ZH5 Block Diagram

PA@ PATA
SA@ SATA
MP@ MINI PCI
MC@ MINI CARD
GS@ G-SENSOR
G9@ 5789
G7@ 5787

X'TAL 14.318MHZ
Clock Generator CK_410M
ICS954310BGLF
Page : 5
HOST 133MHz/166MHz
PCI-E 100MHz
VGA 96MHz
USB 48MHz
PCI 33MHz
REF 14MHz

Yonah/Merom Celeron-M
INTEL Mobile_479 CPU SOCKET_M
Page : 3~4
HOST BUS 533/667 MHz

CPU Thermal Sensor & FAN
Page : 6

DOCK DVI Chrontel 7307C
Page : 32
DVI
Docking
Page : 32

DDR2-SODIMM
Page : 13
Channel A
DDR2-SODIMM
Page : 13
DDR2 533/667 MHz Channel B

CALISTOGA-GM 945GM/940GML
1466 FCBGA
Page : 7~12
SDVO
TVOUT
RGB
LVDS

CRT Switch
SN74CBTLV3257PWR
Page : 19
CRT
Page : 19
LVDS
Page : 18

CPU CORE
MAX8736 & MAX8552E
Page : 34
VCC_CORE

1.5V / 1.05V(VCCP)
MAX1714A X2
Page : 37
+1.5V
+1.05V

USB0,1,2
SYSTEM ext USB*3
Page : 21
USB4
BlueTooth
Page : 21
USB7
CCD
Page : 18
USB 2.0

IDE - HDD
Page : 26
ATA 66/100
SATA - HDD
Page : 26
SATA

DMI I/F
ICH7-M
652 BGA
Page : 14~17

X'TAL 32.768KHZ

PCI BUS
Azalia
PCI-E

MINI PCI
Page :22
AD19 REQ2# / GNT2# INT C/D#

X'TAL24.576MHZ
OSC 48MHZ
TI PCI7412 PCMCIA+1394 4 IN 1
Page :22~24
AD25 REQ0# / GNT0# INT E/F/G#
1394
Page: 22
PCMCIA
Page: 23
4 IN 1
Page: 24

1.8V / 0.9V / 2.5V
TPS511116
Page : 36
+1.8VSUS
+1.8V
+0.9VSUS
+0.9V
+2.5V

5V / 3.3V / 10V
MAX8734A
Page : 35
+5VPCU
+3V_PCU
+3V_S5
+5V_S5
+3VSUS
+5VSUS
+3V
+5V
+10V

LPC

X'TAL 32.768K
X'TAL 32.768K

G-SENSOR
KXP84-0200
Page : 26

NS KBC(97551)
Page : 30

TPM 1.2
Page : 31

NS SIO (87383)
Page : 29

Touchpad
Page : 31
Keyboard
Page : 31

FIR
Page : 29

COM
LPT
PS2

Docking EZ4 Connector
Page : 33

MINI CARD / Wirelee LAN
Page : 21
USB6

X'TAL 25M
BROADCOM 10/100/1G LAN BCM5789M
Page : 20

LAN Switch
MAX4892
Page : 20

RJ45/11
Page : 20

MODEM
Page : 27

AUDIO CODEC ALC883
Page : 27

Audio AMP
Page: 28

MIC-IN
LINEIN
HP OUT
INT SPK
Page: 28

AUDIO BOARD
Page: 28

DOCKING AUDIO

BATTERY CHARGER & Selector
MAX8724
Page : 38
BATTERY

PCI DEVICE	IDSEL#	REQ# / GNT#	Interrupts
PCI7412	AD25	REQ0# / GNT0#	INT E/F/G#
MINI PCI	AD19	REQ2# / GNT2#	INT C/D#

PROJECT : ZH5
Quanta Computer Inc.

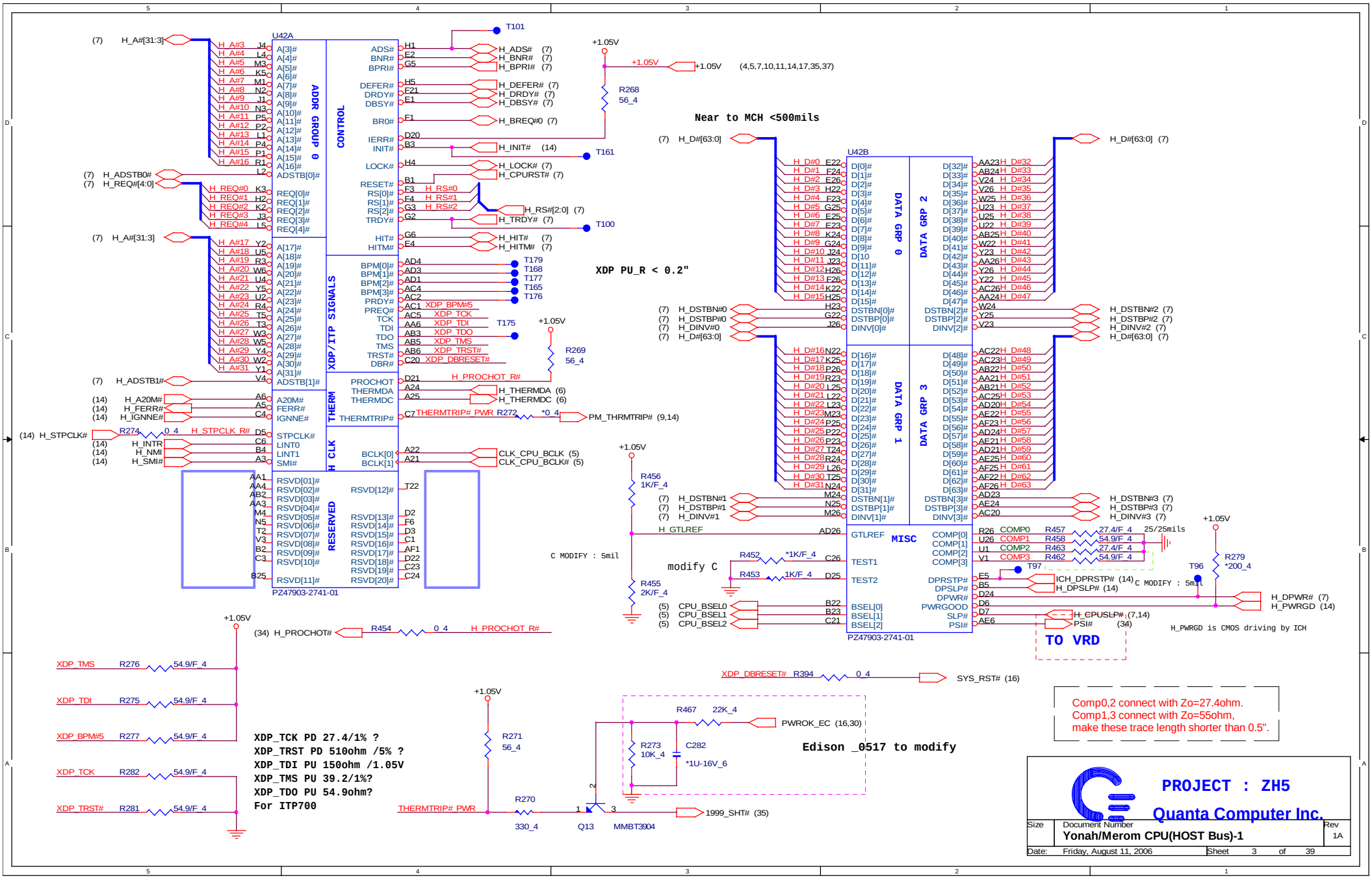
Size	Document Number	Rev
	BLOCK DIAGRAM	1A
Date: Friday, August 11, 2006	Sheet 1 of 39	

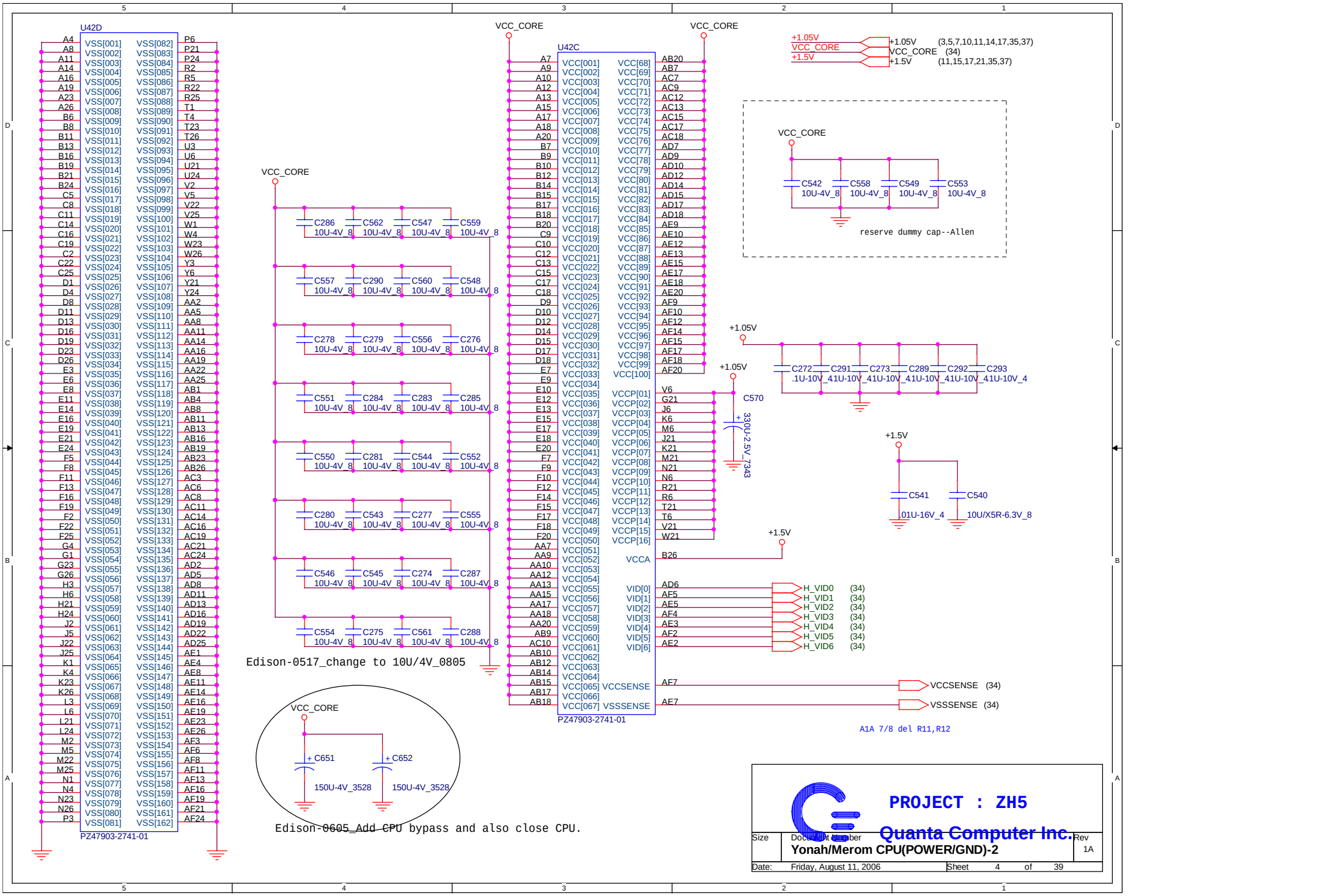
TABLE OF CONTENTS

PROJECT : ZH5

Quanta Computer Inc.

Size	Document Number	Rev
	TABLE OF CONTENTS	1A
Date: Friday, August 11, 2006	Sheet 2 of 39	


U42A
ADDR GROUP 0
CONTROL
XDP/ITP SIGNALS
THERM
H CLK
RESERVED
PZ47903-2741-01
U42B
DATA GRP 0
DATA GRP 2
DATA GRP 1
DATA GRP 3
MISC
PZ47903-2741-01
Near to MCH <500mils
XDP PU_R < 0.2"
modify C
C MODIFY : 5mil
TO VRD
H_PWRGD is CMOS driving by ICH
XDP_TMS R276 54.9/F_4
XDP_TDI R275 54.9/F_4
XDP_BPM#5 R277 54.9/F_4
XDP_TCK R282 54.9/F_4
XDP_TRST# R281 54.9/F_4
XDP_TCK PD 27.4/1% ?
XDP_TRST PD 510ohm /5% ?
XDP_TDI PU 150ohm /1.05V
XDP_TMS PU 39.2/1%?
XDP_TDO PU 54.9ohm?
For ITP700
Edison _0517 to modify
Comp0,2 connect with Zo=27.4ohm.
Comp1,3 connect with Zo=55ohm,
make these trace length shorter than 0.5".
PROJECT : ZH5
Quanta Computer Inc.
Yonah/Merom CPU(HOST Bus)-1
Friday, August 11, 2006
Sheet 3 of 39


U42D
PZ47903-2741-01
U42C
PZ47903-2741-01
VCC_CORE
+1.05V
+1.5V
reserve dummy cap--Allen
Edison-0517_change to 10U/4V_0805
Edison-0605_Add CPU bypass and also close CPU.
A1A 7/8 del R11,R12
PROJECT : ZH5
Quanta Computer Inc.
Yonah/Merom CPU(POWER/GND)-2
Size
Rev
1A
Date: Friday, August 11, 2006
Sheet 4 of 39

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	200	100	33

Default

Close to IC <500mils

Place these termination to close CK410M.

CK-410M

25 mils

25 mils

REQ3 Latched Select
"0" : CLK Enable
"1" : CLK Disable Control : PCIE 2,4

REQ4 Latched Select
"0" : CLK Enable
"1" : CLK Disable
Control : PCIE
3,5,7

BSEL strappings need to be set for 533MHz Moby Dick (Intel?915GM - Calistoga Interposer)
(if Calistoga is designed for 667MHz board).

ITP/SRC7 SELECT
0: SRC7 1: ITP

SELLCD_27# Select. (Pin 17,18)
"0" : 27MHzSS/27MHzSS# pair
"1" : LCD CLK pair

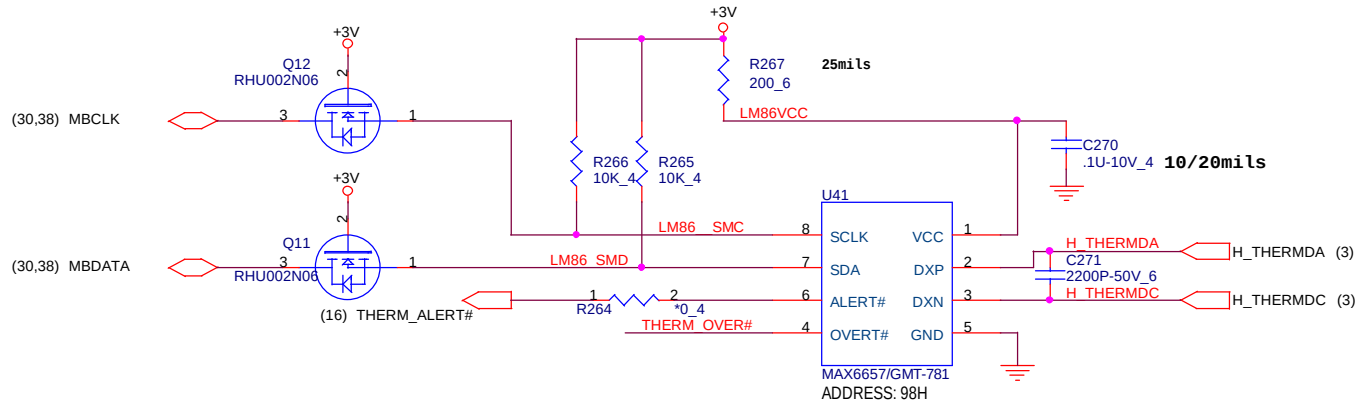
Latched Select. (Pin 17,18)
"0" : LCD CLK
"1" : PCIEX CLK

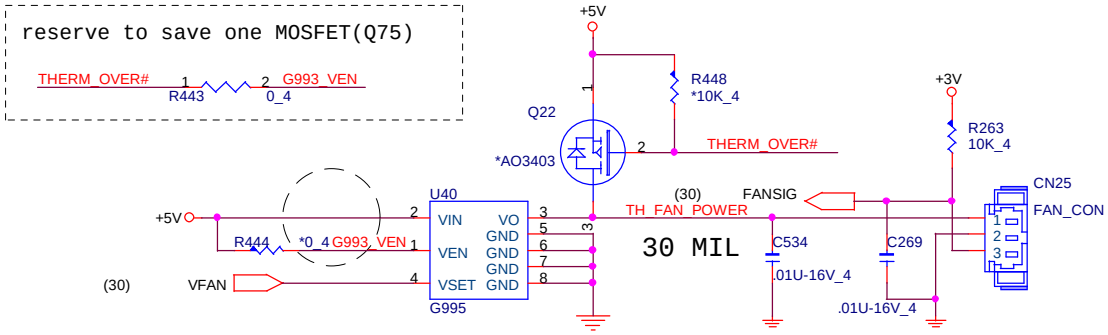
Edison 0518_ to change the R409/R410 value.

modify C: del R375,R384

del R408

PROJECT :	ZH5
Quanta Computer Inc.	
Size	Document Number: CLOCK GENERATOR
Rev	1A
Date:	Friday, August 11, 2006
Sheet	5 of 39

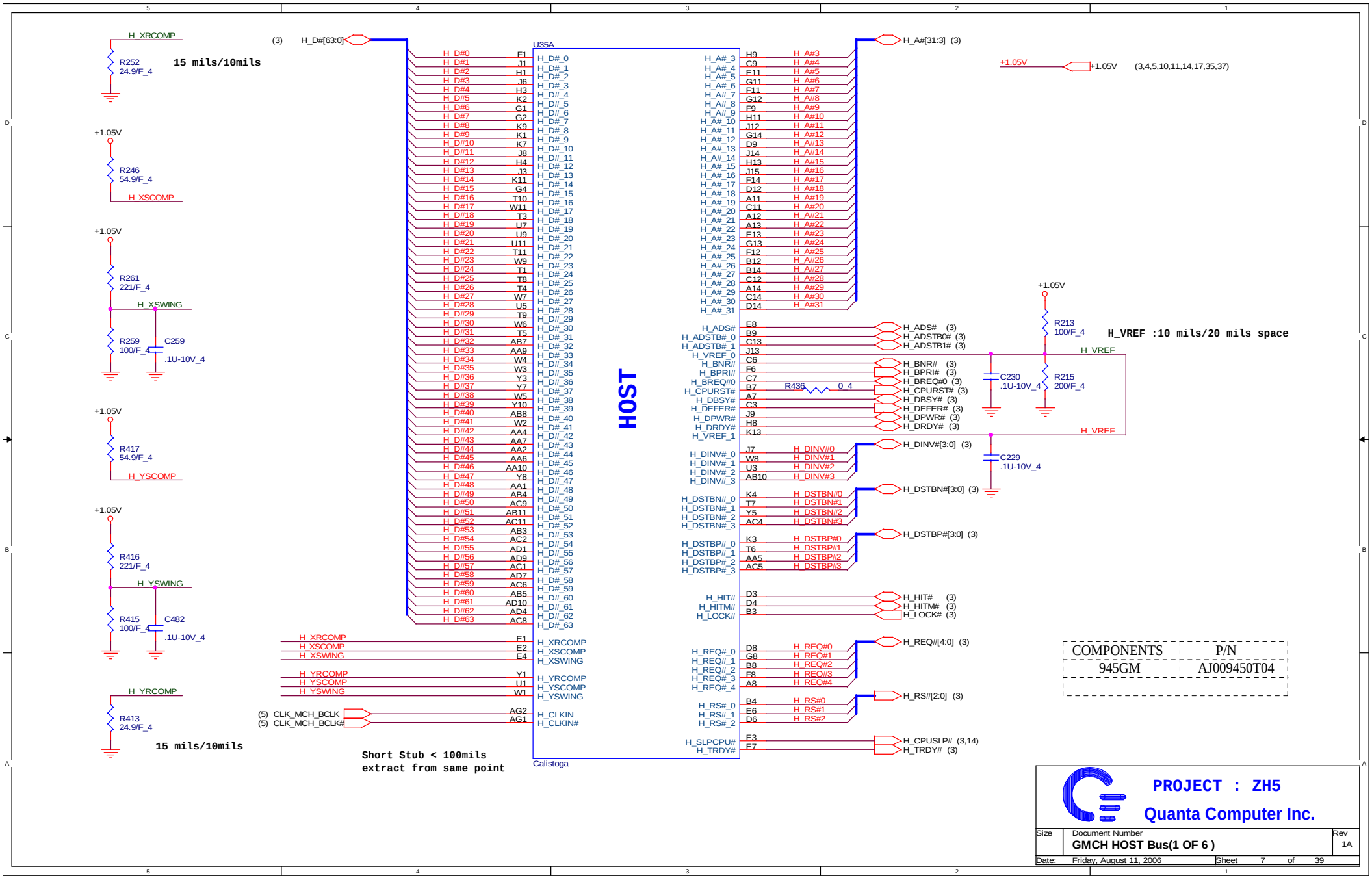


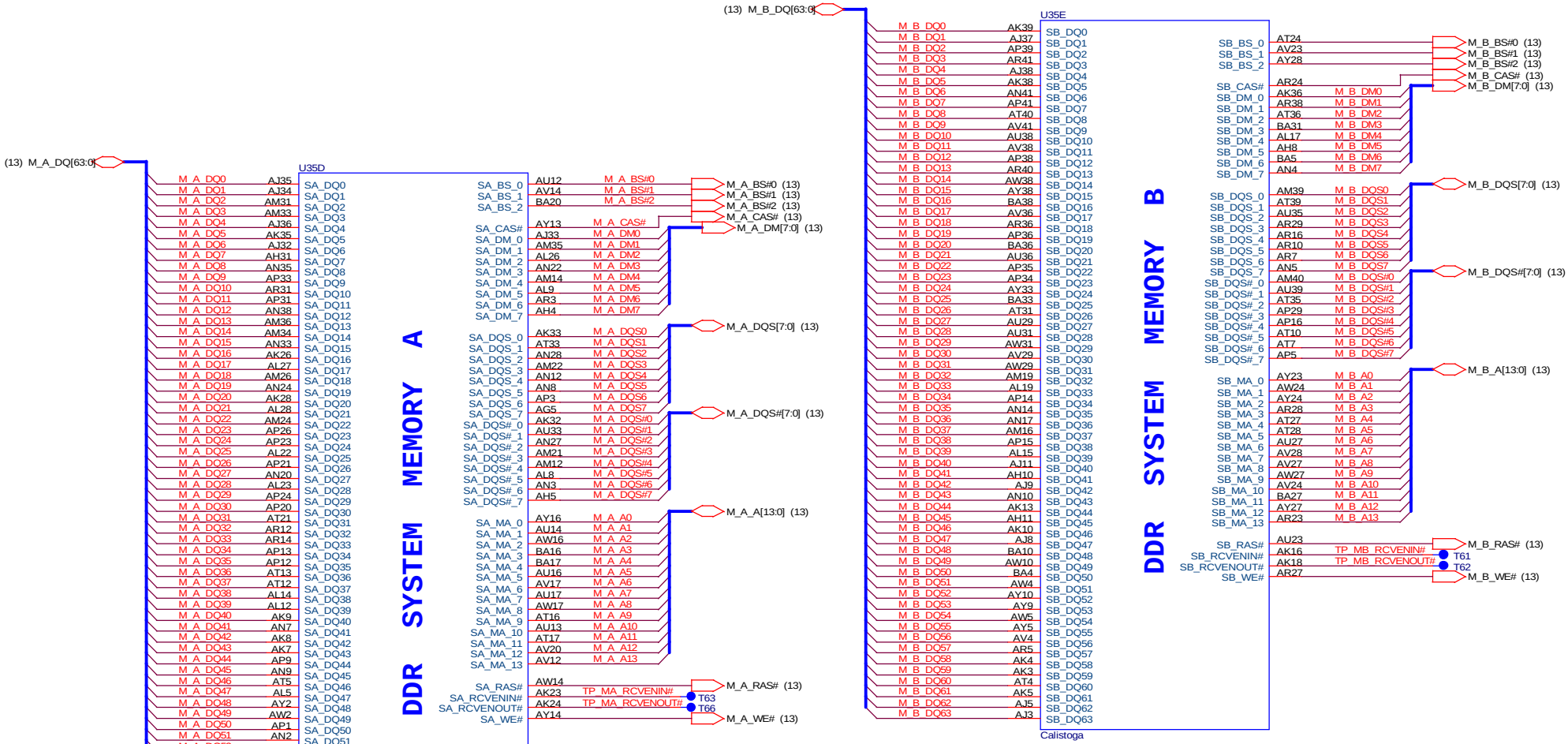


PROJECT : ZH5

Quanta Computer Inc.

