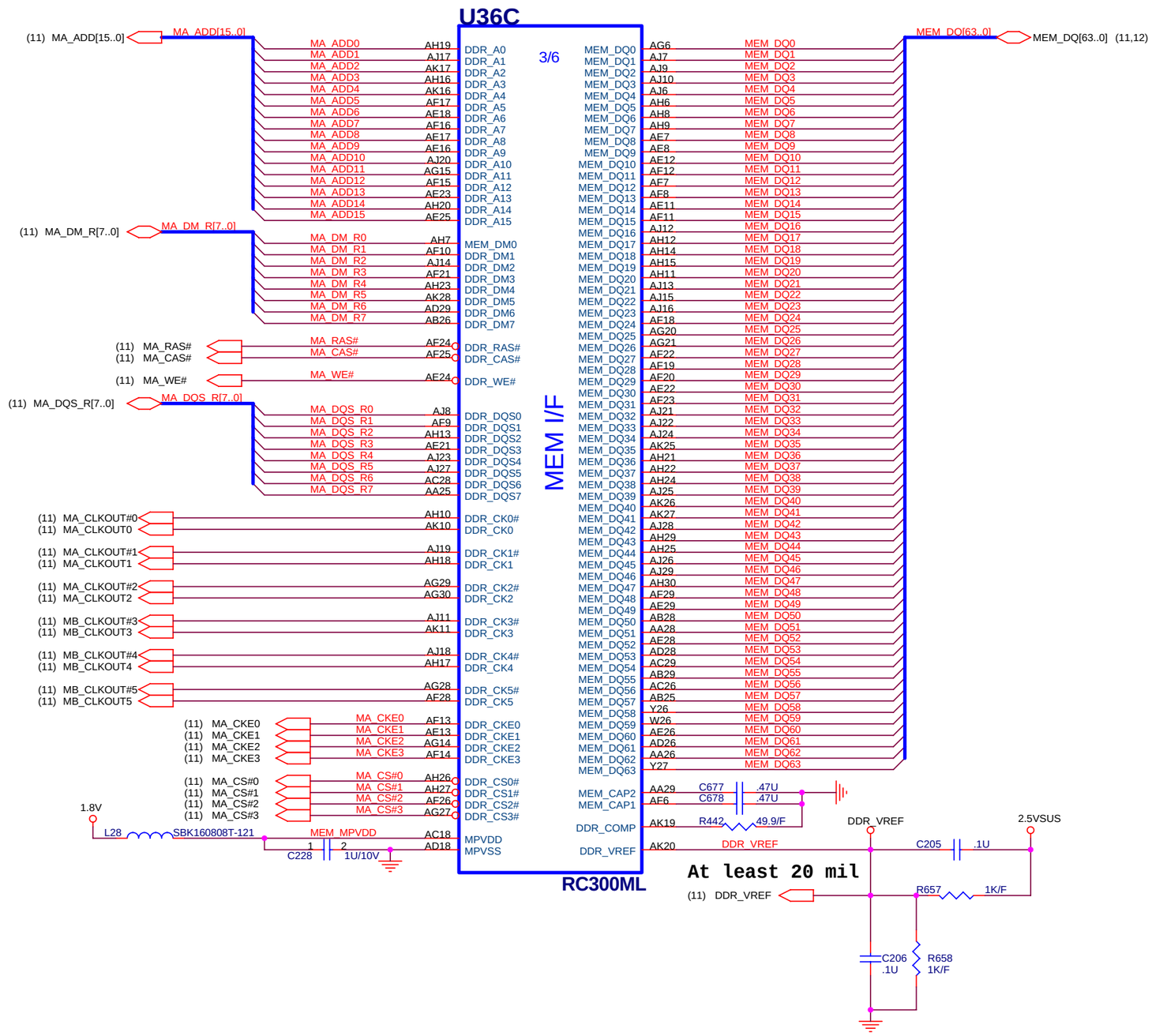
RESISTOR	RS300M MODE
R375	NORMAL MODE

PROJECT : KN3
Quanta Computer Inc.

Size	Document Number	Rev
Custom	RC300M-AGTL+ I/F	2A
Date: Friday, May 21, 2004	Sheet 5 of 39	

NorthBridge-ATI RC300ML-DDR I/F

06



PROJECT : KN3

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Size	Document Number	Rev
Custom	RC300ML-DDR I/F	2A
Date: Friday, May 21, 2004	Sheet 6 of 39	

NorthBridge-ATI RC300ML-AGP & A_LINK I/F

07

U36B

2/6

A_LINK/AGP I/F

A_LINK I/F

AGP8X I/F

RC300ML

(10,15) A_AD[31..0] — A_AD[31..0]

A_AD0 AK5 — A_AD0 — AGP_AD0 Y2
A_AD1 AJ5 — A_AD1 — AGP_AD1 W3
A_AD2 AJ4 — A_AD2 — AGP_AD2 W2
A_AD3 AH4 — A_AD3 — AGP_AD3 V3
A_AD4 AJ3 — A_AD4 — AGP_AD4 V2
A_AD5 AJ2 — A_AD5 — AGP_AD5 V1
A_AD6 AH2 — A_AD6 — AGP_AD6 U1
A_AD7 AH1 — A_AD7 — AGP_AD7 U3
A_AD8 AG2 — A_AD8 — AGP_AD8 T2
A_AD9 AG1 — A_AD9 — AGP_AD9 R2
A_AD10 AG3 — A_AD10 — AGP_AD10 P3
A_AD11 AF3 — A_AD11 — AGP_AD11 P2
A_AD12 AF1 — A_AD12 — AGP_AD12 N3
A_AD13 AF2 — A_AD13 — AGP_AD13 N2
A_AD14 AF4 — A_AD14 — AGP_AD14 M3
A_AD15 AE3 — A_AD15 — AGP_AD15 M2
A_AD16 AE4 — A_AD16 — AGP_AD16 L1
A_AD17 AE5 — A_AD17 — AGP_AD17 L2
A_AD18 AE6 — A_AD18 — AGP_AD18 K3
A_AD19 AC2 — A_AD19 — AGP_AD19 K2
A_AD20 AC4 — A_AD20 — AGP_AD20 J3
A_AD21 AB3 — A_AD21 — AGP_AD21 J2
A_AD22 AB2 — A_AD22 — AGP_AD22 J1
A_AD23 AB5 — A_AD23 — AGP_AD23 H3
A_AD24 AB6 — A_AD24 — AGP_AD24 F3
A_AD25 AA2 — A_AD25 — AGP_AD25 G2
A_AD26 AA4 — A_AD26 — AGP_AD26 F2
A_AD27 AA5 — A_AD27 — AGP_AD27 F1
A_AD28 AA6 — A_AD28 — AGP_AD28 E2
A_AD29 Y3 — A_AD29 — AGP_AD29 E1
A_AD30 Y5 — A_AD30 — AGP_AD30 D2
A_AD31 Y6 — A_AD31 — AGP_AD31 D1

(15) A_C/BE#[3..0] — A_C/BE#[3..0]

A_C/BE#0 AG4 — A_CBE0# — AGP_SBSTB E5
A_C/BE#1 AE2 — A_CBE1# — AGP_SBSTB# E6
A_C/BE#2 AC3 — A_CBE2# — AGP_ADSTB0 T3
A_C/BE#3 AA3 — A_CBE3# — AGP_ADSTB0# U2
AGP_ADSTB1 G3
AGP_ADSTB1# H2

(10,15) A_PAR — AD5 — A_PAR — AGP_CBE#0 R3
(15) A_STROBE# — AC6 — A_FRAME# — AGP_CBE#1 M1
(15) A_ACAT# — AC5 — A_IRDY# — AGP_CBE#2 L3
(15) A_END# — AD2 — A_TRDY# — AGP_CBE#3 H1
(15) A_INTA# — W4 — A_INTA#
(15) A_DEVSEL# — AD3 — A_DEVSEL# — AGP_DEVSEL# R5
(15) A_OFF# — AD6 — A_STOP# — AGP_FRAME# P6
AGP_IRDY# P5
AGP_PAR T5

(15) A_SBREQ# — W5 — A_SBREQ# — AGP_PIPE#DBI_HI C1
(15) A_SBGNT# — W6 — A_SBGNT# — AGP_DBI_LO D3
AGP_RBF# N6
AGP_STOP# T6
AGP_TRDY# R6
AGP_WBF# N5

3V — R139 8.2K — V5 A_REQ0# — AGP_SBA0 C3 SBA0
V6 A_GNT0# — AGP_SBA1 C2 SBA1
AGP_SBA2 D4 SBA2
AGP_SBA3 E4 SBA3
AGP_SBA4 F6 SBA4
AGP_SBA5 F5 SBA5
AGP_SBA6 G6 AGP_ST1_R
AGP_SBA7 G5 AGP_ST2_R

1.5V — R164 1K — R157 1K

AGP 4X

1.5V — R443 8.2K — K5 AGP_GNT# — AGP_ST0 L6
R444 8.2K — K6 AGP_REQ# — AGP_ST1 M6
R445 51 1% — J5 AGP_COMP — AGP_ST2 L5
R446 10K — M5 AGP8X_DET#
J6 AGP_VREF4X

PLACE THIS CAP CLOSE TO U200 AS POSSIBLE

3V — R710 *2.2K — R711 *2.2K — R712 *2.2K
R713 *2.2K — R714 *2.2K — R715 *2.2K

U64 *MK1707S

6 S0
7 S1
8 SD
AGP_ST1_R — R717 *33 — LVDS_SSOUT 1
AGP_ST2_R — R718 *33 — LVDS_SSIN_R 4
ICLK
CLK
VDD 2 — 3V — C826 *.1U
LEE 5 — R716 *0
GND 3

R716	LVDS SPECTRUM
OPEN	ENABLE
GND	DISABLE

5V — Q54 2N7002E — 1 — 3 — AGPSTP# (16)

5V — Q55 2N7002E — 1 — 3 — AGP_BUSY# (16)

3V — R144 4.7K — EDIDCLK (14)
3V — R149 4.7K — EDIDDATA (14)
DISP_ON (14)
BKLON (14)

3V — R152 2K
3V — R146 2K — BKLON
SBA2 — 2 — Q21 DTC144EUA — 3

PROJECT : KN3
Quanta Computer Inc.

Size	Document Number	Rev
Custom	RC300ML-AGP & A_LINK I/F	2A
Date: Friday, May 21, 2004	Sheet 7 of 39	

NorthBridge-ATI RC300ML-VIDEO I/F & CLKGEN

08

AVDD	DAC VDD (2.5V)
AVDDDI	DIGITAL VDD (1.8V)
AVDDQ	DAC2 BANDGAP REF (1.8V)
PLLVDD	PLL VDD (1.8V)

PUT 3vsus,2.5vsus,1_8v DECOUPLING CAPS ON THE BOTTOM, CLOSE TO BALLS

TERMINATION PLACE CLOSE TO U3

B: Delete R659,R660

B: Add C959,C960,Y11,R892

Y11 P/N ?

U36D 4/6

CLK. GEN.

RC300ML

Size	Document Number	Rev
Custom	RC300ML-VIDEO I/F & CLKGEN	2A

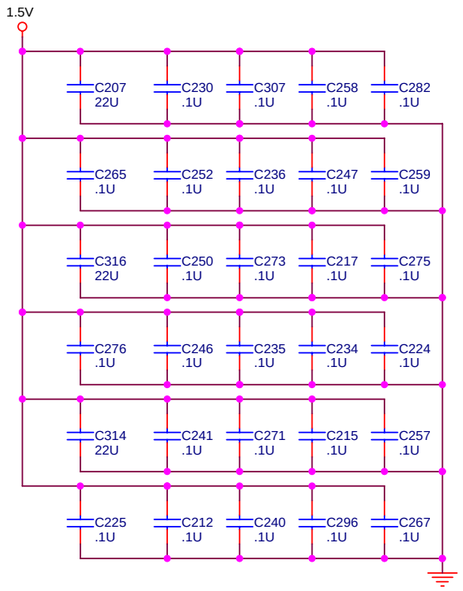
PROJECT : KN3

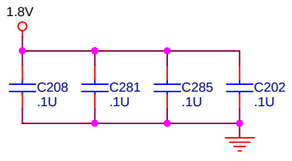
Quanta Computer Inc.

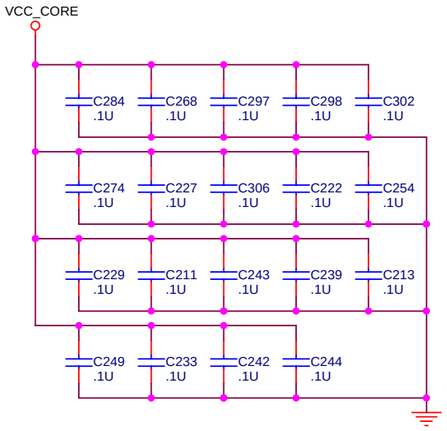
Date: Friday, May 21, 2004 Sheet 8 of 39

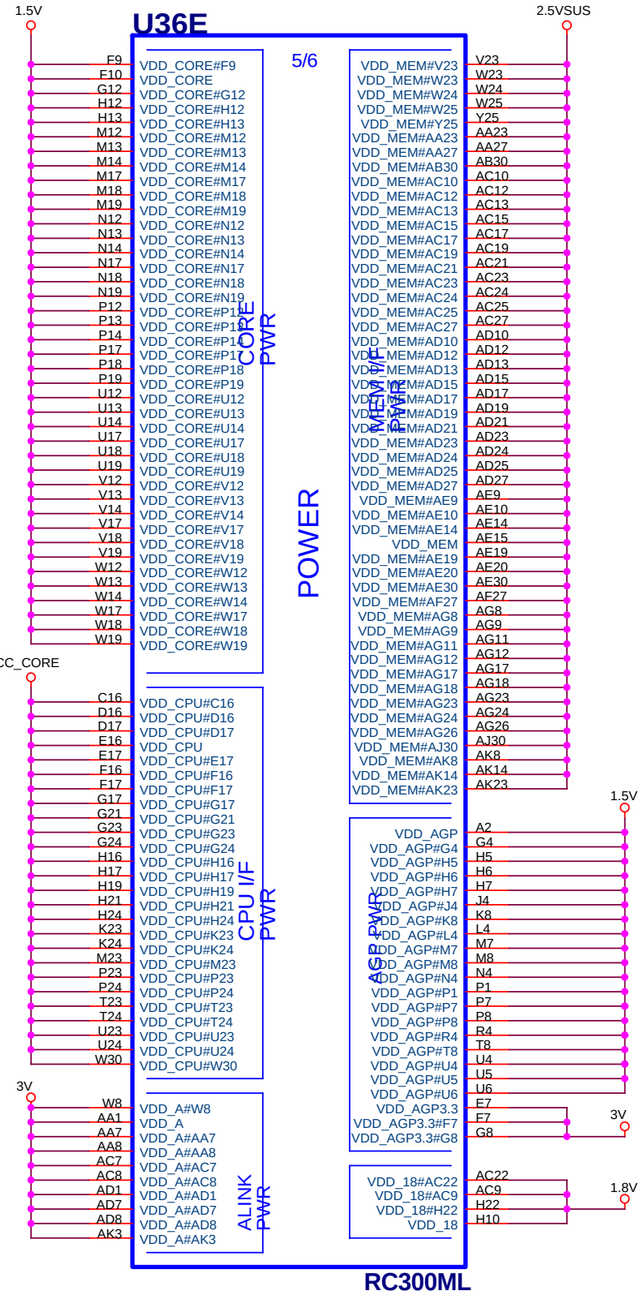
NorthBridge-ATI RC300ML-POWER

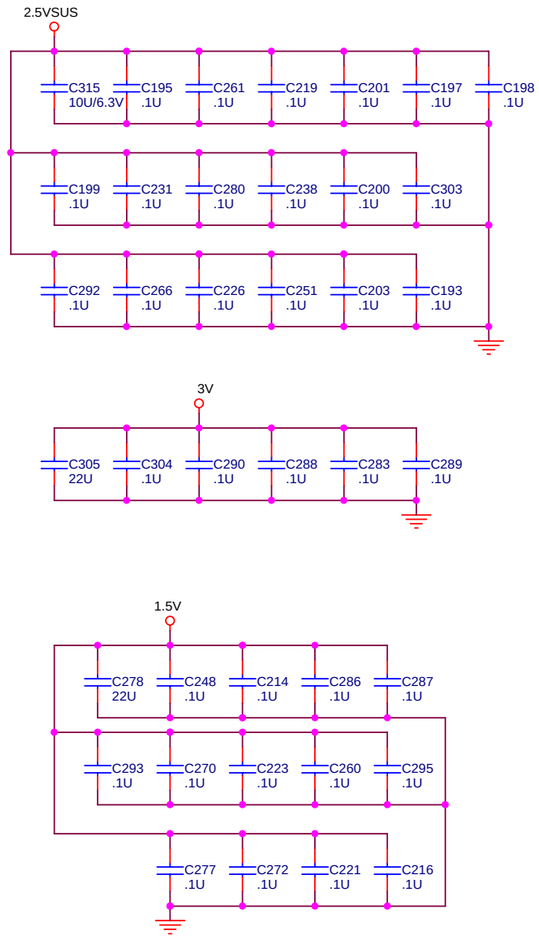
09

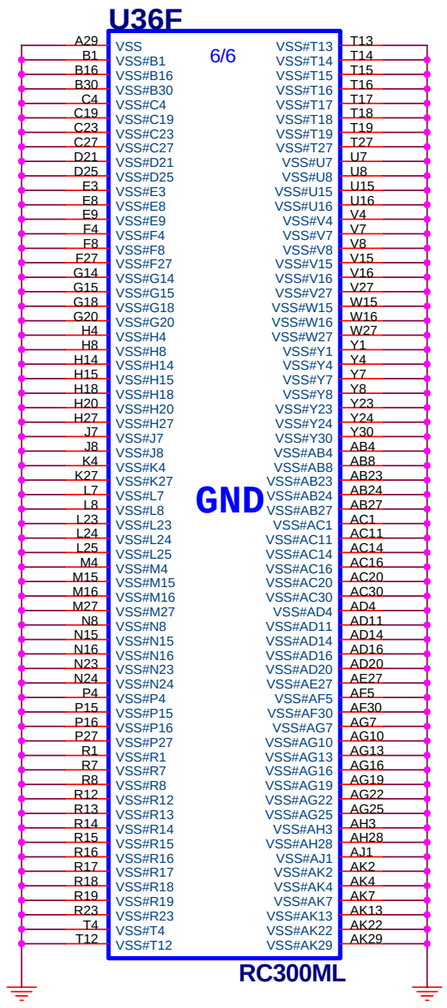


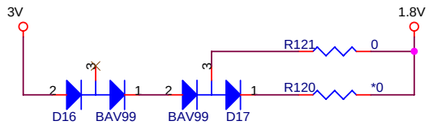












1.8V (NB) should ramp up with 3V, < 2.1V

PROJECT : KN3

Quanta Computer Inc.

Size	Document Number	Rev
Custom	RC300ML-POWER	2A
Date: Friday, May 21, 2004	Sheet 9 of 39	

NorthBridge-ATI RC300ML-STRAPS

FSB speed need to fixed by H/W setting .

A_AD31 — R155 4.7K — D51 (2 → 1) SW1010C — BSEL1 (4,13)
R163 10K — 3V

A_AD30 — R173 4.7K — D52 (2 → 1) SW1010C — BSEL0 (4,13)
R171 10K — 3V

AD[31..30] : FSB CLK SPEED

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

A_AD29 — R150 10K — 3V

AD29: STRAP CONFIGURATION

DEFAULT:1
- 0: REDUCEDE SET
- 1: FULL SET

A_AD28 — R174 4.7K

AD28: SPREAD SPECTRUM ENABLE

DEFAULT:0
- 0: DISABLE SS
- 1: ENABLE SS

A_AD27 — R151 10K — 3V

AD27: FrcShortReset#

DEFAULT: 1
- 0: TESTE MODE
- 1: NORMAL MODE

A_AD26 — R156 10K — 3V

AD26: ENABLE IOQ

DEFAULT : 1
- 0: IOQ=1
- 1: IOQ=12

A_AD25 — R140 10K — 3V

A_AD17 — R175 4.7K

AD25, AD17: CPU VOLTAGE [1], CPU VOLTAGE [0]

DEFAULT : 01
- 00: 1.05V (MOBILE CPU)
- 01: 1.35V (MOBILE CPU)
- 10: 1.45V (DESKTOP)
- 11: 1.75V (DESKTOP)

A_AD[31..0] — A_AD[31..0] (7,15)

A_AD24 — R159 10K — 3V

AD24 : MOBILE CPU SELECT

DEFAULT : 1
- 0: BANIAS CPU
- 1: NOT BANIAS CPU

A_AD23 — R158 10K — 3V

AD23 : CLOCK BYPASS DISABLE

DEFAULT : 1
- 0: TEST MODE
- 1: NORMAL OPERATION

A_AD22 — R134 10K — 3V

AD22 : OSC PAD OUTPUT PCICLK

DEFAULT : 1
- 0: OSC PIN DRIVES PCICLK
- 1: OSC PIN DRIVES OSC CLK

A_AD21 — R154 10K — 3V

AD21 : AUTO_CAL ENABLE

DEFAULT : 1
- 0: DISABLE AUTO-CAL
- 1: ENABLE AUTO-CAL

A_AD20 — R153 4.7K

AD20 : INTERNAL CLK GEN ENABLE

DEFAULT : 1
- 0: EXTERNAL CLOCK GENERATOR
- 1: INTERNAL CLOCK GENERATOR

A_AD19 — R362 *4.7K

AD19: MEMORY IO VOLTAGE SELECTION

DEFAULT : 1
- 0: 1.8V
- 1: 2.5V

A_AD18 — R161 4.7K

AD18 : ENABLE PHASE CALIBRATION

DEFAULT : 0
- 0: ENABLE
- 1: DISABLE

(7,15) A_PAR — A_PAR — R136 4.7K — 3V

PAR : EXTENDED DEBUG MODE

DEFAULT : 1
- 0: DEBUG MODE
- 1: NORMAI OPERATION

PROJECT : KN3
Quanta Computer Inc.

