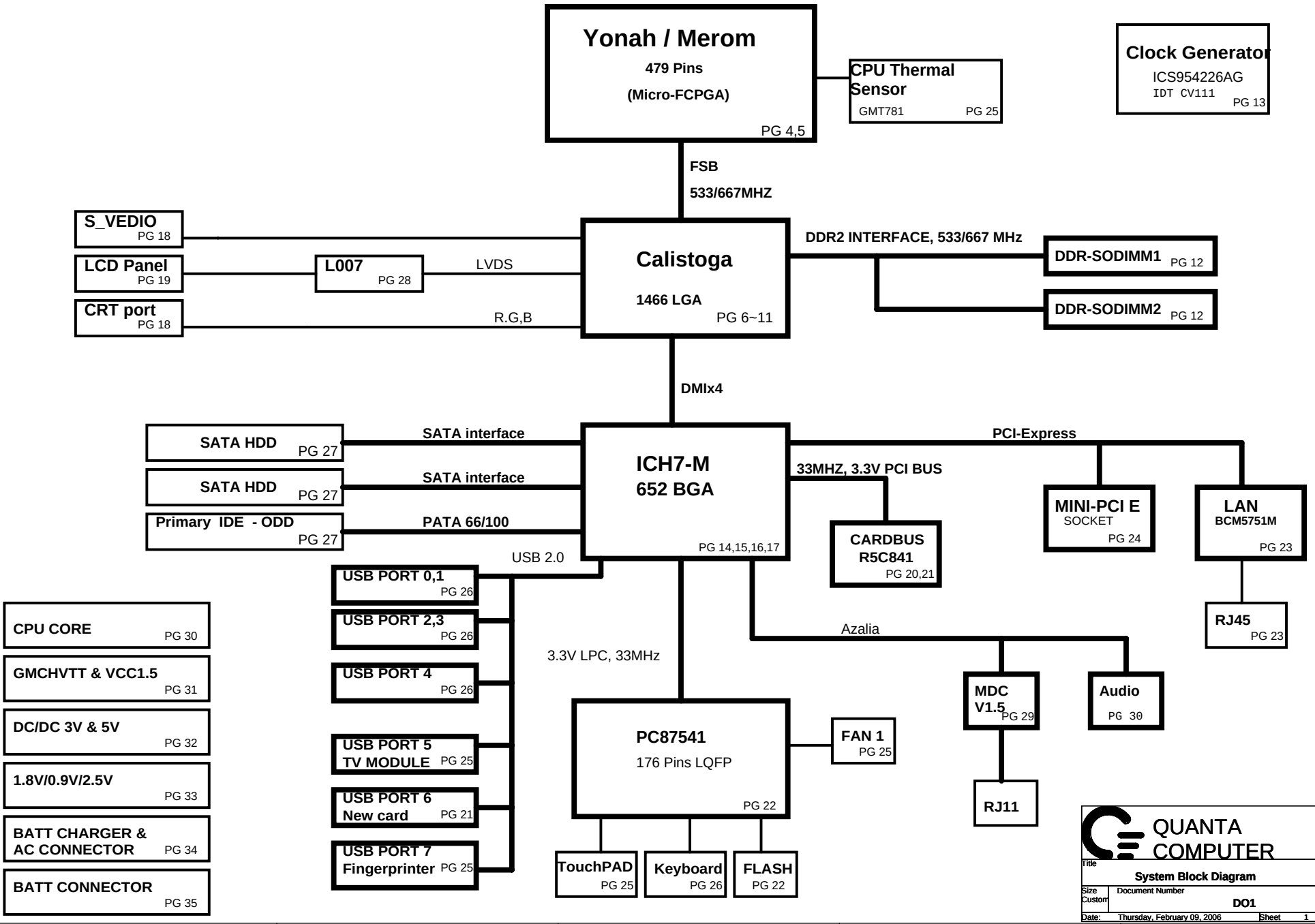
DO1 BLOCK DIAGRAM

01

YONAH+CALISTOGA+ICH_7



QUANTA COMPUTER

Title: System Block Diagram		
Size: Custom	Document Number: DO1	Rev: 3C
Date: Thursday, February 09, 2006	Sheet 1 of 39	

1. Schematic Page Description :

DO1 Schematic Ver : 0.2

1. Block Diagram
2. Schematic Page List
3. System Info
4. u-FCPGA Yonah (1/2)
5. u-FCPGA Yonah (2/2)
6. Calistoga HOST
7. Calistoga DDR II
8. Calistoga VGA/DMI/NCTF
9. Calistoga POWER
10. Calistoga POWER
11. Calistoga GND
12. DDR II SODIMM CNN
13. Clock Generator
14. ICH7-M CPU/IDE/SATA/AC97/LPC
15. ICH7-M USB/DMI/LPC/PCI_E/PCI
16. ICH7-M GPIO/SMB
17. ICH7-M POWER/GND
18. CRT Port / S-VIDEO
19. LCD CNN / LID / Audio board CONN
20. R5C841 CONTROLLER
21. R5C841 CNN & 4 IN 1
22. PC87541L / BIOS
23. LAN MARVELL 88E8055/RJ45 CONN
24. Mini PCIE
25. FAN/THERMAL/SWICH CONN/BEEP/TOUCH PAD/ IR RECEIVER
26. USB K/B CNN
27. SATA / PATA HDD
28. L007
29. MDC1.5
30. CODEC ALC262
31. AMP for Speaker
32. CPU CORE
33. VCC1.5V / GMCHVTT
34. DC/DC 3V,5V POWER
35. 1.8V / 0.9V DDR2 / VCC2.5
36. Battery Charge Circuit
37. Battery Select

2. PCI Description :

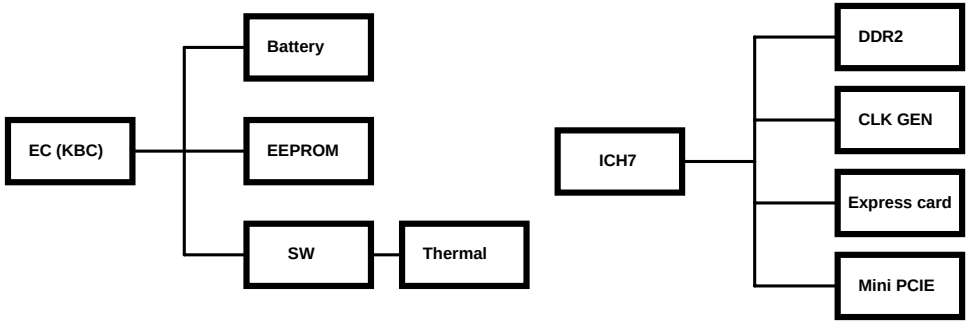
IDSEL	CHIP
AD25	CardBus (R5C841)

PCIINT	CHIP
IRQA	CardBus
IRQB	CardBus
IRQC	CardBus
IRQD	
IRQE	
IRQF	

BUSMASTER

REQ	CHIP
REQ0 / GNT0	
REQ1 / GNT1	CardBus (R5C841)
REQ2 / GNT2	
REQ3 / GNT3	
REQ4 / GNT4	

SM BUS Block Diagram



QUANTA COMPUTER

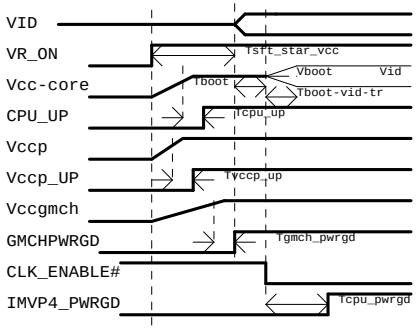
Title: Description		
Size: C	Document Number: DO1	Rev: 3C
Date: Thursday, February 09, 2006	Sheet 2 of 39	

Board Stack up Description

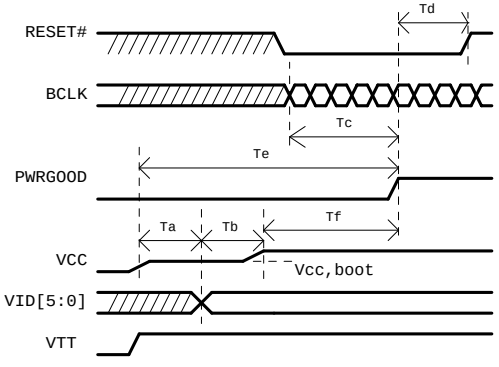
PCB Layers

Layer 1		TOP(FSB,DDR2,CLK,PEG,Component)
Layer 2		Ground Plane
Layer 3		IN1(FSB,CLOCK,DDR2,PEG,CLK)
Layer 4		IN2(PCI,IDE,LPC)
Layer 5		Power Plane
Layer 6		BOTTOM, (Component,Other)

Power On Sequencing Timing Diagram



Dothan Power-up Timing Specifications

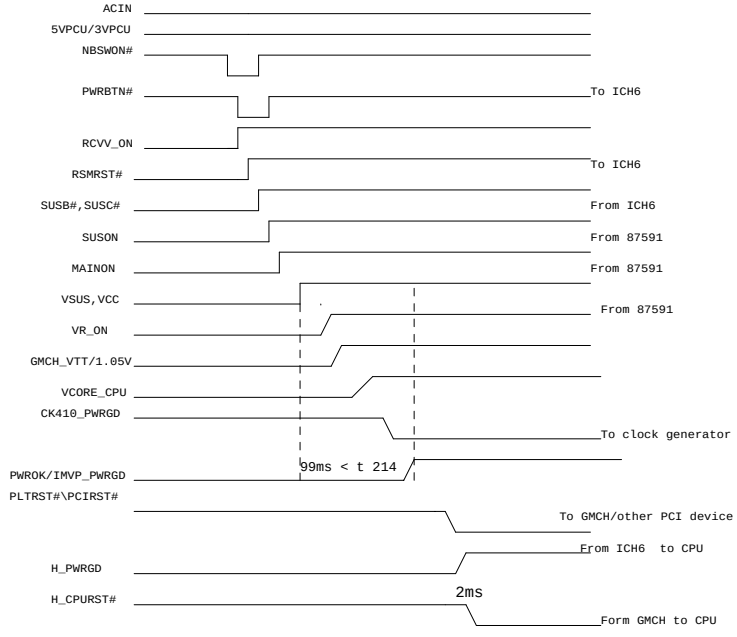


Ta=VCC and VCCP asseration to VID[5:0] vaild
Tb=VID[5:0] stable to VCC vaild
Tc=BCLK stable to PWRGOOD assertion
Td=PWRGOOD to RESET# de-assertion time
Te=Vcc,boot vaild to PWRGOOD assertion time
Tf=VCC vaild to PWRGOOD assertion time

Voltage Rails

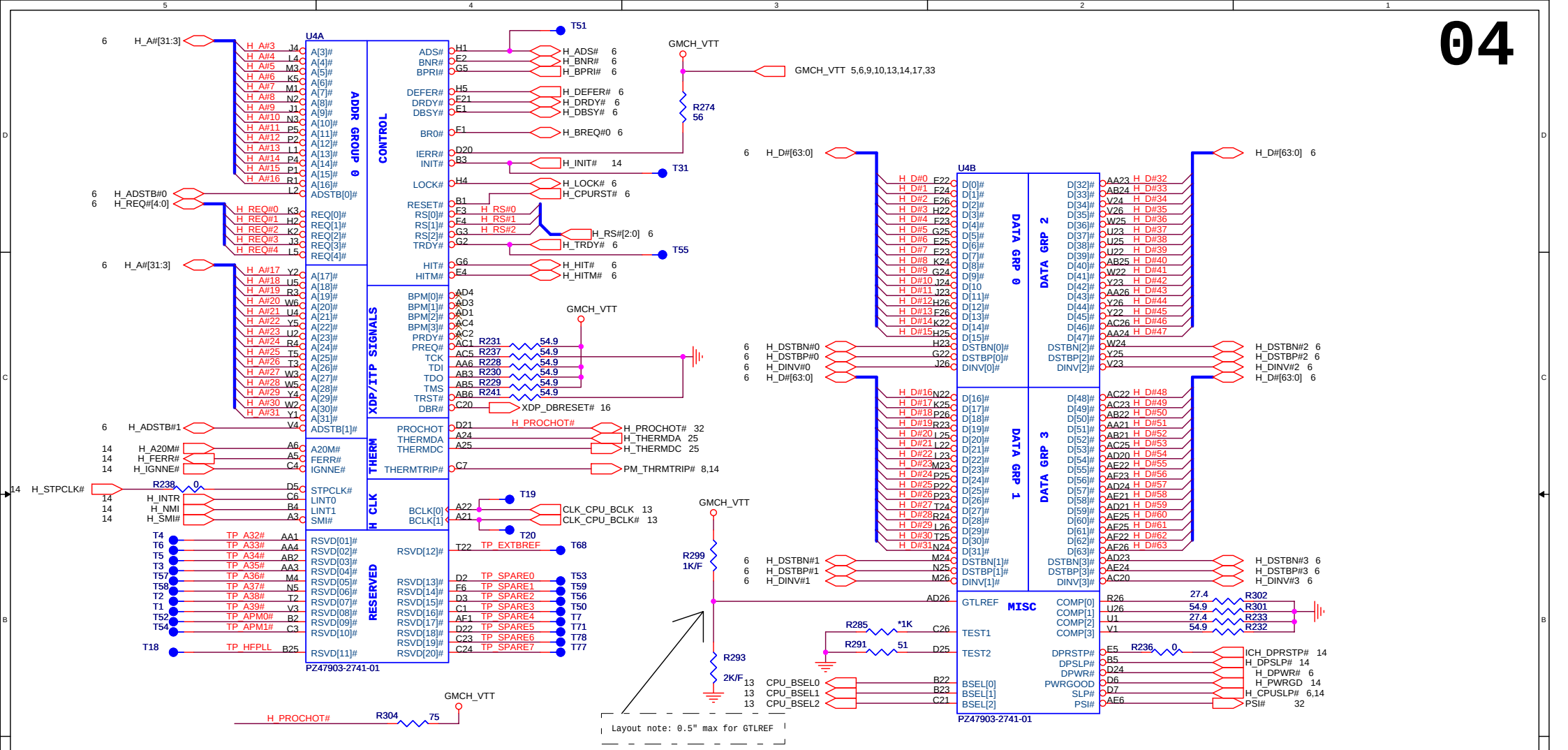
Voltage Rails		ON S0~S2	ON S3	ON S4	ON S5	Control signal
VCC_CORE	Core voltage for Processor	X				GMCHPG
GMCH_VTT	Core voltage for CPU / NB	X				VR_ON
SMDDR_VREF	0.9V for DDR2 Termination voltage	X				MAINON
RVCC3		X	X	X		RVCCD
VCC1.5		X				MAINON
VCC1.8		X				MAINON
VCC2.5		X				MAINON
VCC3		X				MAIND
VCC5		X				MAIND
1.8VSUS		X	X			SUSON
3VSUS		X	X			SUSD
5VSUS		X	X			SUSD
3VPCU		X	X	X	X	VL
5VPCU		X	X	X	X	VL
9VPCU		X	X	X	X	5VPCU

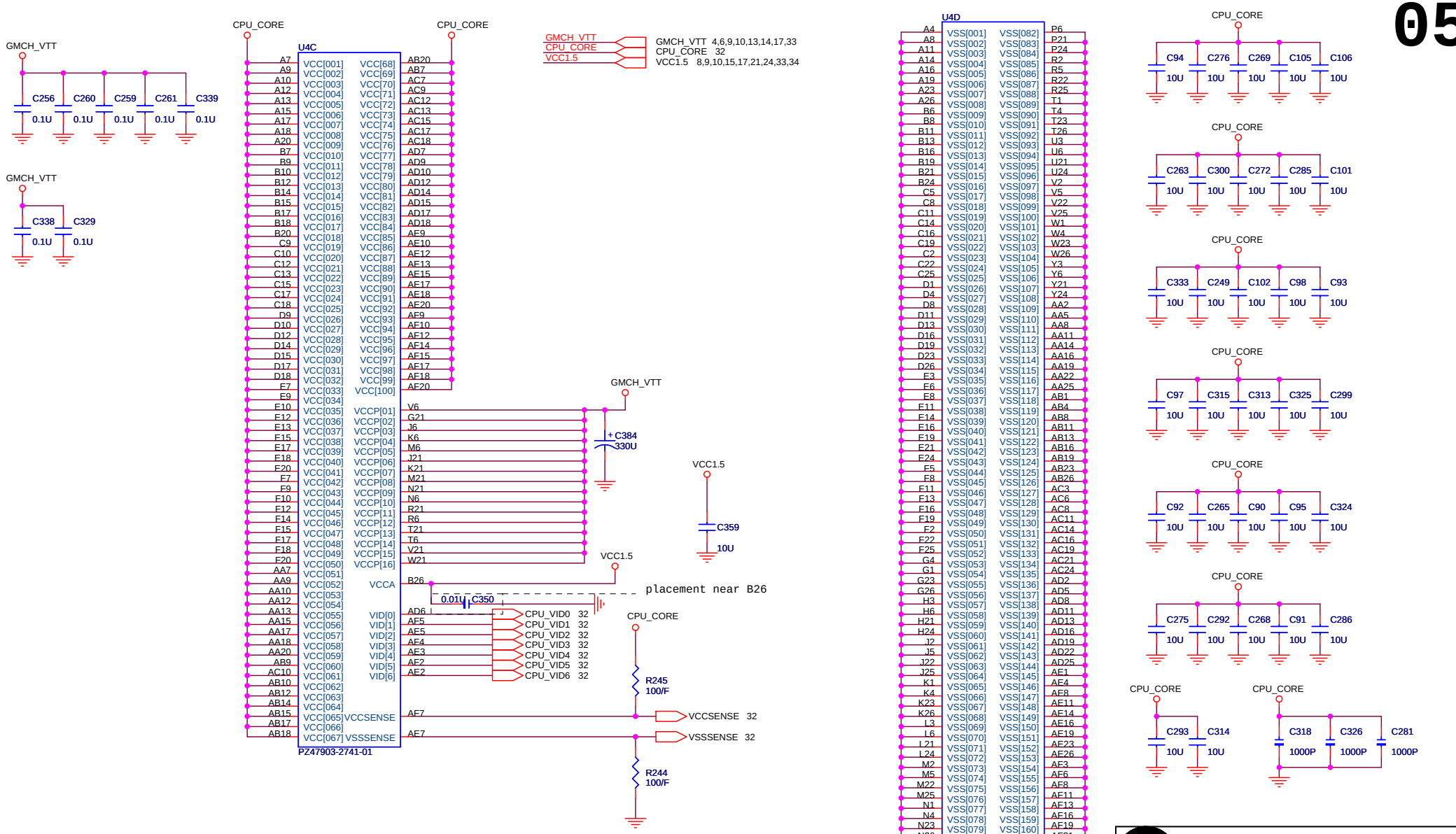
ACIN POWER ON TIMING



QUANTA COMPUTER

Title: INFORMATION		
Size: C	Document Number: DO1	Rev: 3C
Date: Thursday, February 09, 2006	Sheet 3 of 39	


04
U4A
ADDR GROUP 0
CONTROL
XDP/ITP SIGNALS
THERM
H CLK
RESERVED
PZ47903-2741-01
U4B
DATA GRP 0
DATA GRP 2
DATA GRP 1
DATA GRP 3
MISC
PZ47903-2741-01
GMCH_VTT
GMCH_VTT 5,6,9,10,13,14,17,33
R274 56
R299 1K/F
R293 2K/F
R285 *1K
R291 51
R304 75
H_PROCHOT#
Layout note: 0.5" max for GTLREF
QUANTA COMPUTER
Title
CPU (Yonah / Merom) -1
Size B
Document Number DO1
Rev 3C
Date: Thursday, February 09, 2006
Sheet 4 of 39