Size	Document Number	Rev
	CPU THERMAL SENSOR & FAN	1A
Date: Friday, August 11, 2006	Sheet 6 of 39	


H_XRCOMP
R252
24.9/F_4
15 mils/10mils
+1.05V
R246
54.9/F_4
H_XSCOMP
+1.05V
R261
221/F_4
H_XSWING
R259
100/F_4
C259
.1U-10V_4
+1.05V
R417
54.9/F_4
H_YSCOMP
+1.05V
R416
221/F_4
H_YSWING
R415
100/F_4
C482
.1U-10V_4
H_YRCOMP
R413
24.9/F_4
15 mils/10mils
(3) H_D#[63:0]
U35A
HOST
Calistoga
H_D#0 F1
H_D#1 J1
H_D#2 H1
H_D#3 J6
H_D#4 H3
H_D#5 K2
H_D#6 G1
H_D#7 G2
H_D#8 K9
H_D#9 K1
H_D#10 K7
H_D#11 J8
H_D#12 H4
H_D#13 J3
H_D#14 K11
H_D#15 G4
H_D#16 T10
H_D#17 W11
H_D#18 T3
H_D#19 U7
H_D#20 U9
H_D#21 U11
H_D#22 T11
H_D#23 W9
H_D#24 T1
H_D#25 T8
H_D#26 T4
H_D#27 W7
H_D#28 U5
H_D#29 T9
H_D#30 W6
H_D#31 T5
H_D#32 AB7
H_D#33 AA9
H_D#34 W4
H_D#35 W3
H_D#36 Y3
H_D#37 Y7
H_D#38 W5
H_D#39 Y10
H_D#40 AB8
H_D#41 W2
H_D#42 AA4
H_D#43 AA7
H_D#44 AA2
H_D#45 AA6
H_D#46 AA10
H_D#47 Y8
H_D#48 AA1
H_D#49 AB4
H_D#50 AC9
H_D#51 AB11
H_D#52 AC11
H_D#53 AB3
H_D#54 AC2
H_D#55 AD1
H_D#56 AD9
H_D#57 AC1
H_D#58 AD7
H_D#59 AC6
H_D#60 AB5
H_D#61 AD10
H_D#62 AD4
H_D#63 AC8
H_XRCOMP E1
H_XSCOMP E2
H_XSWING E4
H_YRCOMP Y1
H_YSCOMP U1
H_YSWING W1
(5) CLK_MCH_BCLK AG2
(5) CLK_MCH_BCLK# AG1
H_CLKIN
H_CLKIN#
Short Stub < 100mils
extract from same point
H_A#[31:3] (3)
H_A#_3 H9 H_A#3
H_A#_4 C9 H_A#4
H_A#_5 E11 H_A#5
H_A#_6 G11 H_A#6
H_A#_7 F11 H_A#7
H_A#_8 G12 H_A#8
H_A#_9 F9 H_A#9
H_A#_10 H11 H_A#10
H_A#_11 J12 H_A#11
H_A#_12 G14 H_A#12
H_A#_13 D9 H_A#13
H_A#_14 J14 H_A#14
H_A#_15 H13 H_A#15
H_A#_16 J15 H_A#16
H_A#_17 F14 H_A#17
H_A#_18 D12 H_A#18
H_A#_19 A11 H_A#19
H_A#_20 C11 H_A#20
H_A#_21 A12 H_A#21
H_A#_22 A13 H_A#22
H_A#_23 E13 H_A#23
H_A#_24 G13 H_A#24
H_A#_25 F12 H_A#25
H_A#_26 B12 H_A#26
H_A#_27 B14 H_A#27
H_A#_28 C12 H_A#28
H_A#_29 A14 H_A#29
H_A#_30 C14 H_A#30
H_A#_31 D14 H_A#31
+1.05V
+1.05V (3,4,5,10,11,14,17,35,37)
H_ADS# E8 H_ADS# (3)
H_ADSTB#_0 B9 H_ADSTB0# (3)
H_ADSTB#_1 C13 H_ADSTB1# (3)
H_VREF_0 J13
H_BNR# C6 H_BNR# (3)
H_BPRI# F6 H_BPRI# (3)
H_BREQ#0 C7 H_BREQ#0 (3)
H_CPURST# B7 H_CPURST# (3)
H_DBSY# A7 H_DBSY# (3)
H_DEFER# C3 H_DEFER# (3)
H_DPWR# J9 H_DPWR# (3)
H_DRDY# H8 H_DRDY# (3)
H_VREF_1 K13
R436 0_4
+1.05V
R213
100/F_4
H_VREF
R215
200/F_4
C230
.1U-10V_4
H_VREF
C229
.1U-10V_4
H_VREF :10 mils/20 mils space
H_DINV#_0 J7 H_DINV#0
H_DINV#_1 W8 H_DINV#1
H_DINV#_2 U3 H_DINV#2
H_DINV#_3 AB10 H_DINV#3
H_DINV#[3:0] (3)
H_DSTBN#_0 K4 H_DSTBN#0
H_DSTBN#_1 T7 H_DSTBN#1
H_DSTBN#_2 Y5 H_DSTBN#2
H_DSTBN#_3 AC4 H_DSTBN#3
H_DSTBN#[3:0] (3)
H_DSTBP#_0 K3 H_DSTBP#0
H_DSTBP#_1 T6 H_DSTBP#1
H_DSTBP#_2 AA5 H_DSTBP#2
H_DSTBP#_3 AC5 H_DSTBP#3
H_DSTBP#[3:0] (3)
H_HIT# D3 H_HIT# (3)
H_HITM# D4 H_HITM# (3)
H_LOCK# B3 H_LOCK# (3)
H_REQ#_0 D8 H_REQ#0
H_REQ#_1 G8 H_REQ#1
H_REQ#_2 B8 H_REQ#2
H_REQ#_3 F8 H_REQ#3
H_REQ#_4 A8 H_REQ#4
H_REQ#[4:0] (3)
H_RS#_0 B4 H_RS#0
H_RS#_1 E6 H_RS#1
H_RS#_2 D6 H_RS#2
H_RS#[2:0] (3)
H_SLPCPU# E3 H_CPUSLP# (3,14)
H_TRDY# E7 H_TRDY# (3)
COMPONENTS P/N
945GM AJ009450T04
PROJECT : ZH5
Quanta Computer Inc.
Size Document Number Rev
GMCH HOST Bus(1 OF 6) 1A
Date: Friday, August 11, 2006 Sheet 7 of 39


(13) M_A_DQ[63:0]
M_A_DQ0 AJ35
M_A_DQ1 AJ34
M_A_DQ2 AM31
M_A_DQ3 AM33
M_A_DQ4 AJ36
M_A_DQ5 AK35
M_A_DQ6 AJ32
M_A_DQ7 AH31
M_A_DQ8 AN35
M_A_DQ9 AP33
M_A_DQ10 AR31
M_A_DQ11 AP31
M_A_DQ12 AN38
M_A_DQ13 AM36
M_A_DQ14 AM34
M_A_DQ15 AN33
M_A_DQ16 AK26
M_A_DQ17 AL27
M_A_DQ18 AM26
M_A_DQ19 AN24
M_A_DQ20 AK28
M_A_DQ21 AL28
M_A_DQ22 AM24
M_A_DQ23 AP26
M_A_DQ24 AP23
M_A_DQ25 AL22
M_A_DQ26 AP21
M_A_DQ27 AN20
M_A_DQ28 AL23
M_A_DQ29 AP24
M_A_DQ30 AP20
M_A_DQ31 AT21
M_A_DQ32 AR12
M_A_DQ33 AR14
M_A_DQ34 AP13
M_A_DQ35 AP12
M_A_DQ36 AT13
M_A_DQ37 AT12
M_A_DQ38 AL14
M_A_DQ39 AL12
M_A_DQ40 AK9
M_A_DQ41 AN7
M_A_DQ42 AK8
M_A_DQ43 AK7
M_A_DQ44 AP9
M_A_DQ45 AN9
M_A_DQ46 AT5
M_A_DQ47 AL5
M_A_DQ48 AY2
M_A_DQ49 AW2
M_A_DQ50 AP1
M_A_DQ51 AN2
M_A_DQ52 AV2
M_A_DQ53 AT3
M_A_DQ54 AN1
M_A_DQ55 AL2
M_A_DQ56 AG7
M_A_DQ57 AF9
M_A_DQ58 AG4
M_A_DQ59 AF6
M_A_DQ60 AG9
M_A_DQ61 AH6
M_A_DQ62 AF4
M_A_DQ63 AF8
U35D
SA_DQ0
SA_DQ1
SA_DQ2
SA_DQ3
SA_DQ4
SA_DQ5
SA_DQ6
SA_DQ7
SA_DQ8
SA_DQ9
SA_DQ10
SA_DQ11
SA_DQ12
SA_DQ13
SA_DQ14
SA_DQ15
SA_DQ16
SA_DQ17
SA_DQ18
SA_DQ19
SA_DQ20
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SA_DQ23
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SA_DQ52
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SA_DQ54
SA_DQ55
SA_DQ56
SA_DQ57
SA_DQ58
SA_DQ59
SA_DQ60
SA_DQ61
SA_DQ62
SA_DQ63
DDR SYSTEM MEMORY A
SA_BS_0 AU12
SA_BS_1 AV14
SA_BS_2 BA20
SA_CAS# AY13
SA_DM_0 AJ33
SA_DM_1 AM35
SA_DM_2 AL26
SA_DM_3 AN22
SA_DM_4 AM14
SA_DM_5 AL9
SA_DM_6 AR3
SA_DM_7 AH4
SA_DQS_0 AK33
SA_DQS_1 AT33
SA_DQS_2 AN28
SA_DQS_3 AM22
SA_DQS_4 AN12
SA_DQS_5 AN8
SA_DQS_6 AP3
SA_DQS_7 AG5
SA_DQS#_0 AK32
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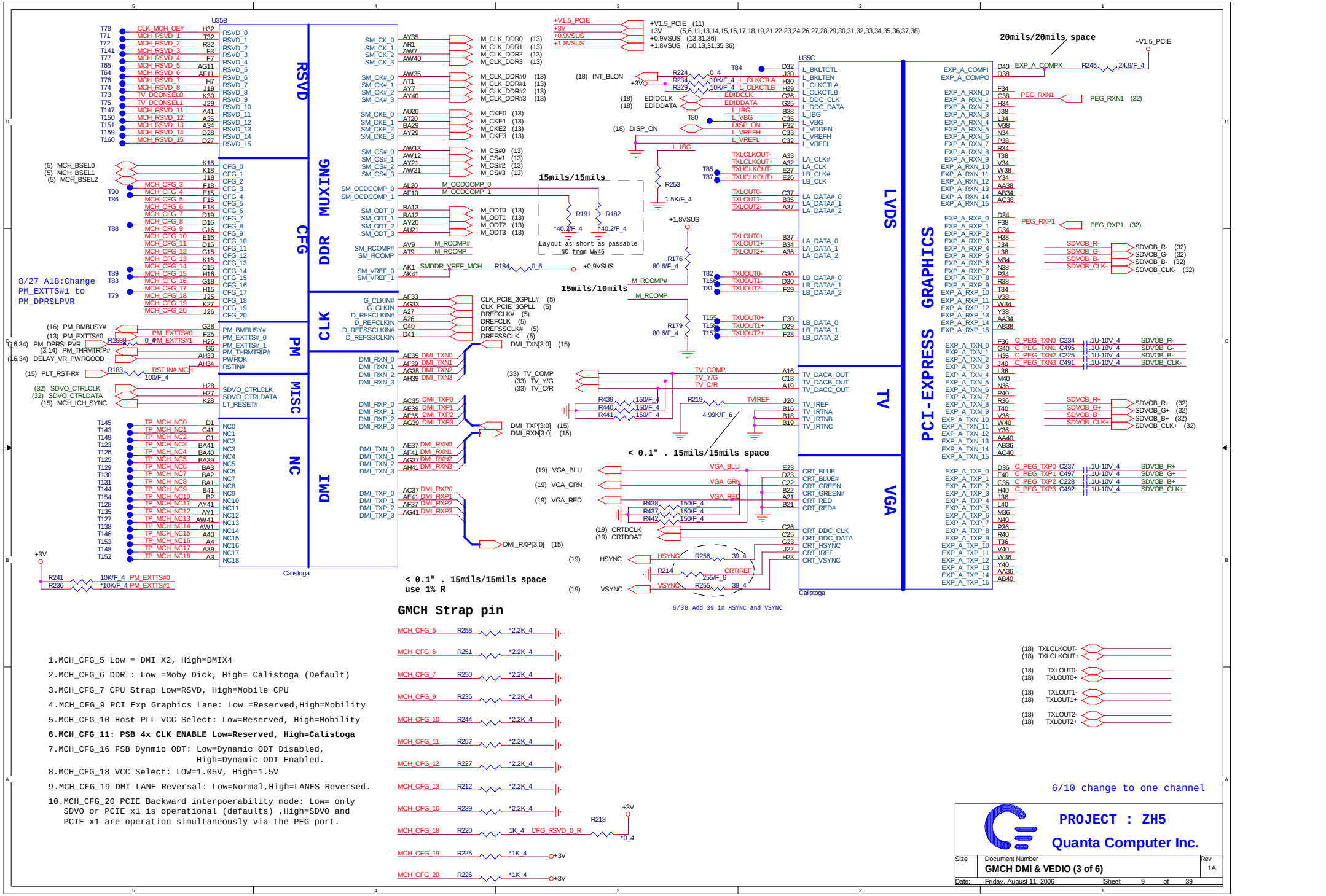
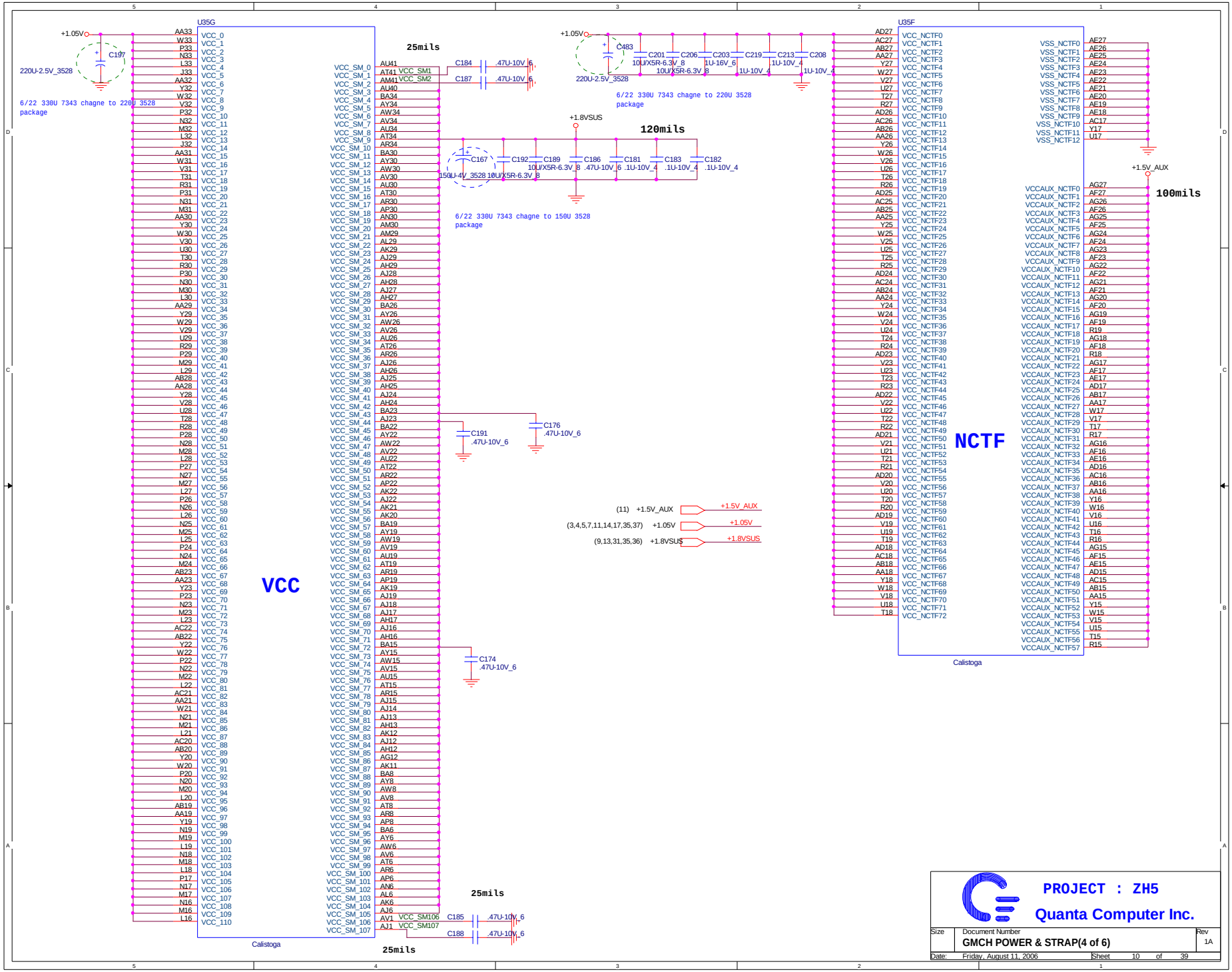
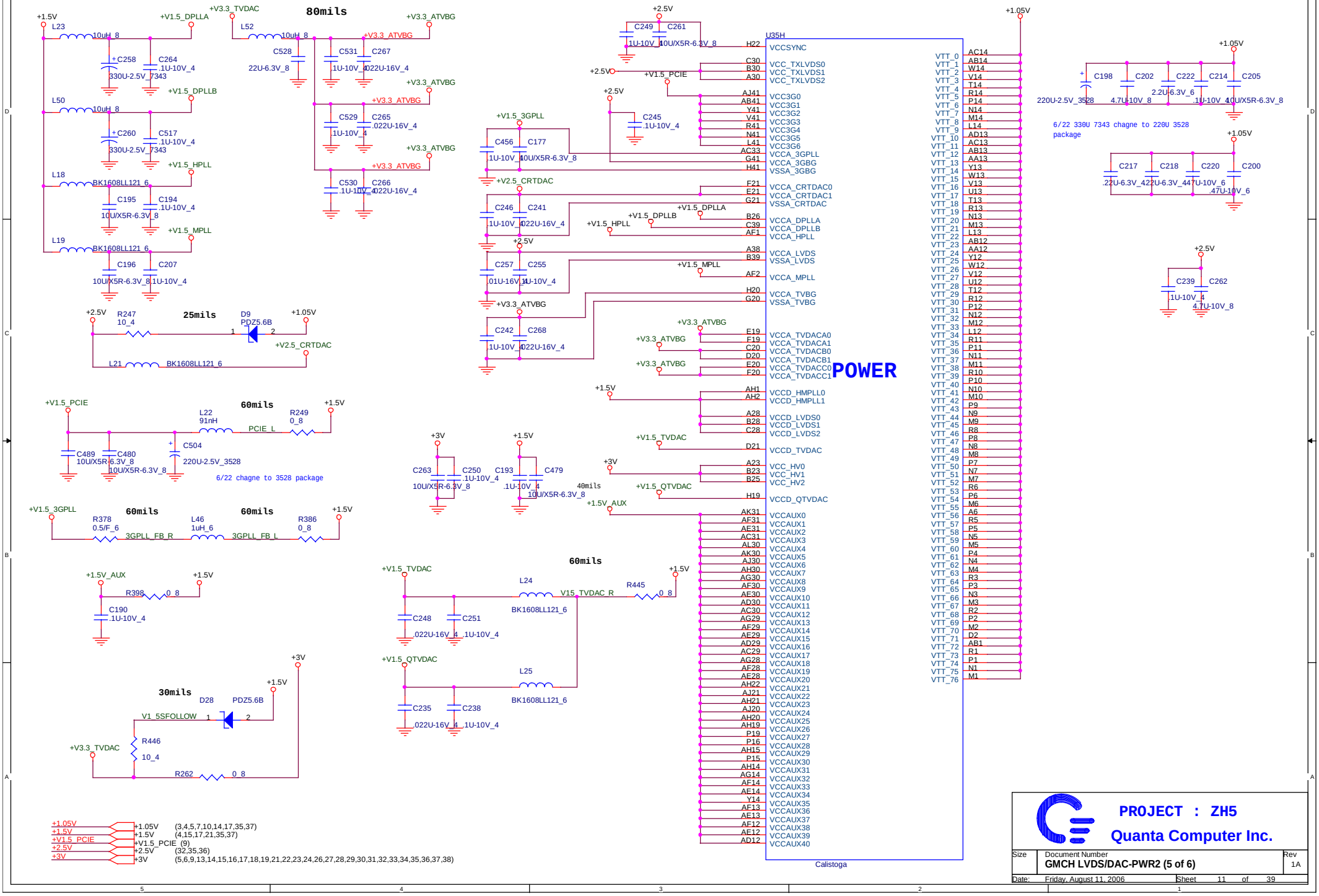
SA_DQS#_2 AN27
SA_DQS#_3 AM21
SA_DQS#_4 AM12
SA_DQS#_5 AL8
SA_DQS#_6 AN3
SA_DQS#_7 AH5
SA_MA_0 AY16
SA_MA_1 AU14
SA_MA_2 AW16
SA_MA_3 BA16
SA_MA_4 BA17
SA_MA_5 AU16
SA_MA_6 AV17
SA_MA_7 AU17
SA_MA_8 AW17
SA_MA_9 AT16
SA_MA_10 AU13
SA_MA_11 AT17
SA_MA_12 AV20
SA_MA_13 AV12
SA_RAS# AW14
SA_RCVENIN# AK23
SA_RCVENOUT# AK24
SA_WE# AY14
M_A_BS#0
M_A_BS#1
M_A_BS#2
M_A_CAS#
M_A_DM0
M_A_DM1
M_A_DM2
M_A_DM3
M_A_DM4
M_A_DM5
M_A_DM6
M_A_DM7
M_A_DQS0
M_A_DQS1
M_A_DQS2
M_A_DQS3
M_A_DQS4
M_A_DQS5
M_A_DQS6
M_A_DQS7
M_A_DQS#0
M_A_DQS#1
M_A_DQS#2
M_A_DQS#3
M_A_DQS#4
M_A_DQS#5
M_A_DQS#6
M_A_DQS#7
M_A_A0
M_A_A1
M_A_A2
M_A_A3
M_A_A4
M_A_A5
M_A_A6
M_A_A7
M_A_A8
M_A_A9
M_A_A10
M_A_A11
M_A_A12
M_A_A13
TP_MA_RCVENIN#
TP_MA_RCVENOUT#
T63
T66
M_A_BS#0 (13)
M_A_BS#1 (13)
M_A_BS#2 (13)
M_A_CAS# (13)
M_A_DM[7:0] (13)
M_A_DQS[7:0] (13)
M_A_DQS#[7:0] (13)
M_A_A[13:0] (13)
M_A_RAS# (13)
M_A_WE# (13)
Calistoga
(13) M_B_DQ[63:0]
M_B_DQ0 AK39
M_B_DQ1 AJ37
M_B_DQ2 AP39
M_B_DQ3 AR41
M_B_DQ4 AJ38
M_B_DQ5 AK38
M_B_DQ6 AN41
M_B_DQ7 AP41
M_B_DQ8 AT40
M_B_DQ9 AV41
M_B_DQ10 AU38
M_B_DQ11 AV38
M_B_DQ12 AP38
M_B_DQ13 AR40
M_B_DQ14 AW38
M_B_DQ15 AY38
M_B_DQ16 BA38
M_B_DQ17 AV36
M_B_DQ18 AR36
M_B_DQ19 AP36
M_B_DQ20 BA36
M_B_DQ21 AU36
M_B_DQ22 AP35
M_B_DQ23 AP34
M_B_DQ24 AY33
M_B_DQ25 BA33
M_B_DQ26 AT31
M_B_DQ27 AU29
M_B_DQ28 AU31
M_B_DQ29 AW31
M_B_DQ30 AV29
M_B_DQ31 AW29
M_B_DQ32 AM19
M_B_DQ33 AL19
M_B_DQ34 AP14
M_B_DQ35 AN14
M_B_DQ36 AN17
M_B_DQ37 AM16
M_B_DQ38 AP15
M_B_DQ39 AL15
M_B_DQ40 AJ11
M_B_DQ41 AH10
M_B_DQ42 AJ9
M_B_DQ43 AN10
M_B_DQ44 AK13
M_B_DQ45 AH11
M_B_DQ46 AK10
M_B_DQ47 AJ8
M_B_DQ48 BA10
M_B_DQ49 AW10
M_B_DQ50 BA4
M_B_DQ51 AW4
M_B_DQ52 AY10
M_B_DQ53 AY9
M_B_DQ54 AW5
M_B_DQ55 AY5
M_B_DQ56 AV4
M_B_DQ57 AR5
M_B_DQ58 AK4
M_B_DQ59 AK3
M_B_DQ60 AT4
M_B_DQ61 AK5
M_B_DQ62 AJ5
M_B_DQ63 AJ3
U35E
SB_DQ0
SB_DQ1
SB_DQ2
SB_DQ3
SB_DQ4
SB_DQ5
SB_DQ6
SB_DQ7
SB_DQ8
SB_DQ9
SB_DQ10
SB_DQ11
SB_DQ12
SB_DQ13
SB_DQ14
SB_DQ15
SB_DQ16
SB_DQ17
SB_DQ18
SB_DQ19
SB_DQ20
SB_DQ21
SB_DQ22
SB_DQ23
SB_DQ24
SB_DQ25
SB_DQ26
SB_DQ27
SB_DQ28
SB_DQ29
SB_DQ30
SB_DQ31
SB_DQ32
SB_DQ33
SB_DQ34
SB_DQ35
SB_DQ36
SB_DQ37
SB_DQ38
SB_DQ39
SB_DQ40
SB_DQ41
SB_DQ42
SB_DQ43
SB_DQ44
SB_DQ45
SB_DQ46
SB_DQ47
SB_DQ48
SB_DQ49
SB_DQ50
SB_DQ51
SB_DQ52
SB_DQ53
SB_DQ54
SB_DQ55
SB_DQ56
SB_DQ57
SB_DQ58
SB_DQ59
SB_DQ60
SB_DQ61
SB_DQ62
SB_DQ63
DDR SYSTEM MEMORY B
SB_BS_0 AT24
SB_BS_1 AV23
SB_BS_2 AY28
SB_CAS# AR24
SB_DM_0 AK36
SB_DM_1 AR38
SB_DM_2 AT36
SB_DM_3 BA31
SB_DM_4 AL17
SB_DM_5 AH8
SB_DM_6 BA5
SB_DM_7 AN4
SB_DQS_0 AM39
SB_DQS_1 AT39
SB_DQS_2 AU35
SB_DQS_3 AR29
SB_DQS_4 AR16
SB_DQS_5 AR10
SB_DQS_6 AR7
SB_DQS_7 AN5
SB_DQS#_0 AM40
SB_DQS#_1 AU39
SB_DQS#_2 AT35
SB_DQS#_3 AP29
SB_DQS#_4 AP16
SB_DQS#_5 AT10
SB_DQS#_6 AT7
SB_DQS#_7 AP5
SB_MA_0 AY23
SB_MA_1 AW24
SB_MA_2 AY24
SB_MA_3 AR28
SB_MA_4 AT27
SB_MA_5 AT28
SB_MA_6 AU27
SB_MA_7 AV28
SB_MA_8 AV27
SB_MA_9 AW27
SB_MA_10 AV24
SB_MA_11 BA27
SB_MA_12 AY27
SB_MA_13 AR23
SB_RAS# AU23
SB_RCVENIN# AK16
SB_RCVENOUT# AK18
SB_WE# AR27
M_B_DM0
M_B_DM1
M_B_DM2
M_B_DM3
M_B_DM4
M_B_DM5
M_B_DM6
M_B_DM7
M_B_DQS0
M_B_DQS1
M_B_DQS2
M_B_DQS3
M_B_DQS4
M_B_DQS5
M_B_DQS6
M_B_DQS7
M_B_DQS#0
M_B_DQS#1
M_B_DQS#2
M_B_DQS#3
M_B_DQS#4
M_B_DQS#5
M_B_DQS#6
M_B_DQS#7
M_B_A0
M_B_A1
M_B_A2
M_B_A3
M_B_A4
M_B_A5
M_B_A6
M_B_A7
M_B_A8
M_B_A9
M_B_A10
M_B_A11
M_B_A12
M_B_A13
TP_MB_RCVENIN#
TP_MB_RCVENOUT#
T61
T62
M_B_BS#0 (13)
M_B_BS#1 (13)
M_B_BS#2 (13)
M_B_CAS# (13)
M_B_DM[7:0] (13)
M_B_DQS[7:0] (13)
M_B_DQS#[7:0] (13)
M_B_A[13:0] (13)
M_B_RAS# (13)
M_B_WE# (13)
Calistoga
PROJECT : ZH5
Quanta Computer Inc.
Size
Document Number
GMCH DDRII MEMORY (2 of 6)
Rev
1A
Date: Friday, August 11, 2006
Sheet 8 of 39