Size	Document Number	Rev
Custom	RC300ML-STRAPS	2A
Date: Friday, May 21, 2004	Sheet 10 of 39	

DDR SO-DIMM * 2

11

2.5VSUS

J2

SO-DIMM (Reverse)

SO_DIMM_200_pin_Reverse

J3

SO-DIMM (Reverse)

SO_DIMM_200_pin_Reverse_B

MA_DQS_R1 RP22 MDQS1
MA_DM_R1 M_DM1
MA_DM_R2 RP20 M_DM2
MA_DQS_R2 MDQS2
MA_DQS_R5 RP18 MDQS5
MA_DM_R5 M_DM5
MA_DQS_R7 RP16 MDQS7
MA_DM_R7 M_DM7

MA_DQS_R0 RP33 MDQS0
MA_DM_R0 M_DM0
MA_DQS_R3 RP31 MDQS3
MA_DM_R3 M_DM3
MA_DM_R4 RP29 M_DM4
MA_DQS_R4 MDQS4
MA_DM_R6 RP27 M_DM6
MA_DQS_R6 MDQS6

(6) MA_CKE3
(6) MA_CKE1
RP59 MMA_CKE3 MMA_CKE1

(6) MA_CS#2
(6) MA_CS#0
RP66 MMA_CS#2 MMA_CS#0

(6) MA_RAS#
(6) MA_CAS#
(6) MA_WE#

(13,16) SMBDATA
(13,16) SMBCLK

3V
R129 10K

C839 .1U
C840 .1U
C841 .1U
C842 .1U
C843 .1U
C844 .1U

C845 .1U
C846 .1U
C847 .1U
C848 .1U
C849 .1U
C850 .1U

(6,12) MEM_DQ[63..0]
(6) MA_ADD[15..0]
(6) MA_DM_R[7..0]
(6) MA_DQS_R[7..0]
(12) DDR_SMA[15..0]

MA_ADD14 RP51
MA_ADD0
MA_ADD12 RP67
MA_ADD6
MA_ADD8 RP53
MA_ADD11
MA_ADD2 RP54
MA_ADD4
MA_ADD3 RP55
MA_ADD5
MA_ADD7 RP56
MA_ADD9
MA_ADD15 RP65
MA_ADD13
MA_ADD10 RP58
MA_ADD1

(12) M_DM[7..0]
(12) MDQS[7..0]

(6) MB_CLKOUT4
(6) MB_CLKOUT#4
(6) MB_CLKOUT3
(6) MB_CLKOUT#3
(6) MB_CLKOUT5
(6) MB_CLKOUT#5

(6) MA_CKE2
(6) MA_CKE0
RP60 MMA_CKE2 MMA_CKE0

(6) MA_RAS#
(6) MA_CAS#
(6) MA_WE#
(6) MA_CS#1
(6) MA_CS#3
R653 10 MMA_RAS#
R652 10 MMA_CAS#
R654 10 MMA_WE#
R766 0 MMA_CS#1
R767 0 MMA_CS#3

3V
R138 4.7K
R131 4.7K

(13,16) SMBDATA
(13,16) SMBCLK

3V
R130 10K

C141 .1U
C148 .1U
DDR_VREF
DDR_VREF (6)

C139 .1U
C147 .1U
DDR_VREF

(12) MMA_CKE[3..0]
(12) MMA_CS#[3..0]
(12) MMA_RAS#
(12) MMA_CAS#
(12) MMA_WE#

MMA_CKE[3..0]
MMA_CS#[3..0]
MMA_RAS#
MMA_CAS#
MMA_WE#

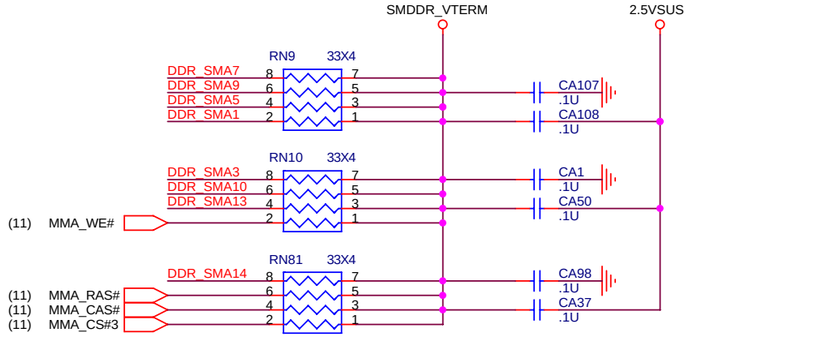
PROJECT : KN3
Quanta Computer Inc.

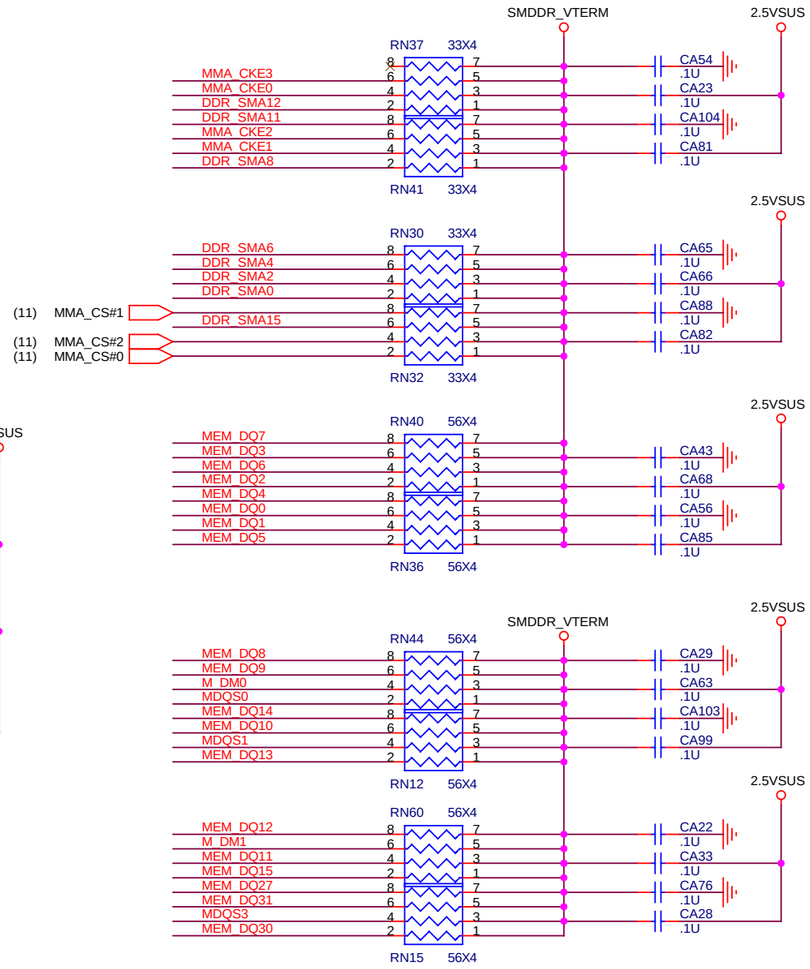
Size	Document Number	Rev
Custom	DDR SO-DIMM * 2	2A
Date: Friday, May 21, 2004	Sheet 11 of 39	

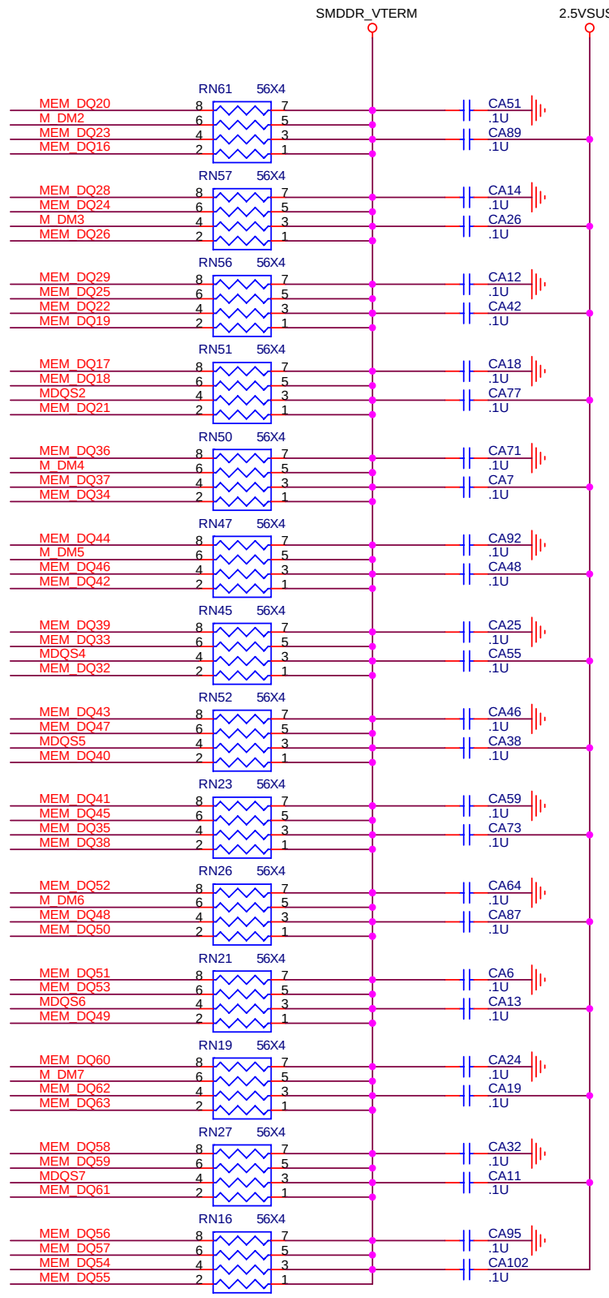
DDR TERMINATION

12

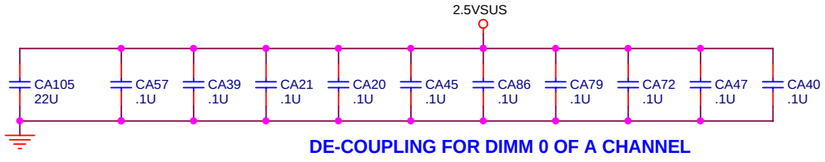
(11) DDR_SMA[15..0] — DDR_SMA[15..0]
(6,11) MEM_DQ[63..0] — MEM_DQ[63..0]
(11) M_DM[7..0] — M_DM[7..0]
(11) MDQS[7..0] — MDQS[7..0]
(11) MMA_CKE[3..0] — MMA_CKE[3..0]



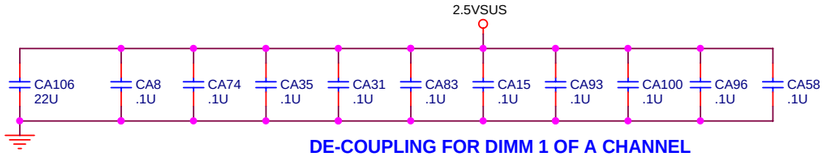




1) 2 DE-COUPLING CAPS PER RPAK
2) PLACE RPACKS&RESISTORS AFTER THE LAST DIMM



DE-COUPLING FOR DIMM 0 OF A CHANNEL

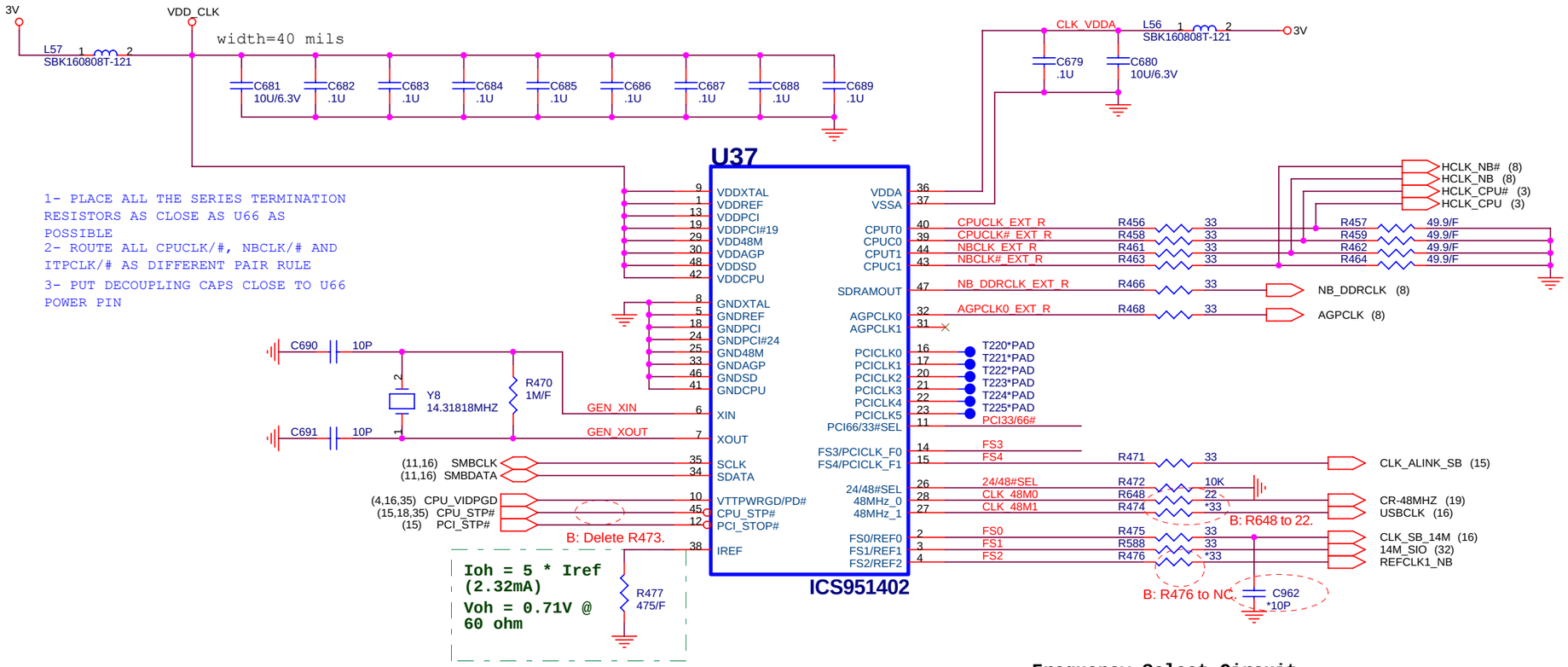


DE-COUPLING FOR DIMM 1 OF A CHANNEL

PROJECT : KN3
Quanta Computer Inc.

Size	Document Number	Rev
Custom	DDR TERMINATION	2A
Date: Friday, May 21, 2004	Sheet 12 of 39	

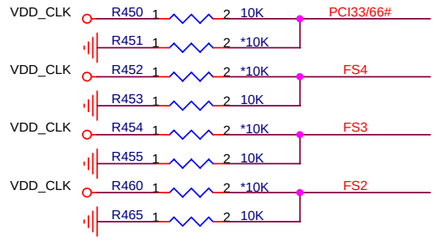
CLK GEN. & MEM CLK BUFFER



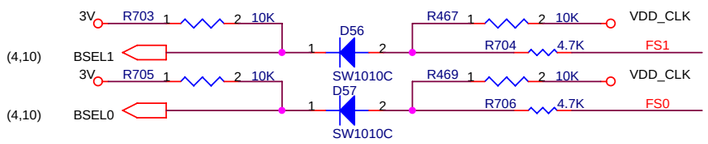
EXT CLK FREQUENCY SELECT TABLE(MHZ)

FS4	FS3	FS2	FS1	FS0	CPU	MEM	AGP	PCI	FS4	FS3	FS2	FS1	FS0	CPU	MEM	AGP	PCI
0	0	0	0	0	100.01	100.01	66.66	66.66	1	0	0	0	0	99.51	99.51	66.66	66.66
0	0	0	0	1	133.33	133.33	66.66	66.66	1	0	0	0	1	132.69	132.69	66.66	66.66
0	0	0	1	0	200.01	200.01	66.66	66.66	1	0	0	1	0	199.02	199.02	66.66	66.66
0	0	0	1	1	166.64	166.64	66.66	66.66	1	0	0	1	1	165.85	165.85	66.66	66.66
0	0	1	0	0	100.01	133.34	66.66	66.66	1	0	1	0	0	99.51	99.51	66.66	66.66
0	0	1	0	1	133.34	100.01	66.66	66.66	1	0	1	0	1	132.68	132.68	66.66	66.66
0	0	1	1	0	133.16	166.45	66.66	66.66	1	0	1	1	0	132.59	132.59	66.66	66.66
0	0	1	1	1	166.45	133.16	66.66	66.66	1	0	1	1	1	165.73	165.73	66.66	66.66
0	1	0	0	0	105.00	105.00	66.66	66.66	1	1	0	0	0	99.38	99.38	66.66	66.66
0	1	0	0	1	140.00	140.00	66.66	66.66	1	1	0	0	1	132.52	132.52	66.66	66.66
0	1	0	1	0	66.67	66.67	66.66	66.66	1	1	0	1	0	198.77	198.77	66.66	66.66
0	1	0	1	1	175.00	175.00	66.66	66.66	1	1	0	1	1	165.64	165.64	66.66	66.66
0	1	1	0	0	109.99	109.99	66.66	66.66	1	1	1	0	0	99.38	132.51	66.66	66.66
0	1	1	0	1	146.66	146.66	66.66	66.66	1	1	1	0	1	132.51	99.38	66.66	66.66
0	1	1	1	0	210.00	210.00	66.66	66.66	1	1	1	1	0	132.36	165.45	66.66	66.66
0	1	1	1	1	183.27	183.27	66.66	66.66	1	1	1	1	1	165.45	132.36	66.66	66.66

Frequency Select Circuit



INTERNAL PULL DOWN



PROJECT : KN3

Quanta Computer Inc.

Size	Document Number	Rev
Custom	CLK GEN. & MEM CLK BUFFER	2A
Date: Friday, May 21, 2004	Sheet 13 of 39	

CRT & LCD CONN

14

CH2

40 PIN LED: HDD, CD, MS, Power/Suspend, Charge/Full

S-VIDEO

CLOSE TO JTV1

B: Delete D100,D101,D102

B: Add V1,V2,V3 ,R893

Standard Norm

CRT PORT

SWITCHING BETWEEN SYSTEM AND PORT REPLICATOR

B: Change from 3V to 5V

PROJECT : KN3

Quanta Computer Inc.

Size	Document Number	Rev
Custom	CRT & LCD & S-VIDO CONN	2A
Date: Friday, May 21, 2004	Sheet 14 of 39	

IXP150-ALINK/PCI/CPU/LPC

LENGTH OF (PCI_CLK7_R + PCI_CLK7FB)
SHOULD BE AS SHORT AS POSSIBLE

PULL DOWN FOR S3

U17A

SB200 SB
Part 1 of 3

IXP150

(13) CLK_ALINK_SB → CLK_ALINK_SB → B22 PCICLKF
A_RST# → R22 A_RST#
(7,10) A_AD[0..31] → A_AD0..A_AD31 → H22, P23, L23, N23, N22, M23, M22, K22, M21, M20, L21, K21, L20, N21, K23, K20, F23, G21, F20, H21, F22, F21, G20, E21, E20, D23, D22, E22, D20, C23, D21, C22 A_AD0..A_AD31

CLK_ALINK_SB
R203 10
C364 15P

3V
R211 4.7K
CPURSTIN#

3V
R202 8.2K
A_SERR#

(7) A_C/BE#[3..0] → A_C/BE#[3..0] → L22, J23, G22, E23 A_CBE#0..A_CBE#3

(7) A_STROBE# → H20 A_STROBE#
(7) A_DEVSEL# → J21 A_DEVSEL#
(7) A_ACAT# → G23 A_ACAT#
(7) A_END# → H23 A_END#
(7,10) A_PAR → J20 A_PAR
(7) A_OFF# → J22 A_OFF#
A_SERR# → P22 A_SERR#
(7) A_SBREQ# → B21 A_SBREQ#
(7) A_SBGNT# → B20 A_SBGNT#

(13,18,35) CPU_STP# → N20 CPU_STP#/DPSLP#
(13) PCI_STP# → R23 PCI_STP#

FOLLOW RTC LAYOUT GUIDE ON THIS

R856 10K → 3V

(7) A_INTA# → A_INTA# → C20 A_INTA#
(19) INTB# → INTB# → P20 INTB#
(19,23) INTC# → INTC# → B23 INTC#
(19,21,23) INTD# → INTD# → P21 INTD#

R744 20M
32K_X1 → AC12 X1
32K_X2 → AC11 X2

3V
R360 4.7K
CPURSTIN# → B18 CPURSTIN#
(3) CPUPWRGD → E4 CPU_PWRGD
(3) INTR → B17 INTR/LINT0
(3) NMI → B16 NMI/LINT1
(3) CPUINIT# → C17 INIT
(3) SMI# → C16 SMI#
(3) CPU_SLP# → F19 SLP#
(3) IGNNE# → D17 IGNNE#
(3) A20M# → D18 A20M#
(3) FERR# → FERR# → E19 FERR#
(3) STPCLK# → E16 STPCLK#
SSMUXSEL → E17 SSMUXSEL/GPIO0
(35) DPRSLPVR → DPRSLPVR → E18 DPRSLPVR
R361 10K SB_APIC_D0 → C19 APIC_D0
R358 10K SB_APIC_D1 → C18 APIC_D1
R359 1K SB_APIC_CLK → B19 APIC_CLK
R355 10K

A-LINK INTERFACE
XTAL
CPU
LPC
RTC
PCI INTERFACE
PCI CLKS

PCICLK0 B15 PCI_LAN R217 33 → PCLK_LAN (21)
PCICLK1 D16 PCI_PCM R352 33 → PCLK_CBS (19)
PCICLK2 A14 PCI_MINI R219 33 → PCLK_MINI (23)
PCICLK3 A15 PCI_EC R215 33 → PCLK_591 (29)
PCICLK4 A16 PCI_SIO R213 33 → PCLK_SIO (32)
PCICLK5 A17
PCICLK6 D15
PCICLK7 A18 PCI_CLK_R R210 22
PCICLK_FB A19 PCI_CLK_FB
C373 22P

B: Change to 22.
REMOVE

PCIRST# C15 R_PCIRST#
AD0/ROMA18 B1 AD0
AD1/ROMA17 C1 AD1
AD2/ROMA16 A1 AD2
AD3/ROMA15 D2 AD3
AD4/ROMA14 B2 AD4
AD5/ROMA13 C2 AD5
AD6/ROMA12 A2 AD6
AD7/ROMA11 D3 AD7
AD8/ROMA9 C3 AD8
AD9/ROMA8 A3 AD9
AD10/ROMA7 D4 AD10
AD11/ROMA6 B4 AD11
AD12/ROMA5 C4 AD12
AD13/ROMA4 A4 AD13
AD14/ROMA3 D5 AD14
AD15/ROMA2 B5 AD15
AD16/ROMD0 C8 AD16
AD17/ROMD1 D8 AD17
AD18/ROMD2 B8 AD18
AD19/ROMD3 A8 AD19
AD20/ROMD4 C9 AD20
AD21/ROMD5 D9 AD21
AD22/ROMD6 B9 AD22
AD23/ROMD7 A9 AD23
AD24/RTC_AD7 C10 AD24
AD25/RTC_AD6 B10 AD25
AD26/RTC_AD5 D11 AD26
AD27/RTC_AD4 A10 AD27
AD28/RTC_AD3 C11 AD28
AD29/RTC_AD2 B11 AD29
AD30/RTC_AD1 D12 AD30
AD31/RTC_AD0 A11 AD31
AD[0..31] → AD[0..31] (16,18,19,21,23)