05
GMCH_VTT
C256 C260 C259 C261 C339
0.1U
GMCH_VTT
C338 C329
0.1U
CPU_CORE
U4C
VCC[001] VCC[002] VCC[003] VCC[004] VCC[005] VCC[006] VCC[007] VCC[008] VCC[009] VCC[010] VCC[011] VCC[012] VCC[013] VCC[014] VCC[015] VCC[016] VCC[017] VCC[018] VCC[019] VCC[020] VCC[021] VCC[022] VCC[023] VCC[024] VCC[025] VCC[026] VCC[027] VCC[028] VCC[029] VCC[030] VCC[031] VCC[032] VCC[033] VCC[034] VCC[035] VCC[036] VCC[037] VCC[038] VCC[039] VCC[040] VCC[041] VCC[042] VCC[043] VCC[044] VCC[045] VCC[046] VCC[047] VCC[048] VCC[049] VCC[050] VCC[051] VCC[052] VCC[053] VCC[054] VCC[055] VCC[056] VCC[057] VCC[058] VCC[059] VCC[060] VCC[061] VCC[062] VCC[063] VCC[064] VCC[065] VCC[066] VCC[067]
VCC[068] VCC[069] VCC[070] VCC[071] VCC[072] VCC[073] VCC[074] VCC[075] VCC[076] VCC[077] VCC[078] VCC[079] VCC[080] VCC[081] VCC[082] VCC[083] VCC[084] VCC[085] VCC[086] VCC[087] VCC[088] VCC[089] VCC[090] VCC[091] VCC[092] VCC[093] VCC[094] VCC[095] VCC[096] VCC[097] VCC[098] VCC[099] VCC[100]
VCCP[01] VCCP[02] VCCP[03] VCCP[04] VCCP[05] VCCP[06] VCCP[07] VCCP[08] VCCP[09] VCCP[10] VCCP[11] VCCP[12] VCCP[13] VCCP[14] VCCP[15] VCCP[16]
VCCA
VID[0] VID[1] VID[2] VID[3] VID[4] VID[5] VID[6]
VCCSENSE
VSSSENSE
PZ47903-2741-01
GMCH_VTT 4,6,9,10,13,14,17,33
CPU_CORE 32
VCC1.5 8,9,10,15,17,21,24,33,34
GMCH_VTT
C384 330U
VCC1.5
C359 10U
placement near B26
0.01U C350
CPU_VID0 32
CPU_VID1 32
CPU_VID2 32
CPU_VID3 32
CPU_VID4 32
CPU_VID5 32
CPU_VID6 32
R245 100/F
R244 100/F
VCCSENSE 32
VSSSENSE 32
U4D
VSS[001] VSS[002] VSS[003] VSS[004] VSS[005] VSS[006] VSS[007] VSS[008] VSS[009] VSS[010] VSS[011] VSS[012] VSS[013] VSS[014] VSS[015] VSS[016] VSS[017] VSS[018] VSS[019] VSS[020] VSS[021] VSS[022] VSS[023] VSS[024] VSS[025] VSS[026] VSS[027] VSS[028] VSS[029] VSS[030] VSS[031] VSS[032] VSS[033] VSS[034] VSS[035] VSS[036] VSS[037] VSS[038] VSS[039] VSS[040] VSS[041] VSS[042] VSS[043] VSS[044] VSS[045] VSS[046] VSS[047] VSS[048] VSS[049] VSS[050] VSS[051] VSS[052] VSS[053] VSS[054] VSS[055] VSS[056] VSS[057] VSS[058] VSS[059] VSS[060] VSS[061] VSS[062] VSS[063] VSS[064] VSS[065] VSS[066] VSS[067] VSS[068] VSS[069] VSS[070] VSS[071] VSS[072] VSS[073] VSS[074] VSS[075] VSS[076] VSS[077] VSS[078] VSS[079] VSS[080] VSS[081]
VSS[082] VSS[083] VSS[084] VSS[085] VSS[086] VSS[087] VSS[088] VSS[089] VSS[090] VSS[091] VSS[092] VSS[093] VSS[094] VSS[095] VSS[096] VSS[097] VSS[098] VSS[099] VSS[100] VSS[101] VSS[102] VSS[103] VSS[104] VSS[105] VSS[106] VSS[107] VSS[108] VSS[109] VSS[110] VSS[111] VSS[112] VSS[113] VSS[114] VSS[115] VSS[116] VSS[117] VSS[118] VSS[119] VSS[120] VSS[121] VSS[122] VSS[123] VSS[124] VSS[125] VSS[126] VSS[127] VSS[128] VSS[129] VSS[130] VSS[131] VSS[132] VSS[133] VSS[134] VSS[135] VSS[136] VSS[137] VSS[138] VSS[139] VSS[140] VSS[141] VSS[142] VSS[143] VSS[144] VSS[145] VSS[146] VSS[147] VSS[148] VSS[149] VSS[150] VSS[151] VSS[152] VSS[153] VSS[154] VSS[155] VSS[156] VSS[157] VSS[158] VSS[159] VSS[160] VSS[161] VSS[162]
PZ47903-2741-01
CPU_CORE
C94 C276 C269 C105 C106
C263 C300 C272 C285 C101
C333 C249 C102 C98 C93
C97 C315 C313 C325 C299
C92 C265 C90 C95 C324
C275 C292 C268 C91 C286
C293 C314
C318 C326 C281
1000P
10U
QUANTA COMPUTER
Title
CPU (Yonah / Merom) -2
Size B
Document Number
DO1
Rev 3C
Date: Thursday, February 09, 2006
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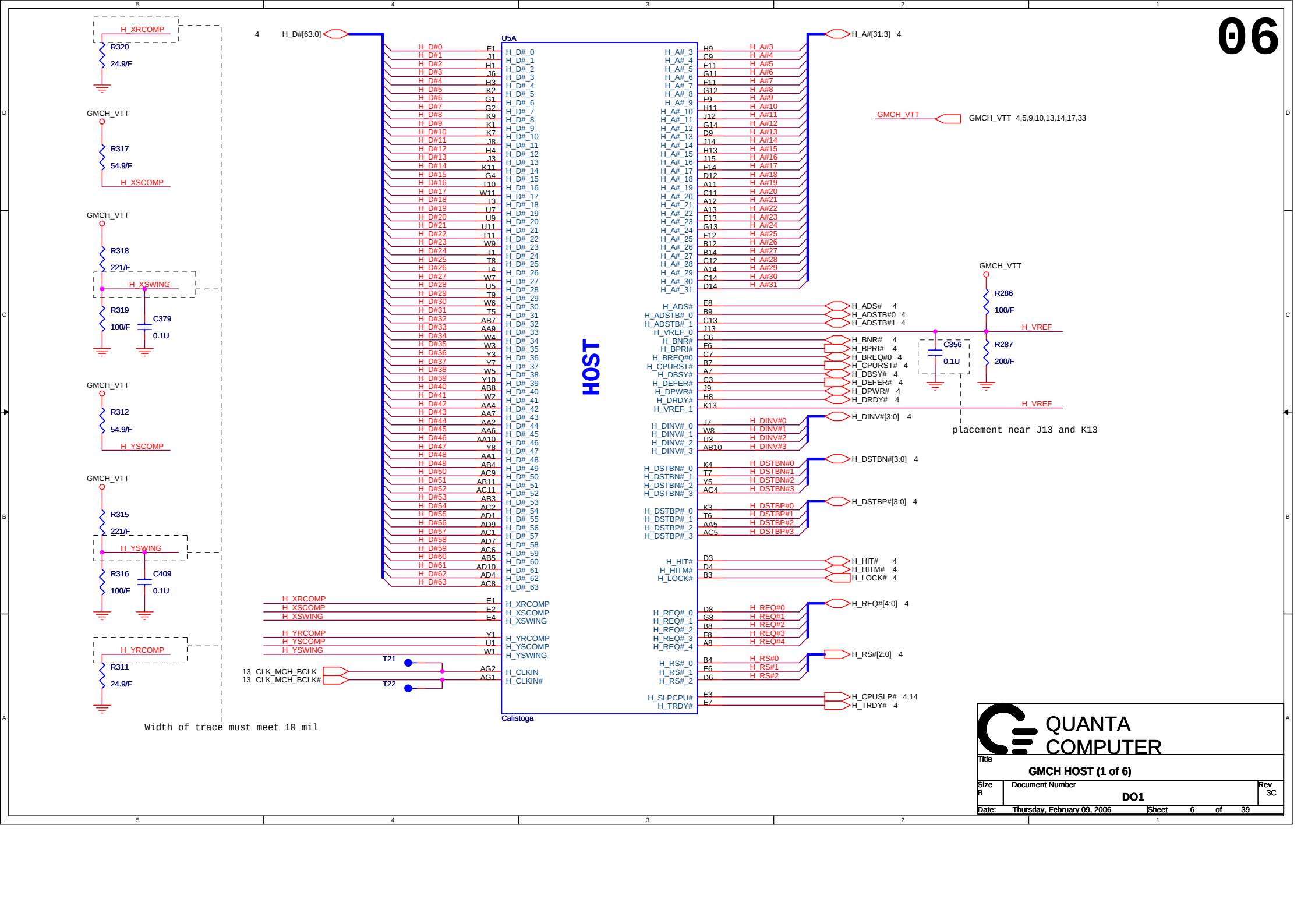
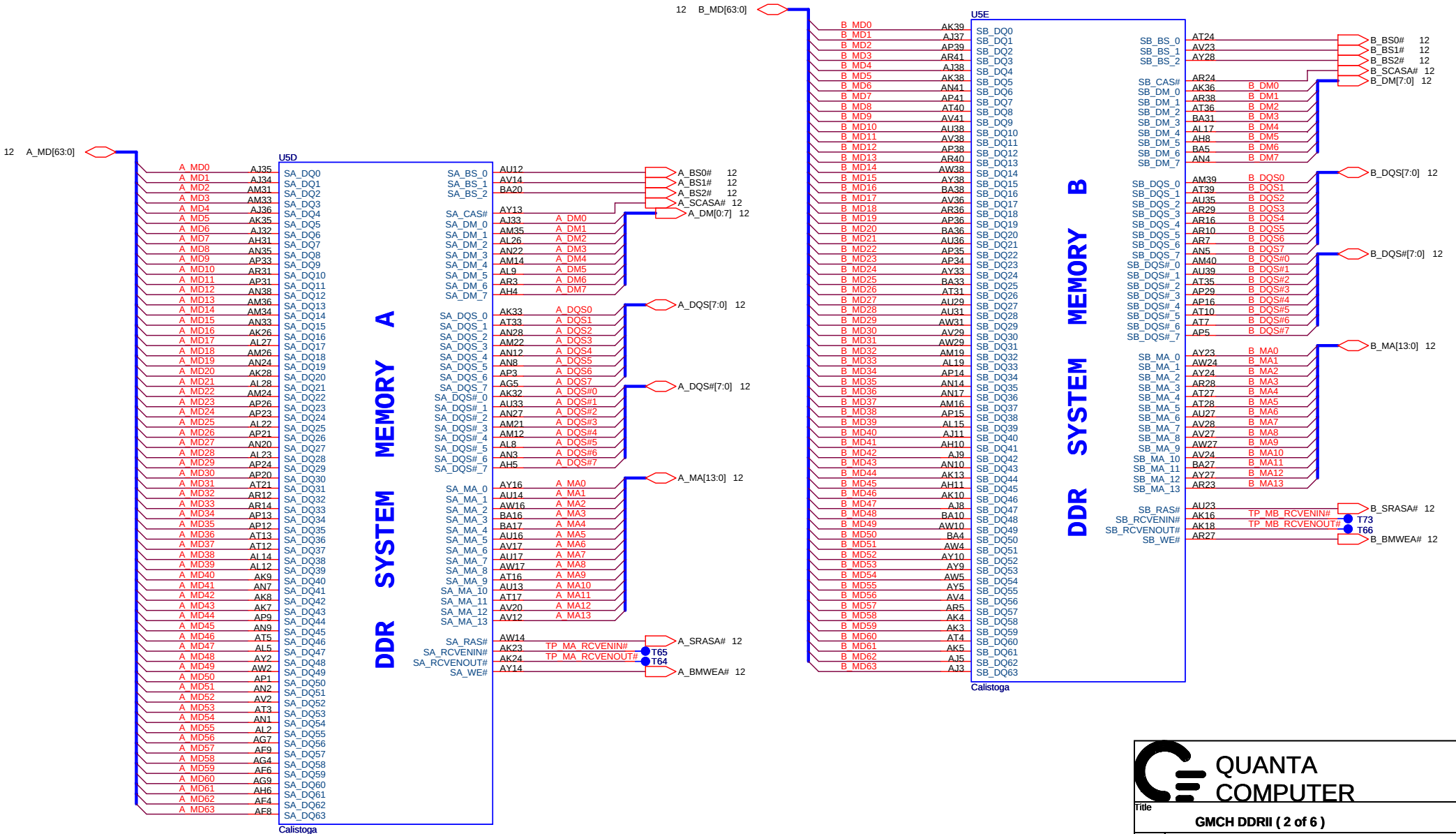
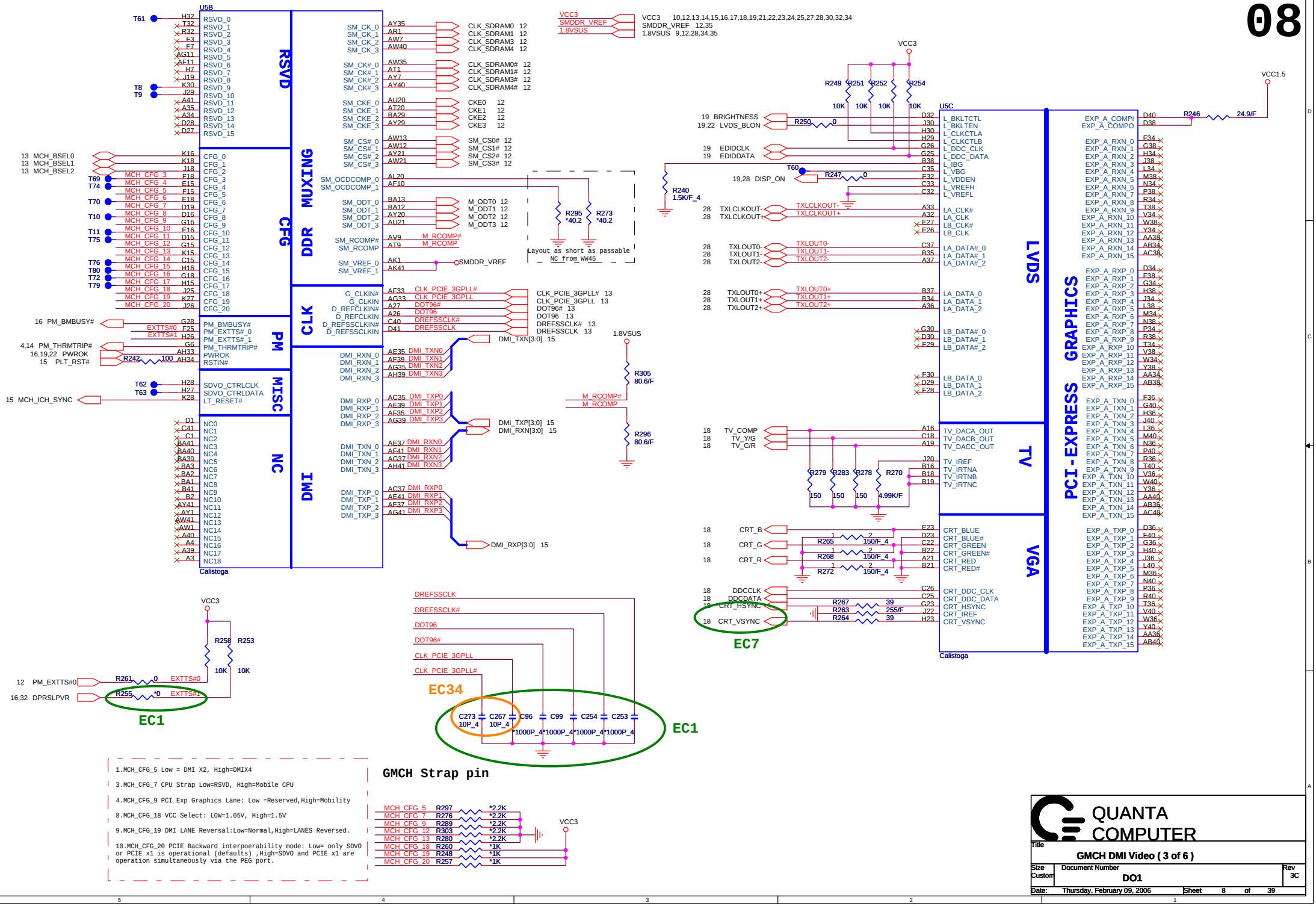

06
H_XRCOMP
R320
24.9/F
GMCH_VTT
R317
54.9/F
H_XSCOMP
GMCH_VTT
R318
221/F
H_XSWING
R319
100/F
C379
0.1U
GMCH_VTT
R312
54.9/F
H_YSCOMP
GMCH_VTT
R315
221/F
H_YSWING
R316
100/F
C409
0.1U
H_YRCOMP
R311
24.9/F
Width of trace must meet 10 mil
4 H_D#[63:0]
U5A
HOST
Calistoga
H_D#0 F1
H_D#1 J1
H_D#2 H1
H_D#3 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
T21
T22
13 CLK_MCH_BCLK
13 CLK_MCH_BCLK#
H_CLKIN AG2
H_CLKIN# AG1
H_A#_3 H9
H_A#_4 C9
H_A#_5 E11
H_A#_6 G11
H_A#_7 F11
H_A#_8 G12
H_A#_9 F9
H_A#_10 H11
H_A#_11 J12
H_A#_12 G14
H_A#_13 D9
H_A#_14 J14
H_A#_15 H13
H_A#_16 J15
H_A#_17 F14
H_A#_18 D12
H_A#_19 A11
H_A#_20 C11
H_A#_21 A12
H_A#_22 A13
H_A#_23 E13
H_A#_24 G13
H_A#_25 F12
H_A#_26 B12
H_A#_27 B14
H_A#_28 C12
H_A#_29 A14
H_A#_30 C14
H_A#_31 D14
H_A#[31:3] 4
H_A#3
H_A#4
H_A#5
H_A#6
H_A#7
H_A#8
H_A#9
H_A#10
H_A#11
H_A#12
H_A#13
H_A#14
H_A#15
H_A#16
H_A#17
H_A#18
H_A#19
H_A#20
H_A#21
H_A#22
H_A#23
H_A#24
H_A#25
H_A#26
H_A#27
H_A#28
H_A#29
H_A#30
H_A#31
GMCH_VTT
GMCH_VTT 4,5,9,10,13,14,17,33
H_ADS# E8
H_ADSTB#_0 B9
H_ADSTB#_1 C13
H_VREF_0 J13
H_BNR# C6
H_BPRI# F6
H_BREQ#0 C7
H_CPURST# B7
H_DBSY# A7
H_DEFER# C3
H_DPWR# J9
H_DRDY# H8
H_VREF_1 K13
H_ADS# 4
H_ADSTB#0 4
H_ADSTB#1 4
H_BNR# 4
H_BPRI# 4
H_BREQ#0 4
H_CPURST# 4
H_DBSY# 4
H_DEFER# 4
H_DPWR# 4
H_DRDY# 4
GMCH_VTT
R286
100/F
H_VREF
C356
0.1U
R287
200/F
H_VREF
placement near J13 and K13
H_DINV#_0 J7
H_DINV#_1 W8
H_DINV#_2 U3
H_DINV#_3 AB10
H_DINV#0
H_DINV#1
H_DINV#2
H_DINV#3
H_DINV#[3:0] 4
H_DSTBN#_0 K4
H_DSTBN#_1 T7
H_DSTBN#_2 Y5
H_DSTBN#_3 AC4
H_DSTBN#0
H_DSTBN#1
H_DSTBN#2
H_DSTBN#3
H_DSTBN#[3:0] 4
H_DSTBP#_0 K3
H_DSTBP#_1 T6
H_DSTBP#_2 AA5
H_DSTBP#_3 AC5
H_DSTBP#0
H_DSTBP#1
H_DSTBP#2
H_DSTBP#3
H_DSTBP#[3:0] 4
H_HIT# D3
H_HITM# D4
H_LOCK# B3
H_HIT# 4
H_HITM# 4
H_LOCK# 4
H_REQ#_0 D8
H_REQ#_1 G8
H_REQ#_2 B8
H_REQ#_3 F8
H_REQ#_4 A8
H_REQ#0
H_REQ#1
H_REQ#2
H_REQ#3
H_REQ#4
H_REQ#[4:0] 4
H_RS#_0 B4
H_RS#_1 E6
H_RS#_2 D6
H_RS#0
H_RS#1
H_RS#2
H_RS#[2:0] 4
H_SLPCPU# E3
H_TRDY# E7
H_CPUSLP# 4,14
H_TRDY# 4
QUANTA COMPUTER
Title
GMCH HOST (1 of 6)
Size B
Document Number
DO1
Rev 3C
Date: Thursday, February 09, 2006
Sheet 6 of 39