U35B
RSVD
DDR MUXING
CFG
CLK
PM
MISC
NC
DMI
U35C
LVDS
TV
VGA
PCI-EXPRESS GRAPHICS
Calistoga
20mils/20mils space
15mils/15mils
15mils/10mils
< 0.1" . 15mils/15mils space
use 1% R
8/27 A1B:Change PM_EXTTS#1 to PM_DPRSLPVR
6/30 Add 39 in HSYNC and VSYNC
6/10 change to one channel
GMCH Strap pin
1.MCH_CFG_5 Low = DMI X2, High=DMIX4
2.MCH_CFG_6 DDR : Low =Moby Dick, High= Calistoga (Default)
3.MCH_CFG_7 CPU Strap Low=RSVD, High=Mobile CPU
4.MCH_CFG_9 PCI Exp Graphics Lane: Low =Reserved,High=Mobility
5.MCH_CFG_10 Host PLL VCC Select: Low=Reserved, High=Mobility
6.MCH_CFG_11: PSB 4x CLK ENABLE Low=Reserved, High=Calistoga
7.MCH_CFG_16 FSB Dynmic ODT: Low=Dynamic ODT Disabled, High=Dynamic ODT Enabled.
8.MCH_CFG_18 VCC Select: LOW=1.05V, High=1.5V
9.MCH_CFG_19 DMI LANE Reversal: Low=Normal,High=LANES Reversed.
10.MCH_CFG_20 PCIE Backward interpoerability mode: Low= only SDVO or PCIE x1 is operational (defaults) ,High=SDVO and PCIE x1 are operation simultaneously via the PEG port.
PROJECT : ZH5
Quanta Computer Inc.
GMCH DMI & VEDIO (3 of 6)
Friday, August 11, 2006
Sheet 9 of 39
1A


U35G
VCC
U35F
NCTF
Calistoga
Calistoga
25mils
120mils
100mils
25mils
6/22 330U 7343 chagne to 220U 3528 package
6/22 330U 7343 chagne to 220U 3528 package
6/22 330U 7343 chagne to 150U 3528 package
+1.05V
+1.8VSUS
+1.5V_AUX
220U-2.5V_3528
150U-4V_3528
(11) +1.5V_AUX
(3,4,5,7,11,14,17,35,37) +1.05V
(9,13,31,35,36) +1.8VSUS
PROJECT : ZH5
Quanta Computer Inc.
GMCH POWER & STRAP(4 of 6)
Size
Document Number
Rev
1A
Date: Friday, August 11, 2006
Sheet 10 of 39


80mils
+V3.3_TVDAC
+V1.5_DPLLA
+V3.3_ATVBG
L23
10uH_8
L52
C258
330U-2.5V_7343
C264
.1U-10V_4
C528
22U-6.3V_8
C531
.1U-10V_4
C267
.022U-16V_4
+V1.5_DPLLB
L50
C260
330U-2.5V_7343
C517
C529
C265
C530
C266
+V1.5_HPLL
L18
BK1608LL121_6
C195
10U/X5R-6.3V_8
C194
+V1.5_MPLL
L19
C196
C207
25mils
R247
10_4
D9
PDZ5.6B
+V2.5_CRTDAC
L21
+V1.5_PCIE
60mils
L22
91nH
R249
0_8
PCIE_L
C489
C480
C504
220U-2.5V_3528
6/22 chagne to 3528 package
+V1.5_3GPLL
R378
0.5/F_6
3GPLL_FB_R
L46
1uH_6
3GPLL_FB_L
R386
+V1.5_AUX
R398
C190
30mils
D28
PDZ5.6B
V1_5SFOLLOW
R446
10_4
R262
+V3
+1.05V (3,4,5,7,10,14,17,35,37)
+1.5V (4,15,17,21,35,37)
+V1.5_PCIE (9)
+2.5V (32,35,36)
+3V (5,6,9,13,14,15,16,17,18,19,21,22,23,24,26,27,28,29,30,31,32,33,34,35,36,37,38)
U35H
VCCSYNC
VCC_TXLVDS0
VCC_TXLVDS1
VCC_TXLVDS2
VCC3G0
VCC3G1
VCC3G2
VCC3G3
VCC3G4
VCC3G5
VCC3G6
VCCA_3GPLL
VCCA_3GBG
VSSA_3GBG
VCCA_CRTDAC0
VCCA_CRTDAC1
VSSA_CRTDAC
VCCA_DPLLA
VCCA_DPLLB
VCCA_HPLL
VCCA_LVDS
VSSA_LVDS
VCCA_MPLL
VCCA_TVBG
VSSA_TVBG
VCCA_TVDACA0
VCCA_TVDACA1
VCCA_TVDACB0
VCCA_TVDACB1
VCCA_TVDACC0
VCCA_TVDACC1
POWER
VCCD_HMPLL0
VCCD_HMPLL1
VCCD_LVDS0
VCCD_LVDS1
VCCD_LVDS2
VCCD_TVDAC
VCC_HV0
VCC_HV1
VCC_HV2
VCCD_QTVDAC
VCCAUX0
VCCAUX1
VCCAUX2
VCCAUX3
VCCAUX4
VCCAUX5
VCCAUX6
VCCAUX7
VCCAUX8
VCCAUX9
VCCAUX10
VCCAUX11
VCCAUX12
VCCAUX13
VCCAUX14
VCCAUX15
VCCAUX16
VCCAUX17
VCCAUX18
VCCAUX19
VCCAUX20
VCCAUX21
VCCAUX22
VCCAUX23
VCCAUX24
VCCAUX25
VCCAUX26
VCCAUX27
VCCAUX28
VCCAUX29
VCCAUX30
VCCAUX31
VCCAUX32
VCCAUX33
VCCAUX34
VCCAUX35
VCCAUX36
VCCAUX37
VCCAUX38
VCCAUX39
VCCAUX40
Calistoga
VTT_0
VTT_1
VTT_2
VTT_3
VTT_4
VTT_5
VTT_6
VTT_7
VTT_8
VTT_9
VTT_10
VTT_11
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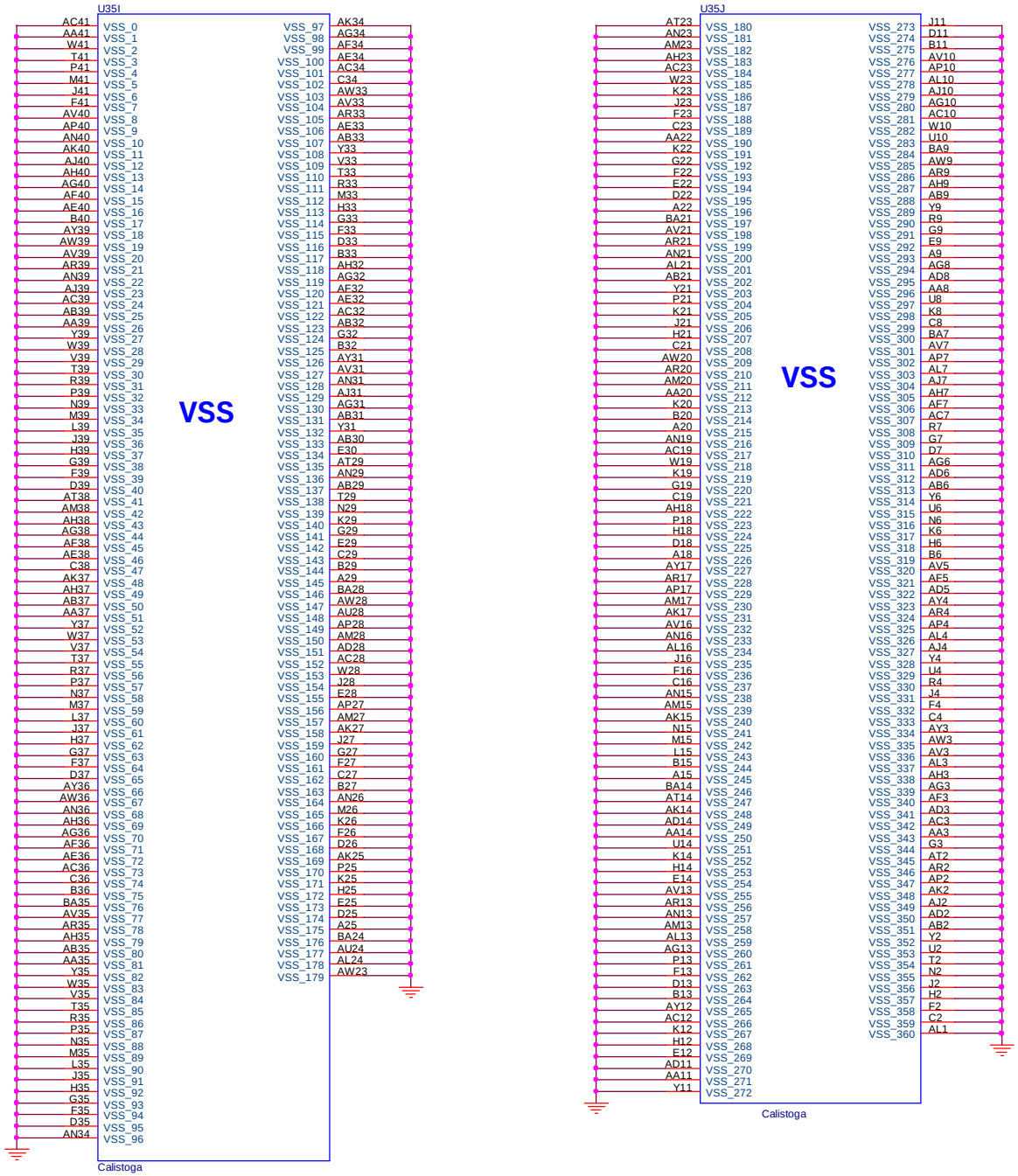
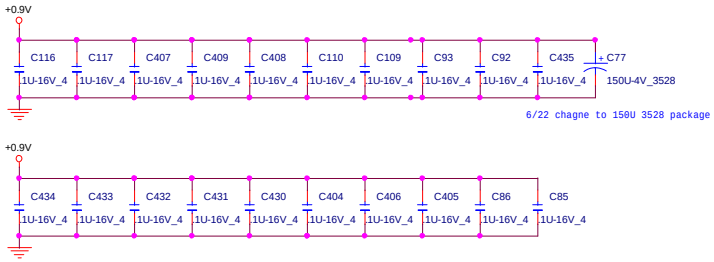
VTT_64
VTT_65
VTT_66
VTT_67
VTT_68
VTT_69
VTT_70
VTT_71
VTT_72
VTT_73
VTT_74
VTT_75
VTT_76
C249
C261
.1U-10V_4
0U/X5R-6.3V_8
C245
C456
C177
C246
C241
C257
C255
C242
C268
C263
C250
C193
C479
40mils
C248
C251
L24
V15_TVDAC_R
R445
BK1608LL121_6
C235
C238
L25
C198
C202
C222
C214
C205
220U-2.5V_3528
4.7U-10V_8
2.2U-6.3V_6
6/22 330U 7343 chagne to 220U 3528 package
C217
C218
C220
C200
.22U-6.3V_4
22U-6.3V_4
47U-10V_6
.47U-10V_6
C239
C262
PROJECT : ZH5
Quanta Computer Inc.
Size
Document Number
GMCH LVDS/DAC-PWR2 (5 of 6)
Rev
1A
Date: Friday, August 11, 2006
Sheet 11 of 39

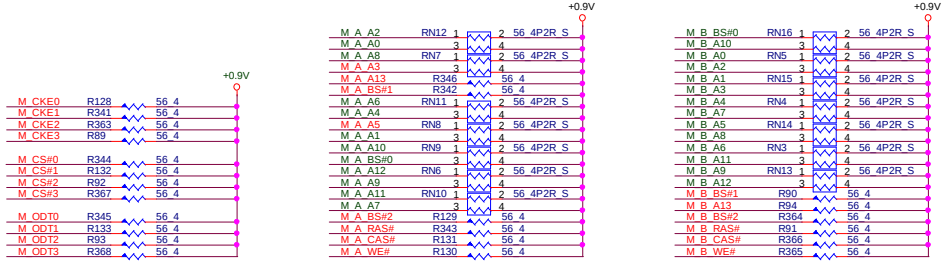


PROJECT : ZH5	
Quanta Computer Inc.	
Size	Document Number: GMCH GND(6 OF 6) — Rev: 1A
Date: Friday, August 11, 2006	Sheet 12 of 39

TERMINATOR DECOUPLING CAPACITOR



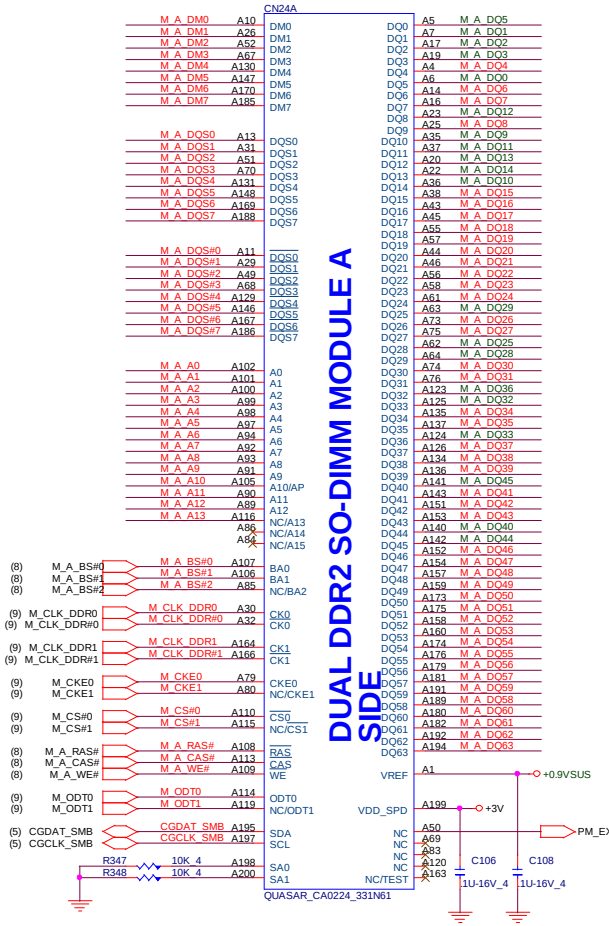
DDR2 TERMINATOR

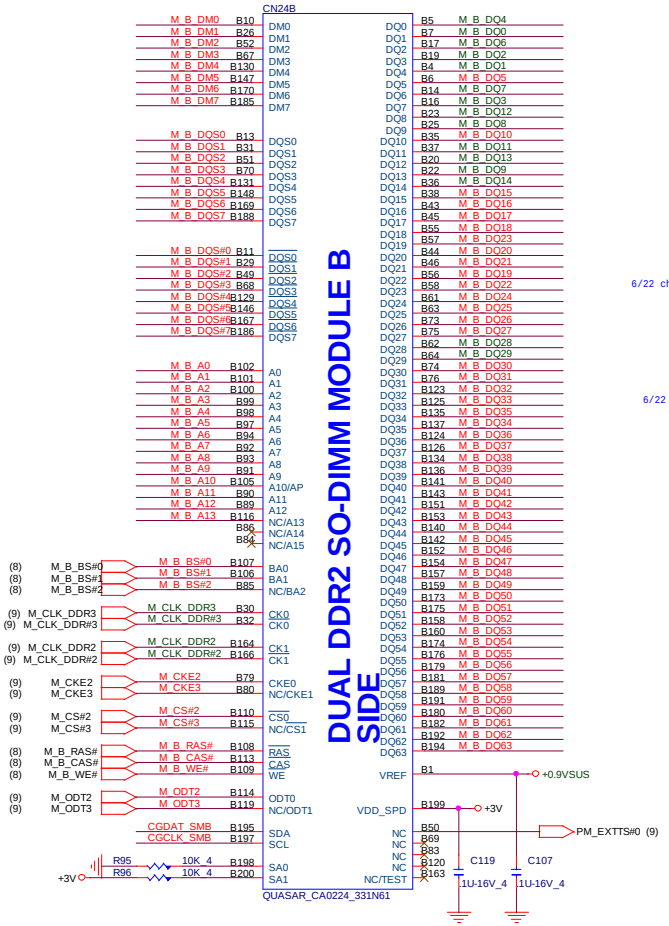


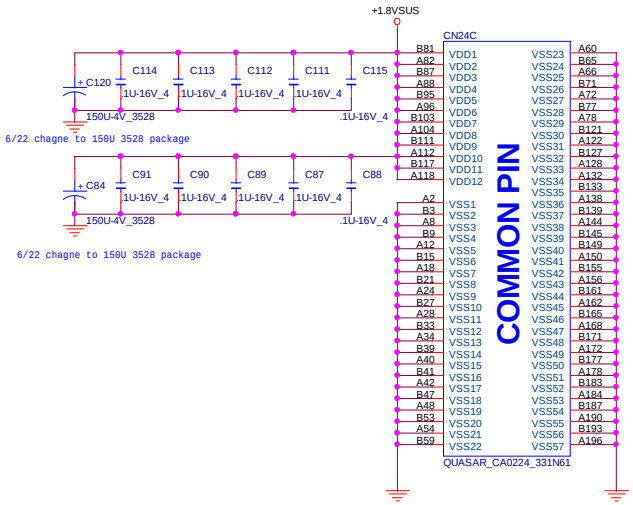
DDR2 SO-DIMM SOCKET

M_A_DM[0..7] (8)
M_A_DQ[0..63] (8)
M_A_DQS[0..7] (8)
M_A_DQS#[0..7] (8)
M_A_A[0..13] (8)

M_B_DM[0..7] (8)
M_B_DQ[0..63] (8)
M_B_DQS[0..7] (8)
M_B_DQS#[0..7] (8)
M_B_A[0..13] (8)



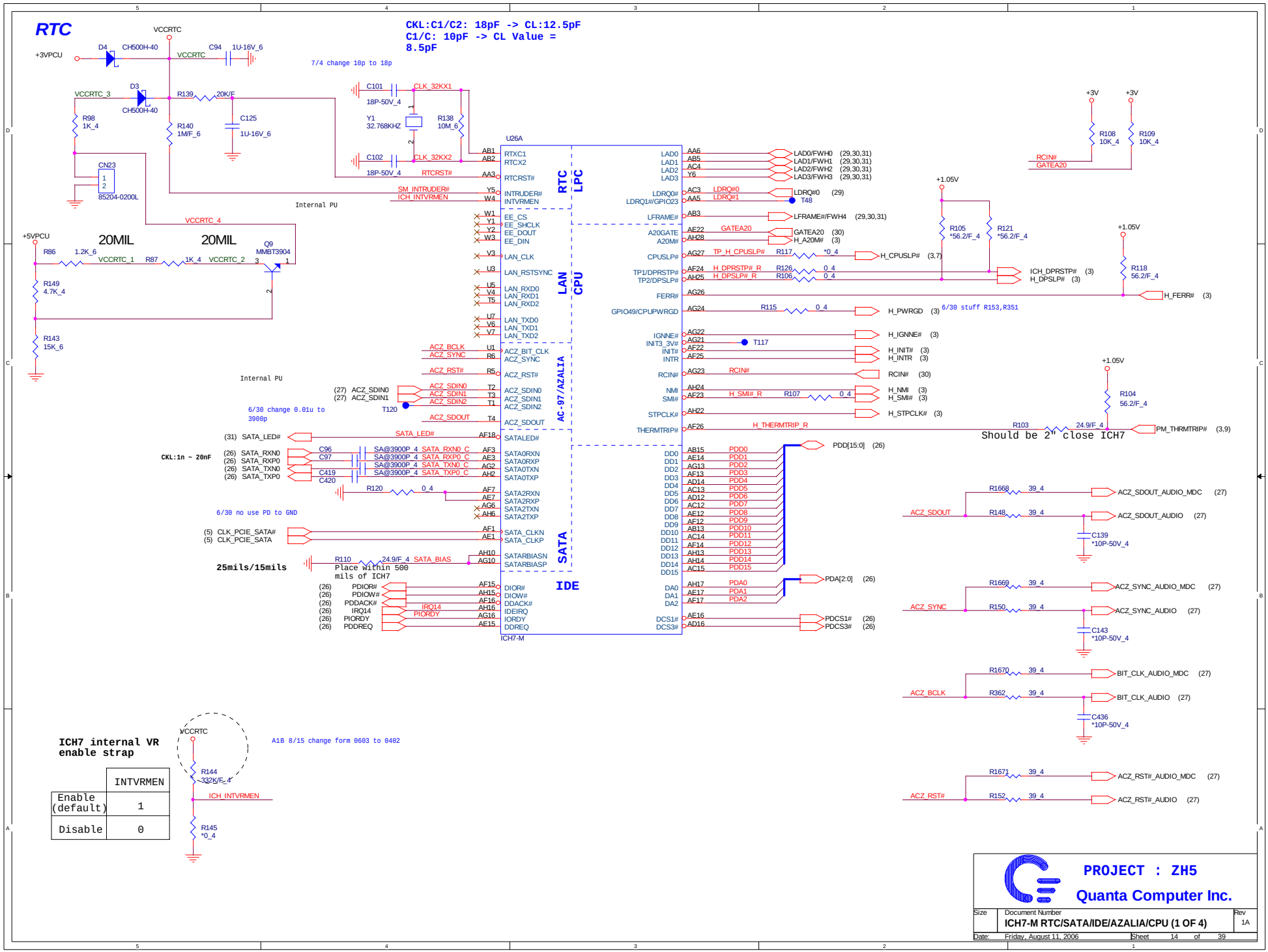




PROJECT : ZH5

Quanta Computer Inc.