CBE#0/ROMA10 B3 C/BE0# → C/BE0# (19,21,23)
CBE#1/ROMA1 C5 C/BE1# → C/BE1# (19,21,23)
CBE#2/ROMWE# A7 C/BE2# → C/BE2# (19,21,23)
CBE#3/RTC_RD# D10 C/BE3# → C/BE3# (19,21,23)
FRAME# B7 FRAME# → FRAME# (19,21,23)
DEVSEL#/ROMA0 A6 DEVSEL# → DEVSEL# (19,21,23)
IRDY# C7 IRDY# → IRDY# (19,21,23)
TRDY#/ROMOE# D7 TRDY# → TRDY# (19,21,23)
PAR A5 PAR → PAR (19,21,23)
STOP# B6 STOP# → STOP# (19,21,23)
PERR# C6 PERR# → PERR# (19,21,23)
SERR# D6 SERR# → SERR# (19,21,23)
REQ#0 B12 REQ0# → REQ0# (19)
REQ#1 C12 REQ1# → REQ1# (23)
REQ#2 D13 REQ2# → REQ2# (21)
REQ#3/PDMAREQ0# A12 REQ3#
REQ#4/PLLBP33/PDMAREQ1# C13 REQ4#
GNT#0 A13 GNT0# → GNT0# (19)
GNT#1 B13 GNT1# → GNT1# (23)
GNT#2 C14 GNT2# → GNT2# (21)
GNT#3/PDMAGNT0# D14 GNT3#
GNT#4/PLLBP50/PDMAGNT1# B14 GNT4#
CLKRUN# A20 CLKRUN# → CLKRUN# (19,21,23,32)
GPIO1/ROMCS# AB5 CRT_SENSE# → CRT_SENSE# (14)

LAD0 Y14 LAD0/FWH0 → LAD0/FWH0 (29,32)
LAD1 AA14 LAD1/FWH1 → LAD1/FWH1 (29,32)
LAD2 AB14 LAD2/FWH2 → LAD2/FWH2 (29,32)
LAD3 AA13 LAD3/FWH3 → LAD3/FWH3 (29,32)
LFRAME# AB13 LFRAME#/FWH4 → LFRAME#/FWH4 (29,32)
LDRQ#0 AC14 LPC_DRQ0# → LPC_DRQ0# (29,32)
LDRQ#1 Y13 LDRQ#1_SB
SERIRQ AC13 SERIRQ → SERIRQ (19,29,32)

USBOC5#/GPM1 AA2 USB_OVR5#
RTC_ALE/USBOC4#/GPIO3 AB7 USB_OVR4#
RTC_WR#/RTC_CLKOUT AB8 BINCHUAN
RTC_CS#/USBOC3#/GPIO2 AC8 USB_OVR3#
VBAT AC10 VCCRTC
RTC_GND AB11
C486 1U/10V

VCC_CORE
CPU_STP# 1 2 3 DPSLP#_CPU (4)
Q58 DTC144EUA

3V
U28 7SH08
R_PCIRST# → R719 8.2K
PCIRST#_1 → PCIRST# (19,21,23,29)

3V
U67 7SH08
A_RST# → R201 8.2K
ALINK_RST# → ALINK_RST# (5,24,32)

3V
CLKRUN# R206 8.2K
RN78 8.2KX4: DEVSEL#, STOP#, PERR#, PAR, REQ1#, GNT3#, REQ2#, REQ0#
RN76 8.2KX4
RN75 8.2KX4: GNT2#, GNT0#, GNT1#, REQ3#, TRDY#, SERR#, FRAME#, IRDY#
RN77 8.2KX4
GNT4# R222 8.2K
REQ4# R345 8.2K
LAD3/FWH3 R349 100K
LAD2/FWH2 R351 100K
LAD1/FWH1 R354 100K
LAD0/FWH0 R357 100K
SERIRQ
LDRQ#1_SB
LPC_DRQ0#
RN73 10KX4

3VSUS
CRT_SENSE# R322 4.7K
RN79 10KX4: USB_OVR5#, USB_OVR4#, USB_OVR0#, USB_OVR1#
(16) USB_OVR0#
(16) USB_OVR1#
(16) USB_OVR2#
USB_OVR2# R250 10K
USB_OVR3# R337 10K
BINCHUAN R335 *4.7K

RTC_ALE/GPIO3/USB_OC4# RTC address latch enable/GPIO3/USB Over Current 4
RTC_CS#/GPIO2/USB_OC3# RTC chip enable/GPIO2/USB Over Current 3
GPM2/FANOUT1/USB_OC2# GPIO2/FAN1 PWM out/USB Over Current 2

EXTENDING DELAY FROM 22MS TO 240MS

3V_S5
240ms delay
3V_S5 → 240K R235 → U19A (5, 1, 6) → U19B (5, 3, 4) → RSMRST# (16)
C396 1U/10V
7WZ14
C392 .1U

32K_X2 → Y3 (1, 2, 4, 3) → 32K_X1
32.768KHZ
R221 20M
C380 18P
C378 18P

3V
A_INTA# R720 8.2K
INTB# R721 8.2K
INTC# R722 8.2K
INTD# R723 8.2K

PROJECT : KN3
Quanta Computer Inc.

Size	Document Number	Rev
Custom	IXP150-ALINK/PCI/CPU/LPC	2A
Date: Friday, May 21, 2004	Sheet 15 of 39	

IXP150-IDE/USB/MII

U17B

SB200 SB
Part 2 of 3

(13) USBCLK — R247 *0 — USBCLK48

R318 12.4K/F 1% — USB_RCOMP

(15) USB_OVR0#

(33) USBP5+ / USBP5-

(33) USBP4+ / USBP4-

(25) USBP3+ / USBP3-

(25) USBP2+ / USBP2-

USBP1+ / USBP1-

(25) USBP0+ / USBP0-

USBP5 USBN5 USBP4 USBN4 — R752 15K, R753 15K, R754 15K, R755 15K

(18) MII_MDCK — R244 22

3V — L43 4.7UH — Z016 — R262 10K — C417 .047U — C416 .047U

Y6 48MHZ (VCC, OUT, OE, VSS) — USBCLK48

3VSUS

R319 10K BLINK
R249 10K FANOUT0
R333 10K SB_CLK_25M_CLK
R314 4.7K PCSPK

(18) MII_TXD3 / MII_TXD2 / MII_TXD1 / MII_TXD0

(18) MII_TXEN

SB_CLK_25M_CLK

(18) EE_DO / (18) EE_CK

R342 *100K — (15) RSMRST# / (13) CLK_SB_14M

BLINK
(15) USB_OVR2#
(18) 32K_S5_OUT
(15) USB_OVR1#
(26) PCSPK
FANOUT0

3VSUS 3VSUS — R248 4.7K, R329 4.7K

(7) AGPSTP#
(7) AGP_BUSY#
(4) CPU_GHI#

(30) VTT_PWRGD — R242 33 — VR_PWRGOOD
(4,13,35) CPU_VIDPGD — R780 *0
(3,29) PROCHOT#

B: Delete Q59 & R857 for northwood SpeedStep

B: Delete R320 & connect to PROCHOT#

R325 10K

USB OVER CURRENT

SB200 PIN	MB SIGNAL
USB_OC0#	USB_OCP#0
USB_OC1#	USB_OCP#1
USB_OC2#	USB_OCP#2
USB_OC3#	USB_OCP#3
USB_OC4#	USB_OCP#4
USB_OC5#	USB_OCP#5

INTERNAL PULL UPS

EEDI, MCOl, RXCLK, RXD[3:0], RXDV, RXERR, TXCLK

INTERNAL PULL DOWNS

USBCLK48, SDATAIN[2:0], BITCLK, EECS, MCRS, MDIO

USBP3 USBN3 USBP2 USBN2 — R294 15K, R295 15K, R292 15K, R293 15K

SB_TEST0 SB_TEST1 — R312 10K, R311 10K

USBP0 USBN0 USBP1 USBN1 — R708 15K, R709 15K, R296 15K, R297 15K

INTERNAL PULL UPS

EEDI, MCOl, RXCLK, RXD[3:0], RXDV, RXERR, TXCLK

INTERNAL PULL DOWNS

USBCLK48, SDATAIN[2:0], BITCLK, EECS, MCRS, MDIO

IXP150

USB INTERFACE

USBCLK48 P3 — USBCLK/CLK48
USB_RCOMP R1 — USB_RCOMP
P1 USB_VREFOUT
N4 USB_ATEST1
N3 USB_ATEST0
P4 USBOC0#/GPM7
USBP5 M2 — USB_HSDP5+
M1 USB_FLDP5+
USBN5 N2 — USB_HSDM5-
N1 USB_FLDM5-
USBP4 L4 — USB_HSDP4+
L3 USB_FLDP4+
USBN4 M4 — USB_HSDM4-
M3 USB_FLDM4-
USBP3 K2 — USB_HSDP3+
K1 USB_FLDP3+
USBN3 L2 — USB_HSDM3-
L1 USB_FLDM3-
USBP2 H2 — USB_HSDP2+
H1 USB_FLDP2+
USBN2 J2 — USB_HSDM2-
J1 USB_FLDM2-
USBP1 G3 — USB_HSDP1+
J3 USB_FLDP1+
USBN1 H3 — USB_HSDM1-
K3 USB_FLDM1-
USBP0 E1 — USB_HSDP0+
E2 USB_FLDP0+
USBN0 G1 — USB_HSDM0-
G2 USB_FLDM0-

ETHERNET MII

R5 MCOL
W1 MCRS
V4 MDCK
V2 MDIO
T1 RX_CLK
T3 RXD3
U2 RXD2
T5 RXD1
W4 RXD0
T2 RX_DV
U1 RX_ERR
T4 TX_CLK
U4 TXD3
V1 TXD2
U3 TXD1
V3 TXD0
W2 TX_EN
W3 PHY_PD
U5 PHY_RST#
Y7 CLK_25M

EEPROM

P2 EE_CS
R3 EE_DI
R2 EE_DO
R4 EE_CK

CLK / RST

AB9 RSMRST#
A23 OSC_IN
W6 SIO_CLK

GPIO_XTRA GPIO

AB2 BLINK/GPM0
AA3 FANOUT1/USBOC2#/GPM2
W11 RTC_CLK
AB1 USBOC1#/GPM4
Y4 SPEAKER/GPM5
AA1 FANOUT0/GPM6
AC1 GPIO_X0/AGP_STP#
AC6 GPIO_X1/AGP_BUSY#
AC2 GPIO_X2/GHI#
AC3 GPIO_X3/VGATE
AC4 GPIO_X4
AC5 GPIO_X5

ACPI / WAKE UP EVENTS

TALERT#/ETH_TALERT# AB4 — TEMP_ALARM#
PME#/EXT_EVNT0# AC9
RI#/EXT_EVNT1# AC7 — EXT_EVNT1
SLP_S3# AA11
SLP_S5# AB10
PWR_BTN# AA10
PWR_GOOD Y11
PCI_REQACT# C21 — PCI_REQACT#
SUS_STAT# Y10
TEST1 AA5 — SB_TEST1
TEST0 AA6 — SB_TEST0
GA20_IN/GEVNT0# Y5 — GATEA20
KB_RST#/GEVNT1# AA4 — RCIN#
SMB_ALERT#/GEVNT2# AB3 — THERMTRIP_SIO#
LPC_PME#/GEVNT3# Y6 — PCI_PME#
LPC_SMI#/GEVNT4# W5 — KBSMI#
GEVENT5#/ETH_VALERT# Y8 — RI#
GEVENT6#/ETH_FALERT# AA7 — SCI#
GEVENT7#/ETH_CALERT# AB6 — SWI#
GPOC0#/SCL0 AA12 — SMBCLK
GPOC1#/SDA0 W12 — SMBDATA
GPOC2#/SCL1 Y12 — GPOC2
GPOC3#/SDA1 AB12 — FPBACK#
RTC_IRQ#/PWR_STRP AA8 — PWR_STRP

TEMP_ALARM# (3)
AD16 (15,19,21,23)
SUSB# (29)
SUSC# (29)
DNBSWON# (29)
SB_PWRGD (30)
SUS_STAT# (5,19,32)
GATEA20 (29)
RCIN# (29)
THERMTRIP_SIO# (3)
PCI_PME# (19,21,23)
KBSMI# (29)
RI# (26)
SCI# (29)
SMBCLK (11,13)
SMBDATA (11,13)
GPOC2
FPBACK# (14)
PWR_STRP (18)

3VSUS
R879 10K, R328 10K, R332 10K, R338 10K, R336 10K
EXT_EVNT1
TEMP_ALARM#
PCI_PME#
RI#
SCI#

3V_S5
RN80 10KX4
SUSB#
SUSC#
DNBSWON#

3VSUS
KBSMI# — R316 10K
GATEA20 — R313 *10K

3V
SMBCLK — R350 2.2K
SMBDATA — R356 2.2K
GPOC2 — R353 10K
FPBACK# — R348 10K

3VSUS
R334 10K
SWI# — SWI# (29)

PRIMARY ATA 66/100

PIDE_IORDY AB17 — PIDERDYJ
PIDE_IRQ AC16 — PIDERIRQJ
PIDE_A0 AB15 — PDEA0J
PIDE_A1 AB16 — PDEA1J
PIDE_A2 AC15 — PDEA2J
PIDE_DACK# Y16 — PIDEDAKJ
PIDE_DRQ AA17 — PIDEREQJ
PIDE_IOR# AA16 — PIDEIORJ
PIDE_IOW# AC17 — PIDEIOWJ
PIDE_CS1# Y15 — PIDECS1J
PIDE_CS3# AA15 — PIDECS3J
PIDE_D0 AC18 — PDD_R0
PIDE_D1 AA18 — PDD_R1
PIDE_D2 AC19 — PDD_R2
PIDE_D3 AA19 — PDD_R3
PIDE_D4 AC20 — PDD_R4
PIDE_D5 AA20 — PDD_R5
PIDE_D6 AC21 — PDD_R6
PIDE_D7 AB21 — PDD_R7
PIDE_D8 AA21 — PDD_R8
PIDE_D9 Y20 — PDD_R9
PIDE_D10 AB20 — PDD_R10
PIDE_D11 Y19 — PDD_R11
PIDE_D12 AB19 — PDD_R12
PIDE_D13 Y18 — PDD_R13
PIDE_D14 AB18 — PDD_R14
PIDE_D15 Y17 — PDD_R15

PDIORDY#_R (24)
SIRQI (24)
PDA_R0 (24)
PDA_R1 (24)
PDA_R2 (24)
PDACK#_R (24)
PDREQ_R (24)
PDIOR#_R (24)
PDIOW#_R (24)
PDCS1#_R (24)
PDCS3#_R (24)
PDD_R[0..15] (24)

SECONDARY ATA 66/100

SIDE_IORDY AA23 — SDIORDY# R
SIDE_IRQ AA22 — SIRQII
SIDE_A0 AC23 — SDA_R0
SIDE_A1 Y21 — SDA_R1
SIDE_A2 AB23 — SDA_R2
SIDE_DACK# Y22 — SIDEDAKJ
SIDE_DRQ W21 — SDREQ_R
SIDE_IOR# Y23 — SIDEIORJ
SIDE_IOW# W20 — SIDEIOWJ
SIDE_CS1# AC22 — SIDECS1J
SIDE_CS3# AB22 — SIDECS3J
SIDE_D0 W23 — SDD_R0
SIDE_D1 V21 — SDD_R1
SIDE_D2 V23 — SDD_R2
SIDE_D3 U21 — SDD_R3
SIDE_D4 U23 — SDD_R4
SIDE_D5 T21 — SDD_R5
SIDE_D6 T23 — SDD_R6
SIDE_D7 R21 — SDD_R7
SIDE_D8 R20 — SDD_R8
SIDE_D9 T22 — SDD_R9
SIDE_D10 T20 — SDD_R10
SIDE_D11 U22 — SDD_R11
SIDE_D12 U20 — SDD_R12
SIDE_D13 V22 — SDD_R13
SIDE_D14 V20 — SDD_R14
SIDE_D15 W22 — SDD_R15

SDIORDY#_R (24)
SIRQII (24)
SDA_R0 (24)
SDA_R1 (24)
SDA_R2 (24)
SDACK#_R (24)
SDREQ_R (24)
SDIOR#_R (24)
SDIOW#_R (24)
SDCS1#_R (24)
SDCS3#_R (24)
SDD_R[0..15] (24)

AC97

AC_BITCLK E1 — AC97_BITCLK
AC_SDOUT E2 — AC_SDOUT
AC_SDIN0 Y1 — AC_SDIN0
AC_SDIN1 Y2 — AC_SDIN1
AC_SDIN2 Y3 — AC_SDIN2
AC_SYNC E3 — R_AC_SYNC R307 33
AC_RST# V5 — AC_RESET#
SPDIF_OUT E5 — SPDIF_OUT

AC_SDOUT (18,26)
AC_SDIN0 (26)
AC_SDIN1
AC_SYNC (18,26)
AC_RESET# (26)
SPDIF_OUT (18)

B: Stuff R306

PCI_REQACT# — R363 10K
AC_RESET# — R317 8.2K
AC97_BITCLK — R306 8.2K
AC_SDIN1 — R309 8.2K
AC_SDIN2 — R315 8.2K
AC_SDIN0 — R310 8.2K

B: Delete R768

3V
U68 SN74LVC14APW
C834 .1U
AC_BITCLK (26)
R771 *0

PROJECT : KN3
Quanta Computer Inc.

Size	Document Number	Rev
Custom	IXP150-IDE/USB/MII	2A
Date: Friday, May 21, 2004	Sheet 16 of 39	

IXP150-PWR & DECOUPLING

3V
C367 47U_6.3V
C372 47U_6.3V
C507 .1U
C489 .1U
C508 .1U
C499 .1U
C504 .1U
C500 .1U
C476 .1U
C514 .1U
C510 .1U
C513 .1U
C506 .1U
C509 .1U
C467 .1U
C475 .1U
C505 .1U

2.5V
C362 47U_6.3V
C496 .1U
C482 .1U
C493 .1U
C484 .1U
C487 .1U
C483 .1U
C494 .1U
C480 .1U

ATI REQUEST
SB_2.5VSUS
C408 22U
C492 .1U
C473 .1U
C472 .1U
C474 .1U

ATI REQUEST
SB_2.5VSUS
C407 22U
C495 *.1U
C469 *.1U

ATI REQUEST
2.5V
C502 *.01U
C491 *.01U
C497 *.01U
C503 *.01U

ATI REQUEST
3V
C511 *.01U
C501 *.01U
C498 *.01U
C490 *.01U
C512 *.01U

ATI REQUEST
3VSUS
C471 *.1U
C488 *.1U

3VSUS L42 4.7UH NB_3VSUS
C405 22U
C465 .1U
C468 .1U
C461 .1U
C463 .1U
C462 .1U
C464 .1U

3VSUS
C404 22U
C479 .1U
C481 .1U
C485 .1U
C470 .1U

3V_AVDDC
3VSUS L41 4.7UH
C466 1U/10V
C401 .1U

ATI REQUEST
3V_S5
C388 *100U/10V

ATI REQUEST
2_5VAVDDCK
C361 22U

ATI REQUEST
3V_AVDDC
C403 *10U/10V

5V
R251 1K
D22 RB751V
3V
SB_5V_VREF
C402 1U/10V
B: Change C402 from 0.1U to 1U.