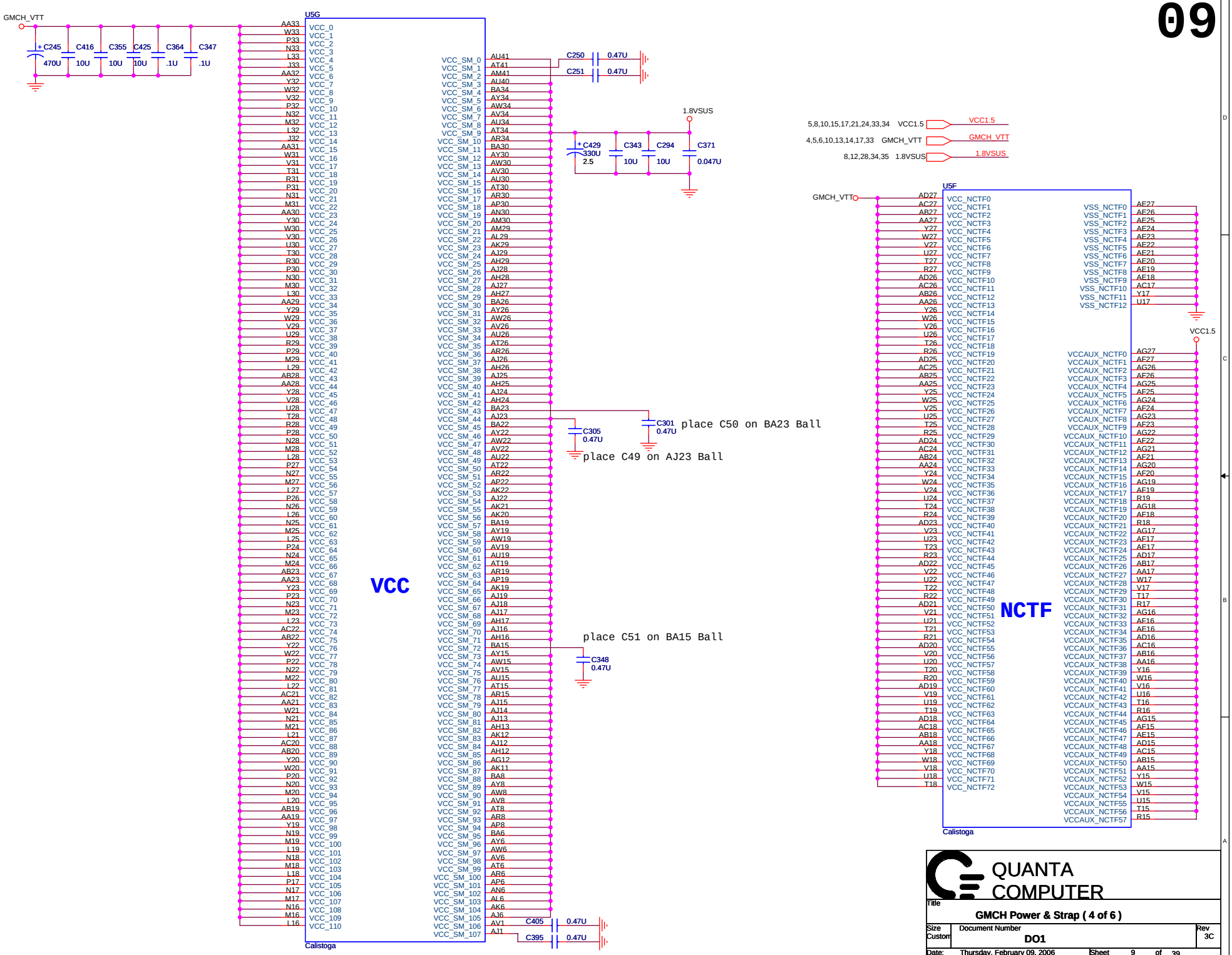
QUANTA COMPUTER

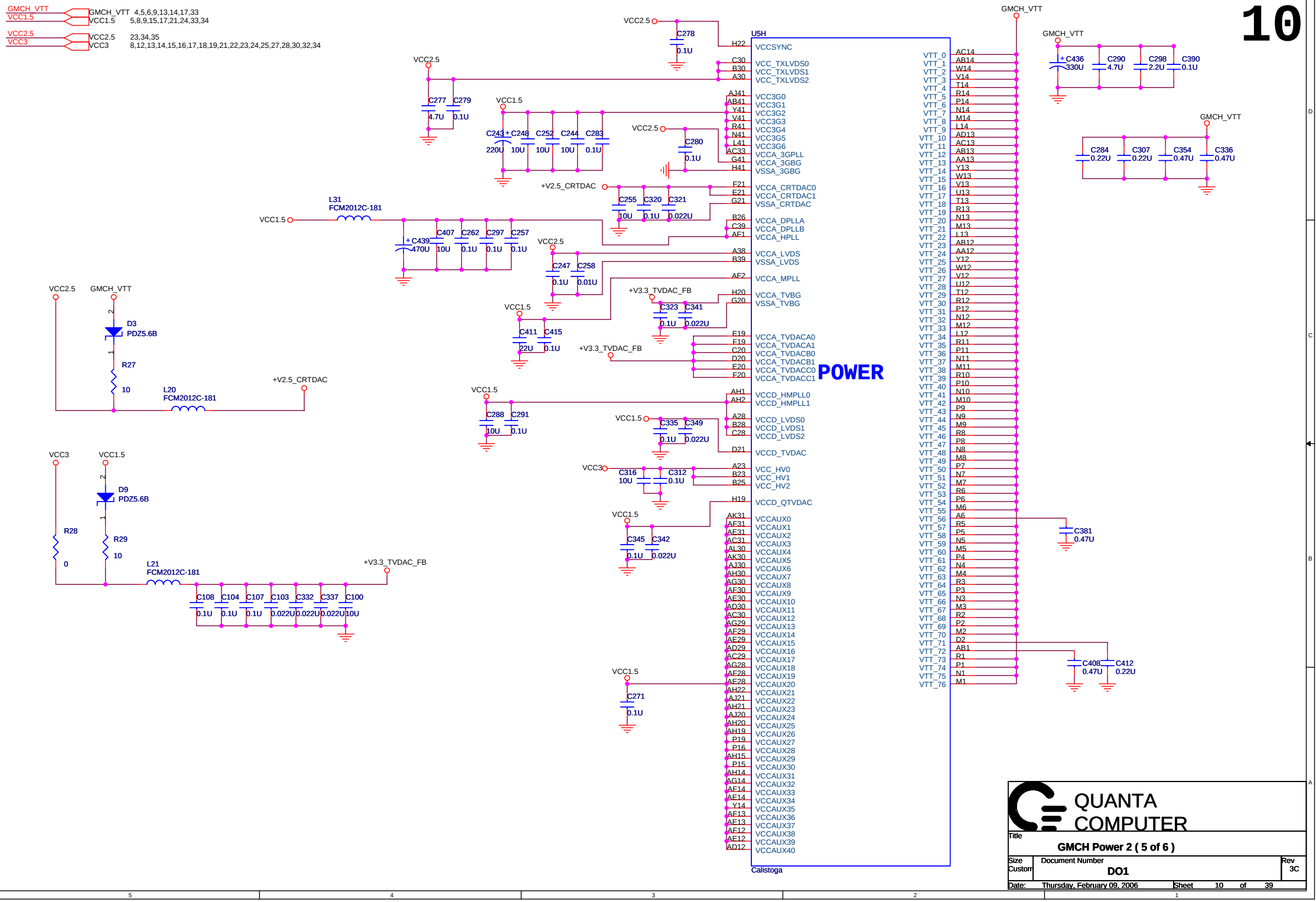
Title	GMCH DDRII (2 of 6)	
Size B	Document Number DO1	Rev 3C
Date: Thursday, February 09, 2006	Sheet 7 of 39	



QUANTA COMPUTER

Title	GMCH DMI Video (3 of 6)	
Size: Custom	Document Number: DO1	Rev: 3C
Date: Thursday, February 09, 2006	Sheet 8 of 39	


09
GMCH_VTT
C245 470U
C416 10U
C355 10U
C425 10U
C364 .1U
C347 .1U
U5G
VCC
Calistoga
C250 0.47U
C251 0.47U
1.8VSUS
C429 330U 2.5
C343 10U
C294 10U
C371 0.047U
C305 0.47U
C301 0.47U
place C50 on BA23 Ball
place C49 on AJ23 Ball
place C51 on BA15 Ball
C348 0.47U
C405 0.47U
C395 0.47U
5,8,10,15,17,21,24,33,34 VCC1.5
4,5,6,10,13,14,17,33 GMCH_VTT
8,12,28,34,35 1.8VSUS
VCC1.5
GMCH_VTT
1.8VSUS
U5F
NCTF
Calistoga
VCC1.5
QUANTA COMPUTER
Title
GMCH Power & Strap (4 of 6)
Size Custom
Document Number DO1
Rev 3C
Date: Thursday, February 09, 2006
Sheet 9 of 39


GMCH_VTT
VCC1.5
GMCH_VTT 4,5,6,9,13,14,17,33
VCC1.5 5,8,9,15,17,21,24,33,34
VCC2.5
VCC3
VCC2.5 23,34,35
VCC3 8,12,13,14,15,16,17,18,19,21,22,23,24,25,27,28,30,32,34
10
U5H
POWER
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
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
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VTT_67
VTT_68
VTT_69
VTT_70
VTT_71
VTT_72
VTT_73
VTT_74
VTT_75
VTT_76
C278 0.1U
C277 4.7U
C279 0.1U
C243 220U
C248 10U
C252 10U
C244 10U
C283 0.1U
C280 0.1U
C255 10U
C320 0.1U
C321 0.022U
L31 FCM2012C-181
C439 470U
C407 10U
C262 0.1U
C297 0.1U
C257 0.1U
C247 0.1U
C258 0.01U
C323 0.1U
C341 0.022U
C411 22U
C415 0.1U
D3 PDZ5.6B
R27 10
L20 FCM2012C-181
C288 10U
C291 0.1U
C335 0.1U
C349 0.022U
C316 10U
C312 0.1U
C345 0.1U
C342 0.022U
C271 0.1U
D9 PDZ5.6B
R28 0
R29 10
L21 FCM2012C-181
C108 0.1U
C104 0.1U
C107 0.1U
C103 0.022U
C332 0.022U
C337 0.022U
C100 10U
C436 330U
C290 4.7U
C298 2.2U
C390 0.1U
C284 0.22U
C307 0.22U
C354 0.47U
C336 0.47U
C381 0.47U
C408 0.47U
C412 0.22U
QUANTA COMPUTER
Title
GMCH Power 2 (5 of 6)
Size Custom
Document Number DO1
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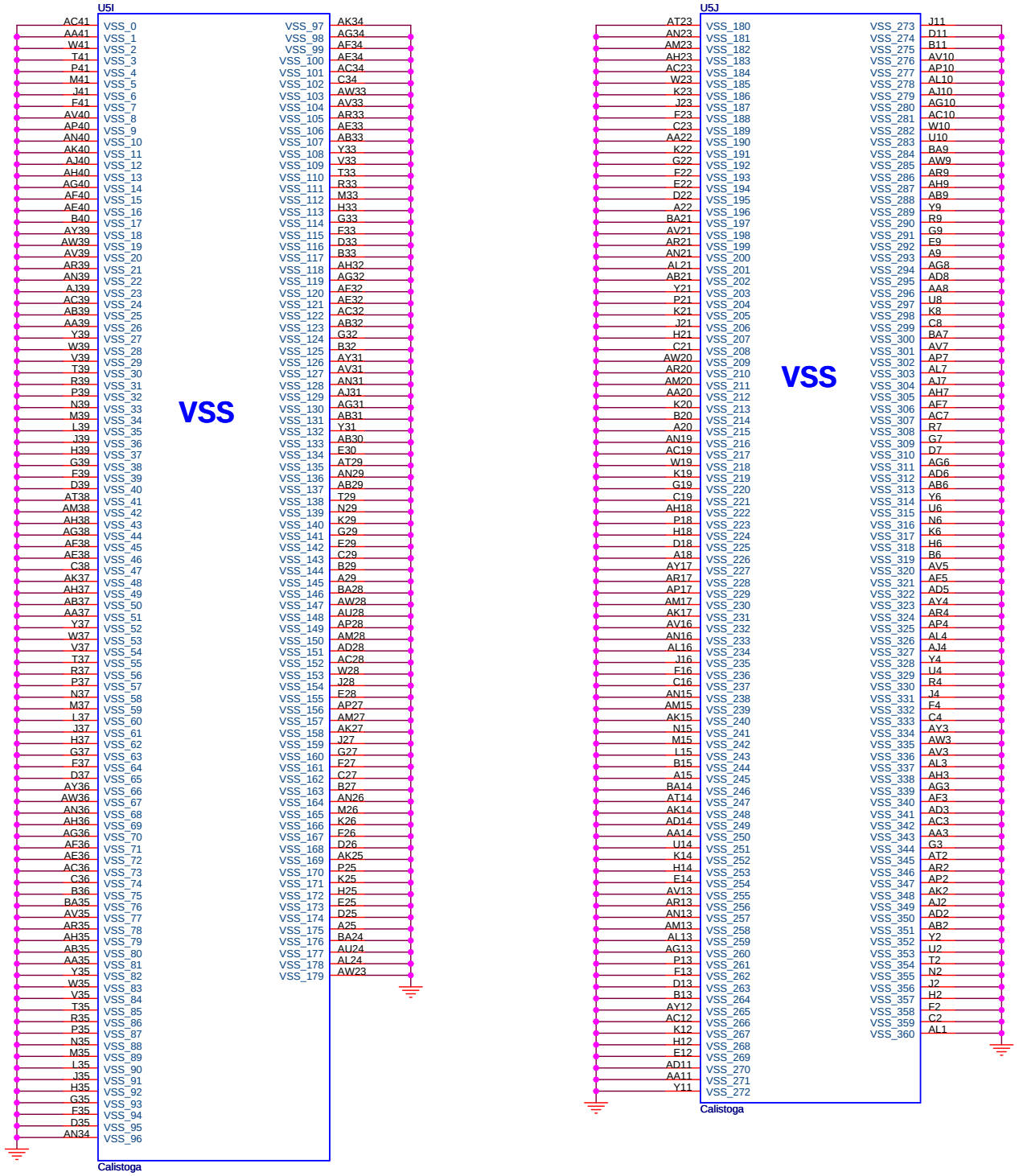
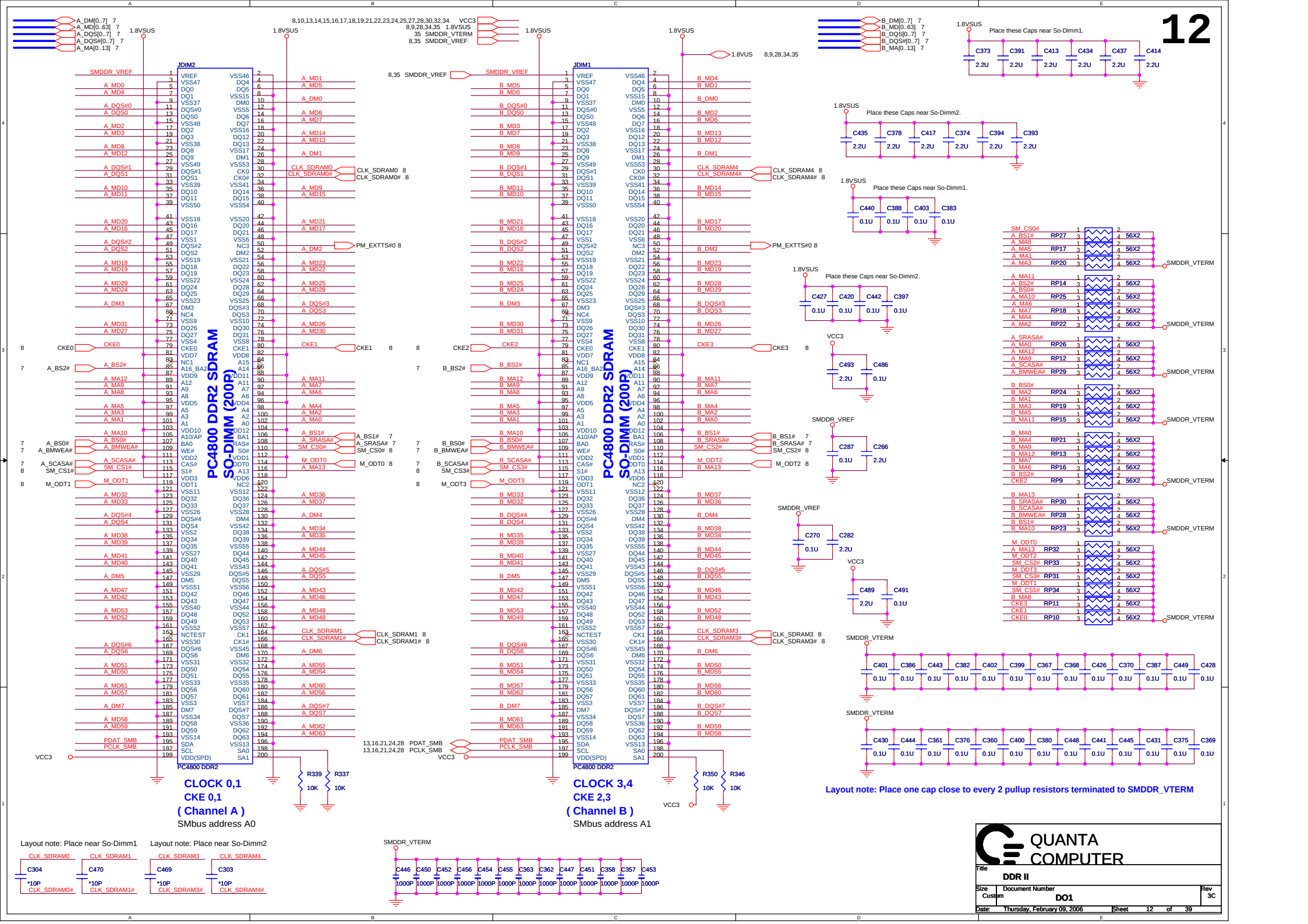


QUANTA COMPUTER

Title	GMCH GND (6 OF 6)	
Size: Custom	Document Number: DO1	Rev: 3C
Date: Thursday, February 09, 2006	Sheet 11 of 39	


A_DM[0..7] 7
A_MD[0..63] 7
A_DQS[0..7] 7
A_DQS#[0..7] 7
A_MA[0..13] 7
1.8VSUS
JDIM2
PC4800 DDR2 SDRAM SO-DIMM (200P)
PC4800 DDR2
CLOCK 0,1
CKE 0,1
(Channel A)
SMbus address A0
R339 10K
R337 10K
8,10,13,14,15,16,17,18,19,21,22,23,24,25,27,28,30,32,34 VCC3
8,9,28,34,35 1.8VSUS
35 SMDDR_VTERM
8,35 SMDDR_VREF
JDIM1
CLOCK 3,4
CKE 2,3
(Channel B)
SMbus address A1
R350 10K
R346 10K
B_DM[0..7] 7
B_MD[0..63] 7
B_DQS[0..7] 7
B_DQS#[0..7] 7
B_MA[0..13] 7
Place these Caps near So-Dimm1.
C373 2.2U
C391 2.2U
C413 2.2U
C434 2.2U
C437 2.2U
C414 2.2U
Place these Caps near So-Dimm2.
C435 2.2U
C378 2.2U
C417 2.2U
C374 2.2U
C394 2.2U
C393 2.2U
Place these Caps near So-Dimm1.
C440 0.1U
C388 0.1U
C403 0.1U
C383 0.1U
Place these Caps near So-Dimm2.
C427 0.1U
C420 0.1U
C442 0.1U
C397 0.1U
C493 2.2U
C486 0.1U
C287 0.1U
C266 2.2U
C270 0.1U
C282 2.2U
C489 2.2U
C491 0.1U
SM_CS0# RP27 56X2 SMDDR_VTERM
A_BS1# RP14 56X2
A_MA8 RP26 56X2
A_MA5 RP17 56X2
A_MA1 RP20 56X2
A_MA11 RP25 56X2
A_BS2# RP18 56X2
A_BS0# RP22 56X2
A_MA10 RP24 56X2
A_MA6 RP19 56X2
A_MA7 RP15 56X2
A_MA4 RP21 56X2
A_MA2 RP13 56X2
A_SRASA# RP26 56X2
A_MA0 RP12 56X2
A_MA12 RP29 56X2
A_MA9 RP30 56X2
A_SCASA# RP28 56X2
A_BMWEA# RP23 56X2
B_BS0# RP32 56X2
B_MA2 RP33 56X2
B_MA1 RP31 56X2
B_MA3 RP34 56X2
B_MA5 RP11 56X2
B_MA11 RP10 56X2
B_MA0 RP21 56X2
B_MA4 RP13 56X2
B_MA9 RP12 56X2
B_MA12 RP7 56X2
B_MA7 RP16 56X2
B_MA6 RP8 56X2
B_BS2# RP9 56X2
B_MA13 RP30 56X2
B_SRASA# RP28 56X2
B_SCASA# RP23 56X2
B_BMWEA# RP31 56X2
B_BS1# RP34 56X2
B_MA10 RP11 56X2
M_ODT0 RP32 56X2
A_MA13 RP33 56X2
M_ODT2 RP31 56X2
M_ODT3 RP34 56X2
SM_CS2# RP11 56X2
SM_CS3# RP10 56X2
M_ODT1 56X2
SM_CS1# 56X2
CKE3 56X2
CKE1 56X2
CKE0 56X2
SMDDR_VTERM
C401 0.1U
C386 0.1U
C443 0.1U
C382 0.1U
C402 0.1U
C399 0.1U
C367 0.1U
C368 0.1U
C426 0.1U
C370 0.1U
C387 0.1U
C449 0.1U
C428 0.1U
C430 0.1U
C444 0.1U
C361 0.1U
C376 0.1U
C360 0.1U
C400 0.1U
C380 0.1U
C448 0.1U
C441 0.1U
C445 0.1U
C431 0.1U
C375 0.1U
C369 0.1U
Layout note: Place one cap close to every 2 pullup resistors terminated to SMDDR_VTERM
Layout note: Place near So-Dimm1
CLK_SDRAM0
CLK_SDRAM1
C304 *10P CLK_SDRAM0#
C470 *10P CLK_SDRAM1#
Layout note: Place near So-Dimm2
CLK_SDRAM3
CLK_SDRAM4
C469 *10P CLK_SDRAM3#
C303 *10P CLK_SDRAM4#
SMDDR_VTERM
C446 1000P
C450 1000P
C452 1000P
C456 1000P
C454 1000P
C455 1000P
C363 1000P
C362 1000P
C447 1000P
C451 1000P
C358 1000P
C357 1000P
C453 1000P
QUANTA COMPUTER
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DDR II
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FSC	FSB	FSA	CPU	SRC	PCI
1	0	1	100	100	33
0	0	1	133	100	33 Default
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

EC30

Place these termination to close CK410M.

EC2

Place these termination to close CK410M.