Size	Document Number	Rev
	DDRII SO-DIMM & TERMINATOR	1A
Date: Friday, August 11, 2006	Sheet 13 of 39	


RTC
CKL:C1/C2: 18pF -> CL:12.5pF
C1/C: 10pF -> CL Value = 8.5pF
7/4 change 10p to 18p
VCCRTC
+3VPCU
D4
CH500H-40
C94
1U-16V_6
D3
R139
20K/F
R98
1K_4
R140
1M/F_6
C125
1U-16V_6
CN23
85204-0200L
C101
18P-50V_4
CLK_32KX1
Y1
32.768KHZ
R138
10M_6
C102
CLK_32KX2
RTCRST#
SM_INTRUDER#
ICH_INTVRMEN
Internal PU
VCCRTC_4
+5VPCU
20MIL
R86
1.2K_6
R87
1K_4
Q9
MMBT3904
R149
4.7K_4
R143
15K_6
U26A
RTXC1
RTXC2
INTRUDER#
INTVRMEN
EE_CS
EE_SHCLK
EE_DOUT
EE_DIN
LAN_CLK
LAN_RSTSYNC
LAN_RXD0
LAN_RXD1
LAN_RXD2
LAN_TXD0
LAN_TXD1
LAN_TXD2
ACZ_BCLK
ACZ_SYNC
ACZ_RST#
ACZ_SDIN0
ACZ_SDIN1
ACZ_SDIN2
ACZ_SDOUT
T120
6/30 change 0.01u to 3900p
SATALED#
SATA0RXN
SATA0RXP
SATA0TXN
SATA0TXP
SATA2RXN
SATA2RXP
SATA2TXN
SATA2TXP
SATA_CLKN
SATA_CLKP
SATARBIASN
SATARBIASP
R110
24.9/F_4
Place within 500 mils of ICH7
25mils/15mils
6/30 no use PD to GND
DIOR#
DIOW#
DDACK#
IDEIRQ
IORDY
DDREQ
ICH7-M
RTC
LPC
LAN
CPU
AC-97/AZALIA
SATA
IDE
LAD0
LAD1
LAD2
LAD3
LDRQ0#
LDRQ1#/GPIO23
LFRAME#
A20GATE
A20M#
CPUSLP#
TP1/DPRSTP#
TP2/DPSLP#
FERR#
GPIO49/CPUPWRGD
IGNNE#
INIT3_3V#
INIT#
INTR
RCIN#
NMI
SMI#
STPCLK#
THERMTRIP#
DD0
DD1
DD2
DD3
DD4
DD5
DD6
DD7
DD8
DD9
DD10
DD11
DD12
DD13
DD14
DD15
DA0
DA1
DA2
DCS1#
DCS3#
PDD[15:0]
PDA[2:0]
PDCS1#
PDCS3#
R108
10K_4
R109
10K_4
RCIN#
GATEA20
R105
*56.2/F_4
R121
*56.2/F_4
R118
56.2/F_4
R104
56.2/F_4
R103
24.9/F_4
Should be 2" close ICH7
6/30 stuff R153,R351
R115
R117
R126
R106
R107
ACZ_SDOUT_AUDIO_MDC
ACZ_SDOUT_AUDIO
C139
*10P-50V_4
ACZ_SYNC_AUDIO_MDC
ACZ_SYNC_AUDIO
C143
*10P-50V_4
BIT_CLK_AUDIO_MDC
BIT_CLK_AUDIO
C436
*10P-50V_4
ACZ_RST#_AUDIO_MDC
ACZ_RST#_AUDIO
R1668
R148
R1669
R150
R1670
R362
R1671
R152
ICH7 internal VR enable strap
INTVRMEN
Enable (default) 1
Disable 0
R144
332K/F_4
R145
*0_4
A1B 8/15 change form 0603 to 0402
PROJECT : ZH5
Quanta Computer Inc.
Size
Document Number
ICH7-M RTC/SATA/IDE/AZALIA/CPU (1 OF 4)
Rev
1A
Date: Friday, August 11, 2006
Sheet 14 of 39

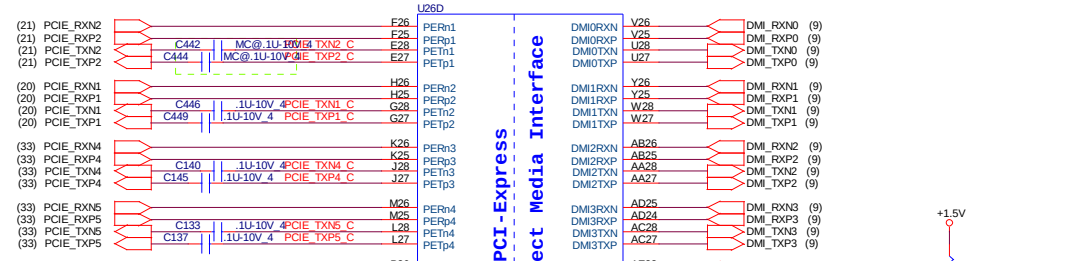
modify C

MINI CARD PCI-E

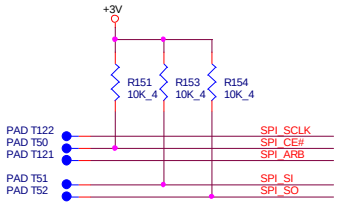
5789M

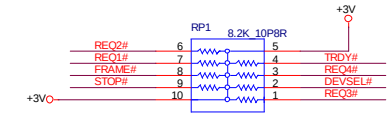
EZ4

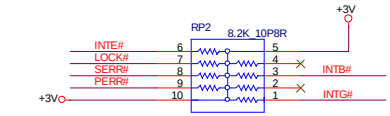
EZ4

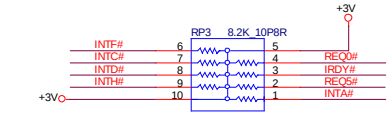


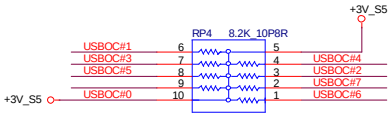
A1A 8/1 chagne PCI-E signal for different SB use







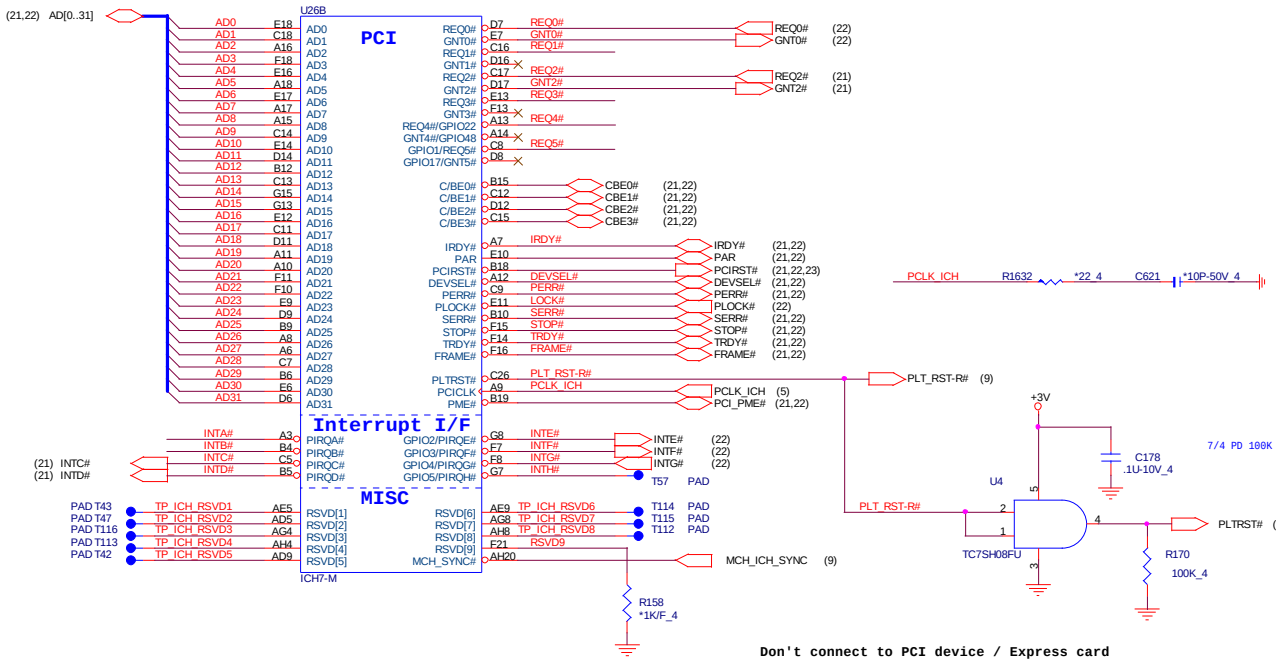




CKL use 10Kohm

ICH7 Boot BIOS select

	STRAP	GNT5# R1	GNT4# R2
LPC (default)	11	UNSTUFF	UNSTUFF
PCI	10	UNSTUFF	STUFF
SPI	01	STUFF	UNSTUFF



PCI DEVICE	IDSEL#	REQ# / GNT#	Interrupts
PCI7411	AD25	REQ0# / GNT0#	INT E/F/G#

Don't connect to PCI device / Express card

PROJECT : ZH5

Quanta Computer Inc.

Size	Document Number	Rev
	ICH7-M MDI/PCI E/PCI/USB (2 OF 4)	1A
Date: Friday, August 11, 2006	Sheet 15 of 39	

7/4 change 2.2 to 2.2K

+3V_S5
PCLK_SMB R168 2.2K_4
PDAT_SMB R169 2.2K_4
PCIE_WAKE# R159 1K_4

+3V_S5
RI# R397 10K_4
SMB_LINK_ALERT# R390 10K_4
SMLINK0 R401 10K_4
SMLINK1 R391 10K_4
EXTSMI# R R404 10K_4
SMB_ALERT# R392 10K_4

+3V_S5
DNBSWON# R403 10K_4
SYS_RST# R393 10K_4
PM_BATLOW# R R162 10K_4

+3V
CLKRUN# R116 8.2K_4
SERIRQ R101 8.2K_4
RUNTIME_SCI# R R125 10K_4

to Clock Gen & DIMM

+3V
R389 *1K/F_4
(27) ACZ_SPKR

(5,21,33) PCLK_SMB
(5,21,33) PDAT_SMB
T134 PAD
T139 PAD
T136 PAD
(22) RI#
(22,29,31) LPC_PD#
(3) SYS_RST#
(9) PM_BMBUSY#
R114 *10K/F_4
R119 *10K/F_4
(5) PM_STPPCI#
(5) PM_STPCPU#
No ASF support
R122 0_4
R113 0_4
T132 PAD
T137 PAD
T133 PAD
T56 PAD
(25,22,29,30,31) CLKRUN#
R97 10K/F_4
(20,21) PCIE_WAKE#
(21,22,29,30,31) SERIRQ
(6) THERM_ALERT#
R123 10K_4
(19) CRT_SENSE#
(30) SCI#
(30) KBSMI#
R124 0_4
R396 0_4
R395 *10K_4
R134 0_4

PCLK_SMB C22
PDAT_SMB B22
SMB_LINK_ALERT# A26
SMLINK0 B25
SMLINK1 A25
RI# A28
A19
LPC_PD# A27
SYS_RST# A22
AB18
SMB_ALERT# B23
PM_STPPCI_ICH# AC20
PM_STPCPU_ICH# AF21
A21
B21
E23
CLKRUN# AG18
AC19
U2
PCIE_WAKE# F20
SERIRQ AH21
AF20
VR_PWRGD_CK410 AD22
AC21
RUNTIME_SCI# R AC18
EXTSMI# R E21

U26C
SMBCLK
SMBDATA
LINKALERT#
SMLINK0
SMLINK1
RI#
SPKR
SUS_STAT#
SYS_RST#
GPIO0/BM_BUSY#
GPIO11/SMBALERT#
GPIO18/STPPCI#
GPIO20/STPCPU#
GPIO26
GPIO27
GPIO28
GPIO32/CLKRUN#
GPIO33/AZ_DOCK_EN#
GPIO34/AZ_DOCK_RST#
WAKE#
SERIRQ
THRM#
VRMPWRGD
GPIO6
GPIO7
GPIO8
ICH7-M

SMB
SATA GPIO
Clocks
SYS GPIO
Power MGT
GPIO

6/30 no use PU to 3V
+3V
GPIO21/SATA0GP AF19 R354 *8.2K_4
GPIO19/SATA1GP AH18
GPIO36/SATA2GP AH19 R353 33_4
GPIO37/SATA3GP AE19
CLK14 AC1 14M_ICH (5)
CLK48 B2 CLKUSB_48 (5)
SUSCLK C20 T59 PAD
SLP_S3# B24 R402 100/F_4 SUSB# (22,30)
SLP_S4# D23 R174 100/F_4 SUSC# (22,30)
SLP_S5# F22 T54 PAD
PWROK AA4 ICH_PWROK
GPIO16/DPRSLPVR AC22 PM_DPRSLPVR PM_DPRSLPVR (9,34)
TP0/BATLOW# C21 PM_BATLOW# R
PWRBTN# C23 DNBSWON# DNBSWON# (30)
LAN_RST# C19 R172 *100K_4 R171 0_4 PLTRST# (15,20,21,26,29,30,31,32,33)
RSMRST# Y4 PM_RSMRST# R R142 100/F_4 RSMRST# RSMRST# (30)
GPIO9 E20 LOW_G_INT LOW_G_INT (26,30)
GPIO10 A20 HIGHT_G_INT HIGHT_G_INT (26,30)
GPIO12 F19 EMAIL_LED# EMAIL_LED# (31)
GPIO13 E19
GPIO14 R4 LID591# (18,30,38)
GPIO15 E22 DOCKIN# (20,27,33)
GPIO24 R3 BOARD_ID1
GPIO25 D20 BOARD_ID0
GPIO35 AD21 T45 PAD
GPIO38 AD20 T44 PAD
GPIO39 AE20 T118 PAD

RSMRST# R141 10K_4

CKL :100Kohm PD

6/30 change RSMRST# to PLTRST#

A1A add G-sense control pin

GPIO25 /Suspend rail is a HW strap , don't pull down .

Note: Connect to EC; Reserve PH/3V

+3V
R178 *10K_4
BOARD_ID0
R177 10K_4

+3V
R147 *10K_4
BOARD_ID1
R146 10K_4

+3V
A1A:Change to inverter for VR_PWRGD_CK410
R127 100K_4
U3
VR_PWRGD_CK410
VR_PWRGD_CK410# (5,34)
SN74LVC1G04DCKR
Note: External pull-up 3V

+3VSUS
C429 .022U-16V_4
U25
(9,34) DELAY_VR_PWRGOOD
(3,30) PWROK_EC
ICH_PWROK
TC7SH08FU
R361 10K_4

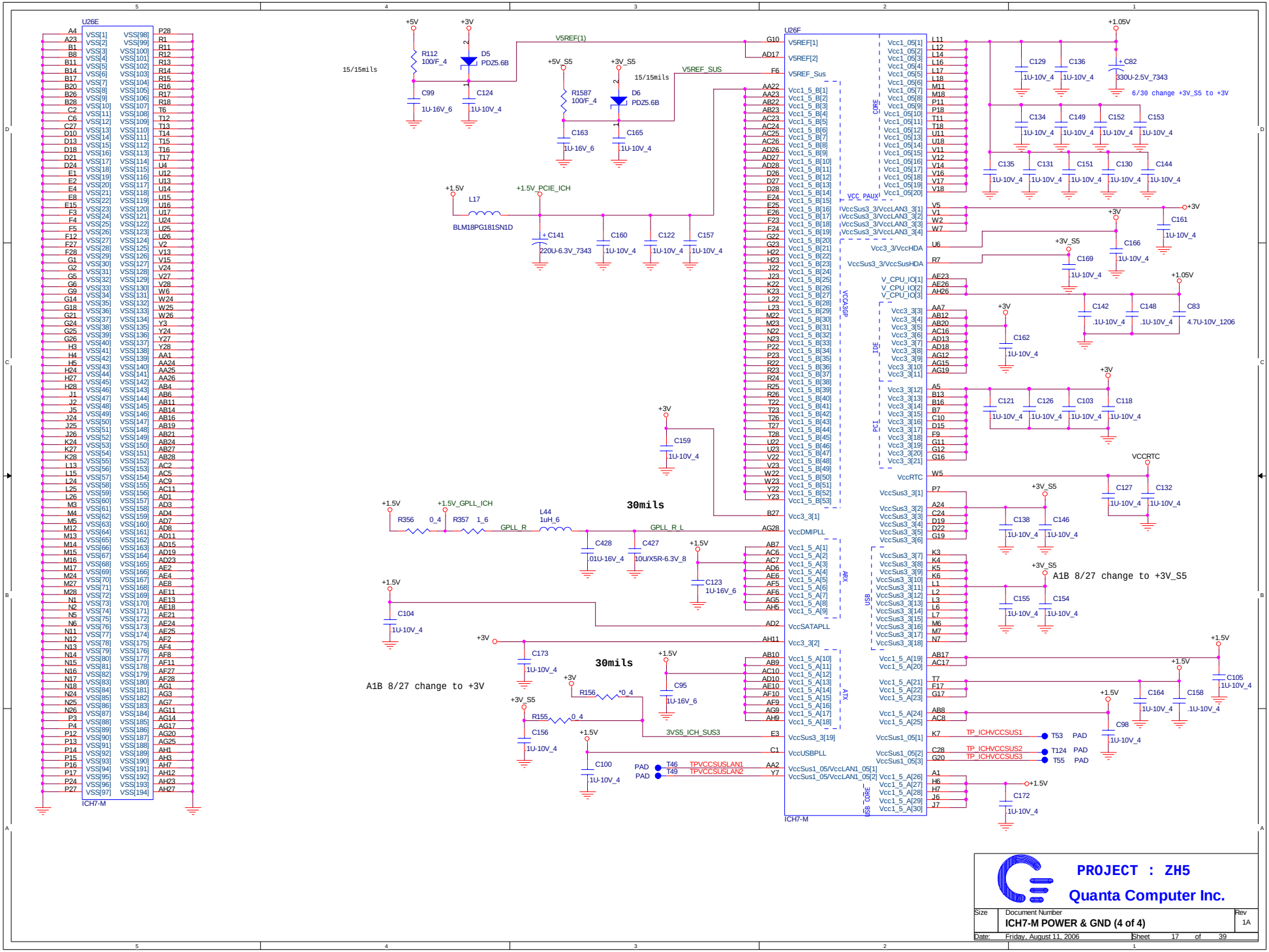
CLKUSB_48
R387 10_4
C467 10P-50V_4

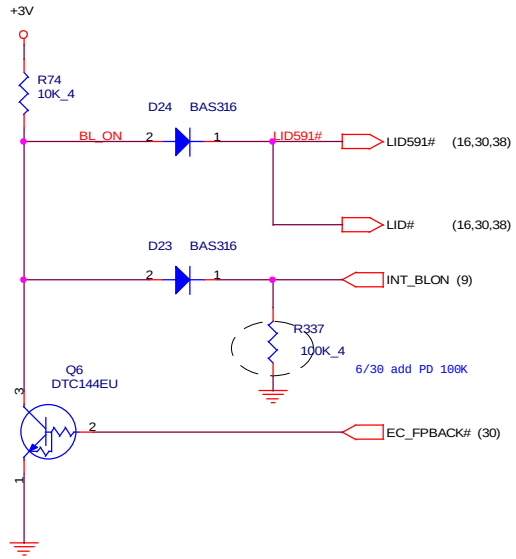
14M_ICH
R136 *33_4
C128 *10P-50V_4

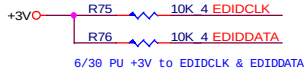
Board ID	ID1	ID0	
00			PATA, PCMCIA
01			PATA, NEW
10			SATA, PCMCIA
11			PATA, NEW

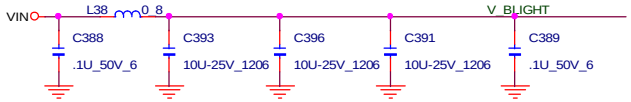
PROJECT : ZH5
Quanta Computer Inc.