2_5VAVDDCK
2.5V L37 4.7UH
C369 1U/10V
C370 .1U

3V

U17C

SB200 SB
Part 3 of 3
POWER

E11	VDDQ	VSS#E10	E10
E12	VDDQ#E12	VSS#E13	E13
E15	VDDQ#E15	VSS#E14	E14
E7	VDDQ#E7	VSS#E6	E6
E8	VDDQ#E8	VSS#E9	E9
F11	VDDQ#F11	VSS#F10	F10
F12	VDDQ#F12	VSS#F13	F13
F15	VDDQ#F15	VSS#F14	F14
F16	VDDQ#F16	VSS#F18	F18
F17	VDDQ#F17	VSS#F6	F6
F7	VDDQ#F7	VSS#F9	F9
F8	VDDQ#F8	VSS#G6	G6
G18	VDDQ#G18	VSS#J12	J12
G19	VDDQ#G19	VSS#J15	J15
H18	VDDQ#H18	VSS#J18	J18
H19	VDDQ#H19	VSS#J19	J19
M18	VDDQ#M18	VSS#J9	J9
M19	VDDQ#M19	VSS#K10	K10
N18	VDDQ#N18	VSS#K11	K11
N19	VDDQ#N19	VSS#K12	K12
T18	VDDQ#T18	VSS#K13	K13
T19	VDDQ#T19	VSS#K14	K14
U18	VDDQ#U18	VSS#K18	K18
U19	VDDQ#U19	VSS#K19	K19
V17	VDDQ#V17	VSS#L10	L10
V18	VDDQ#V18	VSS#L11	L11
W17	VDDQ#W17	VSS#L12	L12
W18	VDDQ#W18	VSS#L13	L13
		VSS#L14	L14
J10	VDD_CORE#J10	VSS#L18	L18
J11	VDD_CORE#J11	VSS#L19	L19
J13	VDD_CORE#J13	VSS#M10	M10
J14	VDD_CORE#J14	VSS#M11	M11
K15	VDD_CORE	VSS#M12	M12
K9	VDD_CORE#K9	VSS#M13	M13
L15	VDD_CORE#L15	VSS#M14	M14
L9	VDD_CORE#L9	VSS#M15	M15
N15	VDD_CORE#N15	VSS#M6	M6
N9	VDD_CORE#N9	VSS#M9	M9
P15	VDD_CORE#P15	VSS	N10
P9	VDD_CORE#P9	VSS#N11	N11
R10	VDD_CORE#R10	VSS#N12	N12
R11	VDD_CORE#R11	VSS#N13	N13
R13	VDD_CORE#R13	VSS#N14	N14
R14	VDD_CORE#R14	VSS#N6	N6
		VSS#P10	P10
P6	STB_2.5V#P6	VSS#P11	P11
R6	STB_2.5V#R6	VSS#P12	P12
V13	STB_2.5V#V13	VSS#P13	P13
W13	STB_2.5V	VSS#P14	P14
V12	STB_2.5V#V12	VSS#P18	P18
		VSS#P19	P19
L6	VDD_USB#L6	VSS#R12	R12
H6	VDD_USB#H6	VSS#R15	R15
J6	VDD_USB	VSS#R18	R18
		VSS#R19	R19
P5	AVDDC	VSS#R9	R9
		VSS#V14	V14
T6	STB_3.3V#T6	VSS#V15	V15
U6	STB_3.3V#U6	VSS#V16	V16
V9	STB_3.3V#V9	VSS#V19	V19
V10	STB_3.3V#V10	VSS#V6	V6
V11	STB_3.3V#V11	VSS#V7	V7
W9	STB_3.3V	VSS#V8	V8
W10	STB_3.3V#W10	VSS#W14	W14
		VSS#W15	W15
		VSS#W16	W16
F4	AVDDTX0	VSS#W19	W19
J4	AVDDTX1	VSS#W7	W7
K5	AVDDTX2	VSS#W8	W8
F3	AVDDRX0	VSS_USB	H5
K4	AVDDRX1	VSS_USB#G5	G5
L5	AVDDRX2		
		AVSSC	N5
D19	APIC_PWR		
		AVSSRX2	M5
D1	5V_VREF	AVSSRX1	J5
		AVSSRX0	G4
A21	AVDD_CK	AVSSTX2	K6
		AVSSTX1	H4
Y9	S5_2.5V	AVSSTX0	F5
AA9	S5_3.3V		
		AVSSCK	A22

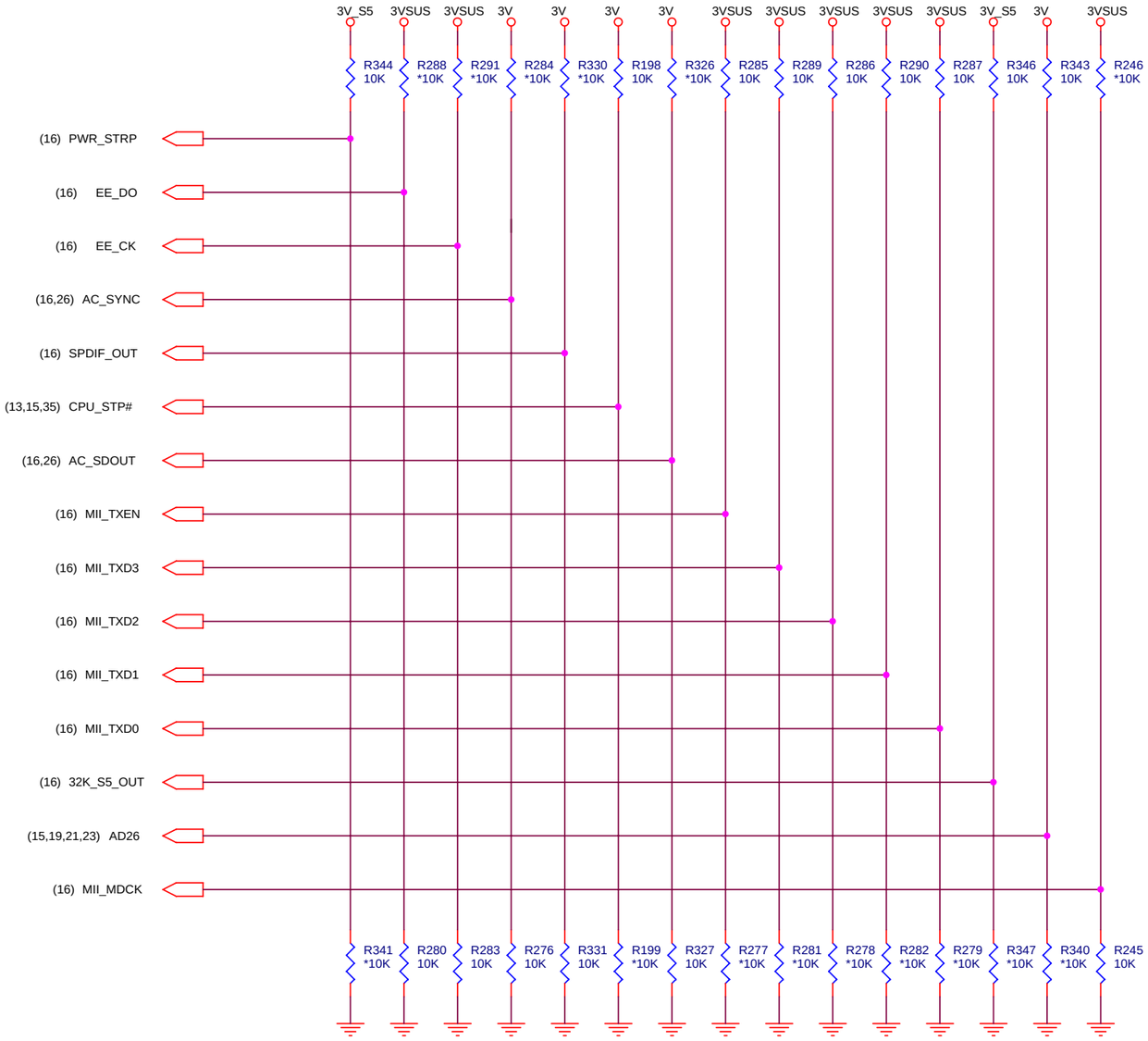
IXP150

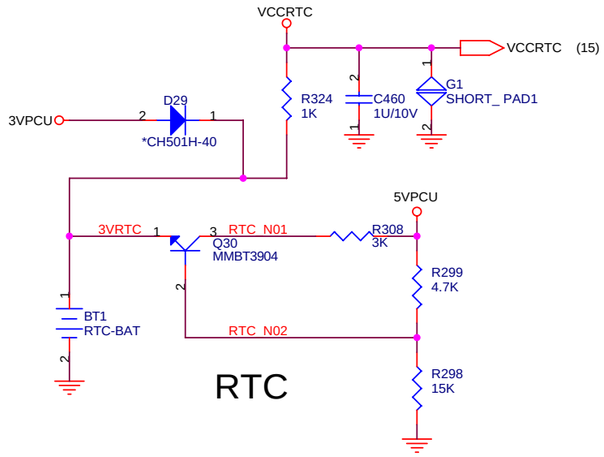
2.5V
2.5VSUS L83 BK2125HM121
SB_2.5VSUS
C406 22U
3V_AVDDC
3VSUS
NB_3VSUS
2.5V
2.5V_S5
3V_S5
C478 .1U
C477 .1U

	PROJECT : KN3		
	Quanta Computer Inc.		
Size: Custom	Document Number: **IXP150-PWR & DECOUPLING**		Rev: 2A
Date: Friday, May 21, 2004		Sheet 17 of 39	

IXP150-STRAPS

There is no such strap for A41 SB200





OVERLAP COMMON PADS FOR DUAL-OP RESISTORS

REQUIRED SYSTEM STRAPS

	PWR_STRP	EEDO	EECK	AC_SYNC	AC_SDOUT	SPDIF_OUT	CPU_STP#	TX_EN	ETHERNET TXD[3:0]	32KHZ_S5	PCI_AD26
STRAP HIGH	MANUAL PWR ON DEFAULT	USE DEBUG STRAPS DEFAULT	ROM ON PCI BUS	INIT ACTIVE HIGH(AMD)	33MHz NB BUS	SIO 24MHz	ENABLE SPEED STEP DEFAULT	DISABLE CPU FREQ SETTING DEFAULT	PROCESSOR FREQ MULTIPLIER	32KHZ OUTPUT FROM SB200 (INT RTC) DEFAULT	BIOS use LPC cycle DEFAULT
STRAP LOW	AUTO PWR ON	IGNORE DEBUG STRAPS	ROM ON LPC BUS DEFAULT	INIT ACTIVE LOW (P4) DEFAULT	HI SPEED A-LINK DEFAULT	SIO 48MHz DEFAULT	DISABLE SPEED STEP	ENABLE CPU FREQSETTING		32KHZ INPUT TO SB200 (EXT RTC)	BIOS uSE FWH Cycle

PROJECT : KN3
Quanta Computer Inc.

Size	Document Number	Rev
Custom	IXP150-STRAPS	2A
Date: Friday, May 21, 2004	Sheet 18 of 39	

CardBus

```
ID Select          : AD17
Interrupt Pin      : INTB#, INTC#
Request indicates  : REQ0#
Grant indicates    : GNT0#
```


IEEE 1394a

U38-1 PCI7411GHK

U38-2 PCI7411GHK

U38-3 PCI7411GHK

U38-7 PCI7411GHK

IEEE 1394 CONNECTOR

CN28 1394_CONN

Closed Phy IC

B: Stuff R861

B: Add R895,C961.

B: Delete R866 & Add Q111

B: R815 to NC.

	PCI6411	PCI7411
POP	R862,R824,R825,	R808,R822,R823,C878,U69,L103,C867,C868,C869,C870,C871,C872,C873,C874,C876,C877,R803,R806,R807,R811,R812,R813,R814,R816,R817,R818,R819,R820,Y10,CN28
De-Pop	R808,R822,R823,C878,U69,L103,C867,C868,C869,C870,C871,C872,C873,C874,C876,C877,R803,R806,R807,R811,R812,R813,R814,R816,R817,R818,R819,R820,Y10,CN28	R862,R824,R825

PCIXX21 Power Terminals

U38-4 PCI7411GHK

U38-5 PCI7411GHK

U69 24LC08

U38-6 PCI7411GHK

U38-8 PCI7411GHK

U38-9 PCI7411GHK

U38-10 PCI7411GHK

Because we will not support USB Card. 12/29

Because we will not support Smart Card. 12/29

PROJECT : KN3

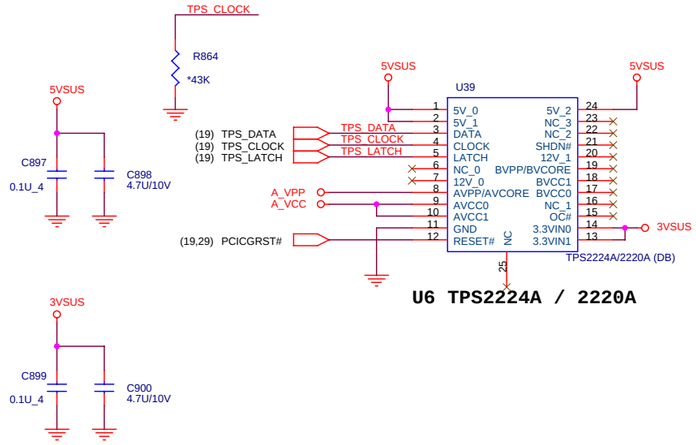
Quanta Computer Inc.

Size	Document Number	Rev
C	CARDBUS/CARD READER	2A

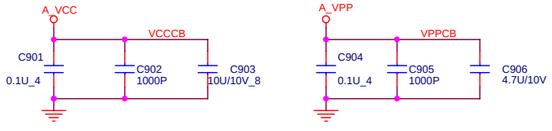
Date: Friday, May 21, 2004 Sheet 19 of 39

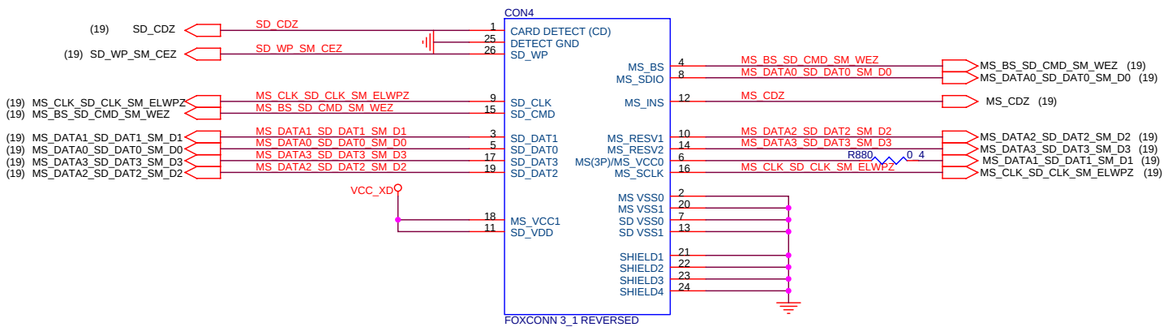
CardBus Connector

PCMCIA SOCKET

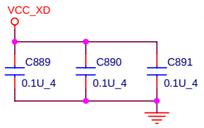


U6 TPS2224A / 2220A

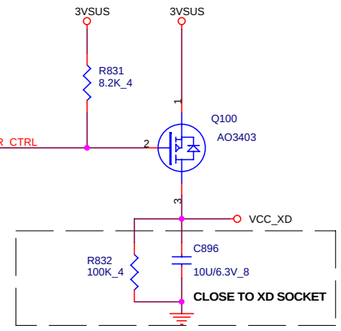




Supporting MMC/SD/MS Cards



Place 0.1u bypass capacitor to each VCC Pin.



PROJECT : KN3
Quanta Computer Inc.

Size	Document Number	Rev
C	CardBus/Cardreader Con	2A
Date: Friday, May 21, 2004	Sheet 20 of 39	

```
ID Select          : AD16
Interrupt Pin      : INTD#
Request indicates  : REQ2#
Grant indicates    : GNT2#
```

For 8110SB

AVDDH R835 0 LANVCC
C908 C909 0.1U_4 0.1U_4
C910 C911 C912 C913 C914 C915 C916 C917 C918
22U/10V 0.1U_4 ×9
CTRL25 1 Q101 2SB1188 2 3
L104 *PBY201209T-300Y-S
AVDDL
C919 C920 C921 C922 C923
0.1U_4 ×4 10U/6.3V_8

AVDDL Q102 2SB1188 CTRL18
LANVCC Q103 *2SB1197K CTRL25
DVDD
C924 C925 C926 C927 C928
C929 C930 C931 C932 C933 C934
0.1U_4 ×5 22U/10V 0.1U_4 ×5

AVDDH R839 0 V_12P
C936 0.1U_4
R838 *0

For 8100CL

	8100CL(10/100M)	8110SB(1G)
DVDD33	3.3VD 26,41,56,71,84,94,107	3.3VD 26,41,56,71,84,94,107
AVDDL	3.3VA 3,7,20	2.5VA 3,7,20,16
DVDD	2.5VD 32,54,78,99	1.8VD 32,54,78,99,24,45,64,110,116,126
AVDD25	2.5VA 12	NC
AVDDH	NC	3.3VA 10,120
Pin 127	5.6k (1%) pull-low	2.49k (1%) pull-low
Pin 88	NC	15K pull-low
Pin 11	NC	0Ω pull-low

U40 RTL8110S(B)/8100C

(15,16,18,19,23) AD[0..31] ↔ AD0..AD31 (104,103,102,98,97,96,95,93,90,89,87,86,85,83,82,79,59,58,57,55,53,50,49,47,43,42,40,39,37,36,34,33)

(15,19,23) C/BE0#
(15,19,23) C/BE1#
(15,19,23) C/BE2#
(15,19,23) C/BE3#
→ C/BE0# C/BE1# C/BE2# C/BE3# → CBE0B CBE1B CBE2B CBE3B (92,77,60,44)

(15,19,23) INTD#
(15,19,23,29) PCIRST#
→ INTAB RSTB CLK GNTB REQB IDSEL (25,27,28,29,30,46)

(15) GNT2#
(15) REQ2#
R836 100

(15,19,23) FRAME#
(15,19,23) IRDY#
(15,19,23) TRDY#
(15,19,23) DEVSEL#
(15,19,23) STOP#
(15,19,23) PERR#
(15,19,23) SERR#
(15,19,23) PAR
→ FRAMEB IRDYB TRDYB DEVSELB STOPB PERRB SERRB PAR (61,63,67,68,69,70,75,76)

(15) PCLK_LAN
R837 *22_4
C935 *22P
LANVCC R867 10K
AD16
B: Delete Q75,R869

(16,19,23) PCI_PME#
Q112 MMBT3904
B: Add Q112
LAN_PME# → PMEB (31)

R841 15K_4 → ISOLATEB (23)
R840 1K_4 3V → LWAKE (105)
R842 2.49K → RSET (127)

LANVCC
(29) S5LAN_PME#
Q108 DTC144EUA

(22) TRDP0 / (22) TRDM0 → TRDP0 TRDM0 → MDI0+ MDI0- (1,2)
(22) TRDP1 / (22) TRDM1 → TRDP1 TRDM1 → MDI1+ MDI1- (5,6)
(22) TRDP2 / (22) TRDM2 → TRDP2 TRDM2 → MDI2+ MDI2- (14,15)
(22) TRDP3 / (22) TRDM3 → TRDP3 TRDM3 → MDI3+ MDI3- (18,19)

RP50 4P2R-S-49.9
RP49 4P2R-S-49.9
RP48 4P2R-S-49.9
RP47 4P2R-S-49.9

8100CL: 0.1U
8110SBL: 0.01U
C732 .01U
C946 .01U
C731 .01U
C947 .01U

LANVCC
8bit/16bit
R833 3.6K
U65 AT93C46-10SC-2.7
EECS EESK EEDI EEDO ↔ EECS EESK EEDI/AUX EEDO (106,111,109,108)
CS SK DI DO / VCC NC NC GND (1,2,3,4 / 8,7,6,5)
R834 *0
C907 0.1U_4

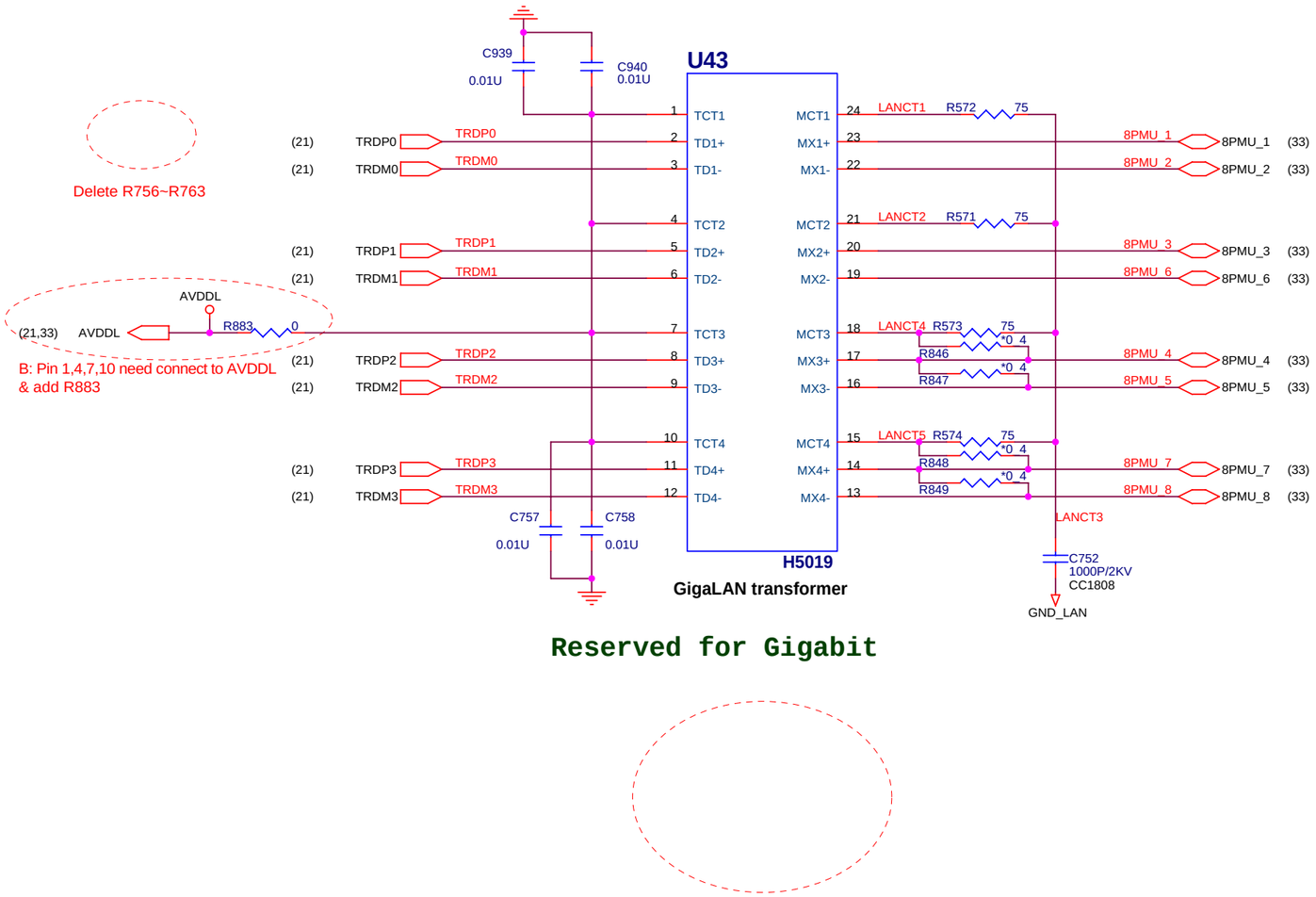
VDD33 ×10 (26,41,56,71,84,94,107) → LANVCC
VDD18 ×11 (24,32,45,54,64,78,99,110,116,126) → DVDD
AVDDH ×2 (10,120) → AVDDH
AVDDL ×4 (3,7,16,20) → AVDDL
AVDD25 (12) → V_12P
GND ×30 (21,22,35,38,48,51,52,62,66,73,80,81,91,100,101,112,118,119,123,124)
VSS ×5 (4,9,17,13,128)

CTRL18 (125) CTRL25 (8)
B: R844 to NC
NC (11)
CLKRUNB (65) R843 0 PAD T282
SMBCLK (72) PAD T283
SMBDATA (74) R844 *0 → CLKRUN# (15,19,23,32)
M66EN (88) R881 15K
LED0 (117) ACT_LED# → ACT_LED# (22,33)
LED1 (115) LINK_LED# → LINK_LED# (22,33)
LED2 (114)
LED3 (113)
XTAL1 (121) XTAL2 (122)
XTAL1 C937 27P
25MHZ Y9
XTAL2 C938 27P

PROJECT : KN3
Quanta Computer Inc.