CK-410M

ICS954226AG-T

Stuff 0 ohm for 533MHz, NC for 667MHz

QUANTA COMPUTER

Title: Clock Generator

Size: Custom | Document Number: DO1 | Rev: 3C

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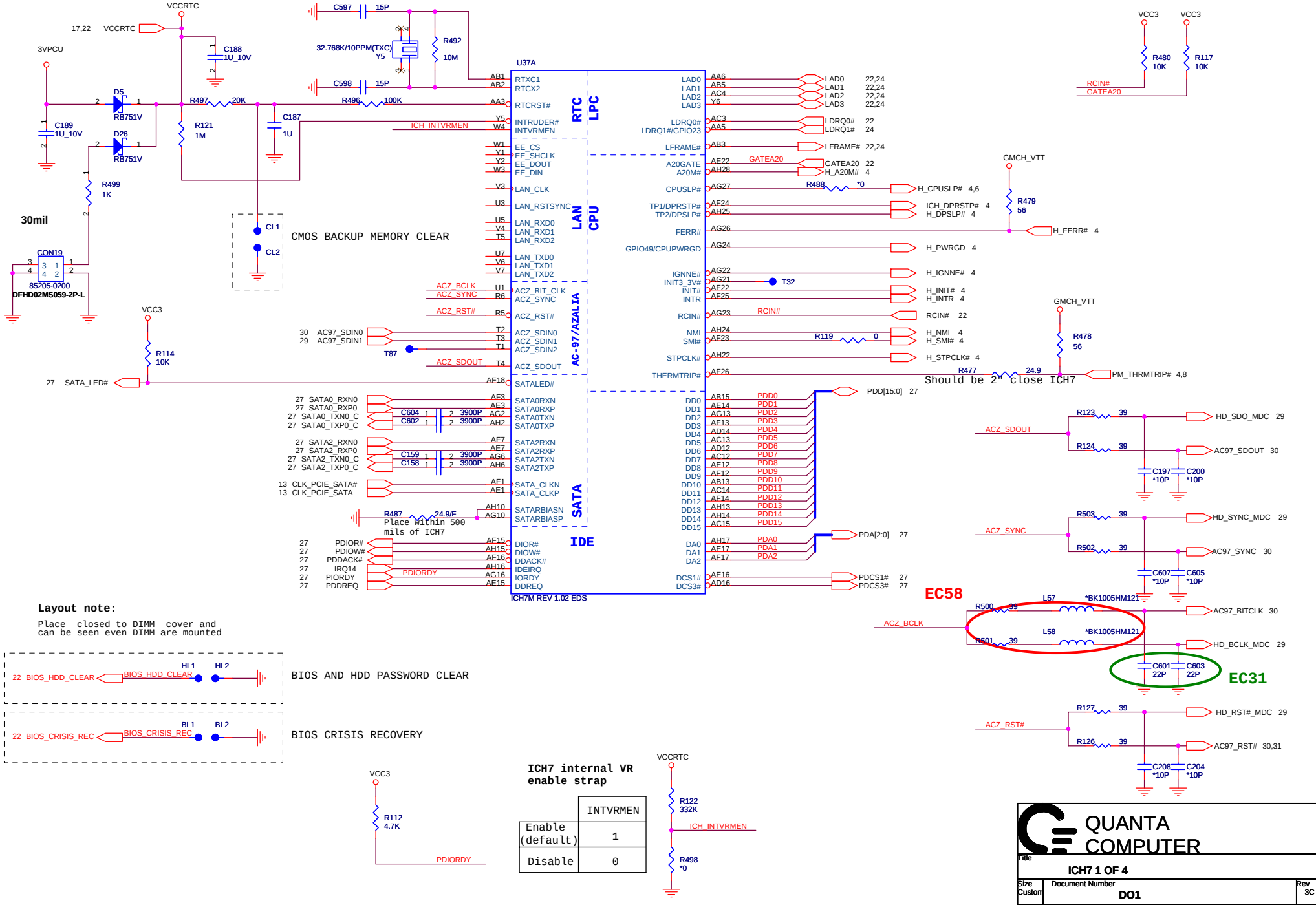
RTC



Title	ICH7 1 OF 4	
Size: Custom	Document Number: DO1	Rev: 3C
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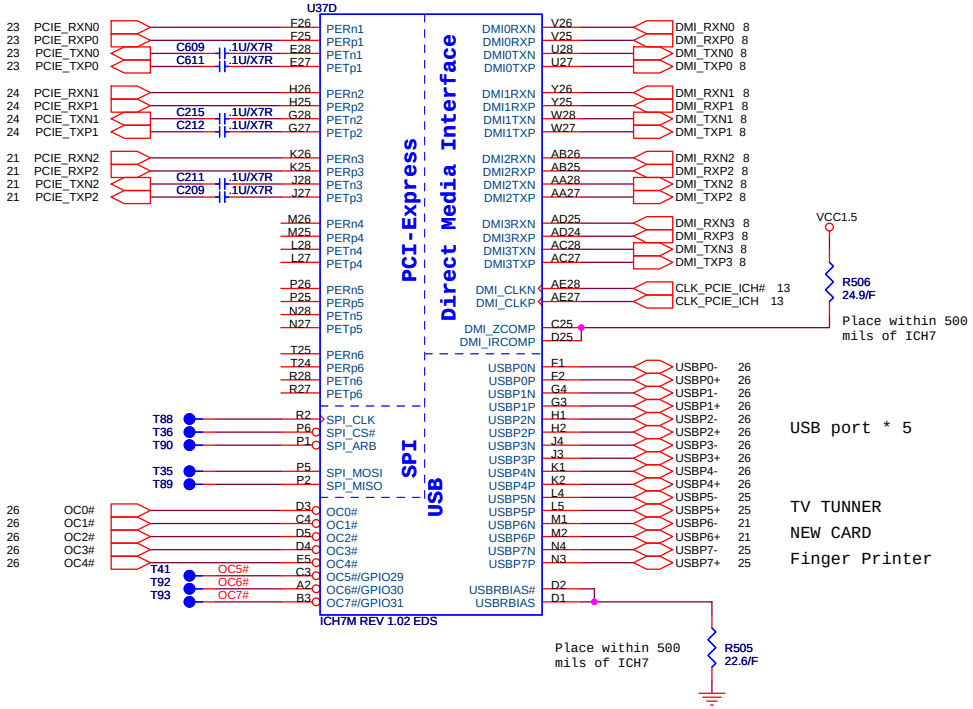
QUANTA COMPUTER

MARVELL 88E8055 LAN

Mini PCI-E

NEW CARD

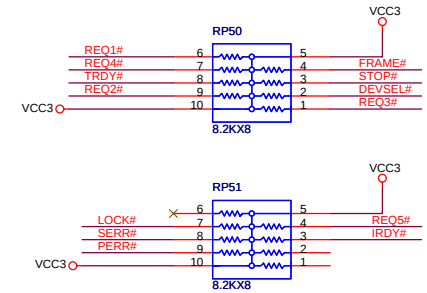


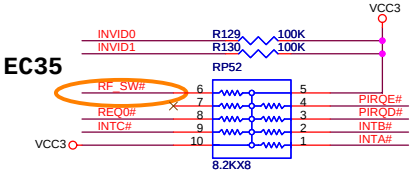
USB port * 5

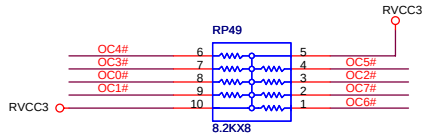
TV TUNNER

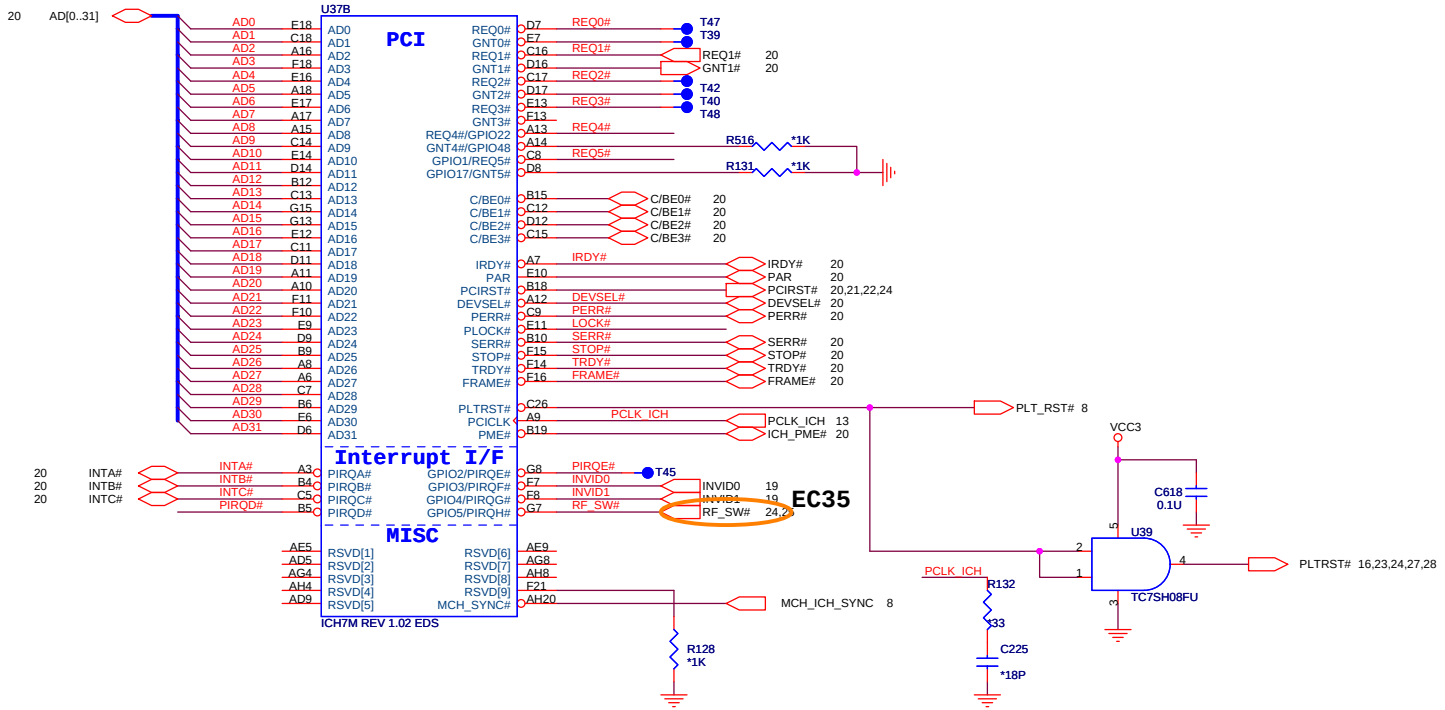
NEW CARD

Finger Printer









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
R5C841	AD25	REQ1# / GNT1#	PIRQ B/C/D

QUANTA COMPUTER

Title: ICH7 2 OF 4

Size: Custom | Document Number: DO1 | Rev: 3C

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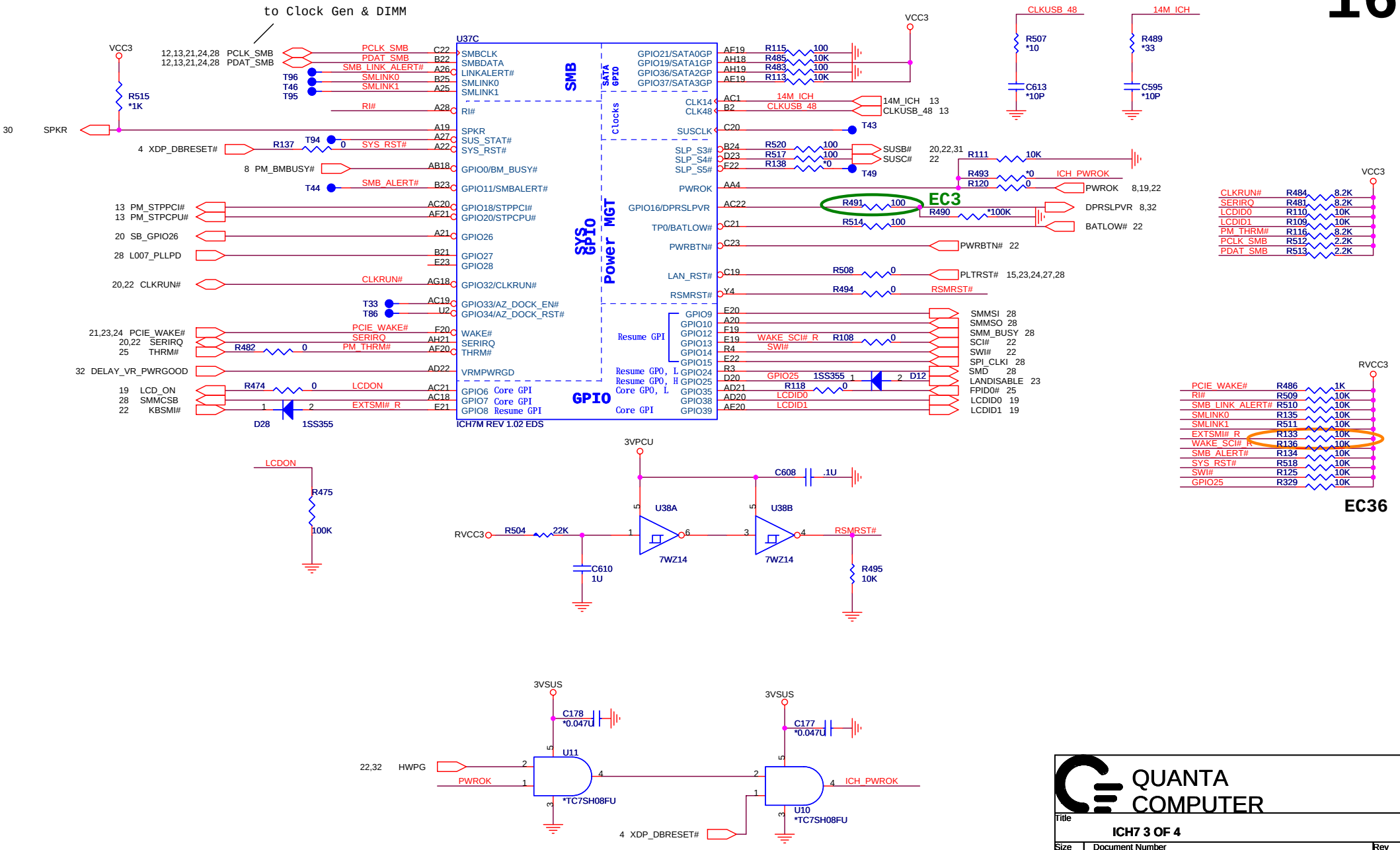
to Clock Gen & DIMM
U37C
SMB
SATA GPIO
Clocks
SYS GPIO
Power MGT
GPIO
ICH7M REV 1.02 EDS
SMBCLK
SMBDATA
LINKALERT#
SMLINK0
SMLINK1
RI#
SPKR
SUS_STAT#
SYS_RST#
GPIO0/BM_BUSY#
GPIO11/SMBALERT#
GPIO18/STPPCI#
GPIO20/STPCPU#
GPIO26
GPIO27
GPIO28
GPIO32/CLKRUN#
GPIO33/AZ_DOCK_EN#
GPIO34/AZ_DOCK_RST#
WAKE#
SERIRQ
THRM#
VRMPWRGD
GPIO6 Core GPI
GPIO7 Core GPI
GPIO8 Resume GPI
GPIO21/SATA0GP
GPIO19/SATA1GP
GPIO36/SATA2GP
GPIO37/SATA3GP
CLK14
CLK48
SUSCLK
SLP_S3#
SLP_S4#
SLP_S5#
PWROK
GPIO16/DPRSLPVR
TP0/BATLOW#
PWRBTN#
LAN_RST#
RSMRST#
Resume GPI
Resume GPO, L
Resume GPO, H
Core GPO, L
Core GPI
GPIO9
GPIO10
GPIO12
GPIO13
GPIO14
GPIO15
GPIO24
GPIO25
GPIO35
GPIO38
GPIO39
EC3
EC36
QUANTA COMPUTER
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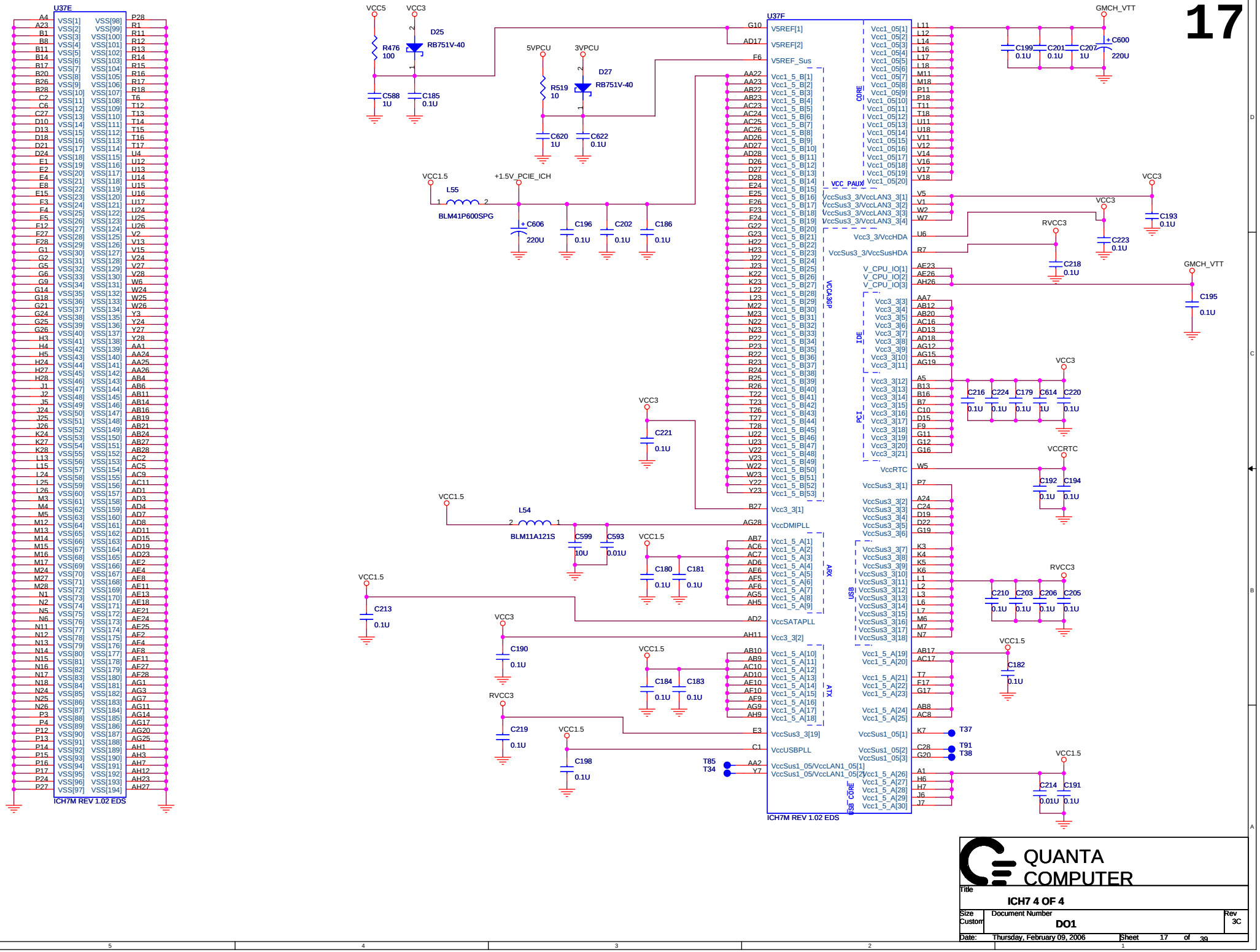
17
U37E
ICH7M REV 1.02 EDS
U37F
ICH7M REV 1.02 EDS
VCC5
VCC3
D25
RB751V-40
R476
100
C588
1U
C185
0.1U
5VPCU
3VPCU
D27
RB751V-40
R519
10
C620
1U
C622
0.1U
VCC1.5
+1.5V_PCIE_ICH
L55
BLM41P600SPG
C606
220U
C196
0.1U
C202
0.1U
C186
0.1U
C221
0.1U
L54
BLM11A121S
C599
10U
C593
0.01U
C180
0.1U
C181
0.1U
C213
0.1U
C190
0.1U
C184
0.1U
C183
0.1U
RVCC3
C219
0.1U
C198
0.1U
T85
T34
T37
T91
T38
GMCH_VTT
C199
0.1U
C201
0.1U
C207
1U
C600
220U
C193
0.1U
C223
0.1U
C218
0.1U
C195
0.1U
C216
0.1U
C224
0.1U
C179
0.1U
C614
1U
C220
0.1U
VCCRTC
C192
0.1U
C194
0.1U
C210
0.1U
C203
0.1U
C206
0.1U
C205
0.1U
C182
0.1U
C214
0.01U
C191
0.1U
QUANTA COMPUTER
Title
ICH7 4 OF 4
Size
Custom
Document Number
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Date:
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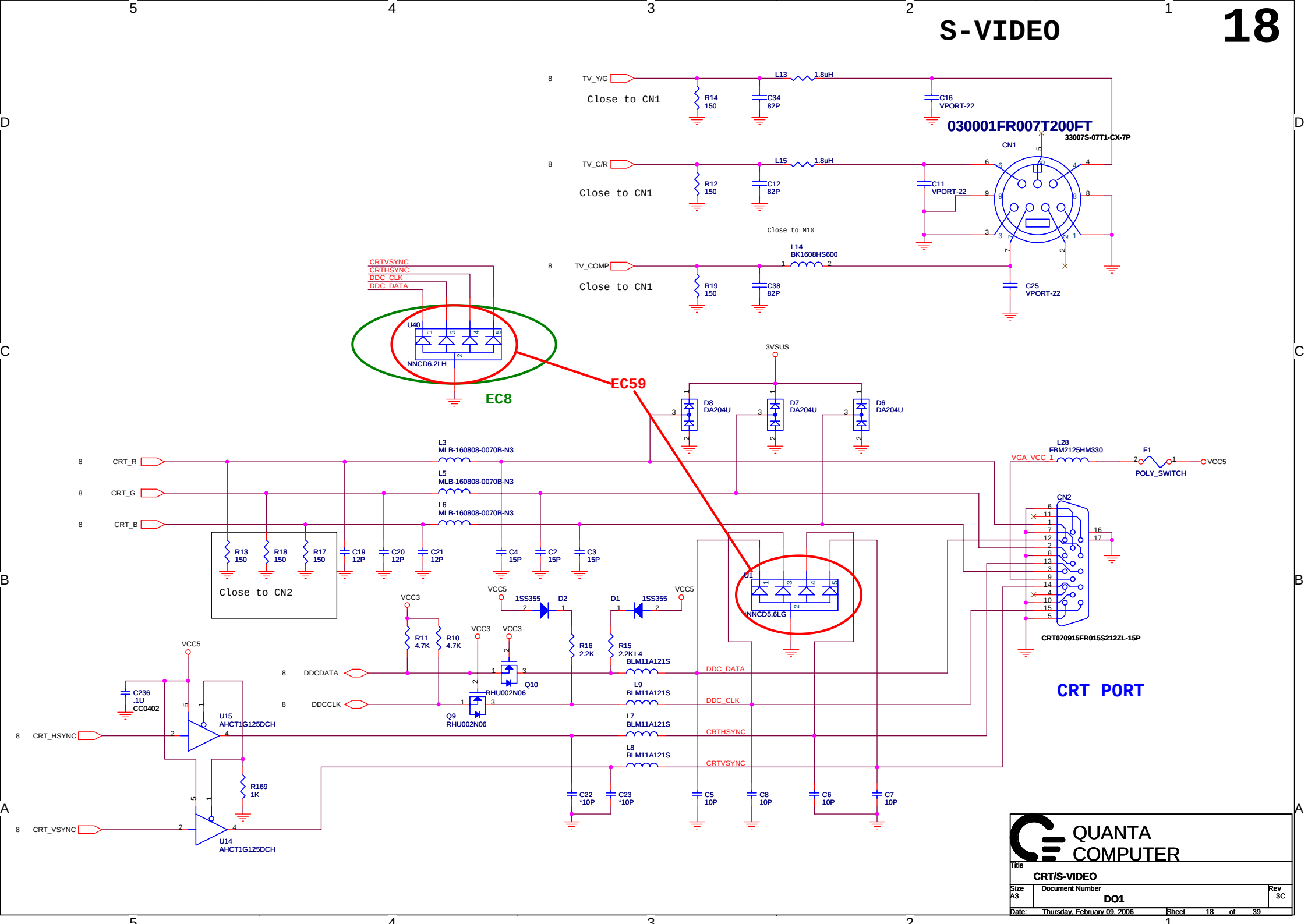
S-VIDEO