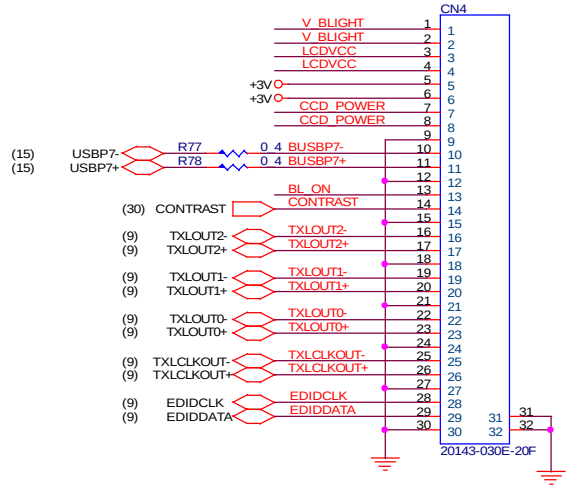
Size	Document Number	Rev
	ICH7-M GPIO / SMBus (3 of 4)	1A
Date: Friday, August 11, 2006	Sheet 16 of 39	

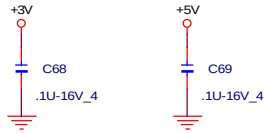

U26E
ICH7-M
U26F
ICH7-M
+5V
+3V
V5REF(1)
V5REF_SUS
+5V_S5
+3V_S5
15/15mils
R112 100/F_4
D5 PDZ5.6B
C99 1U-16V_6
C124 1U-10V_4
R1587 100/F_4
D6 PDZ5.6B
C163 1U-16V_6
C165 1U-10V_4
+1.5V
+1.5V_PCIE_ICH
L17
BLM18PG181SN1D
C141 220U-6.3V_7343
C160 1U-10V_4
C122 1U-10V_4
C157 1U-10V_4
+1.05V
C129 1U-10V_4
C136 1U-10V_4
C82 330U-2.5V_7343
6/30 change +3V_S5 to +3V
C134 1U-10V_4
C149 1U-10V_4
C152 1U-10V_4
C153 1U-10V_4
C135 1U-10V_4
C131 1U-10V_4
C151 1U-10V_4
C130 1U-10V_4
C144 1U-10V_4
C161 1U-10V_4
C166 1U-10V_4
C169 1U-10V_4
C142 .1U-10V_4
C148 .1U-10V_4
C83 4.7U-10V_1206
C162 1U-10V_4
C121 1U-10V_4
C126 1U-10V_4
C103 1U-10V_4
C118 1U-10V_4
C159 1U-10V_4
VCCRTC
C127 1U-10V_4
C132 1U-10V_4
C138 1U-10V_4
C146 1U-10V_4
A1B 8/27 change to +3V_S5
C155 1U-10V_4
C154 1U-10V_4
R356 0_4
R357 1_6
GPLL_R
L44 1uH_6
GPLL_R_L
30mils
C428 .01U-16V_4
C427 10U/X5R-6.3V_8
C123 1U-16V_6
C104 1U-10V_4
A1B 8/27 change to +3V
C173 1U-10V_4
30mils
R156 *0_4
C95 1U-16V_6
R155 0_4
C156 1U-10V_4
3VS5_ICH_SUS3
C100 1U-10V_4
PAD T46 TPVCCSUSLAN1
PAD T49 TPVCCSUSLAN2
TP_ICHVCCSUS1 T53 PAD
TP_ICHVCCSUS2 T124 PAD
TP_ICHVCCSUS3 T55 PAD
C172 1U-10V_4
C105 1U-10V_4
C164 1U-10V_4
C158 .1U-10V_4
C98 1U-10V_4
PROJECT : ZH5
Quanta Computer Inc.
Size
Document Number
ICH7-M POWER & GND (4 of 4)
Rev
1A
Date: Friday, August 11, 2006
Sheet 17 of 39



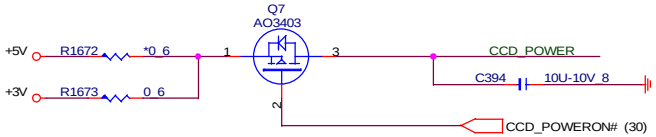


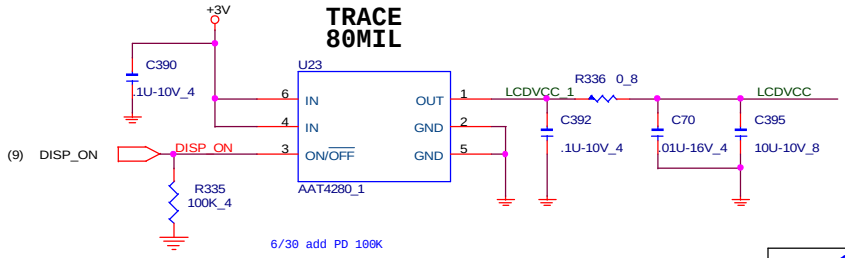






CAMERA MODULE CONNECTOR

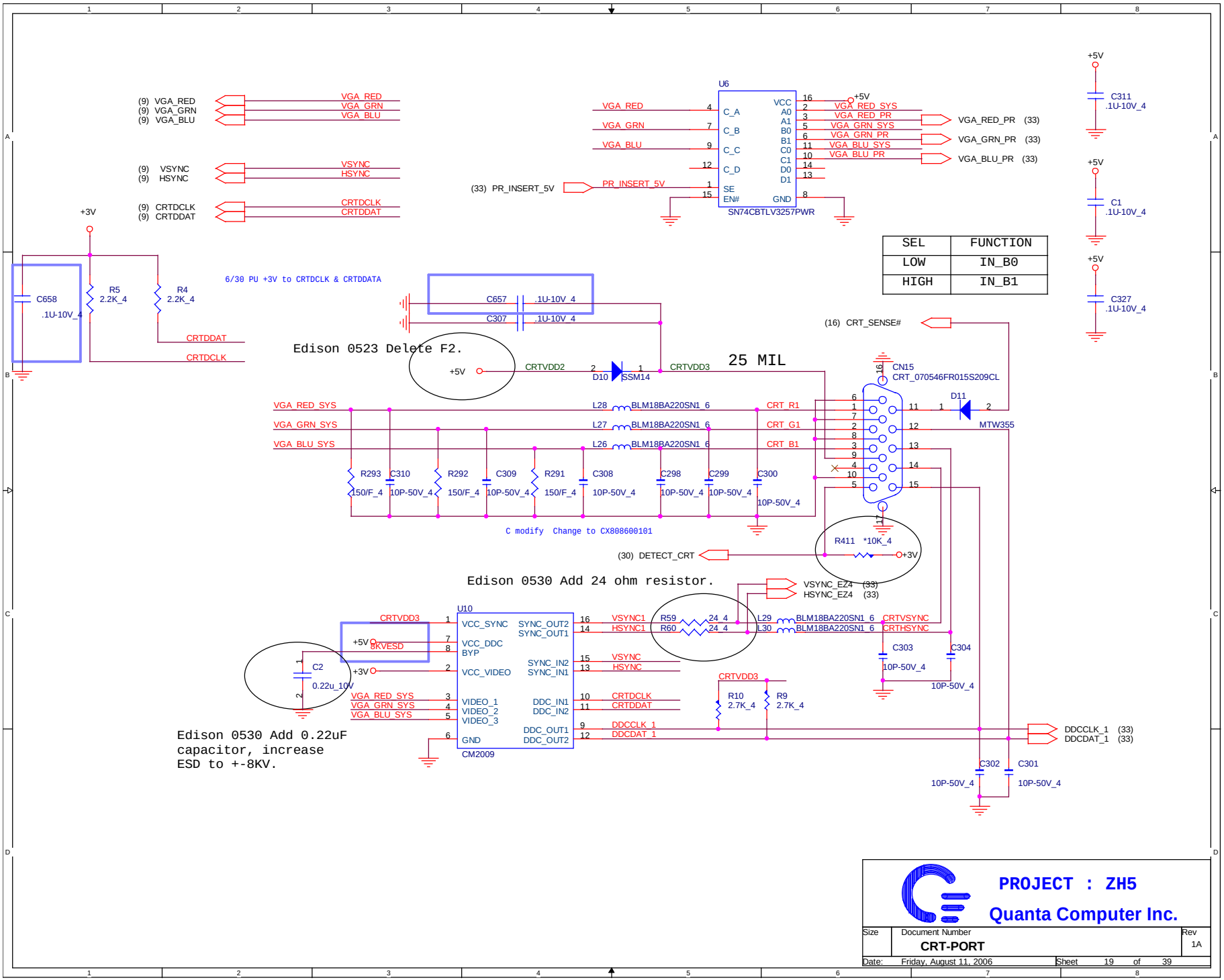




PROJECT : ZH5

Quanta Computer Inc.

Size	Document Number	Rev
	LVDS CONNECTOR & CCD	1A
Date: Friday, August 11, 2006	Sheet 18 of 39	



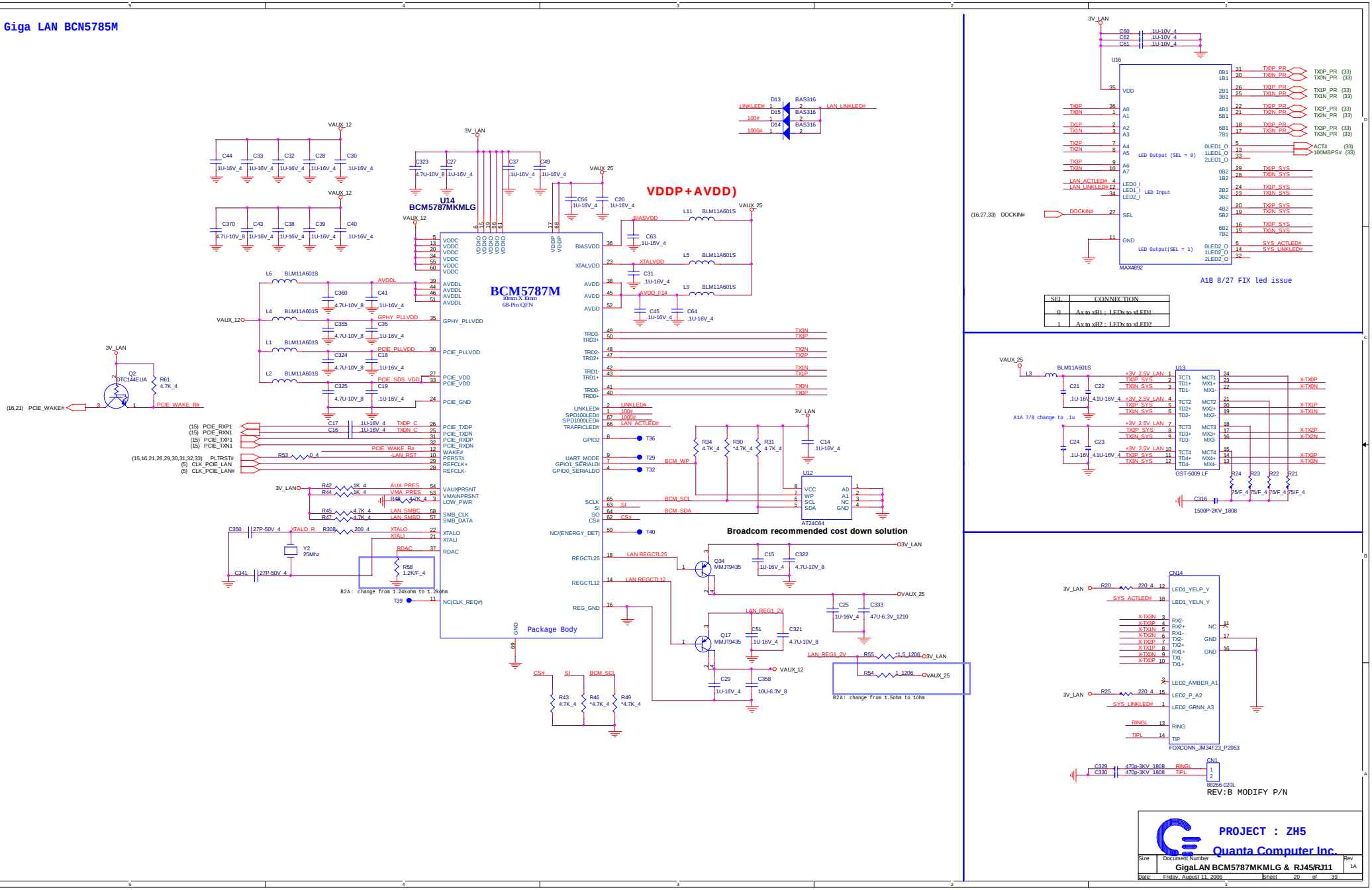
PROJECT : ZH5

Quanta Computer Inc.

Size	Document Number	Rev
	CRT-PORT	1A

Date: Friday, August 11, 2006 Sheet 19 of 39

Giga LAN BCN5785M



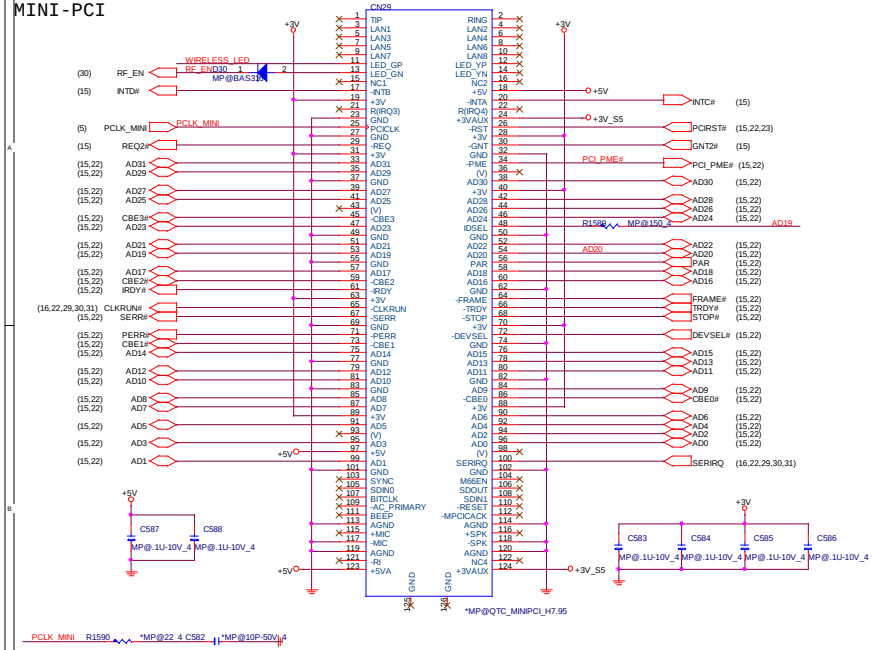
SEL	CONNECTION
0	Ax to xB1 ; LEDx to xLED1
1	Ax to xB2 ; LEDx to xLED2

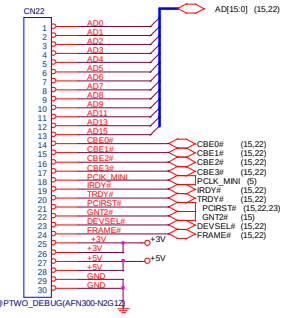
PROJECT : ZH5

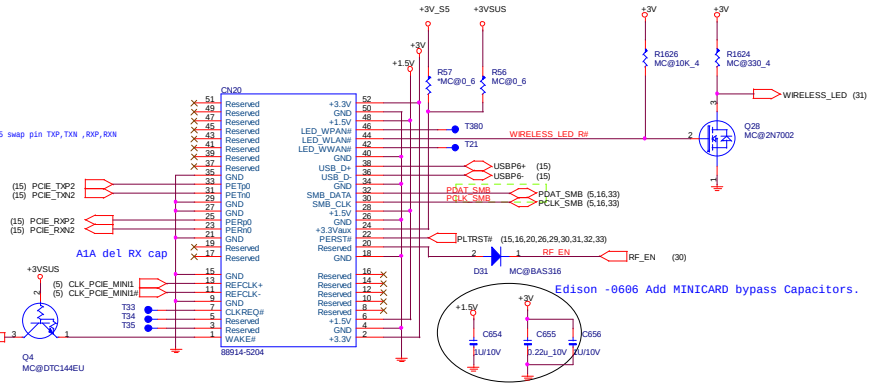
Quanta Computer Inc.

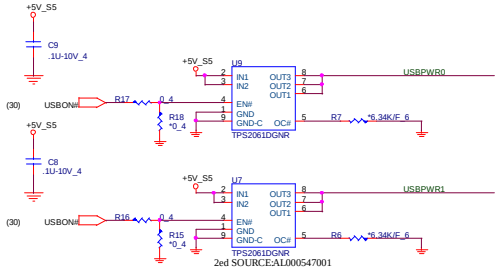
Size	Document Number	Rev
	GigaLAN BCM5787MKMLG & RJ45/RJ11	1A
Date: Friday, August 11, 2006	Sheet 20 of 39	

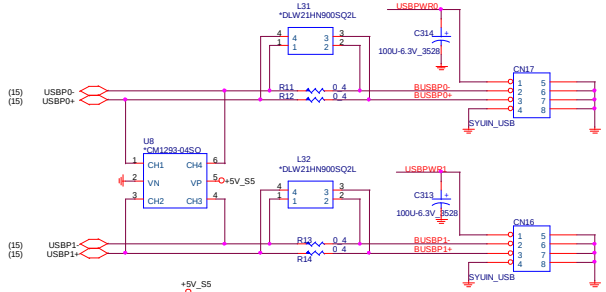
MINI-PCI

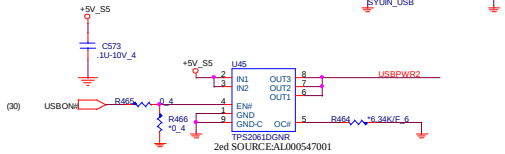


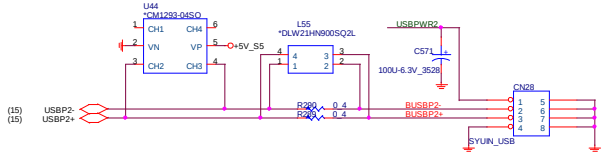




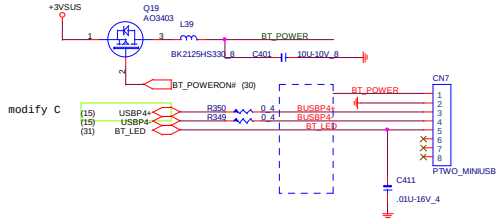








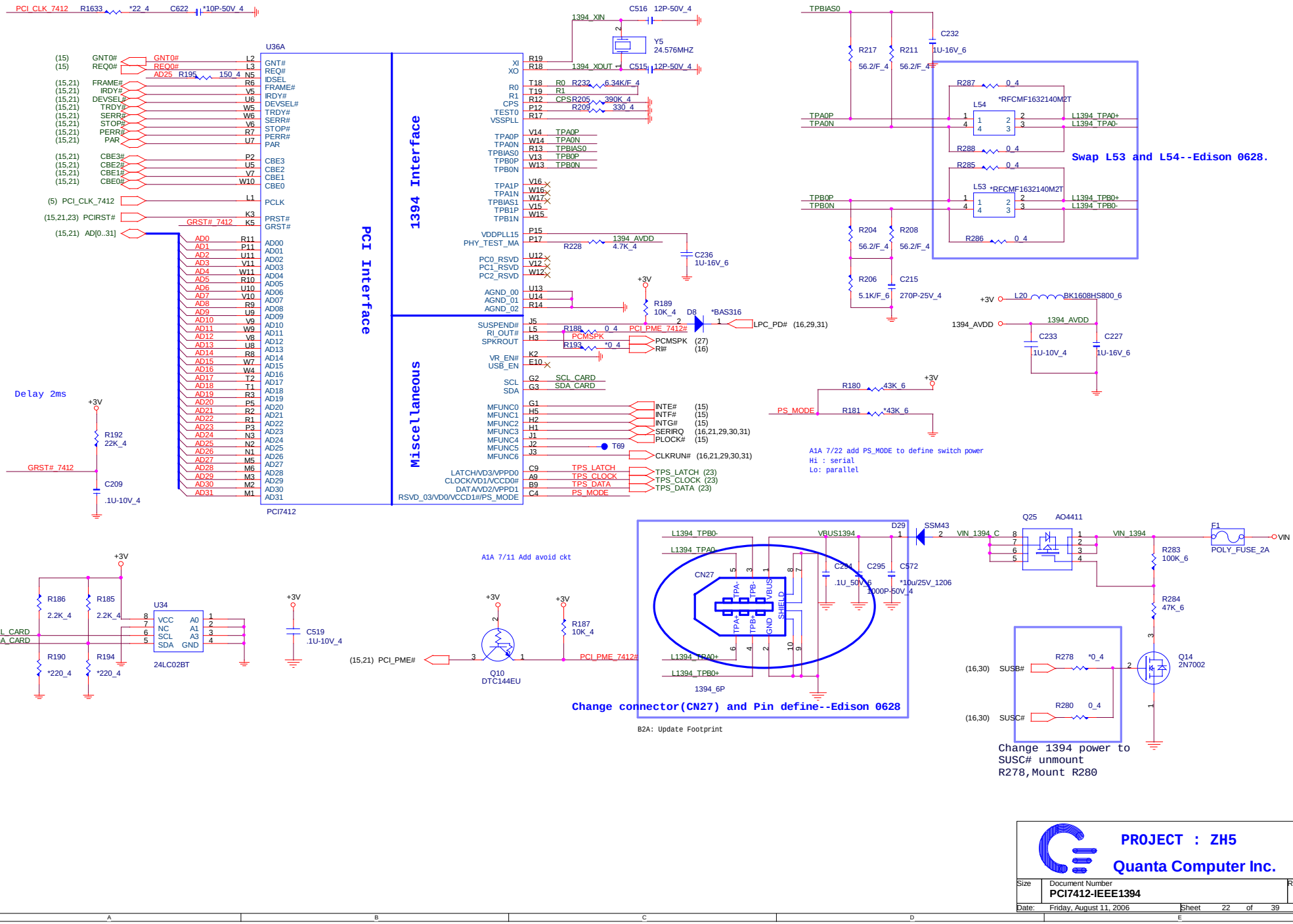
BLUETOOTH MODULE CONNECTOR



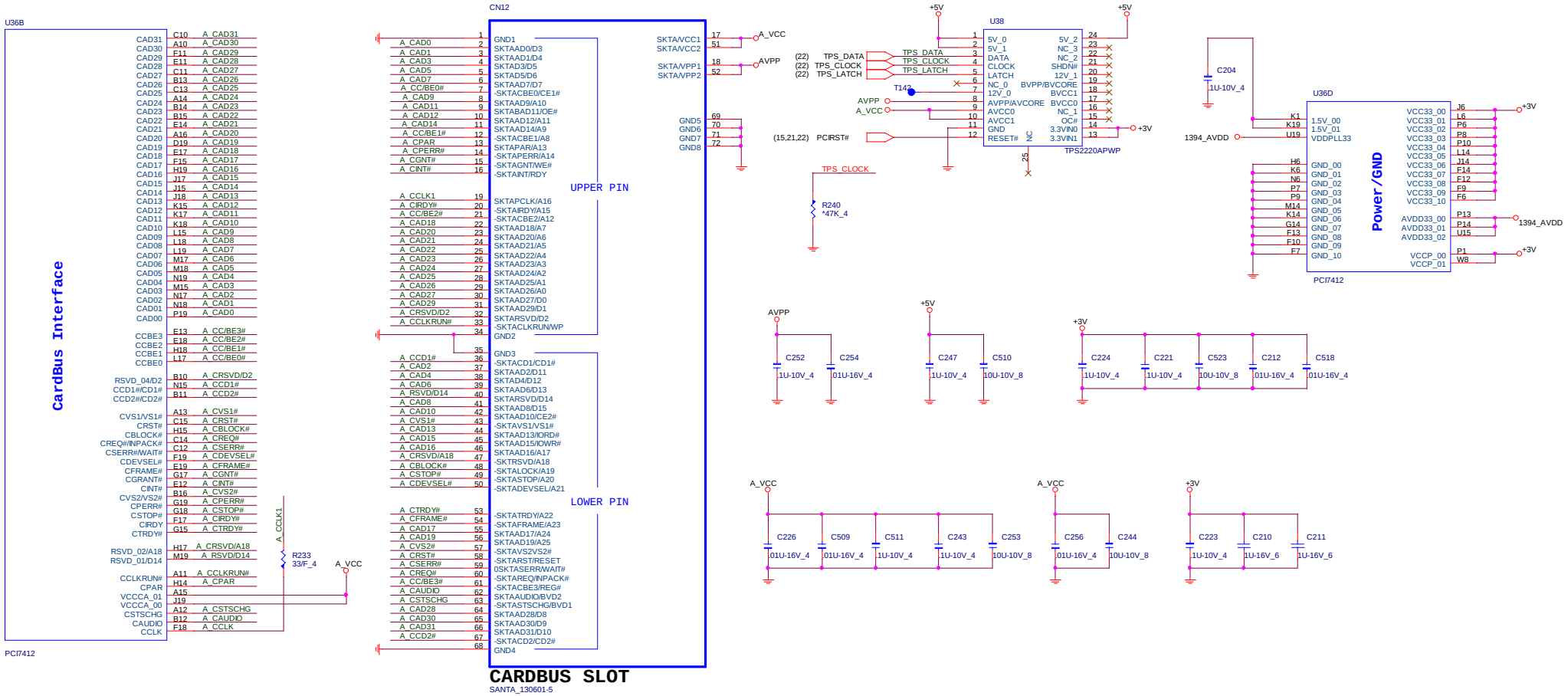
PROJECT : ZH5

Quanta Computer Inc.