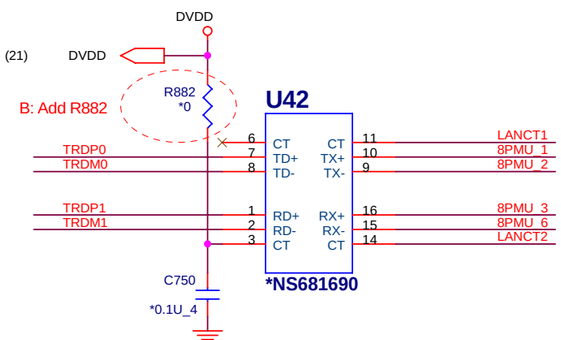
Size	Document Number	Rev
C	LAN RTL8100CL	2A
Date: Friday, May 21, 2004	Sheet 21 of 39	

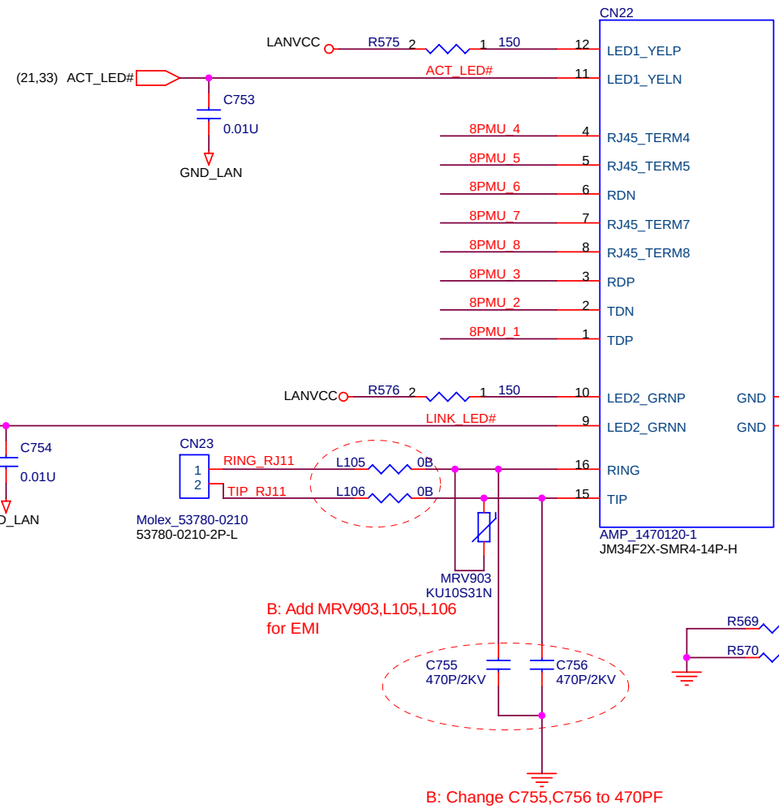
LAN TR & CONNECTOR



Reserved for Gigabit

B: Delete
CML1,CML2,CML3,CML4,R623,D43,R624,U47,U46,R622,D42



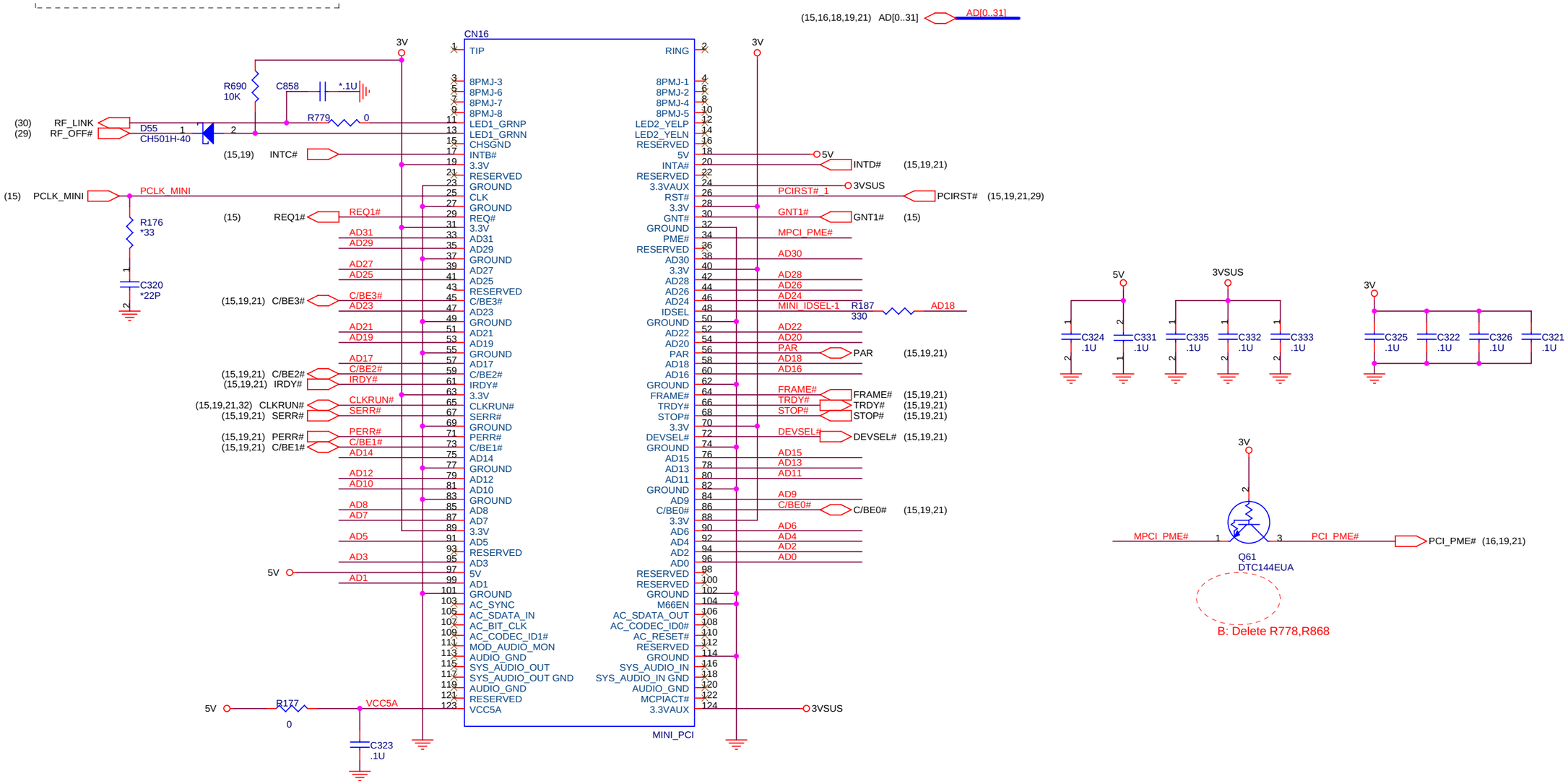


PROJECT : KN3
Quanta Computer Inc.

Size	Document Number	Rev
	LAN TR & CONNECTOR	2A
Date: Friday, May 21, 2004	Sheet 22 of 39	

MINIPCI SLOT

ID Select : AD18
Interrupt Pin : INTC# , INTD#
Request indicates : REQ1#
Grant indicates : GNT1#

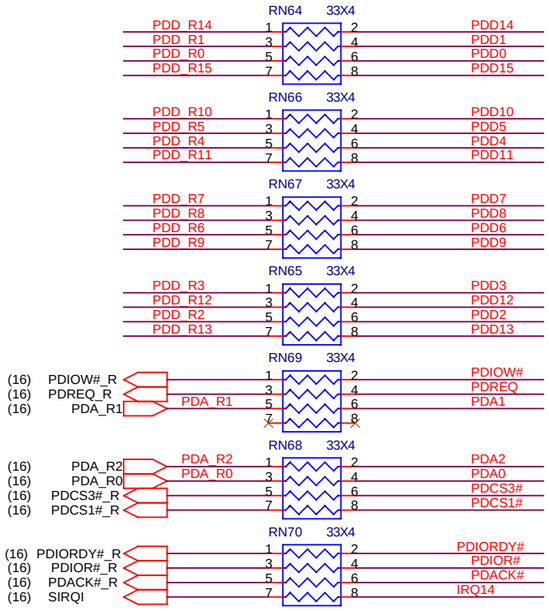


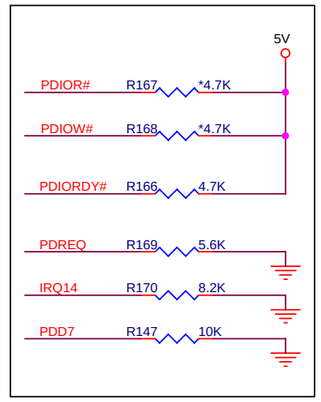
PROJECT : KN3
Quanta Computer Inc.

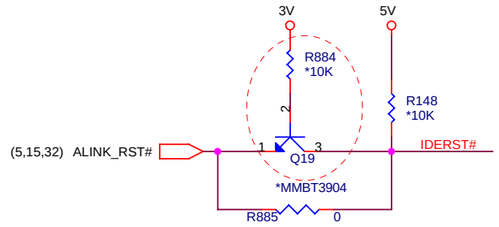
Size	Document Number	Rev
Custom	MINI_PCI SLOT	2A
Date: Friday, May 21, 2004	Sheet 23 of 39	

HDD,CD-ROM CONNECTOR

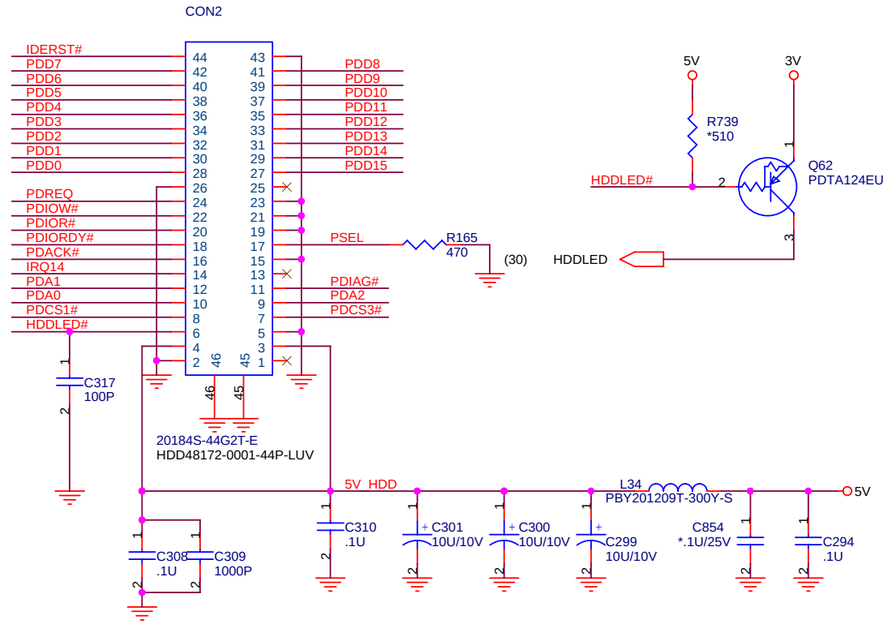
HDD connector



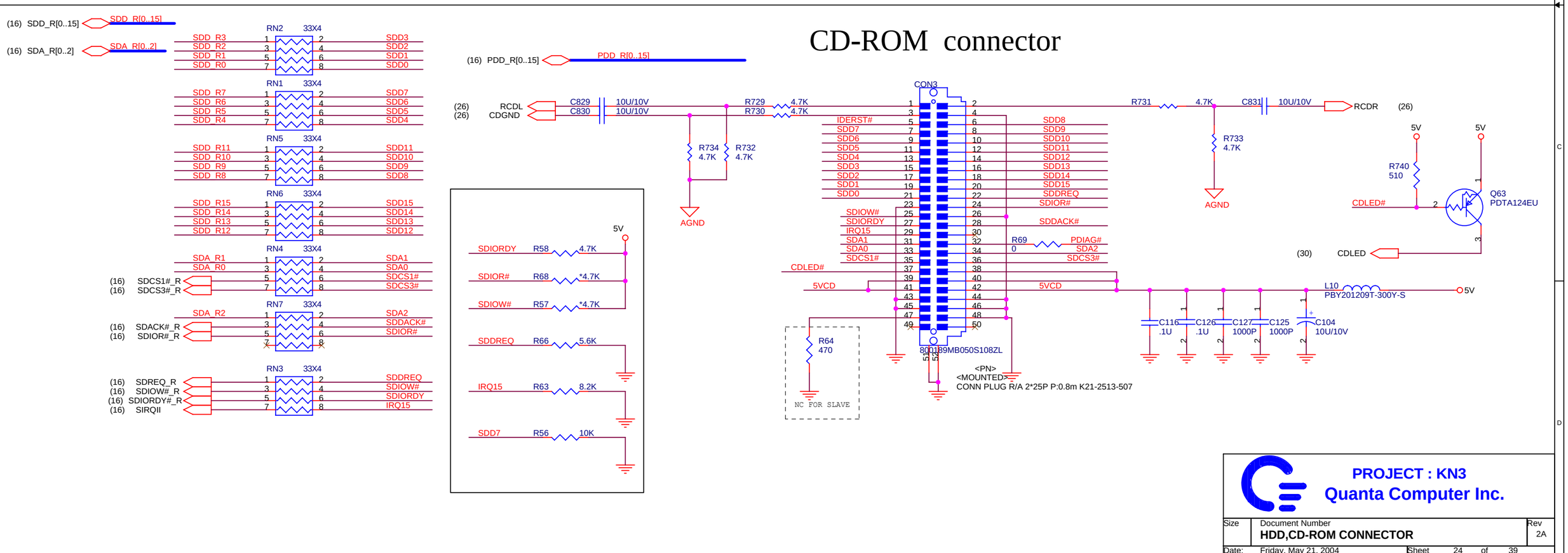




B: Add R884,R885 & change Q19



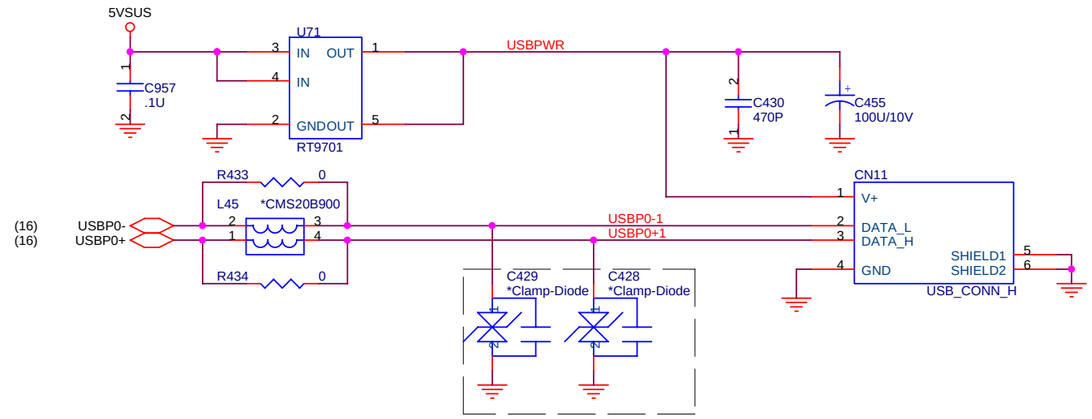
CD-ROM connector

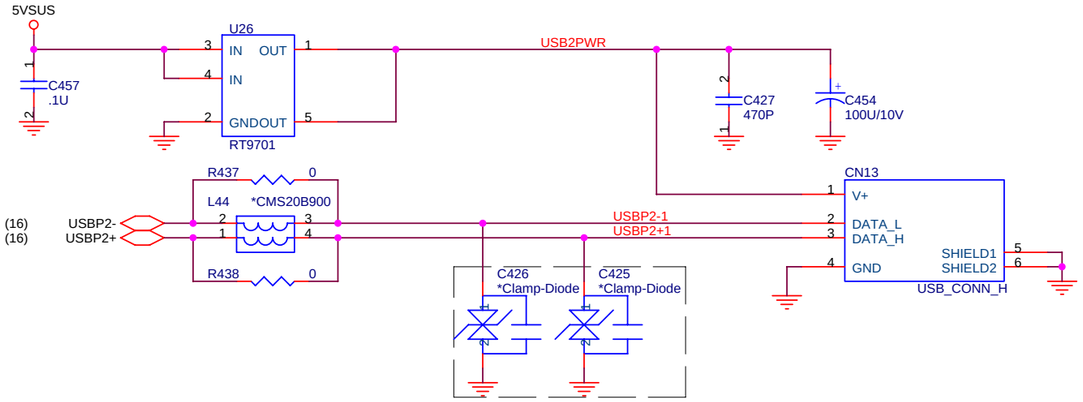


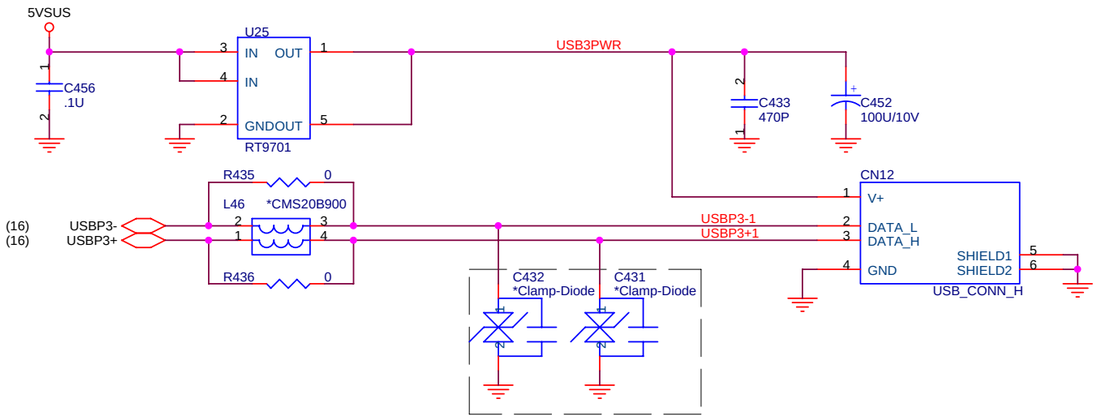
PROJECT : KN3
Quanta Computer Inc.

Size	Document Number	Rev
	HDD,CD-ROM CONNECTOR	2A
Date: Friday, May 21, 2004	Sheet 24 of 39	

USB CONNECTOR







PROJECT : KN3

Quanta Computer Inc.

Size	Document Number	Rev
Custom	USB CONNECTOR	2A
Date: Friday, May 21, 2004	Sheet 25 of 39	

For Layout:
Place decoupling caps near the power pins of SmartAMC device.

3VSUS

B: Change net from 3V to 3VSUS

MC6 10U/6.3V, MC12 0.1U_0402, MC3 0.1U_0402, MC7 0.1U_0402, MC4 0.1U_0402, MC5 0.1U_0402

GND

L82 *BK2125HM121

+3.3VA

MC17 0.1U_0402, MC8 1U/10V, MC10 10U/6.3V

AGND

MR6 249K (1%)

For Layout: Close to SmartAMC device.

B: Change MR2,MR3 footprint to R0603 for EMI

15:5:15 routing , 50 mil to other signal

MC2 150P_0402, MC1 150P_0402

(27) DIB_DATAN, (27) DIB_DATAP, (27) PWRCLKP, (27) PWRCLKN

MR5 1K, MR4 1K, MR3 0, MR2 0

(16,18) AC_SDOUT, (16,18) AC_SYNC, (16) AC_RESET#

(16) AC_SDIN0, (16) AC_BITCLK

MR14 33, MR15 33

MR11 *10K, MR13 *10K

Modified. B-Stage

MR1 *0, MR7 *0

Check this pin fumction .

MU1

VDD5	5		
VDDC18	18	RCOSC1	1
VDDC10	10	DIB_DATAN	3
VDD_CLK	23	DIB_DATAP	4
AVDD33	33	PWRCLKP	7
AVDD44	44	PWRCLKN	8
		SDATA_OUT	15
		SYNC	16
		AC_RESET#	17
		AC_ONLY	20
		SDATA_IN0	21
		BIT_CLK	22
		ID0#	11
		ID1#	12
		EAPD	14
		PC_BEEP	45
		DSPKOUT	13
		MIC_IN	29
		CD_IN_R	32
		CD_IN_GND	31
		CD_IN_L	30
		LINE_IN_L	27
		LINE_IN_R	28
		LINE_OUT_L	39
		LINE_OUT_R	40
		HP_OUT_L	42
		HP_OUT_R	43
		REF_FLT	38
		VC_SCA	37
		VREF_SCA	36
		MBIAS/AVDD	34
		S_PDIF	46
		GPIO_4	47
		GPIO_5	48
		XTLO	24
		XTLI	25
GNDC2	2		
GND8	6		
GNDC9	9		
GNDC19	19		
AVSS_CLK	26		
AGND35	35		
AGND41	41		

<Conexant Name>

20468-31

MIC_BIAS

MR18 3K

MC19 10U/10V/V

MIC, MIC1, (28)

RCDR, CDGND, RCDL (24)

1000P_0402 MC982, 1000P_0402 MC983

AGND

AC97OUT_L, AC97OUT_R (28)

REF_FLT, VC_SCA, VREF_SCA

MIC_BIAS

HPSENSE_PR (28,33)

HPSENSE (28)

MR16 33, MR955 *1M

MY1 24.576MHZ

MC16 33P, MC20 33P

GND

CODEC POWER

5V, U51 (IN, ADJ, OUT), 800mA (30MIL), +3.3VA

C670 0.47U_0402

GMT_G960T63U

R646 *124

R647 0

C672 0.1U_0402

AGND

SOFTWARE EQ CONTROL TABLE

GPIO4	GOIO5	S/W EQ
LOW	LOW	ON
LOW	HIGH	OFF
HIGH	LOW	OFF
HIGH	HIGH	OFF

MC21 0.1U_0402, MC15 0.1U_0402, MC11 0.1U_0402, MC13 1U/10V

AGND

RI FUNCTION

3VSUS, 3VSUS

R776 2.2K, R777 10K

Q74 DTC144EUA, Q46 DTC144EUA, Q47 DTC144EUA

(19) PCICRI#

RI# (16), -MRI (33)

Ground Tie

MR956 0, MR957 0, MR17 0

GND, AGND

B: Stuff MR956,MR17 for EMI.

For Layout:

Place crystal and associated circuitry very near SmartAMC Device.

PC BEEP CONTROL

5V

C820 0.1U_0402

NORMAL : LOW

(19) PCMSPK#

(16) PCSPK

U50 7SH86

BEEP1, R688 2.2K, BEEP2, C945 0.47U/10V BEEP

R689 1K, C821 1000P_0402

AGND

B: Delete Q56

PROJECT : KN3
Quanta Computer Inc.