Title	CRT/S-VIDEO
Size	A3
Document Number	DO1
Rev	3C
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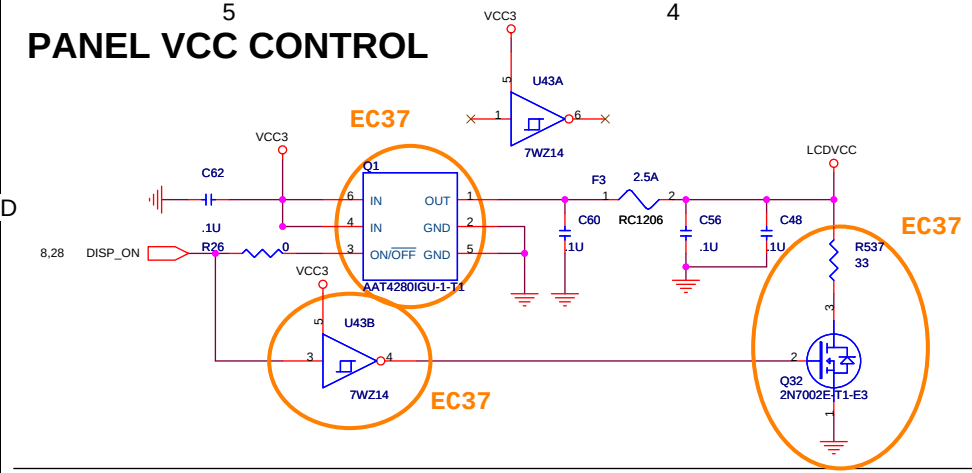
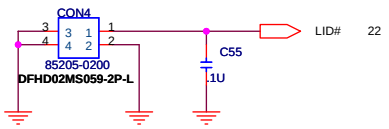
QUANTA COMPUTER

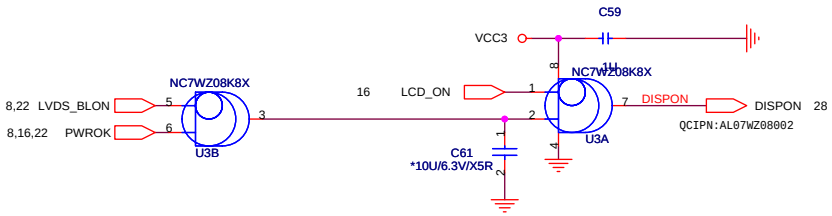
PANEL VCC CONTROL



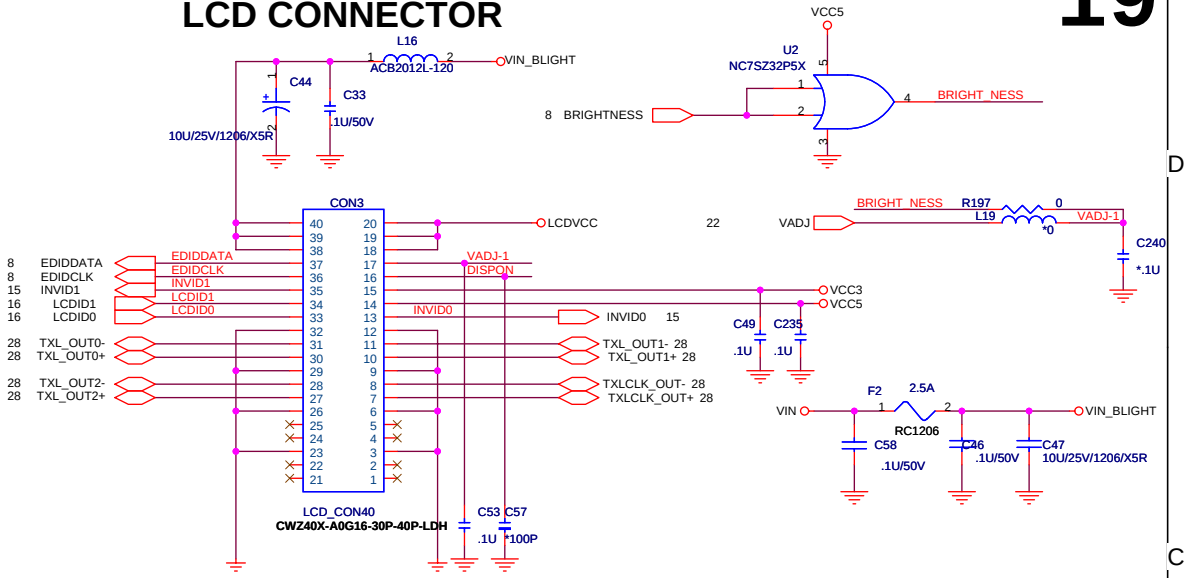
LID

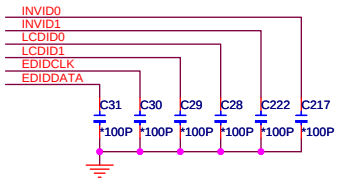


BACKLIGHT CONTROL



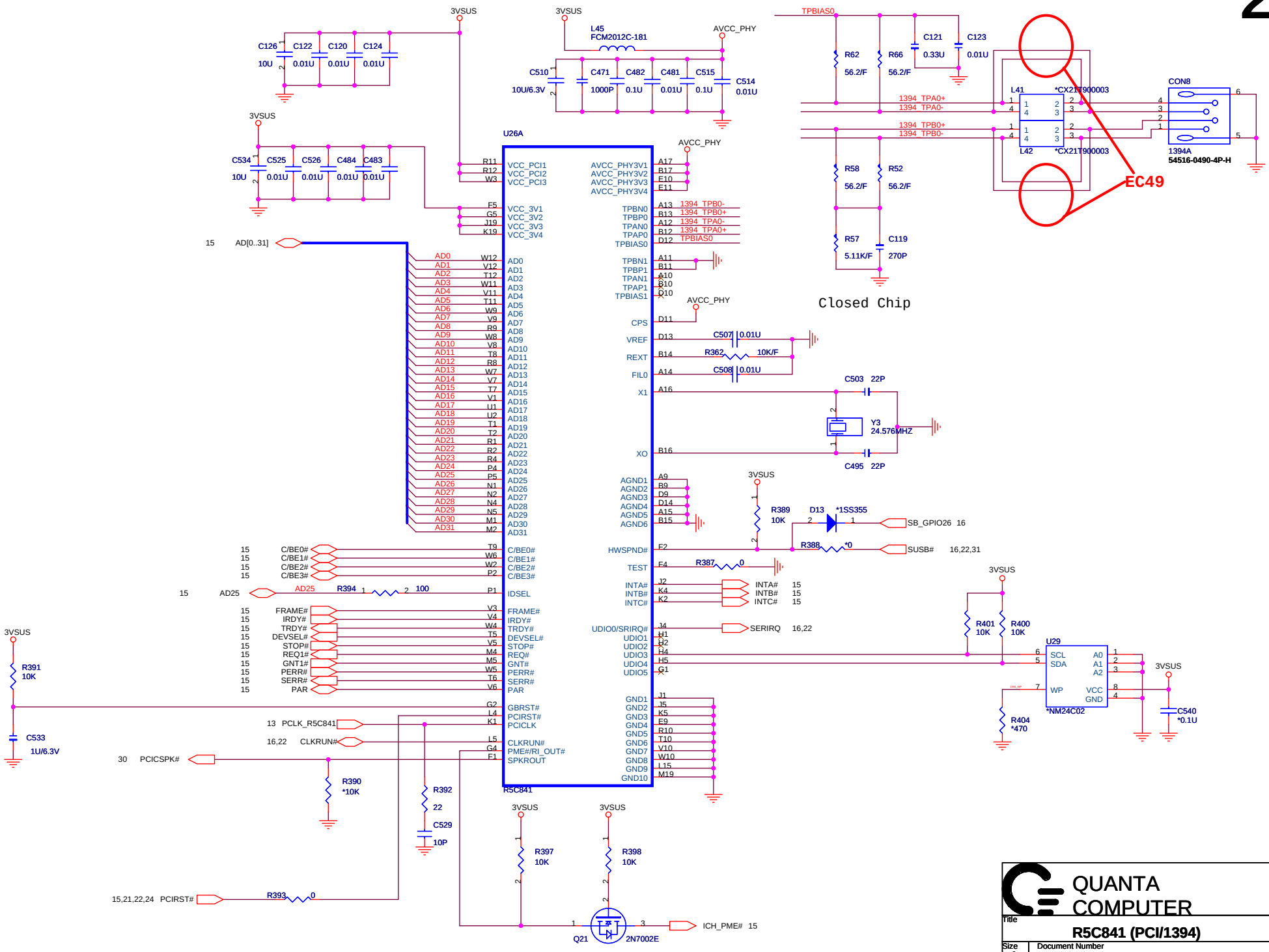
LCD CONNECTOR





QUANTA COMPUTER

Title: LCD CNN/ LID		
Size: A3	Document Number: DO1	Rev: 3C
Date: Thursday, February 09, 2006	Sheet 19 of 39	



QUANTA COMPUTER

Title: R5C841 (PCI/1394)

Size: Custom | Document Number: DO1 | Rev: 3C

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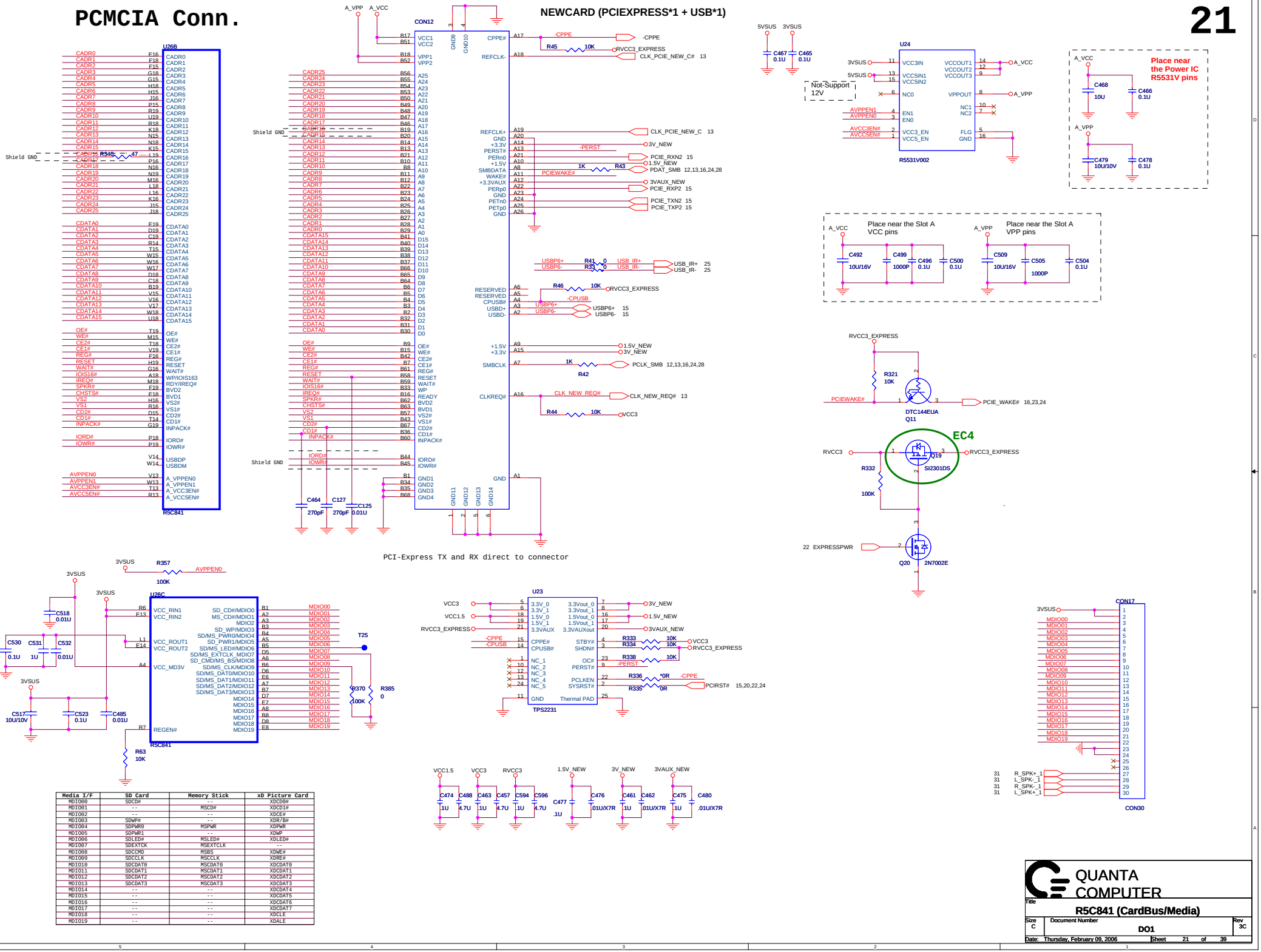
PCMCIA Conn.

NEWCARD (PCIEXPRESS*1 + USB*1)



Media I/F	SD Card	Memory Stick	xD Picture Card
MDIO00	SDCD#	--	XDCD0#
MDIO01	--	MSCD#	XDCD1#
MDIO02	--	--	XDCE#
MDIO03	SDWP#	--	XDR/B#
MDIO04	SDPWR0	MSPWR	XDPWR
MDIO05	SDPWR1	--	XDWP
MDIO06	SDLED#	MSLED#	XDLED#
MDIO07	SDEXTCK	MSEXTCLK	--
MDIO08	SDCCMD	MSBS	XDWE#
MDIO09	SDCCLK	MSCCLK	XDRE#
MDIO10	SDCDAT0	MSCDAT0	XDCDAT0
MDIO11	SDCDAT1	MSCDAT1	XDCDAT1
MDIO12	SDCDAT2	MSCDAT2	XDCDAT2
MDIO13	SDCDAT3	MSCDAT3	XDCDAT3
MDIO14	--	--	XDCDAT4
MDIO15	--	--	XDCDAT5
MDIO16	--	--	XDCDAT6
MDIO17	--	--	XDCDAT7
MDIO18	--	--	XDCLE
MDIO19	--	--	XDALE

QUANTA COMPUTER

Title: R5C841 (CardBus/Media)

Size: C | Document Number: DO1 | Rev: 3C

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Switch setting table		
KBSEL0	KBSEL1	
0	0	US KeyBoard
0	1	UK KeyBoard
1	0	Reserved
1	1	JP KeyBoard

PC87541L (PC87591)

Strapping Pin

HWPG	R383	10K
BA2	R381	*10K
BA3	R380	*10K
BA5	R379	10K
BA1	R382	*10K
NBSWON#	R425	10K
BIOS_HDD_CLEAR	R396	10K
BIOS_CRISIS_REC	R395	10K
-STOP_EJECT	R416	10K
-PREV_REWIND	R418	10K
-PLAY_PAUSE	R410	10K
-NEXT_FORWARD	R402	10K
PWRBTN#	R417	*10K
MODE_SEL	R405	10K
RECORD#	R25	10K
CINEMA#	R24	10K
BATLOW#	R403	10K

RVCC3

EC11

EC10

EC50

ST Micro M29W008AB/AMD 29LV081B/SST39VF080

*39VF040

	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	

BA2 : BADDR0
BA3 : BADDR1

Enviroment	ENV0(BA0)	ENV1(BA1)	TRIS(BA4)
* IRE	0	0	0
OBD	0	1	0
DEV	1	0	0
PROG	1	1	0

BA0 : ENV0
BA1 : ENV1
BA4 : TRIS(If =1 will tristate all I/O pins)
BA5 : SHBM(If =1 Enable share host BIOS memory)

Title	PC87591
Size A3	Document Number DO1 Rev 3C
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QUANTA COMPUTER

BCM5751M

15mm x 15mm

BGA196

U22

Placed near PHY chip

EC12

	BCM5751M	BCM5751F
GPIO2	H	L

Title	GBE BCM5751M
Size: Custom	Document Number: TP4
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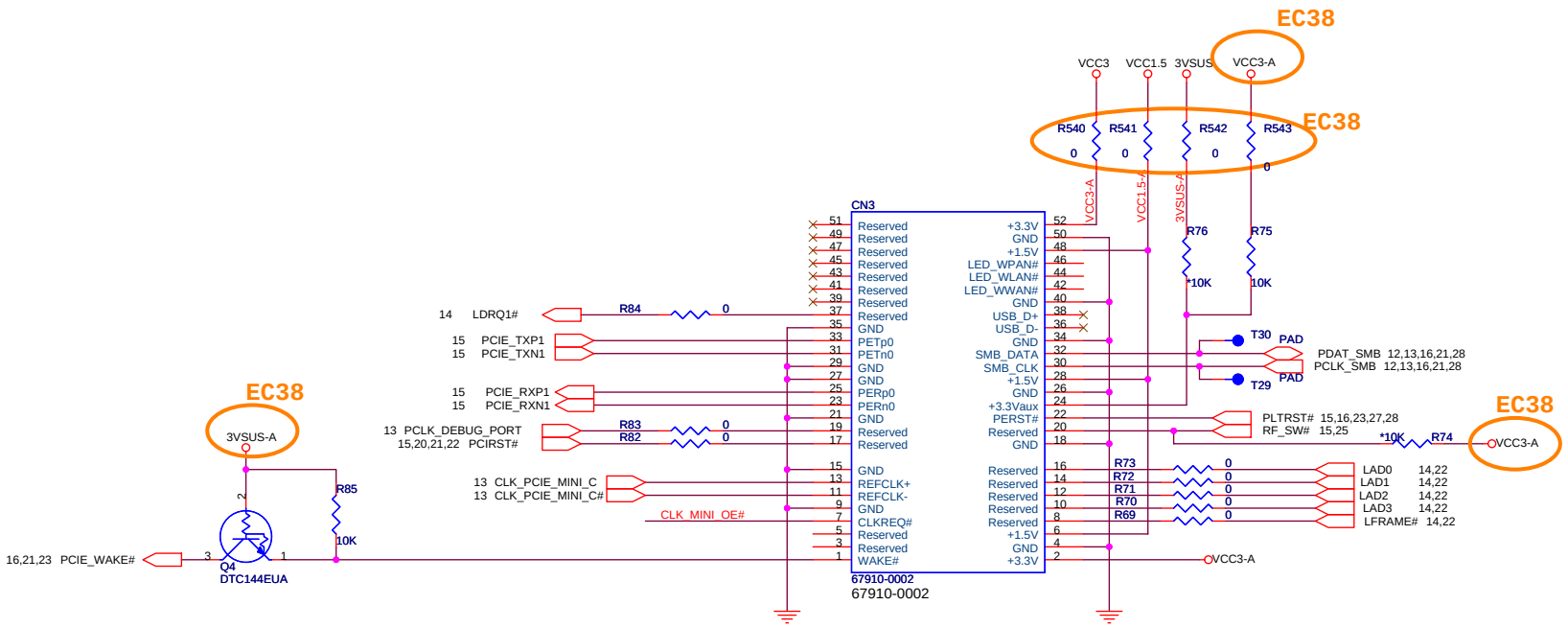
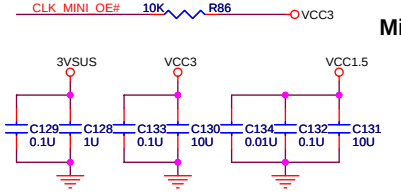
QUANTA COMPUTER