Size	Document Number	Rev
	PCMCIA /Mini Card /USB / Blue Tooth	1A
Date: Friday, August 11, 2006	Sheet 21 of 39	



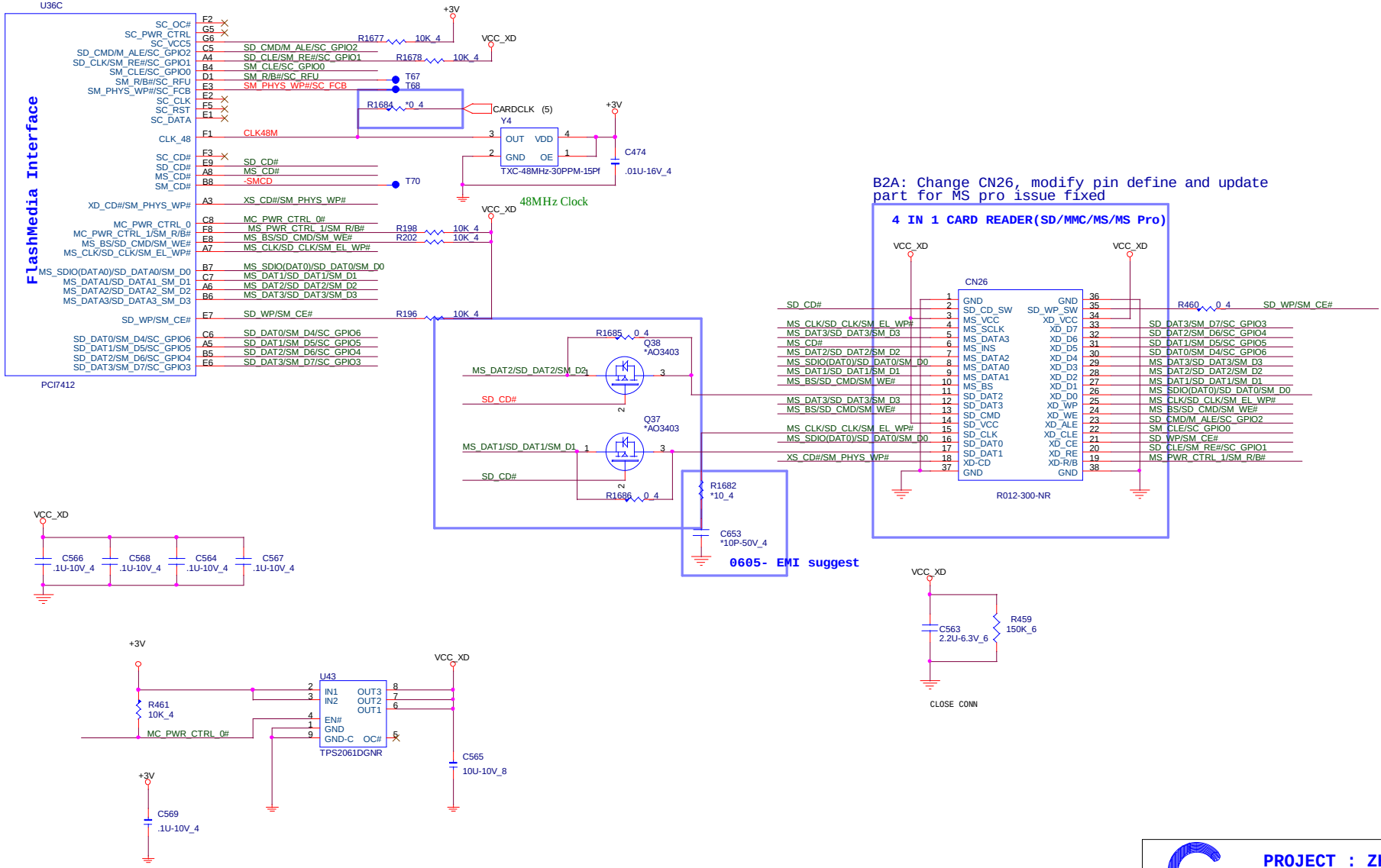
PROJECT : ZH5		
Quanta Computer Inc.		
Size	Document Number: PCI7412-IEEE1394	Rev: 1A
Date: Friday, August 11, 2006	Sheet 22 of 39	

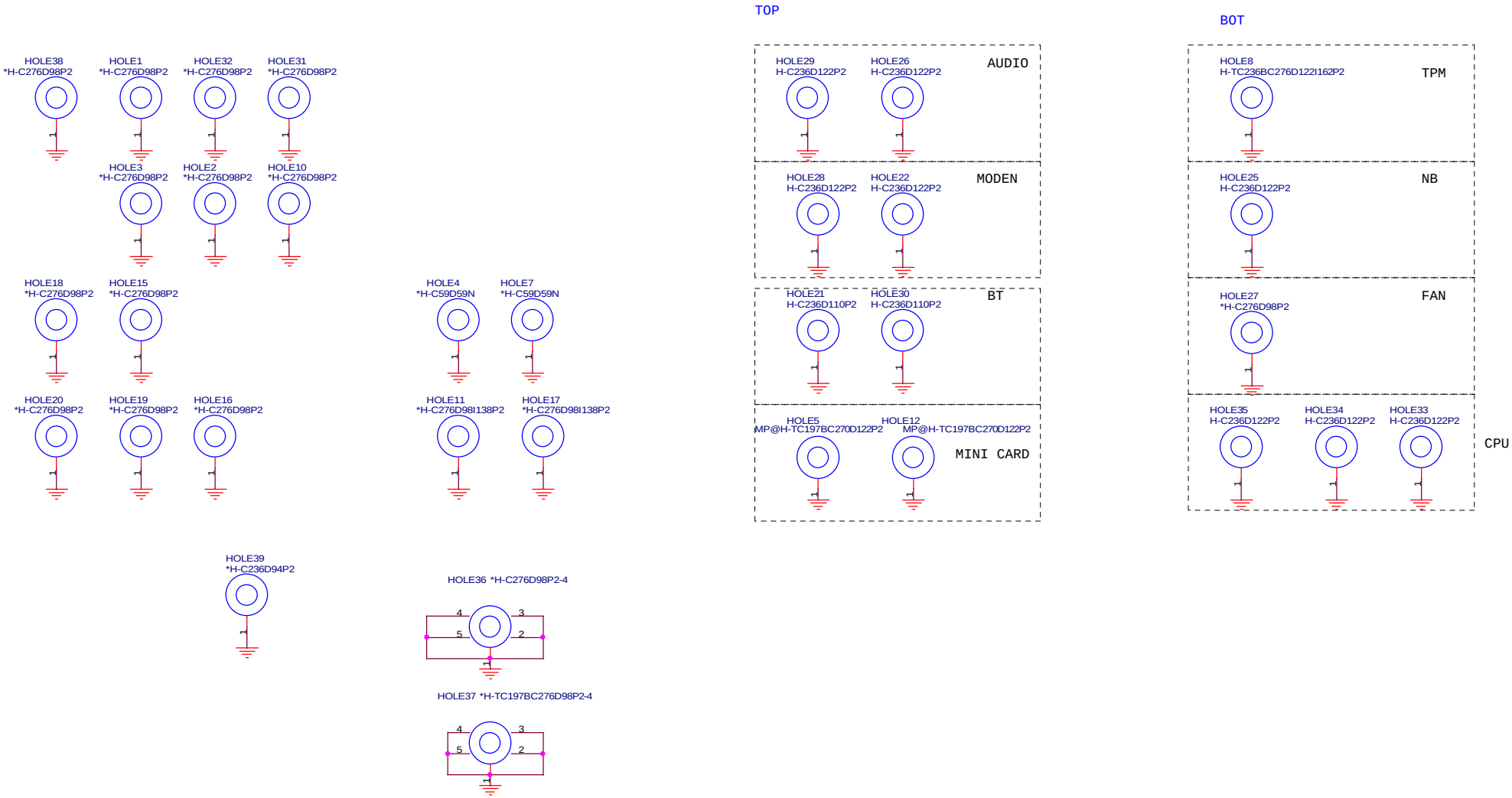


PROJECT : ZH5

Quanta Computer Inc.

Size	Document Number	Rev
	PCI7412-PCMCIA	1A
Date: Friday, August 11, 2006	Sheet 23 of 39	

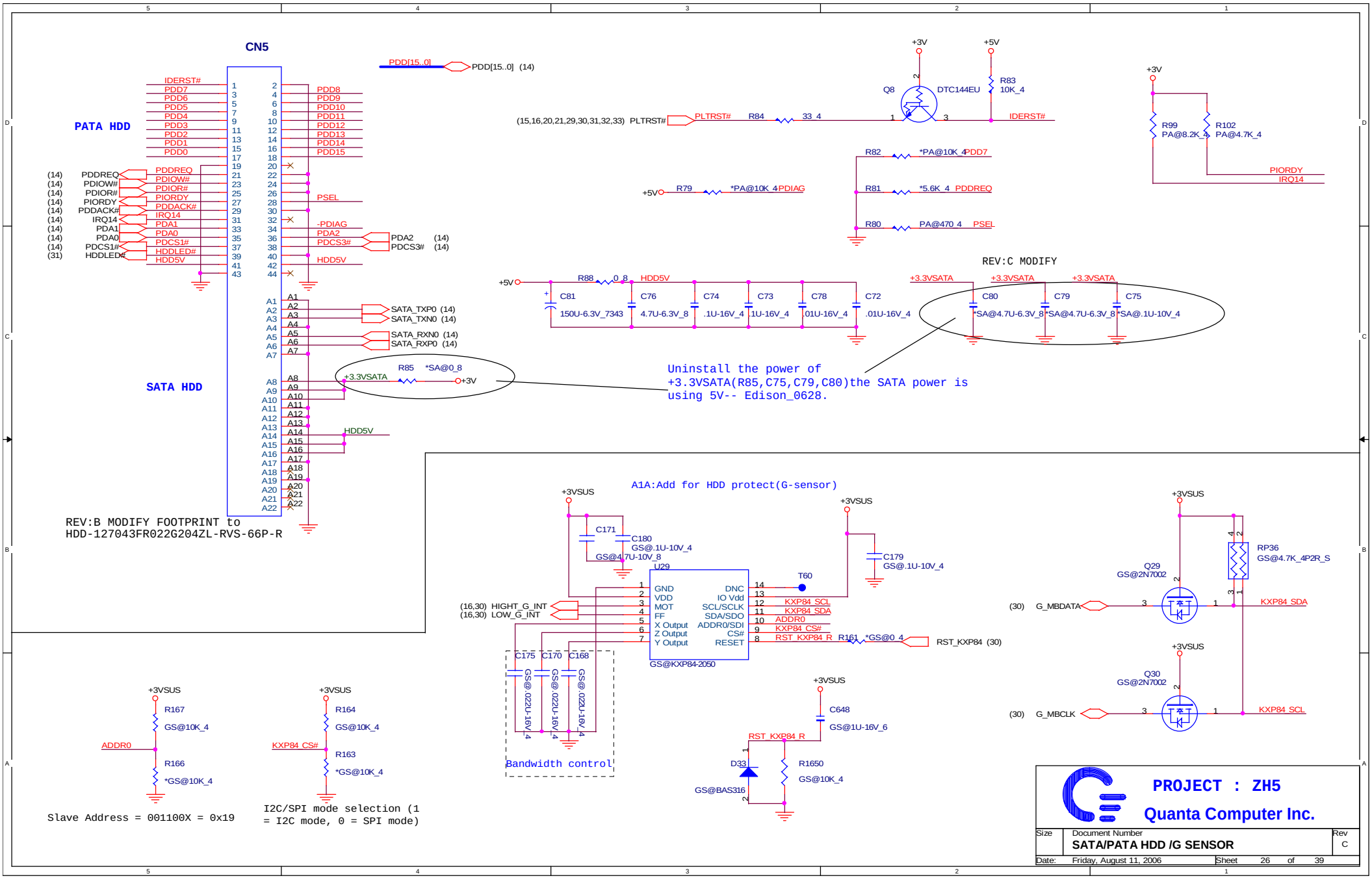

U36C
FlashMedia Interface
PCI7412
SC_OC#
SC_PWR_CTRL
SC_VCC5
SD_CMD/M_ALE/SC_GPIO2
SD_CLK/SM_RE#/SC_GPIO1
SM_CLE/SC_GPIO0
SM_R/B#/SC_RFU
SM_PHYS_WP#/SC_FCB
SC_CLK
SC_RST
SC_DATA
CLK_48
SC_CD#
SD_CD#
MS_CD#
SM_CD#
XD_CD#/SM_PHYS_WP#
MC_PWR_CTRL_0
MC_PWR_CTRL_1/SM_R/B#
MS_BS/SD_CMD/SM_WE#
MS_CLK/SD_CLK/SM_EL_WP#
MS_SDIO(DAT0)/SD_DATA0/SM_D0
MS_DATA1/SD_DATA1_SM_D1
MS_DATA2/SD_DATA2_SM_D2
MS_DATA3/SD_DATA3_SM_D3
SD_WP/SM_CE#
SD_DAT0/SM_D4/SC_GPIO6
SD_DAT1/SM_D5/SC_GPIO5
SD_DAT2/SM_D6/SC_GPIO4
SD_DAT3/SM_D7/SC_GPIO3
CLK48M
SD_CMD/M_ALE/SC_GPIO2
SD_CLE/SM_RE#/SC_GPIO1
SM_CLE/SC_GPIO0
SM_R/B#/SC_RFU
SM_PHYS_WP#/SC_FCB
XS_CD#/SM_PHYS_WP#
MC_PWR_CTRL_0#
MS_PWR_CTRL_1/SM_R/B#
MS_BS/SD_CMD/SM_WE#
MS_CLK/SD_CLK/SM_EL_WP#
MS_SDIO(DAT0)/SD_DAT0/SM_D0
MS_DAT1/SD_DAT1/SM_D1
MS_DAT2/SD_DAT2/SM_D2
MS_DAT3/SD_DAT3/SM_D3
SD_WP/SM_CE#
SD_DAT0/SM_D4/SC_GPIO6
SD_DAT1/SM_D5/SC_GPIO5
SD_DAT2/SM_D6/SC_GPIO4
SD_DAT3/SM_D7/SC_GPIO3
+3V
VCC_XD
R1677 10K_4
R1678 10K_4
T67
T68
R1684 *0_4
CARDCLK (5)
Y4
OUT VDD GND OE
TXC-48MHz-30PPM-15Pf
C474 .01U-16V_4
T70
48MHz Clock
R198 10K_4
R202 10K_4
R196 10K_4
R1685 0_4
Q38 *AO3403
Q37 *AO3403
MS_DAT2/SD_DAT2/SM_D2
MS_DAT1/SD_DAT1/SM_D1
SD_CD#
R1686 0_4
R1682 *10_4
C653 *10P-50V_4
0605- EMI suggest
B2A: Change CN26, modify pin define and update part for MS pro issue fixed
4 IN 1 CARD READER(SD/MMC/MS/MS Pro)
CN26
GND
SD_CD_SW
MS_VCC
MS_SCLK
MS_DATA3
MS_INS
MS_DATA2
MS_DATA0
MS_DATA1
MS_BS
SD_DAT2
SD_DAT3
SD_CMD
SD_VCC
SD_CLK
SD_DAT0
SD_DAT1
XD-CD
SD_WP_SW
XD_VCC
XD_D7
XD_D6
XD_D5
XD_D4
XD_D3
XD_D2
XD_D1
XD_D0
XD_WP
XD_WE
XD_ALE
XD_CLE
XD_CE
XD_RE
XD-R/B
R012-300-NR
R460 0_4
C566 .1U-10V_4
C568 .1U-10V_4
C564 .1U-10V_4
C567 .1U-10V_4
C563 2.2U-6.3V_6
R459 150K_6
CLOSE CONN
U43
IN1 IN2 EN# GND GND-C
OUT3 OUT2 OUT1 OC#
TPS2061DGNR
R461 10K_4
MC_PWR_CTRL_0#
C565 10U-10V_8
C569 .1U-10V_4
PROJECT : ZH5
Quanta Computer Inc.
Size
Document Number
PCI7412-CARD READER
Rev
1A
Date: Friday, August 11, 2006
Sheet 24 of 39



PROJECT : ZH5

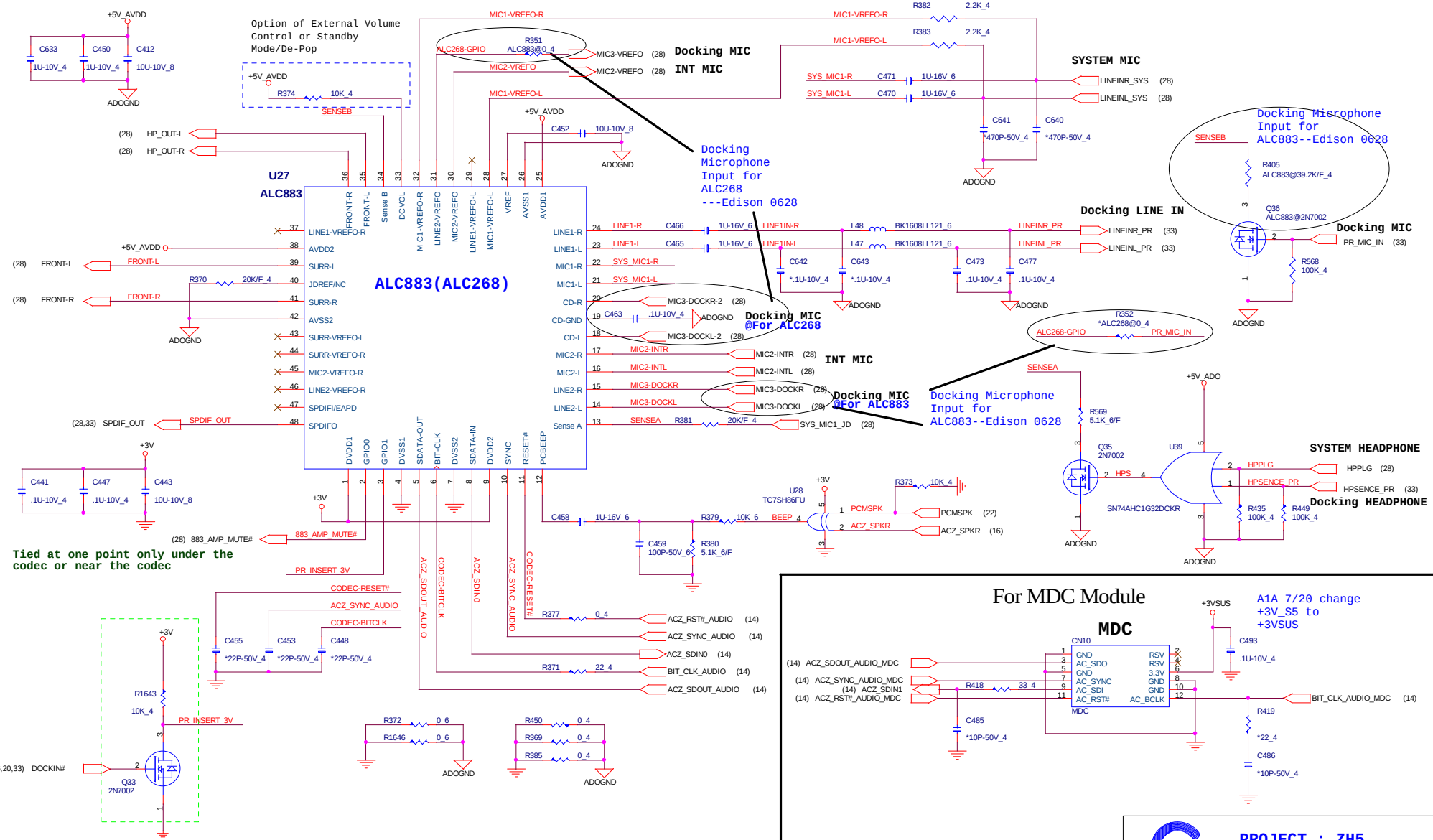
Quanta Computer Inc.

Size	Document Number	Rev
	HOLE	C
Date: Friday, August 11, 2006	Sheet 25 of 39	


CN5
PATA HDD
SATA HDD
PDD[15..0]
PDD[15..0] (14)
IDERST#
PDD7
PDD6
PDD5
PDD4
PDD3
PDD2
PDD1
PDD0
PDD8
PDD9
PDD10
PDD11
PDD12
PDD13
PDD14
PDD15
PDDREQ
PDIOW#
PDIOR#
PIORDY
PDDACK#
IRQ14
PDA1
PDA0
PDCS1#
HDDLED#
PSEL
-PDIAG
PDA2
PDCS3#
HDD5V
SATA_TXP0 (14)
SATA_TXN0 (14)
SATA_RXN0 (14)
SATA_RXP0 (14)
+3.3VSATA
R85 *SA@0_8
+3V
REV:B MODIFY FOOTPRINT to
HDD-127043FR022G204ZL-RVS-66P-R
(15,16,20,21,29,30,31,32,33) PLTRST#
PLTRST#
R84 33_4
Q8 DTC144EU
R83 10K_4
R82 *PA@10K_4PDD7
R81 *5.6K_4 PDDREQ
R80 PA@470_4 PSEL
+5V
R79 *PA@10K_4PDIAG
R99 PA@8.2K_4
R102 PA@4.7K_4
PIORDY
IRQ14
REV:C MODIFY
R88 0_8
C81 150U-6.3V_7343
C76 4.7U-6.3V_8
C74 .1U-16V_4
C73 1U-16V_4
C78 .01U-16V_4
C72 .01U-16V_4
C80 *SA@4.7U-6.3V_8
C79 *SA@4.7U-6.3V_8
C75 *SA@.1U-10V_4
Uninstall the power of
+3.3VSATA(R85,C75,C79,C80)the SATA power is
using 5V-- Edison_0628.
A1A:Add for HDD protect(G-sensor)
+3VSUS
C171
C180 GS@.1U-10V_4
GS@4.7U-10V_8
U29
GND
VDD
MOT
FF
X Output
Z Output
Y Output
DNC
IO Vdd
SCL/SCLK
SDA/SDO
ADDR0/SDI
CS#
RESET
T60
C179 GS@.1U-10V_4
(16,30) HIGHT_G_INT
(16,30) LOW_G_INT
KXP84_SCL
KXP84_SDA
ADDR0
KXP84_CS#
RST_KXP84_R
R161 *GS@0_4
RST_KXP84 (30)
GS@KXP84-2050
C175 GS@.022U-16V
C170 GS@.022U-16V
C168 GS@.022U-16V
Bandwidth control
C648 GS@1U-16V_6
RST_KXP84_R
D33 GS@BAS316
R1650 GS@10K_4
RP36 GS@4.7K_4P2R_S
Q29 GS@2N7002
(30) G_MBDATA
KXP84_SDA
Q30 GS@2N7002
(30) G_MBCLK
KXP84_SCL
R167 GS@10K_4
ADDR0
R166 *GS@10K_4
R164 GS@10K_4
KXP84_CS#
R163 *GS@10K_4
Slave Address = 001100X = 0x19
I2C/SPI mode selection (1
= I2C mode, 0 = SPI mode)
PROJECT : ZH5
Quanta Computer Inc.
Size
Document Number
SATA/PATA HDD /G SENSOR
Rev
C
Date: Friday, August 11, 2006
Sheet 26 of 39

CODEC(ALC268)

LINE IN



Speaker & Hear-Phone Amplifier

U30 MAX9789A

For Speaker

Package 0805 for THD+N performance for Vista Logo requirements.