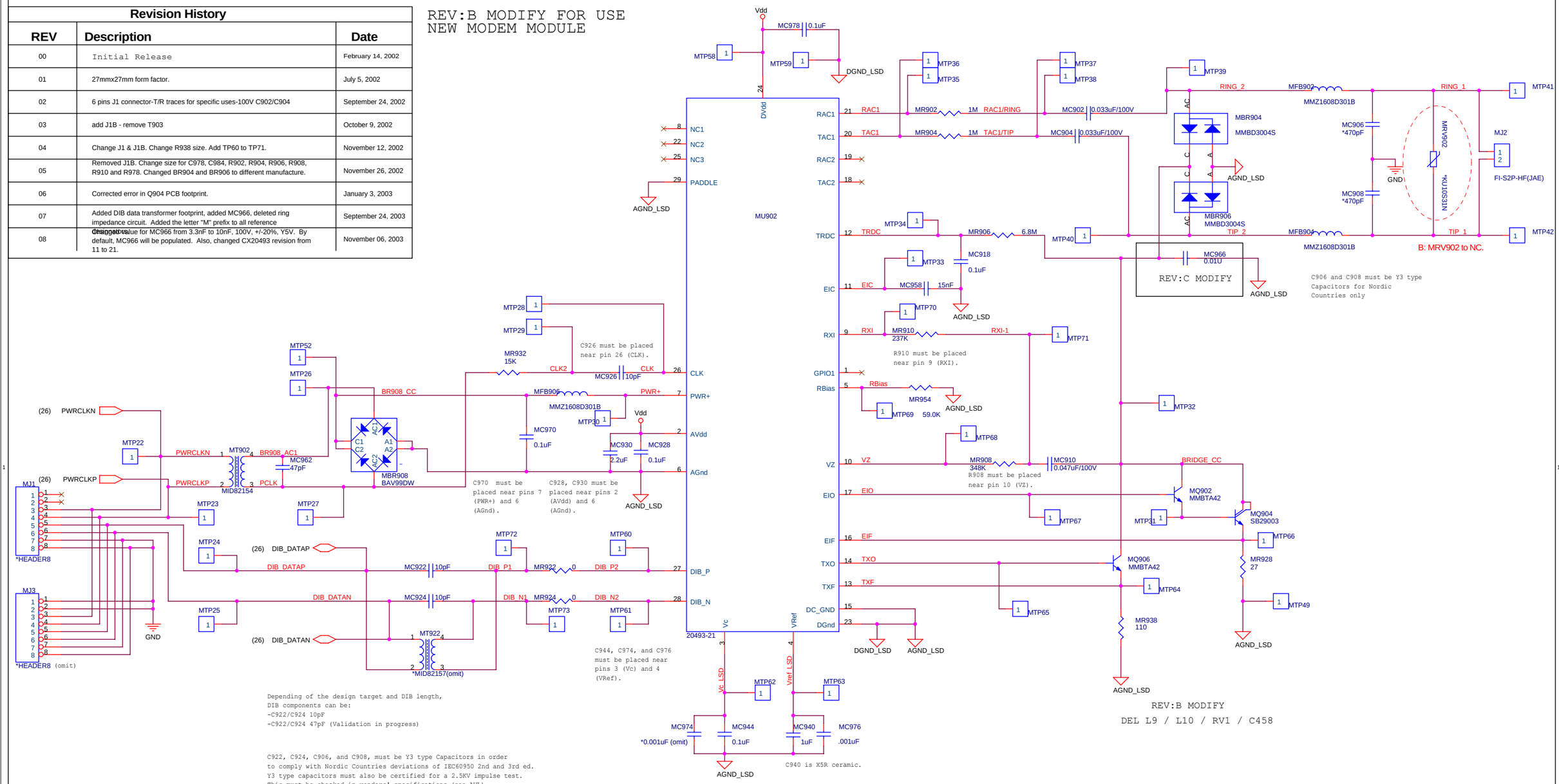
Size	Document Number	Rev
	SMARTAMC-CONEXANT_20468-31	2A
Date: Friday, May 21, 2004	Sheet 26 of 39	

SMARTDAA_20493-21

Revision History

REV	Description	Date
00	Initial Release	February 14, 2002
01	27mmx27mm form factor.	July 5, 2002
02	6 pins J1 connector-T/R traces for specific uses-100V C902/C904	September 24, 2002
03	add J1B - remove T903	October 9, 2002
04	Change J1 & J1B. Change R938 size. Add TP60 to TP71.	November 12, 2002
05	Removed J1B. Change size for C978, C984, R902, R904, R906, R908, R910 and R978. Changed BR904 and BR906 to different manufacture.	November 26, 2002
06	Corrected error in Q904 PCB footprint.	January 3, 2003
07	Added DIB data transformer footprint, added MC966, deleted ring impedance circuit. Added the letter "M" prefix to all reference designators.	September 24, 2003
08	Changed value for MC966 from 3.3nF to 10nF, 100V, +/-20%, Y5V. By default, MC966 will be populated. Also, changed CX20493 revision from 11 to 21.	November 06, 2003

REV:B MODIFY FOR USE
NEW MODEM MODULE



Depending of the design target and DIB length, DIB components can be:
-C922/C924 10pF
-C922/C924 47pF (Validation in progress)

C922, C924, C906, and C908, must be Y3 type Capacitors in order to comply with Nordic Countries deviations of IEC60950 2nd and 3rd ed. Y3 type capacitors must also be certified for a 2.5KV impulse test. This must be checked in vendors' specifications (see AVL).

Circuit traces for C922 and C924 should be less than 2 inches.

REV:B MODIFY
DEL L9 / L10 / RV1 / C458

PROJECT : KN3
Quanta Computer Inc.

Size	Document Number	Rev
Custom	SMARTAMC-DAA_20493-21	2A
Date: Friday, May 21, 2004	Sheet 27 of 39	

AUDIO AMPLIFIER-GMT_1428

B: Delete R764,R765

INR_SPK+ R769 *0 SPK_R_PR

INL_SPK+ R770 *0 SPK_L_PR

To Port-Replicator

Q116 *UMD2

10V, +10V, 5V

(29,37,38) MAINON

C958 *.1U

R675 *1M

R676 10K

Q113 2N7002E

Q114 2N7002E

Q115 DTC144EUA

HPSENSE

SPK_R_PR (33)

SPK_L_PR (33)

CN27 *ACES_85205-0400

B: Delete U60,C819
B: Add Q113,Q114,Q115,C958 & Q116

U5 GMT1428/TPA0212

VDD, PVDD1, PVDD2, RLINEIN, RHPIN, RIN+, LIN+, LHPIN, LLINEIN, BYPASS, GAIN0, GAIN1, SHUTDOWN

ROUT+, ROUT-, LOUT+, LOUT-, PC-BEEP, SE/BTL, HP/LINE

GND1–GND13

(26) AC97OUT_R, (26) AC97OUT_L

AOUT_R, AOUT_L, HPINR, HPINL

R406 1K, R409 1K, R407 15K, R408 15K, R865 15K

C16 10U/10V, C57 10U/10V, C53 .1U, C52 .1U, C24 .1U

C948 .047U, C565 .47U/10V, C566 .47U/10V, C950 .047U

C20 .47U/10V, C21 .47U/10V, C22 4.7U/6.3V/CC0603

R8 *1K, R9 1K, R14 10K, R15 *10K

R_SPK+, R_SPK-, L_SPK+, L_SPK-, A_BEEP

C949 .1U

AMP_SHDN#, R32 10K, +3.3VA

VOLMUTE# (29)

D1 CH501H-40

U48 7SH32

C805 .1U

R678 10K, 3V

HPSENSE (26), HPSENSE_PR (26,33)

R27 20K

B: Change net from 5V to 3V

B: Change R27 from 100K to 20K

Gain Table

Gain0	Gain1	Av
0	0	2 times
0	1	4 times
1	0	12 times
1	1	24 times

INT. SPEAKER

R_SPK+ L84, R_SPK- L85, L_SPK+ L86, L_SPK- L87 — NBQ160808T-700Y-S

CN6 R-L-SPEAKERS

C165 *330P, C176 *330P, C145 *330P, C159 *330P

Headphone out

C568 100U/6.3V, C567 100U/6.3V

L_SPK+, R_SPK+, INL_SPK+, INR_SPK+

L3, L4 SBK160808T-121

HPOUT_L, HPOUT_R, HPSENSE

R19 1K, R25 1K

C18 180P, C36 180P, C41 .1U

CN20 HP-JACK-GREEN

Mic in

R726 *470, C827 *10U/10V, C828 *.1U

R727 *3.9K

(26) MIC1, R401 0

MIC_PIN3J, T10 *PAD

C557 *180P

CN19 MIC-JACK-PINK

PROJECT : KN3
Quanta Computer Inc.

Size	Document Number	Rev
Custom	AUDIO AMP & JACK	2A
Date: Friday, May 21, 2004	Sheet 28 of 39	

KBC-NS87551L

Modifed at Feb/15

LDRQ#(pin 8) internal is no use

(15,32) LPC_DRQ0# — LPC_DRQ0# — R212 *0 — DRQ0#

U15

3V — C374 .1U

3VPCU — L38 SBK160808T-121 — C382 .1U — C365 .1U

R230 0 RESERCE FOR 97551

VDD 16 — VCC1 34 — VCC2 45 — VCC3 123 — VCC4 136 — VCC5 157 — VCC6 166 — AVCC 95 — VBAT 161

Should have a 0.1uF capacitor close to every GND-VCC pair + one larger cap on the supply.

C366 .1U — C383 .1U — C354 .1U — C375 .1U

3VPCU

ENV1 R214 10K
BADDR0 R216 *10K
BADDR1 R218 *10K
-THEM_RST R691 10K
SHBM R220 10K

B: Delete R775

3VPCU — R886 *10K — R887 *10K — R888 10K — R889 10K — R890 10K — R891 *10K

B: Add R886~R891 for board ID

B: Add net DAREF.

SHBM=1: Enable shared memory with host BIOS

I/O Address

BADDR1-0	Index	Data
0 0	2E	2F
0 1	4E	4F
1 0	(HCFGBAH, HCFGBAL)	(HCFGBAH, HCFGBAL)+1
1 1	Reserved	

3VPCU — R208 470K — 591RESET — D19 SW1010C — C856 .1U

(16) KBSMI# — D18 SW1010C — T38 PAD — SWI#2 — KBSMI#591

(16) SCI# — D58 SW1010C — SCI#

(16) GATEA20 — GATEA20 — RCIN# — RCIN#

PCLK_591 — R774 *33 — C857 *22P

(15,19,32) SERIRQ — SERIRQ — DRQ0# — LFRAME#/FWH4 — LAD0/FWH0 — LAD1/FWH1 — LAD2/FWH2 — LAD3/FWH3 — PCLK_591 — 591RESET# — KBSMI#591 — SWI#2 — SCI# — GATEA20 — RCIN#

(15,32) LFRAME#/FWH4
(15,32) LAD0/FWH0
(15,32) LAD1/FWH1
(15,32) LAD2/FWH2
(15,32) LAD3/FWH3
(15) PCLK_591

Host interface

AD Input: AD0 AD1 AD2 AD3 IOPE0AD4 IOPE1/AD5 IOPE2/AD6 IOPE3/AD7 DP/AD8 DN/AD9

81 TEMP_MBAT — TEMP_MBAT (34)
82 MBATV — MBATV (34)
83 AD_ID2 — AD_ID2 (34)
84 SYS_I — SYS_I (34)
87 SWID1
88 SWID2
89 SWID3
90 KBC_NC02 — T246PAD
93 KBC_TP_11 — T247PAD
94 KBC_TP_12 — T248PAD

DA output: DA0 DA1 DA2 DA3

99 R679 0 — T249PAD — CC-SET (34)
100
101 R680 0 — VADJ (14)
102 — DAREF (34)

PWM or PORT-A: IOPA0/PWM0 IOPA1/PWM1 IOPA2/PWM2 IOPA3/PWM3 IOPA4/PWM4 IOPA5/PWM5 IOPA6/PWM6 IOPA7/PWM7

32 T251PAD
33 R681 *0 — CC-SET (34)
36 — VFAN_1 (31)
37 D59 SW1010C — SWI# (16)
38 R682 *0 — VADJ (14)
39 — AD_CSET (34)
40 — PCICGRST# (19,20)
43 — VFAN_2 (31)

PORT-B: IOPB0/URXD IOPB1/UTXD IOPB2/USCLK IOPB3/SCL1 IOPB4/SDA1 IOPB7/RING/PFAIL

153 — MBATLED1 (30)
154 — MBATLED0 (30)
162 — PWR_LED (30)
163 MBCLK — MBCLK (3,34)
164 MBDATA — MBDATA (3,34)
165 PCIRST# — PCIRST# (15,19,21,23)
R683 *10K — T252PAD

Key matrix scan

PORT-C: IOPC0 IOPC1/SCL2 IOPC2/SDA2 IOPC3/TA1 IOPC4/TB1/EXWINT22 IOPC5/TA2 IOPC6/TB2/EXWINT23 IOPC7/CLKOUT

168 — T269PAD
169 — T253PAD
171 FANSIG_1 — FANSIG_1 (31)
172 FANSIG_2 — FANSIG_2 (31)
175 RF_OFF# — RF_OFF# (23)
176 — T266PAD
1 -THEM_RST

PORT-D-1: IOPD0/RI1/EXWINT20 IOPD1/RI2/EXWINT21 IOPD2/EXWINT24

26 SUSB# — SUSB# (16)
29 ACIN — ACIN (34)
30 MXLID# — MXLID# (14)

PORT-E: IOPE4/SWIN IOPE5/EXWINT40 IOPE6/LPCPD/EXWIN45 IOPE7/CLKRUN/EXWINT46

2 NBSWON#
44
24 S5LAN_PME# — T255PAD
25

3VPCU 3VSUS — B: Add R894

R746 10K — R894 10K — D66 CH501H-40 — PR_INSERT# (14,33) — S5LAN_PME# (21)

3VPCU — R685 10K — NBSWON# — SW3 — C166 .1U

POWERSW-A

PORT-H: IOPH0/A0/ENV0 IOPH1/A1/ENV1 IOPH2/A2/BADDR0 IOPH3/A3/BADDR1 IOPH4/A4/TRIS IOPH5/A5/SHBM IOPH6/A6 IOPH7/A7

124 ENV0
125 ENV1
126 BADDR0
127 BADDR1
128 TRIS
131 SHBM
132 A6
133 A7

PORT-I: IOPI0/D0 IOPI1/D1 IOPI2/D2 IOPI3/D3 IOPI4/D4 IOPI5/D5 IOPI6/D6 IOPI7/D7

138 D0
139 D1
140 D2
141 D3
144 D4
145 D5
146 D6
147 D7

PORT-J-1: IOPJ0/RD IOPJ1/WR0

150 RD#
151 WR#

SELIO — 152 SELIO# — T37 PAD

PORTJ-2: IOPJ2/BST0 IOPJ3/BST1 IOPJ4/BST2 IOPJ5/PFS IOPJ6/PLI IOPJ7/BRKL_RSTO

PORT-D-2: IOPD4 IOPD5 IOPD6 IOPD7

41
42 CELL_SLT — SCROLED (30) — CELL_SLT (34)
54 D/C# — D/C# (34)
55 BL/C# — BL/C# (34)

PORT-K: IOPK0/A8 IOPK1/A9 IOPK2/A10 IOPK3/A11 IOPK4/A12 IOPK5/A13/BE0 IOPK6/A14/BE1 IOPK7/A15/CBRD

143 A8
142 A9
135 A10
134 A11
130 A12
129 A13
121 A14
120 A15

PORT-M: IOPM0/D8 IOPM1/D9 IOPM2/D10 IOPM3/D11 IOPM4/D12 IOPM5/D13 IOPM6/D14 IOPM7/D15

PORT-L: IOPL0/A16 IOPL1/A17 IOPL2/A18 IOPL3/A19 IOPL4/WR1

113 A16
112 A17
104 A18
103 A19
48 WR1# — T11 PAD — T50 PAD

CS# 22 — RD# 24 — WR# 31

U14 — A0 A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13 A14 A15 A16 A17 — D0 D1 D2 D3 D4 D5 D6 D7 — VPP — VCC — GND — *PLCC32

D0 13 D1 14 D2 15 D3 17 D4 18 D5 19 D6 20 D7 21
A18 1
3VPCU 32
C356 .1U

3VPCU — MBCLK R228 4.7K — MBDATA R227 4.7K

Pin 103 internal is "A19",Can't use to GPIO

(30) MX0–MX7 — KBSIN0–KBSIN7

(30) MY0–MY15 — KBSOUT0–KBSOUT15

5V — RN72 8P4R-10K — R207 10K — R209 10K

3VPCU — R684 10K — T256PAD T257PAD T258PAD T259PAD

TINT TCK TDO TDI TMS — JTAG debug port

(33) MSCLK — PSCLK1/IOPF0
(33) MSDATA — PSDAT1/IOPF1
(33) KPCLK — PSCLK2/IOPF2
(33) KPDATA — PSDAT2/IOPF3
(31) TPCLK — PSCLK3/IOPF4
(31) TPDATA — PSDAT3/IOPF5
(30) CAPSLED — PSCLK4/IOPF6
(30) NUMLED — PSDAT4/IOPF7

PS2 interface

591_32KX1 — R223 20M — 591_32KX2 — Y4 32.768KHZ — 591_32KX3 — R231 120K — C387 20P — C386 5.6P

158 32KX1/32KCLKOUT
160 32KX2

(34) THR# — HWPG
(35,37,38) HWPG
(16) SUSC#
(34) AD_OUT
(3,16) PROCHOT#
(28) VOLMUTE#

(38) S5_ON
(37,38) SUSON
(28,37,38) MAINON
(37) LAN_PWRON
(35) VRON
(16) DNBSWON#
(30) PWROK — T273 PAD — D21 SW1010C — PWROK — D20 SW1010C

CS# — 591SEL1# — 591CLK — T35 PAD — T51 PAD

GND1 17 GND2 35 GND3 46 GND4 122 GND5 159 GND6 167 GND7 137 — AGND 96 — AGND_591 — R204 10

NC1 11 NC2 12 NC3 20 NC4 21 NC5 85 NC6 86 NC7 91 NC8 97 NC9 98 NC10

C371 1U/10V

PC97551VPC

U13

ENV0 20 ENV1 19 BADDR0 18 BADDR1 17 TRIS 16 SHBM 15 A6 14 A7 13 A8 3 A9 2 A10 31 A11 1 A12 12 A13 4 A14 5 A15 11 A16 10 A17 6 — CS# 30 RD# 32 WR# 7 — A18 9 — VCC 8 — GND 24

D0 21 D1 22 D2 23 D3 25 D4 26 D5 27 D6 28 D7 29

3VPCU — C355 .1U

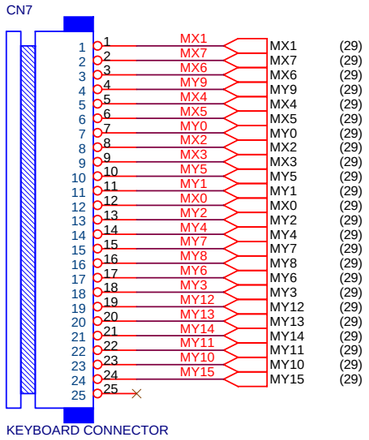
39VF040
TS0P32

Size: Custom	Document Number: KBC-PC97551
Rev: 2A	
Date: Friday, May 21, 2004	Sheet 29 of 39

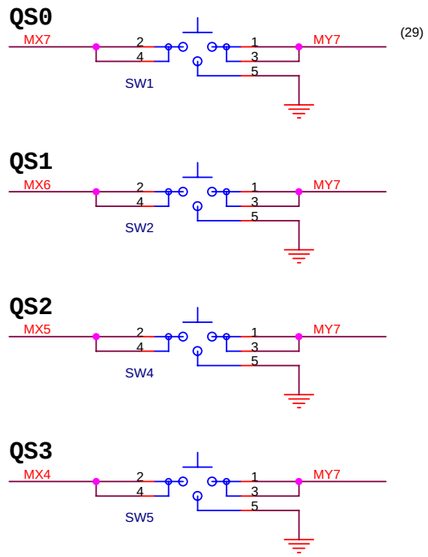
PROJECT : KN3
Quanta Computer Inc.