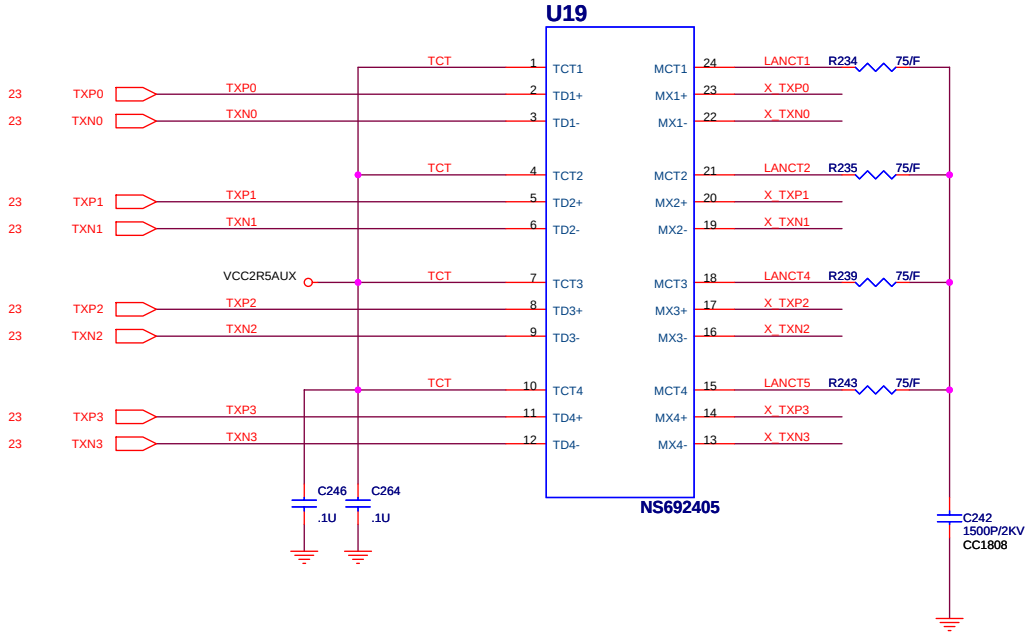


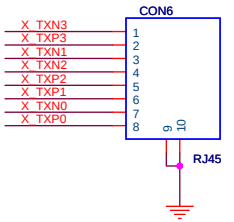
67910-0002

WLSW:
Low : disable the radio.
High : Enable the radio.



Mini PCI-E Card





QUANTA COMPUTER

Title: MINI PCIE		
Size: A3	Document Number: DO1	Rev: 3C
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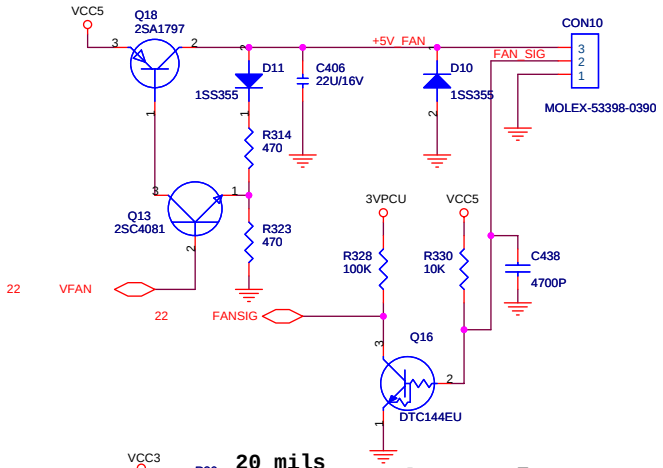
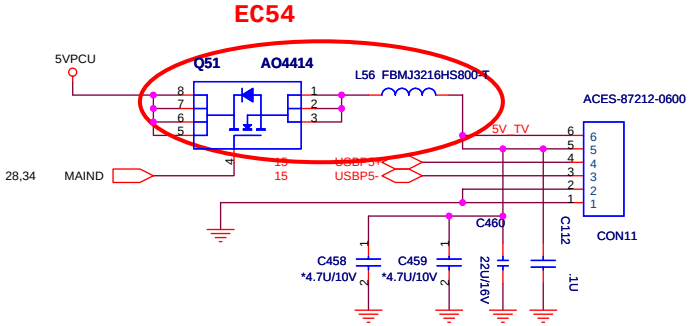
20 mils

FAN CONN



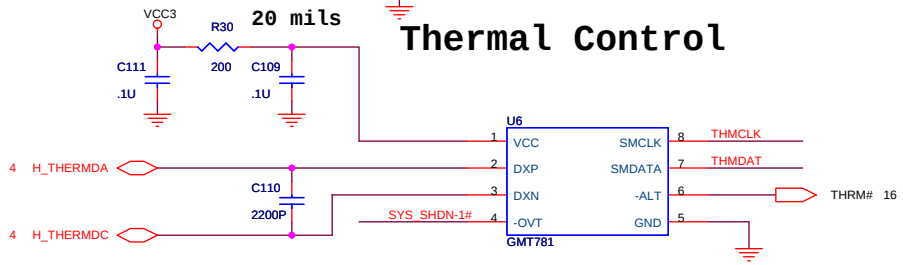
TV-TUNER

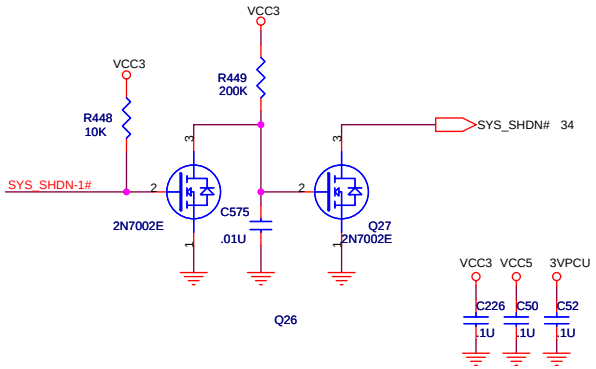
EC54

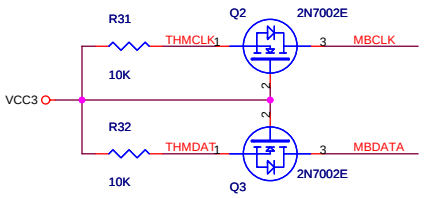


20 mils

Thermal Control



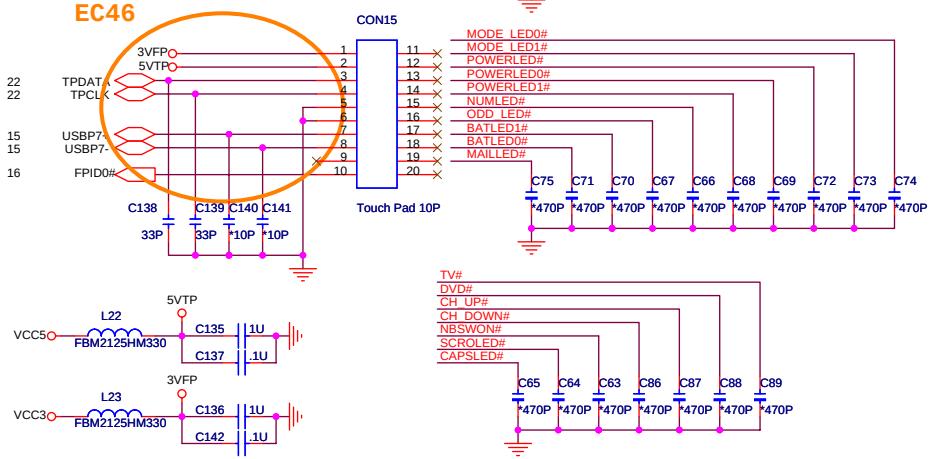




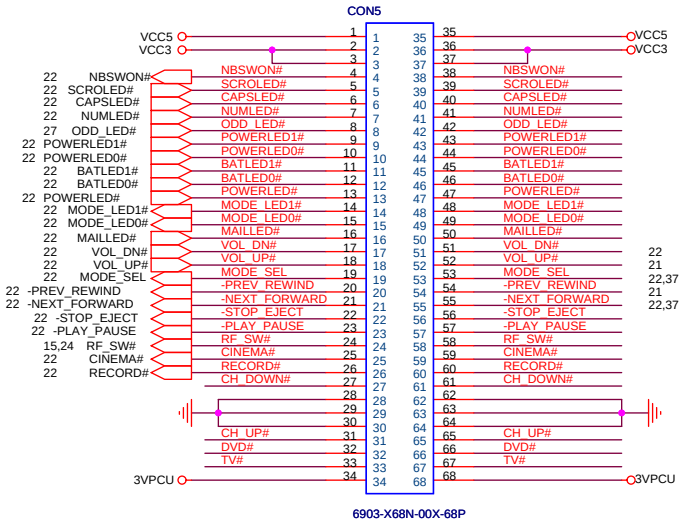
Touch Pad & Finger Print

Power trace keep 12mil.

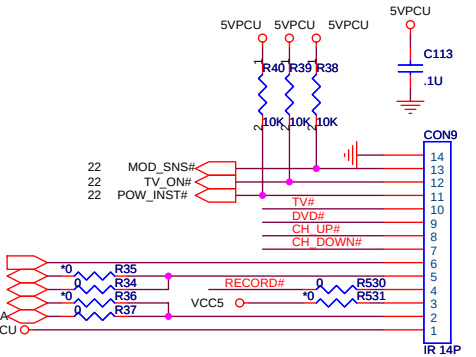
EC46



BUTTON BOARD



TO RECEIVER MODULE



QUANTA COMPUTER		
Title: FAN/RTC		
Size: A3	Document Number: DO1	Rev: 3C
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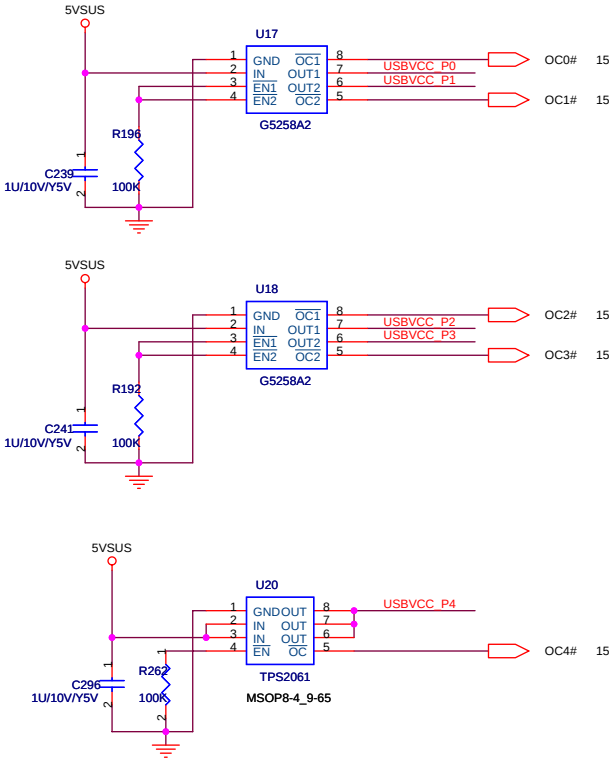
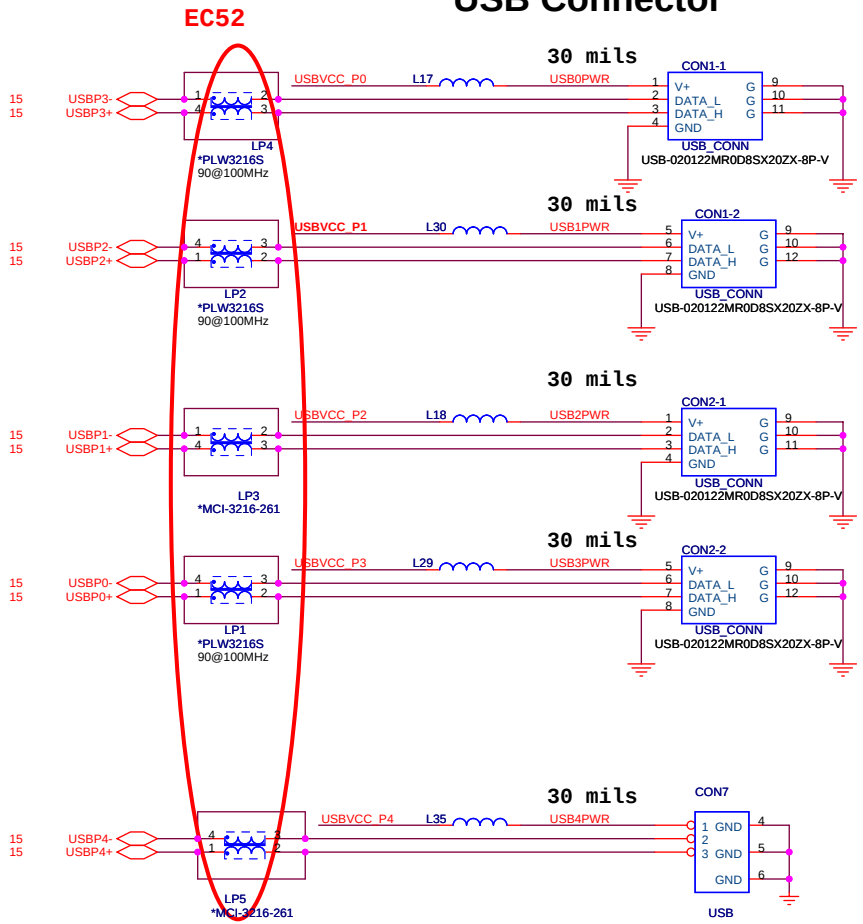
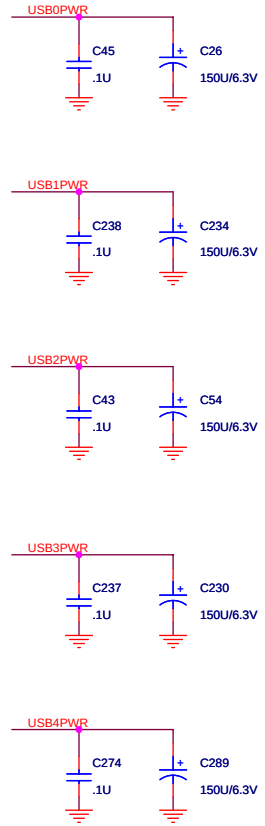
USB Power and Over current



USB Connector

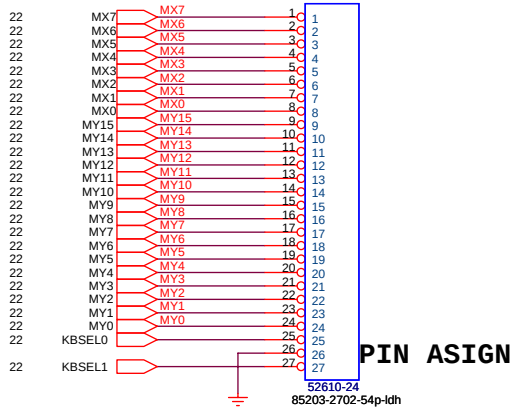


Place near the USB connector

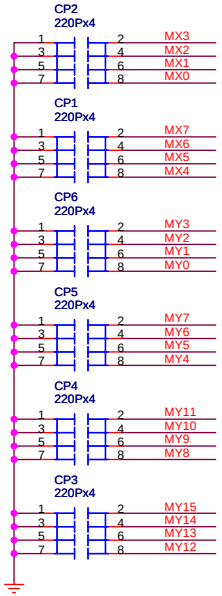


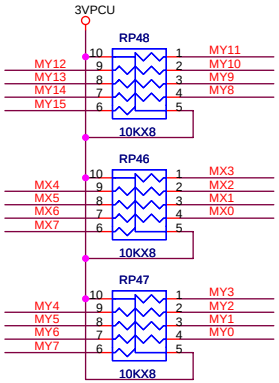
KEYBOARD

MX[0..7] MX[0..7] 22
MY[0..15] MY[0..15] 22



PIN ASIGN





QUANTA COMPUTER

Title	KB/USB/HDD/CDROM	
Size A3	Document Number DO1	Rev 3C
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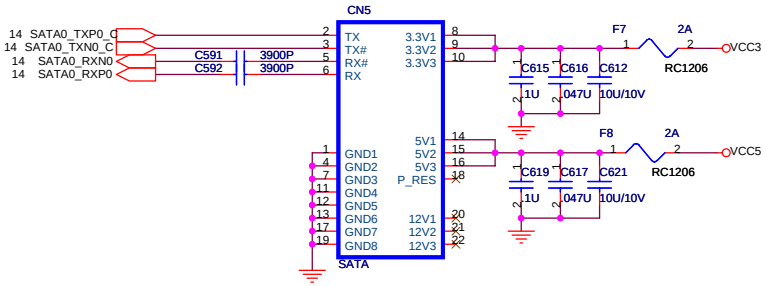
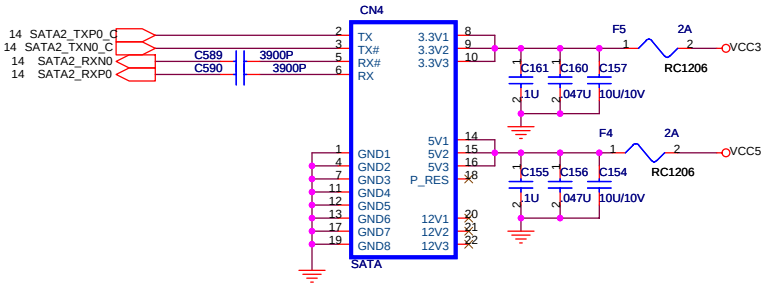
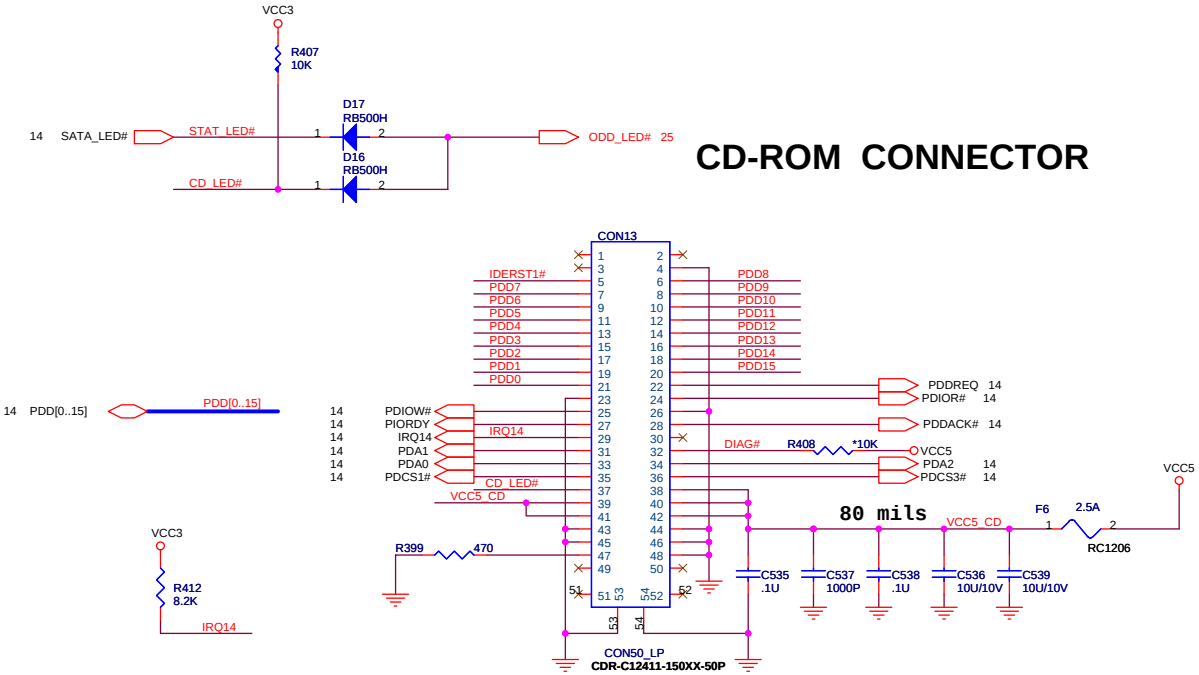
SATA HDD 1



SATA HDD 2



CD-ROM CONNECTOR



QUANTA COMPUTER

Title	SATA_HDD & PATA CD_ROM	
Size: Custom	Document Number: DO1	Rev: 3C
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L007