MAX9789A TQFN 32PIN

Layout Note:
The C521 close pin9,
The C451 close pin17.

Layout Note:
The C525 close pin18,
The C524 close pin8.

Add A-LDO option resistor ---Edison_0628

C3A: mount U48,C650 unmount R1681

B2A: Unmount R563, Mount R565

GAIN1	GAIN2	GAIN
0	0	6dB
0	1	10dB
1	0	15.6dB
1	1	21.6dB

DOCK HEADPHONE

MIC

The Placement close to U27(ALC883/ALC268)

Docking Microphone Input for ALC883 ---Edison_0628

Docking Microphone Input for ALC268 ---Edison_0628

AUDIO BOARD

SPEAKER CONNECTOR

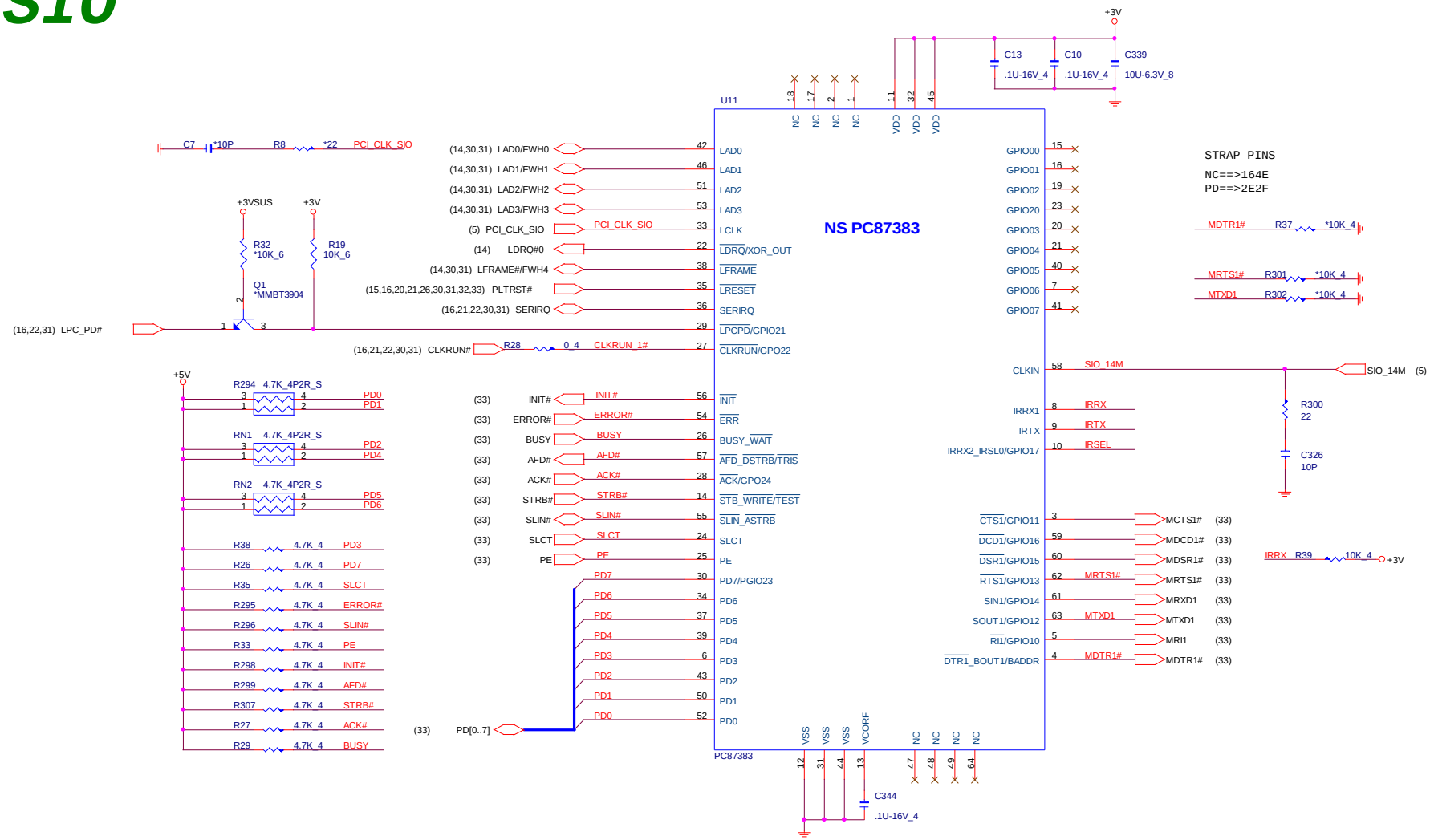
PROJECT : ZH5

Quanta Computer Inc.

Size	Document Number	Rev
	AUDIO AMP & SPEAK/LIN OUT	1A

Date: Friday, August 11, 2006 Sheet 28 of 39

SIO



PROJECT : ZH5
Quanta Computer Inc.

Size	Document Number	Rev
Custom	SIO (87383)	1A
Date: Friday, August 11, 2006	Sheet 29 of 39	

LDRQ#(pin 8) internal is no use

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

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

SHBM=1: Enable shared memory with host BIOS

modify F:

If Pin 24 is not pull-high, System will not able to boot.

A1A add HWPG ckt

A1B 8/29 pop R327

A1A 7/8 change 121K to 62K

B1B:Reversed for G sensor buzzer

BIU configuration should match flash speed used

FOR 97551 ONLY

ST Micro M29W008AB/AMD-29LV081B/SST39VF080

PROJECT : ZH5

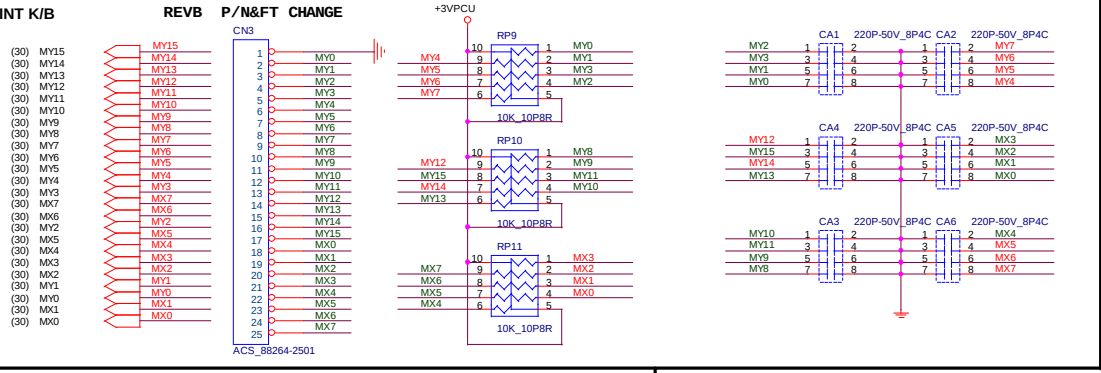
Quanta Computer Inc.

Size	Document Number	Rev
	EC Controller PC97551&FLASH	1A

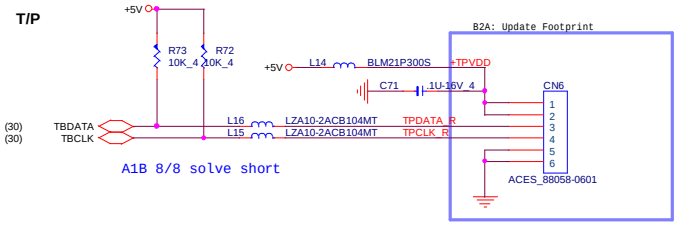
Date: Friday, August 11, 2006 Sheet 30 of 39

INT K/B

REVB P/N&FT CHANGE

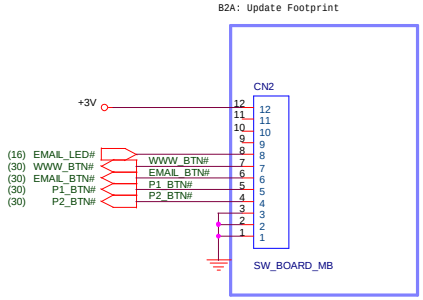


T/P

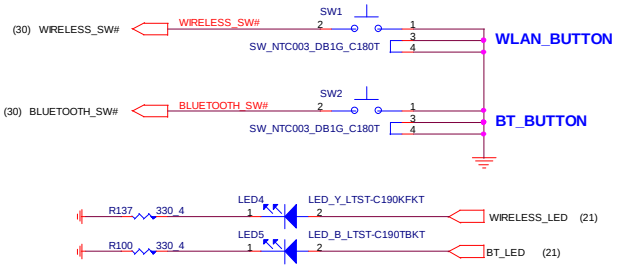


SW BOARD

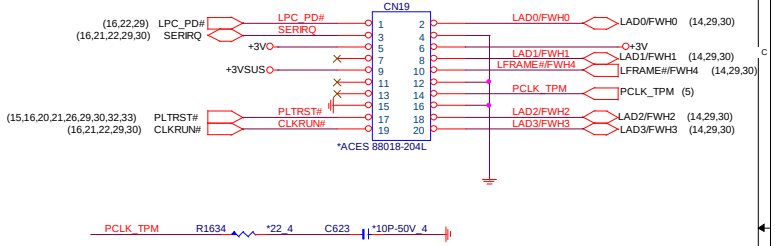
A1A define keyboard matrix as same as ZH1



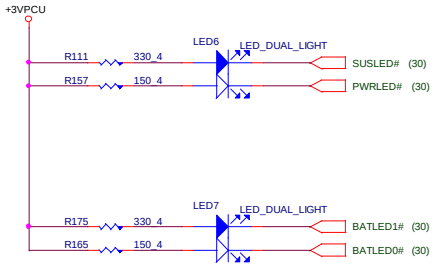
WL/BT

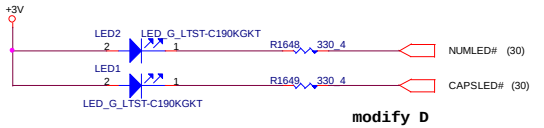


TPM

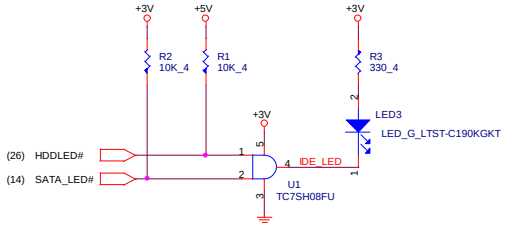


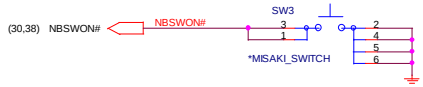
POWER LED/BATT LED



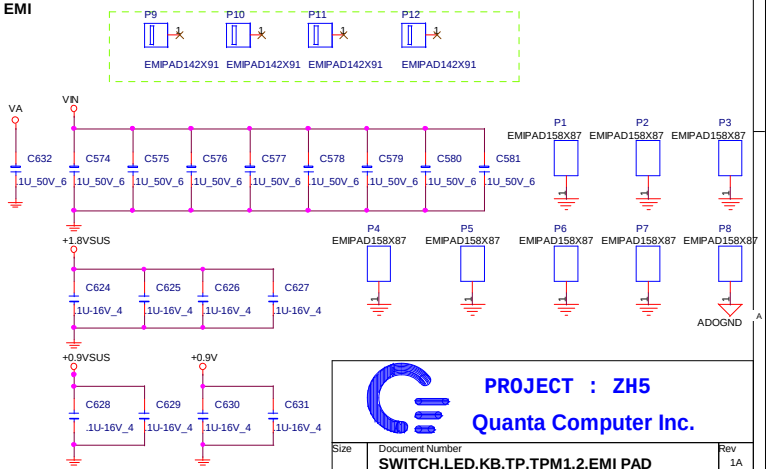


modify D





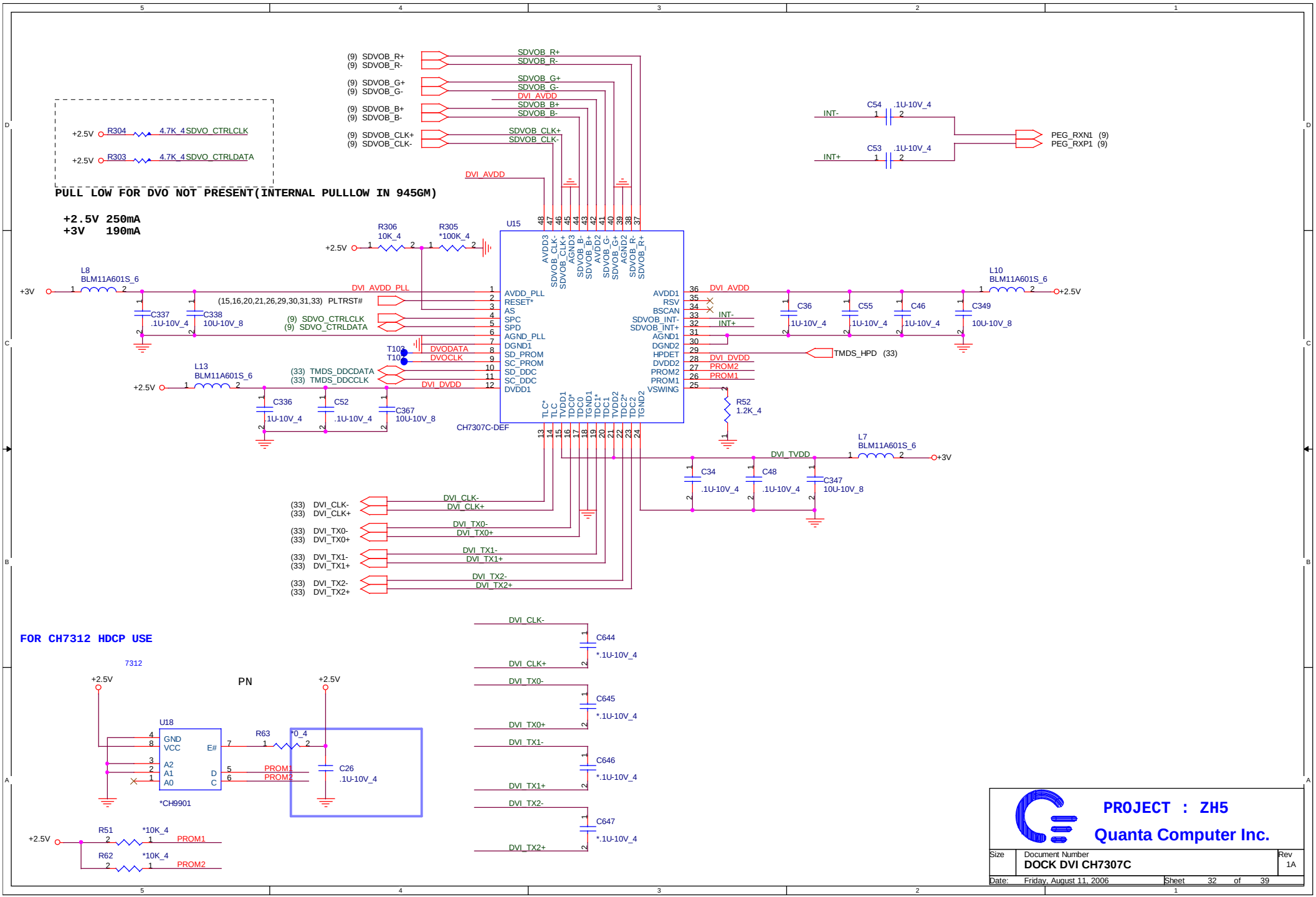
EMI

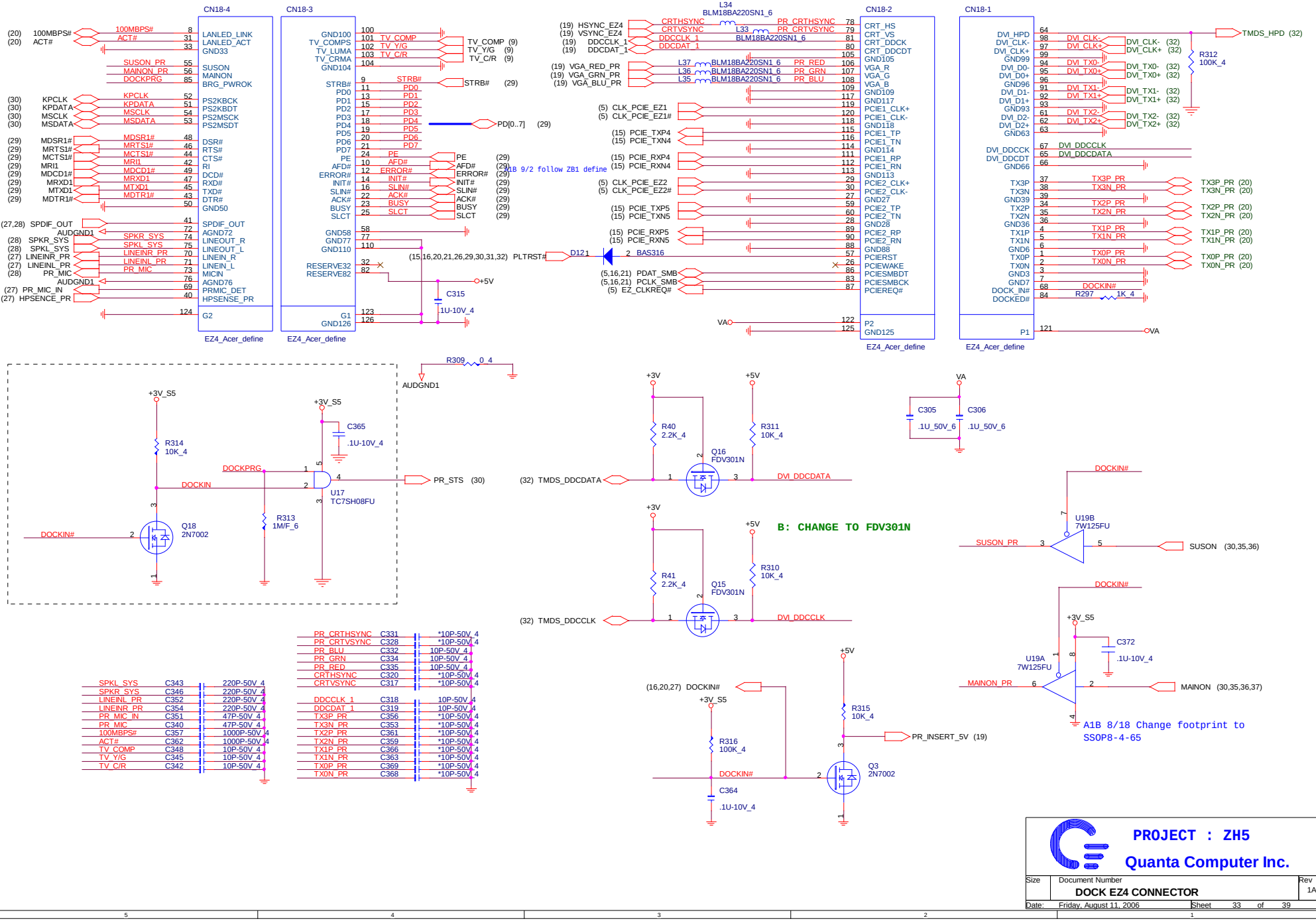


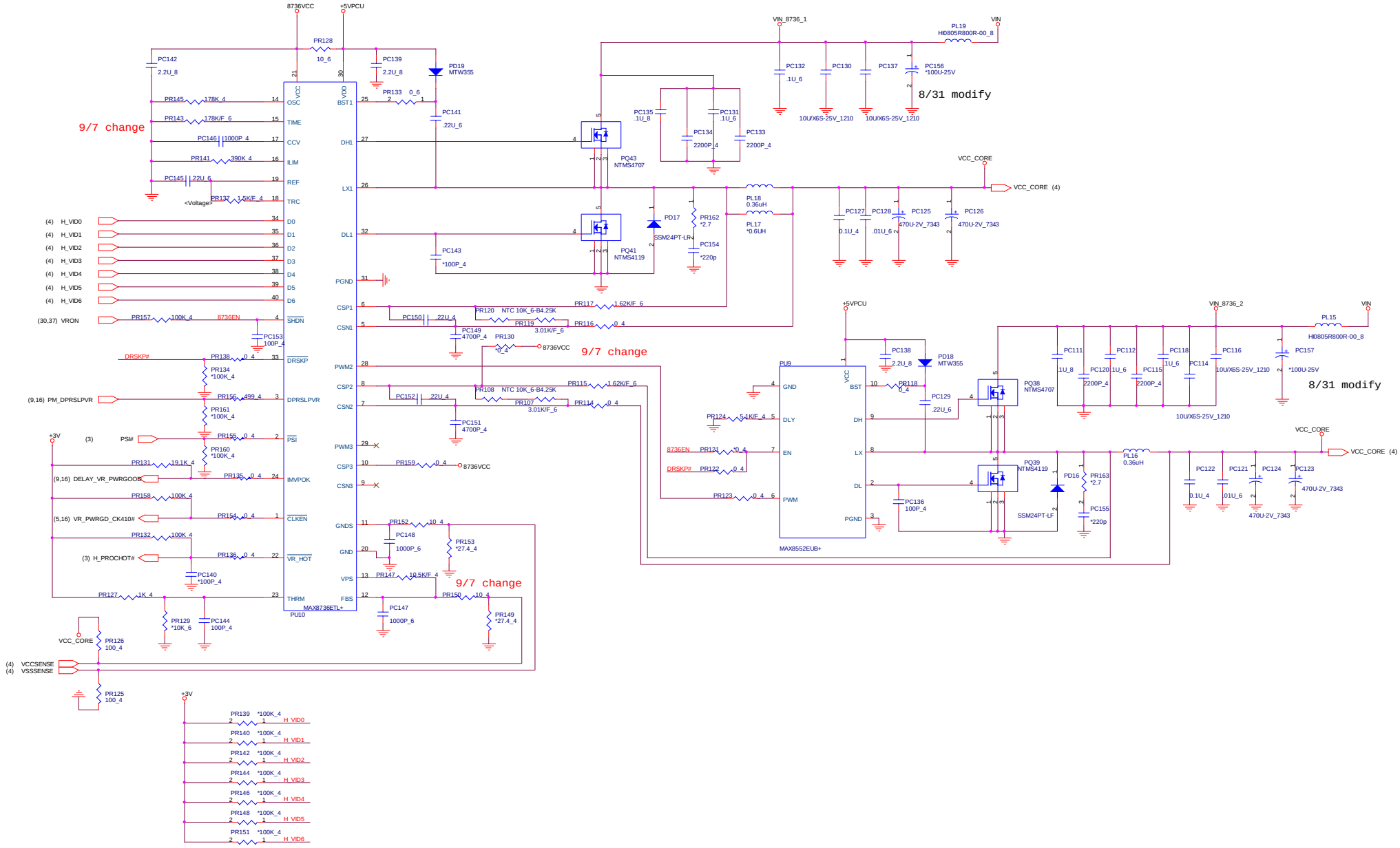
PROJECT : ZH5

Quanta Computer Inc.