KEYBOARD CONN & INDICATOR

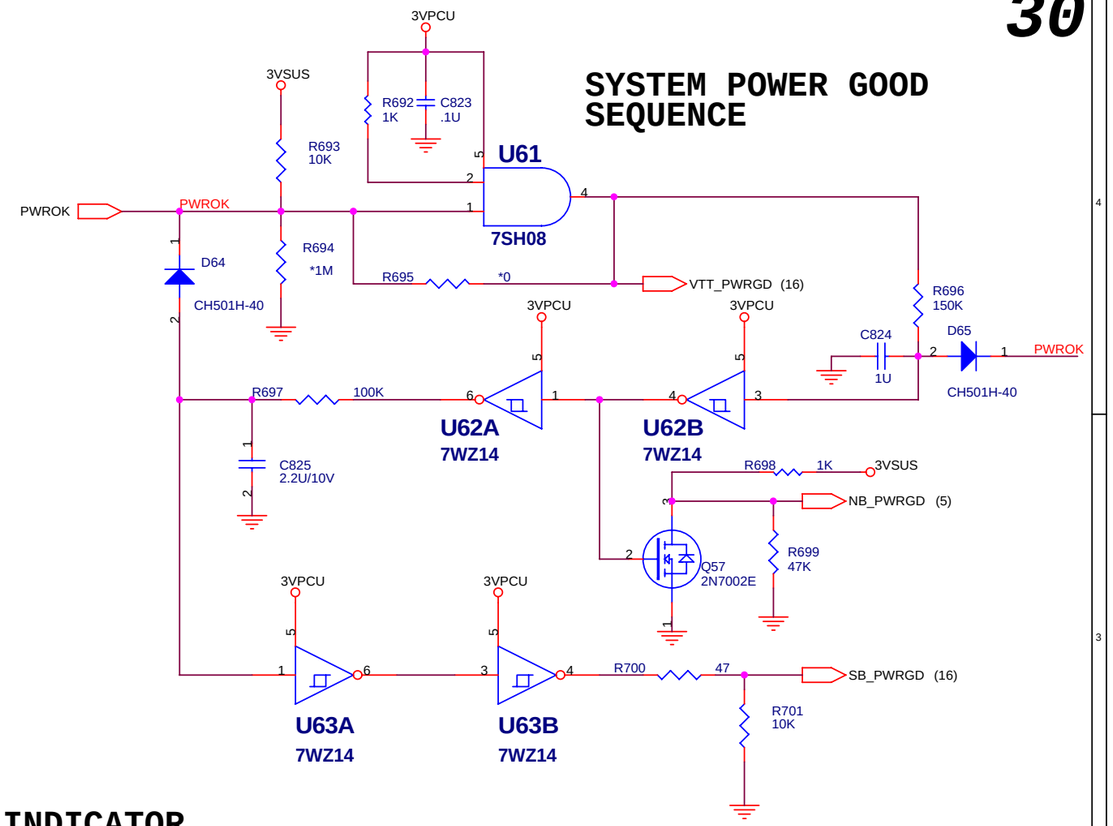
KEYBOARD CONNECTOR

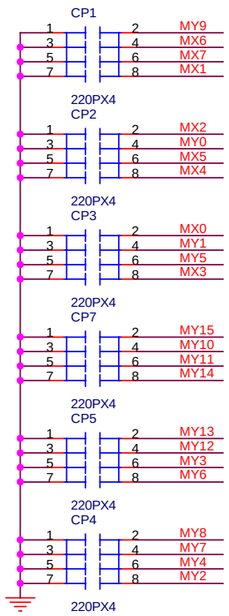


QUICK SWITCH

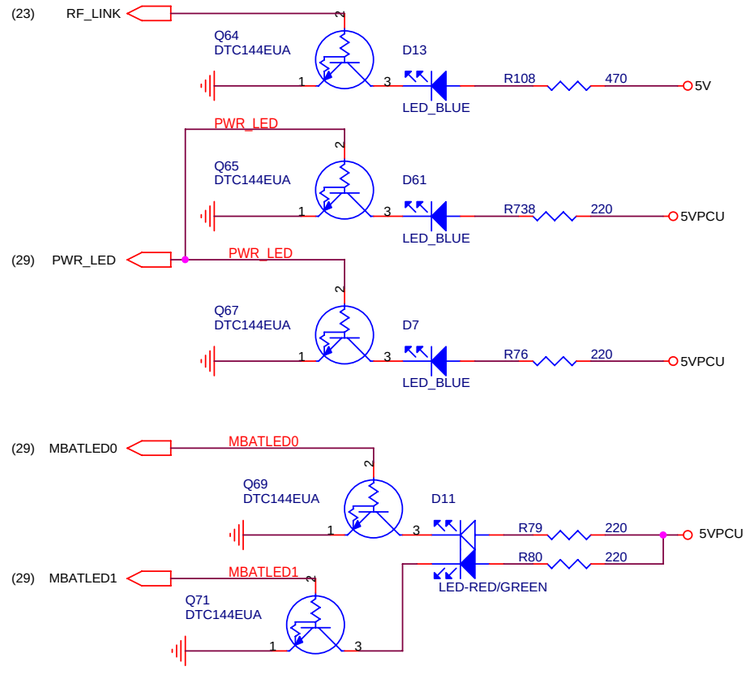


SYSTEM POWER GOOD SEQUENCE





SYSTEM INDICATOR

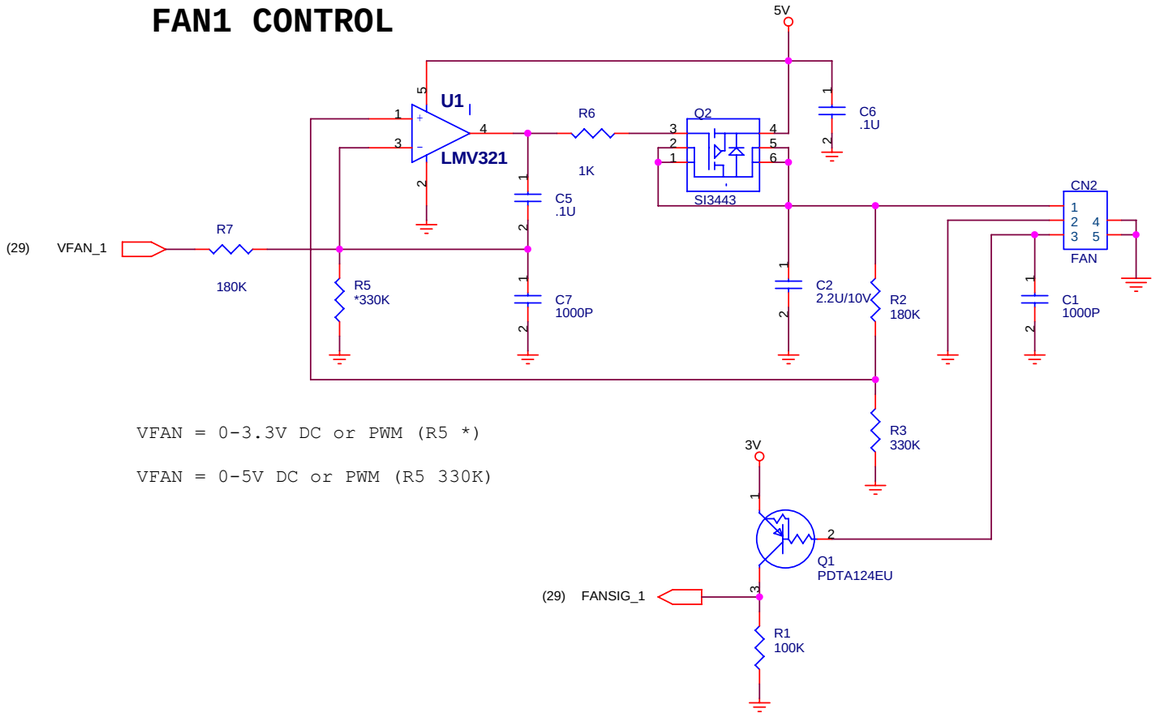


PROJECT : KN3
Quanta Computer Inc.

Size	Document Number	Rev
Custom	KEYBOARD CONN & INDICATOR	2A
Date: Friday, May 21, 2004	Sheet 30 of 39	

FAN CONTROL & T/P CONNECTOR

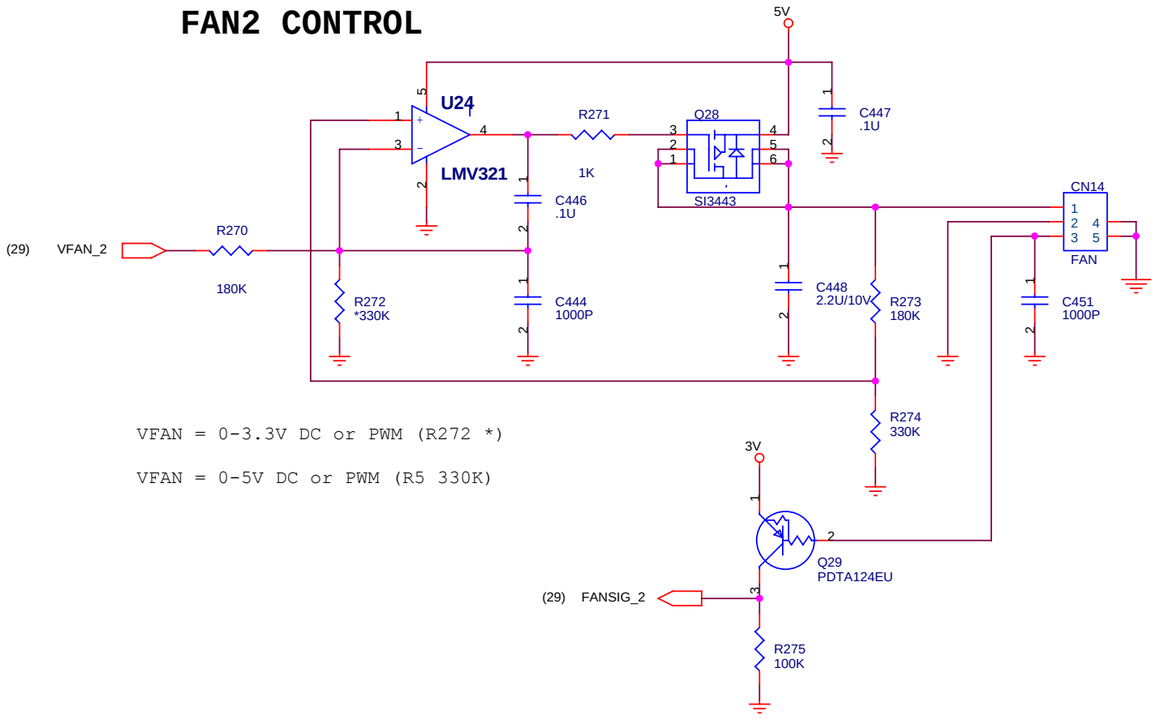
FAN1 CONTROL



VFAN = 0-3.3V DC or PWM (R5 *)

VFAN = 0-5V DC or PWM (R5 330K)

FAN2 CONTROL

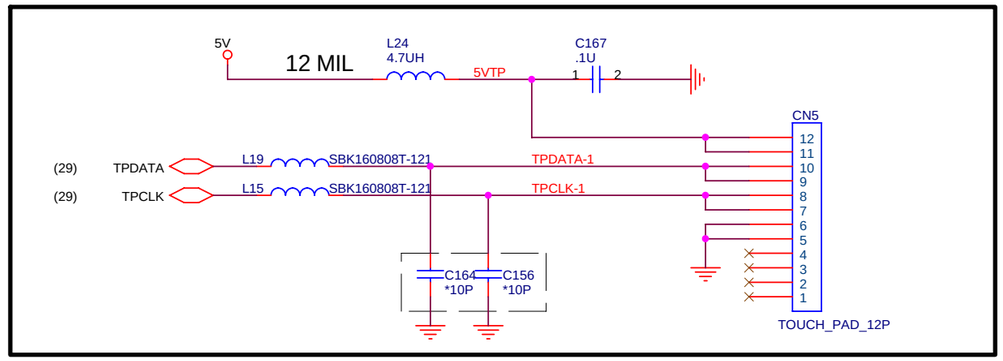


VFAN = 0-3.3V DC or PWM (R272 *)

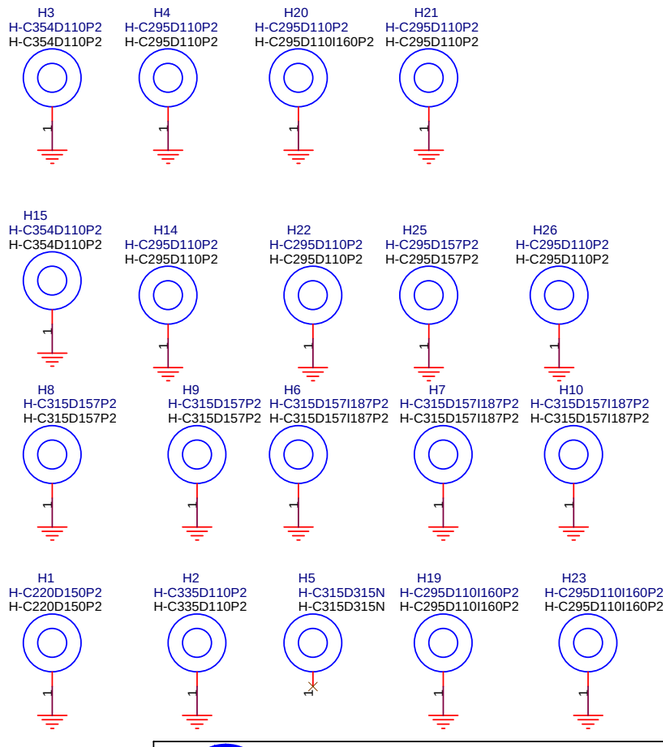
VFAN = 0-5V DC or PWM (R5 330K)

B: Delete Q106,Q107,R860 for H/W throttling.

TOUCH PAD CONN.



SCREW HOLE



PROJECT : KN3

Quanta Computer Inc.

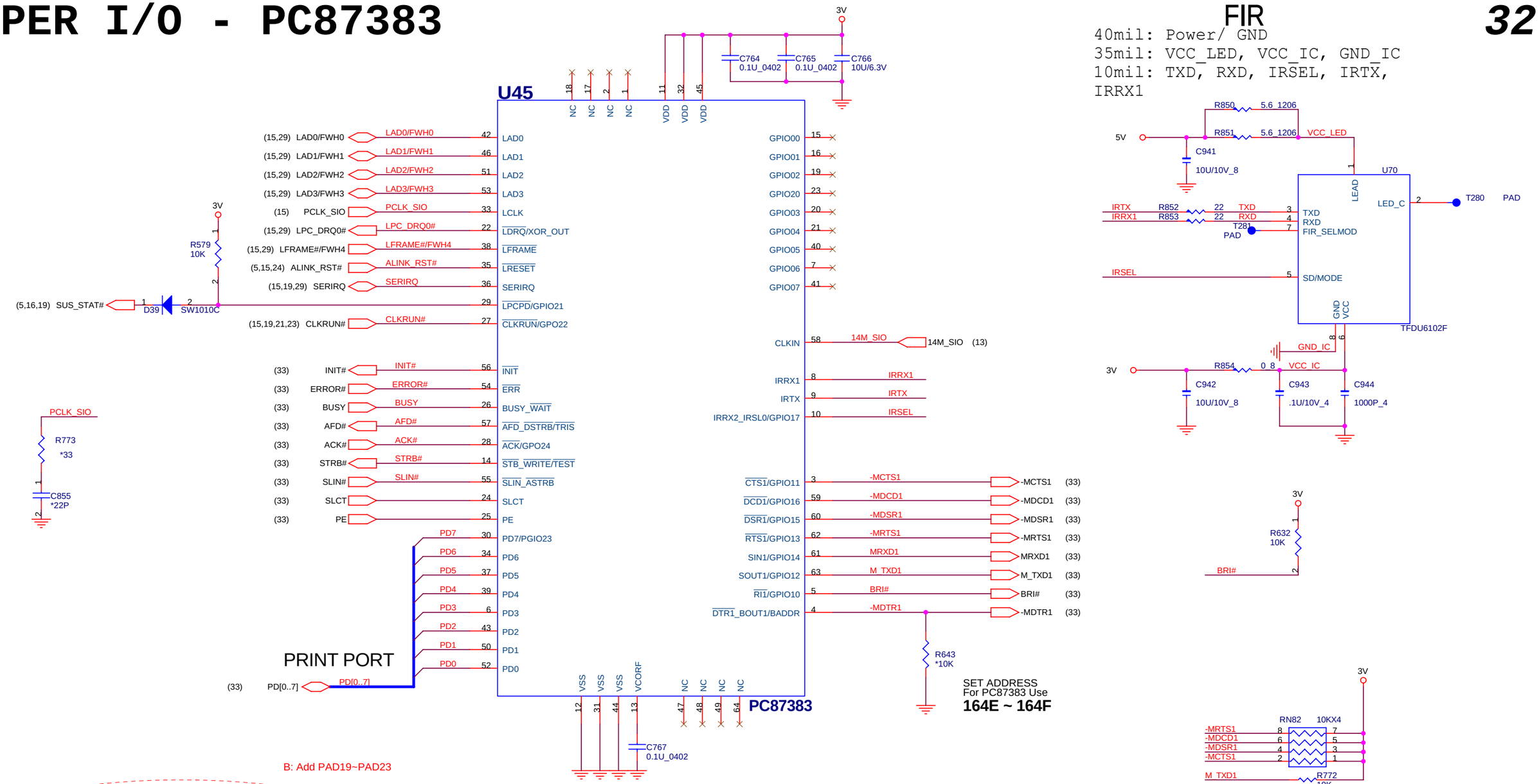
Size	Document Number	Rev
Custom	FAN CONTROL & T/P CONNECTOR	2A
Date: Friday, May 21, 2004	Sheet 31 of 39	

SUPER I/O - PC87383

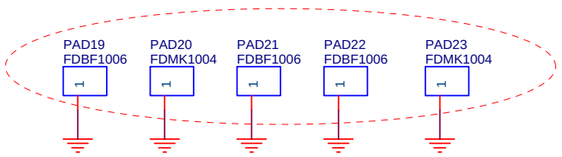
FIR

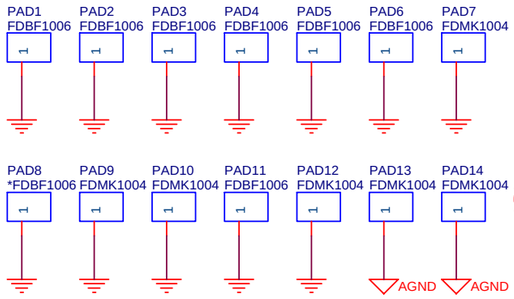
32

40mil: Power/ GND
35mil: VCC_LED, VCC_IC, GND_IC
10mil: TXD, RXD, IRSEL, IRTX, IRRX1

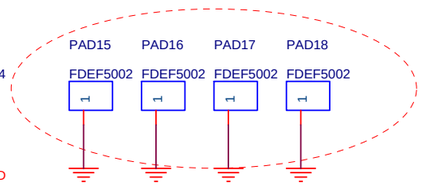


B: Add PAD19~PAD23





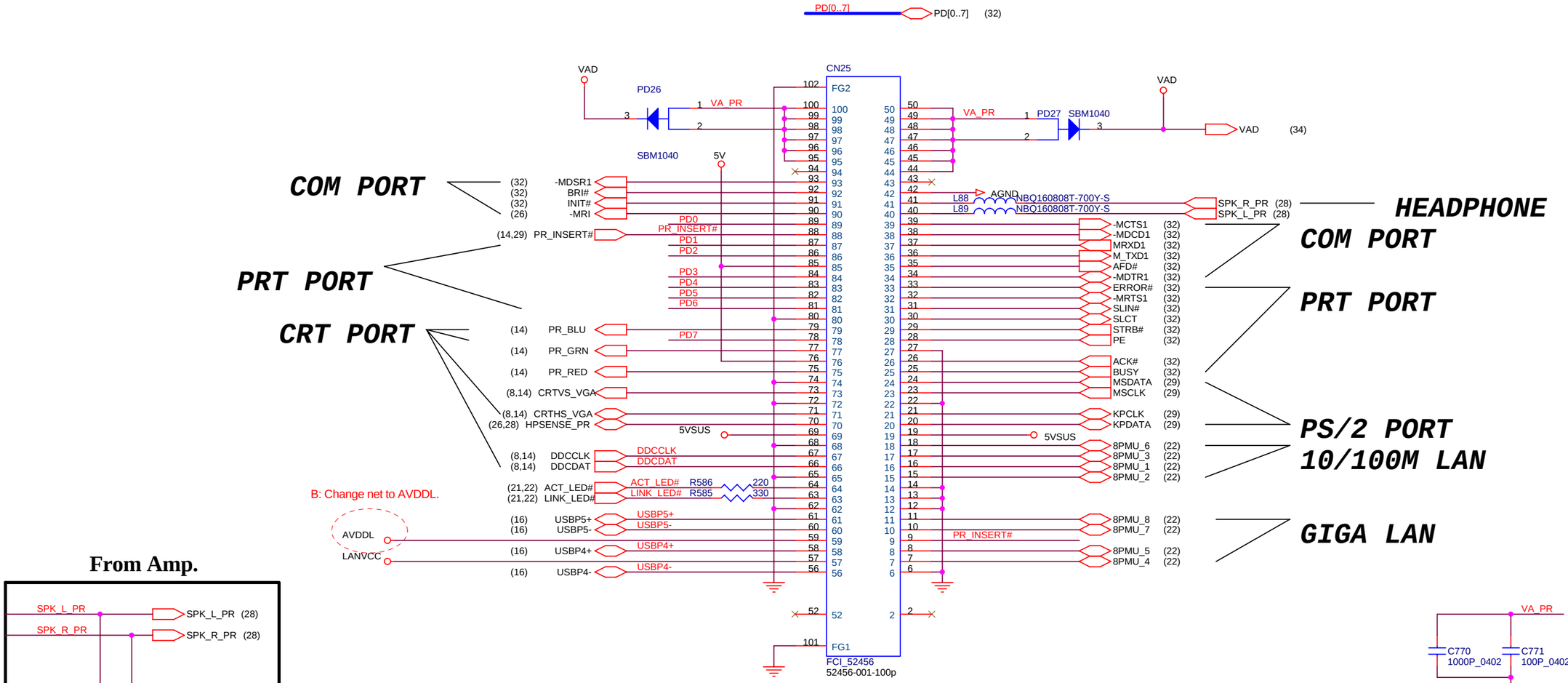
B: Add PAD15~PAD18



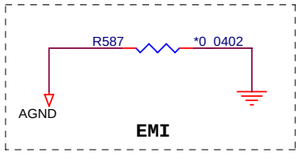
PROJECT : KN3
Quanta Computer Inc.

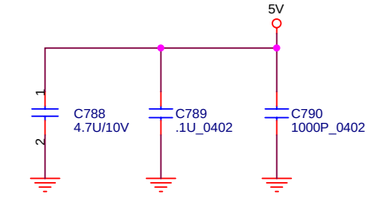
Size	Document Number	Rev
Custom	SUPER I/O - PC87383 ,FIR	2A
Date: Friday, May 21, 2004	Sheet 32 of 39	

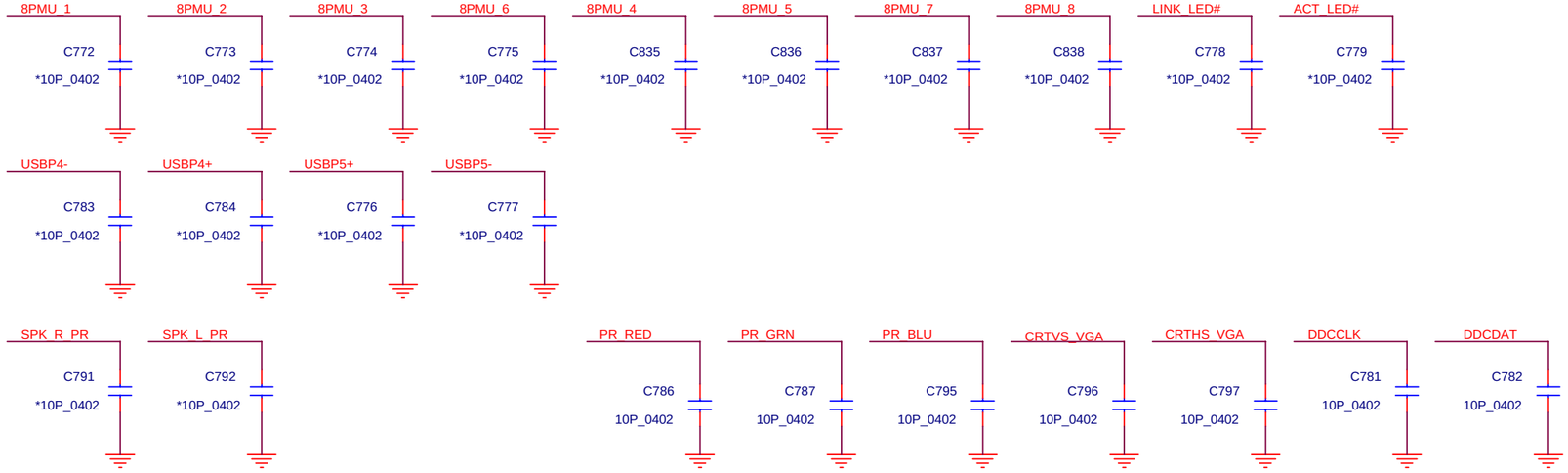
PORT REPLICATOR



From Amp.