EC57 EC6 EC39 EC5 EC34

Title	L007
Size	A3
Document Number	DO1
Rev	1B
Date:	Thursday, February 09, 2006
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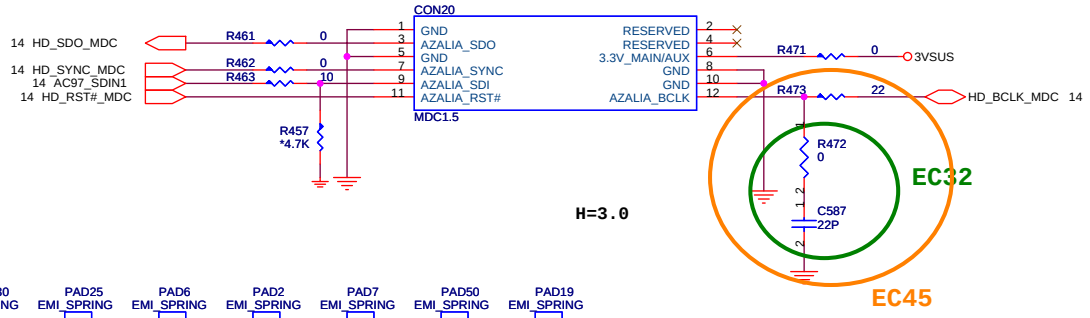
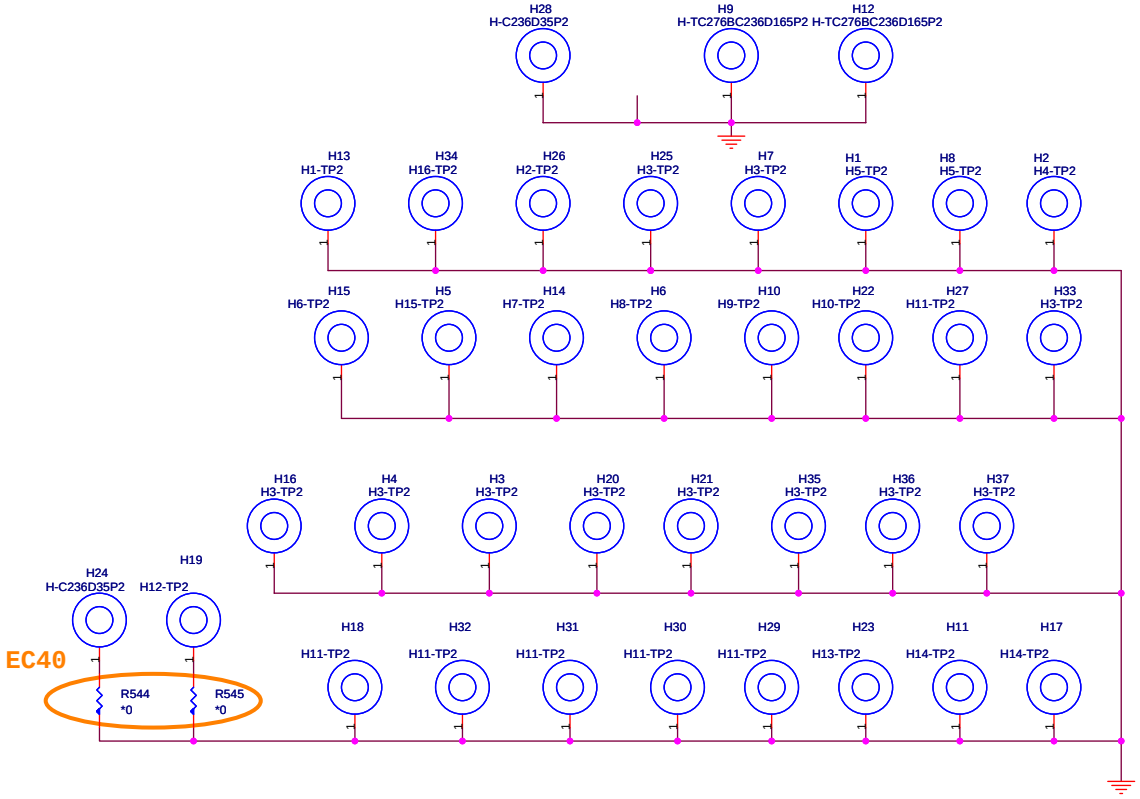
QUANTA COMPUTER

MDC V1.5 12Pin (Askey)
Azalia MDC interface



H=3.0



QUANTA COMPUTER

Title	MDC1.5	
Size A3	Document Number DO1	Rev 1B
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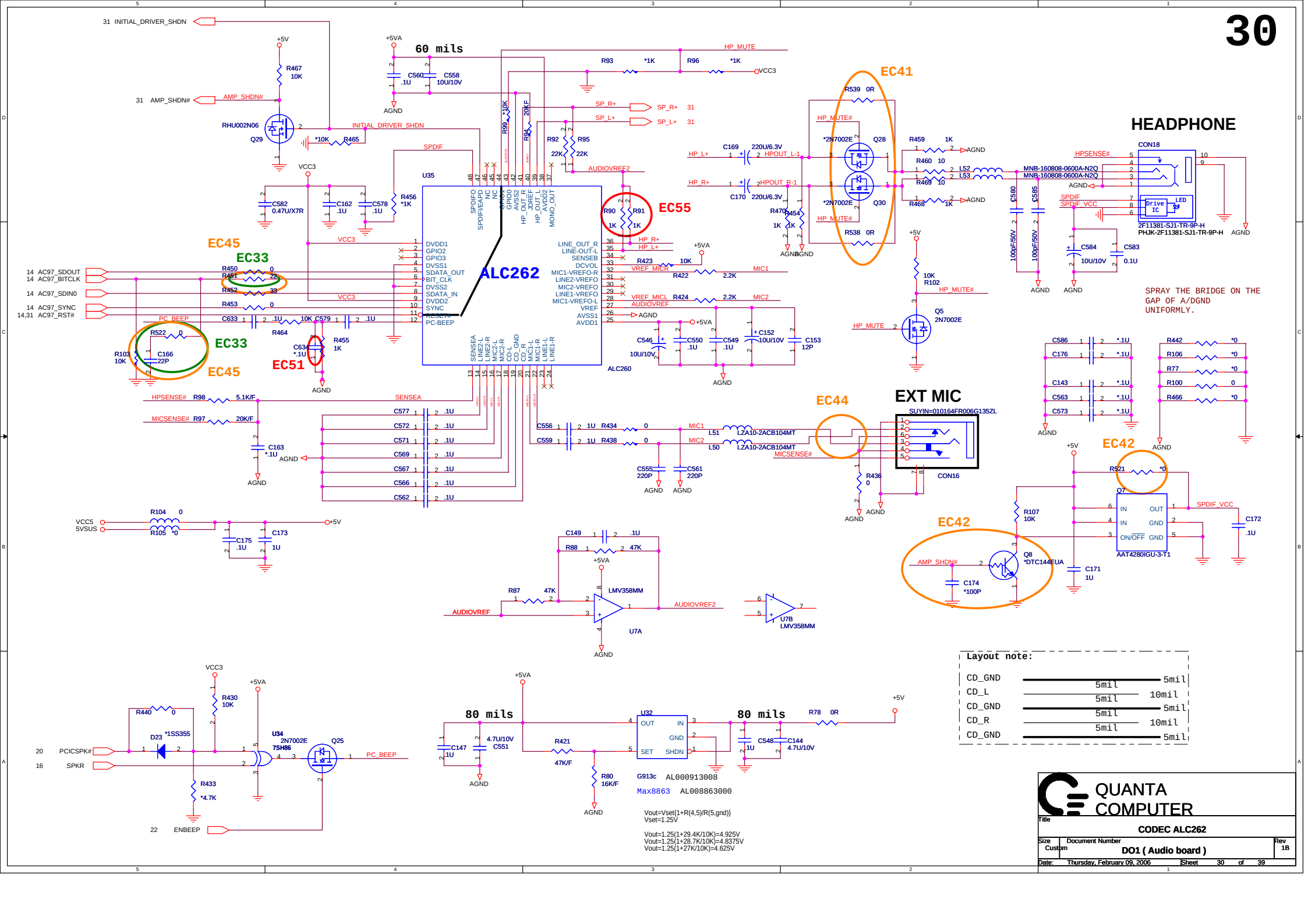
ALC262
ALC260
U35
HEADPHONE
EXT MIC
EC41
EC42
EC44
EC45
EC33
EC51
EC55
60 mils
80 mils
SPRAY THE BRIDGE ON THE GAP OF A/DGND UNIFORMLY.
Layout note:
CD_GND 5mil 5mil
CD_L 5mil 10mil
CD_GND 5mil 5mil
CD_R 5mil 10mil
CD_GND 5mil 5mil
QUANTA COMPUTER
CODEC ALC262
DO1 (Audio board)
Thursday, February 09, 2006
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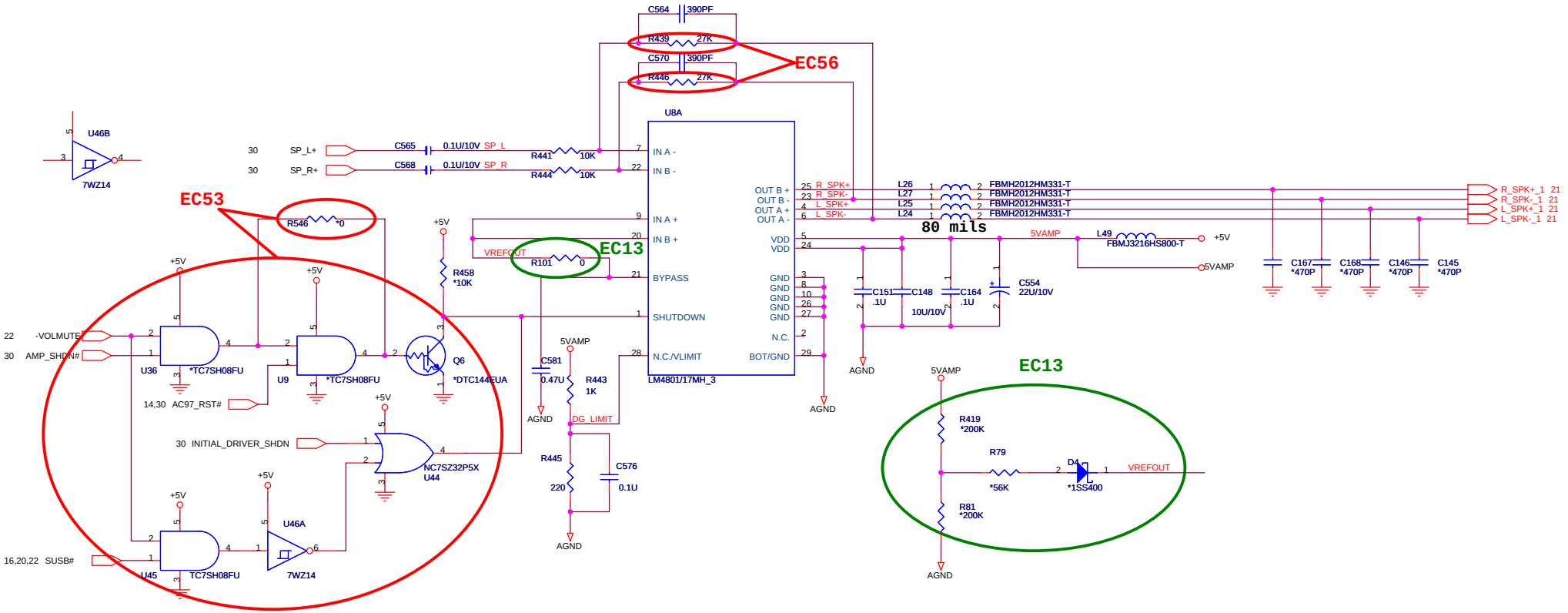
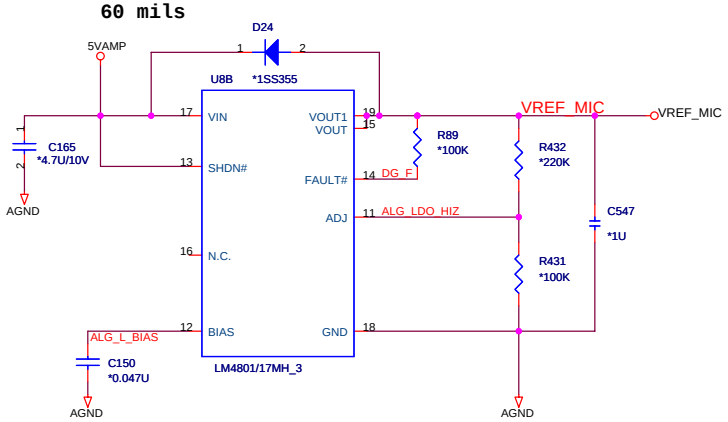
AUDIO AMPLIFIER LM4817



60 mils

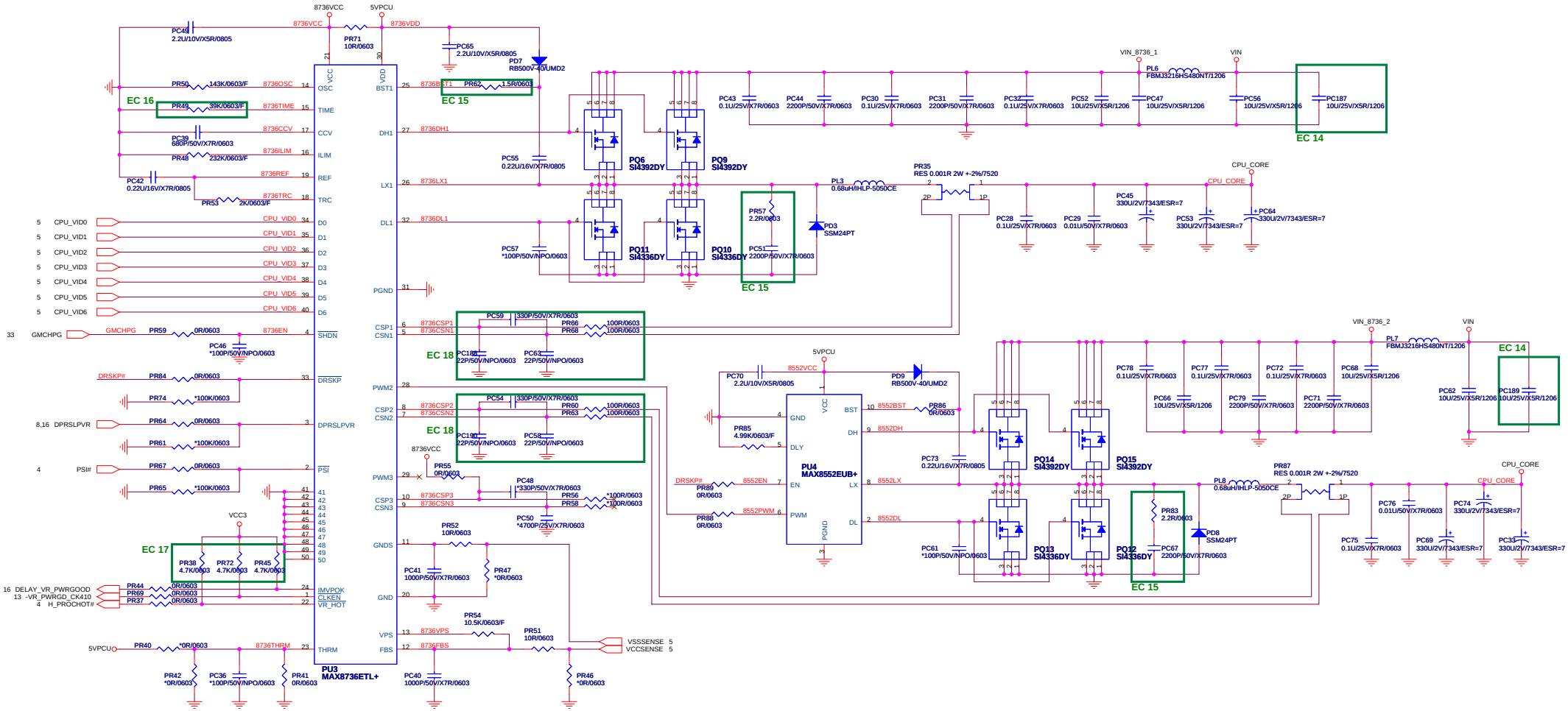


for MIC BIAS(4V 100mA)

QUANTA COMPUTER

Title	AMP for Speaker	
Size: Custom	Document Number: DW1 (Audio board)	Rev: 1B
Date: Thursday, February 09, 2006	Sheet 31 of 39	

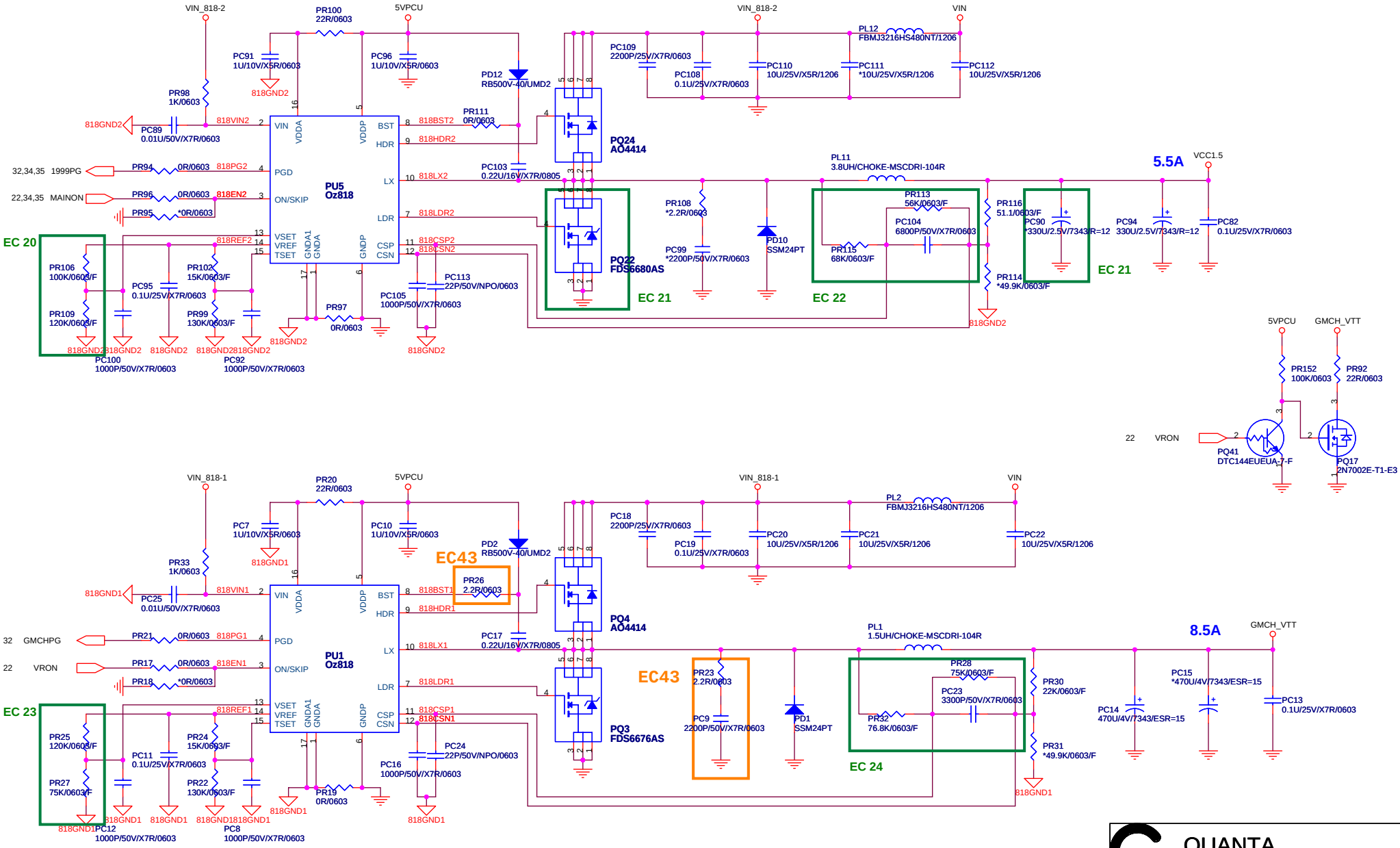
CPU CORE



QUANTA COMPUTER

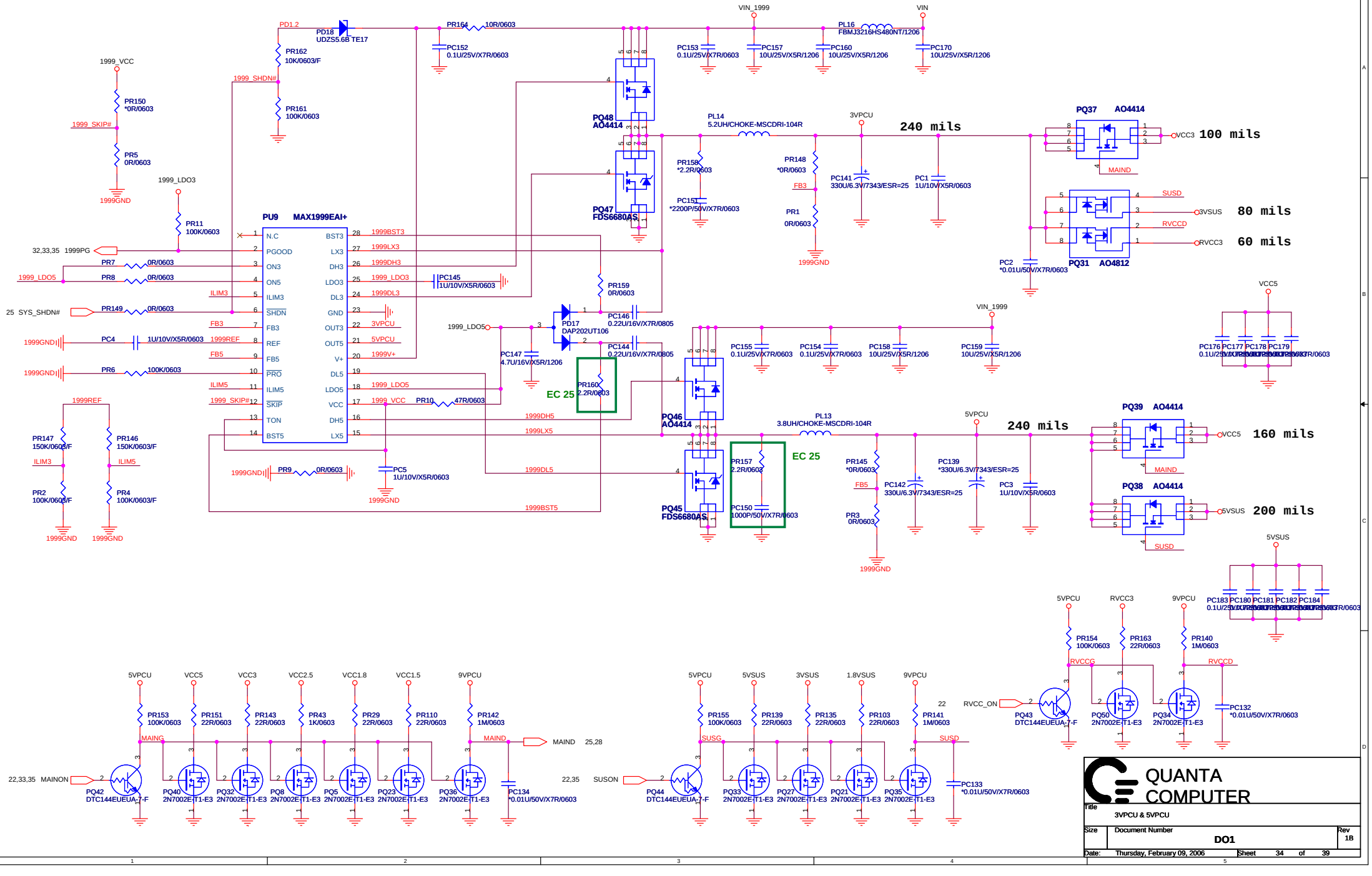
Title	CPU CORE		
Size	Document Number		Rev
Custom	DO1		1B
Date: Thursday, February 09, 2006	Sheet 32 of 39		