Size	Document Number	Rev
	SWITCH,LED,KB,TP,TPM1.2,EMI PAD	1A
Date: Friday, August 11, 2006	Sheet 31 of 39	

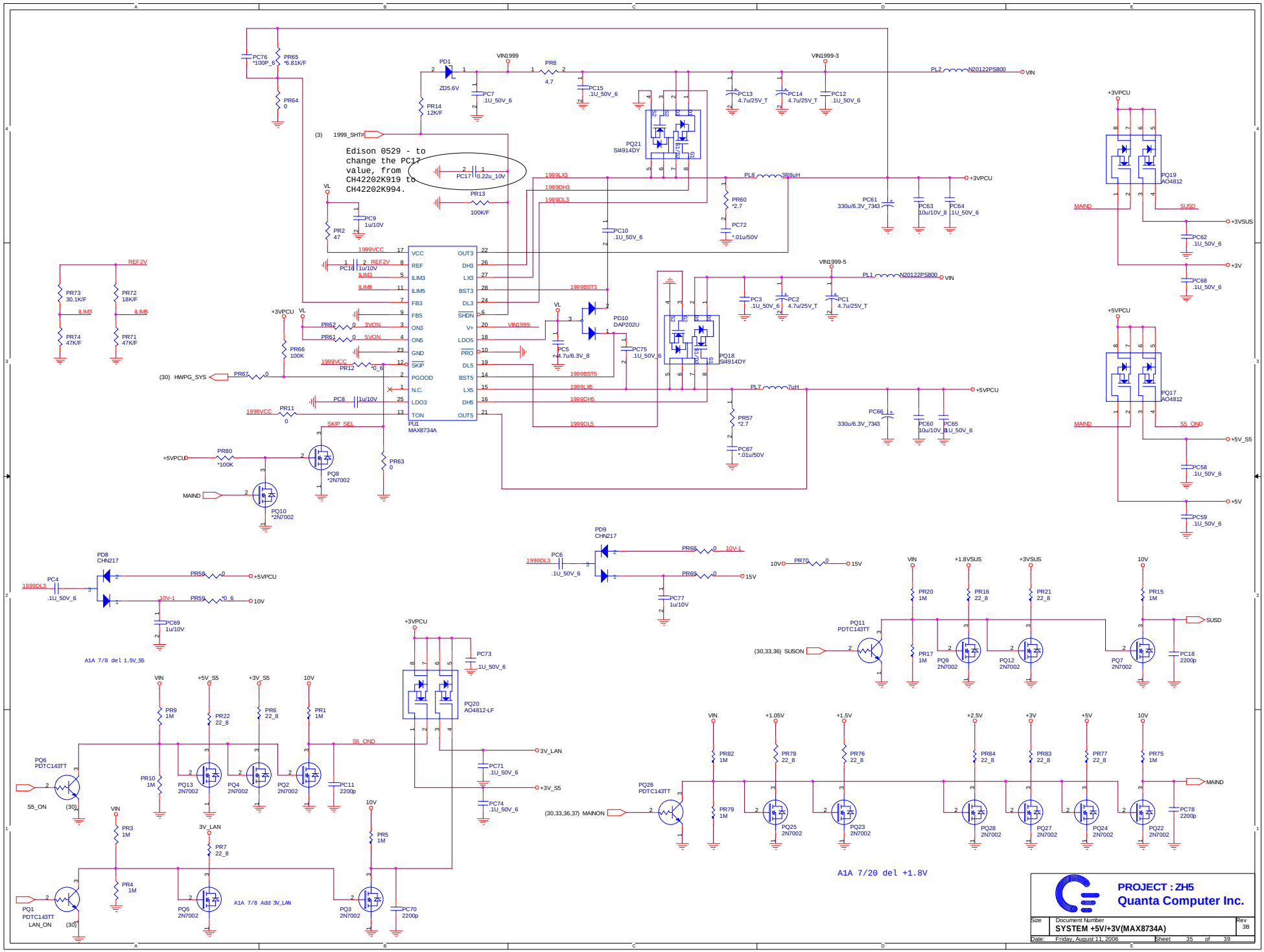

(9) SDVOB_R+
(9) SDVOB_R-
SDVOB_R+
SDVOB_R-
(9) SDVOB_G+
(9) SDVOB_G-
SDVOB_G+
SDVOB_G-
(9) SDVOB_B+
(9) SDVOB_B-
SDVOB_B+
SDVOB_B-
(9) SDVOB_CLK+
(9) SDVOB_CLK-
SDVOB_CLK+
SDVOB_CLK-
DVI_AVDD
+2.5V
R304
4.7K_4
SDVO_CTRLCLK
+2.5V
R303
4.7K_4
SDVO_CTRLDATA
PULL LOW FOR DVO NOT PRESENT(INTERNAL PULLLOW IN 945GM)
+2.5V 250mA
+3V 190mA
C54
.1U-10V_4
INT-
C53
.1U-10V_4
INT+
PEG_RXN1 (9)
PEG_RXP1 (9)
U15
R306
10K_4
R305
*100K_4
+2.5V
L8
BLM11A601S_6
+3V
DVI_AVDD_PLL
(15,16,20,21,26,29,30,31,33) PLTRST#
(9) SDVO_CTRLCLK
(9) SDVO_CTRLDATA
C337
.1U-10V_4
C338
10U-10V_8
T103
T10
DVODATA
DVOCLK
L13
BLM11A601S_6
+2.5V
(33) TMDS_DDCDATA
(33) TMDS_DDCCLK
DVI_DVDD
C336
.1U-10V_4
C52
.1U-10V_4
C367
10U-10V_8
AVDD_PLL
RESET*
AS
SPC
SPD
AGND_PLL
DGND1
SD_PROM
SC_PROM
SD_DDC
SC_DDC
DVDD1
AVDD1
RSV
BSCAN
SDVOB_INT-
SDVOB_INT+
AGND1
DGND2
HPDET
DVDD2
PROM2
PROM1
VSWING
CH7307C-DEF
DVI_AVDD
INT-
INT+
TMDS_HPD (33)
DVI_DVDD
PROM2
PROM1
C36
.1U-10V_4
C55
.1U-10V_4
C46
.1U-10V_4
C349
10U-10V_8
L10
BLM11A601S_6
+2.5V
R52
1.2K_4
L7
BLM11A601S_6
+3V
DVI_TVDD
C34
.1U-10V_4
C48
.1U-10V_4
C347
10U-10V_8
(33) DVI_CLK-
(33) DVI_CLK+
DVI_CLK-
DVI_CLK+
(33) DVI_TX0-
(33) DVI_TX0+
DVI_TX0-
DVI_TX0+
(33) DVI_TX1-
(33) DVI_TX1+
DVI_TX1-
DVI_TX1+
(33) DVI_TX2-
(33) DVI_TX2+
DVI_TX2-
DVI_TX2+
FOR CH7312 HDCP USE
7312
PN
+2.5V
+2.5V
U18
GND
VCC
E#
A2
A1
A0
D
C
*CH9901
R63
*0_4
PROM1
PROM2
C26
.1U-10V_4
+2.5V
R51
*10K_4
PROM1
R62
*10K_4
PROM2
DVI_CLK-
C644
*.1U-10V_4
DVI_CLK+
DVI_TX0-
C645
*.1U-10V_4
DVI_TX0+
DVI_TX1-
C646
*.1U-10V_4
DVI_TX1+
DVI_TX2-
C647
*.1U-10V_4
DVI_TX2+
PROJECT : ZH5
Quanta Computer Inc.
Size
Document Number
DOCK DVI CH7307C
Rev
1A
Date: Friday, August 11, 2006
Sheet 32 of 39

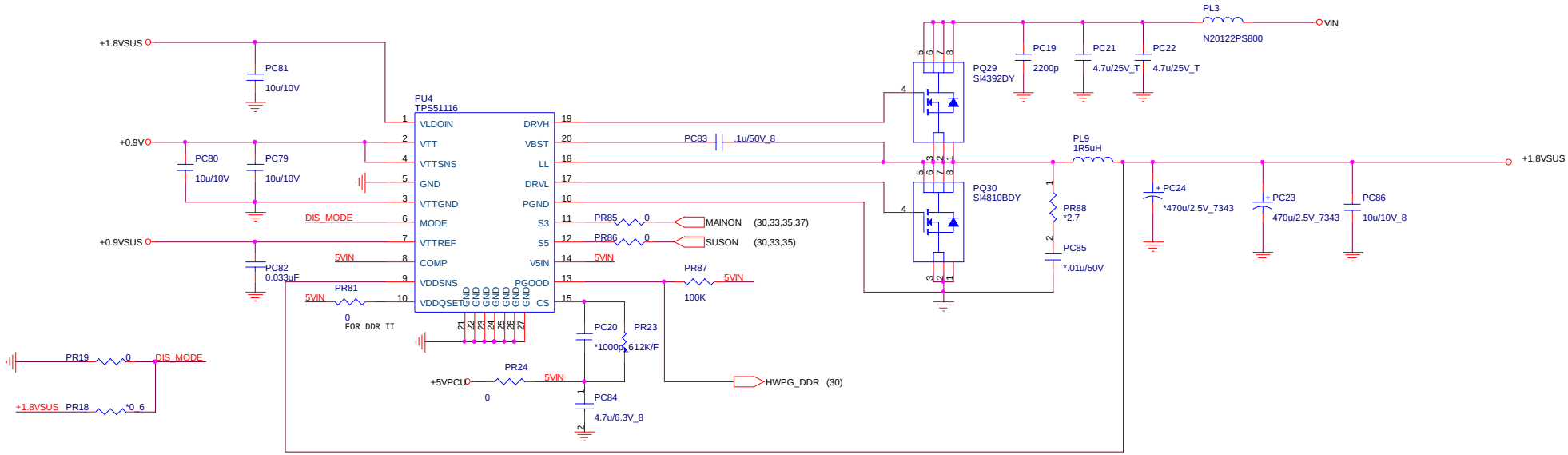

CN18-4
CN18-3
L34
BLM18BA220SN1_6
CN18-2
CN18-1
EZ4_Acer_define
B: CHANGE TO FDV301N
A1B 9/2 follow ZB1 define
A1B 8/18 Change footprint to SSOP8-4-65
PROJECT : ZH5
Quanta Computer Inc.
DOCK EZ4 CONNECTOR
Rev 1A
Date: Friday, August 11, 2006
Sheet 33 of 39



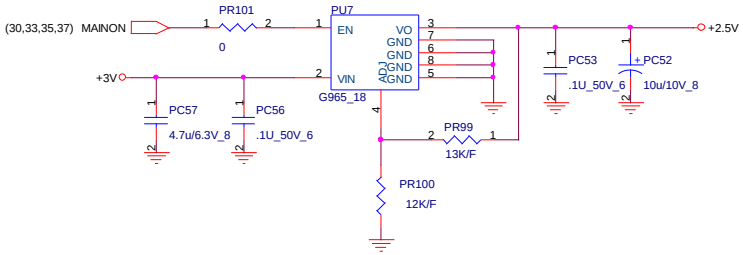
PROJECT : ZH5
Quanta Computer Inc.

Size	Document Number	Rev
	CPU CORE (MAX8736ETL+)	3A
Date: Friday, August 11, 2006	Sheet 34 of 39	


Edison 0529 - to change the PC17 value, from CH42202K919 to CH42202K994.
PU1 MAX8734A
PD1 ZD5.6V
PD10 DAP202U
PD8 CHN217
PD9 CHN217
PQ21 SI4914DY
PQ18 SI4914DY
PQ19 AO4812
PQ17 AO4812
PQ20 AO4812-LF
PL2 N20122PS800
PL1 N20122PS800
PL8 3R8uH
PL7 7uH
VIN1999
VIN1999-3
VIN1999-5
1999LX3
1999DH3
1999DL3
1999BST3
1999BST5
1999LX5
1999DH5
1999DL5
1999VCC
SKIP_SEL
ILIM3
ILIM5
3VON
5VON
+3VPCU
+5VPCU
+3VSUS
+5V_S5
+3V_S5
3V_LAN
S5_OND
SUSD
MAIND
A1A 7/8 del 1.5V_S5
A1A 7/8 Add 3V_LAN
A1A 7/20 del +1.8V
PROJECT : ZH5
Quanta Computer Inc.
SYSTEM +5V/+3V(MAX8734A)
Rev 3B
Date: Friday, August 11, 2006
Sheet 35 of 39



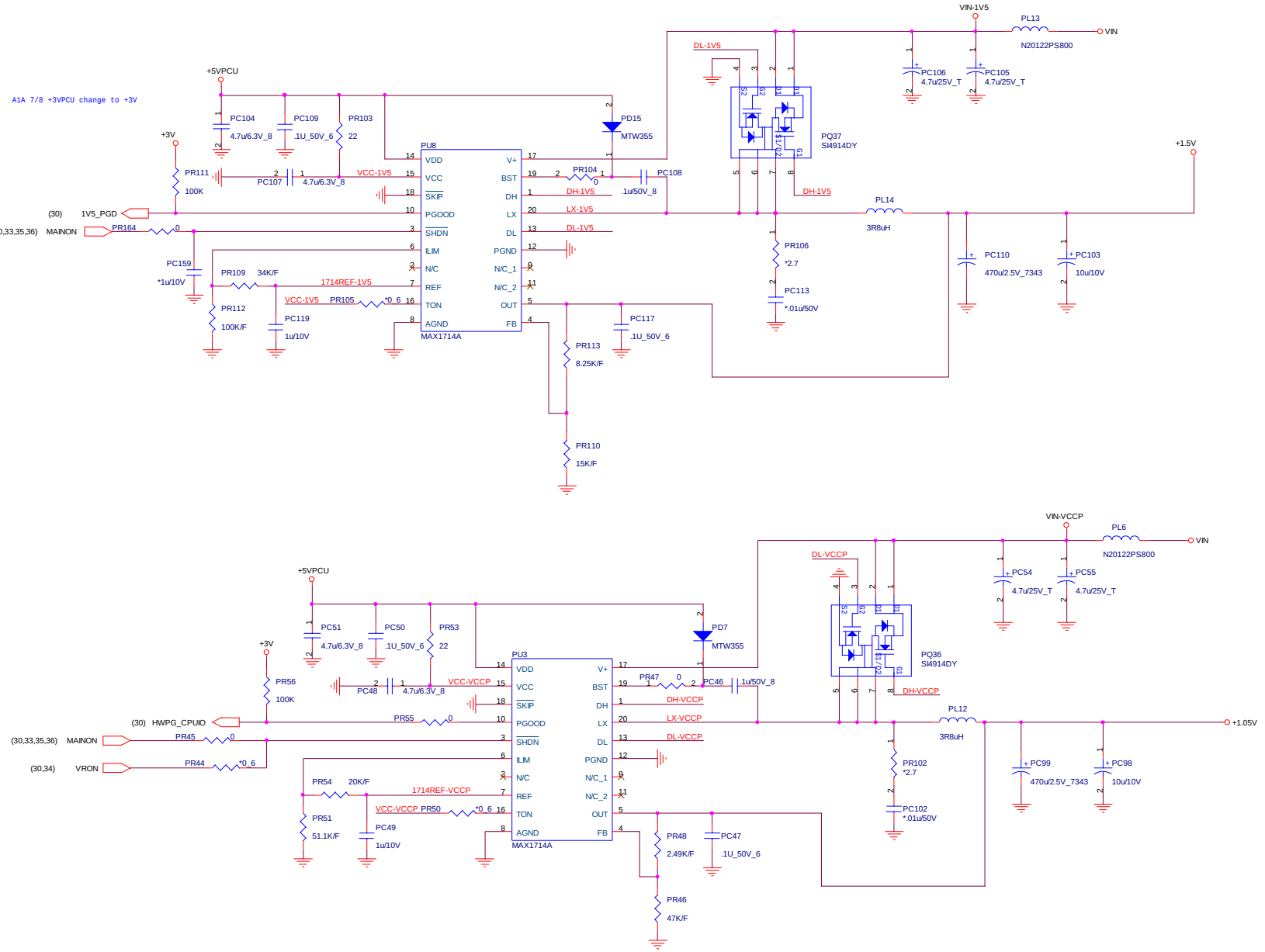
A1A 7/20 del +1.8V



PROJECT : ZH5

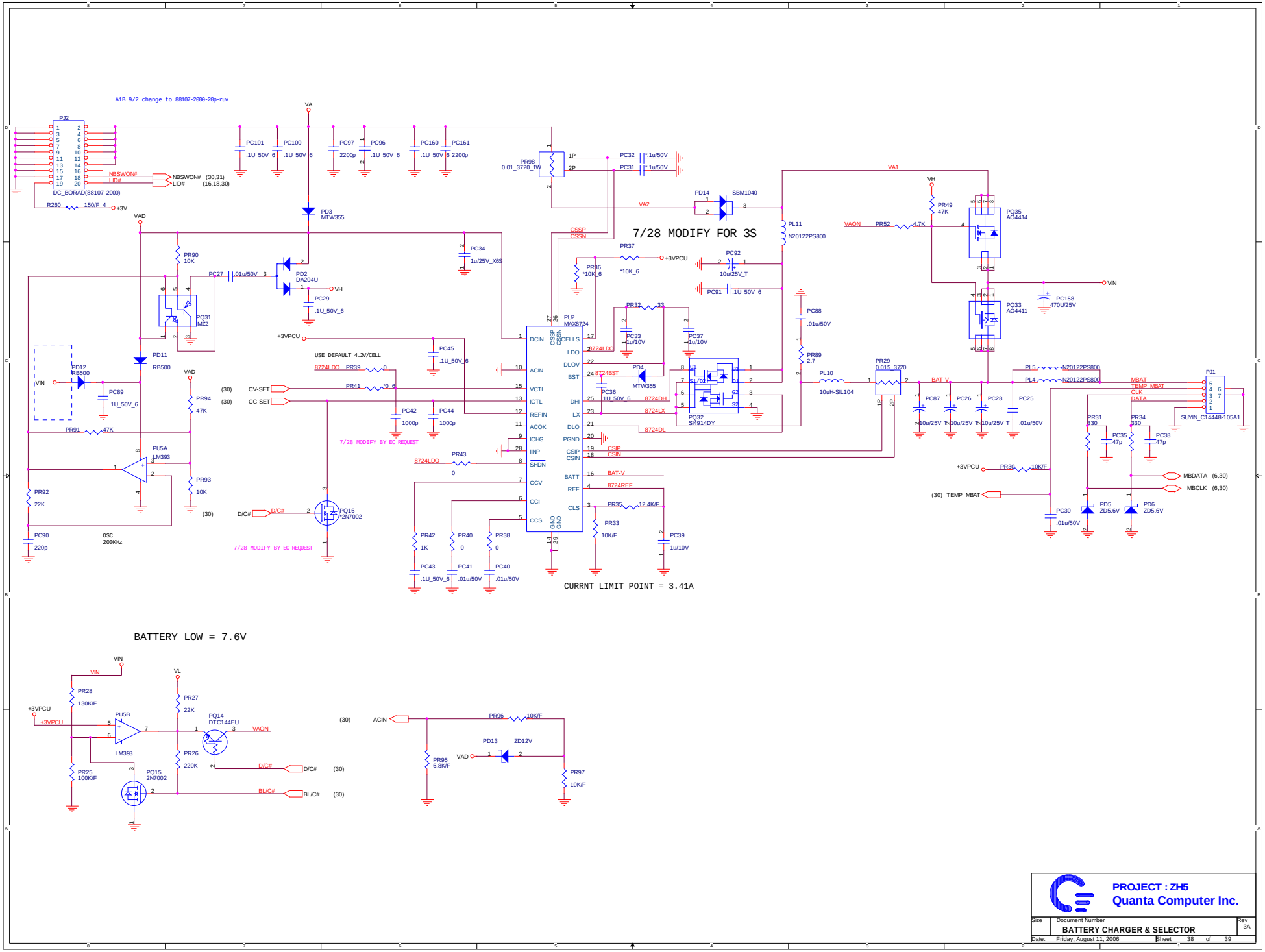
Quanta Computer Inc.

Size	Document Number	Rev
	DDRII POWER 1.8VSUS / 0.9VTERM	3B
Date: Friday, August 11, 2006	Sheet 36 of 39	



PROJECT : ZH5
Quanta Computer Inc.

Size	Document Number	Rev
	CHIPSET POWER +1.5V / +VCCP(+1.05V)	3B
Date: Friday, August 11, 2006	Sheet 37 of 39	



PROJECT : ZH5		
Quanta Computer Inc.		
Size	Document Number	Rev
	BATTERY CHARGER & SELECTOR	3A
Date: Friday, August 11, 2006	Sheet 38 of 39	

MODEL	Date	CHANGE LIST
*ZH5_*	**2006/05/16**	2006/05/16 The modify from ZH2 revision E
	2006/05/17	Pag 3~4: to change the U42 CPU that the Package from BGA to PBGA(Socket). Page 3 : to modify the 1999_SHT#(the R273,C282 add R467, delete D32). Page 4 : to change that CPU bypass capacitors from 22uF/6.3V_0805(CH6222M4A00) to 10uF/4V_0805(CH6100KMEE3).
A-test	**2006/05/18**	Page 5 : to change the R409/R410 resistor from 10Kohm(CH6222M4A00) to 4.7Kohm(CH6100KMEE3). Page 3 : to change R268 from 56.2 Ohm to 56 Ohm. Page 3 : to change R269 from 68 Ohm to 56 Ohm. Page 3 : to change R455 from 2K/F_6 to 2K/F_4. Page 3 : to change R279 from 200/F_6 to 200/F_4. Page 3 : to change R457/R463 from 27.4/F_6 to 27.4/F_4. Page 3 : to change R453 from 51/F_4 to 1K/F_4. Page 6: to change R448 from 10K_6 to 10K_4.
	2006/05/23	Page 19: Delete F2. Page 19: Add CRT auto detect the R411 to U2 pin153(DETECT_CRT). Page 27: to Modify U27 Audio Coedc to support Vista. Page 28: to Modify u30 Audio Amplifier(MAX9889A) to support Vista.
	2006/05/25	Page 20: to change U14 GigaLAN from BCM5789(196pin) to BCM5787MKMLG(68pin_GFN package).
	2006/05/26	Page 22: to change CN27(IEEE 1394) connector package and pin define. Page 22: The L53/L54 swap pin. Page 26: to change RP36, from 10K_4P2R to 4.7K_4P2R.
	2006/05/29	Page 35: to change PU1, from MAX1999 to MAX8734A. Page 35: to change the PC17 value, fromto change the PC17 value, from CH42202K919 to CH42202K994.
	2006/05/30	Page 19: Add C2 the 0.22uF_10V capacitor, increase ESD to +-8KV. Page 19: Add R59/R60 the 24 ohm resistor for impedance.
	2006/06/06	Page 4 : Add CPU bypass Capacitors C651/C652(150uF/4VP/N : CH715KM8607) and close CPU. Page 24: EMI suggest reserve the R1682 and C653. Page 29: Reserve the R1625. Page 29: To change R447 value from 5.6 ohm(CS-5606F210) to 2 Ohm(CS-2006J203). Page 21 : Add MINICARD bypass Capacitors C654/C656(1uF/10V),the C655 is 0.22uF/10V and close MINICARD. Page 21 : Uninstall U8,U44 the USB ESD protection.
	2006/06/06	page 31 : change connector CN2, CN6 that supplier.
	2006/06/06	Page 21 : to change the USB connector(CN16/CN17/CN28) from DFHD04MR671 to DFHS04FRB53 Page 27 : the CN10 change from DFHD12MS851 to DFHD12MS869 Page 28 : the CN11 change from DFHD12MS851 to DFHD12MS869 Page 22 : change 1394 connector to DFHS06FR511 . Page 38 : change battery connector to DFAD05MR037 . Page 31 : Change SW1 , SW2 to DHPTA232W16 . Page 3 , 4 : Change cpu socket U42 to DGG^8000191 . Page 26 : Change sata connector to DFHS22FR154 . Page 25 : change HOLE22,26,28,29 NUT to MBZH5001016.
B-test	**2006/06/28**	Page 22 : to modify the 1394(CN27) connector that pin define . Page 22 : The L53/L54 swap pin. Page 34: tto modify the "+VCC_CORE" name to "VCC_CORE" . Page 26: Uninstall the power of +3.3VSATA(R85,C75,C79,C80)the SATA power is using 5V. Page 27: to co-layout the ALC883 with ALC268, Add Docking microphone connec to U27 pin18,20 Page 27: to co-layout the ALC883 with ALC268, Add Docking microphone circuitry the R351,R405Q36 for ALC883 Page 28: to co-layout the ALC883 with ALC268, Add Docking microphone circuitry the R352,R359,C462,C464 for ALC268 Page 28: Add R358 to option amplifier(MAX9790 or MAX9789A)
	2006/06/30	Page 28: Unmount R563, Mount R565 regulated AMP amplitude become 6dB Page 19: Remove CRT U10.9 VDD net, Add CRT_BYP net
	2006/06/30	Page 24: Change CN26, modify pin define and update part for MS pro issue fixed

Model	ZB3	MB
Page	FM	TO
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58		

QUANTA COMPUTER

PROJECT :	DOC. NO.	REV: 1A	ASSY:	
APPROVED BY :	CHECKED BY:	DRAWN BY : Edison Huang	DATE : May. 17 , 2006	SHEET 1 OF 1