PROJECT : KN3
Quanta Computer Inc.

Size	Document Number	Rev
Custom	PORT REPLICATOR	2A
Date: Friday, May 21, 2004	Sheet 33 of 39	

BATTERY CHARGER

H24
H-C295D110P2
H-C295D110P2

JP1
POWER_JACK_120W

AD_ID
VIN for 90W
GND for
120W

GND1

PR208
*47K

PR209
*10K

AD_ID1

VA

PL7
0805/5A

PL9
0805/5A

PC81
.1U/25V

PL11
0805/5A

PL12
0805/5A

PC80
.1U/25V

PD28 SBM1040

VAD

PR109
0.01

PQ39

AO4407

PQ41
PDTA124EU

PC83 .1U

VIN

PR110
200K/F

PR113
100K

PR243
0.006

PR244
4.7

PR245
4.7

Iin SENSE-

Iin SENSE+

PC211
.1U/25V

PC212
.1U/25V

PQ40

AO4407

PQ54

AO4407

(29) TEMP_MBAT

3VPCU

PR108
10K/F

PC242
.1U/25V

PC82
.1U

B: Add PC242 for EMI

PL23
0805/5A

PL8
0805/5A

PL10
0805/5A

PR214
14K

PR213
100K

MBATV

MBATV (29)

PC190
0.01U

TEMP_ABAT

JP2

BAT_CONN

PR111
330

PR112
330

(3,29) MBCLK

MBDATA (3,29)

PD11
UDZ5.6B

PD12
UDZ5.6B

PR260
100K

ACOK

PR115
*100K

1772_5.4V

PD1
CH501H-40

PR114
10K

Q49
2N7002E

PR116
4.7

Iin SENSE1+

PC87
.1U/25V

PR120
4.7

Iin SENSE1-

PC86
.1U/25V

VIN

PC84
10U/25V

PL13
0805/5A

PQ42

SI4814DY

5VPCU

PD23
SW2020C

VIN

PR119
475K/F

3VPCU

PR124
0

5VPCU

3VPCU

PR261
47K

D/C#

Q51
2N7002E

D/C# (29)

PU19
LMV331

PR262
100K

PR125
332K/F

Q52
2N7002E

BL/C# (29)

1772_5.4V

PR123
33

PD13
SW2020C

PC88
0.1U

CLX

PL14
15UH/4.4A/SIL104

CLX1

PR117
0.04

PR121
4.7

PR122
4.7

PC89
0.1U

PC90
0.1U

PC85
100U/25V

PC229
100U/25V

300mV/A for Adp
Iin sensing

Iin SENSE1-

Iin SENSE1+

(29) AD_ID2

PC207
0.1U

PR129
30K

B: Stuff PR129

PU9
MAX1772EEI

INP CSSP CSSN BST DHI LX DLOV DLO PGND CSIP CSIN BATT CELLS VCTL

DCIN LDO CLS REF CCS CCI CCV GND1 GND2 ICHG ACIN ACOK REFIN ICTL

VIN VAD

PD20
*SW2020C

PD14
SW2020C

PR131
0

PC92
0.1U

PC93
1U

1772_5.4V

REF4.096

PR134
*200K

REF4.096

PR132
1K

PC94 PC97 PC99 PC98
1U 0.01U 0.01U 0.1U

1772_5.4V

PR212
200K

AC/DC

3VPCU

PC96
0.1U

PR136
100K

CC-SET (29)

PC99
*1U

PR257
4.7K

B: Change to 4.7K

ACIN (29)

PQ61
2N7002E

ACOK

PR135
100K

(29) AD_CSET

PR215
0

(29) AD_ID2

PQ56
*DTC144EUA

PC213
1U

PR138
*93.1K/F

(29)

B: Stuff PC213

AD_OUT

*0
PR216

1772_5.4V

CV for 4S ====16.9V
for 3S ====12.7V

PR127
20K

PR128
20K

3VPCU

PR210
26.7K

B: Change to 26.7K

PR211
10K

CELL_ SLT (29)

Hi for 3 cells
Lo for 4 cells

Q53
DTC144EUA

VAD

PR130
76.8K

AC/DC

PR133
10K

1.Charging Current (A) = Victl (V)* 1.55
2.Less then REFIN(3.3V) / 100 for
Charging Shutdown threshold

(3) CPUPROCHOT#

Iin SENSE+

Iin SENSE-

5V

PC187
.1U

PU17
MAX4173FEUT

RS+ RS- VCC OUT GND GND

SYS_I (29)

R870
*0 AD_ID2

PR198
0

PR200
1M

B: Change TO 1M

PC188
0.1U

3V

B: Change circuit

R871
1K

PU18B
LM393M

PD24
SW1010C

PQ53
2N7002E

DAREF (29)

R876
330K

C953
0.1U_4

B: Change circuit

300mV/A for Batt I
dicharge sensing

CPUPROCHOT#

Q105
2N7002E

(29) THR#

R858
10K_4

(29) ACIN

Q104
DTC144EUA

5V

C952
0.1U_4

3V

PR202
1K

AD_ID2

DAREF

PU18A
LM393M

PD25
SW1010C

AD_OUT (29)

PR263
100K

B: Change circuit

PROJECT : KN3
Quanta Computer Inc.

Size	Document Number	Rev
Custom	BATTERY CHARGER(MAX1873)	2A
Date: Friday, May 21, 2004	Sheet 34 of 39	

VCORE-1(ISL6248)

Northwood : Rdroop=2.26K
Vdroop=40.2uA*2.26K=91mV
Prescott : Rdroop=2.26K//16.2K=1.98K
Vdroop=49uA*1.98K=97mV

2V/ROFS=VOFS/RFB
Prescott : ROFS=PR14//PR79=265K
2V/265K=VOFS/1.98K;VOFS=15mV
Northwood : ROFS=340K
2V/340K=VOFS/2.26K;VOFS=13mV

Prescott:	Northood:
HFM=1.325V/80A	HFM=1.55V/66A
LFM=1.15V/32A	LFM=1.20V/34A
DRSM=0.8V/6A	DRSM=1.0V/6A
Vos=1.7%	Vos=1.7%
Load line=1.3mV/A	Load line=1.5mV/A
Vdroop=80A*1.3mV=104mV	Vdroop=66A*1.5mV=99mV

Battery Feed Forward

5V PR139 0 6248VCC PC100 2.2U

VIN_CORE PR140 80.6K PR141 *80.6K VIN

6248RAMPADJ PR142 10K

PU10
ISL6248

VCC 32, VID0 5, VID1 4, VID2 3, VID3 2, VID4 1, VID5 6, ENLL 34, DRSEN 33, DSEN# 35, OCSET 10, DSV 9, SOFT 11, FS 36, DRSV 37, NTC 40, GND0 12, GND1 19, VRTN 18, VSEN 17, PGOOD 39, OFS 8

RAMPADJ 7, VR-TT 38, PWM1 25, ISEN1+ 24, ISEN1- 23, PWM2 26, ISEN2+ 27, ISEN2- 28, PWM3 20, ISEN3+ 21, ISEN3- 22, PWM4 31, ISEN4+ 30, ISEN4- 29, COMP 15, FB 13, NC 14, VDIFF 16

(4) CPU_VID0
(4) CPU_VID1
(4) CPU_VID2
(4) CPU_VID3
(4) CPU_VID4
(4) CPU_VID5

6248_EN PR144 0 PC101 0.01U (15) DPRSLPVR

PR143 0
PR145 *0
PR147 0 (13,15,18) CPU_STP#
5V PR146 *0 PR148 0

Load For destop solution

B: Change PR149 to 309
PR149 309 PC102 *100P PR150 13.3K

OCP=150A

B: Change PR150 to 13.3K

6248DSV
PC104 6248SS 0.082U

6248FS
PR152 48.7K
6248DRSV
PR155 90.9K

FREQ=200KHZ

B: PR195,PR179,PR186,PR170 change to 909

PWM1 PR195 909 ISEN1+ (36)
ISEN1- PR217 0 ISEN1- (36)
PWM2 PR179 909 ISEN2+ (36)
ISEN2- PR218 0 ISEN2- (36)
PWM3 PR186 909 ISEN3+ (36)
ISEN3- PR219 0 ISEN3- (36)
PWM4 PR170 909 ISEN4+ (36)
ISEN4- PR220 0 ISEN4- (36)

B: Change PC103 to 150P
PC103 150P
6248COMP PR151 16.2K/F PC105 1500P
6248FB
B: Change PR151 to 16.2K
B: Change PC106 to 3300P
PC106 3300P 6248VDIFFRC PR153 10/F
B: Change PR153
*NTC_10K PR154 PR258 *0 PR156 0 PR157 2.26K
B: Change PR157
PR237 16K PQ57 2N7002E
6248DFS

ISEN1+ PC234 0.1U
ISEN2+ PC235 0.1U
ISEN3+ PC236 0.1U
ISEN4+ PC237 0.1U
B: Add PC134~PC237

PC107 220P
PC109 220P
PC108 1U
ISL6248_PG

3V PR160 10K HWPG (29,37,38)

PR162 0 VCC_CORE
PR247 *0 VCCSENSE (4)
PR248 *0 VSSSENSE (4)
PR163 0

6248VCC PR238 5.1K
PR158 511K PR240 1M
B: Change PR158,PR240
PQ59 TP0610T
PQ58 2N7002E
6248VCC

6248VCC PR239 27K PC210 0.1U/25V
PR241 22K SELECT (4)
PQ60 MMBT3904
PR242 100K

PU11
MAX1982

(29) VRON
5VPCU
PC110 .1U
SHDN PGOOD BIAS IN GND OUT
3V PR159 *10K
VCCVID R649 1K
6248_EN
CPU_VIDPGD (4,13,16)
PC111 10U/10V/R
PC112 10U/10V/R
VCCVID (4)
PR161 0

PROJECT : KN3
Quanta Computer Inc.

Size	Document Number	Rev
Custom	VCORE-1(ISL6248)	2A
Date: Friday, May 21, 2004	Sheet 35 of 39	

VCORE-2(Power train)

5V
PR164 0
6207VCC4
PWM4
PR167 499K
PC122 1U
PD15 SW1010C
PU12
VCC BOOT
PWM UGTE
EN PHSE
GND LGTE
ISL6207CB-T
PR166 0
BOOT4
PC121 0.15U
PWMBOOT4
PWMUGTE4
PWMPHSE4
PWMLGTE4
PR249 100K
PR250 100K
PQ43 BSC022N03S
PQ44 BSC022N03S
PC116 10U_1210_25V_X5R
VIN_CORE
PL17 HI0805R800R-00(5A)
VIN
PC113 1000P
PC137 10U_1210_25V_X5R
PC171 10U_1210_25V_X5R
PC138 10U_1210_25V_X5R
PC114 0.1U
PC120 1000P
PL16 0.56U
VCC_CORE
PR168 *2.2
PC129 *1000P
PR169 34.8K
PC130 0.01U
ISEN4-
ISEN4+
PR171
PR226
B: Change PR171,PR226
PC124 1000P
PC125 0.1U

5V
PR172 0
6207VCC2
PWM2
PR175 499K
PC142 1U
PD16 SW1010C
PU13
ISL6207CB-T
PR174 0
BOOT2
PC136 0.15U
PWMBOOT2
PWMUGTE2
PWMPHSE2
PWMLGTE2
PR251 100K
PR252 100K
PQ45 BSC059N03S
PQ46 BSC022N03S
PC134 1000P
PC117 10U_1210_25V_X5R
PC115 10U_1210_25V_X5R
PC139 10U_1210_25V_X5R
PC118 10U_1210_25V_X5R
PC135 0.1U
PL15 HI0805R800R-00(5A)
PC141 0.01U
PL18 0.56U
PR176 *2.2
PC146 *1000P
PR177 34.8K
PC148 0.01U
ISEN2-
ISEN2+
PR178
PR227
B: Change PR178,PR227

5V
PR180 0
6207VCC3
PWM3
PR183 499K
PC163 1U
PD17 SW1010C
PU14
ISL6207CB-T
PR182 0
BOOT3
PC159 0.15U
PWMBOOT3
PWMUGTE3
PWMPHSE3
PWMLGTE3
PR253 100K
PR254 100K
PQ47 BSC059N03S
PQ48 BSC022N03S
PC152 1000P
PC154 10U_1210_25V_X5R
PC155 10U_1210_25V_X5R
PC156 10U_1210_25V_X5R
PC157 0.1U
PL19 HI0805R800R-00(5A)
PC158 1000P
PL20 0.56U
PR184 *2.2
PC165 *1000P
PR185 34.8K
PC166 0.01U
ISEN3-
ISEN3+
PR187
PR228
B: Change PR187,PR228

5V
PR189 0
6207VCC1
PWM1
PR191 499K
PC178 1U
PD18 SW1010C
PU15
ISL6207CB-T
PR188 0
BOOT1
PC177 0.15U
PWMBOOT1
PWMUGTE1
PWMPHSE1
PWMLGTE1
PR255 100K
PR256 100K
PQ49 BSC059N03S
PQ50 BSC022N03S
PC170 1000P
PC140 10U_1210_25V_X5R
PC172 10U_1210_25V_X5R
PC173 10U_1210_25V_X5R
PC175 0.1U
PL21 HI0805R800R-00(5A)
PC176 0.01U
PL22 0.56U
PR192 *2.2
PC182 *1000P
PR193 34.8K
PC180 1000P
PC181 0.1U
PC183 0.01U
ISEN1-
ISEN1+
PR194
PR229
B: Change PR194,PR229

VCC_CORE
PC214 330U/2.5V
PC215 330U/2.5V
PC131 470U/2.5V
PC132 470U/2.5V
PC128 *470U/2.5V
PC144 330U/2.5V
PC145 330U/2.5V
PC149 *470U/2.5V
PC151 470U/2.5V
PC160 *470U/2.5V
PC161 470U/2.5V
PC162 470U/2.5V
PC167 470U/2.5V
PC168 470U/2.5V
PC169 *470U/2.5V
PC126 470U/2.5V
PC224 *22U/6.3V
PC218 *22U/6.3V
PC219 22U/6.3V
PC222 22U/6.3V
PC226 22U/6.3V
PC227 22U/6.3V
PC228 *22U/6.3V
PC223 *22U/6.3V

PROJECT : KN3
Quanta Computer Inc.

Size	Document Number	Rev
C	VCORE-2(Power train)	2A
Date: Friday, May 21, 2004	Sheet 36 of 39	

DC-DC(MAX1999)

HW RESET USAGE

(3) 1999RESET#

B1 SWTC004-PS11AT-4P

C441 .1U

R269 100K

R268 390K

3V

PR105 *100K

(29,35,38) HWPG

5V_AL

VCC

C413 4.7U/10V

3V_AL

U22 MAX1999

1	N.C	BST3	28
2	PGOOD	LX3	27
3	ON3	DH3	26
4	ON5	LDO3	25
5	ILIM3	DL3	24
6	SHDN-	GND	23
7	FB3	OUT3	22
8	REF	OUT5	21
9	FB5	V+	20
10	PRO-	DL5	19
11	ILIM5	LDO5	18
12	SKIP-	VCC	17
13	TON	DH5	16
14	BST5	LX5	15

C440 1U

R266 100K

REF2V_1999

PR246 0

5V_AL

PR204 *0

PR205 0

5VPCU

PR223 *15K

FB5

PR225 0

3VPCU

PR222 *6.49K

FB3

PR224 0

R267 2.2

C412 1U/25V

C415 .1U

LX3

DH3

B: Add PC248 for EMI

PC248 1000P

C450 10U/25V

PQ30 SI4800DY

PQ31 SI4810DY

PD8 *SSM24

PL3 0805/5A

PC243 0.01U

PC244 .1U/25V

C449 10U/25V

VIN

B: Add PC243,PC244 for EMI

L50 3.3UH/5.7A

5A

3VPCU

C459 220U/4V

PC238 1U

B: Add PC238

B: Add PC250 for EMI

PC250 1000P

C445 10U/25V

PQ32 SI4800DY

L51 3.8UH/6A

6A

5VPCU

PC71 220U/6.3V

PC239 1U

B: Add PC239

DL5

DH5

LX5

BST5

C424 .1U

D26 CHP202U

PR206 4.7

C822 1U

C414 4.7U/10V

5V_AL

PQ55 SI4810DY

PD19 *SSM24

D27

C409 .01U

5VPCU

10V

CHN217

C422 .1U/25V

EMI

3VPCU: PC197 .1U, PC198 .1U, PC199 .1U

5VPCU: PC200 .1U, PC201 .1U, PC202 .1U

3V: PC203 .1U, PC204 .1U

3VSUS: PC205 .1U, PC206 .1U

5V: PC207 .1U, PC208 .1U

5VSUS: PC209 .1U, PC210 .1U

EMI , Close to PQ15,PQ16 pin 1, 4

MAIND

PR236 10K

PC209 *1U/10V

PQ11 SI4800DY

2.5VSUS

3A

2.5V

5VPCU

PQ15 SI9936

3A

5VSUS

3A

5V

MAIND

SUSD

3VPCU

PQ16 SI9936

2A

3VSUS

3A

3V

MAIND

SUSD

Q25 SI3456

1.2A

LANVCC

LIND

PR92 1M

PR93 1M

PR91 *22_0805

PQ13 2N7002E

PQ14 *2N7002E

(29) LAN_PWRON

PQ12 DTC144EUA

10V

3VPCU

PR102 1M

PR101 22_0805

PR103 22_0805

PR107 1M

SUSD

(29,38) SUSON

PQ24 DTC144EUA

PQ23 2N7002E

PQ26 2N7002E

PQ29 2N7002E

PC70 *2200P

PR98 1M

PR96 22_0805

PR100 22_0805

PR95 22_0805

PR99 22_0805

PR106 22_0805

PR104 1M

MAIND

(28,29,38) MAINON

PQ20 DTC144EUA

PQ21 2N7002E

PQ25 2N7002E

PQ18 2N7002E

PQ22 2N7002E

PQ28 2N7002E

PQ27 2N7002E

PC69 *2200P

1.5V

1.8V

2.5V

3V

5V

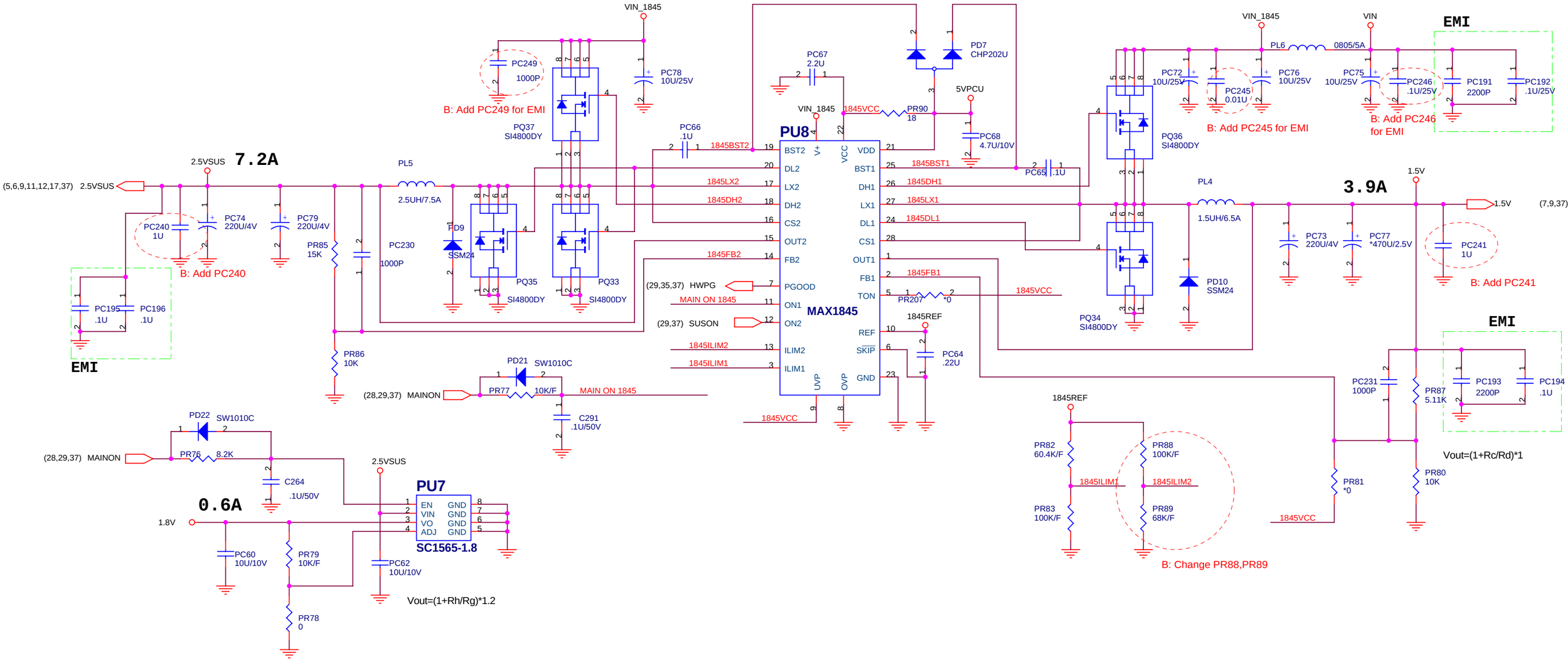
10V

PROJECT : KN3

Quanta Computer Inc.

Size	Document Number	Rev
Custom	DC TO DC(MAX1999)	2A
Date: Friday, May 21, 2004	Sheet 37 of 39	

DC/DC MAX1845(2.5V&1.5V),1.8V&1.25V



PROJECT : KN3

Quanta Computer Inc.

Size	Document Number	Rev
Custom	MAX1845	2A
Date: Friday, May 21, 2004	Sheet 38 of 39	

MODEL	REV	CHANGE LIST
	1A	First Release

KN3

Main Board

PAGE \ MODEL	KN3 FROM	KN3 TO
01	1A	
02	1A	
03	1A	
04	1A	
05	1A	
06	1A	
07	1A	
08	1A	
09	1A	
10	1A	
11	1A	
12	1A	
13	1A	
14	1A	
15	1A	
16	1A	
17	1A	
18	1A	
19	1A	
20	1A	
21	1A	
22	1A	
23	1A	
24	1A	
25	1A	
26	1A	
27	1A	
28	1A	
29	1A	
30	1A	
31	1A	
32	1A	
33	1A	
34	1A	
35	1A	
36	1A	
37	1A	
38	1A	
39	1A	

PROJECT : KN3

Quanta Computer Inc.

Size	Document Number	Rev
Custom	**RELEASE NOTE**	2A

Date: Friday, May 21, 2004 Sheet 39 of 39