GMCH_VTT(1.05V) / VCC1.5



QUANTA COMPUTER			
Title: GMCH_VTT / VCC1.5			
Size: A3	Document Number: DO1		Rev: 3C
Date: Thursday, February 09, 2006	Sheet 33 of 39		

DC/DC 3.3V&5V POWER & Discharge



Title	3VPCU & 5VPCU
Size	Document Number: DO1
Rev	1B
Date:	Thursday, February 09, 2006
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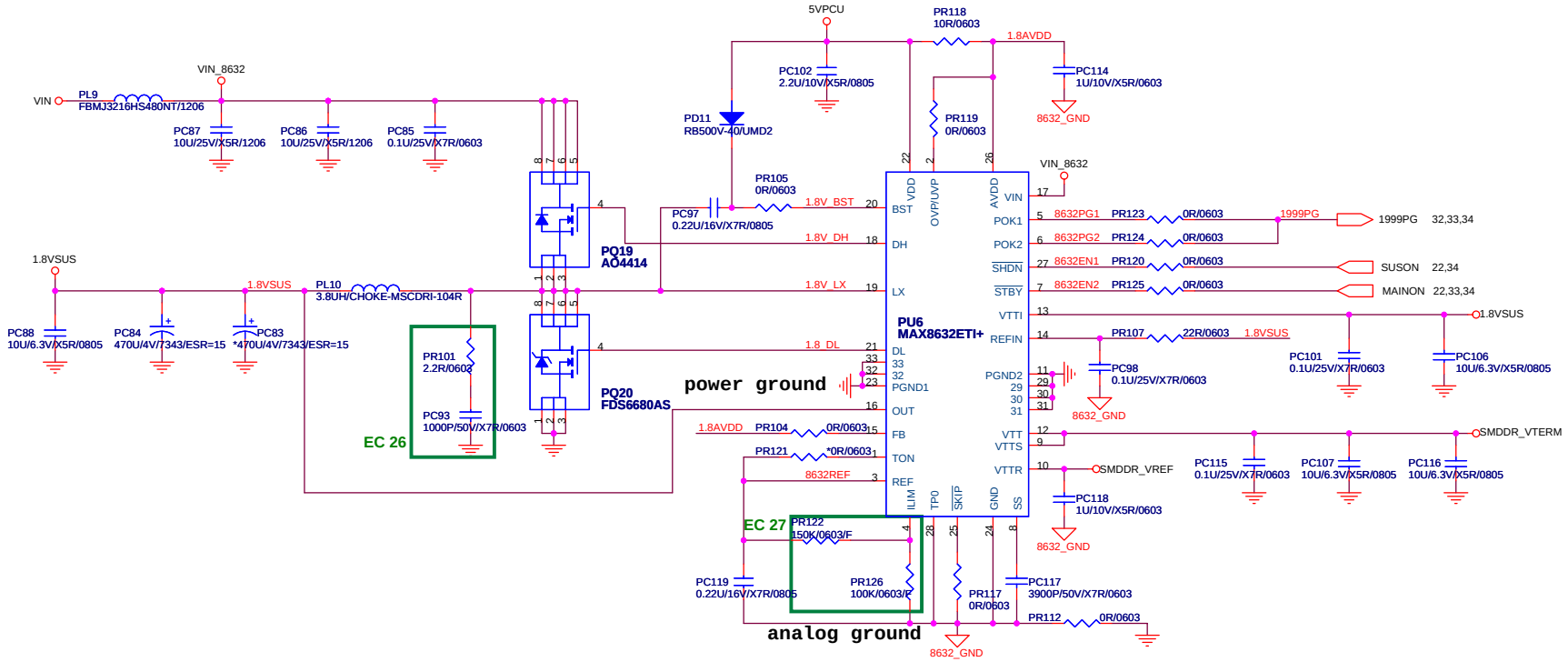
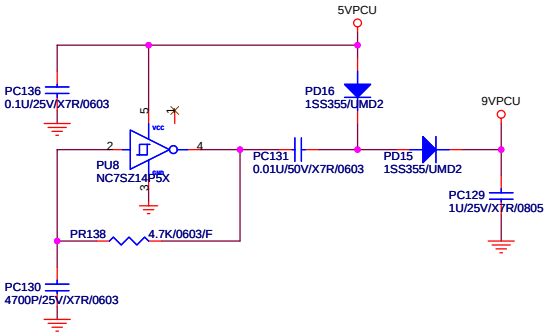
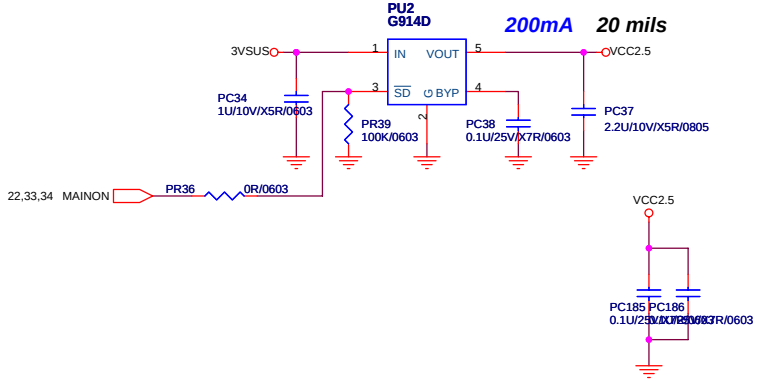
QUANTA COMPUTER

1.8VSUS & VTT & 2.5VSUS







QUANTA COMPUTER

Title	1.8VUS / VTT / 2.5V	
Size	Document Number DO1	Rev 1B
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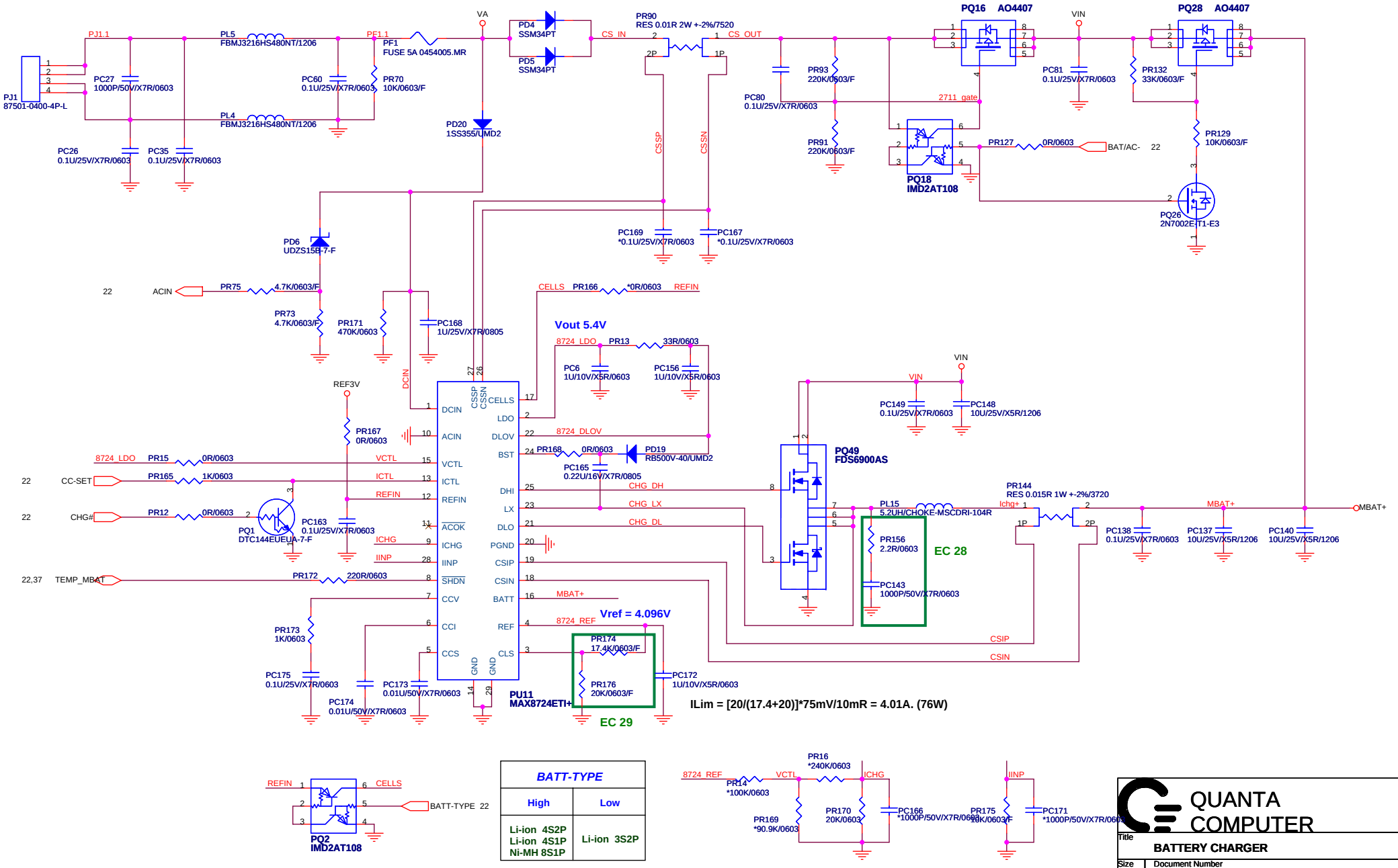
Battery Charger

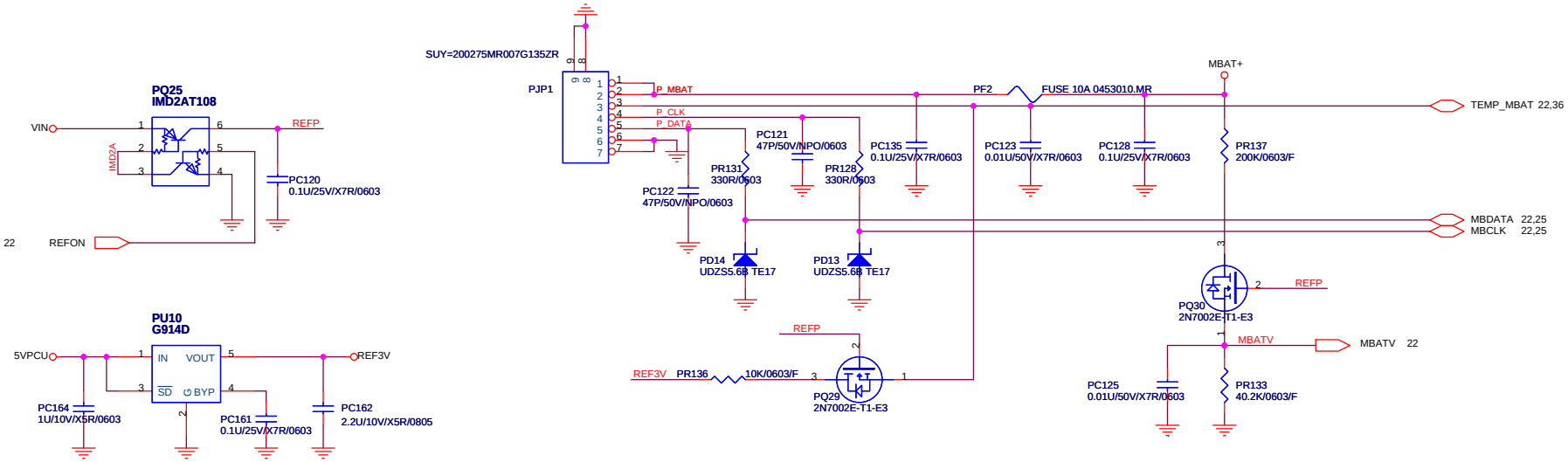


QUANTA COMPUTER

Title	BATTERY CHARGER	
Size A3	Document Number DO1	Rev 1B
Date: Thursday, February 09, 2006	Sheet 36 of 39	

Battery Connector

Battery Connector



TEMP_MBAT voltage :		
	System Off	System On
Battery	0V	1.6V
Adapter	3.3V	3.3V
Battery+Adapter	1.6V	1.6V

MBATV voltage :	
Li-ion 4S*P	16.8V*40.2/(200+40.2)= 2.812V 12.0V*40.2/(200+40.2)= 2.008V
Ni-MH 8S1P	8.0V*40.2/(200+40.2)= 1.34V
Li-ion 3S*P	12.6V*40.2/(200+40.2)= 2.109V 9.0V*40.2/(200+40.2)= 1.506V

QUANTA COMPUTER

Title: BATTERY CONNECTOR		
Size: Custom	Document Number: DO1	Rev: 1B
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EC LIST -- A to B test :

EC1-- Page 8 -- Remove R255, C273, C267, C96, C99, C254, C253 -- Solving can't boot
EC2-- Page 13 -- RP40 change to pop -- Solving BOM issue
EC3-- Page 16 -- R491 change to 100 ohm -- Intel suggestion
EC4-- Page 21 -- Q19 change to SI2301DS -- It is solve unstable voltage of express caed
EC5-- Page 28 -- Remove R191, R180, R173, R165 -- Solving LCD can't display
EC6-- Page 28 -- Add C623, C624, C625, C626 ,C627 ,C628 -- Kawano-san suggestion
EC7-- Page 8 -- CRT_VSYNC and CRT_HSYNC net name exchange -- Solving CRT can't display
EC8-- Page 18 -- Colay U40 -- ESD solution
EC9-- Page 19 -- CON21 de-pop
EC10--Page 22 -- Add R532---Record come from remote control
EC11--Page 22 -- U28 change to 1M flash momory
EC12--Page 23 -- R290, R300 pop---Tanaka-san suggestion
EC13--Page 23 -- R81, R419, D4 de-pop, R101 pop---solve background noise
EC14--Page 32 -- Add PC187, PC189 -- improve input voltage ripple
EC15--Page 32 -- PR62, PR57, PC51, PR83, PC67 -- improve EMI
EC16--Page 32 -- PR49 -- Speed step voltage change slew rate
EC17--Page 32 -- PR38, PR45, PR72 -- enhance pull high voltage
EC18--Page 32 -- PC59, PR66, PC68, PC188, PC63, PC54, PR60, PR63, PC190, PC58 -- enhance 2 phase current sharing
EC19--Page 32 -- PR82 -- error during A-stage
EC20--Page 33 -- PR106, PR109 -- ouput voltage setting
EC21--Page 33 -- PQ22, PC90 -- low cost
EC22--Page 33 -- PR115, PR113, PC104 -- adjust OCP point
EC23--Page 33 -- PR25, PR27 -- output voltage setting
EC24--Page 33 -- PR32, PR28, PC23 -- adjust OCP point
EC25--Page 34 -- PR160, PR157, PC150 -- improve EMI
EC26--Page 35 -- PR101, PC93 -- improve EMI
EC27--Page 35 -- PR122, PR126 -- adjust OCP point
EC28--Page 36 -- PR156, PC143 -- improve EMI
EC29--Page 36 -- PR174, PR176 -- total power setting
EC30--Page 13 -- C472, C427 change from 33P to 27P -- Solving signal quality issue
EC31--Page 14 -- C601, C603 change from 10P to 22P -- Solving EMI issue
EC32--Page 29 -- R472, C587 POP -- Solving EMI issue
EC33--Page 30 -- R451 change to 0 ohm, C166 change to 22p, addR522 -- Solving EMI issue

EC LIST -- B to C test :

MB

EC34--Page 28 -- L1 change to 0 ohm --- Solving LCD garbage
EC35--Page 15 -- For Fujitsu request --- Please refer to schematic review item#86
EC36--Page 16 -- POP R133 --- Solving reboot issue
EC37--Page 19 -- Q1 change to AAT4280IGU-1, add U43, Q32, R537--- Solving LCD power sequence
EC38--Page 24 -- For Fujitsu request --- Please refer to schematic review item#91
EC39--Page 28 -- For Fujitsu request --- Please refer to schematic review item#79,81,82,87,88
EC40--Page 29 -- ESD solution
EC41--Page 30 -- Remove Q28,Q30, add R538,R539---Solving headphone no sound
EC42--Page 30 -- For Fujitsu request --- Please refer to schematic review item#84
EC43--Page 33 -- improve EMI
EC44--Page 30 -- MIC-L/R line connection is inversion in B-stage. Now we modify correct
EC45--Page 29,30 -- R451,R473 change to 22 ohm, R522,R472 change to 0 ohm. --- Solving audio noise
EC46--Page 25 -- For Fujitsu request --- Please refer to schematic review item#77

Touchpad board

EC47--Page 1 -- For Fujitsu request --- Please refer to schematic review item#77

Switch board

EC48--Page 1 -- SW8 net name change --- Solving WLAN switch function inverse

QUANTA COMPUTER

Title: CHANGE LIST		
Size: Custom	Document Number: DO1	Rev: 1B
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EC LIST -- C to MP1 test :

MB

EC49--Page 20 -- Remove R306, R307, R308, R310 -- Solving SMT issue
EC50--Page 22 -- Adding Q33,Q34,Q35,Q36 -- Application button support power on in DC mode(battery only)
EC51--Page 30 -- Adding C634 -- Solving audio noise
EC52--Page 26 -- Remove R20, R21,R22,R23, R181,R182,R185,R186,R269,R275 -- Solving SMT issue
EC53--Page 31 -- Adding R546,U44,U45,U46, remove U36,U9,Q6,R458 -- Solving audio driver initiation pop noise
EC54--Page 25 -- Adding Q51,L56 -- Solving TV noise
EC55--Page 30 -- R90,R91 change to 1K ohm -- Solving audio driver initiation pop noise
EC56--Page 31 -- R439,R446 chnge value from 33K to 27K for FUJITSU suggestion(implement in C-stage)
EC57--Page 28 -- Adding R20,R21 for Jepico suggestion
EC58--Page 14 -- Reserve L57,L58 for improve EMI quality, if waveform can't meet SPEC, will pop 0ohm
EC59--Page 18 -- Remove U1, add U40 -- implement in C-stage

Media board

EC60--Page 1 -- Adding R16 -- Solving XD_VCC discharge too slow
EC61--Page 1 -- SD/MS_3V add protect fuse,XD_3V remove protect fuse -- for FUJITSU suggestion

Fingerprint board

EC62--Page 1 -- ESD sultion (R10 is Authentec suggestion)

Touchpad board

EC63--Page 1 -- ESD sultion

IR board

EC64--Page 1 -- Crystal chnage to 20MHz -- Solving IR remote controller issue

Switch board

EC65--Page 1 -- Change resistor value -- Solving LED too shine

QUANTA COMPUTER

Title: CHANGE LIST		
Size: Custom	Document Number: DO1	Rev: 1B
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